

## Riley Purgatory Bluff Creek Watershed District Permit Application Review

**Permit No:** 2023-020

**Considered at Board of Managers Meeting:** July 12, 2023

**Received complete:** May 24, 2023

**Applicant:** Highland Venture, Ltd., Travis Norris

**Representative:** Farnsworth Group, Inc., Isaac Ramsay

**Project:** The project proposes the development of a new veterinary clinic and associated onsite parking areas and driveway in Eden Prairie, MN. The project includes a subsurface stormwater facility to provide volume control, water quality, and rate control.

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

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

### Proposed Board Action

Manager \_\_\_\_\_ moved and Manager \_\_\_\_\_ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the July 12, 2023 meeting of the managers:

Resolved that the application for 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	See rule-specific permit condition C1 related to name of individual responsible for on-site erosion control.
J	Stormwater Management	Rate	Yes	
		Volume	See comments	See stipulation #5 related to verifying the infiltration capacity of the soils.
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	See comment	See rule-specific permit condition J1 related to recordation of stormwater facility maintenance declaration.

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	
<b>L</b>	<b>Permit Fee Deposit</b>	Yes	\$3,010 deposit fee received May 10, 2023. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of July 6, 2023 the amount due is \$2,648.
<b>M</b>	<b>Financial Assurance</b>	See Comment	The financial assurance is calculated at \$143,598.

**Background**

The proposed development will include 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 , to provide water quality treatment, rate control, and volume abstraction.

There are no on-site or adjacent Wetland Conservation Act-protected wetlands for which wetland buffers would be required. The treated runoff leaving the site from the subsurface infiltration/detention system is conveyed via storm sewer to a detention pond to the south of the site.

The project site information is summarized in Table 1.

**Table 1. Project site information**

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

Exhibits:

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 March 8, 2023 (received revised plans May 24, 2023 and June 19, 2023)
3. Stormwater Management Report dated April 14, 2024 (revised May 8, 2023, May 24, 2023, and June 19, 2023)
4. Hydraflow Models received April 18, 2023 (revised May 24, 2023 and June 19, 2023)

5. Review Responses dated May 24, 2023 (the applicant's responses to the May 2nd incomplete notice/review comments)
6. Review Responses dated June 19, 2023 (the applicant's responses to the June 12th review comments)
7. Geotechnical Report dated February 10, 2023
8. Project Narrative dated April 2023 (revised May 2023)

### **Rule Specific Permit Conditions**

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

Because the project will involve the alteration of 0.75 acres of land-surface area or vegetation, the project must conform to the erosion prevention and sediment control requirements established in Rule C.

The erosion control plan prepared by Farnsworth Group includes installation of perimeter control (silt fence and erosion logs), a stabilized construction entrance, inlet protection, daily inspection, temporary concrete washout area, placement of a minimum of 6 inches of topsoil (at 5% organic matter), decompaction of areas compacted during construction. To conform to RPBCWD Rule C requirements, the following revisions are needed:

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

#### **Rule J: Stormwater Management**

Because the project will disturb 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 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 2 below. The proposed project conforms to RPBCWD Rule J, Subsection 3.1.a.

**Table 2. Existing and Proposed Peak Runoff Rates**

Modeled Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
Drainage Area 1	<0.1	<0.1	0.2	0.2	1.5	1.5	0.3	0.3
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 is provided with isolator pretreatment row to conform to Rule J, Subsection 3.1.b.1.

The soil borings performed by Professional Service Industries, Inc. at the location of the proposed subsurface infiltration/detention system show that soils in the project area (B-3 and B-4) have various stratum of clay and sand. Soil boring B-3 observed groundwater at approximately elevation 825 under the proposed system. The subsurface investigation information summarized in Table 3 shows that groundwater is at least 3 feet below the bottom of the proposed subsurface stormwater facility (Rule J, Subsection 3.1.b.2.a).

**Table 3. Groundwater Separation Analysis**

Proposed BMP	Nearest Subsurface Investigation	Boring is within footprint?	Groundwater Elevation (feet)	BMP Bottom Elevation (feet)	Separation (feet)
Subsurface infiltration/detention System	B-3	Yes	Ground water observed approx. 14 feet below surface (approx. el 825 ft)	831.3	6.3

The engineer concurs with the applicant’s design infiltration rates of 0.45 inches per hour for sand and silty sand based on the guidelines provided in the Mn Stormwater Manual. Based on the design infiltration rate, the engineer concurs that the abstraction volume in the subsurface stormwater facility will draw down within 48 hours (Rule J, subsection 3.1b.3). Because the soil borings show layers of sand and clay below the BMP and, though borings were conducted, subsurface infiltration testing was not performed at the BMP location, the infiltration capacity of the in-situ soils remain uncertain. Per Rule J, Subsection 3.1.b.2.c

measured infiltration capacity of the soils at the bottom of the subsurface stormwater facility 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 3.1b or the drawdown requirements, design modifications to achieve compliance with RPBCWD requirements will need to be submitted (in the form of an application for a permit modification or new permit).

The table below summarizes the volume abstraction for the site based on the design infiltration capacity of the subsurface stormwater facility . With the stipulation noted above regarding verification of subsurface conditions, the engineer concurs with the submitted information and finds that the proposed project will conform with Rule J, Subsection 3.1.b.

**Table 4. Volume Abstraction Summary**

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
1.1	2,092	2.25	4,271

**Water Quality Management**

Subsection 3.1.c of Rule J requires the Applicant to provide volume abstraction in accordance with 3.1b or least 60 percent annual removal efficiency for total phosphorus (TP), and at least 90 percent annual removal efficiency for total suspended solids (TSS) from site runoff, and no net increase in TSS or TP loading leaving the site from existing conditions. Because the subsurface stormwater facility proposed by the applicant provides volume abstraction meeting the standard in 3.1b and the engineer concurs with the modeling, under paragraph 3.1c.i, the engineer finds that the proposed project provides the required stormwater-quality protection.

**Low floor Elevation**

All new buildings must be constructed such that the lowest floor is at least two feet above the 100-year high-water elevation or one foot above the emergency overflow of a stormwater-management facility according to Rule J, Subsection 3.6a. In addition, a stormwater-management facility must be constructed at an elevation that ensures that no adjacent habitable building will be brought into noncompliance with this requirement according to Rule J, Subsection 3.6b. The 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
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**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 maintenance and inspection declaration. A maintenance declaration template is available on the permits page of the RPBCWD website. (<http://www.rpbcwd.org/permits/>). A draft declaration must be provided for District review and approval prior to recording.

**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 must replenish the permit fee deposit to the original amount due before the permit will be issued. Subsequently, if the costs of review, administration, inspections and closeout-related or other regulatory activities exceed the fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice that such deposit is due. The administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished.

L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of July 6, 2023 the amount due is \$2,648.

**Rule M: Financial Assurance**

	Unit	Unit Cost	# of Units	Total
Rules C: Silt fence:	LF	\$2.50	835	\$2,090
Sediment Log	LF	\$2.50	40	\$100
Inlet protection	EA	\$100	17	\$1,700
Rock Entrance	EA	\$250	1	\$250
Restoration	Ac	\$2,500	0.75	\$1,250
Rules J: Chloride Management	LS	\$5,000	1	\$5,000
Rules J: Stormwater Management: 125% of engineer's opinion of cost (1.25*\$96,123)	EA	125% OPC	1	\$120,154
Contingency (10%)		10%		\$13,054
<b>Total Financial Assurance</b>				<b>\$143,598</b>

**Applicable General Requirements:**

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction shall be consistent with the plans and specifications approved by the District as a part of the permitting process. The date of the approved plans and specifications is listed on the permit.
3. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
4. The grant of the permit will not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
5. The issuance of this permit will not convey any rights to either real or personal property, or any exclusive privileges, nor will it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
6. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.
7. RPBCWD's determination to approve the permit application was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods

or means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.

8. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

### **Findings**

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

### **Recommendation:**

Approval of the permit contingent upon:

1. Financial Assurance in the amount of \$143,598
2. Permit applicant must provide the name and contact information of the general contractor responsible for the site. RPBCWD must be notified if the responsible party changes during the permit term.
3. Receipt by RPBCWD of documentation of recordation of a maintenance declaration for the stormwater management facilities. A draft must be reviewed and approved by the District prior to recordation.
4. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of July 6, 2023 the amount due is \$2,648

