City Hall: 218-692-2688

Planning & Zoning: 218-692-2689

Fax: 218-692-2687



13888 Daggett Bay Rd Crosslake, Minnesota 56442 www.cityofcrosslake.org

CITY OF CROSSLAKE

PLANNING COMMISSION/BOARD OF ADJUSTMENT November 22, 2024 9:00 A.M.

Crosslake City Hall 13888 Daggett Bay Rd, Crosslake MN 56442 (218) 692-2689

PUBLIC HEARING NOTICE

Applicant: National Loon Center Foundation

Site Location: Off of Swann Dr & Pioneer Dr, Crosslake, MN 56442

Variance for:

• Building height of 49.8 feet where 30 feet is allowed

To construct:

• 7,000 square foot building foot print consisting of a three story commercial structure

Notification: Pursuant to Minnesota Statutes Chapter 462, and the City of Crosslake Zoning Ordinance, you are hereby notified of a public hearing before the City of Crosslake Planning Commission/Board of Adjustment. Property owners have been notified according to MN State Statute 462 & published in the local newspaper. Please share this notice with any of your neighbors who may not have been notified by mail.

Information: Copies of the application and all maps, diagrams or documents are available at Crosslake City Hall or by contacting the Crosslake Planning & Zoning staff at 218-692-2689. Please submit your comments in writing including your name and mailing address to Crosslake City Hall or (crosslakepz@cityofcrosslake.org).

Crosslake

STAFF REPORT

Property Owner/Applicant: National Loon Center Foundation

Parcel Number(s): 14210763, 104210614, 14210615, 14210608

Application Submitted: November 4, 2024

Action Deadline: January 2, 2025

City 60 Day Extension Letter sent / Deadline: NA / NA

Applicant Extension Received / Request: NA / NA

City Council Date: NA

Authorized Agent: Jon Mobeck, Nation Loon Center

Variance for:

• Building height of 49.8 feet where 30 feet is allowed

To construct:

• 7,000 square foot building foot print consisting of a three story commercial structure

Current Zoning: Downtown Commercial

Existing Impervious Coverage:

Proposed Impervious Coverage:

1.2%

21.0%

- A stormwater management plan was submitted with the variance application
- City sewer connection will be utilized

Parcel History:

- Pioneer Addition to Crosslake established in 2006
- Reed, William & Sharon 14210615 2006 Pioneer Addition to Crosslake Plat
- Reed, William & Sharon 14210614 2006 Pioneer Addition to Crosslake Plat
- National Loon Center Foundation 14210763:

1989 – septic system installed

1995 – storage shed 18x12

2017 - Abandonment of septic system & well sealed

2017 – Demo of building

2019 – Denied variance for height of 40 feet at mid-peak & density of 60 residential units

Agencies Notified and Responses Received:

County Highway Dept: No comment received before packet cutoff date

DNR: Comment(s) received

City Engineer: No comment received before packet cutoff date Lake Association: No comment received before packet cutoff date

Crosslake Public Works: No comment received before packet cutoff date

Crosslake Park, Recreation & Library: No comment received before packet cutoff date Concerned Parties: No comment received before packet cutoff date

POSSIBLE MOTION:

To approve/table/deny the variance to allow:

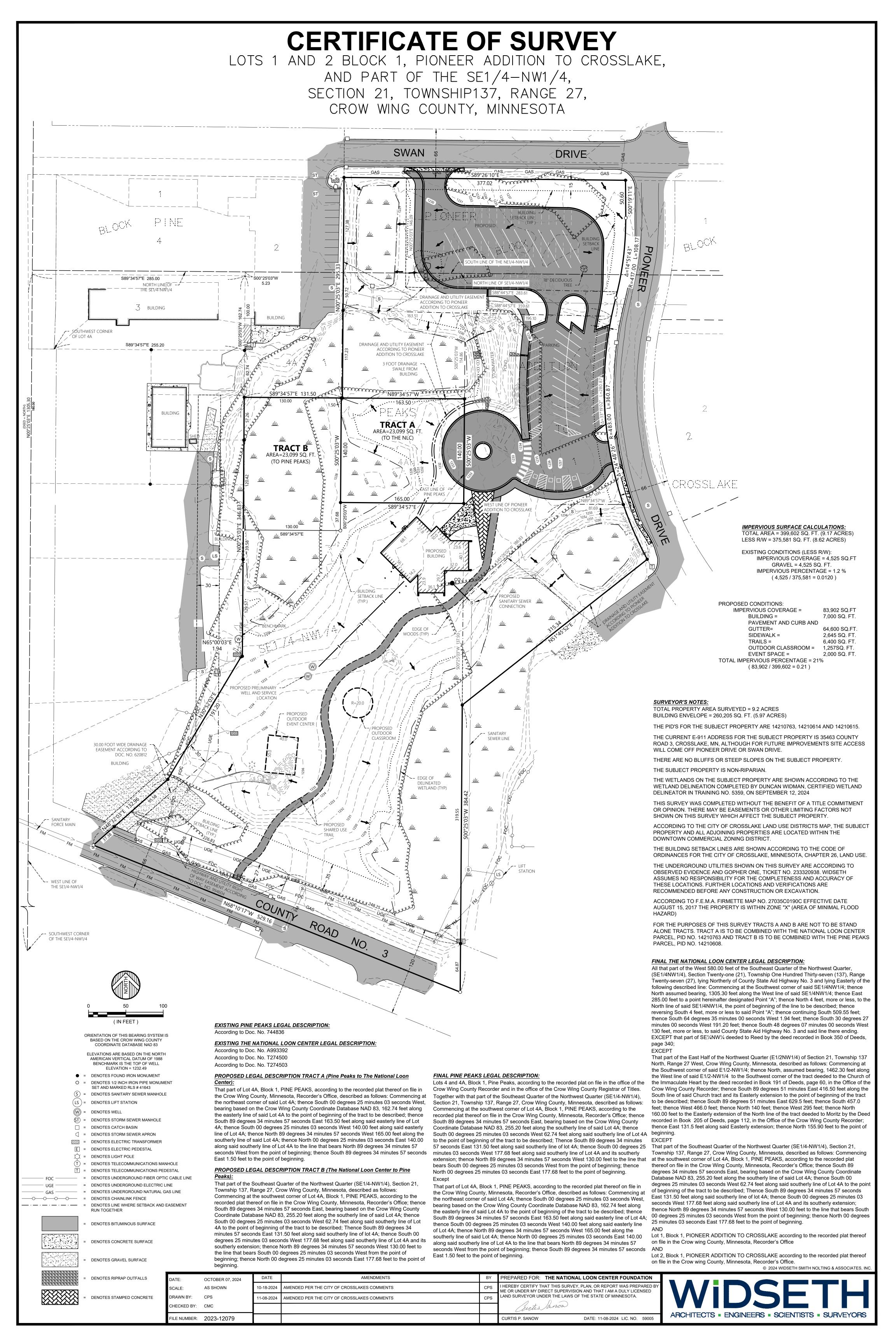
• Building height of 49.8 feet where 30 feet is allowed

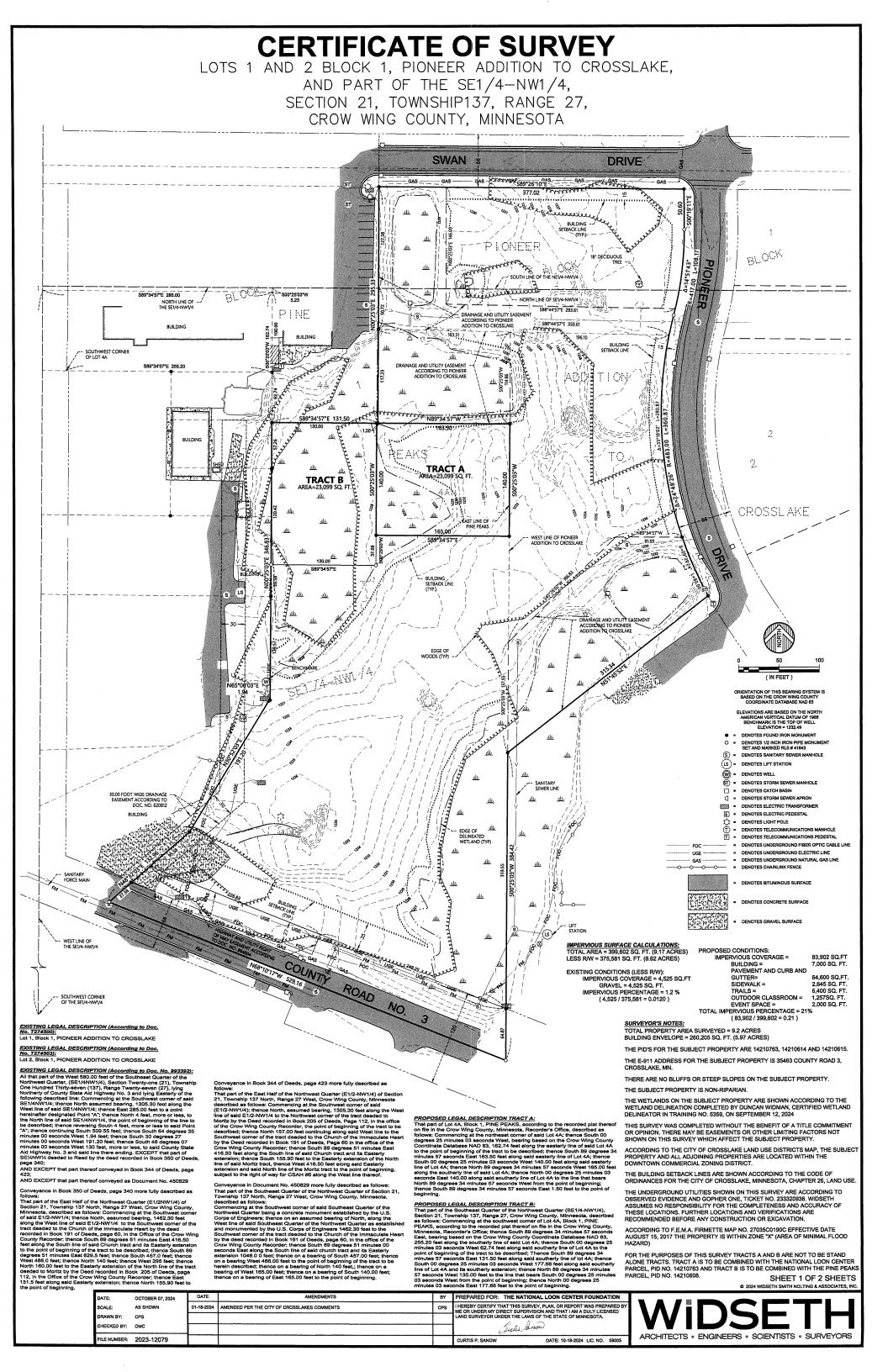
To construct:

• 7,000 square foot building foot print consisting of a three story commercial structure As shown on the certificate of survey dated 11-8-2024



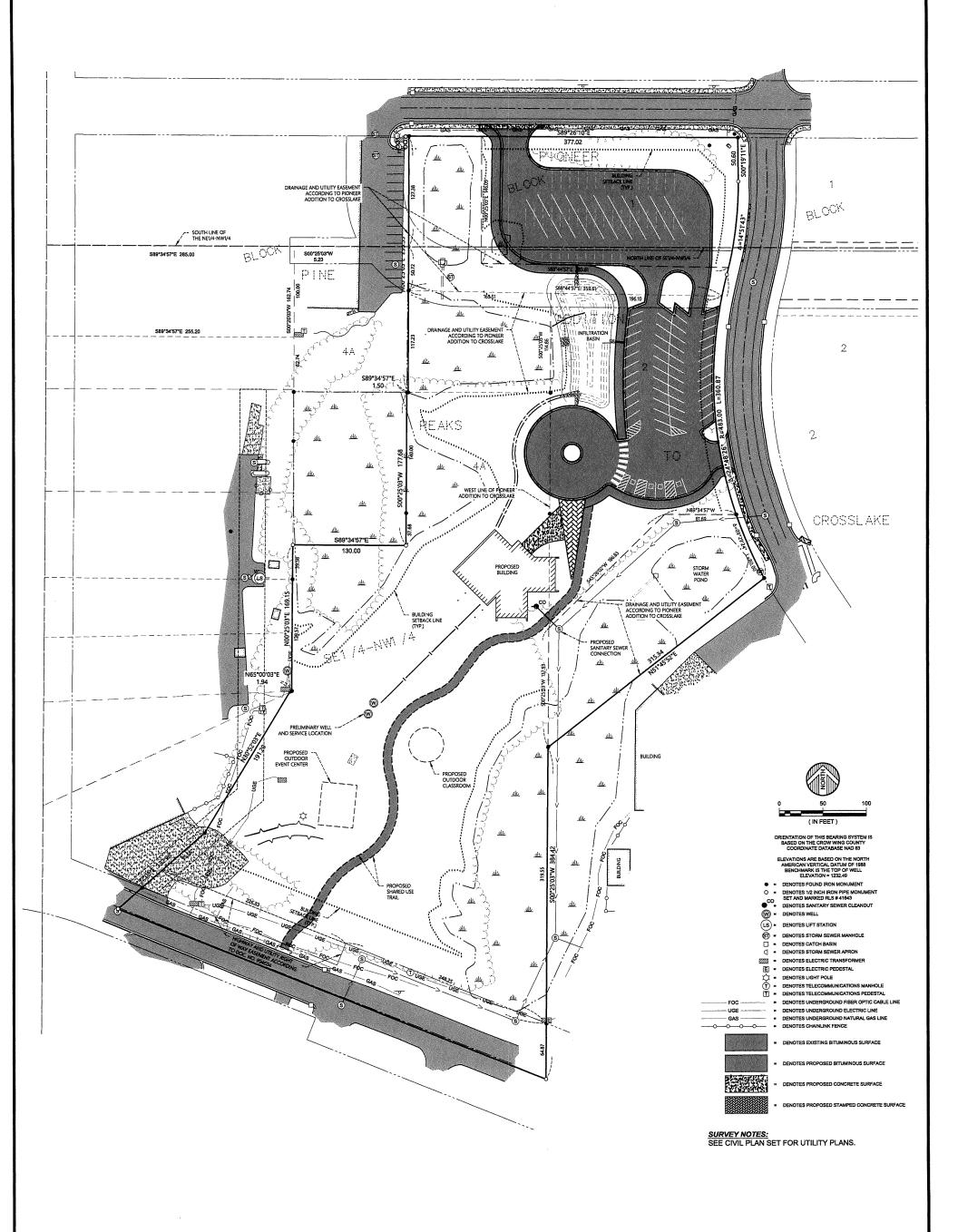






PROPOSED IMPROVEMENTS

LOTS 1 AND 2 BLOCK 1, PIONEER ADDITION TO CROSSLAKE,
AND PART OF THE SE1/4-NW1/4,
SECTION 21, TOWNSHIP137, RANGE 27,
CROW WING COUNTY, MINNESOTA



