RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

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Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2024-005

Considered at Board of Managers Meeting: March 13, 2024

Received complete: February 19, 2024

Applicant: City of Chanhassen

Consultant: SEH Inc., Jen Desrude, PE

Project: Lake Ann Preserve and Park Improvements – The proposed project includes the reconstruction and expansion of the Greenwood Shores Park parking lot and the construction of bituminous trails and three boardwalk crossings. The applicant proposes two infiltration basins and one biofiltration basin to provide stormwater rate control, volume abstraction, and water quality control.

Location: Lake Ann Park Preserve, Chanhassen, MN

Reviewer: Annie Brunton, EIT and Scott Sobiech, PE, Barr Engineering

Proposed Board Action

Manager _____ moved and Manager _____ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the March 13, 2024 meeting of the managers. Resolved that the application for Permit 2024-005 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 2024-005 to the applicant on behalf of RPBCWD.

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

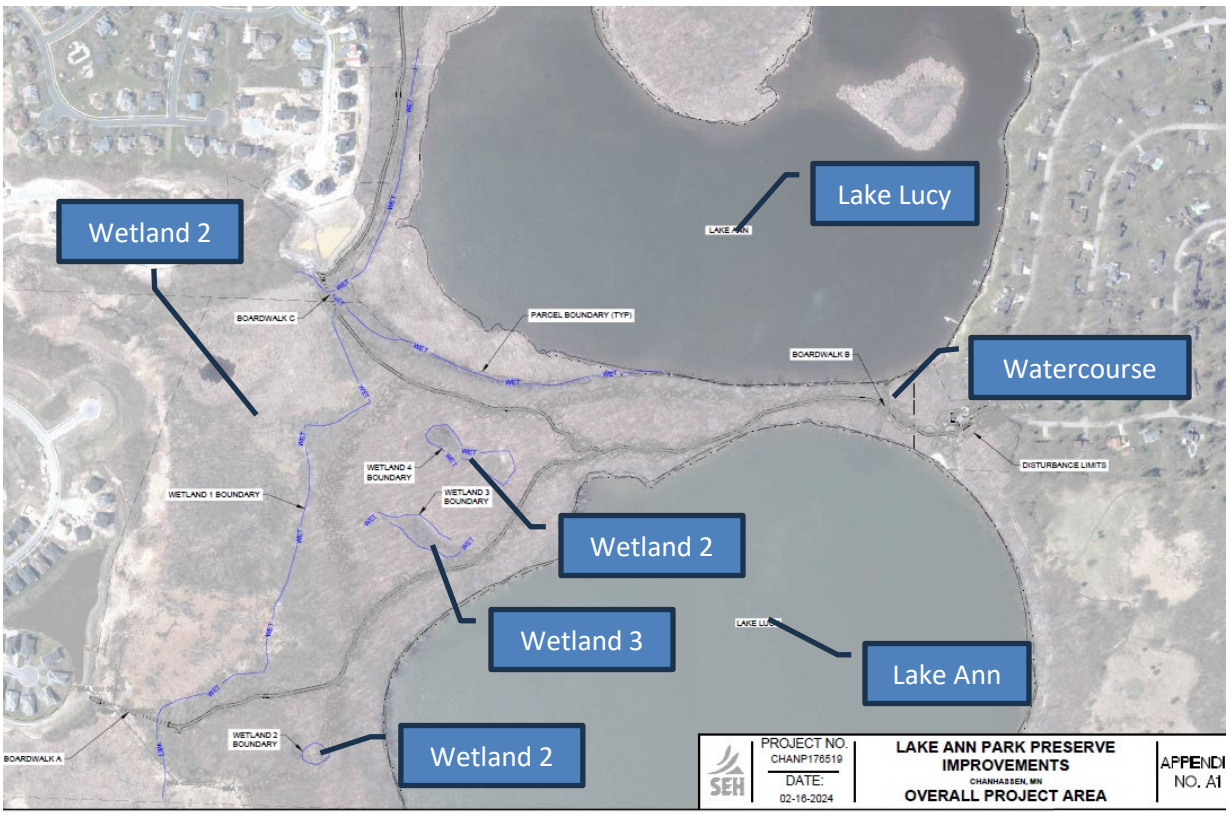
Rule Conformance Summary

Rule	Issue		Conforms to RBPCWD Rules?	Comments
B	**Floodplain Management and Drainage Alterations**		Yes	
C	**Erosion Control Plan**		Yes	
D	**Wetland and Creek Buffer**		See Comment	See Rule Specific Permit Condition D1related to executing the maintenance agreement and stipulation 6 requiring additional buffer monuments.
G	**Waterbody Crossing and Structures**		See Comment	See Rule Specific Permit Condition G1 related to executing the maintenance agreement.
J	**Stormwater Management**	Rate	Yes	
		Volume	See Comment	See stipulation 5 related to verifying the infiltration capacity of the soils and that the volume control capacity is calculated using the measured infiltration rate

Rule	Issue		Conforms to RBPCWD Rules?	Comments
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	Yes	
		Chloride Management	Yes	See stipulation 4 related to providing a completed chloride management plan
		Wetland Protection	NA	
L	**Permit Fee**		NA	Governmental Entity
M	**Financial Assurance**		NA	Governmental Entity

Project Background

Lake Ann Preserve Park surrounds Lake Ann and a portion of Lake Lucy. The existing park is primarily woodland or wetland with stretches of pedestrian trails adjacent to the neighboring residential developments. The city is proposing to reconstruct and expand the Greenwood Shores Park parking lot and add approximately 7,900 feet of 10 foot-wide bituminous trails and three boardwalk crossings (two through Wetland 1 and one over the watercourse connecting Lake Lucy and Lake Ann). The applicant will construct two infiltration basins and a biofiltration basin to provide rate control, volume abstraction, and water quality control. The following figure illustrates the onsite and downgradient resources, and the table describes impact to the onsite and downgradient water resources .



Water resource impacted by proposed project

Water Resource	Projected resource impacts
Wetland 1	An on-site, exceptional value Public Water Wetland (10021100-W) disturbed by proposed land-disturbing activities to construct Boardwalks A and C
Wetland 2	An on-site, wetland downgradient of the proposed land-disturbing activities.
Wetland 3	An on-site, wetland downgradient of the proposed land-disturbing activities.
Wetland 4	An on-site, wetland downgradient of the proposed land-disturbing activities.
Lake Lucy	Public water that receives site discharge
Lake Ann	Public Water receives site discharge
Watercourse	A Public Water watercourse connecting Lake Lucy and Lake Ann. Boardwalk B spans this watercourse.

The project site information is summarized below:

Description	Total Area (acres)
Total Site Area	111.56
Existing Site Impervious	1.17
Post-Construction Site Impervious	2.83
New (increase) in Impervious Area	1.66 (>100% increase)
Sidewalk and Trial Exempt Impervious Area (acres)[1]	2.62
New (increase) in Regulated Site Impervious Area	0.07 (6% increase)
Regulated Disturbed Impervious Surface	0.14 (12% disturbed)
Total Disturbed Area	3.74

[1]The regulated area includes impervious surfaces in the Greenwood Park area at the eastern portion of the site. Impervious surfaces on the rest of the site include trails that are exempt from Rule J for Stormwater Management.

Exhibits:

1. Permit Application received January 17, 2024 (applicant was notified of an incomplete application on February 5, 2024; information completing the application was received on February 19, 2024)
2. Stormwater Management Report narrative dated January 17, 2024 (revisions dated February 16, 2024, February 26, 2024, and March 4, 2024)
3. Soil boring logs dated December 20, 2023
4. FEMA Floodplain Maps (Effective December 31, 2023) and RPBCWD Floodplain Maps
5. Wetland Delineation Report prepared by SEH dated October 13, 2022
6. Wetland Permitting Memorandum dated January 11, 2024
7. Wetland Delineation Results dated September 29, 2022
8. Design Plans Sheets dated December 20, 2024 (revisions submitted February 19, 2024, February 26, 2024, and March 4, 2024)
9. Existing and Proposed Conditions HydroCAD Model for 2-, 10-, and 100-year, and 100-year snowmelt events received January 17, 2024 (revisions submitted February 19, 2024 and February 26, 2024)

10. Existing and Proposed Conditions P8 Model received January 17, 2024 (revision submitted February 19, 2024)
11. MN DNR Work in Waters Permit 2023-2932 dated November 9, 2023
12. Response to February 5, 2024 RPBCWD Comments on February 15, 2024 and February 19, 2024.
13. Response to February 21, 2024 RPBCWD Comments on February 26, 2024
14. Response to comments received on March 4, 2024
15. Draft Chloride Management Plan submitted February 19, 2024
16. Operation and Maintenance Agreement dated February 16, 2024 (revision submitted February 26, 2024 and March 6, 2024)
17. Smart Salt Certifications submitted February 19, 2024

Rule Specific Permit Conditions

Rule B: Floodplain Management and Drainage Alterations

Because the project disturbs land below the 100-year flood elevation of Wetland 1 to install the helical piers for Boardwalks A and C, the project must conform to the requirements in the RPBCWD Floodplain Management and Drainage Alteration rule (Rule B, Subsection 2.1). Boardwalk B spans the 100-year floodplain adjacent to the watercourse between Lake Lucy and Lake Ann and no disturbance or no fill is proposed in the floodplain; therefore Boardwalk B does not trigger Rule B.[1]

The proposed Boardwalk A and C construction conforms to Rule B, Subsections 3.1 because no buildings are proposed to be constructed or reconstructed as part of the project. Placement of fill below the 100-year flood elevation is prohibited unless fully compensatory storage at or below the same elevation for fill in the floodplain of a water basin and within the floodplain of the same waterbody is provided (Rule B, Subsection 3.2). The applicant proposes to place 0.11 cubic yards of fill below the 100-year floodplain of Wetland 1 for the construction of Boardwalk A and C and provide 0.8 cubic yards of compensatory storage. Because the project will provide a net increase in compensatory floodplain storage of 0.69 cubic yards in Wetland 1 at the same elevation, the proposed project conforms to Rule B, Section 3.2.

The applicant will provide compensatory storage volumes within the floodplain and does not propose to impact the wetland, thus demonstrating the project is unlikely to impact flood risk or adversely affect channel stability. Because the boardwalk crossings maintain identical hydraulic configuration to existing

[1] The work for constructing boardwalks within Wetland 1 appears to trigger state regulatory requirements administered by the Department of Natural Resources (i.e., require a Work in Public Waters permit). It is the applicant's responsibility to determine whether an RPBCWD permit for the work, if granted, provides the necessary DNR approval under DNR General Permit 2015-1192, issued for projects permitted by RPBCWD.

conditions for the 100-year event, the project is unlikely to adversely affect groundwater hydrology, stream base flow, or water quality consistent with the criteria in Rule B, Subsection 3.3. Because the applicant proposes boardwalks with minimal disturbance of the bed of the waterbody, wildlife will continue to be able to traverse under and around boardwalks similar to existing conditions, thus preserving wildlife habitat, thus consistent with Rule B, Subsection 3.3.

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

Rule C: Erosion and Sediment Control

Because the project will involve 3.74 acres of land-disturbing activities, the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The erosion control/turf restoration plan includes installation of biolog, rock construction entrances, turf establishment, daily inspection, placement of a minimum of 6 inches of topsoil with 5 percent organic matter, minimization of compaction during construction, and retention of native topsoil onsite. The applicant identified Joe Seidl (jseidl@chanhassenmn.gov; PH. 952.227.1168) as the person responsible for erosion prevention and sediment control during construction.

The proposed project conforms to the erosion and sediment control requirements of Rule C.

Rule D: Wetland and Creek Buffers

Because the proposed work triggers RPBCWD Rule B, G, and J and the applicant proposes disturbance in the public waters wetland onsite (Wetland 1), land-disturbing activities upgradient from Wetland 2, Wetland 3 and Wetland 4, Rule D, Subsection 2.1a requires the applicant to establish buffer areas. Subsection 3.1b requires buffer on the edges of Wetlands 2, 3, and 4 downgradient from the land-disturbing activities. Because the boardwalk construction activities constitute a disturbance of Wetland 1, wetland buffer must be provided around the entire wetland on the property owned by the applicant (Rule D, subsection 3.1a). Because the applicant also proposes land-disturbing activities upgradient from the public waters watercourse between Lake Lucy and Lake Ann, Rule D, Subsections 2.1a and 3.1c requires buffer adjacent to this watercourse and 50 feet each from the upstream and downstream extents of disturbance.

Because the applicant elected to presume the wetlands were all exceptional value, an average buffer width of 80 feet and a minimum buffer width of 40 feet is required in accordance with Rule D, Subsection 3.2.b.i. The public waters watercourse between Lake Lucy and Lake Ann flows through the project site and requires an average buffer width of 50 feet from the creek centerline, minimum 30 feet in accordance with Rule D, Subsection 3.2.b.v. The buffer widths are summarized in the following table:

Wetland Buffer Summary

Wetland ID	RPBCWD Wetland Value	Required Minimum Width[1] (ft)	Required Average Width[1] (ft)	Provided Minimum Width (ft)	Provided Average Width (ft)
Wetland 1	Exceptional[2]	40	80	40	88.8
Wetland 2	Exceptional[2]	40	80	80	81.0
Wetland 3	Exceptional[2]	40	80	40	80.2
Wetland 4	Exceptional[2]	40	80	80	80.8
Watercourse	NA	30	50	50	50

[1] Average and minimum required buffer width under Rule D, Subsection 3.1.a.

[2] Assumed.

Because the project plans indicate the applicant will maintain more than 50 feet adjacent to the public waters watercourse between Lake Lucy and Lake Ann in a natural condition, the project conforms to Rule D, Subsection 3.2.b.v. While the Applicant provided buffer zone and wetland buffer marker location information in a wetland permitting memorandum in conformance with Rule D, Subsection 3.4, buffer monumentation is required for the public waters watercourse. The buffer monument locations and detail are also provided in the construction drawings. The erosion control plan requires revegetating disturbed areas within the proposed buffer with native vegetation, which conforms with Rule D, Subsection 3.3. A note is included on the plan sheet indicating the project will be constructed so as to minimize the potential transfer of aquatic invasive species (e.g., zebra mussels, Eurasian watermilfoil, etc.) to the maximum extent possible conforming to Rule D, Subsection 3.6.

Buffer areas and maintenance requirements must be documented in an agreement after review and approval by RPBCWD in accordance with Rule D, Subsection 3.5. While the applicant provided a draft maintenance agreement for review that aligns with RPBCWD requirements, the following revision is needed:

D1. The applicant must provide RPBCWD an executed version.

Rule G: Waterbody Crossings and Structures

Because the project will construct two waterbody crossings (Boardwalks A and C) in contact with the banks of Wetland 1 (a public water wetland) and a third crossing (Boardwalk B) over the watercourse between Lake Ann and Lake Lucy, the project must conform to all applicable criteria in RPBCWD's Rule G - Waterbody Crossing and Structures. Because the applicant obtained a Minnesota Department of Natural Resources Public Waters permit, permit 2023-2932, for the proposed work at Boardwalk B, work in the watercourse between Lake Lucy and Lake Ann is exempt from the requirements of Rule G in accordance with Rule G, Subsection 2.1.

The construction of Boardwalk A and Boardwalk C work represents a public benefit by connecting the preserve's eastern and western recreation paths across Wetland 1, thus increasing public access to the preserve area and Greenwood Shores Park (Rule G, subsection 3.1a).

The applicant proposes several helical piers within the floodplain of Wetland 1 to support the Boardwalk A and C crossings. Because each helical pier is less than 3 inches in diameter, the RPCBWD engineer concurs with the applicant's use of the hydraulic cross-sectional area as a surrogate for demonstrating hydraulic capacity maintenance instead of developing computer modeling. The reduction in cross-sectional flow area is 2 square feet (1.4%) at Boardwalk A and 1.6 square feet (1.3%) at Boardwalk C. Because the drawings demonstrate the project will create an equivalent cross-sectional area of flow for the 100-year event at Boardwalks A and C, the engineer concurs the project will maintain hydraulic capacity and the project conforms with Rule G, Subsection 3.2a

The waterbodies are not used for navigation, so Rule G, Subsection 3.2b does not impose any requirements on the project. As was demonstrated for compliance with Rule B, Subsection 3.3, the compensatory storage and channel cross sectional area information provided demonstrate that the project is unlikely to adversely affect water flow and thus is not reasonably likely to cause increased scour, erosion, sedimentation, or water quality impacts consistent with the criteria in Rule G, Subsection 3.2c. Because the proposed crossings maintain a similar cross-sectional area as in existing conditions, wildlife will continue to be able to use the crossing as it is used under existing conditions, thus preserving wildlife passage, thus consistent with Rule G, Subsection 3.2d.

A no-build option of the waterbody crossings would not achieve the public benefit of connecting the portions of the park; all that could be achieved without crossings would be a trail loop to and from the southwest resident access point and a path from the northwest residential access point to Lake Lucy Road. Neither of these trails provide public parking, access to Greenwood Shores Park, nor would they meet the project's goal of increasing access to the preserve. Alternatively, paving the trail connections was also considered but not pursued given that this would result in larger impacts to Wetland 1 and fill in the floodplain. Culverts would be required to maintain adequate hydraulic capacity and would have a larger impact on wildlife passage between the waterbodies. The proposed option has the smallest impact to the surrounding wetlands which meets Rule G, Subsection 3.2e.

Since there is no construction nor improvement of an outfall structure in contact with the bed or bank of a waterbody, Rule G, Subsection 3.3 does not impose requirements on the project.

The SWPPP includes a note directing the contractor that no work affecting the bed water basin shall occur between April 1 and June 30 as required in Rule G, Subsection 3.7a. A note is included on the plan sheet indicating the project will be constructed so as to minimize the potential transfer of aquatic invasive species (e.g., zebra mussels, Eurasian watermilfoil, etc.) to the maximum extent possible (Rule G, Subsection 3.7c).

Rule G, Subsection 3.7d requires compliance with the applicable criteria in subsections 3.3 of Rule F. Because the construction drawings submitted confirm that no riprap is proposed in the bed or bank of the waterbody and that stabilization will be with native vegetation on slopes no steeper than 3:1 waterward of the ordinary high water level the proposed project conforms to subsection 3.3.7d.

The permit applicant provided a draft maintenance agreement for the waterbody crossing for RPBCWD approval, in accordance with Rule G, Section 5. While the applicant provided a draft maintenance agreement for review that aligns with RPBCWD requirements, the following revision is needed:

G1. The applicant must provide RPBCWD an executed version.

Rule J: Stormwater Management

Because the project will alter 3.74 acres of land-surface area the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.1). Because the applicant proposes to increase the imperviousness on the site by more than 50%, the criteria in section 3 apply to the entire site (Rule J, subsection 2.3). While the project results in a total of 2.83 acres of new and existing impervious surface on the site, 1.59 acres of new paved trail and 1.03 acres of existing paved trail are exempt from RPBCWD's stormwater management rule (Rule J, Subsection 2.2d). Therefore, the requirements of Rule J apply to the 0.21 acres of regulated impervious surface on the site.

Rate Control

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

The applicant used HydroCAD 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 5. The proposed project is in conformance with RPBCWD Rule J, Subsection 3.1.a.

Rate control summary

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
Lake Ann	0.4	0.3	1.0	0.9	2.5	2.5	0.1	0.10
Lake Lucy	0.1	0	0.3	0	0.7	0.6	<0.1	0

Volume Abstraction

Subsection 3.1b of Rule J requires the abstraction onsite of 1.1 inches of runoff from the regulated impervious surface of the site. An abstraction volume of 839 cubic feet is required from the 0.21 acres of regulated impervious area. Soil information from three soil borings collected by American Engineering Testing indicate the top 4 to 4.5 feet of soil is predominately silty sand and poorly-graded sand with some organic soils at the surface. Underlying soils showed sandy lean clay with gravel and evidence of redoximorphic soils via iron-staining. Groundwater was not encountered during the drier-than-normal conditions during the geotechnical investigation. The subsurface investigation information summarized in the table below supports a determination that groundwater is at least 3 feet below the bottom of the two northernmost proposed infiltration basins (Rule J, Subsection 3.1.b.2.a). Because adequate separation to the clay layer exhibiting redoximorphic conditions was be achieved by the south basin, the basin is designed as a biofiltration basin.

BMP summary

Proposed BMP	Nearest Subsurface Investigation	Boring is within footprint?	Groundwater Elevation (feet)[1]	BMP Bottom Elevation (feet)	Separation (feet)
North infiltration basin	B-1	Yes	961.50	964.50	3.00
Center infiltration basin	B-3	Yes	961.50	964.50	3.00
South biofiltration basin	B-2	Yes	961.00	963.75	2.75

[1] Groundwater not encountered during drilling. The groundwater elevation is assumed to be the top horizon of iron-stained clay soil. Elevations estimated using known topography instead of the elevations provided by the soil borings.

Because the engineer concurs that the information showing low permeable soils (i.e., clay), high groundwater via the redoximorphic conditions, limited area in the natural tree-constrained area, and site topography support that the abstraction standard in subsection 3.2 of Rule J cannot practicably be met for runoff from the regulated impervious surface, the site is considered a restricted site 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 paragraph 3.2, 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 soils identified in the borings, high groundwater, and limited space

within the natural tree-constrained area, the abstraction standard in Subsection 3.3a of Rule J cannot practicably be achieved. The applicant incorporated infiltration to promote infiltration to the maximum extent practicable to conform to Rule J, subsection 3.3b.
The table below summarizes the volume abstraction for the site.

	Abstraction Depth (inches)	Abstraction Volume (cubic feet)
Requirement	1.1	839
Provided	0.34	371

The applicant has submitted soil borings indicating underlying clay soils and has indicated that soil infiltration testing will be completed this spring once conditions are appropriate. The engineer concurs with the applicant's design infiltration rate of 0.06 inches per hour based on the soil borings provided by the geotechnical engineer and the guidelines provided in the MN Stormwater Manual. Based on the presumed design infiltration rate, the engineer concurs that the proposed infiltration systems will draw down within 48 hours (Rule J, subsection 3.1b.3). Per Rule J, Subsection 3.1.b.2.c measured infiltration capacity of the soils at the bottom of the infiltration systems must be provided The applicant must submit documentation verifying the infiltration capacity of the soils and that the volume control capacity is calculated using the measured infiltration rate. If infiltration capacity is less than needed to conform with the volume abstraction requirement in subsection 3.3b or there is inadequate separation to groundwater or redoximorphic soils, the applicant will need to submit design modifications (in the form of an application for a permit modification or new permit) or demonstrate that the project is nonetheless still providing abstraction to the maximum extent practicable.

Water Quality Management

Subsection 3.1.c of Rule J requires the Applicant to 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), as well as no net increase in pollutant loading from existing conditions.

The applicant submitted P8 models to estimate the TP and TSS loading from the watersheds and the removal capacity of the proposed BMPs. The results of this modeling are summarized in the tables below. The results show the proposed project will remove sufficient TSS and TP to achieve an overall pollutant reduction in accordance with the required annual removals (Rule J, Subsection 3.2c).

Annual TSS and TP removal summary

Resource	Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)[1]	Provided Load Reduction (lbs/yr)
Lake Ann	Total Suspended Solids (TSS)	170	153 (90%)	154 (90%)
	Total Phosphorus (TP)	0.54	0.32 (60%)	0.39 (72%)
Lake Lucy	Total Suspended Solids (TSS)	0[2]	0	0
	Total Phosphorus (TP)	0	0	0

[1]Required load reduction is calculated based on the criteria in Rule J, Subsection 3.1c and the new and reconstructed impervious area site loading.

[2] Because all flows less than and including the 10-year event are discharge to Lake Ann, only extreme event overflow would discharge to Lake Lucy .

Summary of net change in TSS and TP leaving the site

Resource	Pollutant of Interest	Existing Loading (lbs/yr)	Proposed Load after Treatment (lbs/yr)	Change (lbs/yr)
Lake Ann	Total Suspended Solids (TSS)	68	17	-51
	Total Phosphorus (TP)	0.21	0.15	-0.06
Lake Lucy	Total Suspended Solids (TSS)	30	0	-30
	Total Phosphorus (TP)	0.09	0	-0.09

Low floor Elevation

No structure may be constructed or reconstructed such that its lowest floor elevation is less than 2 feet above the 100-year event flood elevation 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 a standard in this subsection 3.6b. Because the project does not propose to construct or reconstruct structures that have low-floor elevations, subsection 3.6a does not impose requirements on the project. However, the project will construct stormwater management facilities south of the existing habitable structure at 7100 Utica Lane. The RPBCWD Engineer concurs with the low floor analysis provided by the applicant, which utilized Appendix J1, that demonstrates the proposed project is in conformance with Rule J, Subsection 3.6b.

Low Floor Evaluation of Existing Structures

Stormwater Facility	Low Floor Elevation of Building (feet)	100-year Event Flood Elevation of Adjacent Stormwater Facility (feet)	Freeboard (feet)
North infiltration basin	968.00	964.70	3.30

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. Permit applicant has provided a draft maintenance and inspection plan for review and approval by RPBCWD. While the applicant provided a draft maintenance agreement for review, the following revisions are needed:

J1. The applicant must provide RPBCWD an executed version.

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. The Permit applicant provided a draft chloride management plan that designates the individual authorized to implement the chloride management plan as Joe Seidl with the City of Chanhassen. The permit applicant must provide a signed chloride management plan with the attachments specific in the plan to confirm that Mr. Seidl is certified by the MPCA.

Wetland Protection

Because the proposed land-disturbing activities that discharge to the on-site protected Wetland 1, 2, 3 and 4 are exempt from stormwater management (Ruel J, subsection 2.2d), Rule J, subsection 3.10 does not impose requirements on the project.

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 above and on the permit. The granting 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 does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
5. 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.
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 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.

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 conforms to Rule B and C.
3. The proposed project will conform to Rules D, G and J if the conditions listed above are met.
4. Under Minnesota Department of Natural Resources General Permit 2015-1192 (attached to this report), approval of work under RPBCWD rule(s) G constitutes approval under applicable DNR work in waters rules. Compliance with conditions on approval and payment of applicable fees, if any, are necessary to benefit from general permit approval and the responsibility of the applicant. The work for constructing boardwalks within Wetland 1 appears to trigger state regulatory requirements administered by the Department of Natural Resources (i.e., require a Work in Public Waters permit). It is the applicant's responsibility to determine whether an RPBCWD permit for the work, if granted, provides the necessary DNR approval under DNR General Permit 2015-1192, issued for projects permitted by RPBCWD.

Recommendation:

Approval of the permit contingent upon:

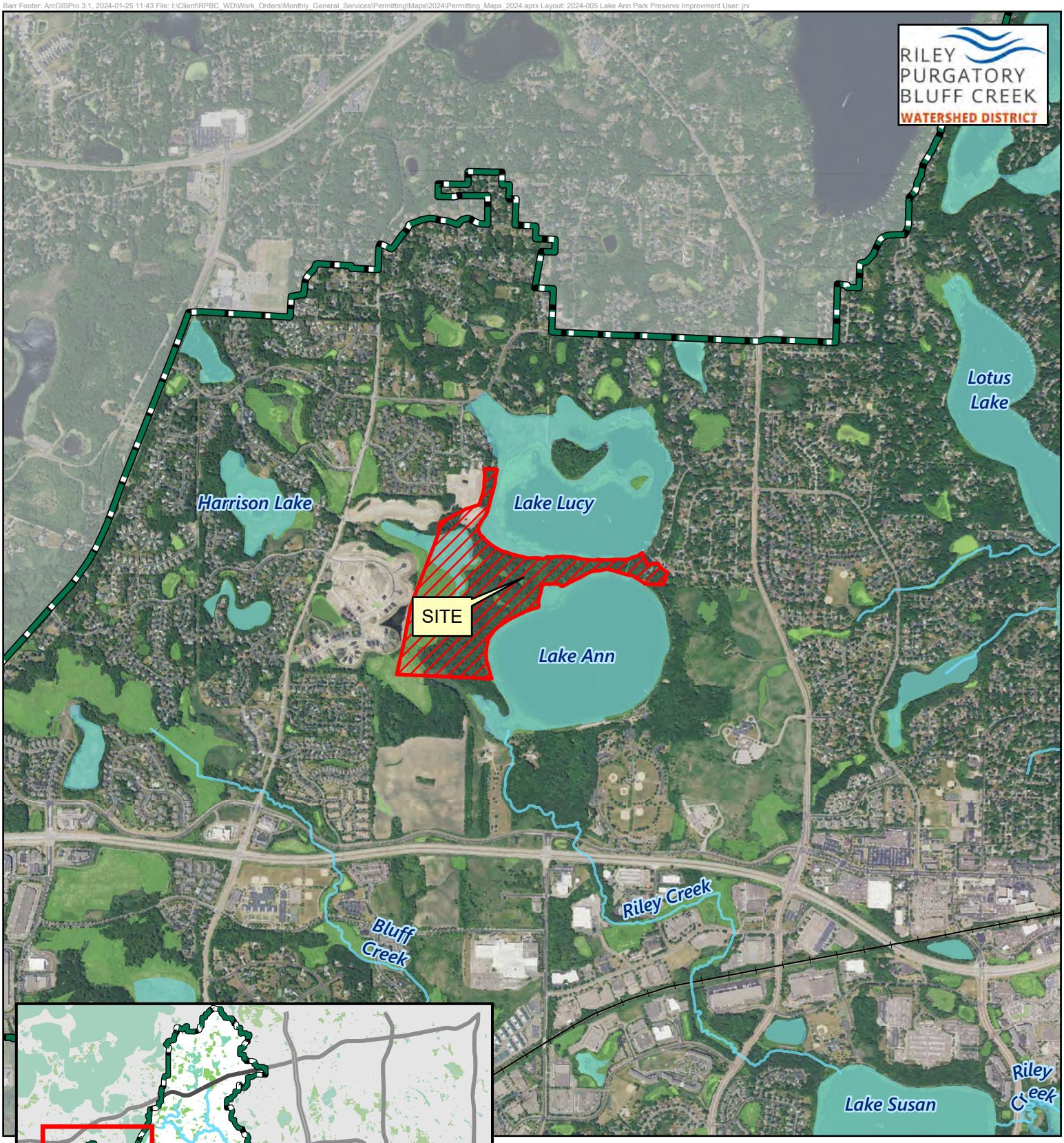
1. Receipt of an executed maintenance and inspection agreement.

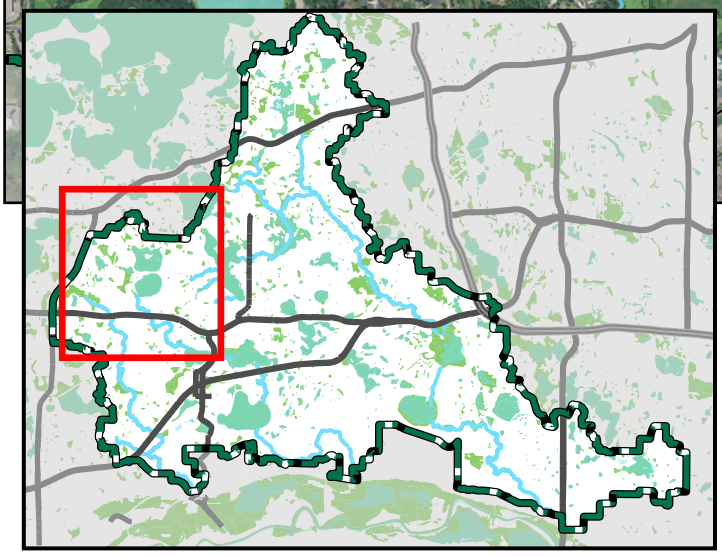
By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Continued compliance with General Requirements.
2. Per Rule J Subsection 5.6, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization the stormwater management facilities conform to design specifications and functions as intended and approved by the District. As-built/record drawings must be signed by a professional engineer licensed in Minnesota and include, but not limited to:
    a) the surveyed bottom elevations, water levels, and general topography of all facilities;
    b) the size, type, and surveyed invert elevations of all stormwater facility inlets and outlets;
    c) the surveyed elevations of all emergency overflows including stormwater facility, street, and other;
    d) other important features to show that the project was constructed as approved by the Managers and protects the public health, welfare, and safety.
3. Providing the following additional close-out materials:
    a) Documentation that constructed stormwater facilities perform as designed. This may include infiltration testing, flood testing, or other with prior approval from RPBCWD

b) Documentation that disturbed pervious areas remaining pervious have been decompacted per Rule C Subsection 3.2c criteria

4. To close out this permit, the permit applicant must provide a completed 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.
5. Per Rule J, Subsection 3.1.b.ii measured infiltration capacity of the soils at the bottom of the underground infiltration system must be provided. The applicant must submit documentation verifying the infiltration capacity of the soils and that the volume control capacity is calculated using the measured infiltration rate. In addition, subsurface soil investigation is needed to verify adequate separation to groundwater (Rule J subsection 3.1.b.2). If infiltration capacity is less than needed to conform with the volume abstraction requirement in subsection 3.1b or there is inadequate separation to groundwater, design modifications to achieve compliance with RPBCWD requirements will need to be submitted (in the form of an application for a permit modification or new permit).
6. To close out this permit, the permit applicant must install buffer monumentation along the public waters watercourse between Lake Lucy and Lake Ann and provide a revised or amended maintenance agreement exhibit illustrating the buffer monument locations.





N

Feet

0 2,000

Permit Location Map

LAKE ANN PARK PRESERVE IMPROVEMENT

Permit 2024-005

Riley Purgatory Bluff Creek Watershed District

CITY OF CHANHASSEN, MINNESOTA

CONSTRUCTION PLANS FOR

BITUMINOUS TRAIL

LAKE ANN PRESERVE IMPROVEMENTS

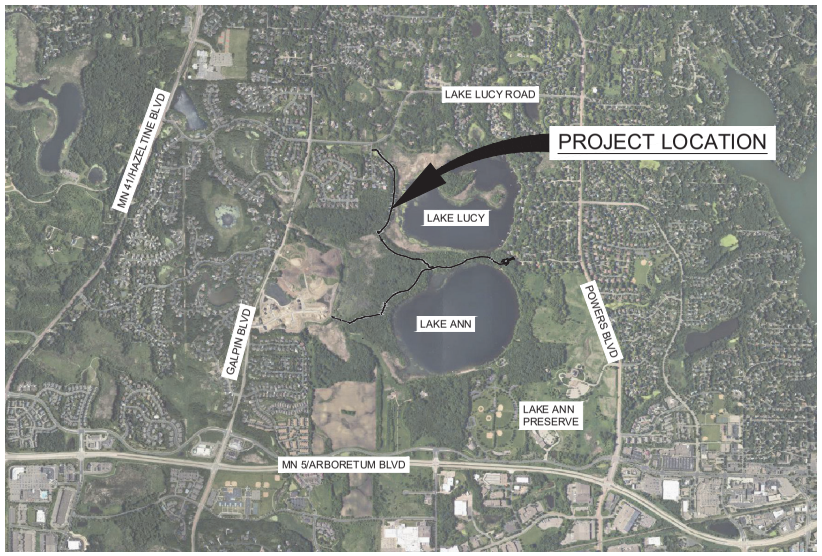
CITY PROJECT NO. P-LAPPP2

EXISTING

- RIGHT OF WAY
- PERMANENT EASEMENT
- PROPERTY LINE
- HORIZONTAL CONTROL POINT
- BENCHMARK
- SURVEY MARKER
- SOIL BORING
- SANITARY SEWER AND MANHOLE
- FORCE MAIN AND LIFT STATION
- SANITARY SEWER SERVICE & CLEANOUT
- WATER MAIN, HYDRANT, VALVE AND MANHOLE
- WATER SERVICE AND CURB STOP BOX
- STORM SEWER, MANHOLE AND CATCH BASIN
- CULVERT AND APRON ENDWALL
- GAS MAIN, VALVE, VENT AND METER
- HANDHOLE
- BURIED FIBER OPTIC CABLE AND MANHOLE
- BURIED PHONE CABLE, PEDESTAL AND MANHOLE
- BURIED TV CABLE, PEDESTAL AND MANHOLE
- BURIED ELECTRIC CABLE, PEDESTAL, MANHOLE, TRANSFORMER AND METER
- OVERHEAD WIRE, POLE AND GUY WIRE
- LIGHT POLE
- TRAFFIC SIGNAL
- STREET NAME SIGN
- SIGN (NON STREET NAME)
- RAILROAD TRACKS
- DECIDUOUS AND CONIFEROUS TREE
- BUSH / SHRUB AND STUMP
- EDGE OF WOODED AREA
- WETLAND
- BUILDING
- FENCE (UNIDENTIFIED)
- BARBED WIRE FENCE
- CHAIN LINK FENCE
- ELECTRIC WIRE FENCE
- WOOD FENCE
- WOVEN WIRE FENCE
- PLATE BEAM GUARDRAIL
- CABLE GUARDRAIL
- POST / BOLLARD
- RETAINING WALL

PROPOSED

- STREET CENTERLINE
- RIGHT-OF-WAY
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- CONSTRUCTION LIMITS
- SANITARY SEWER, BULKHEAD AND MANHOLE
- FORCE MAIN
- SANITARY SERVICE AND CLEANOUT
- WATER MAIN, TEE, HYDRANT, BULKHEAD AND VALVE
- WATER VALVE MANHOLE, REDUCER, BEND AND CROSS
- WATER SERVICE AND CURB STOP BOX
- STORM SEWER, MANHOLE AND CATCH BASIN
- CULVERT AND APRON ENDWALL
- DRAIN TILE
- DITCH / SWALE
- RIPRAP
- STREET NAME SIGN
- SIGN (NON STREET NAME)
- RETAINING WALL



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N.T.S.

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

THE CONTRACTOR SHALL CALL THE GOPHER STATE ONE CALL SYSTEM AT 811 BEFORE COMMENCING EXCAVATION.

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

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", "SUPPLEMENTAL SPECIFICATIONS" DATED SEPTEMBER 2022, AND CITY OF CHANHASSEN STANDARD SPECIFICATIONS SHALL GOVERN EXCEPT AS MODIFIED BY THE SPECIFICATIONS FOR THIS PROJECT.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

INDEX

THIS PLAN CONTAINS 55 SHEETS.

IT IS INTENDED THESE PLANS BE PRINTED IN COLOR.

PROJECT LOCATION

CITY OF CHANHASSEN, CARVER COUNTY

90% PRELIMINARY

CHANHASSEN, MINNESOTA

SEH
PHONE: 952.912.2600
10850 RED CIRCLE DRIVE,
SUITE 500
MINNETONKA, MN 55343
www.sehinc.com

I HEREBY CERTIFY THAT THIS PLAN 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.

JENNIFER C. DESRUDE, PE

Signature

Date: 01-17-2024 Lic. No. 44581

PROJECT NO. 171844

1 of 55

SEH Project	HOISI171884	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	
Drawn By	--					90% PRELIMINARY	te
Designed By	--						
Checked By	--						

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JENNIFER C. DESRIDGE, PE
DATE 01-17-2024 LICENSE NO. 44581

LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

GENERAL LAYOUT

2 of 55

NOTES

1. BOARDWALKS WILL BE CONSTRUCTED WITHIN THE SAME CONSTRUCTION SEASON BY OTHERS. CONTRACTOR TO COORDINATE WITH BOARDWALK CONTRACTOR FOR ALL SITE ACCESS AND TURF ESTABLISHMENT EFFORTS.
2. CONTRACTOR SHALL PROPOSE CONSTRUCTION PHASE ORDER FOR APPROVAL BY THE ENGINEER. PHASING NEED NOT BE COMPLETED IN ORDER LISTED.
3. CHANGES TO PHASE LIMITS, ACCESS POINTS, OR OTHER PHASE SPECIFIC REQUIREMENTS SHALL BE APPROVED BY THE ENGINEER.
4. PHASES MAY BE CONSTRUCTED CONCURRENTLY WITH APPROVAL OF ENGINEER.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT EXISTING BOARDWALKS BEING USED AS HAUL ROADS. ANY AND ALL REPAIRS NECESSARY TO RETURN BOARDWALKS TO ACCEPTABLE CONDITION AS DETERMINED BY THE ENGINEER AND SHALL BE CONSIDERED INCIDENTAL.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF EXISTING TRAIL UTILIZED FOR HAULING EQUIPMENT AND MATERIALS.
7. PROVIDE CONSTRUCTION FENCING BEHIND BARRICADE AT ALL TRAIL CLOSURE LOCATIONS.
8. CONSTRUCTION ACCESS 1 IS NEWLY CONSTRUCTED TRAIL SEGMENT - CONTRACTOR TO PROTECT (OR REPAIR ACCORDINGLY).

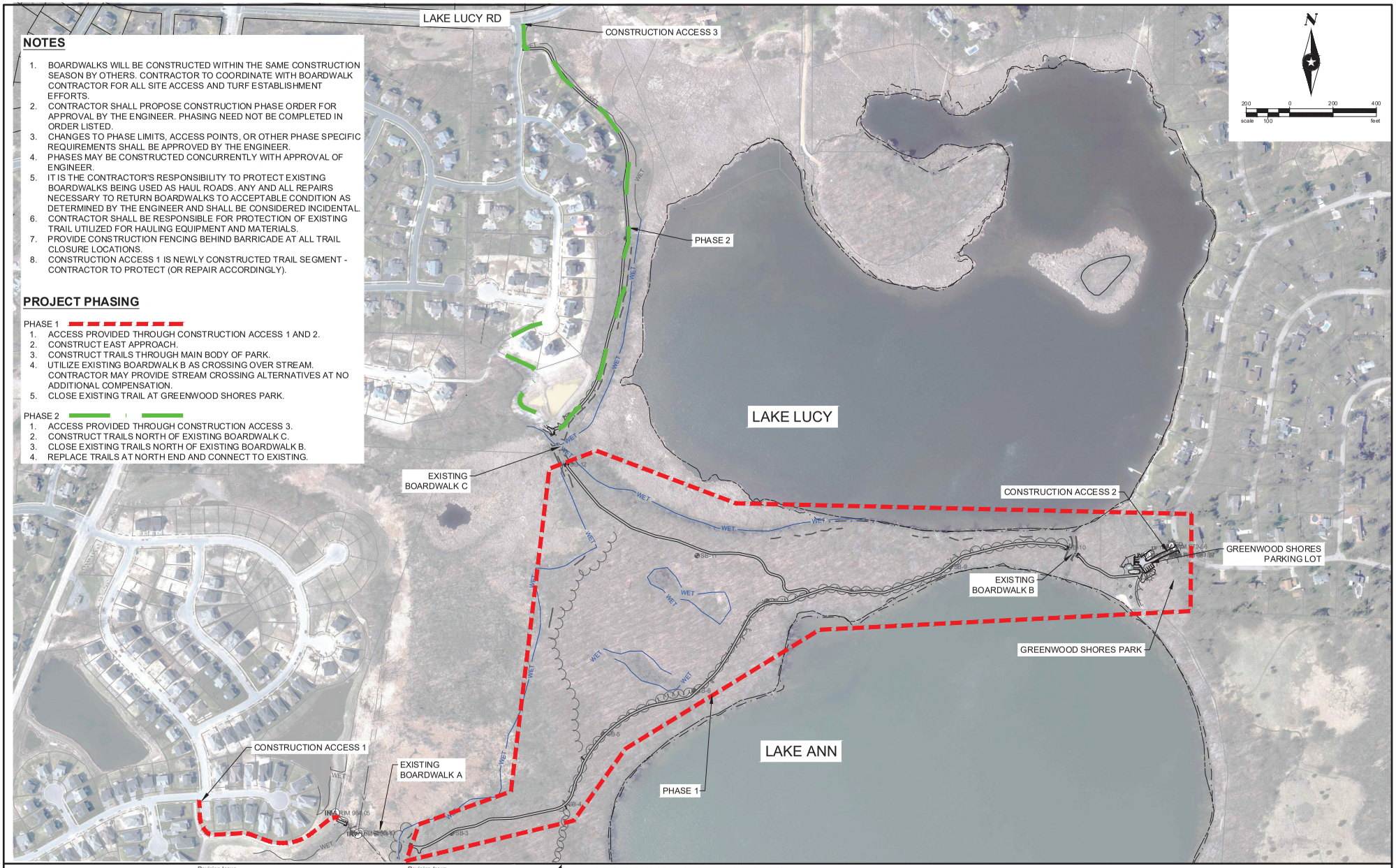
PROJECT PHASING

PHASE 1

1. ACCESS PROVIDED THROUGH CONSTRUCTION ACCESS 1 AND 2.
2. CONSTRUCT EAST APPROACH.
3. CONSTRUCT TRAILS THROUGH MAIN BODY OF PARK.
4. UTILIZE EXISTING BOARDWALK B AS CROSSING OVER STREAM. CONTRACTOR MAY PROVIDE STREAM CROSSING ALTERNATIVES AT NO ADDITIONAL COMPENSATION.
5. CLOSE EXISTING TRAIL AT GREENWOOD SHORES PARK.

PHASE 2

1. ACCESS PROVIDED THROUGH CONSTRUCTION ACCESS 3.
2. CONSTRUCT TRAILS NORTH OF EXISTING BOARDWALK C.
3. CLOSE EXISTING TRAILS NORTH OF EXISTING BOARDWALK B.
4. REPLACE TRAILS AT NORTH END AND CONNECT TO EXISTING.



