STAFF REPORT

DATE: 1/17/2023
REGULAR
MOTION

TO: City Council
FROM: Sophia Jensen, City Planner
AGENDA ITEM: Upper 33rd Street N Conditional Use Permit Request
REVIEWED BY: Ben Hetzel, Prior City Planner

INTRODUCTION:

Henry Elgersma of Upper 33rd LLC recently submitted a conditional use permit application to construct a four unit townhome building at the properties described as Lots 10 and 11, Block 2, Subdivision of Lake Elmo Park. (PIDs 1302921320051 and 1302921320052). The Village Mixed Use Zoning District requires a conditional use permit for all new residential uses. The existing vacant lots are located along Upper 33rd Street N to the west of Lake Elmo Avenue N in the Old Village. The applicant has also submitted a lot consolidation application to combine lots 10 and 11. Administrative approval of a consolidation is required since the properties are existing platted lots.

History

Lot 11 was originally platted as lots 11, 12, and half of 13 in the early 1900s. Since the original platting, lots 11, 12, and half of 13 were consolidated into one lot, now known as lot 11. Lot 10 has remained untouched.

ISSUE BEFORE CITY COUNCIL:

The City Council is being asked to review and make a determination on the request for a conditional use permit to construct a four unit townhome building.

REQUEST DETAILS/ANALYSIS:

Applicants:	Henry Elgersma
Property Owner:	Upper 33rd Street LLC
Location:	Lots 10 and 11, Block 2, Subdivision of Lake Elmo Park
Request:	Conditional Use Permit for a four unit townhome building.
Site Area:	0.4 total acres
Existing Land Use:	Vacant
Existing Zoning:	Village Mixed Use (VMX)
Surrounding:	Rural Single Family – North, West, East
Comprehensive Plan:	Village Mixed Use (VMX)
Deadline for Action:	Application Complete – 11/8/22 60 Day Deadline – 1/8/23 Extension Letter – 12/21/22 120 Day Deadline – 3/8/23

Regulations: Article XIII Village Districts
Article VIII Environmental Performance Standards
Article VII, Section 105.12.420 Off-Street Parking

Proposal
The applicant is proposing a total of four units in the single family attached dwelling structure. All four units will be located on a contiguous lot surrounded by existing single family residential uses. The proposal has been updated to address public comments. The revised building is 1-1/2 stories and has a footprint of approximately 5,854 square feet with varying unit sizes. Each unit has a total of three bedrooms and a front side loaded garage. The provided landscape plan depicts a 6 foot privacy fence along the rear and side property lines along with trees and 3 foot tall gabions to provide screening from Upper 33rd Street N.

Village Mixed-Use Zoning District Description
This district is intended to continue the traditional mixed-use development that has occurred in the Old Village by allowing retail, service, office, civic and public uses as well as residential units. The mixture of land uses within the district is essential to establishing the level of vitality and intensity needed to support retail and service uses. Development within areas zoned VMX will occur at a density of 5 - 10 units per acre. Senior congregate care facilities may exceed this density maximum with a range not to exceed a total of 16 units per acre, provided the facility can satisfy all zoning and applicable conditional use permit review criteria. The placement of building edges and treatment of building, parking, landscaping, and pedestrian spaces is essential to creating the pedestrian friendly environment envisioned for the VMX district.

Comprehensive Plan
The subject property is located within the Old Village District of the Village Planning Area. The Old Village carries the nostalgic history and character of the City. In turn, vitality of the Old Village Main Street is dependent upon enough households supporting the existing businesses and desired businesses along Main Street. The 2040 Comprehensive Plan indicates that the future plan for the Old Village is to enhance and preserve the historic character of Main Street.


2040 Future Land Use Map (Pink w/ Dots is V-MX)

Current Zoning Map (Red w/ Orange Dots is V-MX)

Density
The total site area equals 0.4 acres. The allowable density within the Village Mixed-Use district is a range of 5-10 units per acre. This proposal would meet the minimum and maximum density with a calculation of 10 units per acre.

VMX Lot Dimensions and Building Bulk Requirements

	Required	**Proposed**
Minimum Lot Area (Square Feet)	3,000 per unit	17,424 total
Minimum Lot Width	25 ft per unit	175 ft total
Max Impervious Coverage	75 percent	57.5 percent
Front Yard Setback	25 ft	25 ft
Rear Yard Setback	10 ft	25.8 ft
Side Yard Setback	10 ft	32.3ft and 16.7 ft
Driveway Setback (side lot line)	5 ft	5 ft

Off-Street Parking Requirements
The off-street parking requirements of the Lake Elmo City Code require one parking space per one bedroom unit and two spaces per two bedroom unit or larger for single-family attached dwellings. An additional ten percent of parking spaces shall also be required for visitor parking. The architectural plans show that the proposal will meet the bedroom parking space requirement by providing each residential unit an attached two car garage. The plans have been revised to incorporate onsite visitor parking.

Development Standards
Development of land within the village districts shall follow established standards for specific uses. The following standards apply to single family attached dwellings.

a) The primary entrance to each unit shall be located on the facade fronting a public street. ***The proposal shows a primary entrance facing Upper 33rd Street N for each unit.***

b) Common open space for use by all residents or private open space adjacent to each other shall be provided. Such open space shall comprise of a minimum of 300 square feet in the V-HDR and VMX, and 500 square feet per unit in the V-MDR. ***The total amount of open space required for four units is 1,200 square feet. The provided site plan shows 2,724 square feet of open space.***

c) Unless otherwise specified in this article, single family attached dwellings in the VMX and V-MDR shall adhere to the MDR district setbacks. ***Article XIII Village Districts lists specific setbacks for the VMX district. The proposal meets the required setbacks of the VMX district.***

Stormwater Management
A stormwater management plan has been submitted. The proposal includes an underground storm water infiltration chamber to mitigate 100% of the required rate and volume control.

REVIEW COMMENTS

City Engineer (Memo dated 1/9/2023)

1. Final Construction Plans must be prepared in accordance with the Engineering and Design Standards Manual, dated January 2022.
2. No construction on the Project may begin until the applicant has received City Engineer approval for the Final Construction Plans; the applicant has obtained and submitted to the City all applicable permits, easements and permissions needed for the project; and a preconstruction meeting has been held by the City's engineering department. All off-site permanent or temporary construction easements required to construct the project must be shown on the plans and must be provided prior to scheduling a preconstruction meeting.
3. Upper 33rd Street N does not meet the minimum city standards for road width and right of way width.
4. No on street parking is allowed along Upper 33rd Street N. Parking must be kept internal to the site.
5. No sidewalk or trail currently exists along Upper 33rd Street due to the narrow roadway.
6. A 10-ft drainage and utility easement must be provided along the property frontage. Minimum lot easements should be included along the side and rear property lines as well.
7. Revise the existing conditions plan to show a minimum distance of 150 ft outside the property boundary in all directions.
8. Site grading must be revised to meet all city minimum and maximum allowable grades.
9. The grading plans must be revised, as may be required, to meet city design standards
10. The proposed site plan is subject to a storm water management plan (SWMP) meeting State, Valley Branch Watershed District (VBWD) and city rules.
11. In order to comply with VBWD and city rules, the applicant is requesting to divert stormwater runoff that currenting discharges north from the property, and to proposed southerly discharge location. This stormwater diversion has been found to be acceptable to the city.
12. The soils investigations performed on the site determined that infiltration is not feasible. Therefore, the developer intends to purchase credits from Lake Elmo's Downtown Regional Infiltration Basin Volume Control credit bank to meet volume control requirements.
13. The storm water management facilities constructed for this development will be privately owned and maintained. The applicant will be required to execute and record a Stormwater Maintenance and Easement Agreement in the City's standard form of agreement. The stormwater drainage and utility easements must be shown on the site plans, utility plans and grading plans. A Homeowner's association would be required for the development to provide for the ongoing ownership and maintenance
14. Municipal water supply is available to the site.
15. Sanitary sewer service is available to the site.

Fire Department (Memo dated 1/6/2023)

1. The fire sprinkler system shall be installed compliant with provisions of 2016 NFPA Standard 13D, Installation of Sprinkler Systems in One- and Two-Family Dwellings or IRC P2904. City permit required prior to initiation of work.
2. Building address numbers shall be plainly visible from the street fronting the property and shall be a contrasting color from the background. Size and placement of address numbers shall be approved by the fire and planning departments.

Landscape Architect (Memo dated (1/6/2023)

1. It is recommended that the landscape and tree preservation plans be approved on the condition that the planning schedule on L200 be amended to change the size of the Degroot's Spire Arborvitaes to 6' and that the sheets be signed by a professional prior to constriction.

RECCOMMENDED CONDITIONAL USE FINDINGS

Conditional use means a land use or development as defined by ordinance that would not be appropriate generally but may be allowed with appropriate restrictions as provided by official controls only upon a finding that all of the following provisions are met. Staff recommends the following findings:

1. The proposed use will not be detrimental to or endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the city. ***The proposed use will not endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the City.***

2. The use or development conforms to the City of Lake Elmo Comprehensive Plan. ***The site is already zoned in conformance with the intent of the Old Village District of the Village Planning Area and the Village Mixed Use zoning district.***

3. The use or development is compatible with the existing neighborhood. ***The proposed use is compatible with the existing single family residential in the neighborhood. The design of the proposed structure is consistent with the surrounding area in terms of building height, building materials, colors, and variations of pitched roofs.***

4. The proposed use meets all specific development standards for such use listed in the Zoning Code. ***The use meets all the specific development standards for single family attached dwellings set forth in LEC 105.12.820(a)(3).***

5. If the proposed use is in a flood plain management or shoreland area, the proposed use meets all the specific standards for such use listed in Article XIX (Shoreland Management) and Title 100 (Flood Plain Management). ***The proposed use is not within a Shoreland Management District or a Floodplain Management zone.***

6. The proposed use will be designed, constructed, operated, and maintained so as to be compatible in appearance with the existing or intended character of the general vicinity and will not change the essential character of that area. ***The design of the proposed structure is designed to be compatible with the height, colors, and building materials of the surrounding area.***

7. The proposed use will not be hazardous or create a nuisance as defined under this Chapter to existing or future neighboring structures. ***The use is not hazardous and will not create a nuisance.***

8. The proposed use will be served adequately by essential public facilities and services, including streets, police and fire protection, drainage structures, refuse disposal, water and sewer systems and schools or will be served adequately by such facilities and services

provided by the persons or agencies responsible for the establishment of the proposed use. ***The proposed use will be served adequately by essential public facilities and services.***

9. The proposed use will not create excessive additional requirements at public cost for public facilities and services and will not be detrimental to the economic welfare of the community. ***The proposed use will not create excessive additional requirements at a public cost.***

10. The proposed use will not involve uses, activities, processes, materials, equipment, and conditions of operation that will be detrimental to any persons, property, or the general welfare because of excessive production of traffic, noise, smoke, fumes, glare, or odors. ***The proposed residential use will not produce excessive noise, fumes, glare, or odors. The addition of four dwelling units should not create excessive traffic along 33rd Street N especially with the restriction of on street parking. Any future expansion of 33rd Street N to the west will further improve traffic circulation.***

11. Vehicular approaches to the property, where present, will not create traffic congestion or interfere with traffic on surrounding public thoroughfares. ***The proposed structure will not create traffic congestion or interfere with traffic on surrounding public thoroughfares. Four additional residential units should not create congestion.***

12. The proposed use will not result in the destruction, loss, or damage of a natural or scenic feature of major importance. ***The use will not result in the destruction, loss, or damage of a natural or scenic feature of major importance.***

FISCAL IMPACT:

None

RECOMMENDED CONDITIONS OF APPROVAL:

1. The applicant must obtain all other necessary City, State, and other governing body permits and approvals prior to the commencement of any construction activity onsite.
2. All recommendations in the City Engineer's memorandum dated 1/9/2023 shall be met prior to any construction activity.
3. All recommendations provided be the City's Landscape Architect memorandum dated 1/6/2023 shall be met prior to any construction activity.
4. All conditions in the Fire Chief's memorandum dated 1/6/22 must be met prior to any construction activity.
5. The applicant shall provide the City with recorded documents from Washington County which effectuate the required lot consolidation prior to any construction activity.
6. The applicant must receive an approved address from Washington County prior to any construction activity.
7. An encroachment agreement is required for fencing located in the required drainage and utility easements prior to any construction activity. A fence permit is also required regardless of the location of the fencing.
8. If the applicant has not taken action toward starting the townhouse structure or if substantial construction has not taken place within 12 months of the City's approval of the conditional use

permit, the CUP approval shall become void. The applicant may request City Council approval of a time extension to start or implement the conditional use permit.

PUBLIC COMMENT:
A public hearing notice was sent to surrounding property owners on November 16, 2022 and published in the Stillwater Gazette on November 18, 2022. Public Comment is as follows, staff received one comment in favor and five in opposition of the project. Below are the public comments and how they have been addressed:
Urban Coffee – 349 Lake Elmo Ave N – emailed their full support of this CUP.

Jill Martin – 11002 Upper 33rd St N – provided comment to staff in opposition of the CUP.

JoAnne Lawen – 11051 34th St N – is in opposition of the CUP due to community design and the existing density of the community. *The applicant has revised the plans to reduce building height and create comparable architecture to the surrounding area. Density meets requirement.*

Elizabeth Everson – 11075 34th St N – posed the question regarding why the garages were in the back and who was going to be managing the property, is there a maximum capacity per unit and would pets be allowed. *Applicant revised plans to bring garages to the front. Stated property would be managed by a third party. Capacity and pets are not a part of the CUP review process.*

Ann Bucheck – 2301 Legion Ave N – is in opposition of the CUP due to this building not conforming to the Comprehensive Plan in many aspects. *The proposal meets the 2040 Comprehensive Plan requirements.*

Susan Dunn – 11018 Upper 33rd St N – is in opposition of the CUP due to parking, safety, water, impervious surface area, snow removal, building size. *The applicant has moved the garages to the front and added visitor parking on site. The impervious surface has been reduced with smaller driveways and snow removal would follow suit with surrounding properties. The building size is compliant for the district.*

PLANNING COMMISION RECCOMENDATION:
The Planning Commission voted to recommend approval of the proposed project at the 11-28-2022 meeting Vote: 4-0.

OPTIONS:
The City Council may:

- Approve the requests.
- Approve of the requests with conditions.
- Deny the requests, citing findings of fact for denial.

RECOMMENDATION:
Staff recommends that the City Council approve of the conditional use permit amendment to construct a four unit townhome building.

"Motion to approve a conditional use permit to allow the construction of a four unit townhome building at the properties described as Lots 10 and 11, Block 2, Subdivision of Lake Elmo Park."

ATTACHMENTS:

1) Resolution 2023-06
2) Planning Commission Minutes 11/28/2022
3) Land Use Application
4) Written Statements
5) Location Map
6) Civil Plans
7) Architectural Plans
8) Stormwater Management Plan
9) City Engineer Email dated 1/9/23
10) Fire Department Memo dated 1/6/23
11) Landscape Architect Memo dated 1/6/23

CITY OF LAKE ELMO
WASHINGTON COUNTY
STATE OF MINNESOTA

RESOLUTION 2022-06
A RESOLUTION APPROVING A CONDITIONAL USE PERMIT FOR THE CONSTRUCTION OF A FOUR UNIT TOWNHOME WITH CONDITIONS AT LOTS 10 AND 11, BLOCK 2 SUBDIVISION LAKE ELMO PARK

WHEREAS, the City of Lake Elmo is a municipal corporation organized and existing under the laws of the State of Minnesota; and

WHEREAS, Henry Elgersma of Upper 33rd LLC (the "Applicant") has submitted an application to the City of Lake Elmo (the "City") for a Conditional Use Permit for the construction of a four unit townhome the property described as Lots 10 and 11, Block 2 of the Lake Elmo Park subdivision (PIDs 13.029.21.32.0051 and 13.029.21.32.0052) (the "Property"); and

WHEREAS, the Lake Elmo Planning Commission held a public hearing on said matter on November 28th, 2022; and

WHEREAS, the Lake Elmo Planning Commission has submitted its report and recommendation to the City Council as part of a Staff Memorandum dated January 17th 2023; and

WHEREAS, the City Council considered said matter at its January 17th 2023 meeting; and

NOW, THEREFORE, based on the testimony elicited and information received, the City Council makes the following:

FINDINGS

1. The proposed use will not be detrimental to or endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the city. ***The proposed use will not endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the City.***

2. The use or development conforms to the City of Lake Elmo Comprehensive Plan. ***The site is already zoned in conformance with the intent of the Old Village District of the Village Planning Area and the Village Mixed Use zoning district.***

3. The use or development is compatible with the existing neighborhood. ***The proposed use is compatible with the existing single family residential in the neighborhood. The design of the proposed structure is consistent with the surrounding area in terms of building height, building materials, colors, and variations of pitched roofs.***

4. The proposed use meets all specific development standards for such use listed in the Zoning Code. ***The use meets all the specific development standards for single family attached dwellings set forth in LEC 105.12.820(a)(3).***

5. If the proposed use is in a flood plain management or shoreland area, the proposed use meets all the specific standards for such use listed in Article XIX (Shoreland Management) and Title 100

(Flood Plain Management). ***The proposed use is not within a Shoreland Management District or a Floodplain Management zone.***

6. The proposed use will be designed, constructed, operated, and maintained so as to be compatible in appearance with the existing or intended character of the general vicinity and will not change the essential character of that area. ***The design of the proposed structure is designed to be compatible with the height, colors, and building materials of the surrounding area.***

7. The proposed use will not be hazardous or create a nuisance as defined under this Chapter to existing or future neighboring structures. ***The use is not hazardous and will not create a nuisance.***

8. The proposed use will be served adequately by essential public facilities and services, including streets, police and fire protection, drainage structures, refuse disposal, water and sewer systems and schools or will be served adequately by such facilities and services provided by the persons or agencies responsible for the establishment of the proposed use. ***The proposed use will be served adequately by essential public facilities and services.***

9. The proposed use will not create excessive additional requirements at public cost for public facilities and services and will not be detrimental to the economic welfare of the community. ***The proposed use will not create excessive additional requirements at a public cost.***

10. The proposed use will not involve uses, activities, processes, materials, equipment, and conditions of operation that will be detrimental to any persons, property, or the general welfare because of excessive production of traffic, noise, smoke, fumes, glare, or odors. ***The proposed residential use will not produce excessive noise, fumes, glare, or odors. The addition of four dwelling units should not create excessive traffic along 33rd Street N especially with the restriction of on street parking. Any future expansion of 33rd Street N to the west will further improve traffic circulation.***

11. Vehicular approaches to the property, where present, will not create traffic congestion or interfere with traffic on surrounding public thoroughfares. ***The proposed structure will not create traffic congestion or interfere with traffic on surrounding public thoroughfares. Four additional residential units should not create congestion.***

12. The proposed use will not result in the destruction, loss, or damage of a natural or scenic feature of major importance. ***The use will not result in the destruction, loss, or damage of a natural or scenic feature of major importance.***

DECISION

NOW, THEREFORE, BE IT FURTHER RESOLVED, and based upon the information received and the above Findings, that the City Council of the City of Lake Elmo hereby approves the request by Henry Elgersma of Upper 33rd LLC for a Conditional Use Permit for the construction of a four unit townhome on the property located at Lots 10 and 11 Block 2 of the Lake Elmo Park Subdivision and grants the same, subject to the following conditions of approval:

1. The applicant must obtain all other necessary City, State, and other governing body permits and approvals prior to the commencement of any construction activity onsite.
2. All recommendations in the City Engineer's memorandum dated 1/9/2023 shall be met prior to any construction activity.
3. All recommendations provided be the City's Landscape Architect memorandum dated 1/6/2023 shall be met prior to any construction activity.
4. All conditions in the Fire Chief's memorandum dated 1/6/22 must be met prior to any construction activity.
5. The applicant shall provide the City with recorded documents from Washington County which effectuate the required lot consolidation prior to any construction activity.
6. The applicant must receive an approved address from Washington County prior to any construction activity.
7. An encroachment agreement is required for fencing located in the required drainage and utility easements prior to any construction activity. A fence permit is also required regardless of the location of the fencing.
8. If the applicant has not taken action toward starting the townhouse structure or if substantial construction has not taken place within 12 months of the City's approval of the conditional use permit, the CUP approval shall become void. The applicant may request City Council approval of a time extension to start or implement the conditional use permit.

