RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT
18681 Lake Drive East
Chanhassen, MN 55317
952-607-6512
www.rpbcwd.org

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2024-003

Considered at Board of Managers Meeting: May 8, 2024

Received complete: March 22, 2024

Applicant:	Asian Plaza Property LLC, Amor Zhao
Consultant:	Elliott Design Build, Lance Elliott
Project:	Asian Mall Parking Expansion – The applicant proposes the expansion of an existing parking lot associated with the Asian Mall in Eden Prairie, conversion of the existing stormwater pond to a subsurface stormwater facility, along with addition of two StormFilter manufactured treatment devices and a second underground stormwater facility to provide volume control, water quality, and rate control.
Location:	The existing parking lot of the Asian Mall at 12160 Technology Dr, Eden Prairie, MN
Reviewer:	Scott Sobiech, P.E., Barr Engineering

Board Action

Manager _____ moved and Manager _____ seconded adoption of the following resolution based on the permit report that follows and the presentation of the matter at the May 8, 2024 meeting of the managers:

Resolved that the application for Permit 2024-003 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report.

Resolved that on determination by the RPBCWD administrator that the conditions of approval have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2024-003 to the applicant on behalf of RPBCWD.

Upon roll call vote, the resolutions were adopted, _____.

Applicable Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
B	**Floodplain Management and Discharge Alterations**		Yes	
C	**Erosion Control Plan**		Yes	See rule-specific permit condition C1 related to name of individual responsible for on-site erosion control.
J	**Stormwater Management**	Rate	Yes	
		Volume	Yes	
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	See comment	See rule-specific permit condition J1 related to recordation of stormwater facility maintenance declaration.
		Chloride Management	See comment	See stipulation #5 related to providing an executed chloride management plan prior to permit close-out.
		Wetland Protection	Yes	
L	**Permit Fee Deposit**		Yes	$3,000 deposit fee received February 22, 2024. As of April 22, 2024 the amount due is $3,505.
M	**Financial Assurance**		See Comment	The financial assurance is calculated at $914,933

Background

The applicant proposes to construct 80 new parking spaces, convert the existing wet detention basin into a subsurface stormwater facility, install two StormFilter manufactured treatment devices, and construct a second underground stormwater facility at the Asian Mall location in Eden Prairie. The underground stormwater management facilities and StormFilter manufactured treatment devices will provide stormwater quantity, volume, and quality control.

While there are no on-site protected wetlands, the two downgradient waterbodies that receive runoff from the site are summarized in the following table.

Water resource impacted by proposed project

Water Resource	Projected resource impacts
Lake Idlewild	An off-site Public Water (27007400).
West Wetland	An off-site medium-value wetland downgradient of the proposed land-disturbing activities to the west of the site.

.

The project site information is summarized in the table below:

Site Information

Project Site Information	Area
Total Site Area, acres	4.8
Existing Site Impervious, acres	3.26
Proposed Site Impervious Area, acres	4.21
New Impervious Area , acres	0.95 (29.1% increase)
Disturbed Existing Impervious Area, acres	0.11 (<0.1% disturbed)
Exempt Rehabilitated Impervious area, acres	0.05
Regulated Impervious Area, acres	1.01
Total Disturbed Area, acres	1.06

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

1. Permit Application received January 11, 2024 (Notified applicant on January 19, 2024 that submittal was incomplete; materials completing the application were received on March 22, 2024).
2. Stormwater Management Report dated January 10, 2024 (revised February 20, 2024 and March 22, 2024)
3. Project Plan Set (7 sheets) dated January 10, 2024 (revised February 20, 2024 and March 22, 2024)
4. Electronic HydroCAD models received on January 11, 2024, 2023 (revised February 20, 2024)
5. Electronic MIDS models received on January 11, 2024 (revised February 20, 2024 and March 22, 2024)
6. Soils report by Elliot Design Build dated February 20, 2024.
7. Double ring infiltrometer test data dated November 21, 2023
8. Engineer's Preliminary Estimate of Construction Costs dated February 20, 2024 (revised March 22, 2024)
9. Engineer's Response to Comments received February 20, 2024
10. Engineer's Response to Comments received March 22, 2024

Rule Specific Permit Conditions

Rule B: Floodplain Management

Because the proposed redevelopment project involves the conversion of the existing wet detention basin with a subsurface stormwater facility, which entails filling below the 100-year high water elevation of the existing wet-detention basin, the project activities must conform to the RPBCWD's Floodplain Management and Drainage Alterations rule (Rule B).

Because no buildings are proposed to be constructed or reconstructed as part of the project, Rule B, subsection 3.1 does not impose requirements on the project. Placement of fill below the 100-year flood elevation of a stormwater facility is prohibited unless fully compensatory flood storage is provided within the same floodplain and at or below the same elevation for fill in the floodplain of a water basin (Rule B, Subsection 3.2b). The supporting materials summarized in the following table demonstrate, and the RPBCWD Engineer concurs, that the proposed conversion of the existing wet detention basin to a subsurface facility will provide a net increase in the floodplain storage of 391 cubic yards below the existing 100-year floodplain. Because the compensatory storage for the fill will be provided in and adjacent to the existing floodplain area, the project conforms to the requirement of Rule B, Subsection 3.2.

Existing Stormwater Facility	100-Year Elevation (feet)	Existing Flood Storage Volume (CY)	Proposed Feature Providing Compensatory Storage	Proposed Flood Storage (CY)
Wet Detention Basin	858.04	1,748	Eastern Subsurface Stormwater Facility	2,139

Because replacing the existing stormwater facility to facilitate site development will alter the timing and duration of flows leaving the site, the applicant must demonstrate that the alterations will not have an adverse offsite impact and will not adversely affect flood risk, basin or channel stability, groundwater hydrology, stream baseflow, water quality, or aquatic or riparian habitat (Rule B subsection 3.3). The RPBCWD engineer concurs with the applicant's use of Board of Water and Soil Resources' Recommended Wetland Management Standards: Minnesota Routine Assessment Method for Evaluating Wetland Functions, Version 3.0 to demonstrate the change in hydrology will not adversely impact the downstream wetland. These are the same criteria listed in Table J1 of the stormwater rule for wetland protection. The analysis presented under the Wetland Protection section of the Rule J analysis (below) shows the project aligns with BWSR's recommended wetland management standard and RPBCWD wetland protection criteria, thus the applicant has demonstrated the project will not adversely impact the downstream wetland.

The applicant also provided pre- and post-project water quality modeling to demonstrate no adverse impact to water quality. The modeling results show the post-project total suspended solids and total phosphorus load leaving the site towards the wetland and Lake Idlewild will be less than the existing load leaving the site (see Water Quality Section of the Rule J analysis). In addition, the applicant's modeling indicates the peak discharge rates leaving the site towards the wetland and Lake Idlewild are less under proposed conditions than for existing conditions. These also support the engineer's determination that the project is not reasonably likely to adversely affect flood risk, basin or channel stability, or stream baseflow, thus meeting the requirements of Rule B, subsection 3.3.

Because no watercourses exist on the site, Rule B, Subsection 3.4 does not impose requirements on the project. See Rule C analysis of the applicant's submitted erosion control plan to demonstrate

conformance with Rule B, Subsection 3.5. A note on the plans indicates that activities must be conducted to minimize the potential transfer of aquatic invasive species conforming to Rule B, Subsection 3.6.

The proposed project conforms to the floodplain management and drainage alteration requirements of Rule B.

Rule C: Erosion Prevention and Sediment Control

Because the applicant proposes to alter 1.06 acres of land-surface area, the project must conform to the requirements in the RPBCWD Erosion Prevention and Sediment Control rule (Rule C, Subsection 2.1).

The erosion and sediment control plans prepared by Elliott Desing Build. include installation of silt fence, rock construction entrance, erosion control blanket, inlet protection, placement of a minimum of 6 inches of topsoil (at 5% organic matter), construction sequencing, decompaction of pervious areas compacted during construction, and retention of native topsoil onsite. To conform to RPBCWD Rule C requirements the following revisions are needed:

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

Rule J: Stormwater Management

Because the applicant proposes to disturb 1.06 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 only runoff from the new and reconstructed impervious areas on the project parcel because the impervious disturbance (<0.1 percent) and imperviousness increase (29.1 percent), do not amount to a disturbance of more than 50 percent of the impervious surface of the parcel nor will the imperviousness be increased by more than 50 percent (Rule J, Subsection 2.3).

The applicant is proposing to convert the existing wet detention basin into an subsurface stormwater management facility, install two StormFilter manufactured treatment device, and construct a second underground stormwater facility to provide the rate control, volume abstraction and water quality management for the disturbed and replaced impervious area. Pretreatment for runoff entering the subsurface stormwater management facility is being provided by sump manholes.

Rate Control

In order to meet the rate control criteria listed in Subsection 3.1.a, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations

where stormwater leaves the site. The Applicant used a HydroCAD hydrologic model to simulate runoff rates for pre- and post-development conditions for the 2-, 10-, and 100-year frequency storm events using a nested rainfall distribution, and a 100-year frequency, 10-day snowmelt event. The existing and proposed 2-, 10-, and 100-year frequency discharges from the site are summarized in the table below. The proposed project conforms to RPBCWD Rule J, Subsection 3.1.a.

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
West	2.7	2.1	4.3	3.2	7.9	7.9	0.3	0.3
East	1.3	0.5	4.9	0.7	7.7	6.0	1.1	1.1

Volume Abstraction

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from the new and disturbed impervious surface of the parcel. An abstraction volume of 4,032 cubic feet is required from the 1.01 acres of new or reconstructed impervious area on the project for volume retention. Sump manholes will provide pretreatment for the subsurface stormwater management facility .

