

## Riley Purgatory Bluff Creek Watershed District Permit Application Review

**Permit No:** 2023-038

**Considered at Board of Managers Meeting:** September 13, 2023

**Received complete:** August 16, 2023

**Applicant:** Mister Carwash, Prabhs Matharoo

**Representative:** ISG Inc., Andrea Rand

**Project:** The applicant proposes the construction of a car wash facility and associated site improvements including grading, curb and gutter, pavement surfacing, and utility services in Eden Prairie, MN. The project includes an underground stormwater management facility with on-site irrigation, a Jellyfish filter, and Contech stormfilter to provide volume control, water quality, and rate control.

**Location:** 8340 Crystal View Road, Eden Prairie, MN, 55344

**Reviewer:** Annie Brunton, EIT; 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 September 13, 2023 meeting of the managers:

Resolved that the application for Permit 2023-038 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 2023-038 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
A	Procedural Requirements	See comment.	See rule-specific permit condition A1 related to demonstrating permission to work on private property.
C	Erosion Control Plan	See comment	See rule-specific permit condition C1 related to identifying erosion prevention on the erosion control plan.
J	Stormwater Management	Rate	Yes
		Volume	Yes
		Water Quality	Yes
		Low Floor Elev.	Yes

Rule	Issue	Conforms to RBPCWD Rules?	Comments
	Maintenance	See comment	See rule-specific permit condition J1 related to recordation of stormwater facilities maintenance declaration.
	Chloride Management	See comment	See stipulation #3 related to providing an executed chloride management plan prior to permit close-out.
	Wetland Protection	Yes	
<b>L</b>	<b>Permit Fee Deposit</b>	Yes	\$3,000 deposit fee received July 13, 2023. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of September 7, 2023, the amount due is \$3,894.
<b>M</b>	<b>Financial Assurance</b>	See Comment	See rule-specific permit condition M1 related to including all project information in the opinion of probable cost. The financial assurance is calculated at \$247,266

**Background**

The proposed redevelopment will include the demolition of the existing parking lot for the construction of a new Mister Carwash and onsite parking areas in Eden Prairie, Minnesota. The applicant proposes to use an underground stormwater management facility with on-site irrigation, a Jellyfish filter, and Contech Stormfilter to provide water quality treatment, rate control, and volume abstraction.

The project site information is summarized in Table 1.

**Table 1. Project site information**

Site Information	Project Area
Total Site Area (acres)	1.23
Existing Site Impervious Area (acres)	0.65
Post Construction Site Impervious (acres)	0.77
New (increase) in Site Impervious Area (acres)	0.12
Percent increase in Impervious Surface	18%
Disturbed Site Impervious Area (acres)	0.65
Percent Disturbance of Existing Impervious Surface	100%
Total Disturbed Area (acres)	1.07

**Exhibits:**

1. Permit application dated June 19, 2023 (Notified applicant on July 7, 2023 and July 27, 2023 that submittal was incomplete, revised materials completing the application received August 16, 2023)
2. Project Civil Plan set dated June 19, 2023 (revised August 16, 2023 and September 6, 2023)
3. Stormwater Report dated June 19, 2023 (revised August 14, 2023 and September 6, 2023)
4. Existing and Proposed electronic HydroCAD Model received August 16, 2023

5. Review Responses dated August 16, 2023 (the applicant's responses to the July 27th incomplete notice/review comments)
6. Review Responses dated September 6, 2023
7. Engineer's Estimate of Probable Construction Cost spreadsheet received August 16, 2023 (revised September 6, 2023)
8. Existing and Proposed MIDS Model results report received June 19, 2023 (revised August 16, 2023 and September 6, 2023)
9. Existing and Proposed HydroCAD Model results report received June 19, 2023 (revised September 6, 2023)
10. Geotechnical report by Partner Assessment Corporation dated February 16, 2023, received August 16, 2023
11. Geotechnical report addendum Partner Assessment Corporation dated April 14, 2023, received August 16, 2023

### **Rule Specific Permit Conditions**

#### **Rule A: Procedural Requirements**

The work at is proposed on property currently owner by Burger King Corp. Mister Car Wash will close on the property after milestones are met in their Purchase Agreement with Burger King Corp. To conform to RPBCWD Rule A requirements, the following revisions are needed:

- A1. A complete permit application includes all required information, exhibits, and fees and must be authorized by all property owners (Rule A, Subsection 2.3). Please provide written documentation demonstrating the necessary property rights to perform the proposed work.

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

Because the project will involve the alteration of 1.07 acres of land-surface area or vegetation, the project must conform to the erosion prevention and sediment control requirements established in Rule C.

The erosion control plan prepared by ISG Inc. includes installation of perimeter control (silt fence or sediment control logs), a stabilized rock construction entrance, inlet protection, weekly inspection, staging areas, placement of a minimum of 6 inches of topsoil (at 5% organic matter), and decompaction of areas compacted during construction. To conform to RPBCWD Rule C requirements, the following revisions are needed:

- C1. The Applicant must provide an erosion control plan that clearly identifies all locations with temporary erosion prevention measures including slope stabilization.

## Rule J: Stormwater Management

Because the project will disturb 1.07 acres of land-surface area, the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.1). The criteria listed in Subsection 3.1 will apply to the entire project site because the site activity will disturb more than 50 percent of the existing impervious surface on the parcel (Rule J, Subsection 2.3).

The applicant is proposing construction of an underground stormwater management facility for water storage for on-site irrigation to provide the rate control and volume abstraction for the disturbed and replaced impervious area. Water quality treatment and pretreatment for runoff entering the underground stormwater management facility is being provided by a Jellyfish proprietary cartridge system and Contech Stormfilter.

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

**Table 2. 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
East to Flying Cloud Dr	0.2	<0.1	0.3	0.1	0.5	0.2	<0.1	<0.1
South to Prairie Center Dr	3.3	3.3	5.5	5.4	9.5	9.4	0.2	0.2
West to Crystal View Rd	0.7	0.4	1.2	0.8	2.2	1.5	<0.1	<0.1

### Volume Abstraction

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from the impervious surface of the parcel. An abstraction volume of 3,075 cubic feet is required from the 0.77 acres of regulated impervious area. Soil borings performed by American Engineering Testing, Inc. show that soils in the project area are clayey and fill. Hydraulic conductivity testing revealed infiltration rates of 0.0 in/hr

beneath the proposed stormwater management features, indicating that infiltration is not feasible on this site. Because of the low in-situ infiltration measurements, the site is considered restricted.

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.

Based on the measured hydraulic conductivity testing results, the applicant is proposing rainwater harvesting and irrigation of available green space to provide volume abstraction. The abstraction volume provided by the irrigation is 0.18 inches from all regulated impervious area, and the RPBCWD engineer determines that this is the maximum extent practicable for the site, thus complying with Rule J, Subsection 3.3.b. The designed abstraction performance for the project site is summarized in the table below.

**Table 4. Volume Abstraction Summary**

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
0.55	1,537	0.18	503

Because the proposed stormwater reuse system requires consistent use at a specified rate (1.11 in/week) over the 0.29 acres of green space to meet District requirements, performance monitoring for the site will be required to ensure that the project provides the proposed volume abstraction.

Plans indicate pretreatment for runoff entering the subsurface stormwater management facilities and rainwater harvesting system is being provided by a Jellyfish filter and Contech Stormfilter, thus the proposed project conforms with RPBCWD Rule J, Subsection 3.1b.1.

**Water Quality Management**

Subsection 3.1.c of Rule J requires the Applicant to provide volume abstraction in accordance with 3.1b or least 60 percent annual removal efficiency for total phosphorus (TP), and at least 90 percent annual removal efficiency for total suspended solids (TSS) from site runoff, and no net increase in TSS or TP loading leaving the site from existing conditions. The Applicant is proposing to use an underground stormwater management facility with an irrigation system, a Jellyfish Filter, and a Contech Stormfilter (with PhosphoSorb Media cartridges) to achieve the required TP and TSS removals. The MIDS modeling results of

runoff from impervious areas of the site summarized in tables below show the annual TSS and TP removal requirement is achieved and that there is no net increase in TSS and TP leaving the site.

**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)	268	241 (90%)	242 (90%)
Total Phosphorus (TP)	1.48	0.89 (60%)	0.98 (66%)

**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)	219	26	-193
Total Phosphorus (TP)	1.2	0.5	-0.7

**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. The lowest elevation of the nearest building and the 100-year event flood elevation in the proposed underground system is summarized below. The RPBCWD Engineer concurs that the proposed project is in conformance with Rule J, Subsection 3.6.

Location	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation (feet)	Freeboard (feet)
Underground stormwater management facility	850.17	839.55	10.62

**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. The following revisions are needed:

- J1. Permit applicant must submit a draft maintenance and inspection declaration to incorporate the facilities proposed under this application, including the appropriate permit number, pre-treatment facilities, reuse system, underground stormwater management facility, and propriety stormwater device with (PhosphoSorb Media cartridges). A maintenance declaration template is available on the permits page of the RPBCWD website. (<http://www.rpbcwd.org/permits/>). A draft declaration must be provided for District review and approval prior to recording.

**Chloride Management**

Subsection 3.8 of Rule J requires the submission of chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator

engaged in implementing the plan. To close out the permit and release the \$5,000 in financial assurance held for the purpose of chloride management, 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.

**Wetland Protection**

Because runoff from this site is directly tributary to a downstream stormwater pond, Rule J, subsection 3.10. does not impose requirements on the proposed project.

**Rule L: Permit Fee**

The RPBCWD permit fee schedule requires permit applicants to submit a permit-fee deposit of \$3,000 to be held in escrow and applied to reimburse RPBCWD for the permit-application processing fee and permit review and inspection-related costs. When a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. A permit fee deposit of \$3,000 was received on behalf of Mister Carwash on July 13, 2023. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. Subsequently, if the costs of review, administration, inspections and closeout-related or other regulatory activities exceed the fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice that such deposit is due. The administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished.

- L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. The amount needed to replenish the permit fee deposit is \$3,894 as of September 7, 2023.

**Rule M: Financial Assurance**

	Unit	Unit Cost	# of Units	Total
Rules C: Silt fence:	LF	\$2.50	1200	\$3,000
Inlet protection	EA	\$100	6	\$600
Rock Entrance	EA	\$250	1	\$250
Restoration	Ac	\$2,500	1.07	\$2,675
Rules J: Chloride Management	LS	\$5,000	1	\$5,000
Rules J: Stormwater Management: 125% of engineer’s opinion of cost (\$170,610*1.25)	EA	125% OPC	1	\$213,263
Contingency (10%)		10%		\$22,479
<b>Total Financial Assurance</b>				<b>\$247,266</b>

### **Applicable General Requirements:**

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction shall be consistent with the plans and specifications approved by the District as a part of the permitting process. The date of the approved plans and specifications is listed on the permit.
3. 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.
4. The grant of the permit will not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
5. The issuance of this permit will not convey any rights to either real or personal property, or any exclusive privileges, nor will it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
6. 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.
7. RPBCWD's determination to approve the permit application 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.
8. 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 A, C and J if the Rule Specific Permit Conditions listed above are met.

### **Recommendation:**

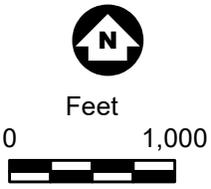
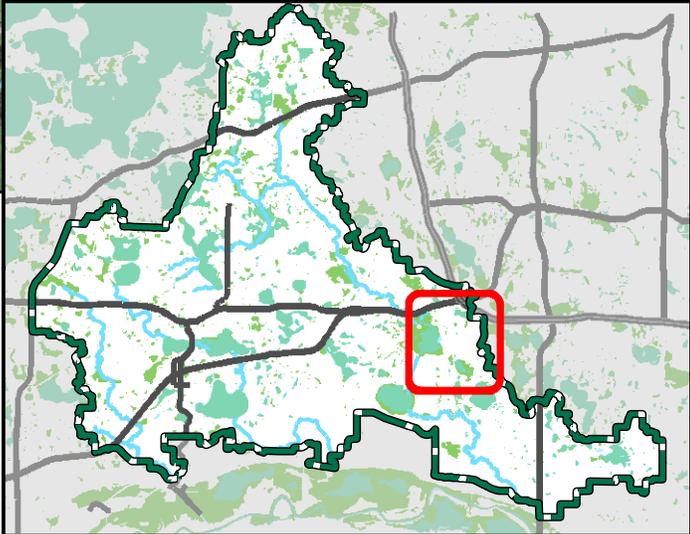
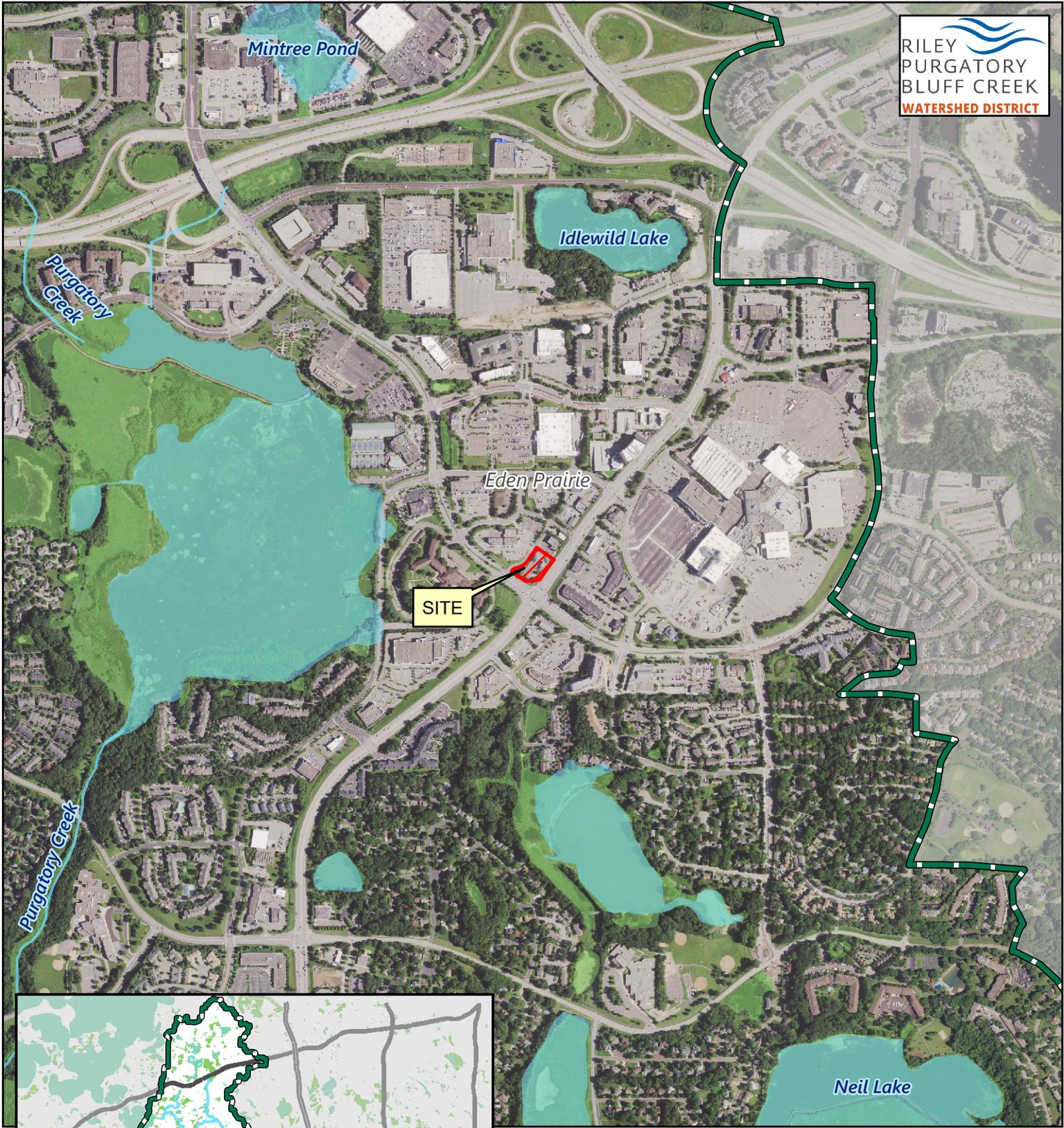
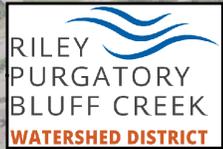
Approval of the permit contingent upon:

1. Financial Assurance in the amount of \$247,266.
2. The applicant providing written documentation demonstrating the necessary property rights and permissions to perform the proposed work.

3. Permit applicant must provide the name and contact information of the general contractor responsible for the site. RPBCWD must be notified if the responsible party changes during the permit term.
4. Permit applicant must submit a draft maintenance and inspection declaration to incorporate the facilities proposed under this application, including the appropriate permit number, pre-treatment facilities, reuse system, underground stormwater management facility, and proprietary stormwater device (with PhosphoSorb Media cartridges). The agreement must also include a stormwater reuse monitoring and reporting plan that includes protection of the greenspace to be irrigated and metering of the volume of reuse, as well as maintenance specifics provided by the manufacturer(s) or installer(s) for the proprietary system and be consistent with the MPCA's manufactured treatment device maintenance provisions in the MN Stormwater Manual. The draft agreement must be reviewed and approved by RPBCWD prior to execution as a condition of issuance of the permit.
5. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. The amount needed to replenish the permit fee deposit is \$3,894 as of September 7, 2023.

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

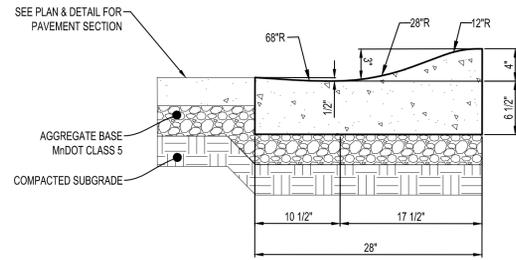
1. Continued compliance with General Requirements.
2. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization the stormwater management facilities conforms to design specifications and functions as 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. To close out the permit and release the \$5,000 in financial assurance held for the purpose of the chloride management, the permit applicant must provide an executed 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.



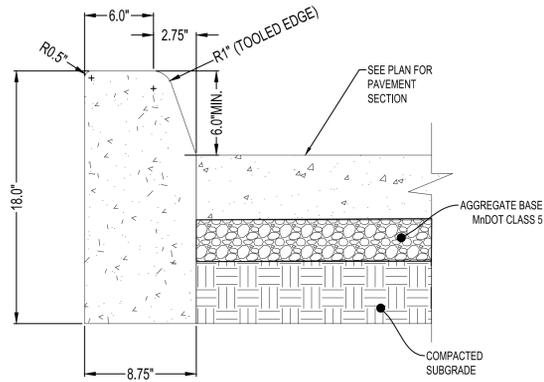
Permit Location Map

**MISTER CAR WASH**  
**Permit 2023-038**  
Riley Purgatory Bluff Creek  
Watershed District

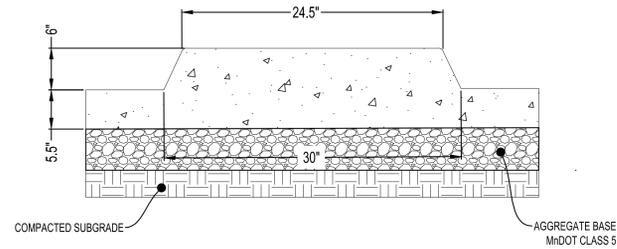




**ROLLED CURB**  
NTS

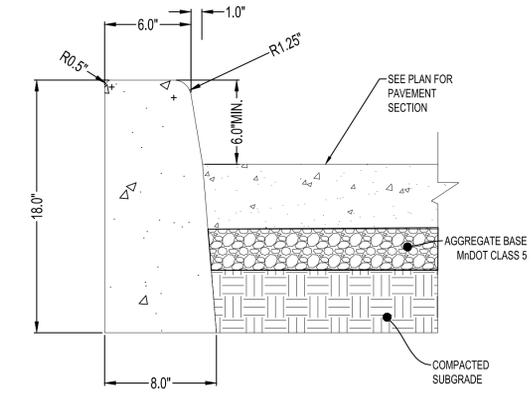
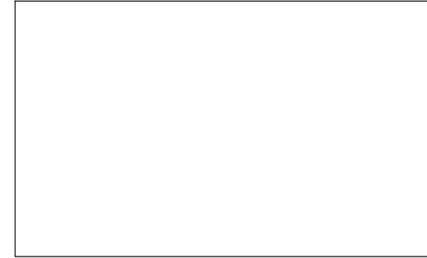


**CONCRETE TAPERED CURB**  
NTS



**POS ISLAND CURB DETAIL**  
NTS

FOR CITY ADMINISTRATIVE USE ONLY:



**CONCRETE VERTICAL CURB**  
NTS



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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.

