MISSOULA CONSOLIDATED PLANNING BOARD AGENDA

Tuesday, January 2, 2024
6:00 PM

How to attend the meeting:

MEETING TIME: 6 PM

Hybrid meeting - held virtually over Microsoft Teams and in the Sophie Moiese Room of the Missoula County Courthouse, 200 W. Broadway

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Microsoft Teams meeting

Join on your computer, mobile app or room device

Click here to join the meeting

Meeting ID: 286 077 034 10
Passcode: nwZkoQ

Or call in (audio only)

+1 406-272-4824

Phone Conference ID: 437 872 792#

If calling in by phone, please press *6 to unmute or *5 to raise your hand.

CALL TO ORDER:

ROLL CALL:

APPROVAL OF MINUTES:

December 5, 2023

PUBLIC COMMENT ON NON-AGENDA ITEMS:

STAFF ANNOUNCEMENTS:

PUBLIC HEARINGS:

Orchard Grove Annexation & 24-Lot Major Subdivision
Lauren Stevens, City of Missoula

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COMMUNICATIONS & SPECIAL PRESENTATIONS:

COMMITTEE REPORTS:

OLD BUSINESS:

NEW BUSINESS:

Election of Officers - discuss/defer/vote

COMMENTS FROM BOARD MEMBERS:

ADJOURNMENT:

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Missoula Consolidated Planning Board Minutes

December 5, 2023, 6:00 PM
Council Chambers (in person) or TEAMS (virtually)
Attend in person: City Council Chambers, 140 W Pine, Missoula MT

Voting members present: Ellie Costello (City Appt), Dori Gilels (Mayor Appt), Rick Hall (County Appt), Dave Loomis (County Appt), Sean McCoy (County Appt), Shane Morrissey (City Appt), Tung Pham (City Appt), Derek Kanwischer (City Alt), Peter Bensen (County Alt)

Regular member(s) absent: Josh Schroeder (Conservation Dist), Micah Sewell (County Appt)

1. Call to Order

Mr. McCoy called the meeting to order at 6:02 p.m.

2. Roll Call

Ms. Manning called the roll. A quorum was met. The alternates, Mr. Kanwischer and Mr. Bensen, were promoted to voting members for the evening.

3. Approval of Minutes

3.1 November 7, 2023

Mr. Morrissey made a motion to approve the November 7, 2023, minutes and Ms. Gilels seconded. The motion passed unanimously.

4. Public Comment

There was no public comment on non-agenda items.

5. Staff Announcements

New meeting location for 2024: Karen Hughes announced that the Board would transition their meetings to the Missoula County Courthouse in the Sophie Moiese meeting room. Agendas will be run through Civic Clerk and meetings will be hybrid through the County's Teams platform.

Mr. McCoy referenced the November 30, 2023, MEIC webinar link that was emailed. The webinar provided additional perspectives on exempt wells. https://meic.org/events/webinar-exempt-wells/

Open Officer positions and reappointment of seats – Mr. McCoy reminded everyone that reappointments/appointments are underway and for members to consider running for officer positions.

6. Communications and Special Presentations

6.1 Exempt Wells in Subdivisions

Jim Nave, Regional Manager, DNRC Water Resource Division Office in Missoula

Mr. Nave started with an overview of an exempt well: It's a type of groundwater right you can get that doesn't require a permit and involves a very simple form and approval process that doesn't assess impact. It is limited to flow rate of 35 gallons a minute, up to 10-acre feet a year.

He noted that people go this route because getting a permit for a water right is extremely difficult to do, especially if it is determined that you'll impact surface water. He explained that this is a problem and that DNRC and stakeholder groups are addressing this challenge and looking for solutions. He referenced the DNRC website and suggested folks call him if they want more information.

He provided some of the history about exempt wells and combined appropriation:

- In 1973 intent was created for people to have a simple way to get water rights for their homes and stock. The unintended consequence is because getting a water right is complicated, people have been using the exempt well permit instead.
- There was a 1987 administrative rule stating one property and multiple developments of groundwater were considered combined appropriation, even if not physically connected.
- In 1993 we updated the administrative rule to say that to be considered a combined appropriation, wells needed to be physically piped together and then you are limited to 10-acre feet for both.
- In the 1990s you could use up to 99 gallons a minute.
- In 2014, the Sherlock decision was the result of a lawsuit in Lewis and Clark County about whether the state had been applying the rules about combined appropriation correctly. This took everyone back to the 1987 administrative rule. What had happened is there would be proposals for hundreds of lots each with its own exempt well, which was not considered a combined appropriation but still had the same impact.
- There was a bill in the next legislative session (after 2014) that grandfathered in lots that were subdivided before October 17, 2014.

He described the exempt well review process today. DNRC looks at the property, determines the acreage, and when it was platted to determine which rule applies. It can be complicated for a process that is supposed to be simple.

He described the review that is done for subdivisions:

- There is a Memorandum of Understanding between DNRC and DEQ to avoid creating subdivisions that cannot get water rights.
- DNRC reviews the project for water rights as part of the DEQ review of the subdivision.
- People fill out a form that explains the project plus the amount of water that will be used.

- DNRC does a predetermination to see if they are using under 10-acre feet for the entire subdivision. To do this they use 0.28-acre feet per dwelling as the standard. You subtract that amount from 10. You use 2.5-acre feet for lawns and gardens. What is left can be divided by 2.5 acre-feet, to determine the amount of any irrigated yard area in the subdivision.
- The challenge is in enforcement and what happens on the ground.
- DNRC is tracking water rights as they receive notice of completion and they put people on notice that they have restricted water rights. However, he noted there is a risk that at some point they may have situations where a property runs out of water before all the homes in a subdivision are built, such as if a water right certificate isn't retired as promised in an application.

Mr. Nave noted there had been some relatively recent changes to the law. They added some exceptions such as for public water supply wells. There are some interesting challenges with the timing of events. You can dig a public water supply well and then file the right, but it isn't fully perfected until all the homes are built. They can require folks to measure water use in some cases like public supply wells, but not in most cases on exempt wells, because they are exempt. Other exemptions include geothermal heating and cooling systems, fire departments can dig well for emergency fire protection, and you can have more stringent requirements for wells in designated stream depletion zones – the only example is on Rye Creek in Ravalli County.

Mr. Loomis asked if there were any closed basins in Montana. He asked if there were drilling and extraction rules for closed basins. He asked if inner basin transfers were allowed.

Mr. Nave explained Missoula and the Bitterroot were surrounded by legislative surface water closures. He said you can't apply for water rights for surface water upstream of Milltown Dam or the Bitterroot. He said there was an exception to both the surface water closures for storage projects, but no one has used that yet.

Mr. Nave said applying for an exempt well in these areas is still allowed because they are exempt. He said applying for a groundwater permit in a closed basin is still allowed; however, you would need to find an existing senior water right, retire it, and change it to mitigate and offset depletions from the new groundwater use. He noted that there are likely transfers between the Clark Fork and the Bitterroot basins because the dividing line is in town and it's impossible to tell where exactly it is located.

Mr. Nave said nothing would prevent inter-basin transfers in the state, but he's never seen one. Out-of-state transfers have steep criteria.

Mr. Loomis asked what the state was doing about groundwater loss or depletion.

Mr. Nave stated the DNRC was working with stakeholders to come up with solutions. He said new bills would need to pass in the legislature. He noted that the city of Bozeman is looking at the possibility of pumping water from Canyon Ferry to Bozeman. The reality is our surface waters are over-appropriated.

Mr. Bensen asked if it was possible or tenable to police water abuse.

Mr. Nave stated the enforcement program is not robust. Currently, when he identifies a problem, he has a conversation with the person and works with the landowner to resolve it. There is a possibility of a $1000 per day fine. He said residents who had conflicts with neighbors using water that is affecting their rights could file a complaint with the DNRC. He explained the DNRC would investigate, get a report, the District Court would need to be involved and the DNRC would have to be subpoenaed to testify as a witness, and the losing party would be responsible for paying the attorney fees. It's set up for water users to police themselves. The problem is that you need to have the financial resources to start the process and you might not get those costs covered if you lose. In enforcement, he looks to focus on situations where people are using water without water rights, a clear violation. He said he thinks the hope is that one day DNRC will have an enforcement bureau.

7. Public Hearings

7.1 9399 Baron's Court Rezoning

Jennie Dixon, AICP, Planner IV, Missoula County Planning, Development & Sustainability Dept.

Applicant: Donald & Vicki Rosetti

The 2019 Missoula Area Land Use Element and the 2016 Missoula County Growth Policy designates the property for Rural Residential and Agricultural use. Rezone from AGRR-5 (Agriculture, Rural Residential) to AGRR-2 (Rural Residential, Small-Scale Agriculture)

STAFF PRESENTATION

On July 1, 2022, the Board of County Commissioners (BCC) adopted the Missoula County Zoning Regulations (text amendments and map amendments), following an extensive public outreach and participation process. At that time, the subject property was approved for AGRR5 zoning; all surrounding properties were zoned AGRR-2. The reason for the difference had to do with some testimony and some miscommunication. The landowner is now requesting that the zoning for the subject property be amended to match that of the surrounding properties. Staff is recommending approval of this rezoning request.

See the PowerPoint presentation slides.

Ms. Gilels asked if the re-zoning request was to correct an error.

Ms. Dixon said essentially yes, there had been miscommunication on both sides. She said the applicant had brought it to the attention of the staff and had wanted it corrected.

Ms. Vicki Rosetti, the applicant, said she'd like the zoning to be the same as the surrounding property.

Recommended Motion

Recommend the Board of County Commissioners approve the request to rezone property located at 9399 Baron's Court, legally described as Parcel 72C, COS #2339, based on the application, public testimony, and the findings of facts and conclusions of law contained in the staff report.

Mr. Morrissey made the motion to approve the request and Ms. Gilels seconded.

Mr. Loomis highlighted that both zoning districts were consistent with the growth policy.

Mr. McCoy stated he agreed. He said that based on the surrounding neighborhoods the rezone was procedural and straightforward.

The Board voted by roll call and the motion passed unanimously.

Moved by: Shane Morrissey (City Appt)
Seconded by: Dori Gilels

Recommend the Board of County Commissioners **approve** the request to rezone property located at 9399 Baron's Court, legally described as Parcel 72C, COS #2339, based on the application, public testimony, and the findings of facts and conclusions of law contained in the staff report.

AYES: (9): Ellie Costello, Dori Gilels, Rick Hall, Dave Loomis (County Appt), Sean McCoy (County Appt), Shane Morrissey (City Appt), Tung Pham (City Appt), Derek Kanwischer (City Alt), and Peter Bensen (County Alt)

ABSENT: (2): Josh Schroeder (Conservation Dist), and Micah Sewell (County Appt)

Vote results: Approved (9 to 0)

7.2 Rezone of 550 N. California St. from PUD Missoula Youth Homes to C1-3 - DE-D Design Excellence Overlay.dox

Cassie Tripard, Planning Supervisor, Community Planning, Development & Innovation

Applicant Amy Schaer CEO Youth Homes present

Representative Colin Lane, MMW Architects present

Rezone of 550 N. California St. from PUD Missoula Youth Homes to C1-3 - DE-D Design Excellence Overlay

STAFF PRESENTATION

Development Services has received a request from Colin Lane of MMW Architects representing Youth Homes, to rezone the subject property at 550 N. California Street and legally described as Lot 2 of Eagle Watch Estates, located in Section 21, Township 13 North, Range 19 West, 37,251 square feet, P.M.M., from Planned Unit Development (PUD) Missoula Youth Homes to C1-3 Neighborhood Commercial / DE-D Design Excellence Downtown Gateway Overlay. This rezoning will result in a standard zoning district under Title 20 which cannot be conditioned.

The applicant also requests the removal of the Deed Restriction imposed by the City and recorded at Book 340, Page 1595, which restricts the use of the subject property for low to moderate-income housing.

The staff has reviewed the applicant's rezoning submittal packet and request to remove the deed restriction and recommends approval of both requests.

See the PowerPoint presentation slides.

There was no public comment.

Recommended Motion

Planning Board recommend City Council approve the adoption of an ordinance to rezone the subject property located at 550 N. California Street and legally described as Lot 2 of Eagle Watch Estates, located in Section 21, Township 13 North, Range 19 West, 37,251 square feet, P.M.M., from PUD Missoula Youth Homes to C1-3 Neighborhood Commercial / DE-D Design Excellence Downtown Gateway Overlay, based on the findings of fact in this staff report.

Staff also recommends City Council remove the Deed Restriction from the subject property.

Mr. Bensen made the motion to approve the request and Mr. Pham seconded the motion.

Mr. Bensen stated Dan Fox Youth Homes was fantastic and he supported the rezoning. He said it was worth thinking about zoning for non-profits in the future. He questioned the density and what could be built there if the non-profit chose to sell further down the line.

Ms. Gilels asked if that location would consolidate administrative and medical offices. She asked if there would be youth living on the premises currently or in the future.

Amy Shearer CEO of Youth Homes stated there were no youth staying at the emergency shelter. She stated the shelter had to close in the summer due to staffing shortages and financial issues. She stated those youth had not been displaced. She confirmed the hope was to move all offices under one roof.

Mr. Loomis clarified Mr. Bensen’s question. He said there had recently been new zoning applied to the area to allow for more density.

Mr. Hall stated the zoning allowed for the property to have either alternative uses or growth in the future.

Mr. Kanwischer stated this development was consistent with the city's downtown, Broadway master plans, and Urban Center Land Use designation. He asked why there were no agency comments from the Department of Revenue or Parks and Recreation.

Ms. Tripard stated it was protocol to notify those agencies of most board actions. She said they don’t often comment.

Mr. McCoy raised concerns about losing an asset to the community if the youth home property was sold in the future.

The Board voted by roll call and the motion passed unanimously. Mr. Morrissey abstained due to a conflict of interest.

Moved by: Peter Bensen (County Alt)
Seconded by: Tung Pham (City Appt)

Recommend City Council **approve** the adoption of an ordinance to rezone the subject property located at 550 N. California Street and legally described as Lot 2 of Eagle Watch Estates, located in Section 21, Township 13 North, Range 19 West, 37,251 square feet,

P.M.M., from PUD Missoula Youth Homes to C1-3 Neighborhood Commercial / DE-D Design Excellence Downtown Gateway Overlay, based on the findings of fact in this staff report.

AYES: (8): Ellie Costello, Dori Gilels, Rick Hall, Dave Loomis (County Appt), Sean McCoy (County Appt), Tung Pham (City Appt), Derek Kanwischer (City Alt), and Peter Bensen (County Alt)

ABSTAIN: (1): Shane Morrissey (City Appt)

ABSENT: (2): Josh Schroeder (Conservation Dist), and Micah Sewell (County Appt)

Vote results: Approved (8 to 0)

7.3 Referral and Staff Report - 2145 W Sussex Ave Rezone.docx

Charlie Ream, Associate Planner**,** Community Planning, Development & Innovation

STAFF PRESENTATION

Development Services has received a request from James Sage of Missoula Engineering, LLC to rezone the subject property at 2145 W Sussex Ave. and legally described Lots 13-16 in Block 28 of Carline Addition, located in Section 29, Township 13 North, Range 19 West, P.M.M. from RM2.7 Residential (Multi-dwelling) to RM1-45 Residential (Multi-dwelling). The requested RM1-45 zoning district is a standard district that applies equally to other areas of the city with the same RM1-45 zoning designation. City Council either approves or denies the rezoning request and cannot approve it subject to conditions per MCA 76-2-302.

Staff has reviewed the applicant's rezoning submittal packet and recommends approval.

See the PowerPoint presentation slides.

There was no additional public comment during the meeting. Three public comment emails had been received too late to put into the agenda packet.

Mr. Morrissey asked if there were on-site parking requirements and if there was a unit size limit.

Charlie Ream stated all parking is required to be on-site and the amount is dependent on the size of the units. New developments require either one or two spaces per unit.

Mr. Morrissey confirmed the developer wouldn't be required to buffer the building height down to an adjacent residential zone with a lower height limit.

Charlie Ream confirmed.

Ms. Costello asked if the rules for spot zoning could be provided.

Ms. Tripard shared the spot-zoning test in a slide and noted all three criteria must be met to constitute spot zoning.

1. The proposed use is significantly different from the prevailing use in the area.

2. The area in which the requested use is to apply is rather small from the perspective of concern with the number of separate landowners benefited from the proposed change.

3. The change is special legislation designed to benefit only one or a few landowners at the expense of the surrounding landowners or the public.

Ms. Tripard noted that the biggest argument for it to not be considered spot zoning is related to growth policy compliance. There are a lot of areas in Missoula where the zoning does not comply with the growth policy, and this is one of them. The growth policy allows for higher density than the current zoning allows for. Although this is a small area being rezoned to comply with the growth policy, ideally over time the rest of the neighborhood would rezone. She noted that all the neighboring properties would be eligible to rezone to the same district.

Mr. Hall addressed one of the written concerns that said that increased building is increasing prices. He noted that when there is increased supply it lowers prices. He empathized with neighbors facing increased density but also said that we need density. He stated several concerns were addressed by not having on-street parking. He noted that the growth policy anticipates that we grow from the center out and helps meet the goal of providing more housing. He stated that he understood the comments and concerns but was also in favor of the project.

Mr. Bensen asked if Mr. James Sage would explain what he was planning to do with the property.

Mr. Sage stated the plans were still being worked out. He stated he'd like to be able to build as many units as possible. He stated there are site constraints, but the location and transportation were prime, and he'd like to build between 6-9 units.

Mr. Bensen stated he shared the sentiments that Mr. Hall had. He believed putting people in mixed residential areas was a great idea and solution for the long run.

Mr. Pham asked if there were legislative bills that allowed multi-unit development on existing lots and if it impacted parking. He asked if the owner could build multiple units right away or if there was a parking requirement.

Ms. Tripard stated there were a few bills that had passed during the year. She clarified the bill was mandating allowances for multi-dwelling, business, and commercial districts. She stated that the bill limited zoning in B & C districts to require one parking space per unit. She said that the bill didn't impact the property rezone since it was in a residential district.

Mr. Pham asked if the rezoning wasn't approved, would there be no ability to require parking with new buildings that might make parking worse.

Ms. Tripard stated the existing and new zoning parking requirements were the same and they apply to new units even those without rezoning.

Ms. Gilels addressed public comment saying there had been cause for concern with some projects allowing for a significantly different building height. She said the proposed development is at the end of the block across from the commercial district. She believed it was an appropriate location, close to the commercial districts that had taller buildings.

Mr. Kanwischer addressed public questions and concerns with parking density. He said all Missoula neighborhoods were being impacted by higher density. He encouraged and advised the Planning Board to help people thrive by increasing livability and growing sustainably. He generally asked all developers if folks were being displaced. He wondered if there were programs in the community that tracked and documented these occurrences.

Mr. Sage stated there would be no displacement of residents on the property. He said the existing structure is an old welding and machine shop. He stated he grew up on the property and knows everyone in the neighborhood.

Mr. Kanwischer stated he wasn't pointing a finger at anyone specifically but wanted to address his concern about displacement generally.

Mr. Loomis commented that incremental intensive neighborhood changes were dramatic and a shock to those affected. He gave an example of a similar project that occurred 20 years prior and how density, size, and height positively affected a neighborhood in Missoula. He said it also became a consistent pattern for developers. He said there would need to be an adjustment period for the community to get used to the change. He said he didn't feel like more units equaled lower prices. He said if the supply increases and there is a demand for apartments those apartments may be affordable. He said the property was consistent with the land use and zoning.

Recommended Motion

The Planning Board recommends the adoption of an ordinance to rezone the subject property located at 2145 W Sussex Ave. and legally described Lots 13-16 in Block 28 of Carline Addition, located in Section 29, Township 13 North, Range 19 West, P.M.M. from RM2.7 Residential (Multi-dwelling) to RM1-45 Residential (Multi-dwelling), based on the findings of fact and conclusions of law in the staff report.

Ms. Gilels made the motion to approve the request and Mr. Bensen seconded the motion.

Mr. McCoy said he was concerned that the staff wasn't addressing all the growth policy goals in the analysis. He gave Goal 4, "provide for the diverse housing needs while protecting the strong sense of place in the community and neighborhood," as an example. He said it was important to protect the character of the neighborhoods. He said he didn't want to see Missoula neighborhoods be steamrolled into something unrecognizable. He asked how properties are going to be affected by height and setbacks when code reform is updated. He said as code reform approached those topics need to be addressed. He addressed public comment stating the consistent themes seemed to be parking, overdevelopment, noise, and safety. He said the issue of noise seemed coming up frequently. He said this was a topic that needed to be elevated.

Mr. Pham stated he was glad code reform came up. He said sitting on the committee for that, density is a huge concern while affordability was a top priority. He said the only way to address affordability was with supply. He said the price of housing had outpaced the percentage of income required for housing across the nation. He said a priority was looking at density and addressing the zoning code form. This would preserve neighborhood setbacks without sacrificing density.

Ms. Costello said she echoed a lot of the Planning Board's concerns with what choices to make for growth. She said it was a good site for more infill, especially with the adjacent commercial property. She said the Board was aware of Franklin the Fort's public concerns with zoning changes and taller buildings blocking out and shading out their yards and homes. She said it was hard to navigate all the different community needs. She said Sussex was a greenway and the density was a good thing. It was in a location that encouraged accessible non-motorized traffic.

The Board voted by roll call and the motion passed unanimously.

Moved by: Dori Gilels
Seconded by: Peter Bensen (County Alt)

Recommend City Council **approve** the adoption of an ordinance to rezone the subject property located at 2145 W Sussex Ave. and legally described Lots 13-16 in Block 28 of Carline Addition, located in Section 29, Township 13 North, Range 19 West, P.M.M. from RM2.7 Residential (Multi-dwelling) to RM1-45 Residential (Multi-dwelling), based on the findings of fact and conclusions of law in the staff report.

AYES: (9): Ellie Costello, Dori Gilels, Rick Hall, Dave Loomis (County Appt), Sean McCoy (County Appt), Shane Morrissey (City Appt), Tung Pham (City Appt), Derek Kanwischer (City Alt), and Peter Bensen (County Alt)

ABSENT: (2): Josh Schroeder (Conservation Dist), and Micah Sewell (County Appt)

Vote results: Approved (9 to 0)

8. Committee Reports

Mr. Pham stated that at the TPCC (Transportation Policy Coordinating Committee) meeting they approved procedural updates to the UPWP (work plan) and the TIP budget. This had to do with some federal grants that positively impacted air quality issues. They also approved hiring a consultant for the long-range transportation plan. They made some adjustments to the urban boundary.

9. Old Business

Mr. Pham also noted there is a series of community engagement events for Our Missoula and rezoning. He encouraged everyone to attend.

10. New Business and Referrals

There was none.

11. Comments from MCPB Members

Ms. Gilels expressed that it was exciting for a non-profit like Missoula Youth Homes to be able to serve, organize, and consolidate their administration and medical offices under one roof. She said if they wanted to develop part of the property as a source of income that would be a wonderful opportunity and beneficial for the community.

Mr. Hall stated his term was up at the end of the year and he was waiting to hear if he'd been reappointed.

Mr. Morrissey stated the Sussex rezone was right and appropriate. He said Franklin to the Fort was developing at a quick pace and he understood how the changes would be daunting for residents. He said he reflected Ms. Gilels and Ms. Costello's comments about density, location, green space, and alternate modes of transportation.

Mr. McCoy stated he always enjoyed the robust intelligent conversations at Planning Board.

Ms. Hughes noted the Commissioner's Office had staffing changes that created a lag in the appointment process. She said she wasn't sure about the city but was certain there had been recent changes for them as well. She said she would reach out to see where the city was in their process. She went on to say the Planning Board bylaws state you can continue to serve until you have a replacement or are reappointed.

12. Adjournment

Sean McCoy adjourned the meeting at 8:19 p.m.

9399 Baron's Court Rezoning Request

Landowners: Don and Vicki Rosetti

Jennie Dixon, AICP, Planner IV

Missoula County Planning, Development and Sustainability Dept.

Planning Board 12/5/23

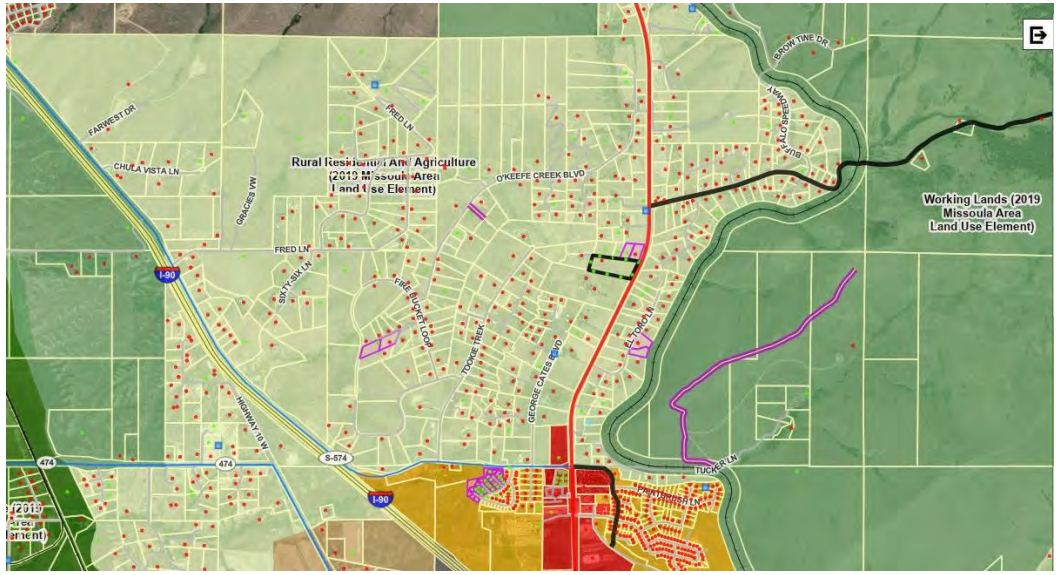
Request to Rezone from AGRR-5 to AGRR-2

- Adjacent zoning is AGRR-2
- Land Use Element (2019) recommends Rural Residential and Agricultural Land Use
- Originally proposed for AGRR-5 in 2022 Missoula County Zoning Update
- Staff recommends approval of rezoning request

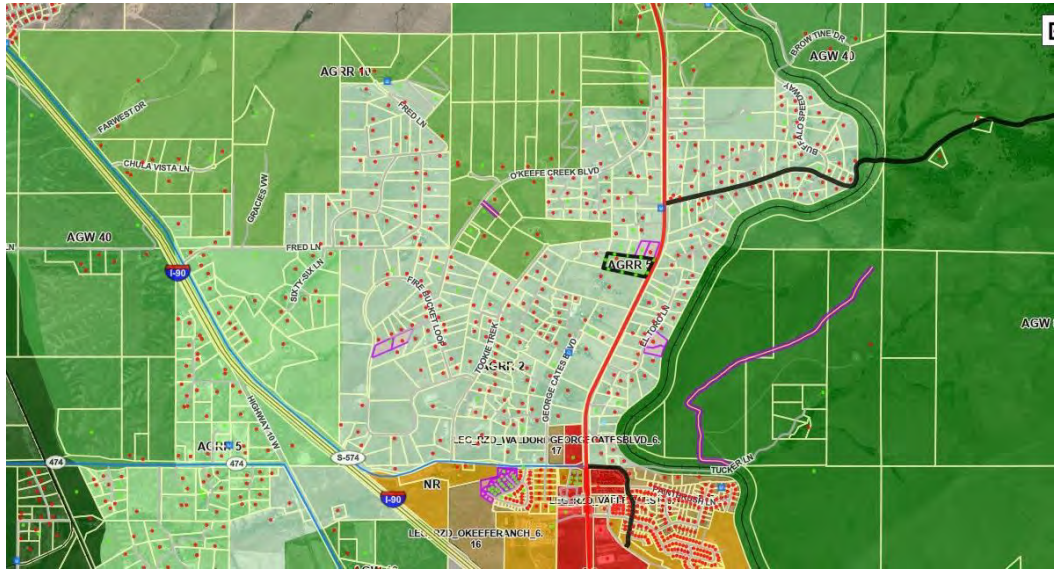
Land Use Plan and Surrounding Zoning

Both support the request to rezone from AGRR-5 to AGRR-2

Land Use Plan



Zoning Map



Recommended Motion

I MOVE to approve the request to rezone property located at 9399 Baron's Court, legally described as Parcel 72C, COS #2339, based on the application, public testimony, and the findings of facts and conclusions of law contained in the staff report.

550 North California St.

Rezone Request

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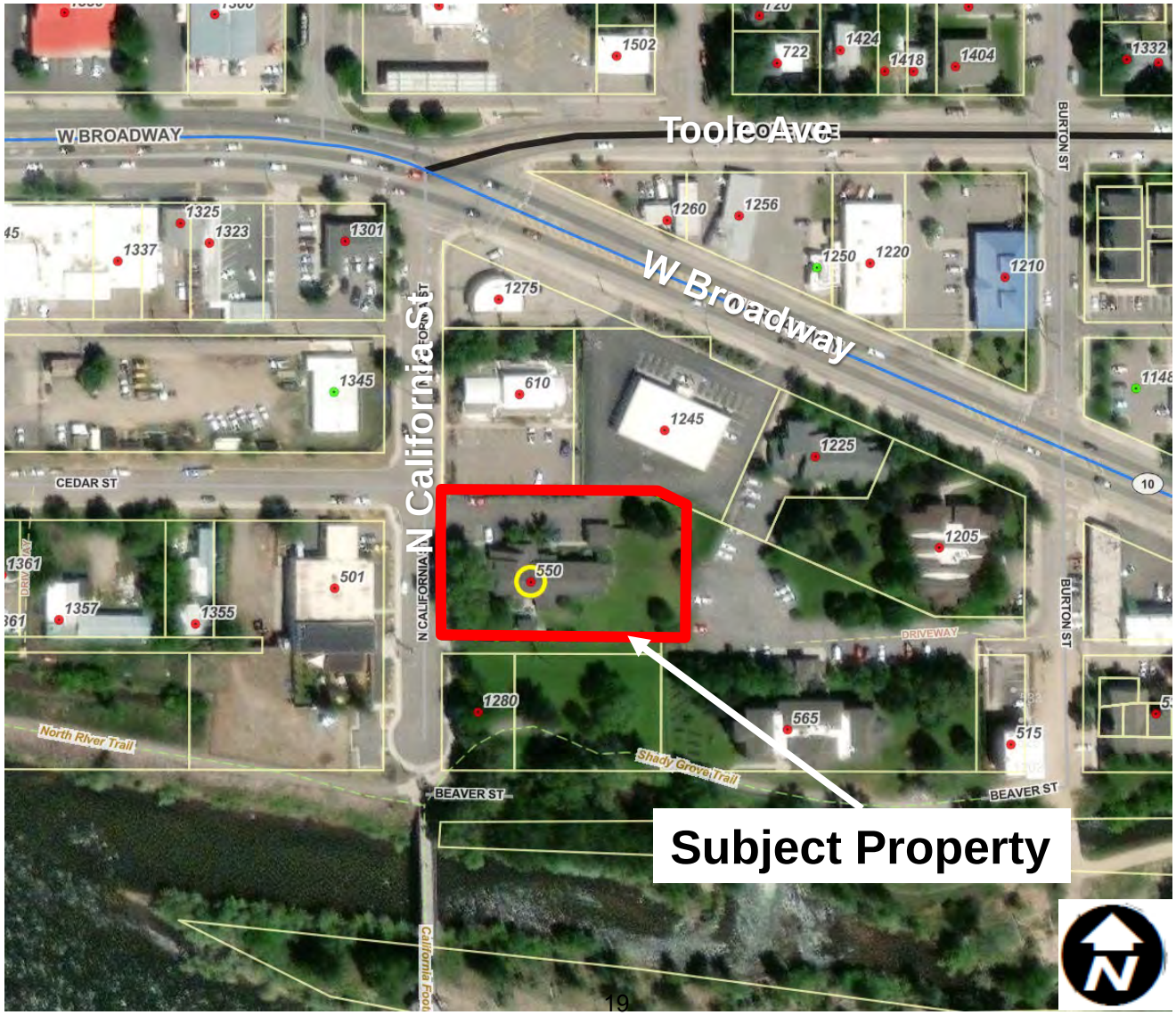
Planning Board

From PUD Missoula Youth Homes to C1-3 Neighborhood Commercial / DE-D Design Excellence Downtown Gateway Overlay

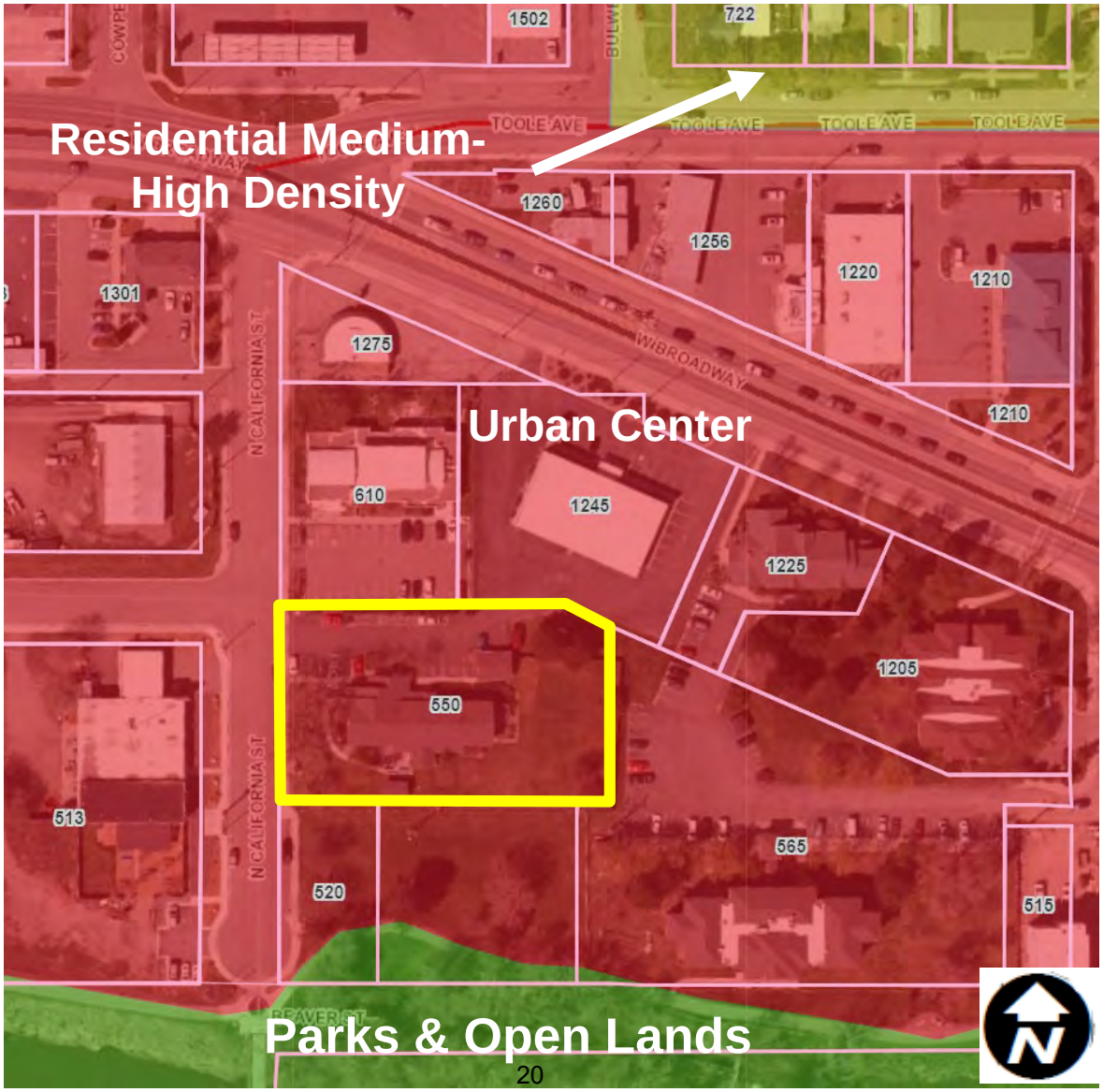
Cassie Tripard, Planning Supervisor
Community Planning, Development and Innovation

December 5, 2023

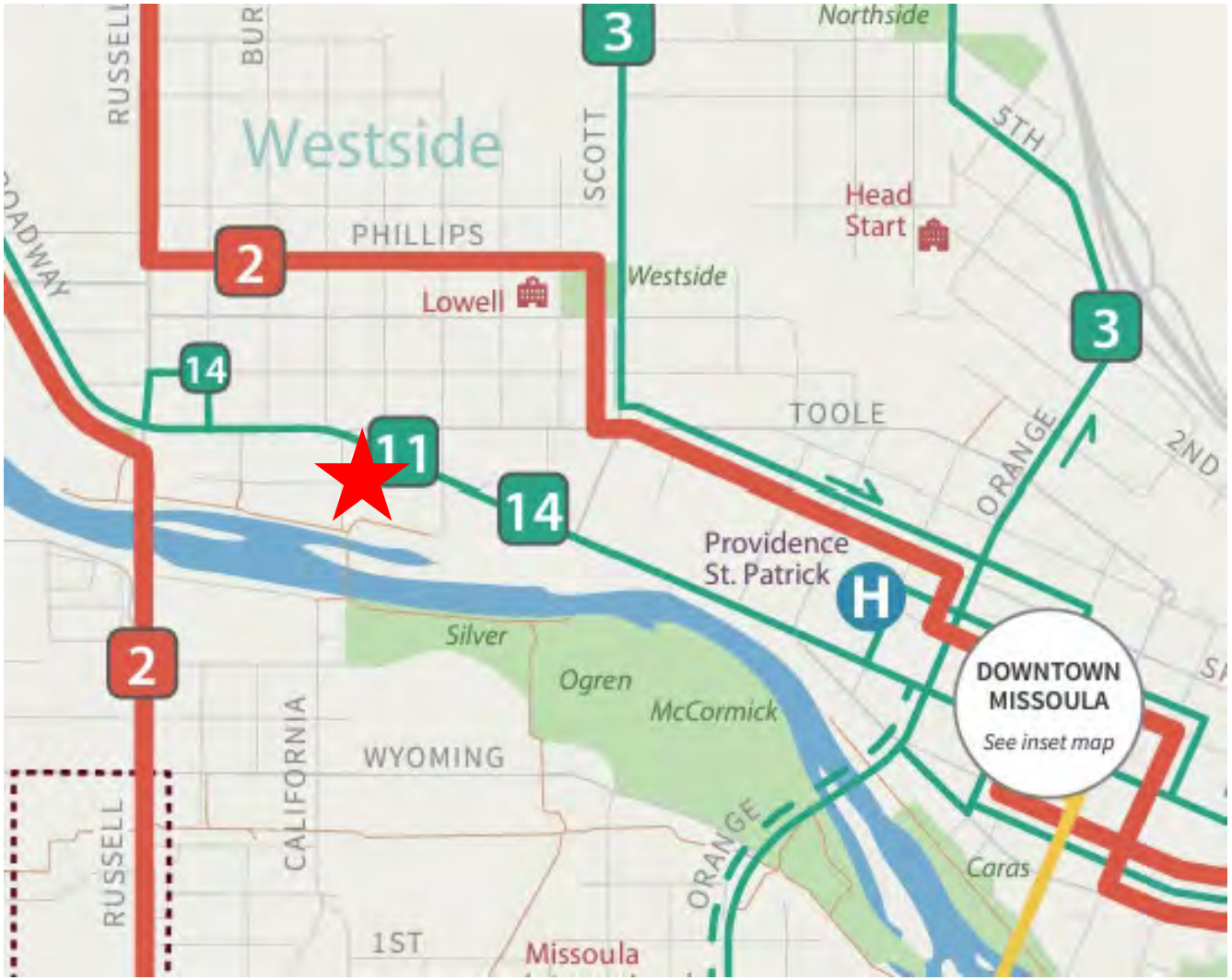
Property Location



2035 Missoula City Growth Policy

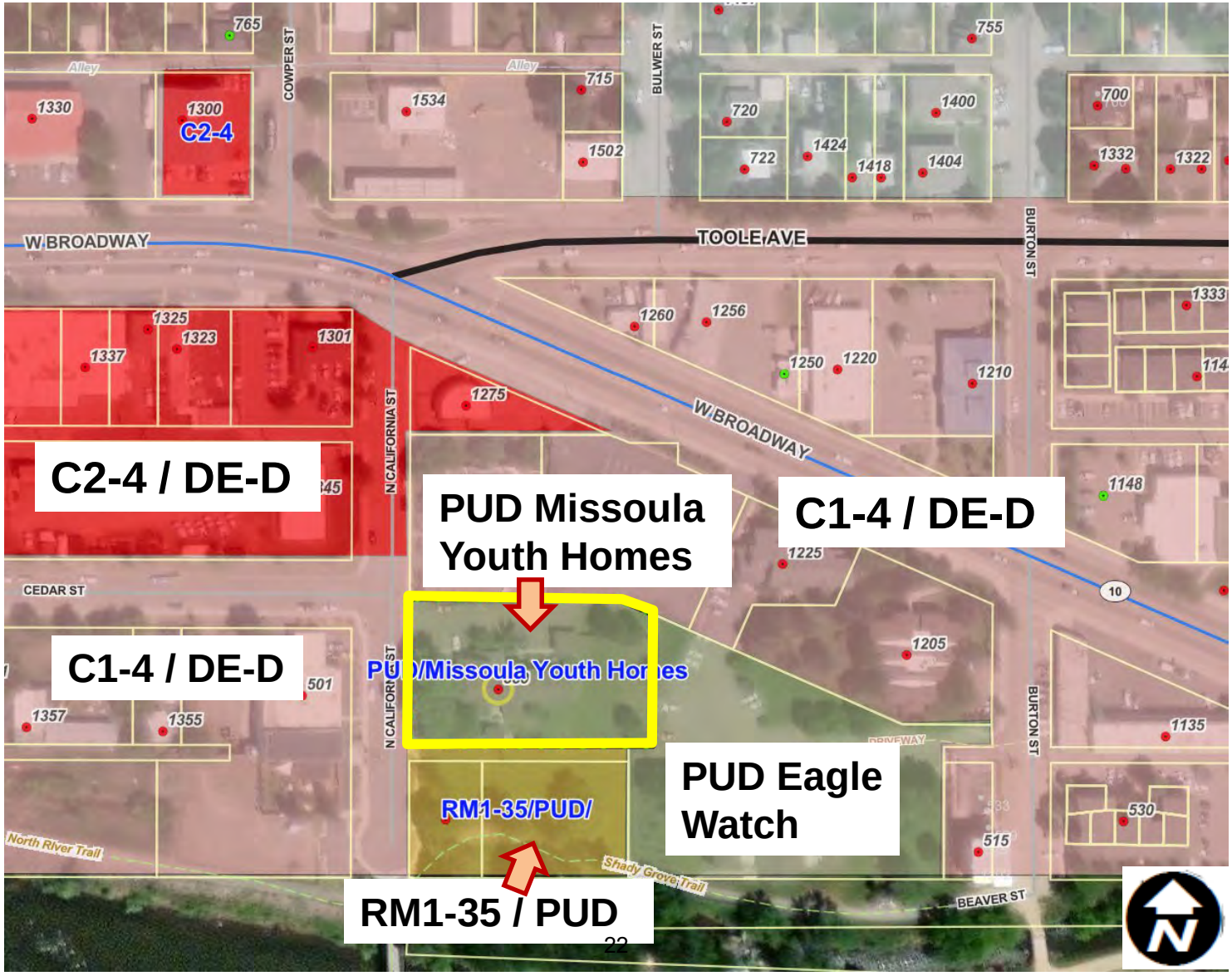


Growth Policy: Focus Inward

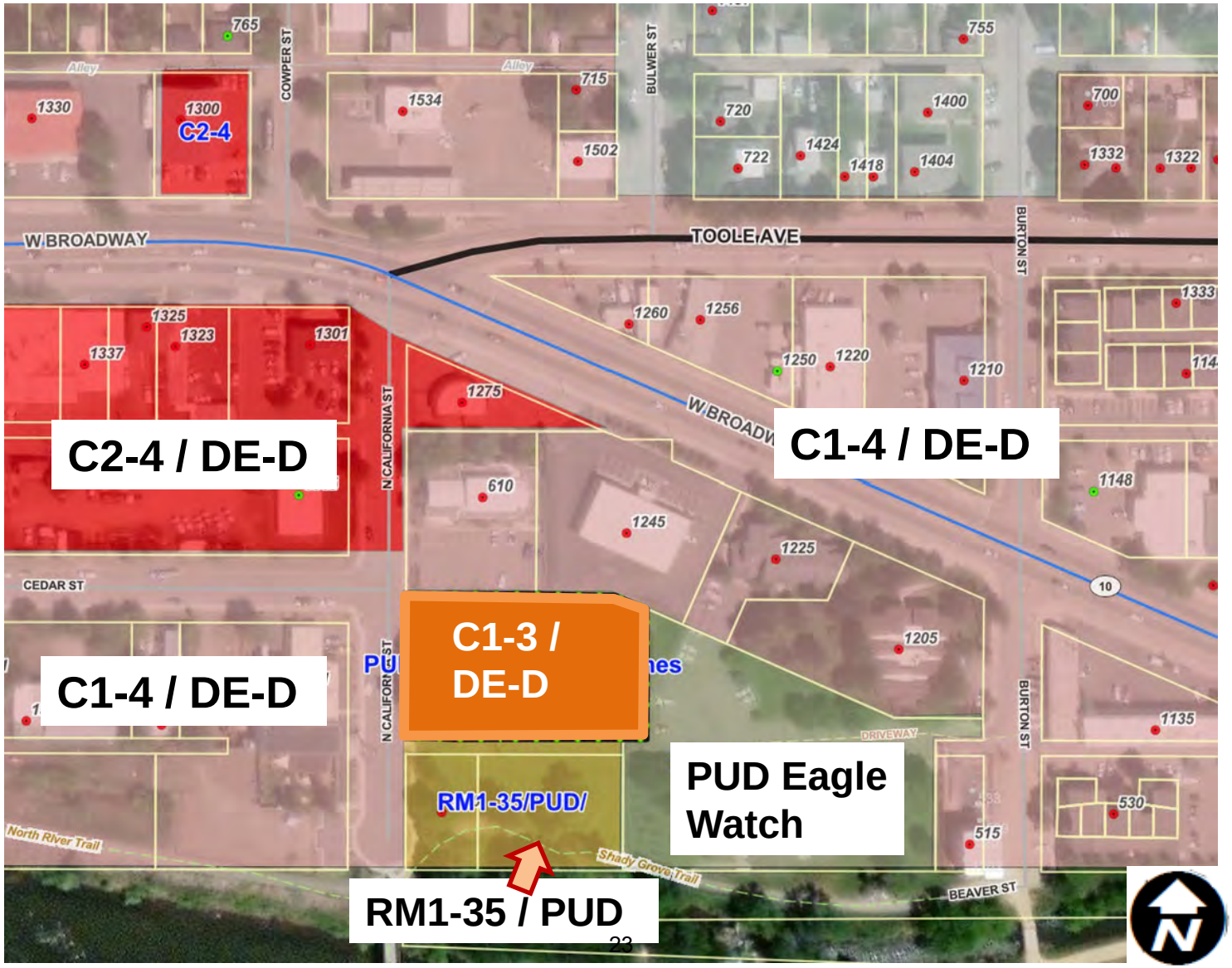


(Mountain Line Bus Map)

Current Zoning Map



Proposed Zoning Map



Zoning Comparison

	Existing	Proposed
	PUD Missoula Youth Homes	**C1-3 / DE-D**
Minimum Parcel Size	None.	3,000 SF or 5,000 SF
Parcel Area per Unit	None. 16 bed group living structure & 6-unit multi-dwelling building	1,000 SF per dwelling unit (Up to 36 dwelling units)
Setbacks	20-foot front and rear yard, 5-foot interior side yard setback.	Build to zone on west, none on north, 5-foot on south and 20 feet on the east side.
Maximum Height	35 feet	65 feet max. along California Str.; 35 feet max. at 20-foot rear setback on the east end.
General Permitted Uses	16 bed group living structure including office space for Youth Homes & 6-unit multi-dwelling building	Commercial, Residential, Mixed-Use Buildings, and Vertical Mixed-Use Buildings

Review Criteria

1. Growth Policy
2. Promotes Public Health and Safety
3. Public Services/Transportation
4. Provision of Light and Air
5. Compatible Urban Growth
6. District Character & Suitability of Uses
7. Value of Buildings and Appropriate Use of Land
8. Meets Changing Condition
9. Best Interest of the City as a Whole

Deed Restriction

PUD Missoula Youth Homes Zoning - Uses:

- Primary: 16-bed group home;
- Secondary: offices for Missoula Youth Homes; and
- Future: 6-unit Multi-dwelling structure.

Deed Restriction:

- Required 6-unit Multi-dwelling structure to serve low to moderate income households.
- Multi-dwelling structure was never developed on the site.

Removal of the Deed Restriction:

- Will allow for current use of the existing structure for Youth Homes administrative offices and medical offices for Dan Fox Family Care Program.
- Will allow for future redevelopment of the property for commercial and higher density residential in compliance with the City Growth Policy.

Recommended Motion

Staff recommends the following motion for Planning Board:

Planning Board recommend City Council **APPROVE** the adoption of an ordinance to rezone the subject property located at 550 N. California Street and legally described as Lot 2 of Eagle Watch Estates, located in Section 21, Township 13 North, Range 19 West, 37,251 square feet, P.M.M., from PUD Missoula Youth Homes to C1-3 Neighborhood Commercial / DE-D Design Excellence Downtown Gateway Overlay, based on the findings of fact in this staff report.

Staff also recommends City Council remove the Deed Restriction from the subject property.

Rezone Request

—

Planning Board

2145 W Sussex Ave.

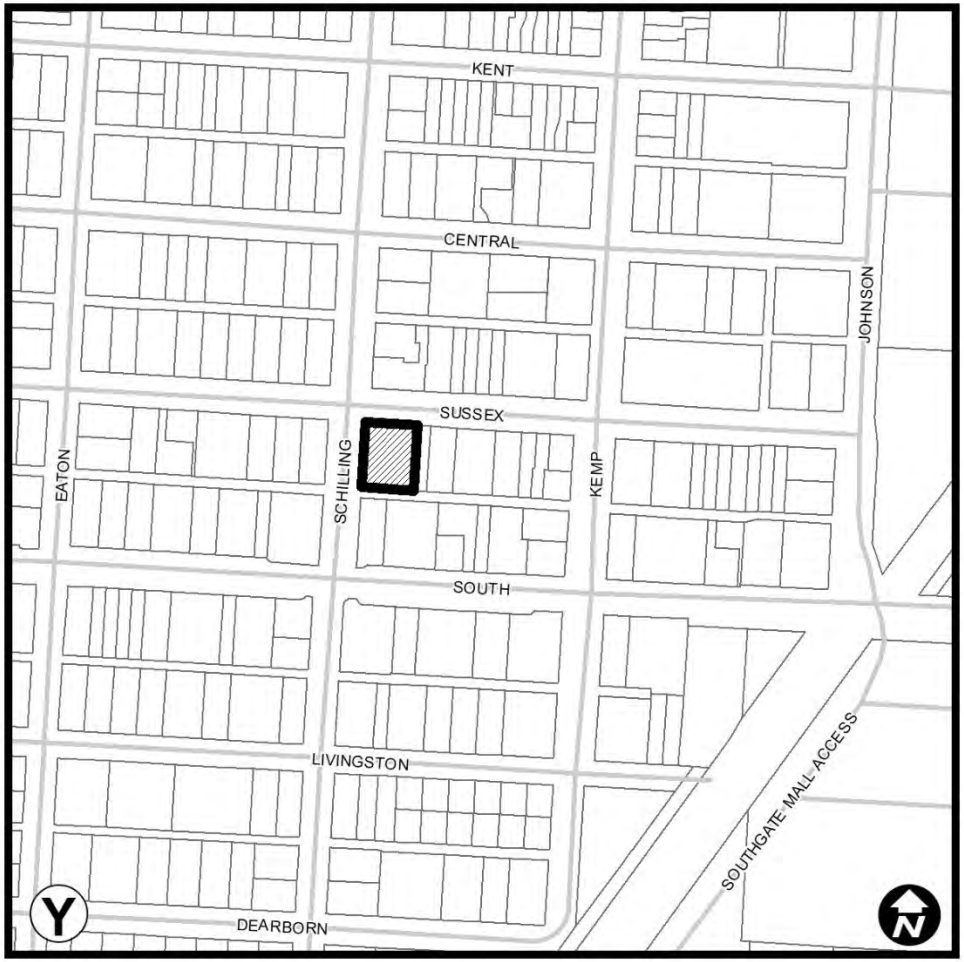
From RM 2.7* to RM 1-45**

*Residential 2.7 (multi-dwelling)
**Residential 1-45 (multi-dwelling)

Charlie Ream, Associate Planner
Community Planning, Development and Innovation

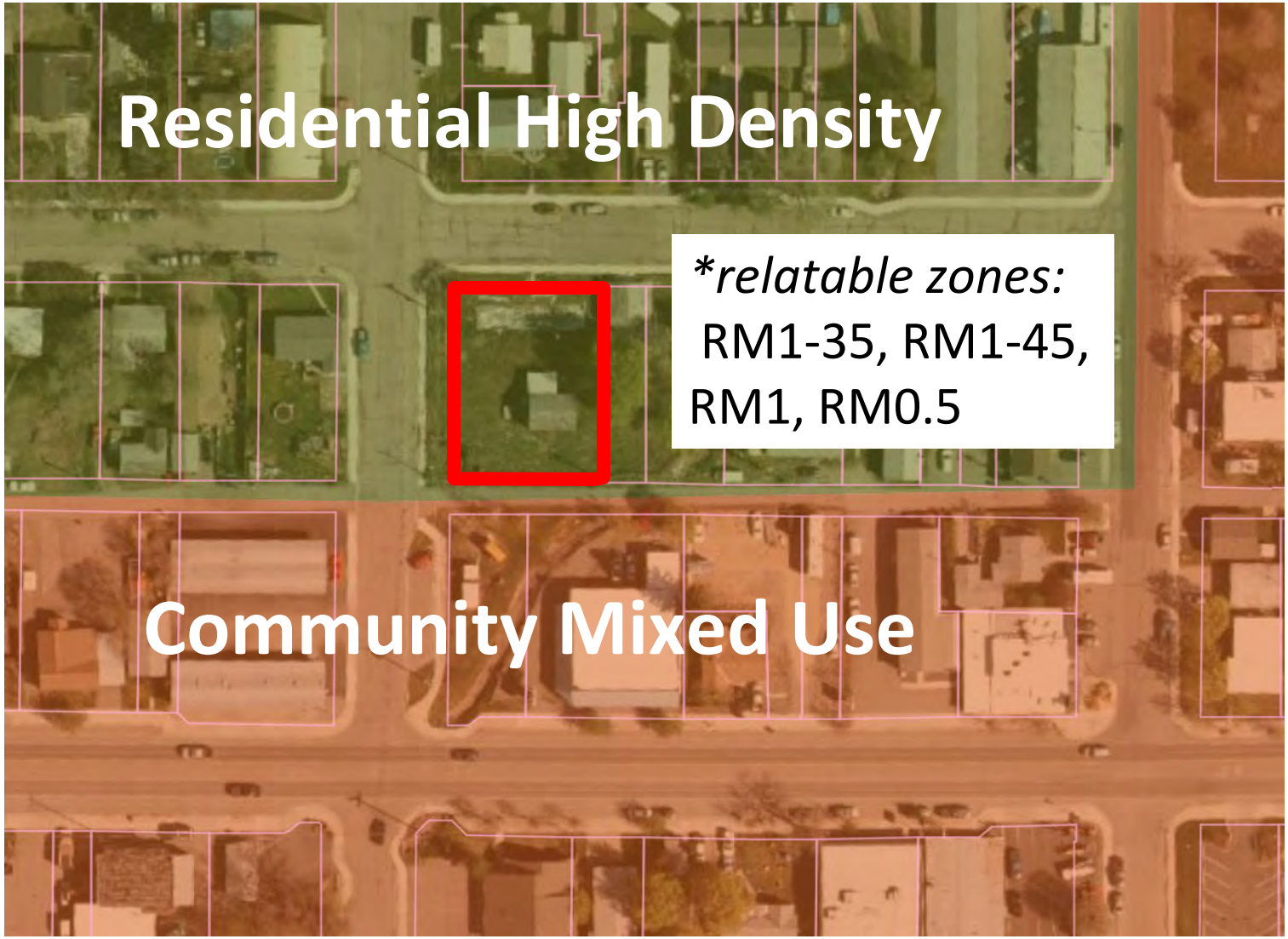
December 5, 2023

Property Location

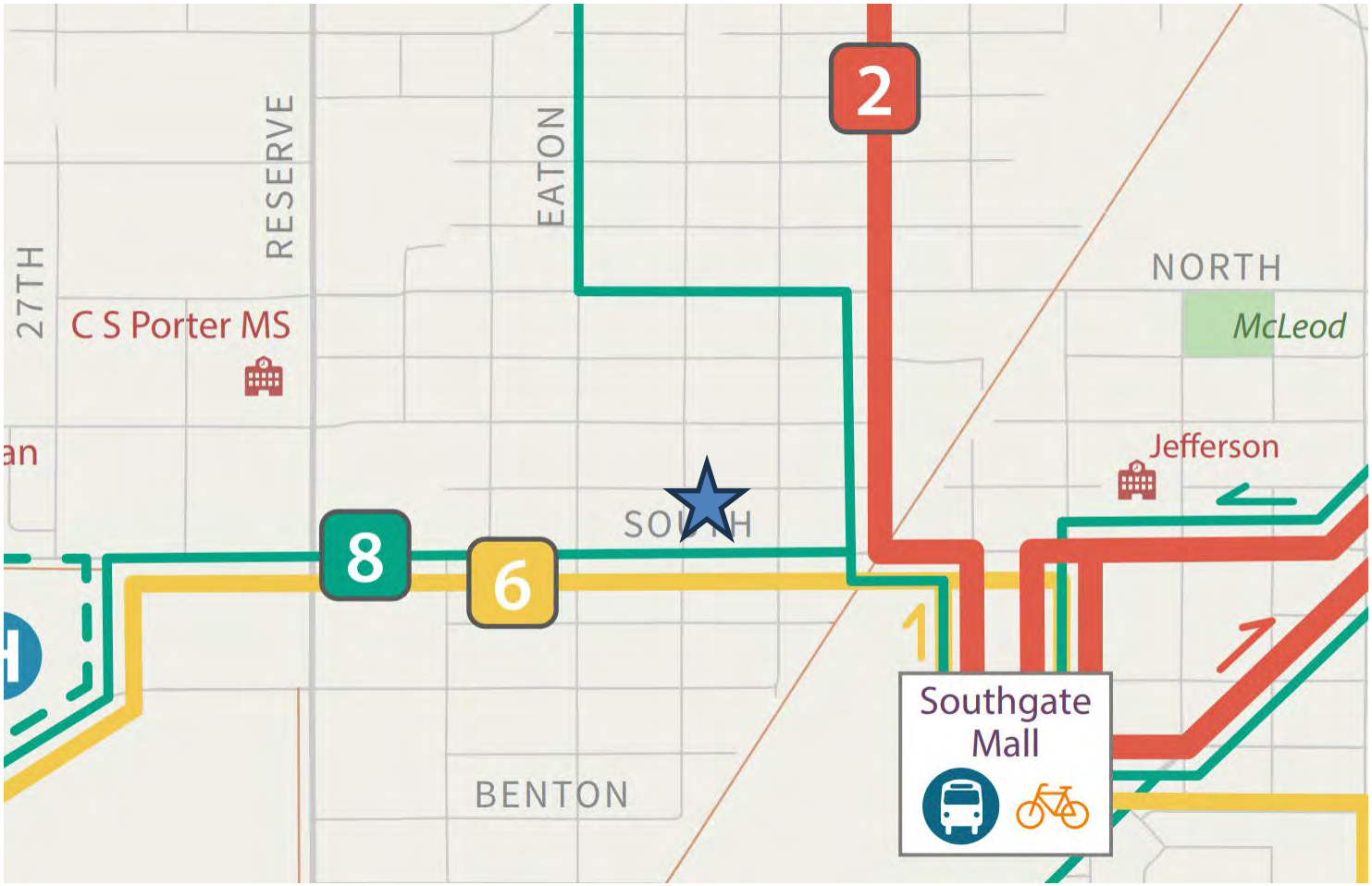


Existing Site: Aerial

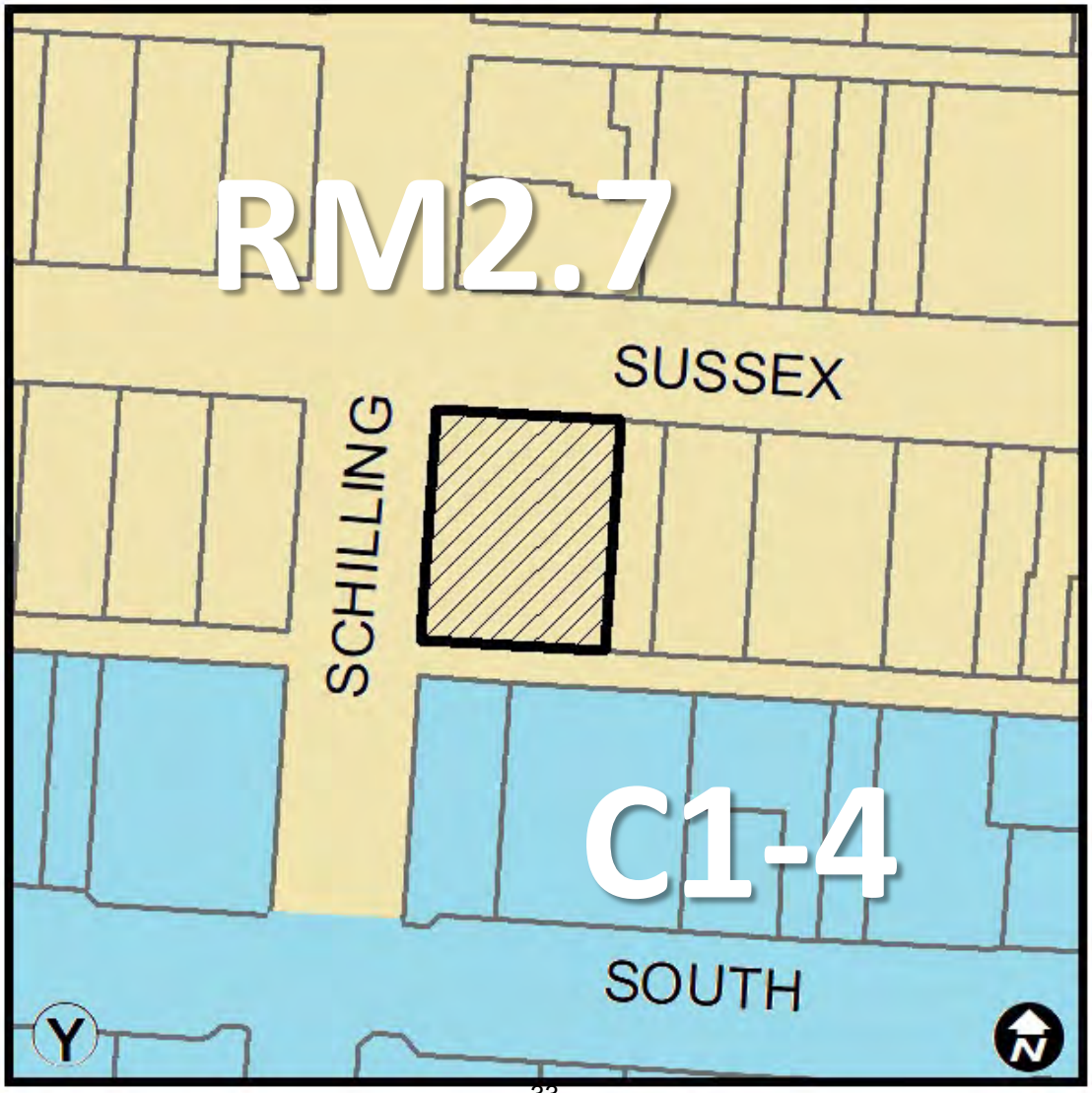
Growth Policy Map



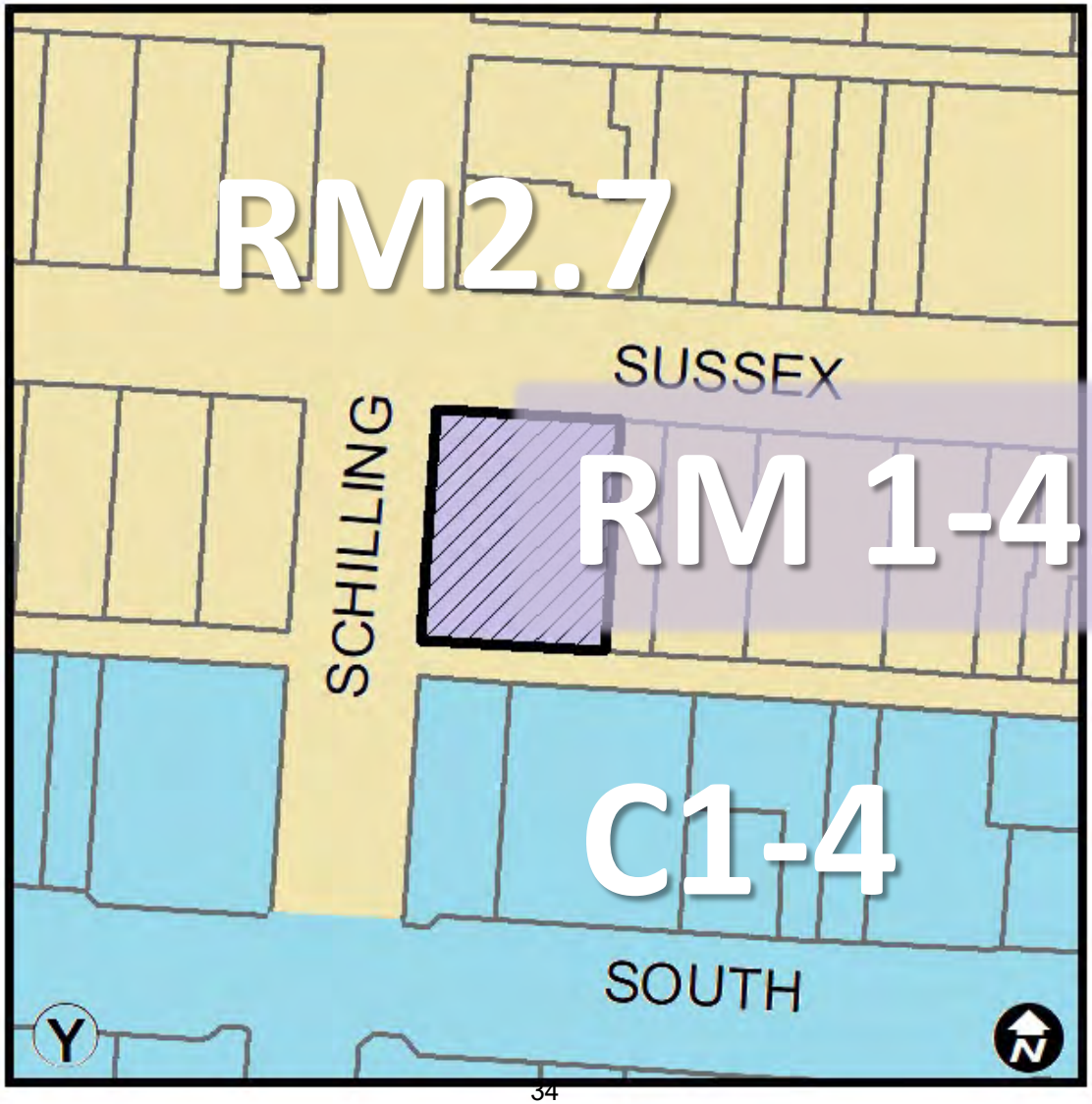
Growth Policy: Focus Inward



Current Zoning Map



Proposed Zoning Map



Standards Comparison

	Existing	Proposed
Zoning	RM2.7	RM1-45
Min. Parcel Size	3,000 ft^2	3,000 ft^2
Parcel Area / Unit	2,700 ft^2	1,000 ft^2
Setbacks	Front & Rear: 20’ Side: 5’ Street Side: 10’	Front & Rear: 20’ Side: 5’ Street Side: 10’
Max. Height	30/35’	45’
Permitted Uses	RM1-45 is same as RM2.7 *plus* Fraternity/Sorority, College/University are Permitted Uses and Water Testing Facility is a Conditional Use.	

Review Criteria

1. Growth Policy
2. Promotes Public Health and Safety
3. Public Services/Transportation
4. Provision of Light and Air
5. Compatible Urban Growth
6. District Character & Suitability of Uses
7. Value of Buildings and Appropriate Use of Land
8. Meets Changing Condition
9. Best Interest of the City as a Whole

Spot Zoning Considerations

All three criteria must be met to constitute spot zoning.

(1) The proposed use is significantly different from the prevailing use in the area;

(2) The area in which the requested use is to apply is rather small from the perspective of concern with the number of separate landowners benefited from the proposed change;

(3) The change is special legislation designed to benefit only one or a few landowners at the expense of the surrounding landowners or the general public.

Recommended Motion

Staff Recommended Motion:

Recommend Planning Board recommend the adoption of an ordinance to rezone the subject property located at 2145 W Sussex Ave. and legally described Lots 13-16 in Block 28 of Carline Addition, located in Section 29, Township 13 North, Range 19 West, P.M.M. from RM2.7 Residential (Multi-dwelling) to RM1-45 Residential (Multi-dwelling), based on the findings of fact and conclusions of law in the staff report.

From: Dan Neuman
To: Tamara R. Ross; Danny Oberweiser
Cc: Tim Damrow; Lauren Stevens; Brian Ellestad; Lynn Fagan
Subject: Orchard Grove Subdivision – Agency Sufficiency Review
Date: Monday, July 24, 2023 11:36:04 AM
Attachments: image001.png
image003.png
Orchard Grove Subdivision.pdf

Hi Tamara,

Please see the attached. Let me know if you have any questions.

Thanks,

Dan F. Neuman

Dan F. Neuman
Manager of Business Development
Missoula Montana Airport
C – 406.370.3393 | P – 406.532.8741
www.flymissoula.com

From: Tamara R. Ross <Tamara.R.Ross@imegcorp.com>
Sent: Monday, July 24, 2023 10:18 AM
To: Adriane Beck <abeck@missoulacounty.us>; andersene@ci.missoula.mt.us; banzigerw@ci.missoula.mt.us; Brian Ellestad <brian.ellestad@flymissoula.com>; bmcwilliams@mcps.k12.mt.us; boggessm@ci.missoula.mt.us; brownjs2@bresnan.net; Bryce@missoulaeduplace.org; bschmidt@missoulacounty.us; buchanane@ci.missoula.mt.us; caldridge@mountainline.com; campbelltl@ci.missoula.mt.us; cbauer2@republicservices.com; contactmpd@ci.missoula.mt.us; cwoodrow@mountainline.com; Derek.Lilleberg@p66.com; dreisig@hellgate.k12.mt.us; dschiele@mt.gov; dstone@mountainline.com; eevans@missoulacounty.us; envhealth@missoulacounty.us; erikl@meccoop.com; firebureau@ci.missoula.mt.us; fraserd@ci.missoula.mt.us; gasst@ci.missoula.mt.us; gauklerd@ci.missoula.mt.us; gcameron@mt.gov; gmk@bresnan.net; gordonn@ci.missoula.mt.us; gorskia@ci.missoula.mt.us; Grp.PDAdmin@ci.missoula.mt.us; hughesg@ci.missoula.mt.us; jamesm@ci.missoula.mt.us; jjohnson@blackfoot.com; jnave@mt.gov; jodi_bush@fws.gov; johnsone@ci.missoula.mt.us; jsweten@mountainline.com; Kathryn.mcdonald@cskt.org; keenej@ci.missoula.mt.us; Kerry.Patton2@Lumen.com; krisrichards@mt.gov; ldavidson@missoulahousing.org; lmeans@ci.missoula.mt.us; mcinnisl@ci.missoula.mt.us; mcleodn@ci.missoula.mt.us; mmccrea@ci.missoula.mt.us; mollenhauerr@ci.missoula.mt.us; monroet@ci.missoula.mt.us; nholloway@missoulacounty.us; paul.dallapiazza@northwestern.com; pehane@ci.missoula.mt.us; ray@tippandbuley.com; reicherts@ci.missoula.mt.us; rummlerl@ci.missoula.mt.us; rwatson@mcps.k12.mt.us; schultza@ci.missoula.mt.us; sebastiana@ci.missoula.mt.us; selvaged@ci.missoula.mt.us; vetbluemountain@gmail.com;

waterquality@missoulacounty.us; weissb@ci.missoula.mt.us; wilsona@ci.missoula.mt.us
Cc: Danny Oberweiser <Daniel.G.Oberweiser@imegcorp.com>; Joe M. Dehnert <Joseph.M.Dehnert@imegcorp.com>; Lauren Stevens <StevensL@ci.missoula.mt.us>
Subject: EXTERNAL:Orchard Grove Subdivision – Agency Sufficiency Review

[THIS MESSAGE ORIGINATED FROM OUTSIDE OUR ORGANIZATION - DON'T CLICK LINKS OR ATTACHMENTS UNLESS YOU'RE SURE THE CONTENT IS SAFE]

Dear Agent:

The City of Missoula Development Services Division has identified you as being an agency that may have important comments to make about the proposed City Major Subdivision, Orchard Grove Subdivision. Your comments are important to us.

On July 21st, 2023, Development Services posted the 1st Agency Sufficiency Review regarding Orchard Grove Subdivision online for your review. The purpose of this agency review is twofold:

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https://www.ci.missoula.mt.us/3212/Orchard-Grove-Annexation-Subdivision

You will have 12 working days from today, July 24, 2023, to complete your review. Please reply and send any comments directly to Tamara.R.Ross@imegcorp.com and Daniel.G.Oberweiser@imegcorp.com by end of the day **Wednesday, August 9th, 2023,** and copy StevensL@ci.missoula.mt.us. This ensures that Development Services can meet their 1st Agency Sufficiency Review deadline of August 14th, 2023.

If there is anything we can do to facilitate your review, please reach out to us. Thank you in advance for your comments.

Sincerely,
IMEG Corp.

Tamara Ross
IMEG | Civil Designer / Planning Technician

1817 South Ave West | Suite A | Missoula, MT 59801

(406) 272-0253

Tamara.R.Ross@imegcorp.com

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Missoula
MONTANA AIRPORT

5225 West Broadway | Missoula, MT 59808
www.flymissoula.com | 406-728-4381

July 24, 2023

Tamara Ross, IMEG Corp.
Civil Designer / Planning Technician
1817 South Ave West, Suite A
Missoula, MT 59801
Tamara.R.Ross@imegcorp.com
cc: Daniel.G.Oberweiser@imegcorp.com; StevensL@ci.missoula.mt.us

Re: Orchard Grove Subdivision

Dear Ms. Ross,

Please accept this letter as the Missoula County Airport Authority's ("the Airport") comments to the Orchard Grove proposed subdivision on 3.08 acres described as Lot 42, Cobban and Dinsmore's Orchard Homes, less Lot 1 recorded at Book 19 and Page 82 Micro Records Missoula County & Less Dedicated Right-of-way, located in the NE ¼ of the SE ¼ of Section 19, Township 13 North, Range 19 West., P.M.M., Missoula County, Montana.

The proposed subdivision is not within the current Airport Influence Area, as adopted by Missoula County pursuant to Resolution No. 78-96 and amended by Resolution No. 78-187 dated July 5, 1978 and December 6, 1978, respectively, and recorded in Book 121 of Micro Records, page 1319 (Resolution 78-96) and Book 135 of Micro Records, page 474 (Amendment by Resolution 78-187).

The Airport has no objection to this subdivision. Thank you for the opportunity to comment and please continue to keep us informed on this project as it moves through the review process.

Sincerely,

Dan F. Neuman, Manager Business Development
Missoula County Airport Authority
dneuman@flymissoula.com

Cc: Brian Ellestad (bellestad@flymissoula.com), Lynn Fagan (lfagan@flymissoula.com), Tim Damrow (tdamrow@flymissoula.com).

From: Cozad, Desiree
To: Tamara R. Ross; Danny Oberweiser
Cc: Lauren Stevens
Subject: RE: Orchard Grove Subdivision – Agency Sufficiency Review
Date: Thursday, August 3, 2023 1:03:11 PM
Attachments: image001.png
Orchard Grove Subdivision.pdf

Hello,

Here is FWP no comment letter (attached).

Thank you,

Desiree Cozad
Region 2 Admin Support
Montana Fish, Wildlife & Parks

3201 Spurgin Rd
Missoula, MT 59804
O: (406) 542-5525
Montana FWP

THE **OUTSIDE** IS IN US ALL.

From: Tamara R. Ross <Tamara.R.Ross@imegcorp.com>
Sent: Monday, July 24, 2023 10:18 AM
To: Beck, Adriane <abeck@missoulacounty.us>; andersene@ci.missoula.mt.us; banzigerw@ci.missoula.mt.us; bellestad@flymissoula.com; bmcwilliams@mcps.k12.mt.us; boggessm@ci.missoula.mt.us; brownjs2@bresnan.net; Bryce@missoulaeduplace.org; bschmidt@missoulacounty.us; buchanane@ci.missoula.mt.us; caldridge@mountainline.com; campbelltl@ci.missoula.mt.us; cbauer2@republicservices.com; contactmpd@ci.missoula.mt.us; cwoodrow@mountainline.com; Derek.Lilleberg@p66.com; dreisig@hellgate.k12.mt.us; Schiele, Dori <dschiele@mt.gov>; dstone@mountainline.com; eevans@missoulacounty.us; envhealth@missoulacounty.us; erikl@meccoop.com; firebureau@ci.missoula.mt.us; fraserd@ci.missoula.mt.us; gasst@ci.missoula.mt.us; gauklerd@ci.missoula.mt.us; Cameron, Glen <gcameron@mt.gov>; gmk@bresnan.net; gordonn@ci.missoula.mt.us; gorskia@ci.missoula.mt.us; Grp.PDAdmin@ci.missoula.mt.us; hughesg@ci.missoula.mt.us; jamesm@ci.missoula.mt.us; jjohnson@blackfoot.com; Nave, Jim <jnave@mt.gov>; jodi_bush@fws.gov; johnsone@ci.missoula.mt.us; jsweten@mountainline.com; Kathryn.mcdonald@cskt.org; keenej@ci.missoula.mt.us; Kerry.Patton2@Lumen.com; Richards, Kristi <KrisRichards@mt.gov>; ldavidson@missoulahousing.org; lmeans@ci.missoula.mt.us; mcinnisl@ci.missoula.mt.us; mcleodn@ci.missoula.mt.us; mmccrea@ci.missoula.mt.us; mollenhauerr@ci.missoula.mt.us; monroet@ci.missoula.mt.us; Nick Holloway <nholloway@missoulacounty.us>; paul.dallapiazza@northwestern.com; pehane@ci.missoula.mt.us; ray@tippandbuley.com; reicherts@ci.missoula.mt.us; rummlerl@ci.missoula.mt.us; rwatson@mcps.k12.mt.us; schultza@ci.missoula.mt.us; sebastiana@ci.missoula.mt.us; selvaged@ci.missoula.mt.us; vetbluemountain@gmail.com; waterquality@missoulacounty.us; weissb@ci.missoula.mt.us; Aaron Wilson <wilsona@ci.missoula.mt.us>
Cc: Danny Oberweiser <Daniel.G.Oberweiser@imegcorp.com>; Joe M. Dehnert <joseph.m.dehnert@imegcorp.com>; Lauren Stevens <StevensL@ci.missoula.mt.us>
Subject: [EXTERNAL] Orchard Grove Subdivision – Agency Sufficiency Review

Dear Agent:

The City of Missoula Development Services Division has identified you as being an agency that may have important comments to make about the proposed City Major Subdivision, Orchard Grove Subdivision. Your comments are important to us.

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https://www.ci.missoula.mt.us/3212/Orchard-Grove-Annexation-Subdivision [ci.missoula.mt.us]

You will have 12 working days from today, July 24, 2023, to complete your review. Please reply and send any comments directly to Tamara.R.Ross@imegcorp.com and Daniel.G.Oberweiser@imegcorp.com by end of the day **Wednesday, August 9th, 2023,** and copy StevensL@ci.missoula.mt.us. This ensures that Development Services can meet their 1st Agency Sufficiency Review deadline of August 14th, 2023.

If there is anything we can do to facilitate your review, please reach out to us. Thank you in advance for your comments.

Sincerely,
IMEG Corp.

Tamara Ross
IMEG | Civil Designer / Planning Technician

[imegcorp.com]

1817 South Ave West | Suite A | Missoula, MT 59801

(406) 272-0253
Tamara.R.Ross@imegcorp.com

website [imegcorp.com] | vCard [dynasend.com] | map [google.com] | regional news [imegcorp.com] [twitter.com] [facebook.com] [linkedin.com]

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Montana Fish, Wildlife and Parks - Region 2
3201 Spurgin Road
Missoula, MT 59804
(406) 542-5500
08-02-2023

Tamara Ross & David Oberweiser
IMEG Corp.
1817 South Ave W. Suite A
Missoula, MT 59801
(406) 272-0253

Subject: Orchard Grove Subdivision

Dear IMEG Corp,

Thank you for the opportunity for Montana Fish, Wildlife & Parks (FWP) to comment on the proposed City Major Subdivision, Orchard Grove Subdivision. Our agency had no comments for this project.

We encourage you to reach out to Ryan Klimstra, Wildlife Biologist, ryan.klimstra@mt.gov, 406-431-0362 as the primary contact person with any questions or concerns. Thank you for the opportunity to comment and we look forward to working with you in the future.

Sincerely,

Randy Arnold
Regional Supervisor, Region 2

From: viking
To: Tamara R. Ross; Danny G. Oberweiser
Cc: Lauren Stevens; Brown Jim
Subject: Orchard Grove Subdivision First Sufficiency Review
Date: Tuesday, August 8, 2023 8:07:51 AM

Five Valleys Audubon has no comments to offer regarding the proposed Orchard Grove Subdivision.

From:	Kerri Mueller
To:	tamara.r.ross@imegcorp.com; daniel.g.oberweiser@imegcorp.com
Cc:	Lauren Stevens; Ben Schmidt
Subject:	Orchard Grove Subdivision - Air Quality Program Comments
Date:	Wednesday, August 9, 2023 3:56:48 PM
Attachments:	image001.png

Hi,

The Air Quality Program at the MCCHD supports the inclusion of #17, wood burning devices, and #23, radon mitigation, in the covenants for the submitted plan. We also support the non-motorized transportation access with the proposed sidewalks in the site plan.

Best,
Kerri Mueller

Kerri Mueller
Air Quality Specialist
Air Quality Program | Missoula City-County Health Department
301 W. Alder, Missoula, MT 59802
kmueller@missoulacounty.us | (406)258-3642

Missoula Public Health
City-County Health Department

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From: Jordan Johnson
To: Tamara R. Ross; Danny Oberweiser
Cc: Lauren Stevens
Subject: RE: Orchard Grove Subdivision – 2nd Agency Sufficiency Review
Date: Thursday, October 12, 2023 3:16:39 PM

Hello,

Blackfoot has no comments at this time.

Thank you,

Jordan Johnson

OSP Project Engineer
Blackfoot Communications
M: 406-499-1024

From: Tamara R. Ross <Tamara.R.Ross@imegcorp.com>
Sent: Thursday, October 12, 2023 10:02 AM
To: abeck@missoulacounty.us; andersene@ci.missoula.mt.us; banzigerw@ci.missoula.mt.us; bellestad@flymissoula.com; bmcwilliams@mcps.k12.mt.us; boggessm@ci.missoula.mt.us; brownjs2@bresnan.net; Bryce@missoulaeduplace.org; bschmidt@missoulacounty.us; buchanane@ci.missoula.mt.us; caldridge@mountainline.com; campbelltl@ci.missoula.mt.us; cbauer2@republicservices.com; contactmpd@ci.missoula.mt.us; cwoodrow@mountainline.com; Derek.Lilleberg@p66.com; dreisig@hellgate.k12.mt.us; dschiele@mt.gov; dstone@mountainline.com; eevans@missoulacounty.us; envhealth@missoulacounty.us; erikl@meccoop.com; firebureau@ci.missoula.mt.us; fraserd@ci.missoula.mt.us; gasst@ci.missoula.mt.us; gauklerd@ci.missoula.mt.us; gcameron@mt.gov; GlueckertM@ci.missoula.mt.us; gmk@bresnan.net; gordonn@ci.missoula.mt.us; gorskia@ci.missoula.mt.us; Grp.PDAdmin@ci.missoula.mt.us; hughesg@ci.missoula.mt.us; jamesm@ci.missoula.mt.us; Jordan Johnson <jjohnson@blackfoot.com>; jnave@mt.gov; jodi_bush@fws.gov; johnsone@ci.missoula.mt.us; jsweten@mountainline.com; Kathryn.mcdonald@cskt.org; keenej@ci.missoula.mt.us; Kerry.Patton2@Lumen.com; krisrichards@mt.gov; Kristen Jordan <JordanK@ci.missoula.mt.us>; ldavidson@missoulahousing.org; lmeans@ci.missoula.mt.us; mcinnisl@ci.missoula.mt.us; mcleodn@ci.missoula.mt.us; mmccrea@ci.missoula.mt.us; mollenhauerr@ci.missoula.mt.us; monroet@ci.missoula.mt.us; Neighborhood Council - TwoRivers <TwoRivers@missoula-neighborhoods.org>; nholloway@missoulacounty.us; paul.dallapiazza@northwestern.com; pehane@ci.missoula.mt.us; PritchardK@ci.missoula.mt.us; ray@tippandbuley.com; reicherts@ci.missoula.mt.us; rummlerl@ci.missoula.mt.us; rwatson@mcps.k12.mt.us; Sandra Vasecka <VaseckaS@ci.missoula.mt.us>; schultza@ci.missoula.mt.us; sebastiana@ci.missoula.mt.us; selvaged@ci.missoula.mt.us; vetbluemountain@gmail.com; waterquality@missoulacounty.us; weissb@ci.missoula.mt.us; wilsona@ci.missoula.mt.us
Cc: Lauren Stevens <StevensL@ci.missoula.mt.us>; Danny Oberweiser <Daniel.G.Oberweiser@imegcorp.com>; Joe M. Dehnert <Joseph.M.Dehnert@imegcorp.com>
Subject: Orchard Grove Subdivision – 2nd Agency Sufficiency Review

CAUTION: This email originated from outside of the organization, please submit suspicious e-mails for analysis.

Dear Agent:

The City of Missoula Development Services Division has identified you as being an agency that may have important comments to make about the proposed City Major Subdivision, Orchard Grove Subdivision. Your comments are important to us.

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If there is anything we can do to facilitate your review, please reach out to us. Thank you in advance for your comments.

Sincerely,
IMEG Corp.

Tamara Ross
IMEG | Civil Designer / Planning Technician

1817 South Ave West | Suite A | Missoula, MT 59801

(406) 272-0253
Tamara.R.Ross@imegcorp.com

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From: Cozad, Desiree
To: Tamara R. Ross; Danny Oberweiser
Cc: Lauren Stevens; Klimstra, Ryan
Subject: RE: Orchard Grove Subdivision – Agency Sufficiency Review
Date: Thursday, October 12, 2023 11:48:55 AM
Attachments: image001.png

Hello,

No comments for this one. Thank you for the opportunity to comment. We encourage you to reach out to Ryan Klimstra, Wildlife Biologist, ryan.klimstra@mt.gov, 406-431-0362 as the primary contact person with any questions or concerns.

Take care,

Desiree Cozad
Region 2 Admin Support
Montana Fish, Wildlife & Parks

3201 Spurgin Rd
Missoula, MT 59804
O: (406) 542-5525
Montana FWP

THE **OUTSIDE** IS IN US ALL.

From: Tamara R. Ross <Tamara.R.Ross@imegcorp.com>
Sent: Monday, July 24, 2023 10:18 AM
To: Beck, Adriane <abeck@missoulacounty.us>; andersene@ci.missoula.mt.us; banzigerw@ci.missoula.mt.us; bellestad@flymissoula.com; bmcwilliams@mcps.k12.mt.us; boggessm@ci.missoula.mt.us; brownjs2@bresnan.net; Bryce@missoulaeduplace.org; bschmidt@missoulacounty.us; buchanane@ci.missoula.mt.us; caldridge@mountainline.com; campbelltl@ci.missoula.mt.us; cbauer2@republicservices.com; contactmpd@ci.missoula.mt.us; cwoodrow@mountainline.com; Derek.Lilleberg@p66.com; dreisig@hellgate.k12.mt.us; Schiele, Dori <dschiele@mt.gov>; dstone@mountainline.com; eevans@missoulacounty.us; envhealth@missoulacounty.us; erikl@meccoop.com; firebureau@ci.missoula.mt.us; fraserd@ci.missoula.mt.us; gasst@ci.missoula.mt.us; gauklerd@ci.missoula.mt.us; Cameron, Glen <gcameron@mt.gov>; gmk@bresnan.net; gordonn@ci.missoula.mt.us; gorskia@ci.missoula.mt.us; Grp.PDAdmin@ci.missoula.mt.us; hughesg@ci.missoula.mt.us; jamesm@ci.missoula.mt.us; jjohnson@blackfoot.com; Nave, Jim <jnave@mt.gov>; jodi_bush@fws.gov; johnsone@ci.missoula.mt.us; jsweten@mountainline.com; Kathryn.mcdonald@cskt.org; keenej@ci.missoula.mt.us; Kerry.Patton2@Lumen.com; Richards, Kristi <KrisRichards@mt.gov>; ldavidson@missoulahousing.org; lmeans@ci.missoula.mt.us; mcinnisl@ci.missoula.mt.us; mcleodn@ci.missoula.mt.us; mmccrea@ci.missoula.mt.us; mollenhauerr@ci.missoula.mt.us; monroet@ci.missoula.mt.us; Nick Holloway <nholloway@missoulacounty.us>; paul.dallapiazza@northwestern.com; pehane@ci.missoula.mt.us; ray@tippandbuley.com; reicherts@ci.missoula.mt.us; rummlerl@ci.missoula.mt.us; rwatson@mcps.k12.mt.us; schultza@ci.missoula.mt.us; sebastiana@ci.missoula.mt.us; selvaged@ci.missoula.mt.us; vetbluemountain@gmail.com; waterquality@missoulacounty.us; weissb@ci.missoula.mt.us; Aaron Wilson <wilsona@ci.missoula.mt.us>
Cc: Danny Oberweiser <Daniel.G.Oberweiser@imegcorp.com>; Joe M. Dehnert <joseph.m.dehnert@imegcorp.com>; Lauren Stevens <StevensL@ci.missoula.mt.us>
Subject: [EXTERNAL] Orchard Grove Subdivision – Agency Sufficiency Review

Dear Agent:

The City of Missoula Development Services Division has identified you as being an agency that may have important comments to make about the proposed City Major Subdivision, Orchard Grove Subdivision. Your comments are important to us.

On July 21st, 2023, Development Services posted the 1st Agency Sufficiency Review regarding Orchard Grove Subdivision online for your review. The purpose of this agency review is twofold:

1) For agencies to determine if the subdivision submittal packet has enough information or is sufficient for review;
2) For agencies to provide comments regarding the proposal on anything that should be addressed before the project is submitted for governing body review. Thus, it is important that you send us your comments or let us know if you have no comments.

The link to the subdivision application for review is:
https://www.ci.missoula.mt.us/3212/Orchard-Grove-Annexation-Subdivision [ci.missoula.mt.us]

You will have 12 working days from today, July 24, 2023, to complete your review. Please reply and send any comments directly to Tamara.R.Ross@imegcorp.com and Daniel.G.Oberweiser@imegcorp.com by end of the day **Wednesday, August 9th, 2023,** and copy StevensL@ci.missoula.mt.us. This ensures that Development Services can meet their 1st Agency Sufficiency Review deadline of August 14th, 2023.

If there is anything we can do to facilitate your review, please reach out to us. Thank you in advance for your comments.

Sincerely,
IMEG Corp.

Tamara Ross
IMEG | Civil Designer / Planning Technician

[imegcorp.com]

1817 South Ave West | Suite A | Missoula, MT 59801

(406) 272-0253
Tamara.R.Ross@imegcorp.com

website [imegcorp.com] | vCard [dynasend.com] | map [google.com] | regional news [imegcorp.com] [twitter.com] [facebook.com] [linkedin.com]

Learn more [imegcorp.com] about us and the IMEG story!

This email may contain confidential and/or private information. If you received this email in error please delete and notify sender.

From:	Ben Schmidt
To:	Tamara R. Ross
Cc:	Danny G. Oberweiser; Lauren Stevens
Subject:	RE: Orchard Grove Subdivision – 2nd Agency Sufficiency Review
Date:	Thursday, October 26, 2023 10:09:02 AM
Attachments:	image001.png image002.png

Tamara,

The Air Program supports projects like this that incorporate walking and biking in the design. The Air Program supports the inclusion of items 19, 24, and 25 (wood burning devices, Air Stagnation Zone and Radon Mitigation) in the draft covenants.

Sincerely,

Benjamin Schmidt, MS, RS
Air Quality Specialist
Office: 406.258.3369
301 West Alder, Missoula, MT 59802
MissoulaPublicHealth.org

Missoula County and its surrounding areas are the traditional and current homelands of the Séliš (Bitterroot Salish), Ktunaxa (Kootenai), and Qĺispé (Kalispell), along with the Siksikaitsitapi (Blackfoot Confederacy), Nimíipuu (Nez Perce) and other tribal nations.
Unless exempt from the public records law, messages and attachments sent to or from this e-mail account are considered public information and are subject to release upon request.
As an entity subject to state and federal health privacy laws, the information contained in this transmission may contain privileged and confidential information, including Protected Health Information under HIPAA. In that case, it is intended only for the use of the person(s) named above. If you are not the intended recipient of this transmission, please notify the sender immediately, do not forward the message to anyone, and delete all copies.

Dear Agent:

The City of Missoula Development Services Division has identified you as being an agency that may have important comments to make about the proposed City Major Subdivision, Orchard Grove Subdivision. Your comments are important to us.

On October 12th, 2023, Development Services posted the 2nd Agency Sufficiency Review regarding Orchard Grove Subdivision online for your review. The purpose of this agency review is twofold:
1) For agencies to determine if the subdivision submittal packet has enough information or is sufficient for review;
2) For agencies to provide comments regarding the proposal on anything that should be addressed before the project is submitted for governing body review. Thus, it is important that you send us your comments or let us know if you have no comments.

The link to the subdivision application for review is: https://www.ci.missoula.mt.us/3212/Orchard-

Grove-Annexation-Subdivision

You will have 12 working days from today, October 12th, 2023, to complete your review. Please reply and send any comments directly to Tamara.R.Ross@imegcorp.com and Daniel.G.Oberweiser@imegcorp.com by end of the day **Thursday, October 30th, 2023,** and copy StevensL@ci.missoula.mt.us. This ensures that Development Services can meet their 2nd Agency Sufficiency Review deadline of November 2nd, 2023.

If there is anything we can do to facilitate your review, please reach out to us. Thank you in advance for your comments.

Sincerely,
IMEG Corp.

Tamara Ross
IMEG | Civil Designer / Planning Technician

1817 South Ave West | Suite A | Missoula, MT 59801

(406) 272-0253
Tamara.R.Ross@imegcorp.com
website | vCard | map | regional news

Learn more about us and the IMEG story!

This email may contain confidential and/or private information. If you received this email in error please delete and notify sender.

Messages and attachments sent to or from this e-mail account may be considered public or private records depending on the message content. Unless otherwise exempted from the public records law, senders and receivers of County email should presume that the emails are subject to release upon request. This message is intended for the use of the individual or entity named above. If you are not the intended recipient of this transmission, please notify the sender immediately, do not forward the message to anyone, and delete all copies.

Return to: City Clerk
City of Missoula
435 Ryman Street
Missoula MT 59802-4297

PETITION NO. _____

BEFORE THE CITY COUNCIL

CITY OF MISSOULA

PETITION FOR ANNEXATION TO CITY

SUID#:
GeoCode#: 04-2200-19-1-10-01-0000
04-2200-19-1-10-03-0000

Dated this 11th day of April, 2023.

COME NOW the undersigned and respectfully petitions the City Council of the City of Missoula requesting city annexation of the following real property into the City of Missoula.

The petitioner(s) requesting City of Missoula annexation of the property described herein hereby mutually agree with the City of Missoula that immediately upon annexation of the land all City of Missoula municipal services will be provided to the property described herein on substantially the same basis and in the same manner as such services are provided or made available within the rest of the municipality prior to annexation.

Petitioner(s) hereby agrees and submits the real property described herein to municipal taxation and assessments upon annexation, including but not limited to sanitary sewer utility assessments, in the same manner as other private property within the city is taxed and assessed for municipal tax, assessment and utility service purposes.

Petitioner(s) hereby states that there is no need to prepare a Municipal Annexation Service Plan for this annexation pursuant to Section 7-2-4610, MCA since the parties are in agreement as to the provision of municipal services to the property requested to be annexed.

LEGAL DESCRIPTION OF PROPERTY TO BE ANNEXED:

Parcel I:
A tract of land being a portion of Lot 42, COBBAN AND DINSMORE'S ORCHARD HOMES, a recorded subdivision of Missoula County, Montana, located in the Northeast one-quarter of the Southeast one-quarter of Section 19, Township 13 North, Range 19 West, Principal Meridian, Montana, Missoula County, Montana, more particularly described as follows:
Beginning at the Northwest corner of Lot 42 Cobban and Dinsmore's Orchard Homes; thence N.89°12'15"E., 483.32 feet along the North line of Lot 42 to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way; thence S.11°54'13"E., 101.98 feet along said West right-of-way line; thence S.00°35'35"E., 146.84 feet along said west right-of-way to a point on the South line of Lot 42 Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W., 503.93 feet to the Southwest corner of said Lot 42; thence N.00°29'00"W., 173.89 feet along the West line of said lot 42 to the Southwest corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.89°12'15"E., 170.00 feet to the Southeast corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.00°29'00"W., 123.00 feet to the Northeast corner of that tract recorded in Book 237 of Deeds at Page 492; thence

S.89°12'15"W., 170.00 feet to the Northwest corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.00°29'00"W., 27.00 feet along the West line of Cobban and Dinsmore's Orchard Homes to the point of beginning.

SAVING AND EXCEPTING THEREFROM
A tract of land being a portion of Lot 42 of Cobban and Dinsmore's Orchard Homes, a recorded subdivision of Missoula County, Montana, located in the Northeast one-quarter of the Southeast one-quarter of Section 19, Township 13 North, Range 19 West, Principal Meridian, Montana, Missoula County, Montana, more particularly described as follows:
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FURTHER EXCEPTING Portion A of Cobban Dinsmore's Orchard Homes Lot 42, a platted subdivision in Missoula County, Montana, according to the official recorded plat in Book 19 at Page 82 of Plats, recorded in Book 494 at Page 2010 Micro Records.

Recording Reference Book 996 at Page 1389 Micro Records.

AND

Parcel II:
A tract of land being a portion of Lot 42 of Cobban and Dinsmore's Orchard Homes, a recorded subdivision of Missoula County, Montana, located in the Northeast one-quarter of the Southeast one-quarter of Section 19, Township 13 North, Range 19 West, Principal Meridian, Montana, Missoula County, Montana, more particularly described as follows:
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Homes; thence S.89°08'15"W., 212.18 feet; thence N.00°47'45"W., 323.55 feet to the true point of beginning.

Recording Reference Book 732 at Page 1436 Micro Records.

To be known as: LARKENWOOD SUBDIVISION

PROPERTY ADDRESS:
2555 BEAN LN. APT. 1 & 2, 2513 BEAN LN. APT. 3 & 5 AND 120 S GROVE ST., MISSOULA, MT 59808
AND
2505, 2507, 2509 AND 2511 LARKIN WOOD DR., MISSOULA, MT 59804.

OWNER(S)

Collin Bangs

Evelyn Bean

John Barrett

Robert Bean

STATE OF MONTANA)
) ss.
County of Missoula)

On this 11th day of April, 2023 before me the undersigned, a Notary Public for the State of Montana, personally appeared ~~Collin Bangs, John Barrett,~~ Robert Bean, and Evelyn Bean known to me personally (or proved to me on the basis of satisfactory evidence) to be the person(s) whose names are subscribed to the within instrument and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal on the day, month, and year in this certificate first above written.

(Printed name required) Katherine A. Clark

Notary Public for the State of Montana.
Residing at Missoula, MT
My Commission Expires: February 28, 2027
MM/DD/YY

(SEAL)

KATHERINE A CLARK
NOTARY PUBLIC for the
STATE OF MONTANA
Residing at Missoula, Montana
MY COMMISSION EXPIRES
February 28, 2027

Return to: City Clerk
City of Missoula
435 Ryman Street
Missoula MT 59802-4297

PETITION NO. _____

BEFORE THE CITY COUNCIL

CITY OF MISSOULA

PETITION FOR ANNEXATION TO CITY

SUID#:
GeoCode#: 04-2200-19-1-10-01-0000
04-2200-19-1-10-03-0000

Dated this 14 **day of** April, 2023

COME NOW the undersigned and respectfully petitions the City Council of the City of Missoula requesting city annexation of the following real property into the City of Missoula.

The petitioner(s) requesting City of Missoula annexation of the property described herein hereby mutually agree with the City of Missoula that immediately upon annexation of the land all City of Missoula municipal services will be provided to the property described herein on substantially the same basis and in the same manner as such services are provided or made available within the rest of the municipality prior to annexation.

Petitioner(s) hereby agrees and submits the real property described herein to municipal taxation and assessments upon annexation, including but not limited to sanitary sewer utility assessments, in the same manner as other private property within the city is taxed and assessed for municipal tax, assessment and utility service purposes.

Petitioner(s) hereby states that there is no need to prepare a Municipal Annexation Service Plan for this annexation pursuant to Section 7-2-4610, MCA since the parties are in agreement as to the provision of municipal services to the property requested to be annexed.

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S.89°12'15"W., 170.00 feet to the Northwest corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.00°29'00"W., 27.00 feet along the West line of Cobban and Dinsmore's Orchard Homes to the point of beginning.

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FURTHER EXCEPTING Portion A of Cobban Dinsmore's Orchard Homes Lot 42, a platted subdivision in Missoula County, Montana, according to the official recorded plat in Book 19 at Page 82 of Plats, recorded in Book 494 at Page 2010 Micro Records.

Recording Reference Book 996 at Page 1389 Micro Records.

AND

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Homes; thence S.89°08'15"W., 212.18 feet; thence N.00°47'45"W., 323.55 feet to the true point of beginning.

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To be known as: LARKENWOOD SUBDIVISION

PROPERTY ADDRESS:
2555 BEAN LN. APT. 1 & 2, 2513 BEAN LN. APT. 3 & 5 AND 120 S GROVE ST., MISSOULA, MT 59808
AND
2505, 2507, 2509 AND 2511 LARKIN WOOD DR., MISSOULA, MT 59804.

OWNER(S)

Collin Bangs

Evelyn Bean

John Barrett

Robert Bean

STATE OF MONTANA)
) ss.
County of Missoula)

On this 14 day of April, 2023 before me the undersigned, a Notary Public for the State of Montana, personally appeared Collin Bangs as ~~OWNER~~ ~~for Collin Bangs, John Barrett, Robert Bean, and Evelyn Bean~~ known to me personally (or proved to me on the basis of satisfactory evidence) to be the person(s) whose names are subscribed to the within instrument and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal on the day, month, and year in this certificate first above written.

SARA HAWKINS NOTARIAL SEAL STATE OF MONTANA

SARA HAWKINS
NOTARY PUBLIC for the
State of Montana
Residing at Missoula, Montana
My Commission Expires
December 18, 2024

Sara Hawkins
(Printed name required)

Notary Public for the State of Montana.
Residing at Missoula, MT
My Commission Expires: 12/18/2024
MM/DD/YY

Return to: City Clerk
City of Missoula
435 Ryman Street
Missoula MT 59802-4297

PETITION NO. _____

BEFORE THE CITY COUNCIL

CITY OF MISSOULA

PETITION FOR ANNEXATION TO CITY

SUID#:
GeoCode#: 04-2200-19-1-10-01-0000
04-2200-19-1-10-03-0000

Dated this 13th day of April, 2023

COME NOW the undersigned and respectfully petitions the City Council of the City of Missoula requesting city annexation of the following real property into the City of Missoula.

The petitioner(s) requesting City of Missoula annexation of the property described herein hereby mutually agree with the City of Missoula that immediately upon annexation of the land all City of Missoula municipal services will be provided to the property described herein on substantially the same basis and in the same manner as such services are provided or made available within the rest of the municipality prior to annexation.

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Recording Reference Book 996 at Page 1389 Micro Records.

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AND
2505, 2507, 2509 AND 2511 LARKIN WOOD DR., MISSOULA, MT 59804.

OWNER(S)

Collin Bangs

John Barrett

Evelyn Bean

Robert Bean

STATE OF ~~MONTANA~~ Washington)
County of ~~Missoula~~ Jefferson) ss.

On this 13th day of April, 2023 before me the undersigned, a Notary Public for the State of ~~Montana~~ Washington, personally appeared John Barrett only as ~~for Collin Bangs, John Barrett, Robert Bean, and Evelyn Bean~~ known to ~~me~~ personally (or proved to me on the basis of satisfactory evidence) to be the person(s) whose names are subscribed to the within instrument and acknowledged to me that they executed the same.

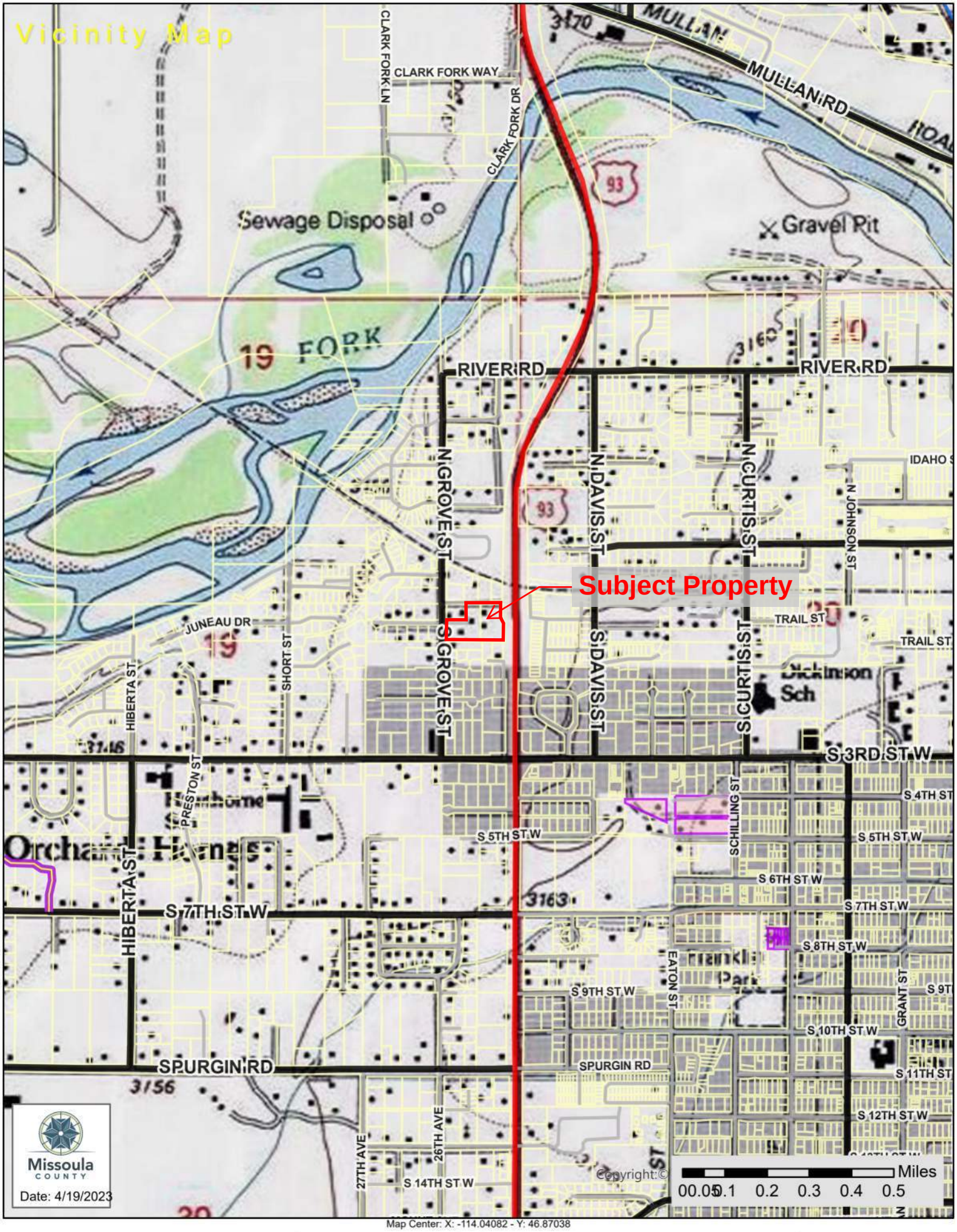
IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal on the day, month, and year in this certificate first above written.

April L. Hill
(Printed name required)

(SEAL)

APRIL L HILL
187053
NOTARY
PUBLIC
COMMISSION EXPIRES 08-04-24
STATE OF WASHINGTON

Notary Public for the State of ~~Montana~~ Washington
Residing at Port Hadlock
My Commission Expires: 08/04/24
MM/DD/YY



Map Center: X: -114.04082 - Y: 46.87038

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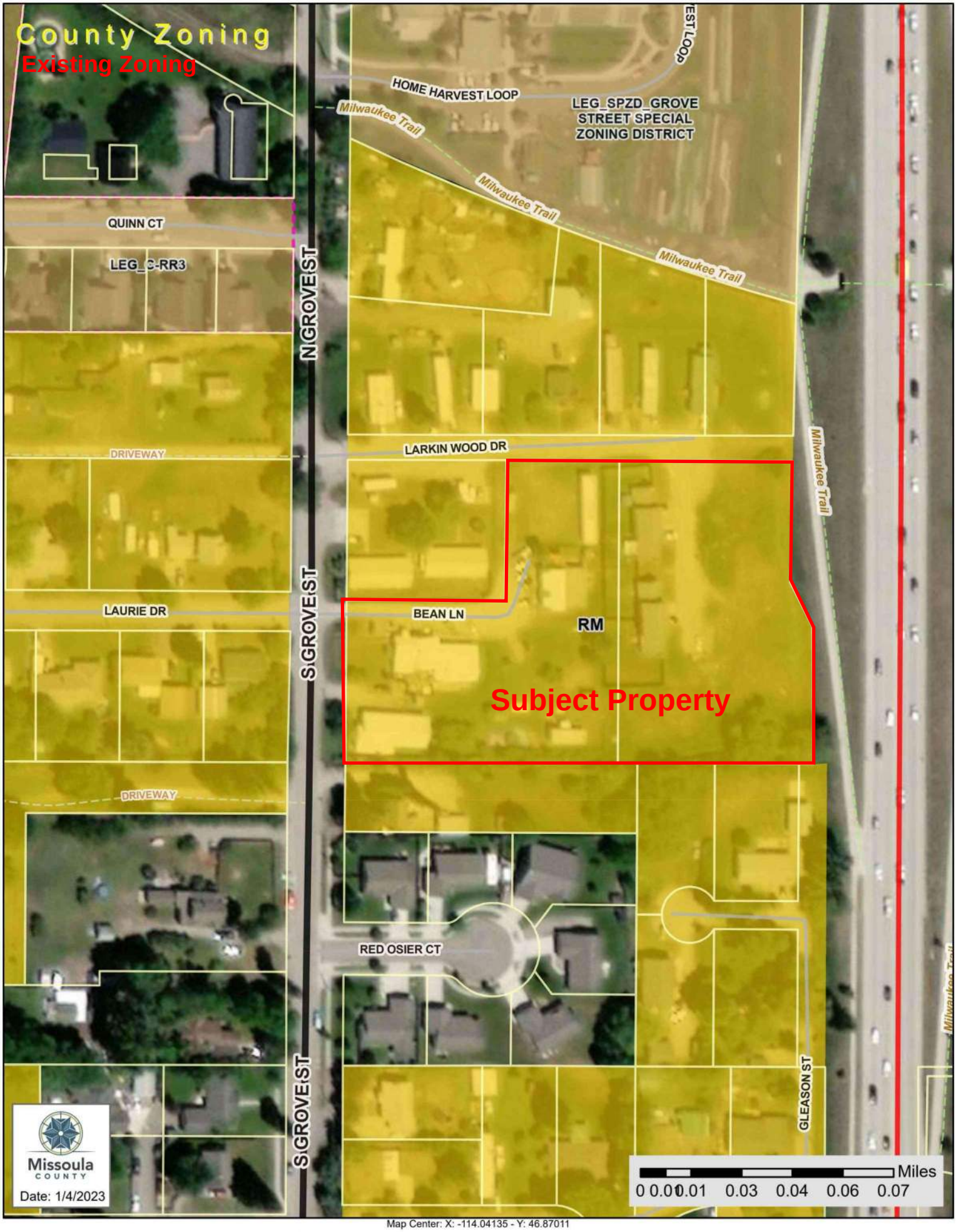

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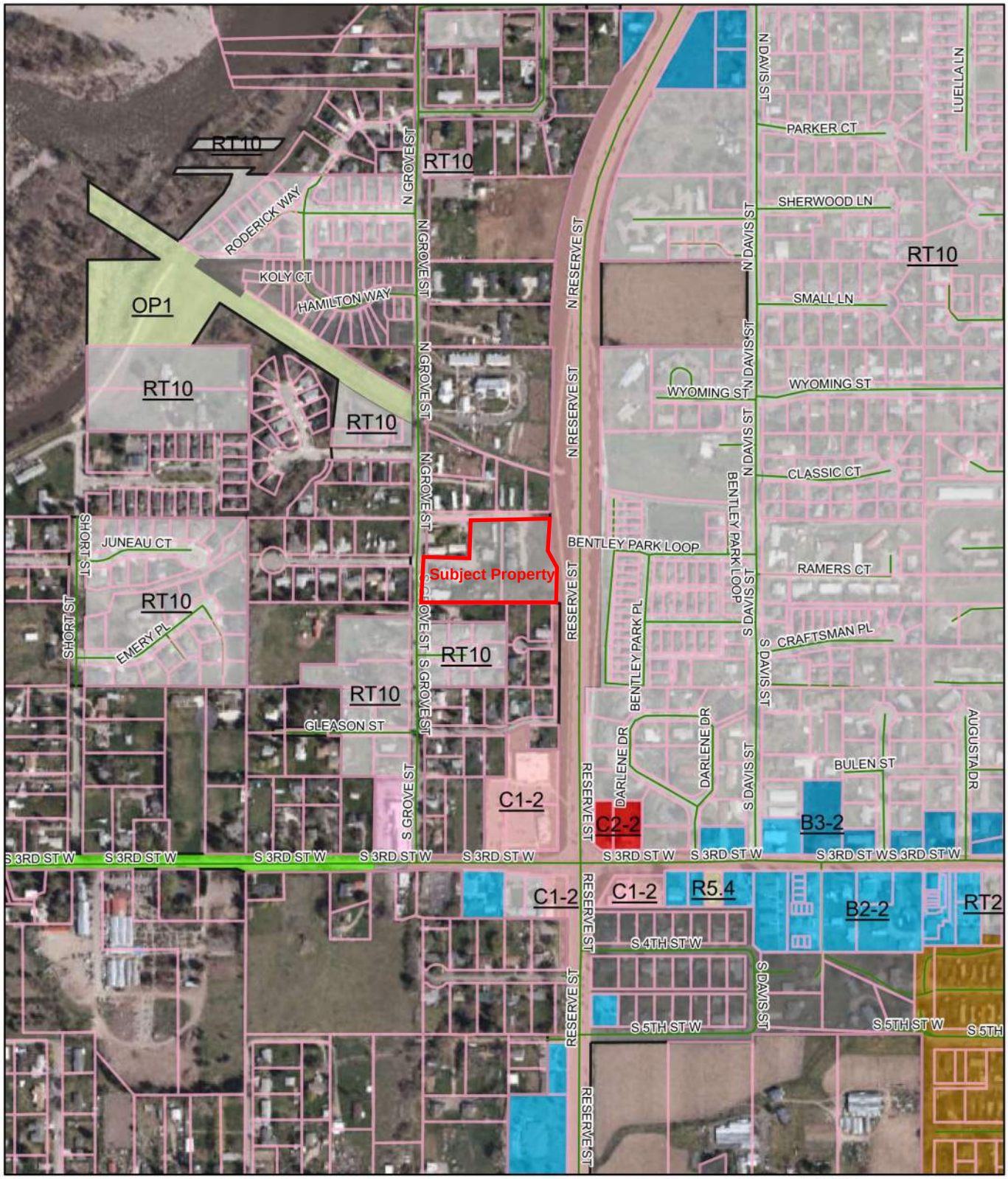
City of Missoula: What's My Zoning



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Parcels
City Limits
City Zoning
B2-2
B3-2
C1-2
C1-4
C2-2
M1-2
OP1
OP3
R5.4
RM2.7
RT10
RT2.7
RT5.4

Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, NGA, USGS

City of Missoula
Community Planning, Development & Innovation

Proposed Zoning RT5.4

Subdivision Application: D. ZONING AND GROWTH POLICY COMPLIANCE - Section 2.b. Exhibit.

20.05.010 - General

A. **Districts**

1. **List**

The city's residential zoning districts are listed below. When this zoning ordinance refers to "residential" zoning districts or "R" districts, it is referring to these districts.

Map Symbol	District Name
R215	Residential 215
R80	Residential 80
R40	Residential 40
R20	Residential 20
RT10	Residential 10 (two-unit/ townhouse)
R8	Residential 8
R5.4	Residential 5.4
RT5.4	Residential 5.4 (two-unit/ townhouse)
R3	Residential 3
RT2.7	Residential 2.7 (two-unit/ townhouse)
RM2.7	Residential 2.7 (multi-dwelling)
RM2	Residential 2 (multi-dwelling)
RM1.5	Residential 1.5 (multi-dwelling)
RM1[1]	Residential 1 (multi-dwelling)
RM0.5	Residential 0.5 (multi-dwelling)
RMH	Residential Manufactured Housing Park

[1] There are two versions of the RM1 district: RM1-35 and RM1-45. Whenever this ordinance refers to the "RM1" district, the reference is referring to both the RM1-35 and RM1-45 districts.

2. **Deciphering the District Names and Map Symbols**

The "R" district names and map symbols are intended to provide a general indication of what is allowed in the district. The first letter, "R," denotes the residential orientation of the district. When a second letter following the "R" is present, that is an indication of a residential district that allows building types in addition to detached houses . "RT" districts allow two-unit and townhouse buildings, while "RM" districts allow multi-dwelling buildings in addition to other building types. The numeral following the "R," "RT," or "RM" is a shorthand reference to the allowed density , expressed in terms of the required minimum land area per dwelling unit (in thousands of square feet). The R5.4 district, for example, refers to a residential (detached house) zoning district that generally allows one dwelling unit per 5,400 square feet of parcel area.

B.

Purposes

Missoula's residential (R) zoning districts are primarily intended to create, maintain and promote a variety of housing opportunities for individual households and to maintain and promote the desired physical character of existing and developing neighborhoods. While the districts primarily accommodate residential use types, some nonresidential uses are also allowed. The R district standards provide development flexibility, while at the same time helping to ensure that new development is compatible with the city's many neighborhoods. In addition, the regulations offer certainty for property owners, developers and neighbors about the limits of what is allowed.

(Ord. 3586 , 2016; Ord. 3439 , 2010; Ord. 3410 , 2009)

20.05.020 - Allowed Uses

A. **Use Table**

Principal uses are allowed in "R" zoning districts in accordance with Table 20.05-1, below. See Chapter 20.45 for regulations governing accessory uses , such as home occupations .

B. **Use Classification System**

For the purpose of this zoning ordinance, uses are classified into "use groups," "use categories," and "specific use types." These are described and defined in Chapter 20.105. Uses are identified in the first column of Table 20.05-1.

C. **Permitted Uses**

Uses identified with a "P" in Table 20.05-1 are permitted as-of-right in the subject zoning district, subject to compliance with any use standards identified in the final column of the table and all other applicable standards of this zoning ordinance.

D. **Conditional Uses**

Uses identified with a "C" in Table 20.05-1 may be allowed if reviewed and approved in accordance with the conditional use procedures 20.85.070. Conditional uses are subject to compliance with any use standards identified in the final column of the table and all other applicable standards of this zoning ordinance.

E. **Prohibited Uses**

Uses identified with a "-" are expressly prohibited.

F. **Use Standards**

The "use standards" column of Table 20.05-1 identifies use-specific standards that apply to some uses. Unless otherwise expressly stated, compliance with such standards is required regardless of whether the use is permitted as-of-right or requires conditional use approval.

Table 20.05-1 Uses Allowed in Residential Districts

Use Category └ specific use type	R215	R80	R40	R20	RT10	R8	R5.4	RT5.4	R3	RT2.7	RM2.7	RM2	RM1.5	RM1	RM0.5	RMH	Standards
RESIDENTIAL																	
Household Living (except as noted below)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	20.05.030
└ Manufactured Housing Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	Title 16
Group Living (except as noted below)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	20.40.070
└ Community Res. Facility (8 or fewer)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
└ Community Residential Facility (9+)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	20.40.070
└ Fraternity/Sorority	-	-	-	-	-	-	-	-	-	-	C	C	P	P	P	-	20.40.070
PUBLIC/CIVIC																	
College/University	-	-	-	-	-	-	-	-	-	P	-	P	P	P	P	P	

Day Care																	
└Residential Day Care (1—12)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
└Day Care Center (13+)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Library/Cultural Exhibit	-	-	-	-	-	-	-	-	-	-	P	P	P	P	P	P	
Park/Recreation	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Preschool																	
└Preschool (1—12)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
└Preschool Center (13+)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Religious Assembly	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
School	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Utilities and Services																	
└Minor	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
└Major	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
COMMERCIAL																	
Lodging																	
└Bed and Breakfast	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	-	20.40.030
└Tourist Home	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	20.40.135
Office	-	-	-	-	-	-	-	-	-	-	-	P	P	P[2]	-	-	
Parking, Non-accessory	-	-	-	-	-	-	-	-	-	-	-	C	C	C[1]	-	-	
Personal Improvement Service	-	-	-	-	-	-	-	-	-	-	-	P	P	P[2]	-	-	
Residential Support Services	-	-	-	-	-	-	-	-	-	-	-	P	P	P	P	-	20.40.120
INDUSTRIAL																	
Residential Storage Warehouse	-	-	-	-	-	-	-	C	C	C	C	C	C	C	C	C	20.40.110
OTHER																	
Agriculture, Animal	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	
Agriculture, Crop	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	

Community Garden	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Water Testing Laboratory	-	-	-	-	-	-	-	-	-	-	-	-	C	C [1]	-	-	
Wireless Communication Facility																	
└ Ground-mounted support structure	C	C	C	C	C	C	C	C	C	C	P	P	P	P	P	P	20.40.160
└ Roof-mounted and structure mounted support structures	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	20.40.160

[1] Allowed (as conditional use) in RM1-35 district only.

[2] Permitted in RM1-35 district only.

(Ord. 3705 , 2022; Ord. 3586 , 2016; Ord. 3583 , 2016; Ord. 3549 , 2015; Ord. 3471 , 2011; Ord. 3439 , 2010; Ord. 3410 , 2009)

20.05.030 - Building Types

A. **Allowed**

Residential uses allowed in R districts must be located in residential or mixed-used buildings . The following building types are allowed in R districts. All buildings are subject to the parcel and building standards of 20.05.050 (Table 20.05-3) except as modified or supplemented by the building type-specific standards referenced in the final column of Table 20.05-2.

Table 20.05-2 Building Types Allowed in Residential Districts

Building Type	R215	R80	R40	R20	RT10	R8	R5.4	RT5.4	R3	RT2.7	RM2.7	RM2	RM1.5	RM1	RM0.5	RMH	Additional Standards
Residential																	
Detached house	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Lot line house	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	20.40.080
Townhouse																	
└ 2-unit townhouse	P/C	P/C	P/C	P/C	P	-	-	P	-	P	P	P	P	P	P	P	20.40.140
└ 3+-unit townhouse	P/C	P/C	P/C	P/C	P/C	-	-	-	-	-	P	P	P	P	P	P	20.40.140
Two-unit house	-	-	-	-	P	-	-	P	-	P	P	P	P	P	P	P	
Multi-dwelling house	-	-	-	-	-	-	-	-	-	-	P	P	P	P	P	P	20.40.100
Multi-dwelling building	-	-	-	-	-	-	-	-	-	-	P	P	P	P	P	P	20.40.090
Mixed-use																	
Mixed-use building *	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	
Vertical mixed-use building	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

P = permitted; P/C = permitted in cluster/conservation development (see 20.05.040.B); and - = prohibited

* Subject to the permitted residential building types of the zoning districts

B. **Described**

Descriptions of the residential building types and references to applicable regulations follow:

1. **Detached House**

A detached house is a principal residential building containing one dwelling unit located on a single parcel with private yards on all sides. Detached houses are subject to the parcel and building standards of 20.05.050 (Table 20.05-3). More than one detached house may be located on a single parcel, subject to compliance with all parcel and building standards, including minimum-parcel-area-per-dwelling-unit and building setback/separation standards.

Figure 20.05-1 Detached House

2. **Lot Line (Detached) House**

A lot line house is a principal residential building containing one dwelling unit located on a single parcel that is not attached to any other dwelling units. The building is shifted to one side of the parcel so that there is a more usable side yard on one side of the house and very little or no private yard on the other side. Lot line houses are subject to the parcel and building standards of 20.05.050 (Table 20.05-3) except as modified or supplemented by the lot line house standards of 20.40.080. No more than one lot line house may be located on a single parcel.

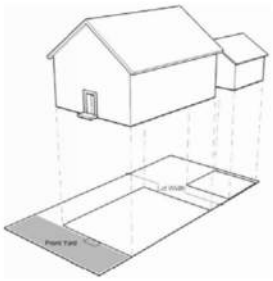


Figure 20.05-2 Lot Line (Detached) House

3. **Townhouse**

A residential building containing more than one dwelling unit, each located on its own parcel or TED ownership unit with a common or abutting wall along shared parcel lines or TED ownership unit boundaries. Each dwelling unit has its own external entrance. Townhouses are subject to the parcel and building standards of 20.05.050 (Table 20.05-3) except as modified or supplemented by the townhouse standards of 20.40.140. No more than one dwelling unit may be located on a single parcel or TED ownership unit. There are two types of townhouses: two-unit townhouses and three+-unit townhouses.

a. A two-unit townhouse is a townhouse building containing no more than two dwelling units.

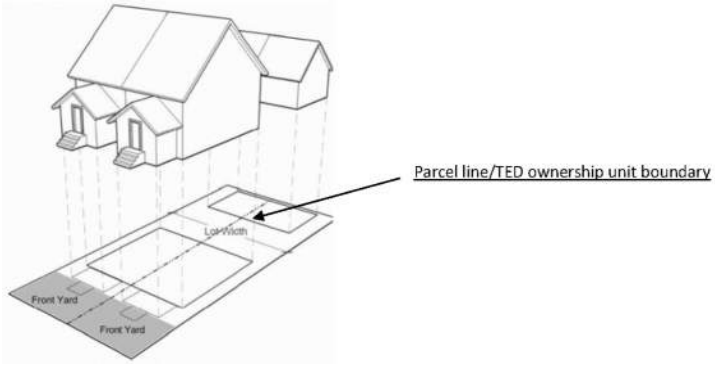


Figure 20.05-3 Two-Unit Townhouse

b. A three+-unit townhouse is a townhouse building containing three or more dwelling units .

4. **Two-unit House**

A two-unit house is a residential building containing two dwelling units , both of which are located on a single parcel (also referred to as a "duplex" or "two-flat"). The dwelling units are attached and may be located on separate floors or side-by-side. Two-unit houses are subject to the parcel and building standards of 20.05.050 (Table 20.05-3). More than one two-unit house may be located on a single parcel , subject to compliance with all parcel and building standards, including minimum-parcel-area-per-dwelling-unit and building setback/separation standards and multi-dwelling building standards, (20.40.090.A.2).

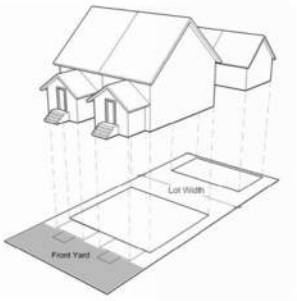


Figure 20.05-4 Two-Unit House

5. **Multi-dwelling House**

A multi-dwelling house is a residential building containing three to six dwelling units located on a single parcel . Multi-dwelling houses appear as large detached houses and have only one entrance visible from the street. Multi-dwelling houses are subject to the parcel and building standards of 20.05.050 (Table 20.05-3) except as modified or supplemented by the multi-dwelling house standards of 20.40.100. More than one multi-dwelling house may be located on a single parcel , subject to compliance with all applicable parcel and building standards.

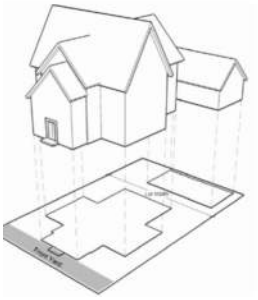


Figure 20.05-5 Multi-dwelling House

6. **Multi-dwelling Building**

A multi-dwelling building is a residential building containing three or more dwelling units (other than a multi-dwelling house) that share common walls and/or common floors/ceilings. Multi-dwelling buildings are typically served by more than one common building entrance. Multi-dwelling buildings are subject to the parcel and building standards of 20.05.050 (Table 20.05-3) except as modified or supplemented by the multi-dwelling building standards of 20.40.100. More than one multi-dwelling building may be located on a single parcel , subject to compliance with all applicable parcel and building standards.

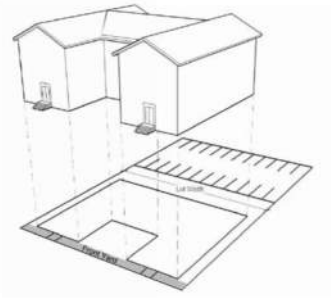


Figure 20.05-6 Multi-dwelling Building

(Ord. 3609 , 2018; Ord. 3586 , 2016; Ord. 3483 , 2012; Ord. 3439 , 2010; Ord. 3410 , 2009)

20.05.040 - Development Options

Different development options are offered in many of the R districts as a way of promoting a wide variety of community and lifestyle choices and to promote conservation of natural resources, including agricultural lands . Not all development options are allowed in all districts (see Table 20.05-3 to determine which options are allowed in each district). Where allowed, the development options described in this section may be used at the property owner's election.

A. **Conventional Development**

"Conventional development" is any development that is not part of an approved cluster development or conservation development. Parcel and building standards for conventional development can be found in 20.05.050 (Table 20.05-3).

B. **Cluster and Conservation Development**

1. **Intent**

The cluster and conservation development options are intended to encourage development designs—whether approved through the subdivision plat, condominium plat or planned unit development review process—that are more efficient and provide more open space and greater natural resource protection than conventional development designs. Cluster development and conservation development designs allow more compact and less costly networks of roads and utilities. They can also help reduce stormwater runoff and non-point source pollutant loading rates and can be used to preserve an area's semi-rural character. Cluster developments and conservation developments are intended to reduce stormwater runoff and flooding, preserve natural resources, protect water quality and encourage the provision of needed open space and recreational amenities for residents.

2. **General Description**

a. The cluster development and conservation development standards of this chapter require that a specified portion of each development be set aside and permanently preserved as open space.

b. The primary difference between "cluster" developments and "conservation" developments is the amount of open space that must be preserved.

c. Cluster and conservation developments must be reviewed in accordance with the city's subdivision plat, condominium plat or planned unit development review process.

d. Additional information on cluster and conservation development can be found in Chapter 20.55.

3. **Cluster Development**

The cluster development option is available in the R215, R80, R40, R20 and RT10 districts. It allows smaller parcels and other flexible parcel and building standards in exchange for the provision of common open space that is not typically provided in a conventional development. Parcel and building standards for cluster development can be found in 20.05.050 (Table 20.05-3). Additional cluster development standards are included in Chapter 20.55.

4. **Conservation Development**

The conservation development option is available in the R215, R80, R40, and R20 districts. It requires more common open space than the cluster development option. In return, the conservation development option allows the flexibility offered by the cluster development option and a moderate density bonus (approximately 20%). Parcel and building standards for conservation development can be found in 20.05.050 (Table 20.05-3). Additional conservation development standards are included in Chapter 20.55.

C. **Permanently Affordable Development (three or more dwelling unit project)**

The permanently affordable development option is available in the RM2.7, RM1.5, RM1-45, RM1-35, RMH and RM0.5 districts. It allows smaller parcel size and other modified building standards in exchange for up to 50% (based on an adjusted ratio scale) of the project developed as permanently affordable for residents whose return, the permanently affordable development option allows a moderate density bonus based on an adjusted ratio scale, see table below. This option only applies to parcels that contain or will contain detached residential units meeting the building type descriptions of detached house (20.05.030.B.1), or lot line (detached) house (20.05.030.B.2) and townhouses (20.05.030.B.3). Parcel and building standards for permanently affordable development can be found in 20.05.050 (Table 20.05-3).

1. **Adjusted ratio scale:**

% of PERMANENTLY AFFORDABLE HOUSING:	DENSITY BONUS:
a. 30%	10%
b. 40%	15%
c. 50%	20%

D. **Townhome Exemption Development (TED)**

1. **Intent**
   a. The Townhome Exemption Development Option (TED) is intended to encourage affordable fee simple detached house , two-unit townhouse , and 3+-unit townhouse development without subdivision review in accordance with City zoning regulations.
   b. The Townhome Exemption Development tool is intended to encourage residential development in the city's core in concert with the City of Missoula's stated policy goals, including the development of compact and walkable neighborhoods; the effective use of existing infrastructure, and the building of new, affordable housing in a timely manner.
   c. The administrative TED review is not intended for new greenfield development if it is in an area that is lacking in existing infrastructure; or for sites that would jeopardize the City's ability to manage development in an orderly manner or protect and promote the general health, safety and welfare of the community.
2. **General Description**
   a. The only permitted building types that may be included in a TED project are detached houses , two-unit townhouses , and 3+-unit townhouses as described in Section 20.05.030 and as allowed within the applicable zoning district. TED is not permitted for development that includes nonresidential uses.
   b. Two-unit townhouse and 3+-unit townhouse building types as part of TED projects must also comply with Section 20.40.140, Townhouse standards.
   c. TED projects must comply with Section 20.40.180, Townhome Exemption Development (TED) Standards.
   d. Townhome Exemption Developments must meet all applicable City Municipal regulations (see Figure 20.05-7).

TED Project includes the following:	**R Districts (except R3), and RT5.4 and RT10 Districts**	**RT2.7 and R3 Districts All RM Districts All B, C, Districts and M1R**
One (1) to ten (10) total dwelling units	Administrative Approval, Comply with Zoning	Administrative Approval, Comply with Zoning
Eleven (11) to Twenty (20) total dwelling Units	Prohibited as TED	Administrative Approval, Comply with Zoning
More Than Twenty (20) total dwelling Units	Prohibited as TED	
Property is not suitable for TED 20.40.180.B	Prohibited as TED	

Figure 20.05-7 Townhome Exemption Development Requirements

3. **Condominium Conversion to Townhome**
   Conversion of condominium projects constructed prior to May 18, 2016, to Townhome Exemption Development (TED) are not subject to the provisions of TED regulations unless dwelling units are added.
4. **Notice to Neighboring Property Owners and Request for Agency Comment**
   The following is required for TED projects of more than 5 dwelling units :
   a. Public noticing standards found in Chapter 20.85 - Review and Approval Procedures.
   b. Relevant agencies shall be notified and given 15 days for comment before a permit is issued. This requirement does not apply to TED projects being reviewed at the same time as an associated subdivision.

(Ord. 3669 , 2020; Ord. 3648 , 2019; Ord. 3609 , 2018; Ord. 3570 , 2016; Ord. 3442 , 2010; Ord. 3439 , 2010; Ord. 3410 , 2009)

20.05.050 - Parcel and Building Standards

A. **General**
   This section establishes basic parcel and building standards for all development in R districts. The standards that apply may vary based on the zoning classification, building type and development type. These standards are not to be interpreted as a guarantee that allowed densities and development yields can be achieved on every parcel . Other factors, such as off-street parking requirements, central water and wastewater service availability, and other factors may work to further limit development potential on some sites.
B. **Basic Standards**
   All residential and nonresidential development in R districts must comply with the parcel and building standards of Table 20.05-3, except as otherwise expressly provided. Nonresidential development in R districts must comply with the "conventional" development standards of Table 20.05-3. General exceptions to parcel and building standards and rules for measuring compliance can be found in Chapter 20.110.

Commentary: Existing parcels and buildings are subject to the conventional development standards, below. Only new developments that comply with the cluster/conservation development standards listed below and in Chapter 20.55 are eligible to use the following cluster or conservation standards.

Table 20.05-3 Parcel and Building Standards (Residential Districts)

Standards	**R215**	**R80**	**R40**	**R20**	**RT10**	**R8**	**R5.4**	**RT5.4**	**R3**	**RT2.7**	**RM2.7**	**RM2**	**RM1.5**	**RM1-35**	**RM1-45 RMH [1]**	**RM**
CONVENTIONAL DEV'T																
Min. District Area (sq. ft.)	None	None	None	None	None	None	None	None	30,000	None	None	None	None	None	None	No
Minimum Parcel Size																
└ Area (square feet) [8]	215,000	80,000	40,000	20,000	10,000	8,000	5,400	5,400	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,(
└ Area per unit (sq. ft.)	215,000	80,000	40,000	20,000	10,000	8,000	5,400	5,400	3,000	2,700	2,700	2,000	1,500	1,000	1,000	50
Minimum Setbacks(feet)																
└ Front	25	25	25	25	20	20	20	20	10[3]	20	20	20	20	20	20	20
└ Side (interior)	25	25	15	15	7.5 [4]	7.5 [4]	7.5 [4]	7.5 [4]	3	5	5	5	5	5	5	7.
└ Side (street)	12.5	12.5	12.5	12.5	10	10	10	10	10	10	10	10	10	10	10	10
└ Rear	25	25	25	25	20	20	20	20	10[3]	20	20	20	20	20	20	20
Max. Building Height (feet) [5]	30/35	30/35	30/35	30/35	30/35	30/35	30/35	30/35	30/35	30/35	30/35	45	45	35	45	12
CLUSTER DEV'T																
Overall Site																
└ Min. open space (% site)	30	30	30	30	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
└ Min. area per unit (sq. ft.)	215,000	80,000	40,000	20,000	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Minimum Parcel Area (sq. ft.)	None	None	None	None	None	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
Minimum Setbacks (feet)																
└ Front [2]	25	25	25	25	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
└ Side (interior)	20	15	10	10	7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
└ Side (street)	12.5	12.5	12.5	12.5	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
└ Rear	25	25	25	25	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
Max. Building Height (feet) [5]	30/35	30/35	30/35	30/35	30/35	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
CONSERVATION DEV'T																
Overall Site																
└ Min. area (acres, gross)	100	40	20	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
└ Min. open space (% site)	60	60	60	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
└ Min. area per unit (sq. ft.)	177,000	66,000	33,000	16,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
Minimum Parcel Area (sq. ft.)	None	None	None	None	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
Minimum Setbacks (feet)																
└ Front [2]	25	25	25	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
└ Side (interior)	20	15	10	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
└ Side (street)	12.5	12.5	12.5	12.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
└ Rear	25	25	25	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/

Max. Building Height (feet) [5]	30/35	30/35	30/35	30/35	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
PERMANENTLY AFFORDABLE DEV'T [6]																
Minimum Parcel Size																
└ Area (sq. ft.)											None	None	None	None	None	N
└ Area per unit (sq. ft.)[7]											2,160	1,600	1,200	800	800	4(
Min. Setbacks (feet)																
└ Front											20	20	20	20	20	2(
└ Side (interior)											3	3	3	3	3	3
└ Side (street)											10	10	10	10	10	1(
└ Rear											20	20	20	20	20	2(
Max. Building Height (feet) [5]											30/35	45	45	35	45	12

[1] RMH standards do not apply to manufactured housing parks. Manufactured housing parks are subject to Title 16.

[2] In a cluster or conservation development , when a contiguous set of parcels is served by a rear alley and no building line has been established by existing buildings on the subject block face , the minimum front setback requirement is 10 feet.

[3] Combined total front and rear setback depths must equal at least 30 feet (e.g., 10' front and 20' rear or 15' each).

[4] Minimum interior side setbacks for principal buildings must equal at least 33% of the height of the subject building .

[5] Maximum height limit is 30 feet for buildings with primary roof pitch of less than 8 in 12 and 35 feet for buildings with primary roof pitch of 8 in 12 or greater.

[6] Only applies per Section 20.05.040.C.

[7] Area per unit calculation may include a density bonus up to 20% when a project meets the criteria in Section 20.05.040.C.

[8] The minimum parcel area requirement does not apply to lots created through subdivisions approved under MCA § 76-3, parts 5 and 6 after May 6, 2019. Total unit yield is calculated based upon the gross parcel area divided by the minimum parcel area per unit and any applicable hillside density reductions.

(Ord. 3648 , 2019; Ord. 3609 , 2018; Ord. 3586 , 2016; Ord. 3570 , 2016; Ord. 3442 , 2010; Ord. 3439 , 2010; Ord. 3410 , 2009)

20.05.060 - Other Regulations

Uses and development in R districts may be subject to other provisions of this zoning ordinance, including the following:

A. **Overlay Districts**
See Chapter 20.25.

B.

Use and Building Specific Standards

See Chapter 20.40.140 for Townhouse Development Standards.

See Chapter 20.40.180 for Townhome Exemption Development (TED) Standards.

C. **Accessory Uses and Structures**
(e.g., home occupations , detached garages , gazebos, and sheds) See Chapter 20.45.

D. **Natural Resource Protection**
See Chapter 20.50.

E. **Parking and Access**
See Chapter 20.60.

F. **Landscaping**
See Chapter 20.65.

G. **Signs**
See Chapter 20.75.

H. **Nonconformities**
See Chapter 20.80.

1. **RM2.7 District**

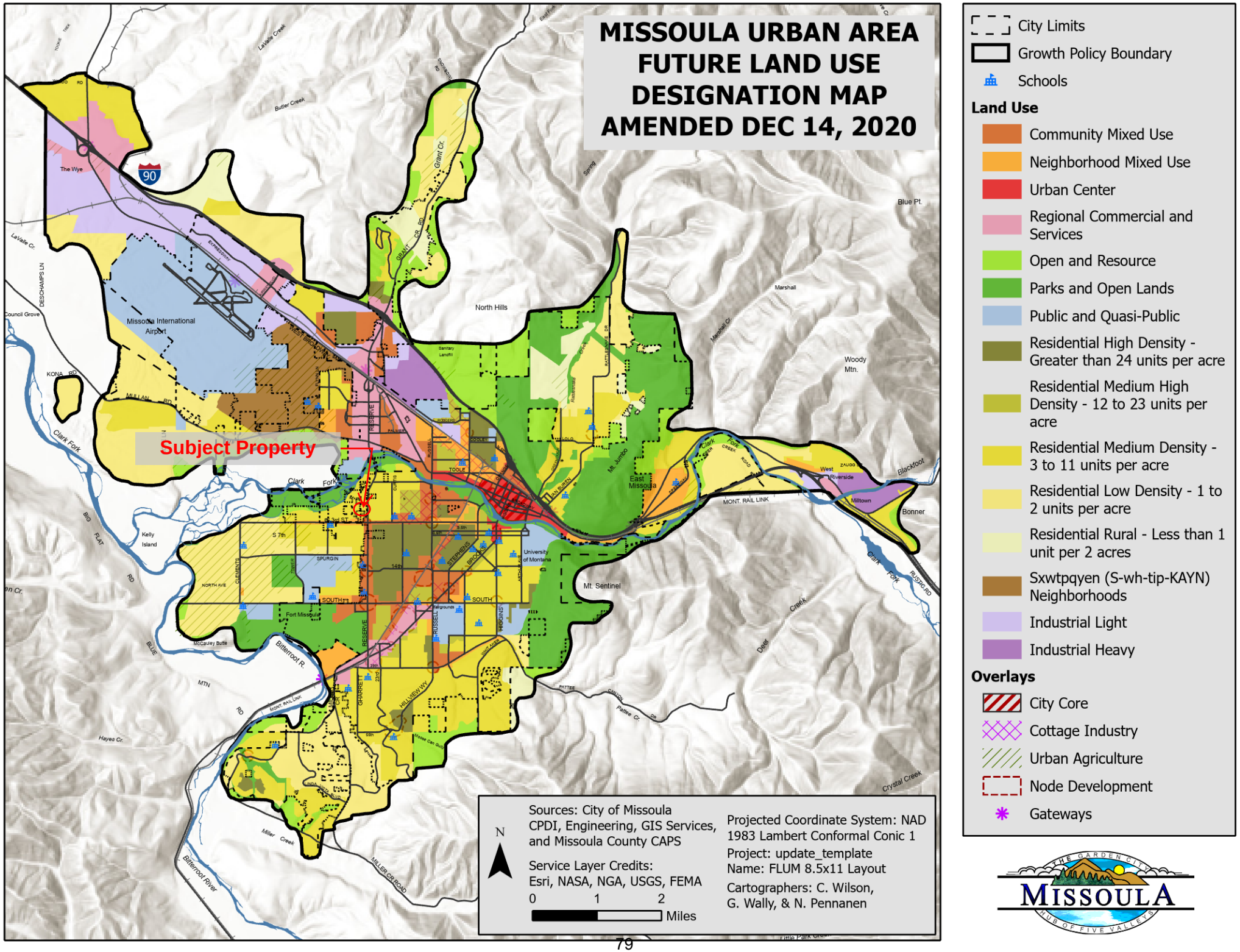
a. **Expansion of Existing Commercial and Industrial Uses**
Any commercial or industrial use lawfully established in the RM2.7 district before November 4, 2009 may be expanded if the (conventional development) parcel and building standards of 20.05.050, the parking and access standards of Chapter 20.60, and the landscaping standards of Chapter 20.65 are met.

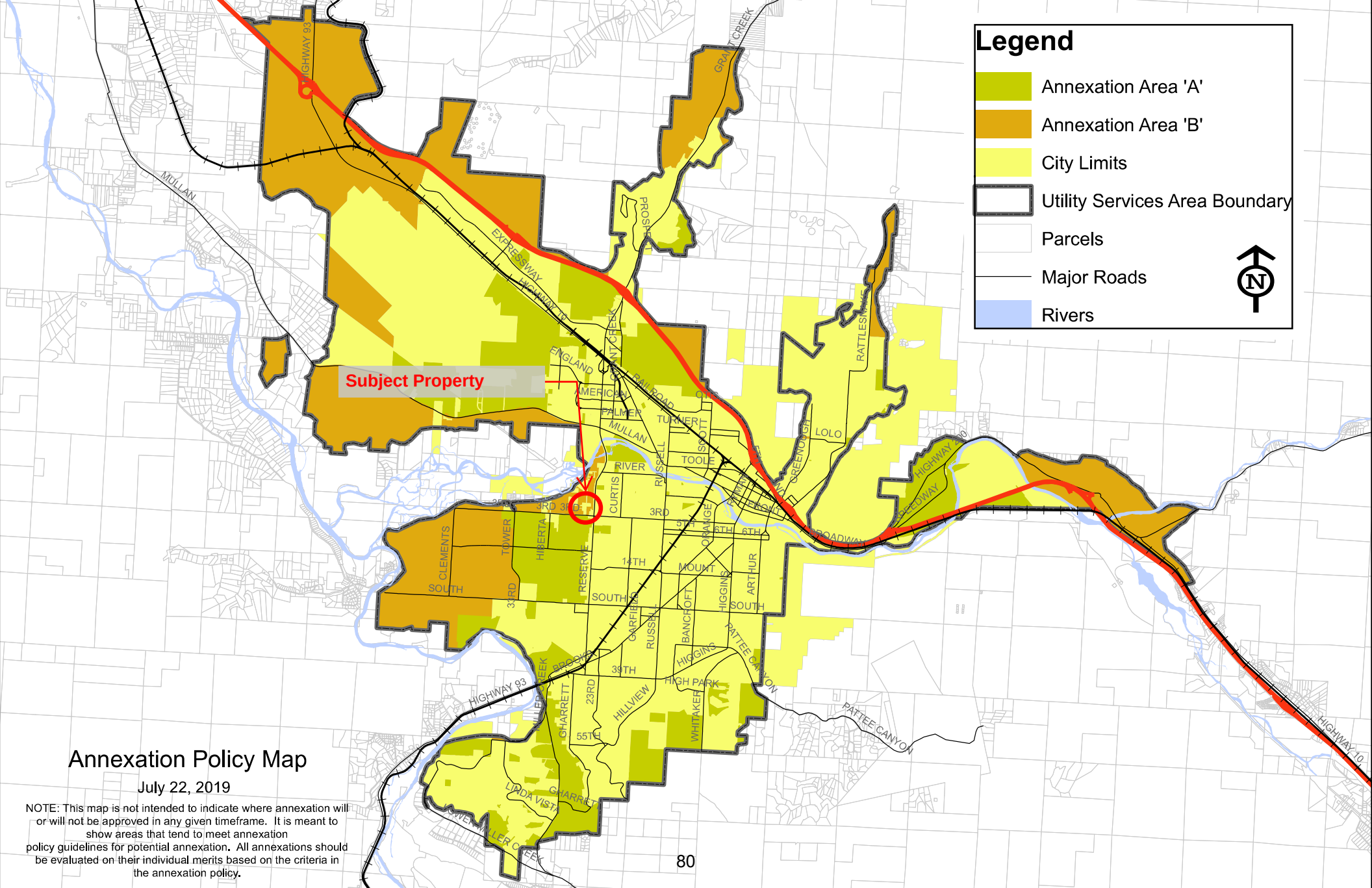
b. **Substitution of Commercial and Industrial Uses**
Any commercial or industrial use lawfully established in the RM2.7 district may be replaced by a use of similar or less intensity. If a less intensive use is established, the use may not later revert back to the previous intensity.

c. **Replacement of Commercial and Industrial Buildings**
Any commercial or industrial building lawfully established in the RM2.7 district before November 4, 2009 may be replaced or expanded if the (conventional development) parcel and building standards of 20.05.050, the parking and access standards of Chapter 20.60, and the landscaping standards of Chapter 20.65 are met.

d. **New Commercial and Industrial Uses**
Except as expressly allowed by this zoning ordinance, no additional parcels may be committed to commercial or industrial use in the RM2.7 district and no more intensive commercial or industrial use may be established after November 4, 2009.

(Ord. 3648 , 2019; Ord. 3439 , 2010; Ord. 3410 , 2009)


MISSOULA URBAN AREA
FUTURE LAND USE
DESIGNATION MAP
AMENDED DEC 14, 2020
Subject Property
City Limits
Growth Policy Boundary
Schools
Land Use
Community Mixed Use
Neighborhood Mixed Use
Urban Center
Regional Commercial and Services
Open and Resource
Parks and Open Lands
Public and Quasi-Public
Residential High Density - Greater than 24 units per acre
Residential Medium High Density - 12 to 23 units per acre
Residential Medium Density - 3 to 11 units per acre
Residential Low Density - 1 to 2 units per acre
Residential Rural - Less than 1 unit per 2 acres
Sxwtpqyen (S-wh-tip-KAYN) Neighborhoods
Industrial Light
Industrial Heavy
Overlays
City Core
Cottage Industry
Urban Agriculture
Node Development
Gateways
Sources: City of Missoula CPDI, Engineering, GIS Services, and Missoula County CAPS
Service Layer Credits: Esri, NASA, NGA, USGS, FEMA
0 1 2 Miles
Projected Coordinate System: NAD 1983 Lambert Conformal Conic 1
Project: update_template
Name: FLUM 8.5x11 Layout
Cartographers: C. Wilson, G. Wally, & N. Pennanen
MISSOULA



Annexation Policy Map

July 22, 2019

NOTE: This map is not intended to indicate where annexation will or will not be approved in any given timeframe. It is meant to show areas that tend to meet annexation policy guidelines for potential annexation. All annexations should be evaluated on their individual merits based on the criteria in the annexation policy.

Map Center: X: -114.04100 - Y: 46.86996

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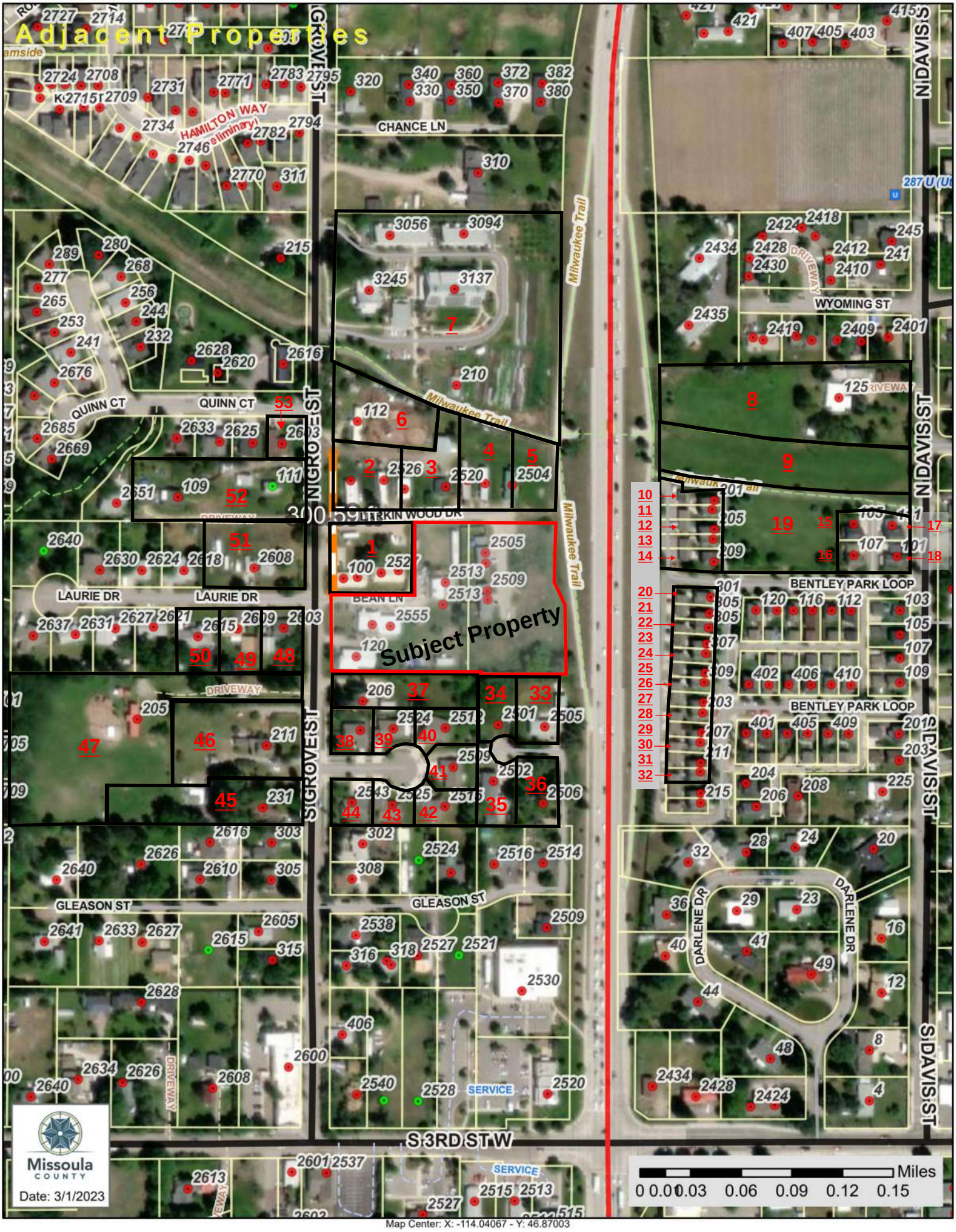

Map Center: X: -114.04067 - Y: 46.87003

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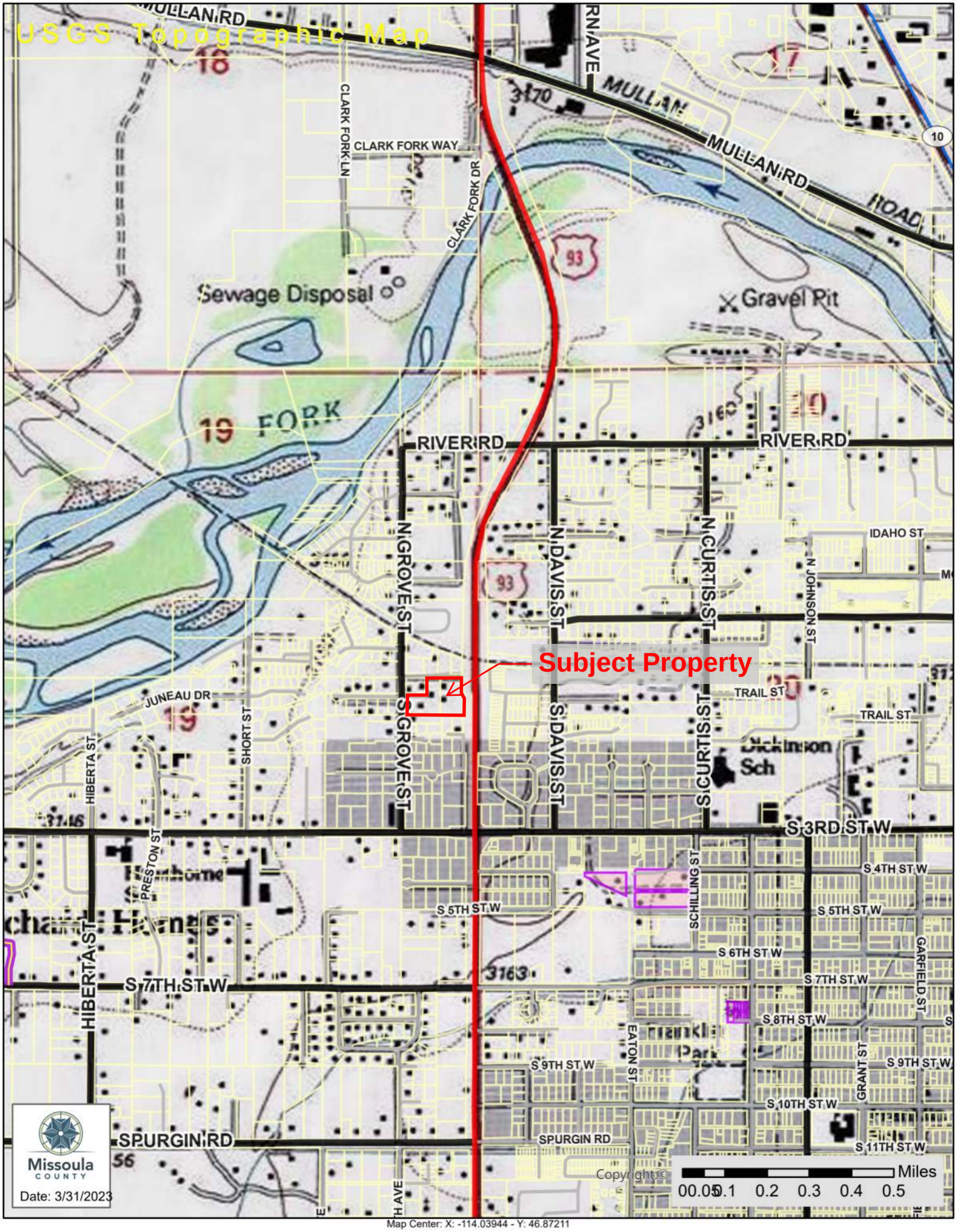
Map #	Property Physical Address	City, St. Zip	Owner	Mailing Address (if Different)	City, St. Zip
1	2525/2527 LARKIN WOOD DR	MISSOULA MT 59804	JOHNSON ERNEST W	PO BOX 7674	MISSOULA, MT 59807
2	2526 LARKIN WOOD DR	MISSOULA MT 59804	AFFORDABLE HOME RV AND MOBILE HOME SERVI BEAN CHAD	120 S GROVE ST APT 7	MISSOULA, MT 59804
3	2520 LARKIN WOOD DR	MISSOULA MT 59804	BEAN ROBERT & CYNTHIA	-	-
4	2506 LARKIN WOOD DR	MISSOULA MT 59804	AFFORDABLE HOME RV AND MOBILE HOME SERVI BEAN CHAD	120 S GROVE ST APT 7	MISSOULA, MT 59804
5	2504 LARKIN WOOD DR	MISSOULA MT 59804	AFFORDABLE HOME RV AND MOBILE HOME SERVI BEAN CHAD	120 S GROVE ST APT 7	MISSOULA, MT 59804
6	112 N GROVE ST	MISSOULA MT 59804	DEY MICHAEL & DORIS	-	-
7	3056 HOME HARVEST LOOP	MISSOULA MT 59804	ORCHARD GARDEN LLC	1535 LIBERTY LN STE 116A	MISSOULA, MT 59808
8	125 N DAVIS ST	MISSOULA MT 59801	CARROLL GLENDA J	PO BOX 18094	MISSOULA, MT 59808
9	04-2200-20-3-20-02-0000	-	CARROLL GLENDA J	PO BOX 18094	MISSOULA, MT 59808
10	201 BENTLEY PARK LOOP # A	MISSOULA MT 59801	HARTMAN CANDICE & HARRY	-	-
11	201 BENTLEY PARK LOOP	MISSOULA MT 59801	POWELL DONALD	400 W BROADWAY 101 - 103	MISSOULA, MT 59802
12	205 A BENTLEY PARK LOOP	MISSOULA MT 59801	ASHBY VARA	10895 VIA LOMBARDIA APT 2602	SAN DIEGO, CA 92129
13	205 B BENTLEY PARK LOOP	MISSOULA MT 59801	BARTKOWSKI JOAN	-	-
14	209 BENTLEY PARK LOOP	MISSOULA MT 59801	PEARSALL SUSAN & ROBERT	90 OLD FORGE HOLLOW RD	BANTAM, CT 06750
15	105 BENTLEY PARK LOOP	MISSOULA MT 59801	KOHLER KYLE K	-	-
16	107 BENTLEY PARK LOOP	MISSOULA MT 59801	FERGUSON BILL & SCOFIELD SANDRA	-	-
17	111 N DAVIS ST	MISSOULA MT 59801	HEDAHL HEIDI L	-	-
18	101 N DAVIS ST	MISSOULA MT 59801	MCCONNELL JAMIE E	-	-
19	04-2200-20-3-32-52-0000	-	CITY OF MISSOULA	435 RYMAN ST	MISSOULA, MT 59802
20	301 BENTLEY PARK LOOP	MISSOULA MT 59801	NILAND MICHAEL & SU KIMBLE	-	-
21	305 A BENTLEY PARK LOOP	MISSOULA MT 59801	SKY HORSE HOLDINGS LLC	PO BOX 1602	CAVE CREEK, AZ 85327
22	305 B BENTLEY PARK LOOP	MISSOULA MT 59801	ASHBY VARA	10895 VIA LOMBARDIA APT 2602	SAN DIEGO, CA 92129
23	307 A BENTLEY PARK LOOP	MISSOULA MT 59801	SKY HORSE HOLDINGS LLC	PO BOX 1602	CAVE CREEK, AZ 85327
24	307 B BENTLEY PARK LOOP	MISSOULA MT 59801	SKY HORSE HOLDINGS LLC	PO BOX 1602	CAVE CREEK, AZ 85327
25	309 A BENTLEY PARK LOOP	MISSOULA MT 59801	SKY HORSE HOLDINGS LLC	PO BOX 1602	CAVE CREEK, AZ 85327
26	309 B BENTLEY PARK LOOP	MISSOULA MT 59801	SKY HORSE HOLDINGS LLC	PO BOX 1602	CAVE CREEK, AZ 85327
27	203 A BENTLEY PARK PL	MISSOULA MT 59801	SULLIVAN STEVEN J	-	-
28	203 B BENTLEY PARK PL	MISSOULA MT 59801	BARDWELL HEIDI P	-	-
29	207 A BENTLEY PARK PL	MISSOULA MT 59801	GIULIANI MICHAEL & SADIE	106 APPLE HOUSE LN	MISSOULA, MT 59802
30	207 B BENTLEY PARK PL	MISSOULA MT 59801	MCKITTRICK NICHOLE MARIE & ANDREW DOWLING	-	-
31	211 A BENTLEY PARK PL	MISSOULA MT 59801	WORF LESLIE	434 EDITH ST	MISSOULA, MT 59801
32	211 B BENTLEY PARK PL	MISSOULA MT 59801	CLUCAS THOMAS & JUDY	4260 WILD FOX RD	MISSOULA, MT 59802
33	2505 GLEASON ST,	MISSOULA MT 59801	ROO GEORGE & JANET	556 MILLS SPRING RD	EUREKA, MT 59917
34	2501 GLEASON ST,	MISSOULA MT 59801	FOSSEN KURT & BARBARA	2055 ROUNDUP DR	MISSOULA, MT 59808
35	2502 GLEASON ST,	MISSOULA MT 59801	FOSSEN KURT & BARBARA	2055 ROUNDUP DR	MISSOULA, MT 59808
36	2506 GLEASON ST	MISSOULA MT 59801	GREGORY NORMA J	-	-
37	206 S GROVE ST	MISSOULA, MT 59804	SELSTAD SCOTT & JANICE	-	-
38	2540 RED OSIER CT	MISSOULA MT 59804	DEGROOT DOUGLAS & JACLYN	-	-
39	2524 RED OSIER CT	MISSOULA, MT 59804	ILLIG KEVIN K	-	-
40	2512 RED OSIER CT	MISSOULA MT 59804	GOMEZ LANDON & STRICKLIN PAULA	-	-
41	2509 RED OSIER CT	MISSOULA, MT 59804	HANSON MICHAEL EARL & MULKEY	-	-
42	2515 RED OSIER CT	MISSOULA MT 59804	LIBERTY COVE INC	PO BOX 819	MISSOULA, MT 59806
43	2525 RED OSIER CT	MISSOULA MT 59804	LIBERTY COVE INC	PO BOX 819	MISSOULA, MT 59806
44	2543 RED OSIER CT	MISSOULA MT 59804	NOTTI THOMAS	-	-
45	231 S GROVE ST APT B	MISSOULA MT 59804	MANNING JEREMEY		
46	211 S GROVE ST	MISSOULA MT 59804	KALLEMEYN KRISTEN & OLSON TANYA	511 ROLLINS ST	MISSOULA, MT 59801
47	205 S GROVE ST	MISSOULA MT 59804	SMITH KAE E	-	-
48	2603 LAURIE DR	MISSOULA MT 59804	SCOTT JULIE	-	-
49	2609 LAURIE DR	MISSOULA MT 59804	WAGNER KEVIN M & DIANE L	-	-
50	2615 LAURIE DR	MISSOULA MT 59804	NELSON LEE & MYERS LAURA	-	-
51	2608 LAURIE DR	MISSOULA MT 59804	SANDERS ROBERT W	-	-
52	109 N GROVE ST	MISSOULA MT 59804	MCFARLAND LINDA JOYCE	29 ARLENE DR	CLINTON, MT 59825
53	2603 QUINN CT	MISSOULA MT 59804	DALEY DARLENE	-	-
Other			CITY OF MISSOULA CITY COUNCIL ATTN:JOHN CONTOS	435 Ryman St.	Missoula, MT 59802
			RIVER ROAD NEIGHBORHOOD COUNCIL	435 Ryman St.	Missoula, MT 59802
			TWO RIVERS NEIGHBORHOOD COUNCIL	435 Ryman St.	Missoula, MT 59802
			CITY OF MISSOULA	435 Ryman St.	Missoula, MT 59802



Map Center: X: -114.03944 - Y: 46.87211

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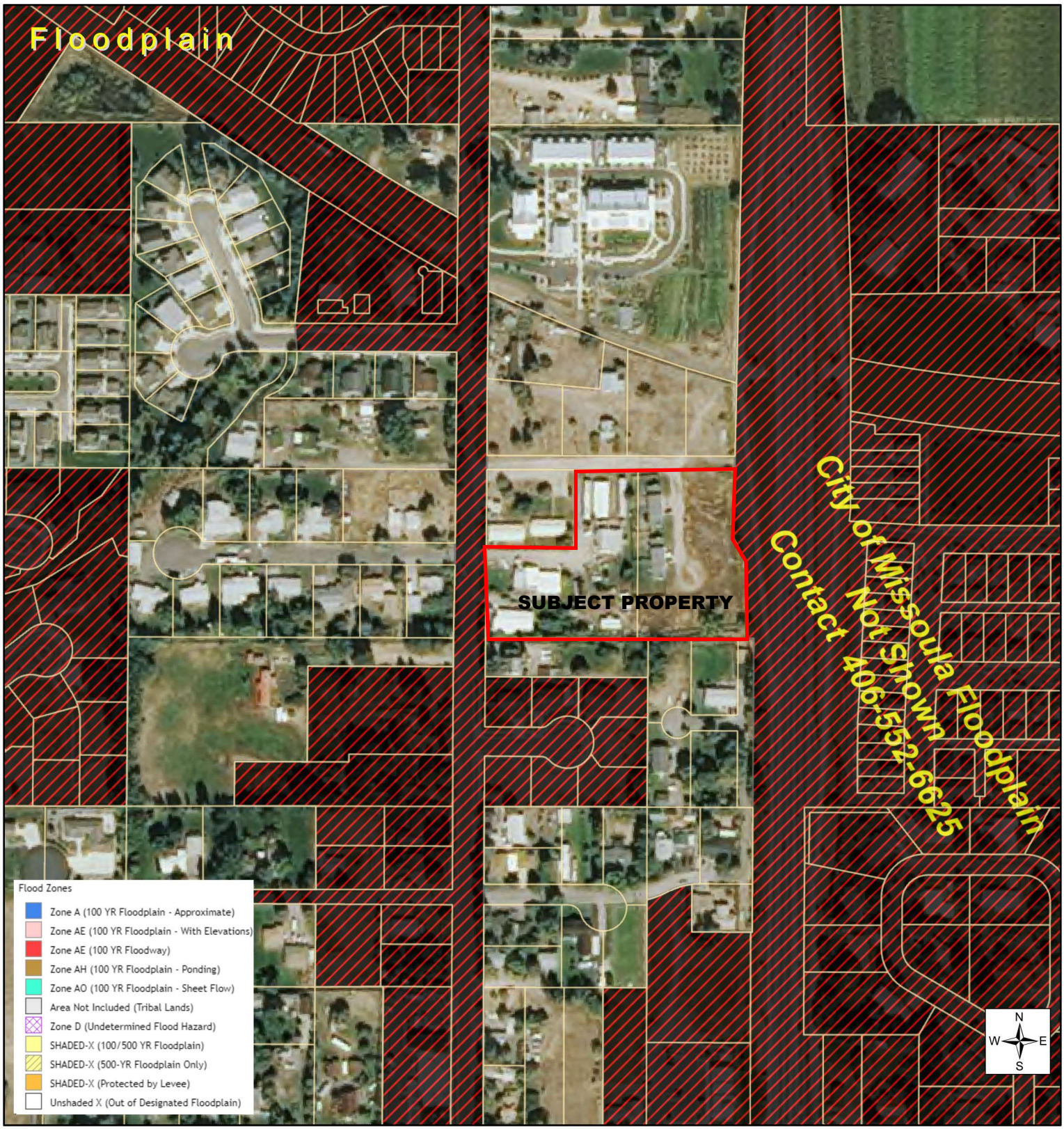
Missoula County Floodplain



Missoula County
Community and Planning Services
127 E Main St, Suite 2
Missoula, MT 59802
406-258-4657
http://gis.missoulacounty.us/caps/floodplain

Printed: 1/4/2023

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NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11N. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from NAIP Orthophotography produced with a one meter ground resolution from photography dated 2011.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map,** how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.

This map may reflect more detailed or up to date **stream channel configurations** than those shown on the previous FIRM. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations and improved topographic data. The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles, and Floodway Data Tables if applicable, in the FIS report. As a result, the profile baselines may deviate significantly from the new base map channel representation and may appear outside the floodplain.

