RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

18681 Lake Drive East
Chanhassen, MN 55317
952-607-6512
www.rpbcwd.org

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2022-017

Considered at Board of Managers Meeting: July 13, 2022

Project Procedural History: Permit application conditionally approved June 1, 2022.

Received complete: July 1, 2022

Applicant:	Eden Prairie Schools, Kyle Fisher,
Representative:	Design Tree Engineering, Michael Gerber, PE
Project:	Oak Point Elementary Circulation Upgrades - The applicant proposes the reconstruction of the existing driveway, including the addition of a turn lane, and the removal of a paved, overflow parking lot. The modification request is for the site to be considered restricted and replacement of the detention pond and infiltration basin with a biofiltration basin and tree plantings to achieve rate control, volume control, and water quality requirements.
Location:	13400 Staring Lake Parkway, Eden Prairie, Minnesota 55347
Reviewer:	Scott Sobiech, PE; Barr Engineering Co.

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 July 13, 2022 meeting of the managers:

Resolved that the application for modification to Permit 2022-017 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, as modified, have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2022-017 to the applicant on behalf of RPBCWD.

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

Applicable Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
C	**Erosion Control Plan**		Yes	Rule-specific permit condition fulfilled on June 14, 2022.
J	**Stormwater Management**	Rate	Yes	
		Volume	Yes	Modification request provided abstraction to the maximum extent practicable
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	See Comment	Updated maintenance agreement must be provided for review and approval prior to permit execution.
		Chloride Management	Yes	Chloride management plan required prior to project close-out.
		Wetland Protection	Yes	
L	**Permit Fee Deposit**		NA	Governmental entity
M	**Financial Assurance**		NA	Governmental entity

Background

Eden Prairie School District (ISD 272) proposes the reconstruction of the existing driveway at the Oak Point Elementary School to include another lane for turning to improve traffic circulation and the removal of overflow parking south of Staring Lake Parkway. The board of managers conditionally approved the permit application at the June 1, 2022 meeting for the proposed land-disturbing activities (see attached June 2022 permit report). Because the project includes the removal of the existing paved parking lot south of Staring Lake Parkway on property owned by the City of Eden Prairie, the conditional approval included the requirement that separate permits be obtained to cover the proposed land-disturbing activities on ISD 272 property (PID 2211622130004) and the proposed land-disturbing activity on city owned property (PID 2211622130062). Because the land-disturbing activity on city owned property only requires approval under RPBCWD Rule C, erosion Prevention and Sediment Control, a separate permit (2022-050) for the activities south of Staring Lake Parkway was reviewed and approved administratively on June 14, 2022.

The June 2022 conditionally approved project plans include a detention basin and infiltration basin to achieve rate control, volume control, and water quality requirements. While fulfilling the conditions of approval, further site investigation revealing previous waterproofing measures were implemented by ISD 272 to provide protection from groundwater intrusion into the structure. The engineer concurs the documented groundwater intrusion confirms there is inadequate separation between the seasonally high groundwater level and the low floor of the existing building. The groundwater intrusion information combined with the in-situ infiltration testing showing a rate of 0.0 inches per hour (in/hr), demonstrate infiltration is not feasible and the abstraction standard in subsection 3.1b of Rule J (abstraction of 551 cubic feet of stormwater volume from the 6,002 square feet of regulated impervious area) cannot practicably be

met, the site is considered a restricted site and stormwater runoff volume is required to be managed in accordance with subsection 3.3 of Rule J. Because infiltration is not reasonably feasible, the detention basin and infiltration basin proposed in the original application will be replaced with a biofiltration basin with pre-treatment via a Rain Guardian, a concrete chamber used to remove coarse sediment, to provide stormwater quantity and quality control.

Because the requested permit modification only impacts the site stormwater management, a summary of the changes to the stormwater management analysis relative to the criteria in Rule J is presented below. The June 1, 2022 approval remains legally effective, and only the changes to the approval as summarized below before the board now. The proposed terms and conditions of approval of the modification request, as provided below and as may be modified by the managers, will modify the prior approvals where applicable.

The following materials were reviewed in support of the permit modification request:

1. Permit modification request received on June 30, 2022
2. Oak Point Elementary Circulation Upgrades Project Plan Set (16 sheets) dated January 27, 2022 (revised May 9, 2022, Revised July 1, 2022)
3. Oak Point Elementary School Circulation Upgrades Final Stormwater Management Study Revision 2 dated July 1, 2022
4. Tree Planting Plan received June 30, 2022
5. P8 water quality modeling received June 30, 2022
6. Revised HydroCAD model received July 1, 2022
7. Center for Watershed Protection's Tree Abstraction spreadsheet received July 1, 2022

Rule J: Stormwater Management

Because the project will disturb 1.05 acres of land-surface area, the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.1). Under paragraph 2.5 of Rule J, Common Scheme of Development, activities subject to Rule J on a parcel or adjacent parcels under common or related ownership will be considered in the aggregate, and the requirements applicable to the activity under this rule will be determined with respect to all development that has occurred on the site or on adjacent sites under common or related ownership since the date this rule took effect (January 1, 2015). Because another project has been permitted since the rules took effect (RPBCWD Permit 2018-028), the current activities proposed must be considered in aggregate with the activities proposed under this application, Permit 2022-017.

The criteria listed in Subsection 3.1 only apply to the disturbed areas on the project site because the project, when considered in aggregate with the other permitted activities at the site, increases the imperviousness by 8.9 percent and disturbs a combined 3.8 percent of the existing impervious surface on the school property site (Rule J, Subsection 2.3). The site aggregate extent of disturbance and imperviousness on the combined school and city properties increase are less than the 50 percent disturbed

or expanded impervious area threshold for applicability of stormwater management requirements to the entire site.

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 below table. The proposed project is in conformance with RPBCWD Rule J, Subsection 3.1.a.

Existing and Proposed Peak Runoff Rates

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
North of Staring Lake Parkway	2.2	1.3	3.9	3.7	7.9	7.8	0.2	0.2

Volume Abstraction

For restricted sites, subsection 3.3 of Rule J requires rate control in accordance with subsection 3.1.a and that abstraction and water-quality protection be provided in accordance with the following sequence: (a) Abstraction of 0.55 inches of runoff from site impervious surface determined in accordance with paragraphs 2.3, 3.1 or 3.2, as applicable, and treatment of all runoff to the standard in paragraph 3.1c; or (b) Abstraction of runoff onsite to the maximum extent practicable and treatment of all runoff to the standard in paragraph 3.1c; or (c) Off-site abstraction and treatment in the watershed to the standards in paragraph 3.1b and 3.1c. Given the measured infiltration rate of 0.0 in/hr, clay soils, and potential to exacerbate the seasonal high groundwater impacts on the existing structure, the engineer finds that the 0.55-inch abstraction standard in subsection (a) cannot be achieved. The applicant has therefore maximized stormwater abstraction in accordance Subsection 3.3b of Rule J by providing seven trees to extend over a portion of the impervious surface. The designed abstraction performance for the project site is summarized in the table below.

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
1.1	511	0.14	67[1]

[1] Abstraction volume from trees calculated using the Center for Watershed Protection's published Document for *Stormwater Performance-Based Credit. Crediting Framework Product #7 for the project Making Urban Trees Count: A Project to Demonstrate the Role of Urban Trees in Achieving Regulatory Compliance for Clean Water*

Water Quality Management

Subsection 3.1.c of Rule J requires the Applicant provide for at 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 is proposing a biofiltration basin to achieve the required TP and TSS removals and submitted a P8 model to estimate the TP and TSS removals. The results of this modeling are summarized in Tables below showing the annual TSS and TP removal requirements are achieved and that there is no net increase in TSS and TP leaving the site. The engineer concurs with the modeling and finds that the proposed project is in conformance with Rule J, Subsection 3.1.c.

Annual TSS and TP removal summary:

Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)	Provided Load Reduction (lbs/yr)
Total Suspended Solids (TSS)	121	109 (90%)	107 (>100%)[1]
Total Phosphorus (TP)	0.4	0.24 (60%)	0.26 (65%)

[1] Because the stormwater facility treats an area larger than the regulated area, the pollutant load removed is larger than the regulated load.

Summary of net change in TSS and TP leaving the site

Pollutant of Interest	Existing Site Loading (lbs/yr)	Proposed Site Load after Treatment (lbs/yr)	Change (lbs/yr)
Total Suspended Solids (TSS)	248	167	-81
Total Phosphorus (TP)	0.8	0.64	-0.16

Findings

1. The proposed project, as modified, includes the information necessary, plan sheets for review.
2. The proposed project, as modified, will conform to Rules C and J if the Rule Specific Permit Conditions listed in the June 2022 conditional approval are met.
3. Approval of the modification will not extend the permit-approval period; the approval remains valid through June 1, 2023.

Recommendation:

The engineer recommends approval of the permit modification.

OAK POINT ELEMENTARY CIRCULATION UPGRADES

EDEN PRAIRIE SCHOOLS

13400 STARING LAKE PARKWAY
EDEN PRAIRIE, MN 55347

TRUE NORTH

INDEX OF SHEETS:

GENERAL NOTES:

1. TOPOGRAPHIC SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, TOPOGRAPHY WITH SPOT ELEVATIONS AND PHYSICAL FEATURES WAS PROVIDED BY:

   DESIGN TREE ENGINEERING & LAND SURVEYING
   3339 W. ST. GERMAIN ST.
   SUITE 250
   ST. CLOUD, MN 56301

2. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION OF THIS PROJECT

PROJECT CONTACTS

OWNER
EDEN PRAIRIE SCHOOL DISTRICT
KYLE FISHER
8100 SCHOOL ROAD
EDEN PRAIRIE, MN 55344
TEL:952-975-7124
EMAIL: www.edenpr.org

CIVIL ENGINEER
DESIGN TREE ENGINEERING AND LAND SURVEYING
DANIEL FOLSOM, PE
3339 W ST. GERMAIN, SUITE 250
ST. CLOUD, MN 56301
TEL: 320-217-5557
EMAIL:djf@dte-ls.com

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engineering + land surveying
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PRINTED NAME: DANIEL J. FOLSOM

DATE: 06/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

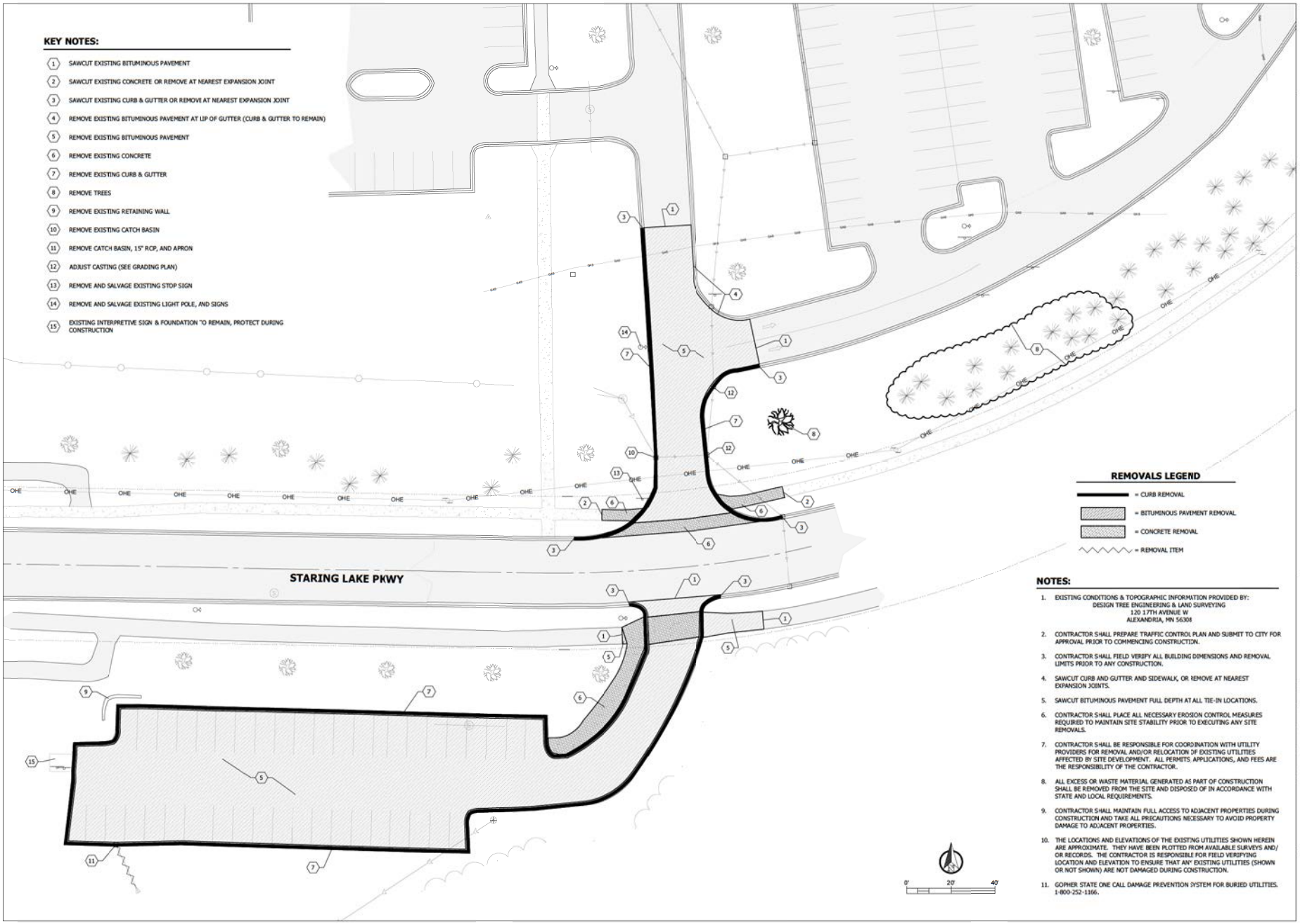
DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION
1	06/09/2022	PR-1 R1
2	07/01/2022	WATERSHED COMMENT REV.

COVER SHEET

DRAWING NO.

C001



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OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

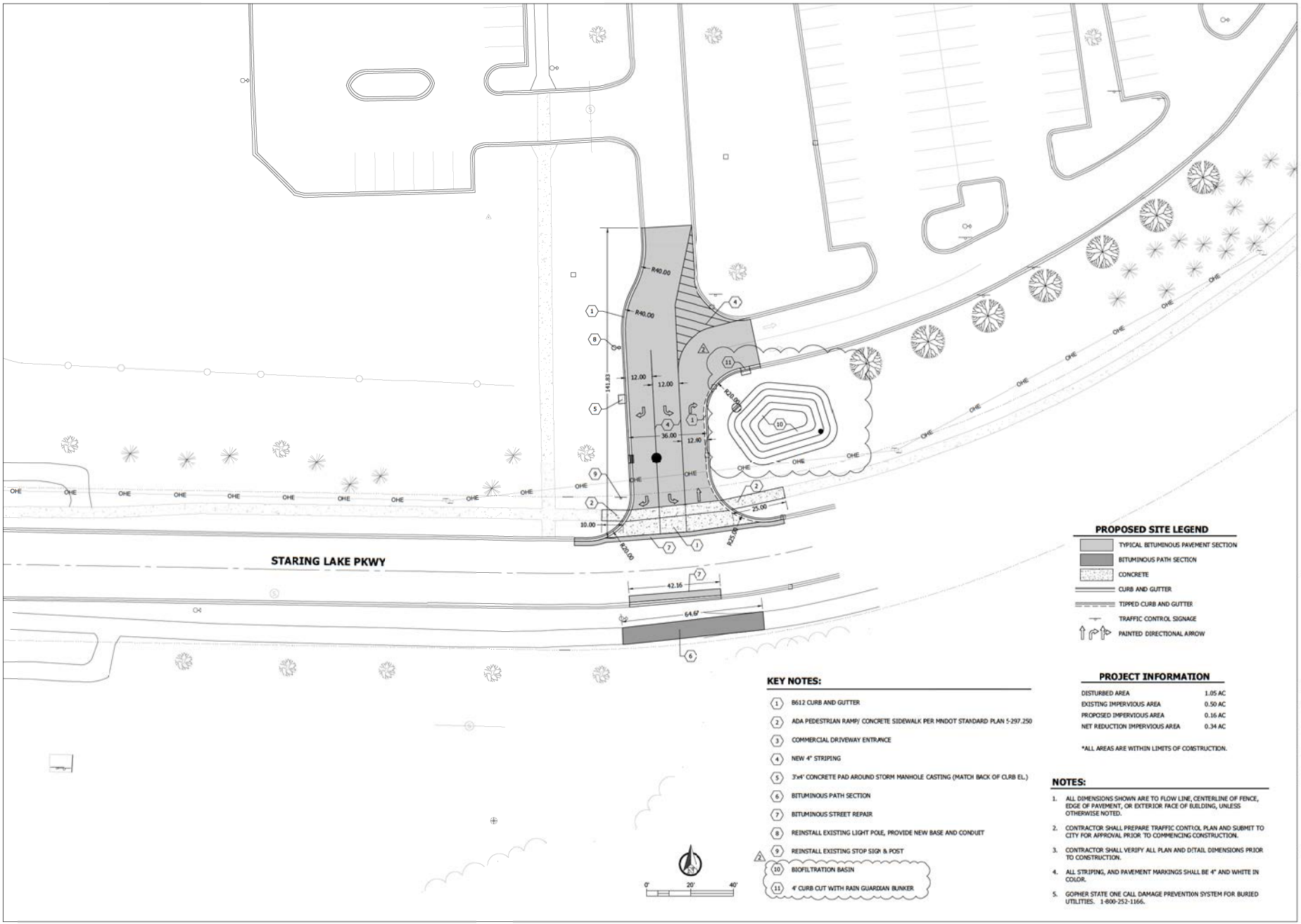
DRAWN BY:	RJK
CHECKED BY:	JEA
PROJECT NO.:	11321003

NO.	DATE	DESCRIPTION
1	06/09/2022	PR-1 R1

REMOVALS PLAN

DRAWING NO.

C101



KEY NOTES:

1. B612 CURB AND GUTTER
2. ADA PEDESTRIAN RAMP/ CONCRETE SIDEWALK PER MNDOT STANDARD PLAN 5-297.250
3. COMMERCIAL DRIVEWAY ENTRANCE
4. NEW 4" STRIPING
5. 3'x4' CONCRETE PAD AROUND STORM MANHOLE CASTING (MATCH BACK OF CURB EL.)
6. BITUMINOUS PATH SECTION
7. BITUMINOUS STREET REPAIR
8. REINSTALL EXISTING LIGHT POLE, PROVIDE NEW BASE AND CONDUIT
9. REINSTALL EXISTING STOP SIGN & POST
10. BIOFILTRATION BASIN
11. 4' CURB CUT WITH RAIN GUARDIAN BUNKER

PROPOSED SITE LEGEND

- TYPICAL BITUMINOUS PAVEMENT SECTION
- BITUMINOUS PATH SECTION
- CONCRETE
- CURB AND GUTTER
- TIPPED CURB AND GUTTER
- TRAFFIC CONTROL SIGNAGE
- PAINTED DIRECTIONAL ARROW

PROJECT INFORMATION

DISTURBED AREA	1.05 AC
EXISTING IMPERVIOUS AREA	0.50 AC
PROPOSED IMPERVIOUS AREA	0.16 AC
NET REDUCTION IMPERVIOUS AREA	0.34 AC

*ALL AREAS ARE WITHIN LIMITS OF CONSTRUCTION.

NOTES:

1. ALL DIMENSIONS SHOWN ARE TO FLOW LINE, CENTERLINE OF FENCE, EDGE OF PAVEMENT, OR EXTERIOR FACE OF BUILDING, UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL PREPARE TRAFFIC CONTROL PLAN AND SUBMIT TO CITY FOR APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY ALL PLAN AND DITAIL DIMENSIONS PRIOR TO CONSTRUCTION.
4. ALL STRIPING, AND PAVEMENT MARKINGS SHALL BE 4" AND WHITE IN COLOR.
5. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.

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EDEN PRAIRIE, MN

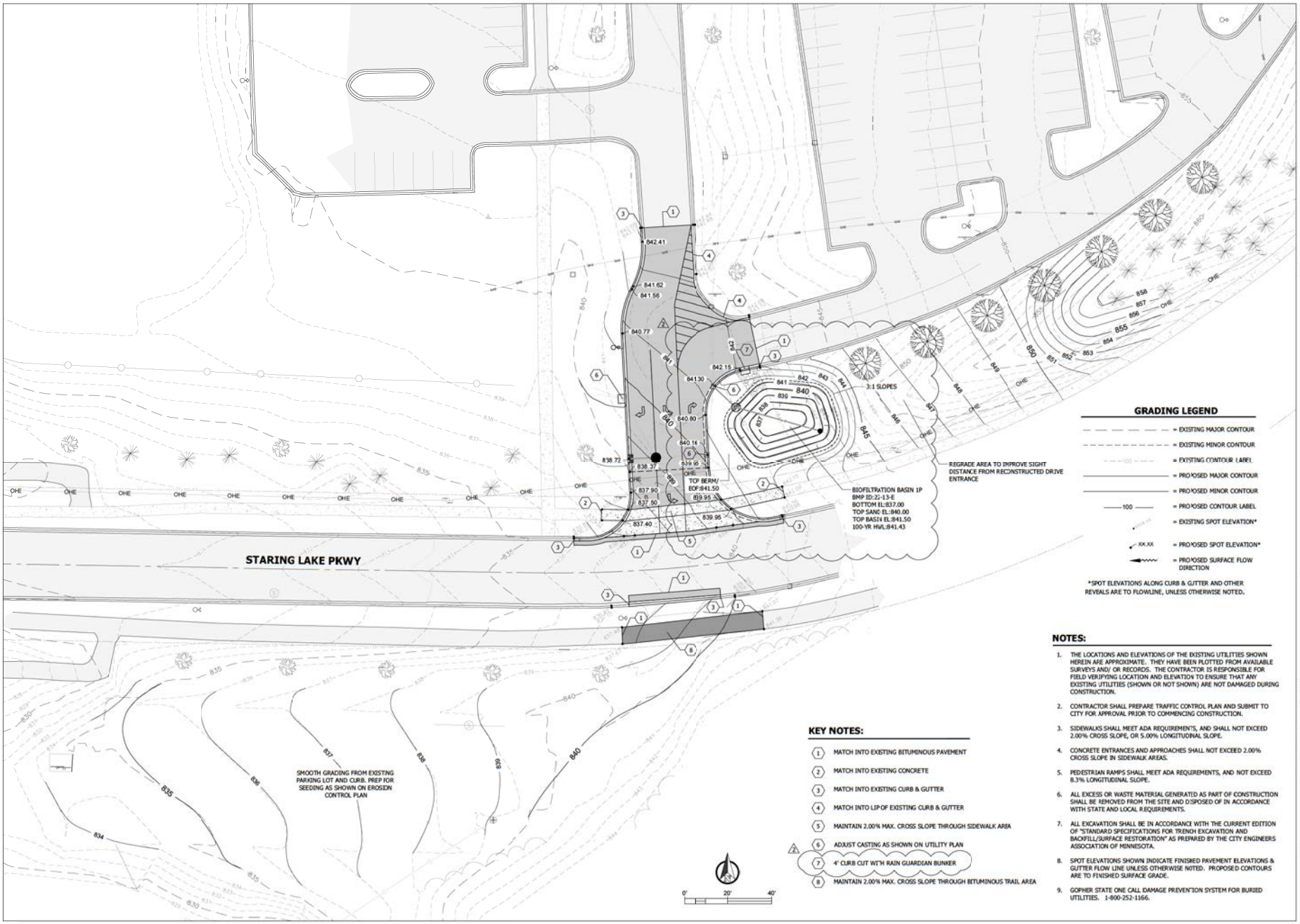
DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION
1	06/09/2022	PR-1 R1
2	07/01/2022	WATERSHED COMMENT REV.

SITE PLAN

DRAWING NO.