Passed and duly adopted this 17th day of January, 2023 by the City Council of the City of Lake Elmo, Minnesota.

_____
Mayor Charles Cadenhead

ATTEST:

_____
Julie Johnson, City Clerk

City of Lake Elmo Planning Commission Meeting
City Council Chambers – 3800 Laverne Avenue North
Minutes of Regular Meeting of November 28, 2022

CALL TO ORDER: Commission Chair Steil called to order the meeting of the Lake Elmo Planning Commission at 7:00 p.m.

COMMISSIONERS PRESENT: Mueller, Steil, Rehkamp, Vrieze

COMMISSIONERS ABSENT: Risner

STAFF PRESENT: Planning Director Molly Just, City Planner Ben Hetzel

Pledge of Allegiance at 7:00 PM

Approve Agenda:

M/S/P: Vrieze / Mueller: made a motion to approve the agenda. **Vote: 4-0, motion carried unanimously.** (Risner absent)

Approve Minutes:

M/S/P: Rehkamp / Vrieze made a motion to approve the 11-14-22 meeting minutes. **Vote: 4-0, motion carried unanimously.** (Risner absent)

Public Hearing:

a) **Upper 33rd Street N Conditional Use Permit Request.** A conditional use permit request to construct a four unit townhome building on PIDs 13.029.21.32.0052 and 13.029.21.32.0051.

City Planner Hetzel gave presentation and answered questions.

RECOMMENDED CONDITIONAL USE FINDINGS

Conditional use means a land use or development as defined by ordinance that would not be appropriate generally but may be allowed with appropriate restrictions as provided by official controls only upon a finding that all of the following provisions are met. Staff recommends the following findings:

1. The proposed use will not be detrimental to or endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the city. ***The proposed use will not endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the City.***

2. The use or development conforms to the City of Lake Elmo Comprehensive Plan. ***The site is already zoned in conformance with the intent of the Old Village District of the Village Planning Area and the Village Mixed Use zoning district.***

3. The use or development is compatible with the existing neighborhood. ***The proposed use is compatible with the existing single family residential in the neighborhood. The design of the proposed structure is consistent with the surrounding area in terms of building height, building materials, colors, and variations of pitched roofs.***

4. The proposed use meets all specific development standards for such use listed in the Zoning Code. ***The use meets all the specific development standards for single family attached dwellings set forth in LEC 05.12.820(a)(3).***

5. If the proposed use is in a flood plain management or shoreland area, the proposed use meets all the specific standards for such use listed in Article XIX (Shoreland Management) and Title 100 (Flood Plain Management). ***The proposed use is not within a Shoreland Management District or a Floodplain Management zone.***

6. The proposed use will be designed, constructed, operated, and maintained so as to be compatible in appearance with the existing or intended character of the general vicinity and will not change the essential character of that area. ***The design of the proposed structure is designed to be compatible with the height, colors, and building materials of the surrounding area.***

7. The proposed use will not be hazardous or create a nuisance as defined under this Chapter to existing or future neighboring structures. ***The use is not hazardous and will not create a nuisance.***

8. The proposed use will be served adequately by essential public facilities and services, including streets, police and fire protection, drainage structures, refuse disposal, water and sewer systems and schools or will be served adequately by such facilities and services provided by the persons or agencies responsible for the establishment of the proposed use.
   The proposed use will be served adequately by essential public facilities and services.

9. The proposed use will not create excessive additional requirements at public cost for public facilities and services and will not be detrimental to the economic welfare of the community.
   The proposed use will not create excessive additional requirements at a public cost.

10. The proposed use will not involve uses, activities, processes, materials, equipment, and conditions of operation that will be detrimental to any persons, property, or the general welfare because of excessive production of traffic, noise, smoke, fumes, glare, or odors.
    The proposed residential use will not produce excessive noise, fumes, glare, or odors. The addition of four dwelling units should not create excessive traffic along 33rd Street N especially with the restriction of on street parking. Any future expansion of 33rd Street N to the west will further improve traffic circulation.

11. Vehicular approaches to the property, where present, will not create traffic congestion or interfere with traffic on surrounding public thoroughfares. ***The proposed structure will not create traffic congestion or interfere with traffic on surrounding public thoroughfares. Four additional residential units should not create congestion. The rear facing garages and singular access creates for a safer vehicle access onto Upper 33rd Street N by eliminating the need to back out into a public street.***

12. The proposed use will not result in the destruction, loss, or damage of a natural or scenic feature of major importance. ***The use will not result in the destruction, loss, or damage of a natural or scenic feature of major importance.***

RECOMMENDED CONDITIONS OF APPROVAL:

1. The applicant must obtain all other necessary City, State, and other governing body permits and approvals prior to the commencement of any construction activity onsite.
2. All recommendations in the City Engineer's memorandum dated 11/15/22 shall be met prior to any construction activity.
3. All recommendations provided be the City's Landscape Architect shall be met prior to any construction activity.
4. All conditions in the Fire Chief's memorandum dated 11/8/22 must be met prior to any construction activity.
5. The applicant shall provide the City with recorded documents from Washington County which effectuate the required lot consolidation prior to any construction activity.
6. The applicant must receive an approved address from Washington County prior to any construction activity.

7. The applicant shall provide one additional off-street parking space for visitor parking as per Lake Elmo City Code.
8. An encroachment agreement is required for fencing located in the required drainage and utility easements prior to any construction activity. A fence permit is also required regardless of the location of the fencing.
9. If the applicant has not taken action toward starting the townhouse structure or if substantial construction has not taken place within 12 months of the City's approval of the conditional use permit, the CUP approval shall become void. The applicant may request City Council approval of a time extension to start or implement the conditional use permit.

PUBLIC COMMENT:

A public hearing notice was sent to surrounding property owners on November 16, 2022 and published in the Stillwater Gazette on November 18, 2022. Staff has received three public comments, City Planner Hetzel read responses from:

Urban Coffee – 349 Lake Elmo Ave N – emailed their full support of this CUP.

Jill Martin – 11002 Upper 33rd St N – provided comment to staff in opposition of the CUP.

Response from Susan Dunn - 11018 Upper 33rd Street N – was not read aloud, as she was in the audience

Applicant Henry Elgersma, with Upper 33rd LLC, spoke in regards to this project and answered questions.

Public hearing opened at 7:20 PM.

JoAnne Lawen – 11051 34th St N – is in opposition of the CUP due to community design and the existing density of the community.

Elizabeth Everson – 11075 34th St N – posed the question regarding why the garages were in the back and who was going to be managing the property, is there a maximum capacity per unit and would pets be allowed

Ann Bucheck – 2301 Legion Ave N – is in opposition of the CUP due to this building not conforming to the Comprehensive Plan in many aspects.

Susan Dunn – 11018 Upper 33rd St N – is in opposition of the CUP due to parking, safety, water, impervious surface area, snow removal, building size

Public hearing closed at 7:33 PM

M/S/P: Vrieze / Mueller moved to recommend approval of a conditional use permit to allow the construction of a four unit townhome building at the properties described as Lots 10 and 11, Block 2, Subdivision of Lake Elmo Park **Vote: 4-0, motion carried unanimously.** Vrieze stated that he is in support of this project as long as the applicant abides by the conditions of approval provided by city staff, but does state that the parking spaces do need to be addressed before final approval has been given. Mueller does have concerns regarding the parking and driveway location but does think this is an appropriate building for this location and is in support of this project. Rehkamp is concerned that this property will be sold to someone that will not manage and maintain it properly, the applicant did a nice job of presenting a good plan that will help screen neighbors from the railroad noise. Steil is also in favor of this project, as it does meet the city code, and the parking is in the back.

Public Hearing:

b) Final PUD Plan and Final Plat – Royal Golf Club at Lake Elmo 5th Addition. U.S. Home, LLC (Lennar) for approval of a Final PUD Plan and Final Plat for 43 lots for single-family homes. There would be 46 lots remaining to be final platted.

Director Just gave presentation and answered questions.

RECOMMENDED FINDINGS:

1. That all the requirements of City Code Sections 153.07 and 154.759 related to Final Plat and Final PUD Plans have been met by the Applicant.
2. That the Royal Golf Club at Lake Elmo 3rd Addition Final Plat and PUD Plans are generally consistent with Preliminary Plat and PUD Plans approved by the City of Lake Elmo on June 6, 2017.
3. That the Royal Golf Club at Lake Elmo 3rd Addition Final Plat and PUD Plans are consistent with the Lake Elmo Comprehensive Plan and the Future Land Use Map for this area.
4. That the Royal Golf Club at Lake Elmo 3rd Addition Final Plat and PUD Plans generally comply with the City's GCC - Golf Course Community zoning districts as modified by the PUD regulations.
5. That the Royal Golf Club at Lake Elmo 3rd Addition Final Plat PUD Plans comply with the City's subdivision ordinance.
6. That the Royal Golf Club at Lake Elmo 3rd Addition Final Plat and PUD Plans comply with the City's Planned Unit Development Regulations.
7. That the Royal Golf Club at Lake Elmo 3rd Addition Final Plat and PUD Plans comply with the City's Engineering Standards, except where noted in the review memorandum from the City Engineer dated November 19, 2018 and modified by PUD regulations.
8. That the Royal Golf Club at Lake Elmo 3rd Addition Final Plat and PUD Plans generally comply with other City zoning ordinances, shoreland, and erosion and sediment control, except as noted in this staff report and review memorandum from the City Engineer dated November 19, 2018.
9. That the Royal Golf Club at Lake Elmo 3rd Addition Final Plat and PUD Plans generally comply with the City's landscaping and tree preservation ordinances, providing some flexibility to the Applicant to allow for woodland management and pollinator friendly native seeding in lieu of some required tree replacement in order to avoid possible detriment caused by over planting.
10. That the Royal Golf Club at Lake Elmo 3rd Addition Final Plat and PUD Plans achieve multiple identified objectives for planned developments within Lake Elmo.
11. That the proposed Final Plat and PUD Plans are for the 3rd Addition of 67 single family residential units of a 291-unit total residential golf course community Planned Unit Development on 103.7 acres of land (of 231 acres total) located on the former 3M Tartan Park properties.
12. That the Final Plat and PUD Plans will be located on property legally described on the attached Exhibit "A".
13. That there has been significant public testimony that 20th Street is already dangerous without the additional traffic and that the City and developer need to explore ways to make the road safer.
14. That the proposed PUD will allow a more flexible, creative, and efficient approach to the use of the land, and will specifically relate to existing zoning district standards in the following manner (with exceptions as noted):

    a. Setbacks:

        i. Royal Golf Club at Lake Elmo Setbacks

15.	16. 100 Ft. Wide Lots	17. 80-90 Ft. Wide Lots	18. 55-65 Ft. Wide Lots
19. Front	20. 30 ft.	21. 30 ft.	22. 20 ft. for side loaded garages, or 25'

23. Side	24. 10 ft.	25. 10 ft.	26. 10ft. house/5ft. garage or 7.5 ft./7.5 ft.
27. Corner Side	28. 15 ft.	29. 15 ft.	30. 15 ft.
31. Rear	32. 30 ft.	33. 30 ft.	34. 20 ft.

a. Maximum Impervious Coverage: The maximum impervious coverage for 55-65' wide lots shall be 50%. All other lots shall have a maximum impervious coverage of 40%.

b. Lot Sizes: The minimum lot size for Villa lots (55-65' wide) in the development shall be 6,600 sq. ft.

c. Attached Garages: That attached garages shall not exceed 1,300 sq. ft. in area at the ground floor level except by conditional use permit. The width of the visible garage door area when closed shall not exceed 60% of the principal building façade (including garage) fronting on the primary street.

d. Subdivision Identification Signs: The Royal Golf Club at Lake Elmo residential subdivision shall be allowed up to a maximum of 4 subdivision identification signs, including the identification sign for the golf course entrance, not to exceed 24 sq. feet in sign area each, located no closer than 10 feet to any public right-of-way. In addition, neighborhood identification markers (pillars) shall be permitted to be no larger than 2 ft. x 2 ft. to identify the development logo and the name of the neighborhood. Additional subdivision signs should be considered for a subdivision of this size.

    i. *Staff Note:* If the developer requests a change to this, a variance should be requested.

e. All other requirements for the City's GCC – Golf Course Community zoning district will apply, including the allowed uses and other site and development standards.

f. That the proposed street names within the development are generally consistent with the City's Street Naming Policy as amended April 17, 2018.

g. The developer has not yet constructed an HOA-owned and maintained play structure as required by the original condition of approval of the 2nd Addition Final Plat.

Recommended Conditions of Approval. Staff recommends the following conditions of approval:

1. That there shall be no encroachments to drainage and utility easements on residential lots other than those reviewed and approved by the City Engineer and upon execution of an easement encroachment agreement.
2. Prior to the execution of Final Plat, the Developer shall enter into a Developer's Agreement acceptable to the City Attorney and approved by the City Council that delineates who is responsible for the design, construction, and payment of the required improvements with financial guarantees therefore.
3. The Royal Golf Club at Lake Elmo 3rd Addition shall be incorporated into the Common Interest Agreement concerning management of the common areas and establish a homeowner's association (HOA) which shall be submitted in final form to the Planning Director before any building permit may be issued for any structure in any phase of the development. Said agreement shall comply with Minnesota Statues 515B-103 and specifically the provisions concerning the transfer of control to the future property owners. The HOA documents shall include required maintenance of wetland buffers.
4. That the HOA documents include architectural requirements that require four-sided architecture and garages facing the public rights-of-way to have windows and/or other architectural features.
5. The applicant shall enter into a landscape license and maintenance agreement with the City that clarifies the individuals or entities responsible for landscaping.

6. The developer shall provide evidence of an HOA owned and maintained children's play structure or other similar improvement has been constructed within Outlot D of the 2nd Addition before the release of building permits for the 3rd Addition.
7. That a fee in lieu of park land dedication be paid to the City based upon an appraisal by an appraiser to be chosen by the City and paid for by the developer.
8. That the developer pay a parkland dedication fee equal to $500 per 2.5 caliper inch required in lieu of some required tree preservation replacement tree requirements, totaling **$111,552.00** in lieu of planting the required number of trees required. This fee was calculated as follows: $500.00 multiplied by 969 2.5-caliper inch tree not planted within the entire subdivision, divided by 291 single family lots within the entire subdivision, multiplied by 67 single family lots within the 3rd Addition.
9. All changes and modifications to the plans requested by the City Engineer in the Engineer's review memo dated November 19, 2018 shall be incorporated into the Final Plat and PUD Plans. The Applicant should note the requirements for VBWD permits for temporary storm water management.
10. The Final Plat and PUD Plans approval is conditioned upon the applicant meeting all City standards and design requirements unless specifically addressed otherwise in this resolution.
11. Prior to the City issuing building permits, all wetland buffers shall be delineated and identified via staking or signage that is acceptable to the City.
12. Prior to the construction of any subdivision identification signs or neighborhood markers within the development, the developer shall submit sign plans for review and obtain a sign permit from the Planning Department. Any amendments to the finding regarding signs indicated in this Resolution shall be subject to a PUD amendment or variance.
13. That the Final Plat include street names as approved by Council.
14. The developer shall follow all of the rules and regulations spelled out in the Wetland Conservation Act and shall acquire the needed permits from the appropriate watershed districts prior to the commencement of any grading or development activity on the site.
15. That the Royal Golf Club development will not have street lights except at street intersections and cul-de-sacs.
16. That the developer make a $1,000,000 donation to the City Parks fund when construction of the 3rd Addition prohibits use of the former Tartan Park ballfields, including construction materials storage and before the city releases the 3rd Addition final plat for recording.
17. The location and spacing of the trees that overlap the buildings and on edge of driveway when shown at mature diameter is adjusted and resubmitted on a revised landscape plan, per the Landscape Review memo, dated November 8, 2018.
18. The developer shall pave the unfinished trail in the 2nd Addition as soon as favorable conditions are available in the spring of 2019. The City may choose to not release building permits for the 3rd Addition in the spring of 2019 if the developer has not completed the required trail paving in a timely manner.