Six soil test pits performed by Elliott Design Build show that soils in the project area are primarily clay and show no groundwater to a pit depth of 7 feet (lowest elevation 843.9 feet). Because the proposed bottom of the subsurface stormwater management facility is at elevation 853.5, 9.6 feet above the bottom of the boring, groundwater is at least 3 feet below the bottom of the subsurface stormwater management facility, complying with Rule J, Subsection 3.1.b.ii.

Hydraulic conductivity testing by Elliot Design build revealed infiltration rates of 0.0-0.07 in/hr beneath the proposed subsurface stormwater management facility. Because four of the five tests yielded no infiltration, the infiltration capacity of the underlying soils on this site is limited. In addition, the existing wet detention pond retains water which further indicates the soil on the site has limited infiltration capacity. Because the engineer concurs that the soil information and infiltration testing support that the abstraction standard in subsection 3.1b of Rule J cannot practicably be met, the site is considered restricted and stormwater runoff volume must be managed in accordance with subsection 3.3 of Rule J.

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.

Because the measured infiltration testing results indicate the clay soils on the site have limited infiltration capacity, The engineer concurs with the applicant's proposed rock storage layer below the eastern portion of subsurface stormwater facility and the western subsurface stormwater facility to promote infiltration to the maximum extent practicable to conform to Rule J, subsection 3.3b. The designed abstraction performance for the project site is summarized in the table below.

Volume Abstraction Summary

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
0.55	2,016	0.37	1,357

Water Quality Management

Subsection 3.1.c of Rule J requires the Applicant provide for at least 60 percent annual removal efficiency for total phosphorus (TP), and at least 90 percent annual removal efficiency for total suspended solids (TSS) from site runoff, and no net increase in TSS or TP loading leaving the site from existing conditions.

The Applicant is proposing converting the existing stormwater pond to an subsurface stormwater facility, adding two StormFilter manufactured treatment devices with Phsophosorb media, and constructing a second underground stormwater facility to achieve the required TP and TSS removals and submitted MIDS modeling to estimate the TP and TSS removals. The results of this modeling are summarized in tables below showing the annual TSS and TP removal requirements are achieved and that there is no net increase in TSS and TP leaving the site. The engineer concurs with the modeling and finds that the proposed project is in conformance with Rule J, Subsection 3.1.c.

Annual TSS and TP removal summary:

Resource	Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)	Provided Load Reduction (lbs/yr)
Lake Idlewild	Total Suspended Solids (TSS)	299	269 (90%)	313 (>100%)
	Total Phosphorus (TP)	1.65	1.0 (60%)	1.73 (>100%)
West Wetland	Total Suspended Solids (TSS)	29	26 (90%)	42 (>100%)
	Total Phosphorus (TP)	0.16	0.1 (60%)	0.18 (>100%)

[1]Becuase the stormwater facilities treat runoff from the regulated disturbed area as well as unregulated areas of the site, the load reductions are larger than the regulated loading.

Summary of net change in TSS and TP leaving the site

Resource	Pollutant of Interest	Existing Site Loading (lbs/yr)	Proposed Site Load after Treatment (lbs/yr)	Change (lbs/yr)
Lake Idlewild	Total Suspended Solids (TSS)	457	234	-223
	Total Phosphorus (TP)	3.89	2.38	-1.51
West Wetland	Total Suspended Solids (TSS)	174	153	-21
	Total Phosphorus (TP)	0.96	0.9	-0.06

Low floor Elevation

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

The low floor elevation of the existing building and the 100-year flood elevation in the subsurface stormwater management facilities are provided below. Because the low floor elevation is more than two feet above the proposed 100-year flood elevation, the proposed project is in conformance with Rule J, Subsection 3.6.

Location	Building Low Floor Elevation (ft)	Stormwater Facility	100-year Event Flood Elevation of Stormwater Facility (ft)	Freeboard to 100-year Event (ft)
Existing Bldg.	871	Eastern Subsurface Stormwater Management Facility	858.98	12.02
Existing Building	871	Western Subsurface Stormwater Management Facility	862.57	8.43

Maintenance

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

J1. Permit applicant must submit a draft maintenance and inspection declaration to incorporate the stormwater management facilities proposed under this application, including the appropriate permit number, pre-treatment facilities, both underground stormwater management facilities, and proprietary stormwater devices (StormFilters). A draft declaration must be provided for District review and approval prior to recordation as a condition of issuance of the permit

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 the proposed activities discharge to downstream wetlands and alter the discharge the wetlands receive from the site, the proposed activities must conform to RPBCWD wetland protection criteria (Rule J, subsection 3.10). The applicant provided and the Engineer concurs with the below analysis of potential wetland impacts based on Table J1 of RPBCWD Rule J.

West wetland, medium value wetland, is located off site and receive direct runoff from the redevelopment. The following table summarizes the allowable change in bounce and inundation duration from Table J1 of RPBCWD Rule J. The information summarized in the following table also summarizes the applicant's analysis for wetland protection and the potential impacts on the wetlands. The project meets the Bounce and Inundation criterion and is in conformance with Rule J, subsection 3.10a.

Wetland	RPBCWD Wetland Value	Change in Bounce for, 10-Year Event (feet)	1-year change in Inundation Period (days)	2-year change in Inundation Period (days)	10-year change in Inundation Period (days)	Runout Control Elevation1
Rule J, Table J1 Criteria	Medium	Existing +/- 1.0 feet	Existing+2 days	Existing+2 days	Existing +14 days	0 to 1.0 ft above existing runout
West Wetland (offsite)	Medium	0.1	-.02	-0.2	-0.2	No change

Rule J, Subsection 3.10b requires that the regulated discharge to a medium-value wetland be treated to the water quality treatment criteria in Rule J, subsection 3.1c. The applicant provided MIDs modeling as summarized in the above water quality management analysis demonstrating the runoff from the disturbed areas tributary to wetland will be treated in conformance with Rule J, Subsection 3.10b.

Rule L: Permit Fee Deposit:

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit $3,000 to be held in escrow and applied to cover the $10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. A

permit fee deposit of $3,000 was received on February 22, 2024. If the costs of review, administration, inspections and closeout-related or other regulatory activities exceed the fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice that such deposit is due. The administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished.

L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of April 22, 2024 the amount due is $3,505.

Rule M: Financial Assurance:

	Unit	Unit Cost	# of Units	Total
Rule C: Erosion Control				
Silt Fence or Bio-logs	LF	$2.50	1,650	$4,125
Inlet Protection	EA	$100	24	$2,400
Rock Entrance	EA	$250	1	$250
Restoration	AC	$2,500	1.06	$2,650
Rule J: Chloride Management	LS	$5,000	1	$5,000
Rule J: Stormwater Management UGSWMF: 125% of engineer's opinion of cost ($1.25*653,866)	EA	125% OPC	1	$817,332
Contingency (10%)		10%		$83,175
Total Financial Assurance				**$914,933**

Applicable General Requirements:

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
3. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
4. The issuance of this permit does not convey any rights to either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

5. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.
6. RPBCWD's determination to issue this permit was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.
7. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

Findings

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

Recommendation:

Approval, contingent upon:

1. Financial Assurance in the amount of $914,933.
2. 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.
3. Receipt in recordation a maintenance declaration for the operation and maintenance all stormwater management facilities. Drafts of all documents to be recorded must be approved by the District prior to recordation and proof of recordation must be provided to RPBCWD.
4. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of April 22, 2024 the amount due is $3,505.

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

1. Continued compliance with General Requirements
2. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization, all the stormwater facilities conform to design specifications and function as intended and approved by the District. As-built/record drawings must be signed by a professional engineer licensed in Minnesota and include, but not limited to:

a. the surveyed bottom elevations, water levels, and general topography of all facilities;

b. the size, type, and surveyed invert elevations of all stormwater facility inlets and outlets;

