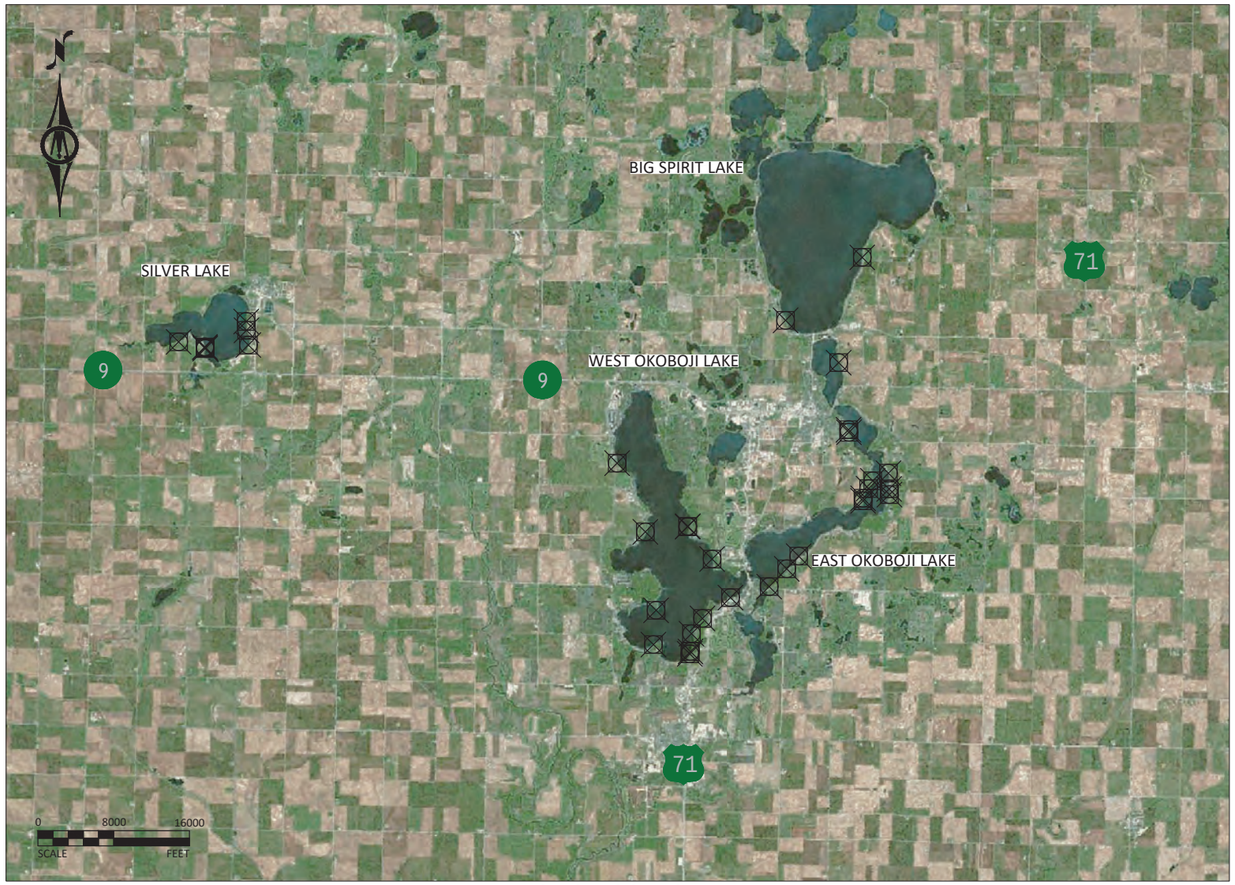
IOWA DEPARTMENT OF NATURAL RESOURCES

CONSTRUCTION PLANS FOR

IA GREAT LAKES SHORELINE STABILIZATION
IOWA DNR PROJECT NUMBER: 25-01-30-14

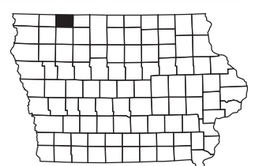
JULY 2025



MAP LEGEND

SITE LOCATIONS

PROJECT LOCATION
DICKINSON COUNTY, IA
(SILVER LAKE, BIG SPIRIT LAKE,
WEST OKOBOJI LAKE, AND EAST OKOBOJI LAKE)



DICKINSON COUNTY, IA

NOTE:
THESE PLANS ARE INTENDED TO BE PRINTED IN COLOR. IF PRINTING IN BLACK AND WHITE, LEGIBILITY MAY BE REDUCED.

GOVERNING SPECIFICATIONS

THE 2025 EDITION OF THE "IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS FOR PUBLIC IMPROVEMENTS".

MUTCD 2009 AS ADOPTED BY IOWA DEPARTMENT OF TRANSPORTATION.

ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITHIN THE CONSTRUCTION OF THIS PROJECT.

IOWA ONE CALL
1-800-292-8989 | 811
www.iowaonecall.com

NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY IOWA ONE CALL 1-800-292-8989 OR 811

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

UTILITIES:
ALLIANT ENERGY: 800-255-4268
BLACK HILLS ENERGY SPENCER: 7125806033
IOWA GREAT LAKES SANITARY DISTRICT: 712-240-0226
IOWA LAKES REGIONAL WATER: 712-262-8847
MEDIACOM LLC IOWA: 712-330-5198
CITY OF ORLEANS: 712-262-8847
PREMIER COMMUNICATIONS: 712-346-7994

ENGINEER:
BOLTON & MENK, INC.
218 11th STREET SW
SPENCER, IOWA 51301
PHONE: 712-580-5075
EMAIL: SPENCER@BOLTON-MENK.COM
WWW.BOLTON-MENK.COM

OWNER REPRESENTATIVE:
JEFF FELTS, P.E.
DISTRICT ENGINEER, NORTHWEST DISTRICT
LAND & WATERS BUREAU
PHONE: 515-250-3712
EMAIL: JEFF.FELTS@DNR.IOWA.GOV

SHEET NUMBER	SHEET TITLE
A.01 - A.02	TITLE SHEET & LEGEND
A.03	OVERALL SITE PLAN
B.01	TYPICAL SECTIONS AND DETAILS
C.01 - C.05	QUANTITIES, REFERENCE NOTES, TABULATIONS, AND GENERAL NOTES
D.01.1 - D.99.1	EXISTING CONDITIONS AND REMOVALS PLAN
D.01.2 - D.99.2	GRADING AND STABILIZATION PLAN
G.01 - G.04	CONTROL PLANS
J.01 - J.05	STAGING & TRAFFIC CONTROL PLANS
THIS PLAN SET CONTAINS 80 SHEETS.	

AUTHORIZATION TO BID

Michelle Balmer — Digitally signed by Michelle Balmer
Date: 2025.07.25 11:56:37 -05'00'

AUTHORIZATION - PARKS | WILDLIFE | FISHERIES | LAW ENFORCEMENT | FORESTRY — DATE

Travis Baker — Digitally signed by Travis Baker
Date: 2025.07.28 11:55:08 -05'00'

ENGINEERING BUREAU CHIEF — DATE

PROJECT DATUM: IOWA STATE PLANE, NORTH ZONE, U.S. SURVEY FEET (IA83-NF)

NAVD88, U.S. SURVEY FEET

RECORD DRAWING INFORMATION
OBSERVER:
CONTRACTOR:
DATE:

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

LICENSED PROFESSIONAL ENGINEER
RYAN M. BENJEGERDES
23767
IOWA

Ryan M. Benjegerdes

REG. NO. 23767 DATE: 7/23/2025

MY LICENSE RENEWAL DATE IS 12/31/2025

PAGES OR SHEETS COVERED BY THIS SEAL:

ALL SHEETS

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IOWA Department of Natural Resources

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SPENCER, IA 51301
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IOWA DEPARTMENT OF NATURAL RESOURCES
IA GREAT LAKES SHORELINE STABILIZATION
TITLE SHEET

SHEET A.01

EXISTING TOPOGRAPHIC SYMBOLS

- ACCESS GRATE
- AIR CONDITION UNIT
- ANTENNA
- AUTO SPRINKLER CONNECTION
- BARRICADE PERMANENT
- BASKETBALL POST
- BENCH
- BIRD FEEDER
- BOLLARD
- BUSH
- CATCH BASIN RECTANGULAR CASTING
- CATCH BASIN CIRCULAR CASTING
- CURB STOP
- CLEAN OUT
- CULVERT END
- DRINKING FOUNTAIN
- DOWN SPOUT
- ELECTRIC CAR CHARGE STATION
- FILL PIPE
- FIRE HYDRANT
- FLAG POLE
- FLARED END / APRON
- FUEL PUMP
- GRILL
- GUY WIRE ANCHOR
- HANDHOLE
- HANDICAP SPACE
- IRRIGATION SPRINKLER HEAD
- IRRIGATION VALVE BOX
- LIFT STATION CONTROL PANEL
- LIFT STATION
- LIGHT POLE
- MAILBOX
- MANHOLE-COMMUNICATION
- MANHOLE-ELECTRIC
- MANHOLE-GAS
- MANHOLE-HEAT
- MANHOLE-RECLAIMED WATER
- MANHOLE-SANITARY SEWER
- MANHOLE-STORM SEWER
- MANHOLE-UTILITY
- MANHOLE-WATER
- METER
- DRIVE-THRU MICROPHONE
- PARKING METER
- PAVEMENT MARKING
- PEDESTAL-COMMUNICATION
- PEDESTAL-ELECTRIC
- PEDESTRIAN PUSH BUTTON
- PICNIC TABLE
- POLE-UTILITY
- POST
- RAILROAD SIGNAL POLE
- REGULATION STATION GAS
- SATELLITE DISH
- SIGN TRAFFIC
- SIGNAL CONTROL CABINET
- SOIL BORING
- SIREN
- TELEPHONE BOOTH
- TILE INLET
- TILE OUTLET
- TILE RISER
- TRANSFORMER-ELECTRIC
- TREE-CONIFEROUS
- TREE-DEAD
- TREE-DECIDUOUS
- TREE STUMP
- TRAFFIC ARM BARRIER
- TRAFFIC SIGNAL
- TRASH CAN
- UTILITY MARKER
- VALVE
- VALVE POST INDICATOR
- VALVE VAULT
- VAULT
- VENT PIPE
- WATER SPIGOT
- WELL
- WETLAND DELINEATED MARKER
- WETLAND
- WET WELL
- YARD HYDRANT

PROPOSED TOPOGRAPHIC SYMBOLS

- CLEANOUT
- MANHOLE
- LIFT STATION
- STORM SEWER CIRCULAR CASTING
- STORM SEWER RECTANGULAR CASTING
- STORM SEWER FLARED END / APRON
- STORM SEWER OUTLET STRUCTURE
- STORM SEWER OVERFLOW STRUCTURE
- CURB BOX
- FIRE HYDRANT
- WATER VALVE
- WATER REDUCER
- WATER BEND
- WATER TEE
- WATER CROSS
- WATER SLEEVE
- WATER CAP / PLUG
- RIP RAP
- DRAINAGE FLOW
- TRAFFIC SIGNS
- LIGHT POLE

SURVEY SYMBOLS

- BENCHMARK LOCATION
- CONTROL POINT
- MONUMENT FOUND
- CAST IRON MONUMENT
- STONE MONUMENT

EXISTING TOPOGRAPHIC LINES

- RETAINING WALL
- FENCE
- FENCE-DECORATIVE
- GUARD RAIL
- TREE LINE
- BUSH LINE

SURVEY LINES

- CONTROLLED ACCESS
- BOUNDARY
- CENTERLINE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- EXISTING LOT LINE
- PROPOSED LOT LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- SETBACK LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- TEMPORARY EASEMENT

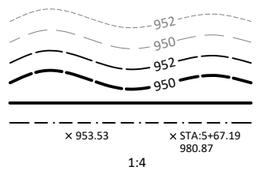
EXISTING UTILITY LINES

- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE
- RECLAIMED WATER

PROPOSED UTILITY LINES

- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE
- PIPE CASING
- TRENCHLESS PIPE (PLAN VIEW)
- TRENCHLESS PIPE (PROFILE VIEW)

GRADING INFORMATION



- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- PROPOSED CONTOUR MINOR
- PROPOSED CONTOUR MAJOR
- PROPOSED GRADING LIMITS / SLOPE LIMITS
- PROJECT LIMITS
- PROPOSED SPOT ELEVATION
- RISE:RUN (SLOPE)

HATCH PATTERNS

- HMA PAVEMENT
- SIDEWALK
- PCC PAVEMENT
- DRIVEWAY
- GRAVEL

EXISTING PRIVATE UTILITY LINES

NOTE:
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THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINE FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES".

- UNDERGROUND FIBER OPTIC
- UNDERGROUND ELECTRIC
- UNDERGROUND GAS
- UNDERGROUND COMMUNICATION
- OVERHEAD ELECTRIC
- OVERHEAD COMMUNICATION
- OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL OTHER THAN D:

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
EXAMPLE: G-A G-A UNDERGROUND GAS, QUALITY LEVEL A
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-22.

UTILITY QUALITY LEVELS:

LEVEL D - INFORMATION COMES SOLELY FROM EXISTING UTILITY RECORDS.

LEVEL C - SURVEYING ABOVE GROUND UTILITY FACILITIES, SUCH AS MANHOLES, VALVE BOXES, ETC; AND CORRELATING THIS INFORMATION WITH EXISTING UTILITY RECORDS.

LEVEL B - THE USE OF SURFACE GEOPHYSICAL TECHNIQUES TO DETERMINE THE EXISTENCE AND HORIZONTAL POSITION OF UNDERGROUND UTILITIES.

LEVEL A - THE USE OF NONDESTRUCTIVE DIGGING EQUIPMENT AT HORIZONTAL AND VERTICAL POSITION OF UNDERGROUND UTILITIES, AS WELL AS THE TYPE, SIZE, CONDITION, MATERIAL, AND OTHER CHARACTERISTICS.

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GV	GATE VALVE	RT	RIGHT
ADJ	ADJUST	HDPE	HIGH DENSITY POLYETHYLENE	SAN	SANITARY SEWER
ALT	ALTERNATE	HH	HANDHOLE	SCH	SCHEDULE
B-B	BACK TO BACK	HMA	HOT MIX ASPHALT	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CL.	CLASS	MH	MANHOLE	TYP	TYPICAL
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VCP	VITRIFIED CLAY PIPE
C.O.	CHANGE ORDER	MR	MID RADIUS	VERT	VERTICAL
COMM	COMMUNICATION	NIC	NOT IN CONTRACT	VPC	VERTICAL POINT OF CURVE
CSP	CORRUGATED STEEL PIPE	NMC	NON-METALLIC CONDUIT	VPI	VERTICAL POINT OF INTERSECTION
CLVT	CULVERT	NTS	NOT TO SCALE	VPT	VERTICAL POINT OF TANGENT
DIA	DIAMETER	NWL	NORMAL WATER LEVEL	WM	WATERMAIN
DIP	DUCTILE IRON PIPE	OHWL	ORDINARY HIGH WATER LEVEL	WS	WATER SERVICE
DWY	DRIVEWAY				
E	EXTERNAL CURVE DISTANCE	PC	POINT OF CURVE		
ESMT	EASEMENT	PCC	PORTLAND CEMENT CONCRETE	AC	ACRES
ELEC	ELECTRIC	PE	PERMANENT EASEMENT	CF	CUBIC FEET
ELEV/EL	ELEVATION	PED	PEDESTRIAN, PEDESTAL	CV	COMPACTED VOLUME
EOF	EMERGENCY OVERFLOW	PERF	PERFORATED PIPE	CY	CUBIC YARD
ER	END RADIUS	PERM	PERMANENT	EA	EACH
EX	EXISTING	PI	POINT OF INTERSECTION	EV	EXCAVATED VOLUME
FES	FLARED END SECTION	PL	PROPERTY LINE	LB	POUND
F-F	FACE TO FACE	PRC	POINT OF REVERSE CURVE	LF	LINEAR FEET
FF	FINISHED FLOOR	PT	POINT OF TANGENT	LS	LUMP SUM
F&I	FURNISH AND INSTALL	PVC	POLYVINYL CHLORIDE PIPE	LV	LOOSE VOLUME
FM	FORCEMAIN	PVMT	PAVEMENT	SF	SQUARE FEET
FO	FIBER OPTIC	R	RADIUS	SV	STOCKPILE VOLUME
F.O.	FIELD ORDER	RCP	REINFORCED CONCRETE PIPE	SY	SQUARE YARD
GRAN	GRANULAR	RET	RETAINING		
GRAV	GRAVEL	R/W	RIGHT-OF-WAY		
GU	GUTTER	RSC	RIGID STEEL CONDUIT		

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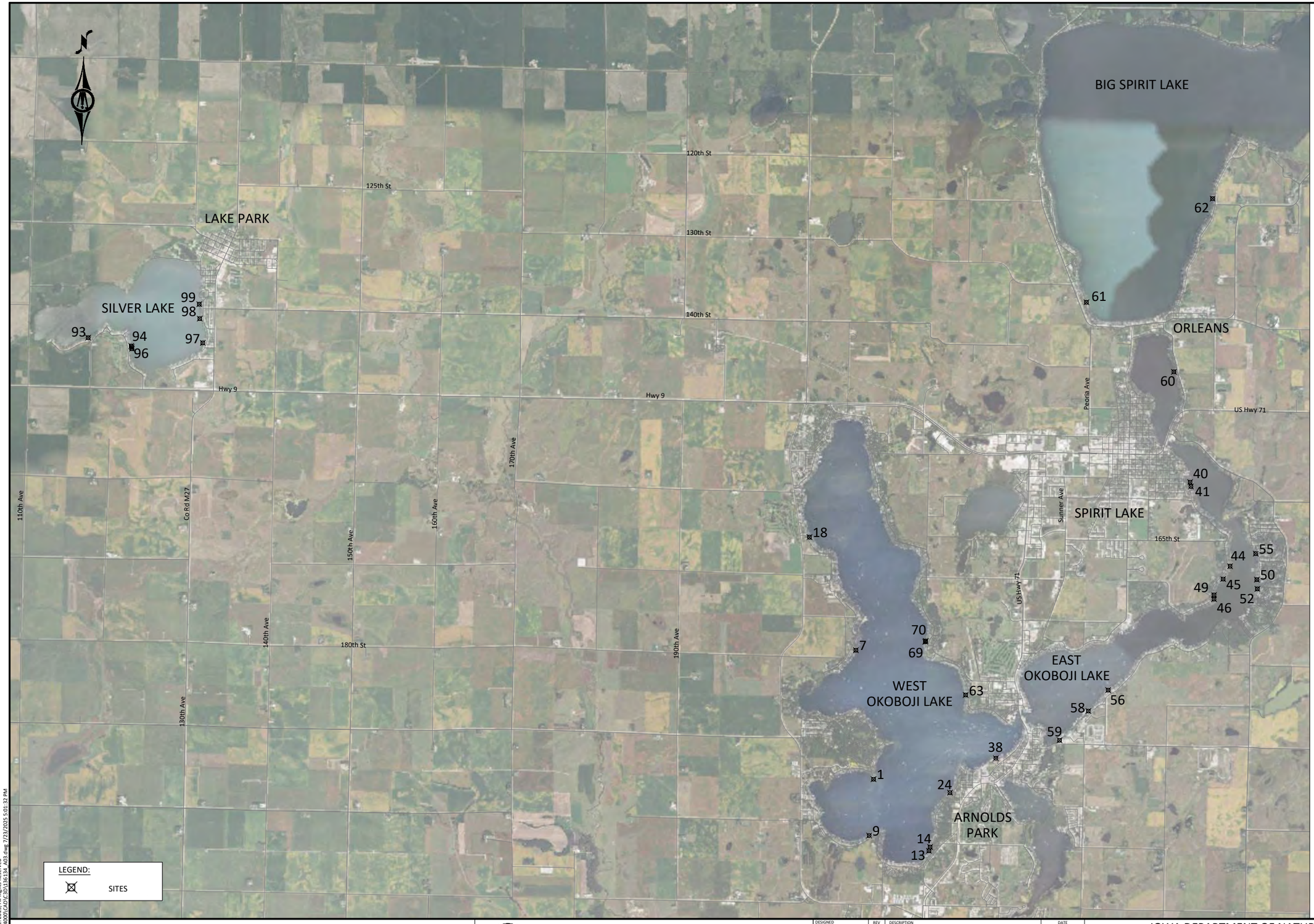
IOWA Department of Natural Resources

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IOWA DEPARTMENT OF NATURAL RESOURCES
IA GREAT LAKES SHORELINE STABILIZATION
LEGEND

SHEET A.02



SITE LOCATIONS		
Site Index		
1	3964690.666	4479155.445
7	3972971.032	4478023.093
9	3961073.974	4478874.250
13	3960092.536	4482714.239
14	3960337.015	4482788.047
18	3980223.754	4475045.195
24	3963828.211	4484059.314
38	3966033.714	4487009.259
40	3983754.276	4499474.907
41	3983479.679	4499524.718
44	3978358.239	4502037.382
45	3977538.321	4501593.098
46	3976248.608	4501009.328
49	3976513.486	4501009.612
50	3977500.377	4503759.919
52	3976904.925	4503792.941
55	3979168.083	4503686.322
56	3970409.873	4494213.070
58	3969067.259	4492945.098
59	3967191.970	4491093.120
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62	4001951.144	4500920.582
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70	3973566.598	4482505.105
69	3973509.073	4482480.873
93	3993028.780	4428749.325
94	3992493.529	4431514.387
96	3992315.331	4431557.960
97	3992691.613	4436109.636
98	3994250.505	4435914.306
99	3995175.117	4435880.127

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41	43.41715232	-95.08724297
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46	43.39739451	-95.08114774
49	43.39812106	-95.08116531
50	43.40096868	-95.07088863
52	43.39933708	-95.07072279
55	43.4055393	-95.07128211
56	43.38102787	-95.10629495
58	43.377279	-95.11096701
59	43.37203822	-95.11779609
60	43.43726523	-95.09186967
61	43.44922765	-95.11330939
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63	43.37968238	-95.14066037
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94	43.43808954	-95.34387582
96	43.4376034	-95.34369719
97	43.43890647	-95.3265961
98	43.44317047	-95.32745816
99	43.44570438	-95.32766207

