

Riley Purgatory Bluff Creek Watershed District Permit Application Review

Permit No: 2023-020 (modification request)

Considered at Board of Managers Meeting: January 10, 2024

Modification Request Received complete: December 29, 2023

Applicant: Highland Venture, Ltd., Travis Norris

Representative: Farnsworth Group, Inc.

Project: The applicant is requesting a modification to the issued permit (2023-020) for the development of a new veterinary clinic and associated onsite parking areas and driveway in Eden Prairie, MN. The revised project includes a subsurface stormwater facility and rainwater harvest and reuse system to provide volume control, water quality, and rate control.

Location: 10160 Hennepin Town Road, Eden Prairie, MN, 55347

Reviewer: Scott Sobiech, PE; Barr Engineering Co.

Proposed Board Action

Manager _____ moved and Manager _____ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the January 10, 2024 meeting of the managers:

Resolved that the application for modification to Permit 2023-020 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that on determination by the RPBCWD administrator that the conditions of approval of the permit have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2023-020 to the applicant, on behalf of RPBCWD.

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

Applicable Rule Conformance Summary

Rule	Issue	Conforms to RBPCWD Rules?	Comments
C	Erosion Control Plan	See comment	Rule-specific permit condition fulfilled on August 4, 2023.
J	Stormwater Management	Rate	Yes
		Volume	Yes
		Water Quality	Yes
		Low Floor Elev.	Yes
		Maintenance	See comment

Rule	Issue	Conforms to RBPCWD Rules?	Comments
	Chloride Management	See comment	See stipulation #4 related to providing an executed chloride management plan prior to permit close-out.
	Wetland Protection	Yes	
L	Permit Fee Deposit	Yes	\$3,010 deposit fee received May 10, 2023. The applicant replenished the permit fee deposit to \$3,000 on August 8, 2023. Because the costs of reviewing the modification request, administration, and inspections to date have exceeded the updated fee deposit amount, the applicant must replenish the permit fee deposit to the original amount. As of January 4, 2024 the amount due is \$3,390.
M	Financial Assurance	See Comment	The original financial assurance is calculated at \$143,598. An additional financial assurance of \$167,977 is needed to include the rainwater harvest and reuse system

Background

The applicant is requesting approval of a revised stormwater-management plan for a proposed development that includes the construction of a new 1-story commercial building and onsite parking and driveway areas in Eden Prairie, Minnesota. The applicant proposes to use a subsurface stormwater facility with a rainwater harvest and reuse system, to provide water quality treatment, rate control, and volume abstraction. The treated runoff leaving the site from the subsurface detention system is conveyed via storm sewer to a detention pond to the south of the site.

There are no on-site or adjacent Wetland Conservation Act-protected wetlands for which wetland buffers would be required.

The Board of Manager conditionally approved the applicant’s permit application at the July 12, 2023 meeting. The applicant fulfilled the conditions of approval, and the permit was issued on August 8, 2023. The applicant conducted land-disturbing activities and performed infiltration test as required by permit stipulation 5. Because the infiltration testing results indicate the infiltration capacity of the soils on the site is 0.0 inches per hour which is significantly lower than used in the design, the applicant has submitted this permit modification request to consider the site restricted for abstraction. The engineer concurs the documented in-situ infiltration testing showing a rate of 0.0 inches per hour, demonstrates that infiltration is not feasible and the abstraction standard in subsection 3.1b of Rule J cannot practicably be met, and concurs in the determination that the site is restricted site under RPBCWD Rule J, and stormwater runoff volume is required to be managed in accordance with subsection 3.3 of Rule J. The applicant’s revised stormwater-management plan relies on rainwater harvest and reuse to provide abstraction.

Because the requested permit modification only impacts the site stormwater management, a summary of the changes to the stormwater management analysis relative to the criteria in Rule J is presented below. The July 12, 2023, approval remains legally effective, and only the changes to the approval as summarized below before the board now. The proposed terms and conditions of approval of the modification request, as provided below and as may be modified by the managers, will modify the prior approvals where applicable.

The project site information is summarized in the following table.

Project site information

Site Information	Conditional Approval	Modification Request
Total Site Area (acres)	1.191	1.191
Existing Site Impervious Area (acres)	0.014	0.014
Post Construction Site Impervious (acres)	0.524	0.524
New (increase) in Site Impervious Area (acres)	0.510	0.510
Disturbed Site Impervious Area (acres)	0.014	0.014
Percent Disturbance of Existing Impervious Surface	100%	100%
Total Disturbed Area (acres)	0.753	0.753

Materials reviewed for the modification request:

1. Permit application dated April 18, 2023 (Notified applicant on May 2, 2023 that submittal was incomplete, revised materials completing the application received May 24, 2023)
2. Project Plan set dated December 29, 2023
3. Stormwater Management Report received December 29, 2023
4. MIDS water quality model received January 2, 2024
5. Engineer’s opinion of probable cost for the rainwater harvest and reuse system received January 3, 2024

Rule Specific Permit Conditions

Rule J: Stormwater Management

Because the project will disturb 0.75 acres of land-surface area, the project must meet the criteria of RPBCWD’s Stormwater Management rule (Rule J, Subsection 2.1). The criteria listed in Subsection 3.1 will apply to the entire project site because the site activity will disturb more than 50 percent of the existing impervious surface on the parcel (Rule J, Subsection 2.3).

The applicant is proposing construction of a subsurface stormwater facility and rainwater harvest and reuse to provide the rate control, volume abstraction and water quality management for the disturbed and replaced impervious area. Pretreatment for runoff entering the subsurface stormwater infiltration/detention chamber is being provided by a isolator pretreatment row in the chamber system.

Rate Control

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

Existing and Proposed Peak Runoff Rates

Modeled Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
Drainage Area 1	<0.1	<0.1	0.2	<0.1	1.5	0.2	0.3	<0.1
Drainage Area 2	0.1	<0.1	0.3	0.1	1.2	0.8	0.1	<0.1
Drainage Area 3	0.1	0.1	0.1	0.1	0.3	0.3	<0.1	<0.1

Volume Abstraction

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from the regulated impervious surface of the site. An abstraction volume of 2,092 cubic feet is required from the 0.52 acres (22,825 square feet) of regulated site impervious area on the project for volume retention. Pretreatment of runoff entering the subsurface stormwater facility and rainwater harvest and reuse is provided with isolator pretreatment row to conform.

For restricted sites, subsection 3.3 of Rule J requires rate control in accordance with subsection 3.1.a and that abstraction and water-quality protection be provided in accordance with the following sequence: (a) Abstraction of 0.55 inches of runoff from site impervious surface determined in accordance with paragraphs 2.3, 3.1 or 3.2, as applicable, and treatment of all runoff to the standard in paragraph 3.1c; or (b) Abstraction of runoff onsite to the maximum extent practicable and treatment of all runoff to the standard in paragraph 3.1c; or (c) Off-site abstraction and treatment in the watershed to the standards in paragraph 3.1b and 3.1c. The engineer finds that the proposed reuse system with a storage volume of 2,767 cubic feet and an irrigation area of 0.67 acres complies with 3.3a by providing 0.61-inches of abstraction as shown in following table.

Volume Abstraction Summary

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
1.1	2,092	0.61	1,178

Because the proposed stormwater reuse system requires consistent use at a specified rate to meet District requirements, performance monitoring for the site will be required to ensure that the project provides the proposed volume abstraction.

Water Quality Management

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

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

Annual TSS and TP removal summary:

Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)	Provided Load Reduction (lbs/yr)
Total Suspended Solids (TSS)	205	185 (90%)	187 (91%)
Total Phosphorus (TP)	1.13	0.68 (60%)	0.84 (74%)

Summary of net change in TSS and TP leaving the site

Pollutant of Interest	Existing Site Loading (lbs/yr)	Proposed Site Load after Treatment (lbs/yr)	Change (lbs/yr)
Total Suspended Solids (TSS)	68	18	-50
Total Phosphorus (TP)	0.37	0.29	-0.08

Low floor Elevation

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

100-year event flood elevation in the proposed subsurface system is summarized below. The RPBCWD Engineer concurs that the proposed project is in conformance with Rule J, Subsection 3.6.