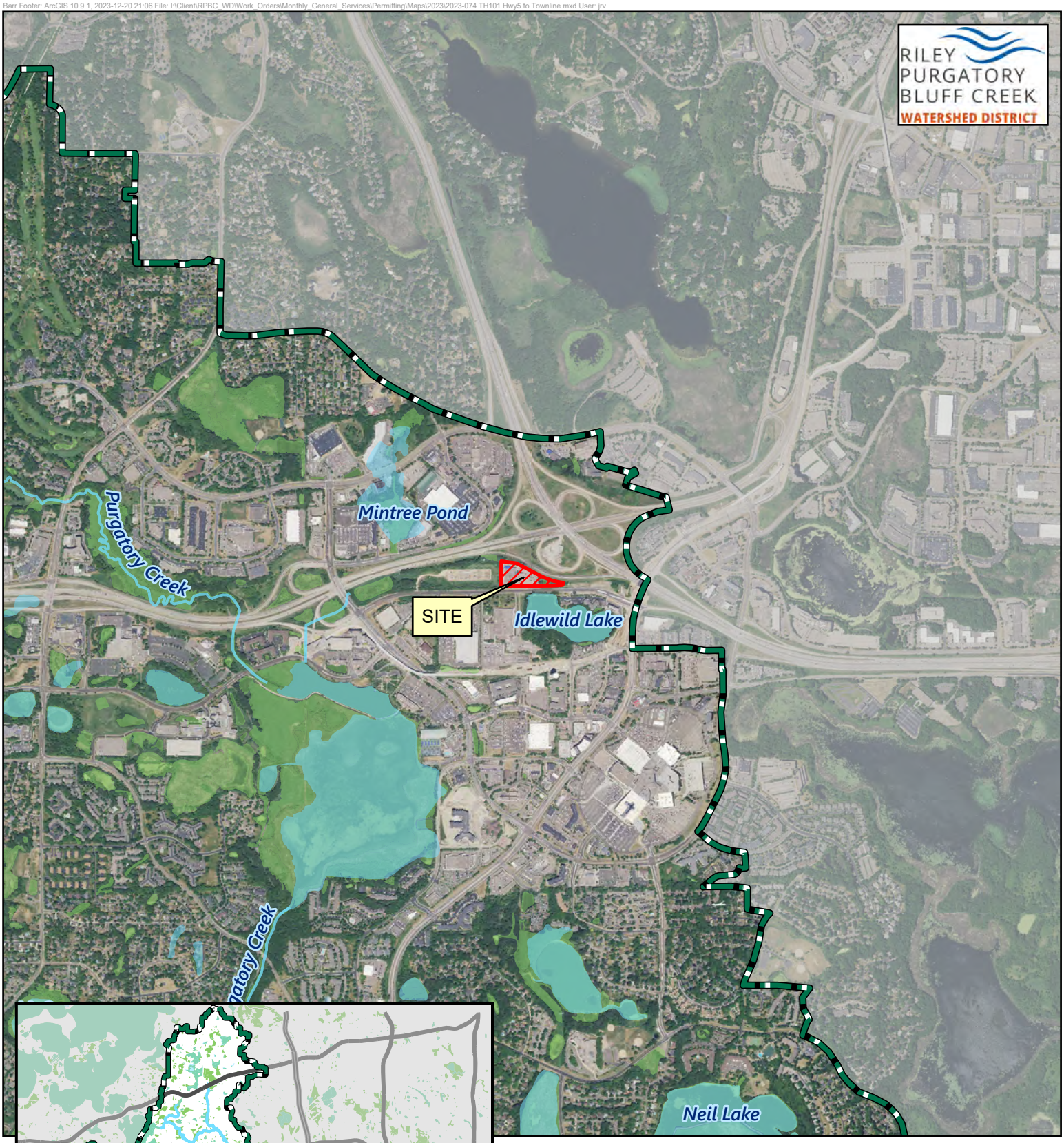
c. the surveyed elevations of all emergency overflows including stormwater facility, street, and other;

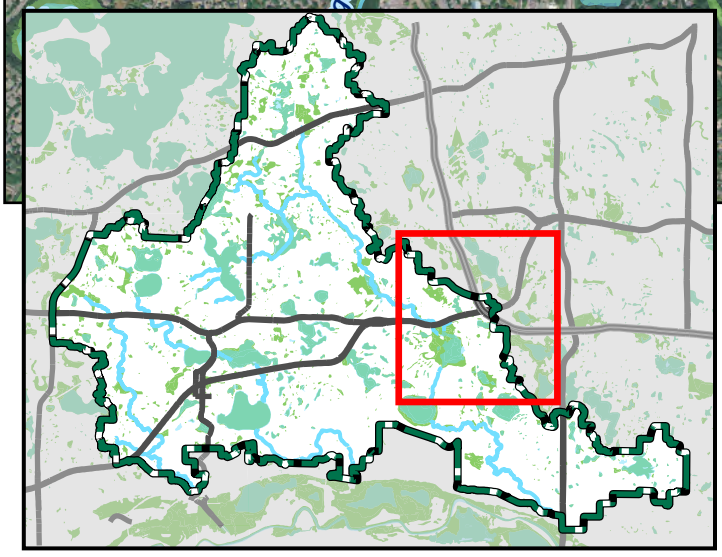
3. Providing the following additional close-out materials:

    a. Documentation that disturbed pervious areas remaining pervious have been decompacted per Rule C, subsection 3.2c criteria

4. The work on the construction project under the terms of permit 2024-003, if issued, must have an impervious surface area and configuration materially consistent with the approved plans. Design that differs materially from the approved plans (e.g., in terms of total impervious area) will need to be the subject of a request for a permit modification or new permit, which will be subject to review for compliance with all applicable regulatory requirements.

5. To close out the permit and release the $5,000 in financial assurance held for the purpose, the permit applicant must provide a chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.





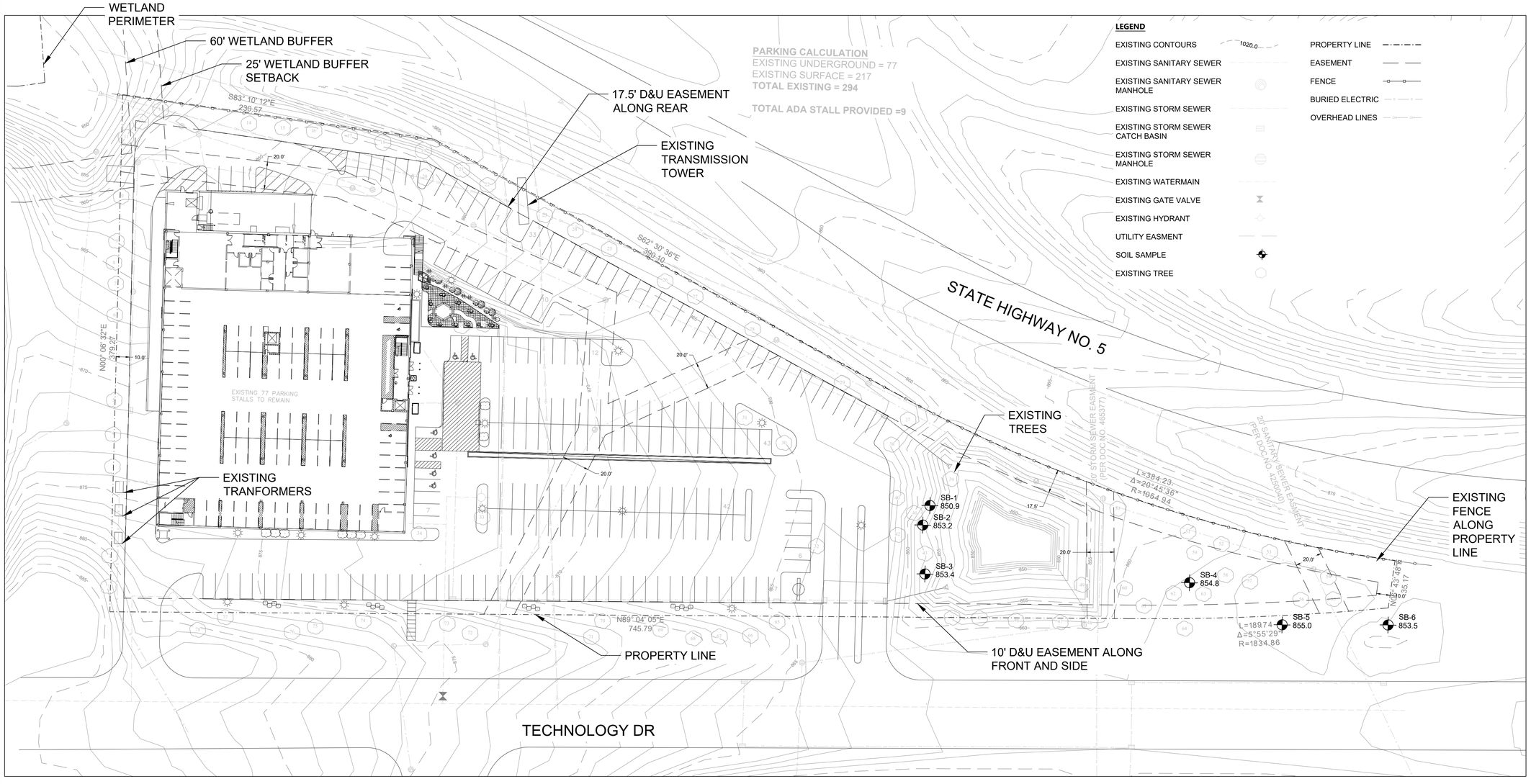
N

Feet

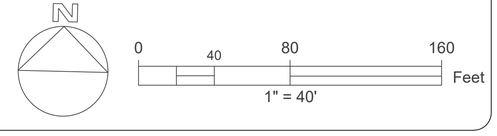
0 2,000

Permit Location Map

ASIAN MARKET PARKING
Permit 2024-003
Riley Purgatory Bluff Creek
Watershed District