SHEET 2 OF 2 SHEETS

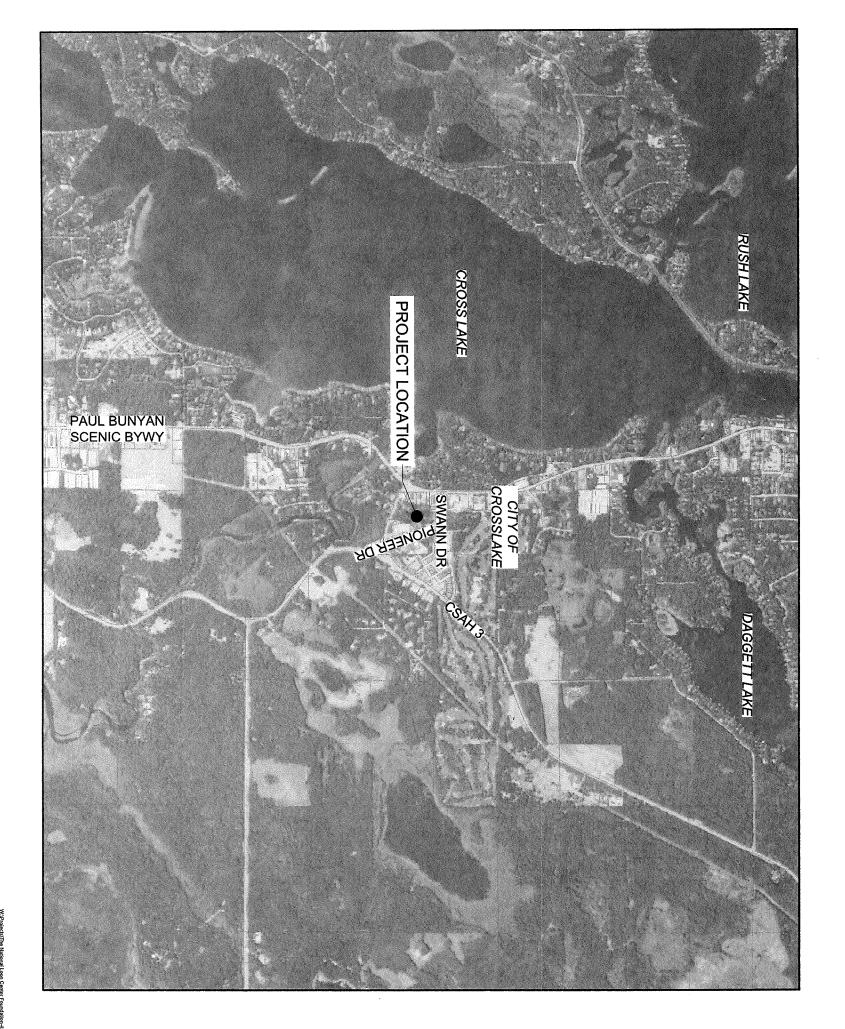
DATE:	OCTOBER 07, 2024	DATE	AMENDMENTS	BY	PREPARED FOR: THE NATIONAL LOON CENTER FOUNDATION
SCALE:	AS SHOWN	10-18-2024	AMENDED PER THE CITY OF CROSSLAKES COMMENTS	CPS	I HEREBY CERTIFY THAT THIS SURVEY, PLAN, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED
DRAWN BY:	CPS				LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.
CHECKED BY:	CMC				Justis Janon
FILE NUMBER:	2023-12079				CURTIS P. SANOW DATE: 10-18-2024 LIC. NO. 59005



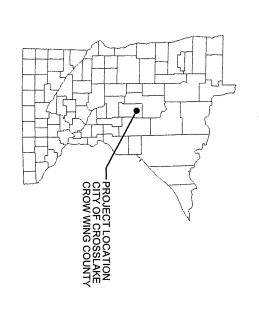
NATIONAL LOON CENTER - ACTIVITY #2

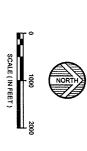
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CITY OF CROSSLAKE, MINNESOTA



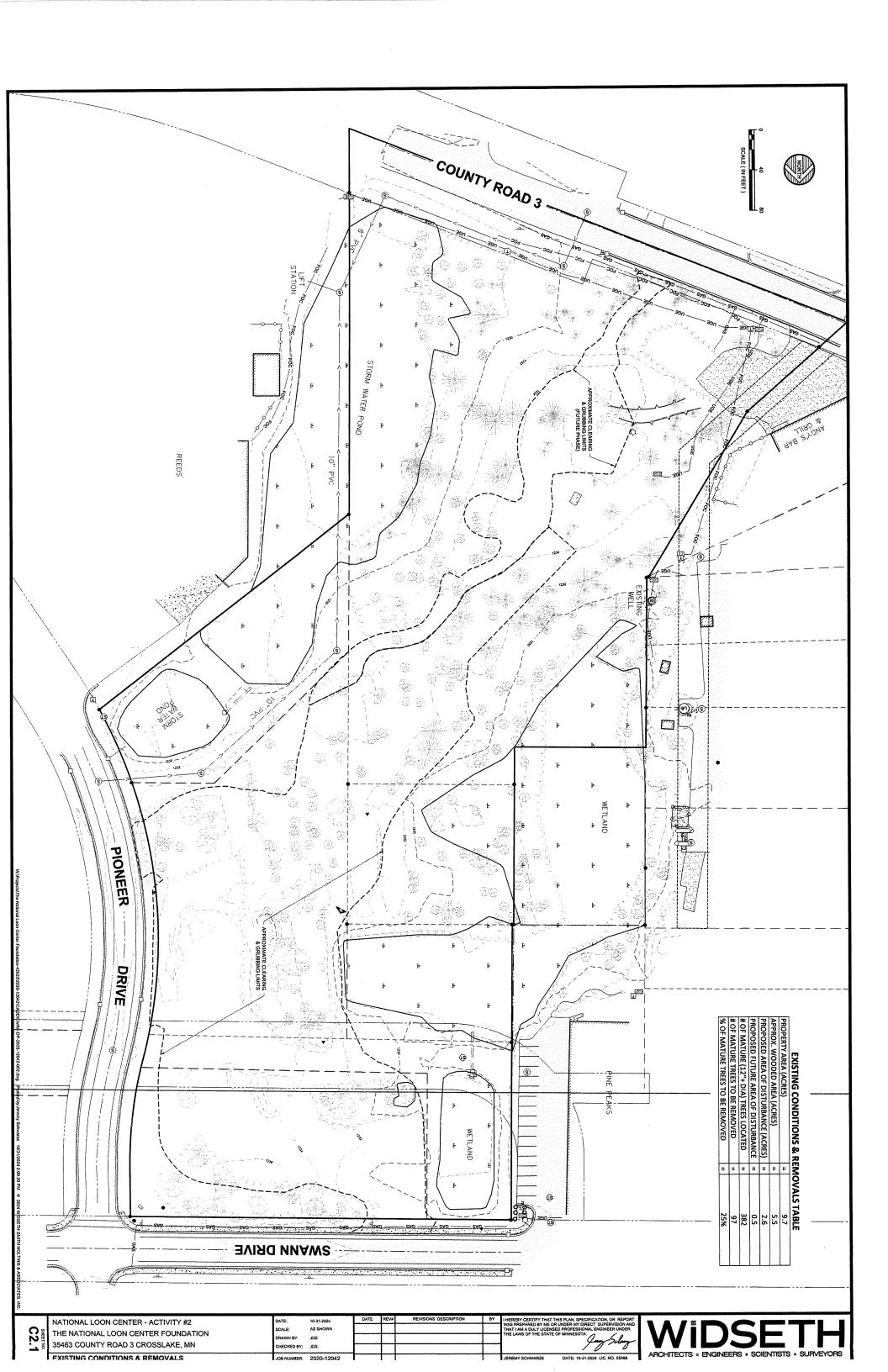
=	INDEX TO DRAWINGS
SHEET NO.	DESCRIPTION
G1.0	TITLE SHEET
C1.1	CIVIL LEGEND
C2.1	EXISTING CONDITIONS & REMOVALS
C3.1	SITE PLAN
C4.1	UTILITIES PLAN
C5.1	GRADING PLAN
C6.1	SIGNING & PAVEMENT MARKING PLAN
C7.1	LANDSCAPE PLAN
C8.1	EROSION CONTROL PLAN
A1.1	FIRST LEVEL FLOOR PLAN
A1.2	SECOND LEVEL FLOOR PLAN
A1.3	THIRD LEVEL FLOOR PLAN
A4.1 - A4.2	BUILDING ELEVATIONS

