

## Riley Purgatory Bluff Creek Watershed District Permit Application Review

**Permit No:** 2023-056

**Considered at Board of Managers Meeting:** October 4, 2023

**Application Received complete:** September 19, 2023

**Applicant:** Pulte Homes; Dean Lotter

**Consultant:** Alliant Engineering Inc., Seth Loken

**Project:** Kinsley development– The applicant proposes the demolition of an existing single-family home and the construction of 42 townhomes and associated infrastructure.

**Location:** 17325 Pioneer Trail, Eden Prairie, MN

**Reviewer:** Scott Sobiech, PE, Barr Engineering

### Proposed Board Action

Manager \_\_\_\_\_ moved and Manager \_\_\_\_\_ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the October 4, 2023 meeting of the managers:

Resolved that the application for Permit 2023-056 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that on determination by the RPBCWD administrator that the conditions of approval have been met, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2023-055 to the applicant on behalf of RPBCWD.

Upon vote, the resolutions were adopted, \_\_\_\_\_ [VOTE TALLY].

### Applicable Rule Conformance Summary

Rule	Issue	Conforms to RPBCWD Rules?		Comments
C	Erosion Control Plan	See Comment		See rule-specific permit condition C1 related to name of individual responsible for on-site erosion control.
J	Stormwater Management	Rate	Yes	
		Volume	See comment.	See rule-specific stipulation 6 related to in-situ infiltration testing.
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	See comment.	See rule-specific permit condition J1 related to recordation of stormwater facility maintenance declaration.

Rule	Issue	Conforms to RPBCWD Rules?		Comments
		Chloride Management	Yes	
		Wetland Protection	NA	
<b>L</b>	<b>Permit Fee Deposit</b>	Yes		\$3,220 received August 24, 2023. As of September 26, 2023 the amount due is \$1,756.
<b>M</b>	<b>Financial Assurances</b>	See Comment		The financial assurance is calculated at \$129,723.

**Project Description**

The applicant proposes the subdivision of an existing single-family home parcel into a 42-lot townhome development with associated sewer and utilities. The project also includes the removal of an existing home and driveway. The applicant proposes an infiltration basin, two underground infiltration systems, and two infiltration trenches to provide volume control, water quality, and rate control.

There are three medium-value wetlands onsite that the city of Eden Prairie, the local governmental unit responsible for administering the Wetland Conservation Act, is allowing to be filled because the 234 square feet filled is less than the applicable de minimis exception (1,000 square feet). Because wetlands will no longer exist on the site post-development, Rule D imposes no wetland buffer requirements on the project. Because these three wetlands are on slopes, they do not exhibit natural banks required meet the water basin definition or an enclosed natural depression with definable banks required to be a waterbody and they do not provide flood storage, Rule B does not apply to wetlands.

The project site information is summarized below:

Project Site Information	Area (acres)
Total Site Area	6.14
Existing Site Impervious	0.55
Proposed Site Impervious Area	2.76
Change in Site Impervious Area	2.21 (>100% increase)
Disturbed Impervious Area	0.55 (100% disturbed)
Total Disturbed Area	5.07

Exhibits:

1. Permit Application received August 18, 2023 (The applicant was notified on September 8, 2023 that the submittal was incomplete; materials completing the application were received on September 18, 2023)
2. Stormwater Management Study dated June 29, 2023 (revised September 18, 2023)
3. Construction Plan Set dated June 29, 2023 (revised September 18, 2023)
4. Existing and proposed conditions HydroCAD model received August 18, 2023 (revised September 18, 2023)

5. Existing and proposed conditions MIDS model received September 18, 2023
6. Wetland Delineation report dated May 16, 2023 (including MnRAMs)
7. Minnesota Wetland Conservation Act Notice of Decision for the exemption dated July 17, 2023
8. Geotechnical Evaluation Report dated September 12, 2023
9. Cost Estimate received September 18, 2023

### **Rule Specific Permit Conditions**

#### **Rule C: Erosion and Sediment Control**

Because the project will alter 5.07 acres of land-surface area, the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The erosion control plan prepared by Campion Engineering Service Inc. includes installation of silt fence perimeter control, rock construction entrance, inlet protection, weekly inspection, placement of a minimum of 6 inches of topsoil with 5 percent organic content, decompaction of areas compacted during construction, and retention of native topsoil onsite. To conform to the RPBCWD Rule C requirements the following revisions are needed:

- C1. The Applicant must provide the name and contact information of the individual responsible for erosion control at the site. RPBCWD must be notified if the responsible individual changes during the permit term.

#### **Rule J: Stormwater Management**

Because the project will disturb 5.07 acres of land-surface area, the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.1). The criteria listed in Subsection 3.1 will apply to the entire project site and all impervious area because the project will disturb 100% of the existing impervious surface and will increase the imperviousness of the entire site by 100% percent (i.e., more than 50 percent; Rule J, Subsection 2.3). The applicant proposes an infiltration basin, two underground infiltration systems, and two infiltration trenches to provide volume control, water quality, and rate control.

#### ***Rate Control***

In order to meet the rate control criteria listed in Subsection 3.1.a, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations where stormwater leaves the site. The Applicant used a HydroCAD hydrologic model to simulate runoff rates for pre- and post-development conditions for the 2-, 10-, and 100-year frequency storm events using a nested rainfall distribution, and a 100-year frequency, 10-day snowmelt event. The existing and proposed 2-, 10-, and 100-year frequency discharges from the site are summarized in the table below.

Modeled Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
NE Corner	1.2	1.2	2.2	1.9	4.5	3.7	0.1	<0.1
Existing CB	6.0	4.6	12.1	7.0	28.0	9.1	0.7	0.4
SE Corner	3.0	2.5	6.4	4.3	13.7	8.3	0.4	0.2
Existing Pond	42.6	35.9	82.5	75.8	177.9	167.0	4.4	4.2

The proposed stormwater management plan will provide rate control in compliance with the RPBCWD requirements for the 2-, 10-, and 100-year events. Thus, the proposed project meets the rate control requirements in Rule J, Subsection 3.1a.

### **Volume Abstraction**

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from all regulated impervious surface within the parcel. An abstraction volume of 11,020 cubic feet is required from the 2.76 acres (120,226 square feet) of regulated impervious area within the project site. Plans indicate pretreatment for runoff entering the infiltration facilities is provided by vegetated yards and sump manholes, thus the proposed project conforms with RPBCWD Rule J, Subsection 3.1b.1.

Eight soil borings in the Geotechnical Evaluation Report by Bruan Intertec dated September 12, 2023, indicate the site is predominately a lean clay over a poorly graded sands. Groundwater was not encountered at the bottom of the borings. The subsurface investigation information summarized in the table below shows that groundwater is at least 3 feet below the bottom of the proposed infiltration basin (Rule J, Subsection 3.1.b.2.a). Because the geotechnical report does not contain soil borings or test pits at all the proposed stormwater facilities, additional subsurface investigation is needed to confirm adequate separation to groundwater.

Proposed BMP	Boring ID	Boring is within footprint?	Groundwater Elevation (feet)	BMP Bottom Elevation (feet)	Separation (feet)
Infiltration Basin	ST-5	Yes	No groundwater observed at bottom of boring (883.5)	895.0	11.5
SE Infiltration Trench	ST-101	Yes	No groundwater observed at bottom of boring (885.5)	899.5	14.0
Valley Road Underground Stormwater Facility	ST-102	No	No groundwater observed at bottom of boring (873.7)	885.7	12.0

Proposed BMP	Boring ID	Boring is within footprint?	Groundwater Elevation (feet)	BMP Bottom Elevation (feet)	Separation (feet)
East Infiltration Trench	ST-4	No	No groundwater observed at bottom of boring (881.8)	897.0	15.2
North Underground Stormwater Facility	ST-1	No	No groundwater observed at bottom of boring (877.9)	888.3	10.4

Based on the presence of poorly graded sand below a layer of clay, the applicant proposes to excavate the clay material and backfill with sand to yield a design infiltration rate of 0.2 in/hr – 0.8 in/hr beneath the five infiltration stormwater management facilities based on the Minnesota Pollution Control Agency’s recommended design infiltration rates for the underlying soils. The engineer finds that under these presumed design infiltration rates, the infiltration stormwater management facilities will draw down within 48 hours (Rule J, subsection 3.1.biii). The geotechnical report does not contain infiltration or hydraulic conductivity testing results at any of the infiltration stormwater management facilities as required by Rule J, subsection 3.1.b.ii.C. To confirm the design presumptions and ensure the applicant has incorporated abstraction in accordance with Rule J, subsection 3.1.b, supporting information in the form of infiltration or hydraulic conductivity testing at the proposed infiltration stormwater management facilities must be provided before the proposed BMPs are constructed. If infiltration capacity is less than needed to meet the volume abstraction requirement in subsection 3.1.b for the proposed infiltration stormwater management facilities or there is less than three feet of separation to groundwater, design modifications to achieve compliance with RPBCWD requirements will need to be submitted (in the form of an application for a permit modification or new permit).

The table below summarizes the volume abstraction for the site.

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
1.1	11,020	1.2	11,922

With the conditions noted above, the engineer concurs with the submitted information and finds that the proposed project will conform with Rule J, Subsection 3.1.b.

**Water Quality Management**

Subsection 3.1.c of Rule J requires the Applicant to provide volume abstraction in accordance with 3.1b or least 60 percent annual removal efficiency for total phosphorus (TP), and at least 90 percent annual removal efficiency for total suspended solids (TSS) from site runoff, and no net increase in TSS or TP loading leaving the site from existing conditions. The applicant has demonstrated and the engineer concurs that the volume abstraction is provided in accordance with 3.1b.

**Low floor Elevation**

All new buildings must be constructed such that the lowest floor is at least two feet above the 100-year high water elevation or one foot above the emergency overflow of a stormwater-management facility according to Rule J, Subsection 3.6a. In addition, a stormwater-management facility must be constructed at an elevation that ensures that no adjacent habitable building will be brought into noncompliance with this requirement according to Rule J, Subsection 3.6b.