Location)	Building Low Floor Elevation (ft)	Stormwater Facility	100-year Event Flood Elevation of Stormwater Facility (ft)	Freeboard to 100-year Event (ft)
Proposed Building	841.0	subsurface stormwater facility	834.8	6.2
Existing Building to South	~837.0	subsurface stormwater facility	834.8	2.2

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. While the applicant provided a draft post construction operation and maintenance plan for review, the following revisions are needed:

- J1. Permit applicant must provide a revised draft maintenance and inspection plan to RPBCWD for review and approval. The declaration must also include a stormwater reuse monitoring and reporting plan that includes delineation and protection of the greenspace to be irrigated and metering of the volume of reuse. Once approved by RPBCWD, the plan must be recorded on the deed in a form acceptable to the District.

Wetland Protection

Because runoff from this site is tributary to a downstream, off-site stormwater pond and is not tributary to any wetland, the proposed project does not trigger analysis under Rule J, subsection 3.10.

Chloride Management

Subsection 3.8 of Rule J requires the submission of chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan. To close out the permit and release the \$5,000 in financial assurance held for the purpose of chloride management, the permit applicant must provide a chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.

Rule L: Permit Fee

The RPBCWD permit fee schedule requires permit applicants to submit a permit-fee deposit of \$3,000 to be held in escrow and applied to reimburse RPBCWD for the permit-application processing fee and permit review and inspection-related costs. When a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. A permit fee deposit of \$3,010 was received on May 10, 2023. The applicant replenished the permit fee deposit to the

original amount by providing \$2,648.00 on August 8, 2023. Because the costs of reviewing the modification request, administration, and inspections to date have exceeded the updated fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice that such deposit is due. The administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished.

- L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of January 4, 2024 the amount due is \$3,390.

Rule M: Financial Assurance

	Unit	Unit Cost	# of Units	Provided Financial Assurance Total	Updated Financial Assurance Total
Rules C: Silt fence:	LF	\$2.50	835	\$2,090	\$2,090
Sediment Log	LF	\$2.50	40	\$100	\$100
Inlet protection	EA	\$100	17	\$1,700	\$1,700
Rock Entrance	EA	\$250	1	\$250	\$250
Restoration	Ac	\$2,500	0.75	\$1,250	\$1,250
Rules J: Chloride Management	LS	\$5,000	1	\$5,000	\$5,000
Rules J: Stormwater Management: 125% of engineer’s opinion of cost (1.25*\$96,123). Updated to (1.25*\$217,923)	EA	125% OPC	1	\$120,154	\$272,403
Contingency (10%)		10%		\$13,054	\$28,342
Total Financial Assurance				\$143,598	\$311,757

Applicable General Requirements:

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

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

Findings

1. The proposed project, as modified, will conform to Rule J if the Rule Specific Permit Conditions listed above are met.

Recommendation:

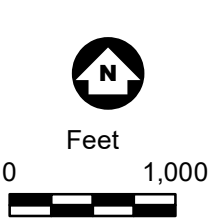
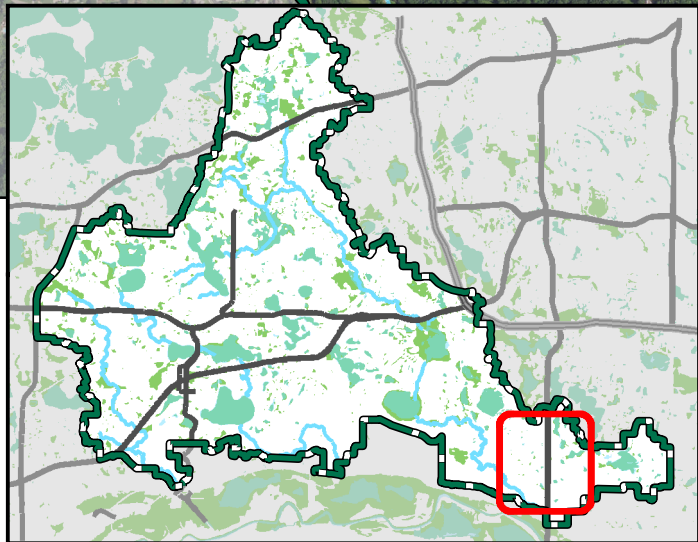
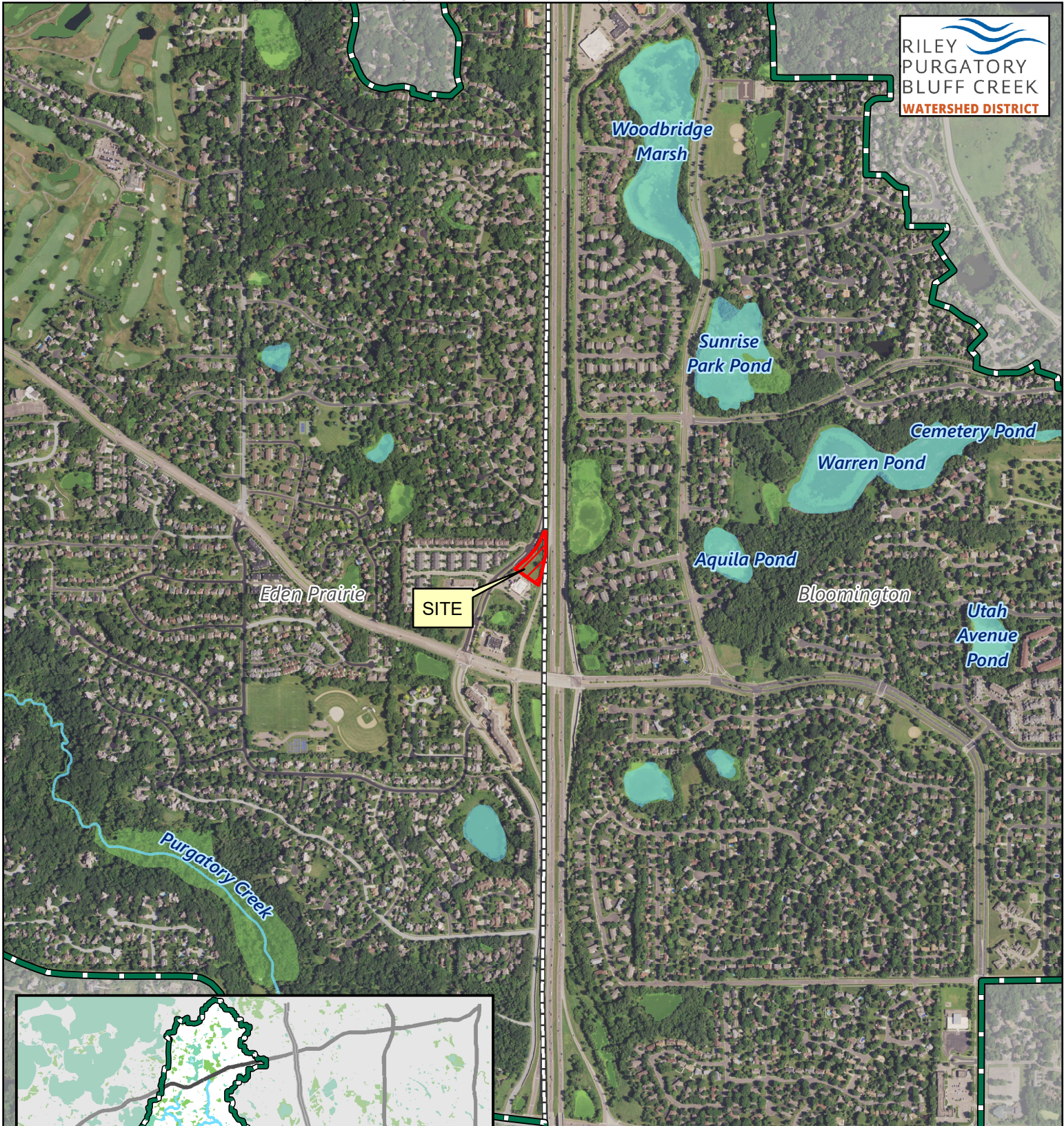
Approval of the permit contingent upon:

1. Receipt of a total financial assurance in the amount of \$311,757. The applicant can provide a new financial assurance for the entire amount at which point RPBCWD would return the prior financial assurance. Alternatively, the applicant can provide the difference between the prior financial assurance and the new financial assurance (\$167,977).
2. Receipt in recordation a maintenance declaration for the revised operation and maintenance of the buffer and stormwater management facilities. The declaration must also include a stormwater reuse monitoring and reporting plan that includes delineation and protection of the greenspace to be irrigated and metering of the volume of reuse. A draft must be submitted for review and approval by the District prior to recordation.
3. The applicant must replenish the permit fee deposit to the original amount due. As of January 4 2024 the amount due is \$3,390.