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SEH Project	HOIS171884	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date
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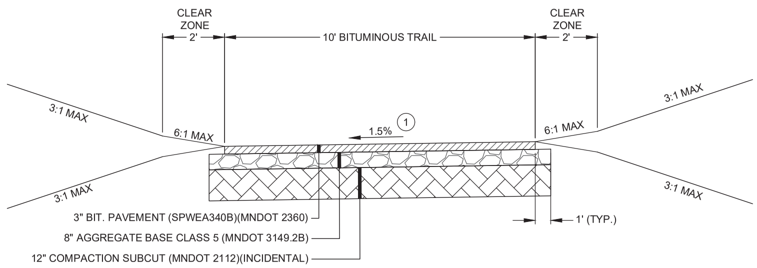
JENNIFER C. DESRIDGE, PE
DATE 01-17-2024 LICENSE NO. 44581

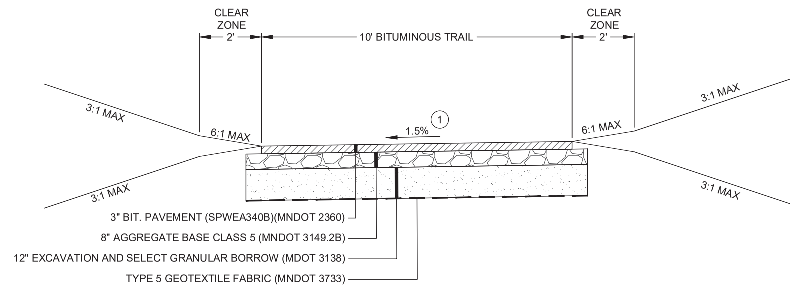
LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

CONSTRUCTION ACCESS PLAN



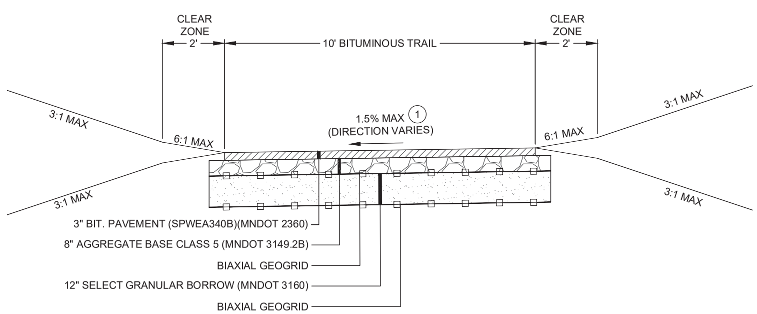
BITUMINOUS TRAIL TYPICAL SECTION A

ALL BITUMINOUS TRAIL LOCATIONS UNLESS OTHERWISE NOTED



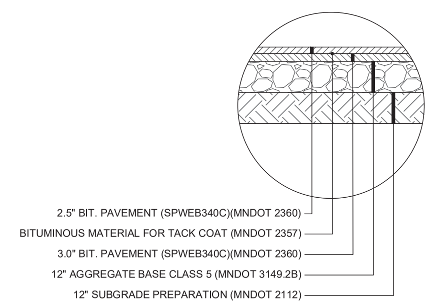
BITUMINOUS TRAIL TYPICAL SECTION B

SUBGRADE CORRECTION SECTION.
STA. 123+00 TO STA 125+50
(OR AT DISCRETION OF THE ENGINEER)



BITUMINOUS TRAIL TYPICAL SECTION C

STA. 212+00 TO STA 213+67.75
(OR AT DISCRETION OF THE ENGINEER)



PARKING LOT PAVEMENT SECTION

NOTES:

1. CROSS SLOPE TO BE DIRECTED TO THE "DOWN" GRADIENT SIDE SLOPE OF THE SURROUNDING TOPOGRAPHY.

SEH Project	HOISI171884	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description
Drawn By	--					90% PRELIMINARY
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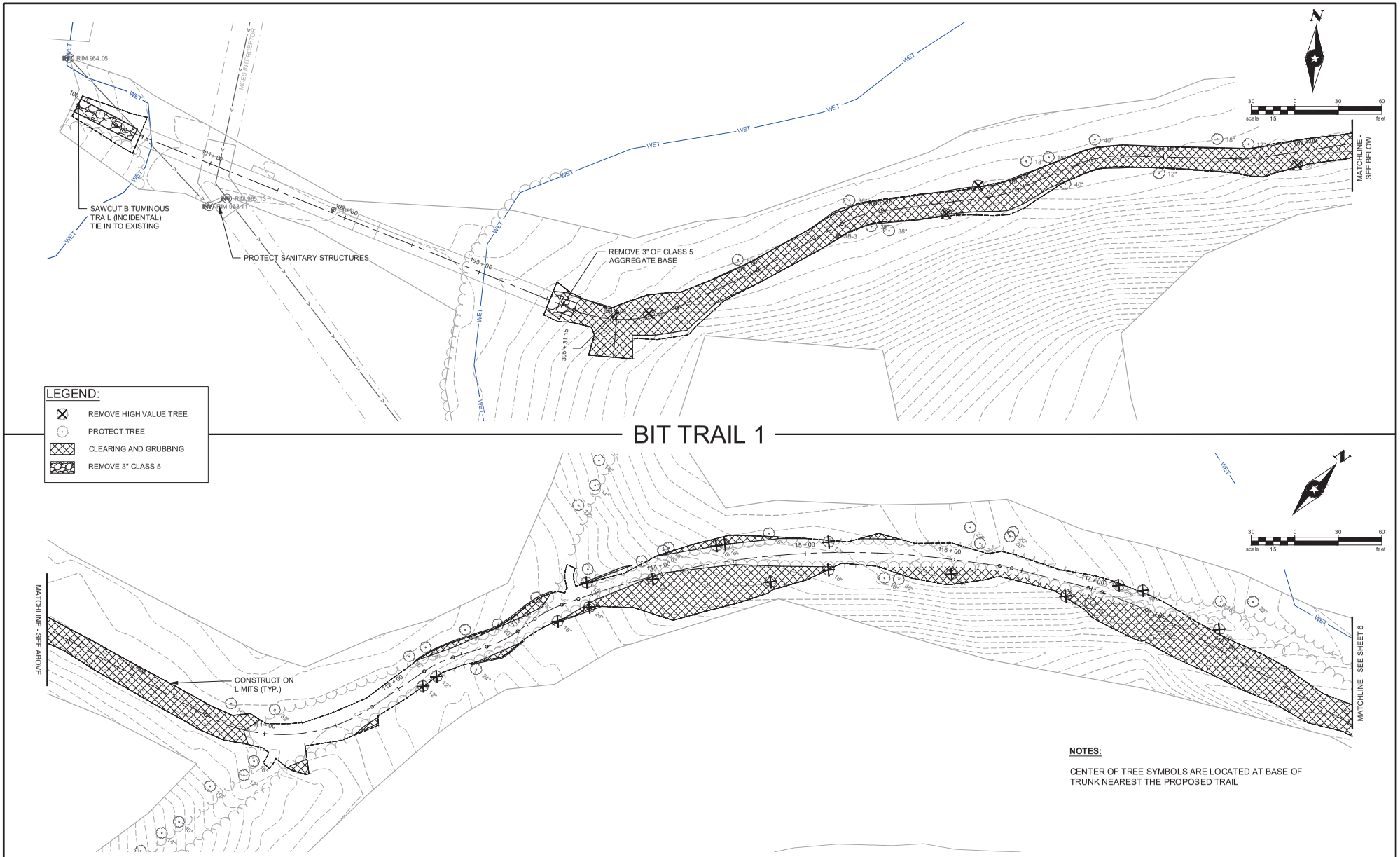
JENNIFER C. DESRUDE, PE
DATE 01-17-2024 LICENSE NO. 44581

LAKE ANN PRESERVE IMPROVEMENTS

CHANHASSEN, MN

TYPICAL SECTIONS



NOTES:

CENTER OF TREE SYMBOLS ARE LOCATED AT BASE OF TRUNK NEAREST THE PROPOSED TRAIL

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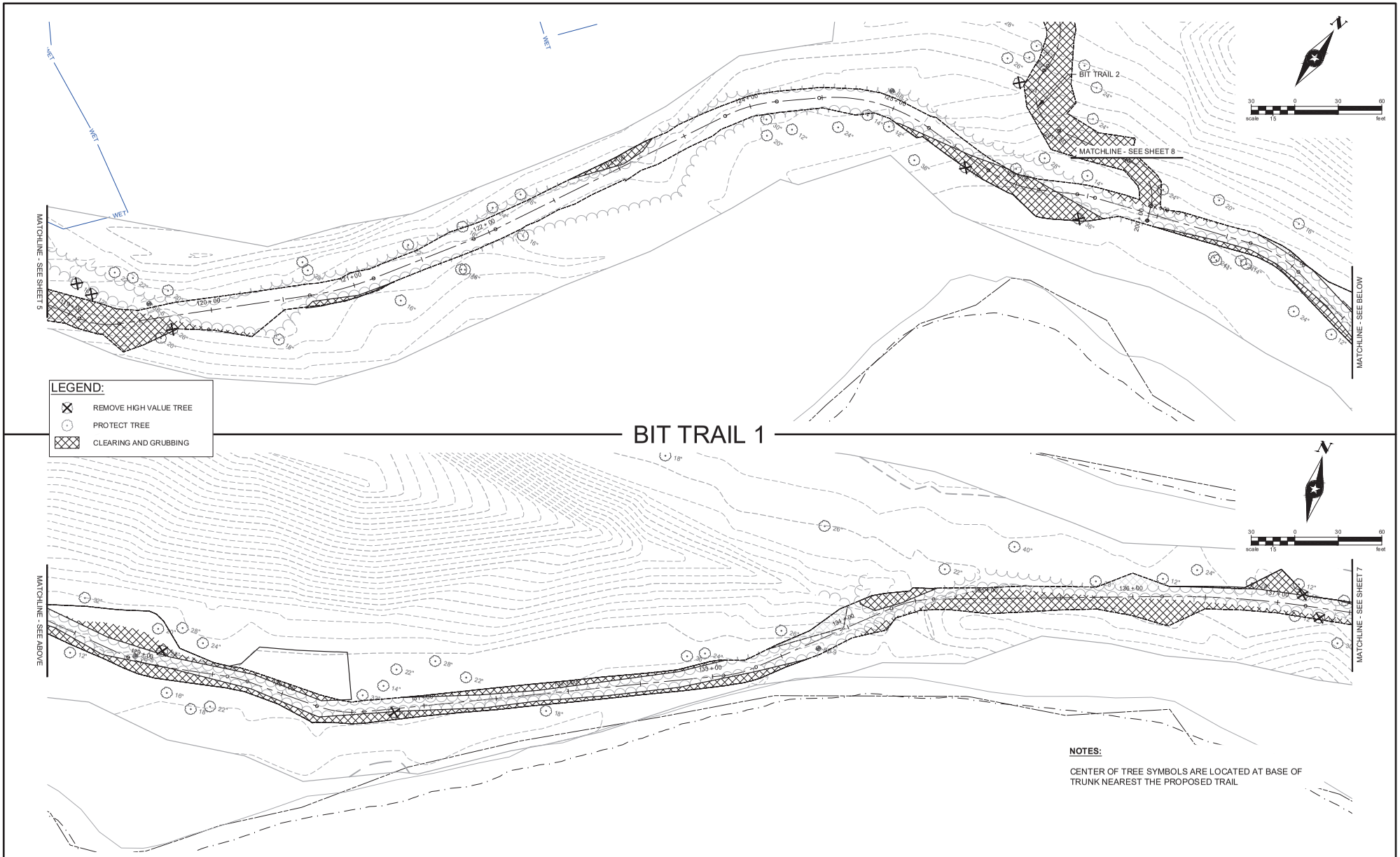
Drawn By	--	-			-	90% PRELIMINARY	te	JENNIFER C. DESRODE, PE	CHANHASSEN, MN		of 55
Designed By	--	-			-			DATE 01-17-2024 LICENSE NO. 44581			
Checked By	--	-			-						



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Drawn By	--					90% PRELIMINARY		CHANHASSEN, MN	
Designed By	--								
Checked By	--								

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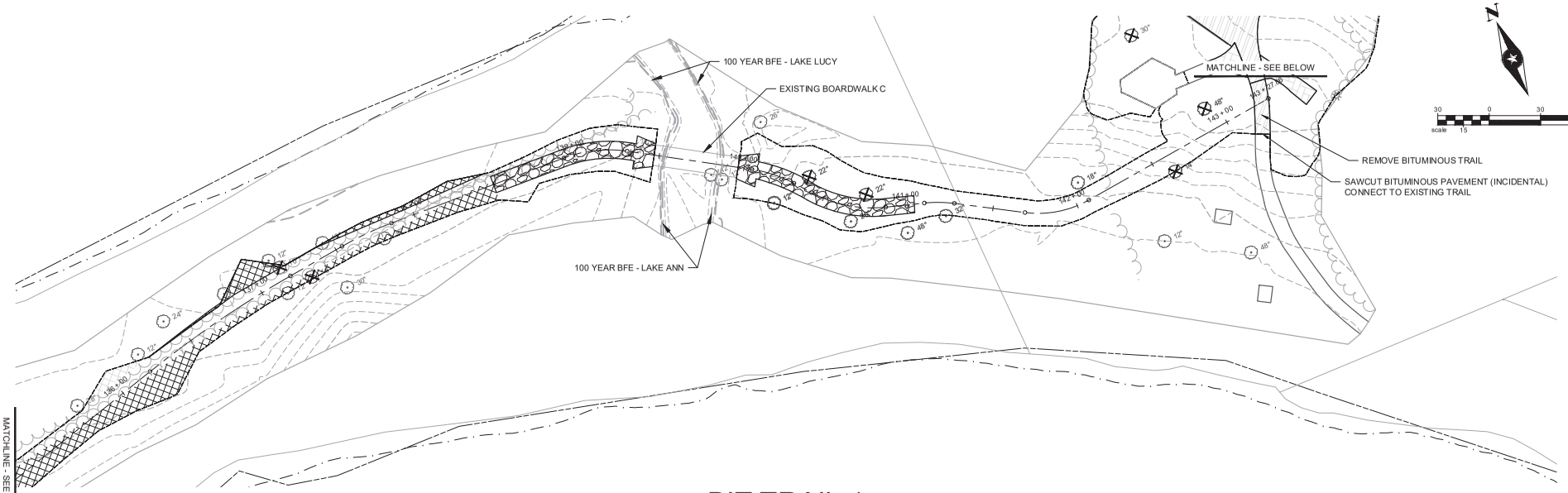
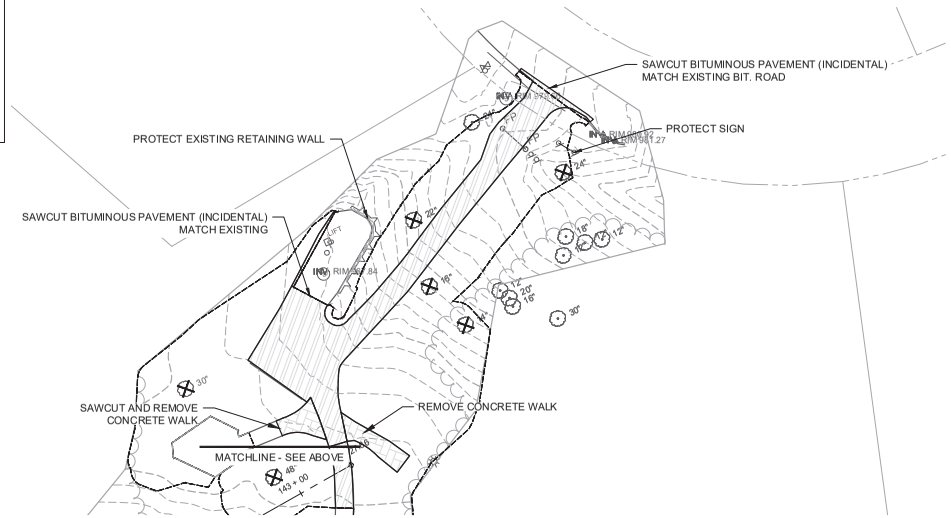
JENNIFER C. DESRIDE, PE
DATE 01-17-2024 LICENSE NO. 44581



BIT TRAIL 1

LEGEND:

- REMOVE HIGH VALUE TREE
- PROTECT TREE
- CLEARING AND GRUBBING
- REMOVE 3" CLASS 5
- REMOVE BITUMINOUS PAVEMENT



GREENWOOD SHORES PARKING LOT

NOTES:

CENTER OF TREE SYMBOLS ARE LOCATED AT BASE OF TRUNK NEAREST THE PROPOSED TRAIL

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Drawn By	--	-			-	90% PRELIMINARY	te	JENNIFER C. DESRODE, PE	CHANHASSEN, MN		of 55
Designed By	--	-			-			DATE 01-17-2024 LICENSE NO. 44581			
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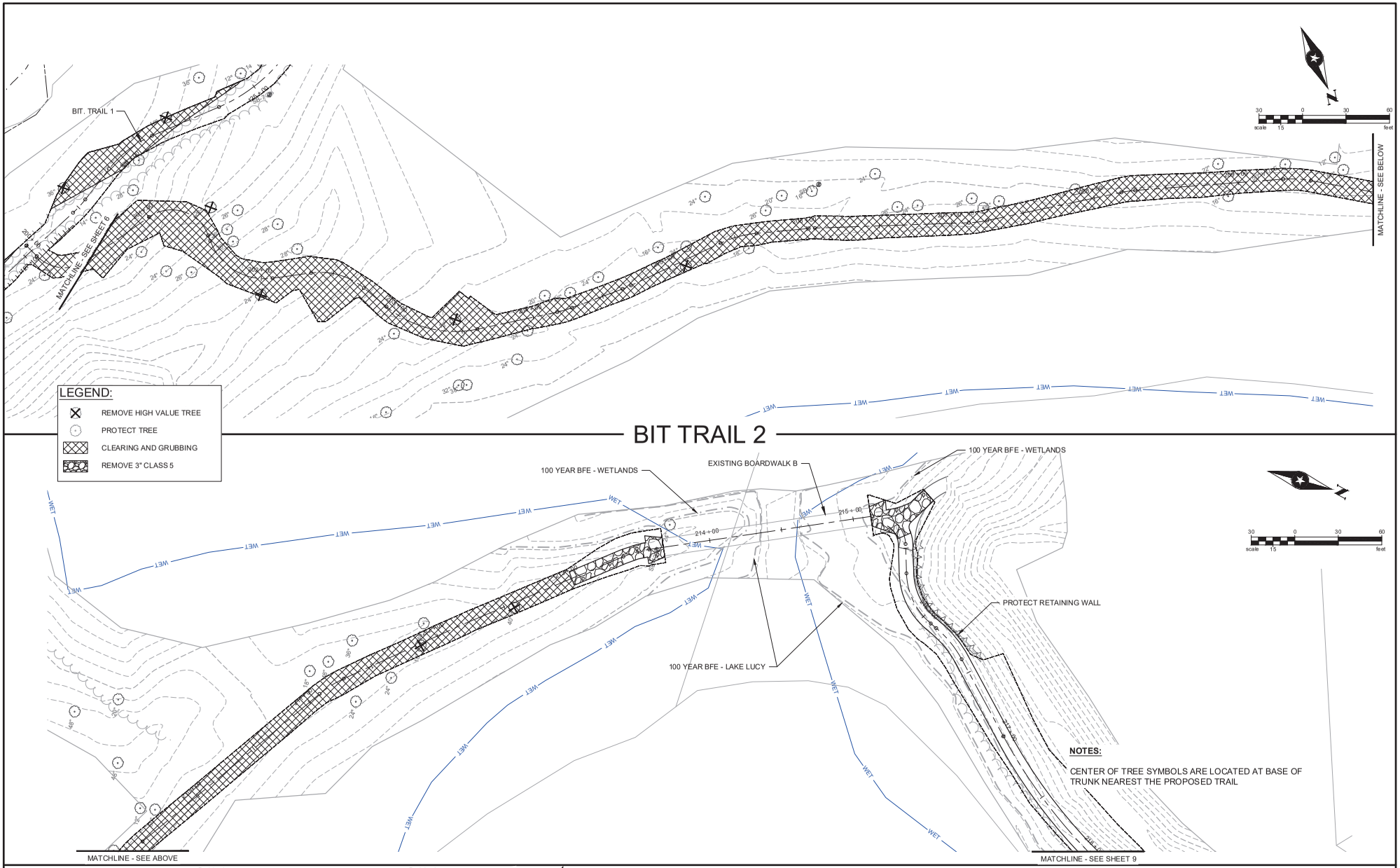

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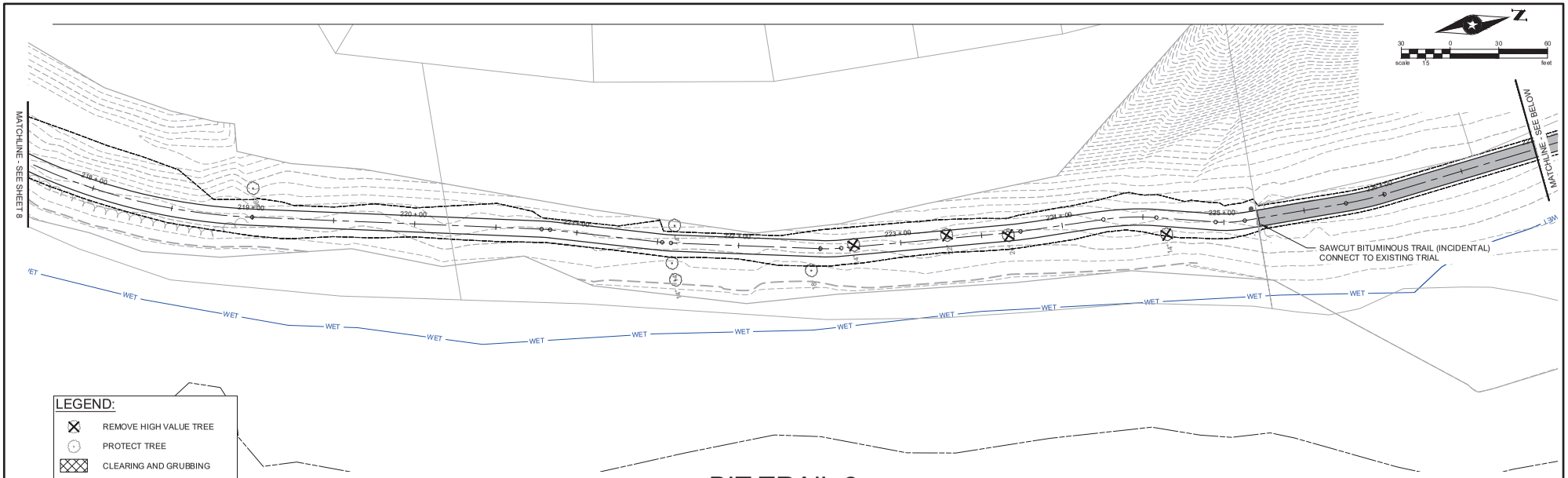
JENNIFER C. DESRODE, PE
DATE 01-17-2024 LICENSE NO. 44581

LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

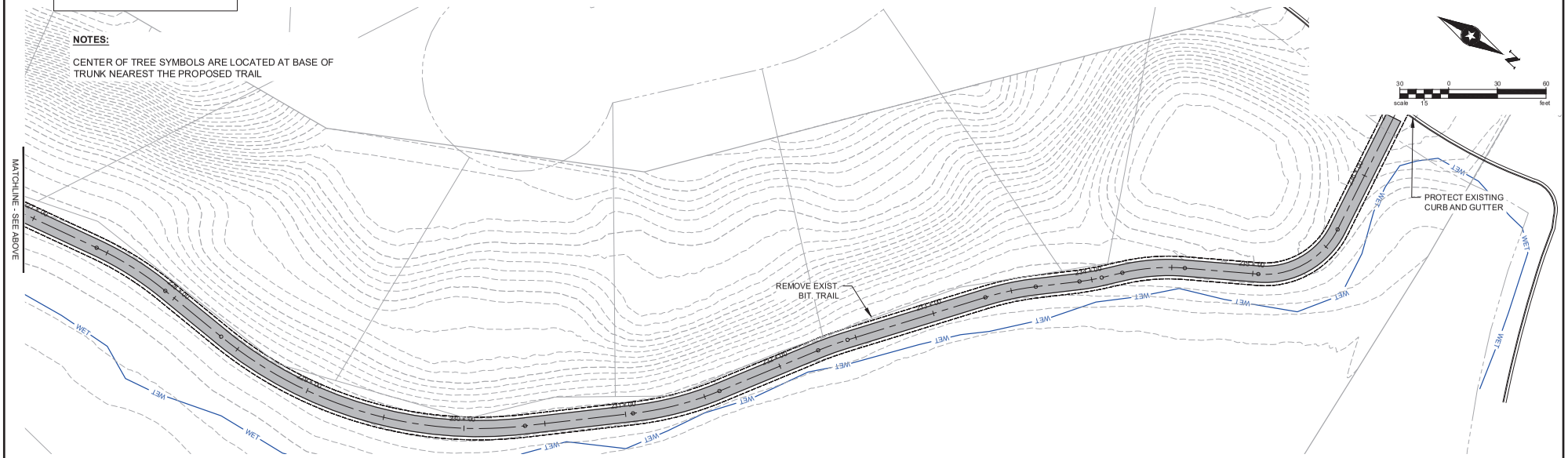
REMOVAL PLANS



BIT TRAIL 2

NOTES:

CENTER OF TREE SYMBOLS ARE LOCATED AT BASE OF TRUNK NEAREST THE PROPOSED TRAIL



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Drawn By	--					90% PRELIMINARY	te	JENNIFER C. DESRIDE, PE	CHANHASSEN, MN		of 55
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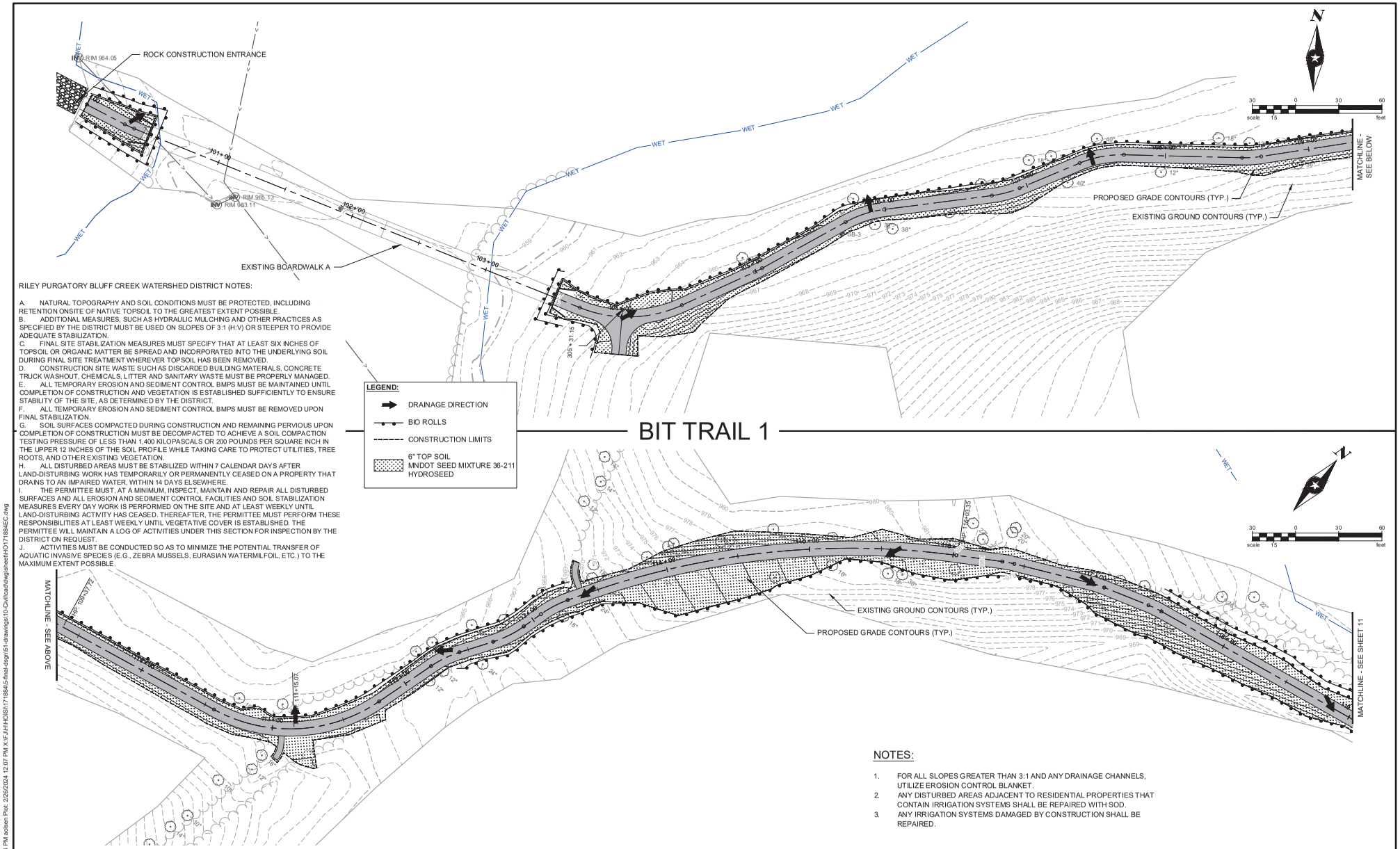

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT NOTES:

A. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE.
B. ADDITIONAL MEASURES, SUCH AS HYDRAULIC MULCHING AND OTHER PRACTICES AS SPECIFIED BY THE DISTRICT MUST BE USED ON SLOPES OF 3:1 (H:V) OR STEEPER TO PROVIDE ADEQUATE STABILIZATION.
C. 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.
D. CONSTRUCTION SITE WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE MUST BE PROPERLY MANAGED.
E. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE DISTRICT.
F. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE REMOVED UPON FINAL STABILIZATION.
G. 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 UTILITIES, TREE ROOTS, AND OTHER EXISTING VEGETATION.
H. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE.
I. THE PERMITTEE 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 ACTIVITY 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.
J. ACTIVITIES MUST BE CONDUCTED SO AS TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (E.G., ZEBRA MUSSELS, EURASIAN WATERMILFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE.

NOTES:

1. FOR ALL SLOPES GREATER THAN 3:1 AND ANY DRAINAGE CHANNELS, UTILIZE EROSION CONTROL BLANKET.
2. ANY DISTURBED AREAS ADJACENT TO RESIDENTIAL PROPERTIES THAT CONTAIN IRRIGATION SYSTEMS SHALL BE REPAIRED WITH SOD.
3. ANY IRRIGATION SYSTEMS DAMAGED BY CONSTRUCTION SHALL BE REPAIRED.

SEH Project	HOISI171884	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date
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Designed By	--	.					
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JENNIFER C. DESRIDE, PE
DATE 01-17-2024 LICENSE NO. 44581

LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

EROSION CONTROL AND TURF ESTABLISHMENT PLAN

10 of 55

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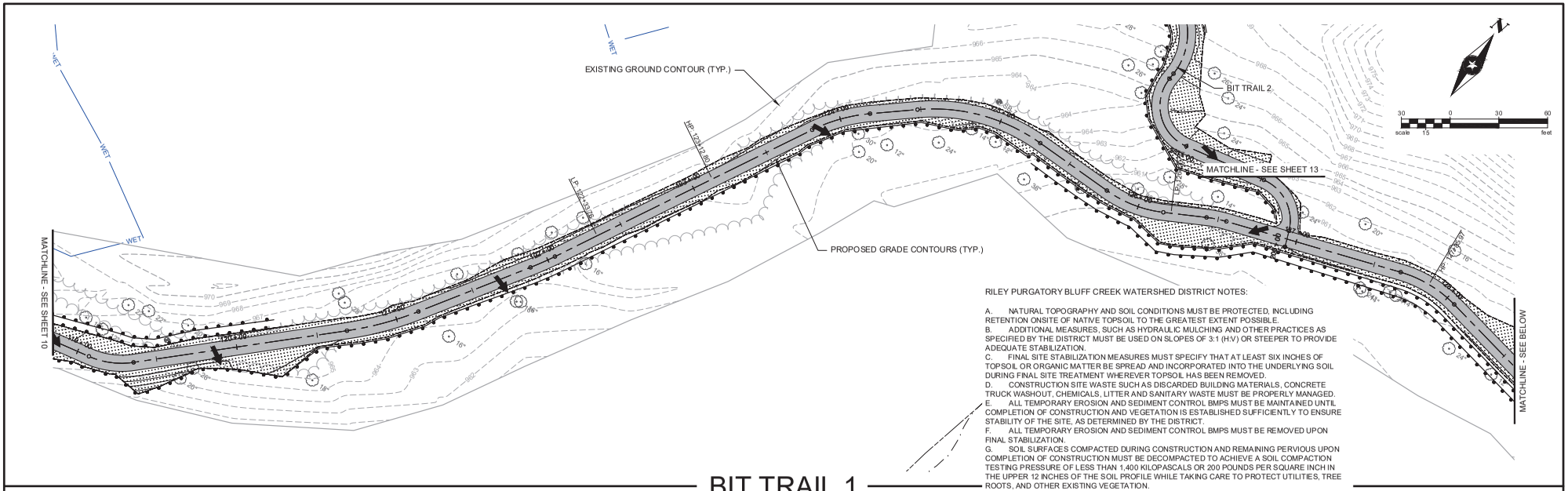
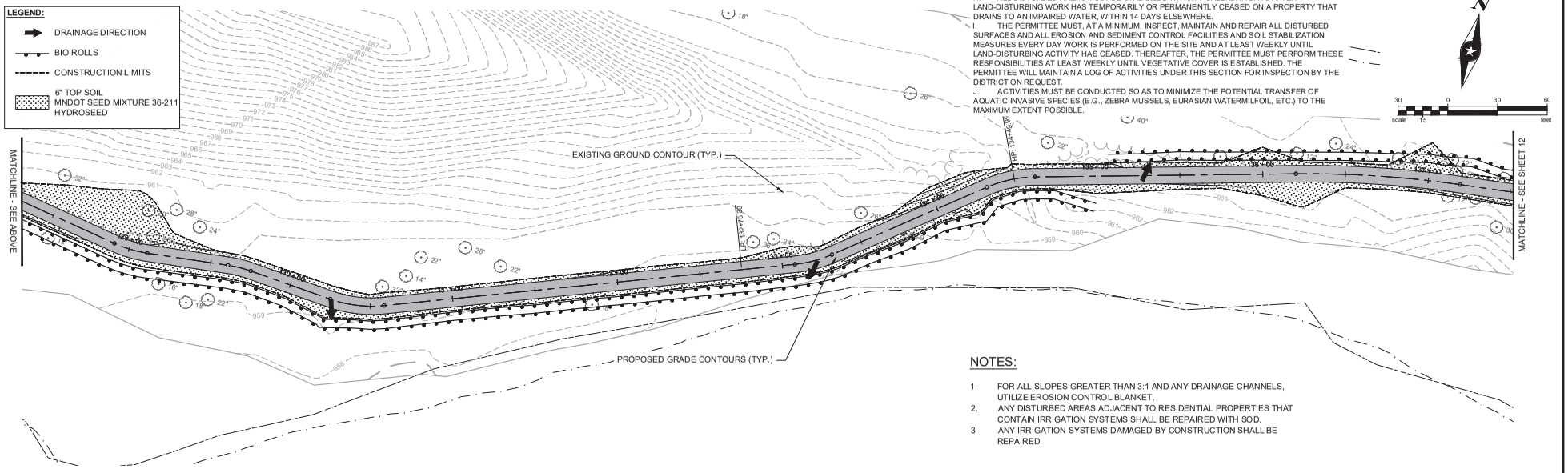


BIT TRAIL 1



RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT NOTES:

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D. CONSTRUCTION SITE WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE MUST BE PROPERLY MANAGED.
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G. 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 UTILITIES, TREE ROOTS, AND OTHER EXISTING VEGETATION.
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NOTES:

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JENNIFER C. DESRIDE, PE
DATE 01-17-2024 LICENSE NO. 44581

LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

EROSION CONTROL AND TURF ESTABLISHMENT PLAN

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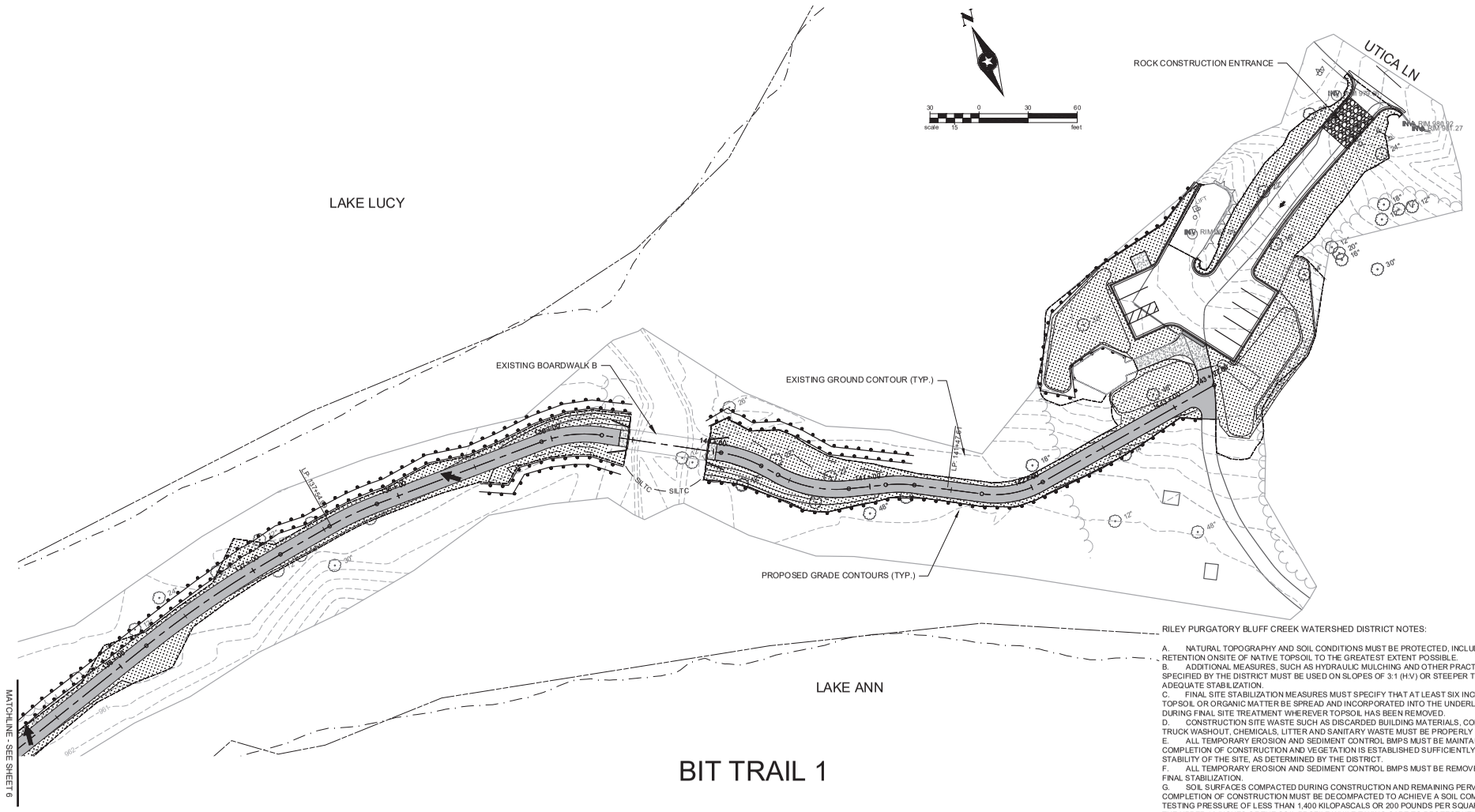

LEGEND:

- DRAINAGE DIRECTION
- BIO ROLLS
- CONSTRUCTION LIMITS
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EROSION CONTROL AND TURF ESTABLISHMENT PLAN

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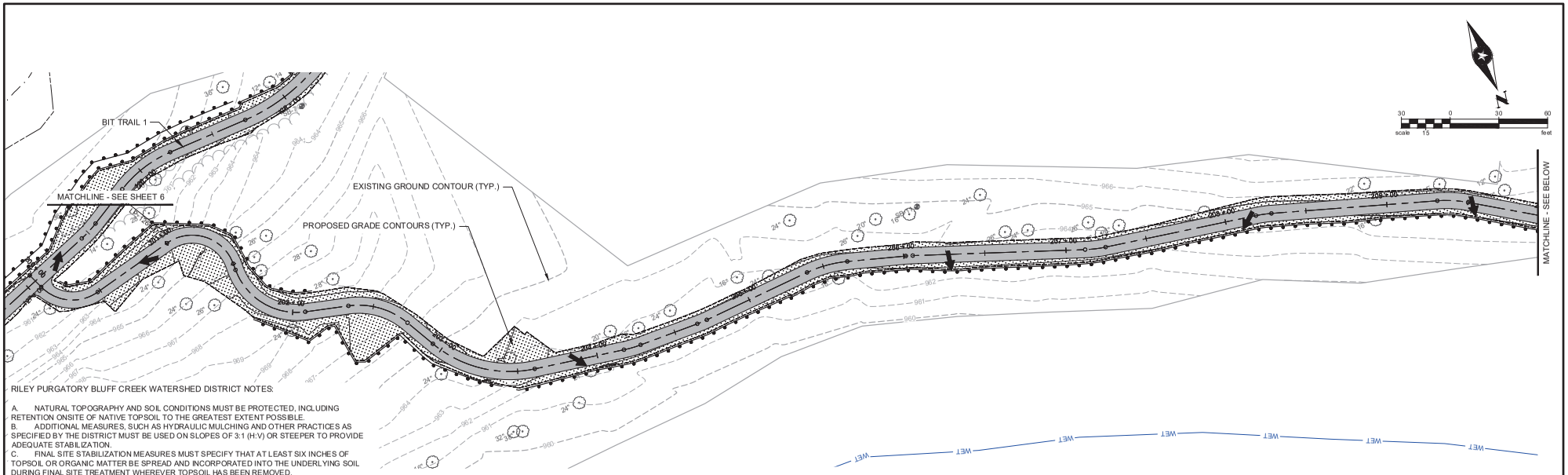

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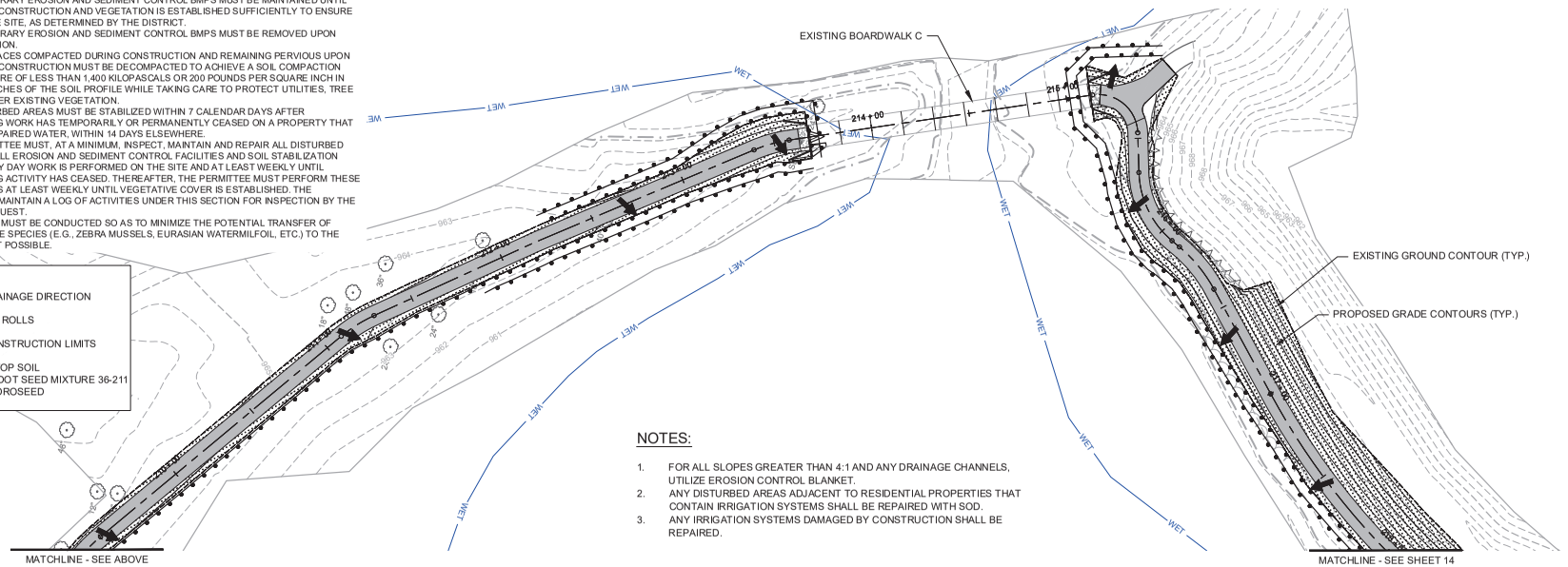

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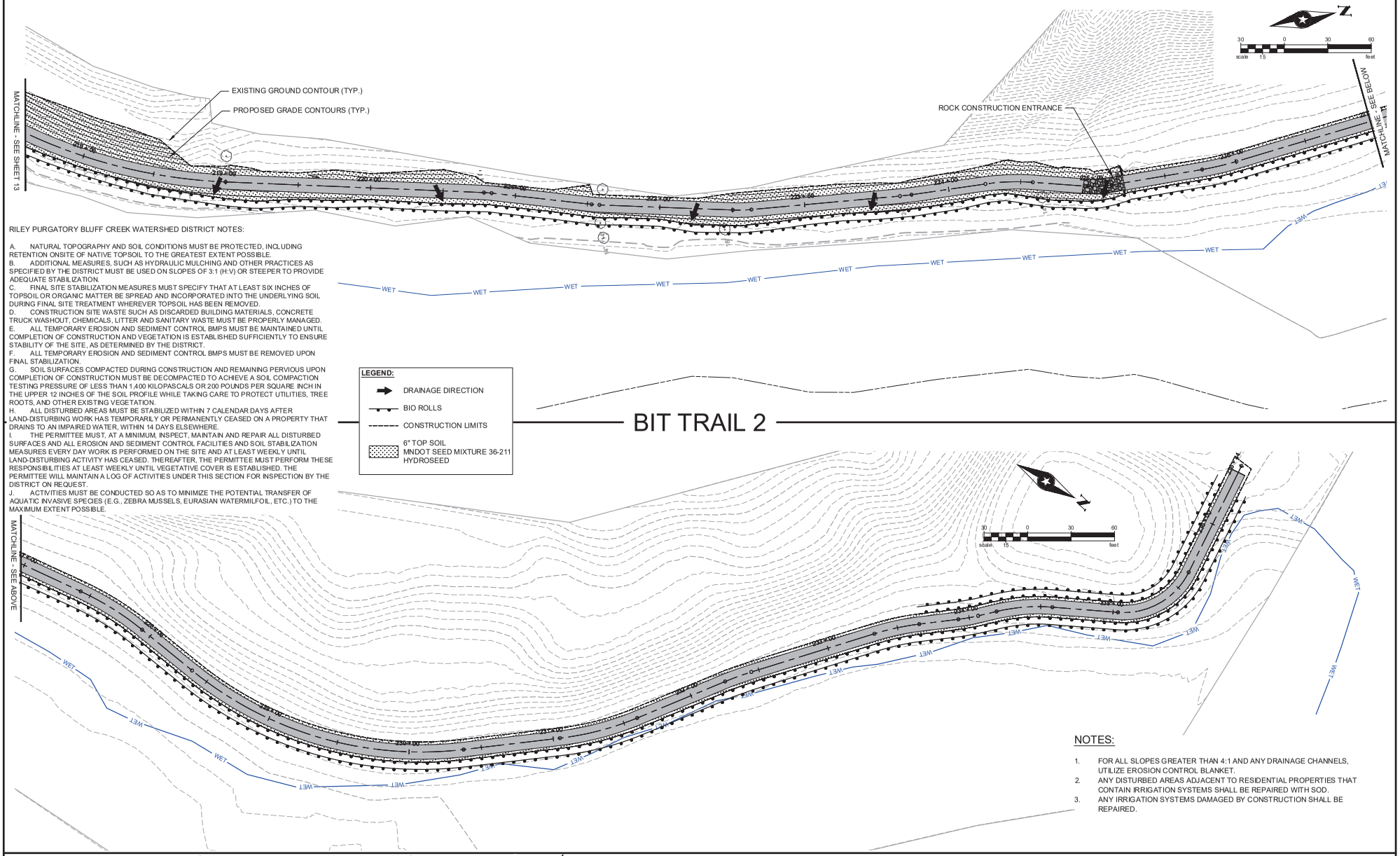

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LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

EROSION CONTROL AND TURF ESTABLISHMENT PLAN

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SWPPP SUMMARY/OVERVIEW:
THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED TO ADDRESS THE REQUIREMENTS OF NPDES PERMIT MN R100001. THIS SWPPP INCLUDES A COMBINATION OF NARRATIVE AND PLAN SHEETS THAT DESCRIBE THE TEMPORARY AND PERMANENT STORM WATER MANAGEMENT PLAN FOR THE PROJECT.

PROJECT INFORMATION:

LOCATION:	LAKE ANN PRESERVE, CHANHASSEN, MINNESOTA
LATITUDE/LONGITUDE:	44.8749° N / 93.5614° W
PROJECT DESCRIPTION:	TRAIL AND PARKING LOT IMPROVEMENTS
SOIL DISTURBING ACTIVITIES:	REMOVALS, GRADING

CONTACTS:

OWNER:	CITY OF CHANHASSEN
CONTACT:	JERRY RUEGEMER, PARKS & RECREATION DIRECTOR
ADDRESS:	7700 MARKET BLVD, PO BOX 147, CHANHASSEN, MN 55317
PHONE:	952.227.1121
EMAIL:	JRUEGEMER@CHANHASSENMN.GOV

ENGINEER:	SHORT ELLIOTT HENDRICKSON INC. (SEH)
CONTACT:	JEN DESRUDE
PHONE:	952.912.2610
EMAIL:	jdesrude@sehinc.com
PROJECT NO.:	CHAPR 176519

KNOWLEDGEABLE PERSON/CHAIN OF RESPONSIBILITY
THE CONTRACTOR SHALL IDENTIFY A PERSON KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPS WHO WILL COORDINATE WITH ALL CONTRACTORS, SUBCONTRACTORS, AND OPERATORS ON-SITE TO OVERSEE THE IMPLEMENTATION OF THE SWPPP.

CONTRACTOR	CITY OF CHANHASSEN PUBLIC WORKS
CONTACT	JOE SEIDL
PHONE	952.227.1168
EMAIL	JSEIDL@CHANHASSENMN.GOV

THE CONTRACTOR SHALL ESTABLISH A CHAIN OF RESPONSIBILITY FOR ALL CONTRACTORS AND SUB-CONTRACTORS ON SITE TO ENSURE THE SWPPP IS BEING PROPERLY IMPLEMENTED AND MAINTAINED. THE CONTRACTOR SHALL PROVIDE THE CHAIN OF RESPONSIBILITY TO THE OWNER AND ATTACH TO THE SWPPP PRIOR TO ANY CONSTRUCTION ACTIVITY.

GENERAL SWPPP RESPONSIBILITIES:
THE CONTRACTOR SHALL KEEP THE SWPPP ON-SITE, OR ELECTRONICALLY AVAILABLE ON SITE, DURING NORMAL WORKING HOURS WITH PERSONNEL WHO HAVE OPERATIONAL CONTROL OVER THE APPLICABLE PORTION OF THE SITE, INCLUDING ALL CHANGES TO THE SWPPP, INSPECTIONS, AND MAINTENANCE RECORDS.

THE SWPPP WILL BE AMENDED AS NEEDED AND/OR AS REQUIRED BY PROVISIONS OF THE PERMIT. PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER. AMENDMENTS WILL BE APPROVED BY BOTH THE OWNER AND CONTRACTOR AND WILL BE ATTACHED OR OTHERWISE INCLUDED WITH THE SWPPP DOCUMENTS. THE SWPPP AMENDMENTS SHALL BE INITIATED, FACILITATED, AND PROCESSED BY THE CONTRACTOR.

PERMITTEES MUST AMEND THE SWPPP WITHIN 7 DAYS TO INCLUDE ADDITIONAL OR MODIFIED BMPS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER.

PERMITTEES MUST AMEND THE SWPPP WITHIN 7 DAYS TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIES OR ADDRESS SITUATIONS WHENEVER INSPECTIONS OR INVESTIGATIONS BY THE SITE OWNER OR OPERATOR, USEPA OR MPCA OFFICIALS INDICATE THE SWPPP IS NOT EFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER OR THE DISCHARGES ARE CAUSING WATER QUALITY STANDARD EXCEEDANCES (E.G., NUISANCE CONDITIONS AS DEFINED IN MINN. R. 7050.0210, SUBP.2) OR THE SWPPP IS NOT CONSISTENT WITH THE OBJECTIVES OF A USEPA AAPROVED TMDL.

ALL SWPPP CHANGES MUST BE DONE BY AN INDIVIDUAL TRAINED IN ACCORDANCE WITH SECTION 21.2. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS.

BOTH THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER TERMINATION AND/OR TRANSFER OF THE PERMIT.

LONG TERM OPERATION AND MAINTENANCE
THE OWNER WILL BE RESPONSIBLE OR WILL OTHERWISE IDENTIFY WHO WILL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM(S).

THE OWNER WILL PREPARE AND IMPLEMENT A PERMANENT STORMWATER TREATMENT SYSTEM(S) MAINTENANCE PLAN.

TRAINING DOCUMENTATION:

PREPARER/DESIGNER OF SWPPP:	BLAKE K. HANSEN
EMPLOYER:	SEH INC.
DATE OBTAINED / REFRESHED	MAY 2023
INSTRUCTOR(S)/ENTITY PROVIDING TRAINING:	UNIVERSITY OF MINNESOTA

CONTENT OF TRAINING AVAILABLE UPON REQUEST.

THE CONTRACTOR (OPERATOR) SHALL ADD TO THE SWPPP TRAINING RECORDS FOR THE FOLLOWING PERSONNEL:

-INDIVIDUALS OVERSEEING THE IMPLEMENTATION OF, REVISING, AND AMENDING THE SWPPP
-INDIVIDUALS PERFORMING INSPECTIONS
-INDIVIDUALS PERFORMING OR SUPERVISING THE INSTALLATION, MAINTENANCE AND REPAIR OF BMPS

TRAINING MUST RELATE TO THE INDIVIDUAL'S JOB DUTIES AND RESPONSIBILITIES AND SHALL INCLUDE:

1) DATES OF TRAINING
2) NAME OF INSTRUCTORS
3) CONTENT AND ENTITY PROVIDING TRAINING

THE CONTRACTOR SHALL ENSURE THAT THE INDIVIDUALS ARE TRAINED BY LOCAL, STATE, FEDERAL AGENCIES, PROFESSIONAL ORGANIZATIONS, OR OTHER ENTITIES WITH EXPERTISE IN EROSION PREVENTION, SEDIMENT CONTROL, PERMANENT STORMWATER MANAGEMENT AND THE MINNESOTA NPDES/SDS CONSTRUCTION STORMWATER PERMIT.

PROJECT SUMMARY:

TOTAL DISTURBED AREA:	3.740 AC
PRE-CONSTRUCTION IMPERVIOUS AREA:	0.141 AC
POST-CONSTRUCTION IMPERVIOUS AREA:	0.213 AC
IMPERVIOUS AREA ADDED:	0.072 AC

IN ACCORDANCE WITH THE NPDES AND RPBCWD PERMITS, RECREATIONAL TRAILS SET APART FROM ROADWAYS ARE NOT CONSIDERED IMPERVIOUS UNDER MPCA NPDES CSW PERMIT CONDITIONS. TRAILS AT OR LESS THAN TEN (10) FEET IN WIDTH AND BORDERED DOWNGRADIENT BY SUFFICIENT PERVIOUS AREA ARE NOT CONSIDERED REGULATED IMPERVIOUS BY THE RPBCWD. THE PROJECT INCLUDES THE CONSTRUCTION OF 1.51 MILES OF BITUMINOUS TRAIL MEETING THESE CRITERIA. THE PRJOECT WILL RESULT IN AN INCREASE IN REGULATED IMPERVIOUS AREA OF 0.085 ACRES WHEN EXCLUDING TRAILS.

RECEIVING WATER(S) WITHIN ONE MILE FROM PROJECT BOUNDARIES:

ID	NAME	TYPE	SPECIAL WATER?	IMPAIRED WATER?	CONSTRUCTION RELATED IMPAIRMENT OR SPECIAL WATER CLASSIFICATION	TMDL
10-0007-00	LUCY	LAKE	N	Y	NONE	MERCURY
10-0012-00	ANN	LAKE	N	Y	NONE	MERCURY
07020012-857	RILEY	STREAM	N	N	N/A	N/A
ADDITIONAL BMPS AND/OR ACTIONS REQUIRED: NONE.						
SEE SECTION 23 OF THE PERMIT AND APPLICABLE TMDL WLA'S						

WATERBODY	NO WORK DURING
LAKES	APRIL 1 - JUNE 30
NON-TROUT STREAMS	MARCH 15 - JUNE 15
TROUT STREAMS	SEPTEMBER 1 - APRIL 1

SITE SOIL INFORMATION:
(SOIL INFORMATION PROVIDED IS FOR NPDES PERMIT INFORMATION ONLY. SOIL INFORMATION WAS OBTAINED FROM THE USGS WEBSITE. THE CONTRACTOR SHALL NOT RELY ON THIS SOIL INFORMATION FOR CONSTRUCTION PURPOSES.)

SOIL NAME:	HYDROLOGIC CLASSIFICATION:
CANISTEO CLAY LOAM	C/D
ESSEXVILLE SANDY LOAM	B/D
KILKENNY-LESTER LOAMS	C/D
LESTER-KILKENNY LOAMS	B
LESTER-KILKENNY COMPLEX	C
MUSKEGO AND HOUGHTON SOILS	C/D
KLOSSNER AND MUSKEGO SOILS	C/D
TERRIL LOAM	B

RELATED REVIEWS & PERMITS:
ENVIRONMENTAL, WETLAND, ENDANGERED OR THREATENED SPECIES, ARCHEOLOGICAL, LOCAL, STATE, AND/OF FEDERAL REVIEWS/PERMITS:
COVERAGE UNDER THIS PERMIT CANNOT BE ISSUED UNTIL THE REQUIREMENTS FOR WETLAND PERMITS, DECISIONS, OTHER DETERMINATIONS, OR THE MITIGATIVE SEQUENCE REQUIRED IN SECTION 22 OF THE NPDES PERMIT MNR100001 HAVE BEEN FINALIZED AND DOCUMENTED.