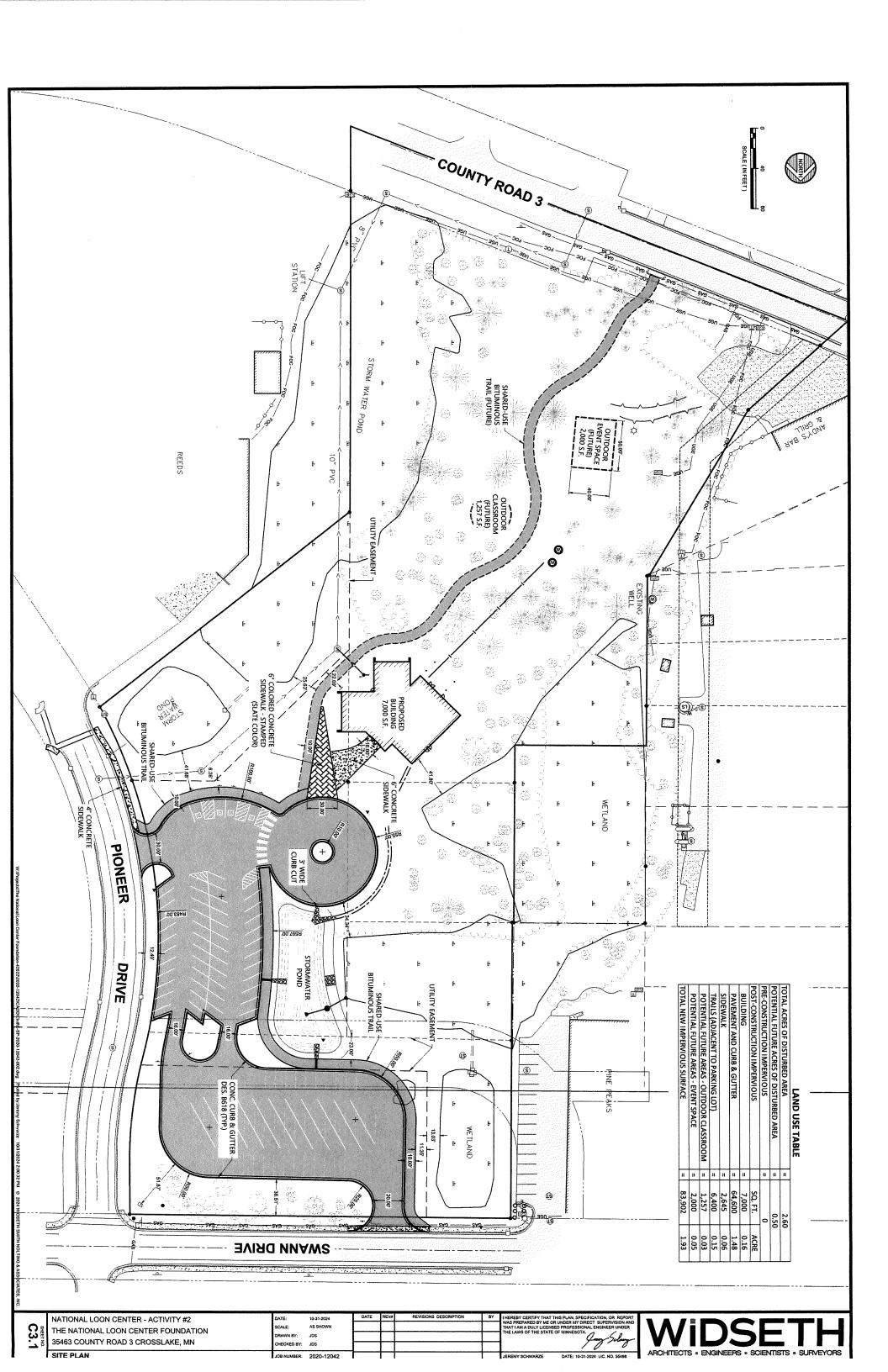


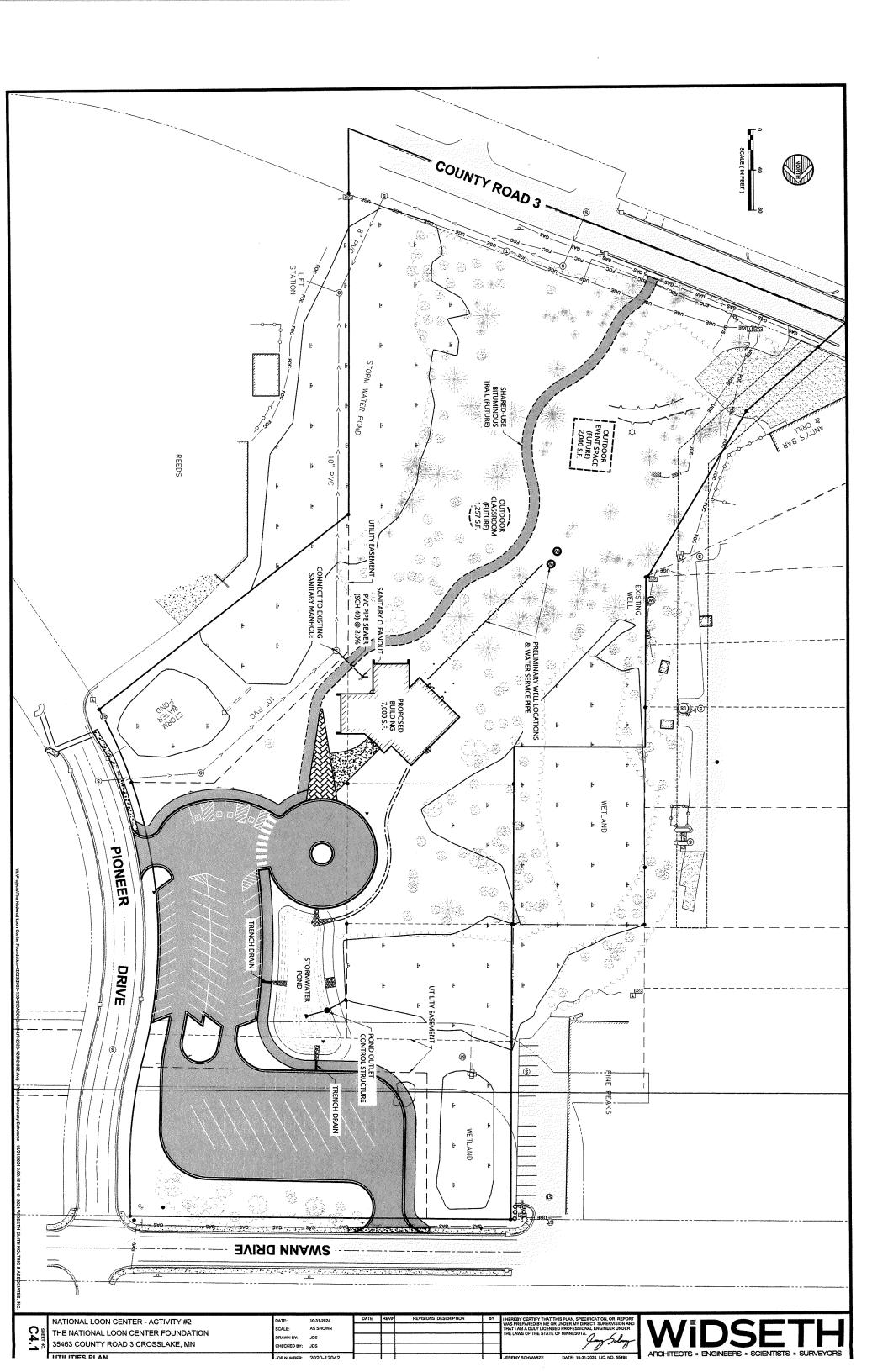


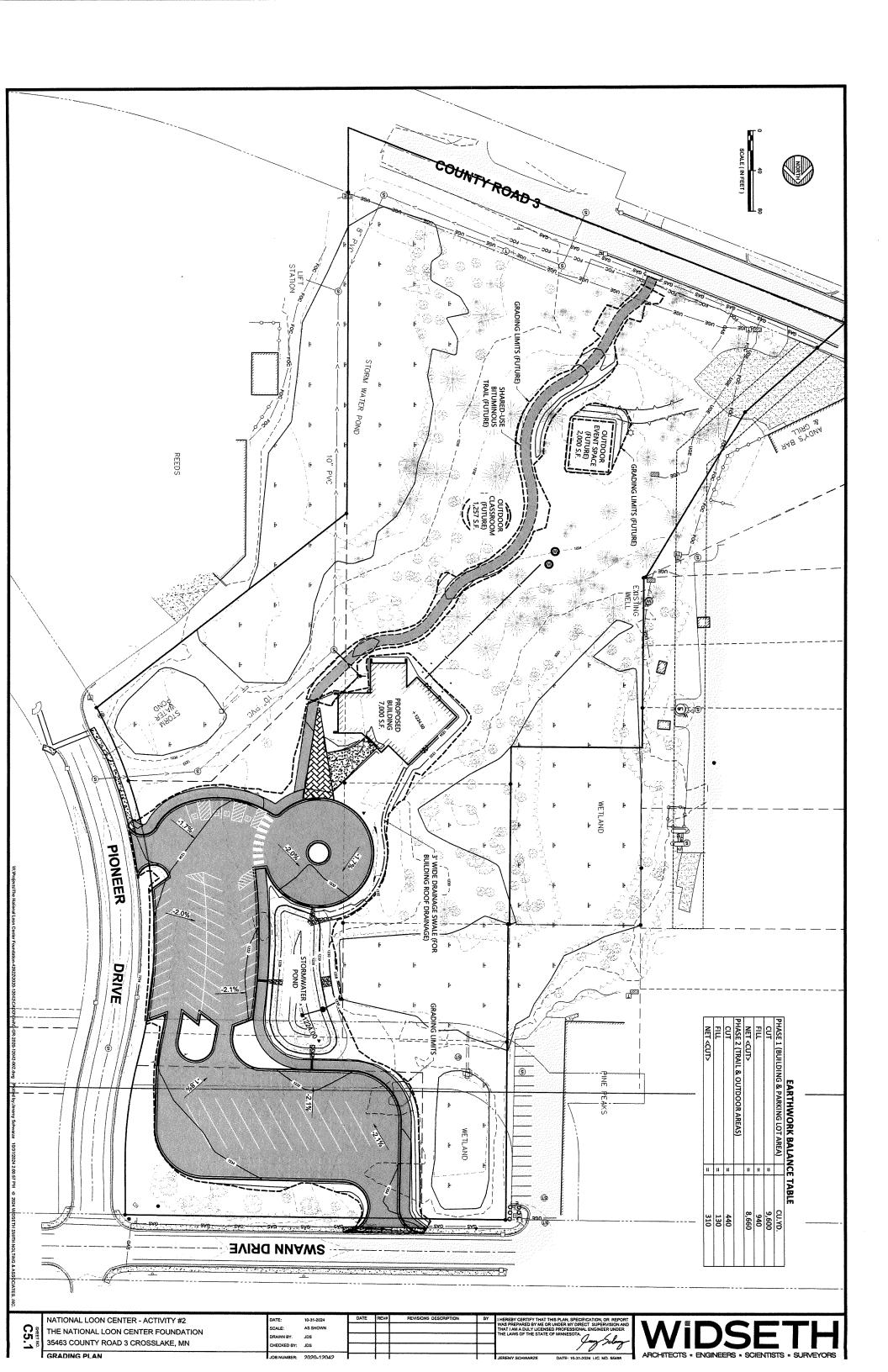
NATIONAL LOON CENTER - ACTIVITY #2
THE NATIONAL LOON CENTER FOUNDATION
35463 COUNTY ROAD 3 CROSSLAKE, MN
TITI E SHEET

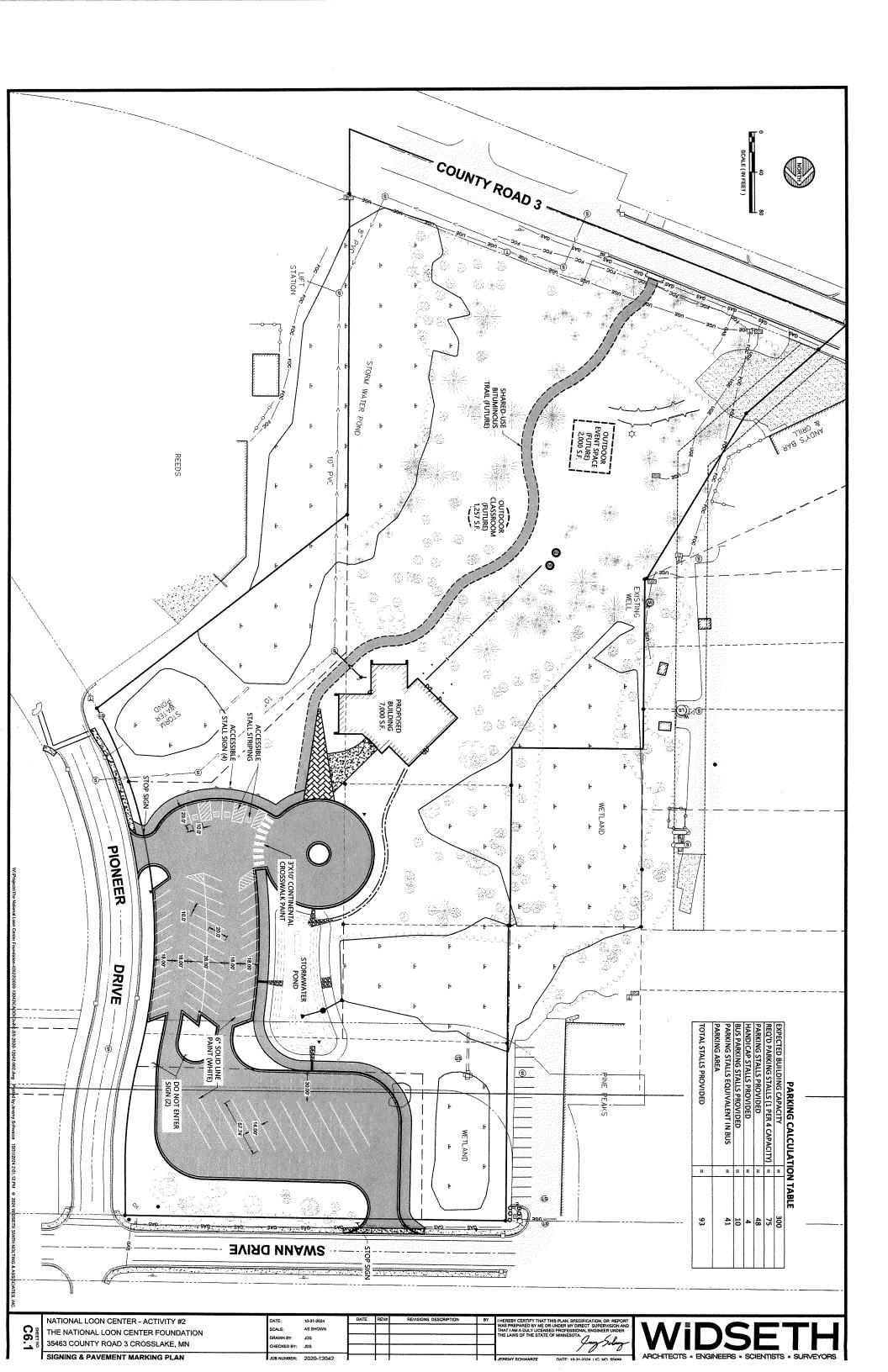
STORM INLET	STORM CATCH BASIN	SANITARY MANHOLE	⊗ SANITARY CLEANOUT	(B) LIFT STATION	☐ APRON	EXISTING UTILITY MUNICIPAL SYMBOLS				YARD LIGHT	سلام WETLAND SYMBOL	O ^{SD} TV DISH	泉 TREE STUMP	TREE DECIDUOUS	* TREE CONIFER	SIGN SINGLE POST	SIGN DOUBLE POST	○ SHRUB	₩ MAILBOX	الله HANDICAP SYMBOL	-0 GUY POLE	>— GUY ANCHOR	O GUARD POST	► FLAG POLE	○ FENCE POST	AC UNIT	EXISTING TOPO SYMBOLS			O STAKED PIPE	STAKED JLM	A STAKED CPNT.	© STAKED CIM	× FOUND READING	No FOUND PIPE	× FOUND LATH	® dy FOUND JLM	FOUND CPNT.	FOUND CIM	◆ BENCH MARK	SURVEY MONUMENTS
△ ^{VS} VAPOR SURVEY POINT	≜ ^{VP} SOIL VAPOR POINT	SB SOIL BORING	RW RECOVERY WELL	⊘ ^{FZ} PIEZOMETER	₽ ^{FT} PERC TEST	©MW MONITOR WELL	◆ ^{LY} LYSIMETER	☐ LASER-INDUCED FLUORESCE BORING	2			□" TV PEDESTAL	®'' TV HANDHOLE		TELE PEDESTAL	① TELE MANHOLE	⊕ TELE HANDHOLE	C LP TANK	⊠ ⁶ GAS VALVE	-0- GAS METER	≅ ELEC TRANSFORMER BOX	8 ELEC SIGNAL	ැ _ඩ ELEC POLE	ELEC PEDESTAL	E ELEC METER	® ELEC MANHOLE		(H) ELEC HANDHOLE		EXISTING UTILITY PRIVATE SYMBOLS		UTILITY SIZE & TYPE	WATER WELL	⋈ WATER VALVE	₩ WATER METER	WATER MANHOLE	XX WATER HYDRANT	® WATER HANDHOLE	*So WATER CURB STOP	STORM MANHOLE	EXISTING UTILITY MUNICIPAL SYMBOLS (cont.)
				FLASHING ARROW OR MESSAGE BOARD	O DRUM CHANNELIZER	TYPE III BARRICADE			TRAFFIC CONTROL SIGN (1 POST)	TRAFFIC CONTROL DEVICES & SYMBOLS			STORM DRAIN INLET PROTECTION	SURFACE DRAINAGE ARROW	EROSION CONTROL SYMBOLS		XX ELEGIGHI POLE PROPOSED	SE			₩ WATER VALVE PROPOSED	म WATER TEE PROPOSED	■ WATER SLEEVE PROPOSED	₩ATER REDUCER PROPOSED	WATER HYDRANT PROPOSED	WATER CURB STOP PROPOSED	WATER CROSS PROPOSED	[WATER CAP PROPOSED	ч WATER 90° BEND PROPOSED	✓ WATER 45° BEND PROPOSED	►4 WATER 22 1/2° BEND PROPOSED	WATER 11 1/4" BEND PROPOSED	STORM MANHOLE PROPOSED	■ STORM CATCH BASIN PROPOSED	\$ SANITARY PLUG PROPOSED	 SANITARY MANHOLE PROPOSED 	SANITARY LIFT STATION VALVE MANHOLE PROPOSED	SANITARY LIFT STATION PROPOSED	● [∞] SANITARY CLEANOUT PROPOSED	■ APRON PROPOSED	PROPOSED UTILITY MUNICIPAL SYMBOLS
WXProjectsThe National Loon Center Foundation-4282220224-12042CADDICARC-LG-2020							אושוו טן אאו דועירטערט	BIGHT OF WAY BROROSED		- O O MNDOT CONTROLLED ACCESS LINE	LOT LINE	EASEMENT LINE PROPOSED	EASEMENT LINE	LOT LINE PROPOSED	BUILDING SETBACK LINE	RW, LOT & EASEMENTS LINES		·· WETLAND EDGE	ws WATERMAIN SERVICE	WATERMAIN	UNDERGROUND TELE	oas UNDERGROUND GAS	FOC UNDERGROUND FIBER OPTIC	UNDERGROUND ELECTRIC	usc	prSTORM SEWER DRAIN TILE	STORM SEWER	— ss —— ss — SANITARY SEWER SERVICE	> SANITARY SEWER		++++++++++++++++++++++++++++++++++++++	OVERHEAD TELE	OVERHEAD ELECTRIC	OVERHEAD CABLE TV	FORCEMAIN	-000- FENCE WOOD	-000 FENCE CHAIN LINK	-×××	(イメイオイオン) EDGE OF WOODS	CENTER LINE	EXISTING TOPOGRAPHIC LINES
70-12042-002-dwg Ploted by-Jeverry Schwazza 10/31/2024 2:00:05 PM © 2024 WIDSETH SMITH NOLTING & ASSOCIA			PAGE OF SECTION BOTTOM	SECTION ARROW - SECTION NUMBER TOP;		DOCUMENTATION SYMBOLS		EASEMENT PATTERN	GRAVEL SURFACE	CONCRETE SURFACE	BI I OMINOUS SUXPACE	BUILDING WALL HAICH		TEMP BOOK CONSTRUCTION ENTRANCE	EDOSION CONTEOL OF ANKET	* * * * * STEEL	SOD	RANDOM RIPRAP	X	HATCH PATTERN AND SHADING LEGEND			x P^_x P^_x P ^.── SILT FENCE TYPE PREASSEMBLED	—————————————————————————————————————	— ** HD***HD——————————————————————————————	* * * * * * * * SILT FENCE	-O-6iO-O-6iO-O-6iO- BIO ROLL	BALE CHECK	EROSION CONTROL LINES			i WATERMAIN PROPOSED	STORM SEWER DRAIN TILE PROPOSED	STORM SEWER PROPOSED	— sa —— sa — SANITARY SERVICE PROPOSED	> SANITARY SEWER PROPOSED	FORCEMAIN PROPOSED	-***	-aaa		PROPOSED CONSTRUCTION LINES