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

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

- b) the size, type, and surveyed invert elevations of all stormwater facility inlets and outlets;
 - c) the surveyed elevations of all emergency overflows including stormwater facility, street, and other;
 - d) other important features to show that the project was constructed as approved by the Managers and protects the public health, welfare, and safety.
3. Documentation that disturbed pervious areas remaining pervious have been decompacted per Rule C.2c criteria.
 4. To close out the permit and release the \$5,000 in financial assurance held for the purpose of the chloride management, the permit applicant must provide an executed chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.



Permit Location Map

BUSH LAKE VETERINARY CLINIC
Permit 2023-020
Riley Purgatory Bluff Creek
Watershed District



Project Status

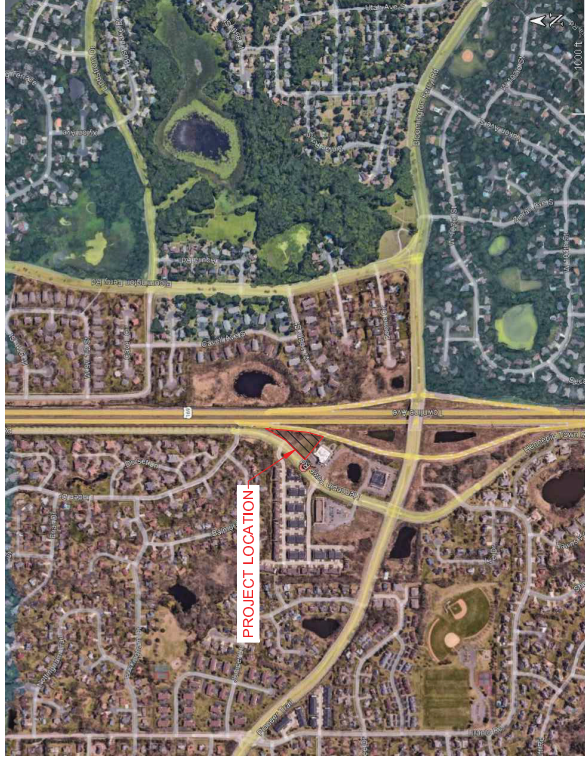
ISSUED FOR REVIEW

HIGHLAND VENTURES INC.

BUSH LAKE VETERINARY CLINIC

Hennepin Town Road, Eden Prairie, MN 55347

LOCATION MAP



INDEX OF DRAWINGS

SHEET NO.	SHEET NAME	ISSUE DATE	REVISION DATE
000	COVER SHEET	03/08/2023	03/08/2023
C01	EXISTING UTILITIES & LEGENDS	03/08/2023	03/08/2023
C02	EXISTING POSSESSIONS & DEVIATION PLAN	03/08/2023	03/08/2023
C03	SITE LAYOUT PLAN	03/08/2023	03/08/2023
C04	ADJACENT LOTS	03/08/2023	03/08/2023
C05	SITE GRADING PLAN	03/08/2023	03/08/2023
C06	SITE UTILITY PLAN	03/08/2023	03/08/2023
C07	EROSION CONTROL PLAN	03/08/2023	03/08/2023
C08	STANDARDS & SPECIFICATIONS	03/08/2023	03/08/2023
C09	SEWER & WATER DETAILS	03/08/2023	03/08/2023
C10	FOUNDATION DETAILS	03/08/2023	03/08/2023
C11	FOUNDATION GENERAL DETAILS	03/08/2023	03/08/2023
C12	LANDSCAPE PLAN	03/08/2023	03/08/2023
L01	LANDSCAPE DETAILS	03/08/2023	03/08/2023
L02	LANDSCAPE DETAILS	03/08/2023	03/08/2023

LEGAL DESCRIPTION

LOT 2, BLOCK 1, BLUFF COUNTRY VILLAGE 3RD ADDITION, HENNEPIN COUNTY, MINNESOTA, ACCORDING TO THE RECORDED PLAT THEREOF.

DEVELOPER

HIGHLAND VENTURES, LTD.
2500 LEHIGH AVENUE
GLENVIEW, ILLINOIS 60026

ENGINEER

FARNSWORTH GROUP, INC.
8910 PURDUE ROAD, SUITE 680
INDIANAPOLIS, INDIANA 46288

UTILITY LOCATE

811
651-454-0002

UTILITY INFORMATION

DAVID S. JAMARSKI, P.E. & ASSOCIATES
2215 W. WASHINGTON AVENUE, SUITE 100
INDIANAPOLIS, INDIANA 46204-1111
PHONE: (317) 961-7000
FAX: (317) 961-7001
WWW.DSJA.COM

DAVID S. JAMARSKI, P.E.
6000 WINTHROP ROAD
INDIANAPOLIS, INDIANA 46254
PHONE: (317) 961-7000
FAX: (317) 961-7001
WWW.DSJA.COM

PROFESSIONAL REGISTRATIONS

PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR SPECIFICATION OF WORK IS THE PREPARED WORK OF AN ENGINEER UNDER MY SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: _____
TYPED OR PRINTED NAME: David S. Jamariski
DATE: 12/29/2023 LICENSE NUMBER: 09873

PROJECT NO.: 0221474.00

8910 Purdue Road, Suite 680 - Indianapolis, Indiana 46286 - Phone: (317) 664-8100 / info@f-w.com

DATE: 03/08/2023



ISSUED FOR REVIEW
BUSH LAKE VETERINARY CLINIC PUD

HIGHLAND VENTURES



Farnsworth
INC.

3811 PUIROE ROAD, SUITE 450
EDEN PRAIRIE, MN 55324
(952) 663-8800 / info@fai.com

www.farnsworth.com
Engineers | Architects | Surveyors | Scientists

NO.	DATE	DESCRIPTION
8	08/20/23	UTILITY ENGINEER COMMENTS
9	11/09/23	843-DUMPSTER ENCLOSURE

PROFESSIONAL ENGINEER
STATE OF MINNESOTA
THIS REPORT WAS PREPARED BY ME
OR UNDER MY DIRECT SUPERVISION
AND THAT I AM A LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE
STATE OF MINNESOTA.

