

**May 2, 2024
6:30 PM**

The Planning Commission Meeting will be conducted on **May 2, 2024** at 6:30 p.m. in the City Council Chambers of City Hall, located at 2400 Margaret St., North St. Paul.

The Planning Commission also meets via interactive TV under Minn. Stat. 13D.02. Members of the public interested in attending remotely can log in with the following information:

The **May 2, 2024 Zoom meeting can be accessed:**

On Zoom at <https://tinyurl.com/NSPplanning> or

YouTube at <https://tinyurl.com/NSPYouTube>

Additional connection information is available at
<https://www.northstpaul.org/1187/Meeting-Zoom-Links>

I. Call to Order

II. Roll Call

COMMISSION

Patrick Blee, Chair

Andrew Wise, Vice-Chair

Arthur Alvarez, Jr. Commissioner

Stephanie Kane-Burback, Commissioner

Elizabeth Gadbois, Commissioner

Cameron Muhic, Commissioner

Jim Rathe, Commissioner

STAFF/LIAISONS

Jason Nordby, City Council Liaison

Brandy Howe, Community Development Director

Chris Cherne, Planning Commission Secretary

III. Adopt Agenda

IV. Approval of Minutes

A. Approval of April 4, 2024 Meeting Minutes

V. Meeting Open to the Public

VI. Public Hearings

- A. Amendment to the Zoning Ordinance - Fences
- B. Delaware Place (2329 17th Avenue)
 - 1. Rezoning from R-1 to R-2
 - 2. Preliminary Plat
 - 3. Planned Unit Development

VII. Reports

VIII. Adjournment

The next regularly scheduled Planning Commission meeting is Thursday, June 6, 2024.



**Planning Commission
Regular Meeting Minutes
April 4, 2024
6:30 PM**

North St. Paul City Hall – Council Chambers
2400 Margaret Street

I. CALL TO ORDER

Chair Patrick Blees called the meeting to order at 6:30 PM.

II. ROLL CALL

COMMISSION

Patrick Blees, Chair
Andrew Wise, Vice-Chair
Arthur Alvarez, Jr., Commissioner
Stephanie Kane-Burback, Commissioner
Elizabeth Gadbois, Commissioner
Cameron Muhic, Commissioner
Jim Rathe, Commissioner

STAFF/LIAISONS

Jason Nordby, City Council Liaison
Brandy Howe, Community Development Director

III. ADOPT AGENDA

Blees asked for a motion to adopt the April 4, 2024 meeting agenda.
M/Muhic, S/Gadbois.
Motion carried 7-0.

IV. APPROVAL OF MINUTES

A. Approval of March 7, 2024 Meeting Minutes

Blees asked for a motion to approve the March 7, 2024 meeting minutes.
M/Rathe, S/Wise.
Motion carried 7-0.

V. MEETING OPEN TO THE PUBLIC

There were no public comments.

VI. WORKSHOP DISCUSSION

a. Fence Regulations – Continuation of March Discussion

Howe presented the staff report and proposed ordinance updates for fences and walls. In summary, the ordinance clarifies that a permit is required for the installation, construction, alteration or moving of a fence. The ordinance clarifies that fences may be allowed in an easement, provided that it is placed at the



owner's risk and drainage is not interrupted. The proposed ordinance establishes rules ensuring access to utility boxes and hydrants and separate regulations for residential and non-residential fences. The height of fences for residential properties increased in the front yard from 3.5' to 4' if the fence is 50% opaque and in the rear yard from 6.5' to 7'. The ordinance clarifies the definition of the front yard to be the area between the closest point of the principal structure and the front property line. Fence regulations for swimming pools have been updated to comply with state statutes.

Wise asked for clarification on opacity. Blees stated that he does not see a problem with having an opaque fence in the front yard as long as it complies with the height requirements. Muhic stated that opacity regulations would completely rule out the picket fence as an option. The commission recommended removal of the following language in section 11(b)(i)(2): "and have a minimum of 50% opacity (open to air and light)". Nordby stated he agrees with removing the opacity regulation, but wonders if it is a safety issue with children at play. Alvarez stated that safety may be an issue if a fence directly abuts a street. Muhic stated that the fence should never directly abut a street as there is typically city right of way between a lot line and a street.

The Planning Commission indicated that no fence shall be designed to electrically shock. Wise indicated concerns on barbed wire being permitted on nonresidential property in the MU-3 district, as the MU-3 district is quite large. Nordby asked if a business would need to demonstrate proof of insurance for installation of barbed wire fence. After discussion, the Commission decided to leave the barbed wire language as written.

Blees recommended changing the language of "property residentially used" to "residential uses."

The Planning Commission will hold a public hearing at their next meeting and consider a recommendation to City Council of approval of the ordinance on fence and wall regulations.

VII. REPORTS

Howe shared that she has submitted her resignation and her last day with the City of North St. Paul will be May 10, 2024. She stated that it has been a pleasure to work with the Planning Commission.

Nordby thanked the Planning Commission for their detailed work and stated that yard waste pickup begins the week of April 15, 2024.

Blees stated the annual North St. Paul Cleanup Day will be held on May 11, 2024 from 8am-11am, and the Citywide Garage Sale will be held May 2-4, 2024.

VIII. ADJOURNMENT

Blees asked for a motion to adjourn the meeting at 7:18 PM.
M/Rathe, S/Muhic.
Motion carried 7-0.

The next regularly scheduled Planning Commission Meeting is Thursday, May 2, 2024 at 6:30 PM.

Members, please notify any planned absences to:

Chris Cherne
Planning Commission Secretary
651-747-2440
chris.cherne@northstpaul.org



To	Date
Honorable Mayor Monge and City Council	May 2, 2024
Agenda Placement # VI.A	
Public Hearings	
Subject	
Amendment to the Zoning Ordinance - Fences	
Background/Facts	
Refer to enclosed staff report.	
Recommended Action	
Recommend approval of the proposed ordinance amendment.	
Attachments	
1. Ordinance - Fence Regulations 2. Public Hearing Comments - Fence Regulations	
Respectfully submitted, Brandy Howe, Community Development Director	

CITY OF NORTH ST. PAUL

ORDINANCE NO. 2024-XXX

**AN ORDINANCE AMENDING THE NORTH ST. PAUL CITY CODE
AS IT RELATES TO FENCES AND WALLS**

The City Council of the City of North St. Paul does hereby ordain as follows:

SECTION 1. Amend the definition for “fence” in Section §154.003 of the zoning ordinances as follows.

~~FENCE. Any partition, structure, wall, or gate erected as a divider, marker, barrier, or enclosure, and located along the boundary, within the required yard, or elsewhere on the property. Fence height shall be measured from the normal grade adjacent to the fence line.~~

SECTION 2. Eliminate Section §154.010(A)(5)(e) of the zoning ordinances pertaining to the regulation of fences and walls.

~~A wall, fence or hedge may occupy part of the required front, side or rear yard subject to meeting traffic sight distance requirements.~~

SECTION 3. Repeal and replace §154.010(A)(11) of the zoning ordinances pertaining to the regulation of fences and walls as follows.

§ 154.010(A)(11) FENCES AND WALLS.

11. Fences and walls.

(a) Regulations Applicable to All Fences.

i. Permit Required.

1. A fence permit shall be obtained prior to the erection, construction, alteration, or moving of a fence within the City.
2. A contractor shall be considered the agent of the owner of the property on which the contractor erects, alters, or moves a fence.
3. A permit shall not be required for athletic field fencing on city-owned parkland.

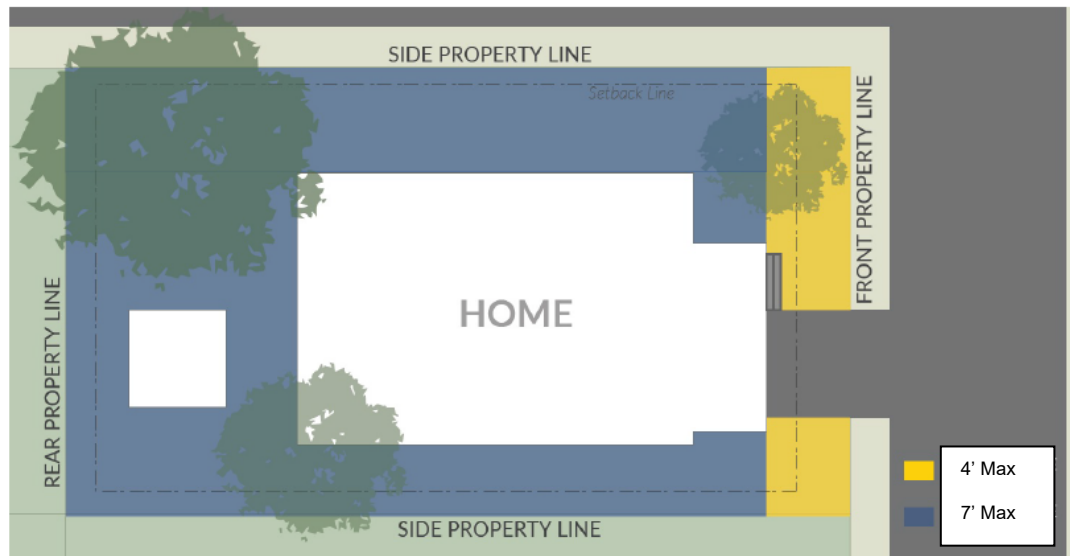
ii. Fence Height. Fence height shall be measured from the normal grade adjacent to the fence line to the highest point of the tallest fence panel.

iii. Location.

1. Fences and walls may be erected, placed, or maintained in any yard along or adjacent to a lot line in accordance with the requirements of this section. The owner shall be responsible for properly locating all property lines before construction of any fence.
2. A 3-foot clear space shall be maintained around the circumference of fire hydrants, except as otherwise required or approved. Unobstructed access to fire hydrants shall be maintained at all times.
3. A 3-foot clear space shall be maintained around utility boxes, except as otherwise required or approved. In certain circumstances, a radius of up to 8 feet may be required around utility boxes as determined by the Utility Director.
4. Fences and walls shall comply with the vision clearance triangle requirements of §154.010(F)(8)(a).

iv. Utilities and Easements.

1. The property owner is responsible for verifying that no conflicts exist with utilities prior to installation of fencing.
 2. All fences located in recorded easements are the sole risk of the property owner. The cost of any removal, relocation, or replacement of said structures caused by any activity permitted in said easements is the sole responsibility of the property owner.
 3. If located within a drainage easement, the fence shall not obstruct the free flow of water.
 - v. Construction and Maintenance. Every fence shall be constructed in a workmanlike manner of substantial materials widely accepted in the fencing industry and reasonably suited for the purpose for which the fence is intended.
- (b) Regulations for Residential Fences.
- i. Height.
 1. Fences and walls shall not exceed a height of seven feet in rear or side yards.
 2. Fences and walls within the front yard shall not exceed a height of four feet. For the purpose of fencing, the front yard shall extend from the closest point of the principal structure toward the front property line.



- ii. Materials.
 1. Prohibited materials include chicken wire, barbed wire, plastic webbing or netting, fences made of makeshift, flimsy materials or other materials which are made from paper, twine, rope, tin, and the like.
 2. Fences must be installed so that the more finished side faces the adjacent property. If the fence has posts on one side, the posts shall be placed on the inside side of the fence.
 - iii. Construction and Maintenance.
 1. No fence may be connected to that of a neighbor's unless the owner of the adjoining property agrees, in writing, that the fence may be connected. This agreement shall be submitted at the time of zoning permit application.
 2. All fences must be kept in good repair and appearance on both sides of the fence by its owner.
 3. The property owner is responsible for maintaining the area between the property line and the owner's fence.
- (c) Regulations for Non-Residential Fences.

- i. Height.
 - 1. Fences and walls shall not exceed a height of eight feet without approval by the Zoning Administrator. Fences taller than eight feet may only be permitted for the purpose of screening or security as determined by the Zoning Administrator and shall be limited to ten feet in height. The intent of such screening fence is to block the view of non-residential site elements (such as mechanical equipment, outdoor storage, etc.) from residential property.
- ii. Materials.
 - 1. Prohibited materials include chicken wire, plastic webbing or netting, fences made of makeshift, flimsy materials or other materials which are made from paper, twine, rope, tin, and the like.
 - 2. No fence shall be designed to electrically shock.
 - 3. Barbed wire may be installed on nonresidential property in the MU-3 district if the devices securing the barbed wire to the fence are eight feet above the ground and project toward the fenced property and away from any public area.
- (d) Temporary or Seasonal Fences: Temporary or seasonal fences, such as snow fences, erosion control fences, fences to protect newly seeded areas, and the like, are allowed without a permit provided:
 - i. No such fence may be left in place for more than six (6) months without written city approval.
 - ii. Any such fence must be removed within fifteen (15) days of the city providing written notice to the landowner that the city has determined the fence no longer serves its originally intended, temporary or seasonal purpose.
- (e) Nonconforming Fences. Any fence existing on the effective date of this chapter and not in conformance with this section may be maintained, but no alteration, modification, or improvement of said fence shall occur, unless installed in conformance with this section.

SECTION 4. Amend §154.010(B)(2)(a) related to Day Nurseries and Nursery Schools.

- (a) Shall provide 40 square feet of outside play space per pupil and such space shall be adequately fenced according to the provisions of §154.010(A)(11).

SECTION 5. Amend §154.010(D)(4)(b) animal boarding facility, kennel, shelter, day care, and grooming (commercial).

- (b) Any outdoor portion of an animal boarding facility, kennel, shelter, daycare, or grooming facility shall be screened from view from adjacent property by a solid fence, hedge or similar plant material not to exceed ~~six and one-half~~ seven feet in height. Fences shall adhere to the provisions of §154.010(A)(11).

SECTION 6. Amend §154.010(D)(7)(c) related to automobile sales and rental.

- (c) A solid fence or wall and hedges or similar plant type of ~~six and one-half~~ seven feet in height shall be erected, and at least a five-foot-wide landscaped strip shall be provided along all property lines of the site to be used for the sales lot which abut residential districts. Fences shall adhere to the provisions of §154.010(A)(11).

SECTION 7. Amend §154.010(D)(8)(f) related to automobile service station/convenience store.

- (f) Fence. If the property abuts a residential use, a fence that is at least 90% opaque shall be constructed in accordance with the regulations of §154.010(A)(11). A fence of acceptable design not over six and one-half feet in height or under four feet which is at least 90% opaque shall be

~~constructed along the property line when said use abuts property residentially used or in one of the residential districts. Application of this provision shall not require a fence within the required front yard.~~

SECTION 8. Amend §154.010(D)(12)(b) related to car wash.

- (b) Screening. Solid screening shall be erected and maintained alongside rear yards. The screening required by this section shall consist of a solid fence or wall ~~not less than six and one-half feet in height and/or such additional~~ adhering to the provisions of §154.010(A)(11), or equivalent visual barrier, including plantings, as required and approved by the city. Vacuuming facilities shall not be located along public streets and shall be completely screened from public streets and adjacent property.

SECTION 9. Amend §154.010(D)(14)(a) related to day care center, day nursery.

- (a) If the property abuts a residential use, a fence shall be constructed in accordance with the regulations of §154.010(A)(11). ~~A fence of acceptable design not over six and one-half feet in height may be required to be constructed along the property line when said use abuts property residentially used or in one of the residential districts; said fence shall be adequately maintained.~~

SECTION 10. Amend §154.010(D)(36)(g) related to residential pools and spas.

- (g) A structure or safety fence at least ~~four~~ five feet in height shall completely enclose the pool. Said fence shall adhere to the following provisions of as well as those listed in §154.010(A)(11).
- i. Be equipped with self-closing, self-latching gates capable of being locked.
 - ii. Not have any opening greater than four inches.
 - iii. Not have any opening greater than two inches below the fences.
 - iv. Not be a readily climbable design.

SECTION 11. This ordinance shall be effective immediately upon its passage and publication.

ADOPTED by the City Council of the City of North St. Paul this ____ day of _____, 2024.

Motion by Council Member

Second by Council Member

Voting: Aye: Council Member
 Council Member
 Council Member
 Council Member
 Mayor

Nay:
Abstain:
Absent:

John Monge, Mayor

Attest: _____

Brian Frandle, City Manager

Public Hearing On Fence Ordinance

John Fax [REDACTED]

Thu 4/11/2024 8:15 PM

To: Chris D. Cherne <chris.cherne@northstpaul.org>

Cc: Patrick Bles <patrick.bles@northstpaul.org>; Jason Nordby <jason.nordby@northstpaul.org>

You don't often get email from [REDACTED] [Learn why this is important](#)

Caution: This email originated outside our organization; please use caution.

Hi Chris,

My name is John Fax and I live at 2108 Burke Ave E in NSP. I read about the upcoming public hearing on proposed changes to the existing fence regulations currently in city code. Since I'll be out of town when the hearing will be held, the city web page said any public comments could be e-mailed directly to you.

I don't know if the existing code addresses my concerns, but I've attached several pictures showing what I'm talking about. The pictures (including aerial shots from Ramsey County) show a landscape block structure on the east edge of the property at 2040 Burke Ave E. To me this block structure is essentially a fence albeit a low, one block structure. My concerns are:

1. The structure circled in yellow on the attached picture shows a block flower bed/plant structure abutting the street curb. I feel structures like this one are built too close to the street and there should be a minimum setback from the curb. It could be dangerous, for example, if a city snowplow driver happens to hit the structure while plowing. The driver could be injured and the plow truck could be damaged.
2. I feel landscape structures like this should not be allowed within the city public right-of-way. I feel it's bad policy to allow structures like this because it may be built over utility infrastructure like, for example, fiber optic cable or electric power lines that are evident in the 1st picture on this lot and the one directly to the west. Any potential repairs to these type of cables would most likely be a hindrance to contractors.
3. I feel it is a visual/aesthetic issue because it most likely would not "fit" a neighborhood.

I'm assuming city staff and the Planning Commission may not have considered structures like this to be a fence in standard terms, but I feel it could be addressed under an updated version of the existing fence code and that is what the city should seriously consider.

Please include my comments in the city record and contact me if you have questions or need clarification on my comments.

Best Regards,

John Fax

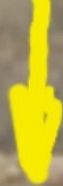




Find address or place

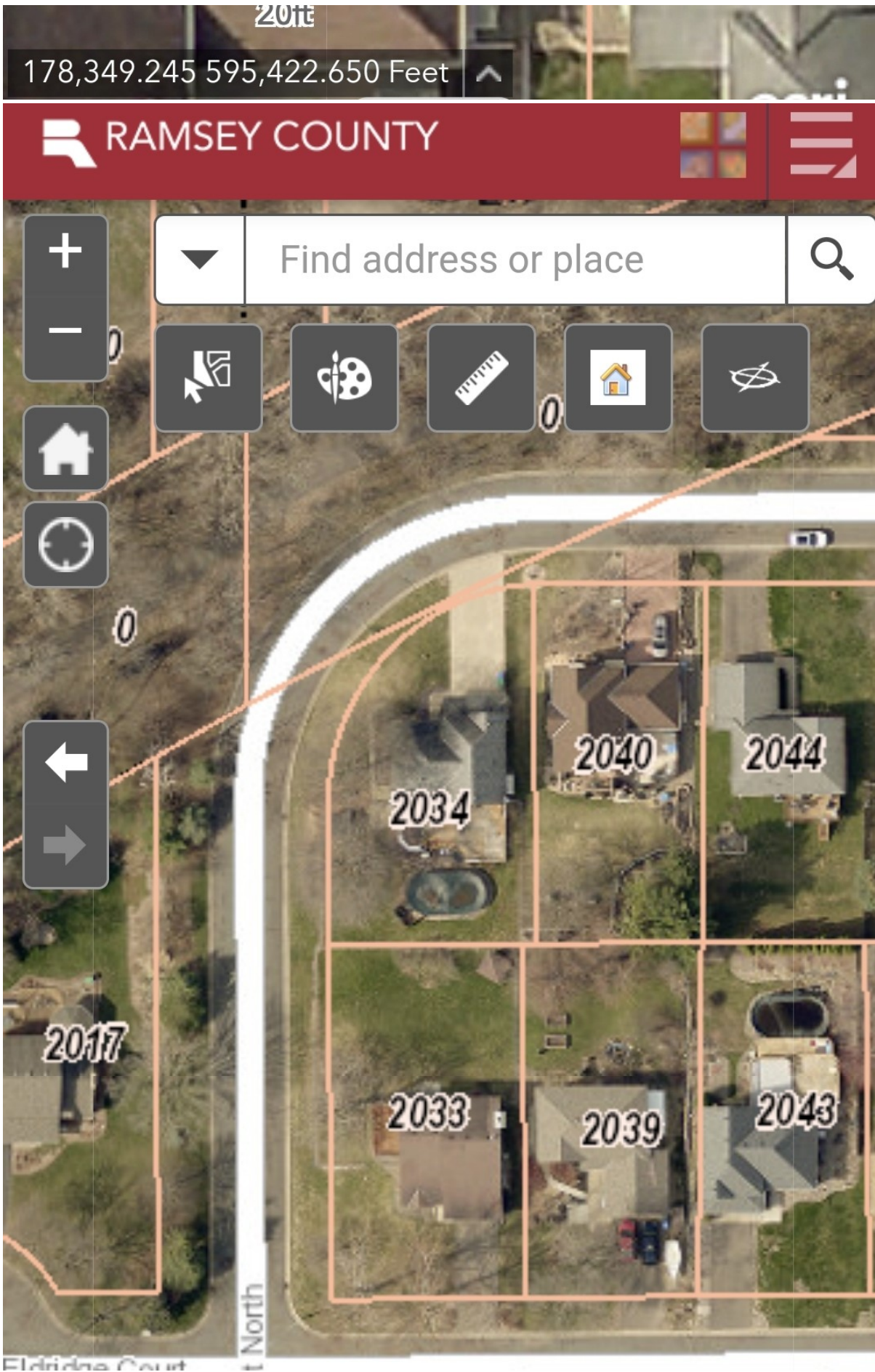


Burke Ave



2040

2044



Proposed Fence Ordinance Resolution Comments/Suggestions

1. **Section 1. Definitions. Amend definition in 154.003: Fence.** Consider adding a purpose statement along the lines of “...or gate erected for the purpose of defining property boundaries, separating yard space(s), restricting ingress or egress, providing security or protection to property or acting as a visual or acoustic screen”.

2. **Amend 154.003 definition of Farm Fence:** “A fence as defined by M.S. § 344.02, Subd. 1(a)-(d). An open type fence of posts and wire is not considered to be a structure under this chapter. Fences that have the potential to obstruct flood flows, such as chain link fences and rigid walls, are regulated as structures under this chapter.” In other words, Farm Fences aren’t regulated in the proposed fence ordinance; however, M.S. 344.02 gives examples of “legal and sufficient” fences which include barbed wire (i.e. fences consisting of at least 32-inch woven wire and two barbed wires firmly fastened to well-set posts”). Because Farm Fences, as defined, are specifically allowed as a Conditional Use in Shoreland Overlay District Code 154.008 E(5)(c)(v) but don’t require a permit under 154.008 E(11)(i)(c), **amend the 1st sentence of the existing 154.003 definition to eliminate the reference to state statute and everything after “An open type fence of posts and wire” to be clear the ordinance doesn’t create a loophole for some property owners. Amend Ch. 154.008 to require a permit to be consistent with requirements applicable to all other properties. Or just delete the term Farm Fence from 154.003 and change the Shoreland Overlay ordinance to eliminate the descriptor “Farm” and eliminate the “no permit” required language.**

3. **Amend 154.003 definition of Traffic Site Distance for consistency:** “A triangular area on a corner lot of intersecting streets which limits the placement of vegetation and other material which can obstruct the view to oncoming traffic. The vertical area to be protected is from two and one-half feet above the grade of the street to ~~seven~~ **ten** feet above the grade of the street.”

4. Does the existing definition of a Trellis align with the intent of the proposed ordinance? “**TRELLIS.** A framework over which vines and plants may grow that is not a pergola. A freestanding trellis or a trellis attached to and supported by a building extending out from the building more than five feet shall be considered a fence.” That appears to mean a trellis attached to a building that extends less than 5 feet out wouldn’t be considered a fence subject to this ordinance.

Section 3 Repeal and Replace 154.010(A)(11):

Section (1)(a) Regulations Applicable to All Fences

5. (i)(1): I don’t think it’s the intent; however, this appears to mean a permit will be needed regardless of the fence location or dimensions requested. For example, how many 4” high concrete blocks need to be stacked to be deemed a wall? Is a lattice work screen for a trash bin a fence requiring a permit? Do fences within already fully fenced yards need a permit? See comment 10 below for another example.

6. (i)(3): **change to exempt “athletic fields and other fencing on city-owned land”** (i.e. tennis or pickleball courts, community garden, water tower etc.). Consider whether to also exempt other fence types that have specific height needs or permit requirements such as kennels, chicken runs and bee flyaway barriers already regulated in City Code 95 Animals.

7. (iii)(1): if the proposed fence is to be constructed within one foot of a property line, **include requiring the owner to visibly mark property pins prior to any construction activity.** Many fences are installed by diy-ers who aren’t always attentive to that detail or aware that many lots aren’t exact rectangles. Without marked property pins/lines, a property owner isn’t able to proactively assess if their neighbors fence will encroach over their shared property line.

Section (1)(b) Regulations for Residential Fences

8. Does the term “residential fences” apply only to properties used exclusively for residential dwellings? That means “non-residential fences” applies to properties which might have commercial uses plus one or multiple residential dwelling units?

9. i(2): **on the visual aide, depict the traffic vision triangle and the 2 ½’ height limit** to reinforce that safety-related requirement because front and side street ROW depths might vary even on different sides of a street. Note: the current depiction appears to

show the side property lines on the north extend beyond the rear and front property lines while the south side line does show the side yard lies within the front and rear property lines.

10. ii(1): Example: a rear yard is fully enclosed by a 6 ½' privacy fence, could the owner use 12" stakes with chicken wire or netting to enclose and protect a garden or decorative plant area from rabbits? If not, what public purpose is served by not allowing those materials? Would a fence permit be required?

Section (1)(c) Regulations for Non-Residential Fences:

11. i1: a) consider whether 8' is appropriate on all sides (front, rear and side); b) few, if any, "permitted by right" Uses are allowed Outdoor Storage which is a permitted Accessory Use only in the MU-3 district for businesses such as auto sales/rental, car wash, auto service/repair and service station/convenience store. All those Uses require a Conditional Use Permit (CUP) and Outdoor Storage as an Accessory Use also requires a CUP. Screening of mechanical equipment isn't a requirement that's unique to non-residential uses or districts. Nothing in the proposed language specifies what criteria the Zoning Administrator would consistently and impartially use to determine the security or screening needs of a permitted by right Use couldn't be adequately met by an 8' tall fence. See next bullet for related comments and suggestion.

12. ii(3) again, nothing in the proposed language indicates when or why barbed wire might be needed for a Use which doesn't already require a CUP to address potential incompatibilities. It also appears the barbed wire portion would extend above the 8' maximum height. If barbed wire isn't a desirable material, amending code after it's already been permitted and installed would then create a non-conforming fence which isn't a desirable outcome. My suggestion:

Don't list barbed wire as an allowed material. If relief from the maximum height or desired material standard is requested, use the variance process for both residential and non-residential fences and specify unique security needs and terrain as the two potential barriers to conformance.

If a height variance is allowed without a variance, add language stating a decision of the Zoning Administrator may be appealed pursuant to City Code 32.67 Board of Appeals and Adjustment. (Note: This is the board a city must establish to hear requests for variances from the zoning ordinance. 32.67 still needs to be amended to describe the appeal process and associated timelines.).

If barbed wire is listed as an allowed material, amend City Building Regulations 150.008 that prohibits it ("Fences shall not be equipped with barbs or spikes.").

13. Consider rearranging the ordinance as follows: (1)(a), (1)(d), (1)(e), (1)(b), (1)(c) so the residential/non-residential specific requirements are the last two items listed. It was a bit confusing to know where I was as I read the ordinance because in the resolution it's Code placement is 154.010(A)(11) and its only section is designated by a number 154.010(A)(11)(1) rather than 154.010(A)(11)(a). Not a big deal as I think the typical number/letter format is done when the approved ordinance is uploaded; but, many people find ordinances difficult to follow so the rearrangement I suggest could help it flow better for the typical reader.

Sections 5-11 Other amendments:

14. Insert New Section 11: Amend 154.010 D(32)(c): "Outdoor Storage shall be screened from abutting residential uses with a wall, ~~or solid fencing~~ **adhering to the provisions of 154.010(A)(11)**, ~~an~~ evergreen hedge, or equivalent material. ~~All screening shall be six feet in height.~~ Screening along district boundaries, where present, may provide all or part of the required screening."
Renumber proposed Section 11 to be Section 13 in the resolution.

15. ADD Section 12: Amend 154.010 F Landscaping (7)(a): A solid wall, ~~or solid fence~~ **adhering to the provisions of 154.010(A)(11)**, ~~or a hedge with year-round foliage six and one-half feet in height, except that within the front yard setback, screening shall not exceed three and one-half~~ **four** feet.



To	Date
Honorable Mayor Monge and City Council	May 2, 2024
Agenda Placement # VI.B	
Public Hearings	
Subject	
Delaware Place (2329 17th Avenue) 1. Rezoning from R-1 to R-2 2. Preliminary Plat 3. Planned Unit Development	
Background/Facts	
Refer to enclosed staff report.	
Recommended Action	
Recommend City Council approval.	
Attachments	
1. Staff Report 2. Engineer Review Memo 3. Preliminary Plat 4. Preliminary Civil Plans 5. Delaware Place Twin Home Association Bylaws 6. Delaware Place Declaration of Covenants 7. Stormwater Management Plan 8. Resolution Approving Preliminary Plat 9. Resolution Approving Rezoning 10. Resolution Approving PUD	
Respectfully submitted, Brandy Howe, Community Development Director	

City of North St. Paul

Planning Commission Report



From: Brandy Howe, Community Development Director
Meeting Date: May 2, 2024
Agenda Item: Rezoning from R-1 to R-2 (2329 17th Avenue)
Preliminary Plat (Delaware Place)
Planned Unit Development (Delaware Place)

RECOMMENDED ACTION

Recommend approval of the Delaware Place preliminary plat and Planned Unit Development and rezoning of 2329 17th Avenue E. from R-1 Single Family to R-2 Mixed Residential subject to the approval conditions contained in the draft resolutions.

GENERAL INFORMATION

Applicant: Doug Andrus, Andrus Built, LLC
Subject Property: 2329 17th Avenue E
Property Owner: City of North St. Paul

Zoning District: R1 Single Family
2040 Comprehensive Plan: Medium Density

Application Date: March 26, 2024
60 Days: May 25, 2024

Notice: Notice of the public hearing for the preliminary plat, rezoning, and PUD was published in the Star Tribune on April 19, 2024, and mailed to owners within 350-feet of the subject property.

PROJECT OVERVIEW

The subject site is 2329 17th Avenue, which is located on the corner of 17th Avenue and Delaware Avenue. This 2.43-acre parcel is the location of a former church that was demolished in 2009. The City has been the owner of the site since 2010. The City issued an RFP for development proposals for the property in the spring of 2023. Three were received and the City Council reviewed development proposals in August and again in December 2023.

On January 4, 2024, the applicant presented the concept plan for the site to the Planning Commission. The applicant proposes to develop approximately one acre of the site with 10 townhouse units (5 buildings, two units per structure); four of the lots will front Delaware Avenue and six will front 17th Avenue E. The remaining 1.5-acre is proposed to remain as open space for stormwater and recreational purposes for residents of the development. Based on the Planning Commission's review, the City Council selected Doug Andrus of Andrus Built, LLC to develop the site on January 16, 2024. On March 19, 2024, the City Council approved a contract for private development and sale of property with Andrus Built, LLC.

ZONING REVIEW

Correction

In previous staff reports to the Planning Commission and City Council, staff mistakenly identified the proposed land use as two-family. After careful review of the definitions in Section 154.003, staff now recognize that the proposed land use is classified as townhouses, as the two-family definition applies to structures on a single parcel. See definitions:

DWELLING, TOWNHOUSE. A one-family dwelling unit constructed in a group of two or more similar one-family dwelling units, each with a private entrance that has direct access to the outside, which is part of a structure whose dwelling units are attached and arranged either horizontally or vertically. When arranged horizontally, they may span more than one parcel.

DWELLING, TWO FAMILY. A residence structure located on a single parcel containing two dwelling units that each have separate housekeeping and cooking facilities, each of which has direct access to the outside.

Residential Lot Area Requirements

The development site is zoned R1 Single Family. The purpose of this district is to allow, preserve and protect areas of lower-density residential and development consistent with the Comprehensive Plan. Staff evaluated the project against the R1 zoning standards. The following tables illustrate where the proposal meets zoning requirements and where flexibility is needed through the provision of a PUD. Those items highlighted in bold and underlined do not meet zoning and thus require the requested PUD.

	R-1 Existing Zoning Requirements	R-2 Proposed Zoning Requirements	Proposed Townhome Lots (compared to R-2)
Land Use	Single and two-family uses permitted by right	Townhouses permitted by right	Townhouses
Minimum Lot Area	6,250 sf per dwelling	3,630 sf per dwelling	4,063 to 5,438 square feet
Minimum Lot Width	50 feet	50 feet	<u>32 feet to 43.5 feet</u>
Front Setback	25 feet	25 feet	25 feet
Rear Setback	25 feet	25 feet	>25 feet
Side Setback	6 feet – internal lot 15 feet – corner lot	6 feet – internal lot 15 feet – corner lot	<u>5 feet</u> to 11.5 feet
Maximum Height	2 stories (35 feet)	2 stories (35 feet)	TBD, flexibility not requested at this time
Lot Coverage	40%	50%	TBD, flexibility not requested at this time
Limit of Surfacing in Front Yard	40%	40%	TBD
Density	3-7 units per acre	5.6-12 units per acre	9 units per acre (not inclusive of open space) 4 units per acre (entire site)
Parking Required	2 spaces per dwelling	2 spaces per dwelling	2+ spaces per dwelling

Development Standards

Section 154.010(A)-(C) outlines general standards for new development. Analysis of applicable standards are listed, below. The zoning ordinance includes additional supplemental regulations specific to townhouse developments (154.010(D)).

Reference	Standard	Proposed Townhome Lots
(A)5(d)	Decks may not extend more than 6 feet into a yard	<u>The optional decks on lots 5, 6, 7, 8 extend 12 feet into the required rear yard.</u>
(A)9	All on-site utility installations shall be placed underground.	Water, sanitary, and storm sewer installations will be underground. Requirement met.
(B)1(d)	Each lot shall contain at least 25% of each individual lot area as usable open space.	Staff measures a minimum of 38% of open space per lot. Requirement met.
(D)45(a)	Each unit shall have direct access from garage and driveway to public road.	Driveways provided for each dwelling. Requirement met.
(D)45(b)	Drainage shall be provided consistent with the city and Watershed District requirements. Any required ponds shall be integrated into the overall plan and proper easement and maintenance agreements shall be provided.	See engineering review comments. Conditions of approval recommended.
(D)45(c)	Air conditioning or heating units shall not project through exterior walls or windows unless screened from view as viewed from public and private streets.	None proposed at this time. If the developer intends to install projecting air conditioning or heating units, they must be shown on building elevations submitted prior to building permit issuance.
(D)45(d)	Building utility services and structures such as meters, transformers, refuse containers, etc., shall be either located inside the principal building, inside an accessory building, or, where allowed, be outside and entirely screened from off-site views.	Refuse containers will be stored in the garage or rear or side yards per 154.010(A)12.
(D)45(e)	Townhouses within the Mixed-Use Districts shall be developed in accordance with the density as guided by the Comprehensive Plan.	Not applicable.
(D)45(f)	Each townhouse development shall have direct vehicle access to a public road.	Requirement met.
(D)45(g)	Off-street parking areas for guests must be considered for each development. In instances where the length and width of the driveway and the street are not adequate for parking, a separate parking bay or parking lot might be required.	Requirement met confirm this is met with 2-car garage + driveway spaces
(J)3(a)i and (b)i	Each space for a passenger vehicle shall contain a minimum area of not less than 180 sf (9x20).	Requirement met. Proposed driveways measure 512 sf.
(J)4(a)	Parking areas, driveways, and parking lots shall be surfaced with an all-weather dustless material consisting of bituminous, brick, concrete pavers or concrete.	Requirement met. Proposed surfacing is bituminous.
(J)9(c)	New driveways and off-street parking shall be set back a minimum of three feet from side property lines.	Requirement met.

(J)9(e)i	Driveways must not exceed a 22-foot maximum width at the property line.	Driveway measures 20 feet at property line. Requirement met.
(J)9(e)v	Driveways located on a corner lot shall be set back a minimum of 15 feet from the corner of the two streets fronting the lot.	Requirement met.

Architectural Standards

Section 154.010(E) of the zoning ordinance includes architectural requirements for townhouse dwellings. Analysis of applicable standards are listed below.

Reference	Standard	Proposed Townhome Lots
(E)4(b)i	Structures must be designed to consist of exterior materials compatible with residential development in the area with due regard to architectural quality and the massing of structures.	TBD at the time of final PUD
(E)4(b)ii	No more than two adjacent townhouse units may have front facades in the same vertical plane. Where a variation in front facade plane is required, the variation shall be a minimum of three feet. For purposes of this section adjacent townhouse units refer to those physically attached or units located within 15 feet, if not physically attached.	TBD at the time of final PUD
(E)4(b)iii	At least two of the following design features shall be provided for visual relief along all facades of each townhome structure: roof dormer, gable, recessed entry, covered porch, bay window, 12' eaves, recesses/shadow lines.	TBD at the time of final PUD
(E)4(b)iv	Townhouse dwelling unit garage doors facing a public or private street are limited to 40% of the structure width facing the same street.	TBD at the time of final PUD
(E)4(b)v	All building equipment shall be hidden from view. Building vents and chimneys shall consist of similar materials to the building roof and the sides of the building.	TBD at the time of final PUD

Landscaping Standards

Section 154.010(F) of the zoning ordinance includes landscaping and requirements for townhouse dwellings. Analysis of applicable standards are listed below.

Reference	Standard	Proposed Townhome Lots
(F)3(a)	Trees must be planted within the property lines and in a location so as not to interfere with sight line visibility at maturity. Trees shall not be planted in drainage and utility easements.	2 of the proposed trees are located within a drainage/utility easement.
(F)3(a)ii	Residential structures containing two or more units shall contain as a minimum: one tree per dwelling unit.	6 trees are proposed for the site; a minimum of 10 are required.
(F)4(b)	In the R-2 district, at least 50% of the front yard must be landscaped.	TBD at the time of final PUD
(F)5(a)	All developed uses shall consist of, but not limited to, a landscaped yard, including grass, plantings, decorative stones, trees and shrubs, along all streets.	Requirement met. All open space areas will be seeded or

		sodded within 7 days of grading.
(F)5(b)	Except for driveways, the yard shall extend along the entire frontage of the lot, and along both streets in the case of a corner lot, such yard shall have a depth of at least ten feet.	Requirement met.
(F)5(c)	Required yards and setback areas, except driveways, shall be graded to final elevations and sodded or seeded and landscaped with grass, plantings, decorative stones, trees and shrubs.	Requirement met. All open space areas will be seeded or sodded within 7 days of grading.
(F)8(c)	A triangular area of clear vision formed by the two intersecting streets and driveways and a line connecting said centerlines, shall be kept clear of visual obstruction.	Requirement met.
(F)9(a)	No landscape material other than grass, or retaining walls, shall be placed within a drainage, access or utility easement.	2 of the proposed trees are located within a drainage/utility easement.
(F)11.	Prior to the issuance of building permits for all new and/or expanded uses, a tree preservation plan shall be submitted.	There is only one existing tree on the site that will be removed and replaced as a result of development.

PLANNED UNIT DEVELOPMENT REVIEW

PUDs are allowed to encourage innovation in project design that cannot be achieved through traditional zoning. The proposed development site is difficult to develop given its unique shape. Approximately 1½-acre is very narrow and abuts platted lots on three sides, which diminishes the developability of this portion of the property. The proposed PUD enables the developer to build a financially feasible product while meeting land use objectives of 2040 Comprehensive Plan.

PUD Purpose

Section 154.008(C)1 of the City Code outlines the purpose statement for PUDs. Analysis of PUD purpose standards are listed below.

Reference	Standard	Proposed Townhome Lots
(C)1(a)	Development as an integrated, coordinated unit as opposed to parcel-by-parcel approach to development.	Coordinated development plan proposed.
(C)1(b)	Introduce flexibility of site design and architecture for the conservation of land and open space through clustering of buildings and activities.	Buildings clustered and 1.5-acre portion of site preserved as wetland/ open space.
(C)1(c)	Enable development that is characterized by central management, integrated planning and architecture, joint or common use of parking, maintenance of open space and other similar facilities, and a harmonious selection and efficient distribution of uses.	Open space will be maintained in common ownership; architecture will be consistent; uses harmonious with adjacent land uses.
(C)1(d)	Provide flexibility from ordinance requirements and joint planning between the city and developer to protect other features such as existing development, planned streets, vegetation, slopes, wetlands, lakes or streams.	Zoning flexibility is needed to provide greater density which is consistent with the Comp Plan and to preserve wetland and open space area.
(C)1(e)	Promote efficient use of land while preserving existing landscape amenities and allowing harmonious development consistent with the Comp Plan and preserving the health, safety and general welfare of the community.	Layout is the most efficient given the irregular shape of the property and is consistent with the Comp Plan.

PUD Objectives

According to §154.008(C)2, the PUD is intended to encourage the efficient use of land and resources, to promote greater efficiency in public utility services and encourage innovation in the planning and building of all types of development. Analysis of PUD objectives are listed below.

Reference	Standard	Proposed Townhome Lots
(C)2(a)	Harmonious mix of land uses, building types, open spaces, and circulation elements.	Buildings complement existing adjacent development. No circulation elements.
(C)2(b)	Concentration of open space into more usable areas.	Buildings clustered and 1.5-acre portion of site preserved as wetland/ open space.
(C)2(c)	Preserve natural resources of the site including wetlands, woodlands, steep slopes and scenic areas.	Buildings clustered and 1.5-acre portion of site preserved as wetland/ open space.
(C)2(d)	Facilitate the economical provision of streets and public utilities.	No new streets proposed.
(C)2(e)	Preserve and enhance historic and natural resources.	Not applicable.
(C)2(f)	Allow more than one principal building on a lot.	Ten buildings proposed on what is currently one existing lot.
(C)2(g)	Provision of a mixture of residential unit types and densities in an integrated and well-planned area creating a variety of housing types, consistent with the city's housing goals.	Density is consistent with they City's housing goals as demonstrated by the future land use map/
(C)2(h)	Promote energy conservation through the use of more efficient building designs, sites and clustering of land uses and buildings.	Not applicable.

General PUD Requirements and Standards

General requirements and standards applicable to PUDs are outlined in §154.008(C)3(a)-(p). Analysis of PUD standards are listed below.

Reference	Standard	Proposed Townhome Lots
(C)3(a)	Has two or more principal uses or structures on a single parcel of land.	Within the PUD boundary, the project has two uses on a single parcel of land; townhomes and open space. Requirement met.
(C)3(b)	An application for PUD approval must be filed by the landowner or jointly by all landowners of the property included in a project.	Presently owned by the City with an active contract for private development with applicant. Requirement met.
(C)3(c)	The proposed PUD shall be consistent with the Comprehensive Plan.	The proposal for townhomes at the proposed density is consistent with the <i>medium density</i> future land use designation for this site. Requirement met.
(C)3(d)	All permitted, conditional, and interim uses contained in the underlying zoning district shall be treated as	Townhomes are permitted by right in the R2 district.

	permitted, conditional, and interim uses in the PUD Overlay District.	Requirement met if property rezoned to R2.
(C)3(e)	The city may provide concessions in setbacks, density, or lot size.	Flexibility requested for setbacks and lot size through PUD overlay.
(C)3(f)	Minimum lot size requirements of the underlying zone shall serve as a guideline to determine the maximum dwelling unit density of a total development.	Proposed density is 9 units per acre, which aligns with R-2 district density standards.
(C)3(g)	The city may, but shall not be required to, provide concessions in setbacks, density, lot size, building height, street width or parking.	Flexibility requested
(C)3(h)	Relationship to adjacent areas.	The proposal is consistent with the height and uses of adjacent properties (single family homes).
(C)3(i)	Utilities shall be installed underground.	All new utilities connections will be installed underground
(C)3(j)	Off-street parking and loading space shall be provided in each PUD in the same ratios for types of buildings and uses as required in the underlying zoning district.	Standard parking requirements are met.
(C)3(k)	Street width.	Not applicable.
(C)3(l)	The developer shall prepare and submit a landscaping plan.	Landscape plan depicts four Northwood Red Maple trees and two Sunburst Honeylocust trees are proposed for the site, in addition to the required seeding/sod at the time of site construction. Requirement not met.
(C)3(m)	The proposed project shall be served by the city water and sewer system.	The project will be served by City water/sewer. Requirement met.
(C)3(n)	Height limitations shall be the same as imposed in the respective zoning districts.	Requirement met.
(C)3(o)	Prior to the issuance of a building permit as part of the PUD, the permit applicant, builder, or developer shall execute and deliver to the City Council a development agreement for the PUD.	This shall be a condition of PUD approval.
(C)3(p)	Common open space shall be either held in common ownership by all owners in the PUD or dedicated for public use with approval of the City Council.	Approximately 1.5-acre will remain as open space on the site to be held in common ownership in the PUD. Requirement met.

Section 154.008(C)5(d)ix(A-I) outlines the criteria that the Planning Commission and City Council shall use to evaluate the PUD.

Reference	Standard	Proposed Townhome Lots
(d)ixA	Adequate property control is provided to protect the individual owner's rights and property values and the public responsibility for maintenance and upkeep.	HOA bylaws have been provided, review of which will be a condition of approval.
(d)ixB	The circulation plan does not create congestion or dangers and is adequate for the safety of the project resident and the general public.	Not applicable.
(d)ixC	A sufficient amount of usable open space is provided.	Requirement met.
(d)ixD	The arrangement of buildings, structures, and accessory uses does not unreasonably disturb the privacy or property values of the surrounding residential uses.	Requirement met.
(d)ixE	The architectural design of the project is visually compatible with the surrounding area. Architectural style or type of buildings shall not solely be a basis for denial or approval of the preliminary PUD plan. However, the overall appearance and compatibility of individual buildings to other site elements of surrounding development will be given primary consideration in the review stages of the Planning Commission and City Council.	To be determined in final PUD phase.
(d)ixF	The drainage and utility system plans are submitted to the City Engineer and shall be subject to approval of the City Engineer.	Refer to Engineering review memo.
(d)ixG	The development schedule insures a logical development of the site which will protect the public interest and conserve land.	The site is planned to be constructed in summer 2024.
(d)ixH	Proposed unit and accessory use requirements are in compliance with the district provisions in which the development is planned.	Requirement met, unless otherwise stated, above.

REZONING REVIEW

Per Section 154.004(D), the city may grant a zoning map amendment (rezoning) if the proposed amendment is compliant with the following findings (items 1-5 below, with analysis follows):

- 1. The proposed amendment is consistent with the general purposes and intent of the Comprehensive Plan.*
- 2. The proposed amendment will not adversely affect the health, safety, or general welfare of the city.*
- 3. The proposed amendment is compatible with present and future land uses in the surrounding area and reasonably related to the overall needs of the city.*
- 4. The proposed amendment is compatible with adjacent properties.*
- 5. The proposed amendment can be adequately supported by public urban services including the water supply, transportation system and capacity, police and fire protection, utilities, and sanitary waste disposal and stormwater disposal systems; and*

The project site is guided for Medium Density Residential use by the 2040 Comprehensive Plan. The Medium Density Residential land use category envisions uses at densities from 6 to 12 units per acre. The proposal for townhomes at the proposed density is consistent with the *medium density* future land use designation for this site. The Comprehensive Plan encourages diverse housing options particularly

the development of “missing middle” styles of housing. The proposed townhome development would be consistent with this aspect of the Comprehensive Plan.

The area immediately surrounding the site contains one and two-story single-family houses on lots of about 1/6 acre in size. The proposed townhomes lots are slightly smaller in size (about a 1/10 of an acre), thus slightly more dense than existing development, but still compatible with neighboring uses. Staff finds that the proposed development to be a reasonable approach to provide medium density land use within the subject site and is proposed in a manner that is compatible within the existing neighborhood context.

Adverse impacts on health, safety, or the general welfare of the City are not likely from the proposed rezoning or the resulting development. The proposed amendment can be adequately served by urban services.

PLAT REVIEW

The requested subdivision will divide the existing 2.43-acre parcel into 10 development lots and one outlot containing stormwater pond and open space. The proposed subdivision complies with Chapter 153 of the Code of Ordinances, which regulates subdivision of land.

RECOMMENDED ACTION

Based on the findings described in this report, staff recommend approval of the rezoning, PUD, and preliminary plat with conditions as outlined in the attached resolutions.