Missoula County Vertical Datum Offset Table

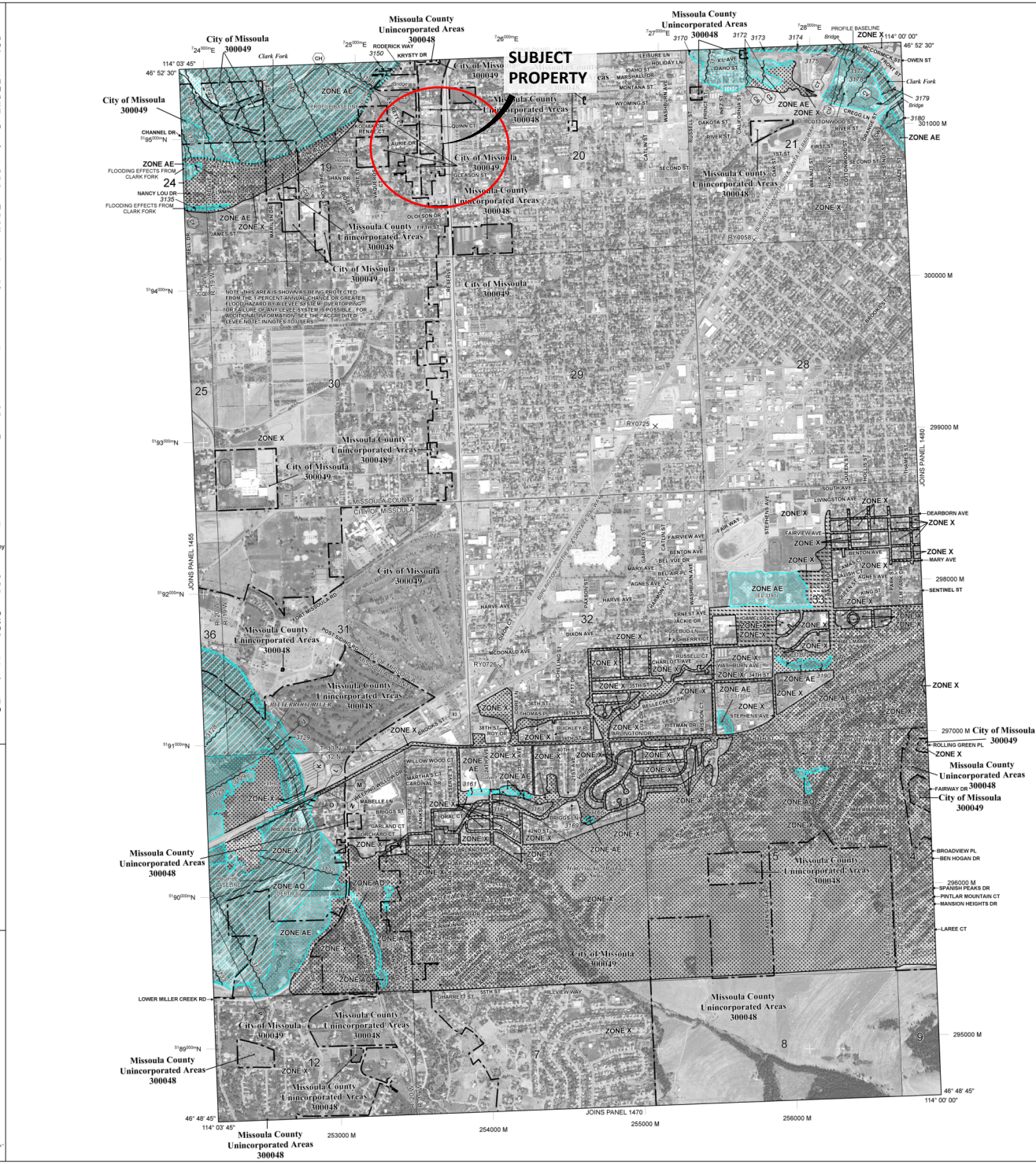
Flooding Source	Vertical Datum Offset (ft)	Flooding Source	Vertical Datum Offset (ft)
Bitterroot River	3.5	Lower Grant Creek	3.5
Blackfoot River	3.5	Miller Creek	3.5
Clark Fork	3.6	Pattee Creek	3.5
Clearwater River	3.7	Rattlesnake Creek	3.6
Grant Creek	3.6	Rock Creek	3.6
Lolo Creek	3.6		

Example: To convert Clark Fork elevations to NAVD 88, 3.6 feet were added to the NGVD 29 elevations.

PANEL INDEX

As per the Administrative Rules of Montana (ARM) 36.15.501(6), "The designated floodplain boundary is based on base flood elevations. The mapped floodplain boundary may be used as a guide for determining whether property is within the designated floodplain, but the exact boundary shall be determined according to the base flood elevation. If the local administrator determines it is unclear whether property is in or out of the floodplain, the local administrator shall require the applicant to provide additional information which may include elevations obtained through a level survey performed by a professional engineer or registered land surveyor."

Panel Not Printed



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% Annual Chance Floodplain Boundary

0.2% Annual Chance Floodplain Boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.

513 Base Flood Elevation line and value; elevation in feet*

(EL 987) Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A–A Cross section line

23–23 Transect line

45° 02' 08", 93° 02' 12" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere

4989000 M 1000-meter ticks: Montana State Plane Zone (FIPS Zone 2500), Lambert Conformal Conic projection

4964000 mN 1000-meter Universal Transverse Mercator grid values, zone 11N

DX5510 × Bench mark (see explanation in Notes to Users section of this FIRM panel)

M1.5 River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 16, 1988

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
July 6, 2015 - to change Base Flood Elevations, to update corporate limits, to update roads and road names, to change Special Flood Hazard Areas, to incorporate previously issued Letters of Map Revision and to reflect updated topographic information.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1460E

FIRM

FLOOD INSURANCE RATE MAP

MISSOULA COUNTY, MONTANA AND INCORPORATED AREAS

PANEL 1460 OF 1900

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

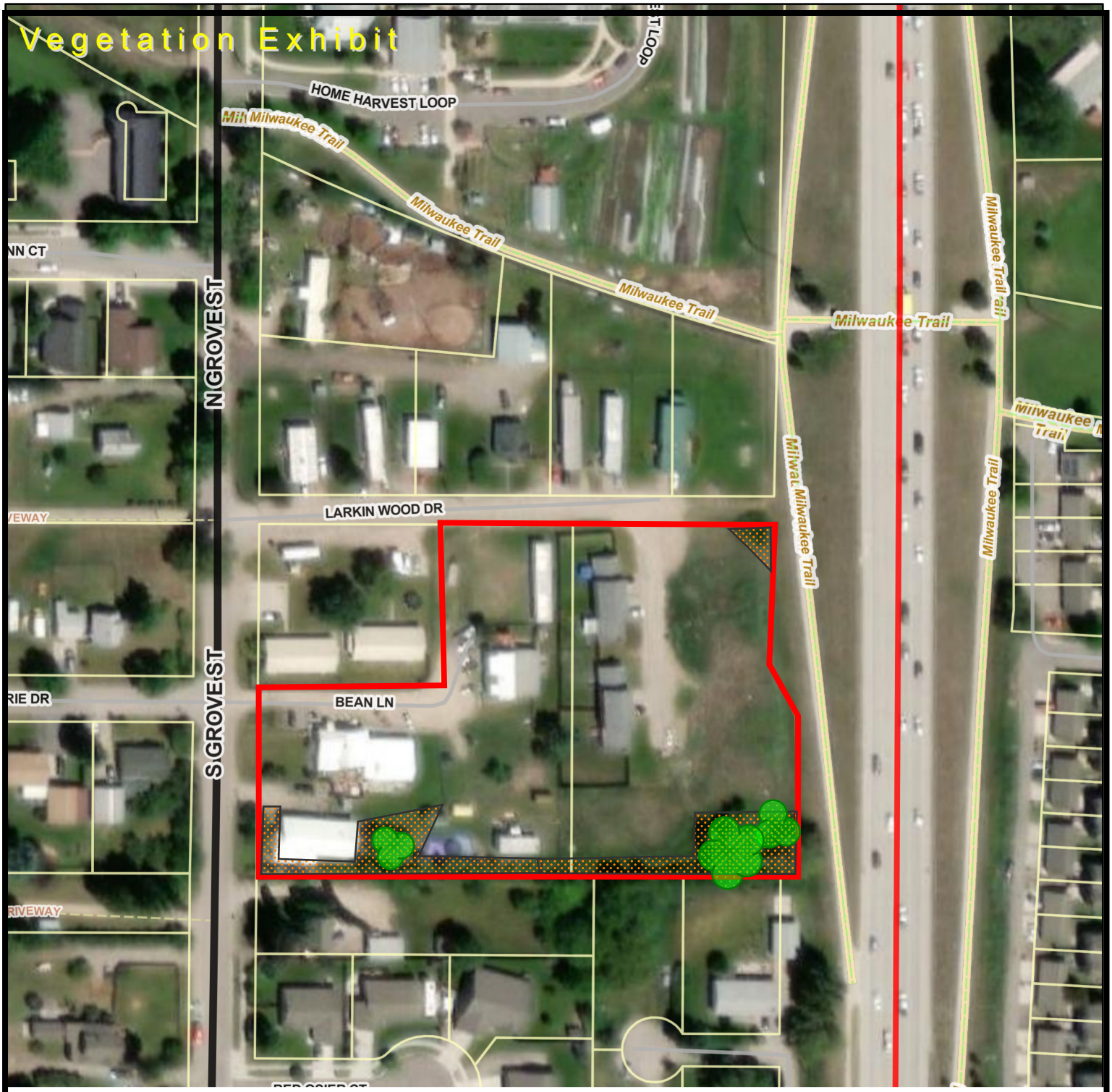
COMMUNITY	NUMBER	PANEL	SUFFIX
MISSOULA, CITY OF	300049	1460	E
MISSOULA COUNTY, Unincorporated Areas	300048	1460	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
30063C1460E
MAP REVISED
JULY 6, 2015

Federal Emergency Management Agency

Vegetation Exhibit



Intermittent Grasses & Weeds (3.02 acres)

Immature Trees and Low-lying shrubs (0.14 acres)

Mature Trees

Missoula COUNTY

Date: 1/5/2023

Miles

0 0.01 0.01 0.03 0.04 0.06 0.07

IMEG

1817 SOUTH AVE. W. STE. A
MISSOULA, MT
59801

PH: 406.721.0142
FAX: 406.721.5224
www.imegcorp.com

Vegetation Exhibit
Orchard Grove Subdivision

LOCATED IN THE SE1/4 OF SECTION 19, TOWNSHIP 13 NORTH, RANGE 19 WEST, P.M.M., MISSOULA COUNTY MONTANA

Project #:22-8967
Tab: Veg
Drafter: TR
Date: 03/2023
Sheet: 1 of 1

The material displayed on this page is informational and should be used for reference only. No reliance should be placed thereon without verification by the user. Missoula County does not warrant that the information is either complete or accurate. No representation, warranties or covenants of any kind are made by Missoula County. Before acting on the information contained on this page the user should consult original documents.

Wildlife Exhibit

The proposed subdivision property is situated amongst existing residential development on all sides which includes both motorized and non-motorized public infrastructure. Typical of a inner city residential area the property consists of birds, insects and small mammals. The Environmental Summary Report, managed by Montana Natural Heritage Programs data, provides species occurrences, ecological systems, biological reports of both plan and animal observations within a one mile buffer of the subject property. These observations and reports include but are not limited to:

Great Blue Heron, Bald Eagle, Lewis Woodpecker, Pileated Woodpecker, Clark's Nutcracker, Evening Grosbeak, Veery, Flammulated Owl, Long-eared Myotis, Bull Trout, Cutthroat Trout, Bombus Suckleyi, Bat, and Western Skink.

Map Center: X: -114.04082 - Y: 46.87009

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BIKE AND BUS

Bike racks on every bus and bike repair stations at the Transfer Center, Lewis and Clark Village, Missoula Public Library, Southgate Mall, Bonner Post Office, University of Montana's Eck Hall, Brooks Street Walmart and near the corner of Great Northern Avenue and American Way.

BUSES ARE ACCESSIBLE AND ADA COMPLIANT

WAY TO GO MISSOULA

Use the Way to Go! Missoula Trip Planner. Discover all the ways to get where you need to be, from riding the bus to biking and walking.
waytogo.missoulainmotion.com

Download the Mountain Line Transit mobile app.

- Real-time location of buses
- Arrival notifications
- Route schedules
- Rider alerts

Download on the App Store | GET IT ON Google Play

UDASH

FREE AND OPEN TO THE PUBLIC
Operates fall and spring semesters.
udash.org • (406) 243-4599

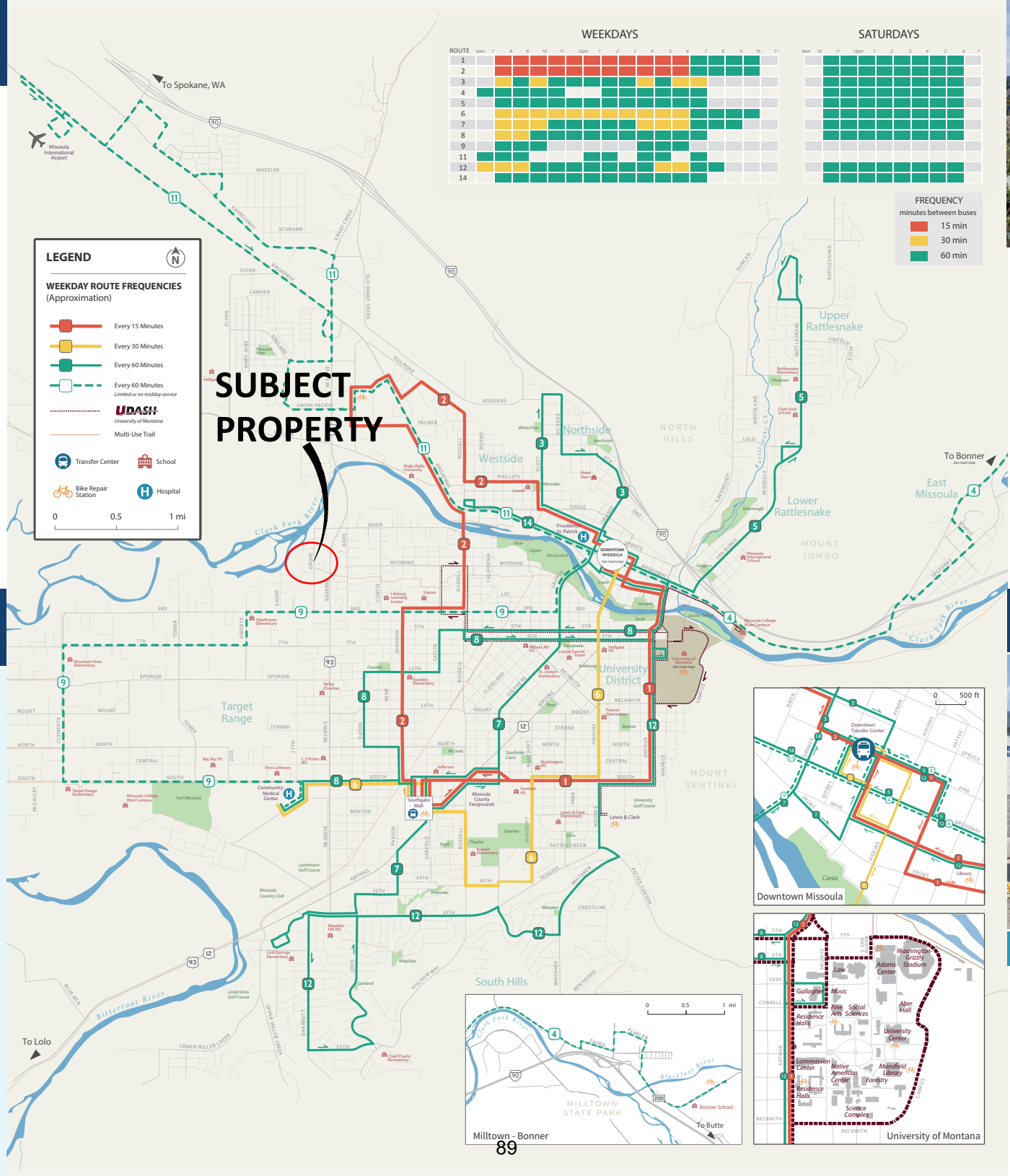
GOOGLE TRANSIT TRIP PLANNER

Use the Mountain Line Trip Planner on mountainline.com. Enter your starting and ending locations, and plan your routes.

FREE WI-FI ON BOARD

Mountain Line

(406) 721-3333 • Paratransit/TDD (406) 721-2848
mountainline.com



HOLIDAY CLOSURES

Mountain Line does not provide service on the following holidays: New Year's Day, Martin Luther King Jr. Day, Presidents Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and Christmas. If a holiday falls on a Sunday, the holiday closure is observed the following Monday.

MOUNTAIN LINE CODE OF CONDUCT

The following items are prohibited on the bus:

- Gasoline and any flammable liquids
- Firearms, BB guns, airguns, and knives
- Pets, except those confined to a carry-on, lap-size container
- Car batteries
- Fireworks
- E-scooters

Please read and follow the Code of Conduct posted on all buses and online at:
mountainline.com/rider-services/passenger-code-of-conduct

Mountain Line

Map and contents ©2019 Mountain Line

Route Map & Schedule

ZERO-FARE

Mountain Line

(406) 721-3333 • Paratransit/TDD (406) 721-2848
mountainline.com

UDASH

udash.org • (406) 243-4599

PUBLISHED WINTER 2019

MONDAY – FRIDAY

1 ROUTE 1 BOLT! *Monday – Friday 15-Minute Service!*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	Arthur & University	South & Higgins*	Missoula County Fairgrounds	Southgate Mall
6:45 AM	6:49 AM	6:53 AM	6:55 AM	7:00 AM
From 7:15 AM to 5:45 PM, schedule repeats every 15 minutes:				
:15	:19	:23	:25	:30
:30	:34	:38	:40	:45
:45	:49	:53	:55	:00
:00	:04	:08	:10	:15
5:45	5:49	5:53	5:55	6:00
6:45	6:49	6:53	6:55	7:00
7:45	7:49	7:53	7:55	8:00
8:45	8:49	8:53	8:55	9:00

*Serves Dornbacher Park and Ride

All Route 1 arrivals at Southgate Mall continue as Route 2

INBOUND TO DOWNTOWN

Southgate Mall	Missoula County Fairgrounds	South & Higgins*	Arthur & Keith	Arrive Transfer Center
7:20 AM	7:23 AM	7:29 AM	7:33 AM	7:45 AM
From 7:50 AM to 6:20 PM, schedule repeats every 15 minutes:				
:50	:53	:59	:03	:15
:05	:08	:14	:18	:30
:20	:23	:29	:33	:45
:35	:38	:44	:48	:00
6:20	6:23	6:29	6:33	6:45
7:20	7:23	7:29	7:33	7:45
8:20	8:23	8:29	8:33	8:45
9:20	9:23	9:29	9:33	9:45

*Serves Dornbacher Park and Ride

2 ROUTE 2 BOLT! *Monday – Friday 15-Minute Service!*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	St. Patrick Hospital	Howell & Russell	Target	Russell & Dakota	10th & Johnson	Southgate Mall
6:45 AM	6:47 AM	6:52 AM	6:58 AM	7:05 AM	7:08 AM	7:20 AM
From 7:15 AM to 5:45 PM, schedule repeats every 15 minutes:						
:15	:17	:22	:28	:35	:38	:50
:30	:32	:37	:43	:50	:53	:05
:45	:47	:52	:58	:05	:08	:20
:00	:02	:07	:13	:20	:23	:35
5:45	5:47	5:52	5:58	6:05	6:08	6:20
6:45	6:47	6:52	6:58	7:05	7:08	7:20
7:45	7:47	7:52	7:58	8:05	8:08	8:20
8:45	8:47	8:52	8:58	9:05	9:08	9:20

All Route 2 arrivals at Southgate Mall continue as Route 1

INBOUND TO DOWNTOWN

Southgate Mall	10th & Johnson	Russell & Dakota	Palmer & Latimer	Maple & Russell	St. Patrick Hospital	Arrive Transfer Center
6:32 AM	6:36 AM	6:41 AM	6:53 AM	7:02 AM	7:05 AM	7:15 AM
7:02	7:06	7:11	7:23	7:32	7:35	7:45
From 7:32 AM to 6:02 PM, schedule repeats every 15 minutes:						
:32	:36	:41	:53	:02	:05	:15
:47	:51	:56	:08	:17	:20	:30
:02	:06	:11	:23	:32	:35	:45
:17	:21	:26	:38	:47	:50	:00
6:02	6:06	6:11	6:23	6:32	6:35	6:45
7:02	7:06	7:11	7:23	7:32	7:35	7:45
8:02	8:06	8:11	8:23	8:32	8:35	8:45
9:02	9:06	9:11	9:23	9:32	9:35	9:45

3 ROUTE 3 *Monday - Friday*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	St. Patrick Hospital	Dickens & Pullman
6:30 AM	6:32 AM	6:36 AM
7:30	7:32	7:36
7:45	7:47	7:51
8:45	8:47	8:51
9:30	9:32	9:36
9:45	9:47	9:51
10:45	10:47	10:51
11:45	11:47	11:51
12:45 PM	12:47 PM	12:51 PM
1:45	1:47	1:51
2:45	2:47	2:51
3:15	3:17	3:21
3:45	3:47	3:51
4:45	4:47	4:51
5:00	5:02	5:06
5:45	5:47	5:51
6:15	6:17	6:21
6:45	6:47	6:51

INBOUND TO DOWNTOWN

Dickens & Pullman	Providence Center	Arrive Transfer Center
6:36 AM	6:39 AM	6:45 AM
7:06	7:09	7:15
7:36	7:39	7:45
7:51	7:54	8:00
8:51	8:54	9:00
9:36	9:39	9:45
9:51	9:54	10:00
10:51	10:54	11:00
11:51	11:54	12:00 PM
12:51 PM	12:54 PM	1:00
1:51	1:54	2:00
2:51	2:54	3:00
3:21	3:24	3:30
3:51	3:54	4:00
4:51	4:54	5:00
5:06	5:09	5:15
5:51	5:54	6:00
6:21	6:24	6:30
6:51	6:54	7:00

4 ROUTE 4 *Monday - Friday*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	Broadway & Van Buren	Staple & MT 200	1st & West Riverside	Bonner
6:45 AM	6:48 AM	6:55 AM	7:00 AM	7:15 AM
7:45	7:48	7:55	8:00	8:15
8:45	8:48	8:55	9:00	9:15
9:45	9:48	9:55	10:00	10:15
12:45 PM	12:48 PM	12:55 PM	1:00 PM	1:15 PM
2:15	2:18	2:25	2:30	2:45
3:15	3:18	3:25	3:30	3:45
4:15	4:18	4:25	4:30	4:45
5:15	5:18	5:25	5:30	5:45
6:15	6:18	6:25	6:30	6:45
7:15	7:18	7:23	7:27	7:37 - Bus returns to garage via I-90

INBOUND TO DOWNTOWN

Bonner	1st & West Riverside	Staple & MT 200	Broadway & Van Buren	Arrive Transfer Center
6:15 AM	6:18 AM	6:28 AM	6:35 AM	6:45 AM
7:15	7:18	7:28	7:35	7:45
8:15	8:18	8:28	8:35	8:45
9:15	9:18	9:28	9:35	9:45
10:15	10:18	10:28	10:35	10:45
1:15 PM	1:18 PM	1:28 PM	1:35 PM	1:45 PM
2:45	2:48	2:58	3:05	3:15
3:45	3:48	3:58	4:05	4:15
4:45	4:48	4:58	5:05	5:15
5:45	5:48	5:58	6:05	6:15
6:45	6:48	6:58	7:05	7:15

5 ROUTE 5 *Monday – Friday*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	Broadway & Van Buren	Lincoln & Lincolnwood
7:15 AM	7:18 AM	7:25 AM
8:15	8:18	8:25
9:15	9:18	9:25
10:15	10:18	10:25
11:15	11:18	11:25
12:15 PM	12:18 PM	12:25 PM
1:15	1:18	1:25
2:15	2:18	2:25
2:45	2:48	2:55
3:15	3:18	3:25
4:15	4:18	4:25
5:15	5:18	5:25
6:15	6:18	6:25

INBOUND TO DOWNTOWN

Lincoln & Lincolnwood	Lolo & Raymond	Broadway & Van Buren	Arrive Transfer Center
7:25 AM	7:31 AM	7:37 AM	7:45 AM
8:25	8:31	8:37	8:45
9:25	9:31	9:37	9:45
10:25	10:31	10:37	10:45
11:25	11:31	11:37	11:45
12:25 PM	12:31 PM	12:37 PM	12:45 PM
1:25	1:31	1:37	1:45
2:25	2:31	2:37	2:45
3:01	3:07	3:07	3:15
3:25	3:31	3:37	3:45
4:25	4:31	4:37	4:45
5:25	5:31	5:37	5:45
6:25	6:31	6:37	6:45

6 ROUTE 6 *Monday – Friday*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	Higgins & Beckwith	South & Higgins	Opportunity Resources	Southgate Mall	Community Hospital
6:45 AM	6:48 AM	6:51 AM	6:58 AM	7:02 AM	7:12 AM
7:15	7:18	7:21	7:28	7:32	7:42
7:45	7:48	7:51	7:58	8:02	8:12
8:15	8:18	8:21	8:28	8:32	8:42
8:45	8:48	8:51	8:58	9:02	9:12
9:15	9:18	9:21	9:28	9:32	9:42
9:45	9:48	9:51	9:58	10:02	10:12
10:15	10:18	10:21	10:28	10:32	10:42
10:45	10:48	10:51	10:58	11:02	11:12
11:15	11:18	11:21	11:28	11:32	11:42
11:45	11:48	11:51	11:58	12:02 PM	12:12 PM
12:15 PM	12:18 PM	12:21 PM	12:28 PM	12:32	12:42
12:45	12:48	12:51	12:58	1:02	1:12
1:15	1:18	1:21	1:28	1:32	1:42
1:45	1:48	1:51	1:58	2:02	2:12
2:15	2:18	2:21	2:28	2:32	2:42
2:45	2:48	2:51	2:58	3:02	3:12
3:15	3:18	3:21	3:28	3:32	3:42
3:45	3:48	3:51	3:58	4:02	4:12
4:15	4:18	4:21	4:28	4:32	4:42
4:45	4:48	4:51	4:58	5:02	5:12
5:15	5:18	5:21	5:28	5:32	5:42
5:45	5:48	5:51	5:58	6:02	6:12
6:45	6:48	6:51	6:58	7:02	7:12
7:45	7:48	7:51	7:58	8:02	8:12
8:45	8:48	8:51	8:58	9:02	9:12

INBOUND TO DOWNTOWN

Community Hospital	South & Garfield	Opportunity Resources	South & Higgins	Higgins & Beckwith	Arrive Transfer Center
——	6:50 AM	6:53 AM	7:00 AM	7:01 AM	7:15 AM
7:12	7:20	7:23	7:30	7:31	7:45
7:42	7:50	7:53	8:00	8:01	8:15
8:12	8:20	8:23	8:30	8:31	8:45
8:42	8:50	8:53	9:00	9:01	9:15
9:12	9:20	9:23	9:30	9:31	9:45
9:42	9:50	9:53	10:00	10:01	10:15
10:12	10:20	10:23	10:30	10:31	10:45
10:42	10:50	10:53	11:00	11:01	11:15
11:12	11:20	11:23	11:30	11:31	11:45
11:42	11:50	11:53	12:00 PM	12:01 PM	12:15 PM
12:12 PM	12:20 PM	12:23 PM	12:30	12:31	12:45
12:42	12:50	12:53	1:00	1:01	1:15
1:12	1:20	1:23	1:30	1:31	1:45
1:42	1:50	1:53	2:00	2:01	2:15
2:12	2:20	2:23	2:30	2:31	2:45
2:42	2:50	2:53	3:00	3:01	3:15
3:12	3:20	3:23	3:30	3:31	3:45
3:42	3:50	3:53	4:00	4:01	4:15
4:12	4:20	4:23	4:30	4:31	4:45
4:42	4:50	4:53	5:00	5:01	5:15
5:12	5:20	5:23	5:30	5:31	5:45
5:42	5:50	5:53	6:00	6:01	6:15
6:12	6:20	6:23	6:30	6:31	6:45
7:12	7:20	7:23	7:30	7:31	7:45
8:12	8:20	8:23	8:30	8:31	8:45
9:12	9:20	9:23	9:30	9:31	9:45

7 ROUTE 7 *Monday – Friday*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	5th & Orange	Stephens & Central	Southgate Mall	Walmart
6:45 AM	6:48 AM	6:52 AM	7:00 AM	7:15 AM
7:15	7:18	7:22	7:30	7:45
7:45	7:48	7:52	8:00	8:15
8:15	8:18	8:22	8:30	8:45
8:45	8:48	8:52	9:00	9:15
9:45	9:48	9:52	10:00	10:15
10:45	10:48	10:52	11:00	11:15
11:45	11:48	11:52	12:00 PM	12:15 PM
12:45 PM	12:48 PM	12:52 PM	1:00	1:15
1:45	1:48	1:52	2:00	2:15
2:45	2:48	2:52	3:00	3:15
3:15	3:18	3:22	3:30	3:45
3:45	3:48	3:52	4:00	4:15
4:15	4:18	4:22	4:30	4:45
4:45	4:48	4:52	5:00	5:15
5:15	5:18	5:22	5:30	5:45
5:45	5:48	5:52	6:00	6:15
6:45	6:48	6:52	7:00	7:15
7:45	7:48	7:52	8:00	8:15
8:45	8:48	8:52	9:00	9:15

INBOUND TO DOWNTOWN

Walmart	Southgate Mall	Stephens & Central	5th & Orange	Arrive Transfer Center
7:15 AM	7:25 AM	7:28 AM	7:33 AM	7:45 AM
7:45	7:55	7:58	8:03	8:15
8:15	8:25	8:28	8:33	8:45
8:45	8:55	8:58	9:03	9:15
9:15	9:25	9:28	9:33	9:45
10:15	10:25	10:28	10:33	10:45
11:15	11:25	11:28	11:33	11:45
12:15 PM	12:25 PM	12:28 PM	12:33 PM	12:45 PM
1:15	1:25	1:28	1:33	1:45
2:15	2:25	2:28	2:33	2:45
3:15	3:25	3:28	3:33	3:45
3:45	3:55	3:58	4:03	4:15
4:15	4:25	4:28	4:33	4:45
4:45	4:55	4:58	5:03	5:15
5:15	5:25	5:28	5:33	5:45
5:45	5:55	5:58	6:03	6:15
6:15	6:25	6:28	6:33	6:45
7:15	7:25	7:28	7:33	7:45
8:15	8:25	8:28	8:33	8:45
9:15	9:25	9:28	9:33	9:45

8 ROUTE 8 *Monday – Friday*

OUTBOUND FROM UNIVERSITY OF MONTANA

Depart UM Music Building	Arthur & Eddy	5th & Orange	10th & Catlin	Sussex & Johnson	Community Hospital
6:54 AM	6:55 AM	7:00 AM	7:05 AM	7:12 AM	7:16 AM
7:24	7:25	7:30	7:35	7:42	7:46
7:54	7:55	8:00	8:05	8:12	8:16
8:24	8:25	8:30	8:35	8:42	8:46
8:54	8:55	9:00	9:05	9:12	9:16
10:24	10:25	10:30	10:35	10:42	10:46
11:24	11:25	11:30	11:35	11:42	11:46
12:24 PM	12:25 PM	12:30 PM	12:35 PM	12:42 PM	12:46 PM
1:24	1:25	1:30	1:35	1:42	1:46
2:24	2:25	2:30	2:35	2:42	2:46
3:24	3:25	3:30	3:35	3:42	3:46
4:24	4:25	4:30	4:35	4:42	4:46
5:24	5:25	5:30	5:35	5:42	5:46
6:24	6:25	6:30	6:35	6:42	6:46 - Bus returns to garage

All trips originate and end at the University of Montana or Community Hospital

8 ROUTE 8 *Monday - Friday*

INBOUND TO UNIVERSITY OF MONTANA

Community Hospital	Southgate Mall	10th & Catlin	6th & Orange	Arthur & Eddy	Arrive UM Music Building
6:50 AM	6:58 AM	7:09 AM	7:15 AM	7:20 AM	7:22 AM
7:20	7:28	7:39	7:45	7:50	7:52
7:50	7:58	8:09	8:15	8:20	8:22
8:20	8:28	8:39	8:45	8:50	8:52
8:50	8:58	9:09	9:15	9:20	9:22
9:50	9:58	10:09	10:15	10:20	10:22
10:50	10:58	11:09	11:15	11:20	11:22
11:50	11:58	12:09 PM	12:15 PM	12:20 PM	12:22 PM
12:50 PM	12:58 PM	1:09	1:15	1:20	1:22
1:50	1:58	2:09	2:15	2:20	2:22
2:50	2:58	3:09	3:15	3:20	3:22
3:50	3:58	4:09	4:15	4:20	4:22
4:50	4:58	5:09	5:15	5:20	5:22
5:50	5:58	6:09	6:15	6:20	6:22

9 ROUTE 9 *Monday – Friday*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	2nd & Orange	3rd & Catlin	3rd & Hiberta	The Olde Dairy	Community Hospital
6:45 AM	6:48 AM	6:52 AM	6:56 AM	7:04 AM	7:15 AM
7:45	7:48	7:52	7:56	8:04	8:15
8:45	8:48	8:52	8:56	9:04	9:15
——	——	——	——	——	——
3:15 PM	3:18 PM	3:22 PM	3:26 PM	3:34 PM	3:45 PM
4:15	4:18	4:22	4:26	4:34	4:45
5:15	5:18	5:22	5:26	5:34	5:45

INBOUND TO DOWNTOWN

Community Hospital	The Olde Dairy	3rd & Hiberta	3rd & Catlin	2nd & Orange	Arrive Transfer Center
7:18 AM	7:21 AM	7:28 AM	7:33 AM	7:36 AM	7:45 AM
8:18	8:21	8:28	8:33	8:36	8:45
9:18	9:21	9:28	9:33	9:36	9:45
——	——	——	——	——	——
3:48 PM	3:51 PM	3:58 PM	4:03 PM	4:06 PM	4:15 PM
4:48	4:51	4:58	5:03	5:06	5:15
5:48	5:51	5:58	6:03	6:06	6:15

11 ROUTE 11 *Monday – Friday*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	Great Northern & Union Pacific	Connery & American	Expressway & Reserve	Smokejumper Center	Airport
5:35 AM*	——	——	——	5:45 AM	5:50 AM
6:45*	——	——	——	6:56	6:58
7:45	7:55 AM	7:58 AM	8:05 AM	8:14	8:18
8:45	8:55	8:58	9:05	9:14	9:18
11:45	11:55	11:58	12:05 PM	12:14 PM	12:18 PM
12:45 PM	12:55 PM	12:58 PM	1:05	1:14	1:18
3:15	3:25	3:28	3:35	3:44	3:48
4:15	4:25	4:28	4:35	4:44	4:48
5:15	5:25	5:28	5:35	5:44	5:48
7:15	7:25	7:28	7:35	7:44	7:48

*First two trips are express to Smokejumper Center and the Airport

INBOUND TO DOWNTOWN

Airport	Expressway & Reserve	Connery & Flanagin	Great Northern & Union Pacific	Arrive Transfer Center
5:55 AM	6:03 AM	6:08 AM	6:15 AM	6:30 AM
6:58	7:03	7:08	7:15	7:30
8:18	—	8:26	8:30	8:45
9:18	—	9:26	9:30	9:45
12:18 PM	—	12:26 PM	12:30 PM	12:45 PM
1:18	—	1:26	1:30	1:45
3:48	—	3:56	4:00	4:15
4:48	—	4:56	5:00	5:15
5:48	—	5:56	6:00	6:15
7:48	—	7:56	8:00	8:15

12 ROUTE 12 *Monday – Friday*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	Arthur & University	Lewis & Clark	High Park & Whitaker	39th & Reserve	55th & Gharrett
——	——	——	——	5:58 AM	6:00 AM
——	——	——	——	6:25	6:28
6:30 AM	6:34 AM	6:38 AM	6:41 AM	6:55	6:58
7:00	7:04	7:08	7:11	7:25	7:28
7:30	7:34	7:38	7:41	7:55	7:58
8:00	8:04	8:08	8:11	8:25	8:28
8:30	8:34	8:38	8:41	8:55	8:58
9:30	9:34	9:38	9:41	9:55	9:58
10:30	10:34	10:38	10:41	10:55	10:58
11:30	11:34	11:38	11:41	11:55	11:58
12:30 PM	12:34 PM	12:38 PM	12:41 PM	12:55 PM	12:58 PM
2:00	2:04	2:08	2:11	2:25	2:28
3:00	3:04	3:08	3:11	3:25	3:28
3:30	3:34	3:38	3:41	3:55	3:58
4:00	4:04	4:08	4:11	4:25	4:28
4:30	4:34	4:38	4:41	4:55	4:58
5:15	5:19	5:23	5:26	5:40	5:43
6:15	6:19	6:23	6:26	6:40	6:43
7:15	7:19	7:23	7:26	7:40	7:43

*Serves Dornbacher Park and Ride

12 ROUTE 12 *Monday – Friday*

INBOUND TO DOWNTOWN

55th & Gharrett	23rd & Briggs	High Park & Whitaker	Lewis & Clark	Arthur & Keith	Arrive Transfer Center
6:00 AM	6:04 AM	6:09 AM	6:12 AM	6:18 AM	6:30 AM
6:28	6:34	6:39	6:42	6:48	7:00
6:58	7:04	7:09	7:12	7:18	7:30
7:28	7:34	7:39	7:42	7:48	8:00
7:58	8:04	8:09	8:12	8:18	8:30
8:28	8:34	8:39	8:42	8:48	9:00
8:58	9:04	9:09	9:12	9:18	9:30
9:58	10:04	10:09	10:12	10:18	10:30
10:58	11:04	11:09	11:12	11:18	11:30
11:58	12:04 PM	12:09 PM	12:12 PM	12:18 PM	12:30 PM
12:58 PM	1:04	1:09	1:12	1:18	1:30
2:28	2:34	2:39	2:42	2:48	3:00
3:28	3:34	3:39	3:42	3:48	4:00
3:58	4:04	4:09	4:12	4:18	4:30
4:28	4:34	4:39	4:42	4:48	5:00
4:58	5:04	5:09	5:12	5:18	5:30
5:43	5:49	5:54	5:57	6:03	6:15
6:43	6:49	6:54	6:57	7:03	7:15
7:43	7:49 - Bus returns to garage				

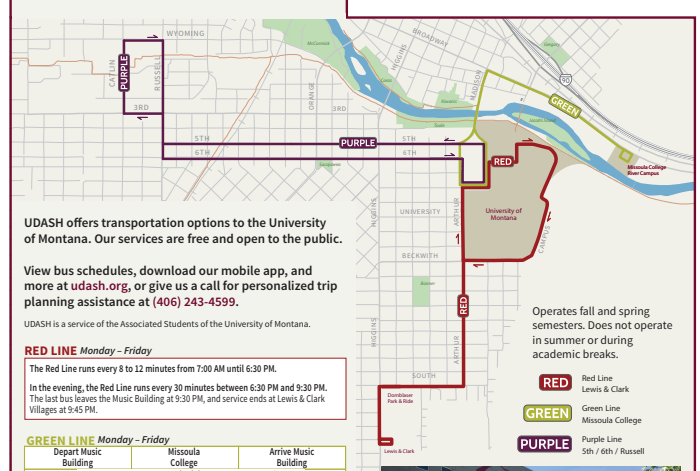
14 ROUTE 14 *Monday - Friday*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	Broadway & Russell
8:00 AM	8:05 AM
9:00	9:05
10:00	10:05
11:00	11:05
12:00 PM	12:05 PM
1:00	1:05
1:45	1:50
2:00	2:05
3:00	3:05
4:00	4:05
5:00	5:05
6:00	6:05
7:00	7:05

INBOUND TO DOWNTOWN

Broadway & Russell	Arrive Transfer Center
8:05 AM	8:15 AM
9:05	9:15
10:05	10:15
11:05	11:15
12:05 PM	12:15 PM
1:05	1:15
1:50	2:00
2:05	2:15
3:05	3:15
4:05	4:15
5:05	5:15
6:05	6:15
7:05	7:15



UDASH udash.com (406) 243-4599

UDASH offers transportation options to the University of Montana. Our services are free and open to the public.

View bus schedules, download our mobile app, and more at udash.com, or give us a call for personalized trip planning assistance at (406) 243-4599.

UDASH is a service of the Associated Students of the University of Montana.

RED LINE *Monday – Friday*

The Red Line runs every 8 to 12 minutes from 7:00 AM until 6:30 PM.

In the evening, the Red Line runs every 30 minutes between 6:30 PM and 9:30 PM. The last bus leaves the Music Building at 9:30 PM, and service ends at Lewis & Clark Villages at 9:45 PM.

GREEN LINE *Monday – Friday*

Depart Music Building	Missoula College	Arrive Music Building
From 7:30 AM to 6:30 PM, schedule repeats every 20 minutes:		
:10	:16	:25
:30	:36	:45
:50	:56	:05

Service ends at 6:45 PM at the Music Building stop. Last pickup at Missoula College is at 6:36 PM.

PURPLE LINE *Monday – Friday*

Depart Music Building	5th & Orange	Catlin & Wyoming	6th & Ivy	Arrive Music Building
From 7:05 AM to 6:05 PM, schedule repeats every 20 minutes:				
:05	:08	:15	:20	:30
:25	:28	:35	:40	:50
:45	:48	:55	:00	:10
Last evening trips depart at 6:30 PM and 7:00 PM:				
6:30 PM	6:33 PM	6:40 PM	6:45 PM	6:55 PM
7:00 PM	7:03 PM	7:10 PM	—	

Service ends at 7:10 PM at Catlin & Wyoming.

Operates fall and spring semesters. Does not operate in summer or during academic breaks.

RED Red Line — Lewis & Clark

GREEN Green Line — Missoula College

PURPLE Purple Line — 5th / 6th / Russell

LATE NIGHT & EVENTS

UDASH operates periodic late night and event shuttles. See udash.org for details.

UDASH may need to make service adjustments in response to unpredictable events. Please check udash.org or call (406) 243-4599 for the latest updates.

SATURDAY SERVICE

1 ROUTE 1 *Saturday*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	Arthur & University	South & Higgins*	Missoula County Fairgrounds	Southgate Mall
9:45 AM	9:49 AM	9:53 AM	9:55 AM	10:00 AM
10:45	10:49	10:53	10:55	11:00
11:45	11:49	11:53	11:55	12:00 PM
12:45 PM	12:49 PM	12:53 PM	12:55 PM	1:00
2:15	2:19	2:23	2:25	2:30
3:15	3:19	3:23	3:25	3:30
4:15	4:19	4:23	4:25	4:30
5:15	5:19	5:23	5:25	5:30

*Serves Dornblaser Park and Ride

All Route 1 arrivals at Southgate Mall continue as Route 2

INBOUND TO DOWNTOWN

Southgate Mall	Missoula County Fairgrounds	South & Higgins*	Arthur & Keith	Arrive Transfer Center
10:20 AM	10:23 AM	10:29 AM	10:33 AM	10:45 AM
11:20	11:23	11:29	11:33	11:45
12:20 PM	12:23 PM	12:29 PM	12:33 PM	12:45 PM
1:20	1:23	1:29	1:33	1:45
2:50	2:53	2:59	3:03	3:15
3:50	3:53	3:59	4:03	4:15
4:50	4:53	4:59	5:03	5:15
5:50	5:53	5:59	6:03	6:15

*Serves Dornblaser Park and Ride

2 ROUTE 2 *Saturday*

OUTBOUND FROM DOWNTOWN

Depart Transfer Center	St. Patrick Hospital	Howell & Russell	Target	Russell & Dakota	10th & Johnson	Southgate Mall
9:45 AM	9:47 AM	9:52 AM	9:58 AM	10:05 AM	10:08 AM	10:20 AM
10:45	10:47	10:52	10:58	11:05	11:08	11:20
11:45	11:47	11:52	11:58	12:05 PM	12:08 PM	12:20 PM
12:45 PM	12:47 PM	12:52 PM	12:58 PM	1:05	1:08	1:20
2:15	2:17	2:22	2:28	2:35	2:38	2:50
3:15	3:17	3:22	3:28	3:35	3:38	3:50
4:15	4:17

Missoula County Public Schools

Bulletin | Contact Us

Search

2555 Bean Ln | 59804

*MCPS Hawthorne Elementary School

Search

Possible Matches (3)

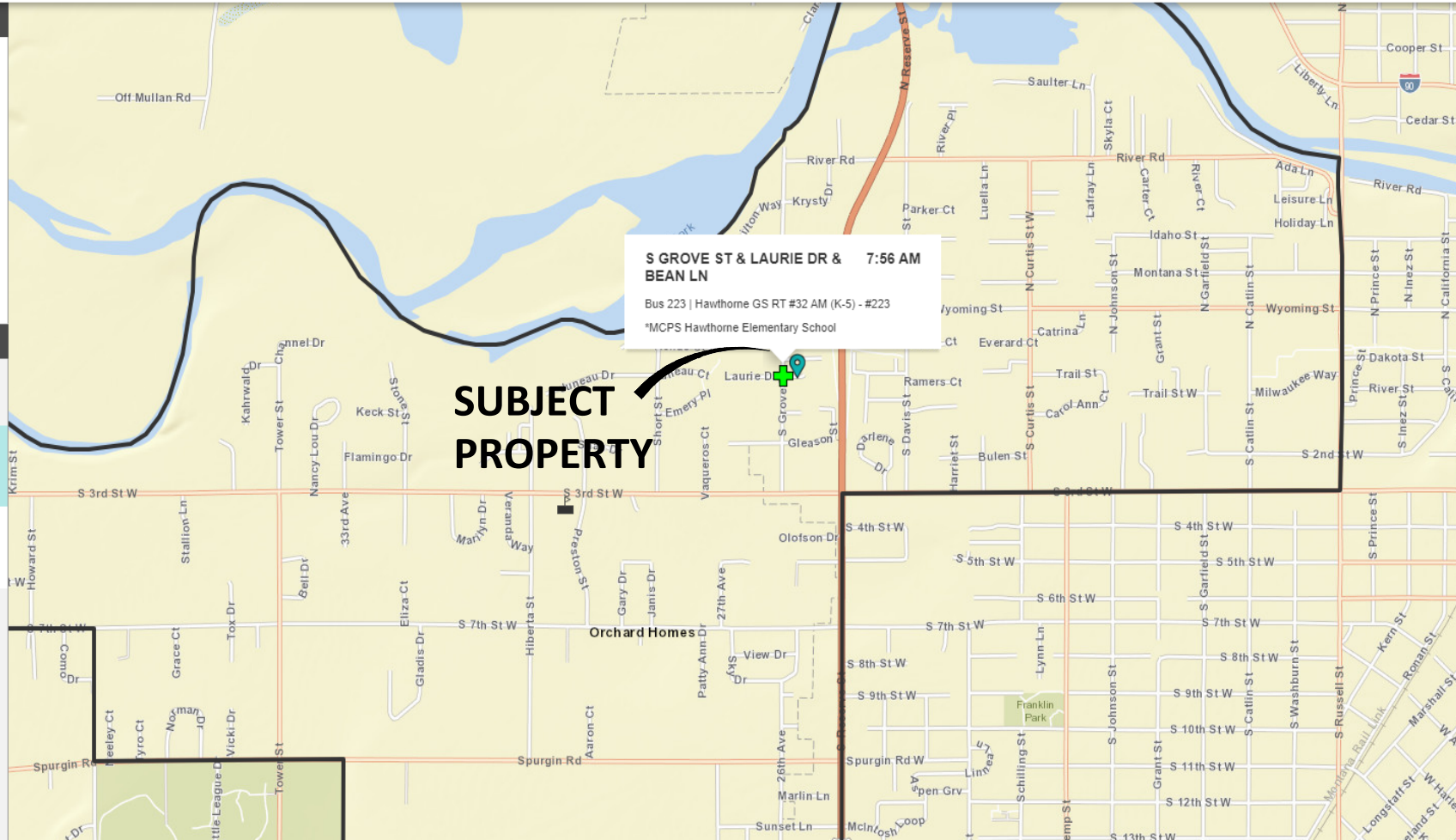
- 2555 Bean Ln 1
- 2555 Bean Ln 2
- 2555 Beach St

Results for 2555 Bean Ln, 59804

*MCPS Hawthorne Elementary School (K, 1 - 5)
2835 S. 3rd St. West, Missoula, MT 59804

S GROVE ST & LAURIE DR & BEAN LN 7:56 AM
Bus 223 | Hawthorne GS RT #32 AM (K-...

S GROVE ST & LAURIE DR & BEAN LN 3:32 PM
Bus 216 | Butterfly Bus



Missoula County Public Schools

Bulletin | Contact Us

Search

2555 Bean Ln | 59804

*MCPS C.S. Porter Middle School

Search

Possible Matches (3)

2555 Bean Ln 1, 59804

2555 Bean Ln 2, 59804

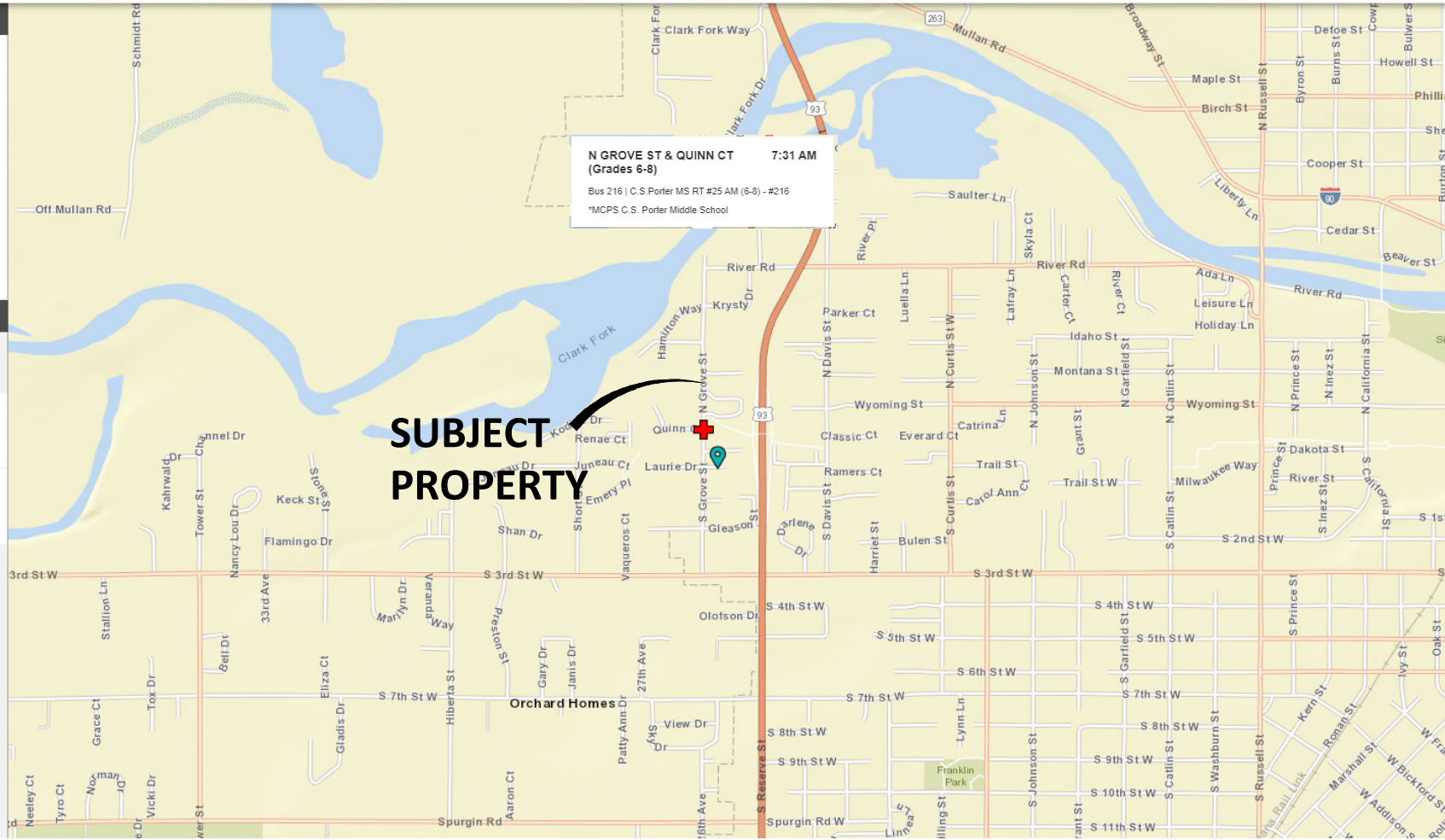
2555 Beach St

Results for 2555 Bean Ln, 59804

*MCPS C.S. Porter Middle School (6 - 8)
2510 W. Central Ave., Missoula, MT 59804

N GROVE ST & QUINN CT (Grades 6-8) 7:31 AM
Bus 216 | C.S.Porter MS RT #25 AM (6-...

N GROVE ST & QUINN CT (Grades 6-8) 3:12 PM
Bus 216 | C.S.Porter MS RT #25 PM (6-...



Missoula County Public Schools

Bulletin | Contact Us

Search

2555 Bean Ln

59804

All Grades and Schools

Search

Possible Matches (3)

2555 Bean Ln 1, 59804

2555 Bean Ln 2, 59804

2555 Beach St

Results for 2555 Bean Ln, 59804

*MCPS Big Sky High School (9 - 12)
3100 South Ave. West, Missoula, MT 59804

BIG SKY HS (WALKING BOUNDARY) 5:00 AM
Big Sky HS (PM Walking Boundary)

BIG SKY HS (WALKING BOUNDARY) 5:00 AM
Big Sky HS (AM Walking Boundary)

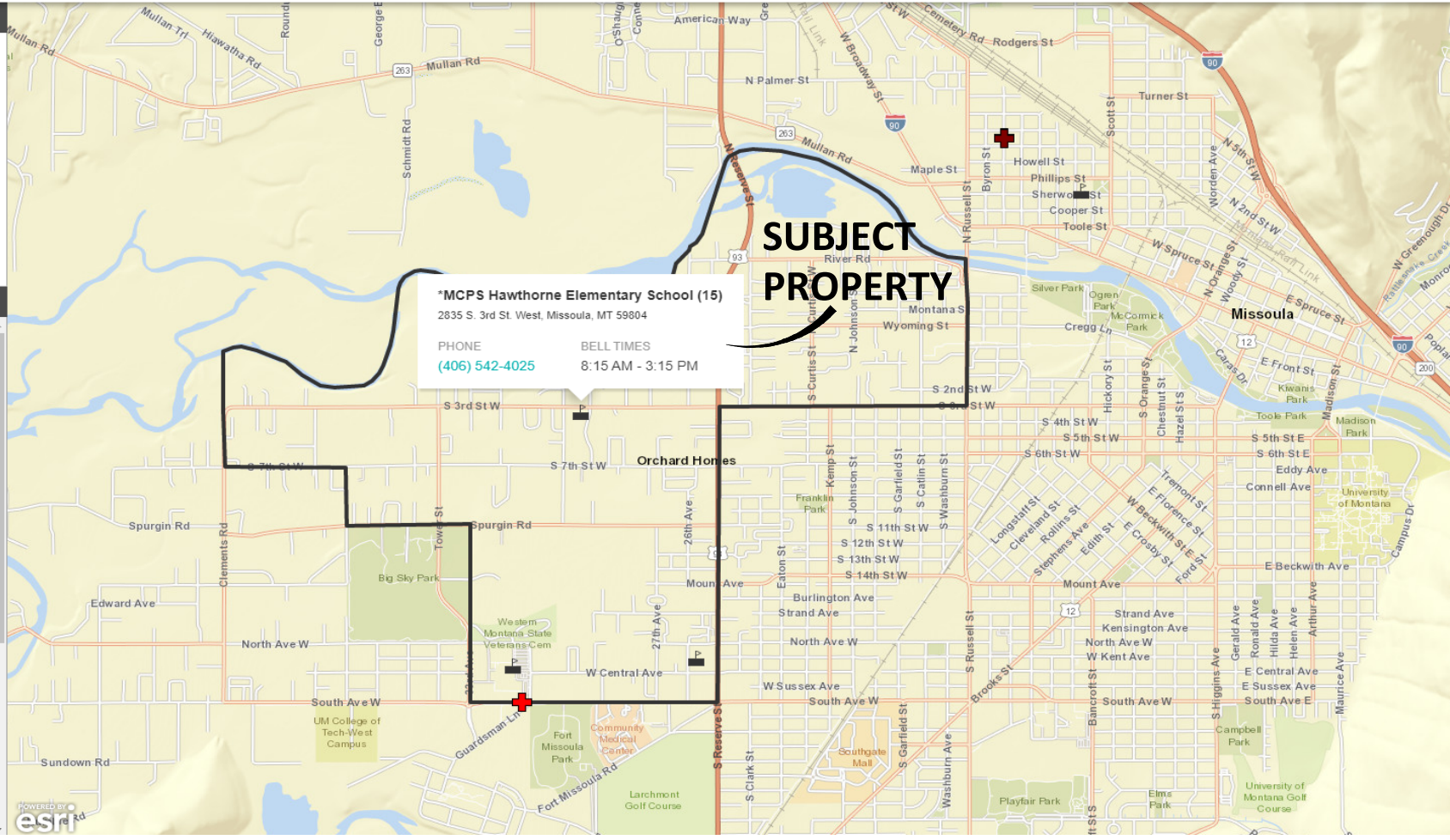
*MCPS C.S. Porter Middle School (6 - 8)
2510 W. Central Ave., Missoula, MT 59804

N GROVE ST & QUINN CT (Grades 6-8) 7:31 AM
Bus 216 | C.S.Porter MS RT #25 AM (6-...

N GROVE ST & QUINN CT (Grades 6-8) 3:12 PM
Bus 216 | C.S.Porter MS RT #25 PM (6-...

*MCPS Hawthorne Elementary School (K, 1 - 5)
2835 S. 3rd St. West, Missoula, MT 59804
SHOW ALL

S GROVE ST & LAURIE DR & BEAN LN 7:56 AM



Missoula County Public Schools

Bulletin | Contact Us

Search

2555 Bean Ln | 59804

All Grades and Schools

Search

Possible Matches (3)

- 2555 Bean Ln 1, 59804
- 2555 Bean Ln 2, 59804
- 2555 Beach St

Results for 2555 Bean Ln, 59804

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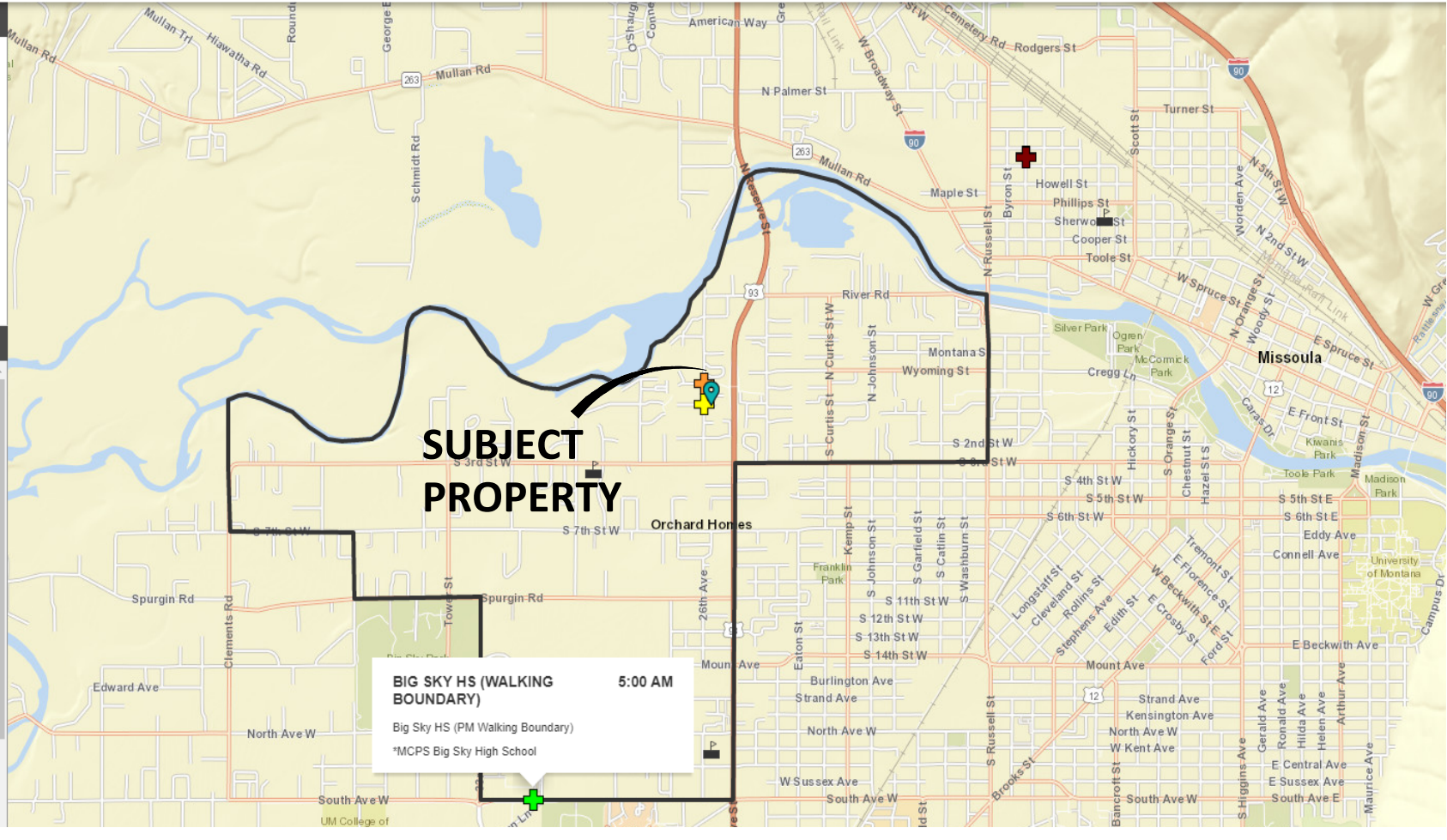
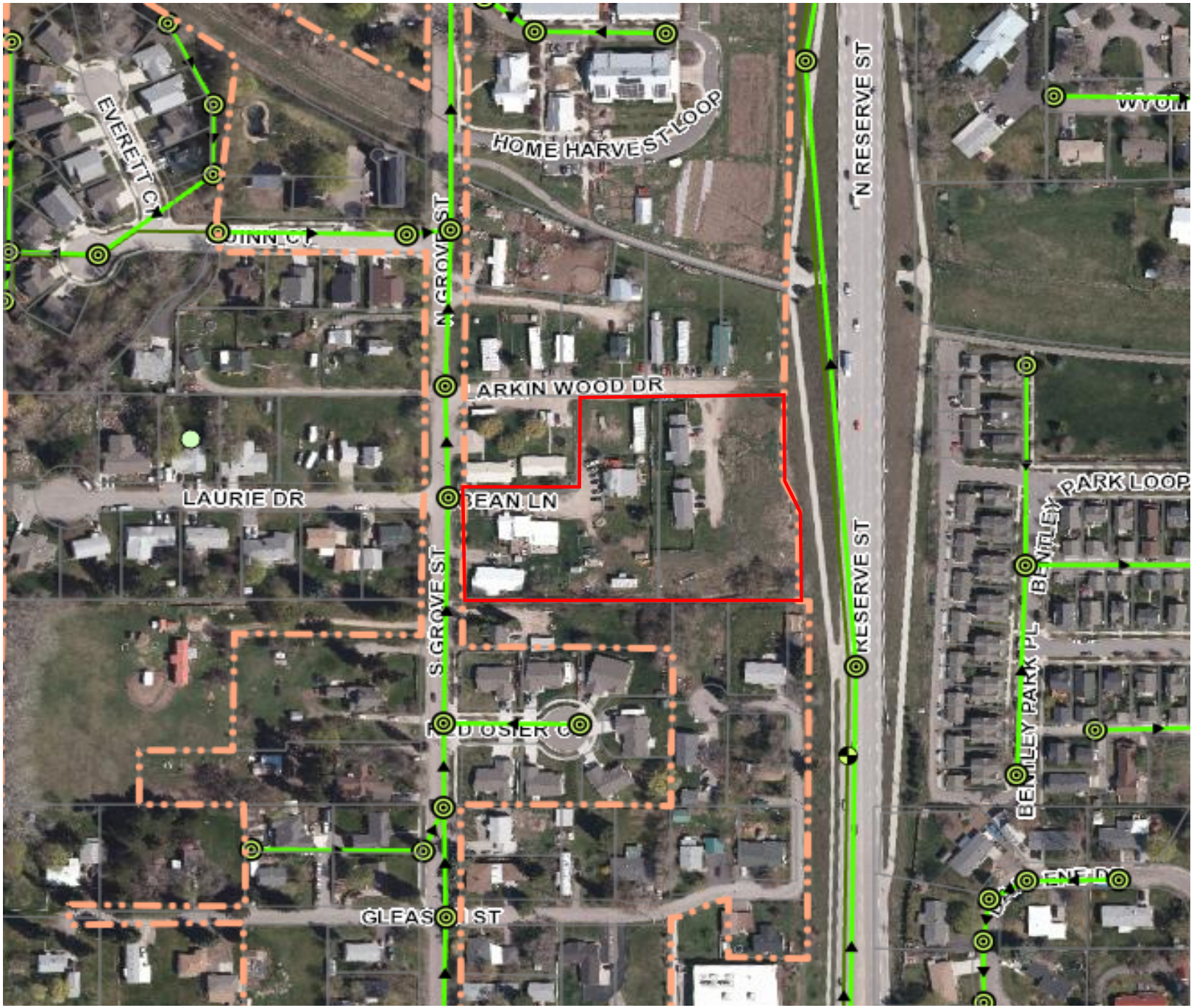
Bus 216 | C.S.Porter MS RT #25 AM (6-...

N GROVE ST & QUINN CT (Grades 6-8) 3:12 PM
Bus 216 | C.S.Porter MS RT #25 PM (6-...



ORCHARD GROVE SUBDIVISION: SEWER SERVICE LINE EXHIBIT



Sanitary System Valve
Owned By
City
Other

Sanitary Manhole
Owned By
City
Other

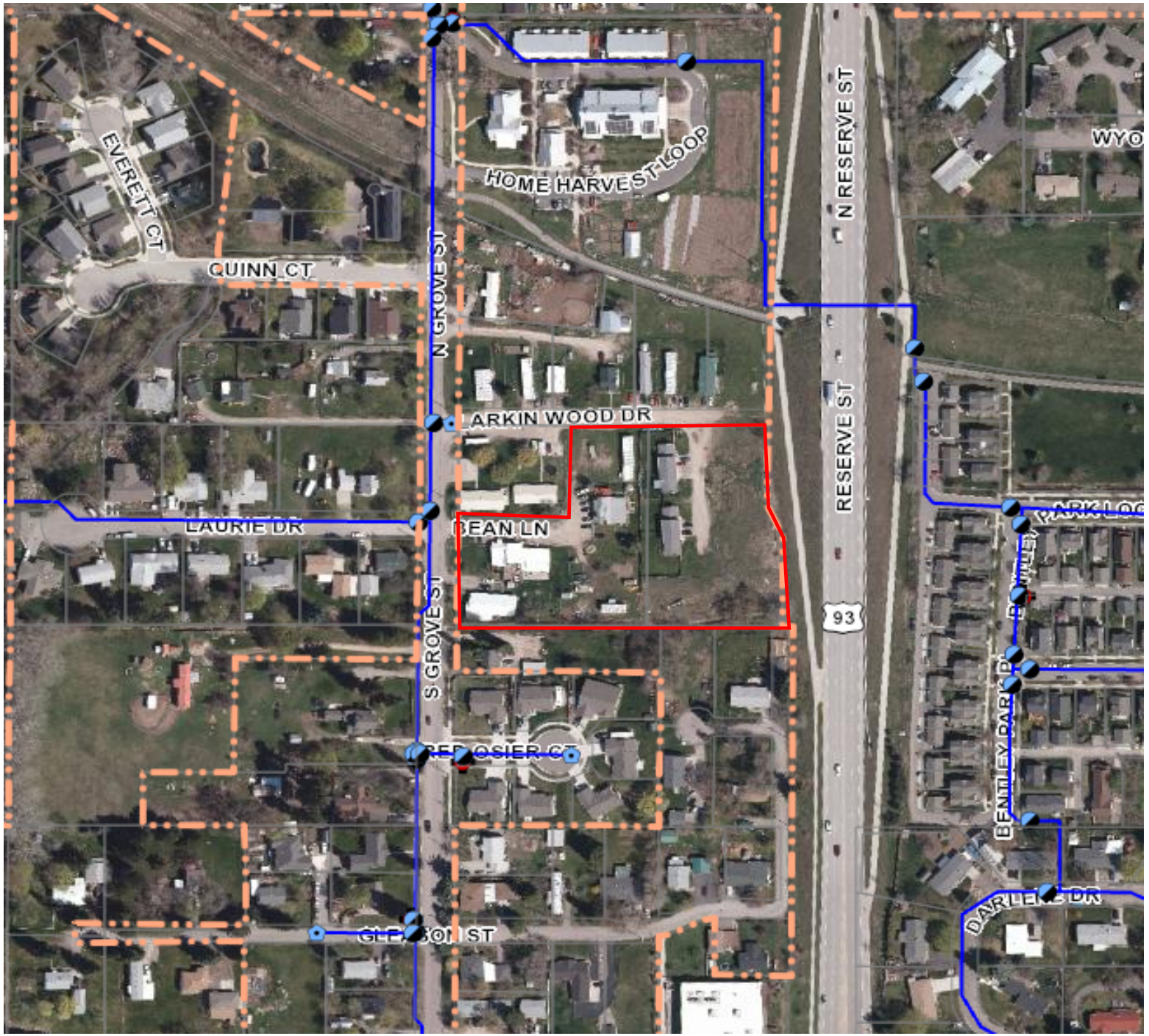
Sanitary STEP Tank
Owned By
City
Other

Sanitary Lift Station
Owned By
PS City
Other

Sanitary Gravity Main
Owned By
City
Other

Sanitary Pressurized Main
Owned By
City

ORCHARD GROVE SUBDIVISION: WATER SERVICE LINE EXHIBIT



Water Blowoff Valve

Owned By

- City
- Other

Water System Valve

Owned By

- City
- Other

Water Hydrant

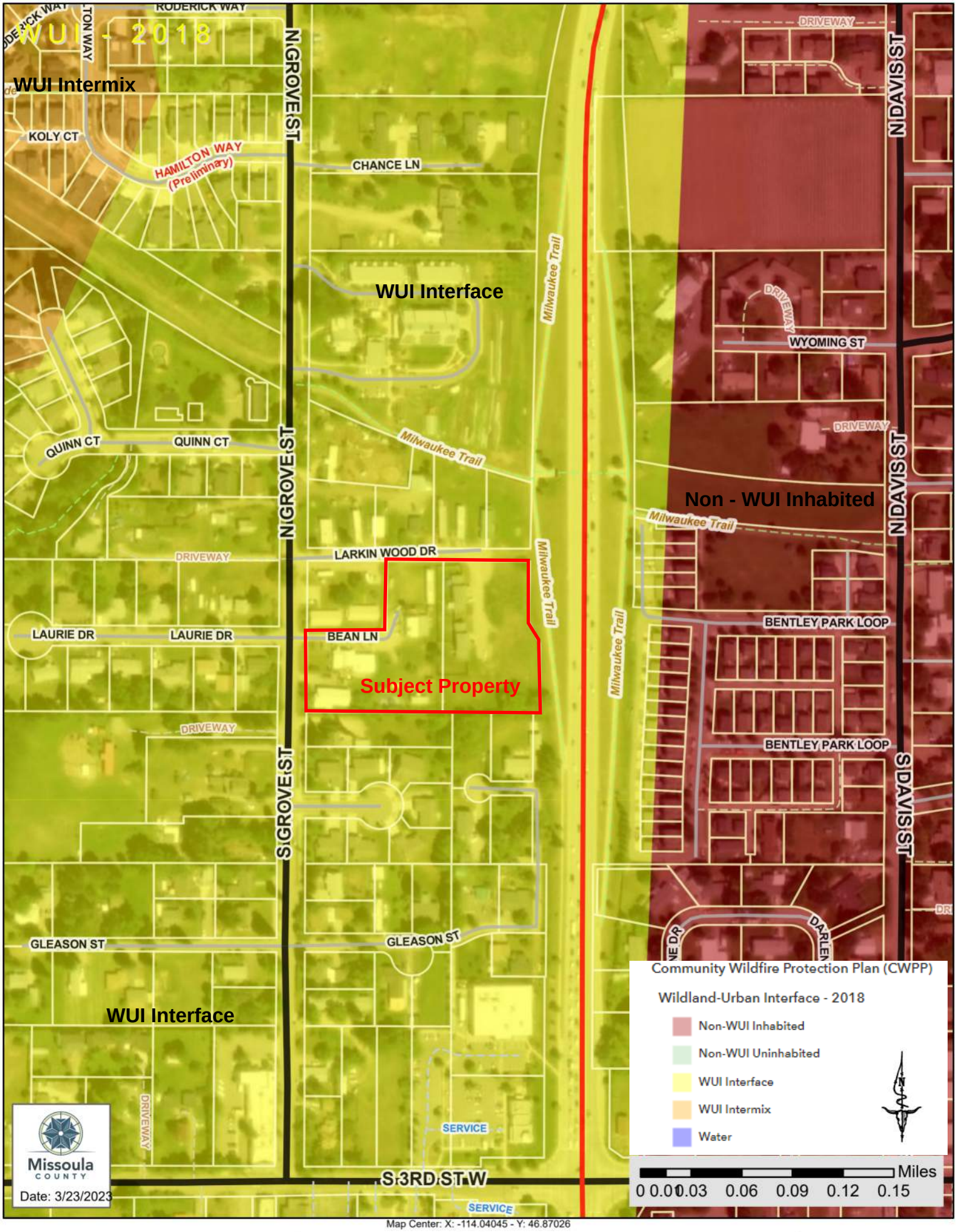
Owned By

- City
- Other

Water Main

Owned By

- City
- Other



Map Center: X: -114.04045 - Y: 46.87026

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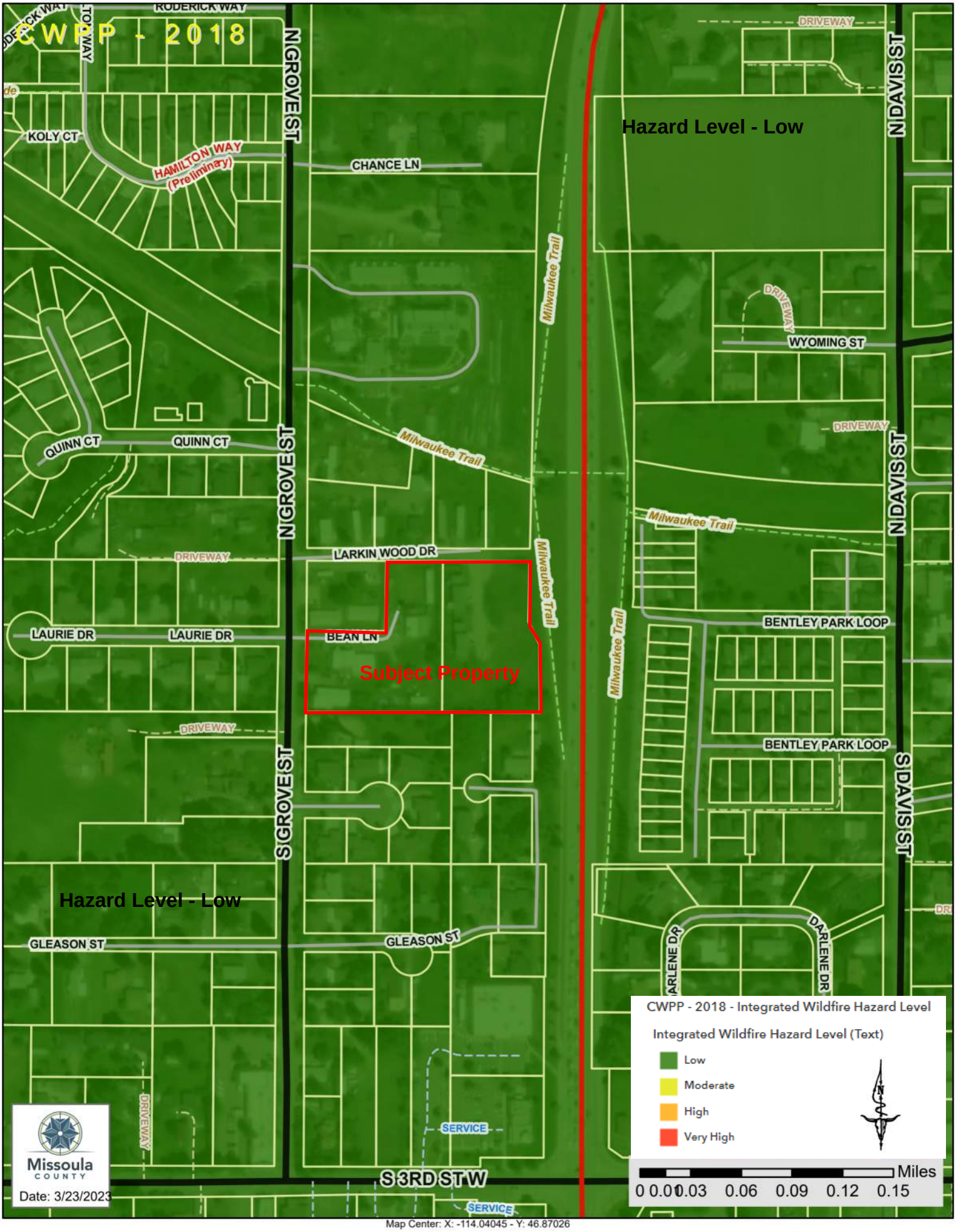

Map Center: X: -114.04045 - Y: 46.87026

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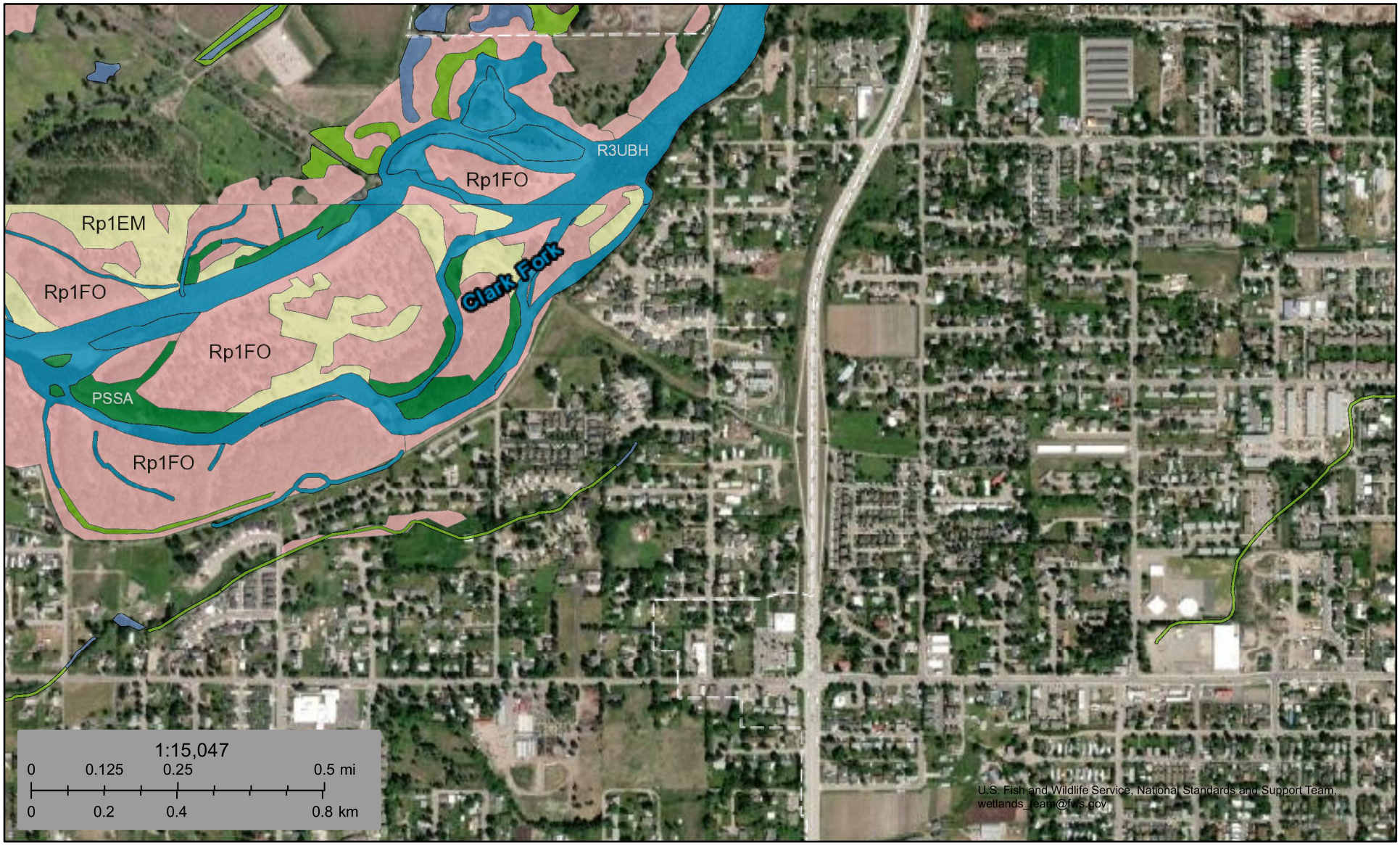
U.S. Fish and Wildlife Service
National Wetlands Inventory

National Wetlands Inventory - Map Exhibit



May 1, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Map Center: X: -114.04091 - Y: 46.87017

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Map Center: X: -114.04106 - Y: 46.87005

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Map Center: X: -114.04086 - Y: 46.87017

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GUARANTEE

Issued by **Commonwealth Land Title Insurance Company**

GUARANTEE NUMBER 44609-1-1087657-2023.81030-229842175

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE LIMITS OF LIABILITY AND THE CONDITIONS AND STIPULATIONS OF THIS GUARANTEE,

COMMONWEALTH LAND TITLE INSURANCE COMPANY

a corporation, herein called the Company

GUARANTEES

The Assured named in Schedule A against actual monetary loss or damage not exceeding the liability amount stated in Schedule A which the Assured shall sustain by reason of any incorrectness in the assurances set forth in Schedule A.

IN WITNESS WHEREOF, COMMONWEALTH LAND TITLE INSURANCE COMPANY, has caused its corporate name and seal to be hereunto affixed by its duly authorized officers, the Guarantee to become valid when countersigned by an authorized officer or agent of the Company.

COMMONWEALTH LAND TITLE INSURANCE COMPANY

Dated : March 29, 2023

Countersigned:

By: _____
Authorized Officer or Agent

SEAL

By:

ATTEST

President

Secretary

CLTA Guarantee Face Page (Rev. 12/15/95)
Form 1025-A

ORIGINAL

SCHEDULE OF EXCLUSIONS FROM COVERAGE OF THIS GUARANTEE:

1. **Except to the extent that specific assurances are provided in Schedule A of this Guarantee, the Company assumes no liability for loss or damage by reason of the following:**

(a) Defects, liens, encumbrances, adverse claims or other matters against the title, whether or not shown by the public records.

(b) (1) Taxes or assessments of any taxing authority that levies taxes or assessments on real property; or, (2) Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not the matters excluded under (1) or (2) are shown by the records of the taxing authority or by the public records.

(c) (1) Unpatented mining claims; (2) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (3) water rights, claims or title to water, whether or not the matters excluded under (1), (2) or (3) are shown by the public records.

2. **Notwithstanding any specific assurances which are provided in Schedule A of this Guarantee, the Company assumes no liability for loss or damage by reason of the following:**

(a) Defects, liens, encumbrances, adverse claims or other matters affecting the title to any property beyond the lines of the land expressly described in the description set forth in Schedule (A), (C) or in Part 2 of this Guarantee, or title to streets, roads, avenues, lanes, ways or waterways to which such land abuts, or the right to maintain therein vaults, tunnels, ramps or any structure or improvements; or any rights or easements therein, unless such property, rights or easements are expressly and specifically set forth in said description.

(b) Defects, liens, encumbrances, adverse claims or other matters, whether or not shown by the public records; (1) which are created, suffered, assumed or agreed to by one or more of the Assureds; (2) which result in no loss to the Assured; or (3) which do not result in the invalidity or potential invalidity of any judicial or non judicial proceeding which is within the scope and purpose of the assurances provided.

(c) The identity of any party shown or referred to in Schedule A.

(d) The validity, legal effect or priority of any matter shown or referred to in this Guarantee.

GUARANTEE CONDITIONS AND STIPULATIONS

1. Definition of Terms.

The following terms when used in the Guarantee mean:

(a) the "Assured": the party or parties named as the Assured in this Guarantee, or on a supplemental writing executed by the Company.

(b) "land": the land described or referred to in Schedule (A)(C) or in Part 2, and improvements affixed thereto which by law constitute real property. The term "land" does not include any property beyond the lines of the area described or referred to in Schedule (A)(C) or in Part 2, nor any right, title, interest, estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways.

(c) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(d) "public records": records established under state statutes at Date of Guarantee for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge.

(e) "date": the effective date.

2. Notice of Claim to be Given by Assured Claimant.

An Assured shall notify the Company promptly in writing in case knowledge shall come to an Assured hereunder of any claim of title or interest which is adverse to the title to the estate or interest, as stated herein, and which might cause loss or damage for which the Company may be liable by virtue of this Guarantee. If prompt notice shall not be given to the Company, then all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of any Assured under this Guarantee unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

3. No Duty to Defend or Prosecute.

The Company shall have no duty to defend or prosecute any action or proceeding to which the Assured is a party, notwithstanding the nature of any allegation in such action or proceeding.

4. Company's Option to Defend or Prosecute Actions; Duty of Assured Claimant to Cooperate.

Even though the Company has no duty to defend or prosecute as set forth in Paragraph 3 above:

(a) The Company shall have the right, at its sole option and cost, to institute and prosecute any action or proceeding, interpose a defense, as limited in (b), or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest as stated herein, or to establish the lien rights of the Assured, or to prevent or reduce loss or damage to the Assured. The Company may take any appropriate action under the terms of this Guarantee, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this Guarantee. If the Company shall exercise its rights under this paragraph, it shall do so diligently.

(b) If the Company elects to exercise its options as stated in Paragraph 4(a) the Company shall have the right to select counsel of its choice (subject to the right of such Assured to object for reasonable cause) to represent the Assured and shall not be liable for and will not pay the fees of any other counsel, nor will the Company pay any fees, costs or expenses incurred by an Assured in the defense of those causes of action which allege matters not covered by this Guarantee.

(c) Whenever the Company shall have brought an action or interposed a defense as permitted by the provisions of this Guarantee, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from an adverse judgment or order.

(d) In all cases where this Guarantee permits the Company to prosecute or provide for the defense of any action or proceeding, an Assured shall secure to the Company the right to so prosecute or provide for the defense of any action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of such Assured for this purpose. Whenever requested by the Company, an Assured, at the Company's expense, shall give the Company all reasonable aid in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or lawful act which in the opinion of the Company may be necessary or desirable to establish the title to the estate or interest as stated herein, or to establish the lien rights of the Assured. If the Company is prejudiced by the failure of the Assured to furnish the required cooperation, the Company's obligations to the Assured under the Guarantee shall terminate.

5. Proof of Loss or Damage.

In addition to and after the notices required under Section 2 of these Conditions and Stipulations have been provided to the Company, a proof of loss or damage signed and sworn to by the Assured shall be furnished to the Company within ninety (90) days after the Assured shall ascertain the facts giving rise to the loss or damage. The proof of loss or damage shall describe the matters covered by this Guarantee which constitute the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage. If the Company is prejudiced by the failure of the Assured to provide the required proof of loss or damage, the Company's obligation to such Assured under the Guarantee shall terminate. In addition, the Assured may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Guarantee, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the Assured shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage. All information designated as confidential by the Assured provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of the Assured to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in the above paragraph, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this Guarantee to the Assured for that claim.

6. Options to Pay or Otherwise Settle Claims: Termination of Liability.

In case of a claim under this Guarantee, the Company shall have the following additional options:

(a) To Pay or Tender Payment of the Amount of Liability or to Purchase the Indebtedness.

The Company shall have the option to pay or settle or compromise for or in the name of the Assured any claim which could result in loss to the Assured within the coverage of this Guarantee, or to pay the full amount of this Guarantee or, if this Guarantee is issued for the benefit of a holder of a mortgage or a lienholder, the Company shall have the option to purchase the indebtedness secured by said mortgage or said lien for the amount owing thereon, together with any costs, reasonable attorneys' fees and expenses incurred by the Assured claimant which were authorized by the Company up to the time of purchase.

Such purchase, payment or tender of payment of the full amount of the Guarantee shall terminate all liability of the Company hereunder. In the event after notice of claim

has been given to the Company by the Assured the Company offers to purchase said indebtedness, the owner of such indebtedness shall transfer and assign said indebtedness, together with any collateral security, to the Company upon payment of the purchase price.

Upon the exercise by the Company of the option provided for in Paragraph (a) the Company's obligation to the Assured under this Guarantee for the claimed loss or damage, other than to make the payment required in that paragraph, shall terminate, including any obligation to continue the defense or prosecution of any litigation for which the Company has exercised its options under Paragraph 4, and the Guarantee shall be surrendered to the Company for cancellation.

(b) To Pay or Otherwise Settle With Parties Other Than the Assured or With the Assured Claimant.

To pay or otherwise settle with other parties for or in the name of an Assured claimant any claim assured against under this Guarantee, together with any costs, attorneys' fees and expenses incurred by the Assured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay.

Upon the exercise by the Company of the option provided for in Paragraph (b) the Company's obligation to the Assured under this Guarantee for the claimed loss or damage, other than to make the payment required in that paragraph, shall terminate, including any obligation to continue the defense or prosecution of any litigation for which the Company has exercised its options under Paragraph 4.

7. Determination and Extent of Liability.

This Guarantee is a contract of Indemnity against actual monetary loss or damage sustained or incurred by the Assured claimant who has suffered loss or damage by reason of reliance upon the assurances set forth in this Guarantee and only to the extent herein described, and subject to the Exclusions From Coverage of This Guarantee.

The liability of the Company under this Guarantee to the Assured shall not exceed the least of:

(a) the amount of liability stated in Schedule A or in Part 2;

(b) the amount of the unpaid principal indebtedness secured by the mortgage of an Assured mortgagee, as limited or provided under Section 6 of these Conditions and Stipulations or as reduced under Section 9 of these Conditions and Stipulations, at the time the loss or damage assured against by this Guarantee occurs, together with interest theron; or

(c) the difference between the value of the estate or interest covered hereby as stated herein and the value of the estate or interest subject to any defect, lien or encumbrance assured against by this Guarantee.

8. Limitation of Liability.

(a) If the Company establishes the title, or removes the alleged defect, lien or encumbrance, or cures any other matter assured against by this Guarantee in a reasonably diligent manner by any method, including litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.

(b) In the event of any litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title, as stated herein.

(c) The Company shall not be liable for loss or damage to any Assured for liability voluntarily assumed by the Assured in settling any claim or suit without the prior written consent of the Company.

9. Reduction of Liability or Termination of Liability.

All payments under this Guarantee, except payments made for costs, attorneys' fees and expenses pursuant to Paragraph 4 shall reduce the amount of liability pro tanto.

10. Payment of Loss.

(a) No payment shall be made without producing this Guarantee for endorsement of the payment unless the Guarantee has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.

(b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions and Stipulations, the loss or damage shall be payable within thirty (30) days thereafter.

11. Subrogation Upon Payment or Settlement.

Whenever the Company shall have settled and paid a claim under this Guarantee, all right of subrogation shall vest in the Company unaffected by any act of the Assured claimant.

The Company shall be subrogated to and be entitled to all rights and remedies which the Assured would have had against any person or property in respect to the claim had this Guarantee not been issued. If requested by the Company, the Assured shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The Assured shall permit the Company to sue, compromise or settle in the name of the Assured and to use the name of the Assured in any transaction or litigation involving these rights or remedies.

If a payment on account of a claim does not fully cover the loss of the Assured the Company shall be subrogated to all rights and remedies of the Assured after the Assured shall have recovered its principal, interest, and costs of collection.

12. Arbitration.

Unless prohibited by applicable law, either the Company or the Assured may demand arbitration pursuant to the Title Insurance Arbitration Rules of the American Arbitration Association. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the Assured arising out of or relating to this Guarantee, any service of the Company in connection with its issuance or the breach of a Guarantee provision or other obligation. All arbitrable matters when the Amount of Liability is $1,000,000 or less shall be arbitrated at the option of either the Company or the Assured. All arbitrable matters when the amount of liability is in excess of $1,000,000 shall be arbitrated only when agreed to by both the Company and the Assured. The Rules in effect at Date of Guarantee shall be binding upon the parties. The award may include attorneys' fees only if the laws of the state in which the land is located permits a court to award attorneys' fees to a prevailing party. Judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.

The law of the situs of the land shall apply to an arbitration under the Title Insurance Arbitration Rules.

A copy of the Rules may be obtained from the Company upon request.

13. Liability Limited to This Guarantee; Guarantee Entire Contract.

(a) This Guarantee together with all endorsements, if any, attached hereto by the Company is the entire Guarantee and contract between the Assured and the Company. In interpreting any provision of this Guarantee, this Guarantee shall be construed as a whole.

(b) Any claim of loss or damage, whether or not based on negligence, or any action asserting such claim, shall be restricted to this Guarantee.

(c) No amendment of or endorsement to this Guarantee can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

14. Notices, Where Sent.

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this Guarantee and shall be addressed to: Consumer Affairs Department, P.O. Box .45023, Jacksonville, Florida 32232-5023.

GUARANTEE

Issued by

Commonwealth Land Title Insurance Company

Commonwealth Land Title Insurance Company
P.O. Box 45023
Jacksonville, Florida 32232-5023

SCHEDULE A

SUBDIVISION GUARANTEE

GUARANTEE NO.: **44609-1-1087657-2023.81030-229842175** LIABILITY: **$10,000.00**

FILE NO: **1087657-IT** FEE: **$150.00**

YOUR REFERENCE:

1. Name of Assured: County of Missoula and the City of Missoula in the State of Montana.

2. Date of Guarantee: March 29, 2023 at 7:30 A.M.

3. Title to said estate or interest at the date hereof is vested in:

   Robert M. Bean and Evelyn C. Bean, as to Parcel I; and
   Collin K. Bangs, as to a undivided 75.4% interest and John Barrett and John David Barrett, as to an undivided 24.6% interest, as to Parcel II

4. The estate or interest in the land hereinafter described or referred to covered by this Guarantee is:

   Fee Simple

5. The land referred to in this Guarantee is situated in the State of **Montana**, County of **Missoula**, and is described as follows:

Parcel I:

A tract of land being a portion of Lot 42, COBBAN AND DINSMORE'S ORCHARD HOMES, a recorded subdivision of Missoula County, Montana, located in the Northeast one-quarter of the Southeast one-quarter of Section 19, Township 13 North, Range 19 West, Principal Meridian, Montana, Missoula County, Montana, more particularly described as follows: Beginning at the Northwest corner of Lot 42 Cobban and Dinsmore's Orchard Homes; thence N.89°12'15"E., 483.32 feet along the North line of Lot 42 to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way; thence S.11°54'13"E., 101.98 feet along said West right-of-way line; thence S.00°35'35"E., 146.84 feet along said west right-of-way to a point on the South line of Lot 42 Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W., 503.93 feet to the Southwest corner of said Lot 42; thence N.00°29'00"W., 173.89 feet along the West line of said lot 42 to the Southwest corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.89°12'15"E., 170.00 feet to the Southeast corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.00°29'00"W., 123.00 feet to the Northeast corner of that tract recorded in Book 237 of Deeds at Page 492; thence S.89°12'15"W., 170.00 feet to the Northwest corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.00°29'00"W., 27.00 feet along the West line of Cobban and Dinsmore's Orchard Homes to the point of beginning.

SAVING AND EXCEPTING THEREFROM
A tract of land being a portion of Lot 42 of Cobban and Dinsmore's Orchard Homes, a recorded subdivision of Missoula County, Montana, located in the Northeast one-quarter of the Southeast one-quarter of Section 19, Township 13 North, Range 19 West, Principal

Meridian, Montana, Missoula County, Montana, more particularly described as follows: Beginning at the Northwest corner of Lot 42 Cobban and Dinsmore's Orchard Homes; thence N. 89°12'15"E., 289.99 feet along the North line of said Lot 42 to the true point of beginning; thence continuing N.89°12'15"E., along the North line of said Lot 42 a distance of 193.33 feet to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way; thence S.11°54'13E"., 101.98 feet along said West right-of-way line; thence S.00°35'35"E., 146.84 feet along said West right-of-way to a point on the South line of Lot 42 Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W., 212.18 feet; thence N.00°47'45"W., 323.55 feet to the true point of beginning.
Recording Reference Book 497 of Micro Records at Page 19.

FURTHER EXCEPTING Portion A of Cobban Dinsmore's Orchard Homes Lot 42, a platted subdivision in Missoula County, Montana, according to the official recorded plat in Book 19 at Page 82 of Plats, recorded in Book 494 at Page 2010 Micro Records.

Recording Reference Book 996 at Page 1389 Micro Records.

Parcel II:

A tract of land being a portion of Lot 42 of Cobban and Dinsmore's Orchard Homes, a recorded subdivision of Missoula County, Montana, located in the Northeast one-quarter of the Southeast one-quarter of Section 19, Township 13 North, Range 19 West, Principal Meridian, Montana, Missoula County, Montana, more particularly described as follows: Beginning at the Northwest corner of Lot 42 Cobban and Dinsmore's Orchard Homes; thence N. 89°12'15"E., 289.99 feet along the North line of said Lot 42 to the true point of beginning; thence continuing N.89°12'15"E., along the North line of said Lot 42 a distance of 193.33 feet to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way; thence S.11°54'13E"., 101.98 feet along said West right-of-way line; thence S.00°35'35"E., 146.84 feet along said West right-of-way to a point on the South line of Lot 42 Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W., 212.18 feet; thence N.00°47'45"W., 323.55 feet to the true point of beginning.

Recording Reference Book 732 at Page 1436 Micro Records.

To be known as: LARKENWOOD SUBDIVISION

6. The assurances referred to on the face page hereof are: According to the public records the title to the herein described estates or interest was vested in the vestee named in paragraph 3 subject to the matters shown in Exceptions in Schedule B, which Exceptions are not necessarily shown in the order of their priority.

SCHEDULE B

SUBDIVISION GUARANTEE

Guarantee No.: 44609-1-1087657-2023.81030-229842175

EXCEPTIONS

1. Encroachments or questions of location, boundary and area, which an accurate survey may disclose; public or private easements, streets, roads, alleys or highways, unless disclosed of record by recorded Plat or conveyance, or decree of a Court of record; rights or claims of persons in possession, or claiming to be in possession, not disclosed by the public records; material or labor liens or liens under the Workmen's Compensation Act not disclosed by the public records; any service, installation or construction charges for sewer, water, electricity, or garbage collection and disposal.

2. Reservations and exceptions in United States Patents or in Acts authorizing the issuance thereof; right of use, control or regulation by the United States of America in the exercise of powers over navigation; any prohibition or limitation on the use, occupancy or improvement of the land resulting from the rights of the public or riparian owners to use any waters which may cover the land or to use any portion of the land which is now or may formerly have been covered by water, water rights or matters relating thereto.

3. General taxes not now payable; matters relating to special assessments and special levies, if any, preceding the same becoming a lien.

4. 2023 taxes and special assessments are an accruing lien, amounts not yet determined or payable.

   The first one-half becomes delinquent after November 30th of the current year, the second one-half becomes delinquent after May 31st of the following year.

   General taxes as set forth below. Any amounts not paid when due will accrue penalties and interest in addition to the amount stated herein:

Year	First Half / Status	Second Half / Status	Parcel Number	Covers
2022	$4,332.97 Paid	$4,281.07 Payable	1848102	Parcel I
2022	$3,820.73 Paid	$3,786.12 Paid	6001157	Parcel II

5. Provisions, conditions, easements and special assessments of the Missoula Irrigation District and Missoula Water Quality District.

6. Provisions, conditions, easements and special assessments of the Missoula Urban Transportation District.

7. Deed of Trust, to secure an original indebtedness of $413,000.00, dated February 19, 2020 and any other amounts and/or obligations secured thereby
   Recorded: February 28, 2020, Book 1026 at Page 1034 Micro Records
   Grantor: Robert M. Bean and Evelyn C. Bean
   Trustee: WFG National Title Insurance Company
   Beneficiary: LOANDEPORT.COM, LLC

8. Reservations, covenants, conditions, restrictions, provisions and easements contained in deed recorded in Book No. 22 of Deeds at Page 211, but omitting any covenant, condition or restriction based on race, color, religion, sex, handicap, familial status, or national origin to the extent that such covenants, conditions or restrictions violate 42 USC 3604(c).

9. Terms, conditions, reservations, restrictions and provisions contained in deed recorded September 16, 1905 in Book 35 at Page 507 Deed Records.

10. Agreement upon the terms, conditions and provisions contained therein:
Parties: Elwin N. and Estle M. Johnson and Herbert R. and Roxy J. Bluhm
Recorded: November 10, 1964
Book/Page: Book No. 9 of Contracts and Agreements at Page 303

11. Easement for gas pipeline granted to The Montana Power Company, recorded June 10, 1977 in Book 98 of Micro Records, Page 623.

12. Easement for right-of-way for ingress and egress granted to Lynn A. Wright and Connie Wright, recorded September 2, 1977 in Book 103 of Micro Records, Page 678.

13. Easement for constructing and maintaing a water ditch granted to Orchard Homes Ditch Company, recorded May 8, 1979 in Book 139 of Micro Records, Page 191.

14. Easement for natural gas pipeline, communications system and ingress and egress granted to The Montana Power Company, recorded June 7, 1999 in Book 585 of Micro Records, Page 190.

15. Unrecorded leaseholds; rights of parties in possession, rights of secured parties, vendors and vendees under conditional sales contracts of personal property installed on the premises herein, and rights of tenants to remove trade fixtures.

FIDELITY NATIONAL FINANCIAL
PRIVACY NOTICE

Effective August 1, 2021

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF", "our" or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

A limited number of FNF subsidiaries have their own privacy notices. If a subsidiary has its own privacy notice, the privacy notice will be available on the subsidiary's website and this Privacy Notice does not apply.

Collection of Personal Information

FNF may collect the following categories of Personal Information:

- contact information (e.g., name, address, phone number, email address);
- demographic information (e.g., date of birth, gender, marital status);
- identity information (e.g. Social Security Number, driver's license, passport, and other government ID number);
- financial account information (e.g. loan or bank account information); and
- other personal information necessary to provide products or services to you.

We may collect Personal Information about you from:

- information we receive from you or your agent;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental agencies, either directly from these entities or through others.

Collection of Browsing Information

FNF automatically collects the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A Cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to unaffiliated third-party websites. FNF is not responsible for the privacy practices or content of those websites. We recommend that you read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and others' products and services, jointly or independently.

When Information Is Disclosed

We may disclosure your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;
- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such a disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law. We may share Personal Information with affiliates (other companies owned by FNF) to directly market to you. Please see "Choices with Your Information" to learn how to restrict that sharing.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Security of Your Information

We maintain physical, electronic, and procedural safeguards to protect your Personal Information.

Choices With Your Information

If you do not want FNF to share your information among our affiliates to directly market to you, you may send an "opt out" request as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you without your consent.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law. For additional information about your California privacy rights, please visit the "California Privacy" link on our website (https://fnf.com/pages/californiaprivacy.aspx) or call (888) 413-1748.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 714-2710 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.

For Oregon Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children

The FNF Websites are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users

FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

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By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The Privacy Notice's effective date will show the last date changes were made. If you provide information to us following any change of the Privacy Notice, that signifies your assent to and acceptance of the changes to the Privacy Notice.

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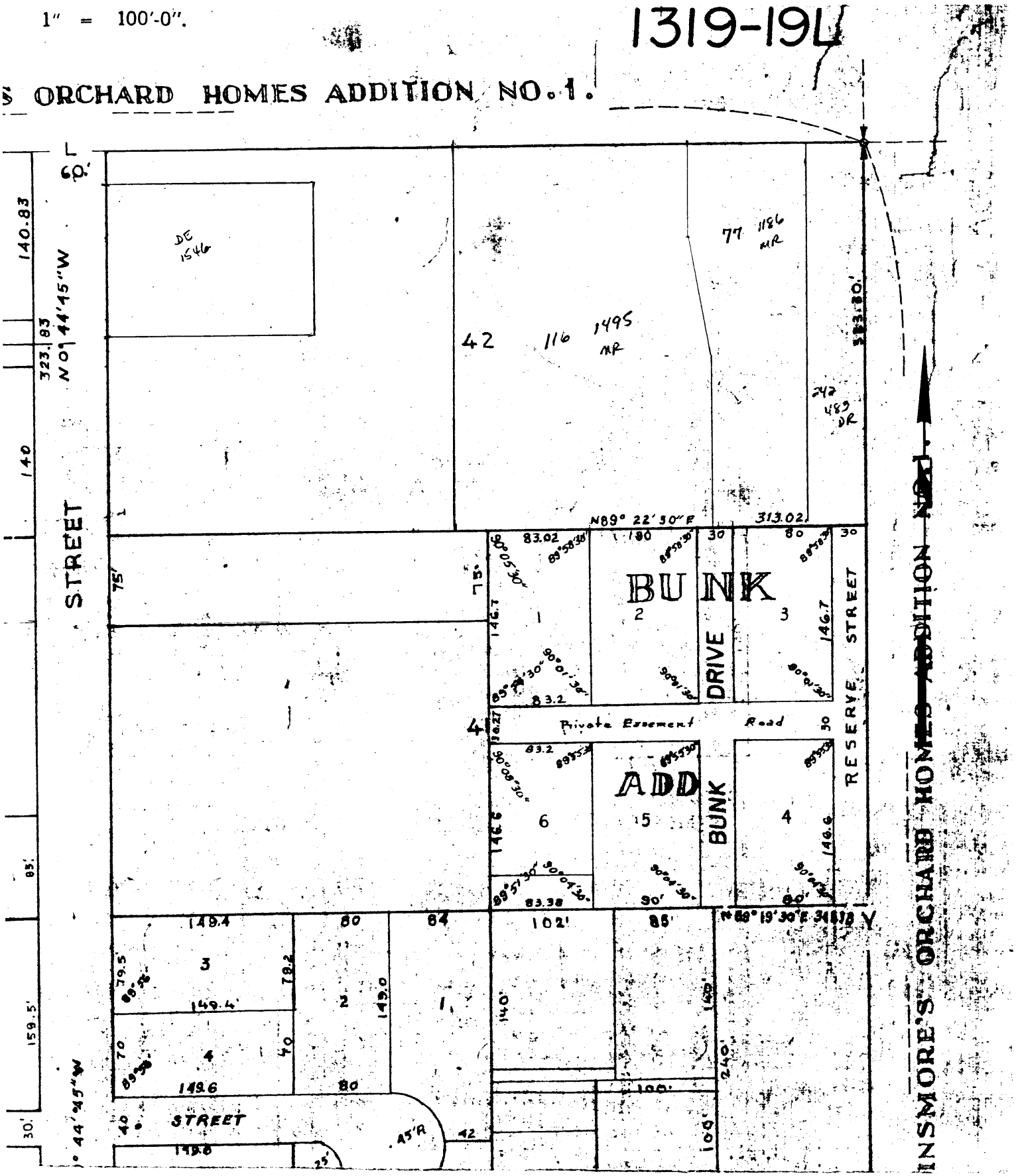
If you have questions, would like to correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, visit FNF's Opt Out Page or contact us by phone at (888) 714-2710 or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

1" = 100'-0".

1319-194

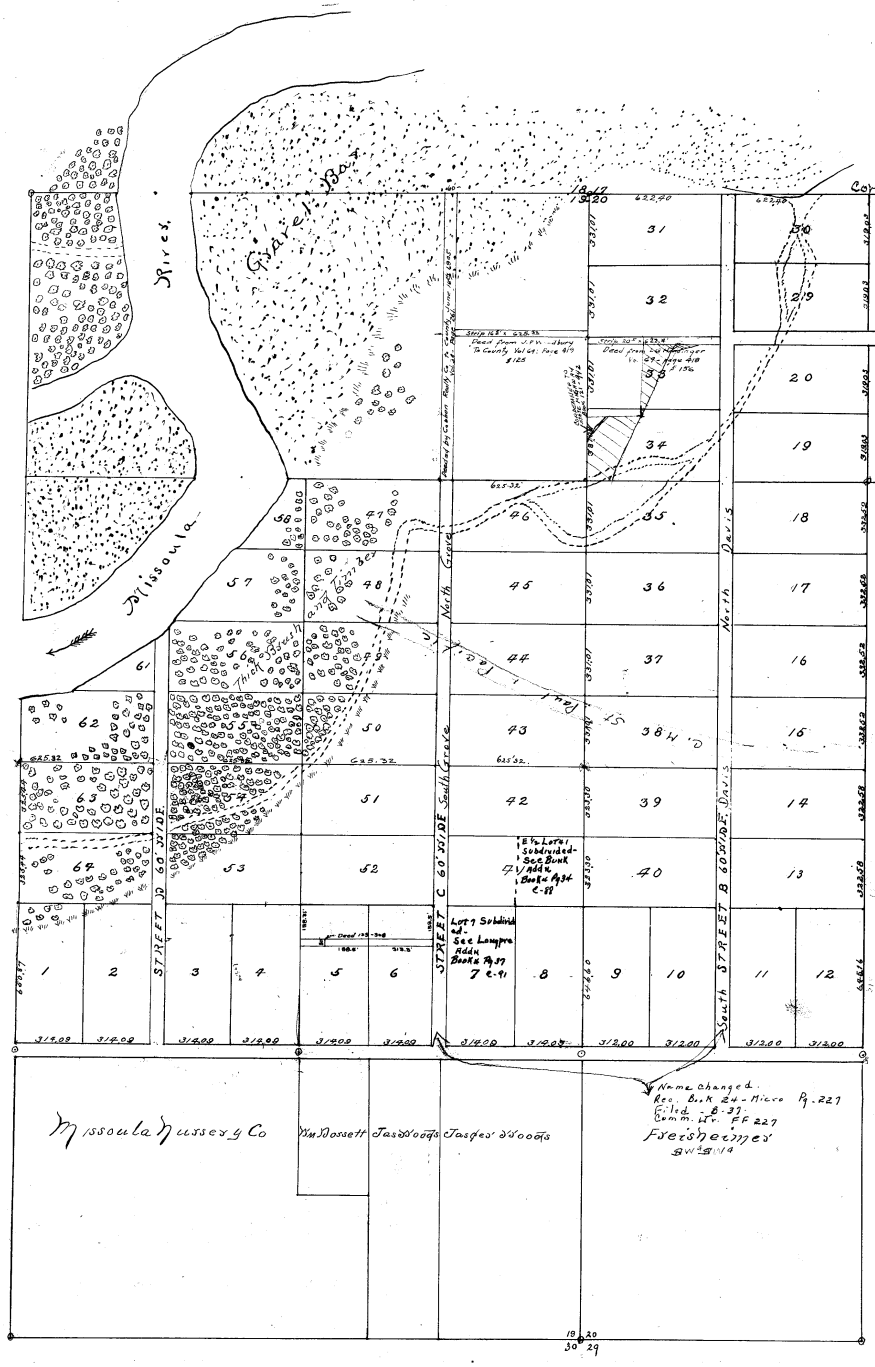


This sketch is provided, without charge, for your information. It is not intended to show all matters related to the property including, but not limited to, area, dimensions, easements, encroachments, or location of boundaries. It is not a part of, nor does it modify, the Commitment of Policy to which it is attached. The Company assumes **NO LIABILITY** for any matters related to this sketch. Reference should be made to an accurate survey for further information.

COBBAN & DINSMORE'S
ORCHARD HOMES.

IN 5 ACRE TRACTS.

AT MISSOULA, MONTANA.
SCALE 300 FT. = 1 IN.



STATE OF MONTANA }
County of Missoula } ss

A W Catlin, Being first duly Sworn Says That he is the Engineer who Laid out Subdivision Tobe Known and Plat hereof Was Made by Missoula County, Montana, That the annexed Plat is a Correct Representation and Delineation, and that the said Addition is Laid out According to the Plan, and That the Width of the Streets and Measurements of the Lots and the Spaces for Reference Hereto are Correctly Represented on said Plan.

A W Catlin

Subscribed and Sworn to before me this 21 day of February in the year of Our Lord One Thousand and Nine Hundred

Geo Byron Fields
Notary Public in and for the County of Missoula Montana

Seal

State of Montana }
County of Silver Bow } ss

We Andrew J. Davis and Helen M. Davis do hereby Certify that we have Caused A Survey to be Made and Platted in Blocks, Streets and Alleys as shown by the Plan and Certificate of Survey hereto annexed the following Tract of Land to Wit:

The South Half of the Northeast Quarter and North Half of the Southeast Quarter of Section Twenty (20), The North Half of the Southwest Quarter, The South West Quarter of the Northwest Quarter and the Northwest Quarter of the Southwest Quarter of Section Twenty (20) Township Thirteen (13) North Range Twenty (20) West Montana Meridian

To be known as Cobban and Dinsmores Orchard Homes, and the Streets and Alleys shown on Annexed Plan to be and hereby are granted and dedicated to the use of the Public forever.

Andrew J Davis
Helen M Davis

Subscribed and Sworn to before me This 26th Day of February in the year of Our Lord One Thousand and Nine Hundred

Geo T Dutton
Notary Public in and for Silver Bow County Montana

Seal

State of Montana }
County of Missoula } ss

I hereby Certify that the foregoing instrument was Filed in my Office on the 27th Day of February A.D. 1900 at 9 O'clock A.M. and recorded on Page 116 of Plats of the Records of Missoula County.

A. J. Stevens
Clerk and Recorder of Missoula County Montana

Seal

This plat is hereby approved this 5th day of March A.D. 1900.

A P Fietzen
W B Russell
J R Latimer
County Commissioners Missoula County Montana

STATE OF MONTANA }
County of Missoula } ss. SURVEYOR'S CERTIFICATE

I, R H Hoss, on my oath deposes and says: That I did examine, more or less, and that the above plat was compared and that the same is a true, full and correct copy of the original.

Compared this 21st day of January A.D. 1905

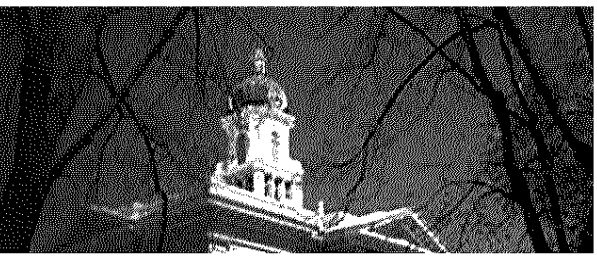
ATTEST:

Subscribed and sworn to before me this 1st day of June 1905

Notary Public in and for Missoula County, Montana

48 Book1

Missoula County iTax



Shopping Cart: 0 items [$0.00]

New Search | History | Payoff | PayTaxes | Help

Parcel Number: 6001157

Status: Current

Receipt: 48544

2022 Owner(s):
BANGS COLLIN K
BARRETT JOHN DAVID
BARRETT JOHN

Mailing Address:
4607 NORTH AVE W
MISSOULA, MT 598045027

Levy District:
1.5, MSLA RURAL FIRE, TRANSP

2022 Value:

Market: $644,800
Taxable: $8,705

Detail

2022 Taxes:

View Pie Charts

First Half: $3,820.73 **Due:** 11/30/2022
Second Half: $3,786.12 **Due:** 5/31/2023
Total: $7,606.85

Show Current Tax Bill

Detail

2022 Payments:

First Half: $3,820.73
Second Half: $3,786.12
Total: $7,606.85

(May include penalty & interest)

2022 Legal Records:

Geo Code: 04-2200-19-1-10-01-0000 **Deed Book:** 1012 **Page:** 99 **Date:** 2019-05-09

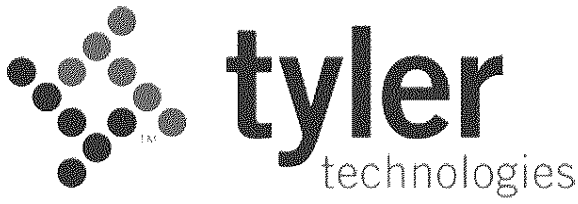
Property address: 2505 LARKIN WOOD DR, MISSOULA MT 59804
Subdivision: (C1D) COBBAN DINS OR HOMES NO 1 **Lot:** 042
TRS: T13 N, R19 W, Sec. 19
Legal: COBBAN & DINSMORE'S ORCHARD HOMES # 1,
S19, T13 N, R19 W, Lot 042, ACRES 1.52,
PT OF LOT 42 LESS PT SOLD LESS R/W
Acres: 1.52

Note: The accuracy of this data is not guaranteed. Property Tax data was last updated 03/28/2023 10:00 AM.

If you are sending your payments in by mail, address them To:

Missoula County
200 W Broadway
Missoula, MT 59802

Include Taxpayer ID with payments.



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Shopping Cart: 0 items [$0.00]

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Parcel Number: 1848102

Status: Current

Receipt: 13615

2022 Owner(s):
BEAN ROBERT M
BEAN EVEYLN C

Mailing Address:
2555 BEAN LN
MISSOULA, MT 598041306

Levy District:
1.5, MSLA RURAL FIRE, TRANSP

2022 Value:

Market: $742,400
Taxable: $10,023

Detail

2022 Taxes:

View Pie Charts

First Half: $4,332.97 **Due:** 11/30/2022
Second Half: $4,281.07 **Due:** 5/31/2023
Total: $8,614.04

Show Current Tax Bill

Detail

2022 Payments:

First Half: $4,332.97
Second Half: $0.00
Total: $4,332.97

(May include penalty & interest)

2022 Legal Records:

Geo Code: 04-2200-19-1-10-03-0000 **Deed Book:** 996 **Page:** 1389 **Date:** 2018-05-15

Property address: 2555 BEAN DR 1,2 & 2513 - 3,5, MISSOULA MT 59808
Subdivision: (C1D) COBBAN DINS OR HOMES NO 1 **Lot:** 42
TRS: T13 N, R19 W, Sec. 19
Legal: COBBAN & DINSMORE'S ORCHARD HOMES # 1,
S19, T13 N, R19 W, Lot 42
Acres: 1.64

Note: The accuracy of this data is not guaranteed. Property Tax data was last updated 03/28/2023 10:00 AM.

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Missoula County
200 W Broadway
Missoula, MT 59802

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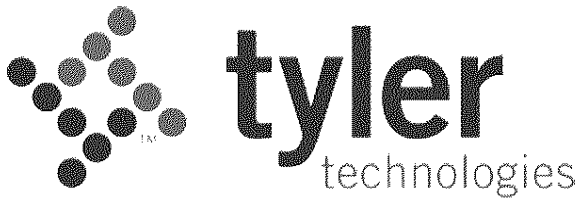

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Shopping Cart: 0 items [$0.00]

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Tax Year: 2022 **Parcel Number:** 6001157

Status: Current

Type: RE

Owner: BANGS COLLIN K

2022 Tax Breakdown:

Stat#	Kind	Description	1st Half	2nd Half
48544	County	CO. AGING SERVICES	$21.76	$21.76
48544	County	COUNTY PUBLIC WORKS BRIDGES	$14.89	$14.89
48544	County	CAPITAL IMPROVEMENTS	$38.69	$38.69
48544	County	COMMUNITY & PLANNING SVC	$16.19	$16.19
48544	County	COMMUNITY ASSISTANCE FUND	$12.93	$12.93
48544	County	COUNTY COMMUNITY DAYCARE	$1.04	$1.04
48544	County	DETENTION CENTER	$135.49	$135.49
48544	County	DISTRICT COURT	$10.53	$10.53
48544	County	ELECTIONS CENTER	$7.27	$7.27
48544	County	JUDGEMENT LEVY 2019	$4.05	$4.05
48544	County	JUDGEMENT LEVY 2022	$12.32	$12.32
48544	County	COUNTY LIBRARY	$43.61	$43.61
48544	County	LIBRARY GO BONDS	$31.95	$31.95
48544	County	LTGO 2017 BONDS	$3.31	$3.31
48544	County	COUNTY MENTAL HEALTH TREAT.	$1.70	$1.70
48544	County	COUNTY HISTORICAL MUSEUM	$8.75	$8.75
48544	County	COUNTY PARKS & REC	$15.41	$15.41
48544	County	CO.PERMISSIVE MEDICAL LEVY	$61.98	$61.98
48544	County	CO.PERMISSIVE MEDICAL-RURAL	$11.97	$11.97
48544	County	COUNTY/CITY PLANNING	$10.66	$10.66
48544	County	COUNTY PROP & LIAB. INS.	$17.28	$17.28
48544	County	COUNTY PUBLIC SAFETY FUND	$117.39	$117.39
48544	County	RELATIONSHIP VIOLENCE SERVICES	$5.40	$5.40
48544	County	COUNTY EXTENSION SERVICE	$8.14	$8.14
48544	County	COUNTY FAIR	$10.53	$10.53
48544	County	COUNTY GENERAL FUND	$245.74	$245.74
48544	County	GRANTS AND COMMUNITY SERVICES	$10.36	$10.36
48544	County	COUNTY HEALTH DEPT.	$56.71	$56.71
48544	County	COUNTY H.D. ANIMAL CONTROL	$10.62	$10.62

48544	County	CO. SUBSTANCE ABUSE PREVENT	$5.70	$5.70
48544	County	COUNTY TECH FUND	$20.63	$20.63
48544	County	COUNTY PUBLIC WORKS ROAD	$104.24	$104.24
48544	County	COUNTY SEARCH & RESCUE	$1.22	$1.22
48544	County	CO. WEED CONTROL	$9.58	$9.58
48544	County	FT MSLA PARKS OPEN SPACE	$41.48	$41.48
48544	County	ROSP COUNTY OPEN SPACE	$11.75	$11.75
48544	Local School	TRANSPORTATION-HS/ELEMENTARY	$5.83	$5.83
48544	Local School	RETIREMENT-ELEMENTARY	$99.85	$99.85
48544	Local School	RETIREMENT-HIGH SCHOOL	$56.80	$56.80
48544	Local School	101 MSLA ELEM GEN	$385.24	$385.24
48544	Local School	110 MSLA ELEM TRANS	$136.84	$136.84
48544	Local School	113 MSLA ELEM TUITION	$34.82	$34.82
48544	Local School	117 MSLA ELEM ADULT ED	$2.87	$2.87
48544	Local School	128 MSLA ELEM TECH	$25.38	$25.38
48544	Local School	150 MSLA ELEM DEBT	$181.41	$181.41
48544	Local School	161 MSLA ELEM BUILD RES	$10.92	$10.92
48544	Local School	201 MCHS GEN FUND	$183.98	$183.98
48544	Local School	210 MCHS TRANSPORTATION	$35.65	$35.65
48544	Local School	213 MCHS TUITION	$10.62	$10.62
48544	Local School	217 MCHS ADULT ED	$8.27	$8.27
48544	Local School	228 MCHS TECHNOLOGY	$12.45	$12.45
48544	Local School	250 MCHS DEBT SERVICE	$80.04	$80.04
48544	Local School	261 MCHS BUILDING RESERVE	$4.92	$4.92
48544	Special Districts	MISSOULA CO.RURAL FIRE	$597.25	$597.25
48544	Special Districts	MSLA URBAN TRANS DIST	$250.57	$250.57
48544	Special Districts	SOC SOIL CONSERV. DIST.	$7.01	$7.01
48544	Special Districts	WQD WATER QUAL DIST.	$34.60	$0.00
48544	Special Districts	MISSOULA IRRIGATION DISTR	$68.00	$68.00
48544	State School	STATE SCHOOL FOUNDATION EQUAL.	$174.10	$174.10
48544	State School	STATE UNIVERSITY MILLAGE	$26.12	$26.12
48544	State School	STATE VO-TECH MILLAGE	$6.53	$6.53
48544	State School	STATE HS EQUALIZATION	$95.76	$95.75
48544	State School	STATE ELEM EQUALIZATION	$143.63	$143.63

1st Half Total:	$3,820.73
2nd Half Total:	$3,786.12
Total Tax:	**$7,606.85**

Note: The accuracy of this data is not guaranteed. Property Tax data was last updated 03/28/2023 10:00 AM.

If you are sending your payments in by mail, address them To:

Missoula County
200 W Broadway
Missoula, MT 59802

Include Taxpayer ID with payments.

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Shopping Cart: 0 items [$0.00]

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Tax Year: 2022 **Parcel Number:** 1848102

Status: Current

Type: RE

Owner: BEAN ROBERT M

2022 Tax Breakdown:

Stat#	Kind	Description	1st Half	2nd Half
13615	County	CO. AGING SERVICES	$25.06	$25.06
13615	County	COUNTY PUBLIC WORKS BRIDGES	$17.14	$17.14
13615	County	CAPITAL IMPROVEMENTS	$44.55	$44.55
13615	County	COMMUNITY & PLANNING SVC	$18.64	$18.64
13615	County	COMMUNITY ASSISTANCE FUND	$14.88	$14.88
13615	County	COUNTY COMMUNITY DAYCARE	$1.20	$1.20
13615	County	DETENTION CENTER	$156.01	$156.01
13615	County	DISTRICT COURT	$12.13	$12.13
13615	County	ELECTIONS CENTER	$8.37	$8.37
13615	County	JUDGEMENT LEVY 2019	$4.66	$4.66
13615	County	JUDGEMENT LEVY 2022	$14.18	$14.18
13615	County	COUNTY LIBRARY	$50.22	$50.22
13615	County	LIBRARY GO BONDS	$36.78	$36.78
13615	County	LTGO 2017 BONDS	$3.81	$3.81
13615	County	COUNTY MENTAL HEALTH TREAT.	$1.95	$1.95
13615	County	COUNTY HISTORICAL MUSEUM	$10.07	$10.07
13615	County	COUNTY PARKS & REC	$17.74	$17.74
13615	County	CO.PERMISSIVE MEDICAL LEVY	$71.36	$71.36
13615	County	CO.PERMISSIVE MEDICAL-RURAL	$13.78	$13.78
13615	County	COUNTY/CITY PLANNING	$12.28	$12.28
13615	County	COUNTY PROP & LIAB. INS.	$19.90	$19.90
13615	County	COUNTY PUBLIC SAFETY FUND	$135.16	$135.16
13615	County	RELATIONSHIP VIOLENCE SERVICES	$6.21	$6.21
13615	County	COUNTY EXTENSION SERVICE	$9.37	$9.37
13615	County	COUNTY FAIR	$12.13	$12.13
13615	County	COUNTY GENERAL FUND	$282.95	$282.95
13615	County	GRANTS AND COMMUNITY SERVICES	$11.93	$11.93
13615	County	COUNTY HEALTH DEPT.	$65.30	$65.30
13615	County	COUNTY H.D. ANIMAL CONTROL	$12.23	$12.23

13615	County	CO. SUBSTANCE ABUSE PREVENT	$6.57	$6.57
13615	County	COUNTY TECH FUND	$23.75	$23.75
13615	County	CO. WEED CONTROL	$11.03	$11.03
13615	County	FT MSLA PARKS OPEN SPACE	$47.76	$47.76
13615	County	ROSP COUNTY OPEN SPACE	$13.53	$13.53
13615	County	COUNTY PUBLIC WORKS ROAD	$120.03	$120.03
13615	County	COUNTY SEARCH & RESCUE	$1.40	$1.40
13615	Local School	TRANSPORTATION-HS/ELEMENTARY	$6.72	$6.72
13615	Local School	RETIREMENT-ELEMENTARY	$114.96	$114.96
13615	Local School	RETIREMENT-HIGH SCHOOL	$65.40	$65.40
13615	Local School	101 MSLA ELEM GEN	$443.57	$443.57
13615	Local School	110 MSLA ELEM TRANS	$157.56	$157.56
13615	Local School	113 MSLA ELEM TUITION	$40.09	$40.09
13615	Local School	117 MSLA ELEM ADULT ED	$3.31	$3.31
13615	Local School	128 MSLA ELEM TECH	$29.22	$29.22
13615	Local School	150 MSLA ELEM DEBT	$208.88	$208.88
13615	Local School	161 MSLA ELEM BUILD RES	$12.58	$12.58
13615	Local School	201 MCHS GEN FUND	$211.84	$211.84
13615	Local School	210 MCHS TRANSPORTATION	$41.04	$41.04
13615	Local School	213 MCHS TUITION	$12.23	$12.23
13615	Local School	217 MCHS ADULT ED	$9.52	$9.52
13615	Local School	228 MCHS TECHNOLOGY	$14.33	$14.33
13615	Local School	250 MCHS DEBT SERVICE	$92.16	$92.16
13615	Local School	261 MCHS BUILDING RESERVE	$5.66	$5.66
13615	Special Districts	MISSOULA CO.RURAL FIRE	$687.68	$687.68
13615	Special Districts	MSLA URBAN TRANS DIST	$288.51	$288.51
13615	Special Districts	SOC SOIL CONSERV. DIST.	$8.07	$8.07
13615	Special Districts	WQD WATER QUAL DIST.	$51.90	$0.00
13615	State School	STATE SCHOOL FOUNDATION EQUAL.	$200.46	$200.46
13615	State School	STATE UNIVERSITY MILLAGE	$30.07	$30.07
13615	State School	STATE VO-TECH MILLAGE	$7.52	$7.52
13615	State School	STATE HS EQUALIZATION	$110.25	$110.25
13615	State School	STATE ELEM EQUALIZATION	$165.38	$165.38

1st Half Total:	$4,332.97
2nd Half Total:	$4,281.07
Total Tax:	**$8,614.04**

Note: The accuracy of this data is not guaranteed. Property Tax data was last updated 03/28/2023 10:00 AM.

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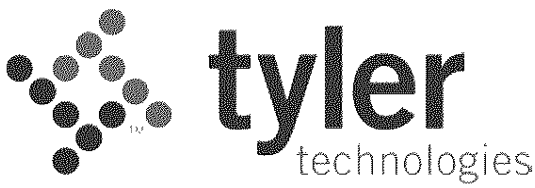


202003804 B: 1026 P: 1034 Pages: 26 Fees: $182.00
02/28/2020 10:28:21 AM Deed Of Trust
Tyler R. Gernant, Missoula County Clerk & Recorder
eRecording

After Recording Return To:
LOANDEPOT.COM, LLC
25500 COMMERCENTRE DR,
SUITE 100
LAKE FOREST, CA 92630
(888)337-6888
ATTN: **DOC CONTROL**

[Space Above This Line For Recording Data]

DEED OF TRUST
Trust Indenture Under the Small Tract Financing Act of Montana

BEAN
Loan #: **103508518**
MIN: **100853701035085181**
MERS Phone: **1-888-679-6377**
PIN: **04-2200-19-1-10-03-0000**

DEFINITIONS

Words used in multiple sections of this document are defined below and other words are defined in Sections 3, 11, 13, 18, 20 and 21. Certain rules regarding the usage of words used in this document are also provided in Section 16.

(A) "Security Instrument" means this document, which is dated **FEBRUARY 19, 2020**, together with all Riders to this document.

(B) "Borrower" is **ROBERT M. BEAN AND EVELYN C. BEAN, HUSBAND AND WIFE**. Borrower is the trustor under this Security Instrument.

(C) "Lender" is **LOANDEPOT.COM, LLC**. Lender is a **LIMITED LIABILITY COMPANY** organized and existing under the laws of **DELAWARE**. Lender's address is **26642 TOWNE CENTRE DRIVE, FOOTHILL RANCH, CA 92610**. Lender is the beneficiary under this Security Instrument.

(D) "Trustee" is **WFG NATIONAL TITLE INSURANCE COMPANY**.

(E) "MERS" is the Mortgage Electronic Registration Systems, Inc. Lender has appointed MERS as the nominee for Lender for this Loan, and attached a MERS Rider to this Security Instrument, to be executed by Borrower, which further describes the relationship between Lender and MERS, and which is incorporated into and amends and supplements this Security Instrument.

(F) "Note" means the promissory note signed by Borrower and dated **FEBRUARY 19, 2020**. The Note states that Borrower owes Lender **FOUR HUNDRED THIRTEEN THOUSAND AND 00/100** Dollars (U.S. **$413,000.00**) plus interest. Borrower has promised to pay this debt in regular Periodic Payments and to pay the debt in full not later than **MARCH 1, 2050**. This Security Instrument secures 150% of the amount of the Note.

103508518

(G) "Property" means the property that is described below under the heading "Transfer of Rights in the Property."

(H) "Loan" means the debt evidenced by the Note, plus interest, any prepayment charges and late charges due under the Note, and all sums due under this Security Instrument, plus interest.

(I) "Riders" means all Riders to this Security Instrument that are executed by Borrower. The following Riders are to be executed by Borrower [check box as applicable]:

☐ Adjustable Rate Rider	☐ Condominium Rider	☐ Second Home Rider
☐ Balloon Rider	☐ Planned Unit Development Rider	☐ Biweekly Payment Rider
☒ 1-4 Family Rider	☒ Other(s) [specify] MERS RIDER	

(J) "Applicable Law" means all controlling applicable federal, state and local statutes, regulations, ordinances and administrative rules and orders (that have the effect of law) as well as all applicable final, non-appealable judicial opinions.

(K) "Community Association Dues, Fees, and Assessments" means all dues, fees, assessments and other charges that are imposed on Borrower or the Property by a condominium association, homeowners association or similar organization.

(L) "Electronic Funds Transfer" means any transfer of funds, other than a transaction originated by check, draft, or similar paper instrument, which is initiated through an electronic terminal, telephonic instrument, computer, or magnetic tape so as to order, instruct, or authorize a financial institution to debit or credit an account. Such term includes, but is not limited to, point-of-sale transfers, automated teller machine transactions, transfers initiated by telephone, wire transfers, and automated clearinghouse transfers.

(M) "Escrow Items" means those items that are described in Section 3.

(N) "Miscellaneous Proceeds" means any compensation, settlement, award of damages, or proceeds paid by any third party (other than insurance proceeds paid under the coverages described in Section 5) for: (i) damage to, or destruction of, the Property; (ii) condemnation or other taking of all or any part of the Property; (iii) conveyance in lieu of condemnation; or (iv) misrepresentations of, or omissions as to, the value and/or condition of the Property.

(O) "Mortgage Insurance" means insurance protecting Lender against the nonpayment of, or default on, the Loan.

(P) "Periodic Payment" means the regularly scheduled amount due for (i) principal and interest under the Note, plus (ii) any amounts under Section 3 of this Security Instrument.

(Q) "RESPA" means the Real Estate Settlement Procedures Act (12 U.S.C. §2601 et seq.) and its implementing regulation, Regulation X (12 C.F.R. Part 1024), as they might be amended from time to time, or any additional or successor legislation or regulation that governs the same subject matter. As used in this Security Instrument, "RESPA" refers to all requirements and restrictions that are imposed in regard to a "federally related mortgage loan" even if the Loan does not qualify as a "federally related mortgage loan" under RESPA.

(R) "Successor in Interest of Borrower" means any party that has taken title to the Property, whether or not that party has assumed Borrower's obligations under the Note and/or this Security Instrument.

TRANSFER OF RIGHTS IN THE PROPERTY

This Security Instrument secures to Lender: (i) the repayment of the Loan, and all renewals, extensions and modifications of the Note; and (ii) the performance of Borrower's covenants and agreements under this

Security Instrument and the Note. For this purpose, Borrower irrevocably grants and conveys to Trustee, in trust, with power of sale, the following described property located in the COUNTY of MISSOULA:
PLEASE SEE ATTACHED LEGAL DESCRIPTION SCHEDULE A
which currently has the address of 2555 BEAN LN APT 1-2, MISSOULA, MT 59804 ("Property Address"):

TOGETHER WITH all the improvements now or hereafter erected on the property, and all easements, appurtenances, and fixtures now or hereafter a part of the property. All replacements and additions shall also be covered by this Security Instrument. All of the foregoing is referred to in this Security Instrument as the "Property."

BORROWER COVENANTS that Borrower is lawfully seised of the estate hereby conveyed and has the right to grant and convey the Property and that the Property is unencumbered, except for encumbrances of record. Borrower warrants and will defend generally the title to the Property against all claims and demands, subject to any encumbrances of record.

THIS SECURITY INSTRUMENT combines uniform covenants for national use and non-uniform covenants with limited variations by jurisdiction to constitute a uniform security instrument covering real property.

UNIFORM COVENANTS. Borrower and Lender covenant and agree as follows:

1. Payment of Principal, Interest, Escrow Items, Prepayment Charges, and Late Charges. Borrower shall pay when due the principal of, and interest on, the debt evidenced by the Note and any prepayment charges and late charges due under the Note. Borrower shall also pay funds for Escrow Items pursuant to Section 3. Payments due under the Note and this Security Instrument shall be made in U.S. currency. However, if any check or other instrument received by Lender as payment under the Note or this Security Instrument is returned to Lender unpaid, Lender may require that any or all subsequent payments due under the Note and this Security Instrument be made in one or more of the following forms, as selected by Lender: (a) cash; (b) money order; (c) certified check, bank check, treasurer's check or cashier's check, provided any such check is drawn upon an institution whose deposits are insured by a federal agency, instrumentality, or entity; or (d) Electronic Funds Transfer.

Payments are deemed received by Lender when received at the location designated in the Note or at such other location as may be designated by Lender in accordance with the notice provisions in Section 15. Lender may return any payment or partial payment if the payment or partial payments are insufficient to bring the Loan current. Lender may accept any payment or partial payment insufficient to bring the Loan current, without waiver of any rights hereunder or prejudice to its rights to refuse such payment or partial payments in the future, but Lender is not obligated to apply such payments at the time such payments are accepted. If each Periodic Payment is applied as of its scheduled due date, then Lender need not pay interest on unapplied funds. Lender may hold such unapplied funds until Borrower makes payment to bring the Loan current. If Borrower does not do so within a reasonable period of time, Lender shall either apply such funds or return them to Borrower. If not applied earlier, such funds will be applied to the outstanding principal balance under the Note immediately prior to foreclosure. No offset or claim which Borrower might have now or in the future against Lender shall relieve Borrower from making payments due under the Note and this Security Instrument or performing the covenants and agreements secured by this Security Instrument.

2. Application of Payments or Proceeds. Except as otherwise described in this Section 2, all

payments accepted and applied by Lender shall be applied in the following order of priority: (a) interest due under the Note; (b) principal due under the Note; (c) amounts due under Section 3. Such payments shall be applied to each Periodic Payment in the order in which it became due. Any remaining amounts shall be applied first to late charges, second to any other amounts due under this Security Instrument, and then to reduce the principal balance of the Note.

If Lender receives a payment from Borrower for a delinquent Periodic Payment which includes a sufficient amount to pay any late charge due, the payment may be applied to the delinquent payment and the late charge. If more than one Periodic Payment is outstanding, Lender may apply any payment received from Borrower to the repayment of the Periodic Payments if, and to the extent that, each payment can be paid in full. To the extent that any excess exists after the payment is applied to the full payment of one or more Periodic Payments, such excess may be applied to any late charges due. Voluntary prepayments shall be applied first to any prepayment charges and then as described in the Note.

Any application of payments, insurance proceeds, or Miscellaneous Proceeds to principal due under the Note shall not extend or postpone the due date, or change the amount, of the Periodic Payments.

3. Funds for Escrow Items. Borrower shall pay to Lender on the day Periodic Payments are due under the Note, until the Note is paid in full, a sum (the "Funds") to provide for payment of amounts due for: (a) taxes and assessments and other items which can attain priority over this Security Instrument as a lien or encumbrance on the Property; (b) leasehold payments or ground rents on the Property, if any; (c) premiums for any and all insurance required by Lender under Section 5; and (d) Mortgage Insurance premiums, if any, or any sums payable by Borrower to Lender in lieu of the payment of Mortgage Insurance premiums in accordance with the provisions of Section 10. These items are called "Escrow Items." At origination or at any time during the term of the Loan, Lender may require that Community Association Dues, Fees, and Assessments, if any, be escrowed by Borrower, and such dues, fees and assessments shall be an Escrow Item. Borrower shall promptly furnish to Lender all notices of amounts to be paid under this Section. Borrower shall pay Lender the Funds for Escrow Items unless Lender waives Borrower's obligation to pay the Funds for any or all Escrow Items. Lender may waive Borrower's obligation to pay to Lender Funds for any or all Escrow Items at any time. Any such waiver may only be in writing. In the event of such waiver, Borrower shall pay directly, when and where payable, the amounts due for any Escrow Items for which payment of Funds has been waived by Lender and, if Lender requires, shall furnish to Lender receipts evidencing such payment within such time period as Lender may require. Borrower's obligation to make such payments and to provide receipts shall for all purposes be deemed to be a covenant and agreement contained in this Security Instrument, as the phrase "covenant and agreement" is used in Section 9. If Borrower is obligated to pay Escrow Items directly, pursuant to a waiver, and Borrower fails to pay the amount due for an Escrow Item, Lender may exercise its rights under Section 9 and pay such amount and Borrower shall then be obligated under Section 9 to repay to Lender any such amount. Lender may revoke the waiver as to any or all Escrow Items at any time by a notice given in accordance with Section 15 and, upon such revocation, Borrower shall pay to Lender all Funds, and in such amounts, that are then required under this Section 3.

Lender may, at any time, collect and hold Funds in an amount (a) sufficient to permit Lender to apply the Funds at the time specified under RESPA, and (b) not to exceed the maximum amount a lender can require under RESPA. Lender shall estimate the amount of Funds due on the basis of current data and reasonable estimates of expenditures of future Escrow Items or otherwise in accordance with Applicable Law.

The Funds shall be held in an institution whose deposits are insured by a federal agency, instrumentality, or entity (including Lender, if Lender is an institution whose deposits are so insured) or in any Federal Home Loan Bank. Lender shall apply the Funds to pay the Escrow Items no later than the time

specified under RESPA. Lender shall not charge Borrower for holding and applying the Funds, annually analyzing the escrow account, or verifying the Escrow Items, unless Lender pays Borrower interest on the Funds and Applicable Law permits Lender to make such a charge. Unless an agreement is made in writing or Applicable Law requires interest to be paid on the Funds, Lender shall not be required to pay Borrower any interest or earnings on the Funds. Borrower and Lender can agree in writing, however, that interest shall be paid on the Funds. Lender shall give to Borrower, without charge, an annual accounting of the Funds as required by RESPA.

If there is a surplus of Funds held in escrow, as defined under RESPA, Lender shall account to Borrower for the excess funds in accordance with RESPA. If there is a shortage of Funds held in escrow, as defined under RESPA, Lender shall notify Borrower as required by RESPA, and Borrower shall pay to Lender the amount necessary to make up the shortage in accordance with RESPA, but in no more than 12 monthly payments. If there is a deficiency of Funds held in escrow, as defined under RESPA, Lender shall notify Borrower as required by RESPA, and Borrower shall pay to Lender the amount necessary to make up the deficiency in accordance with RESPA, but in no more than 12 monthly payments.

Upon payment in full of all sums secured by this Security Instrument, Lender shall promptly refund to Borrower any Funds held by Lender.

4. Charges; Liens. Borrower shall pay all taxes, assessments, charges, fines, and impositions attributable to the Property which can attain priority over this Security Instrument, leasehold payments or ground rents on the Property, if any, and Community Association Dues, Fees, and Assessments, if any. To the extent that these items are Escrow Items, Borrower shall pay them in the manner provided in Section 3.

Borrower shall promptly discharge any lien which has priority over this Security Instrument unless Borrower: (a) agrees in writing to the payment of the obligation secured by the lien in a manner acceptable to Lender, but only so long as Borrower is performing such agreement; (b) contests the lien in good faith by, or defends against enforcement of the lien in, legal proceedings which in Lender's opinion operate to prevent the enforcement of the lien while those proceedings are pending, but only until such proceedings are concluded; or (c) secures from the holder of the lien an agreement satisfactory to Lender subordinating the lien to this Security Instrument. If Lender determines that any part of the Property is subject to a lien which can attain priority over this Security Instrument, Lender may give Borrower a notice identifying the lien. Within 10 days of the date on which that notice is given, Borrower shall satisfy the lien or take one or more of the actions set forth above in this Section 4.

Lender may require Borrower to pay a one-time charge for a real estate tax verification and/or reporting service used by Lender in connection with this Loan.

5. Property Insurance. Borrower shall keep the improvements now existing or hereafter erected on the Property insured against loss by fire, hazards included within the term "extended coverage," and any other hazards including, but not limited to, earthquakes and floods, for which Lender requires insurance. This insurance shall be maintained in the amounts (including deductible levels) and for the periods that Lender requires. What Lender requires pursuant to the preceding sentences can change during the term of the Loan. The insurance carrier providing the insurance shall be chosen by Borrower subject to Lender's right to disapprove Borrower's choice, which right shall not be exercised unreasonably. Lender may require Borrower to pay, in connection with this Loan, either: (a) a one-time charge for flood zone determination, certification and tracking services; or (b) a one-time charge for flood zone determination and certification services and subsequent charges each time remappings or similar changes occur which reasonably might affect such determination or certification. Borrower shall also be responsible for the payment of any fees imposed by the Federal Emergency Management Agency in connection with the review of any flood zone determination resulting from an objection by Borrower.

If Borrower fails to maintain any of the coverages described above, Lender may obtain insurance coverage, at Lender's option and Borrower's expense. Lender is under no obligation to purchase any particular type or amount of coverage. Therefore, such coverage shall cover Lender, but might or might not protect Borrower, Borrower's equity in the Property, or the contents of the Property, against any risk, hazard or liability and might provide greater or lesser coverage than was previously in effect. Borrower acknowledges that the cost of the insurance coverage so obtained might significantly exceed the cost of insurance that Borrower could have obtained. Any amounts disbursed by Lender under this Section 5 shall become additional debt of Borrower secured by this Security Instrument. These amounts shall bear interest at the Note rate from the date of disbursement and shall be payable, with such interest, upon notice from Lender to Borrower requesting payment.

All insurance policies required by Lender and renewals of such policies shall be subject to Lender's right to disapprove such policies, shall include a standard mortgage clause, and shall name Lender as mortgagee and/or as an additional loss payee. Lender shall have the right to hold the policies and renewal certificates. If Lender requires, Borrower shall promptly give to Lender all receipts of paid premiums and renewal notices. If Borrower obtains any form of insurance coverage, not otherwise required by Lender, for damage to, or destruction of, the Property, such policy shall include a standard mortgage clause and shall name Lender as mortgagee and/or as an additional loss payee.

In the event of loss, Borrower shall give prompt notice to the insurance carrier and Lender. Lender may make proof of loss if not made promptly by Borrower. Unless Lender and Borrower otherwise agree in writing, any insurance proceeds, whether or not the underlying insurance was required by Lender, shall be applied to restoration or repair of the Property, if the restoration or repair is economically feasible and Lender's security is not lessened. During such repair and restoration period, Lender shall have the right to hold such insurance proceeds until Lender has had an opportunity to inspect such Property to ensure the work has been completed to Lender's satisfaction, provided that such inspection shall be undertaken promptly. Lender may disburse proceeds for the repairs and restoration in a single payment or in a series of progress payments as the work is completed. Unless an agreement is made in writing or Applicable Law requires interest to be paid on such insurance proceeds, Lender shall not be required to pay Borrower any interest or earnings on such proceeds. Fees for public adjusters, or other third parties, retained by Borrower shall not be paid out of the insurance proceeds and shall be the sole obligation of Borrower. If the restoration or repair is not economically feasible or Lender's security would be lessened, the insurance proceeds shall be applied to the sums secured by this Security Instrument, whether or not then due, with the excess, if any, paid to Borrower. Such insurance proceeds shall be applied in the order provided for in Section 2.

If Borrower abandons the Property, Lender may file, negotiate and settle any available insurance claim and related matters. If Borrower does not respond within 30 days to a notice from Lender that the insurance carrier has offered to settle a claim, then Lender may negotiate and settle the claim. The 30-day period will begin when the notice is given. In either event, or if Lender acquires the Property under Section 22 or otherwise, Borrower hereby assigns to Lender (a) Borrower's rights to any insurance proceeds in an amount not to exceed the amounts unpaid under the Note or this Security Instrument, and (b) any other of Borrower's rights (other than the right to any refund of unearned premiums paid by Borrower) under all insurance policies covering the Property, insofar as such rights are applicable to the coverage of the Property. Lender may use the insurance proceeds either to repair or restore the Property or to pay amounts unpaid under the Note or this Security Instrument, whether or not then due.

6. Occupancy. Borrower shall occupy, establish, and use the Property as Borrower's principal residence within 60 days after the execution of this Security Instrument and shall continue to occupy the Property as Borrower's principal residence for at least one year after the date of occupancy, unless Lender

otherwise agrees in writing, which consent shall not be unreasonably withheld, or unless extenuating circumstances exist which are beyond Borrower's control.

7. Preservation, Maintenance and Protection of the Property; Inspections. Borrower shall not destroy, damage or impair the Property, allow the Property to deteriorate or commit waste on the Property. Whether or not Borrower is residing in the Property, Borrower shall maintain the Property in order to prevent the Property from deteriorating or decreasing in value due to its condition. Unless it is determined pursuant to Section 5 that repair or restoration is not economically feasible, Borrower shall promptly repair the Property if damaged to avoid further deterioration or damage. If insurance or condemnation proceeds are paid in connection with damage to, or the taking of, the Property, Borrower shall be responsible for repairing or restoring the Property only if Lender has released proceeds for such purposes. Lender may disburse proceeds for the repairs and restoration in a single payment or in a series of progress payments as the work is completed. If the insurance or condemnation proceeds are not sufficient to repair or restore the Property, Borrower is not relieved of Borrower's obligation for the completion of such repair or restoration.

Lender or its agent may make reasonable entries upon and inspections of the Property. If it has reasonable cause, Lender may inspect the interior of the improvements on the Property. Lender shall give Borrower notice at the time of or prior to such an interior inspection specifying such reasonable cause.

8. Borrower's Loan Application. Borrower shall be in default if, during the Loan application process, Borrower or any persons or entities acting at the direction of Borrower or with Borrower's knowledge or consent gave materially false, misleading, or inaccurate information or statements to Lender (or failed to provide Lender with material information) in connection with the Loan. Material representations include, but are not limited to, representations concerning Borrower's occupancy of the Property as Borrower's principal residence.

9. Protection of Lender's Interest in the Property and Rights Under this Security Instrument. If (a) Borrower fails to perform the covenants and agreements contained in this Security Instrument, (b) there is a legal proceeding that might significantly affect Lender's interest in the Property and/or rights under this Security Instrument (such as a proceeding in bankruptcy, probate, for condemnation or forfeiture, for enforcement of a lien which may attain priority over this Security Instrument or to enforce laws or regulations), or (c) Borrower has abandoned the Property, then Lender may do and pay for whatever is reasonable or appropriate to protect Lender's interest in the Property and rights under this Security Instrument, including protecting and/or assessing the value of the Property, and securing and/or repairing the Property. Lender's actions can include, but are not limited to: (a) paying any sums secured by a lien which has priority over this Security Instrument; (b) appearing in court; and (c) paying reasonable attorneys' fees to protect its interest in the Property and/or rights under this Security Instrument, including its secured position in a bankruptcy proceeding. Securing the Property includes, but is not limited to, entering the Property to make repairs, change locks, replace or board up doors and windows, drain water from pipes, eliminate building or other code violations or dangerous conditions, and have utilities turned on or off. Although Lender may take action under this Section 9, Lender does not have to do so and is not under any duty or obligation to do so. It is agreed that Lender incurs no liability for not taking any or all actions authorized under this Section 9.

Any amounts disbursed by Lender under this Section 9 shall become additional debt of Borrower secured by this Security Instrument. These amounts shall bear interest at the Note rate from the date of disbursement and shall be payable, with such interest, upon notice from Lender to Borrower requesting payment.

If this Security Instrument is on a leasehold, Borrower shall comply with all the provisions of the lease. Borrower shall not surrender the leasehold estate and interests herein conveyed or terminate or cancel

the ground lease. Borrower shall not, without the express written consent of Lender, alter or amend the ground lease. If Borrower acquires fee title to the Property, the leasehold and the fee title shall not merge unless Lender agrees to the merger in writing.

10. Mortgage Insurance. If Lender required Mortgage Insurance as a condition of making the Loan, Borrower shall pay the premiums required to maintain the Mortgage Insurance in effect. If, for any reason, the Mortgage Insurance coverage required by Lender ceases to be available from the mortgage insurer that previously provided such insurance and Borrower was required to make separately designated payments toward the premiums for Mortgage Insurance, Borrower shall pay the premiums required to obtain coverage substantially equivalent to the Mortgage Insurance previously in effect, at a cost substantially equivalent to the cost to Borrower of the Mortgage Insurance previously in effect, from an alternate mortgage insurer selected by Lender. If substantially equivalent Mortgage Insurance coverage is not available, Borrower shall continue to pay to Lender the amount of the separately designated payments that were due when the insurance coverage ceased to be in effect. Lender will accept, use and retain these payments as a non-refundable loss reserve in lieu of Mortgage Insurance. Such loss reserve shall be non-refundable, notwithstanding the fact that the Loan is ultimately paid in full, and Lender shall not be required to pay Borrower any interest or earnings on such loss reserve. Lender can no longer require loss reserve payments if Mortgage Insurance coverage (in the amount and for the period that Lender requires) provided by an insurer selected by Lender again becomes available, is obtained, and Lender requires separately designated payments toward the premiums for Mortgage Insurance. If Lender required Mortgage Insurance as a condition of making the Loan and Borrower was required to make separately designated payments toward the premiums for Mortgage Insurance, Borrower shall pay the premiums required to maintain Mortgage Insurance in effect, or to provide a non-refundable loss reserve, until Lender's requirement for Mortgage Insurance ends in accordance with any written agreement between Borrower and Lender providing for such termination or until termination is required by Applicable Law. Nothing in this Section 10 affects Borrower's obligation to pay interest at the rate provided in the Note.

Mortgage Insurance reimburses Lender (or any entity that purchases the Note) for certain losses it may incur if Borrower does not repay the Loan as agreed. Borrower is not a party to the Mortgage Insurance.

Mortgage insurers evaluate their total risk on all such insurance in force from time to time, and may enter into agreements with other parties that share or modify their risk, or reduce losses. These agreements are on terms and conditions that are satisfactory to the mortgage insurer and the other party (or parties) to these agreements. These agreements may require the mortgage insurer to make payments using any source of funds that the mortgage insurer may have available (which may include funds obtained from Mortgage Insurance premiums).

As a result of these agreements, Lender, any purchaser of the Note, another insurer, any reinsurer, any other entity, or any affiliate of any of the foregoing, may receive (directly or indirectly) amounts that derive from (or might be characterized as) a portion of Borrower's payments for Mortgage Insurance, in exchange for sharing or modifying the mortgage insurer's risk, or reducing losses. If such agreement provides that an affiliate of Lender takes a share of the insurer's risk in exchange for a share of the premiums paid to the insurer, the arrangement is often termed "captive reinsurance." Further:

(a) Any such agreements will not affect the amounts that Borrower has agreed to pay for Mortgage Insurance, or any other terms of the Loan. Such agreements will not increase the amount Borrower will owe for Mortgage Insurance, and they will not entitle Borrower to any refund.

(b) Any such agreements will not affect the rights Borrower has - if any - with respect to the Mortgage Insurance under the Homeowners Protection Act of 1998 or any other law. These rights may include the right to receive certain disclosures, to request and obtain cancellation of the Mortgage

Insurance, to have the Mortgage Insurance terminated automatically, and/or to receive a refund of any Mortgage Insurance premiums that were unearned at the time of such cancellation or termination.

11. Assignment of Miscellaneous Proceeds; Forfeiture. All Miscellaneous Proceeds are hereby assigned to and shall be paid to Lender.

If the Property is damaged, such Miscellaneous Proceeds shall be applied to restoration or repair of the Property, if the restoration or repair is economically feasible and Lender's security is not lessened. During such repair and restoration period, Lender shall have the right to hold such Miscellaneous Proceeds until Lender has had an opportunity to inspect such Property to ensure the work has been completed to Lender's satisfaction, provided that such inspection shall be undertaken promptly. Lender may pay for the repairs and restoration in a single disbursement or in a series of progress payments as the work is completed. Unless an agreement is made in writing or Applicable Law requires interest to be paid on such Miscellaneous Proceeds, Lender shall not be required to pay Borrower any interest or earnings on such Miscellaneous Proceeds. If the restoration or repair is not economically feasible or Lender's security would be lessened, the Miscellaneous Proceeds shall be applied to the sums secured by this Security Instrument, whether or not then due, with the excess, if any, paid to Borrower. Such Miscellaneous Proceeds shall be applied in the order provided for in Section 2.

In the event of a total taking, destruction, or loss in value of the Property, the Miscellaneous Proceeds shall be applied to the sums secured by this Security Instrument, whether or not then due, with the excess, if any, paid to Borrower.

In the event of a partial taking, destruction, or loss in value of the Property in which the fair market value of the Property immediately before the partial taking, destruction, or loss in value is equal to or greater than the amount of the sums secured by this Security Instrument immediately before the partial taking, destruction, or loss in value, unless Borrower and Lender otherwise agree in writing, the sums secured by this Security Instrument shall be reduced by the amount of the Miscellaneous Proceeds multiplied by the following fraction: (a) the total amount of the sums secured immediately before the partial taking, destruction, or loss in value divided by (b) the fair market value of the Property immediately before the partial taking, destruction, or loss in value. Any balance shall be paid to Borrower.

In the event of a partial taking, destruction, or loss in value of the Property in which the fair market value of the Property immediately before the partial taking, destruction, or loss in value is less than the amount of the sums secured immediately before the partial taking, destruction, or loss in value, unless Borrower and Lender otherwise agree in writing, the Miscellaneous Proceeds shall be applied to the sums secured by this Security Instrument whether or not the sums are then due.

If the Property is abandoned by Borrower, or if, after notice by Lender to Borrower that the Opposing Party (as defined in the next sentence) offers to make an award to settle a claim for damages, Borrower fails to respond to Lender within 30 days after the date the notice is given, Lender is authorized to collect and apply the Miscellaneous Proceeds either to restoration or repair of the Property or to the sums secured by this Security Instrument, whether or not then due. "Opposing Party" means the third party that owes Borrower Miscellaneous Proceeds or the party against whom Borrower has a right of action in regard to Miscellaneous Proceeds.

Borrower shall be in default if any action or proceeding, whether civil or criminal, is begun that, in Lender's judgment, could result in forfeiture of the Property or other material impairment of Lender's interest in the Property or rights under this Security Instrument. Borrower can cure such a default and, if acceleration has occurred, reinstate as provided in Section 19, by causing the action or proceeding to be dismissed with a ruling that, in Lender's judgment, precludes forfeiture of the Property or other material impairment of Lender's interest in the Property or rights under this Security Instrument. The proceeds of any award or claim

for damages that are attributable to the impairment of Lender's interest in the Property are hereby assigned and shall be paid to Lender.

All Miscellaneous Proceeds that are not applied to restoration or repair of the Property shall be applied in the order provided for in Section 2.

12. Borrower Not Released; Forbearance By Lender Not a Waiver Extension of the time for payment or modification of amortization of the sums secured by this Security Instrument granted by Lender to Borrower or any Successor in Interest of Borrower shall not operate to release the liability of Borrower or any Successors in Interest of Borrower. Lender shall not be required to commence proceedings against any Successor in Interest of Borrower or to refuse to extend time for payment or otherwise modify amortization of the sums secured by this Security Instrument by reason of any demand made by the original Borrower or any Successors in Interest of Borrower. Any forbearance by Lender in exercising any right or remedy including, without limitation, Lender's acceptance of payments from third persons, entities or Successors in Interest of Borrower or in amounts less than the amount then due, shall not be a waiver of or preclude the exercise of any right or remedy.

13. Joint and Several Liability; Co-signers; Successors and Assigns Bound. Borrower covenants and agrees that Borrower's obligations and liability shall be joint and several. However, any Borrower who co-signs this Security Instrument but does not execute the Note (a "co-signer"): (a) is co-signing this Security Instrument only to mortgage, grant and convey the co-signer's interest in the Property under the terms of this Security Instrument; (b) is not personally obligated to pay the sums secured by this Security Instrument; and (c) agrees that Lender and any other Borrower can agree to extend, modify, forbear or make any accommodations with regard to the terms of this Security Instrument or the Note without the co-signer's consent.

Subject to the provisions of Section 18, any Successor in Interest of Borrower who assumes Borrower's obligations under this Security Instrument in writing, and is approved by Lender, shall obtain all of Borrower's rights and benefits under this Security Instrument. Borrower shall not be released from Borrower's obligations and liability under this Security Instrument unless Lender agrees to such release in writing. The covenants and agreements of this Security Instrument shall bind (except as provided in Section 20) and benefit the successors and assigns of Lender.

14. Loan Charges. Lender may charge Borrower fees for services performed in connection with Borrower's default, for the purpose of protecting Lender's interest in the Property and rights under this Security Instrument, including, but not limited to, attorneys' fees, property inspection and valuation fees. In regard to any other fees, the absence of express authority in this Security Instrument to charge a specific fee to Borrower shall not be construed as a prohibition on the charging of such fee. Lender may not charge fees that are expressly prohibited by this Security Instrument or by Applicable Law.

If the Loan is subject to a law which sets maximum loan charges, and that law is finally interpreted so that the interest or other loan charges collected or to be collected in connection with the Loan exceed the permitted limits, then: (a) any such loan charge shall be reduced by the amount necessary to reduce the charge to the permitted limit; and (b) any sums already collected from Borrower which exceeded permitted limits will be refunded to Borrower. Lender may choose to make this refund by reducing the principal owed under the Note or by making a direct payment to Borrower. If a refund reduces principal, the reduction will be treated as a partial prepayment without any prepayment charge (whether or not a prepayment charge is provided for under the Note). Borrower's acceptance of any such refund made by direct payment to Borrower will constitute a waiver of any right of action Borrower might have arising out of such overcharge.

15. Notices. All notices given by Borrower or Lender in connection with this Security Instrument must be in writing. Any notice to Borrower in connection with this Security Instrument shall be deemed to

have been given to Borrower when mailed by first class mail or when actually delivered to Borrower's notice address if sent by other means. Notice to any one Borrower shall constitute notice to all Borrowers unless Applicable Law expressly requires otherwise. The notice address shall be the Property Address unless Borrower has designated a substitute notice address by notice to Lender. Borrower shall promptly notify Lender of Borrower's change of address. If Lender specifies a procedure for reporting Borrower's change of address, then Borrower shall only report a change of address through that specified procedure. There may be only one designated notice address under this Security Instrument at any one time. Any notice to Lender shall be given by delivering it or by mailing it by first class mail to Lender's address stated herein unless Lender has designated another address by notice to Borrower. Any notice in connection with this Security Instrument shall not be deemed to have been given to Lender until actually received by Lender. If any notice required by this Security Instrument is also required under Applicable Law, the Applicable Law requirement will satisfy the corresponding requirement under this Security Instrument.

16. Governing Law; Severability; Rules of Construction. This Security Instrument shall be governed by federal law and the law of the jurisdiction in which the Property is located. All rights and obligations contained in this Security Instrument are subject to any requirements and limitations of Applicable Law. Applicable Law might explicitly or implicitly allow the parties to agree by contract or it might be silent, but such silence shall not be construed as a prohibition against agreement by contract. In the event that any provision or clause of this Security Instrument or the Note conflicts with Applicable Law, such conflict shall not affect other provisions of this Security Instrument or the Note which can be given effect without the conflicting provision.

As used in this Security Instrument: (a) words of the masculine gender shall mean and include corresponding neuter words or words of the feminine gender; (b) words in the singular shall mean and include the plural and vice versa; and (c) the word "may" gives sole discretion without any obligation to take any action.

17. Borrower's Copy. Borrower shall be given one copy of the Note and of this Security Instrument.

18. Transfer of the Property or a Beneficial Interest in Borrower. As used in this Section 18, "Interest in the Property" means any legal or beneficial interest in the Property, including, but not limited to, those beneficial interests transferred in a bond for deed, contract for deed, installment sales contract or escrow agreement, the intent of which is the transfer of title by Borrower at a future date to a purchaser.

If all or any part of the Property or any Interest in the Property is sold or transferred (or if Borrower is not a natural person and a beneficial interest in Borrower is sold or transferred) without Lender's prior written consent, Lender may require immediate payment in full of all sums secured by this Security Instrument. However, this option shall not be exercised by Lender if such exercise is prohibited by Applicable Law.

If Lender exercises this option, Lender shall give Borrower notice of acceleration. The notice shall provide a period of not less than 30 days from the date the notice is given in accordance with Section 15 within which Borrower must pay all sums secured by this Security Instrument. If Borrower fails to pay these sums prior to the expiration of this period, Lender may invoke any remedies permitted by this Security Instrument without further notice or demand on Borrower.

19. Borrower's Right to Reinstate After Acceleration. If Borrower meets certain conditions, Borrower shall have the right to have enforcement of this Security Instrument discontinued at any time prior to the earliest of: (a) five days before sale of the Property pursuant to any power of sale contained in this Security Instrument; (b) such other period as Applicable Law might specify for the termination of Borrower's right to reinstate; or (c) entry of a judgment enforcing this Security Instrument. Those conditions are that

Borrower: (a) pays Lender all sums which then would be due under this Security Instrument and the Note as if no acceleration had occurred; (b) cures any default of any other covenants or agreements; (c) pays all expenses incurred in enforcing this Security Instrument, including, but not limited to, reasonable attorneys' fees, property inspection and valuation fees, and other fees incurred for the purpose of protecting Lender's interest in the Property and rights under this Security Instrument; and (d) takes such action as Lender may reasonably require to assure that Lender's interest in the Property and rights under this Security Instrument, and Borrower's obligation to pay the sums secured by this Security Instrument, shall continue unchanged. Lender may require that Borrower pay such reinstatement sums and expenses in one or more of the following forms, as selected by Lender: (a) cash; (b) money order; (c) certified check, bank check, treasurer's check or cashier's check, provided any such check is drawn upon an institution whose deposits are insured by a federal agency, instrumentality or entity; or (d) Electronic Funds Transfer. Upon reinstatement by Borrower, this Security Instrument and obligations secured hereby shall remain fully effective as if no acceleration had occurred. However, this right to reinstate shall not apply in the case of acceleration under Section 18.

20. Sale of Note; Change of Loan Servicer; Notice of Grievance. The Note or a partial interest in the Note (together with this Security Instrument) can be sold one or more times without prior notice to Borrower. A sale might result in a change in the entity (known as the "Loan Servicer") that collects Periodic Payments due under the Note and this Security Instrument and performs other mortgage loan servicing obligations under the Note, this Security Instrument, and Applicable Law. There also might be one or more changes of the Loan Servicer unrelated to a sale of the Note. If there is a change of the Loan Servicer, Borrower will be given written notice of the change which will state the name and address of the new Loan Servicer, the address to which payments should be made and any other information RESPA requires in connection with a notice of transfer of servicing. If the Note is sold and thereafter the Loan is serviced by a Loan Servicer other than the purchaser of the Note, the mortgage loan servicing obligations to Borrower will remain with the Loan Servicer or be transferred to a successor Loan Servicer and are not assumed by the Note purchaser unless otherwise provided by the Note purchaser.

Neither Borrower nor Lender may commence, join, or be joined to any judicial action (as either an individual litigant or the member of a class) that arises from the other party's actions pursuant to this Security Instrument or that alleges that the other party has breached any provision of, or any duty owed by reason of, this Security Instrument, until such Borrower or Lender has notified the other party (with such notice given in compliance with the requirements of Section 15) of such alleged breach and afforded the other party hereto a reasonable period after the giving of such notice to take corrective action. If Applicable Law provides a time period which must elapse before certain action can be taken, that time period will be deemed to be reasonable for purposes of this paragraph. The notice of acceleration and opportunity to cure given to Borrower pursuant to Section 22 and the notice of acceleration given to Borrower pursuant to Section 18 shall be deemed to satisfy the notice and opportunity to take corrective action provisions of this Section 20.

21. Hazardous Substances. As used in this Section 21: (a) "Hazardous Substances" are those substances defined as toxic or hazardous substances, pollutants, or wastes by Environmental Law and the following substances: gasoline, kerosene, other flammable or toxic petroleum products, toxic pesticides and herbicides, volatile solvents, materials containing asbestos or formaldehyde, and radioactive materials; (b) "Environmental Law" means federal laws and laws of the jurisdiction where the Property is located that relate to health, safety or environmental protection; (c) "Environmental Cleanup" includes any response action, remedial action, or removal action, as defined in Environmental Law; and (d) an "Environmental Condition" means a condition that can cause, contribute to, or otherwise trigger an Environmental Cleanup.

Borrower shall not cause or permit the presence, use, disposal, storage, or release of any Hazardous Substances, or threaten to release any Hazardous Substances, on or in the Property. Borrower shall not do,

nor allow anyone else to do, anything affecting the Property (a) that is in violation of any Environmental Law, (b) which creates an Environmental Condition, or (c) which, due to the presence, use, or release of a Hazardous Substance, creates a condition that adversely affects the value of the Property. The preceding two sentences shall not apply to the presence, use, or storage on the Property of small quantities of Hazardous Substances that are generally recognized to be appropriate to normal residential uses and to maintenance of the Property (including, but not limited to, hazardous substances in consumer products).

Borrower shall promptly give Lender written notice of (a) any investigation, claim, demand, lawsuit or other action by any governmental or regulatory agency or private party involving the Property and any Hazardous Substance or Environmental Law of which Borrower has actual knowledge, (b) any Environmental Condition, including but not limited to, any spilling, leaking, discharge, release or threat of release of any Hazardous Substance, and (c) any condition caused by the presence, use or release of a Hazardous Substance which adversely affects the value of the Property. If Borrower learns, or is notified by any governmental or regulatory authority, or any private party, that any removal or other remediation of any Hazardous Substance affecting the Property is necessary, Borrower shall promptly take all necessary remedial actions in accordance with Environmental Law. Nothing herein shall create any obligation on Lender for an Environmental Cleanup.

NON-UNIFORM COVENANTS. Borrower and Lender further covenant and agree as follows:

22. Acceleration; Remedies. Lender shall give notice to Borrower prior to acceleration following Borrower's breach of any covenant or agreement in this Security Instrument (but not prior to acceleration under Section 18 unless Applicable Law provides otherwise). The notice shall specify: (a) the default; (b) the action required to cure the default; (c) a date, not less than 30 days from the date the notice is given to Borrower, by which the default must be cured; and (d) that failure to cure the default on or before the date specified in the notice may result in acceleration of the sums secured by this Security Instrument and sale of the Property. The notice shall further inform Borrower of the right to reinstate after acceleration and the right to bring a court action to assert the non-existence of a default or any other defense of Borrower to acceleration and sale. If the default is not cured on or before the date specified in the notice, Lender at its option may require immediate payment in full of all sums secured by this Security Instrument without further demand and may invoke the power of sale and any other remedies permitted by Applicable Law. Lender shall be entitled to collect all expenses incurred in pursuing the remedies provided in this Section 22, including, but not limited to, reasonable attorneys' fees and costs of title evidence.

If Lender invokes the power of sale, Lender shall give written notice to Trustee of the occurrence of an event of default and of Lender's election to cause the Property to be sold. Lender or Trustee shall record a notice of sale in each county in which any part of the Property is located, and Trustee shall mail copies of the notice as prescribed by Applicable Law to Borrower and to the other persons prescribed by Applicable Law. After the time required by Applicable Law and after publication and posting of the notice of sale, Trustee, without demand on Borrower, shall sell the Property at public auction to the highest bidder at the time and place and under the terms designated in the notice of sale in one or more parcels and in any order Trustee determines. Trustee may postpone sale of all or any parcel of the Property by public announcement at the time and place of any previously scheduled sale. Lender or its designee may purchase the Property at any sale.

Trustee shall deliver to the purchaser Trustee's deed conveying the Property without any covenant or warranty, expressed or implied. The recitals in the Trustee's deed shall be prima facie evidence of the truth of the statements made therein. Trustee shall apply the proceeds of the sale in the

following order: (a) to all expenses of the sale, including, but not limited to, reasonable Trustee's and attorneys' fees; (b) to all sums secured by this Security Instrument; and (c) any excess to the person or persons legally entitled to it or to the clerk or recorder of the county in which the sale took place.