AGENCY:	TYPE OF PERMIT:
RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT	WATERSHED
MNDNR	PUBLIC WATERS WORK PERMIT
NPDES	CONSTRUCTION STORMWATER PERMIT

IMPLEMENTATION SEQUENCE:
THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING SEQUENCE. THE ENGINEER MAY APPROVE ADJUSTMENTS TO THE SEQUENCE AS NEEDED.

1.	INSTALL ROCK CONSTRUCTION ENTRANCE(S)
2.	INSTALL PERIMETER CONTROL AND STABILIZE DOWN GRADIENT BOUNDARIES
3.	INSTALL INLET PROTECTION ON EXISTING CATCH BASINS
4.	COMPLETE SITE GRADING
5.	INSTALL UTILITIES, STORM SEWER, INLET PROTECTION, CURB & GUTTER, PAVING
6.	COMPLETE FINAL GRADING AND STABILIZE DISTURBED AREAS
7.	AFTER CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ACCUMULATED SEDIMENT, REMOVE BMPS, AND RE-STABILIZE ANY AREAS DISTURBED BY THEIR REMOVAL.
8.	INSTALL FILTRATION MEDIA

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3. FINAL SITE STABILIZATION MEASURES MUST SPECIFY THAT AT LEAST SIX INCHES OF TOPSOIL (WITH A MINIMUM OF 5% ORGANIC MATTER) BE SPREAD AND INCORPORATED INTO THE UNDERLYING SOIL DURING THE 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 BMPS 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 BMPS 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 UTILITIES, TREE ROOTS, AND OTHER EXISTING VEGETATION.
8. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE.
9. THE PERMITTEE 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 ACTIVITY 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.
10. NO ACTIVITY AFFECTING THE BED OR BANK OF WETLAND 1 MAY BE CONDUCTED BETWEEN APRIL 1 AND JUNE 30 TO MINIMIZE IMPACTS ON FISH SPAWNING AND MIGRATION.

THE FOLLOWING DOCUMENTS ARE CONSIDERED PART OF THE SWPPP:
PLAN AND PROFILE PLAN SHEETS: 18 - 25
EROSION CONTROL AND TURF ESTABLISHMENT: 10 - 14
GRADING PLAN SHEETS: 26 - 28
DETAIL PLAN SHEETS:
SWPPP NOTE AND DETAIL SHEETS: 15 - 17
PROJECT SPECIFICATIONS
PROJECT BID FORM

TEMPORARY BMP DESIGN FACTORS:
EROSION PREVENTION AND SEDIMENT CONTROL BMP'S MUST BE DESIGNED TO ACCOUNT FOR:

- THE EXPECTED AMOUNT, FREQUENCY, INTENSITY, AND DURATION OF PRECIPITATION
- THE NATURE OF STORMWATER RUNOFF AND RUN-ON AT THE SITE, INCLUDING FACTORS SUCH AS EXPECTED FLOW FROM IMPERVIOUS SURFACES, SLOPES, AND SITE DRAINAGE FEATURES
- THE STORMWATER VOLUME, VELOCITY, AND PEAK FLOW RATES TO MINIMIZE DISCHARGE OF POLLUTANTS IN STORMWATER AND TO MINIMIZE CHANNEL AND STREAMBANK EROSION AND SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS
- THE RANGE OF SOIL PARTICLE SIZES EXPECTED TO BE PRESENT.

TEMPORARY SEDIMENT BASINS:
TEMPORARY SEDIMENT BASINS ARE NOT ANTICIPATED TO BE REQUIRED TO MEET THE CONDITIONS OF THE PERMIT.

PERMANENT STORMWATER MANAGEMENT SYSTEM
PERMANENT STORMWATER MANAGEMENT SYSTEMS ARE NOT REQUIRED AS PART OF THE PROJECT TO MEET THE REQUIREMENTS OF THE NPDES GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY FOR THIS PROJECT. REFER TO "PROJECT SUMMARY" FOR ADDITIONAL INFORMATION.

PERMANENT STORMWATER MANAGEMENT WILL BE REQUIRED TO MEET RILEY PURGATORY BLUFF CREE WATERSHED DISTRICT RATE CONTROL, VOLUME CONTROL, AND WATER QUALITY REQUIREMENTS.

EROSION PREVENTION MEASURES AND TIMING:
THE CONTRACTOR IS RESPONSIBLE FOR ALL EROSION PREVENTION MEASURES FOR THE PROJECT.

EROSION PREVENTION MEASURES SHOWN ON PLANS ARE THE ABSOLUTE MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL EROSION PREVENTION MEASURES AS NECESSARY TO PROPERLY MANAGE THE PROJECT AREA AND TO MINIMIZE THE DISCHARGE OF POLLUTANTS IN STORMWATER FROM CONSTRUCTION ACTIVITIES.

THE CONTRACTOR SHALL PLAN AND IMPLEMENT APPROPRIATE CONSTRUCTION PRACTICES AND CONSTRUCTION PHASING TO MINIMIZE EROSION AND RETAIN VEGETATION WHENEVER POSSIBLE.

THE PERMITTEE SHALL DELINEATE AREAS NOT TO BE DISTURBED. PERMITTEE(S) MUST MINIMIZE THE NEED FOR DISTURBANCE OF PORTIONS OF THE PROJECT WITH STEEP SLOPES. WHEN STEEP SLOPES MUST BE DISTURBED, PERMITTEES MUST USE TECHNIQUES SUCH AS PHASING AND STABILIZATION PRACTICES DESIGNED FOR STEEP SLOPES.

CONTRACTOR MUST PHASE AND INCORPORATE STORMWATER MANAGEMENT PRINCIPLES AS THE CONSTRUCTION PROGRESSES. UNLESS INFEASIBLE, TEMPORARY OR PERMANENT WET SEDIMENTATION BASINS (WHEN REQUIRED, SEE SECTION 14 AND 15) SHOULD BE CONSTRUCTED AS A FIRST STEP IN THE PROCESS AND STORMWATER ROUTED TO THESE.

I HEREBY CERTIFY THAT THIS PLAN 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.

JENNIFER C. DESRUDE, PE
DATE 01-17-2024 LICENSE NO. 44581

LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

STORM WATER POLLUTION PREVENTION PLAN

EROSION PREVENTION MEASURES AND TIMING (CONT.):
CONTRACTOR MUST NOT EXCAVATE INFILTRATION SYSTEMS TO FINAL GRADE, OR WITHIN THREE (3) FEET OF FINAL GRADE, UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONTRUCTED AND FULL STABILIZED UNLESS THEY PROVIDE RIGOROUS ERSION PREVENTION AND SEDIMENT CONTROLS (E.G., DIVERSION BERMS) TO KEEP SEDIMENT AND RUNOFF COMPLETELY AWAY FROM THE INFILTRATION AREA. CONTRACTOR MUST NOT INSTALL FOLTER MEDIA UNTIL THEY CONSTRUCT AND FULLY STABILIZE THE CONTRIBUTING DRAINAGE AREA UNLESS THEY PROVIDE REGOROUS EROSION PREVENTION AND SEDIMENT CONTROLS(E.G., DIVERSION BERMS) TO KEEP SEDIMENT AND RUNOFF COMPLETELY AWAY FROM THE FILTRATION AREA.

THE CONTRACTOR SHALL STABILIZE OF ALL EXPOSED SOILS IMMEDIATELY TO LIMIT SOIL EROSION. IN NO CASE SHALL ANY EXPOSED AREAS, INCLUDING STOCK PILES, HAVE EXPOSED SOILS FOR MORE THAN 7 DAYS WITHOUT PROVIDING TEMPORARY OR PERMANENT STABILIZATION. STABILIZATION MUST BE COMPLETED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY HAS CEASED. TEMPORARY STOCKPILES WITHOUT SIGNIFICANT CLAY, SILT, OR ORGANIC COMPONENTS DO NOT REQUIRE STABILIZATION.

DRAINAGE PATHS, DITCHES, AND/OR SWALES SHALL HAVE TEMPORARY OR PERMANENT STABILIZATION WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER OR 24 HOURS AFTER CONSTRUCTION ACTIVITY IN THE DITCH/SWALE HAS TEMPORARILY OR PERMANENTLY CEASED.

THE CONTRACTOR SHALL COMPLETE THE STABILIZATION OF ALL EXPOSED SOILS WITHIN 24 HOURS THAT LIE WITHIN 200 FEET OF PUBLIC WATERS PROMULGATED "WORK IN WATER RESTRICTIONS" BY THE MN DNR DURING SPECIFIED FISH SPAWNING TIMES.

THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL BMPS AND VELOCITY DISSIPATION DEVICES ALONG CONSTRUCTED STORMWATER CONVEYANCE CHANNELS AND OUTLETS.

PERMITTEES MUST STABILIZE THE NORMAL WETTED PERIMETER OF THE LAST 200 LINEAR FEET OF TEMPORARY OR PERMANENT DRAINAGE DITCHES OR SWALES THAT DRAIN WATER FROM THE SITE WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE. PERMITTEES MUST COMPLETE STABILIZATION OF REMAINING PORTIONS OF TEMPORARY OR PERMANENT DITCHES OR SWALES WITHIN 14 CALENDAR DAYS (7 DAYS FOR SITES DISCHARGING TO SPECIAL OR IMPAIRED WATERS, SEE SECTION 24) AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE AND CONSTRUCTION IN THAT PORTION OF THE DITCH TEMPORARILY OR PERMANENTLY CEASES.

THE CONTRACTOR SHALL NOT UTILIZE HYDROMULCH, TACKIFIER, POLYACRYLAMIDE OR SIMILAR EROSION PREVENTION PRACTICES AS A FORM OF STABILIZATION FOR TEMPORARY OR PERMANENT DRAINAGE DITCHES OR SWALE SECTION WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT.

THE CONTRACTOR SHALL ENSURE PIPE OUTLETS HAVE TEMPORARY OR PERMANENT ENERGY DISSIPATION WITH IN 24 HOURS OF CONNECTION TO A SURFACE WATER.

THE CONTRACTOR SHALL DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS TO INCREASE SEDIMENT REMOVAL AND MAXIMIZE STORMWATER INFILTRATION. VELOCITY DISSIPATION DEVICES MUST BE USED TO PREVENT EROSION WHEN DIRECTING STORMWATER TO VEGETATED AREAS.

SEDIMENT CONTROL MEASURES AND TIMING:
THE CONTRACTOR IS RESPONSIBLE FOR ALL SEDIMENT CONTROL MEASURES FOR THE PROJECT.

SEDIMENT CONTROL MEASURES SHOWN ON PLANS ARE THE ABSOLUTE MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL SEDIMENT CONTROL MEASURES AS NECESSARY TO PROPERLY MANAGE THE PROJECT AREA.

THE CONTRACTOR SHALL ENSURE SEDIMENT CONTROL MEASURES ARE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE MEASURES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED.

A FLOATING SILT CURTAIN PLACED IN THE WATER IS NOT A SEDIMENT CONTROL BMP EXCEPT WHEN WORKING ON A SHORELINE OR BELOW THE WATERLINE. IMMEDIATELY AFTER THE CONSTRUCTION ACTIVITY IS COMPLETE, PERMITTEE(S) MUST INSTALL AN UPLAND PERIMETER CONTROL PRACTICE IF EXPOSED SOILS STILL DRAIN TO A SURFACE WATER.

THE CONTRACTOR SHALL ENSURE SEDIMENT CONTROL PRACTICES REMOVED OR ADJUSTED FOR SHORT-TERM ACTIVITIES BE RE-INSTALLED IMMEDIATELY AFTER THE SHORT-TERM ACTIVITY HAS BEEN COMPLETED. SEDIMENT CONTROL PRACTICES MUST BE REINSTALLED BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE SHORT-TERM ACTIVITY IS NOT COMPLETE.

THE CONTRACTOR SHALL ENSURE STORM DRAIN INLETS ARE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED.

THE CONTRACTOR MUST PROVIDE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROL AT THE BASE OF THE STOCKPILES ON THE DOWNGRADIENT PERIMETER PRIOR TO THE INITIATION OF STOCKPILING. SEDIMENT CONTROLS MUST BE MANAGED IN ACCORDANCE WITH SECTION 9.6 OF THE NPDES PERMIT MNR100001. CONTRACTOR SHALL INITIATE TEMPORARY OR PERMANENT STABILIZATION OF SEDIMENT CONTROL BMPS MADE OF SOIL WITHIN 24 HOURS.

THE CONTRACTOR SHALL INSTALL PERIMETER CONTROL AROUND ALL STAGING AREAS, BORROW PITS, AND AREAS CONSIDERED ENVIRONMENTALLY SENSITIVE.

THE CONTRACTOR SHALL ENSURE VEHICLE TRACKING BE MINIMIZED WITH EFFECTIVE BMPS. WHERE THE BMPS FAIL TO PREVENT SEDIMENT FROM TRACKING ONTO STREETS THE CONTRACTOR SHALL CONDUCT STREET SWEEPING, IN ADDITION TO VEHICLE TRACKING BMPS, TO REMOVE ALL TRACKED SEDIMENT.

THE CONTRACTOR SHALL IMPLEMENT CONSTRUCTION PRACTICES TO MINIMIZE SOIL COMPACTION.

THE CONTRACTOR SHALL ENSURE ALL CONSTRUCTION ACTIVITY REMAIN WITHIN PROJECT LIMITS AND THAT ALL IDENTIFIED RECEIVING WATER BUFFERS ARE MAINTAINED.

RECEIVING WATER	NATURAL BUFFER	IS THE BUFFER BEING ENCROACHED ON?	REASON FOR BUFFER ENCROACHMENT
10-0007-00 LAKE LUCY	50 FT	YES	PROPOSED TRAIL ALIGNMENT INTENDED TO ENCOURAGE APPRECIATION OF NATURAL RESOURCES. NEEDED FOR BOARDWALK CONSTRUCTION.
10-0012-00 LAKE ANN	50 FT	YES	PROPOSED TRAIL ALIGNMENT INTENDED TO ENCOURAGE APPRECIATION OF NATURAL RESOURCES. NEEDED FOR BOARDWALK CONSTRUCTION.

SEDIMENT CONTROL MEASURES AND TIMING (CONT.):
A 50 FOOT NATURAL BUFFER MUST BE PRESERVED OR PROVIDE REDUNDANT (DOUBLE) PERIMETER SEDIMENT CONTROLS IF NATURAL BUFFER IS INFEASIBLE.

THE CONTRACTOR SHALL NOT UTILIZE SEDIMENT CONTROL CHEMICALS ON SITE.

INSPECTION AND MAINTENANCE:
ALL INSPECTIONS, MAINTENANCE, REPAIRS, REPLACEMENTS, AND REMOVAL OF BMPS IS TO BE CONSIDERED INCIDENTAL TO THE BMP BID ITEMS.

THE PERMITTEE(S) IS RESPONSIBLE FOR COMPLETING SITE INSPECTIONS, AND BMP MAINTENANCE TO ENSURE COMPLIANCE WITH THE PERMIT REQUIREMENTS.

THE PERMITTEE(S) SHALL INSPECT THE CONSTRUCTION SITE ONCE EVERY 7 DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS.

PERMITTEE MAY ADJUST THE INSPECTION SCHEDULE DESCRIBED AS FOLLOWS:

A. INSPECTIONS OF AREAS WITH PERMANENT COVER CAN BE REDUCED TO ONCE PER MONTH, EVEN IF CONSTRUCTION ACTIVITY CONTINUES ON OTHER PORTIONS OF THE SITE; OR
B. WHERE SITES HAVE PERMANENT COVER ON ALL EXPOSED SOIL AND NO CONSTRUCTION ACTIVITY IS OCCURRING ANYWHERE ON THE SITE, INSPECTIONS CAN BE REDUCED TO ONCE PER MONTH AND, AFTER 12 MONTHS, MAY BE SUSPENDED COMPLETELY UNTIL CONSTRUCTION ACTIVITY RESUMES. THE MPCA MAY REQUIRE INSPECTIONS TO RESUME IF CONDITIONS WARRANT; OR
C. WHERE CONSTRUCTION ACTIVITY HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, INSPECTIONS MAY BE SUSPENDED. INSPECTIONS MUST RESUME WITHIN 24 HOURS OF RUNOFF OCCURRING, OR UPON RESUMING CONSTRUCTION, WHICHEVER COMES FIRST.
D. FOR PROJECTS WHERE A POLLINATOR HABITAT OR NATIVE PRAIRIE TYPE VEGETATED COVER IS BEING ESTABLISHED, INSPECTIONS MAY BE REDUCED TO ONCE PER MONTH IF THE SITE HAS TEMPORARY VEGETATION WITH A DENSITY OF 70% TEMPORARY UNIFORM COVER. IF AFTER 24 MONTHS NO SIGNIFICANT EROSION PROBLEMS ARE OBSERVED, INSPECTIONS MAY BE SUSPENDED COMPLETELY UNTIL THE TERMINATION REQUIREMENTS IN SECTION 13 OF THE NPDES PERMIT MNR100001 HAVE BEEN MET.

THE PERMITTEE(S) SHALL DOCUMENT A WRITTEN SUMMARY OF ALL INSPECTIONS AND MAINTENANCE ACTIVITIES CONDUCTED WITHIN 24 HOURS OF OCCURRENCE. RECORDS OF EACH ACTIVITY SHALL INCLUDE THE FOLLOWING:

- DATE AND TIME OF INSPECTIONS;
- NAME OF PERSON(S) CONDUCTING INSPECTION;
- FINDINGS AND RECOMMENDATIONS FOR CORRECTIVE ACTIONS IF NECESSARY;
- CORRECTIVE ACTIONS TAKEN;
- DATE AND AMOUNT OF RAINFALL EVENTS;
- IF PERMITTEES OBSERVE A DISCHARGE DURING THE INSPECTION, THEY MUST RECORD AND SHOULD PHOTOGRAPH AND DESCRIBE THE LOCATION OF THE DISCHARGE (I.E., COLOR, ODOR, SETTLES OR SUSPENDED SOLIDS, OIL SHEEN, AND OTHER OBVIOUS INDICATORS OF POLLUTANTS); AND
- ANY AMENDMENTS TO THE SWPPP PROPOSED AS A RESULT OF THE INSPECTION MUST BE DOCUMENTED AS REQUIRED IN SECTION 6 OF THE NPDES PERMIT MNR100001 WITHIN SEVEN (7) CALENDAR DAYS; AND
- ALL PHOTOGRAPHS OF DEWATERING ACTIVITIES AND DOCUMENTATION OF NUISANCE CONDITIONS RESULTING FROM DEWATERING ACTIVITIES AS DESCRIBED IN SECTION 10 OF THE NPDES PERMIT MNR100001.

THE PERMITTEE(S) SHALL SUBMIT A COPY OF THE WRITTEN INSPECTIONS TO THE ENGINEER AND OWNER ON A MONTHLY BASIS. IF MONTHLY INSPECTION REPORTS ARE NOT SUBMITTED, MONTHLY PAYMENTS MAY BE HELD.

THE CONTRACTOR SHALL DOCUMENT AMENDMENTS TO THE SWPPP AS A RESULT OF INSPECTION(S) WITHIN 7 DAYS.

THE CONTRACTOR SHALL KEEP THE SWPPP, ALL INSPECTION REPORTS, AND AMENDMENTS ONSITE. THE CONTRACTOR SHALL DESIGNATE A SPECIFIC ONSITE LOCATION TO KEEP THE RECORDS

THE CONTRACTOR IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY BMP'S, AS WELL AS EROSION AND SEDIMENT CONTROL BMP'S.

THE CONTRACTOR SHALL INSPECT EROSION PREVENTION AND SEDIMENTATION CONTROL BMPS TO ENSURE INTEGRITY AND EFFECTIVENESS. ALL NONFUNCTIONAL BMPS SHALL BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS WITHIN 24 HOURS OF FINDING. THE CONTRACTOR SHALL INVESTIGATE AND COMPLY WITH THE FOLLOWING INSPECTION AND MAINTENANCE REQUIREMENTS:

PERIMETER CONTROL DEVICES, INCLUDING SILT FENCE SHALL BE REPAIRED, OR REPLACED, WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE DEVICE HEIGHT. THESE REPAIRS SHALL BE MADE WITHIN 24 HOURS OF DISCOVERY.

TEMPORARY AND PERMANENT SEDIMENT BASINS SHALL BE DRAINED AND THE SEDIMENT REMOVED WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/2 THE STORAGE VOLUME. DRAINAGE AND REMOVAL MUST BE COMPLETED WITHIN 72 HOURS OF DISCOVERY.

DURING EACH INSPECTION, CONTRACTOR MUST INSPECT AREAS ADJACENT TO THE PROJECT, SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS BUT NOT CURB AND GUTTER SYSTEMS, FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. CONTRACTOR MUST REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN AREAS ADJACENT TO THE PROJECT, SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS AND RESTABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL. CONTRACTOR MUST COMPLETE REMOVAL AND STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. CONTRACTOR MUST USE ALL REASONABLE EFFORTS TO OBTAIN ACCESS. IF PRECLUDED, REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF OBTAINING ACCESS. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AUTHORITIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK IN SURFACE WATERS.

CONSTRUCTION SITE VEHICLE EXIT LOCATIONS SHALL BE INSPECTED DAILY FOR EVIDENCE OF SEDIMENT TRACKING ONTO PAVED SURFACES. TRACKED SEDIMENT MUST BE REMOVED FROM ALL PAVED SURFACES WITHIN 24 HOURS OF DISCOVERY.

IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED IN A MANOR AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS.

EROSION PREVENTION BMP SUMMARY:
SEE EROSION AND SEDIMENT CONTROL PLAN SHEET AND BID FORM FOR TYPE, LOCATION, AND QUANTITY OF EROSION PREVENTION BMPS.

SEDIMENT CONTROL BMP SUMMARY:
SEE EROSION AND SEDIMENT CONTROL PLAN SHEETS AND BID FORM FOR TYPE, LOCATION, AND QUANTITY OF SEDIMENT CONTROL BMPS.

DEWATERING AND BASIN DRAINING ACTIVITIES:
THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL DEWATERING AND SURFACE DRAINAGE REGULATIONS.

CONTRACTOR MUST NOT CAUSE NUISANCE CONDITIONS (SEE MINN. R. 7050.0210, SUBP. 2) IN SURFACE WATERS FROM DEWATERING AND BASIN DRAINING (E.G., PUMPED DISCHARGES, TRENCH/DITCH CUTS FOR DRAINAGE) DISCHARGES. CONTRACTOR MUST DISCHARGE TURBID OR SEDIMENT-LADEN WATERS RELATED TO DEWATERING OR BASIN DRAINING TO A SEDIMENT CONTROL (E.G., GRASSY OR WOODED), UPLAND AREAS OF THE SITE TO INFILTRATE DEWATERING WATER BEFORE DISCHARGE. CONTRACTOR ARE PROHIBITED FROM USING RECEIVING WATERS AS PART OF THE TREATMENT AREA. CONTRACTOR MUST VISUALLY CHECK AND PHOTOGRAPH THE DISCHARGE AT THE BEGINNING AND AT LEAST ONCE EVERY 24 HOURS OF OPERATION TO ENSURE ADEQUTE TREATMENT HAS BEEN OBTAINED AND NUISANCE CONDITIONS WILL NOT RESULT FROM THE DISCHARGE.

IF NUISANCE CONDITIONS RESULT FROM THE DISCHARGE, CONTRACTOR MUST CEASE DEWATERING IMMEDIATELY AND CORRECTIVE ACTIONS MUST OCCUR BEFORE DEWATERING IS RESUMED. NUISANCE CONDITIONS INCLUDES, BUT IS NOT LIMITED TO, A SEDIMENT PLUME IN THE DISCHARGE OR THE DISCHARGE APPEARS CLOUDY, OR OPAQUE, OR HAS A VISIBLE OIL FILM, OR HAS AQUATIC HABITAT DEGRADATION THAT CAN BE INDENTIFIES BY AN OBSERVER.

CONTRACTOR MUST INSPECT AND PHOTOGRAPH DEWATERING DISCHARGES AT THE BEGINNING AND AT LEAST ONCE EVERY 24 HOURS DURING OPERATION. DEWATERING DISCHARGES THAT ONLY LAST FOR MINUTES, AS OPPOSED TO HOURS AND DO NOT REACH A SURFACE WATER, DO NOT REQUIRE PHOTOGRAPHS OR DOCUMENTATION.

DISCHARGE THAT CONTAINS OIL OR GREASE MUST BE TREATED WITH AN OIL-WATER SEPARATOR OR SUITABLE FILTRATION DEVICE PRIOR TO DISCHARGE.

BACKWASH WATER USED FOR FILTERING SHALL BE HAULED AWAY FOR DISPOSAL, RETURNED TO THE BEGINNING OF TREATMENT PROCESS, OR INCORPORATED INTO THE SITE IN A MANNER THAT DOES NOT CAUSE EROSION. THE CONTRACTOR SHALL REPLACE AND CLEAN FILTER MEDIAS USED IN DEWATERING DEVICES WHEN REQUIRED TO MAINTAIN ADEQUATE FUNCTION.

POLLUTION PREVENTION MANAGEMENT MEASURES:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POLLUTION PREVENTION MANAGEMENT MEASURES.

ALL POLLUTION PREVENTION MEASURES ARE CONSIDERED INCIDENTAL TO THE MOBILIZATION BID ITEM, UNLESS OTHERWISE NOTED.

THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER DISPOSAL, IN COMPLIANCE WITH MPCA DISPOSAL REQUIREMENTS, OF ALL HAZARDOUS MATERIALS, SOLID WASTE, AND PRODUCTS ON-SITE.

THE CONTRACTOR SHALL ENSURE CONSTRUCTION MATERIALS THAT HAVE THE POTENTIAL TO LEAK POLLUTANTS ARE KEPT UNDER COVER TO PREVENT THE DISCHARGE OF POLLUTANTS.

THE CONTRACTOR SHALL ENSURE PESTICIDES, HERBICIDES, INSECTICIDES, FERTILIZERS, TREATMENT CHEMICALS, AND LANDSCAPE MATERIALS ARE COVERED TO PREVENT THE DISCHARGE OF POLLUTANTS.

THE CONTRACTOR SHALL ENSURE HAZARDOUS MATERIALS AND TOXIC WASTE IS PROPERLY STORED IN SEALED CONTAINERS TO PREVENT SPILLS, LEAKS, OR OTHER DISCHARGE. STORAGE AND DISPOSAL OF HAZARDOUS WASTE OR HAZARDOUS MATERIALS MUST BE IN COMPLIANCE WITH MINN. R. CH. 7045 INCLUDING SECONDARY CONTAINMENT AS APPLICABLE.

THE CONTRACTOR SHALL ENSURE ASPHALT SUBSTANCES USED ON-SITE SHALL ARE APPLIED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

THE CONTRACTOR SHALL ENSURE PAINT CONTAINERS AND CURING COMPOUNDS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT AND/OR CURING COMPOUNDS SHALL NOT BE DISCHARGED INTO THE STORM SEWER SYSTEM AND SHALL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURE'S INSTRUCTION.

THE CONTRACTOR SHALL ENSURE SOLID WASTE BE STORED, COLLECTED AND DISPOSED OF PROPERLY IN COMPLIANCE WITH MINN. R. CH. 7035.

THE CONTRACTOR SHALL ENSURE POTABLE TOILETS ARE POSITIONED SO THAT THEY ARE SECURE AND WILL NOT BE TIPPED OR KNOCKED OVER. SANITARY WASTE MUST BE DISPOSED OF PROPERLY IN ACCORDANCE WITH MINN. R, CH. 7041.

THE CONTRACTOR SHALL MONITOR ALL VEHICLES ON-SITE FOR LEAKS AND RECEIVE REGULAR PREVENTION MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE.

THE CONTRACTOR SHALL ENSURE WASHOUT WASTE MUST CONTACT THE GROUND AND BE PROPERLY DISPOSED OF IN COMPLIANCE WITH MPCA RULES.

THE CONTRACTOR SHALL INCLUDE SPILL KITS WITH ALL FUELING SOURCES AND MAINTENANCE ACTIVITIES. SECONDARY CONTAINMENT MEASURES SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.

THE CONTRACTOR SHALL ENSURE SPILLS ARE CONTAINED AND CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STORM WATER CONVEYANCE SYSTEM SHALL BE REPORTED TO THE MINNESOTA DUTY OFFICER AT 1.800.422.0798.

I HEREBY CERTIFY THAT THIS PLAN 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.

JENNIFER C. DESRIDE, PE
DATE 01-17-2024 LICENSE NO. 44581

LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

STORM WATER POLLUTION PREVENTION PLAN

MPCA CONTAMINATION SCREENING CHECKLIST		
BOX	QUESTION	CRITERIA OR CHECK BOX
STEP I - ASSESS THE SITE AND PROPOSED LOCATION OF THE BMP		
1	IS THE SITE CONTAMINATED OR DOES IT HAVE A HISTORY OF SOIL OR GROUNDWATER CONTAMINATION AT LEVELS OF CONCERN? IF YES, PROCEED TO BOX 2; IF NO, PROCEED TO BOX 3.	NO
2	IF ANSWER TO BOX 1 IS YES, HS THE CONTAMINED SOIL OR GROUNDWATER BEEN REMEDIATED TO ACCEPTABLE LEVELS?	N/A
3	FOR BOXES 4 THROUGH 12, CHECK EACH BOX IN WHICH THE ITEM OCCURS ON THE SITE WITH THE PROPOSED BMP.	
4	UNDERGROUND STORAGE TANKS VENT(S) OR FILL PORT(S)	
5	MONITORING WELLS	
6	SOIL PILE(S) COVERED WITH PLASTIC SHEETING OR TARP(S)	
7	STAINING OF SOIL(S) AND/OR DEAD VEGETATION	
8	UNUSUAL ODORS	
9	MISMANAGED DRUM(S) OR CHEMICAL CONTAINERS	
10	EXCAVATION(S) THAT IS/ARE NOT BACKFILLED WITH CLEAN MATERIAL	
11	PRESENCE OF DEBRIS THAT MAY INDICATE PRESENCE OF STRUCTURE(S) OR ACTIVITY(IES) THAT COULD RESULT IN CONTAMINATION	
12	SITE IS A CONFIRMED STORMWATER HOTSPOT	
13	ARE THERE ANY POTENTIAL SOURCES IDENTIFIED (CHECKED) IN BOXES 4 THROUGH 12? IF YES, PROCEED TO BOX 14; IF NO PROCEED TO BOX 15.	
14	FOR ALL POTENTIAL SOURCES IDENTIFIED (CHECKED) IN BOXES 5 THROUGH 13, CAN ADEQUATE SEPARATION BE ACHIEVED? IF YES, PROCEED TO BOX 16.	
STEP II - ASSESSING ADJACENT PROPERTIES		
15	FOR BOXES 16 THROUGH 25, CHECK EACH BIX IN WHICH THE ITEM OCCURS WITHIN THE INFLUENCE ZONE OF THE SITE PROPERTY. SEE INFLUENCE ZONE WORKSHEET.	
16	KNOWN GROUNDWATER CONTAMINATION ON ADJACENT PROPERTY	
17	UNDERGROUND STORAGE TANK VENTS OR FILL PORTS	
18	MONITORING WELLS	
19	SOIL PILES COVERED WITH PLASTIC SHEETING OR TARPS	
20	STAINING OF SOILS AND/OR DEAD VEGETATION	
21	UNUSUAL ODORS	
22	MISMANAGED DRUMS OR CHEMICAL CONTAINERS	
23	EXCAVATIONS THAT ARE NOT BACKFILLED WITH CLEAN MATERIAL	
24	PRESENCE OF DEBRIS THAT MAY INDICATE PRESENCE OF STRUCTURES OR ACTIVITIES THAT COULD RESULT IN CONTAMINATION	
25	SITE IS A CONFIRMED STORMWATER HOTSPOT	
26	ARE ANY POTENTIAL SOURCES IDENTIFIED IN BOXES 16 THROUGH 25? IF YES, PROCEED TO BOX 27.	NO.
27	FOR ALL POTENTIAL SOURCES IDENTIFIED IN BOXES 16 THROUGH 25, CAN ADEQUATE SEPARATION BE ACHIEVED? IF NO, PROCEED TO BOX 28.	
28	IF BOX 28 IS NO, STOP. THERE IS SUFFICIENT INFORMATION TO SUGGEST CONTAMINANTS MAY BE MOBILIZED BY INFILTRATION. FOR CONSTRUCTION STORMWATER PERMITTEES, INFILTRATION IS PROHIBITED WHEN THE INFILTRATION SYSTEM WILL BE CONSTRUCTED IN AREAS WHERE HIGH LEVELS OF CONTAMINANTS IN SOIL OR GROUNDWATER WILL BE MOBILIZED BY INFILTRATING STORMWATER.	

PERMIT TERMINATION CONDITIONS:
THE CONTRACTOR IS RESPONSIBLE FOR ENSURING FINAL STABILIZATION OF THE ENTIRE SITE. PERMIT TERMINATION CONDITIONS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

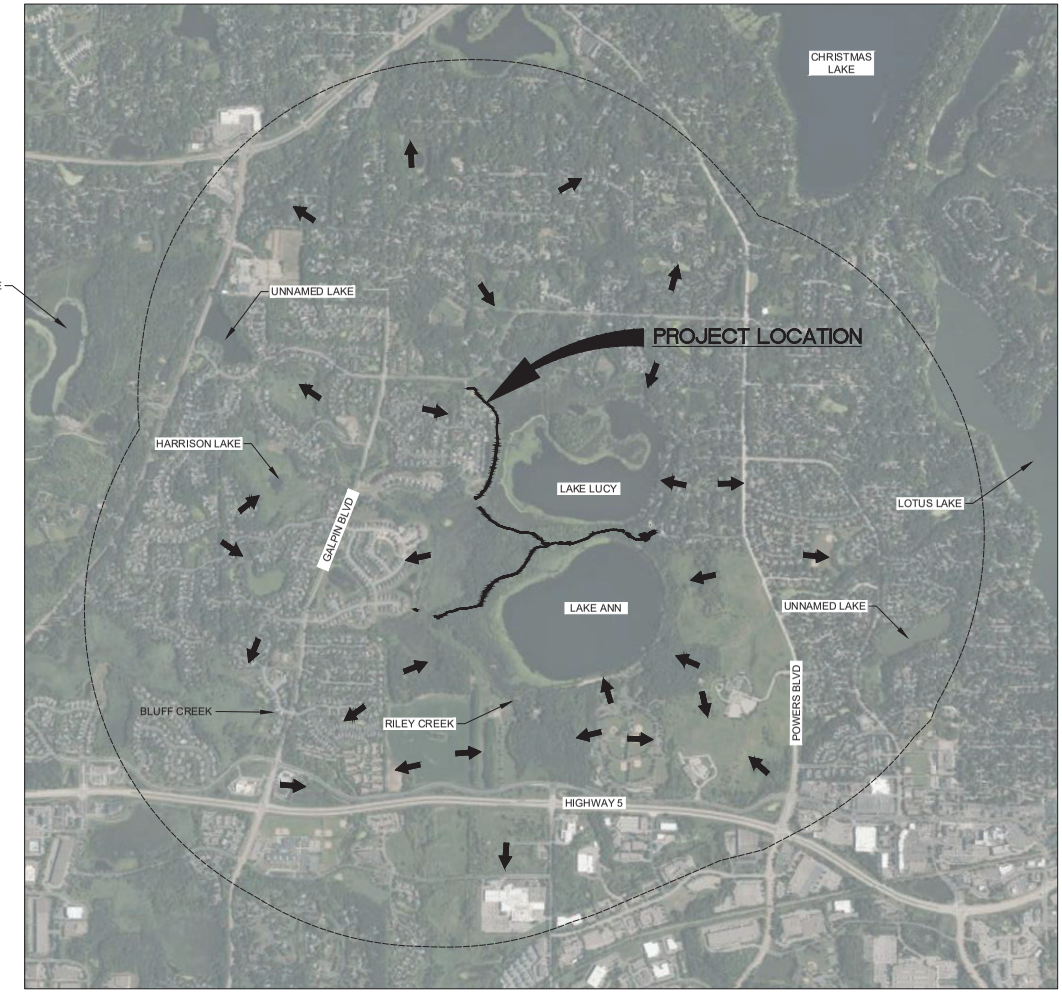
- ALL SOIL DISTURBING ACTIVITIES HAVE BEEN COMPLETED.
- ALL EXPOSED SOILS HAVE BEEN UNIFORMLY STABILIZED WITH AT LEAST 70% VEGETATION COVERAGE.
- PERMANENT STORM WATER MANAGEMENT SYSTEM(S) ARE CONSTRUCTED AND ARE OPERATING AS DESIGNED.
- ALL DRAINAGE DITCHES, PONDS, AND ALL STORM WATER CONVEYANCE SYSTEMS HAVE BEEN CLEARED OF SEDIMENT AND STABILIZED WITH PERMANENT COVER TO PRECLUDE EROSION.
- ALL TEMPORARY SYNTHETIC BMPS HAVE BEEN REMOVED AND PROPERLY DISPOSED OF.

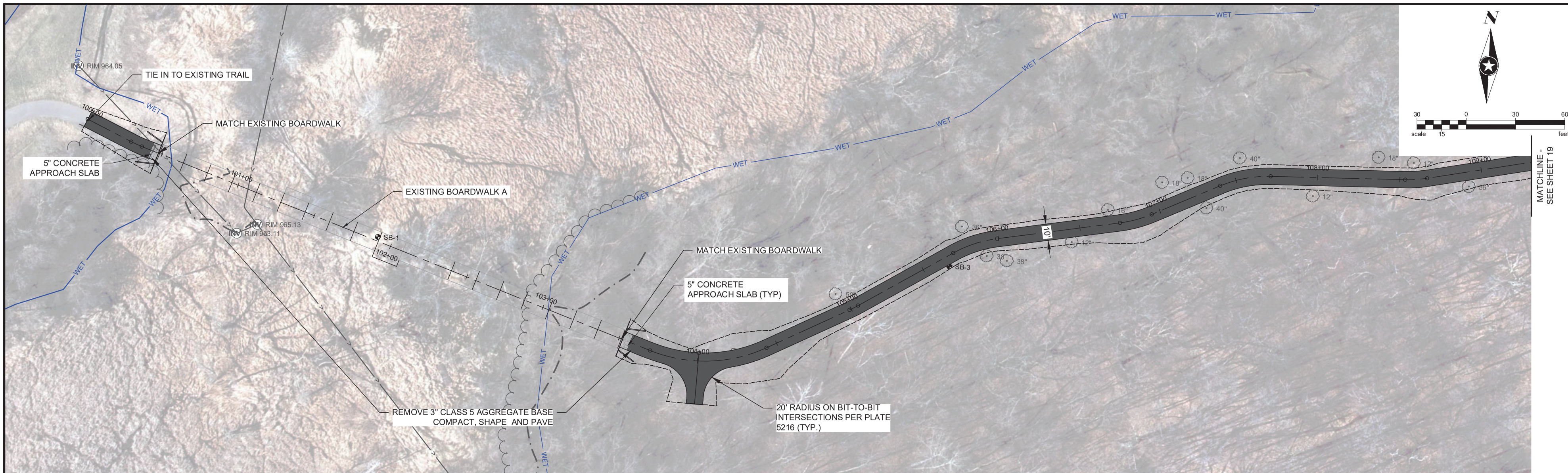
THIS PERMIT COVERS ONGOING PROJECTS COVERED UNDER ANY PREVIOUS CONSTRUCTION STORMWATER PERMIT THAT ARE NOT COMPLETE ON THE ISSUANCE DATE OF THIS PERMIT. PERMITTEES MUST EITHER REMAIN IN COMPLIANCE WITH THE PREVIOUS PERMIT AND TERMINATE COVERAGE WITHIN 18 MONTHS OF THE ISSUANCE DATE OF THIS PERMIT OR COMPLY WITH THIS PERMIT, INCLUDING UPDATING THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP), WITHIN THE 18-MONTH PERIOD. PERMITTEES OF PREVIOUSLY PERMITTED PROJECTS ARE NOT REQUIRED TO INCORPORATE ANY ADDITIONAL REQUIREMENTS REGARDING THE PERMANENT STORMWATER TREATMENT SYSTEM INCLUDED THIS REISSUED PERMIT.

COVERAGE FOR PROJECTS THAT EXTEND BEYOND THE EXPIRATION DATE OF THIS PERMIT REMAINS EFFECTIVE FOR A GRACE PERIOD OF 18 MONTHS COVERING PROJECT COMPLETION AND NOTICE OF TERMINATION (NOT) SUBMITTAL. IF PERMITTEES CANNOT COMPLETE PROJECTS DURING THE GRACE PERIOD, THE MPCA WILL EXTEND COVERAGE UNDER THE NEXT PERMIT AND PERMITTEES MUST COMPLY WITH THE REQUIREMENTS OF THE NEW PERMIT INCLUDING UPDATING THE SWPPP. PERMITTEES ARE NOT REQUIRED TO FOLLOW CHANGES TO THE PERMANENT STORMWATER TREATMENT SECTION OF THE NEXT PERMIT.

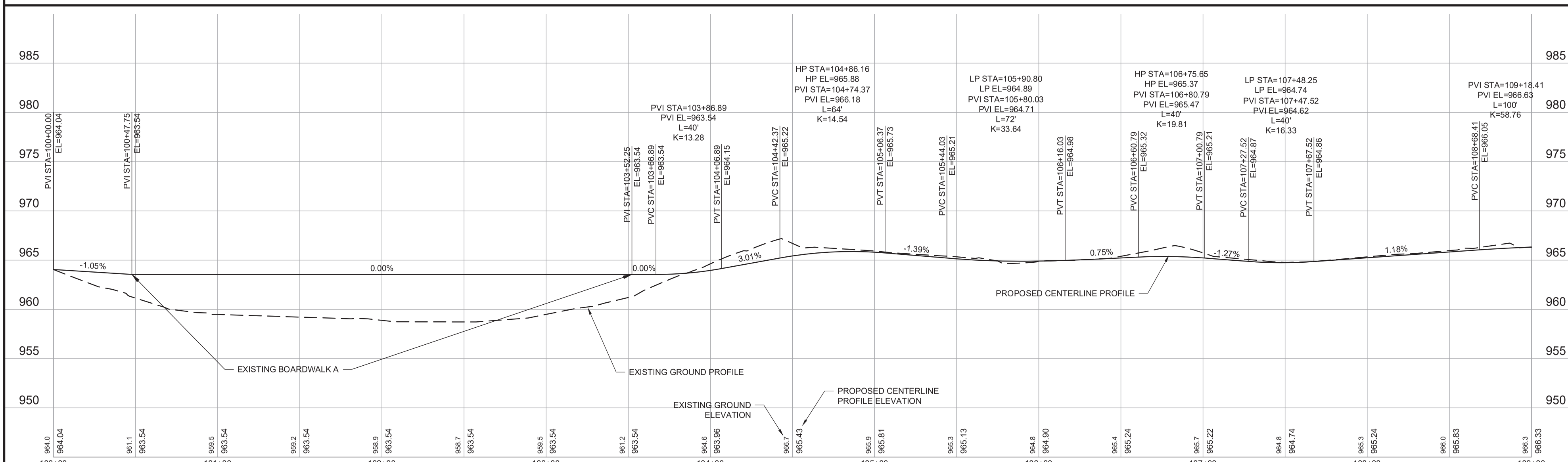
WHEN SUBMITTING THE NOT PERMITTEES MUST INCLUDE EITHER GROUND OR AERIAL PHOTOGRAPHS SHOWING THE REQUIREMENTS OF 13.2 HAVE BEEN MET. PERMITTEES ARE NOT REQUIRED TO TAKE PHOTOGRAPHS OF EVERY DISTINCT PART OF THE SITE, HOWEVER THE CONDITIONS PORTRAYED MUST BE SUBSTANTIALLY SIMILAR TO THOSE AREAS THAT ARE NOT PHOTOGRAPHED. PHOTOGRAPHS MUST BE CLEAR AND IN FOCUS AND MUST INCLUDE THE DATE THE PHOTO WAS TAKEN. [MINN. R. 7090]

LOCATION MAP





BITUMINOUS TRAIL 1



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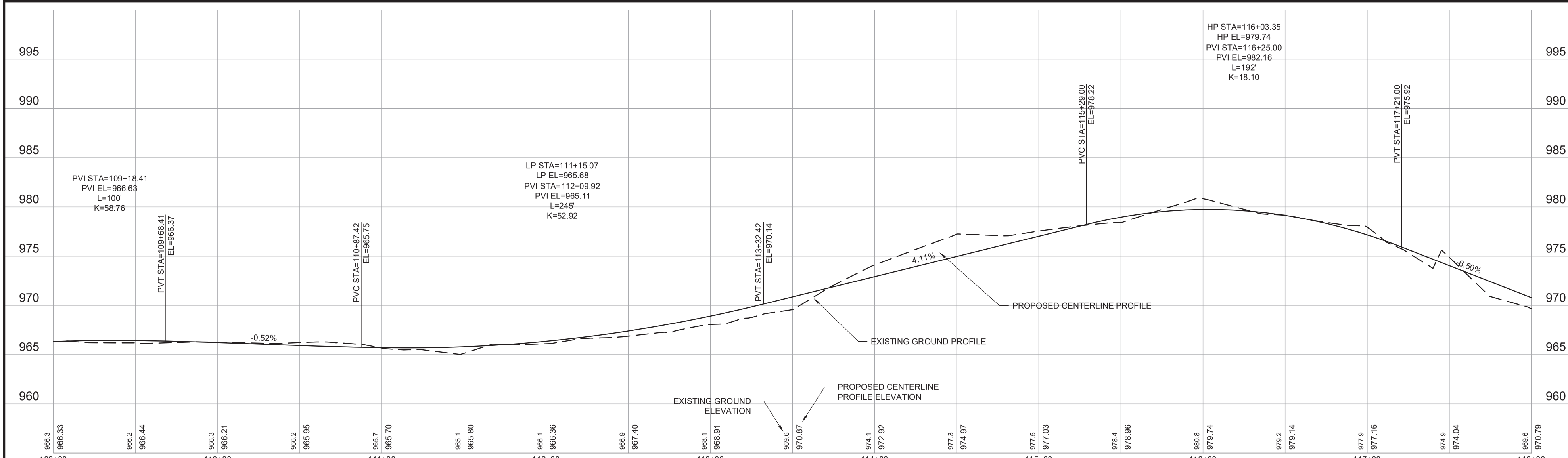
JENNIFER C. DESRUDE, PE
DATE 01-17-2024 LICENSE NO. 44581

LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

CONSTRUCTION PLAN AND PROFILE

BITUMINOUS TRAIL 1



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CONSTRUCTION PLAN AND PROFILE

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of 55

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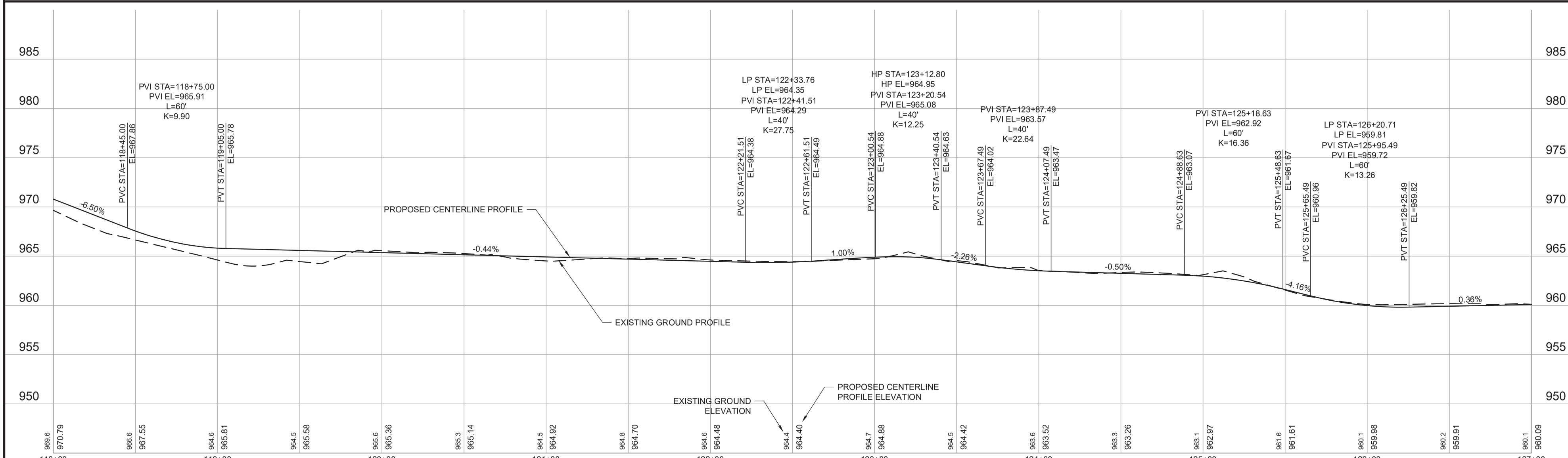
BITUMINOUS TRAIL 1



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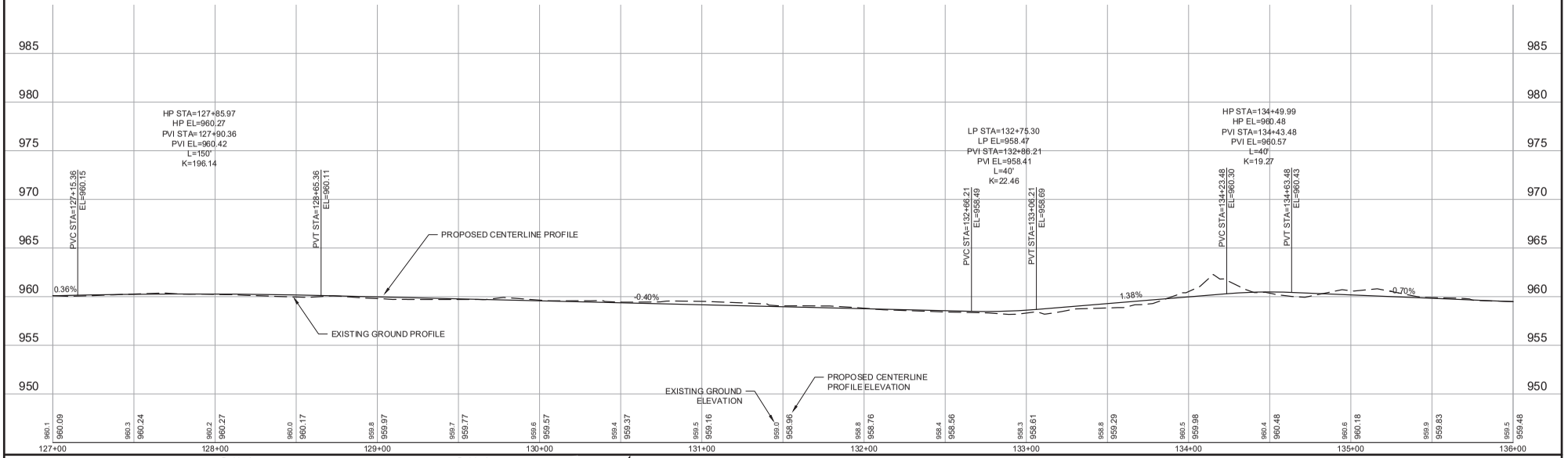