The low floor elevation of the proposed structures and the 100-year high water elevation of the infiltration stormwater management facilities are summarized below. Because the low floor elevations of the proposed structures are more than two feet above the 100-year high water elevation of the adjacent stormwater facility in each case, the proposed project is in conformance with Rule J, Subsection 3.6.

Lot Riparian to Stormwater Facility	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation Of Infiltration Stormwater Management Facilities (feet)	Freeboard provided (feet)
Lots 1-14	903.7	900.59	3.11
Lots 15-20	902.8	895.46	7.34
Lots 21-26	902.7	895.46	7.24
Lots 27-30	902.7	898.06	4.64
Lots 31-36	903.4	898.06	5.34
Lots 37-42	903.4	900.03	3.01

**Maintenance**

Subsection 3.7 of Rule J requires the submission of a maintenance plan. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed.

- J1. Permit applicant must provide a receipt of recordation of a maintenance and inspection declaration. A maintenance declaration template is available on the permits page of the RPBCWD website. (<http://www.rpbcwd.org/permits/>). A draft declaration must be provided for District review and approval prior to recording.

**Chloride Management**

Subsection 3.8 of Rule J requires the submission of chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan, except that the chloride-management plan for a residential subdivision need not encompass the single-family home properties within the subdivision. Because the streets within the proposed residential development will be dedicated to and maintained by the City of Eden Prairie and the city has provided its chloride management plan and its designated state-certified chloride applicator is Eden Prairie’s Streets Division Manager Larry Doig, the proposed development conforms with Rule J, subsection 3.8.

### **Wetland Protection**

Because runoff from the site discharges off-site to storm water ponds Rule J, subsection 3.10 imposes no requirements on the project.

### **Rule L: Permit Fee Deposit:**

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit \$3,000 to be held in escrow and applied to cover the \$10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. A permit fee deposit of \$3,220 was received on August 24, 2022. . The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. Subsequently, if the costs of review, administration, inspections and closeout-related or other regulatory activities exceed the fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice that such deposit is due. The administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished.

- L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of September 26, 2023 the amount due is \$1,756.

### **Rule M: Financial Assurance:**

	Unit	Unit Cost	# of Units	Total
<b>Rule C: Erosion Control</b>				
Silt Fence	LF	\$2.50	3,656	\$9,140
Inlet Protection	EA	\$100	24	\$2,400
Rock Entrance	EA	\$250	1	\$250
Restoration of disturbance	Ac	\$2,500	5.07	\$12,675
<b>Rule J: Stormwater Management</b>	EA	125% OPC	1	\$93,465
Infiltration basin: 125% of engineer's opinion of cost (\$74,772)				
Contingency (10%)		10%		\$11,793
<b>Total Financial Assurance</b>				<b>\$129,723</b>

### **Applicable General Requirements:**

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way

relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.

3. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
4. The issuance of this permit does not convey any rights to either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
5. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.
6. RPBCWD's determination to issue this permit was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.
7. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

### **Findings**

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project will conform to Rule C and J if the Rule Specific Permit Conditions listed above are met.

### **Recommendation:**

Approval of the permit contingent upon:

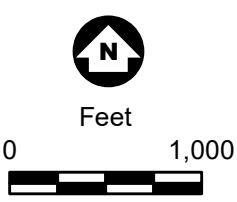
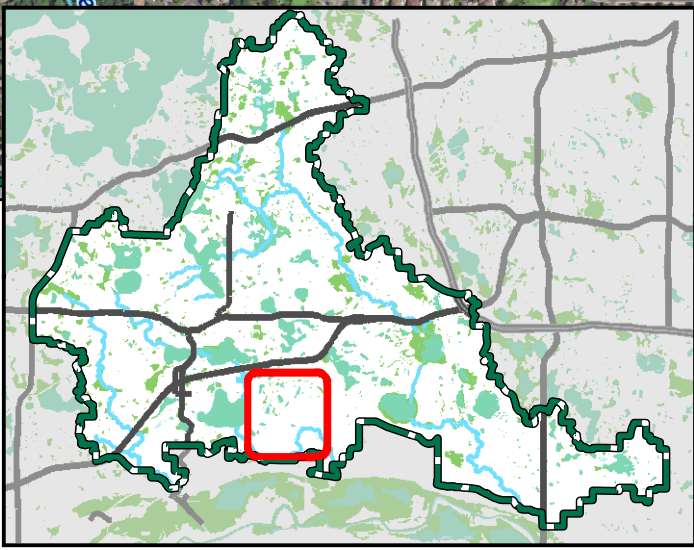
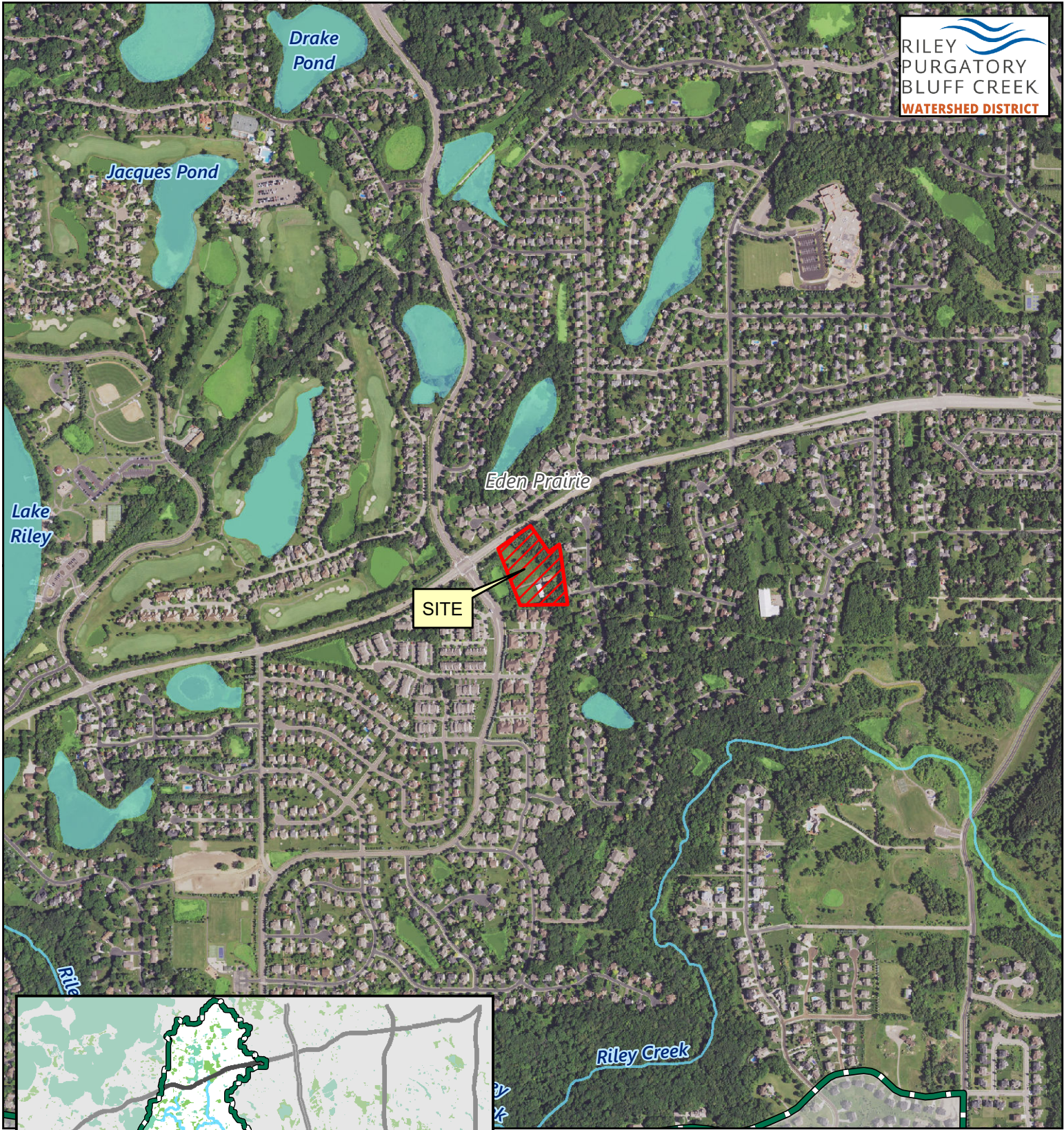
1. Financial Assurance in the amount of \$129,723.
2. Applicant providing the name and contact information of the individual responsible for erosion and sediment control at the site during construction.
3. Receipt of recordation of a maintenance declaration for the operation and maintenance the stormwater management facilities. Drafts of all documents to be recorded must be reviewed and approved by the District prior to recordation and proof of recordation must be provided to RPBCWD.
4. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of September 26, 2023 the amount due is \$1,756.

By accepting the permit, when issued, the applicant agrees to the following stipulations:



1. Continued compliance with General Requirements
2. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization, all the stormwater facilities conform to design specifications and function as intended and approved by the District. As-built/record drawings must be signed by a professional engineer licensed in Minnesota and include, but not limited to:
  - a. the surveyed bottom elevations, water levels, and general topography of all facilities;
  - b. the size, type, and surveyed invert elevations of all stormwater facility inlets and outlets;
  - c. the surveyed elevations of all emergency overflows including stormwater facility, street, and other;
3. Providing the following additional close-out materials:
  - a. Documentation that disturbed pervious areas remaining pervious have been decompacted per Rule C.2c criteria
4. The work on the Kinsley development under the terms of permit 2023-056, if issued, must have an impervious surface area and configuration materially consistent with the approved plans. Design that differs materially from the approved plans (e.g., in terms of total impervious area) will need to be the subject of a request for a permit modification or new permit, which will be subject to review for compliance with all applicable regulatory requirements.
5. The applicant must submit documentation verifying the infiltration capacity of the soils in the infiltration stormwater management facility and that the volume control capacity is calculated using the measured infiltration rate. If infiltration capacity is less than needed to conform with the volume abstraction requirement in subsection 3.1.b or there is less than 3 feet of separation to groundwater from the bottom of the facility or redoximorphic soils, design modifications to achieve compliance with RPBCWD requirements will need to be submitted (in the form of an application for a permit modification or new permit).
6. Replenish the permit fee deposit to the original amount or such lesser amount as the RPBCWD administrator determines sufficient within 45 days of receiving notice that such deposit is due in order to cover continued actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules.