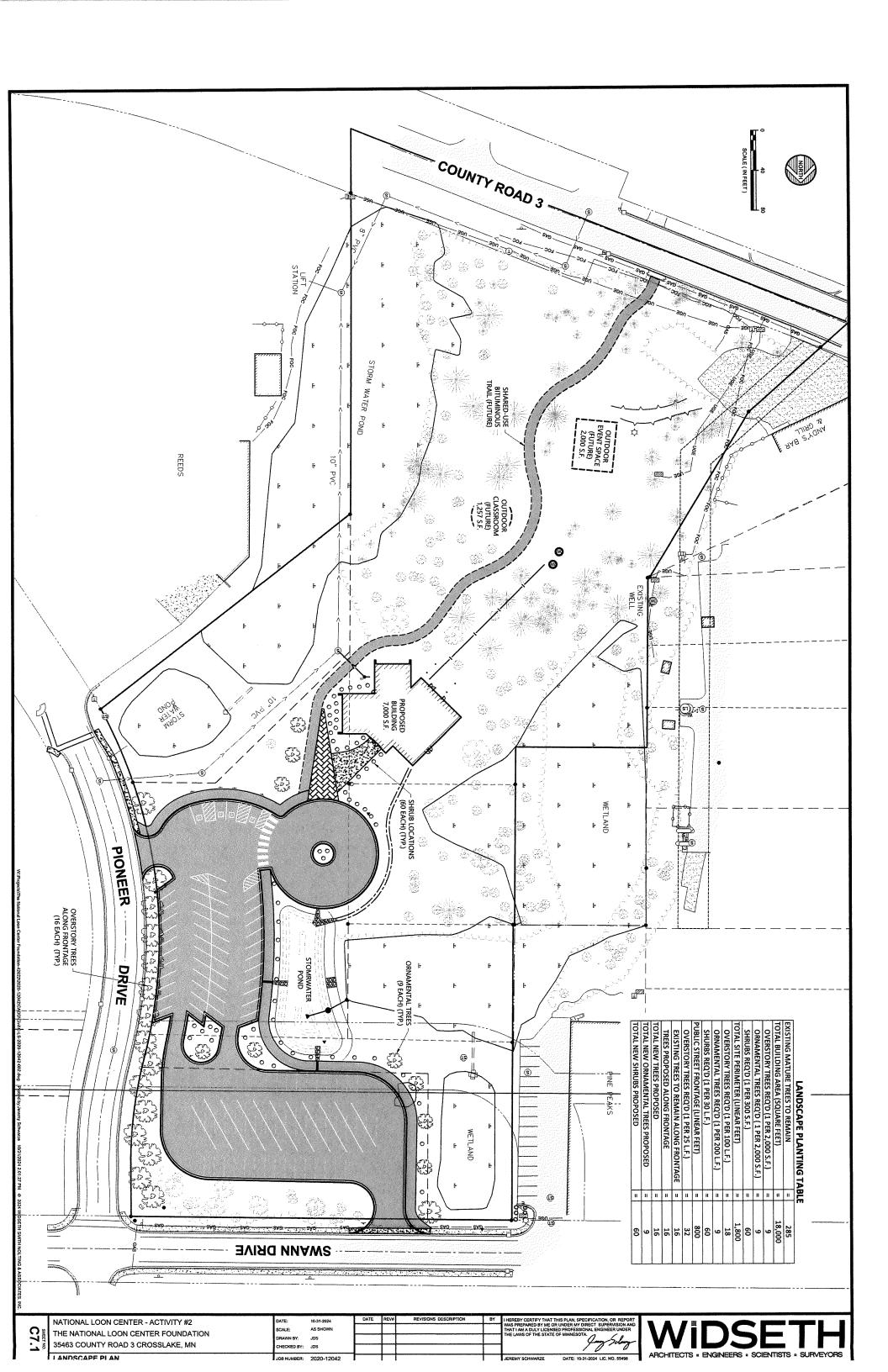


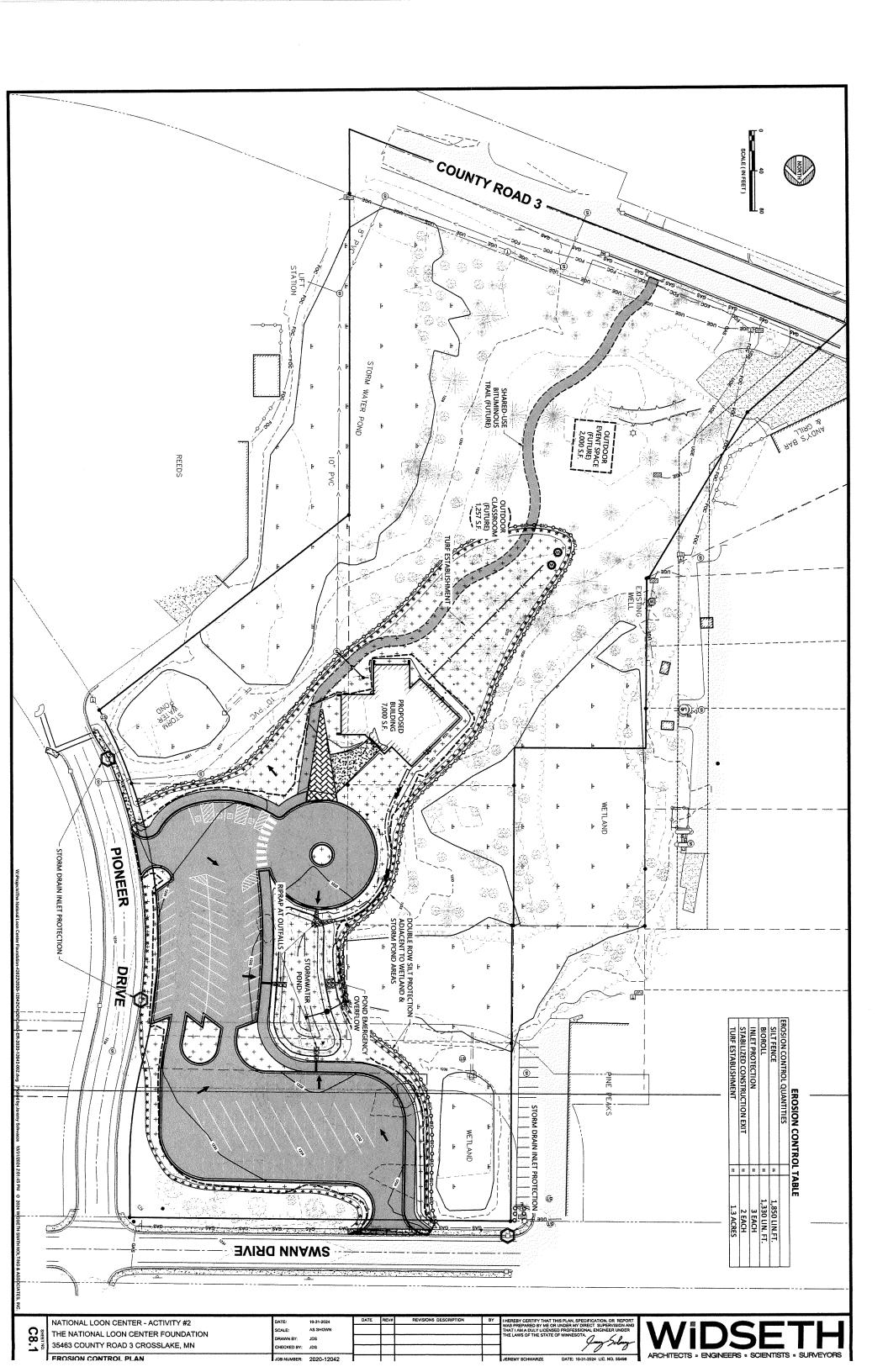


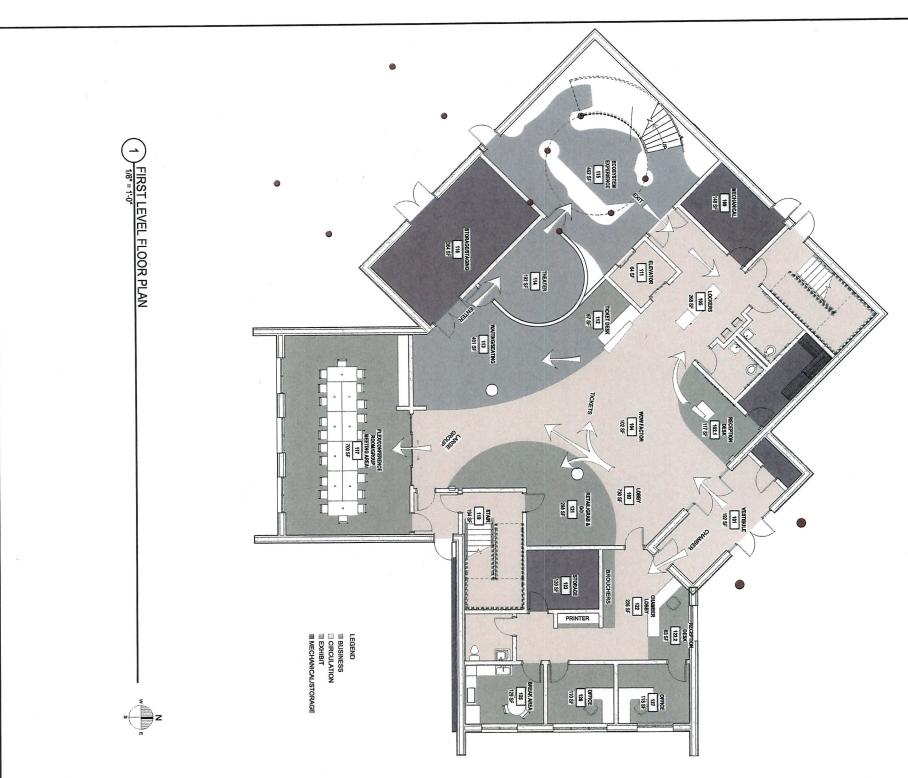


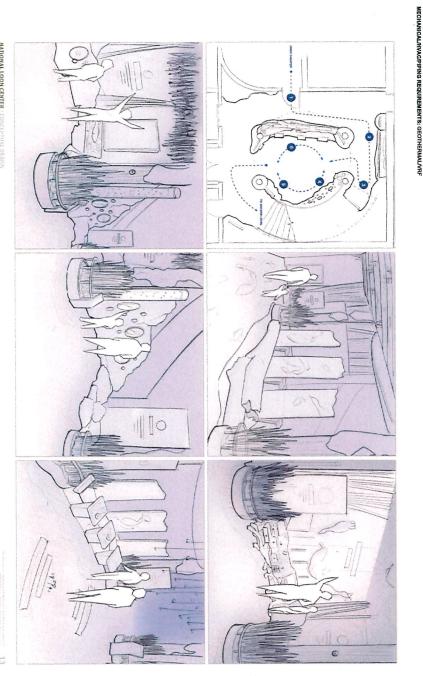












Room Number	Room/Space Name	Occupancy Type	Square Foot Are 192 SF	Foot Area Occ. Divisor	Count	MALK OFF CARPET	Well Finish	Ceiling Finish	E E	Lighting	MAIN ENTRANCE
101	VESTIBULE	N/A	192 SF	0 SF		WALK OFF CARPET	GYPSUM	T&G WOOD	Æ	MAIN ENTRANCE	
101.1	STORAGE	N/A	29 SF	300 SF	0.10	SEALED CONCRETE	GYPSUM	T&G WOOD	<u>P</u>	EXHIBIT/BULK ITEM/JANITORIAL STORAGE	
102	LOBBY	BUSINESS	730 SF	0 SF		TERRAZZO	GYPSUM	T&G WOOD	E	GATHERING AREA FOR RECEPTION DESK. DONOR WALL.	ESK DONOR VESTIBULE, RECEPTION, OFFICES, RESTROOMS
102.1	RECEPTION DESK	BUSINESS	117 SF	150 SF	0.78	TERRAZZO	GYPSUM	T&G WOOD	Б	WELCOMING POINT PERSON TO DIRECT VISITORS WHERE TO GO.	
103	STORAGE	NA	99 SF	300 SF	0.33	SEALED CONCRETE	GYPSUM	T&G WOOD	E	EXHIBIT/BULK ITEM/JANITORIAL STORAGE	ORAGE RECEPTION DESK
ğ	WOW FACTOR	ASSEMBLY -	102 SF	30 SF	3.39	TERRAZZO	GYPSUM	T&G WOOD	Æ	ENGAGING PREVIEW OF WHAT LIES WITHIN THE REST OF THE LOON CENTER, VISIBLE TO PUBLIC.	ES WITHIN THE TICKETING, RECEPTION DESK, BLE TO PUBLIC. OPEN TO PUBLIC
8	LOCKERS	NA	268 SF	O SF	+	TERRAZZO	GYPSUM	T&G WOOD	æ	CIRCULATION	
100	RESTROOM	NA	57 SF	O SF	+	TERRAZZO	TILE !	ACT	Œ	INDIVIDAL RESTROOM FACILIT	
107	RESTROOM	NA.	63 SF	0 SF	-	TERRAZZO	II.	ACT	E	INDIVIDAL RESTROOM FACILITY	
108	STAIR	NA	200 SF	0 SF		RUBBER TREADS	GYPSUM	T&G WOOD	E	CIRCULATION, EGRESS	
109	MECHANICAL	MECHANICAL 146 SF	146 SF	300 SF	0.49	SEALED CONCRETE	BOARD	STRUCTURE	LED	MECHANICAL/ELECTRICAL	STACKED, NEAR UTILITIES, EXTERIOR WALL
=	ELEVATOR	AN	64 SF	0 SF		TERRAZZO	BOARD	T&G WOOD	LED	EXIT AND BUFFER BETWEEN ECOSYSTEM EXPERIENCE AND THE REST OF THE FACILITY.	ECOSYSTEM OF THE FACILITY. EXPERIENCE AND OTHER EXHIBITS
112	TICKET DESK	BUSINESS	67 SF	150 SF	0.45	TERRAZZO	GYPSUM BOARD	T&G WOOD	E	TICKET SALES FOR LOON CENTER EXPERIENCE	m
113	WAITING/SEATING	ASSEMBLY -	401 SF	30 SF	13.36	TERRAZZO	GYPSUM	T&G WOOD	E	QUEING AREA FOR THEATER	NEAR LOCKERS, THEATER, AND TICKETING
114	THEATER	ASSEMBLY -	192 SF	30 SF	6.40	CARPET TILE	GYPSUM	T&G WOOD	E	IMERSIVE	BETWEEN WAITING AND ECOSYSTEM EXPERIENCE
115	EXPERIENCE	ASSEMBLY -	462 SF	30 SF	15.40	MATERIAL, CARPET,	GYPSUM	T&G WOOD	Æ	IMMERSIVE EDUCATIONAL EXHIBITS THAT TEACH ON THE UNDERWATER ECOSYSTEM OF LOONS	ITS THAT TEACH CONNECTED TO OTHER LEVELS OF ECOSYSTEM EXPERIENCE, ELEVATOR, VESTIBULE
116	STORAGE/STAGING	G STORAGE	364 SF	300 SF	1.21	SEALED CONCRETE	GYPSUM BOARD	T&G WOOD	E	EXHIBIT STORAGE AND STAGING	
117	FLEX/CONFERENCE EDUCATION ROOM/GROUP MEETING AREA	E EDUCATION	700 SF	20 SF	35.00		GYPSUM BOARD	T&G WOOD	æ	MULTI-PURPOSE BOARD ROOM, CONFERENCE ROOM, LARGE GROUP MEETING AREA	
118	VESTIBULE	AN	52 SF	0 SF		WALK OFF CARPET	GYPSUM BOARD	T&G WOOD	Æ	EXIT, PRIVATE ENTRANCE FOR OFFICES AND CONFERENCE ROOM.	
119	STAIR	NIA	194 SF	0 SF		RUBBER TREADS	BOARD	T&G WOOD	LED	CIRCULATION, EGRESS	
121	RETAIL/GRAB & GO	BUSINESS	288 SF	60 SF	4.80	CARPET TILE	GYPSUM BOARD	T&G WOOD	E	PLACE TO GRAB SOUVENIERS AND SNACK ITEMS	
122	CHAMBER LOBBY	BUSINESS	226 SF	150 SF	1.51	CARPET TILE	BOARD	T&G WOOD	LED	GATHERING AREA FOR OFFICES	
122.1	BROCHURES	BUSINESS	26 SF	150 SF	0.17	CARPET TILE	GYPSUM	T&G WOOD	Æ	WALL SPACE FOR COMMUNITY INFORMATION/BUSINESS CARDS/BROCHURES	
122.2	RECEPTION DESK	BUSINESS	83 SF	150 SF	0.56	CARPET TILE	GYPSUM BOARD	T&G WOOD	E	CHAMBER VOLUNTEER STAFF	
122.3	COPIER	BUSINESS	17 SF	0 SF		CARPET TILE	GYPSUM BOARD	T&G WOOD	LED	WORK AREA FOR OFFICES	
123	STORAGE	STORAGE	120 SF	300 SF	0.40	SEALED CONCRETE	GYPSUM BOARD	T&G WOOD	E	EXHIBIT/BULK ITEM/JANITORIAL STORAGE	STORAGE
124	RESTROOM	NA	62 SF	0 SF	3	חנפ	TILE	ACT	6	INDIVIDAL RESTROOM FACILITY	ADEA EMBLOYEE
125	BREAK AREA	BUSINESS	129 SF	150 SF	0.86	TILE	BOARD	T&G WOOD	6	SNALL MEETINGS, GATHERING AREA, EMPLOYEE AREA	m
126	OFFICE		110 SE	150 SF	0.74	CARPET THE	GYPSUM	T&G WOOD	E	WALLED IN SINGLE PERSON OFFICE FOR STAFF	ON OFFICE FOR STAFF NEAR LOBBY