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SCALE FEET

IOWA Department of Natural Resources

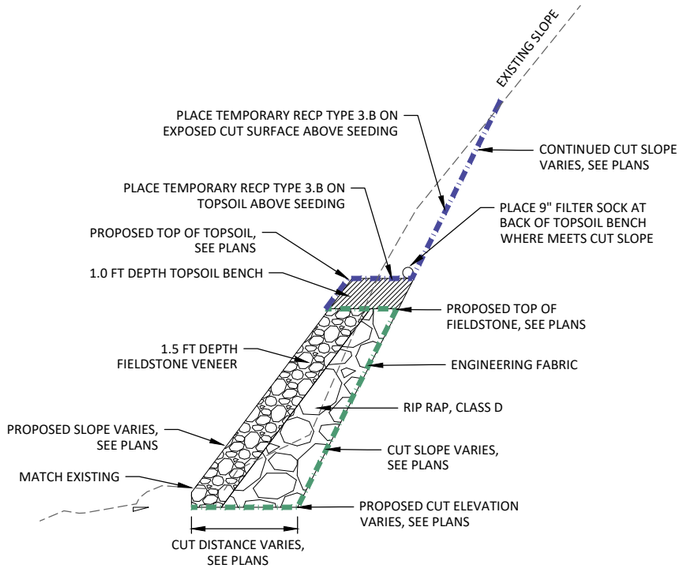
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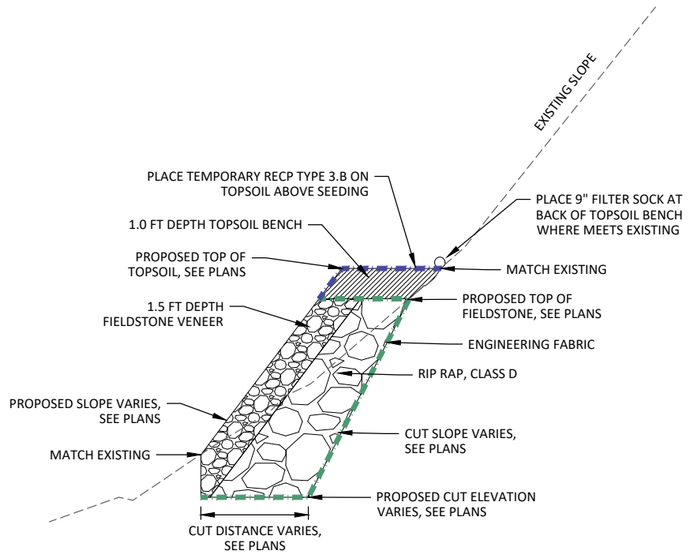
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IOWA DEPARTMENT OF NATURAL RESOURCES
IA GREAT LAKES SHORELINE STABILIZATION
PROJECT OVERVIEW & SITE INDEX

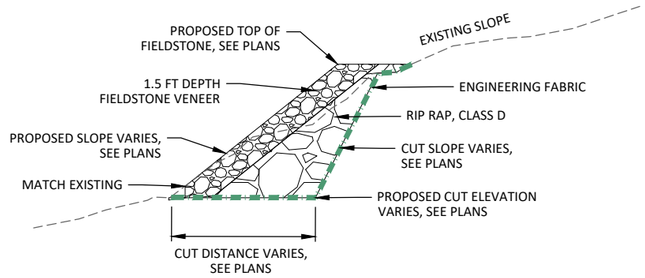
SHEET A.03



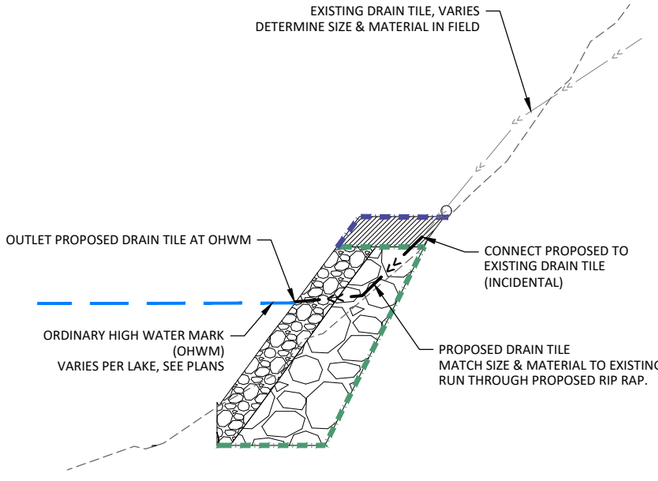
1 TYPICAL SECTION 1 - GRADING EXTENDS BEYOND PROPOSED TOPSOIL



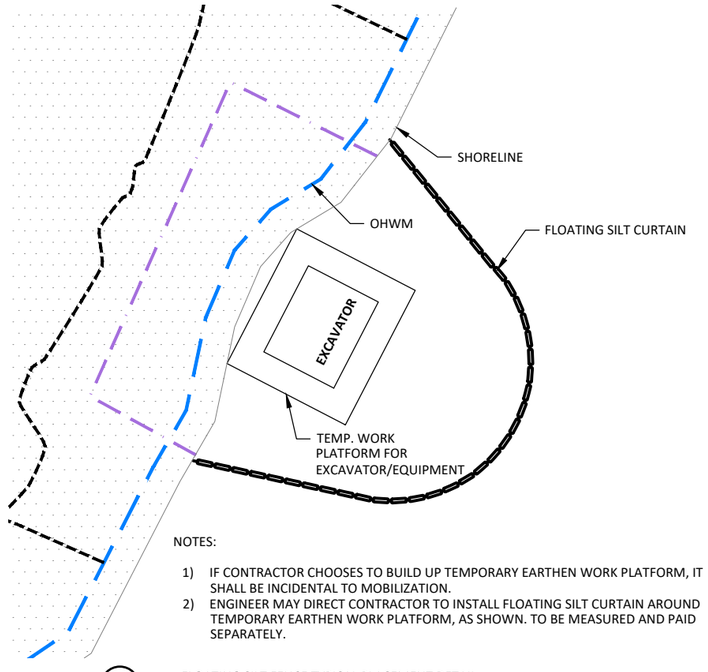
2 TYPICAL SECTION 2 - PROPOSED SURFACE MEETS EXISTING GROUND



3 TYPICAL SECTION 3 - NO TOPSOIL IN PROPOSED SURFACE



4 TYPICAL SECTION 4 - EXTENDING DRAIN TILE TO OHWM



NOTES:

1) IF CONTRACTOR CHOOSES TO BUILD UP TEMPORARY EARTHEN WORK PLATFORM, IT SHALL BE INCIDENTAL TO MOBILIZATION.
2) ENGINEER MAY DIRECT CONTRACTOR TO INSTALL FLOATING SILT CURTAIN AROUND TEMPORARY EARTHEN WORK PLATFORM, AS SHOWN. TO BE MEASURED AND PAID SEPARATELY.

5 FLOATING SILT FENCE TYPICAL PLACEMENT DETAIL

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IOWA DEPARTMENT OF NATURAL RESOURCES

IA GREAT LAKES SHORELINE STABILIZATION

TYPICAL SECTIONS AND DETAILS

SHEET B.01

ESTIMATED PROJECT QUANTITIES - BASE BID

ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY
1	2010-B	CLEARING AND GRUBBING	AC	0.68
2	2010-D-3	TOPSOIL, OFF-SITE	CY	210
3	2010-E	EXCAVATION, CLASS 13	CY	1478
4	2010-K-1	REMOVAL OF STRUCTURE, WOODEN STAIRS / DECK	EA	6
5	2010-K-1	REMOVAL OF STRUCTURE, CONCRETE STAIRS / PATIO	EA	3
6	2010-K-1	REMOVAL OF STRUCTURE, WOOD RETAINING WALL	EA	1
7	2010-K-1	REMOVAL OF STRUCTURE, MODULAR BLOCK RETAINING WALL	EA	4
8	4020-A-1	STORM SEWER, TRENCHED, UNKNOWN MATERIAL, UNKNOWN SIZE	LF	186
9	7021-B	ASPHALT OVERLAY, HMA ST SURFACE, 1.5" THICKNESS, 1/2" MIX, PG 58-28S	SY	2740
10	7030-A-2	REMOVAL OF SHARED USE PATH	SY	11
11	7030-C	SHARED USE PATH, PCC, 5 INCH	SY	11
12	7080-B	ENGINEERING FABRIC	SY	3693
13	8020-B	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE	STA	7.02
14	8020-B	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE	EA	1
15	8030-A	TEMPORARY TRAFFIC CONTROL, BIG SPIRIT LAKE, ORLEANS BOAT RAMP	LS	1
16	8030-A	TEMPORARY TRAFFIC CONTROL, EAST OKOBOJI LAKE, EAST OKOBOJI BEACH	LS	1
17	8030-A	TEMPORARY TRAFFIC CONTROL, EAST OKOBOJI LAKE, ISTHMUS PARK	LS	1
18	8030-A	TEMPORARY TRAFFIC CONTROL, SILVER LAKE, TRAPPERS BAY	LS	1
19	8030-A	TEMPORARY TRAFFIC CONTROL, WEST OKOBOJI, GULL POINT STATE PARK	LS	1
20	9010-A	CONVENTIONAL SEEDING, SEEDING, FERTILIZING, AND MULCHING, TYPE 4 - URBAN TEMORARY EROSION CONTROL	AC	1.25
21	9010-B	HYDRAULIC SEEDING, SEEDING, FERTILIZING, AND MULCHING, NATIVE	AC	1.25
22	9040-A-1	SWPPP PREPARATION	LS	1
23	9040-A-2	SWPPP MANAGEMENT	LS	1
24	9040-D-1	FILTER SOCK, 9 INCH	LF	3100
25	9040-D-2	FILTER SOCKS, REMOVAL	LF	3100
26	9040-E	TEMPORARY RECP, 3.B	SY	1532
27	9040-J	RIP RAP, CLASS D	TON	1156
28	9040-J	FIELDSTONE (IMPORTED)	TON	659
29	9040-J	FIELDSTONE (SALVAGED)	TON	571
30	9040-999-A	FLOATING SILT CURTAIN (TURBIDITY BARRIER)	LF	1000
31	9040-999-B	EMERGENCY EROSION CONTROL MOBILIZATION	EA	8
32	9060-F	TEMPORARY CONSTRUCTION FENCE, ORANGE PLASTIC	LF	4000
33	11010-A	CONSTRUCTION SURVEY	LS	1
34	11020-A	MOBILIZATION, BIG SPIRIT LAKE, ORLEANS BOAT RAMP	LS	1
35	11020-A	MOBILIZATION, EAST OKOBOJI LAKE, EAST OKOBOJI BEACH	LS	1
36	11020-A	MOBILIZATION, EAST OKOBOJI LAKE, ISTHMUS PARK	LS	1
37	11020-A	MOBILIZATION, SILVER LAKE, TRAPPERS BAY	LS	1
38	11020-A	MOBILIZATION, WEST OKOBOJI, GULL POINT STATE PARK	LS	1

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	2010-B	CLEARING AND GRUBBING REFER TO D-SHEETS AND J-SHEETS FOR LOCATIONS. CLEARING AND GRUBBING SHALL BE LIMITED TO ONLY THAT AREA WITHIN THE CLEARING AND GRADING LIMITS, UNLESS OTHERWISE MARKED FOR PROTECTION. ITEM INCLUDES REMOVAL OF VEGETATION AND DEBRIS ALONG THE SHORELINE, WITHIN PROJECT LIMITS, IF PRESENT. WITHIN CLEARING AND GRADING LIMITS, CONTRACTOR SHALL CLEAR ALL TREES AND SHRUBS NECESSARY TO CONSTRUCT PROJECT, EXCEPT FOR TREES AND SITE ITEMS INDICATED TO AVOID DISTUBANCE OR TO BE PROTECTED. CONTRACTOR SHALL TAKE CARE TO PROTECT ALL TREES, OTHER PLANT MATERIALS, OTHER SITE ITEMS/FEATURES THAT ARE NOT IDENTIFIED FOR REMOVAL OR WHICH LIE OUTSIDE OF THE GRADING LIMITS AND REMOVAL LIMITS. WASTE MATERIAL SHALL BE REMOVED FROM SITE FOR DISPOSAL, DO NOT BURN ON SITE. ITEM INCLUDES STUMP GRINDING AND REMOVAL.
2	2010-D-3	TOPSOIL, OFF-SITE TOPSOIL SHALL BE PLACED AND SPREAD TO A MINIMUM THICKNESS OF 12" WHERE INDICATED ON B-SHEET DETAILS AND D-SHEETS.
3	2010-E	EXCAVATION, CLASS 13 ITEM WILL BE PAID PER CUBIC YARD ACCORDING TO THE PLAN QUANTITY. COMPENSATION WILL NOT BE MADE FOR EXCAVATION OF ADDITIONAL MATERIAL WITHOUT PRIOR APPROVAL OF THE ENGINEER. A DIGITAL TERRAIN MODEL CAN BE PROVIDED WITHIN 5 WORKING DAYS'S NOTICE TO AID IN MACHINE CONTROL GRADING, HOWEVER, THE PLAN DOCUMENT SHALL CONTROL. PLAN QUANTITY INCLUDES A 1.0 FILL FACTOR. ALL EXCESS MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND HAULED OFFSITE. THE EXCAVATION QUANTITY AT EACH SITE IS IDENTIFIED ON THE D-SHEETS.
4	2010-K-1	REMOVAL OF STRUCTURE, WOODEN STAIRS / DECK REFER TO "D" SHEETS FOR LOCATIONS. CONTRACTOR SHALL REMOVE AND DISPOSE OF WOODEN STAIRS AND DECK MATERIALS AS INDICATED ON "D" SHEETS. MATERIAL SHALL BE DISPOSED OF OFFSITE. ONLY REMOVE THAT PORTION OF STAIRS WITHIN THE PROJECT LIMITS. SAWCUT STRUCTURE TO TERMINATE REMOVAL LIMITS AT A POST OR FOOTING SUCH THAT THE REMAINING STAIRCASE IS STILL FUNTIONAL IN AN EQUIVALENT STRUCTURAL CONDITION AS EXISTED PRIOR TO CONSTRUCTION.
5	2010-K-1	REMOVAL OF STRUCTURE, CONCRETE STAIRS / PATIO REFER TO "D" SHEETS FOR LOCATIONS. CONTRACTOR SHALL REMOVE AND DISPOSE OF CONCRETE STAIRS AND PATIO MATERIALS AS INDICATED ON "D" SHEETS. MATERIAL SHALL BE DISPOSED OF OFFSITE. ONLY REMOVE THAT PORTION OF STAIRS/PATIO WITHIN THE GRADING OR CLEARING LIMITS. SAWCUT STRUCTURE TO AVOID DAMAGE TO THAT PORTION OF THE STRUCTURE WHICH WILL REMAIN.
6	2010-K-1	REMOVAL OF STRUCTURE, WOOD RETAINING WALL REFER TO "D" SHEETS FOR LOCATIONS. CONTRACTOR SHALL REMOVE AND DISPOSE OF WOODEN RETAINING WALL MATERIALS AS INDICATED ON "D" SHEETS. MATERIAL SHALL BE DISPOSED OF OFFSITE. ONLY REMOVE THAT PORTION OF RETAINING WALL WITHIN THE GRADING OR CLEARING LIMITS.
7	2010-K-1	REMOVAL OF STRUCTURE, MODULAR BLOCK RETAINING WALL REFER TO "D" SHEETS FOR LOCATIONS. CONTRACTOR SHALL REMOVE AND DISPOSE OF BLOCK RETAINING WALL MATERIALS AS INDICATED ON "D" SHEETS. MATERIAL SHALL BE DISPOSED OF OFFSITE. ONLY REMOVE THAT PORTION OF RETAINING WALL WITHIN THE GRADING OR CLEARING LIMITS.
8	4020-A-1	STORM SEWER, TRENCHED, UNKNOWN MATERIAL, UNKNOWN SIZE SEE "D" SHEETS FOR LOCATIONS. BACKFILL IS INCIDENTAL TO PIPE PLACEMENT. TIE JOINTS. ITEM INCLUDES CONNECTION TO EXISTING STORM SEWER/DRAIN TILE LINE. ITEM INCLUDES DAYLIGHTING NEW STORM SEWER/TILE AT FACE OF FIELDSTONE AT OHWM ELEVATION. CONTRACTOR TO FIELD VERIFY PIPE SIZE, DEPTH, AND MATERIAL OF EXISTING STORM SEWER/TILE LINE PRIOR TO ORDERING. STORM SEWER MATERIAL AND CONNECTION TO EXISTING STORM SEWER/DRAIN TILE LINE SHOULD BE MADE WITH SIMILAR/COMPATIBLE MATERIAL.
9	7021-B	ASPHALT OVERLAY, HMA ST SURFACE, 1.5" THICKNESS, 1/2" MIX, PG 58-28S PLACE ASPHALT OVERLAY WHERE INDICATED ON SHEET J.03 AT GULL POINT STAGING AREA. CONSTRUCT ASPHALT OVERLAY FOLLOWING DEMOBILIZATION FROM WEST OKOBOJI LAKE. THIS ITEM SHALL INCLUDE ALL EQUIPMENT, LABOR, AND MATERIALS FOR HMA OVERLAY. ASPHALT BINDER SHALL BE INCIDENTAL TO THIS ITEM. CONTRACTOR SHALL VERIFY AND MAINTAIN POSITIVE DRAINAGE OF ALL AREAS PLANNED FOR OVERLAY. SURFACE PREPARATION, TACK COAT BITUMEN, AND REMOVAL OF ALL ORGANIC MATERIALS ARE INCIDENTAL TO THIS ITEM.
10	7030-A-2	REMOVAL OF SHARED USE PATH ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. FULL DEPTH SAW CUTS ALONG THE REMOVAL LIMITS ARE INCIDENTAL TO THIS ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REMOVAL, EARTHWORK, SUBGRADE PREPARATION, MODIFIED SUBBASE AND PAVING EXPENSES DUE TO DAMAGED EDGES. ADDITIONAL REMOVAL TO BE DETERMINED BY ENGINEER. PAYMENT SHALL BE MADE FOR THE AREA OF PAVEMENT REMOVED REGARDLESS OF THICKNESS. REMOVE SECTION OF THE PCC TRAIL THAT IS PART OF THE BARGE ACCESS ROUTE SHOWN ON SHEET J.03 AND IMPACTED BY THE BARGE CROSSING.
11	7030-C	SHARED USE PATH, PCC, 5 INCH CONCRETE WILL BE C OR M MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. COMPACTION OF SUBGRADE IS INCIDENTAL TO THIS ITEM. CONCRETE TESTING MAY BE PROVIDED AT OWNER'S DISCRETION. NO EXTRA PAYMENT FOR COLD WEATHER PAVING. REPLACE THE PORTION OF THE PCC TRAIL THAT WAS REMOVED AND IMPACTED AS PART OF THE BARGE ACCESS ROUTE SHOWN ON SHEET J.03.
12	7080-B	ENGINEERING FABRIC ITEM IS INCLUDED FOR PLACEMENT OF ENGINEERING FABRIC BELOW RIP RAP FILL, BETWEEN RIP RAP FILL AND THE UNDISTURBED SOIL, AND ON TOP OF THE RIP RAP PRIOR TO PLACING THE TOPSOIL. REFER TO "B" SHEET DETAILS AND "D" SHEETS FOR LOCATIONS.
13	8020-B	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE PLACE PAVEMENT MARKINGS AT GULL POINT STAGING AREA FOLLOWING ASPHALT OVERLAY. CONTRACTOR TO DOCUMENT EXISTING PAVEMENT MARKINGS AND REPLACE TO MATCH EXISTING. 1. THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO CLEAN PAVEMENT SURFACES AND INSTALL PAVEMENT MARKINGS. 2. ALL SPACING SHALL BE FIELD VERIFIED PRIOR TO PLACEMENT.
14	8020-B	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE PLACE ADA STALL PAVEMENT MARKINGS AT GULL POINT STAGING AREA FOLLOWING ASPHALT OVERLAY. CONTRACTOR TO DOCUMENT EXISTING ADA STALL LOCATION AND REPLACE TO MATCH EXISTING. 1. THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO CLEAN PAVEMENT SURFACES AND INSTALL PAVEMENT MARKINGS. 2. ALL SPACING SHALL BE FIELD VERIFIED PRIOR TO PLACEMENT.
15	8030-A	TEMPORARY TRAFFIC CONTROL, BIG SPIRIT LAKE, ORLEANS BOAT RAMP REFER TO SHEET J.02. 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND MAINTAINING TRAFFIC CONTROL FOR THE DURATION OF THE PROJECT. IF TRAFFIC CONTROL DEVICES FAIL, THEY MUST BE IMMEDIATELY REPAIRED OR REPLACED BEFORE CONTINUING WORK. 2. THE CONTRACTOR'S TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. REFER TO AND INCORPORATE THE TRAFFIC CONTROL AND STAGING NOTES PROVIDED IN THE PLANS. 3. TEMPORARY TRAFFIC CONTROL DEVICES MUST BE INSTALLED FOR EACH PHASE PRIOR TO BEGINNING WORK ON THE RESPECTIVE PHASE. PHASED TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED UPONG COMPLETION OF EACH PHASE. 4. PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LUMP SUM. PARTIAL PAYMENT WILL BE PROVIDED AFTER INSTALLING TRAFFIC CONTROL DEVICES FOR THE SPECIFIED LAKE. REMAINING PAYMENT WILL BE PROVIDED UPON REMOVAL OF TRAFFIC CONTROL DEVICES FOR THE SPECIFIC LAKE.
16	8030-A	TEMPORARY TRAFFIC CONTROL, EAST OKOBOJI LAKE, EAST OKOBOJI BEACH REFER TO SHEET J.05. 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND MAINTAINING TRAFFIC CONTROL FOR THE DURATION OF THE PROJECT. IF TRAFFIC CONTROL DEVICES FAIL, THEY MUST BE IMMEDIATELY REPAIRED OR REPLACED BEFORE CONTINUING WORK. 2. THE CONTRACTOR'S TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. REFER TO AND INCORPORATE THE TRAFFIC CONTROL AND STAGING NOTES PROVIDED IN THE PLANS. 3. TEMPORARY TRAFFIC CONTROL DEVICES MUST BE INSTALLED FOR EACH PHASE PRIOR TO BEGINNING WORK ON THE RESPECTIVE PHASE. PHASED TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED UPONG COMPLETION OF EACH PHASE. 4. PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LUMP SUM. PARTIAL PAYMENT WILL BE PROVIDED AFTER INSTALLING TRAFFIC CONTROL DEVICES FOR THE SPECIFIED LAKE. REMAINING PAYMENT WILL BE PROVIDED UPON REMOVAL OF TRAFFIC CONTROL DEVICES FOR THE SPECIFIC LAKE.
17	8030-A	TEMPORARY TRAFFIC CONTROL, EAST OKOBOJI LAKE, ISTHMUS PARK REFER TO SHEET J.04. 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND MAINTAINING TRAFFIC CONTROL FOR THE DURATION OF THE PROJECT. IF TRAFFIC CONTROL DEVICES FAIL, THEY MUST BE IMMEDIATELY REPAIRED OR REPLACED BEFORE CONTINUING WORK. 2. THE CONTRACTOR'S TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. REFER TO AND INCORPORATE THE TRAFFIC CONTROL AND STAGING NOTES PROVIDED IN THE PLANS. 3. TEMPORARY TRAFFIC CONTROL DEVICES MUST BE INSTALLED FOR EACH PHASE PRIOR TO BEGINNING WORK ON THE RESPECTIVE PHASE. PHASED TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED UPONG COMPLETION OF EACH PHASE. 4. PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LUMP SUM. PARTIAL PAYMENT WILL BE PROVIDED AFTER INSTALLING TRAFFIC CONTROL DEVICES FOR THE SPECIFIED LAKE. REMAINING PAYMENT WILL BE PROVIDED UPON REMOVAL OF TRAFFIC CONTROL DEVICES FOR THE SPECIFIC LAKE.