Applicant Paul Tabone spoke regarding this project and was available for questions.

Public hearing opened at 7:50 PM.

No public comments

Public hearing closed at 7:51 PM

M/S/P: Mueller / Rehkamp moved to recommend approval of the Royal Golf Club at Lake Elmo 5th Addition Final Plat and PUD Plans based on the findings off act and conditions outlined in the Staff Report. **Vote: 4-0, motion carried unanimously.** Mueller had no comments, Rehkamp had concerns about the loss of tree coverage but believes the staff have addressed that issue, Vrieze agrees, Steil concurs with all previous comments

Regular Business
None

Communications/Updates - City Council Updates
None

Upcoming Meetings
a. December 12th, 2022
b. December 28th, 2022

Meeting adjourned at 7:55 PM.

Respectfully submitted,

Diane Wendt
Permit Technician

Date Received:_____
Received By: _____
Permit #:_____

THE CITY OF LAKE ELMO

651-747-3900
3800 Laverne Avenue North
Lake Elmo, MN 55042

LAND USE APPLICATION

☐ Comprehensive Plan ☐ Zoning District Amend ☐ Zoning Text Amend ☐ Variance*(see below) ☐ Zoning Appeal

☒ Conditional Use Permit (C.U.P.) ☐ Flood Plain C.U.P. ☐ Interim Use Permit (I.U.P.) ☐ Excavating/Grading

☐ Lot Line Adjustment ☐ Minor Subdivision ☐ Residential Subdivision Sketch/Concept Plan

☐ PUD Concept Plan ☐ PUD Preliminary Plan ☐ PUD Final Plan ☐ Wireless Communications

Applicant: Henry Elgersma
Address: 393 Cleveland Ave S, Saint Paul, MN 55105
Phone # 515-441-2594
Email Address: henry@jcorp.biz

Fee Owner: Upper 33rd, LLC
Address: 393 Cleveland Ave S Saint Paul, MN 55105
Phone # 515-441-2594
Email Address: henry@jcorp.biz

Property Location (Address): N/A
(Complete (long) Legal Description: SUBDIVISIONNAME ELMO PARK LOT 10 BLOCK 2 SUBDIVISIONCD 37200
LOTS 11&12 & E1/2 OF LT 13 002 ELMO PARK ADD SUBDIVISIONNAME ELMO PARK LOT 11 BLOCK 2 SUBDIVISIONCD 37200
PID#: 1302921320051, 1302921320052

Detailed Reason for Request:
CUP Submittal to build new 4-unit townhouse project on Upper 33rd St

*Variance Requests: As outlined in Section 301.060 C. of the Lake Elmo Municipal Code, the applicant must demonstrate practical difficulties before a variance can be granted. The practical difficulties related to this application are as follows:

No variance requests

In signing this application, I hereby acknowledge that I have read and fully understand the applicable provisions of the Zoning ordinance and current administrative procedures. I further acknowledge the fee explanation as outlined in the application procedures and hereby agree to pay all statements received from the City pertaining to additional application expense.

Signature of applicant: _____ Date: 10/28/2022

Signature of fee owner: _____ Date: 10/28/2022

RECEIVED
OCT 28 2022
CITY OF LAKE ELMO

CUP Application – Written Statements (Updated)

Upper 33rd Street

A) Contact Information

Owners:
Henry Elgersma
393 Cleveland Ave S, Saint Paul, MN 55105
515-441-2594
Ryan McKilligan:
1110 Raymond Ave #3, Saint Paul, MN 55108
651-502-1470

Civil Engineer:
T.J. Rose, P.E.
3524 Labore Road, White Bear Lake, MN 55110
651-481-9120

Architect:
Henry Elgersma, AIA
393 Cleveland Ave S, Saint Paul, MN 55105
515-441-2594

B) Site Data

No address assigned
V-MX (Village Mixed Use) zoning
12,499 SF (.287 acres) – PID 1302921320052
5,000 SF (.115 acres) – PID 1302921320051
Legal Description:
SubdivisionName ELMO PARK Lot 11 Block 2 SubdivisionCd 37200
SubdivisionName ELMO PARK Lot 10 Block 2 SubdivisionCd 37200
LOTS 11&12 & E1/2 OF LT 13 002 ELMO PARK ADD SUBDIVISIONNAME ELMO PARK LOT 11 BLOCK 2 SUBDIVISIONCD 37200

C) Property history
Currently a vacant piece of land

D) Proposed use

i. We are proposing a residential use comprised of four single-family attached rental dwelling units on one combined lot. The units will each have a main entry facing Upper 33rd Street with open front yards to create an appealing front elevation and connection to the surrounding community. Each unit will have a side-facing two car garage accessed from a shared private driveway. Two access points for vehicles on the southern portion of the site is proposed, with both side yards being maintained for open space along with the rear yard and much of the front yard. The proposed building conforms to all setback requirements and leaves ample space between the structure and adjacent properties. Fencing will be provided to screen between the properties to the west, east, and north. There should be minimal impact to any wetland or forest natural areas.

ii. No employees or hours of operation for residential use. Proposed development schedule would be construction during 2023 construction season with opening late 2023.

E) Justification

i. The proposed Residential use of Attached Single Family Dwellings is consistent with the context of the adjacent area in terms of overall building height, quality of proposed building, and residential use. The use will not be detrimental to public health, safety, comfort, convenience, or general welfare of the neighborhood or City.

ii. Lake Elmo 2040 Comprehensive Plan Goals for the Old Village District include encouraging walkable, pedestrian scale buildings, encouraging an increase in households, and supporting development of various housing types throughout the community for various life stages. The proposed density of 4 dwelling units in 4.02 acres is consistent with the Lake Elmo 2040 Comprehensive Plan which allows a minimum of 5 up to 10 dwelling units per acre for the Village Mixed Use designation. We believe introducing four high-quality, single family attached rental homes contributes to these goals by increasing the population to support the nearby businesses on Lake Elmo Ave, contributing to the walkable quality of the neighborhood with pedestrian scaled buildings with entrances that face the street, and complying with the density target for the V-MU area. Additionally, creating four high-quality rental units diversifies the housing options that are currently almost entirely owner-occupied, and offers a low-maintenance living option for residents in any stage of life.

iii. The proposed project's compatibility with the existing neighborhood is established through:

1. Creating all 1-1/2 story units which are similar in height to existing housing nearby
2. Using similar materials and color palettes to nearby houses and buildings on Lake Elmo Ave.
3. Utilizing varied pitched roofs and wall planes to tie into the existing massing and shape of nearby homes and the break the building down into smaller parts
4. Using similar window patterning as nearby homes and businesses
5. Creating primary entrances that face the street and sidewalks to encourage pedestrian connection to the neighborhood
6. Minimizing the visual impact of the garages by having them face to the side and applying architectural treatments so they don't appear like front facing garages including generous windows, accent roofs, and siding material changes.

After listening to feedback from the community at the Planning Commission meeting on 11/28, the design and development team reworked the configuration of the project to better address many of the concerns shared at that meeting in an effort to make the project best fit the neighborhood context it is in and ease neighbors' concerns. Concerns voiced included:

1. Lack of parking other than enclosed garages
2. Stormwater management concerns
3. Rear driveway taking up much of the west side and rear yards with pavement
4. Screening train noise from the south to units
5. Screening to neighboring properties
6. Snow management
7. Large scale of the building compared to neighboring buildings
8. Management of the property

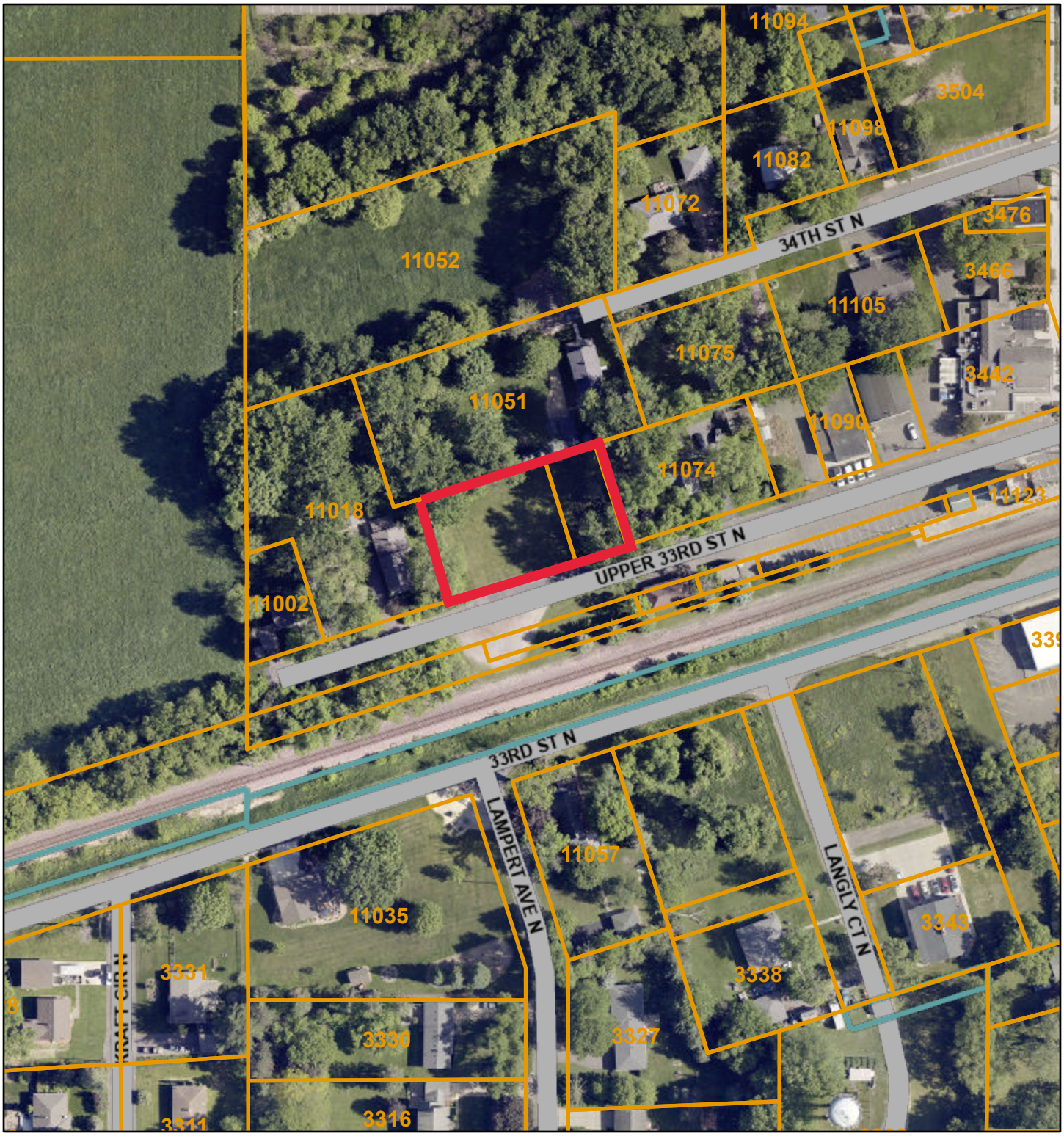
The reworking of the design removes the large driveway to access the rear facing garages while keeping the front doors facing Upper 33rd Street and minimizing the visual impact of the garage. The advantages that relate to the concerns raised include:

1. Adding two guest parking stalls in addition to the two stalls per unit of parking already provided, each conveniently located close to the unit entries
2. Reducing impervious surface by almost 20% which helps with stormwater management. Also, see final stormwater design and calculations submitted.

3. Both side yards and the rear yard are now unpaved, open areas
4. Garages are now located between the railroad and the living space of the unit, screening railroad noise
5. We added fence screening along east, west, and north property lines
6. Less driveway surface creates less snow to remove, ample space is located on each side of driveway in front yards
7. All four units are now 1.5 stories tall (rather than two being full two stories) and are more visually separated with changes in massing that create the look of four separate structures that are similar in scale to the neighborhood
8. The property will be professionally managed by a company that manages dozens of properties.

The design and development team believes these changes address many of the concerns raised from the community. We are eager to listen and work to create a sensitive and quality design that will contribute positively to the community. We have worked hard to adhere to all zoning regulations and believe all aspects of the project are fully compliant with all applicable guidelines and regulations as designed. We believe this product will contribute positively to the neighborhood and the Lake Elmo Historic Village.

ArcGIS Web AppBuilder



11/23/2022, 8:38:52 AM

1:2,257

0 0.01 0.03 0.05 mi

0 0.02 0.04 0.08 km

Parcels

Easement Lines

COMPUTED UTILITY_DRAINAGE

MNWASH038007.sid

Red: Band_1

Green: Band_2

Blue: Band_3

MNWASH032009.sid

Red: Band_1

Green: Band_2

Blue: Band_3

MNWASH026009.sid

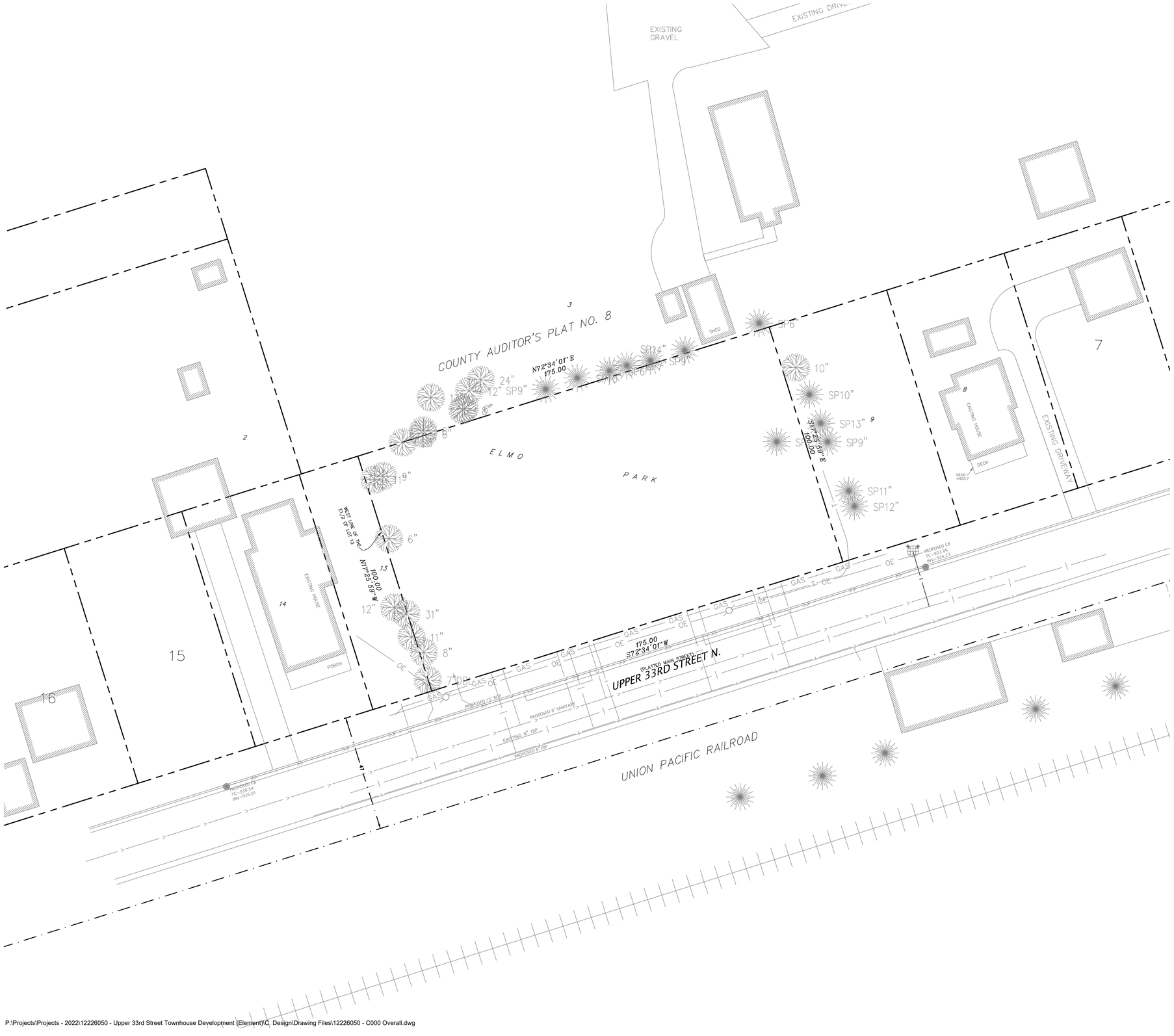
Red: Band_1

Green: Band_2

Blue: Band_3

MNWASH020009.sid

Red: Band_1



LEGEND

- OVERHEAD ELECTRIC LINE
- SANITARY SEWER PIPE
- STORM SEWER PIPE
- WATERMAIN PIPE
- GAS LINE
- RAILROAD TRACKS
- STREET SIGN
- HYDRANT
- STREET LIGHT
- CATCH BASIN
- TREE

NOTES

1. Existing conditions outside of the project limits were drawn in per an aerial image and Washington County GIS mapping.