Memorandum

To: Brandy Howe, Community Development Director

From: Morgan Dawley, PE, City Engineer

CC: Brian Frandle, City Manager

Date: April 24, 2024

Re: Delaware Place Preliminary Plat Site Plan Review

The Applicant is proposing a project on the vacant 1.39-acre parcel located at the northeast corner of Delaware Avenue and 17th Avenue East. The project includes grading for five twin homes (10 units) and construction of stormwater, sanitary, and water infrastructure. Approximately 24,940 SF of new impervious will be added to the site. A single infiltration basin is proposed to provide water quality, volume, and rate controls.

The following review is only for engineering, stormwater management, and site grading issues. Comments are based on the submittal received from the applicant on March 26, 2024. Additional engineering comments and conditions of approval may be provided upon revised submittals.

Upon review of the submitted plans and supporting information for the above-referenced project, I offer comments and conditions of approval as outlined in the following sections of this memorandum.

General Engineering and Grading Comments:

1. The applicant is responsible for and shall provide copies of all applicable permitting for the project prior to grading permit (mass grading) and/or building permit issuance, including but not limited to Ramsey Washington Metro Watershed District (RWMWD) and Minnesota Pollution Control Agency (MPCA) NPDES construction stormwater, as may be applicable.
2. All work and proposed facilities within 17th Avenue right of way as a Ramsey County roadway, shall be per Ramsey County requirements and permitting.
3. City Standard Plates and Specifications shall supersede all submitted details and specifications for work within the right of way and public infrastructure.
4. A haul route plan and a traffic control/detour plan for utility work on Delaware Avenue and 17th Avenue E (CSAH 23) shall be submitted for review and approval prior to permit issuance.
5. Driveway aprons conforming to the City standard and/or County standards as appropriate for driveway aprons shall be shown and included in the final plan, and aprons shall extend through sidewalk on 17th Avenue as noted on the City standard detail. If Ramsey County does not have a requirement or preference, the City standard detail for commercial/multi-family driveway apron is acceptable on both 17th Avenue and Delaware Avenue fronting properties.
6. One construction entrance is shown. Verify that all grading and home construction will use this entrance, otherwise show locations of others.
7. Vehicle access to the sanitary manhole on the east edge of the property must be maintained. Extend the proposed maintenance route to the east to the end of the existing

sanitary sewer line, such that Public Works is provided continued access through the site to that location for sanitary sewer jetting and maintenance. Revise the grading for the south side of the spoil to maintain vehicle access to the east side of the property.

8. Sanitary sewers, as proposed to be relocated by the developer, shall remain publicly owned and maintained by the City. Watermain as proposed, and stormwater management infrastructure and storm sewer as proposed, shall be privately owned and maintained.
9. A Developer's Agreement shall be required as a condition of approval to be executed between the City and the developer.
10. A Stormwater Maintenance Agreement for the privately maintained stormwater management system shall be required as a condition of approval to be executed between the City and the developer.
11. The City Engineer shall review and approve final signed plans prior to building permit issuance/mass grading/demolition permit issuance.
12. Final hydrants and locations, if any, shall be added as required by the Fire Chief.
13. All pavement removals on Delaware Avenue shall be sawcut at full depth of bituminous, and to the edge of the parking lane (measured 8 feet from the face of curb) or across the full road to the opposite concrete curb and gutter).
14. Maximum driveway grade shall be 10%, if adjusted on future submittals with grading refinements (see Stormwater Management comment 1).

Utilities:

1. City and MCES Sewer Access Charges and City Water Access charges shall be due at the time of building permit and based on Met Council SAC determination letter as provided by the developer to the City.

Stormwater Management:

1. Confirm and show on the plans the lowest opening for each proposed building. The lowest point of entry must be 2' above the 100-year critical HWL of the infiltration basin. EOF must be situated at least 2' below the lowest opening of any residence and must be protected within a drainage and utility easement. It appears that some building pads and foundation elevations may need to be adjusted to meet this requirement on the site.
2. Provide grade elevation at the foundation and top of foundation of structures on adjacent lots.
3. Revise soil borings map to increase legibility or include soil boring locations on civil plan sheets in relation to the proposed infiltration basin.
4. Provide a swale and grade the south side of the spoils area to drain to the infiltration basin, rather than towards, into, and across the rear lot lines of the existing residential properties fronting 17th Avenue.
5. Provide confirmation that the proposed storm sewer connection to 17th Avenue E (County Road 23) has been approved by Ramsey County.
6. The site is within Ramsey Washington Metro Watershed District. The RWMWD stormwater management rule is triggered by the proposed development.
 - a. 1.1" over the new impervious surface is required to be treated. The applicant is required to treat 2,290 CF. The proposed infiltration basin treats 6,098 cubic feet of stormwater treatment.
 - b. Provide confirmation of permit coverage under RWMWD Rule C: Stormwater Management.
7. It is assumed that soil borings SB-2 and SB-3 may lie within the extents of the infiltration basin. The borings indicate clayey sand (SC) and sandy lean clay (CL) strata within 5' of the bottom of the infiltration basin. Infiltration rates shall be determined by the least

- permeable soil horizon within the soil boring (RWMWD Rule 3. c. 1. i.). RWMWD may require a revised stormwater basin design that includes filtration instead of infiltration, as infiltration within Hydrologic Soil Group D soils is prohibited. The RWMWD may allow infiltration if infiltration testing at depth is performed (via double ring infiltrometer).
8. Bottom elevation of infiltration basin is noted 959.2' on sheet C401 and in HydroCAD. In section 4 of the SWMP, both 959 and 959.2 are listed as the bottom elevations of the basin, verify which is correct.
 9. In the existing HydroCAD model, clarify what Node 3P "Backyard depression area" is. Note this area on the drainage map in the SWMP.
 10. Provide rate calculation for the 10-day snowmelt event, 10.20 inches.
 11. The stormwater basin shall be privately owned and maintained. Provide a long-term stormwater maintenance plan that defines how access will be provided, who will conduct the maintenance, the type of maintenance, and the maintenance intervals/frequency. At a minimum, stormwater basins shall be inspected annually and maintained in proper condition consistent with the performance goals for which they were originally designed and as executed in the stormwater facilities maintenance agreement.
 12. A Stormwater Maintenance agreement shall be executed between the applicant and the City of North St. Paul prior to final plat signatures, and recorded with Ramsey County, prior to demolition permit issuance.

Landscaping:

1. Remove and relocate all proposed trees from lot line drainage swales, emergency overflow routes, and over or within a 1:1 excavation trench for existing and proposed underground utilities.

Preliminary and Final Plat:

1. Preliminary and Final Plat revisions shall incorporate all Ramsey County requirements as a condition of approval, including dedication of 17th Avenue/County Road C right of way dedications.
2. Revise the boundary survey and preliminary plat to reflect title work.
3. The applicant shall apply for vacation of all existing conflicting easements, such as the existing easement (to be confirmed by applicant's revision of survey to reflect title work, over the existing sanitary sewer to be relocated. The vacation application, approval by action of City Council, and recording at Ramsey County shall occur prior to recording of the final plat.
4. Easements on final utility plans and final plat shall be wide enough to allow for a 1:1 working trench with a minimum of 20' centered on the utility. Additional easement shall be shown south of the relocated sanitary sewer between lots 4 and 5-10.
5. Decks on lots 5-10 shall not be allowed for proximity and depth to proposed sanitary sewer. Patios will be allowed on these lots/units at the discretion of the City Engineer and subject to a signed and recorded encroachment agreement for the patio allowing for future sanitary sewer excavations, repair, and maintenance by the City should it be necessary.
6. Drainage and utility easements shall be dedicated on the final plat to the satisfaction of the City Engineer.

Removals/Demolition:

1. Show all necessary sidewalk removals and replacement on 17th Avenue necessary to conduct utility improvements and in a contiguous manner.

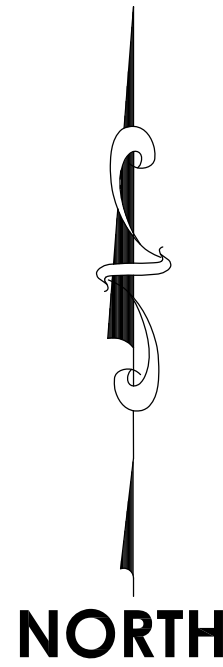
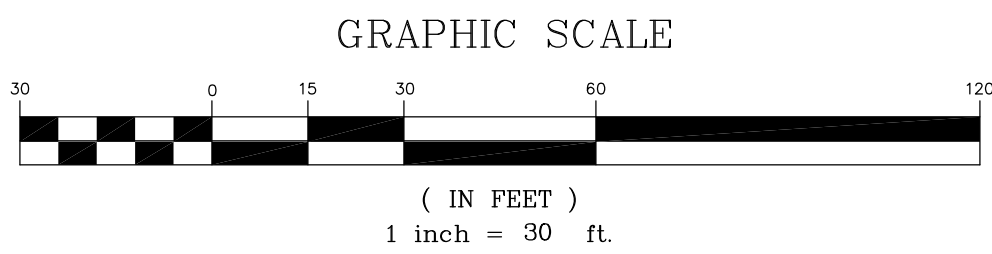
Engineering Recommendation

Any approval of the project as proposed should include the following conditions in addition to any other conditions recommended by City Council, Planning Commission, and city staff:

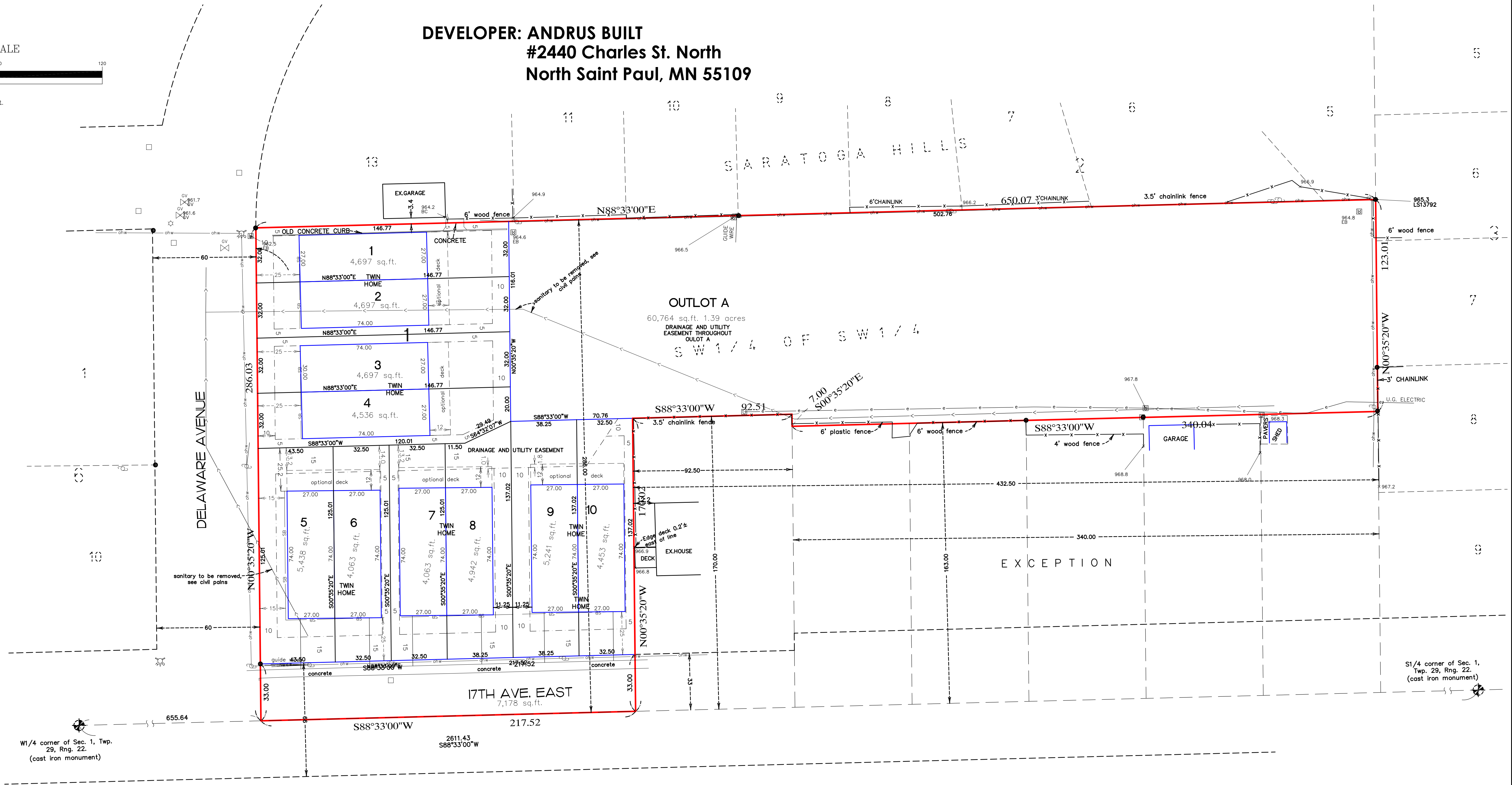
1. Revision of plans and the stormwater management plan to satisfy all engineering comments included in this memo on the currently submitted development information prior to City Council conditional approval of the Preliminary/Final PUD, and any subsequent engineering comments prior to issuance of demolition/grading/building permits.
2. Easements shall be added to the final plat as required by the City Engineer.
3. Final hydrant locations and turnaround dimensions shall be approved by the Fire Chief
4. The applicant is responsible for obtaining all necessary permits for the project from the City and all applicable outside agencies, including but not limited to Ramsey County, Ramsey Washington Metro Watershed District, MPCA (NPDES and sanitary sewer), and MDH (Water main).
5. A Developer's Agreement shall be required.
6. The sanitary sewer shall be public. The water and stormwater management pond and related infrastructure shall be privately owned and maintained.

This concludes the engineering plan and related information review comments for the proposed development of the Delaware Place site. More comments may be generated following review of any future revised and additionally submitted material that may be provided by the applicant. Should you have any questions regarding this memorandum, please feel free to contact me at 612-670-3132.

PRELIMINARY PLAT OF DELAWARE PLACE



DEVELOPER: ANDRUS BUILT
#2440 Charles St. North
North Saint Paul, MN 55109



LEGEND

- DENOTES IRON MONUMENT FOUND
- ohw — DENOTES OVERHEAD WIRE
- >— DENOTES STORM SEWER
- >>— DENOTES SANITARY SEWER
- DENOTES EXTERIOR BOUNDARY LINE
- DENOTES UTILITY BOX
- x— DENOTES EXISTING FENCE
- sb— DENOTES BUILDING SETBACK LINE
- - - - DENOTES DRAINAGE & UTILITY EASEMENT

DEVELOPMENT DATA

LAND USE:	
SINGLE FAMILY HOMES:	1.08± ACRES
OUTLOT	1.39± ACRES
RIGHT-OF-WAY	0.16± ACRES

TOTAL: 2.63± ACRES

PROPOSED ZONING: PLANNED UNIT DEVELOPMENT

- BUILDING SETBACKS:
 - FRONT = 25 FEET
 - SIDE YARD = 5 FEET
 - REAR DECK = 10 FEET
 - CORNER SIDEYARD (LOT 5) = 15 FEET
 - REAR YARD HOUSE = 25 FEET
- *DECKS ALLOWED INTO DRAINAGE AND UTILITY EASEMENT AREAS.

NOTES

- This concept plan was prepared without the benefit of titlework. Easement, appurtenances and encumbrances may exist in addition to those shown hereon. This survey is subject to revision upon receipt of a title insurance commitment or attorneys title opinion.
- Fieldwork performed in Feb. 2024 to verify site boundaries and locate topographic features.

LEGAL DESCRIPTION

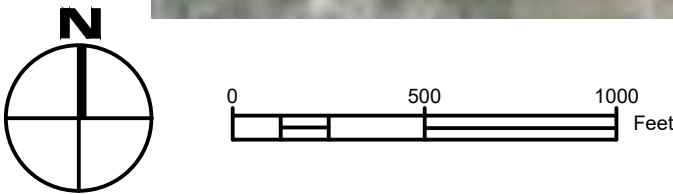
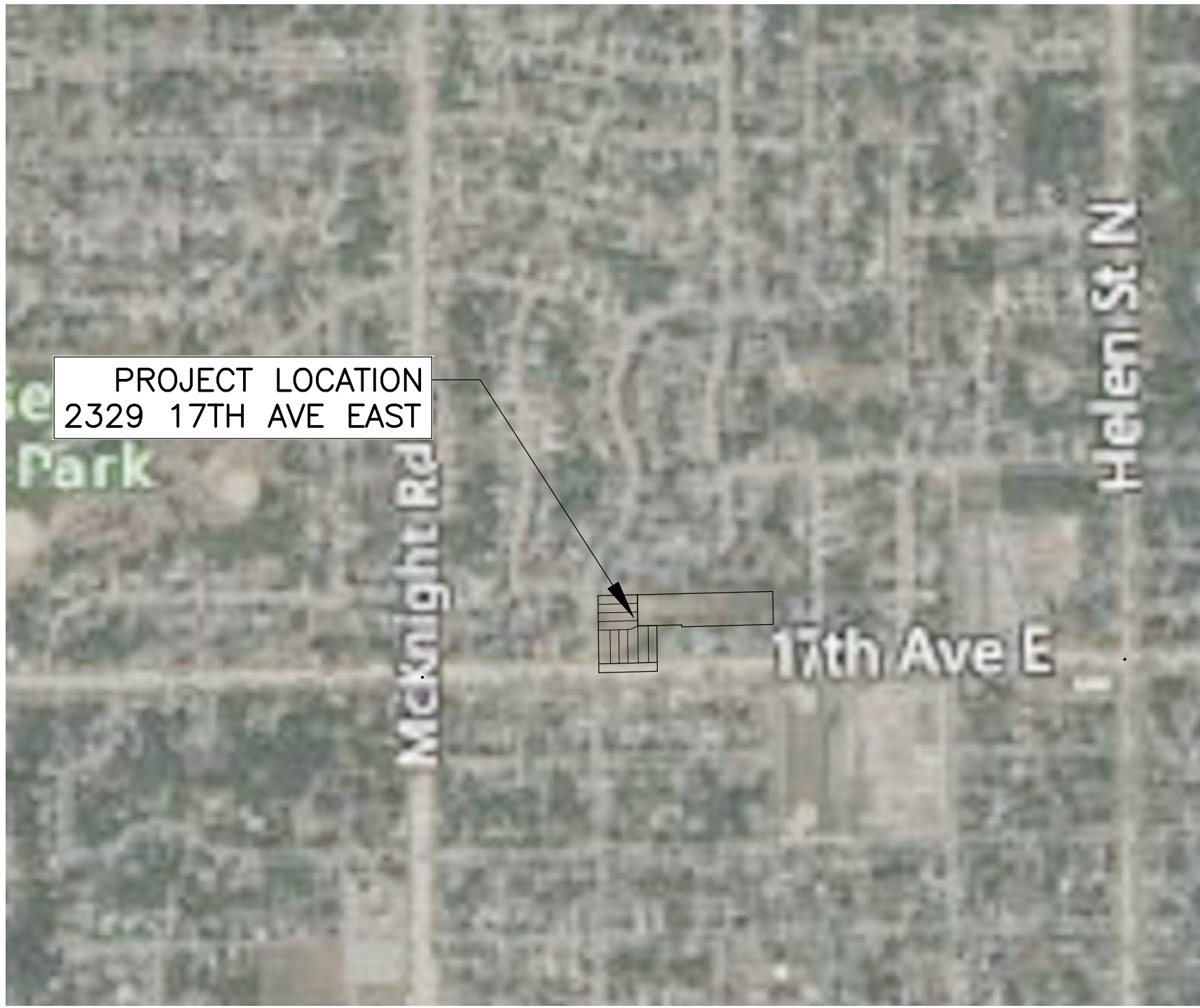
The south 286.00 feet of the east 650.00 feet of the Southwest Quarter of the Southwest Quarter of Section 1, Township 29, Range 22, Ramsey County, Minnesota, except the south 163.00 feet of the east 340.00 feet of said Southwest Quarter of the Southwest Quarter and except the south 170.00 feet of the west 92.50 feet of the east 432.50 feet of said Southwest Quarter of the Southwest Quarter.

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Registered Land Surveyor under the laws of the State of Minnesota.

ERIC R. VICKARYOUS

Date: April 17th, 2024 Reg. No. 44125

PRELIMINARY PLANS FOR
DELAWARE PLACE
NORTH ST. PAUL, MN
MARCH 2024



VICINITY MAP

PROJECT TITLE

CONTACTS

INDEX

NOTES

OWNER:

Andrus Built, LLC
2440 Charles Street N, Ste 210
North St. Paul, MN 55109
Attn: Doug Andrus
Ph: 651.777.0111
doug@andrusbuilt.com

CITY / TOWNSHIP:

City of North St. Paul
2400 Margaret Street
North St. Paul, MN 55109
Ph: 651.747.2595 (P&Z)

Morgan Dawley, City Engineer (WSB)
Ph: 763.287.7173
mdawley@wsbeng.com

SURVEY:

Acre Land Surveying, Inc.
9140 Baltimore St NE Ste 100
Blaine, MN 55449
Attn: Eric Vickaryous
Ph: (763) 458-2997
acrelandsurvey@gmail.com

WATERSHED DISTRICT:

Ramsey Washington Metro WD
2665 Noel Dr
Little Canada, MN 55117
Ph: 651.792.7950

CIVIL:

Civil Methods, Inc.
PO Box 28038
St. Paul, MN 55128
Attn: Dave Poggi, PE
Ph: 763.210.5713
dave.poggi@civilmethods.com

COUNTY:

Ramsey County Public Works
1425 Paul Kirkwold Drive
Arden Hills, MN 55112
Ph: 651.266.7186

SHEET NO.	DESCRIPTION
C001	COVER SHEET
C101	EXISTING CONDITIONS & REMOVALS
C301	UTILITIES
C401	GRADING PLAN
C501	EROSION & SEDIMENT CONTROL PLAN
C501	SWPPP NARRATIVE
C601-6XX	DETAILS
C701	LANDSCAPING PLAN

LEGEND:

—————	PROPERTY LINE	=====	CURB & GUTTER		STORMWATER POND
- - - - -	SETBACK	— >> —	STORM SEWER / CULVERT		ROCK RIPRAP, RANDOM CRUSHED
- - - - -	EASEMENT		DRAINTILE		EROSION CONTROL BLANKET
WET ———	WETLAND	— > —	SANITARY SEWER		TURF REINFORCEMENT MAT
=====	CONTOUR	— —	WATERMAIN		GEOGRID OR ARTICULATED CONCRETE
	SPOT ELEVATION	— o —	CLEANOUT		STABILIZED CONST. ENTRANCE
	DRAINAGE DIRECTION		SANITARY MANHOLE	— SF —	SILT FENCE
	BITUMINOUS SURFACE		WETLAND BUFFER	- - - - -	SEDIMENT CONTROL LOG
	BITUMINOUS SURFACE, HEAVY		BIORETENTION / INFILTRATION BASIN		INLET PROTECTION
	CONCRETE SURFACE		TREE LINE		FENCE
					RETAINING WALL

THE EXISTING UTILITY INFORMATION SHOWN IN THIS PLAN HAS BEEN SURVEYED BY OTHERS; THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY 811 OR GOPHER STATE ONE CALL (1.800.252.1166).

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

PLAN REFERENCES:

- CITY OF NORTH ST. PAUL CODE & DESIGN STANDARDS
- MINNESOTA DEPT. OF TRANSPORTATION – STANDARD SPECIFICATIONS FOR CONSTRUCTION, LATEST EDITION.
- CITY ENGINEERS ASSOCIATION OF MINNESOTA STANDARD SPECIFICATIONS, LATEST EDITION.
- UNREINFORCED CONCRETE PER ACI 330R-08 AND ACI 330.1-03.



CIVIL METHODS, INC.

P.O. Box 28038
St. Paul, MN 55128
o:763.210.5713 | www.civilmethods.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, 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.

DAVID M. POGGI

DATE: 03-18-2024
LIC. NO.: 44573

DESIGNED: DMP
DRAWN: DMP
CHECKED: KEB

DATE / REVISION:
03-18-2024 Preliminary Plan Review Set. NOT FOR CONSTRUCTION

DELAWARE PLACE

ANDRUS BUILT, LLC
NORTH ST. PAUL, MN

COVER

SHEET NO:

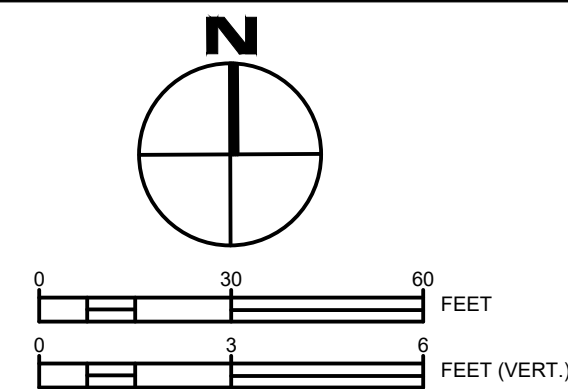
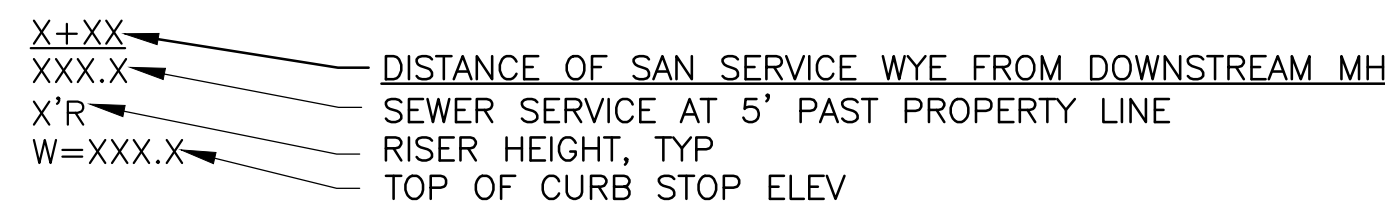
C001

1. The subsurface utility location information in this plan is utility quality level D. This utility quality level was determined according to the guidelines of C/ASCE 38-02, titled "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data." Engineer does not guarantee the accuracy of utility locations or that all existing utilities are shown; Contractor is responsible for locating utilities prior to digging.
2. Perimeter sediment controls shall be installed prior to beginning site disturbance operations, see Erosion Control Plan. No impact to adjacent properties is permitted without prior written authorization from property owner.
3. Existing street pavement and curb shall be cut full-depth to provide a clean, uniform face for new connection.
4. Coordinate removal or relocation of private utilities with utility owner.
5. Coordinate removal and abandonment of existing sewer and water services with City Public Works; meet City requirements for removal and restoration.
6. Protect light poles and other existing utilities, signs, trees, etc. Relocation of any private utilities not directed on these plans shall be coordinated with the utility owner.
7. Damaged items or property shall be repaired or replaced at Contractor's expense.

PROPERTY LINE	
PAVEMENT REMOVAL	
REMOVAL	



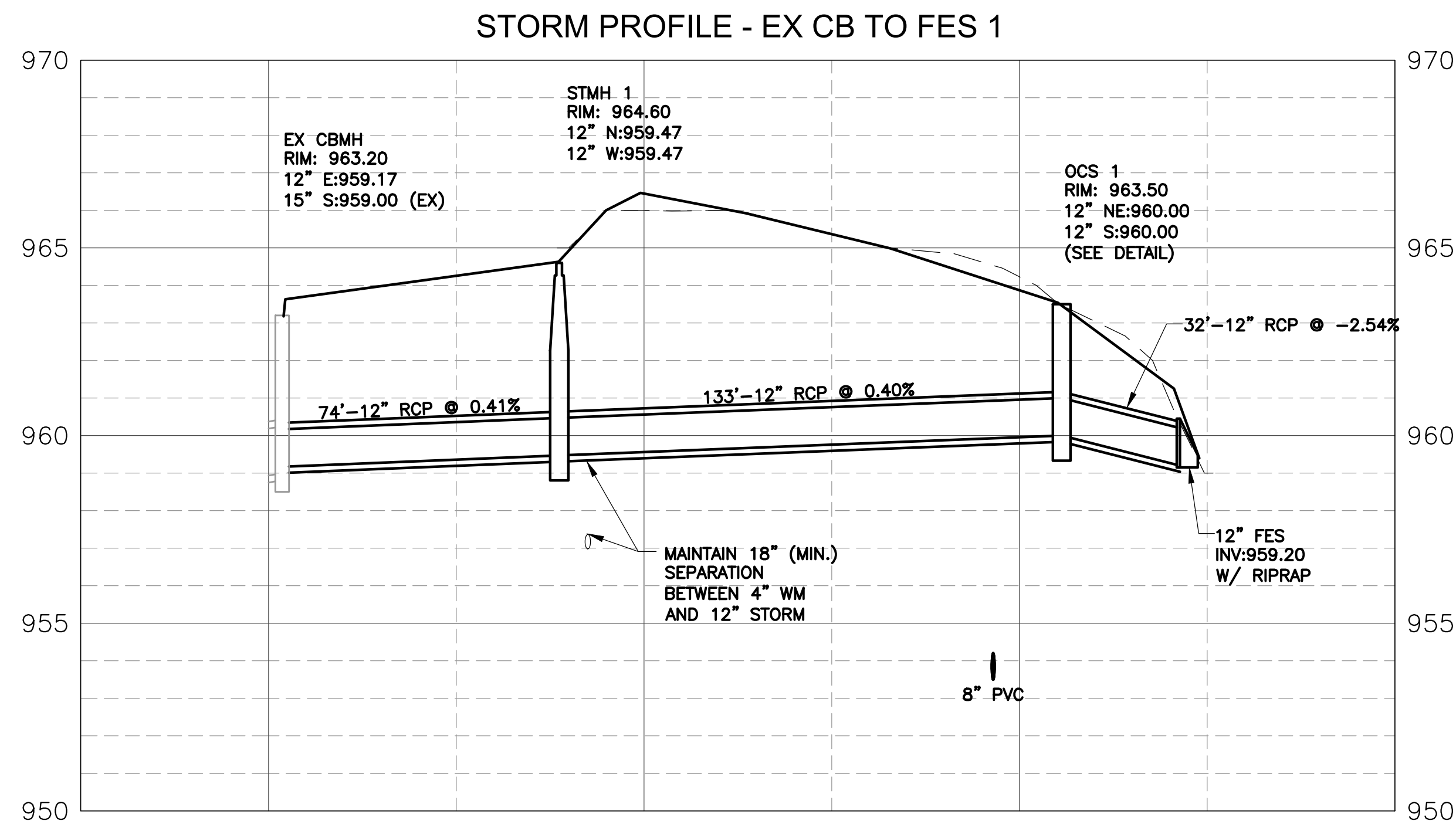
SHEET NO:
C101



BENCHMARK
(ASSUMED, SEE SURVEY)

PROPERTY LINE	
EASTMENT	
SANITARY SEWER	
WATERMAIN	
STORM SEWER	
SANITARY MANHOLE	

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2. Contractor shall coordinate utility connections and street disturbance with City; traffic control requirements as directed by City.
3. Protect light poles and other existing utilities, signs, trees, etc. Relocation of any private utilities not directed on these plans shall be coordinated with the utility owner.
4. Damaged items or property shall be repaired or replaced at Contractor's expense.
5. Watermain pipe shall be CL 52 ductile iron; maintain 18" separation (min.) at crossings (less than 18" separation requires insulation).
6. Wet tap
7. Water service pipe shall be 1" copper, Type K, with corporation & curb stop.
8. Adjust curb stop elevation as nec. with driveway grade.
9. Sanitary manholes shall have poured inverts providing smooth flow transition.
10. Sanitary sewer shall be 8" PVC (SDR 35) unless noted otherwise.
11. Service laterals shall be PVC (Sch40) extended to 5.0' past the lot line, plugged with a gasketed plug, and marked with a steel post with top 2' painted green.
12. Sanitary 4" PVC services not be laid flatter than 2.0%.
13. Sanitary service bend > 45' requires cleanout, per MN Plumbing Code.
14. All sanitary and water pipe and services shall have a minimum of 7.5' cover.
15. Maximum spacing of sanitary cleanouts shall be 100'.
16. See details for additional information.
17. Sewer and water mains to be tested and/or disinfected per City requirements.
18. Restore bituminous street section, concrete walks, and concrete curb & gutter per City and County standard, match existing (min.).



**Know what's below.
Call before you dig.**

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DATE: 03-18-2024

DAVID M. POGGI

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DESIGNED: DMP

DRAWN: DMP

CHECKED: KEB

DELAWARE PLACE
ANDRUS BUILT, LLC
NORTH ST. PAUL, MN

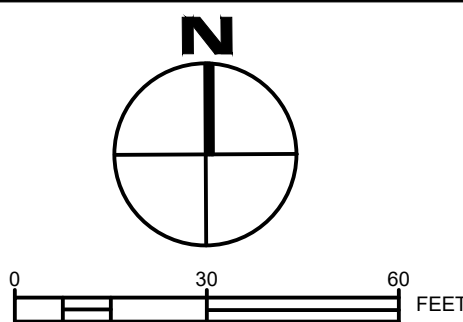
UTILITIES

SHEET NO:

C301

GENERAL NOTES:

- The subsurface utility location information in this plan is utility quality level D. This utility quality level was determined according to the guidelines of CI/ASCE 38-02, titled "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data." Engineer does not guarantee the accuracy of utility locations or that all existing utilities are shown; Contractor is responsible for locating utilities prior to digging.
- Construction shall comply with all applicable governing codes.
- Damaged items or property shall be repaired or replaced at Contractor's expense.
- See erosion control plan and SWPPP for required controls to be installed prior to site disturbance.
- Contractor shall install demarcation fencing at property line as necessary.
- Contours shown are to final grade.
- Curb point elevations are at flow line, unless noted otherwise.
- Basin side slopes shall be 4:1 (max.) below HWL.
- Maximum grading slope in mowed areas to be 3:1 (2:1 in natural areas).
- Low opening on sides and back of homes to be 2.0' above pond HWL, or 965.8 (min.) including window wells.
- Swales between lots shall be 2.0% (min.) to extent possible; not less than 1.5%.
- Driveway grades shown indicate grade from garage to back of curb or sidewalk (if applicable).
- Additional stockpiling may be needed; waste excess material as directed.
- See details and note sheets for additional specifications.



BENCHMARK
(ASSUMED, SEE SURVEY)

LEGEND:

- PROPERTY LINE ———
- SETBACK - - - - -
- EASEMENT - - - - -
- WETLAND — WET —
- CONTOUR ———
- SPOT ELEVATION ———
- DRAINAGE DIRECTION ———
- STORM SEWER / CULVERT ———
- BITUMINOUS SURFACE ———
- RIPRAP ———
- RETAINING WALL ———

BACK PAD ELEV. (0.5' BELOW LOW OPENING, MIN.)

HOUSE TYPE (WALKOUT)

FB = FULL BASEMENT

LO = LOOKOUT

SOG = SLAB ON GRADE

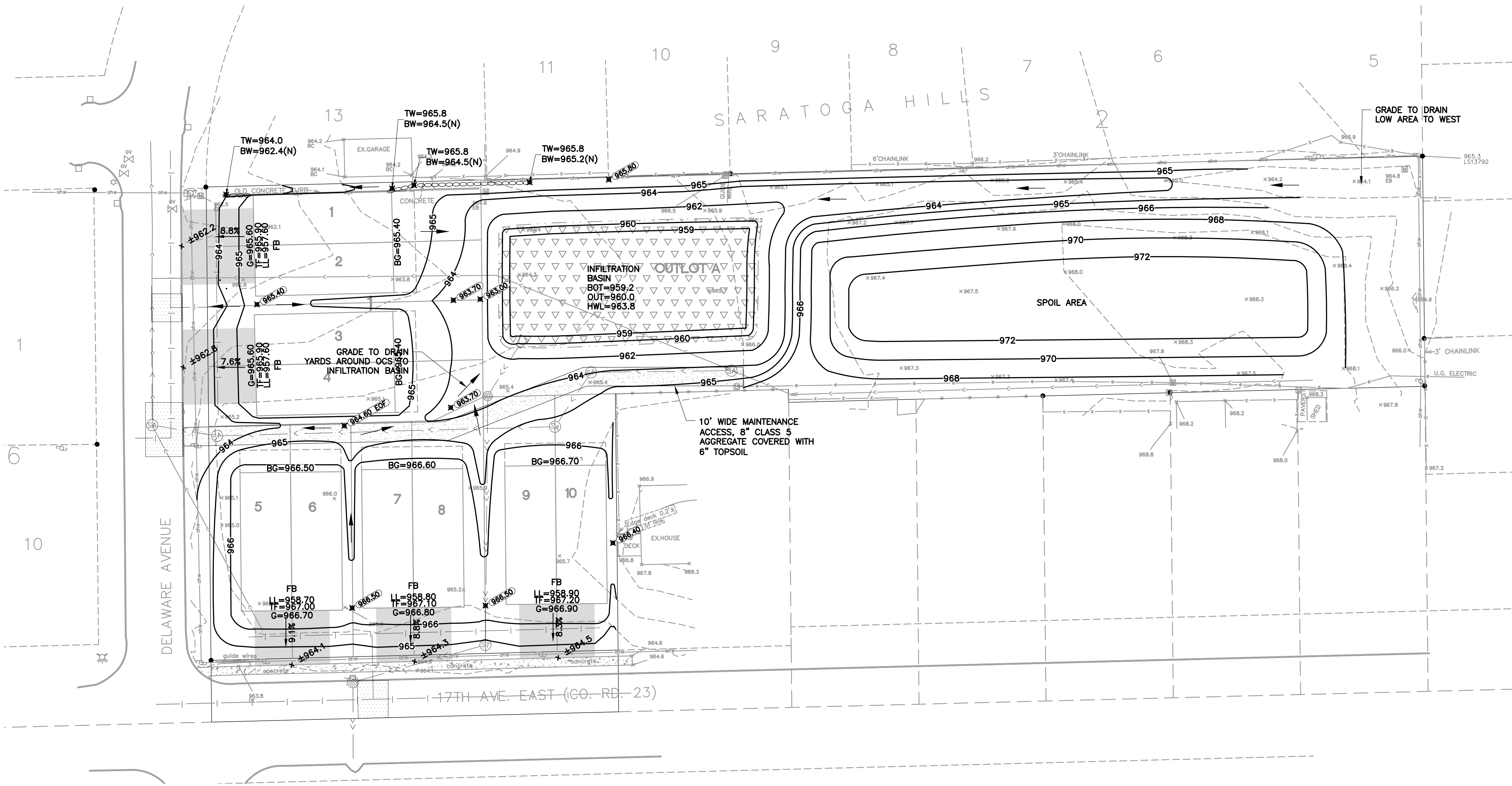
NO. OF COURSES DROPPED

LL = LOW LEVEL ELEV.

TF = TOP OF FOUNDATION / BLOCK ELEV.

G = GARAGE ELEV.

TYPICAL LOT & HOUSE PAD



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DELAWARE PLACE

ANDRUS BUILT, LLC
NORTH ST. PAUL, MN

GRADING

SHEET NO:

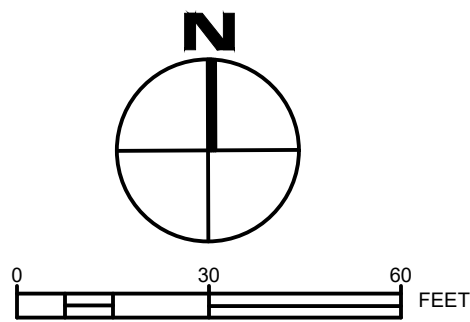
C401

Print Date: 3/25/2024 2:48 PM
File Loc: C:\CIVIL\Methods, Inc\CD\17 - Documents\17 - Projects\24006 - 17th Avenue Townhomes\17 - Drawings\17 - SPECIFICATIONS\CD\17 - Erosion.dwg

SEDIMENT CONTROL & TURF RESTORATION NOTES:

1. Topsoil, vegetation, and erosion control items installed and maintained per Mn/DOT 2571-2575.
2. Perimeter sediment controls shall be installed as indicated prior to site disturbance, and shall be installed to allow for high-flow bypass or overflow to prevent failure during significant rainfall.
3. In addition to this sheet, Contractor must be familiar with the SWPPP plan sheet. SWPPP shall remain onsite at all times, as noted in "Record Retention" section of SWPPP.
4. Silt fence shall be of type indicated on the plan (Mn/DOT 3886).
5. Contractor is responsible for keeping sediment from leaving the property, including vehicle tracking. Should sediment be tracked offsite onto adjacent street, Contractor shall sweep Within 24 hours.
6. Install silt fence or sediment control log around any soil stockpiles that will be present for more than 7 days (if no perimeter controls in place to prevent sediment transport).
7. Inlet protection shall be in place on inlets throughout construction; type shall be suitable for each phase of construction.
8. Install sediment control logs around rim of bioretention basin immediately after final grading and leave in place until construction has ended and site is stabilized with vegetation.
9. Sediment control logs shall be minimum 8" diameter wood or straw (Mn/DOT 3897).
10. Devices shall be inspected weekly and after all rainfall events exceeding 1/2", and maintained as necessary to keep the intended functional condition.
11. Accumulated sediment shall be removed from sediment control devices when 1/3 of device height has been reached.
12. After rough grading is completed, and topsoil spread, areas shall be seeded and blanketed (or sodded) within 7 days. Areas not being actively worked must be covered with temporary seed within 14 days.

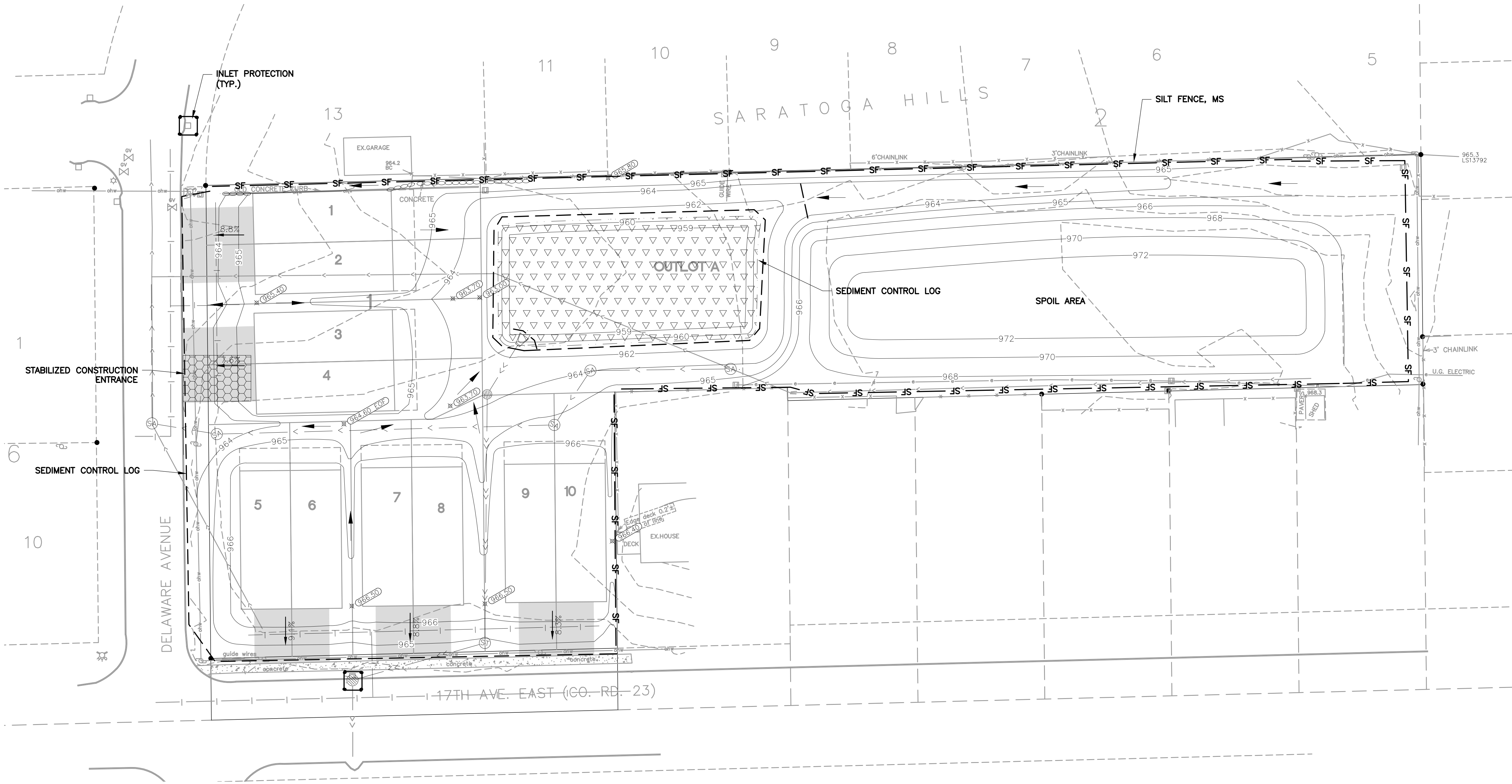
13. Random crushed riprap per Mn/DOT 3601 shall be of class and quantity as indicated, and shall include geotextile fabric (3733).
14. Seed (or sod) in yard areas shall be Mn/DOT Mix 25-151 (3876) residential turf, other areas may be low maintenance turf, Mix 25-131, native prairie, Mix 35-241, or approved equal.
15. Seed infiltration basin bottom and sides with Mn/DOT Mix 33-261.
16. Ditch bottoms and 3:1 slopes shall include erosion control blanket, Cat.20 (3885).
17. All other seeded areas, including infiltration basin shall be seeded (or planted) and covered with hydraulic mulch matrix (3884.B2), blanket (Cat.10 or 15, 3885), or straw mulch, Type 1 (no straw in basins).
18. Turf shall be installed by a qualified professional and/or per the Mn/DOT Seeding Manual (latest edition), at rates indicated in the manual.
19. Perimeter sediment controls shall remain in place until vegetation is growing / established in all disturbed areas.
20. Erosion during construction shall be repaired by the Contractor within 24 hours of discovery.



BENCHMARK
(ASSUMED, SEE SURVEY)

LEGEND:

PROPERTY LINE	----
INFILTRATION BASIN SEED MIX	XXXX
EROSION CONTROL BLANKET, CAT. 0, OR HYDRAULIC MULCH MATRIX	XXXX
EROSION CONTROL BLANKET, CAT. 3	XXXX
STABILIZED CONST. ENTRANCE	XXXX
SILT FENCE	SF
SEDIMENT CONTROL LOG	----
INLET PROTECTION	□
DETAIL ID: NO. / SHEET	⊕



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DELAWARE PLACE

ANDRUS BUILT, LLC
NORTH ST. PAUL, MN

EROSION & SEDIMENT CONTROL

SHEET NO:

C501



ALL CONSTRUCTION ACTIVITIES MUST MEET THE REQUIREMENTS OF THE MPCA'S **GENERAL PERMIT AUTHORIZATION TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NPDES/SDS PROGRAM (MNR100001)**. All sheets of this planset, as well as the related Project SWMP, are hereby referenced as part of this SWPPP; any related pages shall be revised as appropriate for differing site conditions. Specific reference permit sections included in parentheses throughout.

SITE AND CONSTRUCTION DESCRIPTION:

This project includes site grading for a new residential subdivision in North St. Paul, Ramsey County, MN (Lat: 45.021251, Long: -93.001876).

The site work will include disturbance of approximately 1.4 acres for the construction of five twin homes, as well as related utilities and associated site grading. Approximately 3,700 CY of material will be excavated and relocated on-site, and all areas will be stabilized and restored as indicated in the plans.

The existing site is vacant and included a church previously. No groundwater or soil contamination is anticipated (16.15).

The Contractor shall sign the MPCA NPDES Construction Stormwater Permit application as "Operator" and be solely responsible for meeting the erosion and sediment control requirements of the permit.

Disturbed Area: 1.4 acres
Pre-Construction Impervious Area: 0.00 acres
Post-Construction Impervious Area: 0.57 acres
Newly Created Impervious Area: 0.57 acres
Permanent Stormwater Treatment Required by MPCA (If >1.0 acre): NO

PERMANENT STORMWATER MANAGEMENT:

Permanent stormwater management is required by the City an Ramsey Washington Metro Watershed District (RWMWD), and is described in detail in the project Stormwater Management Plan (SWMP) report. In summary, the site has been designed to infiltrate a WQV of 1.1" from the site impervious area, as well as control rate of discharge for the design storm events. With no direct pipe inlet to the basin, pretreatment will be provided in grass swales.

Geotechnical borings have been completed to a depth of approximately 20 ft; neither mottling nor groundwater level were noted. A minimum of 3' of separation is provided (as required) from bottom of infiltration to SHWT elevation (bore limit, in this case).

Soils at the site are primarily clays near the surface, with sandy-loams at depth in various areas. The soils range in hydrologic condition from highly permeable HSG Type A soils to low permeability HSG Type D soils. Since surface soils are all clayey near surface, this Type D condition is reflected in design runoff curve numbers. Soil permeability improves at depth in the area of the proposed infiltration basin, and therefore infiltration is feasible for stormwater management.