NATIONAL LOON CENTER - ACTIVITY #2 THE NATIONAL LOON CENTER FOUNDATION 35463 COUNTY ROAD 3 CROSSLAKE, MN

FIRST LEVEL FLOOR PLAN

DATE: OCTOBER 7, 2024

SCALE: AS NOTED

DRAWN BY: AGM

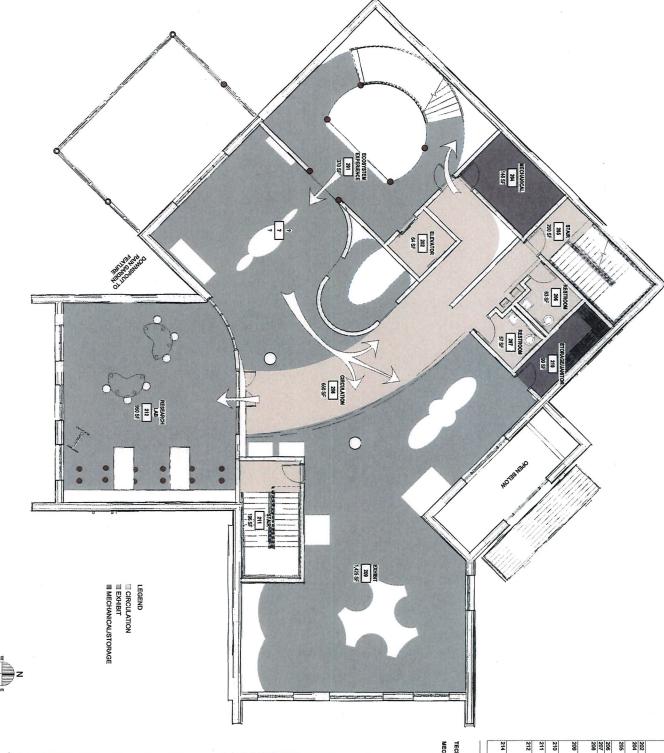
CHECKED BY: MJA

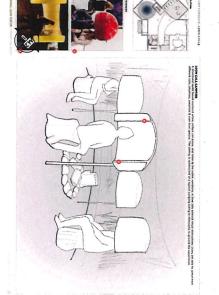
JOB NUMBER: 2020-12042

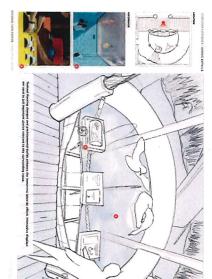
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTEDED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NORTH DAKOTA

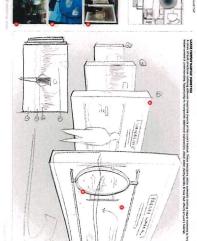
WIDSETH
ARCHITECTS • ENGINEERS • SCIENTISTS • SURVEYORS

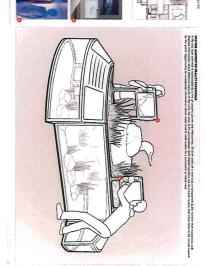












Room Number	Room/Space Name	Occupancy Type	Square Foot Area	Square Foot Area Occ. Divisor	Count	Floor Finish	Wall Finish	Ceiling Finish	Lighting		Function	Function Adjacencies
127	OFFICE	BUSINESS	118 SF	150 SF	0.79	CARPET TILE	GYPSUM	T&G WOOD	ГЕО	WALLED IN SING	WALLED IN SINGLE PERSON OFFICE FOR STAFF	LE PERSON OFFICE FOR STAFF NEAR LOBBY DESK, CHAIR
201	ECOSYSTEM	ASSEMBLY -	370 SF	30 SF	12.35	VARIOUS SENSORY MATERIAL, CARPET, WOOD, MARIMOLEUM ETC.	GYPSUM	T&G WOOD	æ	IMMERSIVE ED	IMMERSIVE EDUCATIONAL EXHBITS THAT TEACH ON THE LAND ECOSYSTEM OF LOOKS	COONSTEM OF LOOKS COONSTEM OF LOOKS ECONSTEM OF LOOKS ELEVATOR, VESTIBULE
202	ELEVATOR	AW	64 SF	0 SF		CARPET TILE	•	•	LEO	CIRCULATION		CENTRALLY LOCATED N/A
204	MECHANICAL	MECHANICAL 146 SF	146 SF	300 SF	0.49	SEALED CONCRETE	GYPSUM	STRUCTURE	LED	MECHANICAL/ELECTRICAL	/ELECTRICAL	STACKED, NEAR UTILITIES, EXTERIOR WALL
205	STAIR	NA	200 SF	0 SF		RUBBER TREADS	BOARD		ГЕО	CIRCULATION, EGRESS		
206	RESTROOM	N/A	63 SF	0 SF		TILE	TILE		LED	INDIVIDAL RES	INDIVIDAL RESTROOM FACILITY	STROOM FACILITY CENTRALLY LOCATED, STACKED WA
207	RESTROOM	NA	57 SF	0 SF		THE	TILE	ACT	LED	INDIVIDAL RE	INDIVIDAL RESTROOM FACILITY	CENTRALLY LOCATED, STACKED
208	CIRCULATION	ASSEMBLY -	650 SF	0 SF		VARIOUS SENSORY MATERIAL, CARPET, MARAMOLEUM ETC.	GYPSUM	T&G WOOD	LED	EDUCATIONAL EXHIBT	EXHIBT	
209	ЕХНІВІТ	ASSEMBLY -	1,425 SF	30 SF	47.51	VARIOUS SENSORY MATERIAL, CARPET, MARMOLEUM ETC.	GYPSUM BOARD	T&G WOOD	LED	EDUCATIONAL EXHIBT	EXHIBIT	EXHIBIT CIRCULATION EXHIBIT INSTALLMENTS
210	STORAGEJIANITOR MECHANICAL	R MECHANICAL	99 SF	300 SF	0.33	SEALED CONCRETE	BOARD	T&G WOOD	LED	EXHIBIT/BULK I	EXHIBIT/BULK ITEM/JANITORIAL STORAGE	TEM/JAVITORIAL STORAGE CENTRALLY LOCATED SHELVING
211	STAIR	NA	196 SF	0 SF		RUBBER TREADS	GYPSUM BOARD	T&G WOOD	LED	CIRCULATION, EGRESS	EGRESS	EGRESS EXTERIOR NA
212	RESEARCH LAB	EDUCATION	950 SF	20 SF	47.52	MARMOLEUM	BOARD	ACT	LED	WATER TESTIN	WATER TESTING, CLASSROOM SPACE	IG, CLASSROOM SPACE VIEWS, CLOSE TO CIRCULATION CASEWORK DESKY, WHITELANDOS, DIGITAL SCREENS, TESTING EQUIPMENT.
214	EXHBIT	ASSEMBLY -	855 SF	30 SF	28.50	VARIOUS SENSORY MATERIAL, CARPET, MARMOLEUM ETC.	BOARD	T&G WOOD	LED	EDUCATIONAL EXHIBT		EXHIBT CIRCULATION EXHIBIT INSTALLMENTS

NATIONAL LOON CENTER - ACTIVITY #2 THE NATIONAL LOON CENTER FOUNDATION 35463 COUNTY ROAD 3 CROSSLAKE, MN

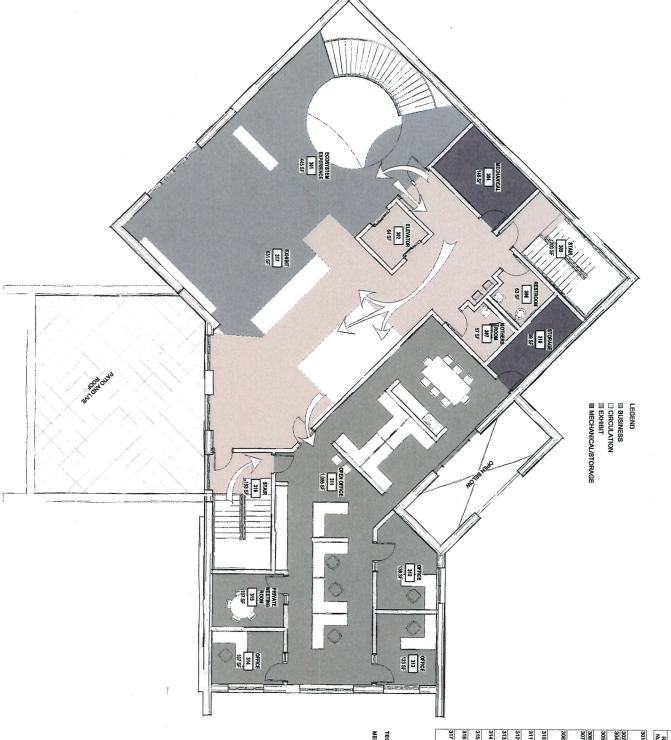
SECOND LEVEL FLOOR PLAN

SCALE: AS NOTED DRAWN BY: AGM MJA JOB NUMBER: 2020-12042

HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AMA DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NORTH DAKOTA

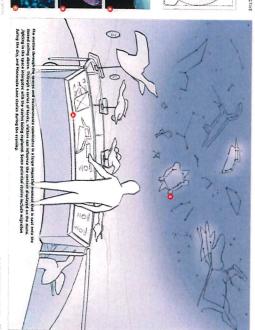
ARCHITECTS * ENGINEERS * SCIENTISTS * SURVEYORS

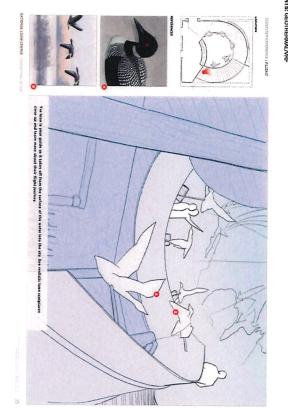












B		Common	0		,							
Number	Room/Space Name	Occupancy	Square Foot Area	Square Occ. Divisor Count	Count	Floor Finish	Wall Finish	Ceiling Finish	Lighting	Function		Adlacancies
		1							Grango	- circum		Aujecencies
301	EXPERIENCE	ASSEMBLY - 445 SF EXHIBIT	445 SF	30 SF	14.85	WARIOUS SENSORY MATERIAL, CARPET, MARMOLEUM ETC.	GYPSUM BOARD	TåG WOOD	6	IMMERSIVE EDUCATIONAL EXHIBITS THAT TEACH ON THE AIR ECOSYSTEM OF LOONS		IS THAT TEACH CONNECTED TO OTHER LEVELS OF EXHIBIT INSTALLMENTS ECOSYSTEM EXPERIENCE.
302	ELEVATOR	NA	64 SF	0 SF	1	CARPET TILE				CIRCULATION		
2	MECHANICAL	MECHANICAL 146 SF		*	0.49	SEALED CONCRETE	GYPSUM	EXPOSED STRUCTURE	<u>E</u>	MECHANICAL/ELECTRICAL		STACKED, WAIL UTILITIES, NA
365	STAIR	NA	200 SF	0 SF		RUBBER TREADS	GYPSUM		E	CIRCULATION, EGRESS		EXTERIOR
306	RESTROOM	N/A	63 SF	0 SF		THE	TILE		LEO	INDIVIDAL RESTROOM FACILITY		CIRCULATION
307	MOTHERS ROOM	BUSINESS	1	O SF		CARPET TILE	BOARD	ACT	LED	QUIET AREA FOR MOTHERS OR RECHARGEMENTAL HEALTH SPACE FOR VISITORS/EMPLOYEES	ACE FOR	ACE FOR NEAR OFFICES AND PLUMBING
	CORKIDOR	Ŋ	819 SF	0 SF		MARMOLEUM ETC.	BOARD	T&G WOOD	ГЕО	CIRCULATION		OFFICES NA
	STORAGE	STORAGE	99 SF	300 SF	0.33	CONCRETE	GYPSUM	T&G WOOD	<u>e</u>	EXHIBIT/BULK ITEM/JANITORIAL STORAGE		ML STORAGE CENTRALLY LOCATED SHELVING
	OPEN OFFICE	BUSINESS	m	150 SF	7.24	CARPET TILE	GYPSUM BOARD	T&G WOOD	LED	TOUCH DOWN, CUBICLE SPACE FOR MORE INTERACTIVE OFFICE STAFF		CE FOR MORE NEAR OFFICES SWALL CUBICLES
	OFFICE	BUSINESS	138 SF	150 SF	0.92	CARPET TILE	GYPSUM BOARD	T&G WOOD	LED	WALLED IN SINGLE PERSON OFFICE FOR STAFF		OFFICE FOR STAFF CENTRALLY LOCATED
313	OFFICE	BUSINESS	123 SF		0.82	CARPET TILE	GYPSUM BOARD	T&G WOOD	E	WALLED IN SINGLE PERSON OFFICE FOR STAFF		OFFICE FOR STAFF NEAR OPEN OFFICE
		BUSINESS	107 SF	150 SF	0.71	CARPET TILE	GYPSUM BOARD	T&G WOOD	LED	WALLED IN SINGLE PERSON OFFICE FOR STAFF		N OFFICE FOR STAFF NEAR OPEN OFFICE
315	ROOM ROOM	BUSINESS	107 SF	150 SF	0.71	CARPET TILE	GYPSUM	T&G WOOD	LED	WALLED IN SINGLE PERSON OFFICE FOR STAFF		OFFICE FOR STAFF NEAR OPEN OFFICE DESK, CHAIR
316	STAIR	NA	193 SF	0 SF		RUBBER TREADS	GYPSUM BOARD	T&G WOOD	<u>e</u>	CIRCULATION, EGRESS		EXTERIOR
317	EXHIBIT	EXHIBIT	631 SF	30 SF	21.05	MATERIAL, CARPET, MARMOLEUM ETC.	GYPSUM BOARD	T&G WOOD	Е	EDUCATIONAL EXHIBT		CIRCULATION EXHIBIT INSTALLMENTS