SIGNATURE: [Signature]
TYPED OR PRINTED NAME: [Name]
LICENSE NUMBER: 69073
DATE: 12/29/2023

**BUSH LAKE
VETERINARY CLINIC**

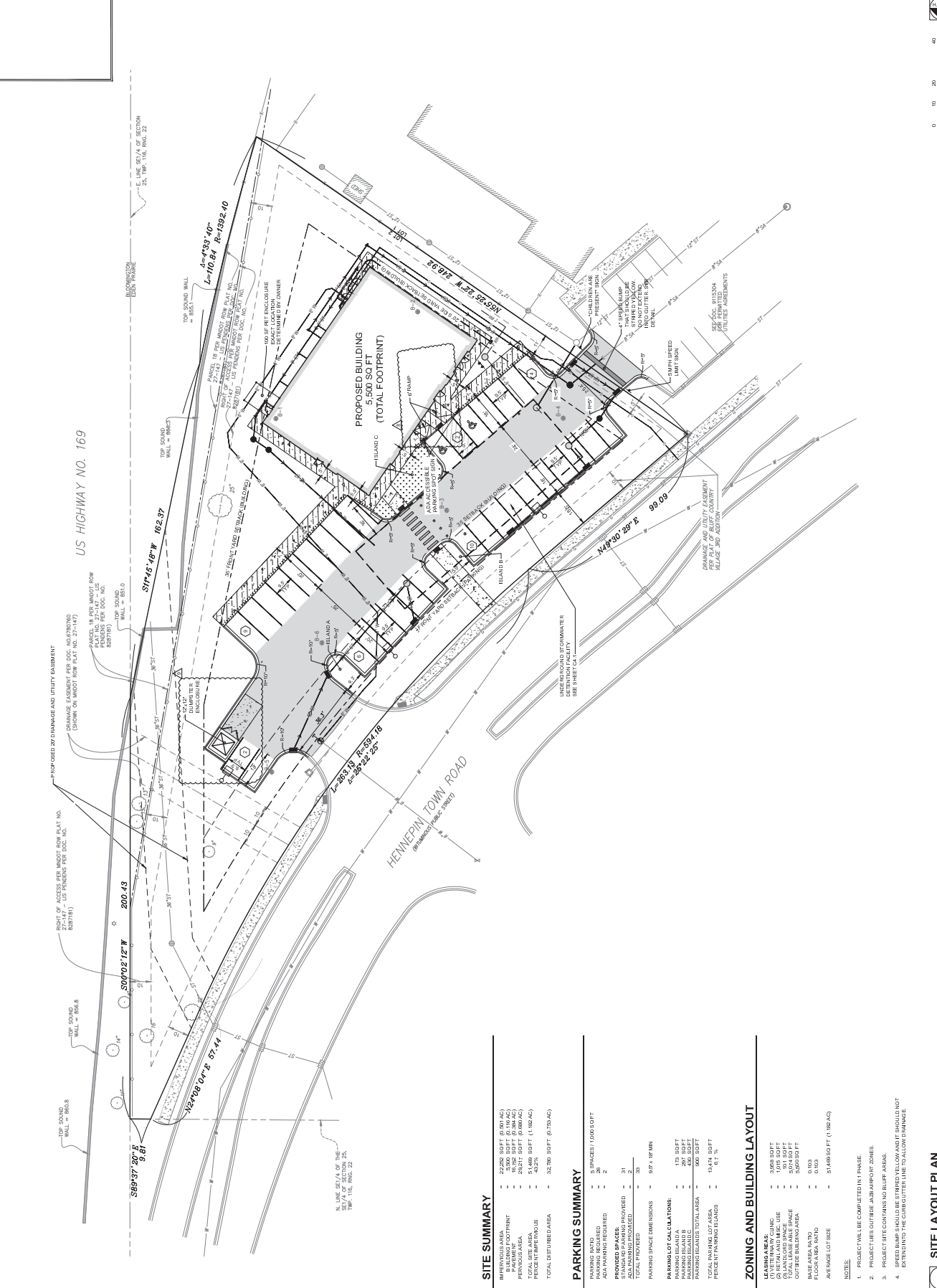
10160 HENNEPIN TOWN RD.
EDEN PRAIRIE, MN

DATE:	03/08/2023
DESIGNED:	JR
DRAWN:	JWL
REVIEWED:	JR
FIELD BOOK NO.:	-
DATE:	-

SITE LAYOUT PLAN

C2.1

PROJECT NO.: 0221474.00



SITE SUMMARY

MATERIALS AREA	- 22,292 SQ FT (0.60 AC)
BUILDING FOOTPRINT	- 5,500 SQ FT (0.16 AC)
PARKING AREA	- 2,922 SQ FT (0.08 AC)
PERVIOUS AREA	- 51,490 SQ FT (1.18 AC)
TOTAL UTILIZED AREA	- 32,706 SQ FT (0.75 AC)
TOTAL SITE AREA	- 32,706 SQ FT (0.75 AC)

PARKING SUMMARY

PARKING BAY	- 5 SPACES / 1,000 SQ FT
PARKING REQUIRED	- 20
STANDARD PARKING PROVIDED	- 31
ACCESSIBLE PARKING PROVIDED	- 38
TOTAL PROVIDED	- 69
PARKING SPACE DIMENSIONS	- 9'2" x 18' MIN

PARKING LOT CALCULATIONS:

PARKING ISLAND A	- 105 SQ FT
PARKING ISLAND B	- 207 SQ FT
PARKING ISLAND C	- 450 SQ FT
TOTAL PARKING AREA	- 762 SQ FT
TOTAL MAXIMUM LOT AREA	- 10,411 SQ FT
PERCENT PARKING ISLANDS	- 8.1 %

ZONING AND BUILDING LAYOUT

LEASING AREA	- 3,968 SQ FT
VETERINARY CLINIC	- 1,532 SQ FT
ISLAND B	- 841 SQ FT
OUTSIDE BUILDING AREA	- 5,059 SQ FT
BASE AREA (BAY)	- 0.03
FLOOR AREA (BAY)	- 0.03
AVERAGE LOT SIZE	- 514,990 SQ FT (11.86 AC)

NOTES:

1. PROJECT SHALL BE COMPLETED IN PHASE
2. PROJECT LIES OUTSIDE AIRPORT ZONES
3. PROJECT SITE CONTAINS NO BUFFER AREAS
4. SPEED BUMP SHOULD BE STRIPPED YELLOW AND IT SHOULD NOT EXCEED THE CURB SIDEWALK TO CURB DRAINAGE

1 SITE LAYOUT PLAN

SCALE: 1"=20'





Farnsworth
INC.

8510 PHOENIX ROAD, SUITE 680
EDEN PRAIRIE, MN 55324
(952) 945-8300 / info@fai.com

Engineers | Architects | Surveyors | Scientists

DATE: DE-DESCRIPTION
BY: 08/03/2023 CITY OF EDEN PRAIRIE COMMENTS

11/12/2023 APPROBATION BY ITEM

PROFESSIONAL ENGINEER
STATE OF MINNESOTA
THIS REPORT WAS PREPARED BY ME
OR UNDER MY DIRECT SUPERVISION
AND THAT I AM A LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF
THE STATE OF MINNESOTA.

SIGNATURE
TYPED OR PRINTED NAME
Michael Ramsey
DATE: 12/29/2023
LICENSE NUMBER: 69073

**BUSH LAKE
VETERINARY CLINIC**

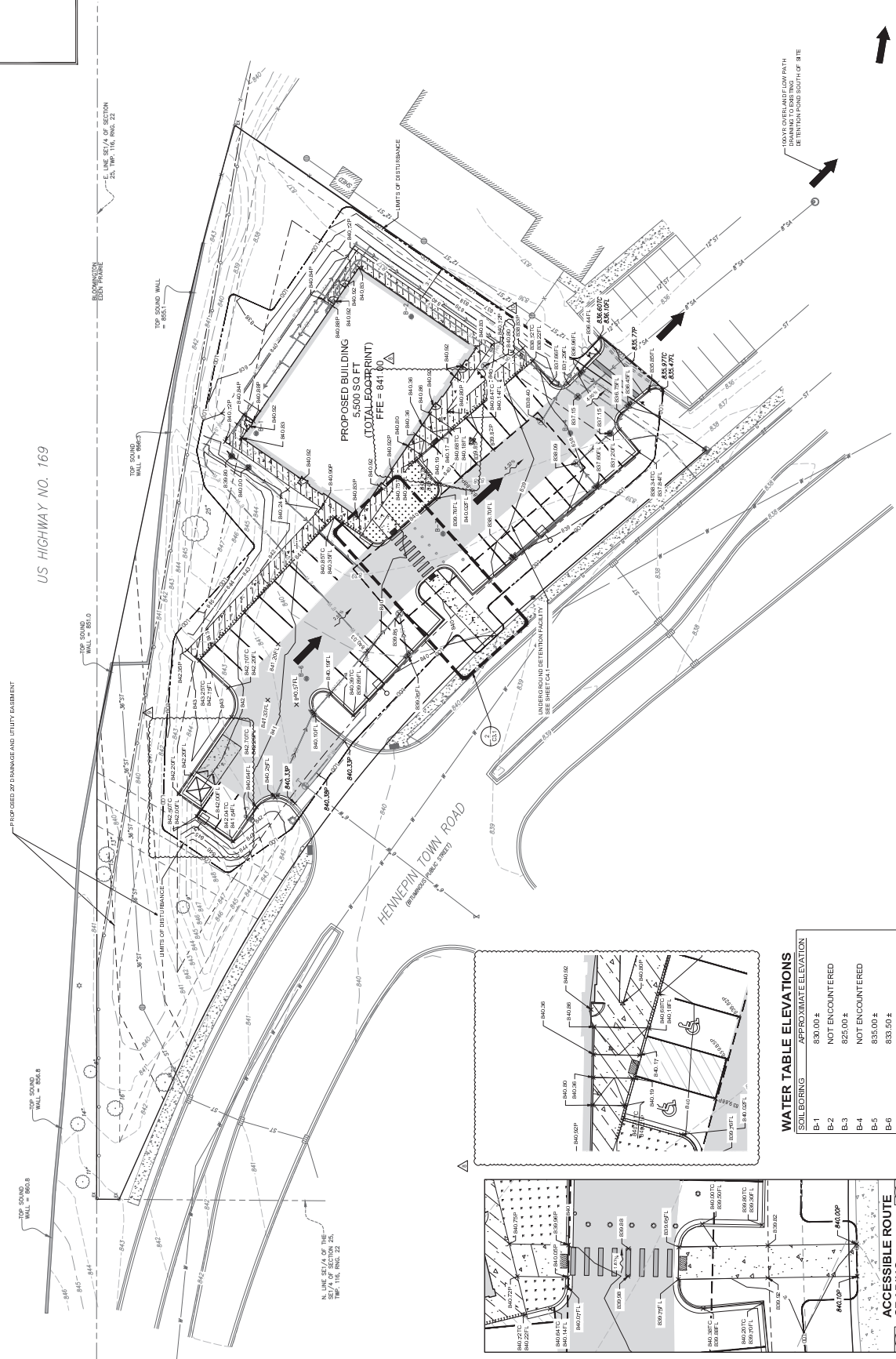
10160 HENNEPIN TOWN RD.
EDEN PRAIRIE, MN