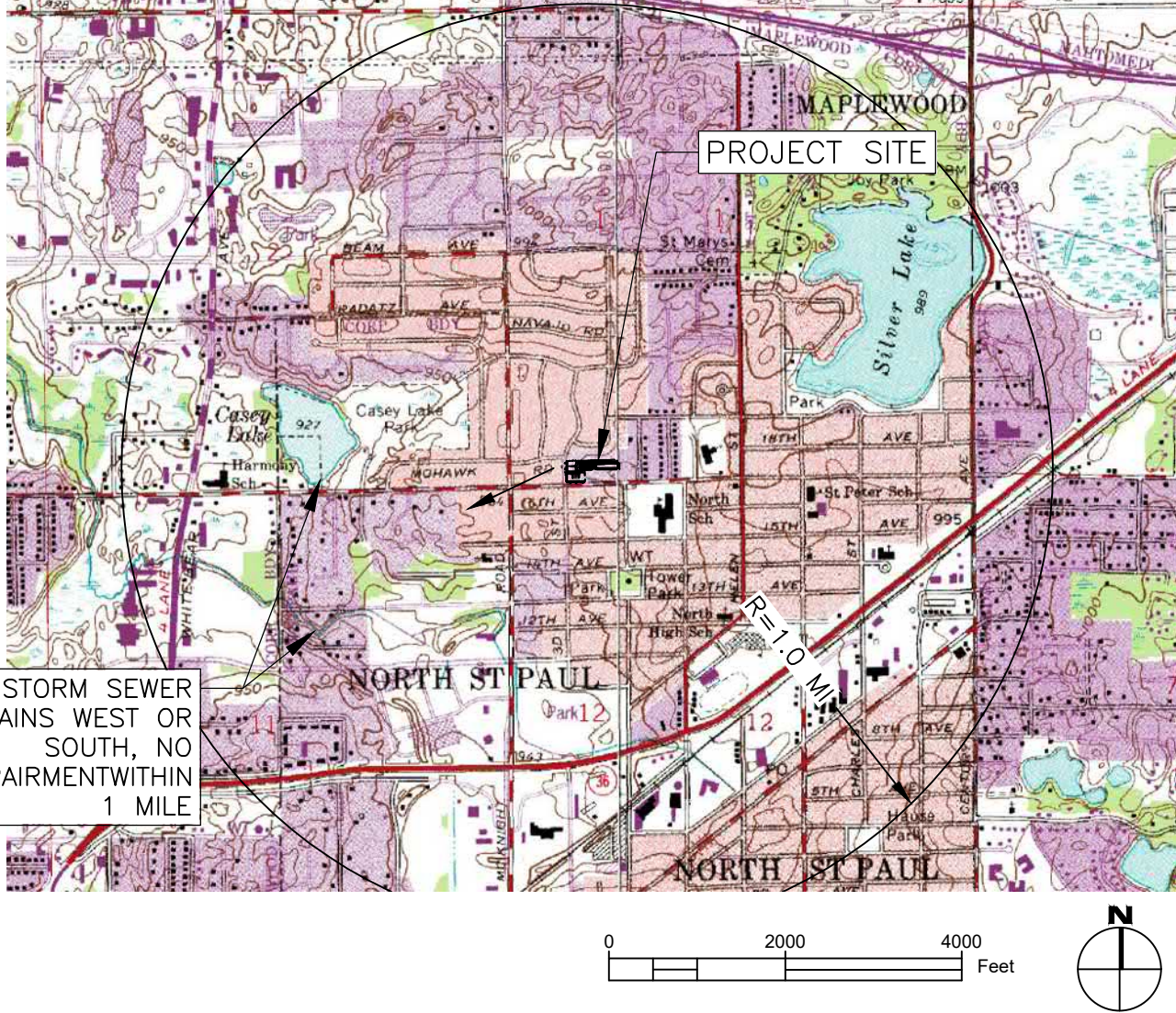
The entire property drains west and south into storm sewer in the adjacent streets. A small depression exists in the northeast corner of the property that collects runoff from nearby backyards before overflowing west through the site. A swaled outlet will be graded to drain the depression, which should help the existing drainage condition of neighboring properties.

The project site does not discharge to an Impaired Water within 1 mile, as defined by the State's Impaired Waters List.

SOILS MAP



DOWNSTREAM SURFACE WATERS AND WETLANDS



EROSION & SEDIMENT CONTROL QUANTITIES

EROSION & SEDIMENT CONTROL

- 1.The contractor shall use phased construction whenever practical to minimize disturbed area at any one time. Disturbed area shall not exceed that which can be effectively inspected and maintained.
- 2.All exposed soil areas, including stockpiles, 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.
- 3.The following shall be installed within 24 hours of connection to surface water or property edge:
 - 3.1.Energy dissipation (riprap) at all outlet aprons
 - 3.2.Stabilization of temporary or permanent drainage swales within 200' of property boundary or connection to surface water (e.g., storm sewer inlet, drainage swale, etc.)
- 4.A vehicle tracking BMP must be installed at the site entrance where haul vehicles are entering and exiting the site, including: rock pad, slash mulch, wash rack, etc. Streets must be swept within 24 hours of discovery of offsite tracking.
- 5.Temporary stockpiles must have silt fence or other applicable sediment control device around the base of the pile.
- 6.The Contractor shall be responsible to control sediment-laden surface water from leaving site. All mobilized sediment that has left the construction zone shall be collected by the contractor and properly disposed of at no additional cost to the owner.
- 7.Any fines levied due to inadequate erosion or sediment control practices, sediment discharging from the site, etc., shall be the responsibility of the Contractor.
- 8.Inlets shall be protected from sediment at all times, with appropriate protection installed for each phase of development.
- 9.Infiltration basin shall not be excavated to final grade until contributing drainage area has been fully stabilized, unless rigorous measures are incorporated to keep sediment from draining to the basins (16.4).
10. When excavating to within 3' of final grade of infiltration basin, area shall be staked to ensure vehicles and equipment do not compact the soil in basin bottom.
11. Additional temporary BMPs may be required to reduce the potential for sediment transport during construction. If deemed necessary by onsite personnel, Engineer or Owner shall be contacted immediately for approval or guidance, if available. Otherwise best judgment shall be used to provide rapid stabilization or sediment controls as necessary to minimize potential pollutant discharge.

CONSTRUCTION IMPLEMENTATION SCHEDULE & PHASING

- 1.Install perimeter silt fence / sediment logs, and construction entrance as shown prior to site disturbance.
- 2.Complete soil stripping and rough grading of site.
- 3.Seed and stabilize area where work is completed; provide temporary stabilization as necessary.
- 4.Install sewer and water works.
- 5.Final grade infiltration basin and install protective sediment control log.
- 6.Replace topsoil and establish vegetative cover.
- 7.Complete site restoration and final stabilization measures (remove temporary controls after construction acitivity has ceased and vegetation is established).
- 8.Submit Notice of Termination (NOT) to MPCA within 30 days.

DEWATERING & BASIN DRAINING

- 1.Dewatering water, if necessary, must be discharged to a sediment control device (e.g., sediment basin or trap, filter bag, etc.) to prevent sediment-laden water with visual turbidity from discharging downstream. To the extent feasible, use well-vegetated upland areas of the site to infiltrate dewatering water before discharge. Contractor must visually check and photograph the discharge at the beginning and at least once every 24 hours of operation.
- 2.If nuisance conditions result from the discharge (e.g., cloudy or opaque water, oil film, erosion, etc.), Contractor must cease dewatering and correct the situation immediately.
- 3.If discharge water contains oil or grease, an oil-water separation or filtration device shall be used prior to discharge.
- 4.Use appropriate energy dissipation measures on all discharges to prevent erosion at discharge outlet. Discharge must not cause nuisance or erosive conditions to downstream properties or receiving channels. Excessive inundation of downstream wetlands is not permitted (if applicable).
- 5.If filters with backwash water are used, all backwash water must be hauled offsite for disposal, returned to the beginning of the treatment process, or incorporated into the site in a manner not causing erosion.
- 6.Contractors shall inspect and photograph discharge at the beginning of, and every 24 hours during, operation.

INSPECTIONS & MAINTENANCE

1. The contractor must routinely inspect the construction site and areas adjacent to the project once every 7 days during construction, and within 24 hrs of receiving more than ½" of rain in 24 hrs. Rainfall amounts must be measured by a properly installed rain gage onsite, or from a weather station within 1 mile of the project, or from a weather reporting system with site specific radar rainfall summaries (11.11).
2. All inspections and rainfalls > ½" must be recorded and retained onsite with the SWPPP. Inspections shall include: date/time, name of individual, date & amount of rainfall, findings, corrective actions, observed discharge/location/description, any proposed SWPPP amendments.
3. Inspections may be suspended when work is stopped due to frozen conditions. The Contractor's inspector must resume inspections within 24 hours after runoff occurs at the site or prior to resuming construction, whichever comes first.
4. Silt fence (or related perimeter control device) must be maintained when accumulated sediment reaches ½ the height of the device, or if device becomes ineffective (by the end of the next business day following discovery).
5. Permanent and temporary sediment basins, if applicable, shall be drained and cleaned when sediment depth reaches ½ of original storage volume; complete within 72 hrs of discovery. Must be cleaned prior to project completion.
6. Non-functional BMPs must be repaired or replaced by the end of the next business day following discovery.
7. Inspect downstream drainage system for signs of erosion or sediment buildup during each inspection; stabilize within 7 days.
8. Contractor shall inspect and photograph dewatering discharges at the beginning and every 24 hours during operation.
9. Inspect vehicle exit locations and adjacent streets; remove sediment from surfaces within 1 day.

POLLUTION PREVENTION

1. All solid waste generated at the site must be disposed of in accordance with all applicable federal and state regulations.
2. All hazardous materials must be properly stored/contained to prevent spills or leaks; materials must be properly disposed of perapplicable regulations, including Minn. Rule Ch. 7045. Restricted access storage areas must be provided to prevent vandalism.
3. Vehicle or equipment washing must be confined to a defined area (minimum of 100' from pond or drainage ditch); runoff containing any hazardous materials must be collected and properly disposed of. Defined area must be delineated with heavy-duty silt fence (incidental); no engine degreasing is allowed on-site.
4. Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials must be under cover to prevent pollutant discharge, or protected by similar means to minimize potential contact with stormwater.
5. Concrete and other washout waste must be effectively contained – solid and liquid washout waste must not contact ground and must be disposed of properly in compliance with MPCA rules. A sign must be installed at washout area requiring personnel to utilize the proper facilities for disposal of concrete and other wastes.
6. The contractor is solely responsible for monitoring air pollution and ensuring that it does not exceed levels set by any agency or LGU. This includes dust created by work performed at the site; air pollution and dust control measures are incidental to the contract. The engineer may require additional dust control measures to be implemented, as necessary.
7. Adequate temporary restroom facilities shall be present onsite in a stable and secure location during construction operations, and shall be maintained in an adequate functioning condition.

FINAL STABILIZATION & NOTICE OF TERMINATION (NOT)

1. The Contractor must ensure final site stabilization meets the Permit requirements, and submit the NOT within 30 days.
2. Final stabilization includes uniform perennial vegetative cover of at least 70% of the expected final growth density over the entire pervious surface area, or other equivalent cover to prevent soil erosion.
3. All temporary synthetic and structural BMPs must be removed as part of final stabilization.
4. Ground or aerial photographs shall be taken and submitted with the NOT, confirming final stabilization measures.

SWPPP UPDATES & RECORD RETENTION

1. The SWPPP, all revisions to it, and inspection & maintenance records are the responsibility of the Contractor and must remain at the site during construction hours. The materials may be kept in a field office, onsite vehicle, or "SWPPP Mailbox", or be otherwise electronically available on-site.
2. This SWPPP shall be updated within 7 days to include additional or modified designs when there is a change in design having significant effect on the discharge of pollutants to surface waters or groundwater.
3. Training documentation shall be provided by Contractor as outlined below and required.
4. The SWPPP, project permits, inspection/maintenance logs, stormwater maintenance agreements, and stormwater management design calculations must be retained for 3 years after submittal of permit NOT. Contractor shall provide Owner or Engineer copies of inspection and maintenance logs prior to final payment.

TRAINING REQUIREMENTS

1. The permittees must comply with the training requirements as outlined in Section 21 of the Permit. The Contractor shall have a trained individual performing BMP installations and inspections, as required.
2. Training table (below) to be completed prior to construction, as appropriate.

RESPONSIBLE PARTIES & TRAINING SUMMARY

	COMPANY	CONTACT	PHONE	TRAINING DATE	COURSE / ENTITY	CONTENT
OWNER:				NA	NA	NA
SWPPP PREPARER:	CIVIL METHODS, INC.	KENT BRANDER, PE	763.210.5713	1/24/2022	UNIVERSITY OF MN	DESIGN OF CONSTR. SWPPPS
GENERAL CONTRACTOR / INSPECTOR:						
EROSION & SEDIMENT CONTROL INSTALLER:						
PERMANENT BMP OPERATOR / MAINTAINER:				NA	NA	NA

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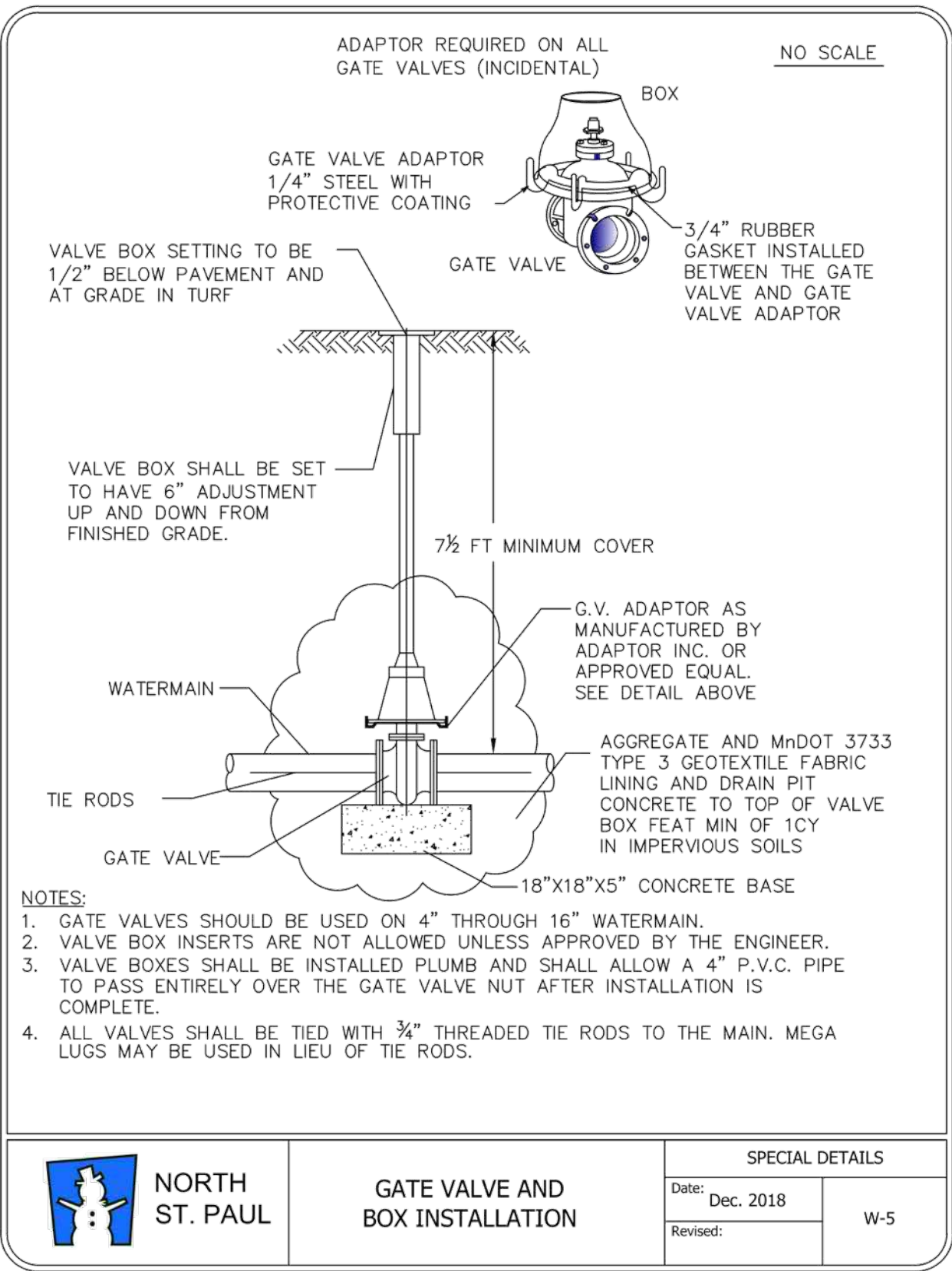
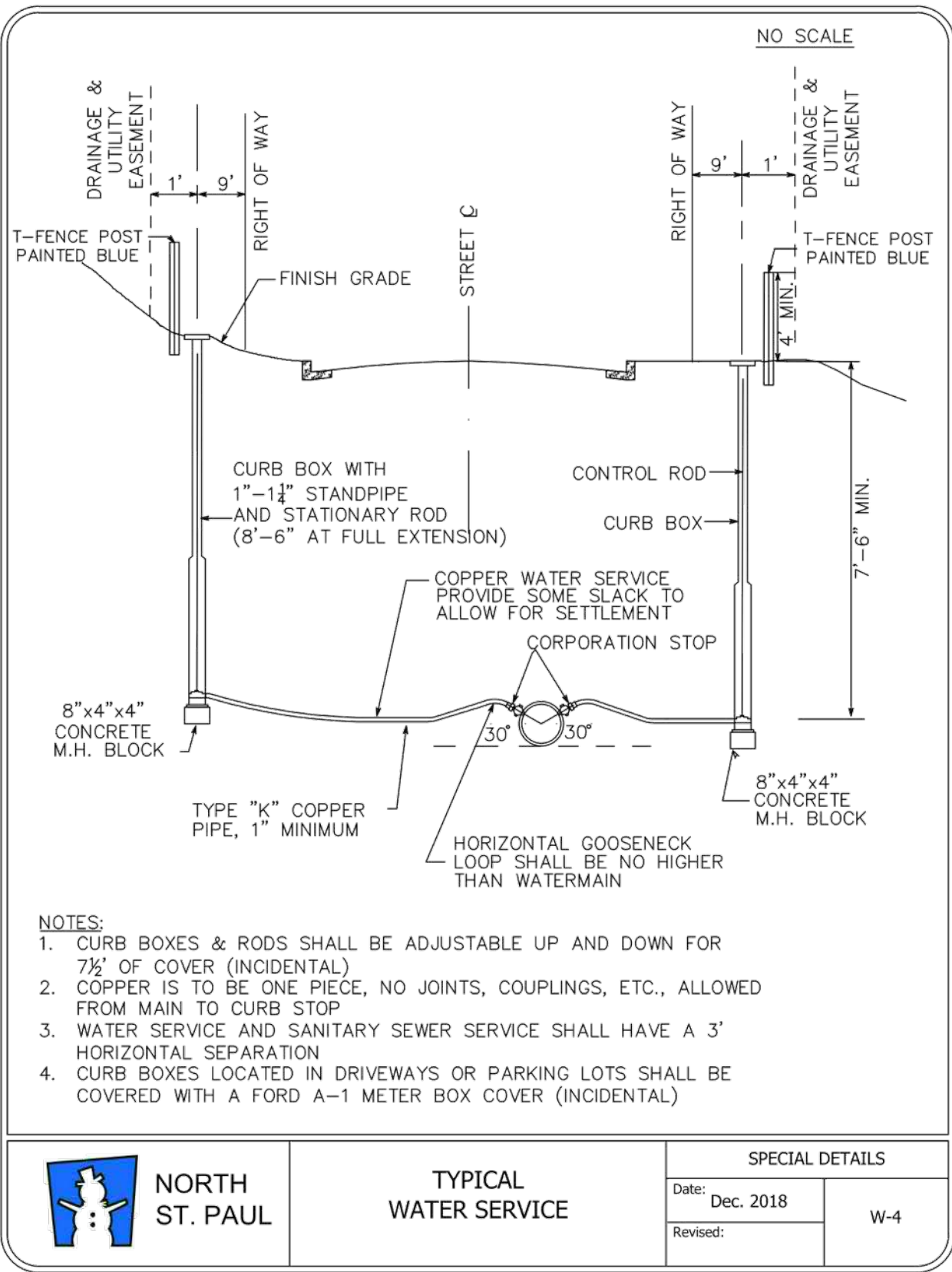
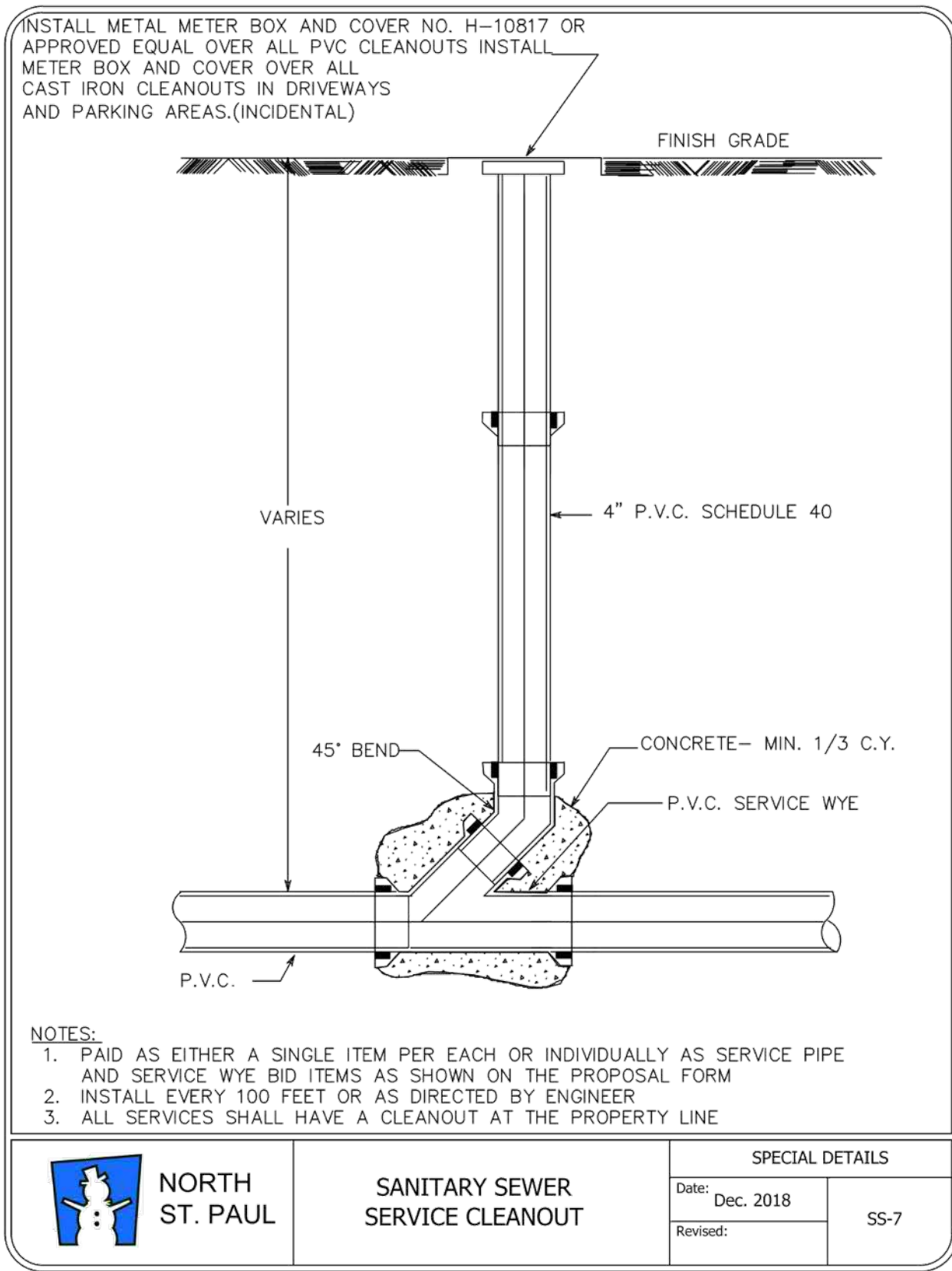
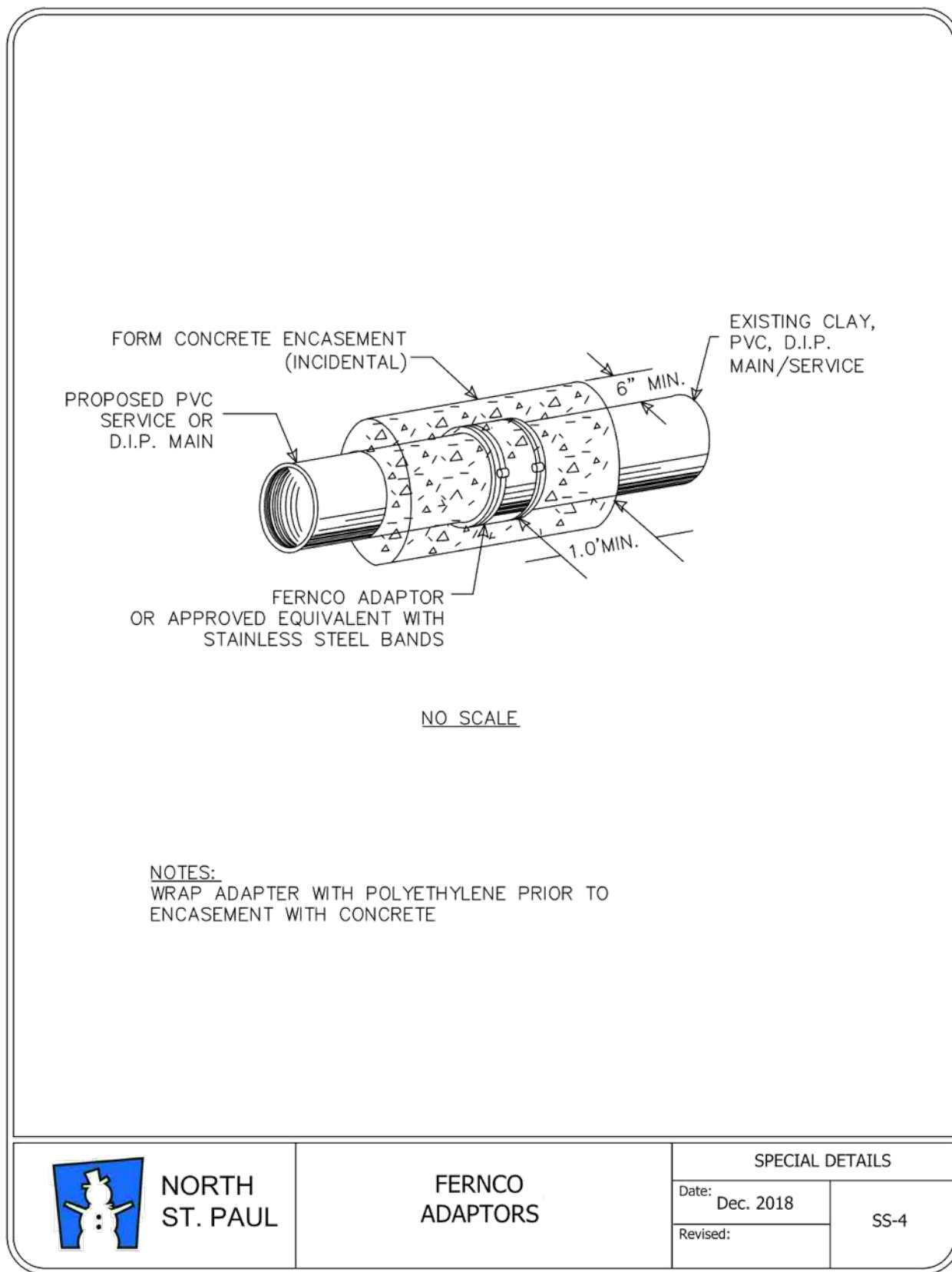
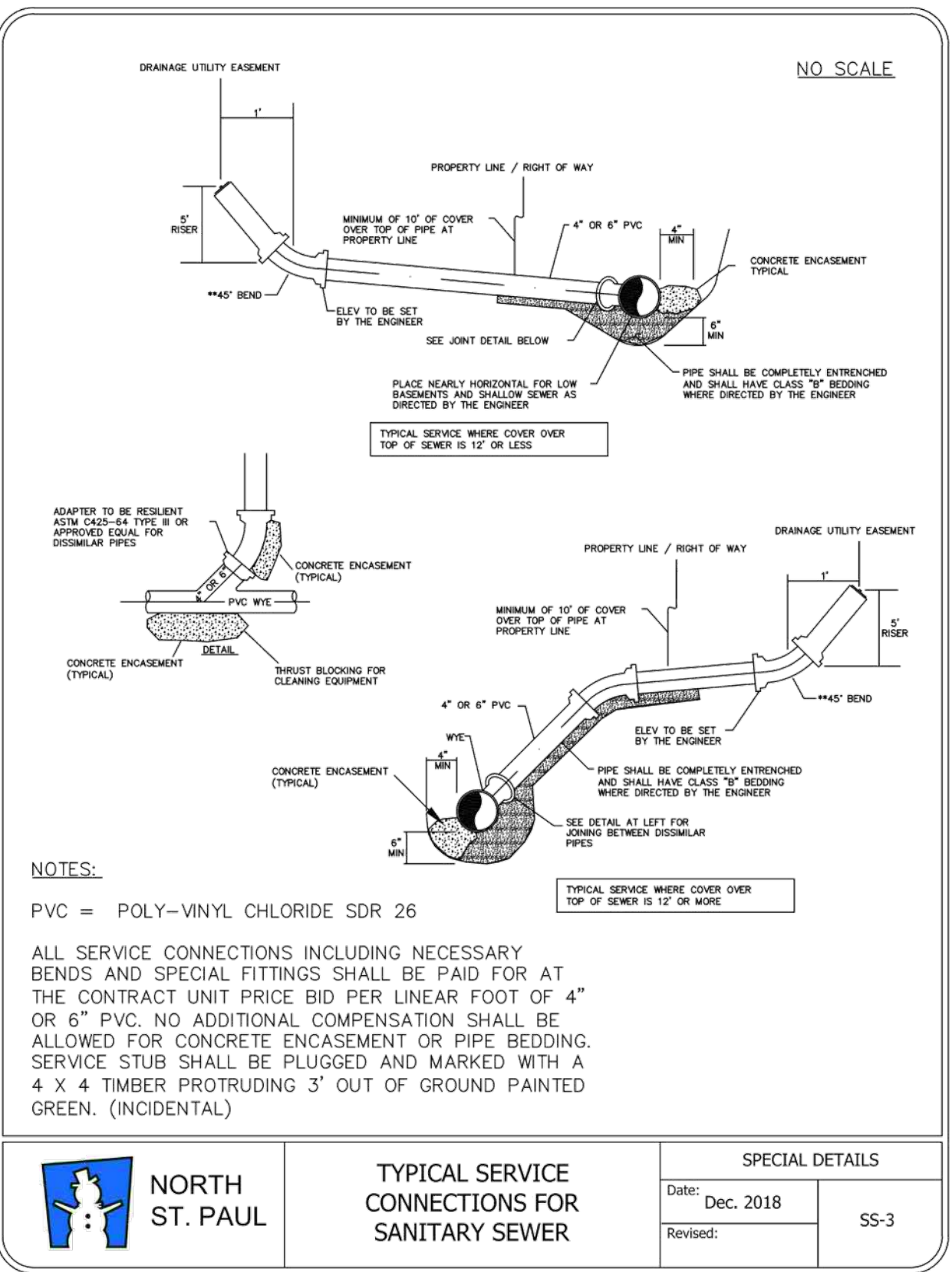
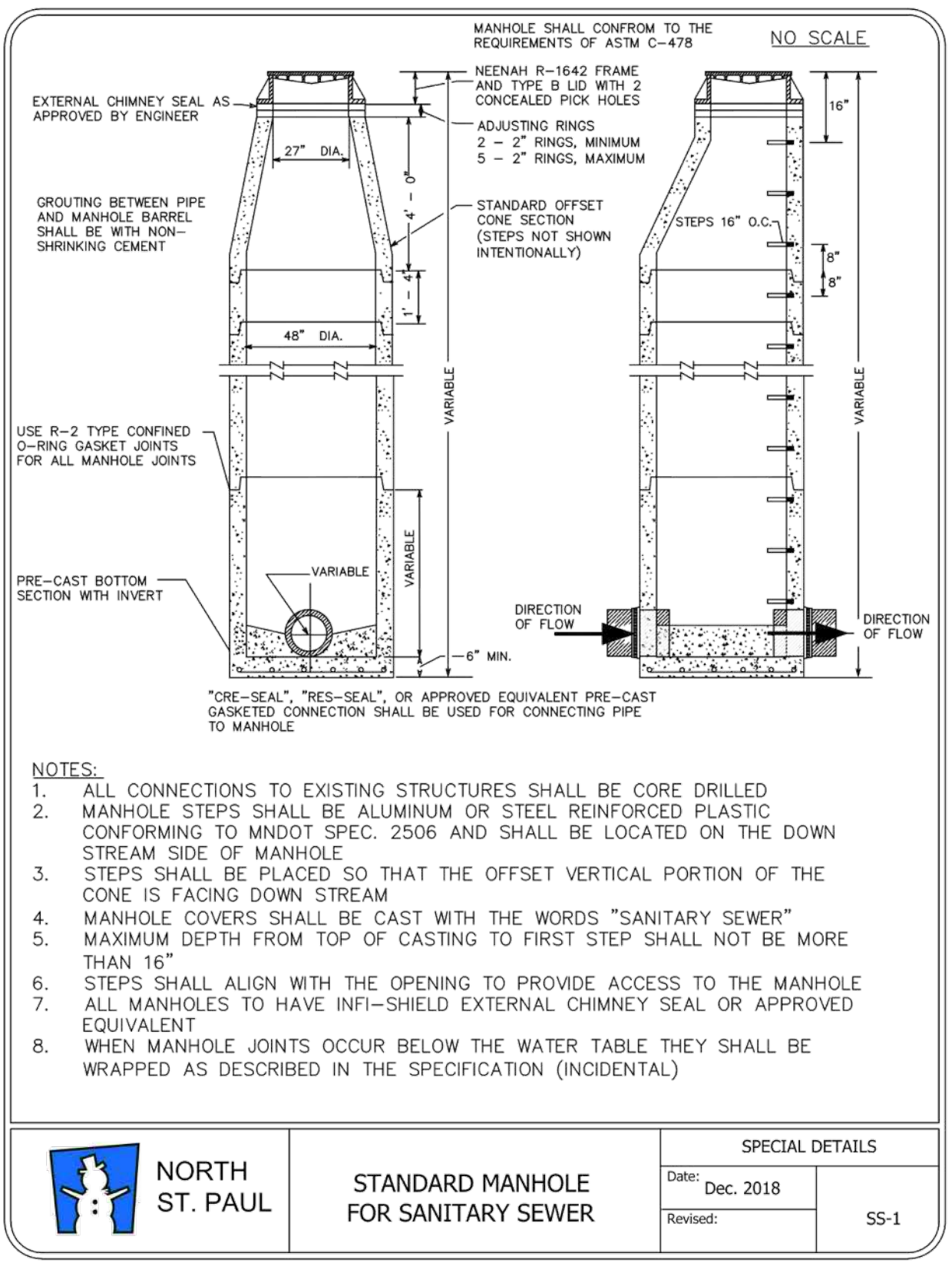
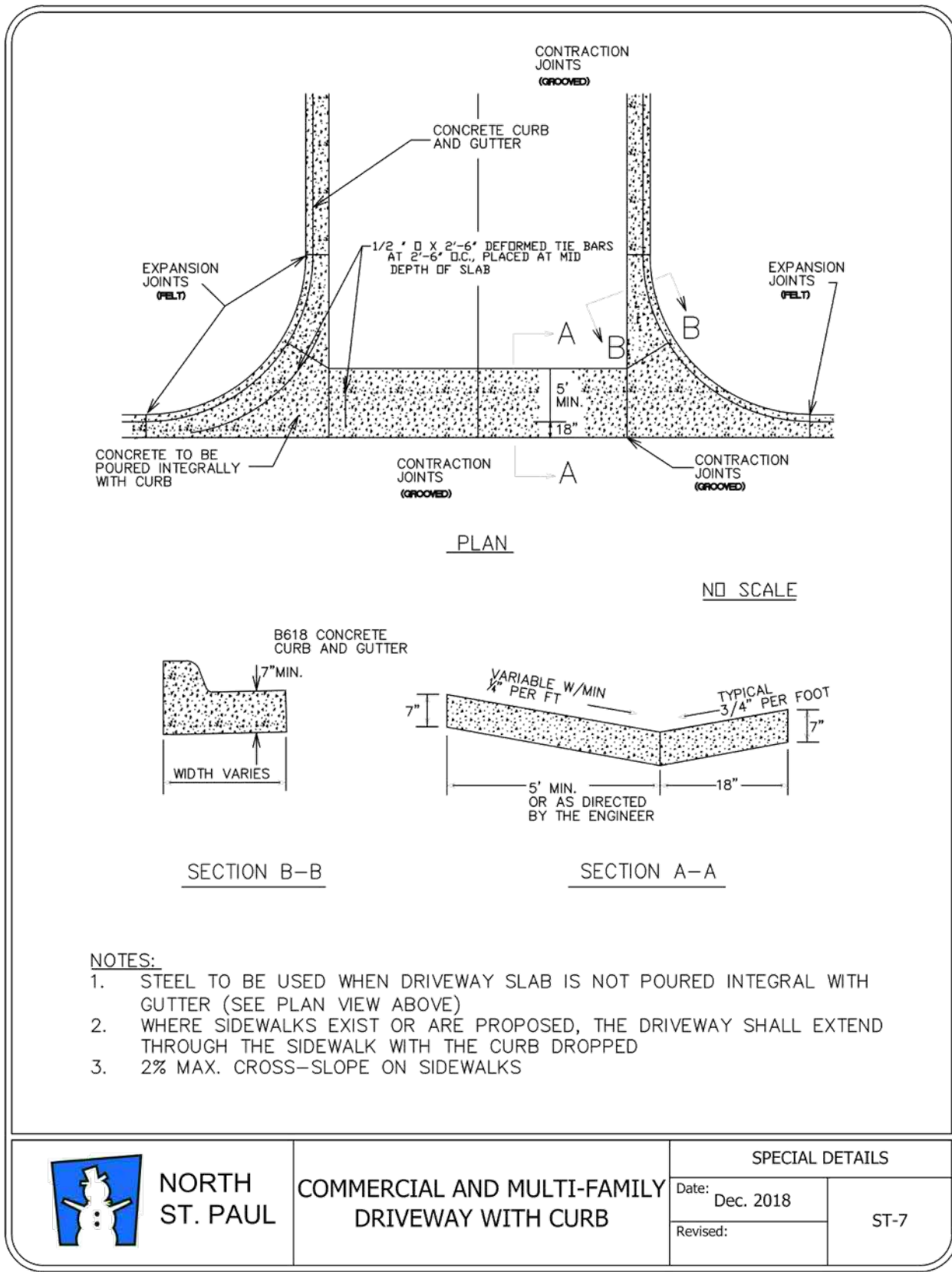
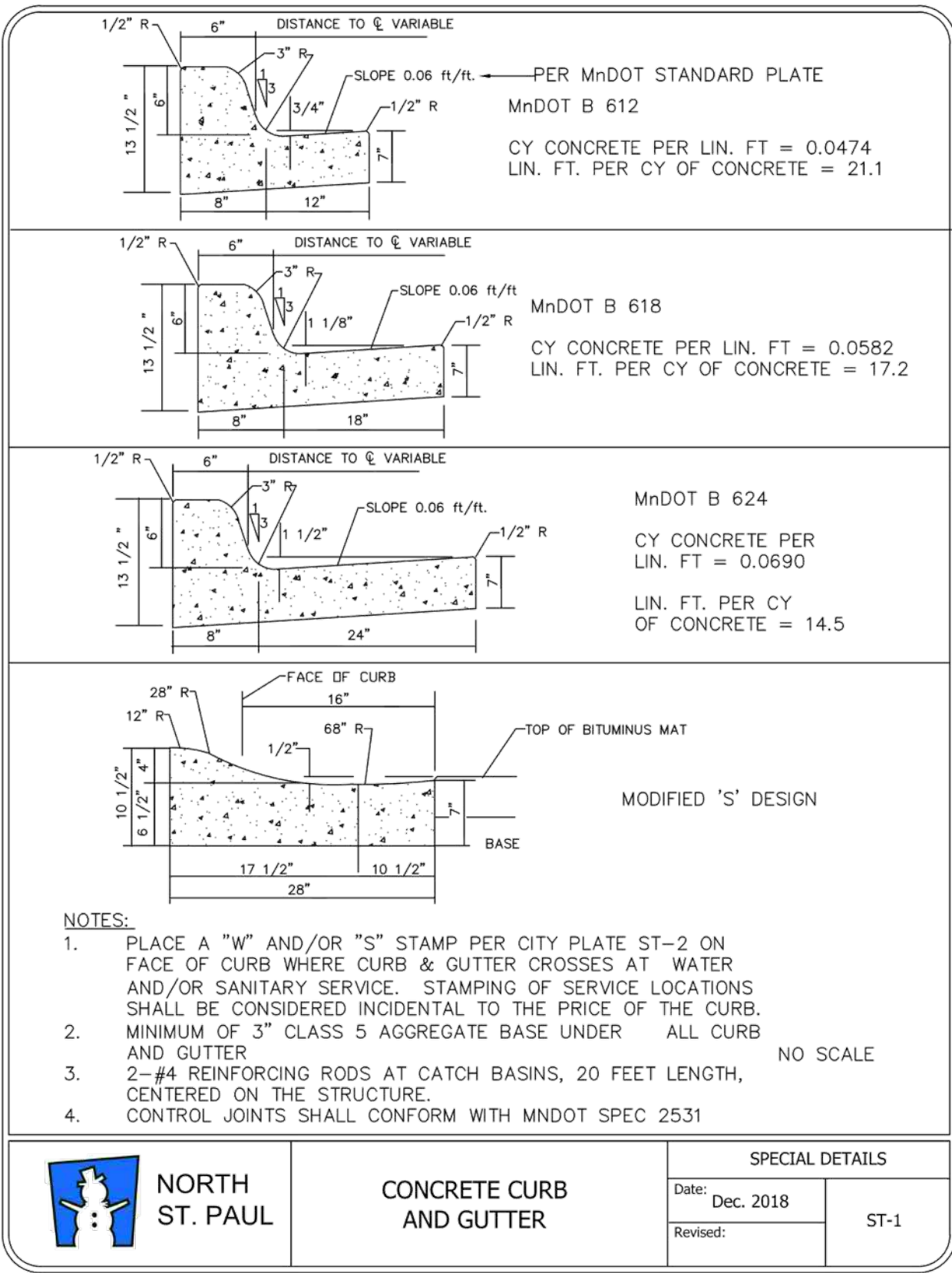
DELAWARE PLACE

ANDRUS BUILT, LLC
NORTH ST. PAUL, MN

SWPPP

SHEET NO:

C502



CIVIL METHODS, INC.

P.O. Box 28038
St. Paul, MN 55128
o:763.210.5713 | www.civilmethods.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, 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.