DATE: \_\_\_\_\_ LIC. NO. \_\_\_\_\_

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PROJECT

**MISTER CAR WASH**  
**EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

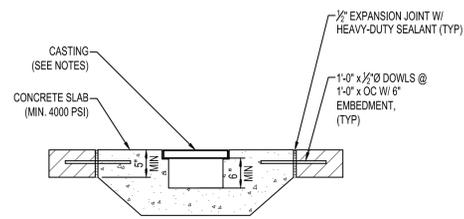
ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
06/28/23	CITY SUBMITTAL 2	JAT
08/03/23	CITY SUBMITTAL 3	JAT
09/06/23	CITY SUBMITTAL 4	JAT

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO. 22-27847  
FILE NAME 27847 CO-DETAILS  
DRAWN BY JAT  
DESIGNED BY JAT  
REVIEWED BY ART

TITLE  
**DETAILS**

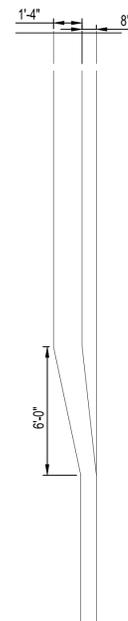
SHEET  
**C020**



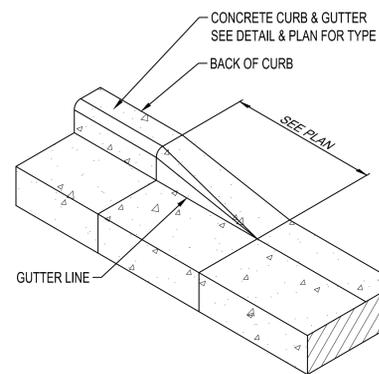
**NOTES:**

- CASTING = NEENAH R-4990-CX
- GRATE = TYPE C

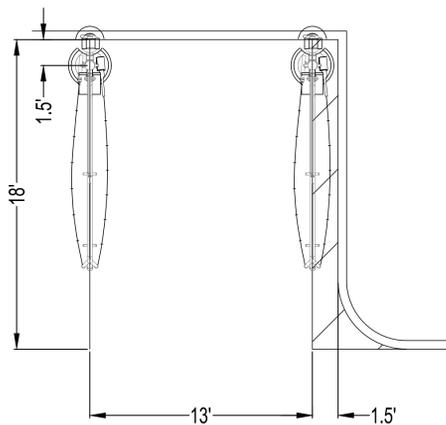
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NTS



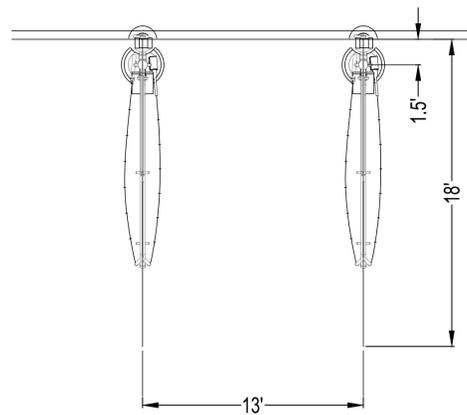
**TAPERED/ VERTICAL CURB TRANSITION TO ROLLED CURB**  
NTS



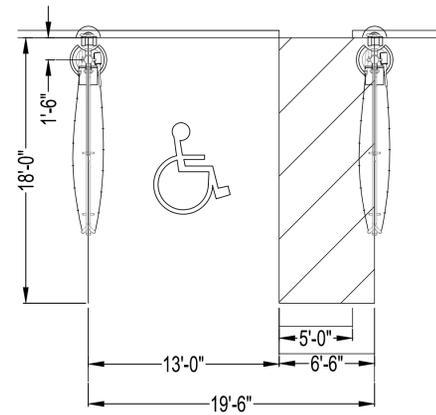
**CURB TAPER**  
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**VACUUM STALL WITH CURB**  
NTS



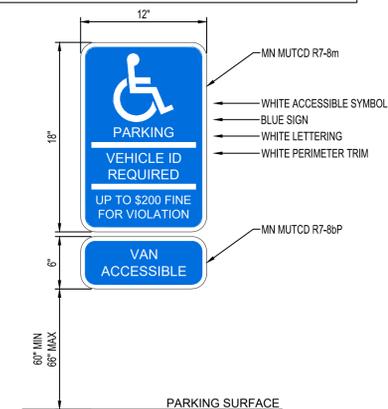
**VACUUM STALL TYP.**  
NTS



NOTE: ALL STRIPING TO BE 4" WIDE AND COLOR WHITE

**ADA PARKING STALL & ADJ. ACCESS AISLE**  
NTS

FOR CITY ADMINISTRATIVE USE ONLY:



**ACCESSIBLE PARKING SIGN**  
NTS

NOTES:

ACCESSIBLE PARKING STALL SIGN TO BE MOUNTED AT THE HEIGHT SHOWN. SIGN SHALL COMPLY WITH MINNESOTA STATUTES, SECTION 169.346, SUBDIVISION 2, PARAGRAPH (a). SIGN TO BE CENTERED ON PARKING STALL



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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.

DATE: \_\_\_\_\_ LIC. NO. \_\_\_\_\_

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PROJECT

**MISTER CAR WASH**  
**EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
06/28/23	CITY SUBMITTAL 2	JAT
08/03/23	CITY SUBMITTAL 3	JAT
09/06/23	CITY SUBMITTAL 4	JAT

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

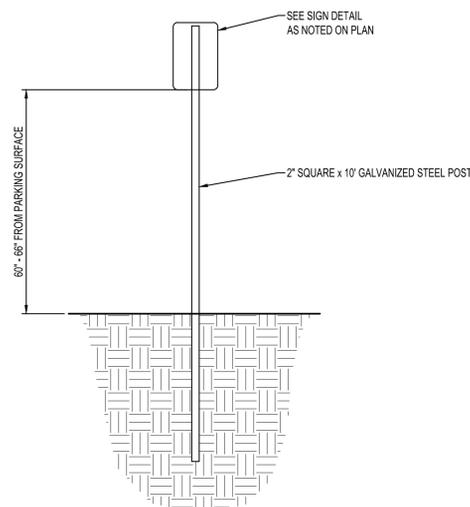
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FILE NAME	27847 CO-DETAILS
DRAWN BY	JAT
DESIGNED BY	JAT
REVIEWED BY	ART

TITLE

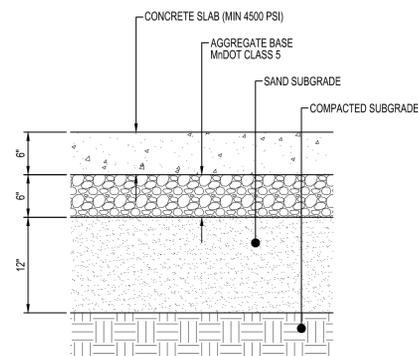
**DETAILS**

SHEET

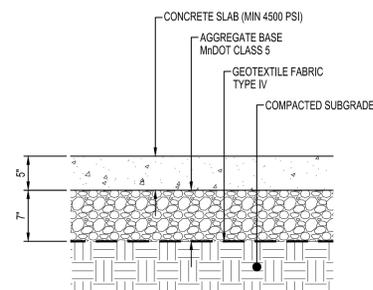
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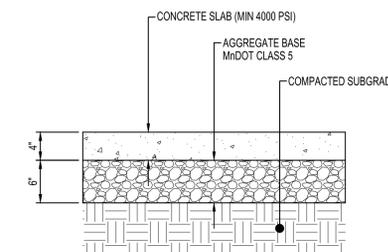
**SIGN POST**  
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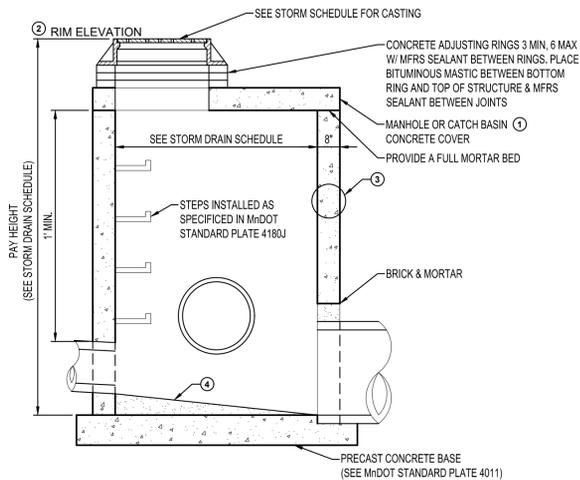
**STANDARD CONCRETE PAVEMENT**  
NTS



**HEAVY DUTY CONCRETE PAVEMENT**  
NTS



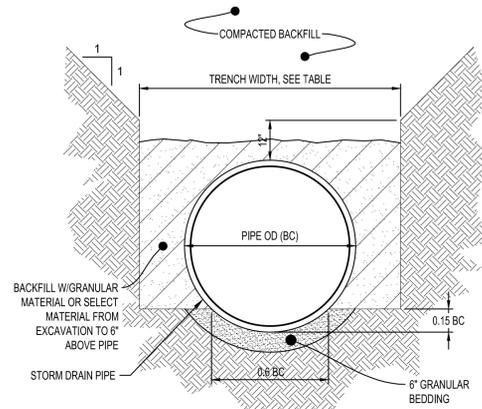
**CONCRETE SIDEWALK**  
NTS



**NOTES:**

- ① WHEN USED AS A CATCH BASIN AND REQUIRING A RECTANGULAR OPENING, USE 4022 CONCRETE COVER.
- ② WHEN REFERRING TO A CURB CATCH BASIN, USE TOP BACK OF CURB ELEVATION.
- ③ WALL CONSTRUCTION MAY BE: CLASS II PRECAST PIPE (MnDOT STANDARD PLATE 3000); CAST IN PLACE CONCRETE MEETING THE REQUIREMENTS OF CLASS II PIPE; OR MASONRY CONSTRUCTION, BRICK OR BLOCK (MnDOT STANDARD PLATE 4000).
- ④ PROVIDE MORTAR FILLETS TO FIT BOTTOM PORTIONS OF PIPE TO DIRECT FLOW TO OUTLET.

**4020  
MANHOLE OR CATCH BASIN**  
NTS

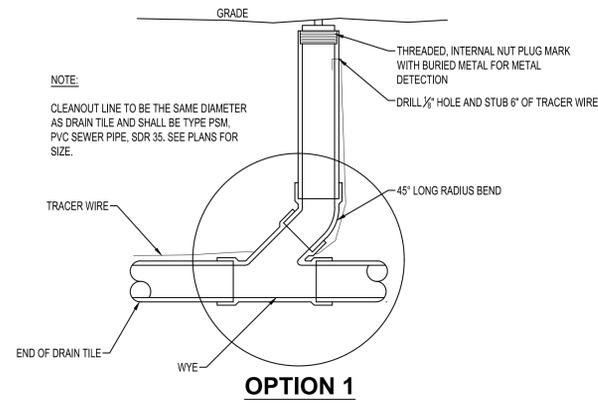


PIPE Ø	TRENCH WIDTH
36" OR LESS	BC + 24"
42" TO 54"	1.5 x BC
60" OR OVER	BC + 36"

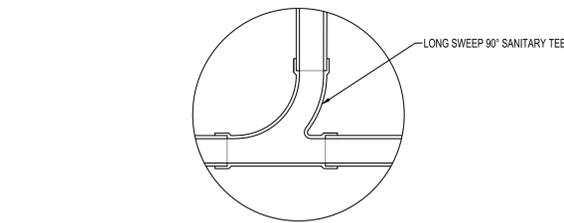
**NOTES:**

- ① GRANULAR BEDDING AND BACKFILL FOR STORM DRAIN PIPES SHALL BE INCIDENTAL TO STORM DRAIN CONSTRUCTION

**NON-CONCRETE  
STORM DRAIN PIPE BEDDING**  
NTS



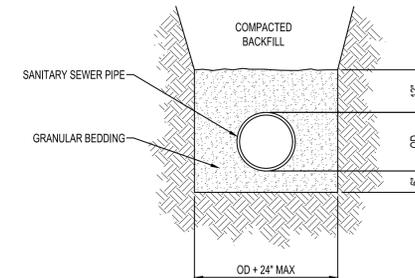
**OPTION 1**



**OPTION 2**

**SANITARY CLEANOUT**  
NTS

**FOR CITY ADMINISTRATIVE USE ONLY:**



**NOTES:**

- ① GRANULAR BEDDING AND ENCASEMENT FOR SANITARY SEWER PIPES SHALL BE INCIDENTAL TO CONSTRUCTION

**PIPE BEDDING  
SANITARY SEWER**  
NTS



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DATE: \_\_\_\_\_ LIC. NO. \_\_\_\_\_

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PROJECT

**MISTER CAR  
WASH  
EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

DATE	ISSUE SCHEDULE DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
06/28/23	CITY SUBMITTAL 2	JAT
08/03/23	CITY SUBMITTAL 3	JAT
09/06/23	CITY SUBMITTAL 4	JAT

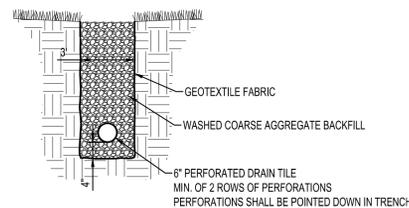
DATE	REVISION SCHEDULE DESCRIPTION	BY

PROJECT NO. 22-27847  
FILE NAME 27847 CO-DETAILS  
DRAWN BY JAT  
DESIGNED BY JAT  
REVIEWED BY ART

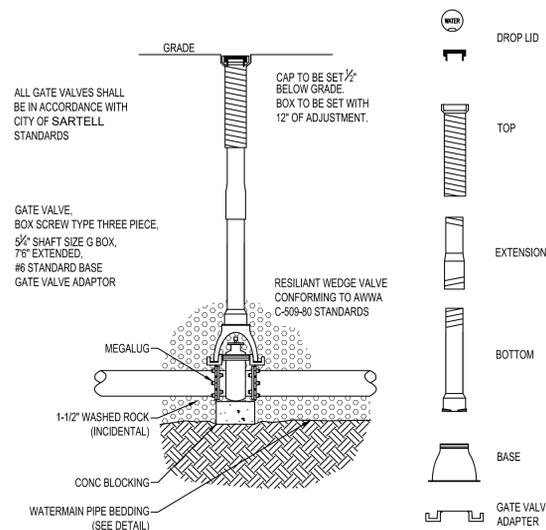
TITLE

**DETAILS**

SHEET  
**C023**



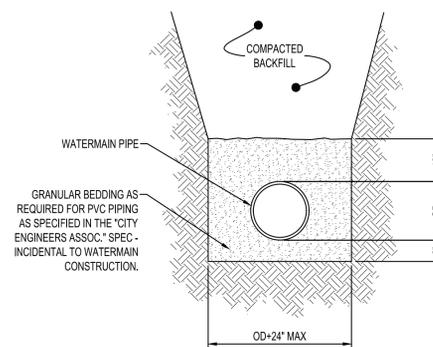
**FRENCH DRAIN DETAIL**  
NTS



**NOTES:**

- ① INSTALL TOP NUT EXTENDER TO 7" DEPTH ON ALL VALVES WITH OVER-DEPTH

**TYPICAL  
GATE VALVE & BOX INSTALLATION**  
NTS

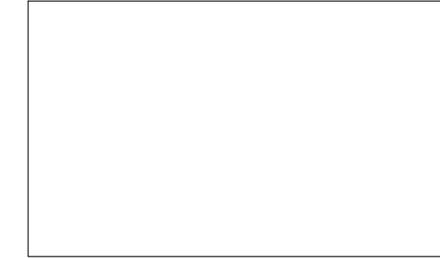


**NOTE:**

- ① GRANULAR BEDDING AND ENCASEMENT FOR WATERMAIN PIPES SHALL BE INCIDENTAL TO CONSTRUCTION

**PIPE BEDDING  
WATER MAIN**  
NTS

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PROJECT

**MISTER CAR WASH**

**EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
06/28/23	CITY SUBMITTAL 2	JAT
08/03/23	CITY SUBMITTAL 3	JAT
09/06/23	CITY SUBMITTAL 4	JAT

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

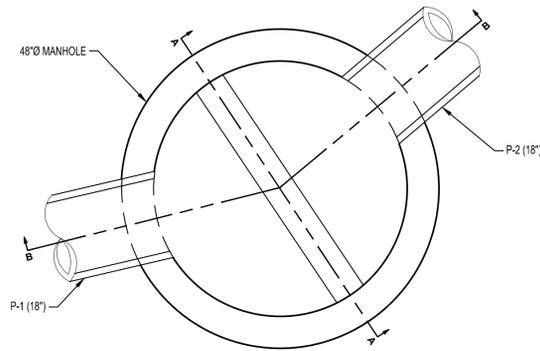
PROJECT NO.	22-27847
FILE NAME	27847 CO-DETAILS
DRAWN BY	JAT
DESIGNED BY	JAT
REVIEWED BY	ART

TITLE

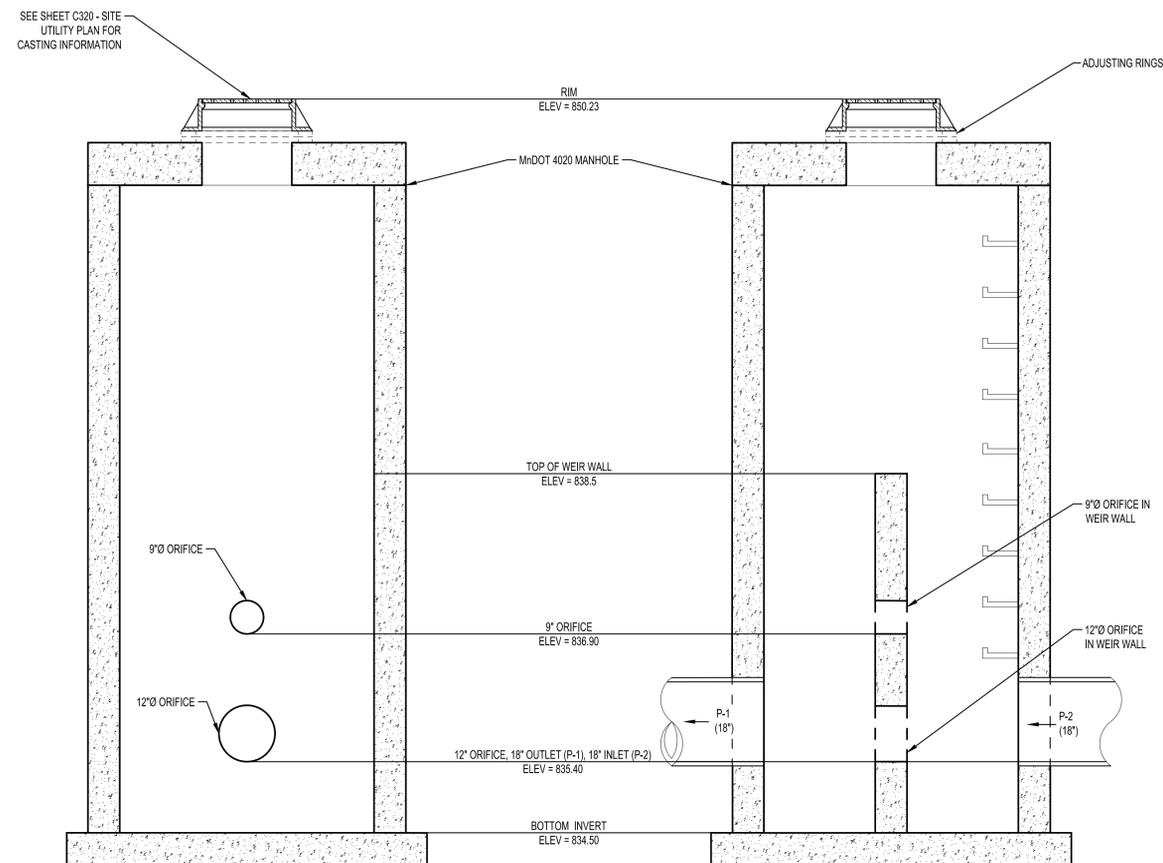
**DETAILS**

SHEET

**C024**



**PLAN**



**SECTION A-A**

**SECTION B-B**

SEE SHEET C320 - SITE UTILITY PLAN FOR CASTING INFORMATION

**OUTLET STRUCTURE (ST-1)**  
NTS

**PROJECT SUMMARY**

**CALCULATION DETAILS**

- LOADING = HS20+10
- APPROX. LINEAR FOOTAGE = 30 LF

**STORAGE SUMMARY**

- STORAGE VOLUME REQUIRED = 1,800 CF
- PIPE STORAGE VOLUME = 1,810 CF
- BACKFILL STORAGE VOLUME = 0 CF
- TOTAL STORAGE PROVIDED = 1,810 CF

**PIPE DETAILS**

- DIAMETER = 48"
- CORRUPTION = 541
- GAGE = 16
- COATING = ALZ
- WALL TYPE = SOLID
- BARREL SPACING = 36"

**BACKFILL DETAILS**

- WIDTH AT ENDS = 12"
- ABOVE PIPE = 0"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 0"



ASSEMBLY SCALE: 1" = 10'

**NOTES**

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A996.
- ALL RISERS AND STUBS ARE 2 1/2" x 1/2" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD FINISHED TO GRADE.
- QUANTITY OF FREE HOLES DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE DRAINAGE STRUCTURES. OUR SYSTEM AS DETAIL PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN. QUANTITIES ARE APPROX AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

DATE	REVISION DESCRIPTION	BY

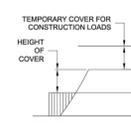
**CONTECH ENGINEERED SOLUTIONS LLC**  
 9025 Centre Pointe Dr., Suite 400, West Chester, OH 45399  
 503-338-1122 513-645-7000 513-645-7983 FAX

**CONTECH CMP DETENTION SYSTEMS**  
 CONTECH DYODS DRAWING

DYO36348 Mister Car Wash Eden Prairie Stormwater Reuse Cistern Eden Prairie, MN DETENTION SYSTEM

PROJECT NO.	REQ. NO.	DATE
24887	3034	8/1/2023
DESIGNED BY	DRAWN BY	
CHECKED BY	APPROVED BY	
SHEET NO.		1

**CONSTRUCTION LOADING DIAGRAM**



FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT OF COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-102	3.0	3.5	4.0	4.5
106-144	3.5	4.0	4.5	4.5

MINIMUM COVER MAY VARY DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

**CONSTRUCTION LOADING DIAGRAM**

SCALE: N.T.S.