Tree	Size (in dbh)	Common Name	Scientific Name	Notes	Save Non Significant Tree (in)	Save Significant Tree (in)	Remove Non Significant Tree (in)	Remove Significant Tree (in)
1	8	Japanese Tree Lilac	Syringa reticulata		8			
2	9	Japanese Tree Lilac	Syringa reticulata		9			
3	6	Crabapple	Malus sp.				6	
4	5	Crabapple	Malus sp.				5	
5	6	Japanese Tree Lilac	Syringa reticulata				6	
6	6	Crabapple	Malus sp.				6	
7	5	Crabapple	Malus sp.				5	
8	6	Japanese Tree Lilac	Syringa reticulata				6	
9	4	Japanese Tree Lilac	Syringa reticulata				4	
10	5	Crabapple	Malus sp.				5	
11	6	Japanese Tree Lilac	Syringa reticulata		6			
12	6	Japanese Tree Lilac	Syringa reticulata		6			
13	7	Crabapple	Malus sp.		7			
14	9	Crabapple	Malus sp.				9	
15	7	Japanese Tree Lilac	Syringa reticulata				7	
16	7	Crabapple	Malus sp.				7	
17	10	Crabapple	Malus sp.				10	
18	8	Crabapple	Malus sp.				8	
19	7	Crabapple	Malus sp.				7	
20	6	Crabapple	Malus sp.				6	
21	7	Japanese Tree Lilac	Syringa reticulata				7	
22	8	Japanese Tree Lilac	Syringa reticulata				8	
23	7	*Crabapple*	*Malus sp.*	*UNHEALTHY*			7	
24	7	Crabapple	Malus sp.				7	
25	5	Japanese Tree Lilac	Syringa reticulata				5	
26	7	*Crabapple*	*Malus sp.*	*UNHEALTHY*			7	
27	7	Crabapple	Malus sp.				7	
28	7	Japanese Tree Lilac	Syringa reticulata				7	
29	6	*Crabapple*	*Malus sp.*	*UNHEALTHY*			6	
30	6	*Norway Maple*	*Acer platanoides*	*UNHEALTHY*			6	
31	6	*Norway Maple*	*Acer platanoides*	*UNHEALTHY*			6	
32	6	*Norway Maple*	*Acer platanoides*	*UNHEALTHY*			6	
33	5	*Crabapple*	*Malus sp.*	*UNHEALTHY*			5	
34	4	Crabapple	Malus sp.			4		
35	7	Crabapple	Malus sp.			7		
36	6	Crabapple	Malus sp.			6		
37	6	Japanese Tree Lilac	Syringa reticulata				6	
38	6	Norway Maple	Acer platanoides				6	
39	**14**	**Cottonless Cottonwood**	**Populus deltoides**					**14**
40	8	Norway Maple	Acer platanoides				8	
41	**14**	**Cottonless Cottonwood**	**Populus deltoides**					**14**
42	9	Norway Maple	Acer platanoides				9	
43	**14**	**Cottonless Cottonwood**	**Populus deltoides**					**14**
44	**26**	**Clump Redmond Linden**	**Tilia americana**					**26**
45	7	Japanese Tree Lilac	Syringa reticulata				7	
46	9	Japanese Tree Lilac	Syringa reticulata				9	
47	**16**	**Clump Redmond Linden**	**Tilia americana**					**16**
48	**15**	**Clump Redmond Linden**	**Tilia americana**					**15**
49	11	Clump Redmond Linden	Tilia americana				11	
50	11	Japanese Tree Lilac	Syringa reticulata				11	
51	10	Norway Maple	Acer platanoides				10	
52	**12**	**Norway Maple**	**Acer platanoides**					**12**
53	5	Japanese Tree Lilac	Syringa reticulata				5	
54	10	Norway Maple	Acer platanoides				10	
55	8	Norway Maple	Acer platanoides				8	
56	6	Prairie Cascade	Salix 'Prairie Cascade'				6	
57	11	Redmond Linden	Tilia americana				11	
58	**13**	**Redmond Linden**	**Tilia americana**					**13**
59	10	Redmond Linden	Tilia americana				10	
60	22	Clump Prairie Cascade	Salix 'Prairie Cascade'	Willow not significant			22	
61	9	Clump Redmond Linden	Tilia americana				9	
62	11	Prairie Cascade	Salix 'Prairie Cascade'				11	
63	**12**	**Redmond Linden**	**Tilia americana**					**12**
64	11	Norway Maple	Acer platanoides				11	
65	6	White Spruce	Picea glauca		6			
66	**9**	**White Spruce**	**Picea glauca**			**9**		
67	10	Norway Maple	Acer platanoides		10			
68	6	White Spruce	Picea glauca		6			
69	6	White Spruce	Picea glauca		6			
70	10	Japanese Tree Lilac	Syringa reticulata		10			
71	**12**	**Japanese Tree Lilac**	**Syringa reticulata**			**12**		
72	9	Japanese Tree Lilac	Syringa reticulata		9			
73	6	Japanese Tree Lilac	Syringa reticulata		6			
74	9	Norway Maple	Acer platanoides		9			
75	5	White Spruce	Picea glauca		5			
76	7	White Spruce	Picea glauca		7			
77	10	Norway Maple	Acer platanoides		10			
78	7	Norway Maple	Acer platanoides		7			



ELLIOTT
7514 OLIVER AVE S
MINNEAPOLIS, MN 55423
BUS: (612)220-0152
email: info@elliottdesignbuild.com

CLIENT
Asia Mall. 12160 Technology Dr., Eden Prairie, MN 55344

PROJECT
E519

REVISION	N°	DATE
COMMENT REVISION	1	2/20/24
COMMENT REVISION	2	3/22/24

PROJECT Nº.
E-519

SITE
16160 Technology Dr., Eden Prairie, MN 55344

PRELIMINARY NOT FOR CONSTRUCTION

CIVIL SHEET INDEX

DRAWING TITLE
EXISTING CONDITIONS

DRAWING Nº.
C-1

DRAWN BY
B. PASSOLT

CHECKED BY
L. ELLIOTT

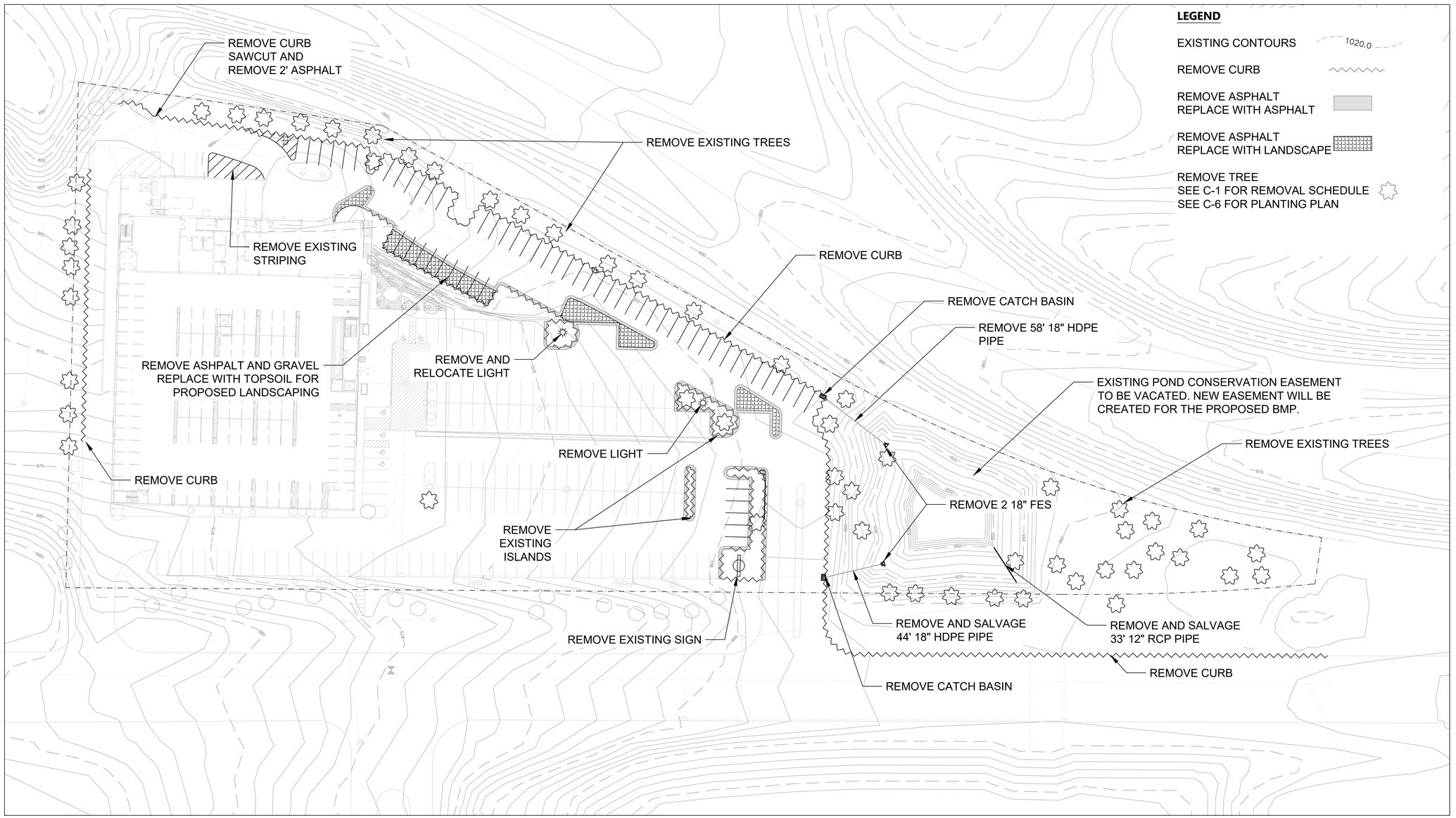
DATE
3/22/24

PAGE Nº.
1 OF 7

SCALE
1"=40'

REV.
1

SIZE
22"X34"