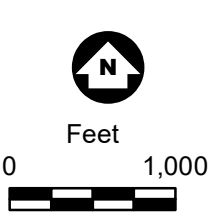
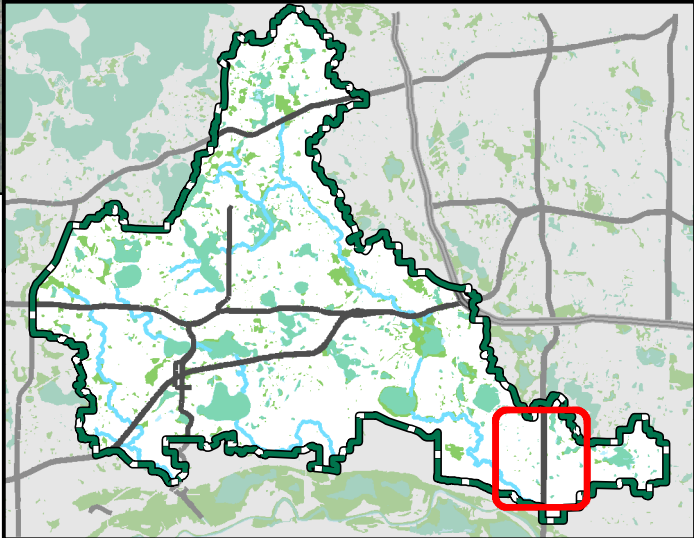
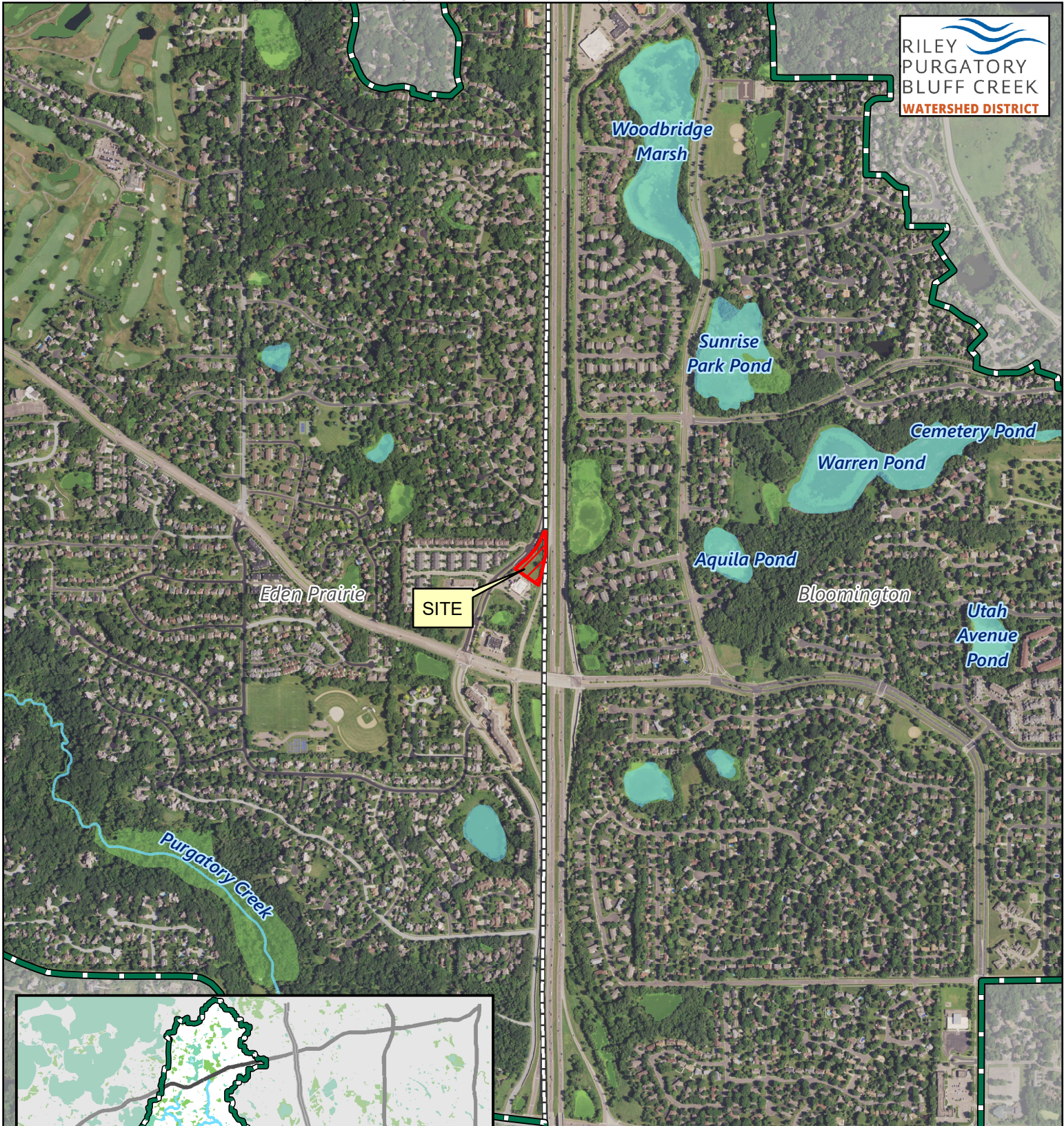
By accepting the permit, when issued, the applicant agrees to the following stipulations:

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 facility 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 constructed infiltration facilities perform as designed. This may include infiltration testing, flood testing, or other with prior approval from RPBCWD.



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.
5. Per Rule J, Subsection 3.1.b.ii measured infiltration capacity of the soils at the bottom of the subsurface stormwater facility 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 drawdown time, 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).





Permit Location Map

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



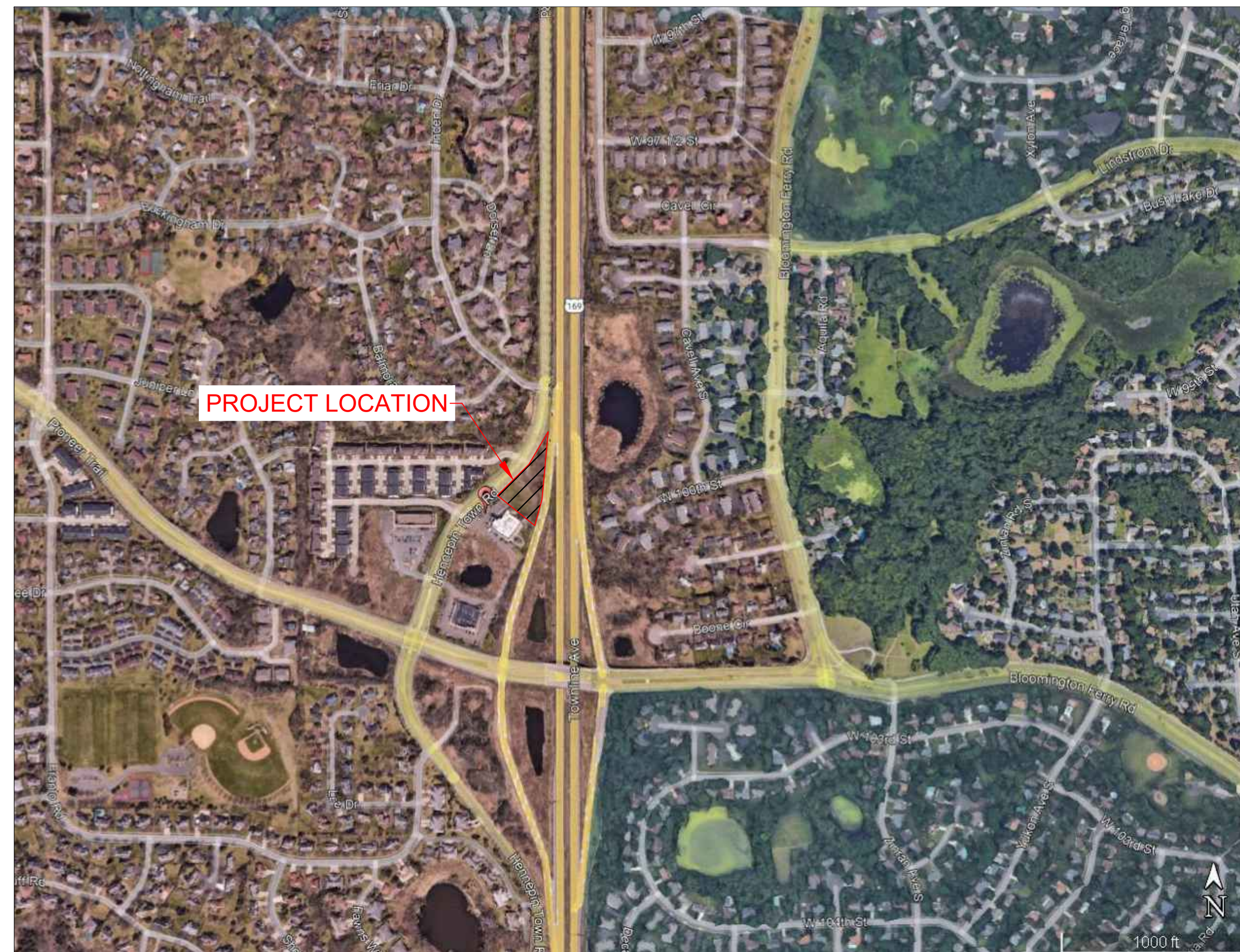


HIGHLAND VENTURES INC.