NORTH

0 10 20 40

Larson Engineering, Inc.
3524 Labore Road
White Bear Lake, MN 55110
651.481.9120 (f) 651.481.9201
www.larsonengr.com

Client:
ELEMENT
DESIGN-BUILD
1110 RAYMOUND AVENUE, UNIT 3
ST. PAUL, MN 55108

PRELIMINARY NOT FOR CONSTRUCTION

Project Title:
UPPER 33RD STREET
TOWNHOUSE
DEVELOPMENT
LAKE ELMO, MN

I hereby certify that this plan, specifications or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the state of Minnesota.

Matthew J. Woodruff, P.E.

Date: 01.06.23 Lic. No.:

Rev.	Date	Description

Project #: 12226050
Drawn By: TJR
Checked By: MJW
Issue Date: 01.06.23

Sheet Title:
EXISTING CONDITIONS EXHIBIT

Sheet:
C000

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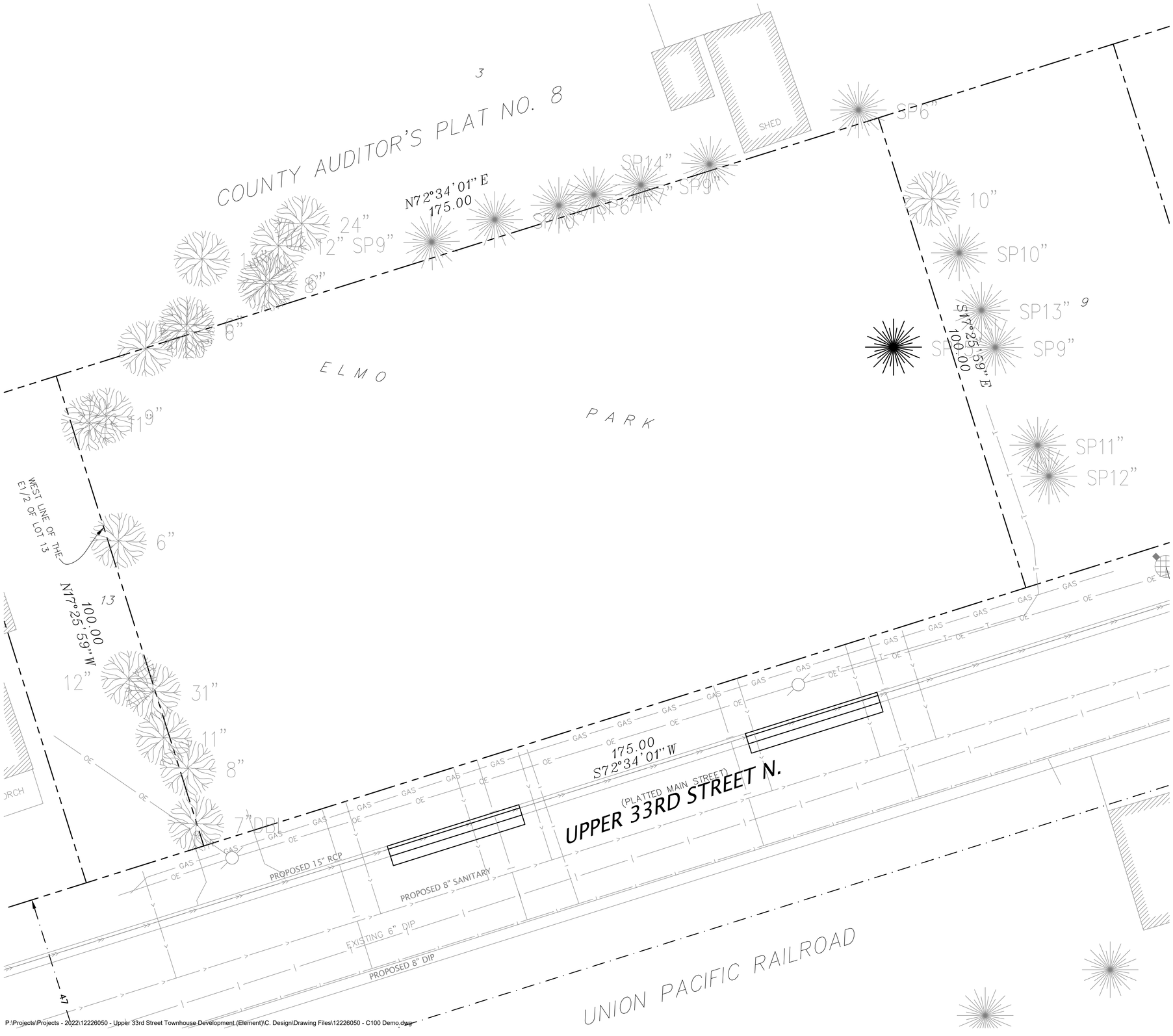

SYMBOL LEGEND

REMOVE AND DISPOSE OF EXISTING BITUMINOUS PAVEMENT SECTION

KEY NOTES

1. SAWCUT,REMOVE, AND DISPOSE OF EXISTING CONCRETE CURB AND GUTTER.
2. REMOVE AND DISPOSE OF EXISTING TREE, STUMP, AND ROOTS.

DEMOLITION NOTES

1. Verify all existing utility locations.
2. It is the responsibility of the Contractor to perform or coordinate all necessary utility demolitions and relocations from existing utility locations to all onsite amenities and buildings. These connections include, but are not limited to, water, sanitary sewer, cable tv, telephone, gas, electric, site lighting, etc.
3. Prior to beginning work, contact Gopher State Onecall (651-454-0002) to locate utilities throughout the area under construction. The Contractor shall retain the services of a private utility locator to locate the private utilities.
4. Sawcut along edges of pavements, sidewalks, and curbs to remain.
5. All construction shall be performed in accordance with state and local standard specifications for construction.

NORTH

0 5 10 20

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Matthew J. Woodruff, P.E.

Date: 01.06.23 Lic. No.:

Rev.	Date	Description

Project #: 12226050
Drawn By: TJR
Checked By: MJW
Issue Date: 01.06.23

Sheet Title:
DEMOLITION PLAN

Sheet:
C100

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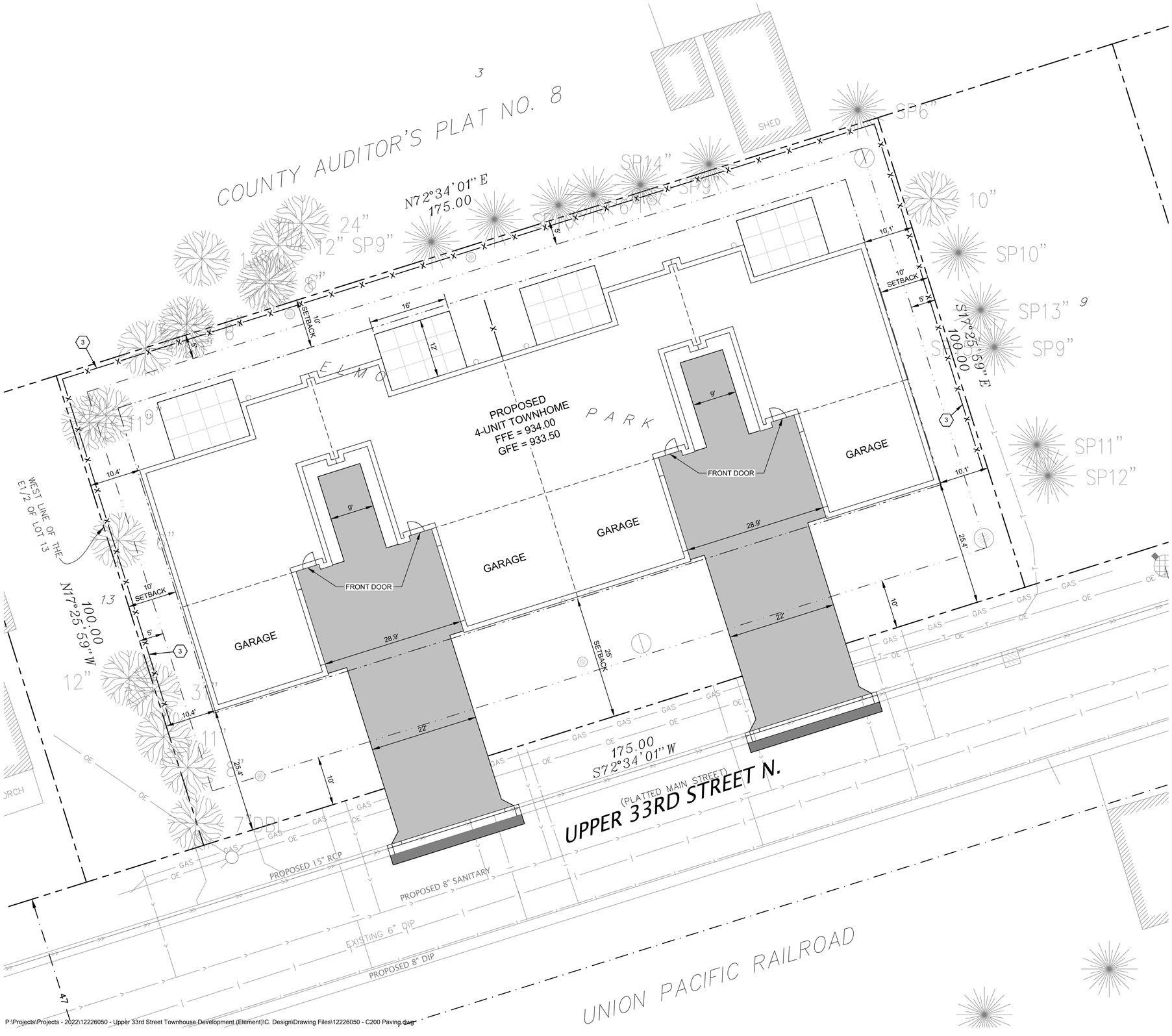

SYMBOL LEGEND

NEW LIGHT-DUTY BITUMINOUS PAVEMENT SEE DETAIL 1/C500

NEW CONCRETE SIDEWALK SEE DETAIL 3/C500

AREA CALCULATIONS:

PROPERTY AREA = 17,500 S.F.
IMPERVIOUS AREA = 10,056 S.F.
IMPERVIOUS PERCENT = 57.5%
MAX. ALLOWABLE IMPERVIOUS = 75% (13,125 S.F.)

GENERAL LEGEND

- PROPERTY LINE
- EASEMENT LINE
- RIGHT-OF-WAY LINE
- SETBACK LINE

KEY NOTES

1. B612 CURB AND GUTTER, SEE DETAIL 2/C500
2. DRIVEWAY APRON, SEE DETAIL 1/C501
3. PRIVACY FENCE, SEE LANDSCAPING PLANS

NOTE:

LOTS WILL BE CONSOLIDATED INTO ONE LOT.

NORTH

0 5 10 20

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LAKE ELMO, MN

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Matthew J. Woodruff, P.E.

Date: 01.06.23 Lic. No.:

Rev.	Date	Description

Project #: 12226050
Drawn By: TJR
Checked By: MJW
Issue Date: 01.06.23

Sheet Title:
SITE PLAN

Sheet:
C200

GRADING NOTES

1. Tree protection consisting of snow fence or safety fence installed at the drip line shall be in place prior to beginning any grading or demolition work at the site.
2. All elevations with an asterisk (*) shall be field verified. If elevations vary significantly, notify the Engineer for further instructions.
3. Grades shown in paved areas represent finish elevation.
4. Restore all disturbed areas with 4" of good quality topsoil and seed.
5. All construction shall be performed in accordance with state and local standard specifications for construction.
6. No wheeled machines shall be used to excavate BMP(s), and/or during the backfilling.
7. No construction traffic is allowed over the BMP(s) during any phase of the project.
8. BMP(s) shall be protected from all exposed soil during all construction activities.
9. BMP(s) shall not be open to accept water until the site is stabilized.

KEY NOTES

1. ROCK CONSTRUCTION ENTRANCE, SEE DETAIL 7/C500
2. SILT FENCE, SEE DETAIL 8/C500
3. INLET PROTECTION, SEE DETAIL 6/C500

SYMBOL LEGEND

- 950 — EXISTING CONTOURS
- 950 — PROPOSED CONTOURS - MAJOR INTERVAL
- 949 — PROPOSED CONTOURS - MINOR INTERVAL
- GRADE BREAK LINE
- 2.0% — GRADE SLOPE
- SILT FENCE
- SEDIMENT LOG
- RIP-RAP / ROCK CONST. ENTRANCE
- INLET PROTECTION

950.00 TC
949.50 GL

SPOT ABBREVIATIONS:
TC - TOP OF CURB
GL - GUTTER LINE
C - CONCRETE
FFE - FIRST FLOOR ELEVATION
GFE - GARAGE FLOOR ELEVATION
TW - TOP OF WALL
BW - BOTTOM OF WALL (F/G)
(*) - EXISTING TO BE VERIFIED

EROSION CONTROL NOTES

1. Install temporary erosion control measures (inlet protection, silt fence, and rock construction entrances) prior to beginning any excavation or demolition work at the site.
2. Erosion control measures shown on the erosion control plan are the absolute minimum. The contractor shall install temporary earth dikes, sediment traps or basins, additional siltation fencing, and/or disk the soil parallel to the contours as deemed necessary to further control erosion.
3. All construction site entrances shall be surfaced with crushed rock across the entire width of the entrance and from the entrance to a point 50' into the construction zone.
4. The toe of the silt fence shall be trenched in a minimum of 6". The trench backfill shall be compacted with a vibratory plate compactor.
5. All grading operations shall be conducted in a manner to minimize the potential for site erosion. Sediment control practices must be established on all down gradient perimeters before any up gradient land disturbing activities begin.
6. All exposed soil areas must be stabilized as soon as possible to limit soil erosion but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) and the constructed base components of roads, parking lots and similar surfaces are exempt from this requirement.
7. The normal wetted perimeter of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or diverts water around the site, must be stabilized within 200 lineal feet from the property edge, or from the point of discharge into any surface water. Stabilization of the last 200 lineal feet must be completed within 24 hours after connecting to a surface water. Stabilization of the remaining portions of any temporary or permanent ditches or swales must be complete within 14 days after connecting to a surface water and construction in that portion of the ditch has temporarily or permanently ceased.
8. All storm sewer catch basins not needed for site drainage during construction shall be covered to prevent runoff from entering the storm sewer system. Catch basins necessary for site drainage during construction shall be provided with inlet protection.
9. In areas where concentrated flows occur (such as swales and areas in front of storm catch basins and intakes) the erosion control facilities shall be backed by stabilization structure to protect those facilities from the concentrated flows.
10. Inspect the construction site once every seven days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours.
11. All BMPs must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/3 of the capacity of the BMP. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access.
12. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts.
13. All soils tracked onto pavement shall be removed daily.
14. Temporary soil stockpiles must have silt fence or other effective sediment controls, and cannot be placed in surface waters, including stormwater conveyances such as curb and gutter systems, or conduits and ditches unless there is a bypass in place for the stormwater.
15. Collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with MPCA disposal requirements.
16. Oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA regulations.
17. External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed onsite.
18. All liquid and solid wastes generated by concrete washout operations must be contained in a leak-proof containment facility or impermeable liner. A compacted clay liner that does not allow washout liquids to enter ground water is considered an impermeable liner. The liquid and solid wastes must not contact the ground, and there must not be runoff from the concrete washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA regulations. A sign must be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
19. Upon completion of the project and stabilization of all graded areas, all temporary erosion control facilities (silt fences, hay bales, etc.) shall be removed from the site.
20. A City approved dewatering/pumping plan is required prior to any pumping activity. Notify City of Roseville Engineering Dept. at 651-792-7004 prior to beginning any pumping activity.
21. Notify City of Roseville Engineering Dept. at 651-792-7004, prior to beginning any and all construction activity to verify Erosion Control Measures are in place.
22. Notify City of Roseville Engineering Dept. at 651-792-7004, at least 24 hours prior to the construction of stormwater BMPs.

PROPOSED 4-UNIT TOWNHOME
FFE = 934.00
GFE = 933.50

GARAGE

UPPER 33RD STREET N.
(PLATTED MAIN STREET)

JNTY AUDITOR'S PLAT NO. 8

WEST LINE OF THE E1/2 OF LOT 13

N72°34'01"E 175.00

N17°25'59"W 100.00

S72°34'01"W 175.00

S17°25'59"E 100.00

PROPOSED 15" RCP
PROPOSED 8" SANITARY
EXISTING 6" DIP
PROPOSED 8" DIP
UNION PACIFIC RAILROAD

NORTH
0 5 10 20

Larson Engineering, Inc.
3524 Labore Road
White Bear Lake, MN 55110
651.481.9120 (f) 651.481.9201
www.larsonengr.com

Client:
ELEMENT
DESIGN-BUILD
1110 RAYMOUND AVENUE, UNIT 3
ST. PAUL, MN 55108

PRELIMINARY NOT FOR CONSTRUCTION

Project Title:
UPPER 33RD STREET
TOWNHOUSE
DEVELOPMENT
LAKE ELMO, MN

I hereby certify that this plan, specifications or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the state of Minnesota.

Matthew J. Woodruff, P.E.