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IOWA DEPARTMENT OF NATURAL RESOURCES

IA GREAT LAKES SHORELINE STABILIZATION

QUANTITIES & REFERENCE NOTES

SHEET C.01

18	8030-A	TEMPORARY TRAFFIC CONTROL, SILVER LAKE, TRAPPERS BAY REFER TO SHEET J.01. 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND MAINTAINING TRAFFIC CONTROL FOR THE DURATION OF THE PROJECT. IF TRAFFIC CONTROL DEVICES FAIL, THEY MUST BE IMMEDIATELY REPAIRED OR REPLACED BEFORE CONTINUING WORK. 2. THE CONTRACTOR'S TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. REFER TO AND INCORPORATE THE TRAFFIC CONTROL AND STAGING NOTES PROVIDED IN THE PLANS. 3. TEMPORARY TRAFFIC CONTROL DEVICES MUST BE INSTALLED FOR EACH PHASE PRIOR TO BEGINNING WORK ON THE RESPECTIVE PHASE. PHASED TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED UPONG COMPLETION OF EACH PHASE. 4. PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LUMP SUM. PARTIAL PAYMENT WILL BE GRANTED AFTER THE COMPLETION OF THE PROJECT, UNLESS PARTIAL PAYMENT IS APPROVED BY THE ENGINEER. 5. ALL TRAFFIC CONTROL SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR UNIFOM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AS ADOPTED BY THE IOWA DOT PER 761 OF THE IOWA ADMINISTRATIVE CODE. SIGNS, BARRICADES AND FENCE ARE TO BE SUFFICIENTLY SECURED TO PREVENT MOVEMENT BY NATURAL FORCES AT ALL TIMES.
19	8030-A	TEMPORARY TRAFFIC CONTROL, WEST OKOBOJI, GULL POINT STATE PARK REFER TO SHEET J.03. 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND MAINTAINING TRAFFIC CONTROL FOR THE DURATION OF THE PROJECT. IF TRAFFIC CONTROL DEVICES FAIL, THEY MUST BE IMMEDIATELY REPAIRED OR REPLACED BEFORE CONTINUING WORK. 2. THE CONTRACTOR'S TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. REFER TO AND INCORPORATE THE TRAFFIC CONTROL AND STAGING NOTES PROVIDED IN THE PLANS. 3. TEMPORARY TRAFFIC CONTROL DEVICES MUST BE INSTALLED FOR EACH PHASE PRIOR TO BEGINNING WORK ON THE RESPECTIVE PHASE. PHASED TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED UPONG COMPLETION OF EACH PHASE. 4. PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LUMP SUM. PARTIAL PAYMENT WILL BE PROVIDED AFTER INSTALLING TRAFFIC CONTROL DEVICES FOR THE SPECIFIED LAKE. REMAINING PAYMENT WILL BE PROVIDED UPON REMOVAL OF TRAFFIC CONTROL DEVICES FOR THE SPECIFIC LAKE.
20	9010-A	CONVENTIONAL SEEDING, SEEDING, FERTILIZING, AND MULCHING, TYPE 4 - URBAN TEMORARY EROSION CONTROL SEED DISTURBED AREAS IF OUTSIDE OF THE PERMANENT SEEDING WINDOW, OR WHEN REQUESTED BY ENGINEER OR OWNER'S REPRESENTATIVE. PAYMENT WILL BE BASED ON MEASURED QUANTITY. BID QUANTITY IS AN ESTIMATED AMOUNT, ACTUAL PLACED QUANTITY MAY DIFFER BASED ON SITE CONDITIONS AND CONSTRUCTION TIMELINE. ITEM IS INCLUDED FOR TEMORARY EROSION CONTROL SEEDING TO MEET SWPPP REQUIREMENTS.
21	9010-B	HYDRAULIC SEEDING, SEEDING, FERTILIZING, AND MULCHING, NATIVE CONTRACTOR SHALL FURNISH AND INSTALL THE CORRESPONDING SEED MIX AS SPECIFIED IN THE "C" SHEETS AND MEET THE REQUIREMENT OF SUDAS SEEDING SPECIFICATION FOR NATIVE SEEDING UNLESS SPECIFIED IN THE PLANS. SEED SPECIES AND SEED APPLICATION RATE FOR MIX ARE SPECIFIED ON C.05. PLACE SEED MIX WHERE INDICATED ON THE D-SHEETS AND B-SHEET DETAILS AND SEED ALL AREAS DISTURBED BY CONSTRUCTION. DO NOT APPLY FERTILIZER. ROCK PICKING, FINISH GRADING, SEED BED PREP, AND RESEEDING ARE CONSIDERED INCIDENTAL TO THIS ITEM. ITEM INCLUDES ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PREPARE SITE AND PLANT SEED. SEED SHALL BE APPLIED PRIOR TO MULCHING. THE CONTRACTOR IS RESPONSIBLE FOR MOWING AND MAINTAINING SEEDED AREAS UNTIL THE SITE IS ACCEPTED BY THE ENGINEER OR OWNER'S REPRESENTATIVE. SEEDING OF AREAS DISTURBED OUTSIDE OF THE PROJECT LIMITS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER. COMPENSATION WILL NOT BE MADE FOR PLACEMENT OF EXTRA SEED WITHOUT PRIOR APPROVAL OF ENGINEER OR OWNER'S REPRESENTATIVE. APPLY MULCHING PER MANUFACTERS RECOMMENDATIONS. SEEDING WINDOW IS BETWEEN APRIL 1 AND JUNE 30, OR DORMANT SEEDING WINDOW FROM NOVEMBER 1 TO MARCH 31.
22	9040-A-1	SWPPP PREPARATION CONTRACTOR IS RESPONSIBLE FOR SWPPP PREPARATION. REFER TO "D" SHEETS FOR EROSION AND SEDIMENT CONTROL ITEMS IN PLANS AND NOTES. REFER TO "C" SHEETS FOR EROSION AND SEDIMENT CONTROL NOTES.
23	9040-A-2	SWPPP MANAGEMENT CONTRACTOR IS RESPONSIBLE FOR SWPPP MANAGEMENT. REFER TO "D" SHEETS FOR EROSION AND SEDIMENT CONTROL ITEMS IN PLANS AND NOTES. REFER TO "C" SHEETS FOR EROSION AND SEDIMENT CONTROL NOTES.
24	9040-D-1	FILTER SOCK, 9 INCH THIS ITEM INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT TO FURNISH, INSTALL, AND MAINTAIN FILTER SOCK AS NECESSARY TO PREVENT LOSS OF SOILS THROUGH EROSION. REMOVAL OF ACCUMULATED SEDIMENT DURING THE PROJECT AND ITS PROPER DISPOSAL UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. PLACE WHERE SHOWN ON B-SHEET TYPICAL SECTIONS, D-SHEETS, AND J-SHEETS. ADDITIONAL PLACEMENT LOCATIONS MAY BE DIRECTED BY THE ENGINEER OR OWNER'S REPRESENTATIVE.
25	9040-D-2	FILTER SOCKS, REMOVAL ITEM INCLUDES REMOVAL AND DISPOSAL OF THE ITEM AFTER FINAL STABILIZATION HAS BEEN ACHIEVED.
26	9040-E	TEMPORARY RECP, 3.B PLACE WHERE SHOWN ON THE D-SHEETS AND B-SHEET DETAILS. OVERLAP AT SEEMS IS INCIDENTAL. MATERIAL SHOULD CONSIST OF NATUAL MATERIALS (NOT SYNTHETIC). USE RECP AFTER SEEDING TO PREVENT EROSION. ENSURE GOOD CONTACT WITH THE SOIL SURFACE.
27	9040-J	RIP RAP, CLASS D ITEM INCLUDED FOR PLACEMENT OF RIP RAP IN ACSSOCIATION WITH THE SLOPE STABILIZATION AND LAKE SHORE/SLOPE PROTECTION. PLACE WHERE INDICATED ON D-SHEETS. PLACE RIP RAP ON TOP OF ENGINEERING FABRIC AS SHOWN IN B-SHEET DETAILS AND IN SECTIONS ON D-SHEETS. ITEM WILL BE MEASURED AND PAID PER TON AND NOT TO EXCEED 10% OF THE PLAN QUANTITY. PAYMENT WILL NOT BE MADE FOR THE PLACEMENT OF EXCESS MATERIAL WITHOUT PRIOR APPROVAL OF ENGINEER OR OWNER'S REPRESENTATIVE.
28	9040-J	FIELDSTONE (IMPORTED) ITEM INCLUDED FOR PLACEMENT OF FIELDSTONE IN ACSSOCIATION WITH THE SLOPE STABILIZATION AND LAKE SHORE/SLOPE PROTECTION. PLACE WHERE INDICATED ON D-SHEETS. PLACE FIELDSTONE TO A DEPTH OF 18" ON TOP OF PLACED RIP RAP AS SHOWN IN B-SHEET DETAILS AND IN SECTIONS ON D-SHEETS. ITEM WILL BE MEASURED AND PAID PER TON OF MATERIAL IMPORTED AND PLACED (NOT INCLUDING THE SALVAGED FIELDSTONE) QUANTITY, AND NOT TO EXCEED 10% OF THE PLAN QUANTITY. PAYMENT WILL NOT BE MADE FOR THE PLACEMENT OF EXCESS MATERIAL WITHOUT PRIOR APPROVAL OF ENGINEER.
29	9040-J	FIELDSTONE (SALVAGED) SALVAGE EXISTING FIELDSTONE MATERIAL AS SHOWN ON THE D-SHEETS AND WITHIN THE CLEARING LIMITS. ITEM INCLUDES SALVAGING, STOCKPILING, AND PLACEMENT OF SALVAGED MATERIAL AFTER GRADING ACTIVIES HAVE BEEN COMPLETED. SALVAGED QUANTITIES FOR EACH SITE ARE ESTIMATES ONLY, MORE OR LESS FIELDSTONE MATERIAL MAY BE AVAILABLE ON EACH SITE FOR SALVAGE AND REUSE.
30	9040-999-A	FLOATING SILT CURTAIN (TURBIDITY BARRIER) BID QUANTITY ASSUMES AN ALLOWANCE OF UP TO 1,000 LF FOR PLACEMENT OF FLOATING SILT CURTAIN WHERE DIRECTED BY THE ENGINEER. PAID QUANTITY WILL BE MEASURED. REFER TO NOTES IN C-SHEETS AND TYPICAL PLACEMENT DETAIL ON SHEET B.01. ITEM INCLUDES INSTALLATION, MAINTENANCE, PERIODIC REMOVAL OF SEDIMENT, AND REMOVAL OF DEVICE FOLLOWING SITE STABILIZATION.
31	9040-999-B	EMERGENCY EROSION CONTROL MOBILIZATION AN EMERGENCY WILL BE CONSIDERED TO BE A SUDDEN OCCURRENCE OF A SERIOUS AND URGENT NATURE WHICH IS BEYOND NORMAL MAINTENANCE OF EROSION CONTROL ITEMS. EMERGENCY WORK REQUIRES IMMEDIATE MOBILIZATION AND MOVEMENT OF NECCESSARY LABOR, EQUIPMENT, AND MATERIALS TO THE EMERGENCY SITE, FOLLOWED BY IMMEDIATE INSTALLATION OF TEMPORARY EROSION CONTROL MEASURES. CONTRACTOR TO MOBILIZE WITH SUFFICIENT LABOR, EQUIPMENT, AND MATERIALS ON JOB SITE WITHIN 8 HOURS OF ENGINEER'S WRITTEN ORDER TO INSTALL TEMPORARY EROSION CONTROL ITEMS ON AN EMERGENCY BASIS. ENGINEER'S WRITTEN ORDER WILL INCLUDE A DESCRIPTION OF REQUIRED WORK. ONLY ONE MOBILIZATION WILL BE PAID FOR WORK DESCRIBED IN THE WRITTEN ORDER. FAILURE TO MOBILIZE WITHIN 8 HOURS OF WRITTEN ORDER, WILL RESULT IN A DEDUCTION OF $1500 PER CALENDAR DAY FROM PAYMENT DUE UNDER THE CONTRACT, EXCEPT WHEN ENGINEER EXTENDS SUCH TIME PERIOD. ITEM DOES NOT INCLUDE EROSION CONTROL MOBILIZATIONS OF A CONVENTIONAL NATURE, ONLY THOSE CONSIDERED AN EMERGENCY. MAINTENANCE AND INSTALLATION OF TEMPORARY EROSION CONTROL MEASURES TO BE PAID SEPARATELY, ACCORDING TO ITS RESPECTIVE BID ITEM. BID QUANTITY IS AN ESTIMATED NUMBER AS A BASIS FOR BIDDING. ITEM WILL BE MEASURED BY COUNT FOR EACH MOBILIZATION DIRECTED IN WRITING BY THE ENGINEER AND ACCEPTABLY PERFORMED.
32	9060-F	TEMPORARY CONSTRUCTION FENCE, ORANGE PLASTIC 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND MAINTAINING CONSTRUCTION SAFETY FENCE FOR THE DURATION OF THE PROJECT. IF FENCE FAILS, THEY MUST BE IMMEDIATELY REPAIRED OR REPLACED BEFORE CONTINUING WORK. 2. PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT PLACED. PARTIAL PAYMENT (50%) WILL BE MADE UPON PLACEMENT AND THE REMAINDER WILL BE PAID UPON REMOVAL. PAYMENT INCLUDES FURNISHING MATERIALS, INSTALLATION, AND REMOVAL. 3. BID QUANTITY INCLUDES 2,800 LF AT ALL OF THE STAGING AREAS AND AN ALLOWANCE OF UP TO 1,200 LF FOR PLACEMENT OF SAFETY FENCE WHERE DIRECTED BY THE ENGINEER AT INDIVIDUAL SITES.
33	11010-A	CONSTRUCTION SURVEY REFER TO G-SHEETS FOR SURVEY CONTROL. CAD LINEWORK AND SURFACE DATA CAN BE PROVIDED TO CONTRACTOR UPON REQUEST WRITTEN REQUEST TO ENGINEER. ALLOW FIVE BUSINESS DAYS TO RECEIVE REQUESTED DATA. AVAILABLE SURFACE DATA INCLUDES EXISTING GROUND, SUBSURFACE LIMITS (EXCAVATION LIMITS), AND FINISHED GRADE SURFACE.
34	11020-A	MOBILIZATION, BIG SPIRIT LAKE, ORLEANS BOAT RAMP THIS ITEM INCLUDES ALL PREPARATORY WORK AND COSTS INCURRED TO PREPARE STAGING AREA, SITE ACCESSES, AND BARGE ACCESS AT THE ORLEANS BOAT RAMP ALONG BIG SPIRIT LAKE, AS SHOWN ON SHEET J.02. PAYMENT WILL BE MADE PER SUDAS SPECIFICATIONS FOR THAT PORTION OF WORK WITHIN BIG SPIRIT LAKE. CONTRACTOR SHALL COMPLETE ALL WORK WITHIN EACH RESPECTIVE LAKE PRIOR TO MOBILIZING TO ANOTHER LAKE. CONTRACTOR SHALL PROVIDE CONSTRUCTION SEQUENCING PLAN TO ENGINEER OR OWNER'S REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION.
35	11020-A	MOBILIZATION, EAST OKOBOJI LAKE, EAST OKOBOJI BEACH THIS ITEM INCLUDES ALL PREPARATORY WORK AND COSTS INCURRED TO PREPARE STAGING AREA, SITE ACCESSES, AND BARGE ACCESS AT EAST OKOBOJI BEACH ALONG EAST OKOBOJI LAKE, AS SHOWN ON SHEET J.05. PAYMENT WILL BE MADE PER SUDAS SPECIFICATIONS FOR THAT PORTION OF WORK WITHIN EAST OKOBOJI LAKE. CONTRACTOR SHALL COMPLETE ALL WORK WITHIN EACH RESPECTIVE LAKE PRIOR TO MOBILIZING TO ANOTHER LAKE. CONTRACTOR SHALL PROVIDE CONSTRUCTION SEQUENCING PLAN TO ENGINEER OR OWNER'S REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION.
36	11020-A	MOBILIZATION, EAST OKOBOJI LAKE, ISTHMUS PARK THIS ITEM INCLUDES ALL PREPARATORY WORK AND COSTS INCURRED TO PREPARE STAGING AREA, SITE ACCESSES, AND BARGE ACCESS AT ISTHMUS PARK ALONG EAST OKOBOJI LAKE, AS SHOWN ON SHEET J.04. PAYMENT WILL BE MADE PER SUDAS SPECIFICATIONS FOR THAT PORTION OF WORK WITHIN EAST OKOBOJI LAKE. CONTRACTOR SHALL COMPLETE ALL WORK WITHIN EACH RESPECTIVE LAKE PRIOR TO MOBILIZING TO ANOTHER LAKE. CONTRACTOR SHALL PROVIDE CONSTRUCTION SEQUENCING PLAN TO ENGINEER OR OWNER'S REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION.
37	11020-A	MOBILIZATION, SILVER LAKE, TRAPPERS BAY THIS ITEM INCLUDES ALL PREPARATORY WORK AND COSTS INCURRED TO PREPARE STAGING AREA, SITE ACCESSES, AND BARGE ACCESS AT TRAPPERS BAY ALONG SILVER LAKE, AS SHOWN ON SHEET J.01. PAYMENT WILL BE MADE PER SUDAS SPECIFICATIONS FOR THAT PORTION OF WORK WITHIN SILVER LAKE. CONTRACTOR SHALL COMPLETE ALL WORK WITHIN EACH RESPECTIVE LAKE PRIOR TO MOBILIZING TO ANOTHER LAKE. CONTRACTOR SHALL PROVIDE CONSTRUCTION SEQUENCING PLAN TO ENGINEER OR OWNER'S REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION.
38	11020-A	MOBILIZATION, WEST OKOBOJI, GULL POINT STATE PARK THIS ITEM INCLUDES ALL PREPARATORY WORK AND COSTS INCURRED TO PREPARE STAGING AREA, SITE ACCESSES, AND BARGE ACCESS AT GULL POINT STATE PARK ALONG WEST OKOBOJI LAKE, AS SHOWN ON SHEET J.03, INCLUDING ANY TREE REMOVAL/TRIMMING AND PLACEMENT OF FILL MATERIAL FOR THE BARGE ACCESS. PAYMENT WILL BE MADE PER SUDAS SPECIFICATIONS FOR THAT PORTION OF WORK WITHIN WEST OKOBOJI LAKE. CONTRACTOR SHALL COMPLETE ALL WORK WITHIN EACH RESPECTIVE LAKE PRIOR TO MOBILIZING TO ANOTHER LAKE. CONTRACTOR SHALL PROVIDE CONSTRUCTION SEQUENCING PLAN TO ENGINEER OR OWNER'S REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION.