ELLIOTT

7514 OLIVER AVE S
MINNEAPOLIS, MN 55423
BUS: (612)220-0152
email: info@elliottdesignbuild.com

CLIENT
Asia Mall. 12160 Technology Dr., Eden Prairie, MN 55344

PROJECT
E519

REVISION	N°	DATE
COMMENT REVISION	1	2/20/24
COMMENT REVISION	2	3/22/24

PROJECT Nº.
E-519

SITE
16160 Technology Dr., Eden Prairie, MN 55344

PRELIMINARY
NOT FOR
CONSTRUCTION

CIVIL SHEET INDEX

DRAWING TITLE
REMOVAL PLAN

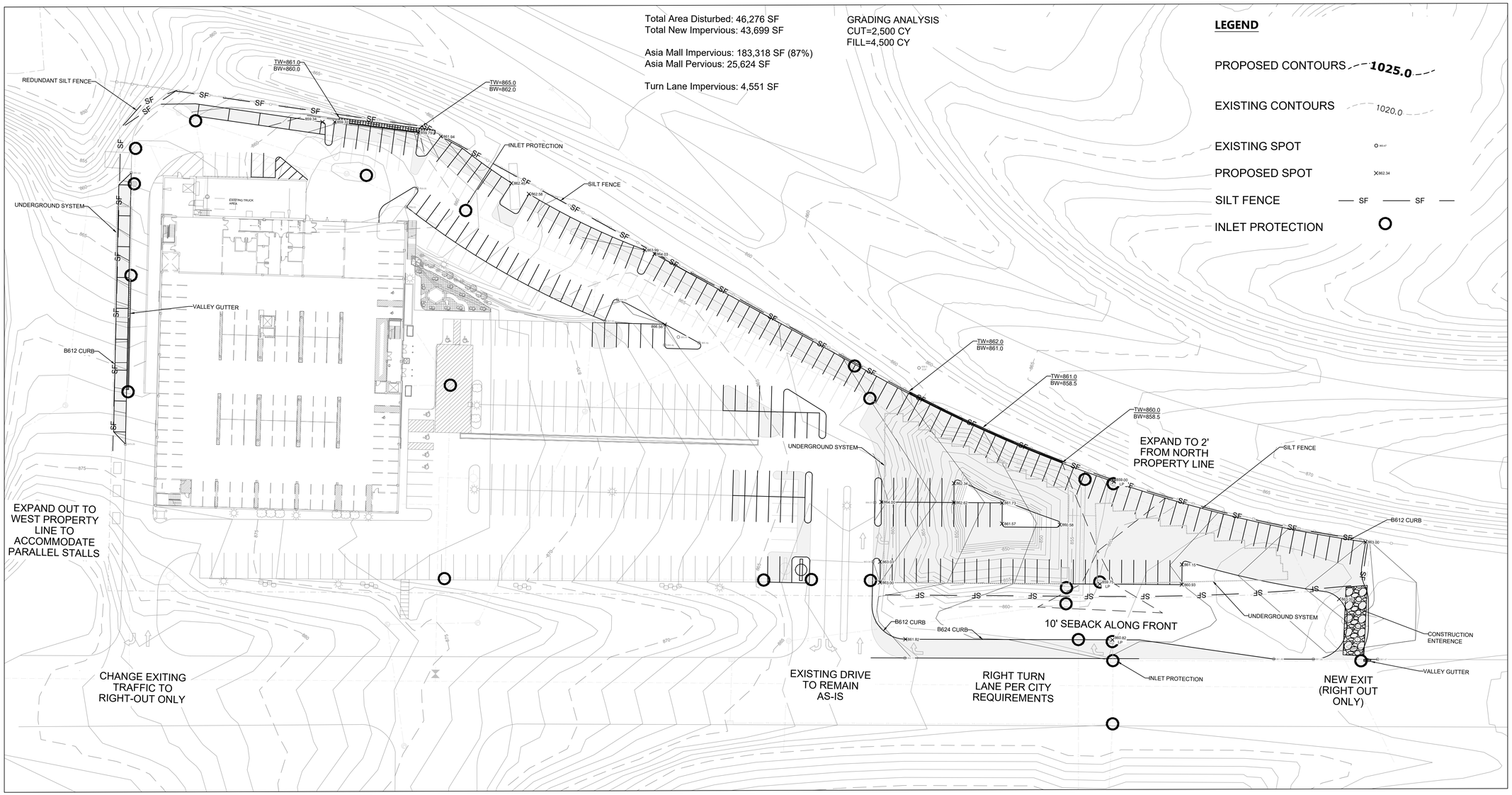
DRAWING Nº.
C-2

DRAWN BY
B. PASSOLT

CHECKED BY
L. ELLIOTT

DATE	PAGE Nº.
3/22/24	2 OF 7

SCALE	REV.	SIZE
1"=40'	1	22"X34"

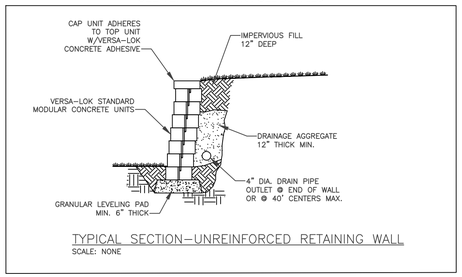


EROSION CONTROL NOTES

1. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETNETION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTEND POSSIBLE. NEW TOPSOIL THAT IS INSTALLED SHALL CONTAIN AT LEAST 5% ORGANIC CONTENT CONSISTENT WITH RPBCWD TOPSOIL DEFINITION.
2. ADDITIONAL MEASURES, SUCH AS HYDRAULIC MULCHING AND OTHER PRACTICES AS SPECIFIEID BY THE DISTRICT MUST BE USED ON SLOPES OF 3:1 (H:V) OR STEEPER TO PROVIDE ADEQUATE STABILIZATION.
3. FINAL SITE STABILIZATION MEASURES MUST SPECIFY THAT AT LEAST SIX INCHES OF TOPSOIL OR ORGANIC MATTER BE SPREAD AND INCORPORATED INTO THE UNDERLYING SOIL DURING FINAL SITE TREATMENT WHEREVER TOPSOIL HAS BEEN REMOVED.
4. CONSTRUCTION SITE WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER, AND SANITARY WASTE MUST BE PROPERLY MANAGED.
5. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE DISTRICT.
6. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S MUST BE REMOVED UPON FINAL STABILIZATION.
7. SOIL SURFACES COMPACTED DURING CONSTRUCTION AND REMAINING PERVIOUS UPON COMPLETION OF CONSTRUCTION MUST BE DECOMPACTED TO ACHIEVE A SOIL COMPACTION TESTING PRESSURE OF LESS THAN 1,400 KILOPASCALS OR 200 POUNDS PER SQUARE INCH IN THE UPPER 12 INCHES OF THE SOIL PROFILE WHILE TAKING CARE TO PROTECT UTILITES, TREE ROOTS, AND OTHER EXISTING VEGETATION.
8. ALL DISTURBED AREAS MUST BE STABILIIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMORRILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE.
9. THE PERMITTE MUST, AT A MINIMUM, INSPECT, MAINTAIN, AND REPAIR ALL DISTURBED SURFACES AND ALL EROSION AND SEDIMENT CONTROL FACILITIES AND SOIL STABILIZATION MEASURES EVERY DAY WORK IS PERFORMED ON THE SITE AND AT LEAST WEEKLY UNTIL LAND-DISTURBING ACTIVIITY HAS CEASED. THEREAFTER, THE PERMITTEE MUST PERFORM THESE RESPONSIBILITIES AT LEAST WEEKLY UNTIL VEGETATIVE COVER IS ESTABLISHED. THE PERMITTEE WILL MAINTAIN A LOG OF ACTIVITIES UNDER THIS SECTION FOR INSPECTION BY THE DISTRICT ON REQUEST.

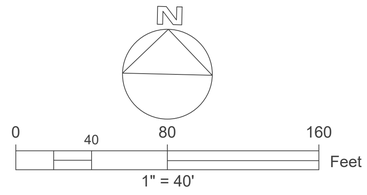
EAST RETAINING WALL DETAIL

SEE VERSA-LOK FOR FULL DETAILS



TYPICAL SECTION–UNREINFORCED RETAINING WALL

SCALE: NONE



ELLIOTT
7514 OLIVER AVE S
MINNEAPOLIS, MN 55423
BUS: (612)220-0152
email: info@elliottdesignbuild.com