DAVID M. POGGI
DATE: 03-18-2024
LIC. NO.: 44573

DESIGNED: DMP
DRAWN: DMP
CHECKED: KEB

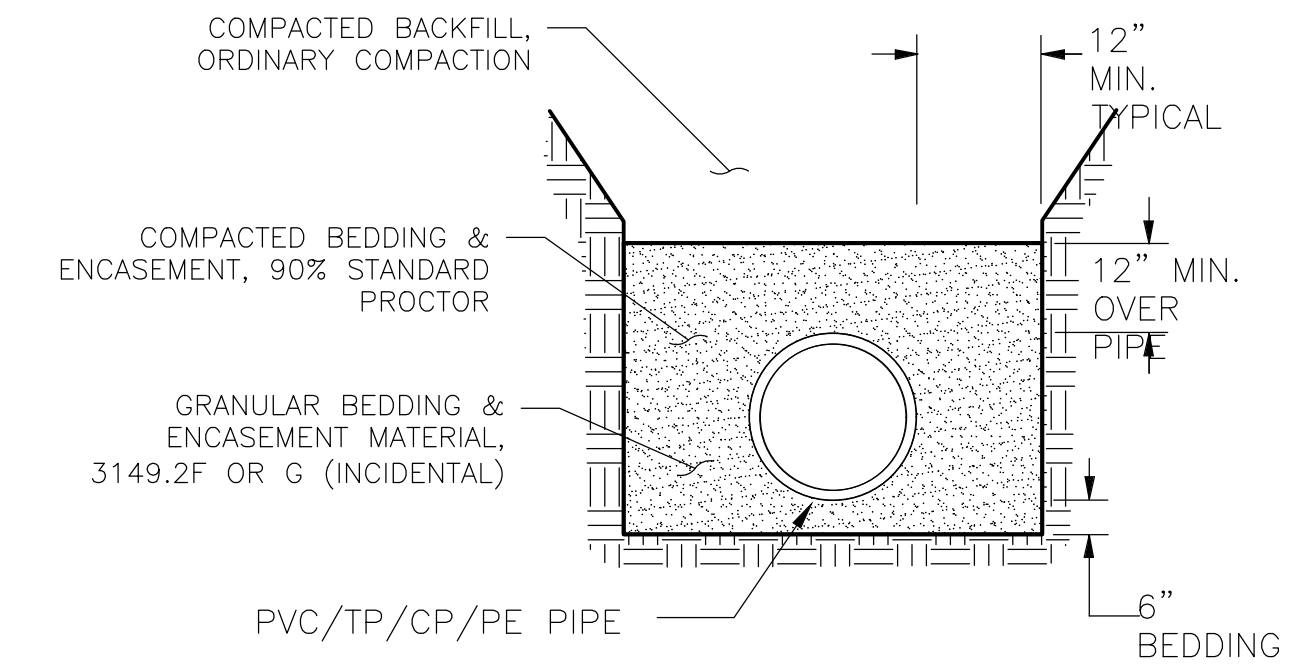
DATE / REVISION:
03-18-2024 Preliminary Plan Review Set. NOT FOR CONSTRUCTION

DELAWARE PLACE
ANDRUS BUILT, LLC
NORTH ST. PAUL, MN

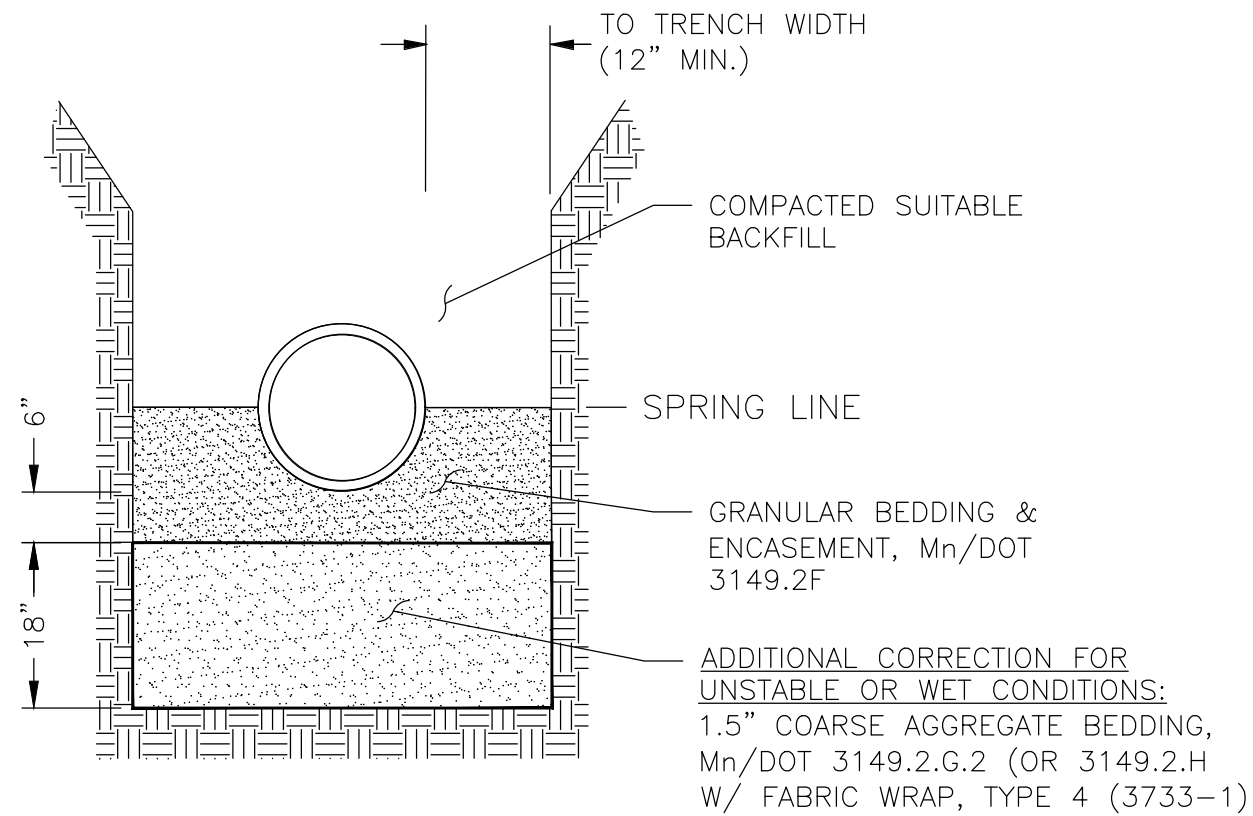
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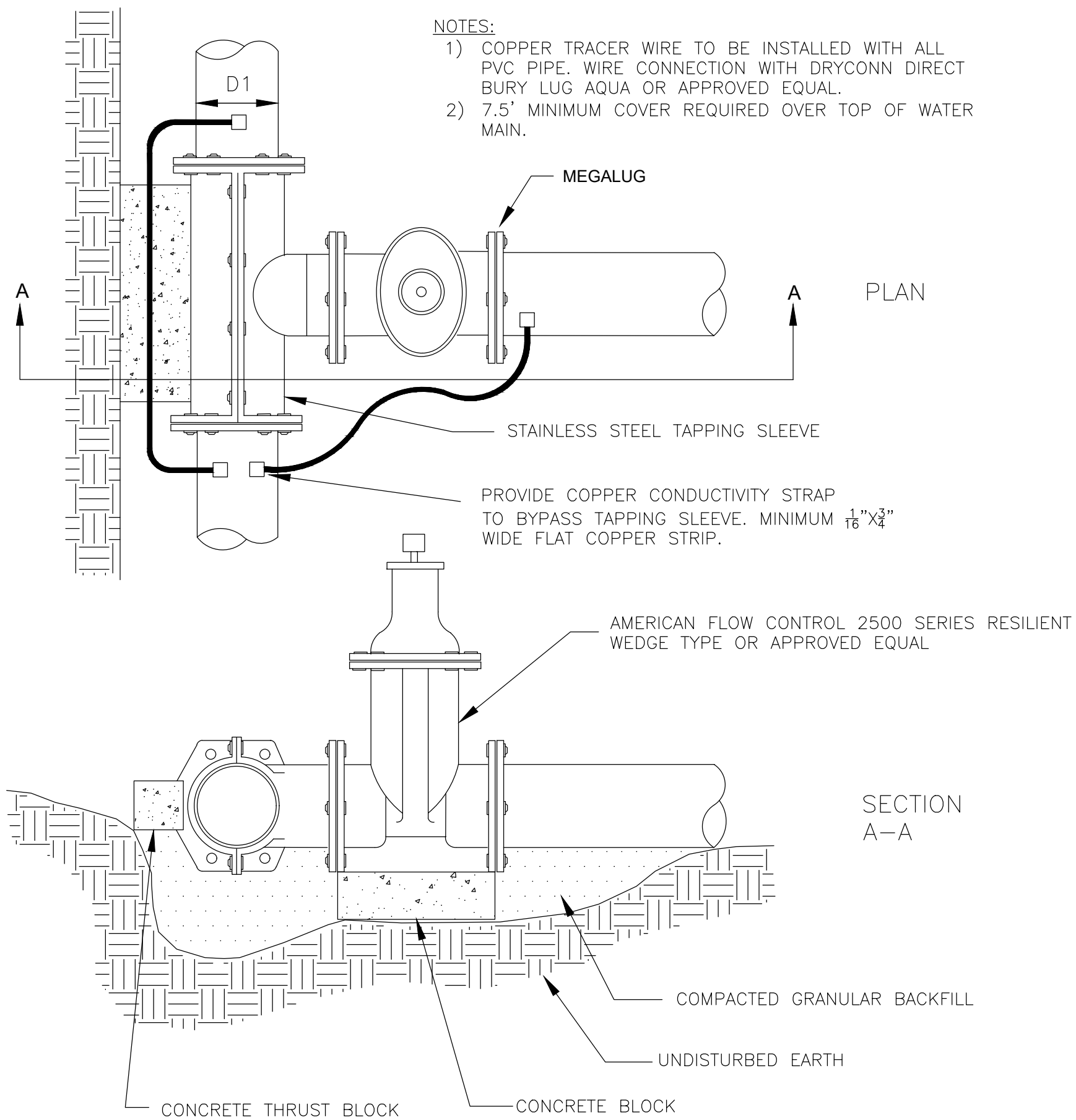
DETAILS ARE NOT TO SCALE



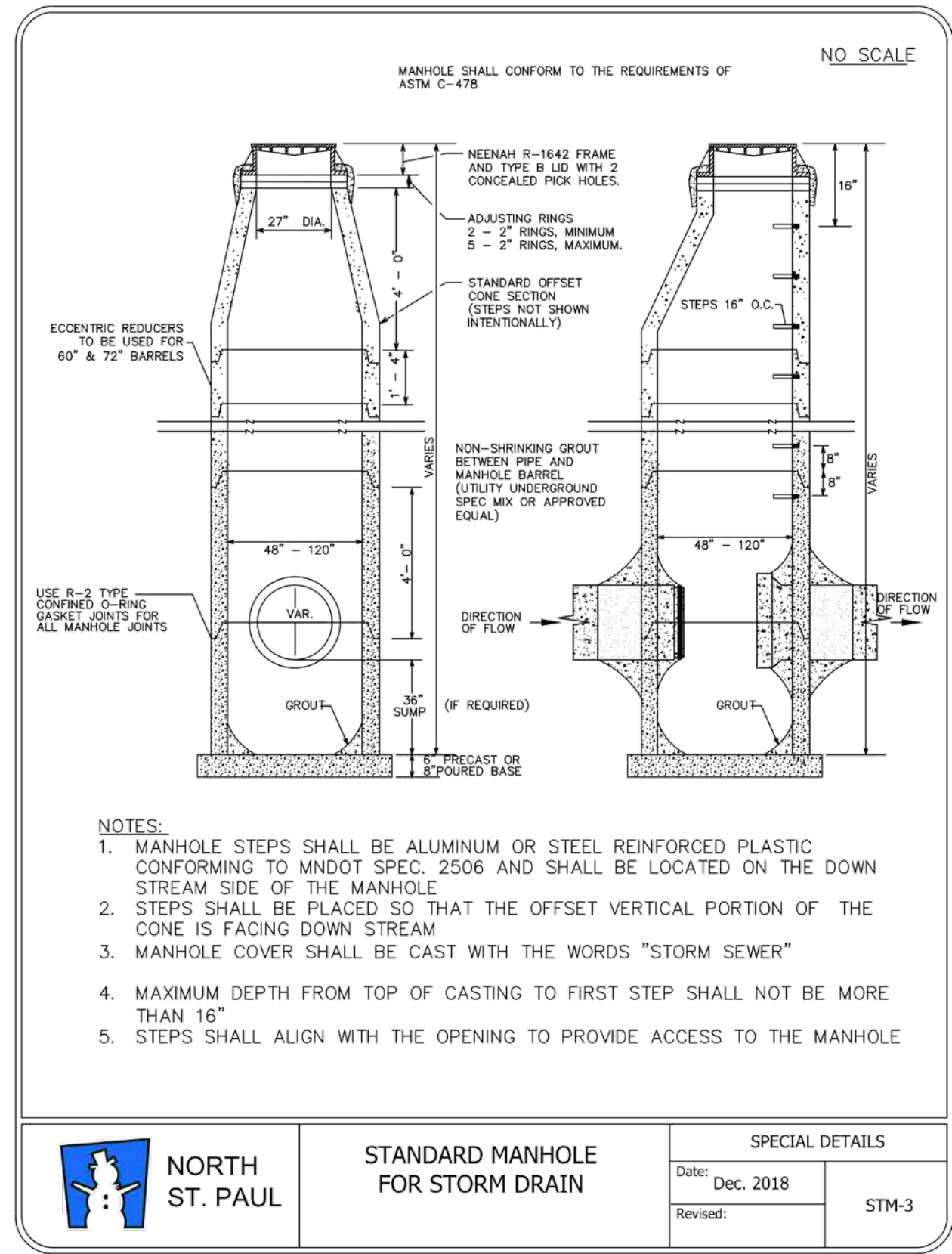
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2 CONCRETE PIPE TRENCH



3 WATER MAIN WET-TAP



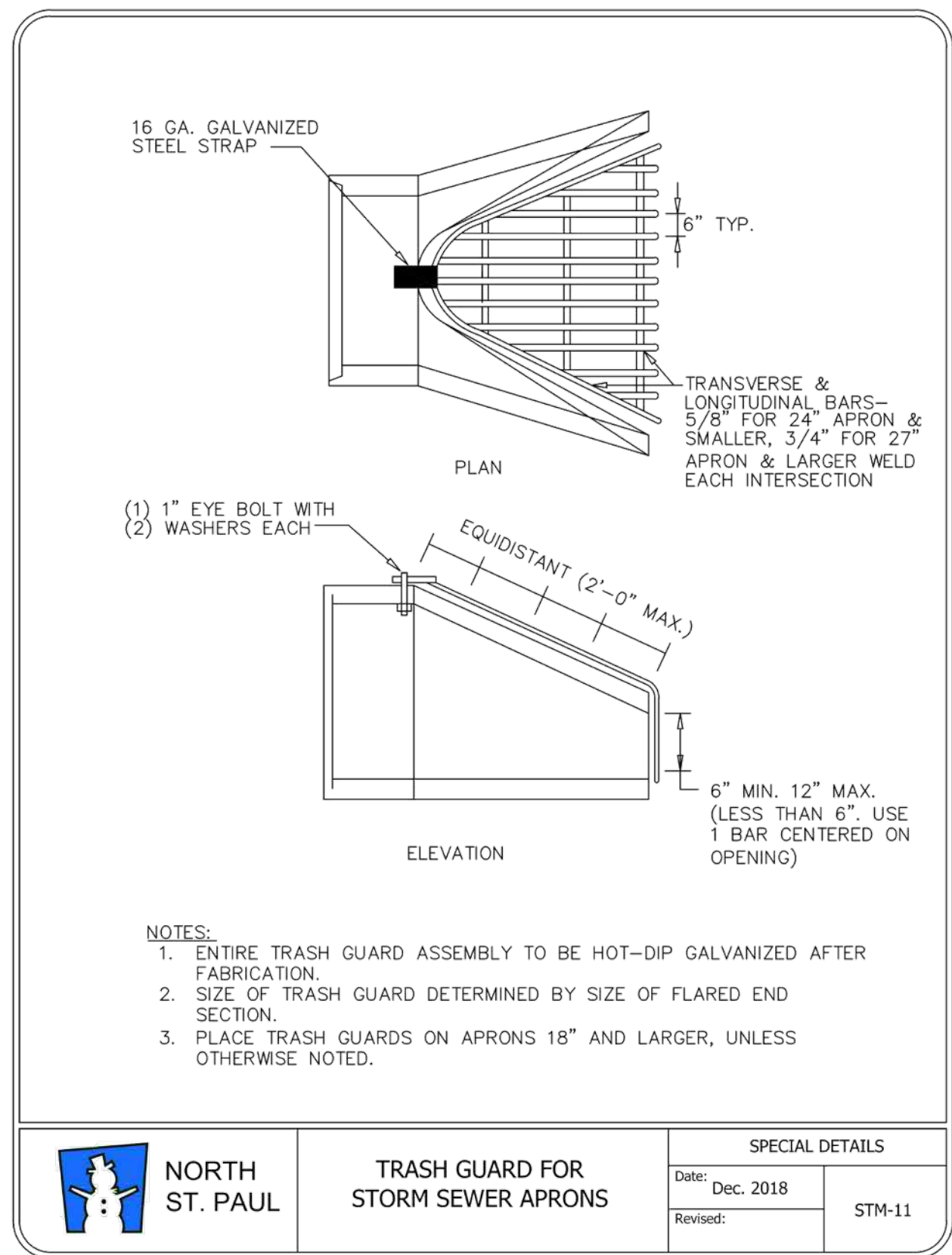
NORTH ST. PAUL

STANDARD MANHOLE
FOR STORM DRAIN

SPECIAL DETAILS

Date: Dec. 2018
Revised:

STM-3



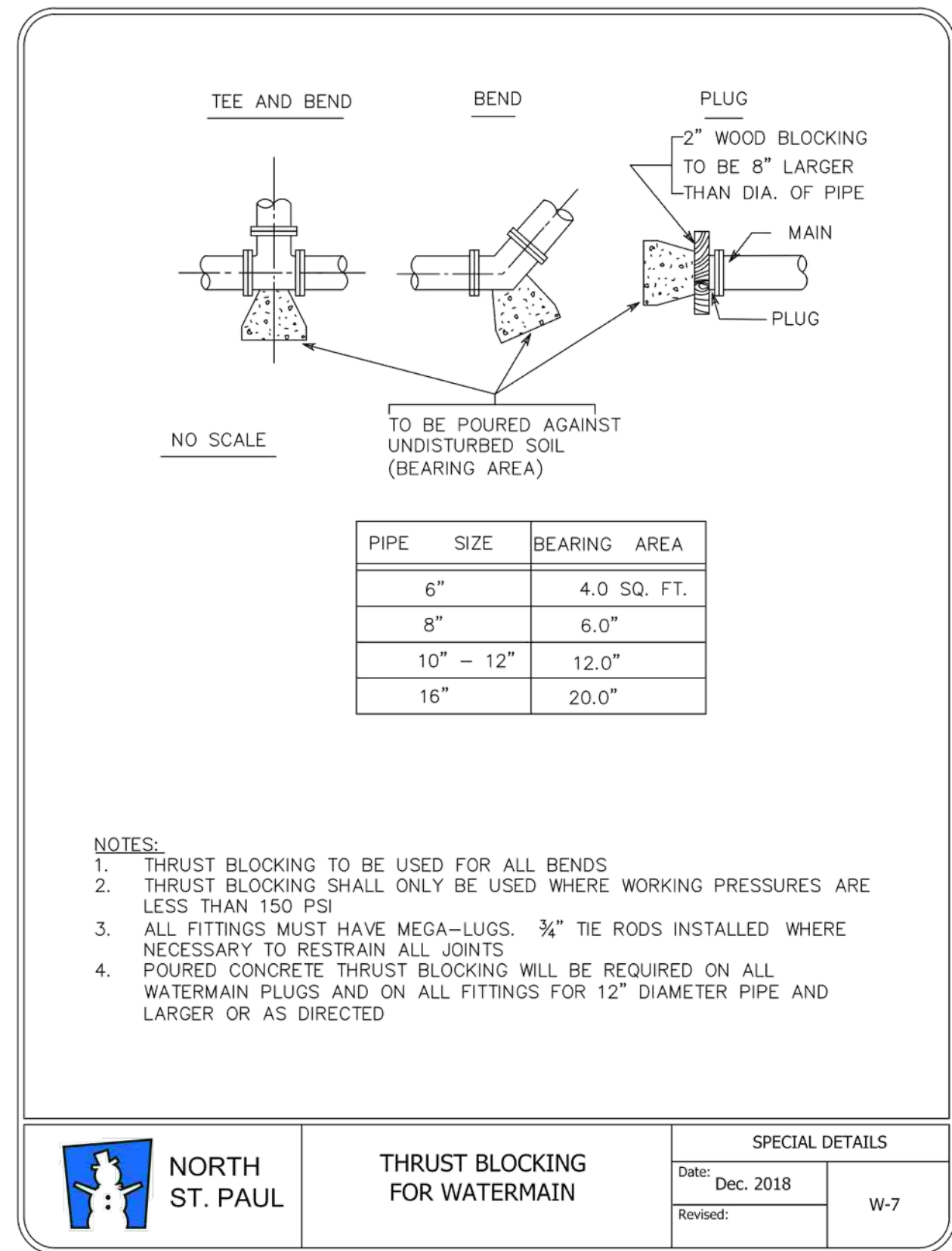
NORTH ST. PAUL

TRASH GUARD FOR
STORM SEWER APRONS

SPECIAL DETAILS

Date: Dec. 2018
Revised:

STM-11



NORTH ST. PAUL

THRUST BLOCKING
FOR WATERMAIN

SPECIAL DETAILS

Date: Dec. 2018
Revised:

W-7

DETAILS ARE NOT TO SCALE

BYLAWS OF DELAWARE PLACE TWIN HOMES ASSOCIATION, INC.

SECTION 1 GENERAL

The following are the Bylaws of Delaware Place Twin Homes Association, Inc., a Minnesota nonprofit corporation (the “Association”). The Association is organized pursuant to Section 515B.3101 of the Minnesota Common Interest Ownership Act (the “Act”) for the purpose of operating and managing Delaware Place Twin Homes Association, Inc., and Delaware Place, Common Interest Community Number _____, a planned community created pursuant to the Act. The capitalized terms used in these Bylaws shall have the same meanings as defined in the Declaration of Delaware Place (the “Declaration”) and the Act, unless otherwise defined herein.

SECTION 2 MEMBERSHIP

2.1 **Members.** All Persons described as Owners in Section 4 of the Declaration shall be Members of the Association. No Person shall be a Member solely by virtue of holding a security interest in a Unit. A Person shall cease to be a Member when that Person is no longer an Owner.

2.2 **Registration of Owners and Occupants.** Each Owner shall register with the Association, in writing, within 30 days after taking title to a Unit, and shall provide the following information: (i) the name of the Owner(s) and list of all Occupants of the Unit, (ii) the nature of such Owner's interest or estate in each Unit owned; (iii) the address at which the Owner desires to receive notice of any meeting of the Owners, if other than the Unit address; (iv) the name and address of the secured party holding the first mortgage on the Unit, if any; and (v) the name of the Owner, if there are multiple Owners of the Unit, who shall be authorized to cast votes with respect to the Unit. The Owner shall have a continuing obligation to advise the Association in writing of any changes in the foregoing information.

2.3 **Transfers.** The interests, rights and obligations of an Owner in the Association may be assigned, pledged, encumbered or transferred, but only along with and as a part of the title to the Owner's Unit or as otherwise authorized by the Governing Documents or the Act.

SECTION 3 VOTING

3.1 **Entitlement.** Votes shall be allocated to each Unit as provided in the Declaration. However, no vote shall be exercised as to a Unit while the Unit is owned by the Association.

3.2 **Authority to Cast Vote.** At any meeting of the Owners, an Owner included on the voting register presented by the Secretary in accordance with Section 4.6, or the holder of such Owner's proxy, shall be entitled to cast the vote which is allocated to the Unit owned by the

Owner. If there is more than one Owner of a Unit, only one Owner may cast the vote. If the Owners of a Unit fail to timely agree as to who shall cast the vote prior to commencement of the meeting, or fail to register pursuant to Section 2.2, the vote shall not be cast.

3.3 Voting by Proxy. An Owner may cast the vote which is allocated to the Owner's Unit and be counted as present at any meeting of the Owners by executing a written proxy naming another Person entitled to act on that Owner's behalf, and delivering the same to the Secretary before the commencement of any such meeting. All proxies granted by an Owner shall remain in effect until the earliest of the following events: (i) revocation by the granting Owner by written notice or by personally attending and voting at the meeting for which the proxy is effective, (ii) eleven months after the date of the proxy, unless otherwise provided in the proxy, or (iii) the time at which the granting Owner is no longer an Owner.

3.4 Voting by Mail Ballot. The entire vote on any issue, except the removal of directors, may be determined by mailed or email ballots, subject to the following requirements:

a. The notice of the vote shall: (i) clearly state the proposed action, (ii) indicate the number of responses needed to meet quorum requirements, (iii) state the percentage of approvals needed to approve each matter, other than election of directors, and (iv) specify the time by which a ballot must be received by the Association in order to be counted.

b. The ballot shall: (i) set forth each proposed action, and (ii) provide an opportunity to vote for or against each proposed action.

c. The Board of Directors shall set the time for the return of ballots, which shall not be less than 15 nor more than 30 days after the date of mailing of the ballots to the Owners. The Board of Directors shall provide notice of the results of the vote to the Owners within 10 days after the expiration of the voting period.

d. Approval by written ballot under this Section is valid only if the number of votes cast by ballot equals or exceeds the quorum required to be present at a meeting authorizing the action, and the number of approvals equals or exceeds the number of votes that would be required to approve the matter at a meeting at which the total number of votes cast was the same as the number of votes cast by ballot.

3.5 Vote Required. A majority of the votes cast at any properly constituted meeting of Owners, or cast by mail in accordance with Section 3.4, shall decide all matters properly brought before the Owners, except where a different vote is required by the Governing Documents or the Act. The term "majority" as used herein shall mean in excess of fifty percent (50%) of the votes cast at a meeting, in person or by proxy, or voting by mail, in accordance with the allocation of voting power set forth in the Declaration. Cumulative voting shall not be permitted.

SECTION 4 MEETINGS OF OWNERS

4.1 **Place.** All meetings of the Owners shall be held at the office of the Association or at such other place in the State of Minnesota reasonably accessible to the Owners as may be designated by the Board of Directors in any notice of a meeting of the Owners.

4.2 **Annual Meetings.** An annual meeting of the Owners shall be held in each fiscal year on a date, and at a reasonable time and place, designated by the Board of Directors. At each annual meeting of the Owners, (i) the Persons who are to constitute the Board of Directors shall be elected pursuant to Section 5, (ii) a report shall be made to the Owners on the activities and financial condition of the Association, and (iii) any other matter which is included in the notice of the annual meeting, and is a proper subject for discussion or decision by the Owners, shall be considered and acted upon at the meeting.

4.3 **Special Meetings.** Special meetings of the Owners may be called by the President as a matter of discretion. Special meetings of the Owners shall be called by the President or Secretary within 30 days following receipt of the written request of a majority of the members of the Board of Directors or of Owners entitled to cast at least 25% of all the votes in the Association. The meeting shall be held within 90 days following receipt of the request. The request shall state the purpose of the meeting, and the business transacted at the special meeting shall be confined to the purposes stated in the notice. The purpose for which the meeting is requested and held must be lawful and consistent with the Association's purposes and authority under the Governing Documents.

4.4 **Notice of Meetings.** At least twenty-one (21), but no more than thirty (30) days in advance of any annual meeting of the Owners, (subject to Section 6.3 of the Declaration), and at least seven (7), but no more than thirty (30) days in advance of any special meeting of the Owners, the Secretary shall send to all persons who are Owners as of the date of sending the notice of the time, place and agenda of the meeting, by United States mail, email, or by hand delivery at the Owner's Unit address, or to such other address as the Owner may have designated in writing to the Secretary. The notice shall also be sent to the Eligible Mortgagee, upon request, at the address provided by the Eligible Mortgagee. Any Eligible Mortgagee shall, upon request, be entitled to designate a representative to be present at any meeting. Notice of meetings to vote upon amendments to the Articles of Incorporation shall also be given separately to each officer and director of the Association.

4.5 **Quorum; Adjournment.** The presence of Owners in person or by proxy, who have the authority to cast in excess of fifty percent (50%) of all the votes in the Association shall be necessary to constitute a quorum at all meetings of the Owners, except that of adjourning the meeting to reconvene at a subsequent time. Any meeting may be adjourned from time to time, but until no longer than fifteen (15) days later, without notice other than announcement at the meeting as initially called. If a quorum is present at the reconvened meeting, any business may be transacted which might have been transacted at the meeting as initially called had a quorum then been present. The quorum, having once been established at a meeting or a reconvened meeting, shall continue to exist for that meeting notwithstanding the departure of any Owner

previously in attendance in person or by proxy. The Association may not be counted in determining a quorum as to any Unit owned by the Association.

4.6 Voting Register. The Secretary shall have available at the meeting a list of the Unit numbers, the names of the Owners, the vote attributable to each Unit and the name of the Person (in the case of multiple Owners) authorized to cast the vote.

4.7 Agenda. The agenda for meetings of the Owners shall be established by the Board of Directors, consistent with the Governing Documents, and shall be sent to all Owners along with the notice of the meeting.

SECTION 5 ANNUAL REPORT

The Board of Directors shall prepare an annual report on behalf of the Association to be mailed or delivered to each Owner together with the notice of the annual meeting. The report shall contain, at a minimum, the following:

- a. A statement of any capital expenditures in excess of two percent of the current budget, or \$5,000, whichever is greater, approved by the Association for the current year or succeeding two fiscal years.
- b. A statement of the balance in any reserve or replacement fund and any portion of the fund designated for any specified project by the Board of Directors.
- c. A copy of the statement of revenues and expenses for the Association's last fiscal year and a balance sheet as of the end of said fiscal year.
- d. A statement of the status of any pending litigation or judgments to which the Association is a party.
- e. A statement of the insurance coverage provided by the Association.
- f. A statement of the total past due assessments on all Units, current as of not more than 60 days prior to the date of the meeting.

SECTION 6 BOARD OF DIRECTORS

6.1 Number and Qualification. The affairs of the Association shall be governed by a Board of Directors. The first Board of Directors shall consist of the persons designated as directors in the Articles of Incorporation of the Association or appointed to replace them by the Declarant, subject to the rights of Owners to elect directors as set forth in Section 6.2. Upon the expiration of the terms of the members of the first Board of Directors, the Board of Directors shall be composed of at least three (3) directors, a majority of whom shall be Owners, or a duly authorized representative of the Owner if the Owner is a corporation, partnership, limited liability company, trust or other entity which has the capacity to hold title to real estate.

6.2 Term of Office. The terms of office of the members of the Board of Directors shall be as follows:

a. Subject to Subsection b, the terms of all directors appointed by Declarant as authorized by the Declaration shall terminate upon the earliest of (i) voluntary surrender of control by Declarant, (ii) an Association meeting which shall be held within 60 days after conveyance to Owners other than a declarant of 75% of the total number of Units authorized to be included in the common interest community or (iii) the date five (5) years following the date of the first conveyance of a Unit to an Owner other than a declarant. The term of office of any director elected to the first Board of Directors pursuant to Subsection b shall expire at the same time as those appointed by Declarant.

b. Notwithstanding the provisions of Subsection a, the Owners other than Declarant shall have the right to nominate and elect not less than 33⅓% of the directors at a meeting of the Owners held within 60 days following the conveyance by Declarant of 50% of the total number of Units authorized to be included in the common interest community.

c. The first terms of office of the directors elected by the Owners immediately following the expiration of the terms provided for in Subsection a. shall be two (2) years. The nominee or nominees receiving the greatest numbers of votes shall fill the longer terms. Each term of office thereafter shall be two (2) years and shall expire at the annual meeting of the Owners; provided, that a director shall continue in office until a successor is elected. A number of nominees equal to the number of vacancies, and receiving the greatest numbers of votes, shall be elected, notwithstanding that one or more of them does not receive a majority of the votes cast. A director appointed or elected to fill an uncompleted term shall serve until the natural termination of that term, unless removed in accordance with these Bylaws. There shall be no cumulative voting for directors.

6.3 Nominations. Nominations for election to the Board of Directors shall be made by a nominating committee appointed by the Board of Directors, or from the floor at the annual meeting or by "write-in" if authorized by the Board.

6.4 Powers. The Board of Directors shall have all powers necessary for the administration of the affairs of the Association, and may exercise for the Association all powers and authority vested in or delegated to the Association (and not expressly prohibited or reserved to the owners) by law or by the Governing Documents. The powers of the Board of Directors shall include, without limitation, the power to:

a. adopt, amend and revoke Rules and Regulations not inconsistent with the Governing Documents, as follows: (i) regulating the use of the Common Elements; (ii) regulating the use of the Units, and the conduct of Owners and Occupants, which may jeopardize the health, safety, or welfare of other Owners and Occupants, which involves noise or other disturbing activity, or which may damage the Common Elements or other Units; (iii) regulating or prohibiting animals; (iv) regulating changes in the appearance of the Common Elements and conduct which may damage the Property, (v) regulating the exterior appearance of the Property, including, for example, balconies and patios,

window treatments, and signs and other displays, regardless of whether inside a Unit; (vi) implementing the Governing Documents, and exercising the powers granted by this Section; and (vii) otherwise facilitating the operation of the Property.

b. adopt and amend budgets for revenues, expenditures and reserves, and levy and collect assessments for Common Expenses from Owners.

c. hire and discharge managing agents, employees, agents, and independent contractors;

d. institute, defend, or intervene in litigation or administrative proceedings (i) in its own name on behalf of itself or two or more Owners on matters affecting the Common Elements or other matters affecting the Property or the Association, or (ii) with the consent of the Owners of the affected Units on matters affecting only those Units;

e. make contracts and incur liabilities; regulate the use, maintenance, repair, replacement and modification of the Common Elements and the Units;

f. cause improvements to be made as a part of the Common Elements;

g. acquire, hold, encumber, and convey in its own name any right, title, or interest to real estate or personal property, subject to the requirements of the Act for the conveyance or encumbrance of the Common Elements;

h. grant public utility easements through, over or under the Common Elements, and, subject to approval by resolution of the Owners other than a declarant or its affiliates at a meeting duly called, grant other public or private easements, leases and licenses through, over or under the Common Elements;

i. impose and receive any payments, fees, or charges for the use, rental, or operation of the Common Elements, other than Limited Common Elements, and for services provided to Owners;

j. impose charges for late payment of assessments and, after notice and an opportunity to be heard, levy reasonable fees for violations of the Governing Documents and the Rules and Regulations;

k. impose reasonable charges for the review, preparation and recordation of amendments to the Declaration or Bylaws, resale certificates required by Section 515B.4-107 of the Act, statements of unpaid assessments, or furnishing copies of Association records;

l. provide for the indemnification of its officers and directors, and maintain directors' and officers' liability insurance;

m. provide for reasonable procedures governing the conduct of meetings and the election of directors;

- n. appoint, regulate and dissolve committees;
- o. exercise any other powers conferred by law or the Governing Documents, or which are necessary and proper for the governance of the Association.

6.5 Meetings and Notices. An annual meeting of the Board of Directors shall be held promptly following each annual meeting of the Owners. At each annual meeting the officers of the Association shall be elected.

a. Regular meetings of the Board of Directors shall be held at least on a quarterly basis, at such times as may be fixed from time to time by a majority of the members of the Board of Directors. Notice of any special meeting shall be given to each director not less than three (3) days in advance thereof. Notice to a director shall be deemed to be given when deposited in the United States mail, postage prepaid, to the Unit address of such director, or when personally delivered, orally or in writing, by a representative of the Board.

b. Any director may at any time waive notice of any meeting of the Board of Directors orally, in writing, or by attendance at the meeting. If all the directors are present at a meeting of the Board of Directors, no notice shall be required, and any business may be enacted at such meeting.

6.6 Quorum and Voting. A majority of the members of the Board of Directors shall constitute a quorum for the transaction of business at any meeting thereof. A quorum, once established, shall continue to exist, regardless of the subsequent departure of any directors. Each director shall have one vote. The vote of a majority of directors present at any meeting at which a quorum is present shall be sufficient to adopt any action. Proxies shall not be permitted.

6.7 Action Taken Without a Meeting. The Board of Directors shall have the right to take any action in the absence of a meeting which it could take at a meeting when authorized in a writing signed by all the directors.

6.8 Vacancies. A vacancy in the Board of Directors shall be filled by a person elected within 30 days following the occurrence of the vacancy by a majority vote of the remaining directors, regardless of their number; except for vacancies created pursuant to Sections 6.2 and 6.9 of this Section. Each person so elected shall serve out the term vacated.

6.9 Removal. A director may be removed from the Board of Directors, with or without cause, by a majority vote at any annual or special meeting of the Owners, provided, (i) that the notice of the meeting at which removal is to be considered states such purpose, (ii) that the director to be removed has a right to be heard at the meeting, and (iii) that a new director is elected at the meeting by the owners to fill the vacant position caused by the removal. A director may also be removed by the Board of Directors if such director (i) has more than two unexcused absences from Board meetings and/or Owners meetings during any twelve month period, or (ii) is more than 60 days past due with respect to assessments on the director's Unit. Such vacancies shall be filled by the vote of the Owners as previously provided in this Section.

6.10 **Compensation.** Except as authorized by a vote of the Owners at a meeting thereof, the directors of the Association shall receive no compensation for their services in such capacity. A director may, or other Owner of Occupant may, upon approval of the Board of Directors, be retained by the Association and reasonably compensated for goods and services furnished to the Association in an individual capacity. Directors may be reimbursed for out-of-pocket expenses incurred in the performance of their duties.

6.11 **Fidelity Bond.** Fidelity bonds or insurance coverage for unlawful taking of Association funds shall be obtained and maintained as provided in the Declaration on all directors and officers authorized to handle the Association's funds and other monetary assets.

SECTION 7 OFFICERS

7.1 **Principal Officers.** The principal officers of the Association shall be a President, a Vice President, a Secretary and a Treasurer, all of whom shall be elected by the Board of Directors. The Board of Directors may from time to time elect such other officers and designate their duties as in their judgment may be necessary to manage the affairs of the Association. A person may hold more than one office simultaneously, except those of President and Vice President. Only the President and Vice President must be members of the Board of Directors.

7.2 **Election.** The officers of the Association shall be elected annually by the Board of Directors at its annual meeting and shall hold office at the pleasure of the Board.

7.3 **Removal.** Upon an affirmative vote of a majority of the members of the Board, any officer may be removed, with or without cause, and a successor elected, at any regular meeting of the Board of Directors, or at any special meeting of the Board called for that purpose.

7.4 **President.** The President shall be the chief executive officer of the Association, and shall preside at all meetings of the Board of Directors and the Association. The President shall have all of the powers and duties which are customarily vested in the office of president of a corporation, including without limitation the duty to supervise all other officers and to execute all contracts and similar obligations on behalf of the Association. The President shall have such other duties as may from time to time be prescribed by the Board of Directors.

7.5 **Vice President.** The Vice President shall take the place of the President and perform the duties of the office whenever the President shall be absent or unable to act. The Vice President shall also perform such other duties as shall from time to time be prescribed by the Board of Directors.

7.6 **Secretary.** The Secretary shall be responsible for recording the minutes of all meetings of the Board of Directors and the Association. The Secretary shall be responsible for keeping the books and records of the Association, and shall give all notices required by the Governing Documents or the Act unless directed otherwise by the Board. The Board of Directors

may delegate the Secretary's administrative functions to a managing agent; provided that such delegation shall not relieve the Secretary of the ultimate responsibility for the Secretary's duties.

7.7 Treasurer. The Treasurer shall have responsibility for all financial assets of the Association, and shall be covered by a bond or insurance in such sum and with such companies as the Board of Directors may require. The Treasurer shall be responsible for keeping the Association's financial books, assessment rolls and accounts. The Treasurer shall cause the books of the Association to be kept in accordance with customary and accepted accounting practices and shall submit them to the Board of Directors for its examination upon request. The Treasurer shall cause all moneys and other monetary assets of the Association to be deposited in the name of or to the credit of the Association in depositories designated by the Board of Directors, shall cause the funds of the Association to be disbursed as ordered by the Board of Directors and shall perform all other duties incident to the office of Treasurer. The Board of Directors may delegate the Treasurer's administrative functions to a managing agent; provided that such delegation shall not relieve the Treasurer of the ultimate responsibility for the Treasurer's duties.

7.8 Compensation. Except as authorized by a vote of the Owners at a meeting thereof, officers of the Association shall receive no compensation for their services in such capacity. An officer may, upon approval by the Board of Directors, be reasonably compensated for goods and services furnished to the Association in an individual capacity. Officers may be reimbursed for out-of-pocket expenses incurred in the performance of their duties.

SECTION 8 OPERATION OF THE PROPERTY

8.1 Assessment Procedures. The first Board of Directors shall annually prepare a budget of Common Expenses for the Association, but may elect not to levy a Common Expense for up to sixty (60) days after the conveyance of the first Unit, in which case Declarant shall pay all expenses of the Unit until the first assessment is levied. Following the expiration of the terms of the members of the first Board of Directors, the Board of Directors shall annually prepare a budget of Common Expenses for the Association and assess such Common Expenses against the Units according to their respective Common Expense liability as set forth in the Declaration.

a. The Board of Directors shall fix the amount of the annual assessment against each Unit, levy the assessment and advise the Owners in writing of the assessment at least thirty (30) days prior to the beginning of the Association's fiscal year when the first assessment installment shall be due. The failure of the Board of Directors to timely levy an annual assessment shall not relieve the Owners of their obligation to continue paying assessment installments in the amount currently levied, as well as any increases subsequently levied.

b. If an annual assessment proves to be insufficient, the Board of Directors may amend the budget and levy an additional assessment, at any time. The levy shall occur upon the date specified in the resolution which fixes the assessment.

c. The annual budget shall include a general operating reserve, and an adequate reserve fund for maintenance, repair and replacement of those Common

Elements and parts of the Units that must be maintained, repaired or replaced by the Association.

d. The Association shall furnish copies of each budget on which the assessment is based to an Owner or to any Eligible Mortgagee, upon request of such persons.

8.2 Payment of Assessments. Annual assessments shall be due and payable in monthly installments in advance on the first day of each month of the year or other period for which the assessments are made, and special assessments shall be due when designated by the Board of Directors. All Owners shall be absolutely and unconditionally obligated to pay the assessments. No Owner or Occupant shall have any right of withholding, offset or deduction against the Association with respect to any assessments, or related late charges or costs of collection, regardless of any claims alleged against the Association or its officers or directors. Any rights or claims alleged by an Owner may be pursued only by separate action.

a. If there is a default of more than thirty (30) days in payment of any assessment, the Board of Directors may accelerate any remaining installments of the assessment upon prior written notice thereof to the Owner, and the entire unpaid balance of the assessment and late charges shall become due and payable upon the date stated in the notice unless all past due amounts, including late charges, costs of collection and fees, are paid prior to said date.

b. The Board of Directors shall have the right and duty to attempt to recover all assessments for Common Expenses, together with any charges, attorney fees or expenses relating to the collection thereof.

c. Upon written request of an Owner or an Eligible Mortgagee of such Unit, notice of a default of more than thirty (30) days in payment of any assessment or installment of an assessment for Common Expenses or any other default in the performance of obligations by the Owner shall be given in writing to such Eligible Mortgagee.

d. The rights and remedies referred to herein shall in no way limit the remedies available to the Association under the Declaration or by law.

8.4 Foreclosure of Liens for Unpaid Assessments. The Association shall have the right to foreclose the Association's Assessment liens and other liens against a Unit for imposed by the Association, as more fully described in the Declaration and the Act.

8.5 Records. The Board of Directors shall cause to be kept at the registered office of the Association, and at such other place as the Board of Directors may determine, records of the actions of the Board of Directors, minutes of the meetings of the Board of Directors, minutes of the meetings of the Owners of the Association, names of the Owners and Eligible Mortgagees, and detailed and accurate records of the receipts and expenditures of the Association. All Association records, including receipts and expenditures and any vouchers authorizing payments, shall be available for examination by the Owners and the Eligible Mortgagees upon reasonable notice and during normal business hours. Separate accounts shall be maintained for each Unit

setting forth the amount of the assessments against the Unit, the date when due, the amount paid thereon and the balance remaining unpaid.

8.6 Enforcement of Obligations. All Owners and Occupants and their guests are obligated and bound to observe the provisions of the Governing Documents and the Act. The Association may impose any or all of the charges, sanctions and remedies authorized by the Governing Documents or by law to enforce and implement its rights and to otherwise enable it to manage and operate the Association.

SECTION 9 AMENDMENTS

These Bylaws may be amended, and the amendment shall be effective, upon the satisfaction of the following conditions:

9.1 Approval. The amendment must be approved by Owners who have authority to cast in excess of fifty percent (50%) of the total votes in the Association, in writing or at a duly held meeting of the Owners, subject to approval by the Declarant until termination of the period of Declarant control, and to any approval rights of Eligible Mortgagees and Declarant as provided in the Declaration; and

9.2 Notice. A copy of the proposed amendment and, if a meeting is to be held, notice of such meeting, shall be mailed by U.S. Mail, or hand delivered, to all Owners authorized to cast votes; and

9.3 Effective Date: Recording. The amendment shall be effective on the date of approval by the required vote of the Owners and need not be recorded. If recorded, the amendment shall be recorded in the office of the recording officer for the county in which the Property is located.

SECTION 10 INDEMNIFICATION

The Association shall, to the extent the alleged liability is not covered by insurance, indemnify every individual acting in any official capacity on behalf of the Association, pursuant to the provisions of Minnesota Statutes 317A.521.

SECTION 11 MISCELLANEOUS

11.1 Notices. Unless specifically provided otherwise in the Act, the Declaration or these Bylaws, all notices required to be given by or to the Association, the Board of Directors, the Association officers or the Owners or Occupants shall be in writing and shall be effective upon hand delivery, or mailing if properly addressed with postage prepaid and deposited in the United States mail, except that registrations pursuant to Section 2.2 shall be effective upon receipt by the Association.

11.2 **Severability.** The invalidity or unenforceability of any part of these Bylaws shall not impair or affect in any manner the validity, enforceability or effect of the balance of these Bylaws.

11.3 **Captions.** The captions herein are inserted only as a matter of convenience and for reference and in no way limit or prescribe the scope of these Bylaws or the intent of any provision hereof.

11.4 **Conflicts in Documents.** In the event of any conflict among the provisions of the Act, the Declaration, the Bylaws or the Rules and Regulations, the Act shall control unless it permits the Governing Documents to control. As among the Declaration, Bylaws, and Rules and Regulations, the Declaration shall control, and as between the Bylaws and the Rules and Regulations, the Bylaws shall control.

11.5 **Waiver.** No restriction, condition, obligation or provision contained in these Bylaws shall be deemed to have been abrogated or waived by reason of any failure to enforce the same, irrespective of the number of violations or breaches thereof which may occur.

11.6 **No Corporate Seal.** The Association shall have no corporate seal.

11.7 **Fiscal Year.** The fiscal year of the Association shall be as determined by the Board of Directors.

The undersigned hereby executes these Bylaws and certifies that they were adopted by the Association effective as of the date hereof.

Dated: _____, 2024

Secretary

COMMON INTEREST COMMUNITY NUMBER _____
A Planned Community

DELAWARE PLACE

DECLARATION

COMMON INTEREST COMMUNITY NUMBER ____
A Planned Community

DELAWARE PLACE

DECLARATION

This DECLARATION is made in Ramsey County, Minnesota, this ____ day of _____, 2024, by Andrus Built, LLC, a Minnesota limited liability company (“Declarant”), pursuant to Minnesota Statutes Chapter 515B, known as the Minnesota Common Interest Ownership Act (the “Act” or “MCIOA”), for the purpose of creating Common Interest Community Number ____, DELAWARE PLACE, a Planned Community.

WHEREAS, Declarant is the owner of certain real property located in Ramsey County, Minnesota, legally described in Exhibit A attached hereto, and Declarant desires to submit said real property and all improvements thereon (collectively the "Property") to the Act;

WHEREAS, Declarant desires to establish on the Property a plan for a permanent residential community to be owned, occupied and operated for the use, health, safety and welfare of its owners and occupants, and for the purpose of preserving the value, the structural quality, and the original architectural and aesthetic character, of the Property;

WHEREAS, the Property as developed shall consist of five (5) residential Twin Home Buildings, each containing two Dwellings; and

WHEREAS, the Property (i) is not subject to an ordinance referred to in Section 515B.1-106 of the Act, governing conversions to common interest ownership; (ii) is not subject to a local ordinance or, if so, any conditions required under any such ordinance have been complied with; and (iii) is not subject to a master association as defined in the Act.

Declarant hereby subjects the Property to this Declaration and submits the Property to the Act as a planned community under the name “DELAWARE PLACE,” consisting of the Lots referred to in the recitals above and Section 2 hereof, and hereby declares that this Declaration shall constitute covenants that run with the Property, and that the Property shall be owned, used occupied and conveyed subject to the covenants, restrictions, easements, charges and liens set forth in this Declaration, all of which shall be binding upon all Persons owning or acquiring any right, title or interest therein, and their heirs, personal representatives, successors and assigns. The above recitals are fully incorporated within this Declaration.

SECTION 1
DEFINITIONS

The following words when used in the Governing Documents shall have the following meanings (unless the context dictates otherwise):

- 1.1. “Act” means the Minnesota Common Interest Ownership Act (the “Act” or “MCOIA”), Minnesota Statutes Chapter 515B, as amended.
- 1.2. “Assessments” means and refers to all assessments levied or authorized to be levied by the Association pursuant to Section 6 hereof.
- 1.3. “Association” means the Delaware Place Association, Inc., a corporation created pursuant to Minnesota Statutes Chapter 317A and Section 515B.3-101 of the Act, whose members shall consist of all Owners as defined herein, governed by its Board.
- 1.4. “Board” means the Board of Directors of the Association as provided in the Bylaws.
- 1.5. “Building” means a structure on a Lot and adjoining Lots that contains Dwellings.
- 1.6. “Bylaws” means the Bylaws governing the operation of the Association, as amended from time to time.
- 1.7. “City” means the City of North St. Paul, Minnesota.
- 1.8. “Common Elements” means all parts of the Property owned by the Association for the common benefit of the Owners and Occupants, including all improvements thereon, but shall not include the Lots and improvements on the Lots. The Common Elements are legally described in Exhibit B attached hereto.
- 1.9. “Common Expenses” means all expenditures made or liabilities incurred by or on behalf of the Association and incident to its operation, including without limitation all Assessments, allocations to reserves and those items specifically identified as Common Expenses in this Declaration or the Bylaws of the Association.
- 1.10. “Declarant Control Period” means the time period during which Declarant has the exclusive right to appoint the members of the Board, as described in Section 15.
- 1.11. “Dwelling” means a part of a Building consisting of one or more floors, designed and intended for occupancy as a family residence, located within the boundaries of a Lot, subject to all applicable setbacks. Each Dwelling includes any appurtenant deck, patio and/or garage attached thereto or otherwise included within the boundaries of the Lot on which the Dwelling is located. For purposes of this Declaration, “Dwelling” shall have the same meaning and be a substitute for the term “Unit” as defined in Section 515B.1-103(35) of the Act.
- 1.12. “Eligible Mortgagee” means any Person owning a mortgage on any Lot, which mortgage is first in priority upon foreclosure to all other mortgages that encumber such Lot, and which has requested the Association, in writing, to notify it regarding any proposed action which requires approval by a specified percentage of Eligible Mortgagees.

- 1.13. “Governing Documents” means this Declaration, the Articles of Incorporation, Bylaws of the Association, and any Rules and Regulations adopted thereunder, as amended from time to time, all of which shall govern the use and operation of the Property.
- 1.14. “Lot” means any platted lot subject to this Declaration upon which a Dwelling is located or intended to be located, as shown on the Plat, including all improvements thereon, but excluding the Common Elements. Each of the ten (10) numbered Lots within the Association are as shown on the Plat. The appurtenant land, driveway, garage, decks, patios and the Dwelling, shall together constitute an individual Lot for purposes of this Declaration.
- 1.15. “Member” means all Persons who are members of the Association by virtue of being Owners as defined in this Declaration. The words “Owner” and “Member” may be used interchangeably in the Governing Documents.
- 1.16. “Occupant” means any person or persons, other than an Owner, in possession of or residing on or in a Lot or Dwelling.
- 1.17. “Owner” means a Person who owns a Lot, but excluding contract for deed vendors, mortgagees and other secured parties within the meaning of the Act. The term “Owner” includes, without limitation, contract for deed vendees and holders of a life estate.
- 1.18. “Party Wall” means the shared wall between two Dwellings within a Building.
- 1.19. “Person” means a natural individual, corporation, limited liability company, partnership, trustee, or other legal entity capable of holding title to real property.
- 1.20. “Plat” means the recorded plat depicting the Property pursuant to the requirements of Section 515B.2-110(d) of the Act, and satisfying the requirements of Minnesota Statutes Chapter 505, 508 or 508A, as applicable, including any amended Plat recorded from time to time in accordance with the Act.
- 1.21. “Property” means all of the real property submitted to this Declaration, including the Lots, Dwellings and all other structures and improvements located thereon now or in the future. The Property is legally described in Exhibit A attached hereto.
- 1.22. “Rules and Regulations” means the Rules and Regulations of the Association as adopted from time to time pursuant to Section 5.6.
- 1.23. “Twin Home” means a Building constructed or to be constructed on the Property, containing two Dwellings within a single Building that share only a side boundary or Party Wall with the adjacent Dwelling within the Building.

Any terms used in the Governing Documents, and defined in the Act and not in this Section, shall have the meanings set forth in the Act. Any reference herein to a "Section" shall refer to a Section within this Declaration unless otherwise specifically noted.

SECTION 2 DESCRIPTION OF LOTS AND APPURTENANCES

2.1. Lots. For purposes of this Declaration, the term "Lot" shall refer to each of the ten (10) numbered Lots shown on the Plat. There are or shall be ten (10) Lots as shown on the Plat, all of which are restricted exclusively to residential use. Each Lot constitutes a separate parcel of real estate. No additional Lots may be created by the subdivision or conversion pursuant to Section 515B.2-112 of the Act. The Lot identifiers and locations of the Lots are as shown on the Plat, which is incorporated herein by reference, and a schedule of Lots is set forth on Exhibit A attached hereto. Each Lot shall be comprised of a Building and adjacent land shown on the Plat.