**SPECIFICATION FOR DESIGNED DETENTION SYSTEM**

- SCOPE: THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.
- MATERIAL: THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW.
- ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-274 OR ASTM A-42.
- THE GALVANIZED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.
- THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-191 OR ASTM B-744.
- CONSTRUCTION LOADS: CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NSCPA GUIDELINES.

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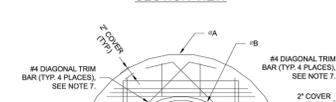
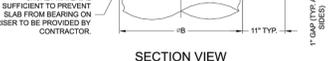
**CONTECH CMP DETENTION SYSTEMS**  
 CONTECH DYODS DRAWING

DYO36348 Mister Car Wash Eden Prairie Stormwater Reuse Cistern Eden Prairie, MN DETENTION SYSTEM

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SHEET NO.		1



RISER	REINFORCING		BEARING PRESSURE (PSF)
	A	B	
24"	4" x 4"	20"	85 @ 12" OC EW 1,780
30"	4" x 4"	32"	85 @ 12" OC EW 1,210
36"	4" x 4"	36"	85 @ 12" OC EW 1,350
42"	4" x 4"	44"	85 @ 12" OC EW 1,210
48"	4" x 4"	50"	85 @ 12" OC EW 1,100



NOTES:  
 1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.  
 2. DESIGN LOAD HERE.  
 3. EARTH COVER = 1' MAX.  
 4. CONCRETE REINFORCEMENT = 3,500 psi  
 5. REINFORCING STEEL = ASTM A615, GRADE 60.  
 6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.  
 7. TRIM OPENING WITH DIAGONAL #4 BARS. EXTEND BARS A MINIMUM OF 12" BEYOND OPENING. BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.  
 8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.  
 9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL SCALE: N.T.S.

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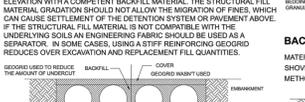
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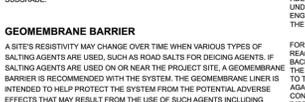
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**CMP DETENTION INSTALLATION GUIDE**  
 PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

**FOUNDATION**  
 CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADS APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.  
 IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPACTED BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADE SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE.  
 IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOTEXTILE REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.



**GEOMEMBRANE BARRIER**  
 A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.  
 THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. BELOW IS A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.



**CONSTRUCTION LOADING**  
 TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS. INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB. IT IS BEST TO ADDRESS EXCESSIVE TEMPORARY MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.



PROJECT NO.	REQ. NO.	DATE
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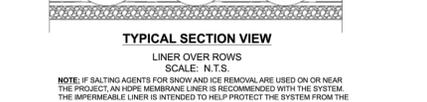
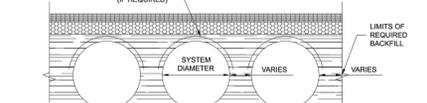
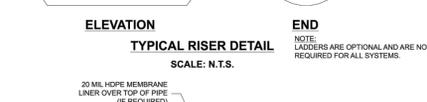
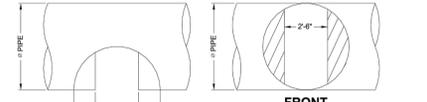
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**CONTECH CMP DETENTION SYSTEMS**  
 CONTECH DYODS DRAWING

DYO36348 Mister Car Wash Eden Prairie Stormwater Reuse Cistern Eden Prairie, MN DETENTION SYSTEM

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**FOR CITY ADMINISTRATIVE USE ONLY:**



NOTE: IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, AN IMPERMEABLE LINER IS RECOMMENDED WITH THE SYSTEM. THE IMPERMEABLE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

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PROJECT: \_\_\_\_\_

**MISTER CAR WASH EDEN PRAIRIE**

DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
06/28/23	CITY SUBMITTAL 2	JAT
08/03/23	CITY SUBMITTAL 3	JAT
09/06/23	CITY SUBMITTAL 4	JAT

DATE	DESCRIPTION	BY

PROJECT NO. 22-27847  
 FILE NAME 27847 CO-DETAILS  
 DRAWN BY JAT  
 DESIGNED BY JAT  
 REVIEWED BY ART

**DETAILS**

SHEET C025



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PROJECT

# MISTER CAR WASH EDEN PRAIRIE

EDEN PRAIRIE MINNESOTA

ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
06/28/23	CITY SUBMITTAL 2	JAT
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REVISION SCHEDULE		
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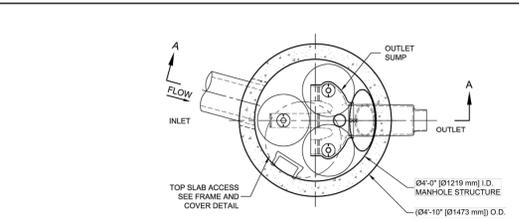
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## DETAILS

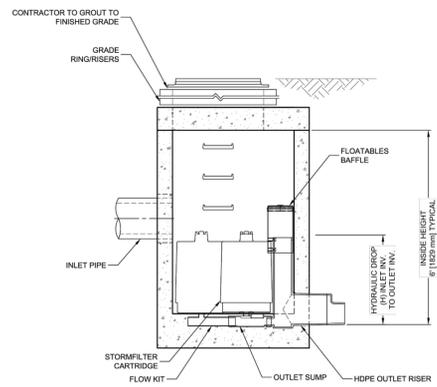
SHEET

# C026

PRELIMINARY NOT FOR CONSTRUCTION



PLAN VIEW  
STANDARD OUTLET RISER  
FLOWKIT: 40A



SECTION A-A



**STORMFILTER DESIGN NOTES**

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (1). VOLUME SYSTEM IS ALSO AVAILABLE WITH MAXIMUM 3 CARTRIDGES. 04 (1219 mm) MANHOLE STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.0 CFS (28.3 L/s). IF THE SITE CONDITIONS EXCEED 1.0 CFS (28.3 L/s) AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION	27" (686 mm)	18" (457 mm)	LOW DROP
CARTRIDGE HEIGHT	3.05' (930 mm)	2.3' (700 mm)	1.8' (550 mm)
RECOMMENDED HYDRAULIC DROP (ft)	2.11 (30)	1.87 (1.08)	1.0 (65)
SPECIFIC FLOW RATE (gpm/ft <sup>2</sup> L/min/ft <sup>2</sup> )	22.5 (1.42)	18.79 (1.19)	11.25 (0.71)
CARTRIDGE FLOW RATE (gpm) (L/s)	19 (0.95)	12.53 (0.79)	7.5 (0.44)
	10 (0.53)	8.35 (0.54)	5 (0.32)

\* 1.67 gpm/ft<sup>2</sup> (1.08 L/min/ft<sup>2</sup>) SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY



FRAME AND COVER  
(DIAMETER VARIES)  
N.T.S.

**SITE SPECIFIC DATA REQUIREMENTS**

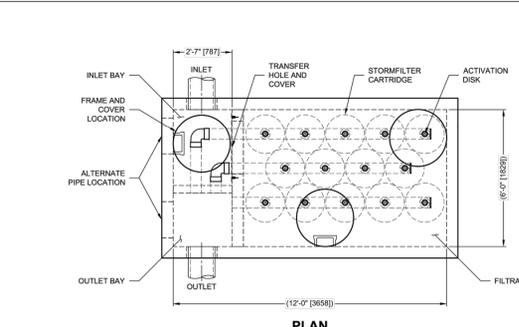
STRUCTURE ID	ST-8
WATER QUALITY FLOW RATE (cfs) (L/s)	0.15
PEAK FLOW RATE (cfs) (L/s)	
RETURN PERIOD OF PEAK FLOW (yrs)	
CARTRIDGE HEIGHT (SEE TABLE ABOVE)	
NUMBER OF CARTRIDGES REQUIRED	1/1
CARTRIDGE FLOW RATE	54"
MEDIA TYPE (PERLITE, ZPG, PSORB)	
PIPE DATA: I.E. MATERIAL DIAMETER	
INLET PIPE #1	843.38 RCP 12"
INLET PIPE #2	
OUTLET PIPE	842.88 RCP 15"
RIM ELEVATION	848.28
ANTI-FLOTATION BALLAST	WIDTH HEIGHT
	NA NA

NOTES/SPECIAL REQUIREMENTS:  
\* PER ENGINEER OF RECORD

- GENERAL NOTES**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - DIMENSIONS MARKED WITH (1) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
  - FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.conteches.com](http://www.conteches.com)
  - STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
  - STRUCTURE SHALL MEET AASHTO H-20 LOAD RATING, ASSUMING EARTH COVER OF 0'-0" (1524 mm) AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M596 AND BE CAST WITH THE CONTECH LOGO.
  - FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES (178 mm). FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
  - SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) (L/s) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft) (sq m).
  - STORMFILTER STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
  - CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLY STRUCTURE.
  - CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPES.
  - CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HOPE OUTLET STUB AND SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 8 INCHES (200 mm), CONTRACTOR TO REMOVE THE 8 INCH (200 mm) OUTLET STUB AT MOLDED-IN CUT LINE. COUPLING BY FERROD OR EQUAL AND PROVIDED BY CONTRACTOR.
  - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.



SFMH48  
STORMFILTER  
STANDARD DETAIL



PLAN

**STORMFILTER DESIGN NOTES**

STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCALLY APPROVED SURFACE AREA SPECIFIC FLOW RATE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.

A 6' x 12' (1829 x 3668) PEAK DIVERSION STYLE STORMFILTER IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (14) AND IS AVAILABLE IN A LEFT INLET (AS SHOWN) OR A RIGHT INLET CONFIGURATION.

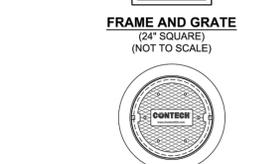
ALL PARTS AND INTERNAL ASSEMBLY PROVIDED BY CONTECH UNLESS NOTED OTHERWISE.

CARTRIDGE SIZE (in. (mm))	27 (686)	18 (457)	LOW DROP
RECOMMENDED HYDRAULIC DROP (ft. (mm))	3.05 (930)	2.3 (701)	1.8 (549)
HEIGHT OF WEIR (ft. (mm))	3.00 (914)	2.25 (686)	1.75 (533)
SPECIFIC FLOW RATE (gpm/ft <sup>2</sup> L/min/ft <sup>2</sup> )	21.36	14.97 (1.13)	1.0 (65)
	11.87 (1.08)	1.0 (65)	2.11 (30)
CARTRIDGE FLOW RATE (gpm) (L/s)	22.5 (1.42)	18.79 (1.19)	11.25 (0.71)
	19 (0.95)	12.53 (0.79)	7.5 (0.44)
	10 (0.53)	8.35 (0.54)	5 (0.32)

\* 1.67 gpm/ft<sup>2</sup> (1.13 L/min/ft<sup>2</sup>) SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY



FRAME AND GRATE  
(NOT TO SCALE)



FRAME AND COVER  
(30" ROUND)  
(NOT TO SCALE)

**SITE SPECIFIC DATA REQUIREMENTS**

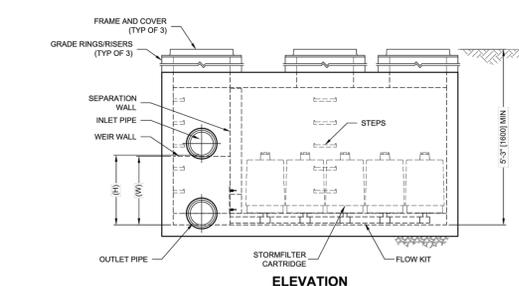
STRUCTURE ID	StormFilter
WATER QUALITY FLOW RATE (cfs) (L/s)	0.41
PEAK FLOW RATE (cfs) (L/s)	
RETURN PERIOD OF PEAK FLOW (yrs)	
CARTRIDGE FLOW RATE	
CARTRIDGE SIZE (27, 18, LOW DROP (L/D))	18.79 gpm
MEDIA TYPE (PERLITE, ZPG, PSORB)	PSORB
NUMBER OF CARTRIDGES REQUIRED	16 of 27"
INLET BAY RIM ELEVATION	
FILTER BAY RIM ELEVATION	
PIPE DATA: INVERT MATERIAL DIAMETER	
INLET PIPE 1	842.5 RCP 12"
INLET PIPE 2	
OUTLET PIPE	839.5 PVC 12"

NOTES/SPECIAL REQUIREMENTS:

- PERFORMANCE SPECIFICATION**
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 7" (178). FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS. SPECIFIC FLOW RATE SHALL BE 2 GPM/FT<sup>2</sup> (1.36 L/min/ft<sup>2</sup>) (MAXIMUM). SPECIFIC FLOW RATE IS THE MEASURE OF THE FLOW (GPM) DIVIDED BY THE MEDIA SURFACE CONTACT AREA (SF). MEDIA VOLUMETRIC FLOW RATE SHALL BE 4 GPM/FT<sup>2</sup> (3.39 L/min/ft<sup>2</sup>) OF MEDIA (MAXIMUM).
- GENERAL NOTES**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - DIMENSIONS MARKED WITH (1) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
  - ALTERNATE DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
  - FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. [www.conteches.com](http://www.conteches.com)
  - STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
  - STRUCTURE SHALL MEET AASHTO H-20 LOAD RATING, ASSUMING EARTH COVER OF 0'-10" (3048) AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M596 AND BE CAST WITH THE CONTECH LOGO.
- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
  - CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL SECTIONS AND ASSEMBLY STRUCTURE.
  - CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
  - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
  - CONTRACTOR TO REMOVE THE TRANSFER OPENING COVER WHEN THE SYSTEM IS BROUGHT ONLINE.



SFPD0612 (6' x 12')  
PEAK DIVERSION STORMFILTER  
STANDARD DETAIL



ELEVATION



PLOT DATE: 06/02/23 12:20 PM

FOR CITY ADMINISTRATIVE USE ONLY:



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PROFESSIONAL ENGINEER UNDER THE LAWS OF THE  
STATE OF MINNESOTA.

DATE: \_\_\_\_\_ LIC. NO. \_\_\_\_\_

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PROJECT

**MISTER CAR  
WASH  
EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
06/28/23	CITY SUBMITTAL 2	JAT
08/03/23	CITY SUBMITTAL 3	JAT
09/06/23	CITY SUBMITTAL 4	JAT

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-27847
FILE NAME	27847 CO-DETAILS
DRAWN BY	JAT
DESIGNED BY	JAT
REVIEWED BY	ART

TITLE

**CITY DETAILS**

SHEET  
**C027**

**CITY OF EDEN PRAIRIE  
TYPICAL MINIMUM  
ROADWAY SECTION**

ROAD TYPE	RIGHT-OF-WAY (FEET)	ROADWAY WIDTH BACK-TO-BACK (FEET)	ENTRANCE SPACING
RESIDENTIAL 4.5/6	50	28	MINIMUM 150 FEET WITHIN INTERSECTIONS
COLLECTOR 4.5/6	60	32	MINIMUM 150 FEET WITHIN INTERSECTIONS
INDUSTRIAL 4.5/6	70-100	37-52	MINIMUM 150 FEET WITHIN INTERSECTIONS
COMMERCIAL 4.5/6	100 <sup>2</sup>	52	MINIMUM 150 FEET WITHIN INTERSECTIONS
DIVIDED 4.5/6 ROADWAY	110 <sup>2</sup>	28@3 <sup>3</sup>	MINIMUM 600 FEET WITHIN INTERSECTIONS

GENERAL SPECIFICATIONS  
 1. CUL-DE-SAC REQUIREMENTS: ROADWAY RADIUS 39 FEET TO BACK OF CURB  
 2. AT MAJOR INTERSECTIONS INCREASE TO 120 FEET  
 3. FOUR LANE DIVIDED WITH 18 FEET MEDIAN  
 4. FINAL DESIGN DEPENDENT UPON TRAFFIC VOLUME AND SOIL CONDITIONS  
 5. AFTER 1 FREEZE - THAW CYCLE OR SECOND YEAR OR CITY ENGINEERS APPROVAL  
 6. TO BE DETERMINED BY PAVEMENT DESIGN

Rev. 02/07/2023  
DETAIL NO. **R-1**  
CITY OF EDEN PRAIRIE DEPARTMENT OF ENGINEERING

**B612**  
Concrete  
CY/LF LF/CY  
0.0474 21.1

**B618**  
Concrete  
CY/LF LF/CY  
0.0582 17.2

**MOUNTABLE**  
Concrete  
CY/LF LF/CY  
0.0540 18.5

NOTE: 100' EXPANSION JOINT SPACING (TYP)

Rev. 03/16/2022  
DETAIL NO. **R-9**  
CITY OF EDEN PRAIRIE DEPARTMENT OF ENGINEERING

**CONCRETE WALK SECTION**  
NOT TO SCALE

NOTE: CONCRETE WALK SECTION SHALL BE 6" THICK IN DRIVEWAY AREAS, EXCEPT WHEN WALK IS MACHINE LAID. EXPANSION JOINTS SHALL BE REQUIRED ON BOTH SIDES OF DRIVEWAY.

5" MNDOT 2521 CONCRETE MIX DESIGN  
6" AGGREGATE BASE (CL.5)  
NOTE: EXPANSION JOINT SPACING 100'

**BITUMINOUS BIKE/PED SECTION**  
NOT TO SCALE

NOTE: RESTORE ADJACENT AREA AND SEED.  
BITUMINOUS PAVEMENT 2.5" MNDOT SPWEA230B  
8" AGGREGATE BASE (CL.5)

REV 01/16/2019  
DETAIL NO. **R-16**  
CITY OF EDEN PRAIRIE DEPARTMENT OF ENGINEERING

**COMMERCIAL DRIVEWAY ENTRANCE (1 OF 2)**

NOTES:  
FORM CONTRACTION JOINT AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANELS (MAX. AREA OF 64 SQ. FT.)

NOTES:  
FORM CONTRACTION JOINT AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANELS (MAX. AREA OF 64 SQ. FT.)

REV 02/01/2016  
DETAIL NO. **R-14**  
CITY OF EDEN PRAIRIE DEPARTMENT OF ENGINEERING

PRELIMINARY NOT FOR CONSTRUCTION

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STATE OF MINNESOTA.