CLIENT
Asia Mall. 12160 Technology Dr., Eden Prairie, MN 55344

PROJECT
E519

REVISION	N°	DATE
COMMENT REVISION	1	2/20/24
COMMENT REVISION	2	3/22/24

PROJECT Nº.
E-519

SITE
16160 Technology Dr., Eden Prairie, MN 55344

PRELIMINARY
NOT FOR
CONSTRUCTION

CIVIL SHEET INDEX

DRAWING TITLE
GRADING & EROSION CONTROL PLAN

DRAWING Nº.
C-3

DRAWN BY
B. PASSOLT

CHECKED BY
L. ELLIOTT

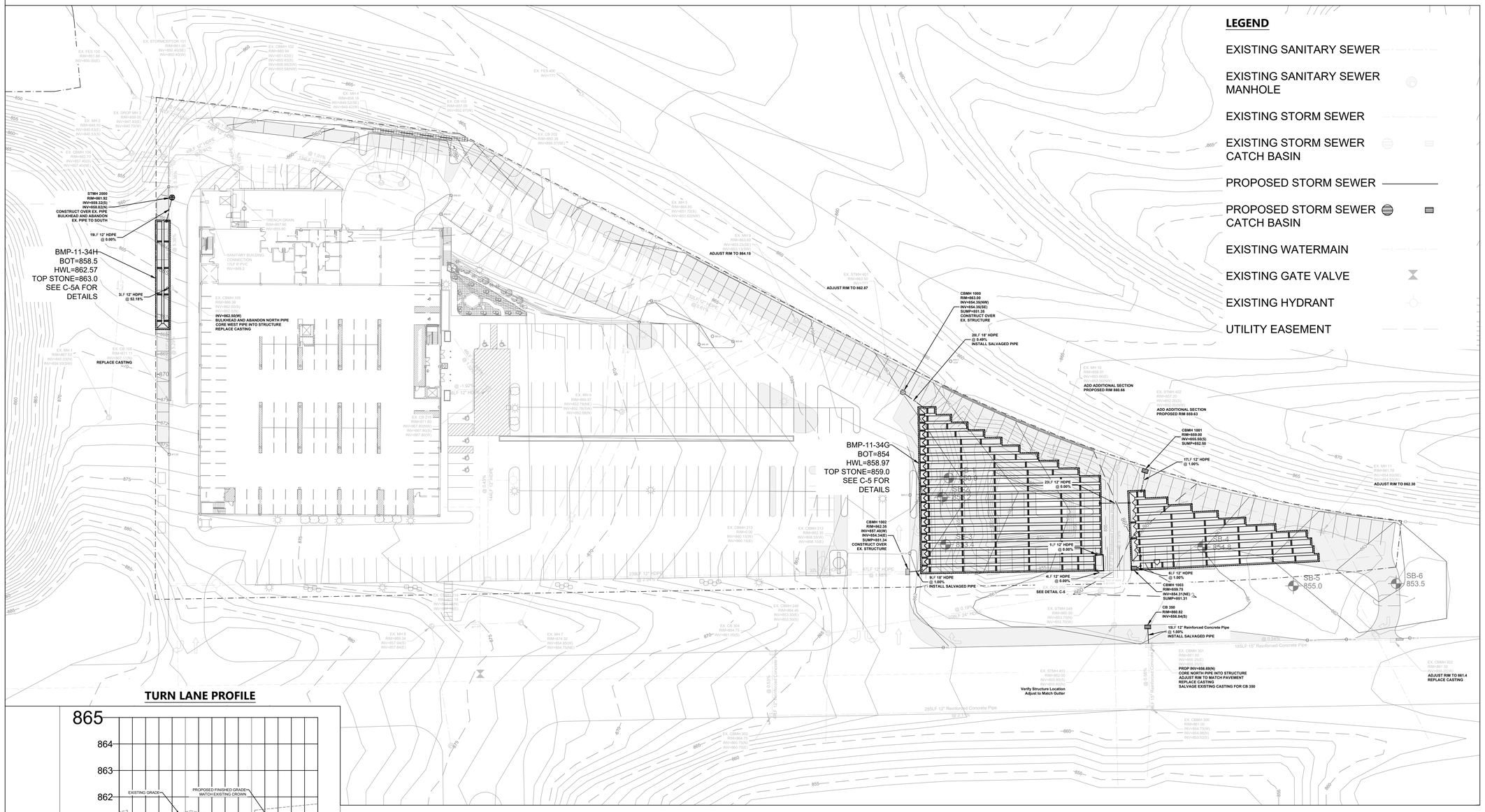
DATE
3/22/24

PAGE Nº.
3 OF 7

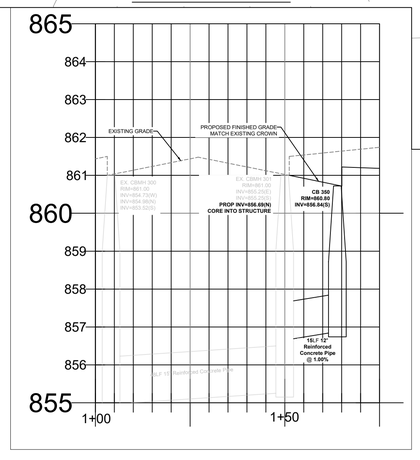
SCALE
1"=40'

REV.
1

SIZE
22"X34"



TURN LANE PROFILE

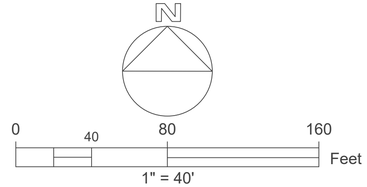


GENERAL NOTES

1. ALL ELEVATIONS ARE FINISH GRADE.
2. CONTRACTOR IS RESPONSIBLE TO VISIT THE SITE PRIOR TO BIDDING TO ASSURE SCOPE OF WORK IS UNDERSTOOD AND IS TO CONTACT ENGINEER PRIOR TO BIDDING FOR ANY CLARIFICATION NEEDED. THERE WILL BE NO ADDITIONAL COMPENSATION FOR ITEMS THAT COULD HAVE BEEN CLARIFIED PRIOR TO BID SUBMITTAL
3. COORDINATE GAS, ELECTRIC, AND COMMUNICATION SERVICES CONNECTIONS WITH OWNER.
4. STATE LAW REQUIRES NOTIFICATION OF GOPHER STATE ONE CALL FOR LOCATION OF UTILITY OWNED LINES 48 HOURS PRIOR TO BEGINNING WORK. PRIVATE UTILITY LINES WILL NOT BE LOCATED BY A CONTRACT LOCATOR OR OTHER SUITABLE MEANS. CONTRACTOR IS RESPONSIBLE FOR LOCATION ALL UTILITY LINES PRIOR TO CONSTRUCTION.
5. WORK WITHIN PUBLIC RIGHT-OF-WAY OR CONNECTION TO PUBLIC UTILITIES MUST BE COORDINATED WITH THE EDEN PRAIRIE PUBLIC WORKS DEPARTMENT. CONTRACTOR MUST PROVIDE A MINIMUM 48-HOUR NOTICE PRIOR TO BEING PERFORMED.

UTILITY NOTES

1. CONTRACT TO VERIFY EXISTING INVERTS PRIOR TO CONSTRUCTION
2. ALL SITE UTILITY MATERIALS AND INSTALLATION METHOSTO MEET STATE AND CITY REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITY LINES PRIOR TO CONSTRUCTION.
4. ANY VARIATIONS FROM THIS PLAN FOUND ON SITE TO BE REPORTED TO PROJECT ENGINEER.



ELLIOTT
7514 OLIVER AVE S
MINNEAPOLIS, MN 55423
BUS: (612)220-0152
email: info@elliottdesignbuild.com