2.2. Boundaries. The front, rear and side boundaries of each Lot shall be the boundary lines of the platted Lot as shown on the Plat. One Twin Home Building each containing two (2) single family Dwelling Units shall be located on each of Lot, with a zero-lot line setback between Lots, each separated by a Party wall. A total of ten (10) Dwelling Units will be located in five (5) Buildings. Subject to this Section 2 and Section 3.2., all spaces, walls, and other improvements within a Building on a Lot are a part of the Lot. Each Dwelling within a Twin Home Building shall be separated by a Party Wall on or near the boundary line separating the two Lots upon which the Building is situated.

2.3. Drainage, Utility and Maintenance Easements. Each Lot shall be the beneficiary of an appurtenant easement for use, access, drainage and all services and utilities servicing the Lots, on and across the Common Elements of Outlot A, and for maintenance, repair and replacement as described in Section 13.

2.4. Use and Enjoyment Easements. Each Lot shall be the beneficiary of the appurtenant easements for use and enjoyment on and across the Common Elements, and for use and enjoyment of any Limited Common Elements allocated to the Lot, subject to any restrictions authorized by this Declaration.

2.5. Encroachment Easements. Each Lot shall be subject to and shall be the beneficiary of the appurtenant easements for encroachments as described in Section 13.

2.6. Declarant's Easements. Declarant shall have and be the beneficiary of easements for construction and sales activities as described in Section 15.

2.7. Recorded Easements. The Property shall be subject to such other easements as may be recorded against it or otherwise shown on the Plat.

2.8. Easements are Appurtenant. All easements and similar rights burdening or benefitting a Lot or any other part of the Property shall be appurtenant thereto, and shall be permanent, subject only to termination in accordance with the Act or the terms of the easement. Any recorded easement benefitting or burdening the Property shall be construed in a manner consistent with, and not in conflict with, the easements created by this Declaration.

2.9. Impairment Prohibited. No person shall materially restrict or impair any easement benefitting or burdening the Property, subject to this Declaration and the right of the Association to establish and enforce reasonable Rules and Regulations governing the use of the Property.

SECTION 3 COMMON ELEMENTS AND LIMITED COMMON ELEMENTS

3.1. Common Elements. The Common Elements and their characteristics are as follows:

- a. All Property not included within the Lots are Common Elements. The Common Elements include those parts of the Property described in Exhibit B or designated as Common Elements in the Act or the Plat. In addition to the foregoing, the Common Elements shall specifically include (i) Outlot A as shown on the Plat, and (ii) the drainage and utility easements shown on the Plat. The Common Elements are or shall be owned by the Association for the benefit of the Owners, Occupants and City of North St. Paul.
- b. The Common Elements shall be subject to certain easements as described in Section 2, and to the rights of Owners and Occupants if any, in Common Elements appurtenant to their Lots.
- c. Subject to Sections 5, 6 and 9, all maintenance, repair, replacement, management and operation of the Common Elements shall be the responsibility of the Association.
- d. Common Expenses for the maintenance, repair, replacement, management and operation of the Common Elements shall be assessed and collected from the Owners in accordance with Section 6.

3.2. Limited Common Elements. Limited Common Elements, if any, may be as shown on the Plat or prescribed by the Declarant or Association from time to time in accordance with the Act.

SECTION 4 ASSOCIATION MEMBERSHIP: RIGHTS AND OBLIGATIONS

Membership in the Association, and the allocation to each Dwelling of a portion of the votes in the Association and a portion of the Common Expenses of the Association shall be governed by the following provisions:

4.1. Membership. Each Owner of a Dwelling on a Lot shall be a member of the Association by virtue of such ownership, and the membership shall automatically transfer with the conveyance of the Owner's interest in the Lot. An Owner's membership shall terminate when the Owner's ownership terminates. When more than one Person is an Owner of a Lot, all such Persons shall be members of the Association, but multiple ownership of a Dwelling shall not increase the voting rights allocated to such Lot nor authorize the division of the voting rights.

4.2. Voting and Common Expenses. Voting rights and Common Expense obligations are allocated equally among the Lots, with each Lot having two (2) votes, one for each Dwelling located on a Lot, and each Lot shall share expenses equally with the other Lots; except that special allocations of Common Expenses shall be permitted as provided in Section 6.1.

4.3. Appurtenant Rights and Obligations. The ownership of a Dwelling shall include the voting rights and Common Expense obligations described in Section 4.2. Said rights, obligations and interests shall not be separated or conveyed separately from a Lot. The allocation of the rights, obligations and interests described in this Section may not be changed, except in accordance with the Governing Documents and the Act.

4.4. Authority to Vote. The Owner, or some natural person designated to act as proxy on behalf of the Owner, and who need not be an Owner, may cast the vote allocated to such Dwelling at meetings of the Association; provided, that if there are multiple Owners of a Lot, only the Owner or other Person designated pursuant to the provisions of the Bylaws may cast such vote. The voting rights of Owners are more fully described in Section 3 of the Bylaws.

SECTION 5 ADMINISTRATION

The administration and operation of the Association and the Property, including but not limited to the acts required of the Association, shall be governed by the following provisions:

5.1. General. The operation and administration of the Association and the Property shall be governed by the Governing Documents, the Rules and Regulations, and the Act. The Association shall, subject to the rights of the Owners set forth in the Governing Documents and the Act, be responsible for the operation, management and control of the Property. The Association shall have all powers described in the Governing Documents, the Act and the statute under which it is incorporated. All power and authority of the Association shall be vested in the Board, unless action or approval by the individual Owners is specifically required by the

Governing Documents or the Act. All references to the Association shall mean the Association acting through the Board unless specifically stated to the contrary.

5.2. Operational Purposes. The Association shall operate and manage the Property for the purposes of (i) administering and enforcing the obligations, covenants, restrictions, easements, charges and liens set forth in the Governing Documents, (ii) maintaining, repairing and replacing those portions of the Property for which it is responsible, and (iii) preserving the value and architectural uniformity and character of the Property.

5.3. Binding Effect of Actions. All agreements and determinations made by the Association in accordance with the powers and voting rights established by the Governing Documents or the Act shall be binding on all Owners and Occupants, their lessees, guests, heirs, personal representatives, successors and assigns, and all secured parties as defined in the Act.

5.4. Bylaws. The Association shall have Bylaws. The Bylaws and any amendments to the Bylaws shall govern the operation and administration of the Association.

5.5. Management. The Board may delegate to a manager or managing agent the management duties imposed upon the Association's officers and directors by the Governing Documents and the Act; provided, however, that such delegation shall not relieve the officers and directors of the ultimate responsibility for the performance of their duties as prescribed by the Governing Documents and by law.

5.6. Rules and Regulations. The Board shall have exclusive authority to approve and implement such reasonable Rules and Regulations as it deems necessary from time to time for the purpose of operating and administering the affairs of the Association and regulating the use of the Property; provided that the Rules and Regulations shall not be inconsistent with the Governing Documents or the Act. The inclusion in other parts of the Governing Documents of authority to approve Rules and Regulations shall be deemed to be in furtherance, and not in limitation, of the authority granted by this Section. New or amended Rules and Regulations shall be effective only after reasonable notice thereof has been given to the Owners.

5.7. Association Assets: Surplus Funds. All funds and real or personal property acquired by the Association shall be held and used for the benefit of the Owners for the purposes stated in the Governing Documents. Surplus funds remaining after payment of or provision for Common Expenses and reserves shall be credited against future assessments or added to reserves, as determined by the Board.

5.8. Resale Disclosure Certificates. Pursuant to Section 515B.4-107 of the Act, in the event of a resale of a Lot or Dwelling by an Owner other than Declarant, such Owner shall furnish to the purchaser a resale disclosure certificate containing the information required by Section 515B.4-107(d) of the Act. The Association shall, within ten (10) days after a request by an Owner or the Owner's authorized representative, furnish the resale disclosure certificate and required documents.

SECTION 6

ASSESSMENTS FOR COMMON EXPENSES

6.1. General. The Declarant or the Board shall approve an annual budget of Common Expenses at or prior to the conveyance of the first Dwelling to a purchaser and annually thereafter, in accordance with Section 515B.3-1151 of the Act. Assessments for Common Expenses shall be assessed monthly against the Dwellings by the Board, in its discretion, subject to the limitations set forth in Sections 6.2 and 6.3, and the requirements of the Bylaws. Assessments for Common Expenses shall include annual assessments and may include special assessments. Assessments shall be allocated among the Dwellings according to the Common Expense allocations set forth in Section 4.2, subject to the following qualifications:

- a. Any expense associated with the maintenance, repair, or replacement of an item or system benefitting or appurtenant to a single Lot or Dwelling undertaken by the Association may be assessed exclusively against such Lot(s) or Dwelling(s) to which that unit or system appertains, on the basis of (i) equity, (ii) square footage of the area being maintained, repaired or replaced, or (iii) the actual cost incurred with respect to each such Lot.
- b. Any expense or portion thereof benefitting fewer than all of the Lots or Dwellings may be assessed exclusively against the Lots or Dwellings benefitted, on the basis of (i) equity, (ii) square footage of the area being maintained, repaired or replaced, or (iii) the actual cost incurred with respect to each such Lot or Dwelling.
- c. The costs of insurance may be assessed in proportion to value, risk or coverage, and the costs of utilities may be assessed in proportion to usage.
- d. Reasonable attorney fees and costs incurred by the Association in connection with (i) the collection of assessments and (ii) the enforcement of the Governing Documents, the Act, or the Rules and Regulations, against an Owner or Occupant or their guest(s), may be assessed against an Owner's Lot or Dwelling
- e. Fees, charges, late charges, attorney and other legal fees and interest may be assessed as provided in Section 14.
- f. Assessments levied under Section 515B.3-116 of the Act to pay a judgment against the Association may be levied only against the Lots or Dwellings existing at the time the judgment was entered, in proportion to their Common Expense liabilities.
- g. If any damage to the Common Elements or another Lot or Dwelling is caused by the act or omission of any Owner or Occupant, or their guest(s), the Association may assess the costs of repairing the damage exclusively against the Owner's Lot or Dwelling to the extent not covered by insurance.

- h. If any installment of an assessment becomes more than 30 days past due, then the Association may, upon 10 days written notice of the Owner, declare the entire amount of the assessment immediately due and payable in full.
- i. If Common Expense liabilities are reallocated for any purpose authorized by the Act, Common Expense assessments and any installment thereof not yet due shall be recalculated in accordance with the reallocated Common Expense liabilities.

Assessments under Subsections 6.1.a. through h. above shall not be considered special assessments as described in Section 6.3.

6.2. Annual Assessments. Annual assessments shall be established and levied by the Board, subject only to the limitations set forth in Section 6.2 and 6.3. Each annual assessment shall cover all of the anticipated Common Expenses of the Association for that year. Annual assessments shall provide, among other things, for contributions to a separate reserve fund sufficient to cover the periodic cost of maintenance, repair and replacement of the Common Elements and those parts of the Lots and Dwellings for which the Association is responsible.

- a. Until a Common Expense assessment is levied, Declarant or its successors in interest shall pay all accrued expenses of the common interest community.
- b. After a Common Expense assessment is levied, the annual assessment may be subsequently increased by the Board, subject to Section 6.2.c.
- c. Until the termination of the period of Declarant control described in Section 15.6, the increase in the annual assessment for any year shall not exceed the greater of (i) the increase in the U.S. Department of Labor Revised Consumer Price Index for Urban Wage Earners and Clerical Workers for All Items for the prior year; or (ii) five percent (5%) of the total annual assessment for the Association's previous fiscal year, unless such increase is approved by the vote of a majority of those Owners voting, in person or by proxy, at a meeting called for that purpose. Written notice of the meeting shall be sent to all Owners not less than 21 days nor more than 30 days in advance of the meeting.

6.3. Special Assessments. In addition to annual assessments, and subject to the limitations set forth hereafter, the Board may levy in any assessment year a special assessment against all Lots or Dwellings for the purpose of defraying in whole or in part (i) the cost of any unforeseen or unbudgeted Common Expense, (ii) general or specific reserves for maintenance, repair or replacement, and (iii) the maintenance, repair or replacement of any part of the Property, and any fixtures or other property related thereto. Notwithstanding the foregoing, any special assessment shall be subject to approval by the vote of a majority of those Owners voting, in person or by proxy, at a meeting called for that purpose. Written notice of the meeting shall be sent to all Owners not less than 21 days nor more than 30 days in advance of the meeting.

6.4. Working Capital Fund. The Association shall establish a working capital fund to meet unforeseen expenditures or to purchase additional equipment or services for the Association. Each Owner (other than Declarant) initially shall contribute, on a one-time basis, an amount equal to two (2) months installments of the estimated Common Expense Assessment for the Lot or Dwelling being conveyed. The contribution shall be paid at the earlier of (a) the closing of the sale of the Lot or Dwelling, or (b) upon termination of the Declarant Control Period. The amounts to be paid into this fund are in addition to the regular monthly installments of assessments. The funds shall be deposited into the Association's account, and Declarant may not use the funds to defray any of its expenses, reserve contributions, or construction costs, or to make up any budget deficit while Declarant is in control of the Association.

6.5. Liability of Owners for Assessments. The obligation of an Owner to pay assessments shall commence at the later of (i) the time at which the Owner acquires title to the Lot or Dwelling, or (ii) the due date of the first assessment levied by the Board, subject to the alternative assessment program described in Section 6.6. The Owner at the time an assessment is payable with respect to the Lot or Dwelling shall be personally liable for the share of the Common Expenses assessed against such Lot or Dwelling. Such liability shall be joint and several where there are multiple Owners of the Lot or Dwelling. The liability is absolute and unconditional. No Owner is exempt from liability for payment of his or her share of Common Expenses by right of set-off, by waiver of use or enjoyment of any part of the Property, by absence from or abandonment of the Lot or Dwelling, by the waiver of any other rights, or by reason of any claim against the Association or its officers, directors or agents, or for their failure to fulfill any duties under the Governing Documents or the Act. The Association may invoke the charges, sanctions and remedies set forth in Section 14, in addition to any remedies provided elsewhere in the Governing Documents, the Rules and Regulations, or by law, for the purpose of enforcing its rights hereunder.

6.6. Declarant's Alternative Common Expense Plan. The following alternative common expense plan is hereby established pursuant to Section 515B.3-1151(a)(2) of the Act. Notwithstanding anything to the contrary in this Section 6, or otherwise herein, the Declarant's Common Expense liability and the corresponding assessment lien against the Lots owned by the Declarant is limited to (a) paying when due, in compliance with Section 515B.3-1151(b) of the Act and the Association's annual budget, an amount equal to the full share of the replacement reserves allocated to Lots owned by Declarant, as set forth in the annual budget and as required by said Section 515B.3-1151(b) of the Act; and (b) paying when due all accrued Common Expenses of the Association in excess of the aggregate assessments payable with respect to Lots or Dwellings owned by Persons other than Declarant; provided that the alternate common expense plan will have no effect on the level of services or amenities anticipated by the Association's budget. The Declarant's alternative common expense plan shall apply to each Lot owned by Declarant at the time any assessment is levied against the Lot and shall terminate with respect to such Lot upon issuance of a certificate of occupancy from the City.

6.7. Assessment Lien. The Association has a lien on a Lot and Dwelling for any assessment levied against that Lot or Dwelling from the time the assessment becomes due. If an

assessment is payable in installments, the full amount of the assessment is a lien from the time the first installment thereof becomes due. Fees, charges, late charges, fines and interest charges imposed by the Association pursuant to Section 515B.3-102(a)(10), (11) and (12) of the Act are liens, and are enforceable as assessments, under this Section. Recording of this Declaration constitutes record notice and perfection of any lien under this Section, and no further recordation of any notice of or claim for the lien is required.

6.8. Foreclosure of Lien: Remedies. A lien for Common Expenses may be foreclosed against a Lot or Dwelling under the laws of the State of Minnesota (i) by action, or (ii) by advertisement as though it were a lien under a mortgage containing a power of sale. The Association, or its authorized representative, shall have the power to bid at the foreclosure sale and to acquire, hold, lease, mortgage and convey any Lot or Dwelling so acquired. The Owner and any other Person claiming an interest in the Lot or Dwelling, by the acceptance or assertion of any interest, grants to the Association a power of sale and full authority to accomplish the foreclosure. The Association shall, in addition, have the right to pursue any other remedy at law or in equity against the Owner who fails to pay any assessment or charge against the Lot or Dwelling.

6.9. Lien Priority: Foreclosure. A lien under this Section is prior to all other liens and encumbrances on a Lot or Dwelling except (i) liens and encumbrances recorded before this Declaration, (ii) any first mortgage on the Lot or Dwelling, and (iii) liens for real estate taxes and other governmental assessments or charges against the Lot or Dwelling. Notwithstanding the foregoing, if (i) a first mortgage is foreclosed, (ii) the first mortgage was recorded on or after the date of this Declaration, and (iii) no Owner redeems during the Owner's period of redemption provided by Chapters 580, 581, or 582, then the holder of the sheriff's certificate of sale from the foreclosure of the first mortgage or any person who acquires the Lot or Dwelling by redemption as a junior creditor shall take title subject to unpaid assessments for Common Expenses levied pursuant to Sections 515B.3-115(a), (e)(1) to (3), (f), and (i) of the Act which became due, without acceleration, during the six months immediately preceding the first day following the end of the Owner's period of redemption.

6.10. Voluntary Conveyances, Statement of Assessments. In a voluntary conveyance of a Lot or Dwelling, the buyer shall not be personally liable for any unpaid assessments and other charges made by the Association against the seller or the seller's Lot or Dwelling prior to the time of conveyance to the buyer, unless expressly assumed by the buyer. However, the lien of such assessments shall remain against the Lot or Dwelling until satisfied. Any seller or buyer shall be entitled to a statement, in recordable form, from the Association setting forth the amount of the unpaid assessments against the Lot, including all assessments payable in the Association's current fiscal year, which statement shall be binding on the Association, seller and buyer.

6.11. Real Estate Taxes and Assessments. Real estate taxes, special assessments and other charged or fees levied against Common Elements by governmental authorities shall be allocated among and levied against the Lots and Dwellings as provided in Section 4.2 herein and shall be a lien against each Lot and Dwelling in the same manner as a lien for real estate taxes and special assessments levied against the Lot or Dwelling alone.

SECTION 7 RESTRICTIONS ON USE OF PROPERTY

All Owners and Occupants, and all secured parties, by their acceptance or assertion of an interest in the Property, or by their occupancy of a Dwelling, covenant and agree that, in addition to any other restrictions which may be imposed by the Act, the Governing Documents or otherwise by law, the occupancy, use, operation, alienation and conveyance of the Property shall be subject to the following restrictions:

7.1. General. The Property shall be owned, conveyed, encumbered, leased, used and occupied subject to the Governing Documents and the Act, as amended from time to time. All covenants, restrictions and obligations set forth in the Governing Documents are in furtherance of a plan for the Property, and shall run with the Property and be a burden and benefit to all Owners and Occupants and to any other Person acquiring or owning an interest in the Property, their heirs, personal representatives, successors and assigns.

7.2. Subdivision Prohibited. Except as permitted by the Act, no Lot nor any part of the Common Elements may be subdivided or partitioned without the prior written approval of all Owners, the City, and all secured parties holding first mortgages on the Lots and Dwellings.

7.3. Residential Use. All Dwellings shall be used by Owners and Occupants and their guests exclusively as private, single family residences, and not for transient, hotel, commercial, business or other non-residential purposes, except as provided in Section 7.4. Any lease of a Lot or Dwelling (except for occupancy by guests with the consent of the Owner) for a period of less than 7 days, or any occupancy which includes any services customarily furnished to hotel guests, shall be presumed to be for transient purposes.

7.4. Business Use Restricted. No business, trade, occupation or profession of any kind, whether carried on for profit or otherwise, shall be conducted, maintained or permitted in any Lot, Dwelling or the Common Elements, except (i) an Owner or Occupant residing in a Dwelling may keep and maintain his or her business or professional records in the Dwelling and handle matters relating to such business by remote office, telephone or correspondence therefrom, provided that such uses are incidental to the residential use, do not involve physical alteration of the Dwelling and do not involve any observable business activity such as signs, advertising displays, bulk mailings, deliveries, or visitation or use of the Lot by customers or employees and are in compliance with the zoning and other ordinances of the City, (ii) the Declarant may maintain offices, models, sales facilities and other business facilities on the Property until all its Lots and Dwellings are conveyed, and (iii) the Association may maintain offices on the Property for management and related purposes to the extent allowed by the City's zoning and other ordinances. An Owner or occupant working remotely within a Dwelling shall not be considered a business use that is restricted by this subsection.

7.5. Leasing. Leasing of Dwellings for residential purposes shall be permitted except as set forth in this Section 7.5 or Section 7.3 herein. No Dwelling may be subleased. A Dwelling must be leased in its entirety and not by room unless simultaneously occupied by an Owner. All leases shall be in writing and shall provide that all Occupants and tenants must comply with the Governing Documents. Owners shall be liable for all violations by and resulting fines levied upon tenants, guests or Occupants. The Association may impose reasonable additional Rules and Regulations on leasing in the discretion of the Board.

7.6. Parking and Storage. Garages and parking areas on the Property shall be used only for parking of vehicles owned or leased by Owners and Occupants and their guests, and such other incidental uses as may be authorized in writing by the Association. The use of garages, driveways and other parking areas on the Property, and the types of vehicles and personal property permitted thereon, shall be subject to regulation by the Association, including without limitation the right of the Association to tow illegally parked or inoperable vehicles or to remove unauthorized personal property. No parking shall be allowed which would interfere with any easements provided herein or in violation of the Governing Documents or the City's ordinances.

7.7. Animals. The Board shall have exclusive authority to prohibit or allow and regulate, by Rules and Regulations, the keeping of animals on the Property except as provided in this Section 7.7. Owners shall be allowed to keep up to: (i) two (2) cats or one (1) dog per Dwelling; (ii) one (1) dog and one (1) cat per Dwelling; or (iii) two (2) dogs per Dwelling. Animals shall be kept on a leash at all times when not within a Lot. Small animals that are kept in a cage or tank may also be permitted with Board approval. All animals shall not unreasonably disturb other Owners or Occupants and shall not be left unattended in any portion of the Common Elements. All animals shall be registered with the Association and owners of animals shall be liable for damage caused by their animals. Kennels shall be kept inside their respective Owner's Dwelling.

7.8. Quiet Enjoyment: All Owners and Occupants and their guests shall have a right of quiet enjoyment in their respective Dwellings, and shall use the Property in such a manner as will not cause a nuisance, nor unduly restrict, interfere with or impede the use of the Property by other Owners and Occupants and their guests.

7.9. Compliance with Law. No use shall be made of the Property which would violate any municipal codes or ordinances, or state or federal laws, nor shall any act or use be permitted which could cause waste to the Property, cause a material increase in insurance rates on the Property, or otherwise cause any unusual liability, health or safety risk, or expense, for the Association or any Owner or Occupant to the extent this Declaration or the rules or regulations conflict with any codes, ordinances or laws, the more restrictive provision shall apply.

7.10. Alterations. Except for those made by Declarant in consideration of its initial sale of a Dwelling, no alterations, changes, improvements, repairs or replacements of any type, temporary or permanent, structural, aesthetic or otherwise (collectively referred to as "alterations") shall be made, or caused or allowed to be made, by any Owner or Occupant, or

their guests, in or to any part of the Common Elements, or in any part of a Lot or Dwelling which affects the Common Elements or another Lot or Dwelling, or which is visible from the exterior of the Dwelling, without the prior written authorization of the Board, or a committee appointed by it, as provided in Section 8 and without the prior written consent of or permit by the City if required by the City. The Board, or the appointed committee if so authorized by the Board, shall have authority to establish reasonable criteria and requirements for alterations, and shall determine in their sole, reasonable discretion whether the criteria are satisfied.

7.11. Time Shares Prohibited. The time share form of ownership, or any comparable form of lease, occupancy rights or ownership which has the effect of dividing the ownership or occupancy of a Lot or Dwelling into separate time periods, is prohibited.

7.12. Access. In case of emergency, all Lots and Dwellings are subject to entry, without notice and at any time, by an officer or member of the Board of the Association, by the Association's management agents or by any public safety personnel. Entry is also authorized for maintenance purposes under Section 9 and for enforcement purposes under Section 14.

SECTION 8 ARCHITECTURAL CONTROL

8.1. Restrictions on Alterations. Subject to paragraph 7.10 hereof, the following restrictions and requirements shall apply to alterations on the Property:

- a. Except as expressly provided in this Section 8, and except for alterations made by Declarant in consideration of its initial sale of Lots and Dwellings, no structure, building, addition, deck, patio, fence, wall, enclosure, window, exterior door, sign, display, decoration, color change, shrubbery, material topographical or landscaping change, nor any other exterior improvements to or alteration of any Lot or Dwelling, which is visible from the exterior of the Dwelling (collectively referred to as "alterations") shall be commenced, erected or maintained, unless and until the plans and specifications showing the nature, kind, shape, height, color, materials and locations of the alterations first shall have been approved in writing by the Board of Directors or a committee appointed by it. Notwithstanding the foregoing, Declarant's written consent also shall be required for alterations until Declarant no longer owns any Lot or Dwelling.
- b. The criteria for approval shall include and require, at a minimum, (i) substantial uniformity of color, size, location, type and design in relation to existing improvements and topography, (ii) comparable or better quality of materials as used in existing improvements, (iii) ease of maintenance and repair, (iv) adequate protection of the Property, the Association, Owners and Occupants from liability and liens arising out of the proposed alterations, and (v) compliance with governmental laws, codes and regulations.

- c. Approval of alterations which encroach upon another Lot or the Common Elements shall create an appurtenant easement for such encroachment in favor of the Lot with respect to which the alterations are approved; provided, that any easement for a deck or patio other than as originally constructed shall be approved by resolution of the Board of Directors and a file of such resolutions shall be maintained permanently as part of the Association's records.
- d. Alterations described in Section 16 shall be governed by that Section.

8.2. Review Procedures. The following procedures shall govern requests for alterations under this Section:

- a. Detailed plans, specifications and related information as may be request by the Board of Directors regarding any proposed alteration, in form and content acceptable to the Board of Directors, shall be submitted to the Board of Directors at least sixty (60) days prior to the projected commencement of construction. No alterations shall be commenced prior to approval.
- b. The Board of Directors shall give the Owner written notice of approval or disapproval. If the Board of Directors fails to approve or disapprove within sixty (60) days after receipt of said plans and specifications and all other information requested by the Board of Directors, then approval will not be required, and this Section shall be deemed to have been fully complied with so long as the alterations are done in accordance with the plans, specifications and related information which were submitted.
- c. If no request for approval is submitted, approval is denied, unless (i) the alterations are reasonably visible and (ii) no written notice of the violation has been given to the Owner in whose Lot or Dwelling the alterations are made, by the Association or another Owner, within six months following the date of completion of the alterations. Notice may be direct written notice or the commencement of legal action by the Association or an Owner. The Owner of the Lot or Dwelling in which the alterations are made shall have the burden of proof, by clear and convincing evidence that the alterations were completed and reasonably visible for at least six months following completion and that the notice was not given.

8.3. Remedies for Violations. The Association may undertake any measures, legal or administrative, to enforce compliance with this Section and shall be entitled to recover from the Owner causing or permitting the violation all attorney fees and costs of enforcement, whether or not a legal action is started. Such attorney fees and costs shall be a lien against the Owner's Dwelling and a personal obligation of the Owner. In addition, the Association shall have the right to enter the Owner's Lot or Dwelling and to restore any part of the Lot or Dwelling to its prior condition if any alterations were made in violation of this Section, and the cost of such

restoration shall be a personal obligation of the Owner and a lien against the Owner's Lot or Dwelling.

SECTION 9 MAINTENANCE

9.1. Maintenance by Association. The Association shall provide for all maintenance, repair and replacement (collectively, "maintenance") of the Common Elements, including without limitation all maintenance pertaining to the drainage pond serving the Property, erosion control measures, drainage basins, retaining walls, landscaping, fencing, and other Common Elements, if any. In addition, for the purpose of preserving the architectural character, quality, and uniform and high standards for appearance of the Property, the Association shall (i) provide for exterior maintenance upon Dwellings and garages, and assess all such costs to such appurtenant Lots or Dwellings or as general assessments as determined by the Board in its discretion, including, but not limited to, paint, roof repair and replacement, gutters, downspouts, decks, garage doors, and exterior siding and other Building surfaces; (ii) provide for lawn, shrub and tree maintenance on all Lots; and (iii) provide for snow removal for driveways and sidewalks for all Lots. The Association shall have easements as described in Section 13 to perform maintenance under this Section 9.

9.2. Optional Additional Maintenance by Association. In addition to the maintenance described in Section 9.1, the Association may, with the approval of a majority of votes of Owners cast in person or by proxy at a meeting called for such purposes, undertake to provide additional maintenance to the Lots or Dwellings.

9.3. Maintenance by Owner. Except for the maintenance the Association may perform or elect to perform under Section 9.1 or 9.2, all maintenance of the Lots and Dwellings shall be the sole responsibility and expense of the Owners thereof. The Association may require that any exterior maintenance to be performed by the Owner be accomplished pursuant to specific uniform criteria established by the Association. The Association may also undertake any needed maintenance in the reasonable discretion of the Board, which the responsible Owner fails to or improperly performs and shall thereafter assess the Lot and the Owner for the cost thereof.

9.4. Damage Caused by Owner. Notwithstanding any provision to the contrary in this Section, if, in the judgment of the Association, the need for maintenance of any part of the Property is caused by the willful or negligent act or omission of an Owner or Occupant, or their guests, or by a condition in a Lot which the Owner or Occupant has willfully or negligently allowed to exist, the Association may cause such damage or condition to be repaired or corrected (and enter upon any Lot to do so), and the cost thereof may be assessed against the Lot of the Owner responsible for the damage. In the case of Party Walls between Dwellings, the Owners of the affected Dwellings shall be liable as provided in Section 10.

SECTION 10 PARTY WALLS

10.1. General Rules of Law to Apply. Each Dwelling wall built as part of the original construction of the Dwelling and located on or near the boundary line between Lots or Dwellings, and each wall separating a twin home Dwelling shall constitute a Party Wall, and, to the extent not inconsistent with the provisions of this Section, the general rules of law regarding party walls and liability for property damage due to negligent or willful acts or omissions shall apply thereto.

10.2. Repair and Maintenance. The Owners of the adjoining Dwellings which share the Party Wall shall be responsible and share equally in the maintenance, repair and replacement of the Party Wall; provided (i) that any maintenance, repair or replacement necessary due to the acts or omissions of an Owner or Occupant sharing such Party Wall shall be paid for by such Owner, and (ii) that the Association may contract for and supervise the repair of damage caused by an Owner or Occupant and assess the Owners for their respective shares of the cost to the extent not covered by insurance.

10.3. Destruction by Fire or Other Casualty. If a Party Wall is destroyed or damaged by fire or other casualty, any Owner who has use of the wall may, with the consent of the Association, restore it, and the adjoining Owner shall promptly reimburse the Owner who restored the wall for his or her share of the cost of restoration thereof; provided, however, that the cost of restoration resulting from destruction or other casualty resulting from the acts or omissions of one Owner shall be the financial responsibility of such Owner, and the Association may assess the responsible Owner for its share of the costs, without prejudice to the right of an Owner to recover a larger contribution from the other Owner. Insurance claims shall be made promptly following any casualty.

10.4. Weatherproofing. Notwithstanding any other provision of this Section, any Owner who, by his negligent or willful act, causes a Party Wall to be exposed to the elements shall bear the whole cost of the repairs necessary for protection against such elements.

10.5. Right to Contribution Runs With Land. The right of any Owner to contribution from any other Owner under this Section shall be appurtenant to the Lots and shall pass to such Owner's assigns and successors in title.

10.6. Arbitration. In the event of any dispute arising concerning a Party Wall, and if the same is not resolved within thirty (30) days of the event causing the dispute, the matter shall be submitted to binding arbitration under the rules of the American Arbitration Association, upon the written demand of the Association or any Owner whose Dwelling shares the Party Wall. Each party agrees that the decision of the arbitrators shall be final and conclusive of the questions involved. The fees of the arbitrators shall be shared equally by the parties, but each party shall pay its own attorney fees or other costs to prove its case.

SECTION 11 INSURANCE

11.1. Required Coverage. The Association shall obtain and maintain, at a minimum, a master policy or policies of insurance in accordance with the insurance requirements set forth in the Act and the additional requirements set forth herein, if any, issued by a reputable insurance company or companies authorized to do business in the State of Minnesota, as follows:

- a. Property insurance in broad form covering all risks of physical loss in an amount equal to one hundred percent (100%) of the insurable replacement cost of the Property, less deductibles, exclusive of land, footings, excavation and other items normally excluded from coverage (but including all building service equipment and machinery). The policy or policies shall cover personal property owned by the Association. The policy or policies shall also contain "Inflation Guard" and "Agreed Amount" endorsements, if reasonably available.
- b. Commercial general liability insurance covering the Association and the use, operation and maintenance of the Common Elements and activities of the Association, with minimum coverage limits of \$1,000,000 per occurrence, against claims for death, bodily injury and property damage, and other risks as are customarily covered by policies in similar circumstances.
- c. Directors and officers' liability coverage with such reasonable limits and coverages as the Board shall determine from time to time.
- d. Comprehensive public liability insurance covering the use, operation and maintenance of the Common Elements, with minimum limits of \$1,000,000 per occurrence, against claims for death, bodily injury and property damage, and such other risks as are customarily covered by such policies for projects similar in construction, location and use to the Property. The policy shall contain a "severability of interest" endorsement which shall preclude the insurer from denying the claim of an Owner or Occupant because of negligent acts of the Association or other Owners or Occupants.
- e. Fidelity bond or insurance coverage against dishonest acts of directors, officers, managers, trustees, employees or persons responsible for handling funds belonging to or administered by the Association, if deemed to be advisable by the Board. The fidelity bond or insurance shall name the Association as the named insured and shall, be written in an amount equal to the greater of (i) the estimated maximum of Association funds, including reserves, in the custody of the Association or management agent at any given time while the bond is in force, or (ii) a sum equal to three months aggregate assessments on all Lots plus reserves. An appropriate endorsement to the policy to cover any persons who serve without compensation shall be added if the policy would not otherwise cover volunteers,

or a waiver of defense based upon the exclusion of persons serving without compensation shall be added.

- f. Workers' Compensation insurance as required by law.
- g. Such other insurance as the Board may determine from time to time to be in the best interests of the Association and the Owners.

The Board may also, on behalf of the Association, enter into binding written agreements with a mortgagee, insurer or servicer, obligating the Association to keep certain specified coverages or endorsements in effect.

11.2. Premiums; Improvements; Deductibles. All insurance premiums shall be assessed and paid as a Common Expense. The insurance need not cover improvements and betterments to the Lots or Dwellings installed by Owners, but if improvements and betterments are covered, any increased cost may be assessed against the Lots or Dwellings affected. The Association may, in the case of a claim for damage to a Lot or Dwelling, (i) pay the deductible amount as a Common Expense, (ii) assess the deductible amount against the Lots affected in any reasonable manner, or (iii) require the Owners of the Lots or Dwellings affected to pay the deductible amount directly.

11.3. Loss Payee; Insurance Trustee. All insurance coverage maintained by the Association shall be written in the name of, and the proceeds thereof shall be payable to, the Association (or a qualified insurance trustee selected by it) as trustee for the benefit of the Owners and secured parties, including Eligible Mortgagees, which suffer loss. The Association, or any insurance trustee selected by it, shall have exclusive authority to negotiate, settle and collect upon any claims or losses under any insurance policy maintained by the Association.

11.4. Waiver of Subrogation. All policies of insurance shall contain waivers of subrogation by the insurer against the Association, or an Owner, members of the Owner's household, officers or directors, as applicable, and, if available, waivers of any defense based on co-insurance or of invalidity from any acts of the insured.

11.5. Cancellation; Notice of Loss. All policies of property insurance and comprehensive liability insurance maintained by the Association shall provide that the policies shall not be cancelled or substantially modified, for any reason, without at least 30 days prior written notice to the Association, all of the insureds and all Eligible Mortgagees.

11.6. Restoration in Lieu of Cash Settlement. All policies of property insurance maintained by the Association shall provide that, despite any provisions giving the insurer the right to elect to restore damage in lieu of a cash settlement, such option shall not be exercisable (i) without the prior written approval of the Association (or any Insurance Trustee) or (ii) when in conflict with provisions of any insurance trust agreement to which the Association may be a party, or any requirement of law.

11.7. No Contribution. All policies of insurance maintained by the Association shall be the primary insurance where there is other insurance in the name of the Owner covering the same property, and may not be brought into contribution with any insurance purchased by Owners or their Eligible Mortgagees.

11.8. Acts Not Within Association's Control. All policies of insurance maintained by the Association shall provide that the coverage shall not be voided by or conditioned upon (i) any act or omission of an Owner or mortgagee, unless acting within the scope of authority on behalf of the Association, or (ii) any failure of the Association to comply with any warranty or condition regarding any portion of the Property over which the Association has no control.

11.9. Owner's Personal Insurance. Each Owner may obtain additional personal insurance coverage at his or her own expense covering fire and other casualty to the Dwelling, personal property or personal liability. All insurance policies maintained by Owners shall provide that they are without contribution as against the insurance purchased by the Association.

SECTION 12 RECONSTRUCTION, CONDEMNATION AND EMINENT DOMAIN

12.1. Reconstruction. The obligations and procedures for the repair, reconstruction or disposition of the Property following damage or destruction thereof shall be governed by the Act. Any repair or reconstruction shall be substantially in accordance with the plans and specifications of the Property as initially constructed and subsequently improved. The Association shall have authority necessary to cause the Property to be reconstructed, including without limitation the authority (i) to require the Owners to enter into reconstruction contracts on their respective Dwellings, or (ii) to contract for the reconstruction of the Dwellings on behalf of the Owners. Notice of substantial damage or destruction shall be given pursuant to Section 18.10.

12.2. Condemnation and Eminent Domain. In the event of a taking of any part of the Property by condemnation or eminent domain, the provisions of the Act shall govern; provided, that notice shall be given pursuant to Section 18.10. Eligible Mortgagees shall be entitled to priority for condemnation awards in accordance with the priorities established by the Act and the Governing Documents, as their interests may appear.

12.3. Notice. All Eligible Mortgagees shall be entitled to receive notice of any condemnation proceedings or substantial destruction of the Property, and the Association shall give written notice thereof to an Eligible Mortgagee pursuant to Section 18.10.

SECTION 13 EASEMENTS

13.1. Easement for Encroachments. Each Lot and the Common Elements, and the rights of the Owners and Occupants therein, shall be subject to an exclusive easement for

encroachments in favor of the adjoining Lots for fireplaces, walls, roof overhangs, air conditioning systems, decks, balconies, porches, patios, utility installations and other appurtenances (i) which are part of the original construction of the adjoining Lot, Dwelling or the Property or (ii) which are added pursuant to Section 8. If there is an encroachment by a Dwelling, or other building or improvement located in a Lot, upon another Lot or Dwelling as a result of the construction, reconstruction, repair, shifting, settlement or movement of any part of the Property, an appurtenant easement for the encroachment, for the use, enjoyment and habitation of any encroaching Dwelling, building or improvement, and for the maintenance thereof, shall exist; provided that with respect to improvements or alterations added pursuant to Section 8, no easement shall exist unless the same have been approved, and the proposed improvements constructed, as required by this Declaration. Such easements shall continue for as long as the encroachment exists and shall not affect the marketability of title.

13.2. Easement for Maintenance, Repair, Replacement and Reconstruction. Each Lot, and the rights of the Owners and Occupants thereof, shall be subject to the rights of the Association to an exclusive, appurtenant easement on and over the Lots for the purposes of maintenance, repair, replacement and reconstruction of the Lots, Dwellings and utilities serving the same, to the extent necessary to fulfill the Association's obligations under the Governing Documents.

13.3. Utilities Easements. The Property shall be subject to non-exclusive, appurtenant easements for all utilities, water and sewer, storm water drainage and similar services, which exist from time to time, as constructed or referred to in the Plat, or as otherwise described in this Declaration or any other duly recorded instrument. Each Lot, and the rights of the Owners and Occupants thereof, shall be subject to a non-exclusive easement in favor of the other Lots for all such services, including without limitation any sewer or water lines servicing other Lots. Each Lot shall also be subject to an exclusive easement in favor of the Association and all utility companies providing service to the Lots for the installation and maintenance of utilities metering devices.

13.4. Continuation and Scope of Easements. Notwithstanding anything in this Declaration to the contrary, in no event shall an Owner or Occupant be denied reasonable access to his or her Lot or the right to utility services thereto. The easements set forth in this Section shall supplement and not limit any easements described elsewhere in this Declaration or recorded, and shall include reasonable access to the easement areas through the Lots and the Common Elements for purposes of maintenance, repair, replacement and reconstruction.

SECTION 14 COMPLIANCE AND REMEDIES

Each Owner and Occupant, and any other Person owning or acquiring any interest in the Property, shall be governed by and comply with the provisions of the Act, the Governing Documents, the Rules and Regulations, the decisions of the Association, and such amendments thereto as may be made from time to time. A failure to comply shall entitle the Association, any

aggrieved Owner and the City to the relief set forth in this section, in addition to the rights and remedies authorized elsewhere by the Governing Documents, the Act and applicable law

14.1. Entitlement to Relief. The Association may commence legal action to recover sums due, for damages, for injunctive relief or to foreclose a lien owned by it, or any combination thereof, or an action for any other relief authorized by the Governing Documents or available at law or in equity. Legal relief may be sought by the Association against any Owner, or by an Owner against the Association or another Owner, to enforce compliance with the Governing Documents or as otherwise available at law or in equity. Legal relief may be sought by the Association against any Owner, or by an Owner against the Association or another Owner, to enforce compliance with the Governing Documents, the Act or the decisions of the Association. However, no Owner may withhold any assessment payable to the Association, or take (or omit) other action in violation of the Governing Documents, the Rules and Regulations or the Act, as a measure to enforce such Owner's position, or for any other reason.

14.2. Sanctions and Remedies. In addition to any other remedies or sanctions, expressed or implied, administrative or legal, the Association shall have the right, but not the obligation, to implement anyone or more of the following actions against Owners and Occupants and/or their guests, who violate the provisions of the Governing Documents or the Act:

- a. Commence legal action for damages or equitable relief in any court of competent jurisdiction.
- b. Impose late charges of up to the greater of \$500, or 15% of the amount due, for each past due assessment or installment thereof, and interest at up to the highest rate permitted by law.
- c. In the event of default of more than 30 days in the payment of any assessment or installment thereof, all remaining, installments of assessments assessed against the Lot owned by the defaulting Owner may be accelerated and shall then be payable in full if all delinquent assessments, together with all costs of collection and late charges, are not paid in full prior to the effective date of the acceleration. Reasonable advance written notice of the effective date of the acceleration shall be given to the defaulting Owner.
- d. Impose reasonable fees, penalties or charges for each violation of the Governing Documents or the Act
- e. Suspend the rights of any Owner or Occupant and their guests to use any Common Element amenities; provided, that this limitation shall not apply to easements, appurtenant to the Lot, and those portions of the Common Elements providing utilities service and access to the Lot. Such suspensions shall be limited to periods of default by such Owners and Occupants in their obligations under the Governing Documents, and up to 30 days thereafter, for each violation.

- f. Restore any portions of the Common Elements damaged or altered, or allowed to be damaged or altered, by any Owner or Occupant or their guests in violation of the Governing Documents, and to assess the cost of such restoration against the responsible Owners and their Lots.
- g. Enter any Lot or Dwelling in which, or as to which, a violation or breach of the Governing Documents exists which materially affects, or is likely to materially affect in the near future, the health or safety of the other Owners or Occupants, or their guests, or the safety or soundness of any Dwelling or other part of the Property or the property of the Owners or Occupants, and to summarily abate and remove, at the expense of the offending Owner or Occupant, any structure, thing or condition in the Lot, Dwelling or Limited Common Elements which is causing the violation; provided, that any improvements which are a part of a Lot may be altered or demolished only pursuant to a court order or with the agreement of the Owner.
- h. Foreclose any lien arising under the provisions of the Governing Documents, or under the law, in the manner provided for the foreclosure of mortgages by action or under a power of sale in the state where the Property is located.

14.3. Right to Hearing. In the case of imposition of any of the remedies authorized by Section 14.2. d., e., f. or g. of this Section, the Board shall, upon written request of the alleged offender, grant to the offender a fair and equitable hearing as contemplated by the Act. The offender shall be given notice of the nature of the violation and the right to a hearing, and at least 10 days within which to request a hearing. The hearing shall be scheduled by the Board and held within 30 days of receipt of the hearing request by the Board, and with at least 10 days prior written notice to the offender. If the offending Owner fails to appear at the hearing then the right to a hearing shall be waived and the Board may take such action as it deems appropriate. The decision of the Board and the rules for the conduct of hearings established by the Board shall be final and binding on all parties. The Board's decision shall be delivered in writing to the offender within ten days following the hearing, if not delivered to the offender at the hearing.

14.4. Lien for Charges; Penalties, Etc. Any assessments, charges, fines, penalties or interest imposed under this Section shall be a lien against the Lot or Dwelling of the Owner or Occupant against whom the same are imposed and the personal obligation of such Owner in the same manner and with the same priority and effect as assessments under Section 6. The lien shall attach as of the date of imposition of the remedy, but shall not be final as to violations for which a hearing is held until the Board gives written notice following the hearing. All remedies shall be cumulative, and the exercise of, or failure to exercise, any remedy shall not be deemed a waiver of the right to pursue any others.

14.5. Costs of Proceeding; Attorney Fees. With respect to any collection measures, or any measures or action, legal, administrative, or otherwise, which the Association takes to enforce the provisions of the Governing Documents or the Act, whether or not finally determined by a court or arbitrator, the Association may assess the violator and his or her Lot or Dwelling

with any expenses incurred in connection with such enforcement, including without limitation fees or charges previously imposed by the Association, reasonable attorney fees incurred by the Association, and interest (at the highest rate allowed by law) on the delinquent amounts owed to the Association.

14.6. Liability for Acts by Owners and Occupants. An Owner shall be liable for the expense of any maintenance, repair or replacement of the Property rendered necessary by such Owner's acts or omissions, or by that of Occupants or guests of the Owner, to the extent that such expense is not covered by the proceeds of insurance carried by the Association or such Owner or Occupant. However, any insurance deductible amount and/or increase in insurance rates, resulting from the Owner's or Occupant's acts or omissions may be assessed against the Owner responsible for the condition and against his or her Lot or Dwelling.

14.7. Enforcement by Owners. The provisions of this Section shall not limit or impair the independent rights of other Owners to enforce the provisions of the Governing Documents and the Act as provided herein or therein.

SECTION 15 SPECIAL DECLARANT RIGHTS

To the extent allowed by the Act and any applicable City ordinances, Declarant hereby reserves the exclusive and unconditional authority to exercise the following special declarant rights within the meaning of Section 515B.1-103 (33b) of the Act for as long as Declarant owns a Lot, or for such shorter period as may be specifically indicated:

15.1. Complete Improvements. To complete all the Dwellings and other improvements indicated on the Plat, or otherwise included in Declarant's development plans or allowed by this Declaration, and to make alterations in the Lots, Dwellings and Common Elements as deemed reasonable and necessary by Declarant, including to accommodate its sales facilities;

15.2. Relocate Boundaries and Alter Lots and Dwellings. To relocate boundaries between Lots and Dwellings and to otherwise alter Lots and Dwellings owned by it, to the extent permitted by Section 16;

15.3. Sales Facilities. To construct, operate, maintain and use sales offices, management offices, signs advertising the development and Property, model Dwellings and other development, sales and rental facilities within the Common Elements and any Lots owned by Declarant from time to time, located anywhere on the Property;

15.4. Signs. To erect and maintain signs and other sales displays offering the Lots and Dwellings for sale or lease, in or on any Lot owned by Declarant and on the Common Elements;

15.5. Easements. To have and use easements, for itself, its employees, contractors, representatives, agents and prospective purchasers through and over the Common Elements for the purpose of exercising its special declarant rights;

15.6. Control of Association. To control the operation and administration of the Association, including without limitation the power to appoint and remove officers and members of the Board pursuant to Section 515B.3-103 of the Act, until the earliest of: (i) voluntary surrender of control by Declarant, (ii) an Association meeting which shall be held within sixty (60) days after conveyance to Owners other than a Declarant of seventy-five percent (75%) of the total number of Dwellings authorized to be included in the Property or (iii) the date three (3) years following the date of the first conveyance of a Dwelling to an Owner other than a Declarant. Notwithstanding the foregoing, the Owners other than a Declarant shall have the right to nominate and elect not less than thirty-three and one-third percent (33⅓ %) of the directors at a meeting of the Owners, which shall be held within sixty (60) days following the conveyance by Declarant of fifty percent (50%) of the total number of Dwellings.

15.7. Consent to Certain Amendments. As long as Declarant owns any unsold Lot or Dwelling for sale, Declarant's written consent shall be required for any amendment to the Governing Documents which directly or indirectly affects or may affect Declarant's rights under the Governing Documents or the Act.