23. Reconveyance. Upon payment of all sums secured by this Security Instrument, Lender shall request Trustee to reconvey the Property and shall surrender this Security Instrument and all notes evidencing debt secured by this Security Instrument to Trustee. Trustee shall reconvey the Property without warranty to the person or persons legally entitled to it. Such person or persons shall pay any recordation costs. Lender may charge such person or persons a fee for reconveying the Property, but only if the fee is paid to a third party (such as the Trustee) for services rendered and the charging of the fee is permitted under Applicable Law.

24. Substitute Trustee. Lender, at its option, may from time to time remove Trustee and appoint a successor trustee to any Trustee appointed hereunder. Without conveyance of the Property, the successor trustee shall succeed to all the title, power and duties conferred upon Trustee herein and by Applicable Law.

25. Area of Property. The area of the Property is not more than 40 acres.

26. Waiver of Homestead Exemption Rights. In conformance with the provisions of § 70-32-202, M.C.A., this transaction involving a mortgage upon real property for purposes of securing a debt on premises, as subject hereto, and executed and acknowledged by the husband and wife, or by an unmarried person, the undersigned grantors have by separate written waiver, which waiver is incorporated herein by this reference, waived, renounced and abandoned for themselves and their family, any and all homestead exemption rights or other exemption law now or subsequently enforced within the State of Montana, or any other state or territory where judgment may be entered by virtue of this agreement or in the event of a sale pursuant to the provisions of the Montana Small Tract Financing Act.

BY SIGNING BELOW, Borrower accepts and agrees to the terms and covenants contained in this Security Instrument and in any Rider executed by Borrower and recorded with it.

Robert M. Bean

- BORROWER - ROBERT M. BEAN

Evelyn C. Bean

- BORROWER - EVELYN C. BEAN

103508518

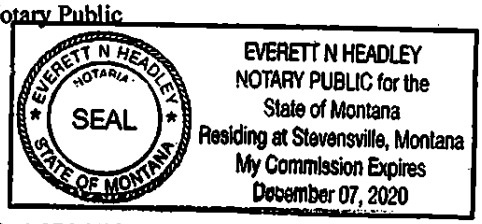
[Space Below This Line For Acknowledgment]

State of MT

County of MISSOULA

This record was acknowledged before me on 2/19/2020 by ROBERT M. BEAN, EVELYN C. BEAN.

Notary Public



Individual Loan Originator: ERIK HOLSTEIN, NMLSR ID: 1653370
Loan Originator Organization: LOANDEPOT.COM, LLC, NMLSR ID: 174457

1-4 FAMILY RIDER

(Assignment of Rents)

BEAN
Loan #: 103508518
MIN: 100853701035085181

THIS 1-4 FAMILY RIDER is made this 19TH day of FEBRUARY, 2020, and is incorporated into and shall be deemed to amend and supplement the Mortgage, Deed of Trust or Security Deed (the "Security Instrument") of the same date given by the undersigned (the "Borrower") to secure Borrower's Note to LOANDEPOT.COM, LLC (the "Lender") of the same date and covering the Property described in the Security and located at: 2555 BEAN LN APT 1 -2, MISSOULA, MT 59804 [Property Address].

1-4 FAMILY COVENANTS. In addition to the covenants and agreements made in the Security Instrument, Borrower and Lender further covenant and agree as follows:

A. ADDITIONAL PROPERTY SUBJECT TO THE SECURITY INSTRUMENT. In addition to the Property described in Security Instrument, the following items now or hereafter attached to the Property to the extent they are fixtures are added to the Property description, and shall also constitute the Property covered by the Security Instrument: building materials, appliances and goods of every nature whatsoever now or hereafter located in, on, or used, or intended to be used in connection with the Property, including, but not limited to, those for the purposes of supplying or distributing heating, cooling, electricity, gas, water, air and light, fire prevention and extinguishing apparatus, security and access control apparatus, plumbing, bath tubs, water heaters, water closets, sinks, ranges, stoves, refrigerators, dishwashers, disposals, washers, dryers,

awnings, storm windows, storm doors, screens, blinds, shades, curtains and curtain rods, attached mirrors, cabinets, paneling and attached floor coverings, all of which, including replacements and additions thereto, shall be deemed to be and remain a part of the Property covered by the Security Instrument. All of the foregoing together with the Property described in the Security Instrument (or the leasehold estate if the Security Instrument is on a leasehold) are referred to in this 1-4 Family Rider and the Security Instrument as the "Property."

B. USE OF PROPERTY; COMPLIANCE WITH LAW. Borrower shall not seek, agree to or make a change in the use of the Property or its zoning classification, unless Lender has agreed in writing to the change. Borrower shall comply with all laws, ordinances, regulations and requirements of any governmental body applicable to the Property.

C. SUBORDINATE LIENS. Except as permitted by federal law, Borrower shall not allow any lien inferior to the Security Instrument to be perfected against the Property without Lender's prior written permission.

D. RENT LOSS INSURANCE. Borrower shall maintain insurance against rent loss in addition to the other hazards for which insurance is required by Section 5.

E. "BORROWER'S RIGHT TO REINSTATE" DELETED. Section 19 is deleted.

F. BORROWER'S OCCUPANCY. Unless Lender and Borrower otherwise agree in writing, Section 6 concerning Borrower's occupancy of the Property is deleted.

G. ASSIGNMENT OF LEASES. Upon Lender's request after default, Borrower shall assign to Lender all leases of the Property and all security deposits made in connection with leases of the Property. Upon the assignment, Lender shall have the right to modify, extend or terminate the existing leases and to execute new leases, in Lender's sole discretion. As used in this paragraph G, the word "lease" shall mean "sublease" if the Security Instrument is on a leasehold.

H. ASSIGNMENT OF RENTS; APPOINTMENT OF RECEIVER; LENDER IN POSSESSION. Borrower absolutely and unconditionally assigns and transfers to Lender all the rents and revenues ("Rents") of the Property, regardless of to whom the Rents of the Property are payable. Borrower authorizes Lender or Lender's agents to collect the Rents, and agrees that each tenant of the Property shall pay the Rents to Lender or Lender's agents. However, Borrower shall receive the Rents until (i) Lender has given Borrower notice of default pursuant to Section 22 of the Security Instrument and (ii) Lender has given notice to the tenant(s) that the Rents are to be paid to Lender or Lender's agent. This assignment of Rents constitutes an absolute assignment and not an assignment for additional security only.

If Lender gives notice of default to Borrower: (i) all Rents received by Borrower shall be held by Borrower as trustee for the benefit of Lender only, to be applied to the

sums secured by the Security Instrument; (ii) Lender shall be entitled to collect and receive all of the Rents of the Property; (iii) Borrower agrees that each tenant of the Property shall pay all Rents due and unpaid to Lender or Lender's agents upon Lender's written demand to the tenant; (iv) unless applicable law provides otherwise, all Rents collected by Lender or Lender's agents shall be applied first to the costs of taking control of and managing the Property and collecting the Rents, including, but not limited to, attorney's fees, receiver's fees, premiums on receiver's bonds, repair and maintenance costs, insurance premiums, taxes, assessments and other charges on the Property, and then to the sums secured by the Security Instrument; (v) Lender, Lender's agents or any judicially appointed receiver shall be liable to account for only those Rents actually received; and (vi) Lender shall be entitled to have a receiver appointed to take possession of and manage the Property and collect the Rents and profits derived from the Property without any showing as to the inadequacy of the Property as security.

If the Rents of the Property are not sufficient to cover the costs of taking control of and managing the Property and of collecting the Rents any funds expended by Lender for such purposes shall become indebtedness of Borrower to Lender secured by the Security Instrument pursuant to Section 9.

Borrower represents and warrants that Borrower has not executed any prior assignment of the Rents and has not performed, and will not perform, any act that would prevent Lender from exercising its rights under this paragraph.

Lender, or Lender's agents or a judicially appointed receiver, shall not be required to enter upon, take control of or maintain the Property before or after giving notice of default to Borrower. However, Lender, or Lender's agents or a judicially appointed receiver, may do so at any time when a default occurs. Any application of Rents shall not cure or waive any default or invalidate any other right or remedy of Lender. This assignment of Rents of the Property shall terminate when all the sums secured by the Security Instrument are paid in full.

I. CROSS-DEFAULT PROVISION. Borrower's default or breach under any note or agreement in which Lender has an interest shall be a breach under the Security Instrument and Lender may invoke any of the remedies permitted by the Security Instrument.

103508518

BY SIGNING BELOW, Borrower accepts and agrees to the terms and covenants contained in this 1-4 Family Rider.

- BORROWER - ROBERT M. BEAN

- BORROWER - EVELYN C. BEAN

MORTGAGE ELECTRONIC REGISTRATION SYSTEMS, INC. RIDER
(MERS Rider)

BEAN
Loan #: **103508518**
MIN: **100853701035085181**

THIS MORTGAGE ELECTRONIC REGISTRATION SYSTEMS, INC. RIDER ("MERS Rider") is made this **19TH** day of **FEBRUARY, 2020**, and is incorporated into and amends and supplements the Deed of Trust (the "Security Instrument") of the same date given by the undersigned (the "Borrower," whether there are one or more persons undersigned) to secure Borrower's Note to **LOANDEPOT.COM, LLC** ("Lender") of the same date and covering the Property described in the Security Instrument, which is located at: **2555 BEAN LN APT 1-2, MISSOULA, MT 59804** [Property Address].

In addition to the covenants and agreements made in the Security Instrument, Borrower and Lender further covenant and agree that the Security Instrument is amended as follows:

A. DEFINITIONS

1. The Definitions section of the Security Instrument is amended as follows:

"Lender" is **LOANDEPOT.COM, LLC**. Lender is a **LIMITED LIABILITY COMPANY** organized and existing under the laws of **DELAWARE**. Lender's address is **26642 TOWNE CENTRE DRIVE, FOOTHILL RANCH, CA 92610**. Lender is the beneficiary under this Security Instrument. The term "Lender" includes any successors and assigns of Lender.

103508518

"MERS" is Mortgage Electronic Registration Systems, Inc. MERS is a separate corporation that is the Nominee for Lender and is acting solely for Lender. MERS is organized and existing under the laws of Delaware, and has an address and telephone number of PO Box 2026, Flint, MI 48501-2026, tel. (888) 679-MERS. MERS is appointed as the Nominee for Lender to exercise the rights, duties and obligations of Lender as Lender may from time to time direct, including but not limited to appointing a successor trustee, assigning, or releasing, in whole or in part this Security Instrument, foreclosing or directing Trustee to institute foreclosure of this Security Instrument, or taking such other actions as Lender may deem necessary or appropriate under this Security Instrument. The term "MERS" includes any successors and assigns of MERS. This appointment shall inure to and bind MERS, its successors and assigns, as well as Lender, until MERS' Nominee interest is terminated.

2. The Definitions section of the Security Instrument is further amended to add the following definition:

"Nominee" means one designated to act for another as its representative for a limited purpose.

B. TRANSFER OF RIGHTS IN THE PROPERTY

The Transfer of Rights in the Property section of the Security Instrument is amended to read as follows:

This Security Instrument secures to Lender: (i) the repayment of the Loan, and all renewals, extensions and modifications of the Note; and (ii) the performance of Borrower's covenants and agreements under this Security Instrument and the Note. For this purpose, Borrower irrevocably grants and conveys to Trustee, in trust, with power of sale, the following described property located in the **COUNTY** (Type of Recording Jurisdiction) of **MISSOULA** (Name of Recording Jurisdiction):

PLEASE SEE ATTACHED LEGAL DESCRIPTION SCHEDULE A

which currently has the address of **2555 BEAN LN APT 1-2, MISSOULA, MT 59804** ("Property Address"):

TOGETHER WITH all the improvements now or hereafter erected on the property, and all easements, appurtenances, and fixtures now or hereafter a part of the property. All replacements and additions shall also be covered by this Security Instrument. All of the foregoing is referred to in this Security Instrument as the "Property."

Lender, as the beneficiary under this Security Instrument, designates MERS as the Nominee for Lender. Any notice required by Applicable Law or this Security Instrument to be

served on Lender must be served on MERS as the designated Nominee for Lender. Borrower understands and agrees that MERS, as the designated Nominee for Lender, has the right to exercise any or all interests granted by Borrower to Lender, including, but not limited to, the right to foreclose and sell the Property; and to take any action required of Lender including, but not limited to, assigning and releasing this Security Instrument, and substituting a successor trustee.

C. NOTICES

Section 15 of the Security Instrument is amended to read as follows:

15. Notices. All notices given by Borrower or Lender in connection with this Security Instrument must be in writing. Any notice to Borrower in connection with this Security Instrument shall be deemed to have been given to Borrower when mailed by first class mail or when actually delivered to Borrower's notice address if sent by other means. Notice to any one Borrower shall constitute notice to all Borrowers unless Applicable Law expressly requires otherwise. The notice address shall be the Property Address unless Borrower has designated a substitute notice address by notice to Lender. Borrower shall promptly notify Lender of Borrower's change of address. If Lender specifies a procedure for reporting Borrower's change of address, then Borrower shall only report a change of address through that specified procedure. There may be only one designated notice address under this Security Instrument at any one time. Any notice to Lender shall be given by delivering it or by mailing it by first class mail to Lender's address stated herein unless Lender has designated another address by notice to Borrower. Borrower acknowledges that any notice Borrower provides to Lender must also be provided to MERS as Nominee for Lender until MERS' Nominee interest is terminated. Any notice provided by Borrower in connection with this Security Instrument will not be deemed to have been given to MERS until actually received by MERS. Any notice in connection with this Security Instrument shall not be deemed to have been given to Lender until actually received by Lender. If any notice required by this Security Instrument is also required under Applicable Law, the Applicable Law requirement will satisfy the corresponding requirement under this Security Instrument.

D. SALE OF NOTE; CHANGE OF LOAN SERVICER; NOTICE OF GRIEVANCE

Section 20 of the Security Instrument is amended to read as follows:

20. Sale of Note; Change of Loan Servicer; Notice of Grievance. The Note or a partial interest in the Note (together with this Security Instrument) can be sold one or more times without prior notice to Borrower. Lender acknowledges that until it directs MERS to assign MERS's Nominee interest in this Security Instrument, MERS remains the Nominee for Lender, with the authority to exercise the rights of Lender. A sale might result in a change in the entity (known as the "Loan Servicer") that collects Periodic Payments due under the Note and this Security

Instrument and performs other mortgage loan servicing obligations under the Note, this Security Instrument, and Applicable Law. There also might be one or more changes of the Loan Servicer unrelated to a sale of the Note. If there is a change of the Loan Servicer, Borrower will be given written notice of the change which will state the name and address of the new Loan Servicer, the address to which payments should be made and any other information RESPA requires in connection with a notice of transfer of servicing. If the Note is sold and thereafter the Loan is serviced by a Loan Servicer other than the purchaser of the Note, the mortgage loan servicing obligations to Borrower will remain with the Loan Servicer or be transferred to a successor Loan Servicer and are not assumed by the Note purchaser unless otherwise provided by the Note purchaser.

Neither Borrower nor Lender may commence, join, or be joined to any judicial action (as either an individual litigant or the member of a class) that arises from the other party's actions pursuant to this Security Instrument or that alleges that the other party has breached any provision of, or any duty owed by reason of, this Security Instrument, until such Borrower or Lender has notified the other party (with such notice given in compliance with the requirements of Section 15) of such alleged breach and afforded the other party hereto a reasonable period after the giving of such notice to take corrective action. If Applicable Law provides a time period which must elapse before certain action can be taken, that time period will be deemed to be reasonable for purposes of this paragraph. The notice of acceleration and opportunity to cure given to Borrower pursuant to Section 22 and the notice of acceleration given to Borrower pursuant to Section 18 shall be deemed to satisfy the notice and opportunity to take corrective action provisions of this Section 20.

E. SUBSTITUTE TRUSTEE

Section 24 of the Security Instrument is amended to read as follows:

24. Substitute Trustee. In accordance with Applicable Law, Lender or MERS may from time to time appoint a successor trustee to any Trustee appointed hereunder who has ceased to act. Without conveyance of the Property, the successor trustee shall succeed to all the title, power and duties conferred upon Trustee herein and by Applicable Law.

103508518

BY SIGNING BELOW, Borrower accepts and agrees to the terms and covenants contained in this MERS Rider.

- BORROWER - ROBERT M. BEAN

- BORROWER - EVELYN C. BEAN

LEGAL DESCRIPTION

The following described real estate located in Missoula County, State of Montana to wit:

A TRACT OF LAND BEING A PORTION OF LOT 42, COBBAN AND DINSMORES ORCHARD HOMES, A RECORDED SUBDIVISION OF MISSOULA COUNTY, MONTANA, LOCATED IN THE NORTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF SECTION 19, TOWNSHIP 13 NORTH, RANGE 19 WEST, PRINCIPAL MERIDIAN, MONTANA, MISSOULA COUNTY, MONTANA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT 113E NORTHWEST CORNER OF LOT 42 COBBAN AND DINSMORES ORCHARD HOMES;

THENCE N.89 DEGREES 12 MINUTES 15 SECONDS E., 483.32 FEET ALONG THE NORTH LINE OF LOT 42 TO A POINT ON THE WEST RIGHT-OF-WAY OF RESERVE STREET;

THENCE S. 00 DEGREES 35 MINUTES 35 SECONDS E., 76.40 FEET ALONG SAID WEST RIGHT-OF-WAY;

THENCE S 11 DEGREES 54 MINUTES 13 SECONDS E., 101.98 FEET ALONG SAID WEST RIGHT-OF-WAY LINE;

THENCE S. 00 DEGREES 35 MINUTES 35 SECONDS E., 146.84 FEET ALONG SAID WEST RIGHT-OF-WAY TO A POINT ON THE SOUTH LINE OF LOT 42 COBBAN AND DINSMORES ORCHARD HOMES;

THENCE S. 89 DEGREES 08 MINUTES 15 SECONDS W., 503.93 FEET TO THE SOUTHWEST CORNER OF SAID LOT 42;

THENCE N.00 DEGREES 29 MINUTES 00 SECONDS W., 173.89 FEET ALONG THE WEST LINE OF SAID LOT 42 TO THE SOUTHWEST CORNER OF THAT TRACT RECORDED IN BOOK 237 OF DEEDS AT PAGE 492;

THENCE N.89 DEGREES 12 MINUTES 15 SECONDS E., 170.00 FEET TO THE SOUTHEAST CORNER OF THAT TRACT RECORDED IN BOOK 237 OF DEEDS AT PAGE 492;

THENCE N.00 DEGREES 29 MINUTES 00 SECONDS W., 123.00 FEET TO THE NORTHEAST CORNER OF THAT TRACT RECORDED IN BOOK 237 OF DEEDS AT PAGE 492;

THENCE S. 89 DEGREES 12 MINUTES 15 SECONDS W., 170.00 FEET TO THE NORTHWEST CORNER OF THAT TRACT RECORDED IN BOOK 237 OF DEEDS AT PAGE 492;

THENCE N. 00 DEGREES 29 MINUTES 00 SECONDS W., 27.00 FEET ALONG THE WEST LINE OF COBBAN AND DINSMORES ORCHARD HOMES TO THE POINT OF BEGINNING

SAVING AND EXCEPTING THEREFROM A TRACT OF LAND BEING A PORTION OF LOT 42 OF COBBAN AND DINSMORES ORCHARD HOMES, A RECORDED SUBDIVISION OF MISSOULA COUNTY, MONTANA, LOCATED IN THE NORTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF SECTION 19, TOWNSHIP 13 NORTH, RANGE 19 WEST, PRINCIPAL MERIDIAN, MONTANA, MISSOULA COUNTY, MONTANA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF LOT 42 COBBAN AND DINSMORES ORCHARD HOMES; THENCE N. 89 DEGREES 12 MINUTES 15 SECONDS E., 289.99 FEET ALONG THE NORTH LINE OF SAID LOT 42 TO THE TRUE POINT OF BEGINNING;

THENCE CONTINUING N.89 DEGREES 12 MINUTES 15 SECONDS E., ALONG THE NORTH LINE OF SAID LOT 42 A DISTANCE OF 193.33 FEET TO A POINT ON THE WEST RIGHT-OF-WAY OF RESERVE STREET;

THENCE S.00 DEGREES 35 MINUTES 35 SECONDS E., 76.40 FEET ALONG SAID WEST RIGHT-OF-WAY;

THENCE S.11 DEGREES 54 MINUTES 13 SECONDS., 101.98 FEET ALONG SAID WEST RIGHT-OF-WAY LINE;

THENCE S. 00 DEGREES 35 MINUTES 35 SECONDS E., 146.84 FEET ALONG SAID WEST• RIGHT-OF-WAY TO A POINT ON THE SOUTH LINE OF LOT 42 COBBAN AND DINSMORES ORCHARD HOMES;

THENCE S.89 DEGREES 08 MINUTES 15 SECONDS W., 212.18 FEET; THENCE N.00 DEGREES 47 MINUTES 45 SECONDS W., 323.55 FEET TO THE TRUE POINT OF BEGINNING.

RECORDING REFERENCE IN BOOK 497 OF MICRO RECORDS AT PAGE 19.

Parcel/APN/Tax ID: 04-2200-19-1-10-03-0000

201808173 B: 996 P: 1389 Pages: 3 Fees: $21.00
05/23/2018 08:20:45 AM Quit Claim Deed
Tyler R. Gernant, Missoula County Clerk & Recorder
eRecording

{this space for recording information}

UNLS 1097123

Recording Requested by: Unisource
Kai Hsu

~~**When recorded, mail to:**~~
Robert M. Bean
Evelyn C. Bean
2555 Bean Lane
Missoula, MT 59804

Return to: Unisource
2530 Red Hill Ave, Ste 110
Santa Ana, CA 92705

Property Tax Parcel/ Account Number: 1848102

QUITCLAIM DEED

(this deed is being executed to add spouse to title)

THIS QUITCLAIM DEED, executed this 15 day of May, 2018 by and between EVELYN C. BEAN, also known of record as Cynthia Bean, with a mailing address of 2555 Bean Lane, Missoula, MT 59804, (hereinafter referred to as "**GRANTOR**") and ROBERT M. BEAN and EVELYN C. BEAN, husband and wife, residing at 2555 Bean Lane, Missoula, MT 59804, (hereinafter referred to as "**GRANTEES**")

For valuable consideration, the Grantor hereby quitclaims and transfers all right, title, and interest held by the Grantor in the following described real estate and improvements to the Grantees, and their heirs and assigns, to have and to hold forever, the following described parcel of land, and improvements and appurtenances thereto in the County of Missoula, State of Montana, to wit:

A TRACT OF LAND BEING A PORTION OF LOT 42, COBBAN AND DINSMORE'S ORCHARD HOMES, A RECORDED SUBDIVISION OF MISSOULA COUNTY, MONTANA, LOCATED IN THE NORTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF SECTION 19, TOWNSHIP 13 NORTH, RANGE 19 WEST, PRINCIPAL MERIDIAN, MONTANA, MISSOULA COUNTY, MONTANA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF LOT 42 COBBAN AND DINSMORE'S ORCHARD HOMES; THENCE N. 89 DEG. 12' 15" E., 483.32 FEET ALONG THE NORTH LINE OF LOT 42 TO A POINT ON THE WEST RIGHT-OF-WAY OF RESERVE

STREET; THENCE S. 00 DEG. 35' 35" E., 76.40 FEET ALONG SAID WEST RIGHT-OF-WAY; THENCE S. 11 DEG. 54' 13" E., 101.98 FEET ALONG SAID WEST RIGHT-OF-WAY LINE; THENCE S. 00 DEG. 35' 35" E., 146.84 FEET ALONG SAID WEST RIGHT-OF-WAY TO A POINT ON THE SOUTH LINE OF LOT 42 COBBAN AND DINSMORE'S ORCHARD HOMES; THENCE S. 89 DEG. 08' 15" W., 503.93 FEET TO THE SOUTHWEST CORNER OF SAID LOT 42; THENCE N. 00 DEG. 29' 00" W., 173.89 FEET ALONG THE WEST LINE OF SAID LOT 42 TO THE SOUTHWEST CORNER OF THAT TRACT RECORDED IN BOOK 237 OF DEEDS AT PAGE 492; THENCE N. 89 DEG. 12' 15" E., 170.00 FEET TO THE SOUTHEAST CORNER OF THAT TRACT RECORDED IN BOOK 237 OF DEEDS AT PAGE 492; THENCE N. 00 DEG. 29' 00" W., 123.00 FEET TO THE NORTHEAST CORNER OF THAT TRACT RECORDED IN BOOK 237 OF DEEDS AT PAGE 492; THENCE S. 89 DEG. 12' 15" W., 170.00 FEET TO THE NORTHWEST CORNER OF THAT TRACT RECORDED IN BOOK 237 OF DEEDS AT PAGE 492; THENCE N. 00 DEG. 29' 00" W., 27.00 FEET ALONG THE WEST LINE OF COBBAN AND DINSMORE'S ORCHARD HOMES TO THE POINT OF BEGINNING.

SAVING AND EXCEPTING THEREFROM A TRACT OF LAND BEING A PORTION OF LOT 42 OF COBBAN AND DINSMORE'S ORCHARD HOMES, A RECORDED SUBDIVISION OF MISSOULA COUNTY, MONTANA, LOCATED IN THE NORTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF SECTION 19, TOWNSHIP 13 NORTH, RANGE 19 WEST, PRINCIPAL MERIDIAN, MONTANA, MISSOULA COUNTY, MONTANA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF LOT 42 COBBAN AND DINSMORE'S ORCHARD HOMES; THENCE N. 89 DEG. 12' 15" E., 289.99 FEET ALONG THE NORTH LINE OF SAID LOT 42 TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING N. 89 DEG. 12' 15" E., ALONG THE NORTH LINE OF SAID LOT 42 A DISTANCE OF 193.33 FEET TO A POINT ON THE WEST RIGHT-OF-WAY OF RESERVE STREET; THENCE S. 00 DEG. 35' 35" E., 76.40 FEET ALONG SAID WEST RIGHT-OF-WAY; THENCE S. 11 DEG. 54' 13" E., 101.98 FEET ALONG SAID WEST RIGHT-OF-WAY LINE; THENCE S. 00 DEG. 35' 35" E., 146.84 FEET ALONG SAID WEST RIGHT-OF-WAY TO A POINT ON THE SOUTH LINE OF LOT 42 COBBAN AND DINSMORE'S ORCHARD HOMES; THENCE S. 89 DEG. 08' 15" W., 212.18 FEET; THENCE N. 00 DEG. 47' 45" W., 323.55 FEET TO THE TRUE POINT OF BEGINNING. RECORDING REFERENCE IN BOOK 497 OF MICRO RECORDS AT PAGE 19.

FURTHER EXCEPTING PORTION A OF COBBAN DINSMORE'S ORCHARD HOMES LOT 42, A PLATTED SUBDIVISION IN MISSOULA COUNTY, MONTANA, ACCORDING TO THE OFFICIAL RECORDED PLAT IN BOOK 19 AT PAGE 82 OF PLATS. RECORDING REFERENCE IN BOOK 494 OF MICRO RECORDS AT PAGE 2010.

BEING THE SAME PROPERTY CONVEYED BY DEED FROM AFFORDABLE HOME RV AND MOBILE HOME SERVICE CORPORATION TO CYNTHIA BEAN RECORDED ON AUGUST 12, 2016 IN BOOK 966, PAGE 189, IN THE OFFICIAL RECORDS OF MISSOULA COUNTY, MONTANA.

PROPERTY ADDRESS: 2555 Bean Lane, Missoula, MT 59804
The legal description was provided by agent for grantor.

SUBJECT TO the following patent reservations, restrictions, conditions, easements, and any and all further matters of record.

TO HAVE AND TO HOLD the said premises, with their appurtenances unto the said Grantees, as joint tenants with right of survivorship and not as tenants in common, and unto Grantee's heirs and assigns of the survivor of said named joint tenants forever.

IN WITNESS WHEREOF, The said Grantor has signed the 15 day of May, 2018.

Evelyn C Bean

EVELYN C. BEAN,
also known of record as Cynthia Bean

State of Montana
County of Missoula

On this 15 day of May, 2018, before me, a Notary Public for the State of Montana, personally appeared **EVELYN C. BEAN,** also known of record as Cynthia Bean, known to me to be the person named in the foregoing, and acknowledged to me that she executed the same as her free act and deed, for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal the day and year in this certificate first above written.

Notary Signature
[Montana notaries must complete the following, if not part of stamp.]

Printed Name
Notary Public for the state of _____
Residing at _____
My Commission expires: _____, 20_____

CHARLES SMART NOTARY PUBLIC SEAL STATE OF MONTANA
CHARLES SMART
NOTARY PUBLIC for the
State of Montana
Residing at Missoula, MT
My Commission Expires
July 11, 2018

3 of 4

Return to:
Crowley Fleck PLLP
P.O. Box 7099
Missoula, MT 59807

Send Tax Notices To:
John Barrett
243 Old Oak Bay Rd.
Port Hadlock, WA 98339

201906564 B:1012 P:99 Pages:3 Fee:$21.00
05/15/2019 09:03:32 AM Deed Of Distribution
Tyler R. Gernant, Missoula County Clerk & Recorder

PERSONAL RERESENTATIVE'S DEED OF CONVEYANCE

FOR VALUABLE CONSIDERATION, receipt of which is acknowledged on this 9th day of MAY, 2019, the undersigned,

John David Barrett, Personal Representative of the Estate of Anne Burns, Deceased ("Grantor"), of

243 Old Oak Bay Rd., Port Hadlock, WA 98339

authorized and acting as Personal Representative under an Order and Letters in Missoula County, Montana Probate No. DP-19-40, hereby quitclaims and distributes to:

John David Barrett, ("Grantee")

all of the interest of the Grantor in the real property situated in Missoula County, Montana, more particularly described as follows:

See Exhibit A

TO HAVE AND TO HOLD unto the Grantee, and to the Grantee' heirs and assigns, forever.

IN WITNESS WHEREOF, the Grantor herein has executed this instrument the day and year first above written.

John Barrett

John David Barrett, Personal Representative of the Estate of Anne Burns, Deceased

STATE OF WA)
:ss
County of Jefferson)

This instrument was acknowledged before me on the 9th day of May, 2019, by John David Barrett in his capacity as Personal Representative of the Estate of Anne Burns, Deceased.

Notary Public
State of Washington
JENNIFER T BLAIS
MY COMMISSION EXPIRES
January 28, 2022
(SEAL)

Jennifer T. Blais
Print Name:

Exhibit A – Legal Description

THE LAND REFERRED TO IN THIS POLICY IS DESCRIBED AS FOLLOWS:

Beginning at the Northwest corner of Lot 42, COBBAN AND DINSMORE'S ORCHARD HOMES; thence N.89°12'15*"E.,* 289.99 feet along the North line of said Lot 42 to the true point of beginning;
thence continuing N.89°12'15"E., along the North line of said Lot 42 a distance of 193.33 feet to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way line; thence S.11 °54'13"E., l01.98 feet along said West right-of-way; thence S.00°35'35"E., 146.84 feet along said West right-of-way to a point on the South line of Lot 42, Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W., 212.18 feet; thence N.00°47'45"W., 323.55 feet to the true point of beginning.

OK

RECORDING REFERENCE: Book 234 of Micro Records at Page 163.

WARRANTY DEED

MT-50847
TAX ID NO.: 6001157

For Value Received **Coy D. Gray and Robert C. Gray Jr., and Collin K. Bangs,** the Grantors, do hereby grant, bargain, sell and convey unto

Collin K. Bangs as to an undivided 75.4% interest; and John Barrett and Anne Burns, as to an undivided 24.6% interest
1900 Brooks, Suite 115, Missoula, MT 59801

the Grantee, the following described premises, in Missoula County, Montana, to-wit:

Beginning at the Northwest corner of Lot 42, COBBAN AND DINSMORE'S ORCHARD HOMES; thence N.89°12'15"E., 289.99 feet along the North line of said Lot 42 to the true point of beginning; thence continuing N.89°12'15"E., along the North line of said Lot 42 a distance of 193.33 feet to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way line; thence S.11°54'13"E., 101.98 feet along said West right-of-way; thence S.00°35'35"E., 146.84 feet along said West right-of-way to a point on the South line of Lot 42, Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W., 212.18 feet; thence N.00°47'45"W., 323.55 feet to the true point of beginning.

RECORDING REFERENCE: Book 234 of Micro Records at Page 163.

TO HAVE AND TO HOLD the said premises, with their appurtenances unto the said Grantees, their heirs and assigns forever. And the said Grantors do hereby covenant to and with the said Grantees, they are the owners in fee simple of said premises; that they are free from all incumbrances except taxes for current and subsequent years thereafter and covenants, conditions, restrictions and easements apparent and/or of record and that they will warrant and defend the same from all lawful claims whatsoever.

Dated: This 21st day of May, 2004

Collin K. Bangs

Coy D. Gray

Robert C. Gray, Jr.

State of Montana
County of Missoula

This instrument was acknowledged before me on May 21, 2004, Collin K. Bangs, Coy D. Gray and Robert C. Gray, Jr.

DUSKIE LEE GRAMM NOTARIAL SEAL STATE OF MONTANA

DUSKIE LEE GRAMM
NOTARY PUBLIC-MONTANA
Residing at Missoula, Montana
My Comm. Expires August 17, 2007

Signature of notarial officer

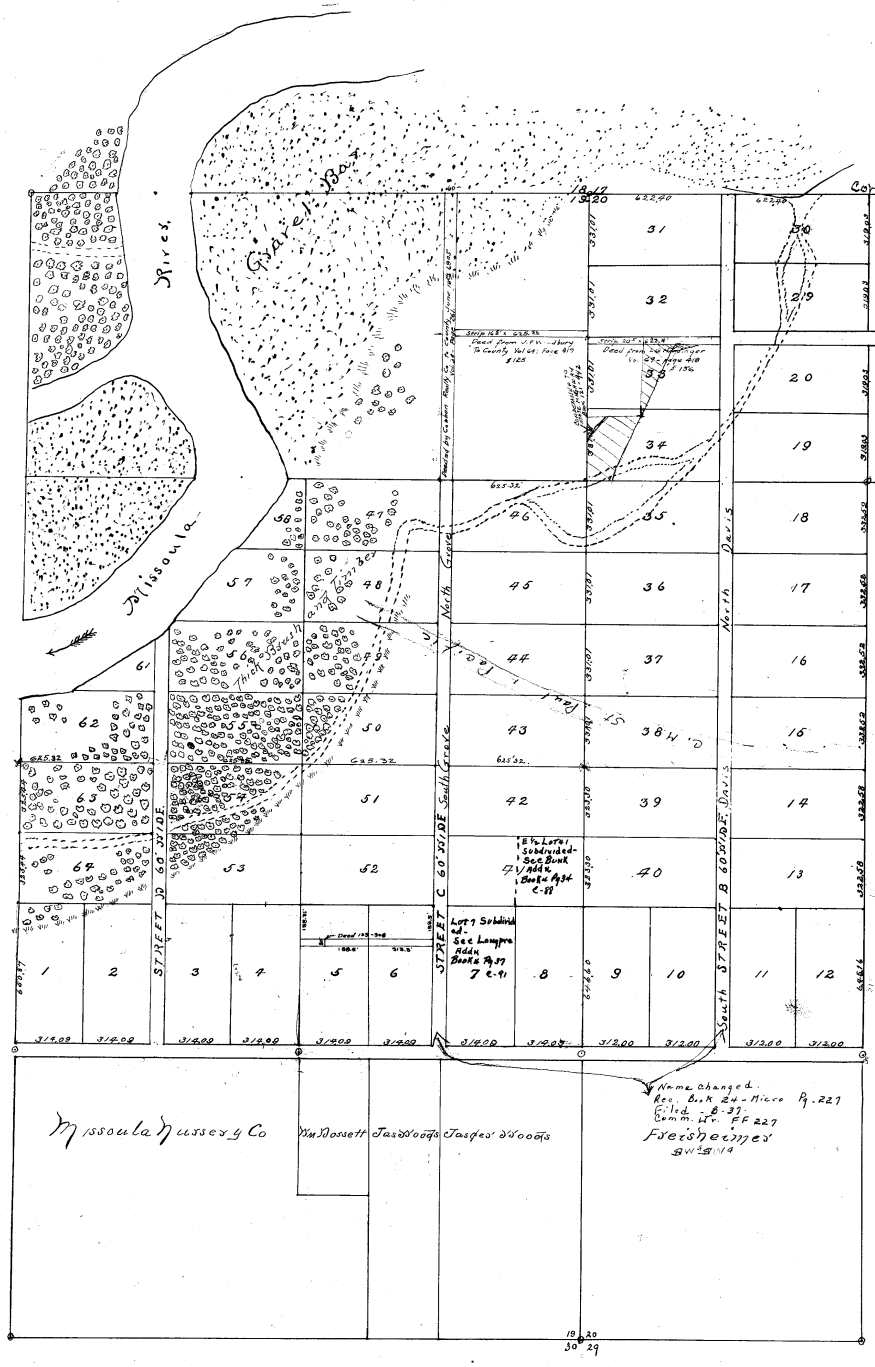
Printed name of notarial officer
My Commission Expires:
Mail to: Grantee

200414143
Page: 1 of 1
05/24/2004 04:44P
Missoula County Vickie M Zeier WD
Bk-732 Pg-1436

COBBAN & DINSMORE'S
ORCHARD HOMES.

IN 5 ACRE TRACTS.

AT MISSOULA, MONTANA.
SCALE 300 FT. = 1 IN.



STATE OF MONTANA }
County of Missoula } ss

A W CATLIN, Being first duly Sworn, Says That he is the Engineer who Platted, Subdivided and Surveyed the Tracts and Blocks hereon, and made up Missoula County, Montana, and that the annexed plat is a correct representation and Delineation, and that the said Addition is laid out according to the law, and that the widths of the Streets and Measurements of the Lots and the Spaces for Reference Points are Correctly represented on said plat.

A W Catlin

Subscribed and Sworn to before me this 21 day of February in the year of our Lord One Thousand and Nine Hundred

Geo Byron Fields
Notary Public in and for the County of Missoula Montana

Seal

State of Montana }
County of Silver Bow } ss

We Andrew J. Davis and Helen M. Davis do hereby Certify that we have Caused the Survey of the Tracts and Blocks, Streets and Alleys as shown by the Plat and Certificate of Survey hereto annexed the following Tract of Land to Wit:

The South Half of the Northeast Quarter and North Half of the Southeast Quarter of Section Twenty (20), The North Half of the Southwest Quarter, The South West Quarter of the Northwest Quarter and the Northwest Quarter of the Southwest Quarter of Section Twenty (20) Township Thirteen (13) North Range Twenty-one (21) West Montana Meridian

To be known as Cobban and Dinsmore's Orchard Homes.

And the Streets and Alleys shown on annexed Plat to be and hereby are granted and donated to the use of the Public forever.

Andrew J. Davis
Helen M. Davis

Subscribed and Sworn to before me This 24th Day of February in the year of our Lord One Thousand and Nine Hundred

Jas T Dutton
Notary Public in and for Silver Bow County Montana

Seal

State of Montana }
County of Missoula } ss

I hereby Certify that the foregoing instrument was filed in my Office on the 24th Day of February A.D. 1900 at 9 o'clock A.M. and recorded on Page 46 of Plats of the Records of Missoula County.

A. J. Stevens
Clerk and Recorder of Missoula County Montana

Seal

This plat is hereby approved this 8th day of March A.D. 1900.

A P Fietzen
W B Russell
J R Latimer
County Commissioners Missoula County Montana

STATE OF MONTANA }
County of Missoula } ss. SURVEYOR'S CERTIFICATE

I, R H Hoss, ... on my oath deposes and says: That I have ... more or less ... the above plat was compared ... and that ... correct copy of the original.

Compared this 21st day of January A.D. 1905

ATTEST: R H Hoss

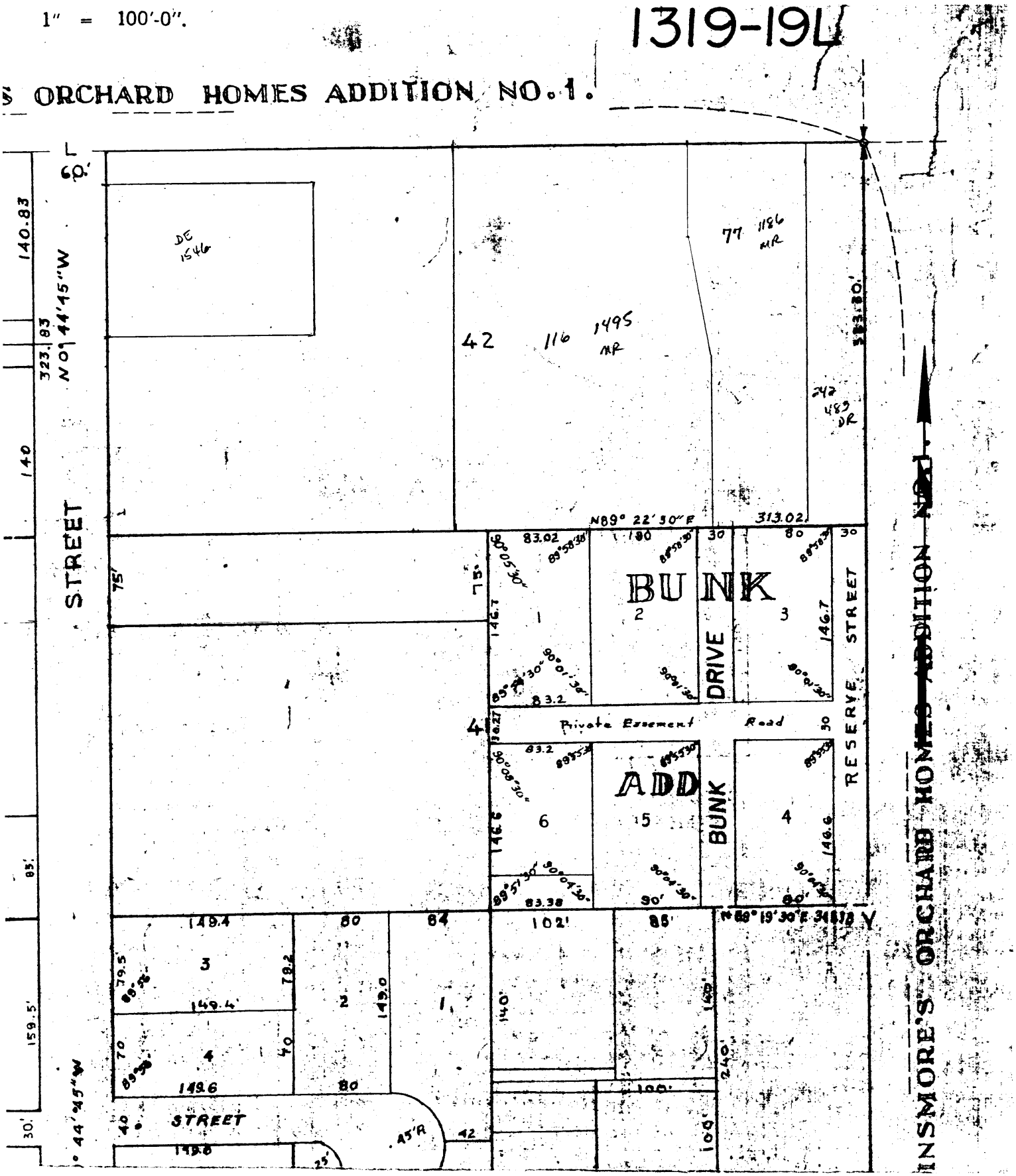
Subscribed and sworn to before me this 7th day of June 1905

Notary Public in and for Missoula County, Montana

48 Book1

1" = 100'-0".

1319-194



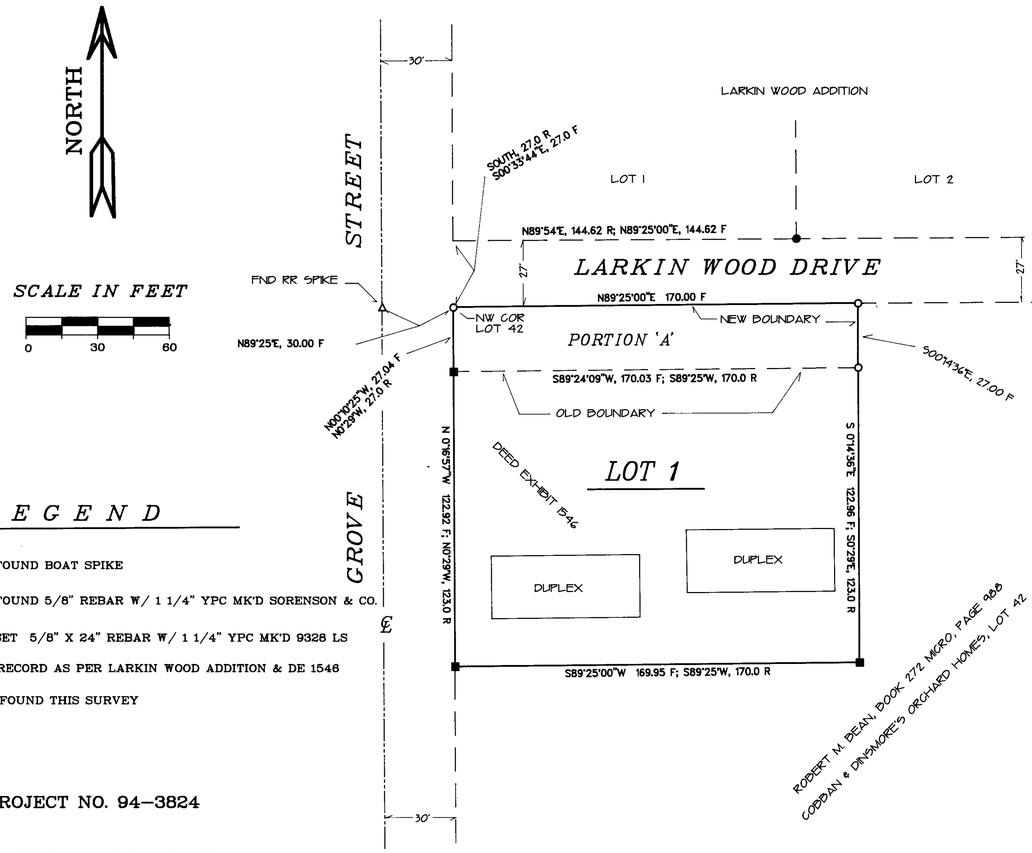
This sketch is provided, without charge, for your information. It is not intended to show all matters related to the property including, but not limited to, area, dimensions, easements, encroachments, or location of boundaries. It is not a part of, nor does it modify, the Commitment of Policy to which it is attached. The Company assumes **NO LIABILITY** for any matters related to this sketch. Reference should be made to an accurate survey for further information.

28-61

COBBAN & DINSMORE'S ORCHARD HOMES, LOT 42

12-82

AN AMENDED SUBDIVISION PLAT FOR THE PURPOSE OF RELOCATING COMMON BOUNDARIES
LOCATED IN THE SE1/4, S.19, T.13N., R.19W., MISSOULA COUNTY, MONTANA



LEGEND

- ● FOUND BOAT SPIKE
- ■ FOUND 5/8" REBAR W/ 1 1/4" YPC MK'D SORENSON & CO.
- O SET 5/8" X 24" REBAR W/ 1 1/4" YPC MK'D 9328 LS
- R RECORD AS PER LARKIN WOOD ADDITION & DE 1546
- F FOUND THIS SURVEY

PROJECT NO. 94-3824

PORTION 'A' 4594 SQ FT
DEED EXHIBIT 1546: 20898 SQ FT
LOT 1: 25,492 SQ FT

PLAT DRAWN: MAY, 1994

LEGAL DESCRIPTION:

Parcels of land located in the Southeast one-quarter (SE 1/4) of Section 19, Township 13 North, Range 19 West, Principal Meridian, Montana, Missoula County, Montana, and being Portion of Cobban & Dinsmore's Orchard Homes, Lot 42 and being further described as follows:

COBBAN & DINSMORE'S ORCHARD HOMES, LOT 42 (Perimeter Boundary)

Beginning at the NorthWest corner of Cobban & Dinsmore's Orchard Homes, Lot 42 thence N.89°25'00"E., 170.00 feet; thence S.00°14'36"E., 149.96 feet; thence S.89°25'00"W., 169.95 feet; thence N.00°16'57"W., 122.92 feet; thence N.00°10'25"W., 27.04 feet to the point of beginning, containing 25,492 square feet, being surveyed and monumented as shown on the attached plat, and being subject to all easements and dedications existing, shown and/or of record.

OWNERS CERTIFICATION

I(We) hereby certify that the purpose of this division of land is to relocate common boundaries within a platted subdivision. Therefore , this division of land is exempt from review as a subdivision pursuant to section 76-3-207(1)(d), MCA. I(We) further certify that this survey is exempt from sanitation review pursuant to Section 16.16.605(2)(a), ARM, to wit:"Divisions for the purpose of acquiring additional land to become part of a parcel that does not have sanitary restrictions imposed provided that no dwelling or structure requiring water or sewage will be erected on the additional acquired parcel. I(We) further certify that the property described above in the perimeter description shall be known as COBBAN & DINSMORE'S ORCHARD HOMES, LOT 42.

owners: _____ _____
Dale T. Kohler Ernest W. Johnson, Deed Exhibit 1546

owners: _____
Robert M. Bean, Portion 'A'

State of MT, County of _____
On this 14th day of December, 1994, before me personally appeared Dale T. Kohler, Ernest W. Johnson, Robert M. Bean known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same.

_____
Notary Public for the State of MT
Residing at Missoula My Commission expires 10-30-96

SURVEYORS CERTIFICATION

I certify that this survey represents work done by me or under my direction. Steven M. Inabnit Nov. 15, 1994
Steven M. Inabnit, Professional Land Surveyor
Montana Registration No. 9328 LS

PURPOSE OF SURVEY

This survey is filed with the intent to qualify for the exemption as found in Section 76-3-207(1)(d), MCA, to wit: "for five or fewer lots within a platted subdivision, relocation of common boundaries and the aggregation of lots."

FINAL APPROVAL GRANTED BY:

_____ 11/30/94
Missoula ~~City Engineer~~ County Surveyor

_____ 12/19/94
Missoula City-County Health Department

This Amended Plat was not reviewed for adequate access, installation of utilities, compliance with zoning, or availability of public services; nor does this approval obligate Missoula County to provide road maintenance or other services

I received and filed this instrument for record on the 27 day of DEC 19 95 at 8:31 o'clock A. M., pertinent files of Missoula County, State of Montana. Witness my hand:
RICKIE M. ZEIER, County Recorder
By Hillis Bowlby, Deputy
Fee $ 5.00 Paid

Book 19 Plats Pg 82
File 0-82
Checklist # 1715
Ownership Report # 1316
Affidavit Bk 439 micro Pg 20
Consent to Plat Book 439 micro Pg 12
Book 439 micro Pg 13
Book 439 micro Pg 14
Book 439 micro Pg 15
Book 439 micro Pg 16
Book 439 micro Pg 17
Book 439 micro Pg 18
Book 439 micro Pg 19

Acceptance of a deed for a lot in this subdivision shall constitute: 1. Assent by the owners of the lot to waive the right to protest an RSID or SID affecting said property for the purpose of financing the design and construction of a public sewer benefitting said property; and 2. An agreement whereby the owner(s) shall connect to public sewer within 180 days after public sewer is installed and available in the public right of way adjacent to the property. This waiver shall run with the land and shall be binding on the transferees, successors, and assigns of the owners of the land described herein. All documents of conveyance shall refer to and incorporate this waiver.

1/4	SEC	T	R
X	19	13N.	19W.
	P	M	M

9506862

ELI & ASSOCIATE
PROFESSIONAL LAND SURVEYORS
ENGINEERS & LAND PLANNERS

BOX 7462 MISSOULA, MONTANA 59807
TELEPHONE (406) 549-5022

BASIS OF BEARING: DEED EXHIBIT NO. 1546

OWNERS: DALE T. KOHLER and ERNEST W. JOHNSON, BOOK 372 MICRO, PG 269
PORTION 'A', ROBERT M. BEAN

MISSOULA COUNTY, MONTANA

SHEET 1 OF 1

MSLA CO 94-3145

94-3824

19-82

WARRANTY DEED

MT-50847
TAX ID NO.: 6001157

For Value Received **Coy D. Gray and Robert C. Gray Jr., and Collin K. Bangs,** the Grantors, do hereby grant, bargain, sell and convey unto

Collin K. Bangs as to an undivided 75.4% interest; and John Barrett and Anne Burns, as to an undivided 24.6% interest
1900 Brooks, Suite 115, Missoula, MT 59801

the Grantee, the following described premises, in Missoula County, Montana, to-wit:

Beginning at the Northwest corner of Lot 42, COBBAN AND DINSMORE'S ORCHARD HOMES; thence N.89°12'15"E., 289.99 feet along the North line of said Lot 42 to the true point of beginning; thence continuing N.89°12'15"E., along the North line of said Lot 42 a distance of 193.33 feet to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way line; thence S.11°54'13"E., 101.98 feet along said West right-of-way; thence S.00°35'35"E., 146.84 feet along said West right-of-way to a point on the South line of Lot 42, Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W., 212.18 feet; thence N.00°47'45"W., 323.55 feet to the true point of beginning.

RECORDING REFERENCE: Book 234 of Micro Records at Page 163.

TO HAVE AND TO HOLD the said premises, with their appurtenances unto the said Grantees, their heirs and assigns forever. And the said Grantors do hereby covenant to and with the said Grantees, they are the owners in fee simple of said premises; that they are free from all incumbrances except taxes for current and subsequent years thereafter and covenants, conditions, restrictions and easements apparent and/or of record and that they will warrant and defend the same from all lawful claims whatsoever.

Dated: This 21st day of May, 2004

Collin K. Bangs

Coy D. Gray

Robert C. Gray, Jr.

State of Montana
County of Missoula

This instrument was acknowledged before me on May 21, 2004, Collin K. Bangs, Coy D. Gray and Robert C. Gray, Jr.

DUSKIE LEE GRAMM NOTARIAL SEAL STATE OF MONTANA

DUSKIE LEE GRAMM
NOTARY PUBLIC-MONTANA
Residing at Missoula, Montana
My Comm. Expires August 17, 2007

Signature of notarial officer

Printed name of notarial officer
My Commission Expires:
Mail to: Grantee

200414143
Page: 1 of 1
05/24/2004 04:44P
Missoula County Vickie M Zeier WD
Bk-732 Pg-1436

3 of 4

Return to:
Crowley Fleck PLLP
P.O. Box 7099
Missoula, MT 59807

Send Tax Notices To:
John Barrett
243 Old Oak Bay Rd.
Port Hadlock, WA 98339

201906564 B:1012 P:99 Pages:3 Fee:$21.00
05/15/2019 09:03:32 AM Deed Of Distribution
Tyler R. Gernant, Missoula County Clerk & Recorder

PERSONAL REPRESENTATIVE'S DEED OF CONVEYANCE

FOR VALUABLE CONSIDERATION, receipt of which is acknowledged on this 9th day of MAY, 2019, the undersigned,

John David Barrett, Personal Representative of the Estate of Anne Burns, Deceased ("Grantor"), of

243 Old Oak Bay Rd., Port Hadlock, WA 98339

authorized and acting as Personal Representative under an Order and Letters in Missoula County, Montana Probate No. DP-19-40, hereby quitclaims and distributes to:

John David Barrett, ("Grantee")

all of the interest of the Grantor in the real property situated in Missoula County, Montana, more particularly described as follows:

See Exhibit A

TO HAVE AND TO HOLD unto the Grantee, and to the Grantee' heirs and assigns, forever.

IN WITNESS WHEREOF, the Grantor herein has executed this instrument the day and year first above written.

John Barrett

John David Barrett, Personal Representative of the Estate of Anne Burns, Deceased

STATE OF WA)
:ss
County of Jefferson)

This instrument was acknowledged before me on the 9th day of May, 2019, by John David Barrett in his capacity as Personal Representative of the Estate of Anne Burns, Deceased.

Notary Public
State of Washington
JENNIFER T BLAIS
MY COMMISSION EXPIRES
January 28, 2022

(SEAL)

Jennifer T. Blais
Print Name:

Exhibit A – Legal Description

THE LAND REFERRED TO IN THIS POLICY IS DESCRIBED AS FOLLOWS:

Beginning at the Northwest corner of Lot 42, COBBAN AND DINSMORE'S ORCHARD HOMES; thence N.89°12'15*"E.,* 289.99 feet along the North line of said Lot 42 to the true point of beginning;
thence continuing N.89°12'15"E., along the North line of said Lot 42 a distance of 193.33 feet to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way line; thence S.11 °54'13"E., l01.98 feet along said West right-of-way; thence S.00°35'35"E., 146.84 feet along said West right-of-way to a point on the South line of Lot 42, Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W., 212.18 feet; thence N.00°47'45"W., 323.55 feet to the true point of beginning.

OK

RECORDING REFERENCE: Book 234 of Micro Records at Page 163.

202014810 B: 1034 P: 840 Pages: 2 Fees: $14.00
07/20/2020 08:18:31 AM Full Reconveyance
Tyler R. Gernant, Missoula County Clerk & Recorder
eRecording

RECORDING REQUESTED BY AND AFTER RECORDING MAIL TO:

UPF WASHINGTON INCORPORATED
12410 E MIRABEAU PKWY #100
SPOKANE VALLEY, WA 99216
Ref. No. 834793-S(P)(E)

FULL RECONVEYANCE

MIN: 100304810000020472 **MERS Phone: 1-888-679-6377**

The undersigned, as Trustee, under that certain Deed of Trust dated 5/15/2018 in which ROBERT M BEAN AND EVELYN C BEAN, husband and wife, is/are Grantor(s), and Mortgage Electronic Registration Systems Inc (MERS), as designated nominee for WEI MORTGAGE CORPORATION , beneficiary of the security instrument, its successors and assigns, is Grantee, recorded on 5/23/2018, as Recording No. 201808174, in Volume N/A, Page N/A, records of Missoula County, Montana, having received from the beneficiary under said Deed of Trust a written request to reconvey the real property described in said deed, does hereby reconvey, without warranty, to the person(s) entitled thereto all of the right, title and interest now held by said trustee in and to the real property described in said Deed of Trust, situated in Missoula County, Montana.

Legal: See Attached Exhibit A For Full Legal Description By This Reference Made A Part Hereof

DATED: 7/14/2020

Loan # 0033264748 BY: _____
Mark C. Prothero, Successor Trustee

STATE OF WASHINGTON)
County of Spokane)

On 7/14/2020, before me, the undersigned Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared **Mark C. Prothero, Successor Trustee,** personally known to me or proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

DIANA NORBERG
NOTARY PUBLIC
STATE OF WASHINGTON
COMMISSION NUMBER 197052
COMMISSION EXPIRES JAN. 2, 2022

_____
NOTARY PUBLIC in and for the State of Washington
Printed Name: Diana Norberg
My commission expires: 1-2-2022

Exhibit A

A TRACT OF LAND BEING A PORTION OF LOT 42, COBBAN AND DINSMORE'S ORCHARD HOMES, A RECORDED SUBDMSION OF MISSOULA COUNTY, MONTANA, LOCATED IN THE NORTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF SECTION19, TOWNSHIP 13 NORTH, RANGE 19 WEST, PRINCIPAL MERIDIAN, MONTANA, MISSOULA COUNTY, MONTANA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF LOT 42 CORBAN AND DINSMORE'S ORCHARD HOMES; THENCE N.89°12'15"E., 483.32 FEET ALONG THE NORTH LINE OF LOT 42 TO A POINT ON THE WEST RIGHT-OF-WAY OF RESERVE STREET; THENCE S.00°35'35"E., 76.40 FEET ALONG SAID WEST RIGHT-OF-WAY; THENCE S.11°54'13"E., 101.98 FEET ALONG SAID WEST RIGHT-OF-WAY LINE; THENCE S.00°35'35"E., 146.84 FEET ALONG SAID WEST RIGHT-OF-WAY TO A POINT ON THE SOUTH LINE OF LOT 42 CORBAN AND DINSMORE'S ORCHARD HOMES; THENCE S.89°08'15"W., 503.93 FEET TO THE SOUTHWEST CORNER OF SAID LOT 42; THENCE N.00°29'00"W., 173.89 FEET ALONG THE WEST LINE OF SAID LOT 42 TO THE SOUTHWEST CORNER OF THAT TRACT RECORDED IN BOOK 237 OF DEEDS AT PAGE 492; THENCE N.89°12'15"E., 170.00 FEET TO THE SOUTHEAST CORNER OF THAT TRACT RECORDED IN BOOK 237 OF DEEDS AT PAGE 492; THENCE N.00°29'00"W., 123.00 FEET TO THE NORTHEAST CORNER OF THAT TRACT RECORDED IN BOOK 237 OF DEEDS AT PAGE 492; THENCE S.89°12'15"W., 170.00 FEET TO THE NORTHWEST CORNER OF THAT TRACT RECORDED IN BOOK 237 OF DEEDS AT PAGE 492; THENCE N.00°29'00"W., 27.00 FEET ALONG THE WEST LINE OF COBBAN AND DINSMORE'S ORCHARD HOMES TO THE POINT OF BEGINNING.

SAVING AND EXCEPTING THEREFROM

A TRACT OF LAND BEING A PORTION OF LOT 42 OF CORBAN AND DINSMORE'S ORCHARD HOMES, A RECORDED SUBDMSION OF MISSOULA COUNTY, MONTANA, LOCATED IN THE NORTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF SECTION 19, TOWNSHIP 13 NORTH, RANGE 19 WEST, PRINCIPAL MERIDIAN, MONTANA, MISSOULA COUNTY, MONTANA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF LOT 42 COBBAN AND DINSMORE'S ORCHARD HOMES; THENCE N. 89°12'15"E., 289.99 FEET ALONG THE NORTH LINE OF SAID LOT 42 TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING N.89°12'15"E., ALONG THE NORTH LINE OF SAID LOT 42 A DISTANCE OF 193.33 FEET TO A POINT ON THE WEST RIGHT-OF-WAY OF RESERVE STREET; THENCE S.00°35'35"E., 76.40 FEET ALONG SAID WEST RIGHT-OF-WAY; THENCE S.11°54'13E"., 101.98 FEET ALONG SAID WEST RIGHT-OF-WAY LINE; THENCE S.00°35'35"E., 146.84 FEET ALONG SAID WEST RIGHT-OF-WAY TO A POINT ON THE SOUTH LINE OF LOT 42 COBBAN AND DINSMORE'S ORCHARD HOMES; THENCE S.89°08'15"W., 212.18 FEET; THENCE N.00°47'45"W., 323.55 FEET TO THE TRUE POINT OF BEGINNING.

RECORDING REFERENCE IN BOOK 497 OF MICRO RECORDS AT PAGE 19.

FURTHER EXCEPTING PORTION A OF COBBAN DINSMORE'S ORCHARD HOMES LOT 42, A PLATTED SUBDIVISION IN MISSOULA COUNTY, MONTANA, ACCORDING TO THE OFFICIAL RECORDED PLAT IN BOOK 19 AT PAGE 82 OF PLATS.

RECORDING REFERENCE IN BOOK 494 OF MICRO RECORDS AT PAGE 2010.

After Recording Return To:
IMEG Corp
1817 South Ave. W.
Suite A
Missoula, MT 59801

DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR ORCHARD GROVE SUBDIVISION

This Declaration is made this_____day of_____, _____by Robert and Evelyn Bean, 2555 Bean Ln., Missoula, MT 59804, _____, 4607 North Ave W., Missoula, MT 59804 and Collin Bangs, 4607 North Ave W., Missoula, MT 59804 provides as follows:

RECITALS

A. ("Declarant" herein) is the owner of certain real property located in the City of Missoula, Missoula County, State of Montana, which is more particularly described as follows:

LEGAL DESCRIPTION OF PROPERTY TO BE ANNEXED

Lot 42, Cobban and Dinsmore's Orchard Homes, less Lot 1 recorded at Book 19 and Page 82 Micro Records Missoula County & Less Dedicated Right-of-way, located in the NE ¼ of the SE ¼ of Section 19, Township 13 North, Range 19 West, containing +/- 3.08 Acres.

Said property is being subdivided and the following subdivision will be identified as being:

ORCHARD GROVE SUBDIVISION

The "Real Property" herein.

B. The Declarant wishes to place restrictions, covenants and conditions upon the Real Property for the use and benefit of the Real Property, the Declarant, and the future owners of the Real Property.

C. THEREFORE, the Declarant hereby declare that all of the Real Property shall be held, sold, conveyed, and hypothecated subject to the following restrictions, covenants, conditions, and easements, all of which are for the purpose of enhancing and protecting the value, desirability, and attractiveness of the Real Property as a residential development. These restrictions, covenants, conditions and easements shall run with the Real Property and shall be binding upon all parties having or acquiring any right, title or interest in the Real Property, or any part thereof, and shall inure to the benefit of and be binding upon each successor in interest to the Owner thereof, whether or not this Declaration is identified in any subsequent grant of Real Property identified herein.

ARTICLE I: DEFINITIONS

1. Declarant. "Declarant" shall mean and refer to Collin Bangs, John Barrett, Evelyn & Robert Bean and their successors and assigns if such successors or assigns should acquire a majority of the undeveloped Lots from the Declarants for the purpose of development. Throughout this Declaration certain rights and privileges may be reserved to the Declarant and not to all Owners. The sale or transfer of an individual Lot or subsequent Ownership Unit does not in and of itself transfer any development rights retained herein by Declarants.

2. Declaration. "Declaration" shall mean and refer to this Declaration of Covenants, Conditions and Restrictions.

3. Lot. "Lot" shall mean and refer to any plot of land designated as a Lot upon the recorded plat map of the Real Property or as will be shown upon the recorded plat map of future phases of the Real Property, subject to this Declaration, inclusive of private roadways or access shown as easements across the Lots.

4. Owner. "Owner" shall mean and refer to the record Owner, whether one or more persons or entities of any Lot which is a part of the Real Property, including buyers under a contract for deed, but excluding those having such interest merely as security for the performance of an obligation.

5. Real Property. "Real Property" shall mean and refer to that certain Real Property as described in the Recitals above, and such other Real Property as is now or may hereafter be brought within and governed by this Declaration.

6. Homeowners' Association. "The Association" shall mean and refer to the voting body of members, comprised of Lot Owners, established by the Declarant for sole purpose of protecting the value and desirability of the Property and the Lots, to further a plan for the improvement, sale, and ownership of the Lots for the mutual benefit of future owners, to create a harmonious and attractive development conducive to residential uses of property, and to promote and safeguard the health, comfort, safety, convenience, and welfare of future owners. The Association shall have members, articles, and bylaws. The Association shall at all times be subject to the following covenants, conditions and restrictions:

1) The property owners' association will be formed before any property is sold;
2) Membership is mandatory for each property buyer and any subsequent buyer;
3) The maintenance of drainage facilities is perpetual;
4) The association is responsible for liability insurance, local taxes, and the maintenance of recreational and other facilities;
5) Property owners must pay their pro—rata share of association costs and that the assessment charged by the association can become a lien on the property;
6) The association may adjust the assessment to meet changed needs;
7) Prior to final plat approval, the property owners' association articles of incorporation, bylaws, covenants, and restrictions must be prepared or reviewed by an attorney licensed to practice law in the State of Montana in order that applicable Association requirements are met.
8) There are means of enforcement and means of receiving and processing complaints.
9) The permission of the City Council is required before the association can be dissolved or the restrictions modified; and
10) There is a regular maintenance program for drainage facilities and other mutually controlled facilities.

ARTICLE II: PROTECTIVE COVENANTS

The following protective covenants are designed to provide a uniform plan for the development of the Real Property. They shall constitute a covenant running with the land for each Lot or parcel within the Real Property.

1. Land Use and Building Type. All Lots shall be used and developed for residential purposes. No business, trade, or manufacture, as further defined in paragraph 3 of this Article II, shall be conducted on any Lot. No building or structure shall be erected, altered, placed or permitted to remain on any Lot other than residential dwellings and accessory dwelling units, and related, permitted outbuildings or storage sheds. No building or structure shall be built, modified or altered, upon any Lot until the plans and specifications of the proposed building or structure, including any modifications or alterations thereto, have been approved pursuant to Design Review. Provided, in the event of subsequent development and division of individual Lots, such Design Review as referenced herein is deemed waived if the standards in this Declaration are met, and such subsequent development provides for building

standards and architectural review. No mobile or manufactured home may be placed or installed on any Lot. All architectural restrictions will adhere to both building and fire code for the City of Missoula.

Permitted development of the individual Lots may include, in addition to the above, additional division or subdivision of the Lots pursuant to the Montana Unit Ownership Act, or further subdivision as allowed by law. Such further divisions are identified herein as "Ownership Unit(s)" regardless of the mechanism for their creation. All future divisions under the Unit Ownership Act will include owners associations which shall generally be responsible for maintaining Magnolia Drive and parking areas along Magnolia Drive and those elements included within the covenants, conditions and restrictions which must meet the requirements of this Declaration, but may be more restrictive.

Dwelling height, setbacks, access, parking, and other such building standards shall otherwise comply and compost with City of Missoula zoning and building codes, or such standards as may be set out in the declarations for individual development under the Unit Ownership Act.

Basements shall be prohibited in all phases until such time as the developer provides sufficient evidence to the appropriate agencies that no threat to the public safety or loss of property will result in those areas proposed for basements.

No log homes or other log buildings or structures are permitted. Any steps or stairs on the front exterior of any building or structure shall be constructed of concrete, stone, brick, wood, or other similar material. All buildings or structures shall be constructed of new materials and must utilize a concrete foundation. However, suitable used material such as bricks or beams may be utilized for accent or decorative features. No old buildings or structures, whether intended for the use in whole or in part as the main dwelling house or as a garage or other building or structure shall be moved upon any Lot. No mobile homes, either double or single wide, or other manufactured or modular homes constructed primarily away from the Lot on which they would be situated, shall be permitted.

2. Outbuildings. Outbuildings shall be as provided for in the covenants pertaining to subsequent divisions of the Lots, and nothing herein shall be deemed to prevent the construction of any outbuilding used for storage that may be required by local code or regulation. No metal buildings or outbuilding may be constructed, placed, or erected on any Lot.

3. Commercial Usage Prohibited. Except as is otherwise permitted by this paragraph, no store, office, business, manufacture, retail, or commercial enterprise of any kind, or anything of the nature thereof, shall be carried on or conducted on any Lot. For a period of fifteen (15) years from the date of this Declaration, the Declarant and Declarant's successors and assigns further developing or building out a particular Lot, shall be permitted to maintain a sales office in either a model home or a specially constructed building, to be utilized to promote the development of the Real Property. Home occupations are allowed so long as all activity comprising such home occupation takes place within the dwelling; has no effect on the traffic traveling into and out of the neighborhood, which comprises the Real Property; and has no perceptible affect on the noise, smell, and aesthetics of the Real Property.

4. All home occupations are also subject to all applicable zoning and other restrictions imposed by the City of Missoula, the State of Montana, or any other applicable governmental agency.

5. Road Maintenance Agreement. Lot Owners 2, 3 and 5-24 of the Orchard Grove Subdvision shall maintain the private roadway located within the subdivsion according to the Private Road Maintenance agreement included herein. The Private Road Maintenance

Agreement is hereby made part of this development covenant and is attached as Exhibit A.

6. Building Site and Driveways. Building locations in subsequent development shall not interfere with any stormwater detention facility located on a Lot or subsequent Ownership Unit.

All driveways and private roadways within the Real Property shall be paved with either asphalt or concrete. The use of paving blocks or permeable surfaces for an individual dwelling's parking areas may be permitted under the subsequent development standards, provided the use of such materials is subject to architectural review, and such review includes a requirement that such alternate paving is professionally installed.

7. Parking Areas. Locations throughout the development where overflow parking spaces are provided will be the responsibility of the HOA. These parking areas are intended for the use of the guests and invitees of all lot owners.

8. Setback Lines. Setbacks shall be in accordance with applicable zoning regulations and pursuant to development standards for subsequent development, or as may be shown on the face of the plat.

9. Temporary Structures. No building or structure of a temporary character, mobile home, trailer, tent, shack, garage, barn, or other outbuilding shall be used at any time as a residence, temporarily or permanently, nor shall any building be occupied for residential purposes until it is completely finished and certified or approved for occupancy.

10. Fences. All subsequent further development shall include regulations addressing fencing, and no fencing may impair sight lines at any road or driveway intersection. Fencing is permitted to provide privacy or safety for any play area, patio, pool or rear yard but shall not be constructed closer to a street line than the front building line of the dwelling on the Lot. No fence shall exceed five (5) feet in height. Such fence may be constructed of metal, cedar or redwood, and/or black, coated, chain link fencing. Wood fencing should generally not be of a closed board design; provided, fencing of the perimeter of a Lot may be constructed of a solid material or closed board design, again being no closer to the fronting street than the front of the building, and provided such fencing may not block or interfere with provided parking.

11. Grade of Lawn. All dwellings shall include a finished lawn grade so as to have positive drainage away from the building.

12. Easements. Easements for access, ingress and egress, installation and maintenance of utilities and drainage facilities, inclusive of any drainage catch basins, are reserved as shown on the recorded plat. Additional separately recorded easements are anticipated for the development of individual Lots or Ownership Units, and such all subsequent owners of such Lots or Ownership Units agree to cooperate in the creation and development of such easements, which may include easements for utilities of any type or nature, and also private access roads and/or alleyways. No building of any kind shall be erected, placed, or permitted to remain on such easements, and landscaping in any area designated as a stormwater or drainage catch basin shall be appropriate to such use and not otherwise interfere with such area's use as a stormwater catch basin.

13. Boundary Control Monuments. The Declarant has caused survey monuments to be placed on the comers of each Lot. It shall be the responsibility of the Owner of each Lot (or the owners association in the instance of development under the Unit Ownership Act) to provide for immediate professional replacement of any survey monuments that are removed or become lost or obliterated from the Lot.

14. Garbage. No Lot shall be used or maintained as a dumping ground, nor shall any rubbish, trash, garbage or other waste be allowed to accumulate except in sanitary containers

which shall be emptied on a regular basis. The preceding does not preclude the storage of construction materials on the Real Property, nor does this provision does not prohibit temporary storage of gravel, topsoil, or building materials on Lots if such items are to be used in further construction. All subsequent development or division of Lots under the Unit Ownership Act or otherwise shall have covenants and restrictions governing garbage, container locations, and require regular pick up service Lots shall require the owner to retain, pay for, and have regular(at least weekly) garbage service, and provision of adequate garbage facilities and container or containers to serve all tenants or residents of such improvements. The garbage container or containers may be located on the Lot in a location convenient for collection, but must screened. Such containers must also have a sufficient tight fitting lid to deter the escape obnoxious odors, and deter entrance by animals. Compost piles are prohibited on all Lots.

15. Animals and Pets. All subsequent development or division of Lots under the Unit Ownership Act or otherwise shall have covenants and restrictions governing animals and pets. No owner, tenant, resident, or guest shall allow any animal to be at large on the Real Property, and all owners of such animals shall be responsible for the immediate clean up of animal waste. Such animals shall not be permitted to become a nuisance or annoyance to the neighborhood nor to wildlife. All animals kept on any Lot shall be properly fed, watered, and sheltered from the elements in such a manner as shall be consistent with their good health, and shall not be left outside overnight. Wild animals are inhabitants of the area. Pet food should be kept indoors. Each owner or person responsible shall treat and care for such animals in a humane and merciful fashion, so that other persons in the area shall not be required to tolerate or condone inhumane treatment of the animals. No commercial sales or breeding of any animals shall be permitted.

16. Vehicles and Parking. All subsequent development or division of Lots under the Unit Ownership Act or otherwise shall have covenants and restrictions governing vehicles and parking. There shall be no assembling, repairing or disassembling of vehicles in the street or upon any Lot, unless conducted indoors inside a garage. No mobile homes, trailers, trucks exceeding one (1) ton capacity, unsightly vehicles, or vehicles without current licensing shall be parked or allowed to remain on any of the Lots or the adjoining streets or driveways unless stored in a garage. These provisions are not intended to preclude the entry of construction, maintenance, delivery, moving, or other such service vehicles while they are being utilized in connection with services on or for the Lot.

No vehicles may be parked on the street for more than 24 hours, and in general all vehicles owned by the homeowners should be parked off the street. Other City of Missoula parking restrictions may apply to the streets within the Real Property. In no event may vehicles be parked on a street during snow removal periods, when snowplows may be active.

17. Signs. No advertising signs, billboards, or unsightly objects shall be erected, placed, or permitted to remain on any Lot or Ownership Unit. However, exceptions shall be allowed for one small sign identifying the contractor of a building under construction, one small "For Rent" or "For Sale" sign per Lot or each subsequently developed unit, or temporary small signs advertising a garage sale. For the purposes of this Declaration, small is defined to mean no larger than two feet by three feet in size. Political signs comporting with the size requirement herein are allowed for a time period 60 days prior to the election to which said political sign pertains. Such political signs must be removed immediately following such election. For a period of fifteen (15) years from the date of this Declaration, the Declarant shall be permitted to place signs within the Real Property to promote its development.

18. Nuisances. No noxious or offensive activity shall be carried on or permitted upon any of Lot or Ownership Unit, nor shall anything be done thereon which may be or may become an annoyance or nuisance to the neighborhood; nor shall any premises be used in any way or for any purpose which may endanger the health or safety of any resident or which would be in violation of any statute, rule, ordinance, regulation, permit or other validly imposed

requirement of any governmental body. No damage to or waste of the Real Property or any building situated thereon, shall be committed by the owner or any invitee of any owner, and each owner agrees to indemnify and hold harmless other owners from and against all loss resulting from any such damage or waste caused by him or his invitees.

19. Wood Burning Devices. No wood burning devices of any type shall be permitted or used in any residential building or structure erected upon any Lot in the Real Property. This specifically includes, but is not limited to, fireplaces, wood burning stoves, pellet stoves, fireplace inserts, or similar devices. High efficiency pellet stoves may be allowed as permitted by the appropriate governing body.

20. Water Rights. Water rights have been removed from the property and lot owners are notified that the land is classified as irrigated and may continue to be assessed for irrigation water delivery even though the water may not be deliverable.

21. Sanitary Restrictions. The owners of every Lot, and all subsequently divided or created parcels or units shall comply with all laws and regulations relating to water supply, sanitation, sewage, disposal, and air pollution. All habitable improvement shall be connected to public or municipal sewer and water.

22. High Groundwater Mitigation. The Property has documented groundwater levels that rise within 15' of the surface and must adhere to the mitigations included herein:

- Homes should be built without basements and should be graded with positive drainage away from foundations as required by building codes
- Permanent excavations at depths below high groundwater that would allow surface flooding should not be allowed. For example, roadside ditches should not be constructed such that groundwater would surface into the ditch. Confined excavations for ponds are acceptable upon receipt of applicable permits.
- Additional groundwater monitoring with the recommendations provided by a qualified person should be allowed if variances from these recommendations are desired. In other words, more groundwater data collection and/or additional engineering analysis could allow for alternative recommendations from those included herein.

23. Weed Control. The owner of each Lot or Ownership Unit which is not in immediate development or does not have improvements being constructed thereon is responsible to maintain such owner's Lot or Ownership Unit in compliance with the Montana's Noxious Weed Control Act, and the attached Exhibit B Weed Management and Revegetation Plan. Owners shall revegetate any ground disturbance created by construction or maintenance with beneficial species at the first appropriate opportunity after construction or maintenance is complete, pursuant to the Exhibit B Weed Management Plan. This provision may not be amended or deleted without governing body approval.

24. Air Stagnation Zone: Property is within the Air Stagnation Zone. All driveway approaches will be constructed and paved as a mitigation effort. The Missoula City-County Air Pollution Control Program regulations prohibit the installation of wood-burning stoves or fireplaces. Pellet stoves meeting emission requirements or natural gas/propane fireplaces may be installed upon review and receipt of an installation permit from Missoula County Public Works.

25. Radon Mitigation. The EPA has designated the Missoula area as having a high radon gas potential (Zone l). Therefore, the Missoula City-County Health Department recommends that all new residences incorporate radon resistant construction features.

26. House Numbers. Each dwelling shall have house numbers which are clearly visible from the street in all lighting conditions, which should be at least six inches in height,

and shall contrast from the background color.

27. Living with Wildlife. Homeowners must accept the responsibility of living with wildlife and must be responsible for protecting their vegetation from damage, confining their pets, and properly storing garbage, pet food, livestock feed and other potential attractants.

Homeowners must be aware of potential problems associated with the occasional presence of wildlife such as deer, elk, moose, bear, mountain lion, coyote, fox, skunk and raccoon. Contact the Montana Fish, Wildlife & Parks office in Missoula (3201 Spurgin Road, Missoula, MT 59804) for brochures that can help homeowners "live with wildlife." Alternatively, see the Education portion of FWP's web site at www.fwp.mt.gov.

The following covenants are designed to help minimize problems that homeowners could have with wildlife, as well as helping homeowners protect themselves, their property and the wildlife that Montanans value.

a. There is high potential for vegetation damage by wildlife, particularly from deer feeding on green lawns, gardens, flowers, ornamental shrubs and trees in this subdivision. Homeowners must be aware of this potential damage. They should be prepared to take the responsibility to plant non-palatable vegetation or protect their vegetation (fencing, netting, repellents) in order to avoid problems. Homeowners should consider landscaping with native vegetation that is less likely to suffer extensive feeding damage by deer.

b. Gardens, fruit trees or orchards can attract wildlife such as bear and deer. Fruit bearing trees and shrubs are strongly discouraged in this subdivision because they can regularly attract bears in the fall. Keep produce and fruit picked and off the ground, because ripe or rotting fruit or vegetable material can attract bears, skunks and other wildlife. To help keep wildlife such as deer out of gardens, fences should be 8 feet or taller. Netting over gardens can help deter birds from eating berries.

c. Do not feed wildlife or offer supplements (such as salt blocks), attractants, or bait for deer or other wildlife. Feeding wildlife results in unnatural concentrations of animals that could lead to overuse of vegetation and disease transmission. Such actions unnecessarily accustom wild animals to humans, which can be dangerous for both. It is against state law (MCA 87-3-130) to provide supplemental feed attractants if it results in a "concentration of game animals that may potentially contribute to the transmission of disease or that constitutes a threat to public safety." Also, homeowners must be aware that deer might occasionally attract mountain lions to the area.

d. Garbage must be stored in secure, bear-resistant containers or indoors to avoid attracting animals such as bears, raccoons, and dogs. If stored indoors, do not set garbage cans out until the morning of garbage pickup, and bring cans back indoors by the end of the day. (Contact FWP for information on obtaining or building bear- resistant trash containers or structures.)

e. Pets must be confined to the house, in a fenced yard, or in an outdoor kennel area when not under the direct control of the owner, and not be allowed to roam as they can chase and kill big game and small birds and mammals. And in turn, keeping pets confined helps protect them from being preyed upon by wildlife. Under current state law it is illegal for dogs to chase hooved game animals and the owner may also be held guilty (MCA 87-3-124).

f. Pet food must be stored indoors, in enclosed sheds or in animal-resistant containers in order to avoid attracting wildlife such bear, mountain lion, skunk,

raccoon, etc. When feeding pets do not leave food out overnight. Consider feeding pets indoors so that wild animals do not learn to associate food with your home.

g. Barbecue grills should be stored indoors. Keep all portions of the barbecues clean. Food spills and smells on the grill, lid, etc. can attract bears and other wildlife.

h. Consider boundary fencing (except as otherwise provider for herein) that is no higher than 3-1/2 feet (at the top rail or wire) and no lower than 18 inches (at the bottom rail or wire) in order to facilitate wildlife movement and help avoid animals such as deer becoming entangled in the fence or injuring themselves when trying to jump the fence.

i. Bird feeders attract bears and are strongly discouraged annually from April 1st through the end of November. If used, bird feeders must: a) be suspended a minimum of 20 feet above ground level, b) be at least 4 feet from any support poles or points, and c) should be designed with a catch plate located below the feeder and fixed such that it collects the seed knocked off the feeder by feeding birds.

j. Compost piles can attract skunks and bears and are prohibited unless kept indoors.

28. Wildland Urban Interface: "The property owner shall create a defensible space for fire protection purposes as approved by the City Fire Chief. Vegetation shall be removed and reduced around each building according to the slope. Single ornamental trees or shrubs need not be removed as long as all vegetation near them is reduced according to the guideline. Ornamental trees and shrubs should not touch any buildings. When planting, the property owner shall select tress, shrubs, and vegetation that limit or retard fire spread as suggested below:

(i) Perennial: Choose hardy perennial flowers that are adapted to Missoula's climate. These green, leafy, succulent plants are difficult to burn. Watering and regular weeding improves fire resistance;

(ii) Shrubs: Evergreen shrubs such as dwarf conifers or junipers tend to ignite easily: avoid them unless well-spaced; and

(iii) Trees: Deciduous trees can be clumped, scattered, or planted in greenbelts or windbreak patterns. Evergreen trees tend to ignite easily and should be spaced in accordance with the Vegetation Reduction Guidelines in the next section. Roof Construction: In areas of Wildland/Urban Interface the following standards shall be used in roof construction:

Use only Class A or B fire-rated roofing materials.

Fire Rating	Type of Material	Spread Index
Class A	– Slate – Rock Shingle – Concrete Tile	0-25
Class B	Fiberglass-based: – Asphalt Shingle – Rolled Roofing – Aluminum Shingle – Aluminum or Steel Panels	26-75

ARTICLE III: GENERAL PROVISIONS

1. Duration. The covenants, conditions, charges and restrictions of this Declaration shall run with and bind the land and shall inure to the benefit of and be enforceable by the Declarant, the Association, or the Owner of any Lot or further developed parcel or unit subject to this Declaration, their respective legal representatives, heirs, successors, or assigns in perpetuity. The covenants, conditions and restrictions are binding on the Owners, their families, tenants, guests and invitees.

2. Enforcement. Any owner, or the Declarant shall have the option and right to enforce, by any proceeding at law or in equity, all restrictions, conditions, covenants, reservations, and charges now or hereafter imposed by the provisions of this Declaration. The method of enforcement may include legal action seeking an injunction to prohibit any violation, to recover damages, or both. Failure by any Owner, or by the Declarant, to enforce any such provisions shall in no event be deemed a waiver of the right to do so thereafter. Should any lawsuit or other legal proceeding be instituted against an Owner who is alleged to have violated one or more of the provisions of this Declaration, the prevailing party in such proceeding shall be entitled to reimbursement for the costs of such proceeding, including reasonable attorney's fees.

3. Severability and Interpretation. Invalidation of any one of these covenants or restrictions by judgment or court order shall in no way affect any of the other provisions, which shall remain in full force and effect. In the event the provisions of this instrument are in conflict with subsequent covenants, conditions, and restrictions associated with the further development of any Lot, the more restrictive provision shall apply. The provisions herein shall be liberally construed to further consistent development of the Real Property and the enhancement and protection of the value, desirability, and attractiveness of the Real Property.

4. Amendment. The Declarant reserves the sole right to amend, modify, make additions to or deletions from this Declaration as it alone deems appropriate, so long as it shall own one or more Lots. Otherwise, the covenants, conditions, restrictions and uses created and established herein may be waived, abandoned, terminated, modified, altered or changed as to the whole of the said Real Property, or any portion thereof, with the written consent of seventy five percent (75%) of the property owners within the development, with each Lot or subsequently developed parcel or unit having one vote for this purpose; Provided that the covenants dealing with animals and pets and living with wildlife, wood burning devices, irrigation, weed control and revegetation, boulevard maintenance, radon, addressing, may not be amended or eliminated without concurrence and written consent of the appropriate governing body. No such waiver, abandonment, termination or modification contemplated herein shall become effective until the proper instrument in writing shall be executed and recorded in the office of the Clerk & Recorder of Missoula County, Montana. Sections of the Development Covenants regarding the homeowner's association, wood burning devices, weed control, agricultural operations, radon mitigation, basements, water rights, SID/RSID, and fire protection may not be amended or deleted without written approval by the governing body.

5. Liability of Declarant. The Declarant shall have no liability for any of its actions or failures to act, or for an action or failure to act of any owner of any Lot or subsequently developed parcel or unit within the Real Property.

IN WITNESS WHEREOF, the Declarant has executed the foregoing Declaration on the day and year first above written.

DRAFT

OWNER(S)

Collin Bangs	Evelyn Bean
John Barrett	Robert Bean

STATE OF_____

County of_____

This instrument was acknowledged before me on the_____day of_____, 20___, by _____, as_____of Collin Bangs, John Barrett, Evelyn & Robert Bean.

(SEAL) SS_____

DRAFT

Exhibit A
Road Maintenance Agreement

Exhibit B
Weed Management Plan

COMPLETE LEGAL DESCRIPTION
MEMORANDUM

Date: September 26, 2023

To: Lauren Stevens, City of Missoula

From: IMEG Corp.

RE: Petition for Annexation to City - Complete Legal Description

---

Subject Property Information
Geocode:
04-2200-19-1-10-01-0000
04-2200-19-1-10-03-0000

Legal Description
The parcel currently located outside of City Limits, and legally described as:

Parcel I:
A tract of land being a portion of Lot 42, COBBAN AND DINSMORE'S ORCHARD HOMES, a recorded subdivision of Missoula County, Montana, located in the Northeast one-quarter of the Southeast one-quarter of Section 19, Township 13 North, Range 19 West, Principal Meridian, Montana, Missoula County, Montana, more particularly described as follows:
Beginning at the Northwest corner of Lot 42 Cobban and Dinsmore's Orchard Homes; thence N.89°12'15"E., 483.32 feet along the North line of Lot 42 to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way; thence S.11°54'13"E., 101.98 feet along said West right-of-way line; thence S.00°35'35"E., 146.84 feet along said west right-of-way to a point on the South line of Lot 42 Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W., 503.93 feet to the Southwest corner of said Lot 42; thence N.00°29'00"W., 173.89 feet along the West line of said lot 42 to the Southwest corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.89°12'15"E., 170.00 feet to the Southeast corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.00°29'00"W., 123.00 feet to the Northeast corner of that tract recorded in Book 237 of Deeds at Page 492; thence S.89°12'15"W., 170.00 feet to the Northwest corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.00°29'00"W., 27.00 feet along the West line of Cobban and Dinsmore's Orchard Homes to the point of beginning.

SAVING AND EXCEPTING THEREFROM
A tract of land being a portion of Lot 42 of Cobban and Dinsmore's Orchard Homes, a recorded subdivision of Missoula County, Montana, located in the Northeast one-quarter of the Southeast one-quarter of Section 19, Township 13 North, Range 19 West, Principal Meridian, Montana, Missoula County, Montana, more particularly described as follows:
Beginning at the Northwest corner of Lot 42 Cobban and Dinsmore's Orchard Homes;
thence N. 89°12'15"E., 289.99 feet along the North line of said Lot 42 to the true point of beginning; thence continuing N.89°12'15"E., along the North line of said Lot 42 a distance of 193.33 feet to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way; thence S.11°54'13E"., 101.98 feet along said West right-of-way line; thence S.00°35'35"E., 146.84 feet along said West right-of-way to a point on the South line of Lot 42 Cobban and Dinsmore's

Orchard Homes; thence S.89°08'15"W., 212.18 feet; thence N.00°47'45"W., 323.55 feet to the true point of beginning. Recording Reference Book 497 of Micro Records at Page 19.

FURTHER EXCEPTING Portion A of Cobban Dinsmore's Orchard Homes Lot 42, a platted subdivision in Missoula County, Montana, according to the official recorded plat in Book 19 at Page 82 of Plats, recorded in Book 494 at Page 2010 Micro Records.

Recording Reference Book 996 at Page 1389 Micro Records.

Parcel II:
A tract of land being a portion of Lot 42 of Cobban and Dinsmore's Orchard Homes, a recorded subdivision of Missoula County, Montana, located in the Northeast one-quarter of the Southeast one-quarter of Section 19, Township 13 North, Range 19 West, Principal Meridian, Montana, Missoula County, Montana, more particularly described as follows:
Beginning at the Northwest corner of Lot 42 Cobban and Dinsmore's Orchard Homes; thence N. 89°12'15"E., 289.99 feet along the North line of said Lot 42 to the true point of beginning; thence continuing N.89°12'15"E., along the North line of said Lot 42 a distance of 193.33 feet to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way; thence S.11°54'13E"., 101.98 feet along said West right-of-way line; thence S.00°35'35"E., 146.84 feet along said West right-of-way to a point on the South line of Lot 42 Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W., 212.18 feet; thence N.00°47'45"W., 323.55 feet to the true point of beginning.

Recording Reference Book 732 at Page 1436 Micro Records.

To be known as: LARKENWOOD SUBDIVISION

Return to:
IMEG Corp
1817 South Ave. W.
Suite A
Missoula, MT 59801

SAME NAME AFFIDAVIT

I, John Barrett, being duly sworn under oath, state that John Barrett and John David Barrett is one and the same person.

Dated this 28th day of September, 2023.

Signature: John Barrett

Printed Name: John Barrett

This instrument was acknowledged before me, this 28th *[day of month]* day of September *[month]*, 2023.

STATE OF Washington

COUNTY OF Jefferson

(SEAL)

Notary Public
State of Washington
JESSICA LUTZ
COMM. EXP. AUGUST 27, 2026
COMM. NO. 202511

Jessica Lutz
(Signature of Notary)

Jessica Lutz
(Printed Name of Notary)

My commission expires: Aug 27, 2026.

EXHIBIT A

ORCHARD GROVE SUBDIVISION

PRIVATE ROAD MAINTENANCE AGREEMENT

It is agreed by the undersigned as follows:

The owners of Lot 2, Lots 3, and Lots 5 through 24, within the Orchard Grove Subdivision, will jointly maintain the private access road used by all lots for access and will share equally in the cost of such maintenance. Maintenance includes surface treatment, resurfacing, snow removal, and maintaining Magnolia Drive and designated parking areas along Magnolia Drive. The proposed parking areas within the 10' additional right-of-way being granted to the existing 27' right-of-way for Larkin Wood Drive, making the total easement width 37-feet, will be the maintenance responsibility of the City of Missoula. The maintenance of the landscaping areas along Magnolia Drive will be the responsibility of the adjacent lot owner.

This agreement shall be binding upon the lot owners and any future lot owners or successors in interest and shall be deemed to be an obligation running with the land.

Owners of Lot 2, Lots 3, and Lots 5 through 24– Orchard Grove Subdivision:

_____	_____
Print Name	Print Name
_____	_____
Signature Date	Signature Date

STATE OF _____ }
:ss
County of _____ }

This instrument was acknowledged before me on _____ ____ , 20 ___ by _____

_____

_____

_____
Notary Public for the State of

_____
My commissioner expires

_____
Residing at

_____

- SEAL -

DRAFT

WATER & SANITATION REPORT

for

ORCHARD GROVE SUBDIVISION

Legally described as Lot 42, Cobban and Dinsmore's Orchard Homes, less Lot 1 recorded at Book 19 and Page 82 Micro Records Missoula County & Less Dedicated Right-of-way, located in the NE ¼ of the SE ¼ of Section 19, Township 13 North, Range 19 West, containing +/- 3.08 Acres.

Published: May 2023

Revised: September 2023

Prepared For:

Collin Bangs and John Barrett
4607 North Ave W.,
Missoula, MT 59804

Robert and Evelyn Bean
2555 Bean Ln.,
Missoula, MT 59804

Prepared By:

IMEG Corp.
1817 South Avenue West, Suite A
Missoula, MT 59801

J.1 - Map. A vicinity map or plan that shows:

a. The location, within 100 feet outside of the exterior property line of the subdivision and on the proposed lots, of flood plains; surface water features; springs; irrigation ditches;
A Vicinity Map is included herein and within Section B showing the location of the property in relation to the surrounding area. A more detailed and extensive exhibit is provided in the Supplemental Data Sheets included in Section A showing all the required information outlined in section J.1, J.2, and J.3 of the subdivision application. The property is not currently within any designated floodplain areas. There is a 20' easement for an irrigation ditch that generally runs parallel to the southern property line running in an easterly direction through the property. There is also a buried irrigation line running along the eastern property line which is within a proposed Irrigation Easement of varying width, but never less than the required 10'. Both irrigation facilities are responsible for delivering irrigation water for agricultural purposes to surrounding properties. There are no other intermittent drainage ways located within 100 feet of the proposed subdivision.

b. Existing, previously approved, and, for parcels fewer than 20 acres, proposed water wells and wastewater treatment systems; for parcels less than 20 acres, mixing zones;
A domestic well exists on the property adjacent to Reserve Street which will be abandoned during the construction of the development. The well will be appropriately abandoned according to the Missoula City-County Health Code, Regulation 1 reasonably minimizing potentially significant adverse impacts to water supply. The Demolition Plan provided within the Grading, Drainage, and Road Construction Plans, Section D, provides the location of the well proposed to be abandoned. Permission to connect to Missoula Water Municipal Facilities will be pursued during stage 2 engineering upon element sufficiency. All existing on-site wastewater treatment

facilities will either be decommissioned and abandoned in place per MCCHD regulations or be physically removed from the site when conflicting with proposed development plans. Permission to connect to Missoula Water Municipal Facilities will be pursued during stage 2 engineering upon element sufficiency.

The proposed main will be extended from the existing 8" water main located at the corner of S. Grove Street and Larkin Wood Dr. onto the subdivision and will loop through a large portion of proposed Magnolia Drive. The water main will generally run along the northern lot line of Lots 1 and 2 to connect back into the existing water main located in S. Grove St. Please see the Utility Construction Plans in Section D for further details on the locations of public water mains. The proposed extension is subject to Montana Department of Environmental Quality (DEQ) standards and local ordinances in which it will adhere to.

The storm water system will be comprised of onsite mitigation and infiltration based on the Missoula City requirements, see the Stormwater Memorandum in Section D of this application for more details on the storm water system.

c. The representative drainfield site used for the soil profile description; and
Onsite wastewater systems utilizing drainfields are not proposed for this site.

d. The location, within 500 feet outside of the exterior property line of the subdivision, of public water and sewer facilities.
The location of existing public water and sewer facilities adjacent and surrounding the subdivision have been shown on the Supplemental Data Sheets in Section A.

J.2 - Description. A description of the proposed subdivision's water supply systems, storm water systems, solid waste disposal systems, and wastewater treatment systems, including whether the water supply and wastewater treatment systems are individual, shared, multiple user, or public as those systems are defined in rules published by the Montana Department of Environmental Quality (DEQ).
The impacts to groundwater quality are not applicable for new wastewater treatment systems as the proposed connection is to the City of Missoula Wastewater and Water Facilities. IMEG has completed groundwater monitoring throughout the 2022 monitoring season, starting in early May and ending mid-August. Two groundwater monitoring wells were observed; well one has shown a limiting layer of 12.6 feet and well two has shown a limiting layer of 13.9 feet. Standard 8-foot drywall sumps do not meet the minimum 4 feet separation between groundwater and bottom of sump. Therefore, Shallow Drywell Sumps are being proposed for this project due to proximity of groundwater and will meet minimum separation distance. A 4-foot shallow drywell sump with 4.5 feet of drain rock underneath 8.5 feet total depth has adequate separation for the use of shallow drywell sumps. Both the Groundwater Monitoring Results and Locations are included in Section D of this submittal.

Generally, the storm water system will include onsite mitigation and infiltration based on the Missoula City requirements, see the Stormwater Memorandum in Section D of this application for more details on the storm water system. Stormwater runoff generated by the new

impervious surfaces (roads, sidewalks, parking lots, buildings, etc.) will be subject to the regulations required of a Stormwater Pollution Prevention Plan SWPPP which will be reviewed by the City Engineering as part of the As-Built documentation.

Wastewater from this subdivision will be processed and discharged using public facilities managed by the Missoula Wastewater Treatment facility. All existing septic systems will be abandoned and removed prior to subdivision construction. The cesspool will be appropriately abandoned according to the Missoula City-County Health Code, Regulation 1.

Solid waste disposal will be managed by Republic Services.

J.3 - Lot Layout. A drawing of the conceptual lot layout at a scale no smaller than 1 inch equal to 200 feet that shows all information required for a lot layout document in rules adopted by the Montana Department of Environmental Quality pursuant to 76-4-104, MCA.
A drawing of the Utility Construction Plans at a scale of 1-inch equals 200 feet that shows all the information required pursuant to 76-4-104, MCA is included in Section D of this submittal.

J.4 - Suitability. Evidence of suitability for new on-site wastewater treatment systems that, at a minimum, include:

e. A soil profile description from a representative drain-field site identified on the vicinity map that complies with standards published by the Montana Department of Environmental Quality;
No drainfields are proposed; this requirement is not applicable.

f. Demonstration that the soil profile contains a minimum of 4 feet of vertical separation distance between the bottom of the permeable surface of the proposed wastewater treatment system and a limiting layer; and
No drainfields are proposed; this requirement is not applicable.

g.In cases in which the soil profile or other information indicates that ground water is within 7 feet of the natural ground surface, evidence that the ground water will not exceed the minimum vertical separation distance of 4 feet.
No drainfields are proposed; this requirement is not applicable.

J.5 - Water Quantity. For new water supply systems, unless cisterns are proposed, evidence of adequate water availability:

h. obtained from well logs or testing of onsite or nearby wells;
This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

i. obtained from information contained in published hydro-geological reports; or
This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

j. as otherwise specified by rules adopted by the Montana Department of Environmental Quality pursuant to 76-4-104, MCA.

This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

k. Demonstration that the soil profile contains a minimum of 4 feet of vertical separation distance between the bottom of the permeable surface of the proposed wastewater treatment system and a limiting layer; and
No drainfields are proposed; this requirement is not applicable.

l. In cases in which the soil profile or other information indicates that ground water is within 7 feet of the natural ground surface, evidence that the ground water will not exceed the minimum vertical separation distance of 4 feet.
No drainfields are proposed; this requirement is not applicable.

J.6 - Water Quantity. For new water supply systems, unless cisterns are proposed, evidence of adequate water availability:

m. obtained from well logs or testing of onsite or nearby wells;
This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

n. obtained from information contained in published hydro-geological reports; or
This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

o. as otherwise specified by rules adopted by the Montana Department of Environmental Quality pursuant to 76-4-104, MCA.
This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

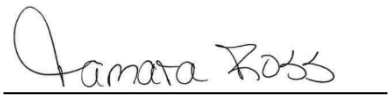
J.7 - Water Quality. Evidence of sufficient water quality in accordance with rules adopted by the Montana Department of Environmental Quality pursuant to 76-4-104, MCA.
This is not applicable as Missoula Water, a regulated public water supply, is providing water to this proposed subdivision.

J.8 - Impacts to groundwater quality. Preliminary analysis of potential impacts to ground water quality from new wastewater treatment systems, using as guidance rules adopted by the board of environmental review pursuant to 75-5-301, MCA and 75-5-303, MCA related to standard mixing zones for ground water, source specific mixing zones, and non-significant changes in water quality. The preliminary analysis may be based on currently available information and must consider the effects of overlapping mixing zones from proposed and existing wastewater treatment systems within and directly adjacent to the subdivision. Instead of performing the preliminary analysis, the sub-divider may perform a complete non-degradation analysis in the same manner as is required for an application that is reviewed under Title 76, Chapter 4.
This section generally applies to non-degradation due to the installation of on-site wastewater disposal and drainfields. It has been noted throughout this report that all existing septic systems will be abandoned and removed prior to subdivision construction and follow the regulations described within Missoula City-County Health Code, Regulation

1. This residential subdivision will be served by city facilities. Therefore, this section is not applicable as wastewater from this subdivision will be processed and discharged to surface water at the Missoula Wastewater Treatment facility.

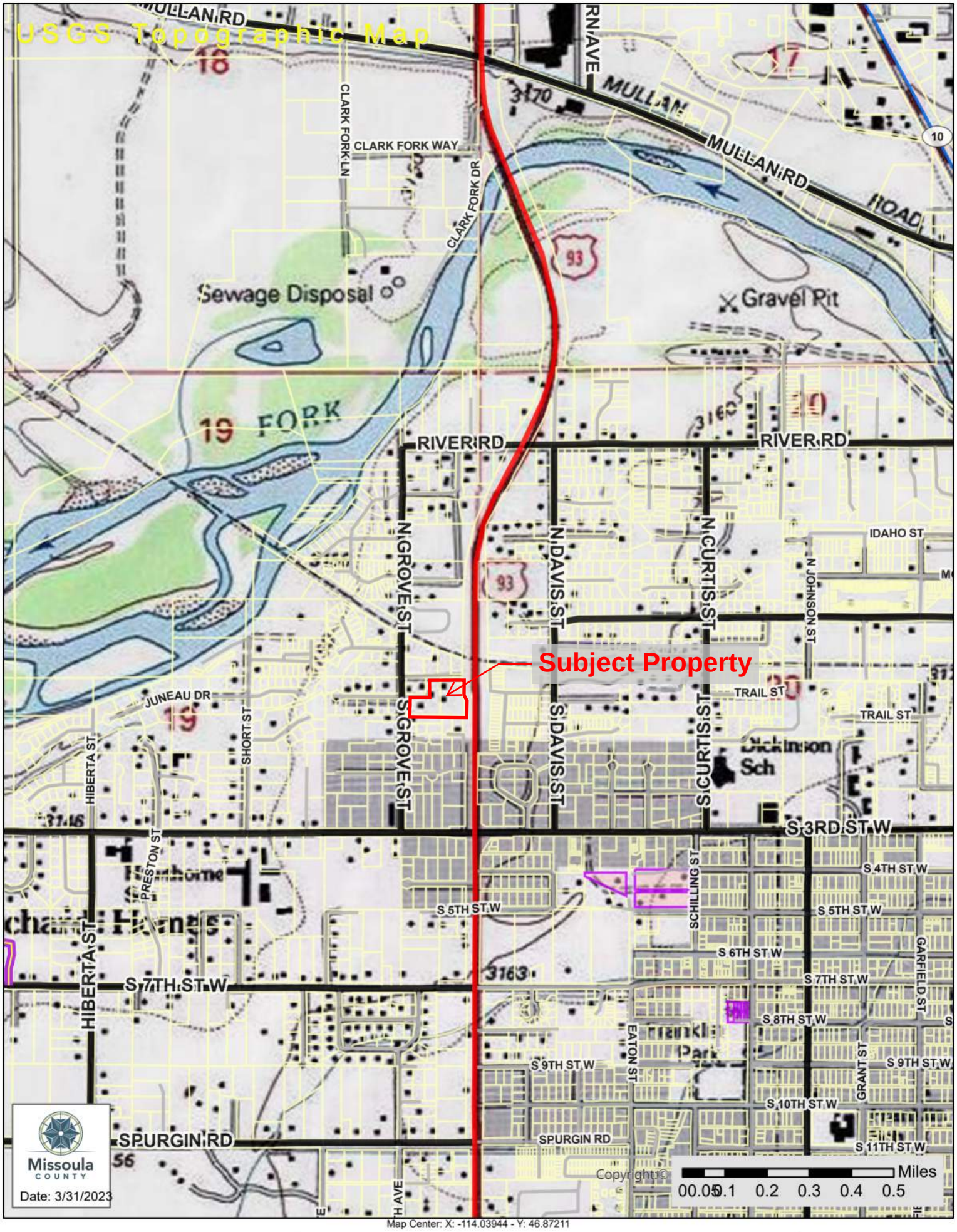
Sincerely,
IMEG Corp.

Prepared By:



Tamara R. Ross
Civil Designer / Planning Technician
P: (406) 272-0253

1817 South Ave West, Suite A | Missoula, MT 59801
t: 406.721.0142 f: 406.721.5224 territoriallandworks.com



Map Center: X: -114.03944 - Y: 46.87211

The material displayed on this page is informational and should be used for reference only. No reliance should be placed thereon without verification by the user. Missoula County does not warrant that the information is either complete or accurate. No representation, warranties or covenants of any kind are made by Missoula County. Before acting on the information contained on this page the user should consult original documents.

APPENDIX A

Groundwater Monitoring Results and Locations

Bean Grove St Development
Groundwater Monitoring

	Mon. Well #1			Mon. Well #2		
Height from EG to Top of Pipe (ft)	2.4200			2.2500		
Total Depth (ft)	19.0800			19.8300		
Date	GW to top of pipe (ft)	GW to EG (ft)	Soil Condition	GW to top of pipe (ft)	GW to EG (ft)	Soil Condition
4/5/2022	20.6	18.2	Wet	21.7	19.5	Wet
4/12/2022	20.5	18.1	Wet	21.6	19.4	Wet
4/19/2022	21.0	18.6	Wet	22.1	19.9	Wet
4/26/2022	21.4	19.0	Wet	22.0	19.8	Wet
5/3/2022	20.8	18.4	Wet	21.9	19.7	Wet
5/10/2022	18.5	16.1	Wet	19.9	17.7	Wet
5/17/2022	18.2	15.8	Wet	19.3	17.1	Wet
5/24/2022	17.7	15.3	Wet	18.8	16.6	Wet
5/31/2022	16.6	14.2	Wet	17.6	15.4	Wet
6/7/2022	15.7	13.3	Wet	16.8	14.6	Wet
6/14/2022	15.1	12.7	Wet	16.16	13.9	Wet
6/21/2022	15.05	12.6	Wet	16.1	13.9	Wet
6/28/2022	15.55	13.13	Wet	16.6	14.35	Wet
7/5/2022	15.95	13.53	Wet	17.02	14.77	Wet
7/12/2022	16.4	13.98	Wet	17.4	15.15	Wet

TERRITORIAL LANDWORKS, INC.
CIVIL ENGINEERING • SURVEYING • LAND USE CONSULTING
www.TerritorialLandworks.com
P.O. Box 3851
Missoula, MT 59806
Ph: 406721-0142
Fax: 406721-3224

PLOT DATE: 2/10/2022 2:47 PM

REVISIONS	DATE

DESIGNED:
DRAFTED: DO
CHECKED: PF
DATE: 8/8/2019

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINSMORES ORCHARD HOMES SECTION 19, T13N., R19W., P.M.M. MISSOULA COUNTY

PREPARED FOR: BEAN/EDGELL/BANGS

PROJECT NAME: LARKENWOOD DEVELOPMENT

SHEET TITLE: GROUNDWATER AND INFILTRATION EXHIBIT

PROJECT NO. 19-5397

SHEET: 1 OF 1

PRELIMINARY

DWG LOCATION: O:\MISSOULA\1JPROJECTS\1_ACTIVE FILES\2019 PROJECTS\5397 - BEAN GROVE ST DEVELOPMENT\6_DRAFTING\8.1_DRAWINGS\AUTOCAD\CIES\GND 19-5397 - SUBDIVISION 2 WOONERF.DWG

GROUNDWATER MITIGATION REPORT
for

ORCHARD GROVE SUBDIVISION

PREPARED IN ACCORDANCE WITH MISSOULA CITY SUBDIVISION REGULATIONS, ARTICLE 5-010

Legally described as Lot 42, Cobban and Dinsmore's Orchard Homes, less Lot 1 recorded at Book 19 and Page 82 Micro Records Missoula County & Less Dedicated Right-of-way, located in the NE ¼ of the SE ¼ of Section 19, Township 13 North, Range 19 West, containing +/- 3.08 Acres.

Published: May, 2023

Prepared For:
Collin Bangs and John Barrett
4607 North Ave W.,
Missoula, MT 59804

Robert and Evelyn Bean
2555 Bean Ln.,
Missoula, MT 59804

Prepared By:
IMEG Corp.
1817 South Avenue West, Suite A
Missoula, MT 59801

1.0 GENERAL

The Orchard Grove Subdivision is a major subdivision which proposes 24 lots to be utilized for residential purposes. Lots are a mix of both single-family homes and townhomes. The site is currently two separate properties that each have 4 addresses for 4 single family residences. The dwellings addressed as 2555 Bean Lane, 2505 Larkin Wood Dr., 2507 Larkin Wood Dr, 2509 Larkin Wood Dr., and 2511 Larkin Wood Drive will all remain. The homes at 2513 1 Bean Lane, 2513 3 Bean Lane, and 120 S. Grove St. will all be demolished and redeveloped with the subdivision. The proposed lots are currently within the Missoula Water and Wastewater Facilities Service Area, therefore, permission to connect to these public facilities will occur during the City Engineering Stage 2 review process upon element sufficiency. All existing septic systems and wells will be abandoned and removed prior to subdivision construction.

The purpose of this report is to provide recommendations that will prevent the migration of groundwater directly attributable to the infrastructure improvements that will be installed as part of this subdivision. This report is being prepared as required by the Missoula City Subdivision Regulations, Article 5-010.

2.0 SITE CONDITIONS

The property is located adjacent to Larkin Wood Drive to the north. The property is relatively flat. According to the Natural Resources and Conservation Service (NRCS) Soils Report, included as an attachment in Section D, the soils across the subdivision property are classified as Urban Land. Generally, these soils can be significantly changed with human-transported materials or human-altered materials which aligns with the characteristics of the land use history around residential development and urban infrastructure. NRCS does not consider these soils to be prime agricultural soils. The adjacent uses include residential properties along with motorized and non-motorized infrastructure with similar Urban Land soil type classifications as the subject property.

The site is not within a FEMA Floodplain designation. Please see the FEAM Floodplain Panel 30063C1460E included as the Floodplain Map, in Section B of this submittal, which shows the development in relation to the delineated (regulatory) floodplain. The property may be subject to higher groundwater due to the proximity of the Clark Fork River to the north being approximately 1,500 feet from the most northern property line. The aquifer along the Clark Fork River area is known to have surface water recharge in this area, however, the proposal is not anticipated to contribute to the recharge of the aquifer.

3.0 GROUNDWATER DATA

Groundwater monitoring has been completed in two separate locations for this project to prove adequate separation distance between sumps and groundwater. Based on the monitoring from Spring 2022, results show the groundwater at 12.6' below ground at the highest point. Further details on the groundwater elevation data can be found in the Water and Sanitation Report included within this submittal which shows the results from the 2022 monitoring season.

4.0 GROUNDWATER MITIGATION

The following recommendations are provided to support development of this property given the higher groundwater elevations found across the site.

1. Homes will be built without basements and should be graded with positive drainage away from foundations as required by building codes.
2. Permanent excavations at depths below high groundwater that would allow surface flooding should not be allowed. For example, roadside ditches should not be constructed such that groundwater would surface into the ditch. Confined excavations for ponds are acceptable upon receipt of applicable permits.
3. Additional groundwater data and engineered designs demonstrating that basements will not be inundated by groundwater is required in the event basements are desired.

5.0 CONCLUSIONS

The subject property is proposed for development in an area with varying depth to groundwater. By following the construction recommendations in this report, the migration of groundwater will be sufficiently mitigated and limited.

Prepared by:
IMEG Corp.

_____
Tamara Ross, Planning Technician

Reviewed by:
IMEG Corp.

_____
Cory Davis, P.E.

"\\files\Active\Projects\2022\22008967.00\Design\Civil\CC07 PLANNING\Working Docs\Section D"

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Missoula County Area, Montana

March 30, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:873 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Missoula County Area, Montana
Survey Area Data: Version 20, Aug 26, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 13, 2022—Aug 16, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
114	Urban land	3.2	100.0%
Totals for Area of Interest		**3.2**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Missoula County Area, Montana

114—Urban land

Map Unit Setting

National map unit symbol: 4w9f
Elevation: 2,600 to 5,500 feet
Mean annual precipitation: 11 to 19 inches
Mean annual air temperature: 41 to 45 degrees F
Frost-free period: 90 to 120 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Orthents

Percent of map unit: 3 percent
Hydric soil rating: No

Argiborolls

Percent of map unit: 3 percent
Hydric soil rating: No

Bigarm

Percent of map unit: 3 percent
Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R044AB032MT - Loamy (Lo) LRU 44A-B
Hydric soil rating: No

Grassvalley

Percent of map unit: 2 percent
Landform: Lake plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R044AA032MT - Loamy (Lo) LRU 44A-A
Hydric soil rating: No

Desmet

Percent of map unit: 2 percent
Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R044AA032MT - Loamy (Lo) LRU 44A-A
Hydric soil rating: No

Grantsdale

Percent of map unit: 2 percent
Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear

Ecological site: R044AB032MT - Loamy (Lo) LRU 44A-B
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Dwellings With Basements

Dwellings are single-family houses of three stories or less. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet.

The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification of the soil. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the

specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Map—Dwellings With Basements

Map Scale: 1:873 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Lines
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Points
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Missoula County Area, Montana
Survey Area Data: Version 20, Aug 26, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 13, 2022—Aug 16, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Dwellings With Basements

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
114	Urban land	Not rated	Urban land (85%)		3.2	100.0%
			Orthents (3%)			
			Argiborolls (3%)			
Totals for Area of Interest					**3.2**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Null or Not Rated	3.2	100.0%
Totals for Area of Interest	**3.2**	**100.0%**

Rating Options—Dwellings With Basements

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Dwellings Without Basements

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper.

The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification of the soil. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Map—Dwellings Without Basements

Map Scale: 1:873 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Lines
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Points
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Missoula County Area, Montana
Survey Area Data: Version 20, Aug 26, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 13, 2022—Aug 16, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Dwellings Without Basements

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
114	Urban land	Not rated	Urban land (85%)		3.2	100.0%
			Orthents (3%)			
			Argiborolls (3%)			
Totals for Area of Interest					**3.2**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Null or Not Rated	3.2	100.0%
Totals for Area of Interest	**3.2**	**100.0%**

Rating Options—Dwellings Without Basements

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Local Roads and Streets

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Map Scale: 1:873 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Lines
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Points
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Missoula County Area, Montana
Survey Area Data: Version 20, Aug 26, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 13, 2022—Aug 16, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Local Roads and Streets

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
114	Urban land	Not rated	Urban land (85%)		3.2	100.0%
			Orthents (3%)			
			Argiborolls (3%)			
Totals for Area of Interest					**3.2**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Null or Not Rated	3.2	100.0%
Totals for Area of Interest	**3.2**	**100.0%**

Rating Options—Local Roads and Streets

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Water Features

Water Features include ponding frequency, flooding frequency, and depth to water table.

Depth to Water Table

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Map Scale: 1:873 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Lines
- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Points
- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Missoula County Area, Montana
Survey Area Data: Version 20, Aug 26, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 13, 2022—Aug 16, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
114	Urban land	>200	3.2	100.0%
Totals for Area of Interest			**3.2**	**100.0%**

Rating Options—Depth to Water Table

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

References

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MONTANA
Natural Heritage
Program

P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • tel 406.444.5363 • http://mtnhp.org

March 28, 2023

Tamara Ross
IMEG Corp.
1817 South Ave West
Missoula, MT 59801

Dear Tamara Ross,

Thank you for your request for Natural Heritage information for ORCHARD GROVE SUBDIVISION, in Section 19, Range 13N, Township 19W, Missoula County. Included with this letter is an Environmental Summary report PDF and a companion Excel workbook summarizing information managed in the Montana Natural Heritage Program's (MTNHP) databases for: (1) species occurrences; (2) other observed species without Species Occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys (organized efforts following a protocol capable of detecting one or more species); (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. The PDF report contains introductory materials and limitations associated with the use of each of these data types, a list of additional information resources, data use terms and conditions, and suggested contacts. The Excel workbook contains worksheets for each data type that can be easily sorted to summarize particular information needs. In addition to these materials, we have included a compilation of one page snapshots containing general description, habitat, spatial and temporal distribution, and conservation status information for each species listed in the species occurrence, other observed species, and other potential species sections of the Environmental Summary report. These three field guide compilations are excerpted from the full accounts found on the Montana Field Guide http://fieldguide.mt.gov for general reference use and, if desired, as appendices to environmental review documents.

Please keep in mind the following when using and interpreting the enclosed information:

(1) This information is intended for distribution or use only within your department, agency, or business. Please see the Data Use Terms and Conditions in the Environmental Summary report PDF for additional guidelines.

(2) Our minimum search area for standard information requests consists of the requested area buffered by an additional mile in order to capture records that may be immediately adjacent to the requested area. Please let us know if a buffer greater than 1 mile would be of use to your efforts.

(3) Additional information on animal, plant, and lichen species and ecological systems in Montana is available on the Montana Field Guide at http://fieldguide.mt.gov/

(4) In addition to the information you receive from us, we encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located (see Environmental Summary report PDF).

I hope the enclosed information is helpful to you. Please feel free to contact me at the phone or email address below if you have any questions, require additional information, or have suggestions for how we could improve our information resources.

Sincerely,

Bryce A. Maxell
Montana Natural Heritage Program
(406) 444-3989
bmaxell@mt.gov

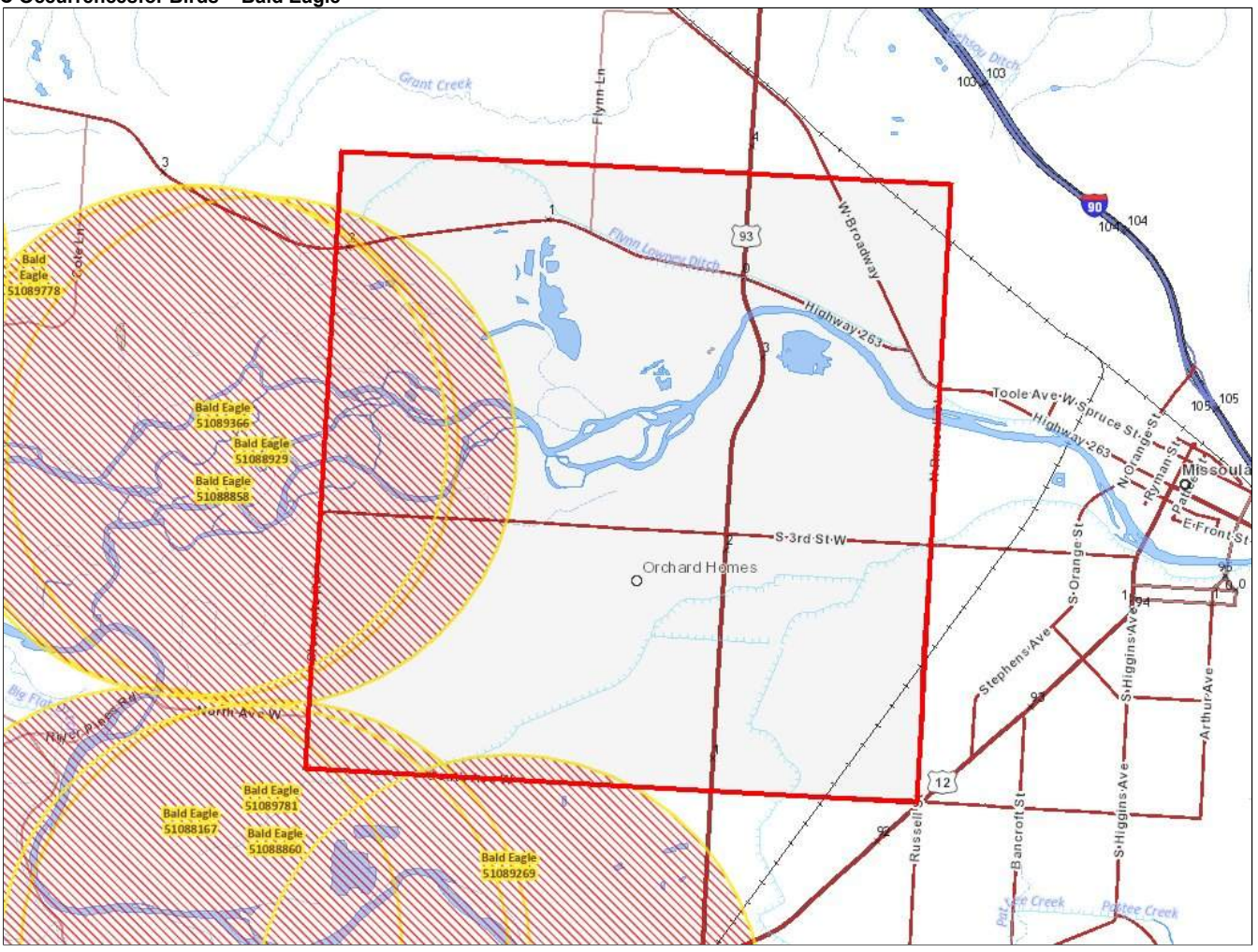
MONTANA Natural Heritage Program
A program of the Montana State Library's Natural Resource Information System.

Latitude	Longitude
46.83135	-113.94789
46.90970	-114.15202

Montana SOC Occurrences Report

SOC Occurrencesfor Birds = Bald Eagle

Report generated 3/28/2023 8:49:49 AM



Birds - Bald Eagle *(Haliaeetus leucocephalus)*

SO Count: 13 **Obs Count**: 140 **Earliest Obs**: 2003 **Recent Obs**: 2022

Special Status Species
Native Species
Global Rank: G5
State Rank: S4

Agency Status
USFWS: BGEPA; MBTA
USFS: Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)
BLM: SENSITIVE
FWP SWAP:
PIF: 2

Delineation Criteria
Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for renesting. Only nesting observations with a locational uncertainty of 1,000 meters or less will be used to delineate a nesting area.

Last Updated
Mar 23, 2023

SO ID: 51088053	**Acres**: 3,105	**Obs Count**: 18	**Earliest Obs**: 2006	**Recent Obs**: 2017
SO ID: 51088114	**Acres**: 3,095	**Obs Count**: 2	**Earliest Obs**: 2004	**Recent Obs**: 2015
SO ID: 51088167	**Acres**: 3,095	**Obs Count**: 7	**Earliest Obs**: 2016	**Recent Obs**: 2022
SO ID: 51088858	**Acres**: 3,105	**Obs Count**: 1	**Earliest Obs**: 2007	**Recent Obs**: 2007
SO ID: 51088860	**Acres**: 3,095	**Obs Count**: 62	**Earliest Obs**: 2008	**Recent Obs**: 2020
SO ID: 51088929	**Acres**: 3,095	**Obs Count**: 17	**Earliest Obs**: 2004	**Recent Obs**: 2018
SO ID: 51089013	**Acres**: 3,095	**Obs Count**: 17	**Earliest Obs**: 2003	**Recent Obs**: 2018
SO ID: 51089022	**Acres**: 3,095	**Obs Count**: 6	**Earliest Obs**: 2014	**Recent Obs**: 2022
SO ID: 51089269	**Acres**: 3,095	**Obs Count**: 3	**Earliest Obs**: 2006	**Recent Obs**: 2021
SO ID: 51089366	**Acres**: 3,105	**Obs Count**: 4	**Earliest Obs**: 2005	**Recent Obs**: 2006
SO ID: 51089675	**Acres**: 3,105	**Obs Count**: 1	**Earliest Obs**: 2018	**Recent Obs**: 2018
SO ID: 51089778	**Acres**: 3,105	**Obs Count**: 1	**Earliest Obs**: 2022	**Recent Obs**: 2022
SO ID: 51089781	**Acres**: 3,105	**Obs Count**: 1	**Earliest Obs**: 2008	**Recent Obs**: 2008

Citation for this report:
Montana SOC Occurrences Report
SOC Occurrencesfor Birds = Bald Eagle
Within Lat/Long: (46.83135,-113.94789) to (46.90970,-114.15202)
Natural Heritage Map Viewer. Montana Natural Heritage Program.
Retrieved on March 28, 2023, from https://mtnhp.org/MapViewer/SOReport.aspx

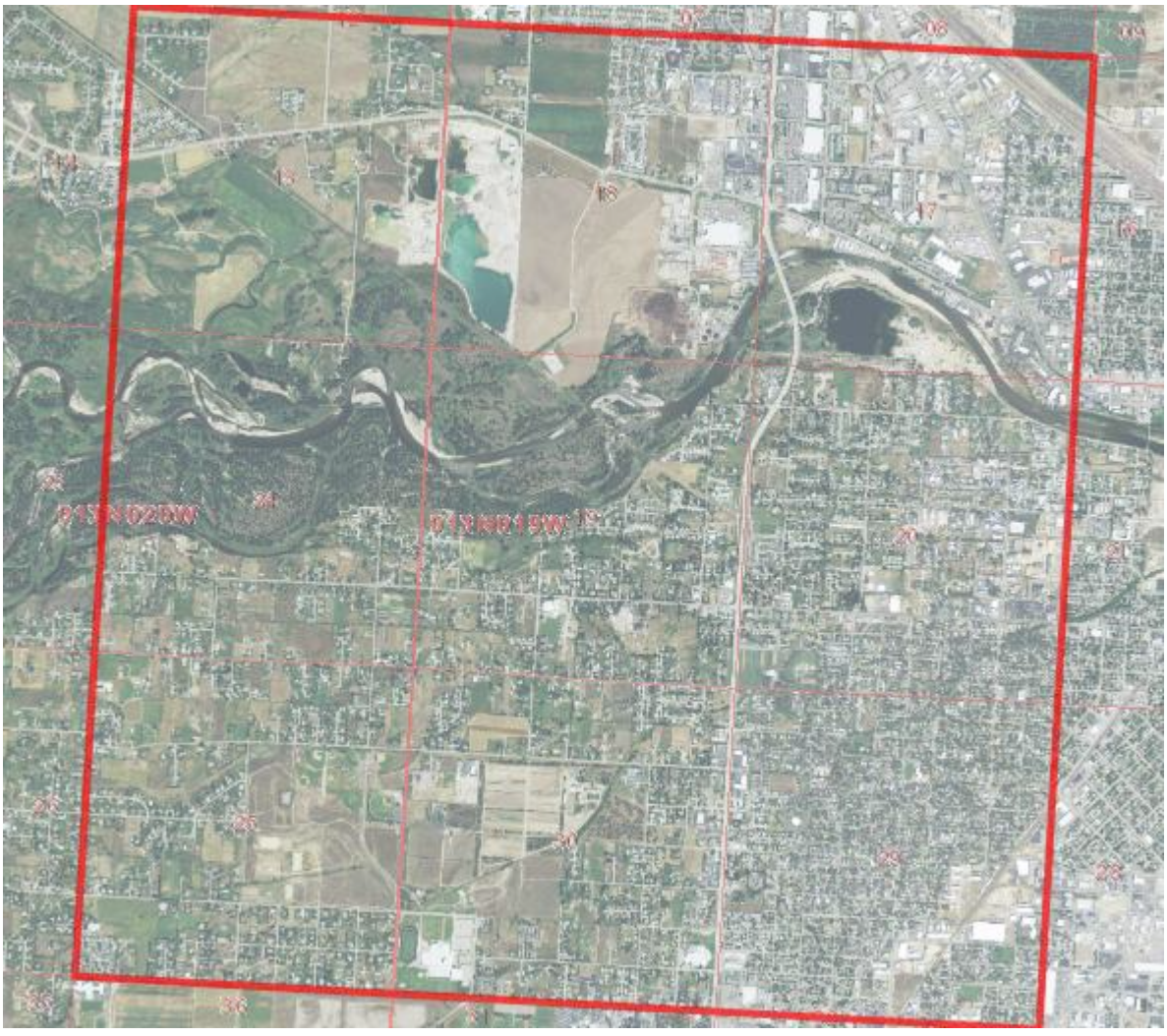
Environmental Summary

MONTANA
Natural Heritage Program

1515 East 6th Avenue
Helena, MT 59620
(406) 444-5363
mtnhp.org

Latitude	Longitude
46.84635	-114.01874
46.89478	-114.08130

Summarized by:
013N019W019
(Buffered PLSS Section)



Suggested Citation
Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 46.84635 to 46.89478 and Longitude -114.01874 to -114.08130. Retrieved on 3/28/2023.

The Montana Natural Heritage Program is part of the Montana State Library's Natural Resource Information System. Since 1985, it has served as a neutral and non-regulatory provider of easily accessible information on Montana's species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. The program is part of NatureServe, a network of over 80 similar programs in states, provinces, and nations throughout the Western Hemisphere, working to provide current and comprehensive distribution and status information on species and biological communities.

Table of Contents

- Species Report
- Structured Surveys
- Land Cover
- Wetland and Riparian
- Land Management
- Biological Reports
- Invasive and Pest Species
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- Data Use Terms and Conditions
- Suggested Contacts for Natural Resource Agencies
- Introduction to Native Species
- Introduction to Land Cover
- Introduction to Wetland and Riparian
- Introduction to Land Management
- Introduction to Invasive and Pest Species
- Additional Information Resources

Introduction to Environmental Summary Report

Environmental Summary Reports from the Montana Natural Heritage Program (MTNHP) provide information on species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. For information on environmental permits in Montana, please see permitting overviews by the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Index of Environmental Permits for Montana and our Suggested Contacts for Natural Resource Management Agencies. The report for your area of interest consists of introductory and related materials in this PDF and an Excel workbook with worksheets summarizing information managed in the MTNHP databases for: (1) species occurrences; (2) other observed species without species occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys that follow a protocol capable of detecting one or more species; (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. If your area of interest corresponds to a statewide polygon layer (e.g., watersheds, counties, or public land survey sections) information summaries in your report will exactly match those boundaries. However, if your report is for a custom area, users should be aware that summaries do not correspond to the exact boundaries of the polygon they have specified, but instead are a summary across a layer of hexagons intersected by the polygon they specified as shown on the report cover. Summarizing by these hexagons which are one square mile in area and approximately one kilometer in length on each side allows for consistent and rapid delivery of summaries based on a uniform grid that has been used for planning efforts across the western United States (e.g., Western Association of Fish and Wildlife Agencies - Crucial Habitat Assessment Tool).

In presenting this information, MTNHP is working towards assisting the user with rapidly assessing the known or potential species and biological communities, land management categories, and biological reports associated with the report area. Users are reminded that this information is likely incomplete and may be inaccurate as surveys to document species are lacking in many areas of the state, species' range polygons often include regions of unsuitable habitat, methods of predicting the presence of species or communities are constantly improving, and information is constantly being added and updated in our databases. **Field verification by professional biologists of the absence or presence of species and biological communities in a report area will always be an important obligation of users of our data. Users are encouraged to only use this environmental summary report as a starting point for more in depth analyses and are encouraged to contact state, federal, and tribal resource management agencies for additional data or management guidelines relevant to your efforts. Please see the Appendix for introductory materials to each section of the report, additional information resources, and a list of relevant agency contacts.**

Legend

Model Icons
- N Suitable (native range)
- O Optimal Suitability
- M Moderate Suitability
- L Low Suitability
- I Suitable (introduced range)

Habitat Icons
- C Common
- O Occasional

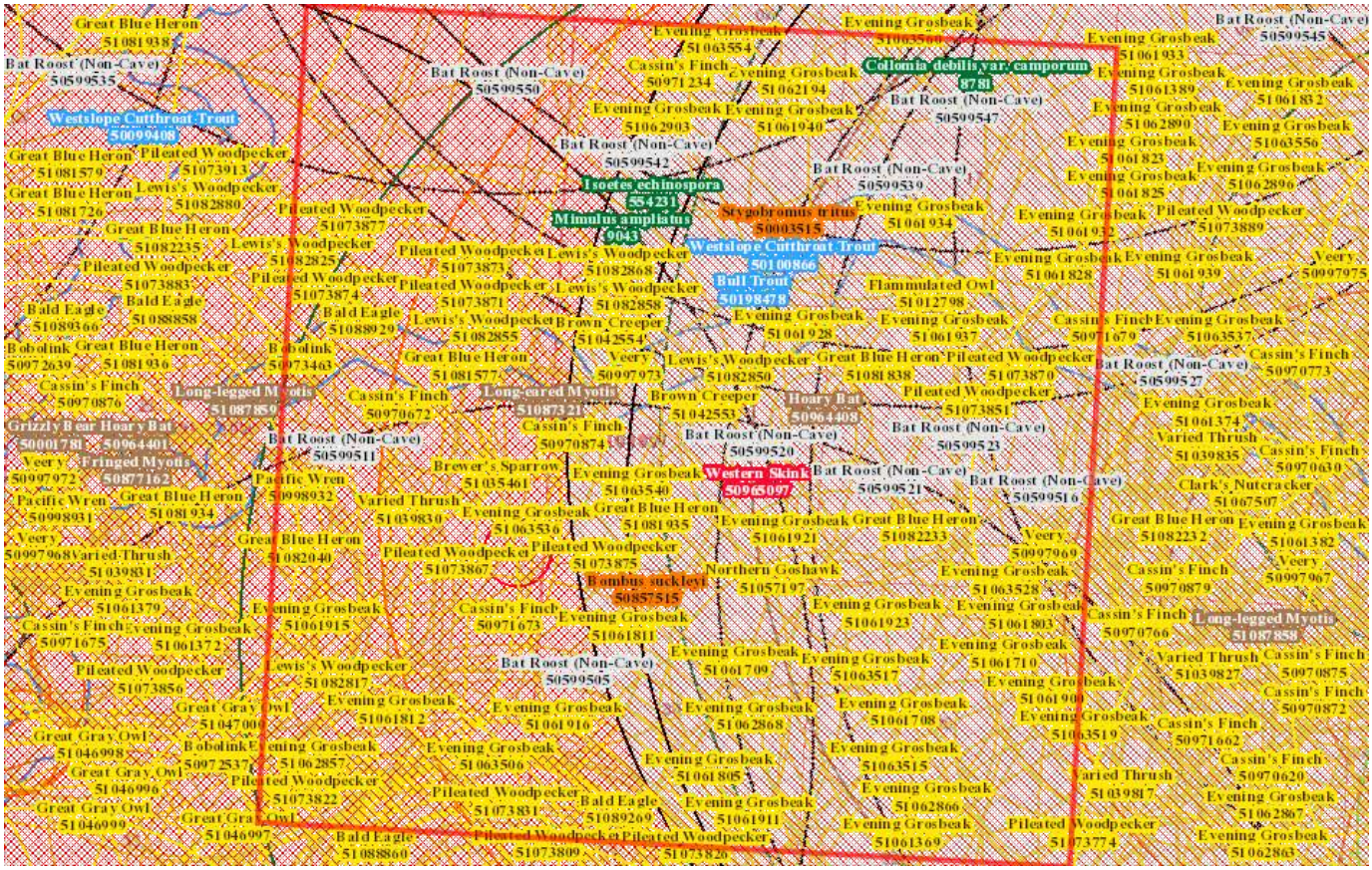
Range Icons
- Y Native / Year-round
- S Summer
- W Winter
- M Migratory
- N Non-native
- H Historical

Num Obs
Count of obs with 'good precision' (<=1000m)
+ indicates additional 'poor precision' obs (1001m-10,000m)

Latitude	Longitude
46.84635	-114.01874
46.89478	-114.08130

Native Species

Summarized by: **013N019W019** *(Buffered PLSS Section)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC



Species Occurrences

	USFWS Sec7	# SO	# Obs	Predicted Model	Range
F - Bull Trout *(Salvelinus confluentus)* SOC	7	1			Y

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S2** USFWS: **LT; CH** BLM: **THREATENED** FWP SWAP: **SGCN2**

Delineation Criteria Stream reaches and standing water bodies where the species is believed to be present based on the professional judgement of a fisheries biologist, potentially supported by habitat assessment, direct capture, or confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Jul 18, 2022)

Predicted Models: N 69% Suitable (native range) (deductive)

F - Westslope Cutthroat Trout *(Oncorhynchus clarkii lewisi)* SOC		1			Y

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **G5T4** State: **S2**
USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)**
Species of Conservation Concern in Forests (CG, HLC) BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Jul 25, 2022)

Predicted Models: N 69% Suitable (native range) (deductive)

V - Collomia debilis var. camporum *(Alpine Collomia)* SOC		1			Y

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5T2** State: **S1S2** Plant Threat Score: **Unknown** CCVI: **Highly Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 26, 2018)

Predicted Models: N 66% Suitable (native range) (deductive)

B - Lewis's Woodpecker *(Melanerpes lewis)* SOC — 28 — 44 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA; BCC10; BCC17** USFS: **Species of Conservation Concern in Forests (HLC)** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the likely foraging area used by breeding adults around the nest tree and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Mar 22, 2023)

Predicted Models: O 53% Optimal (inductive), M 32% Moderate (inductive), L 15% Low (inductive)

B - Great Blue Heron *(Ardea herodias)* SOC — 12 — 116 — Y S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 6,500 meters in order to be conservative about encompassing the areas commonly used for foraging near the breeding colony and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Mar 22, 2023)

Predicted Models: O 35% Optimal (inductive), M 29% Moderate (inductive), L 36% Low (inductive)

B - Veery *(Catharus fuscescens)* SOC — 3 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 300 meters in order to be conservative about encompassing home ranges and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 29, 2022)

Predicted Models: O 24% Optimal (inductive), M 11% Moderate (inductive), L 65% Low (inductive)

B - Bald Eagle *(Haliaeetus leucocephalus)* SSS — 7 — 136 — Y

View in Field Guide | View Predicted Models | View Range Maps

Special Status Species - Native Species Global: **G5** State: **S4** USFWS: **BGEPA; MBTA** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** BLM: **SENSITIVE** PIF: **2**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for renesting. Only nesting observations with a locational uncertainty of 1,000 meters or less will be used to delineate a nesting area. (Last Updated: Mar 23, 2023)

Predicted Models: O 13% Optimal (inductive), M 45% Moderate (inductive), L 42% Low (inductive)

B - Evening Grosbeak *(Coccothraustes vespertinus)* SOC — 85 — 95 — Y W M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA; BCC10** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 1,000 meters in order to encompass the maximum foraging distance from nests reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 12, 2023)

Predicted Models: M 100% Moderate (inductive)

R - Western Skink *(Plestiodon skiltonianus)* SOC — 2 — 1 — Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGCN3, SGIN**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 200 meters in order to encompass habitats supporting other individuals in adjacent territories. Otherwise the point observation is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 26, 2022)

Predicted Models: M 100% Moderate (inductive)

I - Bombus suckleyi *(Suckley Cuckoo Bumble Bee)* SOC — 1 — Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G2G3** State: **S1**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 1700 meters in order to encompass the home range of the individual as well as adjacent habitat likely to support other individuals and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 22, 2022)

Predicted Models: M 100% Moderate (inductive)

M - Long-legged Myotis *(Myotis volans)* SOC — 1 — Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4G5** State: **S3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a minimum distance of 2,000 meters in order to encompass the average distances traveled from capture locations to roosts in Washington, Oregon, and in the Black Hills of South Dakota and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 2,000 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Mar 22, 2023)

Predicted Models: M 65% Moderate (inductive), L 35% Low (inductive)

B - Pileated Woodpecker *(Dryocopus pileatus)* SOC — 35 — 56 — Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 1,500 meters in order to be conservative about encompassing home ranges and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 13, 2023)

Predicted Models: M 35% Moderate (inductive), L 4% Low (inductive)

M - Hoary Bat *(Lasiurus cinereus)* SOC — 2 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles during the active season. Point observation location is buffered by a minimum distance of 3,500 meters in order to be conservative about encompassing the maximum reported foraging distance for the congeneric Lasiurus borealis and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 23, 2022)

Predicted Models: M 13% Moderate (inductive), L 70% Low (inductive)

M - Long-eared Myotis *(Myotis evotis)* SOC | 1 | Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a minimum distance of 1,000 meters in order to encompass the average distances traveled from capture locations to roosts and between roosts in western Montana, Alberta, and Oregon and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 1,000 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Mar 22, 2023)

Predicted Models: M 13% Moderate (inductive), L 53% Low (inductive)

V - Isoetes echinospora *(Spiny-spore Quillwort)* SOC | 1 | Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Less Vulnerable**

Predicted Models: L 94% Low (inductive)

B - Cassin's Finch *(Haemorhous cassinii)* SOC | 13 | 23 | Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA; BCC10** FWP SWAP: **SGCN3** PIF: **3**

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 300 meters in order to be conservative about encompassing the courtship and foraging distance from nesting areas and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 28, 2022)

Predicted Models: L 57% Low (inductive)

B - Bobolink *(Dolichonyx oryzivorus)* SOC | 4 | 2 | S | M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** FWP SWAP: **SGCN3** PIF: **3**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 150 meters in order to conservatively encompass male territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 28, 2022)

Predicted Models: L 40% Low (inductive)

M - Fringed Myotis *(Myotis thysanodes)* SOC | 1 | Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a minimum distance of 2,000 meters in order to encompass the range of distances traveled from capture locations to roosts in the Black Hills of South Dakota and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 2,000 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jul 21, 2022)

Predicted Models: L 27% Low (inductive)

B - Great Gray Owl *(Strix nebulosa)* SOC | 6 | 1 | Not Assessed | Y

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN** PIF: **3**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 3,200 meters in order to encompass the known foraging distance and area likely to be used for renesting and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 04, 2023)

B - Brown Creeper *(Certhia americana)* SOC | 4 | 21 | Not Assessed | Y

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **1**

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 300 meters in order to be conservative about encompassing home ranges and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 04, 2023)

B - Pacific Wren *(Troglodytes pacificus)* SOC | 2 | 9 | Not Assessed | Y

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 300 meters in order to be conservative about encompassing home ranges and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 29, 2022)

B - Varied Thrush *(Ixoreus naevius)* SOC | 6 | 1 | Not Assessed | S | M

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 225 meters in order to encompass the reported minimum stand size occupied by breeding pairs and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 04, 2023)

B - Northern Goshawk *(Accipiter gentilis)* SOC | 1 | 7 | Not Assessed | Y | W | M

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 750 meters in order to encompass the area around the nest known to be defended by adults and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 10, 2023)

B - Flammulated Owl *(Psiloscops flammeolus)* SOC | 1 | 1 | Not Assessed | S | M

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** **Species of Conservation Concern in Forests (FLAT, HLC)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the maximum breeding territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 30, 2022)

I - Stygobromus tritus *(A Subterranean Amphipod)* SOC | 1 | Not Assessed | Y

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G1** State: **S1S2**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the cave system the species is dependent on. (Last Updated: Jan 17, 2008)

B - Brewer's Sparrow *(Spizella breweri)* SOC | 2 | 1 | Not Assessed | S | M

View in Field Guide **View Range Maps**

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the maximum territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 04, 2023)

I - Danaus plexippus *(Monarch)* SOC | 2 | Not Assessed | S

View in Field Guide **View Range Maps**

Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **C**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age/stage. Point observation location is buffered by a minimum distance of 2,000 meters in order to encompass documented travel distances of some butterfly species as well as adjacent habitat likely to support other individuals and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 21, 2022)

O - Bat Roost (Non-Cave) *(Bat Roost (Non-Cave))* IAH | 11 | Not Assessed

View in Field Guide

Important Animal Habitat - Native Species Global: **GNR** State: **SNR**

Delineation Criteria Confirmed area of occupancy based on the documented presence of adults or juveniles of any bat species at non-cave natural roost sites (e.g. rock outcrops, trees), below ground human created roost sites (e.g. mines), and above ground human created roost sites (e.g., bridges, buildings). Point observation locations are buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for Townsendâ€™s Big-eared Bat (a resident Montana bat Species of Concern) and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Oct 22, 2019)

Legend

Model Icons	Habitat Icons	Range Icons	Num Obs
N Suitable (native range)	C Common	Y Native / Year-round	Count of obs with 'good precision' (<=1000m)
O Optimal Suitability	O Occasional	S Summer	+ indicates additional 'poor precision' obs (1001m-10,000m)
M Moderate Suitability		W Winter	
L Low Suitability		M Migratory	
I Suitable (introduced range)		N Non-native	
		H Historical	

Latitude 46.84635 46.89478
Longitude -114.01874 -114.08130

Native Species

Summarized by: **013N019W019** *(Buffered PLSS Section)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Observed Species

	USFWS Sec7	# Obs	Predicted Model	Range
B - Hooded Merganser *(Lophodytes cucullatus)* PSOC		68		Y M
View in Field Guide · View Predicted Models · View Range Maps				
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2**				
Predicted Models: O 100% Optimal (inductive)				
B - Yellow-billed Cuckoo *(Coccyzus americanus)* SOC	7	1		S M
View in Field Guide · View Predicted Models · View Range Maps				
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **PS: LT; MBTA** BLM: **THREATENED** FWP SWAP: **SGCN3, SGIN** PIF: **2**				
Predicted Models: O 72% Optimal (inductive), M 28% Moderate (inductive)				
B - Rufous Hummingbird *(Selasphorus rufus)* PSOC		17		S M
View in Field Guide · View Predicted Models · View Range Maps				
Potential Species of Concern - Native Species Global: **G4** State: **S4B** USFWS: **MBTA; BCC10** PIF: **3**				
Predicted Models: O 61% Optimal (inductive), M 39% Moderate (inductive)				
B - Barrow's Goldeneye *(Bucephala islandica)* PSOC		43		Y W M
View in Field Guide · View Predicted Models · View Range Maps				
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2**				
Predicted Models: O 30% Optimal (inductive), M 70% Moderate (inductive)				
B - Western Screech-Owl *(Megascops kennicottii)* PSOC		1		Y
View in Field Guide · View Predicted Models · View Range Maps				
Potential Species of Concern - Native Species Global: **G4G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**				
Predicted Models: O 29% Optimal (inductive), M 71% Moderate (inductive)				
B - American White Pelican *(Pelecanus erythrorhynchos)* SOC		5		S M
View in Field Guide · View Predicted Models · View Range Maps				
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**				
Predicted Models: M 100% Moderate (inductive)				
B - Trumpeter Swan *(Cygnus buccinator)* SOC		8		Y M
View in Field Guide · View Predicted Models · View Range Maps				
Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **MBTA** USFS: **Sensitive - Known in Forests (BD)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**				
Predicted Models: M 27% Moderate (inductive), L 73% Low (inductive)				
A - Western Toad *(Anaxyrus boreas)* SOC		2		Y
View in Field Guide · View Predicted Models · View Range Maps				
Species of Concern - Native Species Global: **G4** State: **S2** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN2**				
Predicted Models: M 24% Moderate (inductive), L 37% Low (inductive)				
B - Long-billed Curlew *(Numenius americanus)* SOC		1		S M
View in Field Guide · View Predicted Models · View Range Maps				
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**				
Predicted Models: M 13% Moderate (inductive), L 87% Low (inductive)				
B - Black Tern *(Chlidonias niger)* SOC		1		S M
View in Field Guide · View Predicted Models · View Range Maps				
Species of Concern - Native Species Global: **G4G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**				
Predicted Models: M 2% Moderate (inductive), L 49% Low (inductive)				
B - Horned Grebe *(Podiceps auritus)* SOC		21		S M
View in Field Guide · View Predicted Models · View Range Maps				
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**				
Predicted Models: M 2% Moderate (inductive), L 49% Low (inductive)				
M - Silver-haired Bat *(Lasionycteris noctivagans)* PSOC		3		Y
View in Field Guide · View Predicted Models · View Range Maps				
Potential Species of Concern - Native Species Global: **G3G4** State: **S4**				
Predicted Models: L 72% Low (inductive)				
B - Harlequin Duck *(Histrionicus histrionicus)* SOC		3		S M
View in Field Guide · View Predicted Models · View Range Maps				
Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA** USFS: **Sensitive - Known in Forests (BD, KOOT, LOLO)** FWP SWAP: **SGCN2** PIF: **1**				
Predicted Models: L 68% Low (inductive)				

B - Black-necked Stilt *(Himantopus mexicanus)* SOC — 10 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**

Predicted Models: L 51% Low (inductive)

B - Forster's Tern *(Sterna forsteri)* SOC — 2 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: L 35% Low (inductive)

B - White-faced Ibis *(Plegadis chihi)* SOC — 6 — Not Assessed — M

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

B - Golden Eagle *(Aquila chrysaetos)* SOC — 10 — Not Assessed — Y

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **BGEPA; MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

B - Common Tern *(Sterna hirundo)* SOC — 1 — Not Assessed — M

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

B - Ferruginous Hawk *(Buteo regalis)* SOC — 10 — Not Assessed — M

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

B - Franklin's Gull *(Leucophaeus pipixcan)* SOC — 4 — Not Assessed — M

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

B - Caspian Tern *(Hydroprogne caspia)* SOC — 2 — Not Assessed — M

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

B - Gray-crowned Rosy-Finch *(Leucosticte tephrocotis)* SOC — 1 — Not Assessed — Y — W M

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** USFWS: **MBTA** FWP SWAP: **SGCN2, SGIN**

B - Black Swift *(Cypseloides niger)* SOC — 1 — Not Assessed — S M

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S1B** USFWS: **MBTA; BCC10** USFS: **Species of Conservation Concern in Forests (FLAT)** FWP SWAP: **SGCN1, SGIN** PIF: **2**

B - Clark's Grebe *(Aechmophorus clarkii)* SOC — 2 — Not Assessed — M

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11** FWP SWAP: **SGCN3** PIF: **3**

B - Common Loon *(Gavia immer)* SOC — 13 — Not Assessed — M

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** USFS: **Sensitive - Known in Forests (KOOT, LOLO)** FWP SWAP: **SGCN3** PIF: **1**

B - LeConte's Sparrow *(Ammospiza leconteii)* SOC — 1 — Not Assessed

View in Field Guide

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11** FWP SWAP: **SGCN3** PIF: **3**

B - Sagebrush Sparrow *(Artemisiospiza nevadensis)* SOC — 2 — Not Assessed

View in Field Guide

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

MONTANA Natural Heritage Program
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Legend

Model Icons	Habitat Icons	Range Icons	Num Obs
N Suitable (native range)	C Common	Y Native / Year-round	Count of obs with 'good precision' (<=1000m)
O Optimal Suitability	O Occasional	S Summer	+ indicates additional 'poor precision' obs (1001m-10,000m)
M Moderate Suitability		W Winter	
L Low Suitability		M Migratory	
I Suitable (introduced range)		N Non-native	
		H Historical	

Latitude	Longitude
46.84635	-114.01874
46.89478	-114.08130

Native Species

Summarized by: **013N019W019** *(Buffered PLSS Section)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Potential Species

V - Rotala ramosior *(Toothcup)* SOC — Predicted Model: Y
View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S2** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**
Predicted Models: N 1% Suitable (native range) (deductive)

B - Broad-tailed Hummingbird *(Selasphorus platycercus)* PSOC — Predicted Model: S M
View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA; BCC10** FWP SWAP: **SGIN**
Predicted Models: O 81% Optimal (inductive), M 19% Moderate (inductive)

V - Carex scoparia *(Pointed Broom Sedge)* SOC — Predicted Model: Y
View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S2** Plant Threat Score: **No Known Threats**
Predicted Models: O 77% Optimal (inductive), M 23% Moderate (inductive)

M - Western Spotted Skunk *(Spilogale gracilis)* PSOC — Predicted Model: Y
View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **SU** FWP SWAP: **SGIN**
Predicted Models: O 74% Optimal (inductive), M 26% Moderate (inductive)

V - Dichanthelium acuminatum *(Panic Grass)* SOC — Predicted Model: Y
View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Unknown**
Predicted Models: O 53% Optimal (inductive), M 47% Moderate (inductive)

V - Impatiens aurella *(Pale-yellow Jewel-weed)* SOC — Predicted Model: Y
View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** Plant Threat Score: **No Known Threats**
Predicted Models: O 52% Optimal (inductive), M 48% Moderate (inductive)

V - Wolffia columbiana *(Columbia Water-meal)* SOC — Predicted Model: Y
View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **No Known Threats**
Predicted Models: O 40% Optimal (inductive), M 60% Moderate (inductive)

I - Zumatrichia notosa *(A Caddisfly)* SOC — Predicted Model: Y
View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G2G4** State: **S3**
Predicted Models: O 24% Optimal (inductive), M 25% Moderate (inductive), L 20% Low (inductive)

V - Cypripedium parviflorum *(Small Yellow Lady's-slipper)* PSOC — Predicted Model: Y
View in Field Guide | View Predicted Models | View Range Maps
USFS: **Sensitive - Known in Forests (KOOT, LOLO)**
Sensitive - Suspected in Forests (BRT)
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** **Species of Conservation Concern in Forests (CG, HLC)**
Predicted Models: O 12% Optimal (inductive), M 51% Moderate (inductive), L 37% Low (inductive)

V - Eleocharis rostellata *(Beaked Spikerush)* SOC — Predicted Model: Y
View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Species of Conservation Concern in Forests (CG, FLAT, HLC)** Plant Threat Score: **Unknown**
CCVI: **Less Vulnerable**
Predicted Models: O 2% Optimal (inductive), M 59% Moderate (inductive), L 11% Low (inductive)

B - Black-crowned Night-Heron *(Nycticorax nycticorax)* SOC — Predicted Model: S M
View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Predicted Models: O 2% Optimal (inductive), M 32% Moderate (inductive), L 27% Low (inductive)

V - Utricularia intermedia *(Flatleaf Bladderwort)* SOC — Predicted Model: Y
View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known in Forests (KOOT)** Plant Threat Score: **No Known Threats**
Predicted Models: M 100% Moderate (inductive)

M - North American Porcupine *(Erethizon dorsatum)* PSOC — Predicted Model: Y
View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGIN**
Predicted Models: M 80% Moderate (inductive), L 20% Low (inductive)

V - Juncus covillei *(Coville's Rush)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **No Known Threats**
Predicted Models: M 65% Moderate (inductive), L 35% Low (inductive)

V - Botrychium lineare *(Linearleaf Moonwort)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G3** State: **S1S2** CCVI: **Less Vulnerable**
Predicted Models: M 65% Moderate (inductive), L 19% Low (inductive)

R - Snapping Turtle *(Chelydra serpentina)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN**
Predicted Models: M 51% Moderate (inductive), L 44% Low (inductive)

V - Draba densifolia *(Dense-leaf Draba)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Species of Conservation Concern in Forests (CG, HLC)** Plant Threat Score: **Low**
CCVI: **Moderately Vulnerable**
Predicted Models: M 37% Moderate (inductive), L 46% Low (inductive)

B - Meesia triquetra *(Meesia Moss)* SOC

View in Field Guide View Predicted Models View Range Maps
USFS: **Sensitive - Known in Forests (BRT, KOOT)**
Sensitive - Suspected in Forests (LOLO)
Species of Concern - Native Species Global: **G5** State: **S2** **Species of Conservation Concern in Forests (CG, FLAT)**
Predicted Models: M 35% Moderate (inductive), L 65% Low (inductive)

V - Carex crawei *(Crawe's Sedge)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Low**
Predicted Models: M 35% Moderate (inductive), L 43% Low (inductive)

V - Centunculus minimus *(Chaffweed)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats**
Predicted Models: M 35% Moderate (inductive), L 24% Low (inductive)

I - Oreohelix haydeni *(Lyrate Mountainsnail)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G2** State: **S1S3**
Predicted Models: M 28% Moderate (inductive), L 72% Low (inductive)

B - Black-backed Woodpecker *(Picoides arcticus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** BLM: **SENSITIVE**
FWP SWAP: **SGCN3** PIF: **1**
Predicted Models: M 26% Moderate (inductive), L 63% Low (inductive)

V - Psilocarphus brevissimus *(Dwarf woolly-heads)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3** USFS: **Sensitive - Known in Forests (KOOT)** Plant Threat Score: **No Known Threats**
Predicted Models: M 15% Moderate (inductive), L 44% Low (inductive)

V - Elodea bifoliata *(Long-sheath Waterweed)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G4G5** State: **S2?** Plant Threat Score: **No Known Threats**
Predicted Models: M 13% Moderate (inductive), L 87% Low (inductive)

M - Little Brown Myotis *(Myotis lucifugus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3** FWP SWAP: **SGCN3**
Predicted Models: M 13% Moderate (inductive), L 70% Low (inductive)

V - Ligusticum verticillatum *(Idaho Lovage)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G4G5** State: **S3** Plant Threat Score: **No Known Threats**
Predicted Models: M 12% Moderate (inductive), L 11% Low (inductive)

V - Drosera rotundifolia *(Roundleaf Sundew)* PSOC

View in Field Guide View Predicted Models View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** Plant Threat Score: **Unknown**
Predicted Models: M 10% Moderate (inductive), L 13% Low (inductive)

V - Stipa lettermanii *(Letterman's Needlegrass)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S3** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **No Known Threats**
Predicted Models: M 10% Moderate (inductive), L 13% Low (inductive)

B - Ovenbird *(Seiurus aurocapilla)* PSOC

View in Field Guide View Predicted Models View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** PIF: **3**
Predicted Models: M 2% Moderate (inductive), L 98% Low (inductive)

V - Stellaria crassifolia *(Fleshy Stitchwort)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats**

Predicted Models: M 2% Moderate (inductive), L 98% Low (inductive)

M - Yuma Myotis *(Myotis yumanensis)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGIN**

Predicted Models: M 2% Moderate (inductive), L 32% Low (inductive)

M - Western Pygmy Shrew *(Sorex eximius)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**

Predicted Models: M 2% Moderate (inductive), L 21% Low (inductive)

R - Northern Alligator Lizard *(Elgaria coerulea)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGCN3, SGIN**

Predicted Models: L 100% Low (inductive)

V - Ranunculus hyperboreus *(High Northern Buttercup)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4**

Predicted Models: L 73% Low (inductive)

M - Canada Lynx *(Lynx canadensis)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **LT; CH** BLM: **THREATENED** FWP SWAP: **SGCN3**

Predicted Models: L 69% Low (inductive)

V - Phlox kelseyi var. missoulensis *(Missoula Phlox)* SOC

View in Field Guide | View Predicted Models | View Range Maps

USFS: **Sensitive - Known in Forests (BD)**
Sensitive - Suspected in Forests (LOLO)

Species of Concern - Native Species Global: **G3** State: **S3** **Species of Conservation Concern in Forests (HLC)** CCVI: **Highly Vulnerable**

Predicted Models: L 59% Low (inductive)

V - Botrychium hesperium *(Western Moonwort)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (BD, KOOT)** CCVI: **Less Vulnerable**

Predicted Models: L 35% Low (inductive)

A - Northern Leopard Frog *(Lithobates pipiens)* SOC

View in Field Guide | View Predicted Models | View Range Maps

USFS: **Sensitive - Known in Forests (KOOT)**

Species of Concern - Native Species Global: **G5** State: **S1,S4** **Sensitive - Suspected in Forests (BRT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN1**

Predicted Models: L 24% Low (inductive)

V - Trichophorum cespitosum *(Tufted Club-rush)* SOC

View in Field Guide | View Predicted Models | View Range Maps

USFS: **Sensitive - Known in Forests (BD, KOOT)**

Species of Concern - Native Species Global: **G5** State: **S2** **Species of Conservation Concern in Forests (FLAT)** Plant Threat Score: **No Known Threats**
CCVI: **Moderately Vulnerable**

Predicted Models: L 24% Low (inductive)

V - Botrychium simplex *(Least Moonwort)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** CCVI: **Less Vulnerable**

Predicted Models: L 24% Low (inductive)

V - Eriophorum gracile *(Slender Cottongrass)* SOC

View in Field Guide | View Predicted Models | View Range Maps

USFS: **Sensitive - Known in Forests (KOOT)**

Species of Concern - Native Species Global: **G5** State: **S3** **Species of Conservation Concern in Forests (FLAT)** Plant Threat Score: **Unknown**
CCVI: **Moderately Vulnerable**

Predicted Models: L 24% Low (inductive)

V - Mimulus floribundus *(Floriferous Monkeyflower)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **SH** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

Predicted Models: L 24% Low (inductive)

F - Lake Trout *(Salvelinus namaycush)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **G5** State: **S2** FWP SWAP: **SGCN2**

Predicted Models: ! 39% Suitable (introduced range) (deductive)

B - Loggerhead Shrike *(Lanius ludovicianus)* SOC Not Assessed

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

M - Preble's Shrew *(Sorex preblei)* SOC Not Assessed

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**

B - Black-and-white Warbler *(Mniotilta varia)* PSOC — Not Assessed — M

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA**

M - Townsend's Big-eared Bat *(Corynorhinus townsendii)* SOC — Not Assessed — Y

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

I - Euphydryas gillettii *(Gillette's Checkerspot)* SOC — Not Assessed — Y

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G3** State: **S2**

M - Northern Bog Lemming *(Synaptomys borealis)* SOC — Not Assessed — Y

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** FWP SWAP: **SGCN2, SGIN**

I - Argia alberta *(Paiute Dancer)* PSOC — Not Assessed — Y

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G4** State: **S2S3**

I - Limenitis arthemis *(Red-spotted Admiral)* PSOC — Not Assessed — Y

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S3**

I - Ophiogomphus occidentis *(Sinuous Snaketail)* PSOC — Not Assessed — Y

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

M - North American Water Vole *(Microtus richardsoni)* PSOC — Not Assessed — Y

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4**

B - Boreal Chickadee *(Poecile hudsonicus)* SOC — Not Assessed — Y

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3**

I - Aeshna constricta *(Lance-tipped Darner)* PSOC — Not Assessed — Y

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S1S3**

I - Aeshna eremita *(Lake Darner)* PSOC — Not Assessed — Y

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4**

I - Polygonia progne *(Gray Comma)* SOC — Not Assessed — Y

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2**

V - Cyperus acuminatus *(Short-pointed Flatsedge)* SOC — Not Assessed — Y

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1** Plant Threat Score: **No Known Threats**

V - Senecio eremophilus *(Desert Groundsel)* SOC — Not Assessed — Y

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S2** Plant Threat Score: **No Known Threats**

B - Northern Hawk Owl *(Surnia ulula)* SOC — Not Assessed — W M

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3, SGIN**

B - Tennessee Warbler *(Leiothlypis peregrina)* PSOC — Not Assessed — M

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4B** USFWS: **MBTA**

B - Common Poorwill *(Phalaenoptilus nuttallii)* PSOC — Not Assessed — S M

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

B - Sharp-tailed Grouse *(Tympanuchus phasianellus)* SOC — Not Assessed — H

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **SX,S4** FWP SWAP: **SGCN1** PIF: **2**

M - Bison *(Bos bison)* SOC — Not Assessed — H

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2** FWP SWAP: **SGCN2**

V - Athysanus pusillus *(Sandweed)* SOC — Not Assessed — Y

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S2** USFS: **Sensitive - Known in Forests (BRT)** **Sensitive - Suspected in Forests (LOLO)** Plant Threat Score: **High** CCVI: **Highly Vulnerable**

V - Castilleja covilleana *(Coville Indian Paintbrush)* SOC — Not Assessed — Y

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3** USFS: **Sensitive - Known in Forests (BRT)** **Sensitive - Suspected in Forests (BD)** Plant Threat Score: **Low** CCVI: **Moderately Vulnerable**

V - Trifolium gymnocarpon *(Hollyleaf Clover)* SOC — Not Assessed

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known in Forests (BRT, LOLO)** **Sensitive - Suspected in Forests (BD)** Plant Threat Score: **Medium - Low**

I - Argia vivida *(Vivid Dancer)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S5**

I - Somatochlora albicincta *(Ringed Emerald)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S1S3**

I - Somatochlora minor *(Ocellated Emerald)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

M - Wolverine *(Gulo gulo)* SOC — 7 — Not Assessed

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

B - Boreal Owl *(Aegolius funereus)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

I - Colias gigantea *(Giant Sulphur)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3**

I - Libellula saturata *(Flame Skimmer)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

I - Aeshna juncea *(Sedge Darner)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S5**

I - Epitheca spinigera *(Spiny Baskettail)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S5**

I - Leucorrhinia borealis *(Boreal Whiteface)* SOC — Not Assessed

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S1**

I - Sympetrum madidum *(Red-veined Meadowhawk)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S2S3**

I - Aeshna sitchensis *(Zigzag Darner)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S2S3**

I - Argia emma *(Emma's Dancer)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S5**

I - Ladona julia *(Chalk-fronted Corporal)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4**

I - Rhionaeschna multicolor *(Blue-eyed Darner)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

I - Somatochlora semicircularis *(Mountain Emerald)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S5**

V - Braya humilis *(Low Braya)* SOC — Not Assessed

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **Unknown**
CCVI: **Highly Vulnerable**

V - Hornungia procumbens *(Hutchinsia)* SOC — Not Assessed

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

V - Ranunculus orthorhynchus *(Straightbeak Buttercup)* SOC — Not Assessed

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S1S2** Plant Threat Score: **Low**

V - Ranunculus pedatifidus *(Northern Buttercup)* SOC — Not Assessed

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **Unknown**

I - Aeshna tuberculifera *(Black-tipped Darner)* PSOC — Not Assessed

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

I - Leucorrhinia glacialis *(Crimson-ringed Whiteface)* PSOC — Not Assessed

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3**

I - Aeshna subarctica *(Subarctic Darner)* SOC — Not Assessed

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S2**

I - Somatochlora hudsonica *(Hudsonian Emerald)* PSOC — Not Assessed

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

I - Enallagma clausum *(Alkali Bluet)* PSOC — Not Assessed

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

I - Rhionaeschna californica *(California Darner)* PSOC — Not Assessed

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S5**

V - Botrychium ascendens *(Upward-lobed Moonwort)* SOC — Not Assessed

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (KOOT)** CCVI: **Less Vulnerable**

V - Botrychium crenulatum *(Wavy Moonwort)* SOC — Not Assessed

View in Field Guide View Range Maps
USFS: **Sensitive - Known in Forests (BD, KOOT, LOLO)**
Species of Concern - Native Species Global: **G4** State: **S3** **Species of Conservation Concern in Forests (HLC)** CCVI: **Less Vulnerable**

V - Botrychium michiganense *(Michigan Moonwort)* SOC — Not Assessed

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G3** State: **S2** CCVI: **Less Vulnerable**

V - Botrychium paradoxum *(Peculiar Moonwort)* SOC — Not Assessed

View in Field Guide View Range Maps
USFS: **Sensitive - Known in Forests (BD, KOOT)**
Sensitive - Suspected in Forests (LOLO)
Species of Concern - Native Species Global: **G3G4** State: **S3** **Species of Conservation Concern in Forests (CG, FLAT, HLC)** BLM: **SENSITIVE**
CCVI: **Moderately Vulnerable**

V - Botrychium pedunculosum *(Stalked Moonwort)* SOC — Not Assessed

View in Field Guide View Range Maps
USFS: **Sensitive - Known in Forests (KOOT)**
Species of Concern - Native Species Global: **G3G4** State: **S2** **Species of Conservation Concern in Forests (FLAT)** CCVI: **Less Vulnerable**

V - Calamagrostis tweedyi *(Cascade reedgrass)* SOC — Not Assessed

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G3** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Less Vulnerable**

V - Clarkia rhomboidea *(Diamond Clarkia)* SOC — Not Assessed

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known in Forests (BRT, KOOT, LOLO)** Plant Threat Score: **Low** CCVI: **Less Vulnerable**

V - Cyperus bipartitus *(Shining Flatsedge)* SOC — Not Assessed

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1** Plant Threat Score: **No Known Threats**

V - Satureja douglasii *(Yerba Buena)* SOC — Not Assessed

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **No Known Threats**

Latitude Longitude
46.84635 -114.01874
46.89478 -114.08130

Structured Surveys

Summarized by: **013N019W019** *(Buffered PLSS Section)*

The Montana Natural Heritage Program (MTNHP) records information on the locations where more than 80 different types of well-defined repeatable survey protocols capable of detecting an animal species or suite of animal species have been conducted by state, federal, tribal, university, or private consulting biologists. Examples of structured survey protocols tracked by MTNHP include: visual encounter and dip net surveys for pond breeding amphibians, point counts for birds, call playback surveys for selected bird species, visual surveys of migrating raptors, kick net stream reach surveys for macroinvertebrates, visual encounter cover object surveys for terrestrial mollusks, bat acoustic or mist net surveys, pitfall and/or snap trap surveys for small terrestrial mammals, track or camera trap surveys for large mammals, and trap surveys for turtles. Whenever possible, photographs of survey locations are stored in MTNHP databases.