Date: 01.06.23 Lic. No.:

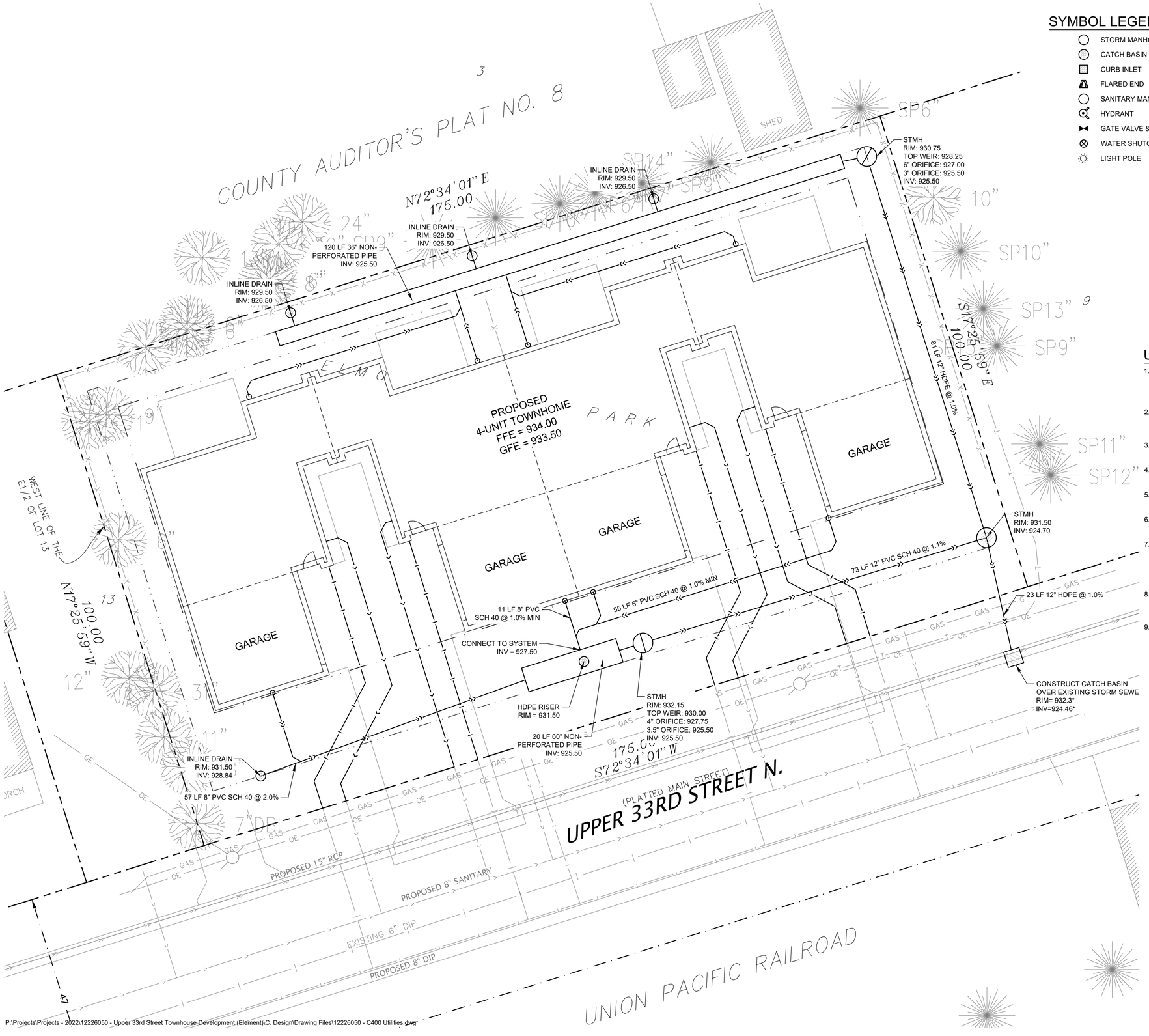
Rev.	Date	Description

Project #: 12226050
Drawn By: TJR
Checked By: MJW
Issue Date: 01.06.23

Sheet Title:
GRADING AND EROSION CONTROL PLAN

Sheet:
C300

P:\Projects\Projects - 2022\12226050 - Upper 33rd Street Townhouse Development (Element)\C. Design\Drawing Files\12226050 - C300 Grading.dwg



SYMBOL LEGEND

STORM MANHOLE	CABLE UNDERGROUND LINE
CATCH BASIN	ELECTRIC OVERHEAD LINE
CURB INLET	ELECTRIC UNDERGROUND LINE
FLARED END	FIBER OPTIC UNDERGROUND LINE
SANITARY MANHOLE	NATURAL GAS UNDERGROUND LINE
HYDRANT	SANITARY SEWER PIPE
GATE VALVE & BOX	STORM SEWER PIPE
WATER SHUTOFF	TELEPHONE UNDERGROUND LINE
LIGHT POLE	WATERMAIN PIPE
	DRAINTILE PIPE

KEY NOTES

1. WATERMAIN SERVICE, SEE DETAIL
2. ROOF DRAIN CONNECTION, SEE DETAIL
3. SANITARY SEWER SERVICE, SEE DETAIL
4. STORM SEWER MANHOLE, SEE DETAIL

UTILITY NOTES

1. It is the responsibility of the contractor to perform or coordinate all necessary utility connections and relocations from existing utility locations to the proposed building, as well as to all onsite amenities. These connections include but are not limited to water, sanitary sewer, cable TV, telephone, gas, electric, site lighting, etc.
2. All service connections shall be performed in accordance with state and local standard specifications for construction. Utility connections (sanitary sewer, watermain, and storm sewer) may require a permit from the City.
3. The contractor shall verify the elevations at proposed connections to existing utilities prior to any demolition or excavation.
4. The contractor shall notify all appropriate engineering departments and utility companies 72 hours prior to construction. All necessary precautions shall be made to avoid damage to existing utilities.
5. Storm sewer requires testing in accordance with Minnesota plumbing code 4714.1109 where located within 10 feet of waterlines or the building.
6. HDPE storm sewer piping shall meet ASTM F2306 and fittings shall meet ASTM D3212 joint pressure test. Installation shall meet ASTM C2321.
7. Maintain a minimum of 7 ½' of cover over all water lines and sanitary sewer lines. Where 7 ½' of cover is not provided, install 2" rigid polystyrene insulation (MN/DOT 3760) with a thermal resistance of at least 5 and a compressive strength of at least 25 psi. Insulation shall be 8' wide, centered over pipe with 6" sand cushion between pipe and insulation. Where depth is less than 5', use 4" of insulation.
8. Install water lines 12" above sewers. Where the sewer is less than 12" below the water line (or above), install sewer piping of materials approved for inside building use for 10 feet on each side of the crossing.
9. A City approved dewatering/pumping plan is required prior to any pumping activity. Notify City of Roseville Engineering Dept. at 651-792-7004 prior to beginning any pumping activity.

NORTH
0 5 10 20

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Sheet Title:
UTILITY PLAN

Sheet:
C400

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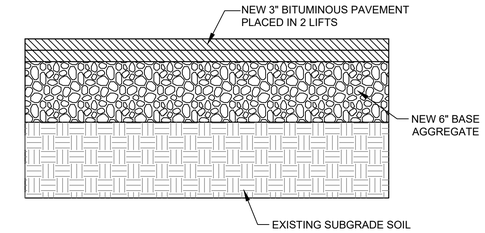
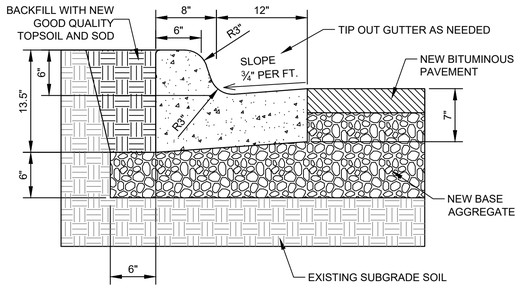


LIGHT-DUTY BITUMINOUS PAVEMENT SECTION

1 C500

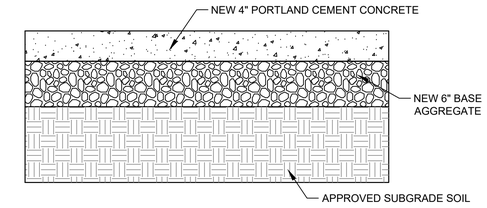
NOT TO SCALE



B612 CONCRETE CURB & GUTTER DETAIL

2 C500

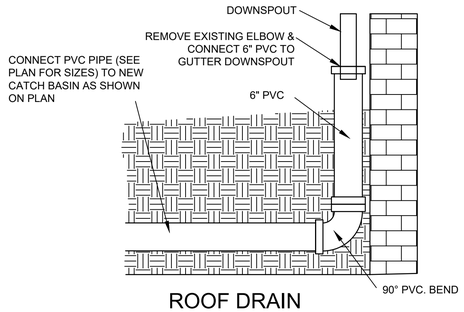
NOT TO SCALE



CONCRETE SIDEWALK CONSTRUCTION DETAIL

3 C500

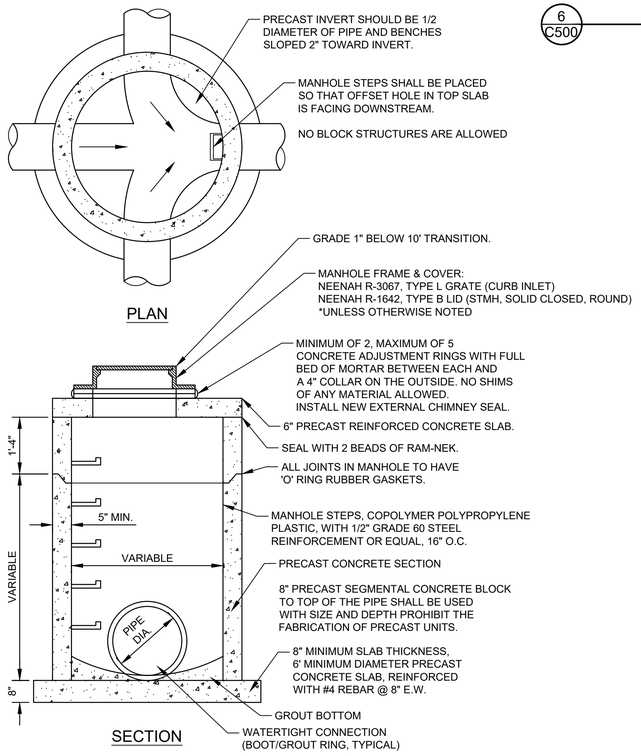
NOT TO SCALE



ROOF DRAIN CONNECTION DETAIL

4 C500

NOT TO SCALE

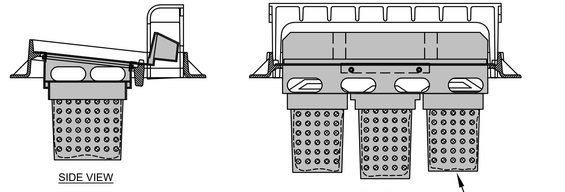


CATCH BASIN MANHOLE DETAIL

5 C500

NOT TO SCALE

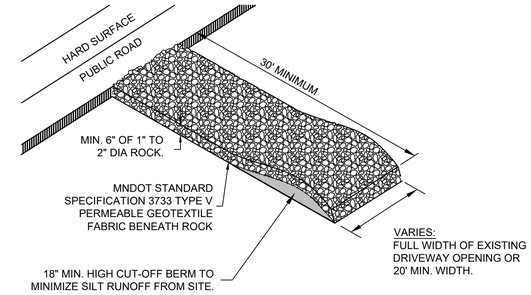
FILTER AREA	6.5 FT²
OVERFLOW AREA	0.6 FT²
MAXIMUM OVERFLOW RATE (@ 7" HEAD)	3.00 CFS
MAXIMUM OVERFLOW RATE (@ 13" HEAD)	4.00 CFS
BASKET WEIGHT (EMPTY)	1 LB
BASKET WEIGHT (FULL-APPROX.)	70 LBS



INFRASAFE INLET PROTECTION DEVICE (OR EQUAL)

6 C500

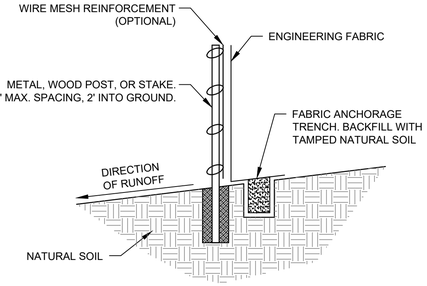
NOT TO SCALE



ROCK CONSTRUCTION ENTRANCE

7 C500

NOT TO SCALE



NOTE: DEPENDING UPON CONFIGURATION, ATTACH FABRIC TO WIRE MESH WITH HOG RINGS, STEEL POSTS WITH WIRES, OR WOOD POSTS WITH STAPLES.

SILT FENCE INSTALLATION DETAIL

8 C500

NOT TO SCALE

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Checked By: MJW
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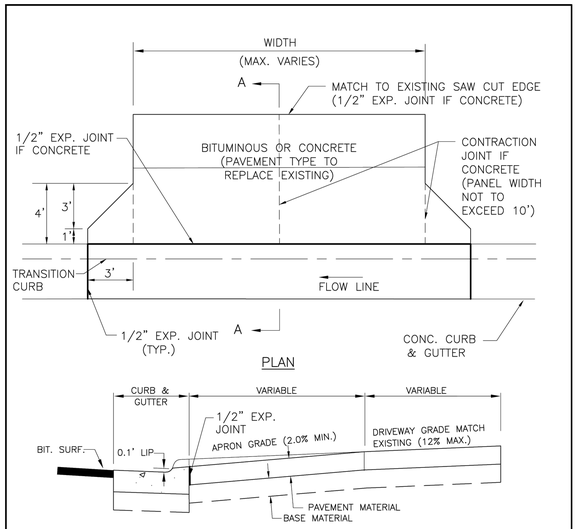
Sheet Title:
DETAILS

Sheet:
C500



SECTION A–A

DRIVEWAY TYPE	SURFACE THICKNESS	BASE THICKNESS
BITUMINOUS	3 INCHES	6 INCHES
CONCRETE	6 INCHES	4 INCHES

NOTES :
1. BITUMINOUS MATERIAL SHALL BE PER STREET TYPICAL SECTION.
2. AGGREGATE BASE MATERIAL SHALL BE PER STREET TYPICAL SECTION.

RESIDENTIAL DRIVEWAY

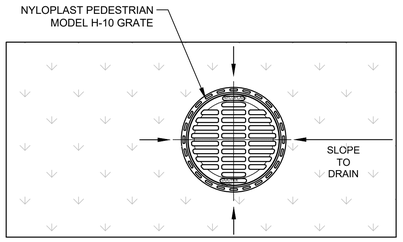
APRIL 2019

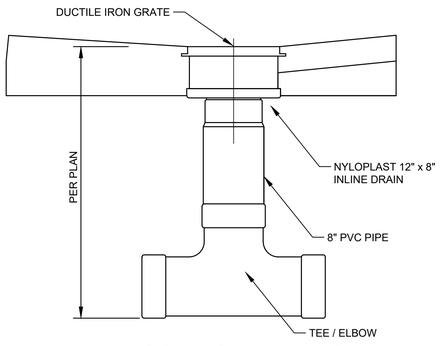
THE CITY OF LAKE ELMO — CITY OF LAKE ELMO

STANDARD DRAWING NO. 504 LAKE ELMO

1 C501 RESIDENTIAL DRIVEWAY DETAIL

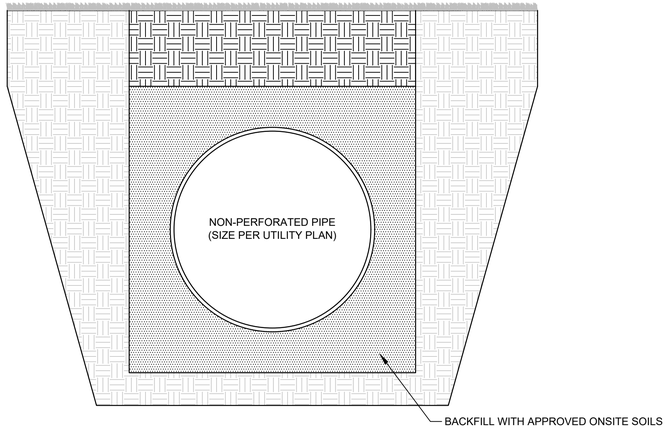
NOT TO SCALE





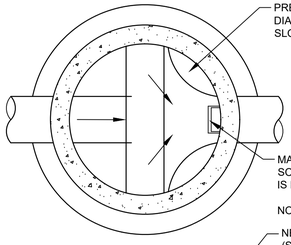
2 C501 INLINE DRAIN DETAIL (TURF)

NOT TO SCALE

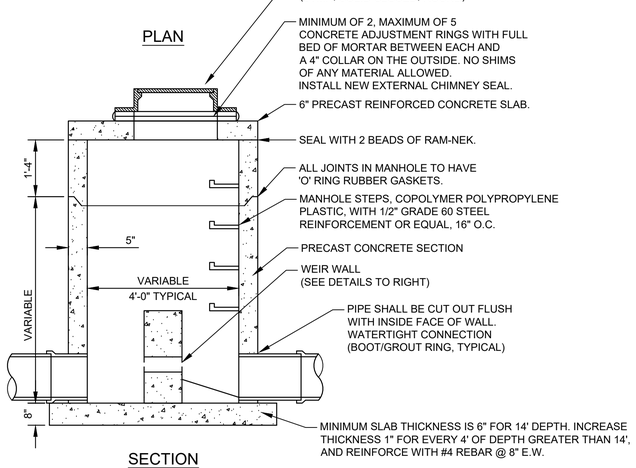


4 C501 UNDERGROUND PIPE STORAGE DETAIL

NOT TO SCALE



PLAN



SECTION

3 C501 OUTLET CONTROL STRUCTURE MANHOLE DETAIL

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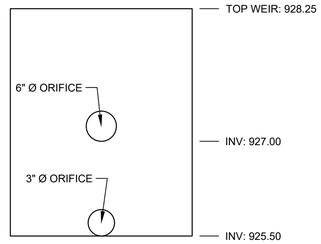
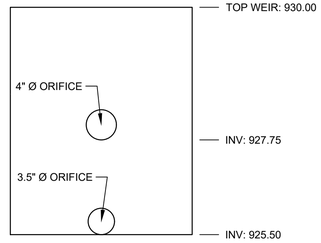