Permit Location Map  
  
KINSLEY  
**Permit 2023-056**  
Riley Purgatory Bluff Creek  
Watershed District



# KINSLEY

## EDEN PRAIRIE, MINNESOTA

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 www.alliant-inc.com



**DEVELOPER**

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 EM: dean.lotter@pultegroup.com

**CONSULTANT**

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**SURVEYOR**

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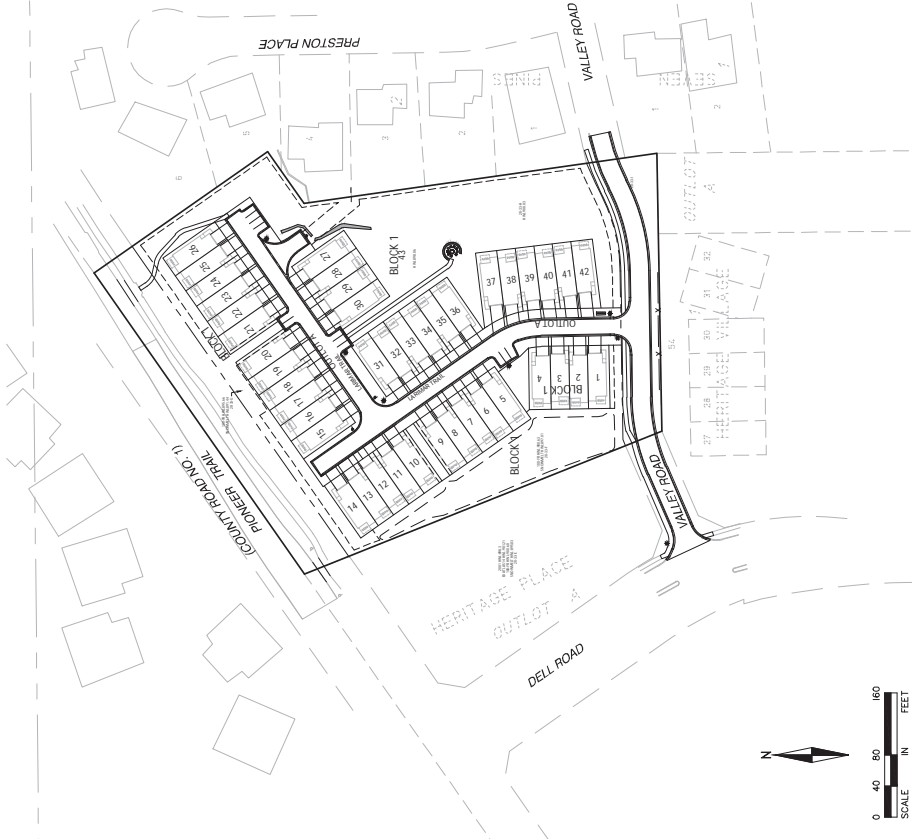
**LANDSCAPE ARCHITECT**

JOHN GRONHOVD  
 LICENSE NO. 59233  
 EM: jgronhovd@alliant-inc.com



**VICINITY MAP**

NOT TO SCALE



**SHEET INDEX**

- | NO.   | SHEET TITLE                                    |
|-------|--|
| 1     | COVER SHEET                                    |
| 2-3   | DETAIL SHEETS                                  |
| 4     | DEMOLITION PLAN                                |
| 5     | EXISTING CONDITIONS SURVEY                     |
| 6     | PRELIMINARY PLAT                               |
| 7     | SITE PLAN                                      |
| 8     | GRADING AND DRAINAGE PLAN                      |
| 9     | GRADING PROFILES                               |
| 10-11 | POND DETAILS                                   |
| 12    | PEDESTRIAN RAMP DETAILS                        |
| 13    | EROSION AND SEDIMENT CONTROL PLAN              |
| 14    | EROSION AND SEDIMENT CONTROL NOTES AND DETAILS |
| 15    | SANITARY SEWER AND WATERMAIN PLAN              |
| 16    | STORM SEWER PLAN                               |
| 17    | WETLAND MANAGEMENT PLAN                        |
| 18    | TREE PRESERVATION PLAN                         |
| 19    | EXISTING TREE INVENTORY                        |
| 20-21 | LANDSCAPE AND TREE REPLACEMENT PLAN            |
| 22    | PHOTOMETRIC PLAN                               |

**GENERAL NOTES:**

- ALL STREET CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE CITY OF EDEN PRAIRIE STANDARDS & SPECIFICATIONS.
- ALL SANITARY SEWER CONSTRUCTION SHALL CONFORM TO THE MOST RECENT EDITION OF THE CITY OF EDEN PRAIRIE STANDARDS & SPECIFICATIONS.
- ALL STORM SEWER CONSTRUCTION SHALL CONFORM TO THE MOST RECENT EDITION OF THE CITY OF EDEN PRAIRIE STANDARDS & SPECIFICATIONS.
- ALL WATER DISTRIBUTION CONSTRUCTION SHALL CONFORM TO THE MOST RECENT EDITION OF THE CITY OF EDEN PRAIRIE STANDARDS & SPECIFICATIONS.
- PAVING SHALL NOT START UNTIL SUBGRADE COMPACTION TESTS HAVE BEEN TAKEN AND ROADWAY CONDITIONS ARE APPROVED BY THE ENGINEER.

**KINSLEY**  
 1722 PIONEER TRAIL  
 EDEN PRAIRIE, MINNESOTA  
 PRELIMINARY PLAT & PUD SUBMITTAL  
 COVER

I hereby certify that this plan, map, or drawing 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.

DATE	ISSUE
12-25-23	1.00
12-25-23	2.00
12-25-23	3.00
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12-25-23	21.00
12-25-23	22.00

PROJECT NO.	232-0003
DRAWN BY	SL, LSA, DL
CHECKED BY	
DATE	12-25-23

NO. 20230303

1. 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 whose name is on the list of Licensed Professional Engineers in the State of Minnesota.

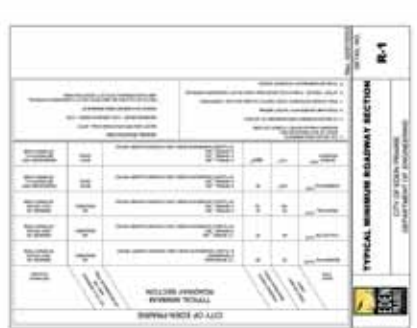
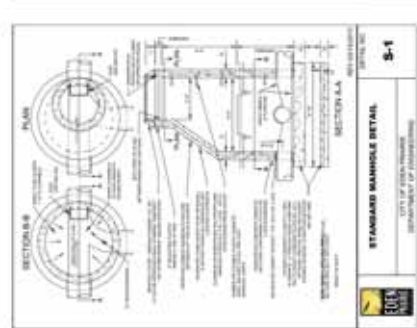
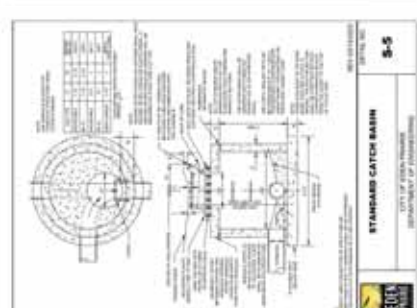
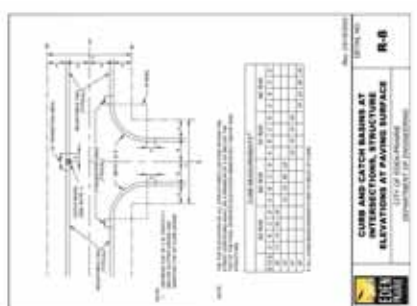
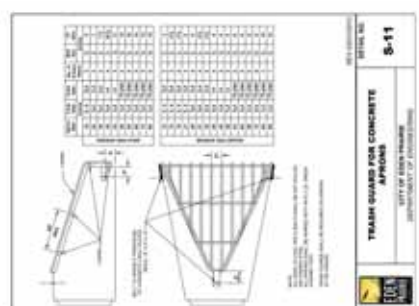
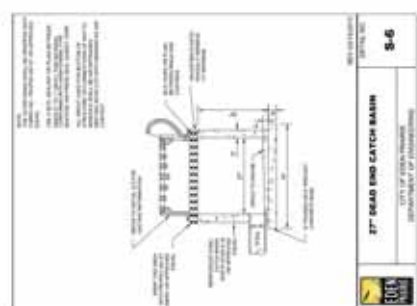
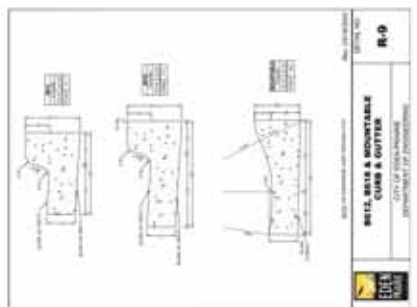
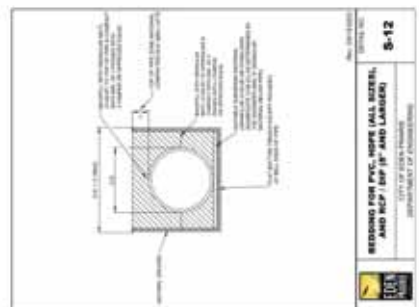
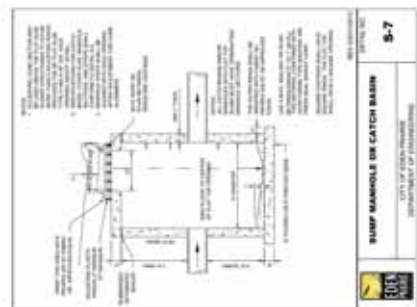
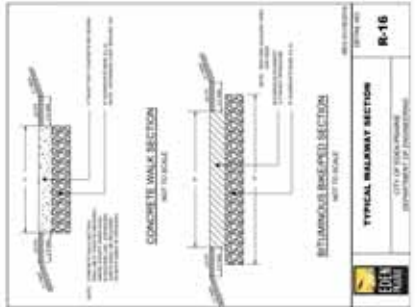
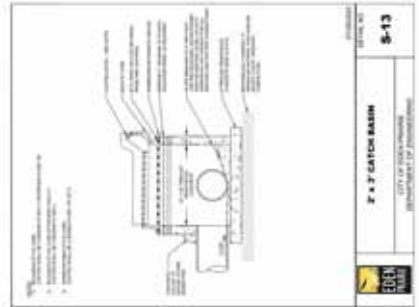
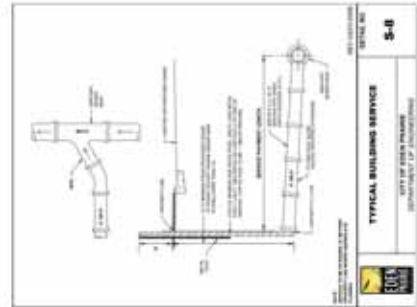
DATE: 09/18/2023  
 BY: [Signature]  
 TITLE: [Title]  
 FIRM: [Firm Name]