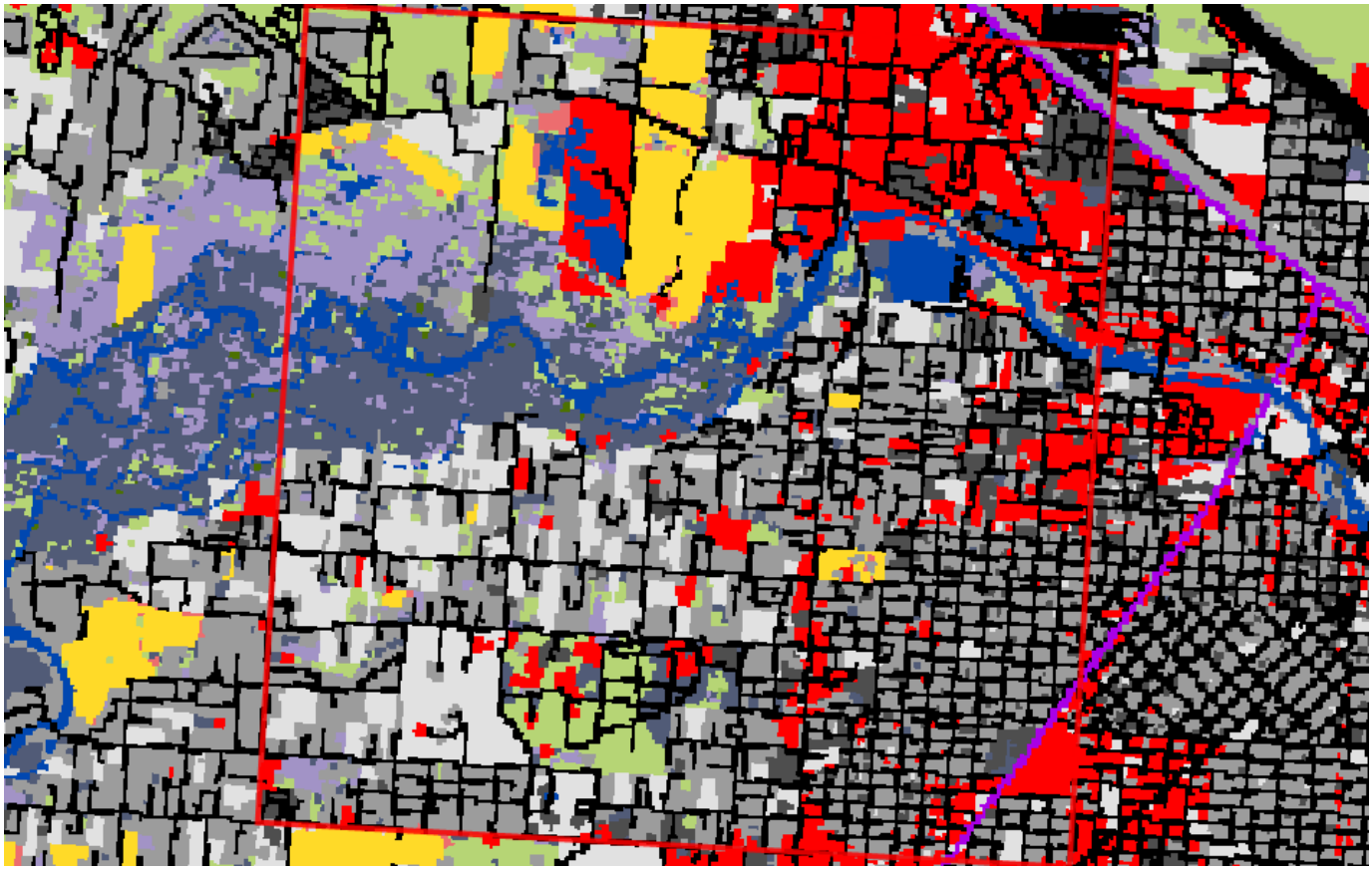
MTNHP does not typically manage information on structured surveys for plants; surveys for invasive species may be a future exception.

Within the report area you have requested, structured surveys are summarized by the number of each type of structured survey protocol that has been conducted, the number of species detections/observations resulting from these surveys, and the most recent year a survey has been conducted.

B-Colonial-nesting Waterbirds *(Colonial-nesting Waterbird Surveys)*	**Survey Count**: 2	**Obs Count**:	**Recent Survey**: 2011
B-Great Blue Heron Rookery *(Great Blue Heron Rookery)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2021
B-Point Count *(Bird Point Count)*	**Survey Count**: 10	**Obs Count**: 75	**Recent Survey**: 1994
B-Raptor nest *(Raptor Nest Survey)*	**Survey Count**: 3	**Obs Count**: 3	**Recent Survey**: 2010
E-Eastern Heath Snail *(Eastern Heath Snail Survey)*	**Survey Count**: 2	**Obs Count**:	**Recent Survey**: 2012
E-Noxious Weed, Road-based *(Noxious Weed Road-based Visual Surveys)*	**Survey Count**: 14	**Obs Count**: 11	**Recent Survey**: 2003
I-Aquatic Invert Lotic Dipnet *(Invertebrate Lotic Site Dipnet and Visual Encounter Survey)*	**Survey Count**: 5	**Obs Count**: 58	**Recent Survey**: 2003
I-Mussel *(Stream Mussel Survey)*	**Survey Count**: 2	**Obs Count**:	**Recent Survey**: 2007
M-Bat Roost (Active Season) *(Bat Roost (Active Season) Survey)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2014

Land Cover

Summarized by: **013N019W019** *(Buffered PLSS Section)*



22% (*1,287 Acres*)

Human Land Use
Developed
Low Intensity Residential

Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-50% of total cover. These areas most commonly include single-family housing units in rural and suburban areas. Paved roadways may be classified into this category.

No Image

21% (*1,196 Acres*)

Human Land Use
Developed
Other Roads

County, city and or rural roads generally open to motor vehicles.

No Image

12% (*673 Acres*)

Human Land Use
Developed
Commercial / Industrial

Businesses, industrial parks, hospitals, airports; utilities in commercial/industrial areas.

10% (*582 Acres*)

Human Land Use
Developed
Developed, Open Space

Vegetation (primarily grasses) planted in developed settings for recreation, erosion control, or aesthetic purposes. Impervious surfaces account for less than 20% of total cover. This category often includes highway and railway rights of way and graveled rural roads.

9% (*495 Acres*)

Wetland and Riparian Systems
Floodplain and Riparian
Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland

This ecological system is found throughout the Rocky Mountain and Colorado Plateau regions. In Montana, sites occur at elevations of 609-1,219 meters (2,000-4,000 feet) west of the Continental Divide. East of the Continental Divide, this system ranges up to 1,676 meters (5,500 feet). It generally comprises a mosaic of multiple communities that are tree-dominated with a diverse shrub component. It is dependent on a natural hydrologic regime with annual to episodic flooding, so it is usually found within the flood zone of rivers, on islands, sand or cobble bars, and along streambanks. It can form large, wide occurrences on mid-channel islands in larger rivers, or narrow bands on small, rocky canyon tributaries and well-drained benches. It is also typically found in backwater channels and other perennially wet but less scoured sites, such as floodplains, swales and irrigation ditches. In some locations, occurrences extend into moderately high intermountain basins where the adjacent vegetation is sage steppe. Black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) is the key indicator species. Other dominant trees may include boxelder maple (*Acer negundo*), narrowleaf cottonwood (*Populus angustifolia*), eastern cottonwood (*Populus deltoides*), Douglas-fir (*Pseudotsuga menziesii*), peachleaf willow (*Salix amygdaloides*), or Rocky Mountain juniper (*Juniperus scopulorum*). Dominant shrubs include Rocky Mountain maple (*Acer glabrum*), thinleaf alder (*Alnus incana*), river birch (*Betula occidentalis*), redoiser dogwood (*Cornus sericea*), hawthorne (*Crataegus* species), chokecherry (*Prunus virginiana*), skunkbush sumac (*Rhus trilobata*), willows (*Salix* species), rose (*Rosa* species), silver buffaloberry (*Shepherdia argentea*), or snowberry (*Symphoricarpos* species).

6% (*372 Acres*)

Grassland Systems
Montane Grassland
Rocky Mountain Lower Montane, Foothill, and Valley Grassland

This grassland system of the northern Rocky Mountains is found at lower montane to foothill elevations in mountains and valleys throughout Montana. These grasslands are floristically similar to Big Sagebrush Steppe but are defined by shorter summers, colder winters, and young soils derived from recent glacial and alluvial material. They are found at elevations from 548 - 1,650 meters (1,800-5,413 feet). In the lower montane zone, they range from small meadows to large open parks surrounded by conifers; below the lower treeline, they occur as extensive foothill and valley grasslands. Soils are relatively deep, fine-textured, often with coarse fragments, and non-saline. Microphytic crust may be present in high-quality occurrences. This system is typified by cool-season perennial bunch grasses and forbs (>25%) cover, with a sparse shrub cover (<10%). Rough fescue (*Festuca campestris*) is dominant in the northwestern portion of the state and Idaho fescue (*Festuca idahoensis*) is dominant or co-dominant throughout the range of the system. Bluebunch wheatgrass (*Pseudoroegneria spicata*) occurs as a co-dominant throughout the range as well, especially on xeric sites. Western wheatgrass (*Pascopyrum smithii*) is consistently present, often with appreciable coverage (>10%) in lower elevation occurrences in western Montana and virtually always present, with relatively high coverages (>25%), on the edge of the Northwestern Great Plains region. Species diversity ranges from a high of more than 50 per 400 square meter plot on mesic sites to 15 (or fewer) on xeric and disturbed sites. Most occurrences have at least 25 vascular species present. Farmland conversion, noxious species invasion, fire suppression, heavy grazing and oil and gas development are major threats to this system.

5% (*277 Acres*)

Human Land Use
Agriculture
Cultivated Crops

These areas used for the production of crops, such as corn, soybeans, small grains, sunflowers, vegetables, and cotton, typically on an annual cycle. Agricultural plant cover is variable depending on season and type of farming. Other areas include more stable land cover of orchards and vineyards.

5% (*274 Acres*)

Wetland and Riparian Systems
Wet meadow
Alpine-Montane Wet Meadow

These moderate-to-high-elevation systems are found throughout the Rocky Mountains, dominated by herbaceous species found on wetter sites with very low-velocity surface and subsurface flows. Occurrences range in elevation from montane to alpine at 1,000 to 3,353 meters (3,280-11,000 feet). This system typically occurs in cold, moist basins, seeps and alluvial terraces of headwater streams or as a narrow strip adjacent to alpine lakes (Hansen et al., 1996). Wet meadows are typically found on flat areas or gentle slopes, but may also occur on sub-irrigated sites with slopes up to 10 percent. In alpine regions, sites are typically small depressions located below late-melting snow patches or on snowbeds. The growing season may only last for one to two months. Soils of this system may be mineral or organic. In either case, soils show typical hydric soil characteristics, including high organic content and/or low chroma and redoximorphic features. This system often occurs as a mosaic of several plant associations, often dominated by graminoids such as tufted hairgrass (*Deschampsia caespitosa*), and a diversity of montane or alpine sedges such as small-head sedge (*Carex illota*), small-winged sedge (*Carex microptera*), black alpine sedge (*Carex nigricans*), Holmâ€™s Rocky Mountain sedge (*Carex scopulorum*) shortstalk sedge (*Carex podocarpa*) and Paysonâ€™s sedge (*Carex paysonis*). Drummondâ€™s rush (*Juncus drummondii*), Mertenâ€™s rush (*Juncus mertensianus*), and high elevation bluegrasses (*Poa arctica* and *Poa alpina*) are often present. Forbs such as arrow-leaf groundsel (*Senecio triangularis*), slender-sepal marsh marigold (*Caltha leptosepala*), and spreading globeflower (*Trollius laxus*) often form high cover in higher elevation meadows. Wet meadows are associated with snowmelt and are usually not subjected to high disturbance events such as flooding.

5% (*262 Acres*)

Wetland and Riparian Systems
Open Water
Open Water

All areas of open water, generally with less than 25% cover of vegetation or soil

4% (*240 Acres*)

Human Land Use
Developed
High Intensity Residential

Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50-80% of the total cover. These areas most commonly include single-family housing units in urban areas. Paved roadways, parking lots, and other large impervious surfaces may be classified into this category.

Additional Limited Land Cover

1% (*40 Acres*) Major Roads

<1% (*21 Acres*) Railroad

<1% (*20 Acres*) Introduced Upland Vegetation - Annual and Biennial Forbland

<1% (*3 Acres*) Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest

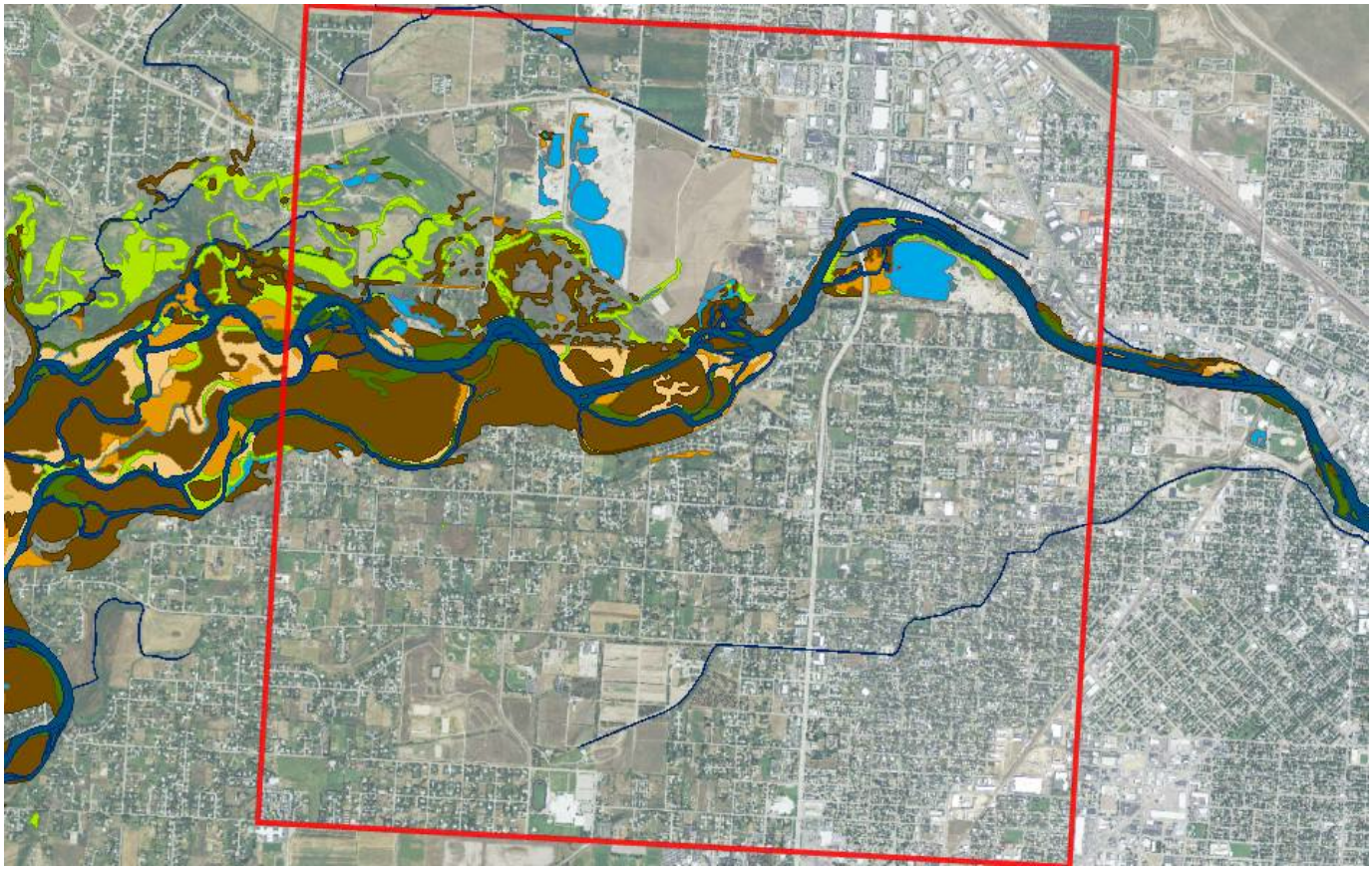
<1% (*1 Acres*) Rocky Mountain Ponderosa Pine Woodland and Savanna

<1% (*1 Acres*) Rocky Mountain Mesic Montane Mixed Conifer Forest

<1% (*0 Acres*) Emergent Marsh

Wetland and Riparian

Summarized by: **013N019W019** *(Buffered PLSS Section)*



Wetland and Riparian Mapping

Explain

P - Palustrine

UB - Unconsolidated Bottom

F - Semipermanently Flooded	1 Acres	
(no modifier)	**1 Acres**	**PUBF**
x - Excavated	**<1 Acres**	**PUBFx**

P - Palustrine, UB - Unconsolidated Bottom
Wetlands where mud, silt or similar fine particles cover at least 25% of the bottom, and where vegetation cover is less than 30%.

AB - Aquatic Bed

F - Semipermanently Flooded	77 Acres	
(no modifier)	**3 Acres**	**PABF**
h - Diked/Impounded	**12 Acres**	**PABFh**
x - Excavated	**62 Acres**	**PABFx**
G - Intermittently Exposed	5 Acres	
x - Excavated	**5 Acres**	**PABGx**
K - Artificially Flooded	1 Acres	
x - Excavated	**1 Acres**	**PABKx**

P - Palustrine, AB - Aquatic Bed
Wetlands with vegetation growing on or below the water surface for most of the growing season.

US - Unconsolidated Shore

A - Temporarily Flooded	<1 Acres	
x - Excavated	**<1 Acres**	**PUSAx**

P - Palustrine, US - Unconsolidated Shore
Wetlands with less than 75% areal cover of stones, boulders, or bedrock. AND with less than 30% vegetative cover AND the wetland is irregularly exposed due to seasonal or irregular flooding and subsequent drying.

EM - Emergent

A - Temporarily Flooded	62 Acres	
(no modifier)	**62 Acres**	**PEMA**
C - Seasonally Flooded	16 Acres	
(no modifier)	**16 Acres**	**PEMC**
F - Semipermanently Flooded	4 Acres	
(no modifier)	**4 Acres**	**PEMF**

P - Palustrine, EM - Emergent
Wetlands with erect, rooted herbaceous vegetation present during most of the growing season.

SS - Scrub-Shrub

A - Temporarily Flooded	45 Acres	
(no modifier)	**45 Acres**	**PSSA**

P - Palustrine, SS - Scrub-Shrub
Wetlands dominated by woody vegetation less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.

C - Seasonally Flooded 3 Acres
(no modifier) **3 Acres** PSSC

R - Riverine (Rivers)

2 - Lower Perennial

UB - Unconsolidated Bottom

R - Riverine (Rivers), 2 - Lower Perennial, UB - Unconsolidated Bottom
Stream channels where the substrate is at least 25% mud, silt or other fine particles.

H - Permanently Flooded 53 Acres
(no modifier) **53 Acres** R2UBH

US - Unconsolidated Shore

R - Riverine (Rivers), 2 - Lower Perennial, US - Unconsolidated Shore
Shorelines with less than 75% areal cover of stones, boulders, or bedrock and less than 30% vegetation cover. The area is also irregularly exposed due to seasonal or irregular flooding and subsequent drying.

A - Temporarily Flooded 10 Acres
(no modifier) **10 Acres** R2USA

C - Seasonally Flooded <1 Acres
(no modifier) **<1 Acres** R2USC

3 - Upper Perennial

UB - Unconsolidated Bottom

R - Riverine (Rivers), 3 - Upper Perennial, UB - Unconsolidated Bottom
Stream channels where the substrate is at least 25% mud, silt or other fine particles.

G - Intermittently Exposed 63 Acres
(no modifier) **63 Acres** R3UBG

H - Permanently Flooded 19 Acres
(no modifier) **19 Acres** R3UBH

US - Unconsolidated Shore

R - Riverine (Rivers), 3 - Upper Perennial, US - Unconsolidated Shore
Shorelines with less than 75% areal cover of stones, boulders, or bedrock and less than 30% vegetation cover. The area is also irregularly exposed due to seasonal or irregular flooding and subsequent drying.

A - Temporarily Flooded 21 Acres
(no modifier) **21 Acres** R3USA

C - Seasonally Flooded <1 Acres
(no modifier) **<1 Acres** R3USC

4 - Intermittent

SB - Stream Bed

R - Riverine (Rivers), 4 - Intermittent, SB - Stream Bed
Active channel that contains periodic water flow.

C - Seasonally Flooded 16 Acres
(no modifier) **4 Acres** R4SBC
x - Excavated **12 Acres** R4SBCx

Rp - Riparian

1 - Lotic

SS - Scrub-Shrub
(no modifier) **33 Acres** Rp1SS

Rp - Riparian, 1 - Lotic, SS - Scrub-Shrub
This type of riparian area is dominated by woody vegetation that is less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.

FO - Forested
(no modifier) **359 Acres** Rp1FO

Rp - Riparian, 1 - Lotic, FO - Forested
This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.

EM - Emergent
(no modifier) **35 Acres** Rp1EM

Rp - Riparian, 1 - Lotic, EM - Emergent
Riparian areas that have erect, rooted herbaceous vegetation during most of the growing season.

2 - Lentic

SS - Scrub-Shrub
(no modifier) **2 Acres** Rp2SS

Rp - Riparian, 2 - Lentic, SS - Scrub-Shrub
This type of riparian area is dominated by woody vegetation that is less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.

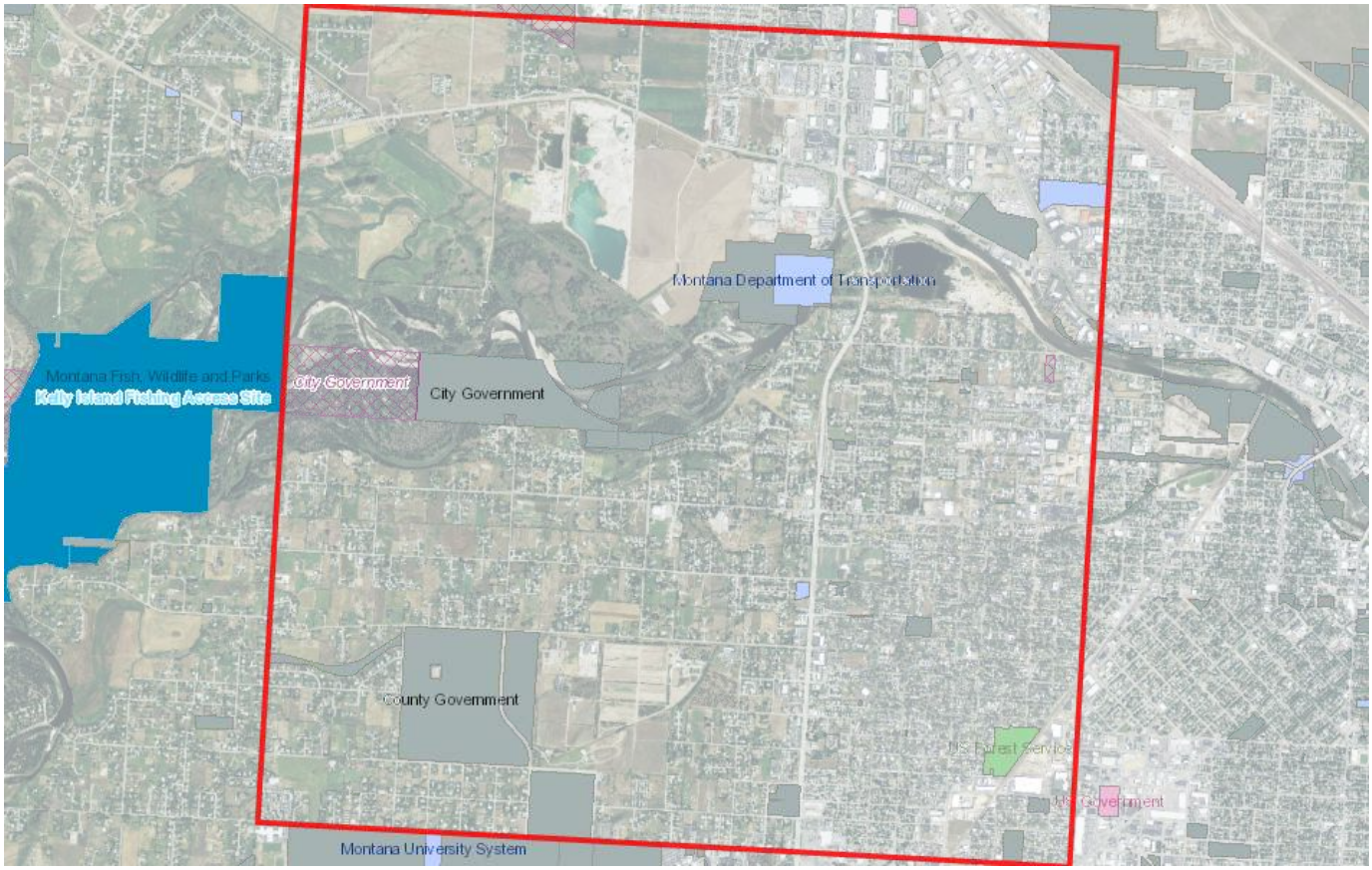
FO - Forested
(no modifier) **1 Acres** Rp2FO

Rp - Riparian, 2 - Lentic, FO - Forested
This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.

Latitude Longitude
46.84635 -114.01874
46.89478 -114.08130

Land Management

Summarized by: **013N019W019** *(Buffered PLSS Section)*



Land Management Summary *Explain*

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	484 Acres (8%)			
Federal	14 Acres (<1%)			
US Forest Service	14 Acres (<1%)			
USFS Owned	14 Acres (<1%)			
State	41 Acres (1%)			
Montana Department of Transportation	41 Acres (1%)			
MTDOT Owned	41 Acres (1%)			
Local	429 Acres (7%)			
Local Government	429 Acres (7%)			
Local Government Owned	429 Acres (7%)			
Conservation Easements			89 Acres (2%)	
Private			8 Acres (<1%)	
Five Valleys Land Trust			8 Acres (<1%)	
State & Local			81 Acres (1%)	
City Government			81 Acres (1%)	
Private Lands or Unknown Ownership	5,171 Acres (90%)			

Latitude	Longitude
46.84635	-114.01874
46.89478	-114.08130

Biological Reports

Summarized by: **013N019W019** *(Buffered PLSS Section)*

Within the report area you have requested, citations for all reports and publications associated with plant or animal observations in Montana Natural Heritage Program (MTNHP) databases are listed and, where possible, links to the documents are included.

The MTNHP plans to include reports associated with terrestrial and aquatic communities in the future as allowed for by staff resources. If you know of reports or publications associated with species or biological communities within the report area that are not shown in this report, please let us know: mtnhp@mt.gov

Hansen, R.M. 1962. ***Movements and survival of Thomomys talpoides in a mima-mound habitat***. Ecology 43(1):151-154.

Kinsella, J. M. 1966. ***Helminths of Microtinae in western Montana.*** M.A. thesis. University of Montana, Missoula. 61 pp.

Legend

Model Icons	Habitat Icons	Range Icons	Num Obs
N Suitable (native range)	C Common	N Non-native	Count of obs with 'good precision' (<=1000m)
O Optimal Suitability	O Occasional		+ indicates additional 'poor precision' obs (1001m-10,000m)
M Moderate Suitability			
L Low Suitability			
I Suitable (introduced range)			

Latitude 46.84635 46.89478
Longitude -114.01874 -114.08130

Invasive and Pest Species

Summarized by: **013N019W019** *(Buffered PLSS Section)*

	# Obs	Predicted Model	Range

Aquatic Invasive Species

V - Iris pseudacorus *(Yellowflag Iris)* N2A/AIS — # Obs: 33 — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 100% Optimal (inductive)

A - American Bullfrog *(Lithobates catesbeianus)* AIS — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 51% Optimal (inductive), M 27% Moderate (inductive), L 22% Low (inductive)

V - Butomus umbellatus *(Flowering-rush)* N2A/AIS — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 11% Optimal (inductive), M 13% Moderate (inductive), L 45% Low (inductive)

V - Potamogeton crispus *(Curly-leaf Pondweed)* N2B/AIS — # Obs: 1 — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 5% Optimal (inductive), M 57% Moderate (inductive), L 21% Low (inductive)

V - Myriophyllum spicatum *(Eurasian Water-milfoil)* N2A/AIS — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 48% Low (inductive)

V - Nymphaea odorata *(American Water-lily)* AIS — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: I 79% Suitable (introduced range) (deductive)

Noxious Weeds: Priority 1A

V - Centaurea solstitialis *(Yellow Starthistle)* N1A — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 100% Optimal (inductive)

V - Isatis tinctoria *(Dyer's Woad)* N1A — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 87% Optimal (inductive), M 13% Moderate (inductive)

V - Taeniatherum caput-medusae *(Medusahead)* N1A — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **G4G5** State: **SNA**
Predicted Models: O 24% Optimal (inductive), M 49% Moderate (inductive), L 26% Low (inductive)

V - Phragmites australis ssp. australis *(European Common Reed)* N1A — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **G5T5** State: **SNA**
Predicted Models: O 15% Optimal (inductive), M 72% Moderate (inductive), L 13% Low (inductive)

Noxious Weeds: Priority 1B

V - Lythrum salicaria *(Purple Loosestrife)* N1B — # Obs: 1 — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 100% Optimal (inductive)

V - Polygonum cuspidatum *(Japanese Knotweed)* N1B — # Obs: 61 — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **GNRTNR** State: **SNA**
Predicted Models: O 89% Optimal (inductive), M 11% Moderate (inductive)

V - Polygonum x bohemicum *(Bohemian Knotweed)* N1B — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **GNA** State: **SNA**
Predicted Models: O 58% Optimal (inductive), M 8% Moderate (inductive)

V - Cytisus scoparius *(Scotch Broom)* N1B — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 17% Optimal (inductive), M 67% Moderate (inductive), L 15% Low (inductive)

V - Echium vulgare *(Blueweed)* N1B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 100% Moderate (inductive)

V - Chondrilla juncea *(Rush Skeletonweed)* N1B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 7% Moderate (inductive), L 93% Low (inductive)

Noxious Weeds: Priority 2A

V - Iris pseudacorus *(Yellowflag Iris)* N2A/AIS 33

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 100% Optimal (inductive)

V - Rhamnus cathartica *(Common Buckthorn)* N2A 29

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 100% Optimal (inductive)

V - Ventenata dubia *(Ventenata)* N2A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 100% Optimal (inductive)

V - Lepidium latifolium *(Perennial Pepperweed)* N2A 304

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 51% Optimal (inductive), M 17% Moderate (inductive), L 29% Low (inductive)

V - Hieracium praealtum *(Kingdevil Hawkweed)* N2A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 29% Optimal (inductive), M 65% Moderate (inductive), L 6% Low (inductive)

V - Butomus umbellatus *(Flowering-rush)* N2A/AIS

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**

Predicted Models: O 11% Optimal (inductive), M 13% Moderate (inductive), L 45% Low (inductive)

V - Ranunculus acris *(Tall Buttercup)* N2A 1

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **G5** State: **SNA**

Predicted Models: M 66% Moderate (inductive), L 34% Low (inductive)

V - Hieracium aurantiacum *(Orange Hawkweed)* N2A 16

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 12% Moderate (inductive), L 88% Low (inductive)

V - Senecio jacobaea *(Tansy Ragwort)* N2A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 61% Low (inductive)

V - Myriophyllum spicatum *(Eurasian Water-milfoil)* N2A/AIS

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 48% Low (inductive)

Noxious Weeds: Priority 2B

V - Tanacetum vulgare *(Common Tansy)* N2B 1634

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 100% Optimal (inductive)

V - Linaria dalmatica *(Dalmatian Toadflax)* N2B 267

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: O 45% Optimal (inductive), M 55% Moderate (inductive)

V - Centaurea diffusa *(Diffuse Knapweed)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 25% Optimal (inductive), M 64% Moderate (inductive), L 11% Low (inductive)

V - Tamarix ramosissima *(Salt Cedar)* N2B 20

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 24% Optimal (inductive), M 74% Moderate (inductive), L 2% Low (inductive)

V - Lepidium draba *(Whitetop)* N2B 39

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 13% Optimal (inductive), M 87% Moderate (inductive)

V - Linaria vulgaris *(Yellow Toadflax)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 13% Optimal (inductive), M 48% Moderate (inductive), L 34% Low (inductive)

V - Potamogeton crispus *(Curly-leaf Pondweed)* N2B/AIS

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 5% Optimal (inductive), M 57% Moderate (inductive), L 21% Low (inductive)

V - Leucanthemum vulgare *(Oxeye Daisy)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 90% Moderate (inductive), L 10% Low (inductive)

V - Cynoglossum officinale *(Common Hound's-tongue)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 84% Moderate (inductive), L 16% Low (inductive)

V - Hypericum perforatum *(Common St. John's-wort)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 79% Moderate (inductive), L 21% Low (inductive)

V - Potentilla recta *(Sulphur Cinquefoil)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 56% Moderate (inductive), L 44% Low (inductive)

V - Acroptilon repens *(Russian Knapweed)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 39% Moderate (inductive), L 56% Low (inductive)

V - Centaurea stoebe *(Spotted Knapweed)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 38% Moderate (inductive), L 57% Low (inductive)

V - Euphorbia virgata *(Leafy Spurge)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 13% Moderate (inductive), L 87% Low (inductive)

V - Cirsium arvense *(Canada Thistle)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**
Predicted Models: M 11% Moderate (inductive), L 84% Low (inductive)

V - Convolvulus arvensis *(Field Bindweed)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 94% Low (inductive)

V - Berteroa incana *(Hoary False-alyssum)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 84% Low (inductive)

Regulated Weeds: Priority 3

V - Elaeagnus angustifolia *(Russian Olive)* R3

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 24% Optimal (inductive), M 37% Moderate (inductive), L 38% Low (inductive)

V - Bromus tectorum *(Cheatgrass)* R3

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 66% Moderate (inductive), L 34% Low (inductive)

Biocontrol Species

I - Cyphocleonus achates *(Knapweed Root Weevil)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 100% Optimal (inductive)

I - Oberea erythrocephala *(Red-headed Leafy Spurge Stem Borer)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 100% Optimal (inductive)

I - Mecinus janthiniformis *(Dalmatian Toadflax Stem-boring Weevil)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 28% Optimal (inductive), M 72% Moderate (inductive)

I - Mecinus janthinus *(Yellow Toadflax Stem-boring Weevil)* BIOCNTRL

View in Field Guide **View Predicted Models** **View Range Maps**

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 7% Optimal (inductive), M 93% Moderate (inductive)

I - Aphthona lacertosa *(Brown-legged Leafy Spurge Flea Beetle)* BIOCNTRL

View in Field Guide **View Predicted Models** **View Range Maps**

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 100% Moderate (inductive)

I - Aphthona nigriscutis *(Black Dot Leafy Spurge Flea Beetle)* BIOCNTRL

View in Field Guide **View Predicted Models** **View Range Maps**

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 93% Moderate (inductive), L 7% Low (inductive)

I - Hyles euphorbiae *(Spurge Hawkmoth)* BIOCNTRL 2 Not Assessed

View in Field Guide

Biocontrol Species - Non-native Species Global: **G5** State: **SNA**

Introduction to Montana Natural Heritage Program

P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • phone 406.444.5363 • mtnhp.org

Introduction

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 80 natural heritage programs throughout the Western Hemisphere.

Vision

Our vision is that public agencies, the private sector, the education sector, and the general public will trust and rely upon MTNHP as the source for information and expertise on Montana's species and habitats, especially those of conservation concern. We strive to provide easy access to our information in order for users to save time and money, speed environmental reviews, and inform decision making.

Core Values

- We endeavor to be a single statewide source of accurate and up-to-date information on Montana's plants, animals, and aquatic and terrestrial biological communities.
- We actively listen to our data users and work responsively to meet their information and training needs.
- We strive to provide neutral, trusted, timely, and equitable service to all of our information users.
- We make every effort to be transparent to our data users in setting work priorities and providing data products.

Confidentiality

All information requests made to the Montana Natural Heritage Program are considered library records and are protected from disclosure by the Montana Library Records Confidentiality Act (MCA 22-1-11).

Information Managed

Information managed at the Montana Natural Heritage Program is botanical, zoological, and ecological information that describes the distribution (e.g., observations, structured surveys, range polygons, predicted habitat suitability models), conservation status (e.g., global and state conservation status ranks, including threats), and other supporting information (e.g., accounts and references) on the biology and ecology of species and biological communities.

Data Use Terms and Conditions

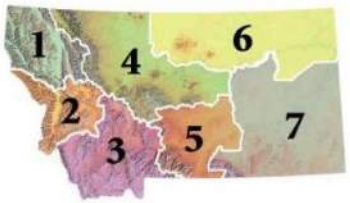
- Montana Natural Heritage Program (MTNHP) products and services are based on biological data and the objective interpretation of those data by professional scientists. MTNHP does not advocate any particular philosophy of natural resource protection, management, development, or public policy.
- MTNHP has no natural resource management or regulatory authority. Products, statements, and services from MTNHP are intended to inform parties as to the state of scientific knowledge about certain natural resources, and to further develop that knowledge. The information is not intended as natural resource management guidelines or prescriptions or a determination of environmental impacts. MTNHP recommends consultation with appropriate state, federal, and tribal resource management agencies and authorities in the area where your project is located.
- Information on the status and spatial distribution of biological resources produced by MTNHP are intended to inform parties of the state-wide status, known occurrence, or the likelihood of the presence of those resources. **These products are not intended to substitute for field-collected data, nor are they intended to be the sole basis for natural resource management decisions.**
- MTNHP does not portray its data as exhaustive or comprehensive inventories of rare species or biological communities. **Field verification of the absence or presence of sensitive species and biological communities will always be an important obligation of users of our data.**
- MTNHP responds equally to all requests for products and services, regardless of the purpose or identity of the requester.
- Because MTNHP constantly updates and revises its databases with new data and information, products will become outdated over time. Interested parties are encouraged to obtain the most current information possible from MTNHP, rather than using older products. We add, review, update, and delete records on a daily basis. Consequently, we strongly advise that you update your MTNHP data sets at a minimum of every four months for most applications of our information.
- MTNHP data require a certain degree of biological expertise for proper analysis, interpretation, and application. Our staff is available to advise you on questions regarding the interpretation or appropriate use of the data that we provide. See Contact Information for MTNHP Staff
- The information provided to you by MTNHP may include sensitive data that if publicly released might jeopardize the welfare of threatened, endangered, or sensitive species or biological communities. This information is intended for distribution or use only within your department, agency, or business. Subcontractors may have access to the data during the course of any given project, but should not be given a copy for their use on subsequent, unrelated work.
- MTNHP data are made freely available. Duplication of hard-copy or digital MTNHP products with the intent to sell is prohibited without written consent by MTNHP. Should you be asked by individuals outside your organization for the type of data that we provide, please refer them to MTNHP.
- MTNHP and appropriate staff members should be appropriately acknowledged as an information source in any third-party product involving MTNHP data, reports, papers, publications, or in maps that incorporate MTNHP graphic elements.
- Sources of our data include museum specimens, published and unpublished scientific literature, field surveys by state and federal agencies and private contractors, and reports from knowledgeable individuals. MTNHP actively solicits and encourages additions, corrections and updates, new observations or collections, and comments on any of the data we provide.
- MTNHP staff and contractors do not enter or cross privately-owned lands without express permission from the landowner. However, the program cannot guarantee that information provided to us by others was obtained under adherence to this policy.

Suggested Contacts for Natural Resource Management Agencies

As required by Montana statute (MCA 90-15), the Montana Natural Heritage Program works with state, federal, tribal, nongovernmental organizations, and private partners to ensure that the latest animal and plant distribution and status information is incorporated into our databases so that it can be used to inform a variety of permitting and planning processes and management decisions. We encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located and review the permitting overviews by the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation and the Index of Environmental Permits for Montana for guidelines relevant to your efforts. In particular, we encourage you to contact the Montana Department of Fish, Wildlife, and Parks for the latest data and management information regarding hunted and high-profile management species and to use the U.S. Fish and Wildlife Service's Information Planning and Consultation (IPAC) website regarding U.S. Endangered Species Act listed Threatened, Endangered, or Candidate species.

For your convenience, we have compiled a list of relevant agency contacts and links below:

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or Eric Roberts eroberts@mt.gov (406) 444-5334
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Kristian Smucker KSmucker@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	Brian Wakeling Brian.Wakeling@mt.gov (406) 444-3940
Managed Terrestrial Game and Nongame Animal Data	Smith Wells – MFWP Data Analyst smith.wells@mt.gov (406) 444-3759
Fisheries Data	Ryan Alger – MFWP Data Analyst ryan.alger@mt.gov (406) 444-5365
Wildlife and Fisheries Scientific Collector's Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kammi McClain for Wildlife Kammi.McClain@mt.gov (406) 444-2612 Kim Wedde for Fisheries kim.wedde@mt.gov (406) 444-5594
Fish and Wildlife Recommendations for Subdivision Development	Charlie Sperry CSperry@mt.gov (406) 444-3888 See https://fwp.mt.gov/conservation/living-with-wildlife/subdivision-recommendations
Regional Contacts  	Region 1 (Kalispell) (406) 752-5501 fwprg12@mt.gov Region 2 (Missoula) (406) 542-5500 fwprg22@mt.gov Region 3 (Bozeman) (406) 577-7900 fwprg3@mt.gov Region 4 (Great Falls) (406) 454-5840 fwprg42@mt.gov Region 5 (Billings) (406) 247-2940 fwprg52@mt.gov Region 6 (Glasgow) (406) 228-3700 fwprg62@mt.gov Region 7 (Miles City) (406) 234-0900 fwprg72@mt.gov

Montana Department of Agriculture
General Contact Information: https://agr.mt.gov/About/Office-Locations/Office-Locations-and-Field-Offices
Noxious Weeds: https://agr.mt.gov/Noxious-Weeds

Montana Department of Environmental Quality
Permitting and Operator Assistance for all Environmental Permits: https://deq.mt.gov/Permitting

Montana Department of Natural Resources and Conservation
Overview of, and contacts for, licenses and permits for state lands, water, and forested lands: http://dnrc.mt.gov/licenses-and-permits

Stream Permitting (310 permits) and an overview of various water and stream related permits (e.g., Stream Protection Act 124, Federal Clean Water Act 404, Federal Rivers and Harbors Act Section 10, Short-term Water Quality Standard for Turbidity 318 Authorization, etc.).
http://dnrc.mt.gov/divisions/cardd/conservation-districts/the-310-law

Flood and Fire Resources: http://dnrc.mt.gov/flood-and-fire

Bureau of Land Management

Montana Field Office Contacts:

Billings	(406) 896-5013
Butte	(406) 533-7600
Dillon	(406) 683-8000
Glasgow	(406) 228-3750
Havre	(406) 262-2820
Lewistown	(406) 538-1900
Malta	(406) 654-5100
Miles City	(406) 233-2800
Missoula	(406) 329-3914

United States Army Corps of Engineers
Montana Regulatory Office for federal permits related to construction in water and wetlands
https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/ (406) 441-1375

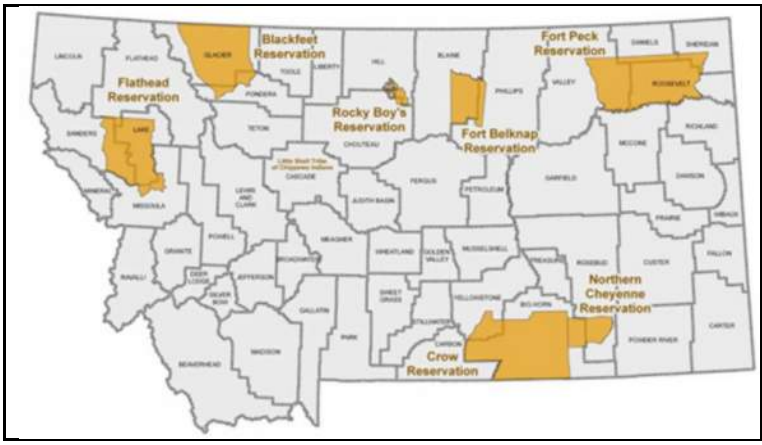
United States Environmental Protection Agency
Environmental information, notices, permitting, and contacts https://www.epa.gov/mt
Gateway to state resource locators https://www.envcap.org/srl/index.php

United States Fish and Wildlife Service
Information Planning and Conservation (IPAC) website: https://ecos.fws.gov/ipac/
Montana Ecological Services Field Office: https://www.fws.gov/montanafieldoffice/ (406) 449-5225

United States Forest Service

Regional Office – Missoula, Montana Contacts			
Wildlife Program Leader	Tammy Fletcher	tammy.fletcher2@usda.gov	(406) 329-3086
Wildlife Ecologist	Cara Staab	cara.staab@usda.gov	(406) 329-3677
Fish Program Leader	Scott Spaulding	scott.spaulding@usda.gov	(406) 329-3287
Fish Ecologist	Cameron Thomas	cameron.thomas@usda.gov	(406) 329-3087
TES Program	Lydia Allen	lydia.allen@usda.gov	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
Acting Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Regional Vegetation Ecologist	Mary Manning	marry.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations



[Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation]

[Assiniboine & Sioux Tribes – Fort Peck Reservation]

[Blackfeet Tribe - Blackfeet Reservation]

[Chippewa Creek Tribe - Rocky Boy's Reservation]

[Crow Tribe – Crow Reservation]

[Little Shell Chippewa Tribe]

[Northern Cheyenne Tribe – Northern Cheyenne Reservation]

[Salish & Kootenai Tribes - Flathead Reservation]

Natural Heritage Programs and Conservation Data Centers in Surrounding States and Provinces

[Alberta Conservation Information Management System]
[British Columbia Conservation Data Centre]
[Idaho Natural Heritage Program]
[North Dakota Natural Heritage Program]
[Saskatchewan Conservation Data Centre]
[South Dakota Natural Heritage Program]
[Wyoming Natural Diversity Database]

Invasive Species Management Contacts and Information

Aquatic Invasive Species

[Montana Fish, Wildlife, and Parks Aquatic Invasive Species staff]
[Montana Department of Natural Resources and Conservation's Aquatic Invasive Species Grant Program]
[Montana Invasive Species Council (MISC)]
[Upper Columbia Conservation Commission (UC3)]

Noxious Weeds

[Montana Weed Control Association Contacts Webpage]
[Montana Biological Weed Control Coordination Project]
[Montana Department of Agriculture - Noxious Weeds]
[Montana Weed Control Association]
[Montana Fish, Wildlife, and Parks - Noxious Weeds]
[Montana State University Integrated Pest Management Extension]
[Integrated Noxious Weed Management after Wildfires]
[Fire Management and Invasive Plants]

Introduction to Native Species

Within the report area you have requested, separate summaries are provided for: (1) Species Occurrences (SO) for plant and animal Species of Concern, Special Status Species (SSS), Important Animal Habitat (IAH) and some Potential Plant Species of Concern; (2) other observed non Species of Concern or Species of Concern without suitable documentation to create Species Occurrence polygons; and (3) other non-documented species that are potentially present based on their range, predicted suitable habitat model output, or presence of associated habitats. Each of these summaries provides the following information when present for a species: (1) the number of Species Occurrences and associated delineation criteria for construction of these polygons that have long been used for considerations of documented Species of Concern in environmental reviews; (2) the number of observations of each species; (3) the geographic range polygons for each species that the report area overlaps; (4) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (5) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the Montana Field Guide; and (6) a variety of conservation status ranks and links to species accounts in the Montana Field Guide. Details on each of these information categories are included under relevant section headers below or are defined on our Species Status Codes page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document native and introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are restricted by budgets, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species and biological communities will always be an important obligation of users of our data.**

If you are aware of observation datasets that the MTNHP is missing, please report them to the Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov. If you have animal observations that you would like to contribute, you can submit them to our Animal Observation Entry Tool You can also submit plant and animal observations via Excel spreadsheets posted at https://mtnhp.org/observations.asp or via the Montana Natural Heritage Observations project in iNaturalist

Observations

The MTNHP manages information on several million animal and plant observations that have been reported by professional biologists and private citizens from across Montana. The majority of these observations are submitted in digital format from standardized databases associated with research or monitoring efforts and spreadsheets of incidental observations submitted by professional biologists and amateur naturalists. At a minimum, accepted observation records must contain a credible species identification (i.e. appropriate geographic range, date, and habitat and, if species are difficult to identify, a photograph and/or notes on key identifying features), a date or date range, observer name, locational information (ideally with latitude and longitude in decimal degrees), notes on numbers observed, and species behavior or habitat use (e.g., is the observation likely associated with reproduction). Bird records are also required to have information associated with date-appropriate breeding or overwintering status of the species observed. MTNHP reviews observation records to ensure that they are mapped correctly, occur within date ranges when the species is known to be present or detectable, occur within the known seasonal geographic range of the species, and occur in appropriate habitats. MTNHP also assigns each record a locational uncertainty value in meters to indicate the spatial precision associated with the record's mapped coordinates. Only records with locational uncertainty values of 10,000 meters or less are included in environmental summary reports and number summaries are only provided for records with locational uncertainty values of 1,000 meters or less.

Species Occurrences

The MTNHP evaluates plant and animal observation records for species of higher conservation concern to determine whether they are worthy of inclusion in the Species Occurrence (SO) layer for use in environmental reviews; observations not worthy of inclusion in this layer include long distance dispersal events, migrants observed away from key migratory stopover habitats, and winter observations. An SO is a polygon depicting what is known about a species occupancy from direct observation with a defined level of locational uncertainty and any inference that can be made about adjacent habitat use from the latest peer-reviewed science. If an observation can be associated with a map feature that can be tracked (e.g., a wetland boundary for a wetland associated plant) then this polygon feature is used to represent the SO. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range size of the species may be incorporated into the SO. Species Occurrences generally belong to one of the following categories:

Plant Species Occurrences

A documented location of a specimen collection or observed plant population. In some instances, adjacent, spatially separated clusters are considered subpopulations and are grouped as one occurrence (e.g., the subpopulations occur in ecologically similar habitats, and their spatial proximity likely allows them to interbreed). Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Plant SO's are only created for Species of Concern and Potential Species of Concern.

Animal Species Occurrences

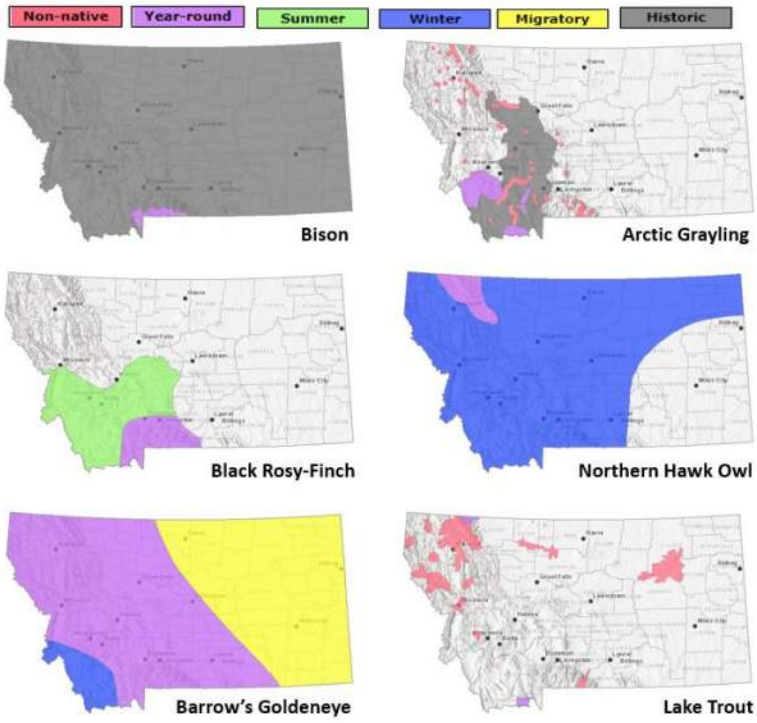
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream segments to encompass occupied streams and immediate adjacent riparian habitats; (3) polygonal features encompassing known or likely breeding populations (e.g., a wetland for some amphibians or a forested portion of a mountain range for some wide ranging carnivores); or (4) combinations of the above. Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Species Occurrence polygons may encompass some unsuitable habitat in some instances in order to avoid heavy data processing associated with clipping out habitats that are readily assessed as unsuitable by the data user (e.g., a point buffer of a terrestrial species may overlap into a portion of a lake that is obviously inappropriate habitat for the species). Animal SO's are only created for Species of Concern and Special Status Species (e.g., Bald Eagle).

Other Occurrence Polygons

These include significant biological features not included in the above categories, such as Important Animal Habitats like bird rookeries and bat roosts, and peatlands or other wetland and riparian communities that support diverse plant and animal communities.

Geographic Range Polygons

Geographic range polygons are still under development for most plant and invertebrate species. Native year-round, summer, winter, migratory and historic geographic range polygons as well as polygons for introduced populations have been defined for most vertebrate animal species for which there are enough observations, surveys, and knowledge of appropriate seasonal habitat use to define them (see examples to left). These native or introduced range polygons bound the extent of known or likely occupied habitats for non-migratory and relative sedentary species and the regular extent of known or likely occupied habitats for migratory and long-distance dispersing species; polygons may include unsuitable intervening habitats. For most species, a single polygon can represent the year-round or seasonal range, but breeding ranges of some colonial nesting water birds and some introduced species are represented more patchily when supported by data. Some ranges are mapped more broadly than actual distributions in order to be visible on statewide maps (e.g., fish).



Predicted Suitable Habitat Models

Predicted habitat suitability models have been created for plant and animal Species of Concern and are undergoing development for non-Species of Concern. For species for which models have been completed, the environmental summary report includes simple rule-based associations with streams for aquatic species and seasonal habitats for game species as well as mathematically complex Maximum Entropy models (Phillips et al. 2006, Ecological Modeling 190:231-259) constructed from a variety of statewide biotic and abiotic layers and presence only data for individual species for most terrestrial species. For the Maximum Entropy models, we reclassified 90 x 90-meter continuous model output into suitability classes (unsuitable, low, moderate, and optimal) then aggregated that into the one square mile hexagons used in the environmental summary report; this is the finest spatial scale we suggest using this information in management decisions and survey planning. Full model write ups for individual species that discuss model goals, inputs, outputs, and evaluation in much greater detail are posted on the MTNHP's Predicted Suitable Habitat Models webpage. Evaluations of predictive accuracy and specific limitations are included with the metadata for models of individual species. **Model outputs should not be used in place of on-the-ground surveys for species. Instead model outputs should be used in conjunction with habitat evaluations to determine the need for on-the-ground surveys for species.** We suggest that the percentage of predicted optimal and moderate suitable habitat within the report area be used in conjunction with geographic range polygons and the percentage of commonly associated habitats to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning.

Associated Habitats

Within the boundary of the intersected hexagons, we provide the approximate percentage of commonly or occasionally associated habitat for vertebrate animal species that regularly breed, overwinter, or migrate through the state; a detailed list of commonly and occasionally associated habitats is provided in individual species accounts in the Montana Field Guide We assigned common or occasional use of each of the ecological

systems mapped in Montana by: (1) using personal knowledge and reviewing literature that summarizes the breeding, overwintering, or migratory habitat requirements of each species; (2) evaluating structural characteristics and distribution of each ecological system relative to the species' range and habitat requirements; (3) examining the observation records for each species in the state-wide point observation database associated with each ecological system; and (4) calculating the percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system to get a measure of numbers of observations versus availability of habitat. Species that breed in Montana were only evaluated for breeding habitat use, species that only overwinter in Montana were only evaluated for overwintering habitat use, and species that only migrate through Montana were only evaluated for migratory habitat use. In general, species were listed as associated with an ecological system if structural characteristics of used habitat documented in the literature were present in the ecological system or large numbers of point observations were associated with the ecological system. However, species were not listed as associated with an ecological system if there was no support in the literature for use of structural characteristics in an ecological system, even if point observations were associated with that system. Common versus occasional association with an ecological system was assigned based on the degree to which the structural characteristics of an ecological system matched the preferred structural habitat characteristics for each species as represented in the scientific literature. The percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system was also used to guide assignment of common versus occasional association.

We suggest that the percentage of commonly associated habitat within the report area be used in conjunction with geographic range polygons and the percentage of predicted optimal and moderate suitable habitat from predictive models to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning. Users of this information should be aware that land cover mapping accuracy is particularly problematic when the systems occur as small patches or where the land cover types have been altered over the past decade. Thus, particular caution should be used when using the associations in assessments of smaller areas (e.g., evaluations of public land survey sections).

Introduction to Land Cover

Land Use/Land Cover is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The layer records all Montana natural vegetation, land cover and land use, classified from satellite and aerial imagery, mapped at a scale of 1:100,000, and interpreted with supporting ground-level data. The baseline map is adapted from the Northwest ReGAP (NWGAP) project land cover classification, which used 30m resolution multi-spectral Landsat imagery acquired between 1999 and 2001. Vegetation classes were drawn from the Ecological System Classification developed by NatureServe (Comer et al. 2003). The land cover classes were developed by Anderson et al. (1976). The NWGAP effort encompasses 12 map zones. Montana overlaps seven of these zones. The two NWGAP teams responsible for the initial land cover mapping effort in Montana were Sanborn and NWGAP at the University of Idaho. Both Sanborn and NWGAP employed a similar modeling approach in which Classification and Regression Tree (CART) models were applied to Landsat ETM+ scenes. The Spatial Analysis Lab within the Montana Natural Heritage Program was responsible for developing a seamless Montana land cover map with a consistent statewide legend from these two separate products. Additionally, the Montana land cover layer incorporates several other land cover and land use products (e.g., MSDI Structures and Transportation themes and the Montana Department of Revenue Final Land Unit classification) and reclassifications based on plot-level data and the latest NAIP imagery to improve accuracy and enhance the usability of the theme. Updates are done as partner support and funding allow, or when other MSDI datasets can be incorporated. Recent updates include fire perimeters and agricultural land use (annually), energy developments such as wind, oil and gas installations (2014), roads, structures and other impervious surfaces (various years): and local updates/improvements to specific ecological systems (e.g., central Montana grassland and sagebrush ecosystems). Current and previous versions of the Land Use/Land Cover layer with full metadata are available for download at the Montana State Library's Geographic Information Clearinghouse

Within the report area you have requested, land cover is summarized by acres of Level 1, Level 2, and Level 3 Ecological Systems.

Literature Cited

Anderson, J.R. E.E. Hardy, J.T. Roach, and R.E. Witmer. 1976. A land use and land cover classification system for use with remote sensor data. U.S. Geological Survey Professional Paper 964.

Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. Ecological systems of the United States: A working classification of U.S. terrestrial systems. NatureServe, Arlington, VA.

Introduction to Wetland and Riparian

Within the report area you have requested, wetland and riparian mapping is summarized by acres of each classification present. Summaries are only provided for modern MTNHP wetland and riparian mapping and not for outdated (NWI Legacy) or incomplete (NWI Scalable) mapping efforts; described here. MTNHP has made all three of these datasets and associated metadata available for separate download on the Montana Wetland and Riparian Framework web page.

Wetland and Riparian mapping is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The wetland and riparian framework layer consists of spatial data representing the extent, type, and approximate location of wetlands, riparian areas, and deep water habitats in Montana.

Wetland and riparian mapping is completed through photointerpretation of 1-m resolution color infrared aerial imagery acquired from 2005 or later. A coding convention using letters and numbers is assigned to each mapped wetland. These letters and numbers describe the broad landscape context of the wetland, its vegetation type, its water regime, and the kind of alterations that may have occurred. Ancillary data layers such as topographic maps, digital elevation models, soils data, and other aerial imagery sources are also used to improve mapping accuracy. Wetland mapping follows the federal Wetland Mapping Standard and classifies wetlands according to the Cowardin classification system of the National Wetlands Inventory (NWI) (Cowardin et al. 1979, FGDC Wetlands Subcommittee 2013). Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands differently than the NWI. Similar coding, based on U.S. Fish and Wildlife Service conventions, is applied to riparian areas (U.S. Fish and Wildlife Service 2009). These are mapped areas where vegetation composition and growth is influenced by nearby water bodies, but where soils, plant communities, and hydrology do not display true wetland characteristics. **These data are intended for use at a scale of 1:12,000 or smaller. Mapped wetland and riparian areas do not represent precise boundaries and digital wetland data cannot substitute for an on-site determination of jurisdictional wetlands.**

See a detailed overview, with examples, of both wetland and riparian classification systems and associated codes

Literature Cited

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31. Washington, D.C. 103pp.

Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.

U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

Introduction to Land Management

Within the report area you have requested, land management information is summarized by acres of federal, state, and local government lands, tribal reservation boundaries, private conservation lands, and federal, state, local, and private conservation easements. Acreage for "Owned", "Tribal", or "Easement" categories represents non-overlapping areas that may be totaled. However, "Other Boundaries" represents managed areas such as National Forest boundaries containing private inholdings and other mixed ownership which may cause boundaries to overlap (e.g. a wilderness area within a forest). Therefore, acreages may not total in a straight-forward manner.

Because information on land stewardship is critical to effective land management, the Montana Natural Heritage Program (MTNHP) began compiling ownership and management data in 1997. The goal of the Montana Land Management Database is to manage a single, statewide digital data set that incorporates information from both public and private entities. The database assembles information on public lands, private conservation lands, and conservation easements held by state and federal agencies and land trusts and is updated on a regular basis. Since 2011, the Information Management group in the Montana State Library's Digital Library Division has led the Montana Land Management Database in partnership with the MTNHP.

Public and private conservation land polygons are attributed with the name of the entity that owns it. The data are derived from the statewide Montana Cadastral Parcel layer Conservation easement data shows land parcels on which a public agency or qualified land trust has placed a conservation easement in cooperation with the land owner. The dataset contains no information about ownership or status of the mineral estate. For questions about the dataset or to report errors, please contact the Montana Natural Heritage Program at (406) 444-5363 or mtnhp@mt.gov. You can download various components of the Land Management Database and view associated metadata at the Montana State Library's GIS Data List at the following links:

Public Lands
Conservation Easements
Private Conservation Lands
Managed Areas

Map features in the Montana Land Management Database or summaries provided in this report are not intended as a legal depiction of public or private surface land ownership boundaries and should not be used in place of a survey conducted by a licensed land surveyor. Similarly, map features do not imply public access to any lands. The Montana Natural Heritage Program makes no representations or warranties whatsoever with respect to the accuracy or completeness of this data and assumes no responsibility for the suitability of the data for a particular purpose. The Montana Natural Heritage Program will not be liable for any damages incurred as a result of errors displayed here. Consumers of this information should review or consult the primary data and information sources to ascertain the viability of the information for their purposes.

Introduction to Invasive and Pest Species

Within the report area you have requested, separate summaries are provided for: Aquatic Invasive Species, Noxious Weeds, Agricultural Pests, Forest Pests, and Biocontrol species that have been documented or potentially occur there based on the predicted suitability of habitat. Definitions for each of these invasive and pest species categories can be found on our Species Status Codes page.

Each of these summaries provides the following information when present for a species: (1) the number of observations of each species; (2) the geographic range polygons for each species, if developed, that the report area overlaps; (3) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (4) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the Montana Field Guide; and (5) links to species accounts in the Montana Field Guide. Details on each of these information categories are included under relevant section headers under the Introduction to Native Species above or are defined on our Species Status Codes page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what invasive and pest species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are limited, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species will always be an important obligation of users of our data.**

If you are aware of observation or survey datasets for invasive or pest species that the MTNHP is missing, please report them to the Program Coordinator bmaxell@mt.gov Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov. If you have observations that you would like to contribute, you can submit animal observations using our online data entry system at mtnhp.org/AddObs or via Excel spreadsheets posted at mtnhp.org/observations.asp

Additional Information Resources

MTNHP Staff Contact Information

Montana Field Guide

MTNHP Species of Concern Report - Animals and Plants

MTNHP Species Status Codes - Explanation

MTNHP Predicted Suitable Habitat Models (for select Animals and Plants)

MTNHP Request Information page

Montana Cadastral

Montana Code Annotated

Montana Fisheries Information System

Montana Fish, Wildlife, and Parks Subdivision Recommendations

Montana GIS Data Layers

Montana GIS Data Bundler

Montana Greater Sage-Grouse Project Submittal Site

Montana Ground Water Information Center

Montana Index of Environmental Permits, 21st Edition (2018)

Montana Environmental Policy Act (MEPA)

Montana Environmental Policy Act Analysis Resource List

Laws, Treaties, Regulations, and Agreements on Animals and Plants

Montana Spatial Data Infrastructure Layers

Montana State Historic Preservation Office Review and Compliance

Montana Stream Permitting: a guide for conservation district supervisors and others

Montana Water Information System

Montana Web Map Services

National Environmental Policy Act

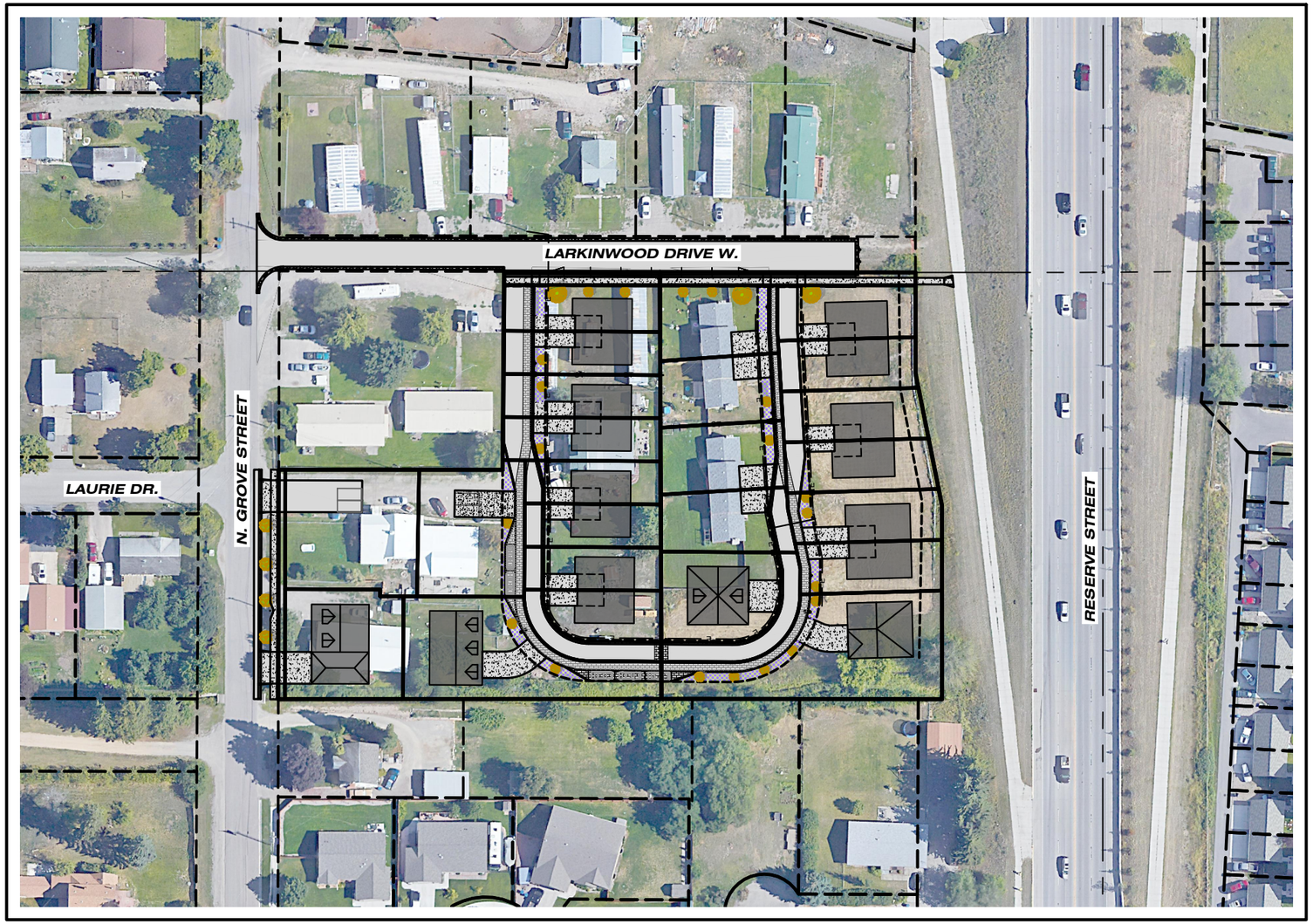
Penalties for Misuse of Fish and Wildlife Location Data (MCA 87-6-222)

U.S. Fish and Wildlife Service Information for Planning and Consultation (Section 7 Consultation)

Web Soil Survey Tool

GRADING, DRAINAGE, AND ROAD CONSTRUCTION PLANS

LOCATED BETWEEN N. GROVE STREET & RESERVE STREET, OFF LARKINWOOD DR. W.
LOCATED IN SECTION 19., T.13N., R.19W., P.M.M., MISSOULA COUNTY, MONTANA.



CALL UTILITY NOTIFICATION
CENTER OF MONTANA
1-800-424-5555
CALL FOR THE MARKING OF
UNDERGROUND UTILITIES
2 BUSINESS DAYS BEFORE
YOU DIG, GRADE, OR EXCAVATE

50 0 50 100
SCALE IN FEET

SHEET INDEX

DESCRIPTION	SHEET NO.
LEGEND AND NOTES	SHEET 2 OF 10
SWPPP PLAN	SHEET 3 OF 10
DEMOLITION PLAN	SHEET 4 OF 10
DRAINAGE BASIN PLAN	SHEET 5 OF 10
PLAN & PROFILE (LARKINWOOD)	SHEET 6 OF 10
PLAN & PROFILE (MAGNOLIA DR)	SHEET 7 OF 10
PLAN & PROFILE (MAGNOLIA DR)	SHEET 8 OF 10
PLAN & PROFILE (GROVE STREET IMPROVEMENTS)	SHEET 9 OF 10
CROSS SECTIONS	SHEET 10 OF 10
DETAIL SHEET	SHEET D1 OF D2
DETAIL SHEET	SHEET D2 OF D2

PROJECT STATUS

THESE PLANS REQUIRE, AT A MINIMUM, APPROVAL FROM THE AGENCIES LISTED BELOW. THEREFORE , THE OWNER & CONTRACTOR ARE ADVISED THAT BIDS & CONTRACTS SHOULD NOT BE FINALIZED UNTIL INDICATED BELOW.

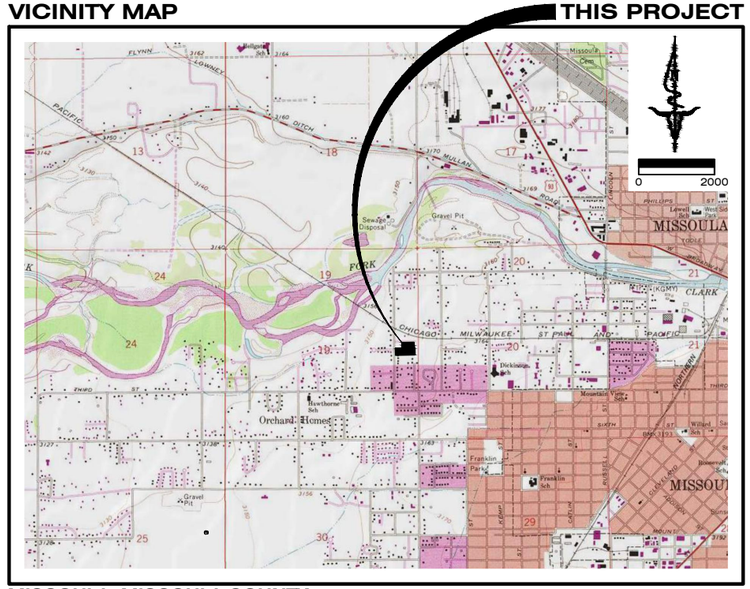
AGENCIES REVIEW STATUS:	REFERENCE #	APPROVAL DATE
CITY OF MISSOULA (CITY)	-	-

PLAN SET IS READY FOR CONSTRUCTION ___YES _X_NO

AS-BUILT DATE:_____
PROJECT HAS BEEN CONSTRUCTED IN GENERAL CONFORMANCE WITH THE ABOVE APPROVALS, STATED SPECIFICATIONS, AND SHOWN HERE IN, UNLESS OTHERWISE SPECIFIED.

PROJECT NOTES:

VICINITY MAP



MISSOULA, MISSOULA COUNTY

IMEG
1817 SOUTH AVE W, STE. A
MISSOULA, MT
59801
PH: 406.721.0142
FAX: 406.721.5224
www.imegcorp.com

PLOT DATE: 10/3/2023 9:42 AM

REVISIONS | DATE

DESIGNED: AE
DRAFTED: AE
CHECKED: CD
DATE: MAY 2023

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINWORES ORCHARD HOMES SECTION 19, T.13N., R.19W., P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: ROAD CONSTRUCTION PLANS COVER SHEET

PROJECT NO.: 22008967

SHEET: 1 OF 10

STAGE 2

DWG LOCATION: Q:\2022\22008967.00\DESIGN\CIVIL\CSD\PLOTPDFs\1-22008967.DWG

LEGEND

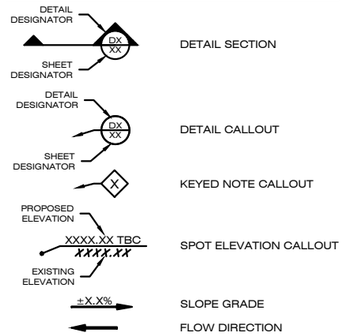
EXISTING

- (E) PROPERTY BOUNDARY
- (E) ADJACENT PROPERTY BOUNDARY
- (E) LOT LINE
- (E) EASEMENT
- (E) WATER LINE
- (E) WATER SERVICE
- (E) SEWER LINE
- (E) SEWER SERVICE
- (E) SEWER FORCE MAIN
- (E) SEWER FORCE MAIN SERVICE
- (E) STORM DRAIN PIPE
- (E) OVERHEAD UTILITY
- (E) BURIED POWER
- (E) GAS LINE
- (E) TELEPHONE LINE
- (E) TELEVISION LINE
- (E) FIBER OPTIC LINE
- (E) ROAD CENTERLINE
- (E) FENCE LINE
- (E) DITCH
- (E) SWALE
- (E) IRRIGATION DITCH
- (E) IRRIGATION FORCE MAIN
- (E) STREAM
- (E) MAJOR CONTOUR
- (E) MINOR CONTOUR
- (E) ASPHALT
- (E) GRAVEL
- (E) CONCRETE
- (E) SEWER MANHOLE
- (E) SEWER CLEANOUT
- (E) SOIL PROFILE
- (E) PERCOLATION TEST
- (E) GROUNDWATER MONITORING
- (E) SEPTIC TANK
- (E) DRAINFIELD
- (E) WELL
- (E) FIRE HYDRANT
- (E) WATER METER
- (E) WATER VALVE
- (E) WATER BLOW-OFF
- (E) STORM DRAIN MANHOLE
- (E) CULVERT
- (E) CURB INLET
- (E) CATCH BASIN
- (E) SUMP
- (E) UTILITY MANHOLE
- (E) TELEPHONE JUNCTION BOX
- (E) POWER VAULT
- (E) TELEVISION JUNCTION BOX
- (E) ELECTRICAL TRANSFORMER
- (E) POWER METER
- (E) GAS METER
- (E) POWER POLE
- (E) GUY WIRE
- (E) LIGHT POLE
- (E) SIGN
- (E) MAILBOX
- (E) DECIDUOUS TREE
- (E) CONIFEROUS TREE
- (E) BUSH/ SHRUB

PROPOSED

- (P) LOT LINE
- (P) EASEMENT
- (P) WATER LINE
- (P) WATER SERVICE
- (P) SEWER LINE
- (P) SEWER SERVICE
- (P) SEWER FORCE MAIN
- (P) SEWER FORCE MAIN SERVICE
- (P) STORM DRAIN PIPE
- (P) OVERHEAD UTILITY
- (P) BURIED POWER
- (P) GAS LINE
- (P) TELEPHONE LINE
- (P) TELEVISION LINE
- (P) FIBER OPTIC LINE
- (P) ROAD CENTERLINE
- (P) FENCE LINE
- (P) DITCH
- (P) SWALE
- (P) IRRIGATION FORCE MAIN
- (P) MAJOR CONTOUR
- (P) MINOR CONTOUR
- (P) ASPHALT
- (P) GRAVEL
- (P) CONCRETE
- (P) SEWER MANHOLE
- (P) SEWER CLEANOUT
- (P) SEPTIC TANK
- (P) DRAINFIELD
- (P) WELL
- (P) FIRE HYDRANT
- (P) WATER METER
- (P) WATER VALVE
- (P) REDUCER
- (P) THRUST BLOCK
- (P) WATER BLOW-OFF
- (P) STORM DRAIN MANHOLE
- (P) CULVERT
- (P) CURB INLET
- (P) CATCH BASIN
- (P) SUMP
- (P) UTILITY MANHOLE
- (P) LIGHT POLE
- (P) SIGN
- (P) MAILBOX
- (P) DECIDUOUS TREE
- (P) CONIFEROUS TREE
- (P) BUSH/ SHRUB

SYMBOLS



NOTE: NOT ALL FEATURES SHOWN IN LEGEND WILL BE PRESENT ON PLANS

GENERAL CONDITIONS OF CONSTRUCTION:

1. The Standard General Conditions of the Contract prepared by the Engineers Joint Contract Documents Committee (Copyright 2007), as included in Montana Public Works Standard Specifications, are herein referred to as the General Conditions within these Drawings. Copies of the General Conditions will be provided to Contractor upon written request to Engineer.
2. Wherever used in these Drawings, the terms, whether printed with initial capital letters or not, as listed in the Standard General Conditions of the Construction Contract (General Conditions), Article 1 - Definitions and Terminology, prepared by the Engineers Joint Contract Documents Committee (Copyright 2007) will have the meanings indicated, which are applicable to both the singular and plural thereof, except as follows:
   a. The Contract Documents shall mean the Drawings as shown in these plans and any applicable referenced standards, specifications, or laws.
   b. The Contract Price shall mean the moneys payable by Owner to Contractor for completion of the Work in accordance with the Agreement.
   c. The Contract Times shall mean the number of days or the dates stated in the Agreement to complete the Work so that it is ready for final payment. If no such dates are established, the Contract Time shall be 120 days to complete the Work.
   d. Effective Date of the Agreement shall have the meaning as listed in the General Conditions, Article 1. If no such Agreement exists, the Effective Date of the Agreement shall be the day the Contractor proceeds with the Work.
3. By proceeding with the Work as shown on these Drawings, the Contractor makes the following representations:
   a. Contractor has examined and carefully studied the Drawings and other related data.
   b. Contractor is familiar with and is satisfied as to all federal, state and local laws and Regulations that may affect cost, progress, performance and furnishing of the Work.
   c. Contractor has visited the site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, performance or furnishing of the Work.
   d. Contractor acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Drawings with respect to Underground Facilities at or contiguous to the site.
   e. Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise, which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor including applying the specific means, methods, techniques, sequences and procedures of construction, if any, expressly required by the Drawings to be employed by the Contractor, and safety precautions and programs incident thereto.
   f. Contractor is aware of the general nature of work to be performed by Owner and others at the site that relates to the Work.
   g. Contractor has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Drawings and the written resolution thereof by Engineer is acceptable to Contractor.
   h. The Drawings are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
4. In resolving disputes resulting from conflicts, errors or discrepancies, the order of precedence shall be as follows, as applicable to this project: Written agreement between owner and contractor, specifications, Drawings. Within the Specifications, the order of precedence is as follows, as applicable to this project: Addenda/Change Orders, Contractor's Bid, Special Provisions, Instructions to Bidders, Supplemental General Conditions, Notice Inviting Bids, General Conditions, Technical Specifications, Referenced Standard Specifications. With reference to the Drawings, the order of precedence is as follows, as applicable to this project: Figures govern over scaled dimensions, Detail drawings govern over general drawings, Addenda/Change Order drawings govern over contract drawings, contract drawings govern over standard drawings, contract drawings govern over shop drawings.
5. If Contractor believes that any subsurface or physical condition at or contiguous to the Site that
   a. is uncovered or revealed either is of such a nature as to require a change in the Drawings; or
   b. differs materially from that shown or indicated in the Drawings; or
   c. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided in the drawings;

   then Contractor shall promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.
6. Section 2.06 of the General Conditions is hereby incorporated into these Drawings.
7. Section 3.03.A.2 of the General Conditions is hereby incorporated into these Drawings.
8. Section 3.05 of the General Conditions is hereby incorporated into these Drawings.
9. Section 3.06 of the General Conditions is hereby incorporated into these Drawings.
10. Section 4.05 of the General Conditions is hereby incorporated into these Drawings.
11. Section 6.01, 6.02.A, and 6.03 of the General Conditions are hereby incorporated into these Drawings.
12. Substitutes and "Or-Equals" items are subject to the provisions of the General Conditions, Section 6.05.
13. Section 6.13 of the General Conditions is hereby incorporated into these Drawings, except that Section 6.13.D shall be replaced with the following sentence.
    Contractor's duties and responsibility for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer and Owner, as applicable to the Work, have accepted that the work is complete.
14. Section 6.11, 6.14, 6.15, 6.16, 6.18, 6.19, 6.20, and 6.21 of the General Conditions are hereby incorporated into these Drawings.
15. Article 9 - Engineer's Status During Construction of the General Conditions is hereby incorporated into these Drawings, except as follows:
    a. Delete the last sentence of Section 9.05.A.
    b. Delete Section 9.06, 9.07, 9.08.B, 9.08.C, and 9.09.D.
16. Section 10.02 of the General Conditions is hereby incorporated into these Drawings.
17. Article 13 - Tests and Inspections, Correction, Removal or Acceptance of Defective Work of the General Conditions is hereby incorporated into these Drawings.

STANDARD SPECIAL PROVISIONS:

1. The Contractor shall be responsible for all permits, licenses and fees required for completion of this project unless specifically noted otherwise.
2. The Contractor shall provide the Owner with a 24 hour phone number of a party responsible and capable of immediate local response to emergency maintenance for the duration of the Work. Contractor shall provide the name of the responsible party and phone number in writing prior to proceeding with the Work.
3. Unless noted otherwise, the contractor shall be responsible for any necessary traffic control on and off-site including obtaining any applicable permits.
4. Material stockpiled along the project route shall be done so in a manner that does not affect public safety and is in a neat and orderly fashion.
5. The Contractor shall be responsible for disposing of all waste and excess materials such as, but not limited to: vegetation, trees, brush, asphalt, concrete, sub-grade soils, etc., offsite in accordance with local, state and federal laws. The Owner reserves the right to request certain waste materials to be stockpiled at a location on-site.
6. The contractor will be responsible to adhere to the MDEQ or EPA approved Storm Water Pollution Prevention Plan (SWPPP), if applicable to the project. The contractor is responsible for repairing any damage made to BMPs identified in the SWPPP. The approved Storm Water Pollution Prevention Plan will be provided by Owner to Contractor upon written request. If a SWPPP has not been prepared for the project, but is required by regulation, the Contractor is responsible for preparing and submitting a Notice of Intent and SWPPP.
7. The Contractor will be required to make every effort to immediately restore the construction area once the construction task is completed. All seeding shall be completed in accordance with MPWSS 02910. This includes such required activities as finish grading, spreading of topsoil, restoring irrigation, replacing traffic and street signs, etc. The contractor will have 48 hours to begin restoration once the construction task in the immediate area is complete. Once restoration is begun, it must be completed without interruption to the extent possible.
8. After all work on this project is completed and before final acceptance of the project, the entire project shall be neatly finished to the lines, grades, and cross sections shown on the plans and as hereinafter specified.
   a. Drainage facilities, such as inlets, catch basins, storm pipe, culverts, and curb and gutter shall be cleaned of all debris, gravel, silts or other foreign material.
   b. The Contractor shall remove and dispose of all construction stakes.
   c. All areas disturbed by the construction shall be shaped to present a uniform appearance blending into the contour of adjacent properties. All surface replacement and landscaping shall be completed.
   d. Except as otherwise permitted, all excess excavated materials shall be disposed of away from the site of the work.
   e. Broken concrete and other debris resulting from pavement or sidewalk removal, excavated rock in excess of the amount permitted, and other waste and debris encountered in excavated work, and other similar waste materials shall be disposed of away from the site.

   There will be no separate measurement or payment for cleanup, and all costs for such work shall be included in the Contract Price.
9. No on-site burning of waste materials will be allowed.
10. If a street has not been surfaced and cleaned, the Contractor shall be responsible for dust control and maintenance of the street. Also, if detours are made on a gravel road, the Contractor is responsible for dust control and maintenance on the detours. See "Air Quality" below also.
11. Daily street sweeping shall be completed on both ends of each street during construction. Unpaved detours or any other fugitive dust emission sources from construction and demolition should be watered and/or chemically stabilized so emissions are less than 20% opacity.

UTILITY NOTES:

1. The Contractor shall notify appropriate personnel for utility locations and notice of construction commencement at least two business days prior to proceeding with the Work. Before Contractor proceeds with the Work, a common locate service (One Call) is available at 1-800-424-5555. All Underground Facilities may not be located by the One Call service including but not limited to such Underground Facilities as irrigation systems, public and private water and sewer systems, etc.
2. The information and data shown or indicated in the Drawings with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise noted:
   a. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or date; and
   b. The cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
      i. Reviewing and checking all such information and data,
      ii. Locating all Underground Facilities shown or indicated in the Drawings,
      iii. Coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and
      iv. The safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.
   c. At least 2 business days before beginning any excavation, the Contractor shall, according to MCA 69-4-501, notify all owners of underground facilities and coordinate the Work with the owners of such underground facilities. The information shown or indicated in the Drawings with respect to existing underground facilities is based on information and data obtained from the owners of the facilities without field exploration, and as such, Owner and Engineer are not responsible for the accuracy or completeness of such information or data.
3. The Contractor shall support and protect all exposed utilities in conformance with the utility owner's standards.
4. All utility services shall be constructed per the International Plumbing Code, Local Jurisdictional policy, and the service provider standards and specifications.
5. All utility work shall be completed before paving.

SUBMITTALS, QUALITY CONTROL & ASSURANCE, INSPECTIONS, AND TESTING:

1. Contractor shall comply with Summary of Work, Section 01010, MPWSS.
2. Contractor shall comply with Project Coordination, Section 01041, MPWSS.
3. Contractor shall comply with Field Engineering, Section 01050, MPWSS. Replace Part 1.1.A with "Notify Engineer of required survey work at least 5 days before starting work.
4. Contractor shall comply with Submittals, Section 01300, MPWSS.
5. Contractor shall comply with the Contractor Quality Control and Owner Quality Assurance, Section 01400 MPWSS.
6. Contractor shall comply with Contract Closeout, Section 01700, MPWSS.
7. Contractor shall comply with all Density Control Testing, Part 1.3, for Sub Base Course, Section 02234 MPWSS. This does not exclude any other requirements of Section 02234 MPWSS.
8. Contractor shall comply with all Density Control Testing, Part 1.3, and Materials Submittals, Part 1.4, for Crushed Base Course, Section 02235 MPWSS. This does not exclude any other requirements of Section 02235 MPWSS.
9. Contractor shall comply with Pavement and Material Testing Requirements, Part 3.29, for Asphalt Concrete Pavement, Section 02510 MPWSS. This does not exclude any other requirements of Section 02510 MPWSS.
10. Contractor shall complete trench excavation and backfill in accordance with Section 02221 MPWSS. This includes backfill for storm drainage infrastructure.
11. The Contractor shall coordinate with Engineer to obtain samples of trench backfill material to be used on-site. This includes backfill for storm drainage infrastructure.
12. Contractor will be responsible for coordination with a material testing company of the Owner's selection to complete compaction testing of trench backfill. Coordination includes updating appropriate personnel employed by the material testing company every work day as to progress of work so adequate testing can be completed.
13. The Contractor will be required to prepare a set of detailed as-built drawings to be presented to the Engineer at the completion of the project. The as-built drawings shall be updated daily and reviewed weekly by the Project Engineer. As-built drawings shall include, but not limited to location/depths of existing utilities encountered during completing the Work and location/depths of installed infrastructure completed as part of the Work. Installed infrastructure includes culverts, ponds, storm drainage systems, catch basins, dry-well sumps, storm manholes, swales, ditches, dry utilities (gas, power, phone, etc.), and road and pedestrian features such as handicap ramps, sidewalks, roads, curb and gutter, etc.

CONSTRUCTION NOTES:

1. All Work shall be in accordance with the Montana Public Works Standard Specifications (MPWSS), Seventh Edition, dated April 2021, Local Jurisdictional Standards, Special Provisions, and Contract Documents.
2. Contractor shall comply with Construction and Temporary Facilities, Section 01500, MPWSS.
3. Contractor shall comply with Construction Traffic Control, Section 01570, MPWSS.
4. For road plan and profile sheets, the stationing and elevations provided are for finished grade at centerline of road, unless noted otherwise.
5. For proposed pipe installations (culverts, storm drains, irrigation, etc.), the stationing is from centerline of pipe and elevations are from invert of pipe, unless noted otherwise.
6. Elevations shown on the Drawings are to finished surface grade unless otherwise indicated.
7. Elevations for curb and gutter are for top back of curb, unless otherwise indicated. Elevations provided at curb lay downs are for the "projected" top back of curb, as though the specified curb was being installed through the lay down. This allows the contractor to set his curb string line or forms based on the elevations shown on the plans, and then cut out the extra concrete for the lay down.
8. All material furnished on or for this project shall meet the minimum requirements of the approving agencies or as set forth herein, whichever is more restrictive.

CONSTRUCTION STAKING:

1. Construction Staking will be coordinated and contracted through the contractor.

GRADING NOTES:

1. All ramps shall be sloped @ 12:1 max (8.33%) with a cross slope less than 2%.
2. Square cut all asphalt.
3. Contractor shall protect all adjacent improvements (buildings, roadways, fences, ditches, parking lots, utilities, sidewalks, curbs, gutter, park recreation improvements, trees, etc.) from damage and erosion. All disturbed areas shall be restored to their original condition.
4. Compact subgrade and gravel cushion to 95% proctor density or per geotechnical engineering report, whichever provides a greater level of compaction.

ABBREVIATIONS:

BC	BACK OF CURB	MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
BP	BEGINNING POINT		
BSW	BACK OF SIDEWALK	NWE	NORTHWESTERN ENERGY
CBU	CLUSTER BOX UNIT	(P)	PROPOSED
CMP	CORRUGATED METAL PIPE	PRC	POINT OF REVERSE CURVATURE
ELEV	ELEVATION	PC	POINT OF CURVATURE
EP	ENDING POINT	PT	POINT OF TANGENT
(E)	EXISTING	PVI	POINT OF VERTICAL INTERSECTION
FFEL	FINISHED FLOOR ELEVATION	R	RADIUS
FG	FINISHED GRADE	ROW	RIGHT OF WAY
FL	FLOWLINE	SF	SQUARE FOOT
HP	HIGH POINT	SIM	SIMILAR
I.E.	INVERT ELEVATION	STA	STATION
INV	INVERT	STD	CITY OF MISSOULA STANDARD DRAWING
LD	LAYDOWN	SW	SIDEWALK
LF	LINEAR FOOT	TBC	TOP BACK OF CURB
MAX	MAXIMUM	TOA	TOP OF ASPHALT
MIN	MINIMUM	TOC	TOP OF CONCRETE
ME	MATCH EXISTING	TYP	TYPICAL
M.E.P.	MECHANICAL, ELECTRICAL, & PLUMBING	U.N.O.	UNLESS NOTED OTHERWISE
MPOC	MID POINT OF CURVE		

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PLOT DATE: 10/3/2023 9:42 AM

REVISIONS	DATE

DESIGNED: AE
DRAFTED: AE
CHECKED: CD
DATE: MAY 2023

LOCATION: 120 GROVE STREET - LOT 42 OF CORBAN & DINMORES ORCHARD HOMES SECTION 19, T.13N., R.19W., P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

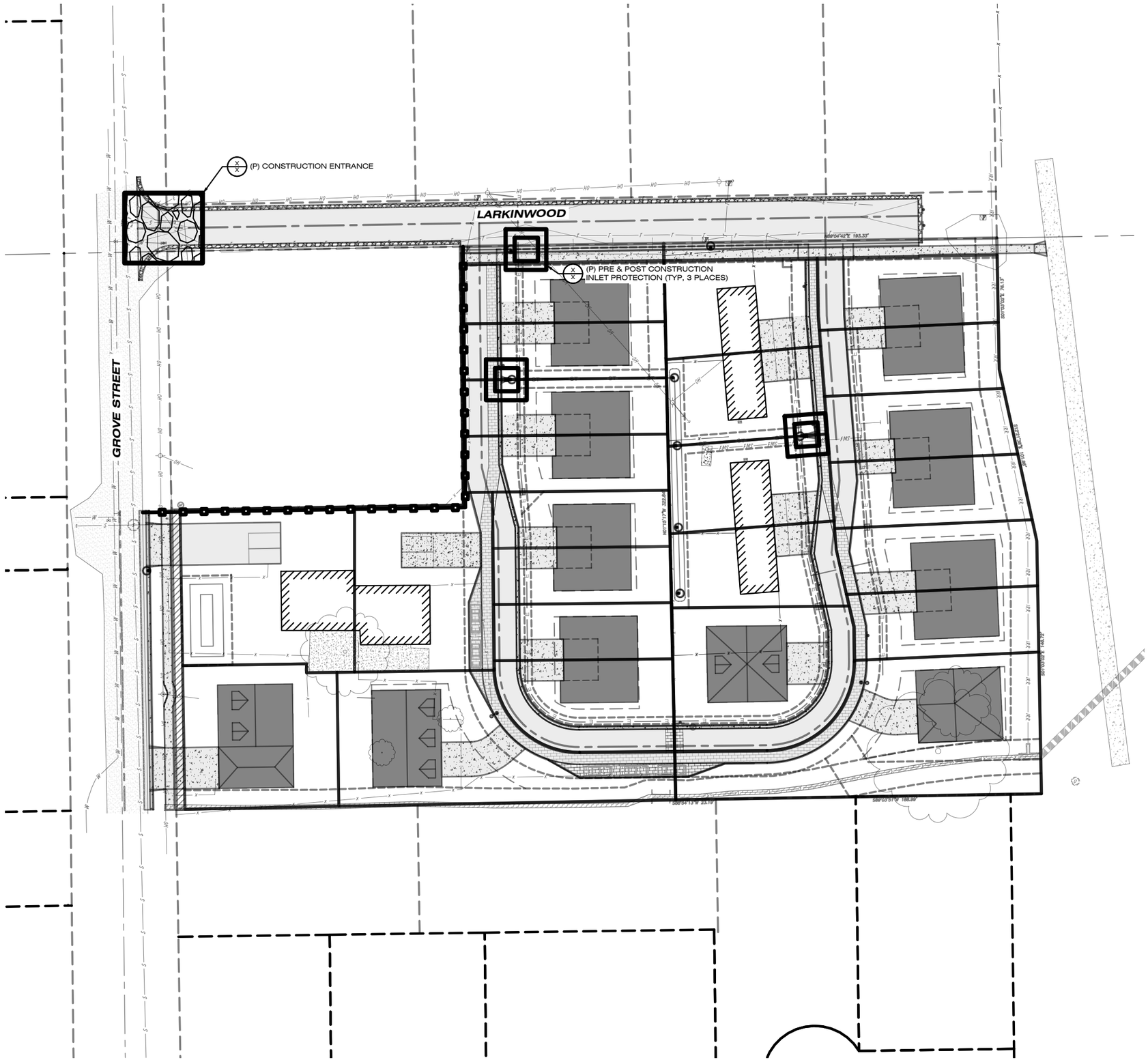
SHEET TITLE: ROAD CONSTRUCTION PLANS LEGEND & NOTES SHEET

PROJECT NO.: 22008967

SHEET: 2 OF 10

STAGE 2

DWG LOCATION: G:\2022\22008967.00\DESIGN\CIVIL\CSDP_GTP\DAS-2200967.DWG



LEGEND

- SILT FENCE
- EXISTING ASPHALT
- PROPOSED ASPHALT
- PROPOSED CONCRETE

N

30 0 30 60

SCALE IN FEET

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NOTES

1. CONTRACTOR IS TO BE FAMILIAR WITH THE REQUIREMENTS OF SECTION 402(P) OF THE FEDERAL CLEAN WATER ACT AND REGULATIONS ADOPTED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA). (AMENDMENTS TO TITLE 40 OF THE CODE OF FEDERAL REGULATIONS, PART 122, PUBLISHED IN THE FEDERAL REGISTER ON NOVEMBER 16, 1990 AND ON APRIL 2, 1992.) ALSO, DEQ 1200-C PERMIT FOR THE CONTROL OF STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
2. CONTRACTOR IS TO BE FAMILIAR WITH ALL REQUIREMENTS OF THE SWPPP.
3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH LOCAL JURISDICTION AND MONTANA DEQ FOR EROSION AND SEDIMENT CONTROL.
4. THE TEMPORARY POLLUTION CONTROL SYSTEM SHALL BE INSTALLED PRIOR TO ALL OTHER CONSTRUCTION.
5. ALL EQUIPMENT MAINTENANCE AND RE-FUELING SHALL BE CONDUCTED IN A SAFE MANNER AND SPILL KITS SHALL BE MAINTAINED ON-SITE TO CLEAN ANY SPILLS THAT MAY OCCUR.
6. ALL EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY SUITABLE APPLICATION OF BEST MANAGEMENT PRACTICES (BMP'S), SUCH AS VEGETATIVE COVER, MULCHING, PLASTIC COVERING OR APPLICATION OF GRAVEL SURFACES IN AREAS TO BE GRAVELED. NO EXPOSED AND UNWORKED SOILS SHALL REMAIN UNSTABILIZED. ONCE CONSTRUCTION ACTIVITY IS COMPLETED IN AN AREA BETWEEN THE MONTHS OF OCTOBER 1 AND APRIL 30, PERMANENT SEEDING SHALL BE INSTALLED.
7. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL AT ALL TIMES DURING CONSTRUCTION.
8. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROPER TRASH RECEPTACLES AND PORTABLE TOILETS ON-SITE AS WELL AS THE REGULAR MAINTENANCE OF THESE FACILITIES.
9. ALL CLEARING LIMITS AND/OR EASEMENT SETBACKS, SENSITIVE/CRITICAL AREAS AND THEIR BUFFERS, SIGNIFICANT TREES AND DRAINAGE COURSES SHALL BE CLEARLY STAKED AND MARKED AS SHOWN ON PLANS.
10. PROPERTIES ADJACENT TO THE PROJECT SITE THAT ARE SUBJECT TO POTENTIAL EROSION CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION THROUGH THE USE OF SILT FENCE, HAY BALES OR OTHER BMP SELECTED BY THE CONTRACTOR.
11. ALL FACILITIES INTENDED TO TRAP SEDIMENT ON-SITE SHALL BE CONSTRUCTED AS A FIRST STEP IN GRADING. THESE FACILITIES SHALL BE FUNCTIONAL BEFORE ANY LAND DISTURBING ACTIVITIES TAKE PLACE. EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS SHALL BE SEEDED AND MULCHED ACCORDING TO THE TIME PERIOD STATED IN #6 ABOVE.
12. ALL CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. ALL SLOPES SHALL BE STABILIZED WITHIN THE TIME PERIOD STATED IN #6 ABOVE.
13. ALL STORM DRAINAGE INLETS MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED WITH A GRAVEL INTAKE FILTER TO PREVENT SEDIMENT FROM ENTERING THE SYSTEM. THE FILTER MUST BE INSPECTED REGULARLY AND CLEANED WHEN NECESSARY.
14. THE FOLLOWING SHALL APPLY TO CONSTRUCTION OF UTILITY LINES:
    A. WHERE FEASIBLE, NO MORE THAN 500' OF TRENCH SHALL BE OPEN AT ONE TIME.
    B. WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
    C. TRENCH DEWATERING DEVICES SHALL DISCHARGE AND SHALL REMAIN ON-SITE AND IN NO WAY ENTER PUBLIC PROPERTY OR WATERWAY.
15. WHEREVER CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED ROADS, A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE CONSTRUCTED (SEE DETAIL SHEET) TO MINIMIZE THE TRANSPORT OF SEDIMENT (MUD) ONTO THE PAVED ROAD. IF SEDIMENT IS TRANSPORTED ONTO A ROAD SURFACE, THE ROADS SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR SWEEPING AND BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA. STREET WASHING SHALL ONLY BE ALLOWED AFTER SEDIMENT IS REMOVED IN THIS MANNER. A MINIMUM OF ONE (1) ON-SITE STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED.
16. CONCRETE TRUCKS SHALL NOT BE ALLOWED TO WASH OUT ON-SITE UNLESS A PROPERLY CONSTRUCTED CONCRETE TRUCK WASHOUT AREA IS CONSTRUCTED AND MAINTAINED.
17. ALL TRUCKS USED TO HAUL EXCAVATED SOILS FROM THE SITE SHALL BE INSPECTED AND SWEPT CLEAN OF LOOSE SOIL PRIOR TO LEAVING THE SITE.
18. FUEL, LUBRICANTS AND OTHER FLUIDS REQUIRED FOR THE MAINTENANCE OF THE EQUIPMENT SHALL NOT BE STORED ON-SITE.
19. ALL TEMPORARY SEDIMENT AND EROSION CONTROL SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON-SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.
20. ALL POLLUTANTS OTHER THAN SEDIMENT THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORM WATER OR THE SITE.
21. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE INSPECTED, MAINTAINED AND REPAIRED BY THE CONTRACTOR AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED USE. ALL ON-SITE EROSION AND CONTROL MEASURES SHALL BE INSPECTED BY THE CONTRACTOR AT LEAST ONCE EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF ANY STORM EVENT EQUAL TO OR GREATER THAN 0.25" OF RAIN PER 24 HOUR PERIOD. AN INSPECTION REPORT FILE SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT ON-SITE.
22. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ADDITIONAL TEMPORARY SEDIMENT PONDS/TRAPS AS SITE CONDITIONS REQUIRE. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER.
23. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ADDITIONAL EROSION CONTROL MEASURES, INCLUDING BUT NOT LIMITED TO SILT FENCING, SEDIMENT PONDS/TRAPS, DIVERSION SWALES, CHECK DAMS, SEDIMENT BARRIERS, FILTER FABRIC MULCH AND SEEDING, AS CONDITIONS REQUIRE. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER.

NOTE:
CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CITY OF MISSOULA SWPPP PERMIT & DEQ PERMIT.

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PLOT DATE: 10/3/2023 9:42 AM

REVISIONS	DATE

DESIGNED: AE
DRAFTED: AE
CHECKED: CD
DATE: MAY 2023

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINWORES ORCHARD HOMES SECTION 19, T. 13N., R. 19W., P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: ROAD CONSTRUCTION PLANS SWPPP PLAN

PROJECT NO. 22008967

SHEET: 3 OF 10

STAGE 2

DWG LOCATION: G:\2022\22008967.00\DESIGN\CIVIL\CSDP_CSTPDWG-22008967.DWG

EXISTING MOBILE HOME TO BE REMOVED

ALL EXISTING ON-SITE WASTEWATER TREATMENT FACILITIES WILL EITHER BE DECOMMISSIONED AND ABANDONED IN PLACE PER MCCHD REGULATION OR BE PHYSICALLY REMOVED FROM THE SITE WHEN CONFLICTING WITH PROPOSED DEVELOPMENT PLANS.

EXISTING DUPLEX TO BE REMOVED

ALL EXISTING ON-SITE WASTEWATER TREATMENT FACILITIES WILL EITHER BE DECOMMISSIONED AND ABANDONED IN PLACE PER MCCHD REGULATION OR BE PHYSICALLY REMOVED FROM THE SITE WHEN CONFLICTING WITH PROPOSED DEVELOPMENT PLANS.

EXISTING SHED TO BE REMOVED

APPROXIMATE LOCATION OF WELL, TO BE ABANDONED AND REMOVED PER MCCHD REGULATION 1

EXISTING SHED TO BE REMOVED

EXISTING HOME TO BE REMOVED

25 0 25 50
SCALE IN FEET

UTILITY NOTES:

1. COORDINATE WITH UTILITY PROVIDER FOR DEMOLITION AND ABANDONMENT OF UTILITIES SERVICING EXISTING STRUCTURES.

ASBESTOS NOTES:

1. ALL DEMOLITION AND RENOVATION PROJECTS REQUIRE AN ASBESTOS INSPECTION BY AN ACCREDITED ASBESTOS INSPECTOR.
2. NOTIFY THE MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY (MTDEQ) FOR ALL NON-RESIDENTIAL DEMOLITION OR RENOVATION.
3. NOTIFICATION FORMS ARE AVAILABLE AT *ASBESTOS.MT.GOV* OR CALL THE DEQ ASBESTOS CONTROL PROGRAM AT (406) 444-5300 OR EMAIL deqacponline@mt.gov. FORMS MUST BE RECEIVED BY DEQ TWO WEEKS PRIOR TO THE START DATE OF THE PROJECT.
4. FOR MORE INFORMATION ON THE ASBESTOS INSPECTION REQUIREMENT, LOCATING AN ACCREDITED ASBESTOS INSPECTOR, AND OTHER ASBESTOS REGULATORY REQUIREMENTS GO TO ASBESTOS.MT.GOV OR CALL (406) 444-5300.

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DATE: MAY 2023

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINMORES ORCHARD HOMES SECTION 19, T.13N., R.19W., P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

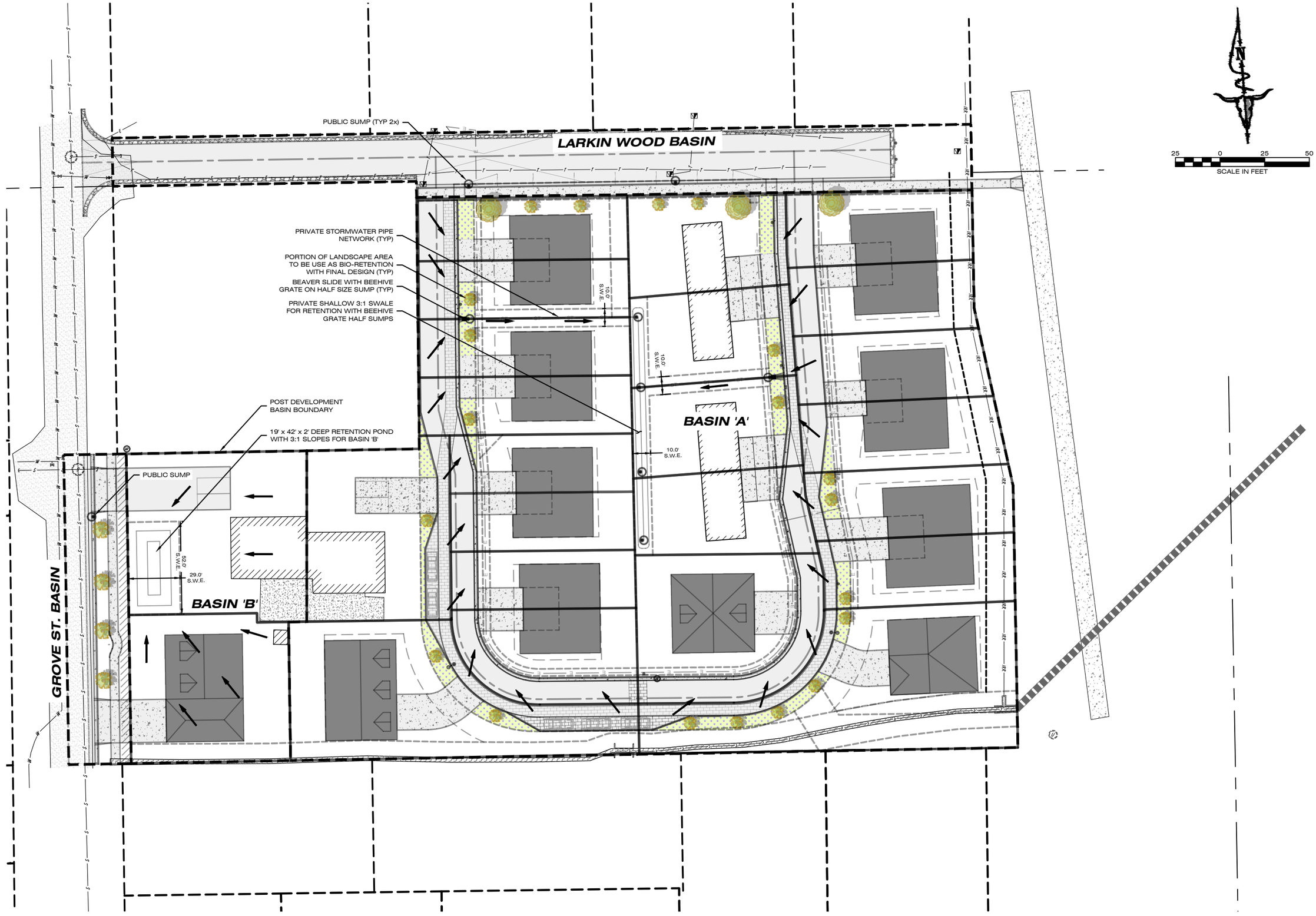
SHEET TITLE: ROAD CONSTRUCTION PLANS DEMOLITION PLAN

PROJECT NO. 22008967

SHEET: 4 OF 10

STAGE 2

DWG LOCATION: D:\2022\22008967.000\DESIGN\CIVIL\CSD\PLOTS\CAD-22008967.DWG



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DATE: MAY 2023

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINWORES ORCHARD HOMES SECTION 19, T.13N., R.19W., P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

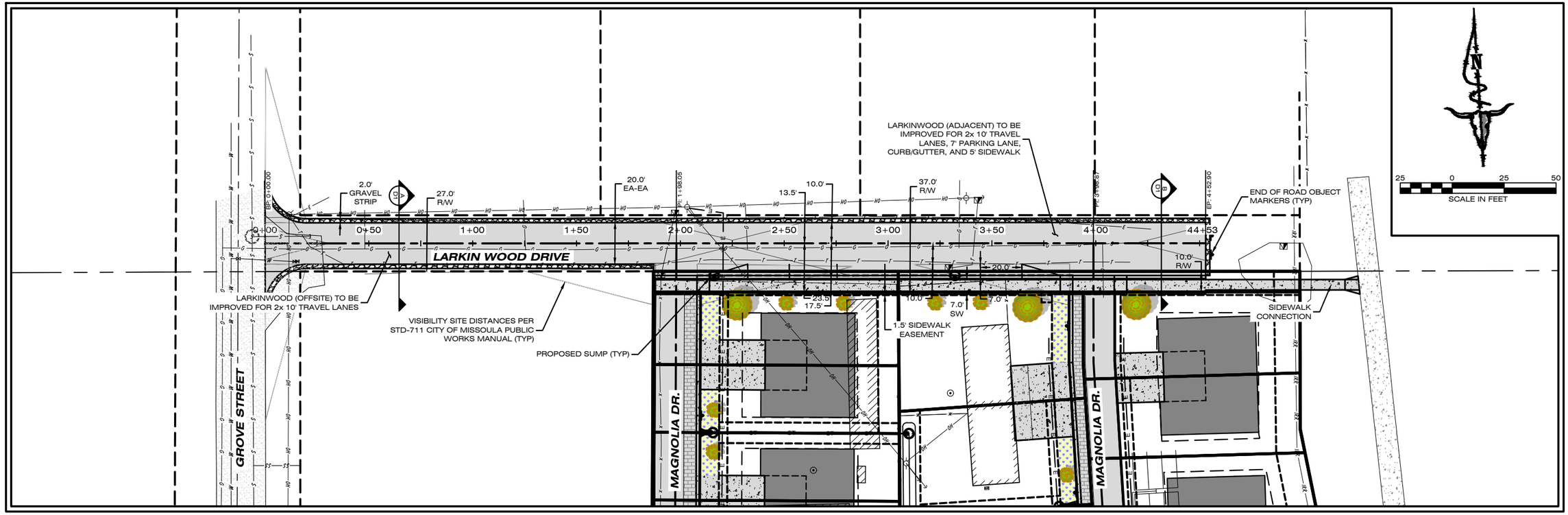
SHEET TITLE: ROAD CONSTRUCTION PLANS DRAINAGE AND BASINS

PROJECT NO.: 22008967

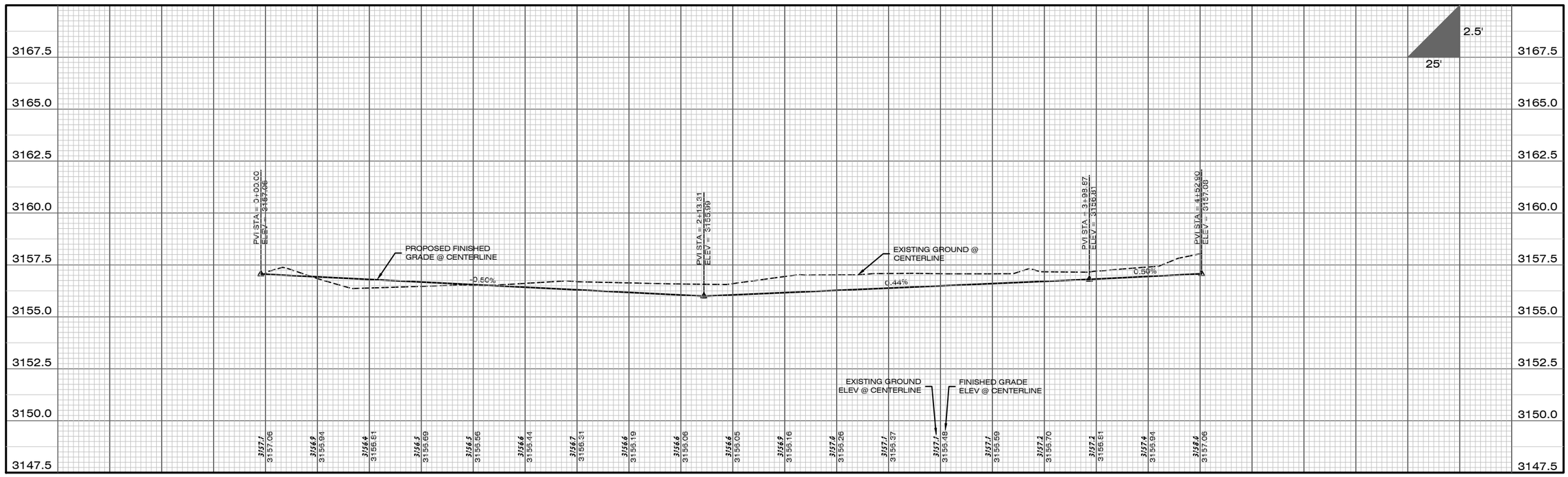
SHEET: 5 OF 10

STAGE 2

DWG LOCATION: G:\2022\22008967.00\DESIGN\CIVIL\CSDP\CSDP-22008967.DWG



PLAN VIEW



PROFILE VIEW

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PLOT DATE: 10/3/2023 9:43 AM

DATE
REVISIONS

DESIGNED: AE
DRAFTED: AE
CHECKED: CD
DATE: MAY 2023

LOCATION: 720 GROVE STREET - LOT 42 OF COBEAN & DINMORES ORCHARD HOMES SECTION 19, T.13N., R.19W., P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

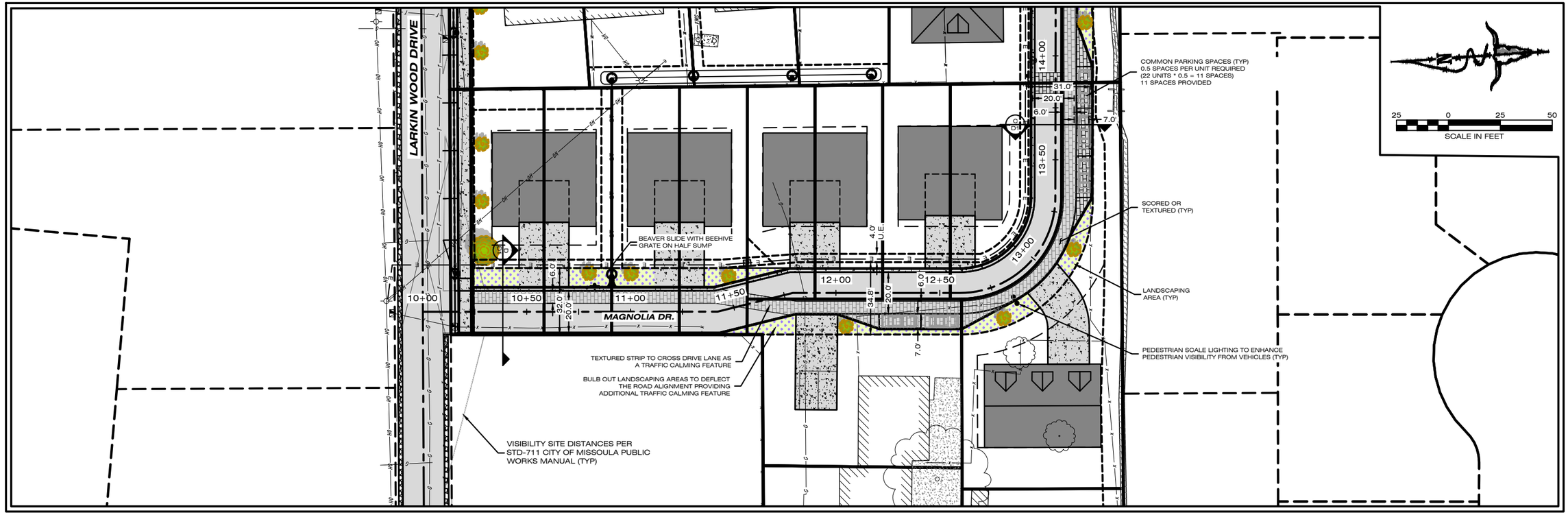
SHEET TITLE: ROAD CONSTRUCTION PLANS PLAN & PROFILE SHEET (LARKINWOOD)

PROJECT NO.: 22008967

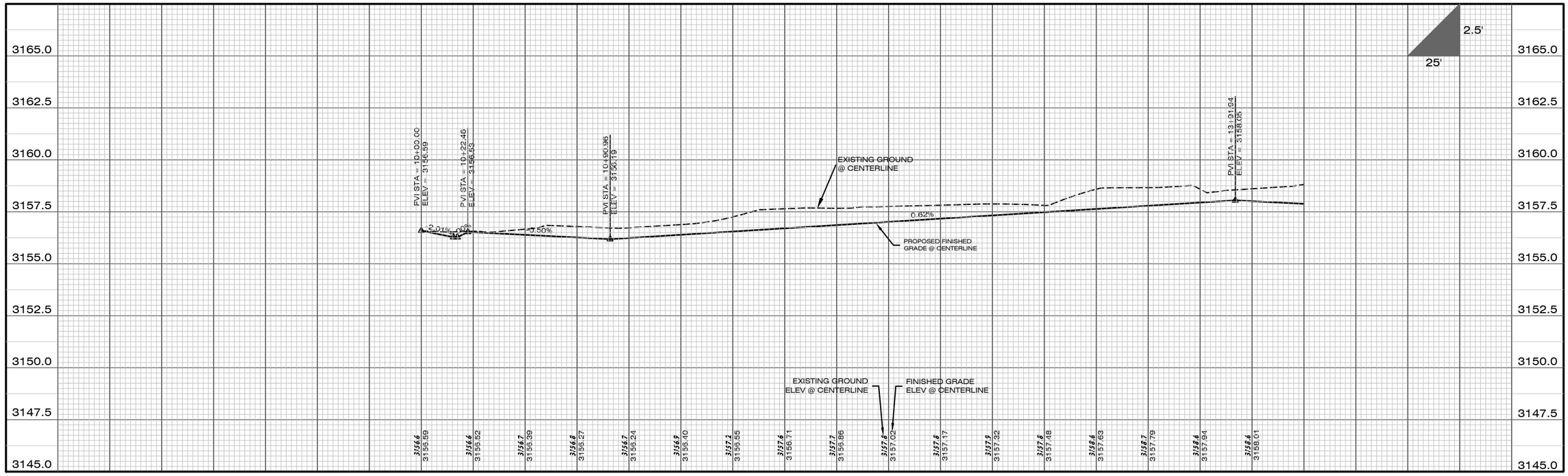
SHEET: 6 OF 10

STAGE 2

DWG LOCATION: Q:\2022\22008967.000\ENGR\CIVIL\CSP\LARKINWOOD.DWG



PLAN VIEW



PROFILE VIEW

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PLOT DATE: 10/3/2023 9:43 AM

REVISIONS | DATE

DESIGNED: AE
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LOCATION: 120 GROVE STREET - LOT 42 OF COBEAN & DINMORES ORCHARD HOMES SECTION 19, T.13N., R.19W., P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: ROAD CONSTRUCTION PLANS PLAN & PROFILE SHEET (MAGNOLIA DR)

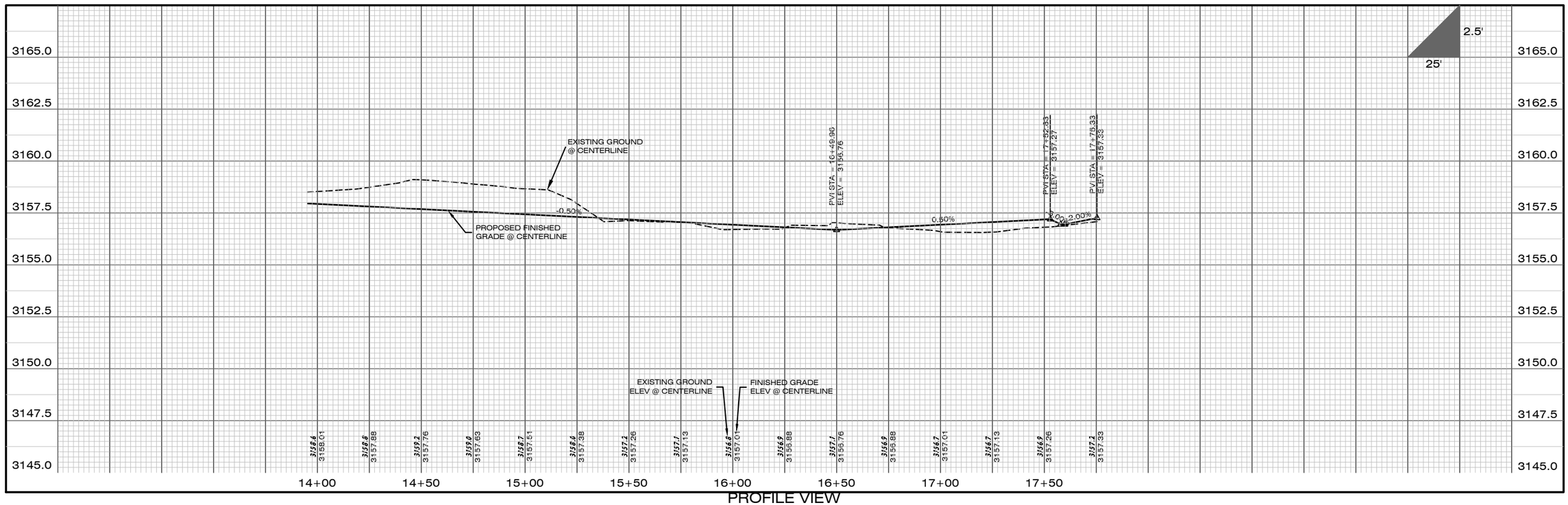
PROJECT NO.: 22008967

SHEET: 7 OF 10

STAGE 2

DWG LOCATION: Q:\2022\22008967.000\ENGR\CIVIL\CSP\PLOTS\ROAD S22008967.DWG

PLAN VIEW



PROFILE VIEW

IMEG
1817 SOUTH AVE W, STE. A
MISSOULA, MT
59801
PH: 406.721.0142
FAX: 406.721.5224
www.imegcorp.com

PLOT DATE: 10/3/2023 9:43 AM

REVISIONS | DATE

DESIGNED: AE
DRAFTED: AE
CHECKED: CD
DATE: MAY 2023

LOCATION: 120 GROVE STREET - LOT 42 OF COBEAN & DINMORES ORCHARD HOMES SECTION 19, T.13N., R.19W., P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

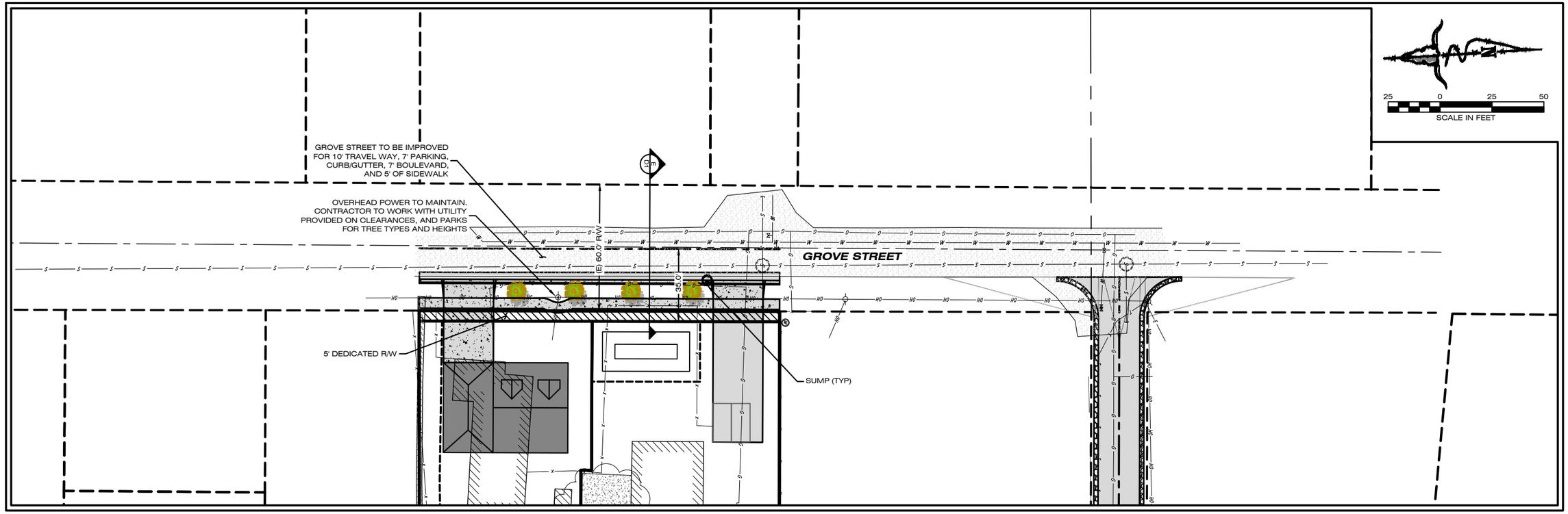
SHEET TITLE: ROAD CONSTRUCTION PLANS PLAN & PROFILE SHEET (MAGNOLIA DR)

PROJECT NO. 22008967

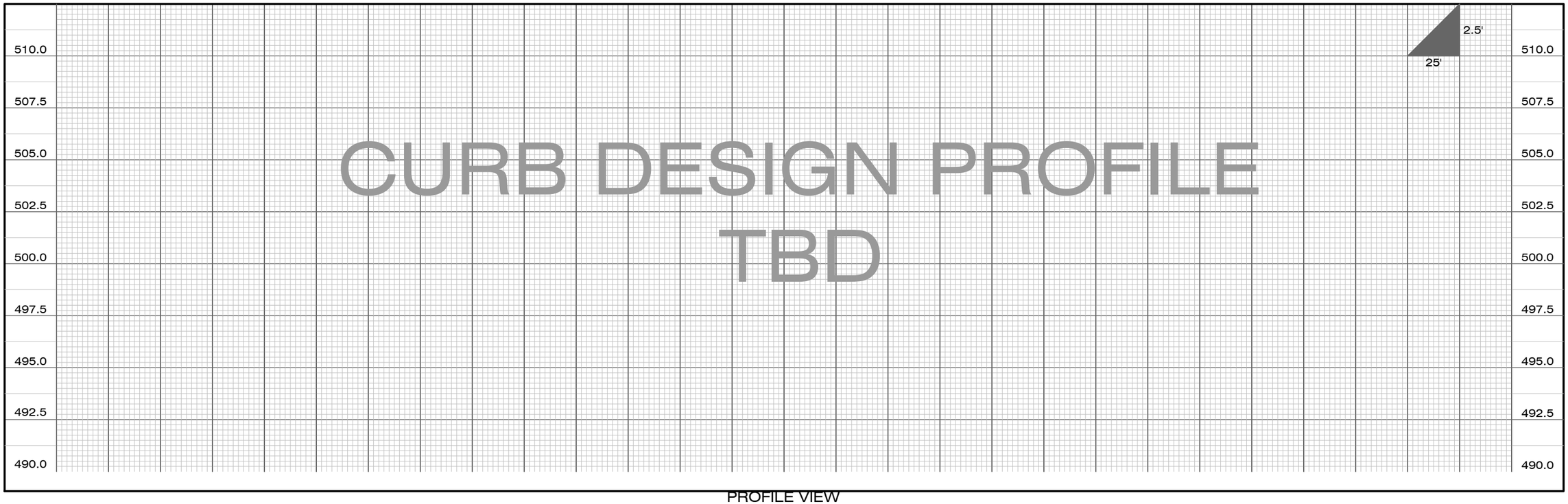
SHEET: 8 OF 10

STAGE 2

DWG LOCATION: Q:\2022\22008967.000\BIM\CIVIL\CSD\PLOTS\ORCHARD S2\008W1.DWG



PLAN VIEW



PROFILE VIEW

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PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

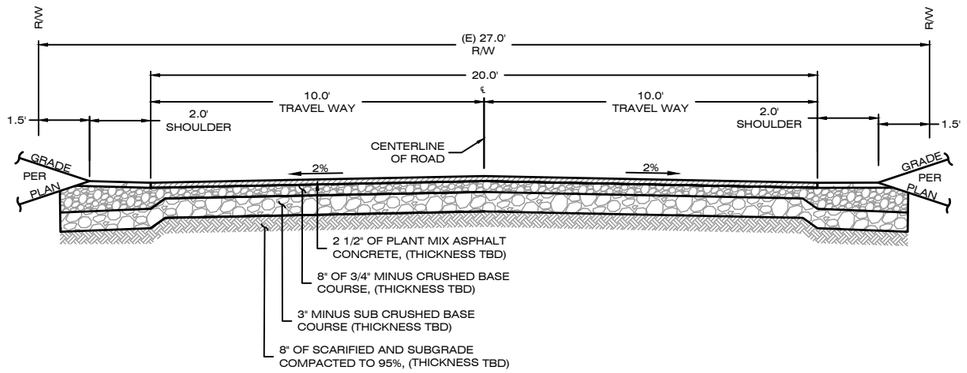
SHEET TITLE: ROAD CONSTRUCTION PLANS PLAN & PROFILE SHEET (GROVE ST)

PROJECT NO.: 22008967

SHEET: 9 OF 10

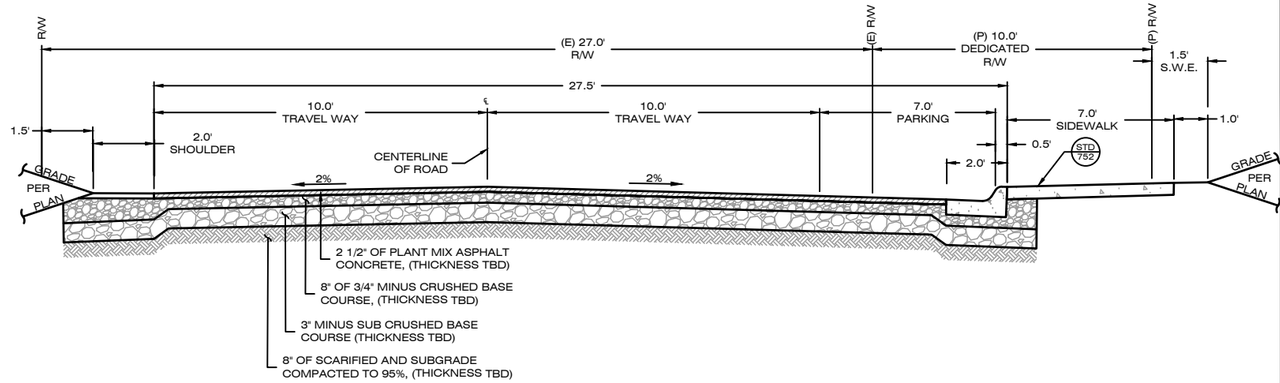
STAGE 2

DWG LOCATION: Q:\2022\22008967.000\DESIGN\CIVIL\CSP\PLOTPLAN-S22008967.DWG



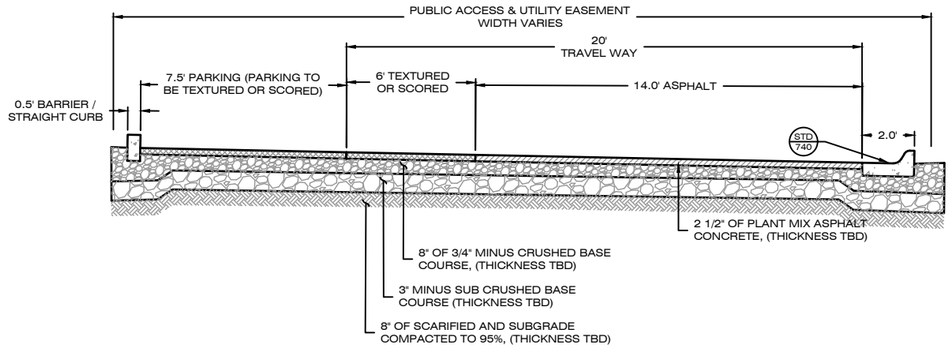
A D1 (LARKINWOOD - NO PARKING AND CURB)

NOT TO SCALE



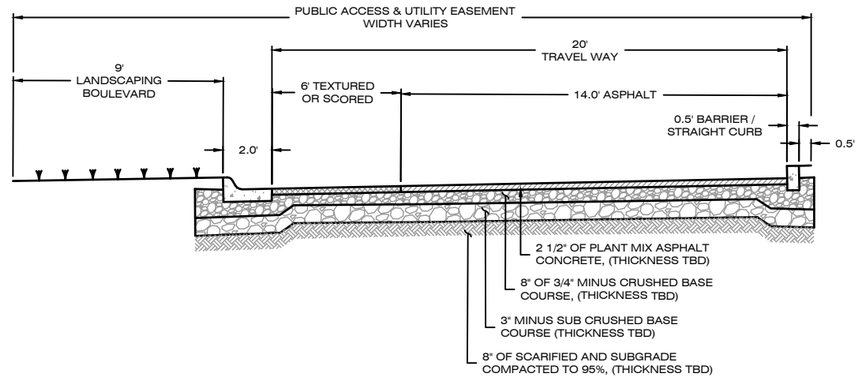
B D1 (LARKINWOOD - PARKING AND CURB)

NOT TO SCALE



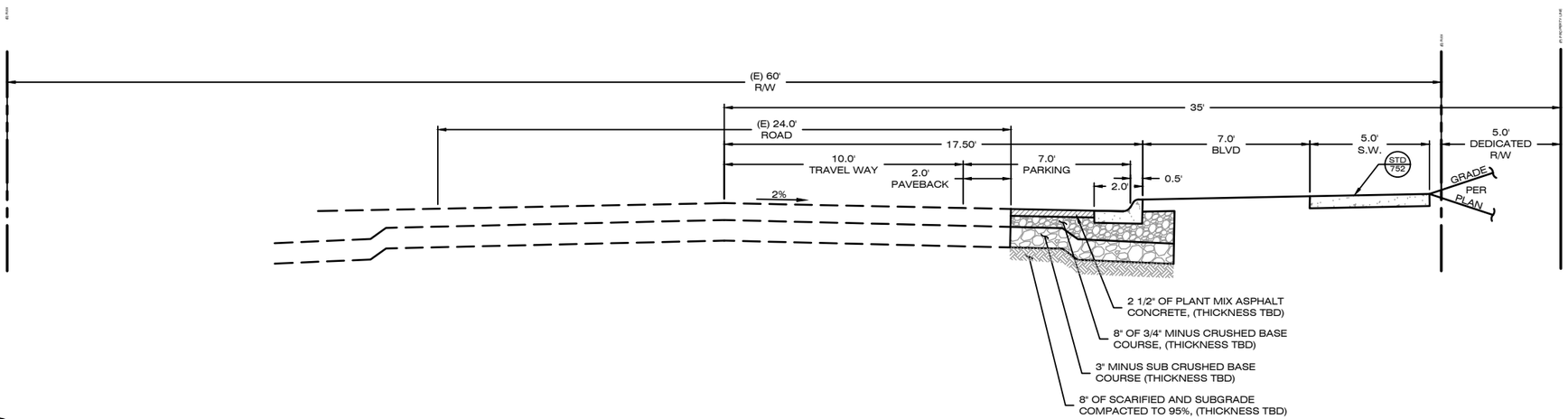
C D1 TYPICAL WOONERF ROAD SECTION (MAGNOLIA DR WITH PARKING)

NOT TO SCALE



D D1 TYPICAL WOONERF ROAD SECTION (MAGNOLIA DR WITH LANDSCAPING)

NOT TO SCALE



E D1 TYPICAL 35' ROAD CROSS SECTION (60' R/W)(GROVE ST. LOW DENSITY URBAN LOCAL)

NOT TO SCALE

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REVISIONS	DATE

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LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINMORES ORCHARD HOMES SECTION 19, T.13N., R.19W., P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

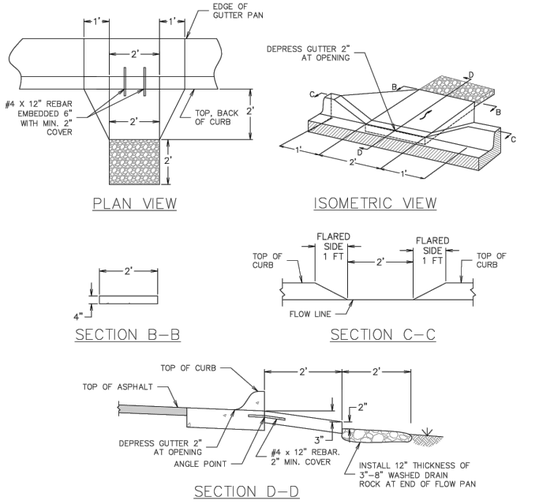
SHEET TITLE: ROAD CONSTRUCTION PLANS CROSS SECTIONS

PROJECT NO. 22008967

SHEET: 10 OF 10

STAGE 2

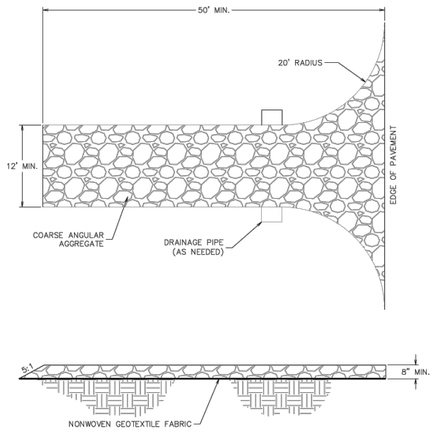
DWG LOCATION: O:\22\22008967\DESIGN\CIVIL\CDP\LOTROAD-22008967.DWG



GENERAL NOTES:

1. CONSTRUCTION MATERIALS AND PROCEDURES SHALL COMPLY WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), 7TH EDITION, APRIL 2021, AS MODIFIED BY THE MISSOULA CITY PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, APPENDIX 2–A (STANDARD MODIFICATIONS TO MPWSS), CURRENT EDITION.
2. POUR ENTIRE CURB OPENING SECTION AS MONOLITHIC SLAB
3. PROVIDE FLOW CHANNEL FOR ALL OPENINGS ON GRADE
4. SEE STANDARD DRAWING STD–740 'TYPICAL "L" CURB/GUTTER SECTION' FOR CURB/GUTTER SPECIFICATIONS

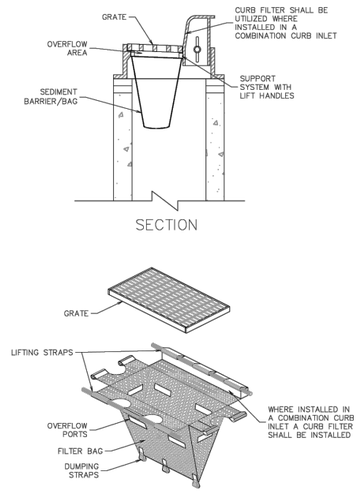
Engineering Division | Curb Opening | Approved By Utility Engineer Andy Schultz, PE | Revised: 01/01/2023 | STD - 607



GENERAL NOTES:

1. A TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE LOCATED AT POINTS OF VEHICULAR EGRESS ON A CONSTRUCTION SITE TO LIMIT THE AMOUNT OF SEDIMENT TRANSPORTED ONTO PUBLIC ROADS BY VEHICLES.
2. REMOVE AND REPLACE AGGREGATE WHEN VOIDS BECOME FILLED.
3. SWEEP AND REMOVE SEDIMENT TRACKED ONTO PAVED SURFACES.
4. PROPERLY GRADE INGRESS/EGRESS POINTS TO PREVENT RUNOFF FROM LEAVING THE SITE.
5. CONSIDER THE USE OF RUMBLE PADS, FODs, OR CATTLE GUARDS IN COMBINATION WITH THE GRAVEL CONSTRUCTION ENTRANCE TO IMPROVE EFFECTIVENESS

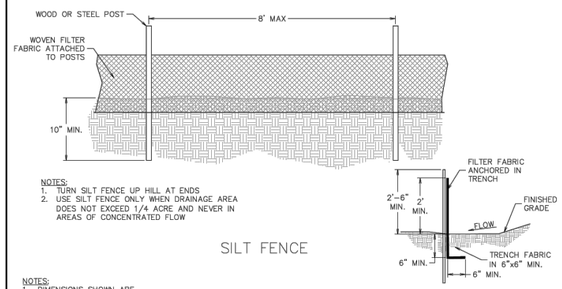
Engineering Division | Temporary Gravel Construction Entrance | Approved By Utility Engineer Andy Schultz, PE | Revised: 09/28/2020 | STD - 650



GENERAL NOTES:

1. INLET PROTECTION SHALL BE USED AS A "LAST RESORT" BMP. CARE SHALL BE TAKEN TO MINIMIZE SEDIMENT LADEN STORMWATER FROM REACHING INLETS/DRY WELLS
2. INLET PROTECTION SHALL BE INSPECTED REGULARLY AND AFTER STORM EVENTS. IF UNIT IS MORE THAN 1/3 FULL OF ACCUMULATED SEDIMENT, THE UNIT MUST BE EMPTIED.
5. ALL TEMPORARY BMP'S TO BE REMOVED AT FINAL STABILIZATION.

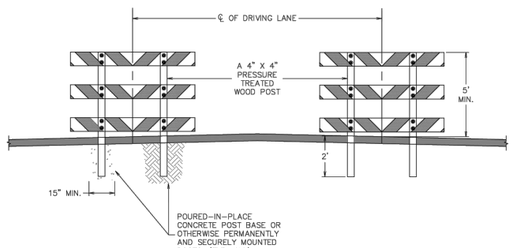
Engineering Division | Inlet Protection | Approved By Utility Engineer Andy Schultz, PE | Revised: 09/28/2020 | STD - 651



GENERAL NOTES:

1. PRESERVING EXISTING VEGETATION SHALL BE USED AS THE PRIMARY PERIMETER CONTROL.
2. PERIMETER CONTROL BMPs SHALL BE INSTALLED BEFORE ANY EARTH REMOVAL OR EXCAVATION TAKES PLACE.
3. INSTALL PERIMETER CONTROL BMPs PARALLEL TO CONTOUR LINES.
4. FOLLOW MANUFACTURER'S INSTRUCTIONS TO OVERLAP THE SILT FENCE AND WATTLES AT JUNCTIONS.
5. ALL TEMPORARY BMP'S TO BE REMOVED AT FINAL STABILIZATION.

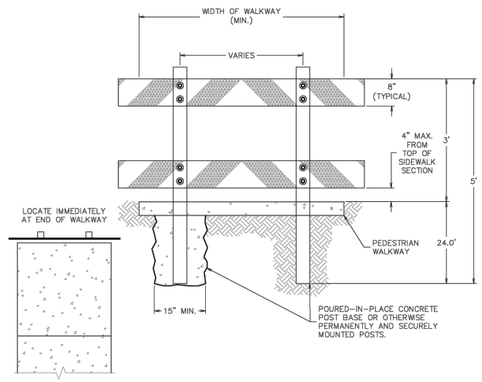
Engineering Division | Perimeter Control | Approved By Utility Engineer Andy Schultz, PE | Revised: 09/28/2020 | STD - 652



GENERAL NOTES:

1. BARRICADE POSTS SHALL BE PRESSURE TREATED 4" X 4" WOOD POSTS.
1.1. OTHER MATERIAL MAY BE CONSIDERED, PRIOR REVIEW AND APPROVAL BY THE CITY ENGINEER IS REQUIRED.
2. BARRICADE POSTS SHALL BE EMBEDDED TWENTY–FOUR (24") INCHES MINIMUM IN POURED–IN–PLACE CONCRETE OR OTHERWISE PERMANENTLY AND SECURELY MOUNTED POSTS.
3. BARRICADE RAILS SHALL BE 8" TO 12" WIDE PRESSURE TREATED WOOD OR COMPOSITE TRAFFIC CONTROL MATERIAL. FOUR (4') FOOT MINIMUM LENGTH.
3.1. OTHER MATERIAL MAY BE CONSIDERED, PRIOR REVIEW AND APPROVAL BY THE CITY ENGINEER IS REQUIRED.
4. BARRICADE RAILS SHALL BE SECURED WITH FOUR (4) EACH, PER RAIL – THREE–EIGHTS (3/8") INCH DIAMETER BY THREE AND ONE–HALF (3–1/2") INCH LENGTH HOT–DIP GALVANIZED HEX LAG SCREWS AND FOUR (4) EACH, PER RAIL – ONE (1") INCH, OUTSIDE DIAMETER, HOT–DIP GALVANIZED WASHERS, AS SHOWN ABOVE.
5. BARRICADE RAILS SHALL BE SECURED ON POSTS FACING SIDEWALK SECTION / PEDESTRIAN TRAVEL WAY.
6. RETROREFLECTIVE TAPE SHALL BE APPLIED IN SIX (6") INCH BANDS SPACED SIX (6") INCHES APART ALTERNATING RETROREFLECTIVE WHITE AND RETROREFLECTIVE RED [RED = BLACK INK ILLUSTRATED ABOVE], PLACED AT A FORTY–FIVE (45°) DEGREE ANGLE TO THE RAIL, AS SHOWN ABOVE.
7. BARRICADES MUST FULLY COMPLY WITH CURRENT MUTCD STANDARDS.

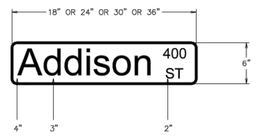
Engineering Division | Typical End-of-Roadway Barricade | Approved By City Engineer Kevin J. Slovarp | Adopted: 10/30/2014 Revised: 01/01/2023 | STD - 714



GENERAL NOTES:

1. BARRICADE POSTS SHALL BE PRESSURE TREATED 4" X 4" WOOD POSTS.
1.1. OTHER MATERIAL MAY BE CONSIDERED, PRIOR REVIEW AND APPROVAL BY THE CITY ENGINEER IS REQUIRED.
2. BARRICADE RAILS SHALL BE 1" X 8" PRESSURE TREATED WOOD OR COMPOSITE TRAFFIC CONTROL MATERIAL.
2.1. OTHER MATERIAL MAY BE CONSIDERED, PRIOR REVIEW AND APPROVAL BY THE CITY ENGINEER IS REQUIRED.
3. BARRICADE RAILS SHALL BE SECURED WITH FOUR (4) EACH, PER RAIL – THREE–EIGHTS (3/8") INCH DIAMETER BY THREE AND ONE–HALF (3–1/2") INCH LENGTH HOT–DIP GALVANIZED HEX LAG SCREWS AND FOUR (4) EACH, PER RAIL – ONE (1") INCH, OUTSIDE DIAMETER, HOT–DIP GALVANIZED WASHERS, AS SHOWN ABOVE.
4. BARRICADE RAILS SHALL BE SECURED ON POSTS FACING SIDEWALK SECTION / PEDESTRIAN TRAVEL WAY.
5. BARRICADE SHALL BE LOCATED IMMEDIATELY AT END OF THE CONCRETE SIDEWALK.
6. RETROREFLECTIVE TAPE SHALL BE APPLIED IN SIX (6") INCH BANDS SPACED SIX (6") INCHES APART ALTERNATING RETROREFLECTIVE WHITE AND RETROREFLECTIVE RED [RED = BLACK INK ILLUSTRATED ABOVE], PLACED AT A FORTY–FIVE (45°) DEGREE ANGLE TO THE RAIL, AS SHOWN ABOVE.

Engineering Division | Typical End-of-Walkway Barricade | Approved By City Engineer Kevin J. Slovarp | Adopted: 10/30/2014 Revised: 01/01/2023 | STD - 715



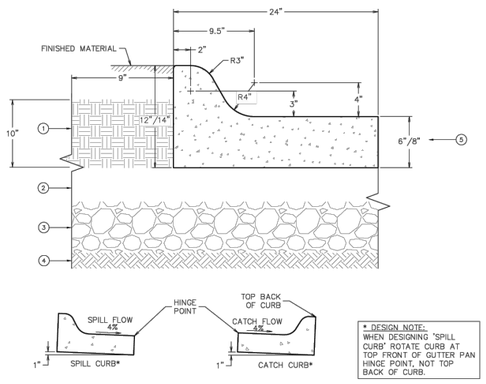
STREET NAME SIGN MATERIAL SPECIFICATIONS:

1. ALUMINUM BLANKS
6" X 18", 24", 30", 36" X .08"
2. MARKINGS SHALL BE PLACED ON ONE SIDE OF SIGN ONLY.
3. TEXT SIZE SPECIFICATION:
3.1. 4" INITIAL UPPERCASE.
3.2. 3" NOMINAL LOOP LOWERCASE – NOT INCLUDING ASCENDING AND/OR DESCENDING TAIL.
3.3. 2" BLOCK NUMBER.
3.4. 2" ROUTE DESIGNATION – ALL CAPS – CENTER WITH BLOCK NUMBER.
4. TWO SIGNS SHALL BE MOUNTED BACK TO BACK ON EITHER SIDE OF THE SIGN POST. 2 SIGNS ARE REQUIRED.
5. GREEN BACKGROUND WITH WHITE TEXT FOR PUBLIC STREETS.
6. WHITE BACKGROUND WITH GREEN TEXT FOR PRIVATE STREETS.
7. PROVIDE "T2000 HWYC" FONT.

STREET NAME SIGN MATERIAL AND SPACING SPECIFICATIONS:

1. ALL STREET NAME SIGNS SHALL COMPLY WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), MOST CURRENT VERSION, REVISION AND/OR SUPPLEMENT, FOR SIGN MATERIAL(S), SIZE, THICKNESS, SHAPE, COLOR(S), MESSAGE, SYMBOLOGY AND RETROREFLECTIVITY.
2. FINAL STREET NAME SIGN LOCATION AND/OR PLACEMENT SHALL BE IN ACCORDANCE WITH THE MUTCD AND AS DETERMINED AND APPROVED BY THE CITY ENGINEER OR SIGN SHOP SUPERVISOR.
3. SPACING BETWEEN EACH SIGN ON A SINGLE POLE SHALL BE NO GREATER THAN 1" AND MUST NOT OVERLAP.
4. ALL OTHER SIGNS SHALL DEFAULT TO MUTCD STANDARDS AND SPECIFICATIONS.

Engineering Division | Typical Street Name Sign Standard | Approved By City Engineer Kevin J. Slovarp | Adopted: 03/15/2006 Revised: 01/01/2023 | STD - 721



KEYED NOTES:

1. IMPERVIOUS FILL MATERIAL (FOR CURB WITH BOULEVARD): SEE CITY OF MISSOULA MODIFICATION TO MPWSS SECTION 02528
2. BASE COURSE: SEE TABLE 7–3 IN MCPWSS AND CITY OF MISSOULA MODIFICATION TO MPWSS SECTIONS 02235 & 02528
3. SUBBASE COURSE: SEE TABLE 7–4 IN MCPWSS AND CITY OF MISSOULA MODIFICAITON TO MPWSS SECTION 02234
4. SUBGRADE: SEE CITY OF MISSOULA MODIFICATION TO MPWSS SECTION 02230 & 02528
5. GUTTER PANS SHALL BE 8 INCHES MINIMUM THICKNESS FROM PC TO PT AT COLLECTOR AND ARTERIAL INTERSECTIONS, ROUNDABOUTS AND SPLITTER ISLANDS, THROUGH COMMERCIAL AND INDUSTRIAL APPROACHES, OR WHERE TRUCK TRAFFIC IS ASSUMED

Engineering Division | Typical "L" Type Curb/Gutter Section | Approved By City Engineer Kevin J. Slovarp | Adopted: 01/30/1980 Revised: 01/01/2023 | STD - 740

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PLOT DATE: 10/5/2023 9:43 AM

REVISIONS | DATE

DESIGNED: AE
DRAFTED: AE
CHECKED: CD
DATE: MAY 2023

LOCATION: 120 GROVE STREET - LOT 42 OF COBEAN & DINMORES ORCHARD HOMES SECTION 19, T.13N., R.19W., P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

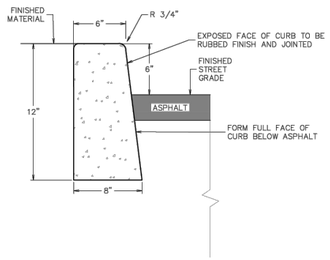
SHEET TITLE: ROAD CONSTRUCTION PLANS DETAIL SHEET

PROJECT NO. 22008967

SHEET: D1 OF D2

STAGE 2

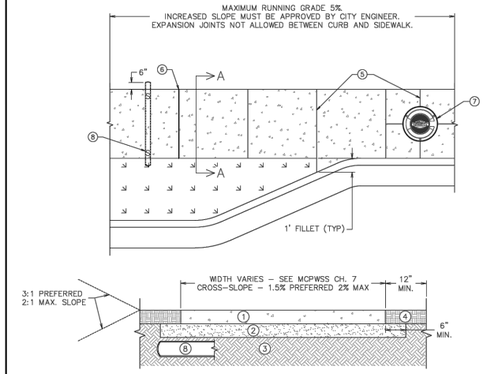
DWG LOCATION: Q:\2022\22008967.000\DESIGN\CIVIL\CSD\PLOTS\D2-S22008967.DWG



GENERAL NOTES:

1. SEE CITY OF MISSOULA STD-740 FOR BASE, SUB BASE, SUB GRADE, FILL MATERIAL, AND EIGHT (8") INCH THICKNESS REQUIREMENTS.
2. "B" TYPE CURB IS SUITABLE FOR SMALL REPLACEMENT SECTIONS WITH "B" CURB ON EITHER END OF THE REPLACEMENT SECTION OR USED FOR LANDSCAPE RETAINING CURB.

MISSOULA Engineering Division	Typical "B" Type Curb Section	Approved By City Engineer Kevin J. Slovarp	Adopted: 04/09/1973 Revised: 01/01/2023	STD - 743

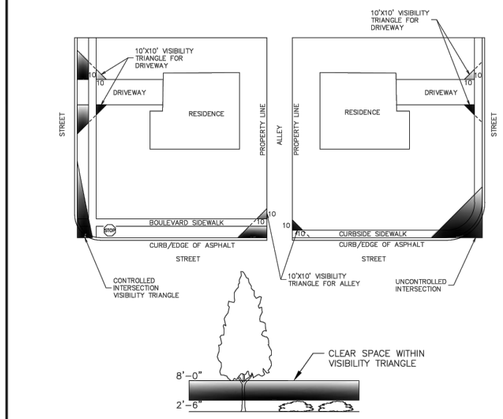


SECTION A–A

KEYED NOTES:

1. SEE MCPWSS CH. 7 FOR SIDEWALK WIDTH & THICKNESS REQUIREMENTS
2. BASE COURSE. SEE CITY OF MISSOULA MODIFICATIONS TO MPWSS SECTIONS 02235 AND 02529
3. SUBGRADE. SEE CITY OF MISSOULA MODIFICATION TO MPWSS SECTION 02230
4. SHOULDER. SEE CITY OF MISSOULA MODIFICATION TO MPWSS SECTION 02529
5. CONTRACTION JOINTS. SEE CITY OF MISSOULA MODIFICATION TO MPWSS SECTION 02529
6. EXPANSION JOINTS. SEE CITY OF MISSOULA MODIFICATION TO MPWSS SECTION 02529
7. ISOLATION JOINTS. FOR USE AROUND OBJECTS WITHIN OR PROTRUDING FROM SIDEWALK (E.G. AROUND MANHOLES LIDS, VALVE BOXES, UTILITY POLES, HYDRANTS, POLE BASES, ETC.)
8. SLEEVE. TYP 4" SCH 40 PVC. MUST BE BELOW BASE AND IN SUBGRADE. EXTEND 6" BEYOND EDGE OF SIDEWALK. STAMP "S" IN THE FINISH SURFACE DIRECTLY ABOVE THE SLEEVE AT BOTH EDGES OF SIDEWALK.

MISSOULA Engineering Division	Typical Sidewalk Section	Approved By City Engineer Kevin J. Slovarp	Adopted: 02/29/1996 Revised: 01/01/2023	STD - 752



GENERAL NOTES:

1. SIGHT VISIBILITY SHALL BE BASED ON CHAPTER 9.5 IN THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.
2. PRIVATE SIGNS, FENCES, WALLS, UTILITY BOXES, STRUCTURES AND VEGETATION OVER 2' 6" IN HEIGHT SHALL NOT BE PERMITTED WITHIN THE VISIBILITY TRIANGLE.
   A. FENCE THAT DOES NOT OBSTRUCT MORE THAN 20% OF THE VISIBILITY (SUCH AS CHAIN LINK) MAY BE ALLOWED WITH CITY ENGINEER APPROVAL.
3. TREES ARE PERMITTED WITHIN THE VISIBILITY TRIANGLE PROVIDED:
   A. NO LIMBS, LEAVES OR OTHER FOLIAGE BELOW 8' ARE PERMITTED.
   B. TREES ARE PLANTED SO AS NOT TO OBSTRUCT MORE THAN 20% OF THE VISIBILITY WHEN COMBINED WITH OTHER OBSTRUCTIONS PRESENT.

ROUNDABOUTS

1. SHALL FOLLOW CURRENT AASHTO RECOMMENDATIONS
2. BE APPROVED BY THE CITY ENGINEER
   2.1. SUBMIT DRAWINGS TO THE CITY ENGINEERING DEPARTMENT FOR EACH ROUNDABOUT DESIGN.

MISSOULA Engineering Division	Visibility Obstructions	Approved By City Engineer Kevin J. Slovarp	Adopted: 06/01/1987 Revised: 01/01/2023	STD - 711

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PLOT DATE: 10/3/2023 9:43 AM

REVISIONS	DATE

DESIGNED: AE
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LOCATION:
120 GROVE STREET - LOT 42 OF
COBEAN & DINMORES ORCHARD HOMES
SECTION 19, T.13N., R.19W., P.M.M.
MISSOULA COUNTY, MONTANA

PREPARED FOR:
ROBERT & EVELYN BEAN AND
COLLIN BANGS & JOHN BARRETT

PROJECT NAME
ORCHARD GROVE SUBDIVISION

SHEET TITLE:
ROAD CONSTRUCTION PLANS
DETAIL SHEET

PROJECT NO.
22008967

SHEET:
D2 OF D2

STAGE 2

DWG LOCATION: G:\2022\22008967.00\DESIGN\CIVIL\CSD\PLOTS\ROAD S2008W1.DWG

AMENDED MEMORANDUM

DATE: May 26, 2023
Amended September 26, 2023

TO: City of Missoula
Public Works & Mobility

FROM: IMEG Corp.
David Friedlander, E.I. (david.m.friedlander@imegcorp.com)

RE: Orchard Grove Subdivision Storm Drainage
Preliminary Storm Drainage Discussion (as part of Stage 2 submittal)

To Whom This Concerns,

As preliminary designs of the Orchard Grove Subdivision occur, we are tasked with evaluating the storm drainage on-site in relation to the pre- and post-development 2-, 10, and 100-year storms. Per the requirements of the Missoula Public Works Manual, we will be proposing to retain the ***entirety of the*** post-development 100-year 24-hour storm event through the use of infiltration and ponds. Our intent is to utilize shallow drywell sumps to infiltrate runoff with minimal ponding in designated ponds in the event of overtopped drywells.

This drainage memo covers proposed impervious coverage in the right-of-way (roads, sidewalks and driveways) and each individual lot. ***This site is conducive to a straight-forward storm water design, as the soils in this area were found – historically and in the site's geotechnical report – to have infiltration rates appropriate for the use of dry well sumps.*** Please refer to Sheet 5 of the preliminary Grading, Drainage, and Road Plans included in Section D of this submittal for information on basin delineation, impervious coverage, general site grading and proposed drywell sump locations.

Groundwater monitoring has been completed in two separate locations for this project to prove adequate separation distance between sumps and groundwater. Based on the monitoring from this Spring 2022, these results show the groundwater at 12.6' below ground at the highest point. As such, standard 8-foot drywell sumps do not meet the minimum 4' separation between groundwater and bottom of sump rock. Consequently, shallow drywell sumps are being proposed for this project and will meet the minimum separation from high groundwater. A 4' shallow drywell sump with 4.5 feet of drain rock underneath 8.5 feet total depth) has adequate separation for the use of shallow drywell sumps. Groundwater monitoring data has been included within this memo as an attachment.

<u>Project Summary</u>
The Orchard Grove Subdivision is a major subdivision which proposes 24 lots to be utilized for residential purposes. Lots are a mix of both single family homes and townhomes. The property is located adjacent to Larkin Wood drive to the north. The site is currently two separate properties that each have 4 addresses for 4 single family residences. The dwellings addressed as 2555 2 Bean Lane, 2505 Larkin Wood Dr, 2507 Larkin Wood Dr, 2509 Larkin Wood Dr, and 2511 Larkin Wood drive will all remain. The homes at 2513 1 Bean Lane, 2513 3 Bean Lane, and 120 S Grove St will all be demolished and redeveloped with the subdivision. The proposed lots will be connected to the City of Missoula water and sewer systems. A road

with a preliminary name of ***Magnolia Drive*** has been proposed within the subdivision. This roadway will have two approaches and connect to Larkin Wood Drive. ***The private portions of this development have been broken up into two drainage basins for purposes of drainage analysis.*** Basin A will encompass Magnolia Drive along with all the lots that will have driveways connecting to it. All stormwater within this basin will be directed a series of shallow drywell sumps within a long narrow retention pond. Basin B encompasses the two lots of the subdivision that will have approaches of off Bean Lane. These lots will share a retention pond that will retain and infiltrate the entirety of the Basin's 100-year 24-hour storm. ***In addition, the Larkin Wood Drive and Bean Lane frontage portions of the project will each represent their own drainage basins. Per conversations with City Engineering, 4' shallow drywell sumps will be used to retain and infiltrate all storm runoff from these portions of the public right-of-way.***

2-, 10-, and 100-Year Storm Calculations

The SCS Curve Number Method was used to calculate the stormwater runoff from both the pre- and post-development 2-, 10-, and 100-year storms. Calculations are attached within this memo to provide a summary of the peak flowrate and total volume for all design storms. The soil for this area is characterized as "Urban", which does not have a soil type associated with it. For the purpose of our calculations, we have used soil Type B to come up with curve numbers. ***An SCS Curve Number (CN) of 61, representing fair condition open space, was used for the pre-development prairie condition of each basin. CNs of 61 and 98 were used for good condition open space (post-development landscaping) and impervious coverage, respectively.*** See below for a table outlining the peak flow and runoff of the pre- and post-development 100-year storm events and refer to the attached calculations for more in depth information on these values. As the proposed storm infrastructure is sized to accommodate the entirety of the 100-year storm without inundating roads or buildings, the 2- and 10-year calculations are not shown in the table below but are included in the attached storm runoff calculations.

	100-year Peak Flow (CFS)	**100-year Volume (CF)**
Pre-Development Basin A	1.170	2808
Post-Development Basin A	2.983	5996
Pre-Development Basin B	***0.332***	***796***
Post-Development Basin B	0.423	945

Stormwater Runoff Mitigation

We have proposed six (6) shallow drywell sumps within Basin A to mitigate the stormwater runoff shown in the table above. We have determined that each sump has the capacity to store approximately 135 cubic feet of water, without taking any infiltration into account. The shallow drywells will be over-excavated and have a larger volume of drain rock to allow for more storage volume. Refer to the typical sump calculation sheet attached with this memo. The 4' minimum separation from groundwater will be maintained with the proposed over-excavation.

Per the attached Geotechnical Report, Allwest Testing found unfactored infiltration rates of 3,649 and 2,150 inches/hour on the northwest and southeast portions of the property, respectively. Conservatively, we used the lower of the two rates and a safety factor of three (3) to come up with a design infiltration rate of 716.7 in/hr for this preliminary drainage memo, which allows for a flowrate

of 1.022 cfs. Infiltration of the 100-year storm has been modeled and the sumps in Basin A should not ever overtop or become inundated during the 100-year, 24-hour event. As such, the road and buildings will not become inundated during the 100-year storm.

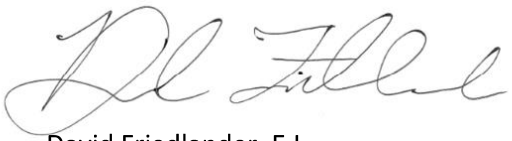
Stormwater runoff within Basin B will be retained in a pond between the two lots. The retention pond will have capacity to store and infiltrate the 945 ft^3 of runoff volume from the 100-year storm. ***This pond will be 19' X 42' with a depth of 2' and 3:1 side slopes.*** Lots will be graded to ensure that all stormwater is directed into the pond. See the attached pond sizing calculations for details on the sizing of the pond.

Two (2) 4' shallow drywell sumps are proposed in the Larkin Wood Drive right-of-way to retain and infiltrate any increase in storm runoff there. One of the sumps is proposed at the proposed low point of Larkin Wood Drive. This sump would drain approximately 8,500 ft^2 of impervious area (assuming all of the Larkin Wood Drive right-of-way fronting the proposed site would drain to it). The other Larkin Wood Drive sump would be proposed at the site's northwest corner of the Larkin Wood Drive frontage. In the proposed conditions, this sump would only drain approximately 3,300 ft^2 of impervious area, but, in the instance that Larkin Wood Drive gets improved to the west of our proposed site, it would be positioned to take on additional runoff. One (1) 4' shallow drywell sump is proposed at the north end of the project's Grove Street frontage. Assuming it drains the entire width of Grove Street on the project's frontage, the sump would drain approximately 6,500 ft^2 of impervious area. With the measured design infiltration rate discussed above for this project, all proposed right-of-way sumps would have ample capacity to capture and infiltrate the storm runoff generated by the entirety of these right-of-way basins.

Attachments:

- Groundwater Monitoring Results
- Pre- and Post-Development 2-, 10-, and 100-Year Storm Runoff Calculations
- Sump Overflow Volume Calculation
- Typical Sump Volume Calculation
- Pond Sizing Calculation
- Revised Geotechnical Report, dated 9/26/23
- Preliminary Road, Grading, and Drainage Construction Plans (attached separately)

Prepared By:
IMEG Corp.,



David Friedlander, E.I.