C201



GRADING LEGEND

- = EXISTING MAJOR CONTOUR
- = EXISTING MINOR CONTOUR
- 100 = EXISTING CONTOUR LABEL
- = PROPOSED MAJOR CONTOUR
- = PROPOSED MINOR CONTOUR
- 100 = PROPOSED CONTOUR LABEL
- = EXISTING SPOT ELEVATION*
- XX.XX = PROPOSED SPOT ELEVATION*
- = PROPOSED SURFACE FLOW DIRECTION

*SPOT ELEVATIONS ALONG CURB & GUTTER AND OTHER REVEALS ARE TO FLOWLINE, UNLESS OTHERWISE NOTED.

KEY NOTES:

1. MATCH INTO EXISTING BITUMINOUS PAVEMENT
2. MATCH INTO EXISTING CONCRETE
3. MATCH INTO EXISTING CURB & GUTTER
4. MATCH INTO LIP OF EXISTING CURB & GUTTER
5. MAINTAIN 2.00% MAX. CROSS SLOPE THROUGH SIDEWALK AREA
6. ADJUST CASTING AS SHOWN ON UTILITY PLAN
7. 4' CURB CUT WITH RAIN GUARDIAN BUNKER
8. MAINTAIN 2.00% MAX. CROSS SLOPE THROUGH BITUMINOUS TRAIL AREA

NOTES:

1. THE LOCATIONS AND ELEVATIONS OF THE EXISTING UTILITIES SHOWN HEREIN ARE APPROXIMATE. THEY HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND/ OR RECORDS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATION AND ELEVATION TO ENSURE THAT ANY EXISTING UTILITIES (SHOWN OR NOT SHOWN) ARE NOT DAMAGED DURING CONSTRUCTION.
2. CONTRACTOR SHALL PREPARE TRAFFIC CONTROL PLAN AND SUBMIT TO CITY FOR APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
3. SIDEWALKS SHALL MEET ADA REQUIREMENTS, AND SHALL NOT EXCEED 2.00% CROSS SLOPE, OR 5.00% LONGITUDINAL SLOPE.
4. CONCRETE ENTRANCES AND APPROACHES SHALL NOT EXCEED 2.00% CROSS SLOPE IN SIDEWALK AREAS.
5. PEDESTRIAN RAMPS SHALL MEET ADA REQUIREMENTS, AND NOT EXCEED 8.3% LONGITUDINAL SLOPE.
6. ALL EXCESS OR WASTE MATERIAL GENERATED AS PART OF CONSTRUCTION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.
7. ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR TRENCH EXCAVATION AND BACKFILL/SURFACE RESTORATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
8. SPOT ELEVATIONS SHOWN INDICATE FINISHED PAVEMENT ELEVATIONS & GUTTER FLOW LINE UNLESS OTHERWISE NOTED. PROPOSED CONTOURS ARE TO FINISHED SURFACE GRADE.
9. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.

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OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

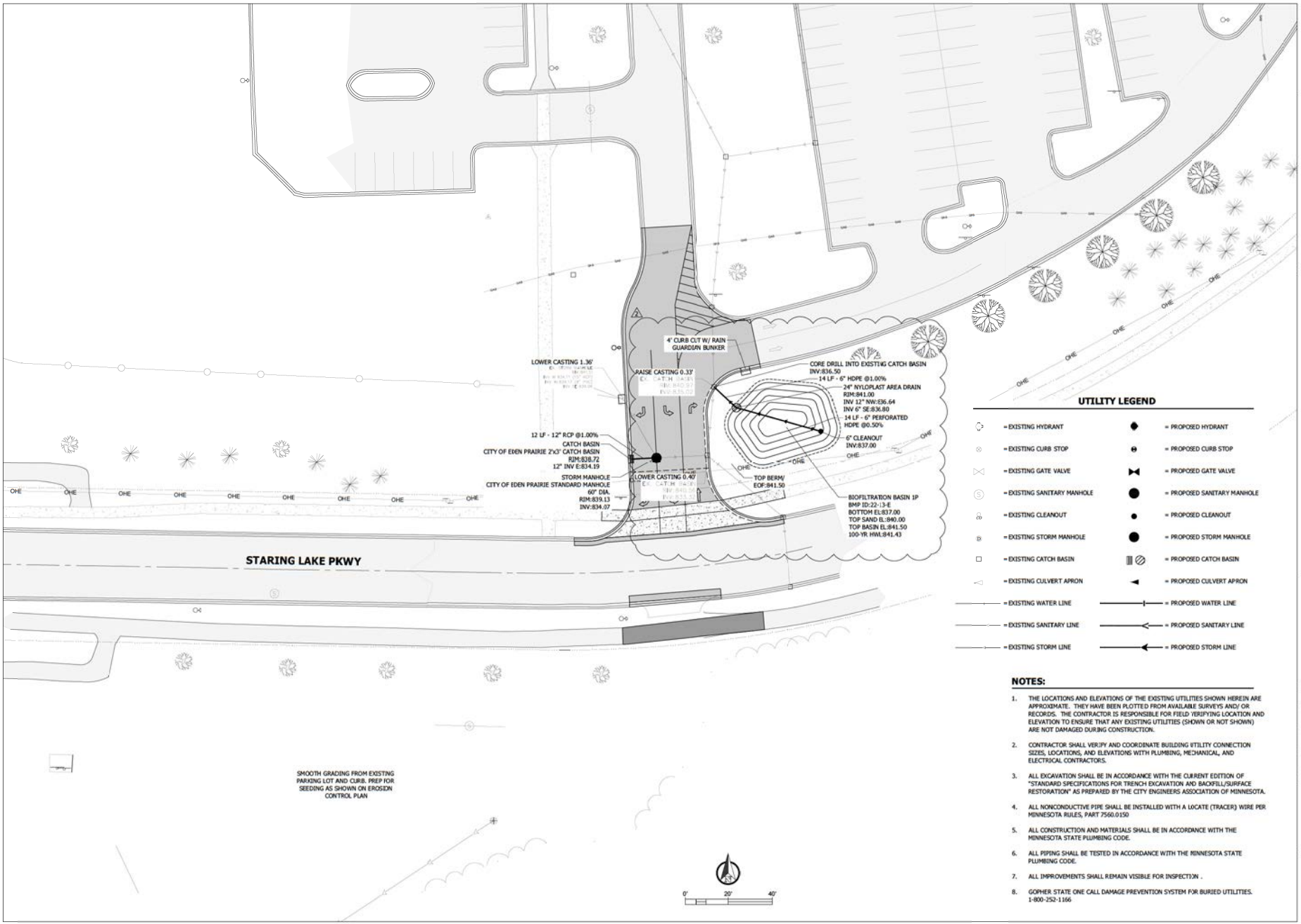
DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION
1	06/09/2022	PR-1 R1
2	07/01/2022	WATERSHED COMMENT REV.

GRADING PLAN

DRAWING NO.

C301



UTILITY LEGEND

= EXISTING HYDRANT	= PROPOSED HYDRANT
= EXISTING CURB STOP	= PROPOSED CURB STOP
= EXISTING GATE VALVE	= PROPOSED GATE VALVE
= EXISTING SANITARY MANHOLE	= PROPOSED SANITARY MANHOLE
= EXISTING CLEANOUT	= PROPOSED CLEANOUT
= EXISTING STORM MANHOLE	= PROPOSED STORM MANHOLE
= EXISTING CATCH BASIN	= PROPOSED CATCH BASIN
= EXISTING CULVERT APRON	= PROPOSED CULVERT APRON
= EXISTING WATER LINE	= PROPOSED WATER LINE
= EXISTING SANITARY LINE	= PROPOSED SANITARY LINE
= EXISTING STORM LINE	= PROPOSED STORM LINE

NOTES:

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2. CONTRACTOR SHALL VERIFY AND COORDINATE BUILDING UTILITY CONNECTION SIZES, LOCATIONS, AND ELEVATIONS WITH PLUMBING, MECHANICAL, AND ELECTRICAL CONTRACTORS.
3. ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR TRENCH EXCAVATION AND BACKFILL/SURFACE RESTORATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
4. ALL NONCONDUCTIVE PIPE SHALL BE INSTALLED WITH A LOCATE (TRACER) WIRE PER MINNESOTA RULES, PART 7560.0150
5. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MINNESOTA STATE PLUMBING CODE.
6. ALL PIPING SHALL BE TESTED IN ACCORDANCE WITH THE MINNESOTA STATE PLUMBING CODE.
7. ALL IMPROVEMENTS SHALL REMAIN VISIBLE FOR INSPECTION .
8. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166

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OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

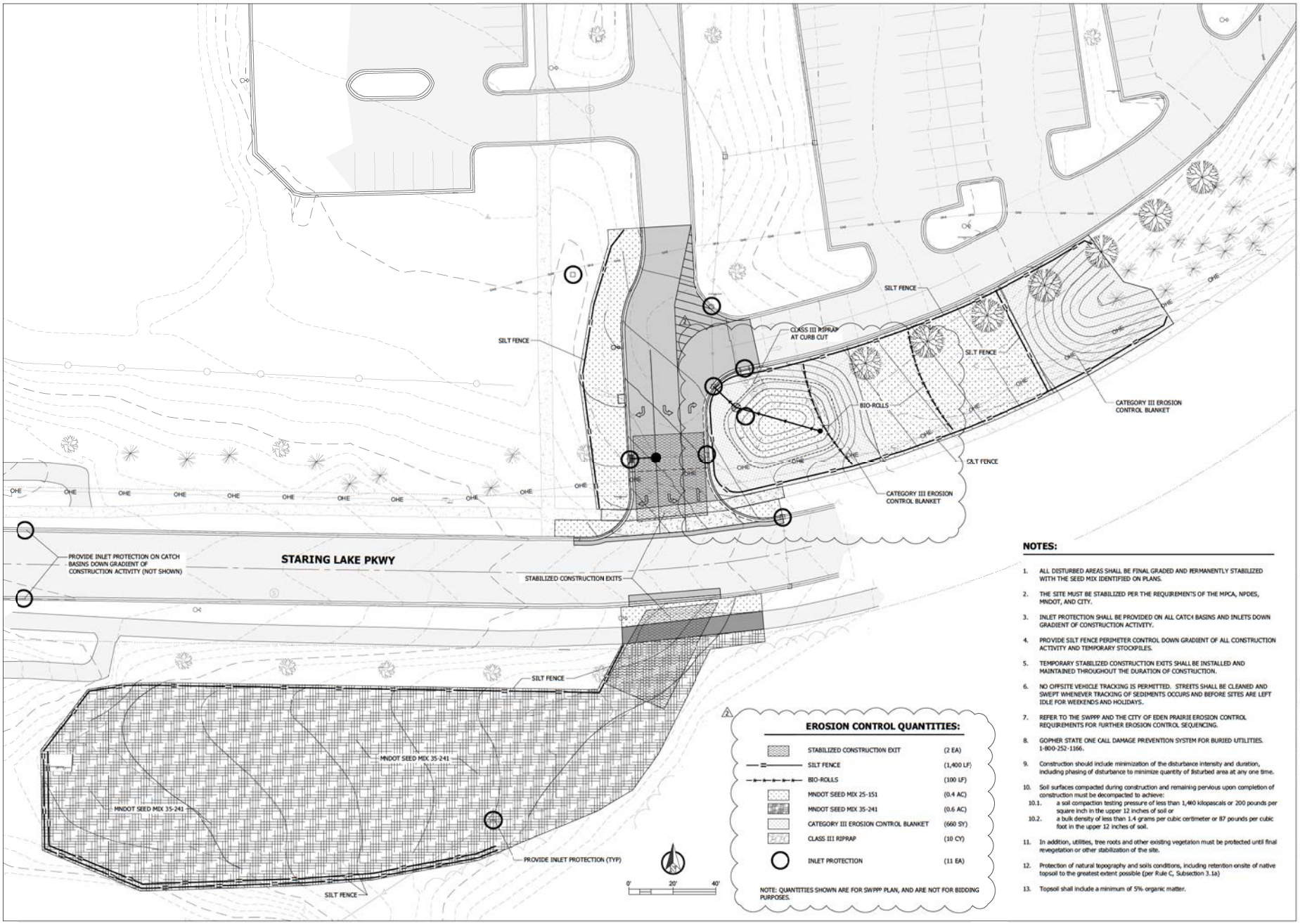
DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION
1	06/09/2022	PR-1 R1
2	07/01/2022	WATERSHED COMMENT REV.

UTILITY PLAN

DRAWING NO.

C401



EROSION CONTROL QUANTITIES:

	STABILIZED CONSTRUCTION EXIT	(2 EA)
	SILT FENCE	(1,400 LF)
	BIO-ROLLS	(100 LF)
	MNDOT SEED MIX 25-151	(0.4 AC)
	MNDOT SEED MIX 35-241	(0.6 AC)
	CATEGORY III EROSION CONTROL BLANKET	(660 SY)
	CLASS III RIPRAP	(10 CY)
	INLET PROTECTION	(11 EA)

NOTE: QUANTITIES SHOWN ARE FOR SWPPP PLAN, AND ARE NOT FOR BIDDING PURPOSES.

NOTES:

1. ALL DISTURBED AREAS SHALL BE FINAL GRADED AND PERMANENTLY STABILIZED WITH THE SEED MIX IDENTIFIED ON PLANS.
2. THE SITE MUST BE STABILIZED PER THE REQUIREMENTS OF THE MPCA, NPDES, MNDOT, AND CITY.
3. INLET PROTECTION SHALL BE PROVIDED ON ALL CATCH BASINS AND INLETS DOWN GRADIENT OF CONSTRUCTION ACTIVITY.
4. PROVIDE SILT FENCE PERIMETER CONTROL DOWN GRADIENT OF ALL CONSTRUCTION ACTIVITY AND TEMPORARY STOCKPILES.
5. TEMPORARY STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.
6. NO OFFSITE VEHICLE TRACKING IS PERMITTED. STREETS SHALL BE CLEANED AND SWEPT WHENEVER TRACKING OF SEDIMENTS OCCURS AND BEFORE SITES ARE LEFT IDLE FOR WEEKENDS AND HOLIDAYS.
7. REFER TO THE SWPPP AND THE CITY OF EDEN PRAIRIE EROSION CONTROL REQUIREMENTS FOR FURTHER EROSION CONTROL SEQUENCING.
8. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.
9. Construction should include minimization of the disturbance intensity and duration, including phasing of disturbance to minimize quantity of disturbed area at any one time.
10. Soil surfaces compacted during construction and remaining pervious upon completion of construction must be decompacted to achieve:
    - 10.1. a soil compaction testing pressure of less than 1,400 kilopascals or 200 pounds per square inch in the upper 12 inches of soil or
    - 10.2. a bulk density of less than 1.4 grams per cubic certimeter or 87 pounds per cubic foot in the upper 12 inches of soil.
11. In addition, utilities, tree roots and other existing vegetation must be protected until final revegetation or other stabilization of the site.
12. Protection of natural topography and soils conditions, including retention onsite of native topsoil to the greatest extent possible (per Rule C, Subsection 3.1a)
13. Topsoil shall include a minimum of 5% organic matter.

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OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

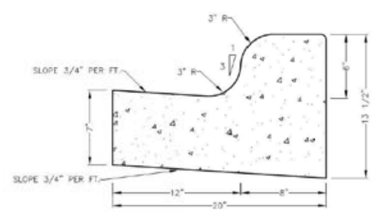
DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION
1	06/09/2022	PR-1 R1
2	07/01/2022	WATERSHED COMMENT REV.

EROSION CONTROL PLAN

DRAWING NO.

C501



B612	
Concrete	
Cu. Yds per L/F	L/F per Cu. Yd
0.0474	21.1

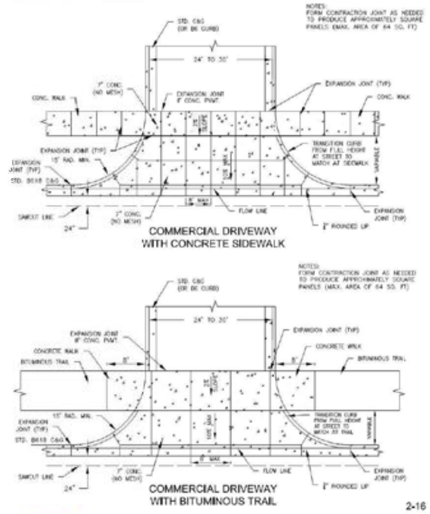
NOTE: EXPANSION JOINT SPACING: 100'

1-98

CITY OF EDEN PRAIRIE, MINNESOTA

B612 CURB AND GUTTER DETAILS

DEPARTMENT OF ENGINEERING R-9

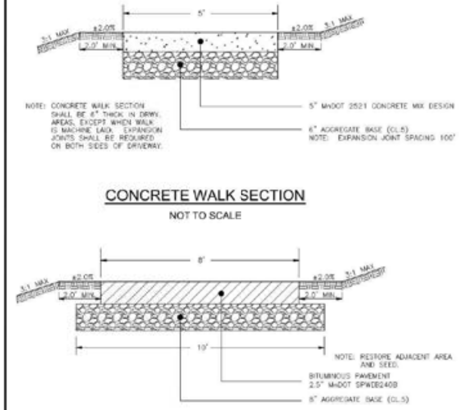


2-16

CITY OF EDEN PRAIRIE, MINNESOTA

COMMERCIAL DRIVEWAY ENTRANCES (1 OF 2)

DEPARTMENT OF ENGINEERING R-14



CONCRETE WALK SECTION

NOT TO SCALE

BITUMINOUS BIKE/PED SECTION

NOT TO SCALE

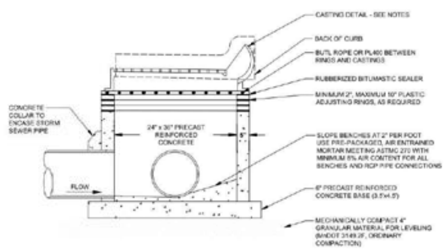
REV. 09/20/2018

CITY OF EDEN PRAIRIE, MINNESOTA

TYPICAL WALKWAY SECTION

DEPARTMENT OF ENGINEERING R-16

NOTES:
1) BULKHEAD STYLE CURB
CASTING SHALL BE A NEENAH R-3067-V OR NEENAH R-3067-VB
2) BULKHEAD STYLE CURB WITHIN BIKE FACILITY
CASTING SHALL BE A NEENAH R-3067-L
3) SURMOUNTABLE STYLE CURB
CASTING SHALL BE A NEENAH R-3501-TR OR TL



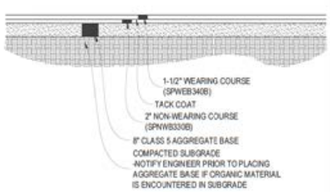
01/26/2022

2' x 3' CATCH BASIN

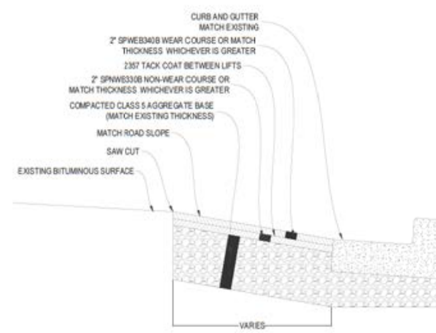
DETAIL NO. S-13

CITY OF EDEN PRAIRIE
DEPARTMENT OF ENGINEERING

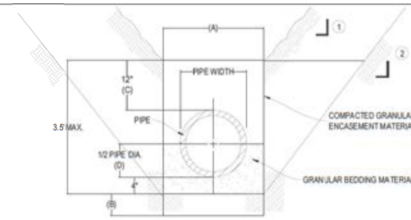
NOTES:
1. ALL ORGANIC OR OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM BENEATH THE ROADWAY.



TYPICAL BITUMINOUS PAVEMENT SECTION



BITUMINOUS STREET REPAIR, CURB & GUTTER INSTALLATION DETAIL



1. 0-12" DEPTH TRENCH
SLOPE DEPENDS ON SOIL TYPE.
2. 12-20' DEPTH TRENCH
SLOPE DEPENDS ON SOIL TYPE.
3. 0-20' DEPTH TRENCH
SUPPORT OR SHIELD SYSTEM CAN BE UTILIZED TO REDUCE TRENCH WIDTH.
4. 20' OR GREATER DEPTH TRENCH
EXCAVATION MUST BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER. CONTRACTOR SHALL HAVE THE DESIGN COMPLETED AT HIS EXPENSE AND PROVIDE A COPY TO THE OWNER AND THE PROJECT ENGINEER.

(A) MINIMUM TRENCH WIDTH SHALL ALLOW FOR SIX INCHES OF CLEARANCE ON EACH SIDE OF PIPE JOINT HUB.

(B) THE TRENCH MAY BE OVEREXCAVATED A MIN. OF 6" & BACKFILLED WITH COMPACTED GRANULAR MATERIALS WHEN ROCK, INCOMPRESSIBLE MATERIALS, OR UNSTABLE SOILS ARE ENCOUNTERED.

(C) COMPACTED GRANULAR ENCASEMENT MATERIAL SHALL COVER THE TOP OF PIPE BY AT LEAST 12" AND EXTEND THE FULL WIDTH OF THE TRENCH OR AT LEAST 2 1/2" TIMES THE PIPE DIAMETER ON EACH SIDE OF THE PIPE.

(D) BEDDING AND HAUNCHING MATERIAL SHALL BE PLACED AND COMPACTED TO PROVIDE FULL SUPPORT FOR THE LENGTH OF THE PIPE.

NOTES:
1. THIS DETAIL APPLIES TO SANITARY SEWER, STORM SEWER, WATERMAIN, AND ALL SERVICE PIPES.

TYPICAL PIPE BEDDING DETAIL

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-217-5557

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.

PRINTED NAME: DANIEL J. FOLSOM

DATE: 01/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

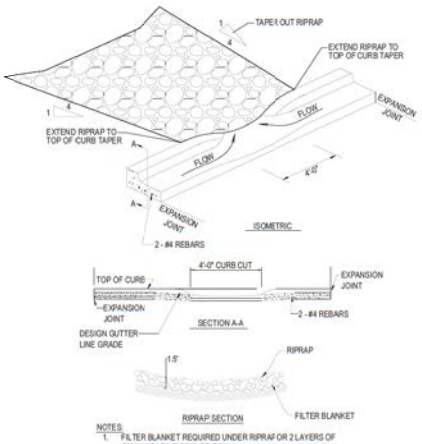
DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION
1	06/09/2022	PR-1 R1

CIVIL DETAILS

DRAWING NO.
C601

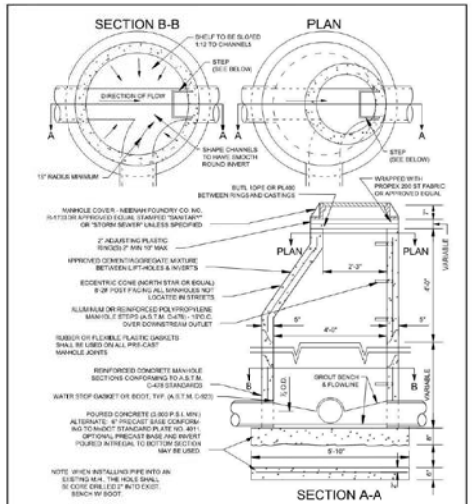
F:\DESIGN TREE ENGINEERING\PROJECTS\113 - EDEN PRAIRIE SCHOOLS\11321003 - OAK POINT ELEMENTARY CIRCULATION UPGRADES\CONSTRUCTS\CIVIL\11321003-C-DETAILS.DWG #### 7/1/2022



NOTES:
1. FILTER BLANKET REQUIRED UNDER RIPRAP OR 2 LAYERS OF 500X "MIRAFI" FABRIC OR EQUAL
2. RIPRAP SHALL EXTEND TO BOTTOM OF SLOPE OR AS SHOWN ON PLANS.
3. CURB TAPERS SHALL BE 3 FT.