# BUSH LAKE VETERINARY CLINIC

Hennepin Town Road, Eden Prairie, MN 55347

LOCATION MAP



### INDEX OF DRAWINGS

SHEET NO.	SHEET NAME	ISSUE DATE	REVISION DATE
C0.0	COVER SHEET	03/08/2023	06/19/2023
C0.1	GENERAL NOTES & LEGENDS	03/08/2023	04/14/2023
C1.1	EXISTING TOPOGRAPHY & DEMOLITION PLAN	03/08/2023	04/14/2023
C2.1	SITE LAYOUT PLAN	03/08/2023	06/19/2023
C2.2	ADJACENT LOTS	03/08/2023	06/05/2023
C3.1	SITE GRADING PLAN	03/08/2023	06/19/2023
C4.1	SITE UTILITY PLAN	03/08/2023	06/19/2023
C5.1	EROSION CONTROL PLAN	03/08/2023	06/19/2023
C6.1	STANDARD SITE DETAILS	03/08/2023	
C6.2	SEWER & WATER DETAILS	03/08/2023	
C6.3	SEWER & WATER DETAILS	03/08/2023	06/19/2023
C6.4	EROSION CONTROL DETAILS	03/08/2023	
C6.5	EROSION CONTROL DETAILS	03/29/2023	
C6.6	UNDERGROUND DETENTION DETAILS	03/29/2023	06/19/2023
L1.1	LANDSCAPE PLAN	03/08/2023	06/05/2023
L2.1	LANDSCAPE DETAILS	03/08/2023	05/19/2023

### 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 46268

### UTILITY LOCATE

811  
651-454-0002

### UTILITY INFORMATION

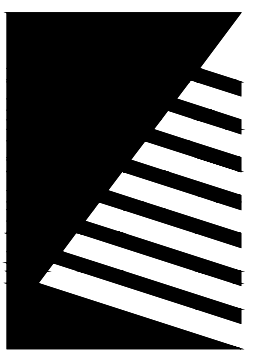
<b>WATER, SANITARY, &amp; STORM:</b> CITY OF EDEN PRAIRIE 8080 MITCHELL ROAD EDEN PRAIRIE, MN 55344	<b>TELEPHONE / INTERNET:</b> CENTURYLINK 800.244.1111
<b>CABLE:</b> COMCAST 612.522.2000	<b>NATURAL GAS:</b> CENTERPOINT ENERGY 612.372.4664
<b>ELECTRIC:</b> XCEL ENERGY 800.895.4999	

### PROFESSIONAL REGISTRATIONS

**PROFESSIONAL ENGINEER**  
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: \_\_\_\_\_  
 TYPED OR PRINTED NAME: Isaac D. Ramsay  
 DATE: 06/05/2023 LICENSE NUMBER: 60973





# Farnsworth INC.

8910 PURDUE ROAD, SUITE 680  
INDIANAPOLIS, INDIANA 46268  
(317) 664-8100 / info@f-w.com

www.f-w.com  
Engineers | Architects | Surveyors | Scientists

ISSUE:

#	DATE:	DESCRIPTION:
1	04/14/2023	CITY OF EDEN PRAIRIE COMMENTS
2	05/08/2023	CITY OF EDEN PRAIRIE COMMENTS
3	05/19/2023	CITY OF EDEN PRAIRIE COMMENTS
4	05/24/2023	RPBCWD COMMENTS
5	06/05/2023	CITY OF EDEN PRAIRIE COMMENTS
6	06/19/2023	RPBCWD COMMENTS

## Project Status

PROJECT:

## BUSH LAKE VETERINARY CLINIC

10160 HENNEPIN TOWN RD.  
EDEN PRAIRIE, MN

DATE: 03/08/2023

DESIGNED: IR

DRAWN: JWL

REVIEWED: IR

FIELD BOOK NO.: -

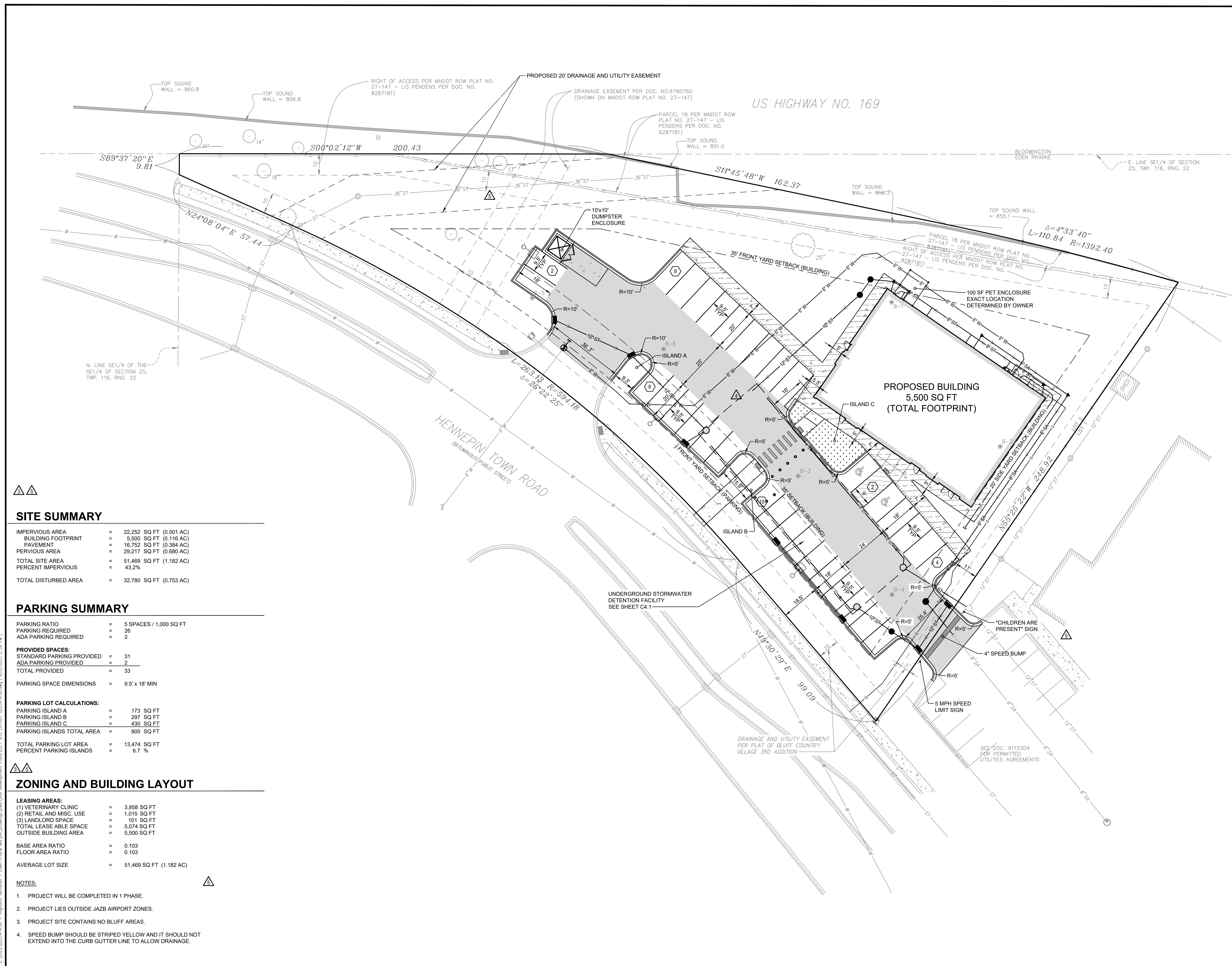
SHEET TITLE:

## SITE LAYOUT PLAN

SHEET NUMBER:

# C2.1

PROJECT NO.: 0221474.00



### SITE SUMMARY

IMPERVIOUS AREA	=	22,252 SQ FT (0.501 AC)
BUILDING FOOTPRINT	=	5,500 SQ FT (0.116 AC)
PAVEMENT	=	16,752 SQ FT (0.384 AC)
PERVIOUS AREA	=	29,217 SQ FT (0.680 AC)
TOTAL SITE AREA	=	51,469 SQ FT (1.182 AC)
PERCENT IMPERVIOUS	=	43.2%
TOTAL DISTURBED AREA	=	32,780 SQ FT (0.753 AC)

### PARKING SUMMARY

PARKING RATIO	=	5 SPACES / 1,000 SQ FT
PARKING REQUIRED	=	26
ADA PARKING REQUIRED	=	2

PROVIDED SPACES:	
STANDARD PARKING PROVIDED	= 31
ADA PARKING PROVIDED	= 2
TOTAL PROVIDED	= 33

PARKING SPACE DIMENSIONS	=	9.5' x 18' MIN
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### PARKING LOT CALCULATIONS:

PARKING ISLAND A	=	173 SQ FT
PARKING ISLAND B	=	297 SQ FT
PARKING ISLAND C	=	430 SQ FT
PARKING ISLANDS TOTAL AREA	=	900 SQ FT

TOTAL PARKING LOT AREA	=	13,474 SQ FT
PERCENT PARKING ISLANDS	=	6.7 %

### ZONING AND BUILDING LAYOUT

LEASING AREAS:	
(1) VETERINARY CLINIC	= 3,958 SQ FT
(2) RETAIL AND MISC. USE	= 1,015 SQ FT
(3) LANDLORD SPACE	= 101 SQ FT
TOTAL LEASABLE SPACE	= 5,074 SQ FT
OUTSIDE BUILDING AREA	= 5,500 SQ FT

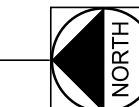
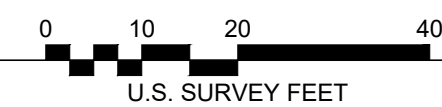
BASE AREA RATIO	=	0.103
FLOOR AREA RATIO	=	0.103
AVERAGE LOT SIZE	=	51,469 SQ FT (1.182 AC)