QUALITY ASSURANCE/CONTROL

DATE: 09/18/2023  
 BY: [Signature]  
 TITLE: [Title]  
 FIRM: [Firm Name]

PROJECT TEAM DATA

MPR: [MPR Number]  
 SHEET NO.: 2 OF 22  
 PROJECT NO.: 232-0033



I hereby certify that this plan, specification, or contract 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.

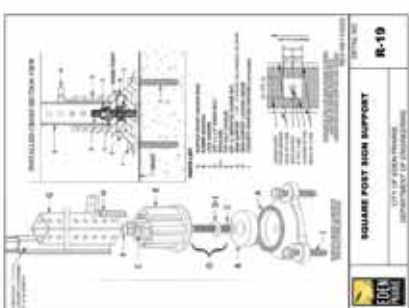
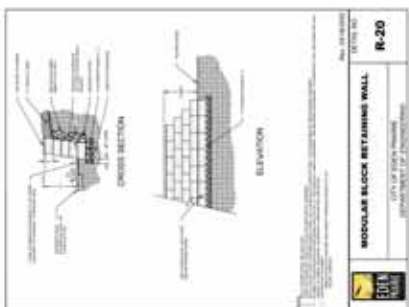
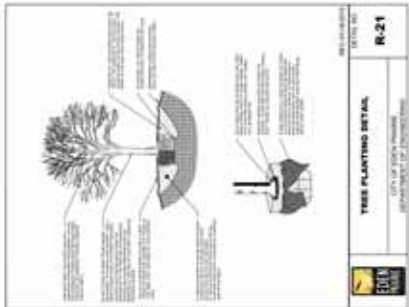
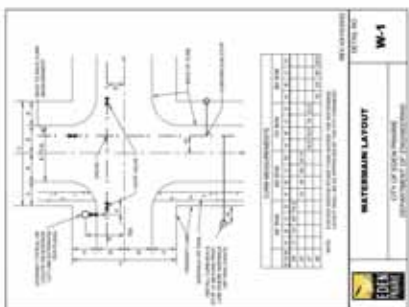
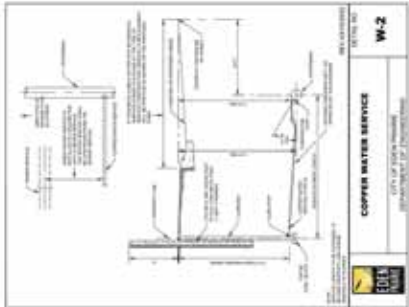
NAME: **Richard, P.E.**  
 Title: \_\_\_\_\_ License No. \_\_\_\_\_

**QUALITY ASSURANCE/CONTROL**

BY	DATE	ISSUE
_____	_____	1-25-23
_____	_____	2-28-23
_____	_____	3-27-23
_____	_____	4-26-23
_____	_____	5-18-23
_____	_____	6-14-23
_____	_____	7-12-23
_____	_____	8-30-23
_____	_____	9-12-23

**PROJECT TEAM DATA**

MFR	_____
DESIGNED	SL, USA, DL
DRAWN	_____
PROJECT NO.	232-0023













**TOTAL DENSITY CALCULATIONS:**

AREA AND DENSITY: RURAL MEDIAN DENSITY RESIDENTIAL  
 EXISTING LAND USE: RUD-6.5  
 APPROXIMATE: 6.13 AC  
 PERMETER ROW (PIONEER TRAIL): 0.88 AC  
 WETLAND\*: 0.008 AC / 234 SF (FULLY IMPACTED)  
 NET AREA (GROSS AREA-PIONEER TRAIL): 5.47 AC

TOTAL UNITS: 42 UNITS  
 PROPOSED DENSITY: 6.85 UNITS/ACRE.

REVIEW IS IN PROCESS WITH CITY TO CONSIDER BOUNDARY.

**TOWNHOMES LOT DATA:**

LOT TYPE: BREAKDOWN: 42 UNITS  
 TOWNHOMES (24' WIDE): 30 FT  
 PIONEER TRAIL ROW: 30 FT  
 PERMETER ROW (WEST): 20 FT  
 VALLEY ROAD ROW: 20 FT  
 MINIMUM SITE PERMETER: 20 FT  
 MINIMUM ROW: 20 FT

PROPOSED PARKING: 84 (2\*42)  
 DRIVEWAY STALLS / UNIT: 84 (2\*42)  
 GUEST STALLS TOTAL: 12  
 TOTAL PARKING PROVIDED: 180 (4.29/UNIT)  
 REMOTE POSITION OF EX. WALL ON SITE: 24' BACK-BACK  
 PRIVATE ROAD WIDTH: 22' MIN.  
 PUBLIC ROAD WIDTH: 28' BACK-BACK

**LEGEND:**

- EXISTING LINE
- PROPOSED LINE
- REQUIRED MINIMUM SETBACK
- PROPERTY LINE
- LOT LINE
- ROW
- WETLAND DELINEATION

**PRIVATE ROAD SECTION (24' B.B.)**  
 NOT TO SCALE

**PRIVATE/PUBLIC ROAD PAVEMENT SECTION**  
 NOT TO SCALE

REMOVE EXISTING DRIVEWAY APRON AND SEED DISTURBED AREA.

**PRIVATE ROAD SECTION (24' B.B.)**  
 NOT TO SCALE

1" SELECT GRANULAR SUBGRADE ONSTE MATERIAL TO BE USED BY ENGINEER FOR PRIVATE STREETS

**PRIVATE ROAD SECTION (24' B.B.)**  
 NOT TO SCALE

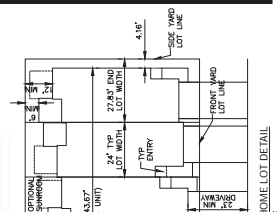
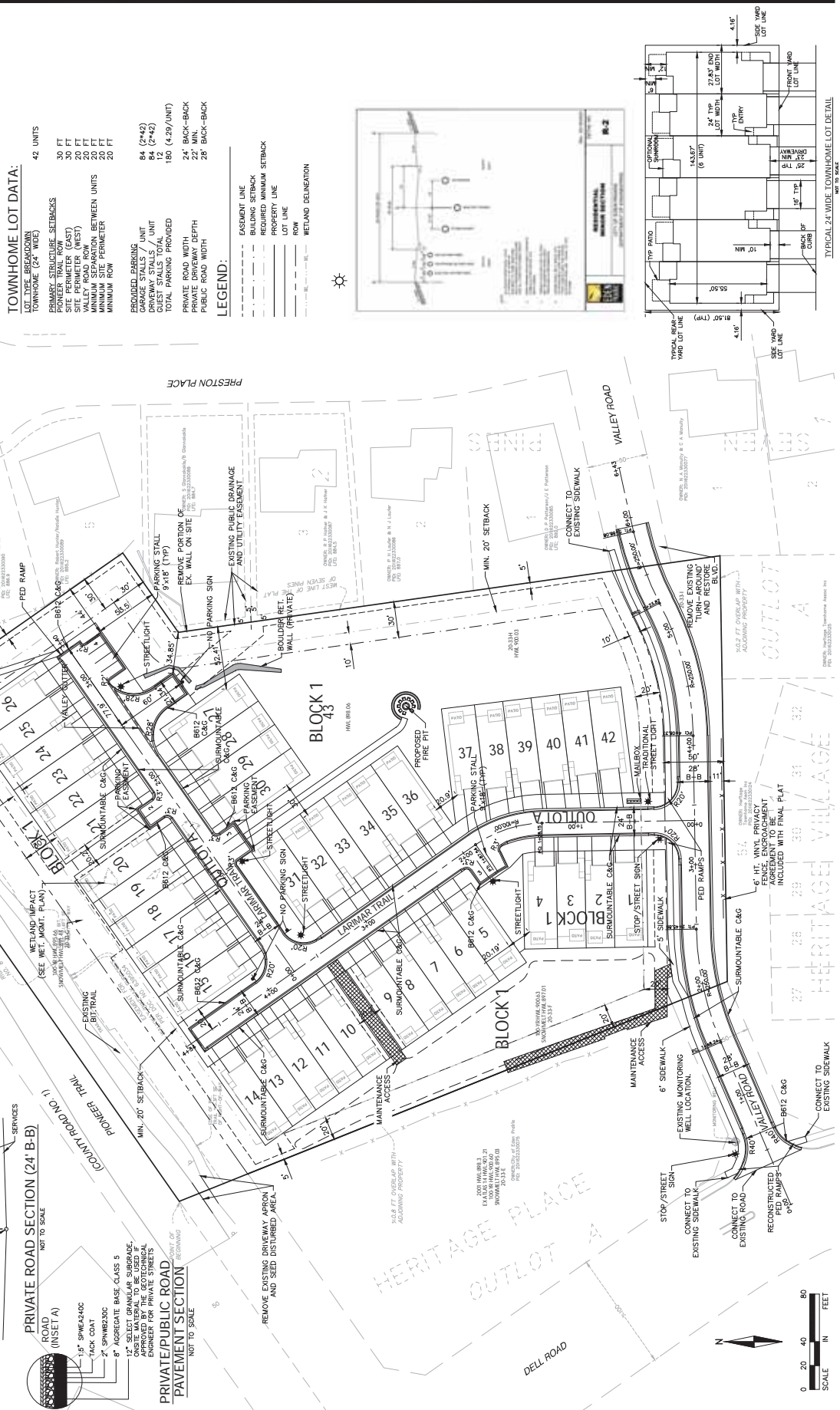
1" SELECT GRANULAR SUBGRADE ONSTE MATERIAL TO BE USED BY ENGINEER FOR PRIVATE STREETS