DATE: \_\_\_\_\_ LIC. NO. \_\_\_\_\_

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PROJECT

**MISTER CAR  
WASH  
EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

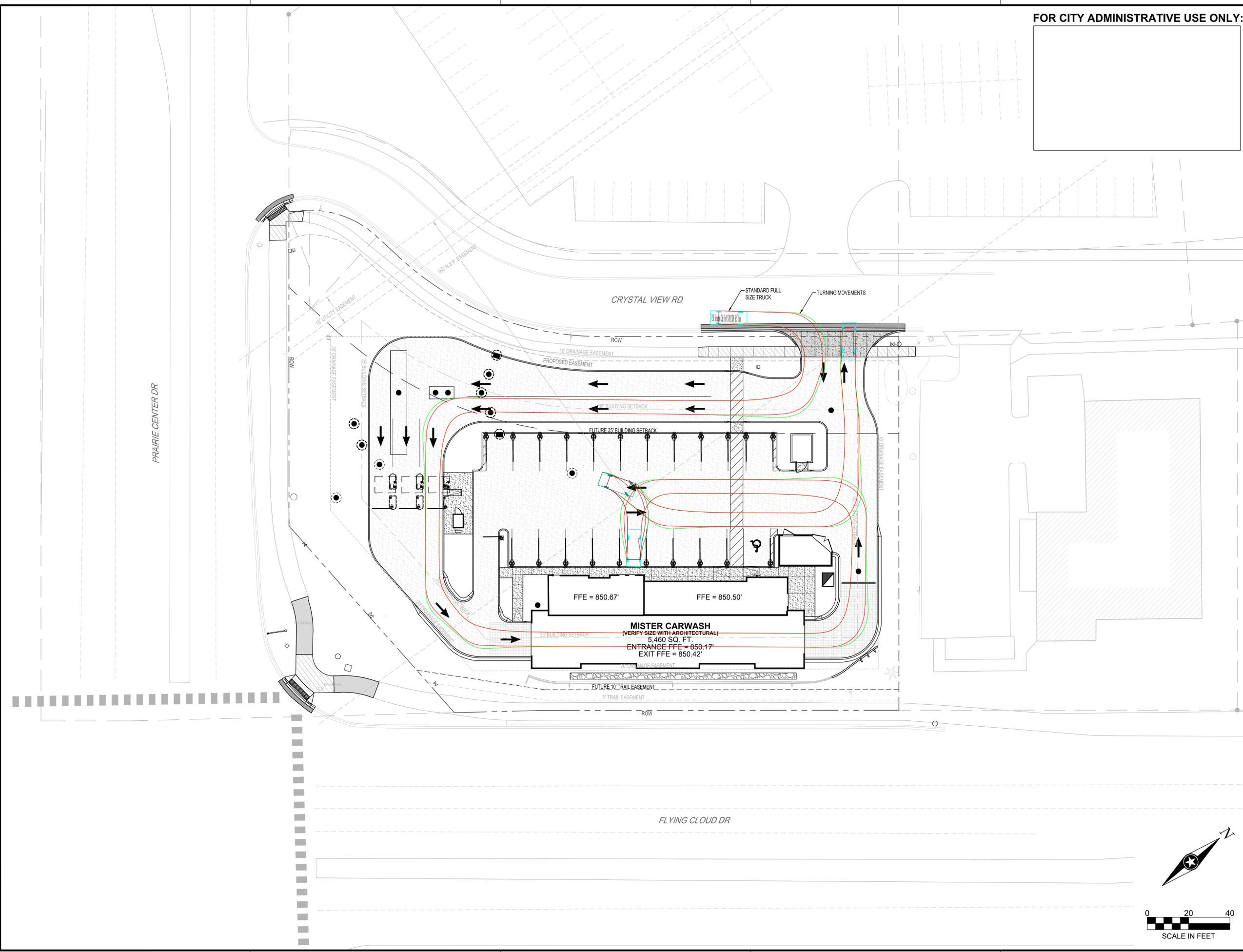
ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
06/28/23	CITY SUBMITTAL 2	JAT
08/03/23	CITY SUBMITTAL 3	JAT
09/06/23	CITY SUBMITTAL 4	JAT

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	22-27847
FILE NAME	27847 CO T-MOVE
DRAWN BY	JAT
DESIGNED BY	JAT
REVIEWED BY	ART

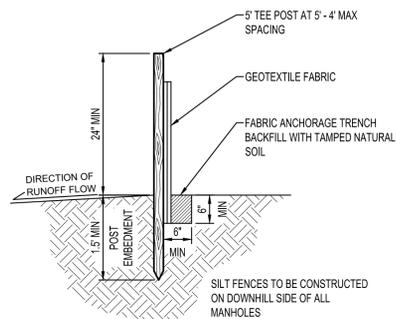
TITLE  
**SITE CIRCULATION  
PLAN**

SHEET  
**C028**

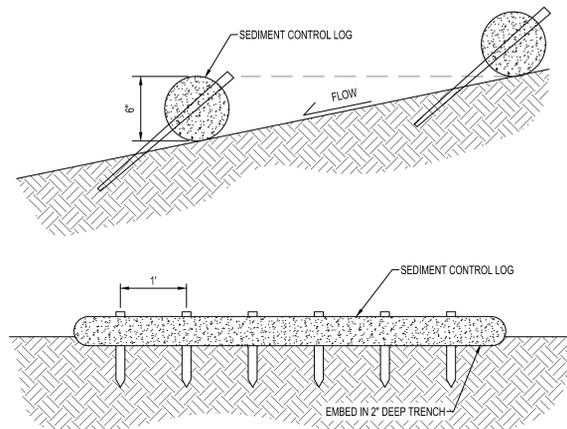


PLOT DATE: 06/20/23 12:21 PM

PRELIMINARY NOT FOR CONSTRUCTION

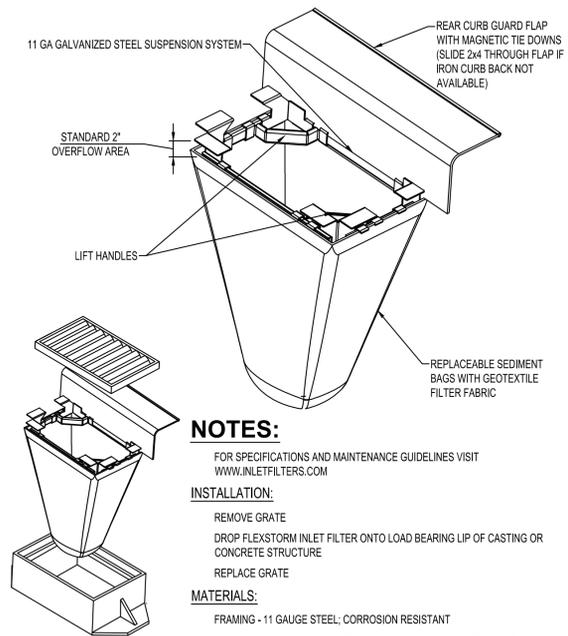


**SILT FENCE**  
NTS



**NOTES:**  
 SEDIMENT CONTROL LOGS TO BE 6" DIAMETER UNLESS OTHERWISE NOTED.  
 STAKED INTO THE GROUND WITH WOOD STAKES.  
 WOOD STAKES ARE A MINIMUM OF 2"x16" 1/2" UNLESS PRECLUDED BY PAVED SURFACE OR ROCK.  
 WOOD STAKES DRIVEN THROUGH BACK HALF OF SEDIMENT CONTROL LOG AT AN APPROXIMATE ANGLE OF 45° WITH THE TOP OF STAKE POINTING UP STREAM.  
 WHEN MORE THAN ONE SEDIMENT CONTROL LOG IS NEEDED, OVERLAP ENDS A MINIMUM OF 6" AND STAKE

**SEDIMENT CONTROL LOG STAKING**  
NTS



**NOTES:**  
 FOR SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT [WWW.INLETFILTERS.COM](http://WWW.INLETFILTERS.COM)  
**INSTALLATION:**  
 REMOVE GRATE  
 DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE  
 REPLACE GRATE  
**MATERIALS:**  
 FRAMING - 11 GAUGE STEEL, CORROSION RESISTANT  
 SEDIMENT BAG - WOVEN GEOTEXTILE FABRIC; 2 CUBIC FOOT TYP VOLUME;  
 STAINLESS STEEL LOCKING BAND SECURING BAG TO FRAME

**CURB BOX FILTER INLET PROTECTION**  
NTS

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DATE: \_\_\_\_\_ LIC. NO. \_\_\_\_\_

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PROJECT

**MISTER CAR WASH**  
**EDEN PRAIRIE**

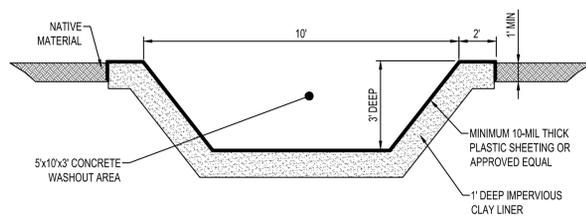
EDEN PRAIRIE MINNESOTA

ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
06/28/23	CITY SUBMITTAL 2	JAT
08/03/23	CITY SUBMITTAL 3	JAT
09/06/23	CITY SUBMITTAL 4	JAT
REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO. 22-27847  
 FILE NAME 27847 C1-SWPPP  
 DRAWN BY JAT  
 DESIGNED BY JAT  
 REVIEWED BY ART

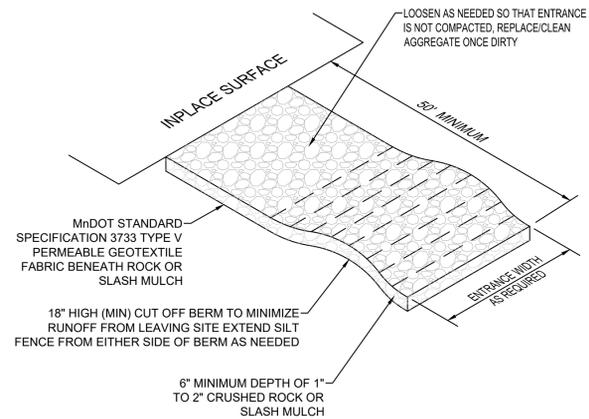
TITLE  
**EROSION CONTROL DETAILS**

SHEET  
**C110**



**NOTES:**  
 CONTRACTOR SHALL INSTALL A SIGN INDICATING THE CONCRETE WASHOUT AREA.  
 CONTRACTOR SHALL MAINTAIN WASHOUT AREA TO REMOVE MATERIALS BEYOND 75% CAPACITY.  
 WASHOUT AREA SHALL NOT BE PLACED WITHIN 50' OF STORM DRAINS, OPEN DITCHES OR BODIES OF WATER.  
 CONTRACTOR SHALL INSPECT WASHOUT AREA AS NECESSARY TO PREVENT LEAKS AND OVER TOPPING.  
 WASHOUT AREA SHALL BE REMOVED AFTER CONSTRUCTION IS COMPLETE.

**CONCRETE WASHOUT**  
NTS



**STABILIZED CONSTRUCTION EXIT**  
NTS

FOR CITY ADMINISTRATIVE USE ONLY:



STORMWATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

PROJECT LOCATION

PROJECT/SITE NAME: MISTER CAR WASH
PROJECT LOCATION: 8340 CRYSTAL VIEW ROAD, EDEN PRAIRIE, MN 55344

PROJECT DESCRIPTION

THIS PROJECT INCLUDES THE CONSTRUCTION OF A CAR WASH FACILITY. ASSOCIATED SITE IMPROVEMENTS INCLUDE GRADING, CURB AND GUTTER, PAVEMENT SURFACING, UTILITY SERVICES, AND AN UNDERGROUND STORMWATER MANAGEMENT SYSTEM.

Table with 2 columns: CONSTRUCTION ACTIVITIES and ESTIMATED DATES OF SOIL DISTURBANCE ACTIVITIES. Rows include Removals and Utility Installation, Grading, Building Construction, Curb & Gutter, Sidewalk, and Paving, and Landscaping, Final Turf, Misc.

PRE-CONSTRUCTION IMPERVIOUS SURFACE AND DISTURBED AREA CALCULATIONS

TOTAL AREA TO BE DISTURBED = 1.17 ACRES
MINIMUM AREA REQUIRING MPCA PERMIT = 1.00 ACRES
\*\*AN MPCA NPDES PERMIT IS NOT REQUIRED FOR THIS PROJECT\*\*
IMPERVIOUS AREA: PRE-CONSTRUCTION = 0.65 ACRES
POST-CONSTRUCTION = 1.17 ACRES
NET INCREASE OF IMPERVIOUS AREA = 0.52 ACRES
MINIMUM NEW IMPERVIOUS SURFACE AREA CREATED REQUIRING PERMANENT STORMWATER MANAGEMENT = 5,000 SF (BASED ON RPBCWD REQUIREMENTS)

CONTACT INFORMATION/RESPONSIBLE PARTIES

THE OWNER OWNS THE LAND AND EASEMENT AREAS ASSOCIATED WITH THE PROJECT. THE OWNER WILL BE RESPONSIBLE FOR COMPLIANCE WITH ALL TERMS AND CONDITIONS OF THIS SWPPP AND THE LONG-TERM MAINTENANCE PLAN OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM FOR THIS PROJECT.

OWNER: MISTER CAR WASH (PRABHJEET MATHAROO, PROJECT MANAGER)
222 E 5th STREET
TUCSON, AZ 85705
520.955.1244/PMATHAROO@MISTERCARWASH.COM

THE PRIMARY CONTRACTOR WILL ENTER INTO A CONTRACT WITH THE OWNER TO COMPLETE THE REQUIRED WORK FOR THIS PROJECT. THE PRIMARY CONTRACTOR WILL AGREE TO IMPLEMENT THIS SWPPP IN COOPERATION WITH THE OWNER.

THE PRIMARY CONTRACTOR WILL ENSURE THAT INDIVIDUALS OVERSEEING OR IMPLEMENTING THE SWPPP HAVE BEEN PROPERLY TRAINED AND THAT CERTIFICATIONS WILL BE MADE AVAILABLE UPON REQUEST.

THE PRIMARY CONTRACTOR WILL PERFORM A PRECONSTRUCTION SITE VISIT TO ADDRESS ANY AREAS OF CONCERN PERTAINING TO ENVIRONMENTAL COMPLIANCE.

ISG INC. HAS BEEN CONTRACTED BY THE OWNER TO DEVELOP THE SWPPP PLAN FOR THIS PROJECT. THIS SWPPP WAS PREPARED BY AN INDIVIDUAL THAT HAS BEEN PROPERLY TRAINED IN ACCORDANCE TO SECTION 21 OF THE NPDES PERMIT.

SWPPP DESIGNER:

ISG INC. (LILY HOCK)
7900 INTERNATIONAL DR., SUITE 550
MINNEAPOLIS, MN 55425
952.426.0699/LILY.HOCK@ISGINC.COM

PERMANENT STORMWATER MANAGEMENT SYSTEM:

ISG INC. (RYAN ANDERSON)
7900 INTERNATIONAL DR., SUITE 550
MINNEAPOLIS, MN 55416
952.426.0699/RYAN.ANDERSON@ISGINCCOM

Table with 4 columns: AGENCY CONTACTS, AGENCY, PERMIT, NAME, PHONE NUMBER/E-MAIL. Row for MPCA (EMERGENCY).

PERMANENT STORMWATER TREATMENT SYSTEMS (DELETE PARAGRAPH/HEADER IF UNNECESSARY)

THE WATERSHED PERMANENT WATER QUALITY VOLUME FROM THE NET NEW IMPERVIOUS SURFACES OF THE PROJECT IS PROVIDED IN THE PROPOSED UNDERGROUND DETENTION SYSTEM. HYDROLOGIC AND WATER QUALITY MODELING DATA IS AVAILABLE UPON REQUEST.

Table with 3 columns: LOCATION OF SWPPP COMPONENTS, DESCRIPTION, TITLE, LOCATION (SHEET NAME). Rows include SWPPP Narrative, Site Conditions, Site Maps, Direction of Surface Water Flow, Impervious Surfaces, Temporary Erosion & Sediment Control BMPs, Permanent Erosion Prevention BMPs, Storm Sewer, Grading, Estimated BMP Quantities, BMP Detail Specifications, Hydrologic/Water Quality Modeling.

EXISTING SITE CONDITIONS, SOILS, & WATER RESOURCES

SOILS AND NATIVE TOPSOIL: NATIVE TOPSOIL WILL BE STRIPPED AND STOCKPILED FOR FINAL GRADING OPERATIONS. METHODS AND EQUIPMENT TO MINIMIZE SOIL COMPACTION (IN PROPOSED INFILTRATION AREAS, DRIP LINE OF TREES TO BE PRESERVED, ETC.) SHALL BE DETERMINED BY THE CONTRACTOR'S SWPPP AMENDMENT.

Table with 5 columns: USDA-NRCS MAPPED SOIL SURVEY UNIT NO., NAME, TEXTURE, SLOPE PERCENTAGE, PERCENTAGE OF PROJECT AREA, APPROXIMATE PARTICLE SIZE RANGE (MM) - SAND, SILT, CLAY. Rows include L36A, L40B, L41C2, U1A.

DESCRIPTION OF RECEIVING WATERS (LOCATED WITHIN 1-MILE): STORMWATER FROM THIS PROJECT WILL BE CONVEYED TO THE UNDERGROUND DETENTION SYSTEM BEFORE RELEASING TO CITY-OWNED STORM SEWER.

DESCRIPTION OF IMPAIRED WATERS OR WATER SUBJECT TO TMDLS: A SPECIAL AND IMPAIRED WATERS SEARCH WAS COMPLETED USING THE MPCA SEARCH ENGINE.

POTENTIAL FOR SEDIMENT AND/OR OTHER POLLUTANT(S) DISCHARGING FROM THE PROJECT SITE: THE TEMPORARY EROSION AND SEDIMENT CONTROL BMPS IN THIS SWPPP HAVE BEEN DESIGNED TO MINIMIZE THE POTENTIAL OF SEDIMENTS DISCHARGING OFF-SITE.

ROUTINE INSPECTION AND BMP MAINTENANCE BY THE CONTRACTOR IS CRUCIAL IN ENSURING THE FUNCTIONALITY OF EACH BMP. STEEP SLOPES AND OTHER ENVIRONMENTALLY SENSITIVE AREAS THAT ARE AT A HIGHER RISK OF SEDIMENTATION ARE DEFINED IN THIS SWPPP.

CONSTRUCTION PHASING/STAGING, BUFFERS, & AREAS NOT TO BE DISTURBED

AREAS NOT TO BE DISTURBED ARE TO BE DELINEATED BEFORE WORK BEGINS. THE PRIMARY CONTRACTOR IS RESPONSIBLE FOR PRESERVING A 50 FOOT NATURAL BUFFER OR (IF INFEASIBLE AND DOCUMENTED) PROVIDE REDUNDANT SEDIMENT CONTROL BMPs.

THERE IS NO CONSTRUCTION PHASING OR STAGING DEFINED BY THE OWNER FOR THIS PROJECT. THE SCHEDULE FOR INSTALLING TEMPORARY BMPs SHALL BE INCORPORATED INTO THE PRIMARY CONTRACTOR'S WEEKLY SCHEDULE.

ENVIRONMENTALLY SENSITIVE AREAS

STEEP SLOPES: EXISTING AND PROPOSED SLOPES 1 IN 3 (33.33%) AND STEEPER THAT ARE PROPOSED TO BE DISTURBED ARE ILLUSTRATED ON THE PLAN SHEETS.

CONTAMINATED PROPERTIES: THE MPCA'S "WHAT'S IN MY NEIGHBORHOOD" DATABASE WAS REVIEWED ON 2/27/2023. WWW.PCA.STATE.MN.US/DATA/WHATS-MY-NEIGHBORHOOD AND A CONTAMINATION ASSESSMENT WAS PERFORMED.

STORMWATER POLLUTION MITIGATION MEASURES (AS IDENTIFIED FROM ENVIRONMENTAL REVIEW): NO FORMAL ENVIRONMENTAL REVIEW WAS REQUIRED FOR THIS PROJECT.

KARST AREAS: THERE ARE NO KNOWN ACTIVE KARST AREAS WITHIN OR ADJACENT TO THE PROJECT LIMITS.

SITE PLAN REQUIRED AREAS: NO AREAS OF "HIGH ENVIRONMENTAL RISKS" ARE KNOWN TO BE LOCATED WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT LIMITS.

FLOOD CONTINGENCY PLAN: PROJECT ACTIVITIES WILL NOT OCCUR WITHIN THE 100-YEAR FLOODPLAIN OR FLOODWAY. THEREFORE, THE PROJECT ENGINEER (AT THEIR DISCRETION) MAY REQUIRE A PREVENTATIVE FLOOD CONTINGENCY PLAN.

FISH EXCLUSION DATES: FISH EXCLUSION DATES ARE NOT APPLICABLE TO THIS PROJECT LOCATION.

AQUATIC INVASIVE SPECIES: ALL IN-STREAM AND DEWATERING EQUIPMENT SHALL BE DECONTAMINATED OF ALL AQUATIC PLANTS AND PROHIBITED INVASIVE SPECIES PRIOR TO USING WITHIN SURFACE WATERS ON-SITE.

WETLANDS: NO WETLANDS EXIST WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT LIMITS.

SEQUENCE OF CONSTRUCTION/TIMING OF BMP INSTALLATION

NO CONSTRUCTION OPERATIONS, INCLUDING REMOVALS, WHICH REQUIRE EROSION & SEDIMENT CONTROL PER THE SWPPP CAN COMMENCE UNTIL THE PRIMARY CONTRACTOR'S EROSION CONTROL SUPERVISOR CERTIFIES THE PROPER INSTALLATION OF BMPs.