CLIENT
Asia Mall. 12160 Technology Dr., Eden Prairie, MN 55344

PROJECT
E519

REVISION	Nº	DATE
COMMENT REVISION	1	2/20/24
COMMENT REVISION	2	3/22/24

PROJECT Nº.
E-519

SITE
16160 Technology Dr., Eden Prairie, MN 55344

PRELIMINARY
NOT FOR
CONSTRUCTION

CIVIL SHEET INDEX

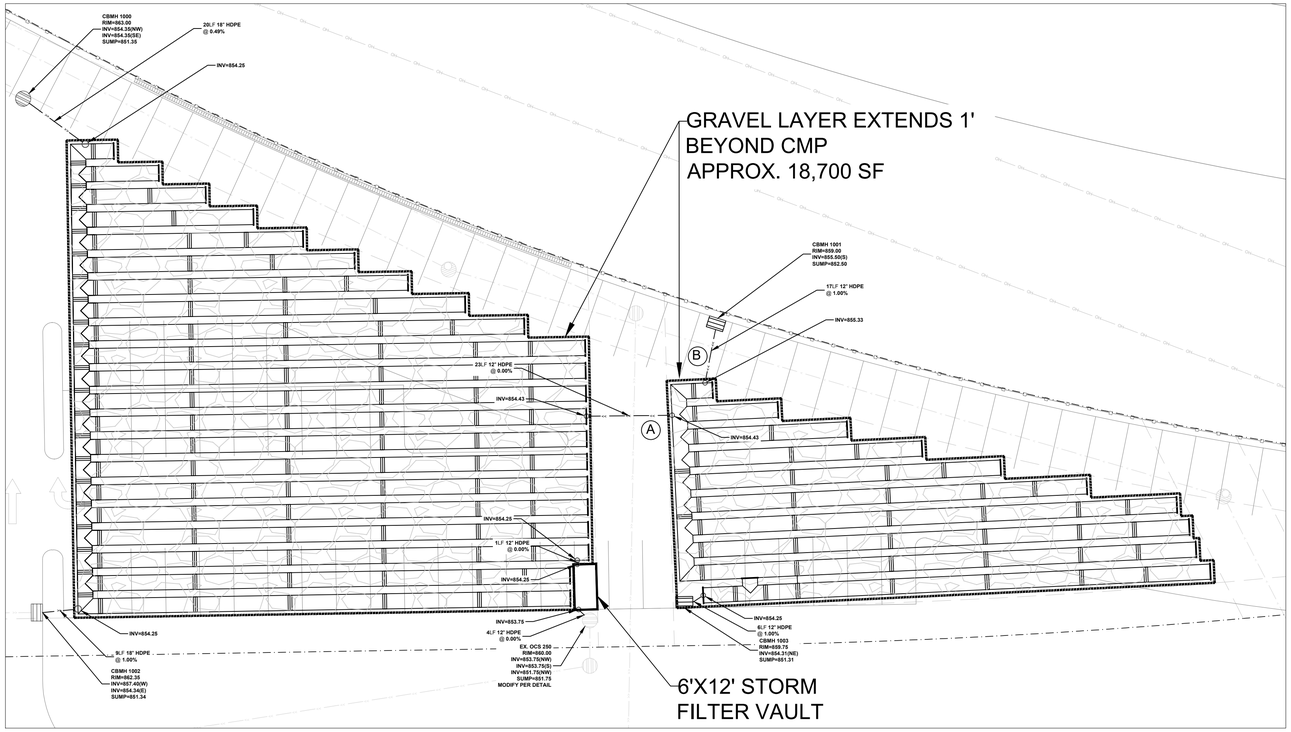
DRAWING TITLE
UTILITY PLAN

DRAWING Nº.
C-4

DRAWN BY
B. PASSOLT

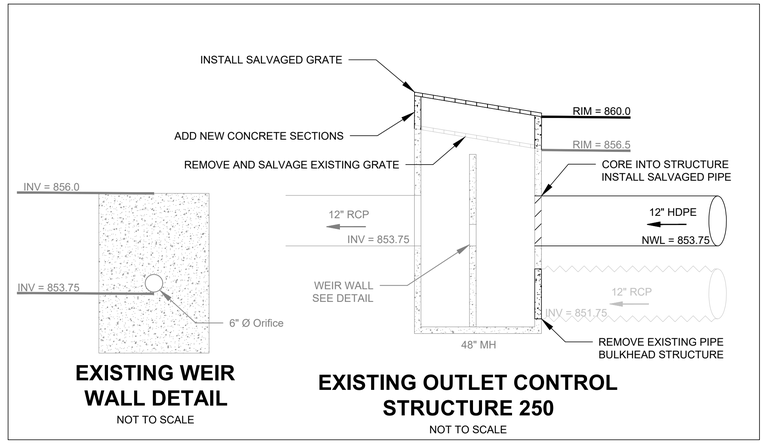
CHECKED BY
L. ELLIOTT

DATE	PAGE Nº.	
3/22/24	4 OF 7	
SCALE	REV.	SIZE
1"=40'	1	22"X34"



PIPE CROSSING SCHEDULE				
A*	EX 12" RCP TOP	853.97	PROP 12" HDPE BOT	854.23
B*	EX 10" SDR 35 TOP	854.90	PROP 12" HDPE BOT	855.40

*INSULATE CROSSINGS PER CITY DETAIL

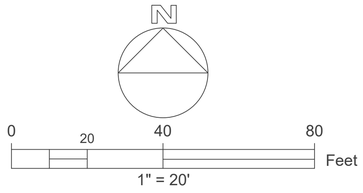


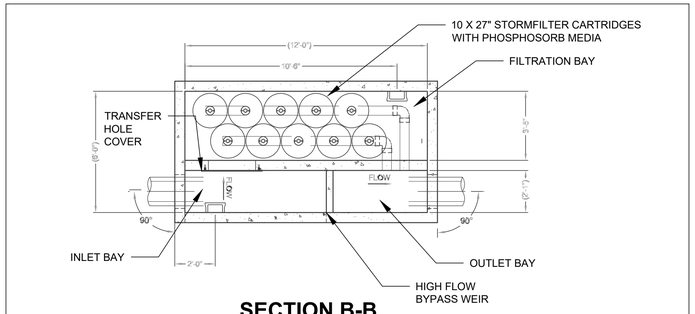
EXISTING WEIR WALL DETAIL
NOT TO SCALE

EXISTING OUTLET CONTROL STRUCTURE 250
NOT TO SCALE

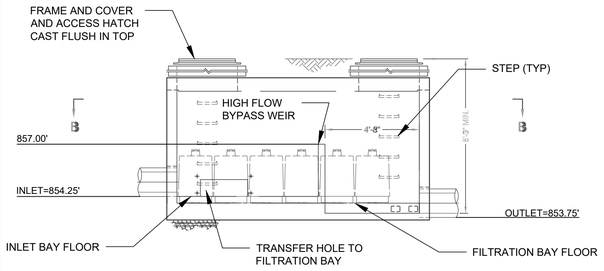
GENERAL NOTES

1. ALL INLET STRUCTURES TO THE UNDERGROUND SYSTEM TO HAVE 3' SUMPS
2. TO THE MAXIMUM EXTENT POSSIBLE, MINIMIZE POTENTIAL INVASIVE SPECIES (EG. ZEBRA MUSSELS, EURASIAN WATERMILFOIL, ETC.) TRANSFER WHEN WORKING IN EXISTING POND SUBWATERSHED.





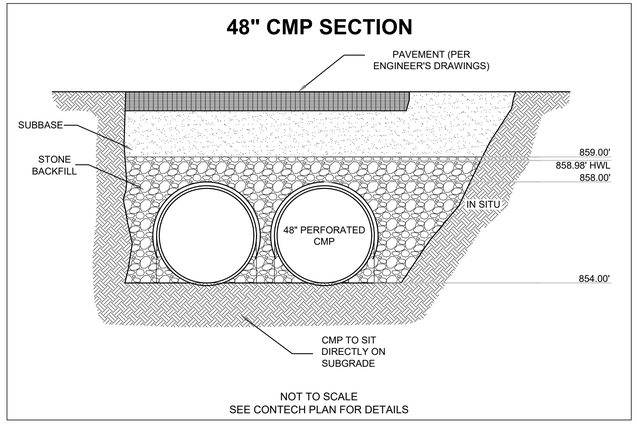
SECTION B-B



ELEVATION

CONTECH STORM FILTER DESIGN

NOT TO SCALE
SEE CONTECH PLAN FOR DETAILS



ELLIOTT

7514 OLIVER AVE S
MINNEAPOLIS, MN 55423
BUS: (612)220-0152
email: info@elliottdesignbuild.com

CLIENT
Asia Mall. 12160 Technology Dr., Eden Prairie, MN 55344

PROJECT
E519

REVISION	N°	DATE
COMMENT REVISION	1	2/20/24
COMMENT REVISION	2	3/22/24

PROJECT Nº.
E-519

SITE
16160 Technology Dr., Eden Prairie, MN 55344

PRELIMINARY
NOT FOR
CONSTRUCTION

CIVIL SHEET INDEX

DRAWING TITLE
UNDERGROUND EAST

DRAWING Nº.
C-5

DRAWN BY
B. PASSOLT

CHECKED BY
L. ELLIOTT

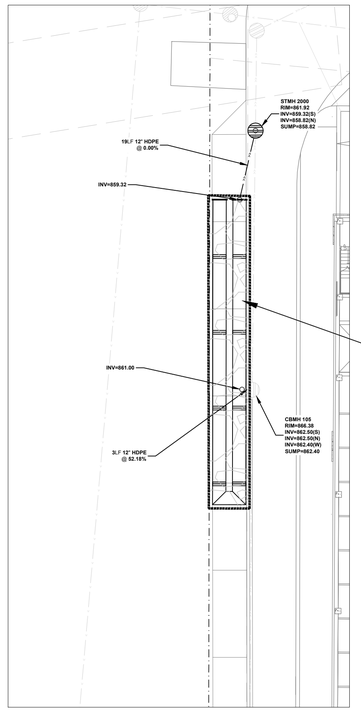
DATE
3/22/24

PAGE Nº.
5 OF 7

SCALE
1"=20'

REV.
1

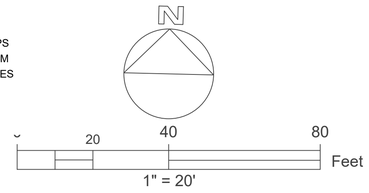
SIZE
22"X34"



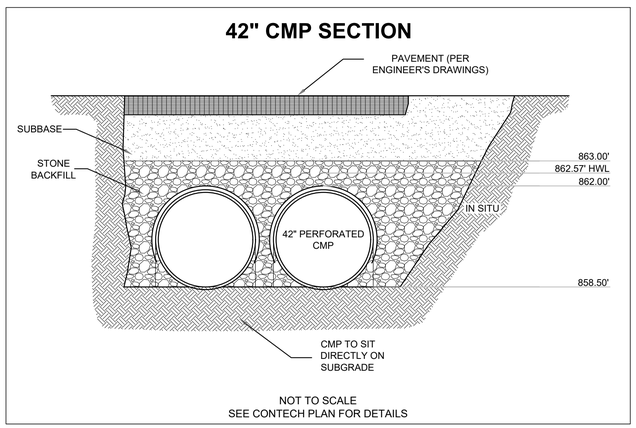
GRAVEL LAYER EXTENDS 1' BEYOND CHAMBERS APPROX. 900 SF

GENERAL NOTES

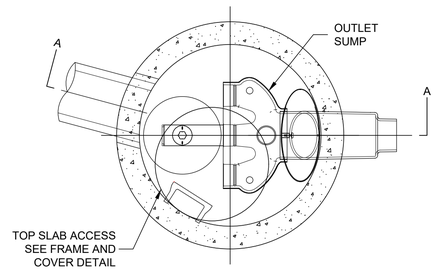
1. ALL INLET STRUCTURES TO THE UNDERGROUND SYSTEM TO HAVE 3' SUMPS
2. SEDIMENT ROWS WILL BE INSTALLED AT INLETS TO UNDERGROUND SYSTEM
3. TO THE MAXIMUM EXTENT POSSIBLE, MINIMIZE POTENTIAL INVASIVE SPECIES (EG. ZEBRA MUSSELS, EURASIAN WATERMILFOIL, ETC.) TRANSFER WHEN WORKING IN EXISTING POND SUBWATERSHED.