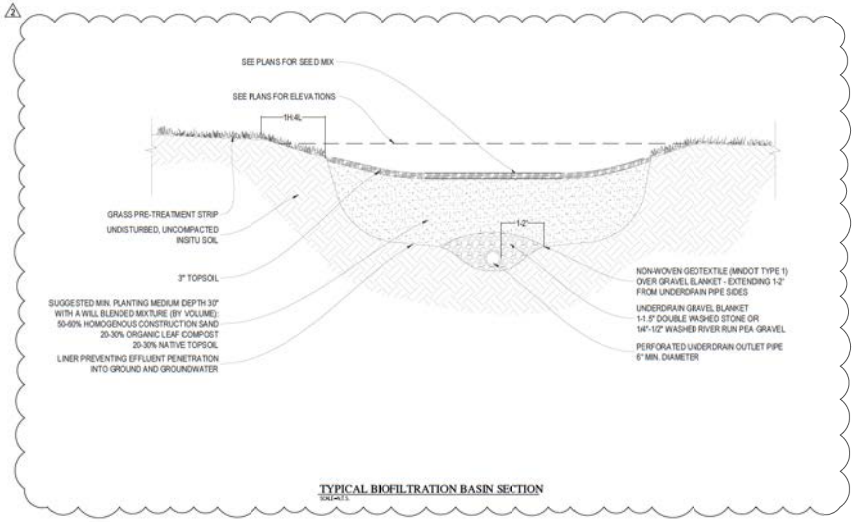
*CLASS III RIPRAP, D50= 9 IN. (MNDOT SPEC 3601)

4' CURB CUT W/ RIPRAP DETAIL

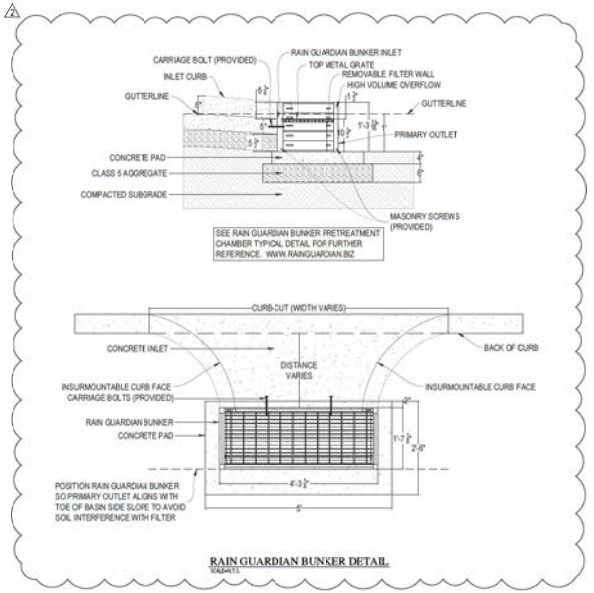


REV 03/15/2013

	STANDARD MANHOLE DETAIL	DETAIL NO.
EDEN PRAIRIE	CITY OF EDEN PRAIRIE *DEPARTMENT OF ENGINEERING*	S-1



TYPICAL BIOFILTRATION BASIN SECTION



RAIN GUARDIAN BUNKER DETAIL

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-251-5557

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.

PRINTED NAME: DANIEL J. FOLSOM

DATE: 06/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

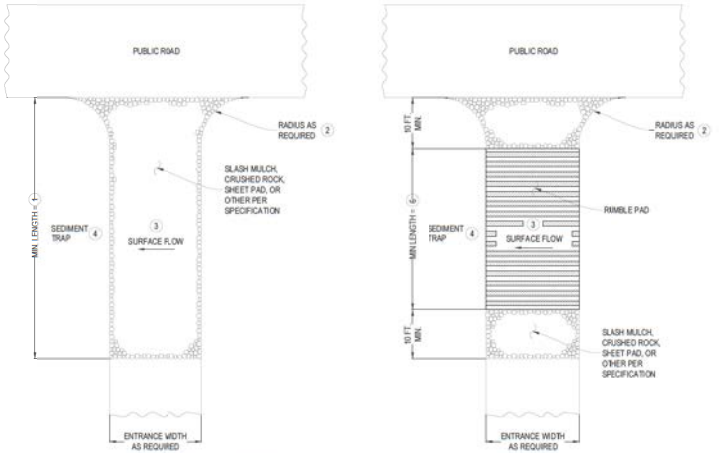
DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION
1	06/09/2022	PR-1 R1
2	07/01/2022	WATERSHED COMMENT REV.

CIVIL DETAILS

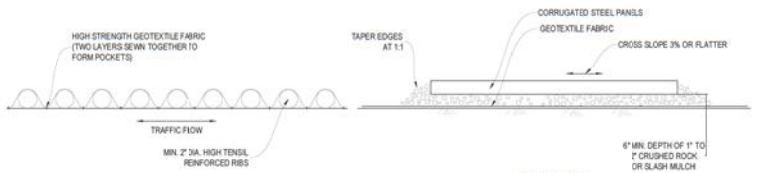
DRAWING NO.

C602



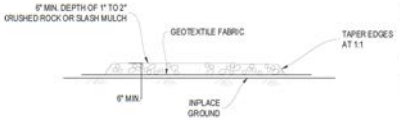
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT 5 7

RUMBLE PAD CONSTRUCTION EXIT 5 7



SHEET PAD

RUMBLE PAD



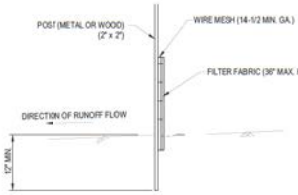
SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

1. MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENTTO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.
2. PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.
3. IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.
4. IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.
5. IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.
6. MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.
7. MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIA, TO RESTORE EFFECTIVENESS.

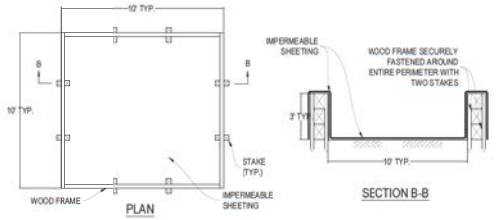
STABILIZED CONSTRUCTION EXIT DETAILS



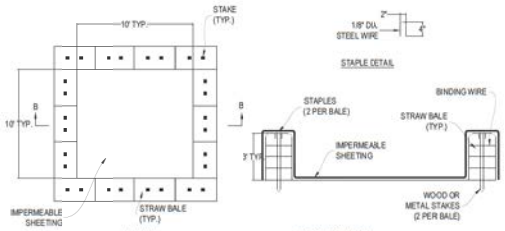
NOTES:

1. TYPE OF FENCING TO BE USED SHALL COMPLY WITH MNDOT 3886.1 UNLESS INDICATED OTHERWISE ON PLANS.
2. DIG A 6" x 6" TRENCH ALONG THE INTENDED FENCE LINE.
3. DRIVE ALL POSTS INTO THE GROUND AT THE DOWNHILL SIDE OF TRENCH.
4. WIRE FENCING PER MNDOT SPEC. 3886. WIRE MESH MUST BE A MINIMUM OF 2" INTO THE GROUND AND NO MORE THAN 36" ABOVE THE ORIGINAL GROUND SURFACE.
5. FILTER FABRIC PER MNDOT SPEC. 3886. FABRIC APPARENT OPENING SIZE (AOS) SHALL BE 30 TO 80 IN AREAS OF COARSE GRAINED SOILS, AND 50 TO 80 IN AREAS OF FINE GRAINED SOILS.
6. LAY OUT SILT FENCE ON THE UPHILL SIDE ALONG THE FENCE LINE, AND BACK FILL.
7. WOOD POSTS MAY BE SPACED UP TO 4 FEET APART IF WIRE MESH IS NOT USED TO SUPPORT THE FABRIC. IF WIRE MESH IS USED TO SUPPORT THE FABRIC STEEL POSTS MAY BE SPACED UP TO 8 FEET APART.

SILT FENCE DETAIL

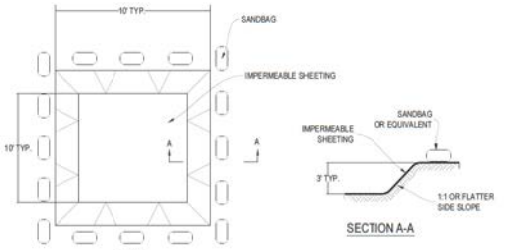


WASHOUT STRUCTURE WITH WOOD PLANKS



NOTE:
CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

WASHOUT STRUCTURE WITH STRAW BALES



EXCAVATED WASHOUT STRUCTURE

CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINEF. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G.,RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

CONCRETE WASHOUT DETAILS

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-251-5557

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PRINTED NAME: DANIEL J. FOLSOM

DATE: 05/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

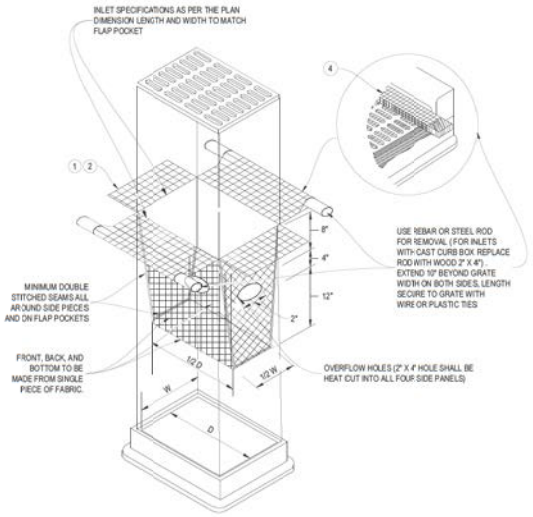
13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION
1	06/09/2022	PR-1 R1

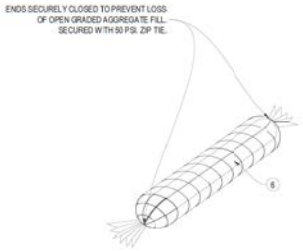
EROSION CONTROL DETAILS

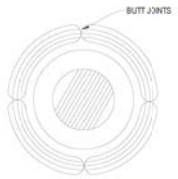
DRAWING NO.
C603



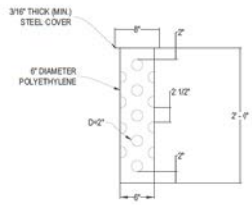
FILTER BAG INSERT (3)

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)

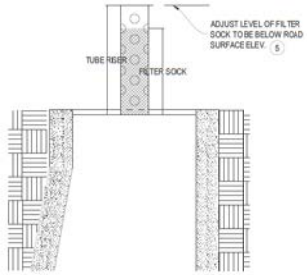




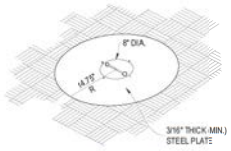
ROCK LOG/COMPOST LOG



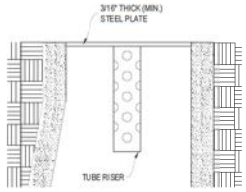
TUBE RISER



SECTION (UP POSITION)

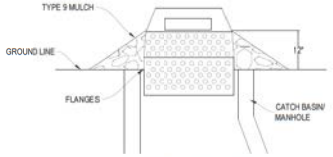


PERSPECTIVE VIEW



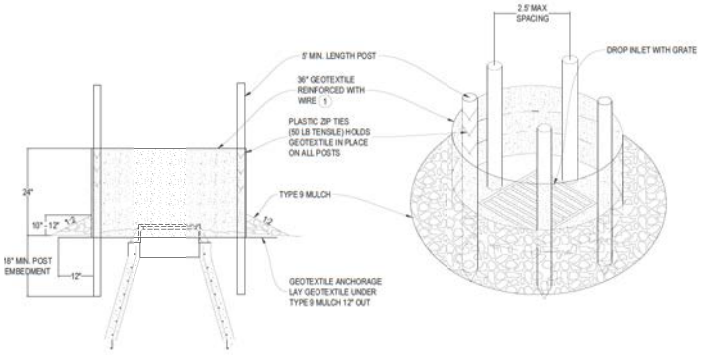
SECTION (DOWN POSITION)

POP-UP HEAD



SEDIMENT CONTROL INLET HAT

NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES A" 1:3 or LESS

NOTES:

SEE SPECS. 2573, 3137 3886.

DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEDE TRAFFIC FLOW.

1. ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
2. FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
3. INSTALLATION NOTES:
   DO NOT INSTALL FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OFTHE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
4. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
5. SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
6. GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS 2F STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC 3137 TABLE 3137-1; CA-3 GRADATION.

STORM DRAIN INLET PROTECTION DETAILS

SCALE:NTS

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-251-5557

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PRINTED NAME: DANIEL J. FOLSOM

DATE: 05/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION
1	06/09/2022	PR-1 R1

EROSION CONTROL DETAILS

DRAWING NO.
C604

Project Description:
The work on the project includes reconstruction of an existing entrance to the student drop-off parking area at the Oak Point Elementary School in Eden Prairie. Construction will include removal and reconfiguration of the existing entrance including bituminous pavement, concrete curb & gutter, storm sewer, and installation of stormwater retention and detention basins. The project will also include removal of a parking lot across on the City owned lot to the south of Oak Point Elementary. The project is located at 13400 Staring Lake Parkway, in Eden Prairie, MN. The soils underlying the site vary across the site, but the majority of the underlying soils in the project area are in Hydrologic Soil Groups "C" and "D" and have low infiltration rates when thoroughly wet.

Receiving Waters:
All existing stormwater runoff from the Oak Point entrance sheet flows to to the south and ultimately into the City's storm sewer located in the Staring Lake Parkway right-of-way. Runoff from the proposed site will maintain the existing drainage pattern by discharging into the Staring Lake Parkway right-of-way.
All existing stormwater runoff from the City owned lot sheet flows to the south and ultimately into an existing pond. Runoff from the proposed site will maintain the existing drainage pattern by discharging into the existing pond.

Responsible Parties:
The Owner and the Contractor are responsible co-permittees for the implementation of the SWPPP. The Contractor and Owner shall apply for the NPDES/SDS Construction Permit within 24 hours of award of Contract. The complete application must be submitted prior to start of construction activity. The Contractor is responsible for installation, inspection, maintenance,and repair of all erosion prevention and sediment control BMPs before, during, and after active construction. The Contractor shall amend the SWPPP before beginning construction to include the chain of responsibility of all operators on the site, or if not known, the title or position of the responsible party. The Contractor is responsible for identifying a trained person (as specified in the NPDES/SDS Contruction Permit) knowledgeable and experienced in the application of erosion prevention and sediment control BMPs who will oversee the implementation of the SWPPP before and during construction until the construction project is complete, the entire site has undergone final stabilization, and a Notice of Termination(NOT)/Permit Modification form has been submitted to the MPCA. The Owner must identify who will be responsible for the long-term operation and maintenance of all permanent stormwater management systems. The Contractor is liable until final stabilization of all disturbed areas is achieved and the Notice of Termination (NOT)/Permit Modification form is submitted to the MPCA (as specified in the NPDES/SDS Construction Permit). Once the identity of Responsible Parties is known, the SWPPP must be amended to include this information in the area below.

Project Contacts:

Project Engineer	Owner	Contractor
Daniel Folsom	Eden Prairie Schools	TBD
Design Tree Engineering & Land Surveying	8100 School Road	
3339 W. St. Germain	Eden Prairie, MN 55344	
Suite 250		
St. Cloud, MN 56301		
(320) 227.0202		
df@dte-ls.com		

SWPPP Amendments:
The Owner or Contractor must amend the SWPPP as necessary to include additional requirements, such as additional or modified BMPs that are designed to correct problems identified or address situations whenever:

1. There is a change in design, construction, operation, maimenance, weather or seasonal conditions that has a significant effect on the discharge of pollutants to surface water or underground waters.
2. Inspections or investigations by site owner or operators, USEPA or MPCA officials indicate the SWPPP is not effective in eliminating or significantly minimizing the discharge of pollutants to surface waters or underground waters or that the discharges are causing water quality standard exceedances.
3. The SWPPP is not achieving the general objectives of minimizing pollutants in stormwater discharges associated with construction activity, or the SWPPP is not consistent with the terms and conditions of this permit.
4. At any time after the permit coverage is effective, the MPCA deems necessary.

Construction Notes:
Construction shall be governed by the MnDOT Standard Specifications for Construction, latest edition, City of Eden Prairie's Specifications, special provisions, amendments, and the project specifications and details. Permits and maps relating to this project's SWPPP can be found in the Project Documents. The Contractor shall keep inspection and maintenance logs and NPDES/SDS Construction Permit on-site at all times during active construction. Please refer to the plans and specifications for additional SWPPP information.
Soil Compaction should be minimized and topsoil should be preserved whenever and wherever possible during construction
All soil stockpiling shall include sediment control devices and shall be placed in areas away from surface waters or natural buffers.

Special Waters, Impaired Waters, & TMDL Implementation Plans:
The site is located within 1 mile of an impaired water as identified by the MPCA. The site is located within 1 mile of Staring Lake, which has an EPA-approved impairment for: Mercury in fish tissue; Nutrients. These impairment(s) are considered to be construction related parameters and require the additional best management practices (BMPs) found in items 23.9 and 23.10 of the permit if the project has a discharge point on the project within 1 mile (aerial radius measurement) of, and flows to the impaired water.

The site is also located within 1 mile of Purgatory Creek, which has an EPA-approved impairment for: Benthic macroinvertebrate bicassessments; Escherichia Coli. These impairment(s) are considered to be construction related parameters and require the additional best management practices (BMPs) found in items 23.9 and 23.10 of the permit if the project has a discharge point on the project within 1 mile (aerial radius measurement) of, and flows to the impaired stream.

All disturbed areas not actively being worked must be stabilized within 7 days. The Owner is responsible for the long term maintenance of all stormwater treatment facilities and private storm sewer systems. Inlet protection, silt fence, final stabilization, and other BMPs must be implemented prior to allowing any water runoff from being discharged off-site.

Calculations:

Disturbed Area	1.05 AC
Pre-Construction Impervious Area	0.50 AC
Post-Construction Impervious Area	0.16 AC
Net Decrease in Impervious Area	0.34 AC

Sequence of Construction:
The Contractor shall verify that all applicable permits have been obtained and the NPDES/SDS Construction Permit has been submitted to the MPCA prior to the start of construction.

1. The Contractor must plan for and implement appropriate construction phasing, vegetated buffer strips, horizontal slope grading, and other construction practices that minimize erosion. The location of areas not to be disturbed are shown on the plans.
2. The Contractor shall be responsible for full implementation and maintenance required by the SWPPP untill the Notice of Termination (NOT) is approved by the MPCA.
3. The Contractor shall construct erosion and sediment control BMPs in the following construction sequence:
   a. Install rock construction entrances where indicated in the plans.
   b. Install silt fence and inlet protection where indicated in the plans.
   c. Install silt fence around proposed infiltration and bioretention BMPs to protect soils from compaction.
   d. Locate portable toilets on flat surfaces away from drainage paths. Position portable toilets so they are secure and will not tip or be knocked over.
   e. Construct concrete washout area and provide signage.
   f. Establish waste control areas.
   g. Construct temporary sediment basins where 5 acres or more drain to a common location.
   h. Construct diversions to sediment basins.
   i. Rough grade site.
   j. Leave disturbed area of site in a roughened condition to limit erosion. Temporarily stabilize areas that will be inactive for a period of 7 days.
   k. Install storm drainage system and place inlet protection as each inlet is installed. Energy dissipation devices shall be installed and functional within 24 hours of connecting pip outlets to surface waters.
   l. Protect and repair BMPs, as necessary.
   m. Perform street sweeping as needed.
   n. Temporarily stabilize areas not actively being worked.
   o. Site construction (Utilities, paving, buildings, etc...)
   p. Final grading.
   q. Final stabilization (seeding, planting). Stabilized soil with the seed mix indicated on the plans.
   r. Remove temporary sediment basins when permanent cover has reduced the acreage of disturbed soil to less than five (5) acres draining to a common location.
   s. Construct stormwater infiltration basins and bioretention basins only when contributing drainage area has been constructed and fully stabilized.
   t. Remove erosion control devices upon site establishment in accordance with the NPDES/SDS Notice of Termination (NOT) requirements.

Final Stabilization:
Final stabilization is not met until all of the following are completed:

1. Stabilization by uniform perennial vegetative cover (70% density of it's expected final growth). The seed mix indicated on the plan or sod shall be used for final stabilization.
2. Permanent stormwater management system is constructed, meets all requirements, and is operational.
3. Drainage ditches are fully stabilized.
4. All temporary synthetic and structural BMPs are removed.
5. Sediment from conveyance systems and sedimentation basins are cleaned out (returned to design capacity).
6. Notice of Termination (NOT) is submitted to the MPCA.

CONTACTS		
AGENCY	NAME	PHONE NUMBER
Hennepin County	Hennepin County	(612) 348-3777
DNR Waters	Janell Miench	(218) 739-7576 ext. 232
ACOE	St. Paul Office	(651) 290-5375
State Duty Officer	MPCA	(800) 422-0798
SWPPP Designer	Michael Gerber, PE	(320) 227-0203
Erosion Control Review	Daniel Folson, PE	(320) 227-0202
Erosion Control Supervisor	TBD	

LOCATION OF SWPPP REQUIREMENTS		
DESCRIPTION	TITLE	SHEET # OR SPECIFICATION SECTION
Receiving Surface Water	City Storm Sewer	C301 - C401
Final Stabilization	Erosion Control Plan	C501
Drainage Plans	Site Grading & Utility Plan	C301 - C401
Drainage Details	Details	C601 - C602
Erosion Control Sheets	Erosion Control Plan	C501
Erosion Control Details	Details	C603 - C604
Erosion & Sediment Control Quantities	Erosion Control Plan	C501
Existing & Proposed Drainage Maps	Final Stormwater Management Plan	Project Manual

Erosion Control Maintenance and Inspection: BMP inspection and maintenance Responsible Party: _____

1. Inspect erosion control devices and provide routine maintenance as follows:
   a. Inspect erosion control a minimum of once per week and within 24 hours of a rainfall event greater than 0.5" in 24 hours.
   b. Records of each inspection and maintenance activity shall include:
      - Date and time of inspections.
      - Name of person(s) conducting inspection.
      - Accurate findings of inspection, including the specific location where corrective actions are needed.
      - Corrective actions taken (including dates, times, and party completing maintenance activities).
      - Date and amount of all rainfall events greater than 0.5" in 24 hours, and the amount of rainfall for each event. Rainfall amounts must be obtained by either a properly maintained rain gauge installed onsite, a weather station that is winin 1 mile of the site, or a wather reporting system that provides site specific rainfall data from radar summaries.
      - If discharge is observed during the inspection, the inspector must record and should photograph and describe the location of the discharge (i.e. color, odor, settled or suspended solids, oil sheen, and other obvious indicators of pollutants).
      - Documentation of amendments to the SWPPP proposed as a result of the inspection as required by the NPDES/SDS Construction Permit.
   c. Inspections may be suspended where construction activity has been suspended due to frozen ground conditions. Inspections must resume within 24 hours of runoff occurring, or upon resuming construction, whichever comes first.
2. Provide maintenance for all devices as follows:
   a. Silt fences and erosion control devices at storm sewer inlets shall be inspected for depth of sediment, tears, to see if fabric is securely attached to support posts or structure, and to see that posts and devices are securely in place.
   b. Silt fence, inlet protection at storm sewer inlets, and other erosion control devices shall be cleaned when sediment reaches 1/3 of the height of the erosion control device.
   c. Rock construction entrances shall be inspected for clogging of rock. Rock that has become clogged with sediment shal be removed and replaced with clean rock.
   d. Repairs or replacement of all erosion control devices shall occur within 24 hours of discovery.
   e. Temporary sediment basins shall be cleaned when sediment reaches 1/2 of the outlet's height or 1/2 of the basins storage volume. The basin shall be drained and sediment removed within 72 hours.
   f. Temporary diversion berms shall be inspected and any breaches shall be promptly repaired.
   g. Tracked sediment from construction vehicles onto public streets and paved areas (including paved areas on the construction site) shall be removed within 24 hours of discovery.
   h. The bottom and side slopes of the proposed stormwater treatment basins shall be stabilized within 200 feet of the property lines or point of discharge to any surface water, including curb and gutter, pavement, storm sewer, swales, or other similar stormwater conveyance devices.
   i. Removal of all deltas and sediment deposited in surface waters and re-stabilization of exposed soils shall be accomplished within 7 days of discovery.