SECTION 16

RIGHTS TO RELOCATE BOUNDARIES AND ALTERATIONS

16.1. Rights to Relocate Boundaries and Alter Lots and Dwellings. Existing or future Dwellings may be altered and Lot boundaries may be relocated only in accordance with the following conditions:

- a. Combining Dwellings. An Owner may make improvements or alterations to a Dwelling, utilizing the procedures and obtaining the approvals required under Section 8, or may, after acquiring an adjoining Lot, remove or alter any intervening Party Wall, partition or create apertures therein in accordance with Section 515B. 2-113 of the Act and Subsection d of this Section.
- b. Relocation of Boundaries. The boundaries between adjoining Dwellings may be relocated in accordance with Section 515B.2-114 of the Act and Subsection d of this Section.
- c. Subdivision or Conversion. No additional Lots may be created by the subdivision or conversion of a Lot (within the meaning of the Act) into two or more Lots, nor into other Lots, Common Elements or Limited Common Elements.
- d. Requirements. The alteration, relocation of boundaries or other modification of Lots, Dwellings or other structures located therein (collectively referred to herein

as “alteration” or “alterations”) pursuant to this Section, Section 8, and the Act may be accomplished only in accordance with the following conditions:

- (1) No Lot may be altered if, thereafter, the Dwelling located therein, or any other Dwelling affected by the alteration, would be uninhabitable or not practicably usable for its intended purpose, or if such alteration would violate any law, code or ordinance of any governmental authority with jurisdiction over the Property.
- (2) No alteration may be made that adversely affects the structural or functional integrity of any building system or the structural support or weathertight integrity of any portion of any Building or other structure.
- (3) The prior written consent of the Association shall be required for any alteration in accordance with Section 8, except alterations by Declarant. Where required, such consent shall be requested in writing by each Owner whose Lot or Dwelling is proposed to be altered, accompanied by such explanation, drawings and specifications relating to the proposed alterations as may be reasonably required by the Association and first mortgagee of the Lot. The Association shall give such Owner(s) notice in an expeditious manner, granting, denying or qualifying its consent.
- (4) As a precondition to consenting to alterations the Association may require, among other things, the following: (i) that all alterations will be done in a workmanlike manner and without impairing the structural, mechanical or weather-tight integrity of the Building; (ii) that the Common Elements and altered Dwellings will be repaired and/or restored in the future as required by the Association; (iii) that the construction of the alterations will not create dangerous conditions for any Owners or Occupants; (iv) that the Property, the first mortgagees and the Owners and Occupants will be protected from liens and other liability arising from the alterations; and (v) that the alterations will be done in compliance with the applicable laws, regulations and ordinances of the governmental authorities having jurisdiction over the Property.
- (5) The Association may require that the Owners of the Lots to be altered pay all costs of processing and documentation for the request and the preparation and recording of any necessary amendment to the Governing Documents, including without limitation such costs as filing, architects and attorney fees, incurred by the Association in connection therewith.

SECTION 17 AMENDMENTS

This Declaration may be amended only by the consent of all of the following:

(i) Owners of Lots to which are allocated at least sixty-seven percent (67%) of the votes in the Association;

(ii) the percentage of Eligible Mortgagees (based upon one vote per first mortgage owned) required by Section 18 as to matters prescribed by said Section; and

(iii) the consent of Declarant to certain amendments as provided in Section 15.7. Consent of the Owners may be obtained in writing or at a meeting of the Association duly held in accordance with the Bylaws. Consents of Eligible Mortgagees and the Declarant shall be in writing. Any amendment shall be subject to any greater requirements imposed by the Act. The Amendment shall be effective when recorded as provided in the Act. An affidavit by the Secretary of the Association as to the outcome of the vote, or the execution of the foregoing agreements or consents, shall be adequate evidence thereof for all purposes, including without limitation, the recording of the amendment.

SECTION 18 RIGHTS OF ELIGIBLE MORTGAGEES

Notwithstanding anything to the contrary in the Governing Documents, and subject to any greater requirements of the Act or other laws, Eligible Mortgagees shall have the following rights and protections:

18.1. Consent to Certain Amendments. The written consent of Eligible Mortgagees representing at least fifty-one percent (51%) of the Dwellings that are subject to first mortgages held by Eligible Mortgagees (based upon one vote per first mortgage owned) shall be required for any amendment to the Governing Documents which causes any change in the following: (i) voting rights; (ii) assessments that raise the previously assessed amount by more than twenty-five percent (25%); (iii) assessment liens or priority of assessment liens; (iv) reductions in reserves for maintenance, repair and replacement of Common Elements; (v) responsibility for maintenance; and repairs; (vi) reallocation of interests in the Common Elements or Limited Common Elements (if any), or rights to their use; (vii) redefinition of any Lot boundaries; (viii) convertibility of Lots into Common Elements or vice versa; (ix) expansion or contraction of the Property or the addition, annexation or withdrawal of property to or from the Property; (x) hazard or fidelity insurance requirements; (xi) leasing of Dwellings; (xii) imposition of any restrictions on the leasing of Dwellings; (xiii) if the common interest community consists of 50 or more Lots, a decision by the Association to establish self-management when professional management is in effect as required by the Governing Documents or by an Eligible Mortgagee; (xiv) restoration or repair of the Property (after a hazard damage or partial condemnation) in a manner other than that specified in the Governing Documents; (xv) any action to terminate the legal status of the common interest community after substantial destruction or condemnation occurs; or (xvi) any provisions that expressly benefit mortgage holders, or insurers or guarantors of mortgages. Notwithstanding the foregoing, implied approval of a proposed amendment shall be assumed when an Eligible Mortgagee fails to submit a response to any written proposal for an

amendment within three (3) days after it receives proper notice of the proposal, provided that the notice was delivered by certified mail with a return receipt requested.

18.2. Consent to Certain Actions. The written consent of Eligible Mortgagees representing at least sixty-seven percent (67%) of the Dwellings that are subject to first mortgages (based upon one vote per first mortgage) shall be required to abandon or terminate the common interest community, subject to any greater requirements contained in the Act.

18.3. Consent to Subdivision. No Lot may be partitioned or subdivided without the prior written approval of the Owner and Eligible Mortgagee thereof, and the Association.

18.4. No Right of First Refusal. The right of an Owner to sell, offer or otherwise convey his or her Dwelling shall not be subject to any right of first refusal or similar restrictions.

18.5. Priority of Lien. Any holder of a first mortgage on a Dwelling or any purchaser of a first mortgage at a foreclosure sale, that comes into possession of a Dwelling by foreclosure of the first mortgage or by deed or assignment in lieu of foreclosure, takes the Dwelling free of any claims for unpaid assessments or any other charges or liens imposed against the Dwelling by the Association which have accrued against such Dwelling prior to the acquisition of possession of the Dwelling by said first mortgage holder or purchaser; (i) except as provided in Section 6.9 and the Act, and (ii) except that any unpaid assessments or charges with respect to the Dwelling may be reallocated among all Dwellings in accordance with their Common Expense obligations.

18.6. Priority of Taxes and Other Charges. All taxes, assessments and charges which may become liens prior to the first mortgage under state law shall relate only to the individual Dwellings and not to the Property as a whole.

18.7. Priority for Condemnation Awards. No provision of the Governing Documents shall give an Owner or other party priority over rights of the Eligible Mortgagee of a Dwelling pursuant to its mortgage in the case of a distribution to such Owner of insurance proceeds or condemnation awards for losses to or a taking of the Dwelling, a Lot or the Common Elements. The Association shall give written notice to all Eligible Mortgagees of any condemnation or eminent domain proceeding affecting the Property promptly upon receipt of notice from the condemning authority.

18.8. Requirements Management Agreements. The term of any agreement for professional management of the Property may not exceed two (2) years. Any such agreement must provide at a minimum for termination without penalty or termination fee by either party, (i) with cause upon thirty (30) days prior written notice, and (ii) without cause upon ninety (90) days prior written notice.

18.9. Access to Books and Records/Audit. Eligible Mortgagees shall have the right to examine the books and records of the Association upon reasonable notice during normal business hours, and to receive free of charge, upon written request, copies of the Association's annual reports and other financial statements. Financial statements, including those which are audited,

shall be available within one hundred twenty (120) days of the end of the Association's fiscal year. If a request is made by FNMA or any institutional guarantor or insurer of a mortgage loan against a Dwelling, for an audit of the Association's financial statements for the preceding year, the Association shall cause an audit to be made and deliver a copy to the requesting party.

18.10. Notice Requirements. Upon written request to the Association, identifying the name and address of the holder, insurer or guarantor of a mortgage on a Dwelling, and the Unit number or address, the holder, insurer or guarantor shall be entitled to timely written notice of:

- a. A condemnation loss or any casualty loss which affects a material portion of the Property or the Dwelling securing the mortgage;
- b. A 60 day delinquency in the payment of assessments or charges owed by the Owner of a Dwelling on which it holds a mortgage;
- c. A lapse, cancellation or material modification of any insurance policy maintained by the Association; and
- d. A proposed action which requires the consent of a specified percentage of Eligible Mortgagees.

SECTION 19 MISCELLANEOUS

19.1. Severability. If any term, covenant, or provision of this instrument or any exhibit attached hereto is held to be invalid or unenforceable for any reason whatsoever, such determination shall not be deemed to alter, affect or impair in any manner whatsoever any other portion of this instrument or exhibits.

19.2. Construction. Where applicable the singular of any word used herein shall mean the plural, or vice versa. References to the Act, or any section thereof, shall be deemed to include any statutes amending or replacing the Act, and the comparable sections thereof.

19.3. Tender of Claims. In the event that any incident occurs which could reasonably give rise to a demand by the Association against Declarant for indemnification pursuant to the Act, the Association shall promptly tender the defense of the action to its insurance carrier, and give Declarant written notice of such tender, the specific nature of the action and an opportunity to defend against the action.

19.4. Notices. Unless specifically provided otherwise in the Governing Documents or the Act, all notices required to be given by or to the Association, the Board of Directors, the Association officers or the Owners or Occupants shall be in writing and shall be effective upon hand delivery, or mailing if properly addressed with postage prepaid and deposited in the United States mail; except that registrations pursuant to Section 2.2 of the Bylaws shall be effective upon receipt by the Association.

19.5. Conflicting Documents. In the event of any conflict among the provisions of the Act, the Declaration, the Bylaws or the Rules and Regulations, the Act shall control unless it permits the Governing Documents to control. As among the Declaration, Bylaws, and Rules and Regulations, the Declaration shall control, and as between the Bylaws and the Rules and Regulations, the Bylaws shall control.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the undersigned has executed this instrument the day and year first set forth in accordance with the requirements of the Act.

DECLARANT:

ANDRUS BUILT, LLC

By: _____
Douglas Andrus, Managing Member

STATE OF MINNESOTA)
)ss.
COUNTY OF RAMSEY)

The foregoing instrument was acknowledged before me this ____ day of _____, 2024, by Douglas Andrus, Managing Member of Andrus Built, LLC, a Minnesota limited liability company, to me known to be the person who executed the same on behalf of the company.

Notary Public

This Instrument Drafted by:
Brent R. Johnson
Lommen Abdo, P.A.
400 South Second Street, Suite 210
Hudson, WI 54016
(715) 386-8217
brent@lommen.com

EXHIBIT A TO DECLARATION

COMMON INTEREST COMMUNITY NUMBER ____
A Planned Community

DELAWARE PLACE

SCHEDULE OF LOTS:

Lot 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10; and Outlot A.

LEGAL DESCRIPTIONS:

EXHIBIT B TO DECLARATION

COMMON INTEREST COMMUNITY NUMBER ____
A Planned Community

DELAWARE PLACE

SCHEDULE OF COMMON ELEMENTS AND LEGAL DESCRIPTION
OF COMMON ELEMENTS

Outlot A, _____, Ramsey County, Minnesota

STORMWATER MANAGEMENT PLAN

Delaware Place
North St. Paul, MN

DATE: 03-12-2024
CMI PROJECT No.: 24006

PREPARED FOR:
Andrus Built, LLC
Doug Andrus
2440 Charles Street N., Ste 210
North St. Paul, MN 55109

PREPARED BY:
Civil Methods, Inc.
PO Box 28038
St. Paul, MN 55128

ENGINEER CERTIFICATION:
I hereby certify that this plan, specification, 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.

Name: David Poggi, PE

Signed: 

Date: 03-12-2024

Registration: MN No. 44573

Table of Contents

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APPENDIX A – SOILS INFORMATION

APPENDIX B – DRAINAGE DIAGRAMS

APPENDIX C –HYDROCAD REPORT

1. INTRODUCTION

The Delaware Place project is proposed to be built on the vacant 1.39 acre parcel located at the northeast corner of Delaware Avenue and 17th Ave East in North St. Paul, MN. The project will include grading for five twin homes (10 units) and construction of stormwater, sanitary and water infrastructure. This Stormwater Management Plan (SWMP) addresses the grading and stormwater controls necessary to mitigate the impacts of the project.

Governmental agencies with jurisdiction over drainage and stormwater for this project include:

- City of North St. Paul
- Ramsey Washington Metro Watershed District (RWMWD)
- Ramsey County (County)
- Minnesota Pollution Control Agency (MPCA)

Where needed, site conditions have been modeled with the HydroCAD modeling software using the TR-20 methodology and Atlas 14 design rainfall amounts.

Applicability

- Project requires an NPDES/SDS Permit because more than 1 acre of soil is disturbed.
- Project requires an RWMWD Permit because more than 1 acre is disturbed.
- Project is generally subject to the City of North St. Paul and RWMWD standards.

Regulatory Stormwater Requirements:

- 1) Rate control for the 2-, 10-, and 100-year design rainfall events.
- 2) Provide volume control for 1.1" of runoff from new impervious area.
 - a. Maximum of 2.5" credit applied to BMP subcatchment impervious area.
 - b. Drawdown within 48 hours.
 - c. Minimum of 3.0 feet of separation from basin bottom to seasonal high GWL.
- 3) Water Quality: 90% TSS (generally met if volume control achieved).
- 4) Building lowest opening shall be at least 2.0' above basin HWL and 1.0' above EOF.

2. EXISTING SITE CONDITIONS

The current 1.39 acre site consists primarily of vacant property, as existing structure were removed previously. The site consists of grass cover with no impervious area or wetlands present. A small depression area exists on the eastern property boundary, which receives runoff from neighboring backyards that overflows to the west with the remainder of the property runoff

(Appendix A). All site existing site runoff drains to storm sewer in Delaware Avenue or 17th Avenue East.

The site soils consist of urban fill of varying characteristics, resulting in inaccurate soil mapping data. A geotechnical investigation completed in 2019 (Appendix B) found a range of soils present, with clays near the surface (HSG Type D) and sandier soils in areas a few feet below the surface. The borings closest to the proposed infiltration basin (borings #2 and #3) indicate the prevalence of clayey soils near the surface, with sandier soils at depth (HSG Type Type A or Type B); however, clay layers may also exist throughout. The prevalent surface soil, Type D, is assumed for design curve numbers and model runoff generation

3. PROPOSED SITE CONDITIONS

The proposed conditions include five new twin-homes, an infiltration basin, as well as new sewer and water utilities. Approximately 24,980 SF of new impervious area will be added to the site. An infiltration basin and swales will be graded for stormwater management. In general, post-construction drainage patterns will remain similar to existing conditions (Appendix B).

The single infiltration basin will provide water quality, volume and rate control for the development. A new swale will drain the existing depression on the east side of the property through the proposed basin and ultimately to downstream storm sewer.

4. STORMWATER MANAGEMENT REQUIREMENTS

4.1 RUNOFF VOLUME CONTROL

The proposed project will add a total of 24,980 SF of new impervious area associated with the five new duplex units and driveways. The WQV of 1.1" of runoff from this area be retained/infiltrated onsite, resulting in a required infiltration volume control of 2,290 CF. The total infiltration volume provided in the designed basin is 6,098 CF (volume between basin bottom elevation of 959.20 and outlet elevation of 960.00).

In addition to the 1.1" WQV requirement, the receiving BMP can only receive credit for 2.5" of volume depth over contributing impervious area. The proposed basin receives runoff from 14,705 SF of site impervious area, not including offsite impervious draining to the basin. The 14,705 SF results in an allowable volume of 3,064 CF. Since 3,064 CF is greater than the required WQV of 2,290 CF, the design meets the standard.

Drawdown of water levels in infiltration basins must occur within 48 hours. Using an infiltration rate of 0.3 IN/HR (a conservative estimate for the sandy soils near the basin elevation), the maximum basin depth is 1.2 FT. The proposed infiltration basin has a design volume depth of

0.8' (see plan). The actual infiltration rate will need to be field-verified with onsite testing prior to construction; if found to be less, then some amount of soil mitigation may be required.

The geotechnical investigation described above (Appendix B) indicated that no groundwater was present in the borings. While piezometers were not installed for long-term determination, the borings were 6.5 IN in diameter and down 20 FT, to an elevation of 943 and 947 in the area of the proposed infiltration basin. Proposed basin bottom elevation equals 959.0.

4.2 RUNOFF RATE CONTROL

The development must not increase the existing runoff rate for the entire site for the 2-, 10-, and 100-year design storms. The pre- and post-construction conditions have been modeled for these rainfall scenarios using the HydroCAD stormwater modeling program.

The curve numbers selected for the existing and proposed condition reflect the HSG Type D nature of the top soil layer, yielding CN=80 for grass areas. Time of concentrations used are either recommended minimums (7 minutes) or calculated within HydroCAD based on flow path.

Table 4.2 summarizes the pre- and post-construction discharge rates from each subcatchment, as well as the property as a whole. A detailed HydroCAD report is included in Appendix C.

Table 4.2: Discharge Summary

Node, ID	2-Year		10-Year		100-Year	
	Existing (cfs)	Proposed (cfs)	Existing (cfs)	Proposed (cfs)	Existing (cfs)	Proposed (cfs)
1R - Delaware	4.7	0.8	10.1	1.4	22.2	2.6
2R - 17th Ave	0.6	0.9	1.1	2.3	2.4	6.3
3R - Total	4.8	1.3	10.2	2.4	22.6	6.5

As indicated in the table, the rate control standard is met for the entire site (Node 3R). However, it is also prudent to evaluate the capacity of the offsite conveyance system at each point of discharge, though a detailed analysis of the downstream storm sewer system is beyond the scope of this project. Nodes 1R and 2R indicate existing and proposed discharge rates to Delaware Ave. and 17th Ave., respectively.

Due to practical restraints, the proposed site will primarily discharge south to the existing catch basin in 17th Ave East (Node 2R), rather than to the catch basin in Delaware Avenue (Node 1R), where the existing site primarily drains. This will increase the peak flow rate to the catch basin in 17th Ave from the existing condition; however, the hydrograph attenuation provided by the infiltration basin pushes the peak flow rate to one hour and fifteen minutes beyond the rainfall peak. This lag time puts the peak discharge well beyond the time of peak flow at the street

catch basin sewer pipe, which is typically around 8-10 minutes (time of concentration) for an individual catch basin.

As described, the 10-YR storm peak discharge of 2.3 CFS will arrive at the catch basin at a lag time of 1.25 hrs (1 hour and 15 minutes) beyond the storm peak. The discharge at the ten minute mark (10 minutes after storm peak), or peak “Rational” design of the street storm sewer, will be 0.8 CFS, which is less than the 1.1 CFS of the existing 10-YR. Given timing of the system, both the 0.8 CFS occurring at a 10-minute time, as well as the 2.3 CFS occurring over an hour later, should be adequately handled by the downstream sewer in 17th Avenue.

4.3 RUNOFF WATER QUALITY TREATMENT

The RWMWD requires 90% TSS removal on an average annual basis. It is anticipated that this treatment goal will be met by the proposed infiltration basin.

4.4 BASIN ELEVATIONS

The low opening of new buildings must be 2.0 FT above the 100-YR high water level of the basin and 1.0 FT above the emergency overflow elevation. Low floor elevations do not need to meet freeboard requirements if waterproofing measures are provided that meet code.

The following table summarizes basin elevations and related regulatory structure elevations:

Table 4.4: Basin and Regulatory Elevations

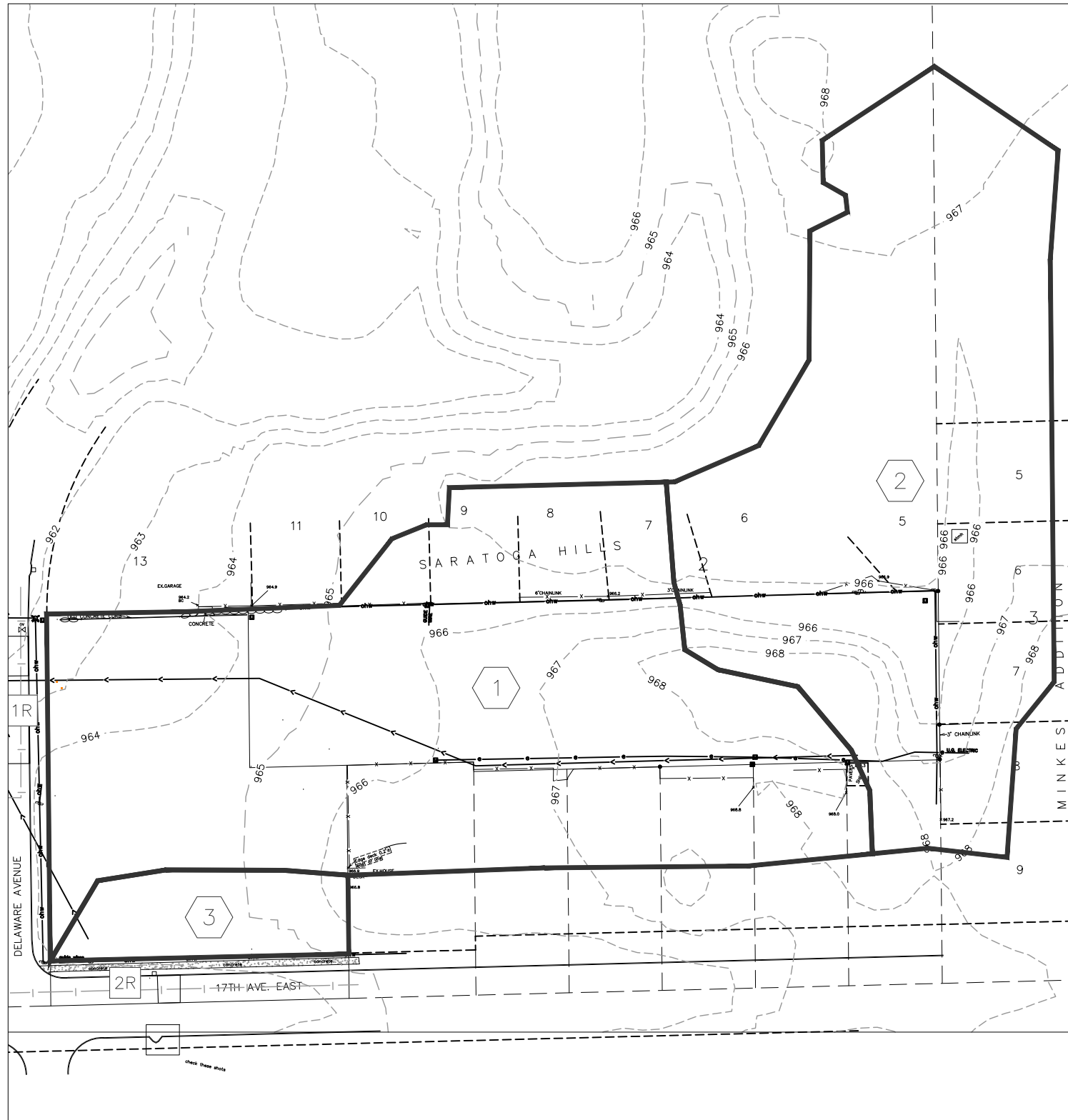
Basin ID	GWL / Redox ¹ (ft, MSL)	Bottom Elev. (ft, MSL)	Outlet Elev. (ft, MSL)	HWL (ft, MSL)	EOF (ft, MSL)	Lowest Opening Elev. (ft, MSL) ²
Basin 1	< 947.0	959.20	960.00	963.80	964.60	965.80
1) No groundwater or redox observed with geotechnical investigation to depth of bores.						
2) Lowest opening that can be impacted by HWL; garages are fronting streets in different drainage catchment, no impact.						

4.5 BASIN PRETREATMENT

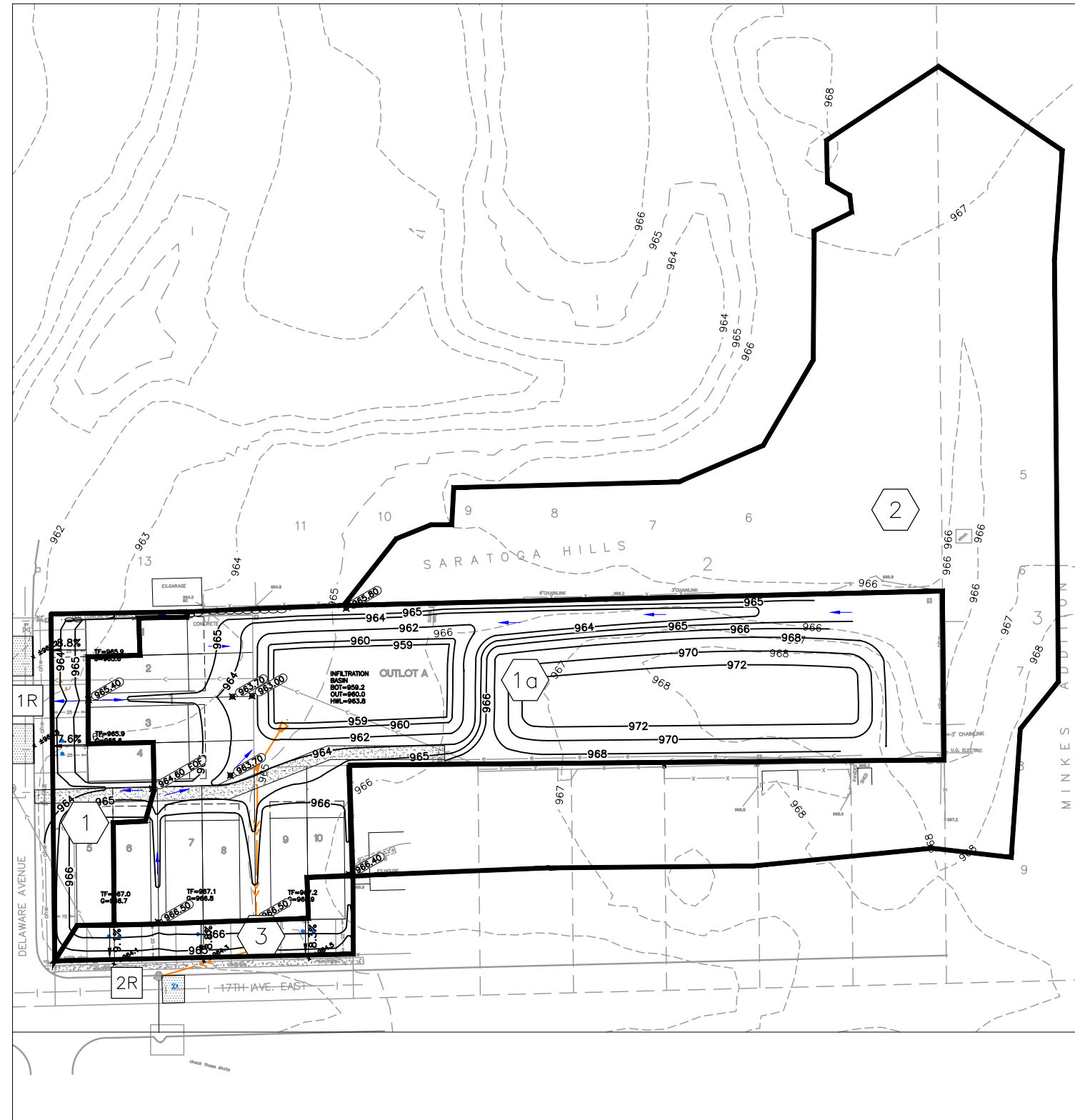
All drainage to the proposed infiltration basin will be disconnected overland flow, with no direct storm sewer inflow. Pretreatment will be provided by the grass swales leading to the basin.

Appendix A – Soils Information

Print Date: 3/14/2024 10:19 AM
File Loc: C:\Q\Civil Methods, Inc\QMI - Documents\7. Projects\24006_17th Avenue Townhomes\08. DRAWINGS AND SPECIFICATIONS\CSD\YrefBase\24006_WR.dwg



EXISTING CONDITION



PROPOSED CONDITION

CIVIL METHODS, INC.
PO Box 28038
St. Paul, MN 55128
o:763.210.5713 | www.civilmethods.com

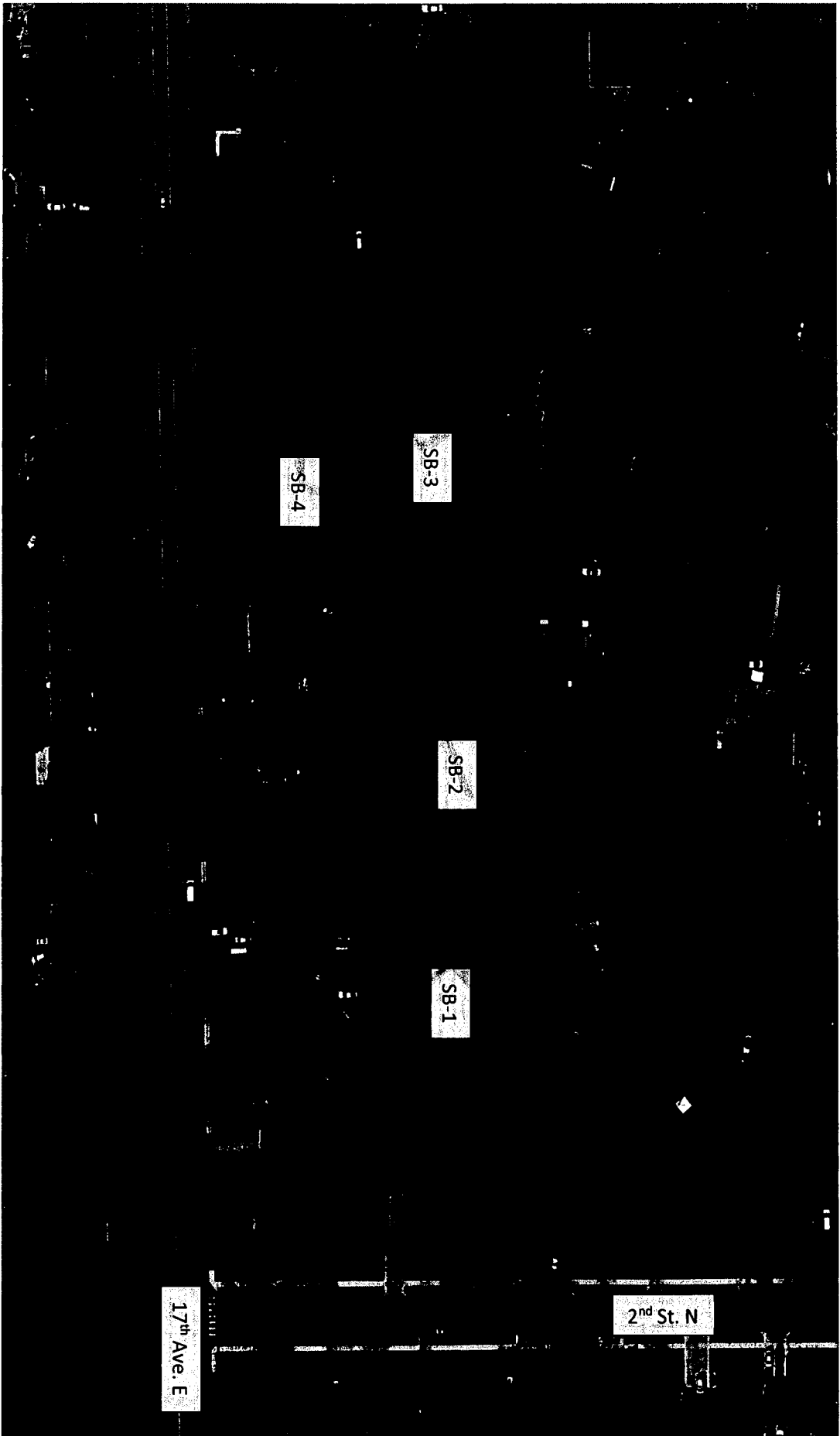
DELAWARE PLACE
ANDRUS BUILT, LLC
NORTH ST. PAUL, MN

DRAINAGE DIAGRAM

SHEET NO:

FIG 1

Appendix B – Drainage Diagrams



Boring Location Diagram
North St. Paul Preliminary
North St. Paul, Minnesota
NTI Project #: 19.MSP08083.000
NOTE: Boring locations are approximate.

Completed Boring Locations: ●



NTI
NORTHERN
TECHNOLOGIES, LLC



NTI
NORTHERN
TECHNOLOGIES, LLC

Inver Grove Heights
6160 Carmen Avenue East
Inver Grove Heights, MN, 55076
P: 651-389-4191

BORING NUMBER SB-1

PAGE 1 OF 1

CLIENT Bruggeman Builders, LLC

PROJECT NAME North St. Paul Preliminary

PROJECT NUMBER 19.MSP08083.000

PROJECT LOCATION North St. Paul, MN

DATE STARTED 5/2/19

COMPLETED 5/2/19

GROUND ELEVATION 968 feet

HOLE SIZE 6 1/2 in.

DRILLING CONTRACTOR NTI

GROUND WATER LEVELS:

DRILLING METHOD 3 1/4 in H.S.A

AT TIME OF DRILLING — No Groundwater Observed.

LOGGED BY RRH

CHECKED BY SDG

AT END OF DRILLING —

CAVE IN (ft) —

FROST DEPTH (ft) —

AFTER DRILLING —

NOTES Elevation determined using a Trimble GeoXH 6000 (NAVD 88 GEOID 09 datum).

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0												
0.9		TOPSOIL (11 Inches)	967.1	SS 1	78	1-1-2 (3)						
		CLAYEY SAND, (SC) dark brown, fine to coarse grained, moist, trace gravel (Undocumented Fill)		SS 2	72	1-3-9 (12)						
4.0			964.0									
5		SANDY LEAN CLAY, (CL) dark brown to black, moist, trace gravel, trace organics (Undocumented Fill)		SS 3	78	10-6-4 (10)		18				
6.5		NOTE: Organic content in sample 3 = 2.2%.	961.5									
		SANDY LEAN CLAY, (CL) light brown, moist, soft, trace gravel (Glacial Till)		SS 4	83	1-1-2 (3)		11				
9.0			959.0									
10		SILTY SAND, (SM) reddish brown, fine to medium grained, moist, dense, trace gravel (Glacial Till)		SS 5	94	6-8-10 (18)						
				SS 6	78	12-16-13 (29)						
				SS 7	100	21-10-16 (26)						
15												
19.3			948.8	SS 8	67	50/3"						

Bottom of borehole at 19.3 feet.

NTI LOG - GENERAL (USE THIS ONE) - NTI-2017-09-14.GDT - 62319 08-44 - R:JAMISY11-PROJECTS0019 PROJECTS WHITE BEAR LAKE & N ST PAUL PRELIMINARY GEO 19.MSP 08083.000ENGINEERING REPORTS\GINT\NISP PRELIMINARY.GPJ



NTI
NORTHERN
TECHNOLOGIES, LLC

Inver Grove Heights
6160 Camen Avenue East
Inver Grove Heights, MN, 55076
P: 651-389-4191

BORING NUMBER SB-2

PAGE 1 OF 1

CLIENT Bruggeman Builders, LLC PROJECT NAME North St. Paul Preliminary
PROJECT NUMBER 19.MSP08083.000 PROJECT LOCATION North St. Paul, MN
DATE STARTED 5/2/19 COMPLETED 5/2/19 GROUND ELEVATION 967 feet HOLE SIZE 6 1/2 in.
DRILLING CONTRACTOR NTI GROUND WATER LEVELS:
DRILLING METHOD 3 1/4 in H.S.A AT TIME OF DRILLING --- No Groundwater Observed.
LOGGED BY RRH CHECKED BY SDG AT END OF DRILLING ---
CAVE IN (ft) --- FROST DEPTH (ft) --- AFTER DRILLING ---
NOTES Elevation determined using a Trimble GeoXH 6000 (NAVD 88 GEoid 09 datum).

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0												
0.4		TOPSOIL (5 Inches)	966.6	SS 1	78	1-1-2 (3)						
1.5		SANDY LEAN CLAY, (CL) reddish brown, moist, trace gravel, occasional black layers, trace organics (Undocumented Fill)	965.5	SS 2	100	3-6-7 (13)		10				
4.0		SANDY LEAN CLAY, (CL) reddish brown, moist, rather stiff, trace gravel (Glacial Till)	963.0									
5		WELL GRADED SAND WITH SILT, (SW-SM) reddish brown, fine to medium grained, moist, dense, trace gravel (Glacial Outwash)	960.5	SS 3	89	10-13-12 (25)		2				5
6.5		WELL GRADED SAND WITH SILT AND GRAVEL, (SW-SM) reddish brown, fine to coarse grained, moist, dense (Glacial Outwash)		SS 4	100	10-12-14 (26)						
10				SS 5	89	10-12-13 (25)						
13.0				SS 6	100	10-8-8 (16)						
15		CLAYEY SAND, (SC) reddish brown, fine to coarse grained, moist, very dense, trace gravel (Glacial Till)	954.0	SS 7	83	10-8-8 (16)						
20				SS 8	78	12-16-16 (32)						
20.5			946.5									

Bottom of borehole at 20.5 feet.

NTI LOG - GENERAL (USE THIS ONE) - NTI-2017-09-14-00T - 522319 08-44 - R:\MANSEY\1-PROJECTS\2019\WHITE BEAR LAKE & N ST PAUL PRELIMINARY_GEO_19.MSP_08083.000\ENGINEERING REPORTS\2019\19.MSP PRELIMINARY.GPJ



NTI
NORTHERN
TECHNOLOGIES, LLC

Inver Grove Heights
6160 Carmen Avenue East
Inver Grove Heights, MN, 55076
P: 651-389-4191

BORING NUMBER SB-3

PAGE 1 OF 1

CLIENT Bruggeman Builders, LLC

PROJECT NAME North St. Paul Preliminary

PROJECT NUMBER 19.MSP08083.000

PROJECT LOCATION North St. Paul, MN

DATE STARTED 5/2/19

COMPLETED 5/2/19

GROUND ELEVATION 963.5 feet

HOLE SIZE 6 1/2 in.

DRILLING CONTRACTOR NTI

GROUND WATER LEVELS:

DRILLING METHOD 3 1/4 in H.S.A

AT TIME OF DRILLING — No Groundwater Observed.

LOGGED BY RRH

CHECKED BY SDG

AT END OF DRILLING —

CAVE IN (ft) —

FROST DEPTH (ft) —

AFTER DRILLING —

NOTES Elevation determined using a Trimble GeoXH 6000 (NAVD 88 GCoID 09 datum).

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0												
0.7		TOPSOIL (8 Inches)	962.8	SS 1	78	3-5-6 (11)						
1.5		CLAYEY SAND, (SC) dark brown to black, fine to medium grained, moist, trace gravel, trace organics (Undocumented Fill)	962.0	SS 2	56	1-2-4 (6)		22				
4.0		SANDY LEAN CLAY, (CL) brown, moist, trace gravel (Undocumented Fill)	959.5									
5		SILTY SAND WITH GRAVEL, (SM) reddish brown, fine to medium grained, moist, dense (Glacial Till)	957.0	SS 3	72	6-12-12 (24)						
6.5		SANDY LEAN CLAY, (CL) reddish brown, moist, stiff, trace gravel (Glacial Till)	954.5	SS 4	100	5-8-12 (20)		12				
9.0		SILTY SAND, (SM) reddish brown, fine to medium grained, moist, medium dense to dense, trace gravel (Glacial Till)		SS 5	89	8-11-12 (23)						
				SS 6	83	6-8-10 (18)						
				SS 7	89	5-6-8 (14)						
20				SS 8	56	8-10-14 (24)						
20.5			943.0									

Bottom of borehole at 20.5 feet.

NTI LOG - GENERAL (USE THIS ONE) - NTI-2017-09-14.GDT - 5/23/19 09:45 - R:\9AMSEY1\PROJECTS\2019\PROJECTS\WHITE BEAR LAKE & N ST PAUL PRELIMINARY.GEO - 19.MSP - 08083.000\ENGINEERING REPORTS\GINT\NSP PRELIMINARY.GPJ



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Inver Grove Heights
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Inver Grove Heights, MN, 55076
P: 651-389-4191

BORING NUMBER SB-4

PAGE 1 OF 1

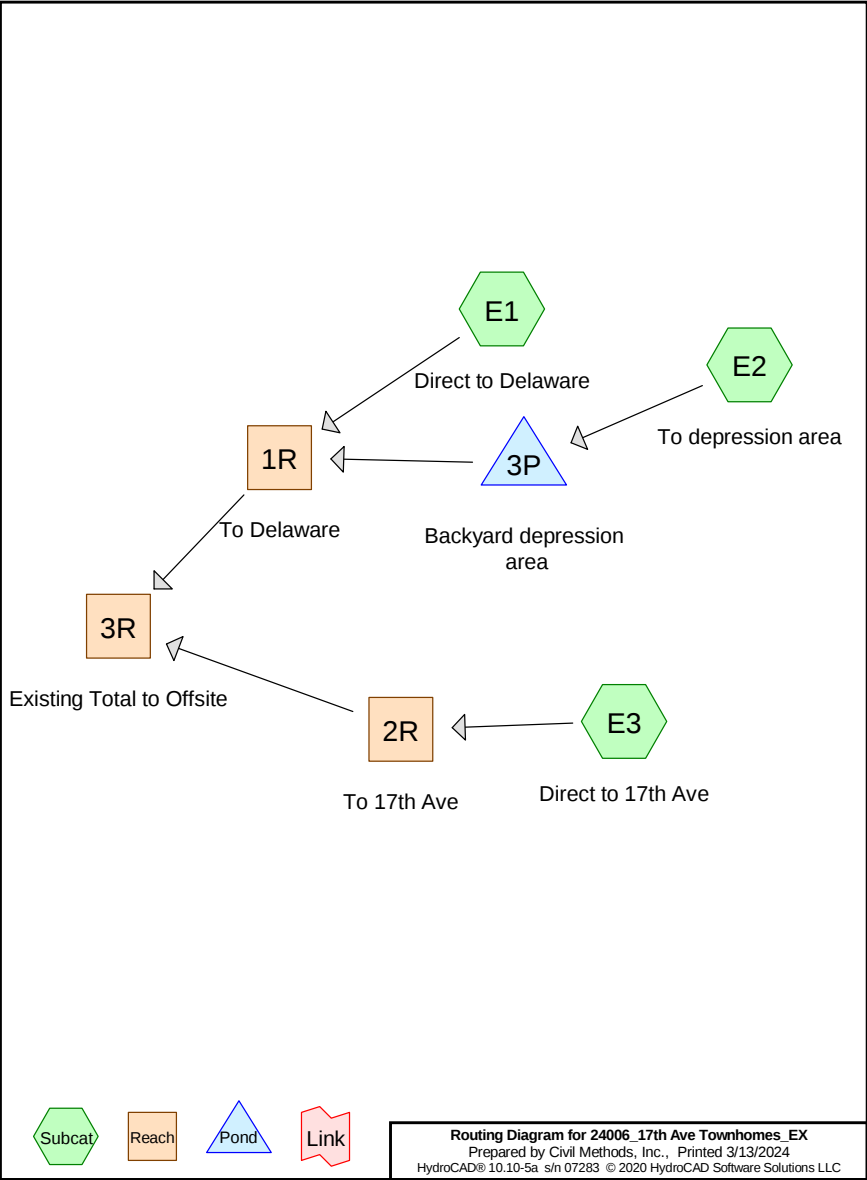
CLIENT Bruggeman Builders, LLC PROJECT NAME North St. Paul Preliminary
PROJECT NUMBER 19.MSP08083.000 PROJECT LOCATION North St. Paul, MN
DATE STARTED 5/2/19 COMPLETED 5/2/19 GROUND ELEVATION 966.5 feet HOLE SIZE 6 1/2 in.
DRILLING CONTRACTOR NTI GROUND WATER LEVELS:
DRILLING METHOD 3 1/4 in H.S.A AT TIME OF DRILLING --- No Groundwater Observed.
LOGGED BY RRH CHECKED BY SDG AT END OF DRILLING ---
CAVE IN (ft) --- FROST DEPTH (ft) --- AFTER DRILLING ---
NOTES Elevation determined using a Trimble GeoXH 6000 (NAVD 88 GEOID 09 datum).

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0												
0.2		TOPSOIL (2 Inches)	966.3									
1.5		CLAYEY SAND, (SC) black to dark brown, fine to medium grained, moist, trace gravel, trace organics (Undocumented Fill)	965.0	SS 1	94	3-11-8 (19)						
				SS 2	0	6-6-8 (14)						
4.0		SILTY SAND, (SM) dark brown to black, fine to medium grained, moist, little gravel, trace organics (Undocumented Fill)	962.5									
				SS 3	78	5-8-8 (16)		11				
		CLAYEY SAND, (SC) dark brown to black, fine to medium grained, moist, trace gravel (Undocumented Fill)										
		NOTE: Organic content in sample 3 = 1.1%.		SS 4	83	8-8-11 (19)						
8.0			958.5									
		SILTY SAND WITH GRAVEL, (SM) reddish brown, fine to coarse grained, moist, very dense (Glacial Till)		SS 5	78	8-11-19 (30)						
11.5			955.0									
		SANDY LEAN CLAY, (CL) reddish brown, moist, stiff, trace gravel (Glacial Till)		SS 6	100	8-11-17 (28)		12				
13.0			953.5									
		SILTY SAND, (SM) reddish brown, fine to medium grained, moist, dense, trace gravel (Glacial Till)		SS 7	89	8-12-14 (26)						
20.5			946.0	SS 8	67	17-10-11 (21)						

Bottom of borehole at 20.5 feet.