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IOWA DEPARTMENT OF NATURAL RESOURCES
IA GREAT LAKES SHORELINE STABILIZATION
REFERENCE NOTES

SHEET
C.02

EROSION AND SEDIMENT CONTROL TABULATIONS

SITE #	FILTER SOCK (LF)	RECP, TYPE 3.B (SY)	SEEDING (AC)
WEST OKOBOJI LAKE			
1	177	34	0.0839
7	54	23	0.0459
9	36	15	0.0093
13	12	12	0.0068
14	32	17	0.0172
18	103	228	0.0862
24	33	13	0.0110
38	38	12	0.0091
63	32	31	0.0149
69	61	79	0.0372
70	34	37	0.0194
WEST OKOBOJI LAKE SUBTOTAL	612	501	0.3407
EAST OKOBOJI LAKE			
40	40	19	0.0138
41	34	22	0.0165
44	32	20	0.0103
45	40	34	0.0187
46	90	52	0.0149
49	72	156	0.0562
50	70	44	0.0475
52	24	75	0.0275
55	58	54	0.0260
56	25	14	0.0043
58	7	18	0.0163
59	23	28	0.0029
60	72	65	0.0339
EAST OKOBOJI LAKE SUBTOTAL	587	601	0.2889
BIG SPIRIT LAKE			
61	83	71	0.0308
62	30	0	0.0074
BIG SPIRIT LAKE SUBTOTAL	113	71	0.0382
SILVER LAKE			
93	54	40	0.0287
94	78	78	0.0428
96	54	34	0.0277
97	73	57	0.0626
98	54	31	0.0293
99	95	119	0.0421
SILVER LAKE SUBTOTAL	408	359	0.2333
STAGING AREAS	1302	-	0.3500
PROJECT TOTAL	3022	1532	1.25

REMOVAL TABULATIONS

SITE #	CLEAR & GRUB (AC)	WOODEN STAIRS / DECK (EA)	CONCRETE STAIRS / PATIO (EA)	WOOD RETAININGWALL (EA)	Modular Block / Stone Retaining Wall (EA)
WEST OKOBOJI LAKE					
1	0.0732	-	-	-	-
7	0.0178	1	-	-	-
9	0.0150	-	-	-	-
13	0.0087	-	-	-	-
14	0.0104	-	-	-	-
18	0.0601	-	-	-	-
24	0.0118	-	-	-	-
38	0.0059	-	-	-	-
63	0.0118	-	-	-	-
69	0.0285	-	-	-	-
70	0.0123	-	-	-	-
WEST OKOBOJI LAKE SUBTOTAL	0.2555	1	0	0	0
EAST OKOBOJI LAKE					
40	0.0050	-	-	-	-
41	0.0090	-	-	-	-
44	0.0100	-	1	-	-
45	0.0100	-	-	-	-
46	0.0294	1	-	-	-
49	0.0485	-	-	-	-
50	0.0303	1	-	-	-
52	0.0207	1	-	-	-
55	0.0214	-	-	-	1
56	0.0067	-	-	-	1
58	0.0109	-	-	1	-
59	0.0147	-	-	-	-
60	0.0249	1	-	-	-
EAST OKOBOJI LAKE SUBTOTAL	0.2415	4	1	1	2
BIG SPIRIT LAKE					
61	0.0341	1	-	-	1
62	0.0057	-	-	-	-
BIG SPIRIT LAKE SUBTOTAL	0.0398	1	0	0	1
SILVER LAKE					
93	0.0246	-	1	-	-
94	0.0224	-	-	-	-
96	0.0188	-	-	-	-
97	0.0251	-	1	-	1
98	0.0156	-	-	-	-
99	0.0307	-	-	-	-
SILVER LAKE SUBTOTAL	0.1372	0	2	0	1
PROJECT TOTAL	0.6740	6	3	1	4

STONE TABULATIONS

SITE #	Rip Rap, Class D (TONS)	Required Fieldstone (TONS)	Fieldstone (Import) (TONS)	Fieldstone (Salvage) (TONS)
WEST OKOBOJI LAKE				
1	41	146	47	99
7	9	39	10	29
9	9	35	5	30
13	10	7	4	3
14	23	18	18	0
18	100	88	73	15
24	16	24	4	20
38	9	14	6	8
63	7	23	6	17
69	71	53	35	18
70	45	29	18	11
WEST OKOBOJI LAKE SUBTOTAL	340	476	226	250
EAST OKOBOJI LAKE				
40	9	12	4	8
41	32	17	2	15
44	15	28	18	10
45	24	21	9	12
46	66	56	56	0
49	92	58	40	18
50	54	45	0	52
52	37	25	25	0
55	63	33	33	0
56	10	15	3	12
58	23	16	5	11
59	21	15	14	1
60	38	69	57	12
EAST OKOBOJI LAKE SUBTOTAL	484	410	266	151
BIG SPIRIT LAKE				
61	59	41	8	33
62	2	10	0	21
BIG SPIRIT LAKE SUBTOTAL	61	51	8	54
SILVER LAKE				
93	54	43	2	41
94	42	54	54	15
96	32	47	32	15
97	35	51	51	0
98	29	41	20	39
99	79	59	20	39
SILVER LAKE SUBTOTAL	271	295	179	149
PROJECT TOTAL	1156	1232	659	571

SITE WORK TABULATIONS

SITE #	Topsoil (CY)	Excavation (CY)	Storm Sewer (LF)	Engineering Fabric (SY)
WEST OKOBOJI LAKE				
1	10	60	-	284
7	1	31	-	89
9	1	34	50	75
13	4	9	-	25
14	2	33	-	186
18	13	218	-	225
24	1	34	-	86
38	3	14	-	57
63	1	30	-	53
69	9	70	-	137
70	6	33	22	92
WEST OKOBOJI LAKE SUBTOTAL	50	566	72	1308
EAST OKOBOJI LAKE				
40	4	20	-	42
41	5	28	-	54
44	4	23	-	67
45	5	35	28	80
46	18	41	39	154
49	12	150	-	193
50	8	44	-	168
52	8	53	-	88
55	8	71	-	133
56	3	8	-	41
58	4	12	-	61
59	4	18	24	59
60	6	88	-	126
EAST OKOBOJI LAKE SUBTOTAL	88	590	91	1267
BIG SPIRIT LAKE				
61	13	46	-	196
62	1	10	-	40
BIG SPIRIT LAKE SUBTOTAL	14	56	0	236
SILVER LAKE				
93	10	56	-	148
94	10	43	-	174
96	6	28	23	104
97	8	53	-	123
98	7	23	-	120
99	16	63	-	213
SILVER LAKE SUBTOTAL	57	266	23	882
PROJECT TOTAL	210	1478	186	3693

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IOWA DEPARTMENT OF NATURAL RESOURCES
IA GREAT LAKES SHORELINE STABILIZATION
TABULATIONS

SHEET C.03

EROSION & SEDIMENT CONTROL NOTES:

1. WHEN USING AN EXCAVATOR TO REMOVE MATERIAL ADJACENT TO THE LAKE, USE A THUMB ATTACHMENT TO HELP PREVENT LOOSE MATERIAL WITHIN THE BUCKET FROM FALLING INTO THE LAKE.
2. A LIDDED TRASH RECEPTACLE SHALL BE AVAILABLE AT EACH SITE TO DISPOSE OF WASTE MATERIALS, OR CONTRACTOR SHALL REMOVE WASTE MATERIAL FROM SITE AT THE END OF EACH WORKING DAY AND PROPERLY DISPOSE OF WASTE MATERIAL OFF SITE. CONTRACTOR SHALL KEEP SITE CLEAN AND FREE OF TRASH AND DEBRIS.
3. ALL IN-LAKE WORK SHOULD BE COMPLETED PROMPTLY AND DURING NORMAL WATER LEVEL. WORK SHALL BE POSTPONED IF RAIN IS ANTICIPATED.
4. NOTIFY ENGINEER AND OWNER'S REPRESENTATIVE IMMEDIATELY IF ANY FISH ARE OBSERVED TO BE INJURED OR KILLED DURING CONSTRUCTION.
5. TO REDUCE EROSION AND SEDIMENTATION IMMEDIATELY, STABILIZE DISTURBED AREAS IF NO ACTIVITY IS PLANNED FOR A PERIOD OF MORE THAN 14 DAYS.
6. DISTURBED SOILS MUST BE SEEDED IMMEDIATELY FOLLOWING CONSTRUCTION ACTIVITIES. AFTER SEEDING, ALL DISTURBED SLOPES ALONG THE LAKE SHALL BE COVERED WITH TEMPORARY ROLLED EROSION CONTROL PRODUCT, PER PLAN.
7. THE CONTRACTOR SHALL INSPECT EACH CONSTRUCTION SITE A MINIMUM OF EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER A PRECIPITATION EVENT OR SNOW MELT THAT CAUSES SURFACE EROSION. BMPS THAT REQUIRE MAINTENANCE OR ADJUSTMENTS SHALL BE REPAIRED IMMEDIATELY AFTER OBSERVATION OF THE FAILING BMP.
8. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ACCORDING TO THE REQUIREMENTS OF THE GENERAL PERMIT NO. 2.

STANDARD CONSTRUCTION NOTES

1. ANY DEFECTIVE WORK CONDEMNED BY THE ENGINEER SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE IN ACCORDANCE WITH THE SPECIFICATIONS. FAILURE TO REMOVE DEFECTIVE WORK MAY RESULT IN SUSPENSION OF OPERATIONS AND/OR WITHHOLDING OF PAYMENTS UNTIL DEFECTIVE WORK HAS BEEN REMOVED AND/OR REMEDIED.
2. THE CONTRACTOR SHALL PRESERVE OR REPLACE BY A REGISTERED LAND SURVEYOR, ALL PROPERTY MONUMENTS ON THE PROJECT SITE THAT ARE DISTURBED OR DESTROYED DURING CONSTRUCTION.
3. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SITE CLEANLINESS. UPON REQUEST BY THE ENGINEER, THE CONTRACTOR SHALL, AT ITS EXPENSE, CLEAN UP AND REMOVE ALL REFUSE AND UNUSED MATERIALS OF ANY KIND RESULTING FROM THE WORK. UPON FAILURE TO DO SO WITHIN THREE WORKING DAYS AFTER SUCH REQUEST BY THE ENGINEER, THE WORK MAY BE DONE BY THE OWNER AND THE COST THEREOF CHARGED TO THE CONTRACTOR AND DEDUCTED FROM ITS FINAL PAYMENT IN ACCORDANCE WITH THE SPECIFICATIONS.
4. CONTRACTOR OPERATIONS CREATING OBJECTIONABLE LEVELS OF NOISE SHALL NOT BEGIN PRIOR TO 7:00 AM AND SHALL END PRIOR TO 7:00 PM, UNLESS OTHERWISE APPROVED BY ENGINEER.
5. DEWATERING (IF NECESSARY) IS CONTRACTOR'S RESPONSIBILITY AND SHALL BE CONSIDERED INCIDENTAL.
6. CONSTRUCTION STAKING TO BE PROVIDED BY CONTRACTOR.
7. PRIOR TO MOBILIZING OFF OF THE JOB SITE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO REQUEST A FINAL INSPECTION IN ACCORDANCE WITH SECTION 1050, 1.14 'FINAL INSPECTION AND ACCEPTANCE' OF THE STANDARD SPECIFICATIONS.
8. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY AND COMPLYING WITH ALL CURRENT AND FUTURE FEDERAL AND STATE OSHA REQUIREMENTS IN ACCORDANCE WITH SECTION 1070, 2.02 'CONVENIENCE AND SAFETY' OF THE STANDARD SPECIFICATIONS.
9. IN ACCORDANCE WITH SECTION 1070, 2.08 'PROTECTION OF PROPERTY' OF THE STANDARD SPECIFICATIONS, THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN ADEQUATE PROTECTION OF ALL ITS WORK FROM DAMAGE AND SHALL PROTECT THE JURISDICTION'S PROPERTY AND ADJACENT PRIVATE PROPERTY FROM INJURY OR LOSS ARISING IN CONNECTION WITH THE WORK. THE CONTRACTOR SHALL REPAIR OR RESTORE ANY SUCH DAMAGE, INJURY, OR LOSS TO JURISDICTION PROPERTY OR ADJACENT PROPERTY. THE CONTRACTOR SHALL PROTECT TREES AND OTHER PROPERTY NOT MARKED FOR REMOVAL.
10. CONTRACTOR SHALL PROPERLY SECURE PROJECT SITE AT THE END OF EACH DAY.
11. CONTRACTOR SHALL NOTIFY PROPERTY OWNER IN WRITING AT LEAST 1 DAY PRIOR AND NOT MORE THAN 5 DAYS BEFORE MOBILIZING TO THEIR SITE.

UTILITY COORDINATION NOTES

1. THE CONTRACTOR IS REQUIRED TO UTILIZE THE UTILITY ONE-CALL SERVICE AT (800) 292-8989 TO LOCATE EXISTING UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO EXCAVATING ANYWHERE ON THE PROJECT.
2. ANTICIPATED UTILITY CONFLICTS HAVE BEEN IDENTIFIED AND EACH RESPECTIVE UTILITY OWNER HAS BEEN INFORMED OF THE POTENTIAL CONFLICTS. THE CONTRACTOR SHALL PROTECT ALL UTILITIES WITHIN THE PROJECT SITE.
3. THE LOCATION OF ALL AERIAL AND UNDERGROUND UTILITIES MAY NOT BE INDICATED ON THESE PLANS. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS.
4. IF A CONFLICT IS DISCOVERED BY THE CONTRACTOR, NOTIFY THE ENGINEER IMMEDIATELY AND COORDINATE WITH OWNER OF UTILITY TO RESOLVE CONFLICT.

GENERAL NOTES

PROJECT LIMITS: THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE PROJECT LIMITS. THE CONTRACTOR SHALL NOT PARK, SERVICE VEHICLES AND EQUIPMENT, OR USE THESE AREAS FOR STORAGE OF MATERIALS. STORAGE, PARKING AND SERVICE AREA(S) WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER OR AS DESIGNATED IN THE PLANS. THE CONTRACTOR SHALL ACCESS THE SITE IN A MANNER THAT DOES NOT DAMAGE EXISTING PAVED SURFACES, SIDEWALKS, AND TRAILS THAT ARE NOT DESIGNATED TO BE REPLACED. ANY DAMAGE TO THESE SURFACES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AS APPROVED BY THE ENGINEER.

ACCESS TO PROPERTIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS TO INDIVIDUAL PROPERTIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE WITH AREA RESIDENTS/PROPERTY OWNERS PRIOR TO CHANGING ACCESS TO ADJACENT PROPERTIES.

WORK SEQUENCE: THE CONTRACTOR SHALL SCHEDULE THEIR WORK AND THE WORK OF THEIR SUBCONTRACTORS IN SUCH A MANNER THAT WILL ENSURE A MINIMAL AMOUNT OF INCONVENIENCE TO ABUTTING PROPERTY OWNERS. IF THE ENGINEER DETERMINES THE PROGRESS OF THE WORK IS UNSATISFACTORY, PARTIAL PAYMENTS WILL BE WITHHELD IN FULL OR PART UNTIL SATISFACTORY PROGRESS IS MADE.

CLEAN UP OF THE SITE IS REQUIRED WHEN WORK IS EITHER SUSPENDED OR COMPLETED. PRIOR TO STARTING WORK, THE CONTRACTOR SHALL SUBMIT A STAGING SCHEDULE FOR THE ENGINEER'S APPROVAL. THE STAGING SCHEDULE SHALL BE UPDATED PERIODICALLY TO REFLECT ANY CHANGES.

ABANDONED UTILITY LINES: ALL REMOVAL AND DISPOSAL OF ABANDONED UTILITY LINES INCLUDING GAS MAINS, WATER MAINS, TELEPHONE CONDUITS, SERVICE LINES, ETC., REQUIRED TO COMPLETE THE WORK SHALL BE INCIDENTAL TO THE CONTRACT.

STORM/SANITARY SEWERS: THE CONTRACTOR SHALL MAINTAIN FLOW AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FLOW DIVERTING AND/OR BYPASS PUMPING REQUIRED TO FACILITATE CONSTRUCTION.

THE CONTRACTOR SHALL PROTECT ALL STORM SEWER INLETS AND CULVERTS FROM SILTATION AND DEBRIS DURING CONSTRUCTION. THE CONTRACTOR SHALL PLACE STEEL PLATES OVER INTAKES AND MANHOLES PRIOR TO GRADING TO PREVENT SOIL FROM ENTERING INTO THE SEWER. THE COSTS OF PLATING FOR GRADING SHALL BE INCIDENTAL TO CONTRACT ITEMS.

ROW AND EASEMENT LIMITS: STORAGE, PARKING, AND SERVICE AREA(S) WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY CONSTRUCTION.

RESTORATION: THE CONTRACTOR SHALL CONFINE THEIR OPERATIONS WITHIN THE PROJECT LIMITS AS SHOWN ON THE PLANS UNLESS AUTHORIZED BY THE PROJECT ENGINEER TO DO OTHERWISE. ALL TREES, SHRUBS, GRASS OR TURF BEYOND THE PROJECT LIMITS THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT NO CHARGE TO THE CONTRACTING AUTHORITY, TO THE CONDITION THAT EXISTED PRIOR TO CONSTRUCTION.

ALL GRASS SURFACES DISTURBED BY CONSTRUCTION SHALL BE SEEDED OR SODDED AS DIRECTED BY THE PLANS. THIS INCLUDES TURF AREAS DAMAGED BY EITHER CONSTRUCTION ACCESS AND CONSTRUCTION ACTIVITIES. PAYMENT SHALL BE FOR THOSE DISTURBED AREAS WITHIN THE PROJECT (GRADING) LIMITS.

WASTE SITES: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL (EXCAVATED MATERIAL, BROKEN PAVEMENT, ETC.) WHICH IS NOT DESIRABLE TO BE INCORPORATED INTO THE WORK INVOLVED ON THIS PROJECT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES. NO MATERIAL SHALL BE PLACED WITHIN THE OWNER'S PROPERTY, UNLESS SPECIFICALLY STATED IN THE PLANS OR APPROVED BY THE ENGINEER.

SAW-CUT TREE ROOTS: ALL TREE ROOTS EXCEEDING 1-1/2" IN DIAMETER WHICH ARE MANGLED BY EQUIPMENT DURING GRADING OR EXCAVATION SHALL BE CUT CLEANLY WITH A SAW. NO ROOTS WHICH EXCEED THE SPECIFIED DIAMETER SHALL BE LEFT STRIPPED OR MANGLED PRIOR TO BACKFILLING. CUTTING OF ROOTS IS CONSIDERED INCIDENTAL TO EXCAVATION.

TEMPORARY CONSTRUCTION FENCE NOTES

1. WITHIN DESIGNATED STAGING AREAS:
   A. TEMPORARY CONSTRUCTION FENCE SHALL BE INSTALLED WHERE SHOWN ON J-SHEETS PRIOR TO MOBILIZING EQUIPMENT OR STORING MATERIAL AT THE RESPECTIVE STAGING AREA.
   B. TEMPORARY CONSTRUCTION FENCE SHALL BE MAINTAINED UNTIL COMPLETION OF ALL SITES UTILIZING THE DESIGNATED STAGING AREA. TEMPORARY CONSTRUCTION FENCE SHALL BE REMOVED ONCE THE STAGING AREA WILL NO LONGER BE IN USE.
2. AT EACH SITE:
   A. TEMPORARY CONSTRUCTION FENCE SHALL BE PLACED AT THE DIRECTION OF THE ENGINEER OR OWNER'S REPRESENTATIVE.
   B. WHEN REQUESTED, PLACE TEMPORARY CONSTRUCTION FENCE NEAR THE TOP OF SLOPE TO PROTECT LANDOWNER FROM THE PROJECT SITE. IT IS ANTICIPATED TEMPORARY CONSTRUCTION FENCE MAY BE REQUESTED WHEN CONSTRUCTION AT A PARTICULAR SITE SPANS MORE THAN ONE OR TWO DAYS OR WHEN ON-SITE CONDITIONS ARE DEEMED HAZARDOUS TO LANDOWNERS.
   C. REMOVE TEMPORARY CONSTRUCTION FENCE UPON COMPLETION OF WORK AT A RESPECTIVE SITE.
3. TEMPORARY CONSTRUCTION FENCE A SHALL CONSIST OF STANDARD ORANGE 40-INCH HIGH SNOW FENCE ON STANDARD STEEL T-POST SET 8 FEET APART. LOCATION SHOWN IN PLANS IS APPROXIMATE. DO NOT TRIM OR REMOVE TREES, OR RELOCATE PRIVATE PROPERTY TO INSTALL FENCE, REROUTE FENCE AS NECESSARY TO AVOID OBSTACLES.
4. PURPOSE OF FENCE IS TO CLEARLY DELINEATE THE CONSTRUCTION ZONE FROM THE RESIDENTIAL YARDS, PREVENT INADVERTENT PROPERTY DAMAGE, AND PROMOTE A SAFE ENVIRONMENT FOR ADJACENT RESIDENTS OR PASSERSBY.
5. METHOD OF MEASUREMENT FOR TEMPORARY CONSTRUCTION FENCE SHALL BE PER LINEAR FOOT INSTALLED. BID ITEM INCLUDES FURNISHING AND INSTALLATION OF POST, FURNISHING AND INSTALLATION OF SNOW FENCE AND (IF USED) FENCE POST CAPS, MAINTAINING AND REPAIRING FENCE THROUGHOUT THE DURATION OF THE CONSTRUCTION PHASE, AND REMOVAL OF FENCE UPON CONSTRUCTION PHASE COMPLETION. INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT.

TREE PROTECTION NOTES

1. CONTRACTOR IS RESPONSIBLE FOR AVOIDING DAMAGE TO TREES DESIGNATED FOR PROTECTION OR WHICH LIE OUTSIDE OF THE GRADING LIMITS. INSTRUCT PERSONNEL AND TAKE CARE TO AVOID INADVERTENT CONTACT WITH TREES BY EQUIPMENT.

GRADING ACTIVITY NOTES:

1. CLEAN AND MAINTAIN ALL FLOATING SILT CURTAIN, AS NECESSARY, THROUGHOUT THE DURATION OF CONSTRUCTION.
2. ANY EXCAVATION OCCURRING ADJACENT TO A LAKE SHALL BE CONDUCTED USING AN EXCAVATOR THUMB ATTACHMENT TO HELP PREVENT LOOSE MATERIAL WITHIN THE BUCKET FROM FALLING INTO LAKE.
3. GRADING ACTIVITIES SHALL OCCUR IN ONE LOCATION AT A TIME TO LIMIT DISRUPTION TO THE LAKE.
4. IMMEDIATELY FOLLOWING COMPLETION OF GRADING, ALL DISTURBED AREAS SHALL BE SEEDED WITH SEED MIX AS SPECIFIED PER SITE LOCATION. SEE SEEDING INFORMATION ON SHEET C.06.

TRAFFIC CONTROL NOTES

1. THE J-SHEETS DESCRIBE TRAFFIC CONTROL NECESSARY FOR THE CONSTRUCTION OF THE IOWA GREAT LAKES SHORELINE STABILIZATION SITES. LOCAL TRAFFIC TO ADJACENT PROPERTIES SHALL BE MAINTAINED. ALL TRAFFIC CONTROL SIGNS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
2. SPECIFIC TRAFFIC CONTROL LAYOUTS ARE SHOWN ON THESE PLANS. THESE ARE GENERAL TRAFFIC CONTROL LAYOUTS FOR INFORMATION ONLY.
3. THE CONTRACTOR SHALL COORDINATE TRAFFIC CONTROL WITH OTHER PROJECTS IN THE AREA AS REQUIRED.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL WORK AREAS NEAR TRAFFIC. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), THE TRAFFIC CONTROL PLAN SHEETS, AND SUDAS SECTION 8030.
5. TRAFFIC CONTROL DEVICES, PROCEDURES, LAYOUTS, SIGNING, AND PAVEMENT MARKINGS INSTALLED WITHIN THE LIMITS OF THIS PROJECT SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS AS ADOPTED BY THE IOWA DEPARTMENT OF TRANSPORTATION PER 761 OF THE IOWA ADMINISTRATIVE CODE (IAC) CHAPTER 130.
6. ALL TRAFFIC CONTROL SIGNS SHALL BE PLACED A MINIMUM OF TWO (2) FEET CLEAR OF THE BACK OF CURB OR OUTSIDE EDGE OF SHOULDER WHERE POSSIBLE.
7. PROPOSED CHANGES IN THE TRAFFIC CONTROL PLAN SHALL BE REVIEWED WITH THE OWNER AND ENGINEER BEFORE CHANGES ARE MADE.
8. ANY TEMPORARY REGULATORY SIGNS ARE TO BE PROVIDED, LOCATED, AND MAINTAINED BY THE CONTRACTOR.
9. ALL CONTRACTOR FURNISHED TRAFFIC CONTROL AND FIXED, POST MOUNTED, TRAFFIC CONTROL SIGNS USED ON THIS PROJECT SHALL BE SHEETED WITH HIGH-VISIBILITY PRISMATIC REFLECTIVE SHEETING (TYPE III OR HIGHER).
10. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, MOVE, AND REMOVE ALL TRAFFIC CONTROL DEVICES ON THE PROJECT. ALL SIGNS SHALL BE REFLECTORIZED AND CONFORM AS TO DESIGN, COLOR, SIZE, AND LEGEND TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS."
11. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER. THE SPACING OF ALL SIGNS AND THE DISTANCES BETWEEN SIGNS SHOWN IN THE PLAN SHALL MEET THE REQUIREMENTS OF THE CURRENT MUTCD. IF THE MINIMUM SPACING BETWEEN SIGNS CANNOT BE MAINTAINED, THE SIGN LOCATIONS SHALL BE ADJUSTED TO PROVIDE THE LARGEST SPACING AVAILABLE.
12. ALL DISTANCES ARE APPROXIMATE, UNLESS OTHERWISE NOTED.
13. SIGN PLACEMENTS SHALL NOT OBSTRUCT EXISTING SIGNS. THE CONTRACTOR SHALL COVER ALL CONFLICTING EXISTING SIGNS.
14. CONTRACTOR SHALL FURNISH THE OWNER WITH NAMES AND TELEPHONE NUMBERS OF INDIVIDUALS RESPONSIBLE FOR THE MAINTENANCE OF TRAFFIC CONTROL DEVICES AND SIGNING. THE INDIVIDUAL(S) SHALL BE AVAILABLE FOR CORRECTIVE ACTION 24 HOURS A DAY, 7 DAYS A WEEK.