Pollution Prevention Management Measures:

1. Storage, handling, and disposal of construction products, materials and wastes:
   a. The Contractor shall comply with the following to minimize the exposure to stormwater (any of the products, materials, or wastes/products which are either not a source of contamination to stormwater or are designed to be exposed to stormwater are not held to this requirement):
      - Building products that have the potential to leach pollutants must be under cover (e.g. plastic sheeting or temporary roofs) to prevent the discharge of pollutants or be protected by a similarly effective means designed to prevent contact with stormwater.
      - Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials must be under cover (e.g. plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by similarly effective means designed to prevent contact with stormwater.
      - Hazardous materials, toxic wastes (including oil, diesel fuel, gasoline., hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids), must be properly stored in sealed containers to prevent spills, leaks, or other discharge.
      - Restricted access storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste or hazardous materials must be in compliance with Minn. R. ch. 7045 including secondary containment as applicable.
      - Solid wastes must be stored, collected, and disposed of properly in compliance with Minn. R. ch. 7035.
      - Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. ch. 7041.
2. Fueling and maintenance of equipment or vehicles; spill prevention and response:
   a. The Contractor shall take reasonable steps to prevent the discharge of spilled or leaked chemicals, including fuel, from any areas where chemicals or fuel will be loaded or unloaded including the use of drip pans or absorbents unless infeasible.
   b. The Contractor must conduct fueling in a contained area unless infeasible.
   c. The Contractor must ensure adequate supplies are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials.
   d. The Contractor must report and clean up spills immediately as required by Minn. Stat. 115.061, using dry clean up measures where possible.
3. Vehicle and equipment washing:
   a. If the Contractor washes the exterior of vehicles or equipment on the project site, washing must be limited to a defined area of the site.
   b. Runoff from the washing area must be contained in a sediment basin or other similarly effective controls and waste from the washing activity must be properly disposed of.
4. The Contractor must properly use and store soaps, detergents, and solvents.
5. Non-engine degreasing is allowed on site.
6. Concrete and other washout waste:
   a. The Contractor must provide effective containment for all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds, and other construction materials) related to the construction activity.
   b. The liquid and solid waste must not contact the ground, and the containments must be designed so that it does not result in runoff from the washout operations or areas.
   c. Liquid and solid wastes must be disposed of properly and in compliance with MPCA rules.
   d. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

Dewatering and Basin Draining:
Dewatering or basin draining that may have turbid or sediment laden discharge water must be discharged to a temporary or permanent sedimentation basin on the project site whenever possible. Discharge from the temporary or permanent sedimentation basin must be visually checked to ensure adequate treatment is obtained in the basin and nuisance conditions, impacts to wetlands, and erosion in receiving channels or on down gradient properties will not result from the discharge. Adequate sedimentation control measures are required for discharge water that contains suspended solids.
If using filters with backwash water, either haul the backwash water away for disposal and return the backwash water to the beginning of the treatment process, or incorporate the backwash water into the site in a manner that does not cause erosion.

Timing of BMP Installation:
The erosion and sediment control BMPs shall be installed as necessary to minimize erosion from disturbed surfaces and capture sediment on site and shall meet the NPDES/SDS Construction Permit part VII requirements. Perimeter controls shall be placed prior to the start of any construction. All disturbed areas not actively being worked must be stabilized within 7 days.

Storm Water Pollution Prevention Plan:
The Permitees must implement the entire SWPPP and the requirement of the NPDES/SDS Construction Permit. The BMPs identified in the SWPPP and in the permit must be selected, installed, and maintained in an appropriate and functional manner that is in accordance with manufacturer specifications and accepted engineering practices.

Temporary Sediment Basins:
Project is not required to provide temporary sediment basins for construction.

Future Operation and Maintenance (O&M):
The Owner shall be responsible for performing future operations and maintenance of the permanent stormwater management systems on the property.

UNIVERSITY OF MINNESOTA
Michael J. Gerber
Construction Site Management (May 31 2023)
Design of Construction SWPPP (May 31 2024)

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-251-3557

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.

PRINTED NAME: DANIEL J. FOLSOM
DATE: 01/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

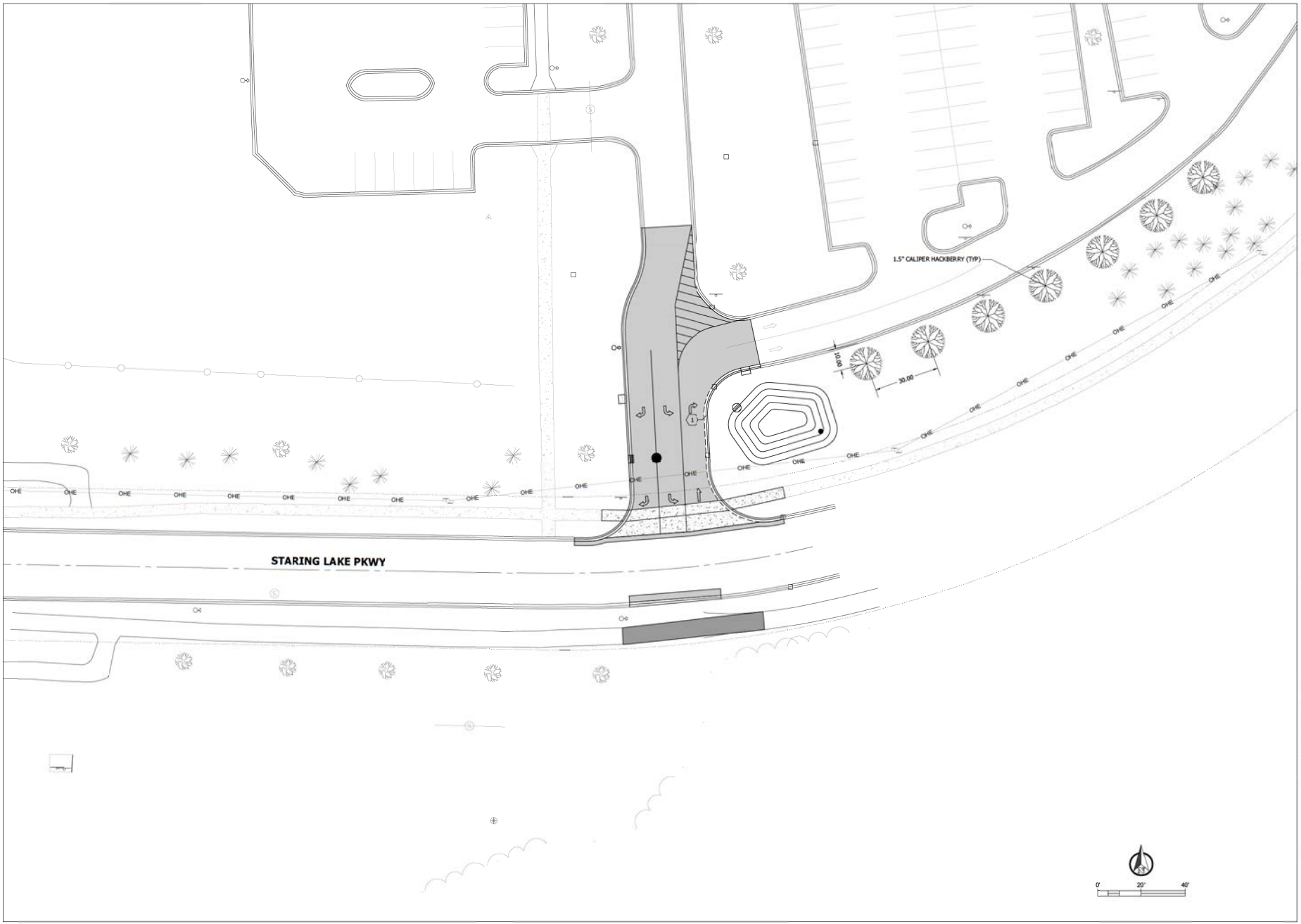
13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION
1	06/09/2022	PR-1 R1

SWPPP NARRATIVE

DRAWING NO.
C605



DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-217-5557

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.

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CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION
1	06/09/2022	PR-1 R1
2	07/01/2022	WATERSHED COMMENT REV.

TREE PLANTING PLAN

DRAWING NO.

L101

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

18681 Lake Drive East
Chanhassen, MN 55317
952-607-6512
www.rpbcwd.org

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2022-017

Considered at Board of Managers Meeting: June 1, 2022

Received complete: May 13, 2022

Applicant: Eden Prairie Schools, Kyle Fisher,

Representative: Design Tree Engineering, Michael Gerber, PE

Project: Oak Point Elementary Circulation Upgrades - The applicant proposes the reconstruction of the existing driveway, including the addition of a turn lane, and the removal of a paved, overflow parking lot. The project includes a detention basin and infiltration basin to achieve rate control, volume control, and water quality requirements.

Location: 13400 Staring Lake Parkway, Eden Prairie, Minnesota 55347

Reviewer: Leslie DellAngelo, PE; and Scott Sobiech, PE; Barr Engineering Co.

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 June 1, 2022 meeting of the managers:

Resolved that the application for Permit 2022-017 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 of the permit have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2022-017 to the applicant on behalf of RPBCWD.

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

Applicable Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD 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 permit condition J1 related to pretreatment of runoff and stipulation 4 related to verifying the infiltration capacity of the soils and that the volume control capacity is calculated using the measured infiltration rate.
		Water Quality	Yes	
		Low Floor Elev.	See comment.	See rule-specific permit condition J2 related to adequate separation to groundwater for existing habitable structures.
		Maintenance	See Comment	See rule-specific permit condition J3 related to maintenance agreement for the stormwater facilities maintenance.
		Chloride Management	Yes	See stipulation 5 related to providing a chloride management plan prior to project close-out.
		Wetland Protection	Yes	
L	**Permit Fee Deposit**		NA	Governmental entity
M	**Financial Assurance**		NA	Governmental entity

Background

Eden Prairie School District (ISD 272) proposes the reconstruction of the existing driveway at the Oak Point Elementary School to include another lane for turning to improve traffic circulation and the removal of overflow parking south of Staring Lake Parkway. Because the project includes the removal of the existing paved parking lot south of Staring Lake Parkway on property owned by the City of Eden Prairie, the site is defined as the ISD 272 parcel (PID 2211622130004) plus the city owned property (PID 2211622130062). The project includes a detention basin and infiltration basin to achieve rate control, volume control, and water quality requirements. Because the property owner has undertaken a prior redevelopment project triggering the RPBCWD stormwater requirements since January 1, 2015 (i.e., when RPBCWD reinstituted a regulatory program) on the site, the presently proposed redevelopment will be considered in aggregate with prior changes under the common scheme of development provision of Rule J.

There are no on-site or adjacent Wetland Conservation Act protected wetlands downgradient from the land disturbing activities for which wetland buffers would be required and the treated runoff leaving the site from the stormwater facilities is conveyed via storm sewer to an off-site stormwater pond.

Project site information

Site Information	Permit 2018-028	Permit 2022-017 (Current)			School Property Aggregate Total	Site Aggregate Total[1]
		City Property	School Property	Total[1]		
Total Site Area (acres)[2]	23.05	6.53	23.05	29.58	23.05	29.58
Existing Site Impervious Area (acres)[2]	7.96	0.39	7.96	8.35	7.96	8.35
Existing Impervious Area to be Disturbed and replaced: (acres)	0.20 2.5%	0.01 3%	0.10 1.3%	0.11 1.4%	0.30 3.8%	0.31 3.7%
Post Construction Site Impervious (acres)	8.64	0.01	7.99	8.38	8.67	8.29
New (Increase) in Site Impervious Area (acres)	0.68 8.4%	-0.38 -97.4%	0.03 0.4%	0.03 0.4%	0.71 8.9%	0.71 8.5%
Exempt Impervious Trials and Sidewalk (acres)	0	0.01	0	0.01	0	0.01
Regulated Impervious area (acre)	0.87	0.00	0.13	**0.13**	1.0	1.0
Total Disturbed Area (acres)	2.2	0.57	0.48	1.05	2.68	3.25

[1] The site includes the Oak Point Elementary property and the City of Eden Prairie parcel on which the school district has overflow parking south of Staring Lake Drive.
[2] Pre-2015 site conditions

The following materials were reviewed in support of the permit request:

1. Permit application received on March 7, 2022 (Incomplete notice was sent on March 16, 2022; materials submitted to complete application on May 13, 2022)
2. Oak Point Elementary Circulation Upgrades Project Plan Set (16 sheets) dated January 27, 2022 (revised May 9, 2022)
3. Oak Point Elementary School Circulation Upgrades Final Stormwater Management Study dated March 3, 2022 (revised April 29, 2022)
4. HydroCAD model received May 13, 2022
5. Double-Ring Infiltrometer Test Results from American Engineering Testing dated April 12, 2022

Rule Specific Permit Conditions

Rule A: Procedural Requirements

A complete permit application includes all required information, exhibits, and fees and must be authorized by all property owners (Rule A, Subsection 2.3). Because the project includes the removal of the existing paved parking lot south of Staring Lake Parkway on property owned by the City of Eden Prairie, the following revisions are needed to conform to RPBCWD Rule A requirements:

A1. Please provide written documentation demonstrating the necessary property rights to perform the proposed work on the property owned by the City of Eden Prairie.

Rule C: Erosion Prevention and Sediment Control

Because the project will involve 1.05 acres of land-disturbing activities, the project must conform to the erosion prevention and sediment control requirements established in Rule C.

The erosion control plan prepared by Design Tree Engineering includes installation of perimeter control (silt fence and bio-rolls), two stabilized construction entrances, inlet protection, Category III erosion control blanket on disturbed slopes, daily inspection, placement of a minimum of 6 inches of topsoil (at 5% organic matter), decompaction of areas compacted during construction, and retention of native topsoil onsite to the greatest extent possible. To conform to RPBCWD Rule C requirements, the following revisions are needed:

C1. The Applicant must provide the name, address and phone number of the individual who will remain liable to the District for performance under this rule and maintenance of erosion and sediment-control measures from the time the permitted activities commence until vegetative cover is established.

Rule J: Stormwater Management

Because the project will disturb 1.05 acres of land-surface area, the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.1). Under paragraph 2.5 of Rule J, Common Scheme of Development, activities subject to Rule J on a parcel or adjacent parcels under common or related ownership will be considered in the aggregate, and the requirements applicable to the activity under this rule will be determined with respect to all development that has occurred on the site or on adjacent sites under common or related ownership since the date this rule took effect (January 1, 2015). Because another project been permitted since the rules took effect (RPBCWD Permit 2018-028), the current activities proposed must be considered in aggregate with the activities proposed under this application, Permit 2022-017.

The criteria listed in Subsection 3.1 will only apply to the disturbed areas on the project site because the project, when considered in aggregate with the other permitted activities at the site, increases the imperviousness by 8.9 percent and disturbs a combined 3.8 percent of the existing impervious surface on the school property site (Rule J, Subsection 2.3) (See table above). The site aggregate extent of disturbance and imperviousness on the combined school and city properties increase are less than the 50 percent disturbed or expanded impervious area threshold for applicability of stormwater management requirements to the entire site.

The applicant is proposing construction of a detention basin and infiltration basin to achieve rate control, volume control, and water quality requirements. The proposed stormwater management facilities are separate from the facilities provided as part of the prior permit approval.

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 below table. The proposed project is in conformance with RPBCWD Rule J, Subsection 3.1.a.

Existing and Proposed Peak Runoff Rates

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
North of Staring Lake Parkway	2.2	2.1	3.9	2.7	7.9	6.0	1.2	1.2
South of Staring Lake Parkway	1.7	1.0	2.7	2.0	5.1	4.4	0.7	0.7

Volume Abstraction

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from the regulated impervious surface of the site. An abstraction volume of 551 cubic feet is required from the 6,002 square feet of regulated impervious area. The proposed infiltration basin provides 558 cubic feet of abstraction The applicant proposed pretreatment for runoff entering the infiltration basin using a riprap apron. Because the use of a riprap apron as pretreatment for an infiltration basin is not provided in accordance guidance in the Minnesota Stormwater Manual as required by Rule J, Subsection 3.1.b.1 , the following revision is needed:

J1. The Applicant must modify the design of the infiltration basin to include pretreatment of runoff in the form a filter strip, propriety pretreatment device, stilling basin, etc.

Because a double-ring infiltrometer test was performed by American Engineering Testing, Inc. adjacent to the proposed driveway reconstruction shows that soils in the project area do not allow infiltration (0.0 in/hr), the engineer concurs with the applicant's evaluation of the site to discover an area with soil condition more conducive to infiltration. The proposed infiltration basin location is in the same subwatershed and on the portion of the site owned by ISD 272, but in a location where the Web Soil Survey has identified HSG C, very fine sandy loam. The engineer concurs with the applicant's design infiltration rate of 0.2 inches per hour for HSC C, very vine sandy loam based on the guidelines provided in the Mn Stormwater Manual. Based on the design infiltration rate, the engineer concurs that the basin will draw down within 48 hours (Rule J, subsection 3.1b.3). Per Rule J, Subsection 3.1.b.2.c measured infiltration

capacity of the soils at the bottom of the infiltration system must be provided. The applicant must submit documentation verifying the infiltration capacity of the soils and the separation to groundwater. If infiltration capacity is less than needed to conform with the volume abstraction requirement in subsection 3.1b or there is inadequate 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 based on the design infiltration capacity of the infiltration basin. With the conditions noted above regarding verification of subsurface conditions, the engineer concurs with the submitted information and finds that the proposed project will conform with Rule J, Subsection 3.1.b.

Table 4. Volume Abstraction Summary

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
1.1	551	1.1	558

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. Because the infiltration basin proposed by the applicant provides the abstraction volume required by 3.1b and the engineer concurs with the modeling, the engineer finds that the proposed project is in conformance with Rule J, Subsection 3.1.c.

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. Because no new structures with low floors will be constructed as part of the proposed work, subsection 3.6a does not impose requirements on the project.

Stormwater management facilities must be constructed at an elevation and location that ensure no habitable structure will be brought into noncompliance with the low floor criteria according to Rule J, subsection 3.6b The low floor elevation of the school building and the adjacent stormwater management features is summarized below. Because the separation between the existing low floor elevation and the emergency overflow of the detention basin is 13.1 feet, which is greater than the required 1 foot separation, the location of the detention basin is in conformance with Rule J, Subsection 3.6b.

Structure	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation of Adjacent Stormwater Facility (feet)	Freeboard to 100-year (feet)	Emergency Overflow Elevation of the Stormwater Facility (feet)	Vertical Separation Distance to Emergency Overflow (feet)
School Building	854.1	841.3 (detention basin)	12.8	841	13.1

The downgradient topography and emergency overflow of the proposed infiltration basin are such that the 100-year flow elevation will not be able to inundate areas above elevation 876.5 feet (ie, the basins emergency overflow elevation, and high water flows will be directed away from the existing school building. Because the low floor elevation of the school building to the west of the proposed biofiltration basin is below the emergency overflow of the infiltration basin, the applicant must provide an analysis using *Appendix J1 Plot 1: Minimum Depth to Water Table for No Further Evaluation,* to determine compliance with RPBCWD Rule J, subsection 3.6.b requirements:

J2. The applicant must submit supporting documentation demonstrating there is adequate separation to groundwater to achieve the low floor criteria with respect to the infiltration basin. If inadequate separation is not provided to conform with the low floor requirement in subsection 3.6b, 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).

Maintenance

Subsection 3.7 of Rule J requires the submission of 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. Maintenance of the infiltration basin and the detention basin facilities must be documented in the maintenance agreement after review and approval by RPBCWD. To conform to the RPBCWD Rule J the following revisions are needed:

J3. The applicant must prepare a draft maintenance and inspection agreement and execute the agreement after review and approval by RPBCWD.

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. To close out the permit, the permit applicant must provide a 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 at the site.

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 Rules C and J if the Rule Specific Permit Conditions listed above are met.

Recommendation:

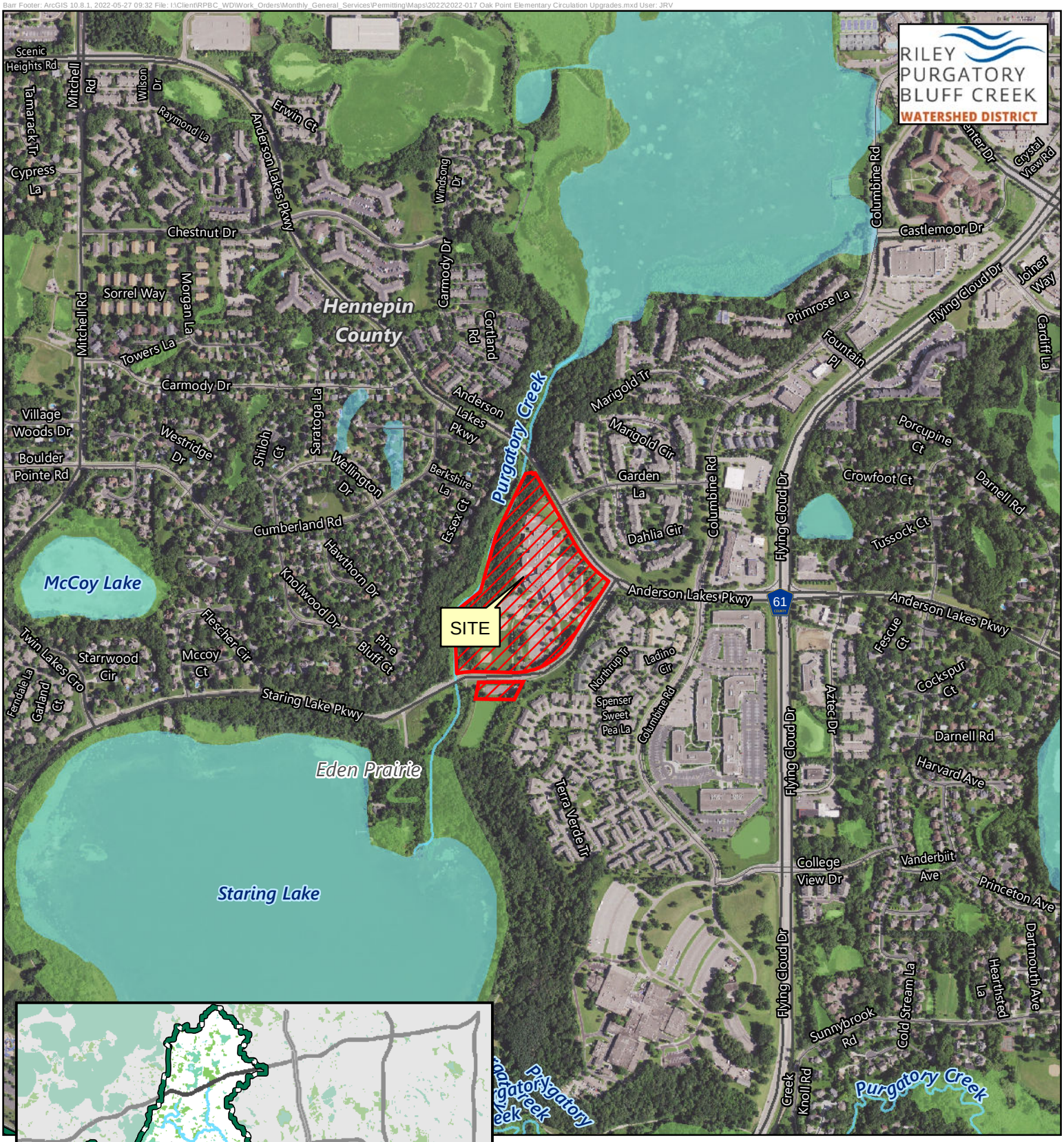
Approval of the permit contingent upon:

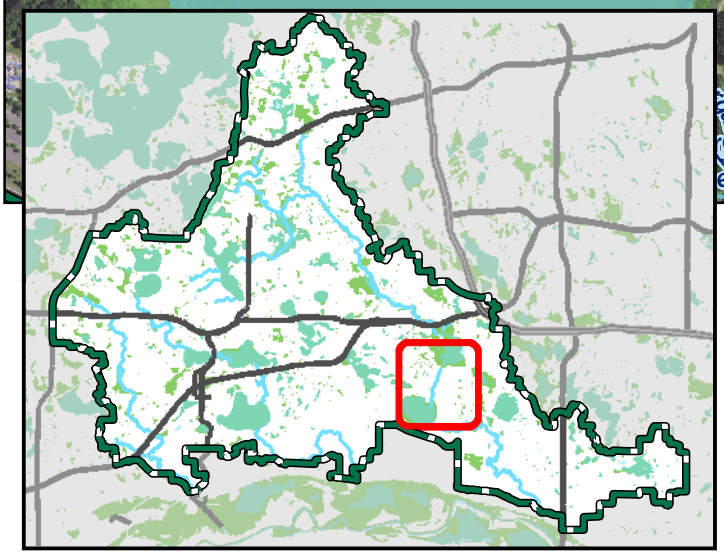
1. Permit applicant providing written documentation demonstrating the necessary property rights to perform the proposed work on the property owned by the City of Eden Prairie.
2. Permit applicant must provide the name and contact information of the general contractor responsible for erosion and sediment control at the site. RPBCWD must be notified if the responsible party changes during the permit term. The applicant must modify the design of the infiltration basin to include pretreatment of runoff in the form a filter strip, propriety pretreatment device, stilling basin, etc. as reviewed and approved by RPBCWD.