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Drawn By	--					90% PRELIMINARY	te	JENNIFER C. DESRODE, PE	CHANHASSEN, MN		of 55
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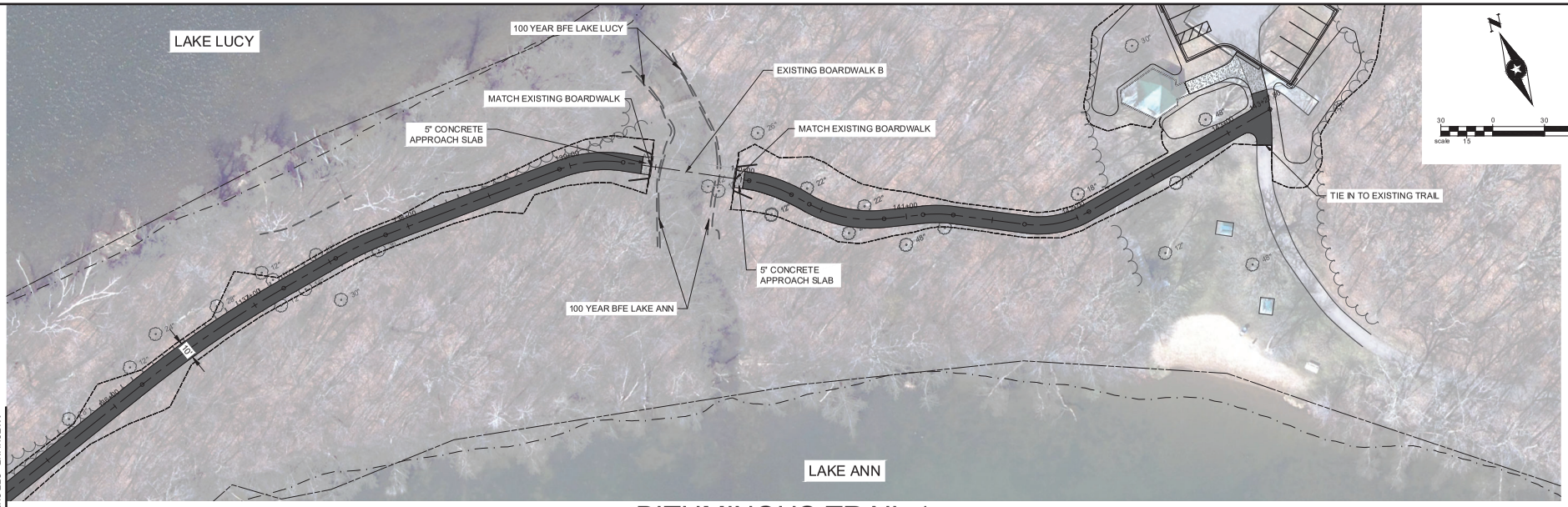

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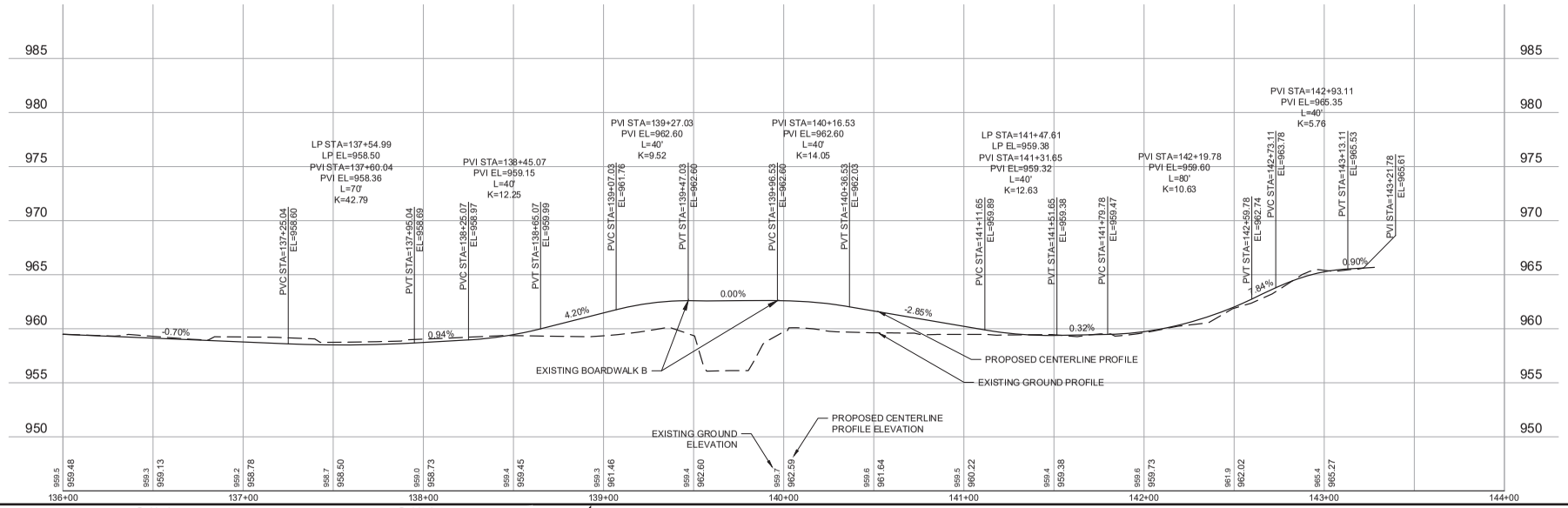

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LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

CONSTRUCTION PLAN AND PROFILE

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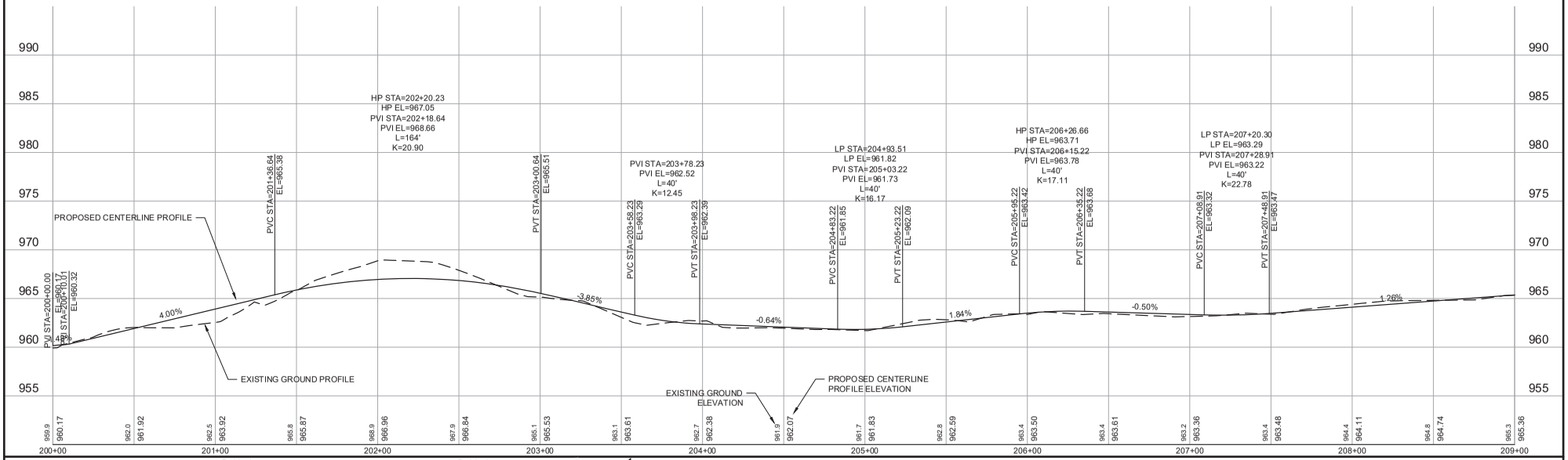
BITUMINOUS TRAIL 2



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LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

CONSTRUCTION PLAN AND PROFILE

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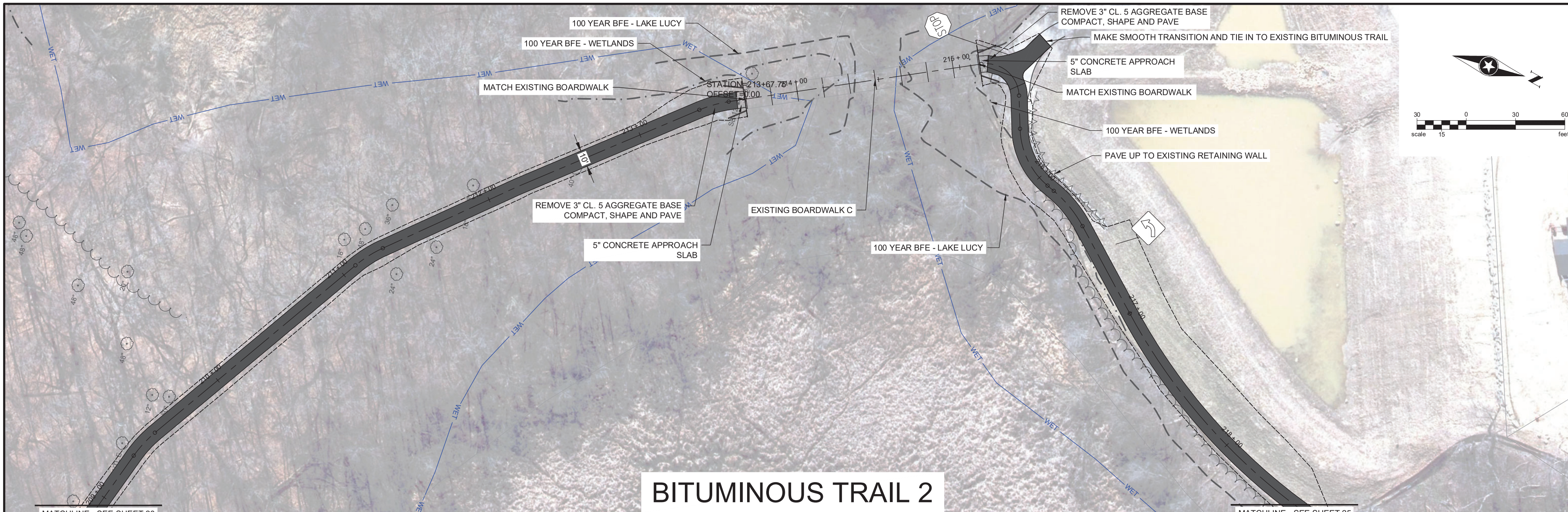
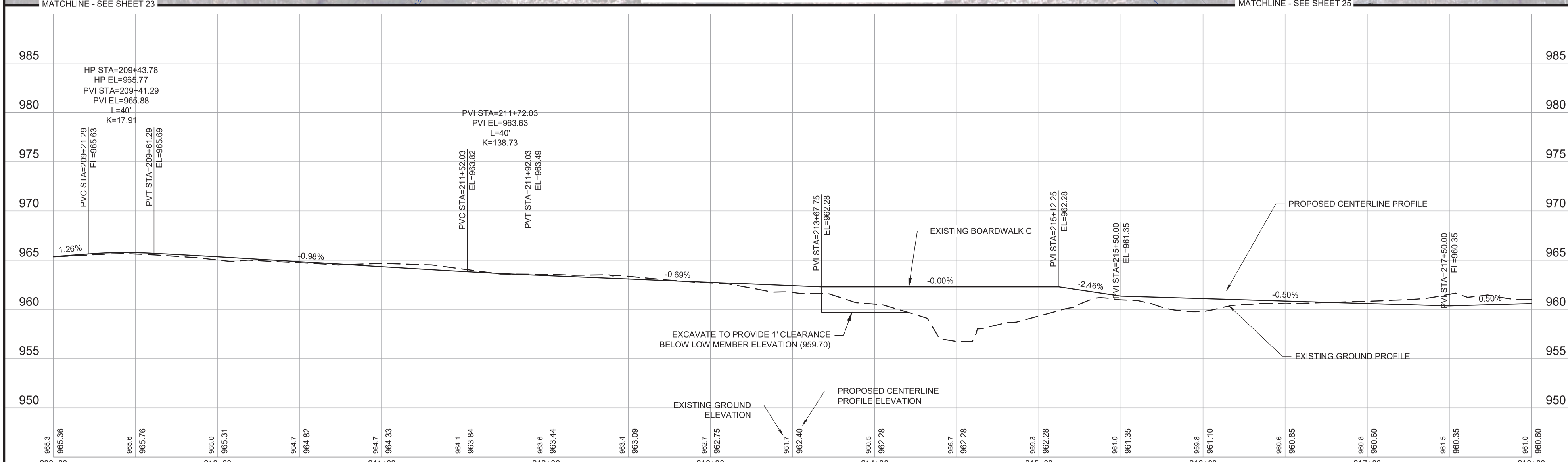
BITUMINOUS TRAIL 2





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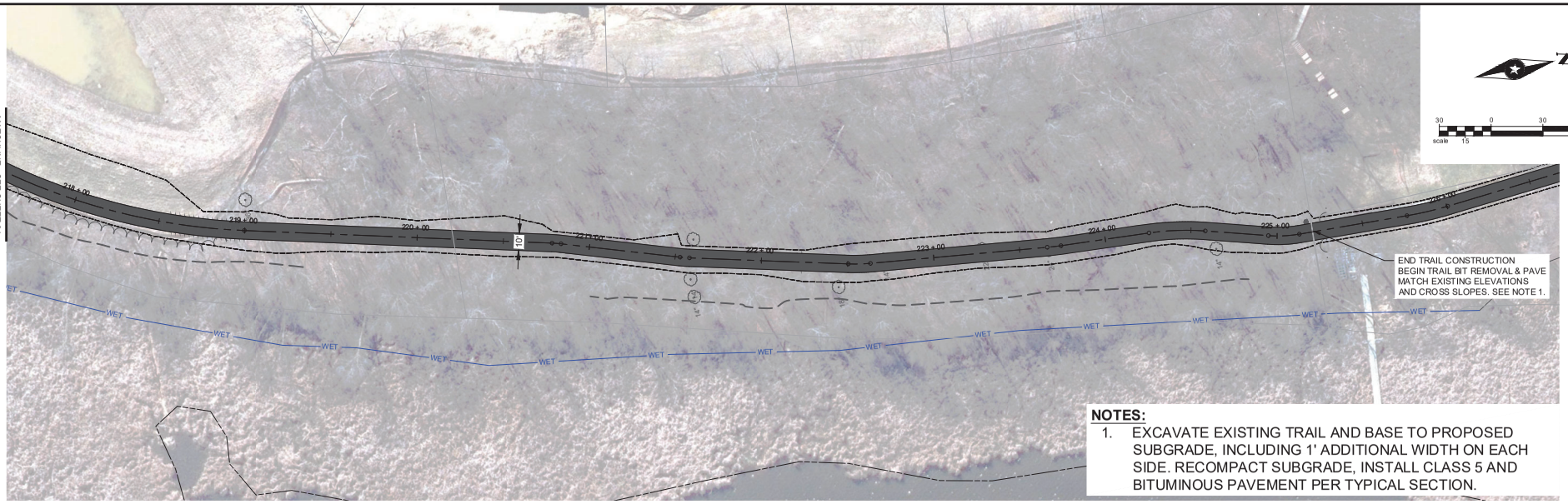
CHANHASSEN, MN

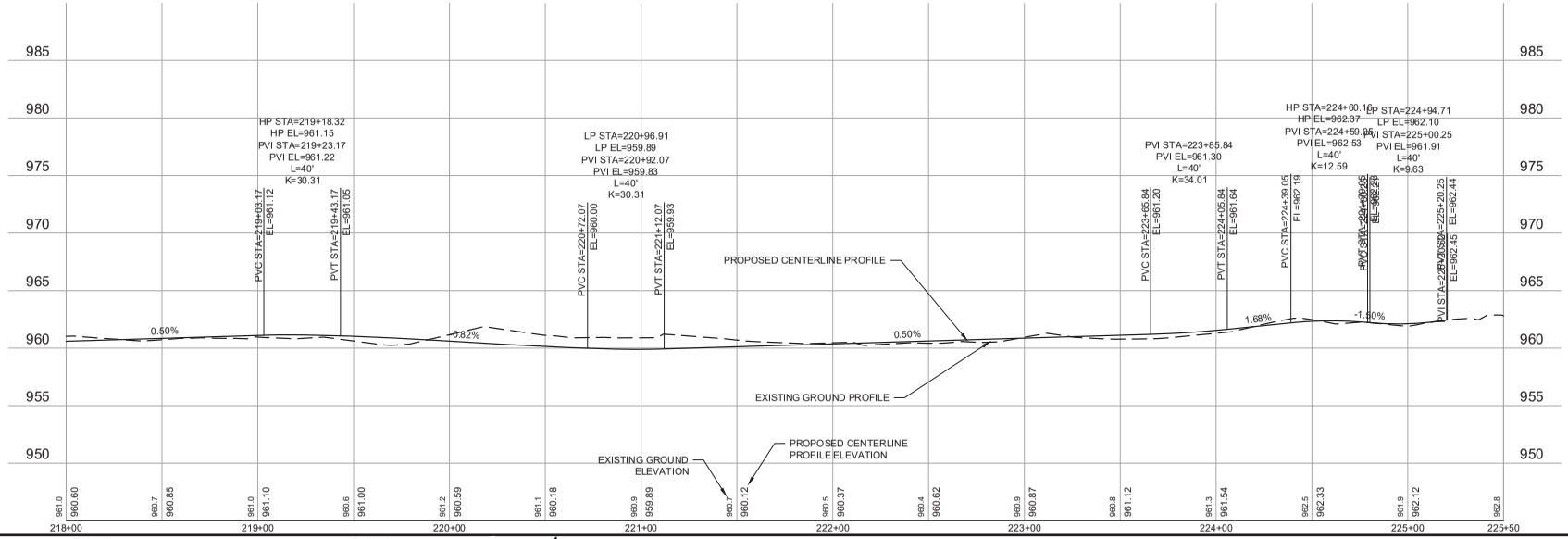
CONSTRUCTION PLAN AND PROFILE



NOTES:

1. EXCAVATE EXISTING TRAIL AND BASE TO PROPOSED SUBGRADE, INCLUDING 1' ADDITIONAL WIDTH ON EACH SIDE. RECOMPACT SUBGRADE, INSTALL CLASS 5 AND BITUMINOUS PAVEMENT PER TYPICAL SECTION.

BITUMINOUS TRAIL 2



SEH Project	HOISI171884	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	by	LAKE ANN PRESERVE IMPROVEMENTS	25
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CONSTRUCTION PLAN AND PROFILE

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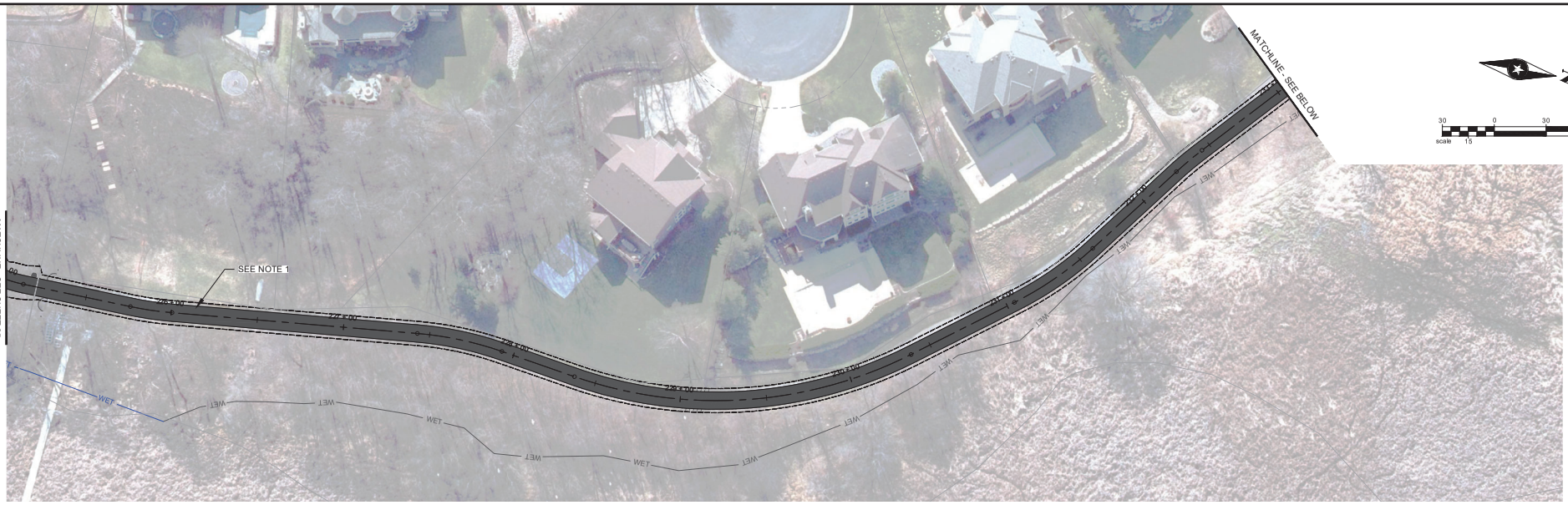

BITUMINOUS TRAIL 2

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1. EXCAVATE EXISTING TRAIL AND BASE TO PROPOSED SUBGRADE, INCLUDING 1' ADDITIONAL WIDTH ON EACH SIDE. RECOMPACT SUBGRADE, INSTALL CLASS 5 AND BITUMINOUS PAVEMENT PER TYPICAL SECTION.

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Drawn By	--					90% PRELIMINARY	JENNIFER C. DESRODE, PE	CHANHASSEN, MN		of 55
Designed By	--						DATE 01-17-2024 LICENSE NO. 44581			
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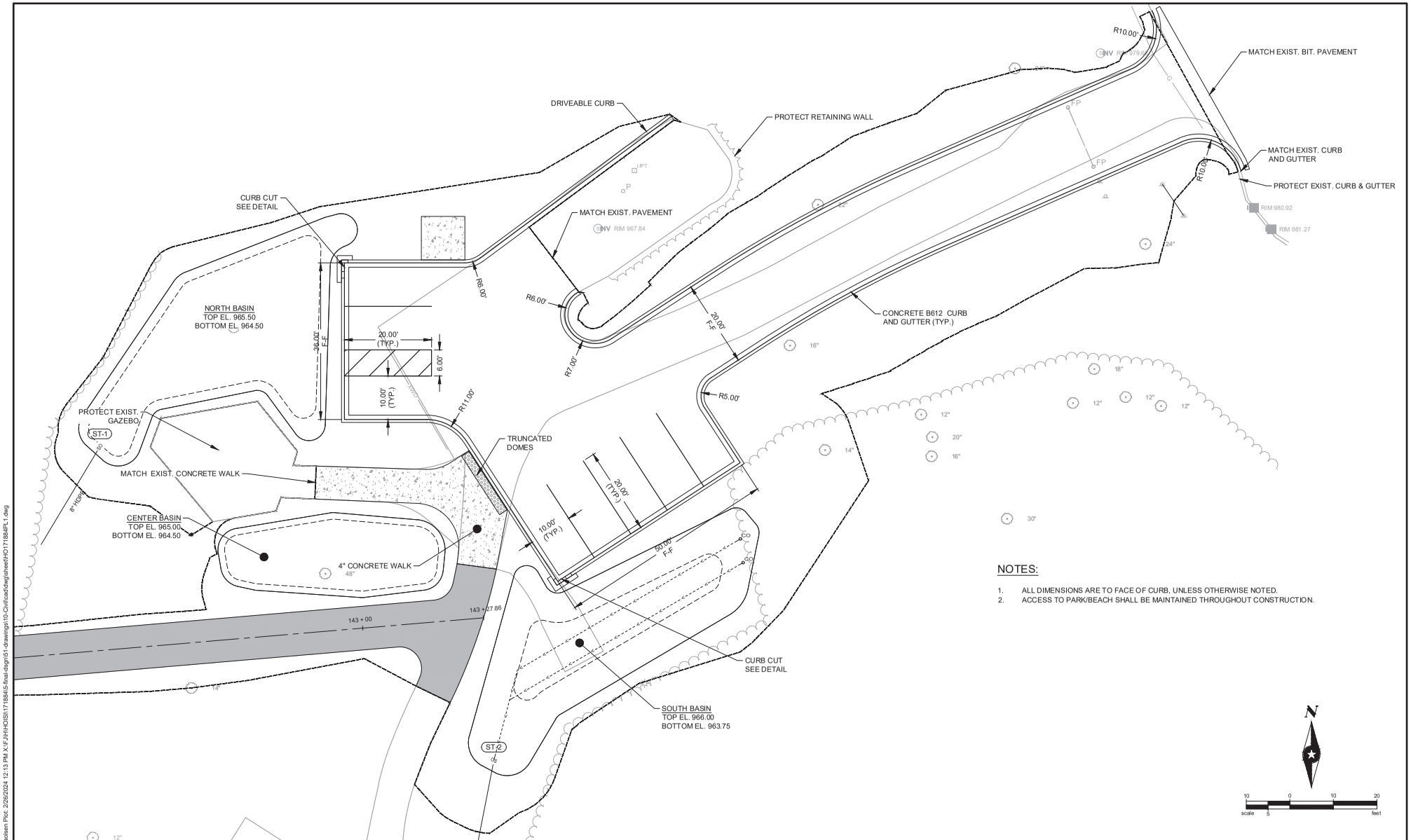

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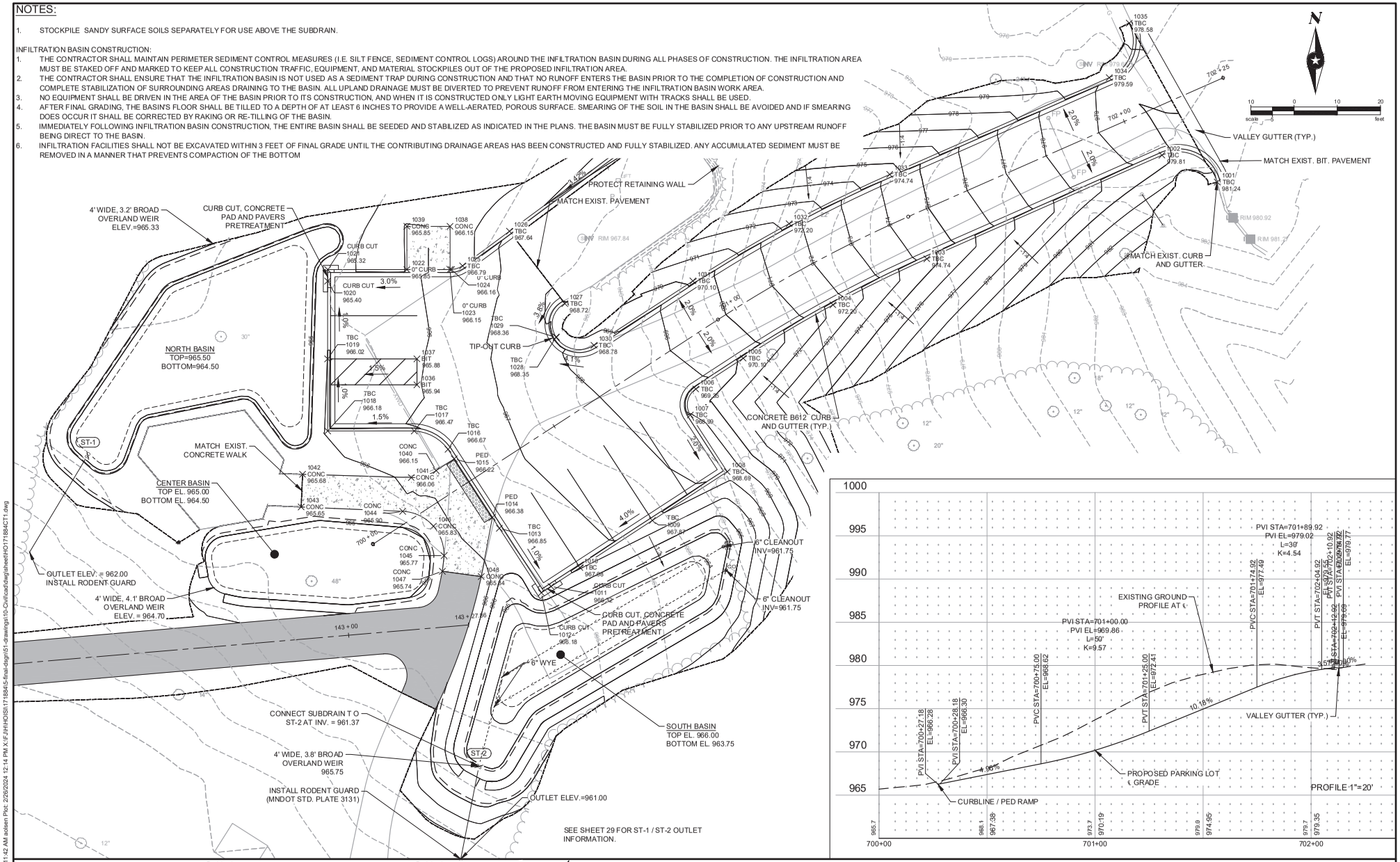
Drawn By	AJB	.			.	90% PRELIMINARY	te	JENNIFER C. DESRODE, PE	CHANHASSEN, MN
Designed By	##	.			.			DATE 01-17-2024 LICENSE NO. 44581	GREENWOOD SHORES PARKING LOT SITE PLAN
Checked By	##	.			.				

NOTES:

1. STOCKPILE SANDY SURFACE SOILS SEPARATELY FOR USE ABOVE THE SUBDRAIN.

INFILTRATION BASIN CONSTRUCTION:

1. THE CONTRACTOR SHALL MAINTAIN PERIMETER SEDIMENT CONTROL MEASURES (I.E. SILT FENCE, SEDIMENT CONTROL LOGS) AROUND THE INFILTRATION BASIN DURING ALL PHASES OF CONSTRUCTION. THE INFILTRATION AREA MUST BE STAKED OFF AND MARKED TO KEEP ALL CONSTRUCTION TRAFFIC, EQUIPMENT, AND MATERIAL STOCKPILES OUT OF THE PROPOSED INFILTRATION AREA.
2. THE CONTRACTOR SHALL ENSURE THAT THE INFILTRATION BASIN IS NOT USED AS A SEDIMENT TRAP DURING CONSTRUCTION AND THAT NO RUNOFF ENTERS THE BASIN PRIOR TO THE COMPLETION OF CONSTRUCTION AND COMPLETE STABILIZATION OF SURROUNDING AREAS DRAINING TO THE BASIN. ALL UPLAND DRAINAGE MUST BE DIVERTED TO PREVENT RUNOFF FROM ENTERING THE INFILTRATION BASIN WORK AREA.
3. NO EQUIPMENT SHALL BE DRIVEN IN THE AREA OF THE BASIN PRIOR TO ITS CONSTRUCTION, AND WHEN IT IS CONSTRUCTED ONLY LIGHT EARTH MOVING EQUIPMENT WITH TRACKS SHALL BE USED.
4. AFTER FINAL GRADING, THE BASIN'S FLOOR SHALL BE TILLED TO A DEPTH OF AT LEAST 6 INCHES TO PROVIDE A WELL-AERATED, POROUS SURFACE. SMEARING OF THE SOIL IN THE BASIN SHALL BE AVOIDED AND IF SMEARING DOES OCCUR IT SHALL BE CORRECTED BY RAKING OR RE-TILLING OF THE BASIN.
5. IMMEDIATELY FOLLOWING INFILTRATION BASIN CONSTRUCTION, THE ENTIRE BASIN SHALL BE SEEDED AND STABILIZED AS INDICATED IN THE PLANS. THE BASIN MUST BE FULLY STABILIZED PRIOR TO ANY UPSTREAM RUNOFF BEING DIRECT TO THE BASIN.
6. INFILTRATION FACILITIES SHALL NOT BE EXCAVATED WITHIN 3 FEET OF FINAL GRADE UNTIL THE CONTRIBUTING DRAINAGE AREAS HAS BEEN CONSTRUCTED AND FULLY STABILIZED. ANY ACCUMULATED SEDIMENT MUST BE REMOVED IN A MANNER THAT PREVENTS COMPACTION OF THE BOTTOM



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JENNIFER C. DESRIDGE, PE
DATE 01-17-2024 LICENSE NO. 44581

LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

GREENWOOD SHORES PARKING LOT GRADING PLAN

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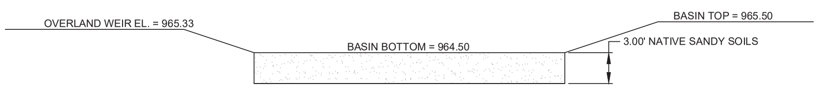
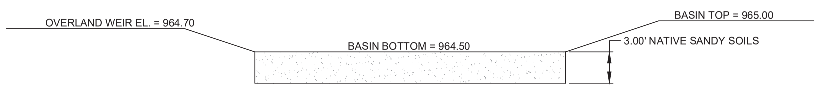
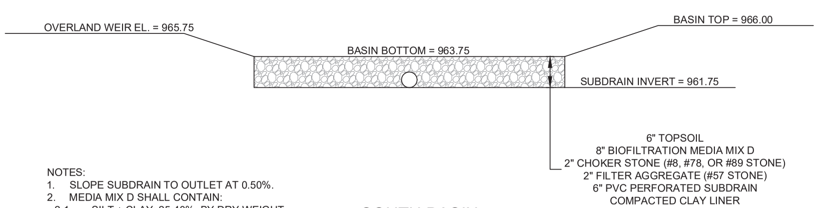
PROPOSED STORM SEWER SCHEDULE										
STRUCTURE	DRAINS TO	TOP OF CASTING ELEVATION	INVERT ELEVATION	TO INVERT ELEVATION	PIPE LENGTH	PIPE DIA.	GRADE %	STRUCTURE DIA.	STRUCTURE HEIGHT	CASTING
RODENT GUARD - 1		962.01	962.00					NULL STRUCTURE	0.79'	RODENT GUARD
RODENT GUARD - 2		960.01	961.00					NULL STRUCTURE	0.79'	RODENT GUARD
ST-1	RODENT GUARD - 1	964.65		962.27	27'	8"	1.00%	8 IN NYOPLAST	2.38'	8" FLAT GRATE (NYLOPLAST 0899 CGS)
ST-2	RODENT GUARD - 2	965.20		961.31	62'	8"	0.50%	8 IN NYOPLAST	3.89'	8" DOME GRATE (NYLOPLAST 0899 CGD)



NORTH BASIN



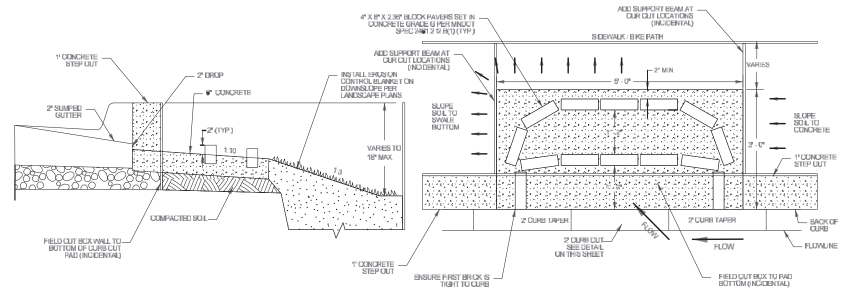
CENTER BASIN



SOUTH BASIN

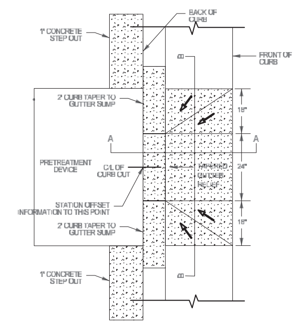
NOTES:
1. SLOPE SUBDRAIN TO OUTLET AT 0.50%.
2. MEDIA MIX D SHALL CONTAIN:
   - 2.1. SILT + CLAY: 25-40%, BY DRY WEIGHT.
   - 2.2. TOTAL SAND: 60-75%, BY DRY WEIGHT.
   - 2.3. TOTAL COURSE AND MEDIUM SAND: MIN. OF 55% OF TOTAL SAND, BY DRY WEIGHT.
   - 2.4. FINE GRAVEL (LESS THAN 5mm): UP TO 12%, BY DRY WEIGHT (CALCULATED SEPARATELY FROM SAND/SILT/CLAY TOTAL).
   - 2.5. ORGANIC MATTER CONTENT: 2-5% MNDOT GRADE 2 COMPOST.

BASIN SECTIONS
NTS

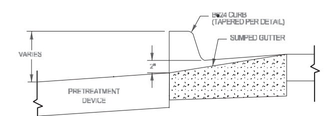


NOTE: CONCRETE PAD AND PAVERS PRETREATMENT DETAIL (WIDE) TO BE PAID UNDER LINE ITEM 2506.602 CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 5 PER EACH.

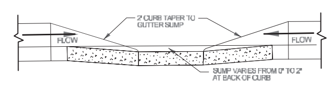
CONCRETE PAD AND PAVERS PRETREATMENT DETAIL (WIDE) ②
NOT TO SCALE



CURB CUT INLET DETAIL (GSI TYPE 2 AND TYPE 4) ②
NOT TO SCALE



SECTION A-A
NOT TO SCALE



DEPRESSION (SUMP) IN FLOW LINE

SECTION B-B
NOT TO SCALE

NOTE:
1. CURB CUT INLET DETAIL TO BE PAID UNDER LINE ITEM 2531.503 CONCRETE CURB AND GUTTER DESIGN SPEC 1 PER LINEAR FOOT.
2. IF CURB CUT IS ADJCENT TO A 1 FOOT STEP-OUT ENSURE POSITIVE DRAINAGE FLUME TO CONNECT CURB FLOWLINE TO BMP (INCIDENTAL).

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Designed By	##					
Checked By	##					

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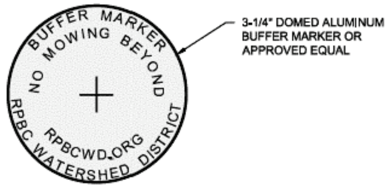
DATE 01-17-2024 LICENSE NO. 44581

LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

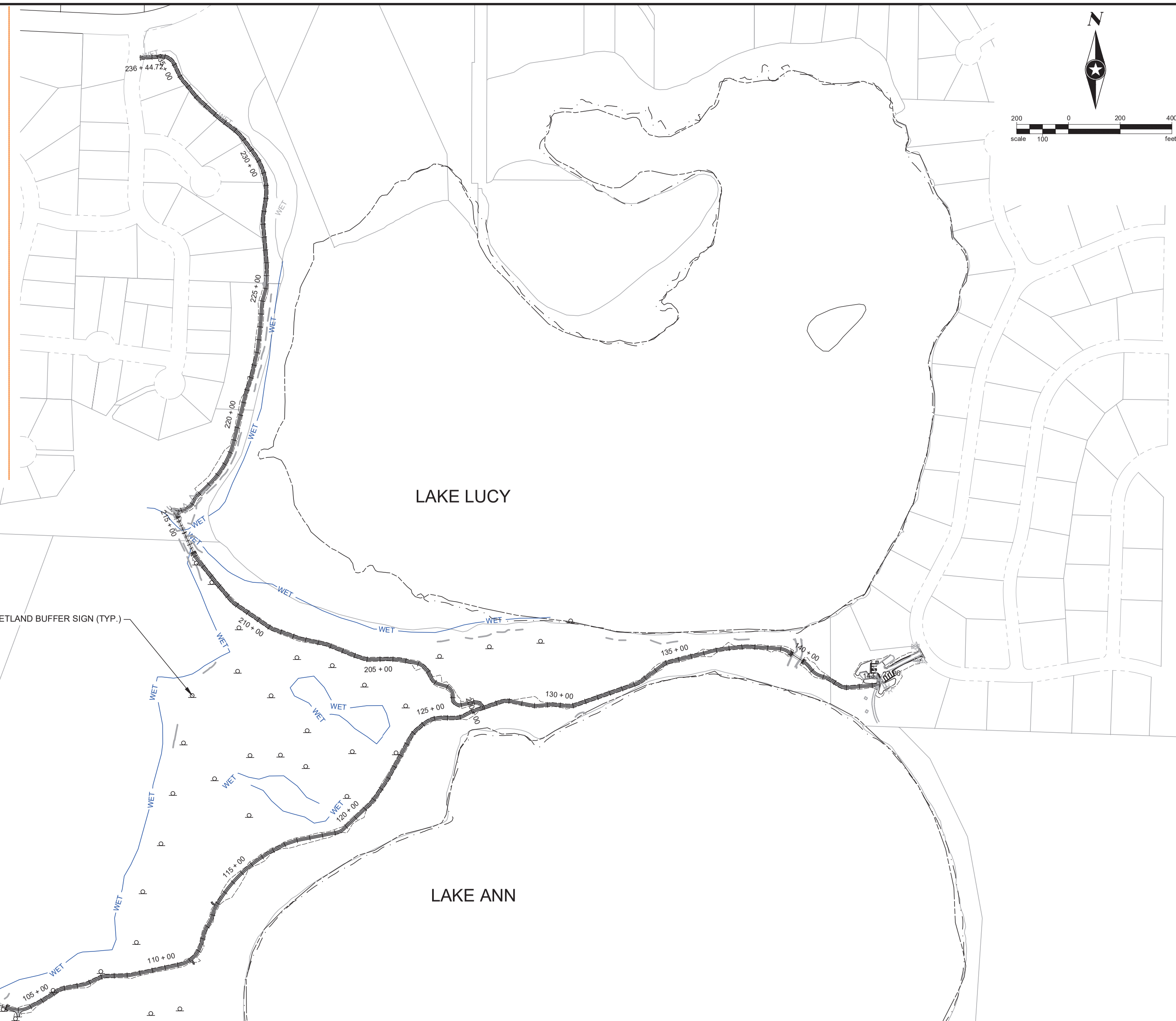
BMP DETAILS



NOTES:

1. BUFFER MAKER TO BE IDENTIFIED WITH A DURABLE MARKER OR CAP BEARING INFORMATION SHOWN ON DETAIL WITH A MINIMUM DIAMETER OF 3 INCHES.
2. BUFFER MARKER TO BE COMPOSED OF A DURABLE MATERIAL.
3. BUFFER MARKER TO DETECTABLE WITH CONVENTIONAL INSTRUMENTS FOR FINDING FERROUS OR MAGNETIC OBJECTS.
4. BUFFER MARKER TO BE INSTALLED FLUSH TO THE GROUND SURFACE.
5. BUFFER MARKER TO BE MOUNTED TO A BURIED PIECE OF REBAR WITH A MINIMUM LENGTH OF 18 INCHES AND A MINIMUM DIAMETER OF 1/2 INCH (#4 REBAR IS ACCEPTABLE).

2 / - **DETAIL: FLUSH MOUNT BUFFER MARKERS**
NOT TO SCALE



SEH Project	HOISI171884	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date
Drawn By	--						
Designed By	--						
Checked By	--						

90% PRELIMINARY

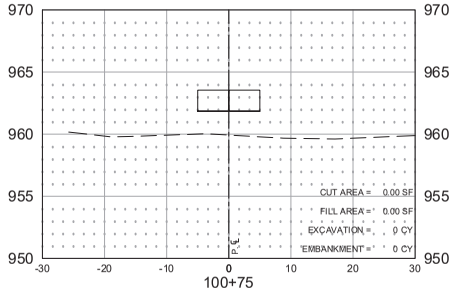
SEH

I HEREBY CERTIFY THAT THIS PLAN 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.

JENNIFER C. DESRUDE, PE
DATE 01-17-2024 LICENSE NO. 44581

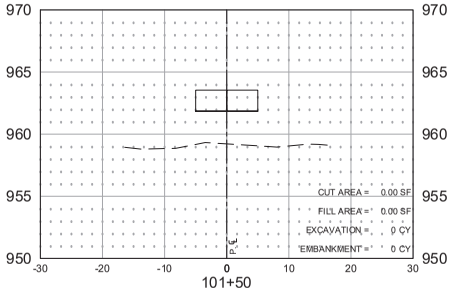
LAKE ANN PRESERVE IMPROVEMENTS
CHANHASSEN, MN

WETLAND BUFFER SIGNING



100+75

EXISTING BOARDWALK A



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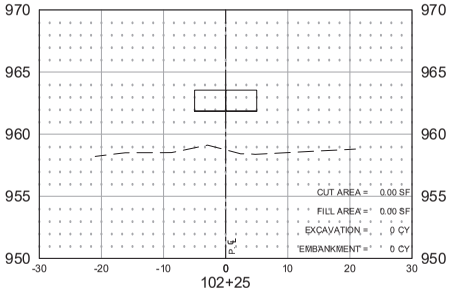

102+25

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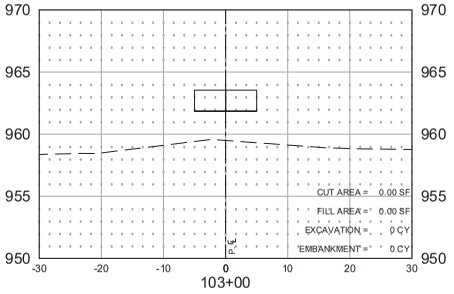

103+00

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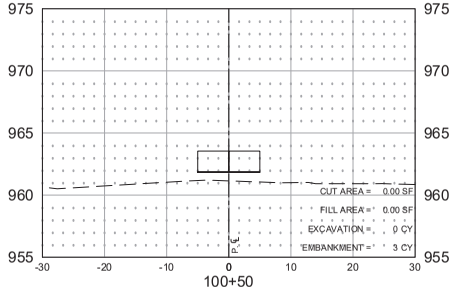

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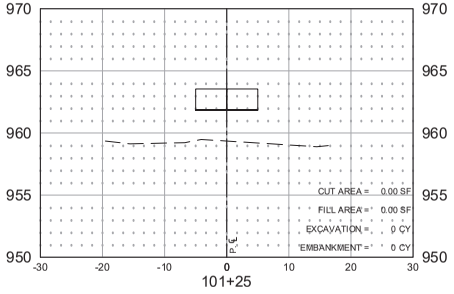

101+25

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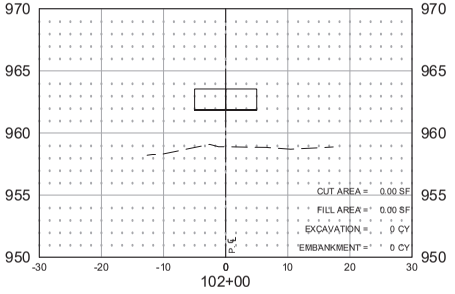

102+00

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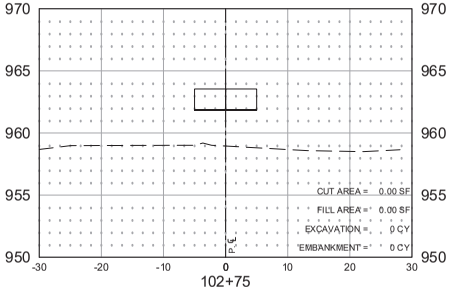

102+75

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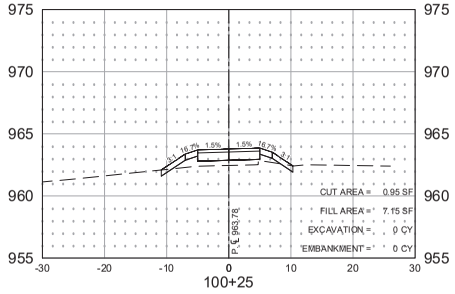

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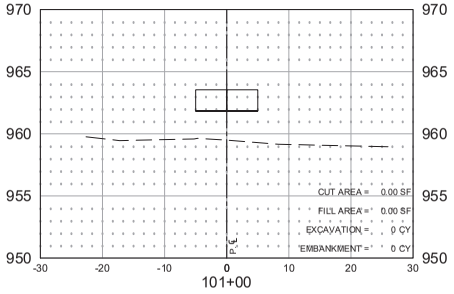

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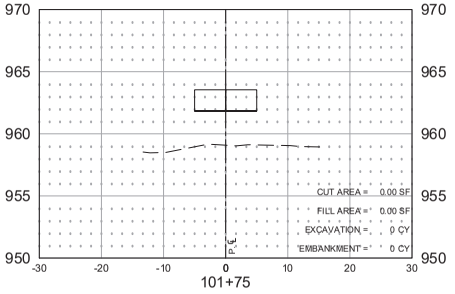

101+75

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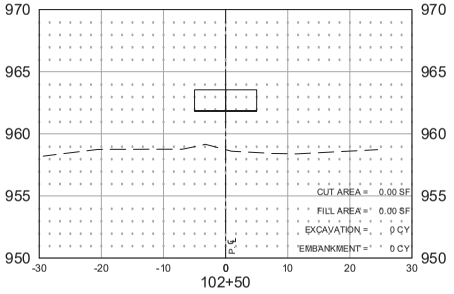

102+50

EXISTING BOARDWALK A

BITUMINOUS TRAIL 1
STA: 100+25 - STA: 103+00

Sheet No. 32 Of 55 Sheets

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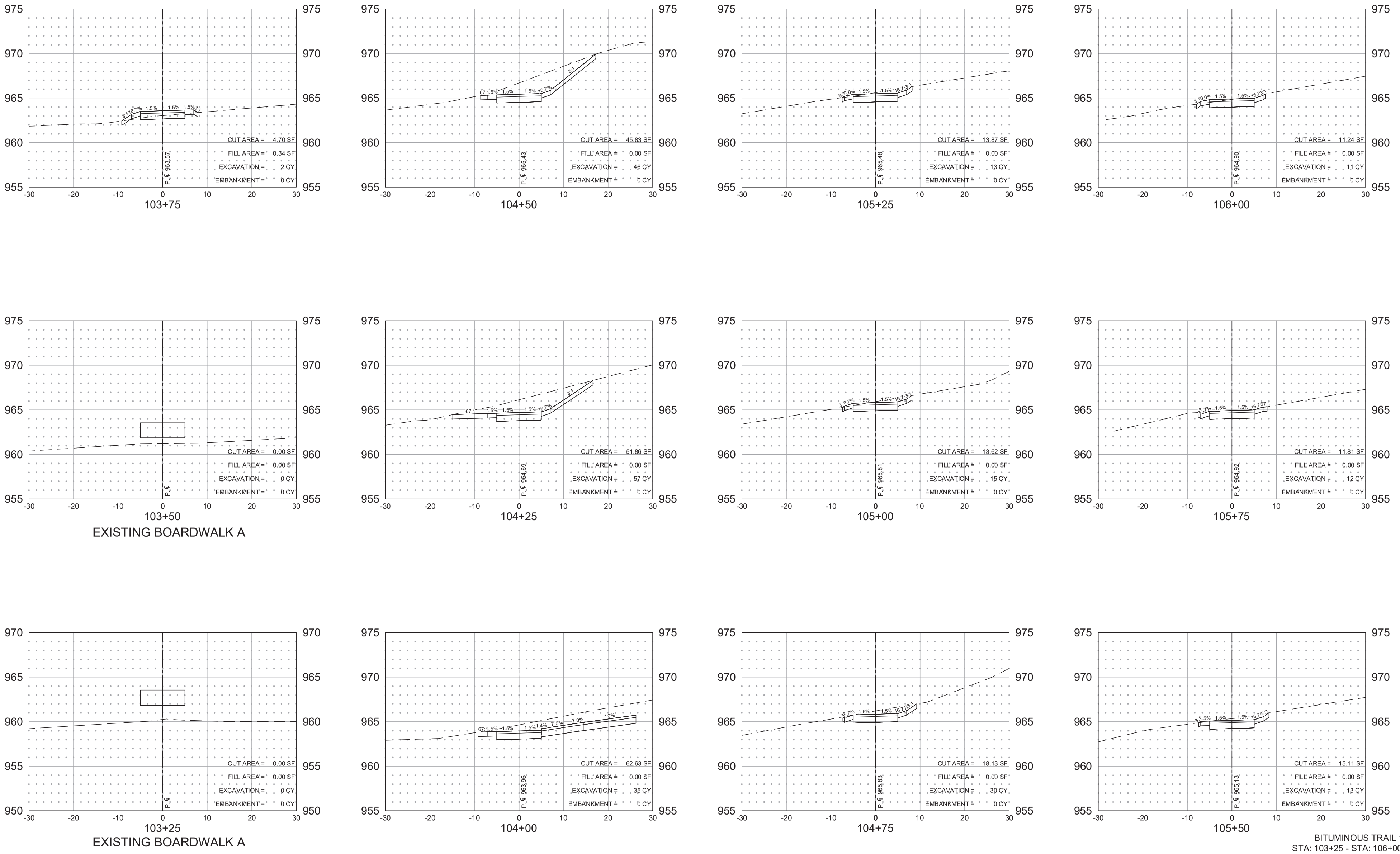