INSPECTION PROCEDURES, SWPPP AMENDMENTS, RECORD KEEPING, & TRAINING

- 1. THE SWPPP MUST BE AMENDED BY THE PRIMARY CONTRACTOR WHEN THE IDENTITY OF THE RESPONSIBLE SITE CONTRACTORS (EROSION CONTROL SUPERVISOR, SUB-CONTRACTORS, ETC.) ARE KNOWN.
2. THE PRIMARY CONTRACTOR MUST INSPECT THE ENTIRE CONSTRUCTION SITE AT LEAST ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS.

THE TABLE BELOW IS A SUMMARY OF THE REQUIRED SWPPP AMENDMENTS:

Table with 3 columns: SWPPP AMENDMENT NAME, SUMMARY OF PRIMARY CONTRACTOR PREPARED SWPPP AMENDMENTS (REQUIRED BY OWNER), SUBMITTAL TIMEFRAME. Rows include Primary Contractor Chain of Responsibility, BMP Amendments, Methods to Minimize Soil Compaction, Steep Slopes Phasing Plan, Spill Prevention & Response Plan, Dewatering Plan, Flood Contingency Plan.

- 5. THE SWPPP (ORIGINAL OR COPIES), ALL CHANGES TO THE SWPPP, PROJECT MANUAL, AND INSPECTIONS/MAINTENANCE RECORDS MUST BE KEPT AT THE SITE DURING CONSTRUCTION BY THE PRIMARY CONTRACTOR WHO HAS OPERATIONAL CONTROL OF THAT PORTION OF THE SITE.

- 6. THE PRIMARY CONTRACTOR MUST ASSIGN A TRAINED INDIVIDUAL(S) TO OVERSEE THE IMPLEMENTATION, MAINTENANCE, AND REPAIR OF BMPs.

POLLUTION PREVENTION MANAGEMENT MEASURES

- POTENTIAL SOURCES OF POLLUTANTS FROM CONSTRUCTION ACTIVITIES INCLUDE: SEDIMENT AND FUGITIVE DUST GENERATED FROM CLEARING AND GRUBBING, IMPORT/EXPORT OPERATIONS, REMOVALS/COMPACTION, MASS/FINE GRADING, EXCAVATIONS, TRENCHING, TOPSOIL STRIPPING STOCKPILING, WET/DRY PAVEMENT CUTTING, STREET CONSTRUCTION.

PRIMARY CONTRACTOR WILL COMPLY WITH ALL OF THE POLLUTION PREVENTION AND MANAGEMENT MEASURES IDENTIFIED IN THE NPDES-CSW PERMIT.

NO-EXPOSURE: CONSTRUCTION AND BUILDING PRODUCTS (THAT HAVE THE POTENTIAL TO LEACH POLLUTANTS), PESTICIDES, HERBICIDES, INSECTICIDES, FERTILIZERS, TREATMENT CHEMICALS, AND LANDSCAPING MATERIALS MUST BE UNDER COVER.

SOLID WASTE: (SEDIMENT, ASPHALT, CONCRETE MILLINGS, CONSTRUCTION, AND DEMOLITION DEBRIS) AND OTHER WASTES MUST BE DISPOSED OF PROPERLY AND SHALL COMPLY WITH MPCA DISPOSAL REQUIREMENTS.

HAZARDOUS MATERIALS: (E.G. GAS, DIESEL, OIL, ANTIFREEZE, PAINT SOLVENTS, SOAPS, DETERGENTS, WOOD PRESERVATIVES, CLEANING SOLVENTS, CURING COMPOUNDS, ACIDS, ETC.) MUST BE STORED IN SEALED CONTAINERS.

PORTABLE TOILETS: MUST BE POSITIONED AND SECURED SO THEY ARE NOT TIPPED OR KNOCKED OVER. SANITARY WASTE MUST BE PROPERLY DISPOSED OF IN ACCORDANCE WITH MPCA REGULATIONS.

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DATE: LIC. NO:

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PROJECT

MISTER CAR WASH EDEN PRAIRIE

EDEN PRAIRIE MINNESOTA

Table with 3 columns: DATE, DESCRIPTION, BY. Rows for City Submittal 1 through 4.

Table with 3 columns: DATE, DESCRIPTION, BY. Revision schedule table.

PROJECT NO. 22-27847
FILE NAME 27847 C1-SWPPP
DRAWN BY JAT
DESIGNED BY JAT
REVIEWED BY ART

TITLE

EROSION CONTROL NOTES

SHEET C120

PLOT DATE: 06/20/23 12:21 PM

PRELIMINARY NOT FOR CONSTRUCTION

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PROJECT

MISTER CAR WASH EDEN PRAIRIE

EDEN PRAIRIE MINNESOTA

Table with 3 columns: DATE, DESCRIPTION, BY. Rows include 04/18/23, 06/28/23, 08/03/23, 09/06/23.

Table with 3 columns: DATE, DESCRIPTION, BY. Revision schedule table.

Table with 2 columns: PROJECT NO., FILE NAME, DRAWN BY, DESIGNED BY, REVIEWED BY.

EROSION CONTROL NOTES

SHEET C121

SPILLED OR LEAKED CHEMICALS: REASONABLE STEPS TO PREVENT THE DISCHARGE OF SPILLED OR LEAKED CHEMICALS, INCLUDING FUEL, FROM ANY AREA WHERE CHEMICAL OR FUEL WILL BE LOADED OR UNLOADED...

EQUIPMENT/VEHICLE WASHING: WHEN VEHICLE/EQUIPMENT WASHING MUST OCCUR ON-SITE, THE ACTIVITY IS LIMITED TO A CONTAINED PORTION OF THE STAGING AREA, UNLESS INFEASIBLE THROUGH A SWPPP AMENDMENT...

CONCRETE, STUCCO, PAINT, CURING COMPOUNDS, SOLVENTS, AND OTHER WASHOUT WASTES: TEMPORARY OR LONG-TERM STORAGE OF WASHOUT WASTE IS PROHIBITED ON-SITE (SLURRY MUST BE HAULLED IMMEDIATELY OFF-SITE)...

BURNING: BURNING OF GARBAGE, CONSTRUCTION DEBRIS, TREES, BRUSH, OR OTHER VEGETATIVE MATERIAL IS NOT ALLOWED ON SITE, UNLESS PRIOR APPROVAL IS GRANTED BY THE OWNER.

CONSTRUCTION ACTIVITY REQUIREMENTS, EROSION PREVENTION PRACTICES, PROCEDURES, & MAINTENANCE STANDARDS: THE PRIMARY CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION, OPERATION, AND CONTINUED MAINTENANCE OF ALL TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT BMPs...

ALL NONFUNCTIONAL BMPs MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPs BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS...

TEMPORARY OR PERMANENT STABILIZATION SHALL BE INITIATED AS SOON AS POSSIBLE, BUT NO LATER THAN THE END OF THE NEXT WORKDAY FOLLOWING THE DAY EARTH-DISTURBING ACTIVITIES IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED...

ALL EXPOSED SOILS WITHIN 200 FEET AND DRAINING TO A DNR PUBLIC WATERS MUST BE STABILIZED WITHIN 24 HOURS OF TEMPORARILY OR PERMANENTLY CEASING WORK, DURING THE FISH SPAWNING PERIOD.

TEMPORARY STABILIZATION BMPs SHALL ONLY BE IMPLEMENTED WHEN PERMANENT STABILIZATION BMPs CANNOT BE IMPLEMENTED WITHIN THE 14 DAY TIMEFRAME FOR EXPOSED SOILS.

TEMPORARY/PERMANENT DRAINAGE DITCHES & SWALES: THE NORMAL WETTED PERIMETER (2-YEAR, 24-HOUR PRECIPITATION EVENT) OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH, CHANNEL, OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE...

EROSION CONTROL BLANKETS/MATS: PRIMARY CONTRACTOR SHALL VERIFY DURING REGULAR INSPECTIONS THAT NO GULLIES, RILLS, OR SCOUR HOLES HAVE FORMED UNDER EROSION CONTROL BLANKETS AND MATS...

MULCH: PRIMARY CONTRACTOR MUST APPLY MULCH IN A UNIFORM PATTERN OVER THE DISTURBED SOILS, TO ACHIEVE A MINIMUM OF 90% GROUND COVER.

DUST CONTROL: DUST FROM THE SITE WILL BE CONTROLLED BY INCREASED STREET SWEEPING AND/OR USING A MOBILE PRESSURE-TYPE DISTRIBUTOR TRUCK TO APPLY POTABLE WATER TO DISTURBED AREAS...

STORM SEWER OUTLETS: PIPE OUTLETS MUST HAVE TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER HYDRAULIC CONNECTION TO A RECEIVING SURFACE WATER.

TEMPORARY & PERMANENT EROSION PREVENTION BMPs

TYPE 1 MULCH: APPLY TO DISTURBED SLOPES LESS THAN 1:3 WITH BLOWER EQUIPMENT OR CONCURRENTLY WITH HYDROMULCH AT 2 TONS/ACRE, IMMEDIATELY OVERSPRAY (IF NOT HYDROMULCHED) WITH TACKIFIER...

RAPID STABILIZATION METHOD #4 (WOOD FIBER, NATURAL NET ONLY) IS AN ACCEPTABLE BMP FOR DISTURBED AREAS ADJACENT TO ENVIRONMENTALLY SENSITIVE AREAS, SURFACE WATERS, AND WITHIN THE LAST 200 FEET OF DITCH BOTTOMS.

TEMPORARY WINTER COVER: AREAS OF EXPOSED SOILS THAT ARE NOT COMPLETED BEFORE THE WINTER WILL BE STABILIZED WITH TYPE #3 (CERTIFIED AS WEED FREE) ADJACENT TO WETLAND OR STORMWATER PONDS...

HYDRO-MULCH TYPE #5: HYDRAULIC SOIL STABILIZER IN COMBINATION WITH A TACKIFIER WILL BE INSTALLED PER MANUFACTURES SPECIFICATIONS TO EXPOSED SOILS AREAS TO PROVIDE TEMPORARY LONG-TERM OR PERMANENT COVER FOR VEGETATION ESTABLISHMENT.

CONSTRUCTION ACTIVITY REQUIREMENTS, SEDIMENT CONTROL PRACTICES, PROCEDURES, & MAINTENANCE STANDARDS

DOWNGRADIENT SYSTEMS: IF THE DOWNGRADIENT TREATMENT SYSTEM IS OVERLOADED, ADDITIONAL UP GRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPs MUST BE INSTALLED TO ELIMINATE THE OVERLOADING...

PERIMETER CONTROL BMPs (SILT FENCES, CHIP/SLASH MULCH SACKS, BIOROLLS, FLOATING SILT CURTAIN, ETC.): PERIMETER CONTROL BMPs SHALL BE INSTALLED ON ALL DOWNGRADIENT PERIMETERS AND UPGRADIENTS OF ANY BUFFER AREAS...

50 FOOT NATURAL BUFFER(S): REFER TO 'CONSTRUCTION PHASING/STAGING, BUFFERS, & AREAS NOT TO BE DISTURBED' SECTION OF THIS SWPPP.

TEMPORARY STOCKPILES: ALL STOCKPILES MUST HAVE SILT FENCE OR EQUIVALENT PERIMETER SEDIMENT CONTROLS IMPLEMENTED AND MAINTAINED AT ALL TIMES. PILES CANNOT BE PLACED IN BUFFER AREAS OR SURFACE WATERS...

CONSTRUCTION SITE ENTRANCE/VEHICLE TRACKING: PRIMARY CONTRACTOR MUST MINIMIZE SEDIMENT FROM LEAVING THE CONSTRUCTION SITE (OR ONTO STREETS WITHIN THE SITE) BY IMPLEMENTING BMPs SUCH AS ROCK PADS, SLASH MULCH, CONCRETE OR STEEL WASH RACKS...

SURFACE WATERS: INCLUDING OFF-SITE AND DOWNSTREAM DRAINAGE DITCHES, CATCH BASINS, AND CONVEYANCE SYSTEMS, MUST BE INSPECTED FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. THE REMOVAL AND STABILIZATION OF EXPOSED SOILS MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF DISCOVERY...

INLET PROTECTION: ALL STORM DRAIN INLETS (INCLUDING DOWNGRADIENT, OFF-SITE) MUST BE PROTECTED BY APPROPRIATE BMPs DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED...

CHEMICAL TREATMENTS: PRIMARY CONTRACTOR MUST AMEND THE SWPPP TO INCLUDE THE INTENDED USES AND LOCATIONS OF FLOCCULANTS, POLYMERS, AND OTHER SEDIMENTATION TREATMENT CHEMICALS...

DEWATERING, STREAM DIVERSION, AND BASIN DRAINING

DEWATERING, STREAM DIVERSION, OR BASIN DRAINING IS ANTICIPATED DURING CONSTRUCTION OF THIS PROJECT. THE UNDERGROUND SYSTEM CONSTRUCTION WILL REQUIRE SITE DEWATERING. WHEN DEWATERING IS REQUIRED, THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN AND NARRATIVE TO THE PROJECT ENGINEER FOR APPROVAL...

**EROSION CONTROL LEGEND**

SYMBOL	DESCRIPTION
	RANDOM RIPRAP, CLASS __
	PERIMETER CONTROL
	STORM DRAIN INLET PROTECTION
	SEDIMENT CONTROL LOG
	STABILIZED CONSTRUCTION EXIT

	TURF REINFORCEMENT MAT, CATEGORY __
	EXISTING DRAINAGE ARROW
	PROPOSED DRAINAGE ARROW
	EXISTING CONTOUR (MINOR INTERVAL)
	EXISTING CONTOUR (MAJOR INTERVAL)
	PROPOSED CONTOUR (MINOR INTERVAL)

PERIMETER CONTROL CAN BE SILT FENCE OR SEDIMENT CONTROL LOG.  
 SEE SITE RESTORATION PLAN FOR FINAL TURF ESTABLISHMENT.  
 NOTE: SWPPP COVERAGE INCLUDES ELECTRIC, GAS, TELEPHONE, AND CABLE INSTALLATION. EACH COMPANY OR THEIR SUBCONTRACTOR IS RESPONSIBLE TO FOLLOW THE REQUIREMENTS OF THIS SWPPP INCLUDING PROVIDING THEIR OWN RESTORATION IF INSTALLATION OCCURS AFTER PRIMARY INSTALLATION OF SEEDING/SODDING/MULCHING DURING CONSTRUCTION OF EACH UTILITY.  
 CONTRACTOR TO PROVIDE A LEAK PROOF CONCRETE WASHOUT CONTAINER OR THE CONCRETE TRUCKS SHALL HAVE THE WASHOUTS BUILT IN.

EROSION CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNITS	QUANTITY
2573.502	PROPOSED STORM DRAIN INLET PROTECTION	EACH	6
2573.503	SEDIMENT CONTROL LOG	LF	257
2573.501	STABILIZED CONSTRUCTION EXIT	EACH	1
2575.504	TURF REINFORCEMENT MAT, CATEGORY 1	SY	77
	PERIMETER CONTROL	LF	1263

QUANTITIES ARE FOR INFORMATIONAL PURPOSES TO MEET THE REQUIREMENTS OF THE CONSTRUCTION STORMWATER PERMIT. NO GUARANTEE IS MADE TO THE ACTUAL QUANTITIES REQUIRED.

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DATE: \_\_\_\_\_ LIC. NO. \_\_\_\_\_

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PROJECT

**MISTER CAR WASH**  
**EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
06/28/23	CITY SUBMITTAL 2	JAT
08/03/23	CITY SUBMITTAL 3	JAT
09/06/23	CITY SUBMITTAL 4	JAT

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

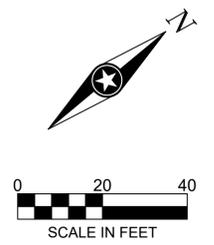
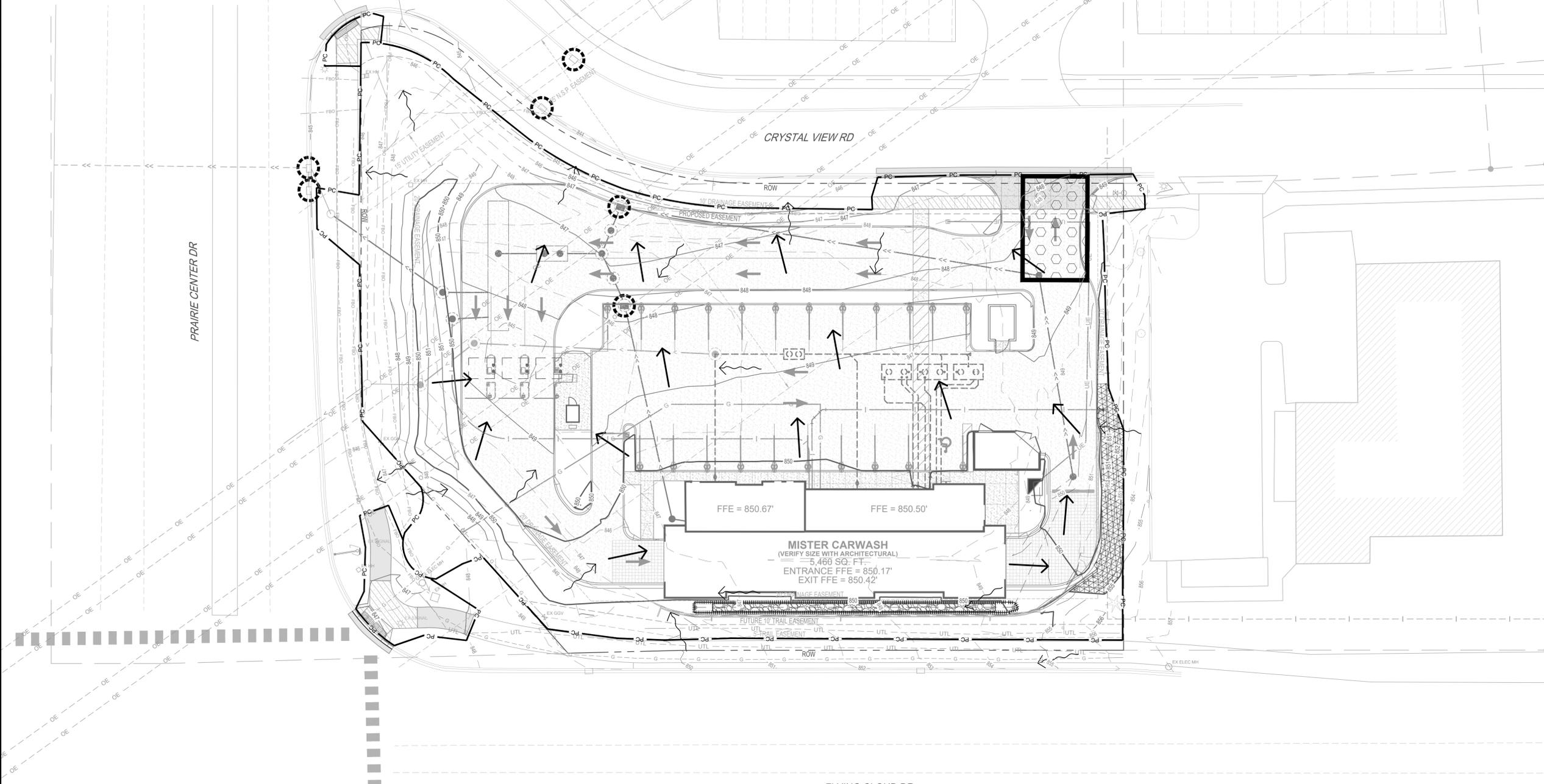
PROJECT NO.	22-27847
FILE NAME	27847 C1-SWPPP
DRAWN BY	JAT
DESIGNED BY	JAT
REVIEWED BY	ART

TITLE

**EROSION CONTROL PLAN**

SHEET

**C130**



PLOT DATE: 06/20/23 12:21 PM

PRELIMINARY NOT FOR CONSTRUCTION

**REMOVAL LEGEND**

SYMBOL	DESCRIPTION
	REMOVE BITUMINOUS PAVEMENT
	REMOVE CONCRETE PAVEMENT
	REMOVE CONCRETE WALK
	REMOVE LANDSCAPING
	REMOVE DECIDUOUS TREE (CLEAR AND GRUB)
	REMOVE CONIFEROUS TREE (CLEAR AND GRUB)

CONTRACTOR SHALL VERIFY EXISTING PAVEMENT SECTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.  
 CONTRACTOR TO VERIFY ALL UTILITIES HAVE BEEN DISCONNECTED FROM PREVIOUS BUILDING  
 PAVEMENT REMOVALS SHALL INCLUDE FULL DEPTH SAWCUT AND SECTION REMOVAL.