SITE NOTES

1. TREE REMOVALS TO OCCUR BETWEEN OCTOBER 1ST AND MARCH 31ST. COORDINATE REMOVALS WITH ENGINEER.
2. THE CONTRACTOR SHALL CONFINE ALL WORK TO THE PROJECT LIMITS AND EASEMENT SHOWN ON THE PLANS. IF THE CONTRACTOR OBTAINS ADDITIONAL EASEMENTS FOR THE STORAGE OF EQUIPMENT AND MATERIALS, COPIES OF THE AGREEMENT WITH THE PROPERTY OWNERS SHALL BE PROVIDED TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE.
3. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO BUILDINGS, RETAINING WALLS, LANDSCAPING, AND ANY OTHER ITEMS NOT DESIGNATED FOR REMOVAL.
4. TOPOGRAPHIC SURVEY DATA USED FOR THE DESIGN OF THIS PROJECT WAS COLLECTED BETWEEN NOVEMBER 2024 AND JANUARY 2025. EXISTING SITE CONDITIONS MAY DIFFER FROM THOSE PRESENTED IN PLANS. CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE PRIOR TO BIDDING AND UNDERSTANDING THE SITE CONDITIONS AT TIME OF BID.
5. EFFORTS HAVE BEEN MADE TO INFORM ADJACENT PROPERTY OWNERS OF PROJECT STATUS AND OF THE NEED TO REMOVE PRIVATE PROPERTY FROM WITHIN THE PROJECT LIMITS. IN CASES WHERE PRIVATE PROPERTY HAS NOT BEEN REMOVED FROM THE PROJECT LIMITS, IT SHALL BECOME THE CONTRACTORS RESPONSIBILITY TO REMOVE, DISPOSE, OR RELOCATE PRIVATE PROPERTY IN ORDER TO COMPLETE WORK, INCIDENTAL TO CLEARING AND GRUBBING.

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IOWA DEPARTMENT OF NATURAL RESOURCES
IA GREAT LAKES SHORELINE STABILIZATION
GENERAL NOTES

SHEET C.04

FLOATING SILT CURTAIN (TURBIDITY BARRIER) NOTES:

DESCRIPTION

FLOATING SILT CURTAINS ARE TEMPORARY EROSION CONTROL MEASURES USED FOR CONTAINING SUSPENDED SEDIMENT IN AN AREA OF OPEN WATER. OPEN WATER IS DESCRIBED AS ANY PERENNIAL WATER COURSE OR WATER BODY WITH 6 INCH (150 MM) OR GREATER DEPTH. FLOATING SILT CURTAINS CONSIST OF FABRIC FASTENED TO A FLOTATION CARRIER AND WEIGHTED ALONG THE BOTTOM EDGE.

MATERIALS

A. FLOATING SILT CURTAINS SHALL MEEET THE FOLLOWING MINIMUM REQUIREMENTS AND MANUFACTURER RECOMMENDATIONS:

PROPERTY	VALUE
CURTAIN FABRIC MATERIAL TYPE	IMPERMEABLE VINYL-COATED NYLON
MASS PER SQUARE YARD	22 OZ.
GRAB TENSILE STRENGTH ASTM D 4632	500 LBS.
FLOTATION	8 INCH DIAMETER MARINE QUALITY EXPANDED POLYSTRENE
NET BUOYANCY, PER FOOT	20 LBS
TOP LOAD CARRYING COMPONENTS	FABRIC PLUS 5/16 INCH GALVANIZED STEEL CABLE 9100 LBS. MINIMUM BREAK STRNEGTH
BALLAST, LBS. PER FOOT, MINIMUM	1.0 LBS./FT ENCLOSED 5/16 INCH GALVANIZED CHAIN
CONNECTION BETWEEN SECTIONS	ALUMINUM COLLAR REINFORCED QUICK DISCONNECTS

B. DESIGN CONNECTING DEVICES TO PREVENT SILT FROM PERMEATING THROUGH THE CONNECTION AND AT SPECIFIED STRENGTH TO PREVENT RIPPING OUT.

CONSTRUCTION

A. CONSTRUCT FLOATING SILT CURTAIN AS SHOWN ON IOWA DOT STANDARD ROAD PLAN EC-202 AND TO THE EXPECTED WATER DEPTH PLUS WAVE HEIGHT.

B. DO NOT DISCHARGE WATER PUMPED FROM THE WORK SITE INTO AN AREA OF UNRESTRAINED OPEN WATER.

C. SHAPE WATER BODY SOIL BANK TO ENABLE INSTALLATION OF FLOATING SILT CURTAIN.

D. ANCHORS SHALL INCLUDE A CHAIN HAVE A MINIMUM WEIGHT OF 3.0 POUNDS PER YARD AND ANCHOR WEIGHTS AS NEEDED TO HOLD CURTAIN DOWN.

E. INSPECT THE CONTAINMENT FLOATING SILT CURTAIN AFTER HEAVY WINDS OR MAJOR RAIN STORMS (1 INCH) TO CHECK FOR DAMAGE AND DEPTH OF SILT ON THE BOTTOM OF THE SILT CURTAIN. IF 2 INCHES OR MORE OF SILT IS PRESENT ON TOP OF THE SILT CURTAIN, REMOVE THE SILT CURTAIN AND SILT AS DESCRIBED BELOW AND REINSTALL FLOATING SILT CURTAIN.

F. UPON COMPLETION OF THE WORK OF WHEN CLEAN-OUT OF CONTAINMENT SILT CURTAIN IS REQUIRED, REMOVE CONTAINMENT SILT CURTAIN. DISPOSE OF COLLECTED SILT OFFSITE AT AN UPLAND, NON-LAKE LOCATION OR AS APPROVED BY THE ENGINEER. FOLLOWING REMOVAL OF CONTAINMENT CURTAIN, THE HANGING CURTAIN SHALL REMAIN IN PLACE FOR A MINIMUM OF 48 HOURS AFTER WHICH IT CAN BE REMOVED, PROVIDED ALL WORK IN THE AREA BEING PROTECTED IS COMPLETED.

METHOD OF MEASUREMENT

FLOATING SILT CURTAIN WILL BE MEASURED BY LENGTH IN FEET FURNISHED AND INSTALLED.

BASIS OF PAYMENT

PAYMENT FOR FLOATING SILT CURTAIN WILL BE THE CONTRACT UNIT PRICE FOR THE LENGTH IN FEET OF THE SILT CURTAIN FURNISHED AND INSTALLED. PAYMENT IS FULL COMPENSATION FOR LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO HANGING SILT CURTAIN, THE ENGINEER MAY AUTHORIZE PARTIAL PAYMENT OF 80% OF THE QUANTITY PLACED. REMAINING QUANTITY WILL BE PAID AFTER FLOATING SILT CURTAIN IS REMOVED.

SITE ACCESS AND STAGING AREA NOTES:

1. CONTRACTOR SHALL MOBILIZE AND COMPLETE ALL SITES WITHIN ONE LAKE PRIOR TO MOBILIZING IN ANOTHER LAKE. PROVIDE ENGINEER OR OWNER'S REPRESENTATIVE WITH AN ANTICIPATED SEQUENCING PLAN AT THE PRE-CONSTRUCTION MEETING.
2. WRITTEN NOTICE SHALL BE PROVIDED TO THE OWNER AND THE ENGINEER AT LEAST 7 DAYS IN ADVANCE OF CLOSURES AND STAGE TRANSITIONS.
3. ACCESS TO PROJECT WORK AREAS SHALL BE ALONG ROUTES DESIGNATED IN THESE PLANS ONLY. ACCESS TO THE SITES IS ONLY AVAILABLE VIA THE LAKE. NO CONSTRUCTION ACCESS TO THE SITES SHALL BE PROVIDED THROUGH PRIVATE PROPERTY, EXCEPT IN EMERGENCY SITUATIONS.
4. ONLY MAJOR STAGES OF CONSTRUCTION ARE SHOWN IN THE STAGING AND TRAFFIC CONTROL PLAN. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING DETAILED TRAFFIC CONTROL PLANS FOR ANY OTHER STAGES THAT MAY BE REQUIRED. CHANGES TO THE STAGING PLAN MUST BE APPROVED BY THE ENGINEER. ADJUSTMENT TO ADVANCED SIGNAGE AND BARRICADING ARE SUBJECT TO ENGINEER APPROVAL AND ARE CONSIDERED INCIDENTAL.
5. FURNISH AND INSTALL ALL TRAFFIC CONTROL DEVICES AND MAINTAIN IN THE CORRECT POSITION. PROMPTLY CLEAN AND REPLACE DAMAGED TRAFFIC CONTROL DEVICES. PATROL WORK AREAS DAILY (AT A MINIMUM) TO ENSURE ALL TRAFFIC CONTROL DEVICES ARE PROPERLY SET, IN SERVICEABLE CONDITION, AND LEGIBLE.
6. THE LOCATION FOR STORAGE OF EQUIPMENT BY THE CONTRACTOR SHALL BE WITHIN THE PROJECT LIMITS OR WITHIN THE STAGING AREA. STORAGE OR STAGING OF EQUIPMENT OR MATERIALS OUTSIDE THE PROJECT WORK LIMITS WILL REQUIRE APPROVAL BY THE OWNER AND THE CONTRACTOR SHALL PROVIDE A WRITTEN AGREEMENT WITH THE PROPERTY OWNER.
7. GRADING AND STABILIZATION OF ACCESS ROUTES TO ALLOW FOR CONSTRUCTION ACCESS SHALL BE INCIDENTAL TO MOBILIZATION.
8. AT THE COMPLETION OF CONSTRUCTION, EARTHEN PORTIONS OF ACCESS ROUTES SHALL BE GRADED AND SEEDED. GRADING AND SEEDING SHALL BE INCIDENTAL TO MOBILIZATION.
9. RESTORATION OF STAGING AREAS AND CONSTRUCTION ACCESS ROUTES TO PRE-CONSTRUCTION CONDITIONS IS REQUIRED AT THE COMPLETION OF CONSTRUCTION WITHIN A SPECIFIC LAKE AND IS INCIDENTAL TO THE MOBILIZATION BID ITEM.
10. CARE SHOULD BE TAKEN TO PROTECT PAVEMENT IN STAGING AREAS FROM DAMAGE DUE TO STAGING OF CONSTRUCTION EQUIPMENT OR MATERIALS. IF PAVEMENT IN STAGING AREAS BECOMES DAMAGED, CONTRACTOR SHALL REMOVE DAMAGED PAVEMENT AND REPLACE THE PAVEMENT IN KIND AT THE CONTRACTOR'S EXPENSE. PAVEMENT REPLACEMENT IS INCIDENTAL TO MOBILIZATION, UNLESS SPECIFICALLY NOTED IN THE PLANS.
11. GRAVEL PARKING LOTS AND GRAVEL DRIVES PUBLIC AREAS SHOULD BE RESTORED TO PRE-CONSTRUCTION CONDITIONS ONCE CONSTRUCTION IS COMPLETED ON THAT LAKE.
12. CARE SHOULD BE TAKEN TO PROTECT PCC TRAIL BEYOND THE LIMITS OF REMOVAL SHOWN ON SHEET J.03. IF EXISTING ADDITIONAL PCC TRAIL IS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL REMOVE AND REPLACE PCC TRAIL (5" DEPTH) AT THE CONTRACTOR'S EXPENSE AND THE COST IS INCIDENTAL TO MOBILIZATION.
13. TEMPORARY FILL MATERIAL ADDED TO BARGE ACCESS ROUTES AS SHOWN ON SHEET J-03 SHALL BE REMOVED AS MUCH AS PRACTICABLE ONCE CONSTRUCTION ON WEST OKOBOJI LAKE IS COMPLETED AND BARGE ACCESS IS NO LONGER NEEDED.
14. DO NOT STORE MORE MATERIAL OR EQUIPMENT IN EACH LAKE'S STAGING AREA THAN NECESSARY TO COMPLETE THE REPAIRS NEEDED FOR THAT LAKE.

SEEDING & EROSION CONTROL NOTES:

ROLLED EROSION CONTROL PRODUCTS (RECPS):

1. INSTALLATION: USE RECPS AFTER SEEDING TO PREVENT EROSION. ENSURE GOOD CONTACT WITH THE SOIL SURFACE.
2. MATERIAL CHOICE: USE BIODEGRADABLE NETLESS ROLLED EROSION CONTROL PRODUCTS (RECPS) FOR TEMPORARY PROTECTION TO PREVENT WILDLIFE ENTANGLEMENT.

HYDROSEEDING/MULCHING:

IF USING HYDROSEED/HYDROMULCH, SEED FIRST WITH WATER ONLY. THEN APPLY A THIN COATING OVER SEEDED AREAS FOR EROSION CONTROL.

SEED MIX:

FURNISH AND INSTALL SEEDING ACCORDING TO THE FOLLOWING MIX AND APPLICATION RATE.

Permanent Seed Mix

	Scientific Name	Common Name	Seeding rate Lbs/Acre PLS
1	*Andropogon gerardii*	Big Bluestem	3.00
2	*Sorghastrum nutans*	Indian Grass	3.00
3	*Panicum virgatum*	Switchgrass	1.50
4	*Bromus kalmii*	Bromegrass	7.50
5	*Avena sativa*	Oats	32.00
		MIX TOTAL	**47.00**

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IA GREAT LAKES SHORELINE STABILIZATION
GENERAL NOTES

SHEET C.05

2629 EAGLE POINT PLACE

LAKEWOOD PARK

WEST OKOBOJI LAKE

WEST OKOBOJI LAKE OHWM: 1398.45

DO NOT DISTURB FIRE PIT

EDGE OF RIP RAP

SALVAGE AND STOCKPILE EX. FIELDSTONE (EST. 99 TONS)

WEST OKOBOJI LAKE OHWM: 1398.45

REMOVE TREE

WEST OKOBOJI LAKE



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1408.50' ON LAKEWOOD PROPERTY.

2. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1408.00' ON 2629 EAGLE POINT PLACE.

HORZ. SCALE 0 10 20 FEET

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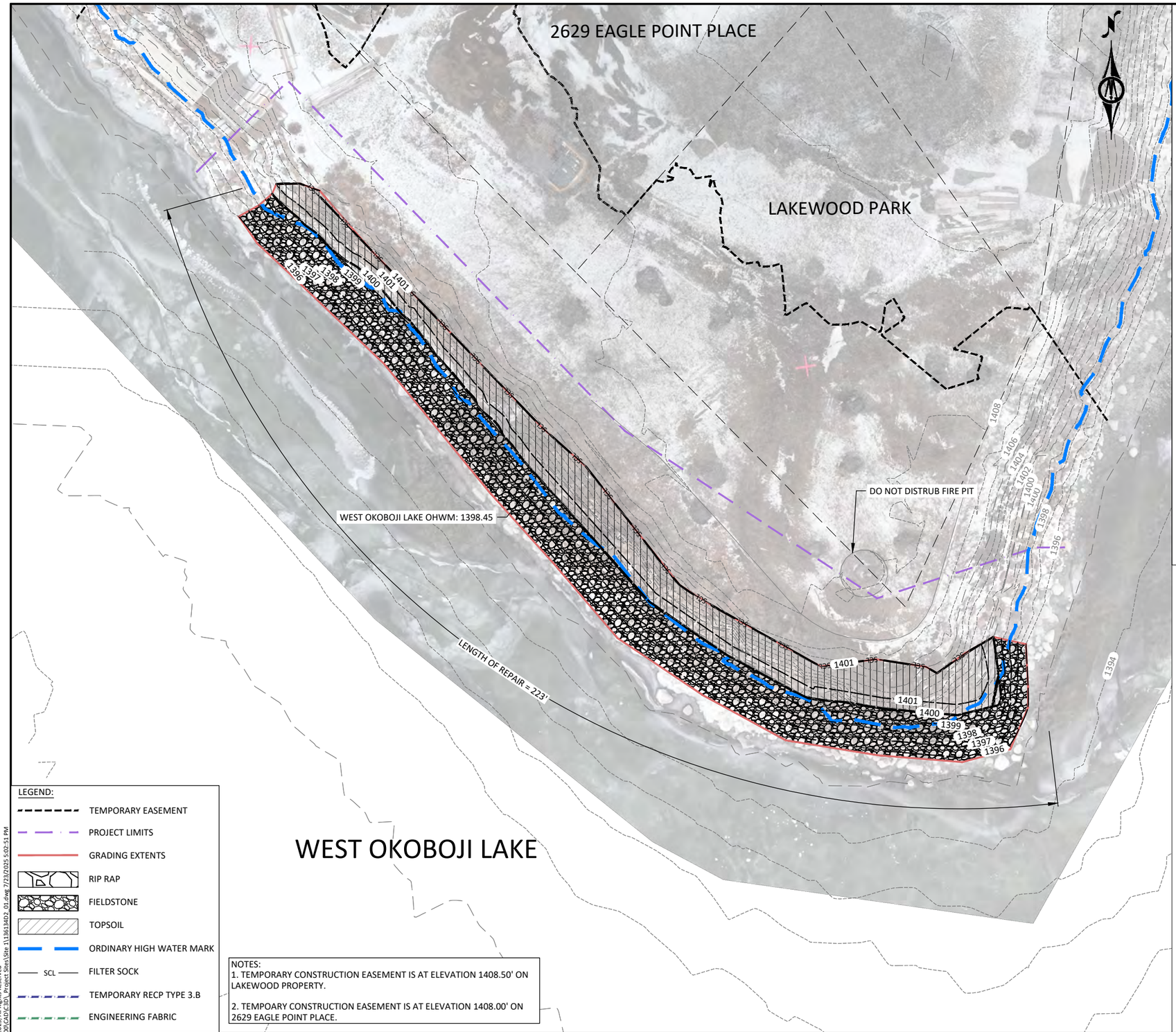
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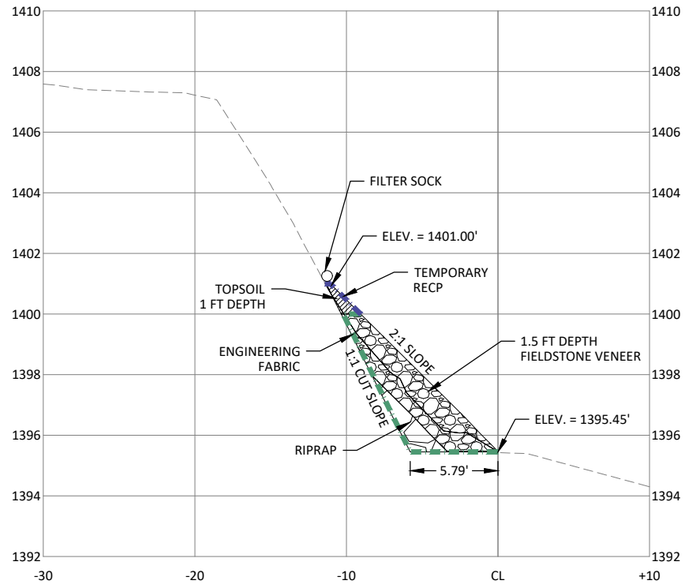
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 01)

SHEET D.01.1

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A SITE 01 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 2.5 5 FEET

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1408.50' ON LAKEWOOD PROPERTY.

2. TEMPOARY CONSTRUCTION EASEMENT IS AT ELEVATION 1408.00' ON 2629 EAGLE POINT PLACE.

SITE 01 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	10	CY
EXCAVATION, CLASS 13	60	CY
ENGINEERING FABRIC	284	SY
HYDRAULIC SEEDING	406	SY
FILTER SOCK, 9 INCH	177	LF
TEMPORARY RECP, 3.B	34	SY
RIP RAP, CLASS D	41	TONS
FIELDSTONE (IMPORTED)	47	TONS
FIELDSTONE (SALVAGED)	99	TONS

HORZ. SCALE 0 10 20 FEET

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GRADING AND STABILIZATION PLAN (SITE 01)

SHEET D.01.2

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2220 MANHATTAN BLVD

2216 MANHATTAN BLVD

2212 MANHATTAN BLVD

WEST OKOBOJI LAKE

SCARP

REMOVE STAIRS WITHIN PROJECT LIMITS

DO NOT DISTURB ELECTRIC PEDESTAL

SCARP BREAK

SCARP

WEST OKOBOJI LAKE OHWM: 1398.45

SALVAGE & STOCKPILE EX. FIELDSTONE (29 TONS)

1432 1430 1428 1426 1424 1422 1420 1418 1416 1414 1412 1410 1408 1406 1404 1402 1400 1398 1396 1394 1392 1390



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1415.00'.