NORTH SYSTEM
WEIR WALL DETAIL
(NOT TO SCALE)



SOUTH SYSTEM
WEIR WALL DETAIL
(NOT TO SCALE)

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1110 RAYMOUND AVENUE, UNIT 3
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Project Title: UPPER 33RD STREET TOWNHOUSE DEVELOPMENT
LAKE ELMO, MN

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Rev.	Date	Description

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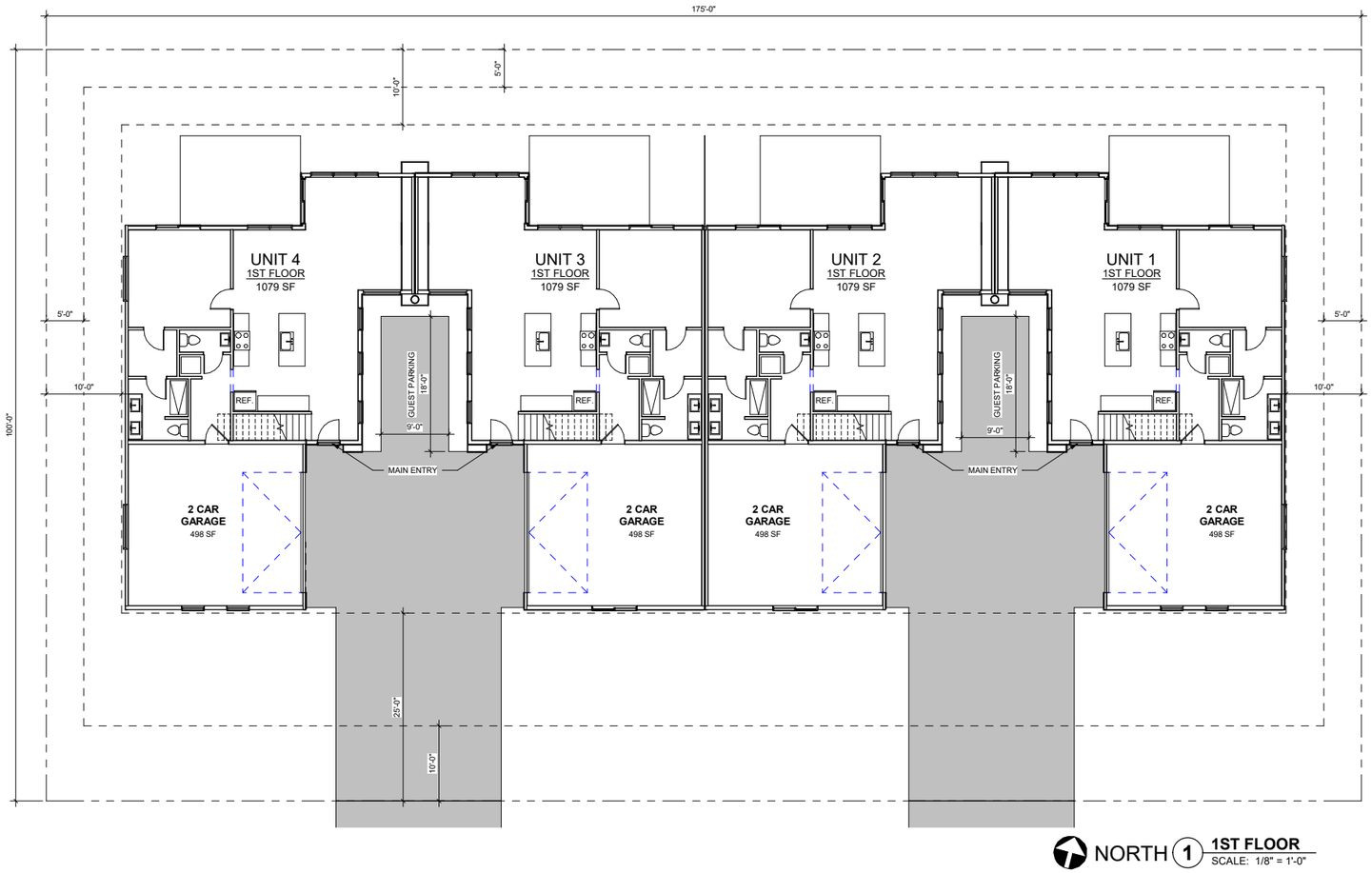
Drawn By: TJR
Checked By: MJW
Issue Date: 01.06.23

Sheet Title: DETAILS

Sheet: C501



NORTH 1 **1ST FLOOR**
SCALE: 1/8" = 1'-0"

PRELIMINARY- NOT FOR CONSTRUCTION

PROJECT:
Upper 33rd Cottages
Lake Elmo, MN

REVISIONS:

12 / 16 / 2022

PROJECT NO: **00-000**

CONTENTS:
1st Floor Plan

SHEET NO:
A101

NORTH 1 **2ND FLOOR**
SCALE: 1/8" = 1'-0"

PRELIMINARY- NOT FOR CONSTRUCTION

PROJECT:
Upper 33rd Cottages
Lake Elmo, MN

REVISIONS:

12 / 16 / 2022

PROJECT NO: **00-000**

CONTENTS:
2nd Floor Plan

SHEET NO:
A102

1 **VIEW FROM SE**
SCALE:

Upper 33rd Cottages | View from SE
12 / 16 / 2022

1 **VIEW FROM SOUTH**
SCALE:

Upper 33rd Cottages | View from South
12 / 16 / 2022

1 **VIEW FROM NW**
SCALE:

2 **ENTRY DETAIL**
SCALE:

Upper 33rd Cottages | 3d Views
12 / 16 / 2022

1 **SOUTH ELEVATION**
SCALE: 3/32" = 1'-0"

MATERIAL SCHEDULE

Type Mark	Description
S1	Fiber Cement Board and Batten Siding
S2	Fiber Cement Lap Siding
S3	Fiber Cement Shake Siding

2 **EAST ELEVATION**
SCALE: 3/32" = 1'-0"

Upper 33rd Cottages | Elevations
12 / 16 / 2022

1 NORTH ELEVATION
SCALE: 3/32" = 1'-0"

MATERIAL SCHEDULE

Type Mark	Description
S1	Fiber Cement Board and Batten Siding
S2	Fiber Cement Lap Siding
S3	Fiber Cement Shake Siding

2 WEST ELEVATION
SCALE: 3/32" = 1'-0"

Upper 33rd Cottages | Elevations
12 / 16 / 2022

UPPER 33RD STREET TOWNHOUSE DEVELOPMENT

STORMWATER CALCULATIONS

BY

LARSON ENGINEERING

~~**NOVEMBER 3, 2022**~~
DECEMBER 28, 2022

CONTENTS:

December 28, 2022

T.J. Rose, P.E. | Date | Registration No.

Larson

Upper 33rd Street Townhouse Development

SUMMARY OF STORMWATER RUNOFF

Introduction:
This project will consist of the construction of a new 4-unit townhouse, two shared driveways, and associated stormwater utilities.

Stormwater calculations were modeled using HydroCAD with Atlas 14 24-hour rainfall data.

Existing Conditions:
The existing site is an open grass residential lot. Runoff is generally from south to north across the site. To the north of the site is a grass lot. Per the LIDAR contours shown on MnTopo, it appears the grass lot to the north may be landlocked, as it is unclear where this lot ultimately drains. The existing conditions were modeled as >75% Grass Cover, Type D soils, with a Curve Number of 80. There are no existing impervious surfaces.

Proposed Conditions:
The runoff from the proposed site will be routed to an underground pipe infiltration system. The pipe infiltration system will outlet into the storm sewer in 33rd St.

Per Valley Branch Watershed District (VBWD) standards, the runoff rate in the proposed conditions must not exceed the runoff rate in the existing conditions for the 2-, 10-, and 100-year 24-hour storms, as well as the 7.2-inch 100-year 10-day snow melt event, for all points where discharge leaves the site.

The existing and proposed peak runoff rates leaving the site are listed in the table below.

Existing peak runoff rates (in cubic feet per second):

Area	2-year	10-year	100-year	100-yr, 10-day
Runoff North	0.57	1.17	2.59	0.19
Runoff South	0.00	0.00	0.00	0.00
Total Runoff	**0.57**	**1.17**	**2.59**	**0.19**

Proposed peak runoff rates (in cubic feet per second):

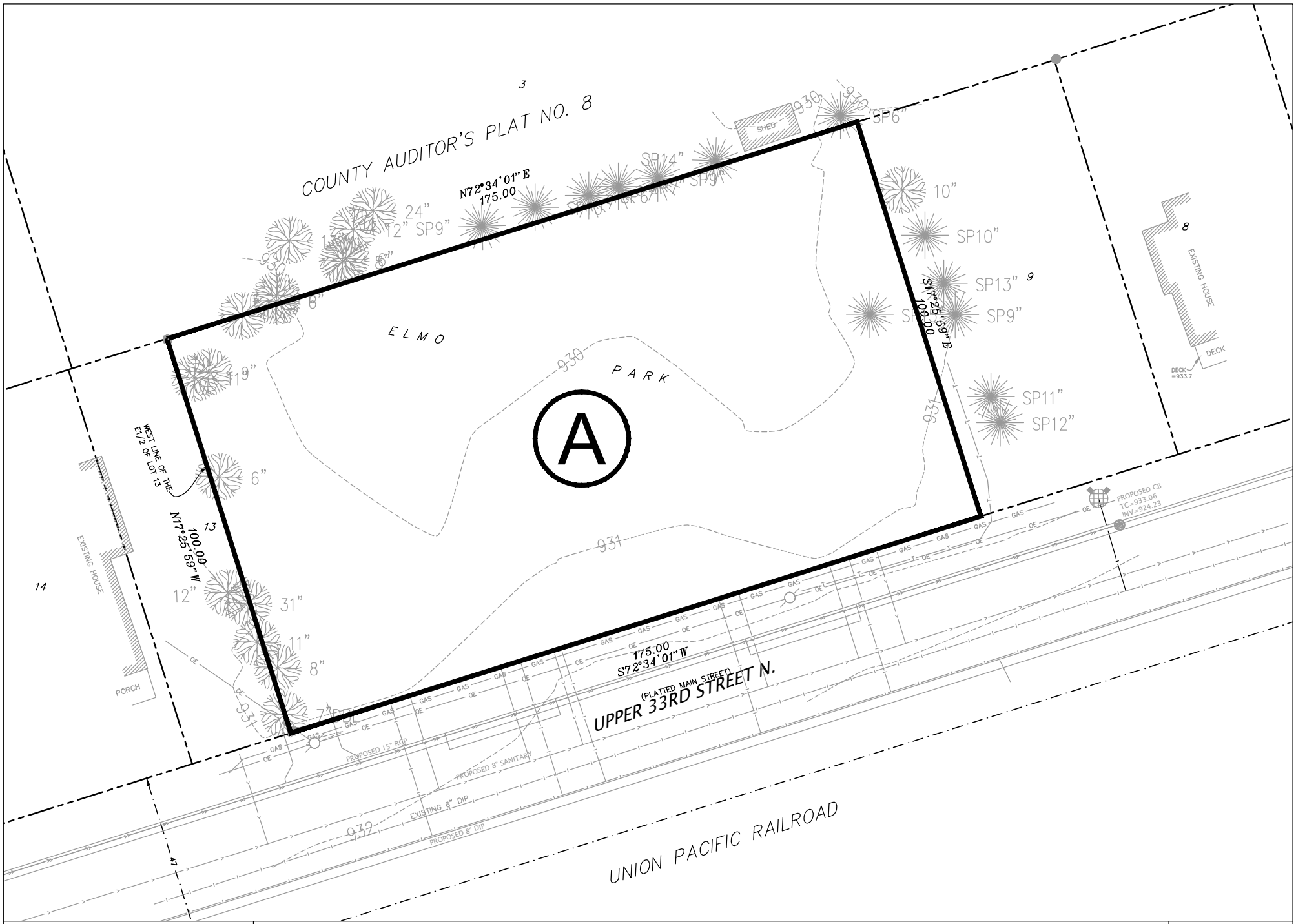
Area	2-year	10-year	100-year	100-yr, 10-day
Runoff North	0.00	0.00	0.00	0.00
Runoff South	0.56	0.90	2.51	0.19
Total Runoff	**0.56**	**0.90**	**2.51**	**0.19**

Since all of the existing runoff is directed towards the north, and the proposed underground system is discharging into the storm sewer in 33rd St, the runoff rates to the south are increasing. However, the total rates leaving the site have been reduced. We feel this is a better design than sending the proposed drainage to the north into the neighboring yard, where it can potentially be directed to a landlocked area.

Water Quality Summary

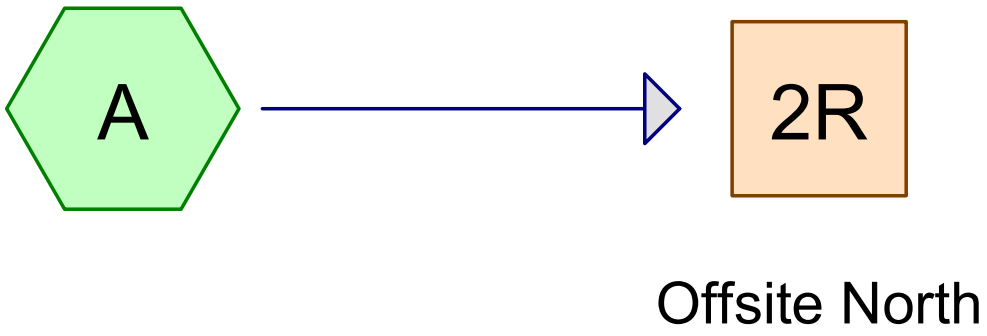
Per VBWD standards, a volume of runoff equivalent to 1.1” over the new and reconstructed impervious surfaces must be infiltrated. Due to the presence of Type D soils, infiltration is not feasible. In order to satisfy the volume requirement, credits will be purchased from the City of Lake Elmo for the use of their regional infiltration facility and to satisfy the requirements of the VBWD.

Total New/Reconstructed Impervious	=	10,056 SF
Total Required Infiltration	=	10,056 x 1.1” ÷ 12” = 922 CF



Larson Engineering, Inc.

EXISTING DRAINAGE MAP



Subcat Reach Pond Link

Routing Diagram for Upper 33rd - Existing
Prepared by Larson Engineering Of MN, Printed 12/28/2022

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	MSE 24-hr	3	Default	24.00	1	2.80	2
2	10-Year	MSE 24-hr	3	Default	24.00	1	4.20	2
3	100-Year	MSE 24-hr	3	Default	24.00	1	7.30	2
4	100-yr, 10-day	Spillway 1-day 10-day		Default	240.00	1	7.20	4

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
17,500	80	>75% Grass cover, Good, HSG D (A)
17,500	**80**	**TOTAL AREA**

Summary for Subcatchment A:

Runoff = 0.57 cfs @ 12.24 hrs, Volume= 1,607 cf, Depth= 1.10"
Routed to Reach 2R : Offsite North

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.80"

Area (sf)	CN	Description
17,500	80	>75% Grass cover, Good, HSG D
17,500	80	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0220	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.83"

Summary for Reach 2R: Offsite North

Inflow Area = 17,500 sf, 0.00% Impervious, Inflow Depth = 1.10" for 2-Year event
Inflow = 0.57 cfs @ 12.24 hrs, Volume= 1,607 cf
Outflow = 0.57 cfs @ 12.24 hrs, Volume= 1,607 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs

Summary for Subcatchment A:

Runoff = 1.17 cfs @ 12.23 hrs, Volume= 3,220 cf, Depth= 2.21"
Routed to Reach 2R : Offsite North

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.20"

Area (sf)	CN	Description
17,500	80	>75% Grass cover, Good, HSG D
17,500	80	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0220	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.83"

Summary for Reach 2R: Offsite North

Inflow Area = 17,500 sf, 0.00% Impervious, Inflow Depth = 2.21" for 10-Year event
Inflow = 1.17 cfs @ 12.23 hrs, Volume= 3,220 cf
Outflow = 1.17 cfs @ 12.23 hrs, Volume= 3,220 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs

Summary for Subcatchment A:

Runoff = 2.59 cfs @ 12.22 hrs, Volume= 7,251 cf, Depth= 4.97"
Routed to Reach 2R : Offsite North

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.30"

Area (sf)	CN	Description
17,500	80	>75% Grass cover, Good, HSG D
17,500	80	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0220	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.83"

Summary for Reach 2R: Offsite North

Inflow Area = 17,500 sf, 0.00% Impervious, Inflow Depth = 4.97" for 100-Year event
Inflow = 2.59 cfs @ 12.22 hrs, Volume= 7,251 cf
Outflow = 2.59 cfs @ 12.22 hrs, Volume= 7,251 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs

Summary for Subcatchment A:

Runoff = 0.19 cfs @ 121.42 hrs, Volume= 10,151 cf, Depth= 6.96"
Routed to Reach 2R : Offsite North

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
Spillway 1-day 10-day 100-yr, 10-day Rainfall=7.20", AMC=4