3. The applicant must submit supporting documentation demonstrating there is adequate separation to groundwater to achieve the low floor criteria with respect to the infiltration basin. If inadequate separation is not provided to conform with the low floor requirement in subsection 3.6b, 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).
4. The applicant submit a draft maintenance and inspection agreement to be submitted to RPBCWD for review and approval prior to execution. The applicant must execute the agreement after approval by RPBCWD.

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

1. Continued compliance with General Requirements.
2. Per Rule J Subsection 5.6, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization the stormwater management facilities conform to design specifications and functions 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;
    d) other important features to show that the project was constructed as approved by the Managers and protects the public health, welfare, and safety.
3. Providing the following additional close-out materials:
    a) Documentation that constructed stormwater facilities perform as designed. This may include infiltration testing, flood testing, or other with prior approval from RPBCWD
    b) Documentation that disturbed pervious areas remaining pervious have been decompacted per Rule C Subsection 3.2c criteria
4. Per Rule J, Subsection 3.1.b.ii measured infiltration capacity of the soils at the bottom of the infiltration basin must be provided. The applicant must submit documentation verifying the infiltration capacity of the soils and that the volume control capacity is calculated using the measured infiltration rate. In addition, subsurface soil investigation is needed to verify adequate separation to groundwater (Rule J subsection 3.1.b.2). If infiltration capacity is less than needed to conform with the volume abstraction requirement in subsection 3.1b or there is inadequate 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).
5. To close out the permit, the permit applicant must provide a 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 at the site.





N

Feet

0 1,000

Permit Location Map

OAK POINT ELEMENTARY
Permit 2022-017
Riley Purgatory Bluff Creek Watershed District

OAK POINT ELEMENTARY CIRCULATION UPGRADES

EDEN PRAIRIE SCHOOLS

13400 STARING LAKE PARKWAY
EDEN PRAIRIE, MN 55347

INDEX OF SHEETS:

GENERAL NOTES:

1. TOPOGRAPHIC SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, TOPOGRAPHY WITH SPOT ELEVATIONS AND PHYSICAL FEATURES WAS PROVIDED BY:

   DESIGN TREE ENGINEERING & LAND SURVEYING
   3339 W. ST. GERMAIN ST.
   SUITE 250
   ST. CLOUD, MN 56301

2. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION OF THIS PROJECT

PROJECT CONTACTS

OWNER
EDEN PRAIRIE SCHOOL DISTRICT
KYLE FISHER
8100 SCHOOL ROAD
EDEN PRAIRIE, MN 55344
TEL:952-975-7124
EMAIL: www.edenpr.org

CIVIL ENGINEER
DESIGN TREE ENGINEERING AND
LAND SURVEYING
DANIEL FOLSOM, PE
3339 W ST. GERMAIN, SUITE 250
ST. CLOUD, MN 56301
TEL: 320-217-5557
EMAIL:djf@dte-ls.com

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-217-5557

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.

PRINTED NAME: DANIEL J. FOLSOM

DATE: 01/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

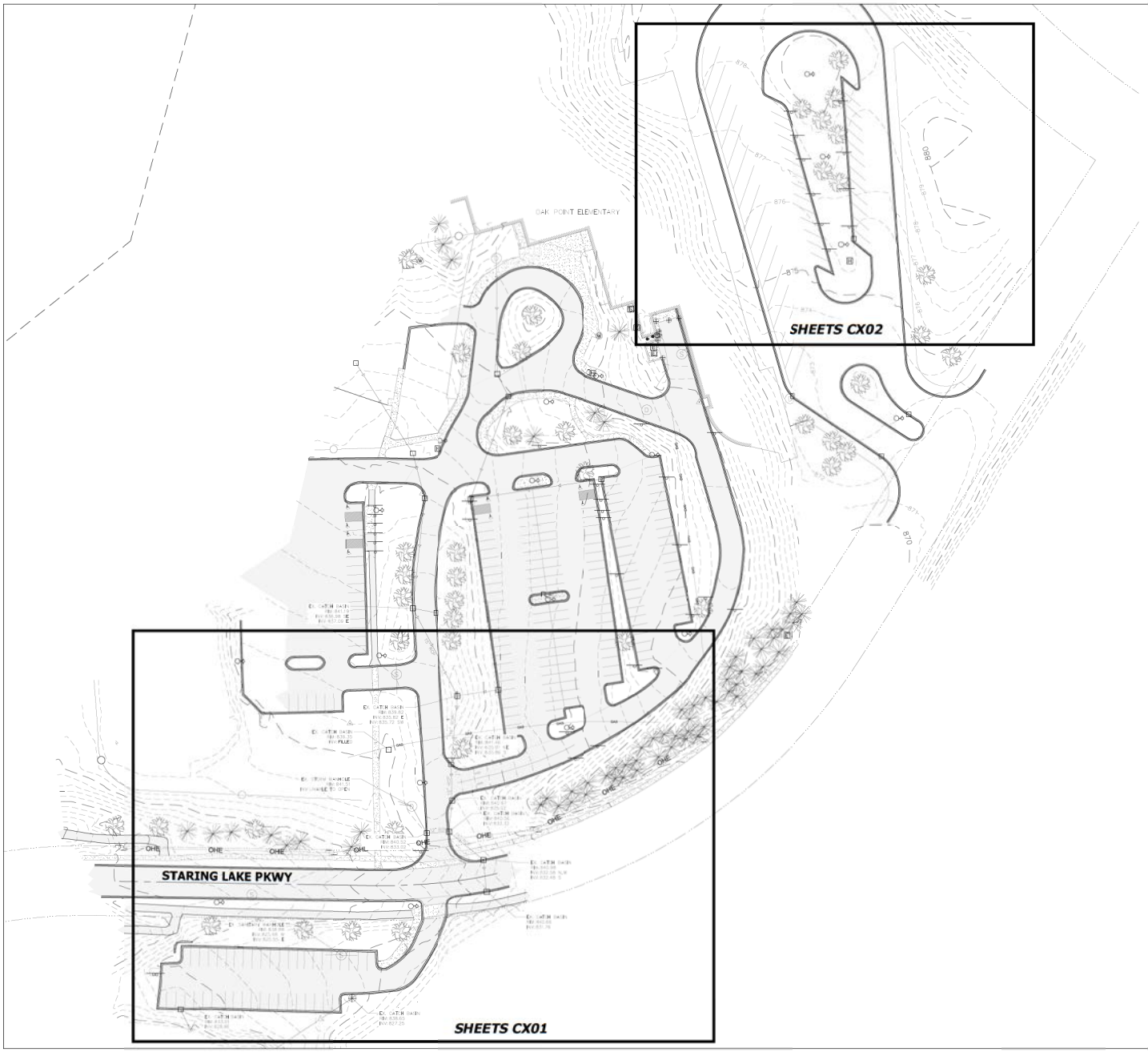
DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION

COVER SHEET

DRAWING NO.

C001



NOTES:

1. EXISTING CONDITIONS & TOPOGRAPHIC INFORMATION PROVIDED BY:
   DESIGN TREE ENGINEERING & LAND SURVEYING
   120 17TH AVENUE W
   ALEXANDRIA, MN 56308
2. CONTRACTOR SHALL FIELD VERIFY ALL BUILDING DIMENSIONS AND REMOVAL LIMITS PRIOR TO ANY CONSTRUCTION.
3. THE LOCATIONS AND ELEVATIONS OF THE EXISTING UTILITIES SHOWN HEREIN ARE APPROXIMATE. THEY HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND/ OR RECORDS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATION AND ELEVATION TO ENSURE THAT ANY EXISTING UTILITIES (SHOWN OR NOT SHOWN) ARE NOT DAMAGED DURING CONSTRUCTION.
4. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.

LEGEND

- HYDRANT
- SANITARY MANHOLE
- GATE VALVE
- POWER POLE
- LIGHT POLE
- CATCH BASIN
- SIGN
- DECIDUOUS TREE
- CONIFEROUS TREE
- SHRUB
- PEDESTAL
- GUY WIRE
- BOLLARD
- POWER BOX
- ELECTRIC METER
- MONITORING WELL
- SANITARY SEWER CLEANOUT
- WOOD FENCE
- CHAINLINK FENCE
- WIRE FENCE
- STORM SEWER LINE
- SANITARY SEWER LINE
- WATERMAIN
- OVERHEAD ELECTRIC
- UNDERGROUND TELEPHONE
- UNDERGROUND FIBER
- UNDERGROUND ELECTRIC
- UNDERGROUND GAS LINE
- CONCRETE PAVEMENT
- BITUMINOUS PAVEMENT
- AGGREGATE SURFACING
- LANDSCAPING
- BUILDING

0' 50' 100'

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DATE: 01/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

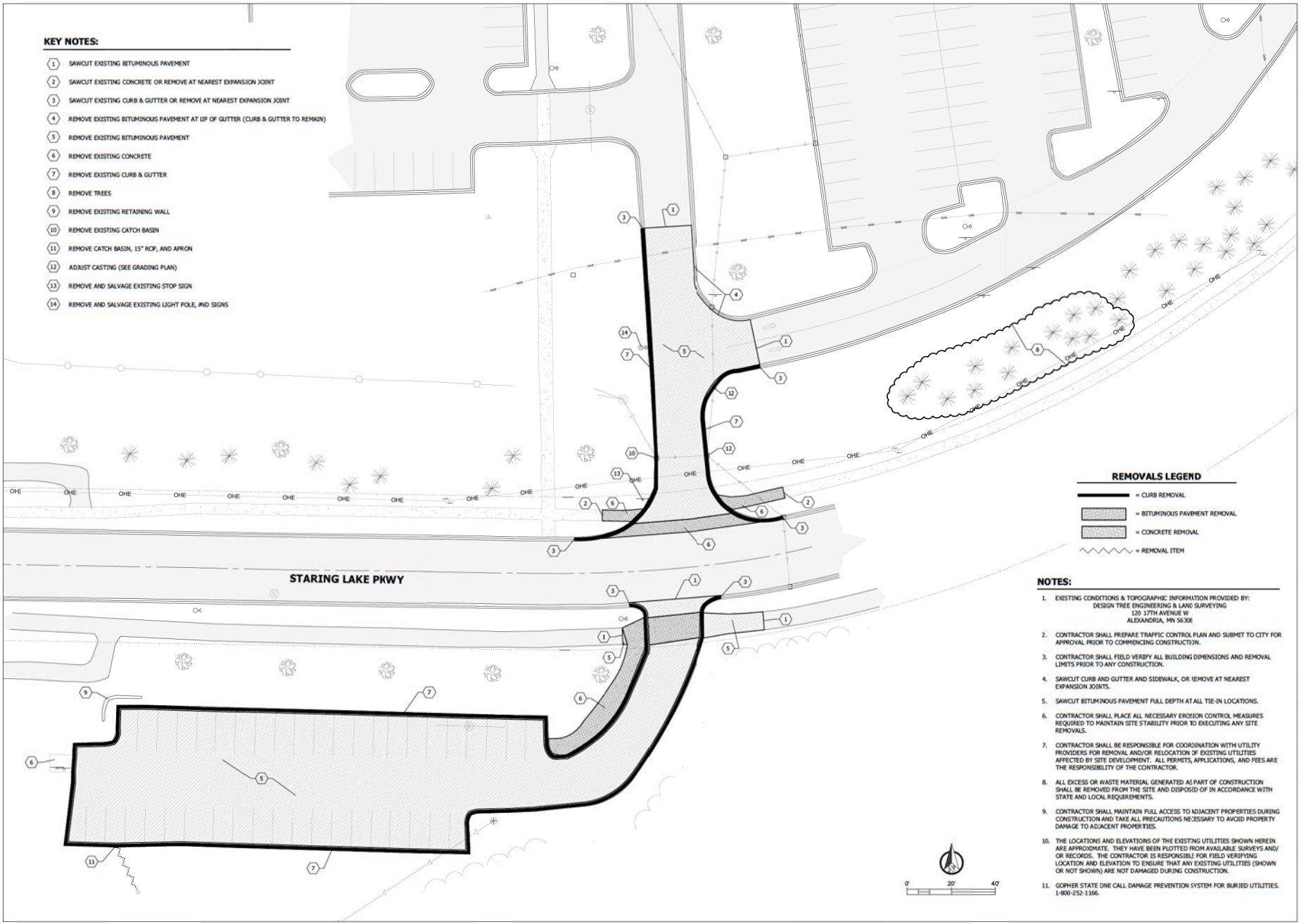
DRAWN BY:	RJK
CHECKED BY:	JEA
PROJECT NO.:	11321003

NO.	DATE	DESCRIPTION

EXISTING CONDITIONS/ SHEET INDEX

DRAWING NO.

C002



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3. CONTRACTOR SHALL FIELD VERIFY ALL BUILDING DIMENSIONS AND REMOVAL LIMITS PRIOR TO ANY CONSTRUCTION.
4. SAWCUT CURB AND GUTTER AND SIDEWALK, OR REMOVE AT NEAREST EXPANSION JOINTS.
5. SAWCUT BITUMINOUS PAVEMENT FULL DEPTH AT ALL TIE-IN LOCATIONS.
6. CONTRACTOR SHALL PLACE ALL NECESSARY EROSION CONTROL MEASURES REQUIRED TO MAINTAIN SITE STABILITY PRIOR TO EXECUTING ANY SITE REMOVALS.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH UTILITY PROVIDERS FOR REMOVAL AND/OR RELOCATION OF EXISTING UTILITIES AFFECTED BY SITE DEVELOPMENT. ALL PERMITS, APPLICATIONS, AND FEES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
8. ALL EXCESS OR WASTE MATERIAL GENERATED AS PART OF CONSTRUCTION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.
9. CONTRACTOR SHALL MAINTAIN FULL ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION AND TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES.
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11. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.

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Daniel Folsom

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DATE: 01/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

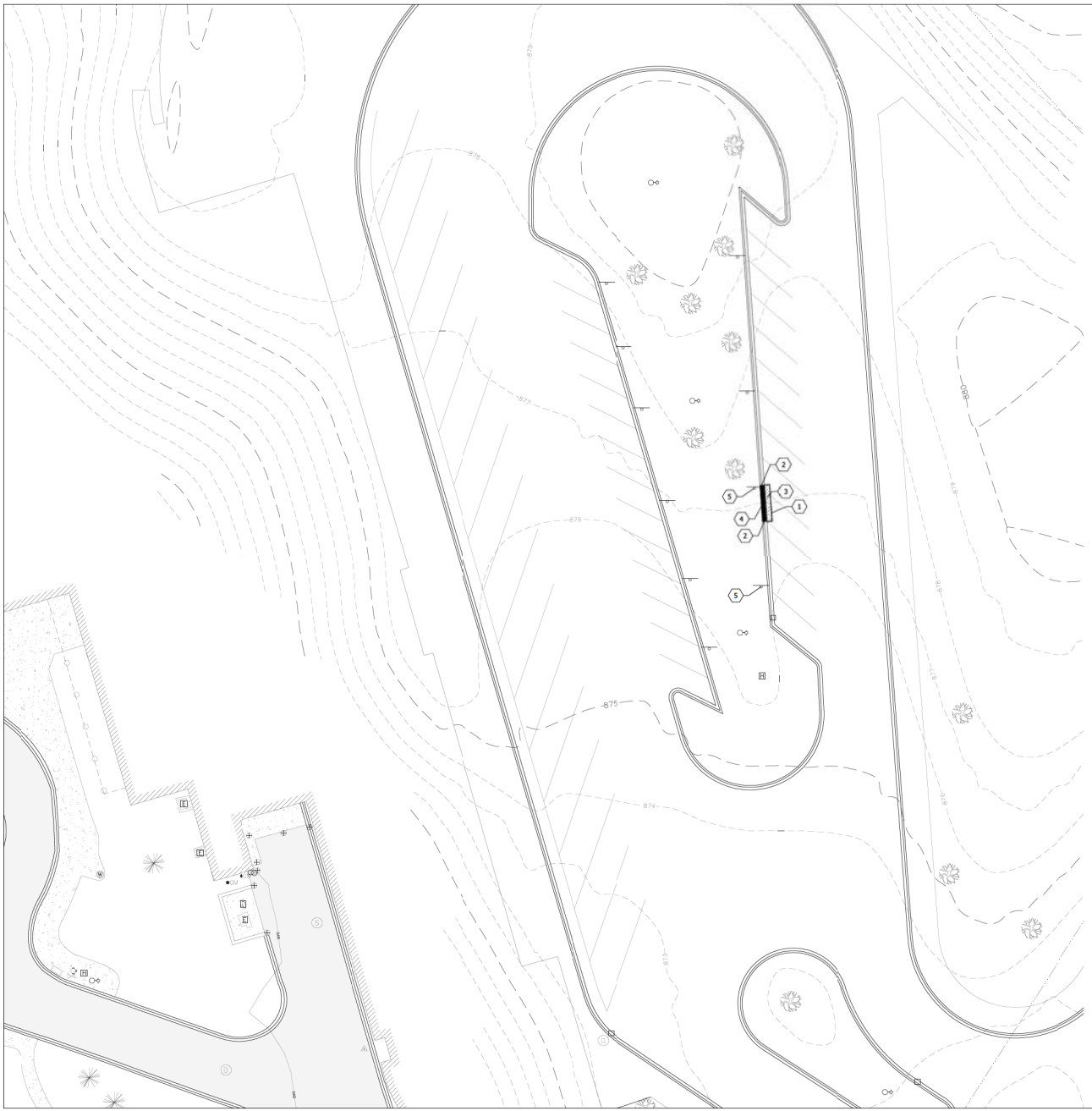
DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION

REMOVALS PLAN

DRAWING NO.

C101



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10. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.

KEY NOTES:

1. SAWCUT EXISTING BITUMINOUS PAVEMENT
2. SAWCUT EXISTING CURB & GUTTER OR REMOVE AT NEAREST EXPANSION JOINT
3. REMOVE EXISTING BITUMINOUS PAVEMENT
4. REMOVE EXISTING CURB & GUTTER
5. REMOVE AND SALVAGE EXISTING SIGN

REMOVALS LEGEND

= CURB REMOVAL

= BITUMINOUS PAVEMENT REMOVAL

0' 20' 40'

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PRINTED NAME: DANIEL J. FOLSOM

DATE: 01/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

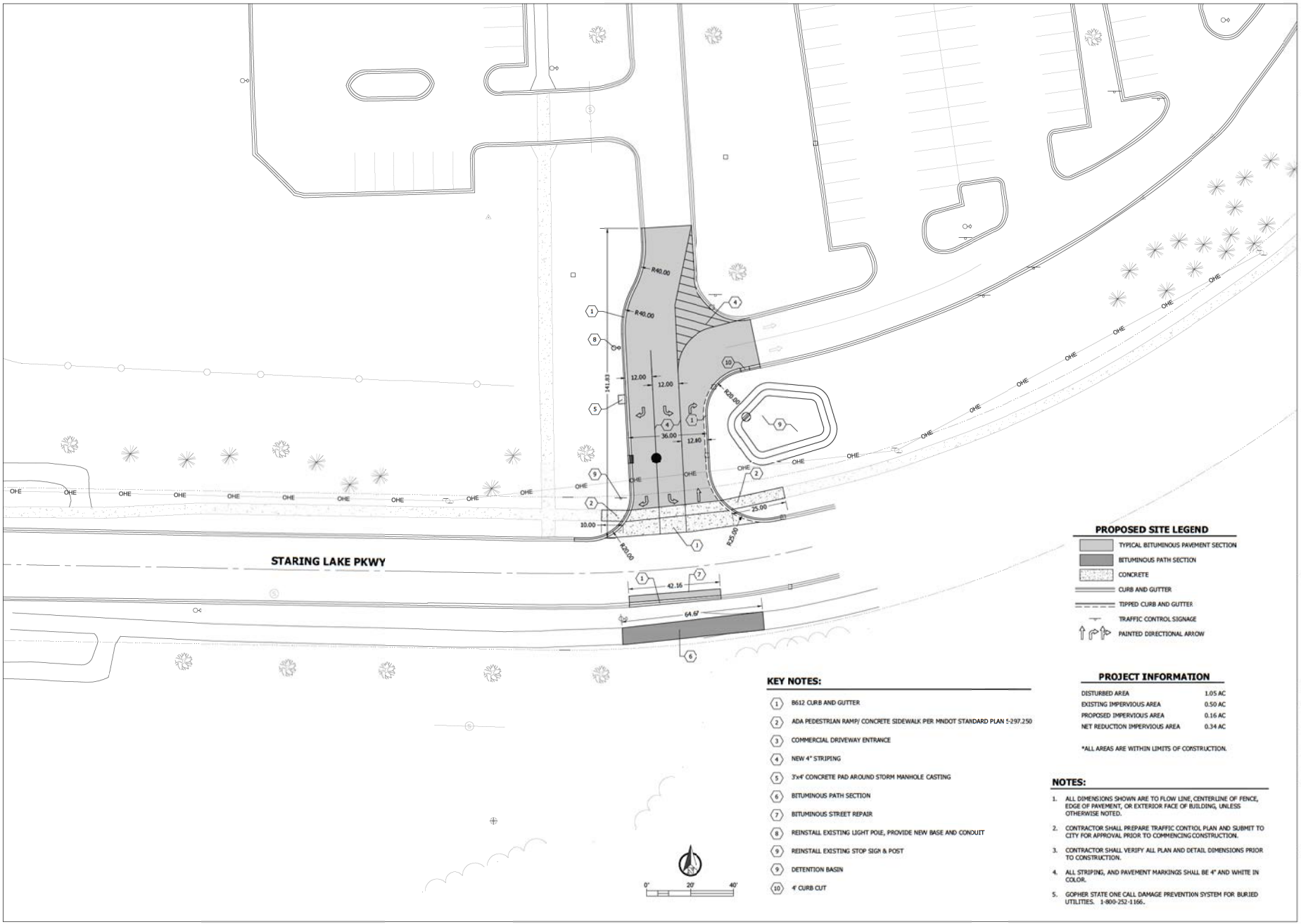
DRAWN BY:	RJK
CHECKED BY:	JEA
PROJECT NO.:	11321003

NO.	DATE	DESCRIPTION

REMOVALS PLAN NORTH

DRAWING NO.