### NOTES:

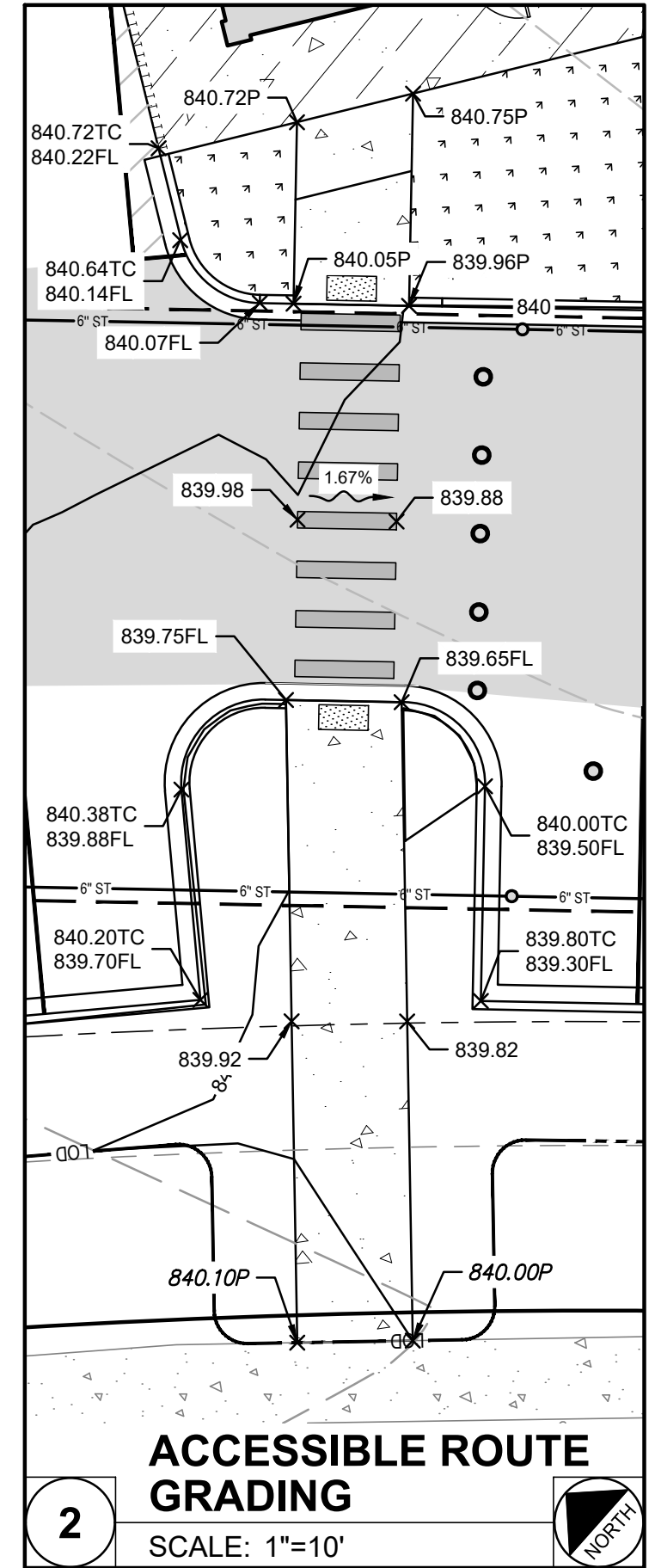
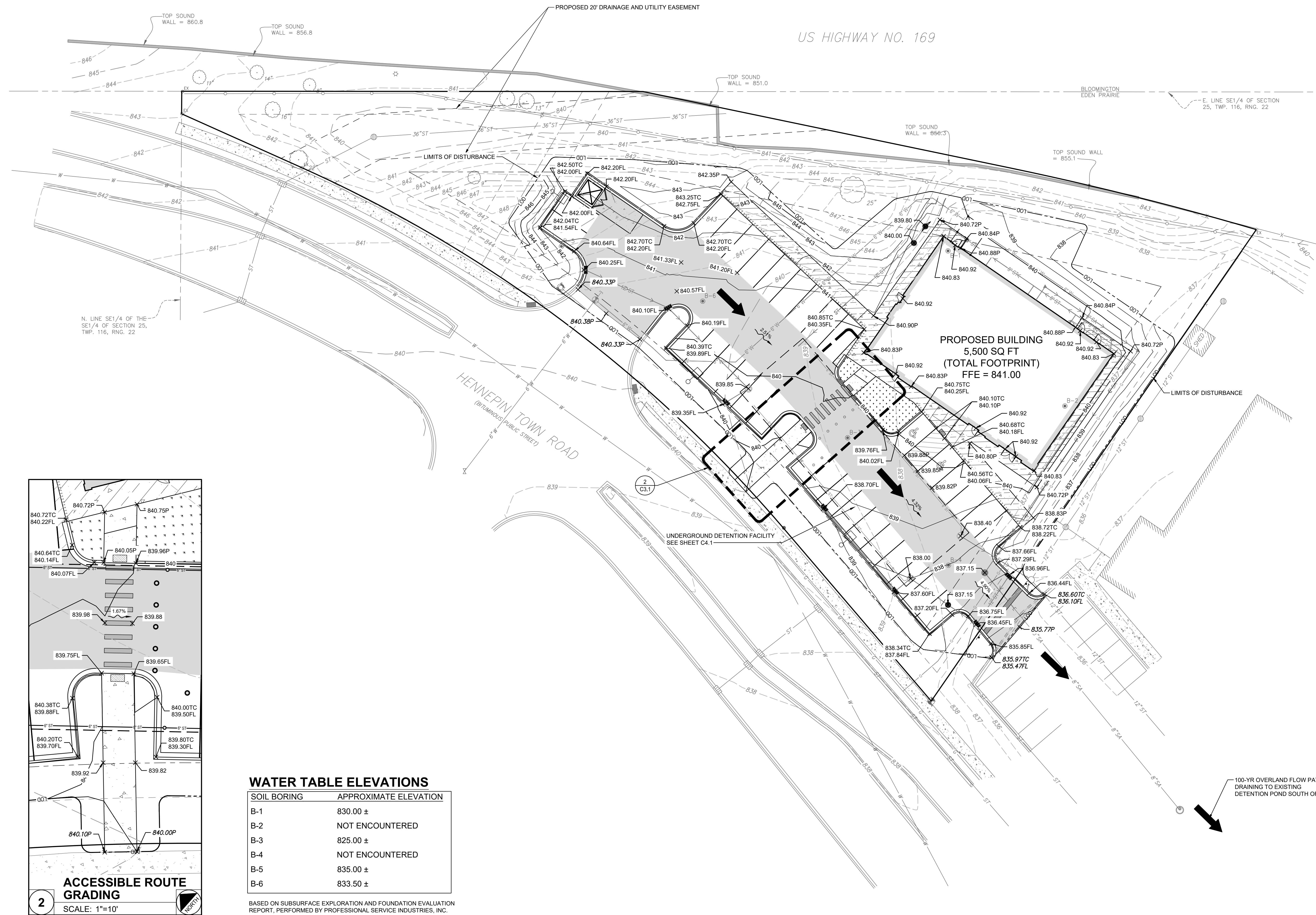
- PROJECT WILL BE COMPLETED IN 1 PHASE.
- PROJECT LIES OUTSIDE JAZB AIRPORT ZONES.
- PROJECT SITE CONTAINS NO BLUFF AREAS.
- SPEED BUMP SHOULD BE STRIPED YELLOW AND IT SHOULD NOT EXTEND INTO THE CURB GUTTER LINE TO ALLOW DRAINAGE.

## 1 SITE LAYOUT PLAN

SCALE: 1"=20'







**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 SUBSURFACE EXPLORATION AND FOUNDATION EVALUATION REPORT, PERFORMED BY PROFESSIONAL SERVICE INDUSTRIES, INC.

**1 SITE GRADING PLAN**  
SCALE: 1"=20'



**Farnsworth INC.**

8910 PURDUE ROAD, SUITE 680  
INDIANAPOLIS, INDIANA 46268  
(317) 664-8100 / info@f-w.com

www.f-w.com  
Engineers | Architects | Surveyors | Scientists

ISSUE:

#	DATE:	DESCRIPTION:
2	05/08/2023	CITY OF EDEN PRAIRIE COMMENTS
4	05/24/2023	RPBCWD COMMENTS
5	06/05/2023	CITY OF EDEN PRAIRIE COMMENTS
6	06/19/2023	RPBCWD COMMENTS

**Project Status**

PROJECT:

**BUSH LAKE VETERINARY CLINIC**

10160 HENNEPIN TOWN RD.  
EDEN PRAIRIE, MN

DATE: 03/08/2023

DESIGNED: IR

DRAWN: JWL

REVIEWED: IR

FIELD BOOK NO.: -

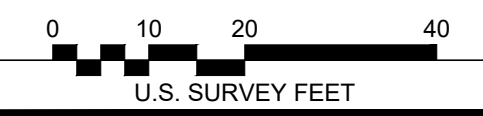
SHEET TITLE:

**SITE GRADING PLAN**

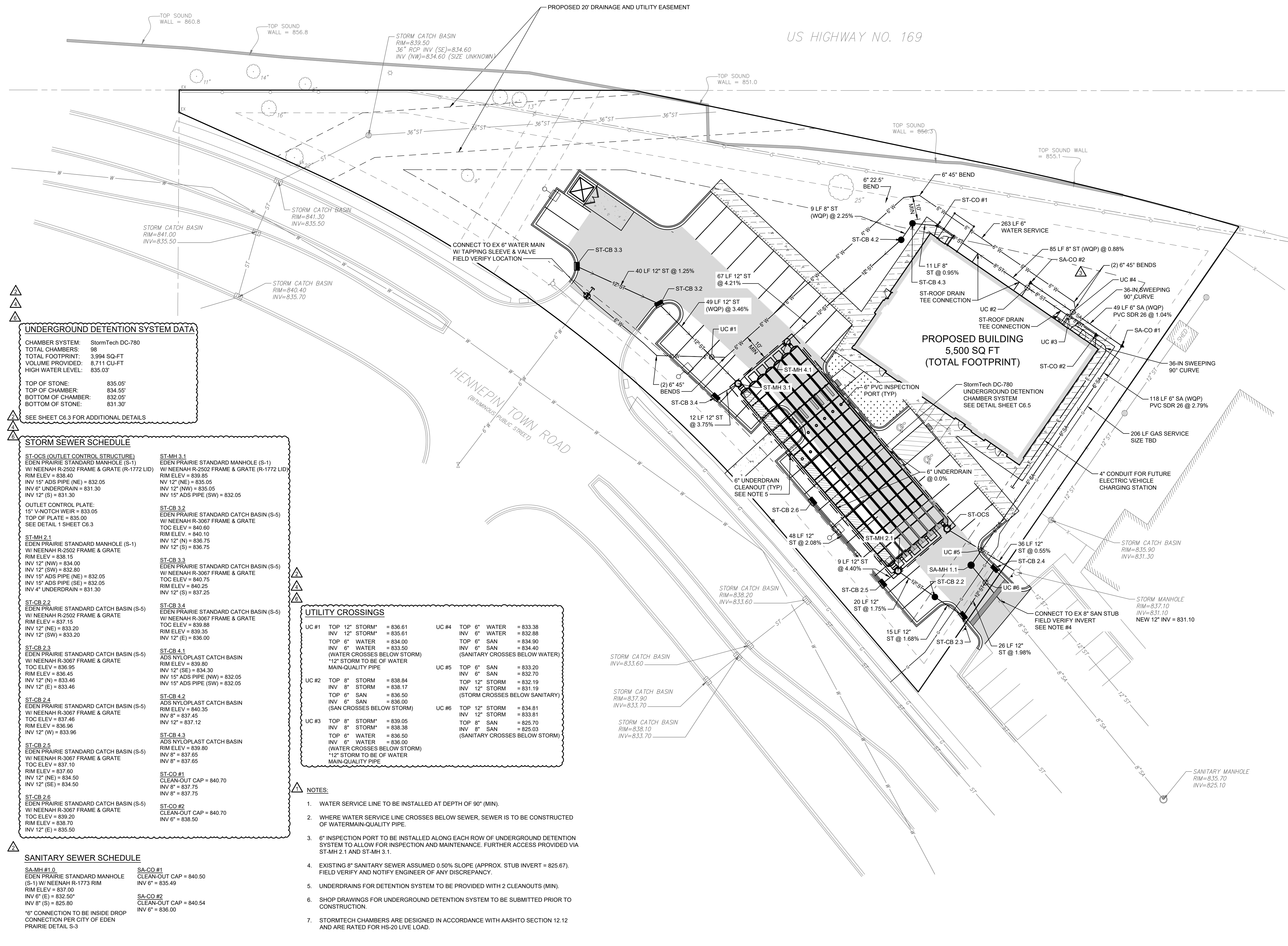
SHEET NUMBER:

**C3.1**

PROJECT NO.: 0221474.00







**UNDERGROUND DETENTION SYSTEM DATA**

CHAMBER SYSTEM: StormTech DC-780  
 TOTAL CHAMBERS: 98  
 TOTAL FOOTPRINT: 3,994 SQ-FT  
 VOLUME PROVIDED: 8,711 CU-FT  
 HIGH WATER LEVEL: 835.03'

TOP OF STONE: 835.05'  
 TOP OF CHAMBER: 834.55'  
 BOTTOM OF CHAMBER: 832.05'  
 BOTTOM OF STONE: 831.30'

SEE SHEET C6.3 FOR ADDITIONAL DETAILS

**STORM SEWER SCHEDULE**

**ST-OCS (OUTLET CONTROL STRUCTURE)**  
 EDEN PRAIRIE STANDARD MANHOLE (S-1)  
 W/ NEENAH R-2502 FRAME & GRATE (R-1772 LID)  
 RIM ELEV = 838.40  
 INV 15' ADS PIPE (NE) = 832.05  
 INV 6" UNDERDRAIN = 831.30  
 INV 12" (S) = 831.30

**OUTLET CONTROL PLATE:**  
 15" V-NOTCH WEIR = 833.05  
 TOP OF PLATE = 835.00  
 SEE DETAIL 1 SHEET C6.3

**ST-MH 2.1**  
 EDEN PRAIRIE STANDARD MANHOLE (S-1)  
 W/ NEENAH R-2502 FRAME & GRATE  
 RIM ELEV = 838.15  
 INV 12" (NW) = 834.00  
 INV 12" (SW) = 832.80  
 INV 15' ADS PIPE (NE) = 832.05  
 INV 15' ADS PIPE (SE) = 832.05  
 INV 4" UNDERDRAIN = 831.30

**ST-MH 3.1**  
 EDEN PRAIRIE STANDARD MANHOLE (S-1)  
 W/ NEENAH R-2502 FRAME & GRATE (R-1772 LID)  
 RIM ELEV = 839.85  
 INV 12" (NE) = 835.05  
 INV 12" (NW) = 835.05  
 INV 15' ADS PIPE (SW) = 832.05

**ST-MH 4.1**  
 EDEN PRAIRIE STANDARD MANHOLE (S-1)  
 W/ NEENAH R-3067 FRAME & GRATE  
 RIM ELEV = 840.10  
 INV 12" (N) = 836.75  
 INV 12" (S) = 836.75

**ST-MH 5.1**  
 EDEN PRAIRIE STANDARD MANHOLE (S-1)  
 W/ NEENAH R-3067 FRAME & GRATE  
 RIM ELEV = 840.75  
 INV 12" (S) = 837.25

**ST-MH 2.2**  
 EDEN PRAIRIE STANDARD CATCH BASIN (S-5)  
 W/ NEENAH R-2502 FRAME & GRATE  
 RIM ELEV = 837.15  
 INV 12" (NE) = 833.20  
 INV 12" (SW) = 833.20

**ST-MH 2.3**  
 EDEN PRAIRIE STANDARD CATCH BASIN (S-5)  
 W/ NEENAH R-3067 FRAME & GRATE  
 RIM ELEV = 836.95  
 INV 12" (N) = 833.45  
 INV 12" (E) = 833.46

**ST-MH 2.4**  
 EDEN PRAIRIE STANDARD CATCH BASIN (S-5)  
 W/ NEENAH R-3067 FRAME & GRATE  
 RIM ELEV = 837.46  
 INV 12" (W) = 833.96

**ST-MH 2.5**  
 EDEN PRAIRIE STANDARD CATCH BASIN (S-5)  
 W/ NEENAH R-3067 FRAME & GRATE  
 RIM ELEV = 837.60  
 INV 12" (NE) = 834.50  
 INV 12" (SE) = 834.50

**ST-MH 2.6**  
 EDEN PRAIRIE STANDARD CATCH BASIN (S-5)  
 W/ NEENAH R-3067 FRAME & GRATE  
 RIM ELEV = 838.20  
 INV 12" (E) = 835.90

**ST-MH 3.2**  
 EDEN PRAIRIE STANDARD CATCH BASIN (S-5)  
 W/ NEENAH R-3067 FRAME & GRATE  
 RIM ELEV = 840.60  
 INV 12" (N) = 836.75  
 INV 12" (S) = 836.75

**ST-MH 3.3**  
 EDEN PRAIRIE STANDARD CATCH BASIN (S-5)  
 W/ NEENAH R-3067 FRAME & GRATE  
 RIM ELEV = 840.75  
 INV 12" (S) = 837.25

**ST-MH 3.4**  
 EDEN PRAIRIE STANDARD CATCH BASIN (S-5)  
 W/ NEENAH R-3067 FRAME & GRATE  
 RIM ELEV = 840.35  
 INV 15' ADS PIPE (NW) = 832.05  
 INV 15' ADS PIPE (SW) = 832.05

**ST-MH 4.2**  
 ADS NYLOPLAST CATCH BASIN  
 RIM ELEV = 839.80  
 INV 12" (SE) = 834.30  
 INV 15' ADS PIPE (NW) = 832.05  
 INV 15' ADS PIPE (SW) = 832.05

**ST-MH 4.3**  
 ADS NYLOPLAST CATCH BASIN  
 RIM ELEV = 839.80  
 INV 8" = 837.45  
 INV 12" = 837.12

**ST-MH 4.4**  
 ADS NYLOPLAST CATCH BASIN  
 RIM ELEV = 839.80  
 INV 8" = 837.65  
 INV 12" = 837.65

**ST-MH 5.1**  
 CLEAN-OUT CAP = 840.70  
 INV 8" = 837.75  
 INV 8" = 837.75

**ST-MH 5.2**  
 CLEAN-OUT CAP = 840.70  
 INV 6" = 838.50

**UTILITY CROSSINGS**

UC #1	TOP 12" STORM* = 836.61 INV 12" STORM* = 835.61	UC #4	TOP 6" WATER = 833.38 INV 6" WATER = 832.88
	TOP 6" WATER = 834.00 INV 6" WATER = 833.50 (WATER CROSSES BELOW STORM)		TOP 6" SAN = 834.90 INV 6" SAN = 834.40 (SANITARY CROSSES BELOW WATER)
UC #2	TOP 8" STORM = 838.84 INV 8" STORM = 838.17	UC #5	TOP 6" SAN = 833.20 INV 6" SAN = 832.70
	TOP 6" SAN = 836.50 INV 6" SAN = 836.00 (SAN CROSSES BELOW STORM)		TOP 12" STORM = 832.19 INV 12" STORM = 831.19 (STORM CROSSES BELOW SANITARY)
UC #3	TOP 8" STORM* = 838.05 INV 8" STORM* = 838.38	UC #6	TOP 12" STORM = 834.81 INV 12" STORM = 833.81
	TOP 6" WATER = 836.50 INV 6" WATER = 836.00 (WATER CROSSES BELOW STORM)		TOP 8" SAN = 825.70 INV 8" SAN = 825.03 (SANITARY CROSSES BELOW STORM)
	TOP 12" STORM TO BE OF WATER MAIN-QUALITY PIPE		