\\files\Active\Projects\2022\22008967.00\Design\Civil\CC07 ENG DESIGN\5_DEQ8 (Storm Drainage)\AmendedMemo.2023-09-26.CityMsla.Stage 2.Drainage Larkin Wood.docx

Bean Grove St Development
Groundwater Monitoring

	Mon. Well #1			Mon. Well #2		
Height from EG to Top of Pipe (ft)	2.4200			2.2500		
Total Depth (ft)	19.0800			19.8300		
Date	GW to top of pipe (ft)	GW to EG (ft)	Soil Condition	GW to top of pipe (ft)	GW to EG (ft)	Soil Condition
4/5/2022	20.6	18.2	Wet	21.7	19.5	Wet
4/12/2022	20.5	18.1	Wet	21.6	19.4	Wet
4/19/2022	21.0	18.6	Wet	22.1	19.9	Wet
4/26/2022	21.4	19.0	Wet	22.0	19.8	Wet
5/3/2022	20.8	18.4	Wet	21.9	19.7	Wet
5/10/2022	18.5	16.1	Wet	19.9	17.7	Wet
5/17/2022	18.2	15.8	Wet	19.3	17.1	Wet
5/24/2022	17.7	15.3	Wet	18.8	16.6	Wet
5/31/2022	16.6	14.2	Wet	17.6	15.4	Wet
6/7/2022	15.7	13.3	Wet	16.8	14.6	Wet
6/14/2022	15.1	12.7	Wet	16.16	13.9	Wet
6/21/2022	15.05	12.6	Wet	16.1	13.9	Wet
6/28/2022	15.55	13.13	Wet	16.6	14.35	Wet
7/5/2022	15.95	13.53	Wet	17.02	14.77	Wet
7/12/2022	16.4	13.98	Wet	17.4	15.15	Wet

TERRITORIAL LANDWORKS, INC.
CIVIL ENGINEERING • SURVEYING • LAND USE CONSULTING
www.TerritorialLandworks.com
P.O. Box 3851
Missoula, MT 59806
Ph: 406721-0142
Fax: 406721-3224

PLOT DATE: 2/10/2022 2:47 PM

REVISIONS DATE

DESIGNED:
DRAFTED: DO
CHECKED: PF
DATE: 8/8/2019

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINSMORES ORCHARD HOMES SECTION 19, T13N., R19W., P.M.M. MISSOULA COUNTY

PREPARED FOR: BEAN/EDGELL/BANGS

PROJECT NAME: LARKENWOOD DEVELOPMENT

SHEET TITLE: GROUNDWATER AND INFILTRATION EXHIBIT

PROJECT NO. 19-5397

SHEET: 1 OF 1

PRELIMINARY

DWG LOCATION: O:\MISSOULA\1JOBS\ACTIVE BUILD 2019 PROJECTS 2019\ 19-5397 - BEAN GROVE ST DEVELOPMENT\6_DRAFTING\6.1_DRAWINGS\AUTOCAD\CIES\2021\19-5397 - SUBDIVISION 2 WOONERF.DWG

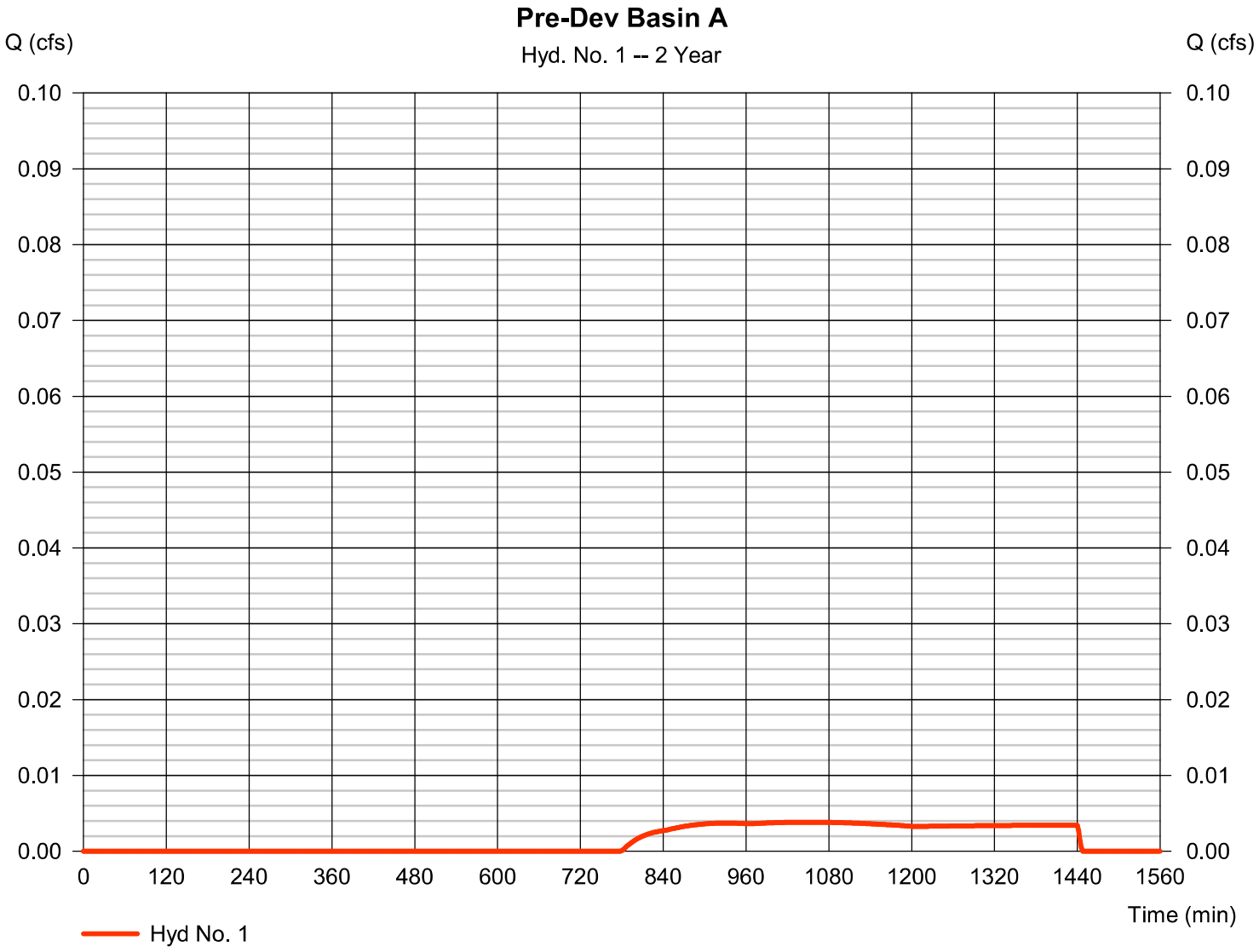
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Tuesday, 09 / 26 / 2023

Hyd. No. 1

Pre-Dev Basin A

Hydrograph type	= SCS Runoff	Peak discharge	= 0.004 cfs
Storm frequency	= 2 yrs	Time to peak	= 1050 min
Time interval	= 2 min	Hyd. volume	= 134 cuft
Drainage area	= 2.540 ac	Curve number	= 69
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 1.17 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



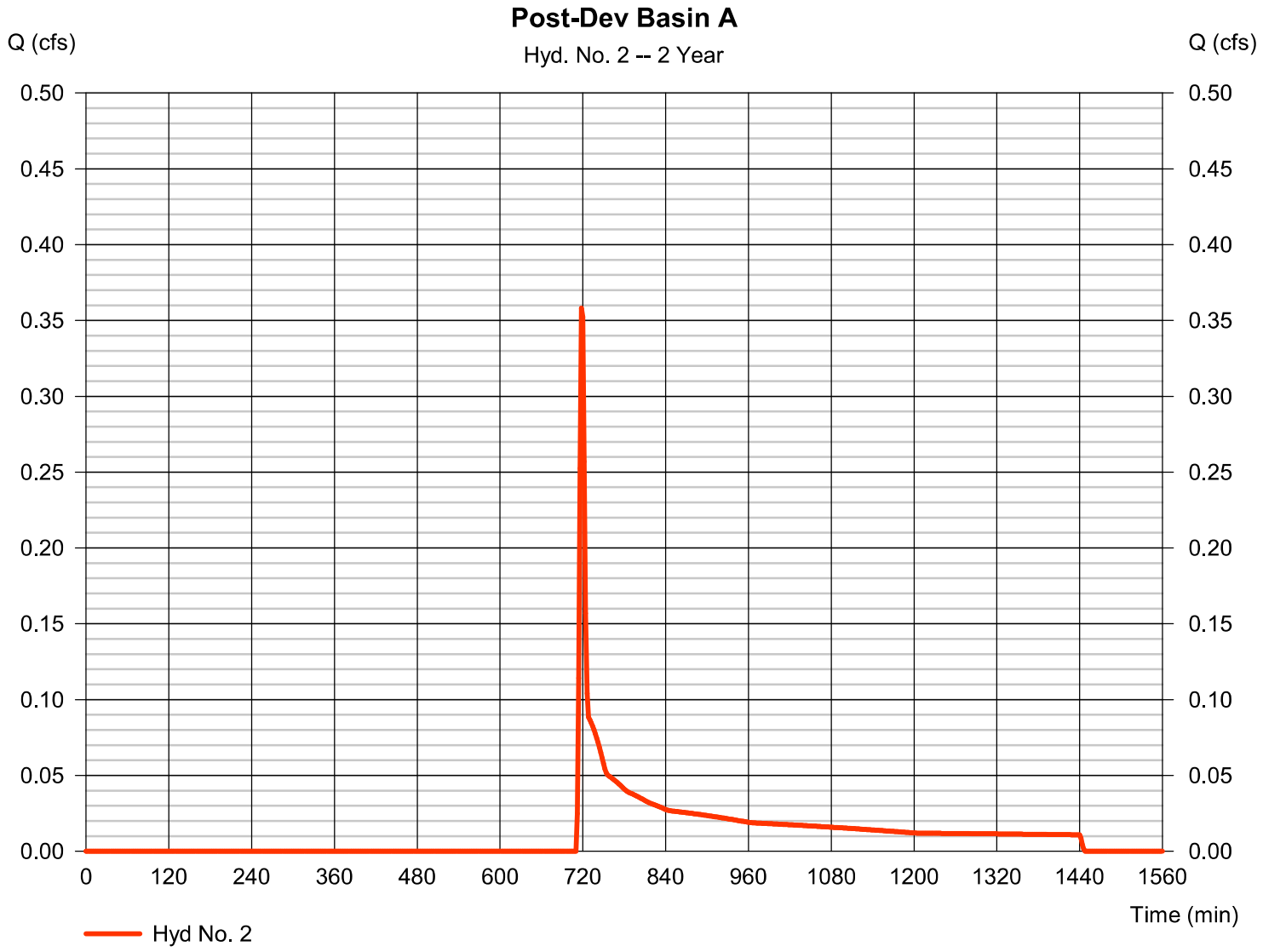
Hydrograph Report

Hyd. No. 2

Post-Dev Basin A

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.358 cfs
Storm frequency	=	2 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	1,068 cuft
Drainage area	=	2.540 ac	Curve number	=	79*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	1.17 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.210 x 98) + (1.330 x 61)] / 2.540



Hydrograph Report

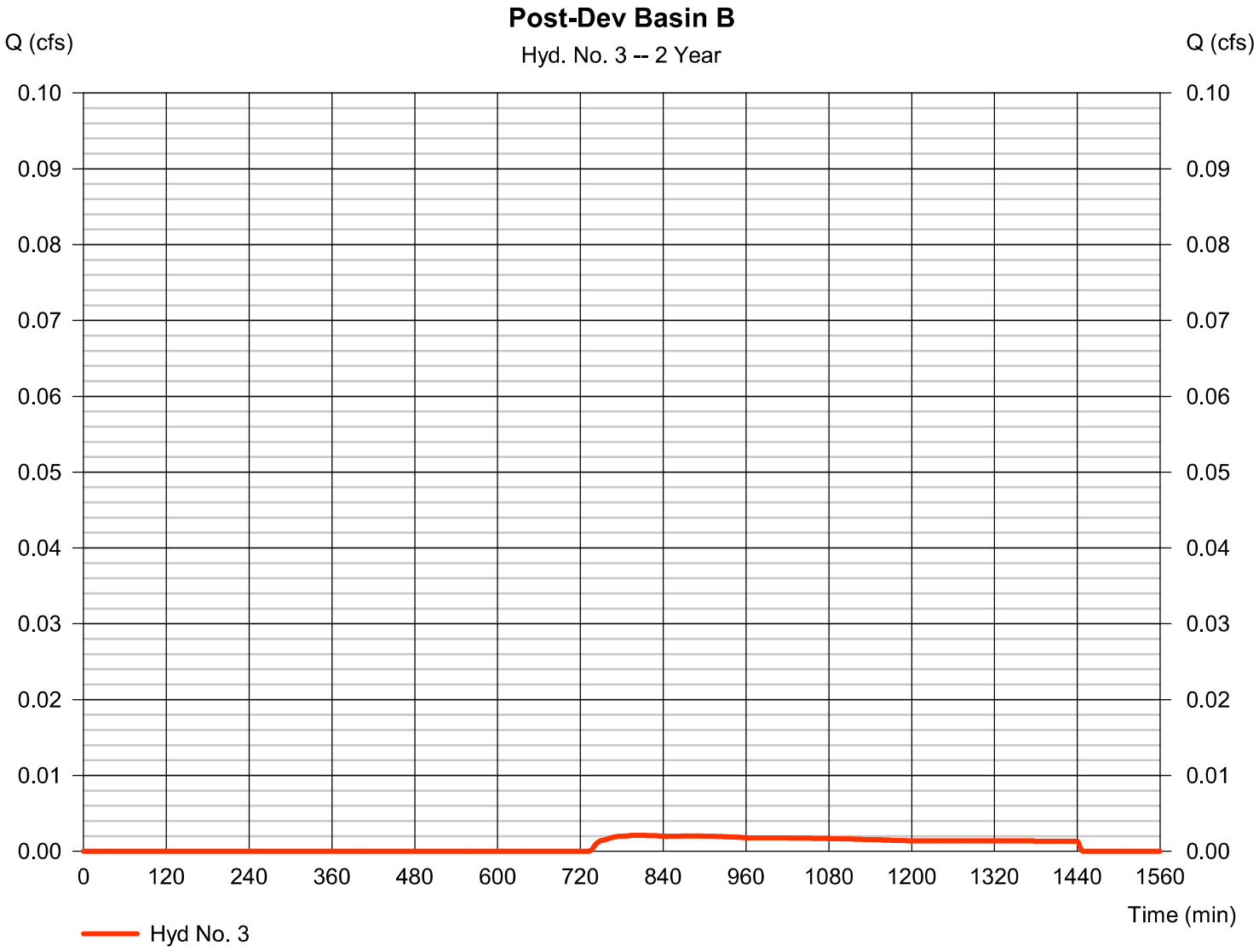
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Tuesday, 09 / 26 / 2023

Hyd. No. 3

Post-Dev Basin B

Hydrograph type	= SCS Runoff	Peak discharge	= 0.002 cfs
Storm frequency	= 2 yrs	Time to peak	= 804 min
Time interval	= 2 min	Hyd. volume	= 69 cuft
Drainage area	= 0.720 ac	Curve number	= 71*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 1.17 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.200 x 98) + (0.520 x 61)] / 0.720



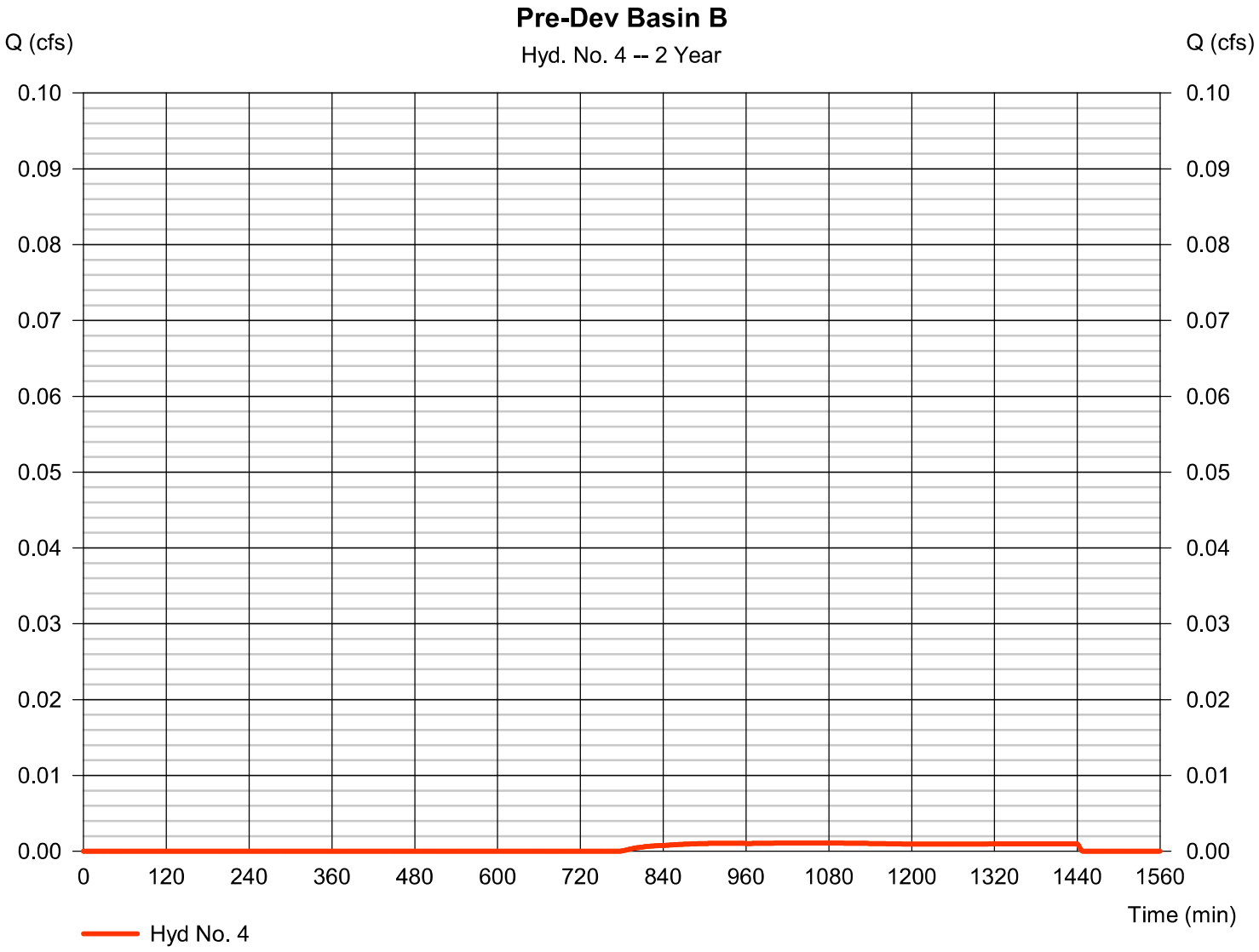
Hydrograph Report

Hyd. No. 4

Pre-Dev Basin B

Hydrograph type	= SCS Runoff	Peak discharge	= 0.001 cfs
Storm frequency	= 2 yrs	Time to peak	= 1050 min
Time interval	= 2 min	Hyd. volume	= 38 cuft
Drainage area	= 0.720 ac	Curve number	= 69*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 1.17 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.200 x 98) + (0.520 x 61)] / 0.720

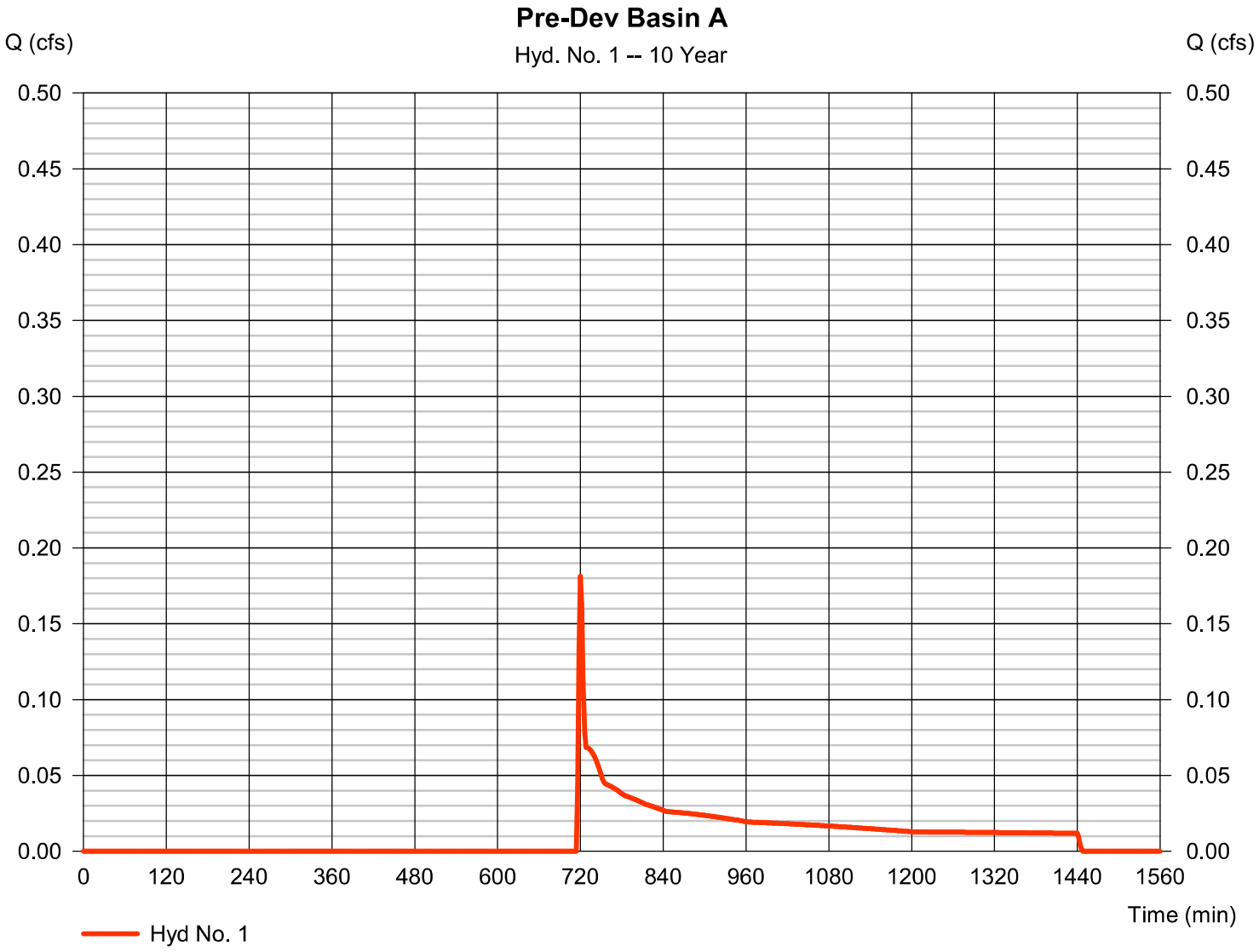


Hydrograph Report

Hyd. No. 1

Pre-Dev Basin A

Hydrograph type	= SCS Runoff	Peak discharge	= 0.181 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 950 cuft
Drainage area	= 2.540 ac	Curve number	= 69
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 1.66 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



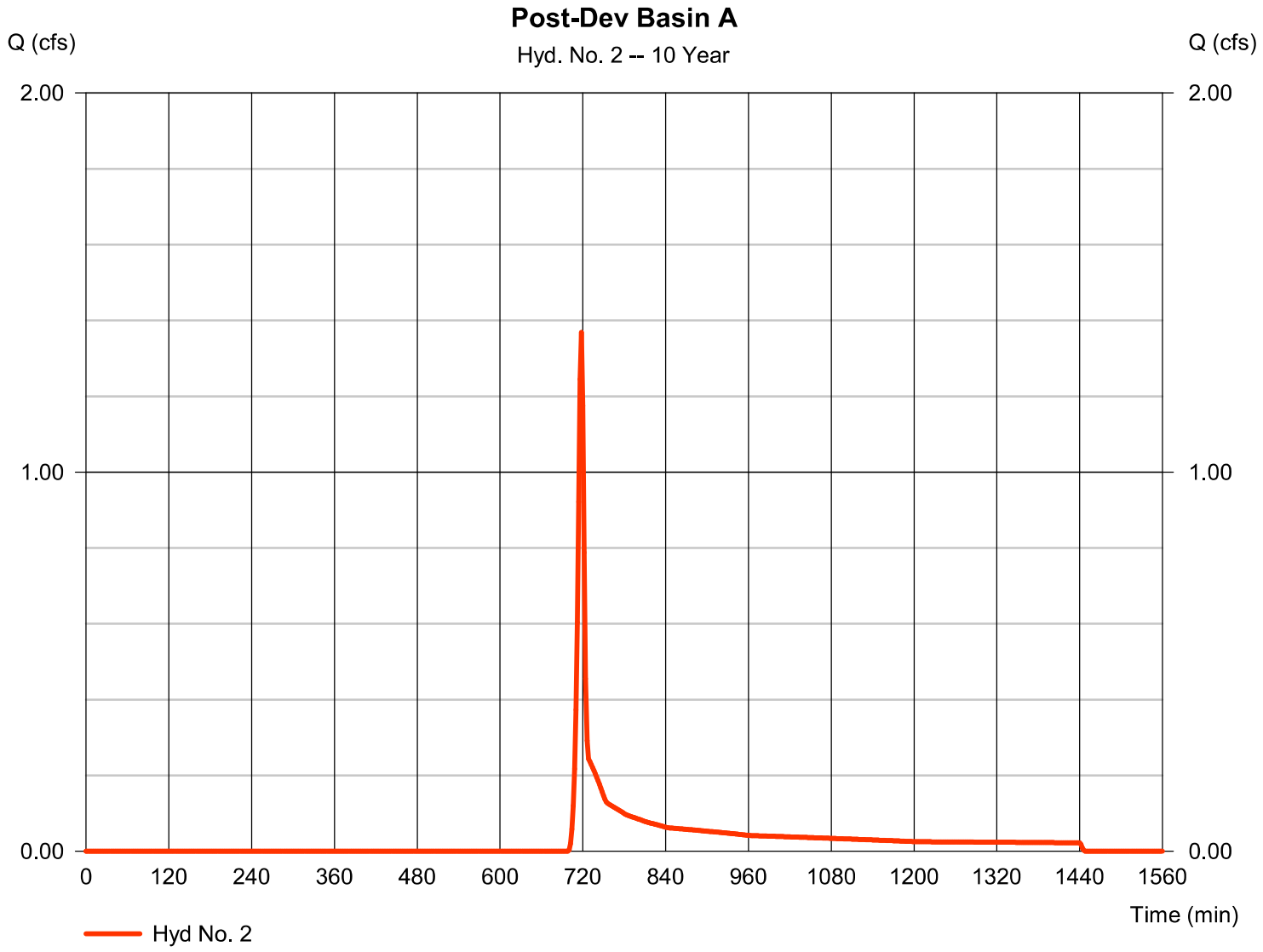
Hydrograph Report

Hyd. No. 2

Post-Dev Basin A

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.369 cfs
Storm frequency	=	10 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	2,906 cuft
Drainage area	=	2.540 ac	Curve number	=	79*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	1.66 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.210 x 98) + (1.330 x 61)] / 2.540



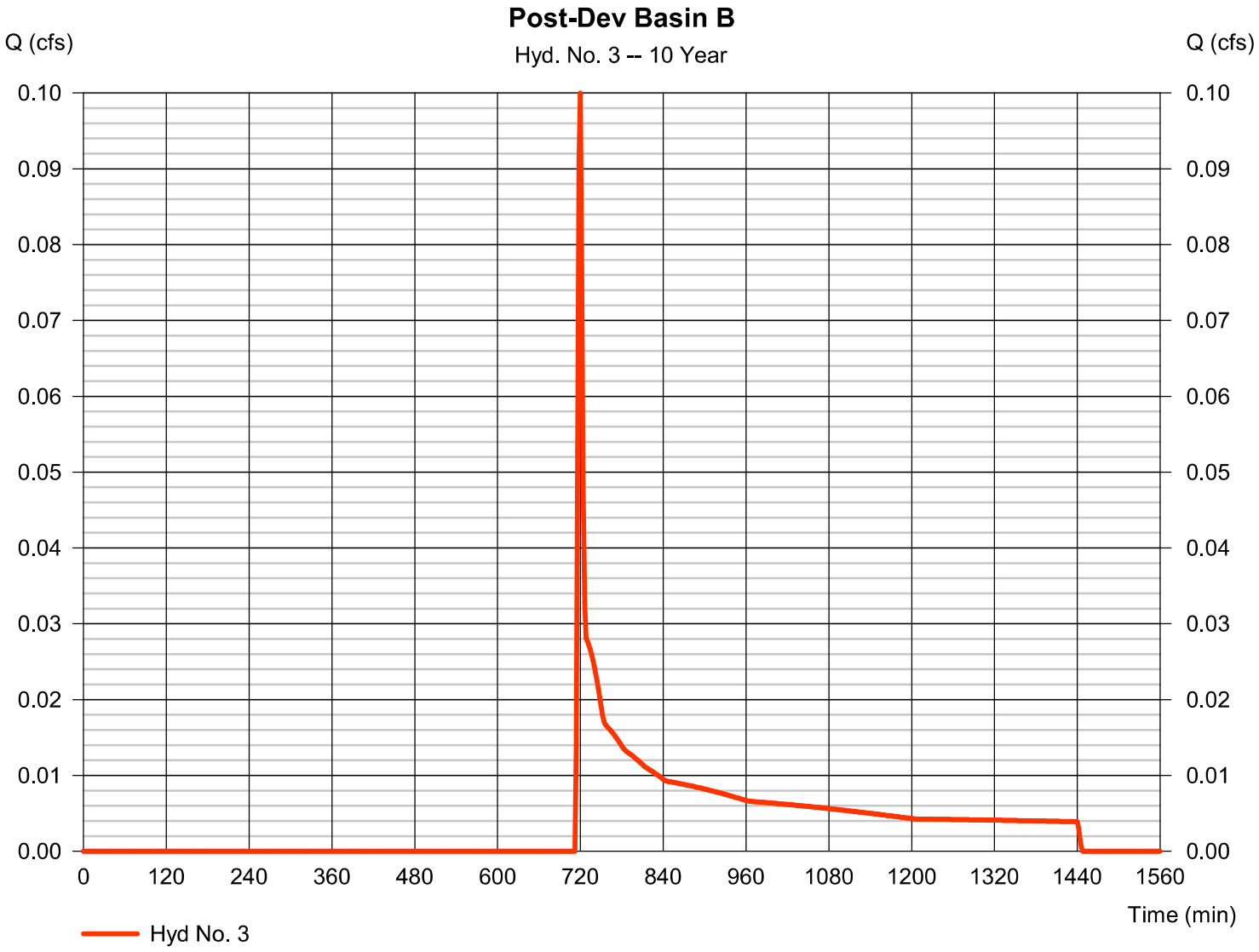
Hydrograph Report

Hyd. No. 3

Post-Dev Basin B

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.100 cfs
Storm frequency	=	10 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	353 cuft
Drainage area	=	0.720 ac	Curve number	=	71*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	1.66 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.200 x 98) + (0.520 x 61)] / 0.720



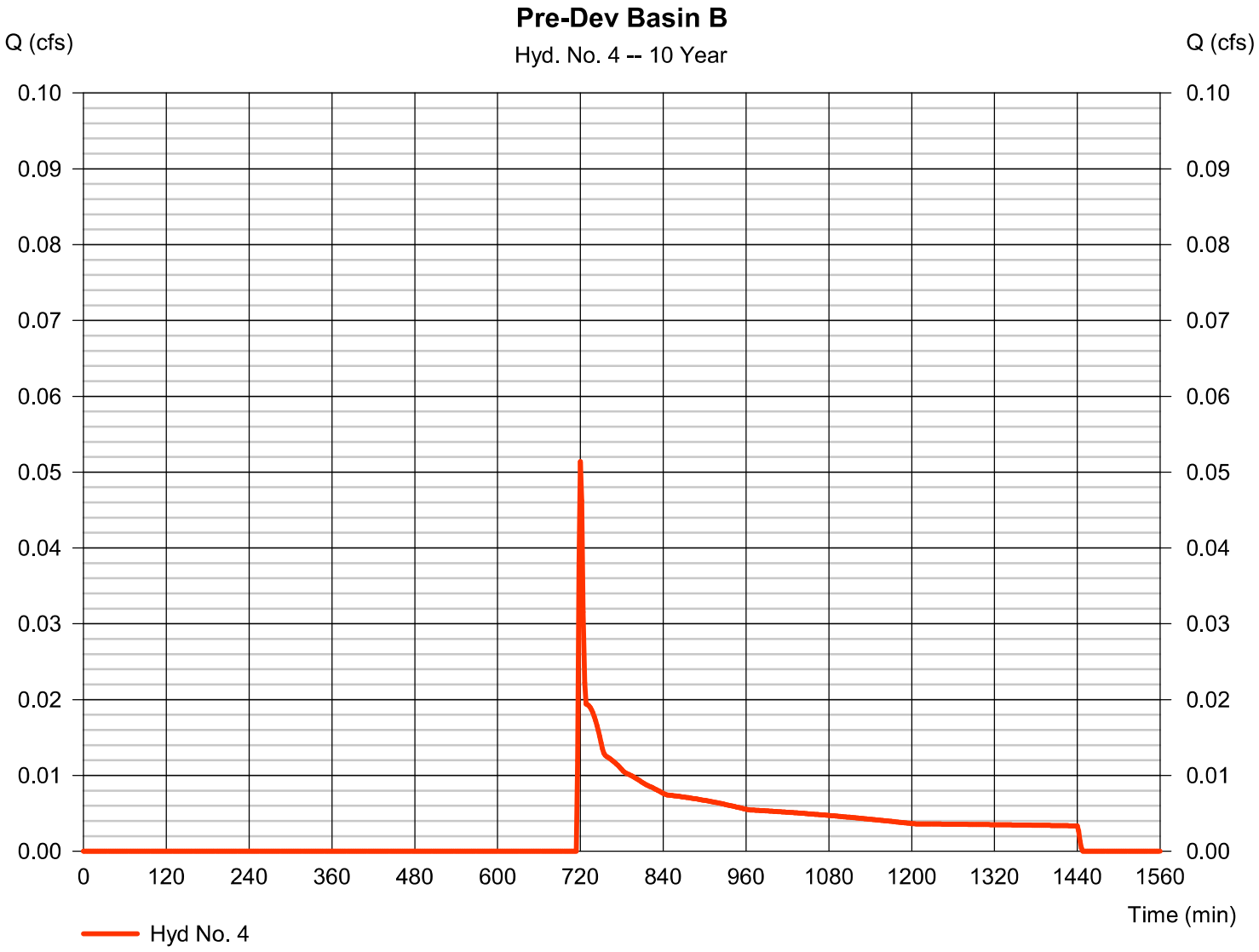
Hydrograph Report

Hyd. No. 4

Pre-Dev Basin B

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.051 cfs
Storm frequency	=	10 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	269 cuft
Drainage area	=	0.720 ac	Curve number	=	69*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	1.66 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.200 x 98) + (0.520 x 61)] / 0.720

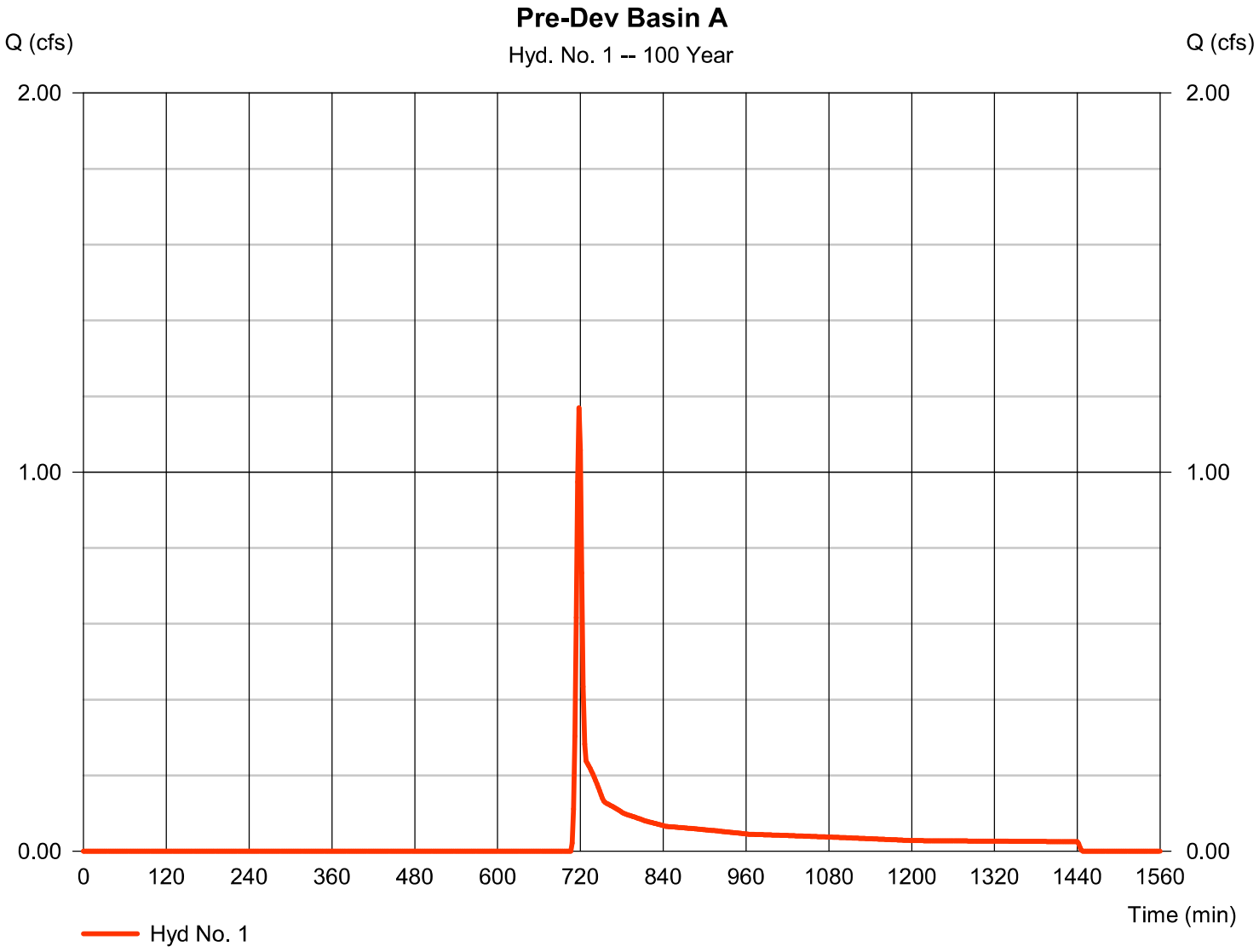


Hydrograph Report

Hyd. No. 1

Pre-Dev Basin A

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.170 cfs
Storm frequency	=	100 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	2,808 cuft
Drainage area	=	2.540 ac	Curve number	=	69
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.28 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



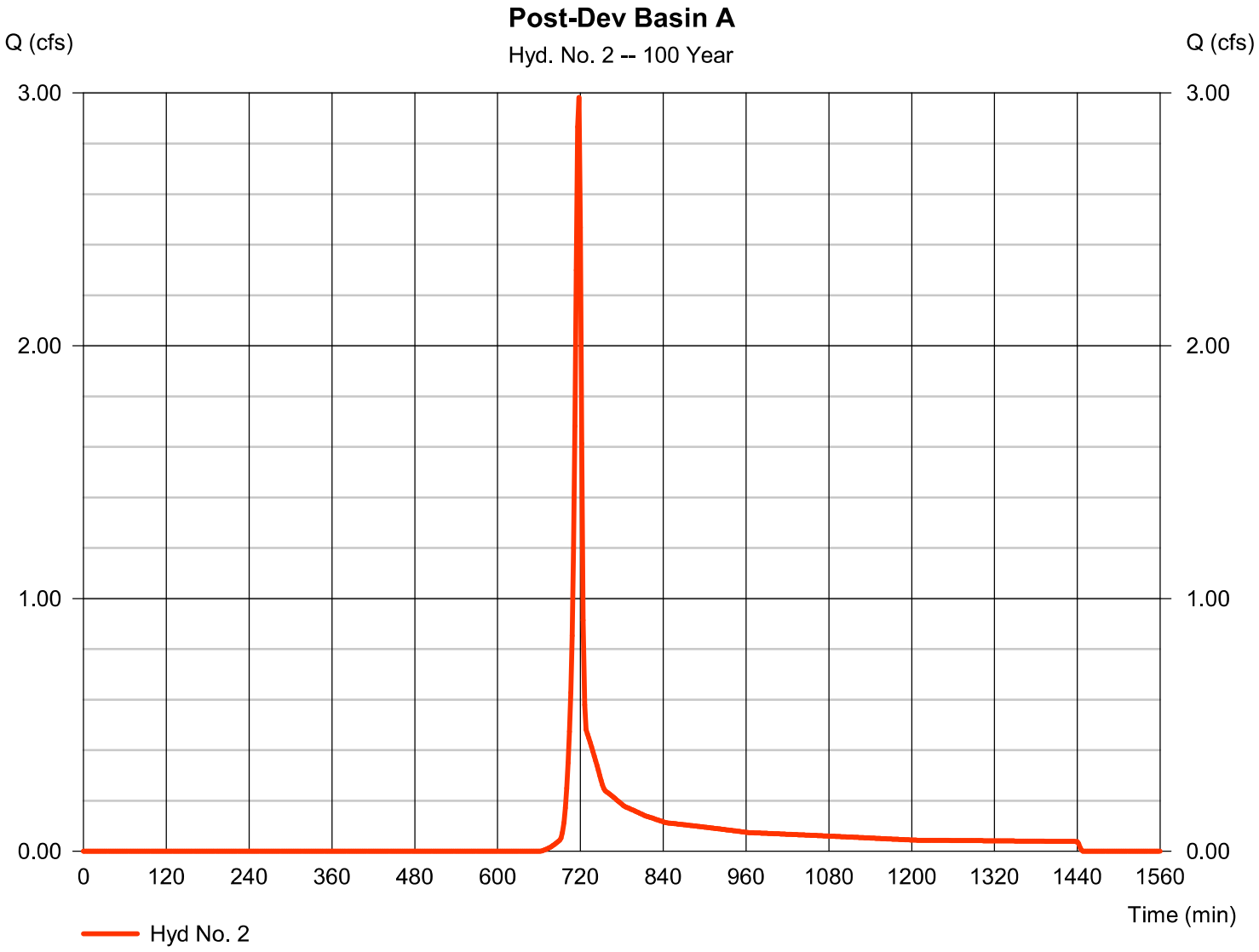
Hydrograph Report

Hyd. No. 2

Post-Dev Basin A

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.983 cfs
Storm frequency	=	100 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	5,996 cuft
Drainage area	=	2.540 ac	Curve number	=	79*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.28 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.210 x 98) + (1.330 x 61)] / 2.540



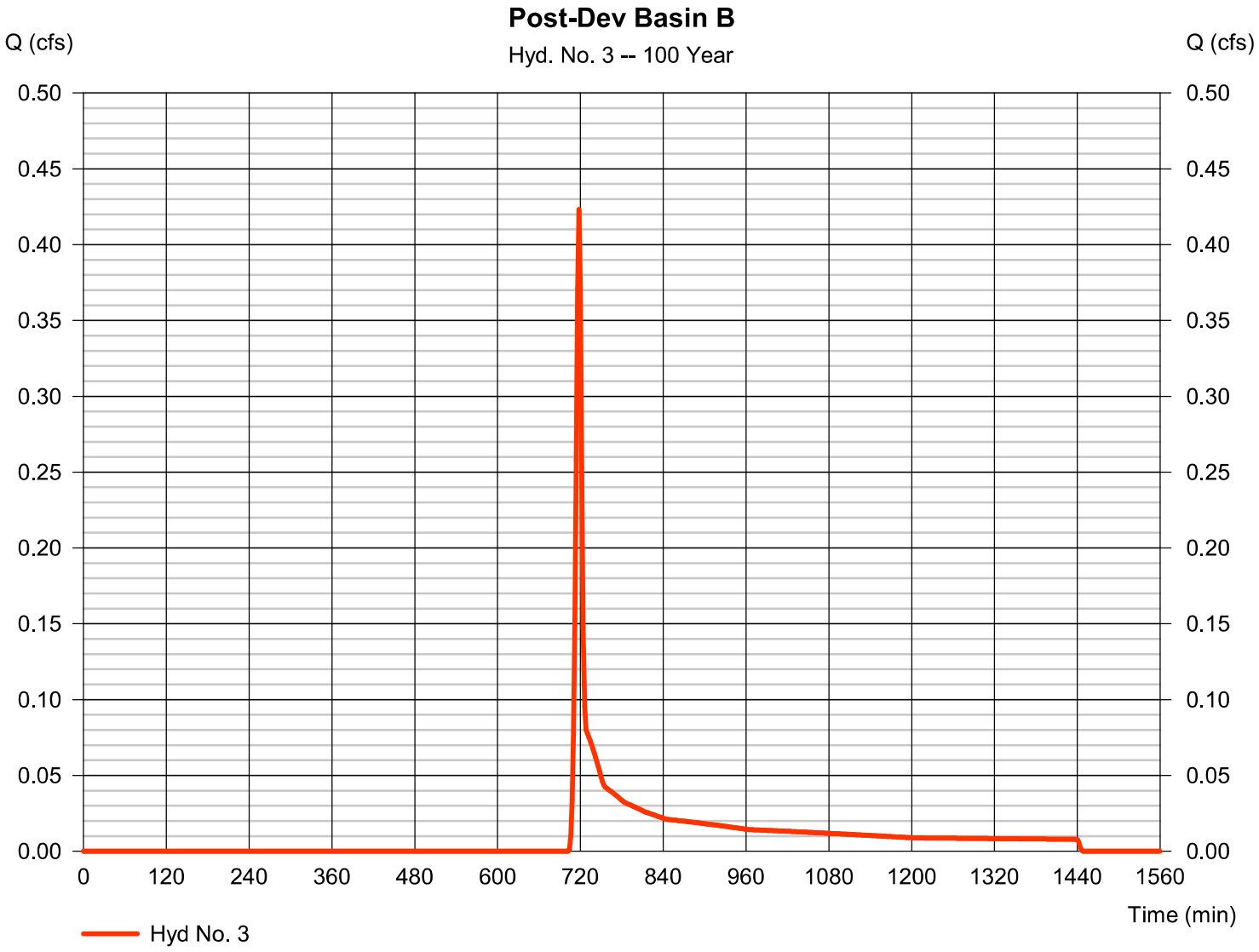
Hydrograph Report

Hyd. No. 3

Post-Dev Basin B

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.423 cfs
Storm frequency	=	100 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	945 cuft
Drainage area	=	0.720 ac	Curve number	=	71*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.28 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.200 x 98) + (0.520 x 61)] / 0.720



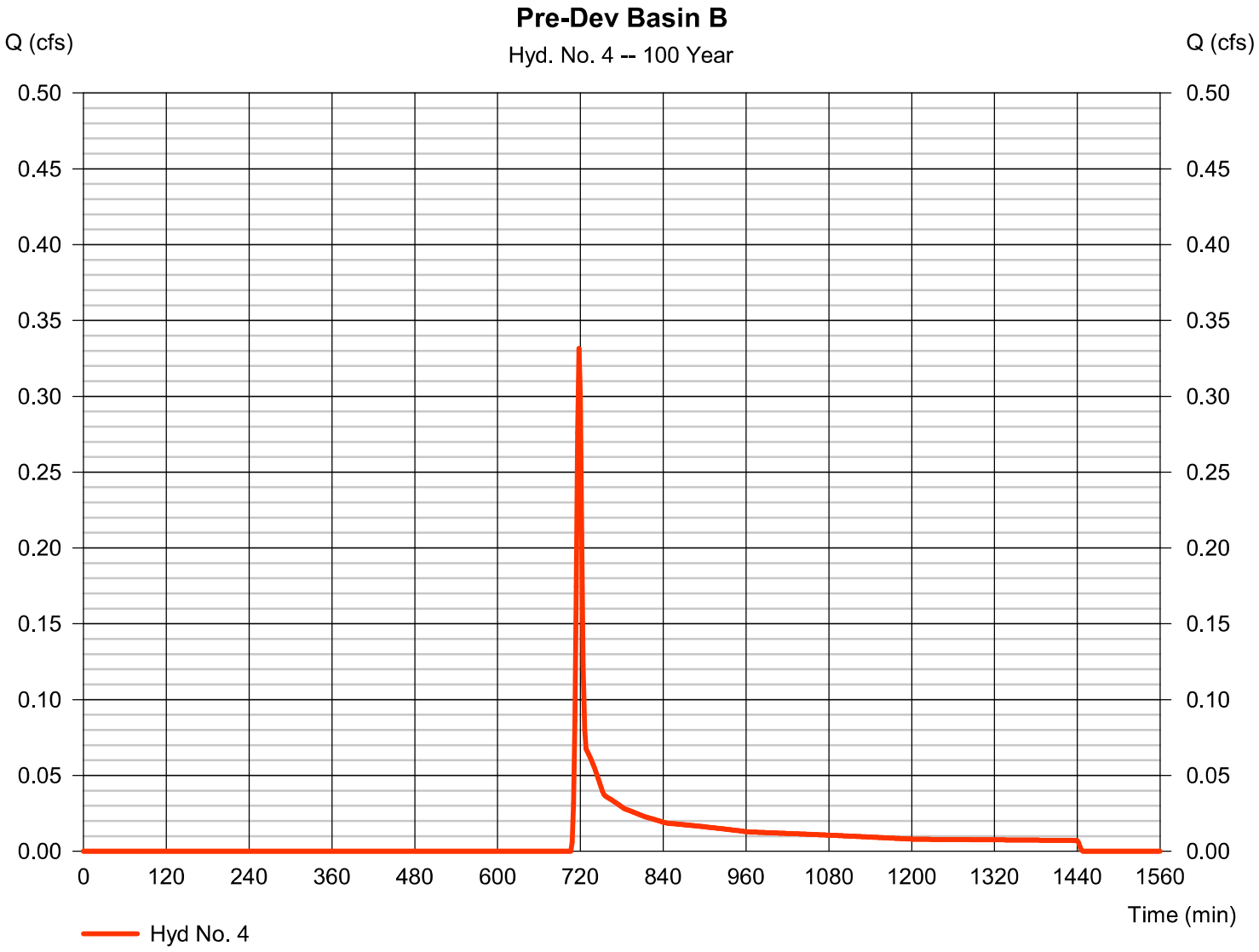
Hydrograph Report

Hyd. No. 4

Pre-Dev Basin B

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.332 cfs
Storm frequency	=	100 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	796 cuft
Drainage area	=	0.720 ac	Curve number	=	69*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.28 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.200 x 98) + (0.520 x 61)] / 0.720



Basin A Drywell Sump Stormwater Runoff Overflow Calculation

Time Intervals Where Runoff Exceeds Sump Infiltration		
Time (min)	Q (cfs)	Volume (cf)

Infiltration Flow Rate Per Sump	1.022	cfs
Total Sump Infiltration Flow Rate	6.132	cfs
Peak Flow Rate	2.98	cfs
Number of Sumps in Basin	6	EA
Typical Sump Storage Volume	810	cf
Total Excess Runoff Volume	0	cf
Total Sump Overflow Volume	**-810**	cf

IMEG Corp.
(406) 721-0142

P.O. Box 3851
Missoula, MT 59806

Storage Capacity of a Typical Drywell Sump

Project Name: Orchard Grove Subdivision
Project # : 22008967
Date: 5/3/2023

Drain Rock Void Ratio [R_{void}] 0.3 void ratio *(from DEQ-8)*

Calculate Volumes/Areas of Infiltration Drywell

Zone 3

$$V_3 = \frac{1}{3} * H_3 \left[\left(\pi * \left(\frac{B_2}{2} \right)^2 \right) + \left(\pi * \left(\frac{B_4}{2} \right)^2 \right) + \left(\sqrt{\left(\pi * \left(\frac{B_2}{2} \right)^2 \right) * \left(\pi * \left(\frac{B_4}{2} \right)^2 \right)} \right) \right]$$

V = 29.32153 cubic feet

Zone 2

$$V_2 = \left[\left(R_{void} * \pi * \left(\frac{B_{1+2+3}}{2} \right)^2 \right) - \left(R_{void} * \pi * \left(\frac{B_2}{2} \right)^2 \right) + \left(\pi * \left(\frac{B_2}{2} \right)^2 \right) \right] * H_2$$

V = 0.00000 cubic feet

Zone 1

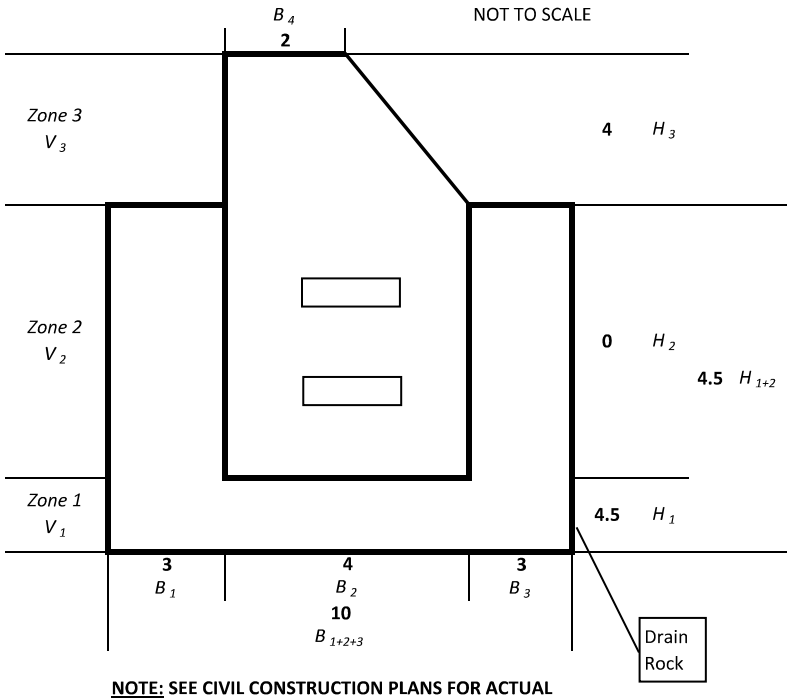
$$V_1 = \left[R_{void} * \pi * \left(\frac{B_{1+2+3}}{2} \right)^2 \right] * H_1$$

V = 106.02875 cubic feet

Total Volume

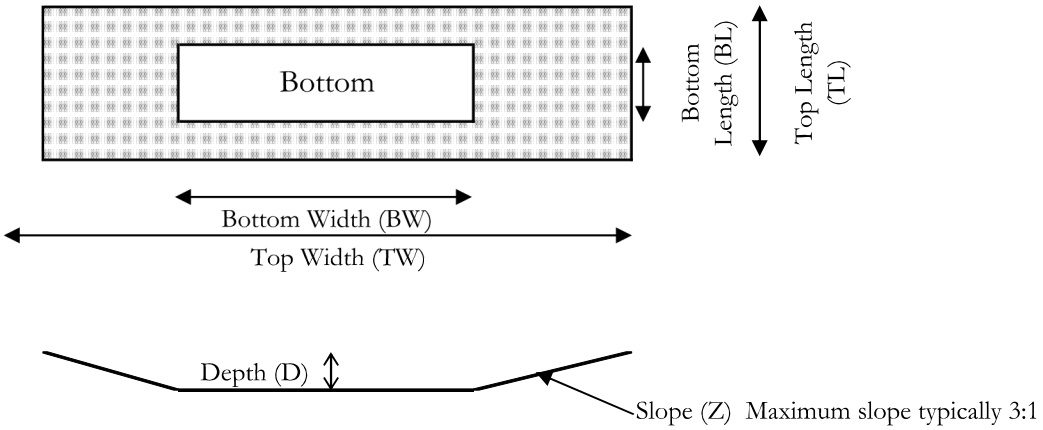
$V_{total\ per\ sump} = V_1 + V_2 + V_3$

$V_{total\ Per\ sump}$ = 135.4 cubic feet *(storage volume of 1 sump)*



NOTE: SEE CIVIL CONSTRUCTION PLANS FOR ACTUAL CONSTRUCTION DIMENSIONS FOR DRYWELL DETAIL BASED ON THESE CALCULATIONS

Volume Calculation Area Larkin Wood - Basin B
For a Square or Rectangular Flat Bottom and Top pit



VOLUME CALCULATION FORMULA

$$V = \frac{[4 \times Z^2 \times D^3]}{3} + [Z \times BL \times D^2] + [Z \times BW \times D^2] + [BW \times BL \times D]$$

	1	2	3	4	5	6	7	8
Dimension Option	**BW**	**BL**	**D**	**Z**	**TW**	**TL**	**Volume (ft3)**	**Volume (gallons)**
Area 1- Pond	7	30	2	3	19	42	960	7,181

Total Volume Pond =	960	ft^3
Total Volume Required* =	945	ft^3

*Total volume required from Post-Developed Runoff of 24-hr 100-year storm

September 26, 2023

Ms. Tamara Ross
IMEG Consultants Corp.
1817 South Avenue West, Suite A
Missoula, Montana 59801

RE: Revised Geotechnical Evaluation
Orchard Grove Subdivision
2500 Block Larkinwood Drive West
Missoula, Montana
ALLWEST Project No. 723-026G

Ms. Ross,

ALLWEST has completed the following revised geotechnical evaluation for the proposed Orchard Grove residential subdivision to be located on the south side of the 2500 block of Larkinwood Drive West in Missoula, Montana. The purpose of this evaluation was to characterize the soil and geologic conditions on the property. The attached report presents the results of the field evaluation and our recommendations to assist with design and construction of the proposed project.

We appreciate the opportunity to provide these services to you on this project. If you have any questions or need additional information, please call us at (406) 206-5911.
Sincerely,

ALLWEST

Prepared by:

Andrew Warren. P.E.
Senior Geotechnical Engineer

Reviewed by:

Shawn Turpin, P.E.
Senior Geotechnical Engineer

GEOTECHNICAL EVALUATION
ORCHARD GROVE SUBDIVISION
2500 BLOCK LARKINWOOD DRIVE WEST
MISSOULA, MONTANA
ALLWEST PROJECT NO. 723-026G

September 26, 2023

Prepared for:
Ms. Tamara Ross
IMEG Consultants Corp.
1817 South Avenue West, Suite A
Missoula, Montana 59801

Prepared by:
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ALLWEST

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APPENDICES

Appendix A –
- Vicinity Map (Figure A-1)
- Test Pit Location Map (Figure A-2)

Appendix B –
- Test Pit Logs
- Unified Soil Classification System

Appendix C –
- Laboratory Test Results

EXECUTIVE SUMMARY

ALLWEST has completed the authorized geotechnical evaluation for the proposed Orchard Grove Subdivision project located on the south side of the 2500 block of Larkinwood Drive West in Missoula, Montana. The general location of the project is shown on the Vicinity Map, Figure A-1, in Appendix A of this report. The purpose of the evaluation was to assess the subsurface conditions throughout the project site with respect to the proposed design and construction. This report details the results of the field evaluation and presents recommendations to assist in the design and construction of the proposed development. A summary of geotechnical considerations follows:

- The general subsurface soil profile observed in the test pits consisted of topsoil covering varying thicknesses of sandy silt. Poorly graded gravel with sand and cobbles was generally observed below the silt to the maximum depth explored, approximately 10 feet.

- The proposed structures can be supported on conventional spread footings bearing on a properly prepared subgrade consisting of undisturbed natural gravel or minimum of 12 inches of compacted granular structural fill where competent gravel is not present at the foundation elevations. Spread footings supported on a properly prepared subgrade as detailed herein may be designed for an allowable bearing pressure of 2,500 psf.

- Pavement sections consisting of 3 inches of asphalt over 6 inches of base course and 3 inches of asphalt over 8 inches of base course are recommended for use on local asphalt streets and minor collector roadways, respectively.

- This geotechnical evaluation was prepared based on preliminary plans that were made available at the time of exploration. The geotechnical engineer must be informed of future changes to the site layout, proposed structure locations/layout, and/or loading criteria that differ from the assumptions stated in this report.

Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. If we are not retained to provide required construction observation and materials testing services, we cannot be responsible for soil engineering related construction errors or omissions. This summary should be used in conjunction with the entire report for design purposes. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The report section titled *10.0 EVALUATION LIMITATIONS* should be read for an understanding of the report limitations.

1.0 SCOPE OF SERVICES

To complete this geotechnical evaluation, ALLWEST accomplished the following scope of services:

1) Performed a field evaluation by observing the excavation of five test pits throughout the project site. Subsurface conditions observed in the test pits were described and visually classified, and the subsurface profiles were logged.

2) Performed infiltration testing at two test pit locations in accordance with Appendix 6-F of the current City of Missoula Public Works Standards and Specifications Manual.

3) Performed laboratory tests on soil samples to assess the appropriate engineering soil properties and characteristics for the proposed development.

4) Performed engineering analyses and prepared recommendations to assist project planning, design, and construction.

Services were provided in general accordance with ALLWEST's proposal 723-026P dated April 28, 2023.

2.0 PROJECT DESCRIPTION

The project will consist of the development of approximately 3 acres into a subdivision containing a variety of residential units. Preliminary drawings provided by IMEG Consultants Corp. (IMEG) indicate the property will be divided into 26 individual lots. Stormwater is planned to be managed on-site.

An asphalt paved street will connect the various lots to Larkinwood Drive West or Grove Street. Preliminary anticipated traffic conditions were not available to ALLWEST at the time the report was prepared. However, based on the type of development proposed, a mixture of passenger car and occasional delivery vehicle traffic is anticipated.

Site grading plans were not provided to ALLWEST at the time of report preparation, but it is assumed that cut on the order of 2 feet or less is anticipated for construction of the structures and associated foundations. Fill above existing grades is anticipated to be 2 feet or less to match surrounding site contours and to provide positive drainage away from the new structures.

3.0 EVALUATION PROCEDURES

To complete this evaluation, ALLWEST reviewed soil and geologic literature for the project area. Subsurface conditions were evaluated at the site by excavating five test pits at the project site on May 23, 2023. The test pits were excavated using a track-mounted Sany SY5OU mini-excavator equipped with a 30-inch soil excavation bucket. Approximate locations of the test pits are shown on Figure A-2, Test Pit Location Map in Appendix A.

Prior to mobilization, Montana 811 was contacted to request the location and clearance of public underground utilities. Observation of the site was also performed to determine possible access limitations to proposed exploration locations prior to excavation.

Disturbed grab and bulk samples representative of soil conditions from select locations were obtained from excavation spoils.

Subsurface conditions observed in the test pits were visually described and classified in general accordance with ASTM D2488 and the subsurface profiles were logged by an ALLWEST geotechnical engineer. Detailed descriptions of the soil observed in the test pits are presented on the test pit logs found in Appendix B of this report. The descriptive soil terms used on the test pit logs, and in this report, can be referenced by the Unified Soil Classification System (USCS). A summary of the USCS is included in Appendix B.

4.0 SITE CONDITIONS

The project site consists of a residential neighborhood bordered by Larkinwood Drive West to the north, South Grove Street to the west, North Reserve Street to the east, and additional residential development to the south. The existing site topography is relatively flat, with less than five feet of elevation difference across the development. To the south, however, the site does increase in elevation several feet.

4.1 GENERAL GEOLOGIC CONDITIONS

The site is in an area mapped as Quaternary alluvium of modern channels and flood plains (Qal) by the Montana Bureau of Mines and Geology (MBMG). Based on the mapping and previous experience at nearby project sites, soil and geologic conditions in the site vicinity were expected to consist of gravel and sand with cobbles and boulders and occasional layers of silt or clay. The natural soils observed in the test pits were generally consistent with the MBMG geologic mapping and assumptions made by ALLWEST.

4.2 SEISMICITY

ALLWEST anticipates the 2018 International Residential Code (IRC) will be used as the basis for design of the proposed structures as part of this project. Based on laboratory testing results, subsurface exploration information, and knowledge of the local geology, the natural soils at the site can be characterized as Site Class C for seismic design, in accordance with the previously referenced standard. Soils categorized as Site Class C generally have a very dense relative density, with average standard penetration resistance values greater than 50 blows per foot in the upper 100 feet. These blow counts correlate to average undrained shear strengths in excess of 2,000 pounds per square foot (psf).

The following seismic parameters may be used for design of the proposed structures:

Parameter	Value	Description
Latitude (degrees)	46.870156°	Project site geographic position
Longitude (degrees)	-114.040785°	Project site geographic position
Seismic Site Class	C	Seismic Design Site Classification
Risk Category	II	Seismic design risk category
S_S	0.418	MCE_R ground motion (period = 0.2s)
S_1	0.140	MCE_R ground motion (period = 1.0s)
S_{DS}	0.362	Numeric seismic design value at 0.2s SA
S_{D1}	0.140	Numeric seismic design value at 1.0s SA
F_a	1.3	Site amplification factor at 0.2s
F_v	1.5	Site amplification factor at 1.0s
PGA	0.185	MCE_G peak ground acceleration
F_{PGA}	1.215	Site amplification factor at PGA
PGA_M	0.225	Site modified peak ground acceleration

5.0 SUBSURFACE CONDITIONS

General characterization of the subsurface profile observed follows, grouping soils with similar physical and engineering properties. The test pit logs should be referenced for more detailed descriptions of the soil types and their estimated depths. It should be noted that depths shown as boundaries between various strata on boring logs are approximate. Transitions between soil types/layers may be gradual. In addition, subsurface conditions may vary between exploration locations from those observed at discrete boring locations. Such changes in conditions would not be apparent until construction. If subsurface conditions deviate from those observed in the test pits, construction timing, plans, and costs may change.

The general subsurface soil profile observed in the test pits consisted of topsoil covering varying thicknesses of sandy silt. Poorly graded gravel with sand and cobbles was generally observed below the silt to the maximum depth explored, approximately 10 feet.

5.1 TOPSOIL

Topsoil was observed from the surface to depths ranging from approximately 3 to 12 inches in the test pits.

5.2 FILL

Approximately 3 inches of presumed ¾" minus crushed base course was observed beneath a thin layer of topsoil in test pit TP-03. The material was slightly moist, angular, and fine- to coarse-sized.

5.3 SILT

Sandy silt was observed below the topsoil (or fill in TP-03) in each of the test pits except TP-01 to depths on the order of 2.5 to 5 feet. The silt was non-plastic, and generally brown to light brown. Test pit observations indicate the silt was generally stiff to very stiff in relative consistency.

5.4 SAND

A layer of silty sand was observed from approximately 5 to 6.5 feet in test pit TP-02. The sand was light brown in color, slightly moist, fine-grained, and appeared medium dense in relative density.

5.5 GRAVEL

Gravel generally classifying as poorly graded gravel with sand and cobbles was observed in each of the test pits below topsoil or silty and sandy layers from depths ranging from 1 to 6.5 feet below existing grades throughout the subject parcel, and extending to the maximum depth explored, approximately 10 feet. The gravel contained cobbles and trace boulders throughout. The gravel varied in color from brown to multi-colored, was fine- to coarse-sized, subangular to subrounded, and appeared medium dense in relative density.

5.6 GROUNDWATER CONDITIONS

At the time of exploration, groundwater was not observed in any of the test pits to the maximum depth explored, approximately 10 feet. A review of groundwater well data and groundwater monitoring data provided by IMEG indicates the static groundwater level in this area is somewhat variable but typically ranges from 10 to 15 feet in depth below existing grades. Changes in precipitation, irrigation, construction, or other factors may impact depth to groundwater and surface water flow on the property and therefore, conditions may be different during construction.

6.0 INFILTRATION TESTING

In-situ infiltration testing was performed in 2 test pit locations to assist in on-site stormwater management design. Infiltration testing was performed in accordance with the procedures outlined in Appendix 6-F (Test Pit Infiltration Method) of the current Missoula Public Works Standard Specifications Manual.

At each testing location, test pits were excavated to depths on the order of 9 to 10 feet below existing grades. Upon excavation to depth, solid 4-inch schedule 40 PVC pipe was installed to the bottom of the excavation, and the excavation surrounding the pipe was backfilled with excavation spoils.

ALLWEST returned to the site to perform infiltration testing June 23, 2023. Approximately 4 to 6 inches of pea gravel was placed in the PVC pipes for a splash guard. Approximately 1-foot of water head was then introduced into the PVC pipe for a one-hour saturation period. Following the saturation period of one hour, an approximate 6-foot head of water was used to begin each trial, and the time for the water column to drop 24 inches was recorded. Per test method procedures, locations requiring less than one hour for the water column to drop 24 inches, the average rate of the final four trials not varying by more than 10 percent for each test is reported as the infiltration rate. For locations requiring more than one hour for the water column to drop 24 inches, the final trial following two consecutive trials not varying by more than 10 percent is reported as the infiltration rate. These data are presented in the following table. It is recommended the civil engineer apply appropriate factors of safety to the measured

values or select lower values based on previously observed and documented performance of drywells in the vicinity of the project.

Test Location	Depth of Test Below Ground Surface (in)	Infiltration Rate (in/hr)	Soil Classification (USCS)
TP-01	53	3,649	Poorly graded gravel with sand and cobbles (GP)
TP-04	66.75	2,150	Poorly graded gravel with sand and cobbles (GP)

7.0 LABORATORY TESTING

ALLWEST performed laboratory testing to supplement field classifications and to assess the appropriate soil engineering properties for use in design of the proposed structures. The laboratory testing program conducted for this evaluation included the following tests:

Test Performed:	Information Acquired:
Natural Water Content (ASTM D2216)	Water content representative of soil conditions at the time and location samples were collected
Particle-size Distribution (ASTM D6913)	Size and distribution of soil particles (i.e., gravel, sand, and silt/clay) of a particular sample
Atterberg Limits (ASTM D4318)	Effects of varying water content on the consistency of fine-grained soils present in a particular sample
Moisture-Density Relationship (ASTM D698)	Relationship between the laboratory maximum dry density and corresponding water content of a soil for a particular compaction effort
California Bearing Ratio (ASTM D1883)	The ability of a soil to support a particular pavement section subjected to known traffic loading
Chemical Analysis (ASTM D4972, G187, C1580)	The potential of a soil to corrode metal or concrete used in construction

Laboratory test results are presented in Appendix C. Discussion of some of the laboratory testing results follows.

7.1 CLASSIFICATION

Gradation analyses in conjunction with Atterberg limits testing were performed on representative samples from test pits TP-01 (1 to 3 feet), TP-02 (5 to 6.5 feet), and TP-03 (1 to 3 feet). Soil classifications of poorly graded gravel with sand, silty sand, and silt with sand were determined by the testing of each sample. Atterberg limits testing performed on the portion passing the No. 40 sieve indicate the site soils are non-plastic. Graphical results of the laboratory testing are presented in Figures C-1 through C-3 in Appendix C.

7.2 MOISTURE-DENSITY RELATIONSHIP

Moisture-density relationship testing was performed on a bulk sample of representative material obtained from test pit TP-03 (1 to 3 feet) in accordance with ASTM D698 (standard Proctor). Through a series of controlled trials using a variety of moisture contents, a moisture-density curve was established for the subject soil. Results of the testing indicate a maximum dry density of approximately 109.9 pounds per cubic foot (pcf) at an optimum moisture content of 14.9 percent for the sample tested (Figure C-4, Appendix C).

7.3 CALIFORNIA BEARING RATIO

California Bearing Ratio (CBR) testing was performed in accordance with ASTM D1883 on a bulk sample of representative material obtained from test pit TP-03 (1 to 3 feet). Testing determined a CBR value of 11.6 percent when compacted to 95 percent of the maximum dry density (Figure C-5, Appendix C). CBR strengths in this range are considered a medium strength subgrade for supporting pavements under controlled placement conditions.

7.4 CHEMICAL ANALYSIS

Factors which contribute to soil corrosion of buried metal structures include soil resistivity, pH, presence of water and oxygen, and soluble salts. Soil minimum resistivity and pH are typically regarded as the primary indicators of soil corrosion potential. In general, fine-grained soils (silt and clay) have lower resistivity and present a greater potential for corrosion. With an increase in soil moisture content, resistivity generally decreases, and corrosion potential generally increases. Soils with low pH and relatively high resistivity are also corrosive.

Generalized effects of soil resistivity and pH with respect to corrosion potential are summarized in the following table, based on information available from the National Association of Corrosion Engineers (NACE).

Parameter	Soil Corrosivity
Soil Resistivity (ohm-cm)	
>20,000	Essentially Non-corrosive
10,000 – 20,000	Mildly corrosive
5,000 – 10,000	Moderately corrosive
3,000 – 5,000	Corrosive
1,000 – 3,000	Highly Corrosive
<1,000	Extremely Corrosive
Soil pH	
<5.5	Extremely corrosive
5.5 – 6.5	Moderately corrosive
6.5 – 7.5	Neutral
>7.5	None (alkaline)

The American Concrete Institute Standard 318 (ACI 318) presents durability requirements for concrete based on the exposure category and class of the structure, dependent on the ground and weather situation of the area. Sulfate attack (exposure category S) is one of the most important factors that influences the long-term durability of concrete structures when exposed to potentially corrosive environments such as soil or groundwater. The exposure class

influences proportion of mixture, type of cement and cementitious materials, and percentage of chemical admixtures like air-entrainment admixture.

Durability requirements for concrete in contact with water or soil that contains sulfate ions which can solute in water are summarized in the following table, based on information available from ACI 318. The degree of severity of concrete exposure to sulfate attack constitute the four classes presented.

Exposure Class	Water-Soluble Sulfate (SO_4^{2-}) in Soil (percent by mass)	Maximum Water/Cement Ratio	ASTM C150 Cement Type
S0	$SO_4^{2-} < 0.10$	N/A	No type restriction
S1	$0.10 \leq SO_4^{2-} < 0.20$	0.50	II
S2	$0.20 \leq SO_4^{2-} < 2.00$	0.45	V
S3	$SO_4^{2-} > 2.00$	0.45	V plus pozzolan or slag

Chemical analyses, including pH, resistivity, and water-soluble sulfate content testing, were performed on a sample of representative material from test pit TP-03. Results of the testing are summarized in the following table.

Test Pit	Depth (feet)	pH	Minimum Resistivity (ohm-cm)	Water-Soluble Sulfate Content (%)
TP-03	1 – 3	7.4	800	0.01

Results of resistivity testing suggest the on-site silt has the potential to exhibit extremely corrosive behavior to buried metal in contact with it. Water-soluble sulfate content testing results indicate a low exposure to sulfate attack in normal strength concrete exposed to these materials. Based on testing results, Exposure Category S0 may be specified for concrete in direct contact with on-site soils.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are presented to assist in planning and design of the proposed structures and improvements. Recommendations are based on ALLWEST's understanding of the proposed construction, conditions observed in the test pits, laboratory testing, and engineering analyses. If the construction scope changes, or if conditions are encountered during construction which are different than those described in this report, ALLWEST should be notified so the recommendations herein can be reviewed and revisions can be provided, if necessary. Additionally, ALLWEST should be given the opportunity to review plans and specifications to determine whether the recommendations presented in this report were properly incorporated as intended.

8.1 SITE GRADING

The following recommendations are provided for site grading considerations.

8.1.1 Clearing and Stripping

Prior to placement of fill, the site should be stripped of organics, debris, and other deleterious material in the construction footprint. Based on observations of subsurface conditions in the test pits and general site reconnaissance, the stripping depth for removal of topsoil within structure and pavement envelops is estimated to range from approximately 3 to 12 inches. Removed materials should be replaced with compacted granular structural fill to achieve design elevations, if required. Where feasible, extend removal of organics, and other debris or deleterious material a minimum of five feet beyond the perimeter of building footprints.

8.1.2 Excavation

Based on conditions observed in the test pits, it is anticipated that excavation of the on-site soil can be achieved with typical heavy-duty excavation equipment.

Unsupported vertical slopes or cuts deeper than 4 feet are not recommended if worker access is necessary. Cuts should be adequately sloped, shored, or supported to prevent injury to personnel from local sloughing and spalling. The subsurface gravel soils are susceptible to caving. Excavations should conform to applicable federal, state, and local regulations. Regarding trench wall support, the site soil is considered Type C soil according to OSHA guidelines and therefore should not exceed a 1.5H:1V temporary slope.

8.1.3 Subgrade Preparation

ALLWEST defines the subgrade as the native soil exposed at the base of excavation prior to placement of fill, concrete, or asphalt. The subgrade requires an evaluation by the geotechnical engineer-of-record or staff under their supervision to confirm the site conditions are consistent with those observed during our geotechnical evaluation. Soils at pavement and slab subgrade elevations are anticipated to consist of sandy silt. Soils at foundation subgrade elevations, following over-excavation, are anticipated to consist of poorly graded gravel with sand.

The site silt soils are susceptible to pumping and rutting if subjected to significant and repeated traffic by rubber tire construction equipment. It is recommended tracked construction equipment be used to traffic the site and rubber tire equipment be limited to haul routes.

Natural soils at foundation subgrade elevations are generally anticipated to consist of poorly graded gravel with sand, or silt in various regions of the subdivision. Cobbles and possible boulders within the gravel strata should also be anticipated by the earthwork contractor. If large cobbles or boulders are encountered at subgrade elevations, they should be extracted and replaced with properly compacted granular structural fill to avoid point loading.

Prior to placement of fill, the exposed pavement and slab subgrade soils should be scarified to a depth of approximately 8 inches, moisture conditioned to within 2 percentage points of the optimum moisture content and compacted to at least 95 percent of the maximum dry density as determined by ASTM D698 (standard Proctor). Moisture conditioning of the subgrade surface may involve wetting or drying of the soil to help facilitate compaction. Please refer to

the in-situ moisture content laboratory test results for an estimation of existing soil-moisture conditions (at the time of exploration).

Any areas of soft or saturated subgrade soils which exhibit pumping or significant deflection should be over-excavated to firm, non-yielding soil and replaced with granular structural fill placed and compacted as described in the *Fill Placement & Compaction* section.

The subgrade should be sloped to promote runoff and reduce the potential for ponding of water on the subgrade surface. Proper grading of subgrade surfaces is critical to the long-term performance of supported structural elements. In the event the exposed subgrade becomes unstable, yielding, or unable to be compacted due to high moisture conditions or construction traffic, the materials should be removed to a sufficient depth to develop stable subgrade soils that can be compacted to the minimum recommended levels. The severity of construction problems will be dependent, in part, on the precautions that are taken by the contractor to protect the subgrade soils.

Weather conditions should be given careful attention during subgrade preparation to prevent excess moisture from collecting on or penetrating and possibly saturating the subgrade before and after compaction. It is recommended that the subgrade be temporarily sloped to provide drainage to a low area of the excavation and any excess water pumped from the excavation. Such collection and discharge must be in compliance with the Contractor's site-specific storm water pollution prevention plan (SWPPP). Should portions of the subgrade become excessively saturated, those areas should be sufficiently excavated, replaced with moisture conditioned soil, and properly compacted.

8.1.4 Materials

8.1.4.1 On-site Soil

The fine-grained soils present near surface throughout the project site are not suitable for re-use as structural fill beneath foundations or slabs but may be used for backfill of exterior foundation walls, trench backfill in utility trenches, and general site grading fill provided deleterious materials are removed, and the material is placed in accordance with the recommendations outlined in the *Fill Placement and Compaction* section.

Gravel of varying sand content was observed throughout the property. If a significant volume of gravel is generated from excavation, it is suitable for re-use as structural fill beneath foundations and slabs, provided material greater than 3-inches in size (i.e., cobbles and boulders) and deleterious materials are removed, and the material is placed in accordance with the recommendations outlined in the *Fill Placement and Compaction* section. In addition, on-site soils used for such purposes should be thoroughly mixed prior to placement to achieve a uniform texture.

8.1.4.2 Import Soil

Import soil, where required, should be free of organics, debris, and other deleterious material and meet the recommendations in the following table. Import materials should approved by the Geotechnical Engineer prior to delivery to the site.

Fill Type	Recommendations	
	Sieve	***Percent Passing***
Import Granular Structural Fill[1,2]	3-inch	100
	¾-inch	70 – 100
	No. 4	25 – 50
	No. 40	10 – 20
	No. 200	0 – 15

[1] Soils with more than 30% retained on the ¾-inch sieve are considered 'oversized' and may require method-based compaction methods.
[2] Material should be non-plastic.

Crushed base course meeting the requirements of MPWSS section 02235 gradation for crushed base course should be specified for use beneath pavements.

8.1.4.3 Fill Placement and Compaction

Fill should be placed in lift thicknesses appropriate for the compaction equipment used. Typically, six to eight-inch loose lifts are appropriate for typical rubber tire and steel drum compaction equipment. Lift thicknesses should be reduced to a maximum of four inches for hand operated compaction equipment. Fill should be moisture conditioned to within two percent of the optimum moisture content prior to placement to facilitate compaction. Fill placed for on-site improvements and in structural areas should be compacted to the following minimum percentages in accordance with the associated standard.

Fill Area	Compaction (%)	Standard
Subgrade	95	ASTM D698
Beneath Foundations	98	ASTM D698
Foundation Wall Backfill	95	ASTM D698
Beneath Slabs-on-grade and Flatwork	98	ASTM D698
Utility Trench Backfill	98	ASTM D698
Site Grading	95	ASTM D698
Beneath Pavements	98	AASHTO T-99

For fill materials which are too coarse to establish a relevant moisture-density relationship curve (Proctor) and associated density test results with a nuclear densometer in accordance with ASTM methodology (greater than 30 percent retained on a ¾-inch sieve), a method-based compaction specification should be established in accordance with ASTM D698. The compaction method should be established by making repeated passes with appropriately sized compaction equipment over the subgrade with appropriate soil moisture conditioning until a dense and unyielding surface is achieved (a minimum of six, full-coverage passes is recommended). For areas where a large compactor cannot access, a walk-behind articulating trench roller or heavy plate compactor may be used if approved by the geotechnical engineer. Where appropriate, a moisture-density relationship (Proctor) test should be performed to assist in evaluating appropriate moisture and density conditions of the method-based compaction procedures. Success in executing proper compaction control is highly dependent upon the quality and experience of the contractor and inspector.

8.1.5 Wet Weather Construction

Due to the climatic effects in this region during late fall, winter, and spring (generally wet conditions), it is recommended that construction (especially site grading) take place during the summer and early fall season, if possible. If construction occurs during or immediately after excessive precipitation, it may be necessary to over-excavate and replace wet subgrade soil which might otherwise be suitable.

If construction is undertaken in wet periods of the year, it will be important to slope the ground surface to provide drainage away from construction. In addition, groundwater levels will likely be higher during wet periods of the year.

8.1.6 Cold Weather Construction

Foundations should be embedded adequately to protect against frost action as recommended in the *Foundation Recommendations* section of this report. Removal of frost susceptible soil within the frost-depth zone (approximately 42 inches) below concrete flatwork (walkways, entryway pads, etc.) is recommended to help reduce the potential detrimental effects of frost heave. The near surface silt soils are considered frost susceptible.

If site grading and construction are anticipated during cold weather, proper winter construction practices should be observed. Snow and ice should be removed from excavated and fill areas prior to additional earthwork or construction. Structural portions of the construction should not be placed on frozen ground; nor should the supporting soils for buildings be permitted to freeze during or after construction. Frozen soils should not be used as fill.

8.2 FOUNDATIONS

The following recommendations for conventional spread footing foundation systems are provided in the following section, based on the subsurface conditions observed and the stated assumptions.

8.2.1 Spread Footings

The following recommendations are provided for use in design and construction of conventional spread footing foundation systems for the proposed structures, based on the subsurface conditions observed and the stated assumptions.

- Footings should be supported on a properly prepared subgrade consisting of undisturbed natural gravel. If sand or silt is encountered at the footing elevation, it should be over-excavated a minimum of 12 inches with granular structural fill, placed and compacted as recommended herein.

- Footings supported on a properly prepared subgrade consisting of undisturbed natural gravel or a minimum of 12 inches of properly compacted granular structural fill may be designed for an allowable bearing pressure of 2,500 psf. This allowable bearing pressure may be increased by one-third to account for short term wind and seismic loads.

- Footings should be embedded a minimum of 42 inches below the lowest adjacent grade to provide protection against frost action.

- Unless specified by the project engineer or governing codes requiring an increased width, continuous footings should be a minimum of 18 inches in width and column footings should be a minimum of 24 inches in width.

- An ultimate value for coefficient of friction between cast-in-place concrete and natural or imported granular structural fill of 0.45 may be used for design.

- Total settlement estimated for spread footing foundations designed and constructed as recommended herein will be 1-inch or less. Differential settlement is estimated to be ½-inch or less in a 30-foot span.

- Foundation bearing surfaces should be free of loose soil and debris.

- It is recommended a permanent foundation drainage system be designed and constructed around the perimeter of the structure. The drainage system should consist of a four-inch diameter, Schedule 40 PVC or high-density polyethylene (HDPE), perforated pipe surrounded with a free draining aggregate. The pipe should be located at the lowest elevation of the footing trench excavation such that gravity drainage may be achieved. Water collected in the drains should be discharged down-gradient of the structure.

- Backfill placed adjacent to foundation walls should be placed uniformly on both sides of the foundation walls to reduce the potential for displacement of the foundation walls.

- A geotechnical engineer from ALLWEST or their designated representative should observe the subgrade below foundation excavations prior to the placement of any granular structural fill, concrete forms, and reinforcing steel to ensure the intent of the design criteria presented herein is met.

- Portland cement type used should be selected by the project structural engineer so that the desired performance is achieved. No soil-related modifications to typical concrete mix designs used in this locale are recommended herein.

8.3 CONCRETE SLABS-ON-GRADE

Concrete slabs-on-grade should be supported on a properly prepared subgrade, prepared as previously recommended herein. A minimum of 6 inches of crushed base course should be placed immediately below slabs. Base course should be compacted as recommended in the *Fill Placement and Compaction* section of this report. Portland cement type used in concrete slabs should be selected by the project structural engineer so that the desired performance is achieved. No soil-related modifications to typical concrete mix designs used in this locale are recommended herein.

A vapor retarder is recommended beneath the slab-on-grade floor if moisture sensitive floor coverings and/or adhesives are used. If a vapor retarder is used, a 15-mil, puncture-resistant proprietary product such as Stego Wrap, or an approved equivalent that is classified as a Class A vapor retarder in accordance with ASTM E1745 is recommended. Overlap lengths and the

appropriate tape used to seal the laps should be in accordance with the vapor retarder manufacturer's recommendations. To help avoid puncturing the vapor retarder, a thin sand layer placed over the crushed gravel is recommended. When conditions warrant the use of a vapor retarder, the slab designer and slab contractor should refer to ACI 302 and ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

8.4 LATERAL EARTH PRESSURES

Below grade building walls should be designed to resist lateral earth pressures. Lateral earth pressures for the on-site soils should be calculated using the following equivalent fluid pressures:

Condition	Approved On-site and Imported Granular Structural Fill (pcf)	On-site silt (pcf)
At-rest	55	60
Active	35	40
Passive	350	225

The equivalent fluid pressures presented are for horizontal backfill without surcharge loading. The active and at-rest pressures should be increased by an equivalent fluid weight of 10 pounds per cubic foot (pcf) and the passive pressure should be reduced by 10 pcf for seismic design. The dynamic component of the active pressure acts at a height of approximately 0.6 times the height of the wall.

The above equivalent fluid pressure values do not account for hydrostatic forces. Walls that are braced in a manner that does not allow any rotational movement (rigid) should be designed using the given "at-rest" equivalent fluid pressure.

8.5 STORMWATER AND DRAINAGE

The grading plan should include slopes such that stormwater run-off is directed away from the building and pavement areas to a stormwater management system. The ground surface adjacent to foundations should be sloped a minimum of five percent within 10 feet of the building. If the adjoining ground surface consists of hardscapes, it may be sloped a minimum of two percent in the first 10 feet. Water should not be allowed to infiltrate or pond adjacent to foundations.

Landscaping which requires watering is discouraged adjacent to structures due to the potential to introduce water into the subgrade soils by the irrigation system. Such introduction of water could result in greater movement of foundations and slabs than those discussed herein.

8.6 PAVEMENT

Based on the subsurface conditions observed in the test pits, it is anticipated that pavement subgrades will mostly consist of sandy silt. CBR testing was performed on a representative sample of the silt subgrade soil and determined a CBR value of 11.6 percent and was used for pavement design purposes.

Recommended pavement sections for the project are based on the following assumptions.

Criteria	Assumed Value
Pavement Life	20 years
Subgrade California Bearing Ratio (CBR)	11.6%
Reliability	85%
Initial Serviceability	4.2
Terminal Serviceability	2.0

8.6.1 Roadways

Roadway loading for the proposed residential street sections for this project is estimated based on the assumption that traffic loading conditions totaling 50,000 and 100,000 equivalent single-axle loads (ESALs) or less will be required for local asphalt streets and minor collector streets, respectively, for the assumed pavement design life (20 years).

The pavement sections presented in the following table are recommended for the proposed roadway sections for this project based on assumed ESAL values.

Roadway Type	AC[1] (in)	CBC[2] (in)	Total (in)
Local Asphalt Street	3	6	9
Minor Collector Steet	3	8	11

[1]AC = Asphalt Concrete
[2]CBC = Crushed Base Course

Crushed base course meeting the requirements of MPWSS section 02235 gradation for crushed base course should be specified for use. It is recommended the asphaltic concrete surface be compacted per MPWSS requirements.

Crack maintenance on asphalt pavement should be performed at a minimum of every three years, or immediately when cracking is evident. Crack sealing will help reduce surface water infiltration into the underlying clay soils. A shortened pavement life will result from an improper or inadequate maintenance program.

8.7 OWNER OPERATION AND MAINTENANCE RESPONSIBILITIES

Property owners must accept the responsibility for maintaining the site grading, drainage, monitoring utility connections, and have a defined schedule for verifying and making necessary repairs as necessary to maintain the overall as designed positive site grading to ensure long term performance of the foundations as defined herein. The property owner shall not make modifications to site grading that compromises the as-designed positive surface drainage. In addition, landscaping and irrigation must be designed, installed, and maintained so as to not impact the overall site grading and/or become a source of water to the site soils which could result in movement of the support structures, pavement, or slabs.

9.0 ADDITIONAL RECOMMENDED SERVICES

ALLWEST should be retained to provide construction materials testing and observation to verify the soil and geologic conditions and the report recommendations are incorporated into the actual construction. The design engineer-of-record should determine applicable testing and special inspection requirements in accordance with the governing code documents. If ALLWEST is not retained to provide required construction observation and materials testing services, ALLWEST cannot be responsible for soil engineering related construction errors or omissions.

10.0 EVALUATION LIMITATIONS

This report has been prepared to assist the planning and design for the proposed Orchard Grove Subdivision project located on the south side of the 2500 block of Larkinwood Drive West in Missoula, Montana. The evaluation was provided based on preliminary plans that were made available at the time of exploration. The geotechnical engineer must be informed of significant changes to the building layout and/or loading criteria that differ from the assumptions stated in this report. Reliance by any other party is prohibited without the written authorization of ALLWEST. Services consist of professional opinions and conclusions made in accordance with generally accepted geotechnical engineering principles and practices in the local area at the time this report was prepared. This acknowledgement is in lieu of all warranties, express or implied.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

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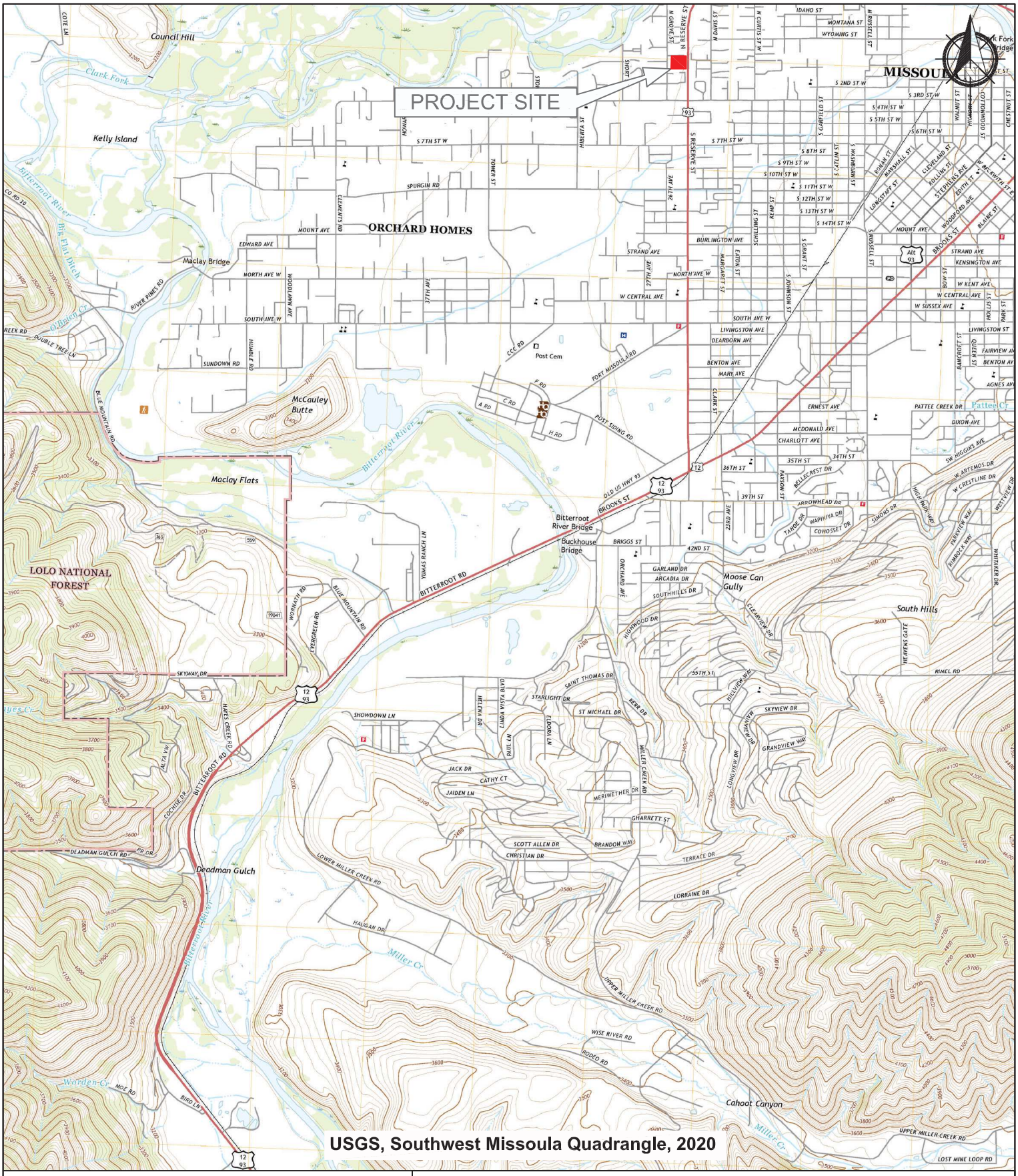
Appendix A

Vicinity Map (Figure A-1)
Test Pit Location Map (Figure A-2)



USGS, Southwest Missoula Quadrangle, 2020

FIGURE A-1: VICINITY MAP	
PROJECT:	723-026G - Orchard Grove Subdivision
LOCATION:	Missoula, Montana
CLIENT NAME:	IMEG Consultants Corp.
DATE:	June 2023

ALLWEST
2720 Palmer St Unit A
Missoula, Montana 59808
(406) 206-5911
www.allwesttesting.com

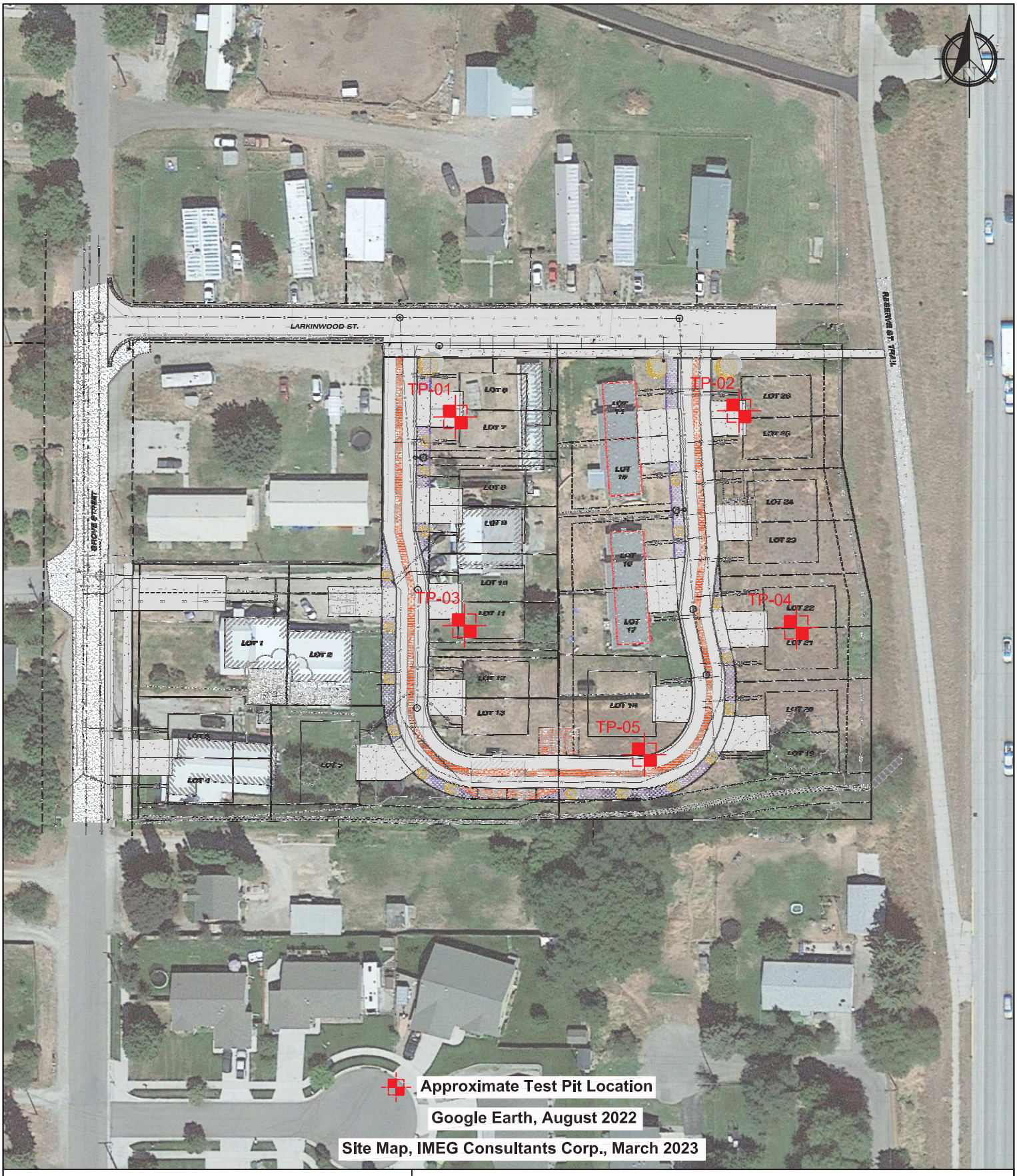


FIGURE A-2: TEST PIT LOCATION MAP

PROJECT:	723-026G - Orchard Grove Subdivision
LOCATION:	Missoula, Montana
CLIENT NAME:	IMEG Consultants Corp.
DATE:	June 2023

ALLWEST
2720 Palmer St Unit A
Missoula, Montana 59808
(406) 206-5911
www.allwesttesting.com

Appendix B

Test Pit Logs
Unified Soil Classification System

ALLWEST
MISSOULA, MONTANA
GEOTECHNICAL SECTION

TEST PIT LOG

DATE STARTED: 5/23/2023
DATE FINISHED: 5/23/2023
OPERATOR: Pat Malone
COMPANY: MFCII406, LLC
LOGGER: Andrew Warren
WEATHER: Sunny, Warm

TEST PIT TP-01

EXCAVATOR: Sany SY 5OU
EXCAVATION METHOD: 30" soil excavation bucket

PROJECT: 723-026G Orchard Grove Subdivision

NOTES:

TOTAL DEPTH: 6'

DEPTH (ft)	USCS	DESCRIPTION	GRAPHIC LOG	SAMPLE #	NOTES
0	TOPSOIL	TOPSOIL; Silty SAND (SM): slightly moist to moist, fine-grained, dark brown.			
1	GP	Poorly graded GRAVEL with sand and cobbles (GP): medium dense, slightly moist, fine- to coarse-sized, fine-grained sand, subrounded, brown to multi-colored.			Bulk sample: 1' - 3' Moisture = 1% Gravel = 81% Sand = 18% Silt/Clay = 1.1%
6		Test pit terminated at 6 feet due to significant caving. 4" PVC installed. Groundwater not observed. Backfilled with excavation spoils.			
11					

WATER LEVELS

NE ▽ WHILE EXCAVATING
NE ▼ AT COMPLETION
NE ▼ AFTER EXCAVATING

ALLWEST
MISSOULA, MONTANA
GEOTECHNICAL SECTION

TEST PIT LOG

DATE STARTED: 5/23/2023
DATE FINISHED: 5/23/2023
OPERATOR: Pat Malone
COMPANY: MFCII406, LLC
LOGGER: Andrew Warren
WEATHER: Sunny, Warm

TEST PIT TP-02

EXCAVATOR: Sany SY 5OU
EXCAVATION METHOD: 30" soil excavation bucket

PROJECT: 723-026G Orchard Grove Subdivision

NOTES:

TOTAL DEPTH: 10'

DEPTH (ft)	USCS	DESCRIPTION	GRAPHIC LOG	SAMPLE #	NOTES
0	TOPSOIL	TOPSOIL; Silty SAND (SM): slightly moist to moist, fine-grained, dark brown.			
1	ML	Sandy SILT (ML): stiff to very stiff, slightly moist, non-plastic, light brown to brown.			
2					
3					
4					
5	SM	Silty SAND (SM), medium dense, slightly moist, fine-grained, light brown.			Grab sample: 5' - 6.5' Gravel = 1% Sand = 66% Silt/Clay = 33%
6					
7	GP	Poorly graded GRAVEL with sand and cobbles (GP): medium dense, slightly moist to moist, fine- to coarse-sized, fine-grained sand, subrounded, brown.			
8					
9					
10		Test pit terminated at 10 feet. Groundwater not observed. Backfilled with excavation spoils.			
11					

WATER LEVELS

NE ▽ WHILE EXCAVATING
NE ▼ AT COMPLETION
NE ▼ AFTER EXCAVATING

ALLWEST
MISSOULA, MONTANA
GEOTECHNICAL SECTION

TEST PIT LOG

DATE STARTED: 5/23/2023
DATE FINISHED: 5/23/2023
OPERATOR: Pat Malone
COMPANY: MFCII406, LLC
LOGGER: Andrew Warren
WEATHER: Sunny, Warm

TEST PIT TP-03

EXCAVATOR: Sany SY 5OU
EXCAVATION METHOD: 30" soil excavation bucket

PROJECT: 723-026G Orchard Grove Subdivision

NOTES:

TOTAL DEPTH: 10'

DEPTH (ft)	USCS	DESCRIPTION	GRAPHIC LOG	SAMPLE #	NOTES
0	TOPSOIL	TOPSOIL; Silty SAND (SM): slightly moist to moist, fine-grained, dark brown.			
	FILL	FILL; Poorly graded GRAVEL with silt and sand (GP-GM): apparent ¾" minus crushed base course, moderately compacted, slightly moist, fine- to coarse-sizedd, brown.			
1	ML	Sandy SILT (ML): stiff, slightly moist, non-plastic, brown.			
2					Bulk sample: 1' - 3' Moisture = 16% Gravel = 2% Sand = 33% Silt/Clay = 65%
3					
4					
5	GP	Poorly graded GRAVEL with sand and cobbles (GP): medium dense, moist to very moist, fine- to coarse-sized, fine-grained sand, subrounded, brown to gray.			
6					
7					
8		Very moist below 8'			
9					
10		Test pit terminated at 10 feet. Groundwater not observed. Backfilled with excavation spoils.			
11					

WATER LEVELS

NE ▽ WHILE EXCAVATING
NE ▼ AT COMPLETION
NE ▼ AFTER EXCAVATING

ALLWEST
MISSOULA, MONTANA
GEOTECHNICAL SECTION

TEST PIT LOG

DATE STARTED: 5/23/2023
DATE FINISHED: 5/23/2023
OPERATOR: Pat Malone
COMPANY: MFCII406, LLC
LOGGER: Andrew Warren
WEATHER: Sunny, Warm

TEST PIT TP-04

EXCAVATOR: Sany SY 5OU
EXCAVATION METHOD: 30" soil excavation bucket

PROJECT: 723-026G Orchard Grove Subdivision

NOTES:

TOTAL DEPTH: 6.5'

DEPTH (ft)	USCS	DESCRIPTION	GRAPHIC LOG	SAMPLE #	NOTES
0	TOPSOIL	TOPSOIL; Silty SAND (SM): slightly moist to moist, fine-grained, dark brown.			
1	ML	Sandy SILT (ML): stiff, slightly moist, non-plastic, brown.			
2					
3	GP	Poorly graded GRAVEL with sand and cobbles (GP): medium dense, slightly moist to moist, fine- to coarse-sized, fine-grained sand, subrounded, brown.			
4					
5					
6					
7		Test pit terminated at 6.5 feet due to significant caving. 4" PVC Installed. Groundwater not observed. Backfilled with excavation spoils.			
8					
9					
10					
11					

WATER LEVELS

NE ▽ WHILE EXCAVATING
NE ▼ AT COMPLETION
NE ▼ AFTER EXCAVATING

ALLWEST
MISSOULA, MONTANA
GEOTECHNICAL SECTION

TEST PIT LOG

DATE STARTED: 5/23/2023
DATE FINISHED: 5/23/2023
OPERATOR: Pat Malone
COMPANY: MFCII406, LLC
LOGGER: Andrew Warren
WEATHER: Sunny, Warm

TEST PIT TP-05

EXCAVATOR: Sany SY 5OU
EXCAVATION METHOD: 30" soil excavation bucket

PROJECT: 723-026G Orchard Grove Subdivision

NOTES:

TOTAL DEPTH: 9'

DEPTH (ft)	USCS	DESCRIPTION	GRAPHIC LOG	SAMPLE #	NOTES
0	TOPSOIL	TOPSOIL; Silty SAND (SM): slightly moist to moist, fine-grained, dark brown.			
	ML	Sandy SILT (ML): stiff, moist, non-plastic, brown to dark brown.			
3	GP	Poorly graded GRAVEL with sand and cobbles (GP): medium dense, slightly moist to moist, fine- to coarse-sized, fine-grained sand, subrounded, brown.			
9		Test pit terminated at 9 feet due to moderate caving. Groundwater not observed. Backfilled with excavation spoils.			

WATER LEVELS	
NE	▽ WHILE EXCAVATING
NE	▼ AT COMPLETION
NE	▼ AFTER EXCAVATING

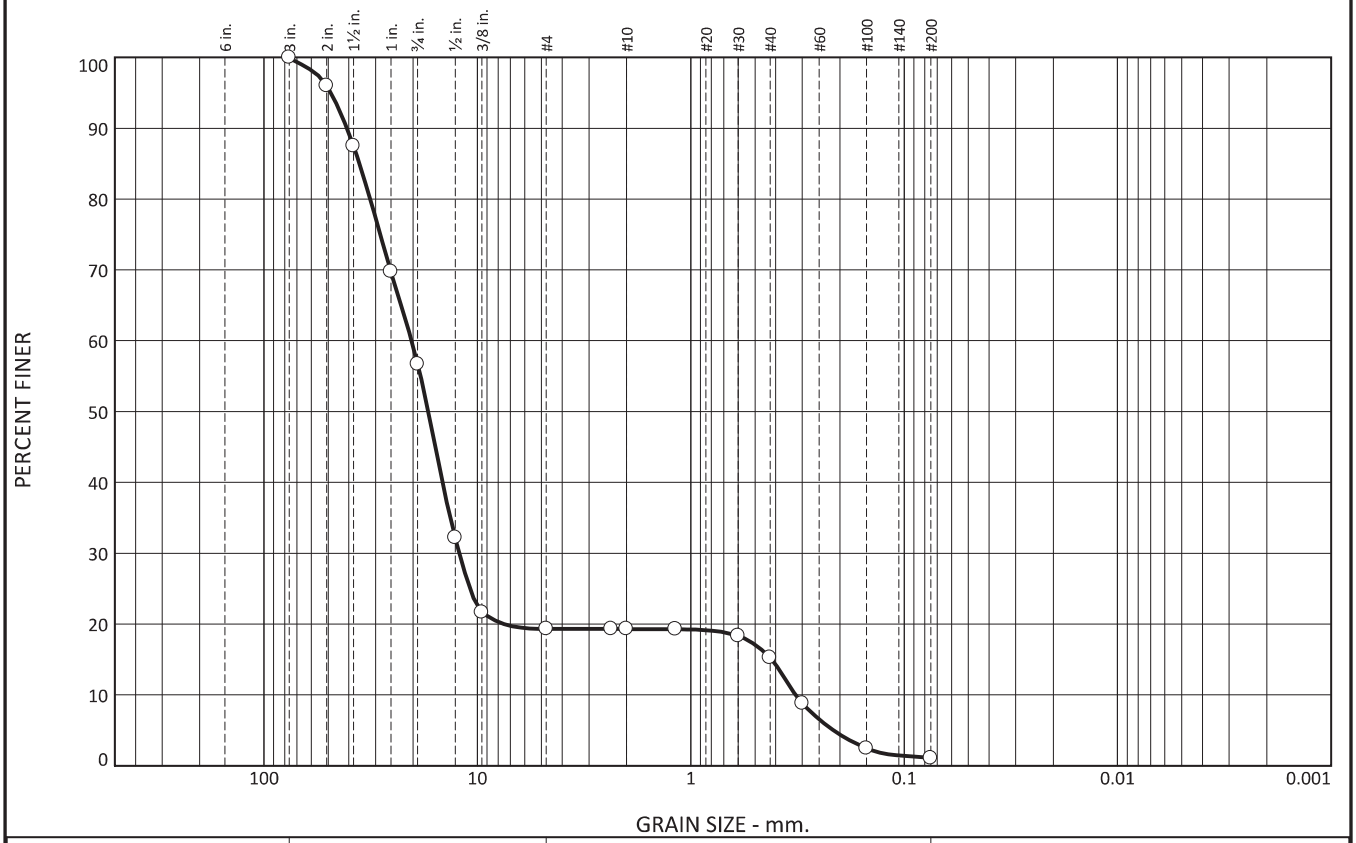
Unified Soil Classification System

MAJOR DIVISIONS			SYMBOL	TYPICAL NAMES
COARSE GRAINED SOILS	GRAVELS	CLEAN GRAVELS	GW	Well-Graded Gravel, Gravel-Sand Mixtures.
			GP	Poorly-Graded Gravel, Gravel-Sand Mixtures.
		GRAVELS WITH FINES	GM	Silty Gravel, Gravel-Sand-Silt Mixtures.
			GC	Clayey Gravel, Gravel-Sand-Clay Mixtures.
	SANDS	CLEAN SANDS	SW	Well-Graded Sand, Gravelly Sand.
			SP	Poorly-Graded Sand, Gravelly Sand.
		SANDS WITH FINES	SM	Silty Sand, Sand-Silt Mixtures.
			SC	Clayey Sand, Sand-Clay Mixtures.
FINE GRAINED SOILS	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50%		ML	Inorganic Silt, Silty or Clayey Fine Sand.
			CL	Inorganic Clay of Low to Medium Plasticity, Sandy or Silty Clay.
			OL	Organic Silt and Clay of Low Plasticity.
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%		MH	Inorganic Silt, Elastic Silt, Micaceous Silt, Fine Sand or Silt.
			CH	Inorganic Clay of High Plasticity, Fat Clay.
			OH	Organic Clay of Medium to High Plasticity.
Highly Organic Soils			PT	Peat, Muck and Other Highly Organic Soils.

Appendix C

Laboratory Test Results

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	43	38	0	4	14	1	

SIEVE SIZE OR DIAMETER	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3"	100		
2"	96		
1 1/2"	87		
1"	70		
3/4"	57		
1/2"	32		
3/8"	22		
#4	19		
#8	19		
#10	19		
#16	19		
#30	18		
#40	15		
#50	9		
#100	2		
#200	1.1		

* (no specification provided)

Soil Description

Poorly graded GRAVEL with sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 40.8978 D_{85}= 35.7174 D_{60}= 20.3573
D_{50}= 17.0068 D_{30}= 12.1392 D_{15}= 0.4179
D_{10}= 0.3230 C_u= 63.04 C_c= 22.41

Classification

USCS= GP AASHTO= A-1-a

Remarks

Sampled by A. Warren (ALLWEST)
Procedure A (-#4 only sample)

Location: TP-01
Sample Number: S323-0118 **Depth:** 1.0'-3.0' **Date:** 6.8.2023

ALLWEST

Client: IMEG Consultants Corp.
Project: Orchard Grove Subdivision

Project No: 723-026G **Figure** C-1

Tested By: R. Hites **Checked By:** A. Warren, PE

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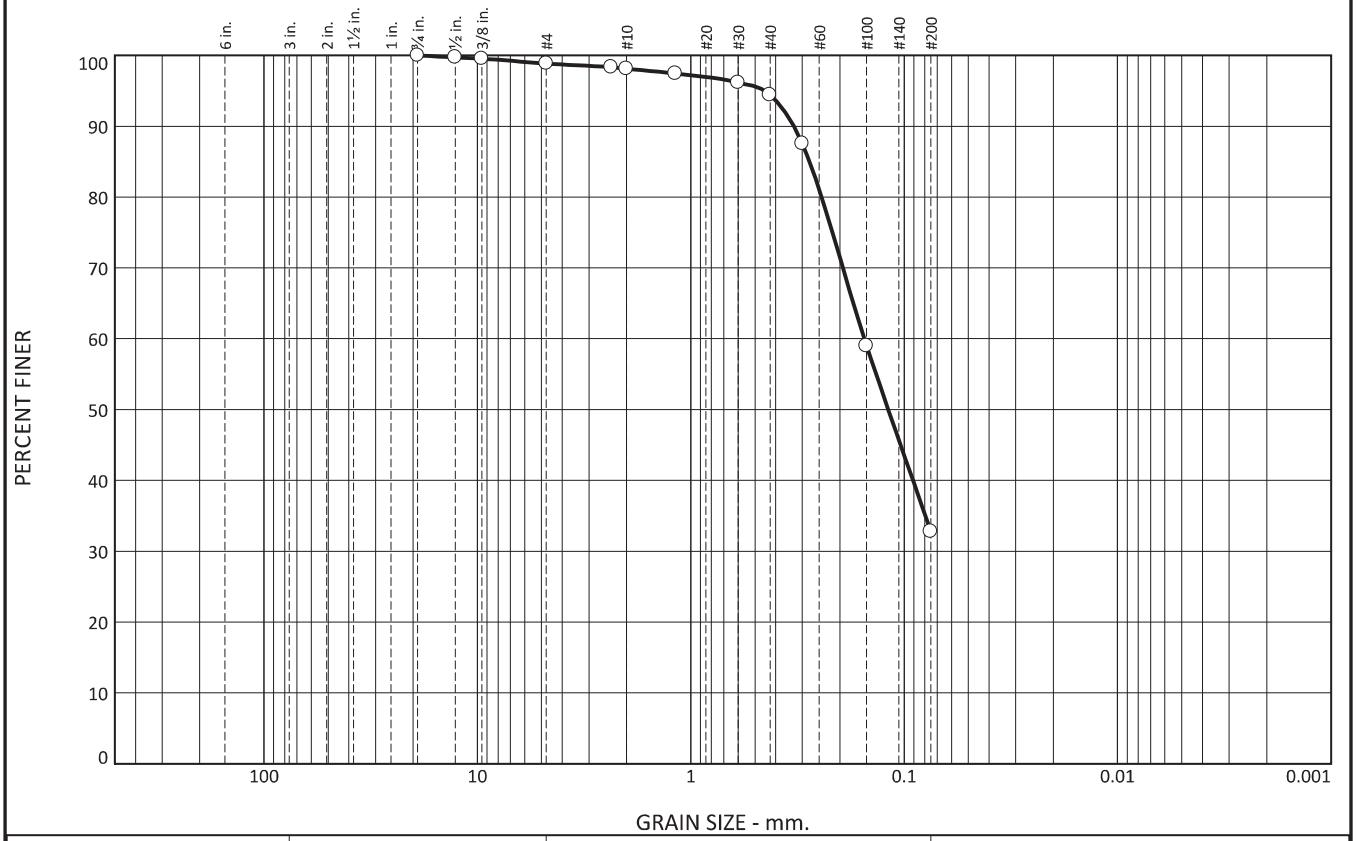
Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	1	1	4	61	33	

SIEVE SIZE OR DIAMETER	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100		
1/2"	100		
3/8"	100		
#4	99		
#8	98		
#10	98		
#16	97		
#30	96		
#40	94		
#50	88		
#100	59		
#200	33		

* (no specification provided)

Soil Description

Silty SAND

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 0.3286 D_{85}= 0.2777 D_{60}= 0.1538
D_{50}= 0.1188 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Sampled by A. Warren (ALLWEST)
Procedure A (entire sample)

Location: TP-02
Sample Number: S723-0119 **Depth:** 5.0'-6.5' **Date:** 6.8.2023

ALLWEST

Client: IMEG Consultants Corp.
Project: Orchard Grove Subdivision

Project No: 723-026G **Figure** C-2

Tested By: R. Hites **Checked By:** A. Warren, PE

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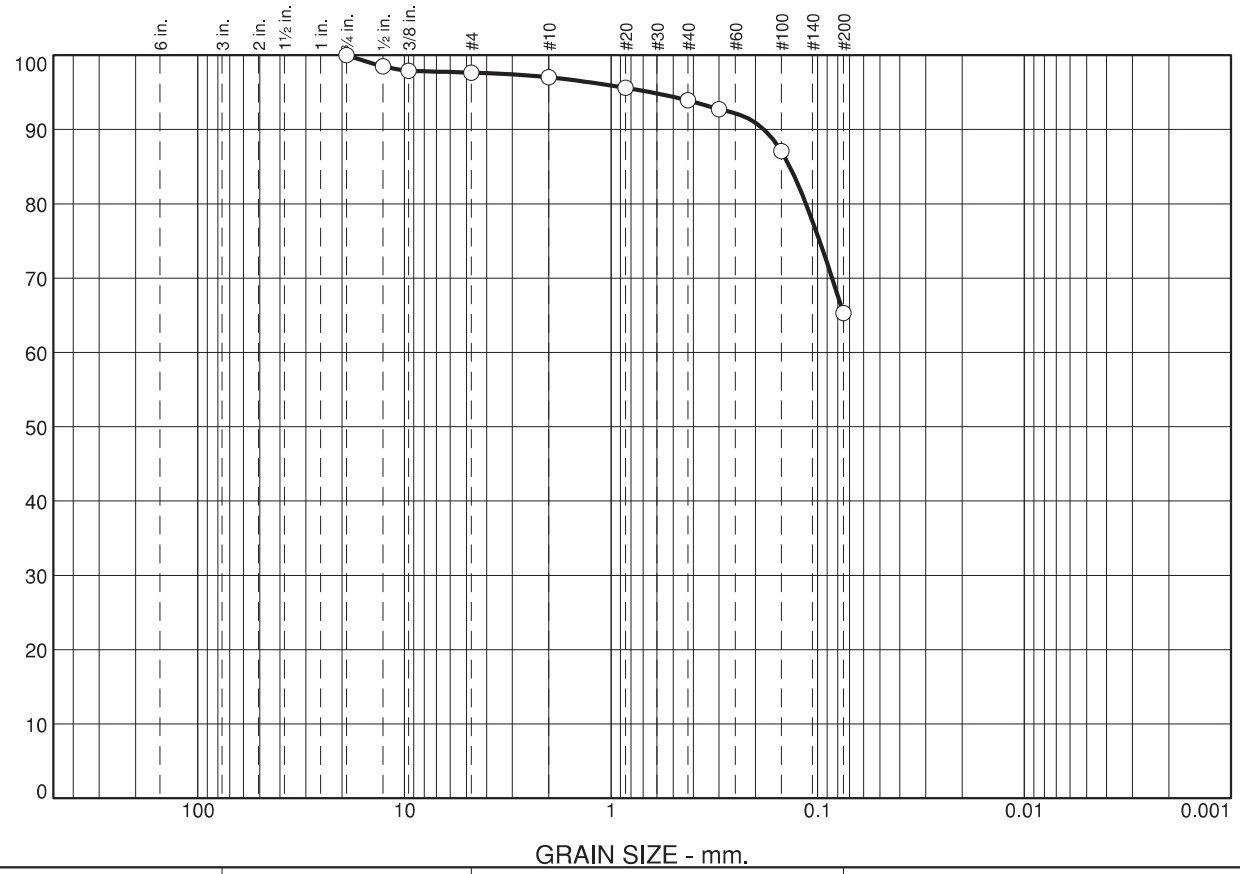
Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	2	1	3	29	65	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100		
1/2"	99		
3/8"	98		
#4	98		
#10	97		
#20	96		
#40	94		
#50	93		
#100	87		
#200	65		

* (no specification provided)

Material Description

Sandy SILT

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{90}= 0.1820 D_{85}= 0.1365 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

Moisture content: 16.3%

Location: TP-03
Sample Number: S323-0120 **Depth:** 1.0'-3.0' **Date:** 6/22/23

ALLWEST

Client: IMEG Consultants Corp.
Project: Orchard Grove Subdivision

Project No: 723-026G **Figure** C-3

Tested By: K. Semanko **Checked By:** D. Schmitz

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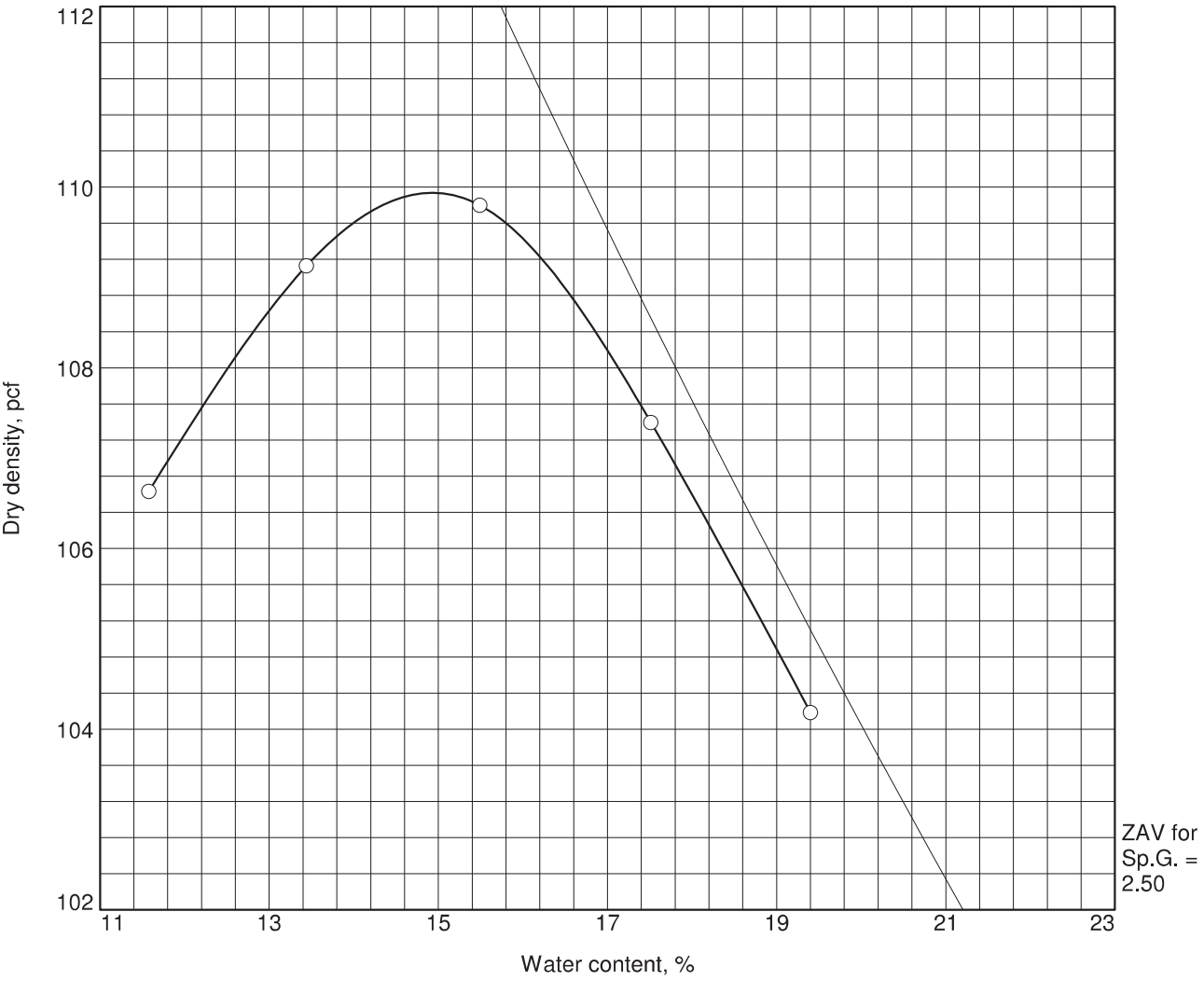
Moisture Density Curve



Test specification: ASTM D 698-12 Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
1.0'-3.0'	ML	A-4(0)	-	-	NP	NP	2	65

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 109.9 pcf Optimum moisture = 14.9 %	Sandy silt

Project No. 723-026G **Client:** IMEG Consultants Corp.
Project: Orchard Grove Subdivision

○ **Location:** TP-03 **Sample Number:** S323-0120

Remarks:

ALLWEST

Figure C-4

Tested By: K. Semanko **Checked By:** D. Schmitz

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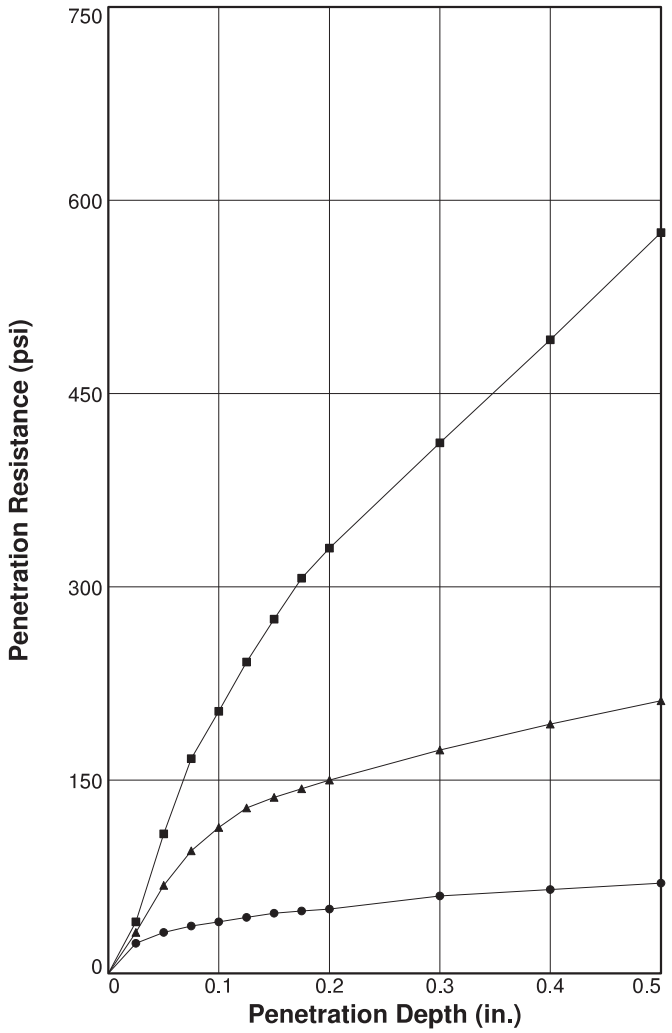
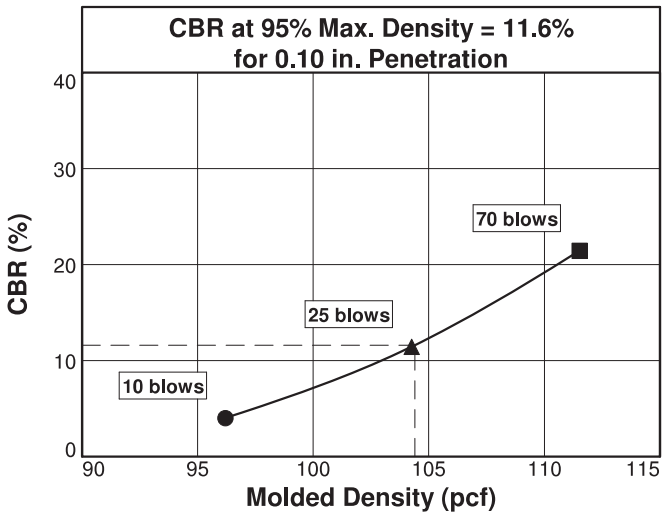
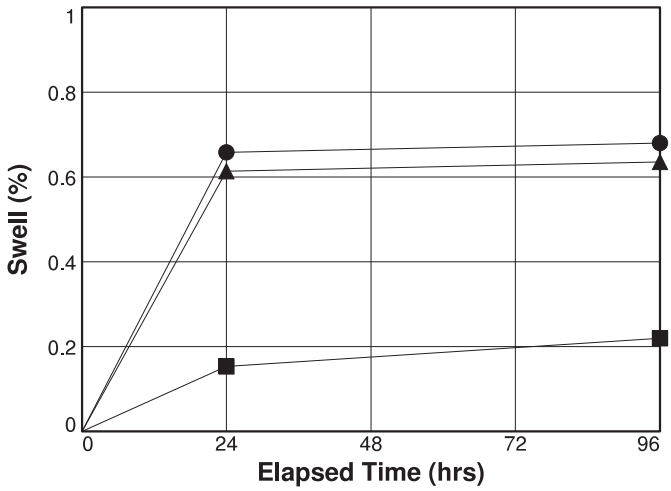
BEARING RATIO TEST REPORT
ASTM D1883-16







	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	96.2	87.5	14.4	95.6	86.9	24.8	4.0	3.3	0.000	10	0.7
2 △	104.3	94.9	14.4	103.6	94.3	22.2	11.4	10.0	0.002	10	0.6
3 □	111.5	101.5	14.4	111.3	101.3	20.4	21.4	22.4	0.007	10	0.2

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Sandy silt	ML	109.9	14.9	NP	NP

Project No: 723-026G

Project: Orchard Grove Subdivision

Location: TP-03

Sample Number: S323-0120 **Depth:** 1.0'-3.0'

Date: 6/22/23

ALLWEST

Test Description/Remarks:

Figure C-5

September 26, 2023

Ms. Tamara Ross
IMEG Consultants Corp.
1817 South Avenue West, Suite A
Missoula, Montana 59801

RE: Revised Geotechnical Evaluation
Orchard Grove Subdivision
2500 Block Larkinwood Drive West
Missoula, Montana
ALLWEST Project No. 723-026G

Ms. Ross,

ALLWEST has completed the following revised geotechnical evaluation for the proposed Orchard Grove residential subdivision to be located on the south side of the 2500 block of Larkinwood Drive West in Missoula, Montana. The purpose of this evaluation was to characterize the soil and geologic conditions on the property. The attached report presents the results of the field evaluation and our recommendations to assist with design and construction of the proposed project.

We appreciate the opportunity to provide these services to you on this project. If you have any questions or need additional information, please call us at (406) 206-5911.
Sincerely,

ALLWEST

Prepared by:

Andrew Warren. P.E.
Senior Geotechnical Engineer

Reviewed by:

Shawn Turpin, P.E.
Senior Geotechnical Engineer

GEOTECHNICAL EVALUATION
ORCHARD GROVE SUBDIVISION
2500 BLOCK LARKINWOOD DRIVE WEST
MISSOULA, MONTANA
ALLWEST PROJECT NO. 723-026G

September 26, 2023

Prepared for:
Ms. Tamara Ross
IMEG Consultants Corp.
1817 South Avenue West, Suite A
Missoula, Montana 59801

Prepared by:
ALLWEST
2720 Palmer St Unit A
Missoula, Montana 59808

ALLWEST

WWW.ALLWESTTESTING.COM

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APPENDICES

Appendix A –
- Vicinity Map (Figure A-1)
- Test Pit Location Map (Figure A-2)

Appendix B –
- Test Pit Logs
- Unified Soil Classification System

Appendix C –
- Laboratory Test Results

EXECUTIVE SUMMARY

ALLWEST has completed the authorized geotechnical evaluation for the proposed Orchard Grove Subdivision project located on the south side of the 2500 block of Larkinwood Drive West in Missoula, Montana. The general location of the project is shown on the Vicinity Map, Figure A-1, in Appendix A of this report. The purpose of the evaluation was to assess the subsurface conditions throughout the project site with respect to the proposed design and construction. This report details the results of the field evaluation and presents recommendations to assist in the design and construction of the proposed development. A summary of geotechnical considerations follows:

- The general subsurface soil profile observed in the test pits consisted of topsoil covering varying thicknesses of sandy silt. Poorly graded gravel with sand and cobbles was generally observed below the silt to the maximum depth explored, approximately 10 feet.

- The proposed structures can be supported on conventional spread footings bearing on a properly prepared subgrade consisting of undisturbed natural gravel or minimum of 12 inches of compacted granular structural fill where competent gravel is not present at the foundation elevations. Spread footings supported on a properly prepared subgrade as detailed herein may be designed for an allowable bearing pressure of 2,500 psf.

- Pavement sections consisting of 3 inches of asphalt over 6 inches of base course and 3 inches of asphalt over 8 inches of base course are recommended for use on local asphalt streets and minor collector roadways, respectively.

- This geotechnical evaluation was prepared based on preliminary plans that were made available at the time of exploration. The geotechnical engineer must be informed of future changes to the site layout, proposed structure locations/layout, and/or loading criteria that differ from the assumptions stated in this report.

Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. If we are not retained to provide required construction observation and materials testing services, we cannot be responsible for soil engineering related construction errors or omissions. This summary should be used in conjunction with the entire report for design purposes. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The report section titled *10.0 EVALUATION LIMITATIONS* should be read for an understanding of the report limitations.

1.0 SCOPE OF SERVICES

To complete this geotechnical evaluation, ALLWEST accomplished the following scope of services:

1) Performed a field evaluation by observing the excavation of five test pits throughout the project site. Subsurface conditions observed in the test pits were described and visually classified, and the subsurface profiles were logged.

2) Performed infiltration testing at two test pit locations in accordance with Appendix 6-F of the current City of Missoula Public Works Standards and Specifications Manual.

3) Performed laboratory tests on soil samples to assess the appropriate engineering soil properties and characteristics for the proposed development.

4) Performed engineering analyses and prepared recommendations to assist project planning, design, and construction.

Services were provided in general accordance with ALLWEST's proposal 723-026P dated April 28, 2023.

2.0 PROJECT DESCRIPTION

The project will consist of the development of approximately 3 acres into a subdivision containing a variety of residential units. Preliminary drawings provided by IMEG Consultants Corp. (IMEG) indicate the property will be divided into 26 individual lots. Stormwater is planned to be managed on-site.

An asphalt paved street will connect the various lots to Larkinwood Drive West or Grove Street. Preliminary anticipated traffic conditions were not available to ALLWEST at the time the report was prepared. However, based on the type of development proposed, a mixture of passenger car and occasional delivery vehicle traffic is anticipated.

Site grading plans were not provided to ALLWEST at the time of report preparation, but it is assumed that cut on the order of 2 feet or less is anticipated for construction of the structures and associated foundations. Fill above existing grades is anticipated to be 2 feet or less to match surrounding site contours and to provide positive drainage away from the new structures.

3.0 EVALUATION PROCEDURES

To complete this evaluation, ALLWEST reviewed soil and geologic literature for the project area. Subsurface conditions were evaluated at the site by excavating five test pits at the project site on May 23, 2023. The test pits were excavated using a track-mounted Sany SY5OU mini-excavator equipped with a 30-inch soil excavation bucket. Approximate locations of the test pits are shown on Figure A-2, Test Pit Location Map in Appendix A.

Prior to mobilization, Montana 811 was contacted to request the location and clearance of public underground utilities. Observation of the site was also performed to determine possible access limitations to proposed exploration locations prior to excavation.

Disturbed grab and bulk samples representative of soil conditions from select locations were obtained from excavation spoils.

Subsurface conditions observed in the test pits were visually described and classified in general accordance with ASTM D2488 and the subsurface profiles were logged by an ALLWEST geotechnical engineer. Detailed descriptions of the soil observed in the test pits are presented on the test pit logs found in Appendix B of this report. The descriptive soil terms used on the test pit logs, and in this report, can be referenced by the Unified Soil Classification System (USCS). A summary of the USCS is included in Appendix B.

4.0 SITE CONDITIONS

The project site consists of a residential neighborhood bordered by Larkinwood Drive West to the north, South Grove Street to the west, North Reserve Street to the east, and additional residential development to the south. The existing site topography is relatively flat, with less than five feet of elevation difference across the development. To the south, however, the site does increase in elevation several feet.

4.1 GENERAL GEOLOGIC CONDITIONS

The site is in an area mapped as Quaternary alluvium of modern channels and flood plains (Qal) by the Montana Bureau of Mines and Geology (MBMG). Based on the mapping and previous experience at nearby project sites, soil and geologic conditions in the site vicinity were expected to consist of gravel and sand with cobbles and boulders and occasional layers of silt or clay. The natural soils observed in the test pits were generally consistent with the MBMG geologic mapping and assumptions made by ALLWEST.

4.2 SEISMICITY

ALLWEST anticipates the 2018 International Residential Code (IRC) will be used as the basis for design of the proposed structures as part of this project. Based on laboratory testing results, subsurface exploration information, and knowledge of the local geology, the natural soils at the site can be characterized as Site Class C for seismic design, in accordance with the previously referenced standard. Soils categorized as Site Class C generally have a very dense relative density, with average standard penetration resistance values greater than 50 blows per foot in the upper 100 feet. These blow counts correlate to average undrained shear strengths in excess of 2,000 pounds per square foot (psf).

The following seismic parameters may be used for design of the proposed structures:

Parameter	Value	Description
Latitude (degrees)	46.870156°	Project site geographic position
Longitude (degrees)	-114.040785°	Project site geographic position
Seismic Site Class	C	Seismic Design Site Classification
Risk Category	II	Seismic design risk category
S_S	0.418	MCE_R ground motion (period = 0.2s)
S_1	0.140	MCE_R ground motion (period = 1.0s)
S_{DS}	0.362	Numeric seismic design value at 0.2s SA
S_{D1}	0.140	Numeric seismic design value at 1.0s SA
F_a	1.3	Site amplification factor at 0.2s
F_v	1.5	Site amplification factor at 1.0s
PGA	0.185	MCE_G peak ground acceleration
F_{PGA}	1.215	Site amplification factor at PGA
PGA_M	0.225	Site modified peak ground acceleration

5.0 SUBSURFACE CONDITIONS

General characterization of the subsurface profile observed follows, grouping soils with similar physical and engineering properties. The test pit logs should be referenced for more detailed descriptions of the soil types and their estimated depths. It should be noted that depths shown as boundaries between various strata on boring logs are approximate. Transitions between soil types/layers may be gradual. In addition, subsurface conditions may vary between exploration locations from those observed at discrete boring locations. Such changes in conditions would not be apparent until construction. If subsurface conditions deviate from those observed in the test pits, construction timing, plans, and costs may change.

The general subsurface soil profile observed in the test pits consisted of topsoil covering varying thicknesses of sandy silt. Poorly graded gravel with sand and cobbles was generally observed below the silt to the maximum depth explored, approximately 10 feet.

5.1 TOPSOIL

Topsoil was observed from the surface to depths ranging from approximately 3 to 12 inches in the test pits.

5.2 FILL

Approximately 3 inches of presumed ¾" minus crushed base course was observed beneath a thin layer of topsoil in test pit TP-03. The material was slightly moist, angular, and fine- to coarse-sized.

5.3 SILT

Sandy silt was observed below the topsoil (or fill in TP-03) in each of the test pits except TP-01 to depths on the order of 2.5 to 5 feet. The silt was non-plastic, and generally brown to light brown. Test pit observations indicate the silt was generally stiff to very stiff in relative consistency.

5.4 SAND

A layer of silty sand was observed from approximately 5 to 6.5 feet in test pit TP-02. The sand was light brown in color, slightly moist, fine-grained, and appeared medium dense in relative density.

5.5 GRAVEL

Gravel generally classifying as poorly graded gravel with sand and cobbles was observed in each of the test pits below topsoil or silty and sandy layers from depths ranging from 1 to 6.5 feet below existing grades throughout the subject parcel, and extending to the maximum depth explored, approximately 10 feet. The gravel contained cobbles and trace boulders throughout. The gravel varied in color from brown to multi-colored, was fine- to coarse-sized, subangular to subrounded, and appeared medium dense in relative density.

5.6 GROUNDWATER CONDITIONS

At the time of exploration, groundwater was not observed in any of the test pits to the maximum depth explored, approximately 10 feet. A review of groundwater well data and groundwater monitoring data provided by IMEG indicates the static groundwater level in this area is somewhat variable but typically ranges from 10 to 15 feet in depth below existing grades. Changes in precipitation, irrigation, construction, or other factors may impact depth to groundwater and surface water flow on the property and therefore, conditions may be different during construction.

6.0 INFILTRATION TESTING

In-situ infiltration testing was performed in 2 test pit locations to assist in on-site stormwater management design. Infiltration testing was performed in accordance with the procedures outlined in Appendix 6-F (Test Pit Infiltration Method) of the current Missoula Public Works Standard Specifications Manual.

At each testing location, test pits were excavated to depths on the order of 9 to 10 feet below existing grades. Upon excavation to depth, solid 4-inch schedule 40 PVC pipe was installed to the bottom of the excavation, and the excavation surrounding the pipe was backfilled with excavation spoils.

ALLWEST returned to the site to perform infiltration testing June 23, 2023. Approximately 4 to 6 inches of pea gravel was placed in the PVC pipes for a splash guard. Approximately 1-foot of water head was then introduced into the PVC pipe for a one-hour saturation period. Following the saturation period of one hour, an approximate 6-foot head of water was used to begin each trial, and the time for the water column to drop 24 inches was recorded. Per test method procedures, locations requiring less than one hour for the water column to drop 24 inches, the average rate of the final four trials not varying by more than 10 percent for each test is reported as the infiltration rate. For locations requiring more than one hour for the water column to drop 24 inches, the final trial following two consecutive trials not varying by more than 10 percent is reported as the infiltration rate. These data are presented in the following table. It is recommended the civil engineer apply appropriate factors of safety to the measured

values or select lower values based on previously observed and documented performance of drywells in the vicinity of the project.

Test Location	Depth of Test Below Ground Surface (in)	Infiltration Rate (in/hr)	Soil Classification (USCS)
TP-01	53	3,649	Poorly graded gravel with sand and cobbles (GP)
TP-04	66.75	2,150	Poorly graded gravel with sand and cobbles (GP)

7.0 LABORATORY TESTING

ALLWEST performed laboratory testing to supplement field classifications and to assess the appropriate soil engineering properties for use in design of the proposed structures. The laboratory testing program conducted for this evaluation included the following tests:

Test Performed:	Information Acquired:
Natural Water Content (ASTM D2216)	Water content representative of soil conditions at the time and location samples were collected
Particle-size Distribution (ASTM D6913)	Size and distribution of soil particles (i.e., gravel, sand, and silt/clay) of a particular sample
Atterberg Limits (ASTM D4318)	Effects of varying water content on the consistency of fine-grained soils present in a particular sample
Moisture-Density Relationship (ASTM D698)	Relationship between the laboratory maximum dry density and corresponding water content of a soil for a particular compaction effort
California Bearing Ratio (ASTM D1883)	The ability of a soil to support a particular pavement section subjected to known traffic loading
Chemical Analysis (ASTM D4972, G187, C1580)	The potential of a soil to corrode metal or concrete used in construction

Laboratory test results are presented in Appendix C. Discussion of some of the laboratory testing results follows.

7.1 CLASSIFICATION

Gradation analyses in conjunction with Atterberg limits testing were performed on representative samples from test pits TP-01 (1 to 3 feet), TP-02 (5 to 6.5 feet), and TP-03 (1 to 3 feet). Soil classifications of poorly graded gravel with sand, silty sand, and silt with sand were determined by the testing of each sample. Atterberg limits testing performed on the portion passing the No. 40 sieve indicate the site soils are non-plastic. Graphical results of the laboratory testing are presented in Figures C-1 through C-3 in Appendix C.

7.2 MOISTURE-DENSITY RELATIONSHIP

Moisture-density relationship testing was performed on a bulk sample of representative material obtained from test pit TP-03 (1 to 3 feet) in accordance with ASTM D698 (standard Proctor). Through a series of controlled trials using a variety of moisture contents, a moisture-density curve was established for the subject soil. Results of the testing indicate a maximum dry density of approximately 109.9 pounds per cubic foot (pcf) at an optimum moisture content of 14.9 percent for the sample tested (Figure C-4, Appendix C).

7.3 CALIFORNIA BEARING RATIO

California Bearing Ratio (CBR) testing was performed in accordance with ASTM D1883 on a bulk sample of representative material obtained from test pit TP-03 (1 to 3 feet). Testing determined a CBR value of 11.6 percent when compacted to 95 percent of the maximum dry density (Figure C-5, Appendix C). CBR strengths in this range are considered a medium strength subgrade for supporting pavements under controlled placement conditions.

7.4 CHEMICAL ANALYSIS

Factors which contribute to soil corrosion of buried metal structures include soil resistivity, pH, presence of water and oxygen, and soluble salts. Soil minimum resistivity and pH are typically regarded as the primary indicators of soil corrosion potential. In general, fine-grained soils (silt and clay) have lower resistivity and present a greater potential for corrosion. With an increase in soil moisture content, resistivity generally decreases, and corrosion potential generally increases. Soils with low pH and relatively high resistivity are also corrosive.

Generalized effects of soil resistivity and pH with respect to corrosion potential are summarized in the following table, based on information available from the National Association of Corrosion Engineers (NACE).

Parameter	Soil Corrosivity
Soil Resistivity (ohm-cm)	
>20,000	Essentially Non-corrosive
10,000 – 20,000	Mildly corrosive
5,000 – 10,000	Moderately corrosive
3,000 – 5,000	Corrosive
1,000 – 3,000	Highly Corrosive
<1,000	Extremely Corrosive
Soil pH	
<5.5	Extremely corrosive
5.5 – 6.5	Moderately corrosive
6.5 – 7.5	Neutral
>7.5	None (alkaline)

The American Concrete Institute Standard 318 (ACI 318) presents durability requirements for concrete based on the exposure category and class of the structure, dependent on the ground and weather situation of the area. Sulfate attack (exposure category S) is one of the most important factors that influences the long-term durability of concrete structures when exposed to potentially corrosive environments such as soil or groundwater. The exposure class

influences proportion of mixture, type of cement and cementitious materials, and percentage of chemical admixtures like air-entrainment admixture.

Durability requirements for concrete in contact with water or soil that contains sulfate ions which can solute in water are summarized in the following table, based on information available from ACI 318. The degree of severity of concrete exposure to sulfate attack constitute the four classes presented.

Exposure Class	Water-Soluble Sulfate (SO_4^{2-}) in Soil (percent by mass)	Maximum Water/Cement Ratio	ASTM C150 Cement Type
S0	$SO_4^{2-} < 0.10$	N/A	No type restriction
S1	$0.10 \leq SO_4^{2-} < 0.20$	0.50	II
S2	$0.20 \leq SO_4^{2-} < 2.00$	0.45	V
S3	$SO_4^{2-} > 2.00$	0.45	V plus pozzolan or slag

Chemical analyses, including pH, resistivity, and water-soluble sulfate content testing, were performed on a sample of representative material from test pit TP-03. Results of the testing are summarized in the following table.

Test Pit	Depth (feet)	pH	Minimum Resistivity (ohm-cm)	Water-Soluble Sulfate Content (%)
TP-03	1 – 3	7.4	800	0.01

Results of resistivity testing suggest the on-site silt has the potential to exhibit extremely corrosive behavior to buried metal in contact with it. Water-soluble sulfate content testing results indicate a low exposure to sulfate attack in normal strength concrete exposed to these materials. Based on testing results, Exposure Category S0 may be specified for concrete in direct contact with on-site soils.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are presented to assist in planning and design of the proposed structures and improvements. Recommendations are based on ALLWEST's understanding of the proposed construction, conditions observed in the test pits, laboratory testing, and engineering analyses. If the construction scope changes, or if conditions are encountered during construction which are different than those described in this report, ALLWEST should be notified so the recommendations herein can be reviewed and revisions can be provided, if necessary. Additionally, ALLWEST should be given the opportunity to review plans and specifications to determine whether the recommendations presented in this report were properly incorporated as intended.

8.1 SITE GRADING

The following recommendations are provided for site grading considerations.

8.1.1 Clearing and Stripping

Prior to placement of fill, the site should be stripped of organics, debris, and other deleterious material in the construction footprint. Based on observations of subsurface conditions in the test pits and general site reconnaissance, the stripping depth for removal of topsoil within structure and pavement envelops is estimated to range from approximately 3 to 12 inches. Removed materials should be replaced with compacted granular structural fill to achieve design elevations, if required. Where feasible, extend removal of organics, and other debris or deleterious material a minimum of five feet beyond the perimeter of building footprints.

8.1.2 Excavation

Based on conditions observed in the test pits, it is anticipated that excavation of the on-site soil can be achieved with typical heavy-duty excavation equipment.

Unsupported vertical slopes or cuts deeper than 4 feet are not recommended if worker access is necessary. Cuts should be adequately sloped, shored, or supported to prevent injury to personnel from local sloughing and spalling. The subsurface gravel soils are susceptible to caving. Excavations should conform to applicable federal, state, and local regulations. Regarding trench wall support, the site soil is considered Type C soil according to OSHA guidelines and therefore should not exceed a 1.5H:1V temporary slope.

8.1.3 Subgrade Preparation

ALLWEST defines the subgrade as the native soil exposed at the base of excavation prior to placement of fill, concrete, or asphalt. The subgrade requires an evaluation by the geotechnical engineer-of-record or staff under their supervision to confirm the site conditions are consistent with those observed during our geotechnical evaluation. Soils at pavement and slab subgrade elevations are anticipated to consist of sandy silt. Soils at foundation subgrade elevations, following over-excavation, are anticipated to consist of poorly graded gravel with sand.

The site silt soils are susceptible to pumping and rutting if subjected to significant and repeated traffic by rubber tire construction equipment. It is recommended tracked construction equipment be used to traffic the site and rubber tire equipment be limited to haul routes.

Natural soils at foundation subgrade elevations are generally anticipated to consist of poorly graded gravel with sand, or silt in various regions of the subdivision. Cobbles and possible boulders within the gravel strata should also be anticipated by the earthwork contractor. If large cobbles or boulders are encountered at subgrade elevations, they should be extracted and replaced with properly compacted granular structural fill to avoid point loading.

Prior to placement of fill, the exposed pavement and slab subgrade soils should be scarified to a depth of approximately 8 inches, moisture conditioned to within 2 percentage points of the optimum moisture content and compacted to at least 95 percent of the maximum dry density as determined by ASTM D698 (standard Proctor). Moisture conditioning of the subgrade surface may involve wetting or drying of the soil to help facilitate compaction. Please refer to

the in-situ moisture content laboratory test results for an estimation of existing soil-moisture conditions (at the time of exploration).

Any areas of soft or saturated subgrade soils which exhibit pumping or significant deflection should be over-excavated to firm, non-yielding soil and replaced with granular structural fill placed and compacted as described in the *Fill Placement & Compaction* section.

The subgrade should be sloped to promote runoff and reduce the potential for ponding of water on the subgrade surface. Proper grading of subgrade surfaces is critical to the long-term performance of supported structural elements. In the event the exposed subgrade becomes unstable, yielding, or unable to be compacted due to high moisture conditions or construction traffic, the materials should be removed to a sufficient depth to develop stable subgrade soils that can be compacted to the minimum recommended levels. The severity of construction problems will be dependent, in part, on the precautions that are taken by the contractor to protect the subgrade soils.

Weather conditions should be given careful attention during subgrade preparation to prevent excess moisture from collecting on or penetrating and possibly saturating the subgrade before and after compaction. It is recommended that the subgrade be temporarily sloped to provide drainage to a low area of the excavation and any excess water pumped from the excavation. Such collection and discharge must be in compliance with the Contractor's site-specific storm water pollution prevention plan (SWPPP). Should portions of the subgrade become excessively saturated, those areas should be sufficiently excavated, replaced with moisture conditioned soil, and properly compacted.

8.1.4 Materials

8.1.4.1 On-site Soil

The fine-grained soils present near surface throughout the project site are not suitable for re-use as structural fill beneath foundations or slabs but may be used for backfill of exterior foundation walls, trench backfill in utility trenches, and general site grading fill provided deleterious materials are removed, and the material is placed in accordance with the recommendations outlined in the *Fill Placement and Compaction* section.

Gravel of varying sand content was observed throughout the property. If a significant volume of gravel is generated from excavation, it is suitable for re-use as structural fill beneath foundations and slabs, provided material greater than 3-inches in size (i.e., cobbles and boulders) and deleterious materials are removed, and the material is placed in accordance with the recommendations outlined in the *Fill Placement and Compaction* section. In addition, on-site soils used for such purposes should be thoroughly mixed prior to placement to achieve a uniform texture.

8.1.4.2 Import Soil

Import soil, where required, should be free of organics, debris, and other deleterious material and meet the recommendations in the following table. Import materials should approved by the Geotechnical Engineer prior to delivery to the site.

Fill Type	Recommendations	
	Sieve	***Percent Passing***
Import Granular Structural Fill[1,2]	3-inch	100
	¾-inch	70 – 100
	No. 4	25 – 50
	No. 40	10 – 20
	No. 200	0 – 15

[1] Soils with more than 30% retained on the ¾-inch sieve are considered 'oversized' and may require method-based compaction methods.
[2] Material should be non-plastic.

Crushed base course meeting the requirements of MPWSS section 02235 gradation for crushed base course should be specified for use beneath pavements.

8.1.4.3 Fill Placement and Compaction

Fill should be placed in lift thicknesses appropriate for the compaction equipment used. Typically, six to eight-inch loose lifts are appropriate for typical rubber tire and steel drum compaction equipment. Lift thicknesses should be reduced to a maximum of four inches for hand operated compaction equipment. Fill should be moisture conditioned to within two percent of the optimum moisture content prior to placement to facilitate compaction. Fill placed for on-site improvements and in structural areas should be compacted to the following minimum percentages in accordance with the associated standard.

Fill Area	Compaction (%)	Standard
Subgrade	95	ASTM D698
Beneath Foundations	98	ASTM D698
Foundation Wall Backfill	95	ASTM D698
Beneath Slabs-on-grade and Flatwork	98	ASTM D698
Utility Trench Backfill	98	ASTM D698
Site Grading	95	ASTM D698
Beneath Pavements	98	AASHTO T-99

For fill materials which are too coarse to establish a relevant moisture-density relationship curve (Proctor) and associated density test results with a nuclear densometer in accordance with ASTM methodology (greater than 30 percent retained on a ¾-inch sieve), a method-based compaction specification should be established in accordance with ASTM D698. The compaction method should be established by making repeated passes with appropriately sized compaction equipment over the subgrade with appropriate soil moisture conditioning until a dense and unyielding surface is achieved (a minimum of six, full-coverage passes is recommended). For areas where a large compactor cannot access, a walk-behind articulating trench roller or heavy plate compactor may be used if approved by the geotechnical engineer. Where appropriate, a moisture-density relationship (Proctor) test should be performed to assist in evaluating appropriate moisture and density conditions of the method-based compaction procedures. Success in executing proper compaction control is highly dependent upon the quality and experience of the contractor and inspector.

8.1.5 Wet Weather Construction

Due to the climatic effects in this region during late fall, winter, and spring (generally wet conditions), it is recommended that construction (especially site grading) take place during the summer and early fall season, if possible. If construction occurs during or immediately after excessive precipitation, it may be necessary to over-excavate and replace wet subgrade soil which might otherwise be suitable.

If construction is undertaken in wet periods of the year, it will be important to slope the ground surface to provide drainage away from construction. In addition, groundwater levels will likely be higher during wet periods of the year.

8.1.6 Cold Weather Construction

Foundations should be embedded adequately to protect against frost action as recommended in the *Foundation Recommendations* section of this report. Removal of frost susceptible soil within the frost-depth zone (approximately 42 inches) below concrete flatwork (walkways, entryway pads, etc.) is recommended to help reduce the potential detrimental effects of frost heave. The near surface silt soils are considered frost susceptible.

If site grading and construction are anticipated during cold weather, proper winter construction practices should be observed. Snow and ice should be removed from excavated and fill areas prior to additional earthwork or construction. Structural portions of the construction should not be placed on frozen ground; nor should the supporting soils for buildings be permitted to freeze during or after construction. Frozen soils should not be used as fill.

8.2 FOUNDATIONS

The following recommendations for conventional spread footing foundation systems are provided in the following section, based on the subsurface conditions observed and the stated assumptions.

8.2.1 Spread Footings

The following recommendations are provided for use in design and construction of conventional spread footing foundation systems for the proposed structures, based on the subsurface conditions observed and the stated assumptions.

- Footings should be supported on a properly prepared subgrade consisting of undisturbed natural gravel. If sand or silt is encountered at the footing elevation, it should be over-excavated a minimum of 12 inches with granular structural fill, placed and compacted as recommended herein.

- Footings supported on a properly prepared subgrade consisting of undisturbed natural gravel or a minimum of 12 inches of properly compacted granular structural fill may be designed for an allowable bearing pressure of 2,500 psf. This allowable bearing pressure may be increased by one-third to account for short term wind and seismic loads.

- Footings should be embedded a minimum of 42 inches below the lowest adjacent grade to provide protection against frost action.

- Unless specified by the project engineer or governing codes requiring an increased width, continuous footings should be a minimum of 18 inches in width and column footings should be a minimum of 24 inches in width.

- An ultimate value for coefficient of friction between cast-in-place concrete and natural or imported granular structural fill of 0.45 may be used for design.

- Total settlement estimated for spread footing foundations designed and constructed as recommended herein will be 1-inch or less. Differential settlement is estimated to be ½-inch or less in a 30-foot span.

- Foundation bearing surfaces should be free of loose soil and debris.

- It is recommended a permanent foundation drainage system be designed and constructed around the perimeter of the structure. The drainage system should consist of a four-inch diameter, Schedule 40 PVC or high-density polyethylene (HDPE), perforated pipe surrounded with a free draining aggregate. The pipe should be located at the lowest elevation of the footing trench excavation such that gravity drainage may be achieved. Water collected in the drains should be discharged down-gradient of the structure.

- Backfill placed adjacent to foundation walls should be placed uniformly on both sides of the foundation walls to reduce the potential for displacement of the foundation walls.

- A geotechnical engineer from ALLWEST or their designated representative should observe the subgrade below foundation excavations prior to the placement of any granular structural fill, concrete forms, and reinforcing steel to ensure the intent of the design criteria presented herein is met.

- Portland cement type used should be selected by the project structural engineer so that the desired performance is achieved. No soil-related modifications to typical concrete mix designs used in this locale are recommended herein.

8.3 CONCRETE SLABS-ON-GRADE

Concrete slabs-on-grade should be supported on a properly prepared subgrade, prepared as previously recommended herein. A minimum of 6 inches of crushed base course should be placed immediately below slabs. Base course should be compacted as recommended in the *Fill Placement and Compaction* section of this report. Portland cement type used in concrete slabs should be selected by the project structural engineer so that the desired performance is achieved. No soil-related modifications to typical concrete mix designs used in this locale are recommended herein.

A vapor retarder is recommended beneath the slab-on-grade floor if moisture sensitive floor coverings and/or adhesives are used. If a vapor retarder is used, a 15-mil, puncture-resistant proprietary product such as Stego Wrap, or an approved equivalent that is classified as a Class A vapor retarder in accordance with ASTM E1745 is recommended. Overlap lengths and the

appropriate tape used to seal the laps should be in accordance with the vapor retarder manufacturer's recommendations. To help avoid puncturing the vapor retarder, a thin sand layer placed over the crushed gravel is recommended. When conditions warrant the use of a vapor retarder, the slab designer and slab contractor should refer to ACI 302 and ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

8.4 LATERAL EARTH PRESSURES

Below grade building walls should be designed to resist lateral earth pressures. Lateral earth pressures for the on-site soils should be calculated using the following equivalent fluid pressures:

Condition	Approved On-site and Imported Granular Structural Fill (pcf)	On-site silt (pcf)
At-rest	55	60
Active	35	40
Passive	350	225

The equivalent fluid pressures presented are for horizontal backfill without surcharge loading. The active and at-rest pressures should be increased by an equivalent fluid weight of 10 pounds per cubic foot (pcf) and the passive pressure should be reduced by 10 pcf for seismic design. The dynamic component of the active pressure acts at a height of approximately 0.6 times the height of the wall.

The above equivalent fluid pressure values do not account for hydrostatic forces. Walls that are braced in a manner that does not allow any rotational movement (rigid) should be designed using the given "at-rest" equivalent fluid pressure.

8.5 STORMWATER AND DRAINAGE

The grading plan should include slopes such that stormwater run-off is directed away from the building and pavement areas to a stormwater management system. The ground surface adjacent to foundations should be sloped a minimum of five percent within 10 feet of the building. If the adjoining ground surface consists of hardscapes, it may be sloped a minimum of two percent in the first 10 feet. Water should not be allowed to infiltrate or pond adjacent to foundations.

Landscaping which requires watering is discouraged adjacent to structures due to the potential to introduce water into the subgrade soils by the irrigation system. Such introduction of water could result in greater movement of foundations and slabs than those discussed herein.

8.6 PAVEMENT

Based on the subsurface conditions observed in the test pits, it is anticipated that pavement subgrades will mostly consist of sandy silt. CBR testing was performed on a representative sample of the silt subgrade soil and determined a CBR value of 11.6 percent and was used for pavement design purposes.

Recommended pavement sections for the project are based on the following assumptions.

Criteria	Assumed Value
Pavement Life	20 years
Subgrade California Bearing Ratio (CBR)	11.6%
Reliability	85%
Initial Serviceability	4.2
Terminal Serviceability	2.0

8.6.1 Roadways

Roadway loading for the proposed residential street sections for this project is estimated based on the assumption that traffic loading conditions totaling 50,000 and 100,000 equivalent single-axle loads (ESALs) or less will be required for local asphalt streets and minor collector streets, respectively, for the assumed pavement design life (20 years).

The pavement sections presented in the following table are recommended for the proposed roadway sections for this project based on assumed ESAL values.

Roadway Type	AC[1] (in)	CBC[2] (in)	Total (in)
Local Asphalt Street	3	6	9
Minor Collector Steet	3	8	11

[1]AC = Asphalt Concrete
[2]CBC = Crushed Base Course

Crushed base course meeting the requirements of MPWSS section 02235 gradation for crushed base course should be specified for use. It is recommended the asphaltic concrete surface be compacted per MPWSS requirements.

Crack maintenance on asphalt pavement should be performed at a minimum of every three years, or immediately when cracking is evident. Crack sealing will help reduce surface water infiltration into the underlying clay soils. A shortened pavement life will result from an improper or inadequate maintenance program.

8.7 OWNER OPERATION AND MAINTENANCE RESPONSIBILITIES

Property owners must accept the responsibility for maintaining the site grading, drainage, monitoring utility connections, and have a defined schedule for verifying and making necessary repairs as necessary to maintain the overall as designed positive site grading to ensure long term performance of the foundations as defined herein. The property owner shall not make modifications to site grading that compromises the as-designed positive surface drainage. In addition, landscaping and irrigation must be designed, installed, and maintained so as to not impact the overall site grading and/or become a source of water to the site soils which could result in movement of the support structures, pavement, or slabs.

9.0 ADDITIONAL RECOMMENDED SERVICES

ALLWEST should be retained to provide construction materials testing and observation to verify the soil and geologic conditions and the report recommendations are incorporated into the actual construction. The design engineer-of-record should determine applicable testing and special inspection requirements in accordance with the governing code documents. If ALLWEST is not retained to provide required construction observation and materials testing services, ALLWEST cannot be responsible for soil engineering related construction errors or omissions.

10.0 EVALUATION LIMITATIONS

This report has been prepared to assist the planning and design for the proposed Orchard Grove Subdivision project located on the south side of the 2500 block of Larkinwood Drive West in Missoula, Montana. The evaluation was provided based on preliminary plans that were made available at the time of exploration. The geotechnical engineer must be informed of significant changes to the building layout and/or loading criteria that differ from the assumptions stated in this report. Reliance by any other party is prohibited without the written authorization of ALLWEST. Services consist of professional opinions and conclusions made in accordance with generally accepted geotechnical engineering principles and practices in the local area at the time this report was prepared. This acknowledgement is in lieu of all warranties, express or implied.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

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Appendix A

Vicinity Map (Figure A-1)
Test Pit Location Map (Figure A-2)

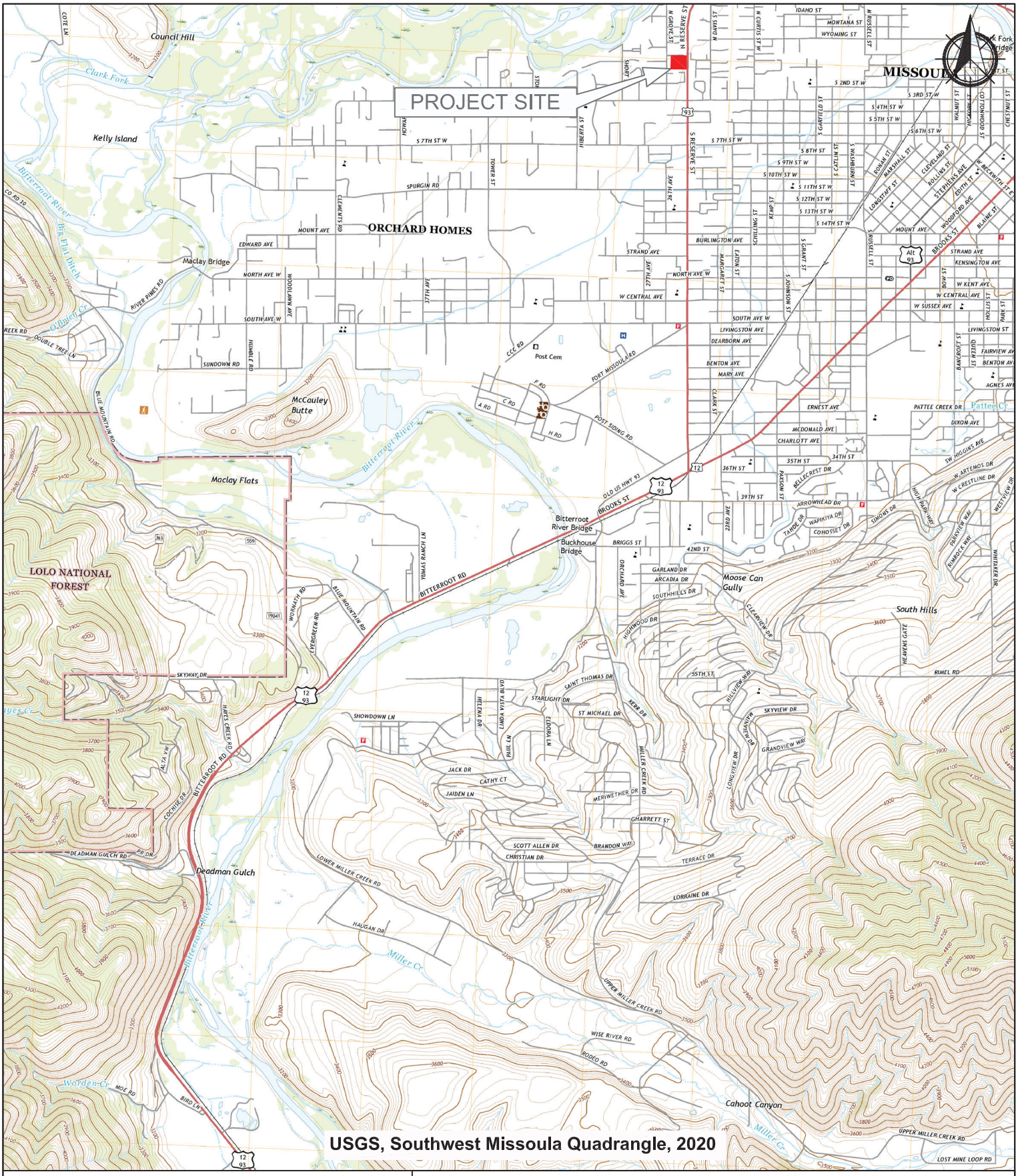


	FIGURE A-1: VICINITY MAP
PROJECT:	723-026G - Orchard Grove Subdivision
LOCATION:	Missoula, Montana
CLIENT NAME:	IMEG Consultants Corp.
DATE:	June 2023

ALLWEST
2720 Palmer St Unit A
Missoula, Montana 59808
(406) 206-5911
www.allwesttesting.com

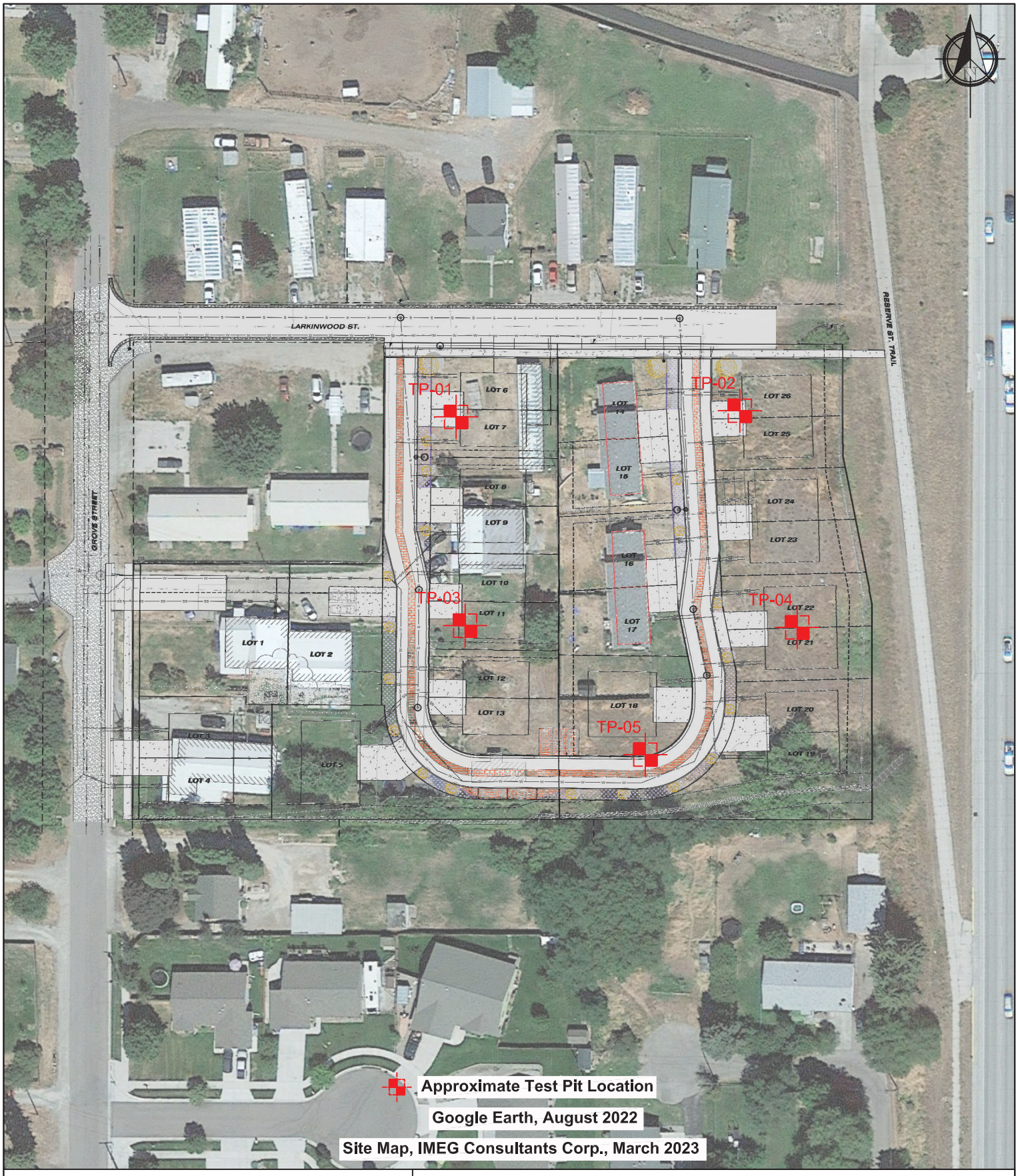


FIGURE A-2: TEST PIT LOCATION MAP	
PROJECT:	723-026G - Orchard Grove Subdivision
LOCATION:	Missoula, Montana
CLIENT NAME:	IMEG Consultants Corp.
DATE:	June 2023

ALLWEST
2720 Palmer St Unit A
Missoula, Montana 59808
(406) 206-5911
www.allwesttesting.com

Appendix B

Test Pit Logs
Unified Soil Classification System

ALLWEST
MISSOULA, MONTANA
GEOTECHNICAL SECTION

TEST PIT LOG

DATE STARTED: 5/23/2023
DATE FINISHED: 5/23/2023
OPERATOR: Pat Malone
COMPANY: MFCII406, LLC
LOGGER: Andrew Warren
WEATHER: Sunny, Warm

TEST PIT TP-01

EXCAVATOR: Sany SY 5OU
EXCAVATION METHOD: 30" soil excavation bucket

PROJECT: 723-026G Orchard Grove Subdivision

NOTES:

DEPTH (ft)	USCS	TOTAL DEPTH: 6' DESCRIPTION	GRAPHIC LOG	SAMPLE #	NOTES
0	TOPSOIL	TOPSOIL; Silty SAND (SM): slightly moist to moist, fine-grained, dark brown.			
1	GP	Poorly graded GRAVEL with sand and cobbles (GP): medium dense, slightly moist, fine- to coarse-sized, fine-grained sand, subrounded, brown to multi-colored.			Bulk sample: 1' - 3' Moisture = 1% Gravel = 81% Sand = 18% Silt/Clay = 1.1%
2					
3					
4					
5					
6		Test pit terminated at 6 feet due to significant caving. 4" PVC installed. Groundwater not observed. Backfilled with excavation spoils.			
7					
8					
9					
10					
11					

WATER LEVELS
NE ▽ WHILE EXCAVATING
NE ▼ AT COMPLETION
NE ▼ AFTER EXCAVATING

ALLWEST
MISSOULA, MONTANA
GEOTECHNICAL SECTION

TEST PIT LOG

DATE STARTED: 5/23/2023
DATE FINISHED: 5/23/2023
OPERATOR: Pat Malone
COMPANY: MFCII406, LLC
LOGGER: Andrew Warren
WEATHER: Sunny, Warm

TEST PIT TP-02

EXCAVATOR: Sany SY 5OU
EXCAVATION METHOD: 30" soil excavation bucket

PROJECT: 723-026G Orchard Grove Subdivision

NOTES:

TOTAL DEPTH: 10'

DEPTH (ft)	USCS	DESCRIPTION	GRAPHIC LOG	SAMPLE #	NOTES
0	TOPSOIL	TOPSOIL; Silty SAND (SM): slightly moist to moist, fine-grained, dark brown.			
1	ML	Sandy SILT (ML): stiff to very stiff, slightly moist, non-plastic, light brown to brown.			
2					
3					
4					
5	SM	Silty SAND (SM), medium dense, slightly moist, fine-grained, light brown.			Grab sample: 5' - 6.5' Gravel = 1% Sand = 66% Silt/Clay = 33%
6					
7	GP	Poorly graded GRAVEL with sand and cobbles (GP): medium dense, slightly moist to moist, fine- to coarse-sized, fine-grained sand, subrounded, brown.			
8					
9					
10		Test pit terminated at 10 feet. Groundwater not observed. Backfilled with excavation spoils.			
11					

WATER LEVELS

NE ▽ WHILE EXCAVATING
NE ▼ AT COMPLETION
NE ▼ AFTER EXCAVATING

ALLWEST
MISSOULA, MONTANA
GEOTECHNICAL SECTION

TEST PIT LOG

DATE STARTED: 5/23/2023
DATE FINISHED: 5/23/2023
OPERATOR: Pat Malone
COMPANY: MFCII406, LLC
LOGGER: Andrew Warren
WEATHER: Sunny, Warm

TEST PIT TP-03

EXCAVATOR: Sany SY 5OU
EXCAVATION METHOD: 30" soil excavation bucket

PROJECT: 723-026G Orchard Grove Subdivision

NOTES:

TOTAL DEPTH: 10'

DEPTH (ft)	USCS	DESCRIPTION	GRAPHIC LOG	SAMPLE #	NOTES
0	TOPSOIL	TOPSOIL; Silty SAND (SM): slightly moist to moist, fine-grained, dark brown.			
	FILL	FILL; Poorly graded GRAVEL with silt and sand (GP-GM): apparent ¾" minus crushed base course, moderately compacted, slightly moist, fine- to coarse-sizedd, brown.			
1	ML	Sandy SILT (ML): stiff, slightly moist, non-plastic, brown.			
2					Bulk sample: 1' - 3' Moisture = 16% Gravel = 2% Sand = 33% Silt/Clay = 65%
3					
4					
5	GP	Poorly graded GRAVEL with sand and cobbles (GP): medium dense, moist to very moist, fine- to coarse-sized, fine-grained sand, subrounded, brown to gray.			
6					
7					
8		Very moist below 8'			
9					
10		Test pit terminated at 10 feet. Groundwater not observed. Backfilled with excavation spoils.			
11					

WATER LEVELS	
NE	▽ WHILE EXCAVATING
NE	▼ AT COMPLETION
NE	▼ AFTER EXCAVATING

ALLWEST
MISSOULA, MONTANA
GEOTECHNICAL SECTION

TEST PIT LOG

DATE STARTED: 5/23/2023
DATE FINISHED: 5/23/2023
OPERATOR: Pat Malone
COMPANY: MFCII406, LLC
LOGGER: Andrew Warren
WEATHER: Sunny, Warm

TEST PIT TP-04

EXCAVATOR: Sany SY 5OU
EXCAVATION METHOD: 30" soil excavation bucket

PROJECT: 723-026G Orchard Grove Subdivision

NOTES:

TOTAL DEPTH: 6.5'

DEPTH (ft)	USCS	DESCRIPTION	GRAPHIC LOG	SAMPLE #	NOTES
0	TOPSOIL	TOPSOIL; Silty SAND (SM): slightly moist to moist, fine-grained, dark brown.			
1	ML	Sandy SILT (ML): stiff, slightly moist, non-plastic, brown.			
2					
3	GP	Poorly graded GRAVEL with sand and cobbles (GP): medium dense, slightly moist to moist, fine- to coarse-sized, fine-grained sand, subrounded, brown.			
4					
5					
6					
7		Test pit terminated at 6.5 feet due to significant caving. 4" PVC Installed. Groundwater not observed. Backfilled with excavation spoils.			
8					
9					
10					
11					

WATER LEVELS	
NE	▽ WHILE EXCAVATING
NE	▼ AT COMPLETION
NE	▼ AFTER EXCAVATING

ALLWEST
MISSOULA, MONTANA
GEOTECHNICAL SECTION

TEST PIT LOG

DATE STARTED: 5/23/2023
DATE FINISHED: 5/23/2023
OPERATOR: Pat Malone
COMPANY: MFCII406, LLC
LOGGER: Andrew Warren
WEATHER: Sunny, Warm

TEST PIT TP-05

EXCAVATOR: Sany SY 5OU
EXCAVATION METHOD: 30" soil excavation bucket

PROJECT: 723-026G Orchard Grove Subdivision

NOTES:

TOTAL DEPTH: 9'

DEPTH (ft)	USCS	DESCRIPTION	GRAPHIC LOG	SAMPLE #	NOTES
0	TOPSOIL	TOPSOIL; Silty SAND (SM): slightly moist to moist, fine-grained, dark brown.			
	ML	Sandy SILT (ML): stiff, moist, non-plastic, brown to dark brown.			
3	GP	Poorly graded GRAVEL with sand and cobbles (GP): medium dense, slightly moist to moist, fine- to coarse-sized, fine-grained sand, subrounded, brown.			
9		Test pit terminated at 9 feet due to moderate caving. Groundwater not observed. Backfilled with excavation spoils.			