C102



KEY NOTES:

1. B612 CURB AND GUTTER
2. ADA PEDESTRIAN RAMP/ CONCRETE SIDEWALK PER MNDOT STANDARD PLAN 5-297.250
3. COMMERCIAL DRIVEWAY ENTRANCE
4. NEW 4" STRIPING
5. 3'x4' CONCRETE PAD AROUND STORM MANHOLE CASTING
6. BITUMINOUS PATH SECTION
7. BITUMINOUS STREET REPAIR
8. REINSTALL EXISTING LIGHT POLE, PROVIDE NEW BASE AND CONDUIT
9. REINSTALL EXISTING STOP SIGN & POST
9. DETENTION BASIN
10. 4' CURB CUT

PROPOSED SITE LEGEND

- TYPICAL BITUMINOUS PAVEMENT SECTION
- BITUMINOUS PATH SECTION
- CONCRETE
- CURB AND GUTTER
- TIPPED CURB AND GUTTER
- TRAFFIC CONTROL SIGNAGE
- PAINTED DIRECTIONAL ARROW

PROJECT INFORMATION

DISTURBED AREA	1.05 AC
EXISTING IMPERVIOUS AREA	0.50 AC
PROPOSED IMPERVIOUS AREA	0.16 AC
NET REDUCTION IMPERVIOUS AREA	0.34 AC

*ALL AREAS ARE WITHIN LIMITS OF CONSTRUCTION.

NOTES:

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2. CONTRACTOR SHALL PREPARE TRAFFIC CONTROL PLAN AND SUBMIT TO CITY FOR APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY ALL PLAN AND DETAIL DIMENSIONS PRIOR TO CONSTRUCTION.
4. ALL STRIPING, AND PAVEMENT MARKINGS SHALL BE 4" AND WHITE IN COLOR.
5. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.

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Daniel Folsom

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DATE: 01/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION

SITE PLAN

DRAWING NO.

C201

NOTES:

1. ALL DIMENSIONS SHOWN ARE TO FLOW LINE, CENTERLINE OF FENCE, EDGE OF PAVEMENT, OR EXTERIOR FACE OF BUILDING, UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL VERIFY ALL PLAN AND DETAIL DIMENSIONS PRIOR TO CONSTRUCTION.
3. ALL STRIPING, AND PAVEMENT MARKINGS SHALL BE 4" AND WHITE IN COLOR.
4. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.

KEY NOTES:

1. 4' CURB CUT
2. BITUMINOUS STREET REPAIR
3. INSTALL SALVAGED SIGN
4. NEW 4" STRIPING
5. INFILTRATION BASIN

PROPOSED SITE LEGEND

- TYPICAL BITUMINOUS PAVEMENT SECTION
- CURB AND GUTTER
- TRAFFIC CONTROL SIGNAGE

0' 20' 40'

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OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

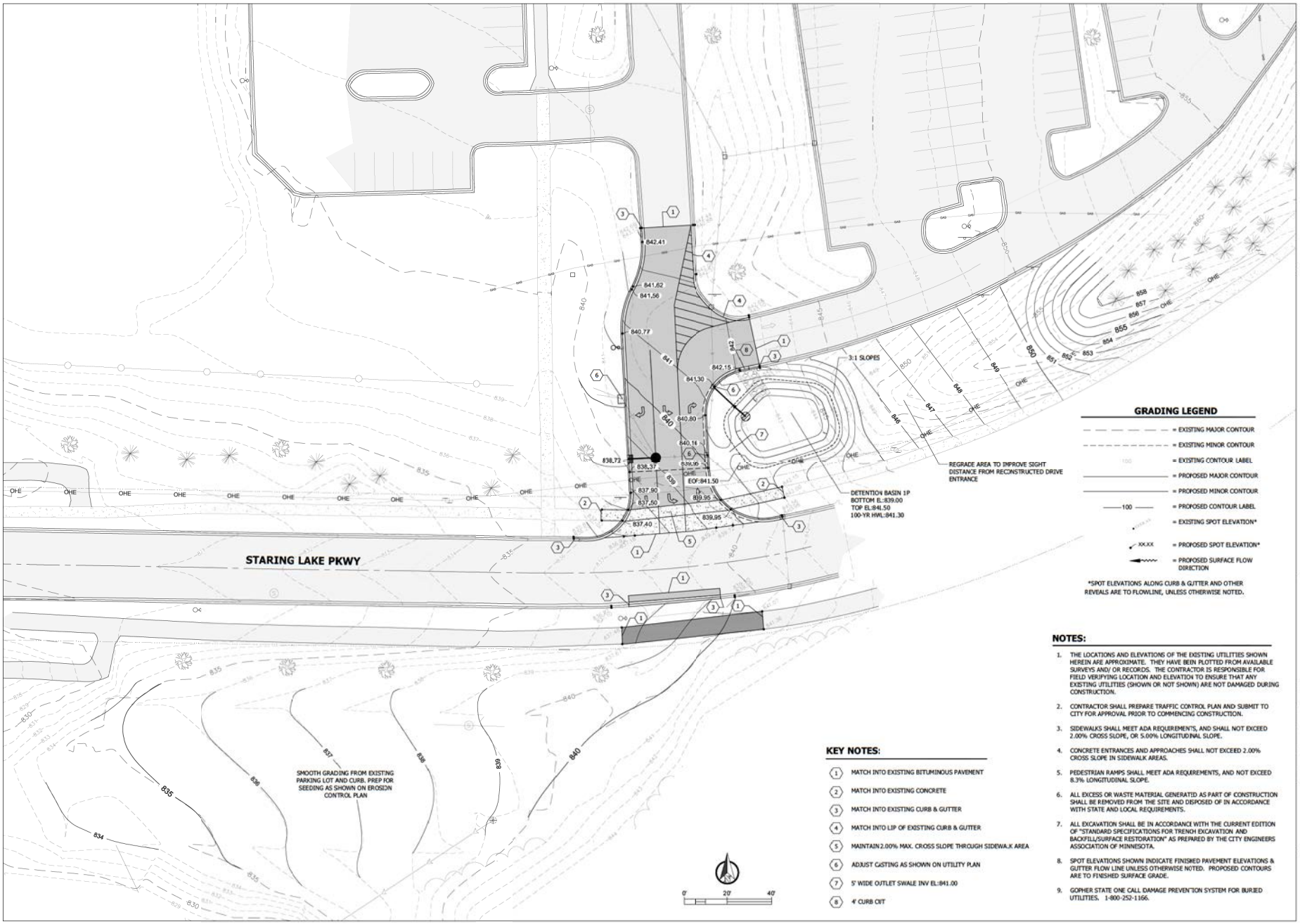
DRAWN BY:	RJK
CHECKED BY:	JEA
PROJECT NO.:	11321003

NO.	DATE	DESCRIPTION

SITE PLAN NORTH

DRAWING NO.

C202



GRADING LEGEND

- = EXISTING MAJOR CONTOUR
- = EXISTING MINOR CONTOUR
- = EXISTING CONTOUR LABEL
- = PROPOSED MAJOR CONTOUR
- = PROPOSED MINOR CONTOUR
- = PROPOSED CONTOUR LABEL
- = EXISTING SPOT ELEVATION*
- = PROPOSED SPOT ELEVATION*
- = PROPOSED SURFACE FLOW DIRECTION

*SPOT ELEVATIONS ALONG CURB & GUTTER AND OTHER REVEALS ARE TO FLOWLINE, UNLESS OTHERWISE NOTED.

KEY NOTES:

1. MATCH INTO EXISTING BITUMINOUS PAVEMENT
2. MATCH INTO EXISTING CONCRETE
3. MATCH INTO EXISTING CURB & GUTTER
4. MATCH INTO LIP OF EXISTING CURB & GUTTER
5. MAINTAIN 2.00% MAX. CROSS SLOPE THROUGH SIDEWALK AREA
6. ADJUST CASTING AS SHOWN ON UTILITY PLAN
7. 5' WIDE OUTLET SWALE INV EL:841.00
8. 4' CURB CUT

NOTES:

1. THE LOCATIONS AND ELEVATIONS OF THE EXISTING UTILITIES SHOWN HEREIN ARE APPROXIMATE. THEY HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND/ OR RECORDS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATION AND ELEVATION TO ENSURE THAT ANY EXISTING UTILITIES (SHOWN OR NOT SHOWN) ARE NOT DAMAGED DURING CONSTRUCTION.
2. CONTRACTOR SHALL PREPARE TRAFFIC CONTROL PLAN AND SUBMIT TO CITY FOR APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
3. SIDEWALKS SHALL MEET ADA REQUIREMENTS, AND SHALL NOT EXCEED 2.00% CROSS SLOPE, OR 5.00% LONGITUDINAL SLOPE.
4. CONCRETE ENTRANCES AND APPROACHES SHALL NOT EXCEED 2.00% CROSS SLOPE IN SIDEWALK AREAS.
5. PEDESTRIAN RAMPS SHALL MEET ADA REQUIREMENTS, AND NOT EXCEED 8.3% LONGITUDINAL SLOPE.
6. ALL EXCESS OR WASTE MATERIAL GENERATED AS PART OF CONSTRUCTION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.
7. ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR TRENCH EXCAVATION AND BACKFILL/SURFACE RESTORATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
8. SPOT ELEVATIONS SHOWN INDICATE FINISHED PAVEMENT ELEVATIONS & GUTTER FLOW LINE UNLESS OTHERWISE NOTED. PROPOSED CONTOURS ARE TO FINISHED SURFACE GRADE.
9. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.

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OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

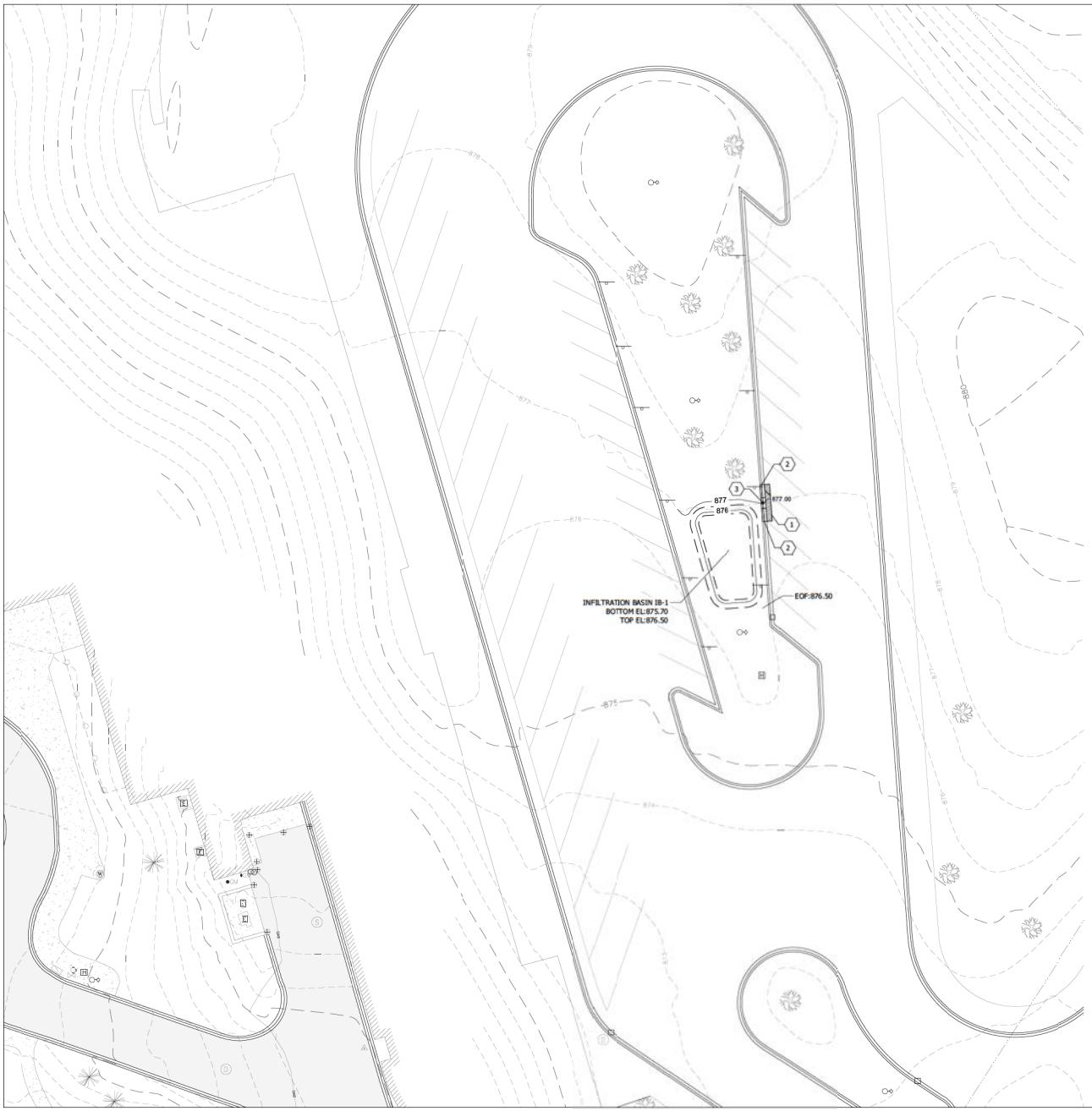
DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION

GRADING PLAN

DRAWING NO.

C301



NOTES:

1. THE LOCATIONS AND ELEVATIONS OF THE EXISTING UTILITIES SHOWN HEREIN ARE APPROXIMATE. THEY HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND/ OR RECORDS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATION AND ELEVATION TO ENSURE THAT ANY EXISTING UTILITIES (SHOWN OR NOT SHOWN) ARE NOT DAMAGED DURING CONSTRUCTION.
2. ALL EXCESS OR WASTE MATERIAL GENERATED AS PART OF CONSTRUCTION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.
3. ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR TRENCH EXCAVATION AND BACKFILL/SURFACE RESTORATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
4. SPOT ELEVATIONS SHOWN INDICATE FINISHED PAVEMENT ELEVATIONS & GUTTER FLOW LINE UNLESS OTHERWISE NOTED. PROPOSED CONTOURS ARE TO FINISHED SURFACE GRADE.
5. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.

KEY NOTES:

1. MATCH INTO EXISTING BITUMINOUS PAVEMENT
2. MATCH INTO EXISTING CURB & GUTTER
3. 4" CURB CUT

GRADING LEGEND

- = EXISTING MAJOR CONTOUR
- = EXISTING MINOR CONTOUR
- = EXISTING CONTOUR LABEL
- = PROPOSED MAJOR CONTOUR
- = PROPOSED MINOR CONTOUR
- 100 = PROPOSED CONTOUR LABEL
- = EXISTING SPOT ELEVATION*
- XX.XX = PROPOSED SPOT ELEVATION*
- = PROPOSED SURFACE FLOW DIRECTION

*SPOT ELEVATIONS ALONG CURB & GUTTER AND OTHER REVEALS ARE TO FLOWLINE, UNLESS OTHERWISE NOTED.

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-217-5557

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PRINTED NAME: DANIEL J. FOLSOM

DATE: 01/27/22 LICENSE #: 23897

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13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

DRAWN BY: RJK
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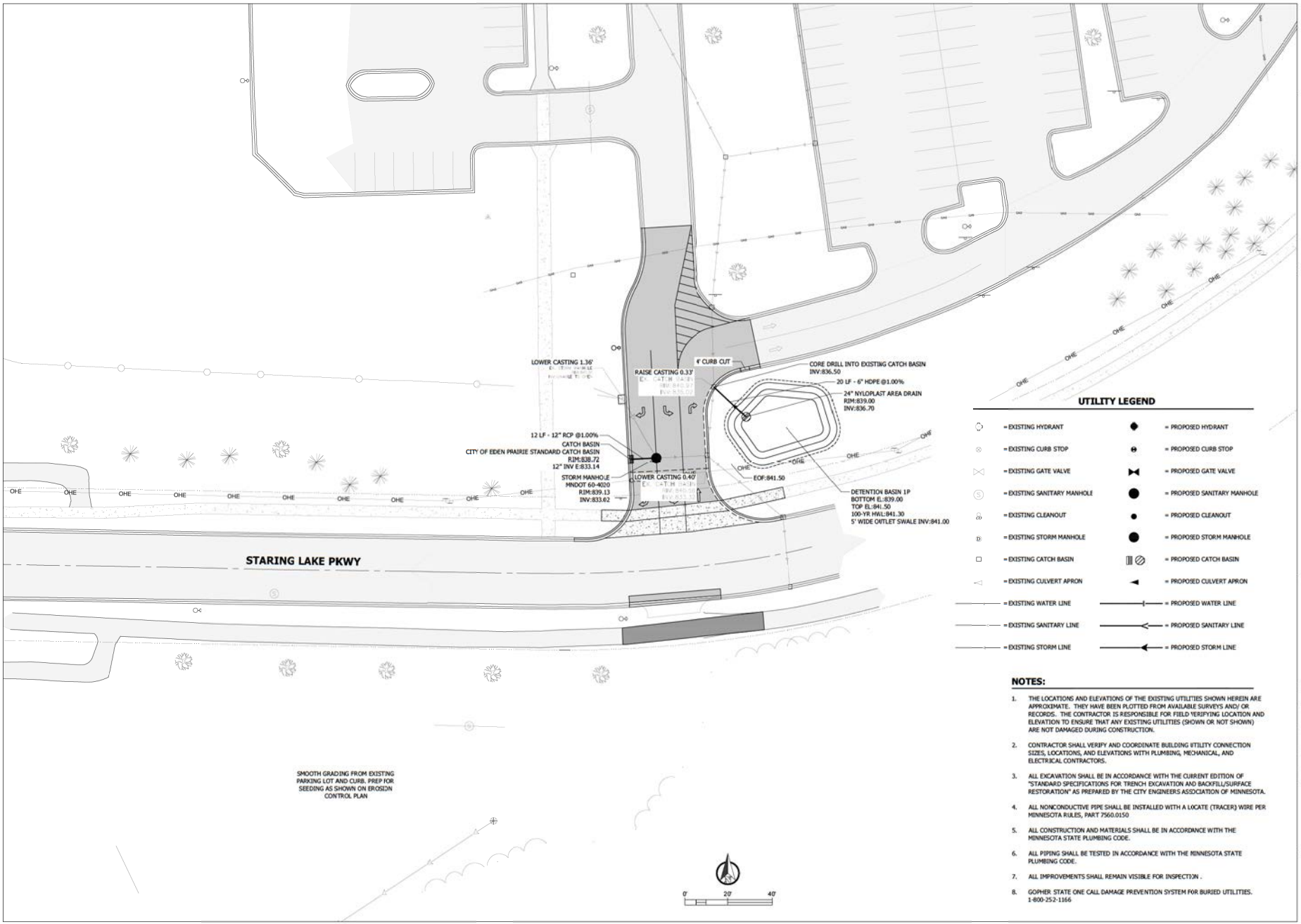
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION

GRADING PLAN NORTH

DRAWING NO.

C302



UTILITY LEGEND

= EXISTING HYDRANT	= PROPOSED HYDRANT
= EXISTING CURB STOP	= PROPOSED CURB STOP
= EXISTING GATE VALVE	= PROPOSED GATE VALVE
= EXISTING SANITARY MANHOLE	= PROPOSED SANITARY MANHOLE
= EXISTING CLEANOUT	= PROPOSED CLEANOUT
= EXISTING STORM MANHOLE	= PROPOSED STORM MANHOLE
= EXISTING CATCH BASIN	= PROPOSED CATCH BASIN
= EXISTING CULVERT APRON	= PROPOSED CULVERT APRON
= EXISTING WATER LINE	= PROPOSED WATER LINE
= EXISTING SANITARY LINE	= PROPOSED SANITARY LINE
= EXISTING STORM LINE	= PROPOSED STORM LINE

NOTES:

1. THE LOCATIONS AND ELEVATIONS OF THE EXISTING UTILITIES SHOWN HEREIN ARE APPROXIMATE. THEY HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND/ OR RECORDS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATION AND ELEVATION TO ENSURE THAT ANY EXISTING UTILITIES (SHOWN OR NOT SHOWN) ARE NOT DAMAGED DURING CONSTRUCTION.
2. CONTRACTOR SHALL VERIFY AND COORDINATE BUILDING UTILITY CONNECTION SIZES, LOCATIONS, AND ELEVATIONS WITH PLUMBING, MECHANICAL, AND ELECTRICAL CONTRACTORS.
3. ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR TRENCH EXCAVATION AND BACKFILL/SURFACE RESTORATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA.
4. ALL NONCONDUCTIVE PIPE SHALL BE INSTALLED WITH A LOCATE (TRACER) WIRE PER MINNESOTA RULES, PART 7560.0150
5. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MINNESOTA STATE PLUMBING CODE.
6. ALL PIPING SHALL BE TESTED IN ACCORDANCE WITH THE MINNESOTA STATE PLUMBING CODE.
7. ALL IMPROVEMENTS SHALL REMAIN VISIBLE FOR INSPECTION .
8. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166

DESIGN TREE
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EDEN PRAIRIE, MN

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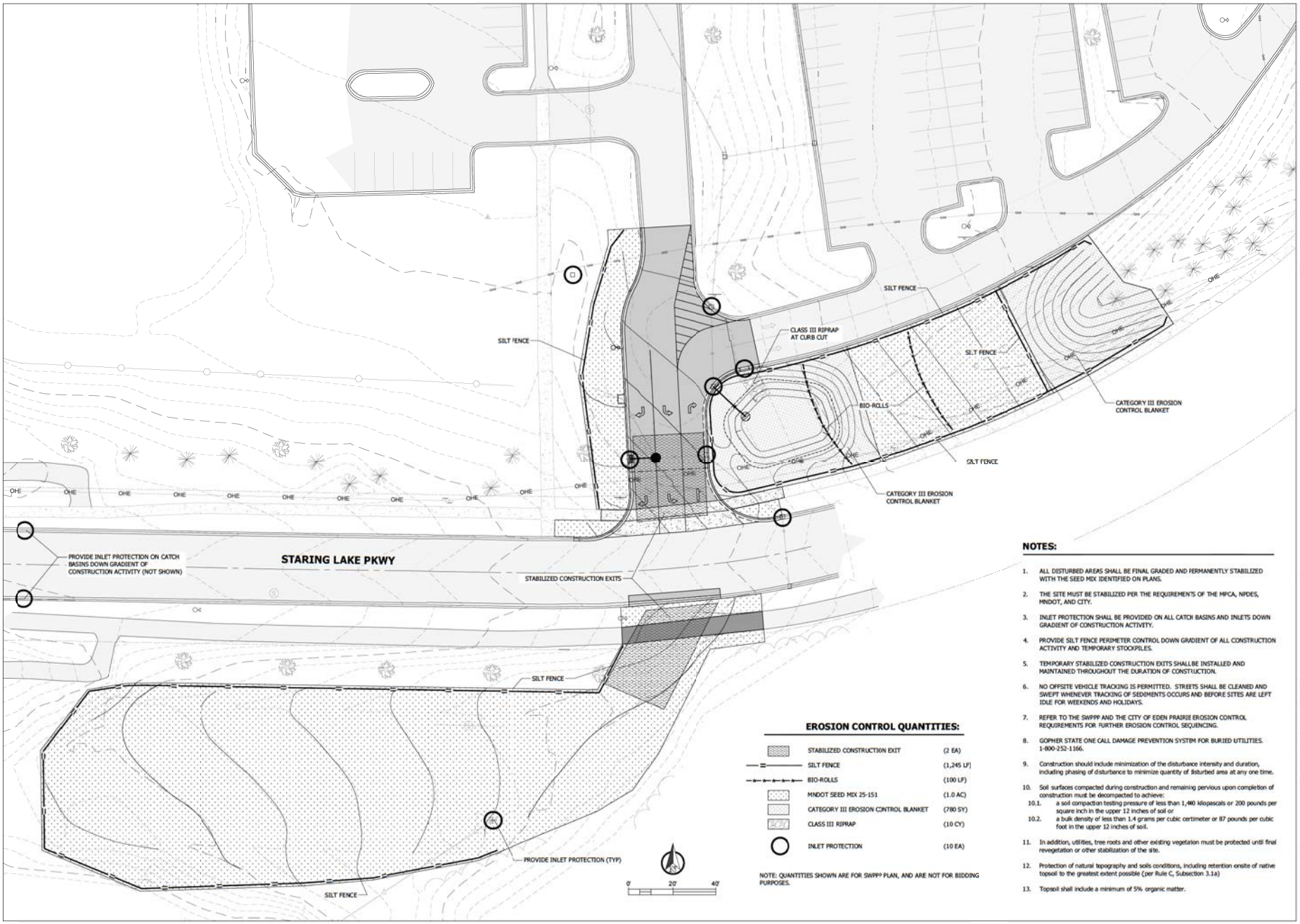
NO.	DATE	DESCRIPTION

UTILITY PLAN

DRAWING NO.