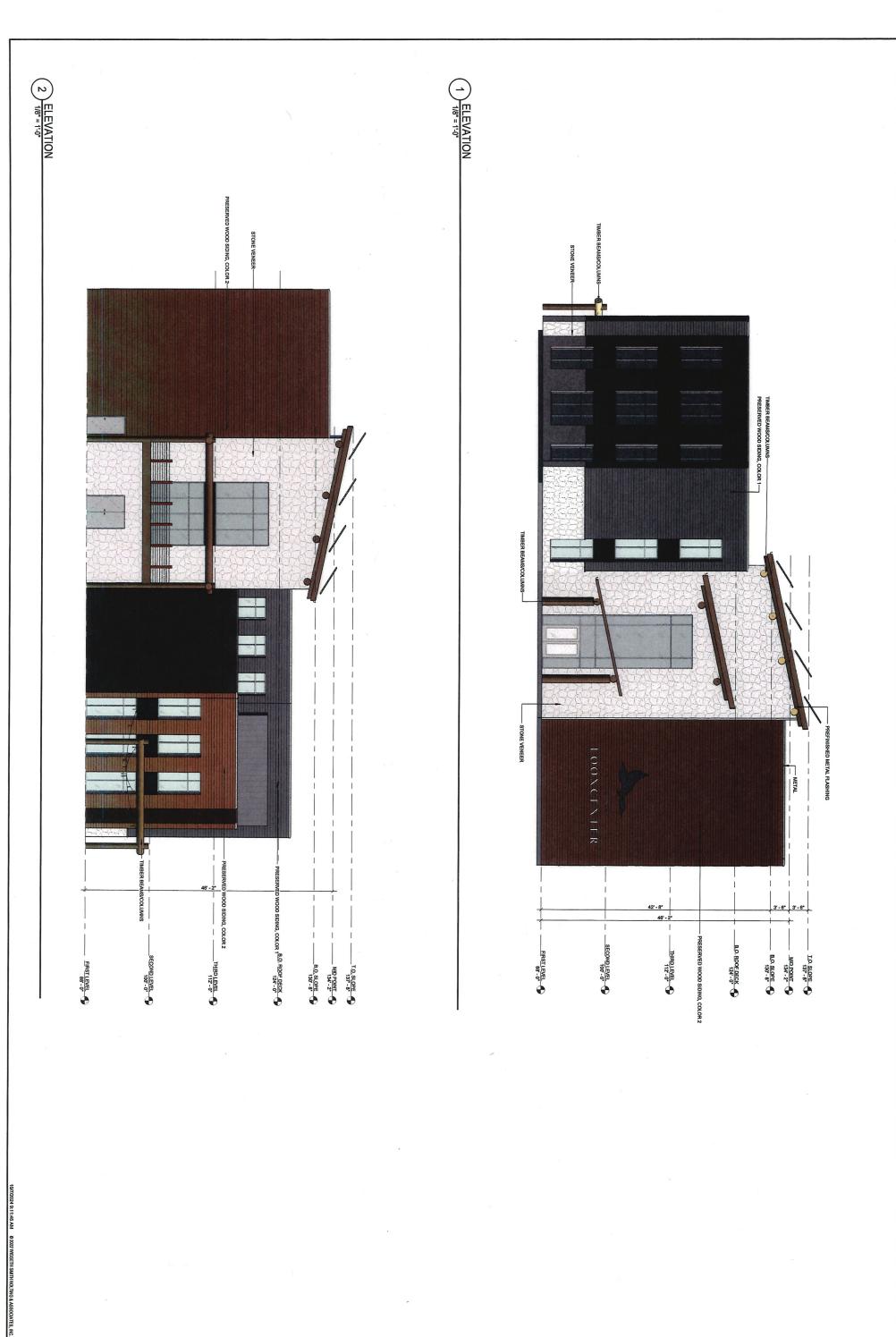
SHEET NO.	NATIONAL LOON CENTER - ACTIVITY #2 THE NATIONAL LOON CENTER FOUNDATION 35463 COUNTY ROAD 3 CROSSLAKE, MN	
	THIRD LEVEL FLOOR PLAN	-

 _	_	

OCTOBER 7, 2024 AS NOTED SCALE: DRAWN BY: CHECKED BY: AGM MJA 2020-12042

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DLLY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NORTH DAKOTA

ARCHITECTS * ENGINEERS * SCIENTISTS * SURVEYORS



NATIONAL LOON CENTER - ACTIVITY #2 THE NATIONAL LOON CENTER FOUNDATION 35463 COUNTY ROAD 3 CROSSLAKE, MN **BUILDING ELEVATIONS**

OCTOBER 7, 2024 SCALE: AS NOTED AGM MJA DRAWN BY: CHECKED BY: JOB NUMBER: 2020-12042



1 ELEVATION



NATIONAL LOON CENTER - ACTIVITY #2 THE NATIONAL LOON CENTER FOUNDATION 35463 COUNTY ROAD 3 CROSSLAKE, MN BUILDING ELEVATIONS DATE: OCTOBER 7, 2024

SCALE: AS NOTED

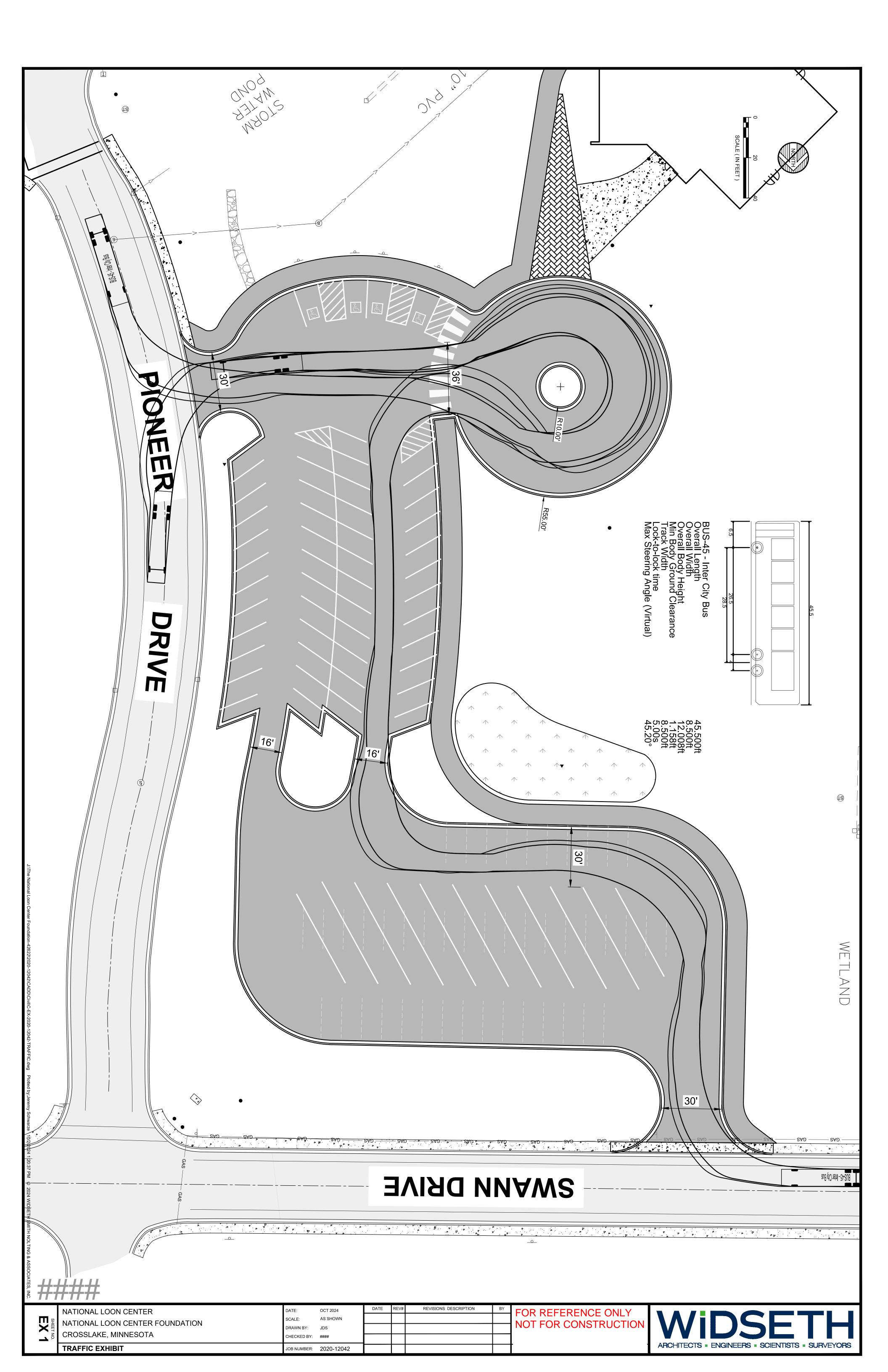
DRAWN BY: AGM

CHECKED BY: MJA

JOB NUMBER: 2020-12042

HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UINDER MY DIRECT SUPERVISION AND THAT I MAN DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NORTH DAKOTA

WIDSETH ARCHITECTS - ENGINEERS - SCIENTISTS - SURVEYORS



NATIONAL LOON CENTER CROSSLAKE, MN

HYDRAULIC DESIGN SUMMARY REPORT

For

NATIONAL LOON CENTER SITE DEVELOPMENT

Oct 2024

Prepared by:
Widseth Smith Nolting & Associates
Consulting Engineers, Hibbing, Minnesota

Project # 2020-12042

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.

Jeremy Schwarze Lic. No. 55498

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SITE IMPERVIOUSNESS CALCULATIONS WORKSHEET

STORMWATER POND STORAGE WORKSHEET

WEB SOIL SURVEY HYDROLOGIC SOIL MAP

NOAA ATLAS 14 PRECIPITATION FREQUENCY TABLE

HYDROCAD SUMMARY REPORT: MSE 24-HR 100-YEAR RAINFALL ANALYSIS

PERMANENT POOL VOLUME WATER QUALITY VOLUME

EXISTING CONDITIONS

LAND USE (COVER TYPE)	IMPERVIOUS AREA	IMPERVIOUS AREA
	(sf)	(acre)
Existing	0.00	0.00
IMPERVIOUSNESS-EXISTING		0.00

PROPOSED CONDITIONS

LAND USE (COVER TYPE)	IMPERVIOUS AREA	IMPERVIOUS AREA
	(sf)	(acre)
Building	7000.00	0.16
Pavement and Curb & Gutter	64600.00	1.48
Sidewalk	2645.00	0.06
Trails (adjacent to parking lot)	6,400	0.15
IMPERVIOUSNESS-PROPOSED	80645.00	1.85

NEW IMPERVIOUS SURFACE AREA=

1.85

LIVE STORAGE-WA	FER QUALITY VO	LUME						
The basin's water quality	volume is calculated	d as a 1.1" (per MID	OS) of					
runoff from the new imp	ervious surfaces crea	ted by the project.						
IMPERVIOUS DRAINAGE WATER QUALITY								
AREA	CRITERIA	VOLU	J ME					
(acres)	(inches)	(cubic-feet)	(acre-feet)					
1.85	1.10	7,392	0.1697					

POND STORAGE 10/31/2024 Pond

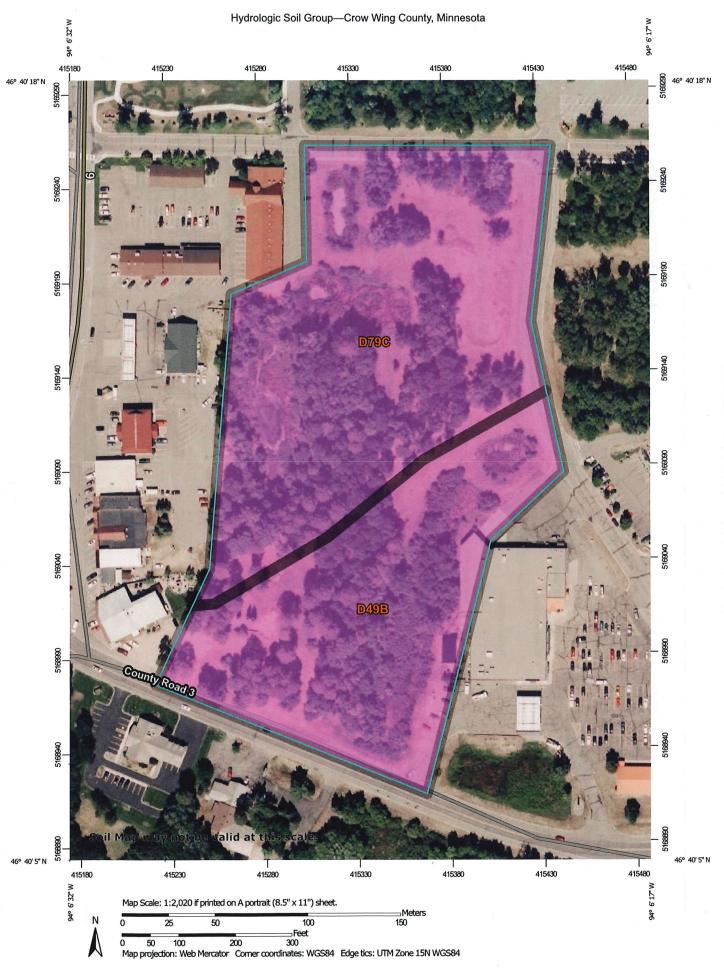
TOTAL POND	ELEVATION	AREA	DELTA VOLUME	STORAGE VOLUME	STORAGE VOLUME
STORAGE	(FT)	(SF)	(CF)	(CF)	(AC-FT)
				_	
	1224.00	170	0	0	0.0000
	1225.00	500	321	321	0.0074
	1226.00	1,170	812	1,132	0.0260
	1227.00	3,970	2,432	3,564	0.0818
	1228.00	4,950	4,451	8,015	0.1840
	1229.00	5,990	5,462	13,477	0.3094
	1230.00	7,085	6,530	20,006	0.4593

	ELEVATION	AREA	DELTA	STORAGE	STORAGE
DEAD STORAGE	(FT)	(SF)	VOLUME (CF)	VOLUME (CF)	VOLUME (AC-FT)
	1224.00	170	0	0	0.0000
	1225.00	500	321	321	0.0074
	1226.00	1,170	812	1,132	0.0260
Perm. Pool	1227.00 1227.01	3,970 3,978	2,432	3,564	0.0818 <i>0.0826</i>
Perili. P001	1228.00	3,976 4.950	4,451	8.015	0.1840

(meets 3' min.)