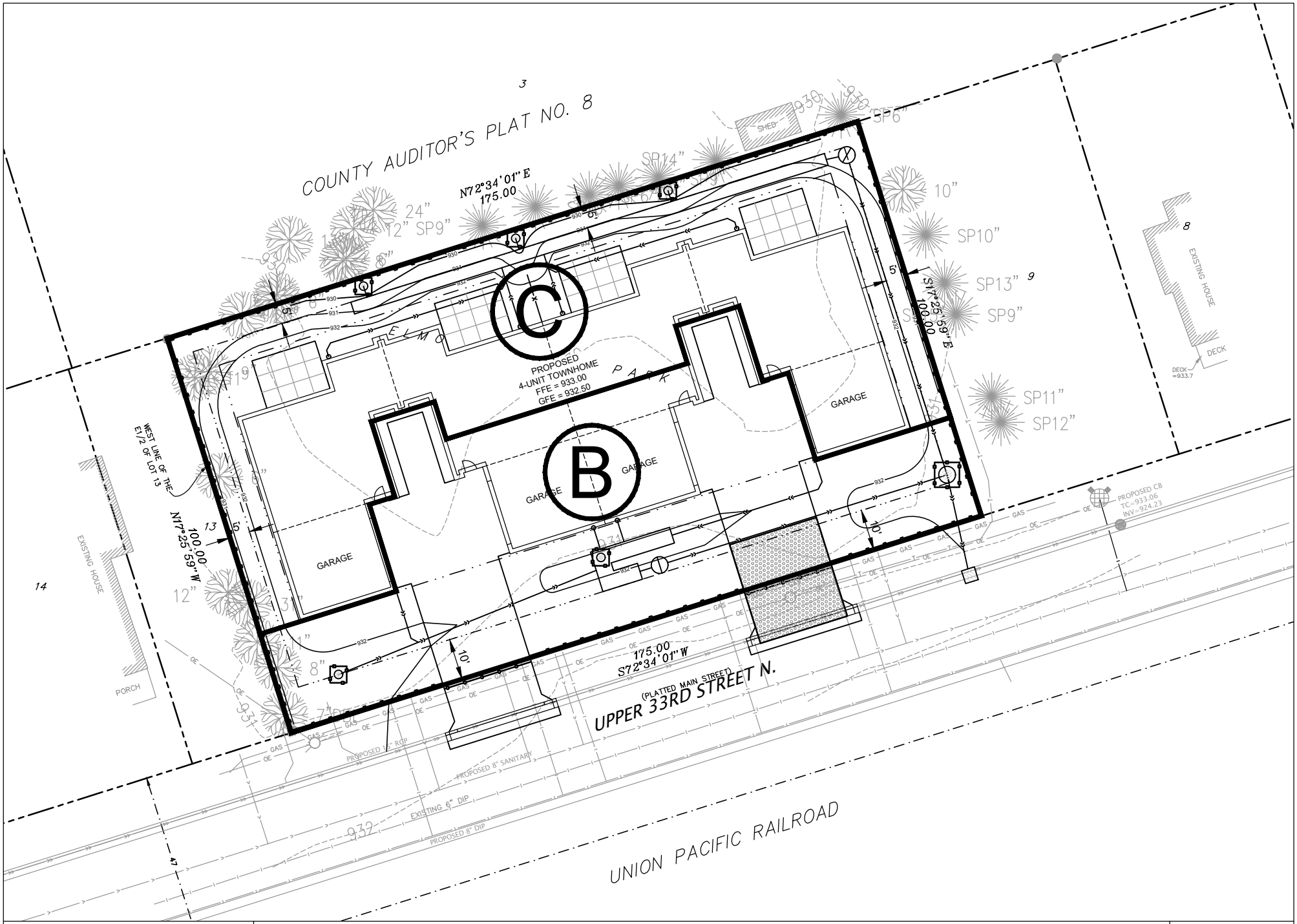
Area (sf)	CN	Adj	Description
17,500	80		>75% Grass cover, Good, HSG D
17,500	80	98	Weighted Average, AMC Adjusted
17,500	80	98	100.00% Pervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0220	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.83"

Summary for Reach 2R: Offsite North

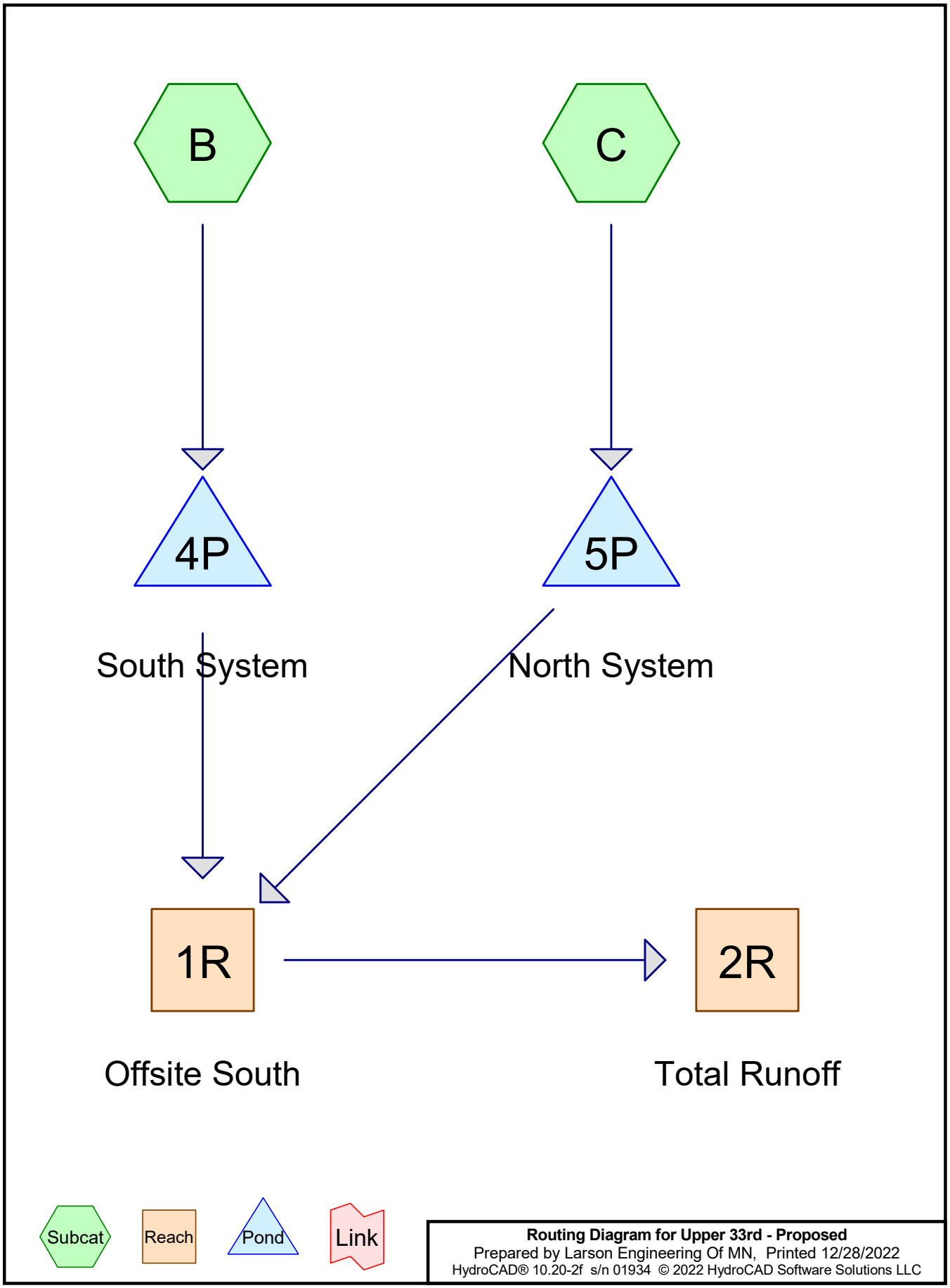
Inflow Area = 17,500 sf, 0.00% Impervious, Inflow Depth = 6.96" for 100-yr, 10-day event
Inflow = 0.19 cfs @ 121.42 hrs, Volume= 10,151 cf
Outflow = 0.19 cfs @ 121.42 hrs, Volume= 10,151 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs



Larson Engineering, Inc.

PROPOSED DRAINAGE MAP



Routing Diagram for Upper 33rd - Proposed
Prepared by Larson Engineering Of MN, Printed 12/28/2022

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	MSE 24-hr	3	Default	24.00	1	2.80	2
2	10-Year	MSE 24-hr	3	Default	24.00	1	4.20	2
3	100-Year	MSE 24-hr	3	Default	24.00	1	7.30	2
4	100-yr, 10-day	Spillway 1-day 10-day		Default	240.00	1	7.20	4

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
7,444	61	>75% Grass cover, Good, HSG B (B, C)
10,056	98	Proposed Impervious (B, C)
17,500	**82**	**TOTAL AREA**

Summary for Subcatchment B:

Runoff = 0.43 cfs @ 12.13 hrs, Volume= 1,011 cf, Depth= 1.54"
Routed to Pond 4P : South System

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.80"

	Area (sf)	CN	Description
*	4,314	98	Proposed Impervious
	3,587	61	>75% Grass cover, Good, HSG B
	7,901	81	Weighted Average
	3,587	61	45.40% Pervious Area
	4,314	98	54.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment C:

Runoff = 0.56 cfs @ 12.14 hrs, Volume= 1,323 cf, Depth= 1.65"
Routed to Pond 5P : North System

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.80"

	Area (sf)	CN	Description
*	5,742	98	Proposed Impervious
	3,857	61	>75% Grass cover, Good, HSG B
	9,599	83	Weighted Average
	3,857	61	40.18% Pervious Area
	5,742	98	59.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	25	0.0100	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.83"

Summary for Reach 1R: Offsite South

Inflow Area = 17,500 sf, 57.46% Impervious, Inflow Depth = 1.60" for 2-Year event
Inflow = 0.56 cfs @ 12.18 hrs, Volume= 2,334 cf
Outflow = 0.56 cfs @ 12.18 hrs, Volume= 2,334 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach 2R : Total Runoff

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs

Summary for Reach 2R: Total Runoff

Inflow Area = 17,500 sf, 57.46% Impervious, Inflow Depth = 1.60" for 2-Year event
Inflow = 0.56 cfs @ 12.18 hrs, Volume= 2,334 cf
Outflow = 0.56 cfs @ 12.18 hrs, Volume= 2,334 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs

Summary for Pond 4P: South System

Inflow Area = 7,901 sf, 54.60% Impervious, Inflow Depth = 1.54" for 2-Year event
Inflow = 0.43 cfs @ 12.13 hrs, Volume= 1,011 cf
Outflow = 0.35 cfs @ 12.17 hrs, Volume= 1,011 cf, Atten= 19%, Lag= 2.5 min
Primary = 0.35 cfs @ 12.17 hrs, Volume= 1,011 cf
Routed to Reach 1R : Offsite South

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
Peak Elev= 926.35' @ 12.17 hrs Surf.Area= 98 sf Storage= 59 cf

Plug-Flow detention time= 2.0 min calculated for 1,011 cf (100% of inflow)
Center-of-Mass det. time= 2.0 min (767.4 - 765.3)

Volume	Invert	Avail.Storage	Storage Description
#1	925.50'	377 cf	**48.0" Round Pipe Storage** L= 30.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	925.50'	**12.0" Round Culvert** L= 73.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 925.50' / 924.70' S= 0.0110 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	929.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	927.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.35 cfs @ 12.17 hrs HW=926.35' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.35 cfs of 2.24 cfs potential flow)
  ├─**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  └─**4=Orifice/Grate** (Orifice Controls 0.35 cfs @ 3.98 fps)

Summary for Pond 5P: North System

Inflow Area = 9,599 sf, 59.82% Impervious, Inflow Depth = 1.65" for 2-Year event
Inflow = 0.56 cfs @ 12.14 hrs, Volume= 1,323 cf
Outflow = 0.23 cfs @ 12.26 hrs, Volume= 1,323 cf, Atten= 59%, Lag= 7.5 min
Primary = 0.23 cfs @ 12.26 hrs, Volume= 1,323 cf
Routed to Reach 1R : Offsite South

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
Peak Elev= 926.55' @ 12.26 hrs Surf.Area= 344 sf Storage= 266 cf

Plug-Flow detention time= 11.3 min calculated for 1,323 cf (100% of inflow)
Center-of-Mass det. time= 11.9 min (775.8 - 763.9)

Volume	Invert	Avail.Storage	Storage Description
#1	925.50'	848 cf	**36.0" Round Pipe Storage** L= 120.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	925.50'	**12.0" Round Culvert** L= 78.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 925.50' / 924.70' S= 0.0103 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	928.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	927.00'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.50'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.23 cfs @ 12.26 hrs HW=926.55' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.23 cfs of 2.81 cfs potential flow)
  ├─**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  └─**4=Orifice/Grate** (Orifice Controls 0.23 cfs @ 4.64 fps)

Summary for Subcatchment B:

Runoff = 0.75 cfs @ 12.13 hrs, Volume= 1,699 cf, Depth= 2.58"
Routed to Pond 4P : South System

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.20"

	Area (sf)	CN	Description
*	4,314	98	Proposed Impervious
	3,587	61	>75% Grass cover, Good, HSG B
	7,901	81	Weighted Average
	3,587	61	45.40% Pervious Area
	4,314	98	54.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment C:

Runoff = 0.94 cfs @ 12.14 hrs, Volume= 2,192 cf, Depth= 2.74"
Routed to Pond 5P : North System

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.20"

	Area (sf)	CN	Description
*	5,742	98	Proposed Impervious
	3,857	61	>75% Grass cover, Good, HSG B
	9,599	83	Weighted Average
	3,857	61	40.18% Pervious Area
	5,742	98	59.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	25	0.0100	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.83"

Summary for Reach 1R: Offsite South

Inflow Area = 17,500 sf, 57.46% Impervious, Inflow Depth = 2.67" for 10-Year event
Inflow = 0.90 cfs @ 12.23 hrs, Volume= 3,891 cf
Outflow = 0.90 cfs @ 12.23 hrs, Volume= 3,891 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach 2R : Total Runoff

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs

Summary for Reach 2R: Total Runoff

Inflow Area = 17,500 sf, 57.46% Impervious, Inflow Depth = 2.67" for 10-Year event
Inflow = 0.90 cfs @ 12.23 hrs, Volume= 3,891 cf
Outflow = 0.90 cfs @ 12.23 hrs, Volume= 3,891 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs

Summary for Pond 4P: South System

Inflow Area = 7,901 sf, 54.60% Impervious, Inflow Depth = 2.58" for 10-Year event
Inflow = 0.75 cfs @ 12.13 hrs, Volume= 1,699 cf
Outflow = 0.51 cfs @ 12.19 hrs, Volume= 1,699 cf, Atten= 31%, Lag= 3.4 min
Primary = 0.51 cfs @ 12.19 hrs, Volume= 1,699 cf
Routed to Reach 1R : Offsite South

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
Peak Elev= 927.17' @ 12.19 hrs Surf.Area= 118 sf Storage= 149 cf

Plug-Flow detention time= 2.5 min calculated for 1,699 cf (100% of inflow)
Center-of-Mass det. time= 2.5 min (766.0 - 763.6)

Volume	Invert	Avail.Storage	Storage Description
#1	925.50'	377 cf	**48.0" Round Pipe Storage** L= 30.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	925.50'	**12.0" Round Culvert** L= 73.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 925.50' / 924.70' S= 0.0110 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	929.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	927.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.51 cfs @ 12.19 hrs HW=927.16' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.51 cfs of 3.92 cfs potential flow)
  ├─**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  └─**4=Orifice/Grate** (Orifice Controls 0.51 cfs @ 5.89 fps)

Summary for Pond 5P: North System

Inflow Area = 9,599 sf, 59.82% Impervious, Inflow Depth = 2.74" for 10-Year event
Inflow = 0.94 cfs @ 12.14 hrs, Volume= 2,192 cf
Outflow = 0.41 cfs @ 12.25 hrs, Volume= 2,192 cf, Atten= 56%, Lag= 6.8 min
Primary = 0.41 cfs @ 12.25 hrs, Volume= 2,192 cf
Routed to Reach 1R : Offsite South

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
Peak Elev= 927.20' @ 12.25 hrs Surf.Area= 357 sf Storage= 497 cf

Plug-Flow detention time= 14.1 min calculated for 2,191 cf (100% of inflow)
Center-of-Mass det. time= 14.4 min (775.9 - 761.5)

Volume	Invert	Avail.Storage	Storage Description
#1	925.50'	848 cf	**36.0" Round Pipe Storage** L= 120.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	925.50'	**12.0" Round Culvert** L= 78.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 925.50' / 924.70' S= 0.0103 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	928.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	927.00'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.50'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.41 cfs @ 12.25 hrs HW=927.20' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.41 cfs of 3.89 cfs potential flow)
  ├─**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.12 cfs @ 1.54 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.30 cfs @ 6.05 fps)

Summary for Subcatchment B:

Runoff = 1.53 cfs @ 12.13 hrs, Volume= 3,411 cf, Depth= 5.18"
Routed to Pond 4P : South System

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.30"

	Area (sf)	CN	Description
*	4,314	98	Proposed Impervious
	3,587	61	>75% Grass cover, Good, HSG B
	7,901	81	Weighted Average
	3,587	61	45.40% Pervious Area
	4,314	98	54.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment C:

Runoff = 1.88 cfs @ 12.14 hrs, Volume= 4,317 cf, Depth= 5.40"
Routed to Pond 5P : North System

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.30"

	Area (sf)	CN	Description
*	5,742	98	Proposed Impervious
	3,857	61	>75% Grass cover, Good, HSG B
	9,599	83	Weighted Average
	3,857	61	40.18% Pervious Area
	5,742	98	59.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	25	0.0100	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.83"

Summary for Reach 1R: Offsite South

Inflow Area = 17,500 sf, 57.46% Impervious, Inflow Depth = 5.30" for 100-Year event
Inflow = 2.51 cfs @ 12.18 hrs, Volume= 7,729 cf
Outflow = 2.51 cfs @ 12.18 hrs, Volume= 7,729 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach 2R : Total Runoff