C401



EROSION CONTROL QUANTITIES:

	STABILIZED CONSTRUCTION EXIT	(2 EA)
	SILT FENCE	(1,245 LF)
	BIO-ROLLS	(100 LF)
	MNDOT SEED MIX 25-151	(1.0 AC)
	CATEGORY III EROSION CONTROL BLANKET	(780 SY)
	CLASS III RIPRAP	(10 CY)
	INLET PROTECTION	(10 EA)

NOTE: QUANTITIES SHOWN ARE FOR SWPPP PLAN, AND ARE NOT FOR BIDDING PURPOSES.

NOTES:

1. ALL DISTURBED AREAS SHALL BE FINAL GRADED AND PERMANENTLY STABILIZED WITH THE SEED MIX IDENTIFIED ON PLANS.
2. THE SITE MUST BE STABILIZED PER THE REQUIREMENTS OF THE MPCA, NPDES, MNDOT, AND CITY.
3. INLET PROTECTION SHALL BE PROVIDED ON ALL CATCH BASINS AND INLETS DOWN GRADIENT OF CONSTRUCTION ACTIVITY.
4. PROVIDE SILT FENCE PERIMETER CONTROL DOWN GRADIENT OF ALL CONSTRUCTION ACTIVITY AND TEMPORARY STOCKPILES.
5. TEMPORARY STABILIZED CONSTRUCTION EXITS SHALLBE INSTALLED AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.
6. NO OFFSITE VEHICLE TRACKING IS PERMITTED. STREETS SHALL BE CLEANED AND SWEPT WHENEVER TRACKING OF SEDIMENTS OCCURS AND BEFORE SITES ARE LEFT IDLE FOR WEEKENDS AND HOLIDAYS.
7. REFER TO THE SWPPP AND THE CITY OF EDEN PRAIRIE EROSION CONTROL REQUIREMENTS FOR FURTHER EROSION CONTROL SEQUENCING.
8. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.
9. Construction should include minimization of the disturbance intensity and duration, including phasing of disturbance to minimize quantity of disturbed area at any one time.
10. Soil surfaces compacted during construction and remaining pervious upon completion of construction must be decompacted to achieve:
    - 10.1. a soil compaction testing pressure of less than 1,400 kilopascals or 200 pounds per square inch in the upper 12 inches of soil or
    - 10.2. a bulk density of less than 1.4 grams per cubic certimeter or 87 pounds per cubic foot in the upper 12 inches of soil.
11. In addition, utilities, tree roots and other existing vegetation must be protected until final revegetation or other stabilization of the site.
12. Protection of natural topography and soils conditions, including retention onsite of native topsoil to the greatest extent possible (per Rule C, Subsection 3.1a)
13. Topsoil shall include a minimum of 5% organic matter.

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
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Daniel Folsom

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DATE: 01/27/22 LICENSE #: 23897

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13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

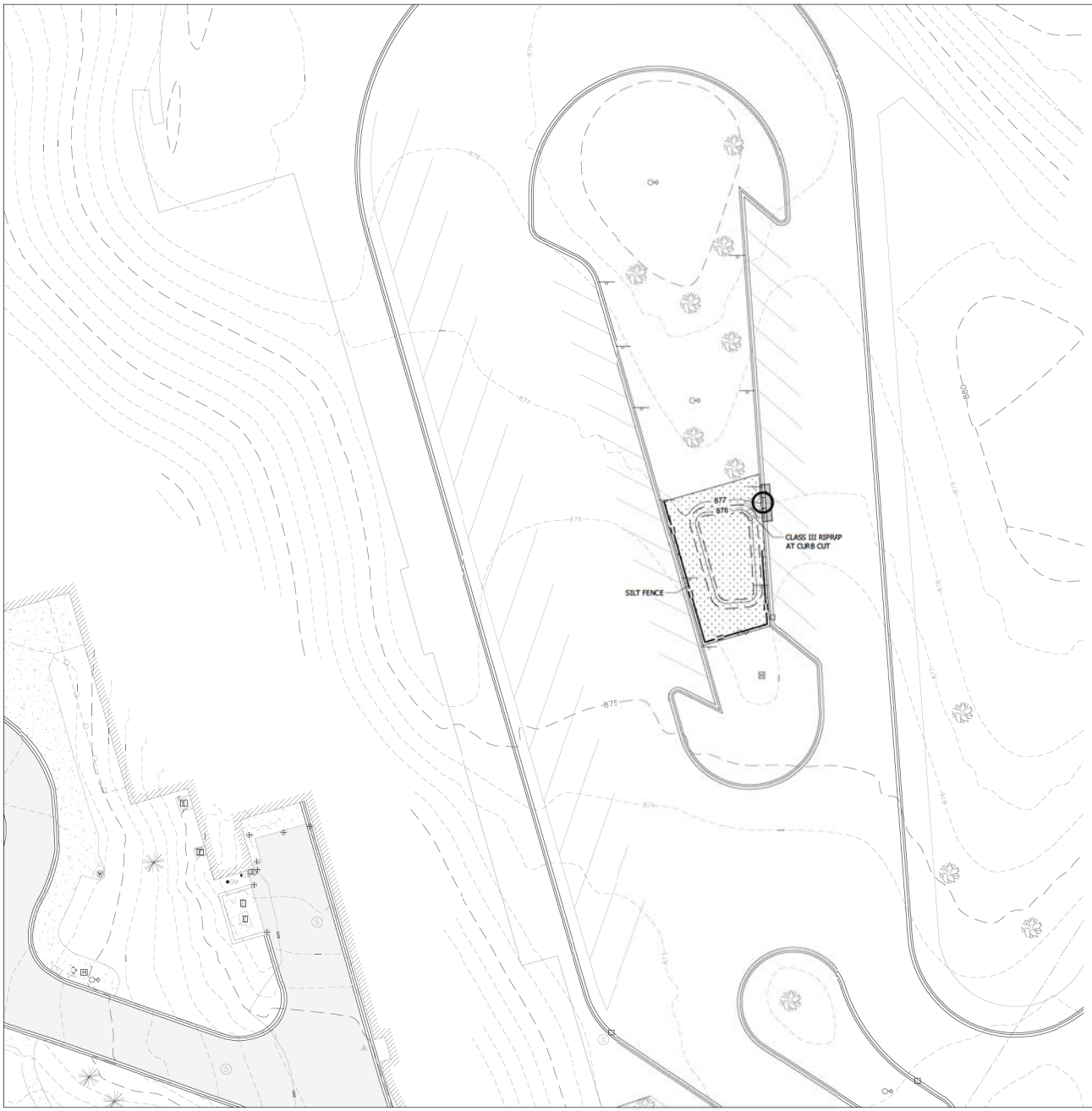
DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION

EROSION CONTROL PLAN

DRAWING NO.

C501



NOTES:

1. SEE SHEET C501 FOR EROSION CONTROL QUANTITIES.
2. ALL DISTURBED AREAS SHALL BE FINAL GRADED AND PERMANENTLY STABILIZED WITH THE SEED MIX IDENTIFIED ON PLANS.
3. THE SITE MUST BE STABILIZED PER THE REQUIREMENTS OF THE MPCA, NPDES, MNDOT, AND CITY.
4. INLET PROTECTION SHALL BE PROVIDED ON ALL CATCH BASINS AND INLETS DOWN GRADIENT OF CONSTRUCTION ACTIVITY.
5. PROVIDE SILT FENCE PERIMETER CONTROL DOWN GRADIENT OF ALL CONSTRUCTION ACTIVITY AND TEMPORARY STOCKPILES.
6. TEMPORARY STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.
7. NO OFFSITE VEHICLE TRACKING IS PERMITTED. STREETS SHALL BE CLEANED AND SWEPT WHENEVER TRACKING OF SEDIMENTS OCCURS AND BEFORE SITES ARE LEFT IDLE FOR WEEKENDS AND HOLIDAYS.
8. REFER TO THE SWPPP AND THE CITY OF EDEN PRAIRIE EROSION CONTROL REQUIREMENTS FOR FURTHER EROSION CONTROL SEQUENCING.
9. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.
10. Construction should include minimization of the disturbance intensity and duration, including phasing of disturbance to minimize quantity of disturbed area at any one time.
11. Soil surfaces compacted during construction and remaining pervious upon completion of construction must be decompacted to achieve:
    - 11.1. a soil compaction testing pressure of less than 1,400 kilopascals or 200 pounds per square inch in the upper 12 inches of soil or
    - 11.2. a bulk density of less than 1.4 grams per cubic centimeter or 87 pounds per cubic foot in the upper 12 inches of soil.
12. In addition, utilities, tree roots and other existing vegetation must be protected until final revegetation or other stabilization of the site.
13. Protection of natural topography and soils conditions, inclucing retention onsite of native topsoil to the greatest extent possible (per Rule C, Subsection 3.1a)
14. Topsoil shall include a minimum of 5% organic matter.

0' 20' 40'

DESIGN TREE
engineering + land surveying
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13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

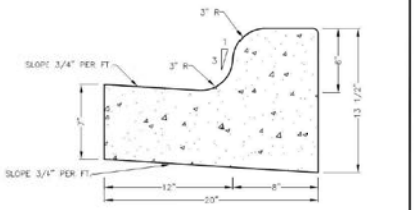
DRAWN BY:	RJK
CHECKED BY:	JEA
PROJECT NO.:	11321003

NO.	DATE	DESCRIPTION

EROSION CONTROL PLAN NORTH

DRAWING NO.

C502



B612 Concrete	
Cu. Yds. per L/F	L/F per Cu. Yd.
0.0474	21.1

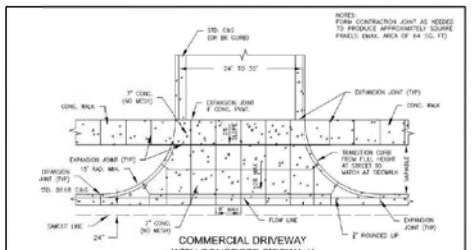
NOTE: EXPANSION JOINT SPACING: 100'

1-98

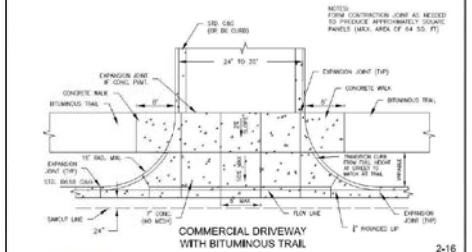
CITY OF EDEN PRAIRIE, MINNESOTA

B612 CURB AND GUTTER DETAILS

DEPARTMENT OF ENGINEERING R-9



COMMERCIAL DRIVEWAY WITH CONCRETE SIDEWALK



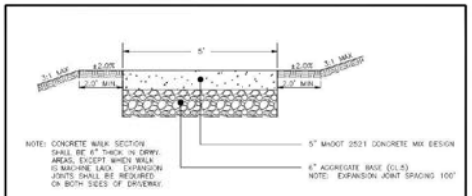
COMMERCIAL DRIVEWAY WITH BITUMINOUS TRAIL

2-16

CITY OF EDEN PRAIRIE, MINNESOTA

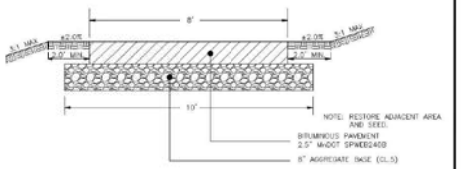
COMMERCIAL DRIVEWAY ENTRANCES (1 OF 2)

DEPARTMENT OF ENGINEERING R-14



CONCRETE WALK SECTION

NOT TO SCALE



BITUMINOUS BIKE/PED SECTION

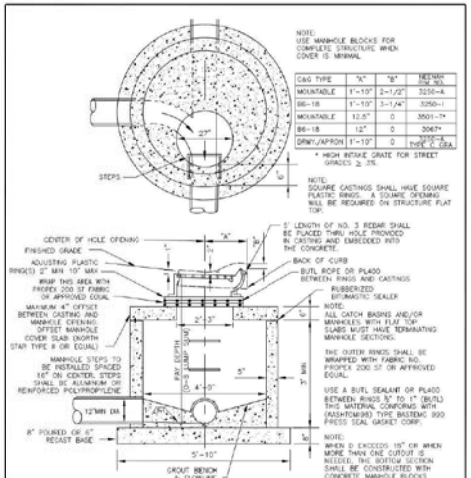
NOT TO SCALE

REV. 09/20/2018

CITY OF EDEN PRAIRIE, MINNESOTA

TYPICAL WALKWAY SECTION

DEPARTMENT OF ENGINEERING R-16

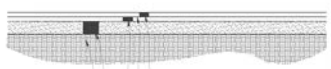


3-13

CITY OF EDEN PRAIRIE, MINNESOTA

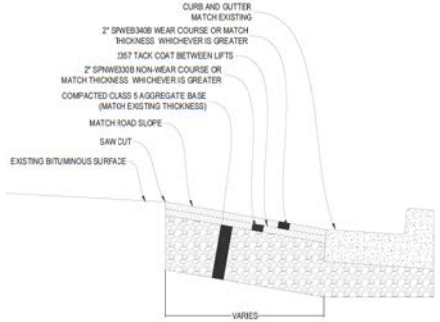
STANDARD CATCH BASIN

DEPARTMENT OF ENGINEERING S-5



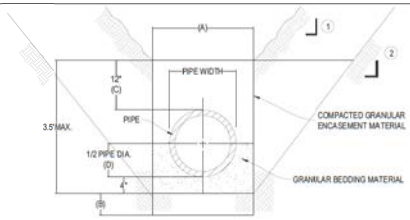
TYPICAL BITUMINOUS PAVEMENT SECTION

TOAD-4175



BITUMINOUS STREET REPAIR, CURB & GUTTER INSTALLATION DETAIL

TOAD-4175



1. 0-12' DEPTH TRENCH
SLOPE DEPENDS ON SOIL TYPE.

2. 12-20' DEPTH TRENCH
SLOPE DEPENDS ON SOIL TYPE.

3. 0-20' DEPTH TRENCH
SUPPORT OR SHIELD SYSTEM CAN BE UTILIZED TO REDUCE TRENCH WIDTH.

4. 20' OR GREATER DEPTH TRENCH
EXCAVATION MUST BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER. CONTRACTOR SHALL HAVE THE DESIGN COMPLETED AT HIS EXPENSE AND PROVIDE A COPY TO THE OWNER AND THE PROJECT ENGINEER.

(A) MINIMUM TRENCH WIDTH SHALL ALLOW FOR SIX INCHES OF CLEARANCE ON EACH SIDE OF PIPE JOINT HUB.

(B) THE TRENCH MAY BE OVEREXCAVATED A MIN. OF 6" & BACKFILLED WITH COMPACTED GRANULAR MATERIALS WHEN ROCK, INCOMPRESSIBLE MATERIALS, OR UNSTABLE SOILS ARE ENCOUNTERED.

(C) COMPACTED GRANULAR ENCASEMENT MATERIAL SHALL COVER THE TOP OF PIPE BY AT LEAST 12" AND EXTEND THE FULL WIDTH OF THE TRENCH OR AT LEAST 2 1/2" TIMES THE PIPE DIAMETER ON EACH SIDE OF THE PIPE.

(D) BEDDING AND HAUNCHING MATERIAL SHALL BE PLACED AND COMPACTED TO PROVIDE FULL SUPPORT FOR THE LENGTH OF THE PIPE.

NOTES:
1. THIS DETAIL APPLIES TO SANITARY SEWER, STORM SEWER, WATERMAIN, AND ALL SERVICE PIPES.

TYPICAL PIPE BEDDING DETAIL

TOAD-4175

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
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Daniel Folsom

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DATE: 01/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

DRAWN BY: RJK

CHECKED BY: JEA

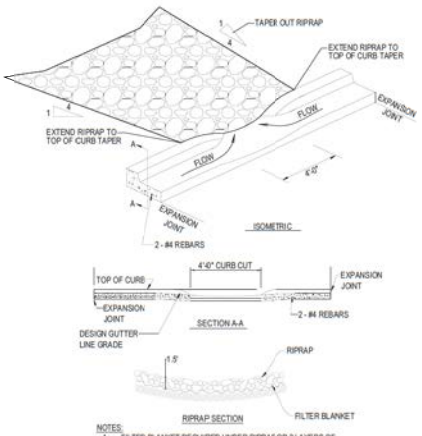
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION

CIVIL DETAILS

DRAWING NO.

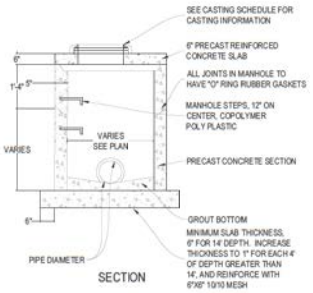
C601



NOTES:
1. FILTER BLANKET REQUIRED UNDER RIPRAP OR 2 LAYERS OF 500X "MIRAFI" FABRIC OR EQUAL
2. RIPRAP SHALL EXTEND TO BOTTOM OF SLOPE OR AS SHOWN ON PLANS.
3. CURB TAPERS SHALL BE 3 FT.

*CLASS III RIPRAP, D50= 9 IN. (MNDOT SPEC 3601)

4' CURB CUT W/ RIPRAP DETAIL



NOTE:
1. USE METAL SHIMS ONLY AT ADJUSTING RINGS WHEN LEVELING.
2. ALL PIPE CONNECTIONS SHALL HAVE MANHOLE SLEEVES OR WATERSTOP FOR WATERTIGHT CONNECTIONS.

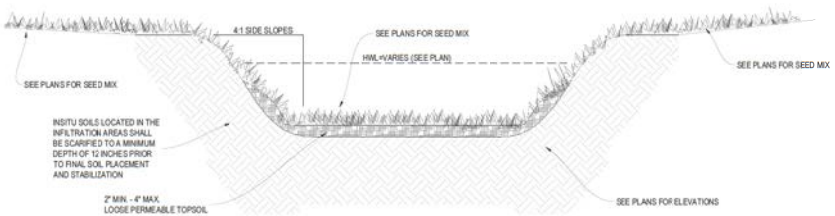
STANDARD MNDOT STORM MANHOLE/CATCH BASIN 4020

CASTING ASSEMBLY TABLE

STRUCTURE TYPE	LOCATION	FRAME	COVER/GRATE	CURB BOX
STMH	PAVEMENT	700-4	716 STAMPED "STORM SEWER"	
STMH	GREENSPACE	700-4	716 STAMPED "STORM SEWER"	
CB/CBMH	B-STYLE CURB LINE	802A	816 OR 814A (BIKE FRIENDLY)	823A
CB/CBMH	D-STYLE CURB LINE	805	816 OR 814A (BIKE FRIENDLY)	
CB/CBMH	PAVEMENT	700-4	720	
CB/CBMH	GREENSPACE	700-4	731	
CB/CBMH	VALLEY GUTTER	805	814A	
CB/CBMH	ADA	SEE ABOVE	817	

INFILTRATION BMP CONSTRUCTION REQUIREMENTS:

1. **PROTECT SITE:** BEFORE THE PROJECT STARTS, THE INFILTRATION BMP PERIMETER IS REQUIRED TO BE MARKED AND STAKED OFF TO AVOID SOIL COMPACTION. EXAMPLES: YELLOW CAUTION TAPE OR SILT FENCE.
2. **DON'T COMPACT:** IT IS EXTREMELY IMPORTANT WHILE EXCAVATING AND THROUGHOUT THE CONSTRUCTION PHASE NOT TO COMPACT THE SOIL. KEEP VEHICLES AND EQUIPMENT OFF THE INFILTRATION AREA.
3. **WHEN TO CONSTRUCT:** INFILTRATION SYSTEMS SHOULD NOT BE EXCAVATED TO FINAL GRADE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED. CONTRIBUTING DRAINAGE AREAS ARE REQUIRED TO BE FULLY STABILIZED PRIOR TO BRINGING INFILTRATION SYSTEMS INTO USE.
4. **DURING CONSTRUCTION** OF AN INFILTRATION SYSTEM, RIGOROUS EROSION PREVENTION AND SEDIMENT CONTROLS (e.g. DIVERSION BERMS) ARE REQUIRED TO KEEP SEDIMENT AND RUNOFF COMPLETELY AWAY FROM THE INFILTRATION AREA. INFILTRATION BMP'S SHOULD BE CONSTRUCTED AT THE END OF THE PROJECT IF POSSIBLE.
5. **SOILS:** SOIL MIXTURES (e.g. 70% SAND 30% COMPOST) MUST FOLLOW DESIGN SPECIFICATIONS. IF SOILS UNDER THE INFILTRATION AREA ARE HEAVILY COMPACTED OR OF MATERIAL THAT DOES NOT DRAIN (e.g. CLAY) ALTERATIONS MUST BE IMPLEMENTED SUCH AS DEEP SOIL RIPPING OR REMOVAL AND REPLACEMENT OF UNDERLYING SOILS.
6. **GRADES AND ELEVATIONS:** SLOPES, ELEVATIONS, AND DEPTHS OF THE INFILTRATION DESIGN ARE REQUIRED TO BE FOLLOWED TO ENSURE PROPER FUNCTIONING OF THE SYSTEM.
7. **REMOVE SEDIMENT:** SEDIMENT IS REQUIRED TO BE REMOVED FROM THE BMP WHEN THE PROJECT IS COMPLETED.
8. **PRE-TREATMENT CONSTRUCTION:** REQUIRED PRIOR TO DISCHARGING TO THE INFILTRATION BMP. IMPORTANT TO INSTALL CORRECTLY SO WATER CAN ENTER THE INFILTRATION AREA - SEDIMENT MUST BE REMOVED AT THE END OF THE PROJECT.
9. **POST-CONSTRUCTION OPERATION AND MAINTENANCE:** A POST-CONSTRUCTION MAINTENANCE PLAN IS REQUIRED. DO THIS PRIOR TO LAND DISTURBANCE PERMIT TERMINATION.



TYPICAL INFILTRATION BASIN SECTION

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-217-5557

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13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

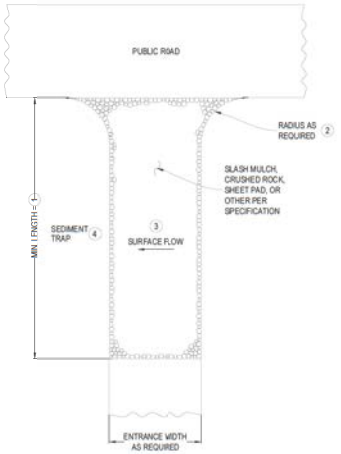
DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION

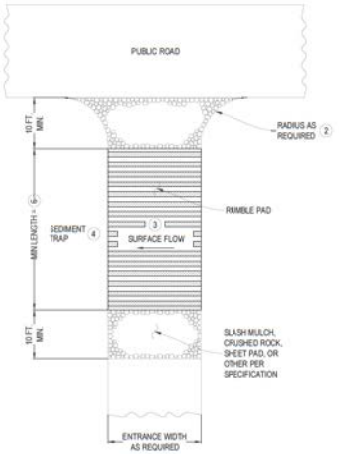
CIVIL DETAILS

DRAWING NO.