BITUMINOUS TRAIL 1
STA: 103+25 - STA: 106+00

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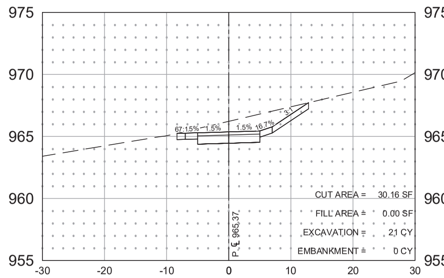
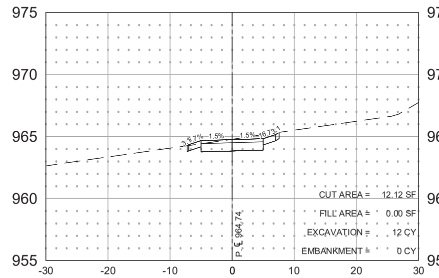
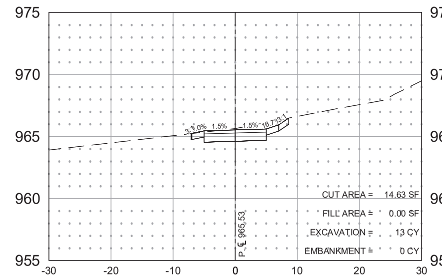


106+75



107+50



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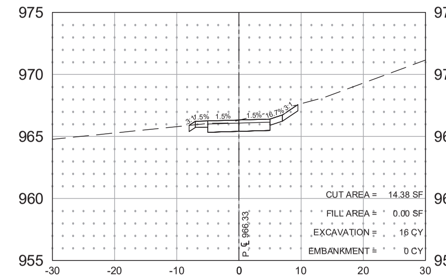
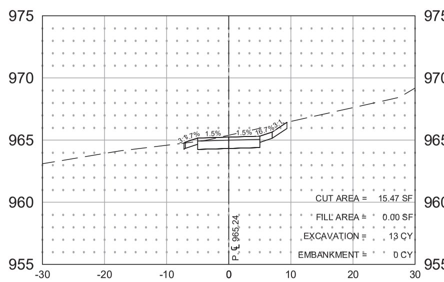


109+00



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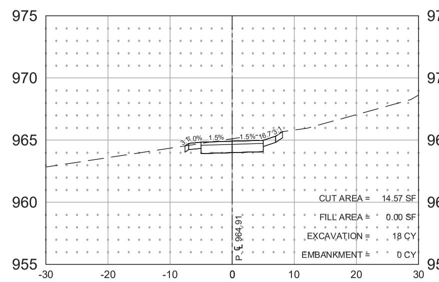

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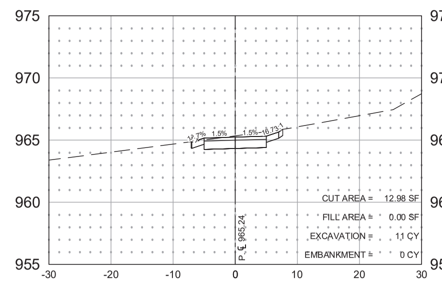
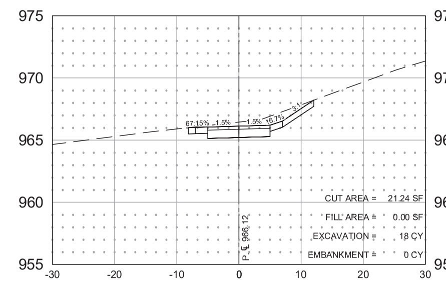


108+00



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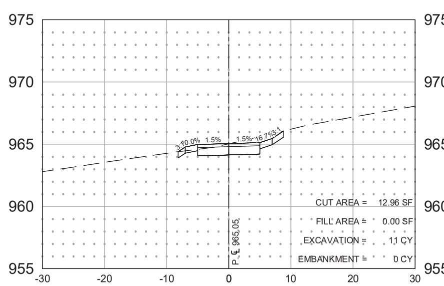

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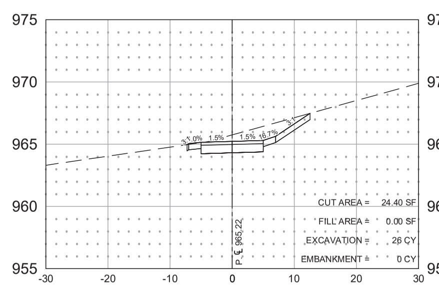
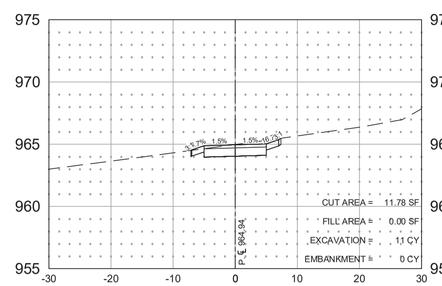


107+00



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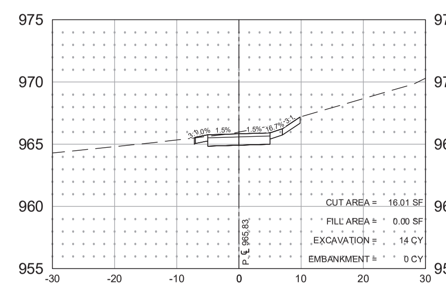

108+50

BITUMINOUS TRAIL 1
STA: 106+25 - STA: 109+00

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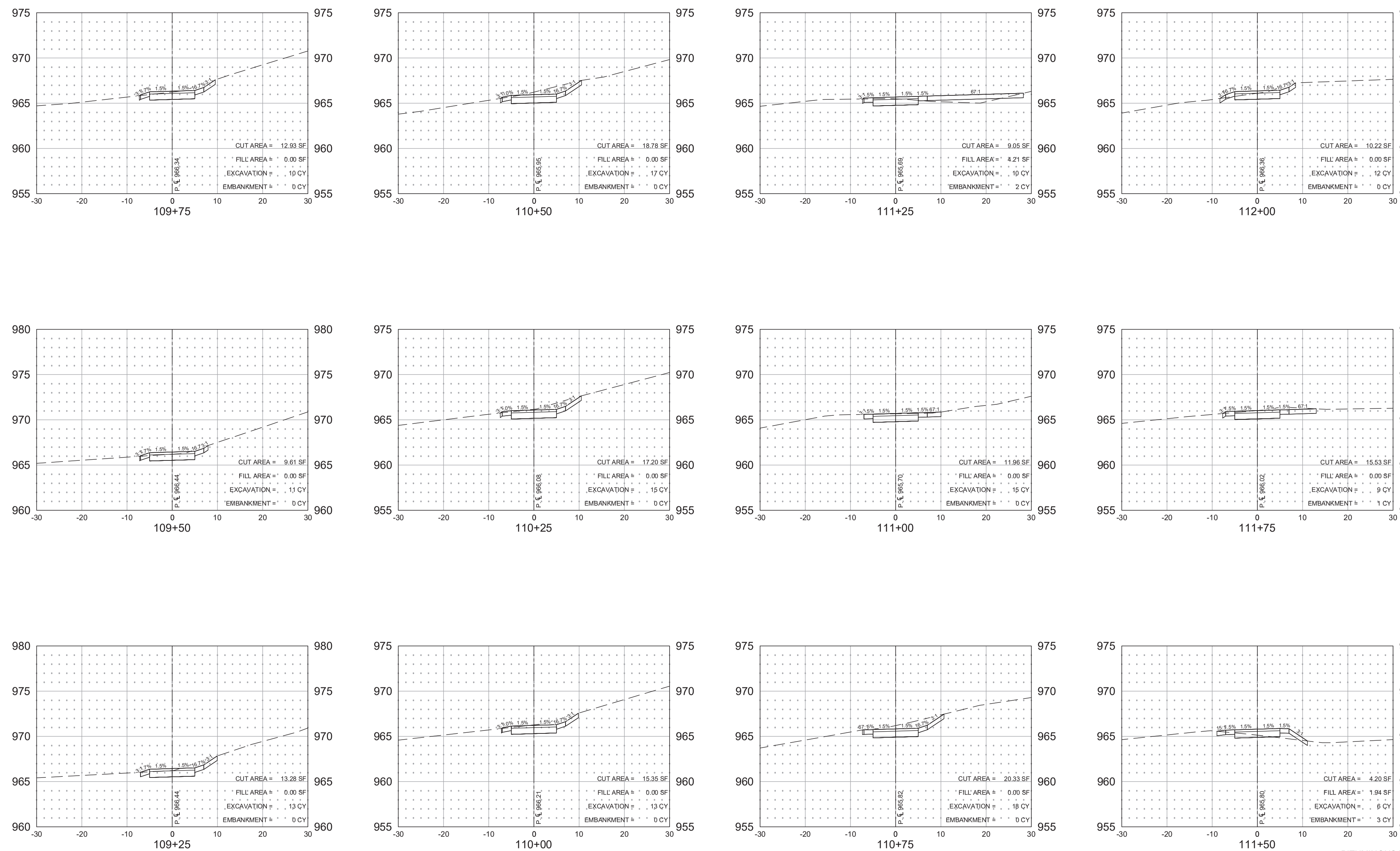
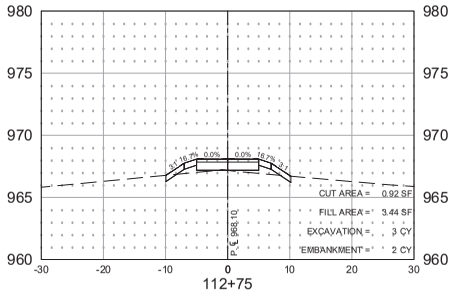
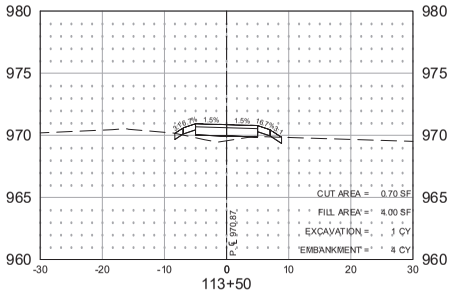
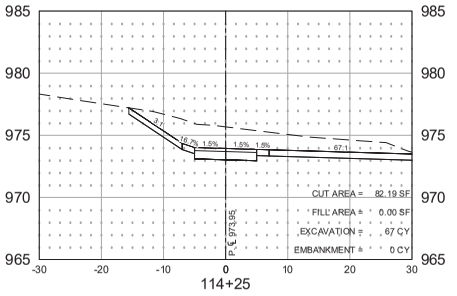
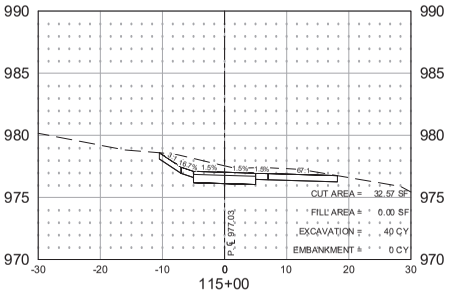

109+75
P. ℄ 966.34
CUT AREA = 12.93 SF
FILL AREA = 0.00 SF
EXCAVATION = 10 CY
EMBANKMENT = 0 CY
110+50
P. ℄ 965.95
CUT AREA = 18.78 SF
FILL AREA = 0.00 SF
EXCAVATION = 17 CY
EMBANKMENT = 0 CY
111+25
P. ℄ 965.69
CUT AREA = 9.05 SF
FILL AREA = 4.21 SF
EXCAVATION = 10 CY
EMBANKMENT = 2 CY
112+00
P. ℄ 966.36
CUT AREA = 10.22 SF
FILL AREA = 0.00 SF
EXCAVATION = 12 CY
EMBANKMENT = 0 CY
109+50
P. ℄ 966.44
CUT AREA = 9.61 SF
FILL AREA = 0.00 SF
EXCAVATION = 11 CY
EMBANKMENT = 0 CY
110+25
P. ℄ 966.08
CUT AREA = 17.20 SF
FILL AREA = 0.00 SF
EXCAVATION = 15 CY
EMBANKMENT = 0 CY
111+00
P. ℄ 965.70
CUT AREA = 11.96 SF
FILL AREA = 0.00 SF
EXCAVATION = 15 CY
EMBANKMENT = 0 CY
111+75
P. ℄ 966.02
CUT AREA = 15.53 SF
FILL AREA = 0.00 SF
EXCAVATION = 9 CY
EMBANKMENT = 1 CY
109+25
P. ℄ 966.44
CUT AREA = 13.28 SF
FILL AREA = 0.00 SF
EXCAVATION = 13 CY
EMBANKMENT = 0 CY
110+00
P. ℄ 966.21
CUT AREA = 15.35 SF
FILL AREA = 0.00 SF
EXCAVATION = 13 CY
EMBANKMENT = 0 CY
110+75
P. ℄ 965.82
CUT AREA = 20.33 SF
FILL AREA = 0.00 SF
EXCAVATION = 18 CY
EMBANKMENT = 0 CY
111+50
P. ℄ 965.80
CUT AREA = 4.20 SF
FILL AREA = 1.94 SF
EXCAVATION = 6 CY
EMBANKMENT = 3 CY

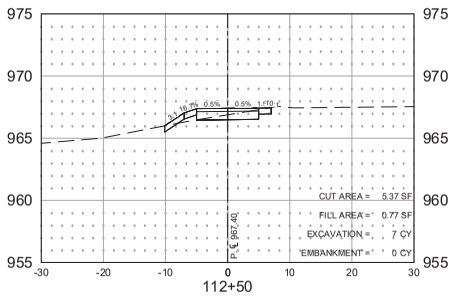
BITUMINOUS TRAIL 1
STA: 109+25 - STA: 112+00

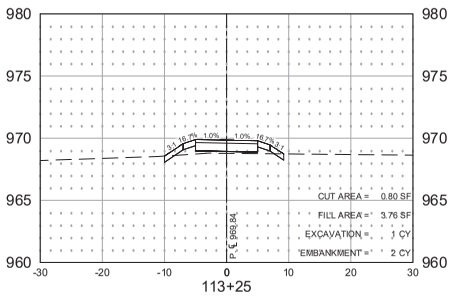


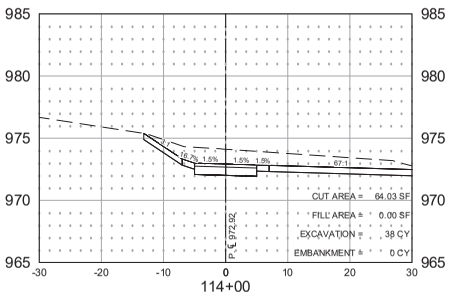


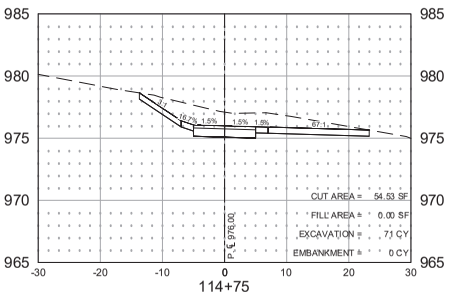


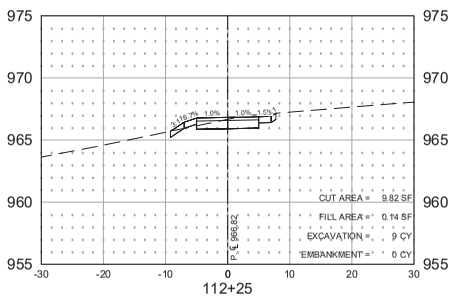


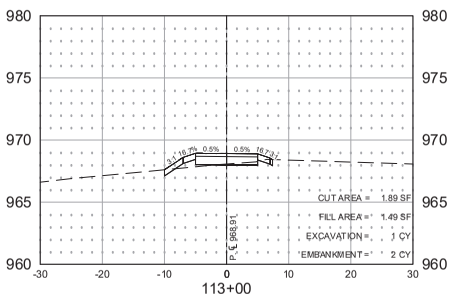


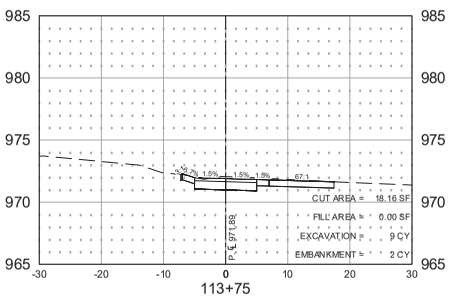


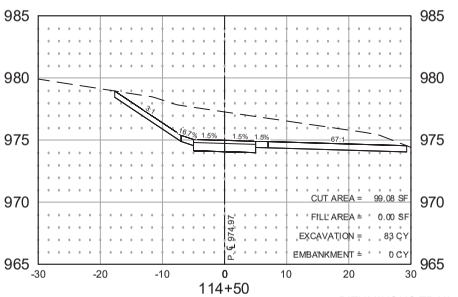












BITUMINOUS TRAIL 1
STA: 112+25 - STA: 115+00

Sheet No. 36 Of 55 Sheets

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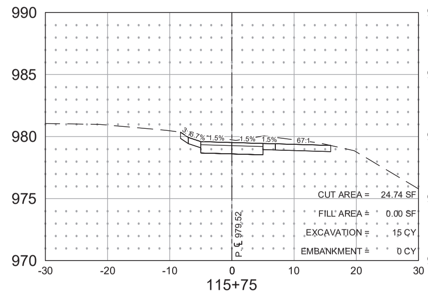

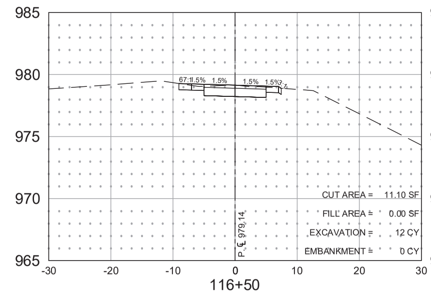

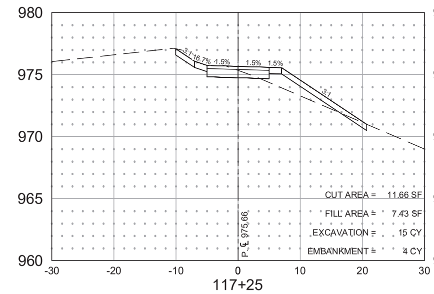

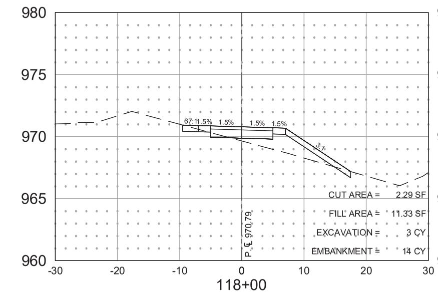

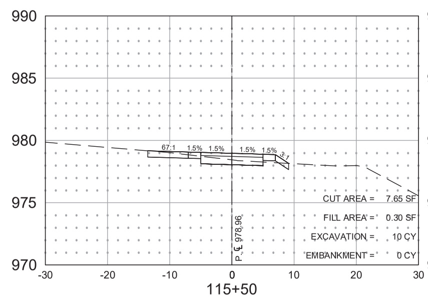

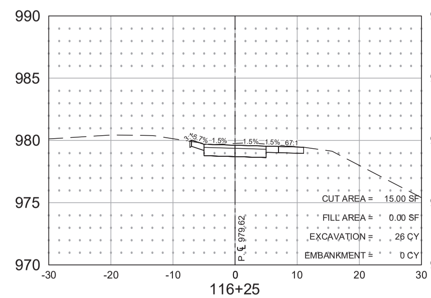

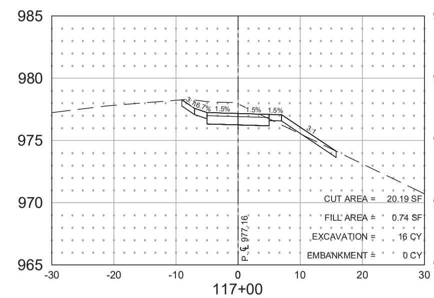

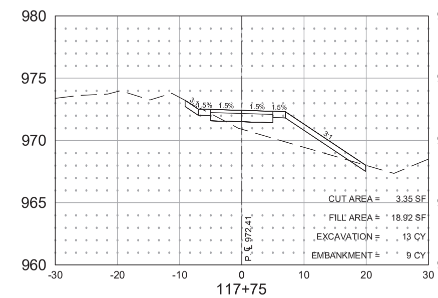

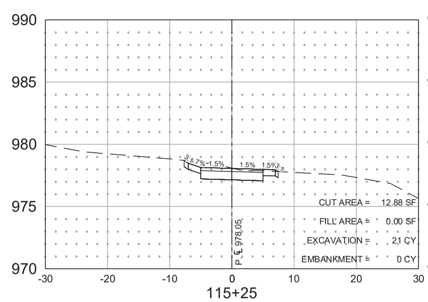

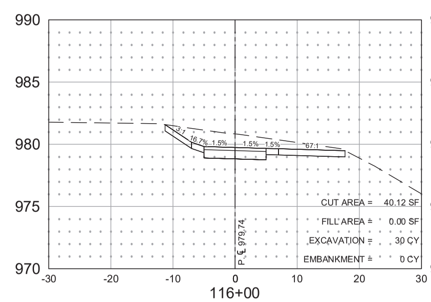

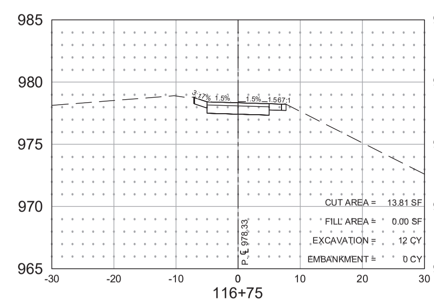

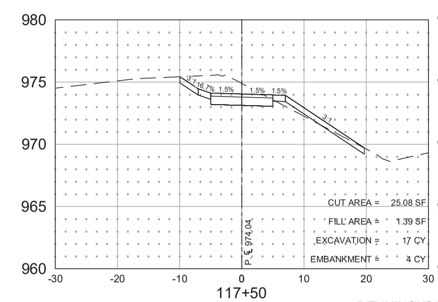

BITUMINOUS TRAIL 1
STA: 115+25 - STA: 118+00

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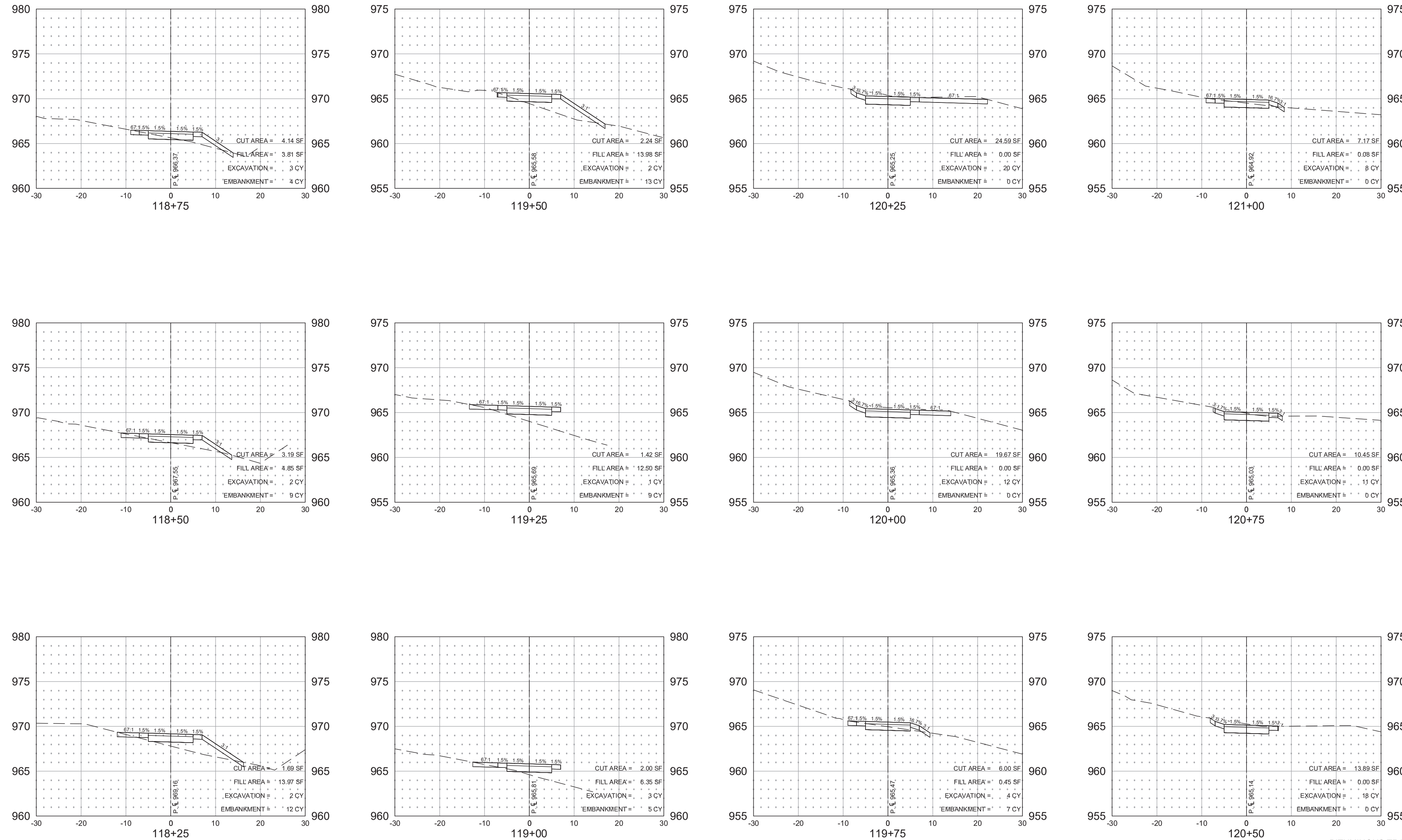

BITUMINOUS TRAIL 1
STA: 118+25 - STA: 121+00

Sheet No. 38 Of 55 Sheets

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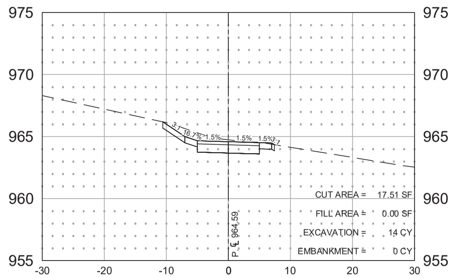
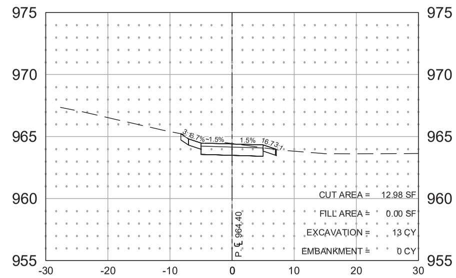
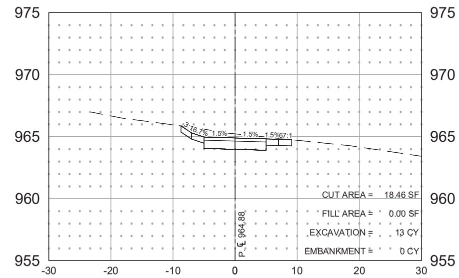


121+75



122+50



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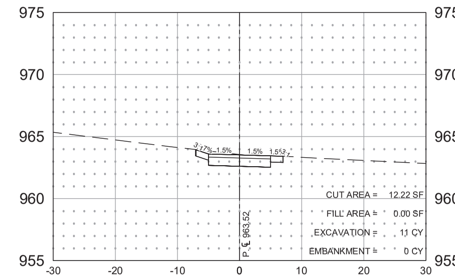
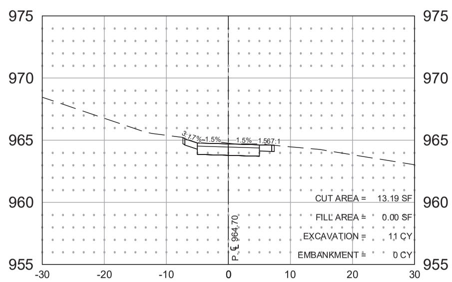
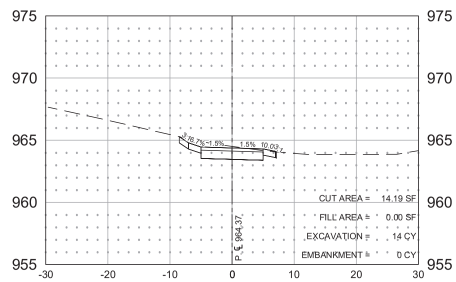


124+00



121+50



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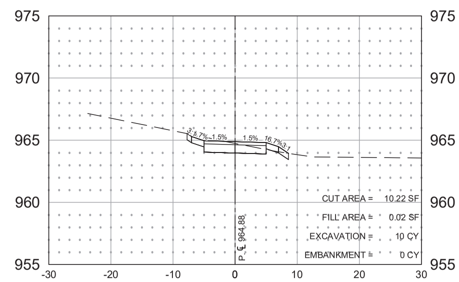

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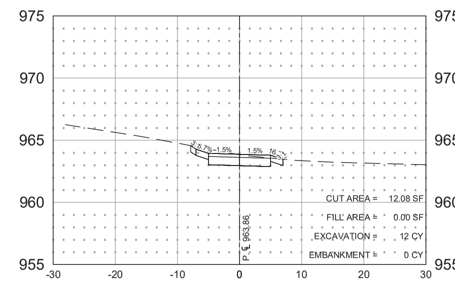

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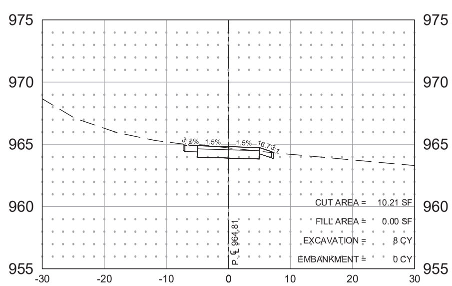

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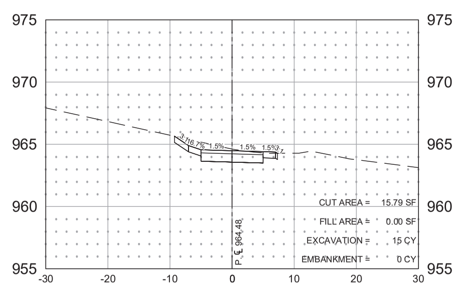

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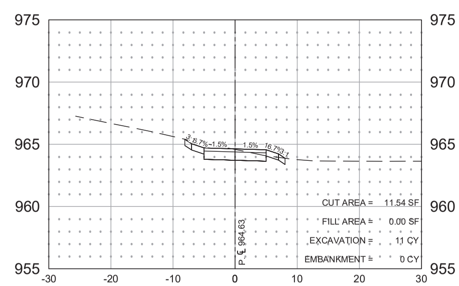

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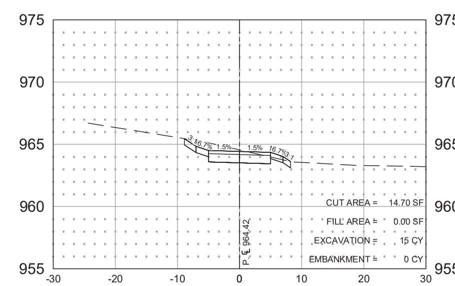
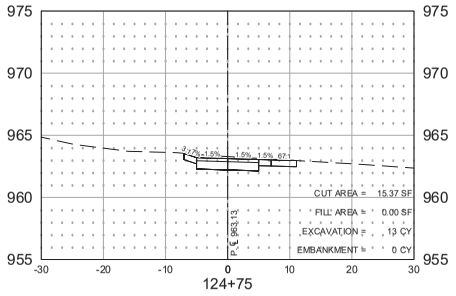
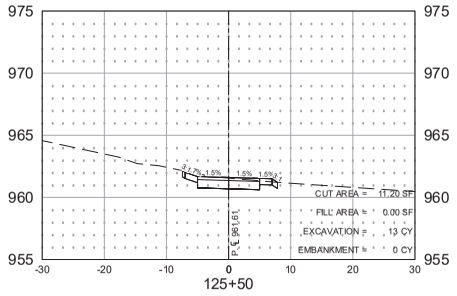
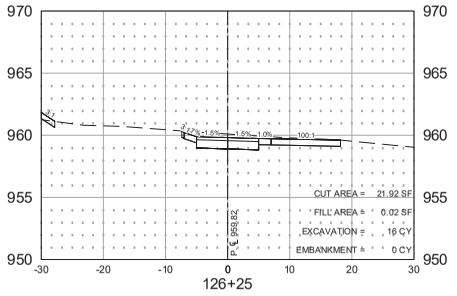


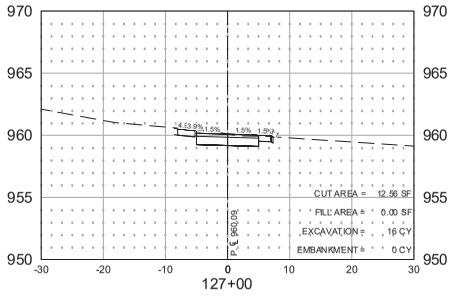
123+50

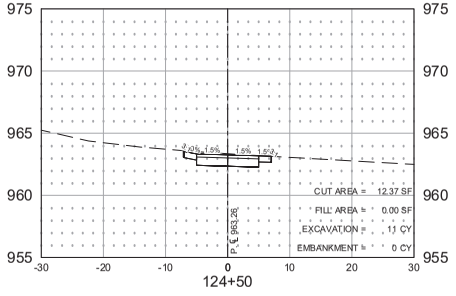
BITUMINOUS TRAIL 1
STA: 121+25 - STA: 124+00

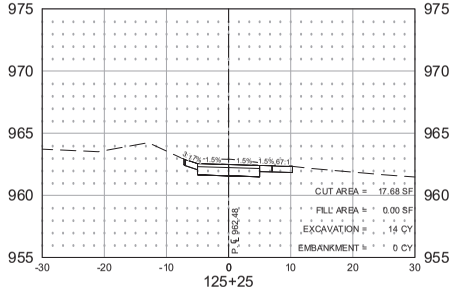


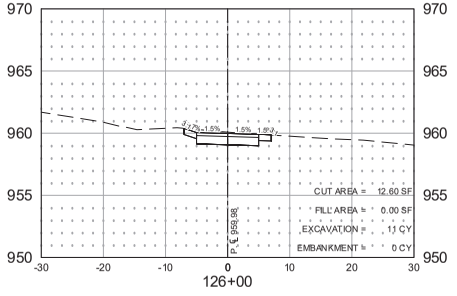


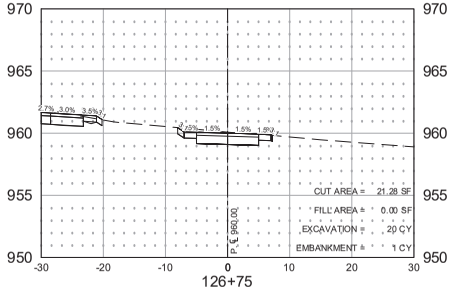


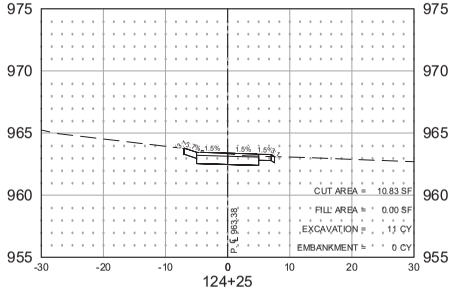


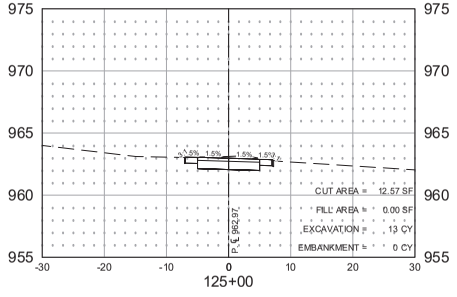


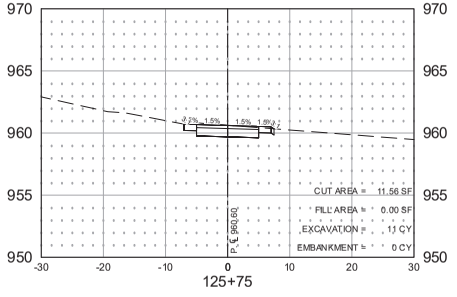


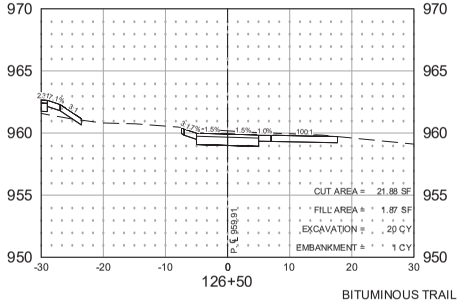












BITUMINOUS TRAIL 1
STA: 124+25 - STA: 127+00

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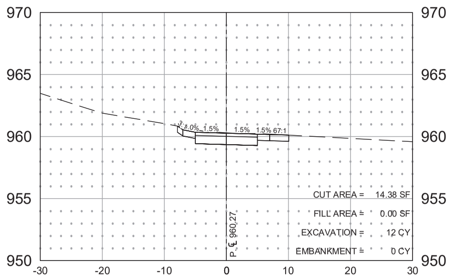
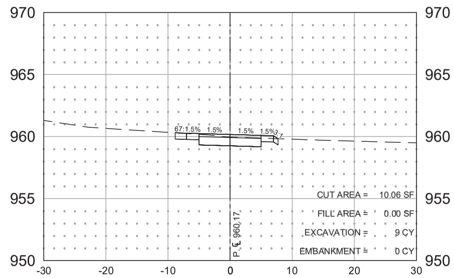


127+75



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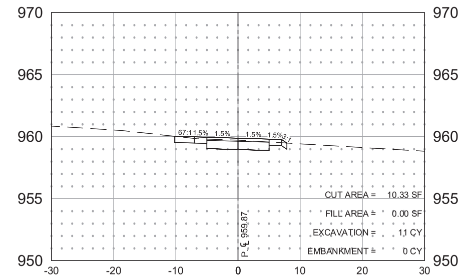
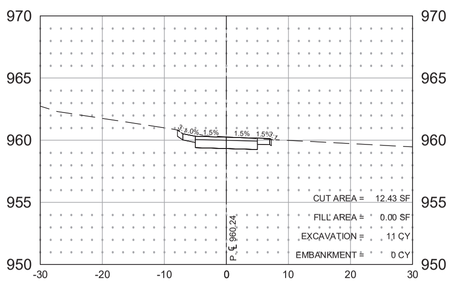


129+25



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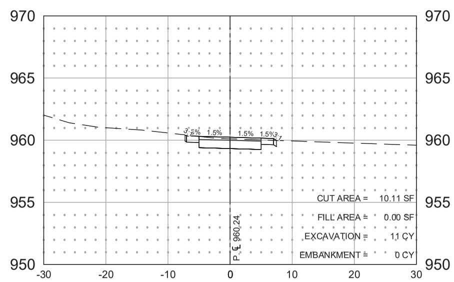

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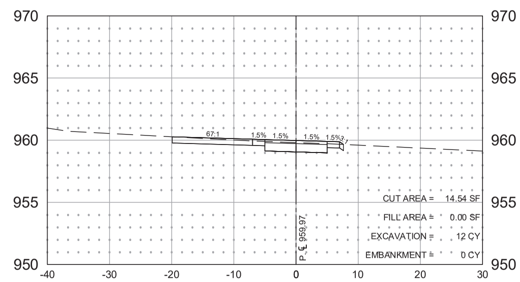

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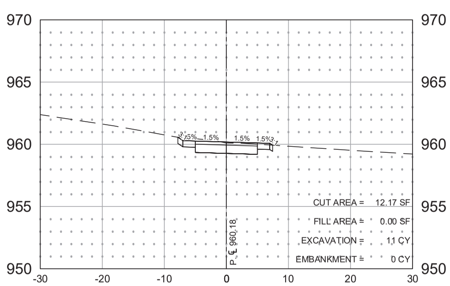

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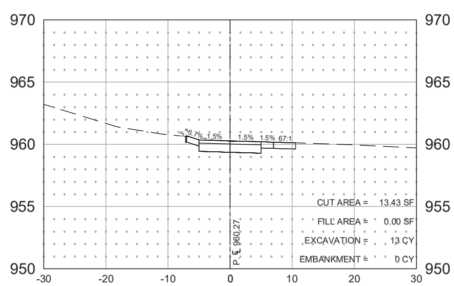

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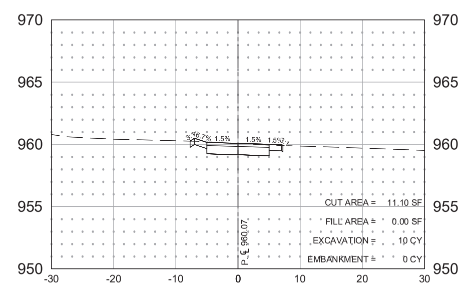
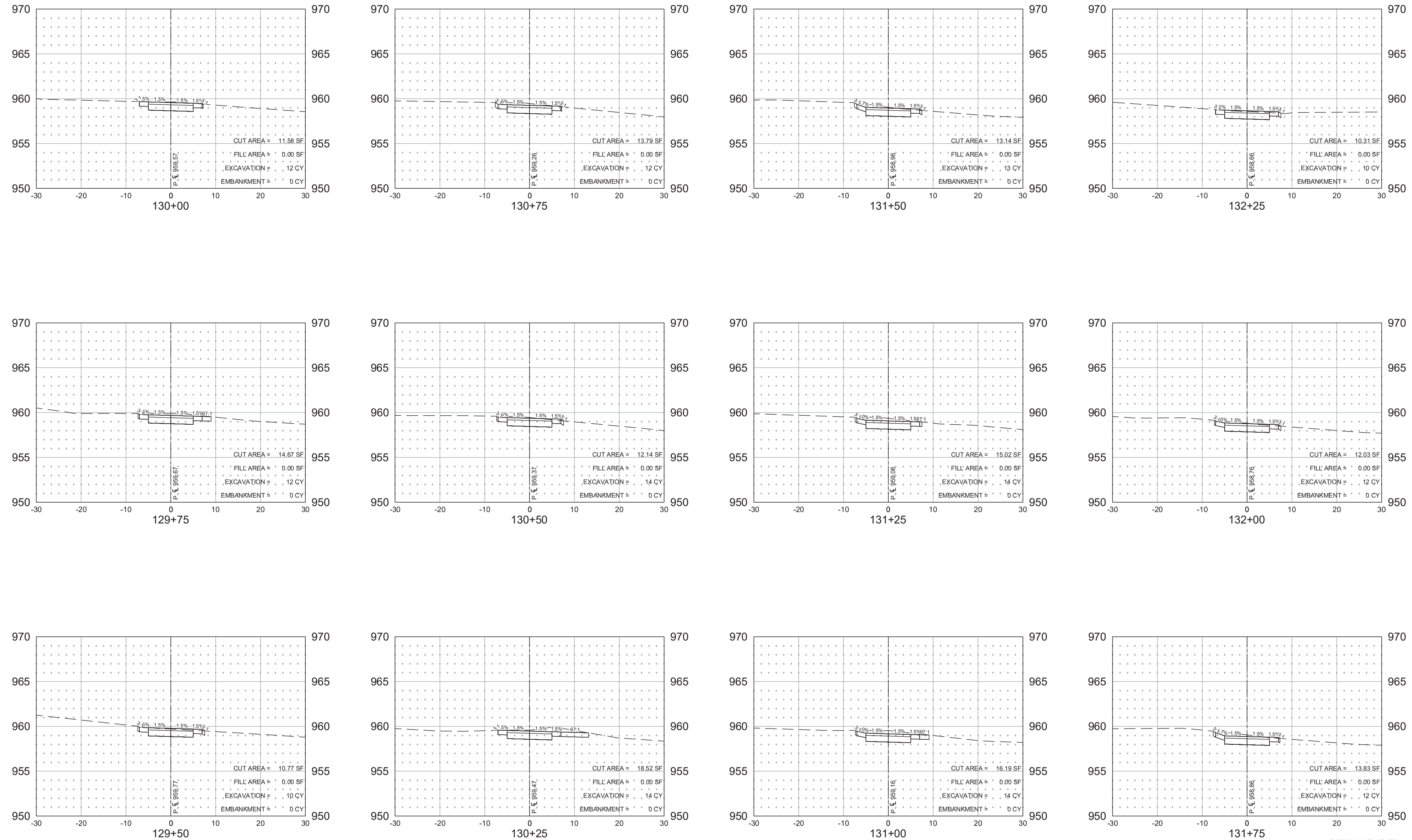


128+75

BITUMINOUS TRAIL 1
STA: 127+25 - STA: 129+25



BITUMINOUS TRAIL 1
STA: 129+50 - STA: 132+25

Sheet No. 42 Of 55 Sheets

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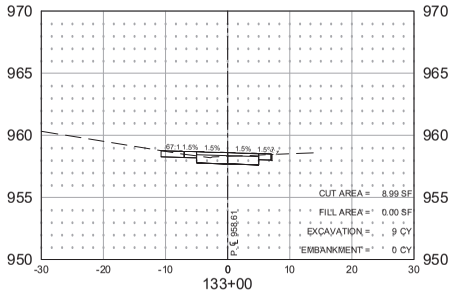
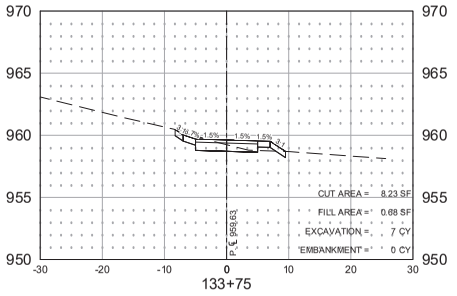
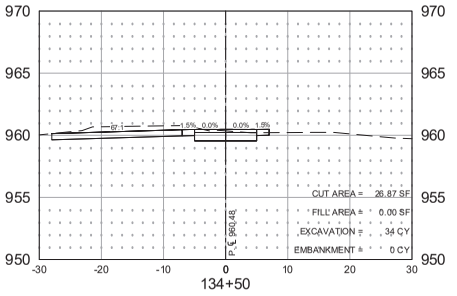


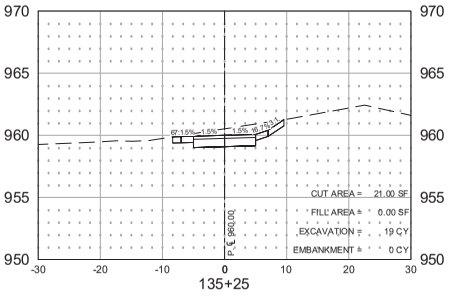
133+00



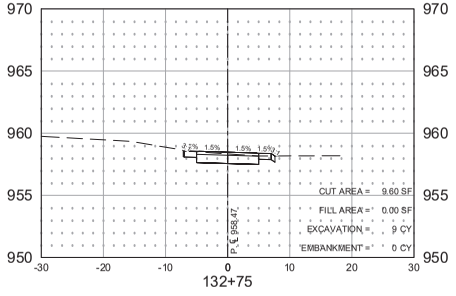
133+75



134+50



135+25



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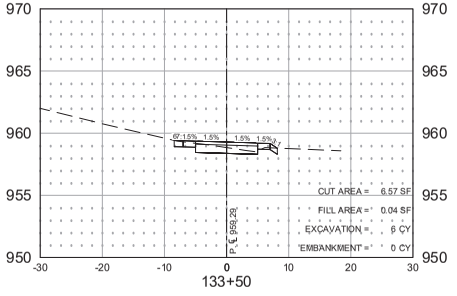

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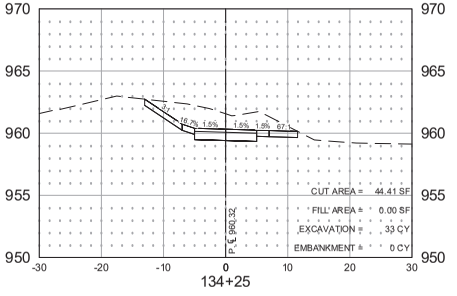
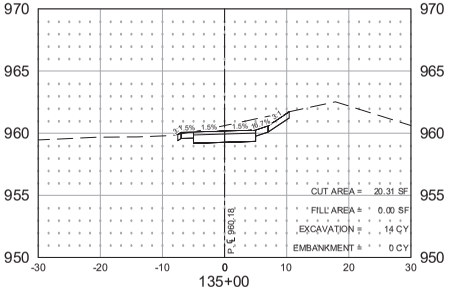


134+25



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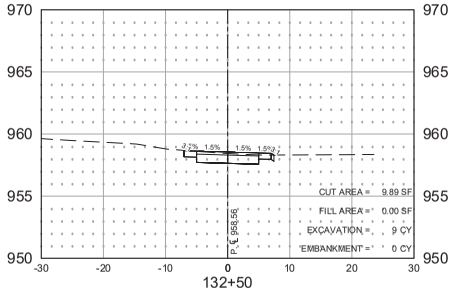

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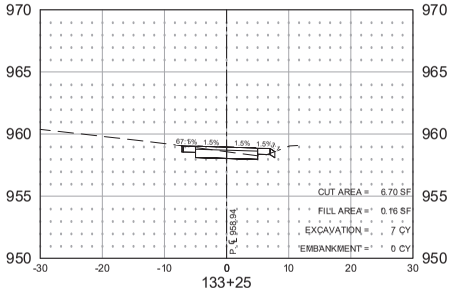

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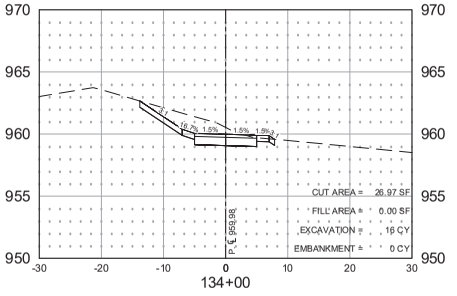

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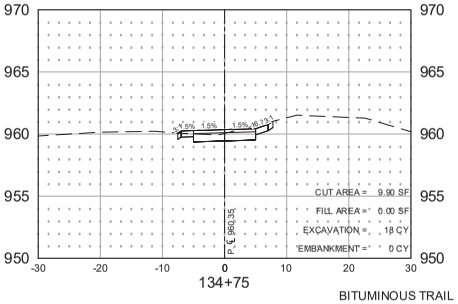

134+75

BITUMINOUS TRAIL 1
STA: 132+50 - STA: 135+25

Sheet No. 43 Of 55 Sheets

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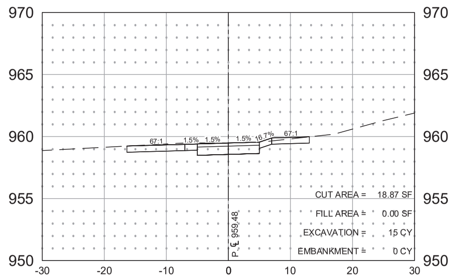

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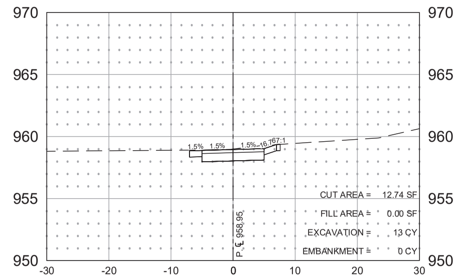

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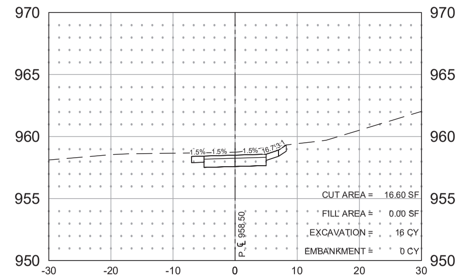