**PRIVATE ROAD SECTION (24' B.B.)**  
 NOT TO SCALE

1" SELECT GRANULAR SUBGRADE ONSTE MATERIAL TO BE USED BY ENGINEER FOR PRIVATE STREETS

**PRIVATE ROAD SECTION (24' B.B.)**  
 NOT TO SCALE

1" SELECT GRANULAR SUBGRADE ONSTE MATERIAL TO BE USED BY ENGINEER FOR PRIVATE STREETS



**QUALITY ASSURANCE/CONTROL**

DATE	ISSUE
12-28-2023	CITY SUBMITTAL
12-28-2023	UNDERGROUND STORAGE
12-28-2023	CITY COMMENTS
12-28-2023	CITY COMMENTS
12-28-2023	CITY COMMENTS
12-28-2023	IMPROVED RESIDENTIAL

**PROJECT TEAM DATA**

DESIGNED: MPR  
 DRAWN: S.H. ULL, D.L.  
 PROJECT NO: 223-0033

**ALLIANT**  
 733 Marquette Avenue  
 Suite 700  
 Minneapolis, MN 55402  
 612.756.3080  
 www.alliant-hnc.com

**Pulte HOMES**

**KINSLEY**  
 1725 PIONEER TRAIL  
 EDEN PRAIRIE, MINNESOTA

**PRELIMINARY PLAT & PUD SUBMITTAL**

I hereby certify that this plan, specification, and report were 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.

Major Augustin, PE  
 License No. 223-0033

DATE	ISSUE
12-24-2023	CITY SUBMITTAL
12-24-2023	PRELIMINARY PLAT
12-24-2023	UNDERGROUND STORAGE
12-24-2023	CITY COMMENTS
12-24-2023	CITY COMMENTS
12-24-2023	CITY COMMENTS
12-24-2023	CITY COMMENTS
12-24-2023	CITY COMMENTS
12-24-2023	CITY COMMENTS
12-24-2023	CITY COMMENTS

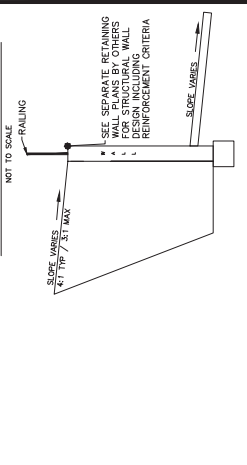
**GRADING NOTES:**

- ALL FINISHED GRADES SHALL SLOPE AWAY FROM PROPOSED BUILDINGS AT MINIMUM GRADE OF 2.0%. ALL SWALES SHALL HAVE A MINIMUM SLOPE OF 2.0%.
- THE CONTRACTOR SHALL KEEP THE ADJACENT ROADWAYS FREE OF DEBRIS AND PREVENT ANY TRACKING OF SOIL IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND ADJACENT.
- CONTRACTOR SHALL STATE ONE CALL AT (800)252-1166, 48 HOURS PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR SHALL CONFORM WITH CITY OF EDEN PRIMAIRE CONSTRUCTION STANDARDS SPECIFICATION, LATEST EDITION.
- ROCKY CONSTRUCTION ENTRANCES SHALL BE PROVIDED AT ALL CONSTRUCTION ACCESS POINTS.
- REFER TO GEOTECHNICAL REPORT AND PROJECT MANUAL, FOR SOIL CORRECTION REQUIREMENTS AND TESTING REQUIREMENTS.
- STRIP TOPSOIL PRIOR TO ANY CONSTRUCTION. REUSE STOCKPILE ON SITE. STOCKPILE PERIMETERS MUST BE PROTECTED WITH SILT FENCE.
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO HANDLING OF MATERIALS SHALL BEGIN UNTIL ALL CONTRACTORS HAVE RECEIVED AND UNDERSTOOD ALL PERMITS AND APPROVALS. ALL PERMITS AND APPROVALS MUST BE PERMITTED AUTHORITIES.
- IMMEDIATELY FOLLOWING GRADING OF (3:1 OR GREATER) SIDE SLOPES AND DRAINAGE SWALES, WOOD FIBER BLANKET OR OTHER APPROVED SOIL STABILIZING METHOD (APPROVED BY ENGINEER) SHALL BE APPLIED OVER APPROVED SEED MIXTURE AND A MINIMUM OF 6" TOPSOIL (2" OF TOPSOIL FOR BIRDS).
- THE GENERAL CONTRACTOR MUST DISCUSS DRAINAGE PLANS WITH ALL SUBCONTRACTORS TO CONFORM WITH CITY OF EDEN PRIMAIRE CONSTRUCTION STANDARDS. DURING CONSTRUCTION, CONTRACTOR SHOULD CONSULT WITH EROSION CONTROL INSPECTOR AND ENGINEER TO DETERMINE APPROPRIATE METHOD.
- REFER TO EROSION CONTROL PLAN FOR ALL EROSION AND SEDIMENT CONTROL DEVICE LOCATIONS.
- ALL 3:1 SLOPES SHALL BE AMENDED WITH A MINIMUM OF 2.5 INCHES OF COMPOST FIBER BLANKET WITH NATURAL NETTING AND STITCHING.

**RETAINING WALL NOTES:**

- RETAINING WALL MASS GRADING PREPARATION
- ALL RETAINING WALLS SHALL BE ROUGH GRADED AT A 2:1 SLOPE WITH BASE OF SLOPE AT PROPOSED WALL FACE.
  - THE RETAINING WALL SLOPE AREAS ARE TO BE MAINTAINED UNTIL RETAINING WALL CONSTRUCTION OCCURS. ANY EROSION SHALL BE REMEDIATED AND RESTORED.
  - BUILDING PERMITS ARE REQUIRED FOR ALL RETAINING WALLS 4 FEET IN HEIGHT OR GREATER AND THE WALLS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER WITH DESIGN CAPABILITY FOR RETAINING WALLS. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY COORDINATION WITH PROJECT OWNER AND CIVIL SITE ENGINEER. NO CONSTRUCTION IS TO BE PERMITTED UNTIL ALL NECESSARY PERMITS AND APPROVALS HAVE BEEN OBTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
  - INSTALL SAFETY RAILING ATOP ALL WALLS WHERE REQUIRED BY CODE.
  - RETAINING WALLS AND THE RETAINING WALL SUBCONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
  - RETAINING WALLS ARE TO BE FINAL DESIGNED AND PERMITTED BY OTHERS.

**TYPICAL RETAINING WALL**



1. 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 whose license is in good standing in the State of Minnesota.

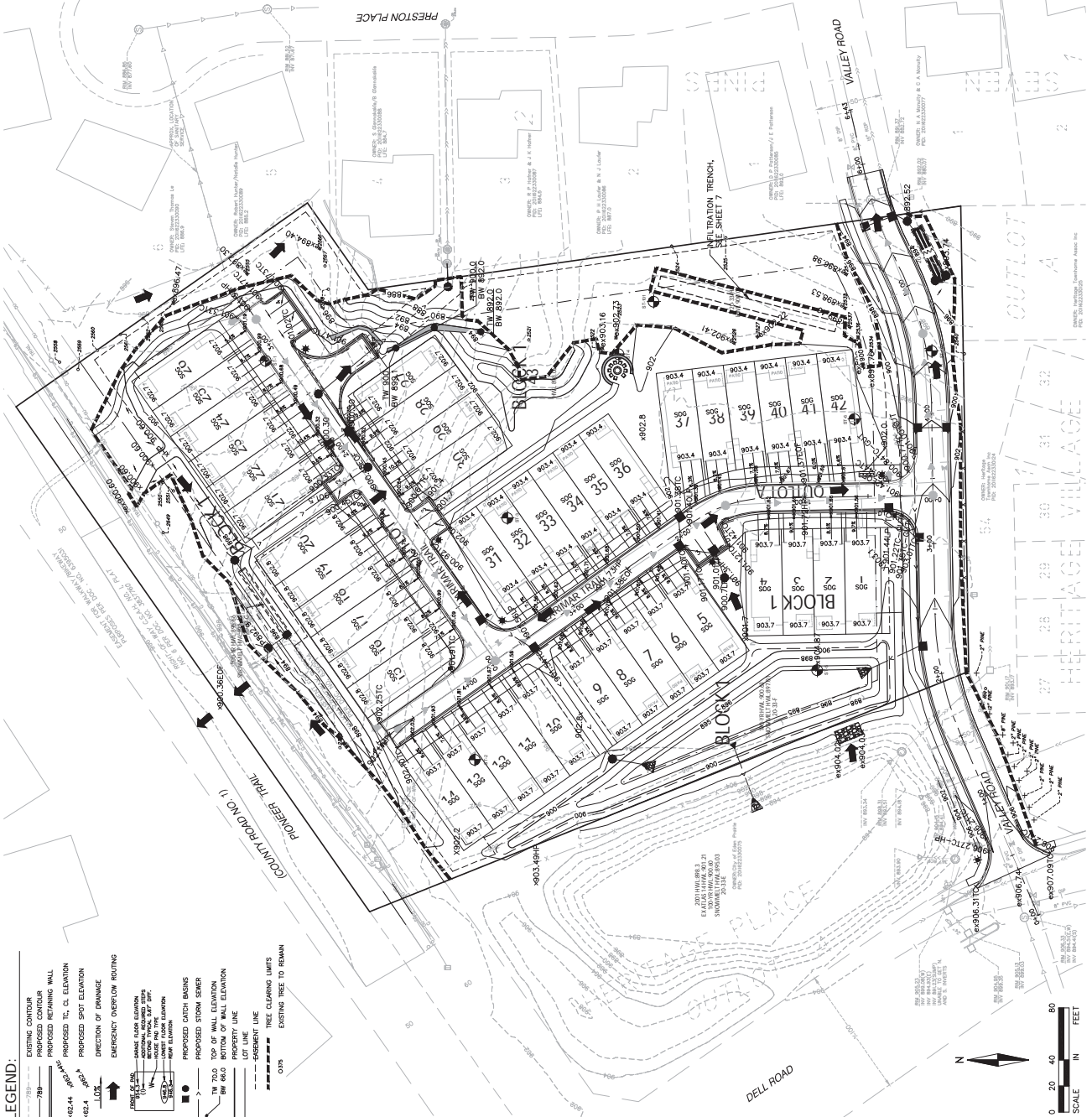
NAME: [Name]  
 TITLE: [Title]  
 LICENSE NO.: [License No.]