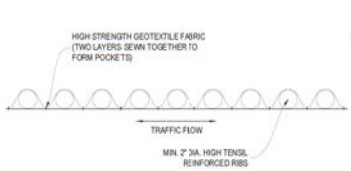
C602



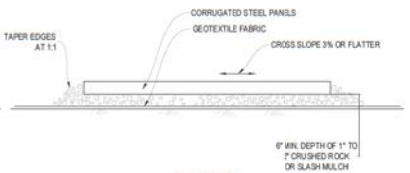
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT (5) (7)



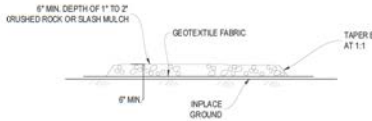
RUMBLE PAD CONSTRUCTION EXIT (5) (7)



SHEET PAD



RUMBLE PAD

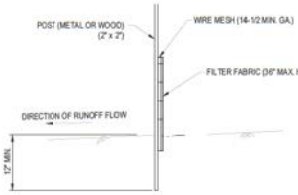


SLASH MULCH OR CRUSHED ROCK

NOTES:
SEE SPECS. 2573 & 3882.

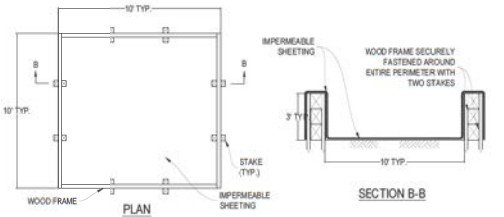
1. MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.
2. PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.
3. IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.
4. IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.
5. IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.
6. MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.
7. MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

STABILIZED CONSTRUCTION EXIT DETAILS
SCALE: N.T.S.

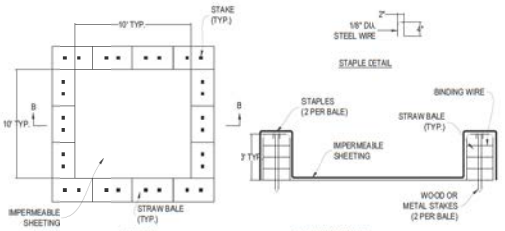


NOTES:
1. TYPE OF FENCING TO BE USED SHALL COMPLY WITH MNDOT 3886.1 UNLESS INDICATED OTHERWISE ON PLANS.
2. DIG A 6" x 6" TRENCH ALONG THE INTENDED FENCE LINE.
3. DRIVE ALL POSTS INTO THE GROUND AT THE DOWNHILL SIDE OF TRENCH.
4. WIRE FENCING PER MNDOT SPEC. 3886. WIRE MESH MUST BE A MINIMUM OF 2" INTO THE GROUND AND NO MORE THAN 36" ABOVE THE ORIGINAL GROUND SURFACE.
5. FILTER FABRIC PER MNDOT SPEC. 3886. FABRIC APPARENT OPENING SIZE (AOS) SHALL BE 30 TO 80 IN AREAS OF COARSE GRAINED SOILS, AND 50 TO 80 IN AREAS OF FINE GRAINED SOILS.
6. LAY OUT SILT FENCE ON THE UPHILL SIDE ALONG THE FENCE LINE, AND BACK FILL.
7. WOOD POSTS MAY BE SPACED UP TO 4 FEET APART IF WIRE MESH IS NOT USED TO SUPPORT THE FABRIC. IF WIRE MESH IS USED TO SUPPORT THE FABRIC STEEL POSTS MAY BE SPACED UP TO 8 FEET APART.

SILT FENCE DETAIL
SCALE: N.T.S.

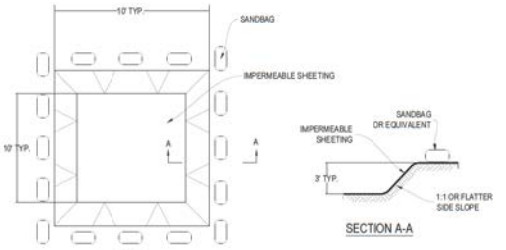


WASHOUT STRUCTURE WITH WOOD PLANKS



NOTE:
CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

WASHOUT STRUCTURE WITH STRAW BALES



EXCAVATED WASHOUT STRUCTURE

CONSTRUCTION SPECIFICATIONS:

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

CONCRETE WASHOUT DETAILS
SCALE: N.T.S.

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-217-5557

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.

PRINTED NAME: DANIEL J. FOLSOM

DATE: 01/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

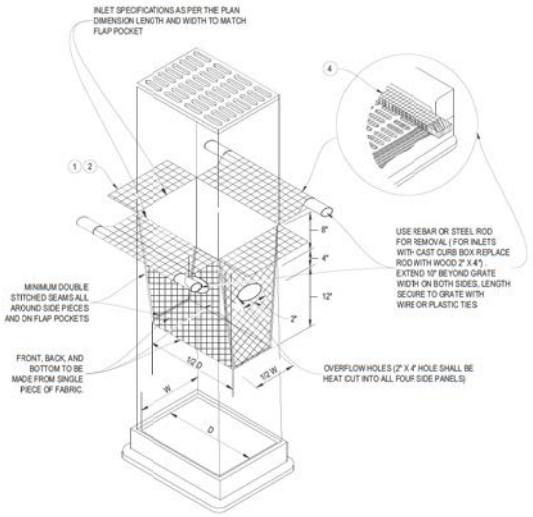
13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION

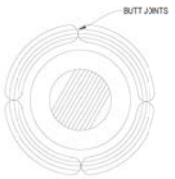
EROSION CONTROL DETAILS

DRAWING NO.
C603

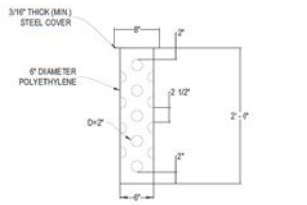


FILTER BAG INSERT (3)

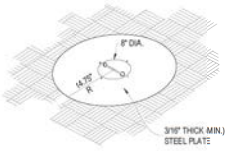
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)



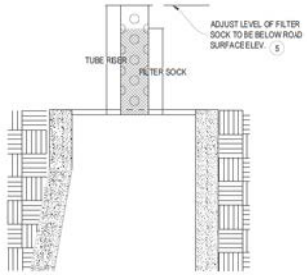
ROCK LOG/COMPOST LOG



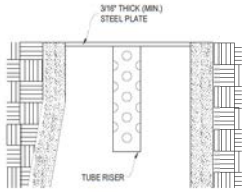
TUBE RISER



PERSPECTIVE VIEW

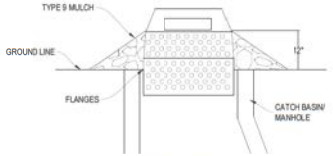


SECTION (UP POSITION)



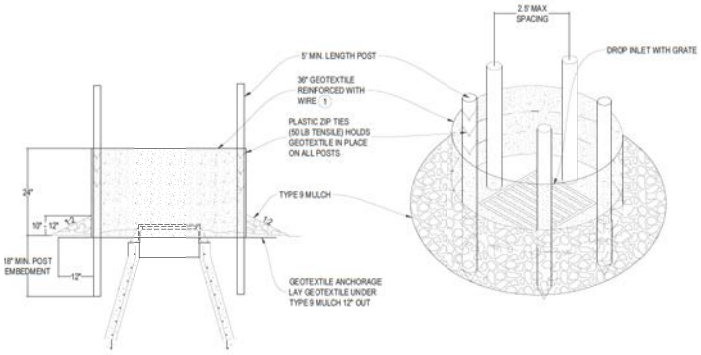
SECTION (DOWN POSITION)

POP-UP HEAD



SEDIMENT CONTROL INLET HAT

NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND a LID/COVER.



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES A1 1:3 or LESS

NOTES:

SEE SPECS. 2573, 3137 3886.

DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEDE TRAFFIC FLOW.

1. ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
2. FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
3. INSTALLATION NOTES:
   DO NOT INSTALL FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
4. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
5. SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
6. GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC 3137 TABLE 3137-1; CA-3 GRADATION.

STORM DRAIN INLET PROTECTION DETAILS

SHEET 4 OF 5

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-217-5557

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.

PRINTED NAME: DANIEL J. FOLSOM

DATE: 01/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION

EROSION CONTROL DETAILS

DRAWING NO.

C604

Project Description:
The work on the project includes reconstruction of an existing entrance to the student drop-off parking area at the Oak Point Elementary School in Eden Prairie. Construction will include removal and reconfiguration of the existing entrance including bituminous pavement, concrete curb & gutter, storm sewer, and installation of stormwater retention and detention basins. The project will also include removal of a parking lot across on the City owned lot to the south of Oak Point Elementary. The project is located at 13400 Staring Lake Parkway, in Eden Prairie, MN. The soils underlying the site vary across the site, but the majority of the underlying soils in the project area are in Hydrologic Soil Groups "C" and "D" and have low infiltration rates when thoroughly wet.

Receiving Waters:
All existing stormwater runoff from the Oak Point entrance sheet flows to to the south and ultimately into the City's storm sewer located in the Staring Lake Parkway right-of-way. Runoff from the proposed site will maintain the existing crainage pattern by discharging into the Staring Lake Parkway right-of-way.
All existing stormwater runoff from the City owned lot sheet flows to the south and ultimately into an existing pond. Runoff from the proposed site will maintain the existing drainage pattern by discharging into the existing pond.

Responsible Parties:
The Owner and the Contractor are responsible co-permittees for the implementation of the SWPPP. The Contractor and Owner shall apply for the NPDES/SDS Construction Permit within 24 hours of award of Contract. The complete application must be submitted prior to start of construction activity. The Contractor is responsible for installation, inspection, maintenance, and repair of all erosion prevention and sediment control BMPs before, during, and after active construction. The Contractor shall amend the SWPPP before beginning construction to include the chain of responsibility of all operators on the site, or if not known, the title or position of the responsible party. The Contractor is responsible for identifying a trained person (as specified in the NPDES/SDS Contruction Permit) knowledgeable and experienced in the application of erosion prevention and sediment control BMPs who will oversee the implementation of the SWPPP before and during construction until the construction project is complete, the entire site has undergone final stabilization, and a Notice of Termination(NOT)/Permit Modification form has been submitted to the MPCA. The Owner must identify who will be responsible for the long-term operation and maintenance of all permanent stormwater management systems. The Contractor is liable until final stabilization of all disturbed areas is achieved and the Notice of Termination (NOT)/Permit Modification form is submitted to the MPCA (as specified in the NPDES/SDS Construction Permit). Once the identity of Responsible Parties is known, the SWPPP must be amended to include this information in the area below.

Project Contacts:

Project Engineer	Owner	Contractor
Daniel Folsom	Eden Prairie Schools	TBD
Design Tree Engineering & Land Surveying	8100 School Road	
3339 W. St. Germain	Eden Prairie, MN 55344	
Suite 250		
St. Cloud, MN 56301		
(320) 227.0202		
cf@dte-ls.com		

SWPPP Amendments:
The Owner or Contractor must amend the SWPPP as necessary to include additional requirements, such as additional or modified BMPs that are designed to correct problems identified or address situations whenever:

1. There is a change in design, construction, operation, maintenance, weather or seasonal conditions that has a significant effect on the discharge of pollutants to surface water or underground waters.
2. Inspections or investigations by site owner or operators, USEPA or MPCA officials indicate the SWPPP is not effective in eliminating or significantly minimizing the discharge of pollutants to surface waters or underground waters or that the discharges are causing water quality standard exceedances.
3. The SWPPP is not achieving the general objectives of minimizing pollutants in stormwater discharges associated with construction activity, or the SWPPP is not consistent with the terms and conditions of this permit.
4. At any time after the permit coverage is effective, the MPCA deems necessary.

Construction Notes:
Construction shall be governed by the MnDOT Standard Specifications for Construction, latest edition, City of Eden Prairie's Specifications, special provisions, amendments, and the project specifications and details. Permits and maps relating to this project's SWPPP can be found in the Project Documents. The Contractor shall keep inspection and maintenance logs and NPDES/SDS Construction Permit on-site at all times during active construction. Please refer to the plans and specifications for additional SWPPP information.
Soil Compaction should be minimized and topsoil should be preserved whenever and wherever possible during construction
All soil stockpiling shall include sediment control devices and shall be placed in areas away from surface waters or natural buffers.

Special Waters, Impaired Waters, & TMDL Implementation Plans:
The site is located within 1 mile of an impaired water as identified by the MPCA. The site is located within 1 mile of Staring Lake, which has an EPA-approved impairment for: Mercury in fish tissue; Nutrients. These impairment(s) are considered to be construction related parameters and require the additional best management practices (BMPs) found in items 23.9 and 23.10 of the permit if the project has a discharge point on the project within 1 mile (aerial radius measurement) of, and flows to the impaired water.

The site is also located within 1 mile of Purgatory Creek, which has an EPA-approved impairment for: Benthic macroinvertebrate bicassessments; Escherichia Coli. These impairment(s) are considered to be construction related parameters and require the additional best management practices (BMPs) found in items 23.9 and 23.10 of the permit if the project has a discharge point on the project within 1 mile (aerial radius measurement) of, and flows to the impaired stream.

All disturbed areas not actively being worked must be stabilized within 7 days. The Owner is responsible for the long term maintenance of all stormwater treatment facilities and private storm sewer systems. Inlet protection, silt fence, final stabilization, and other BMPs must be implemented prior to allowing any water runoff from being discharged off-site.

Calculations:

Disturbed Area	1.05 AC
Pre-Construction Impervious Area	0.50 AC
Post-Construction Impervious Area	0.16 AC
Net Decrease in Impervious Area	0.34 AC

Sequence of Construction:
The Contractor shall verify that all applicable permits have been obtained and the NPDES/SDS Construction Permit has been submitted to the MPCA prior to the start of construction.

1. The Contractor must plan for and implement appropriate construction phasing, vegetated buffer strips, horizontal slope grading, and other construction practices that minimize erosion. The location of areas not to be disturbed are shown on the plans.
2. The Contractor shall be responsible for full implementation and maintenance required by the SWPPP untill the Notice of Termination (NOT) is approved by the MPCA.
3. The Contractor shall construct erosion and sediment control BMPs in the following construction sequence:
   a. Install rock construction entrances where indicated in the plans.
   b. Install silt fence and inlet protection where indicated in the plans.
   c. Install silt fence around proposed infiltration and bioretention BMPs to protect soils from compaction.
   d. Locate portable toilets on flat surfaces away from drainage paths. Position portable toilets so they are secure and will not tip or be knocked over.
   e. Construct concrete washout area and provide signage.
   f. Establish waste control areas.
   g. Construct temporary sediment basins where 5 acres or more drain to a common location.
   h. Construct diversions to sediment basins.
   i. Rough grade site.
   j. Leave disturbed area of site in a roughened condition to limit erosion. Temporarily stabilize areas that will be inactive for a period of 7 days.
   k. Install storm drainage system and place inlet protection as each inlet is installed. Energy dissipation devices shall be installed and functional within 24 hours of connecting pip outlets to surface waters.
   l. Protect and repair BMPs, as necessary.
   m. Perform street sweeping as needed.
   n. Temporarily stabilize areas not actively being worked.
   o. Site construction (Utilities, paving, buildings, etc...)
   p. Final grading.
   q. Final stabilization (seeding, planting). Stabilized soil with the seed mix indicated on the plans.
   r. Remove temporary sediment basins when permanent cover has reduced the acreage of disturbed soil to less than five (5) acres draining to a common location.
   s. Construct stormwater infiltration basins and bioretention basins only when contributing drainage area has been constructed and fully stabilized.
   t. Remove erosion control devices upon site establishment in accordance with the NPDES/SDS Notice of Termination (NOT) requirements.

Final Stabilization:
Final stabilization is not met until all of the following are completed:

1. Stabilization by uniform perennial vegetative cover (70% density of it's expected final growth). The seed mix indicated on the plan or sod shall be used for final stabilization.
2. Permanent stormwater management system is constructed, meets all requirements, and is operational.
3. Drainage ditches are fully stabilized.
4. All temporary synthetic and structural BMPs are removed.
5. Sediment from conveyance systems and sedimentation basins are cleaned out (returned to design capacity).
6. Notice of Termination (NOT) is submitted to the MPCA.

CONTACTS

AGENCY	NAME	PHONE NUMBER
Hennepin County	Hennepin County	(612) 348-3777
DNR Waters	Janell Miench	(218) 739-7576 ext. 232
ACOE	St. Paul Office	(651) 290-5375
State Duty Officer	MPCA	(800) 422-0798
SWPPP Designer	Michael Gerber, PE	(320) 227-0203
Erosion Control Review	Daniel Folsom, PE	(320) 227-0202
Erosion Control Supervisor	TBD	

LOCATION OF SWPPP REQUIREMENTS

DESCRIPTION	TITLE	SHEET # OR SPECIFICATION SECTION
Receiving Surface Water	City Storm Sewer	C301 - C401
Final Stabilization	Erosion Control Plan	C501
Drainage Plans	Ste Grading & Utility Plan	C301 - C401
Drainage Details	Details	C601 - C602
Erosion Control Sheets	Erosion Control Plan	C501
Erosion Control Details	Details	C603 - C604
Erosion & Sediment Control Quantities	Erosion Control Plan	C501
Existing & Proposed Drainage Maps	Final Stormwater Management Plan	Project Manual

Erosion Control Maintenance and Inspection: BMP inspection and maintenance Responsible Party: _____

1. Inspect erosion control devices and provide routine maintenance as follows:
   a. Inspect erosion control a minimum of once per week and within 24 hours of a rainfall event greater than 0.5" in 24 hours.
   b. Records of each inspection and maintenance activity shall include:
      - Date and time of inspections.
      - Name of person(s) conducting inspection.
      - Accurate findings of inspection, including the specific location where corrective actions are needed.
      - Corrective actions taken (including dates, times, and party completing maintenance activities).
      - Date and amount of all rainfall events greater than 0.5" in 24 hours, and the amount of rainfall for each event. Rainfall amounts must be obtained by either a properly maintained rain gauge installed onsite, a weather station that is within 1 mile of the site, or a wather reporting system that provides site specific rainfall data from radar summaries.
      - If discharge is observed during the inspection, the inspector must record and should photograph and describe the location of the discharge (i.e. color, odor, settled or suspended solids, oil sheen, and other obvious indicators of pollutants).
      - Documentation of amendments to the SWPPP proposed as a result of the inspection as required by the NPDES/SDS Construction Permit.
   c. Inspections may be suspended where construction activity has been suspended due to frozen ground conditions. Inspections must resume within 24 hours of runoff occurring, or upon resuming construction, whichever comes first.
2. Provide maintenance for all devices as follows:
   a. Silt fences and erosion control devices at storm sewer inlets shall be inspected for depth of sediment, tears, to see if fabric is securely attached to support posts or structure, and to see that posts and devices are securely in place.
   b. Silt fence, inlet protection at storm sewer inlets, and other erosion control devices shall be cleaned when sediment reaches 1/3 of the height of the erosion control device.
   c. Rock construction entrances shall be inspected for clogging of rock. Rock that has become clogged with sediment shal be removed and replaced with clean rock.
   d. Repairs or replacement of all erosion control devices shall occur within 24 hours of discovery.
   e. Temporary sediment basins shall be cleaned when sediment reaches 1/2 of the outlet's height or 1/2 of the basins storage volume. The basin shall be drained and sediment removed within 72 hours.
   f. Temporary diversion berms shall be inspected and any breaches shall be promptly repaired.
   g. Tracked sediment from construction vehicles onto public streets and paved areas (including paved areas on the construction site) shall be removed within 24 hours of discovery.
   h. The bottom and side slopes of the proposed stormwater treatment basins shall be stabilized within 200 feet of the property lines or point of discharge to any surface water, including curb and gutter, pavement, storm sewer, swales, or other similar stormwater conveyance devices.
   i. Removal of all deltas and sediment deposited in surface waters and re-stabilization of exposed soils shall be accomplished within 7 days of discovery.

Pollution Prevention Management Measures:

1. Storage, handling, and disposal of construction products, materials and wastes:
   a. The Contractor shall comply with the following to minimize the exposure to stormwater (any of the products, materials, or wastes/products which are either not a source of contamination to stormwater or are designed to be exposed to stormwater are not held to this requirement):
      - Building products that have the potential to leach pollutants must be under cover (e.g. plastic sheeting or temporary roofs) to prevent the discharge of pollutants or be protected by a similarly effective means designed to prevent contact with stormwater.
      - Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials must be under cover (e.g. plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by similarly effective means designed to prevent contact with stormwater.
      - Hazardous materials, toxic wastes (including oil, diesel fuel, gasoline., hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids), must be properly stored in sealed containers to prevent spills, leaks, or other discharge.
      - Restricted access storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste or hazardous materials must be in compliance with Minn. R. ch. 7045 including secondary containment as applicable.
      - Solid wastes must be stored, collected, and disposed of properly in compliance with Minn. R. ch. 7035.
      - Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. ch. 7041.
2. Fueling and maintenance of equipment or vehicles; spill prevention and response:
   a. The Contractor shall take reasonable steps to prevent the discharge of spilled or leaked chemicals, including fuel, from any areas where chemicals or fuel will be loaded or unloaded including the use of drip pans or absorbents unless infeasible.
   b. The Contractor must conduct fueling in a contained area unless infeasible.
   c. The Contractor must ensure adequate supplies are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials.
   d. The Contractor must report and clean up spills immediately as required by Minn. Stat. 115.061, using dry clean up measures where possible.
3. Vehicle and equipment washing:
   a. If the Contractor washes the exterior of vehicles or equipment on the project site, washing must be limited to a defined area of the site.
   b. Runoff from the washing area must be contained in a sediment basin or other similarly effective controls and waste from the washing activity must be properly disposed of.
4. The Contractor must properly use and store soaps, detergents, and solvents.
5. No engine degreasing is allowed on site.
6. Concrete and other washout waste:
   a. The Contractor must provide effective containment for all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds, and other construction materials) related to the construction activity.
   b. The liquid and solid waste must not contact the ground, and the containments must be designed so that it does not result in runoff from the washout operations or areas.
   c. Liquid and solid wastes must be disposed of properly and in compliance with MPCA rules.
   d. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

Dewatering and Basin Draining:
Dewatering or basin draining that may have turbid or sediment laden discharge water must be discharged to a temporary or permanent sedimentation basin on the project site whenever possible. Discharge from the temporary or permanent sedimentation basin must be visually checked to ensure adequate treatment is obtained in the basin and nuisance conditions, impacts to wetlands, and erosion in receiving channels or on down gradient properties will not result from the discharge. Adequate sedimentation control measures are required for discharge water that contains suspended solids.
If using using filters with backwash water, either haul the backwash water away for disposal and return the backwash water to the beginning of the treatment process, or incorporate the backwash water into the site in a manner that does not cause erosion.

Timing of BMP Installation:
The erosion and sediment control BMPs shall be installed as necessary to minimize erosion from disturbed surfaces and capture sediment on site and shall meet the NPDES/SDS Construction Permit part VII requirements. Perimeter controls shall be placed prior to the start of any construction. All disturbed areas not actively being worked must be stabilized within 7 days.

Storm Water Pollution Prevention Plan:
The Permitees must implement the entire SWPPP and the requirement of the NPDES/SDS Construction Permit. The BMPs identified in the SWPPP and in the permit must be selected, installed, and maintained in an appropriate and functional manner that is in accordance with manufacturer specifications and accepted engineering practices.

Temporary Sediment Basins:
Project is not required to provide temporary sediment basins for construction.

Future Operation and Maintenance (O&M):
The Owner shall be responsible for performing future operations and maintenance of the permanent stormwater management systems on the property.

UNIVERSITY OF MINNESOTA
Michael J. Gerber
Construction Site Management (May 31 2023)
Design of Construction SWPPP (May 31 2024)

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-217-5557

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.

PRINTED NAME: DANIEL J. FOLSOM
DATE: 01/27/22 LICENSE #: 23897

OAK POINT ELEMENTARY CIRCULATION UPGRADES

13400 STARING LAKE PKWY
EDEN PRAIRIE, MN

DRAWN BY: RJK
CHECKED BY: JEA
PROJECT NO.: 11321003

NO.	DATE	DESCRIPTION

SWPPP NARRATIVE

DRAWING NO.
C605