- NOTES:**
- WATER SERVICE LINE TO BE INSTALLED AT DEPTH OF 90" (MIN).
  - WHERE WATER SERVICE LINE CROSSES BELOW SEWER, SEWER IS TO BE CONSTRUCTED OF WATERMAIN-QUALITY PIPE.
  - 6" INSPECTION PORT TO BE INSTALLED ALONG EACH ROW OF UNDERGROUND DETENTION SYSTEM TO ALLOW FOR INSPECTION AND MAINTENANCE. FURTHER ACCESS PROVIDED VIA ST-MH 2.1 AND ST-MH 3.1.
  - EXISTING 8" SANITARY SEWER ASSUMED 0.50% SLOPE (APPROX. STUB INVERT = 825.67). FIELD VERIFY AND NOTIFY ENGINEER OF ANY DISCREPANCY.
  - UNDERDRAINS FOR DETENTION SYSTEM TO BE PROVIDED WITH 2 CLEANOUTS (MIN).
  - SHOP DRAWINGS FOR UNDERGROUND DETENTION SYSTEM TO BE SUBMITTED PRIOR TO CONSTRUCTION.
  - STORMTECH CHAMBERS ARE DESIGNED IN ACCORDANCE WITH AASHTO SECTION 12.12 AND ARE RATED FOR HS-20 LIVE LOAD.

**SANITARY SEWER SCHEDULE**

**SA-MH #1.0**  
 EDEN PRAIRIE STANDARD MANHOLE (S-1)  
 W/ NEENAH R-1773 RIM  
 RIM ELEV = 837.00  
 INV 6" (E) = 832.50"  
 INV 8" (S) = 825.80

**SA-CO #1**  
 CLEAN-OUT CAP = 840.50  
 INV 6" = 835.49

**SA-CO #2**  
 CLEAN-OUT CAP = 840.54  
 INV 6" = 836.00

\*6" CONNECTION TO BE INSIDE DROP CONNECTION PER CITY OF EDEN PRAIRIE DETAIL S-3

**1 SITE UTILITY PLAN**  
 SCALE: 1"=20'

US HIGHWAY NO. 169

HENNEPIN TOWN ROAD  
 (BUTTERFIELD PUBLIC STREET)



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8910 PURDUE ROAD, SUITE 680  
 INDIANAPOLIS, INDIANA 46268  
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**REVISIONS**

#	DATE	DESCRIPTION
1	04/14/2023	CITY OF EDEN PRAIRIE COMMENTS
2	05/08/2023	CITY OF EDEN PRAIRIE COMMENTS
3	05/19/2023	CITY OF EDEN PRAIRIE COMMENTS
4	05/24/2023	RPBCWD COMMENTS
5	06/05/2023	CITY OF EDEN PRAIRIE COMMENTS
6	06/19/2023	RPBCWD COMMENTS

**Project Status**

**BUSH LAKE VETERINARY CLINIC**

10160 HENNEPIN TOWN RD.  
 EDEN PRAIRIE, MN

**DATE:** 03/08/2023

**DESIGNED:** IR

**DRAWN:** JWJ

**REVIEWED:** IR

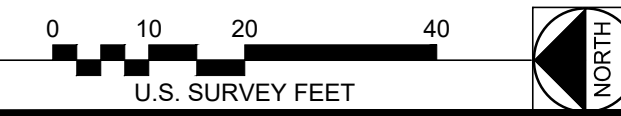
**FIELD BOOK NO.:** -

**SITE UTILITY PLAN**

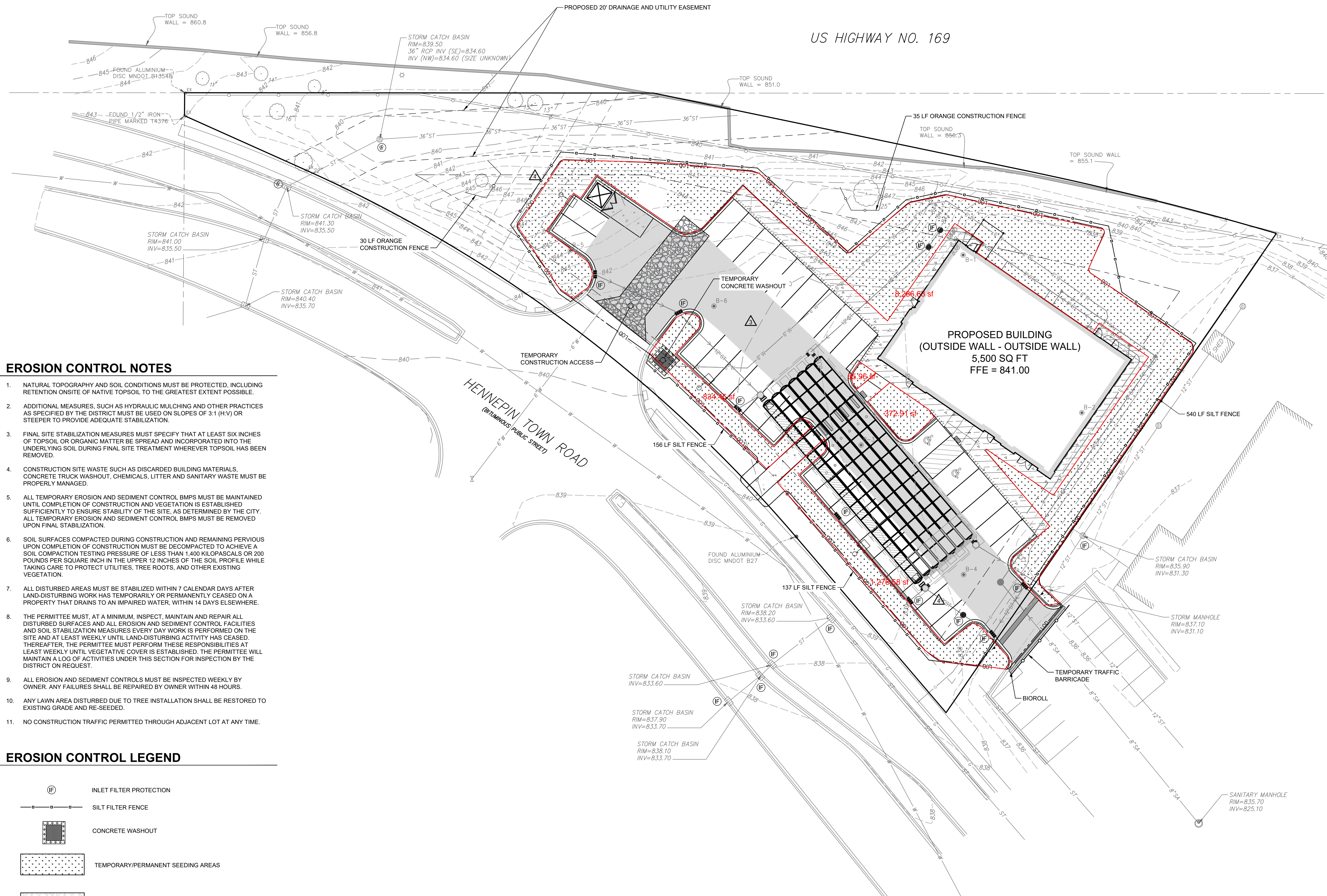
SHEET NUMBER:

**C4.1**

PROJECT NO.: 0221474.00




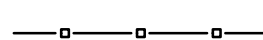
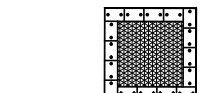
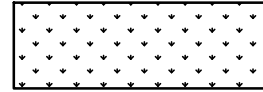





**EROSION CONTROL NOTES**

1. NATURAL TOPOGRAPHY AND SOIL CONDITIONS MUST BE PROTECTED, INCLUDING RETENTION ONSITE OF NATIVE TOPSOIL TO THE GREATEST EXTENT POSSIBLE.
2. 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.
3. FINAL SITE STABILIZATION MEASURES MUST SPECIFY THAT AT LEAST SIX INCHES OF TOPSOIL OR ORGANIC MATTER BE SPREAD AND INCORPORATED INTO THE UNDERLYING SOIL DURING FINAL SITE TREATMENT WHEREVER TOPSOIL HAS BEEN REMOVED.
4. CONSTRUCTION SITE WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE MUST BE PROPERLY MANAGED.
5. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPs MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND VEGETATION IS ESTABLISHED SUFFICIENTLY TO ENSURE STABILITY OF THE SITE, AS DETERMINED BY THE CITY. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPs MUST BE REMOVED UPON FINAL STABILIZATION.
6. 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.
7. 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.
8. 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.
9. ALL EROSION AND SEDIMENT CONTROLS MUST BE INSPECTED WEEKLY BY OWNER. ANY FAILURES SHALL BE REPAIRED BY OWNER WITHIN 48 HOURS.
10. ANY LAWN AREA DISTURBED DUE TO TREE INSTALLATION SHALL BE RESTORED TO EXISTING GRADE AND RE-SEEDED.
11. NO CONSTRUCTION TRAFFIC PERMITTED THROUGH ADJACENT LOT AT ANY TIME.