QUALITY ASSURANCE/CONTROL

DATE: [Date]  
 ISSUE: [Issue]

PROJECT TEAM DATA  
 MPR  
 DESIGNED: S.M. USA, D.L.L.  
 DRAWN: S.M. USA, D.L.L.  
 PROJECT NO: 233-0033

**TOWNHOME HOLD DOWN DETAILS**







**QUALITY ASSURANCE/CONTROL**

DATE	ISSUE
12-28-23	ISSUE FOR PERMIT
12-28-23	ISSUE FOR ALLIANT
12-28-23	ISSUE FOR PUD SUBMITTAL
12-28-23	ISSUE FOR UNDERGROUND STORAGE
12-28-23	ISSUE FOR COMMENTS
12-28-23	ISSUE FOR COMMENTS
12-28-23	ISSUE FOR COMMENTS
12-28-23	ISSUE FOR COMMENTS
12-28-23	ISSUE FOR COMMENTS

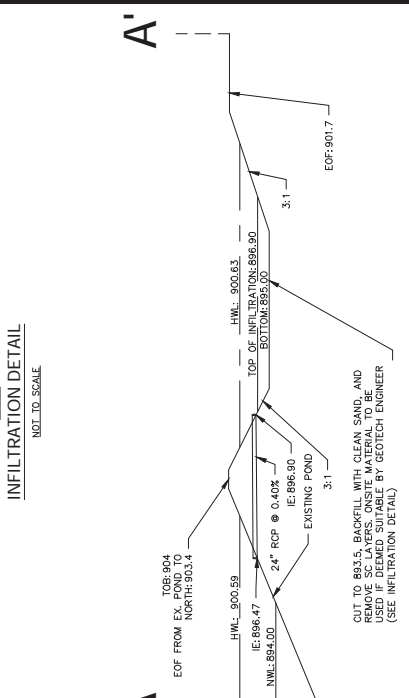
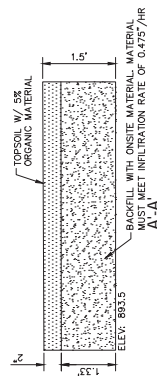
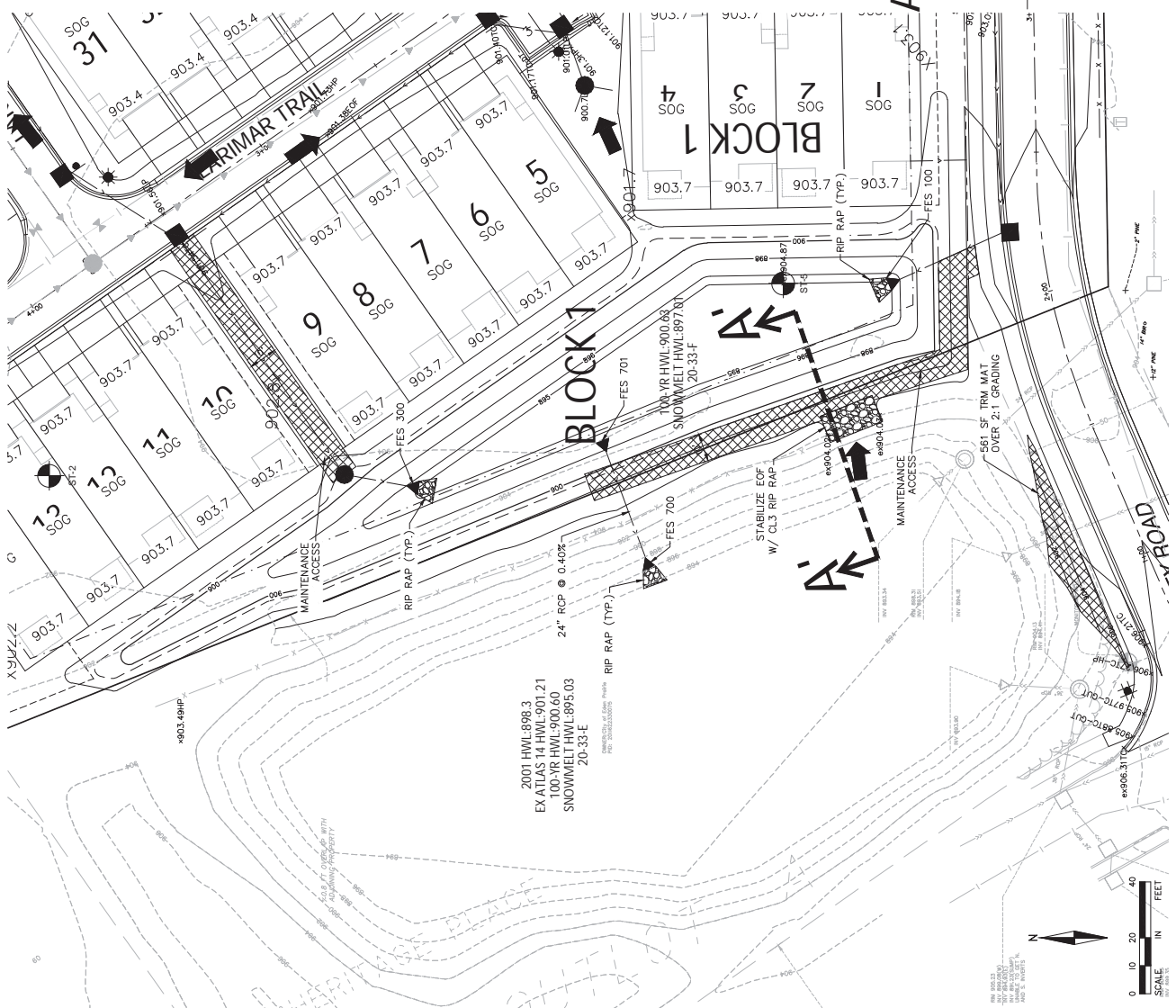
**PROJECT TEAM DATA**

MFR	SL, LSA, DLI
DRAWN	SL, LSA, DLI
CHECKED	SL, LSA, DLI
PROJECT NO.	232-0033

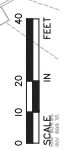
- LEGEND:**
- EXISTING CONTOUR
  - PROPOSED CONTOUR
  - PROPOSED REMAINING WALL
  - PROPOSED TO, CL ELEVATION
  - PROPOSED SPOT ELEVATION
  - DIRECTION OF DRAINAGE
  - EMERGENCY OVERTLOW ROUTING
  - PROPOSED CATCH BASIN
  - PROPOSED STORM SEWER
  - TOP OF WALL ELEVATION
  - BOTTOM OF WALL ELEVATION
  - PROPERTY LINE
  - LOT LINE
  - EASEMENT LINE
  - TREE CLEARING LIMITS
  - EXISTING TREE TO REMAIN
  - MAINTENANCE ACCESS

**INFILTRATION BASIN NOTES:**

- IF INFILTRATION BASIN TO BE UTILIZED AS TEMPORARY SEDIMENT BASINS, 3" OF COVER OVER PROPOSED BOTTOM ELEVATION OR EXCAVATION ELEVATION TO BE LEFT IN PLACE DURING CONSTRUCTION.
- IF COMPACTION OCCURS AT THE BASE OF THE BASIN, THE SOIL SHALL BE REWORKED TO THE PROPOSED ELEVATION. COMPACTED AREAS OF THE INTERFACED SHALL BE CORRECTED BY GRADING OR ROTD-FILLING.
- ON-SITE MATERIAL TO BE UTILIZED FOR BACKFILL IN REMOVAL OF UNSUITABLE INFILTRATION MATERIAL LAYERS AS APPROVED BY THE GEOTECHNICAL ENGINEER.
- INFILTRATION RATE TO BE A MINIMUM OF 0.425 IN/HR AND A MAXIMUM OF 0.83 IN/HR. INFILTRATION TEST IS REQUIRED UPON COMPLETION OF BASIN CONSTRUCTION TO ENSURE INFILTRATION RATES ARE BEING MET.