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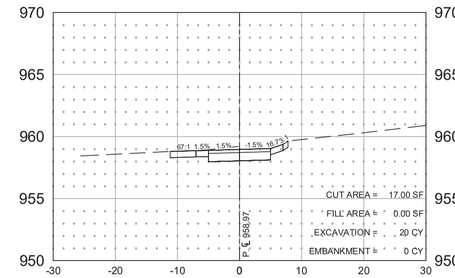
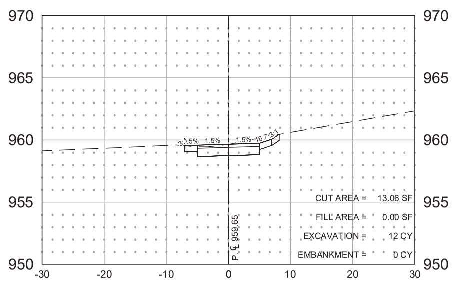


138+25



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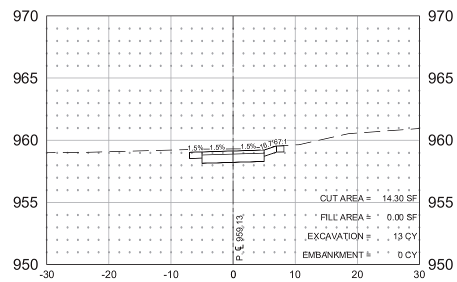

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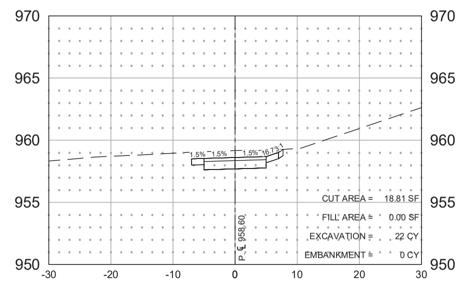

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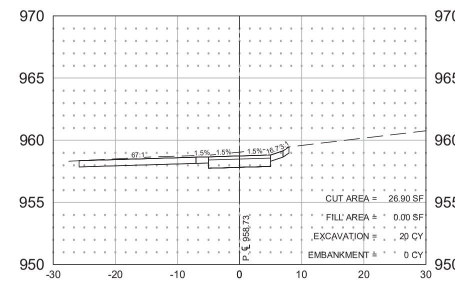

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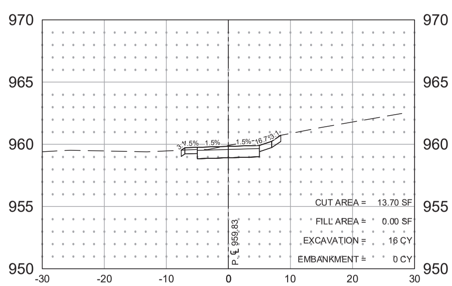

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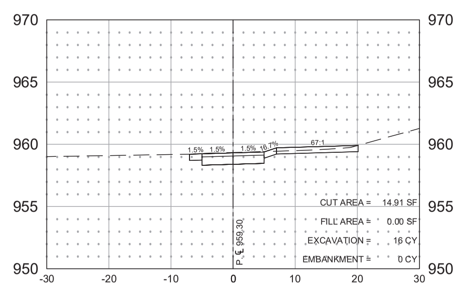

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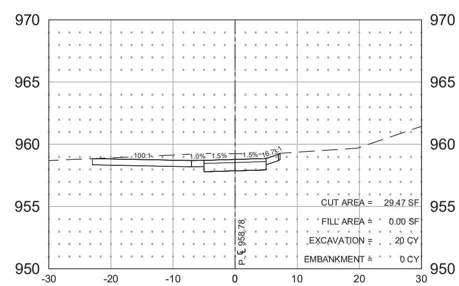

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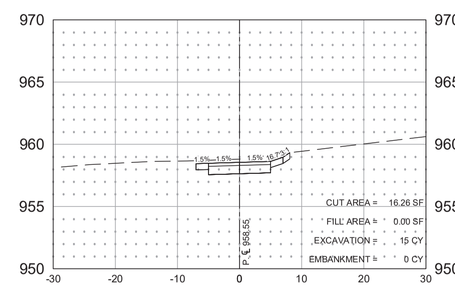
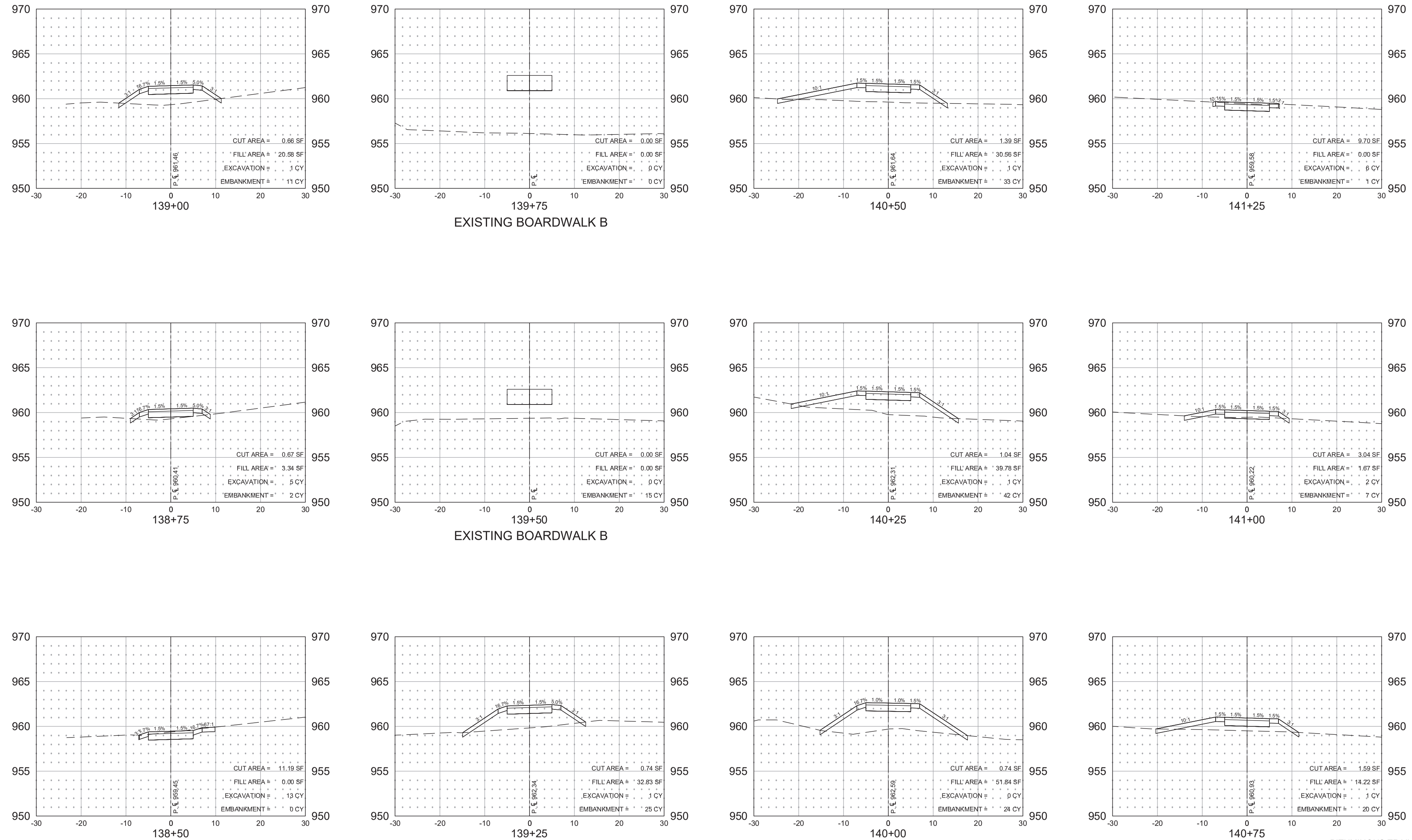


137+75

BITUMINOUS TRAIL 1
STA: 135+50 - STA: 138+25


139+00
P. ℄ 961.46
CUT AREA = 0.66 SF
FILL AREA = 20.58 SF
EXCAVATION = 1 CY
EMBANKMENT = 11 CY
139+75
EXISTING BOARDWALK B
CUT AREA = 0.00 SF
FILL AREA = 0.00 SF
EXCAVATION = 0 CY
EMBANKMENT = 0 CY
140+50
P. ℄ 961.64
CUT AREA = 1.39 SF
FILL AREA = 30.56 SF
EXCAVATION = 1 CY
EMBANKMENT = 33 CY
141+25
P. ℄ 959.58
CUT AREA = 9.70 SF
FILL AREA = 0.00 SF
EXCAVATION = 6 CY
EMBANKMENT = 1 CY
138+75
P. ℄ 960.41
CUT AREA = 0.67 SF
FILL AREA = 3.34 SF
EXCAVATION = 5 CY
EMBANKMENT = 2 CY
139+50
EXISTING BOARDWALK B
CUT AREA = 0.00 SF
FILL AREA = 0.00 SF
EXCAVATION = 0 CY
EMBANKMENT = 15 CY
140+25
P. ℄ 962.31
CUT AREA = 1.04 SF
FILL AREA = 39.78 SF
EXCAVATION = 1 CY
EMBANKMENT = 42 CY
141+00
P. ℄ 960.22
CUT AREA = 3.04 SF
FILL AREA = 1.67 SF
EXCAVATION = 2 CY
EMBANKMENT = 7 CY
138+50
P. ℄ 959.45
CUT AREA = 11.19 SF
FILL AREA = 0.00 SF
EXCAVATION = 13 CY
EMBANKMENT = 0 CY
139+25
P. ℄ 962.34
CUT AREA = 0.74 SF
FILL AREA = 32.83 SF
EXCAVATION = 1 CY
EMBANKMENT = 25 CY
140+00
P. ℄ 962.59
CUT AREA = 0.74 SF
FILL AREA = 51.84 SF
EXCAVATION = 0 CY
EMBANKMENT = 24 CY
140+75
P. ℄ 960.93
CUT AREA = 1.59 SF
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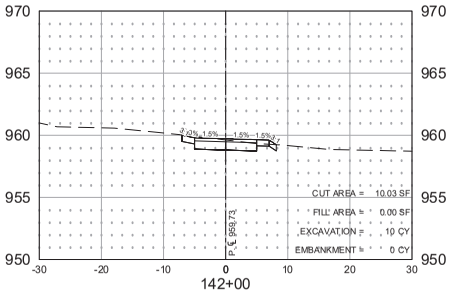
EMBANKMENT = 20 CY

BITUMINOUS TRAIL 1
STA: 138+50 - STA: 141+25



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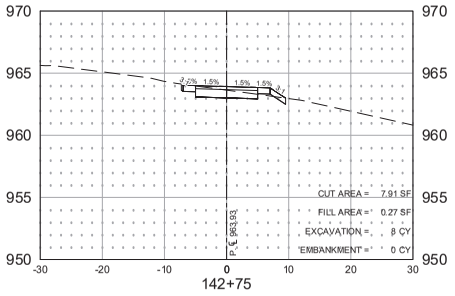

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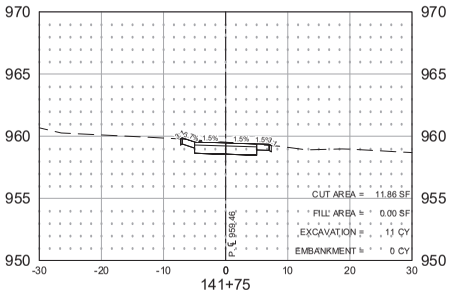
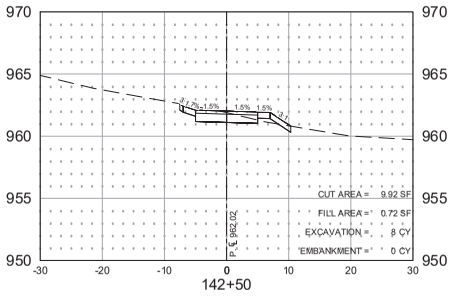
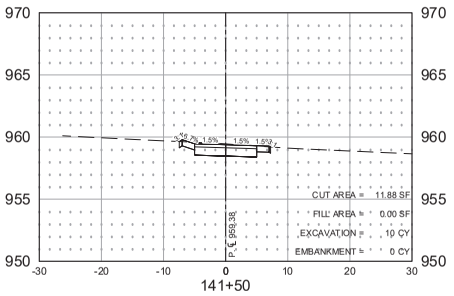


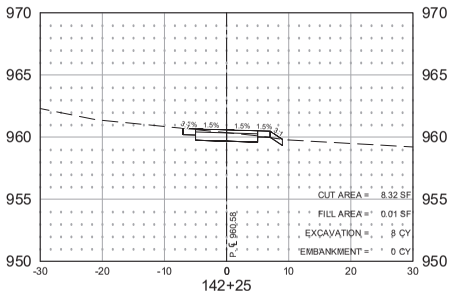
141+75



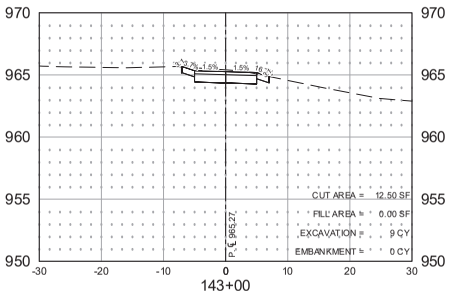
142+50



141+50



142+25



143+00

BITUMINOUS TRAIL 1
STA: 141+50 - STA: 143+00

Sheet No. 46 Of 55 Sheets

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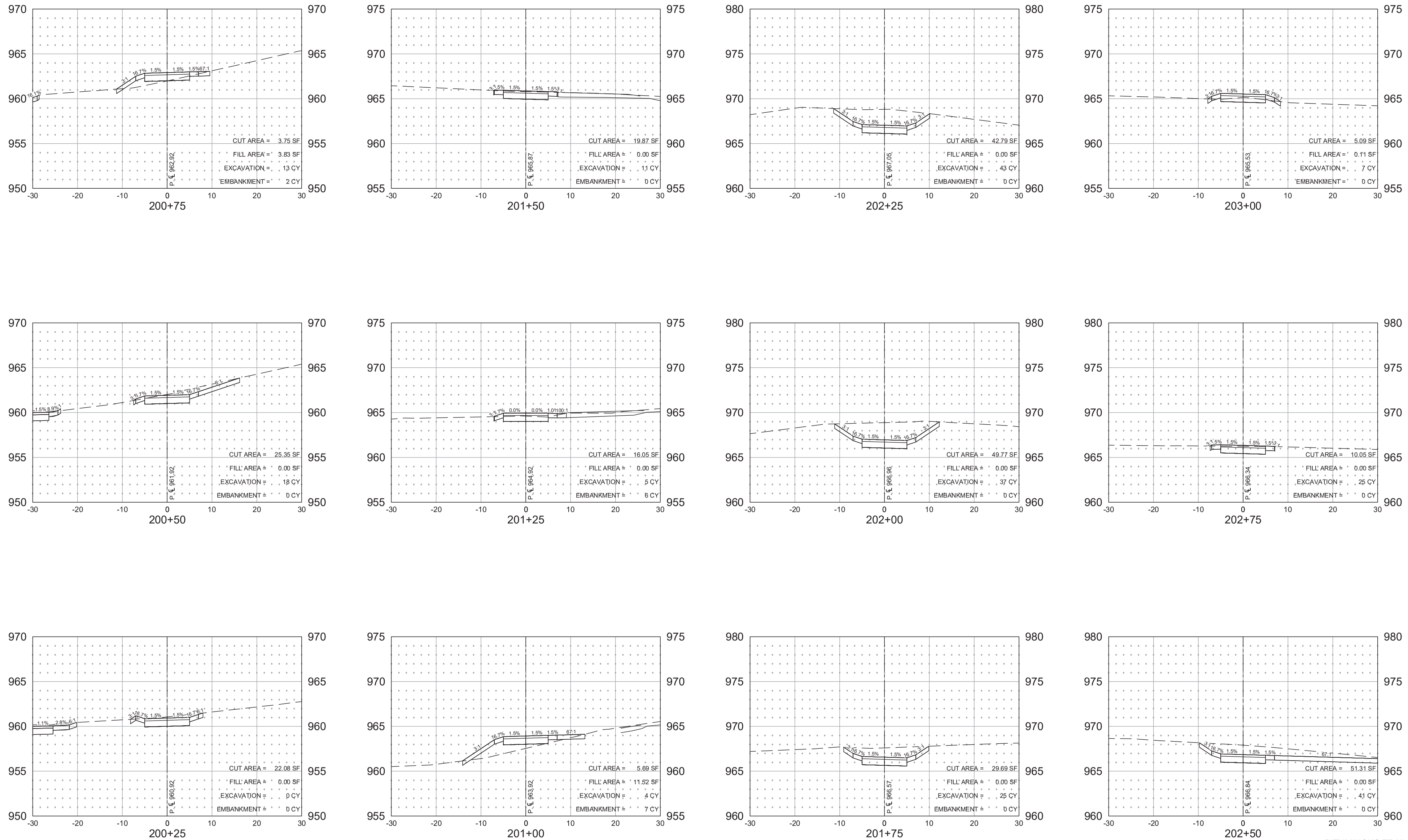
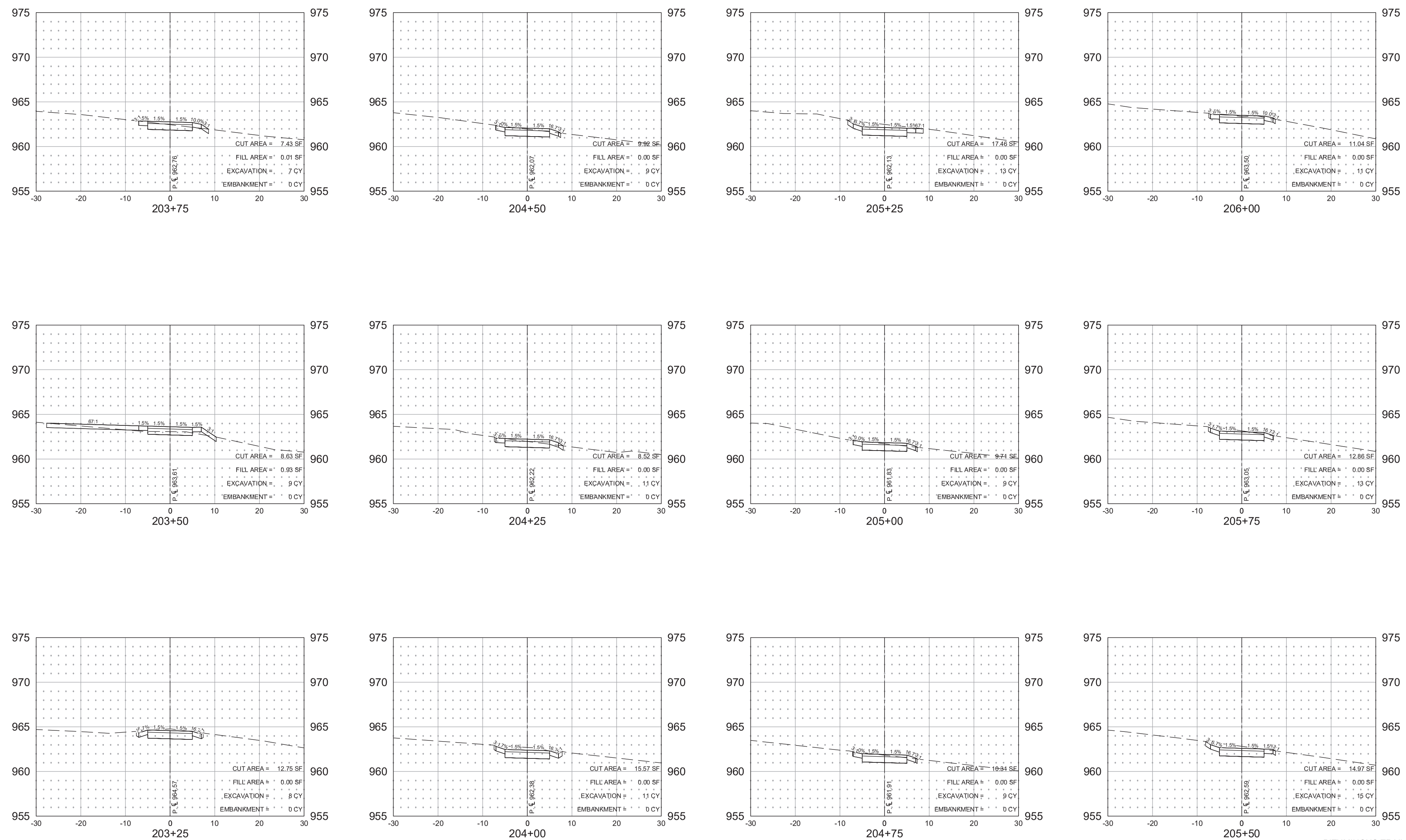

200+75
CUT AREA = 3.75 SF
FILL AREA = 3.83 SF
EXCAVATION = 13 CY
EMBANKMENT = 2 CY
P ℄ 962.92
201+50
CUT AREA = 19.87 SF
FILL AREA = 0.00 SF
EXCAVATION = 11 CY
EMBANKMENT = 0 CY
P ℄ 965.87
202+25
CUT AREA = 42.79 SF
FILL AREA = 0.00 SF
EXCAVATION = 43 CY
EMBANKMENT = 0 CY
P ℄ 967.05
203+00
CUT AREA = 5.09 SF
FILL AREA = 0.11 SF
EXCAVATION = 7 CY
EMBANKMENT = 0 CY
P ℄ 965.53
200+50
CUT AREA = 25.35 SF
FILL AREA = 0.00 SF
EXCAVATION = 18 CY
EMBANKMENT = 0 CY
P ℄ 961.92
201+25
CUT AREA = 16.05 SF
FILL AREA = 0.00 SF
EXCAVATION = 5 CY
EMBANKMENT = 6 CY
P ℄ 964.92
202+00
CUT AREA = 49.77 SF
FILL AREA = 0.00 SF
EXCAVATION = 37 CY
EMBANKMENT = 0 CY
P ℄ 966.96
202+75
CUT AREA = 10.05 SF
FILL AREA = 0.00 SF
EXCAVATION = 25 CY
EMBANKMENT = 0 CY
P ℄ 966.34
200+25
CUT AREA = 22.08 SF
FILL AREA = 0.00 SF
EXCAVATION = 0 CY
EMBANKMENT = 0 CY
P ℄ 960.92
201+00
CUT AREA = 5.69 SF
FILL AREA = 11.52 SF
EXCAVATION = 4 CY
EMBANKMENT = 7 CY
P ℄ 963.92
201+75
CUT AREA = 29.69 SF
FILL AREA = 0.00 SF
EXCAVATION = 25 CY
EMBANKMENT = 0 CY
P ℄ 966.57
202+50
CUT AREA = 51.31 SF
FILL AREA = 0.00 SF
EXCAVATION = 41 CY
EMBANKMENT = 0 CY
P ℄ 966.84

BITUMINOUS TRAIL 2
STA: 200+25 - STA: 203+00



BITUMINOUS TRAIL 2
STA: 203+25 - STA: 206+00

Sheet No. 48 Of 55 Sheets

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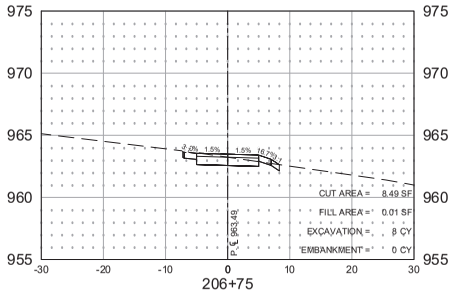
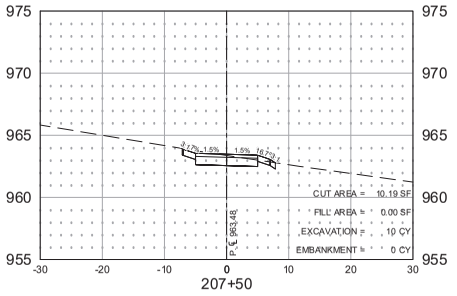
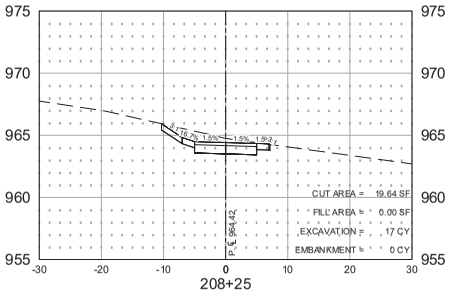


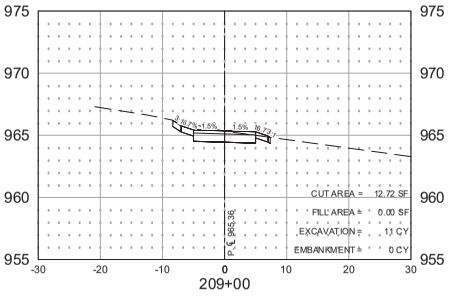
206+75



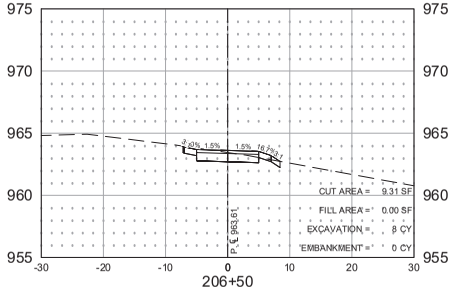
207+50



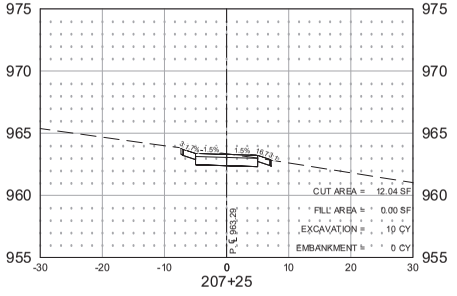
208+25



209+00



206+50



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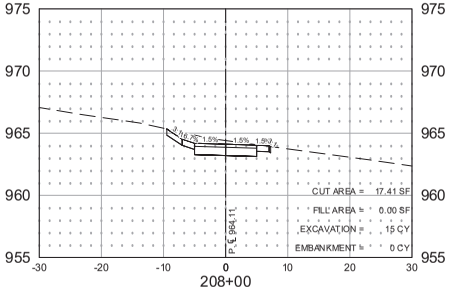
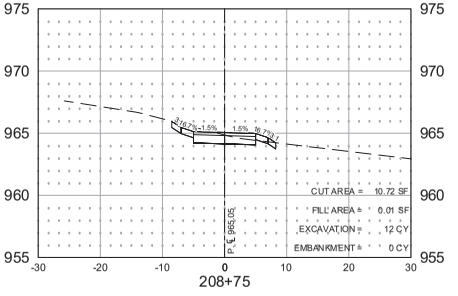
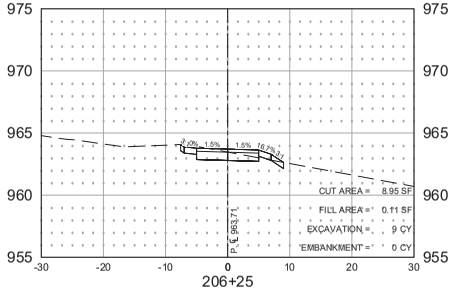


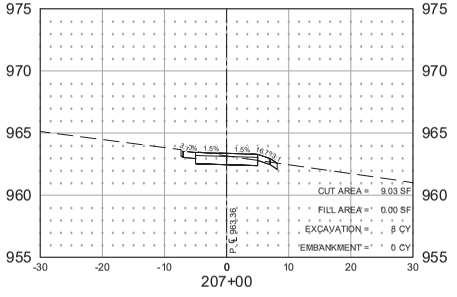
208+00



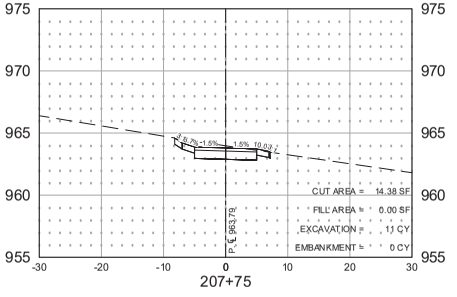
208+75



206+25



207+00



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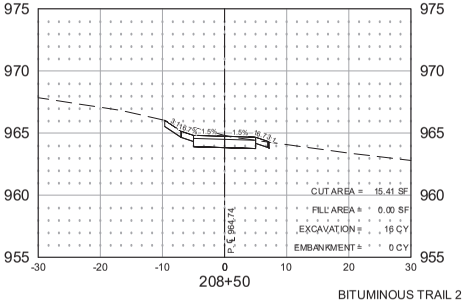
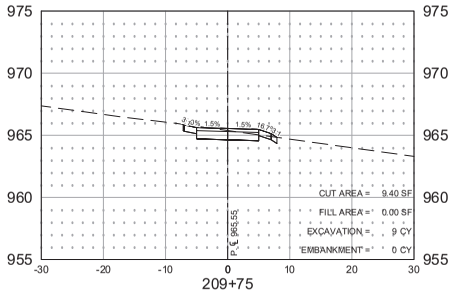
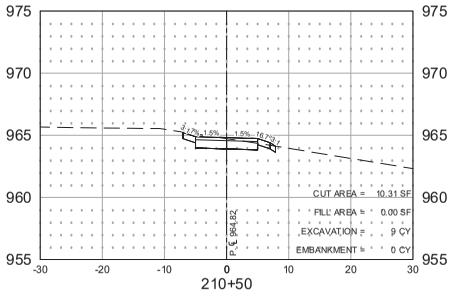


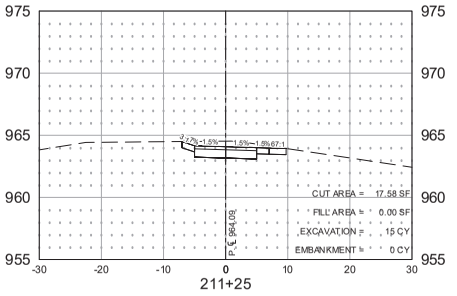
208+50

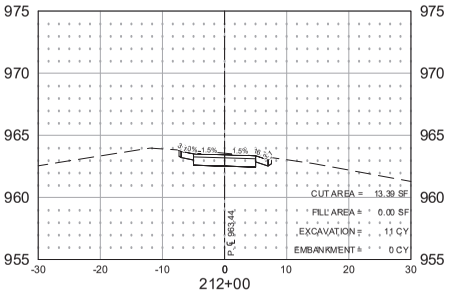
BITUMINOUS TRAIL 2
STA: 206+25 - STA: 209+00

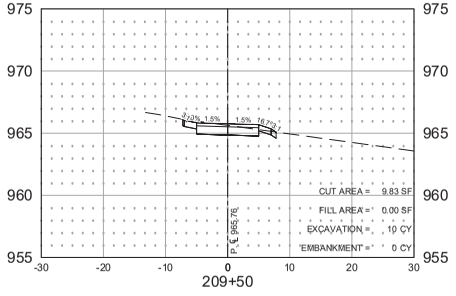
Sheet No. 49 Of 55 Sheets

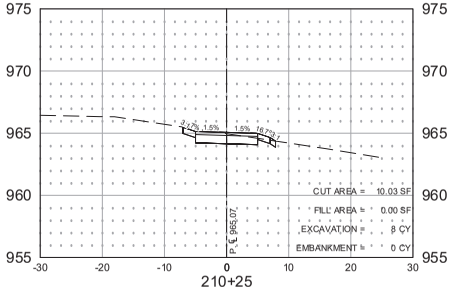


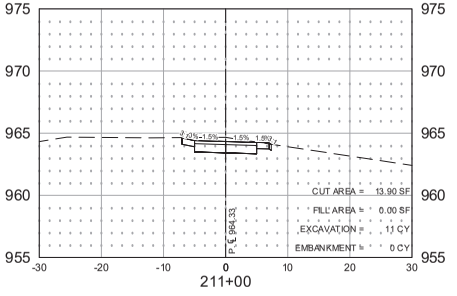


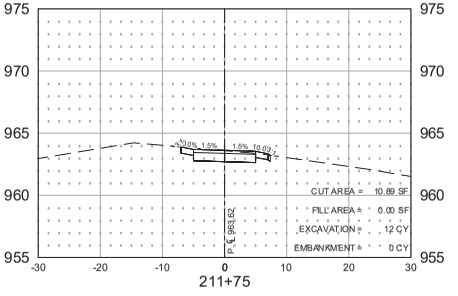


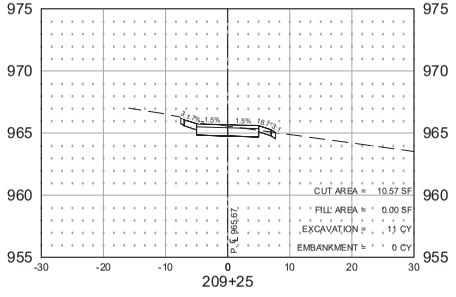


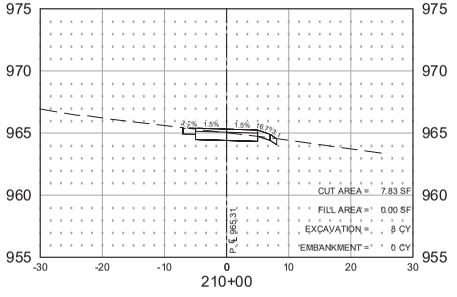


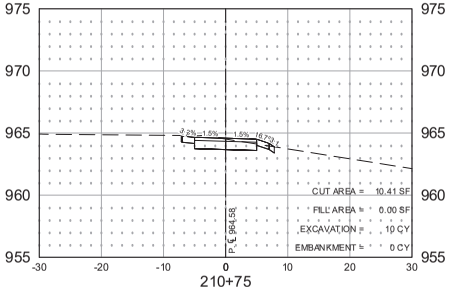


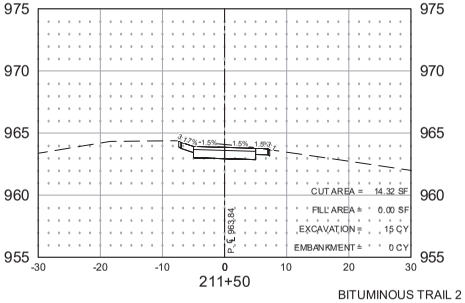






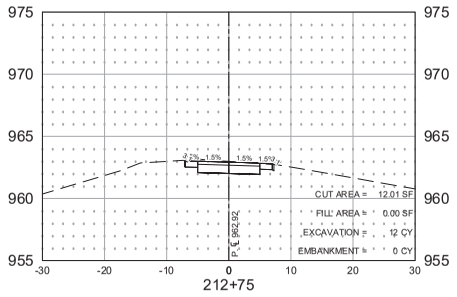




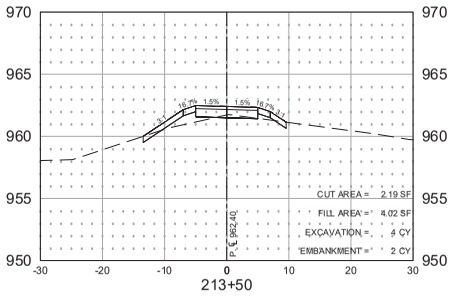


BITUMINOUS TRAIL 2
STA: 209+25 - STA: 212+00

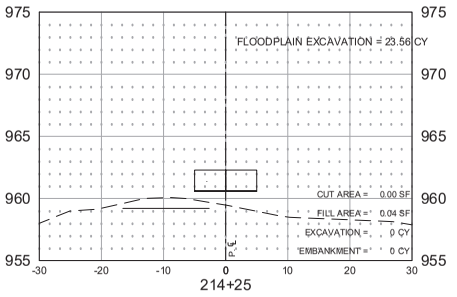
Sheet No. 50 Of 55 Sheets



212+75

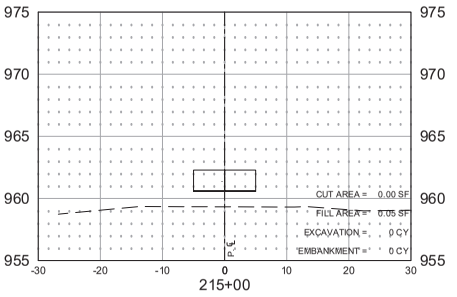


213+50



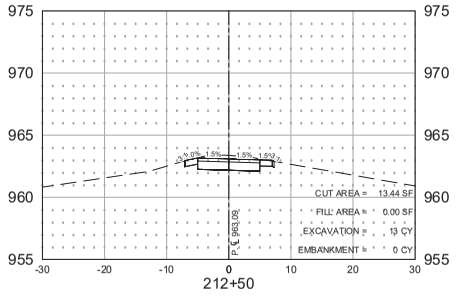
214+25

EXISTING BOARDWALK C

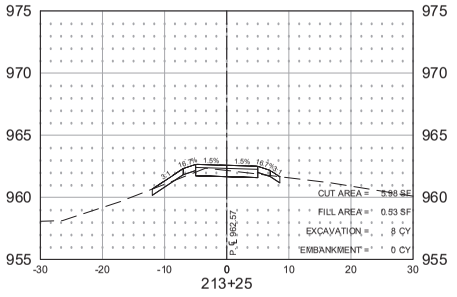


215+00

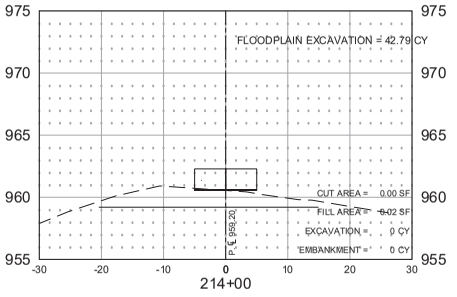
EXISTING BOARDWALK C



212+50

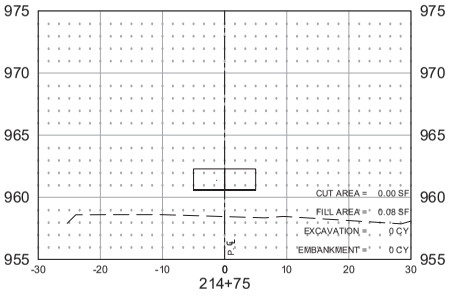


213+25



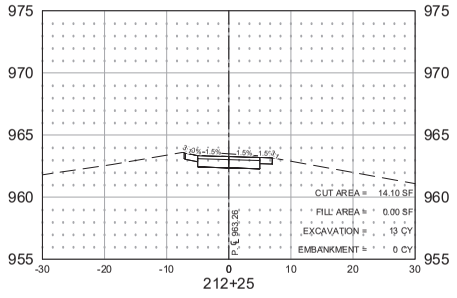
214+00

EXISTING BOARDWALK C

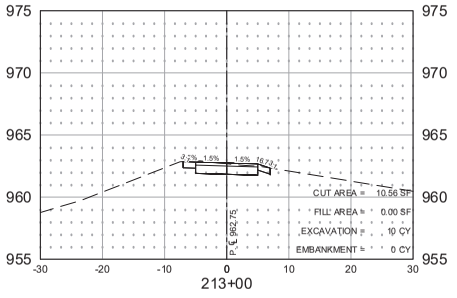


214+75

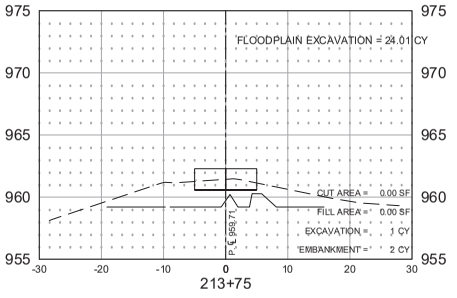
EXISTING BOARDWALK C



212+25

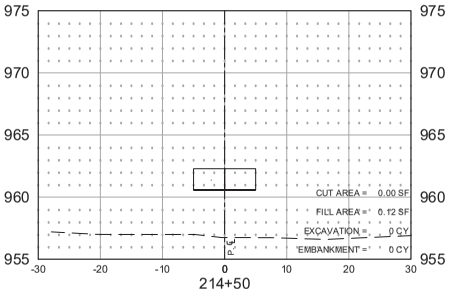


213+00



213+75

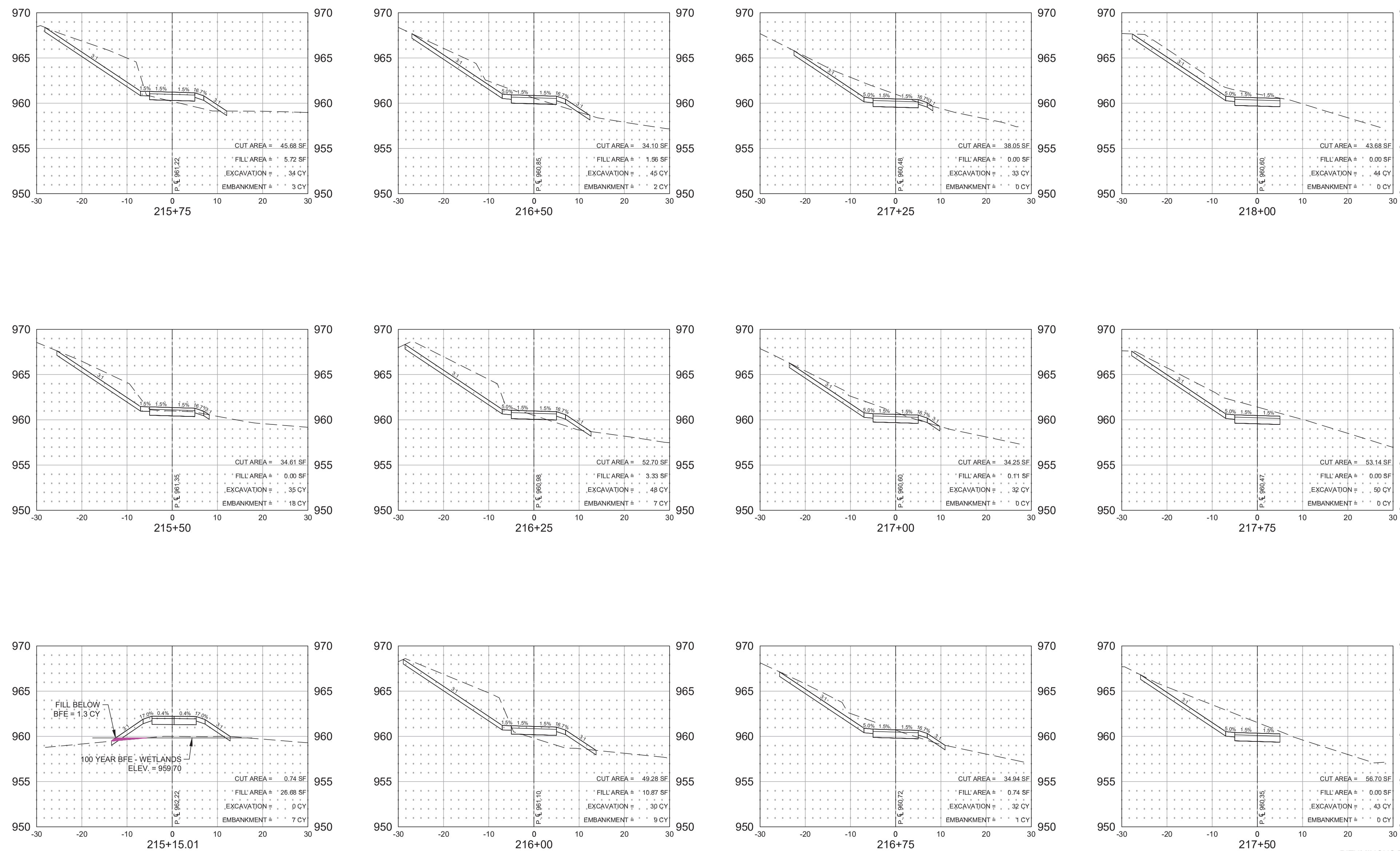
EXISTING BOARDWALK C



214+50

EXISTING BOARDWALK C

BITUMINOUS TRAIL 2
STA: 212+25 - STA: 215+00



BITUMINOUS TRAIL 2
STA: 215+25 - STA: 218+00

Sheet No. 52 Of 55 Sheets

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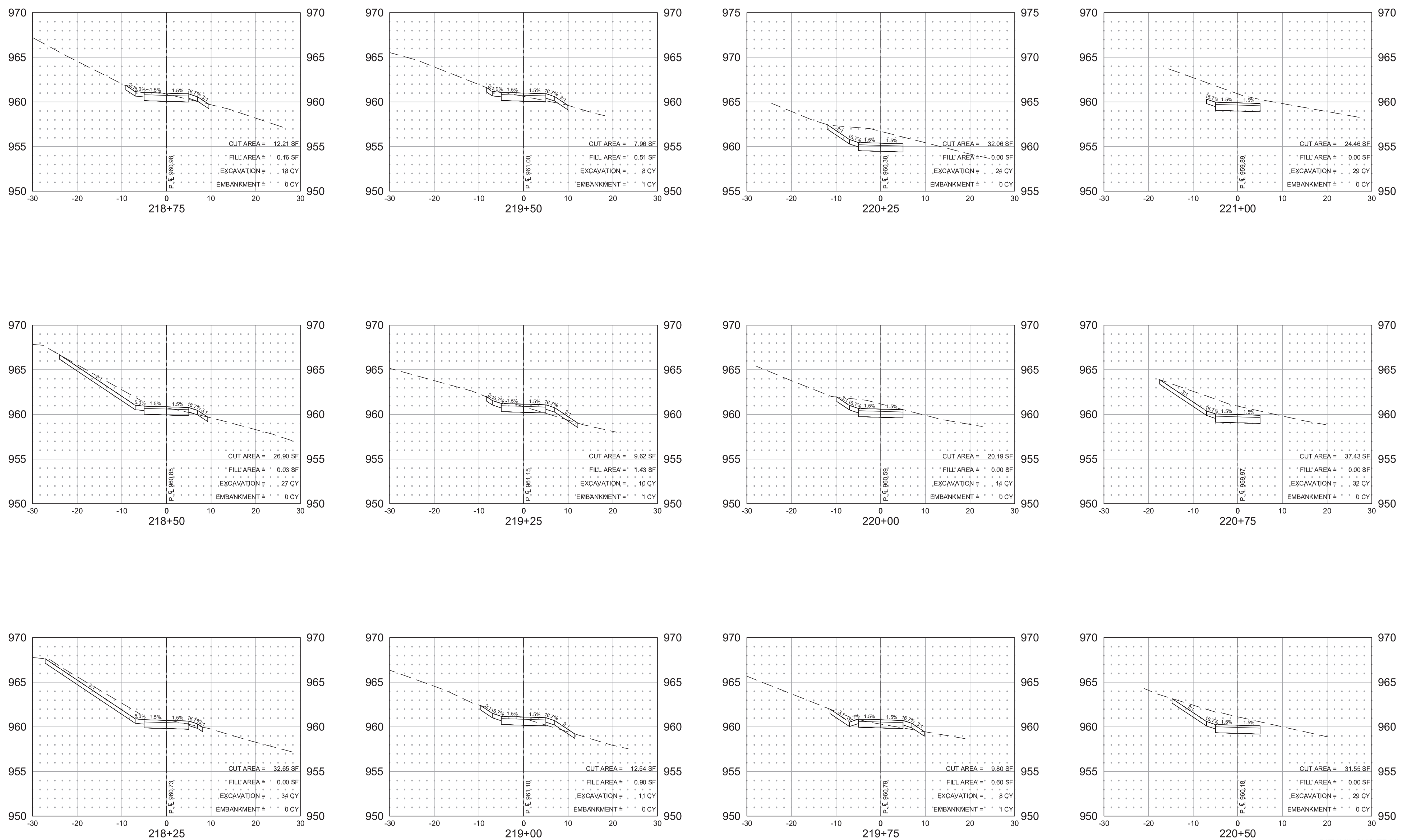

BITUMINOUS TRAIL 2
STA: 218+25 - STA: 221+00

Sheet No. 53 Of 55 Sheets

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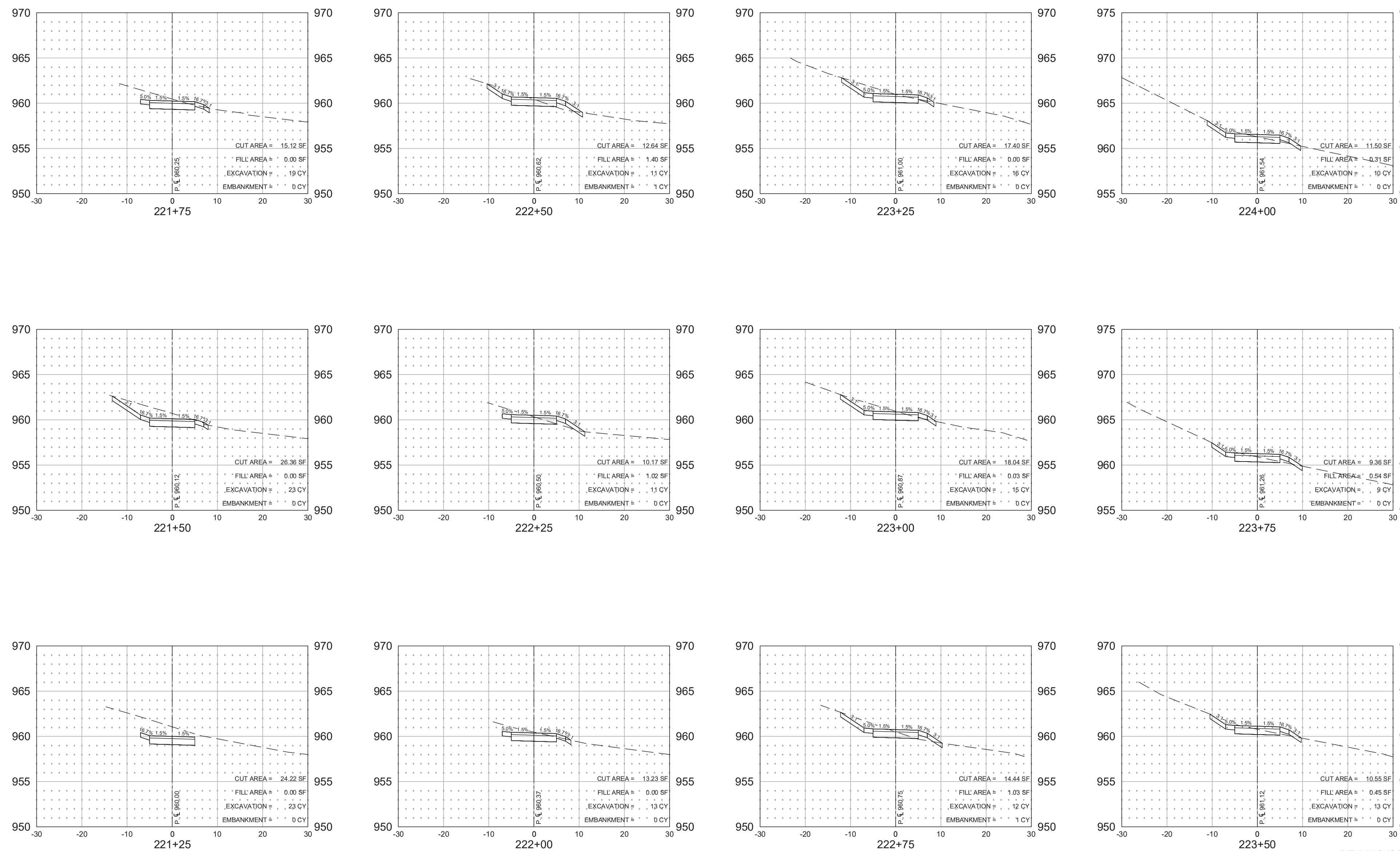

BITUMINOUS TRAIL 2
STA: 221+25 - STA: 224+00

Sheet No. 54 Of 55 Sheets

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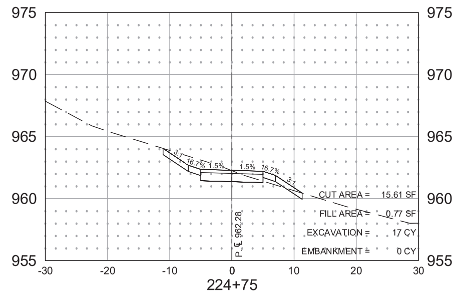
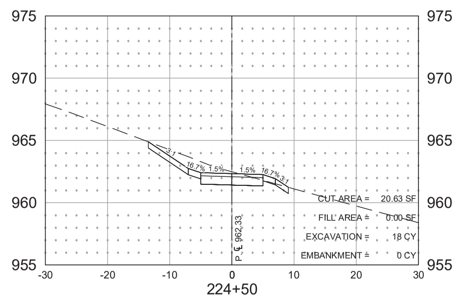
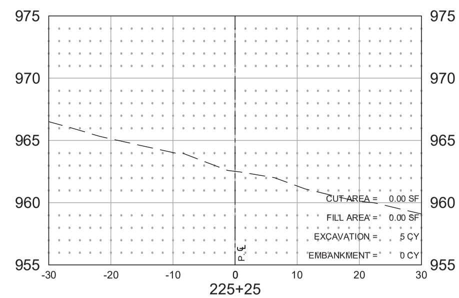
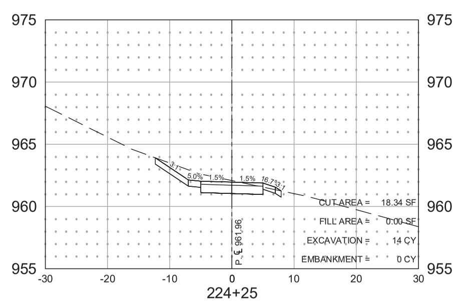
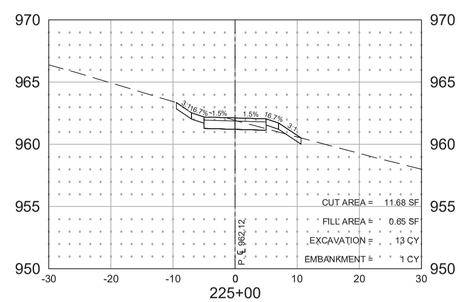










BITUMINOUS TRAIL 2
STA: 224+25 - STA: 225+25

CITY OF CHANHASSEN, MINNESOTA

CONSTRUCTION PLANS FOR

TIMBER BOARDWALKS

LAKE ANN PARK PRESERVE BOARDWALK IMPROVEMENT PROJECT

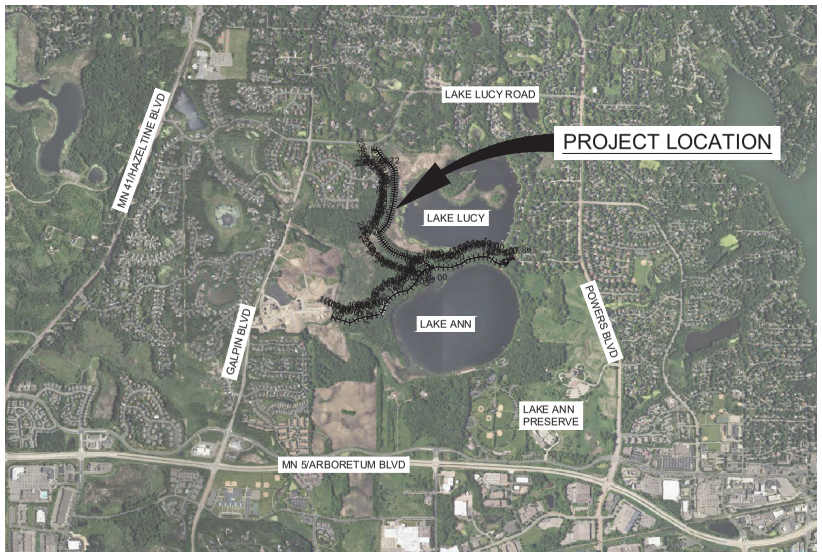
CITY PROJECT NO. P-LAPPP1

EXISTING

- RIGHT OF WAY
- PERMANENT EASEMENT
- PROPERTY LINE
- HORIZONTAL CONTROL POINT
- BENCHMARK
- SURVEY MARKER
- SOIL BORING
- SANITARY SEWER AND MANHOLE
- FORCE MAIN AND LIFT STATION
- SANITARY SEWER SERVICE & CLEANOUT
- WATER MAIN, HYDRANT, VALVE AND MANHOLE
- WATER SERVICE AND CURB STOP BOX
- STORM SEWER, MANHOLE AND CATCH BASIN
- CULVERT AND APRON ENDWALL
- GAS MAIN, VALVE, VENT AND METER
- HANDHOLE
- BURIED FIBER OPTIC CABLE AND MANHOLE
- BURIED PHONE CABLE, PEDESTAL AND MANHOLE
- BURIED TV CABLE, PEDESTAL AND MANHOLE
- BURIED ELECTRIC CABLE, PEDESTAL, MANHOLE, TRANSFORMER AND METER
- OVERHEAD WIRE, POLE AND GUY WIRE
- LIGHT POLE
- TRAFFIC SIGNAL
- STREET NAME SIGN
- SIGN (NON STREET NAME)
- RAILROAD TRACKS
- DECIDUOUS AND CONIFEROUS TREE
- BUSH / SHRUB AND STUMP
- EDGE OF WOODED AREA
- WETLAND
- BUILDING
- FENCE (UNIDENTIFIED)
- BARBED WIRE FENCE
- CHAIN LINK FENCE
- ELECTRIC WIRE FENCE
- WOOD FENCE
- WOVEN WIRE FENCE
- PLATE BEAM GUARDRAIL
- CABLE GUARDRAIL
- POST / BOLLARD
- RETAINING WALL

PROPOSED

- STREET CENTERLINE
- RIGHT-OF-WAY
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- CONSTRUCTION LIMITS
- SANITARY SEWER, BULKHEAD AND MANHOLE
- FORCE MAIN
- SANITARY SERVICE AND CLEANOUT
- WATER MAIN, TEE, HYDRANT, BULKHEAD AND VALVE
- WATER VALVE MANHOLE, REDUCER, BEND AND CROSS
- WATER SERVICE AND CURB STOP BOX
- STORM SEWER, MANHOLE AND CATCH BASIN
- CULVERT AND APRON ENDWALL
- DRAIN TILE
- DITCH / SWALE
- RIPRAP
- STREET NAME SIGN
- SIGN (NON STREET NAME)
- RETAINING WALL



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N.T.S.