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs

Summary for Reach 2R: Total Runoff

Inflow Area = 17,500 sf, 57.46% Impervious, Inflow Depth = 5.30" for 100-Year event
Inflow = 2.51 cfs @ 12.18 hrs, Volume= 7,729 cf
Outflow = 2.51 cfs @ 12.18 hrs, Volume= 7,729 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs

Summary for Pond 4P: South System

Inflow Area = 7,901 sf, 54.60% Impervious, Inflow Depth = 5.18" for 100-Year event
Inflow = 1.53 cfs @ 12.13 hrs, Volume= 3,411 cf
Outflow = 1.21 cfs @ 12.17 hrs, Volume= 3,411 cf, Atten= 21%, Lag= 2.6 min
Primary = 1.21 cfs @ 12.17 hrs, Volume= 3,411 cf
Routed to Reach 1R : Offsite South

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
Peak Elev= 928.71' @ 12.17 hrs Surf.Area= 95 sf Storage= 325 cf

Plug-Flow detention time= 2.8 min calculated for 3,411 cf (100% of inflow)
Center-of-Mass det. time= 2.8 min (763.4 - 760.6)

Volume	Invert	Avail.Storage	Storage Description
#1	925.50'	377 cf	**48.0" Round Pipe Storage** L= 30.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	925.50'	**12.0" Round Culvert** L= 73.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 925.50' / 924.70' S= 0.0110 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	929.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	927.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.21 cfs @ 12.17 hrs HW=928.71' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.21 cfs of 5.61 cfs potential flow)
  ├─**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.48 cfs @ 5.47 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.73 cfs @ 8.40 fps)

Summary for Pond 5P: North System

Inflow Area = 9,599 sf, 59.82% Impervious, Inflow Depth = 5.40" for 100-Year event
Inflow = 1.88 cfs @ 12.14 hrs, Volume= 4,317 cf
Outflow = 1.32 cfs @ 12.20 hrs, Volume= 4,317 cf, Atten= 30%, Lag= 3.5 min
Primary = 1.32 cfs @ 12.20 hrs, Volume= 4,317 cf
Routed to Reach 1R : Offsite South

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
Peak Elev= 928.23' @ 12.20 hrs Surf.Area= 207 sf Storage= 810 cf

Plug-Flow detention time= 12.5 min calculated for 4,317 cf (100% of inflow)
Center-of-Mass det. time= 12.6 min (770.8 - 758.1)

Volume	Invert	Avail.Storage	Storage Description
#1	925.50'	848 cf	**36.0" Round Pipe Storage** L= 120.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	925.50'	**12.0" Round Culvert** L= 78.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 925.50' / 924.70' S= 0.0103 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	928.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	927.00'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.50'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.31 cfs @ 12.20 hrs HW=928.22' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.31 cfs of 5.04 cfs potential flow)
  ├─**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.93 cfs @ 4.75 fps)
  └─**4=Orifice/Grate** (Orifice Controls 0.38 cfs @ 7.76 fps)

Summary for Subcatchment B:

Runoff = 0.09 cfs @ 121.30 hrs, Volume= 4,583 cf, Depth= 6.96"
Routed to Pond 4P : South System

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
Spillway 1-day 10-day 100-yr, 10-day Rainfall=7.20", AMC=4

	Area (sf)	CN	Adj	Description
*	4,314	98		Proposed Impervious
	3,587	61		>75% Grass cover, Good, HSG B
	7,901	81	98	Weighted Average, AMC Adjusted
	3,587	61	98	45.40% Pervious Area, AMC Adjusted
	4,314	98	98	54.60% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment C:

Runoff = 0.11 cfs @ 121.30 hrs, Volume= 5,568 cf, Depth= 6.96"
Routed to Pond 5P : North System

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
Spillway 1-day 10-day 100-yr, 10-day Rainfall=7.20", AMC=4

	Area (sf)	CN	Adj	Description
*	5,742	98		Proposed Impervious
	3,857	61		>75% Grass cover, Good, HSG B
	9,599	83	98	Weighted Average, AMC Adjusted
	3,857	61	98	40.18% Pervious Area, AMC Adjusted
	5,742	98	98	59.82% Impervious Area, AMC Adjusted

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	25	0.0100	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.83"

Summary for Reach 1R: Offsite South

Inflow Area = 17,500 sf, 57.46% Impervious, Inflow Depth = 6.96" for 100-yr, 10-day event
Inflow = 0.19 cfs @ 121.37 hrs, Volume= 10,151 cf
Outflow = 0.19 cfs @ 121.37 hrs, Volume= 10,151 cf, Atten= 0%, Lag= 0.0 min
Routed to Reach 2R : Total Runoff

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs

Summary for Reach 2R: Total Runoff

Inflow Area = 17,500 sf, 57.46% Impervious, Inflow Depth = 6.96" for 100-yr, 10-day event
Inflow = 0.19 cfs @ 121.37 hrs, Volume= 10,151 cf
Outflow = 0.19 cfs @ 121.37 hrs, Volume= 10,151 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs

Summary for Pond 4P: South System

Inflow Area = 7,901 sf, 54.60% Impervious, Inflow Depth = 6.96" for 100-yr, 10-day event
Inflow = 0.09 cfs @ 121.30 hrs, Volume= 4,583 cf
Outflow = 0.09 cfs @ 121.32 hrs, Volume= 4,583 cf, Atten= 0%, Lag= 1.2 min
Primary = 0.09 cfs @ 121.32 hrs, Volume= 4,583 cf
Routed to Reach 1R : Offsite South

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
Peak Elev= 925.71' @ 121.32 hrs Surf.Area= 53 sf Storage= 7 cf

Plug-Flow detention time= 2.3 min calculated for 4,583 cf (100% of inflow)
Center-of-Mass det. time= 2.3 min (7,412.2 - 7,409.9)

Volume	Invert	Avail.Storage	Storage Description
#1	925.50'	377 cf	**48.0" Round Pipe Storage** L= 30.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	925.50'	**12.0" Round Culvert** L= 73.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 925.50' / 924.70' S= 0.0110 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	929.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	927.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 121.32 hrs HW=925.71' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.09 cfs of 0.18 cfs potential flow)
  ├─**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  └─**4=Orifice/Grate** (Orifice Controls 0.09 cfs @ 1.54 fps)

Summary for Pond 5P: North System

Inflow Area = 9,599 sf, 59.82% Impervious, Inflow Depth = 6.96" for 100-yr, 10-day event
Inflow = 0.11 cfs @ 121.30 hrs, Volume= 5,568 cf
Outflow = 0.10 cfs @ 121.47 hrs, Volume= 5,568 cf, Atten= 3%, Lag= 10.2 min
Primary = 0.10 cfs @ 121.47 hrs, Volume= 5,568 cf
Routed to Reach 1R : Offsite South

Routing by Dyn-Stor-Ind method, Time Span= 0.00-260.00 hrs, dt= 0.01 hrs
Peak Elev= 925.81' @ 121.47 hrs Surf.Area= 220 sf Storage= 47 cf

Plug-Flow detention time= 8.8 min calculated for 5,568 cf (100% of inflow)
Center-of-Mass det. time= 8.8 min (7,419.3 - 7,410.5)

Volume	Invert	Avail.Storage	Storage Description
#1	925.50'	848 cf	**36.0" Round Pipe Storage** L= 120.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	925.50'	**12.0" Round Culvert** L= 78.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 925.50' / 924.70' S= 0.0103 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	928.25'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Device 1	927.00'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.50'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.10 cfs @ 121.47 hrs HW=925.81' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.10 cfs of 0.40 cfs potential flow)
  ├─**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  └─**4=Orifice/Grate** (Orifice Controls 0.10 cfs @ 2.08 fps)

MEMORANDUM

FOCUS ENGINEERING, inc.

Cara Geheren, P.E.	**651.300.4261**
Jack Griffin, P.E.	**651.300.4264**
Ryan Stempski, P.E.	**651.300.4267**
Chad Isakson, P.E.	**651.300.4285**

Date: January 9, 2023

To: Sophia Jensen, City Planner
Cc: Marty Powers, Public Works Director
Chad Isakson, PE, Assistant City Engineer
From: Jack Griffin, PE, City Engineer

Re: Upper 33rd Street North Townhouse CUP
Site Plan review
PID 1302921320052 & 1302921320051

Engineering has reviewed the revised Upper 33rd Street North Townhouse CUP Site Plans received on January 3, 2022. The review consisted of the following documentation:

- Civil Site Plans dated January 3, 2022.
- Stormwater Calculations dated January 3, 2022.

STATUS/FINDINGS: Engineering review comments have been provided in two separate memos; one for the CUP-Site Plan approval, and one to assist with the completion of the final Construction Plans. Please see the following review comments relating to the CUP-Site Plan application.

1. City approvals must be contingent upon the applicant revising the Final Construction Plans and Stormwater Management Plan as required by the City Engineer. Final Construction Plans and Specifications must be prepared in accordance with the latest version of the City Engineering Design Standards Manual, dated January 2022, using City details, plan notes and specifications and meeting City Engineering Design Guidelines and plan format requirements.
2. No construction on the Project may begin until the applicant has received City Engineer approval for the Final Construction Plans; the applicant has obtained and submitted to the City all applicable permits, easements and permissions needed for the project; and a preconstruction meeting has been held by the City's engineering department. All off-site permanent or temporary construction easements required to construct the project must be shown on the plans and must be provided prior to scheduling a preconstruction meeting.
3. Site Access. The proposed townhomes, including all four units, would access Upper 33rd Street North. Upper 33rd Street North is a local residential street, 24-feet wide within a 47-ft wide right-of-way. The street width and right-of-way do not meet minimum city standards (minimum 28-ft wide within 60-ft right-of-way). The street was recently reconstructed but maintained its existing width and right-of-way due to site constraints. Access is proposed using 2 shared driveways, each at 22-feet wide.
4. On-street Parking. At 24-feet-wide, no on-street parking is available along Upper 33rd Street North. The street is designated as no parking along both sides. All parking requirements must be met with all parking contained on the property.
5. Pedestrian Connectivity. No sidewalk or trail currently exists along Upper 33rd Street. Due to the narrow street width (24-feet) pedestrian use of the paved roadway may be hazardous once Upper 33rd Street connects to the future development of Schiltgen Farms.
6. Drainage and Utility Easements. A 10-ft. drainage and utility easement must be provided along the property frontage to allow for future placement and relocation of small/dry utilities. Minimum lot

easements should also be provided along the side and rear property lines. All easement areas must be free from all encroachments other than those approved by the City Engineer and upon execution of an easement encroachment agreement. Prohibited encroachments include, but are not limited to trees, landscaping, fences, retaining walls, and building structures.

7. Existing conditions plan remains significantly incomplete. Existing conditions is required for a minimum distance of 150-feet from the proposed parcel and from any off-site improvements. A detailed construction plan review cannot be completed until the existing condition information is provided on the site, grading and utility plans to demonstrate how the site layout connects to the surrounding existing conditions. Existing conditions must include all topographic features, contours, and spot elevations for all design critical locations. Spot elevations are required at a minimum along all lot lines, including lot corners, and along the existing curb of Upper 33rd Street.
8. Site grading must be revised to meet all city minimum and maximum allowable grades. The right-of-way boulevard must be a minimum 4% grade and all other site grades must be a minimum of 2% grade. Rear yard grades must be labeled 3:1 maximum.
9. Site grading must be revised to show the 100-year HWL storm event elevation (and 100-year HWL contour) for all low points on the site. The grading plans must also show all discharge locations from the property, including emergency overland overflow locations and EOF elevations. The grading plans must be revised, as may be required, to meet city design standards for flood protection, requiring 2-feet of vertical separation to all adjacent building low floor elevations from any low area 100-year HWL, and requiring 1-foot of vertical separation from any emergency overflow elevation to all adjacent building low opening elevations.
10. The proposed site plan is subject to a storm water management plan (SWMP) meeting State, Valley Branch Watershed District (VBWD) and city rules. The proposed stormwater management plan proposes an underground storm water storage chamber(s) to provide rate control to reduce storm water discharges from the site. The plan proposes to discharge runoff to the south through a connection to the existing city storm sewer system along Upper 33rd Street.
11. In order to comply with VBWD and city rules, the applicant is requesting to divert stormwater runoff that currenting discharges north from the property, and to proposed southerly discharge location. This stormwater diversion has been found to be acceptable to the city.
12. The soils investigations performed on the site determined that infiltration is not feasible. Therefore, the developer intends to purchase credits from Lake Elmo's Downtown Regional Infiltration Basin Volume Control credit bank to meet volume control requirements. The 2023 Fee for the Regional Infiltration Basin Volume Control Use Charge is $0.70 per square feet of impervious surface. The VBWD permit is contingent upon the applicant providing proof that the credits have been obtained from Lake Elmo.
13. The storm water management facilities constructed for this development will be privately owned and maintained. The applicant will be required to execute and record a Stormwater Maintenance and Easement Agreement in the City's standard form of agreement. The stormwater drainage and utility easements must be shown on the site plans, utility plans and grading plans. A Homeowner's association would be required for the development to provide for the ongoing ownership and maintenance responsibilities.
14. Municipal water supply is available to the site. There are four (4) existing water service stubs available along the frontage of the property to provide an individual water service connection for each townhome. Connections to existing public watermain will be required, including all connection and permit fees.
15. Sanitary sewer service is available to the site. There are four (4) existing sanitary sewer service stubs available along the frontage of the property to provide an individual sewer service connection for each townhome. Connections to existing sewer will be required, including all connection and permit fees.

Lake Elmo Fire Department

Memorandum

To: Ben Hetzel, City Planner
From: Dustin Kalis, Fire Chief
Date: 11/8/22
Re: Conditional Use Permit: Upper 33rd Street - 4 Unit Townhome

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The Lake Elmo Fire Department has completed a Conditional Use Permit review for Upper 33rd Street - 4 Unit Townhome (PIDs 1302921320052 and 1302921320051) based on submittals dated 10/28/22 with the following comments:

1) The fire sprinkler system shall be installed compliant with provisions of 2016 NFPA Standard 13D, Installation of Sprinkler Systems in One- and Two-Family Dwellings or IRC P2904. City permit required prior to initiation of work.

2) Building address numbers shall be plainly visible from the street fronting the property and shall be a contrasting color from the background. Size and placement of address numbers shall be approved by the fire and planning departments.

Codes and Standards Used for this Review

This review is based on the following codes and standards as adopted and in effect in the State of Minnesota at the time of plan submittal.

- 2020 Minnesota State Fire Code
- 2020 Minnesota Residential Code
- Lake Elmo Fire Department Fire Code Policy
- NFPA 13D, 2016 edition

Hoisington Koegler Group Inc.

Creating Places that Enrich People's Lives

MEMORANDUM

TO: Kristina Handt

FROM: Sarah Evenson, PLA

DATE: 1/6/2023

RE: City of Lake Elmo Landscape Plan Review | Upper 33rd St. Townhomes CUP

Upper 33rd Street Townhomes CUP

Submittals

1. Application Submission Packet, dated October 28, 2022, received on November 8, 2022.
2. Tree Preservation and Landscape Plans, dated November 22, 2022, received November 22, 2022.
3. Tree Preservation and Landscape Plans, dated January 6, 2023, received January 5, 2023.

Review History

Initial landscape review on December 2, 2022.

Second landscape review on January 6, 2023.

Location: North of Upper 33rd Street N. and west of Lake Elmo Avenue N.

Current Land Use Category: V-MX (Village Mixed Use)

Adjacent and Surrounding Land Use: Rural Single Family (RS) to the west, north, and east sides of the site.

Special Landscape Provisions in addition to the zoning code: none

Tree Preservation: *105. 12. 470*

- A tree preservation plan has been submitted that meets all requirements on the condition that:
  - The plan must be signed prior to construction

Landscape Requirements: *105. 12. 480*

- A landscape plan has been submitted that does not meet all requirements.
  - The minimum size at planting for evergreen trees must be 6' (Arborvitae shown are 5').
  - The landscape plan meets the required number of trees.

Hoisington Koegler Group Inc.
800 Washington Ave. N., Suite 103
Minneapolis, Minnesota 55401
(612) 338-0800 www.hkgi.com

	Site Measurement	Code Required	Proposed
Street Frontage (LF)	**175**	*Upper 33rd St. N.*	
Required Street Frontage Trees (1 per 50 LF)		**4**	**4**
Development or Disturbed Area (Acres)	**0.4**		
Required Development Trees (5 per Acre)		**2***	**2**
Screening Perimeter between Land Uses (LF)	**375**	*North, East, and West property*	
Required Perimeter Screening Trees (1 per 40 LF)		**10 – 2* = 8**	**10**
Required Mitigation Trees		**1**	**1**
Required Number of Trees		**15***	**15**
**Per 105.12.480 (c)(2) development or disturbed area trees can be utilized as screening and thus the total required number of trees is reduced as shown.*			

- The landscape plan meets the required tree composition requirements

	Quantity	% Composition	Requirement
Deciduous Shade Trees	**8**	**53%**	**>25% Required**
Coniferous Trees	**7**	**47%**	**>25% Required**
Ornamental Trees	**0**	**0%**	**<15% Required**
Tree Count	**15**		

Recommendation:

- It is recommended that the landscape and tree preservation plans be approved on the condition that the planting schedule on page L200 be amended to change the size of the Degroot's Spire Arborvitaes to 6', and that the sheets be signed by a professional prior to construction.

Hoisington Koegler Group, Inc.

Sarah Evenson, PLA (MN)

City of Lake Elmo Municipal Landscape Architect
P: (262) 391-7653
E: Sarah@hkgi.com