WATER LEVELS	
NE	▽ WHILE EXCAVATING
NE	▼ AT COMPLETION
NE	▼ AFTER EXCAVATING

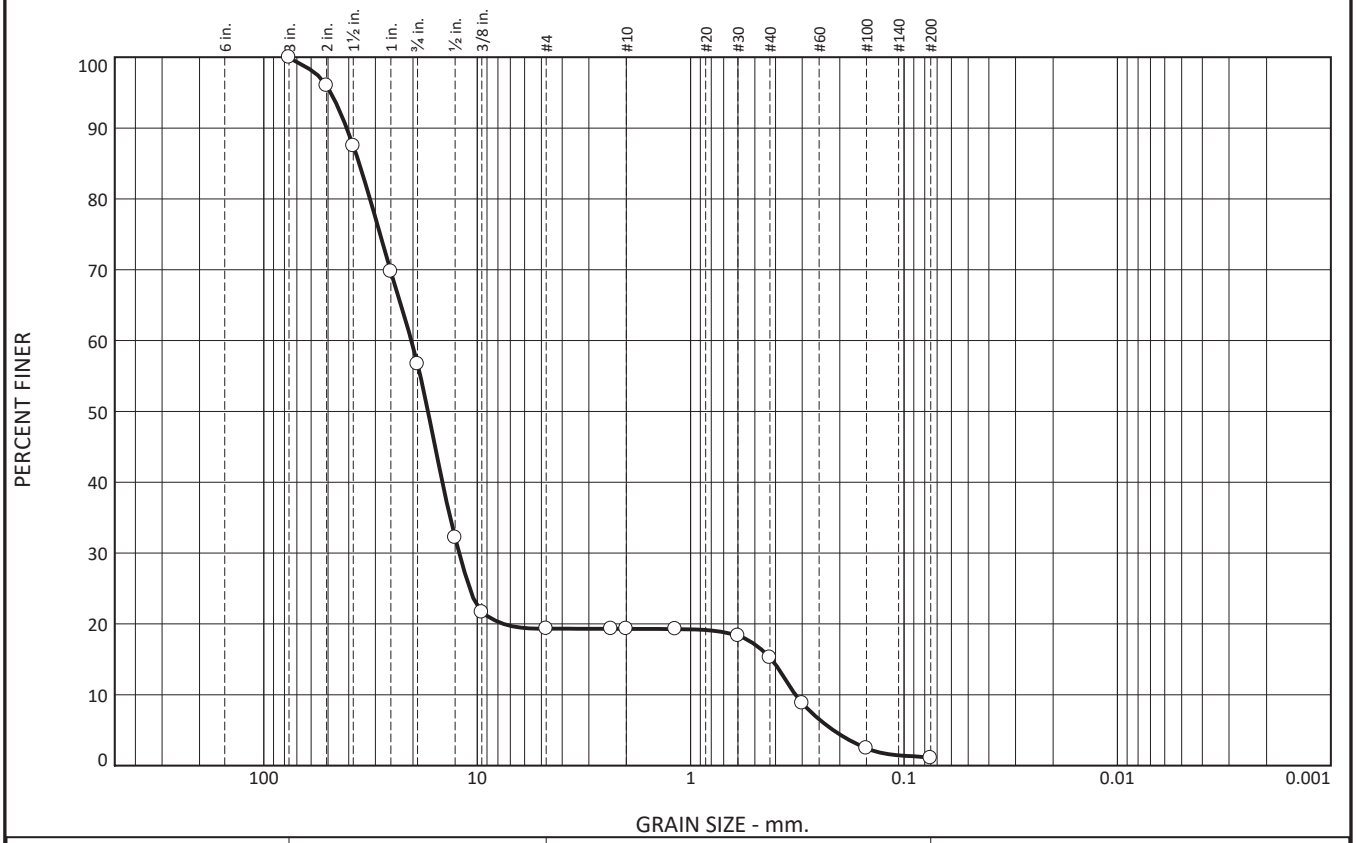
Unified Soil Classification System

MAJOR DIVISIONS			SYMBOL	TYPICAL NAMES
COARSE GRAINED SOILS	GRAVELS	CLEAN GRAVELS	GW	Well-Graded Gravel, Gravel-Sand Mixtures.
			GP	Poorly-Graded Gravel, Gravel-Sand Mixtures.
		GRAVELS WITH FINES	GM	Silty Gravel, Gravel-Sand-Silt Mixtures.
			GC	Clayey Gravel, Gravel-Sand-Clay Mixtures.
	SANDS	CLEAN SANDS	SW	Well-Graded Sand, Gravelly Sand.
			SP	Poorly-Graded Sand, Gravelly Sand.
		SANDS WITH FINES	SM	Silty Sand, Sand-Silt Mixtures.
			SC	Clayey Sand, Sand-Clay Mixtures.
FINE GRAINED SOILS	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50%		ML	Inorganic Silt, Silty or Clayey Fine Sand.
			CL	Inorganic Clay of Low to Medium Plasticity, Sandy or Silty Clay.
			OL	Organic Silt and Clay of Low Plasticity.
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%		MH	Inorganic Silt, Elastic Silt, Micaceous Silt, Fine Sand or Silt.
			CH	Inorganic Clay of High Plasticity, Fat Clay.
			OH	Organic Clay of Medium to High Plasticity.
Highly Organic Soils			PT	Peat, Muck and Other Highly Organic Soils.

Appendix C

Laboratory Test Results

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	43	38	0	4	14	1	

SIEVE SIZE OR DIAMETER	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3"	100		
2"	96		
1 1/2"	87		
1"	70		
3/4"	57		
1/2"	32		
3/8"	22		
#4	19		
#8	19		
#10	19		
#16	19		
#30	18		
#40	15		
#50	9		
#100	2		
#200	1.1		

* (no specification provided)

Soil Description

Poorly graded GRAVEL with sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 40.8978 D_{85}= 35.7174 D_{60}= 20.3573
D_{50}= 17.0068 D_{30}= 12.1392 D_{15}= 0.4179
D_{10}= 0.3230 C_u= 63.04 C_c= 22.41

Classification

USCS= GP AASHTO= A-1-a

Remarks

Sampled by A. Warren (ALLWEST)
Procedure A (-#4 only sample)

Location: TP-01
Sample Number: S323-0118 **Depth:** 1.0'-3.0' **Date:** 6.8.2023

ALLWEST

Client: IMEG Consultants Corp.
Project: Orchard Grove Subdivision

Project No: 723-026G **Figure** C-1

Tested By: R. Hites **Checked By:** A. Warren, PE

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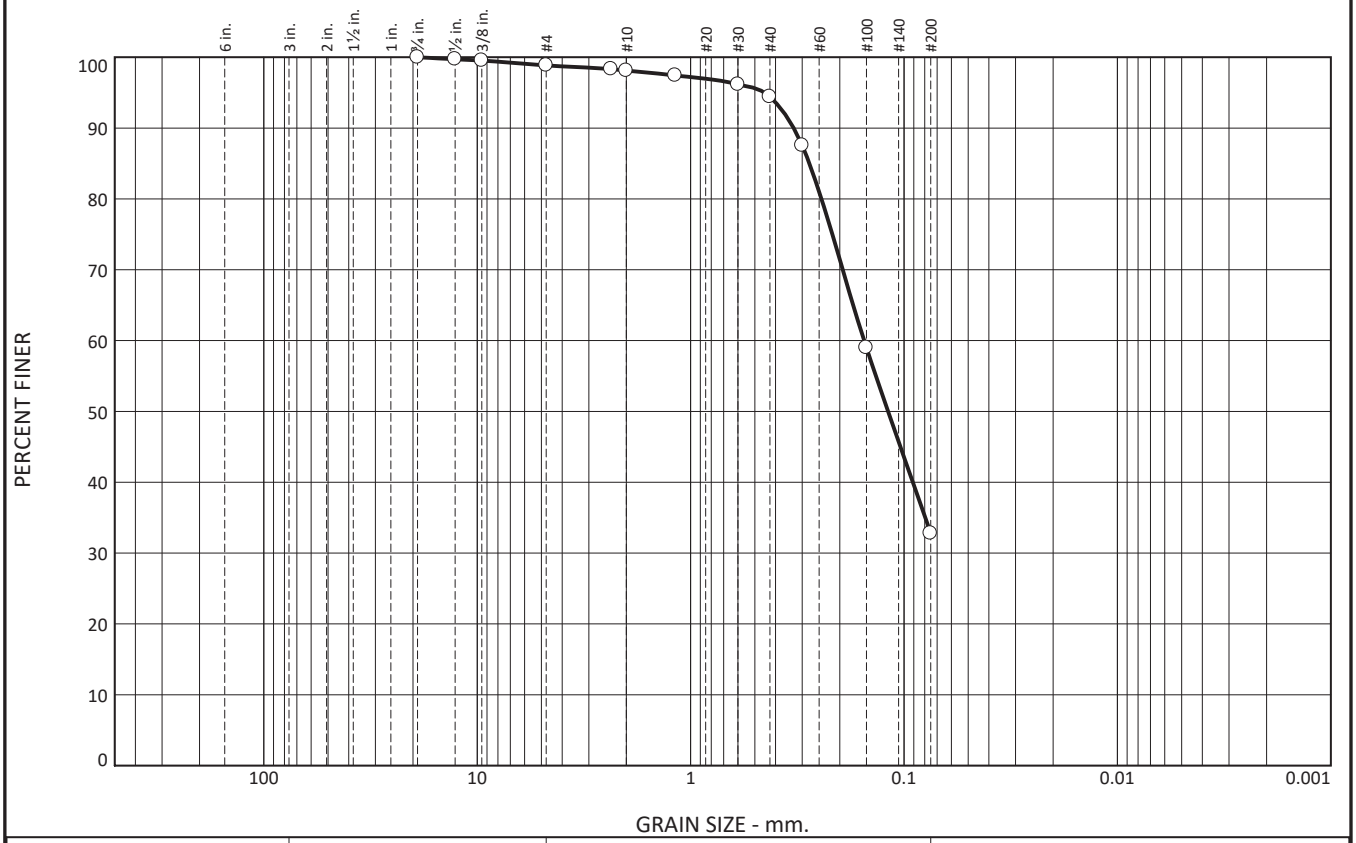
Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	1	1	4	61	33	

SIEVE SIZE OR DIAMETER	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100		
1/2"	100		
3/8"	100		
#4	99		
#8	98		
#10	98		
#16	97		
#30	96		
#40	94		
#50	88		
#100	59		
#200	33		

* (no specification provided)

Soil Description

Silty SAND

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 0.3286 D_{85}= 0.2777 D_{60}= 0.1538
D_{50}= 0.1188 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Sampled by A. Warren (ALLWEST)
Procedure A (entire sample)

Location: TP-02
Sample Number: S723-0119 **Depth:** 5.0'-6.5' **Date:** 6.8.2023

ALLWEST

Client: IMEG Consultants Corp.
Project: Orchard Grove Subdivision

Project No: 723-026G **Figure** C-2

Tested By: R. Hites **Checked By:** A. Warren, PE

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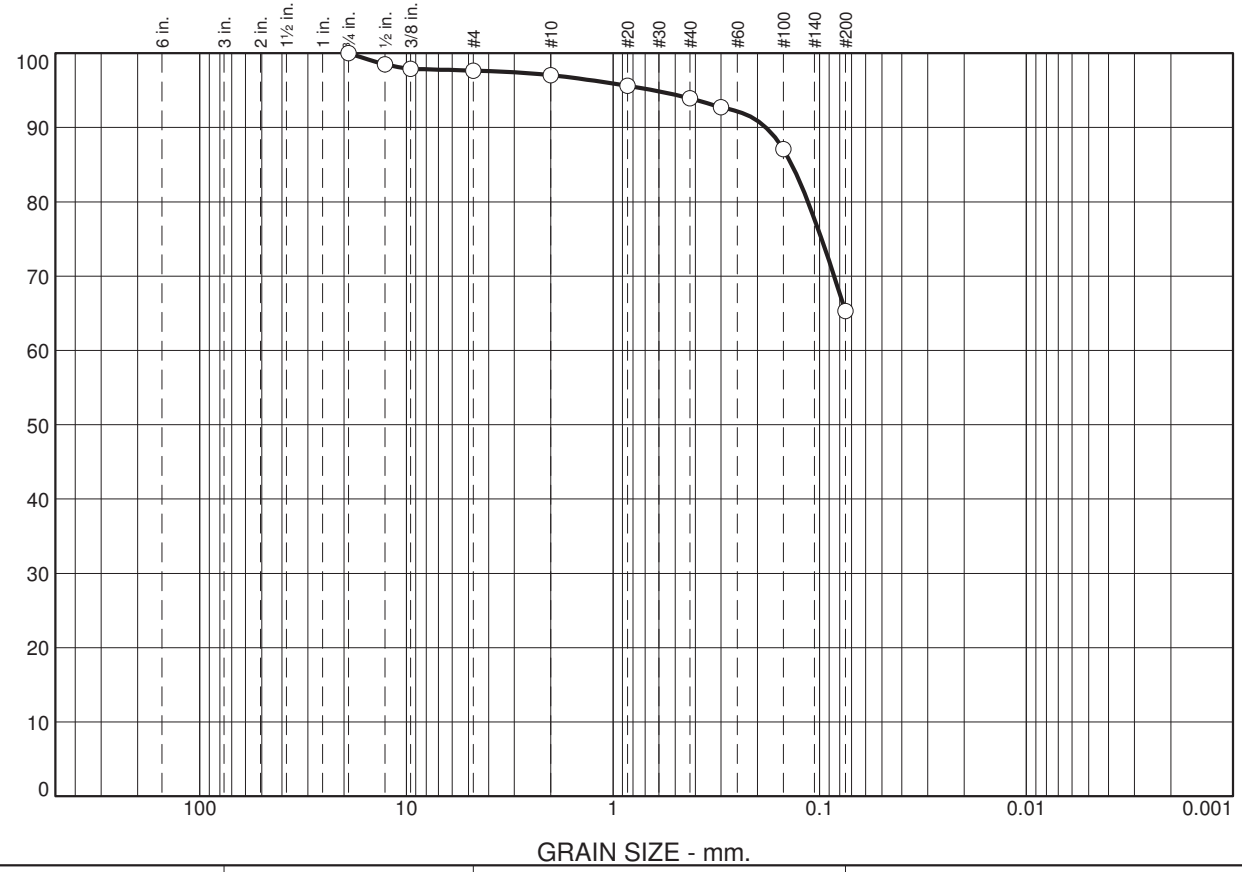
Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	2	1	3	29	65	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100		
1/2"	99		
3/8"	98		
#4	98		
#10	97		
#20	96		
#40	94		
#50	93		
#100	87		
#200	65		

* (no specification provided)

Material Description

Sandy SILT

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{90}= 0.1820 D_{85}= 0.1365 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

Moisture content: 16.3%

Location: TP-03
Sample Number: S323-0120 **Depth:** 1.0'-3.0' **Date:** 6/22/23

ALLWEST

Client: IMEG Consultants Corp.
Project: Orchard Grove Subdivision

Project No: 723-026G **Figure** C-3

Tested By: K. Semanko **Checked By:** D. Schmitz

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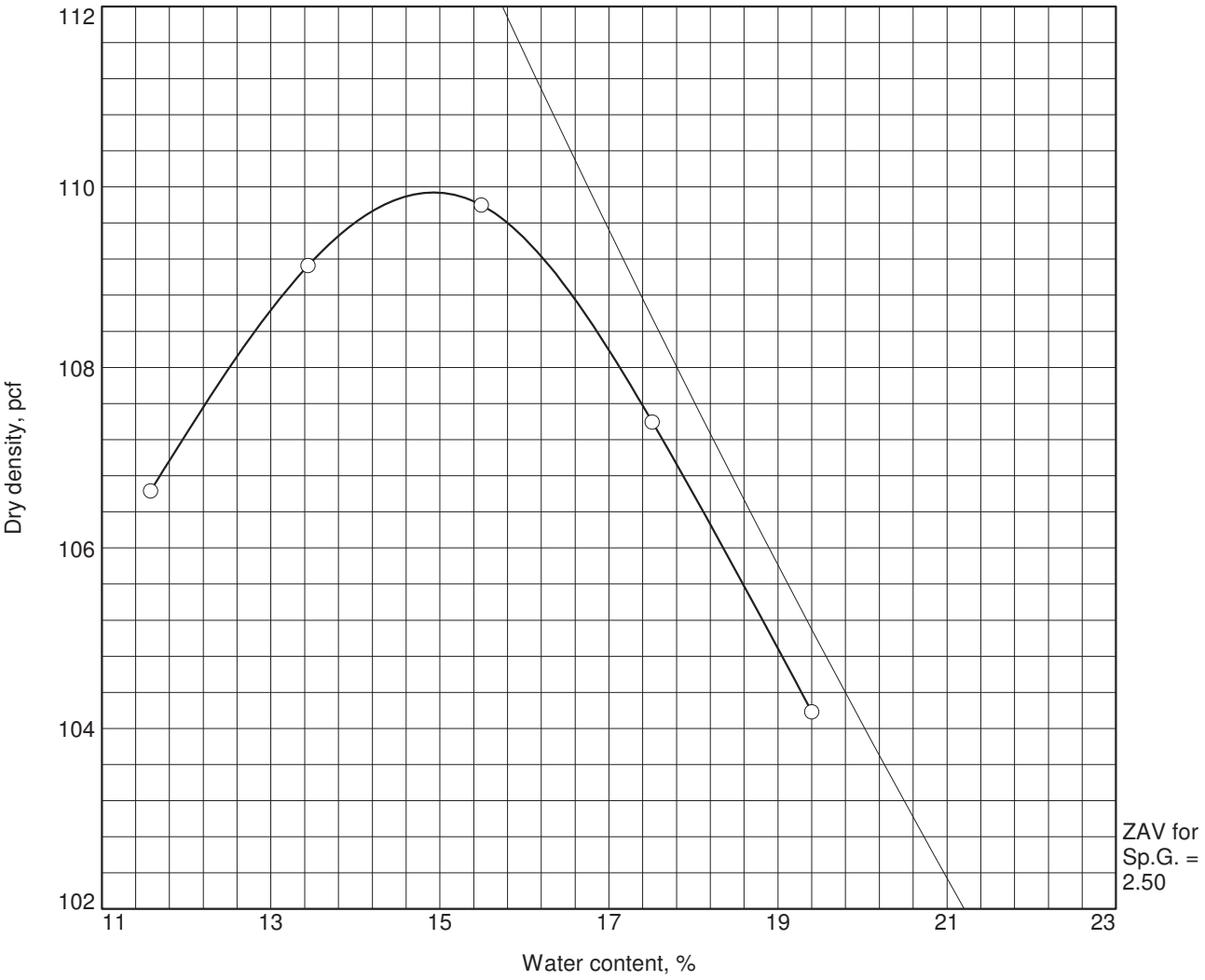
Moisture Density Curve



Test specification: ASTM D 698-12 Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
1.0'-3.0'	ML	A-4(0)	-	-	NP	NP	2	65

TEST RESULTS

Maximum dry density = 109.9 pcf

Optimum moisture = 14.9 %

MATERIAL DESCRIPTION

Sandy silt

Project No. 723-026G **Client:** IMEG Consultants Corp.

Project: Orchard Grove Subdivision

○ **Location:** TP-03 **Sample Number:** S323-0120

Remarks:

ALLWEST

Figure C-4

Tested By: K. Semanko **Checked By:** D. Schmitz

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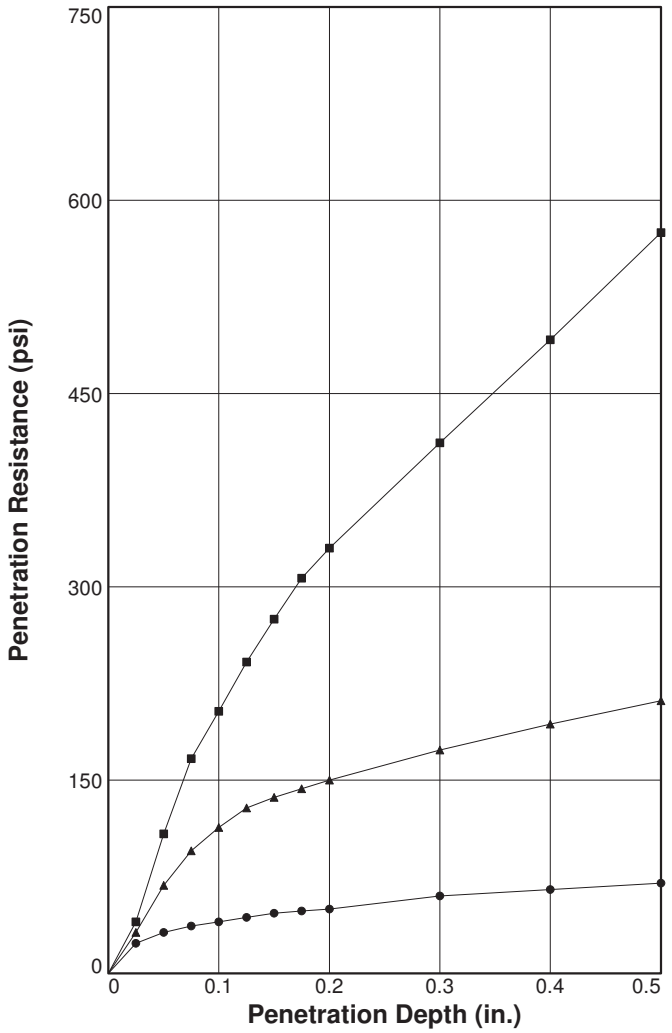
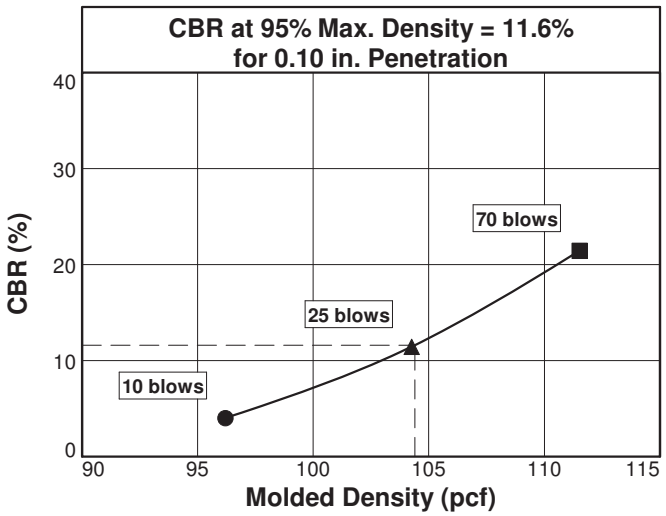
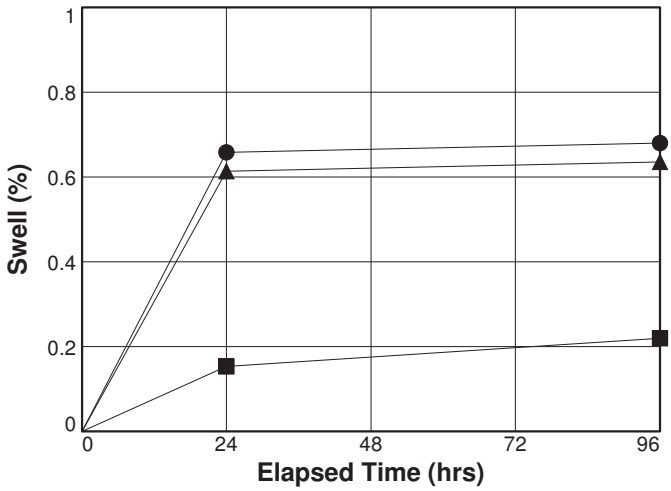
BEARING RATIO TEST REPORT
ASTM D1883-16







	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	96.2	87.5	14.4	95.6	86.9	24.8	4.0	3.3	0.000	10	0.7
2 △	104.3	94.9	14.4	103.6	94.3	22.2	11.4	10.0	0.002	10	0.6
3 □	111.5	101.5	14.4	111.3	101.3	20.4	21.4	22.4	0.007	10	0.2

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Sandy silt	ML	109.9	14.9	NP	NP

Project No: 723-026G

Project: Orchard Grove Subdivision

Location: TP-03

Sample Number: S323-0120 **Depth:** 1.0'-3.0'

Date: 6/22/23

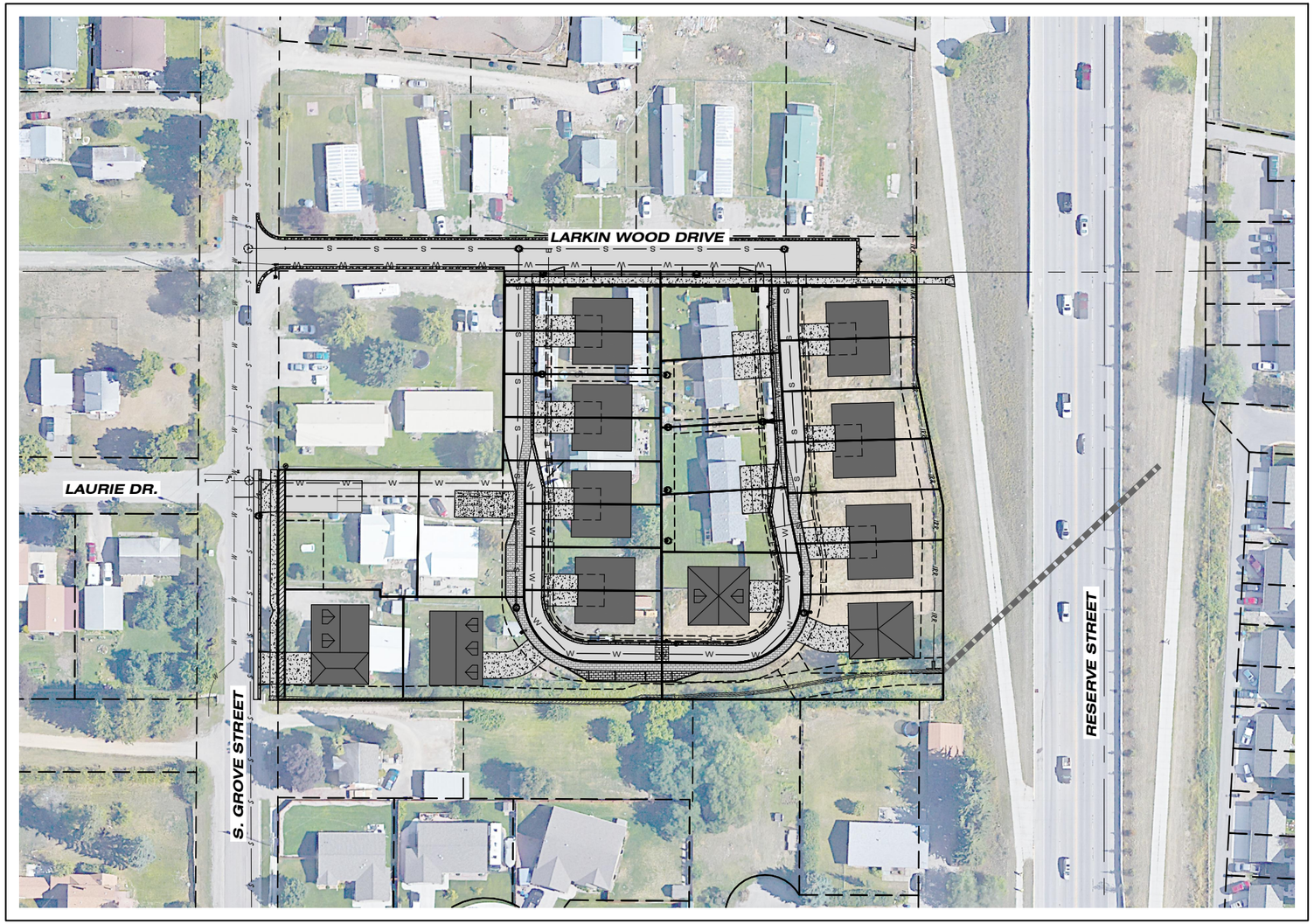
ALLWEST

Test Description/Remarks:

Figure C-5

UTILITY CONSTRUCTION PLANS

FOR ORCHARD GROVE SUBDIVISION
LOCATED IN SECTION 19, T.13N., R.19W., P.M.M., MISSOULA COUNTY, MONTANA.



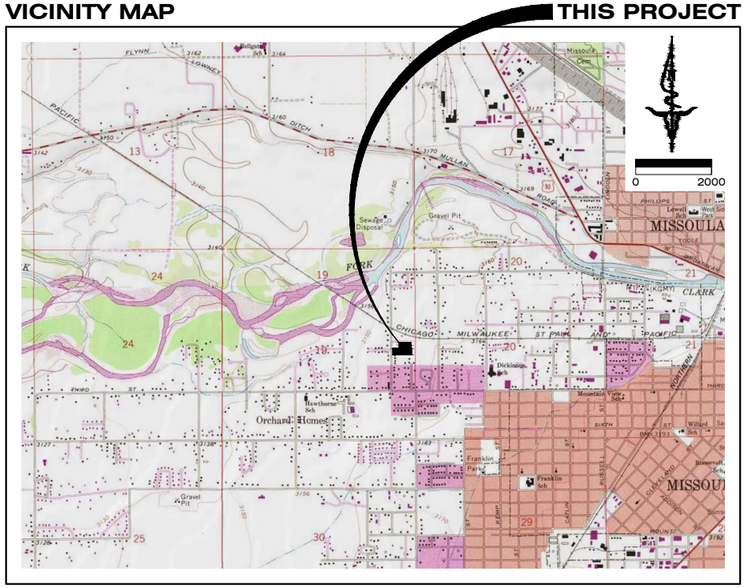
CALL UTILITY NOTIFICATION
CENTER OF MONTANA
1-800-424-5555
CALL FOR THE MARKING OF
UNDERGROUND UTILITIES
2 BUSINESS DAYS BEFORE
YOU DIG, GRADE, OR EXCAVATE

100 0 100 200
SCALE IN FEET

SHEET INDEX

DESCRIPTION	SHEET NO.
LEGENDS AND NOTES	SHEET 2 OF 9
INDEX SHEET	SHEET 3 OF 9
PLAN & PROFILE SHEETS - SEWER - LARKINWOOD	SHEET 4 OF 9
PLAN & PROFILE SHEETS - SEWER - INTERIOR ROAD WEST SIDE	SHEET 5 OF 9
PLAN & PROFILE SHEETS - SEWER - INTERIOR ROAD EAST SIDE	SHEET 6 OF 9
PLAN & PROFILE SHEETS - WATER - LARKINWOOD / INTERIOR TO GROVE	SHEET 7-9 OF 9
DETAIL SHEET	SHEET D1 OF D3
DETAIL SHEET	SHEET D2 OF D3
DETAIL SHEET	SHEET D3 OF D3

VICINITY MAP — **THIS PROJECT**



MISSOULA, MISSOULA COUNTY

PROJECT STATUS		
THESE PLANS REQUIRE, AT A MINIMUM, APPROVAL FROM THE AGENCIES LISTED BELOW. THEREFORE , THE OWNER & CONTRACTOR ARE ADVISED THAT BIDS & CONTRACTS SHOULD NOT BE FINALIZED UNTIL INDICATED BELOW.		
AGENCIES REVIEW STATUS:	**REFERENCE #**	**APPROVAL DATE**
CITY OF MISSOULA DEV. SERVICES		
MONTANA DEPT. OF ENV. QUALITY	EQ#:	
PLAN SET IS READY FOR CONSTRUCTION	___YES	_X_NO
AS-BUILT DATE:_____ PROJECT HAS BEEN CONSTRUCTED IN GENERAL CONFORMANCE WITH THE ABOVE APPROVALS, STATED SPECIFICATIONS, AND SHOWN HERE IN, UNLESS OTHERWISE SPECIFIED.		
PROJECT NOTES: MISSOULA CITY PUBLIC WORKS STANDARDS & SPECIFICATIONS (MCPWSS) EDITION JAN. 2023		
DEVELOPER: email:		

CITY OF MISSOULA CHECKLIST DATA	
LINEAR FOOTAGE OF SEWER GRAVITY MAINS ESTIMATED FOR CONSTRUCTION	
LINEAR FOOTAGE OF SEWER FORCE MAINS ESTIMATED FOR CONSTRUCTION	
NUMBER OF PROPOSED SEWER STUBS TO BE CONSTRUCTED	
LINEAR FOOTAGE OF WATER MAINS ESTIMATED FOR CONSTRUCTION	
NUMBER OF PROPOSED WATER STUBS TO BE CONSTRUCTED	

TBD

GENERAL NOTES:

1. TEMPORARY AIR RELIEFS: DEPENDING ON THE SEQUENCING OF CONSTRUCTION AS DETERMINED BY THE CONTRACTOR AND CITY OF MISSOULA, TEMPORARY AIR RELIEFS PER STD-410 WILL LIKELY BE REQUIRED TO PURGE THE SYSTEM OF AIR FOR TESTING PURPOSES. ONCE TESTING IS COMPLETED, TEMPORARY AIR RELIEFS SHALL BE REMOVED/ABANDONED. CONTRACTOR IS REQUIRED TO PROVIDE THEIR PROPOSED CONSTRUCTION SEQUENCING AND CONFIRM WITH ENGINEER AND CITY OF MISSOULA / MISSOULA WATER WHERE TEMPORARY AIR RELIEFS ARE PROPOSED OR ARE NEEDED PRIOR TO TESTING DIFFERENT SECTIONS OF NEW WATER MAIN. THIS IS TYPICAL THROUGHOUT THE PROJECT.
2. VALVE RESTRAINED JOINT NOTE: RESTRAIN JOINTS WITHIN 36 FEET OF VALVE WITH MEGALUGS, FIELD-LOK GASKETS, OR APPROVED EQUIVALENT (APPLIES TO ALL VALVES) PER STD-405.
3. BLOWOFF RESTRAINED JOINT NOTE: NO UNRESTRAINED JOINTS WITHIN 36 FEET OF BLOWOFF (APPLIES TO ALL BLOWOFFS) PER STD-409.

IMEG
1817 SOUTH AVE W, STE. A
MISSOULA, MT
59801
PH: 406.721.0142
FAX: 406.721.5224
www.imegcorp.com

PLOT DATE: 10/30/2023 10:10 AM

REVISIONS | DATE

DESIGNED: AJM
DRAFTED: AJM
CHECKED: CD
DATE: JUNE 2023

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINWORES ORCHARD HOMES SECTION 19, T13N, R19W, P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: UTILITY CONSTRUCTION PLANS COVER SHEET

PROJECT NO.: 22008967

SHEET: 1 OF 9

STAGE 2

DWG LOCATION: Q:\2022\22008967.00\DESIGN\CIVIL\CSD\PLOTS\SHT1_22008967.DWG

LEGEND

NOTE: ALL FEATURES SHOWN IN LEGEND MIGHT NOT BE PRESENT ON PLANS
ALL FEATURES SHOWN ON PLANS MIGHT NOT BE PRESENT IN LEGEND

EXISTING

- (E) PROPERTY BOUNDARY
- (E) ADJACENT PROPERTY BOUNDARY
- (E) LOT LINE
- (E) EASEMENT
- (E) WATER LINE
- (E) WATER SERVICE
- (E) SEWER LINE
- (E) SEWER SERVICE
- (E) SEWER FORCE MAIN
- (E) SEWER FORCE MAIN SERVICE
- (E) STORM DRAIN PIPE
- (E) OVERHEAD UTILITY
- (E) BURIED POWER
- (E) GAS LINE
- (E) TELEPHONE LINE
- (E) TELEVISION LINE
- (E) FIBER OPTIC LINE
- (E) ROAD CENTERLINE
- (E) FENCE LINE
- (E) DITCH
- (E) SWALE
- (E) IRRIGATION DITCH
- (E) IRRIGATION FORCE MAIN
- (E) STREAM
- (E) MAJOR CONTOUR
- (E) MINOR CONTOUR
- (E) ASPHALT
- (E) GRAVEL
- (E) CONCRETE
- (E) SEWER MANHOLE
- (E) SEWER CLEANOUT
- (E) SOIL PROFILE
- (E) PERCOLATION TEST
- (E) GROUNDWATER MONITORING
- (E) SEPTIC TANK
- (E) DRAINFIELD
- (E) WELL
- (E) FIRE HYDRANT
- (E) WATER METER
- (E) WATER VALVE
- (E) WATER BLOW-OFF
- (E) STORM DRAIN MANHOLE
- (E) CULVERT
- (E) CURB INLET
- (E) CATCH BASIN
- (E) SUMP
- (E) UTILITY MANHOLE
- (E) TELEPHONE JUNCTION BOX
- (E) POWER VAULT
- (E) TELEVISION JUNCTION BOX
- (E) ELECTRICAL TRANSFORMER
- (E) POWER METER
- (E) GAS METER
- (E) POWER POLE
- (E) GUY WIRE
- (E) LIGHT POLE
- (E) SIGN
- (E) MAILBOX
- (E) DECIDUOUS TREE
- (E) CONIFEROUS TREE
- (E) BUSH/ SHRUB

PROPOSED

- (P) LOT LINE
- (P) EASEMENT
- (P) WATER LINE
- (P) WATER SERVICE
- (P) SEWER LINE
- (P) SEWER SERVICE
- (P) SEWER FORCE MAIN
- (P) SEWER FORCE MAIN SERVICE
- (P) STORM DRAIN PIPE
- (P) OVERHEAD UTILITY
- (P) BURIED POWER
- (P) GAS LINE
- (P) TELEPHONE LINE
- (P) TELEVISION LINE
- (P) FIBER OPTIC LINE
- (P) ROAD CENTERLINE
- (P) FENCE LINE
- (P) DITCH
- (P) SWALE
- (P) IRRIGATION FORCE MAIN
- (P) MAJOR CONTOUR
- (P) MINOR CONTOUR
- (P) ASPHALT
- (P) GRAVEL
- (P) CONCRETE
- (P) SEWER MANHOLE
- (P) SEWER CLEANOUT
- (P) SEPTIC TANK
- (P) DRAINFIELD
- (P) WELL
- (P) FIRE HYDRANT
- (P) WATER METER
- (P) WATER VALVE
- (P) REDUCER
- (P) THRUST BLOCK
- (P) WATER BLOW-OFF
- (P) STORM DRAIN MANHOLE
- (P) CULVERT
- (P) CURB INLET
- (P) CATCH BASIN
- (P) SUMP
- (P) UTILITY MANHOLE
- (P) LIGHT POLE
- (P) SIGN
- (P) MAILBOX
- (P) DECIDUOUS TREE
- (P) CONIFEROUS TREE
- (P) BUSH/ SHRUB

ABBREVIATIONS

(E)	EXISTING
ELEV	ELEVATION
EOA	EDGE OF ASPHALT
FG	FINISHED GRADE
FL	FLOWLINE
INV	INVERT
LF	LINEAR FOOT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
(P)	PROPOSED
PC	POINT OF CURVATURE
PT	POINT OF TANGENT
SIM	SIMILAR
STA	STATION
TBC	TOP BACK OF CURB
TOC	TOP OF CONCRETE
TYP	TYPICAL
U.E.	UTILITY EASEMENT
I.E.	IRRIGATION EASEMENT
P.U.E.	PRIVATE UTILITY EASEMENT
P.S.E.	PRIVATE STORMWATER EASEMENT
P.A. & U.E.	PUBLIC ACCESS & UTILITY EASEMENT

SYMBOLS

- DETAIL SECTION (DETAIL DESIGNATOR / SHEET DESIGNATOR)
- DETAIL CALLOUT (DETAIL DESIGNATOR / SHEET DESIGNATOR)
- KEYED NOTE CALLOUT
- SPOT ELEVATION CALLOUT (PROPOSED ELEVATION / XXXX.XX TBC / XXXX.XX EXISTING ELEVATION)
- SLOPE GRADE (±X.X%)
- FLOW DIRECTION

GENERAL CONDITIONS OF CONSTRUCTION:

1. The Standard General Conditions of the Contract prepared by the Engineers Joint Contract Documents Committee (Copyright 2007), as included in Montana Public Works Standard Specifications, are herein referred to as the General Conditions within these Drawings. Copies of the General Conditions will be provided to Contractor upon written request to Engineer.
2. Wherever used in these Drawings, the terms, whether printed with initial capital letters or not, as listed in the Standard General Conditions of the Construction Contract (General Conditions), Article 1 - Definitions and Terminology, prepared by the Engineers Joint Contract Documents Committee (Copyright 2007) will have the meanings indicated, which are applicable to both the singular and plural thereof, except as follows:
   a. The Contract Documents shall mean the Drawings as shown in these plans and any applicable referenced standards, specifications, or laws.
   b. The Contract Price shall mean the moneys payable by Owner to Contractor for completion of the Work in accordance with the Agreement.
   c. The Contract Times shall mean the number of days or the dates stated in the Agreement to complete the Work so that it is ready for final payment. If no such dates are established, the Contract Time shall be 120 days to complete the Work.
   d. Effective Date of the Agreement shall have the meaning as listed in the General Conditions, Article 1. If no such Agreement exists, the Effective Date of the Agreement shall be the day the Contractor proceeds with the Work.
3. By proceeding with the Work as shown on these Drawings, the Contractor makes the following representations:
   a. Contractor has examined and carefully studied the Drawings and other related data.
   b. Contractor is familiar with and is satisfied as to all federal, state and local laws and Regulations that may affect cost, progress, performance and furnishing of the Work.
   c. Contractor has visited the site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, performance or furnishing of the Work.
   d. Contractor acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Drawings with respect to Underground Facilities at or contiguous to the site.
   e. Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise, which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor including applying the specific means, methods, techniques, sequences and procedures of construction, if any, expressly required by the Drawings to be employed by the Contractor, and safety precautions and programs incident thereto.
   f. Contractor is aware of the general nature of work to be performed by Owner and others at the site that relates to the Work.
   g. Contractor has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Drawings and the written resolution thereof by Engineer is acceptable to Contractor.
   h. The Drawings are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
4. In resolving disputes resulting from conflicts, errors or discrepancies, the order of precedence shall be as follows, as applicable to this project: Written agreement between owner and contractor, specifications, Drawings. Within the Specifications, the order of precedence is as follows, as applicable to this project: Addenda/Change Orders, Contractor's Bid, Special Provisions, Instructions to Bidders, Supplemental General Conditions, Notice Inviting Bids, General Conditions, Technical Specifications, Referenced Standard Specifications. With reference to the Drawings, the order of precedence is as follows, as applicable to this project: Figures govern over scaled dimensions, Detail drawings govern over general drawings, Addenda/Change Order drawings govern over contract drawings, contract drawings govern over standard drawings, contract drawings govern over shop drawings.
5. If Contractor believes that any subsurface or physical condition at or contiguous to the Site that
   a. is uncovered or revealed either is of such a nature as to require a change in the Drawings; or
   b. differs materially from that shown or indicated in the Drawings; or
   c. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided in the drawings;

   then Contractor shall promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.
6. Section 2.06 of the General Conditions is hereby incorporated into these Drawings.
7. Section 3.03.A.2 of the General Conditions is hereby incorporated into these Drawings.
8. Section 3.05 of the General Conditions is hereby incorporated into these Drawings.
9. Section 3.06 of the General Conditions is hereby incorporated into these Drawings.
10. Section 4.05 of the General Conditions is hereby incorporated into these Drawings.
11. Section 6.01, 6.02.A, and 6.03 of the General Conditions are hereby incorporated into these Drawings.
12. Substitutes and "Or-Equals" items are subject to the provisions of the General Conditions, Section 6.05.
13. Section 6.13 of the General Conditions is hereby incorporated into these Drawings, except that Section 6.13.D shall be replaced with the following sentence.
    Contractor's duties and responsibility for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer and Owner, as applicable to the Work, have accepted that the work is complete.
14. Section 6.11, 6.14, 6.15, 6.16, 6.18, 6.19, 6.20, and 6.21 of the General Conditions are hereby incorporated into these Drawings.
15. Article 9 - Engineer's Status During Construction of the General Conditions is hereby incorporated into these Drawings, except as follows:
    a. Delete the last sentence of Section 9.05.A.
    b. Delete Section 9.06, 9.07, 9.08.B, 9.08.C, and 9.09.D.
16. Section 10.02 of the General Conditions is hereby incorporated into these Drawings.
17. Article 13 - Tests and Inspections, Correction, Removal or Acceptance of Defective Work of the General Conditions is hereby incorporated into these Drawings.

STANDARD SPECIAL PROVISIONS:

1. The Contractor shall be responsible for all permits, licenses and fees required for completion of this project unless specifically noted otherwise.
2. The Contractor shall provide the Owner with a 24 hour phone number of a party responsible and capable of immediate local response to emergency maintenance for the duration of the Work. Contractor shall provide the name of the responsible party and phone number in writing prior to proceeding with the Work.
3. Unless noted otherwise, the contractor shall be responsible for any necessary traffic control on and off-site including obtaining any applicable permits.
4. Material stockpiled along the project route shall be done so in a manner that does not affect public safety and is in a neat and orderly fashion.
5. The Contractor shall be responsible for disposing of all waste and excess materials such as, but not limited to: vegetation, trees, brush, asphalt, concrete, sub-grade soils, etc., offsite in accordance with local, state and federal laws. The Owner reserves the right to request certain waste materials to be stockpiled at a location on-site.
6. The contractor will be responsible to adhere to the MDEQ or EPA approved Storm Water Pollution Prevention Plan (SWPPP), if applicable to the project. The contractor is responsible for repairing any damage made to BMPs identified in the SWPPP. The approved Storm Water Pollution Prevention Plan will be provided by Owner to Contractor upon written request. If a SWPPP has not been preped for the project, but is required by regulation, the Contractor is responsible for preparing and submitting a Notice of Intent and SWPPP.
7. The Contractor will be required to make every effort to immediately restore the construction area once the construction task is completed. All seeding shall be completed in accordance with MPWSS 02910. This includes such required activities as finish grading, spreading of topsoil, restoring irrigation, replacing traffic and street signs, etc. The contractor will have 48 hours to begin restoration once the construction task in the immediate area is complete. Once restoration is begun, it must be completed without interruption to the extent possible.
8. After all work on this project is completed and before final acceptance of the project, the entire project shall be neatly finished to the lines, grades, and cross sections shown on the plans and as hereinafter specified.
   a. Drainage facilities, such as inlets, catch basins, storm pipe, culverts, and curb and gutter shall be cleaned of all debris, gravel, silts or other foreign material.
   b. The Contractor shall remove and dispose of all construction stakes.
   c. All areas disturbed by the construction shall be shaped to present a uniform appearance blending into the contour of adjacent properties. All surface replacement and landscaping shall be completed.
   d. Except as otherwise permitted, all excess excavated materials shall be disposed of away from the site of the work.
   e. Broken concrete and other debris resulting from pavement or sidewalk removal, excavated rock in excess of the amount permitted, and other waste and debris encountered in excavated work, and other similar waste materials shall be disposed of away from the site.

   There will be no separate measurement or payment for cleanup, and all costs for such work shall be included in the Contract Price.
9. No on-site burning of waste materials will be allowed.
10. If a street has not been surfaced and cleaned, the Contractor shall be responsible for dust control and maintenance of the street. Also, if detours are made on a gravel road, the Contractor is responsible for dust control and maintenance on the detours. See "Air Quality" below also.
11. Daily street sweeping shall be completed on both ends of each street during construction. Unpaved detours or any other fugitive dust emission sources from construction and demolition should be watered and/or chemically stabilized so emissions are less than 20% opacity.

UTILITY NOTES:

1. The Contractor shall notify appropriate personnel for utility locations and notice of construction commencement at least two business days prior to proceeding with the Work. Before Contractor proceeds with the Work, a common locate service (One Call) is available at 1-800-424-5555. All Underground Facilities may not be located by the One Call service including but not limited to such Underground Facilities as irrigation systems, public and private water and sewer systems, etc.
2. The Contractor shall support and protect all exposed utilities in conformance with the utility owner's standards.
3. The information and data shown or indicated in the Drawings with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise noted:
   a. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or date; and
   b. The cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
      i. Reviewing and checking all such information and data,
      ii. Locating all Underground Facilities shown or indicated in the Drawings,
      iii. Coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and
      iv. The safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.
   c. At least 2 business days before beginning any excavation, the Contractor shall, according to MCA 69-4-501, notify all owners of underground facilities and coordinate the Work with the owners of such underground facilities. The information shown or indicated in the Drawings with respect to existing underground facilities is based on information and data obtained from the owners of the facilities without field exploration, and as such, Owner and Engineer are not responsible for the accuracy or completeness of such information or data.

SUBMITTALS, QUALITY CONTROL & ASSURANCE, INSPECTIONS, AND TESTING

1. Contractor is responsible to comply with the Contractor Quality Control and Owner Quality Assurance, Section 01400 MPWSS.
2. Contractor shall complete trench excavation and backfill in accordance with Section 02221 MPWSS.
3. The Contractor shall coordinate with Engineer to obtain samples of trench backfill material to be used on-site.
4. Contractor will be responsible for coordination with a material testing company of the Engineer's selection to complete compaction testing of trench backfill. Coordination includes updating appropriate personnel of the material testing company every day as to progress of work so adequate testing can be completed.
5. As-Builts: The Contractor will be required to prepare a set of detailed as-built drawings to be presented to the Engineer at the completion of the project. The as-built drawings shall be updated daily and reviewed weekly by the Project Engineer. As-built drawings shall include, but not limited to location/depths of wet utility (water, sewer, storm, etc.) mains and services, all other utilities, culverts, drainage structures, etc.
6. Service Ditch Cards: Contractor will be responsible for completing service ditch cards for all services (water, sewer, storm, etc.). Information on the ditch cards must be provided as directed by Engineer including lot number or building address served; as-built service connection location on the main relative to stationing on the Drawings; Contractor who made tap; date tap was made; distance from main to curb stop/fittings/appurtenances/etc.; size of tap on main; size and material of service; size and material of main that was connected to; depth of main at tap; location and type of bends along service line; location and depth of cleanouts; depth of service at curb stop. Engineer will provide Contractor with example ditch cards upon written request, but shall conform to public entity's template(s). One ditch card shall be completed for each service.
7. Sewer Main Testing: Sanitary sewer testing shall be completed in the presence of the Engineer. The contractor is responsible for coordinating with the Engineer to be present for sewer testing. Sanitary sewer testing shall include:
   a. leakage test using water or air test,
   b. deflection test,
   c. vacuum test of manholes,
   d. television inspection, and
   e. lamp test.
8. Sewer TV Testing: Television inspection shall be performed in accordance with MPWSS Section 02730. A device of known dimensions shall be drug along the bottom of the sewer pipe in front of the camera to provide a continuous visual reference of the depth of water ponds in the sewer pipe. The device shall be drug no more than four feet in front of the camera
9. Sewer Manholes Testing: Test manholes in accordance with ASTM C1244-93. Test method for concrete sewer manholes by the negative air pressure (vacuum) test. Vacuum test shall be completed by pulling a vacuum of 10" Hg (4.9 psi) and measuring the time it takes to drop to 9" Hg (4.4 psi). Test shall be completed on concrete surface and not on iron ring. The minimum acceptable time for an 8' or less deep manhole shall be 20 seconds. Five seconds shall be added to the minimum acceptable time for every two feet in depth beyond 8'.
10. Water Main Testing: Water testing shall be completed in the presence of the Engineer. The Contractor is responsible for coordinating with the Engineer to be present for water testing. Testing, cleaning, and disinfection of water mains, valves, and fittings shall be completed in accordance with MPWSS Section 02660, Part 3.4. Water testing procedure shall be as follows:
    a. Chlorination
    b. Flushing to reduce Chlorine residual to 0.5 ppm or less, or as otherwise approved by the engineer
    c. Bacteriological Test
    d. Hydrostatic and leakage testing
11. All infrastructure specifications and testing requirements shall be per Missoula City Public Works Standards & Specifications.

SEWER CONSTRUCTION NOTES:

1. All Work shall be in accordance with the Montana Public Works Standard Specifications (MPWSS) (Sixth Edition, dated April 2010) and Missoula City Public Works Standards & Specifications (MCPWSS) (edition labeled on cover sheet of plans). Sanitary Sewer Work shall conform to Section 02730 and any referenced specifications.
2. Invert elevations are provided from center of manhole, unless noted otherwise.
3. Manhole stations are provided from center of manhole, unless noted otherwise.
4. Sewer services shall be constructed and inspected per Uniform Plumbing Code, City of Missoula, Missoula City-County Environmental Health Department, and Montana Department of Environmental Quality (MDEQ) regulations and standards.

WATER CONSTRUCTION NOTES

1. All Work shall be in accordance with the Montana Public Works Standard Specifications (MPWSS) (Sixth Edition, dated April 2010) and Missoula City Public Works Standards & Specifications (MCPWSS) (edition labeled on cover sheet of plans). Water Work shall conform to Section 02600 and any referenced specifications.
2. Stations are provided from center of bend, tee, or connection, unless noted otherwise.
3. Water services shall be constructed and inspected per Uniform Plumbing Code, City of Missoula Public Works, and Missoula Water.
4. Water services (new or swaps/replacements) shall only be completed after water main has been installed, completed, tested and certified by Missoula Water, City of Missoula, and the Engineer of Record.

CONSTRUCTION STAKING

1. The owner will provide construction staking one time. Additional staking will be the responsibility of the contractor for scheduling and payment.
2. Contractor is responsible to coordinate and request staking at least two days in advance, unless otherwise agreed upon in writing by Engineer.
3. Staking will be provided as follows:
   a. Bends, Tees/Connections, and Hydrants: Center of structure and two offset stakes.
   b. Water Main: Hub offset set at 25' stations. Offset distance and side of trench as requested by Contractor in writing to engineer.
4. Cut sheets will be provided to the contractor with elevation from hub to top of pipe elevation.
5. Engineer does not consider staking to be complete and ready for use until cut sheets have been delivered to Contractor.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

1. SWPPP Administrator shall turn in SWPPP reports generated from the beginning of construction to date that As-Builts are turned into Engineer. Engineer in turn submits SWPPP reports to City Engineering as part of As-Built documentation.
2. SWPPP Administrator is required to renew City SWPPP permit annually unless the site has been stabilized. SWPPP Administrator will submit any remaining SWPPP reports to City Engineering when filing for Notice of Termination.

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1817 SOUTH AVE W, STE A PH: 406.721.0142
MISSOULA, MT FAX: 406.721.5224
59801 www.imegcorp.com

PLOT DATE: 10/30/2023 10:10 AM

REVISIONS	DATE

DESIGNED: AJM
DRAFTED: AJM
CHECKED: CD
DATE: JUNE 2023

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINMORES ORCHARD HOMES SECTION 19, T13N, R19W, P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: UTILITY CONSTRUCTION PLANS LEGEND AND NOTES SHEET

PROJECT NO. 22008967

SHEET: 2 OF 9

STAGE 2

DWG LOCATION: G:\2022\22008967.00\DESIGN\CAD\CSD\PLOTSHEETS\STG2\PLOTS 22008967.DWG

SEWER LINE 'A' (SHEET 4)
WATER LINE 'D' (SHEET 7)

LARKIN WOOD DRIVE

S. GROVE STREET

SEWER LINE 'B' (SHEET 5)

MAGNOLIA DR.

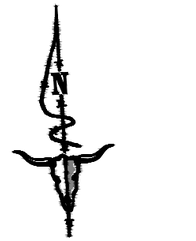
MAGNOLIA DR.

SEWER LINE 'B' (SHEET 6)
WATER LINE 'D' (SHEET 8)

WATER LINE 'D' (SHEET 9)

WATER LINE 'D' (SHEET 9)

WATER LINE 'D' (SHEET 8)



25 0 25 50
SCALE IN FEET

SEWER ALIGNMENTS

DESCRIPTION	SHEET NO.
SEWER LINE - LARKINWOOD DRIVE	SHEET(S) 4
SEWER LINE - ROAD 'A' WEST	SHEET(S) 5
SEWER LINE - ROAD 'A' EAST	SHEET(S) 6

WATER ALIGNMENTS

DESCRIPTION	SHEET NO.
WATER LINE - LARKINWOOD / INTERIOR TO GROVE	SHEET(S) 7-9

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PLOT DATE: 10/30/2023 10:11 AM

DATE
REVISIONS

DESIGNED: AJM
DRAFTED: AJM
CHECKED: CD
DATE: JUNE 2023

LOCATION:
120 GROVE STREET - LOT 42 OF
COBBAN & DINMORES ORCHARD HOMES
SECTION 19, T13N, R19W, P.M.M.
MISSOULA COUNTY, MONTANA

PREPARED FOR:
ROBERT & EVELYN BEAN AND
COLLIN BANGS & JOHN BARRETT

PROJECT NAME
ORCHARD GROVE SUBDIVISION

SHEET TITLE:
UTILITY CONSTRUCTION PLANS
INDEX SHEET

PROJECT NO.
22008967

SHEET:
3 OF 9

STAGE 2

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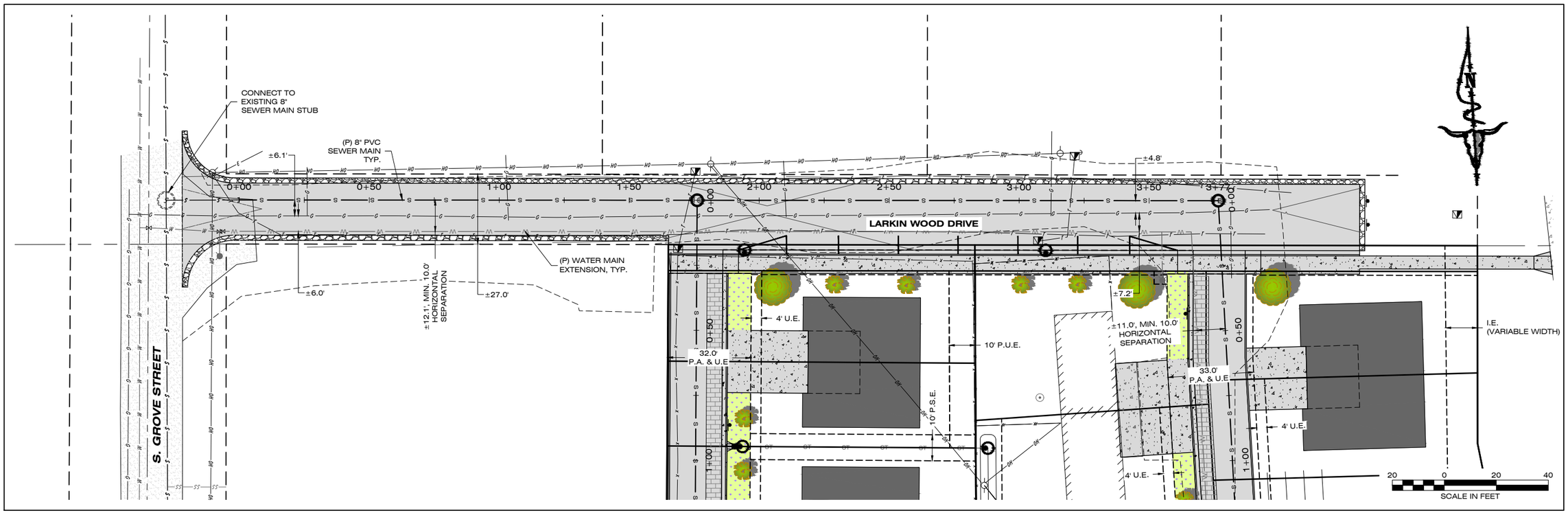

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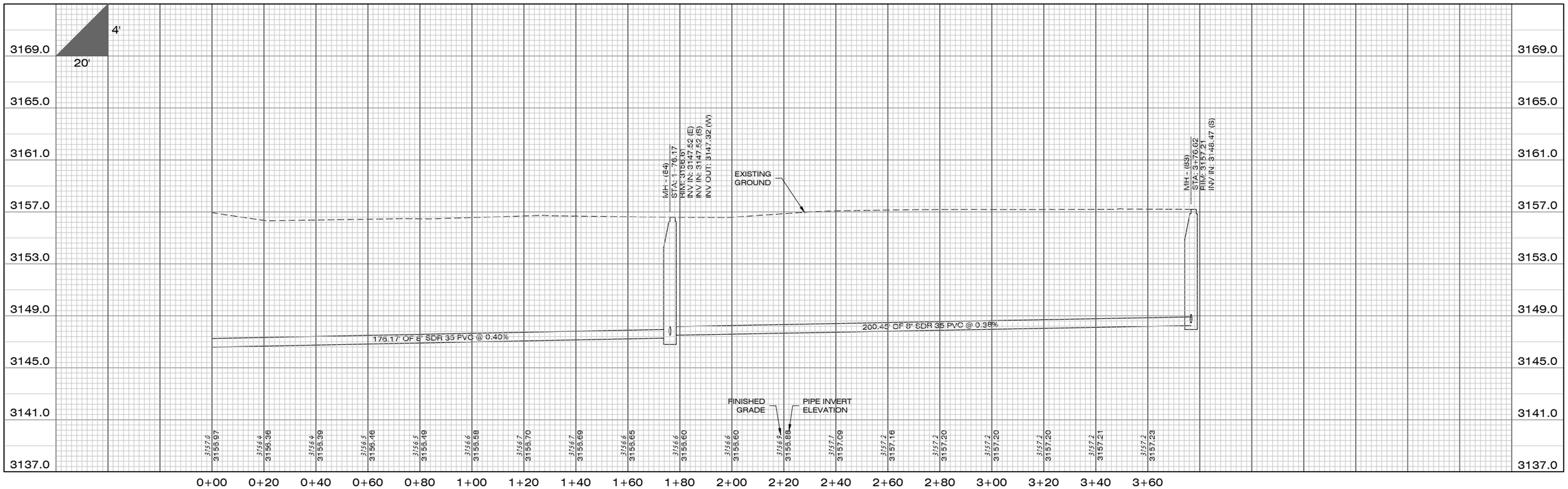

PROFILE VIEW

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PLOT DATE: 10/30/2023 10:11 AM

REVISIONS	DATE

DESIGNED: AJM
DRAFTED: AJM
CHECKED: CD
DATE: JUNE 2023

LOCATION: 120 GROVE STREET - LOT 42 OF COBEAN & DINMORES ORCHARD HOMES SECTION 19, T13N, R19W, P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: UTILITY CONSTRUCTION PLANS SEWER PLAN AND PROFILE

PROJECT NO.: 22008967

SHEET: 4 OF 9

STAGE 2

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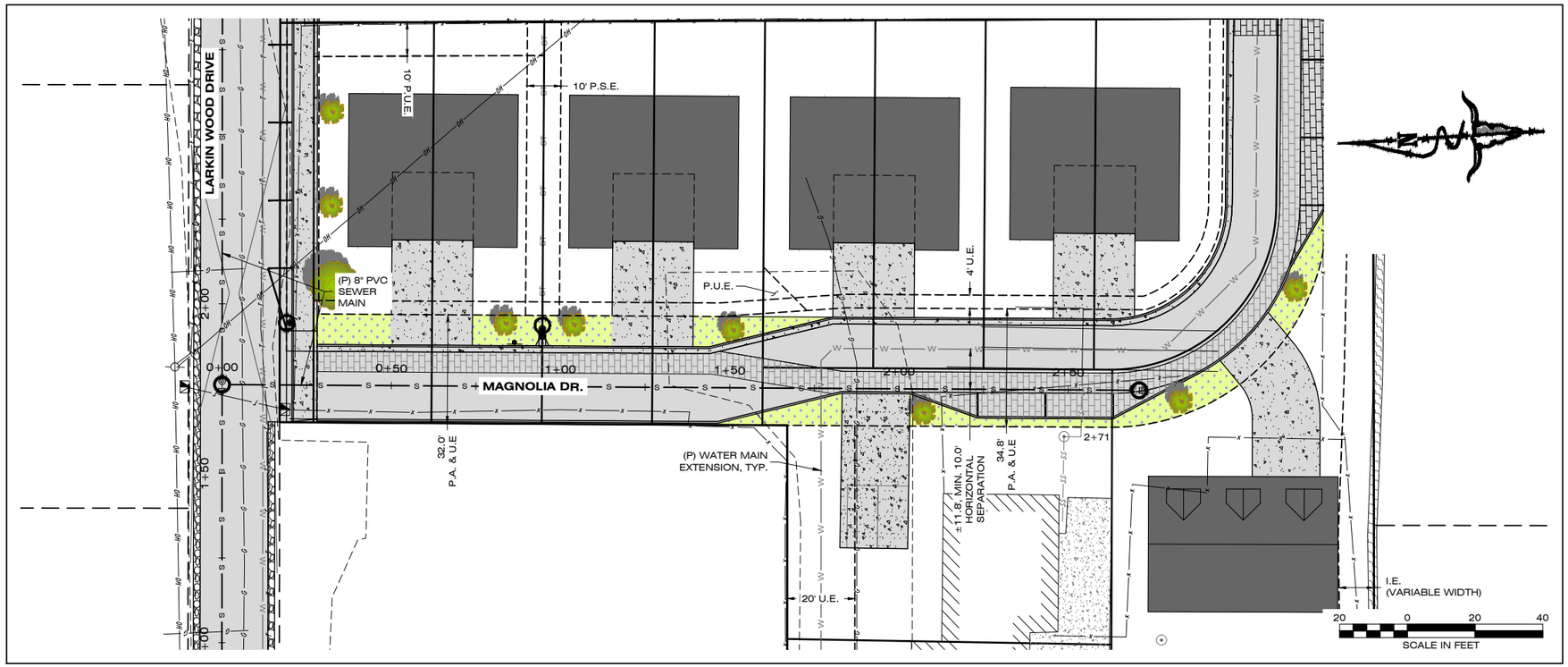

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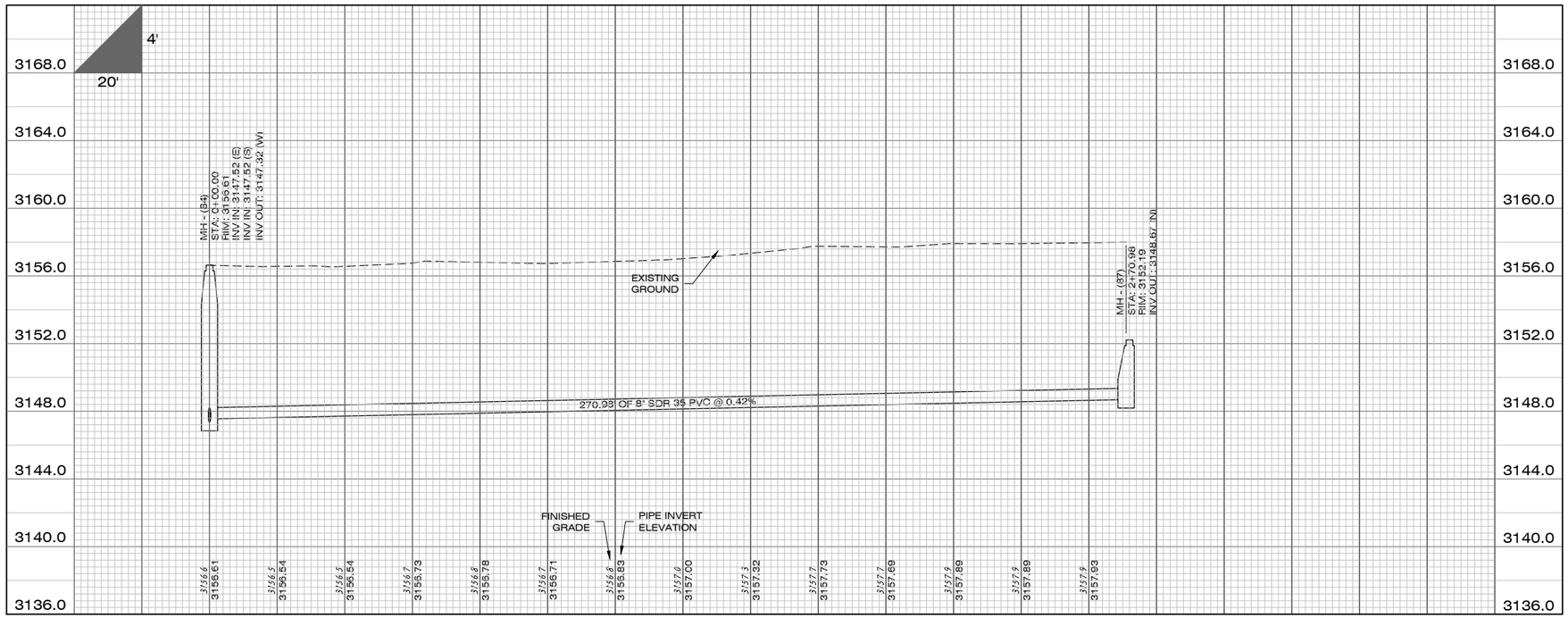

PROFILE VIEW

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DATE

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CHECKED: CD
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PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: UTILITY CONSTRUCTION PLANS SEWER PLAN AND PROFILE

PROJECT NO. 22008967

SHEET: 5 OF 9

STAGE 2

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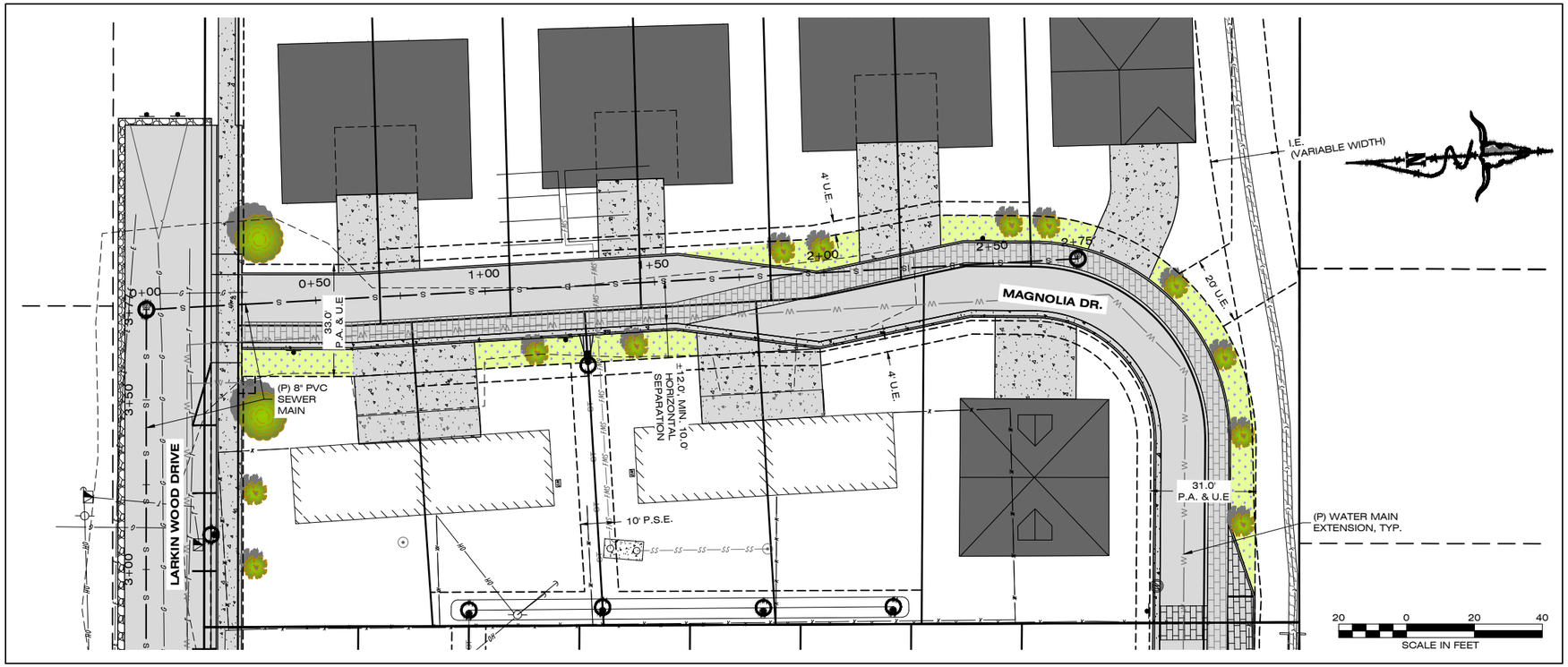

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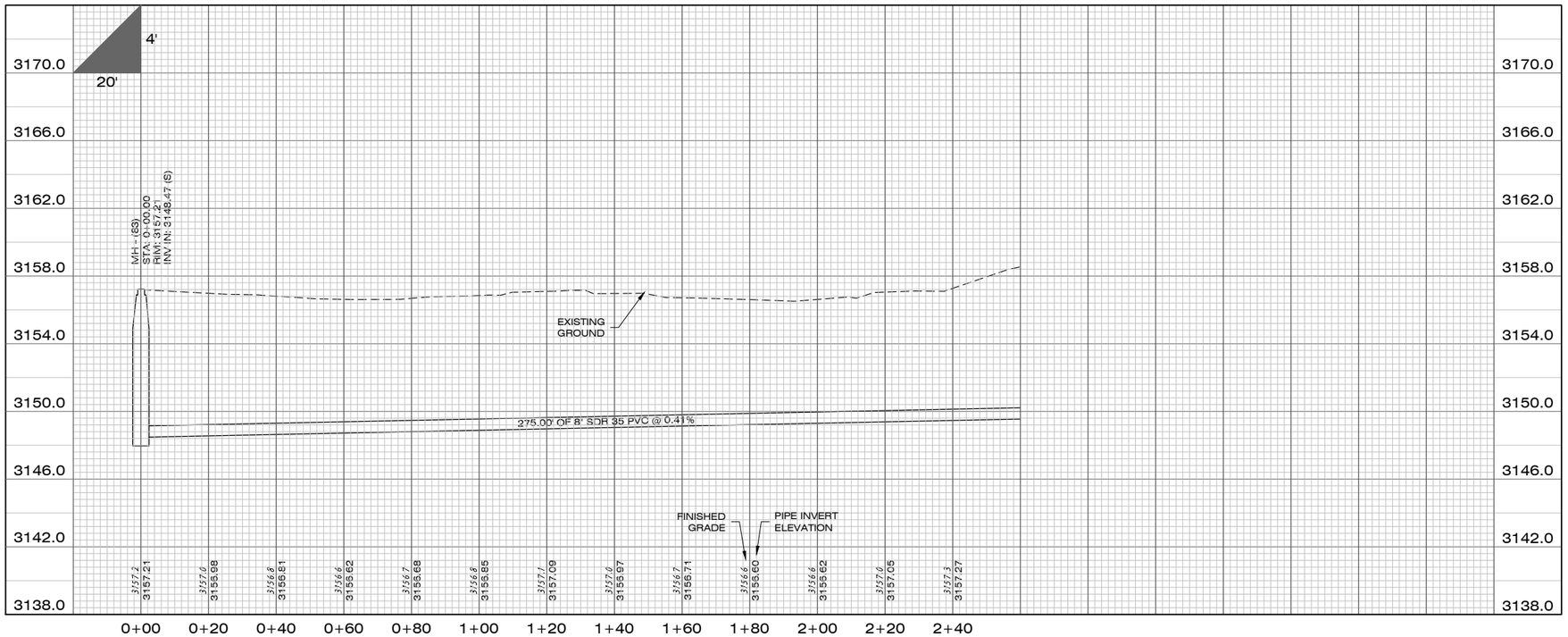

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REVISIONS | DATE

DESIGNED: AJM
DRAFTED: AJM
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PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: UTILITY CONSTRUCTION PLANS SEWER PLAN AND PROFILE

PROJECT NO.: 22008967

SHEET: 6 OF 9

STAGE 2

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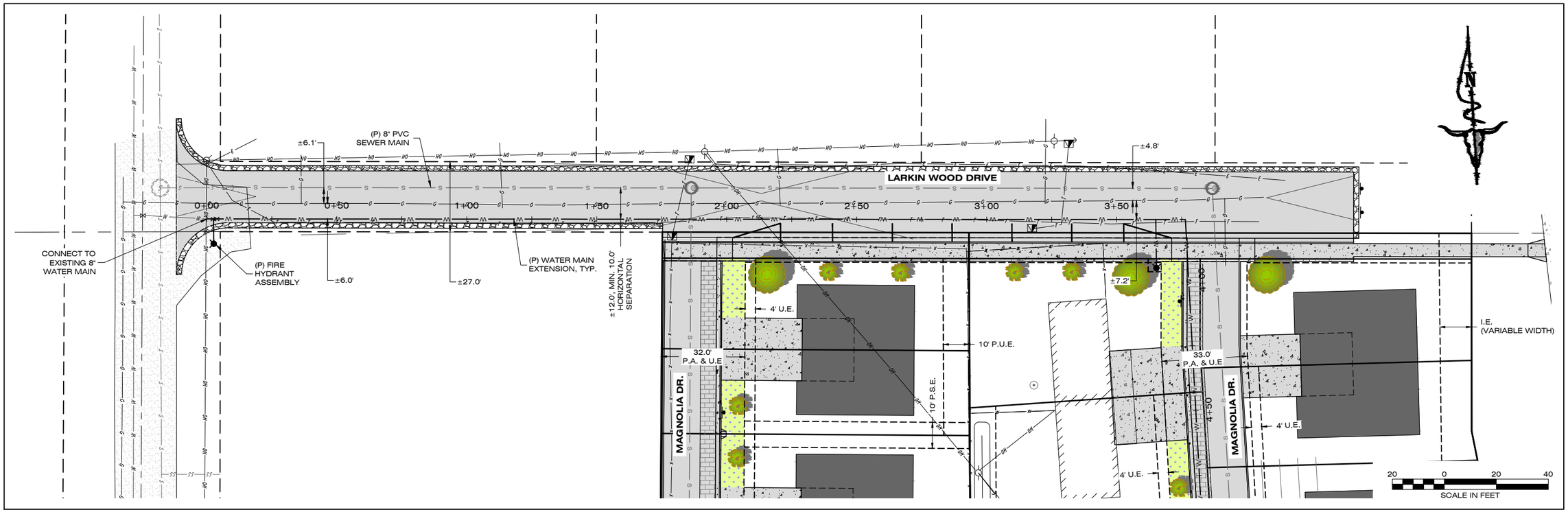

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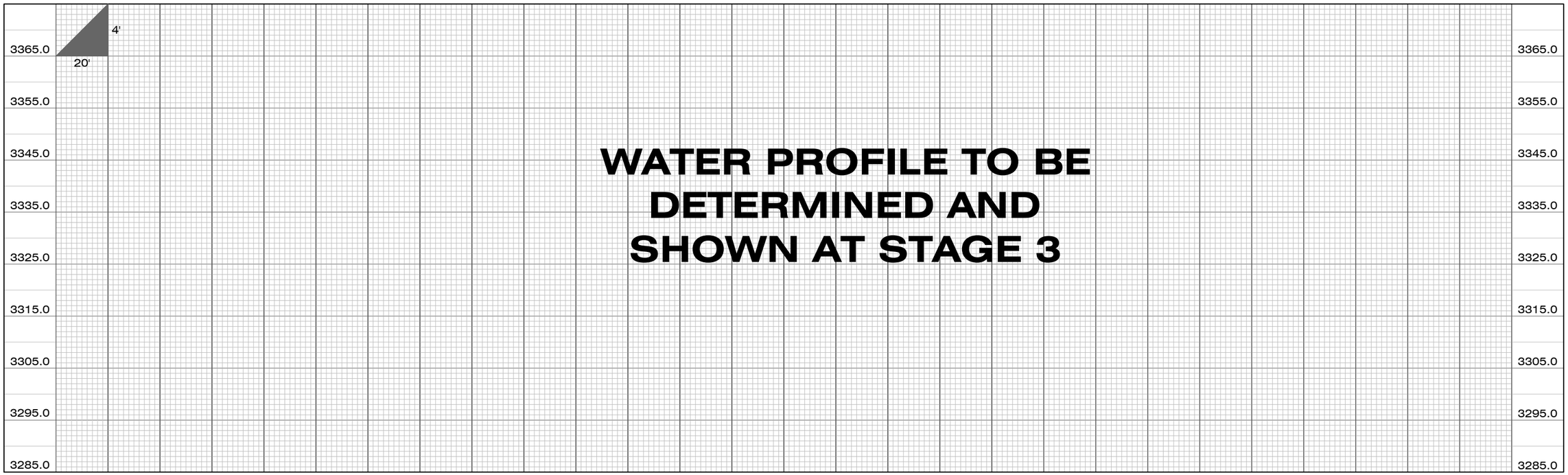

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DATE

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LOCATION: 120 GROVE STREET - LOT 42 OF COBBEAN & DINMORES ORCHARD HOMES SECTION 19, T13N, R19W, P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: UTILITY CONSTRUCTION PLANS WATER PLAN AND PROFILE

PROJECT NO.: 22008967

SHEET: 7 OF 9

STAGE 2

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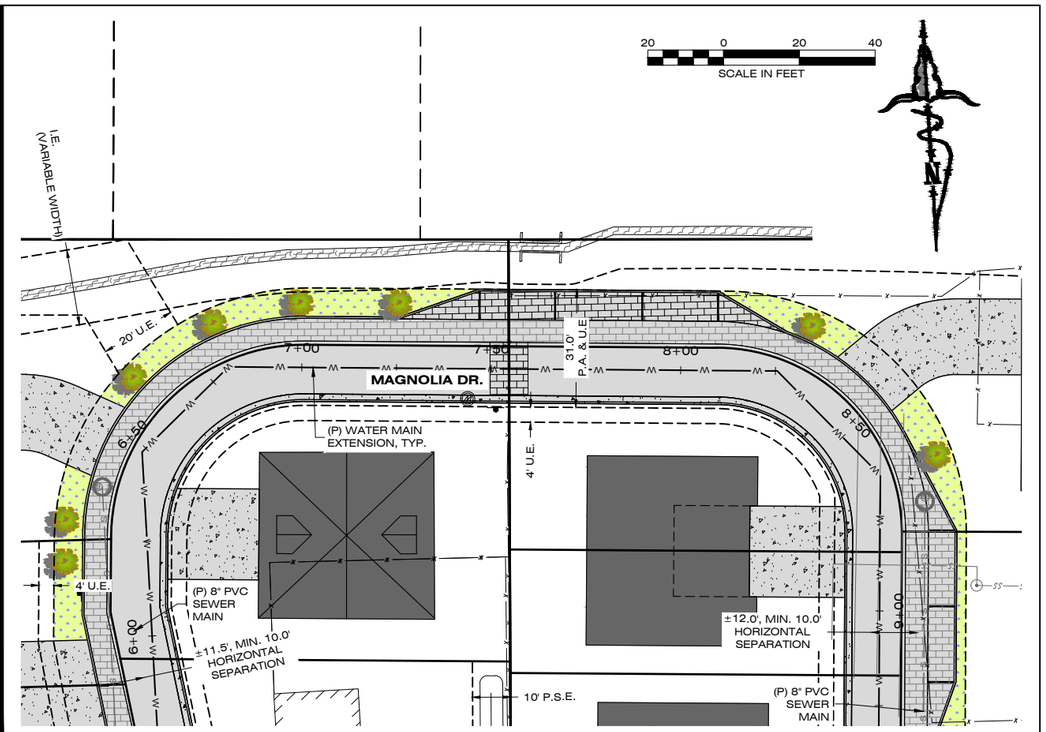

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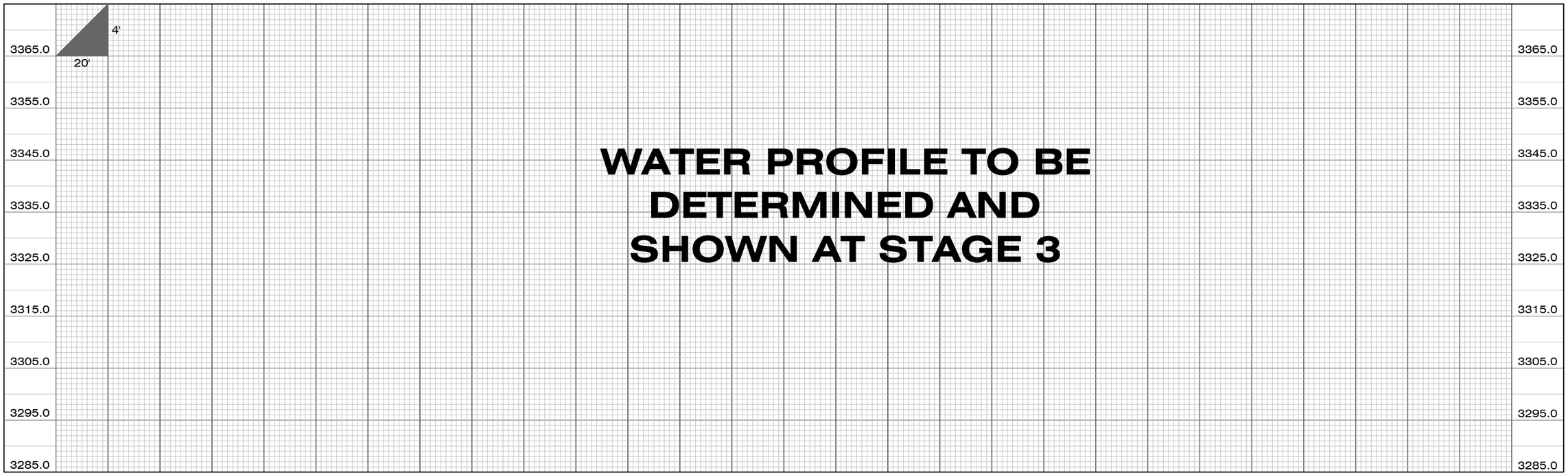

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DRAFTED: AJM
CHECKED: CD
DATE: JUNE 2023

LOCATION: 120 GROVE STREET - LOT 42 OF COBBEAN & DINMORES ORCHARD HOMES SECTION 19, T13N, R19W, P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

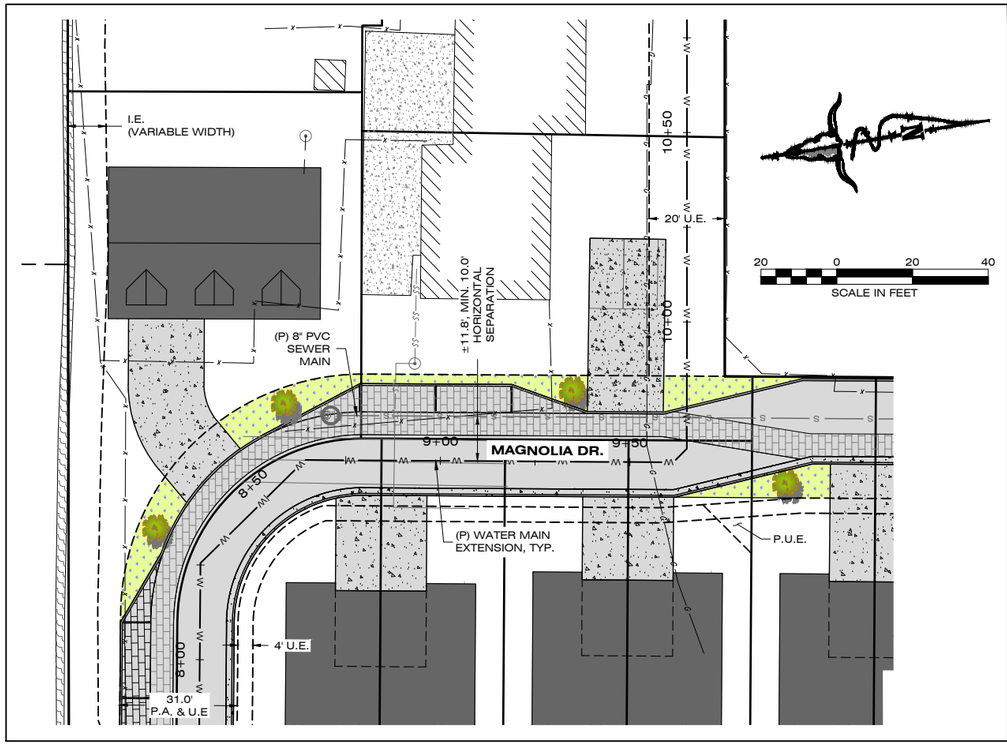
SHEET TITLE: UTILITY CONSTRUCTION PLANS WATER PLAN AND PROFILE

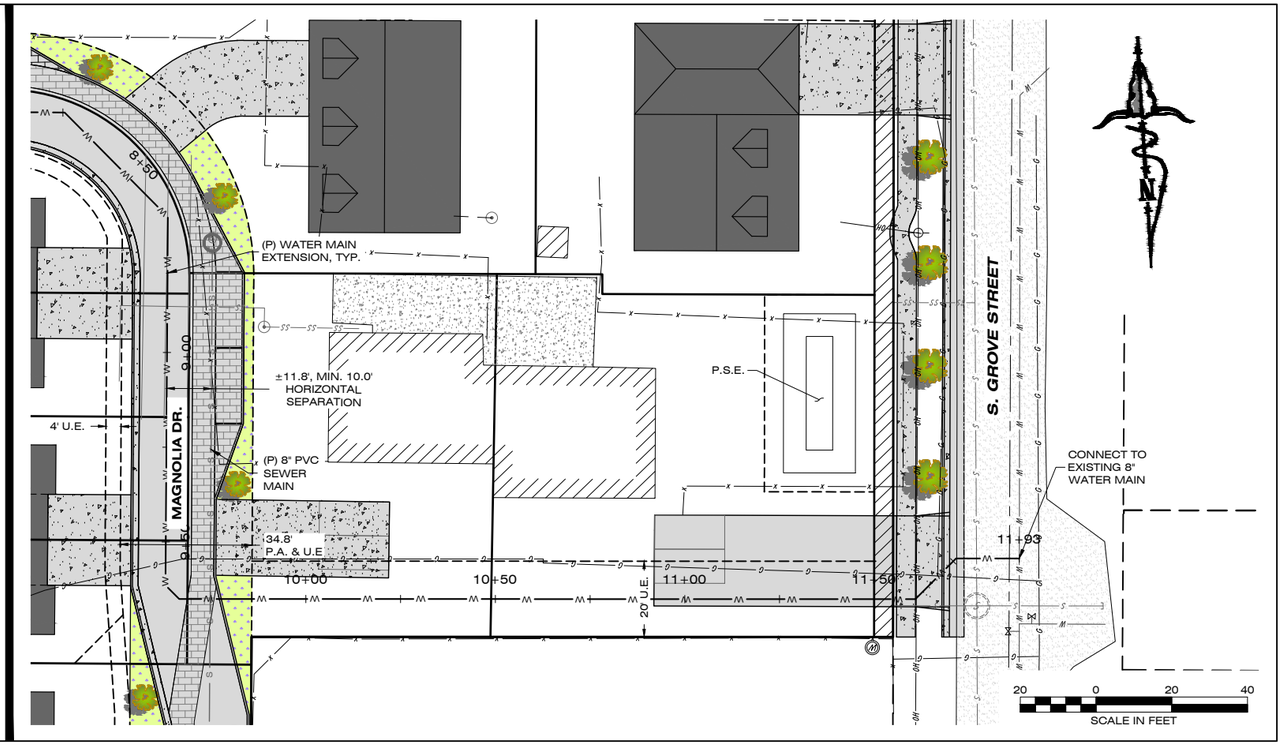
PROJECT NO.: 22008967

SHEET: 8 OF 9

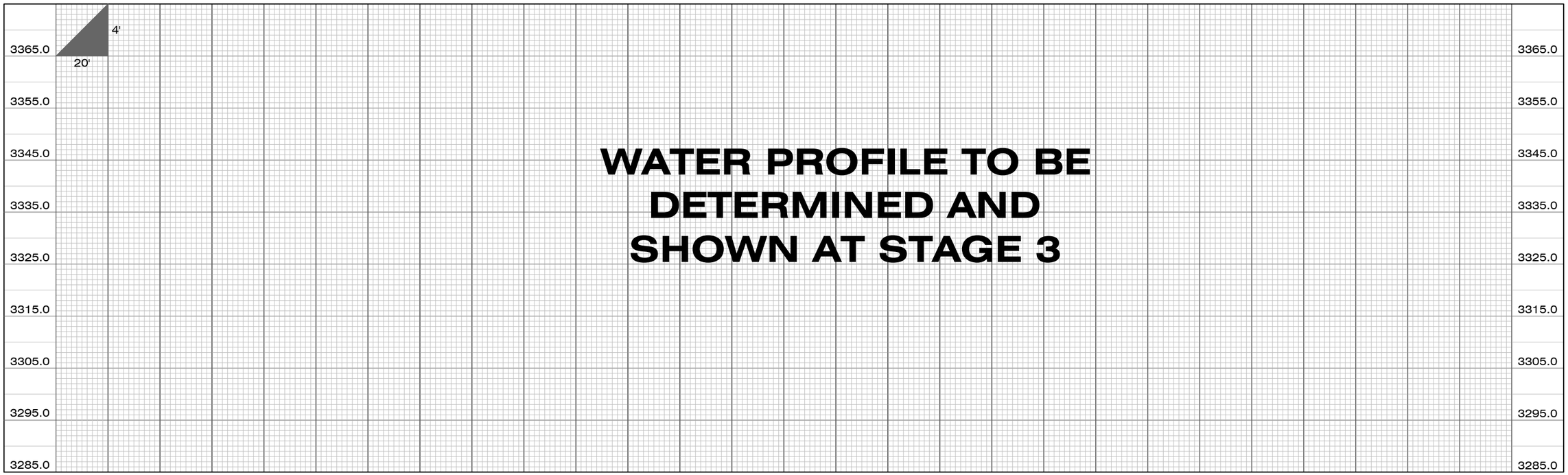
STAGE 2

DWG LOCATION: Q:\2022\22008967.000\DESIGN\CIVIL\CSP\LOTGWA_VITA 22008967.DWG





PLAN VIEW



PROFILE VIEW

IMEG
1817 SOUTH AVE W, STE. A
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FAX: 406.721.5224
www.imegcorp.com

PLOT DATE: 10/30/2023 10:12 AM

REVISIONS | DATE

DESIGNED: AJM
DRAFTED: AJM
CHECKED: CD
DATE: JUNE 2023

LOCATION: 120 GROVE STREET - LOT 42 OF COBEAN & DINMORES ORCHARD HOMES SECTION 19, T13N, R19W, P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

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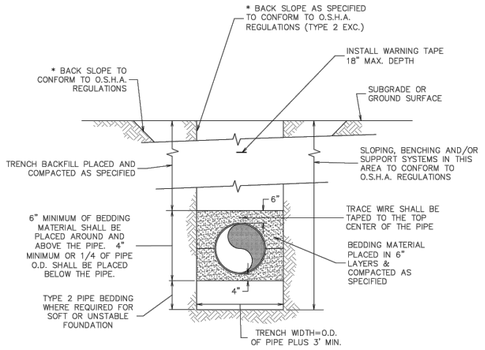
PROJECT NO.: 22008967

SHEET: 9 OF 9

STAGE 2

DWG LOCATION: Q:\2022\22008967.000\DESIGN\CIVIL\CSP\UTILITY\WTR 22008967.DWG

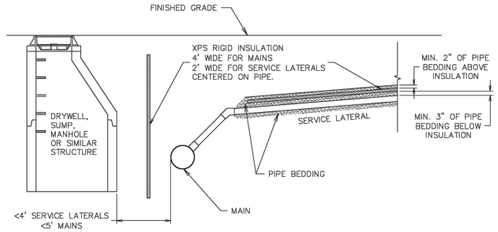


* SEE O.S.H.A. CONSTRUCTION STANDARDS FOR EXCAVATIONS, SECTION 1926, SUBPART P.

GENERAL NOTES:

1. CONSTRUCTION MATERIALS AND PROCEDURES SHALL COMPLY WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), 7TH EDITION, APRIL 2021, AS MODIFIED BY THE MISSOULA CITY PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, APPENDIX 2-A (STANDARD MODIFICATIONS TO MPWSS), CURRENT EDITION.
2. CASING PIPE (IF ANY) INSTALLED BY TRENCH CONSTRUCTION METHODS SHALL BE BEDDED AS SHOWN IN THIS DETAIL.

Engineering Division | Typical Utility Trench Detail | Approved By Utilities Engineer Logan McInnis, PE | Adopted:09/28/2020 Revised: 01/01/2023 | STD - 401



GENERAL NOTES:

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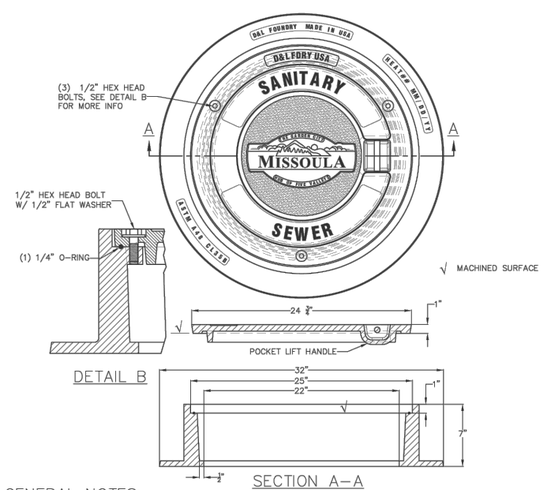
2. INSULATION IS REQUIRED WHEN A SANITARY SEWER PIPE IS LESS THAN 4 FEET FOR A SERVICE LATERAL, AND LESS THAN 5 FEET FOR A SEWER MAIN, FROM FINISHED GRADE, A DRYWELL SUMP, IRRIGATION PIPE OR ANY STRUCTURE THAT HAS THE POTENTIAL TO TRANSFER COLD OR PROMOTE FREEZING.
3. PROVIDE TWO INCHES OF INSULATION THICKNESS, EQUIVALENT TO AN R-VALUE OF 10, PER FOOT OF MISSING COVER OR VOID SPACE LESS THAN FIVE FEET.
4. USE A HIGH DENSITY, RIGID INSULATION (PINK BOARD) WITH 35 PSI OR GREATER RATING IN TRAFFIC AREAS.

Engineering Division | Sanitary Sewer Service and Main Insulation Requirements | Approved By Utility Project Manager – Ross Mollenhauer, PE | Revised: 01/01/2023 | STD - 500

EJCO 3777Z1/AGS, D&L A-1171 LOCKABLE OR APPROVED EQUIVALENT



GENERAL NOTES:

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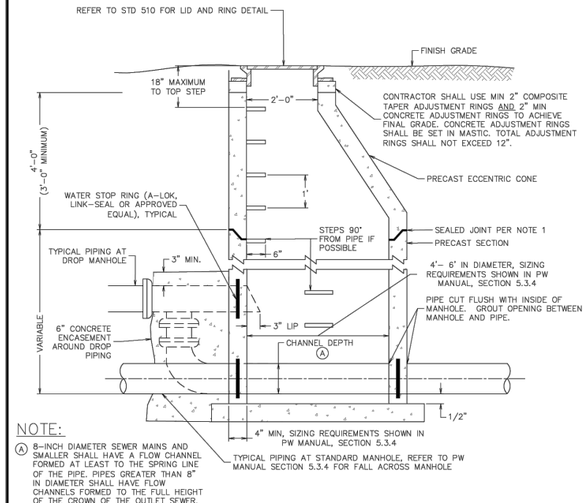
2. D&L FOUNDRY A-1171 BOLT DOWN, WATER TIGHT LIDS ARE REQUIRED FOR ALL CITY-OWNED AND PRIVATELY-OWNED MANHOLES. PRIVATELY OWNED MANHOLES SHALL BE TEXTURED SLIP RESISTANT LID WITHOUT CITY LOGO AND LABELED WITH THE WORDS "SANITARY SEWER".
3. PROVIDE LIDS AND RINGS THAT MEET AASHTO 306 HS20 LOADING RATING OR HIGHER.
4. COMPOSITE TAPERED GRADE RINGS SHALL BE USED TO MATCH FRAME & GRATE TO THE CURB LINE CROSS SLOPE AND RUNNING SLOPE OR STREET CROSS SLOPE AND RUNNING SLOPE WHERE NOT IN CONCRETE.
5. A 4-INCH MANHOLE RING MAY BE USED IN LIEU OF A 7-INCH RING ONLY WITH PRIOR APPROVAL FROM CITY ENGINEERING.

Engineering Division | Sanitary Sewer Lid | Approved By Utility Project Manager – Ross Mollenhauer, PE | Adopted:09/28/2020 Revised: 01/01/2023 | STD - 510



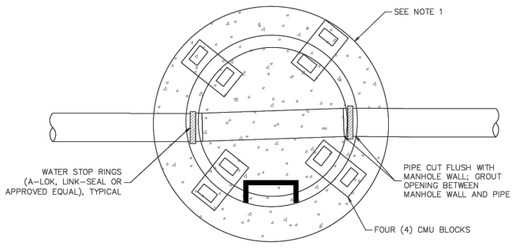
NOTE:

(A) 8-INCH DIAMETER SEWER MAINS AND SMALLER SHALL HAVE A FLOW CHANNEL FORMED AT LEAST TO THE SPRING LINE OF THE PIPE. PIPES GREATER THAN 8" IN DIAMETER SHALL HAVE FLOW CHANNELS FORMED TO THE FULL HEIGHT OF THE CROWN OF THE OUTLET SEWER.

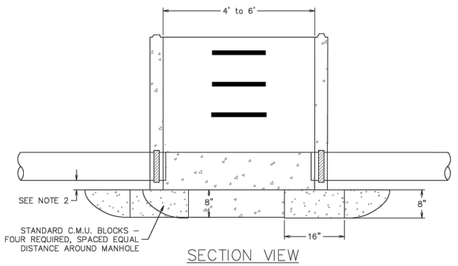
GENERAL NOTES:

1. CONSTRUCTION MATERIALS AND PROCEDURES SHALL COMPLY WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), 7TH EDITION, APRIL 2021, AS MODIFIED BY THE MISSOULA CITY PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, APPENDIX 2-A (STANDARD MODIFICATIONS TO MPWSS), CURRENT EDITION.
2. ALL JOINTS BETWEEN MANHOLE SECTIONS, ADJUSTING RINGS, MANHOLE RING AND TOP SECTION, SHALL BE WATERTIGHT. JOINTING MATERIAL SHALL BE "CONSEAL" OR EQUAL.
3. CONCRETE FOR DROP STRUCTURES SHALL BE FORMED.
4. FLAT-TOP BARREL SHALL BE USED WHEN DISTANCE FROM TOP OF PIPE TO RIM IS LESS THAN 5-FEET.
5. BOLT-DOWN LIDS WILL BE REQUIRED AS PER STD 510. DUSTPANS ARE NOT REQUIRED WITH BOLT-DOWN LIDS.
6. ADDITIONAL FLEX-JOINTS MAY BE INSTALLED WITHIN 2-3 FEET OF MANHOLE WHERE NECESSARY.

Engineering Division | Sanitary Sewer Manhole (Sheet 1 of 3) | Approved By City Engineer for Utilities Ross Mollenhauer, PE | Adopted:09/28/2020 Revised: 01/01/2023 | STD - 512-1



PLAN VIEW

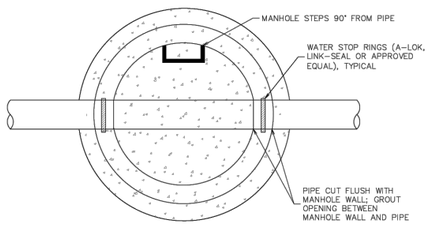


SECTION VIEW

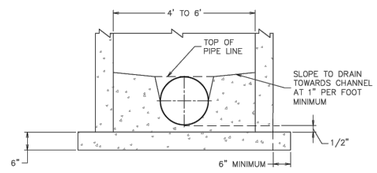
GENERAL NOTES:

1. CONSTRUCTION MATERIALS AND PROCEDURES SHALL COMPLY WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), 7TH EDITION, APRIL 2021, AS MODIFIED BY THE MISSOULA CITY PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, APPENDIX 2-A (STANDARD MODIFICATIONS TO MPWSS), CURRENT EDITION.
2. BASE AND FILL CONCRETE MAY BE POURED MONOLITHICALLY.
3. ONE-HALF (1/2") INCH SPACING MAY BE OMITTED WHEN BASE AND FILL CONCRETE ARE POURED MONOLITHICALLY.

Engineering Division | Sanitary Sewer Manhole - Dog House Base (Sheet 2 of 3) | Approved By City Engineer for Utilities Ross Mollenhauer, PE | Adopted:09/28/2020 Revised: 01/01/2023 | STD - 512-2



PLAN VIEW



SECTION VIEW

GENERAL NOTE:

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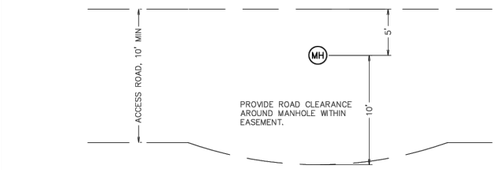
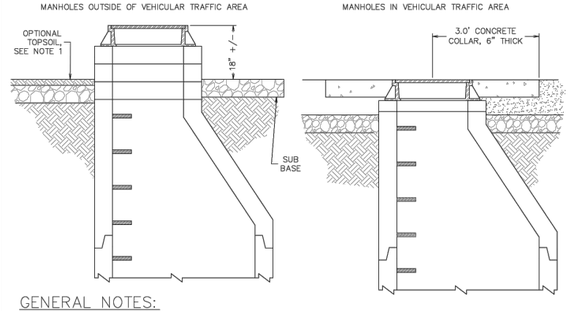
Engineering Division | Sanitary Sewer Manhole - Precast Base (Sheet 3 of 3) | .\ROM-SIGN.tif Approved By City Engineer for Utilities Ross Mollenhauer, PE | Adopted:09/28/2020 Revised: 01/01/2023 | STD - 512-3





GENERAL NOTES:

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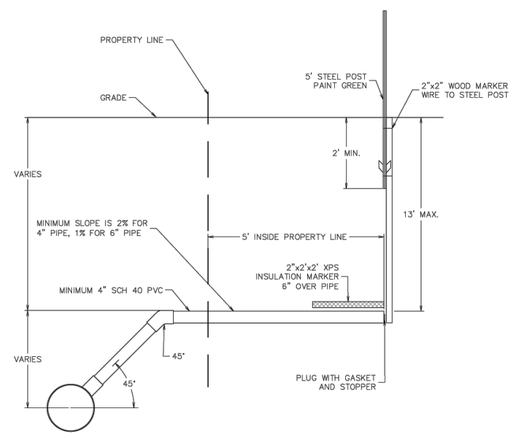
2. TWO (2") INCHES OF TOPSOIL MAY BE ALLOWED UPON OWNER REQUEST
3. CONCRETE COLLARS ARE REQUIRED FOR MANHOLES INSTALLED IN AREAS SUBJECT TO VEHICULAR TRAFFIC IF FINAL PAVING AROUND THE MANHOLE WILL OCCUR MORE THAN 3 MONTHS AFTER THE INSTALLATION OF THE MANHOLE. CONCRETE COLLAR SHALL BE FLUSH WITH EDGE OF MANHOLE AND SURROUNDING SURFACE.
4. CARSONITE MARKER SHALL BE SET ADJACENT TO MANHOLE AT EDGE OF UTILITY ACCESS ROAD.
5. CARSONITE MARKER SHALL CONTAIN THE APPROPRIATE UTILITY SPECIFIC LABEL AND COLOR AS PER CITY ENGINEER.
6. MINIMUM OF SIX (6") INCHES OF BASE COMPACTED TO 95% PROCTOR DENSITY FOR ASPHALT AND CONCRETE SURFACES.
   a) MINIMUM OF SIX (6") INCHES OF SUB BASE COMPACTED TO 95% PROCTOR DENSITY
7. MINIMUM OF SIX (6") INCHES OF SUB BASE COMPACTED TO 95% PROCTOR DENSITY FOR OTHER SURFACE TREATMENTS.
   a) EXTEND ROAD BASE OUT TO EDGES OF EASEMENT AROUND MANHOLES.

Engineering Division | Utility Access Road | Approved By Utility Project Manager Ross Mollenhauer, PE | Revised: 01/01/2023 | STD - 514



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2. MAXIMUM LINE DEPTH IS 13'. DEVIATIONS MAY BE ALLOWED BY CITY ENGINEERING.
3. CONNECTIONS TO EXISTING SEWER MAINS SHALL BE TAPPED AT THE CONTRACTORS EXPENSE, AND PREDCO FAST FIT SADDLES OR APPROVED EQUAL SHALL BE USED. WHEN THE SEWER MAIN AND SEWER SERVICE LATERALS ARE INSTALLED UNDER ONE CONTRACT, IN-LINE TEES ONLY SHALL SHALL BE PROVIDED FOR THE SERVICE LATERALS. TEES SHALL BE ROLLED TO A 45 DEGREE ANGLE.
4. AN EXCAVATION PERMIT IS REQUIRED FOR EACH STUB.
5. SEWER SERVICE STUBS SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS OR AS SPECIFIED BY CITY ENGINEERING.
6. IN ORDER TO KEEP SERVICE LINES DEEP ENOUGH TO SERVE EACH HOME AND PASS UNDER WATER MAINS, A 22 DEGREE FITTING MAY BE ALLOWED BY THE CITY ENGINEER AT THE SEWER MAIN TAP.
7. ALL COMMERCIAL SERVICE STUBS SHALL BE 6" MINIMUM DIAMETER.
8. ALL SINGLE DWELLING UNIT SERVICE STUBS SHALL BE 4" MINIMUM DIAMETER.

Engineering Division | Standard Sewer Service Stub | Approved By Utility Project Manager Ross Mollenhauer, PE | Revised: 01/01/2023 | STD - 520

IMEG
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www.imegcorp.com

PLOT DATE: 10/30/2023 10:12 AM

DATE
REVISIONS

DESIGNED: AJM
DRAFTED: AJM
CHECKED: CD
DATE: JUNE 2023

LOCATION: 220 GROVE STREET - LOT 42 OF COBBAN & DINGMORES ORCHARD HOMES SECTION 19, T13N, R19W, P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

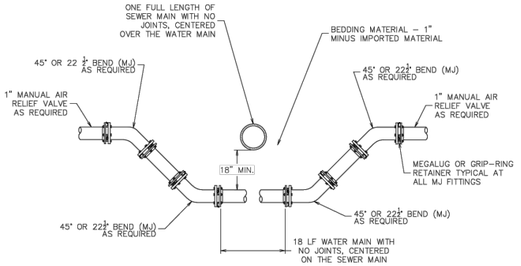
SHEET TITLE: UTILITY CONSTRUCTION PLANS DETAIL SHEET

PROJECT NO. 22008967

SHEET: D1 OF 9

STAGE 2

DWG LOCATION: C:\2022\22008967\DESIGN\CAD\CIVIL\DETAILS\MISC\STD-22008967.DWG



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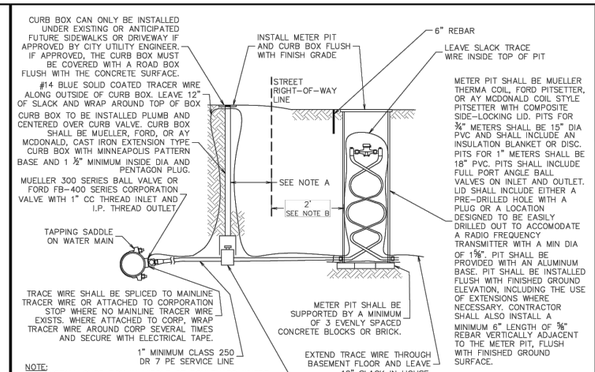
Typical Water Main Crossing @ Sewer Mains

Engineering Division | Approved By Utilities Engineer Logan McInnis, PE | Adopted:09/28/2020 Revised: 01/01/2023 | STD - 402



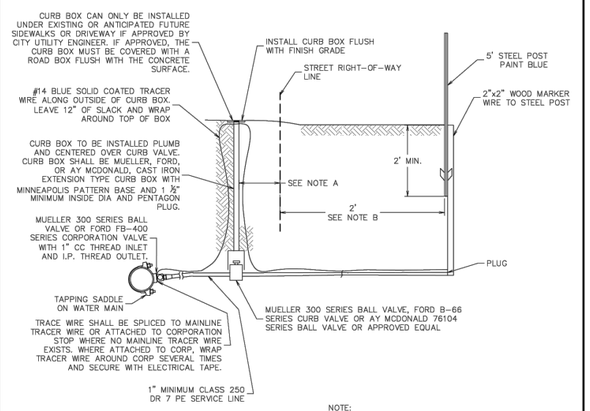
NOTE:
A. INSTALL CURB BOX IN MIDDLE OF BOULEVARD WHERE APPLICABLE OR 2' FROM EDGE OF RIGHT–OF–WAY
B. WHERE THERE IS A UTILITY EASEMENT ADJACENT TO THE RIGHT–OF–WAY, METER PIT CAN BE LOCATED 2' ON THE HOUSE SIDE OF THE EASEMENT.

GENERAL NOTES:

1. CONSTRUCTION MATERIALS AND PROCEDURES SHALL COMPLY WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), 7TH EDITION, APRIL 2021, AS MODIFIED BY THE MISSOULA CITY PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, APPENDIX 2–A (STANDARD MODIFICATIONS TO MPWSS), CURRENT EDITION.
2. WATER SERVICES SHALL BE BURIED A MINIMUM OF 6' DEEP.
3. THIS DETAIL APPROPRIATE FOR 3/4" OR 1" METERS. CONTRACT CITY UTILITY ENGINEER FOR RESIDENTIAL METERS LARGER THAN 1". IRRIGATION METERS LARGER THAN 1" MUST BE INSTALLED IN A CONCRETE PIT PER STD–412 OR OTHER APPROVED DRAWING.
4. PLASTIC METER PITS ARE NOT TRAFFIC RATED. METER PITS ARE NOT ALLOWED IN SIDEWALKS OR IN A TRAFFIC AREA UNLESS APPROVED BY THE CITY UTILITY ENGINEER. IF APPROVED BY THE CITY UTILITY ENGINEER. INSTALLATION SHALL HAVE A FLUSH MOUNTED, TRAFFIC RATED CASTING INSTALLED OVER THE PIT. THE CASTING DIA SHALL BE AT LEAST 3" LARGER THAN THE METER PIT. THE METER TRANSMITTER SHALL BE INSTALLED ON THE BUILDING WALL WITH A 1/2" CONDUIT BETWEEN THE PIT AND THE WALL.
5. NO OBSTRUCTIONS SHALL BE PLACED WITHIN A MIN 4' RADIUS AROUND THE METER PIT TO ENSURE ACCESS TO THE PIT.
6. NO PRV'S, CHECK VALVES, OR BACKFLOW DEVICES ALLOWED IN METER PIT.
7. THIS DIAGRAM IS NOT PROJECT SPECIFIC AND IS NOT INTENDED TO BE A DESIGN DRAWING. THE OWNER IS RESPONSIBLE TO COMPLY WITH ALL APPLICABLE BUILDING CODES. THIS DETAIL MAY CHANGE AT ANY TIME AND IT IS THE OWNER'S RESPONSIBILITY TO OBTAIN THE MOST CURRENT VERSION OF THIS AND OTHER CITY REQUIREMENTS.
8. IF PROPERTY DOES NOT FRONT A STREET WITH A WATER MAIN, CONTACT CITY FOR SPECIFIC REQUIREMENTS RELATED TO EASEMENTS AND METER PIT LOCATIONS.
9. WHERE NEW WATER SERVICE LINE TRANSITIONS TO EXISTING GALVANIZED SERVICE LINE, THE NEW TRACER WIRE SHOULD BE ATTACHED TO THE GALVANIZED PIPE USING A CHRISTY'S OR APPROVED EQUAL UL APPROVED BRONZE GROUNDING CLAMP SUITABLE FOR DIRECT BURIAL.
10. IF METER PIT IS INSTALLED TOO LOW THE CONTRACTOR/DEVELOPER SHALL BE RESPONSIBLE FOR THE PURCHASE AND INSTALLATION OF A METER RESETTER TO BRING TO FINISHED GRADE.

Typical Residential Water Service Detail

Engineering Division | Approved By Utilities Engineer Logan McInnis, PE | Adopted:09/28/2020 Revised: 01/01/2023 | STD - 404A



NOTE:
A. INSTALL CURB BOX IN MIDDLE OF BOULEVARD WHERE APPLICABLE OR 2' FROM EDGE OF RIGHT–OF–WAY
B. WHERE THERE IS A UTILITY EASEMENT ADJACENT TO THE RIGHT–OF–WAY, METER PIT CAN BE LOCATED 2' ON THE HOUSE SIDE OF THE EASEMENT.

GENERAL NOTES:

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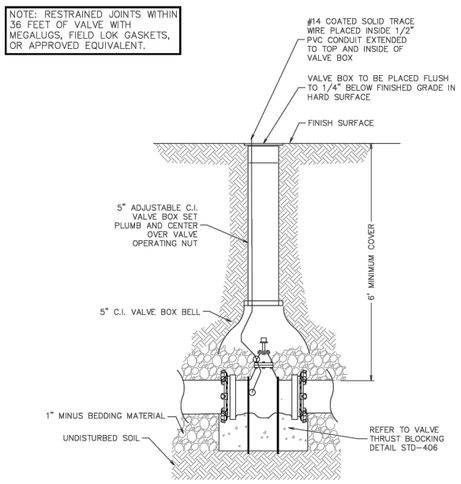
2. WATER SERVICES SHALL BE BURIED A MINIMUM OF 6' DEEP.
3. FOR WATER SERVICES STUBS LARGER THAN 2" SEE CITY STANDARD DETAIL STD–413.
4. IF PROPERTY DOES NOT FRONT A STREET WITH A WATER MAIN, CONTACT CITY FOR SPECIFIC REQUIREMENTS RELATED TO EASEMENTS.
5. SERVICE LINE SHALL END AT WOOD POST. NO ABOVE GROUND WHIPS ALLOWED. IT IS THE INSTALLER'S RESPONSIBILITY TO REMOVE AIR FROM THE SERVICE LINES AS NECESSARY.
6. WATER SERVICE STUBS SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS OR AS SPECIFIED BY CITY ENGINEERING.

Typical Residential Water Service Stub Detail

Engineering Division | Approved By Utilities Engineer Logan McInnis, PE | Adopted:09/28/2020 Revised: 01/01/2023 | STD - 404B

NOTE: RESTRAINED JOINTS WITHIN 36 FEET OF VALVE WITH MEGALUGS, FIELD LOK GASKETS, OR APPROVED EQUIVALENT.



GENERAL NOTES:

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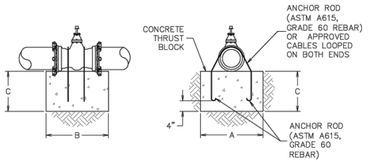
Valve Detail

Engineering Division | Approved By Utilities Engineer Logan McInnis, PE | Adopted:09/28/2020 Revised: 01/01/2023 | STD - 405



STANDARD THRUST BLOCK DIMENSIONS

ANCHOR ROD SIZE	VALVE SIZE	100 PSI			150 PSI			200 PSI			250 PSI			300 PSI	
		"A"	"B"	"C"	"A"	"B"	"C"	"A"	"B"	"C"	"A"	"B"	"C"	"A"	"B"
3/4"	6" & 8"	2'–0"	2'–0"	2'–0"	2'–0"	2'–0"	2'–0"	2'–0"	2'–0"	2'–0"	2'–0"	2'–0"	2'–0"	2'–0"	2'–0"
3/4"	10"	2'–0"	2'–0"	2'–0"	2'–6"	2'–6"	2'–0"	2'–9"	2'–6"	2'–6"	3'–0"	3'–0"	3'–0"	3'–7"	3'–0"
3/4"	12"	2'–3"	2'–0"	2'–0"	3'–0"	3'–0"	2'–8"	3'–5"	3'–0"	3'–0"	4'–3"	3'–0"	3'–0"	5'–1"	3'–0"
1"	14"	2'–3"	2'–0"	2'–4"	3'–5"	3'–0"	3'–0"	4'–6"	3'–0"	3'–0"	4'–0"	4'–0"	4'–0"	4'–9"	4'–0"
1 1/8"	16"	3'–0"	3'–0"	2'–11"	4'–4"	3'–0"	3'–0"	4'–1"	4'–0"	4'–0"	5'–1"	4'–0"	4'–0"	6'–1"	4'–0"
1 1/4"	18"	3'–8"	3'–0"	3'–0"	5'–5"	3'–0"	3'–0"	5'–1"	4'–0"	4'–0"	6'–4"	4'–0"	4'–0"	5'–9"	5'–0"
1 3/8"	24"	4'–4"	4'–0"	4'–0"	6'–5"	4'–0"	4'–0"	6'–6"	5'–0"	5'–0"	6'–5"	6'–0"	6'–0"	7'–8"	6'–0"

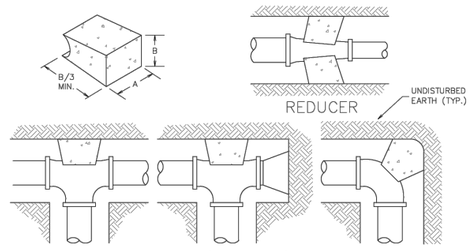
NOTE: PRESSURES SHOWN ABOVE ARE MAXIMUM WORKING PRESSURE IN SYSTEM.

GENERAL NOTES:

1. CONSTRUCTION MATERIALS AND PROCEDURES SHALL COMPLY WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), 7TH EDITION, APRIL 2021, AS MODIFIED BY THE MISSOULA CITY PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, APPENDIX 2–A (STANDARD MODIFICATIONS TO MPWSS), CURRENT EDITION.
2. DIAGRAM DEPICTS GATE VALVES ONLY, VALVES 12 INCH AND LARGER TO BE BUTTERFLY, AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS WITH BLOCKS CENTERED UNDER LOAD BEARING PORTION OF VALVE.
3. STEEL CABLE (3/4" MINIMUM DIA. OR AS APPROVED BY THE ENGINEER) W/ANCHOR BOLTS MAY BE SUBSTITUTED FOR ANCHOR ROD.

Valve Thrust Blocking Detail

Engineering Division | Approved By Utilities Engineer Logan McInnis, PE | Adopted:09/28/2020 Revised: 01/01/2023 | STD - 406



DIMENSIONS FOR THRUST BLOCKING

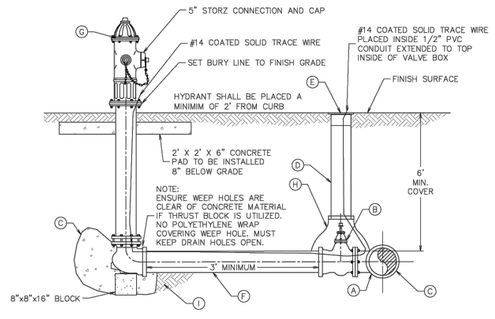
FITTING SIZES	TEES & PLUGS		90° BEND		45° BEND & WYES		REDUCERS & 22 1/2° BEND	
	A	B	A	B	A	B	A	B
4" & 6"	2'–0"	1'–11"	2'–5"	2'–2"	1'–10"	1'–7"	1'–9"	0'–10"
8"	2'–8"	2'–6"	3'–2"	3'–0"	2'–5"	2'–1"	1'–9"	1'–6"
10"	4'–0"	3'–3"	4'–0"	3'–10"	3'–0"	2'–9"	2'–2"	1'–11"
12"	4'–0"	3'–10"	4'–8"	4'–8"	3'–8"	3'–3"	2'–7"	2'–3"
16"	4'–6"	4'–0"	5'–0"	4'–8"	4'–0"	3'–0"	3'–0"	2'–6"
20"	5'–0"	5'–0"	7'–0"	5'–0"	4'–6"	4'–0"	3'–0"	3'–0"
24"	6'–10"	5'–0"	10'–0"	5'–0"	5'–8"	4'–6"	3'–8"	3'–8"

GENERAL NOTES:

1. CONSTRUCTION MATERIALS AND PROCEDURES SHALL COMPLY WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), 7TH EDITION, APRIL 2021, AS MODIFIED BY THE MISSOULA CITY PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, APPENDIX 2–A (STANDARD MODIFICATIONS TO MPWSS), CURRENT EDITION.
2. THIS TABLE IS BASED ON 2000 PSF SOIL BEARING PRESSURE AND 150 PSI MAIN PRESSURE.
3. WRAP ALL FITTINGS WITH POLYETHLENE PRIOR TO PLACING CONCRETE.

Thrust Block Detail

Engineering Division | Approved By Utilities Engineer Logan McInnis, PE | Revised: 01/01/2023 | STD - 407



(A) APPROPRIATE SIZE X 6" SWIVEL OR MJ TEE AS REQUIRED.
(B) 6" MJ GATE VALVE––MUELLER OR APPROVED EQUAL
(C) CONCRETE THRUST BLOCK IN ADDITION TO MEGALUG OR TIE–BOLT RESTRAINTS.
(D) 5" ADJUSTABLE C.I. VALVE BOX
(E) 5" VALVE BOX LID
(F) 6" DUCTILE IRON PIPE WITH #14 COATED SOLID TRACE WIRE
(G) 6" MUELLER CENTURION HYDRANT ASSEMBLY––MJ OR FLANGED (AS REQUIRED)
(H) 5" C.I. VALVE BOX BELL
(I) PROVIDE IN ALL SOILS 1/2YD MIN. OF 3/4" CRUSHED ROCK. IN CLAY SOILS, PROVIDE 1 YD MIN.

GENERAL NOTES:

1. CONSTRUCTION MATERIALS AND PROCEDURES SHALL COMPLY WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), 7TH EDITION, APRIL 2021, AS MODIFIED BY THE MISSOULA CITY PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, APPENDIX 2–A (STANDARD MODIFICATIONS TO MPWSS), CURRENT EDITION.
2. DUCTILE IRON PIPE, INCLUDING HYDRANT BARREL, SHALL BE WRAPPED WITH 8 MIL POLYETHYLENE.
3. IF MAIN IS BELOW OR ABOVE STANDARD DEPTH, USE BENDS AS REQUIRED TO INSURE THAT HYDRANT IS PLACED ABOVE GRADE AS SHOWN. PLACE BENDS BETWEEN HYDRANT VALVE & MAIN TO RAISE VALVE TO NORMAL DEPTH WHEN MAIN IS BELOW DEPTH SHOWN.
4. ALL JOINTS ON HYDRANT LEADS SHALL BE RESTRAINED.
5. HYDRANT EXTENSIONS WILL ONLY BE ALLOWED WITH WRITTEN PERMISSION FROM MISSOULA WATER.

Hydrant Detail

Engineering Division | Approved By Utilities Engineer Logan McInnis, PE | Adopted:09/28/2020 Revised: 01/01/2023 | STD - 408

IMEG
1817 SOUTH AVE W, STE A PH: 406.721.0142
MISSOULA, MT FAX: 406.721.5224
59801 www.imegcorp.com

PLOT DATE: 10/30/2023 10:12 AM

REVISIONS | DATE

DESIGNED: AJM
DRAFTED: AJM
CHECKED: CD
DATE: JUNE 2023

LOCATION: 20 GROVE STREET - LOT 42 OF COBBAN & DINMORES ORCHARD HOMES SECTION 19, T13N, R19W, P.M.M. MISSOULA COUNTY, MONTANA

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: UTILITY CONSTRUCTION PLANS DETAIL SHEET

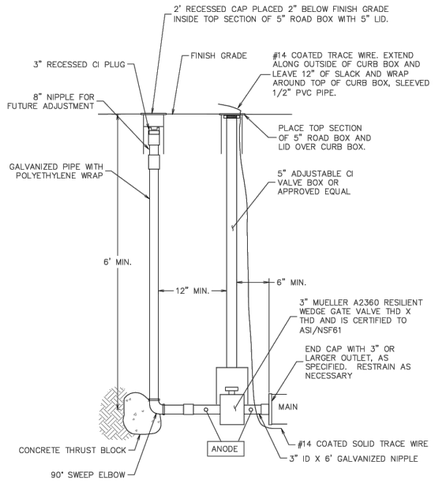
PROJECT NO. 22008967

SHEET: D2 OF 9

STAGE 2

DWG LOCATION: O:\2022\22008967.00\SER\CAD\CLOSEOUT\SHEETS\STD-22008967.DWG

NOTE: NO UNRESTRAINED JOINTS WITHIN 36 FEET OF BLOWOFF

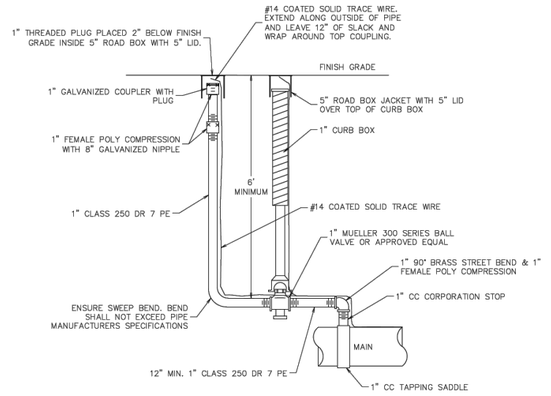


GENERAL NOTES:

1. CONSTRUCTION MATERIALS AND PROCEDURES SHALL COMPLY WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), 7TH EDITION, APRIL 2021, AS MODIFIED BY THE MISSOULA CITY PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, APPENDIX 2–A (STANDARD MODIFICATIONS TO MPWSS), CURRENT EDITION.
2. ROAD BOXES TO BE PLACED FLUSH TO 1/4" BELOW FINISHED GRADE IN HARD SURFACE.

Typical Blow-Off Assembly

Engineering Division | Approved By Utilities Engineer Logan McInnis, PE | Adopted:09/28/2020 Revised: 01/01/2023 | STD - 409

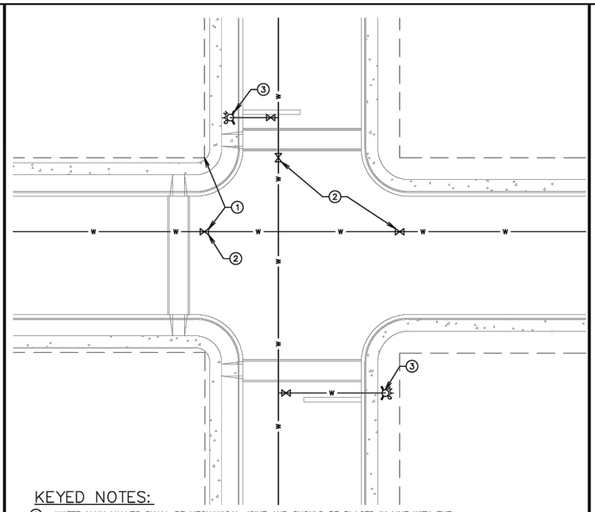


GENERAL NOTES:

1. CONSTRUCTION MATERIALS AND PROCEDURES SHALL COMPLY WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), 7TH EDITION, APRIL 2021, AS MODIFIED BY THE MISSOULA CITY PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, APPENDIX 2–A (STANDARD MODIFICATIONS TO MPWSS), CURRENT EDITION.
2. WHERE AIR RELIEF VALVES (ARVs) ARE IDENTIFIED ON THE PLANS AS TEMPORARY, TRACER WIRE IS NOT REQUIRED AND ALL MATERIALS CAN BE SALVAGED AFTER THE CORP IS CLOSED. THE LINE IS CAPPED WITH A BRASS CAP AND FITTINGS ARE WRAPPED IN 10–MIL TAPE.
3. ROAD BOX TO BE PLACED FLUSH TO 1/4" BELOW FINISHED GRADE IN HARD SURFACE

Manual Air Relief Detail

Engineering Division | Approved By Utilities Engineer Logan McInnis, PE | Revised: 01/01/2023 | STD - 410



KEYED NOTES:

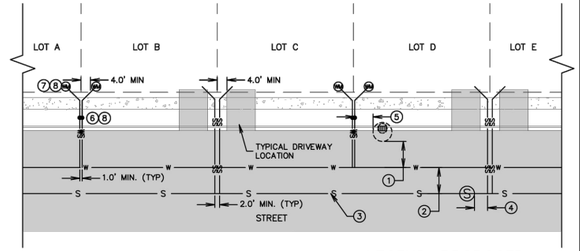
1. WATER MAIN VALVES SHALL BE MECHANICAL JOINT AND SHOULD BE PLACED IN LINE WITH THE RIGHT–OF–WAY LINES BUT NO FURTHER THAN 15 FEET FROM THE CURB PC AND NOT WITHIN A CROSSWALK.
2. VALVES SHALL BE INSTALLED IN AT LEAST TWO DIRECTIONS AT EACH TEE AND IN AT LEAST THREE DIRECTIONS AT EACH CROSS. VALVES SHALL HAVE MECHANICAL JOINTS. VALVES SHALL BE PLACED SO THAT ONLY A SINGLE FIRE HYDRANT IS OUT OF SERVICE WHEN THE MAIN IS SHUTDOWN.
3. FIRE HYDRANTS SHOULD BE LOCATED 3 FT FROM EDGE OF LAYDOWN AND A MINIMUM OF 5 FT FROM VALVE. PUMPER NOZZLE NUT SHALL BE A MINIMUM OF 2 FT FROM THE TOP BACK OF CURB OR SIDEWALK WHERE SIDEWALK IS LOCATED ADJACENT TO THE CURB. FIRE HYDRANT SHALL BE LOCATED NO FURTHER THAN 12 FT FROM THE CURB. MINIMUM ROAD WIDTH AT A HYDRANT SHALL BE 26 FT.

GENERAL NOTES:

1. CONSTRUCTION MATERIALS AND PROCEDURES SHALL COMPLY WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), 7TH EDITION, APRIL 2021, AS MODIFIED BY THE MISSOULA CITY PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, APPENDIX 2–A (STANDARD MODIFICATIONS TO MPWSS), CURRENT EDITION.

Typical Valve Location Detail

Engineering Division | Approved By Utilities Engineer Logan McInnis, PE | Adopted: Revised: 01/01/2023 | STD - 415



GENERAL NOTES:

1. CONSTRUCTION MATERIALS AND PROCEDURES SHALL COMPLY WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), 7TH EDITION, APRIL 2021, AS MODIFIED BY THE MISSOULA CITY PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, APPENDIX 2–A (STANDARD MODIFICATIONS TO MPWSS), CURRENT EDITION.
2. WET UTILITY MAIN ALIGNMENTS SHOULD PARALLEL THE STREET RIGHT–OF–WAY TO MAXIMIZE RIGHT–OF–WAY AVAILABLE FOR FUTURE UTILITIES. ADDITIONAL SANITARY SEWER AND STORM WATER MANHOLES WILL LIKELY BE REQUIRED ON CURVES.
3. WET UTILITY S'ERVICE LINES SHALL BE PERPENDICULAR TO THE MAIN.
4. WET UTILITY MAINS AND SERVICE LINES SHALL NOT BE LOCATED IN BIOSWALES
5. STREET TREES SHALL NOT BE INSTALLED WITHIN 10 FEET OF WET UTILITY MAINS, AS MEASURED FROM CENTER OF TREE TO CENTER OF PIPE.
6. AS AN ALTERNATIVE TO THE WATER AND SEWER SERVICE LAYOUT SHOWN, WATER AND SEWER SERVICE LINES CAN BE INSTALLED IN THE SAME TRENCH AS A WAY TO PRESERVE MORE ROOM FOR STREET TREES. WATER AND SEWER SERVICES SHALL BE SEPARATED BY 1.0' MINIMUM.

LEGEND–PROPOSED

- w — WATER MAIN
- ws — WATER SERVICE
- s — SANITARY SEWER MAIN
- ss — SANITARY SEWER SERVICE
- PROPERTY LINE
- CURB BOX
- METER PIT
- SANITARY SEWER MANHOLE
- DRY WELL

KEYED NOTES:

1. NO WATER MAIN SHALL BE WITHIN 5 FEET OF THE NEAREST POINT OF ANY SANITARY OR STORM MANHOLE OR DRY WELL. THE DISTANCE TO A DRY WELL SHALL BE MEASURED TO THE EDGE OF THE STRUCTURE. WATER MAINS CLOSER THAN 10 FEET FROM A DRY WELL WILL REQUIRE A DEVIATION FROM DEQ. NO SEWER MAIN SHALL BE WITHIN 5 FEET OF THE NEAREST POINT OF ANY STORM MANHOLE, CATCH BASIN OR DRY WELL. THE DISTANCE TO A DRY WELL SHALL BE MEASURED TO THE EDGE OF THE STRUCTURE.
2. WATER AND SEWER MAINS SHALL BE SEPARATED BY A MINIMUM OF 10 FEET AS MEASURED FROM EDGE OF PIPE TO EDGE OF PIPE.
3. MANHOLES SHOULD BE LOCATED IN THE CENTERLINE OF THE ROAD OR THE CENTER OF THE DRIVE LANE.
4. SEWER SERVICE LINES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM EDGE OF MANHOLE.
5. WATER SERVICE LINES SHALL BE LOCATED A MINIMUM OF 7 FEET FROM EDGE OF DRY WELL CONCRETE STRUCTURE.
6. CURB BOXES SHALL BE LOCATED IN THE CENTER OF THE BOULEVARD WHERE APPLICABLE OR 2 FEET FROM EDGE OF RIGHT–OF–WAY.
7. METER PITS SHALL BE LOCATED 2 TO 5 FEET ON THE PROPERTY SIDE OF THE RIGHT–OF–WAY LINE OR AS SHOWN IN DETAIL STD–404A.
8. CURB BOXES AND METER PITS SHALL NOT BE INSTALLED WITHIN SIDEWALKS OR TRAFFIC AREAS WITHOUT PRIOR APPROVAL BY CITY UTILITY ENGINEER.

Typical Service Line Location Detail

Engineering Division | Approved By Utilities Engineer Logan McInnis, PE | Adopted: Revised: 01/01/2023 | STD - 416

IMEG
1817 SOUTH AVE W, STE. A PH: 406.721.0142
MISSOULA, MT FAX: 406.721.5224
59801 www.imegcorp.com

PLOT DATE: 10/30/2023 10:13 AM

REVISIONS	DATE

DESIGNED: AJM
DRAFTED: AJM
CHECKED: CD
DATE: JUNE 2023

LOCATION:
120 GROVE STREET - LOT 42 OF
COBBAN & DINMORES ORCHARD HOMES
SECTION 19, T13N, R19W, P.M.M.
MISSOULA COUNTY, MONTANA

PREPARED FOR:
ROBERT & EVELYN BEAN AND
COLLIN BANGS & JOHN BARRETT

PROJECT NAME
ORCHARD GROVE SUBDIVISION

SHEET TITLE:
UTILITY CONSTRUCTION PLANS
DETAIL SHEET

PROJECT NO.
22008967

SHEET:
D3 OF 9

STAGE 2

DWG LOCATION: G:\2022\22008967.00\DESIGN\CIVIL\CSD\PLOTS\MISC\STD-22008967.DWG

The Montana Department of Natural Resources & Conservation

Water Right Query System

Query: (GEOCODE = '04-2200-19-1-10-01-0000') (GEOCODE LIKE '04-2200-19-1-10-01-0000') AND ((Water Right Status = 'ACTIVE') OR (Water Right Status = 'SEVERED'))

Default

There are no records for the search you have entered. Please modify your search and try again.

Download *Excel users: Convert dates to numbers after download for proper sorting.

The Montana Department of Natural Resources & Conservation

Water Right Query System

Query: (GEOCODE = '04-2200-19-1-10-03-0000') (GEOCODE LIKE '04-2200-19-1-10-03-0000') AND ((Water Right Status = 'ACTIVE') OR (Water Right Status = 'SEVERED'))

Default

There are no records for the search you have entered. Please modify your search and try again.

Download *Excel users: Convert dates to numbers after download for proper sorting.

13N 19W 19 DAA

MONTANA WELL LOG REPORT

Form No. 603 R2-99

Well ID # 11-216

This log reports the activities of a licensed Montana well driller and serves as the official record of work done within the borehole and casing and describes the amount of water encountered. **This form is to be completed by the driller and filed with DNRC within 60 days of completion of the work. Acquiring Water Rights is the well owner's responsibility and is not accomplished by the filing of this report.** Well log information is stored in the Groundwater Information Center at the Montana Bureau of Mines and Geology (Butte) and water right information is stored in the Water Rights Bureau records (Helena). For fields that are not applicable, enter NA. ***Optional fields are in italics.*** Record additional information in the REMARKS section.

1. **WELL OWNER:**
Name Richard Mallick
Mailing address 408 Pattee Creek Drive
Missoula, Mt 59801

2. **WELL LOCATION:** List ¼ from smallest to largest
____ ¼ NE ¼ NE ¼ SE ¼, Section 19
Township 13 N Range 19 W County Missoula
Lot 2 *Tract/Blk* ____ *Subdivision Name* Bunk Addition
GPS X *Yes* *No*
OK
Well Address 2505 Gleason Street – Missoula, Mt 59804
Latitude N 46° 52.165' *Longitude* W 114° 02.405'
Error as reported by GPS locator (± feet) *Elav* 3189'
Horizontal datum X *NAD27* ☐ *WGS84*

3. **PROPOSED USE:** X Domestic ☐ Stock Irrigation
☐ Public water supply ☐ Monitoring Well Other: ____

4. **TYPE OF WORK:**
New Well X ☐ Deepen existing well Abandon existing well
Method: ☐ Cable Rotary ☐ Other ____

5. **WELL CONSTRUCTION DETAILS:**
Borehole:
Dia. 6" in. from GL ft. to 80 ft.
Dia. ____ in. from ____ ft. to ____ ft.
Dia. ____ in. from ____ ft. to ____ ft.
Casing:
Steel: Wall thickness ☐ Threaded X Welded
Dia. 6" in. from +2 ft. to 78 ft.
Dia. ____ in. from ____ ft. to ____ ft.
Plastic: Pressure Rating ____ lbs. ☐ Threaded Welded
Dia. ____ in. from ____ ft. to ____ ft.
Perforations/Slotted Pipe:
Type of perforator used ____
Size of perforations/slots ____ in. by ____ in.
____ no. of perforations/slots from ____ ft. to ____ ft.
____ no. of perforations/slots from ____ ft. to ____ ft.
Screens: Yes X No
Material ____
Dia. ____ Slot size ____ from ____ ft. to ____ ft.
Dia. ____ Slot size ____ from ____ ft. to ____ ft.
Gravel Packed: ☐ Yes X No
Size of gravel ____
Gravel placed from ____ ft. to ____ ft.
Packer: Yes X No
Type ____ Depth(s) ____
Grout: Material used Bentonite Surface Seal
Depth from GL ft. to 25 ft. OR ☐ Continuous feed

6. **WELL TEST DATA:**
A well test is required for all wells. *(See details on well log report cover.)*
Static water level 25' 6"
ft. below top of casing **or**
☐ Closed-in artesian pressure ____ psi.
How was test flow measured:
bucket/stopwatch, weir, flume, flowmeter, etc Bucket/Stopwatch
Yellowstone groundwater closure area only - Water Temperature ____ °F
☐AQUIFER TEST DATA FORM ATTACHED
Test - 1 hour minimum
Drawdown is the amount water level is lowered below static level.

All depth measurements shall be from the top of the well casing.
Time of recovery is hours/minutes since pumping stopped.
Air test*
80 gpm with drill stem set at 60 ft. for 1 hours
Time of recovery ____ hrs/min. Recovery water level ____ ft.
OR Bailer test*
____ gpm with ____ ft. of drawdown after ____ hours
Time of recovery ____ hrs/min. Recovery water level ____ ft.
OR Pump test*
Depth pump set for test ____ ft.
____ gpm pump rate with ____ ft. of drawdown after ____ hrs pumping
Time of recovery ____ min. Recovery water level ____ ft.
OR Flowing Artesian*
____ gpm for ____ hours
Flow controlled by ____
**During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

7. **WELL LOG:** PD

Depth, Feet		Material: Color/rock and type/descriptor (example: blue/shale/hard, or brown gravel/water, or brown/sand/heaving)
From	To	
0	2.5	Top Soil
2.5	16	Gravel, Sand
16	22	Sand, Gravel
22	80	Gravel, Sand

RECEIVED
MAY 20 2011
M.B.M.G.

☐ADDITIONAL SHEETS ATTACHED

8. **DATE WELL COMPLETED:** April 11, 2011

9. ***REMARKS:*** ____

10. **DRILLER/CONTRACTOR'S CERTIFICATION:**
All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.
Name, firm, or corporation (print) Camp Well Dr. & Pump Supply
Address 1522 South 14th West, Missoula, MT 59801
Signature ____
Date: April 11, 2011 License no. 7

261525

Potentiometric Surface of the Basin-Fill and Bedrock Aquifers, Mineral and Missoula Counties, Western Montana

By

John I. LaFave

Author's Note: This map is part of the Montana Bureau of Mines and Geology (MBMG) GroundWater Assessment Atlas for the Lolo-Bitterroot Area. It is intended to stand alone and describe a single hydrogeologic aspect of the study area, although many of the area's hydrogeologic features are interrelated. For an integrated view of the hydrogeology of the Lolo-Bitterroot Area the reader is referred to Part A (descriptive overview) and Part B (maps) of Montana Ground-Water Assessment Atlas 4.

INTRODUCTION

As part of the Montana Ground-Water Assessment Program, water levels were measured in bedrock and basin-fill aquifers in Mineral and Missoula Counties in western Montana to assess directions of regional ground-water flow. This plate presents a potentiometric surface map of the basin-fill and bedrock aquifers constructed from water-level measurements made mostly between 1998 and 2000. The map also shows the distribution of wells in the mapped area.

The potentiometric surface represents the altitudes to which water will rise in wells penetrating the aquifer. Ground water moves down the slope of the potentiometric surface, from higher altitude to lower altitude, perpendicular to the contours. Water levels for the southern part of the Lolo-Bitterroot Ravalli County (Ravalli County, the Bitterroot Valley) are presented on a separate plate (LaFave, 2006).

The mapped area is drained by the Clark Fork River and its tributaries. The area consists of bedrock-cored mountains, intermontane valleys, and canyons that host major streams. Most of the area is mountainous and part of the Lolo National Forest. Valley bottoms and canyons are the primary areas of habitation and ground-water development. Basin-fill aquifers within the valleys and bedrock aquifers along the valley margins supply water to all the municipalities and most residences.

GEOLOGIC SETTING

The bedrock exposed in the mountains also underlies the valleys. Bedrock, as defined here, consists of well-cemented or indurated rock that is commonly fractured. Most of the bedrock is made up of metacarbonates, argillites, and quartzites of the Proterozoic Belt Supergroup; there are localized occurrences of Paleozoic rocks in the northwest part of the Missoula Valley and along the Clark Fork Valley downstream from Missoula (Smith, 2006a).

The basin-fill deposits consist of Tertiary and Quaternary sediments. Tertiary sediments range from unconsolidated to strongly consolidated and include claystone, shale, siltstone, sandstone, locally thick conglomerate, coal, and volcaniclastic rocks (McMurtrey and others, 1965; Smith 2006a). Tertiary sedimentary rocks fill most of the valleys to thicknesses up to 2,500 ft. These sediments typically have low permeability and where they underlie Quaternary alluvium form a basal confining unit. Prominent Tertiary benches flank the northeast and southeast sides of the Missoula Valley; exposures are also found in the Potomac and Ninemile Valleys. Locally, permeable Tertiary sandstones and conglomerates are aquifers however, there are relatively few wells completed in Tertiary sediments.

Quaternary basin-fill deposits (up to 300 ft thick) include older Pleistocene alluvium and lacustrine deposits associated with glaciation, and recent Holocene sand and gravel deposits in the floodplains of the major river valleys. Glaciers deposited till, which is mostly clayey and silty gravel. Bedded silt and clay were deposited in the valleys during stands of Glacial Lake Missoula and form confining layers within the basin-fill deposits. Sand and gravel interbedded with, and overlain by, bedded silt and clay deposits were deposited before glaciation and during flood events when Glacial Lake Missoula drained. The uppermost sand and gravel deposits in stream valleys are less than 80 ft thick in most areas and represent stream deposition during and after waning phases of glaciation (Smith, 2006b).

HYDROGEOLOGIC SETTING

Exploitable ground-water resources within the valley regions occur primarily in the Quaternary basin-fill deposits and to a lesser extent in the Tertiary basin fill and fractured bedrock. There are records of about 9,400 wells in the map area; approximately 1,200 are completed in bedrock aquifers and the remainder are in basin-fill deposits. The basin fill contains unconfined aquifers and sequences of confined aquifers with numerous discontinuous confining layers. In places the confining layers hydraulically separate the aquifers; however, in most valleys water-level data from different depths suggest that the basin-fill aquifers are well-connected on a valley-wide scale. The basin-fill aquifers are the most utilized sources of municipal and domestic water (Kendy and Tresch, 1996). The median reported well yields from the basin-fill aquifers are about three times greater than median well yields from bedrock aquifers (fig. 1).

For the purposes of this map, aquifers were generalized into three units based on the properties of the aquifer material (primary porosity vs. secondary porosity in fractured rock), ground-water conditions (confined vs. unconfined), and position within the geologic framework. The three hydrogeologic units recognized are: 1) shallow basin fill, 2) deep basin fill, and 3) bedrock (fig. 2). Lithologic and static water-level data from well logs, in addition to well construction information, were used to distinguish between wells completed in the shallow and deep units.

The uppermost or shallow hydrologic unit is developed in surficial alluvial sediments generally within 80 ft of the land surface. Ground water in the shallow hydrologic unit is under unconfined, or water table, conditions. Most wells classified as being in the shallow unit (yellow circles on the map) are less than 80 ft deep or have perforations within 80 ft of the land surface.

The deep unit consists of confined to semi-confined aquifers in the valleys that are generally deeper than 80 ft and underlie the shallow unit. Accordingly, wells that produce from aquifers greater than 80 ft deep are classified as being in the deep unit (orange circles).

Bedrock aquifers occur around the valley margins. The occurrence of ground water in the bedrock is primarily controlled by fractures. Where it is sufficiently fractured (permeable) and saturated, bedrock can yield water to wells (green squares). However, the number, size, and orientation of the openings are unpredictable and can change abruptly over short distances, resulting in large variations in well yields and depths. The lower permeability inherent to fractured-rock aquifers is reflected in lower well yields—the median reported yield is 10 gpm (fig. 2). Additionally, lower storage capacities inherent to fractured-rock aquifers make them more sensitive to climatic changes and development stresses than basin-fill aquifers.

POTENTIOMETRIC SURFACE

This map depicts the regional ground-water flow system in the bedrock and basin-fill aquifers. The potentiometric surface represents the altitudes to which water will rise in wells. Ground water moves down the slope of the potentiometric surface, from higher altitude to lower altitude, perpendicular to the contour lines. Ground-water flow paths are generally away from the mountains toward the center of the valleys.

Ground water generally originates as precipitation in the mountains and valleys where it infiltrates through the soil and rock. Leakage of water from streams and irrigation canals is also an important source of ground-water recharge. Mountain-front recharge can be a significant source of water to basin-fill aquifers because the mountains receive much more precipitation than valleys. Where fractured-bedrock aquifers are hydraulically connected to the basin-fill aquifers, water is transferred from the fractured bedrock to the adjacent and lower-lying basin-fill aquifers.

MAP USE

The map is useful for estimating the general direction of ground-water flow, identifying areas where flowing artesian wells might occur, and estimating the water-level altitude in non-flowing wells. If the approximate land-surface altitude at a location is known (for example, determined from a topographic map), the corresponding point on the potentiometric surface map can be found and the altitude of the potentiometric surface estimated. Subtracting the potentiometric surface altitude from the land surface altitude yields the approximate level at which water will stand in a well.

METHODS

The maps were constructed by hand contouring measured water-level altitudes. The primary data were obtained from 362 wells mostly visited between 1998 and 2000 (Carstarphen and others, 2003). Visited wells were selected on the basis of availability, information on well logs, access, geographic location, and geologic setting. Well locations were determined using a Global Positioning System (GPS) receiver and plotted on U.S. Geological Survey (USGS) 1:24,000 topographic maps. Land-surface altitudes were determined from the 1:24,000-scale maps and are generally accurate to +/- 5 to 10 ft (based on 10- and 20-ft contour intervals).

Additionally, reported water levels from driller's logs were used to estimate ground-water elevations. The supplemental data were used in areas where the primary data were sparse, and also helped confirm the shape of the potentiometric surface(s) in areas of dense primary data coverage. Map accuracy is affected by data distribution, field measurement errors, accuracy of well locations, and errors in interpretation. Points at which water levels have been measured are distributed unevenly across the map, and map accuracy is greater near points of measurement.

ACKNOWLEDGMENTS

Well owners who allowed collection of the data necessary for the map and the people who collected the data are all gratefully acknowledged. Reviews of this report by Tom Patton and John Metesh improved its clarity.

DATA SOURCES

Population centers and roads are from 1:100,000-scale USGS Digital Line Graph files available from the Natural Resources Information System (NRIS) at the Montana State Library, Helena, Montana. Hydrography has been simplified from the 1:100,000 Digital Line Graph files. Township boundaries are from the U.S. Forest Service. The hillshade base was compiled from USGS digital elevation models (DEMs) for 1:24,000 quadrangle maps available from NRIS. Differences in the quality of the DEMs may result in artifacts such as mottled surfaces and horizontal striping in the hillshade base. Geological data were simplified from the Hydrogeologic Framework Map compiled by Smith (2006a).

Point Data

Well location and water-level altitude data were obtained by Ground-Water Characterization Program personnel. Altitudes of the points were determined from USGS 1:24,000 topographic maps. Water-well logs and inventory data are available from the Montana Ground-Water Information Center (GWIC, online at http://mbmggwic.mtech.edu/) at the Montana Bureau of Mines and Geology, Montana Tech of The University of Montana, Butte, Montana.

REFERENCES

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McMurtrey, R.G., Konizeski, R.L., and Brietkrietz, A., 1965, Geology and ground-water resources of the Missoula Basin, Montana: Montana Bureau of Mines and Geology Bulletin 47, 35 p.

Miller, R.D., 1991, A numerical flow model of the Missoula Aquifer–Interpretation of aquifer properties and river interaction: Missoula, University of Montana , M.S. thesis, 275 p.

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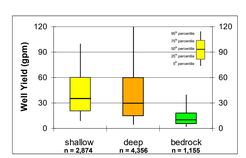


Figure 1. Aquifers in the shallow and deep basin-fill aquifers are generally productive; median and average yields are greater than 30 gallons per minute. However, in the Missoula Valley yields greater than 1,000 gallons per minute are reported for more than 75 wells in the shallow and deep basin fill. Yields from wells in the fractured bedrock are much less, with a median of 10 and an average of 14 gallons per minute.

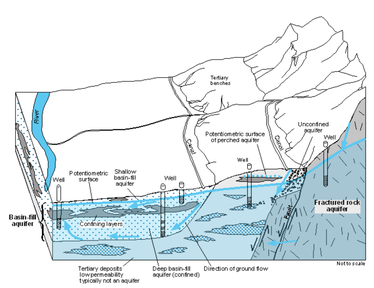
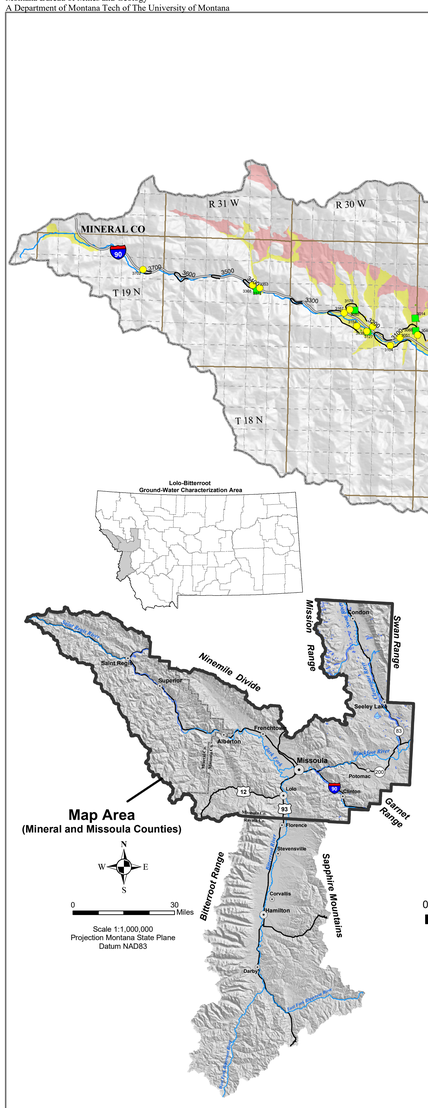
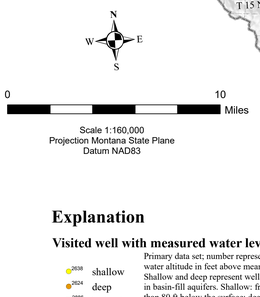


Figure 2. Schematic block diagram showing the relationship between shallow and deep basin-fill aquifers and fractured-bedrock aquifers in the intermontane basins of Mineral and Missoula Counties.





Explanation

Visited well with measured water level

2638 shallow
2624 deep
2886 bedrock

Primary data set; number represents ground-water altitude in feet above mean sea level. Shallow and deep represent wells completed in basin-fill aquifers. Shallow: from aquifers less than 80 ft below the surface; deep: from aquifers greater than 80 ft below the surface. Bedrock: well completed in fractured bedrock.

Well with estimated water level

shallow
deep
bedrock

Secondary data set; estimated ground-water altitude derived from reported water level on well logs, reported location, and digital elevation model. Values not shown on map.

3100 Potentiometric contour
Altitude of water level in tightly cased well. Contour interval: 100 ft
Dashed where inferred.

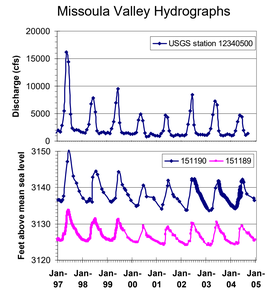
Stream
Lake
County boundary
Township boundary
Section boundary
Road

Simplified geologic units

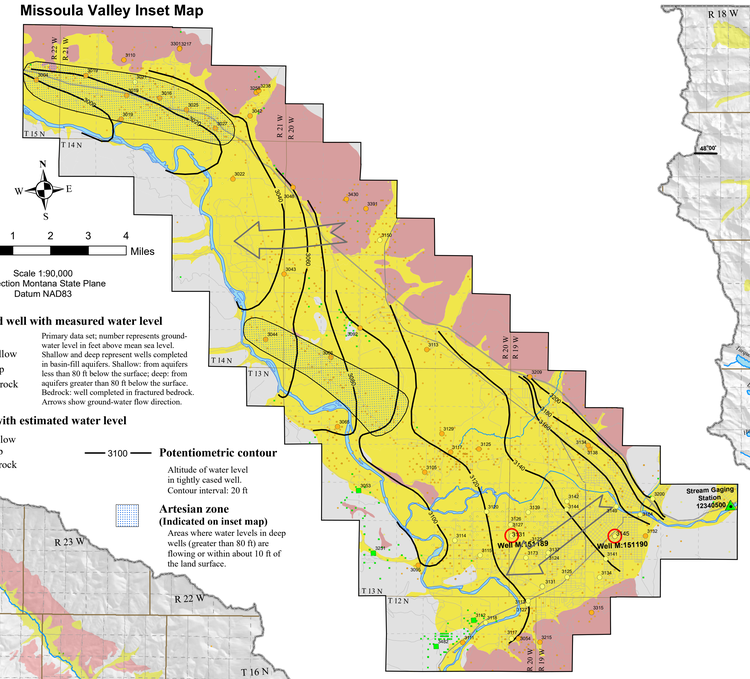
Quaternary sediments
-alluvium
-alluvial fan
-Glacial Lake Missoula silt

Tertiary sediments or sedimentary rocks

Bedrock
- Tertiary and Cretaceous igneous rocks
- Paleozoic sedimentary rocks
- Proterozoic Belt Supergroup rocks



Leakage from the Clark Fork River provides an estimated 80 to more than 90 percent of the recharge to the Missoula Valley aquifer (Woessner, 1988; Miller, 1991); other sources include underflow through Hellgate Canyon and precipitation. Hydrographs from wells 151189 and 151190 show that the magnitude and timing of water-level fluctuations are closely tied to Clark Fork River discharge. Annual ground-water level fluctuations in wells located between the Clark Fork and Bitterroot Rivers are 5 to 10 ft; however, water-level changes are greatest in wells near the Clark Fork River (well 151190) and become muted in wells downgradient along the flow path (well 151189).



Visited well with measured water level

shallow
deep
bedrock

Primary data set; number represents ground-water level in feet above mean sea level. Shallow and deep represent wells completed in basin-fill aquifers. Shallow: from aquifers less than 80 ft below the surface; deep: from aquifers greater than 80 ft below the surface. Bedrock: well completed in fractured bedrock. Arrows show ground-water flow direction.

Well with estimated water level

shallow
deep
bedrock

3100 **Potentiometric contour**
Altitude of water level in tightly cased well. Contour interval: 20 ft

Artesian zone (Indicated on inset map)
Areas where water levels in deep wells (greater than 80 ft) are flowing or within about 10 ft of the land surface.

From: Murdo, Damon <dmurdo@mt.gov>
Sent: Monday, January 23, 2023 3:33 PM
To: Tamara R. Ross
Cc: Joe M. Dehnert; Danny G. Oberweiser
Subject: RE: Larkenwood Subdivision - SHPO Request
Attachments: Reports.pdf; Sites.pdf; 2023012304.pdf

External Email: Treat links and attachments with caution.

January 23, 2023

Tamara Ross
IMEG Corp.
1817 South Ave W
Missoula MT 59801

MONTANA
HISTORICAL SOCIETY
Historic Preservation Office
1301 E. Lockey, PO Box 201202
Helena, MT 59620-1202

RE: LARKENWOOD 28-LOT MAJOR SUBDIVISION, MISSOULA. SHPO Project #: 2023012304

Dear Tamara:

I have conducted a cultural resource file search for the above-cited project located in Section 19, T13N R19W. According to our records there have been a few previously recorded sites within the designated search locale. None of these sites are located in your proposed project area. In addition to the sites there have been a few previously conducted cultural resource inventories done in the areas. I've attached a list of these sites and reports. If you would like any further information regarding these sites or reports, you may contact me at the number listed below.

It is SHPO's position that any structure over fifty years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. If any structures are within the Area of Potential Effect, and are over fifty years old, we would recommend that they be recorded, and a determination of their eligibility be made prior to any disturbance taking place.

As long as there will be no disturbance or alteration to structures over fifty years of age, we feel that there is a low likelihood cultural properties will be impacted. We, therefore, feel that a recommendation for a cultural resource inventory is unwarranted at this time. However, should structures need to be altered or if cultural materials are inadvertently discovered during this project, we would ask that our office be contacted, and the site investigated.

If you have any further questions or comments, you may contact me at (406) 444-7767 or by e-mail at dmurdo@mt.gov. I have attached an invoice for the file search. Thank you for consulting with us.

Sincerely,

Damon Murdo
Cultural Records Manager
State Historic Preservation Office

File: LOCAL/SUBDIVISIONS/2023

Township:13 N Range:19 W Section: 19

BABCOCK WILLIAM A., ET AL.

8/17/1984 RESERVE STREET IMPROVEMENT PROJECT MISSOULA, MONTANA

CRABS Document Number: MO 4 6165 Agency Document Number: M8103(4)

Township:13 N Range:19 W Section: 19

MCKAY KATHRYN L.

2/29/2000 CULTURAL RESOURCE INVENTORY AND EVALUATION OF THE SOUTH THIRD STREET WEST ROADWAY RECONSTRUCTION PROJECT, MISSOULA, MT

CRABS Document Number: MO 4 22770 Agency Document Number: STPU8102(1)CN3581

Township:13 N Range:19 W Section: 19

EMMONS ANN, ET AL.

8/1/2002 RESULTS OF A CULTURAL RESOURCES INVENTORY OF THE RUSSELL STREET EXPANSION CORRIDOR, MISSOULA COUNTY, MONTANA - ADDENDUM

CRABS Document Number: MO 4 25154 Agency Document Number: STPU8105(8)-4128

Township:13 N Range:19 W Section: 19

MATHEWS ALLAN JAMES

1/1/2002 MONTANA MAINSTREETS: A GUIDE TO HISTORIC MISSOULA

CRABS Document Number: MO 6 25381 Agency Document Number: MHS PRESS 6

Township:13 N Range:19 W Section: 19

KANABY KARA M. & ROLLA L. QUEEN

11/19/2014 A CULTURAL RESOURCES SURVEY OF THE ORCHARD HOMES LEVEE FLOOD REPAIR PROJECT IN MISSOULA COUNTY, MONTANA

CRABS Document Number: MO 6 37600 Agency Document Number:

STATE HISTORIC PRESERVATION OFFICE
Cultural Resource Information Systems
CRIS Township, Range, Section Report
Report Date:1/23/2023

Site #	Twp	Rng	Sec	Qs	Site Type 1	Site Type 2	Time Period	Owner	NR Status
24MO1673	13N	19W	19	NW	Historic Conservation		Historic More Than One Decade	County	Eligible
24MO0215	13N	19W	19	SE	Historic Site		Historic Period	Private	Undetermined*
24MO0226	13N	19W	19	Comb	Historic District		Historic Period	Combination	Undetermined*
24MO0520	13N	19W	19		Historic Irrigation System		Historic More Than One Decade	State Owned	Eligible
24MO0713	13N	19W	19	NE	Historic Railroad		Historic More Than One Decade	No Data	Eligible
24MO0881	13N	19W	19	SE	Historic Fraternal Lodge		Historic More Than One Decade	Private	Eligible
24MO0883	13N	19W	19	SE	Historic Agriculture		Historic More Than One Decade	Private	Ineligible
24MO0884	13N	19W	19	SE	Historic Commercial Development		Historic More Than One Decade	Private	Eligible
24MO0885	13N	19W	19	SE	Historic Residence		Historic More Than One Decade	Private	Eligible
24MO0886	13N	19W	19	SE	Historic Residence		Historic More Than One Decade	Private	Ineligible
24MO0887	13N	19W	19	SE	Historic Residence		Historic More Than One Decade	Private	Ineligible
24MO0889	13N	19W	19	SE	Historic Residence		Historic More Than One Decade	Private	Ineligible
24MO0891	13N	19W	19	SE	Historic District		Historic More Than One Decade	Private	Undetermined*
24MO0892	13N	19W	19	SE	Historic District		Historic More Than One Decade	Private	Undetermined*
24MO1667	13N	19W	19		Historic Exploration		1859 and earlier	Other	Undetermined*

Site Photos - Orchard Homes Original Structure

06/14/2023

401

402

5

Site Photos - Orchard Homes Irrigation Ditch

MEMORANDUM

To:	Joe Denhert, IMEG
From:	Lauren Waldroop, MHP, Historical Research Associates, Inc.
Subject:	Larkinwood Drive Subdivision Project Structures Assessment
Date:	September 20, 2023

Introduction:

IMEG contracted Historical Research Associates, Inc. (HRA), to provide an inventory for the historic-period built environment (i.e. buildings, structures, and objects that will be at least 50 years old at the time of project completion) within the area of potential effects (APE), as defined by IMEG (Parcel 1848102, specifically 2513 Bean Ln.). The proposed project is located in Orchard Homes, Missoula County, Montana, within Township 13 North, Range 19 West, Section 19, Willamette Meridian.

Project Description

The proposed project is on two parcels currently located in the census-designated place of Orchard Homes, just outside of the city of Missoula. The project proposes to rezone, subdivide, and annex the parcels into the city of Missoula. The subdivision would result in 24 lots with both single-family units and duplex units and supporting road infrastructure (IMEG 2023). The proposed project will demolish the residence at 2513 Bean Ln.

Regulatory Context

Due to the date of construction for the residence at 2513 Bean Ln. (ca. 1920) and its potential association with an early homestead on the western outskirts of Missoula, the City of Missoula Preservation Officer requested the residence be documented and evaluated for its potential National Register of Historic Places (NRHP) eligibility. The project is not subject to review under state or federal regulations.

Area of Potential Effects

IMEG defined the APE as a portion of Parcel 1848102 (Figure 1). There are three addresses associated with this parcel: 120 S Grove St., 2513 Bean Ln., and 2555 Bean Ln. The APE encompasses only 2513 Bean Ln, which is roughly the northeastern third of the parcel (Figure 2).

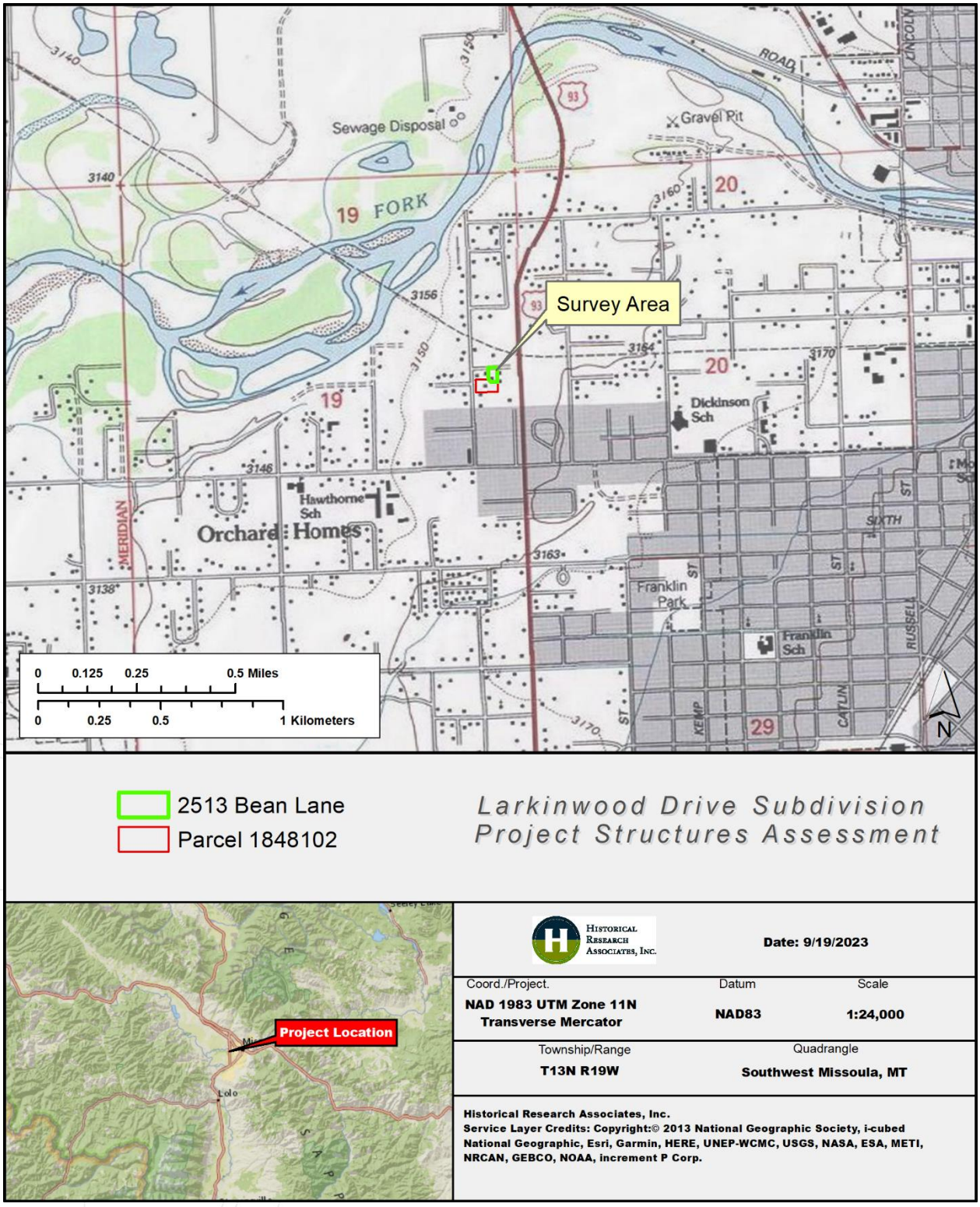


Figure 1. APE location.