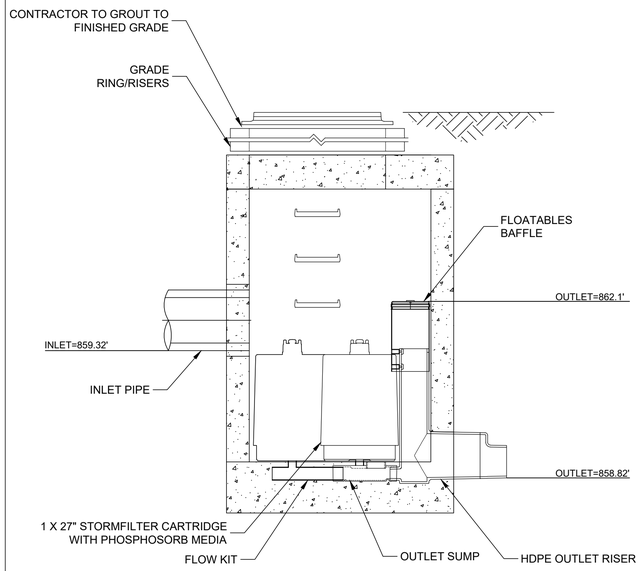
42" CMP SECTION



NOT TO SCALE
SEE CONTECH PLAN FOR DETAILS



PLAN VIEW



SECTION A-A

CONTECH STORM FILTER DESIGN

NOT TO SCALE
SEE CONTECH PLAN FOR DETAILS

ELLIOTT

7514 OLIVER AVE S
MINNEAPOLIS, MN 55423
BUS: (612)220-0152
email: info@elliottdesignbuild.com

CLIENT
Asia Mall. 12160 Technology Dr., Eden Prairie, MN 55344

PROJECT
E519

REVISION	N°	DATE
COMMENT REVISION	1	2/20/24
COMMENT REVISION	2	3/22/24

PROJECT Nº.
E-519

SITE
16160 Technology Dr., Eden Prairie, MN 55344

PRELIMINARY
NOT FOR
CONSTRUCTION

CIVIL SHEET INDEX

DRAWING TITLE
UNDERGROUND WEST

DRAWING Nº.
C-5A

DRAWN BY
B. PASSOLT

CHECKED BY
L. ELLIOTT

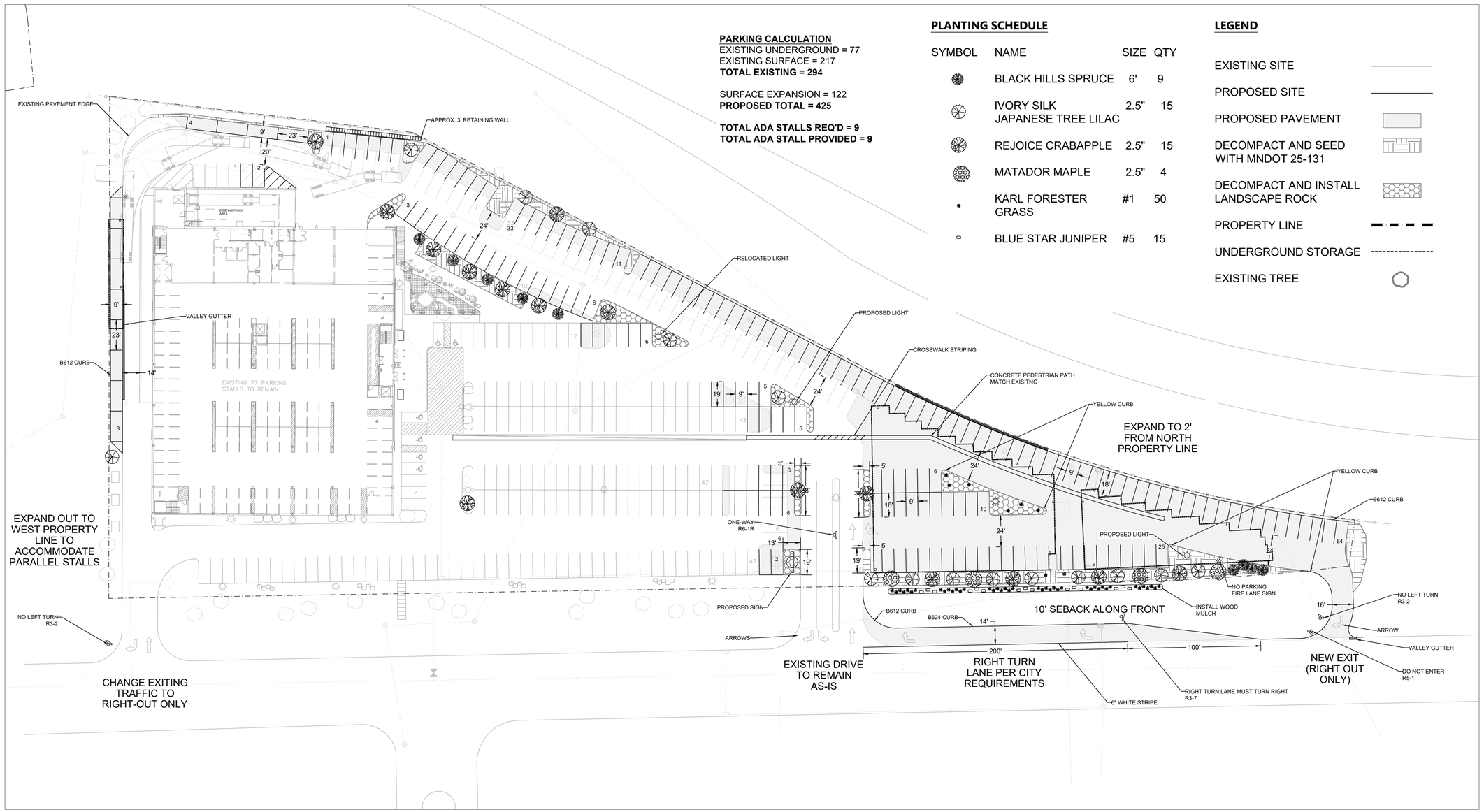
DATE
3/22/24

PAGE Nº.
6 OF 7

SCALE
1"=20'

REV.
1

SIZE
22"X34"



PARKING CALCULATION
EXISTING UNDERGROUND = 77
EXISTING SURFACE = 217
TOTAL EXISTING = 294

SURFACE EXPANSION = 122
PROPOSED TOTAL = 425

TOTAL ADA STALLS REQ'D = 9
TOTAL ADA STALL PROVIDED = 9

PLANTING SCHEDULE

SYMBOL	NAME	SIZE	QTY
	BLACK HILLS SPRUCE	6'	9
	IVORY SILK JAPANESE TREE LILAC	2.5"	15
	REJOICE CRABAPPLE	2.5"	15
	MATADOR MAPLE	2.5"	4
	KARL FORESTER GRASS	#1	50
	BLUE STAR JUNIPER	#5	15

LEGEND

- EXISTING SITE
- PROPOSED SITE
- PROPOSED PAVEMENT
- DECOMPACT AND SEED WITH MNDOT 25-131
- DECOMPACT AND INSTALL LANDSCAPE ROCK
- PROPERTY LINE
- UNDERGROUND STORAGE
- EXISTING TREE

Tree Removal Calculations

Non-Significant Tree Replacement
Non-Significant Healthy Trees Removed=39
Required Tree=39
Significant Tree Replacement
Caliper Inches of Significant Trees Removed=136"
Caliper Inches of Significant Trees Remaining=21"
Required Tree=24
Proposed Landscaping Plan
Total Required Caliper Inch=157.5"
Proposed Trees=43 (107.5")
Proposed Grasses & Shrubs=65 (6.5")
Total Proposed Caliper Inch=114"
Tree Replacement Fee 43.5" X $125=$5,438

GENERAL NOTES:

1. FOLLOW ALL CITY REQUIREMENTS.
2. MINIMIZE DISTURBANCE TO LAWN DURING DEMOLITION RESTORE WHEN COMPLETE.
3. PUBLIC STREETS ARE TO BE CLEAN OF DEBRIS AND DIRT ON A DAILY BASIS.
4. STATE LAW REQUIRES NOTIFICATION OF GOPHER ONE CALL, BUT CAN BE LOCATED BY A CONTRACT LOCATOR OR OTHER SUITABLE MEANS.
5. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITY LINES PRIOR TO CONSTRUCTION.
6. CONTRACTOR SHALL PROTECT AND SUPPORT AS NECESSARY ALL EXISTENCE PUBLIC AND PRIVATE UTILITIES.
7. CONTRACTOR SHALL FOLLOW ALL LOCAL, STATE AND FEDERAL REGULATIONS IN DISPOSING OF DEMOLISHED MATERIALS REMOVED FROM THIS SITE.

N

0 40 80 160 Feet

1" = 40'

ELLIOTT
7514 OLIVER AVE S
MINNEAPOLIS, MN 55423
BUS: (612)220-0152
email: info@elliottdesignbuild.com

CLIENT
Asia Mall. 12160 Technology Dr., Eden Prairie, MN 55344

PROJECT
E519

REVISION	N°	DATE
COMMENT REVISION	1	2/20/24
COMMENT REVISION	2	3/22/24

PROJECT Nº.
E-519

SITE
16160 Technology Dr., Eden Prairie, MN 55344

PRELIMINARY
NOT FOR
CONSTRUCTION

CIVIL SHEET INDEX

DRAWING TITLE
SITE/LANDSCAPING/TREE PLAN

DRAWING Nº.
C-6

DRAWN BY
B. PASSOLT

CHECKED BY
L. ELLIOTT

DATE
3/22/24

PAGE Nº.
7 OF 7

SCALE
1"=40'

REV.
1

SIZE
22"X34"