	ELEVATION	AREA	DELTA	STORAGE	STORAGE	Max. Discharge
LIVE			VOLUME	VOLUME	VOLUME	for 90% Removal
STORAGE	(FT)	(SF)	(CF)	(CF)	(AC-FT)	(CFS)
	1227.00	3,970	0	0	0.0000	0.52
	1228.00	4,950	4,451	4,451	0.1022	0.64
Water Quality	1228.54	5,510			0.1697	0.72
	1229.00	5,990	5,462	9,913	0.2276	0.78
				1		
	1230.00	7,085	6,530	16,443	0.3775	0.92

The Permanent Pool Volume (Dead Storage) required is: The Permanent Pool Volume (Dead Storage) provided is:	0.0826 0.0818	acre-feet acre-feet
The Water Quality Volume (Live Storage) required is: The corresponding water quality elevation is:	0.1697 1,228.54	acre-feet feet



MAP LEGEND

Not rated or not available Streams and Canals Interstate Highways Major Roads Local Roads **US Routes** Rails C/D Water Features **Transportation** ပ ‡ Not rated or not available Area of Interest (AOI) Soil Rating Polygons Area of Interest (AOI) 80 S Soils

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey LIRL:

Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857) Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

Aerial Photography

Background

Soil Rating Lines

∢

å

В

8/0

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Crow Wing County, Minnesota Survey Area Data: Version 19, Sep 10, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 13, 2021—Aug

Not rated or not available

*

C/D

Soil Rating Points

S

B/D

В

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
D49B	Graycalm loamy sand, 2 to 8 percent slopes	A	5.0	41.2%
D79C	Graycalm-Rifle complex, 0 to 10 percent slopes	Α	7.2	58.8%
Totals for Area of Inter	rest	12.2	100.0%	

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher





NOAA Atlas 14, Volume 8, Version 2 Location name: Crosslake, Minnesota, USA* Latitude: 46.6705°, Longitude: -94.1063°

Elevation: 1235 ft**

* source: ESRI Maps

** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF tabular | PF graphical | Maps & aerials

PF tabular

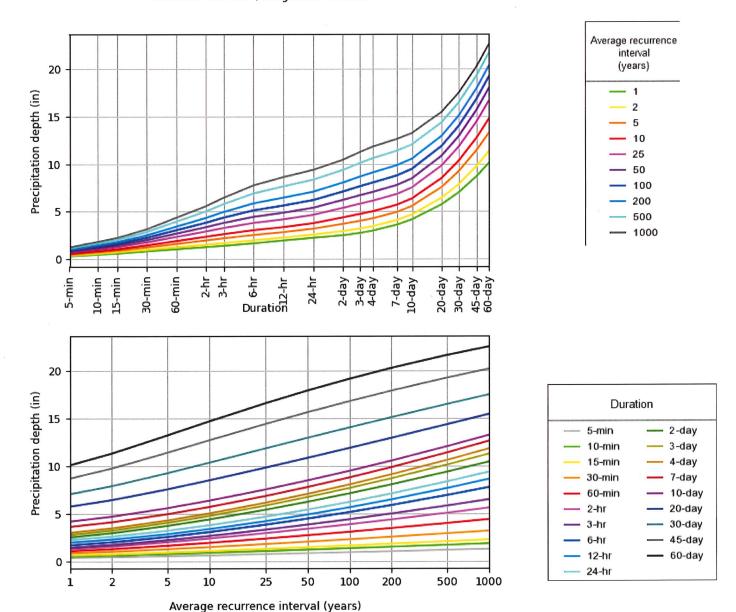
PDS-	PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹							ches) ¹		
Duration	Average recurrence interval (years)									
Duration	1	2	5	10	25	50	100	200	500	1000
5-min	0.337 (0.270-0.437)	0.400 (0.320-0.518)	0.504 (0.403-0.655)	0.592 (0.470-0.772)	0.715 (0.546-0.958)	0.812 (0.604-1.10)	0.910 (0.651-1.26)	1.01 (0.690-1.43)	1.15 (0.749-1.65)	1.25 (0.794-1.83)
10-min	0.493 (0.396-0.639)	0.585 (0.469-0.759)	0.738 (0.589-0.959)	0.867 (0.688-1.13)	1.05 (0.800-1.40)	1.19 (0.884-1.61)	1.33 (0.953-1.84)	1.48 (1.01-2.09)	1.68 (1.10-2.42)	1.83 (1.16-2.67)
15-min	0.602 (0.483-0.780)	0.714 (0.572-0.926)	0.900 (0.719-1.17)	1.06 (0.839-1.38)	1.28 (0.975-1.71)	1.45 (1.08-1.96)	1.62 (1.16-2.24)	1.81 (1.23-2.55)	2.05 (1.34-2.95)	2.24 (1.42-3.26)
30-min	0.829 (0.666-1.08)	0.986 (0.790-1.28)	1.25 (0.995-1.62)	1.47 (1.16-1.91)	1.78 (1.36-2.39)	2.02 (1.51-2.74)	2.28 (1.63-3.14)	2.53 (1.73-3.58)	2.88 (1.88-4.16)	3.16 (2.00-4.60)
60-min	1.05 (0.845-1.36)	1.26 (1.01-1.64)	1.61 (1.29-2.10)	1.92 (1.52-2.50)	2.35 (1.80-3.17)	2.70 (2.01-3.67)	3.06 (2.20-4.24)	3.44 (2.35-4.87)	3.96 (2.59-5.72)	4.37 (2.77-6.37)
2-hr	1.28 (1.04-1.63)	1.54 (1.25-1.96)	1.98 (1.60-2.54)	2.37 (1.90-3.04)	2.93 (2.27-3.89)	3.38 (2.55-4.53)	3.85 (2.80-5.26)	4.35 (3.01-6.07)	5.04 (3.34-7.18)	5.58 (3.58-8.02)
3-hr	1.41 (1.16-1.79)	1.70 (1.39-2.15)	2.20 (1.80-2.79)	2.64 (2.14-3.37)	3.29 (2.58-4.35)	3.82 (2.91-5.09)	4.38 (3.20-5.94)	4.97 (3.47-6.89)	5.80 (3.87-8.21)	6.46 (4.18-9.21)
6-hr	1.67 (1.39-2.08)	1.99 (1.64-2.47)	2.55 (2.10-3.18)	3.05 (2.50-3.82)	3.82 (3.04-4.98)	4.45 (3.44-5.85)	5.13 (3.81-6.88)	5.87 (4.15-8.03)	6.91 (4.67-9.65)	7.75 (5.07-10.9)
12-hr	1.96 (1.65-2.40)	2.27 (1.91-2.79)	2.84 (2.38-3.49)	3.37 (2.80-4.16)	4.19 (3.39-5.40)	4.88 (3.83-6.33)	5.64 (4.24-7.45)	6.46 (4.64-8.72)	7.64 (5.24-10.5)	8.61 (5.70-11.9)
24-hr	2.24 (1.91-2.70)	2.58 (2.20-3.11)	3.20 (2.71-3.87)	3.78 (3.18-4.58)	4.65 (3.81-5.89)	5.40 (4.28-6.88)	6.20 (4.73-8.07)	7.08 (5.14-9.41)	8.34 (5.79-11.3)	9.36 (6.28-12.8)
2-day	2.51 (2.16-2.97)	2.94 (2.54-3.49)	3.70 (3.18-4.40)	4.38 (3.74-5.22)	5.39 (4.45-6.68)	6.22 (4.99-7.77)	7.10 (5.47-9.05)	8.04 (5.90-10.5)	9.36 (6.57-12.5)	10.4 (7.08-14.0)
3-day	2.75 (2.40-3.23)	3.21 (2.79-3.77)	4.02 (3.48-4.73)	4.74 (4.08-5.60)	5.82 (4.85-7.14)	6.71 (5.43-8.31)	7.66 (5.95-9.68)	8.67 (6.42-11.2)	10.1 (7.15-13.3)	11.2 (7.70-15.0)
4-day	2.98 (2.61-3.48)	3.45 (3.02-4.02)	4.27 (3.72-4.99)	5.02 (4.34-5.88)	6.12 (5.13-7.47)	7.05 (5.74-8.67)	8.03 (6.28-10.1)	9.09 (6.77-11.7)	10.6 (7.53-13.9)	11.8 (8.11-15.6)
7-day	3.61 (3.19-4.15)	4.09 (3.61-4.70)	4.93 (4.34-5.68)	5.69 (4.98-6.58)	6.82 (5.78-8.20)	7.77 (6.39-9.42)	8.77 (6.93-10.9)	9.85 (7.41-12.5)	11.4 (8.18-14.7)	12.6 (8.76-16.4)
10-day	4.16 (3.71-4.74)	4.68 (4.16-5.33)	5.57 (4.94-6.36)	6.36 (5.60-7.28)	7.51 (6.40-8.92)	8.46 (7.01-10.1)	9.47 (7.52-11.6)	10.5 (7.98-13.2)	12.0 (8.70-15.4)	13.2 (9.25-17.1)
20-day	5.74 (5.19-6.42)	6.42 (5.80-7.19)	7.55 (6.79-8.47)	8.49 (7.59-9.57)	9.81 (8.43-11.3)	10.8 (9.06-12.7)	11.9 (9.54-14.2)	12.9 (9.89-15.8)	14.3 (10.5-18.0)	15.4 (10.9-19.6)
30-day	7.04 (6.42-7.79)	7.88 (7.18-8.74)	9.24 (8.38-10.3)	10.3 (9.32-11.5)	11.8 (10.2-13.5)	12.9 (10.9-14.9)	14.0 (11.3-16.5)	15.1 (11.6-18.2)	16.5 (12.1-20.4)	17.5 (12.5-22.0)
45-day	8.68 (7.98-9.51)	9.73 (8.94-10.7)	11.4 (10.4-12.5)	12.7 (11.5-14.0)	14.4 (12.5-16.2)	15.6 (13.2-17.8)	16.8 (13.7-19.5)	17.9 (13.9-21.3)	19.2 (14.2-23.5)	20.2 (14.5-25.2)
60-day	10.1 (9.32-11.0)	11.3 (10.4-12.3)	13.2 (12.1-14.4)	14.7 (13.4-16.1)	16.6 (14.5-18.4)	17.9 (15.2-20.2)	19.1 (15.6-22.1)	20.3 (15.8-24.0)	21.6 (16.1-26.2)	22.5 (16.3-27.9)

Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PDS-based depth-duration-frequency (DDF) curves Latitude: 46.6705°, Longitude: -94.1063°



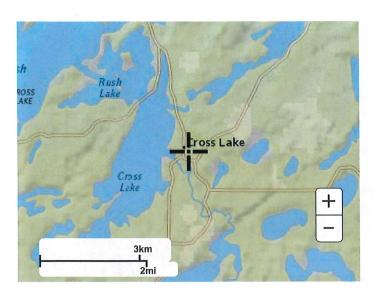
NOAA Atlas 14, Volume 8, Version 2

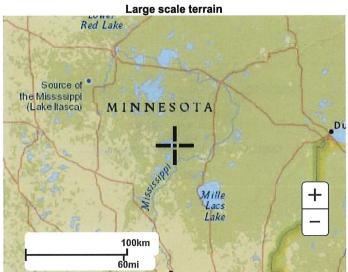
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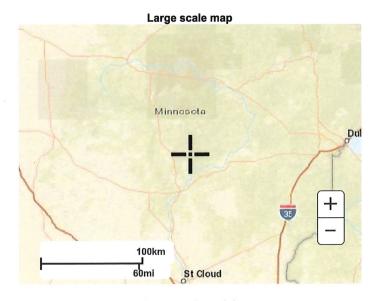
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Maps & aerials

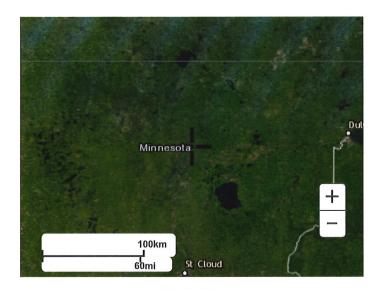
Small scale terrain







Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer



Wet Pond

Drainage Area









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Project Notes

Rainfall events imported from "Atlas-14-Rain.txt" for 527 MN Crow Wing

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Area Listing (all nodes)

Area	CN Description		
(acres)		(subcatchment-numbers)	
0.195	39	>75% Grass cover, Good, HSG A (1S)	
1.483	98	Paved parking, HSG A (1S)	
0.161	98	Roofs, HSG A (1S)	
0.061	98	Sidewalks (1S)	
1.900	92	TOTAL AREA	

NLC_HydroCalcs
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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
1.839	HSG A	1S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.061	Other	1S
1.900		TOTAL AREA

NLC_HydroCalcs
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Ground Covers (all nodes)

 HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
 0.195	0.000	0.000	0.000	0.000	0.195	>75% Grass cover, Good	18
1.483	0.000	0.000	0.000	0.000	1.483	Paved parking	1S
0.161	0.000	0.000	0.000	0.000	0.161	Roofs	1S
0.000	0.000	0.000	0.000	0.061	0.061	Sidewalks	1S
1.839	0.000	0.000	0.000	0.061	1.900	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node	In-Invert	Out-Invert	Length	Slope	n	Width	Diam/Height	Inside-Fill	Node
	Number	(feet)	(feet)	(feet)	(ft/ft)		(inches)	(inches)	(inches)	Name
1	2P	1,227.00	1,227.00	20.0	0.0000	0.010	0.0	12.0	0.0	

NLC_HydroCalcs

MSE 24-hr 3 100-Year Rainfall=6.20"

Prepared by Widseth Smith Nolting

Printed 10/31/2024

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Drainage Area

Runoff Area=82,763 sf 89.74% Impervious Runoff Depth=5.27"

Flow Length=250' Slope=0.0200 '/' Tc=3.2 min CN=92 Runoff=18.20 cfs 0.834 af

Pond 2P: Wet Pond

Peak Elev=1,229.55' Storage=16,931 cf Inflow=18.20 cfs 0.834 af

Primary=5.41 cfs 0.831 af Secondary=0.36 cfs 0.003 af Outflow=5.77 cfs 0.833 af

Total Runoff Area = 1.900 ac Runoff Volume = 0.834 af Average Runoff Depth = 5.27" 10.26% Pervious = 0.195 ac 89.74% Impervious = 1.705 ac

Summary for Subcatchment 1S: Drainage Area

[49] Hint: Tc<2dt may require smaller dt

Runoff = 18.20 cfs @ 12.09 hrs, Volume=

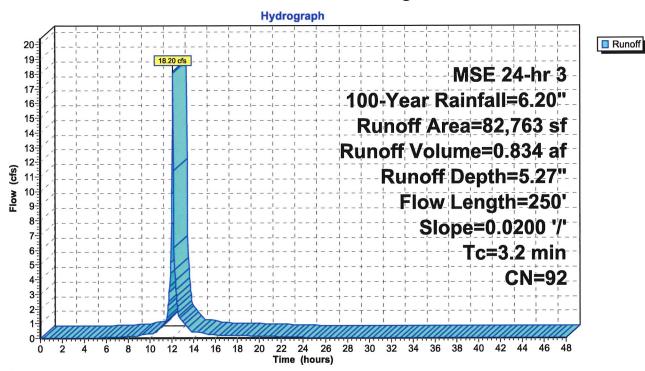
0.834 af, Depth= 5.27"

Routed to Pond 2P: Wet Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs MSE 24-hr 3 100-Year Rainfall=6.20"

	Α	rea (sf)	CN	Description							
		7,013	98	Roofs, HSG	A A						
		8,494	39	>75% Gras	75% Grass cover, Good, HSG A						
		64,599	98	Paved park	Paved parking, HSG A						
*		2,657	98	Sidewalks							
		82,763	92	Neighted A	verage						
		8,494		10.26% Pervious Area							
		74,269	;	89.74% Impervious Area							
	Tc	Length	Slope	Velocity	Capacity	Description					
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	3.2	250	0.0200	1.31		Sheet Flow, Time of Concentration					
						Smooth surfaces n= 0.011 P2= 2.00"					

Subcatchment 1S: Drainage Area



Volume

Printed 10/31/2024

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Summary for Pond 2P: Wet Pond