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

THE CONTRACTOR SHALL CALL THE GOPHER STATE ONE CALL SYSTEM AT 811 BEFORE COMMENCING EXCAVATION.

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

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND CITY OF CHANHASSEN STANDARD SPECIFICATIONS SHALL GOVERN EXCEPT AS MODIFIED BY THE SPECIFICATIONS FOR THIS PROJECT.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

INDEX

THIS PLAN CONTAINS 15 SHEETS.

IT IS INTENDED THESE PLANS BE PRINTED IN COLOR.

PROJECT LOCATION

CITY OF CHANHASSEN, CARVER COUNTY

CHANHASSEN, MINNESOTA

SEH
PHONE: 952.912.2600
10950 RED CIRCLE DRIVE,
SUITE 500
MINNETONKA, MN 55343
www.sehinc.com

I HEREBY CERTIFY THAT THIS PLAN 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.

Signature

JENNIFER C. DESRUDE, PE

Date: 12-20-2023 Lic. No. 44581

PROJECT NO. 171844

1 of 7

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SEH Project	HOIS171884	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	to	I HEREBY CERTIFY THAT THIS PLAN 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.	LAKE ANN PARK PRESERVE BOARDWALK IMPROVEMENT PROJECT	GENERAL LAYOUT	2
Drawn By	--	.			.	90% PRELIMINARY		JENNIFER C. DESRODE, PE	CHANHASSEN, MN		of 7
Designed By	--	.			.			DATE 12-20-2023 LICENSE NO. 44581			
Checked By	--	.			.						

STATEMENT OF ESTIMATED QUANTITIES

LINE NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	ESTIMATED PROJECT TOTALS	BOARDWALK A ESTIMATED QUANTITY	BOARDWALKS B & C ESTIMATED QUANTITY
1	2021.501	MOBILIZATION	LUMP SUM	1.00	0.55	0.45
2	2101.505	CLEARING	EACH	6	0	6
3	2101.505	GRUBBING	EACH	6	0	6
4	2101.505	CLEARING	ACRE	0.52	0.03	0.49
5	2101.505	GRUBBING	ACRE	0.52	0.03	0.49
6	2104.518	REMOVE BITUMINOUS WALK	SQ YD	114	47	67
7	2105.602	POTHOLE UTILITY	EACH	3	3	0
8	2106.507	EXCAVATION - COMMON	CU YD	60	0	60
9	2106.507	COMMON EMBANKMENT (CV)	CU YD	179	15	164
10	2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	30	10	20
11	2211.509	AGGREGATE BASE CLASS 5	TON	270	49	221
12	2403.603	TIMBER BOARDWALK A	LIN FT	304.50	304.50	0.00
13	2403.603	TIMBER BOARDWALK B	LIN FT	49.50	0.00	49.50
14	2503.603	TIMBER BOARDWALK C	LIN FT	144.50	0.00	144.50
15	2452.602	HELICAL PILE LOAD TEST	EACH	5	3	2
16	2452.602	HELICAL PILING 10' LONG	EACH	66	40	26
17	2452.602	ADDITIONAL HELICAL PILE LENGTH	LIN FT	1372	700	672
18	2540.601	BENCH	EACH	2	2	0
19	2540.601	DECORATIVE EMBLEM	EACH	18	10	8
20	2563.601	TRAFFIC CONTROL	LUMP SUM	1.00	0.33	0.67
21	2573.501	STABILIZED CONSTRUCTION EXIT	EACH	3	1	2
22	2573.503	SEDIMENT CONTROL LOG TYPE COMPOST	LIN FT	5050	950	4100
23	2573.505	FLOATING SILT CURTAIN	LIN FT	200	0	200
24	2575.505	SEEDING	ACRE	1.61	0.47	1.14
25	2575.508	SEED MIXTURE 36-211	POUND	56	16	39
26	2575.508	FERTILIZER TYPE 3	POUND	321	93	228
27	2575.508	HYDRAULIC BONDED FIBER MATRIX	POUND	5618	1628	3990

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SEH Project	HOISI171884	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description
Drawn By	--	.			.	90% PRELIMINARY
Designed By	--	.			.	
Checked By	--	1	REVISED CONSTRUCTION ACCESS 2	01/05/24	.	

I HEREBY CERTIFY THAT THIS PLAN 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.

JENNIFER C. DESRIDGE, PE
DATE 12-20-2023 LICENSE NO. 44581

LAKE ANN PARK PRESERVE
BOARDWALK IMPROVEMENT PROJECT
CHANHASSEN, MN

STATEMENT OF ESTIMATED QUANTITIES

NOTES

1. CONTRACTOR SHALL PROPOSE CONSTRUCTION PHASE ORDER FOR APPROVAL BY THE ENGINEER. PHASING NEED NOT BE COMPLETED IN ORDER LISTED.
2. CHANGES TO PHASE LIMITS, ACCESS POINTS, OR OTHER PHASE SPECIFIC REQUIREMENTS SHALL BE APPROVED BY THE ENGINEER.
3. PHASES MAY BE CONSTRUCTED CONCURRENTLY WITH APPROVAL OF ENGINEER.
4. CONTRACTOR TO PROVIDE A STABILIZED CONSTRUCTION ENTRANCE/EXIT AT EACH BOARDWALK ACCESS ROUTE LOCATION. 12' WIDE X 50' LONG (MINIMUM). MINIMIZED SOIL BEING TRACKED ONTO LOCAL STREETS.
5. TEMPORARY MATS TO BE PLACED AS NECESSARY IF BOARDWALK CONSTRUCTION OCCURS OUTSIDE OF WINTER MONTHS.
6. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT BOARDWALKS AND EXISTING TRAILS BEING USED FOR ACCESS AND HAULING EQUIPMENT AND MATERIALS. ANY AND ALL REPAIRS NECESSARY TO RETURN BOARDWALKS AND EXISTING TRAILS TO ACCEPTABLE CONDITION, AS DETERMINED BY THE ENGINEER, SHALL BE CONSIDERED INCIDENTAL.
7. ACCESS AND BUILD BOARDWALKS FROM ONE SIDE OF BOARDWALK TO MINIMIZE IMPACTS. CONTRACTOR TO KEEP ALL EQUIPMENT AND MATERIALS WITHIN 30' OF CENTERLINE OF BOARDWALK.
8. PROVIDE CONSTRUCTION FENCING BEHIND BARRICADES AT ALL TRAIL CLOSURE LOCATIONS.

PROJECT PHASING

BOARDWALK A
1. ACCESS PROVIDED THROUGH CONSTRUCTION ACCESS 1.
2. CONSTRUCT BOARDWALK A.
3. CONTRACTOR TO PROTECT MCES SANITARY SEWER STRUCTURES ON SOUTH SIDE OF BOARDWALK AND PIPE.

BOARDWALK B
1. ACCESS PROVIDED THROUGH CONSTRUCTION ACCESS 2. CONTRACTOR TO UTILIZE EXISTING CLEARING IN TREES. FIELD VERIFY LOCATION WITH ENGINEER.
2. CONSTRUCT BOARDWALK B.
3. CONTRACTOR TO INSTALL AND REMOVE TEMPORARY STREAM CROSSING (INCIDENTAL).
4. CLOSE EXISTING TRAIL AT GREENWOOD SHORES PARK.

BOARDWALK C
1. ACCESS PROVIDED THROUGH CONSTRUCTION ACCESS 3.
2. CONSTRUCT BOARDWALK C.

CONSTRUCTION ACCESS 3
LAKE LUCY
BOARDWALK C
CONSTRUCTION ACCESS 2
BOARDWALK B
GREENWOOD SHORES PARK
LAKE ANN
CONSTRUCTION ACCESS 1
BOARDWALK A
RIM 970.42
WET

N
200 0 200 400
scale 1:00 feet

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SEH Project	HOISI171884	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	
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Designed By	--	.			.		
Checked By	--	1	REVISED CONSTRUCTION ACCESS 2	01/05/24			

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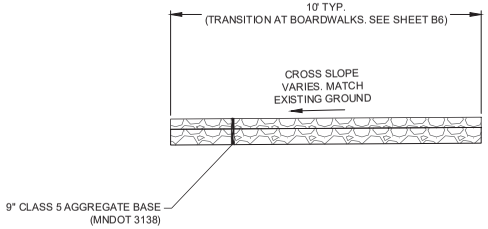
JENNIFER C. DESRODE, PE
DATE 12-20-2023 LICENSE NO. 44581

LAKE ANN PARK PRESERVE
BOARDWALK IMPROVEMENT PROJECT
CHANHASSEN, MN

CONSTRUCTION ACCESS PLAN

4 of 7



NON-PAVED TRAIL TYPICAL

BOARDWALK APPROACHES

BOARDWALKS

SEE SHEET B4 FOR BOARDWALK TYPICAL SECTIONS

SEH Project	HOIS171884	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	to	I HEREBY CERTIFY THAT THIS PLAN 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.	LAKE ANN PARK PRESERVE BOARDWALK IMPROVEMENT PROJECT CHANHASSEN, MN	TYPICAL SECTIONS	5
Drawn By	--	.			.	90% PRELIMINARY		JENNIFER C. DESRIDE, PE			of 7
Designed By	--	.			.			DATE 12-20-2023 LICENSE NO. 44581			
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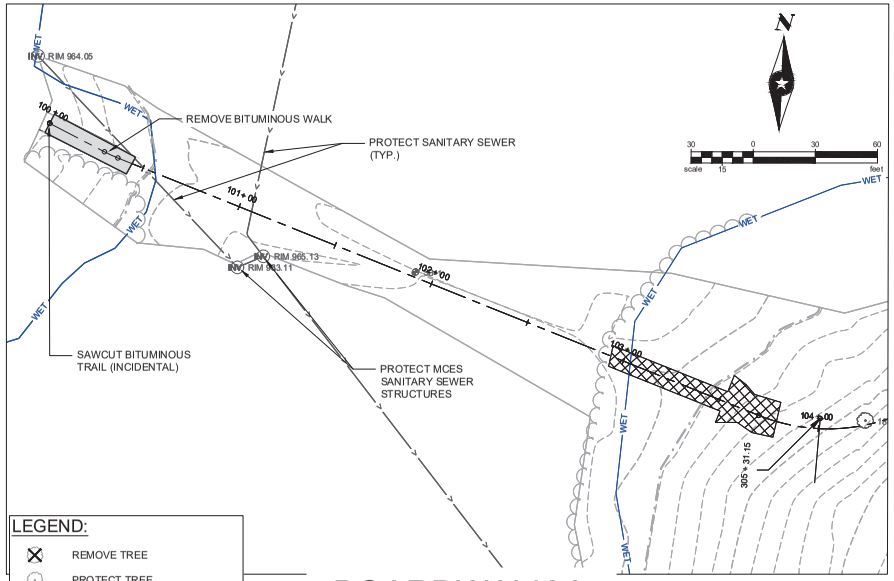
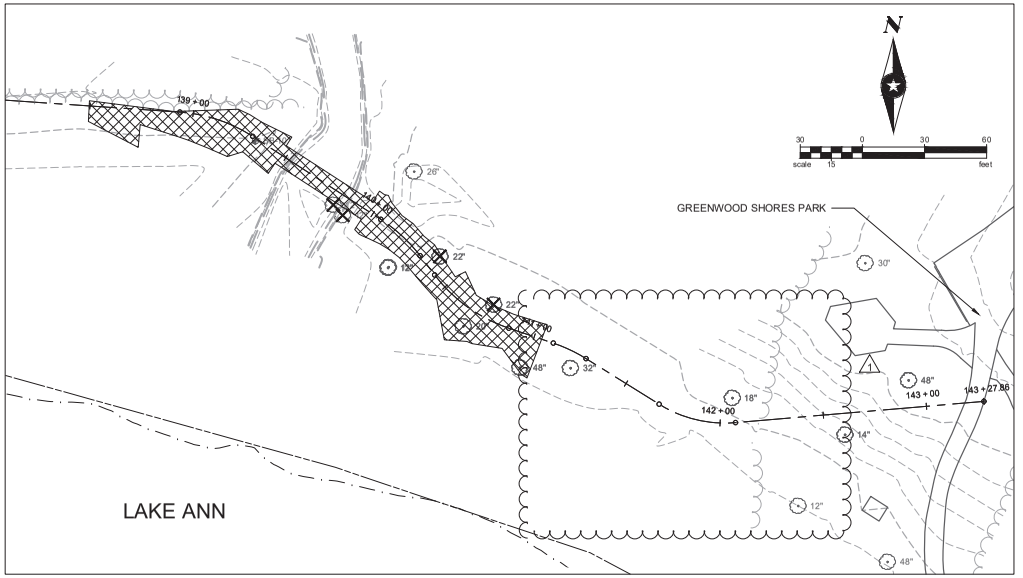


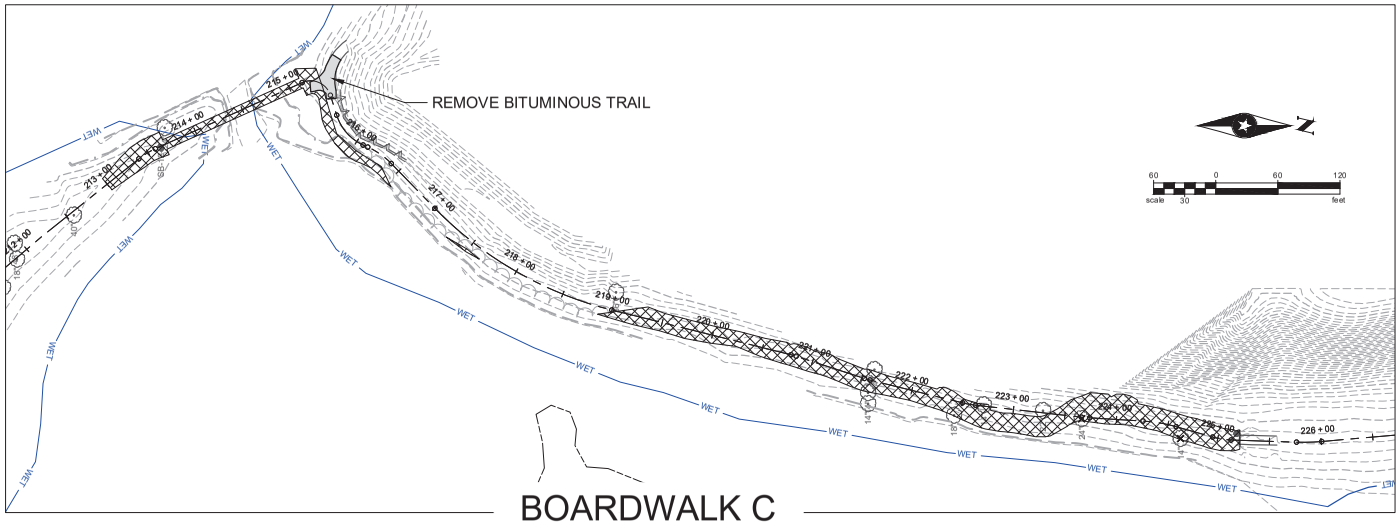
BOARDWALK A



BOARDWALK B

LEGEND:

- REMOVE TREE
- PROTECT TREE
- CLEARING AND GRUBBING



BOARDWALK C

NOTES:

CENTER OF TREE SYMBOLS ARE LOCATED AT BASE OF TRUNK NEAREST THE PROPOSED TRAIL

SEH Project	HOISI171884	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description		LAKE ANN PARK PRESERVE BOARDWALK IMPROVEMENT PROJECT CHANHASSEN, MN	REMOVAL PLANS	6
Drawn By	--	.			.	90% PRELIMINARY				of 7
Designed By	--	.			.					
Checked By	--	1	REVISED CONSTRUCTION ACCESS 2	01/05/24	.					

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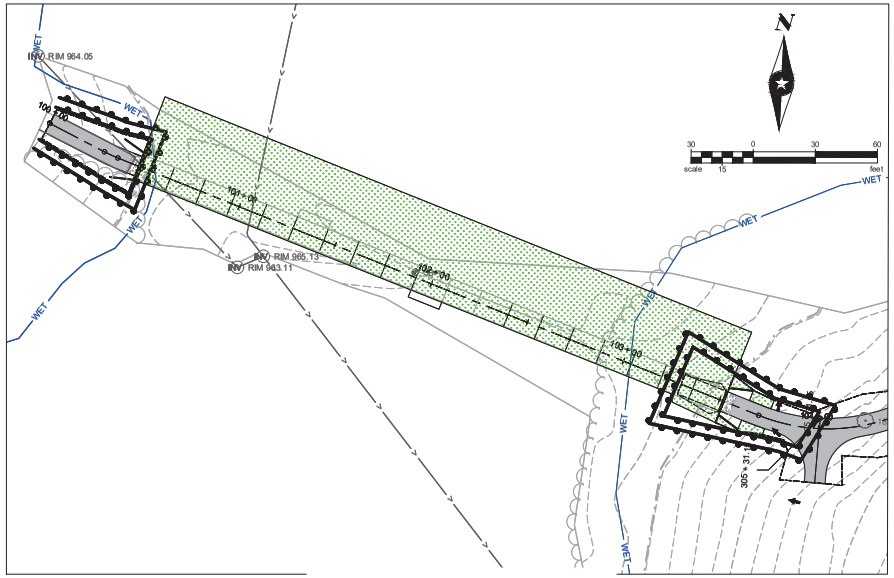
JENNIFER C. DESRIDE, PE
DATE 12-20-2023 LICENSE NO. 44581



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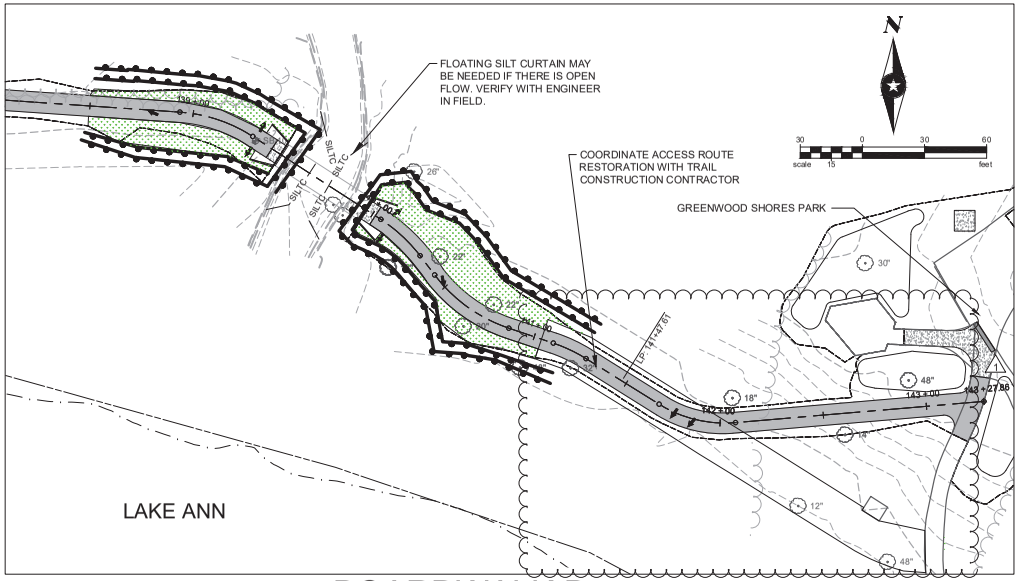
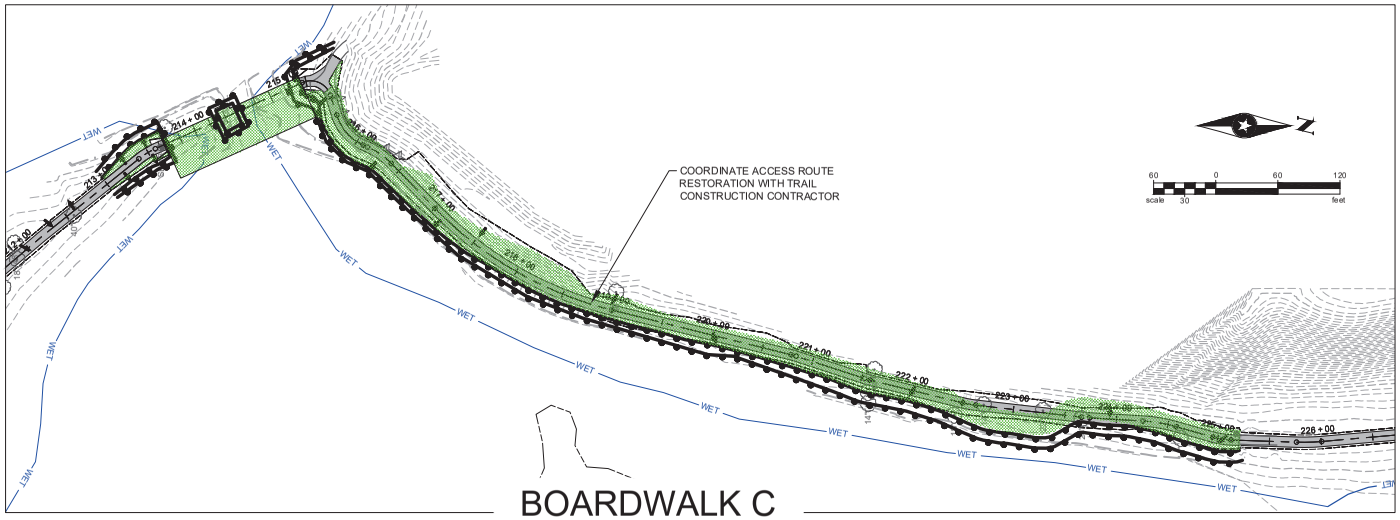


BOARDWALK B



BOARDWALK C

LEGEND:

- DRAINAGE DIRECTION
- BIO ROLLS
- CONSTRUCTION LIMITS
- 6" TOP SOIL MNDOT SEED MIXTURE 36-211 HYDROSEED

3

NOTES:

A. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE.
B. ADDITIONAL MEASURES, SUCH AS HYDRAULIC MULCHING AND OTHER PRACTICES AS SPECIFIED BY THE DISTRICT MUST BE USED ON SLOPES OF 3:1 (H:V) OR STEEPER TO PROVIDE ADEQUATE STABILIZATION.
C. 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.
D. CONSTRUCTION SITE WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE MUST BE PROPERLY MANAGED.
E. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE DISTRICT.
F. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS MUST BE REMOVED UPON FINAL STABILIZATION.
G. 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 UTILITIES, TREE ROOTS, AND OTHER EXISTING VEGETATION.
H. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 7 CALENDAR DAYS AFTER LAND-DISTURBING WORK HAS TEMPORARILY OR PERMANENTLY CEASED ON A PROPERTY THAT DRAINS TO AN IMPAIRED WATER, WITHIN 14 DAYS ELSEWHERE.
I. THE PERMITTEE 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 ACTIVITY 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.
J. ACTIVITIES MUST BE CONDUCTED SO AS TO MINIMIZE THE POTENTIAL TRANSFER OF AQUATIC INVASIVE SPECIES (E.G., ZEBRA MUSSELS, EURASIAN WATERMILFOIL, ETC.) TO THE MAXIMUM EXTENT POSSIBLE.

SEH Project	HOISI171884
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Designed By	--
Checked By	--

Rev.#	Revision Issue Description	Date
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3	SUPPLEMENTAL WATERSHED DISTRIC INFO	01/16/24
1	REVISED CONSTRUCTION ACCESS 2	01/05/24

Rev.#	Revision Issue Description
.	90% PRELIMINARY

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JENNIFER C. DESRODE, PE
DATE 12-20-2023 LICENSE NO. 44581

LAKE ANN PARK PRESERVE
BOARDWALK IMPROVEMENT PROJECT
CHANHASSEN, MN

EROSION CONTROL AND TURF ESTABLISHMENT

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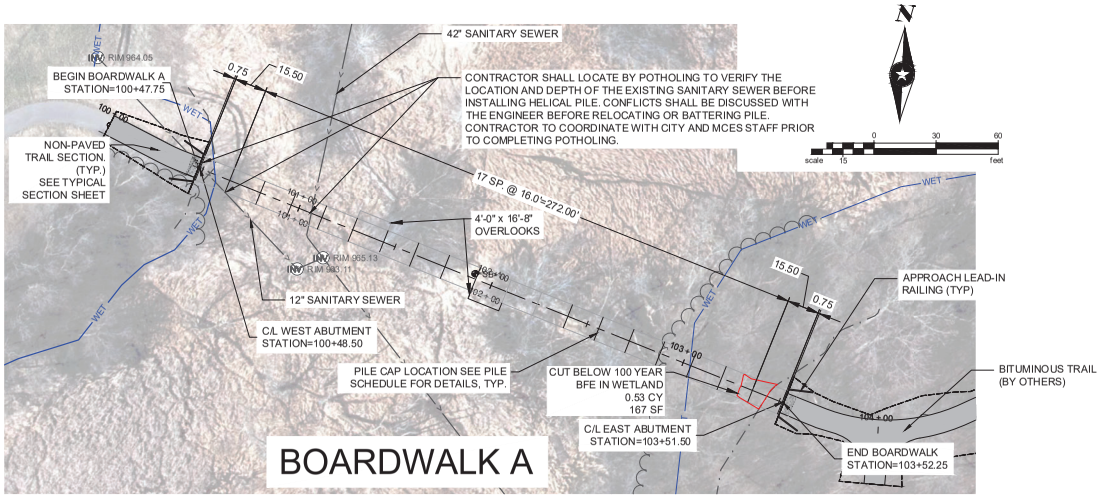

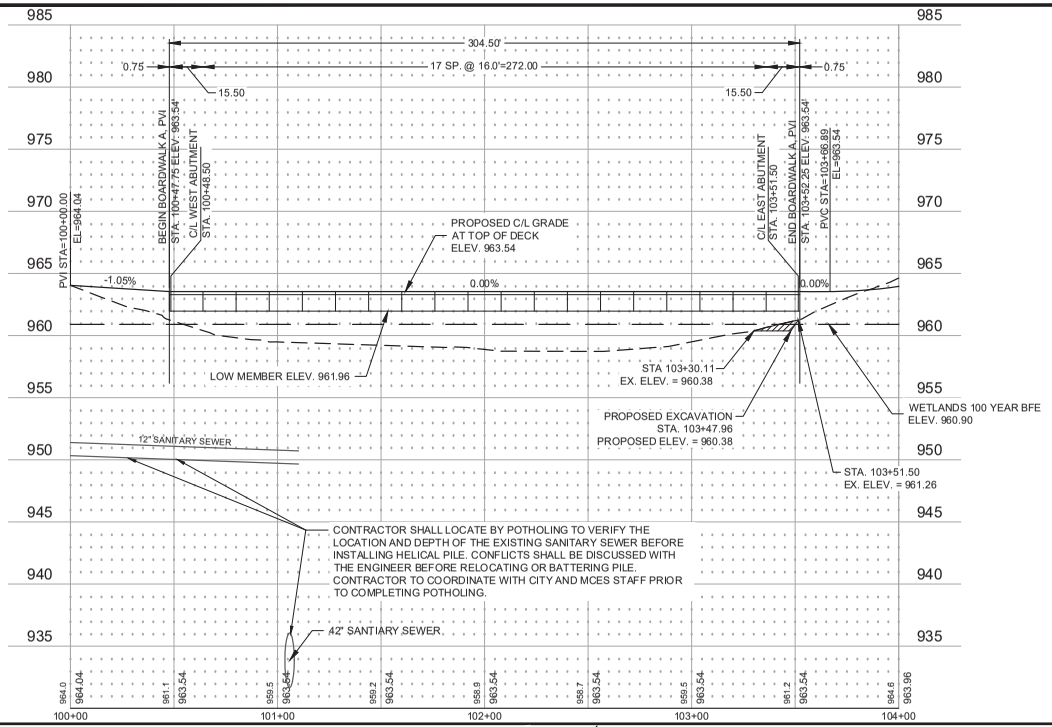

DESIGN DATA

2020 AND CURRENT INTERIM A.A.S.H.T.O. LRFD BRIDGE DESIGN SPECIFICATIONS AND 2009 LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES.

LOAD AND RESISTANCE FACTOR DESIGN METHOD.

DESIGN LOADING: PEDESTRIAN LOADING 90 PSF OR BOARDWALK A & C 20,000 POUND VEHICLE LIVE LOAD (H10 TRUCK), BOARDWALK B 72,000 POUND VEHICLE LIVE LOAD (HS20 TRUCK)

DESIGN SPEED 20 MPH.

APPROX. DECK AREA: BRIDGE A 3,787 SQ. FT.
BRIDGE B 594 SQ. FT.
BRIDGE C 1,734 SQ. FT.

MATERIALS:
STRUCTURAL STEEL SHALL BE MNDOT 3310 CONFORMING TO ASTM A709 GRD 50, HOT-DIP GALVANIZED IN ACCORDANCE WITH MNDOT 3394.

TIMBER MATERIALS AND TREATMENT SHALL BE:

ITEM	DESCRIPTION
STRINGERS, DIAPHRAGMS PILE CAP	DOUGLAS FIR, SELECT STR, ROUGH SAWN, Fb=1,500 PSI COPPER AZOLE (CA-C), COPPER NAPHTHENATE (CU-NAP), AMMONIACAL COPPER ZINC ARSENATE (ACZA), ACQ OR MCA WITH RETENTION FOR USE CATEGORY - UC4C(GROUND CONTACT, CRITICAL STRUCTURAL COMPONENTS). DOUGLAS FIR SHALL BE INCISED.
DECK PLANKING & ABUTMENT BACKING PLANK	DOUGLAS FIR NO. 1 & BETTER, S4S Fb=1,200 PSI TREATMENT SAME AS ABOVE
RAIL POST, RAILS & POST SPACER BLOCK	SOUTHERN YELLOW PINE OR DOUGLAS FIR NO. 2 OR BETTER, S4S Fb=850 PSI TREATMENT SAME AS ABOVE BUT WITH RETENTION USE CATEGORY - UC3 (EXTERIOR ABOVE GROUND)
TOP RAIL CAP	SOLID COMPOSITE (IE TREX) OR TROPICAL HARDWOOD (IE IPE OR CUMARU)

CONSTRUCTION NOTES

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION."

SHEET INDEX

BRIDGE NOS. A, B,& C.

LOCATED IN THE CITY OF CHANHASSEN BETWEEN LAKE ANN AND LAKE LUCY, TIMBER BEAMS, 16' SPANS, 12' WIDE TRAIL, PEDESTRIAN RAILING, 0°00'00" SKEW, IDENTIFICATION NO. 301 & 701

GENERAL PLAN AND ELEVATION

SEC. 10 T 116 N R 23 W
CITY: CHANHASSEN COUNTY: CARVER

SEH Project HOISI171884
Drawn By --
Designed By --
Checked By --

Revision Issue Description | Date | Rev.# | Revision Issue Description | te
90% PRELIMINARY

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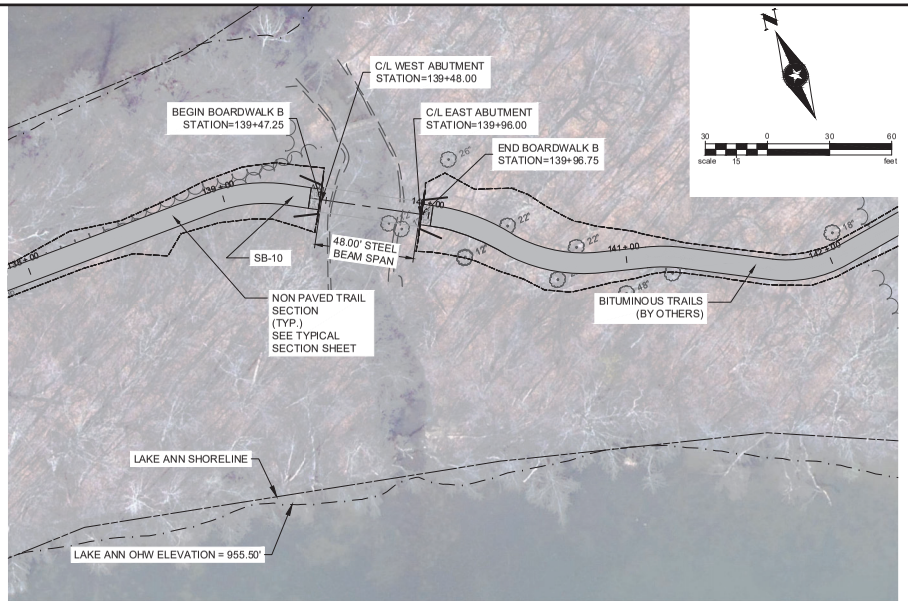
JEFF A. JOHNSON, PE
DATE 12-20-2023 LICENSE NO. 17280

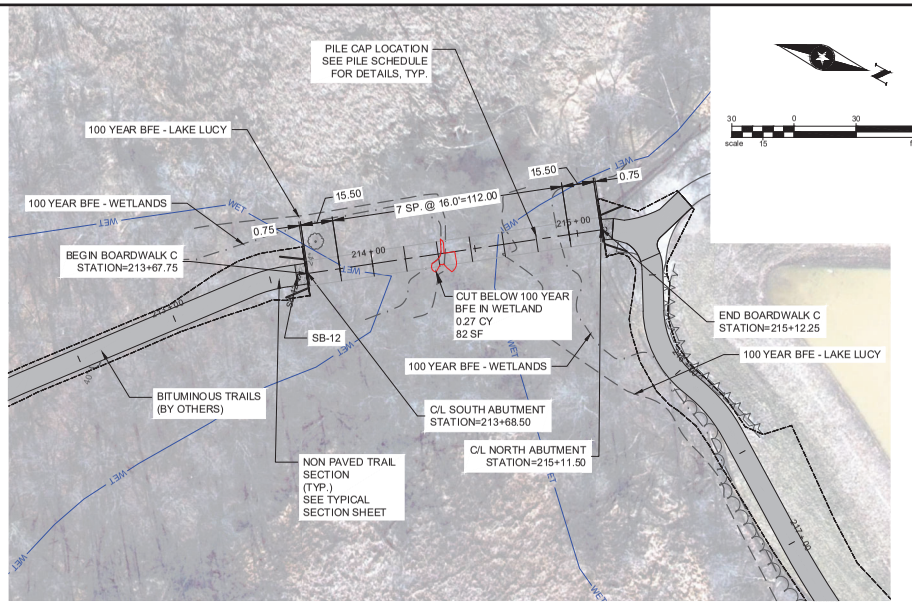
LAKE ANN PARK PRESERVE
BOARDWALK IMPROVEMENT PROJECT
CHANHASSEN, MN

BOARDWALK A PLAN AND PROFILE

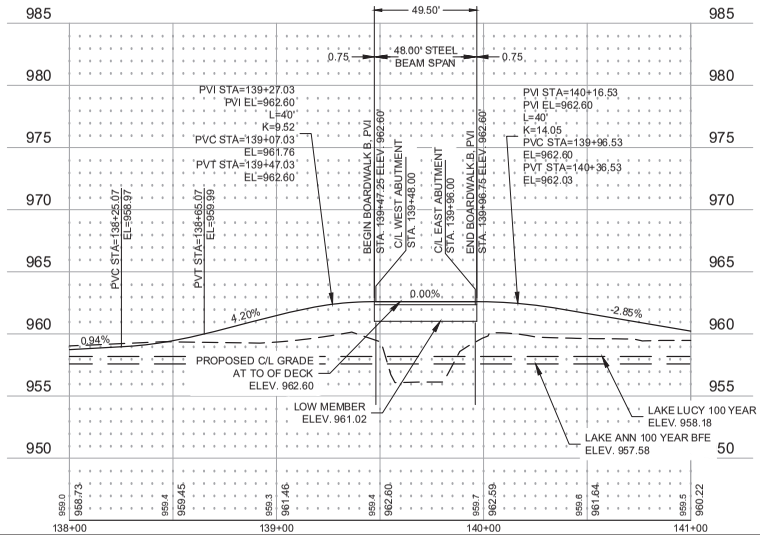
B1 of B7

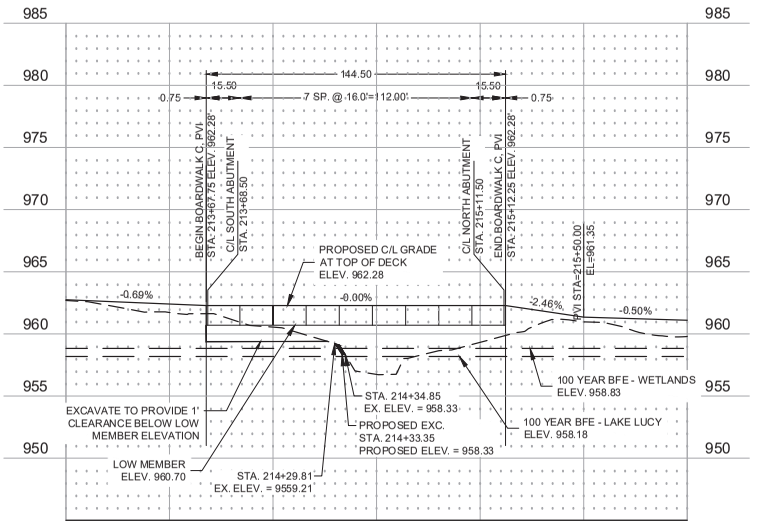


BOARDWALK B



BOARDWALK C





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JEFF A. JOHNSON, PE
DATE 12-20-2023 LICENSE NO. 17280

LAKE ANN PARK PRESERVE BOARDWALK IMPROVEMENT PROJECT

CHANHASSEN, MN

BOARDWALK B & C PLAN AND PROFILE

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BOARDWALK A SUBSTRUCTURE LAYOUT AND PILE SCHEDULE

SUBSTRUCTURE NUMBER	STA.	CENTER OF SUBSTRUCTURE X	CENTER OF SUBSTRUCTURE Y	DECK EL.	ESTIMATED PILE TIP EL.	HELICAL PILING 10 LONG [EA]	LATERAL BRACING REQUIRED	ADDITIONAL HELICAL PILING LENGTH PER PILE [LF]	TOTAL ADDITIONAL HELICAL LENGTH PER LOCATION	HELIX PLATE SIZES [IN]	MINIMUM MOMENT OF INERTIA [IN^4]	DESCRIPTION	
1	100+48.50	550,993.78	184,561.69	963.54	935.96	2		15.00	30.00	8-10-12	1.83	WEST ABUTMENT	
2	100+64.00	551,008.47	184,556.73	963.54	935.70	2	X	15.25	30.50	8-10-12	1.83	TEST PILE	(5)
3	100+80.00	551,023.63	184,551.61	963.54	935.44	2	X	15.52	31.04	8-10-12	1.83		
4	100+96.00	551,038.79	184,546.49	963.54	935.18	2	X	15.78	31.56	8-10-12	1.83		
5	101+12.00	551,053.95	184,541.37	963.54	934.91	2	X	16.04	32.08	8-10-12	1.83		
6	101+28.00	551,069.11	184,536.26	963.54	934.65	2	X	16.31	32.62	8-10-12	1.83	BEGIN OVERLOOK LEFT	
7	101+44.00	551,084.27	184,531.14	963.54	934.38	2	X	16.57	33.14	8-10-12	1.83	END OVERLOOK LEFT	
8	101+60.00	551,099.42	184,526.02	963.54	934.12	2	X	16.84	33.68	8-10-12	1.83		
9	101+76.00	551,114.58	184,520.90	963.54	933.86	2	X	17.10	34.20	8-10-12	1.83	TEST PILE	(5)
10	101+92.00	551,129.74	184,515.78	963.54	933.59	2	X	17.36	34.72	8-10-12	1.83	BEGIN OVERLOOK RIGHT	
11	102+08.00	551,144.90	184,510.66	963.54	933.33	2	X	17.63	35.26	8-10-12	1.83	END OVERLOOK RIGHT	
12	102+24.00	551,160.06	184,505.54	963.54	933.06	2	X	17.89	35.78	8-10-12	1.83		
13	102+40.00	551,175.22	184,500.43	963.54	932.80	2	X	18.16	36.32	8-10-12	1.83		
14	102+56.00	551,190.38	184,495.31	963.54	932.54	2	X	18.42	36.84	8-10-12	1.83		
15	102+72.00	551,205.54	184,490.19	963.54	932.27	2	X	18.68	37.36	8-10-12	1.83		
16	102+88.00	551,220.70	184,485.07	963.54	932.01	2	X	18.95	37.90	8-10-12	1.83		
17	103+04.00	551,235.86	184,479.95	963.54	931.74	2	X	19.21	38.42	8-10-12	1.83		
18	103+20.00	551,251.02	184,474.83	963.54	931.48	2	X	19.48	38.96	8-10-12	1.83		
19	103+36.00	551,266.18	184,469.72	963.54	931.22	2	X	19.74	39.48	8-10-12	1.83	TEST PILE	(5)
20	103+51.50	551,280.86	184,464.76	963.54	930.96	2		20.00	40.00	8-10-12	1.83	EAST ABUTMENT	
					TOTAL:	40			TOTAL:	700			

BOARDWALK B SUBSTRUCTURE LAYOUT AND PILE SCHEDULE **NOTE STEEL STRINGERS AND 3 PILE AT EACH ABUTMENT THIS BOARDWALK**

SUBSTRUCTURE NUMBER	STA.	CENTER OF SUBSTRUCTURE X	CENTER OF SUBSTRUCTURE Y	DECK EL.	ESTIMATED PILE TIP EL.	HELICAL PILING 10 LONG [EA]	LATERAL BRACING REQUIRED	ADDITIONAL HELICAL PILING LENGTH PER PILE [LF]	TOTAL ADDITIONAL HELICAL LENGTH PER LOCATION	HELIX PLATE SIZES [IN]	MINIMUM MOMENT OF INERTIA [IN^4]	DESCRIPTION	
30	139+48.00	554,318.78	185,829.99	962.60	938.02	3		12.00	36.00	8-10-12	1.83	WEST ABUTMENT, BEGIN STEEL SPAN	
31	139+96.00	554,359.09	185,803.93	962.60	938.02	3		12.00	36.00	8-10-12	1.83	EAST ABUTMENT, END STEEL SPAN, TEST PILE	(5)
					TOTAL:	6			TOTAL:	72			

BOARDWALK C SUBSTRUCTURE LAYOUT AND PILE SCHEDULE

SUBSTRUCTURE NUMBER	STA.	CENTER OF SUBSTRUCTURE X	CENTER OF SUBSTRUCTURE Y	DECK EL.	ESTIMATED PILE TIP EL.	HELICAL PILING 10 LONG [EA]	LATERAL BRACING REQUIRED	ADDITIONAL HELICAL PILING LENGTH PER PILE [LF]	TOTAL ADDITIONAL HELICAL LENGTH PER LOCATION	HELIX PLATE SIZES [IN]	MINIMUM MOMENT OF INERTIA [IN^4]	DESCRIPTION	
40	213+68.50	552,003.49	186,224.76	962.28	919.70	2		30.00	60.00	8-10-12	1.83	SOUTH ABUTMENT	
41	213+84.00	551,997.09	186,238.88	962.28	919.70	2		30.00	60.00	8-10-12	1.83		
42	214+00.00	551,990.48	186,253.45	962.28	919.70	2		30.00	60.00	8-10-12	1.83		
43	214+16.00	551,983.88	186,268.02	962.28	919.70	2		30.00	60.00	8-10-12	1.83		
44	214+32.00	551,977.27	186,282.59	962.28	919.70	2	X	30.00	60.00	8-10-12	1.83		
45	214+48.00	551,970.66	186,297.17	962.28	919.70	2	X	30.00	60.00	8-10-12	1.83		
46	214+64.00	551,964.05	186,311.74	962.28	919.70	2	X	30.00	60.00	8-10-12	1.83		
47	214+80.00	551,957.44	186,326.31	962.28	919.70	2	X	30.00	60.00	8-10-12	1.83	TEST PILE	(5)
48	214+96.00	551,950.84	186,340.88	962.28	919.70	2	X	30.00	60.00	8-10-12	1.83		
49	215+11.50	551,944.43	186,355.00	962.28	919.70	2		30.00	60.00	8-10-12	1.83	NORTH ABUTMENT	
					TOTAL:	20			TOTAL:	600			

SCHEDULE OF QUANTITIES FOR BOARDWALK A

	ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY
(4)	2403.603	TIMBER BOARDWALK	LIN. FT.	304.5
(5)	2452.602	HELICAL PILE LOAD TEST	EACH	3
(1)(2)(3)	2452.602	HELICAL PILING 10' LONG	EACH	40
(2)(3)	2452.603	ADDITIONAL HELICAL PILING LENGTH	LIN. FT.	700

SCHEDULE OF QUANTITIES FOR BOARDWALK B

	ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY
(4)	2403.603	TIMBER BOARDWALK	LIN. FT.	49.5
(5)	2452.602	HELICAL PILE LOAD TEST	EACH	1
(1)(2)(3)	2452.602	HELICAL PILING 10' LONG	EACH	6
(2)(3)	2452.603	ADDITIONAL HELICAL PILING LENGTH	LIN. FT.	72

SCHEDULE OF QUANTITIES FOR BOARDWALK C

	ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY
(4)	2403.603	TIMBER BOARDWALK	LIN. FT.	144.5
(5)	2452.602	HELICAL PILE LOAD TEST	EACH	1
(1)(2)(3)	2452.602	HELICAL PILING 10' LONG	EACH	20
(2)(3)	2452.603	ADDITIONAL HELICAL PILING LENGTH	LIN. FT.	600

(1) EACH PILE INCLUDES:
- 10' LONG HELICAL PILE
- TOP SUPPORT BRACKET WITH DIAGONAL BRACING
- HARDWARE

(2) MINIMUM WALL THICKNESS 0.250"

(3) PILE DIAMETER AND HELICAL PLATE SIZE VARIES. SEE PILE TABLE IN THESE PLANS FOR REQUIRE MIN. MOMENT OF INERTIA AND HELICAL PLATE SIZE.