2. STAIRS MAY BE REMOVED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS INSIDE CLEARING LIMITS.

HORZ. SCALE 0 10 20 FEET

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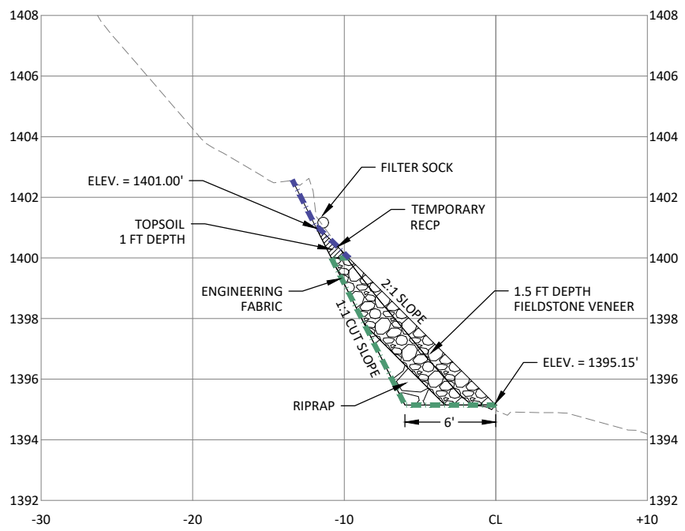
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 07)

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A SITE 07 - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 2.5 5 SCALE FEET

SITE 07 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	1	CY
EXCAVATION, CLASS 13	31	CY
ENGINEERING FABRIC	89	SY
HYDRAULIC SEEDING	222	SY
FILTER SOCK, 9 INCH	54	LF
TEMPORARY RECP, 3.B	23	SY
RIP RAP, CLASS D	9	TONS
FIELDSTONE (IMPORTED)	10	TONS
FIELDSTONE (SALVAGED)	29	TONS

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GRADING AND STABILIZATION PLAN (SITE 07)

SHEET D.07.2



WEST OKOBOJI LAKE

DO NOT DISTURB STORM/TILE OUTLET

WEST OKOBOJI LAKE OHWM: 1398.45

PROTECT LIGHTS

SCARP

SALVAGE & STOCKPILE EX. FIELDSTONE (30 TONS)

SCARP

DO NOT DISTURB WALL

DO NOT DISTURB STAIRS

DO NOT DISTURB WALL

TILE OUTLET (IN WALL)

DO NOT DISTURB ELECTRICAL OUTLET POST

DO NOT DISTURB STAIRS

PIPE OUTLETS (IN WALL)

PVC PIPE

METAL PIPE OUTLET

2604 OKOBOJI BLVD

2608 OKOBOJI BLVD

2610 OKOBOJI BLVD

2612 OKOBOJI BLVD

2616 OKOBOJI BLVD

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1410.00'.

HORZ. SCALE 0 10 20 FEET

Department of Natural Resources

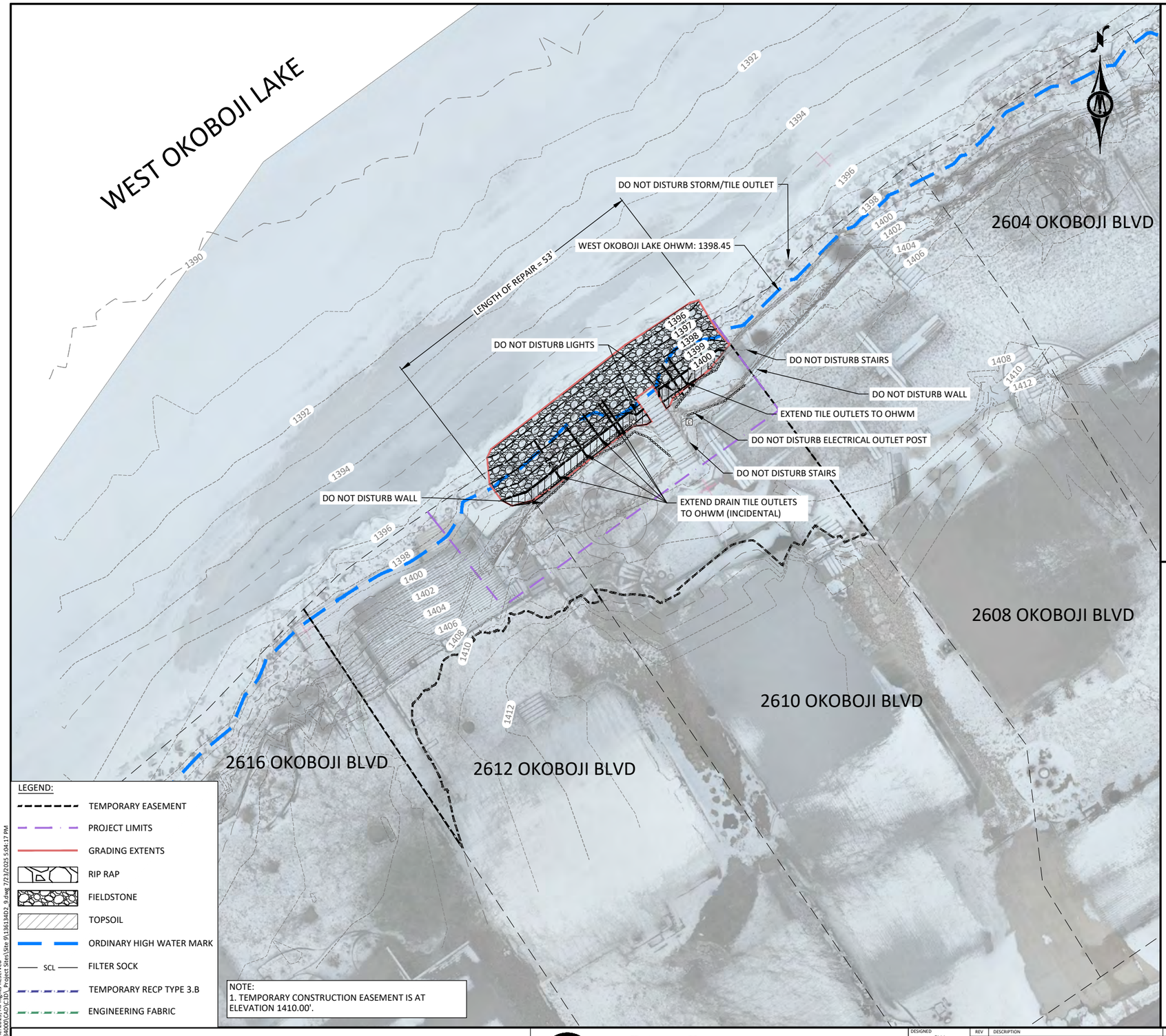
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 09)

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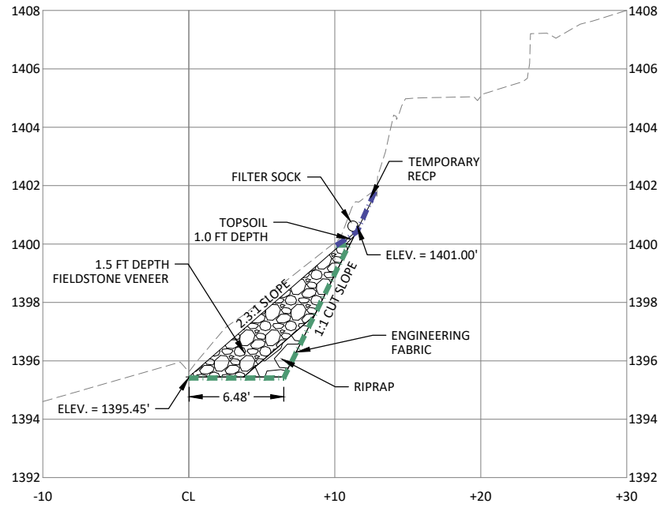
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LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1410.00'.



A SITE 09 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 2.5 5 FEET

SITE 09 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	1	CY
EXCAVATION, CLASS 13	34	CY
STORM SEWER, TRENCHED	50	LF
ENGINEERING FABRIC	75	SY
HYDRAULIC SEEDING	45	SY
FILTER SOCK, 9 INCH	36	LF
TEMPORARY RECP, 3.B	15	SY
RIP RAP, CLASS D	9	TONS
FIELDSTONE (IMPORTED)	5	TONS
FIELDSTONE (SALVAGED)	30	TONS

HORZ. SCALE 0 10 20 FEET

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GRADING AND STABILIZATION PLAN (SITE 09)

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SALVAGE & STOCKPILE
EX. FIELDSTONE (2.8 TONS)

DO NOT DISTURB EDGE OF PATIO

DO NOT DISTURB WIRE POLE

DO NOT DISTURB WIRE POLE

CRACK

BOTTOM OF WALL

SCARP

PARCEL OWNED BY 1313 MAYWOOD AVE

WEST OKOBOJI LAKE

WEST OKOBOJI LAKE OHWM: 1398.45

1392
1394
1396
1398
1400
1402
1404
1405
1408
1410

1313 MAYWOOD AVE

1211 MAYWOOD AVE

1209 MAYWOOD AVE

LAKE STREET

N

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1407.00'.

HORZ. SCALE 0 10 20 FEET

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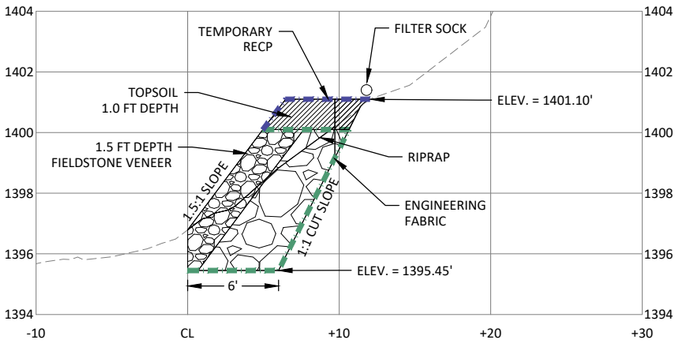
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IA GREAT LAKES SHORELINE STABILIZATION
EXISTING CONDITIONS AND REMOVALS PLAN (SITE 13)

SHEET D.13.1

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A SITE 13 - SECTION A

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 13 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	4	CY
EXCAVATION, CLASS 13	9	CY
ENGINEERING FABRIC	25	SY
HYDRAULIC SEEDING	33	SY
FILTER SOCK, 9 INCH	12	LF
TEMPORARY RECP, 3.B	12	SY
RIP RAP, CLASS D	10	TONS
FIELDSTONE (IMPORTED)	4	TONS
FIELDSTONE (SALVAGED)	3	TONS

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1407.00'.

HORZ. SCALE 0 10 20 FEET

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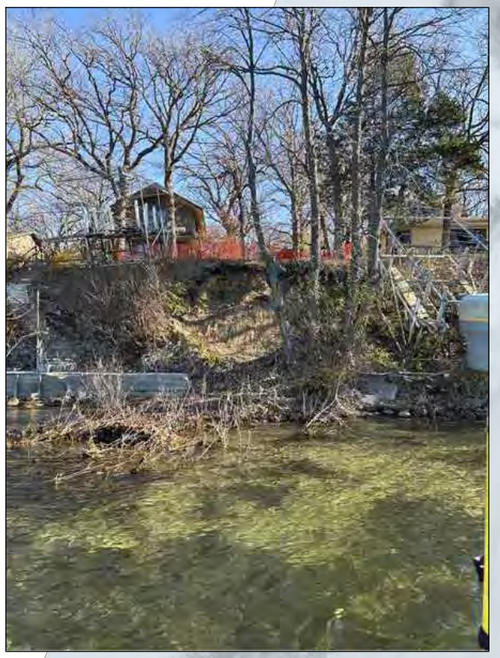
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GRADING AND STABILIZATION PLAN (SITE 13)

SHEET D.13.2

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WEST OKOBOJI LAKE

WEST OKOBOJI LAKE OHWM: 1398.45

DO NOT DISTURB STAIRS

DO NOT DISTURB STONE WALL

DO NOT DISTURB PATIO

SCARP

REMOVE TREE GROUP

2021 BROWNS BAY AVE

2015 BROWNS BAY AVE

2009 BROWNS BAY AVE

BROWNS BAY AVE

1392 1394 1396 1398 1400 1402 1404 1406 1408 1410 1412 1414 1416 1418 1420 1422 1424 1426

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1413.00'.

HORZ. SCALE 0 10 20 FEET

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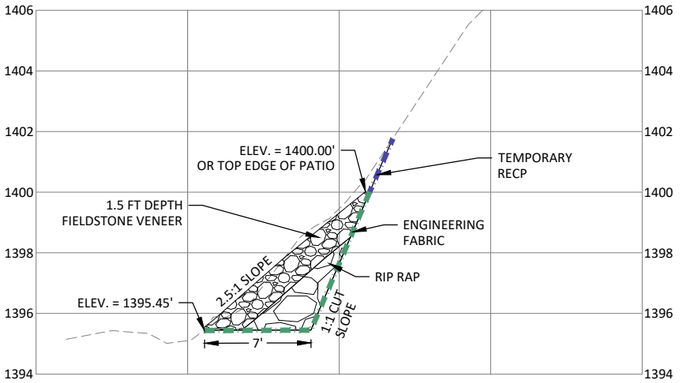
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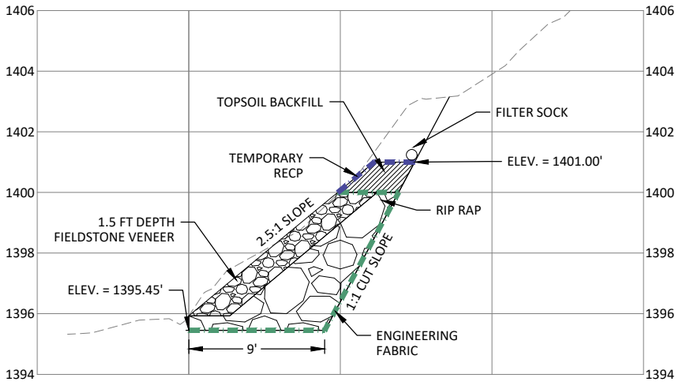
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 14)

SHEET D.14.1

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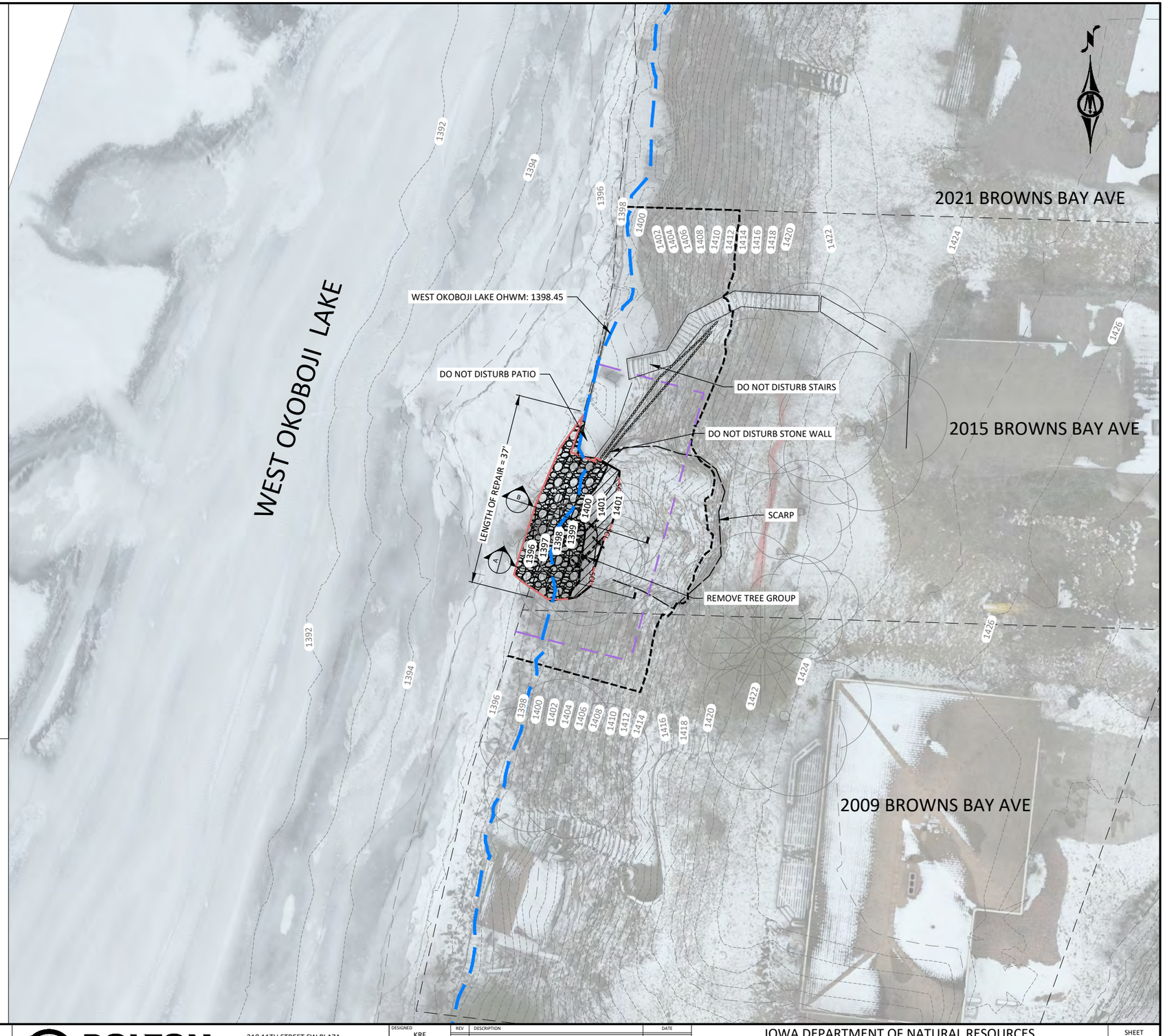


A SITE 14 - SECTION A



B SITE 14 - SECTION B

HORZ. SCALE 0 5 10 FEET
VERT. SCALE 0 2.5 5 FEET



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 14 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	2	CY
EXCAVATION, CLASS 13	33	CY
ENGINEERING FABRIC	186	SY
HYDRAULIC SEEDING	83	SY
FILTER SOCK, 9 INCH	32	LF
TEMPORARY RECP, 3.B	17	SY
RIP RAP, CLASS D	23	TONS
FIELDSTONE (IMPORTED)	18	TONS
FIELDSTONE (SALVAGED)	0	TONS

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1413.00'.

HORZ. SCALE 0 10 20 FEET

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GRADING AND STABILIZATION PLAN (SITE 14)

SHEET D.14.2

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16560 N INNER LANE

16580 N INNER LANE

16590 N INNER LANE

WEST OKOBOJI LAKE

DO NOT DISTURB TREES

DO NOT DISTURB RETAINING WALL (TYP)

REMOVE TREE

WEST OKOBOJI LAKE OHWM: 1398.45

EDGE OF GRAVEL

SCARP BREAK

REMOVE TREE IN SLUMP

SALVAGE & STOCKPILE EX. FIELDSTONE (15 TONS)

REMOVE TOPPLED TREE

SCARP

DO NOT DISTURB IRRIGATION SPOUT

DO NOT DISTURB TREES

REMOVE TREE

DO NOT DISTURB TREE

1426
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1392
1390



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1425.00'.