Figure 2. APE aerial overview.

Archival Research Methods

HRA staff, including archaeologist Jeannie Larmon, PhD, and architectural historian Lauren Waldroop, MHP, who meet the Secretary of the Interior's (SOI) qualifications for archaeology and architectural history, respectively, conducted background and archival research in August and September 2023. HRA reviewed historic-period maps, aerial photographs, the Montana Historical Society database, and the Missoula County Property Record. HRA also reviewed records on file with the Bureau of Land Management (BLM), specifically General Land Office (GLO) maps and patent information pertaining to historic-period settlement of the region. HRA conducted additional research through online repositories for census data, newspapers, local histories, and scholarly publications.

Previous Cultural Resources Inventory Reports

On September 8, 2023, HRA requested data from the Montana Historical Society regarding previously conducted cultural resources inventories within Township 13 North, Range 19 West, Section 19. The following table lists the results of this search.

Table 1. Previous Cultural Inventory Reports within Section 19 of Township 13 North, Range 19 West.

CRABS No.	Title	Reference	Distance and Direction from AI	Cultural Materials within APE
MO 4 6165	Reserve Street Improvement Project Missoula, Montana	Babcock et al. 1984	0.13 miles (mi) southeast	None
MO 4 22770	Cultural Resource Inventory and Evaluation of the South Third Street West Roadway Reconstruction Project, Missoula, MT	McKay 2000	0.13 mi southeast	None
MO 4 25154	Results of a Cultural Resources Inventory of the Russell Street Expansion Corridor, Missoula County, Montana - Addendum	Emmons et al. 2002	0.12 mi south	None
MO 6 25381	Montana Mainstreets: A Guide to Historic Missoula	Mathews 2002	2.08 mi northeast	None
MO 6 37600	A Cultural Resources Survey of the Orchard Homes Levee Flood Repair Project in Missoula County, Montana	Kanaby and Queen 2014	0.29 mi northwest	None
MO 4 41325*	Determination of Effect STPS 263-1(28)6 West of Missoula – West UPN 6141000	Anonymous 2022	1.03 mi north	None

Previously Recorded Built-Environment Resources

On September 8, 2023, HRA requested data from the Montana Historical Society regarding previously recorded built-environment resources within Township 13 North, Range 19 West, Section 19. The following table lists the results of this search, and the shaded resources are within 0.25 miles (mi) of the APE.

Table 2. Previously Recorded Historic-Period Buildings, Structures, and Objects at Least 50 Years Old within the APE.

Site No.	Year Built	Name/Address	Year(s) Surveyed	Register Status
24MO0215	ca. 1920	709 Reserve St.	1984	Undetermined
24MO0226	1901–1905	Orchard Homes District	1984	Undetermined
24MO0520*	1880–1900	Missoula Irrigation District	1984	Undetermined
24MO0713	1907–1909	Chicago, Milwaukee, St. Paul & Pacific Railroad (within Missoula County)	1986, 1995, 1999, 2001, 2003, 2006, 2016, 2020, 2021	Eligible (closest portion is approximately 230 feet [ft] northeast of APE)
24MO0881	ca. 1900; 1912	Orchard Homes Country Life Club/ 2537 S. 3rd St. W	2002	Eligible (0.23 mi southwest of APE)
24MO0883	1921	Bayern Brewery/2600 S 3rd St. W	2002	Not Eligible
24MO0884	1913	Orchard Farms Grocery Store/2601 S 3rd St. W	2002	Eligible (0.23 mi southwest of APE)
24MO0885	1930	Hallman Residence/2608 S 3rd St. W	2002	Eligible (0.21 mi southwest of APE)
24MO0886	1917	Conkling Residence/2626 S 3rd St. W	2002	Not Eligible
24MO0887	1930	Bernthal Residence/2634 S 3rd St. W	2002	Not Eligible
24MO0889	1930	2640 S 3rd St. W	2002	Not Eligible
24MO0891	Various	Potential South Third Street West Historic District	2002	Undetermined
24MO0892	ca. 1900–1921	Potential Orchard Homes District**	2002	Undetermined
24MO1667	Pre-1859	Lewis and Clark National Historic Trail Ross' Hole to Traveler's Rest	2012	Undetermined
24MO1673	ca. 1948	Orchard Homes Levee	2014	Eligible (0.29 mi northwest of APE)

* The search results listed this site number as 24MO02520; however, the document HRA received was numbered 24MO0225.
**This resource includes Sites 24MO0881, 24MO0883, and 24MO0884, as well as 24MO0882 (2540 S 3rd St. W).

In 1984, the Orchard Homes District (24MO0226) was recorded with roughly defined boundaries and two attached plat maps showing the original Orchard Homes Subdivision and many, but not all, of the Orchard Homes additions. This area would encompass all of the shaded resources in the table above, as well as the Orchard Homes Levee (24MO1673). The surveyor indicated that while the Orchard Homes community may be unique to Montana for its time, the district as a whole did not retain enough integrity due to surrounding commercial and residential development, which has left only one or two of the original 5-acre tracts intact (Babcock 1984).

In 2002, the Potential Orchard Homes District (24MO0892) was recorded with much tighter boundaries focused on the intersection of S 3rd St. W and Grove St. Surveyors also recorded several resources along S 3rd St. W (24MO0881–24MO0089) associated with Orchard Homes, and this intersection represented the most intact area of the Orchard Homes community, at least within the survey area for the 2002 project. The surveyors recommended this tightly defined district as eligible for listing in the NRHP for its association with the Orchard Homes community (HRA 2002).

The Chicago, Milwaukee, St. Paul & Pacific Railroad (24MO0713) spans the entirety of Missoula County and has been recorded in several separate segments. The portion of the railroad closest to the APE has been converted into a city trail, the Milwaukee Trail (GoogleEarth Pro 2023). While the portion of the railroad closest to the APE has not been recorded, several other segments and features of the railroad have been determined eligible as part of the most rugged section of the westward expansion of the line between Mobridge, South Dakota, and Seattle and Tacoma, Washington (Brumley et al. 1995).

Finally, the U.S. Army Corps of Engineers determined the Orchard Homes Levee (24MO1673) eligible for listing in the NRHP under Criterion A, as it allowed for the protection of residential land from flooding and enabled further residential and commercial growth in this area west of the city of Missoula (Queen 2014).

Historic Context

Missoula Valley is surrounded by four other major valleys, and the confluence of these valleys create a natural intersection of several Indigenous trails. Early inhabitants of what would become Missoula County included the Salish in the Bitterroot Valley, south of the Missoula Valley. The Salish used the valley as a travel corridor, along with several other tribes including the Nez Perce, Flathead, Kootenai, Pend d'Oreille, Shoshone, Coeur d'Alene, and Spokane (Montana Historical Society 2023).

The first non-Indigenous peoples to arrive in the area were Meriwether Lewis and William Clark, during their expedition to find a more direct water route across the continent. They arrived in the Missoula Valley on their return trip, and several water bodies and roadways were named after members of their expedition. A Jesuit mission was established in 1842 in Stevenson, and shortly after, surveyors and settlers started arriving in Missoula Valley. The town of Missoula Mills was established on the north side of the Clark River, approximately 2.5 mi east of the APE. By the time the city of Missoula (former Missoula Mills) was incorporated in 1883, it had grown into a bustling commercial center (Emmons et al. 2002).

Early land claims included Hezekiah van Dorn, whose claim included the land in and around the APE in 1862 (BLM 1862). U.S. Census records indicate van Dorn and his family lived on that land by 1880 and were still there in 1900 (U.S. Census Bureau 1880, 1900). It is unclear exactly where van

Dorn built his homestead within his property, but research indicates the APE had not been developed when it was sold in 1900 (State of Montana 1900).

In 1900, Samuel Dinsmore and R. M. Cobban purchased 640 acres, most of which was in Hezekiah's original claim, including the APE. Previous documentation of Orchard Homes is conflicting on the exact location of the community. However, the 1900 plat map shows the subdivision beginning at S 3rd St. and heading north to the northern edge of Section 19 (Figure 3). The platted community was S-shaped starting just beyond Short St. and heading east to S Curtis St. (State of Montana 1900). Dinsmore and Cobban subdivided the land into 5- and 10-acre lots, intended to encourage agricultural production. Roads and irrigation ditches were constructed between 1901 and 1905, and by 1906, the Orchard Homes community had one of its earliest buildings, which would house the Orchard Homes Country Life Club beginning in 1911 (Mathews 2002:40; Orchard Homes Country Life Club 2011). Dinsmore and Cobban initially sold at $1.25 per acre; however, once irrigation ditches were constructed, making agriculture far more viable, the price rose to approximately $100–300 per acre (Orchard Homes Country Life Club 2011). By 1910, the City of Missoula built the Hawthorne School for the growing Orchard Homes community, and Strange and Maguire Paving Co. paved S 3rd St., the first paved road in Missoula. Many of the former Orchard Homes lots near the APE (on Lot 42), have extant residences from the Orchard Homes development and were constructed between 1906 and 1930. Several additions were platted and annexed into the community, making up much of the northeast corner of the Orchard Homes census-designated place (Emmons et al. 2002:12–13, 116; State of Montana 1900).

As the Orchard Homes community flourished, so too did the city of Missoula. The population slowly grew in the first half of the twentieth century. Like many communities across the country, Missoula felt the impacts of the Great Depression in the 1930s. However, due to sufficient agricultural production and the location of the Civilian Conservation Corps (CCC) Rocky Mountain Region District Headquarters at Fort Missoula, the city had less overall poverty than most of the state (Mathews 2002:41–42).

After World War II, another construction boom hit Missoula as soldiers returned and used their GI Bills for housing. Empty lots in older subdivisions became the prime targets for residential construction in the 1940s and 1950s. As commercial and residential centers outside the city limits began to grow, the City of Missoula began to annex adjacent communities (Mathews 2002:42). This construction boom did not hit the Orchard Homes community until the 1960s and 1970s, and the majority of the Orchard Homes community remains outside the city limits of Missoula. By 1982, S Grove St. had several new developments on either side, including Larkinwood Dr. W and Laurie Dr., directly north and west of the APE, respectively (NETROnline 2023).

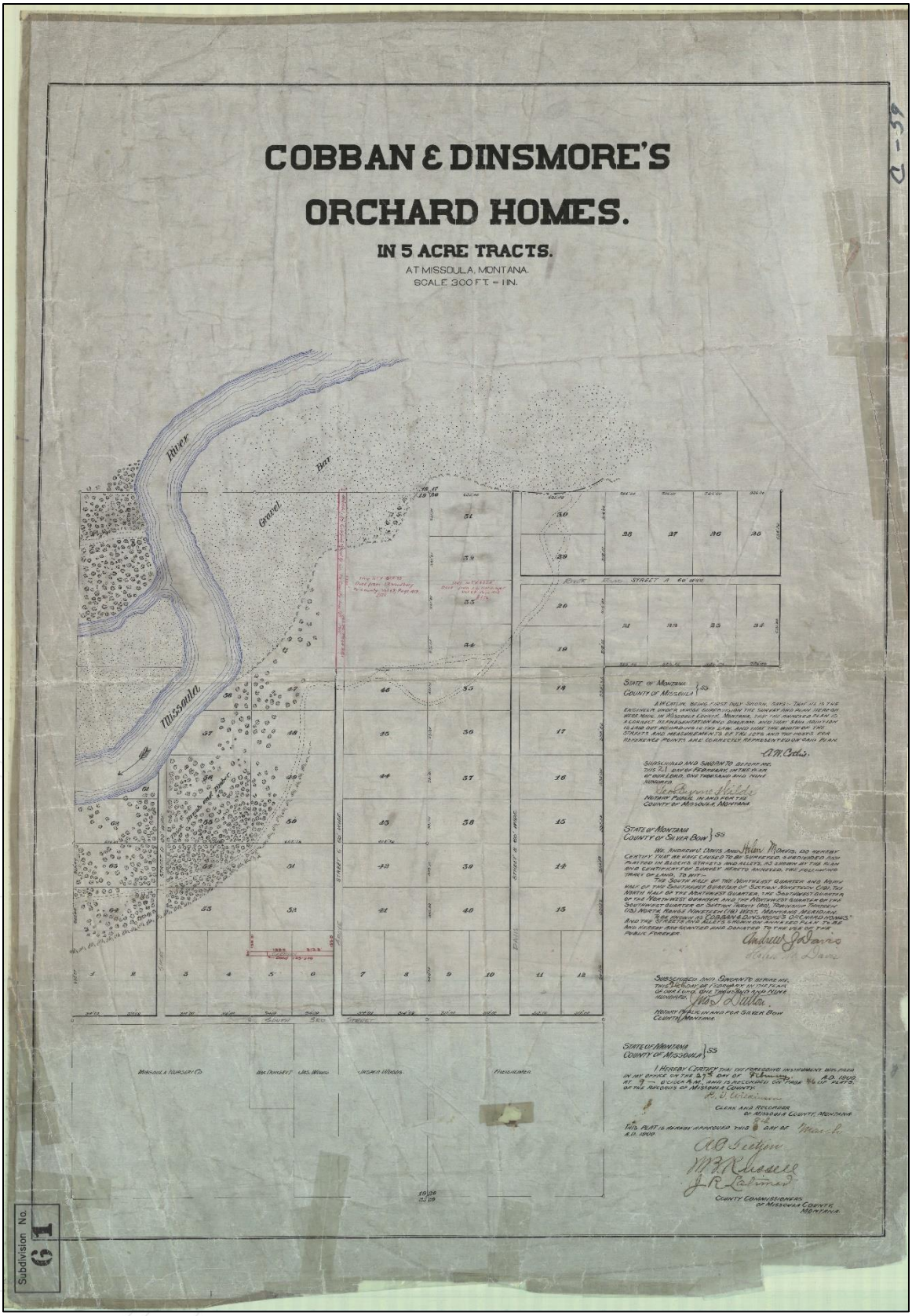


Figure 3. Cobban & Dinsmore's Orchard Home Plat Map (State of Montana 1900).

Field Methods

Field investigations included recording the historic-period, built-environment resource on field forms and through digital photographs. Field notes were used to document style, materials, and changes over time. These notes and photographs, paired with the results of archival research, were used to complete the evaluation of the resource.

HRA Archaeologist Jeannie Larmon, PhD, conducted field investigations in September 2023, taking digital photographs of the exterior and interior of the historic-period building, as well as support structures and landscape features associated with 2513 Bean Ln. Architectural historian Lauren Waldroop, MHP, conducted background research, evaluated the historic-period, built-environment resource for eligibility for listing in the NRHP under all criteria (both individually and as contributing resources to a potential historic district in the vicinity of the APE), authored the report, and prepared Montana Historical Society, State Historic Preservation Office (SHPO) Architecture-Engineering Record forms for the single historic-period, built-environment resource identified within the APE. Waldroop meets the SOI's professional qualifications standards for architectural history.

National Register of Historic Places

HRA evaluates resources using the following guidelines established by the National Park Service (NPS) and outlined in NRHP Bulletin 15. To be individually eligible for listing in the NRHP, a property must be significant within a historic context. The significance of a resource within its historic context must relate to one or more of the following:

A. Under Criterion A, properties can be determined eligible for listing in the NRHP if they are associated with events that have made a significant contribution to the broad patterns of our history.

B. Under Criterion B, properties can be determined eligible for listing in the NRHP if they are associated with the lives of persons significant in our past (i.e., persons whose activities are demonstrably important within a local, state, or national context).

C. Under Criterion C, properties can be determined eligible for listing in the NRHP if they embody the distinctive characteristics of a type, period, or method of construction, or represent the works of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction (i.e., are part of a district). Discrete features, a particular building for example, may best be documented under this Criterion, though collections of resources may also have significance under Criterion C for architecture or engineering association.

D. Under Criterion D, properties may be eligible for listing in the NRHP if they have yielded, or may be likely to yield, information important in history. To be eligible under Criterion D, the property must have, or have had, information to contribute to our understanding of human history and that information must be considered "important." Most commonly applied to archaeological sites, buildings, structures, and objects may be eligible under Criterion D if they are the principal source of information (NPS 1997:21).

Integrity is the ability of a property to convey its significance. To be eligible for the NRHP, a property must not only be shown to be significant under one of the above NRHP criteria (A–D),

but it must also have integrity. The evaluation of integrity is grounded in an understanding of a property's physical features and how they relate to its significance. Historic properties either retain integrity (that is, convey their significance) or they do not. To retain integrity, a property will always possess several, and usually most, of the seven aspects of integrity, which are as follows:

1. Location – The place where the historic property was constructed or the place where the historic event occurred.
2. Design – The combination of elements that create the form, plan, space, structure, and style of a property.
3. Setting – The physical environment of a historic property. Setting refers to the character of the place in which the property played its historical role. It involves how, not just where, the property is situated and its relationship to surrounding features and open space.
4. Materials - The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
5. Workmanship – The physical evidence of crafts of a particular culture or people during any given period in history or prehistory. Workmanship can be expressed in vernacular methods of construction and plain finishes or in highly sophisticated configurations and ornamental detailing.
6. Feeling – The property's expression of the aesthetic or historic sense of a particular period of time.
7. Association – The direct link between an important historic event or person and a historic property (NPS 1997:44–45).

Historic Survey Results

HRA identified one historic-period, built-environment resource within the APE: 2513 Bean Ln. (Figure 4 through Figure 8). This resource was previously unevaluated and required survey and inventory. The SHPO Architectural-Engineering Record form can be found in Appendix A.

2513 Bean Ln.

According to the Missoula County Property Record, 2513 Bean Ln. was constructed in 1920, was a multi-unit residence at the time of survey, and has a full-length, one-story addition on the east elevation (Missoula County Property Record 2023). Review of historic aerial photography indicates the east addition was actually constructed before 1955 (NETROnline 2023). The resource at 2513 Bean Ln. occupies the northeast section of the L-shaped parcel 18848102 and includes the ca. 1920 residence, a fenced back yard (east and southeast of residence), a driveway off Bean Ln., and an open area north of the residence, which held a rectangular trailer and a truck trailer at the time of survey.

The two-story, rectangular residence is wood frame, sits on a poured-concrete foundation, is clad in fiber cement board, and is topped by a gambrel roof clad in asphalt shingles with a shed roof over the east addition, also clad in asphalt shingles. The main entrance is on the west facade, which

features a single entry at the southwest corner, a vinyl-frame, sliding window and a vinyl-frame, single-hung-sash window on the first floor, and two shed-roof dormers on the second floor, one with a vinyl-frame, single-hung-sash window and the other with a triple vinyl-frame, single-hung-sash window. The south elevation features three vinyl-frame, single-hung-sash windows, three vinyl-frame, sliding windows, and a metal exterior staircase leading to one of the second floor windows. The one-story east elevation features a secondary entrance and two vinyl-frame, fixed windows. The north elevation features at least two vinyl-frame, sliding windows on the first floor and a wood exterior staircase leading to a second-story wood deck accessed via a door flanked by vinyl-frame sliding and single-hung-sash windows.

Located directly northeast of the residence is a small, rectangular shed facing west, clad in plywood, and topped by a side-gabled roof.

Figure 4. 2513 Bean Ln., west facade, view east.

Figure 5. 2513 Bean Ln., south and east elevations, view northwest.

Figure 6. 2513 Bean Ln., north elevation, view south.

Figure 7. 2513 Bean Ln., interior showing gambrel roof truss and beams, view south.

Figure 8. 2513 Bean Ln., interior on first floor looking from original building footprint (foreground) to addition (background), with notable structural elements from the original building (arrow), view south.

Integrity

From its period of construction (ca. 1920), the residence at 2513 Bean Ln. retains integrity of location, as it remains in its original position on the parcel. The building was originally constructed as a single-family residence and was converted into a multi-family residence likely when the east addition was constructed before 1955. Additionally, the former single-family residence once had at least three support buildings supporting an agricultural use, none of which were extant at the time of survey (NETROnline 2023). The immediate area around the residence has been developed as a residential neighborhood. Therefore, the building no longer retains integrity of setting or association. Due to a large east addition and alterations, including added exterior deck and stairs, and added and replaced siding, doors, and windows, the building no longer retains integrity of design, materials, workmanship, and feeling.

Evaluation

Constructed ca. 1920 as a single-family residence, the building at 2513 Bean Ln. was converted into a multi-family residence with three units ca. 1980. The residence was constructed in the outskirts of Missoula within the Orchard Homes community. Orchard Homes was developed as an agricultural community by Samuel Dinsmore and R. M. Cobban to support the city of Missoula (Mathews 2002:40; Orchard Homes Country Life Club 2011). Dinsmore and Cobban purchased 640 acres and subdivided it into approximately 5- to 10-acre properties (Orchard Homes Country Life Club 2011). Orchard Homes would eventually produce a large portion of fruits and vegetables for Missoula (Mathews 2002:40). According to the Cobban & Dinsmore's Orchard Homes plat map from 1900, the residence would have been within Lot 42 (State of Montana 1900).

Based on its age and early agricultural use, it appears the residence at 2513 Bean Ln. is associated with the early development of the Orchard Homes community. However, the resource no longer resides within a 5-acre agricultural parcel and no longer retains the former outbuildings with which it was once associated. Due to the residential development around the resource, it no longer retains sufficient integrity to convey its association with the Orchard Homes community and its history of agricultural production (Criterion A).

The land on which the residence at 2513 Bean Ln. sits was originally patented to Hezekiah van Dorn on July 2, 1862. Van Dorn claimed the S ½ of the NE ¼ and N ½ of the SE ¼ of Section 19, Township 13 North, Range 19 West (BLM 1862). Much of this land would later be bought and platted for the Orchard Homes community. The 1880 U.S. Census indicates van Dorn, his wife Caroline, and their four children lived in Bitter Root Valley in Missoula County, although the census did not specify their house number or street number (U.S. Census Bureau 1880). The Bitter Root River is approximately 2.88 mi southwest of 2513 Bean Ln. Therefore, HRA assumes the Van Dorns lived on their patented land at the time of the 1880 U.S. Census. In the 1900 U.S. Census, Hezekiah and Caroline van Dorn were listed as farmers in the Hell Gate Township, which may have also included their patented land (U.S. Census Bureau 1900). Hezekiah van Dorn died on November 11, 1903, at the age of 80, and by 1910, his wife Caroline was living with their son Henry van Dorn at 1212 Howell St. in the city of Missoula (Find a Grave 2023; U.S. Census Bureau 1910). Due to its construction date of ca. 1920, the residence is not associated with these early homesteaders. Research did not reveal an association of the resource with the lives of any other persons with documented significance within a local, state, or national context (Criterion B).

The resource was likely constructed in the Colonial Revival style with a side-gambrel roof, a prominent entry and porch, and two gabled dormers, which was a popular revival style in the 1910s and 1920s (McAlester 2013:410–413). However, several elements of the side-gambrel subtype of Colonial Revival are no longer evident, including symmetrical dormers, a central entrance door with a fanlight or side light, a porch with slender columns, or multi-paned, wood-frame double-hung-sash windows (McAlester 2013:409). Due to the extensive alterations and an incompatible addition, the building no longer represents the Colonial Revival style. It does not embody the distinctive characteristics of a type, period, or method of construction, or represent the works of a master, the resource does not possess high artistic values.

Previous surveyors identified a potential NRHP-eligible historic district in Orchard Homes. In 1984, a survey project along Reserve St. resulted in a recommendation for the Orchard Homes District (Site 24MO0226) of not eligible due to an irretrievable loss of integrity across the community. In 2002, a survey project recorded a single intersection as the Potential Orchard Homes Historic District (Site 24MO0892), which resulted in a recommendation of eligible as the smaller area contained one of the last remaining agricultural properties from Orchard Homes, the neighborhood grocery story and associated residence, and the Orchard Homes Country Life Club. Since this building is outside of the 2002 district boundaries and does not retain sufficient integrity to meet the criteria for listing as a contributing resource to any potential district, HRA recommends that 2513 Bean Ln. be considered non-contributing to any future district established for the Orchard Homes community. Despite being associated with the Potential Orchard Homes Historic District (Site 24MO0892), the resource no longer conveys that original association, as Lot 42 has been substantially subdivided and developed. The resource does not represent a significant and distinguishable entity whose components may lack individual distinction (i.e., is part of a district) (Criterion C).

Finally, the building was built of common construction methods and well-known materials and is unlikely to answer important research questions or yield information about human history that can only be answered by the actual physical material, design, construction methods, or interrelation of these resources (Criterion D).

HRA recommends 2513 Bean Ln. not eligible for listing in the NRHP due to an inability to qualify under any criteria of significance and an irretrievable loss of integrity.

Conclusions and Recommendations

HRA evaluated one historic-period resource within the APE—2513 Bean Ln.–and recommends the resource not eligible for listing in the NRHP under any criteria, either individually or as a contributing resource to a potential historic district. As there are no NRHP-eligible resources within the APE, HRA also recommends a finding of *no effect* for the project.

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1890 Hellgate Township, Missoula, Montana.

1900 Missoula City, Missoula, Montana.

Attachment A: Architectural-Engineering Records

New Forms and Instructions

As of July 2022, this AE-R (Architecture and Engineering Record) form replaces Montana SHPO's HPR (Historic Property Record) form for recording historic structures in Montana. Visit https://mhs.mt.gov/shpo/forms to download the most recent versions of SHPO forms and instructions. If you are uncertain about which form to use, please contact Montana SHPO Cultural Records staff at (406) 444-4724, https://directory.mt.gov/govt/state-dir/agency/historic#shpo.

REMINDERS

The Principal Investigator is responsible for ensuring that the information in this form is complete and accurate as per the Montana SHPO's data standards. Please consult the **Montana SHPO Consultation Guide, 2023** for standards for recording cultural and architectural resources in Montana.

1. Identification

HISTORIC / PROPERTY NAME	SMITHSONIAN NUMBER (issued by SHPO)^
2513 Bean Ln.	

PROJECT NAME	PROJECT NUMBER
Larkinwood Drive Subdivision Project Structures Assessment	

DATE	FIRST RECORDED BY	PHONE (000) 000-0000	EMAIL	ADDRESS
9/19/2023	Lauren Waldroop			125 Bank St., Suite 500, Missoula, MT 59802

DATE	UPDATED BY	PHONE (000) 000-0000	EMAIL	ADDRESS

2. Location

COUNTY	LOT/BLOCK	SUBDIVISION	STREET ADDRESS	CITY / TOWN (NEAREST)
Missoula	42	Cobban & Dinsmore's Orchard Home #1	2513 Bean Ln.	Missoula

UTM COORDINATES OR LAT-LONG FOR THE CENTER OF THE SITE, TO THE 6TH DECIMAL	DATUM (E.g., NAD27, WGS84, etc.)
UTM 11T, 725499.26 m E, 5194987.96 m N	WGS84

TOWNSHIP	N/S	RANGE	E/W	SEC	QTR	TOWNSHIP	N/S	RANGE	E/W	SEC	QTR
13	N	19	S	19	SE						

(tab from last cell to add rows to TRS table)

NARRATIVE / NOTES ON ACCESS (OPTIONAL)

3. Ownership and Use

CURRENT ADMINISTRATIVE/SURFACE OWNERSHIP	CURRENT USE	
Robert M Bean and Evelyn C Bean	Muti-Family Dwelling	☐ Public ☒ Private
ORIGINAL ADMINISTRATIVE/SURFACE OWNERSHIP	**ORIGINAL/HISTORIC USE**	
Hezekiah van Dorn III purchased land patent in 1862/Unknown	Originally an undeveloped part of a homestead; later a single-family Residence	☐ Public ☒ Private

4. Historic Property/Architecture Description

PROPERTY TYPE*	ARCHITECTURAL STYLE	TIME PERIOD
Historic Residence	Colonial Revival	1920-1930

ARCHITECT NAME/FIRM	ARCHITECT CITY, STATE	BUILDER NAME/COMPANY	BUILDER CITY, STATE	CONSTRUCTION DATE
unknown	unknown	unknown	unknown	ca. 1920

STATUS	NOTES ON STATUS CHANGE
☐ Original location	
☒ Addition/alteration	Large east addition (pre-1955); replaced siding, doors, and windows; extended the length of on dormer
☐ Moved/relocated	
☐ Destroyed	
☐ Other	

NARRATIVE DESCRIPTION OF PROPERTY

According to the Missoula County Property Record, 2513 Bean Ln. was constructed in 1920, was a multi-unit residence at the time of survey, and has a full-length, one-story addition on the east elevation (Missoula County Property Record 2023). Review of historic aerial photography indicates the east addition was actually constructed before 1955 (NETROnline 2023). The resource at 2513 Bean Ln. occupies the northeast section of the L-shaped parcel 18848102 and includes the ca. 1920 residence, a fenced back yard (east and southeast of residence), a driveway off Bean Ln., and an open area north of the residence, which held a rectangular trailer and a truck trailer at the time of survey.

The two-story, rectangular residence is wood frame, sits on a poured-concrete foundation, is clad in fiber cement board, and is topped by a gambrel roof clad in asphalt shingles with a shed roof over the east addition, also clad in asphalt shingles. The main entrance is on the west facade, which features a single entry at the southwest corner, a vinyl-frame, sliding window and a vinyl-frame, single-hung-sash window on the first floor, and two shed-roof dormers on the second floor, one with a vinyl-frame, single-hung-sash window and the other with a triple vinyl-frame, single-hung-sash window. The south elevation features three vinyl-frame, single-hung-sash windows, three vinyl-frame, sliding windows, and a metal exterior staircase leading to one of the second floor windows. The one-story east elevation features a secondary entrance and two vinyl-frame, fixed windows. The north elevation features at least two vinyl-frame, sliding windows on the first floor and a wood exterior staircase leading to a second-story wood deck accessed via a door flanked by vinyl-frame sliding and single-hung-sash windows.

Located directly northeast of the residence is a small, rectangular shed facing west, clad in plywood, and topped by a side-gabled roof.

HISTORY OF PROPERTY

Constructed ca. 1920 as a single-family residence, the building at 2513 Bean Ln. was converted into a multi-family residence with three units ca. 1980. The residence was constructed in the outskirts of Missoula within the Orchard Homes community. Orchard Homes was developed as an agricultural community by Samuel Dinsmore and R. M. Cobban to support the city of Missoula

(Mathews 2002:40; Orchard Homes Country Life Club 2011). Dinsmore and Cobban purchased 640 acres and subdivided it into approximately 5- to 10-acre properties (Orchard Homes Country Life Club 2011). Orchard Homes would eventually produce a large portion of fruits and vegetables for Missoula (Mathews 2002:40). According to the Cobban & Dinsmore's Orchard Homes plat map from 1900, the residence would have been within Lot 42 (State of Montana 1900).

Based on its age and early agricultural use, it appears the residence at 2513 Bean Ln. is associated with the early development of the Orchard Homes community. However, the resource no longer resides within a 5-acre agricultural parcel and no longer retains the former outbuildings with which it was once associated. Due to the residential development around the resource, it no longer retains sufficient integrity to convey its association with the Orchard Homes community and its history of agricultural production (Criterion A).

The land on which the residence at 2513 Bean Ln. sits was originally patented to Hezekiah van Dorn on July 2, 1862. Van Dorn claimed the S ½ of the NE ¼ and N ½ of the SE ¼ of Section 19, Township 13 North, Range 19 West (BLM 1862). Much of this land would later be bought and platted for the Orchard Homes community. The 1880 U.S. Census indicates van Dorn, his wife Caroline, and their four children lived in Bitter Root Valley in Missoula County, although the census did not specify their house number or street number (U.S. Census Bureau 1880). The Bitter Root River is approximately 2.88 mi southwest of 2513 Bean Ln. Therefore, HRA assumes the Van Dorns lived on their patented land at the time of the 1880 U.S. Census. In the 1900 U.S. Census, Hezekiah and Caroline van Dorn were listed as farmers in the Hell Gate Township, which may have also included their patented land (U.S. Census Bureau 1900). Hezekiah van Dorn died on November 11, 1903, at the age of 80, and by 1910, his wife Caroline was living with their son Henry van Dorn at 1212 Howell St. in the city of Missoula (Find a Grave 2023; U.S. Census Bureau 1910). Due to its construction date of ca. 1920, the residence is not associated with these early homesteaders. Research did not reveal an association of the resource with the lives of any other persons with documented significance within a local, state, or national context (Criterion B).

The resource was likely constructed in the Colonial Revival style with a side-gambrel roof, a prominent entry and porch, and two gabled dormers, which was a popular revival style in the 1910s and 1920s (McAlester 2013:410–413). However, several elements of the side-gambrel subtype of Colonial Revival are no longer evident, including symmetrical dormers, a central entrance door with a fanlight or side light, a porch with slender columns, or multi-paned, wood-frame double-hung-sash windows (McAlester 2013:409). Due to the extensive alterations and an incompatible addition, the building no longer represents the Colonial Revival style. It does not embody the distinctive characteristics of a type, period, or method of construction, or represent the works of a master, the resource does not possess high artistic values.

Previous surveyors identified a potential NRHP-eligible historic district in Orchard Homes. In 1984, a survey project along Reserve St. resulted in a recommendation for the Orchard Homes District (Site 24MO0226) of not eligible due to an irretrievable loss of integrity across the community. In 2002, a survey project recorded a single intersection as the Potential Orchard Homes Historic District (Site 24MO0892), which resulted in a recommendation of eligible as the smaller area contained one of the last remaining agricultural properties from Orchard Homes, the neighborhood grocery story and associated residence, and the Orchard Homes Country Life Club. Since this building is outside of the 2002 district boundaries and does not retain sufficient integrity to meet the criteria for listing as a contributing resource to any potential district, HRA recommends that 2513 Bean Ln. be considered non-contributing to any future district established for the Orchard Homes community. Despite being associated with the Potential Orchard Homes Historic District (Site 24MO0892), the resource no longer conveys that original association, as Lot 42 has been substantially subdivided and developed. The resource does not represent a significant and distinguishable entity whose components may lack individual distinction (i.e., is part of a district) (Criterion C).

Finally, the building was built of common construction methods and well-known materials and is unlikely to answer important research questions or yield information about human history that can only be answered by the actual physical material, design, construction methods, or interrelation of these resources (Criterion D).

5. National Register Evaluation and Assessment

HAS A FORMAL ELIGIBILITY DETERMINATION BEEN PREVIOUSLY ISSUED FOR THIS SITE/PROPERTY?

☒ No formal determination ☐ Yes, determined NOT eligible ☐ Yes, determined eligible ☐ Yes, NR listed ☐ Unknown

PROVIDE YOUR ASSESSMENT OF THE SITE'S/PROPERTY'S ELIGIBILITY FOR THE NATIONAL REGISTER

☐ Meets criteria as an individual property
☐ Meets criteria as a contributing element to a historic district
☐ Does not meet criteria
☒ Does not meet criteria, and is a non-contributing element to a historic district

Historic District Name: Potential Orchard Homes Historic District (Site No. 24MO0892)

APPLICABLE NR CRITERIA+		ARGUMENT FOR OR AGAINST EACH NR CRITERION
A – Events	☐ YES ☒ NO	No longer conveys association with Orchard Homes community
B – Persons	☐ YES ☒ NO	While on land of an early homestead, the building is not associated with the homesteaders
C – Characteristics	☐ YES ☒ NO	Major addition and alterations have impacted its original Colonial Revival style
D – Information	☐ YES ☐ NO	Built of common construction methods and well-known materials

COMMENTS

INTEGRITY (LOCATION, DESIGN, SETTING, MATERIALS, WORKMANSHIP, FEELING, ASSOCIATION)

From its period of construction (ca. 1920), the residence at 2513 Bean Ln. retains integrity of location, as it remains in its original position on the parcel. The building was originally constructed as a single-family residence and was converted into a multi-family residence likely when the east addition was constructed ca. 1980. Additionally, the former single-family residence had at least three support buildings for an agricultural property, none of which were extant at the time of survey (NETROnline 2023). The immediate area around the residence has been developed as a residential neighborhood. Therefore, the building no longer retains integrity of setting or association. Due to a large east addition and alterations, including added exterior stairs and replaced siding, doors, and windows, the building no longer retains integrity of design, materials, workmanship, and feeling.

POSSIBLE IMPACTS TO THE SITE

Proposed project will demolish the residence and its support structures.

6. Information Sources

LIST CITATIONS FOR INFORMATION SOURCES USED TO COMPLETE THIS FORM.

Bureau of Land Management (BLM). 1862. Hezekiah van Dorn land patent. Ascension NR. MTMTAA 059712.

Find A Grave. 2023. Hezekiah Van Dorn III. Electronic document, https://www.findagrave.com/memorial/84570706/hezekiah-van_dorn, accessed September 18, 2023.

Mathews, Allan James. 2002. *Montana Mainstreets, Volume 6: A Guide to Historic Missoula*. Montana Historical Society Press, Helena.

McAlester, Virginia Savage. 2013. *A Field Guide to American Houses: the Definitive Guide to Identifying and Understanding America's Domestic Architecture*. Alfred A. Knopf, New York.

Missoula County Property Record. 2023. Parcl 1848102. Electronic document, https://gis.missoulacounty.us/propertyinformation, accessed September 18, 2023.

NETROnline. 2023. Historic Aerials, Missoula, Nationwide Environmental Title Research, LLC. Electronic document, https://www.historicaerials.com, accessed September 2023.

Orchard Homes Country Life Club. 2011. Club History. Electronic document, https://orchardhomes.org/history.html, accessed September 18, 2023.

State of Montana. 1900. Cobban & Dinsmore's Orchard Homes, in 5 are tracts. Subdivision 61, approved March 8. On file at Missoula County Property Record.

U.S. Census Bureau. 1880. Bitter Root Valley, Missoula, Montana.
_____. 1890. Hellgate Township, Missoula, Montana.
_____. 1900Missoula City, Missoula, Montana.

7. List of Photos and Maps

IMPORTANT: DO NOT insert images for photos, maps, and other figures to this document. Supporting photographs, maps, and other figures referenced in the table below need to be formatted, saved, and submitted according to SHPO's *Guidelines and Samples for CSR/AER Form Attachments*. For more detailed mapping and photography standards, please review *Montana SHPO Consultation Guide, 2023*.

FIGURE NUMBER	DESCRIPTION / CAPTION	PHOTOGRAPHER	PHOTO DATE
Photo 1	2513 Bean Ln., west facade, view east.	Jeannie Larmon, PhD	9/1/2023
Photo 2	2513 Bean Ln., south and east elevations, view northwest.	Jeannie Larmon, PhD	9/1/2023
Photo 3	2513 Bean Ln., north elevation, view south.	Jeannie Larmon, PhD	9/1/2023
Photo 4	2513 Bean Ln., interior showing gambrel roof truss and beams, view south.	Jeannie Larmon, PhD	9/6/2023
Photo 5	2513 Bean Ln., interior on first floor looking from original building footprint (foreground) to addition (background), with notable structural elements from the original building (arrow), view south.	Jeannie Larmon, PhD	9/6/2023
Map 1	Location Map	Lauren Waldroop, MHP	9/19/2023
Map 2	Aerial Overview	Lauren Waldroop, MHP	9/19/2023

(tab from last cell to add rows to photos and maps table)

^ See **Checklist 2: Submitting Site Records and Requesting Smithsonian Numbers** (Appendix D.2) and **Documenting Sites** (section 2.3) of the Montana SHPO Consultation Guide, 2023.
Online: https://mhs.mt.gov/Shpo/Archaeology/ConsultingWith

* See **Site/Property Types, Time Periods, and Diagnostic Types for Cultural and Architectural-Engineering Records**.
Online: https://mhs.mt.gov/Shpo/docs/CSR_AER_Codes.pdf

+ See **How to Apply National Register Criteria for Evaluation**. National Park Service, National Register Bulletin. 1997.
Online: https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf

Photos

Photo 1: 2513 Bean Ln., west facade, view east. Photo by Jeannie Larmon, PhD, 9/1/2023 (West face – 2).

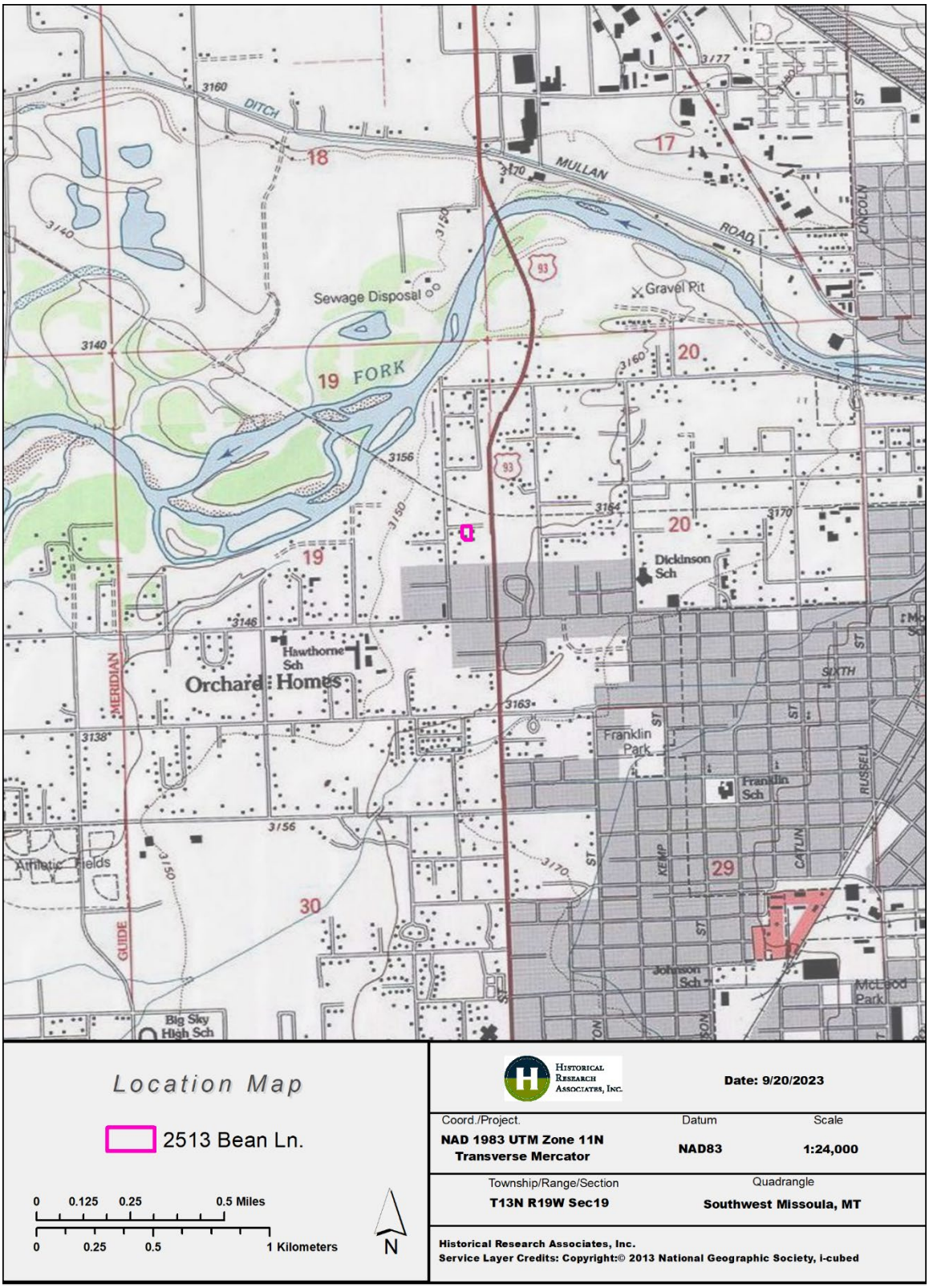
Photo 2: 2513 Bean Ln., south and east elevations, view northwest. Photo by Jeannie Larmon, PhD, 9/1/2023 (South face – 6).

Photo 3: 2513 Bean Ln., north elevation, view south. Photo by Jeannie Larmon, PhD, 9/1/2023 (North face).

Photo 4: 2513 Bean Ln., interior showing gambrel roof truss and beams, view south. Photo by Jeannie Larmon, PhD, 9/6/2023 (IMG_2785).

Photo 5: 2513 Bean Ln., interior on first floor looking from original building footprint (foreground) to addition (background), with notable structural elements from the original building (arrow), view south. Photo by Jeannie Larmon, PhD, 9/6/2023 (IMG_2780).

Maps



Map 1: 2513 Bean Ln. Location Map. Map by Lauren Waldroop, MHP, 9/19/2023.

Map 2: 2513 Bean Ln. Aerial Overview. Map by Lauren Waldroop, MHP, 9/19/2023.

Tamara R. Ross

From: Tamara R. Ross
Sent: Thursday, March 30, 2023 4:49 PM
To: Danny Baker
Subject: RE: Orchard Grove Major Subdivision - Utility Inquiry

Danny,

Amazing, thank you very much for your reply and time to explain preferred communication for the future. The general area description you provided below is also very helpful. I will reach out to Northwestern Energy.

Have a great day. Until next time, cheers!

Tamara Ross
Civil Designer / Planning Technician

IMEG Corp.
1817 South Ave West | Suite A | Missoula, MT 59801

(406) 272-0253
Tamara.R.Ross@imegcorp.com

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This email may contain confidential and/or private information. If you received this email in error please delete and notify sender.

From: Danny Baker <DannyB@meccoop.com>
Sent: Thursday, March 30, 2023 3:04 PM
To: Tamara R. Ross <Tamara.R.Ross@imegcorp.com>
Subject: RE: Orchard Grove Major Subdivision - Utility Inquiry

External Email: Treat links and attachments with caution.

Hi Tamara,

I reviewed the documents and determined that the lots in question are in Northwestern Energy territory. Our territory begins west of Missoula around the Flynn Lane, Mullan Road area. It's always good to check since we do have some shared areas with Northwestern Energy. Let me know if you have any more questions.

Thanks,
Danny

From: Tamara R. Ross <Tamara.R.Ross@imegcorp.com>
Sent: Thursday, March 30, 2023 2:48 PM
To: Danny Baker <DannyB@meccoop.com>
Cc: Joe M. Dehnert <Joseph.M.Dehnert@imegcorp.com>
Subject: Orchard Grove Major Subdivision - Utility Inquiry

Hi Danny,

Can you confirm if two properties listed below are within you service area? Any general information you may be able to offer regarding the utility service at these sites would be helpful. The property is currently outside of city limits, but the landowners are proposing to move forward with a Major Subdivision application and Petition to Annex. A few of the single-family dwellings are to remain but the total proposed lot count will be 24, as a result, the proposal will be a combination of duplexes and single-family dwellings.

Property Summary:

General location of subdivision and address (if address has been assigned): **The subject properties are on the corner of Larkin Wood Dr. and S Grove St. There are a total of nine addresses assigned: 2555 Bean Ln. Apt. 1 & 2, 2513 Bean Ln. Apt. 3 & 5 and 120 S Grove St., Missoula, MT 59808. Additionally, those addressed off Larkin Wood Dr. being 2505, 2507, 2509 and 2511 all within Missoula, MT 59804.**

Geocode: **04-2200-19-1-10-01-0000 & 04-2200-19-1-10-03-0000**

Total acreage of subdivision: **2.4 AC**

Thank you in advance. Have a great day.

Tamara Ross
Civil Designer / Planning Technician

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(406) 272-0253

Tamara.R.Ross@imegcorp.com

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Tamara R. Ross

From: Tamara R. Ross
Sent: Thursday, April 6, 2023 2:19 PM
To: Beverlee.york@northwestern.com; Kathy.sparks@northwestern.com; Daniel.rausch@northwestern.com; Claudia.rapkoch@northwestern.com; jodee.black@northwestern.com
Subject: FW: Orchard Grove Major Subdivision - Utility Inquiry
Attachments: 1 Vicinity Map.pdf; PPLAT-22008967 A.pdf

Hello,

I am looking for a general contact regarding agency inquires for utilities on the property described below. IMEG staff is representing the landowner listed below. We are required to reach out to utility providers per Article 3 of the City Subdivision Regulations for this proposal to capture any immediate concerns and general information on utility service availability to the proposed sites. If there is information regarding utility locations on the subject property, we would like to formally request it. Please keep in mind, Northwestern Energy will be formally notified upon a complete reivew by City Planning Staff and further communication regarding possible utility locations are subject to approval by the appropriate utility company and the City Council, upon recommendation of the city engineer. The attached site plan is preliminary in nature as a formal subdivision application has not been submitted.

Can you point me in the correct direction if I have the incorrect contacts? Thank you!

Tamara Ross
IMEG | Civil Designer / Planning Technician

IMEG

1817 South Ave West | Suite A | Missoula, MT 59801

(406) 272-0253
Tamara.R.Ross@imegcorp.com

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From: Tamara R. Ross
Sent: Thursday, March 30, 2023 6:22 PM
To: Erik.Loran@northwestern.com
Subject: Orchard Grove Major Subdivision - Utility Inquiry

Hi Erik,

This email is regarding a general inquiry for current and proposed use of residential elective services. If this is not the correct contact or a good general email for this inquiry to be sent to, please send me the Missoula Locations preferred contact.

Otherwise, would you be willing confirm if two properties listed below are within the NorthWestern Energy service area? Any general information you may be able to offer regarding the utility service at these sites would be helpful. The property is currently outside of city limits, but the landowners are proposing to move forward with a Major Subdivision

application and Petition to Annex. A few of the single-family dwellings are to remain but the total proposed lot count will be 24, as a result, the proposal will be a combination of duplexes and single-family dwellings.

Property Summary:

General location of subdivision and address (if address has been assigned): **The subject properties are on the corner of Larkin Wood Dr. and S Grove St. There are a total of nine addresses assigned: 2555 Bean Ln. Apt. 1 & 2, 2513 Bean Ln. Apt. 3 & 5 and 120 S Grove St., Missoula, MT 59808. Additionally, those addressed off Larkin Wood Dr. being 2505, 2507, 2509 and 2511 all within Missoula, MT 59804.**

Geocode: **04-2200-19-1-10-01-0000 & 04-2200-19-1-10-03-0000**

Total acreage of subdivision: **2.4 AC**

Thank you in advance.

Tamara Ross
Civil Designer / Planning Technician

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Tamara.R.Ross@imegcorp.com

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Tamara R. Ross

From: Tamara R. Ross
Sent: Monday, March 27, 2023 3:36 PM
To: Tracy Long
Cc: lmweston@mcpsmt.org; mcheyney@mcpsmt.org; sstaples@mcpsmt.org; dturner@mcpsmt.org
Subject: Orchard Grove Major Subdivision Major Subdivision - School District Inquiry
Attachments: EXH-22008967 Neighborhood Illustration-24x36.pdf; 4 Aerial Photo.pdf

Hello All,

My name is Tamara Ross and I am a Planning Technician working for IMEG in Missoula. I am currently working on a subdivision application for two properties that are on the corner of Larkin Wood Dr. and S Grove St. The subject tracts are believed to be in the Big Sky High School attendance boundary area for Missoula County Public Schools District 1 (MCPS), Hawthorne Elementary, and C.S. Porter Middle School areas.

One of the questions posed in the subdivision application is how the subdivision could potentially impact schools in the area. I am reaching out to discuss if your schools would encounter an adverse impact due to an increase of 24 lots in your district which includes a mix of four single-family homes and seven proposed duplexes. Please note, information regarding classroom capacity, infrastructure or even parking concerns would aid in IMEG staff understanding possible impacts to the school district prior to a formal Subdivision Application submittal with the City of Missoula. If you do not prefer to provide feedback or comment at this time, a formal Agency and Utility Review, per Article 4.2, will include a public agency comment period and time for the agency to respond. Please keep in mind this proposal is in preliminary stages and subject to change.

Property Summary:

The general location of the subdivision is both east and west of Mary Jane Blvd and south of the Hellgate Village Subdivision. Approximately, 400 ft south of the Hellgate Elementary School.

Subdivision Name: Orchard Grove Major Subdivision Major Subdivision
Number of Acres: 3.16 Acres
Geocode: 04-2200-19-1-10-01-0000 & 04-2200-19-1-10-03-0000
Legal Description: Cobban & Dinsmore's Orchard Homes # 1, S19, T13N, R19W, Lot 42 and Lot 042, Acres 1.52, Pt of Lot 42 Less Pt Sold Less R/W.

Enclosures:

Aerial Photo
Preliminary Site Illustration

Thank you for your time and feedback as we prepare to submit a preliminary subdivision application with the City of Missoula.
Have a great day.

Tamara Ross
Civil Designer / Planning Technician

IMEG Corp.
1817 South Ave West | Suite A | Missoula, MT 59801

(406) 272-0253
Tamara.R.Ross@imegcorp.com

March 3, 2023

CURRENT RESIDENT

Neighborhood Meeting for Larkinwood Drive Annexation & Major Subdivision

To Whom it May Concern,

The purpose of this letter is to invite you to a Neighborhood Meeting for a proposed Annexation and Major Subdivsion proposal generally located between Grove Street and Highway 93, approximately 0.5 miles south of the Clark Fork River. IMEG staff will be hosting this meeting on **Monday, March 27, 2023, at 4 pm (MT)** at the addressed location of **2505 Larkin Wood Drive, Missoula, MT 59804**. For ease of access, the meeting location is pictured below.

The two properties shown above are currently located outside of the City of Missoula and are proposed for rezone, subdivision, and annexation as part of the project. The subdivision would result in 24 lots with the intention to construct both single family units and duplex units with supporting road infrastructure. Members of the public may make comments or express concerns about the proposed project by attending this Neighborhood Meeting.

1817 South Ave West, Suite A, Missoula, MT 59801
406.721.0142 Fax: 406.721.5224 imegcorp.com

During the meeting we will provide an overview of the project and details regarding the ongoing public reivew process. We want to hear your comments and ask for patience during the meeting as we communicate with all attendees.

If you are unable to attend this meeting, please feel free to send your comments to tamara.r.ross@imegcorp.com or mail them to the address found at the bottom of this page. We look forward to connecting with you at the meeting and are excited to share and discuss the proposal with you.

Sincerely,
IMEG Corp.

Prepared By:

Tamara Ross, Civil Designer / Planning Technician

Attendance Record

ATTENDANCE RECORD

IMEG #: 22008967.00

Project: Larkin wood Subdivision

Meeting Description: Neighborhood Meeting

Date: 3/27/2023 Time: 4:00pm

Place: Intersection of Grove St & Larkin Wood Dr

ATTENDEE NAME	REPRESENTING	PHONE #	E-MAIL
Paul Forsting	IMEG	(406) 721-0142	Paul.T.Forsting@Imegcorp.com
Danny Oberweiser	IMEG	(406) 721-0142	Daniel.G.Oberweiser@Imegcorp.com
Michael Maine	IMEG	(406) 732-0270	Michael.A.Maine@Imegcorp.com
Mike Hanson	Self	406 [illegible]	hansolme@yahoo.com
[illegible]	Self	[illegible]	
Cooper Jackson	Self	918 851-5125	Cooperajackson@gmail.com
Emmy Driscoll	Self	4711 6878	Emmerett.driscoll@gmail.com
Birdy Shriver	Self	(719)332-4861	treehugginghippie21@gmail.com
Robert Sanders	Self	406 531 5169	tipperdog2018@gmail.com
Marsha Davis	Self	4068307737	massagehealth180@gmail.com
Henry Borgstede	Self	4067284372	
Jackie Borgstede	Self	Same	
Laura Myers	Self	406-579-1550	myers_l@hotmail.com
Jeff & Tina Holder	Self	406-239-6731 406-493-9026	Lthslady@hotmail.com

Michael A. Maine

From: Michael A. Maine
Sent: Monday, March 27, 2023 5:22 PM
To: Michael A. Maine
Subject: Larkinwood notes

Meeting Minutes
Danny to present
Danny to give project overview
Explanation of Project and process involved to subdivide property
What we are proposeing is 24 units, duplexs, single family homes etc.
Wer have been working on this project for 2 plus years, we have done communicating with city and department of health
City planning staff has voiced support for project
History of zoning
Will need to be annexed and rezoned
Will allow 5 deweeling units per acre
18 to 34 units is currently allowed if this was to remain in county
We are going to improve frontage on grove st – that is the standard process with city subdiviosn
The more this area grows, the more improvements we will see
Larkinwood will be improved – apved / sewer and water
Irrigation ditch is going to ramin as is
Open to questions

Is it affordable?
Danny: we have not even talked about the housing product yet, knowing the parties invloded, this will be market rate housing
This is in the county currently?
D: correct and we want to annex into city
Where does sewer and water come from?
D: 2 connections, sewer down larkin wood with 2 extensions down the road
We live on red osisl ct are they ever going to do anything about traffic?
D: I used to live on everrtt, always a line on 3rd a traffic impact analysis is only required with 50+ units traffic study is not
There will be a minimum of 50 cars
D: we are looking at 120 traffic trips per day, most of the trips will be in the oring or evening, you guys can use this project as a platform to voice your concerns. The more demand that comes to this area the city will take your concerns
When the school gets out at 3:30, it will be a mess. You're gonna add 50m vechicles and not do anything? – WRONG
D: this will go infront of land use committee and city council to voice your concersms
What do we say as a group right here to say we do not want this?
D: we are not the decision amkers, we are the consultnts to be transparent, you just ned to speak to city council
Time line? When this does go through? What is the time line?
D: on average it is usually about 18 to 24 months, city council will be about 6 months from today
Will we be emailed?
D: if you guys signed in we can keep you posted,
The timming for acutal construction? Sewer lines? Water lines?
D: dependant on contractor, infrastructure gets built in a summer, but we are not sure about the clients timeline for the construction of the homes. I talked with our client this morning, and he does not want tot displace renters.

What about all the nice pretty houses? Will we be able to stay?

D: They will be removdeld

Duplexes or houses

D: a mix of both duplexes and single family homes

What side of the road are you going to run your drains?

D: we will have sumps and curbs, but it will take additional engineering in order to determine.

How wide will the road be?

D: 24 feet.

Are we stillm going to be abel to park?

D: we are not allowed to disrupt your parking

With all of this? There has been no speak of anything for traffic control of speed limit or anything?

D: not that I have heard. Go to the public forms, grove St definitely needs improvements

Are we still going to have accessibility to bike path?

D: yes, we will be bulting access.

What about open space?

D: we are paying cash in luie, we will be paying them a fee and hoping to goes to new park

If this started, roads wouldn't happen until next summer?

D; next spring

Have you had a contractor express interest in this project?

D: eng design review and contractors are booked, but it has to go perfclty for that to go.

Height of units?

D: anticipate 2 level units

When is cit yocuncil meeting?

D: approx. 6 months, we will be in front of city council. As the public you have opportunity to share your thoughts and opinions multiple times before city council

Now this should not effect any ones annexation?

D: that is right adjacent property should not be affected/.

You guys should schedule these meetings for later in the day.

D: tell your neighbors to reach out to us.

As of now, this is the beinging?

D: step 1 of aboutn 500. Project is subject to change

Can more houses be added?

D: no this is the max.

Can you explain the project again?

D: points to board and explains what and where the houses are located.

I forgot why this needs to be part of the city?

D: sewer and water is the driving force.

What is the zoning?

D: residential with 5,400 sq foot lots T stand sfor townhome

D: current county zoning has a min and maximum zoning limit

D: nothing is changing outside boundaries of project

So this has to go to planning commity as some point? How many folks are in the city planning department that know anything?

D: city staff is great!

I have never been so frusted as when I was previously dealing with city planning staff. They don't give a damn about what we think. We don't matter (Mike Hanson)

D: A LOT OF THE STAFF WANTS TO HELP, BUT THE RULES MAKE IT DIFFICULT

We appreciate what you are doing.

D: WE ENJOY THIS WORK.

I'm glad we got warring

The people that own the land. When do they have to put up the money to do this? Rising intreste rates could effect hbis project?

D: 3 years from approval. Our client wants to build though
This road A, will it have sidewalks?
D: textured materials to indicate that it is a walking road.
It could be worse? We could have apartments
Who is our city council person and why are they not here?
Parking?
D: 2 per unit,
D: City wants people to ride bikes and ride bus
What about landscaping?
D: this road has landscaping requpirements, we ar eproposing tress and boulevard
Telephone?
D: all utiltieis will ramin underground.
Larkingwood will be paved
D: yes
Stormwater?
D: underground sumps

Mike A. Maine
Civil Designer / Planning Technician

IMEG Corp.
1817 South Ave West | Suite A | Missoula, MT 59801

(406) 532-0270 | single reach
(847) 345-8232 | mobile
michael.a.maine@imegcorp.com

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Tamara R. Ross

From: Tamara R. Ross
Sent: Wednesday, May 31, 2023 8:22 AM
To: Cameron, Glen
Cc: Danny Oberweiser; Joe M. Dehnert
Subject: RE: Orchard Homes Subdivision - MDT Proposed Sidewalk Connection

Good Morning Glen,

Thank you for your time and review on this for us. As we proceed with our subdivision review and we are able to discuss the City/MDT maintenance agreement with city staff you will see an encroachment permit application started for the site.

Thank you again and enjoy the remainder of your day,

Tamara Ross
IMEG | Civil Designer / Planning Technician

IMEG

1817 South Ave West | Suite A | Missoula, MT 59801

(406) 272-0253
Tamara.R.Ross@imegcorp.com

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This email may contain confidential and/or private information. If you received this email in error please delete and notify sender.

From: Cameron, Glen <gcameron@mt.gov>
Sent: Wednesday, May 31, 2023 8:16 AM
To: Tamara R. Ross <Tamara.R.Ross@imegcorp.com>
Cc: Danny Oberweiser <Daniel.G.Oberweiser@imegcorp.com>; Joe M. Dehnert <Joseph.M.Dehnert@imegcorp.com>
Subject: RE: Orchard Homes Subdivision - MDT Proposed Sidewalk Connection

External Email: Treat links and attachments with caution.

Good morning Tamara –

If the connection was to be approved, yes an MDT encroachment permit will be required along with a City/MDT maintenance agreement the city will have to be willing to sign.

I cannot say how the review is going to go for this particular proposed connection. To get the review process started, when ready, an on-line encroachment permit application must me submitted with all applicable information.

Thanks
glen

From: Tamara R. Ross <Tamara.R.Ross@imegcorp.com>
Sent: Tuesday, May 30, 2023 4:47 PM
To: Cameron, Glen <gcameron@mt.gov>

Cc: Danny Oberweiser <Daniel.G.Oberweiser@imegcorp.com>; Joe M. Dehnert <joseph.m.dehnert@imegcorp.com>
Subject: [EXTERNAL] Orchard Homes Subdivision - MDT Proposed Sidewalk Connection

Hello Glen,

The City of Missoula Development Services has identified you as being an agency that IMEG staff should kick off an early discussion with regarding a major subdivision proposal. This includes two properties, one having an address of 2555 BEAN LN MISSOULA, MT 59804. Further, it has been requested any initial conversation be included in the documentation of the Orchard Homes Subdivision 2nd Element Submittal. We appreciate your preliminary review and time on this. Please note, you will also receive a formal Agency Sufficiency Review Notice once the project is deemed sufficient per usual.

The Reserve Street Trail (Milwaukee Trail is shown on some public mapping sources) is east of this proposal and existing sidewalk infrastructure runs along Reserve Street. Connection to these features is proposed. Would the proposed connection require an MDT Permit if the sidewalk within this development were to connect to the Reserve Street Trail. If so, please provide us with general information to get started on the permitting process. Let us know of any other concerns at this point.

Property Summary:
Owner(s): Collin Bangs, John Barrett, and Robert and Evelyn Bean
Subdivision Name: Orchard Grove Subdivision
Number of Acres: 3.08 Acres
Legal Description: Lot 42, Cobban and Dinsmore's Orchard Homes, less Lot 1 recorded at Book 19 and Page 82 Micro Records Missoula County & Less Dedicated Right-of-way, located in the NE ¼ of the SE ¼ of Section 19, Township 13 North, Range 19 West, containing +/- 3.08 Acres.
Geocode(s): 04-2200-19-1-10-01-0000 & 04-2200-19-1-10-03-0000

Enclosures:
Aerial Photo
Preliminary Site Plan
Preliminary Plat - Half-Size

This was saved in my drafts as of 05/17 and was intended to be in your email last week but my apologies if you have gotten this email twice.
Hope you enjoyed your Memorial Day.
Thank you,

Tamara Ross
IMEG | Civil Designer / Planning Technician

[imegcorp.com]

1817 South Ave West | Suite A | Missoula, MT 59801

(406) 272-0253
Tamara.R.Ross@imegcorp.com

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Tamara R. Ross

From: Collin Bangs <cbangs@amerion.com>
Sent: Wednesday, May 17, 2023 12:07 PM
To: Danny Oberweiser
Cc: bean jessica; Dave Edgell; marke; Joe M. Dehnert; Tamara R. Ross
Subject: Re: Larkinwood Development

External Email: Treat links and attachments with caution.

John Barrett and John David Barrett are one and the same. What kind of proof do you want.

From: "Danny G. Oberweiser" <Daniel.G.Oberweiser@imegcorp.com>
To: "bean jessica" <bean.jessica@yahoo.com>, "Webmail cbangs" <cbangs@amerion.com>
Cc: "Dave Edgell" <DaveE@edgellbuilding.com>, "marke" <Marke@edgellbuilding.com>, "Joe M. Dehnert" <Joseph.M.Dehnert@imegcorp.com>, "Tamara R. Ross" <Tamara.R.Ross@imegcorp.com>
Sent: Wednesday, May 17, 2023 11:29:12 AM
Subject: RE: Larkinwood Development

Hi all – we received our first comment letter from the city yesterday. We are still digesting it, but have request a meeting with them next week to clarify a few things. High altitude updates;

1. They want more information about the old barn because its over 50 years old and technically eligible for historical recording. Doesn't mean it is historical, just means its eligible. So we will likely need to come take a bunch of pictures to show there isn't any "historical value". I'll reach out to schedule a time for this.
2. City is requesting a name for the internal road. Any thoughts to a road name?
3. The deed on Collins property has a John Barrett and John David Barrett. Are these the same person or different? If different we need both signatures on the application. If the same, some kind of proof they are the same individual.
4. There may be an additional variance request for Larkind Wood Drive because of the R/W width being narrower than the road classification. We will confirm this next week but we may need an additional review fee check.

Lastly, All West the geotechnical engineer is scheduled to dig their test holes on Monday. You may wan to let your tenants know there will be excavators digging a few holes on site and that Utility Locate personal will be painting utilities on site.

Danny Oberweiser
IMEG | Land Use Planner / Civil Project Designer

1817 South Ave West | Suite A | Missoula, MT 59801

(406) 721-0142 | phone
(406) 491-4942 | mobile
(406) 721-5224 | fax
daniel.g.oberweiser@imegcorp.com

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This email may contain confidential and/or private information. If you received this email in error please delete and notify sender.

From: Michael Moser <michaelm@orchardhomesditch.org>
Sent: Tuesday, July 11, 2023 9:09 AM
To: Tamara R. Ross
Cc: Danny Oberweiser
Subject: Re: Orchard Grove Subdivision Element Review - Easement Inquiry

External Email: Treat links and attachments with caution.

Tamara,

Thank you for contacting us. Just to note Al Brule is no longer with the ditch company so I've removed him from the email chain.

A call would be good to discuss a few items. Overall, I don't see many issues with the existing easements but there are some considerations that should be accounted for. Namely:

1. Each of the lots needs to have access to irrigation water. The exact details of how this is accomplished is negotiable. One of our pain points is that people don't want to pay the ditch assessments when they don't have access to the water which then severely limits the the revenue we need for maintenance.
2. The developers need to decide how the assessments will be paid. If there will be an HOA then the HOA can pay the assessments for the 3+ acres or each individual property owner can pay their own assessment fee. Currently the assessments are $45/acre with a minimum of $45/property. Obviously it would be advantageous for the HOA to pay the assessments for the collective 3+ acres.
3. I don't see any fences in the drawings but if there are then there needs to be a gate wide enough for a mini-excavator to easily fit through for maintenance.
4. It looks like all of the landscaping will be outside of the easement which is good. Also be aware, per our by-laws the existing bushes and shrubs encroaching on the ditch are the responsibility of the land owner. So, if there is a desire to have it removed, that's well within the land owner's purview to do as long as the integrity of the ditch is maintained.

I did call and leave a message for you. Please call back when you can, especially regarding points 1 and 2. You can reach me at 406-239-5196.

Thanks,

Michael Moser, President
Orchard Homes Ditch Co
406-361-6042

Find us on Facebook
Signup for our mailing list

From: Tamara R. Ross
Sent: Monday, July 10, 2023 12:52 PM
To: 'info@orchardhomesditch.org'
Cc: Albrule07@gmail.com; Danny Oberweiser
Subject: Orchard Grove Subdivision Element Review - Easement Inquiry
Attachments: Easement for Maintain_Constr of Water Ditch Orchard Homes Ditch B139 P191.pdf; 4 Supplemental Data Sheets.pdf; 3 Preliminary Plat - Half Size.pdf

Good Afternoon,

This email inquiry is regarding a proposal that will result in 24 dwelling units on 24 separate lots proposed as Orchard Grove Subdivision. The property is located directly adjacent to the west of HWY 93 and adjacent to S. Grove Street and contains multiple addresses. Our staff is currently working through element review with the city planning staff and need to clarify that there is adequate easement distance from the ditch for future maintenance. The concern is that maintenance will necessitate access on area not within an easement.

In summary, the property contains two existing irrigation facilities responsible for delivering irrigation water for agricultural purposes to the surrounding properties. The irrigation facilities and associated infrastructure will remain in the proposed development. An irrigation canal generally runs along the southern property line. The second being an irrigation pipe, contained within a varied easement width, runs along the eastern property line of the proposed subdivision. The two irrigation easements will be shown on the Preliminary Plat and Supplemental Data Sheets attached to this email. Further, I have included the easement documentation showing the purpose of the ditch over the subject property.

Let us know if you have any questions or concerns regarding the proposed irrigation easement widths. You are welcome to give us a call at any time to discuss.

Project Site Summary:
Owner(s): Collin Bangs, John Barrett, and
Robert and Evelyn Bean
Subdivision Name: Orchard Grove Subdivision
Legal Description: Lot 42, Cobban and Dinsmore's Orchard Homes, less Lot 1 recorded at Book 19 and Page 82 Micro Records Missoula County & Less Dedicated Right-of-way, located in the NE ¼ of the SE ¼ of Section 19, Township 13 North, Range 19 West, containing +/- 3.08 Acres.

Thank you,
Tamara Ross
IMEG | Civil Designer / Planning Technician

1817 South Ave West | Suite A | Missoula, MT 59801

(406) 272-0253
Tamara.R.Ross@imegcorp.com

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EXHIBIT 2B – CITY MAJOR SUBDIVISION APPLICATION

A. GENERAL INFORMATION

1. The subdivider has one year after the pre-application meeting to submit a formal subdivision application. Otherwise, a new subdivision pre-application meeting is required.
2. One submittal packet and full-sized preliminary plat is required for each Element Review submittal. The subdivider is encouraged to schedule a meeting with the case planner to submit the formal application packet for Element Review. If requested the meeting will be scheduled within 10 working days of the case planner and the subdivider's conversation regarding the Element meeting request. The Element Review period starts the day the packet is submitted to Development Services for review and the fee is paid.
3. Once the application packet is deemed complete for Element Review, one submittal packet and full-sized preliminary plat is required for Development Services staff review for each Sufficiency submittal, in addition to packets mailed to agencies identified in the subdivision agency review list. Alternatively, if an electronic packet is submitted meeting the electronic packet submission guidelines, the agency sufficiency packets can be provided electronically.
4. For each Sufficiency submittal via electronic packet, applicants will send agencies a hard copy cover letter and an electronic cover letter notifying them that the project has commenced 1st, 2nd, 3rd, etc. Sufficiency review. This letter should include a link to the subdivision packet on the DS website, review deadlines, contacts, and other information for the Sufficiency review as indicated by DS.
5. Upon completion of Agency Sufficiency Review, the application packets submitted for Planning Board and City Council review must include any agency comment received during Agency Sufficiency Review as well as any applicant responses to the agency comment, if applicable. In addition, Planning Board and City Council review packets must include the letter declaring the application packet Sufficient, and all Element and Agency Sufficiency Review letters from DS. Except for the addition of these materials, the packets submitted for Planning Board and City Council review must be exactly the same as the packet that was deemed Sufficient.
6. Packets for Planning Board review must be provided as hard copy packets, bound along the left edge via plastic comb, plastic coil, or similar style binding device. Single-corner staple fastening does not constitute binding of the left edge. Each packet shall contain full-sized preliminary plats and supplementary data sheets.
7. Packets for City Council review must be provided in an electronic format per the electronic packet submittal guidelines.

8. Name of proposed subdivision: **Orchard Grove Subdivision**

9. Name(s) of Subdivider: **Collin Bangs, John Barrett & Robert and Evelyn Bean**
   Mailing Address: **Collin Bangs: 4607 North Ave W., Missoula, MT 59804**
   John Barrett: 4607 North Ave W., Missoula, MT 59804
   Robert and Evelyn Bean: 2555 Bean Ln., Missoula, MT 59804
   Telephone Number: **Same as Representative**
   Email Address: **Same as Representative**

10. Name(s) of Owner of Record: **Collin Bangs and John Barrett & Robert and Evelyn Bean**
    Mailing Address: **Same as subdivider.**
    Telephone Number: **Same as Representative**
    Email Address: **Same as Representative**
11. Name and Company of Representative: **IMEG Corp c/o Tamara Ross**

Mailing Address: **1817 South Ave. W. Missoula MT, 59801**
Telephone Number: **406-272-0253**
Email Address: **Tamara.R.Ross@imegcorp.com**

12. If the applicant is someone other than the property owner, the owner must also sign the application in the space provided below. Certification: I hereby certify that the foregoing information contained or accompanied in this application is true and correct to the best of my knowledge.

_____

Owner's Signature (Robert Bean) Date

_____

Owner's Signature (Evelyn Bean) Date

_____

Owner's Signature (Collin Bangs) Date

_____

Owner's Signature (John Barrett) Date

_____

Representative's Signature Date

B. SUBJECT PROPERTY INFORMATION

General location of subdivision and address (if address has been assigned): **The property is located directly adjacent to the west of HWY 93, Reserve Street, and adjacent to the east of S. Grove Street. There are a total of nine addresses assigned: Units 1 & 2, 2555 Bean Lane, Units 1 & 2, 2513 Bean Lane, and 120 S. Grove St., Missoula, MT 59808. Additionally, those addressed off Larkin Wood Dr. being 2505, 2507, 2509 and 2511 all within Missoula, MT 59804.**

Legal Description - complete and unabbreviated: **Lot 42, Cobban and Dinsmore's Orchard Homes, less Lot 1 recorded at Book 19 and Page 82 Micro Records Missoula County & Less Dedicated Right-of-way, located in the NE ¼ of the SE ¼ of Section 19, Township 13 North, Range 19 West, containing +/- 3.08 Acres. Please see the complete meets and bounds legal descriptions as provided within the Complete Legal Description included in Section C of this submittal.**

Township, Range, Section(s): **T13N, R19W, S19**

Subdivision, Lot(s), Block(s): **Cobban & Dinsmore's Orchard Homes # 1, Lot 42**

Tract(s), COS#: **N/A**

Geocode: **04-2200-19-1-10-01-0000 & 04-2200-19-1-10-03-0000**

Number and type of lots proposed: **24 lots are proposed as this proposal includes the request of Residential RT5.4 (two-unit/townhouse) zoning upon annexation into the City of Missoula.**

Average Lot Size: **0.13 AC ((3.08 AC (total gross acreage of development lots)/ 24 Lots (total number of lots))**

Median Lot Size: **0.08 AC**

Total acreage of subdivision: **3.08AC**

Total net acreage of lots within the proposed subdivision: **2.47 AC ((2.47 AC (Net acreage of development lots) + NA AC (total open space lot acreage))**

Total acreage in streets and roads: **0.61 AC ((3.08 AC (Total Acreage of Subdivision) – 2.47 AC + NA (net acreage of lots + open space))**

Total acreage in parks or common area: **N/A**

Gross Density: **7.79 Dwelling Units/Acre ((24 Lots (Total Lots)/ 3.08 AC (Total Acres of Subdivision or Gross Acreage))**

C. **TYPE OF SUBDIVISION PROJECT (Check all that apply):**

- ☒ Major (6 or more lots)
- ☒ Residential
- ☐ Commercial/Industrial
- ☐ Mobile Home Park
- ☐ RV Park
- ☐ Condominium
- ☐ Subdivision PUD

D. **ZONING AND GROWTH POLICY COMPLIANCE**

1. Complete the following table (where applicable, indicate Unzoned):

	Zoning	Current Land Use
Adjacent (North)	**County: Residential Medium (RM)**	**Residential**
Adjacent (South)	**County: Residential Medium (RM)** **City: Residential 10 two-unit/townhouse (RT10)**	**Residential**
Adjacent (East)	**County: Residential Medium (RM)** **City: Neighborhood Commercial (C1-4) and Residential 10 two-unit/townhouse (RT10)**	**Residential, non-motorized trail and ROW**
Adjacent (West)	**County: Residential Medium (RM)**	**Residential**

2. Is the property zoned? **Yes**.
   a. If yes, what is the current zoning of the property? **The current zoning is Residential Medium (RM), a county zoning district. The RM County zoning recommends 5-11 du/acre and the land use designation recommends 3-11 du/acre. Relatable city zoning districts would include RT10, R8, and R5.4 intended for anywhere between 5 du/acre and 11 du/acre. Upon annexation into the City of Missoula the project proposes to be zoned Residential (RT5.4). Single-family detached homes and townhomes are proposed for this property, resulting in a density of 7.8 dwelling units/acre. As a result, the proposal will continue to follow zoning and subdivision regulations and still adhere to the recommended density outlined in the growth policy.**
   b. If yes, provide a zoning map (if available). If the property is split zoned, show the zoning district boundaries on the plat or a Supplemental Data Sheet with the plat as a base map. **See the attached City Zoning Map and Zoning District Standards Exhibit, in Section B. The property is not split zoned; therefore, zoning district boundaries have not been shown on a Supplemental Data Sheet with the plat as a base map.**
   c. If yes, provide a copy of the zoning district standards which apply to the proposed subdivision. **City Zoning Map and Zoning District Standards Exhibit, include in Section B.**
   d. If yes, describe how the project complies with the existing zoning district.
   The property is currently located outside of the City of Missoula and is zoned Residential Medium (RM) allowing for 5 to 11 dwelling units/acre. This existing zone offers opportunity of medium density residential housing options including multi-household dwellings that reflect the traditional character of existing residential neighborhoods. Further, this zone supports infill development and connectivity between neighborhoods and other public amenities for its residents.

   This proposal includes the request of Residential RT5.4 (two-unit/townhouse) zoning upon annexation of this property into the City of Missoula. Relatable zoning districts would include RT 10, R8, and R5.4 intended for anywhere between 5 to 11 du/acre; depending upon the zoning district. The property is not subject to any overlay districts. As the attached City Zoning Map and

Zoning District Standards Exhibit depicts, there are several other properties in the vicinity with similar zoning resulting in a traditional character of residential neighborhoods. The current conditions of the property include one trailer which will be removed, four duplexes, three of which will remain and be converted into townhomes, and one single-family dwelling which will be removed near the southwest property line. Proposed conditions will include fourteen newly proposed townhome units. Therefore, the proposed development will result in 4 detached homes and 20 townhome units on a total of 24 lots. Therefore, the proposal will result in a total of 24 dwelling units on 24 lots.

This proposed zoning would continue to incorporate infill to achieve a medium density residential development which fits well within the existing growth policy. The rezoning of this site promotes development flexibility, while at the same time helping to ensure that new development is compatible with similar neighborhoods in the City of Missoula. Therefore, this development will be made in accordance the City's growth policy. The proposed development aligns with these uses as the plan is for Residential uses that will adhere to all applicable regulations and standards outlined in the 'Our Missoula' 2035 City Growth Policy.

3. Do you intend to zone the property, or will the property have to be re-zoned to allow for this development? **Yes, the property will have to be re-zoned to allow for this development.**
   a. If yes, what is the proposed zoning for the subject property? **Residential RT5.4 (two unit/townhouse) zoning upon annexation of this property into the City of Missoula.**
   b. If a zoning change is requested concurrently with the proposed subdivision, provide a complete and signed rezoning application and a copy of the proposed zoning district regulations. **N/A. The city dictated that a rezone application would not be required in the pre-application meeting as the subject property would be zoned upon annexation.**
4. Will this property be required to be annexed into the City? **Yes.**
   a. If yes, what zoning district does the City Council intend to apply upon annexation? **Residential RT5.4**
   b. If yes, provide a copy of the Resolution of Intent to Annex approved by City Council. **Please see the Annexation Petition included in Section A of this submittal. A Complete Legal Description of both parcels proposed to be annexed is provided in Section C.**
5. Is the property within the Urban Growth Area? **Yes.**
6. Which comprehensive plan(s) of the Missoula City Growth Policy apply to this property? **The 'Our Missoula' 2035 City Growth Policy and the Reserve Street Area Plan, 1995 Update.**
7. What is the current land use designation for this property, as indicated in the applicable comprehensive plan? Provide a map of the land use designation and legend from the applicable comprehensive plan / growth policy. **The 'Our Missoula' 2035 City Growth Policy designates the property as Residential Medium for residential densities that are urban in nature, resulting in a density of 3 to 11 dwelling units per acre. The project complies with the land use designation. Please see the Comprehensive Plan Exhibit in Section B.**
8. Describe how the project complies with the land use designation and the goals and policies of the Growth Policy. **The purpose of the Residential Medium designation is intended to fit with many already established residential neighborhoods and acknowledge the single dwelling residential building type as the primary use with the potential for accessory dwellings as well. This designation allows for a density of 3 to 11 du/acre. This proposal aligns by providing 4 single-family detached homes and 20 townhome units resulting in a total of 24 dwelling units on 24 lots meeting the goals and polices intended for the Residential Medium land use designation.**

The subject property proposes to use public infrastructure (water and sewer), provide various opportunities for mobility and access through creating road infrastructure that accommodates walking, biking and is close to transit opportunities. Additionally, sidewalks, landscaping and connection to existing road infrastructure will aid in meeting the goals and polices that guide this development within the growth policy.

9. Is a Planned Unit Development proposed? If a Planned Unit Development is proposed, provide additional submittal requirements per Section 3-120.2. **N/A**

E. **CLUSTER AND CONSERVATION DEVELOPMENT**

1. Is Cluster and Conservation Development per Section 3-180 proposed? **N/A**
   a. If yes, provide additional submittal requirements described in Section 3-180. **N/A**

F. **PHASING**

1. Is this subdivision proposed to be developed in phases? **No.**
   If yes, provide a phasing plan per Section 4-070.2 & 4-070.3 (and optional Phasing Plan Narrative) which indicates the following: **N/A, as this subdivision will not be developed in phases.**
   a. each phase of the subdivision numbered in the order in which they are proposed to be filed;
   b. which lots and which improvements will occur in each phase;
   c. a legend that lists each phase and specific final plat filing deadline for each phase, including the month, day and year that each phase will be submitted for final plat review; and,
   d. the amount of parkland dedication required for each phase and the amount provided for each phase.
   e. If the Phasing Plan is in color, also number each phase directly on the platted areas.

G. **COVENANTS AND/OR HOMEOWNER'S ASSOCIATION**

1. As a separate attachment, provide proposed draft covenants and restrictions to be included in deeds and contracts for sale. **See Section C for proposed Draft Covenants. In addition, please reference the Property Ownership and Applicant Inquiry, in Section E, confirming John Barrett and John David Barret are the same person. This claim is supported by the Same Name Affidavit provided in Section C.**
2. Is common property to be deeded to a property owner's association? **No, there will be no common property deeded to a property owners' association. It should be noted, Magnolia Drive will be a commonly maintained facility, but there will be no common property deeded to an HOA. The lot owners will be responsible for maintaining the private roadway which crosses their property.**
3. If common property is to be deeded, provide draft covenants and restrictions per Section 5020.14K. **Common property will not be deeded.**
4. Are there existing or proposed covenants and/or a homeowner's association? **Yes.**
   If yes, provide existing covenants, restrictions, and/or property owner's or homeowner's association documents or other documents that outline deed restrictions that apply to the subdivision. **The Preliminary Title Report and Ownership Deeds include special assessments of the Missoula Irrigation District, Missoula Water Quality District, and the Missoula Urban Transportation District. There are no existing covenants for the subject property, but a draft version of the Covenants, Conditions, and Restrictions aligning with Article 5, Section 5-020.14.K of the subdivision regulations has been included in Section C.**
   If yes, the proposed draft covenants shall specify they apply to the proposed subdivision and are supplemental to the existing covenants and restrictions. **Please see Section C for the proposed Draft Proposed Covenants Conditions and Restrictions.**

H. **PROJECT SUMMARY**

As a separate attachment labeled "Project Summary" and included at the beginning of the submittal packet, provide a narrative description of the proposed project and existing site conditions. Summarize the following information: **Please see Section A for Project Summary.**

- ☐ Owner;
- ☐ Developer;
- ☐ Representative name and company;
- ☐ Subdivision name;
- ☐ Legal description;
- ☐ Summary of roads;
- ☐ Summary of non-motorized facilities;
- ☐ Variances requested, if any; and

- ☐ # of lots proposed;
- ☐ Zoning & growth policy compliance
- ☐ # of acres;

I. MAPS, DATA SHEETS, AND MATERIALS

As separate attachments, provide the following Maps and Data Sheets with the site clearly identified. All full-size (24" x 36") Supplemental Maps and Data Sheets shall be folded to a maximum of 9" x 12". Where appropriate, required information may be combined as long as the information is clearly presented. Use the preliminary plat as a base map where practical and feasible. Please check the box if the Supplemental Map or Data Sheet is included in the packet and state where in the packet it is located. If the item is not included in the submittal packet, please note "N/A".

- ☒ **A vicinity map** showing the subject property and the area within 1,000 feet of the subject property. **See Section B, Vicinity Map.**
- ☒ **A Zoning map** of the subject property and vicinity (showing the existing zoning district), extending at least 300 feet from the property boundaries. **See Section B, City Zoning Map and Zoning District Standards Exhibit.**
- ☒ **A Growth Policy/Comprehensive Plan map** of the subject property and vicinity extending at least 300 feet from the property boundaries for the applicable comprehensive plan, clearly showing the land use designation of the subject property and surrounding properties. **See Section B, Comprehensive Plan and Land Use Exhibit.**
- ☒ **Adjacent properties.** A map showing the relationship of the proposed subdivision to adjacent subdivisions, certificates of survey, and public or private rights of way and any other access. Include the zoning of adjacent properties and the location of any buildings, railroads, power lines, towers, roads, and other land uses on adjacent lands. Show the names of platted subdivisions and numbers of certificates of surveys on the map. **See Section B for the Adjacent Properties and Ownership Exhibit. The 300' Adjacent Property Exhibit, within the Supplemental Data Sheets, will show the remaining components not included within the Adjacent Properties and Ownership Exhibit to satisfy this requirement.**
- ☒ **Adjacent ownership.** A map showing the ownership of adjacent lands, including lands across public and private rights of way. **See Section B for the Adjacent Properties and Ownership Exhibit.**
- ☒ **Certificate of survey and/or prior subdivision history** of subject property and adjacent properties. **The Certificate of Survey (COS) and Prior Subdivision History is included in Section C.**
- ☒ An aerial photo of the subject property and vicinity extending at least 200 feet from the property boundaries. **An Aerial Photo of the property extending at least 200-feet from the property boundaries is included in Section B.**
- ☒ **An existing conditions map** per Section 4-010.1B(1) including location, current land use, land cover (such as cultivated areas, paved areas), natural features (such as lakes, streams, riparian vegetation), all existing structures and improvements, and all encumbrances, such as easements. **See Section A, Supplemental Data Sheets for all the existing conditions listed above.**
- ☒ **Landscaping and maintenance plans** for common areas, and boulevard plantings, as may be required. **The parking areas and proposed tree planting locations can be reviewed within Conceptual Landscaping Plans within the Supplemental Data Sheets located in Section A.**
- ☒ **Variance requests.** If the proposed subdivision cannot comply with all subdivision standards, provide an attachment labeled "Variance Request(s)" and identify, for each standard not met, the section of the subdivision regulations for which the variance request is being sought and address the variance criteria (in Section 6-010 of the City of Missoula Subdivision Regulations) for each variance request. **The proposed subdivision includes two variance requests. The first Variance Request involves deviation from both boulevard improvements and the required right-of-way dedication pertaining to Larkin Wood Drive. Because no boulevard is present along the northern property line of the subject property class one small trees are proposed along the south side of Larkin Wood Drive completely contained within the subject property. Per 3-020.15.D.1. sidewalks, and**

boulevards must be provided in all subdivisions and adjacent to all streets in accordance with Table 2 A.

The second proposed deviation is from Section 3-020.5 which prohibits cul-de-sacs, loop and circle streets, and turnarounds. This request seeks approval for the proposed Magnolia Drive, to be constructed as a loop street, which is completely internal to this subdivision. Loop streets are prohibited per Section 3-020.5 (A) unless approved through a variance.

☒ An attachment labeled "**Neighborhood Comment and Response**," with minutes from neighborhood meetings and any comments received during the meeting(s). **Neighborhood Meeting Minutes and Comments have been included in Section E of this submittal.**

J. WATER AND SANITATION REPORT

The State of Montana [MCA 76-3-622] requires subdividers to provide the following water and sanitation information for any new subdivision that will include a new water supply system or new wastewater facilities. In compliance with this law, attach a separate document entitled "Water & Sanitation Report" which contains the following: **The criterion below is provided within the Water and Sanitation Report included in Section D of this submittal.**

☒ 1. **Map.** A vicinity map or plan that shows:

a. The location, within 100 feet outside of the exterior property line of the subdivision and on the proposed lots, of flood plains; surface water features; springs; irrigation ditches;
b. Existing, previously approved, and, for parcels fewer than 20 acres, proposed water wells and wastewater treatment systems; for parcels less than 20 acres, mixing zones;
c. The representative drain-field site used for the soil profile description; and
d. The location, within 500 feet outside of the exterior property line of the subdivision, of public water and sewer facilities.

☒ 2. **Description**. A description of the proposed subdivision's water supply systems, storm water systems, solid waste disposal systems, and wastewater treatment systems, including the following:

a. Whether the water supply and wastewater treatment systems are individual, shared, multiple user, or public as those systems are defined in rules published by the Montana Department of Environmental Quality (DEQ).
b. If the water supply and wastewater treatment systems are shared, multiple user, or public, a statement of whether the systems will be public utilities as defined in 69-3-101, MCA and subject to the jurisdiction of the public service commission or exempt from public service commission jurisdiction and, if exempt, an explanation for the exemption.
c. If the water supply is provided by a multiple user water supply system, per Section 3-070, submit the system design prepared by a professional engineer to comply with design and construction requirements for public water supply systems specified by rules adopted pursuant to MCA Title 75, Chapter 6.

☒ 3. **Lot layout.** A drawing of the conceptual lot layout at a scale no smaller than 1 inch equal to 200 feet that shows all information required for a lot layout document in rules adopted by the Montana Department of Environmental Quality pursuant to 76-4-104, MCA.

☒ 4. **Suitability.** Evidence of suitability for new on-site wastewater treatment systems that, at a minimum, include:

a. A soil profile description from a representative drain-field site identified on the vicinity map that complies with standards published by the Montana Department of Environmental Quality;
b. Demonstration that the soil profile contains a minimum of 4 feet of vertical separation distance between the bottom of the permeable surface of the proposed wastewater treatment system and a limiting layer; and
c. In cases in which the soil profile or other information indicates that ground water is within 7 feet of the natural ground surface, evidence that the ground water will not exceed the minimum vertical separation distance of 4 feet.

☒ 5. **Water quantity.** For new water supply systems, unless cisterns are proposed, evidence of adequate water availability:
   a. obtained from well logs or testing of onsite or nearby wells;
   b. obtained from information contained in published hydro-geological reports; or
   c. as otherwise specified by rules adopted by the Montana Department of Environmental Quality pursuant to 76-4-104, MCA.

☒ 6. **Water quality.** Evidence of sufficient water quality in accordance with rules adopted by the Montana Department of Environmental Quality pursuant to 76-4-104, MCA.

☒ 7. **Impacts to groundwater quality.** Preliminary analysis of potential impacts to ground water quality from new wastewater treatment systems, using as guidance rules adopted by the board of environmental review pursuant to 75-5-301, MCA and 75-5-303, MCA related to standard mixing zones for ground water, source specific mixing zones, and non-significant changes in water quality. The preliminary analysis may be based on currently available information and must consider the effects of overlapping mixing zones from proposed and existing wastewater treatment systems within and directly adjacent to the subdivision. Instead of performing the preliminary analysis, the sub-divider may perform a complete no degradation analysis in the same manner as is required for an application that is reviewed under Title 76, Chapter 4.

K. ENVIRONMENTAL ASSESSMENT, PRIMARY REVIEW CRITERIA REPORT, SUMMARY OF PROBABLE IMPACTS, AND SUBDIVISION REGULATION COMPLIANCE

Montana Code Annotated (M.C.A. 76-3-603) requires the submittal of an Environmental Assessment for all major subdivision proposals and defines minimum requirements for its contents. The Environmental Assessment must address the requirements of M.C.A. 76-3-603, and clearly demonstrate that the proposed subdivision will have no adverse impacts on agriculture, agricultural water user facilities, local services, natural environment, public health and safety, wildlife and wildlife habitat, or the report must identify the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts. Provide a narrative that addresses each Section of the Environmental Assessment. In addition, respond to the following questions which address the primary review criteria. Where requested, provide maps and data sheets. All maps and data sheets shall be folded to 8½" x 11". Where appropriate, required information may be combined as long as the information is clearly presented. Where a plan is required, use the preliminary plat as a base map if practical and feasible.

Per M.C.A. 76-3-603, an Environmental Assessment must accompany the preliminary plat and must include the following information. For your reference, the bulleted list below summarizes the Environmental Assessment requirements that will be fully satisfied by completing Parts 1 through 6 of this Section.

☒ Environmental description. Provide a narrative that describes:
   - ✓ Every body or stream of surface water that may be affected by the proposed subdivision,
   - ✓ Available groundwater information,
   - ✓ Topography,
   - ✓ Vegetation, and
   - ✓ Wildlife use within the area of the proposed subdivision.

☒ Probable impacts. A summary of the probable impacts of the proposed subdivision based on the primary review criteria described in M.C.A. 76-3-608;

☒ A community impact report containing a statement of anticipated needs of the proposed subdivision for local services, including education and school bus routes; Mountain Line bus routes, roads and maintenance; water, sewage, and solid waste facilities; and fire and police protection (per MCA 76-3-603(c)); See Section 6;

☒ Coordination of roads. A description that explains how the subdivision provides for coordination of roads within subdivided land with other roads, both existing and planned (per MCA 76-3-603(d) and MCA 76-3-501);

- ☒ Land dedication. A description of the dedication of land for roadways and for public utility easements (MCA 76-3-501(3));
- ☒ Road improvements. A description of the proposed improvements of roads (MCA 76-3501(4));
- ☒ Open space. A description of how the subdivision provides adequate open space for travel, light, air, and recreation (MCA 76-3-501(5));
- ☒ Sanitation. A description of sanitary facilities (MCA 76-3-501(7)). The applicant may cross reference Section J, the Water and Sanitation Report, and other relevant areas of the application;
- ☒ Congestion. A description of the proposed subdivision's mitigation measures to avoid or minimize congestion (MCA 76-3-501(8)); and
- ☒ Avoidance of impacts. A description of how the proposed subdivision will avoid unnecessary environmental degradation and danger of injury to health, safety, or welfare by reason of natural hazard, including but not limited to fire and wildland fire, or the lack of water, drainage, access, transportation, or other public services, or that would necessitate an excessive expenditure of public funds for the supply of services (MCA 76-3-501(9)).

1. **IMPACT ON AGRICULTURE:** Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to agriculture. Agricultural land includes land used for agriculture or having a soil type defined by the Natural Resources Conservation Service as having agricultural importance, including prime farmland, prime farmland if irrigated, farmland of statewide importance, and farmland of local importance. **No potentially significant adverse impacts have been identified that would negatively impact agricultural lands. According to the Natural Resources and Conservation Service (NRCS) Soil Survey the soils across the subdivision property are classified as Urban Land. NRCS does not consider these soils to be of agricultural importance. The adjacent properties include residential properties along with motorized and non-motorized infrastructure. Therefore, the determination that no potentially significant adverse impacts have been identified or are anticipated is based on NRCS investigation and empirical review of surrounding property use.**
    a) **Agriculture production.** Is the proposed subdivision located on land currently or previously used for agricultural production? **Yes.**
    If yes, identify the number of acres in production on a map. **Please see the Prior Agriculture Use exhibit in Section B, estimating the number of acres previously in production in 1955.**
        i. Describe the productivity of the land and whether the subdivision would remove from production any agricultural or timber land**. The property has not been in agricultural production since 1955 according to historical aerial imagery. It has been estimated based off this imagery that roughly 2.5 acres of mixed small-scale farming and gardening had occurred.**
        ii. Describe agricultural operations and other uses of land on the adjacent property. **Present day this property is encompassed by inner city residential development and public infrastructure.**
        iii. Describe what measures will be taken, if any, to control family pets. **Please see the covenants providing measures to control of family pets. The Draft Proposed Covenants, Conditions, and Restrictions are in Section C.**
        iv. Describe any existing fence lines around the subdivision boundary, which protect agricultural lands under an ownership other than that of the subdivider and describe any measures which will be taken to ensure that the owners of the subdivision will share with the owner of the agricultural lands in the continued maintenance of the fence. **Fence lines are present on the subject property but are not adjacent to agricultural lands. The existing duplexes located on the east side of the property have a constructed fence line running north to south which provides privacy for rear yards. The existing duplex and single-family home on the western side of the property have constructed fence lines**

along Bean Lane and run the length of each residential driveway. These will likely be removed during construction. The draft Proposed Covenants, Conditions, and Restrictions outline the responsibilities of each homeowner regarding fence line maintenance and repair.

b) Soil type. Is the proposed subdivision located on land with a soil type defined by the Natural Resources Conservation Services (NRCS) as having agricultural importance (Prime, Prime if Irrigated, Statewide or Local Importance)? **No, please see the NRCS Soils Map and Soils Report in section D. This report does not indicate the property is located on a soil type having agricultural importance (Prime, Prime if Irrigated, Statewide or Local Importance).**
If yes, which type(s)?

i. **Soils map.** If yes, identify each area on a copy of the preliminary plat and provide a Soils Map and Table from the Soil Survey, published by the U.S. Department of Agriculture, the Natural Resources Conservation Service, and the Forest Service, showing the soil type(s) found within the proposed subdivision.
ii. **Soils assessment.** Provide a soils assessment per Section 5-020.14M.
iii. **Sewer and zoning.** If the soil type is defined as Prime or Prime if Irrigated, is the subdivision proposing or required to connect to sewer, or is the property unzoned?
iv. **Irrigation.** If the soil type is defined as Prime if Irrigated, is the property served by an existing, developed irrigation system or water right, including wells and adjacent irrigation ditches?

2. **IMPACT ON AGRICULTURAL WATER USER FACILITIES:** Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to agricultural water user facilities. **There are two agricultural water user irrigation facilities on the proposed property. The first being an irrigation canal, contained within a varied width easement, generally runs parallel along the southern property line of this proposed subdivision. This irrigation canal will meet the requirements of at least a 20-foot irrigation easement within the proposed subdivision. The second being an irrigation pipe, contained within a varied easement width, runs along the eastern property line of the proposed subdivision. Both irrigation facilities are responsible for delivering irrigation water for agricultural purposes to the surrounding properties. Further, the easements will still allow for sufficient access for future maintenance or replacement of the irrigation facilities and associated infrastructure. Based on review of DNRC Water Right Query System, title report, and shares/taxes represented on the tax bill, there are no known water rights for the site, therefore, water rights will not be severed.**

Although there are no filed irrigation or exempt water rights associated with the properties, the current structures are served by private wells. The known locations of the wells have been shown on both the Grading, Drainage, and Road Construction Plans included in Section D, Sheet 4 of 10, and the Existing Conditions Exhibit included in the Supplemental Data Sheets in Section A. Unfortunately, the exact location of all of the private wells has not been documented in any of the existing septic permits for the subject property nor were they located during a comprehensive survey of the property. However, the property will be served by City of Missoula Municipal Water Services and all of the existing wells will be abandoned/decommissioned per Missoula City-County Health Department and Montana Department of Environmental Quality standards.

Coordination with the landowner and public agencies will further avoid adverse impacts to this infrastructure. The two irrigation easements have been shown on the Preliminary Plat and Proposed Site Plan provided within the Supplemental Data Sheets, included in Section A.

a) **Location.** Is the subdivision located on land with agricultural water user facilities or adjoining an agricultural water user facility? **Yes.**
i.If yes, describe the facilities (irrigation ditch, well, etc.). **The property contains two existing**

irrigation facilities responsible for delivering irrigation water for agricultural purposes to the surrounding properties. The irrigation facilities and associated infrastructure will remain in the proposed development. The first being an irrigation canal, contained within a varied width easement, generally runs parallel along the southern property line of this proposed subdivision. This irrigation canal will meet the requirements of at least a 20-foot irrigation easement within the proposed subdivision. The second being an irrigation pipe, contained within a varied easement width, runs along the eastern property line of the proposed subdivision. In summary, this water is used from the Clark Fork (Hellgate) River for irrigation throughout the Cobban and Dinsmore's Orchard Homes Subdivision and the Orchard Homes Ditch Company manages the selling, leasing, and disposing of its water. Please note that the property addressed off Larkin Wood Dr. is being taxed by the Missoula Irrigation District even though the property is not provided irrigation water.

b) **Ditches.** Are any irrigation ditches located on or adjacent to the property? **Yes.**

i. If yes, provide the name and contact information for the responsible ditch company.
Orchard Homes Ditch Company with a mailing address of P. O. Box 5402, Missoula, MT 59806. Phone: 406-361-6042 and email info@orchardhomesditch.org.
Missoula Irrigation District with a mailing address of P.O. Box 3778 St., Missoula, MT 59806. Phone: 406-549-8236.

ii. If yes, do you intend to provide access to the irrigation ditch for all lots? **No.**

1. If no, if the average lot size in the proposed subdivision will be one acre or less, provide for disclosure notifying potential buyers that lots within the subdivision are classified as irrigated land and may continue to be assessed for irrigation water delivery even though the water may not be deliverable to the lots. **The necessary water right disclosure notifying potential buyers that the lots within the subdivision are classified as irrigated land and may continue to be assessed for irrigation water delivery even though the water may not be delivered to the lots has been included on the face of the Preliminary Plat included in Section A of this submittal.**

c) **Abandonment or transfer of water rights.** Does the subdivision involve the abandonment or transfer of water rights from the property being subdivided? **No, the existing facilities convey water through the subdivision to other water users. The property is assessed for irrigation water and taxed by the Missoula Irrigation District although through water may not be deliverable to the subject property. The necessary water right disclosure has been included on the face of the Preliminary Plat included in Section A of this submittal.**

i. If yes, provide documentation that the water rights have either been removed from the land or that the process has been initiated to remove the water rights from the land. **N/A.**

ii. If yes, the fact the water rights have been or will be removed from the land within the subdivision shall be denoted on the preliminary plat. **N/A.**

iii. If no, the subdivider shall, unless otherwise provided under separate written agreement or filed easement, show on the preliminary plat, ditch easements for the unobstructed use and maintenance of existing water delivery ditches, pipelines, and facilities in the proposed subdivision that are necessary to convey water through the subdivision to lands adjacent to or beyond the subdivision boundaries in quantities and in a manner that are consistent with historic and legal rights. A minimum width of 10 feet is required on each side of irrigation ditch canals and ditches for maintenance purposes, unless a lesser width is agreed to by the owner of the ditch right. **An existing irrigation canal, contained within a varying easement width, generally runs parallel along the southern property line of this proposed subdivision. The easement will meet at least a 20-foot easement dedication, along southern property line, and will be shown on the Preliminary Plat submittal for the unobstructed use and maintenance of the canal. In addition, a varied irrigation easement exists along the eastern property line of the subject property containing a 12-inch irrigation pipe. Both easements are shown on the Preliminary Plat and Proposed Site Plan provided within the Supplemental Data Sheets, included in Section A.**

d) **Removal of facilities.** Does the subdivision involve the abandonment or removal of agricultural water user facilities? **N/A**

e) **Maintenance.** Will the proposed subdivision or associated improvements alter access for maintenance of agricultural water user facilities? **Access will be maintained as the agricultural water user facilities will propose easements for the unobstructed use and maintenance of existing water user facilities in the proposed subdivision that are necessary to convey water through the subdivision to lands adjacent to or beyond the subdivision boundaries.**

f) **Water availability.** Will the proposed subdivision or associated improvements alter the movement or availability of water? **No, the proposed improvements will not alter the movement or availability of water. Coordination with the landowner and public agencies will further avoid adverse impacts to this infrastructure.**

g) **Disturbance.** Will any proposed construction disturb an existing irrigation ditch or well or result in any changes to agricultural water use? **No, the existing agricultural water user facilities will not be altered in anyway; therefore, the water route will be maintained and still supply its users during the construction of this proposal.**

3. **IMPACT ON NATURAL ENVIRONMENT:** Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to the natural environment.
A State Historic Preservation Office Report (located in Section E of this submittal), a Natural Heritage Program Environmental Summary (located in Section D of this submittal), a Natural Resources Conservation Services Soil Report (located in Section D of this submittal), and the HRA Architectural Engineering Record Report (Located in Section E of this submittal) have all been included to support evidence of impacts on the natural environment. These reports have been used to determine any impact to historic, paleontological, archeological, cultural, geological, surface water, ground water, wetland, riparian, and vegetation resources that may be located on the property. Specifically, HRA evaluated a structure within the area of potential effects (APE) addressed as 2513 Bean Ln., Missoula, MT 59808. This evaluation, included in Section E of this submittal, provides a comprehensive overview of the existing structure status, prior ownership history and photos of the residence. HRA provided a recommendation that the residence evaluated is not eligible for listing in the National Register of Historic Places (NRHP) under any criteria, either individually or as a contributing resource to a potential historic district. This report reasonably minimizes potentially significant adverse impacts to the natural environment.

During construction, noxious weeds will be controlled by adherence to the revegetation plan as noted in the Weed Management and Revegetation Plan that has been included in Section C of this submittal. After construction of the newly proposed infrastructure, noxious weed growth will be controlled via requirements, covenants, and oversight by the lot owners.

Lastly, there are no known critical plant communities that exist on site according to the Natural Heritage Program Environmental Summary and HRA report. Proposed boulevards will be replanted with new trees as outlined in an approved site and landscaping plan prior to final plat approval. All stormwater runoff generated by the new impervious surfaces (roads, sidewalks, parking lots, buildings, etc.) will be subject to the regulations required of a Stormwater Pollution Prevention Plan (SWPPP) which will be reviewed by the City Engineering as part of the As-Built documentation. Please review the sections below for more in-depth discussions on each natural resource examined therein and any proposed mitigation efforts.

a) Public lands

ii. Is the subdivision proposal adjacent to public lands? **Yes, the property is adjacent to the Reserve Street Trail. It should be noted, where trail easements could not be obtained, the trail will follow existing public street rights-of-way. Although Reserve Street Right-of-way would not be considered public land, the portions of the trail to the north and east across**

Reserve Street, are within an easement. These easements, combined with city right-of-way, create approximately 1-mile for the Reserve Street/Milwaukee Trail route.

2. If yes, how will the proposed subdivision affect adjacent public land uses? **The half-street improvements proposed for Larkin Wood Dr., including sidewalks, will improve non-motorized connectivity in the area by extending sidewalk along the property frontage until meeting with the Reserve Street Trail. A flared sidewalk connection off Larkin Wood Dr. onto the Reserve Street Trail is proposed, as recommended by City of Missoula staff. This improved connectivity will positively affect adjacent public land uses.**
3. If yes, describe any applicable land management policies of any public lands adjacent to or near the proposed subdivision. **The River Road/Emma Dickinson Neighborhood Infrastructure Plan and the goals of Reserve Street Area Plan 1995 Update are applicable land management policies for areas near the proposed subdivision. Further, both the 2004 Master Park Plan for the Greater Missoula Area and the Missoula Urban Area Open Space Plan identify the Emma Dickinson/River Road Neighborhood as an area for non-motorized infrastructure improvements applicable to this trail network.**
4. If yes, describe how access to public lands will be affected by this subdivision. **A flared sidewalk connection off Larkin Wood Dr. on to the Reserve Street Trail is proposed, as recommended by City of Missoula staff. This improved connectivity will positively affect adjacent public land uses.**

b) Historical features

i. Are there are any known historic, paleontological, archaeological or cultural sites, structures or objects on or within a half-mile of the proposed subdivision? **Yes, the provided State Historic Preservation Office (SHPO) Report noted that there are structures over 50 years of age and the property was included in the original orchard homes orchard. However, an exhaustive Architectural Engineering Record Report determined that the existing structures do not maintain the integrity to be designated as historically significant in any way. The applicant has included the SHPO Report and engaged a historical consultant to complete an Architectural Engineering Record Form, both provided in Section E, described below.**

1. If yes, identify any known historical, paleontological, archaeological or cultural sites, structures and/or objects within a half-mile of the proposed subdivision, provide a site map identifying these features which may be affected by the proposed subdivision and describe any plans to protect such sites or properties. **Both the (SHPO) Report and the inventory reports provided by HRA describe known historical, paleontological, archaeological, or cultural sites, structures and/or objects within a half-mile of the proposed subdivision have been provided. Generally, these reports provide recorded historic-period buildings, structures, and objects structure over fifty years. The Montana State Historic Preservation Office generated a report which included 15 historical sites located in the Section 19, T13N, R19W. In review of the Montana Historical Society's Report dated January 23, 2023, "None of these sites are located within your proposed area" but may be within a half-mile of the proposed subdivision. The client engaged Historic Research Associates, Inc. (HRA) to complete a full Architectural Engineering Record Form which includes a comprehensive overview of the existing structure status, prior ownership history, aerial overview of the site, and photos of the residence. previously recorded historic-period buildings, structures, and objects at least 50 years old within the 0.25 miles are shown in the table on page 5 of the assessment.**

The evaluation of this report generally aligns with the information gathered from the landowners who stated this project site has original Orchard Homes structures which have been in existence for more than fifty years or since 1952. According to preliminary discussions with the landowners one structure appears to have been built in 1950 and is currently dilapidated. A second accessory structure is proposed to be removed and the existing duplex is proposed to be converted to a townhome. This brief history of the site, provided by the property owner, generally aligns with the historical evaluation provided by HRA.

Specifically, HRA evaluated one structure within the area of potential effects (APE) addressed as 2513 Bean Ln., Missoula, MT 59808. The report provides a recommendation that the structure is not eligible for listing in the National Register of Historic Places (NRHP) under any criteria, either individually or as a contributing resource to a potential historic district. Therefore, no historical, paleontological, archaeological, or cultural sites will be affected by this subdivision.

2. If yes, discuss the impact of the proposed development on any historic features, and the need for inventory, study and/or preservation with the State Historic Preservation Office (SHPO). Provide a written statement outlining any recommendations of SHPO and any plans for inventory, study and/or preservation and any mitigation planned to overcome any adverse impacts. **There are no projected impacts to any historic features associated with this subdivision as determined by evaluating the HRA report, Architectural Engineering Record Report, SHPO report, assessing the properties history, and speaking with the landowners. The client engaged Historic Research Associates, Inc. (HRA) to complete a full Architectural Engineering Record Report which entails a comprehensive overview of existing structure status and prior ownership history because the existing residence is over 50 years old. Please reference Section E to review this report.**

   The report states, "from its period of construction (ca. 1920), the residence at 2513 Bean Ln. retains integrity of location, as it remains in its original position on the parcel. The building was originally constructed as a single-family residence and was converted into a multi-family residence likely when the east addition was constructed before 1955. Additionally, the former single-family residence once had at least three support buildings supporting an agricultural use, none of which were extant at the time of survey (NETROnline 2023)". Specifically, the HRA historical evaluation notes that the orginal single-family residence built in 1920 was converted into multi-family residence with three units in 1980 which is known to be in the outskirts of Missoula within the Orchard Homes community.

   It has been determined within this report that the residence no longer retains integrity of setting or association due to its large addition and alterations both on the interior and exterior. As there are no NRHP-eligible resources within the APE, HRA also recommends a finding of no effect for the project. The report and Architectural Engineering Records Form will be reviewed by the City of Missoula Historic Preservation Officer and will have the opportunity to provide comments or concerns regarding this report. Supportive materials include the SHPO report included in Section E of this submittal and the Prior Agriculture Use exhibit in Section B showing the structures on 1955 aerial. Further, all buildings associated with the original Orchard Homes structures has been included in the Existing Conditions Exhibit, located in the Supplemental Data Sheets in Section A. This exhibit shows the original Orchard Homes

structures as referenced in the application. IMEG Corp. has provided additional site photos showing each side of the structures are included within Section E. No historical, paleontological, archaeological, or cultural sites will be affected by this subdivision therefore, no mitigation is proposed per the research provided.

c) Water rights

i. Have the water rights been severed from the subject property? **No. The DNRC Water Right Query System Exhibit, tax bill, and title report do not indicate any water rights are associated with the subject property. Please see the DNRC Water Right Query System Exhibit included within Section D of this submittal.**

Although there are no filed irrigation or exempt water rights associated with the properties, the current structures are served by private wells. The known locations of the wells have been shown on both the Grading, Drainage, and Road Construction Plans included in Section D, Sheet 4 of 10, and the Existing Conditions Exhibit included in the Supplemental Data Sheets in Section A. Unfortunately, the exact location of all of the private wells has not been documented in any of the existing septic permits for the subject property nor were they located during a comprehensive survey of the property. However, the property will be served by City of Missoula Municipal Water Services and all of the existing wells will be abandoned/decommissioned per Missoula City-County Health Department and Montana Department of Environmental Quality standards.

The only reference to any water rights associated with the property are included on the Tax Bill for Mr. Collin Bangs and Mr. John Barrett (Parcel # 6001157). Their tax bill references a special assessment payment to the Missoula Irrigation District for a total of $136 on a yearly basis. This special assessment is because the property physically abuts the Missoula Irrigation District Ditch. However, no water rights to the ditch are associated with the subject property. This mandates the necessary water right language, "water rights have been removed from the property and lot owners are notified that land is classified as irrigated and may continue to be assessed for irrigation water delivery even though the water may not be delivered" be included within the covenants and on the face of the final plat. Please see the Draft Covenants and the Tax Bills included within Section C of this submittal.

d) Groundwater

Does high seasonal groundwater rise within 15 feet of the surface of the property? **Yes, groundwater monitoring was conducted by IMEG through the spring of 2022 with results measuring 12.6 feet and 13.9 feet at two test locations. The Groundwater Monitoring Locations are shown in Appendix A of the Water and Sanitation Report located in Section D. Additionally, ALLWEST has shown that groundwater was not observed in any of the test pits to the maximum depth explored, approximately 10 feet. The notification to future property owners has also been included in the covenants describing mitigations to high groundwater levels included in Section C, and a Hazardous Lands Note has been included on the face of the plat noting the presents of high groundwater.**

1. When evidence of high groundwater or unstable soil is present, provide a groundwater drainage mitigation plan prepared by a licensed professional engineer to mitigate the problem. The plan shall include, but not be limited to, measures to prevent the migration of groundwater through water, sewer and drainage trenches. **See the Groundwater Mitigation Plan included in Section D of this submittal which is signed by a PE licensed to practice in the state of Montana. This plan outlines the proposed mitigation which includes no basements, no permanent excavation below the high**

groundwater mark, and more data if basements are desired in the future. Further, measures to prevent the migration of groundwater through water, sewer and drainage trenches, as well as the total sumps proposed in each zone of the proposed subdivision can be reviewed within the Stormwater Memorandum.

ii. What are the maximum and minimum depths to the water table, and on what dates were those depths determined? **According to an Adjacent Well Log (GWIC ID #261525) included in Section D of this submittal, the static water level representative of the water table in the area was identified at a depth of 25.6 feet below the ground surface with a total well depth of 78 feet below the ground surface. Therefore, the maximum and minimum depths to the water table in this area are between 25 and 78 feet.**

iii. What is the depth of aquifers and aquifer recharge areas from the surface of the property? **According to the *Potentiometric Surface of the Basin-Fill and Bedrock Aquifers, Mineral and Missoula Counites, Wester Montana, by John I. LaFave*, the aquifer contour elevation at the subject property is approximately 3140'. Based on topographic elevation survey of the existing ground, this would calculate to the aquifer depth to be approximately 16.7' deep at the subject property. The LaFave study also notes its estimates that more than 90 percent of the recharge to the aquifer is due to Leakage from the Clark Fork River as well as underflow through Hellgate Canyon and precipitation. Therefore, it is not anticipated that this subdivision site will contribute to this recharge. A copy of the LaFave Map is provided as reference in Section D.**

iv. Describe the steps necessary to avoid depletion or degradation of groundwater recharge areas. **The proposed subdivision is to be connected to City of Missoula Water and should not impact the aquifer depletion. Further mitigation efforts are supported by the Groundwater Mitigation Report signed by a licensed P.E. which includes recommended to support development for properties with higher groundwater evaluations found across the site.**

e) Surface water

i. **Delineated floodplain.** Is any portion of the property within a FEMA-designated 100 year or Shaded Zone X floodplain? **No, see the Floodplain Map exhibit included in section B.**

1. If any portion of the property is within a FEMA-designated 100-year or Shaded Zone X floodplain, provide a map with a legend showing the designated areas, and/or areas removed by FEMA through a Letter of Map Amendment. **This section is not applicable as no section of the property is located within a 100-year or Shaded Zone X floodplain. Please see the FEAM floodplain Panel 30063C1460E included as the Floodplain Map in Section B, which shows our development in relation to the delineated (regulatory) floodplain.**

ii. **Non-delineated floodplain.** Are any proposed building sites within 20 vertical feet and 1,000 horizontal feet of a stream draining an area of 15 square miles or more and in the same drainage basin, in an area where no official floodway delineation or floodway study of the stream has been made (in accordance with 3-010.2A)? **The proposed development is approximately 3,156.7 feet in elevation based on on-site topographic survey data collection and prepared for this submittal. According to the FEMA Floodplain Map the Clark Fork River Base Flood Elevation most near our development is 3,147.8 feet elevation. The Clark Fork River is the closest stream draining an area of 15 square miles or more which has a delineated floodplain established. Therefore, no non-delineated floodplains are present within 20 vertical feet and 1000 horizontal feet of the subject property. There are no other known floodways, streams, or drainage ways in the area. Please see the Site Elevation vs. BFE exhibit provided in the Supplemental Data Sheets in Section A to reference the property site in relation to the delineated floodplain.**

1. If any proposed building sites are within 20 vertical feet and 1,000 horizontal feet of a stream draining an area of 15 square miles or more and in the same drainage basin, in an area where no official floodway delineation or floodway study of the stream has been made (in accordance with Section 3-010.2A), submit a Flood Hazard Evaluation Report. **This section is not applicable as no section of the property is located within a 100-year or Shaded Zone X floodplain. Please see the FEMA floodplain Panel 30063C1460E included as the Floodplain Map in Section B and the provided Site Elevation vs. BFE exhibit as referenced above showing this development in relation to the delineated (regulatory) floodplain.**

Mapping. Locate on a plat overlay or sketch map all surface water and the delineated floodways that may affect or be affected by the proposed subdivision including natural water systems (streams, lakes, rivers, or marshes), artificial water systems (canals, ditches, aqueducts, reservoirs, irrigation, or drainage systems), and land subject to flooding. **Please seethe provided Site Elevation vs. BFE exhibit as referenced above showing this development in relation to the delineated (regulatory) floodplain. This exhibit provides the delineated floodways that may affect or be affected by the proposed subdivision. Further, the Proposed Site Plan within the Supplemental Data Sheets, within Section A, provides the location of existing artificial water systems.**

iii. **Description.** Describe all surface water that may affect or be affected by the proposed subdivision including name, approximate size, present use, and time of year that water is present. Describe the proximity of proposed construction (such as buildings, sewer systems, and roads) to surface waters. **The Clark Fork River is approximately a quarter mile north of the proposal. The existing agricultural water user facilities on and adjacent to the site have potential to be affected by the proposed subdivision. Access will be maintained as the agricultural water user facilities will propose easements for the unobstructed use and maintenance of existing water user facilities in the proposed subdivision that are necessary to convey water through the subdivision to lands adjacent to or beyond the subdivision boundaries. The agricultural water user facilities are not intended to be altered in any way; therefore, the water route will be maintained and still supply its users during the construction of this proposal. Coordination with the landowner and public agencies will further avoid adverse impacts to this infrastructure.**

The subject proposal plans to use public facilities for both water and sewer to the site. Permission to connect to Missoula Water and Sewer Municipal Facilities will be pursued during stage 2 engineering upon element sufficiency limiting impacts to surface water systems. The subject property and related construction of future buildings, proposed sewer connections and road improvements is approximately a quarter mile south of the proposal.

Further mitigation is considered through the proposed vegetative plantings as outlined in an approved site and landscaping plan prior to final plat approval. All stormwater runoff generated by the new impervious surfaces (roads, sidewalks, parking areas, buildings, etc.) will be subject to the regulations required of a Stormwater Pollution Prevention Plan SWPPP which will be reviewed by the City Engineering as part of the As-Built documentation.

iv. **Wetlands.** If wetlands are present, the subdivider shall provide wetlands investigation completed by a qualified consultant using the U.S. Army Corps of Engineers' Wetlands Delineation Manual Technical Report Y-87-1 (1987 Manual). If the investigation indicates the presence of wetlands, a wetlands delineation shall be shown on the final plat. If any

construction or changes are proposed which require a 404 Permit, the subdivider shall provide evidence of such permit to the planning department. **The Natural Heritage Program Environmental Summary did not indicate the presence of wetlands or riparian resource areas on or adjacent to the subject property. Please reference Natural Heritage Program Species of Concern Occurrences Report within Section D to review the Environmental Summary. Further, the National Wetlands Inventory mapping resources, provided by US Fish and Wildlife Services does not indicate any riparian resource areas on or directly adjacent to the development. Please see Section B to review the National Wetlands Inventory Map.**

v. **Water quality.** Please indicate which if any of the following water quality permits have been applied for and describe the reasons why these permits are required: **N/A, as the property is not located within the 100-year or Zone X Floodplain.**

1. 310 Permit (Local Conservation District)
2. SPA 124 Permit (Department of Fish, Wildlife, and Parks)
3. Floodplain Permit (City Floodplain Administrator)
4. Section 404 Permit, Section 10 Permit (U.S. Army Corps of Engineers)
5. 318 Authorization (Department of Environmental Quality)
6. Navigable Rivers Land Use License or Easement (Department of Natural Resources and Conservation)

f) Vegetation and Riparian Resource Areas

i. **Plant types.** Describe the vegetative types by plant community, relative age, and condition. **The plant community on the subject property generally includes existing trees, shrubs, and grasses. Based on the National Register Historic Eligibility Report exhibit, provided by HRA, and historical aerial photos the relative age of the larger trees may have supported agricultural related use in the past. The public aerial imagery and site visits confirm larger tree types consist mostly of cottonwoods and fruit trees which are at least 20 years old and still in good condition. These mature trees are near the exiting duplex and within the southern corner near the irrigation headgate, as shown on the Vegetation Map in Section B. The residence was constructed in the outskirts of Missoula within the Orchard Homes community originally developed as an agricultural community. Orchard Homes would eventually produce a large portion of fruits and vegetables for Missoula. The HRA Report finds that the residence at 2513 Bean Ln. is associated with the early development of the Orchard Homes community. However, it no longer resides within a 5-acre agricultural parcel and former outbuildings that may have been used for agricultural purposes. Based on this evaluation it has been observed that due to residential development around the subject property, it no longer retains sufficient integrity to convey its association with the Orchard Homes community and its history of agricultural production.**

The condition of the intermittent grasses and weed vegetation types transversing the agricultural water user facilities on site are in a relative healthy state. A Weed Management and Revegetation Plan in Section C to further summarize native and invasive species on this site. This plan aims to educate future property owners and help the land become more resistant to future noxious weed invasions resulting in a healthier desired condition of native species and species diversity.

ii. **Measures to preserve existing vegetation.** Describe any measures that will be taken to preserve trees and other natural vegetation as much as possible (such as locating roads, lot boundaries, and planning of construction to avoid damaging tree cover). **The subject property is mostly grasses, invasive weeds, small shrubs, and a small number of trees. The**

trees and shrubs located generally in both the north and south portions of the two properties will be replaced with new landscaped areas or removed completely. The landscaped areas for the Woonerf and Larkin Wood Drive are provided in the Conceptual Landscaping Plan within the Supplemental Data Sheets included in Section A. Generally, these are to be small Class-1 trees of varying species and Class-2 trees on either side of the approaches. Existing vegetation within the proposed irrigation easements is planned to remain and will be protected within a 20' wide irrigation easement for the use and maintenance of the irrigation district. The buildings shown on the Proposed Site Plan are conceptual in nature and specific trees requiring removal or preservation will be determined at time of building permitting, however its likely several fruit trees on Lot 3 will be removed, several Aspin trees on the frontage of Lot 4, as well as a deciduous tree on Lot 24. There are no existing open spaces or common areas within the subdivision, therefore, no measures to preserve vegetation has been described in such areas.

The hired contractor will be required to finish grading, spreading of topsoil, and seeding described within the Grading, Drainage, and Road Construction Plans. This includes Best Management Practices and adherence to the SWPPP plan which must be provided prior to construction in an effort to stabilize exposed and unworked soils to include vegetation cover, mulching or plastic covering during construction. All of these efforts will be taken to reduce erosion as a result of construction activities. Communication with the city engineer will occur to discuss any further mitigation required to preserve the vegetation along the irrigation facilities or roadways and be provided within a Missoula SWPPP Permit.

Further, measures taken to preserve future vegetation on the subject property has been included within Weed Management and Revegetation Plan in Section C. Some best management practices have been proposed by the Missoula County Weed District to prevent and eradicate noxious weeds as well as protect existing vegetation onsite. This plan describes recommended treatment for controlling weeds such as hand pulling, moving and herbicide treatments as the grass seed is established.

iii. **Critical plant communities.** Describe measures that will be taken to protect critical plant communities (such as keeping structural development away from these areas and setting aside areas for open space). **According to the Natural Heritage Program Environmental Summary included in Section D of this submittal this project contains no known critical plant communities. The approved Weed Management and Revegetation Plan in Section C further summarizes native and invasive species found on this site during the site visit with the District and does not include any critical plant communities. Lastly, the HRA Architectural Engineering Record Report exhibit provides that the existing residential development no longer retains sufficient integrity to convey its association with the Orchard Homes community and its history of agricultural production for Missoula. The on-site evaluation completed by HRA further supports the efforts of identify critical plant communities known to be on the site.**

iv. **Weeds.** Identify areas containing noxious weed growth. Describe proposed means of weed control, especially means to prevent weed growth on areas disturbed by construction. **The Weed Management and Revegetation Plan emphasizes rehabilitation of any disturbed land, including after construction. This plan suggestions the most effective way to minimize weed invasion is through revegetation of the recommended grass types. The plan has addressed weed infestation and specifies an obligation of the developer for all undeveloped portions of the site until each lot is sold.**

v. **Wetlands and riparian resource areas.** Are there any wetland and/or riparian resource areas on the property per Section 2-020.102? **No.**

1. If Riparian Resource Areas are within or adjacent to the proposed subdivision, provide a Riparian Management Plan per the submittal requirements in Sections 3130.3 and 5-020.14L. Show areas of riparian resource and proposed buffers on a supplemental data sheet. **The Natural Heritage Program Environmental Summary did not indicate the presence of wetlands or riparian resource areas on or adjacent to the subject property. Please reference Natural Heritage Program Species of Concern Occurrences Report within Section D to review the Environmental Summary. Further, the National Wetlands Inventory mapping resources, provided by US Fish and Wildlife Services does not indicate any riparian resource areas on or directly adjacent to the development. Please see Section B to review the National Wetlands Inventory Map.**

vi. **Map.** Provide a map showing the distribution of the vegetation types (such as existing trees, vegetation clusters, marsh, grassland, shrub, coniferous forest, deciduous forest, mixed forest) and critical plant communities such as stream bank or shoreline vegetation, vegetation on steep or unstable slopes, vegetation on soils highly susceptible to wind or water erosion. **Please see the Vegetation Exhibit included in Section B. The larger tree types consist of but are not limited to Cottonwood and fruit trees both near the exiting duplex and southern corner near the irrigation headgate. The intermittent grasses transversing the agricultural water user facilities are included on the Vegetation Exhibit. Critical plant communities such as stream bank or shoreline vegetation are not present on the property.**

g) Geology / Hydrology / Soils / Slopes

i. **Description.** Describe the geologic, soil, or topographic conditions and any measures that will be taken to address potential problems encountered in the construction of roadways, basements, water supply trenches, sewer supply trenches, septic tank and drainfield installation, and/or underground electrical and telephone lines. **According to the Natural Resources and Conservation Service (NRCS) Soils Report, included as an attachment in Section D, the soils across the subdivision property are classified as Urban Land. NRCS does not consider these soils to be prime agricultural soils. The adjacent properties include residential properties along with motorized and non-motorized infrastructure. The information offered in both the NRCS Report and the Geotechnical Evaluation Report indicate that the geologic and soil conditions in the area are unlikely to present problems during construction of homes, roadways, and underground utility lines. A full Geotechnical Evaluation Report has been included in Section D providing descriptions of site conditions, infiltration testing and results, groundwater conditions and recommendations to address potential problems encountered in the construction of roadways, basements, water supply trenches and underground electrical and telephone lines.**

ii. **Cut and fill.** Describe the location and amount of any cut or fill three (3) or more feet in depth and plans to prevent erosion and promote revegetation of those cuts and fills. **The Grading, Drainage, and Road Plans describe show there is no cut or fill three (3) or more feet in depth proposed for this development. Please see Section D.**

iii. **U.S.G.S. topographic map.** Provide a detailed current U.S. Geological Survey topographic map with an outline of the subdivision clearly indicated. **A USGS Topographic Map is included in Section B.**

iv. **Limitations map.** Provide a Geologic / Topographic Limitations Map which locates any unusual geologic, soil, or topographic condition on the property which may limit the capability for building or excavation using ordinary and reasonable construction techniques. Conditions include, but are not limited to: shallow depths to bedrock, depth to aquifers and aquifer recharge areas (source: Montana Bureau of Mines and Geology Groundwater Information Center - GWIC), basin closures (Source: Department of Natural Resources, Missoula Regional Office), a high groundwater table, unstable or expansive soils, and slopes in excess of 25%. **According to the Natural Resources and Conservation Service (NRCS) Soils Report the subject property is entirely classified as Urban Land. Generally, these soils can be significantly changed human-transported materials or human-altered materials which aligns with the characteristics of the land use history in the area of residential development and urban infrastructure. The soil quality can be improved through stormwater management, the Weed Management and Revegetation Plan and urban landscaping planned for this development.**

The Geotechnical Evaluation Report completed by ALLWEST supports that the site is in an area mapped as Quaternary alluvium of modern channels and flood plains (Qal) by the Montana Bureau of Mines and Geology (MBMG) as described (Geotechnical Evaluation, Section 4). Based on the mapping and previous experience at nearby project sites, soil and geologic conditions in the site vicinity were expected to consist of gravel and sand with cobbles and boulders and occasional layers of silt or clay. The natural soils observed in the test pits were generally consistent with the MBMG geologic mapping and assumptions made by ALLWEST. Due to these observations the soils would be deemed stable as they qualify as Site Class C (Geotechnical Evaluation, Section 4.2) and would be adequate for building foundations.

According to the Geotechnical Evaluation Report provided by ALLWEST groundwater was not observed in any of the test pits to the maximum depth explored, approximately 10 feet. IMEG has completed groundwater monitoring throughout the 2022 monitoring season, starting in early May and ending mid-August. Two groundwater monitoring wells were observed; well one has shown a limiting layer of 12.6 feet and well two has shown a limiting layer of 13.9 feet.

Changes in precipitation, irrigation, construction, or other factors may impact depth to groundwater and surface water flow on the property and therefore, conditions may be different during construction. Please reference the Water and Sanitation Report and Groundwater Mitigation Plan in Section D which outline the groundwater depths and includes well monitoring summarized data and locations.

Lastly, the preliminary plat has been updated to reflect that the site is known to have high groundwater please reference Section A to review.

The subject property is not located in the 100-year Floodplain according to the FEMA mapping data as provided in the Floodplain Map within Section B. There are no other known no potential problems with the construction of roadways, water supply trenches, sewer supply trenches, and/or underground electrical and telephone lines.

v. **Geotechnical report.** If the proposed subdivision includes land areas with the potential for landsliding, slope instability, or high ground water, provide a report by a qualified soil or geotechnical engineer indicating the locations, character, and extent of all areas subject to landsliding, slope instability, and high ground water, and prominently designate these areas

on the preliminary plat and other records of conveyance. **No areas or soils within the subdivision have been identified as a potential negative impact. A full Geotechnical Evaluation Report has been included in Section D for soil infiltration capacity as well as road and building structural considerations to further support the criterion listed above. The Preliminary Plat has been updated to reflect that the site is known to have high groundwater, reference Section A.**

vi. **Steep Slopes/Slope category map.** Does the subject property have slopes of 25% or greater? **No.**

1. If yes, designate these areas as "No-Build Zone/Steep Slope" on the plat. **N/A**

vii. **Hillside density adjustment calculation worksheet.** If the subdivision has sites proposed for development located on slopes over fifteen (15) percent, submit a hillside report per the requirements in Section 5-020.14E and a density adjustment calculation worksheet per the requirements in Section 3-140.4. A hillside density adjustment calculation worksheet is available at the Development Services Office. **N/A**

4. IMPACTS ON WILDLIFE AND WILDLIFE HABITAT: Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to wildlife and wildlife habitat. **Typical of an inner-city residential area the property consists of birds, insects and small mammals. The area surrounding the subject property is highly developed, near a roadway that consists of frequent and heavy traffic (Reserve Street), therefore, the site would not be considered a priority for habitat and breeding is highly unlikely. The Montana Natural Heritage Program (MTNHP) reporting was used to identify Species of Concern (SOC) within a mile radius of the Subject Property. The requested Environmental Summary Report, managed by Montana Natural Heritage Programs data, provides species occurrences, ecological systems, biological reports of both plan and animal observations which include but are not limited to: Great Blue Heron, Bald Eagle, Lewis Woodpecker, Pileated Woodpecker, Clarks Nutcracker, Brewers Sparrow, Evening Crosbeak, Veery, Flammulated Owl, Long-eared Myotis, Bull Trout, Cutthroat Trout, Bombus Suckleyi, Hoary Bat, and Western Skink.**

The proposed covenants include Montana FWP's "Living with Wildlife" are intended to "reduce the potential for human/bear, human/mountain lion, human/deer, and other human/wildlife conflicts associated with new developments…" In addition, the "Living with Wildlife" restrictions can be useful for "preventing/reducing human/wildlife conflicts." Including this language in the covenants reasonably minimizes possible potentially significant adverse impacts to the wildlife and wildlife habitat. This property would be home to birds and other smaller wildlife species that are typically known to filter throughout dense residential development. However, homeowners will be noticed in securing garbage, maintaining bird feeders, suggestions on how to store pet food, etc. to avoid any conflicts between wildlife and human interactions to mitigate nuisances. The applicant is not aware of any known critical or key wildlife areas such as big game winter ranges, grizzly bear linkage corridors, waterfowl nesting areas, habitat for rare or endangered species, and wetlands and riparian resource areas per Montana Fish, Wildlife, and Park's maps and data and other appropriate resources.

Therefore, no potentially significant adverse impacts have been identified based on the criteria outlined within this section of the application. Any proposed mitigation described in this section will minimize potential impacts to wildlife and wildlife habitat.

a. **Species types.** Per Montana Fish, Wildlife, and Parks maps and data, which species of fish and wildlife use the area to be affected by the subdivision? **A Wildlife Exhibit has been included in Section B. The exhibit identifies the wildlife that Montana Fish, Wildlife, and Parks database lists as being known to utilize all or a portion of the section, township, range that this project is located within. The requested Environmental Summary Report, managed by Montana Natural Heritage**

Programs data, provides species occurrences, ecological systems, biological reports of both plant and animal observations which include but are not limited to: Great Blue Heron, Bald Eagle, Lewis Woodpecker, Pileated Woodpecker, Clarks Nutcracker, Brewers Sparrow, Evening Crosbeak, Veery, Flammulated Owl, Long-eared Myotis, Bull Trout, Cutthroat Trout, Bombus Suckleyi, Hoary Bat, and Western Skink. This summarized list has been complied through using the Natural Heritage Program Environmental Summary included in Section D of this submittal. For the complete list of species known to frequent this area, pleas review both the exhibit included in Section B and the summaries included in Section D.

b. **Wildlife mitigation.**
   I. Describe any proposed measures to protect, enhance, or minimize degradation of wildlife habitat (such as keeping buildings and roads back from shorelines, setting aside marshland as open space, using a cluster development to limit development on sensitive areas). **The Environmental Summary Report has shown the Bald Eagle to be a sensitive species to this area. Nesting sites have been confirmed and possibly breeding territory. The proposed covenants include Montana FWP's "Living with Wildlife" recommendations, see Section C. Please see the summary provided above providing further explanation of measures to protect, enhance, or minimize degradation of wildlife habitat.**
   II. Describe any proposed measures to minimize or mitigate conflicts between residents and wildlife (such as covenants that require garbage and pet food to be kept indoors). **The proposed covenants include Montana FWP's "Living with Wildlife" recommendations, within Section C of this submittal. Please see the summary provided above pertaining to proposed measures to minimize or mitigate conflicts between residents and wildlife.**

c. **Map.** Provide a map identifying any known critical or key wildlife areas such as big game winter ranges, grizzly bear linkage corridors, waterfowl nesting areas, habitat for rare or endangered species, and wetlands and riparian resource areas per Montana Fish, Wildlife, and Park's maps and data and other appropriate resources. **A Wildlife Exhibit have been included in the submittal packet, see Section B.**

5. IMPACTS ON PUBLIC HEALTH & SAFETY: Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to public health and safety. **No potentially significant adverse impacts have been identified based on the criteria outlined within this section of the application. There are no hazardous waste sites on or adjacent to the property – all adjacent parcels are used for residential uses. Additionally, there are no abandoned landfills, mines, waste sites, or sewage treatment plants in the vicinity of the project. The subject property contains one impact on public health and safety, the Wildland Urban Interface, which most of Missoula County is mapped within. No potentially significant adverse impacts have been identified based on the criteria outlined within this section of the application. The proposed mitigation measures described in this section will minimize potentially significant adverse impacts to public health and safety.**

a. **Air Stagnation Zone.** Is the property within the Air Stagnation Zone? **Yes.**
b. **Airport Influence Area.** Is the property within the Airport Influence Area? **N/A**
   i. If the property is within the Airport Influence Area, provide a map showing the boundaries of the Airport Influence Area with the site identified and other sub-areas (such as Runway Protection Zone (RPZ), Extended Approach and Departure Areas (EADA), and the 65 dnL noise contour).
c. **Avoidance and mitigation of hazards.** Describe avoidance or mitigation measures that are proposed to address identified hazard(s) and provide a map locating the hazards.
   Examples of health and safety hazards are:
   i. areas containing high pressure gas lines or high voltage lines;
   ii. land on or adjacent to Superfund or hazardous waste sites;

iii. land on or adjacent to abandoned landfills, mines, well, waste sites or sewage treatment plants; and
iv. areas identified as a high seismic hazard.

The site is not within a FEMA Floodplain designation. However, the property may be subject to higher groundwater due to the proximity of the Clark Fork River to the north roughly 1,500 feet from the most northern property line. Construction will be required to submit and follow a SWPPP Plan based on DEQ requirements and City of Missoula requirements. A full Geotechnical Evaluation Report has been conducted providing descriptions of site conditions, infiltration testing and results, groundwater conditions and recommendations for site preparation, pavement designs and how the site conforms to both DEQ and the City of Missoula regulations. Please see the Geotechnical Evaluation Report in Section D of this submittal packet.

Furthermore, the Revegetation Plan and Weed Management Plan indicates methods for homeowners to ensure that there are no dangerous pesticides or herbicides contributing to groundwater or surface water contamination. The Missoula Weed Prevention Coordinator has reviewed and approved this plan located within Section C of this submittal. These will be included in the properties Covenants Conditions and Restrictions to educate future landowners of best management practices.

Lastly, subject property is within the Wildland Urban Interface Classification (Low Hazard Level) which is the only hazard identified in the above listing. Because the WUI Interface Area is generally a developed area with less cover of natural vegetation, but within a distance where embers from wildfire in adjacent wildlands could cause wildfire impacts, mitigation is imposed. Included in Section B, the Community Wildfire Protection Plan (CWPP) exhibit indicates a hazard level of low. Additional language is also provided within the CCR'S.

No other hazards have been identified on the subject property.

d. **Nuisances.** If the proposed subdivision contains on-site or nearby off-site land uses that create a nuisance (such as noise, dust, smoke, or unpleasant odors), identify such nuisances and describe avoidance or mitigation measures that are being proposed to address them. **The proposed subdivision is located in a residential area. Each lot for this project will connect to public infrastructure, utilize city trash collection services, and be subject to the same regulations as those of the properties within the project sites vicinity. Therefore, the subject proposal will implement similar mitigation measures and be subject to the same regulations as those residents in the vicinity. Further, to limit an nuisances caused by the proposed subdivision a "Nuisances" section is included in the Covenants attached in Section C. There are no known nuisances that would impact this residential neighborhood; therefore, no further mitigation measures are proposed.**

6. COMMUNITY IMPACT REPORT & IMPACT ON LOCAL SERVICES: Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to local services. **No potentially significant adverse impacts have been identified based on the criteria outlined within this section of the application. The proposed mitigation described in this section will minimize potential impacts to local services.**

a. **Transportation facilities – motorized and non-motorized.** Describe the proposed subdivision's mitigation measures to avoid or minimize congestion (MCA 76-3-501(8));

Half street improvements are proposed for a portion of S. Grove St., classified as a Low-Density Urban Local Street, requiring 10-foot travel lanes, with 7-foot boulevards and 5-foot sidewalks. To meet the Low-Density Urban Road classification standards S. S. Grove Street proposes to dedicate 5-feet of right-of-way to resulting in a 65-foot right-of-way for this street type satisfying the required half street improvements required as a result of this subdivision. Lots 1 & 4 will maintain access off S. Grove Steet.

Improvements are proposed for Larkin Wood Dr. and include a Variance Application which is included in this submittal packet further describing the following deviations. Larkin Wood Drive is currently a public gravel road within a 27' wide Public Road & Utility Easement, which is classified as a Local Residential Street. The subdivision will include a 10-foot right-of-way dedication along the northern property line of the proposed subdivision resulting in a total right-of-way of 37-feet. Due to existing conditions further dedication is limited, therefore, a Variance Request has been included to deviate from the required 47-foot dedication. This variance is a result of insufficient existing right-of-way width and the inability to obtain additional right-of-way to meet the required 47-foot width for a Local Residential Street. Please see Section A of this submittal for the Variance Request regarding the deviations from sections 3-020 Table .2A and 3-020.15.D.1. of the Subdivision Regulations.

The internal roadway to the subdivision is proposed to be a Home Zone/ Woonerf street type proposed to be named Magnolia Drive. Magnolia Drive is proposed to serve the remaining lots in the development and is designed to meet the Woonerf road standards to promote shared use between pedestrians, bicycles, and vehicles. Magnolia Drive will include landscaping and boulevard improvements that can be further reviewed within the Grading, Drainage, and Road Construction Plans. The proposed road is a private road in a varied width Public Access & Utility Easement. This street type will be constructed with a 20-foot-wide travel lane and curb/gutter. Drive includes a textured center strip and designated parking spaces. Magnolia Drive will support parking within the driveways and in the designated parking spaces. A second Variance Request is included in Section A requesting approval for the proposed Magnolia Drive, to be constructed as a loop street, which is completely internal to this subdivision. Loop streets are prohibited per Section 3-020.5 (A) unless approved through a variance.

The site development for this project will include internal lot pedestrian connectivity which is heavily considered due to the intentions of this street type, please review the Circulation Plan within the Supplemental Data Sheets in Section A, showing the intentions to improve pedestrian and automobile safety. The Conceptual Landscaping Plan included within the Supplemental Data Sheets in Section A of this submittal for the proposed landscaping along Magnolia Drive. Further, a drafted Road Maintenance Agreement has been provided in Section C of this submittal pertaining to Magnolia Drive. The proposed landscaped areas, tree species and sizes are subject to review and approval by the Parks and Recreation Department and Public Works prior to final plat approval.

The half street improvements and mitigation efforts would include both S. Grove St. and Larkin Wood Dr. Further, right-of-way dedication is proposed upon annexation providing availability for the required improvements. As previously mentioned, street improvements will minimize congestion, provide parking for the proposed development, and provide opportunity to increase the safety between motorized and non-motorized users. Therefore, planned improvements to the existing roads will aid in mitigating impacts anticipated from the proposed subdivision.

Proposed improvements can be observed in the Grading, Drainage, and Road Construction Plans in Section D of this submittal and the Conceptual Landscaping Plan included within the Supplemental Data Sheets in Section A. The Circulation Plans in Section A show circulation of pedestrian and vehicle movements which include; parking, landscaped areas, sidewalks among other standards required of the city engineering and zoning design criteria.

i. **Bridges and culverts.** Describe characteristics such as location, name, type, width, design load, and vertical clearance, of any existing or proposed bridges or culverts within the subdivision or on roads providing access to the subdivision. **There are no known existing or proposed bridges within the subdivision or on roads providing access to the subdivision.**

ii. **Non-motorized transportation facilities.** Describe existing and proposed nonmotorized transportation facilities that will serve the proposed subdivision, including sidewalks and bike lanes/striping. **The Reserve Street Trail is east of this proposal and existing sidewalk infrastructure runs along Reserve Street. Connection to these features is proposed and improvements to Larkin Wood Dr. are required to include a 7-foot sidewalk. However, a boulevard variance is proposed due to the limited easement width for Larkin Wood Dr. Please see Section A of this submittal for further details on this variance which involves non-motorized transportation facilities.**

S. Grove St. will continue to provide access to Lots 1 & 4 and include the required half street improvements for a Low-Density Urban Local Street. These improvements will add 5-foot sidewalks and a 7-foot boulevard adjacent along the western property line of the development.

The road internal to this proposed subdivision is a Woonerf Street type which is designed to accommodate pedestrians and cycles over vehicles, more so than the boulevard standards referenced above. Pedestrian circulation is heavily considered and focused on throughout the development through the required improvements including; streetside landscaping, parking areas, and crosswalks. Therefore, a Circulation Plan showing the pedestrian/vehicular movement system, parking among other design accessories has been included in the Supplemental Data Sheets within Section A. This roadway will provide two connections onto Larkin Wood Dr.; therefore, residents will have easy access to the Reserve Street Trail.

iii. **Bus Routes.** Provide a map showing the locations of any bus stops and turnarounds for school buses and public transit or provide a narrative description of bus routes in lieu of a map. If the project is located on an existing school bus route, show the route and the nearest bus stop relative to the proposed subdivision. If a bus stop is proposed within the subdivision, indicate the type and location on a Supplemental Data Sheet. **The project is not located on an existing school bus route. There are no proposed bus stops or turnarounds within the proposed Subdivision. Please see Bus Route Exhibit in Section B displaying current school bus stops in vicinity and the nearest bus stops relative to the proposed subdivision.**

iv. **Roads.** Complete the following table to describe current conditions and, if applicable, any proposed improvements to roads serving the subdivision. If necessary, provide information about additional roads on a separate sheet.

Road name	S. Grove St.	Larkin Wood Dr.	Magnolia Drive
Onsite or offsite	Offsite	Offsite	Onsite
Right-of-way type (public/private) If public, state the jurisdiction.	Public - City	Public Access and Utility Easement	Public Access & Utility Easement on a Private Road
Right-of-way width	60'	27' – 37' Varied Widths	30'-35' / Varied Widths
Surface type (gravel, chipseal, asphalt)	Asphalt	Asphalt	Asphalt
Surface width and, if applicable, shoulder width	35'	20' & 25.5' w/ 2' Gravel Shoulders where applicable.	20'
Maximum grade	2%	2%	2%
Road length	~3,306'	~454'	~735'
Maintenance responsibility (City, private)	City	City	Private
Road maintenance agreement (if private) (yes, no, or N/A)	No	No	Yes
Curbs/gutters Drainage swales	Yes	Yes	Yes
Sidewalk, trail, and boulevard widths	5' Sidewalks with 7' Boulevard	7' Curb-Side Sidewalk	N/A
Bike Lanes	N/A	N/A	N/A
Estimated time for completion	2024	2024	2024
Road Classification (collector, arterial, etc.)	Low-Density Urban Local Street	Local Residential Street	Woonerf Street

1. **Year-round access.** If year-round vehicular access to all lots and common facilities within the subdivision is not provided, explain why. **Year-round access to the subdivision is proposed.**
2. **Arterial access.** If access to any individual lot is directly from an arterial street or road, explain why access was not provided by means of a road with a lesser classification. **The site currently accesses from two roadways. The existing duplex, addressed as 2555 Bean Dr., 1 & 2 Missoula, MT 59808 will continue to be provided access off S. Grove St. along with the newly proposed single-family detached homes replacing the existing residence at 120 S. Grove St., Missoula, MT 59808. The remaining lots will access off the proposed Woonerf road type and not by means of an arterial street or road.**
3. **Private road access.**
   a) Does access to the property cross any private properties not owned by the subdivider or property owner? **No.**
   b) Are private roads proposed? **Yes, Magnolia Drive is proposed internal to the subdivision and will be a public access easement on a private road.**

If private roads are proposed, include a private road maintenance plan in a development agreement or draft covenants. **The Private Road Maintenance Agreement is provided within Section C of this submittal.**

c) Are short courts proposed? **No.**

If short courts are proposed, provide a plan meeting the standards of Section 3020.6B and a variance request addressing the criteria in Section 6-010.

d) Are Homezone/Woonerf streets proposed? **Yes.**

If Homezone/Woonerfs are proposed, provide a plan meeting the standards of Section 3-020.7. **Please see the Grading, Drainage, and Road Construction Plans in Section D.**

e) Are Cul-de-sac/Circle/Loop streets proposed? **Yes.**

If Cul-de-sac/Circle/Loop streets are proposed, provide a plan meeting the standards of Section 3-020.5B and a variance request addressing the criteria in Section 6-010. **Magnolia Drive is proposed to be constructed as a loop street. This is due to Magnolia Drive beginning and ending on the same street, Larkin Wood Drive, which will be used as the primary access to the proposed lots. Loop streets are prohibited per Section 3-020.5 (A) unless approved through a variance that addresses the criteria in Section 6-010. A Variance Request is included in Section A of this submittal packet identifying the regulation for which relief is being sought.**

4. **Traffic impact narrative:**

a. What is the expected increase in the number of automobile trips per day that the proposed subdivision will generate? For traffic estimates, please reference the most recent edition of Trip Generation: An ITE Informational Report.
Townhomes are expected to contribute 7 vehicle trips per day each, while detached single family homes contribute 8 vehicle trips per day each, calculates to the total build out of the project generating 204 vehicle trips per day. However, the homes and duplexes in existence currently produce 72 vehicle trips per day, therefore, the increased vehicle trips per day generated from the proposed subdivision will be 132. This information has been provided through using traffic averages provided within the most recent edition of the Trip Generation, Institute of Transportation Engineers, 11th Edition (2021). This was discussed with City Public Works and Mobility and Community Planning Development and Innovation during the pre-application meeting and it was determined a traffic study would not be required.

b. Identify all existing transportation corridors, (including bicycle and pedestrian routes) within a quarter-mile radius of the project and provide a summary describing how this project is likely to impact those transportation corridors. **S. Grove St. is located adjacent to the proposal's western property line. This street is classified as a Low-Density Urban Local Street. Additionally, a Local Residential Street runs along the northern property line of the subject property, known as Larkin Wood Dr. This roadway will be the primary access to the subdivision providing two access points for a newly proposed Woonerf road type, internal to the subdivision. This new infrastructure is planned to prioritize pedestrians and bicycles over vehicles and adjoins other public streets that allow for connectivity for both motorized and non-motorized users. Additionally, Reserve Street and 3rd Street are transportation corridors providing access to the overall Orchard Homes area. Reserve street is under 600 feet from the subject property to the east but does not provide direct access nor is proposed for direct access at the direction of both the City of Missoula and the Montana Department of Transportation. Reserve Street is classified as a Principal Arterial Roadway which is operated and maintained by MDT. Please note, MDT did not voice any concerns over increase of traffic due to the proposed subdivision. 3rd Street is located over .25 miles to the south of the subject property and in conversations with City Engineering no anticipated impacts are expected as a result of this subdivision.**

Larkin Wood Dr. is proposed to complete half street improvements but is requesting a variance to the boulevard standard. Please reference the Grading, Drainage, and Road Construction Plans in section D and the Variance Requests included in Section A. Temporary impacts may be applicable due to construction, but these improvements will result in improved road network connectivity and potential congestion relief between the three main corridors within the vicinity. The proposed Woonerf street type, completely internal to the subdivision, may limit parking as it is caused on pedestrian facilities and safety.

c. What are the planned improvements to existing public and private access roads to mitigate the impacts anticipated from this subdivision? **There are no anticipated adverse impacts from this subdivision. A SID waiver statement will be required on the face of the final plat and in each instrument of conveyance which generally notifies future landowners of the SID, based on benefit, for future improvements and maintenance to S. Grove St. and Larkin Wood Dr. Further, Larkin Wood Dr. and Grove St. are proposed to have additional dedicated right-of-way upon annexation and will be paved.**

S. Grove Street will include half street improvements with 10’ travel lanes, 7’ parking lane, curb/gutter, 7’ boulevard and 5' of additional right-of-way is proposed to be dedicated.

In addition, half street improvments are proposed for a portion of Larkin Wood Drive, which is classified as a Local Residential Street. The offsite portion between S. Grove Street and the projects northern boundary will be improved to a 20' wide asphalt surface with 2' gravel shoulders. Directly adjacent to the property will be improved to include 10-foot travel lanes, 7-foot parking lane, curb/gutter, and a 7-foot sidewalk on the south side. Further, 10-feet of additional R/W is proposed as dedication, making the total easement width 37-feet. Lot 2, Lot 3, and Lots 5 through 24 will access using Larkin Wood Drive.

Magnolia Drive is proposed to be a Home Zone/ Woonerf street type contained within a varied width Public Access & Utility Easement. Magnolia Drive will serve the remaining lots in the development and is designed to meet the Woonerf road standards to promote shared use between pedestrians, bicycles, and vehicles.

Adequate fire truck turnarounds and turning stimulations have been provided and will be reviewed by City of Missoula Fire Department and the City Public Works Department to mitigate impacts to emergency response access to the newly proposed lots. The turning simulation information is shown on the Fire Truck Access & Hydrant Exhibit. Please reference the Supplemental Data Sheets, in Section A, to review tracking of the Pumper Fire Truck into parking spaces, driveways trees or other barriers is addressed. This simulation supports the proposal has accounted for the emergency response vehicles adequate turnarounds and travel through the woonerf road type. Overall, the proposed development, in conjunction with the motorized and non-motorized improvements, will serve to improve pedestrian and vehicular transportation in the area. For further details regarding street networks and connectivity please review the Supplemental Data Sheets in Section A of this submittal packet.

5. **Street and road plans,** including at a minimum, the following information:
   A. Using the subdivision plat as a base map show the following:
      i. Street names
      ii. Right-of-way widths
      iii. Surface widths
      iv. Street grades

v. Type and location of sidewalks and curbs/gutters
vi. Locations and characteristics of bridges and culverts
viii. For cul-de-sac streets, provide the widths of turn-around radii, minimum right-of way widths at turn-arounds, minimum surface widths at turn-arounds and total length
ix. Number and location of on-street parking spaces, if applicable Document Location: **Please see both the Supplemental Data Sheets Exhibit in Section A and the Grading, Drainage, and Road Plans in Section D.**

B. Typical cross sections including pavement and base thickness for each type of proposed road or road improvement proposed within the subdivision and adjacent to the subdivision which serves the subdivision. **Typical cross sections are included in the Grading, Drainage, and Road Plans in Section D.**

C. Road profiles and cross sections for all proposed streets and roads which have grades exceeding seven (7) % or cuts/fills exceeding three (3) feet. **Not applicable as there are no proposed streets or roads which have grades exceeding 7% or cuts/fills exceeding 3 feet.**

6. **Grading and drainage plans,** including at a minimum the following information:

A. Provide a report that addresses the following:

i. A description of the proposed storm drainage and calculations for a 10-year frequency 1-hour storm and a 100-year frequency 1-hour storm on site and a method to mitigate adverse impacts for a 100-year frequency 1-hour storm.
A Stormwater Memorandum for this proposal used the SCS Curve Number Method to calculate stormwater runoff from both the pre- and post-development in relation to 2-, 10, and 100-year storm. Calculations are attached within this memo providing peak flowrate and total volume for both design storms. In summary, two drainage basins have been used for the purposes of the drainage analysis. Basin A encompasses Magnolia Drive and Basin B encompasses the lots of the subdivision that have approaches of off Bean Lane. It has been estimated that Basin A have the capacity to store approximately 135 cubic feet of water from a 100-year storm. The retention of Basin B is estimated to be 945 cubic feet of water from a 100-year storm. Mitigation efforts for stormwater runoff are proposed to include six (6) shallow drywell sumps. A Geotechnical Evaluation Report has been conducted to support the grading and drainage design and includes infiltration rates.

In Summary, the Stormwater Memorandum contains; Groundwater Monitoring Results, Pre- and Post-Development 100-Year Storm Runoff Calculations, Sump Overflow Volume Calculations, Typical Sump Volume Calculations, Pond Sizing Calculation, and the revised Geotechnical Evaluation Report. A Private Stormwater Maintenance Agreement and O&M manual will be submitted to the City Utility Engineering Department for review and comment prior to construction of facilities. Further, the Preliminary Plat and Supplemental Data Sheets includes the Stormwater Pollution Prevention Plan (SWPP). For more detailed information on basin delineation, impervious coverage, general site grading and proposed drywell sump locations please see Sheet 5 of the Grading, Drainage, and Road Plans included in Section D of this submittal.

ii. Conveyance, treatment, and disposal of storm water for both on-site and offsite facilities. **See the Stormwater Memorandum in Section D of this submittal.**

B. Using the subdivision plat as a base map, show the following:

i. proposed grades of all streets;
ii. proposed drainage facilities for all lots, blocks, and other areas (show accurate dimensions, courses and elevations);
iii. graded slopes;

iv. existing and proposed contours; and

v. design for suitable drainage facilities for any surface run-off. If detention or retention areas are proposed, provide cross sections of the facilities and inlet and outlet location and elevations. **For more detailed information drainage facilities please see Sheet 5 of the Grading, Drainage, and Road Plans included in Section D of this submittal.**

C. Provide a storm water pollution prevention plan (SWPP) for all lots, blocks, and other areas (show accurate dimensions, courses and elevations). **A Stormwater Pollution Prevention Plan has been created for this proposal and has been included within the Grading, Drainage, and Road Construction Plans, on Sheet 3.**

D. Submit a Slope Category Map showing grades between 5-10%, 10.01%-20%, 20.01%-25%, and over 25%. **N/A**

7. Traffic study. Submit a Traffic Study if the proposed subdivision generates 200 or more average weekday daily trips and the City Engineer requires submittal of a Traffic Study. The Traffic Study must address the current capacities of adjacent roads and nearby intersections and provide an analysis of level of service (LOS) changes that will occur as a result of the development of the proposed subdivision. Identify the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to transportation facilities. If the City Engineer determines that a Traffic Study is not required, submit written documentation indicating so. **Townhomes are expected to contribute 7 vehicle trips per day each, while detached single family homes contribute 8 vehicle trips per day each, calculates to the total build out of the project generating 204 vehicle trips per day. However, the homes and duplexes in existence currently produce 72 vehicle trips per day, therefore, the increased vehicle trips per day generated from the proposed subdivision will be 132. This information has been provided through using traffic averages provided within the most recent edition of the Trip Generation, Institute of Transportation Engineers, 11th Edition (2021). This was discussed with City Public Works and Mobility and Community Planning Development and Innovation during the pre-application meeting and it was determined a traffic study would not be required.**

The proposed street improvements to the applicable motorized roadway systems will aid in alleviating traffic generated with this development and surrounding areas by dedicating the required amount of right-of-way with the proposal as well as improving the existing infrastructure to include wide surfacing for both sidewalk and boulevard as well as half-street roadway improvements. All project elements will be completed to mitigate adverse impacts to public road infrastructure, provide increased connectivity for this neighborhood to local road networks already developed, and improve related utility infrastructure. Ultimately, this project will be reviewed by the Engineering Staff, the Development Services Division and must adhere to applicable MCA regulations.

8. **Coordination of roads.** Describe how the subdivision provides for coordination of roads within subdivided land with other roads, both existing and planned (per MCA 76-3-603(d) & MCA 76-3-501 and Subdivision Regulations Section 1-030.3B). **The proposed subdivision is continuing coordination with City Engineering regarding the proposed half street improvements to Larkin Wood Drive, blending existing infrastructure into the proposed improvements, and the construction of a Woonerf Street type internal to the proposed subdivision. Comments on the preliminary road design and coordination of roads within this proposal will be provided during Stage 2 Engineering review.**

9. **Right-of-way Easements.** Describe the dedication of land for roadways and for public utility easements or the provision for right-of-way easements per MCA 76-3501(3) and

Subdivision Regulations Section 1-030.3C. **Please see the Grading, Drainage, and Road Plans included attached in Section D of this submittal. These plans provide a preliminary outline and description of all dedication of land for roadways and for public utility easements in addition to right-of-way easements per MCA 76-3-501(3) and Subdivision Regulations Section 1-030.3C.**

b. **Utilities and Services:** Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to utilities. **There are no potentially significant adverse impacts identified based on the criteria outlined within this section of the application. However, to further determine if the proposed subdivision would adversely impact electricity providers in the area an inquiry was sent out to Northwestern Energy as listed below. At this time, no responses have been received from this initial inquiry. Please see the Utility Service Inquiry Exhibit which is in Section E of this submittal. At this point, it is assumed that any relocation of existing utilities will be determined prior to construction of the proposed project.**

i. **Service providers.** List the following service providers and, if applicable, how the service will be provided:
- Electricity: **Northwestern Energy**
- Telephone: **Numerous Wireless Providers**
- Natural Gas: **Northwestern Energy**
- Cable TV: **Direct TV, Dish Network**
- Solid Waste Collection and Disposal: **Republic Services**

ii. **Over-head utilities.** If any utilities are proposed to be over-head, explain why. **This project does not propose overhead utilities. Existing overhead power is proposed to remain. Please note, the existing utility pole along S. Grove Street will be maintained and the proposed sidewalk connection will jog around the utility pole (Grading, Drainage, and Road Construction Plans, Sheet 9). The landowner and contractor will work with the utility provider in the area regarding clearances and Parks and Recreation regarding allowable tree types and heights for this area. Please reference the Grading, Drainage, and Road Construction Plans in Section D for the location of existing over-head utilities and proposed improvements.**

iii. **Street lighting.** Is street lighting proposed? **No.**
If yes, who will install and maintain proposed street lighting? **N/A, this project does not propose street lighting.**

iv. **Utilities Plan,** including at a minimum the following information:
1. Existing and proposed utilities located on and adjacent to the tract, including:
   a. The approximate location, size and depth of sanitary and storm sewers, or the location of septic tanks, subsurface treatment systems, replacement areas, detention/retention basins, and irrigation and storm drainage ditches.
   The nearest public sewage system main is located adjacent to the property in S. Grove St. A proposed 8" sewer main will run east along Larkin Wood Drive and will loop through the proposed Magnolia Drive. A new water main will be extended from the existing 8" water main located at the corner of S. Grove Street and Larkin Wood Dr. onto the subdivision and will loop through a large portion of proposed Magnolia Drive. The water main will be constructed within a Utility Easement that generally runs along the northern lot line of Lots 1 and 2 to and connects back into the existing water main located in S. Grove St. Regarding Stormwater, two drainage basins have been used for the purposes of the drainage analysis. Basin A encompasses Magnolia Drive and Basin B encompasses the lots of the subdivision that have approaches of off Bean Lane. It has been estimated that Basin A have the

capacity to store approximately 135 cubic feet of water from a 100-year storm. The retention of Basin B is estimated to be 945 cubic feet of water from a 100-year storm.

Please reference the Utility Construction Plans included in Section D for existing and proposed locations of the sewer and water facilities and the Grading, Drainage, and Road Construction Plans, sheet 5, for proposed stormwater facilities and basins. Further detail regarding existing depth of sanitary, septic tanks, treatment systems, irrigation and associated facilities can be reviewed in the Existing Conditions Exhibit located within the Supplemental Data Sheets, please see Section A.

All existing septic systems will be abandoned and removed prior to subdivision construction. The cesspool will be appropriately abandoned according to the Missoula City-County Health Code, Regulation 1. The Demolition Plan provided within the Grading, Drainage, and Road Construction Plans, Section D, sheet 4, provides the location of septic tanks and drainfields proposed to be abandoned.

b. Approximate location, size and depth of water mains, water lines, wells, and fire hydrants if within 500 feet. **A proposed water main will be extended from the existing 8" water main located at the corner of Grove St. and Larkin Wood Dr. onto the subdivision and will loop through a large portion of Magnolia Drive. The water main will generally run along the northern lot line of Lots 1 and 2 to connect back into the existing water main located in S. Grove St. Two fire hydrants are proposed; one at the corner of S. Grove St. and Larkin Wood Dr. and the second generally on the corner of Larkin Wood Dr. and Magnolia Drive within Lot 13.**

A domestic well exist on the property adjacent to Reserve Street which will be abandoned during the construction of the development. The well will be appropriately abandoned according to the Missoula City-County Health Code, Regulation 1. The Demolition Plan provided within the Grading, Drainage, and Road Construction Plans, Section D, provides the location of the well proposed to be abandoned.

Permission to connect to the public facilities described above will be pursued during stage 2 engineering upon element sufficiency. Please reference the Utility Construction Plans included in Section D for existing water main locations and proposed connections. Further detail regarding fire hydrants, water mains, water lines and associated facilities can be reviewed in the Existing Conditions Exhibit located within the Supplemental Data Sheets, please see Section A.