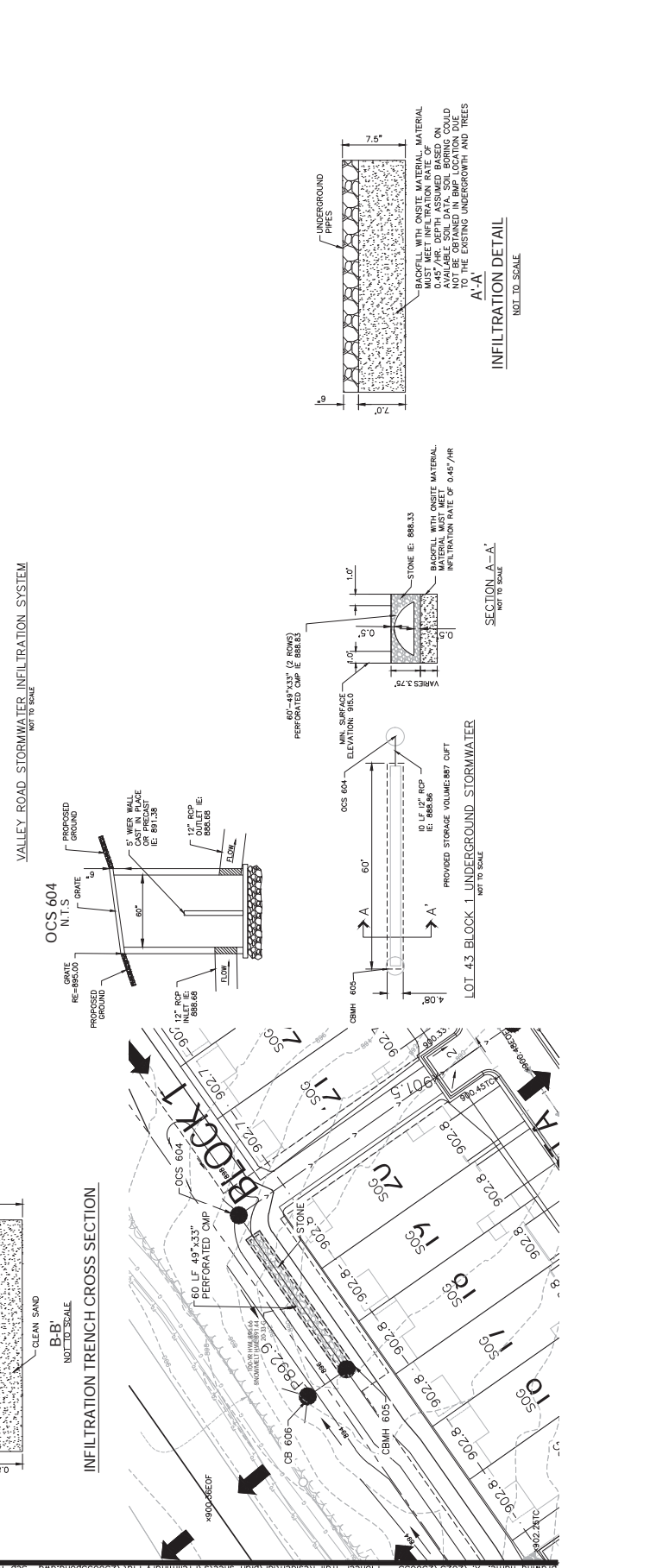
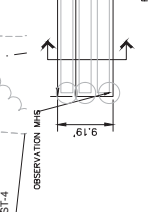
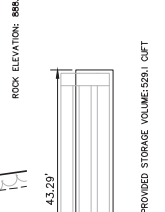
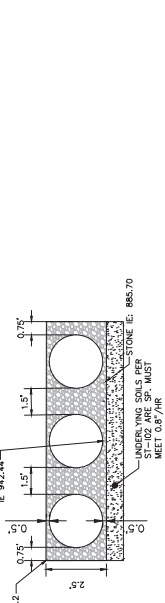
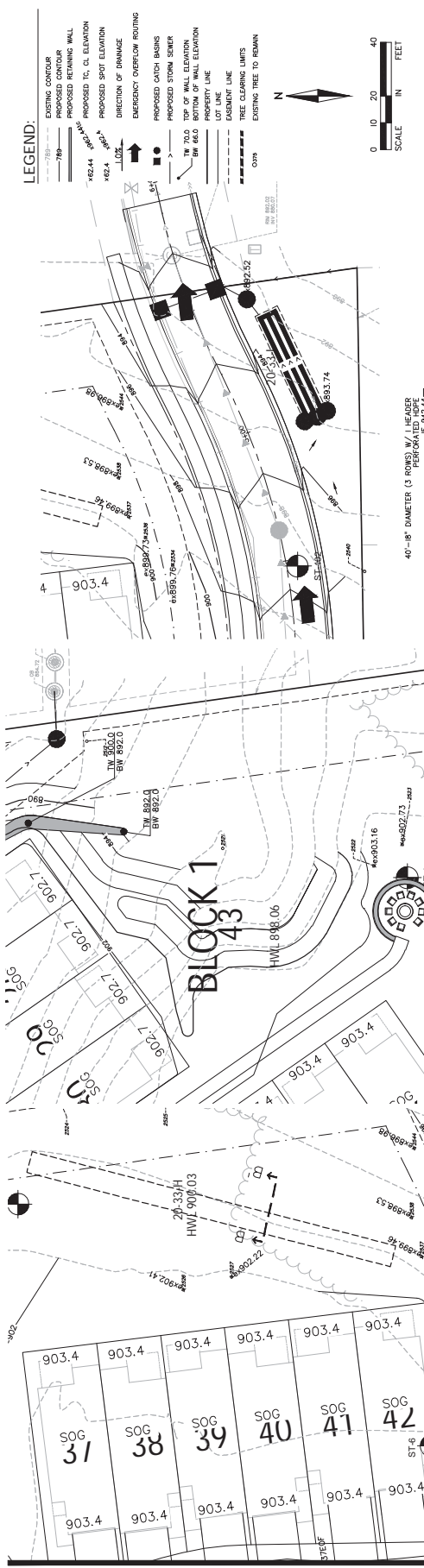
CUT TO 883.5, BACKFILL WITH CLEAN SAND, AND REMOVE SC LAYERS. ON-SITE MATERIAL TO BE UTILIZED FOR BACKFILL. APPROVED BY GEOTECH ENGINEER (SEE INFILTRATION DETAIL)



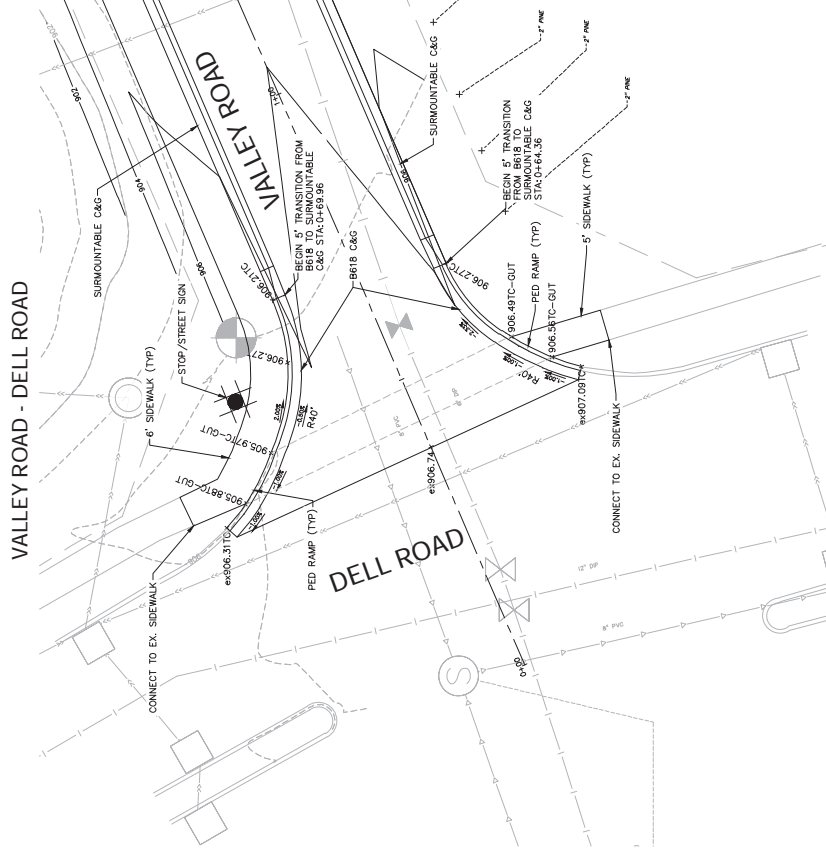
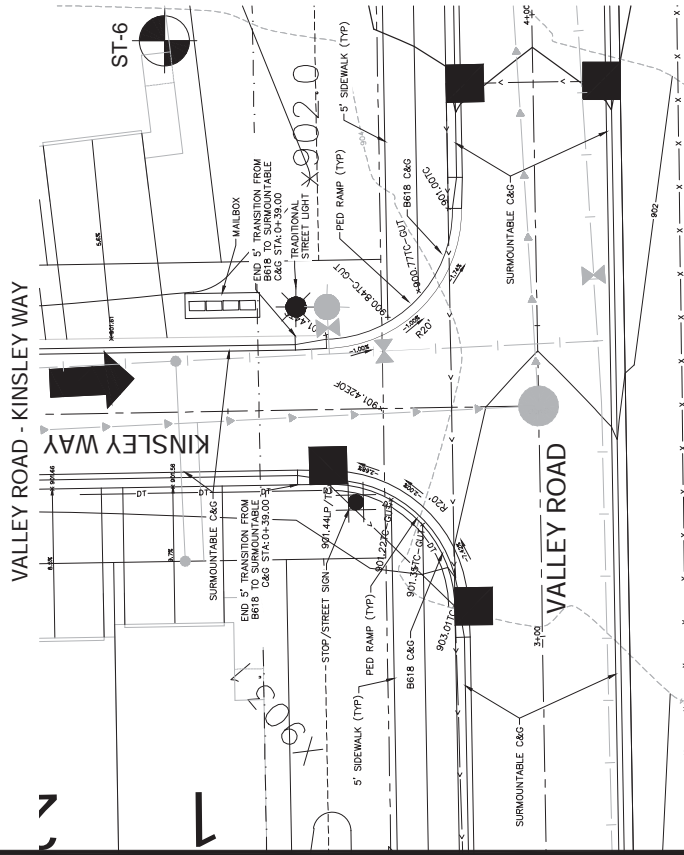
I hereby certify that this plan, specification, and schedule of work prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Major: **PAUL J. KINSLEY, P.E.**  
 License No. **0000000000**