DATE: 03/08/2023
DESIGNED: JR
DRAWN: JWL
REVIEWED: IR
FIELD BOOK NO.:

SITE GRADING PLAN

C3.1

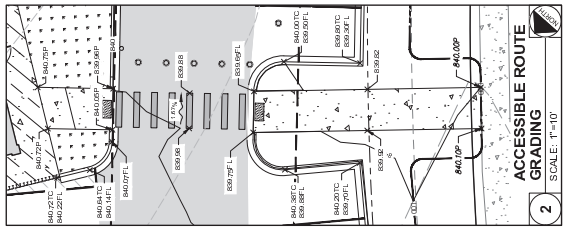
PROJECT NO.: 0221474.00



WATER TABLE ELEVATIONS

SOIL BORING	APPROXIMATE ELEVATION
B-1	830.00 ±
B-2	NOT ENCOUNTERED
B-3	825.00 ±
B-4	NOT ENCOUNTERED
B-5	835.00 ±
B-6	833.50 ±

BASED ON SURFACE WATER TABLE DATA FROM A GROUND WATER REPORT PERFORMED BY PROFESSIONAL ENGINEER INDUSTRIAL, INC.



2 ACCESSIBLE ROUTE GRADING
SCALE: 1"=10'

1 SITE GRADING PLAN
SCALE: 1"=20'



US HIGHWAY NO. 169

HENNEPIN TOWN ROAD
(BROADWAY FROM 20087)

PROPOSED BUILDING
5,500 SQ FT
(TOTAL FOOTPRINT)
FPE = 641.00

LOOK FOR FLOW PATH
TO BE ESTABLISHED SOUTH OF SITE

PROPOSED DRAINAGE AND UTILITY EASEMENT

N. LINE S.E. 1/4 OF THE
SECTION 25, T.16, R.10, S.22

N. LINE S.E. 1/4 OF THE
SECTION 25, T.16, R.10, S.22

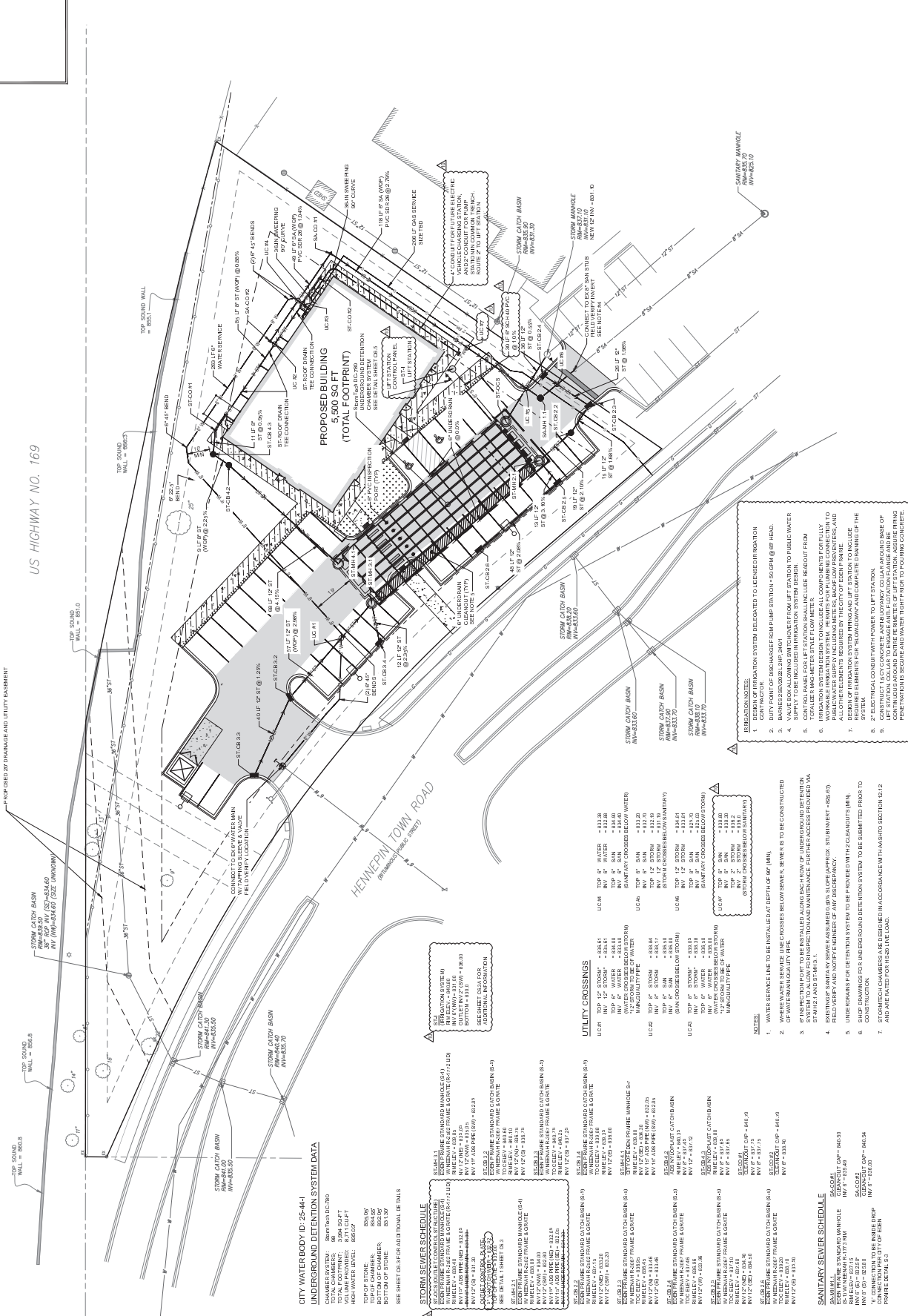
TOP SOUND
WALL OF 6863

TOP SOUND
WALL OF 6863

TOP SOUND
WALL OF 6863

TOP SOUND
WALL OF 6863

TOP SOUND
WALL OF 6863



REVISIONS:

1. CONTRACTOR TO VERIFY EXISTING UTILITY LOCATIONS AND DEPTHS.
2. VERIFY POINT OF DISCHARGE FROM PUMP STATION +50.00' @ 60' HEAD.
3. VERIFY EXISTING UTILITY LOCATIONS AND DEPTHS.
4. VERIFY EXISTING UTILITY LOCATIONS AND DEPTHS.
5. VERIFY EXISTING UTILITY LOCATIONS AND DEPTHS.
6. VERIFY EXISTING UTILITY LOCATIONS AND DEPTHS.
7. VERIFY EXISTING UTILITY LOCATIONS AND DEPTHS.
8. VERIFY EXISTING UTILITY LOCATIONS AND DEPTHS.
9. VERIFY EXISTING UTILITY LOCATIONS AND DEPTHS.