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Appendix C –HydroCAD Report



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	2.81	2
2	10-Year	MSE 24-hr	3	Default	24.00	1	4.19	2
3	100-Year	MSE 24-hr	3	Default	24.00	1	7.36	2

Summary for Subcatchment E1: Direct to Delaware

Runoff = 2.83 cfs @ 12.51 hrs, Volume= 0.293 af, Depth= 1.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.81"

Area (sf)	CN	Description
* 16,000	98	Offsite roofs
108,204	80	>75% Grass cover, Good, HSG D
124,204	82	Weighted Average
108,204	80	87.12% Pervious Area
16,000	98	12.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.2	100	0.0050	0.09		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"
17.1	600	0.0070	0.59		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
35.3	700	Total			

Summary for Subcatchment E2: To depression area

Runoff = 2.67 cfs @ 12.51 hrs, Volume= 0.274 af, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.81"

Area (sf)	CN	Description
* 26,000	98	Offsite roofs
79,233	80	>75% Grass cover, Good, HSG D
105,233	84	Weighted Average
79,233	80	75.29% Pervious Area
26,000	98	24.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.2	100	0.0050	0.09		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"
17.1	600	0.0070	0.59		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
35.3	700	Total			

Summary for Subcatchment E3: Direct to 17th Ave

Runoff = 0.55 cfs @ 12.15 hrs, Volume= 0.026 af, Depth= 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.81"

Area (sf)	CN	Description
12,283	80	>75% Grass cover, Good, HSG D
12,283	80	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	65	0.0200	0.15		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"

Summary for Reach 1R: To Delaware

Inflow Area = 5.267 ac, 18.31% Impervious, Inflow Depth = 1.10" for 2-Year event
Inflow = 4.69 cfs @ 12.62 hrs, Volume= 0.481 af
Outflow = 4.69 cfs @ 12.62 hrs, Volume= 0.481 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Reach 2R: To 17th Ave

Inflow Area = 0.282 ac, 0.00% Impervious, Inflow Depth = 1.11" for 2-Year event
Inflow = 0.55 cfs @ 12.15 hrs, Volume= 0.026 af
Outflow = 0.55 cfs @ 12.15 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Reach 3R: Existing Total to Offsite

Inflow Area = 5.549 ac, 17.38% Impervious, Inflow Depth = 1.10" for 2-Year event
Inflow = 4.76 cfs @ 12.62 hrs, Volume= 0.507 af
Outflow = 4.76 cfs @ 12.62 hrs, Volume= 0.507 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

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MSE 24-hr 3 2-Year Rainfall=2.81"

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Summary for Pond 3P: Backyard depression area

Inflow Area = 2.416 ac, 24.71% Impervious, Inflow Depth = 1.36" for 2-Year event
 Inflow = 2.67 cfs @ 12.51 hrs, Volume= 0.274 af
 Outflow = 2.21 cfs @ 12.69 hrs, Volume= 0.274 af, Atten= 17%, Lag= 10.5 min
 Discarded = 0.05 cfs @ 12.69 hrs, Volume= 0.085 af
 Primary = 2.17 cfs @ 12.69 hrs, Volume= 0.189 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 Peak Elev= 965.61' @ 12.69 hrs Surf.Area= 6,794 sf Storage= 3,324 cf

Plug-Flow detention time= 293.7 min calculated for 0.274 af (100% of inflow)
 Center-of-Mass det. time= 294.0 min (1,130.5 - 836.5)

Volume	Invert	Avail.Storage	Storage Description
#1	964.10'	32,739 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
964.10	100	0	0
965.00	1,620	774	774
966.00	10,155	5,888	6,661
967.00	42,000	26,078	32,739

Device	Routing	Invert	Outlet Devices
#1	Discarded	964.10'	0.300 in/hr Exfiltration over Surface area
#2	Primary	965.40'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.60
			Width (feet) 5.00 20.00

Discarded OutFlow Max=0.05 cfs @ 12.69 hrs HW=965.61' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=2.17 cfs @ 12.69 hrs HW=965.61' TW=0.00' (Dynamic Tailwater)
 ↳ **2=Custom Weir/Orifice** (Weir Controls 2.17 cfs @ 1.39 fps)

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Stage-Area-Storage for Pond 3P: Backyard depression area

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
964.10	100	0	964.64	1,012	300
964.11	117	1	964.65	1,029	310
964.12	134	2	964.66	1,046	321
964.13	151	4	964.67	1,063	331
964.14	168	5	964.68	1,080	342
964.15	184	7	964.69	1,096	353
964.16	201	9	964.70	1,113	364
964.17	218	11	964.71	1,130	375
964.18	235	13	964.72	1,147	387
964.19	252	16	964.73	1,164	398
964.20	269	18	964.74	1,181	410
964.21	286	21	964.75	1,198	422
964.22	303	24	964.76	1,215	434
964.23	320	27	964.77	1,232	446
964.24	336	31	964.78	1,248	458
964.25	353	34	964.79	1,265	471
964.26	370	38	964.80	1,282	484
964.27	387	41	964.81	1,299	497
964.28	404	45	964.82	1,316	510
964.29	421	49	964.83	1,333	523
964.30	438	54	964.84	1,350	536
964.31	455	58	964.85	1,367	550
964.32	472	63	964.86	1,384	564
964.33	488	68	964.87	1,400	578
964.34	505	73	964.88	1,417	592
964.35	522	78	964.89	1,434	606
964.36	539	83	964.90	1,451	620
964.37	556	89	964.91	1,468	635
964.38	573	94	964.92	1,485	650
964.39	590	100	964.93	1,502	665
964.40	607	106	964.94	1,519	680
964.41	624	112	964.95	1,536	695
964.42	640	118	964.96	1,552	711
964.43	657	125	964.97	1,569	726
964.44	674	132	964.98	1,586	742
964.45	691	138	964.99	1,603	758
964.46	708	145	965.00	1,620	774
964.47	725	153	965.01	1,705	791
964.48	742	160	965.02	1,791	808
964.49	759	167	965.03	1,876	826
964.50	776	175	965.04	1,961	846
964.51	792	183	965.05	2,047	866
964.52	809	191	965.06	2,132	887
964.53	826	199	965.07	2,217	908
964.54	843	207	965.08	2,303	931
964.55	860	216	965.09	2,388	954
964.56	877	225	965.10	2,474	979
964.57	894	234	965.11	2,559	1,004
964.58	911	243	965.12	2,644	1,030
964.59	928	252	965.13	2,730	1,057
964.60	944	261	965.14	2,815	1,084
964.61	961	271	965.15	2,900	1,113
964.62	978	280	965.16	2,986	1,142
964.63	995	290	965.17	3,071	1,173

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Stage-Area-Storage for Pond 3P: Backyard depression area (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
965.18	3,156	1,204	965.72	7,765	4,153
965.19	3,242	1,236	965.73	7,851	4,231
965.20	3,327	1,269	965.74	7,936	4,310
965.21	3,412	1,302	965.75	8,021	4,389
965.22	3,498	1,337	965.76	8,107	4,470
965.23	3,583	1,372	965.77	8,192	4,552
965.24	3,668	1,409	965.78	8,277	4,634
965.25	3,754	1,446	965.79	8,363	4,717
965.26	3,839	1,484	965.80	8,448	4,801
965.27	3,924	1,523	965.81	8,533	4,886
965.28	4,010	1,562	965.82	8,619	4,972
965.29	4,095	1,603	965.83	8,704	5,058
965.30	4,181	1,644	965.84	8,789	5,146
965.31	4,266	1,686	965.85	8,875	5,234
965.32	4,351	1,729	965.86	8,960	5,323
965.33	4,437	1,773	965.87	9,045	5,413
965.34	4,522	1,818	965.88	9,131	5,504
965.35	4,607	1,864	965.89	9,216	5,596
965.36	4,693	1,910	965.90	9,301	5,689
965.37	4,778	1,958	965.91	9,387	5,782
965.38	4,863	2,006	965.92	9,472	5,876
965.39	4,949	2,055	965.93	9,558	5,972
965.40	5,034	2,105	965.94	9,643	6,068
965.41	5,119	2,156	965.95	9,728	6,164
965.42	5,205	2,207	965.96	9,814	6,262
965.43	5,290	2,260	965.97	9,899	6,361
965.44	5,375	2,313	965.98	9,984	6,460
965.45	5,461	2,367	965.99	10,070	6,560
965.46	5,546	2,422	966.00	10,155	6,661
965.47	5,631	2,478	966.01	10,243	6,765
965.48	5,717	2,535	966.02	10,292	6,871
965.49	5,802	2,592	966.03	11,110	6,980
965.50	5,888	2,651	966.04	11,429	7,093
965.51	5,973	2,710	966.05	11,747	7,209
965.52	6,058	2,770	966.06	12,066	7,328
965.53	6,144	2,831	966.07	12,384	7,450
965.54	6,229	2,893	966.08	12,703	7,576
965.55	6,314	2,956	966.09	13,021	7,704
965.56	6,400	3,019	966.10	13,340	7,836
965.57	6,485	3,084	966.11	13,658	7,971
965.58	6,570	3,149	966.12	13,976	8,109
965.59	6,656	3,215	966.13	14,295	8,251
965.60	6,741	3,282	966.14	14,613	8,395
965.61	6,826	3,350	966.15	14,932	8,543
965.62	6,912	3,419	966.16	15,250	8,694
965.63	6,997	3,488	966.17	15,569	8,848
965.64	7,082	3,559	966.18	15,887	9,005
965.65	7,168	3,630	966.19	16,206	9,166
965.66	7,253	3,702	966.20	16,524	9,329
965.67	7,338	3,775	966.21	16,842	9,496
965.68	7,424	3,849	966.22	17,161	9,666
965.69	7,509	3,924	966.23	17,479	9,839
965.70	7,595	3,999	966.24	17,798	10,016
965.71	7,680	4,075	966.25	18,116	10,195

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Stage-Area-Storage for Pond 3P: Backyard depression area (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
966.26	18,435	10,378	966.80	35,631	24,976
966.27	18,753	10,564	966.81	35,949	25,334
966.28	19,072	10,753	966.82	36,268	25,695
966.29	19,390	10,946	966.83	36,586	26,059
966.30	19,709	11,141	966.84	36,905	26,427
966.31	20,027	11,340	966.85	37,223	26,797
966.32	20,345	11,542	966.86	37,542	27,171
966.33	20,664	11,747	966.87	37,860	27,548
966.34	20,982	11,955	966.88	38,179	27,928
966.35	21,301	12,166	966.89	38,497	28,312
966.36	21,619	12,381	966.90	38,815	28,698
966.37	21,938	12,599	966.91	39,134	29,088
966.38	22,256	12,820	966.92	39,452	29,481
966.39	22,575	13,044	966.93	39,771	29,877
966.40	22,893	13,271	966.94	40,089	30,276
966.41	23,211	13,502	966.95	40,408	30,679
966.42	23,530	13,735	966.96	40,726	31,084
966.43	23,848	13,972	966.97	41,045	31,493
966.44	24,167	14,212	966.98	41,363	31,905
966.45	24,485	14,456	966.99	41,682	32,321
966.46	24,804	14,702	967.00	42,000	32,739
966.47	25,122	14,952			
966.48	25,441	15,204			
966.49	25,759	15,460			
966.50	26,078	15,720			
966.51	26,396	15,982			
966.52	26,714	16,248			
966.53	27,033	16,516			
966.54	27,351	16,788			
966.55	27,670	17,063			
966.56	27,988	17,342			
966.57	28,307	17,623			
966.58	28,625	17,908			
966.59	28,944	18,196			
966.60	29,262	18,487			
966.61	29,580	18,781			
966.62	29,899	19,078			
966.63	30,217	19,379			
966.64	30,536	19,683			
966.65	30,854	19,990			
966.66	31,173	20,300			
966.67	31,491	20,613			
966.68	31,810	20,929			
966.69	32,128	21,249			
966.70	32,447	21,572			
966.71	32,765	21,898			
966.72	33,083	22,227			
966.73	33,402	22,560			
966.74	33,720	22,895			
966.75	34,039	23,234			
966.76	34,357	23,576			
966.77	34,676	23,921			
966.78	34,994	24,270			
966.79	35,313	24,621			

Summary for Subcatchment E1: Direct to Delaware

Runoff = 5.50 cfs @ 12.51 hrs, Volume= 0.562 af, Depth= 2.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.19"

Area (sf)	CN	Description
* 16,000	98	Offsite roofs
108,204	80	>75% Grass cover, Good, HSG D
124,204	82	Weighted Average
108,204	80	87.12% Pervious Area
16,000	98	12.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.2	100	0.0050	0.09		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"
17.1	600	0.0070	0.59		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
35.3	700	Total			

Summary for Subcatchment E2: To depression area

Runoff = 5.00 cfs @ 12.51 hrs, Volume= 0.511 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.19"

Area (sf)	CN	Description
* 26,000	98	Offsite roofs
79,233	80	>75% Grass cover, Good, HSG D
105,233	84	Weighted Average
79,233	80	75.29% Pervious Area
26,000	98	24.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.2	100	0.0050	0.09		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"
17.1	600	0.0070	0.59		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
35.3	700	Total			

Summary for Subcatchment E3: Direct to 17th Ave

Runoff = 1.08 cfs @ 12.15 hrs, Volume= 0.052 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.19"

Area (sf)	CN	Description
12,283	80	>75% Grass cover, Good, HSG D
12,283	80	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	65	0.0200	0.15		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"

Summary for Reach 1R: To Delaware

Inflow Area = 5.267 ac, 18.31% Impervious, Inflow Depth = 2.24" for 10-Year event
Inflow = 10.05 cfs @ 12.54 hrs, Volume= 0.984 af
Outflow = 10.05 cfs @ 12.54 hrs, Volume= 0.984 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Reach 2R: To 17th Ave

Inflow Area = 0.282 ac, 0.00% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 1.08 cfs @ 12.15 hrs, Volume= 0.052 af
Outflow = 1.08 cfs @ 12.15 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Reach 3R: Existing Total to Offsite

Inflow Area = 5.549 ac, 17.38% Impervious, Inflow Depth = 2.24" for 10-Year event
Inflow = 10.23 cfs @ 12.53 hrs, Volume= 1.035 af
Outflow = 10.23 cfs @ 12.53 hrs, Volume= 1.035 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Pond 3P: Backyard depression area

Inflow Area = 2.416 ac, 24.71% Impervious, Inflow Depth = 2.54" for 10-Year event

Inflow = 5.00 cfs @ 12.51 hrs, Volume= 0.511 af

Outflow = 4.75 cfs @ 12.58 hrs, Volume= 0.511 af, Atten= 5%, Lag= 4.6 min

Discarded = 0.05 cfs @ 12.58 hrs, Volume= 0.090 af

Primary = 4.69 cfs @ 12.58 hrs, Volume= 0.421 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Peak Elev= 965.71' @ 12.58 hrs Surf.Area= 7,715 sf Storage= 4,107 cf

Plug-Flow detention time= 167.6 min calculated for 0.511 af (100% of inflow)

Center-of-Mass det. time= 167.9 min (991.8 - 823.9)

Volume	Invert	Avail.Storage	Storage Description
#1	964.10'	32,739 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
964.10	100	0	0
965.00	1,620	774	774
966.00	10,155	5,888	6,661
967.00	42,000	26,078	32,739

Device	Routing	Invert	Outlet Devices
#1	Discarded	964.10'	0.300 in/hr Exfiltration over Surface area
#2	Primary	965.40'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.60
			Width (feet) 5.00 20.00

Discarded OutFlow Max=0.05 cfs @ 12.58 hrs HW=965.71' (Free Discharge)
↳ **1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=4.69 cfs @ 12.58 hrs HW=965.71' TW=0.00' (Dynamic Tailwater)
↳ **2=Custom Weir/Orifice** (Weir Controls 4.69 cfs @ 1.67 fps)

Stage-Area-Storage for Pond 3P: Backyard depression area

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
964.10	100	0	964.64	1,012	300
964.11	117	1	964.65	1,029	310
964.12	134	2	964.66	1,046	321
964.13	151	4	964.67	1,063	331
964.14	168	5	964.68	1,080	342
964.15	184	7	964.69	1,096	353
964.16	201	9	964.70	1,113	364
964.17	218	11	964.71	1,130	375
964.18	235	13	964.72	1,147	387
964.19	252	16	964.73	1,164	398
964.20	269	18	964.74	1,181	410
964.21	286	21	964.75	1,198	422
964.22	303	24	964.76	1,215	434
964.23	320	27	964.77	1,232	446
964.24	336	31	964.78	1,248	458
964.25	353	34	964.79	1,265	471
964.26	370	38	964.80	1,282	484
964.27	387	41	964.81	1,299	497
964.28	404	45	964.82	1,316	510
964.29	421	49	964.83	1,333	523
964.30	438	54	964.84	1,350	536
964.31	455	58	964.85	1,367	550
964.32	472	63	964.86	1,384	564
964.33	488	68	964.87	1,400	578
964.34	505	73	964.88	1,417	592
964.35	522	78	964.89	1,434	606
964.36	539	83	964.90	1,451	620
964.37	556	89	964.91	1,468	635
964.38	573	94	964.92	1,485	650
964.39	590	100	964.93	1,502	665
964.40	607	106	964.94	1,519	680
964.41	624	112	964.95	1,536	695
964.42	640	118	964.96	1,552	711
964.43	657	125	964.97	1,569	726
964.44	674	132	964.98	1,586	742
964.45	691	138	964.99	1,603	758
964.46	708	145	965.00	1,620	774
964.47	725	153	965.01	1,705	791
964.48	742	160	965.02	1,791	808
964.49	759	167	965.03	1,876	826
964.50	776	175	965.04	1,961	846
964.51	792	183	965.05	2,047	866
964.52	809	191	965.06	2,132	887
964.53	826	199	965.07	2,217	908
964.54	843	207	965.08	2,303	931
964.55	860	216	965.09	2,388	954
964.56	877	225	965.10	2,474	979
964.57	894	234	965.11	2,559	1,004
964.58	911	243	965.12	2,644	1,030
964.59	928	252	965.13	2,730	1,057
964.60	944	261	965.14	2,815	1,084
964.61	961	271	965.15	2,900	1,113
964.62	978	280	965.16	2,986	1,142
964.63	995	290	965.17	3,071	1,173

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Stage-Area-Storage for Pond 3P: Backyard depression area (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
965.18	3,156	1,204	965.72	7,765	4,153
965.19	3,242	1,236	965.73	7,851	4,231
965.20	3,327	1,269	965.74	7,936	4,310
965.21	3,412	1,302	965.75	8,021	4,389
965.22	3,498	1,337	965.76	8,107	4,470
965.23	3,583	1,372	965.77	8,192	4,552
965.24	3,668	1,409	965.78	8,277	4,634
965.25	3,754	1,446	965.79	8,363	4,717
965.26	3,839	1,484	965.80	8,448	4,801
965.27	3,924	1,523	965.81	8,533	4,886
965.28	4,010	1,562	965.82	8,619	4,972
965.29	4,095	1,603	965.83	8,704	5,058
965.30	4,181	1,644	965.84	8,789	5,146
965.31	4,266	1,686	965.85	8,875	5,234
965.32	4,351	1,729	965.86	8,960	5,323
965.33	4,437	1,773	965.87	9,045	5,413
965.34	4,522	1,818	965.88	9,131	5,504
965.35	4,607	1,864	965.89	9,216	5,596
965.36	4,693	1,910	965.90	9,301	5,689
965.37	4,778	1,958	965.91	9,387	5,782
965.38	4,863	2,006	965.92	9,472	5,876
965.39	4,949	2,055	965.93	9,558	5,972
965.40	5,034	2,105	965.94	9,643	6,068
965.41	5,119	2,156	965.95	9,728	6,164
965.42	5,205	2,207	965.96	9,814	6,262
965.43	5,290	2,260	965.97	9,899	6,361
965.44	5,375	2,313	965.98	9,984	6,460
965.45	5,461	2,367	965.99	10,070	6,560
965.46	5,546	2,422	966.00	10,155	6,661
965.47	5,631	2,478	966.01	10,243	6,765
965.48	5,717	2,535	966.02	10,292	6,871
965.49	5,802	2,592	966.03	11,110	6,980
965.50	5,888	2,651	966.04	11,429	7,093
965.51	5,973	2,710	966.05	11,747	7,209
965.52	6,058	2,770	966.06	12,066	7,328
965.53	6,144	2,831	966.07	12,384	7,450
965.54	6,229	2,893	966.08	12,703	7,576
965.55	6,314	2,956	966.09	13,021	7,704
965.56	6,400	3,019	966.10	13,340	7,836
965.57	6,485	3,084	966.11	13,658	7,971
965.58	6,570	3,149	966.12	13,976	8,109
965.59	6,656	3,215	966.13	14,295	8,251
965.60	6,741	3,282	966.14	14,613	8,395
965.61	6,826	3,350	966.15	14,932	8,543
965.62	6,912	3,419	966.16	15,250	8,694
965.63	6,997	3,488	966.17	15,569	8,848
965.64	7,082	3,559	966.18	15,887	9,005
965.65	7,168	3,630	966.19	16,206	9,166
965.66	7,253	3,702	966.20	16,524	9,329
965.67	7,338	3,775	966.21	16,842	9,496
965.68	7,424	3,849	966.22	17,161	9,666
965.69	7,509	3,924	966.23	17,479	9,839
965.70	7,595	3,999	966.24	17,798	10,016
965.71	7,680	4,075	966.25	18,116	10,195

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Stage-Area-Storage for Pond 3P: Backyard depression area (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
966.26	18,435	10,378	966.80	35,631	24,976
966.27	18,753	10,564	966.81	35,949	25,334
966.28	19,072	10,753	966.82	36,268	25,695
966.29	19,390	10,946	966.83	36,586	26,059
966.30	19,709	11,141	966.84	36,905	26,427
966.31	20,027	11,340	966.85	37,223	26,797
966.32	20,345	11,542	966.86	37,542	27,171
966.33	20,664	11,747	966.87	37,860	27,548
966.34	20,982	11,955	966.88	38,179	27,928
966.35	21,301	12,166	966.89	38,497	28,312
966.36	21,619	12,381	966.90	38,815	28,698
966.37	21,938	12,599	966.91	39,134	29,088
966.38	22,256	12,820	966.92	39,452	29,481
966.39	22,575	13,044	966.93	39,771	29,877
966.40	22,893	13,271	966.94	40,089	30,276
966.41	23,211	13,502	966.95	40,408	30,679
966.42	23,530	13,735	966.96	40,726	31,084
966.43	23,848	13,972	966.97	41,045	31,493
966.44	24,167	14,212	966.98	41,363	31,905
966.45	24,485	14,456	966.99	41,682	32,321
966.46	24,804	14,702	967.00	42,000	32,739
966.47	25,122	14,952			
966.48	25,441	15,204			
966.49	25,759	15,460			
966.50	26,078	15,720			
966.51	26,396	15,982			
966.52	26,714	16,248			
966.53	27,033	16,516			
966.54	27,351	16,788			
966.55	27,670	17,063			
966.56	27,988	17,342			
966.57	28,307	17,623			
966.58	28,625	17,908			
966.59	28,944	18,196			
966.60	29,262	18,487			
966.61	29,580	18,781			
966.62	29,899	19,078			
966.63	30,217	19,379			
966.64	30,536	19,683			
966.65	30,854	19,990			
966.66	31,173	20,300			
966.67	31,491	20,613			
966.68	31,810	20,929			
966.69	32,128	21,249			
966.70	32,447	21,572			
966.71	32,765	21,898			
966.72	33,083	22,227			
966.73	33,402	22,560			
966.74	33,720	22,895			
966.75	34,039	23,234			
966.76	34,357	23,576			
966.77	34,676	23,921			
966.78	34,994	24,270			
966.79	35,313	24,621			

Summary for Subcatchment E1: Direct to Delaware

Runoff = 12.03 cfs @ 12.48 hrs, Volume= 1.249 af, Depth= 5.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.36"

Area (sf)	CN	Description
* 16,000	98	Offsite roofs
108,204	80	>75% Grass cover, Good, HSG D
124,204	82	Weighted Average
108,204	80	87.12% Pervious Area
16,000	98	12.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.2	100	0.0050	0.09		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"
17.1	600	0.0070	0.59		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
35.3	700	Total			

Summary for Subcatchment E2: To depression area

Runoff = 10.57 cfs @ 12.48 hrs, Volume= 1.104 af, Depth= 5.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.36"

Area (sf)	CN	Description
* 26,000	98	Offsite roofs
79,233	80	>75% Grass cover, Good, HSG D
105,233	84	Weighted Average
79,233	80	75.29% Pervious Area
26,000	98	24.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.2	100	0.0050	0.09		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"
17.1	600	0.0070	0.59		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
35.3	700	Total			

Summary for Subcatchment E3: Direct to 17th Ave

Runoff = 2.41 cfs @ 12.15 hrs, Volume= 0.118 af, Depth= 5.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.36"

Area (sf)	CN	Description
12,283	80	>75% Grass cover, Good, HSG D
12,283	80	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	65	0.0200	0.15		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"

Summary for Reach 1R: To Delaware

Inflow Area = 5.267 ac, 18.31% Impervious, Inflow Depth = 5.14" for 100-Year event
Inflow = 22.19 cfs @ 12.51 hrs, Volume= 2.254 af
Outflow = 22.19 cfs @ 12.51 hrs, Volume= 2.254 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Reach 2R: To 17th Ave

Inflow Area = 0.282 ac, 0.00% Impervious, Inflow Depth = 5.03" for 100-Year event
Inflow = 2.41 cfs @ 12.15 hrs, Volume= 0.118 af
Outflow = 2.41 cfs @ 12.15 hrs, Volume= 0.118 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Reach 3R: Existing Total to Offsite

Inflow Area = 5.549 ac, 17.38% Impervious, Inflow Depth = 5.13" for 100-Year event
Inflow = 22.59 cfs @ 12.51 hrs, Volume= 2.372 af
Outflow = 22.59 cfs @ 12.51 hrs, Volume= 2.372 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

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MSE 24-hr 3 100-Year Rainfall=7.36"

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Summary for Pond 3P: Backyard depression area

Inflow Area = 2.416 ac, 24.71% Impervious, Inflow Depth = 5.48" for 100-Year event
 Inflow = 10.57 cfs @ 12.48 hrs, Volume= 1.104 af
 Outflow = 10.32 cfs @ 12.54 hrs, Volume= 1.104 af, Atten= 2%, Lag= 3.7 min
 Discarded = 0.06 cfs @ 12.54 hrs, Volume= 0.098 af
 Primary = 10.25 cfs @ 12.54 hrs, Volume= 1.006 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 Peak Elev= 965.87' @ 12.54 hrs Surf.Area= 9,049 sf Storage= 5,417 cf

Plug-Flow detention time= 86.6 min calculated for 1.104 af (100% of inflow)
 Center-of-Mass det. time= 86.9 min (895.5 - 808.5)

Volume	Invert	Avail.Storage	Storage Description
#1	964.10'	32,739 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
964.10	100	0	0
965.00	1,620	774	774
966.00	10,155	5,888	6,661
967.00	42,000	26,078	32,739

Device	Routing	Invert	Outlet Devices
#1	Discarded	964.10'	0.300 in/hr Exfiltration over Surface area
#2	Primary	965.40'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.60
			Width (feet) 5.00 20.00

Discarded OutFlow Max=0.06 cfs @ 12.54 hrs HW=965.87' (Free Discharge)

↳ **1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=10.25 cfs @ 12.54 hrs HW=965.87' TW=0.00' (Dynamic Tailwater)

↳ **2=Custom Weir/Orifice** (Weir Controls 10.25 cfs @ 2.00 fps)

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MSE 24-hr 3 100-Year Rainfall=7.36"

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Stage-Area-Storage for Pond 3P: Backyard depression area

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
964.10	100	0	964.64	1,012	300
964.11	117	1	964.65	1,029	310
964.12	134	2	964.66	1,046	321
964.13	151	4	964.67	1,063	331
964.14	168	5	964.68	1,080	342
964.15	184	7	964.69	1,096	353
964.16	201	9	964.70	1,113	364
964.17	218	11	964.71	1,130	375
964.18	235	13	964.72	1,147	387
964.19	252	16	964.73	1,164	398
964.20	269	18	964.74	1,181	410
964.21	286	21	964.75	1,198	422
964.22	303	24	964.76	1,215	434
964.23	320	27	964.77	1,232	446
964.24	336	31	964.78	1,248	458
964.25	353	34	964.79	1,265	471
964.26	370	38	964.80	1,282	484
964.27	387	41	964.81	1,299	497
964.28	404	45	964.82	1,316	510
964.29	421	49	964.83	1,333	523
964.30	438	54	964.84	1,350	536
964.31	455	58	964.85	1,367	550
964.32	472	63	964.86	1,384	564
964.33	488	68	964.87	1,400	578
964.34	505	73	964.88	1,417	592
964.35	522	78	964.89	1,434	606
964.36	539	83	964.90	1,451	620
964.37	556	89	964.91	1,468	635
964.38	573	94	964.92	1,485	650
964.39	590	100	964.93	1,502	665
964.40	607	106	964.94	1,519	680
964.41	624	112	964.95	1,536	695
964.42	640	118	964.96	1,552	711
964.43	657	125	964.97	1,569	726
964.44	674	132	964.98	1,586	742
964.45	691	138	964.99	1,603	758
964.46	708	145	965.00	1,620	774
964.47	725	153	965.01	1,705	791
964.48	742	160	965.02	1,791	808
964.49	759	167	965.03	1,876	826
964.50	776	175	965.04	1,961	846
964.51	792	183	965.05	2,047	866
964.52	809	191	965.06	2,132	887
964.53	826	199	965.07	2,217	908
964.54	843	207	965.08	2,303	931
964.55	860	216	965.09	2,388	954
964.56	877	225	965.10	2,474	979
964.57	894	234	965.11	2,559	1,004
964.58	911	243	965.12	2,644	1,030
964.59	928	252	965.13	2,730	1,057
964.60	944	261	965.14	2,815	1,084
964.61	961	271	965.15	2,900	1,113
964.62	978	280	965.16	2,986	1,142
964.63	995	290	965.17	3,071	1,173

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Stage-Area-Storage for Pond 3P: Backyard depression area (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
965.18	3,156	1,204	965.72	7,765	4,153
965.19	3,242	1,236	965.73	7,851	4,231
965.20	3,327	1,269	965.74	7,936	4,310
965.21	3,412	1,302	965.75	8,021	4,389
965.22	3,498	1,337	965.76	8,107	4,470
965.23	3,583	1,372	965.77	8,192	4,552
965.24	3,668	1,409	965.78	8,277	4,634
965.25	3,754	1,446	965.79	8,363	4,717
965.26	3,839	1,484	965.80	8,448	4,801
965.27	3,924	1,523	965.81	8,533	4,886
965.28	4,010	1,562	965.82	8,619	4,972
965.29	4,095	1,603	965.83	8,704	5,058
965.30	4,181	1,644	965.84	8,789	5,146
965.31	4,266	1,686	965.85	8,875	5,234
965.32	4,351	1,729	965.86	8,960	5,323
965.33	4,437	1,773	965.87	9,045	5,413
965.34	4,522	1,818	965.88	9,131	5,504
965.35	4,607	1,864	965.89	9,216	5,596
965.36	4,693	1,910	965.90	9,301	5,689
965.37	4,778	1,958	965.91	9,387	5,782
965.38	4,863	2,006	965.92	9,472	5,876
965.39	4,949	2,055	965.93	9,558	5,972
965.40	5,034	2,105	965.94	9,643	6,068
965.41	5,119	2,156	965.95	9,728	6,164
965.42	5,205	2,207	965.96	9,814	6,262
965.43	5,290	2,260	965.97	9,899	6,361
965.44	5,375	2,313	965.98	9,984	6,460
965.45	5,461	2,367	965.99	10,070	6,560
965.46	5,546	2,422	966.00	10,155	6,661
965.47	5,631	2,478	966.01	10,243	6,765
965.48	5,717	2,535	966.02	10,292	6,871
965.49	5,802	2,592	966.03	11,110	6,980
965.50	5,888	2,651	966.04	11,429	7,093
965.51	5,973	2,710	966.05	11,747	7,209
965.52	6,058	2,770	966.06	12,066	7,328
965.53	6,144	2,831	966.07	12,384	7,450
965.54	6,229	2,893	966.08	12,703	7,576
965.55	6,314	2,956	966.09	13,021	7,704
965.56	6,400	3,019	966.10	13,340	7,836
965.57	6,485	3,084	966.11	13,658	7,971
965.58	6,570	3,149	966.12	13,976	8,109
965.59	6,656	3,215	966.13	14,295	8,251
965.60	6,741	3,282	966.14	14,613	8,395
965.61	6,826	3,350	966.15	14,932	8,543
965.62	6,912	3,419	966.16	15,250	8,694
965.63	6,997	3,488	966.17	15,569	8,848
965.64	7,082	3,559	966.18	15,887	9,005
965.65	7,168	3,630	966.19	16,206	9,166
965.66	7,253	3,702	966.20	16,524	9,329
965.67	7,338	3,775	966.21	16,842	9,496
965.68	7,424	3,849	966.22	17,161	9,666
965.69	7,509	3,924	966.23	17,479	9,839
965.70	7,595	3,999	966.24	17,798	10,016
965.71	7,680	4,075	966.25	18,116	10,195

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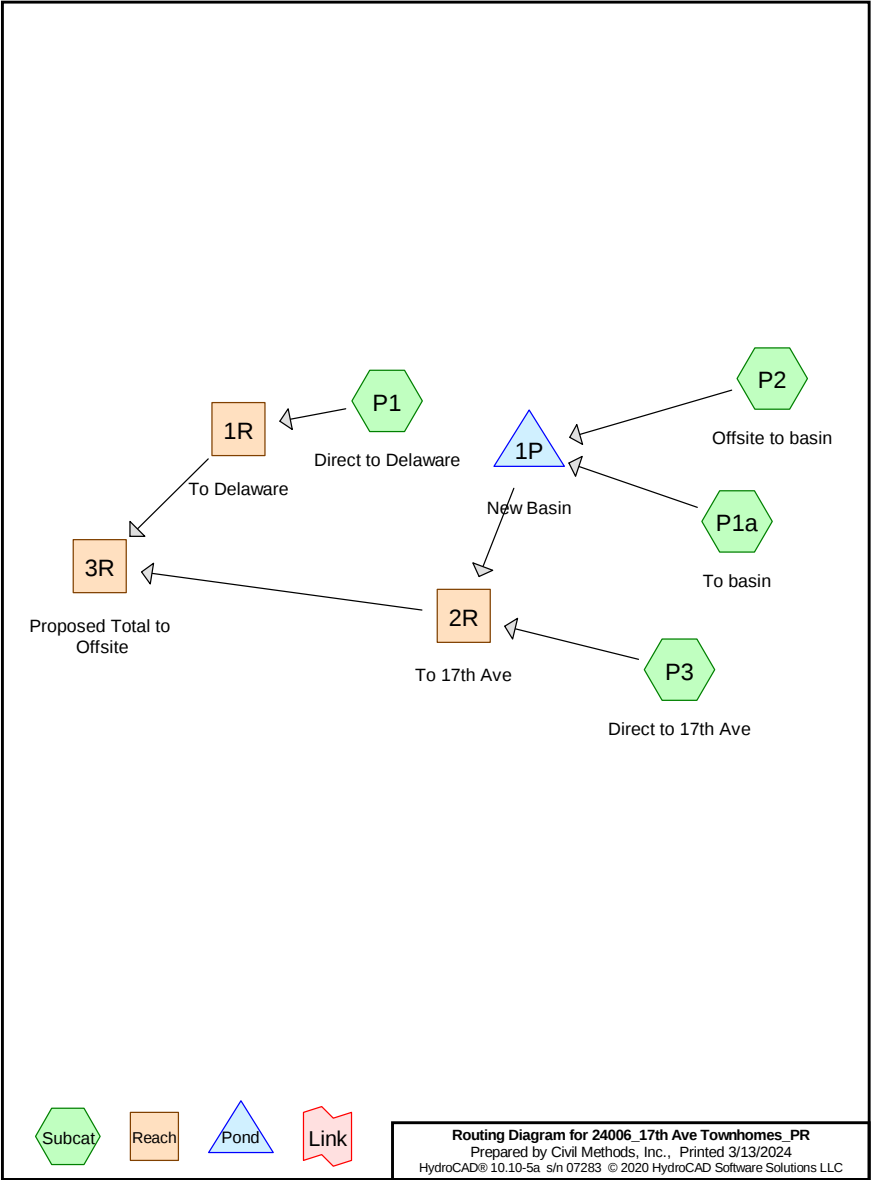
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Stage-Area-Storage for Pond 3P: Backyard depression area (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
966.26	18,435	10,378	966.80	35,631	24,976
966.27	18,753	10,564	966.81	35,949	25,334
966.28	19,072	10,753	966.82	36,268	25,695
966.29	19,390	10,946	966.83	36,586	26,059
966.30	19,709	11,141	966.84	36,905	26,427
966.31	20,027	11,340	966.85	37,223	26,797
966.32	20,345	11,542	966.86	37,542	27,171
966.33	20,664	11,747	966.87	37,860	27,548
966.34	20,982	11,955	966.88	38,179	27,928
966.35	21,301	12,166	966.89	38,497	28,312
966.36	21,619	12,381	966.90	38,815	28,698
966.37	21,938	12,599	966.91	39,134	29,088
966.38	22,256	12,820	966.92	39,452	29,481
966.39	22,575	13,044	966.93	39,771	29,877
966.40	22,893	13,271	966.94	40,089	30,276
966.41	23,211	13,502	966.95	40,408	30,679
966.42	23,530	13,735	966.96	40,726	31,084
966.43	23,848	13,972	966.97	41,045	31,493
966.44	24,167	14,212	966.98	41,363	31,905
966.45	24,485	14,456	966.99	41,682	32,321
966.46	24,804	14,702	967.00	42,000	32,739
966.47	25,122	14,952			
966.48	25,441	15,204			
966.49	25,759	15,460			
966.50	26,078	15,720			
966.51	26,396	15,982			
966.52	26,714	16,248			
966.53	27,033	16,516			
966.54	27,351	16,788			
966.55	27,670	17,063			
966.56	27,988	17,342			
966.57	28,307	17,623			
966.58	28,625	17,908			
966.59	28,944	18,196			
966.60	29,262	18,487			
966.61	29,580	18,781			
966.62	29,899	19,078			
966.63	30,217	19,379			
966.64	30,536	19,683			
966.65	30,854	19,990			
966.66	31,173	20,300			
966.67	31,491	20,613			
966.68	31,810	20,929			
966.69	32,128	21,249			
966.70	32,447	21,572			
966.71	32,765	21,898			
966.72	33,083	22,227			
966.73	33,402	22,560			
966.74	33,720	22,895			
966.75	34,039	23,234			
966.76	34,357	23,576			
966.77	34,676	23,921			
966.78	34,994	24,270			
966.79	35,313	24,621			

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	2.81	2
2	10-Year	MSE 24-hr	3	Default	24.00	1	4.19	2
3	100-Year	MSE 24-hr	3	Default	24.00	1	7.36	2



Summary for Subcatchment P1: Direct to Delaware

Runoff = 0.83 cfs @ 12.14 hrs, Volume= 0.040 af, Depth= 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.81"

	Area (sf)	CN	Description
*	6,435	98	New roofs and driveways
	5,050	80	>75% Grass cover, Good, HSG D
	11,485	90	Weighted Average
	5,050	80	43.97% Pervious Area
	6,435	98	56.03% Impervious Area

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

Summary for Subcatchment P1a: To basin

Runoff = 2.87 cfs @ 12.31 hrs, Volume= 0.220 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.81"

	Area (sf)	CN	Description
*	14,705	98	New roofs
	74,234	80	>75% Grass cover, Good, HSG D
	88,939	83	Weighted Average
	74,234	80	83.47% Pervious Area
	14,705	98	16.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	100	0.0120	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"
8.1	340	0.0100	0.70		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
20.9	440	Total			

Summary for Subcatchment P2: Offsite to basin

Runoff = 4.06 cfs @ 12.45 hrs, Volume= 0.387 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.81"

Area (sf)		CN	Description		
*	42,000	98	Offsite roofs		
	92,893	80	>75% Grass cover, Good, HSG D		
	134,893	86	Weighted Average		
	92,893	80	68.86% Pervious Area		
	42,000	98	31.14% Impervious Area		
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
13.8	100	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"
17.6	700	0.0090	0.66		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
31.4	800	Total			

Summary for Subcatchment P3: Direct to 17th Ave

Runoff = 0.48 cfs @ 12.14 hrs, Volume= 0.023 af, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.81"

Area (sf)		CN	Description		
*	3,840	98	New roofs and driveways		
	2,563	80	>75% Grass cover, Good, HSG D		
	6,403	91	Weighted Average		
	2,563	80	40.03% Pervious Area		
	3,840	98	59.97% Impervious Area		
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
7.0					Direct Entry, Tc minimum

Summary for Reach 1R: To Delaware

Inflow Area = 0.264 ac, 56.03% Impervious, Inflow Depth = 1.81" for 2-Year event
Inflow = 0.83 cfs @ 12.14 hrs, Volume= 0.040 af
Outflow = 0.83 cfs @ 12.14 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Reach 2R: To 17th Ave

Inflow Area = 5.285 ac, 26.30% Impervious, Inflow Depth = 0.96" for 2-Year event
Inflow = 0.85 cfs @ 13.47 hrs, Volume= 0.422 af
Outflow = 0.85 cfs @ 13.47 hrs, Volume= 0.422 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Reach 3R: Proposed Total to Offsite

Inflow Area = 5.549 ac, 27.71% Impervious, Inflow Depth = 1.00" for 2-Year event

Inflow = 1.31 cfs @ 12.14 hrs, Volume= 0.462 af

Outflow = 1.31 cfs @ 12.14 hrs, Volume= 0.462 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Pond 1P: New Basin

Inflow Area = 5.138 ac, 25.33% Impervious, Inflow Depth = 1.42" for 2-Year event

Inflow = 6.57 cfs @ 12.38 hrs, Volume= 0.608 af

Outflow = 0.88 cfs @ 13.63 hrs, Volume= 0.608 af, Atten= 87%, Lag= 74.8 min

Discarded = 0.05 cfs @ 13.63 hrs, Volume= 0.209 af

Primary = 0.83 cfs @ 13.63 hrs, Volume= 0.399 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Peak Elev= 961.02' @ 13.63 hrs Surf.Area= 10,118 sf Storage= 15,520 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 704.4 min (1,531.3 - 826.9)

Volume	Invert	Avail.Storage	Storage Description
#1	959.20'	58,196 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
959.20	6,882	0	0
960.00	8,364	6,098	6,098
962.00	11,805	20,168	26,267
964.00	20,125	31,929	58,196

Device	Routing	Invert	Outlet Devices
#1	Discarded	959.20'	0.200 in/hr Exfiltration over Surface area
#2	Primary	960.00'	12.0" Round Culvert L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 960.00' / 959.80' S= 0.0040 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#3	Device 2	960.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 2	962.00'	4.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Discarded OutFlow Max=0.05 cfs @ 13.63 hrs HW=961.02' (Free Discharge)

1=Exfiltration (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.83 cfs @ 13.63 hrs HW=961.02' TW=0.00' (Dynamic Tailwater)

2=Culvert (Passes 0.83 cfs of 2.12 cfs potential flow)

3=Orifice/Grate (Orifice Controls 0.83 cfs @ 4.22 fps)

4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

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MSE 24-hr 3 2-Year Rainfall=2.81"

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Stage-Area-Storage for Pond 1P: New Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
959.20	6,882	0	959.74	7,882	3,986
959.21	6,901	69	959.75	7,901	4,065
959.22	6,920	138	959.76	7,919	4,144
959.23	6,938	207	959.77	7,938	4,224
959.24	6,957	277	959.78	7,956	4,303
959.25	6,975	346	959.79	7,975	4,383
959.26	6,994	416	959.80	7,993	4,463
959.27	7,012	486	959.81	8,012	4,543
959.28	7,031	557	959.82	8,030	4,623
959.29	7,049	627	959.83	8,049	4,703
959.30	7,068	698	959.84	8,067	4,784
959.31	7,086	768	959.85	8,086	4,865
959.32	7,105	839	959.86	8,104	4,946
959.33	7,123	910	959.87	8,123	5,027
959.34	7,142	982	959.88	8,141	5,108
959.35	7,160	1,053	959.89	8,160	5,190
959.36	7,179	1,125	959.90	8,178	5,271
959.37	7,197	1,197	959.91	8,197	5,353
959.38	7,216	1,269	959.92	8,215	5,435
959.39	7,234	1,341	959.93	8,234	5,517
959.40	7,253	1,414	959.94	8,252	5,600
959.41	7,271	1,486	959.95	8,271	5,683
959.42	7,290	1,559	959.96	8,289	5,765
959.43	7,308	1,632	959.97	8,308	5,848
959.44	7,327	1,705	959.98	8,326	5,931
959.45	7,345	1,778	959.99	8,345	6,015
959.46	7,364	1,852	960.00	8,364	6,098
959.47	7,382	1,926	960.01	8,381	6,182
959.48	7,401	2,000	960.02	8,398	6,266
959.49	7,419	2,074	960.03	8,415	6,350
959.50	7,438	2,148	960.04	8,432	6,434
959.51	7,456	2,223	960.05	8,450	6,519
959.52	7,475	2,297	960.06	8,467	6,603
959.53	7,493	2,372	960.07	8,484	6,688
959.54	7,512	2,447	960.08	8,501	6,773
959.55	7,530	2,522	960.09	8,518	6,858
959.56	7,549	2,598	960.10	8,536	6,943
959.57	7,567	2,673	960.11	8,553	7,029
959.58	7,586	2,749	960.12	8,570	7,114
959.59	7,604	2,825	960.13	8,587	7,200
959.60	7,623	2,901	960.14	8,604	7,286
959.61	7,642	2,977	960.15	8,622	7,372
959.62	7,660	3,054	960.16	8,639	7,459
959.63	7,679	3,131	960.17	8,656	7,545
959.64	7,697	3,207	960.18	8,673	7,632
959.65	7,716	3,285	960.19	8,690	7,719
959.66	7,734	3,362	960.20	8,708	7,806
959.67	7,753	3,439	960.21	8,725	7,893
959.68	7,771	3,517	960.22	8,742	7,980
959.69	7,790	3,595	960.23	8,759	8,068
959.70	7,808	3,673	960.24	8,776	8,155
959.71	7,827	3,751	960.25	8,794	8,243
959.72	7,845	3,829	960.26	8,811	8,331
959.73	7,864	3,908	960.27	8,828	8,419

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Stage-Area-Storage for Pond 1P: New Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
960.28	8,845	8,508	960.82	9,774	13,535
960.29	8,862	8,596	960.83	9,792	13,633
960.30	8,880	8,685	960.84	9,809	13,731
960.31	8,897	8,774	960.85	9,826	13,829
960.32	8,914	8,863	960.86	9,843	13,927
960.33	8,931	8,952	960.87	9,860	14,026
960.34	8,949	9,041	960.88	9,878	14,125
960.35	8,966	9,131	960.89	9,895	14,223
960.36	8,983	9,221	960.90	9,912	14,322
960.37	9,000	9,311	960.91	9,929	14,422
960.38	9,017	9,401	960.92	9,946	14,521
960.39	9,035	9,491	960.93	9,964	14,621
960.40	9,052	9,581	960.94	9,981	14,720
960.41	9,069	9,672	960.95	9,998	14,820
960.42	9,086	9,763	960.96	10,015	14,920
960.43	9,103	9,854	960.97	10,033	15,020
960.44	9,121	9,945	960.98	10,050	15,121
960.45	9,138	10,036	960.99	10,067	15,221
960.46	9,155	10,128	961.00	10,084	15,322
960.47	9,172	10,219	961.01	10,101	15,423
960.48	9,189	10,311	961.02	10,119	15,524
960.49	9,207	10,403	961.03	10,136	15,626
960.50	9,224	10,495	961.04	10,153	15,727
960.51	9,241	10,588	961.05	10,170	15,829
960.52	9,258	10,680	961.06	10,187	15,930
960.53	9,275	10,773	961.07	10,205	16,032
960.54	9,293	10,866	961.08	10,222	16,134
960.55	9,310	10,959	961.09	10,239	16,237
960.56	9,327	11,052	961.10	10,256	16,339
960.57	9,344	11,145	961.11	10,273	16,442
960.58	9,361	11,239	961.12	10,291	16,545
960.59	9,379	11,332	961.13	10,308	16,648
960.60	9,396	11,426	961.14	10,325	16,751
960.61	9,413	11,520	961.15	10,342	16,854
960.62	9,430	11,614	961.16	10,359	16,958
960.63	9,448	11,709	961.17	10,377	17,061
960.64	9,465	11,803	961.18	10,394	17,165
960.65	9,482	11,898	961.19	10,411	17,269
960.66	9,499	11,993	961.20	10,428	17,373
960.67	9,516	12,088	961.21	10,445	17,478
960.68	9,534	12,183	961.22	10,463	17,582
960.69	9,551	12,279	961.23	10,480	17,687
960.70	9,568	12,374	961.24	10,497	17,792
960.71	9,585	12,470	961.25	10,514	17,897
960.72	9,602	12,566	961.26	10,532	18,002
960.73	9,620	12,662	961.27	10,549	18,108
960.74	9,637	12,759	961.28	10,566	18,213
960.75	9,654	12,855	961.29	10,583	18,319
960.76	9,671	12,952	961.30	10,600	18,425
960.77	9,688	13,048	961.31	10,618	18,531
960.78	9,706	13,145	961.32	10,635	18,637
960.79	9,723	13,243	961.33	10,652	18,744
960.80	9,740	13,340	961.34	10,669	18,850
960.81	9,757	13,437	961.35	10,686	18,957

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Stage-Area-Storage for Pond 1P: New Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
961.36	10,704	19,064	961.90	11,633	25,095
961.37	10,721	19,171	961.91	11,650	25,211
961.38	10,738	19,278	961.92	11,667	25,328
961.39	10,755	19,386	961.93	11,684	25,445
961.40	10,772	19,494	961.94	11,702	25,561
961.41	10,790	19,601	961.95	11,719	25,679
961.42	10,807	19,709	961.96	11,736	25,796
961.43	10,824	19,817	961.97	11,753	25,913
961.44	10,841	19,926	961.98	11,770	26,031
961.45	10,858	20,034	961.99	11,788	26,149
961.46	10,876	20,143	962.00	11,805	26,267
961.47	10,893	20,252	962.01	11,846	26,385
961.48	10,910	20,361	962.02	11,888	26,504
961.49	10,927	20,470	962.03	11,930	26,623
961.50	10,944	20,579	962.04	11,971	26,742
961.51	10,962	20,689	962.05	12,013	26,862
961.52	10,979	20,799	962.06	12,054	26,982
961.53	10,996	20,908	962.07	12,096	27,103
961.54	11,013	21,019	962.08	12,138	27,224
961.55	11,030	21,129	962.09	12,179	27,346
961.56	11,048	21,239	962.10	12,221	27,468
961.57	11,065	21,350	962.11	12,262	27,590
961.58	11,082	21,460	962.12	12,304	27,713
961.59	11,099	21,571	962.13	12,346	27,836
961.60	11,117	21,682	962.14	12,387	27,960
961.61	11,134	21,794	962.15	12,429	28,084
961.62	11,151	21,905	962.16	12,470	28,209
961.63	11,168	22,017	962.17	12,512	28,334
961.64	11,185	22,128	962.18	12,554	28,459
961.65	11,203	22,240	962.19	12,595	28,585
961.66	11,220	22,353	962.20	12,637	28,711
961.67	11,237	22,465	962.21	12,678	28,837
961.68	11,254	22,577	962.22	12,720	28,964
961.69	11,271	22,690	962.23	12,762	29,092
961.70	11,289	22,803	962.24	12,803	29,220
961.71	11,306	22,916	962.25	12,845	29,348
961.72	11,323	23,029	962.26	12,886	29,477
961.73	11,340	23,142	962.27	12,928	29,606
961.74	11,357	23,256	962.28	12,970	29,735
961.75	11,375	23,369	962.29	13,011	29,865
961.76	11,392	23,483	962.30	13,053	29,995
961.77	11,409	23,597	962.31	13,094	30,126
961.78	11,426	23,711	962.32	13,136	30,257
961.79	11,443	23,826	962.33	13,178	30,389
961.80	11,461	23,940	962.34	13,219	30,521
961.81	11,478	24,055	962.35	13,261	30,653
961.82	11,495	24,170	962.36	13,302	30,786
961.83	11,512	24,285	962.37	13,344	30,919
961.84	11,529	24,400	962.38	13,386	31,053
961.85	11,547	24,515	962.39	13,427	31,187
961.86	11,564	24,631	962.40	13,469	31,321
961.87	11,581	24,747	962.41	13,510	31,456
961.88	11,598	24,862	962.42	13,552	31,592
961.89	11,615	24,979	962.43	13,594	31,727