QUALITY ASSURANCE/CONTROL	
DATE	ISSUE
12-26-23	001 SUBMITTAL
12-26-23	002 UNDERGROUND STORAGE
12-26-23	003 UNDERGROUND STORAGE
12-26-23	004 UNDERGROUND STORAGE
12-26-23	005 UNDERGROUND STORAGE
12-26-23	006 UNDERGROUND STORAGE
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12-26-23	100 UNDERGROUND STORAGE



- LEGEND:**
- - - - - EXISTING CONTOUR
  - - - - - PROPOSED CONTOUR
  - - - - - PROPOSED RETAINING WALL
  - - - - - PROPOSED T.C. CL. ELEVATION
  - 482.44 PROPOSED SPOT ELEVATION
  - 482.4 DIRECTION OF DRAINAGE
  - 1.0% EMERGENCY OVERTURN ROUTING
  - ↑ PROPOSED CATCH BASIN
  - PROPOSED STORM SEWER
  - TW 70.0 TOP OF WALL ELEVATION
  - BW 86.0 BOTTOM OF WALL ELEVATION
  - LOT LINE
  - EASEMENT LINE
  - EXISTING TREE TO REMAIN



**ALLIANT**  
 733 Marquette Avenue  
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 Minneapolis, MN 55402  
 612.756.3080  
 www.alliant-inc.com



17325 PIONEER TRAIL  
 EDEN PRairie, MINNESOTA  
 PRELIMINARY PLAT & PUD SUBMITTAL  
 PEDESTRIAN RAMP DETAILS

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 whose license is in good standing in the State of MINNESOTA.

Walter R. Johnson, PE  
 Title: License No.:

QUALITY ASSURANCE/CONTROL

BY	DATE	ISSUE
2-24-23	2-24-23	CITY SUBMITTAL
4-24-23	4-24-23	UNDERGROUND STORAGE
5-18-23	5-18-23	CITY COMMENTS
6-22-23	6-22-23	CITY COMMENTS
8-30-23	8-30-23	CITY COMMENTS
9-18-23	9-18-23	PIONEER RESUBMITTAL

PROJECT TEAM DATA  
 DRAWN: SHL, LSA, DLL  
 DESIGNED: SHL, LSA, DLL  
 PROJECT NO: 223-0033

















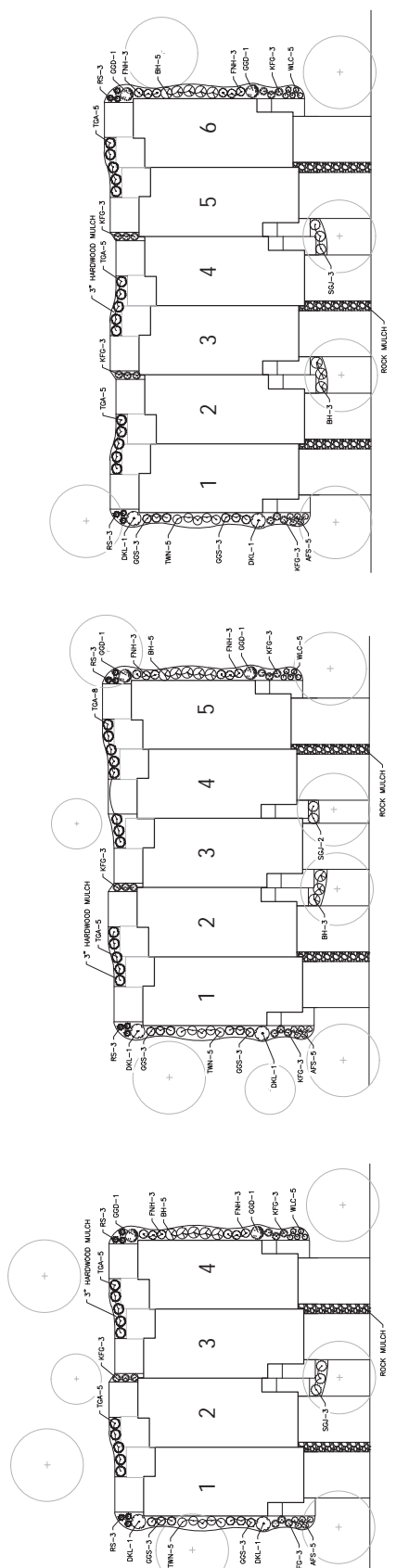








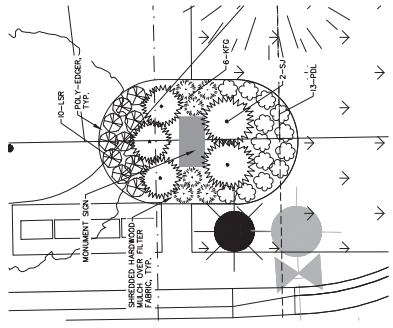
FOUNDATION DETAILS



FOUNDATION LANDSCAPE SCHEDULE

KEY	COMMON NAME / SCIENTIFIC NAME	SIZE	4 UNIT QTY	5 UNIT QTY	6 UNIT QTY
<b>Deciduous Shrubs</b>					
DNL	Dwarf Korean Lilac   Syringa meyeri 'Ballard'	#3 Cont.	2	2	2
FNN	Tiny Wire Birchbark   Physocarpus opulifolius s. 'SPOPTV'	#3 Cont.	5	5	5
GSS	Glow Girl Salix   Salix nemoralis 'Glow Girl'	#3 Cont.	6	6	6
TNA	Green-Gloss Yucca   Yucca glauca 'Glossy Leaf'	#3 Cont.	2	2	2
GSD	Green-Gloss Yucca   Yucca glauca 'Glossy Leaf'	#3 Cont.	2	2	2
FNN	Finn's Noddy Yellow   Ranunculus repens 'Finn's Noddy'	#3 Cont.	6	6	6
<b>Conifer Shrubs</b>					
TGA	Tiny Norway Spruce   Picea canadensis 'Tiny Globe'	#3 Cont.	10	13	15
S51	Space Gold Juniper   Juniperus sibirica 'Space Gold'	#3 Cont.	3	2	3
<b>Perennials</b>					
WLC	White Lady Clematis   Clematis flammula 'White Lady'	#3 Cont.	6	6	6
WLC	White Lady Clematis   Clematis flammula 'White Lady'	#3 Cont.	5	5	5
WLC	White Lady Clematis   Clematis flammula 'White Lady'	#3 Cont.	5	5	5
RS	Ruby Star Spangled   Ranunculus flammula 'Ruby Star'	#3 Cont.	6	6	6

Note: Quantities are for the entire site, including the amount of 60% vegetation.

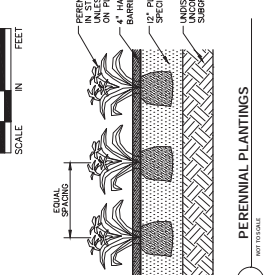


MONUMENT SIGN ENLARGEMENT  
SCALE 1/4"=1'

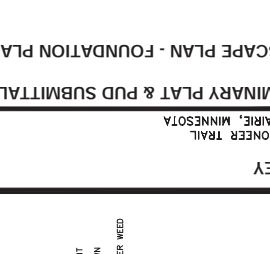
6 UNIT TOWNHOME



5 UNIT TOWNHOME

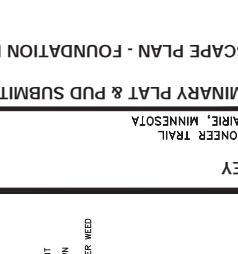


4 UNIT TOWNHOME

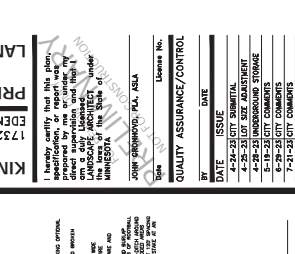


LEGEND

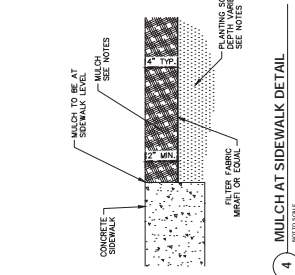
- PROPOSED DECIDUOUS OVERSTORY TREE
- PROPOSED CONIFEROUS TREE
- EXISTING TREE TO BE SAVED
- POND AREA SEED MIX (SEE SEEDING NOTES)
- TURF SEED MIX (SEE SEEDING NOTES)
- BASEIN PLAG PLANTING - FOX SEDGE (corolla pediculate) OR PHORMIUM COMPANION (spartina pediculate)



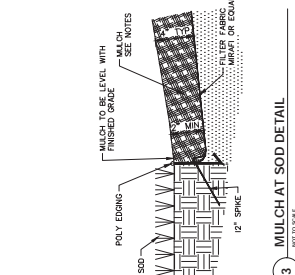
PERENNIAL PLANTINGS



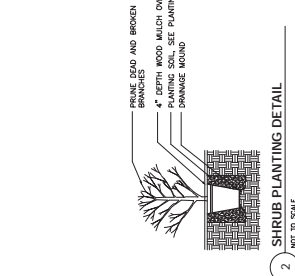
TREE PLANTING



MULCH AT SIDEWALK DETAIL



MULCH AT SOD DETAIL



SHRUB PLANTING DETAIL