HORZ. SCALE 0 10 20 FEET

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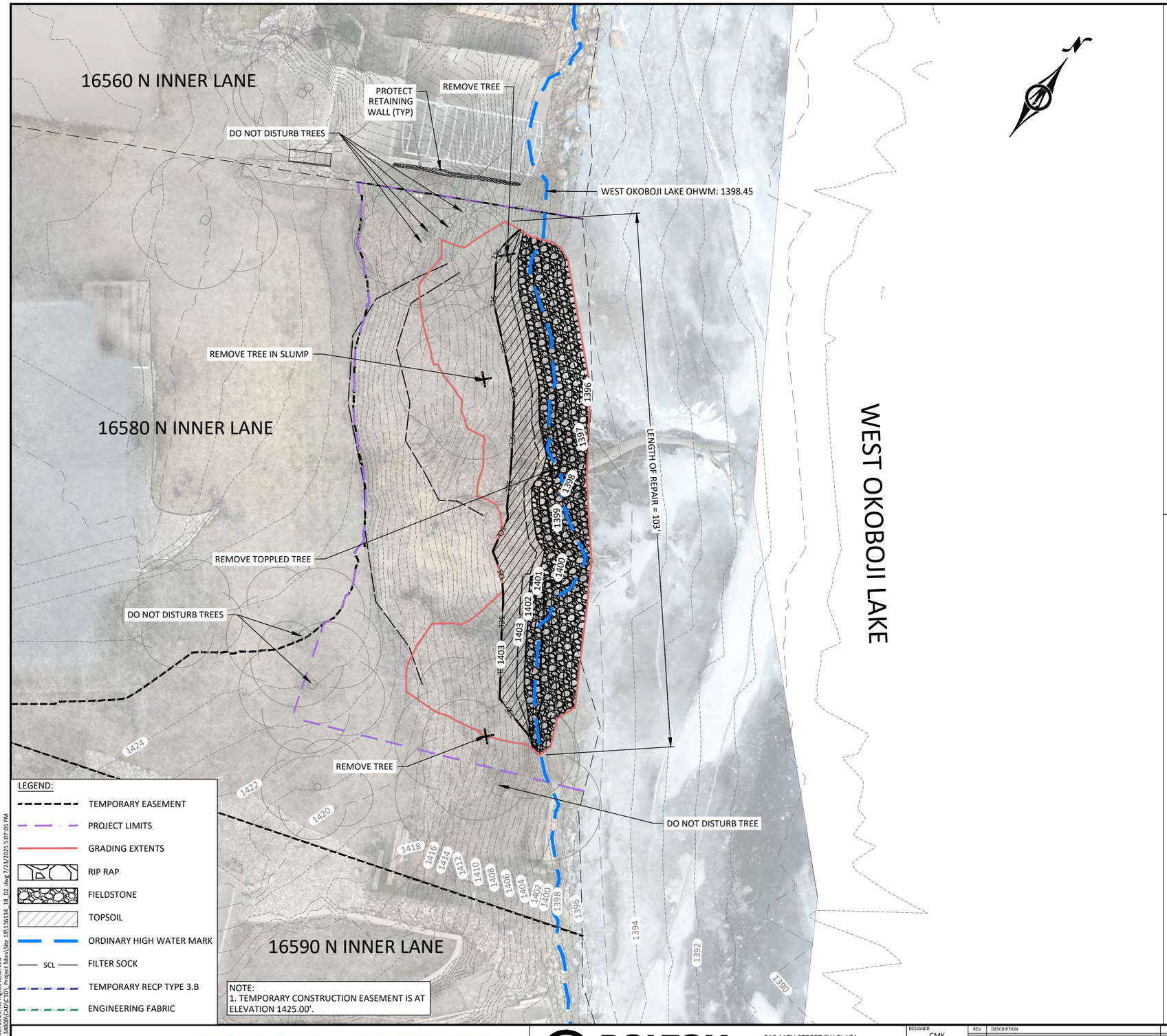
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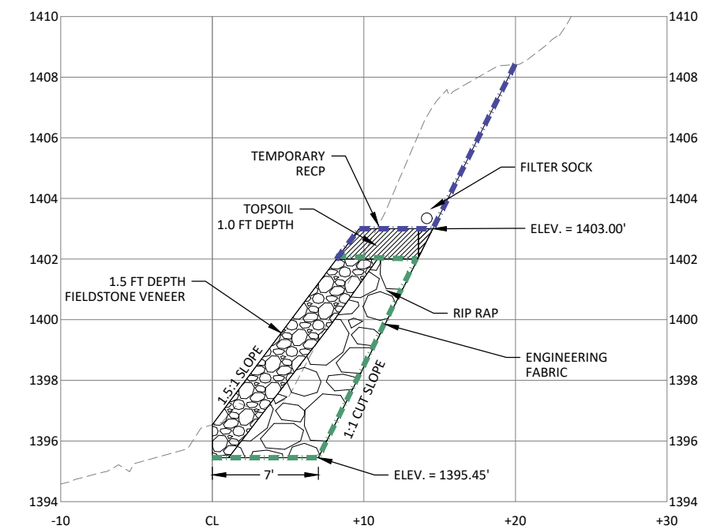
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 18)

SHEET D.18.1

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A SITE 18 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET

SITE 18 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	13	CY
EXCAVATION, CLASS 13	218	CY
ENGINEERING FABRIC	225	SY
HYDRAULIC SEEDING	417	SY
FILTER SOCK, 9 INCH	103	LF
TEMPORARY RECP, 3.B	228	SY
RIP RAP, CLASS D	100	TONS
FIELDSTONE (IMPORTED)	73	TONS
FIELDSTONE (SALVAGED)	15	TONS

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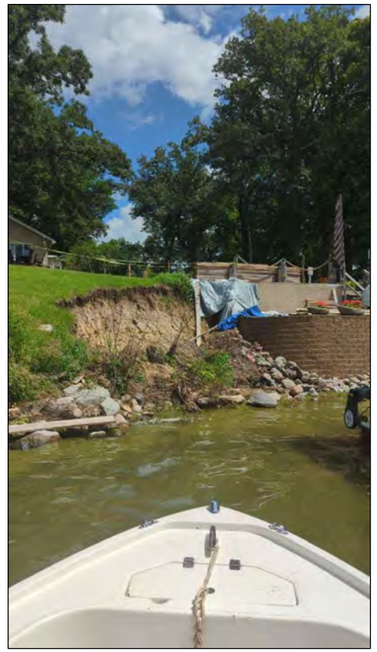
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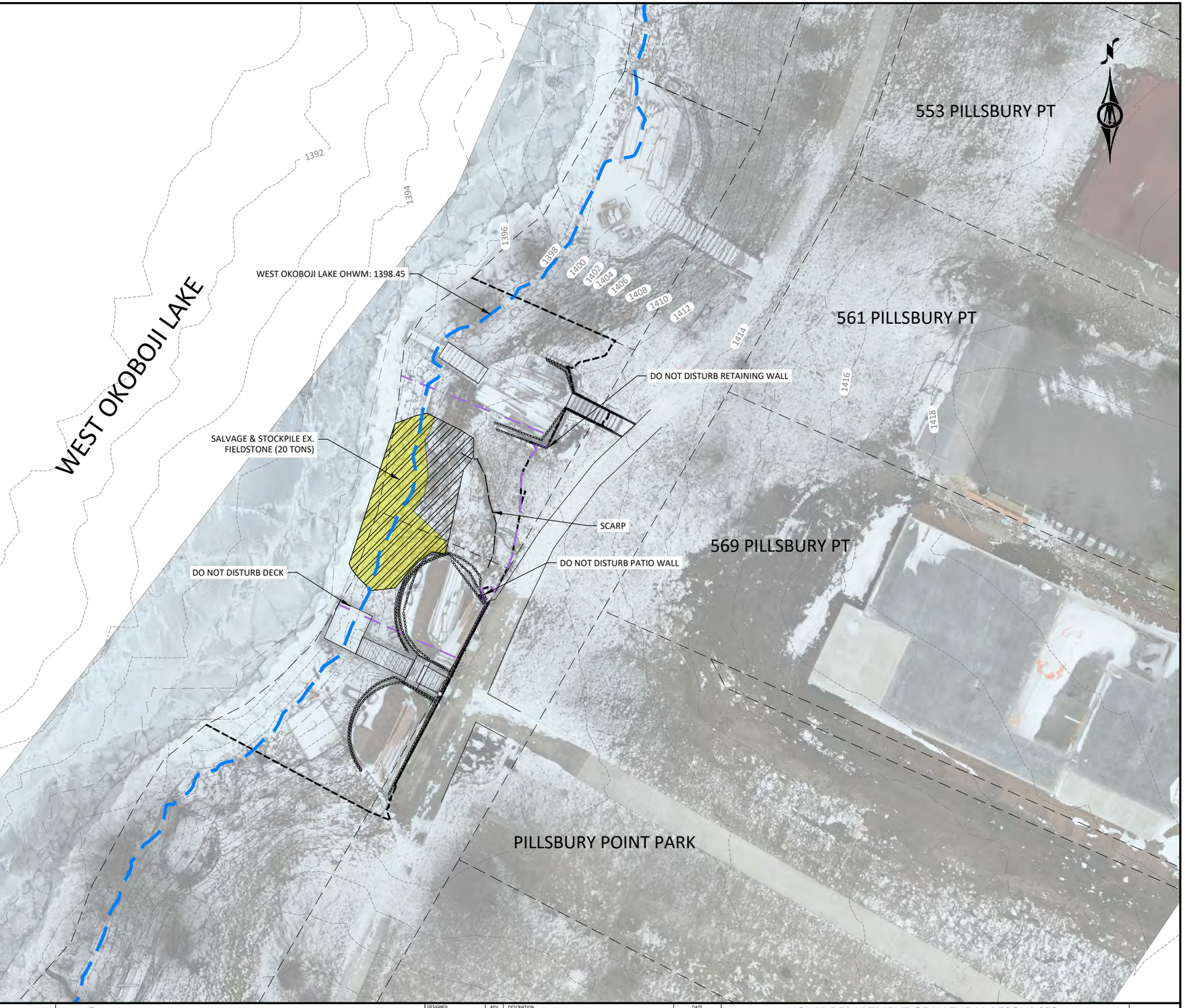
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GRADING AND STABILIZATION PLAN (SITE 18)

SHEET D.18.2





LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1411.00'.

HORZ. SCALE 0 10 20 FEET

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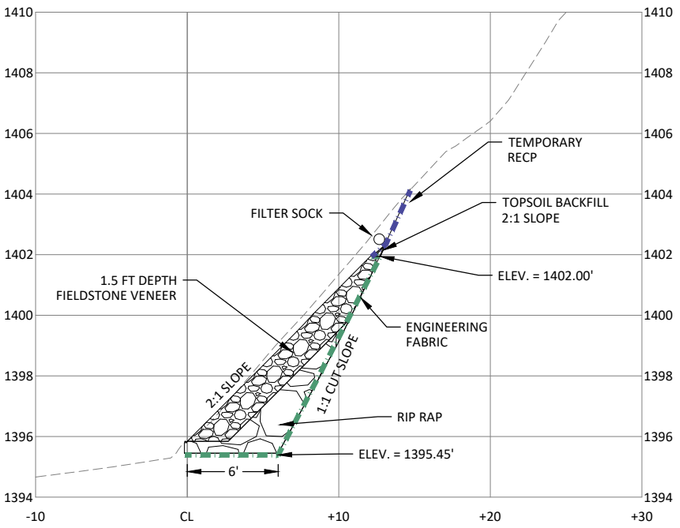
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IA GREAT LAKES SHORELINE STABILIZATION
EXISTING CONDITIONS AND REMOVALS PLAN (SITE 24)

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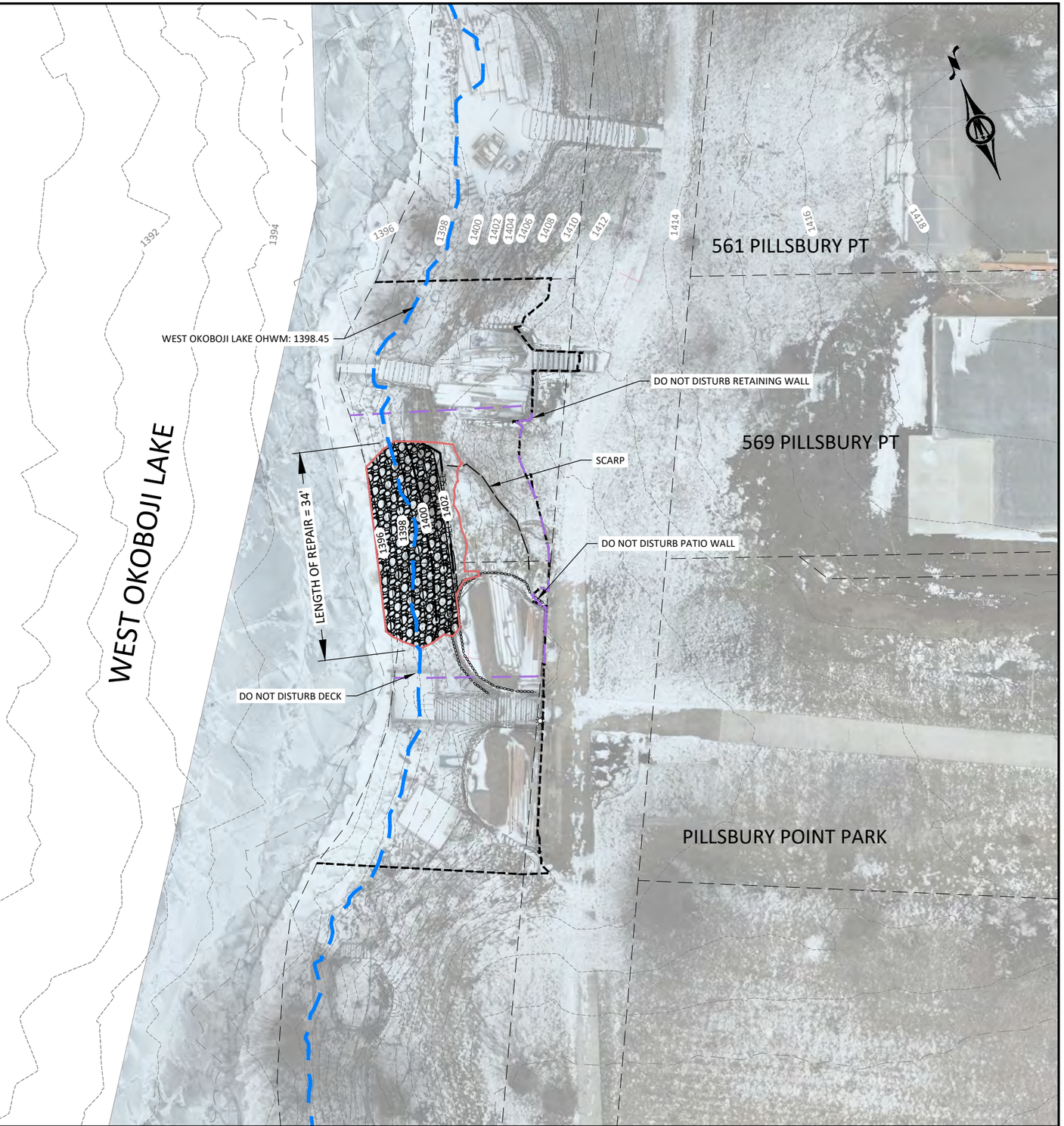
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A SITE 24 - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 0 2.5 5 SCALE FEET



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 24 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	1	CY
EXCAVATION, CLASS 13	34	CY
ENGINEERING FABRIC	86	SY
HYDRAULIC SEEDING	53	SY
FILTER SOCK, 9 INCH	33	LF
TEMPORARY RECP, 3.B	13	SY
RIP RAP, CLASS D	16	TONS
FIELDSTONE (IMPORTED)	4	TONS
FIELDSTONE (SALVAGED)	20	TONS

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1411.00'.

HORZ. 0 10 20 SCALE FEET

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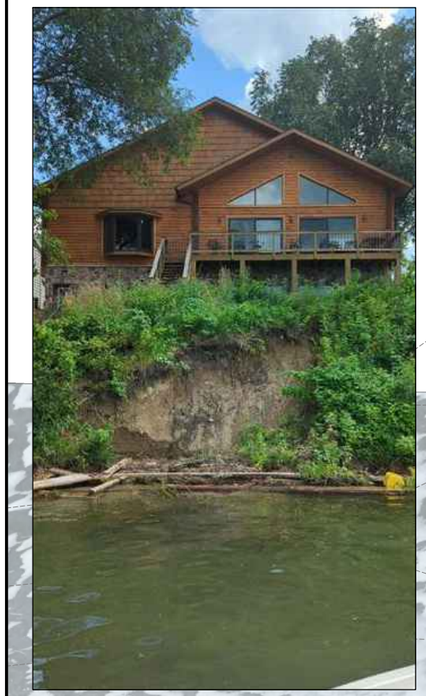
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WEST OKOBOJI LAKE

WEST OKOBOJI LAKE OHWM: 1398.45

SALVAGE AND STOCKPILE EX. FIELDSTONE (EST. 8 TONS)

REMOVE TREE

EDGE OF RIPRAP

SCARP

SCARP BREAK

DO NOT DISTURB BOAT HOUSE

DO NOT DISTURB STAIRS

1392
1394
1396
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1408
1410
1412
1414
1416

200 PARK PL

196 PARK PL

192 PARK PL

184 PARK PL

180 PARK PL

176 PARK PL

168 PARK PL

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1407.00'.

HORZ. SCALE 0 10 20 FEET

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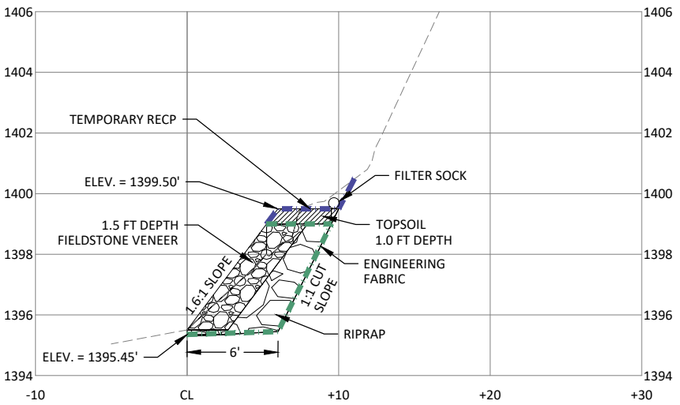
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 38)

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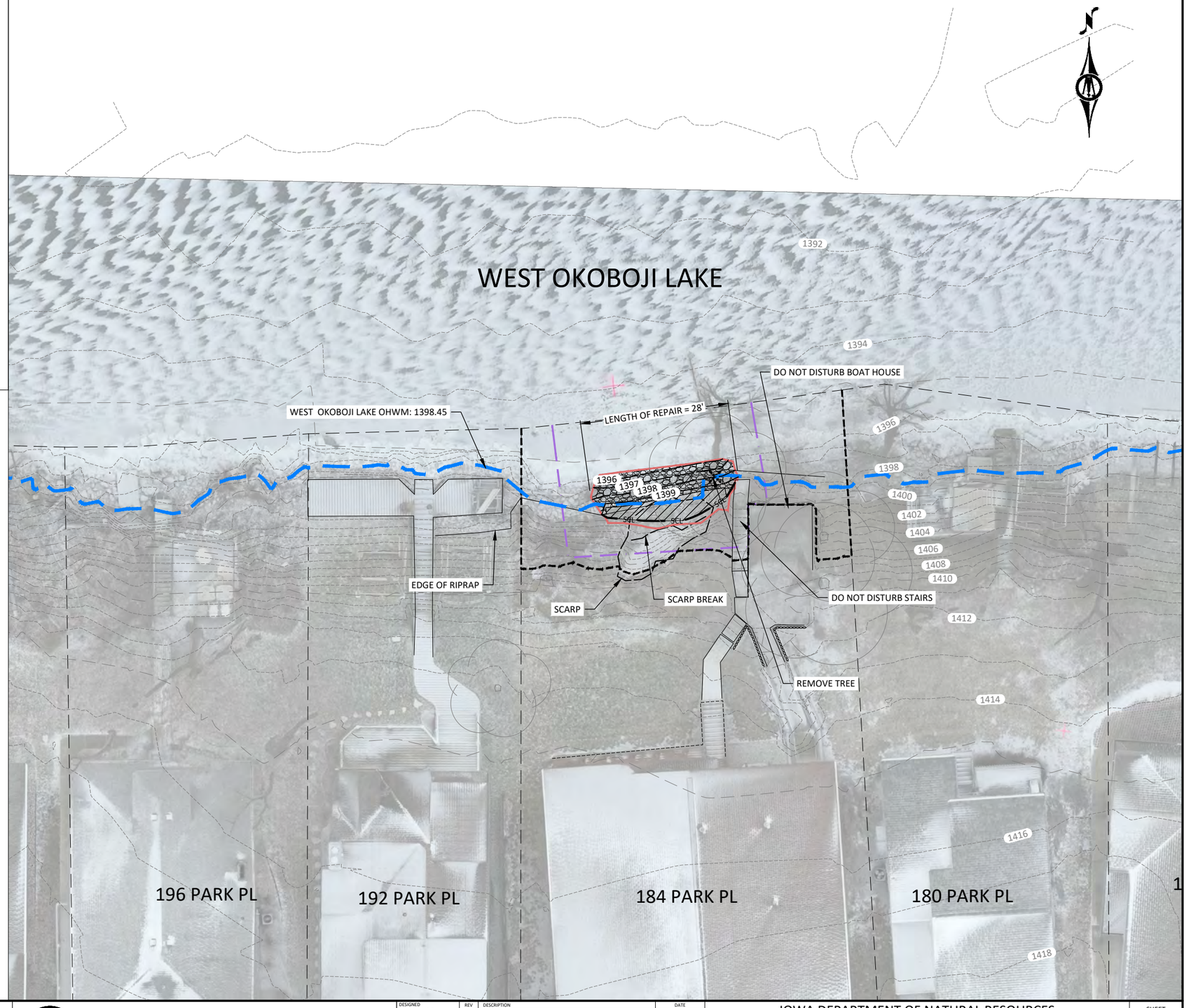
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A SITE 38 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 38 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	3	CY
EXCAVATION, CLASS 13	14	CY
ENGINEERING FABRIC	57	SY
HYDRAULIC SEEDING	44	SY
FILTER SOCK, 9 INCH	38	LF
TEMPORARY RECP, 3.B	12	SY
RIP RAP, CLASS D	9	TONS
FIELDSTONE (IMPORTED)	6	TONS
FIELDSTONE (SALVAGED)	8	TONS

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1407.00.

HORZ. SCALE 0 10 20 FEET

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SHEET D.38.2

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2201 FRANCIS SITES DR

2313 FRANCIS SITES DR

2325 FRANCIS SITES DR

EAST OKOBOJI LAKE

SALVAGE AND STOCKPILE EX. FIELDSTONE (EST. 8 TONS)

SCARP

TOE OF SLIDE

SLOPE BREAK

DO NOT DISTURB BLOCK RETAINING WALL (TYP.)

EAST OKOBOJI LAKE OHWM: 1398.45



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1407.00'.