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PROJECT

**MISTER CAR WASH  
 EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
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08/03/23	CITY SUBMITTAL 3	JAT
09/06/23	CITY SUBMITTAL 4	JAT

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO. 22-27847  
 FILE NAME 27847 C2-EXIST  
 DRAWN BY JAT  
 DESIGNED BY JAT  
 REVIEWED BY ART

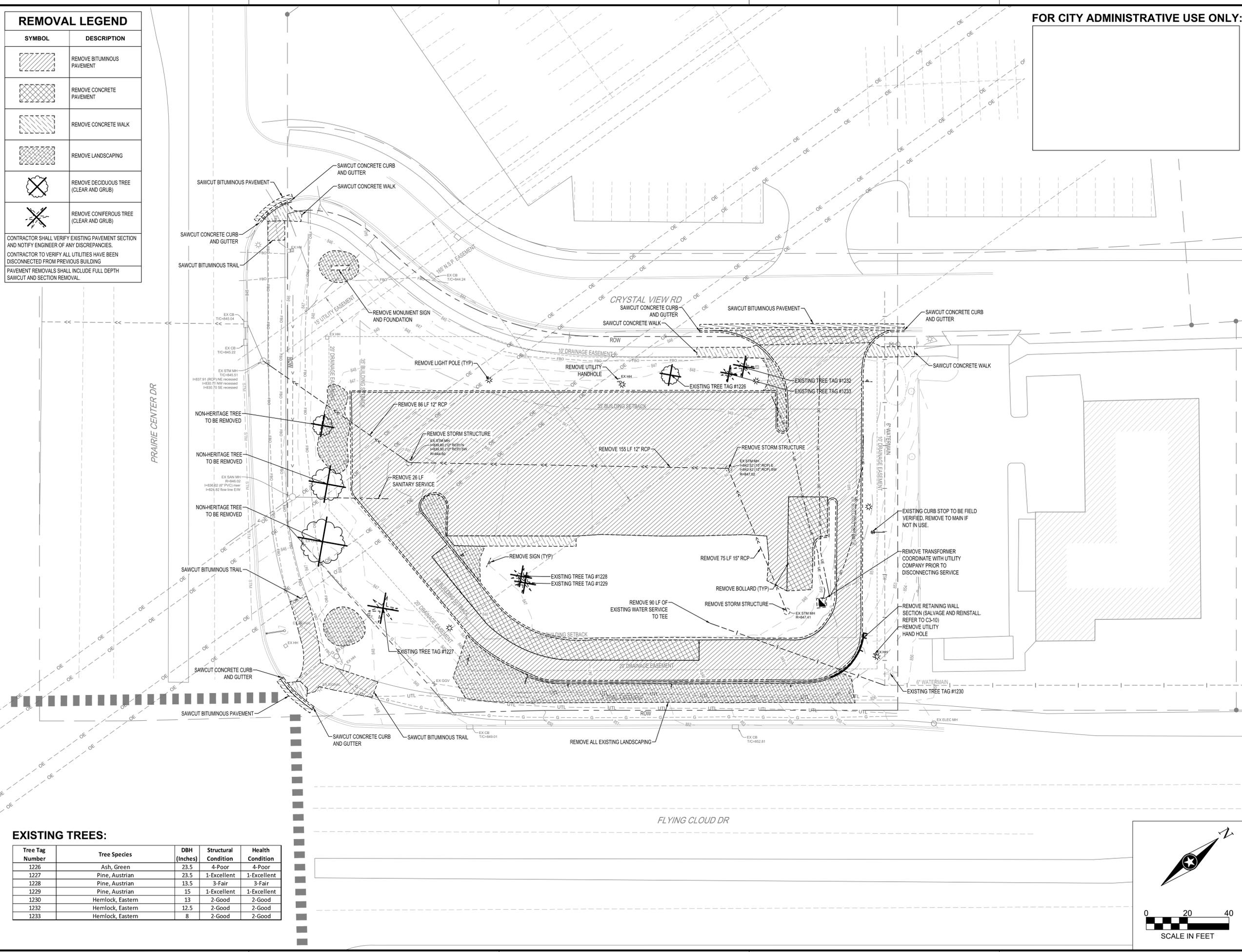
**EXISTING SITE AND REMOVALS**

SHEET  
**C210**

**EXISTING TREES:**

Tree Tag Number	Tree Species	DBH (Inches)	Structural Condition	Health Condition
1226	Ash, Green	23.5	4-Poor	4-Poor
1227	Pine, Austrian	23.5	1-Excellent	1-Excellent
1228	Pine, Austrian	13.5	3-Fair	3-Fair
1229	Pine, Austrian	15	1-Excellent	1-Excellent
1230	Hemlock, Eastern	13	2-Good	2-Good
1232	Hemlock, Eastern	12.5	2-Good	2-Good
1233	Hemlock, Eastern	8	2-Good	2-Good

PLOT DATE: 06/02/23 2:22 PM



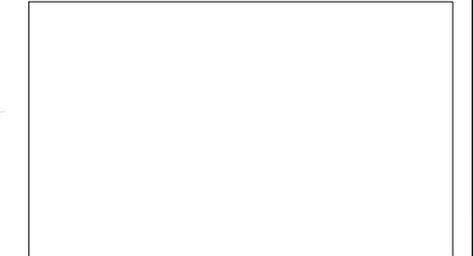
**PRELIMINARY NOT FOR CONSTRUCTION**

**PAVEMENT LEGEND**

SYMBOL	DESCRIPTION
	BITUMINOUS WALK (CITY PLATE R-16)
	BITUMINOUS PAVEMENT, COMMERCIAL (CITY PLATE R-1)
	CONCRETE PAVEMENT
	HEAVY DUTY CONCRETE PAVEMENT
	CONCRETE WALK
	CONCRETE WALK (CITY PLATE R-16)
	CONCRETE CURB AND GUTTER, B6-12 (CITY PLATE R-9)

**SNOW STORAGE NOTE:** SNOW WILL BE TRUCKED OFF SITE DUE TO LIMITED STORAGE ABILITY

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PROJECT

**MISTER CAR WASH  
EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
06/28/23	CITY SUBMITTAL 2	JAT
08/03/23	CITY SUBMITTAL 3	JAT
09/06/23	CITY SUBMITTAL 4	JAT

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

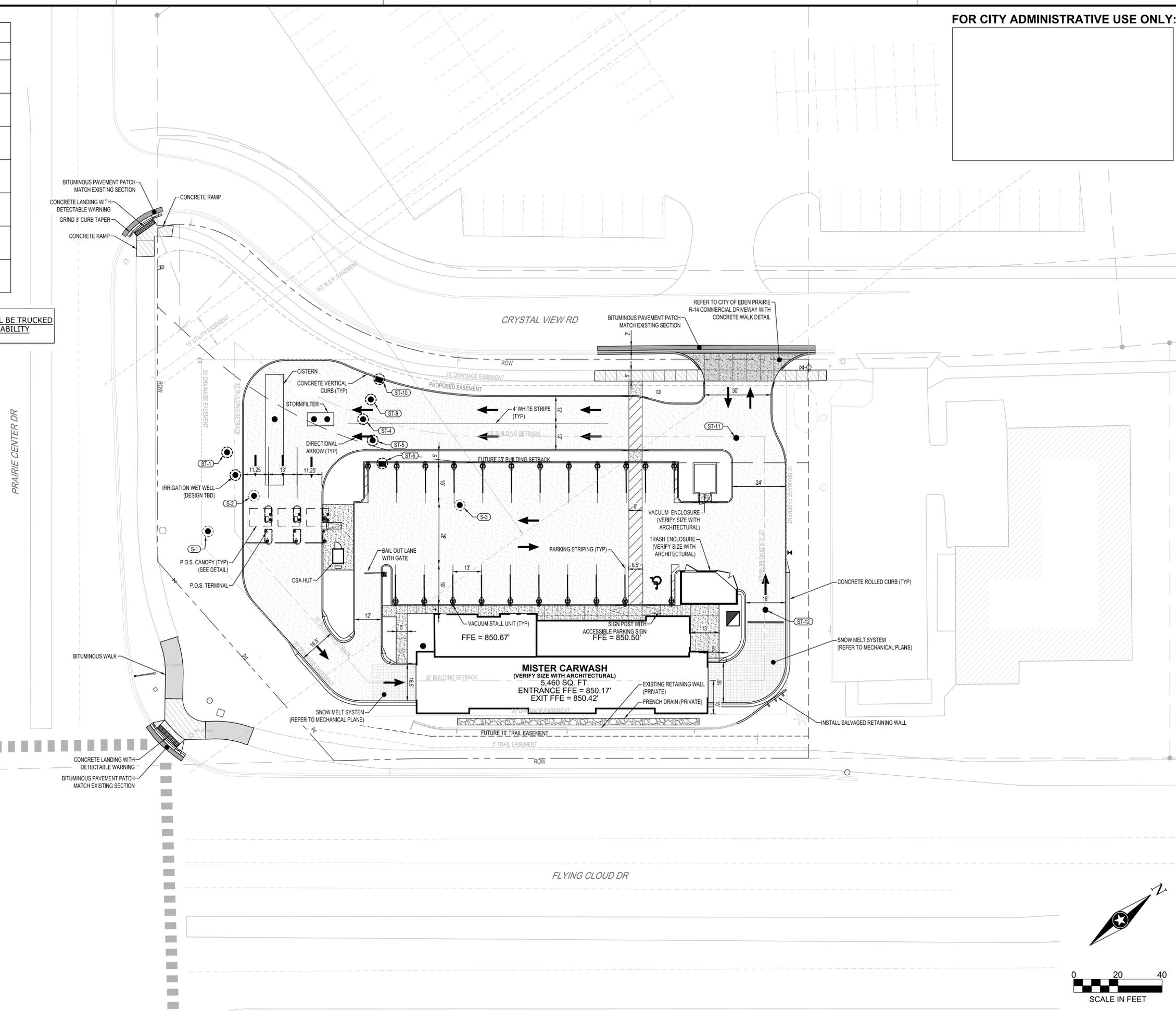
PROJECT NO.	22-27847
FILE NAME	27847 C3-PROP
DRAWN BY	JAT
DESIGNED BY	JAT
REVIEWED BY	ART

TITLE

**SITE PLAN**

SHEET

**C310**



PLOT DATE: 06/20/23 12:22 PM

PRELIMINARY NOT FOR CONSTRUCTION

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PROJECT

**MISTER CAR WASH  
EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
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06/28/23	CITY SUBMITTAL 2	JAT
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09/06/23	CITY SUBMITTAL 4	JAT

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO. 22-27847  
FILE NAME 27847 C3-PROP  
DRAWN BY JAT  
DESIGNED BY JAT  
REVIEWED BY ART

TITLE

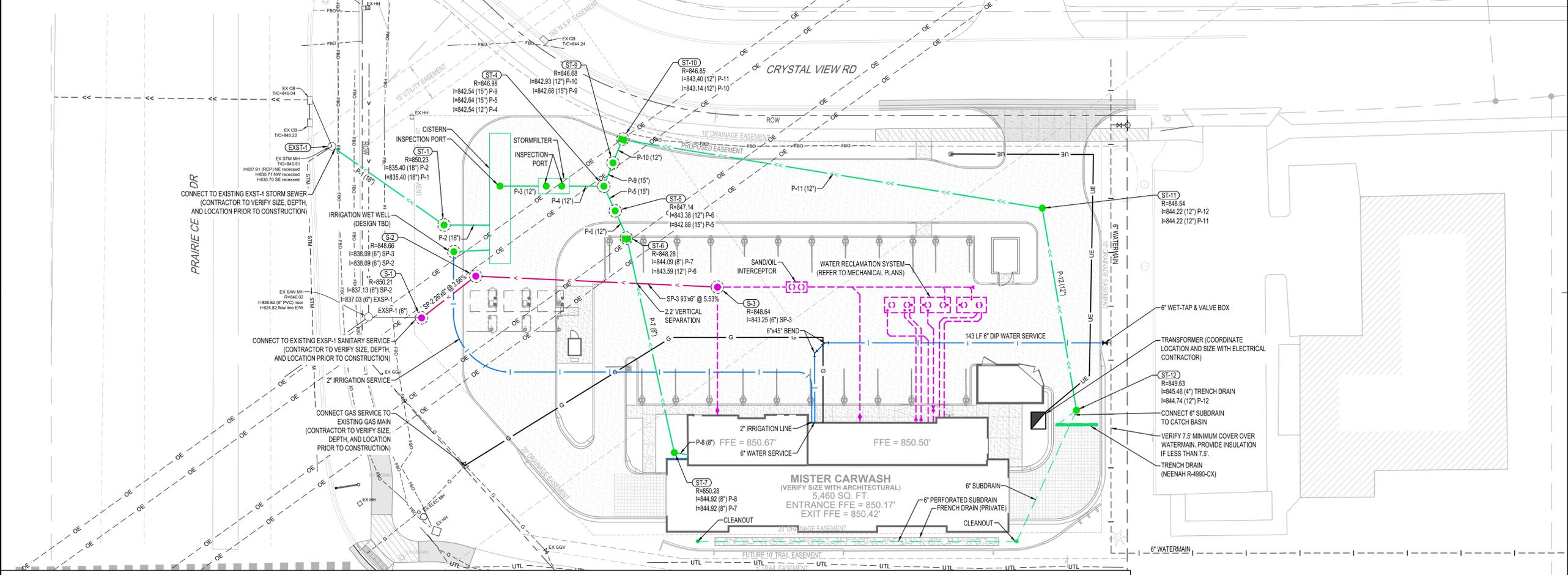
**UTILITY PLAN**

SHEET

**C320**

UTILITY LEGEND	
EXISTING	PROPOSED
--->>---	--->>---
--->---	--->---
---II>---	---II>---
---I---	---I---
---G---	---G---
---OE---	---OE---
---UE---	---UE---
---UT---	---UT---
---UTV---	---UTV---
---OHL---	---OHL---
---UTL---	---UTL---
---FBO---	---FBO---

NOTE:  
CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES.

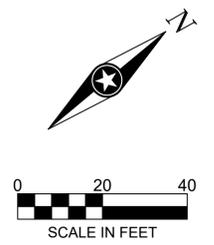


STORM DRAIN PIPE SCHEDULE								
PIPE NO.	DRAIN FROM	INLET ELEVATION	DRAIN TO	OUTLET ELEVATION	PIPE SIZE (IN)	MATERIAL	PIPE GRADE	PIPE LENGTH (FT)
P-1	ST-1	835.40	EXST-1	834.87	18	PVC	1.00%	53
P-2	CISTERN OUTLET	835.58	ST-1	835.40	18	PVC	1.00%	18
P-3	STORMFILTER OUTLET	839.50	CISTERN INLET	839.31	12	PVC	1.26%	15
P-4	ST-4	842.54	STORMFILTER INLET	842.50	12	RCP	0.29%	13
P-5	ST-5	842.88	ST-4	842.64	15	RCP	2.25%	10
P-6	ST-6	843.59	ST-5	843.38	12	RCP	2.00%	11
P-7	ST-7	844.92	ST-6	844.09	8	PVC	0.98%	85
P-8	ROOF LEADER	845.00	ST-7	844.92	8	PVC	1.60%	5
P-9	ST-9	842.68	ST-4	842.54	15	RCP	1.48%	10
P-10	ST-10	843.14	ST-9	842.93	12	RCP	2.00%	11
P-11	ST-11	844.22	ST-10	843.40	12	RCP	0.50%	164
P-12	ST-12	844.74	ST-11	844.22	12	RCP	0.66%	79

STORM DRAIN STRUCTURE SCHEDULE								
STRUCTURE NO.	STRUCTURE TYPE	STRUCTURE SIZE (IN)	STRUCTURE MATERIAL	CASTING	PAY HEIGHT (LN FT)	* TOP OF CASTING ELEVATION	OUTLET INVERT	OUTLET PIPE
ST-1	MnDOT 4020	48 Ø	RC	NEENAH R-1733 'STORM SEWER' ON COVER	14.83	850.23	835.40	P-1
ST-4	MnDOT 4020	48 Ø	RC	NEENAH R-1733 'STORM SEWER' ON COVER	4.44	846.98	842.54	P-4
ST-5	MnDOT 4020 WITH JELLYFISH FILTER	48 Ø	RC	NEENAH R-1733 'STORM SEWER' ON COVER	4.26	847.14	842.88	P-5
ST-6	MnDOT 4020	48 Ø	RC	NEENAH R-3067 TYPE VB	4.69	848.28	843.59	P-6
ST-7	NYLOPLAST DRAIN BASIN	10 Ø	PVC	SOLID	5.36	850.28	844.92	P-7
ST-9	MnDOT 4020 WITH JELLYFISH FILTER	48 Ø	RC	NEENAH R-1733 'STORM SEWER' ON COVER	4.00	846.68	842.68	P-9
ST-10	MnDOT 4020	48 Ø	RC	NEENAH R-3067 TYPE VB	3.71	846.85	843.14	P-10
ST-11	NYLOPLAST DRAIN BASIN	15 Ø	PVC	SOLID	4.32	848.54	844.22	P-11
ST-12	NYLOPLAST DRAIN BASIN	12 Ø	PVC	SOLID	4.89	849.63	844.74	P-12

SANITARY SEWER STRUCTURE SCHEDULE								
STRUCTURE NO.	STRUCTURE TYPE	STRUCTURE SIZE (IN)	STRUCTURE MATERIAL	CASTING	PAY HEIGHT (LN FT)	TOP OF CASTING ELEVATION	INVERT ELEVATION	OUTLET PIPE
S-1	MnDOT 4007C	48 Ø	RC	NEENAH R1733 'SANITARY SEWER' STAMP SELF CLEANING PICK HOLES	13.18	850.21	837.03	EXSP-1
S-2	MnDOT 4007C	48 Ø	RC	NEENAH R-1733 'SANITARY SEWER' STAMP SELF CLEANING PICK HOLES	10.56	848.66	838.09	SP-2
S-3	MnDOT 4007C	48 Ø	RC	NEENAH R1733 'SANITARY SEWER' STAMP SELF CLEANING PICK HOLES	5.39	848.64	843.25	SP-3

PLOT DATE: 06/02/23 12:22 PM



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DATE: \_\_\_\_\_ LIC. NO. \_\_\_\_\_

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PROJECT

**MISTER CAR WASH**  
**EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	JAT
06/28/23	CITY SUBMITTAL 2	JAT
08/03/23	CITY SUBMITTAL 3	JAT
09/06/23	CITY SUBMITTAL 4	JAT

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

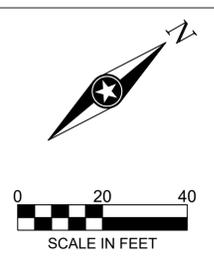
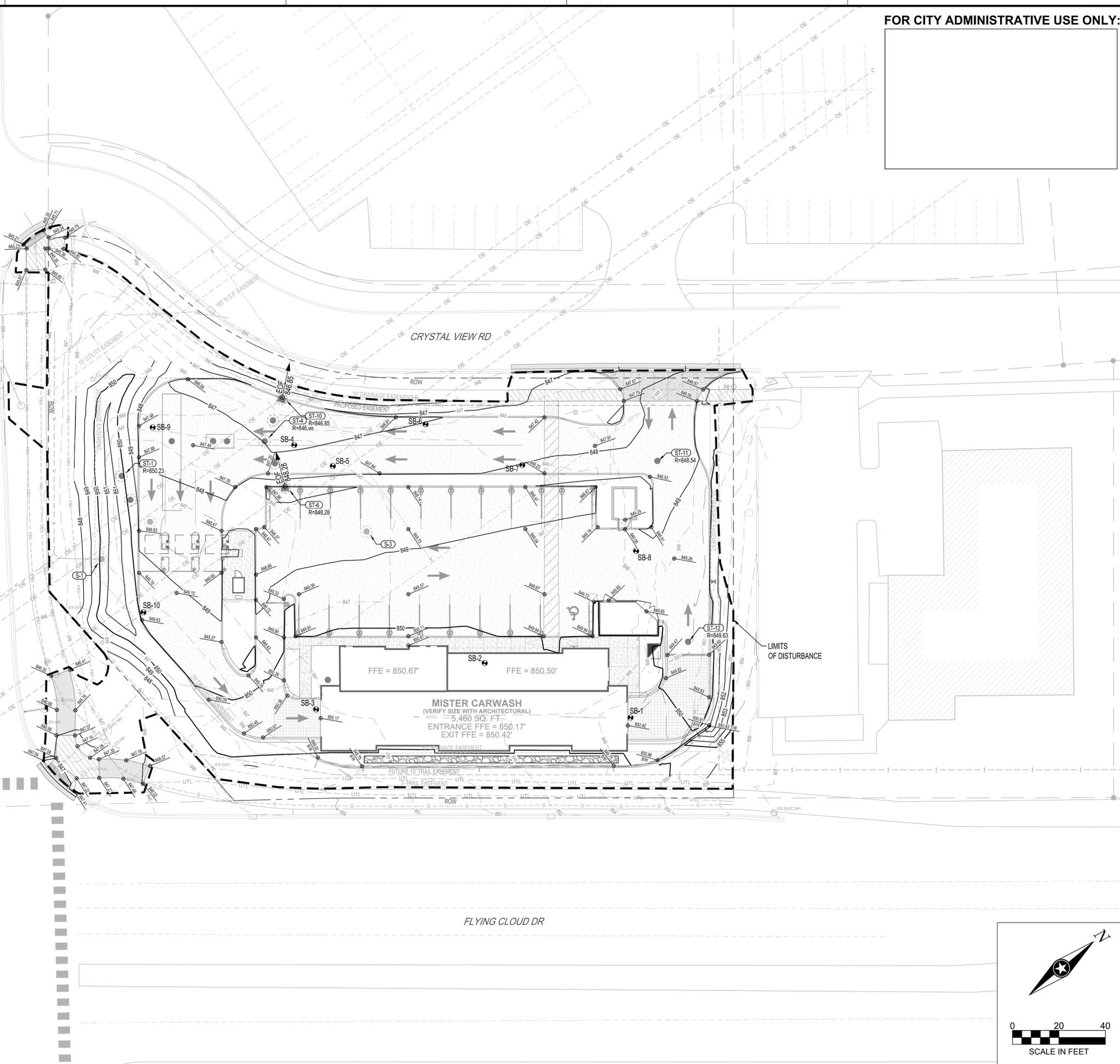
PROJECT NO.	22-27847
FILE NAME	27847 C4-GRADE
DRAWN BY	JAT
DESIGNED BY	JAT
REVIEWED BY	ART