NOTES:

1. WATER SERVICE LINE TO BE INSTALLED AT DEPTH OF 60' (MIN).
2. ALL UTILITY LINES TO BE INSTALLED AT DEPTHS AS SHOWN UNLESS OTHERWISE NOTED.
3. ALL UTILITY LINES TO BE INSTALLED AT DEPTHS AS SHOWN UNLESS OTHERWISE NOTED.
4. ALL UTILITY LINES TO BE INSTALLED AT DEPTHS AS SHOWN UNLESS OTHERWISE NOTED.
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Farnsworth
INC.

8510 PHOENIX ROAD, SUITE 580
EDEN PRAIRIE, MN 55324
(952) 945-3800 / info@fai.com

Engineers | Architects | Surveyors | Scientists

DATE: DESCRIPTION:
PROJECT NO. 0221474.00

Project Status
ISSUED FOR REVIEW

**BUSH LAKE
VETERINARY CLINIC**

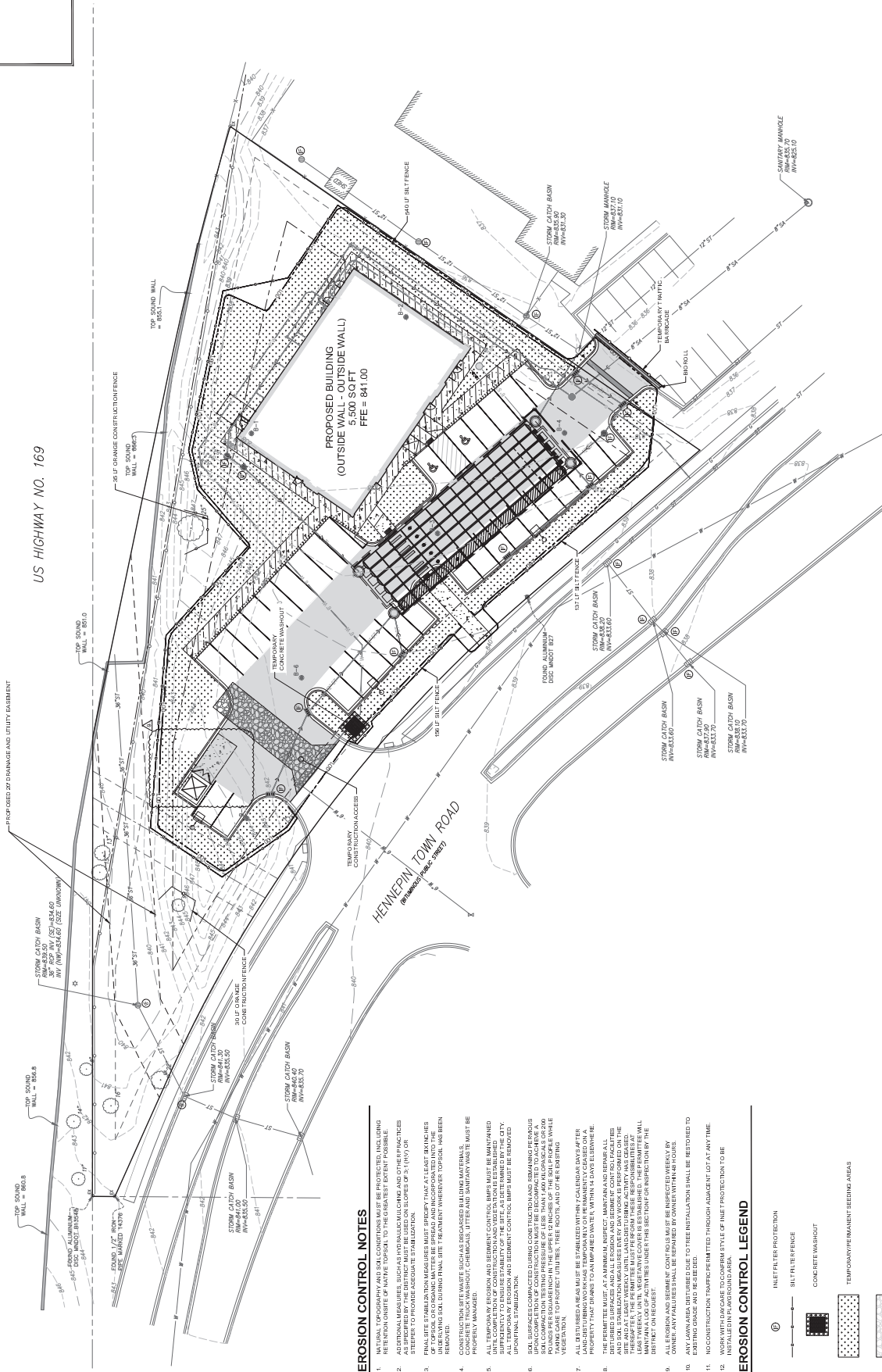
10160 HENLEPIN TOWN RD.
EDEN PRAIRIE, MN

DATE: 03/08/2023
DESIGNED: IR
DRAWN: JWL
REVIEWED: IR
FIELD BOOK NO.:

**EROSION CONTROL
PLAN**

C5.1

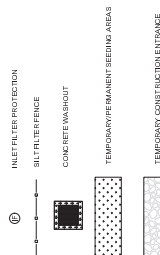
PROJECT NO. 0221474.00



EROSION CONTROL NOTES

- NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING ALL EXISTING VEGETATION. VEGETATION SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AND RESTORED TO ORIGINAL OR BETTER CONDITION AS SOON AS PRACTICABLE. SOILS, PERMANENT MULCHES, AND OTHER PRACTICES SHALL BE INSTALLED TO PROMOTE VEGETATION ESTABLISHMENT.
- ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT CONSTRUCTION AND RESTORED TO ORIGINAL OR BETTER CONDITION AS SOON AS PRACTICABLE. SOILS, PERMANENT MULCHES, AND OTHER PRACTICES SHALL BE INSTALLED TO PROMOTE VEGETATION ESTABLISHMENT.
- CONSTRUCTION SITE WASTE SUCH AS REBAR, BRICKS, AND OTHER MATERIALS MUST BE PROPERLY WASHED. CONCRETE TRUCK WASHOUT, CHEMICALS, OILS, AND OTHER MATERIALS MUST BE PROPERLY WASHED.
- ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT CONSTRUCTION AND RESTORED TO ORIGINAL OR BETTER CONDITION AS SOON AS PRACTICABLE. SOILS, PERMANENT MULCHES, AND OTHER PRACTICES SHALL BE INSTALLED TO PROMOTE VEGETATION ESTABLISHMENT.
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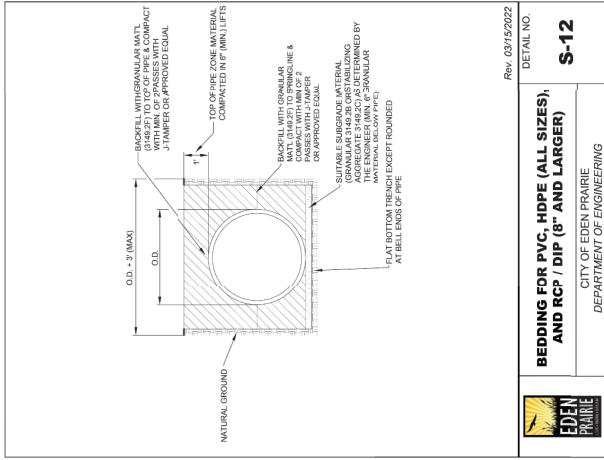
EROSION CONTROL LEGEND