2. Approximate location of gas lines, electric, cable TV, and telephone lines and street lights. **Available utilities are shown on the Utility Construction Plans attached in Section D. This plan will provide the approximate location of gas lines, electric, cable TV, and telephone lines and street lights.**

c. Water supply: Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to water supply. **The City of Missoula Public Works indicated in the Pre-Application Meeting that this project will be supported. A domestic well exists on the property adjacent to Reserve Street which will be abandoned during the construction of the development. The well will be appropriately abandoned according to the Missoula City-County Health Code, Regulation 1 reasonably minimizing potentially significant**

adverse impacts to water supply. The Demolition Plan provided within the Grading, Drainage, and Road Construction Plans, Section D, provides the location of the well proposed to be abandoned. Permission to connect to Missoula Water Municipal Facilities will be pursued during stage 2 engineering upon element sufficiency. No adverse impacts to the public system were noted and no mitigation efforts were brought to our attention during those meetings.

i. **Water system.** Identify and describe the type of water supply planned for household use (such as, an existing public or multi-family system, new public or multi-family system or individual system). **A new water main will be extended from the existing 8" water main located at the corner of S. Grove Street and Larkin Wood Dr. onto the subdivision and will loop through a large portion of proposed Magnolia Drive. The water main will be constructed within a Utility Easement that generally runs along the northern lot line of Lots 1 and 2 to and connects back into the existing water main located in S. Grove St. Permission to connect to Missoula Water Municipal Facilities will be pursued during stage 2 engineering upon element sufficiency.**
   1. Water supply via wells require well isolation zones. Provide easements for well isolation zones encroaching onto adjoining private property. **A domestic well exist on the property adjacent to Reserve Street which will be abandoned during the construction of the development. The well will be appropriately abandoned according to the Missoula City-County Health Code, Regulation 1. The Demolition Plan provided within the Grading, Drainage, and Road Construction Plans, Section D, provides the location of the well proposed to be abandoned. Therefore, this project will connect to the City of Missoula's water system. As no new wells are proposed, therefore, no well isolation zones are necessary.**

ii. **Nearest public water main.** How far is the proposed subdivision boundary from the nearest public water main? **The nearest public water main is in S. Grove St., west of the subject property. Please see the Proposed Site Plan, within the Supplemental Data Sheets, included in Section A and the Utility Construction Plans in Section D for further details on the locations of public water mains.**

iii. **Description of use.** Describe how water will be provided for household use. **A water main connecting to the existing Missoula Water System is proposed to provide water for household use. The proposed main will be extended from the existing 8" water main located at the corner of S. Grove Street and Larkin Wood Dr. onto the subdivision and will loop through a large portion of proposed Magnolia Drive. The water main will generally run along the northern lot line of Lots 1 and 2 to connect back into the existing water main located in S. Grove St. Please see the Utility Construction Plans in Section D for further details on the locations of public water mains.**

iv. **Capacity.** Indicate the number of gallons per day of water the proposed subdivision will require and whether the water supply is sufficient to meet the needs of the anticipated, final population of the subdivision. Are there any anticipated effects on existing water systems or wells within the area? **The property will connect to Missoula Water Municipal Water Facilities. These facilities will be expanded to serve all lots within the proposed subdivision. We estimate that each resident will follow the DNRC average of 250 gallons per day per household. Therefore, an estimate of 6,000 gallons per day when considering both townhomes and the single-family detached homes within the proposal. The DNRC average for the final population of this subdivision is not anticipated to have a negative effect on existing water systems or wells within the area. Permission to connect to Missoula Water Municipal Facilities will be further pursued during the Stage 2 Engineering review.**

v. **State standards.** Indicate whether the plans for water supply meet the standards of MDEQ for quality, quantity and construction criteria. **The proposed subdivision will connect to Missoula City Water. The Montana Department of Environmental Quality (MDEQ) standards will be met for this project. Furthermore, the applicable sections above regarding water supply provide preliminary plans for the extension to public infrastructure in accordance with adopted ordinances and regulations for this subdivision to qualify for MCA 76-3-623. Please reference the Utility Construction Plans included in Section D for existing water main locations and proposed connections.**

vi. **Existing public system.** If the subdivider proposes to connect to an existing water system:
1. Identify and describe that system. **Missoula Water Municipal Facilities.**
2. Provide written evidence that permission to connect to that system has been obtained. **Permission to connect to Missoula Water Municipal Facilities will be pursued during stage 2 engineering upon element sufficiency.**
3. State the approximate distance to that system. **Water infrastructure is located directly adjacent to the west of this property in N Grove Street.**
4. State the cost of extending or improving the existing water system to service the proposed development. **Preliminary costs are approximated at $1,500,00.00.**
5. Show that the existing water system is adequate to serve the proposed subdivision. **Permission to connect to Missoula Water Municipal Facilities will be pursued during stage 2 engineering upon element sufficiency. Please see the Utility Construction Plans in Section D for further details on the locations of public water mains.**

vii. **New public system.** If a separate public water system is to be installed, describe:
1. Who is to install that system and when it will be completed. **Not applicable as no separate public water system is to be installed.**
2. Who will administer and maintain the system at the beginning of subdivision development and when subdivision is completed. **Not applicable as no separate public water system is to be installed.**
3. Provision of evidence that the water supply is adequate in quantity, quality, and dependability (75-6-102 MCA). **Not applicable as no separate public water system is to be installed.**

viii. **Individual system.** If individual water systems are to be provided, describe the adequacy of supply of the ground water for individual wells or cisterns and how this was determined. **Not applicable as no individual water systems will be installed.**

d. Sewage disposal: Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts. **The proposed lots are currently within the Missoula Wastewater Facilities Service Area and are proposed to connect to public sanitary sewer disposal facilities. The Proposed Site Plan provided within the Supplemental Data Sheets in Section A and the Utility Construction Plans in Section D for further details on the locations of public water mains. All existing septic systems will be abandoned and removed prior to subdivision construction. The cesspool will be appropriately abandoned according to the Missoula City-County Health Code, Regulation 1. The Demolition Plan provided within the Grading, Drainage, and Road Construction Plans, Section D, supports the proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts.**

i. Identify and describe the type of sewage disposal system planned for the subdivision. **The proposed lots are currently within the Missoula Wastewater Facilities Service Area and permission to connect to Missoula City Sewer will occur during the City Engineering Stage 2 review process upon**

element sufficiency. All existing septic systems will be abandoned and removed prior to subdivision construction.

ii. How far is the proposed development boundary from the nearest public sewage system main? **The nearest public sewage system main is located adjacent to the west of the property in S. Grove St. The Utility Construction Plans in Section D provide locations of current sewer mains.**

iii. Is the property currently wholly within a Wastewater Facility Service Area and eligible to access public sanitary sewer disposal facilities? **The property is entirely within the Missoula Wastewater Facilities Service Area**. **Permission to connect to Missoula City Sewer will occur during the City Engineering Stage 2 review process upon element sufficiency.**

1. If yes, provide the approval letter from the City Sewer Service Review Committee certifying the property for connection to and usage of the public sanitary sewer system. **Permission to connect to Missoula City Sewer will occur during the City Engineering Stage 2 review process upon element sufficiency.**
2. If any portion of the property is outside the Wastewater Facility Service Area, provide a copy of the City Council-approved Resolution expanding the Wastewater Facility Service Area to serve the property. **Not applicable as no portion of the property is outside the Wastewater Facility Service Area.**

e. **Schools:** Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to schools. **There are no potentially significant adverse impacts identified based on the criteria outlined within this section of the application. However, to further determine if the proposed subdivision would adversely impact any of the schools in the area an inquiry was sent out to staff at the schools listed below. At this time, no responses have been received from this initial inquiry. Please see the School Inquiry Exhibit located in Section E of this submittal.**

i. Identify the name of the schools and school districts (elementary and secondary) that will serve the proposed subdivision. **Hawthorne Elementary, C.S. Porter Middle School, and Big Sky High School.**

ii. Estimate the number of school-aged children this subdivision is likely to add to the district. **According to census information gathered and analyzed by Statista between 1960 and 2020 the average number of children under 18 in families with children in the United States grows at a maximum of .5 children per year (assuming a household has two parents). As the exact number of families with children cannot be determined at this time it is anticipated that the proposed development will align with the average trend and families that move to the proposed subdivision would contribute a maximum of .5 annual growth to children under the age of 18 in this area (www.statista.com). Based on this calculation, assuming single family and townhomes adhere to the estimated average, the proposed development could add as many as 12 school aged children once completely built out and lived in.**

f. **Emergency Services:** Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to emergency services. **The proposed subdivision design accommodates adequate, safe, access for emergency service vehicles. Adequate fire truck turnarounds and turning stimulations have been provided and will be reviewed by City of Missoula Fire Department and the City Public Works Department. The turning simulation information is shown on the Fire Truck Access & Hydrant Exhibit. Please reference the Supplemental Data Sheets, in Section A, to review tracking of the Pumper Fire Truck into parking spaces, driveways trees or other barriers is addressed. This simulation supports the proposal has accounted for the emergency response vehicles adequate turnarounds and travel through the**

woonerf road type. No potentially significant adverse impacts are expected to occur to emergency service providers in the area due to the proposed subdivision.

i. Complete the table below:

	Name of service provider	Distance between service provider and proposed subdivision
Fire protection	**City of Missoula Fire Department**	**~ 6.7 Miles**
Police protection	**Missoula Police Department**	**~ 6 Miles**
Ambulance	**St. Patrick Hospital**	**~ 6 Miles**

ii. How will water supply for fire protection be provided? **Fire hydrants are proposed for this development. Preliminary discussions with city staff and the fire department has required an additional fire hydrant for the subdivision to provide adequate means for water supply. These discussions also included restrictions for the woonerf road classification to include signage for "no parking" areas that are not designated as parking spots. Thus, parking will only be allowed within the driveways and designated parking spots subject to review and approval by the fire department. The existing and proposed hydrant are shown within the Fire Truck Access & Hydrant Exhibit (Supplemental Data Sheets) included in Section A of this submittal.**

iii. Is the property, or any portion of the property, located within a Wildland Residential Interface? **Yes.**

1. If yes, include the standards in Exhibit 6 of the Subdivision Regulations in a development agreement between the governing body and the developer or in the covenants, except in those cases when the need to protect areas of riparian resources or habitat for species of special concern outweigh the danger of wildfire. **Exhibit 6 requirements from the subdivision regulations are included within the drafted Proposed Covenants, Conditions, and Restrictions included in Section C.**
2. If yes, does the subdivision design include more than one access route providing ingress and egress from within the subdivision that meets the standards contained in Section 3-020.4L for providing emergency travel? **Yes, the subdivision includes more than one access route providing ingress and egress to the proposed development. This criterion is being met because Magnolia Drive will be constructed as a loop street providing two access points into the development. Further, Magnolia Drive will then tie into Larkin Wood Drive which is proposed to be used as the primary off-site access road to the subdivision. Fire Truck Access is provided within the Fire Truck Access & Hydrant Exhibit (Supplemental Data Sheets) included in Section A of this submittal.**
3. If the proposed subdivision is not within a fire district, provide an application for annexing into the appropriate fire district. **Not applicable as the subdivision is located within the City of Missoula Fire Department district.**

g. Housing: Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to housing.

i. Describe the total number of dwellings anticipated by type (such as single dwelling, multiple dwelling, or mobile home). **The development is estimated to contain a total of 24 units mixed with single family homes and townhouse units on 24 lots.**

ii. Estimate the market cost of the dwellings and rents for rental units in this subdivision. **The development will construct market rate homes and the median sale price of a Townhome Unit in 2022 was $475,000 in Missoula County per the MOR Housing Report. Market costs will vary as the homes will be constructed by individual lot owners with associated accessory uses.**

iii. What is the approximate average number of bedrooms per dwelling unit anticipated for the subdivision? **Three.**

iv. Is the subdivision planned as a second home? **No**

v. What is the expected date of full development and occupancy for this subdivision? **This will be determined by the timing in of the subdivision review, material supply chain, and real estate market. A conservative estimate for full build out would be two to five years from the date of preliminary plat approval. With that being said, the expected year of full development and occupancy for this subdivision is 2024.**

h. Open space and parkland dedication: Answer the questions below. In addition, provide a narrative that identifies the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to reasonably minimize potentially significant adverse impacts to open space and park land. **This proposal will complete a "cash-in-lieu" park land dedication. Pursuant to Section 76-3-606 MCA, developers may make cash contributions instead of dedicating part of the area being developed as park land. Instead, the development will support boulevard landscaping, improve streets to include 5-foot sidewalk connections and provide facilities internal to the subdivision that promote non-motorized transportation options for its residents.**

I. Open spaces: Describe how the subdivision provides adequate open spaces for travel, light, air, and recreation (per MCA 76-3-501(5)). **The proposed subdivision will not be providing any parkland dedication and therefore this requirement will be met with a cash-in-lieu donation..**

ii. **Park land:** Complete the table below to calculate the park dedication requirement for the subdivision: **The applicant is requesting cash-in-lieu of the 0.28 acres required of parkland dedication. Please review the following criterion regarding the subject properties reasoning for why parkland dedication is undesirable.**

	Lots 0-0.5 acres	Lots 0.51 – 1.0 acres	Lots 1.01 – 3.0 acres	Lots 3.01 - 5.0 acres	Lots >5.0 acres	All Other Lots	Total
No. of dwellings/ acre proposed or allowed by zoning	**8 du/ac**	-	-	-	-	-	
Total acreage in lot category	**2.47 AC**	-	-	-	-	-	
Park dedication requirement	x 0.11	x 0.075	x 0.05	x 0.025	x 0	x 0.02	
Park dedication requirement	**.27**	-	-	-	-	-	**0.27 AC**
Total parkland proposed		-	-	-	-	-	**0 AC**

1. How will the parkland requirement be satisfied (such as public parkland dedication, common area deeded to a property owner's association, previous parkland dedication, cash in-lieu, or waiver of dedication)? **This proposal will complete a cash-in-lieu park land dedication. The proposal has been preliminary reviewed by City of Missoula Parks Department, indicating cash-in-lieu of parkland space would be supported.**
2. If common area is proposed, provide a description of the proposed park and recreation facilities, maintenance, and development schedule. Describe how park and recreation facilities will be installed and maintained. Common areas must be installed, inspected, and approved prior to being turned over to the Homeowners' Association. **N/A, there are no common areas proposed with this subdivision.**
3. If cash-in-lieu is proposed, describe the circumstances that make the parkland dedication undesirable. At the time the final plat is filed, an appraisal of the fair market value of the un-subdivided, unimproved amount of land that would have been otherwise dedicated to parkland will be required to be provided by the subdivider. **The intent of the subdivider proposing cash-in-lieu is to utilize existing and proposed parkland dedications that are available for easier connectivity and public access than the subject parcel. This cash-in-lieu option will better allow the city to use funds for those spaces that could offer a higher quality open space and future opportunities to residents to enjoy larger complexes with connectivity to surrounding neighborhoods and established public spaces. These funds may be used for improvements to park shelters, picnic tables, playgrounds, sports fields, walking trails etc. The subject property is not within reasonable proximity to a park and offers limited opportunity to connect to any other public space adjacent to the proposal.**
4. If the parkland requirement will be satisfied through a previous dedication, describe the original dedication and demonstrate how the previous dedication meets the requirements for this proposal. **N/A**
5. If this is a manufactured home community or recreational vehicle park, have plans been made to develop a recreation area? **N/A**
   a. If yes, provide a proposed preliminary plan with as much applicable information as is required to be shown on a preliminary plat.

L. PRELIMINARY PLAT REQUIREMENTS: Preliminary plat submittals must conform to the requirements of the Subdivision Regulations Section 5-010. The following list is provided in order to assist applicants in preparing preliminary plats; however, it is not intended to be an all-encompassing or exclusive list.

1. **Preparation:** The plat must be prepared by a professional land surveyor licensed to practice in the State of Montana.
2. **Format:** The size of the plat must be 24" x 36" with a 1½" margin on the binding side and should be folded to a maximum of 9" x 12". Each sheet shall show the number of that sheet and the total number of sheets included.
3. **Identifying Information:** The following identifying information must be clearly indicated on the plat.
   - □ Subdivision or development name
   - □ Legal description
   - □ North arrow
   - □ Scale used on the plat
   - □ Names of owner(s) of record and sub-divider(s)
   - □ Date plat was drawn
4. **Survey Information:** The following survey information shall be shown on the preliminary plat or shall be contained in a written statement or supplementary drawing accompanying the preliminary plat:
   - □ Exterior boundaries of the platted tracts;
   - □ Approximate location of all section or legal subdivision corners pertinent to the subdivision boundaries. Township, range, principal meridian, section and quarter section(s) if portion of a section, or other general legal description;

□ Approximate dimensions and area of each lot. Lots and blocks shall be designated by number and area.

□ All streets, alleys, avenues, roads, and highways and the proposed width of each, with existing and proposed street names;

□ The area, locations, boundaries, and dimensions of all parks, common areas, and other areas dedicated for public use;

□ The total gross area of the subdivision and the total net area, exclusive of public areas and rights-of-way;

□ Ground elevations of the tract: elevations and benchmarks. Contour intervals shall be vertical intervals of two (2) feet where the average slope of the subdivision is less than ten (10) percent and at intervals of five (5) feet where the average slope of the subdivision is ten (10) percent or greater;

□ Approximate location and identification of all existing and proposed private and public easements and rights-of-way, including descriptions of their widths and purposes;

□ Existing and/or proposed irrigation ditch easements;

□ Easements for any feature or improvement that encroaches onto adjoining private property;

□ Proposed locations of intersections, other access points and access control lines for any subdivision requiring access to major highways or thoroughfares, including those under state jurisdiction;

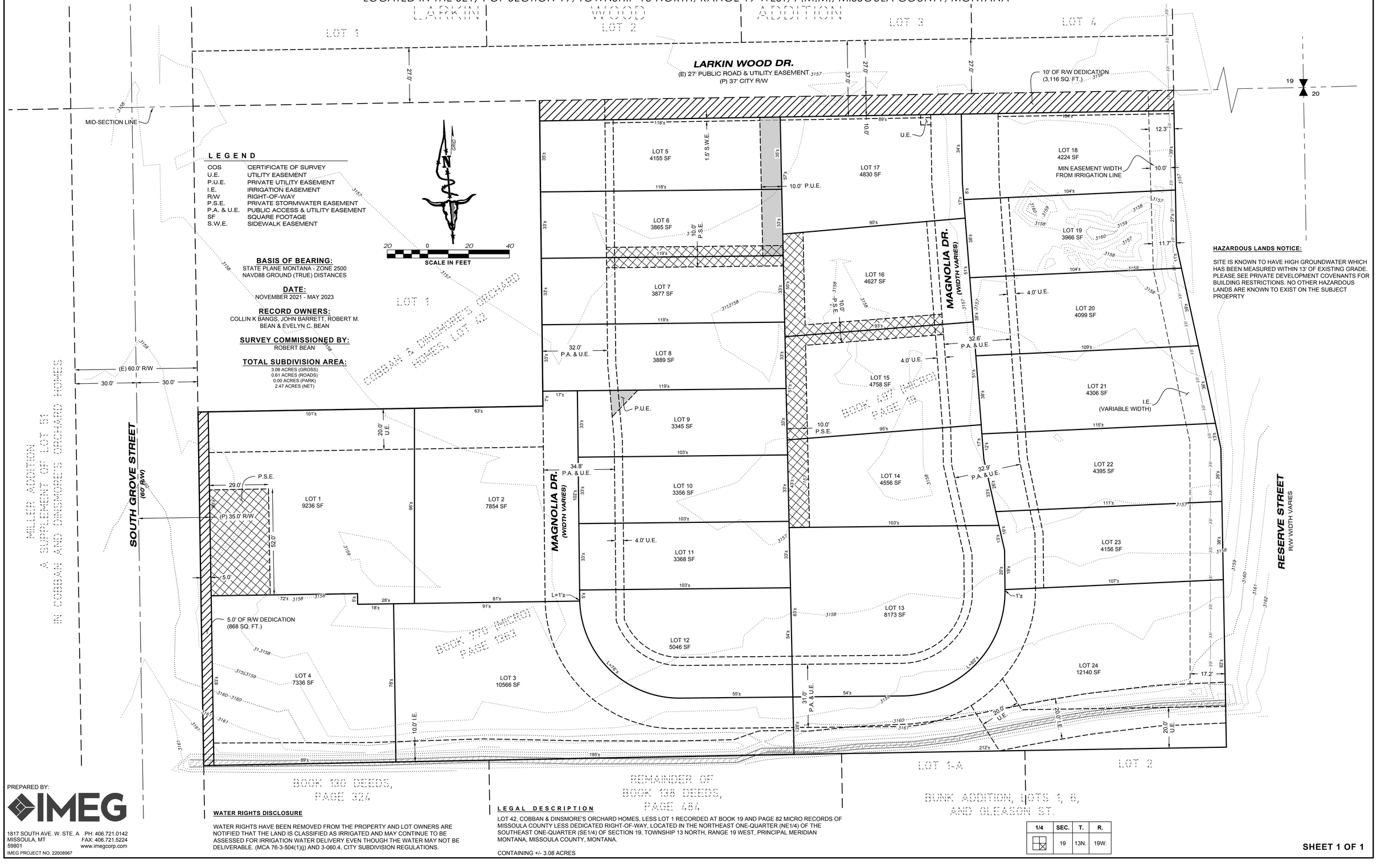
□ Identified hazard areas shall be prominently shown on the subdivision plat and in other records of conveyance;

□ Any proposed "No-Build Zones" and "No-Build/No-Alteration Zones";

□ The area of the subdivision within the FEMA-designated floodway and/or flood-fringe, if applicable.

PRELIMINARY PLAT OF
ORCHARD GROVE

LOCATED IN THE SE1/4 OF SECTION 19, TOWNSHIP 13 NORTH, RANGE 19 WEST, P.M.M., MISSOULA COUNTY, MONTANA



PREPARED BY:

IMEG

1817 SOUTH AVE. W. STE. A PH: 406.721.0142
MISSOULA, MT FAX: 406.721.5224
59801 www.imegcorp.com
IMEG PROJECT NO. 22008967

WATER RIGHTS DISCLOSURE

WATER RIGHTS HAVE BEEN REMOVED FROM THE PROPERTY AND LOT OWNERS ARE NOTIFIED THAT THE LAND IS CLASSIFIED AS IRRIGATED AND MAY CONTINUE TO BE ASSESSED FOR IRRIGATION WATER DELIVERY EVEN THOUGH THE WATER MAY NOT BE DELIVERABLE. (MCA 76-3-504(1)(j) AND 3-060.4, CITY SUBDIVISION REGULATIONS.

LEGAL DESCRIPTION

LOT 42, COBBAN & DINSMORE'S ORCHARD HOMES, LESS LOT 1 RECORDED AT BOOK 19 AND PAGE 82 MICRO RECORDS OF MISSOULA COUNTY LESS DEDICATED RIGHT-OF-WAY, LOCATED IN THE NORTHEAST ONE-QUARTER (NE1/4) OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF SECTION 19, TOWNSHIP 13 NORTH, RANGE 19 WEST, PRINCIPAL MERIDIAN MONTANA, MISSOULA COUNTY, MONTANA.

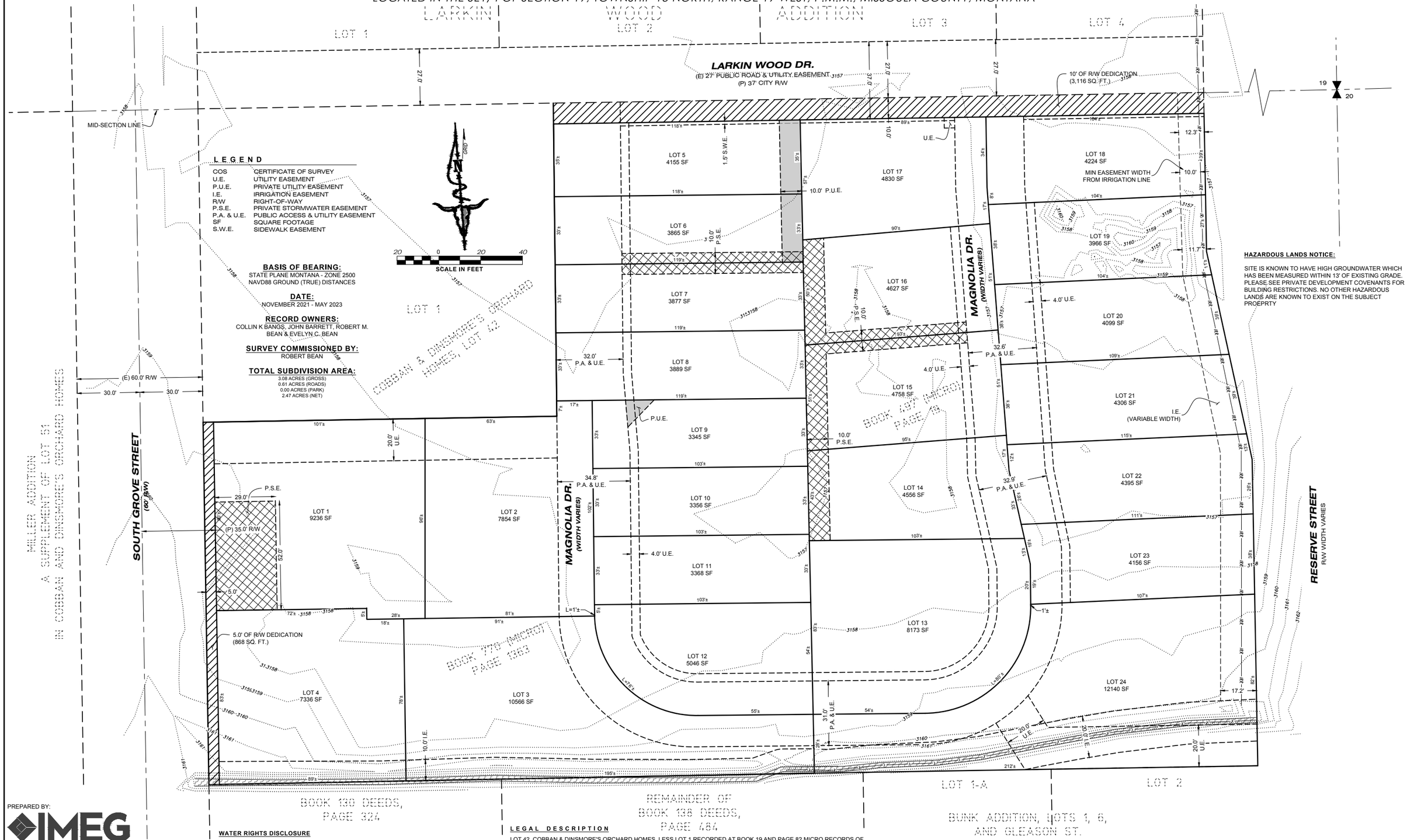
CONTAINING +/- 3.08 ACRES

1/4	SEC.	T.	R.
	19	13N.	19W.

SHEET 1 OF 1

PRELIMINARY PLAT OF
ORCHARD GROVE

LOCATED IN THE SE1/4 OF SECTION 19, TOWNSHIP 13 NORTH, RANGE 19 WEST, P.M.M., MISSOULA COUNTY, MONTANA



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CONTAINING +/- 3.08 ACRES

1/4	SEC.	T.	R.
	19	13N.	19W.

SHEET 1 OF 1

LARKIN WOOD ADDITION

LOT 1 | LOT 2 | LOT 3

LARKIN WOOD DRIVE
PUBLIC ROAD & UTILITY EASEMENT

EXISTING 8" SEWER STUB APPROX. 10.6' DEPTH

EXISTING 8" WATER MAIN STUB APPROX. 6' DEEP

EXISTING 16" WATER MAIN APPROX. 6' DEEP

EXISTING SEWER SERVICE

EXISTING 36" SEWER MAIN APPROX. 15.49' DEEP AT MANHOLE INVERT

EXISTING 8" SEWER STUB APPROX. 12.5' DEPTH

SOUTH GROVE STREET

COBBAN & DINSMORE'S ORCHARD HOMES, LOT 42

LOT 1

MILLER ADDITION
A SUPPLEMENT OF LOT 51
IN COBBAN AND DINSMORE'S ORCHARD HOMES

N89°09'05"E 119.25'

N89°04'49"E 193.31'

N00°38'37"W 169.96'

N89°00'58"E 169.32'

N01°15'17"W 322.84'

S00°57'50"E 322.92'

S01°03'02"E 146.72'

S01°03'02"E 76.13'

S12°15'01"E 101.98'

S89°03'51"W 188.99'

S88°54'13"W 23.19'

S88°54'38"W 390.21'

N00°55'48"W 173.46'

TRANCER (TO BE REMOVED)

SEWER CLEANOUT

ORIGINAL ORCHARD HOMES STRUCTURE

SEPTIC TANK TO BE REMOVED

EXISTING DUPLEX (TO BE REMOVED)

DUPLEXES TO REMAIN BLD HEIGHT +/-13.1'

APPROXIMATE SEPTIC SYSTEM & DRAINFIELD PER MCCHD #2012-052 (TO BE REMOVED)

12" IRRIGATION PIPE WITH VARYING WIDTH EASEMENT

DRIVEWAY (GRAVEL)

BOOK 770 (MIRCO)
PAGE 1363
1.57 AC

BOOK 497 (MICRO)
PAGE 19
1.52 AC

EXISTING DUPLEX (TO BE CONVERTED TO TOWNHOME)

EXISTING SEWER SERVICE

4' CHAINLINK FENCE

SEWER CLEANOUT

APPROXIMATE SEPTIC SYSTEM & DRAINFIELD PER MCCHD #85-366 (TO BE REMOVED)

CONCRETE SLAB

48" COTTONWOOD 50' DRIP

EX SHED

EXISTING SHED

ORIGINAL ORCHARD HOMES STRUCTURE

EXISTING HOUSE (TO BE REMOVED)

18" FRUIT TREE 15' DRIP

APPROXIMATE LOCATION OF SHARED WELL

EXISTING SHED (TO BE REMOVED)

CONCRETE HEADWALL

IRRIGATION CANAL

IRRIGATION CULVERT UNDER RESERVE STREET
6" DIA CULVERT

CONCRETE HEADGATE

BOOK 130 DEEDS,
PAGE 324

REMAINDER OF
BOOK 138 DEEDS,
PAGE 484

LOT 1-A OF
BUNK ADDITION, LOTS 1, 5,
AND GLEASON ST.

LEGEND

- (E) PROPERTY BOUNDARY
- (E) ADJACENT PROPERTY BOUNDARY
- (E) EASEMENT
- (E) SEWER LINE
- (E) SEWER SERVICE
- (E) WATER LINE
- (E) OVERHEAD UTILITY
- (E) BURIED POWER
- (E) GAS LINE
- (E) TELEPHONE LINE
- (E) ROAD CENTERLINE
- (E) FENCE LINE
- (E) MAJOR CONTOUR
- (E) MINOR CONTOUR
- (E) IRRIGATION DITCH
- (E) CULVERT
- (E) SEPTIC TANK
- (E) ASPHALT
- (E) GRAVEL
- (E) CONCRETE
- (E) WATER
- (E) WELL
- (E) SEWER MANHOLE
- (E) UTILITY MANHOLE
- (E) SEWER CLEANOUT
- (E) WATER VALVE
- (E) TELEPHONE JUNCTION BOX
- (E) POWER POLE
- (E) GUY WIRE
- (E) GAS METER
- (E) DECIDUOUS TREE

COS	CERTIFICATE OF SURVEY
R.M.E.	ROAD MAINTENANCE EASEMENT
U.E.	UTILITY EASEMENT
I.E.	IRRIGATION EASEMENT
R/W	RIGHT-OF-WAY

N

20 0 20 40
SCALE IN FEET

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PLOT DATE: 1/16/2023 11:01 AM

REVISIONS | DATE

DESIGNED: DO
DRAFTED: BRB
CHECKED: DO
DATE: DEC, 2022

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINSMORES ORCHARDS HOMES SECTION 19, T. 13N., R. 19W., P.M.M. MISSOULA COUNTY

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

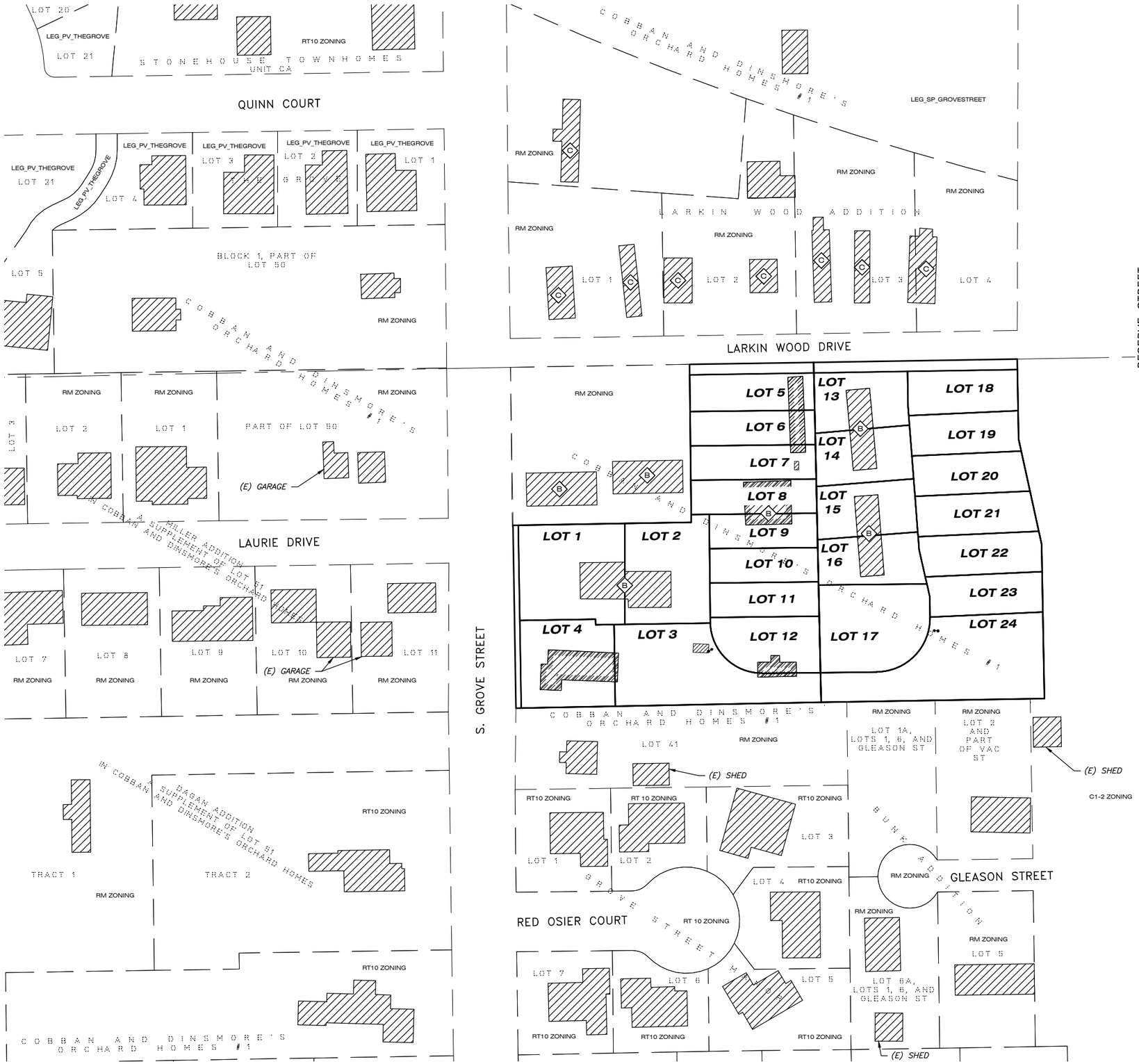
SHEET TITLE: SUPPLEMENTAL DATA SHEET EXISTING CONDITIONS

PROJECT NO. 22008967

SHEET: 1 OF 1

PRELIMINARY

DWG LOCATION: G:\2022\22008967.00\design\CAD\CSD\MASTER\P-22008967 END_MAY2023.DWG



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PLOT DATE: 5/27/2023 2:24 PM

DATE
REVISIONS

DESIGNED: DO
DRAFTED: LTM
CHECKED: DO
DATE: MAY 2023

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINSMORES ORCHARD HOMES SECTION 19, T. 13N., R. 19W., P.M.M. MISSOULA COUNTY

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

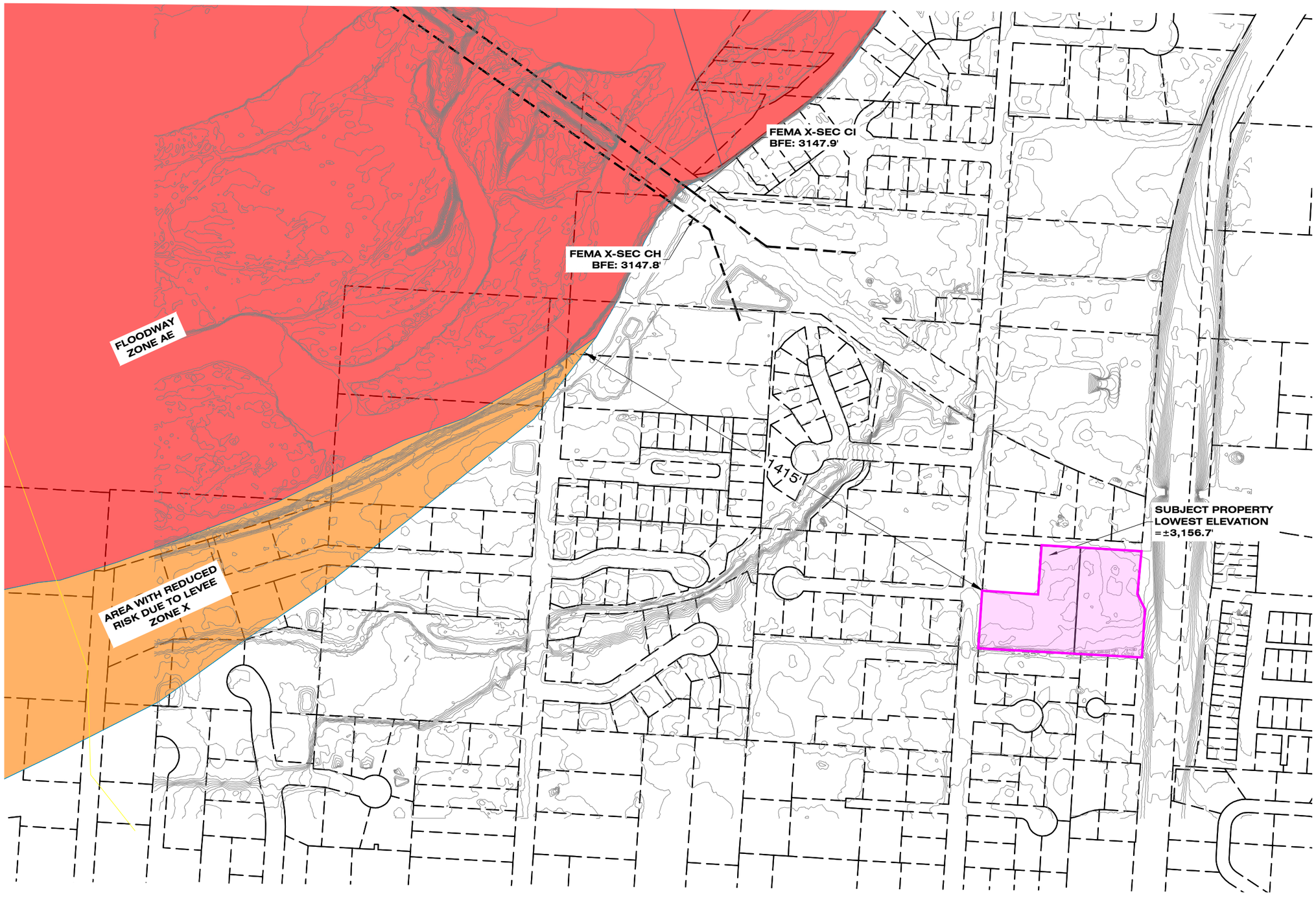
SHEET TITLE: SUPPLEMENTAL DATA SHEET 300' ADJACENT PROPERTY EXHIBIT

PROJECT NO.: 22008967

SHEET: 1 OF 1

PRELIMINARY

DWG LOCATION: I:\MSLA\ACTIVE\PROJECTS\2022\22008967.000\CEAD\ACAD\COVER SHEET\22008967.DWG



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PLOT DATE: 5/8/2023 12:37 PM

REVISIONS | DATE

DESIGNED: DO
DRAFTED: BRB
CHECKED: DO
DATE: DEC, 2022

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINSMORES ORCHARDS HOMES SECTION 19, T.13N., R.19W., P.M.M. MISSOULA COUNTY

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

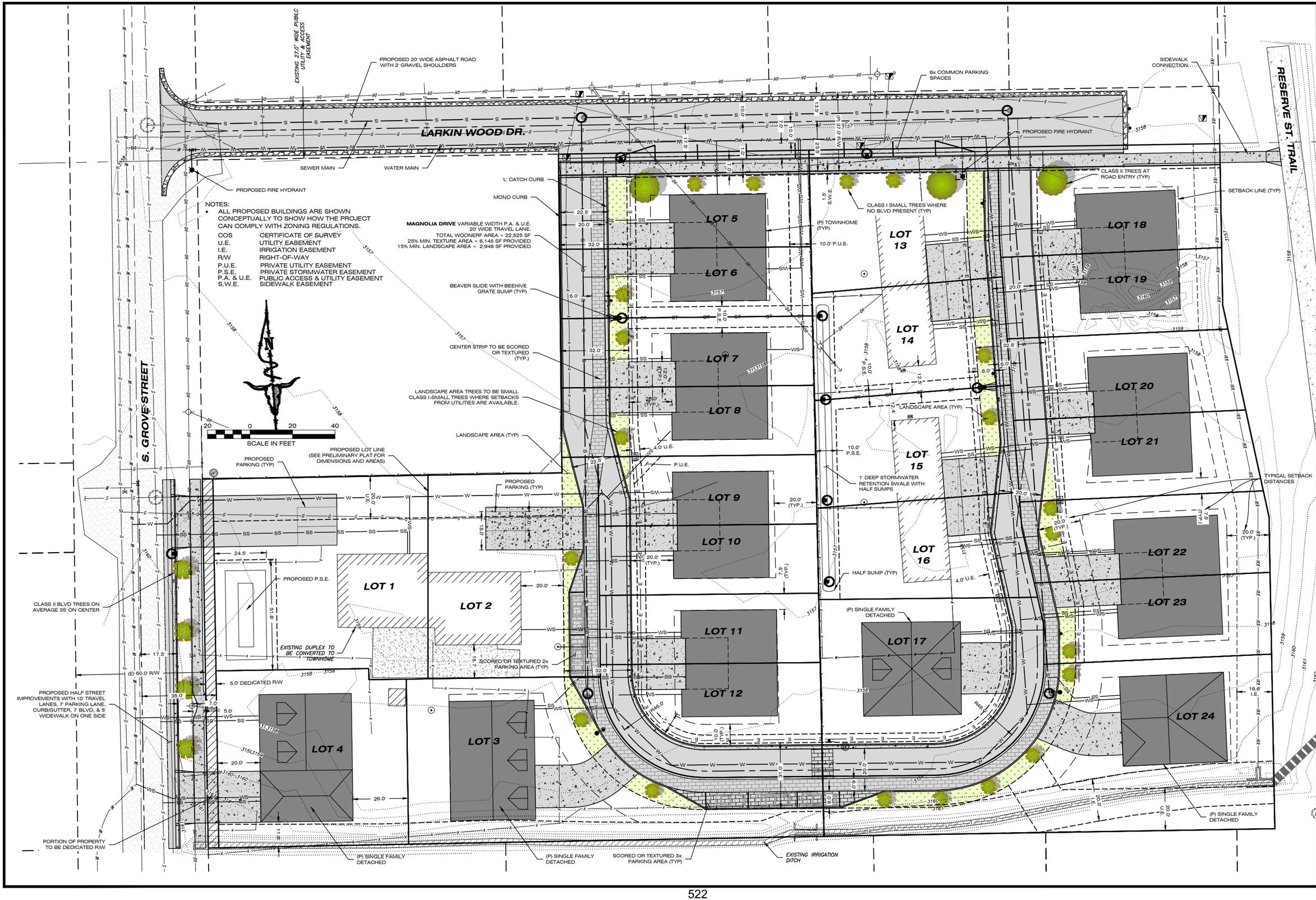
SHEET TITLE: SUPPLEMENTAL DATA SHEET SITE ELEVATION vs. BFE

PROJECT NO. 22008967

SHEET: 1 OF 1

PRELIMINARY

DWG LOCATION: Q:\2022\22008967.000\SHA\CIVIL\SUBMITTALS\FLOODPLAIN-CURRENT-22008967.DWG



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PLOT DATE: 11/30/20 11:04 AM

REVISIONS	DATE

DESIGNED: DO
DRAFTED: BRB
CHECKED: DO
DATE: DEC, 2022

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINSMORES ORCHARDS HOMES SECTION 19, T. 13N., R. 19W., P.M.M. MISSOULA COUNTY

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: SUPPLEMENTAL DATA SHEET PROPOSED SITE PLAN

PROJECT NO. 22008967

SHEET: 1 OF 1

PRELIMINARY

DWG LOCATION: Q:\2022\22008967.00\DESIGN\CAD\SUBMITTED\D22008967.DWG

SECTION

MISSOULA Parks and Rec. Dept.

BALL AND BURLAP TREE PLANTING DETAIL		
Approved by Parks & Rec. Design Mgr. Neil Miner	Drawn by: GLS Checked by: CB Adopted:	PR-101

NOTES:

1. Plant material must meet the minimum acceptable standard set by the American Association of Nurserymen's American Standard of Nursery Stock: ANSI Z60.1. Broken, damaged, diseased, or substandard stock are prohibited from being planted in the public right-of-way and will be rejected.
2. Only class I (small growing) trees are permitted to be planted under or within fifteen (15') of overhead utility lines.
3. Prune only broken or damaged branches. Do not apply fertilizer at time of planting.
4. The root flare is the point where the top most structural root emerges from the trunk. The depth of the root ball shall be measured from the root flare to the bottom of the root ball. Handle B&B plants carefully when transferring to planting hole. Lift or carry by holding the root ball, not the trunk.
5. Remove any excess soil from the top of the root ball to expose the root flare. Place tree in planting hole with root flare level with or up to 1" above finish grade.
6. Remove all wire baskets and rope from root ball. Be careful to keep the root ball intact.
7. Remove all burlap from the root ball. Be careful to keep root ball intact.
8. Straighten, cut and remove any circling roots.
9. Backfill planting hole 2/3 full with existing soil, settle with water, continue to fill with soil, water again. Water thoroughly after installation to eliminate air pockets.
10. Construct a temporary raised ring of soil at edge of root ball to contain water. Remove or breach before winter.
11. Construct mulch ring with a minimum 36" diameter to a depth of 2" - 4"; leave 3" bare ground between mulch and tree trunk.
12. Set stakes parallel to prevailing wind and outside of root ball. Ties must be 1" wide minimum, flexible belt-like strapping. Do not use rope or wire. Do not over-tighten around tree. Ties should be tight enough to support the tree while allowing it to sway. Remove stakes and ties within one year after installation.
13. Trees benefit when irrigated separately from turf. Water new trees during summer months to a depth of 12" - 18" once per week (about 5 gallons of water per caliper inch) for the first 3 growing seasons. During periods of drought, new trees my need more frequent watering.

MISSOULA Parks and Rec. Dept.

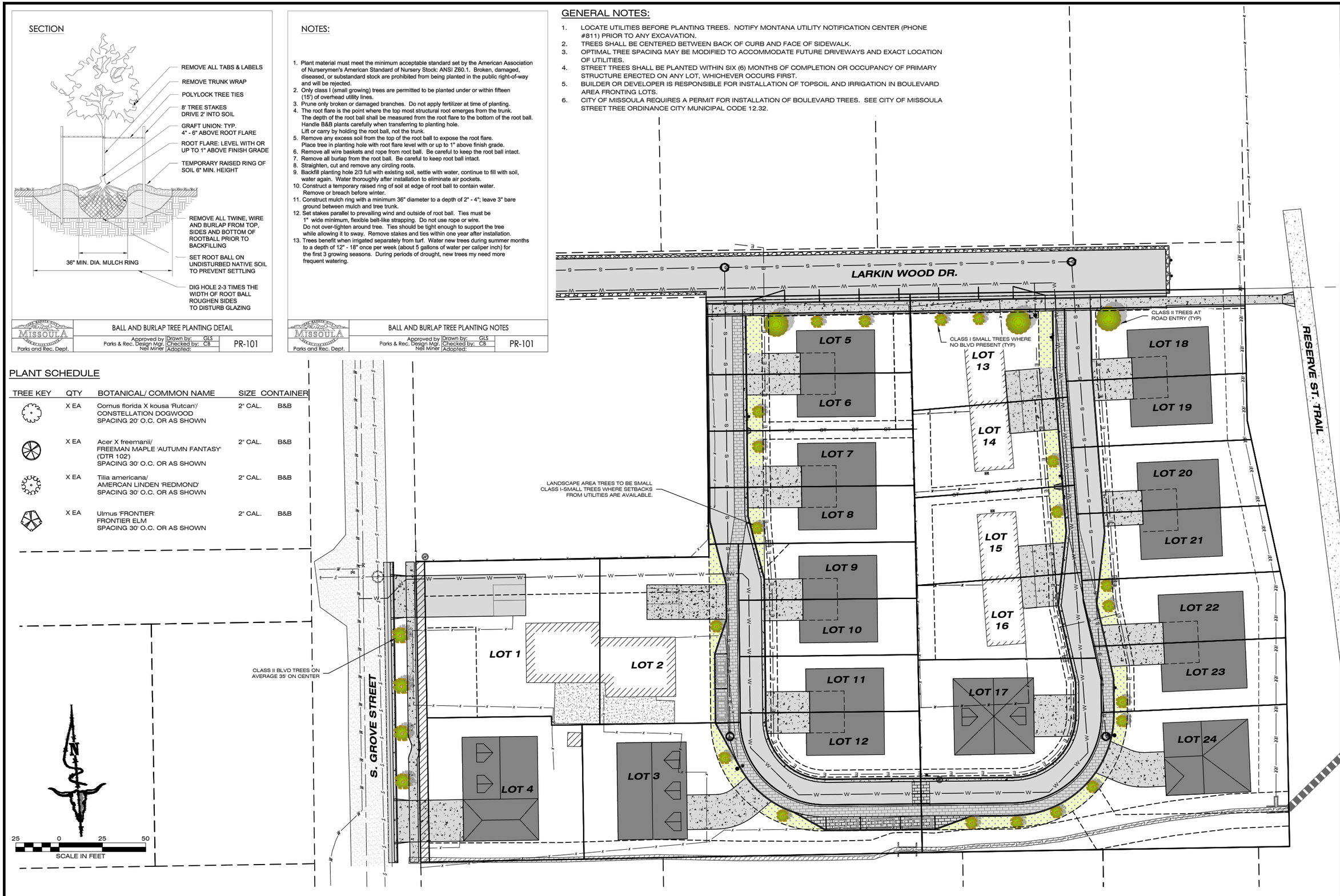
BALL AND BURLAP TREE PLANTING NOTES		
Approved by Parks & Rec. Design Mgr. Neil Miner	Drawn by: GLS Checked by: CB Adopted:	PR-101

GENERAL NOTES:

1. LOCATE UTILITIES BEFORE PLANTING TREES. NOTIFY MONTANA UTILITY NOTIFICATION CENTER (PHONE #811) PRIOR TO ANY EXCAVATION.
2. TREES SHALL BE CENTERED BETWEEN BACK OF CURB AND FACE OF SIDEWALK.
3. OPTIMAL TREE SPACING MAY BE MODIFIED TO ACCOMMODATE FUTURE DRIVEWAYS AND EXACT LOCATION OF UTILITIES.
4. STREET TREES SHALL BE PLANTED WITHIN SIX (6) MONTHS OF COMPLETION OR OCCUPANCY OF PRIMARY STRUCTURE ERECTED ON ANY LOT, WHICHEVER OCCURS FIRST.
5. BUILDER OR DEVELOPER IS RESPONSIBLE FOR INSTALLATION OF TOPSOIL AND IRRIGATION IN BOULEVARD AREA FRONTING LOTS.
6. CITY OF MISSOULA REQUIRES A PERMIT FOR INSTALLATION OF BOULEVARD TREES. SEE CITY OF MISSOULA STREET TREE ORDINANCE CITY MUNICIPAL CODE 12.32.

PLANT SCHEDULE

TREE KEY	QTY	BOTANICAL/ COMMON NAME	SIZE	CONTAINER
	X EA	Cornus florida X kousa 'Rutcan'/ CONSTELLATION DOGWOOD SPACING 20' O.C. OR AS SHOWN	2" CAL.	B&B
	X EA	Acer X freemanii/ FREEMAN MAPLE 'AUTUMN FANTASY' ('DTR 102') SPACING 30' O.C. OR AS SHOWN	2" CAL.	B&B
	X EA	Tilia americana/ AMERCAN LINDEN 'REDMOND' SPACING 30' O.C. OR AS SHOWN	2" CAL.	B&B
	X EA	Ulmus 'FRONTIER' FRONTIER ELM SPACING 30' O.C. OR AS SHOWN	2" CAL.	B&B



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PLOT DATE: 10/3/2023 9:29 AM

REVISIONS	DATE

DESIGNED:	DO
DRAFTED:	BRB
CHECKED:	DO
DATE:	DEC, 2022

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINSMORES ORCHARDS HOMES SECTION 19, T.13N., R.19W., P.M.M. MISSOULA COUNTY

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: SUPPLEMENTAL DATA SHEET CONCEPTUAL LANDSCAPING PLAN

PROJECT NO. 22008967

SHEET: 1 OF 1

PRELIMINARY

DWG LOCATION: Q:\2022\22008967.000\SHEETS\DWG\SUBMITTED-22008967.DWG

MAGNOLIA DRIVE (WOONERF ROAD CLASSIFICATION)
- VARYING WIDTH P.A. & U.E.
- 20' WIDE DRIVE LANE W/ 6' OF WHICH IS TEXTURED OR SCORED
- TOTAL AREA = 22,842 SF
- LANDSCAPING REQUIRED (15%). 4,448 SF PROVIDED (19.5%)
- TEXTURED AREA REQUIRED (25%). 5,801 SF PROVIDED (25.4%)

PROPOSED PEDESTRIAN CONNECTION TO EXISTING RESERVE STREET CORRIDOR AND MILWAUKEE TRAIL

LARKIN WOOD DR.

VEHICLE CIRCULATION ROUTES

PEDESTRIAN CIRCULATION ROUTES

S. GROVE STREET

RESERVE ST. TRAIL

MAGNOLIA DR.

SCALE IN FEET: 20 0 20 40

TEXTURED STRIP TO CROSS DRIVE LANE AS A TRAFFIC CALMING FEATURE

BULB OUT LANDSCAPING AREAS TO DEFLECT THE ROAD ALIGNMENT PROVIDING ADDITIONAL TRAFFIC CALMING FEATURE

GROVE STREET FRONTAGE IMPROVED TO SAFE PEDESTRIAN CONNECTION TO FUTURE NEIGHBORHOOD DEVELOPMENT.

COMMON PARKING SPACES (TYP.)
0.5 SPACES PER UNIT REQUIRED
(22 UNITS * 0.5 = 11 SPACES)
11 SPACES PROVIDED

PEDESTRIAN SCALE LIGHTING TO ENHANCE PEDESTRIAN VISIBILITY FROM VEHICLES (TYP)

LOT 1 LOT 2 LOT 3 LOT 4 LOT 5 LOT 6 LOT 7 LOT 8 LOT 9 LOT 10 LOT 11 LOT 12 LOT 13 LOT 14 LOT 15 LOT 16 LOT 17 LOT 18 LOT 19 LOT 20 LOT 21 LOT 22 LOT 23 LOT 24

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PLOT DATE: 10/3/2023 9:31 AM

REVISIONS	DATE

DESIGNED: DO
DRAFTED: BRB
CHECKED: DO
DATE: DEC, 2022

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINSMORES ORCHARDS HOMES SECTION 19, T. 13N., R. 19W., P.M.M. MISSOULA COUNTY

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

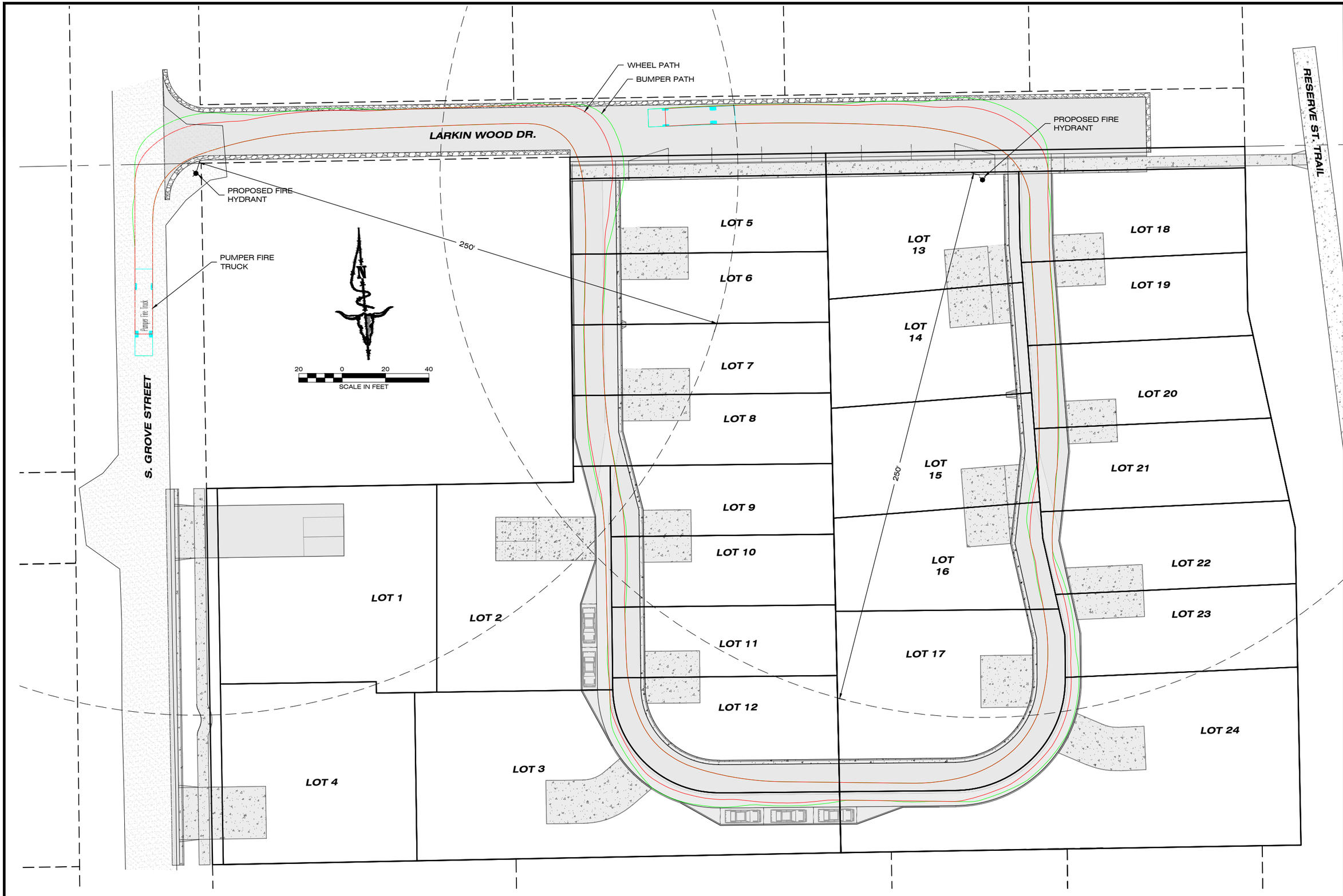
SHEET TITLE: SUPPLEMENTAL DATA SHEET CIRCULATION PLAN

PROJECT NO. 22008967

SHEET: 1 OF 1

PRELIMINARY

DWG LOCATION: G:\2022\22008967.000\DESIGN\CIVIL\CSD\MASTER\D-22008967.DWG



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MISSOULA, MT
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PLOT DATE: 12/30/2022 9:30 AM

DATE
REVISIONS

DESIGNED: DO
DRAFTED: BRB
CHECKED: DO
DATE: DEC, 2022

LOCATION: 120 GROVE STREET - LOT 42 OF COBBAN & DINSMORES ORCHARDS HOMES SECTION 19, T. 13N., R. 19W., P.M.M. MISSOULA COUNTY

PREPARED FOR: ROBERT & EVELYN BEAN AND COLLIN BANGS & JOHN BARRETT

PROJECT NAME: ORCHARD GROVE SUBDIVISION

SHEET TITLE: SUPPLEMENTAL DATA SHEET FIRE TRUCK ACCESS & HYDRANT EXHIBIT

PROJECT NO. 22008967

SHEET: 1 OF 1

PRELIMINARY

DWG LOCATION: G:\2022\22008967\DOCS\BRB\ON LOCK\MASTER\L-22008967.DWG

PROJECT SUMMARY

Owner(s): Collin Bangs, John Barrett, and Robert and Evelyn Bean

Representative: IMEG CORP

Subdivision Name: Orchard Grove Subdivision

Number of Lots Proposed: 24 Lots

Number of Acres: 3.08 Acres

Abbreviated Legal Description: Lot 42, Cobban and Dinsmore's Orchard Homes, less Lot 1 recorded at Book 19 and Page 82 Micro Records Missoula County & Less Dedicated Right-of-way, located in the NE ¼ of the SE ¼ of Section 19, Township 13 North, Range 19 West, containing +/- 3.08 Acres.

Project Summary:
The Orchard Grove Subdivision proposes 24 lots to be utilized for residential housing options, including multi-household dwellings, which will continue to reflect the character of existing residential neighborhoods in the vicinity. The property is located directly adjacent to the west of Reserve Street and adjacent to the east of S. Grove Street. The proposed development will result in 4 single-family detached homes and 20 townhome units on a total of 24 lots. The lots will be connected to the City of Missoula water and sewer systems.

The current condition of the property includes one trailer which will be removed, four duplexes, three of which will remain and be converted into townhomes, and one single-family dwelling which will be removed near the southwest property line. The client engaged Historic Research Associates, Inc. (HRA) to complete a full Architectural Engineering Record Form intended to provide an inventory of any historic features (i.e. buildings, structures, and objects that will be at least 50 years old at the time of project completion) within the area of potential effects (APE). Specifically, HRA evaluated the property's historic context and the integrity of the structure addressed as 2513 Bean Ln., Missoula, MT 59808. This evaluation, included in Section E of this submittal, provides a comprehensive overview of the existing structure status, larger historic context of the Orchard Homes area, and prior ownership history and photos of the residence. HRA provided a recommendation that the structure is not eligible for listing in the National Register of Historic Places (NRHP) under any criteria, either individually or as a contributing resource to a potential historic district. The HRA assessment also provides historic context pertaining to the irrigation ditches on site. Due to the removal of three accessory buildings that once supported agricultural use, the sprawl of residential development in the area, previous divisions of the land, and structural changes to the residence over time, the building no longer retains integrity or association to the Orchard Homes Historic Area.

The property contains two existing irrigation facilities responsible for delivering irrigation water for agricultural purposes to the surrounding properties. The first is an irrigation canal, contained within a varying easement width, that runs parallel along the southern property line. The second is a varied irrigation easement along the eastern property line of the subject property containing a 12-inch irrigation pipe. The existing agricultural water user irrigation facilities will remain in the proposed development. Although there are no filed irrigation or exempt water rights associated with the properties, the current structures are served by private wells. The known locations of the wells have been shown on both the Grading, Drainage, and Road Construction Plans included in Section D, Sheet 4

of 10, and the Existing Conditions Exhibit included in the Supplemental Data Sheets in Section A. Unfortunately, the exact location of all of the private wells has not been documented in any of the existing septic permits for the subject property nor were they located during a comprehensive survey of the property. However, the property will be served by City of Missoula Municipal Water Services and all of the existing wells will be properly abandoned/decommissioned per Missoula City-County Health Department and Montana Department of Environmental Quality standards.

The subject property is mostly grasses, invasive weeds, small shrubs, and a small number of trees. The trees and shrubs located generally in both the north and south portions of the two properties will be replaced with new landscaped areas or removed completely. The landscaped areas for the Woonerf and Larkin Wood Drive are provided in the Conceptual Landscaping Plan within the Supplemental Data Sheets included in Section A. Generally, these are to be small Class-1 trees of varying species. Existing vegetation within the proposed irrigation easements is planned to remain. There are no existing open spaces or common areas within the subdivision, therefore, no measures to preserve vegetation has been described in such areas.

Summary of Roads:
The site is currently accessed from S. Grove Street or Larkin Wood Drive. The current conditions of S. Grove Street consist of an asphalt surface within a 60-foot right-of-way. Larkin Wood Drive is currently constructed with a gravel surface public roadway within a 27’ Public Road & Utility Easement.

Half street improvements are proposed for a portion of S. Grove St., to meet the Low-Density Urban Road classification, which requires a 10-foot travel lane, 7-foot parking lane, curb/gutter, 7-foot boulevard, and 5-foot sidewalk, in addition to 5' of dedication R/W. Lots 1 & 4 will maintain access off of S. Grove Street.

In addition, half street improvements are proposed for a portion of Larkin Wood Drive, which is classified as a Local Residential Street. The offsite portion between S. Grove Street and the projects northern boundary will be improved to a 20' wide asphalt surface with 2' gravel shoulders. Directly adjacent to the property will be improved to include 10-foot travel lanes, 7-foot parking lane, curb/gutter, and a 7-foot sidewalk on the south side. Further, 10-feet of additional R/W is proposed as dedication, making the total easement width 37-feet. Lot 2, Lot 3, and Lots 5 through 24 will access using Larkin Wood Drive.

Magnolia Drive is proposed to be a private road, Home Zone/ Woonerf street type contained within a varied width Public Access & Utility Easement. Magnolia Drive will serve the remaining lots in the development and is designed to meet the Woonerf road standards to promote shared use between pedestrians, bicycles, and vehicles. The new infrastructure planned for the woonerf road standards is intended to prioritize pedestrians and bicycles over vehicles and adjoins a public street to allow for connectivity for both motorized and non-motorized users.

Variance Requests:
The development includes two variance requests. One variance request includes deviation to the boulevard standards and right-of-way width requirements for Larkin Wood Dr. per Table .2 A (Local Residential Street) and 3-020.15.D.1. The existing Larkin Wood Drive gravel roadway varies in width and is bound by adjacent residential development on either side. This, combined with the existing 27’ public road and utility easement, makes expanding this road to meet criteria of a Local Residential Street impossible for the applicant Therefore, we are requesting to deviate from the Right-of-Way and boulevard requirement and propose a curbside sidewalk. In addition to the lack of easement width, there is the inability for future extension due to Reserve Street. As mitigation to landscaping reduction

with this request, the application is proposing small trees along the south side of Larkin Wood Drive completely contained within the subject property.

The second variance request seeks approval for the proposed Magnolia Drive, to be constructed as a Woonerf Street type that technically begins and ends on the same roadway, Larkin Wood Drive, thus classifying the internal roadway as a loop street. Loop streets are prohibited per Section 3-020.5 (A) unless approved through a variance. The proposed deviations from Missoula City Subdivision regulations are a result of conditions uniquely attributable to the subject property. The variance requests will not in any way violate the goals of the 'Our Missoula' 2035 City Growth Policy. Please reference the Variance Requests included in Section A which discuss the existing conditions further and outline the hardship and proposed mitigations.

Zoning and Growth Policy:
The property is currently located outside of the City of Missoula and is zoned Residential Medium (RM) recommending 5 to 11 dwelling units/acre and is not subject to any overlay districts. The growth policy recommends 3 to 11 dwelling units/acre for this area. This proposal includes the request of Residential RT5.4 (two-unit/townhouse) zoning upon annexation of this property into the City of Missoula. Relatable zoning districts would include RT 10, R8, and R5.4 intended for anywhere between 5 du/acre and 11 du/acre. Single-family detached homes and townhomes are proposed for this property, resulting in a density of 7.8 dwelling units/acre. As a result, the proposal will continue to follow zoning and subdivision regulations and still adhere to the recommended density outlined in the growth policy.

The applicable regional plans for this proposal include 'Our Missoula' 2035 City Growth Policy and the Reserve Street Area Plan, 1995 Update. The proposed zoning and current land use for this site offers the opportunity for medium density residential housing options. This includes multi-household dwellings which reflect the traditional character of existing residential neighborhoods. Further, this zone supports infill development and connectivity between neighborhoods and other public amenities for its residents.

A more detailed description of how this project complies with the zoning and growth policies provided above can be found in the Subdivision Application included in Section A.

COMMUNITY PLANNING, DEVELOPMENT & INNOVATION
Development Services Division
435 RYMAN | MISSOULA, MT 59802-4297 | 406.552.6630 | FAX 406.552.6053

ANNEXATION, ZONING UPON ANNEXATION, AND MAJOR SUBDIVISION STAFF REPORT

Agenda Item: Orchard Grove Annexation, Zoning Upon Annexation and 24-Lot Major Subdivision

Report Date: December 14, 2023

Case Planner: Lauren Stevens, Senior Planner

Report Review & Approved by: Dave DeGrandpre, Planning Supervisor

Governing Body Review Deadline: February 2, 2024

Public Meetings & Hearings:
City Council (12/18/2023): Approval of resolution of intent to annex and zone the property, referral to Land Use and Planning Committee, and set the public hearing for annexation, zoning, and subdivision
Planning Board (1/2/2024): Public hearing and recommendation to City Council
City Council (1/8/2024): Public hearing and motion to adopt resolution to annex and zone the property, motions to approve/deny each subdivision variance request, and motion to approve/deny the preliminary plat application
LUP (1/10/2024): Discussion item only (no action)
City Council (1/22/2024): Final consideration and action on the motion to adopt a resolution to annex and zone the property, motions to approve/deny each subdivision variance request, and motion to approve/deny the preliminary plat application

I. GENERAL PROJECT INFORMATION

Owners:
Collin Bangs & John Barrett
4607 North Ave W.
Missoula, MT 59804

Robert & Evelyn Bean
2555 Bean Lane
Missoula, MT 59804

Subdivider:
Same as owners

Representative:
IMEG, Corp.
1817 South Ave. W, Suite A
Missoula, MT 59801

Location of Request: West of Reserve Street, east of South Grove Street, and south of Larkin Wood Drive. Upon annexation, the property would be added to Ward 6 and the Two Rivers Neighborhood Council.

Legal Notification: The legal ad was published in the Missoulian on December 9, 2023, and December 16, 2023. Two subdivision posters were placed on the property on December 11, 2023. Adjacent property owners were notified by certified mail on December 7, 2023.

II. DECISION AND REGULATORY FRAMEWORK

The Missoula Consolidated Planning Board considers and makes a recommendation on the subdivision. City Council considers and makes a decision on the annexation, zoning upon annexation, and subdivision.

Applicable State Law: Montana Code Annotated 2023.

Annexation Policy: Resolution 8363 adopted July 22, 2019. The property is within Annexation Area "B", but still meets a majority of the City's criteria to determine priority for annexation. Zoning upon annexation must comply with Title 20 Zoning Code, Section 20.85.040.I.
Growth Policy: The Our Missoula 2035 Growth Policy is the applicable regional plan.

Local Zoning Law: Title 20 adopted as amended October 16, 2023.

Current and Proposed Zoning: The subject property is currently zoned County zone RM – Residential Medium. If City Council approves the annexation and zoning upon annexation, the subject property would be zoned RT5.4 Residential 5.4 (two-unit/townhouse).

Subdivision Regulations: Missoula City Subdivision Regulations adopted by City Council as amended on October 16, 2023.

Surrounding Land Uses:
North: Residential
South: Residential
East: Residential, non-motorized trail, Reserve Street right-of-way
West: Residential

Surrounding Zoning:
North: RM Residential Medium (County)
South: RM Residential Medium (County) / RT10 Residential 10 (two-unit/townhouse)
East: RM Residential Medium (County) / RT10 Residential 10 (two-unit/townhouse) / C1-4 Neighborhood Commercial
West: RM Residential Medium (County)

III. RECOMMENDED MOTIONS

City Council (12/18/2023)

Set a public hearing on January 8, 2024, and adopt a resolution of intent to annex the subject property legally described as a Portion of Lot 42 of Cobban & Dinsmore's Orchard Homes #1, located in the SE1/4 of Section 19, Township 13 North, Range 19 West, P.M.M. Missoula County, Montana as shown on Exhibit A, and zone upon annexation to RT5.4 Residential 5.4 (two-unit/townhouse) and refer this item and the Orchard Grove Subdivision to the Land Use and Planning Committee on January 10, 2024.

Planning Board Public Hearing (1/2/2024)

Recommend City Council approve the variance request from Article 3, Section 3-020.5.A of the City Subdivision Regulations, which prohibits cul-de-sacs, loop and circle streets and turnarounds, and dead-end streets, to allow Magnolia Drive, a proposed homezone/woonerf street, to connect to Larkin Wood Drive in two locations, resulting in a loop street, based on the findings of fact and conclusions of law in the staff report.

Recommend City Council approve the variance request from Article 3, Section 3-020, Table .2A of the City Subdivision Regulations for Larkin Wood Drive, which does not meet the required 47-foot right-of-way width, and is proposed to have a 7-foot-wide curbside sidewalk with no boulevard adjacent to the subject property, based on the findings of fact and conclusions of law in the staff report.

Recommend City Council approve the Orchard Grove Subdivision Preliminary Plat application subject to the recommended conditions of approval, based on the findings of fact and conclusions of law in the staff report.

City Council Public Hearing (1/8/2024)

Presentation, public comment, and make the following motions:

Adopt/deny a resolution to annex the subject property legally described as a Portion of Lot 42 of Cobban & Dinsmore's Orchard Homes #1, located in the SE1/4 of Section 19, Township 13 North, Range 19 West, P.M.M. Missoula County, Montana as shown on Exhibit B, and zone upon annexation to RT5.4 Residential 5.4 (two-unit/townhouse), subject to the conditions of approval, based on the findings of fact and conclusions of law in the staff report.
Approve/deny the variance request from Article 3, Section 3-020.5.A of the City Subdivision Regulations, which prohibits cul-de-sacs, loop and circle streets and turnarounds, and dead-end streets, to allow Magnolia Drive, a proposed homezone/woonerf street, to connect to Larkin Wood Drive in two locations, resulting in a loop street, based on the findings of fact and conclusions of law in the staff report.

Approve/deny the variance request from Article 3, Section 3-020, Table .2A of the City Subdivision Regulations for Larkin Wood Drive, which does not meet the required 47-foot right-of-way width, and is proposed to have a 7-foot-wide curbside sidewalk with no boulevard adjacent to the subject property, based on the findings of fact and conclusions of law in the staff report.

Approve/deny the Orchard Grove Subdivision Preliminary Plat Application, subject to the recommended conditions of approval, based on the findings of fact and conclusions of law in the staff report.

LUP (1/10/2024)

Discussion item only - (no action).

City Council Final Consideration (1/22/2024)

Vote on the motions made at the conclusion of the 1/8/24 public hearing.

IV. INTRODUCTION

Development Services has received a request from IMEG Corp., on behalf of Robert and Evelyn Bean, Collin Bangs, and John Barrett, for annexation, zoning upon annexation, and subdivision preliminary plat approval of a 24-lot major subdivision on 3.08 acres located west of Reserve Street and adjacent to South Grove Street and Larkin Wood Drive. The property is legally described as a Portion of Lot 42 of Cobban & Dinsmore's Orchard Homes #1, located in the SE1/4 of Section 19, Township 13 North, Range 19 West, P.M.M. Missoula County, Montana, as shown in Exhibit A. The proposed subdivision is named Orchard Grove. The application materials state the developer's intent is to create 24 lots, each containing one dwelling unit in a detached house or townhouse building type.

To comply with the Our Missoula 2035 Growth Policy land use designation of Residential Medium, the applicants request zoning upon annexation of RT5.4 Residential 5.4 (two-unit/townhouse). The Residential Medium land use designation calls for a residential density between three and 11 dwelling units per acre. The RT5.4 Residential 5.4 (two-unit/townhouse) zone primarily permits residential uses at a density eight dwelling units per acre, some civic and other uses, and limited commercial uses. Access to the subdivision would be provided from South Grove Street to the west and Larkin Wood Drive to the north. A new proposed homezone/woonerf street, Magnolia Drive, would connect to Larkin Wood Drive to serve the majority of lots in the subdivision. A new connection to the Reserve Street Trail, a non-motorized trail within the Reserve Street right-of-way, is also proposed.

The subject property is within the Urban Growth Area, the Utility Service Area, and the Air Stagnation Zone. Development on each of the lots is proposed to be connected to City sewer and water. The project proposes cash-in-lieu of parkland dedication.

The applicant is requesting a variance from Article 3, Section 3-020.5.A of the City Subdivision Regulations, which prohibits cul-de-sacs, loop and circle streets and turnarounds, and dead-end streets. Magnolia Drive, a proposed homezone/woonerf street, plans to connect to Larkin Wood Drive in two locations, resulting in a loop street.

The applicant is requesting a variance from Article 3, Section 3-020, Table .2A of the City Subdivision Regulations for Larkin Wood Drive, a local residential street, which does not meet the required 47-foot right-of-way width, and is proposed to have a 7-foot-wide curbside sidewalk with no boulevard adjacent to the subject property.

The Planning Board will provide a recommendation to City Council on the subdivision preliminary plat application and variance requests. City Council will act and make a decision on the annexation and zoning upon annexation, variance requests, and subdivision preliminary plat application. City Council may approve, deny, or approve with conditions the annexation and subdivision preliminary plat requests.

Upon annexation, the parcels would be located within City Council Ward 6 and the Two Rivers Neighborhood Council.

V. GENERAL FINDINGS OF FACT

The following findings of fact are applicable to the annexation, zoning upon annexation, and the subdivision preliminary plat request.

1. The subject property is legally described as a portion of Lot 42 of Cobban & Dinsmore's Orchard Homes #1, located in the SE ¼ of Section 19, Township 13 North, Range 19 West, P.M.M. Missoula County, Montana. (*Pg. 2, City Major Subdivision Application, Pg. 1, Project Summary, Preliminary Title Report, Complete Legal Description*)
2. The subject property is 3.08 acres, and currently contains one trailer which will be removed, four duplexes, three of which will remain and be converted into townhomes, and one single-family dwelling which will be removed. *(Pg. 1, Project Summary, Missoula County Property Information System*)

3. The subject property is zoned RM Residential Medium in the County. *(Pg. 3, City Major Subdivision Application, County Property Information System*) The RM zone calls for a minimum density of five dwelling units per acre up to a maximum of 11 dwelling units per acre. *(Missoula County Property Information System, Missoula County Zoning Regulations)*
4. Surrounding land uses include residential, non-motorized trail, and right-of-way. *(Missoula County Property Information System, Pg. 3, City Major Subdivision Application*)
5. The subject property is within the Urban Growth Area, Utility Services Area Boundary, and the Air Stagnation Zone. *(Missoula County Property Information System*)
6. The subject property has frontage on and would be accessed from South Grove Street, which is classified as a Low Density Urban Local Street, and Larkin Wood Drive, which is classified as a Local Residential Street. *(Pg. 3, Project Summary, City of Missoula Map Hub)*
7. The subject property is within floodplain designation Zone X, Area of Minimal Flood Hazard. (*FEMA Map Service Center*)
8. The subject property does not contain soils designated as prime farmland or prime farmland if irrigated. All soil on the subject property is classified as Urban Land. (*NRCS Soils Report*)

VI. ZONING AND GROWTH POLICY FINDINGS OF FACT

The following findings of fact are applicable the annexation and rezoning request and the subdivision preliminary plat request.

1. The subject property is zoned RM Residential Medium in the County. *(Pg. 3, City Major Subdivision Application, County Property Information System*) The RM zone calls for a minimum density of five dwelling units per acre up to a maximum of 11 dwelling units per acre. *(Missoula County Property Information System, Missoula County Zoning Regulations)*
2. The Our Missoula 2035 Growth Policy is the applicable regional plan. The applicable neighborhood plan is the 1995 Update to the Reserve Street Area Plan. *(Pg. 4, City Major Subdivision Application, Missoula County Property Information System)*
3. The 1995 Reserve Street Area Plan includes the goals of maintaining and enhancing the area's diverse character and livability (single-family and multi-family; large and small lots) and to provide adequate infrastructure such as sewer, water, and streets throughout the planning area.
4. Upon annexation, the applicant requests to zone the subject property RT5.4 Residential 5.4 (two-unit/townhouse.) The RT5.4 zoning district requires 5,400 square feet of parcel area per dwelling unit and allows for detached houses, lot line houses, two-unit houses, and two-unit townhouse residential building types. (*Pg. 4, City Major Subdivision Application, Title 20 Zoning Code, Section 20.05*)
5. The proposed zoning upon annexation complies with the Residential Medium (3-11 du/acre) land use designation of the Our Missoula 2035 Growth Policy.

ANNEXATION

I. RECOMMENDATION

Staff recommends City Council **adopt** a resolution to annex the subject property legally described in Exhibit A, and zone upon annexation to RT5.4 Residential 5.4 (two-unit/townhouse), subject to the recommended conditions of approval, based on the findings of fact and conclusions of law in the staff report.

CONDITIONS OF ANNEXATION APPROVAL

Zoning

1. Approval of the annexation shall be contingent upon City Council approval of the Orchard Grove Subdivision.

Streets, General

2. The following statement shall appear on the face of each plat, in the covenants, conditions, and restrictions, and on each instrument of conveyance, subject to review and approval by Public Works & Mobility and Development Services, prior to final plat approval: “Acceptance of a deed for a lot within this subdivision shall constitute the assent of the owners to any future SID/RSID, based on benefit, for future improvements and maintenance of Larkin Wood Drive and Grove Street including but not limited to paving, curbs and gutters, non-motorized facilities, street widening and drainage facilities, and may be used in lieu of their signatures on a SID petition.”
3. The developer shall provide a street signage plan and install street signage (including street name signs) in accordance with the Manual on Uniform Traffic Control Devices, subject to review and approval by Public Works & Mobility and the Fire Department, prior to final plat approval.

Road and Alleys

4. The developer shall provide plans for and install half street improvements to South Grove Street, a low-density urban local street, including a 5-foot dedication of public right-of-way, drive lane, curb and gutter, landscaped boulevard, street trees, stormwater facilities, and pedestrian facilities as shown on the preliminary plat and plans, subject to review and approval by Public Works & Mobility and Parks & Recreation, prior to final plat approval.
5. The developer shall provide plans for and install improvements to Larkin Wood Drive, a local residential street, including a 10-foot dedication of public right-of-way, two drive lanes, parking lane, curb and gutter, sidewalks, and stormwater facilities as shown on the preliminary plat and plans, subject to review and approval by Public Works & Mobility and Parks and Recreation, prior to final plat approval.
6. The developer shall provide plans for and install improvements to Magnolia Drive, a privately maintained homezone/woonerf street within a public access and utility easement of varying width, including a 20-foot travel way, streetside common parking spaces, curb and gutter, landscaping, street trees, and stormwater facilities as shown on the preliminary plat and plans, subject to review and approval by Public Works & Mobility and Parks and Recreation, prior to final plat approval.

Non-Motorized Transportation

7. The developer shall provide plans for and installation of a pedestrian connection from Larkin Wood Drive to the Reserve Street shared-use path as shown on the preliminary plat and plans, subject to review and approval by Public Works & Mobility and Parks & Recreation, prior to final plat approval.

Rights-of-Way and Easements

8. All proposed rights-of-way and easements shall be shown on the face of the plat and identified for their width and purpose, subject to review and approval by Public Works & Mobility, prior to final plat approval.

Fire Protection

9. The developer shall provide plans for fire suppression water flow and hydrant placement, subject to review and approval by City Fire Department and Public Works & Mobility, prior to final plat approval. The developer shall install all fire hydrants prior to final plat approval. In the event the developer enters into an improvements agreement with the City of Missoula to postpone installation of certain improvements until after final plat approval, fire hydrants must be installed prior to combustible construction in the area the hydrants are intended to serve, subject to review and approval by City Fire Department and Public Works & Mobility.

Water Supply, Sewage Disposal, Stormwater Management, and Solid Waste

10. The developer shall provide plans for and installation of water supply, sewage disposal, stormwater management, and solid waste disposal facilities for review and approval by Public Works & Mobility, City/County Health Department, and Montana Department of Environmental Quality, prior to final plat approval.

Agricultural Water Users Facilities

11. The developer shall dedicate on the final subdivision plat ditch or culvert easements for the unobstructed use and maintenance of existing water delivery ditches, pipelines, and facilities on the property to lands adjacent to or beyond the property boundaries in quantities and in a manner that is consistent with historic and legal rights. The language on the final plat shall also prohibit the placement of structures or the planting of vegetation other than grass within the ditch easement without the written permission of the ditch owner.
12. The developer shall provide a statement on the face of the final plat and in the Development Covenants as follows: “Water rights have been removed from the property and lot owners are notified that the land is classified as irrigated and may continue to be assessed for irrigation water delivery even though the water may not be deliverable,” subject to review and approval by Development Services, prior to final plat approval.

Ground Water

13. The developer shall include the following note on the final plat and in the Development Covenants: “Basements shall be prohibited until such time as the owner provides sufficient evidence to the City of Missoula Public Works & Mobility Department that no threat to the public safety or loss of property will result in those areas proposed for basements,” subject to review and approval by Development Services and Public Works & Mobility.

Historic Resources

14. The developer shall submit an Architectural Engineering Record Form to the State Historic Preservation Office to document the existing structure at 2513 Bean Lane prior to any structural alterations and prior to final plat approval.

Mail Delivery

15. The developer shall provide for mail delivery for future subdivision residents in a manner and location(s) approved by the U.S. Postal Service prior to final plat approval.

Landscaping

16. The developer shall provide plans for boulevard landscaping and landscape plans for all streets, non-motorized transportation connections and common parking areas, subject to review and approval by Parks and Recreation, prior to final plat approval. The property owner shall be responsible for obtaining boulevard landscaping permits prior to building permit approval and for installation of boulevard landscaping adjacent to development prior to certificate of occupancy, subject to review and approval of Parks and Recreation.

Parkland

17. The developer shall provide cash-in-lieu of parkland equal to the fair market value of the amount of land statutorily required to be dedicated. The dollar amount shall be based on an appraisal report conducted by a Montana State licensed general real estate appraiser (as provided under MCA 37-54-201-, et seq) chosen by the City, prepared prior to and within six months of the date that a complete final plat application is submitted for approval, subject to review and approval by Development Services and Parks & Recreation, prior to final plat approval.

Noxious Weeds

18. The developer shall provide a Weed Management and Revegetation Plan, appended to the Development Covenants and approved by the Missoula County Weed District, subject to review and approval by Development Services, prior to final plat approval.

Development Covenants

19. The developer shall submit final Development Covenants meeting the requirements of City Subdivision Regulations Section 5-020.14.K, subject to review and approval by Development Services, prior to final plat approval.
20. The developer shall include the following statements in the Development Covenants, subject to review and approval by Development Services, prior to final plat approval: Sections of the Development Covenants regarding common area and common facility maintenance of the internal subdivision roadway and associated facilities, maintenance and replacement of mail delivery facilities, wood burning devices, weed control, agricultural operations, radon mitigation, basements, water rights, SID/RSID, and fire protection may not be amended or deleted without written approval by the governing body.

II. ANNEXATION FINDINGS OF FACT AND CONCLUSIONS OF LAW

Note: The findings of fact located in Section V. of this report, General Findings of Fact, are incorporated herein by reference.

Introduction

1. Development Services has received a request from IMEG Corp., on behalf of Robert and Evelyn Bean, Collin Bangs, and John Barrett, for annexation of 3.08 acres into the City of Missoula and zoning upon annexation to RT5.4 Residential 5.4 (two-unit/townhouse).

Property Information

2. The subject property is adjacent to city limits to the east (Grove Street) and west (Reserve Street). (*Missoula County Property Information System*)
3. Upon annexation, the subject property would become part of City Council Ward 6 and the Two Rivers Neighborhood Council. (*City of Missoula Ward Map and Neighborhood Council Map*)
4. The subject property has frontage on South Grove Street and Larkin Wood Drive. The portion of Larkin Wood Drive adjacent to the property and extending to South Grove Street to the west has not been annexed into the City of Missoula. (*Missoula County Property Information System)*

Annexation Request

5. The property owners, Robert and Evelyn Bean, Collin Bangs, and John Barrett, filed Petition No. 10160 requesting the annexation of the property. (*Annexation Petition*)

Annexation Policy

6. The subject property is within Annexation Area “B” on the City Annexation Policy Map. Areas designated as Annexation Area “B” largely do not meet the guidelines of the City’s Annexation Policy. Per the City Annexation Policy, all annexations should be evaluated on their individual merits based on the criteria in the annexation policy.
7. The subject property is within the Urban Growth Area and Utility Service Area. Per the City Annexation Policy, the City should prioritize the annexation of areas located within the Utility Service Area.
8. According to the Missoula County Property Information System, the area proposed to be annexed is adjacent to Missoula City limits on the eastern and western property boundaries. Per the City Annexation Policy, the City should prioritize the annexation of properties that contribute to the logical growth pattern of the City by creating orderly and contiguous municipal boundaries, as well as properties that would fill gaps left by previous annexations that created islands and non-contiguous boundaries. Annexation of the subject property would fill in a gap in City limits created by previous annexations.
9. Per the City Annexation Policy, the City should pursue cost-effective annexation opportunities that advance sharing of community and financial resources by those areas who are utilizing and benefiting from the existence of community resources. Residents of the subject property currently utilize existing community resources and infrastructure, such as Grove Street, and annexation will allow more equitable cost-sharing of those resources.
10. Per the City Annexation Policy, the City should prioritize the annexation of areas that meet current city standards, including water, sewer, and transportation infrastructure, and equitably provide the same levels of service and infrastructure as other parts of the municipality with similar topography, land use, and population density. The proposed development in the preliminary plat application, as amended by the recommended annexation and subdivision conditions of approval, will bring the subject property up to City standards for transportation, and utility infrastructure, and will increase the population density to meet the recommended land use designation of the Our Missoula 2035 Growth Policy.

Growth Policy and Zoning

11. The Zoning and Growth Policy Findings of Fact in the above Section VI of this report are incorporated here by reference.
12. The City Annexation Policy states that any annexation by the City should be guided by the current City Growth Policy applicable to the area. The applicable regional plan is the Our Missoula 2035 Growth Policy.
13. The requested zoning upon annexation complies with the recommendations of the Our Missoula 2035 Growth Policy.

Road Improvements, Non-Motorized Improvements, Transit, and Utility Infrastructure

<u>Roads, Alleys, and Non-Motorized Transportation</u>

14. Findings of fact for conditions of approval regarding roads, alleys, and non-motorized facilities are located in the Subdivision section of this report (below) and are incorporated here by reference.
15. In order to meet current City Standards and the Annexation Policy, staff recommends conditions of approval requiring the applicant to provide plans for and installation of improvements to all roads and non-motorized facilities shown on the preliminary plat and plans. Additionally, staff recommends conditions of approval requiring additional right-of-way along South Grove Street and Larkin Wood Drive.

16. The road and non-motorized infrastructure within the proposed annexation area would equitably provide the same levels of service and infrastructure as other parts of the municipality with similar zoning if the recommended conditions of approval are imposed.

Transit

17. The nearest Mountain Line bus stop is located approximately one quarter of a mile from the southwest corner of the subdivision. This bus stop serves Route 9. (*Subdivision Application, Bus Route Map*).
18. The subject property is within the Missoula Urban Transportation District. (*Subdivision Application, Missoula County Tax Records)*
19. The nearest school bus stop serving Hawthorne Elementary School is located at the intersection of South Grove Street and Laurie Drive, adjacent to the subject property. The nearest school bus stop serving C.S. Porter Middle School is located at the intersection of North Grove Street and Quinn Court, just north of the subject property. The subject property is within the walking boundary for Big Sky High School. (*Subdivision Application, Bus Routes Map*)

Fire Protection

20. In order to provide the same level of service and infrastructure as other parts of the municipality with similar zoning, including adequate protection from fire, staff recommends a condition of approval requiring the applicant to provide plans for fire suppression water flow and hydrant placement, prior to final plat approval. The recommended condition of approval requires the applicant to install fire hydrants prior to combustible construction.

Utilities

21. In accordance with City policies and following annexation, future development of the property must include approved design, installation, and connection to municipal water and sewer services. The Annexation Policy states the City should prioritize the annexation of areas that meet current city standards, including water and sewer infrastructure.
22. The subject property has no structures that are currently connected to city water or sewer. New construction and existing residential structures to remain on-site will be required to connect to city sewer and water. The application includes a water and sanitation report and utility construction plans.
23. The subject property is within the City's Utility Service Area.
24. Findings of fact for conditions of approval regarding utilities are located in the Subdivision section of this report and are incorporated here by reference.
25. In order to meet the Annexation Policy and current City Standards, staff recommends conditions of approval requiring the applicant to provide plans for and installation of water supply and sewage disposal facilities in accordance with City requirements.
26. The utility infrastructure within the proposed annexation area will equitably provide the same levels of service and infrastructure as other parts of the municipality with similar zoning if the recommended conditions of approval are imposed.

Statutory Requirements

27. Section 7-2-4211 MCA requires municipalities to include the full width of any public street or road right-of-way that are adjacent to the property being annexed.
28. The subject property is adjacent to Larkin Wood Drive, which has not already been annexed into the City of Missoula (*Missoula County Property Information System*). In order to meet

statutory requirements, staff recommends the portion of Larkin Wood Drive extending east from South Grove Street to the Reserve Street right-of-way be annexed into the City limits.

29. The City will meet the statutory requirements for a petition method annexation in regards to MCA 7-2-4601 and MCA 76-2-303 by considering the petition, adopting a resolution of intent to annex and rezone the property, holding a public hearing regarding the zoning upon annexation, and advertising public notice for at least 15 days prior to the public hearing. The final step for City Council will be to adopt a resolution to adopt, adopt with conditions, or deny the resolution to annex and rezone the property.

Zoning Upon Annexation

30. MCA 76-2-303 allows a municipality to conduct a hearing on the annexation in conjunction with a hearing on the zoning of the property proposed for annexation. MCA 76-2-303 outlines the three review criteria which may be considered for zoning upon annexation. The following are the three criteria and staff's assessment as to whether the annexation complies with the criteria. An annexation must comply with at least **one** of the criteria. The zoning district classification assigned at the time of annexation must:

a. Authorize land uses comparable to the land uses authorized by [the] county zoning [classification that applied to the property immediately before it was annexed in the city]; or

Staff Assessment

i. The current County zoning classification is RM – Residential Medium. The RM zoning district permits a larger variety of residential development types, including tri-, quad-, and multiplexes, than the proposed RT5.4 Residential 5.4 (two-unit/townhouse) City zoning. The RM zoning district has a maximum residential density of 11 dwelling units per acre, whereas the City RT5.4 zoning district has a maximum density of 8 dwelling units per acre.

ii. The RM zoning district allows more intensive land uses than the City RT5.4 zoning district, such as a walk-in medical clinic or an art gallery.

iii. The proposed city zoning district is not comparable to the county zoning because the updated county zoning requirements are more permissive than the relatable city zoning districts for this land use designation.

iv. The proposed zoning does not comply with MCA 76-2-303(3)(a)(i).

b. Authorize land uses that are consistent with [the] land uses approved by the Board of County Commissioners or the County Board of Adjustment; or

Staff Assessment

i. The Missoula Board of County Commissioners adopted the Missoula County Zoning Regulations in July of 2022, and designated the subject property as RM – Residential Medium.

ii. The RM zoning district allows more intensive residential and commercial development than the proposed City RT5.4 zoning district would allow.

iii. The County Board of Adjustment has not approved land uses on the subject property.

iv. The proposed City zoning district and allowed land uses are not consistent, with land uses approved by the Board of County Commissioners, because the land uses allowed in the RT5.4 zoning are less intensive than those allowed by the County zoning.

v. The proposed zoning does not comply with MCA 76-2-303(3)(a)(ii).

c. Be consistent with the zoning requirements recommended in the growth policy [as set forth in the Our Missoula 2035 Growth Policy].

Staff Assessment

i. The Our Missoula 2035 Growth Policy is the applicable regional plan. The growth policy provides land use designations that correlate to relatable City zoning districts based on the planned uses and intensities. The subject property's land use designation is Residential Medium, which calls for a density between three and 11 dwelling units per acre. The relatable City zoning districts for the Residential Medium land use designation are RT10, R8, R5.4 and RT5.4.

ii. The proposed RT5.4 zoning complies with the Our Missoula 2035 Growth Policy land use designation of Residential Medium.

iii. Based on compliance with the criteria in MCA 76-2-303(3)(a)(iii), staff recommends annexation of the subject property and zoning upon annexation to RT5.4 Residential 5.4 (two-unit/townhouse), subject to the recommended conditions of approval.

iv. If the City Council does not approve the request to annex the subject property and/or the zoning upon annexation of the subject property, the Resolution to Annex and the zoning upon annexation of the property shall become null and void, and the property shall revert to its original status in the County of Missoula.

III. ANNEXATION EXHIBITS AND ATTACHMENTS

Attachments

1. Resolution of Intent to Annex

Exhibits

1. Exhibit A Complete Legal Description
2. Exhibit B Annexation Map

ORCHARD GROVE SUBDIVISION

I. RECOMMENDATION

Staff recommends City Council **approve** the Orchard Grove Subdivision preliminary plat application and variance requests, subject to the recommended conditions of approval, based on the findings of fact and conclusions of law in the staff report.

II. CONDITIONS OF SUBDIVISION APPROVAL

Streets, General

1. The following statement shall appear on the face of each plat, in the covenants, conditions, and restrictions, and on each instrument of conveyance, subject to review and approval by Public Works & Mobility and Development Services, prior to final plat approval: "Acceptance of a deed for a lot within this subdivision shall constitute the assent of the owners to any future SID/RSID, based on benefit, for future improvements and maintenance of Larkin Wood Drive and Grove Street including but not limited to paving, curbs and gutters, non-motorized facilities, street widening and drainage facilities, and may be used in lieu of their signatures on a SID petition." *(City Subdivision Regulations Sections 5-050.3.AA, 5-050.3.BB, & 3-020.3.A.1)*

2. The developer shall provide a street signage plan and install street signage (including street name signs) in accordance with the Manual on Uniform Traffic Control Devices, subject to review and approval by Public Works & Mobility and the Fire Department, prior to final plat approval. *(City Subdivision Regulations Section 3-020.4.H.2*)

Road and Alleys

3. The developer shall provide plans for and install half street improvements to South Grove Street, a low-density urban local street, including a 5-foot dedication of public right-of-way, drive lane, curb and gutter, landscaped boulevard, street trees, stormwater facilities, and pedestrian facilities as shown on the preliminary plat and plans, subject to review and approval by Public Works & Mobility and Parks & Recreation, prior to final plat approval. *(City Subdivision Regulations Section 3-020)*
4. The developer shall provide plans for and install improvements to Larkin Wood Drive, a local residential street, including a 10-foot dedication of public right-of-way, two drive lanes, parking lane, curb and gutter, sidewalks, and stormwater facilities as shown on the preliminary plat and plans, subject to review and approval by Public Works & Mobility and Parks and Recreation, prior to final plat approval. *(City Subdivision Regulations Section 3-020)*
5. The developer shall provide plans for and install improvements to Magnolia Drive, a privately maintained homezone/woonerf street within a public access and utility easement of varying width, including a 20-foot travel way, streetside common parking spaces, curb and gutter, landscaping, street trees, and stormwater facilities as shown on the preliminary plat and plans, subject to review and approval by Public Works & Mobility and Parks and Recreation, prior to final plat approval. *(City Subdivision Regulations Section 3-020)*

Non-Motorized Transportation

6. The developer shall provide plans for and installation of a pedestrian connection from Larkin Wood Drive to the Reserve Street shared-use path, subject to review and approval by Public Works & Mobility and Parks & Recreation, prior to final plat approval. *(City Subdivision Regulations Section 3-020)*

Rights-of-Way and Easements

7. All proposed rights-of-way and easements shall be shown on the face of the plat and identified for their width and purpose, subject to review and approval by Public Works & Mobility, prior to final plat approval. *(City Subdivision Regulations Sections 3-020.3.B & 3-060.1*)

Fire Protection

8. The developer shall provide plans for fire suppression water flow and hydrant placement, subject to review and approval by City Fire Department and Public Works & Mobility, prior to final plat approval. The developer shall install all fire hydrants prior to final plat approval. In the event the developer enters into an improvements agreement with the City of Missoula to postpone installation of certain improvements until after final plat approval, fire hydrants must be installed prior to combustible construction in the area the hydrants are intended to serve, subject to review and approval by City Fire Department and Public Works & Mobility. *(City Subdivision Regulations Section 3-010.1.F)*

Water Supply, Sewage Disposal, Stormwater Management, and Solid Waste

9. The developer shall provide plans for and installation of water supply, sewage disposal, stormwater management, and solid waste disposal facilities for review and approval by Public Works & Mobility, City/County Health Department, and Montana Department of Environmental Quality, prior to final plat approval. *(City Subdivision Regulations Sections 3-040, 5-020.11, 3-010.5, and 3-070.1)*

Agricultural Water Rights

10. The developer shall dedicate on the final subdivision plat ditch or culvert easements for the unobstructed use and maintenance of existing water delivery ditches, pipelines, and facilities on the property to lands adjacent to or beyond the property boundaries in quantities and in a manner that is consistent with historic and legal rights. The language on the final plat shall also prohibit the placement of structures or the planting of vegetation other than grass within the ditch easement without the written permission of the ditch owner. *(City Subdivision Regulations Section 3-060.3)*

11. The developer shall provide a statement on the face of the final plat and in the Development Covenants as follows: “Water rights have been removed from the property and lot owners are notified that the land is classified as irrigated and may continue to be assessed for irrigation water delivery even though the water may not be deliverable,” subject to review and approval by Development Services, prior to final plat approval. *(MCA 76-3-504(1)(j) and City Subdivision Regulations Section 3-060.4)*

Ground Water

12. The developer shall include the following note on the final plat and in the Development Covenants: “Basements shall be prohibited until such time as the owner provides sufficient evidence to the City of Missoula Public Works & Mobility Department that no threat to the public safety or loss of property will result in those areas proposed for basements,” subject to review and approval by Development Services and Public Works & Mobility. *(City Subdivision Regulations Section 3-010.2)*

Historic Resources

13. The developer shall submit an Architectural Engineering Record Form to the State Historic Preservation Office to document the existing structure at 2513 Bean Lane prior to any structural alterations and prior to final plat approval. *(City Subdivision Regulations Section 3-010.8, Historic Record Report application item)*

Mail Delivery

14. The developer shall provide for mail delivery for future subdivision residents in a manner and location(s) approved by the U.S. Postal Service prior to final plat approval. *(City Subdivision Regulations Section 3-100.18)*

Landscaping

15. The developer shall provide plans for boulevard landscaping and landscape plans for all streets, non-motorized transportation connections and common parking areas, subject to review and approval by Parks and Recreation, prior to final plat approval. The property owner shall be responsible for obtaining boulevard landscaping permits prior to building permit approval and for installation of boulevard landscaping adjacent to development prior to certificate of occupancy, subject to review and approval of Parks and Recreation. *(City Subdivision Regulations Section 5-050.5.C)*

Parkland

16. The developer shall provide cash-in-lieu of parkland equal to the fair market value of the amount of land statutorily required to be dedicated determined by an appraisal report conducted by a Montana State licensed general real estate appraiser (as provided under MCA 37-54-201-, et seq) chosen by the City, prepared within six months of the date that a complete final plat application is submitted for approval, subject to review and approval by Development Services and Parks & Recreation, prior to final plat approval. (*City Subdivision Regulations Section 5020.14.H)*

Noxious Weeds

17. The developer shall provide a Weed Management and Revegetation Plan, appended to the Development Covenants and approved by the Missoula County Weed District, subject to review and approval by Development Services, prior to final plat approval. *(City Subdivision Regulations Section 5-010.14.K)*

Development Covenants

18. The developer shall submit final Development Covenants meeting the requirements of City Subdivision Regulations Section 5-020.14.K, subject to review and approval by Development Services, prior to final plat approval. *(City Subdivision Regulations Section 5-010.14.K)*
19. The developer shall include the following statements in the Development Covenants, subject to review and approval by Development Services, prior to final plat approval: Sections of the Development Covenants regarding common area and common facility maintenance of the internal subdivision roadway and associated facilities, maintenance and replacement of mail delivery facilities, wood burning devices, weed control, agricultural operations, radon mitigation, basements, water rights, SID/RSID, and fire protection may not be amended or deleted without written approval by the governing body. *(City Subdivision Regulations Sections 5-010.14.K and 3-010.2)*

III. SUBDIVISION FINDINGS OF FACT

A. ZONING AND COMPREHENSIVE PLAN COMPLIANCE

Findings of Fact*:*

1. The findings of fact located in Section V., the General Findings of Fact section of this report, are incorporated herein by reference.
2. The findings of fact located in Section VI., the Zoning and Growth Policy Findings of Fact section of this report, are incorporated herein by reference.
3. Section 3-010.1.B of the City Subdivision Regulations states that subdivision plats must comply with the Missoula City Zoning Ordinance. The applicable Missoula City Zoning Ordinance is Title 20.
4. City Subdivision Regulations Section 3-010.1.I requires that the subdivision be reviewed for compliance with the Our Missoula 2035 Growth Policy and its amendments.

Conclusion of Law:

1. The subdivision complies with the Our Missoula 2035 Growth Policy and Title 20 Zoning Code, subject to the recommended conditions of approval.
2. Per State Law MCA 76-1-605(2)(b), no land use proposal shall be conditioned or denied based solely upon the lack of compliance with the Growth Policy.

B. PRIMARY CRITERIA COMPLIANCE

CRITERION A AND B: IMPACT ON AGRICULTURE AND AGRICULTURAL WATER USER FACILITIES

Findings of Fact:

Agriculture

1. Section 5-020.6.A of the City Subdivision Regulations states the subdivider must demonstrate the subdivision proposal will have no adverse impacts on agriculture or must identify the adverse impacts and describe proposed avoidance and mitigation efforts that will be used to mitigate the adverse impacts. The regulations state mitigation of adverse

impacts will not be based on a loss of agricultural soils, and set-aside of land or monetary contribution for the loss of agricultural soils will not be required.

2. The application packet states the subject property was used for small-scale agriculture in conjunction with residential, but the agricultural use ceased in the late 1950s. (*Pg. 10, City Major Subdivision Application, Prior Agriculture Use Exhibit*)
3. The Natural Resources Conservation Service (NRCS) Soil Survey for Missoula County shows 100% of the subject property has a soil type classified as Urban Land. (*Pg. 10, City Major Subdivision Application*; *NRCS Soils Map and Soils Report*)

Agricultural Water Users Facilities

4. Section 5-020.6.B of the City Subdivision Regulations states in areas where agricultural water user facilities exist on the subject property or adjoin the property, the application packet must identify the agricultural water user, describe any proposed changes to the agricultural water use, and describe alterations to availability of water.
5. Section 3-060.3 of the City Subdivision Regulations requires the subdivider to provide irrigation easements to allow for delivery of water for irrigation to persons and land legally entitled to the water.
6. As shown on the preliminary plat, the developer shall dedicate on the final subdivision plat ditch or culvert easements for the unobstructed use and maintenance of existing water delivery ditches, pipelines, and facilities on the property to lands adjacent to or beyond the property boundaries in quantities and in a manner that is consistent with historic and legal rights. The language on the final plat shall also prohibit the placement of structures or the planting of vegetation other than grass within the ditch easement without the written permission of the ditch owner.
7. Section 3-060.4 of the City Subdivision Regulations states irrigation easements are not required if the water rights have been removed from the land within the subdivision or the process has been initiated to remove the water rights and if the subdivider discloses and notifies potential buyers of lots that the land is classified as irrigated land and may continue to be assessed for irrigation water delivery even though the water may not be deliverable. If removing water rights, the fact that the water rights have been removed must be denoted on the face of the plat. (*MCA 76-3-504(1)(j)*; *City Subdivision Regulations Section 3-060.4*)
8. The subdivision application states that although the property is within an irrigation district, it does not receive irrigation water and does not have associated water rights. Staff recommend a condition of approval requiring a statement on the face of the final plat and in the Development Covenants as follows: “Water rights have been removed from the property and lot owners are notified that the land is classified as irrigated and may continue to be assessed for irrigation water delivery even though the water may not be deliverable.” (*Pgs. 10-11 Subdivision Application; MCA 76-3-504(1)(j)*; *City Subdivision Regulations Section 3-060.4*)

Conclusions of Law:

1. No impacts to agriculture are foreseen as a result of this subdivision, if the recommended conditions of approval are imposed.
2. No impacts to agricultural water users or water user facilities are foreseen as a result of this subdivision, if the recommended conditions of approval are imposed.

CRITERION C: IMPACT ON LOCAL SERVICES

1. Section 5-020.6.C of the City Subdivision Regulations states the subdivider must identify services and evaluate the impacts on those services including transportation elements, utilities, water supply, sewage disposal, and solid waste disposal, schools, emergency services, and information pertaining to residential units and taxation.
2. Section 3-010.5 of the City Subdivision Regulations states the subdivision must be served by adequate public facilities and services such as transportation systems (including nonmotorized), parking, police and fire protection, drainage structures, solid waste disposal, water supply, and sanitary sewage disposal; or the subdivider will provide adequately for such services.

Transportation Elements

Findings of Fact:

3. The subdivider proposes to access the subdivision via Larkin Wood Drive and South Grove Street. One new street, Magnolia Drive, is proposed to intersect with Larkin Wood Drive. (*Preliminary Plat*)
4. Section 3-020.3.A.1 of the City Subdivision regulations requires each public road to provide for construction and perpetual maintenance of the road. Sections 5-050.3.AA and .BB of the City Subdivision regulations requires the Special Improvement District (SID) statement to be provided on the plat and on each instrument of conveyance for future street and related improvements that benefit the subject property. Staff recommends a condition of approval requiring a SID/RSID statement on the plat and in the Development Covenants for future improvements to South Grove Street and Larkin Wood Drive.
5. Section 3-020.4.H.2 of the City Subdivision regulations requires street signs and traffic control devices to be approved by the City Engineer and consistent with the Manual on Uniform Traffic Control Devices adopted by the Montana Department of Transportation. Preliminary plans for street signs and traffic control devices are provided on the preliminary construction plans. Staff recommends a condition of approval requiring the subdivider to provide a street signage plan and installation of street signage in accordance with the Manual on Uniform Traffic Control Devices, subject to review by Public Works & Mobility and City Fire.
6. Section 3-020.12 requires street names to be reviewed and approved by City Council. Preliminary street naming is provided on the preliminary plat.
7. Section 3-020.4.J states the City Engineer may require a traffic study for subdivisions that will generate 200 or more average daily trips. The subdivision is expected to generate an additional 132 average daily trips and a traffic analysis is not required.
8. Section 3-020.2 of the City Subdivision Regulations requires improvements to roads within and adjacent to a subdivision.

South Grove Street

9. South Grove Street adjacent to the subject property is functionally classified as a local street and designated as a low density urban local street. Subdivision Regulations Table .2A requires a 70-foot right-of-way, 10-foot drive lanes, 7-foot parking lanes, 5-foot sidewalks, and 7-foot boulevards. South Grove Street adjacent to the subject property does not meet the standards for a low density urban local street.
10. In order to accommodate the required components of a low density urban local street adjacent to the property, an additional right-of-way of 5-foot width is necessary to install

half-street improvements. Staff recommends a condition of approval requiring the subdivider to dedicate additional right-of-way, in conjunction with other half-street improvements to South Grove Street necessary to meet the standards for a low density urban local street.

Larkin Wood Drive

11. Larkin Wood Drive adjacent to the subject property is functionally classified as a local street and designated as a local residential street. Subdivision Regulations Table .2A requires a 47-foot right-of-way, 10-foot drive lanes, 7-foot parking lanes, 5-foot sidewalks, and 7-foot boulevards. Larkin Wood Drive adjacent to the subject property does not meet the standards for a local residential street.
12. The subdivider requested a variance to Subdivision Regulations for right-of-way width and boulevard improvements for Larkin Wood Drive. The variance request is evaluated below.
13. In order to accommodate the required components of a local residential street adjacent to the property, an additional right-of-way of 10-foot width is necessary to install half-street improvements. Staff recommends a condition of approval requiring the subdivider to dedicate additional right-of-way, in conjunction with other half-street improvements to Larkin Wood Drive necessary to meet the requirements of Subdivision Regulations for a local residential street.

Magnolia Drive

14. Magnolia Drive within the subject property is functionally classified as a local street and designated as a homezone/woonerf. Subdivision Regulations Table .2A requires a 28-foot right-of-way, and 16-foot two-way drive lanes. City Subdivision Regulations Section 3-020.1 also requires other elements including but not limited to connections, fire access, circulation, surfacing, landscaping, and parking.
15. Section 3-020.3.B of the City Subdivision Regulations allows for private streets at the City Engineer’s discretion. Magnolia Drive will be a privately maintained street within a public access easement.
16. The subdivider requested a variance to Subdivision Regulations for loop streets for Magnolia Drive, which is evaluated below.
17. Staff recommends conditions of approval requiring the subdivider to design, construct and provide for perpetual maintenance of Magnolia Drive necessary to meet the requirements of Subdivision Regulations for a homezone/woonerf.

Non-Motorized

18. Section 3-020.15.B.1 of the City Subdivision Regulations requires the subdivision to provide active transportation facilities that provide continuous access to all lots within the subdivision and access to adjoining developments. The subdivision application packet shows sidewalks along all street frontages adjacent to the subdivision.
19. Staff recommends a condition of approval requiring the subdivider to provide a pedestrian connection from the sidewalk on Larkin Wood Drive to the existing shared-use path adjacent to Reserve Street.

Transit

20. Section 3-020.4.G of the City Subdivision Regulations states when development is adjacent to or within one quarter mile of an established public transit or school bus route, the subdivider may be required by the City Engineer to construct bus stop facilities along with accessible routes, meeting ADA standards, to those facilities.

21. Public Works & Mobility will not be requiring the installation of bus stop facilities for this subdivision. The nearest Mountain Line bus stop is located approximately one quarter of a mile from the southwest corner of the subdivision. This bus stop serves Route 9. *(City Major Subdivision Application, Bus Route Map*).
22. The subject property is within the Missoula Urban Transportation District. *(City Major Subdivision Application, Missoula County Tax Records)*
23. The nearest school bus stop serving Hawthorne Elementary School is located at the intersection of South Grove Street and Laurie Drive, adjacent to the subject property. The nearest school bus stop serving C.S. Porter Middle School is located at the intersection of North Grove Street and Quinn Court, just north of the subject property. The subject property is within the walking boundary for Big Sky High School. *(City Major Subdivision Application, Bus Routes Map*)

Conclusions of Law:

1. The Orchard Grove Subdivision will meet the road improvement and non-motorized facility standards in the Missoula City Subdivision Regulations if the recommended conditions of approval are imposed.
2. The Orchard Grove Subdivision provides active transportation facilities that provide safe routes to bus stops, open space, other neighborhoods, and all lots within the subdivision in compliance with Section 3-010.7 and 3-020.15.B.1.b of the City Subdivision Regulations if the recommended conditions of approval are imposed.

Rights-of-Way and Easements

Findings of Fact:

1. Section 3-020.3.B of the City Subdivision Regulations requires all streets within a subdivision to be dedicated public right-of-way or, at the City Engineer's discretion, may be a privately maintained street within a public access easement. Section 3-060.1 of the City Subdivision Regulations requires easements to be provided for utilities, drainage, watercourse, channel, ditch, stream, vehicular, and pedestrian access.
2. The street within the subdivision is proposed to be a privately maintained street within a public access easement. All utilities and drainage facilities are located within proposed easements. (*Preliminary Plat, Grading, Drainage, and Road Construction Plans, Utility Construction Plans*).
3. An existing irrigation ditch and irrigation pipe is located on the subject property. The subdivider is proposing irrigation easements for these existing facilities. (*Preliminary Plat*).
4. In order to comply with Sections 3-020.3.B and 3-060.1 of the City Subdivision Regulations and Missoula City Public Works and Specifications Manual, staff recommends a condition of approval requiring all proposed rights-of-ways and easements to be shown on the face of each plat and identified for their width, purpose, and the recorded book and page numbers.

Conclusions of Law:

1. The Orchard Grove Subdivision will meet the easement and right-of-way requirements of Sections 3-020.3.B and 3-060.1 of the City Subdivision Regulations if the recommended conditions of approval are imposed.

Drainage

Findings of Fact:

1. Section 3-040 of the City Subdivision Regulations provides minimum standards for site grading and control of stormwater runoff.
2. Section 3-040.2.E of the City Subdivision Regulations states all drainage systems must meet the minimum standards of the Montana Department of Environmental Quality (DEQ), as required by MCA Title 76, Chapter 4 and 5, Part 1, as amended, and all applicable state and local regulations.
3. The subdivision application includes a Preliminary Storm Drainage Report that evaluates pre- and post-development conditions. This area is known to contain seasonal high groundwater and monitoring was completed. Stormwater is proposed to be managed using shallow drywell sumps and a retention basin. Additionally, a Preliminary Stormwater Prevention Pollution Plan has been provided. (*Grading, Drainage, and Road Construction Plans*, *Stormwater Memorandum, Groundwater Mitigation Plan*)
4. Sections 5-020.11 and 3-040 of the City Subdivision Regulations requires the subdivider to submit a complete grading and drainage plans showing proposed grade of streets, proposed drainage facilities, and a storm water pollution prevention plan for all lots, blocks, and other areas meeting Montana Department of Environmental Quality standards, subject to the review and approval of the City Engineer. All drainage facilities must be constructed in accordance with the approved plans.
5. In order to comply with Section 5-020.11 of the City Subdivision Regulations, staff recommends a condition of approval requiring the subdivider to provide plans for and installation of grading, drainage, and stormwater facilities, subject to review and approval by Montana Department of Environmental Quality and Public Works & Mobility, prior to final plat approval.

Conclusions of Law:

1. The Orchard Grove Subdivision will meet the grading and drainage standards of the Missoula City Subdivision Regulations and the Montana Department of Environmental Quality if the recommended conditions of approval are imposed.
2. Final grading, drainage, and stormwater plans will be reviewed and approved by the City Public Works & Mobility Department prior to final plat approval if the recommended conditions of approval are imposed.

Water Supply, Sewage Disposal, and Solid Waste

Findings of Fact:

1. The subject property is within the Utility Services Area Boundary. (*City Central Maps*)
2. Section 3-010.5 of the City Subdivision Regulations requires subdivisions to be served by adequate public facilities and services including water supply, sewage disposal, and solid waste disposal.
3. Utility main extensions are planned from existing mains located in South Grove Street. The subdivision application includes a water and sanitation report meeting the City's requirements for this stage of the review process. (*Utility Construction Plans; Water and Sanitation Report*)
4. In order to comply with Section 3-010.5 of the City Subdivision Regulations, staff recommends a condition of approval requiring the subdivider to provide plans for and installation of water supply and sewage disposal facilities for review and approval by Public Works and Mobility, City/County Health Department, and Montana Department of Environmental Quality, prior to final plat approval.

5. Section 3-070.1 of the City Subdivision Regulations states the means for solid waste disposal is subject to approval of the City Council. Republic Services is expected to provide solid waste disposal service to the subdivision (*Subdivision Application*). Staff recommends a condition of approval requiring the subdivider to submit plans for solid waste disposal for review and approval by City/County Health Department, and Montana Department of Environmental Quality, prior to final plat approval.

Conclusions of Law:

1. Public sewer and water services are available to the subdivision and will be in compliance with the City Subdivision Regulations, if the recommended conditions of approval are imposed.
2. Solid waste disposal service will be available to the subdivision and will be in compliance with the City Subdivision Regulations, if the recommended conditions of approval are imposed.
3. Review of water supply, sewage disposal, and solid waste is under jurisdiction of state and local health authorities under the Montana Sanitation and Subdivision Act.

Parks and Recreation

Findings of Fact:

1. Section 3-080 of the City Subdivision Regulations require dedication of open space (parkland) equal to 11% of the net lotted area for land proposed to be subdivided into lots of 0.5 acres or smaller that will have one or two dwelling units on the lots. The total parkland dedication required in this subdivision is 0.27 acres (*Pg. 38, City Major Subdivision Application)*
2. The applicant, per discussion with the Parks and Recreation Department, will be providing cash-in-lieu of land dedication. Section 3-080 of the City Subdivision Regulations requires that the developer provide cash-in-lieu of parkland equal to the fair market value of the amount of land statutorily required to be dedicated determined by an appraisal report conducted by a Montana State licensed general real estate appraiser (as provided under MCA 37-54-201-, et seq) chosen by the City, prepared within six months of the date that a complete final plat application is submitted for approval. Staff recommends a condition of approval that the cash-in-lieu appraisal and payment be submitted, subject to review and approval by Development Services and Parks & Recreation, prior to final plat approval.
3. Section 5-050.5.C of the City Subdivision Regulations requires the subdivider to submit a boulevard landscaping plan. For findings of fact regarding installation of boulevards, see the roads section of this report. Preliminary plans for boulevard landscaping are provided in the preliminary construction plans. Staff recommends a condition of approval requiring the subdivider to submit final plans for boulevard landscaping, prior to final plat approval. For boulevards adjacent to development lots, boulevard landscaping installation is the requirement of the lot owner, prior to Certificate of Occupancy. Staff recommends a condition of approval requiring the subdivider to include a note in the Development Covenants apprising future owners of this requirement.

Conclusion of Law:

1. Open Space (parkland) dedication is required in the City Subdivision Regulations, but can be met through cash-in-lieu. The subdivision, as proposed, will meet the cash-in-lieu of parkland dedication requirements if the recommended conditions of approval are imposed.

2. City Subdivision Regulations require plans for and installation of boulevard landscaping, which will be reviewed and approved prior to final plat approval and installed as per City policies, if the recommended conditions of approval are imposed.

Schools

Findings of Fact

1. Future school-age residents of this subdivision will be eligible to attend Hawthorne Elementary, C.S. Porter Middle School, and Big Sky High School. *(Pg. 36, City Major Subdivision Application)*
2. No additional comments were received following request for agency comment at the time of writing of this report. (*Application Section E – School District Inquiry*)

Conclusion of Law*:*

1. No adverse impacts to schools requiring mitigation have been identified.

Fire Department

Findings of Fact:

1. The Missoula City Fire Department will serve the subdivision. The nearest station is located approximately seven miles from the subject property. (*Pg. 37, City Major Subdivision Application*)
2. Subdivision Regulations Section 3-070.1 requires that water supply for fire protection be provided via a public or community water system with 1,000 gallons per minute minimum flow, or via residential sprinkler systems.
3. Water supply for fire protection for this subdivision is planned to be supplied via new fire hydrants. A fire hydrant layout exhibit was provided with the subdivision application. *(Application Section A – Supplemental Data Sheets)*
4. In order to comply with Section 3-070.1 of the City Subdivision Regulations, staff recommends a condition of approval requiring the subdivider to provide plans for fire suppression water flow and hydrant placement for review and approval by Public Works & Mobility and City Fire, prior to final plat approval.
5. The Missoula City Fire Department requires a street signage plan and an addressing system to be developed that conforms to the addressing requirements of the City. All new buildings are assigned an address at the time of building permit approval. A condition of approval is recommended to address signage standards. *(City Subdivision Regulations Section 3-010.1.F)*

Conclusion of Law:

1. Fire service is available to the subdivision if the recommended conditions of approval are imposed.

Law Enforcement

Findings of Fact:

1. Upon annexation, the subdivision will be located within the jurisdiction of the Missoula Police Department. The police station is located approximately 6 miles from the site. *(Pg. 37, City Major Subdivision Application)*
2. The Missoula Police Department did not provide comments on the subdivision or annexation requests.

Conclusion of Law:

1. Law enforcement service is available to the subdivision.

Mail Delivery

Findings of Fact:

1. City Subdivision Regulations Section 3-100.18 states City Council may require mail delivery facilities for future subdivision residents. U.S. Postal Service Supervisor Caitlynn Holmgren wrote in a letter of comment dated August 1, 2023, that the best option for mail delivery would be for the subdivider to install cluster mailbox unit.
2. Staff recommends a condition of approval that the developer provide for mail delivery facilities to be reviewed and approved by the U.S. Postal Service prior to final plat approval.

Conclusion of Law:

1. Mail delivery service can be provided to the future residents if the condition of approval is met prior to final plat approval.

CRITERIA D, E AND F: EFFECTS ON THE NATURAL ENVIRONMENT AND WILDLIFE AND WILDLIFE HABITAT

Findings of Fact:

Natural Environment

1. City Subdivision Regulations Section 5-020.6.D states the subdivider must identify the resources and evaluate the subdivision's likely impacts on those resources including adjacent public lands, cultural resources, hydrological characteristics, soil characteristics, and vegetative cover types.
2. The subject property is not adjacent to public lands containing natural resources. *(Pg. 12, City Major Subdivision Application*)
3. The subject property does not contain any natural surface water features, riparian vegetation, wetlands, critical plant communities, or steep slopes. *(Application Section B – National Wetlands Inventory Map, Vegetation Exhibit, NHP Species of Concern Occurrences Report, Pgs. 12 & 19, City Major Subdivision Application).*
4. The subject property is located within floodplain designation Zone X, area of minimal flood hazard (*FEMA Map Service Center*).
5. Subdivision Regulations Section 3-010.1F requires the subdivision to comply with other regulations applicable to the land proposed for subdivision, including the irrigation district.
6. The Missoula County Noxious Weed Management Plan adopted by Resolution 2012-063 requires a weed management plan as part of subdivision plans. Staff recommends a condition of approval requiring the subdivider to provide and append the Weed Management and Revegetation Plan to the Development Covenants, prior to final plat approval.
7. The subject property currently contains intermittent grasses, shrubs, and weeds, and has several mature cottonwood and fruit trees in a relatively healthy state. *(Pg. 18, City Major Subdivision Application, Application Section B – Vegetation Exhibit*) Areas of grasses, shrubs, and invasive weeds will be removed and replaced with new landscaped areas. Some trees will likely need to be removed, but specific trees requiring removal or preservation will be determined at the time of building permit, based on construction plans. *(Pg. 19, City Major Subdivision Application)* The weed management plan recommends herbicide treatments for the noxious weeds and revegetation of disturbed areas with red fescue and perennial rye grass. (*Approved Weed Management and Revegetation Plan*)
8. The subject property is located within the Wildland Urban Interface. The application packet indicates that there are no known critical or key wildlife areas present on the subject

property, such as big game winter ranges, grizzly bear linkage corridors, waterfowl nesting areas, habitat for rare or endangered species, or wetlands and riparian resource areas. The property may be in the range of Great Blue Heron, Bald Eagle, a variety of Woodpecker and other bird species, Hoary Bat and Western Skink. It is anticipated that the subject property will support birds and other small wildlife species that are known to typically filter through dense residential development. *(Pg. 22, City Major Subdivision Application, Application Section B – Wildlife Exhibit, NHP Species of Concern Occurrences Report)*

9. The covenants include information for lot purchasers about living with wildlife and advises lot owners of potential issues associated with wildlife concerning pets, garbage, and other potential areas of conflict. *(Pg. 22, City Major Subdivision Application, Draft Proposed Covenants, Conditions, and Restrictions)*
10. The Montana State Historic Preservation Office's position is that any structure over 50 years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. For any structures over 50 years old, it is recommended that they be recorded, and a determination of their eligibility be made prior to any disturbance taking place.
11. The subject property contains structures that are more than 50 years old that are proposed to be removed. The applicant has included an Architectural Engineering Record Report with their application, documenting the structures on-site that may have historic significance. Staff recommends a condition requiring that an Architectural Engineering Record Form be submitted to the State Historic Preservation Office to document the existing structures prior to any alterations being conducted and prior to final plat approval, in order to comply with Section 3-010.8 of the City Subdivision Regulations.

Conclusion of Law:

1. Minimal impacts to the natural environment and wildlife habitat are foreseen as a result of this subdivision if the recommended conditions of approval are imposed.
2. No significant historic or natural features will be destroyed, lost or damaged as a result of this subdivision if the recommend conditions of approval are imposed.

CRITERION G: EFFECTS ON PUBLIC HEALTH AND SAFETY

Findings of Fact:

1. Section 5-020.6.G of the City Subdivision Regulations states the subdivider must demonstrate the proposed subdivision will have no adverse impact on conditions that relate to public health and safety including disease control and prevention, emergency services, environmental health, flooding, fire or wildfire hazards, rock falls or landslides, unstable soils, steep slopes and other natural hazards, high voltage lines or high pressure gas lines, on-site or nearby off-site land uses that create nuisance (e.g. noise, dust, smoke, unpleasant odors), and air or vehicular traffic safety hazards.
2. The subject property does not contain steep slopes, floodplain, unstable soils, high voltage lines, or high-pressure gas lines. (*FEMA Map Service Center; Pg. 21, City Major Subdivision Application)*
3. The subject property is located within an air stagnation zone. The Development Covenants include language stating no wood burning devices of any type shall be permitted or used within the subdivision and all lot owners shall abide by laws and regulations relating to air pollution. (*Proposed Draft Covenants, Conditions, and Restrictions*)
4. The subject property has high groundwater, and a groundwater modeling study was provided in the application packet. Appendix A of the Water and Sanitation Report shows

the subject property has a minimum depth to groundwater between 12.6-13.9 feet for portions of the subject property. *(Pg. 21, City Major Subdivision Application, Application Section D – Water and Sanitation Report)*

5. Staff recommends a condition of approval requiring a note on the plat and in the covenants stating, “Basements shall be prohibited until such time as the developer provides sufficient evidence to the City of Missoula Public Works & Mobility Department that no threat to the public safety or loss of property will result in those area proposed for basements.”
6. For findings of fact on provision of emergency services, see Criterion C of this report.

Conclusion of Law:

1. No adverse impacts to public health and safety are foreseen as a result of this subdivision if the recommended conditions of approval are imposed.

C. PRIMARY CRITERIA COMPLIANCE

This subdivision complies with:

1. SURVEY REQUIREMENTS

Findings of Fact:

1. The Seal of a Professional Land Surveyor or Engineer is required on all final plats, which states that the subdivision complies with part 4 of M.C.A. 76-3.
2. City Subdivision Regulations Section 4-070 includes a process to ensure final plats contain all necessary seals and certificates prior to filing and comply with state survey requirements.

Conclusion of Law:

1. This proposal meets the survey requirements.

2. SUBDIVISION REGULATIONS

Findings of Fact

1. Subdivisions are required to comply with the local subdivision regulations provided for in Part 5 of M.C.A. 76-3.

Conclusion of Law:

1. The plat and plans will be brought into compliance with the local subdivision regulations if the conditions of approval are imposed.

3. REVIEW PROCEDURE

Findings of Fact:

1. Subdivisions are required to comply with the local subdivision review procedure provided for in Article 4 of the Missoula City Subdivision Regulations.
2. Notice of a public hearing on this subdivision was posted on the property on December 11, 2023, and letters were mailed to adjacent property owners on December 7, 2023. Legal notice was published in the Missoulian on December 9, 2023, and December 16, 2023.
3. The public hearing before the Missoula Consolidated Planning Board is scheduled for January 2, 2024, at 6 pm. The public hearing before the City Council is scheduled for January 8, 2024, at 6 pm.
4. City Council is scheduled to give final consideration to this subdivision on January 22, 2024. The 60-working day review period for this subdivision expires on February 2, 2024.

Conclusion of Law*:*

1. This subdivision review has followed the necessary application procedure and has been reviewed within the procedures provided in Article 4 of the Missoula City Subdivision Regulations and the Montanan Subdivision and Platting Act.

D. PROVISION OF LEGAL AND PHYSICAL ACCESS

Findings of Fact:

1. Section 3-020.3 of the City Subdivision Regulations requires that perpetual legal access to subdivisions must come from an established public road or by a public perpetual access easement or right-of-way adequate to serve the subdivision. Access to the subdivision would be from South Grove Street and Larkin Wood Drive. (*Preliminary Plat*)
2. Legal and physical access to each lot would be provided via existing public streets improved to be in compliance with City standards and a new private homezone/woonerf street with a public access easement designed to be in compliance with City standards. (*Preliminary Plat, Civil Construction Plans*)

Conclusion of Law:

1. The subdivision proposal meets the physical and legal access requirements of the Subdivision Regulations.

VI. VARIANCE REQUEST – 3-020.5 LOOP STREETS PROHIBITED

A variance is requested from Article 3-020.5 of the City Subdivision Regulations which prohibits loop streets, defined as, “a local street or road that begins and ends on the same street, generally used for access to properties.”

Magnolia Drive, a new homezone/woonerf street type will provide access to Lots 2, 3, and 5 through 24. It is classified as a loop street because both entrances to the street intersect with Larkin Wood Drive. (*Preliminary Plat, Conceptual Landscape Plan Exhibit, Variance Request*)

RECOMMENDATION:

Approve the variance request from Article 3, Section 3-020.5 of the City Subdivision Regulations, which prohibits cul-de-sacs, loop and circle streets and turnarounds, and dead-end streets, to allow Magnolia Drive, a proposed homezone/woonerf street, to connect to Larkin Wood Drive in two locations, resulting in a loop street, based on the findings of fact and conclusions of law in the staff report.

FINDINGS:

The City Council must consider the following criteria and make a finding, based upon the evidence presented to it in each specific case, that:

1. The granting of this variance does not result in a threat to the public safety, health, or welfare, and is not injurious to other persons or property.
    a. Magnolia Drive is proposed to have at least a 20-foot-wide travel lane, which is sufficient for fire truck access. (*Grading, Drainage, and Road Plans, Preliminary Plat, Variance Request, Pg. 25, City Major Subdivision Application*) The minimum unobstructed clear space required for fire access on a two-way homezone/woonerf street is 16 feet. *(City Subdivision Regulations Section 3-020.7.E)*
    b. Emergency vehicle access and turnaround space provided is adequate, and vehicle turning simulations have been included in the application. *(Application Section A – Supplemental Data Sheets)*
    c. Both non-motorized and motorized access to the lots is provided via Magnolia Drive, and the homezone/woonerf street type prioritizes slow vehicle speeds and shared

non-motorized and motorized travel lanes. A circulation plan showing the pedestrian and vehicular movement system is included with the application. (*Preliminary Plat, Application Section A – Supplemental Data Sheets)*

d. Most lots are designed to allow for attached townhouse structures, which propose shared or paired driveway access, reducing conflict points of vehicles reversing on to Magnolia Drive. *(Application Section A – Supplemental Data Sheets)*
e. The granting of this variance does not result in a threat to the public safety, health, or welfare, and is not injurious to other persons or property.

2. The conditions upon which the request for a variance is based are unique to the property for which the variance is sought and are not applicable generally to other property;

    a. The conditions upon which this variance is based are unique to this property, and the existing pattern of development surrounding it. Existing rights-of-way and adjacent residential development limit the options for street connections from the subdivision, resulting in the interior loop street being required for access to 22 lots. Adding a new access on South Grove Street from the subject property would cause conflict with existing driveway and street access points and would not meet specific design standards of the Public Works Manual. Additionally, access from Larkin Wood Drive or a new street on to Reserve Street is not feasible due to the existing grade change and would not be supported by the Montana Department of Transportation.

3. Because of the physical surroundings, particular shape, or topographical conditions of the specified property involved, undue hardship to the owner would result if the strict requirements of these regulations are enforced;

    a. There are not feasible access points to the property that would allow access to all proposed lots due to the existing development pattern within and around the property. Seeking a new connection on to an existing road would cause an undue hardship on the property owners if the strict requirements of these regulations are enforced. Alternative options for access include a dead-end street or cul-de-sac, both of which are also prohibited in the city subdivision regulations. With the loop street design, there are two ingress/egress points for residents and service vehicles, which is the preferable design.

4. The variance will not in any manner violate the provisions of the zoning ordinance or any variance granted to those regulations or the Growth Policy;

    a. The variance will not violate the provisions of Title 20 Zoning Code or the Our Missoula 2035 Growth Policy.

5. The variance will not cause an increase in public costs;

    a. The homezone/woonerf street Magnolia Drive will be privately maintained and be within a public access easement. Therefore, Magnolia Drive will be maintained by the Home Owners Association rather than by the City and will not result in increased costs.

    b. The variance will not cause an increase in public costs.

6. The hardship has not been created by the applicant or the applicant's agent or assigns.

    a. The hardship has not been created by the applicant or the applicant's agent or assigns. The hardship is a result of the shape of the property and the existing residential and public infrastructure.

VII. VARIANCE REQUEST – LOCAL RESIDENTIAL STREET STANDARDS

A variance is requested from Article 3, Section 3-020, Table .2A of the City Subdivision Regulations for Larkin Wood Drive, which does not meet the required 47-foot right-of-way width and is proposed to have a 7-foot-wide curbside sidewalk with no boulevard adjacent to the subject property. Article 3, Section 3-020, Table .2A of the City Subdivision Regulations provides the design standards for streets. Larkin Wood Drive is classified as a Local Residential Street and requires a minimum 47-foot-wide right-of-way. The existing width of the right-of-way is 27 feet. The applicant is proposing to dedicate 10 feet of right-of-way on the north boundary of the subject property.

Note: The applicant does not own the entire street frontage abutting Larkin Wood Drive and therefore cannot dedicate 10 feet of right-of-way for approximately 170 feet of Larkin Wood Drive.

Table .2A also requires a 7-foot boulevard with a 5-foot sidewalk. When granted a variance to have curbside sidewalk, Section 3-020.15.D.2.a requires a minimum 7-foot clear space for sidewalks on local streets. To accommodate this requirement, a 1.5-foot Sidewalk Easement has been proposed along the northern portion of Lots 5, 13, and 18. To further mitigate the absence of a boulevard, the applicant is proposing to add trees adjacent to the sidewalk on the respective lots. The sidewalk will also extend past the subject property to create a non-motorized access to the Reserve Street Trail. (*Preliminary Plat, Grading, Drainage, and Road Construction Plans, Conceptual Landscape Plan Exhibit, Variance Request*)

RECOMMENDATION:

Approve the variance request from Article 3, Section 3-020, Table .2A of the City Subdivision Regulations for Larkin Wood Drive, which does not meet the required 47-foot right-of-way width and is proposed to have a 7-foot-wide curbside sidewalk with no boulevard adjacent to the subject property, based on the findings of fact and conclusions of law in the staff report.

FINDINGS:

The City Council must consider the following criteria and make a finding, based upon the evidence presented to it in each specific case, that:

1. The granting of this variance does not result in a threat to the public safety, health, or welfare, and is not injurious to other persons or property.
    a. The proposed deviation from Missoula City Subdivision Regulations Section 3-020 Table .2A is due to the varying width of Larkin Wood Drive and necessary to accommodate the existing conditions of the roadway.
    b. The street is proposed to have at least a 20-foot-wide paved surface, which is sufficient for fire truck access. (*Grading, Drainage, and Road Plans, Preliminary Plat*)
    c. The proposed improvements to Larkin Wood Drive will increase non-motorized transportation infrastructure, and provide a connection to the Reserve Street shared-use path. (*Preliminary Plat*)
    d. With future development, it is feasible that the full right-of-way width and infrastructure elements for a local residential street will be installed for the remainder of the street.
    e. The granting of this variance does not result in a threat to the public safety, health, or welfare, and is not injurious to other persons or property.
2. The conditions upon which the request for a variance is based are unique to the property for which the variance is sought and are not applicable generally to other property;

a. The conditions upon which this variance is based are unique to the subject property and its location in relation to adjacent development. The existing Larkin Wood Drive gravel roadway varies in width and is bound by adjacent residential development on either side.

3. Because of the physical surroundings, particular shape, or topographical conditions of the specified property involved, undue hardship to the owner would result if the strict requirements of these regulations are enforced;

    a. There would be an undue hardship on the property owners if the strict regulations were enforced due to the existing varied roadway width for Larkin Wood Drive and the inability to expand that roadway width on adjacent property not owned by the applicants. Dedication of the full 20 feet to meet the right-of-way width on the subject property would result in a loss of proposed residential units. The street would also have an unusual curve connecting the wider section to the existing portion to remain.

4. The variance will not in any manner violate the provisions of the zoning ordinance or any variance granted to those regulations or the Growth Policy;

    a. The variance will not violate the provisions of Title 20 Zoning Code or the Our Missoula 2035 Growth Policy.

5. The variance will not cause an increase in public costs;

    a. The variance will not cause an increase in public costs. Maintenance of the proposed infrastructure is not anticipated to be costlier than it would be if the street was installed to meet all standards.

6. The hardship has not been created by the applicant or the applicant's agent or assigns.

    a. The hardship has not been created by the applicant or the applicant's agent or assigns. The hardship is a result of the property dimensions, existing infrastructure and residential homes restricting the possibility of expanding the roadway width.

VIII. REFERENCES CITED

The following materials are referenced throughout this document. For ease of reading, short versions of the citations (shown in italics) are used in-text, and full citations are included here.

Plans and Regulations

M.C.A.: Montana Code Annotated, 2023
https://leg.mt.gov/bills/mca/title_0760/chapters_index.html

Subdivision Regulations**:** *City of Missoula Subdivision Regulations,* adopted by the Missoula City Council and amended on October 16, 2023
https://www.ci.missoula.mt.us/DocumentCenter/View/58232/Missoula-City-SubdivisionRegulations2022-Amend?bidId=

Annexation Policy, adopted July 22, 2019
http://www.ci.missoula.mt.us/DocumentCenter/View/50374/July-23_Annexation-Policyas-Amended?bidId=#:~:text=City%20annexation%20provides%20a%20united,addressing%20community%20goals%20and%20values.

Title 20, Zoning Code, adopted as amended October 16, 2023
https://library.municode.com/mt/missoula/codes/municipal_code

Missoula Public Works Standards and Specifications Manual, amended December 1, 2022

http://www.ci.missoula.mt.us/2708/Public-Works-Standards-Specifications-Ma

Missoula County Zoning Regulations

https://bloximages.chicago2.vip.townnews.com/missoulian.com/content/tncms/assets/v3/editorial/2/75/27586410-3558-5586-9f08-c3bd776c92ec/61eb37ef7770a.pdf.pdf

Elements of the Application Packet for Governing Body Review

https://www.ci.missoula.mt.us/3212/Orchard-Grove-Annexation-Subdivision

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Geotechnical Evaluation Report
Utility Construction Plans
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Site Photos -Orchard Homes Irrigation Ditch
HRA Architectural Engineering Record Report
Neighborhood Meeting, Minutes, and Comments
Service Area Inquiry
School District Inquiry
MDT Inquiry
Property Ownership and Applicant Inquiry
Ditch Company Inquiry

Other References

Missoula County Property Information System
https://gis.missoulacounty.us//propertyinformation/

City Central Maps
https://missoulamaps.ci.missoula.mt.us/portal/apps/sites/#/gis

FEMA Map Service Center
https://msc.fema.gov/portal/home

SUBDIVISION ATTACHMENT A

SUBDIVISION PROJECT HISTORY

Project: Orchard Grove Subdivision, Annexation, and Zoning Upon Annexation

Applicant: Richard and Evelyn Bean, Collin Bangs, John Barrett

Representative: IMEG Corp.

Pre-application Meeting: Scoping Meeting 11/18/2021; Pre-application Meeting 2/22/2023

Element: Submitted 5/9/2023, 6/16/2023, 7/12/2023; Complete 7/19/2023.

Sufficiency: Submitted 8/14/2023, 10/12/2023; Sufficient 11/2/2023

Start Governing Body Review: 11/3/2023

60 Working-Day Deadline: 2/2/2024

Extension Granted: No.

City Council Consent Agenda: 12/18/2023

Planning Board: 1/2/2024

City Council Public Hearing: 1/8/2024

Land Use and Planning Committee: 1/10/2024

City Council Final Consideration: 1/22/2024

Public Notice: Posted 12/11/2023; Adjacent Property Owner Letters Sent 12/7/2023; Legal Ad in Missoulian 12/9/2023 and 12/16/2023

EXHIBIT A: COMPLETE LEGAL DESCRIPTION

Subject Property Information

Geocode:

04-2200-19-1-10-01-0000

04-2200-19-1-10-03-0000

Legal Description

The parcel currently located outside of City Limits, and legally described as:

Parcel I:

A tract of land being a portion of Lot 42, COBBAN AND DINSMORE'S ORCHARD HOMES, a recorded subdivision of Missoula County, Montana, located in the Northeast one-quarter of the

Southeast one-quarter of Section 19, Township 13 North, Range 19 West, Principal Meridian, Montana, Missoula County, Montana, more particularly described as follows:

Beginning at the Northwest corner of Lot 42 Cobban and Dinsmore's Orchard Homes; thence N.89°12'15"E., 483.32 feet along the North line of Lot 42 to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way; thence S.11°54'13"E., 101.98 feet along said West right-of-way line; thence S.00°35'35"E., 146.84 feet along said west right-of-way to a point on the South line of Lot 42 Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W.,

503.93 feet to the Southwest corner of said Lot 42; thence N.00°29'00"W., 173.89 feet along the West line of said lot 42 to the Southwest corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.89°12'15"E., 170.00 feet to the Southeast corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.00°29'00"W., 123.00 feet to the Northeast corner of that tract recorded in Book 237 of Deeds at Page 492; thence S.89°12'15"W., 170.00 feet to the Northwest corner of that tract recorded in Book 237 of Deeds at Page 492; thence N.00°29'00"W., 27.00 feet along the West line of Cobban and Dinsmore's Orchard Homes to the point of beginning.

SAVING AND EXCEPTING THEREFROM

A tract of land being a portion of Lot 42 of Cobban and Dinsmore's Orchard Homes, a recorded subdivision of Missoula County, Montana, located in the Northeast one-quarter of the Southeast one-quarter of Section 19, Township 13 North, Range 19 West, Principal Meridian, Montana, Missoula County, Montana, more particularly described as follows:

Beginning at the Northwest corner of Lot 42 Cobban and Dinsmore's Orchard Homes; thence N. 89°12'15"E., 289.99 feet along the North line of said Lot 42 to the true point of beginning; thence continuing N.89°12'15"E., along the North line of said Lot 42 a distance of 193.33 feet to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way; thence S.11°54'13E"., 101.98 feet along said West right-of-way line; thence S.00°35'35"E., 146.84 feet along said West right-of-way to a point on the South line of Lot 42 Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W., 212.18 feet; thence N.00°47'45"W., 323.55 feet to the true point of beginning. Recording Reference Book 497 of Micro Records at Page 19.

FURTHER EXCEPTING

Portion A of Cobban Dinsmore's Orchard Homes Lot 42, a platted subdivision in Missoula County, Montana, according to the official recorded plat in Book 19 at Page 82 of Plats, recorded in Book 494 at Page 2010 Micro Records.

Recording Reference Book 996 at Page 1389 Micro Records.

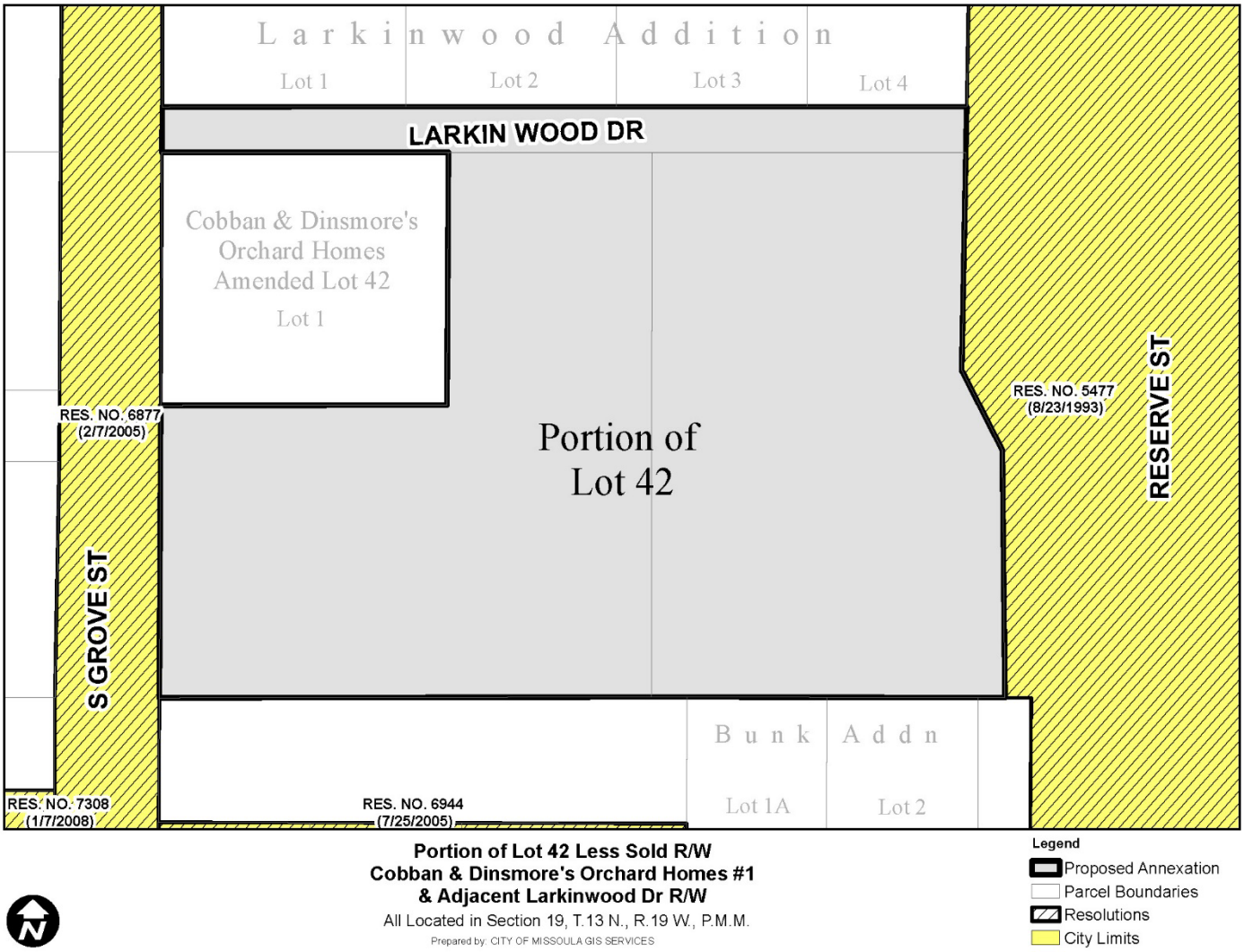
Parcel II:

A tract of land being a portion of Lot 42 of Cobban and Dinsmore's Orchard Homes, a recorded subdivision of Missoula County, Montana, located in the Northeast one-quarter of the Southeast one-quarter of Section 19, Township 13 North, Range 19 West, Principal Meridian, Montana, Missoula County, Montana, more particularly described as follows:

Beginning at the Northwest corner of Lot 42 Cobban and Dinsmore's Orchard Homes; thence N. 89°12'15"E., 289.99 feet along the North line of said Lot 42 to the true point of beginning; thence continuing N.89°12'15"E., along the North line of said Lot 42 a distance of 193.33 feet to a point on the West right-of-way of Reserve Street; thence S.00°35'35"E., 76.40 feet along said West right-of-way; thence S.11°54'13E"., 101.98 feet along said West right-of-way line; thence S.00°35'35"E., 146.84 feet along said West right-of-way to a point on the South line of Lot 42 Cobban and Dinsmore's Orchard Homes; thence S.89°08'15"W., 212.18 feet; thence N.00°47'45"W., 323.55 feet to the true point of beginning.

Recording Reference Book 732 at Page 1436 Micro Records.

EXHIBIT B: ANNEXATION MAP



Portion of Lot 42 Less Sold R/W
Cobban & Dinsmore's Orchard Homes #1
& Adjacent Larkinwood Dr R/W

All Located in Section 19, T.13 N., R.19 W., P.M.M.

Prepared by: CITY OF MISSOULA GIS SERVICES

Return to: City Clerk
City of Missoula
435 Ryman Street
Missoula MT 59802-4297

RESOLUTION NUMBER _____

A resolution of intention to annex and incorporate within the boundaries of the City of Missoula, Montana a parcel of land legally described as a Portion of Lot 42 of Cobban & Dinsmore's Orchard Homes #1, located in the SE1/4 of Section 19, Township 13 North, Range 19 West, P.M.M. Missoula County, Montana, as shown on Exhibit A, and zone the property RT5.4 Residential 5.4 (two-unit/townhouse), based on the findings of fact in the staff report, subject to the recommended conditions of annexation approval, set a public hearing for January 8, 2024, and refer this item to the Land Use and Planning Committee on January 10, 2024:

WHEREAS, Robert and Evelyn Bean, Collin Bangs, and John Barrett, owners of 100% of the property described herein as a Portion of Lot 42 of Cobban & Dinsmore's Orchard Homes #1, located in the SE1/4 of Section 19, Township 13 North, Range 19 West, P.M.M. Missoula County, Montana, have filed Petition No. 10160 with the City Clerk requesting annexation and waiving the need to prepare a service plan for the annexation; and

WHEREAS, it is the Missoula City Council's decision to consider this petition for annexation pursuant to the statutory annexation by petition method set forth in Title 7 Chapter 2 Part 46 Section 4601 (3)(a)(ii) Montana Code Annotated (MCA); and

WHEREAS, the herein described property is within the City of Missoula Utility Service Area boundary, the City has current and future capacity to serve the property and development, and the owners/developers will pay all costs to extend the municipal sewer and water service to the property; and

WHEREAS, the City Council desires the annexation and zoning of the herein described property be conditioned upon annexation subject to the following conditions:

Zoning

1. Approval of the annexation shall be contingent upon City Council approval of the Orchard Grove Subdivision.

Streets, General

2. The following statement shall appear on the face of each plat, in the covenants, conditions, and restrictions, and on each instrument of conveyance, subject to review and approval by Public Works & Mobility and Development Services, prior to final plat approval: "Acceptance of a deed for a lot within this subdivision shall constitute the assent of the owners to any future SID/RSID, based on benefit, for future improvements and maintenance of Larkin Wood Drive and Grove Street including but not limited to paving, curbs and gutters, non-motorized facilities, street widening and drainage facilities, and may be used in lieu of their signatures on a SID petition."

3. The developer shall provide a street signage plan and install street signage (including street name signs) in accordance with the Manual on Uniform Traffic Control Devices, subject to review and approval by Public Works & Mobility and the Fire Department, prior to final plat approval.

Road and Alleys

4. The developer shall provide plans for and install half street improvements to South Grove Street, a low-density urban local street, including a 5-foot dedication of public right-of-way, drive lane, curb and gutter, landscaped boulevard, street trees, stormwater facilities, and pedestrian facilities as shown on the preliminary plat and plans, subject to review and approval by Public Works & Mobility and Parks & Recreation, prior to final plat approval.
5. The developer shall provide plans for and install improvements to Larkin Wood Drive, a local residential street, including a 10-foot dedication of public right-of-way, two drive lanes, parking lane, curb and gutter, sidewalks, and stormwater facilities as shown on the preliminary plat and plans, subject to review and approval by Public Works & Mobility and Parks and Recreation, prior to final plat approval.
6. The developer shall provide plans for and install improvements to Magnolia Drive, a privately maintained homezone/woonerf street within a public access and utility easement of varying width, including a 20-foot travel way, streetside common parking spaces, curb and gutter, landscaping, street trees, and stormwater facilities as shown on the preliminary plat and plans, subject to review and approval by Public Works & Mobility and Parks and Recreation, prior to final plat approval.

Non-Motorized Transportation

7. The developer shall provide plans for and installation of a pedestrian connection from Larkin Wood Drive to the Reserve Street shared-use path as shown on the preliminary plat and plans, subject to review and approval by Public Works & Mobility and Parks & Recreation, prior to final plat approval.

Rights-of-Way and Easements

8. All proposed rights-of-way and easements shall be shown on the face of the plat and identified for their width and purpose, subject to review and approval by Public Works & Mobility, prior to final plat approval.

Fire Protection

9. The developer shall provide plans for fire suppression water flow and hydrant placement, subject to review and approval by City Fire Department and Public Works & Mobility, prior to final plat approval. The developer shall install all fire hydrants prior to final plat approval. In the event the developer enters into an improvements agreement with the City of Missoula to postpone installation of certain improvements until after final plat approval, fire hydrants must be installed prior to combustible construction in the area the hydrants are intended to serve, subject to review and approval by City Fire Department and Public Works & Mobility.

Water Supply, Sewage Disposal, Stormwater Management, and Solid Waste

10. The developer shall provide plans for and installation of water supply, sewage disposal, stormwater management, and solid waste disposal facilities for review and approval by Public Works & Mobility, City/County Health Department, and Montana Department of Environmental Quality, prior to final plat approval.

Agricultural Water Users Facilities

11. The developer shall dedicate on the final subdivision plat ditch or culvert easements for the unobstructed use and maintenance of existing water delivery ditches, pipelines, and facilities on

the property to lands adjacent to or beyond the property boundaries in quantities and in a manner that is consistent with historic and legal rights. The language on the final plat shall also prohibit the placement of structures or the planting of vegetation other than grass within the ditch easement without the written permission of the ditch owner.

12. The developer shall provide a statement on the face of the final plat and in the Development Covenants as follows: “Water rights have been removed from the property and lot owners are notified that the land is classified as irrigated and may continue to be assessed for irrigation water delivery even though the water may not be deliverable,” subject to review and approval by Development Services, prior to final plat approval.

Ground Water

13. The developer shall include the following note on the final plat and in the Development Covenants: “Basements shall be prohibited until such time as the owner provides sufficient evidence to the City of Missoula Public Works & Mobility Department that no threat to the public safety or loss of property will result in those areas proposed for basements,” subject to review and approval by Development Services and Public Works & Mobility.

Historic Resources

14. The developer shall submit an Architectural Engineering Record Form to the State Historic Preservation Office to document the existing structure at 2513 Bean Lane prior to any structural alterations and prior to final plat approval.

Mail Delivery

15. The developer shall provide for mail delivery for future subdivision residents in a manner and location(s) approved by the U.S. Postal Service prior to final plat approval.

Landscaping

16. The developer shall provide plans for boulevard landscaping and landscape plans for all streets, non-motorized transportation connections and common parking areas, subject to review and approval by Parks and Recreation, prior to final plat approval. The property owner shall be responsible for obtaining boulevard landscaping permits prior to building permit approval and for installation of boulevard landscaping adjacent to development prior to certificate of occupancy, subject to review and approval of Parks and Recreation.

Parkland

17. The developer shall provide cash-in-lieu of parkland equal to the fair market value of the amount of land statutorily required to be dedicated. The dollar amount shall be based on an appraisal report conducted by a Montana State licensed general real estate appraiser (as provided under MCA 37-54-201-, et seq) chosen by the City, prepared prior to and within six months of the date that a complete final plat application is submitted for approval, subject to review and approval by Development Services and Parks & Recreation, prior to final plat approval.

Noxious Weeds

18. The developer shall provide a Weed Management and Revegetation Plan, appended to the Development Covenants and approved by the Missoula County Weed District, subject to review and approval by Development Services, prior to final plat approval.

Development Covenants

19. The developer shall submit final Development Covenants meeting the requirements of City Subdivision Regulations Section 5-020.14.K, subject to review and approval by Development Services, prior to final plat approval.

20. The developer shall include the following statements in the Development Covenants, subject to review and approval by Development Services, prior to final plat approval: Sections of the Development Covenants regarding common area and common facility maintenance of the internal subdivision roadway and associated facilities, maintenance and replacement of mail delivery facilities, wood burning devices, weed control, agricultural operations, radon mitigation, basements, water rights, SID/RSID, and fire protection may not be amended or deleted without written approval by the governing body.

WHEREAS, Section 7-2-4211 MCA requires municipalities to include the full width of any public street or road rights-of-way that are adjacent to the property being annexed; and

WHEREAS, the Larkin Wood Drive public street and access easement extending east from Grove Street, adjacent to and along the subject property to Reserve Street, is not within the municipal boundary of the City of Missoula, therefore the City has included the full width of the Larkin Wood Drive right-of-way in the annexation boundary; and

WHEREAS, the parcel described herein is currently within the Residential Medium land use designation of the Our Missoula 2035 Growth Policy, which is the applicable regional plan. The recommended zoning in the City is RT5.4 Residential 5.4 (two-unit/townhouse) and in accordance with MCA 76-2-303(3)(a) and Missoula Municipal Code criterion 20.85.040(I)(2), it is the intention of the City of Missoula to annex this property with the recommended city zoning. FURTHER, the parcel is situated adjacent to City Council Ward Area No. 6 and the Two Rivers Neighborhood Council District, and it is the intention of the Council to add this parcel to said Ward and Neighborhood Council District; and

WHEREAS, in the judgment of the City Council of the City of Missoula, it is deemed to be in the best interest of the City of Missoula, the inhabitants thereof and the current and future inhabitants of the tracts and parcels of land described herein, which have petitioned for annexation and are within the urban growth boundary, that the boundaries of the City of Missoula shall be extended to include the same within the corporate limits.

NOW THEREFORE BE IT RESOLVED that it is the intention of the City Council of the City of Missoula to incorporate and annex into the City's jurisdictional boundary the herein described property, apply city zoning as stated within, and assign the property to the said Ward and Neighborhood Council District; and

BE IT FURTHER RESOLVED that the City did, pursuant to Section 76-2-303 and 7-1-4127 MCA, publish in the Missoulian, a newspaper of general circulation in the City of Missoula, which newspaper is nearest to the said land being considered for annexation, at least once a week for two successive weeks on December 9th, 2023, and December 16th, 2023, a notice of the public hearing date and that a resolution of intention did appear on the City Council agenda for the meeting scheduled on December 18th, 2023, and that the City did accept expressions of approval or disapproval in writing of this proposed alteration of the boundaries of the city and zoning until 5:00 p.m. on December 18, 2023 and that a City Council public hearing is scheduled to be held January 8th, 2024 at 6:00 p.m. at the regularly scheduled City Council meeting with final consideration on the resolution at the regularly scheduled City Council meeting on January 22nd, 2024; and

BE IT FURTHER RESOLVED that if the city annexation of any lot(s), parcel(s), block(s) or tract(s) of land annexed into the city pursuant to this city annexation resolution or any provision of this resolution is ever held to be invalid or unconstitutional, the City Council hereby declares that any such decision shall not affect the validity of the annexation of the remaining lot(s), parcel(s), block(s) or tract(s) of land annexed into the city or the remaining provisions of this resolution. The City Council hereby declares that it would have passed this resolution and annexed each lot(s), parcel(s), block(s) or tracts(s) of land into the city as well as each provision of this resolution irrespective of the fact that the annexation of any one or more lot(s), parcel(s), block(s) or tract(s) of land annexed into the city or provision of this resolution may have been declared invalid or unconstitutional, and if for any reason the annexation of any lot(s), parcel(s), block(s), tract(s) of land or any provision of this resolution should be declared invalid or unconstitutional,

then the annexation of the remaining lot(s), parcel(s), block(s) or tracts(s) of land and resolution provisions are intended to be and shall be in full force and effect as enacted by the City Council.

PASSED AND ADOPTED this 18th day of December, 2023.

ATTEST:

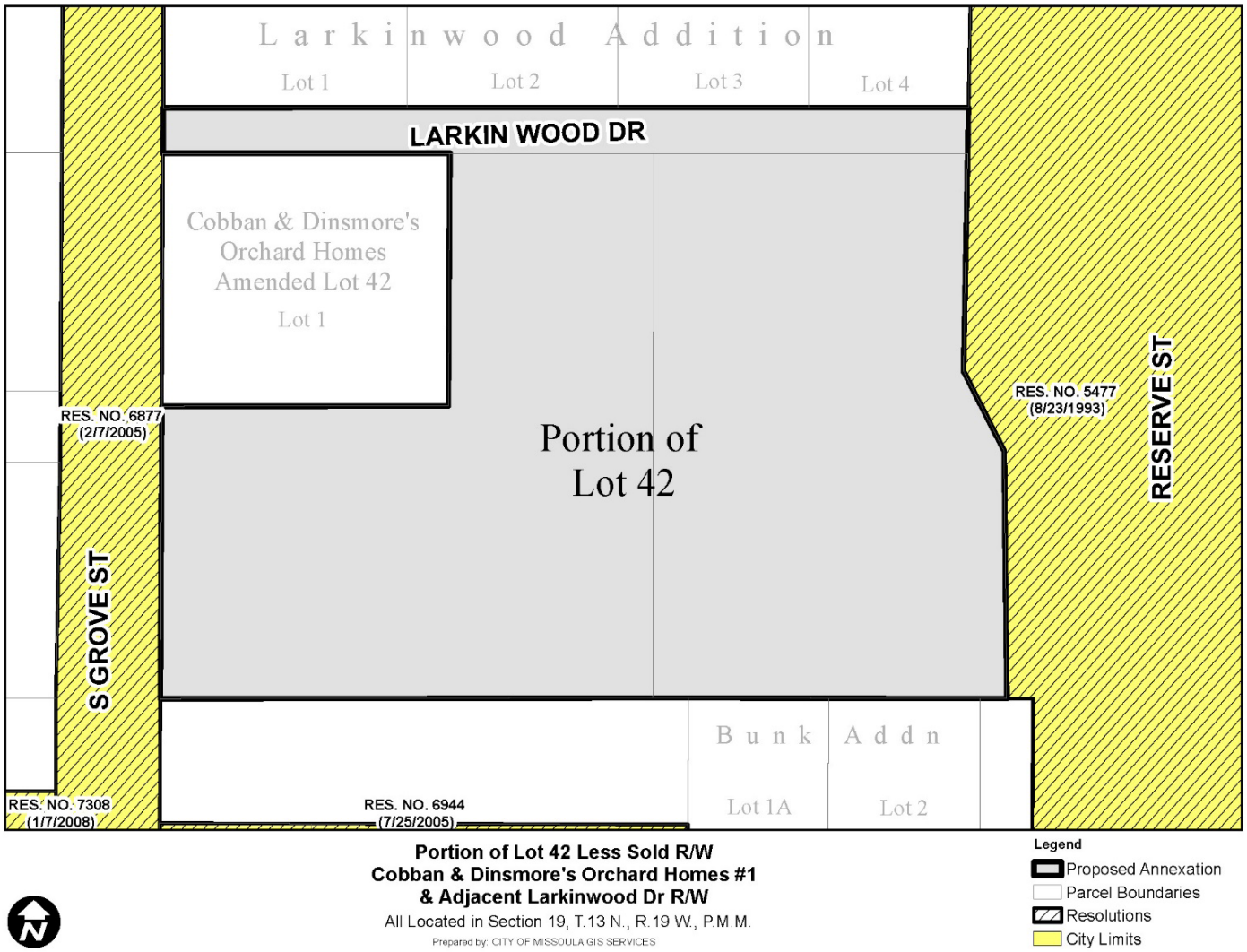
Claire Trimble
City Clerk

APPROVED:

Andrea Davis
Mayor

(SEAL)

Exhibit A: Annexation Map



Portion of Lot 42 Less Sold R/W
Cobban & Dinsmore's Orchard Homes #1
& Adjacent Larkinwood Dr R/W
All Located in Section 19, T.13 N., R.19 W., P.M.M.
Prepared by: CITY OF MISSOULA GIS SERVICES

Variance Request –Standards for Geometric Design of Roads and Streets

A variance from Section 3-020.5.A stating that cul-de-sacs, loop and circle streets, and turnarounds, are prohibited. Dead-end streets are prohibited.

Rule(s):

3-020.5. Dead-End Streets, Cul-de-Sacs, and Circle and Loop Streets

A. Cul-de-sacs, loop and circle streets, and turnarounds, are prohibited. Dead-end streets are prohibited.

Request(s):

Approval for the proposed Magnolia Drive to be constructed as a Woonerf Street type that technically begins and ends on the same roadway, Larkin Wood Drive, thus classifying the internal roadway as a loop street. Loop streets are prohibited per Section 3-020.5 (A) unless approved through a variance.

The following points address the six criteria for requesting a variance in accordance with *Missoula City Subdivision Regulations 3-020.5:*

A. Cul-de-sacs, loop and circle streets, and turnarounds, are prohibited. Dead-end streets are prohibited.

1.) The granting of this variance does not result in a threat to public safety, health or welfare, nor is it injurious to other persons or property.

The slightly narrower design of Magnolia Drive prioritizes safe and efficient travel for both motorized and non-motorized traffic while still adhering to the minimum design standards as outlined in the City Subdivision Regulations. The proposed easement widths and surface widths will not result in a threat to public safety, health, or welfare nor are they injurious to other persons or property. Magnolia Drive is completely internal to this subdivision and will still function well through accommodating slower traffic speeds and providing improved connectivity to Reserve Street Trail for non-motorized users.

The subject property will be able to provide adequate turnaround space for emergency and service vehicles from Magnolia Drive on to Larkin Wood Drive as the primary access for the proposed properties. The subdivision application includes adequate fire truck turnarounds and turning stimulations which have been provided to the City Engineer and Fire Chief. Neither of which has shown any major concerns regarding a threat to public health or safety. Therefore, the granting to deviate from this standard does not result in a threat to public safety, health, or welfare, nor is it injurious to other persons or property.

2.) The conditions upon which the request for a variance is based are unique to the property for which the variance is sought and are not applicable generally to other property.

The conditions on which this request for a variance is based are unique to the property due to the existing Rights-of-way and residential development surrounding the property. The existing road network was discussed at length during the pre-application meeting with City Engineering and the Woonerf design was supported as being a feasible option to slow traffic and improve both motorized and non-motorized travel while simultaneously providing two different ingress/egress points.

The requirement to provide an extension to another street where the property is already encumbered by adjacent existing developments is unique to this property and segment of the roadway. Proposing another approach on to Grove Street is not practical or appropriate to meet specific design standards and specifications of the Public Works Manual given site distances to Larkinwood Drive and Laurie Drive. Reserve Street could be considered one of the City's most congested roadways during peak travel times and proposing a new approach on to this roadway would not be supported by MDT. Further, when considering topographical conditions for a possible connection on to Reserve Street, grade changes limit the possibility of connection on to this roadway and the strict letter of these regulations would result in an undue hardship to the owner. Lastly, a dead end road is not permissible within the City of Missoula so the two ingress/egress points for the subdivision qualify the roadway as a loop street which is unavoidable and unique to this subject property.

3.) Because of the physical surroundings, particular shape, or topographical conditions of the specified property involved, undue hardship to the owner would result if the strict letter of these regulations are enforced.

The hardship in providing additional connectivity to the existing road grid as specified in current regulations is not the fault of the applicant. This project is near city limits; therefore, urban infrastructure is already in place. As a result, proposing an infill development around existing development can be difficult, if not impossible to bring existing infrastructure up to current standards and still have a viable project.

Proposing another approach on to Grove Street is not practical or appropriate to meet specific design standards and specifications of the Public Works Manual given site distances to Larkinwood Drive and Laurie Drive. Reserve Street could be considered one of the City's most congested roadways during peak travel times and proposing a new approach on to this roadway was not supported by MDT. Further, when considering topographical conditions for a possible connection on to Reserve Street, grade changes limit the possibility of connection on to this roadway and the strict letter of these regulations would result in an undue hardship to the owner.

4.) The variances will not in any manner violate the provisions of the zoning ordinance or any variance granted to those regulations or the Missoula County Growth Policy.

This variance request will not violate the provisions of the City of Missoula Title 20 Zoning Ordinance or the Our Missoula 2035 Comprehensive Plan.

5.) The variance will not cause any increase in public costs.

There will not be an increase to public costs by granting this variance.

6.) The hardship has not been created by the applicant, or the applicant's agent or assigns.

The hardship has not been created by the applicant or the applicant's agent. The hardship is a result of the shape of the property and the existing residential and public infrastructure.

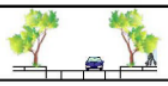
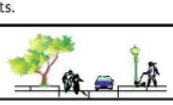
Variance Request –Standards for Geometric Design of Roads and Streets

A variance from Sections 3-020 Table .2A Standards for Geometric Design of Roads and Streets and 3-020.15.D.1 stating that sidewalks and boulevards must be provided in all subdivisions and adjacent to all streets in accordance with Table .2A. This request proposes to combine the sidewalk with curb and gutter along the frontage of Larkin Wood Drive and requests deviation from the right-of-way standard. If approved by City Council, this variance request would require a minimum 7-foot sidewalk along the frontage road of Larkin Wood Drive per Section 3-020.15.D.2. of the Subdivision Regulations.

Rule(s):

3-020 Streets, Sidewalks, and Trails

Table .2 A (Local Residential Street)

Table .2 A Standards for Geometric Design of Roads and Streets			
Roadway Designation - City Functional Classification Map link	Local Residential Street	Low Density Local Residential Street (less than 12 dwelling units /acre or greater than 80 feet average frontage)	Home Zones/Woonerf
Functional Classification	Local Street	Local Street	Local Street
Purpose	Access	Access	Access
Daily Traffic Volumes	0 - 250	0 - 250	0-250
Roadway			
Right-of-way (Minimum)	47'	45'	28'
Street Width (Back of Curb to Back of Curb) (minimum)	35'	33'	28'
Number of Travel Lanes (typical)	2	2	-
Lane Width (minimum)	10'	10'	12' - one way 16' - two way
Parking Lane Width (parallel)	7'	6'	-
Street Side			
Sidewalk Width (minimum)	5'	5'	-
Boulevard Width (minimum)	7	7	-
Bike Lanes	-	-	-
Trails	Trails are considered alternatives to sidewalks in common areas and connectors between cul-de-sacs and may be located outside the established street and road right of way corridor if they satisfy the Parks and Open Space trails criteria in 3-080.		
Buses	When development is adjacent to or within ¼ mile of an established public transit or school bus route, subdivider may be required by the City Engineer to construct bus stop facilities along with accessible routes, meeting ADA standards, to those facilities. Subdividers are encouraged to consult with the Missoula Urban Transportation District and Missoula County Public Schools early in the planning and design process.		
Landscaping	Streetside landscaping may include shrubs, ground cover, mulch, and irrigation and should incorporate xeriscape methods in accordance with *Title 12, Chapter 12.32 Comprehensive Tree and Shrub Planting, Pruning, and Maintenance Regulations.*		
Streetside Accessories	The City Engineer and subdivider will determine specific streetside accessory locations, types, and numbers during the design and permitting process.		
Utilities			
Refer to Article 3, Section 3-050 for utility placement within right-of-way and easements.			
Illustration (not to scale)			

3-020.15.D.1. Active Transportation Facilities, Sidewalks, and boulevards must be provided in all subdivisions and adjacent to all streets in accordance with Table 2 A.

3-020.15.D.2 If the City Council approves a variance to allow sidewalks combined with the curb, the

minimum clear space for the sidewalk must be 7 feet on local streets and 9 feet on collectors and arterial streets, exclusive of the curb. Wider sidewalks may be required in commercial areas based on use as determined by City Engineering.

Request(s):

The applicant is requesting to vary from the Right-of-Way width and Boulevard Requirements stipulated for Local Residential Streets in Chapter 3-020 Table .2A of the City Subdivision Regulations. The requested variance is a result of insufficient width for the existing gravel public roadway, Larkin Wood Drive. Currently, this roadway varies in width within the 27-foot public road and utility easement.

Due to insufficient width of the existing roadway this request also proposes to combine the sidewalk with curb and gutter along the frontage of Larkin Wood Drive. If approved by City Council, this variance request would require a 7-foot curb-side sidewalk along the frontage road of Larkin Wood Drive per Section 3-020.15.D.2. of the Subdivision Regulations. To accommodate this requirement, a 1.5' Sidewalk Easement has been proposed along the norther portion of Lots 5, 13, and 18. Please see the Preliminary Plat included in Section A for the location of the proposed easement and the Grading, Drainage, and Road Construction Plans included in Section D for compliance with the 7' width sidewalk requirement.

The following points address the six criteria for requesting a variance in accordance with *Missoula City Subdivision Regulations 6-010:*

1.) *The granting of this variance does not result in a threat to public safety, health or welfare, nor is it injurious to other persons or property.*

The proposed deviation from Missoula City Subdivision section 3-020 Table .2A is due to the varying width of Larkin Wood Drive and necessary to accommodate the existing conditions of the roadway.

Larkin Wood Drive will continue to function as a Local Residential Street accommodating regular motorized traffic flows. The proposed subdivision will improve non-motorized access in the area by providing sidewalk connectivity to the adjacent Reserve Street Trail. Additionally, as mitigation to landscaping reduction with this request, the application is proposing small trees along the south side of Larkin Wood Drive completely contained within the subject property. Therefore, the deviation from the required 47-foot right-of-way width and boulevard standards as provided in Table .2A does not result in a threat to public safety, health, or welfare, nor is it injurious to other persons or property.

2.) *The conditions upon which the request for a variance is based are unique to the property for which the variance is sought and are not applicable generally to other property.*

The existing Larkin Wood Drive gravel roadway varies in width and is bound by adjacent residential development on either side. This, combined with the existing 27' public road and utility easement, makes expanding this road to meet the criteria of a Local Residential Street impossible for the applicant and unique to the subject property... The public road and utility easement is shown on Book 7 Page 64 of the Missoula County Land Records.

Without the additional width, it is not possible to construct the 7-foot boulevard or expand the ROW. These constraints place an undue hardship on the applicant and require the need to request a variance.

3.) Because of the physical surroundings, particular shape, or topographical conditions of the specified property involved, undue hardship to the owner would result if the strict letter of these regulations are enforced.
Undue hardship would result to the owner, if strict requirements of the regulations were enforced, due to the existing, varied, roadway width for Larkin Wood Drive and the inability to expand that roadway width on adjacent property not owned by applicant.

Existing residential development is to the north of Larkin Wood Drive which restricts the possibility of expanding the roadway width. The existing public roadway width was not created by the applicant and is unique to the subject property.

4.) The variances will not in any manner violate the provisions of the zoning ordinance or any variance granted to those regulations or the Missoula County Growth Policy.
This variance request will not violate the provisions of the City of Missoula Title 20 Zoning Ordinance or the Our Missoula 2035 Comprehensive Plan.

5.) The variance will not cause any increase in public costs.
There will not be an increase to public costs by granting this variance.

6.) The hardship has not been created by the applicant, or the applicant's agent or assigns.
The hardship has not been created by the applicant or the applicant's agent. The hardship is a result of the property dimensions, existing infrastructure and residential homes restricting the possibility of expanding the roadway width.