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Stage-Area-Storage for Pond 1P: New Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
962.44	13,635	31,863	962.98	15,882	39,833
962.45	13,677	32,000	962.99	15,923	39,992
962.46	13,718	32,137	963.00	15,965	40,151
962.47	13,760	32,274	963.01	16,006	40,311
962.48	13,802	32,412	963.02	16,048	40,472
962.49	13,843	32,550	963.03	16,090	40,632
962.50	13,885	32,689	963.04	16,131	40,793
962.51	13,926	32,828	963.05	16,173	40,955
962.52	13,968	32,968	963.06	16,214	41,117
962.53	14,010	33,107	963.07	16,256	41,279
962.54	14,051	33,248	963.08	16,298	41,442
962.55	14,093	33,388	963.09	16,339	41,605
962.56	14,134	33,530	963.10	16,381	41,769
962.57	14,176	33,671	963.11	16,422	41,933
962.58	14,218	33,813	963.12	16,464	42,097
962.59	14,259	33,956	963.13	16,506	42,262
962.60	14,301	34,098	963.14	16,547	42,427
962.61	14,342	34,242	963.15	16,589	42,593
962.62	14,384	34,385	963.16	16,630	42,759
962.63	14,426	34,529	963.17	16,672	42,926
962.64	14,467	34,674	963.18	16,714	43,092
962.65	14,509	34,819	963.19	16,755	43,260
962.66	14,550	34,964	963.20	16,797	43,428
962.67	14,592	35,110	963.21	16,838	43,596
962.68	14,634	35,256	963.22	16,880	43,764
962.69	14,675	35,402	963.23	16,922	43,933
962.70	14,717	35,549	963.24	16,963	44,103
962.71	14,758	35,697	963.25	17,005	44,273
962.72	14,800	35,844	963.26	17,046	44,443
962.73	14,842	35,993	963.27	17,088	44,614
962.74	14,883	36,141	963.28	17,130	44,785
962.75	14,925	36,290	963.29	17,171	44,956
962.76	14,966	36,440	963.30	17,213	45,128
962.77	15,008	36,590	963.31	17,254	45,300
962.78	15,050	36,740	963.32	17,296	45,473
962.79	15,091	36,891	963.33	17,338	45,646
962.80	15,133	37,042	963.34	17,379	45,820
962.81	15,174	37,193	963.35	17,421	45,994
962.82	15,216	37,345	963.36	17,462	46,168
962.83	15,258	37,498	963.37	17,504	46,343
962.84	15,299	37,650	963.38	17,546	46,518
962.85	15,341	37,804	963.39	17,587	46,694
962.86	15,382	37,957	963.40	17,629	46,870
962.87	15,424	38,111	963.41	17,670	47,047
962.88	15,466	38,266	963.42	17,712	47,224
962.89	15,507	38,420	963.43	17,754	47,401
962.90	15,549	38,576	963.44	17,795	47,579
962.91	15,590	38,731	963.45	17,837	47,757
962.92	15,632	38,888	963.46	17,878	47,935
962.93	15,674	39,044	963.47	17,920	48,114
962.94	15,715	39,201	963.48	17,962	48,294
962.95	15,757	39,358	963.49	18,003	48,474
962.96	15,798	39,516	963.50	18,045	48,654
962.97	15,840	39,674	963.51	18,086	48,834

Stage-Area-Storage for Pond 1P: New Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
963.52	18,128	49,016
963.53	18,170	49,197
963.54	18,211	49,379
963.55	18,253	49,561
963.56	18,294	49,744
963.57	18,336	49,927
963.58	18,378	50,111
963.59	18,419	50,295
963.60	18,461	50,479
963.61	18,502	50,664
963.62	18,544	50,849
963.63	18,586	51,035
963.64	18,627	51,221
963.65	18,669	51,407
963.66	18,710	51,594
963.67	18,752	51,782
963.68	18,794	51,969
963.69	18,835	52,157
963.70	18,877	52,346
963.71	18,918	52,535
963.72	18,960	52,724
963.73	19,002	52,914
963.74	19,043	53,104
963.75	19,085	53,295
963.76	19,126	53,486
963.77	19,168	53,678
963.78	19,210	53,869
963.79	19,251	54,062
963.80	19,293	54,254
963.81	19,334	54,448
963.82	19,376	54,641
963.83	19,418	54,835
963.84	19,459	55,029
963.85	19,501	55,224
963.86	19,542	55,419
963.87	19,584	55,615
963.88	19,626	55,811
963.89	19,667	56,008
963.90	19,709	56,204
963.91	19,750	56,402
963.92	19,792	56,599
963.93	19,834	56,798
963.94	19,875	56,996
963.95	19,917	57,195
963.96	19,958	57,394
963.97	20,000	57,594
963.98	20,042	57,794
963.99	20,083	57,995
964.00	20,125	58,196

Summary for Subcatchment P1: Direct to Delaware

Runoff = 1.39 cfs @ 12.14 hrs, Volume= 0.068 af, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.19"

	Area (sf)	CN	Description
*	6,435	98	New roofs and driveways
	5,050	80	>75% Grass cover, Good, HSG D
	11,485	90	Weighted Average
	5,050	80	43.97% Pervious Area
	6,435	98	56.03% Impervious Area

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

Summary for Subcatchment P1a: To basin

Runoff = 5.46 cfs @ 12.31 hrs, Volume= 0.417 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.19"

Area (sf)		CN	Description		
*	14,705	98	New roofs		
	74,234	80	>75% Grass cover, Good, HSG D		
	88,939	83	Weighted Average		
	74,234	80	83.47% Pervious Area		
	14,705	98	16.53% Impervious Area		
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
12.8	100	0.0120	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"
8.1	340	0.0100	0.70		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
20.9	440	Total			

Summary for Subcatchment P2: Offsite to basin

Runoff = 7.32 cfs @ 12.45 hrs, Volume= 0.702 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.19"

Area (sf)		CN	Description		
*	42,000	98	Offsite roofs		
	92,893	80	>75% Grass cover, Good, HSG D		
	134,893	86	Weighted Average		
	92,893	80	68.86% Pervious Area		
	42,000	98	31.14% Impervious Area		
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
13.8	100	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"
17.6	700	0.0090	0.66		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
31.4	800	Total			

Summary for Subcatchment P3: Direct to 17th Ave

Runoff = 0.79 cfs @ 12.14 hrs, Volume= 0.039 af, Depth= 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.19"

	Area (sf)	CN	Description
*	3,840	98	New roofs and driveways
	2,563	80	>75% Grass cover, Good, HSG D
	6,403	91	Weighted Average
	2,563	80	40.03% Pervious Area
	3,840	98	59.97% Impervious Area

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

Summary for Reach 1R: To Delaware

Inflow Area = 0.264 ac, 56.03% Impervious, Inflow Depth = 3.10" for 10-Year event
Inflow = 1.39 cfs @ 12.14 hrs, Volume= 0.068 af
Outflow = 1.39 cfs @ 12.14 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Reach 2R: To 17th Ave

Inflow Area = 5.285 ac, 26.30% Impervious, Inflow Depth = 2.12" for 10-Year event
Inflow = 2.28 cfs @ 13.23 hrs, Volume= 0.934 af
Outflow = 2.28 cfs @ 13.23 hrs, Volume= 0.934 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Reach 3R: Proposed Total to Offsite

Inflow Area = 5.549 ac, 27.71% Impervious, Inflow Depth = 2.17" for 10-Year event
Inflow = 2.37 cfs @ 13.22 hrs, Volume= 1.002 af
Outflow = 2.37 cfs @ 13.22 hrs, Volume= 1.002 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

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Summary for Pond 1P: New Basin

Inflow Area = 5.138 ac, 25.33% Impervious, Inflow Depth = 2.61" for 10-Year event
 Inflow = 12.13 cfs @ 12.38 hrs, Volume= 1.119 af
 Outflow = 2.29 cfs @ 13.23 hrs, Volume= 1.119 af, Atten= 81%, Lag= 51.2 min
 Discarded = 0.06 cfs @ 13.23 hrs, Volume= 0.224 af
 Primary = 2.24 cfs @ 13.23 hrs, Volume= 0.895 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 Peak Elev= 962.17' @ 13.23 hrs Surf.Area= 12,520 sf Storage= 28,359 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 500.8 min (1,315.4 - 814.6)

Volume	Invert	Avail.Storage	Storage Description
#1	959.20'	58,196 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
959.20	6,882	0	0
960.00	8,364	6,098	6,098
962.00	11,805	20,168	26,267
964.00	20,125	31,929	58,196

Device	Routing	Invert	Outlet Devices
#1	Discarded	959.20'	0.200 in/hr Exfiltration over Surface area
#2	Primary	960.00'	12.0" Round Culvert L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 960.00' / 959.80' S= 0.0040 ' S= 0.0040 ' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#3	Device 2	960.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 2	962.00'	4.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Discarded OutFlow Max=0.06 cfs @ 13.23 hrs HW=962.17' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=2.24 cfs @ 13.23 hrs HW=962.17' TW=0.00' (Dynamic Tailwater)

↑ **2=Culvert** (Passes 2.24 cfs of 4.21 cfs potential flow)

↑ **3=Orifice/Grate** (Orifice Controls 1.31 cfs @ 6.68 fps)

↑ **4=Sharp-Crested Rectangular Weir** (Weir Controls 0.92 cfs @ 1.36 fps)

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Stage-Area-Storage for Pond 1P: New Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
959.20	6,882	0	959.74	7,882	3,986
959.21	6,901	69	959.75	7,901	4,065
959.22	6,920	138	959.76	7,919	4,144
959.23	6,938	207	959.77	7,938	4,224
959.24	6,957	277	959.78	7,956	4,303
959.25	6,975	346	959.79	7,975	4,383
959.26	6,994	416	959.80	7,993	4,463
959.27	7,012	486	959.81	8,012	4,543
959.28	7,031	557	959.82	8,030	4,623
959.29	7,049	627	959.83	8,049	4,703
959.30	7,068	698	959.84	8,067	4,784
959.31	7,086	768	959.85	8,086	4,865
959.32	7,105	839	959.86	8,104	4,946
959.33	7,123	910	959.87	8,123	5,027
959.34	7,142	982	959.88	8,141	5,108
959.35	7,160	1,053	959.89	8,160	5,190
959.36	7,179	1,125	959.90	8,178	5,271
959.37	7,197	1,197	959.91	8,197	5,353
959.38	7,216	1,269	959.92	8,215	5,435
959.39	7,234	1,341	959.93	8,234	5,517
959.40	7,253	1,414	959.94	8,252	5,600
959.41	7,271	1,486	959.95	8,271	5,683
959.42	7,290	1,559	959.96	8,289	5,765
959.43	7,308	1,632	959.97	8,308	5,848
959.44	7,327	1,705	959.98	8,326	5,931
959.45	7,345	1,778	959.99	8,345	6,015
959.46	7,364	1,852	960.00	8,364	6,098
959.47	7,382	1,926	960.01	8,381	6,182
959.48	7,401	2,000	960.02	8,398	6,266
959.49	7,419	2,074	960.03	8,415	6,350
959.50	7,438	2,148	960.04	8,432	6,434
959.51	7,456	2,223	960.05	8,450	6,519
959.52	7,475	2,297	960.06	8,467	6,603
959.53	7,493	2,372	960.07	8,484	6,688
959.54	7,512	2,447	960.08	8,501	6,773
959.55	7,530	2,522	960.09	8,518	6,858
959.56	7,549	2,598	960.10	8,536	6,943
959.57	7,567	2,673	960.11	8,553	7,029
959.58	7,586	2,749	960.12	8,570	7,114
959.59	7,604	2,825	960.13	8,587	7,200
959.60	7,623	2,901	960.14	8,604	7,286
959.61	7,642	2,977	960.15	8,622	7,372
959.62	7,660	3,054	960.16	8,639	7,459
959.63	7,679	3,131	960.17	8,656	7,545
959.64	7,697	3,207	960.18	8,673	7,632
959.65	7,716	3,285	960.19	8,690	7,719
959.66	7,734	3,362	960.20	8,708	7,806
959.67	7,753	3,439	960.21	8,725	7,893
959.68	7,771	3,517	960.22	8,742	7,980
959.69	7,790	3,595	960.23	8,759	8,068
959.70	7,808	3,673	960.24	8,776	8,155
959.71	7,827	3,751	960.25	8,794	8,243
959.72	7,845	3,829	960.26	8,811	8,331
959.73	7,864	3,908	960.27	8,828	8,419

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Stage-Area-Storage for Pond 1P: New Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
960.28	8,845	8,508	960.82	9,774	13,535
960.29	8,862	8,596	960.83	9,792	13,633
960.30	8,880	8,685	960.84	9,809	13,731
960.31	8,897	8,774	960.85	9,826	13,829
960.32	8,914	8,863	960.86	9,843	13,927
960.33	8,931	8,952	960.87	9,860	14,026
960.34	8,949	9,041	960.88	9,878	14,125
960.35	8,966	9,131	960.89	9,895	14,223
960.36	8,983	9,221	960.90	9,912	14,322
960.37	9,000	9,311	960.91	9,929	14,422
960.38	9,017	9,401	960.92	9,946	14,521
960.39	9,035	9,491	960.93	9,964	14,621
960.40	9,052	9,581	960.94	9,981	14,720
960.41	9,069	9,672	960.95	9,998	14,820
960.42	9,086	9,763	960.96	10,015	14,920
960.43	9,103	9,854	960.97	10,033	15,020
960.44	9,121	9,945	960.98	10,050	15,121
960.45	9,138	10,036	960.99	10,067	15,221
960.46	9,155	10,128	961.00	10,084	15,322
960.47	9,172	10,219	961.01	10,101	15,423
960.48	9,189	10,311	961.02	10,119	15,524
960.49	9,207	10,403	961.03	10,136	15,626
960.50	9,224	10,495	961.04	10,153	15,727
960.51	9,241	10,588	961.05	10,170	15,829
960.52	9,258	10,680	961.06	10,187	15,930
960.53	9,275	10,773	961.07	10,205	16,032
960.54	9,293	10,866	961.08	10,222	16,134
960.55	9,310	10,959	961.09	10,239	16,237
960.56	9,327	11,052	961.10	10,256	16,339
960.57	9,344	11,145	961.11	10,273	16,442
960.58	9,361	11,239	961.12	10,291	16,545
960.59	9,379	11,332	961.13	10,308	16,648
960.60	9,396	11,426	961.14	10,325	16,751
960.61	9,413	11,520	961.15	10,342	16,854
960.62	9,430	11,614	961.16	10,359	16,958
960.63	9,448	11,709	961.17	10,377	17,061
960.64	9,465	11,803	961.18	10,394	17,165
960.65	9,482	11,898	961.19	10,411	17,269
960.66	9,499	11,993	961.20	10,428	17,373
960.67	9,516	12,088	961.21	10,445	17,478
960.68	9,534	12,183	961.22	10,463	17,582
960.69	9,551	12,279	961.23	10,480	17,687
960.70	9,568	12,374	961.24	10,497	17,792
960.71	9,585	12,470	961.25	10,514	17,897
960.72	9,602	12,566	961.26	10,532	18,002
960.73	9,620	12,662	961.27	10,549	18,108
960.74	9,637	12,759	961.28	10,566	18,213
960.75	9,654	12,855	961.29	10,583	18,319
960.76	9,671	12,952	961.30	10,600	18,425
960.77	9,688	13,048	961.31	10,618	18,531
960.78	9,706	13,145	961.32	10,635	18,637
960.79	9,723	13,243	961.33	10,652	18,744
960.80	9,740	13,340	961.34	10,669	18,850
960.81	9,757	13,437	961.35	10,686	18,957

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Stage-Area-Storage for Pond 1P: New Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
961.36	10,704	19,064	961.90	11,633	25,095
961.37	10,721	19,171	961.91	11,650	25,211
961.38	10,738	19,278	961.92	11,667	25,328
961.39	10,755	19,386	961.93	11,684	25,445
961.40	10,772	19,494	961.94	11,702	25,561
961.41	10,790	19,601	961.95	11,719	25,679
961.42	10,807	19,709	961.96	11,736	25,796
961.43	10,824	19,817	961.97	11,753	25,913
961.44	10,841	19,926	961.98	11,770	26,031
961.45	10,858	20,034	961.99	11,788	26,149
961.46	10,876	20,143	962.00	11,805	26,267
961.47	10,893	20,252	962.01	11,846	26,385
961.48	10,910	20,361	962.02	11,888	26,504
961.49	10,927	20,470	962.03	11,930	26,623
961.50	10,944	20,579	962.04	11,971	26,742
961.51	10,962	20,689	962.05	12,013	26,862
961.52	10,979	20,799	962.06	12,054	26,982
961.53	10,996	20,908	962.07	12,096	27,103
961.54	11,013	21,019	962.08	12,138	27,224
961.55	11,030	21,129	962.09	12,179	27,346
961.56	11,048	21,239	962.10	12,221	27,468
961.57	11,065	21,350	962.11	12,262	27,590
961.58	11,082	21,460	962.12	12,304	27,713
961.59	11,099	21,571	962.13	12,346	27,836
961.60	11,117	21,682	962.14	12,387	27,960
961.61	11,134	21,794	962.15	12,429	28,084
961.62	11,151	21,905	962.16	12,470	28,209
961.63	11,168	22,017	962.17	12,512	28,334
961.64	11,185	22,128	962.18	12,554	28,459
961.65	11,203	22,240	962.19	12,595	28,585
961.66	11,220	22,353	962.20	12,637	28,711
961.67	11,237	22,465	962.21	12,678	28,837
961.68	11,254	22,577	962.22	12,720	28,964
961.69	11,271	22,690	962.23	12,762	29,092
961.70	11,289	22,803	962.24	12,803	29,220
961.71	11,306	22,916	962.25	12,845	29,348
961.72	11,323	23,029	962.26	12,886	29,477
961.73	11,340	23,142	962.27	12,928	29,606
961.74	11,357	23,256	962.28	12,970	29,735
961.75	11,375	23,369	962.29	13,011	29,865
961.76	11,392	23,483	962.30	13,053	29,995
961.77	11,409	23,597	962.31	13,094	30,126
961.78	11,426	23,711	962.32	13,136	30,257
961.79	11,443	23,826	962.33	13,178	30,389
961.80	11,461	23,940	962.34	13,219	30,521
961.81	11,478	24,055	962.35	13,261	30,653
961.82	11,495	24,170	962.36	13,302	30,786
961.83	11,512	24,285	962.37	13,344	30,919
961.84	11,529	24,400	962.38	13,386	31,053
961.85	11,547	24,515	962.39	13,427	31,187
961.86	11,564	24,631	962.40	13,469	31,321
961.87	11,581	24,747	962.41	13,510	31,456
961.88	11,598	24,862	962.42	13,552	31,592
961.89	11,615	24,979	962.43	13,594	31,727

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Stage-Area-Storage for Pond 1P: New Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
962.44	13,635	31,863	962.98	15,882	39,833
962.45	13,677	32,000	962.99	15,923	39,992
962.46	13,718	32,137	963.00	15,965	40,151
962.47	13,760	32,274	963.01	16,006	40,311
962.48	13,802	32,412	963.02	16,048	40,472
962.49	13,843	32,550	963.03	16,090	40,632
962.50	13,885	32,689	963.04	16,131	40,793
962.51	13,926	32,828	963.05	16,173	40,955
962.52	13,968	32,968	963.06	16,214	41,117
962.53	14,010	33,107	963.07	16,256	41,279
962.54	14,051	33,248	963.08	16,298	41,442
962.55	14,093	33,388	963.09	16,339	41,605
962.56	14,134	33,530	963.10	16,381	41,769
962.57	14,176	33,671	963.11	16,422	41,933
962.58	14,218	33,813	963.12	16,464	42,097
962.59	14,259	33,956	963.13	16,506	42,262
962.60	14,301	34,098	963.14	16,547	42,427
962.61	14,342	34,242	963.15	16,589	42,593
962.62	14,384	34,385	963.16	16,630	42,759
962.63	14,426	34,529	963.17	16,672	42,926
962.64	14,467	34,674	963.18	16,714	43,092
962.65	14,509	34,819	963.19	16,755	43,260
962.66	14,550	34,964	963.20	16,797	43,428
962.67	14,592	35,110	963.21	16,838	43,596
962.68	14,634	35,256	963.22	16,880	43,764
962.69	14,675	35,402	963.23	16,922	43,933
962.70	14,717	35,549	963.24	16,963	44,103
962.71	14,758	35,697	963.25	17,005	44,273
962.72	14,800	35,844	963.26	17,046	44,443
962.73	14,842	35,993	963.27	17,088	44,614
962.74	14,883	36,141	963.28	17,130	44,785
962.75	14,925	36,290	963.29	17,171	44,956
962.76	14,966	36,440	963.30	17,213	45,128
962.77	15,008	36,590	963.31	17,254	45,300
962.78	15,050	36,740	963.32	17,296	45,473
962.79	15,091	36,891	963.33	17,338	45,646
962.80	15,133	37,042	963.34	17,379	45,820
962.81	15,174	37,193	963.35	17,421	45,994
962.82	15,216	37,345	963.36	17,462	46,168
962.83	15,258	37,498	963.37	17,504	46,343
962.84	15,299	37,650	963.38	17,546	46,518
962.85	15,341	37,804	963.39	17,587	46,694
962.86	15,382	37,957	963.40	17,629	46,870
962.87	15,424	38,111	963.41	17,670	47,047
962.88	15,466	38,266	963.42	17,712	47,224
962.89	15,507	38,420	963.43	17,754	47,401
962.90	15,549	38,576	963.44	17,795	47,579
962.91	15,590	38,731	963.45	17,837	47,757
962.92	15,632	38,888	963.46	17,878	47,935
962.93	15,674	39,044	963.47	17,920	48,114
962.94	15,715	39,201	963.48	17,962	48,294
962.95	15,757	39,358	963.49	18,003	48,474
962.96	15,798	39,516	963.50	18,045	48,654
962.97	15,840	39,674	963.51	18,086	48,834

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Stage-Area-Storage for Pond 1P: New Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
963.52	18,128	49,016
963.53	18,170	49,197
963.54	18,211	49,379
963.55	18,253	49,561
963.56	18,294	49,744
963.57	18,336	49,927
963.58	18,378	50,111
963.59	18,419	50,295
963.60	18,461	50,479
963.61	18,502	50,664
963.62	18,544	50,849
963.63	18,586	51,035
963.64	18,627	51,221
963.65	18,669	51,407
963.66	18,710	51,594
963.67	18,752	51,782
963.68	18,794	51,969
963.69	18,835	52,157
963.70	18,877	52,346
963.71	18,918	52,535
963.72	18,960	52,724
963.73	19,002	52,914
963.74	19,043	53,104
963.75	19,085	53,295
963.76	19,126	53,486
963.77	19,168	53,678
963.78	19,210	53,869
963.79	19,251	54,062
963.80	19,293	54,254
963.81	19,334	54,448
963.82	19,376	54,641
963.83	19,418	54,835
963.84	19,459	55,029
963.85	19,501	55,224
963.86	19,542	55,419
963.87	19,584	55,615
963.88	19,626	55,811
963.89	19,667	56,008
963.90	19,709	56,204
963.91	19,750	56,402
963.92	19,792	56,599
963.93	19,834	56,798
963.94	19,875	56,996
963.95	19,917	57,195
963.96	19,958	57,394
963.97	20,000	57,594
963.98	20,042	57,794
963.99	20,083	57,995
964.00	20,125	58,196

Summary for Subcatchment P1: Direct to Delaware

Runoff = 2.64 cfs @ 12.14 hrs, Volume= 0.136 af, Depth= 6.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.36"

Area (sf)		CN	Description		
*	6,435	98	New roofs and driveways		
	5,050	80	>75% Grass cover, Good, HSG D		
	11,485	90	Weighted Average		
	5,050	80	43.97% Pervious Area		
	6,435	98	56.03% Impervious Area		
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
7.0					Direct Entry, Tc minimum

Summary for Subcatchment P1a: To basin

Runoff = 11.73 cfs @ 12.29 hrs, Volume= 0.913 af, Depth= 5.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.36"

Area (sf)		CN	Description		
*	14,705	98	New roofs		
	74,234	80	>75% Grass cover, Good, HSG D		
	88,939	83	Weighted Average		
	74,234	80	83.47% Pervious Area		
	14,705	98	16.53% Impervious Area		
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
12.8	100	0.0120	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"
8.1	340	0.0100	0.70		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
20.9	440	Total			

Summary for Subcatchment P2: Offsite to basin						
Runoff = 15.00 cfs @ 12.43 hrs, Volume= 1.474 af, Depth= 5.71"						
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs MSE 24-hr 3 100-Year Rainfall=7.36"						
Area (sf)			CN	Description		
*	42,000	98		Offsite roofs		
	92,893	80		>75% Grass cover, Good, HSG D		
	134,893	86		Weighted Average		
	92,893	80		68.86% Pervious Area		
	42,000	98		31.14% Impervious Area		
Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
13.8	100	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"	
17.6	700	0.0090	0.66		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	
31.4	800	Total				

Summary for Subcatchment P3: Direct to 17th Ave						
Runoff = 1.49 cfs @ 12.14 hrs, Volume= 0.077 af, Depth= 6.29"						
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs MSE 24-hr 3 100-Year Rainfall=7.36"						
Area (sf)			CN	Description		
*	3,840	98		New roofs and driveways		
	2,563	80		>75% Grass cover, Good, HSG D		
	6,403	91		Weighted Average		
	2,563	80		40.03% Pervious Area		
	3,840	98		59.97% Impervious Area		
Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
7.0					Direct Entry, Tc minimum	

Summary for Reach 1R: To Delaware

Inflow Area = 0.264 ac, 56.03% Impervious, Inflow Depth = 6.18" for 100-Year event
Inflow = 2.64 cfs @ 12.14 hrs, Volume= 0.136 af
Outflow = 2.64 cfs @ 12.14 hrs, Volume= 0.136 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Reach 2R: To 17th Ave

Inflow Area = 5.285 ac, 26.30% Impervious, Inflow Depth = 5.04" for 100-Year event
Inflow = 6.34 cfs @ 12.97 hrs, Volume= 2.219 af
Outflow = 6.34 cfs @ 12.97 hrs, Volume= 2.219 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Reach 3R: Proposed Total to Offsite

Inflow Area = 5.549 ac, 27.71% Impervious, Inflow Depth = 5.09" for 100-Year event
Inflow = 6.53 cfs @ 12.94 hrs, Volume= 2.355 af
Outflow = 6.53 cfs @ 12.94 hrs, Volume= 2.355 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Pond 1P: New Basin

Inflow Area = 5.138 ac, 25.33% Impervious, Inflow Depth = 5.58" for 100-Year event
Inflow = 25.36 cfs @ 12.36 hrs, Volume= 2.388 af
Outflow = 6.32 cfs @ 13.01 hrs, Volume= 2.388 af, Atten= 75%, Lag= 39.0 min
Discarded = 0.09 cfs @ 13.01 hrs, Volume= 0.245 af
Primary = 6.23 cfs @ 13.01 hrs, Volume= 2.142 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 963.80' @ 13.01 hrs Surf.Area= 19,288 sf Storage= 54,232 cf

Plug-Flow detention time= 303.6 min calculated for 2.387 af (100% of inflow)
Center-of-Mass det. time= 303.9 min (1,103.4 - 799.5)

Volume	Invert	Avail.Storage	Storage Description
#1	959.20'	58,196 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
959.20	6,882	0	0
960.00	8,364	6,098	6,098
962.00	11,805	20,168	26,267
964.00	20,125	31,929	58,196

Device	Routing	Invert	Outlet Devices
#1	Discarded	959.20'	0.200 in/hr Exfiltration over Surface area
#2	Primary	960.00'	12.0" Round Culvert L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 960.00' / 959.80' S= 0.0040 ' S= 0.0040 ' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#3	Device 2	960.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 2	962.00'	4.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Discarded OutFlow Max=0.09 cfs @ 13.01 hrs HW=963.80' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=6.23 cfs @ 13.01 hrs HW=963.80' TW=0.00' (Dynamic Tailwater)
2=Culvert (Barrel Controls 6.23 cfs @ 7.93 fps)
3=Orifice/Grate (Passes < 1.78 cfs potential flow)
4=Sharp-Crested Rectangular Weir (Passes < 28.72 cfs potential flow)

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Stage-Area-Storage for Pond 1P: New Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
959.20	6,882	0	959.74	7,882	3,986
959.21	6,901	69	959.75	7,901	4,065
959.22	6,920	138	959.76	7,919	4,144
959.23	6,938	207	959.77	7,938	4,224
959.24	6,957	277	959.78	7,956	4,303
959.25	6,975	346	959.79	7,975	4,383
959.26	6,994	416	959.80	7,993	4,463
959.27	7,012	486	959.81	8,012	4,543
959.28	7,031	557	959.82	8,030	4,623
959.29	7,049	627	959.83	8,049	4,703
959.30	7,068	698	959.84	8,067	4,784
959.31	7,086	768	959.85	8,086	4,865
959.32	7,105	839	959.86	8,104	4,946
959.33	7,123	910	959.87	8,123	5,027
959.34	7,142	982	959.88	8,141	5,108
959.35	7,160	1,053	959.89	8,160	5,190
959.36	7,179	1,125	959.90	8,178	5,271
959.37	7,197	1,197	959.91	8,197	5,353
959.38	7,216	1,269	959.92	8,215	5,435
959.39	7,234	1,341	959.93	8,234	5,517
959.40	7,253	1,414	959.94	8,252	5,600
959.41	7,271	1,486	959.95	8,271	5,683
959.42	7,290	1,559	959.96	8,289	5,765
959.43	7,308	1,632	959.97	8,308	5,848
959.44	7,327	1,705	959.98	8,326	5,931
959.45	7,345	1,778	959.99	8,345	6,015
959.46	7,364	1,852	960.00	8,364	6,098
959.47	7,382	1,926	960.01	8,381	6,182
959.48	7,401	2,000	960.02	8,398	6,266
959.49	7,419	2,074	960.03	8,415	6,350
959.50	7,438	2,148	960.04	8,432	6,434
959.51	7,456	2,223	960.05	8,450	6,519
959.52	7,475	2,297	960.06	8,467	6,603
959.53	7,493	2,372	960.07	8,484	6,688
959.54	7,512	2,447	960.08	8,501	6,773
959.55	7,530	2,522	960.09	8,518	6,858
959.56	7,549	2,598	960.10	8,536	6,943
959.57	7,567	2,673	960.11	8,553	7,029
959.58	7,586	2,749	960.12	8,570	7,114
959.59	7,604	2,825	960.13	8,587	7,200
959.60	7,623	2,901	960.14	8,604	7,286
959.61	7,642	2,977	960.15	8,622	7,372
959.62	7,660	3,054	960.16	8,639	7,459
959.63	7,679	3,131	960.17	8,656	7,545
959.64	7,697	3,207	960.18	8,673	7,632
959.65	7,716	3,285	960.19	8,690	7,719
959.66	7,734	3,362	960.20	8,708	7,806
959.67	7,753	3,439	960.21	8,725	7,893
959.68	7,771	3,517	960.22	8,742	7,980
959.69	7,790	3,595	960.23	8,759	8,068
959.70	7,808	3,673	960.24	8,776	8,155
959.71	7,827	3,751	960.25	8,794	8,243
959.72	7,845	3,829	960.26	8,811	8,331
959.73	7,864	3,908	960.27	8,828	8,419

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Stage-Area-Storage for Pond 1P: New Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
960.28	8,845	8,508	960.82	9,774	13,535
960.29	8,862	8,596	960.83	9,792	13,633
960.30	8,880	8,685	960.84	9,809	13,731
960.31	8,897	8,774	960.85	9,826	13,829
960.32	8,914	8,863	960.86	9,843	13,927
960.33	8,931	8,952	960.87	9,860	14,026
960.34	8,949	9,041	960.88	9,878	14,125
960.35	8,966	9,131	960.89	9,895	14,223
960.36	8,983	9,221	960.90	9,912	14,322
960.37	9,000	9,311	960.91	9,929	14,422
960.38	9,017	9,401	960.92	9,946	14,521
960.39	9,035	9,491	960.93	9,964	14,621
960.40	9,052	9,581	960.94	9,981	14,720
960.41	9,069	9,672	960.95	9,998	14,820
960.42	9,086	9,763	960.96	10,015	14,920
960.43	9,103	9,854	960.97	10,033	15,020
960.44	9,121	9,945	960.98	10,050	15,121
960.45	9,138	10,036	960.99	10,067	15,221
960.46	9,155	10,128	961.00	10,084	15,322
960.47	9,172	10,219	961.01	10,101	15,423
960.48	9,189	10,311	961.02	10,119	15,524
960.49	9,207	10,403	961.03	10,136	15,626
960.50	9,224	10,495	961.04	10,153	15,727
960.51	9,241	10,588	961.05	10,170	15,829
960.52	9,258	10,680	961.06	10,187	15,930
960.53	9,275	10,773	961.07	10,205	16,032
960.54	9,293	10,866	961.08	10,222	16,134
960.55	9,310	10,959	961.09	10,239	16,237
960.56	9,327	11,052	961.10	10,256	16,339
960.57	9,344	11,145	961.11	10,273	16,442
960.58	9,361	11,239	961.12	10,291	16,545
960.59	9,379	11,332	961.13	10,308	16,648
960.60	9,396	11,426	961.14	10,325	16,751
960.61	9,413	11,520	961.15	10,342	16,854
960.62	9,430	11,614	961.16	10,359	16,958
960.63	9,448	11,709	961.17	10,377	17,061
960.64	9,465	11,803	961.18	10,394	17,165
960.65	9,482	11,898	961.19	10,411	17,269
960.66	9,499	11,993	961.20	10,428	17,373
960.67	9,516	12,088	961.21	10,445	17,478
960.68	9,534	12,183	961.22	10,463	17,582
960.69	9,551	12,279	961.23	10,480	17,687
960.70	9,568	12,374	961.24	10,497	17,792
960.71	9,585	12,470	961.25	10,514	17,897
960.72	9,602	12,566	961.26	10,532	18,002
960.73	9,620	12,662	961.27	10,549	18,108
960.74	9,637	12,759	961.28	10,566	18,213
960.75	9,654	12,855	961.29	10,583	18,319
960.76	9,671	12,952	961.30	10,600	18,425
960.77	9,688	13,048	961.31	10,618	18,531
960.78	9,706	13,145	961.32	10,635	18,637
960.79	9,723	13,243	961.33	10,652	18,744
960.80	9,740	13,340	961.34	10,669	18,850
960.81	9,757	13,437	961.35	10,686	18,957

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Stage-Area-Storage for Pond 1P: New Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
961.36	10,704	19,064	961.90	11,633	25,095
961.37	10,721	19,171	961.91	11,650	25,211
961.38	10,738	19,278	961.92	11,667	25,328
961.39	10,755	19,386	961.93	11,684	25,445
961.40	10,772	19,494	961.94	11,702	25,561
961.41	10,790	19,601	961.95	11,719	25,679
961.42	10,807	19,709	961.96	11,736	25,796
961.43	10,824	19,817	961.97	11,753	25,913
961.44	10,841	19,926	961.98	11,770	26,031
961.45	10,858	20,034	961.99	11,788	26,149
961.46	10,876	20,143	962.00	11,805	26,267
961.47	10,893	20,252	962.01	11,846	26,385
961.48	10,910	20,361	962.02	11,888	26,504
961.49	10,927	20,470	962.03	11,930	26,623
961.50	10,944	20,579	962.04	11,971	26,742
961.51	10,962	20,689	962.05	12,013	26,862
961.52	10,979	20,799	962.06	12,054	26,982
961.53	10,996	20,908	962.07	12,096	27,103
961.54	11,013	21,019	962.08	12,138	27,224
961.55	11,030	21,129	962.09	12,179	27,346
961.56	11,048	21,239	962.10	12,221	27,468
961.57	11,065	21,350	962.11	12,262	27,590
961.58	11,082	21,460	962.12	12,304	27,713
961.59	11,099	21,571	962.13	12,346	27,836
961.60	11,117	21,682	962.14	12,387	27,960
961.61	11,134	21,794	962.15	12,429	28,084
961.62	11,151	21,905	962.16	12,470	28,209
961.63	11,168	22,017	962.17	12,512	28,334
961.64	11,185	22,128	962.18	12,554	28,459
961.65	11,203	22,240	962.19	12,595	28,585
961.66	11,220	22,353	962.20	12,637	28,711
961.67	11,237	22,465	962.21	12,678	28,837
961.68	11,254	22,577	962.22	12,720	28,964
961.69	11,271	22,690	962.23	12,762	29,092
961.70	11,289	22,803	962.24	12,803	29,220
961.71	11,306	22,916	962.25	12,845	29,348
961.72	11,323	23,029	962.26	12,886	29,477
961.73	11,340	23,142	962.27	12,928	29,606
961.74	11,357	23,256	962.28	12,970	29,735
961.75	11,375	23,369	962.29	13,011	29,865
961.76	11,392	23,483	962.30	13,053	29,995
961.77	11,409	23,597	962.31	13,094	30,126
961.78	11,426	23,711	962.32	13,136	30,257
961.79	11,443	23,826	962.33	13,178	30,389
961.80	11,461	23,940	962.34	13,219	30,521
961.81	11,478	24,055	962.35	13,261	30,653
961.82	11,495	24,170	962.36	13,302	30,786
961.83	11,512	24,285	962.37	13,344	30,919
961.84	11,529	24,400	962.38	13,386	31,053
961.85	11,547	24,515	962.39	13,427	31,187
961.86	11,564	24,631	962.40	13,469	31,321
961.87	11,581	24,747	962.41	13,510	31,456
961.88	11,598	24,862	962.42	13,552	31,592
961.89	11,615	24,979	962.43	13,594	31,727

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Stage-Area-Storage for Pond 1P: New Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
962.44	13,635	31,863	962.98	15,882	39,833
962.45	13,677	32,000	962.99	15,923	39,992
962.46	13,718	32,137	963.00	15,965	40,151
962.47	13,760	32,274	963.01	16,006	40,311
962.48	13,802	32,412	963.02	16,048	40,472
962.49	13,843	32,550	963.03	16,090	40,632
962.50	13,885	32,689	963.04	16,131	40,793
962.51	13,926	32,828	963.05	16,173	40,955
962.52	13,968	32,968	963.06	16,214	41,117
962.53	14,010	33,107	963.07	16,256	41,279
962.54	14,051	33,248	963.08	16,298	41,442
962.55	14,093	33,388	963.09	16,339	41,605
962.56	14,134	33,530	963.10	16,381	41,769
962.57	14,176	33,671	963.11	16,422	41,933
962.58	14,218	33,813	963.12	16,464	42,097
962.59	14,259	33,956	963.13	16,506	42,262
962.60	14,301	34,098	963.14	16,547	42,427
962.61	14,342	34,242	963.15	16,589	42,593
962.62	14,384	34,385	963.16	16,630	42,759
962.63	14,426	34,529	963.17	16,672	42,926
962.64	14,467	34,674	963.18	16,714	43,092
962.65	14,509	34,819	963.19	16,755	43,260
962.66	14,550	34,964	963.20	16,797	43,428
962.67	14,592	35,110	963.21	16,838	43,596
962.68	14,634	35,256	963.22	16,880	43,764
962.69	14,675	35,402	963.23	16,922	43,933
962.70	14,717	35,549	963.24	16,963	44,103
962.71	14,758	35,697	963.25	17,005	44,273
962.72	14,800	35,844	963.26	17,046	44,443
962.73	14,842	35,993	963.27	17,088	44,614
962.74	14,883	36,141	963.28	17,130	44,785
962.75	14,925	36,290	963.29	17,171	44,956
962.76	14,966	36,440	963.30	17,213	45,128
962.77	15,008	36,590	963.31	17,254	45,300
962.78	15,050	36,740	963.32	17,296	45,473
962.79	15,091	36,891	963.33	17,338	45,646
962.80	15,133	37,042	963.34	17,379	45,820
962.81	15,174	37,193	963.35	17,421	45,994
962.82	15,216	37,345	963.36	17,462	46,168
962.83	15,258	37,498	963.37	17,504	46,343
962.84	15,299	37,650	963.38	17,546	46,518
962.85	15,341	37,804	963.39	17,587	46,694
962.86	15,382	37,957	963.40	17,629	46,870
962.87	15,424	38,111	963.41	17,670	47,047
962.88	15,466	38,266	963.42	17,712	47,224
962.89	15,507	38,420	963.43	17,754	47,401
962.90	15,549	38,576	963.44	17,795	47,579
962.91	15,590	38,731	963.45	17,837	47,757
962.92	15,632	38,888	963.46	17,878	47,935
962.93	15,674	39,044	963.47	17,920	48,114
962.94	15,715	39,201	963.48	17,962	48,294
962.95	15,757	39,358	963.49	18,003	48,474
962.96	15,798	39,516	963.50	18,045	48,654
962.97	15,840	39,674	963.51	18,086	48,834

Stage-Area-Storage for Pond 1P: New Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
963.52	18,128	49,016
963.53	18,170	49,197
963.54	18,211	49,379
963.55	18,253	49,561
963.56	18,294	49,744
963.57	18,336	49,927
963.58	18,378	50,111
963.59	18,419	50,295
963.60	18,461	50,479
963.61	18,502	50,664
963.62	18,544	50,849
963.63	18,586	51,035
963.64	18,627	51,221
963.65	18,669	51,407
963.66	18,710	51,594
963.67	18,752	51,782
963.68	18,794	51,969
963.69	18,835	52,157
963.70	18,877	52,346
963.71	18,918	52,535
963.72	18,960	52,724
963.73	19,002	52,914
963.74	19,043	53,104
963.75	19,085	53,295
963.76	19,126	53,486
963.77	19,168	53,678
963.78	19,210	53,869
963.79	19,251	54,062
963.80	19,293	54,254
963.81	19,334	54,448
963.82	19,376	54,641
963.83	19,418	54,835
963.84	19,459	55,029
963.85	19,501	55,224
963.86	19,542	55,419
963.87	19,584	55,615
963.88	19,626	55,811
963.89	19,667	56,008
963.90	19,709	56,204
963.91	19,750	56,402
963.92	19,792	56,599
963.93	19,834	56,798
963.94	19,875	56,996
963.95	19,917	57,195
963.96	19,958	57,394
963.97	20,000	57,594
963.98	20,042	57,794
963.99	20,083	57,995
964.00	20,125	58,196

CITY OF NORTH ST. PAUL

RESOLUTION #2024-###

**RESOLUTION APPROVING A PRELIMINARY PLAT
FOR PROPERTY LOCATED AT 2329 17TH AVENUE E, PID 01292233012**

WHEREAS, Doug Andrus of Andrus Built, LLC has requested approval of a preliminary plat of property legally described as follows:

The South 286 feet of the East 650 feet of the SW 1/4 of SW 1/4 of Section 1, Township 29, Range 22, EXCEPT the South 163 feet of the East 340 feet and EXCEPT the West 92.5 feet of the South 170 feet of the East 432.5 feet, Ramsey County, Minnesota.

WHEREAS, the proposed plat meets the requirements of Chapter 153 of the City Ordinance and the dimensional standards of Chapter 154 as proposed to be modified through the proposed Planned Unit Development (PUD) plan submitted by the applicant; and

WHEREAS, the proposed plat is consistent with the Comprehensive Plan; and

WHEREAS, as required by City Ordinance, the Planning Commission held a public hearing on May 2, 2024; and

WHEREAS, the Planning Commission recommended conditional approval of the preliminary plat based on findings in the associated staff report.

NOW THEREFORE BE IT RESOLVED, the preliminary plat for 2329 17th Avenue E, PID 012922330125, is hereby approved with the following conditions:

1. Ramsey County review and approval on final plat. Any comments or requirements of Ramsey County shall be incorporated into the final plat, along with any changes to the final PUD plans that may be needed to accommodate Ramsey County platting requirements.
2. All existing drainage and utility easements to be applied for vacation by the applicant, the vacation granted and recorded at Ramsey County prior to recording of the final plat.
3. Final permanent drainage and utility easements to be dedicated on the final plat to the satisfaction of the City Engineer.
4. Positive action by the City Council on rezoning of the property from R-1 to R-2 with a Planned Unit Development Overlay.
5. Payment of park dedication fees at the time of building permit issuance.

ADOPTED this ____ day of ____, 2024.

Motion by Council Member
Second by Council Member

Voting: Ayes:
Nays:
Absent:
Abstain:

John Monge, Mayor

ATTEST:

Brian Frandle, City Manager/Clerk

CITY OF NORTH ST. PAUL

RESOLUTION #2024-###

A RESOLUTION REZONING PROPERTY LOCATED AT 2329 17TH AVENUE E, PID 012922330125, FROM R-1 SINGLE FAMILY RESIDENTIAL DISTRICT TO R2 MIXED RESIDENTIAL DISTRICT

WHEREAS, Doug Andrus of Andrus Built, LLC has the rezoning of property at 2329 17th Avenue E., legally described as follows:

The South 286 feet of the East 650 feet of the SW 1/4 of SW 1/4 of Section 1, Township 29, Range 22, EXCEPT the South 163 feet of the East 340 feet and EXCEPT the West 92.5 feet of the South 170 feet of the East 432.5 feet, Ramsey County, Minnesota.

WHEREAS, the proposed rezoning from R-1 Single Family Residential to R-2 Mixed Residential is consistent with the Comprehensive Plan; and

WHEREAS, as required by City Ordinance, the Planning Commission held a public hearing on May 2, 2024; and

WHEREAS, the Planning Commission recommended approval of the proposed rezoning based on findings in the associated staff report.

NOW THEREFORE BE IT RESOLVED, by the City Council of the City of North St. Paul that the rezoning of 2329 17th Avenue E, PID 012922330125, from R-1 Single Family Residential to R-2 Mixed Residential.

ADOPTED this ____ day of ____, 2024.

Motion by Council Member
Second by Council Member

Voting: Ayes:
Nays:
Absent:
Abstain:

John Monge, Mayor

ATTEST:

Brian Frandle, City Manager/Clerk

CITY OF NORTH ST. PAUL

RESOLUTION #2024-###

**A RESOLUTION APPROVING A PRELIMINARY PLANNED UNIT DEVELOPMENT
AND SITE PLAN FOR PROPERTY LOCATED AT 2329 17TH AVENUE E, PID
012922330125**

WHEREAS, Doug Andrus of Andrus Built, LLC has requested approval of a preliminary planned unit development (PUD) and site plan at property legally described as follows:

The South 286 feet of the East 650 feet of the SW 1/4 of SW 1/4 of Section 1, Township 29, Range 22, EXCEPT the South 163 feet of the East 340 feet and EXCEPT the West 92.5 feet of the South 170 feet of the East 432.5 feet, Ramsey County, Minnesota.

WHEREAS, the proposed PUD meets the requirements of City Code Chapter 154.008(C) and is consistent with the Comprehensive Plan; and

WHEREAS, as required by City Ordinance, the Planning Commission held a public hearing on May 2, 2024; and

WHEREAS, the Planning Commission recommended conditional approval of the preliminary PUD based on findings in the associated staff report.

NOW THEREFORE BE IT RESOLVED, by the City Council of the City of North St. Paul that the preliminary planned unit development for 2329 17th Avenue E, PID 012922330125, is hereby approved with the following conditions:

1. A Developer's Agreement shall be prepared to the satisfaction of the City Attorney and approved by the City Council for execution, including development securities in an amount acceptable to the City Engineer.
2. Positive action by the City Council on rezoning of the property from R-1 to R-2 and approval of a preliminary and final plat of the same.
3. Revision of plans and the stormwater management plan to satisfy all engineering comments included in this memo on the currently submitted development information prior to City Council conditional approval of the Preliminary/Final PUD, and any subsequent engineering comments prior to issuance of demolition/grading/building permits.
4. Easements shall be added to the final plat as required by the City Engineer.
5. Final hydrant locations and turnaround dimensions shall be approved by the Fire Chief
6. The applicant is responsible for obtaining all necessary permits for the project from the City and all applicable outside agencies, including but not limited to Ramsey County, Ramsey Washington Metro Watershed District, MPCA (NPDES and sanitary sewer), and MDH (Water main).

7. The sanitary sewer shall be public. The water and stormwater management pond and related infrastructure shall be privately owned and maintained.

ADOPTED this ____ day of ____, 2024.

Motion by Council Member
Second by Council Member

Voting: Ayes:
Nays:
Absent:
Abstain:

John Monge, Mayor

ATTEST:

Brian Frandle, City Manager/Clerk