EROSION CONTROL PLAN

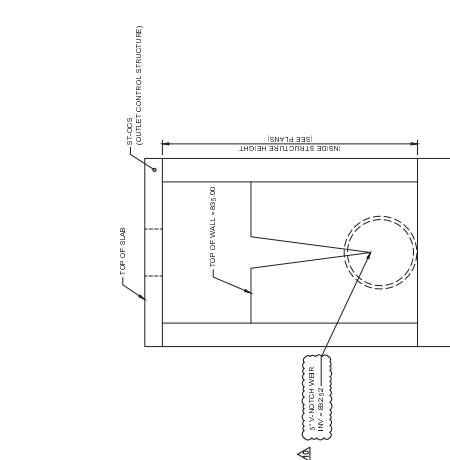
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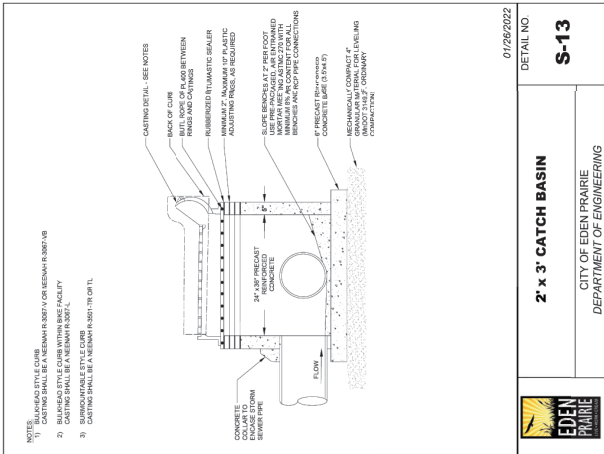
Rev. 03/15/2022
DETAIL NO. S-12
BEDDING FOR PVC, HDPE (ALL SIZES), AND RCP / DIP (8" AND LARGER)
 CITY OF EDEN PRAIRIE
 DEPARTMENT OF ENGINEERING

2 CITY OF EDEN PRAIRIE SEWER BEDDING DETAIL
 SCALE: NOT TO SCALE



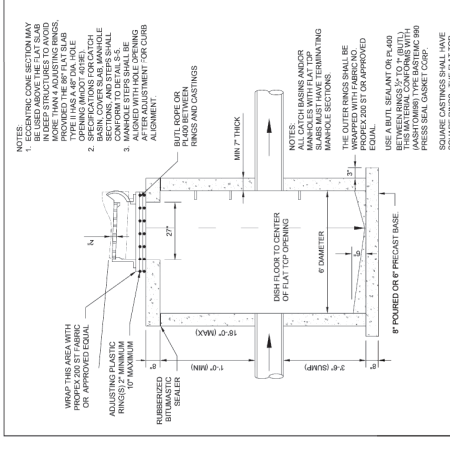
Rev. 03/15/2022
DETAIL NO. S-7
SUMP MANHOLE OR CATCH BASIN
 CITY OF EDEN PRAIRIE
 DEPARTMENT OF ENGINEERING

3 CITY OF EDEN PRAIRIE SUMP MANHOLE OR CATCH BASIN DETAIL
 SCALE: NOT TO SCALE



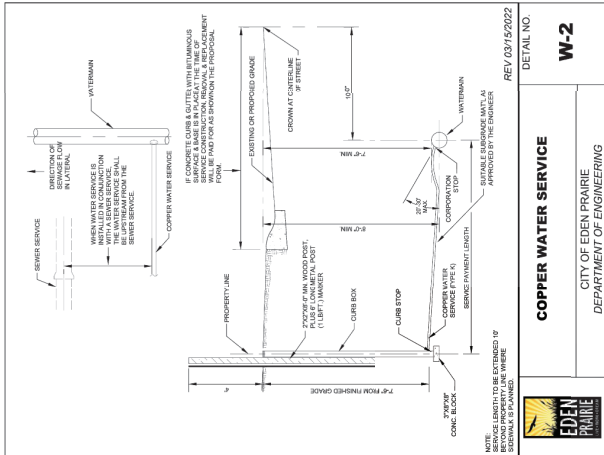
07/26/2022
DETAIL NO. S-13
2' x 3' CATCH BASIN
 CITY OF EDEN PRAIRIE
 DEPARTMENT OF ENGINEERING

4 CITY OF EDEN PRAIRIE 2'x3' CATCH BASIN DETAIL
 SCALE: NOT TO SCALE



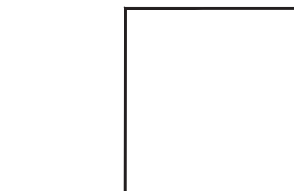
REV. 03/15/2022
DETAIL NO. S-7
SUMP MANHOLE OR CATCH BASIN
 CITY OF EDEN PRAIRIE
 DEPARTMENT OF ENGINEERING

3 CITY OF EDEN PRAIRIE SUMP MANHOLE OR CATCH BASIN DETAIL
 SCALE: NOT TO SCALE



REV. 03/15/2022
DETAIL NO. W-2
COPPER WATER SERVICE
 CITY OF EDEN PRAIRIE
 DEPARTMENT OF ENGINEERING

5 CITY OF EDEN PRAIRIE WATER SERVICE DETAIL
 SCALE: NOT TO SCALE



Farnsworth INC.
 8933 DUNDAS ROAD, SUITE 480
 EDEN PRAIRIE, MN 55424
 (952) 664-8800 / (612) 874-4000
 www.farnsworth.com
 Engineers | Architects | Surveyors | Scientists

REV.	DATE	DESCRIPTION
11	02/06/21	ADDED REVISION SYSTEM

Project Status
 ISSUED FOR REVIEW

BUSH LAKE VETERINARY CLINIC
 10180 HENNEPIN TOWN RD.
 EDEN PRAIRIE, MN

DATE: 03/08/2023
 DESIGNED: IR
 DRAWN: JWL
 REVIEWED: IR
 FIELD BOOK NO.:
 SHEET TITLE:

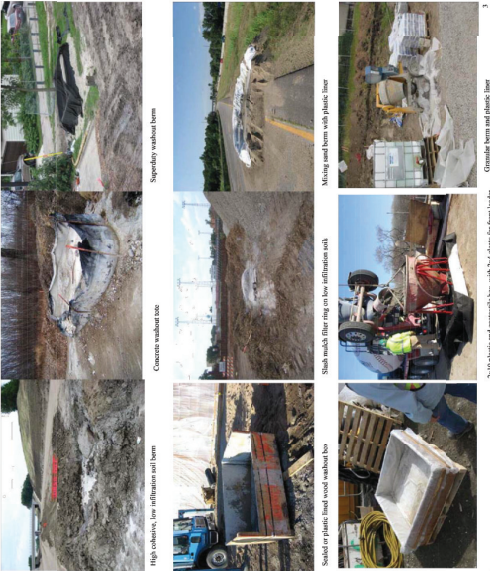
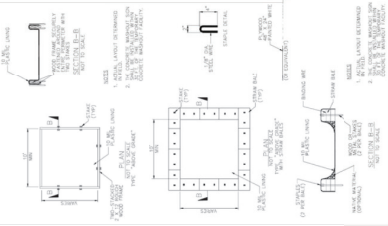
SEWER & WATER DETAILS

C6.3

PROJECT NO.: 022474.00

MnDOT Department of Transportation
SWPPP for Concrete Washout

Option B: Berm Trap System
This system is designed to capture washout water from concrete trucks. It consists of a concrete washout tank with a berm trap system and a 2" particle trap. Washout water is captured in the berm trap and then flows into the concrete washout tank. The berm trap system is designed to capture washout water from concrete trucks. It consists of a concrete washout tank with a berm trap system and a 2" particle trap. Washout water is captured in the berm trap and then flows into the concrete washout tank. The berm trap system is designed to capture washout water from concrete trucks. It consists of a concrete washout tank with a berm trap system and a 2" particle trap. Washout water is captured in the berm trap and then flows into the concrete washout tank.



24" deep plastic washout box, with 2" filter for filter holder pickup and movement.

1 MnDOT CONCRETE WASHOUT OPTION B: BERM TRAP SYSTEM

SCALE: NOT TO SCALE

MnDOT Department of Transportation
SWPPP for Concrete Washout

Option B: Chute Washout System
This system is designed to capture washout water from concrete trucks. It consists of a concrete washout tank with a chute washout system and a 2" particle trap. Washout water is captured in the chute washout system and then flows into the concrete washout tank. The chute washout system is designed to capture washout water from concrete trucks. It consists of a concrete washout tank with a chute washout system and a 2" particle trap. Washout water is captured in the chute washout system and then flows into the concrete washout tank.