TITLE  
**SITE GRADING PLAN**

SHEET  
**C410**

GRADING LEGEND	
	EXISTING CONTOUR (MINOR INTERVAL)
	EXISTING CONTOUR (MAJOR INTERVAL)
	PROPOSED CONTOUR (MINOR INTERVAL)
	PROPOSED CONTOUR (MAJOR INTERVAL)
	PROPOSED SPOT ELEVATION
	PROPOSED TOP BACK OF CURB SPOT ELEVATION

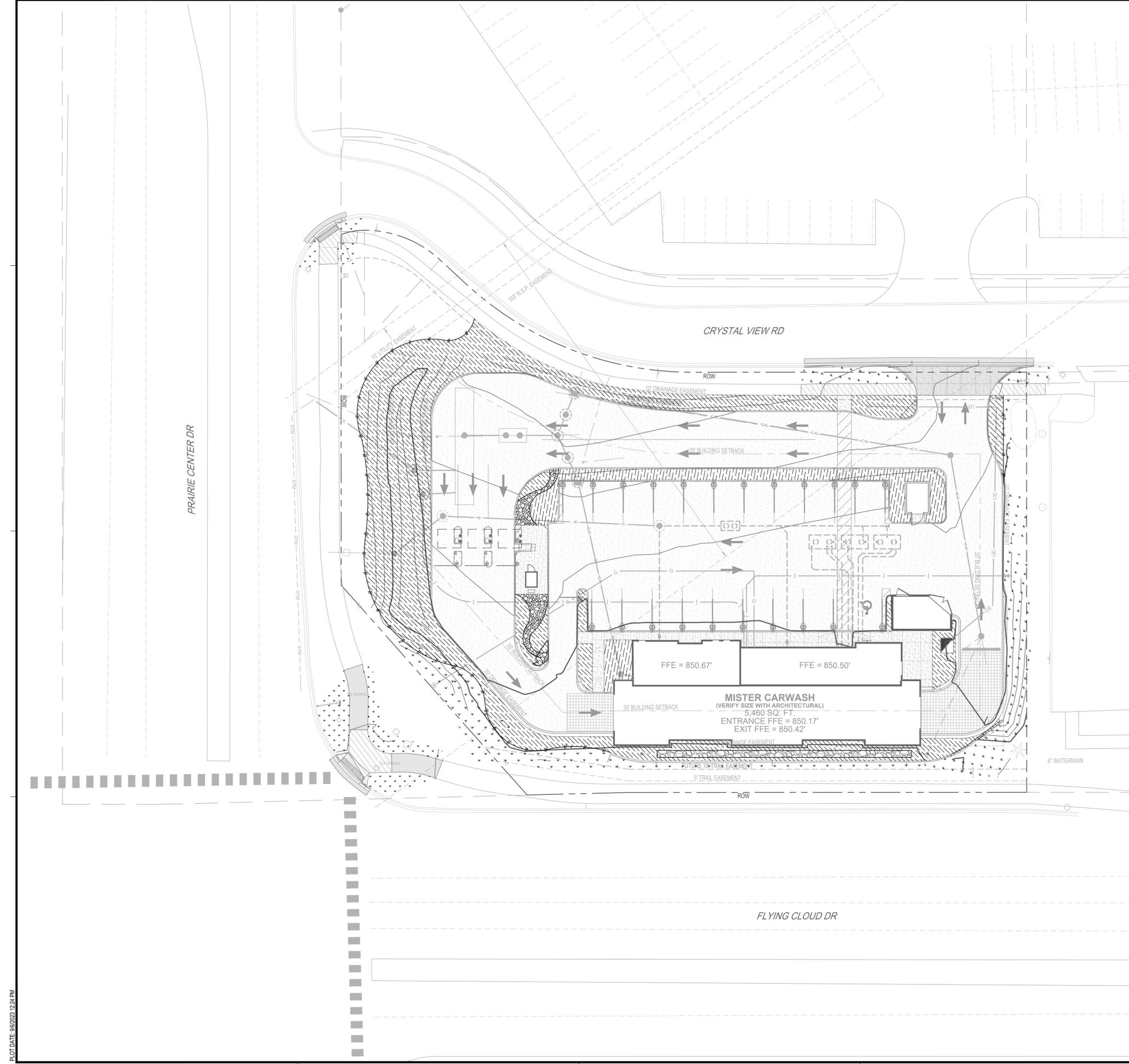
**GENERAL GRADING NOTES**  
PROPOSED CONTOURS SHOW FINISHED GRADE ELEVATIONS. BUILDING PAD AND PAVEMENT HOLD DOWNS ARE NOT INCLUDED. WHEN CONSTRUCTING BUILDING PADS WITH A HOLD DOWN, GRADE AREAS TO ENSURE POSITIVE BUILDING PAD DRAINAGE.



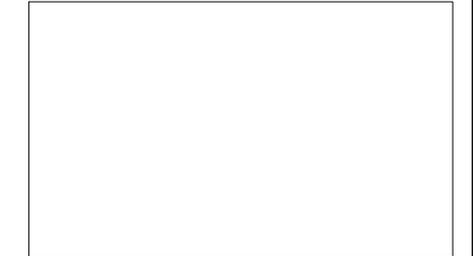
PLOT DATE: 06/20/23 12:23 PM

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RESTORATION SCHEDULE		
ROCK MULCH	QTY	BOTANICAL / COMMON NAME
	9,241 SF	2" - 3" DECORATIVE GRANTIE LANDSCAPE ROCK (TAN COLOR) WITH NON WOVEN LANDSCAPE FABRIC
	293	6" DIA TRAP ROCK AT 12" DEPTH WITH NON WOVEN LANDSCAPE FABRIC
SOD	QTY	BOTANICAL / COMMON NAME
	4,909	LOCALLY GROWN BLUEGRASS SOD

**SNOW STORAGE NOTE:** SNOW WILL BE TRUCKED OFF SITE DUE TO LIMITED STORAGE ABILITY



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PROJECT  
**MISTER CAR WASH**  
**EDEN PRAIRIE**  
EDEN PRAIRIE MINNESOTA

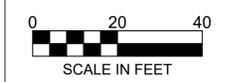
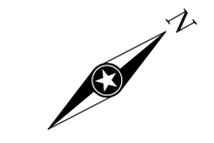
ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
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06/28/23	CITY SUBMITTAL 2	AET
08/03/23	CITY SUBMITTAL 3	AET
09/06/23	CITY SUBMITTAL 4	AET

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO. 22-27847  
FILE NAME 27847 C5 - LAND  
DRAWN BY JAT  
DESIGNED BY JAT  
REVIEWED BY ART

TITLE  
**SITE RESTORATION SHEET**

SHEET  
**C510**



PLOT DATE: 06/20/23 12:24 PM

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**CITY LANDSCAPE REQUIREMENTS**

**GENERAL LANDSCAPE REQUIREMENTS:**

**TOTAL CALIPER INCHES REQUIRED:**  
 THE MINIMUM NUMBER OF CALIPER INCHES OF TREES REQUIRED SHALL BE DETERMINED BY DIVIDING THE TOTAL GROSS SQUARE FOOTAGE OF ALL FLOORS OF A BUILDING BY 320 SF.

- TOTAL GROSS FOOTAGE BUILDING 5,460 SF / 320 SF = 17" CALIPERS REQUIRED / 19" PROVIDED
- TOTAL CALIPER INCHES FROM TREES: 2 TREES X 2.5" = 5" CALIPERS
- SHRUB REPLACEMENT: 25 SHRUBS = 12" CALIPERS

**PLANTING REQUIREMENTS:**

- NO MORE THAN 80% OF TREES MAY BE A MINIMUM SIZE REQUIREMENT.
- CONIFEROUS TREES MAY BE CONSIDERED EQUIVALENT TO OVERSTORY TREES BY DIVIDING THE HEIGHT OF CONIFEROUS TREES BY 2.4 TO DETERMINE EQUIVALENT CALIPER IN INCHES.
- UNDERSTORY TREES MAY MAKE UP NO MORE THAN 20% OF THE TOTAL TREE CALIPER INCHES REQUIRED.
- SHRUBS, PERENNIALS, OR PLANTING BEDS MAY BE SUBSTITUTED FOR TREES ACCORDING TO THE FOLLOWING LIMIT: NOT LESS THAN 10% AND NO MORE THAN 25% OF THE TOTAL TREE CALIPER INCHES REQUIRED SHALL BE REPLACED WITH SHRUBS AND PERENNIALS.
- FOR SHRUB SUBSTITUTION A REPLACEMENT RATIO OF 6 SHRUBS MAY REPLACE A 3" CALIPER TREE

**TREE REPLACEMENT:**

HERITAGE TREES ON SITE: 0 TREES  
 SIGNIFICANT TREES ON SITE: 6 TREES (5 TREES BEING REMOVED)  
 TOTAL TREES ON SITE: 7 TREES

SIGNIFICANT TREE REPLACEMENT FORMULA:  $[(A/B) \times 0.5] \times A = D$   
 CALCULATION:  $[(88/101) \times 0.5] \times 88 = 39"$

- (A) TOTAL DIAMETER INCHES OF SIGNIFICANT TREES LOST = 88"
- (B) TOTAL DIAMETER INCHES OF SIGNIFICANT TREES ON SITE = 101"
- (C) TREE REPLACEMENT CONSTANT = 0.5
- (D) TOTAL INCHES OF CALIPERS REQUIRED = 39"

- CALIPER INCHES PROVIDED = 39"
- REPLACEMENT TREES ARE MARKED WITH A RED **R** ON PLANTING PLAN

TOTAL CALIPER INCHES ON SITE = 56"

REFER TO SHEET C5-20 FOR TREE SIZES. SEE SHEET C2-10 FOR EXISTING TREE LOCATIONS

**SCREENING REQUIREMENTS:**

- ALL MECHANICAL EQUIPMENT LOCATED ON THE GROUND SHALL BE SCREENED.
- SCREENING SHALL CONSIST OF ANY COMBINATION OF THE FOLLOWING: EARTH MOUNDS, FENCES, SHRUBS, COMPACT EVERGREEN TREES OR DECIDUOUS HEDGES.
- HEDGE MATERIALS MUST BE AT LEAST 3 FEET IN HEIGHT AT PLANTING.

**SIZE REQUIREMENTS FOR PLANTING:**

- DECIDUOUS OVERSTORY PLANTING = A MINIMUM OF 2.5" CALIPER & A MAXIMUM OF 5" CALIPER
- DECIDUOUS UNDERSTORY TREES = A MINIMUM OF 1.5" CALIPER & A MAXIMUM OF 5" CALIPER
- CONIFEROUS TREES = A MINIMUM OF 6" IN HEIGHT & A MAXIMUM OF 10" IN HEIGHT
- SHRUBS = 5 GALLON CONTAINER
- PERENNIAL GRASSES = 1 GALLON CONTAINER

**SNOW STORAGE NOTE: SNOW WILL BE TRUCKED OFF SITE DUE TO LIMITED STORAGE ABILITY**

**FOR CITY ADMINISTRATIVE USE ONLY:**

**PLANT SCHEDULE**

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	SIZE	ROOT
AB	2	ABIES BALSAMEA BALSAM FIR	8' HT MIN	B & B
PD	2	PICEA GLAUCA 'DENSATA' BLACK HILLS SPRUCE	6' HT MIN	B & B
PW	2	PINUS CEMBRERA 'HERMAN TM' PRAIRIE STATESMAN SWISS STONE PINE	6' HT MIN	B & B
OVERSTORY TREES	QTY	BOTANICAL / COMMON NAME	SIZE	ROOT
GI	6	GLEDITSIA TRIACANTHOS 'INERMIS' 'SKYCOLE' TM SKYLINE HONEY LOCUST	3" CAL	B & B
GD	2	GYMNOCLADUS DIOICA 'ESPRESSO' KENTUCKY COFFEETREE	3" CAL	B & B
UNDERSTORY TREES	QTY	BOTANICAL / COMMON NAME	SIZE	ROOT
CA	1	CORNUS ALTERNIFOLIA PAGODA DOGWOOD	2.5" CAL	B & B
DECIDUOUS SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	ROOT
CO-M	12	CORNUS RACEMOSA 'MUSZAM' TM MUSKINGUM GRAY DOGWOOD	5 GAL	CONT
CR	17	CORNUS SERICEA RED TWIG DOGWOOD	5 GAL	CONT
DL	57	DIERVILLA SESSILIFOLIA BUSH HONEYSUCKLE	5 GAL	B & B
PH-O	48	PHYSCARPUS OPULIFOLIUS 'DONNA MAY' TM LITTLE DEVIL NINEBARK	5 GAL	CONT
SS	7	SORBARIA SORBIFOLIA 'SEM' SEM ASH LEAF SPIREA	5 GAL	CONT
EVERGREEN SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	ROOT
AB2	36	ABIES BALSAMEA 'NANA' DWARF BALSAM FIR	5 GAL	CONT
JC	38	JUNIPERUS CHINENSIS 'SEA GREEN' SEA GREEN JUNIPER	5 GAL	CONT
JS	57	JUNIPERUS SQUAMATA 'BLUE STAR' BLUE STAR JUNIPER	5 GAL	CONT
TB	7	THUJA OCCIDENTALIS 'BALIJOHN' TECHNITO ARBORVITAE	5 GAL	CONT
TG2	63	THUJA OCCIDENTALIS 'GOLDEN GLOBE' GOLDEN GLOBE CEDAR	5 GAL	CONT
GRASSES	QTY	BOTANICAL / COMMON NAME	SIZE	ROOT
PA-V	18	PANICUM VIRGATUM SWITCH GRASS	3 GAL	CONT
PN2	93	PANICUM VIRGATUM 'NORTHWIND' NORTHWIND SWITCH GRASS	3 GAL	CONT
PH	101	PENNISETUM ALOPECUROIDES 'HAMELN' HAMELN FOUNTAIN GRASS	2 GAL	CONT
SL2	32	SCHIZACHYRIUM SCOPARIUM LITTLE BLUESTEM	2 GAL	CONT
PP	90	SESERIA AUTUMNALIS AUTUMN MOOR GRASS	2 GAL	CONT
SH	26	SPOROBOLUS HETEROLEPIS PRAIRIE DROPSSEED	2 GAL	CONT
PERENNIALS	QTY	BOTANICAL / COMMON NAME	SIZE	ROOT
AM	20	ALLIUM X 'MILLENNIUM' MILLENNIUM ORNAMENTAL ONION	2 GAL	CONT
NW	24	NEPETA X FAASSENII 'WALKER'S LOW' WALKER'S LOW CATMINT	2 GAL	CONT

**LANDSCAPE SCHEDULE**

BOULDERS	QTY	DESCRIPTION
	18	3' x 2' x 1.5' PROPOSED BOULDERS (SEE DETAIL) SUBMIT PICTURES & DIMENSIONS PRIOR TO INSTALLATION
	41	2' x 1.5' x 1' PROPOSED BOULDERS (SEE DETAIL) SUBMIT PICTURES & DIMENSIONS PRIOR TO INSTALLATION
LIGHTING	QTY	DESCRIPTION
	16	TREE UPLIGHT BY LUMINAIRE MODEL KG-3LED-SB



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PROJECT

**MISTER CAR WASH**

**EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	AET
06/28/23	CITY SUBMITTAL 2	AET
08/03/23	CITY SUBMITTAL 3	AET
09/06/23	CITY SUBMITTAL 4	AET