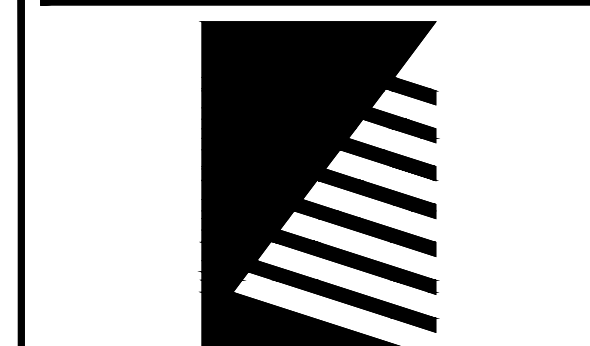
**EROSION CONTROL LEGEND**

-  INLET FILTER PROTECTION
-  SILT FILTER FENCE
-  CONCRETE WASHOUT
-  TEMPORARY/PERMANENT SEEDING AREAS
-  TEMPORARY CONSTRUCTION ENTRANCE

US HIGHWAY NO. 169

HENNEPIN TOWN ROAD  
(FORMERLY PUBLIC STREET)

PROPOSED BUILDING  
(OUTSIDE WALL - OUTSIDE WALL)  
5,500 SQ FT  
FFE = 841.00



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ISSUE:

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**Project Status**

PROJECT:

**BUSH LAKE  
VETERINARY CLINIC**

10160 HENNEPIN TOWN RD.  
EDEN PRAIRIE, MN

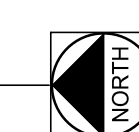
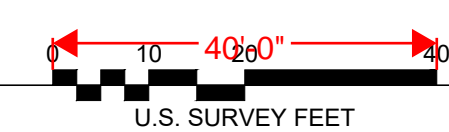
DATE:	03/08/2023
DESIGNED:	IR
DRAWN:	JWL
REVIEWED:	IR
FIELD BOOK NO.:	-

**EROSION CONTROL  
PLAN**

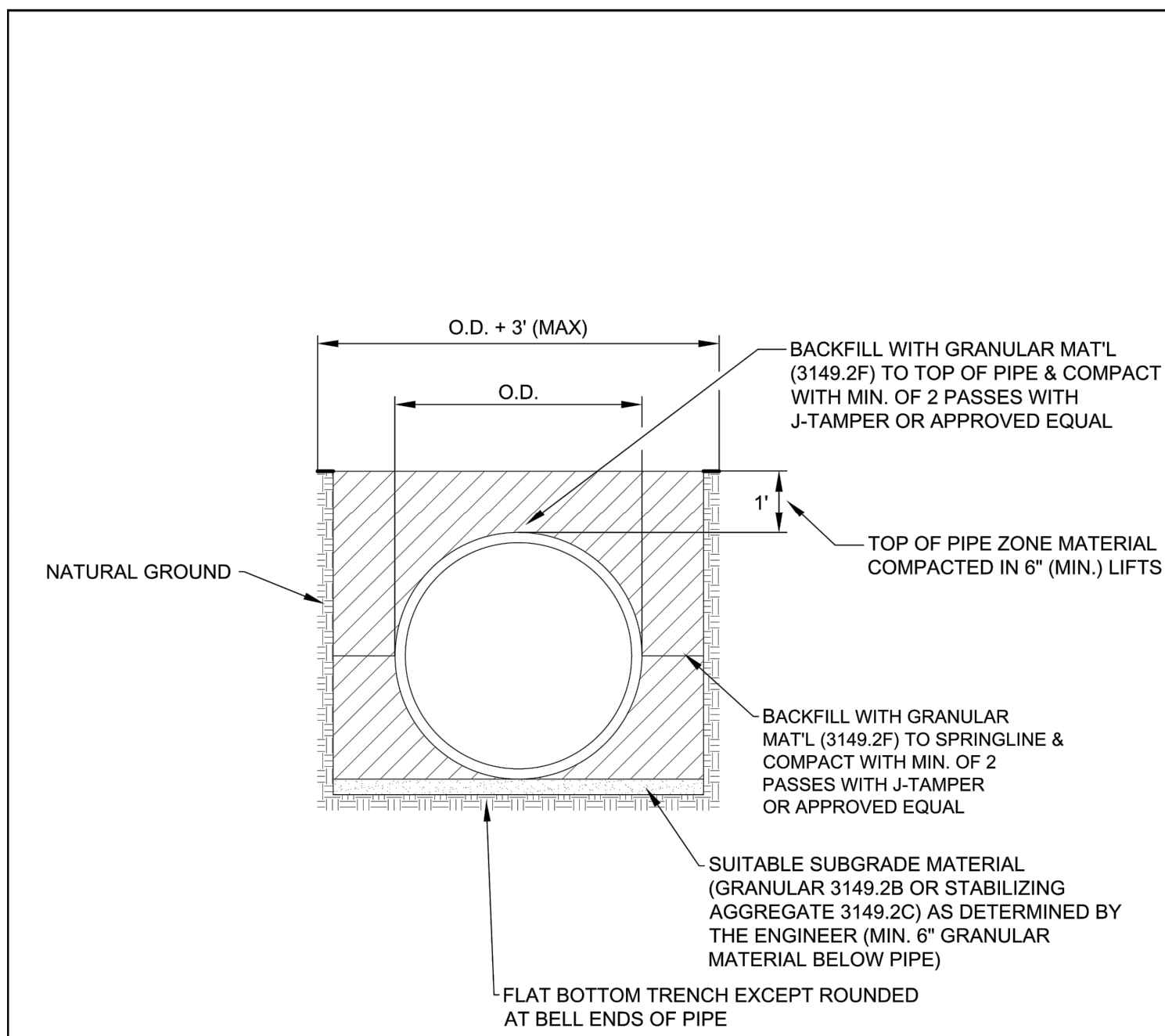
SHEET NUMBER:

**C5.1**

PROJECT NO.: 0221474.00

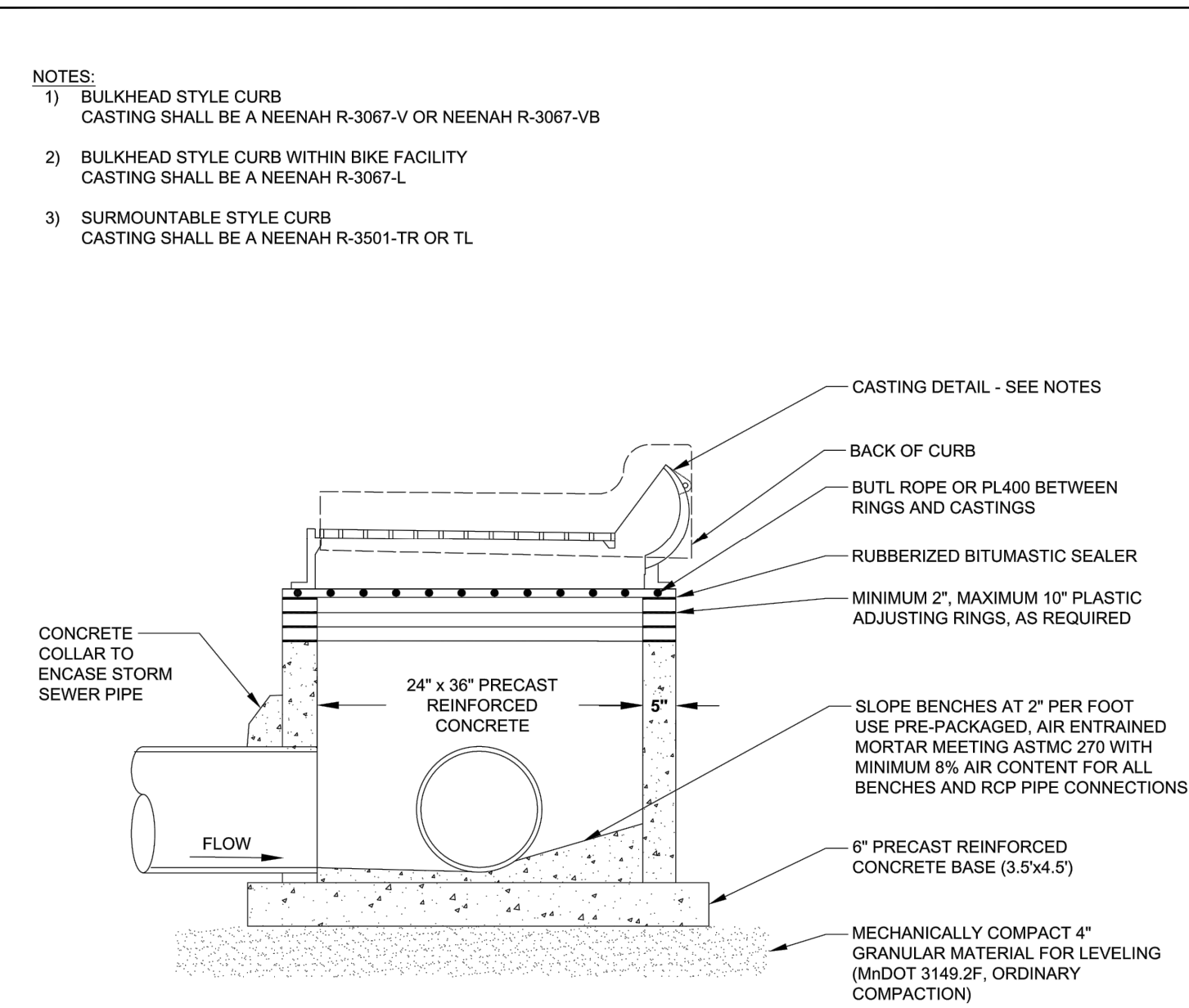






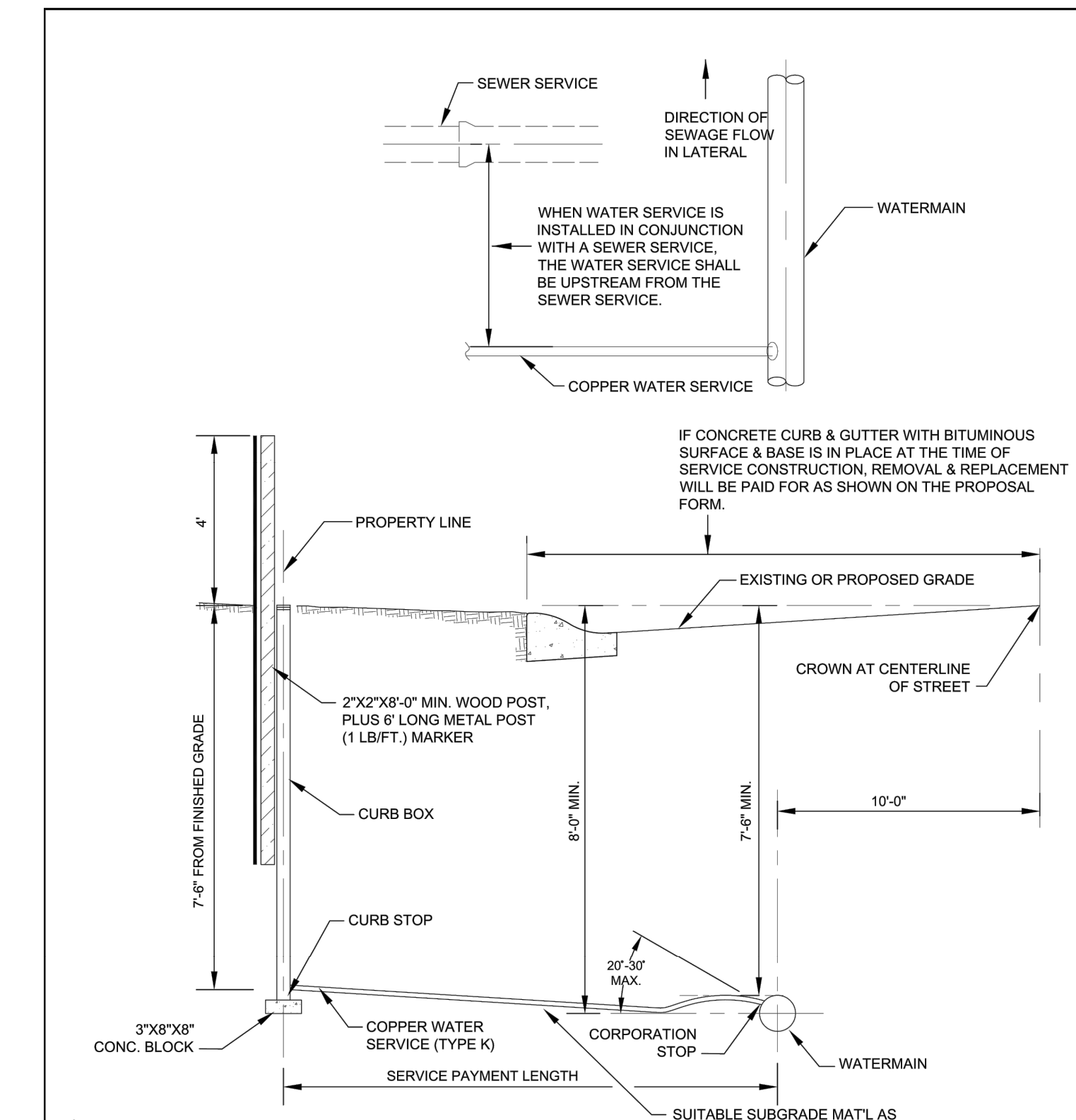
Rev. 03/15/2022

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



01/26/2022

	<b>2' x 3' CATCH BASIN</b>	DETAIL NO. <b>S-13</b>
	CITY OF EDEN PRAIRIE DEPARTMENT OF ENGINEERING	



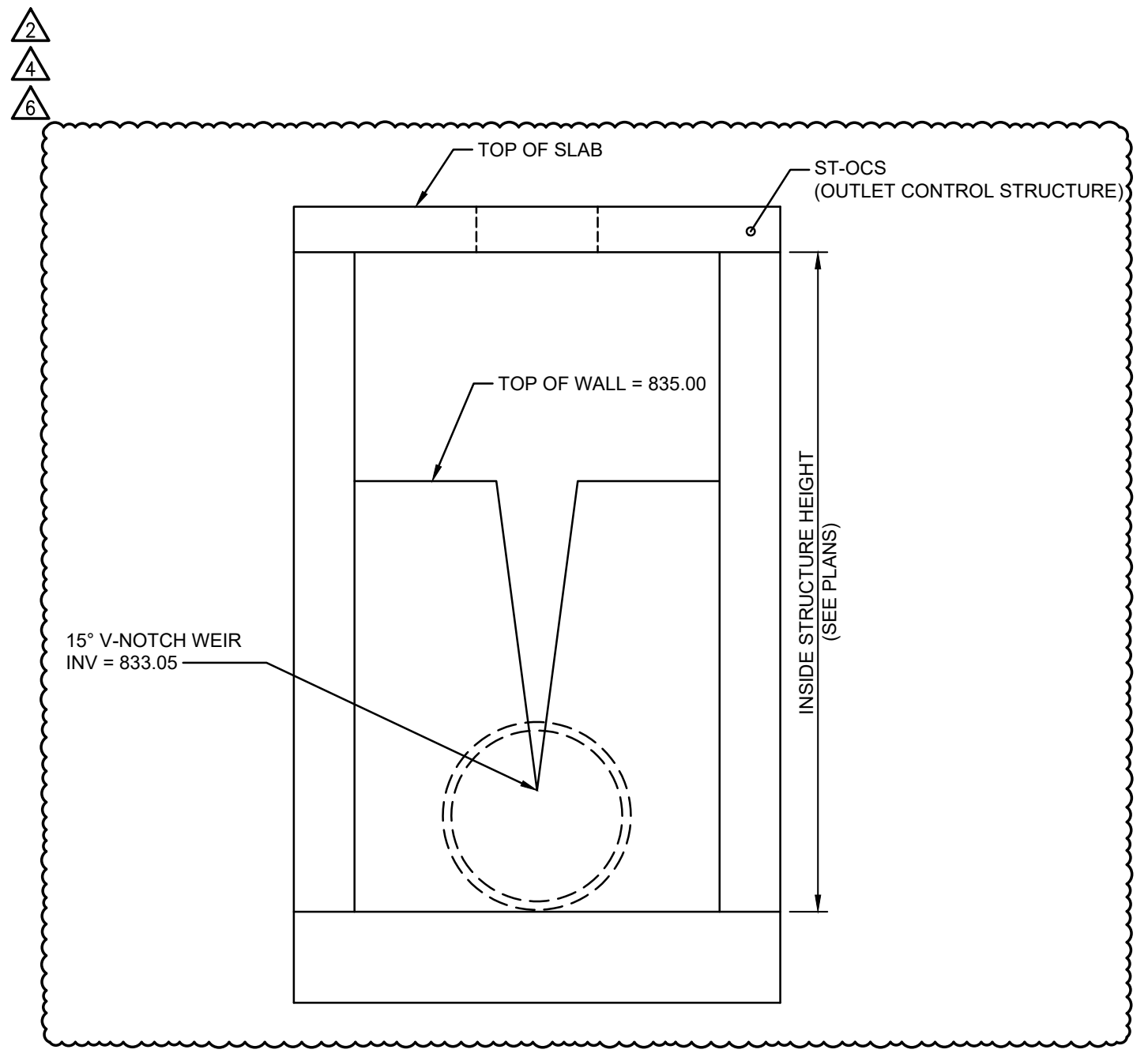
REV 03/15/2022

	<b>COPPER WATER SERVICE</b>	DETAIL NO. <b>W-2</b>
	CITY OF EDEN PRAIRIE DEPARTMENT OF ENGINEERING	

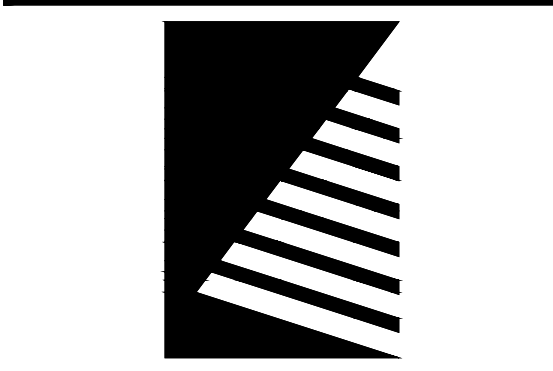
**2 CITY OF EDEN PRAIRIE SEWER BEDDING DETAIL**  
SCALE: NOT TO SCALE

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

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



**1 OUTLET CONTROL STRUCTURE RESTRICTOR PLATE DETAIL**  
SCALE: NOT TO SCALE



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PROJECT:

**BUSH LAKE VETERINARY CLINIC**

10160 HENNEPIN TOWN RD.  
EDEN PRAIRIE, MN

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

**SEWER & WATER DETAILS**

SHEET NUMBER:

**C6.3**

PROJECT NO.: 0221474.00