All trucks appear capable of containing all concrete splash and spillage. At the request of the study team, concrete splash and spillage tests were conducted on the study area to determine if the Project site can be left in a washout area as determined by the Project team. The tests were conducted on the study area to determine if the Project site can be left in a washout area as determined by the Project team. The tests were conducted on the study area to determine if the Project site can be left in a washout area as determined by the Project team.



Approximately 1.5 times cycles are necessary to adequately clean the truck. The washout system is designed to capture washout water from concrete trucks. It consists of a concrete washout tank with a chute washout system and a 2" particle trap. Washout water is captured in the chute washout system and then flows into the concrete washout tank.

3 MnDOT CONCRETE WASHOUT OPTION D: CHUTE WASHOUT SYSTEM

SCALE: NOT TO SCALE

MnDOT Department of Transportation
SWPPP for Concrete Washout
May 2006, v5
Option C: Dumpster System
This system is designed to capture washout water from concrete trucks. It consists of a concrete washout tank with a dumpster system and a 2" particle trap. Washout water is captured in the dumpster system and then flows into the concrete washout tank. The dumpster system is designed to capture washout water from concrete trucks. It consists of a concrete washout tank with a dumpster system and a 2" particle trap. Washout water is captured in the dumpster system and then flows into the concrete washout tank.



Yellow concrete liquid and solid separator system used to store all materials until liquid separator or system removed and used by commercial operators.

2 MnDOT CONCRETE WASHOUT OPTION C: DUMPSTER SYSTEM

SCALE: NOT TO SCALE

Project Status
ISSUED FOR REVIEW

BUSH LAKE VETERINARY CLINIC

10160 HENLEPPIN TOWN RD.
EDEN PRAIRIE, MN

DATE: 03/08/2023
DESIGNED: JWL
DRAWN: JWL
REVIEWED: IR
FIELD BOOK NO.: -

EROSION CONTROL DETAILS

C6.5

PROJECT NO.: 0221474.00



BUSH LAKE VET CLINIC 7-27-23

EDEN PRAIRIE, MN, USA

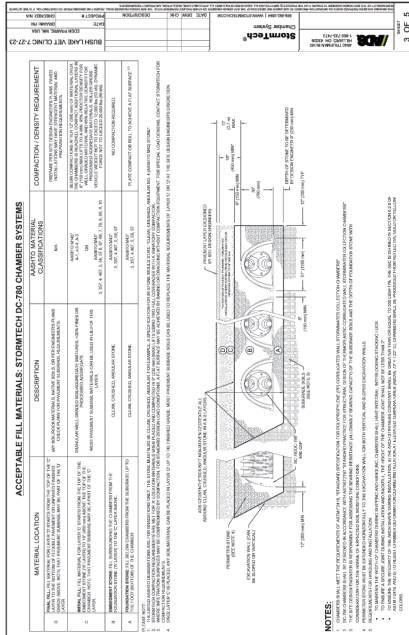
PROJECT INFORMATION	
PROJECT NO.	
PROJECT NAME	
PROJECT LOCATION	

DC-780 STORMTECH CHAMBER SPECIFICATIONS

1. THE CHAMBER SHALL BE MANUFACTURED FROM 304L STAINLESS STEEL WITH A MINIMUM WALL THICKNESS OF 1/4" (6.35mm).
2. THE CHAMBER SHALL BE MANUFACTURED TO THE DESIGN AND CONSTRUCTION REQUIREMENTS OF THE STORMTECH DC-780 CHAMBER SPECIFICATIONS.
3. THE CHAMBER SHALL BE MANUFACTURED TO THE DESIGN AND CONSTRUCTION REQUIREMENTS OF THE STORMTECH DC-780 CHAMBER SPECIFICATIONS.
4. THE CHAMBER SHALL BE MANUFACTURED TO THE DESIGN AND CONSTRUCTION REQUIREMENTS OF THE STORMTECH DC-780 CHAMBER SPECIFICATIONS.
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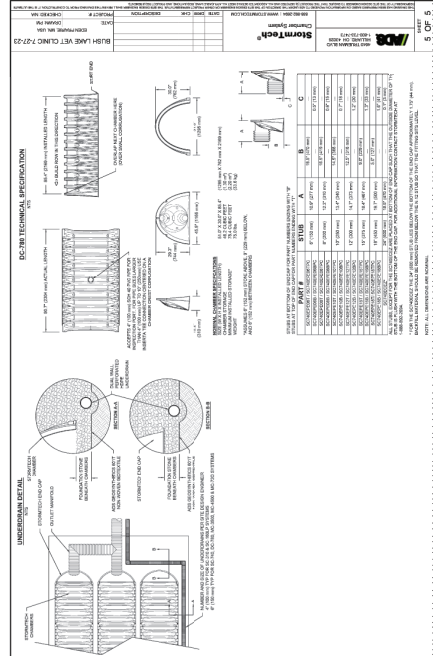
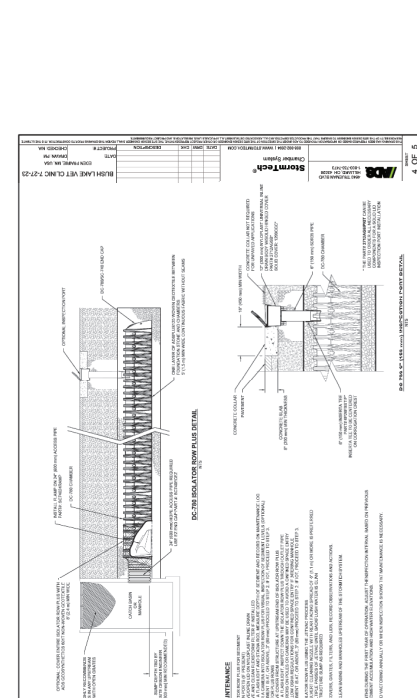
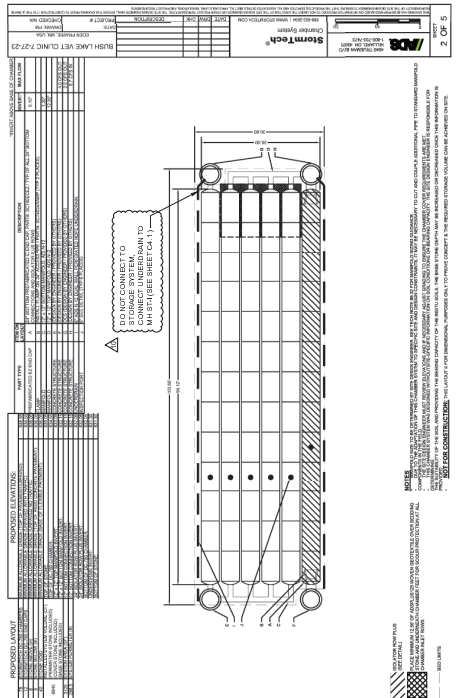
NOTES FOR CONSTRUCTION EQUIPMENT

1. THE CHAMBER SHALL BE MANUFACTURED TO THE DESIGN AND CONSTRUCTION REQUIREMENTS OF THE STORMTECH DC-780 CHAMBER SPECIFICATIONS.
2. THE CHAMBER SHALL BE MANUFACTURED TO THE DESIGN AND CONSTRUCTION REQUIREMENTS OF THE STORMTECH DC-780 CHAMBER SPECIFICATIONS.
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Farnsworth INC.
 8810 POND ROAD, SUITE 180
 EDEN PRAIRIE, MN 55424
 (952) 864-8800 / info@fai.com

Engineers | Architects | Surveyors | Scientists

DATE: 12/29/2023
 DESCRIPTION: UNDERGROUND DETENTION SYSTEM
 SHEET NO.: 0221474.00

PROFESSIONAL ENGINEER
 I AM CERTIFIED THAT THIS REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: [Signature]
 TYPED OR PRINTED NAME: [Name]
 LICENSE NUMBER: 69073

BUSH LAKE VETERINARY CLINIC
 10160 HENLEPPIN TOWN RD.
 EDEN PRAIRIE, MN

DATE: 03/08/2023
 DESIGNED: JR
 DRAWN: JWL
 REVIEWED: IR
 FIELD BOOK NO.: [Blank]

UNDERGROUND DETENTION SYSTEM DETAILS

PROJECT NO.: 0221474.00

C6.6