(4) TIMBER BOARDWALK ITEM INCLUDES RAILING, LEAD-IN RAILING, BOARDWALK END MARKER AND LOAD LIMIT SIGNS. CONTRACTOR TO PROVIDE EXTRA BOX OF SCREWS FOR DECK AND RAILING AND 2 - 48"x120" MIN. WIRE MESH PANELS. (INCIDENTAL)

(5) ONLY ONE PILE AT LOCATION NOTED REQUIRED TO BE TESTED. IF A PRODUCTION PILE IS USED FOR THE TEST PILE, PAYMENT FOR THE HELICAL PILE AND ADDITIONAL LENGTH WOULD BE INCLUDED IN "HELICAL PILING 10' LONG" AND "ADDITIONAL HELICAL PILING LENGTH."

CONSTRUCTION NOTES:

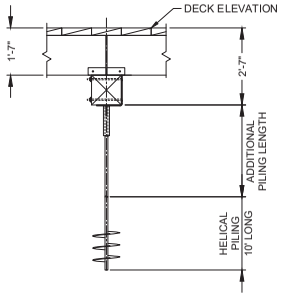
ALL DRILLING AND CUTTING OF TIMBER EXCEEDING 2" IN THICKNESS SHALL BE COMPLETED BEFORE PRESSURE TREATMENT UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

ALL TIMBER IS TO BE PRESSURE TREATED (SEE SPECIAL PROVISIONS.)

STEEL BEAMS, HELICAL PILING, SUPPORT BRACKET AND BRACING, AND ALL ASSOCIATED HARDWARE IS TO BE GALVANIZED PER MNDOT 3391, 3392, AND 3394.

HELICAL PILING - SEE SPECIAL PROVISIONS.

TIMBER CONSTRUCTION REQUIREMENTS SHALL CONFORM TO MNDOT 2403 EXCEPT AS NOTED IN SPECIAL PROVISIONS.



COMPUTED VERTICAL HELICAL PILE LOAD - KIPS/PILE		
	SERVICE (WORKING) LOADS	*FACTORED LOADS
DEAD LOAD	3.5	4.4
LIVE LOAD	10.1	17.6
SERVICE (WORKING) LOAD	13.6	
FACTORED DESIGN LOAD		22.0

*BASED ON STRENGTH I LOAD COMBINATION W/ DEAD LOAD FACTOR OF 1.25 & LIVE LOAD FACTOR OF 1.75

SEE SPECIAL PROVISION FOR HELICAL PILES.

SEE PLAN & PROFILE SHEETS FOR PIER & HELICAL PILE LOCATIONS.

SEH Project HOISI171884
Drawn By --
Designed By --
Checked By --

Rev.# | Revision Issue Description | Date
. | 90% PRELIMINARY | te

I HEREBY CERTIFY THAT THIS PLAN 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.

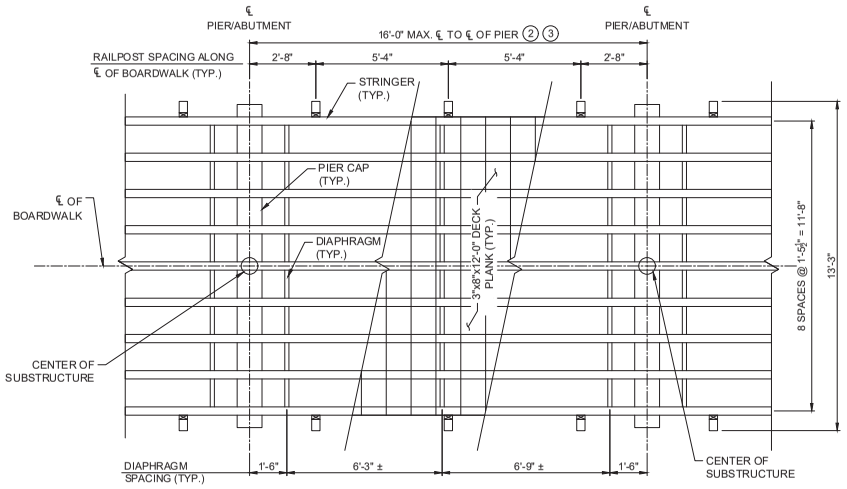
JEFF A. JOHNSON, PE
DATE 12-20-2023 LICENSE NO. 17280

LAKE ANN PARK PRESERVE BOARDWALK IMPROVEMENT PROJECT

CHANHASSEN, MN

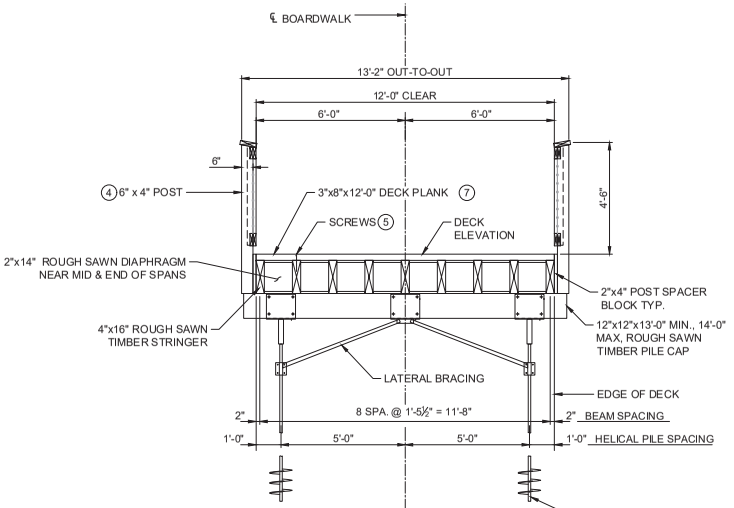
BOARDWALK LAYOUT & QUANTITIES

B3
of B7



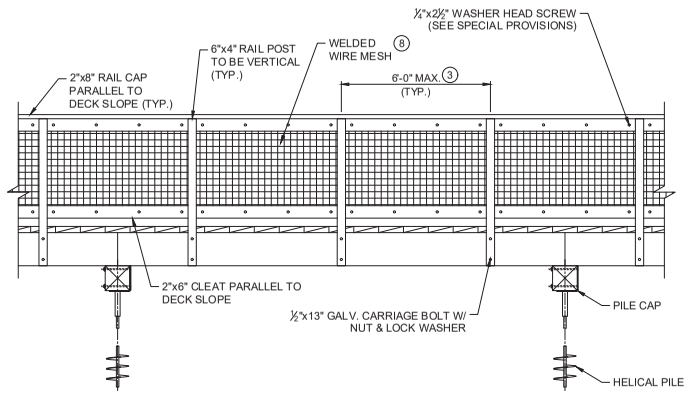
FRAMING PLAN

NOTE: TIMBER STRINGER SPACING SHOWN

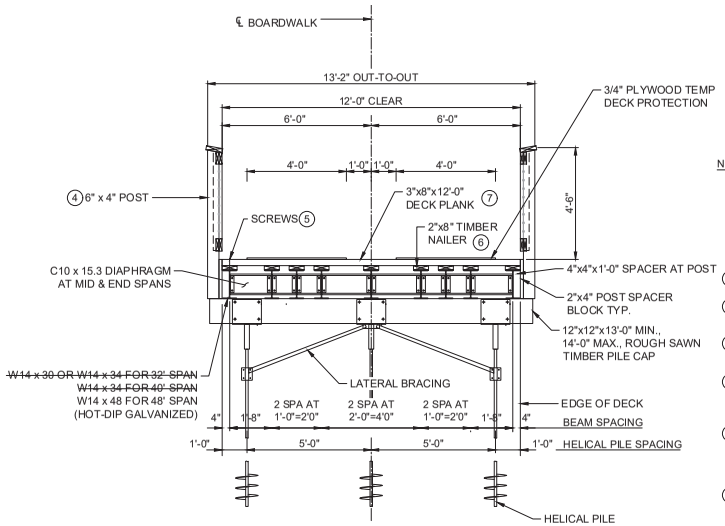


TYPICAL SECTION

TIMBER STRINGER BOARDWALK



ELEVATION



TYPICAL SECTION

STEEL STRINGER BOARDWALK

NOTE: 3 PILES AT STEEL SPANS CREEK CROSSING

NOTES:

1. WHEN BOARDWALK IS ON CURVED ALIGNMENT, STRINGERS & RAILING WILL BE CHORDS BETWEEN PIER SUBSTRUCTURE OR RAIL POSTS. LAYOUT DECK PLANK WITH NO EDGE GAP TO ½" MAX GAP ON CURVES. USE NO GAP TO ¼" GAP ON TANGENT ALIGNMENT. PLANK MAY NEED TO BE TAPER CUT TO MAINTAIN GAP.
2. MEASURED ALONG ℄ OF TRAIL CHORD AS SHOWN.
3. RAILING DIMENSIONS TO BE ADJUSTED AS NECESSARY DUE TO BRIDGE CURVES.
4. TOP OF POST SLOPED (1" HEIGHT DIFFERENCE OUTSIDE FACE TO INSIDE FACE). POSTS TO BE VERTICAL.
5. SCREWS - 2 PER PLANK AT EACH STRINGER, DRIVE TOP OF SCREW HEAD FLUSH WITH TOP OF DECK. SEE SPECIAL PROVISIONS FOR SCREW TYPE.
6. ATTACH NAILER TO BEAM WITH ⅜" Ø HOT-DIP GALVANIZED BOLTS AT 1'-6" SPA ALTERNATING SIDES ALONG WEB OF BEAM, ONE INCH FROM EDGE OF BEAM FLANGE, COUNTER BORE HEAD FLUSH WITH TOP OF NAILER.
7. PLACE DECK PLANK WITH GROWTH RINGS CONVEX SIDE UP. (CENTER TREE FROM WHICH PLANK IS CUT WOULD BE BELOW DECK.)
8. WELDED WIRE MESH MAY REQUIRE RACKING OR CUTTING ON SEGMENTS WHERE THE DECK AND RAILING SLOPE.

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JEFF A. JOHNSON, PE

DATE 12-20-2023 LICENSE NO. 17280

LAKE ANN PARK PRESERVE
BOARDWALK IMPROVEMENT PROJECT
CHANHASSEN, MN

GENERAL DETAILS & TYPICAL SECTIONS

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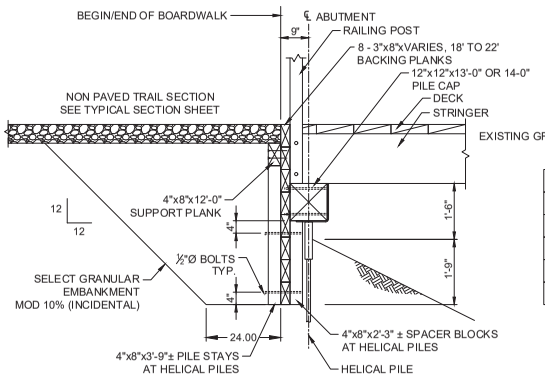
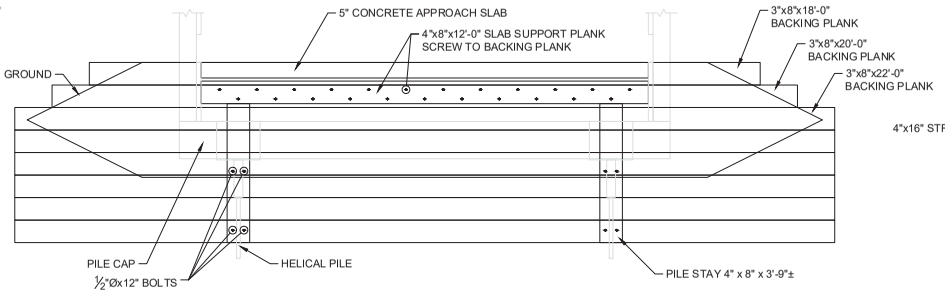
of B7

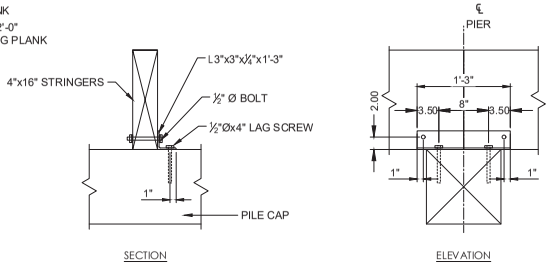


ABUTMENT SECTION



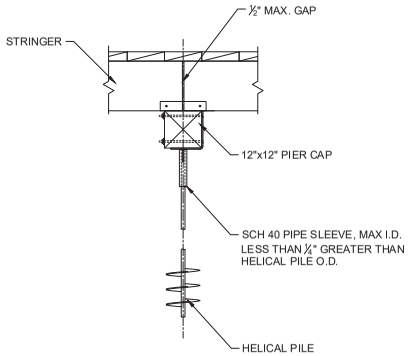
ABUTMENT ELEVATION

NOTE: BACKSIDE SHOWN

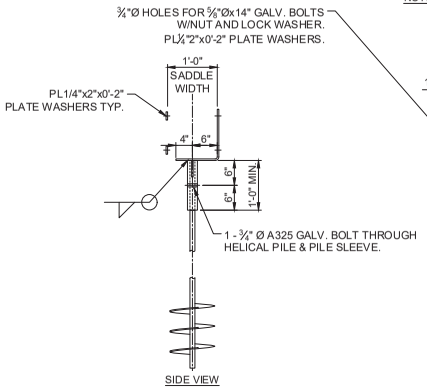


TIMBER STRINGER AT PILE CAP

NOTE:
ANGLE REQUIRED AT INSIDE FACE OF FASCIA STRINGERS AND EVERY OTHER INTERIOR STRINGER

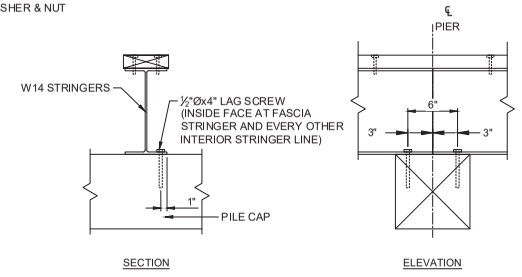


PIER DETAIL

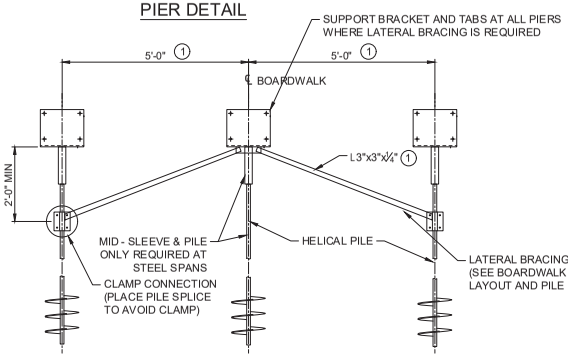


SUPPORT BRACKET DETAIL

NOTE: HOT DIPPED GALVANIZED PER ASTM A-153.

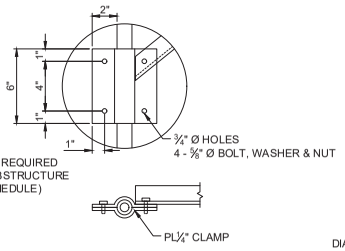


STEEL STRINGER AT PILE CAP



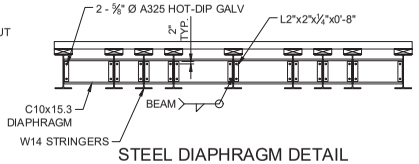
LATERAL BRACING DETAIL

① CAREFULLY POSITION PILE SPLICES AND BRACKETS TO OBTAIN EQUAL SLOPES ON LATERAL BRACES.

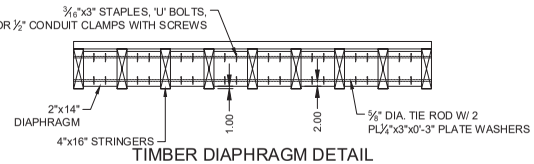


CLAMP CONNECTION DETAIL

BRACED TO HELICAL PILE



STEEL DIAPHRAGM DETAIL



TIMBER DIAPHRAGM DETAIL

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Checked By	--	.			.		

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JEFF A. JOHNSON, PE
DATE 12-20-2023 LICENSE NO. 17280

LAKE ANN PARK PRESERVE
BOARDWALK IMPROVEMENT PROJECT
CHANHASSEN, MN

ABUTMENT & SUBSTRUCTURE DETAILS

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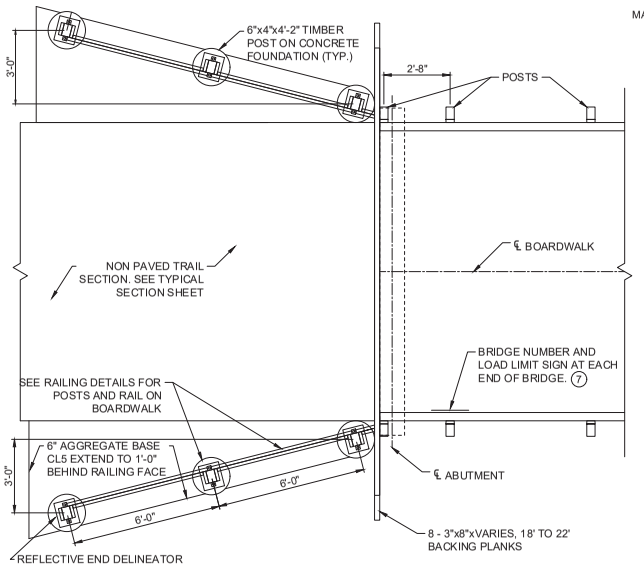
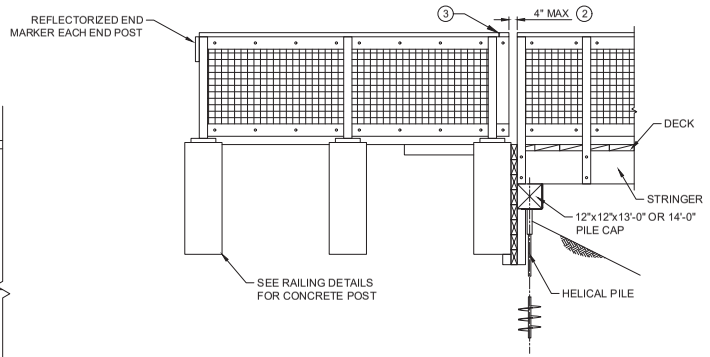
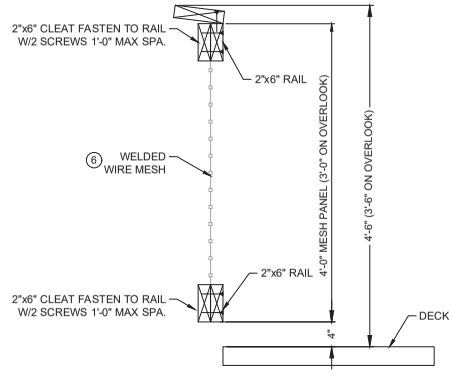
of B7



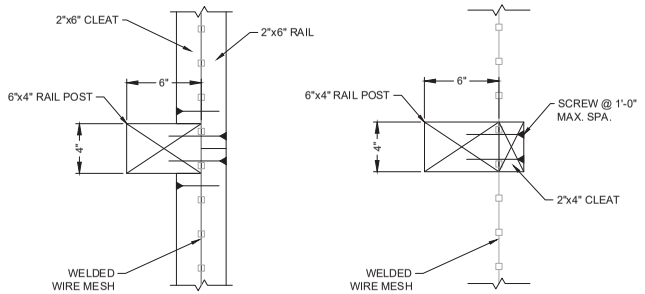
WINGWALL AND APPROACH RAILING PLAN



APPROACH RAILING ELEVATION (2) (3)

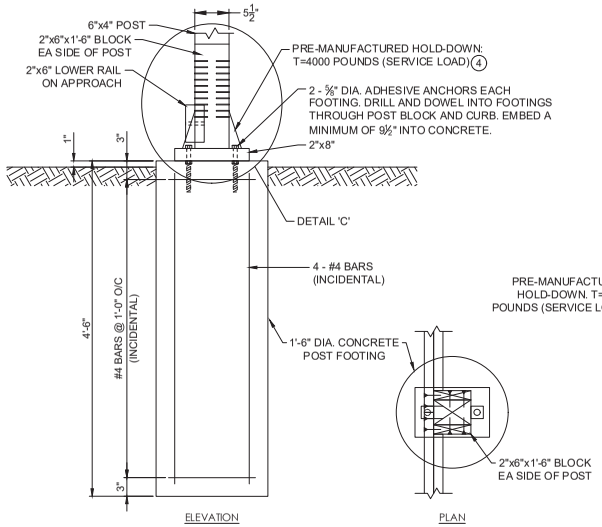


SECTION AT MESH PANEL

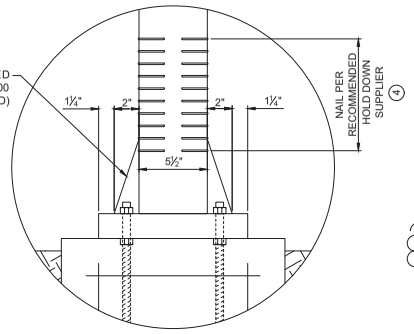


SECTION A-A
RAIL POST CONNECTION

SECTION B-B
MID POST CONNECTION



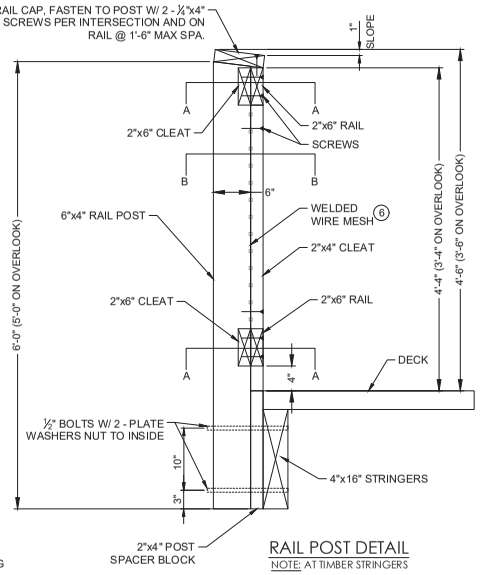
APPROACH RAIL POST FOOTING



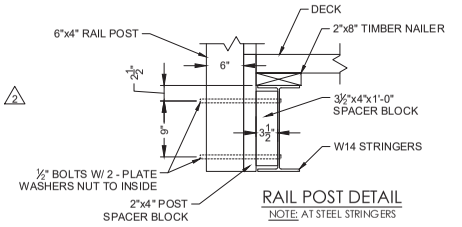
DETAIL 'C'

NOTES:

1. TIMBER DIMENSIONS SHOWN ARE NOMINAL. CONTRACTOR SHALL VERIFY NECESSARY TIMBER DIMENSIONS.
2. ALL GAPS BETWEEN APPROACH , BOARDWALK, UNDERPASS AND BRIDGE RAILING SHALL BE LESS THAN 4".
3. TOP ELEVATIONS OF APPROACH RAILING AND BOARDWALK RAILING SHALL MATCH.
4. HOLD-DOWNS SHALL BE GALVANIZED PER Mn/DOT 3392.
5. CONTRACTOR TO VERIFY LENGTH OF CONNECTORS TO MEET WOOD DIMENSIONS PROVIDED.
6. 4"x4"x0.25" HOT DIP GALVANIZED WELDED WIRE MESH TRIMMED FLUSH ON ALL FOUR SIDES.
7. BRIDGE NUMBER AND LOAD LIMIT SIGN, SEE SPECIAL PROVISIONS 2403. ATTACH TO UPPER RAIL WITH 6 - ¼"x2"SS SCREWS WITH WASHERS. (INCIDENTAL TO BOARDWALK)
8. TOP 2"x8" RAIL CAP TO BE SOLID (IE TREX) OR TROPICAL HARDWOOD (IE IPE OR CUMARU).



RAIL POST DETAIL
NOTE: AT TIMBER STRINGERS



RAIL POST DETAIL
NOTE: AT STEEL STRINGERS

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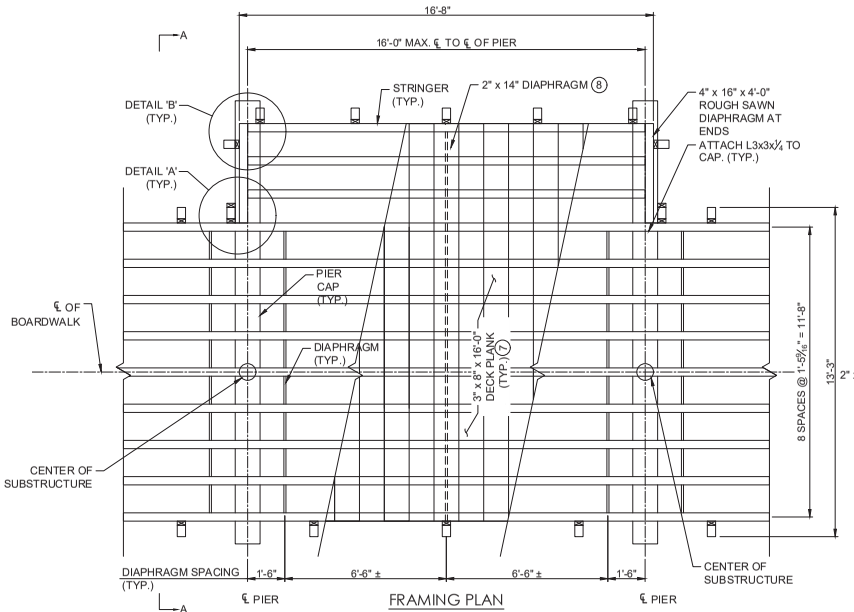
Designed By	--	.			.			
Checked By	--	2	WIRE MESH REVISION	01/09/24				

I HEREBY CERTIFY THAT THIS PLAN 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.
JEFF A. JOHNSON, PE
DATE 12-20-2023 LICENSE NO. 17280

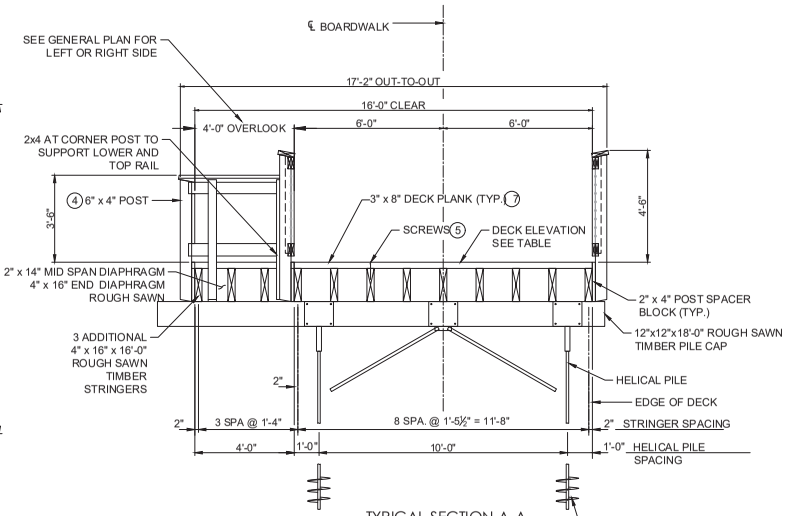
LAKE ANN PARK PRESERVE
BOARDWALK IMPROVEMENT PROJECT
CHANHASSEN, MN

APPROACH & RAILING DETAILS

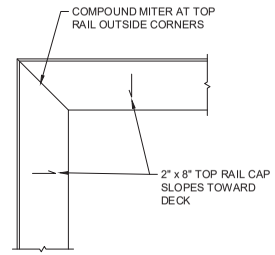
B6
of B7



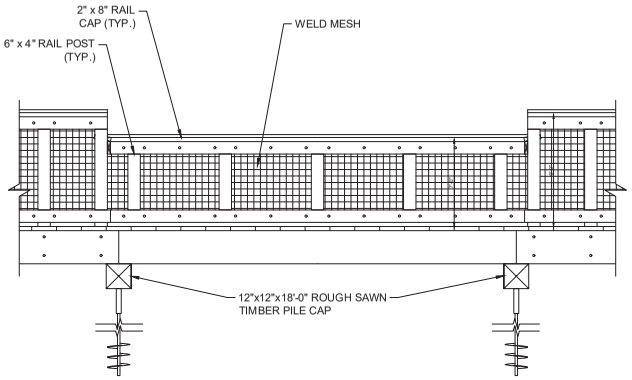
FRAMING PLAN
TIMBER STRINGERS
AT OVERLOOK



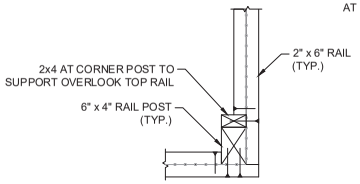
TYPICAL SECTION A-A
BOARDWALK
AT OVERLOOK



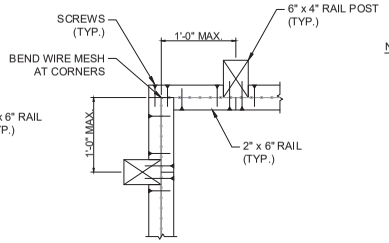
TOP RAIL CORNER DETAIL



ELEVATION
AT OVERLOOK



DETAIL A
LOWER RAIL SHOWN



DETAIL B
LOWER RAIL SHOWN

NOTES:

4. TOP OF POST SLOPED (1" HEIGHT DIFFERENCE OUTSIDE FACE TO INSIDE FACE)
5. SCREWS - 2 PER PLANK AT EACH STRINGER, DRIVE FLUSH WITH TOP OF DECK. SEE SPECIAL PROVISIONS FOR SCREW TYPE.
6. ATTACH NAILER TO BEAM WITH ⅜" Ø HOT-DIP GALVANIZED BOLTS AT 1'-6" SPA ALTERNATING SIDES ALONG WEB OF BEAM, ONE INCH FROM EDGE OF BEAM FLANGE, COUNTER BORE HEAD FLUSH WITH TOP OF NAILER.
7. 3" X 8" X 16'-0" DECK PLANKING. IF DECK PLANK BOARDS ARE CUPPED, PLACE CONVEX SIDE UP

SEH Project	HOISI171884	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description		LAKE ANN PARK PRESERVE BOARDWALK IMPROVEMENT PROJECT CHANHASSEN, MN	B7
Drawn By	--	.			.	90% PRELIMINARY	te		
Designed By	--	.			.			OVERLOOK DETAILS	of B7
Checked By	--	.			.				

SEH

I HEREBY CERTIFY THAT THIS PLAN 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.

JEFF A. JOHNSON, PE
DATE 12-20-2023 LICENSE NO. 17280

DEPARTMENT OF NATURAL RESOURCES

MNDNR PERMITTING AND REPORTING SYSTEM

Permit Number

2023-2932

Public Waters Work Permit

Expiration Date: 12/31/2024

Pursuant to Minnesota Statutes, Chapter 103G, and on the basis of statements and information contained in the permit application, letters, maps, and plans submitted by the applicant and other supporting data, all of which are made part hereof by reference, **PERMISSION IS HEREBY GRANTED** to the applicant to perform actions as authorized below.

Project Name:	**County:**	**Watershed:**	**Resource:**
Lake Ann Preserve Boardwalk	Carver	Lower Minnesota River	Lake: Ann (10001200); Lake: Lucy (10000700)

Purpose of Permit:	**Authorized Action:**
Boardwalk	Install 48-ft long steel beam span pedestrian bridge over the outlet channel of Lake Lucy. All work shall be done in accordance with the plans and supporting materials on file.

Permittee:	**Authorized Agent:**
CITY OF CHANHASSEN CONTACT: RUEGEMER, JERRY, (952) 227-1121 7700 MARKET BOULEVARD PO BOX 147 CHANHASSEN, MN 55317 (952) 227-1100	SEH INC - ST. PAUL CONTACT: BEDUHN, REBECCA, (651) 490-2146 3535 VADNAIS CENTER DRIVE ST. PAUL, MN 55110 (651) 490-2000

Property Description (*land owned or leased or where work will be conducted*):

UTM zone 15N, 455997m east, 4969202m north,
NWNW of Section 11, T116N, R23W

Issued Date: 11/09/2023	**Effective Date:** 11/09/2023	**Expiration Date:** 12/31/2024

Authorized Issuer:	**Title:**	**Email Address:**	**Phone Number:**
Taylor Huinker	Area Hydrologist	taylor.huinker@state.mn.us	651-259-5790

This permit is granted **subject to** the following **CONDITIONS**:

APPLICABLE FEDERAL, STATE, OR LOCAL REGULATIONS: The permittee is not released from any rules, regulations, requirements, or standards of any applicable federal, state, or local agencies; including, but not limited to, the U.S. Army Corps of Engineers, Board of Water and Soil Resources, MN Pollution Control Agency, watershed districts, water management organizations, county, city and township zoning.

NOT ASSIGNABLE: This permit is not assignable by the permittee except with the written consent of the Commissioner of Natural Resources.

NO CHANGES: The permittee shall make no changes, without written permission or amendment previously obtained from the Commissioner of Natural Resources, in the dimensions, capacity or location of any items of work authorized hereunder.

SITE ACCESS: The permittee shall grant access to the site at all reasonable times during and after construction to authorized representatives of the Commissioner of Natural Resources for inspection of the work authorized hereunder.

TERMINATION: This permit may be terminated by the Commissioner of Natural Resources at any time deemed necessary for the conservation of water resources of the state, or in the interest of public health and welfare, or for violation of any of the conditions or applicable laws, unless otherwise provided in the permit.

CONDITIONS continued on next page...

CONDITIONS (*Continued from previous page*)

COMPLETION DATE: Construction work authorized under this permit shall be completed on or before the date specified above. The permittee may request an extension of the time to complete the project by submitting a written request, stating the reason thereof, to the Commissioner of Natural Resources.

WRITTEN CONSENT: In all cases where the permittee by performing the work authorized by this permit shall involve 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 thereon or interests therein, the permittee, before proceeding, shall obtain the written consent of all persons, agencies, or authorities concerned, and shall acquire all property, rights, and interests needed for the work.

PERMISSIVE ONLY / NO LIABILITY: This permit is permissive only. No liability shall be imposed by the State of Minnesota or any of its officers, agents or employees, officially or personally, on account of the granting hereof or on account of any damage to any person or property resulting from any act or omission of the permittee or any of its agents, employees, or contractors. This permit shall not be construed as estopping or limiting any legal claims or right of action of any person other than the state against the permittee, its agents, employees, or contractors, for any damage or injury resulting from any such act or omission, or as estopping or limiting any legal claim or right of action of the state against the permittee, its agents, employees, or contractors for violation of or failure to comply with the permit or applicable conditions.

EXTENSION OF PUBLIC WATERS: Any extension of the surface of public waters from work authorized by this permit shall become public waters and left open and unobstructed for use by the public.

WETLAND CONSERVATION ACT: Where the work authorized by this permit involves the draining or filling of wetlands not subject to DNR regulations, the permittee shall not initiate any work under this permit until the permittee has obtained official approval from the responsible local government unit as required by the Minnesota Wetland Conservation Act.

CONTRACTOR RESPONSIBILITY: The permittee shall ensure the contractor has received and thoroughly understands all conditions of this permit. Contractors must obtain a signed statement from the property owner stating that permits required for work have been obtained or that a permit is not required, and mail a copy of the statement to the regional DNR Enforcement office where the proposed work is located. The Landowner Statement and Contractor Responsibility Form can be found at: https://bwsr.state.mn.us/sites/default/files/2019-01/Wetland_WCA_Contractor_Responsibility_Form.doc

INVASIVE SPECIES - EQUIPMENT DECONTAMINATION: All equipment intended for use at a project site must be free of prohibited invasive species and aquatic plants prior to being transported into or within the state and placed into state waters. All equipment used in designated infested waters, shall be inspected by the Permittee or their authorized agent and adequately decontaminated prior to being transported from the worksite. The DNR is available to train inspectors and/or assist in these inspections. For more information refer to the "Best Practices for Preventing the Spread of Aquatic Invasive Species" at http://files.dnr.state.mn.us/publications/ewr/invasives/ais/best_practices_for_prevention_ais.pdf. Contact your regional Invasive Species Specialist for assistance at www.mndnr.gov/invasives/contacts.html. A list of designated infested waters is available at www.mndnr.gov/invasives/ais/infested.html. A list of prohibited invasive species is available at www.mndnr.gov/invasives/laws.html#prohibited.

EROSION AND SEDIMENT CONTROL: In all cases, methods that have been determined to be the most effective and practical means of preventing or reducing sediment from leaving the worksite shall be installed in areas that slope to the water and on worksite areas that have the potential for direct discharge due to pumping or draining of areas from within the worksite (e.g., coffer dams, temporary ponds, stormwater inlets). These methods, such as mulches, erosion control blankets, temporary coverings, silt fence, silt curtains or barriers, vegetation preservation, redundant methods, isolation of flow, or other engineering practices, shall be installed concurrently or within 24 hours after the start of the project, and will be maintained for the duration of the project in order to prevent sediment from leaving the worksite. DNR requirements may be waived in writing by the authorized DNR staff based on site conditions, expected weather conditions, or project completion timelines.

FISHERY PROTECTION - EXCLUSION DATES: No activity affecting the bed of the protected water may be conducted between April 1 and June 30, to minimize impacts on fish spawning and migration. If work during this time is essential, it shall be done only upon written approval of the Area Fisheries Manager. See contact list at: http://files.dnr.state.mn.us/fisheries/management/dnr_fisheries_managers.pdf. Should work begin elsewhere in the project area within these dates, all exposed soils that are within 200 feet of Public Waters and drain to those waters must complete erosion control measures within 24 hours of its disturbance to prevent sediment from entering Public Waters.

MAINTENANCE: Maintenance of this project to originally authorized conditions may be authorized by amendment to this permit.

CONDITIONS continued on next page...

CONDITIONS (*Continued from previous page*)

WILDLIFE FRIENDLY EROSION CONTROL MATERIALS: Due to entanglement issues with small animals, use of erosion control blanket shall be limited to 'bio-netting' or 'natural-netting' types, and specifically not products containing plastic mesh netting or other plastic components. Also be aware that hydro-mulch products may contain small synthetic (plastic) fibers to aid in its matrix strength. These loose fibers could re-suspend and make their way into Public Waters. As such, mulch products containing plastic fiber additives should not be used in areas that drain to Public Waters. See this website for additional resources:
https://www.dot.state.mn.us/environment/erosion/rolled-erosion-prevention-products.html

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cc: John Gleason, EWR District Manager
Arnaud Kpachavi, Conservation Officers, Mound
Alyssa Core, BWSR Wetland Specialists, Carver
Melissa Collins, DNR Regional Environmental Assessment Ecologist, Region 3
Tim Pharis, DNR Wildlife, Vermillion River Complex
Daryl Ellison, DNR Fisheries, West Metro Area
Paul Moline, County, Carver
Jason Mielke, County, Carver
Kristen Larson, County, Carver
Terry Jeffery, Watershed District, RILEY-PURGATORY-BLUFF CREEK WD
Corps of Engineers, Corps of Engineers, Carver
Mike Wanous, SWCD, Carver SWCD
Charles Howley, City, Chanhassen
Erik Henricksen, City, Chanhassen

DEPARTMENT OF NATURAL RESOURCES

MNDNR PERMITTING AND REPORTING SYSTEM

General Permit Number

2015-1192

Amended

Public Waters Work General Permit

Expiration Date: 05/01/2025

Pursuant to Minnesota Statutes, Chapter 103G, and on the basis of statements and information contained in the permit application, letters, maps, and plans submitted by the applicant and other supporting data, all of which are made part hereof by reference, **PERMISSION IS HEREBY GRANTED** to the applicant to perform actions as authorized below. This permit supersedes the original permit and all previous amendments.

Project Name:	**County:**	**Watershed:**	**Resource:**
Riley-Purgatory-Bluff Creek Watershed District General Permit	Hennepin and Carver	Lower Minnesota River - Shakopee	All Public Waters within Riley-Purgatory-Bluff Creek Watershed

Purpose of Permit:	**Authorized Action:**
Sediment Removal, Sand Blanket w/o Excavation, Sand Blanket w/ Excavation, Riprap (Natural Rock), Retaining Wall, Erosion Control/Stabilization Fill & Grading, Culvert Construction/Modification/Replacement, Bridge Construction/Modification/Replacement, Bioengineering	Place natural rock riprap; shape banks/shorelines for placement of riprap or bioengineering; install beach sand blankets; construct retaining walls, bridges and culverts; remove structures; remove sediment; all in accordance with the Conditions of this permit. For actions addressed by this general permit, no separate GP Authorization is needed from the DNR.
Permittee:	**Authorized Agent:**
Riparian Property Owners within Riley-Purgatory-Bluff Creek Watershed District	N/A

Property Description (*land owned or leased or where work will be conducted*):

Issued Date:	**Effective Date:**	**Expiration Date:**
06/15/2020	05/01/2020	05/01/2025

Authorized Issuer:	**Title:**	**Email Address:**	**Phone Number:**
Tom Hovey	Water Regulations Unit Supervisor	tom.hovey@state.mn.us	651-259-5654

This permit is granted **subject to** the following **CONDITIONS**:

APPLICABLE FEDERAL, STATE, OR LOCAL REGULATIONS: The permittee is not released from any rules, regulations, requirements, or standards of any applicable federal, state, or local agencies; including, but not limited to, the U.S. Army Corps of Engineers, Board of Water and Soil Resources, MN Pollution Control Agency, watershed districts, water management organizations, county, city and township zoning.

NOT ASSIGNABLE: This permit is not assignable by the permittee except with the written consent of the Commissioner of Natural Resources.

NO CHANGES: The permittee shall make no changes, without written permission or amendment previously obtained from the Commissioner of Natural Resources, in the dimensions, capacity or location of any items of work authorized hereunder.

SITE ACCESS: The permittee shall grant access to the site at all reasonable times during and after construction to authorized representatives of the Commissioner of Natural Resources for inspection of the work authorized hereunder.

TERMINATION: This permit may be terminated by the Commissioner of Natural Resources at any time deemed

CONDITIONS continued on next page...

GENERAL PERMIT CONDITIONS (*Continued from previous page*)

necessary for the conservation of water resources of the state, or in the interest of public health and welfare, or for violation of any of the conditions or applicable laws, unless otherwise provided in the permit.

COMPLETION DATE: Construction work authorized under this permit shall be completed on or before the date specified above. The permittee may request an extension of the time to complete the project by submitting a written request, stating the reason thereof, to the Commissioner of Natural Resources.

WRITTEN CONSENT: In all cases where the permittee by performing the work authorized by this permit shall involve 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 thereon or interests therein, the permittee, before proceeding, shall obtain the written consent of all persons, agencies, or authorities concerned, and shall acquire all property, rights, and interests needed for the work.

PERMISSIVE ONLY / NO LIABILITY: This permit is permissive only. No liability shall be imposed by the State of Minnesota or any of its officers, agents or employees, officially or personally, on account of the granting hereof or on account of any damage to any person or property resulting from any act or omission of the permittee or any of its agents, employees, or contractors. This permit shall not be construed as estopping or limiting any legal claims or right of action of any person other than the state against the permittee, its agents, employees, or contractors, for any damage or injury resulting from any such act or omission, or as estopping or limiting any legal claim or right of action of the state against the permittee, its agents, employees, or contractors for violation of or failure to comply with the permit or applicable conditions.

EXTENSION OF PUBLIC WATERS: Any extension of the surface of public waters from work authorized by this permit shall become public waters and left open and unobstructed for use by the public.

GP AUTHORIZATION - APPLY USING MPARS: The permittee shall apply for prior authorization for all projects to be constructed under this General Permit using the MNDNR Permitting and Reporting System (MPARS) at www.mndnr.gov/mpars/signin . Users will need to create an account the first time they access the system. Once created, click on the link for ‘Apply for a New Permit/Authorization’ under the Actions box and complete the application questions.

WETLAND CONSERVATION ACT: Where the work authorized by this permit involves the draining or filling of wetlands not subject to DNR regulations, the permittee shall not initiate any work under this permit until the permittee has obtained official approval from the responsible local government unit as required by the Minnesota Wetland Conservation Act.

INVASIVE SPECIES - EQUIPMENT DECONTAMINATION: All equipment intended for use at a project site must be free of prohibited invasive species and aquatic plants prior to being transported into or within the state and placed into state waters. All equipment used in designated infested waters, shall be inspected by the Permittee or their authorized agent and adequately decontaminated prior to being transported from the worksite. The DNR is available to train inspectors and/or assist in these inspections. For more information refer to the "Best Practices for Preventing the Spread of Aquatic Invasive Species" at http://files.dnr.state.mn.us/publications/ewr/invasives/ais/best_practices_for_prevention_ais.pdf. Contact your regional Invasive Species Specialist for assistance at www.mndnr.gov/invasives/contacts.html. A list of designated infested waters is available at www.mndnr.gov/invasives/ais/infested.html. A list of prohibited invasive species is available at www.mndnr.gov/invasives/laws.html#prohibited.

CONSTRUCTION DEWATERING - GENERAL: All construction dewatering in excess of 10,000 gallons per day or one million gallons per year must be authorized by a separate water appropriation permit. All worksite discharge water must be treated for sediment reduction prior to return to the surface water. Water from designated infested waters shall not be diverted to other waters, transported on a public road, or transported or appropriated off property riparian to infested waters without a DNR permit specifically for this use. All equipment in contact with infested waters must be decontaminated upon leaving the site.

EROSION AND SEDIMENT CONTROL: In all cases, methods that have been determined to be the most effective and practical means of preventing or reducing sediment from leaving the worksite shall be installed in areas that slope to the water and on worksite areas that have the potential for direct discharge due to pumping or draining of areas from within the worksite (e.g., coffer dams, temporary ponds, stormwater inlets). These methods, such as mulches, erosion control blankets, temporary coverings, silt fence, silt curtains or barriers, vegetation preservation, redundant methods, isolation of flow, or other engineering practices, shall be installed concurrently or within 24 hours after the start of the project, and will be maintained for the duration of the project in order to prevent sediment from leaving the worksite. DNR requirements may be waived in writing by the authorized DNR staff based on site conditions, expected weather conditions, or project completion timelines.

CONDITIONS continued on next page...

GENERAL PERMIT CONDITIONS (*Continued from previous page*)

EXCAVATED MATERIALS - FLOODPLAIN CONCERN: Excavated material shall not be permanently placed within community designated floodplain areas or shoreland areas, unless all necessary local permits and approvals have been obtained.

AQUATIC PLANT MANAGEMENT: For projects where vegetation is placed waterward of the ordinary high water level, a separate Aquatic Plant Management (APM) permit is needed from the DNR Regional APM Specialist. See contact list at: http://www.dnr.state.mn.us/apm/index.html. A permit shall be obtained (no fee required) for each site in order to monitor plant source, species, and planting location. Vegetation must be appropriate for the site and free of invasive species. This condition does not apply when only woody vegetation is used, such as willow and dogwood.

APPLICABLE PROJECTS: A project not meeting applicable conditions of this permit or a project the DNR identifies as having the potential for significant resource impacts, is not authorized herein. Rather, such projects will require an individual DNR permit application.

ENVIRONMENTAL REVIEW: If the project proposal is part of a project that requires mandatory environmental review pursuant to MN Environmental Quality Board rules, then the permit is not valid until environmental review is completed.

RETAINING WALLS: Retaining walls are generally discouraged because their impact on the near-shore aquatic environment can be severe and they restrict wildlife movement, however, they may be permitted if the following conditions are met: a. Existing or expected erosion problems shall preclude the use of riprap shore protection with a finished slope of 2:1 (horizontal to vertical) or more gentle, due to steep banks, nearby structures or other extenuating circumstances; or there shall be a demonstrated need for direct shoreland docking. b. Design shall be consistent with existing uses in the area. Examples are: riverfront commercial-industrial areas having existing structures of this nature, dense residential areas where similar retaining walls are common, or where barges are utilized to carry equipment and supplies. c. Adequate engineering studies shall be performed on foundation conditions, tiebacks, internal drainage, construction materials, and protection against flanking. d. The facility shall not be an aesthetic intrusion upon the area and is consistent with all applicable local, state, and federal management plans and programs for the water body. e. Encroachment below the ordinary high water elevation shall be limited to the absolute minimum necessary for construction.

ICE RIDGE REMOVAL: Ice ridge removal projects must meet the DNR "no permit required" conditions for ice ridge removal specified in Minn. Rules part 6115.0215, Subpart 4. If not, a DNR Individual permit is required as District rules do not address this category of project.

HYDROLOGIC / HYDRAULIC DATA REPORTING :: Unless waived by the DNR Area Hydrologist, hydrologic modeling to show the impacts of a bridge or culvert constructed in a Public Water to the 100-year flood elevation is required . Additional modeling may also be required for temporary fill or temporary structures required during demolition or construction. Calculations showing calculated velocities through the structures at 2-year peak flows may also be required.

FISHERY PROTECTION - EXCLUSION DATES: No activity affecting the bed of the protected water may be conducted between March 15 and April 15 on watercourses, or between April 1 and June 30 on all other waterbodies, to minimize impacts on fish spawning and migration. If work during this time is essential, it shall be done only upon written approval of the Area Fisheries Manager. See contact list at: http://files.dnr.state.mn.us/fisheries/management/dnr_fisheries_managers.pdf Should work begin elsewhere in the project area within these dates, all exposed soils that are within 200 feet of Public Waters and drain to those waters must complete erosion control measures within 24 hours of its disturbance to prevent sediment from entering Public Waters.

REPORTING: The Riley-Purgatory-Bluff Creek Watershed District shall submit annually or as requested a summary report of the projects authorized under this General Permit to the Area Hydrologist.

CONSTRUCTION AIDS: No construction is allowed of temporary channel diversions or placement of fill for temporary work pads, bypass roads, access roads, or coffer dams to aid in the construction of any authorized structure unless approved in writing by the Area Hydrologist prior to beginning work .

FISH PASSAGE: Bridges, culverts and other crossings shall provide for fish movement unless the structure is intended to impede rough fish movement or the stream has negligible fisheries value as determined by the DNR Area Hydrologist in consultation with the Area Fisheries Manager. The accepted practices for achieving these conditions include: Where possible a single culvert or bridge shall span the natural bankfull width adequate to allow for debris and sediment transport rates to closely resemble those of upstream and downstream conditions. A single culvert shall be recessed in order to pass bedload and sediment load. Additional culvert inverts should be set at a higher elevation. All culverts should match the alignment and slope of the natural stream channel, and extend through the toe of the road side slope. "Where

CONDITIONS continued on next page...

GENERAL PERMIT CONDITIONS (*Continued from previous page*)

possible" means that other conditions may exist and could take precedence, such as unsuitable substrate, natural slope and background velocities, bedrock, flood control, 100 year flood elevations, wetland/lake level control elevations, local ditch elevations, and other adjacent features. Rock Rapids or other structures may be used to retrofit crossings to mimic natural conditions.

PHOTOS AND AS-BUILTS: Upon completion of the authorized work, the permittee may be required to submit a copy of established benchmarks, representative photographs, and may be required to provide as-built surveys of Public Watercourse crossing changes.

EXCAVATION OF PUBLIC WATERS: Excavation of Public Waters is authorized by this permit only when the proposed excavation is consistent with Minnesota Rules 6115.0200 and 6115.0201.

REMOVAL OF STRUCTURES: Removal of structures from public waters is authorized by this permit when the proposed removal is consistent with Minnesota Rules 6115.0211 subp. 8.

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cc: John Gleason, EWR District Manager