[58] Hint: Peaked 0.05' above defined flood level

Inflow Area = 1.900 ac, 89.74% Impervious, Inflow Depth = 5.27" for 100-Year event

Inflow = 18.20 cfs @ 12.09 hrs, Volume= 0.834 af

Outflow = 5.77 cfs @ 12.22 hrs, Volume= 0.833 af, Atten= 68%, Lag= 7.6 min

Primary = 5.41 cfs @ 12.22 hrs, Volume= 0.831 af Secondary = 0.36 cfs @ 12.22 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Starting Elev= 1,227.00' Surf.Area= 3,970 sf Storage= 3,564 cf

Peak Elev= 1,229.55' @ 12.22 hrs Surf.Area= 6,581 sf Storage= 16,931 cf (13,368 cf above start)

Flood Elev= 1,229.50' Surf.Area= 6,526 sf Storage= 16,605 cf (13,041 cf above start)

Avail.Storage Storage Description

Plug-Flow detention time= 129.2 min calculated for 0.752 af (90% of inflow)

Center-of-Mass det. time= 67.1 min (831.5 - 764.3)

Invert

TOIGITIO	1117010	/ \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<u>,, ugo </u>	Otorago Dodonption		
#1	1,224.00'	20,0	06 cf	Custom Storage (I	rregular)Listed be	low (Recalc)
Elevation	on Su	ırf.Area F	Perim.	Inc.Store	Cum.Store	Wet.Area
(fee	et)	(sq-ft)	(feet)	(cubic-feet)	(cubic-feet)	(sq-ft <u>)</u>
1,224.0	00	170	77.0	0	0	170
1,225.0			154.0		321	1,590
1,226.0			239.0		1,132	4,256
1,227.0			318.0		3,564	7,768
1,228.0		•	337.0	•	8,015	8,811
1,229.0		•	356.0	•	13,477	9,915
1,230.0	00	7,085	375.0	6,530	20,006	11,079
Device	Routing	Invert	Out	let Devices		
#1	Primary	1,227.00'		" Round RCP Rou	nd 12"	
		.,		20.0' CPP, square e		= 0.500
						S= 0.0000 '/' Cc= 0.900
			n= (0.010 PVC, smooth in	nterior, Flow Area	= 0.79 sf
#2	Device 1	1,227.00'	6.0"	Vert. Orifice/Grate	C= 0.600 Limite	d to weir flow at low heads
#3	Device 1	1,228.00'		onc Weir Wall, Cv=	2.62 (C= 3.28)	
				d (feet) 0.00 1.00		
				th (feet) 4.00 4.00		
#4	Device 1	1,229.00'		trol Structure 48.0-		
						70 0.80 0.90 1.00 1.50
) 2.50 3.00 3.50 4.0		2.440, 04.500, 00.000
						9.440 24.500 29.930
				'10 41.820 51.300 £ 360 93.670	09.240 00.230 72	.000 /0.3/0 03./00
#5	Secondary	1,229.50'			7 v 10 0' broadth	Broad-Crested Rectangular V
πJ	Gecondary	1,229.50		d (feet) 0.20 0.40 0		
				f. (English) 2.49 2.5		
			-	ii (Eiighoii <i>) Ei</i> iio Eio	0 =.70 E.00 E.00	

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Primary OutFlow Max=5.40 cfs @ 12.22 hrs HW=1,229.54' (Free Discharge)

-1=RCP_Round 12" (Inlet Controls 5.40 cfs @ 6.87 fps)

-2=Orifice/Grate (Passes < 1.43 cfs potential flow)

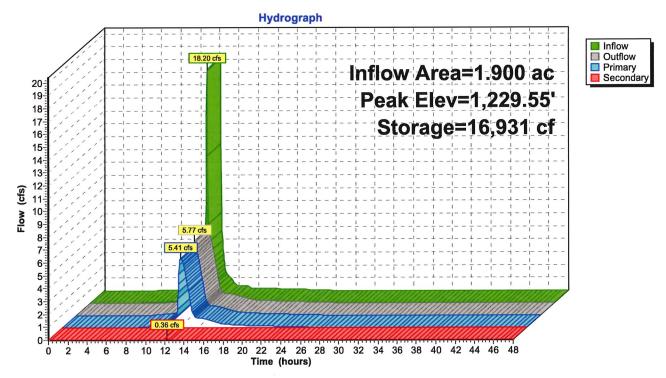
-3=4' Conc Weir Wall (Passes < 19.82 cfs potential flow)

-4=Control Structure 48.0-in (Passes < 15.79 cfs potential flow)

Secondary OutFlow Max=0.19 cfs @ 12.22 hrs HW=1,229.54' (Free Discharge)

5=Broad-Crested Rectangular Weir (Weir Controls 0.19 cfs @ 0.49 fps) -5=Broad-Crested Rectangular Weir (Weir Controls 0.19 cfs @ 0.49 fps)

Pond 2P: Wet Pond



Mike Angland

From: Jeremy Schwarze <Jeremy.Schwarze@widseth.com>

Sent: Wednesday, October 2, 2024 1:27 PM

To: City of Crosslake
Cc: Mike Angland

Subject:RE: NLC - Draft Civil PlanAttachments:NLC_Traffic-Exhibit_241002.pdf

Categories: Filed by Newforma

Good afternoon, Chief,

The outer radius of the drop-off zone is 55' with a 10' radius inner island. For comparison, this is similar to the nearby community school but with a smaller island (the school island appears to have about a 25' radius).

I've attached a drawing showing the approximate wheel paths and turning movements to hopefully illustrate emergency access from either driveway.

Please let me know if you have any questions or concerns.

Thank you,

Jeremy Schwarze, PE

Civil Engineer 218-274-6058 704 E Howard Street Hibbing, MN 55746

WiDSETH

Widseth.com

50 Best Places to Work (*Prairie Business Magazine,* 2024)

From: Mike Angland <Mike.Angland@widseth.com> Sent: Wednesday, October 2, 2024 10:10 AM

To: City of Crosslake <chief1@crosslake.net>; Jeremy Schwarze <Jeremy.Schwarze@widseth.com>

Subject: RE: NLC - Draft Civil Plan

Good morning Jeremy,

Can you provide Chief Lohmiller with information related to a fire truck having access within the circle drop-off area? See below for his question.

Thanks,

Mike Angland, AIA, LEED AP

Architect, VP 218-316-3608

WIDSETH

Widseth.com

File Transfer | Click here to transfer large files

50 Best Places to Work (Prairie Business Magazine, 2024)

From: City of Crosslake < chief1@crosslake.net Sent: Wednesday, October 2, 2024 9:43 AM

To: Mike Angland < Mike.Angland@widseth.com >

Subject: Re: NLC - Draft Civil Plan

Mike,

I think that would work. What are you thinking?

How big is the circle in the front. Wondering if I can get a truck in there and make the turn.

Chip Lohmiller
Chief
Crosslake Fire Department
612-868-6744
Chief1@crosslake.net



From: "Mike Angland" < Mike. Angland@widseth.com >

To: "Chip Lohmiller" < chief1@crosslake.net>
Sent: Wednesday, October 2, 2024 9:14:03 AM

Subject: FW: NLC - Draft Civil Plan

Good morning Chief,

See attached revised site plan that we'll be submitting to the City of Crosslake next week for P&Z. You and I talked about having access to the building, would you think having access off towards the CR66 side of the building would work?

Thanks in advance for your help.

Mike Angland, AIA, LEED AP Architect, VP 218-316-3608



Widseth.com

File Transfer | Click here to transfer large files

50 Best Places to Work (Prairie Business Magazine, 2024)

From: Jeremy Schwarze < Jeremy. Schwarze@widseth.com>

Sent: Monday, September 30, 2024 1:52 PM

To: Mike Angland < Mike. Angland@widseth.com>; Ashley Martel < Ashley. Martel@widseth.com>

Cc: Jillian Reiner < Jillian.Reiner@widseth.com>

Subject: NLC - Draft Civil Plan

Good afternoon,

Please review the attached permit set and let me know your thoughts. I believe the included tables should satisfy most, if not all, of the ordinances. If Jillian has time, we can look at the landscaping piece, but for now, I just included some conceptual values based on the ordinance. For stormwater, I am showing that the project will direct runoff to an infiltration basin as well as the existing storm ponds.

Any questions, let me know! Otherwise, I'll wait to hear about a meeting with the city.

Jeremy Schwarze, PE

Civil Engineer 218-274-6058 704 E Howard Street Hibbing, MN 55746



Widseth.com

50 Best Places to Work (*Prairie Business Magazine*, 2024)

From: Frie, Jacob (DNR) Cheryl Stuckmayer To: Cc: Paul Satterlund RE: PC/BOA 11.22.2024 Subject:

Date: Tuesday, November 5, 2024 8:56:28 AM

Attachments: image001.png

image002.png image003.png image004.png Agency Devak.pdf

Agency CUP-Variance Loon.pdf

Hello Cheryl:

The Minnesota DNR offers the following comment(s) for the National Loon Center CUP and variance within the City of Crosslake:

• As the proposed parking areas and Loon Center itself is located just outside of 1,000 feet of Crosslake and outside of 300 feet from the Pine River, much of the project proposal is outside the Shoreland Area. This means there are almost no areas within the project that need review to ensure heights and uses meets Minnesota Shoreland Rules and your Shoreland District section of the Code/Ordinance. Therefore, the Minnesota DNR has no comments regarding this proposal.

Thank you for your time in this regard.

Sincerely,

Jacob Frie

Area Hydrologist | Division of Ecological and Water Resources

Minnesota Department of Natural Resources

1601 Minnesota Drive Brainerd, MN, 56401 Phone: 218-203-4367

Email: Jacob.frie@state.mn.us

mndnr.gov









From: Cheryl Stuckmayer <cstuckmayer@cityofcrosslake.org>

Sent: Monday, November 4, 2024 12:54 PM To: Frie, Jacob (DNR) < Jacob.Frie@state.mn.us>

Cc: Paul Satterlund <psatterlund@cityofcrosslake.org>

Subject: PC/BOA 11.22.2024



Variance Application
Planning and Zoning Department
13888 Daggett Bay Road, Crosslake, MN 56442
218.692.2689 (Phone) 218.692.2687 (Fax) www.cityofcrosslake.org

Receipt Number: ~ 94335	Permit Number: 24	0223\
Property Owner(s): National Loon Center Foundation Property Owner(s): Property Owner(s): Association	24	02231
Mailing Address: P.O. Box 642	Variances (Check applicable red	niests)
Site Address: 35463 County Road 3 Crosslake, MN 56442	☐ Lake/River Setbac	. /
Phone Number: 970-418-0043	_	
E-Mail Address: jon@nationallooncenter.org	☐ Road Right-of-Wa	ay Setback
Parcel Number(s): 14210763, 14210614, 14210615, 14210608	☐ Bluff Setback	
	☐ Side Yard Setback	
Legal Description: Refer to attached additional sheet for Legal Descriptions	☐ Wetland Setback	
Sec_21 Twp 137 Rge 26 27 ✓ 28	☐ Septic Tank Setba	ck
Lake/River Name: N/A	☐ Septic Drainfield S	Setback
Do you own land adjacent to this parcel(s)? Yes X No	☐ Impervious Cover	age
If yes list Parcel Number(s) 14210763	☐ Accessory Structu	re
Authorized Agent: Jon Mobeck	Building Height	
Agent Address: 14303 Gould St, Crosslake, MN 56442	☐ Patio Size	
Agent Phone Number: 970-418-0043	T atto Size	
	Ш	
Signature of Property Owner(s)	Date	10-07
Signature of Authorized Agent(s) Jon Mobeck Digitally signed by Date: 2024.10.07		10-07
 All applications must be accompanied by a signed Certificate of Secondary for Residential and Commercial Payable to "City of Cross No decisions were made on an applicant's request at the DRT meet after DRT does not constitute approval. Approval or denial of appropriate planning Commission/Board of Adjustment at a public meeting as City of Crosslake Land Use Ordinance. 	sslake" eting. Submittal of an applications is determined by the	ie
For Office Use: Application accepted by Date	Land Use District{	10
Lake Class Oca Sentic: Compliance No. SSTS Design	Λ Installation N Θ	i.



Practical Difficulty Statement

Pursuant to City of Crosslake Ordinance Article 8 – Variances may be granted when it is found that strict enforcement of the Land Use Ordinance will result in a "practical difficulty".

Please answer the following questions regarding the "practical difficulty" for your variance request.

1.	Is the Variance request in harmony with the purposed and intent of the Ordinance? Yes ■ No □ Why:
	Defer to the Planning Commission/Board of Adjustment
2.	Is the Variance consistent with the Comprehensive Plan? Yes ■ No□ Why: Defer to the Planning Commission/Board of Adjustment
3.	Is the property owner proposing to use the property in a reasonable manner not permitted by the Land Use Ordinance? Yes \(\subseteq \text{No} \) Why: The proposed use of this property is allowed within the Land Use Ordinance through a Conditional Uses Permit. The National Loon Center will be an event center
	that will provide adequate off-street parking for the anticipated number of visitors, environmentally responsible site development that will preserve and maintain
	a majority of the existing trees, and be designed to blend in with the surrounding context from an architectural standpoint.
4.	Will the issuance of a Variance maintain the essential character of the locality? Yes ■ No □ Why:
	The proposed architectural design and exterior materials will be cohesive with the surrounding buildings. The height of the proposed NLC building will exceed adjacent
	buildings, however, the proportions of the building do not create an appearance of a large singular structure, that would provide an impending dominance over the
	neighboring buildings. The placement of the building is centralized within the site, and maintains the existing trees as a buffer to the neighboring buildings.
5.	Is the need for a Variance due to circumstances unique to the property and not created by the property owner? Yes ■ No □ Why:
	In response to the community and in accordance with their own mission as an organization, the NLC will construct the building and site amenities in a manner that will
	not remove existing mature trees and be located in an area that requires the least amount of site disturbance. In order to achieve this, the NLC building will have a
	multi-story building in lieu of a large single-story building, to minimize the building footprint. The existing site also has existing wetlands that will not be impacted as well.
6.	Does the need for a Variance involve more than economic considerations? Yes ■ No □ Why:
	The need for the variance stems from the NLC's desire to minimize the overall environmental impact of site development for this property.



City of Crosslake Planning Commission/Board of Adjustment

FINDINGS OF FACT SUPPORTING / DENYING A VARIANCE REQUEST

A Variance may be granted by the Planning Commission/Board of Adjustment when it is found that strict enforcement of the Land Use Ordinance will result in a "practical difficulty" according to Minnesota Statute Chapter 462. The Planning Commission/Board of Adjustment should weigh each of the following questions to determine if the applicant has established that there are "practical difficulties" in complying with regulations and standards set forth in the Land Use Ordinance.

there are "practical difficulties" in complying with regulations and standards set forth in the Land Use Ordinance.								
1. Is the Variance Yes Why:	e request in harmony with the purposes and intent of the Ordinance? No							
2. Is the Variance Yes Why:	consistent with the Comprehensive Plan? No							
the Land Use	owner proposing to use the property in a reasonable manner not permitted by Ordinance? No							

4.		iance of a Varia No	nce maintain th	e essential chara	acter of the locality	₇ ?
	Is the need e property ov Yes Why?		due to circumst	ances unique to	the property and r	not created by
6.		ed for a Varian No	ce involve more	than economic	considerations?	