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO. 22-27847

FILE NAME 27847 C5 - LAND

DRAWN BY JAT

DESIGNED BY JAT

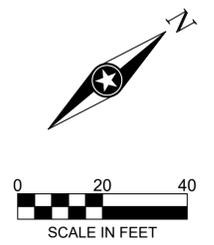
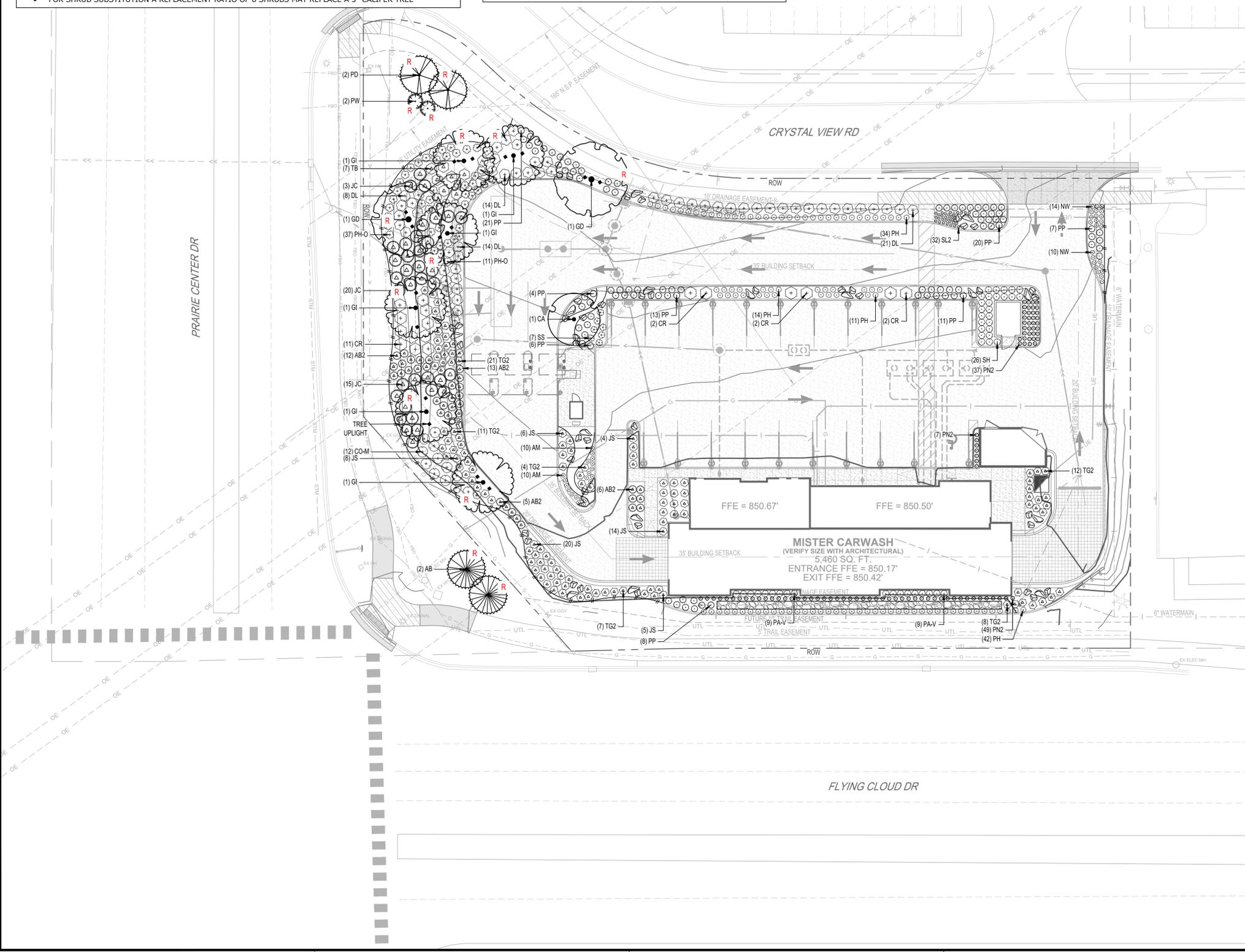
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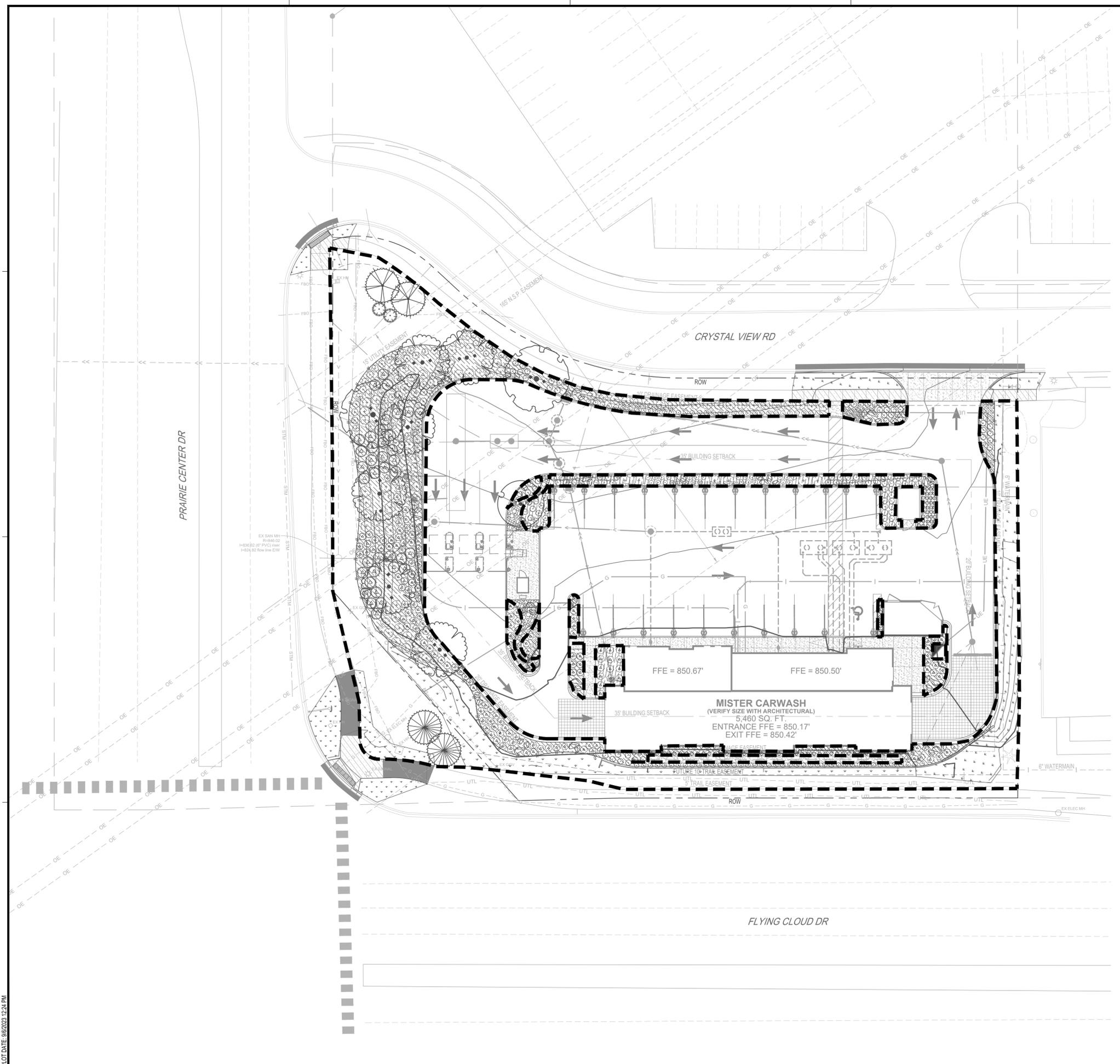
**SITE PLANTING PLAN**

SHEET

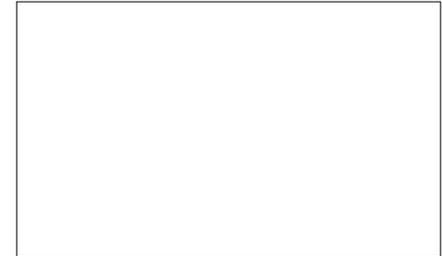
**C511**



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IRRIGATION LEGEND	
SIDEWALK SF NOT INCLUDED IN TOTAL CALCULATIONS	
SYMBOL	DESCRIPTION
	IRRIGATION LIMITS

**IRRIGATION NOTES**

- IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND VERIFICATION OF ALL EXISTING UTILITIES AND STRUCTURES. EXERCISE EXTREME CARE IN EXCAVATING AND WORKING NEAR UTILITIES. DAMAGE DONE TO UTILITIES, STRUCTURES, OR OTHER FINISHED WORK SHALL BE REPAIRED OR REPLACED AT THE IRRIGATION CONTRACTORS EXPENSE.
- IRRIGATION CONTRACTOR TO FIELD ADJUST DRIP LINE LOCATIONS SO AS TO AVOID CONFLICTS WITH TREES, SITE FURNITURE, AND UTILITIES.
- INSTALL PVC SCHEDULE 40 PIPE SLEEVES UNDER HARDSCAPE AT ALL POINTS WHERE IRRIGATION MAIN LINE AND LATERALS ARE LOCATED.
- INSTALL ALL MAINLINES TO SLOPE AT 1% MINIMUM TO MANUAL DRAIN VALVES LOCATED AT LOW POINTS OR AS INDICATED ON PLANS OF MAINLINE SYSTEM.
- THE CONTRACTOR SHALL PLACE A #12 SOLID COPPER TRACE WIRE WITH PURPLE PE COVER FOR WATER ALONG ALL PVC MAINLINE. THIS INCLUDES ALL PVC MAINLINE CONNECTING QUICK COUPLER VALVES.
- THE IRRIGATION CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR TO ENSURE THE POINT OF CONNECTION IS PROVIDED PER PLANS.
- INSTALL A BACKFLOW PREVENTER AND ENCLOSURE AT THE POINT OF CONNECTION. INSTALL PER MANUFACTURE'S SPECIFICATIONS. COORDINATE WITH THE CITY OF EDEN PRAIRIE TO ENSURE THE POINT OF CONNECTION MEETS ALL CODES.
- IRRIGATION CONTRACTOR SHALL INSTALL DRIP IRRIGATION SYSTEM FOR ALL PLANTING AREAS. CONTRACTOR TO SUBMIT IRRIGATION PLAN AND PRODUCT INFORMATION TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- CONTRACTOR TO INSTALL NEW TORO CUSTOM COMMAND SERIES / HUNTER ACC-D / RAIN BIRD ESP-LXIVM CONTROLLER WITH STAINLESS STEEL PEDESTAL MOUNT. SOURCE IRRIGATION CONTROLLER, RAIN / FREEZE SENSOR, QUICK COUPLERS, AND CONTROL VALVES FROM ONE MANUFACTURER. CONTRACTOR TO VERIFY 110V UNINTERRUPTED ELECTRICAL SERVICE FOR THE CONTROLLER. CONTRACTOR TO INSTALL CONTROLLER PER MANUFACTURERS SPECIFICATIONS.
- INSTALL VALVE BOX LOCATIONS IN PLANTING AREAS, PARALLEL TO AND SET BACK FROM PAVEMENT EDGES AS INDICATED ON THE PLANS.
- PROTECT AT ALL TIMES THE WORK FROM DAMAGE AND THEFT. REPLACE ALL DAMAGED OR STOLEN PARTS AT CONTRACTOR'S EXPENSE UNTIL THE WORK IS ACCEPTED IN WRITING BY THE CLIENT.
- IRRIGATION DESIGN TO BE DESIGN BUILD. CONTRACTORS SHALL COMPLY WITH AND SUBMIT APPROVAL FOR IRRIGATION SYSTEM ACCORDING TO ALL LOCAL CODES.



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PROJECT

**MISTER CAR WASH  
EDEN PRAIRIE**

EDEN PRAIRIE MINNESOTA

ISSUE SCHEDULE		
DATE	DESCRIPTION	BY
04/18/23	CITY SUBMITTAL 1	AET
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08/03/23	CITY SUBMITTAL 3	AET
09/06/23	CITY SUBMITTAL 4	AET

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO. 22-27847

FILE NAME 27847 C5 - LAND

DRAWN BY JAT

DESIGNED BY JAT

REVIEWED BY ART

TITLE

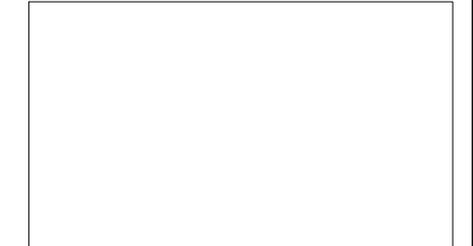
**SITE IRRIGATION PLAN**

SHEET  
**C520**

PLOT DATE: 06/20/23 12:24 PM

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EDEN PRAIRIE**

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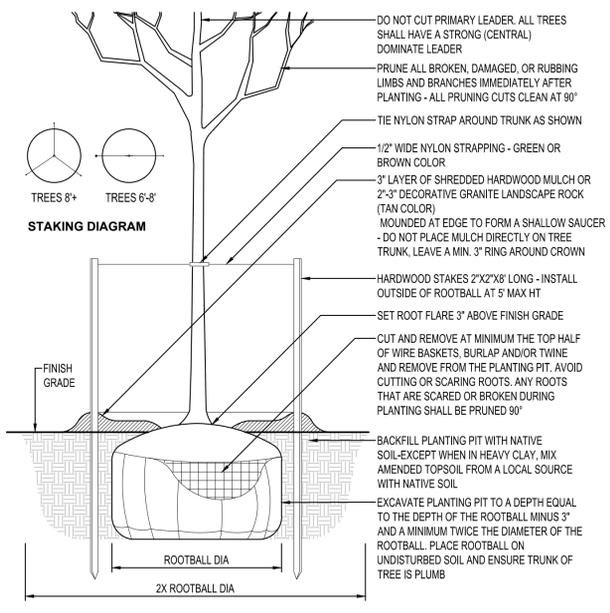
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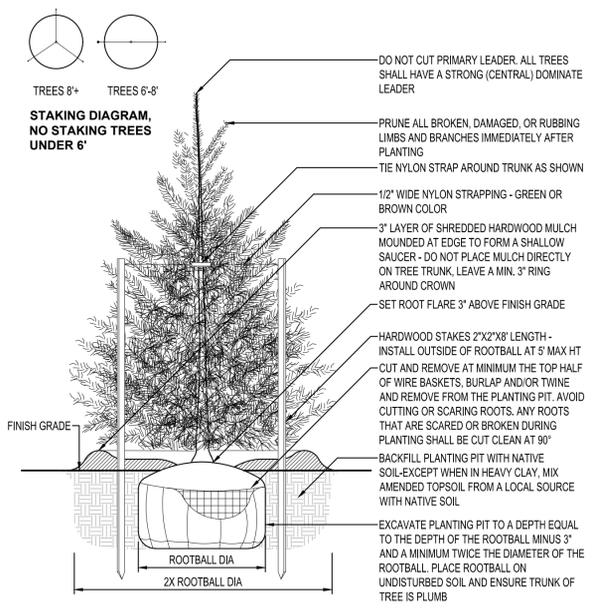
TITLE

**PLANTING NOTES AND DETAILS**

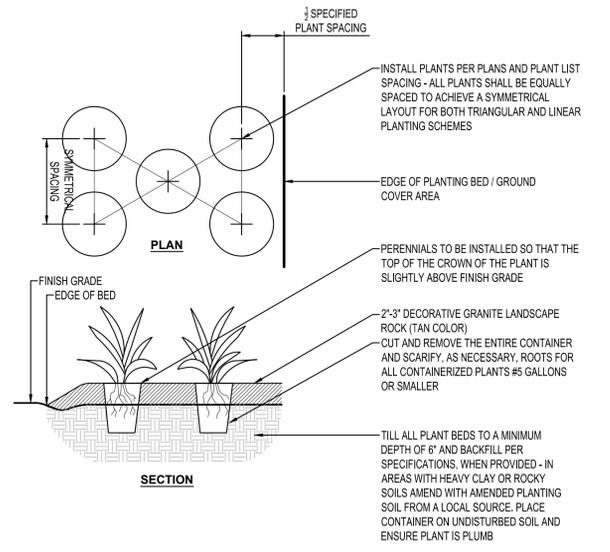
SHEET **C530**



**DECIDUOUS TREE PLANTING**  
NTS



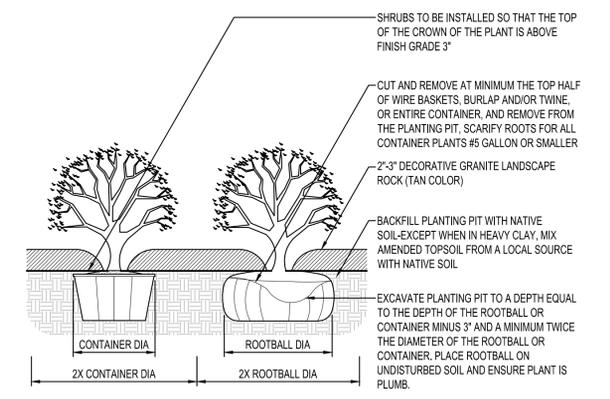
**EVERGREEN TREE PLANTING**  
NTS



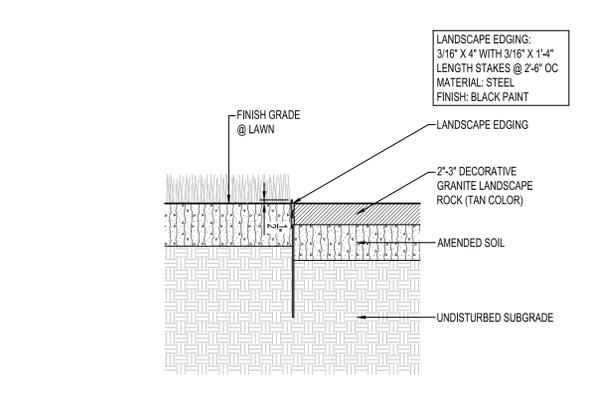
**PERENNIAL PLANTING**  
NTS

**EXISTING TREES:**

Tree Tag Number	Tree Species	DBH (Inches)	Structural Condition	Health Condition
1226	Ash, Green	23.5	4-Poor	4-Poor
1227	Pine, Austrian	23.5	1-Excellent	1-Excellent
1228	Pine, Austrian	13.5	3-Fair	3-Fair
1229	Pine, Austrian	15	1-Excellent	1-Excellent
1230	Hemlock, Eastern	13	2-Good	2-Good
1232	Hemlock, Eastern	12.5	2-Good	2-Good
1233	Hemlock, Eastern	8	2-Good	2-Good



**SHRUB PLANTING**  
NTS



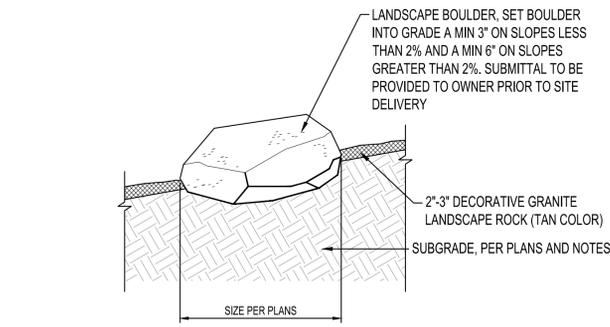
**LANDSCAPE EDGING**  
NTS

**NOTES:**

ALL BOULDERS SHALL BE FREE OF SHARP EDGES AND SURFACES THAT COULD BE HARMFUL TO PEDESTRIANS. FLAT SIDE OF BOULDER TO BE PLACED UPWARDS.

BOULDERS TO BE LOCALLY SOURCED FIELDSTONE BOULDERS, SUBMIT PICTURES AND DIMENSIONS PRIOR TO INSTALLATION TO LANDSCAPE ARCHITECT.

GENERAL BOULDER SIZES:  
35% 3' X 2' X 1.5'  
65% 2' X 1.5' X 1'



**LANDSCAPE BOULDERS**  
NTS

**PLANTING NOTES**

- COORDINATE LOCATION OF ALL UTILITIES (LINES, DUCTS, CONDUITS, SLEEVES, FOOTINGS, ETC.) WITH LOCATIONS OF PROPOSED LANDSCAPE ELEMENTS (FENCE, FOOTINGS, TREE ROOTBALLS, ETC.). CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO OWNER'S REPRESENTATIVE PRIOR TO CONTINUING WORK.
- SAVE AND PROTECT ALL EXISTING TREES NOT NOTED TO BE REMOVED.
- REMOVE ALL CONSTRUCTION DEBRIS AND MATERIALS INJURIOUS TO PLANT GROWTH FROM PLANTING PITS AND BEDS PRIOR TO BACKFILLING WITH PLANTING MIX.
- REFER TO PLANTING DETAILS FOR AMENDED SOIL DEPTH IN PLANTING BEDS AND SURROUNDING TREES.
- FIELD STAKE PLANTINGS ACCORDING TO PLAN. OWNER'S REPRESENTATIVE SHALL APPROVE ALL PLANT LOCATIONS PRIOR TO INSTALLATION. OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REVISE PLANTING LAYOUT AT TIME OF INSTALLATION.
- ALL PLANT MATERIALS SHALL BE TRUE TO THEIR SCIENTIFIC NAME AND SIZE AS INDICATED IN THE PLANT SCHEDULE.
- IF DISCREPANCIES EXIST BETWEEN THE NUMBER OF PLANTS DRAWN ON THE PLANTING PLAN AND THE NUMBER OF PLANTS IN THE SCHEDULE, THE PLANTING PLAN SHALL GOVERN.
- ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE, AND ONLY AFTER WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
- ALL PLANT MATERIALS MUST CONFORM TO AMERICAN STANDARDS FOR NURSERY STOCK (ANSI Z60-1), LATEST EDITION PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, WASHINGTON D.C. LARGER SIZED PLANT MATERIALS OF THE SPECIES LISTED MAY BE USED IF THE STOCK CONFORMS TO ANSI Z60-1.
- ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN A LIVE AND HEALTHY GROWING CONDITION FOR ONE FULL GROWING SEASON (ONE YEAR) AFTER FINAL PROJECT ACCEPTANCE OR SHALL BE REPLACED BY THE CONTRACTOR FREE OF CHARGE WITH THE SAME GRADE AND SPECIES.
- ALL TREES SHALL HAVE A STRONG CENTRAL LEADER. ANY TREES DEEMED NOT TO HAVE A STRONG CENTRAL LEADER SHALL BE REJECTED.
- CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE DUE TO CONSTRUCTION OPERATIONS. ANY AREAS THAT ARE DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE SHREDDED HARDWOOD MULCH OR 2"-3" DECORATIVE GRANITE LANDSCAPE ROCK (TAN COLOR) SURROUNDING ALL PROPOSED TREES (5' Ø) AND WITHIN PLANTING BEDS TO A 3" MINIMUM DEPTH AS SHOWN IN TREE PLANTING DETAIL. DO NOT USE AN UNDERLAYMENT SUCH AS PLASTIC SHEET OR LANDSCAPE FABRIC. APPLY PRE-EMERGENT TO ALL PLANTING BEDS PRIOR TO MULCHING. REFER TO PLANS FOR ADDITIONAL DETAILS. REFER TO STORMWATER DETAILS FOR BASIN CONSTRUCTION AND MULCH APPLICATION.
- MULCHING MATERIAL SHALL BE 2"-3" DECORATIVE GRANITE LANDSCAPE ROCK (TAN COLOR), WITH NO INDIVIDUAL PIECES LARGER THAN 3". FREE OF GROWTH OR GERMINATION INHIBITING INGREDIENTS, 3" MINIMUM DEPTH. MINIMUM DEPTHS AT LOCATIONS INDICATED ON DRAWINGS.
- CONTRACTOR SHALL PROVIDE SAMPLE OF MULCH TO BE APPROVED BY THE LANDSCAPE ARCHITECT.
- INDICATED QUANTITIES ARE ESTIMATES AND SHALL BE CONFIRMED BY THE CONTRACTOR.
- ADJUST SPACING OF PLANT MATERIALS AROUND ADJACENT UTILITY STRUCTURES.