HORZ. SCALE 0 10 20 FEET

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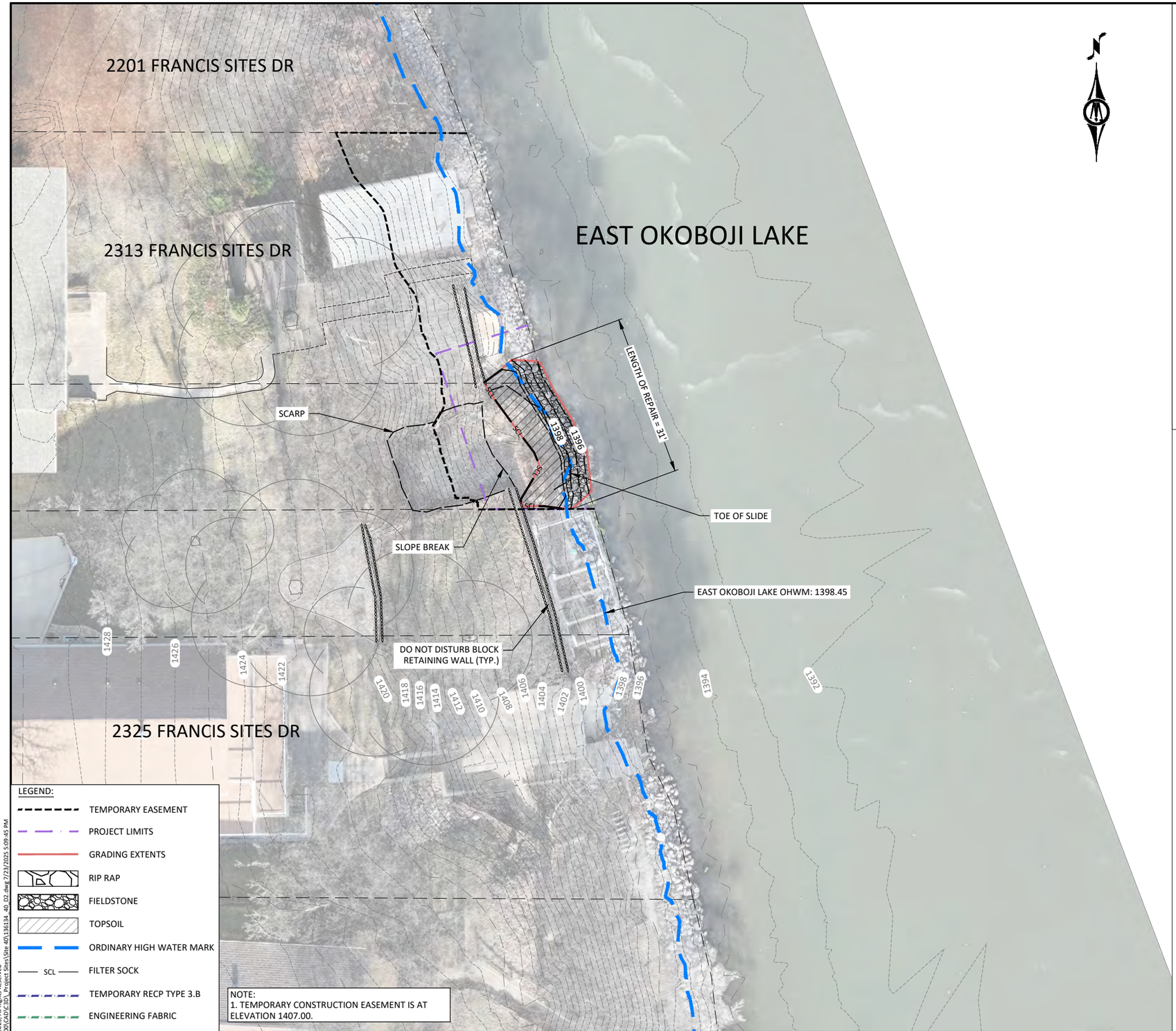
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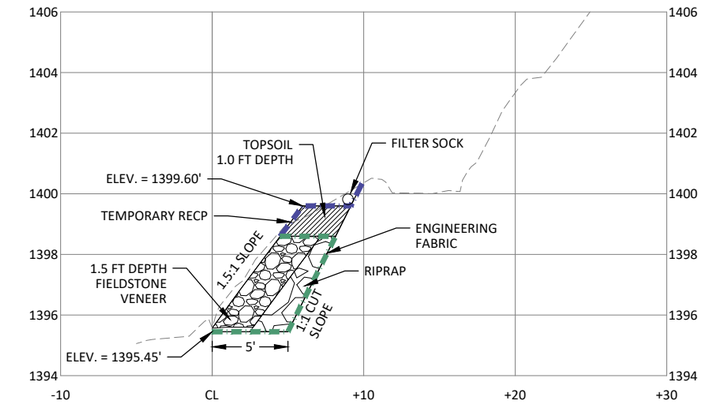
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A SITE 40 - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 0 2.5 5 SCALE FEET

SITE 40 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	4	CY
EXCAVATION, CLASS 13	20	CY
ENGINEERING FABRIC	42	SY
HYDRAULIC SEEDING	67	SY
FILTER SOCK, 9 INCH	40	LF
TEMPORARY RECP, 3.B	19	SY
RIP RAP, CLASS D	9	TONS
FIELDSTONE (IMPORTED)	4	TONS
FIELDSTONE (SALVAGED)	8	TONS

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IA GREAT LAKES SHORELINE STABILIZATION
GRADING AND STABILIZATION PLAN (SITE 40)

SHEET D.40.2

2409 FRANCIS SITES DR

2421 FRANCIS SITES DR

2427 FRANCIS SITES DR

EAST OKOBOJI LAKE

EAST OKOBOJI LAKE OHWM: 1398.45

DO NOT DISTURB TIMBER RETAINING WALL

DO NOT DISTURB STAIRS

DO NOT DISTURB TIMBER RETAINING WALL

DO NOT DISTURB STAIRS

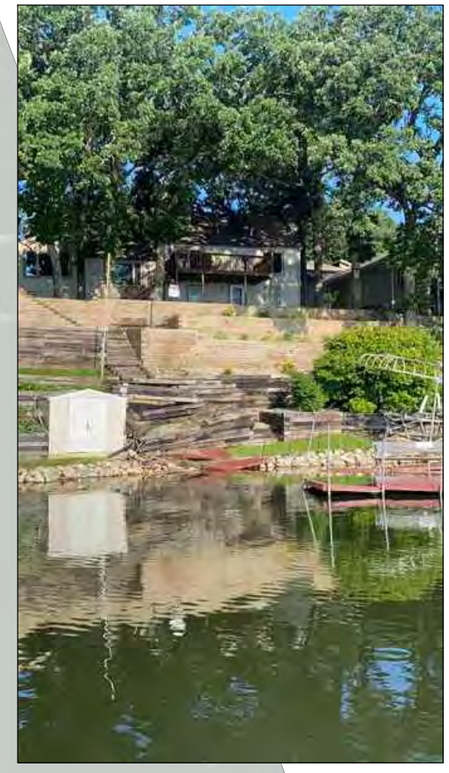
SCARP

DO NOT DISTURB TIMBER RETAINING WALL

SALVAGE AND STOCKPILE EX. FIELDSTONE (EST. 32 TONS)

BOTTOM OF SCARP

DO NOT DISTURB SHED



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1410.00'.

HORZ. SCALE 0 10 20 FEET

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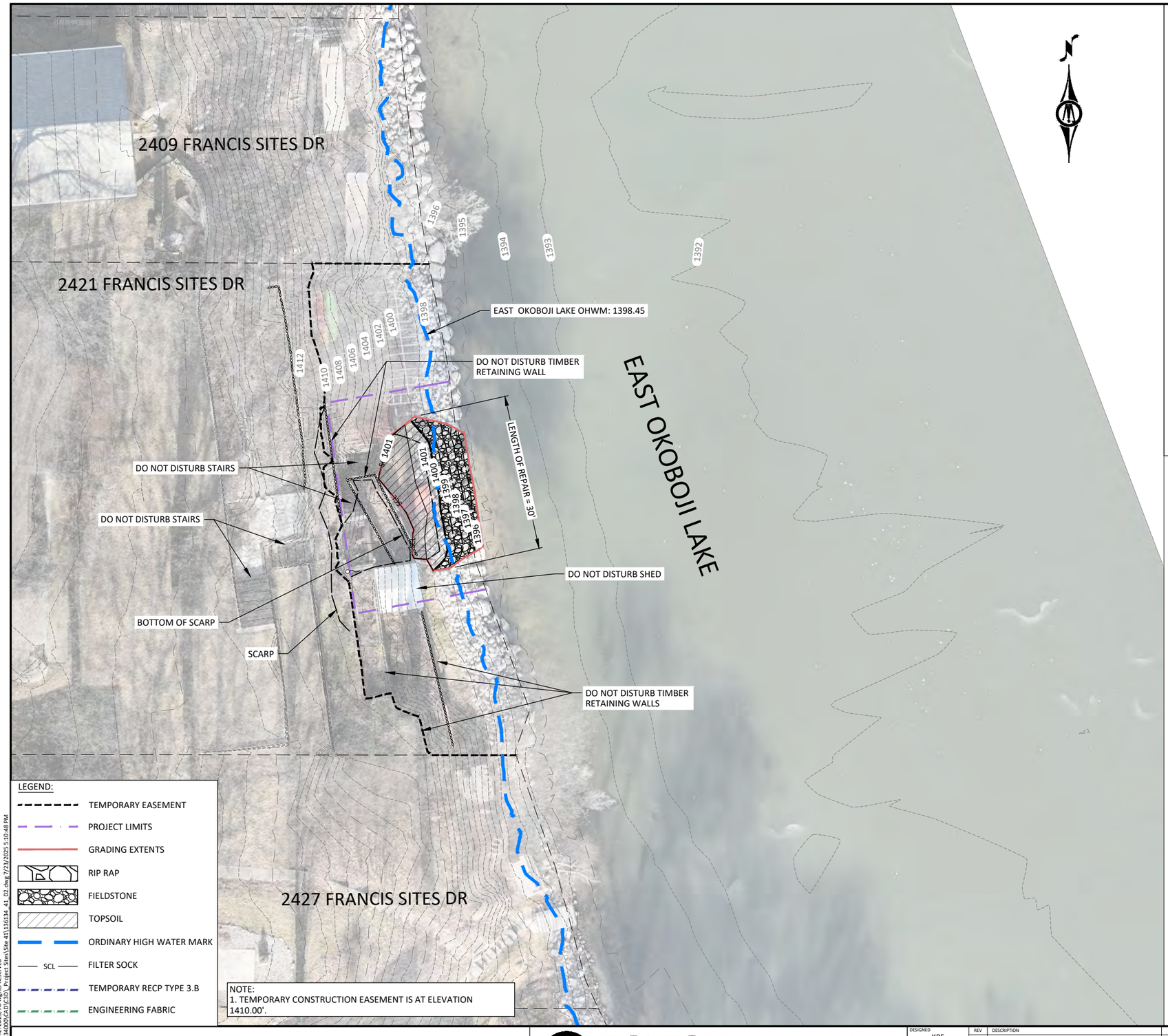
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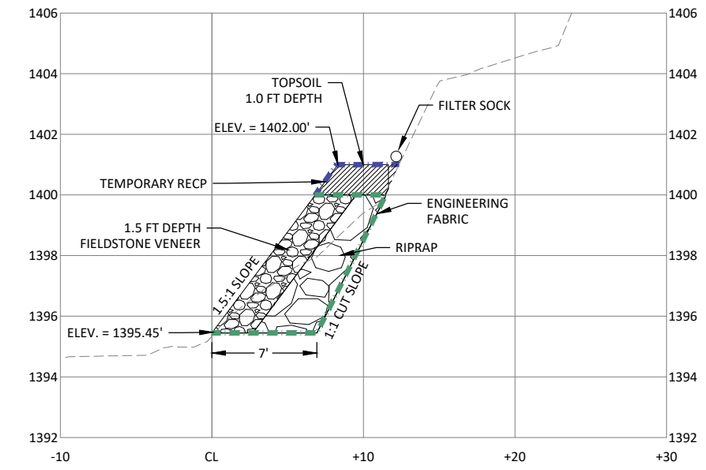
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IOWA DEPARTMENT OF NATURAL RESOURCES
IA GREAT LAKES SHORELINE STABILIZATION
EXISTING CONDITIONS AND REMOVALS PLAN (SITE 41)

SHEET D.41.1

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A SITE 41 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1410.00'.

HORZ. SCALE 0 10 20 FEET

SITE 41 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	5	CY
EXCAVATION, CLASS 13	28	CY
ENGINEERING FABRIC	54	SY
HYDRAULIC SEEDING	80	SY
FILTER SOCK, 9 INCH	34	LF
TEMPORARY RECP, 3.B	22	SY
RIP RAP, CLASS D	32	TONS
FIELDSTONE (IMPORTED)	2	TONS
FIELDSTONE (SALVAGED)	15	TONS

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IA GREAT LAKES SHORELINE STABILIZATION
GRADING AND STABILIZATION PLAN (SITE 41)

SHEET D.41.2

16618 255TH AVE

16620 255TH AVE

16632 255TH AVE

FAILURE BOUNDARY

DO NOT DISTURB STAIRS

REPAIR WORK IN PROCESS BY OTHERS

DO NOT DISTURB PATIO WALL

EAST OKOBOJI LAKE OHWM: 1398.45

SALVAGE & STOCKPILE EX. FIELDSTONE (EST. 10 TONS)

REMOVE STAIRS

DO NOT DISTURB EX. POST WITH ELECTRIC SERVICE

SCARP

EDGE OF EX. FIELDSTONE

EAST OKOBOJI LAKE

1432 1430 1428 1426 1424 1422 1420 1418 1416 1414 1412 1410 1408 1406 1404 1402 1400 1398 1396 1394 1392 1390



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1414.00'.

2. STAIRS AND METAL RAILING WITHIN CLEARING LIMITS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

3. CONCRETE STAIRS AND RAILINGS TO BE REPLACED BY OWNER.

HORZ. SCALE 0 10 20 FEET

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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 44)

SHEET D.44.1

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16618 255TH AVE

16620 255TH AVE

16632 255TH AVE

REPAIR WORK IN PROCESS BY OTHERS

DO NOT DISTURB STAIRS

EAST OKOBOJI LAKE OHWM: 1398.45

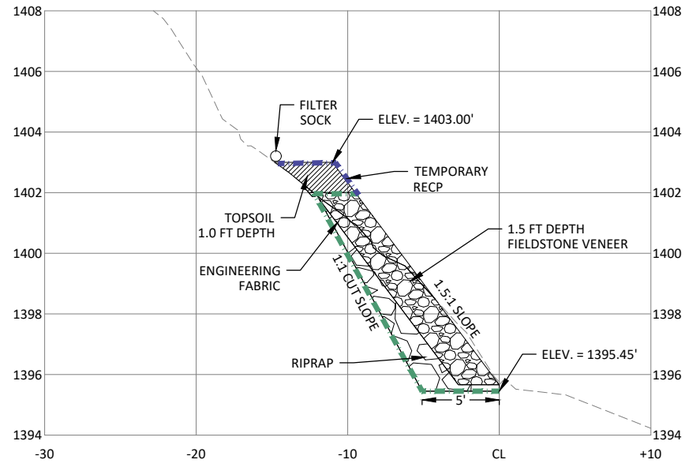
LENGTH OF REPAIR = 32'

REMOVE STAIRS

DO NOT DISTURB ELECTRICAL POLE

SCARP

EAST OKOBOJI LAKE



A SITE 44 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 2.5 5 FEET

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1414.00'.

2. STAIRS AND METAL RAILING WITHIN CLEARING LIMITS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

3. CONCRETE STAIRS AND RAILINGS TO BE REPLACED BY OWNER.

SITE 44 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	4	CY
EXCAVATION, CLASS 13	23	CY
ENGINEERING FABRIC	67	SY
HYDRAULIC SEEDING	50	SY
FILTER SOCK, 9 INCH	32	LF
TEMPORARY RECP, 3.B	20	SY
RIP RAP, CLASS D	15	TONS
FIELDSTONE (IMPORTED)	18	TONS
FIELDSTONE (SALVAGED)	10	TONS

HORZ. SCALE 0 10 20 FEET

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GRADING AND STABILIZATION PLAN (SITE 44)

SHEET D.44.2

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16688 255TH AVE

16692 255TH AVE

16696 255TH AVE

LESLIE PARK

EAST OKOBOJI LAKE

STORM STRUCTURE

TOP OF FAILURE

FAILURE BOUNDARY

DO NOT DISTURB STAIRS

EAST OKOBOJI LAKE OHWM: 1398.45

DO NOT DISTURB LIGHT POLE

DO NOT DISTURB STONE WALL

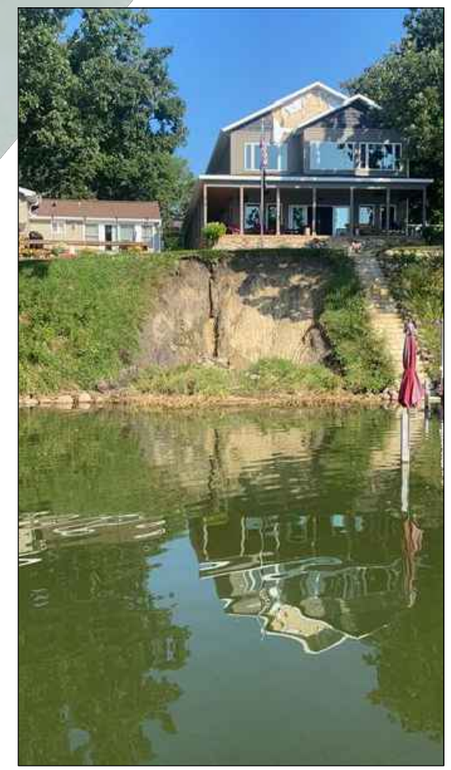
SALVAGE & STOCKPILE EX. FIELDSTONE (EST. 12 TONS)

SLOPE BREAK

DRAIN TILE OUTLET

DO NOT DISTURB STAIRS

EDGE OF RIPRAP



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1413.00'.

HORZ. SCALE 0 10 20 FEET

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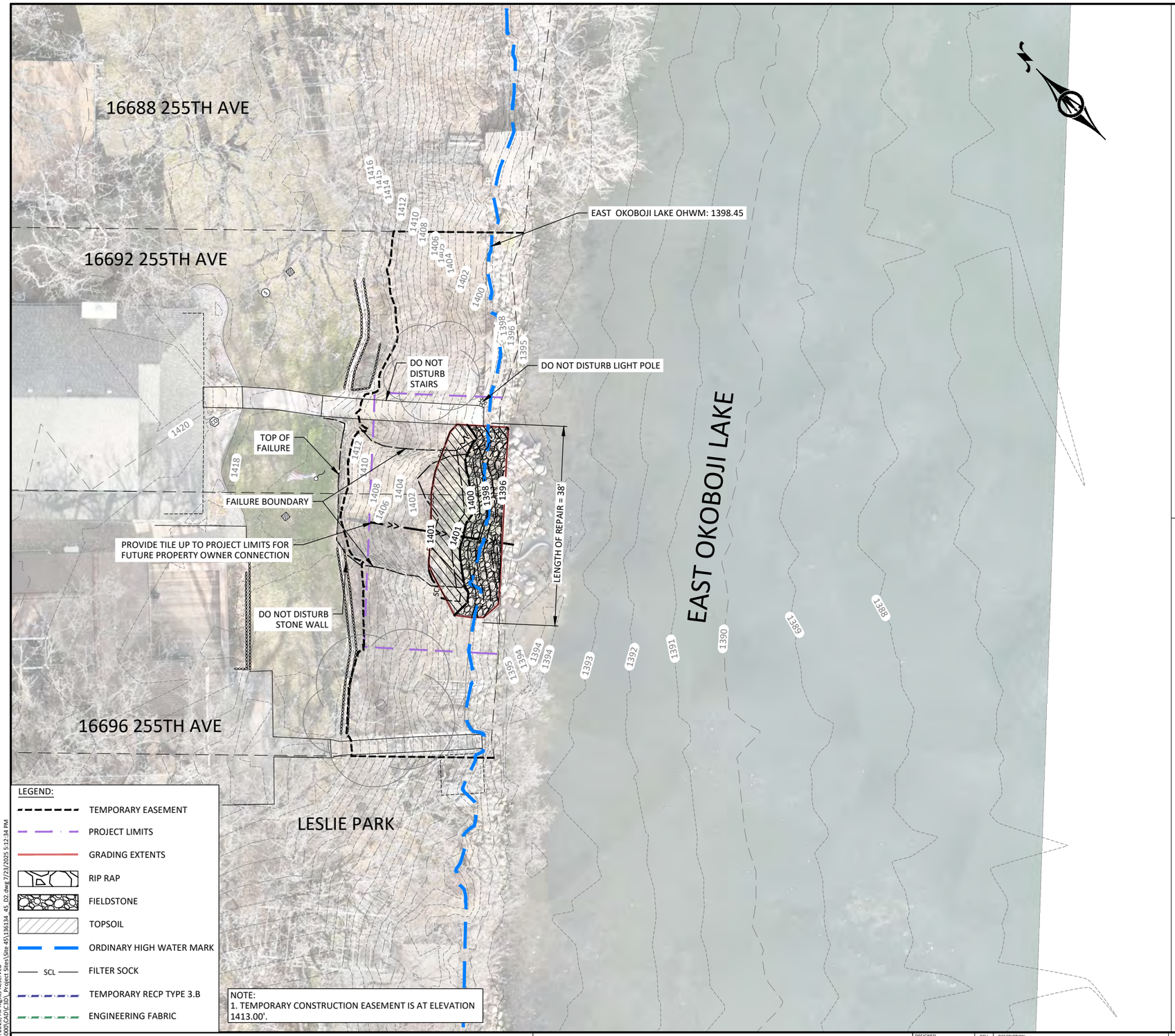
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IA GREAT LAKES SHORELINE STABILIZATION
EXISTING CONDITIONS AND REMOVALS PLAN (SITE 45)

SHEET D.45.1

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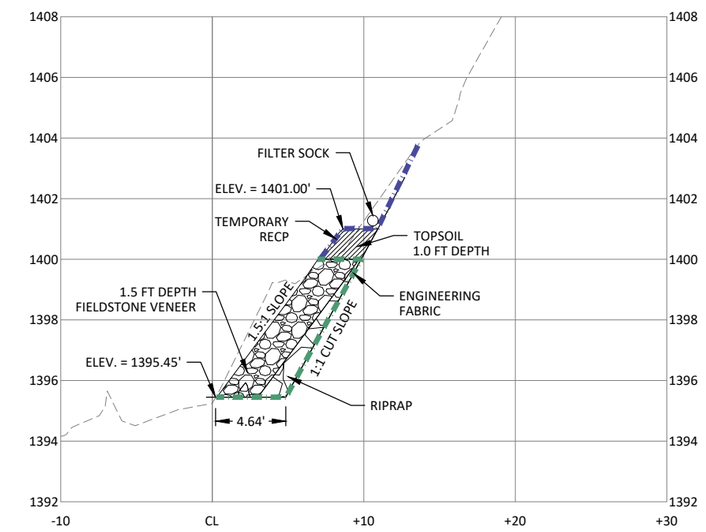


LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1413.00'.

HORZ. 0 10 20 SCALE FEET



A SITE 45 - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 0 2.5 5 SCALE FEET

SITE 45 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	5	CY
EXCAVATION, CLASS 13	35	CY
STORM SEWER, TRENCHED	28	LF
ENGINEERING FABRIC	80	SY
HYDRAULIC SEEDING	90	SY
FILTER SOCK, 9 INCH	40	LF
TEMPORARY RECP, 3.B	34	SY
RIP RAP, CLASS D	24	TONS
FIELDSTONE (IMPORTED)	9	TONS
FIELDSTONE (SALVAGED)	12	TONS

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IA GREAT LAKES SHORELINE STABILIZATION
GRADING AND STABILIZATION PLAN (SITE 45)

SHEET D.45.2

16800 255TH AVE

16804 255TH AVE

16806 255TH AVE

16808 255TH AVE

DO NOT DISTURB STAIRS

DO NOT DISTURB PATIO

EAST OKOBOJI LAKE OHWM: 1398.45

SCARP

DRAIN OUTLET

SCARP

DO NOT DISTURB TREES

DRAIN OUTLET

REMOVE STAIRS WITHIN CLEARING LIMIT

REMOVE TREE

EAST OKOBOJI LAKE



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1412.00' ON 16808 255TH AVE AND 16806 255TH AVE.

2. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1410.00' ON 16804 255TH AVE.

3. WOODEN STAIRS WITHIN CLEARING LIMITS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

4. WOODEN STAIRS TO BE REPLACED BY OWNER.

HORZ. SCALE 0 10 20 FEET

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IA GREAT LAKES SHORELINE STABILIZATION
EXISTING CONDITIONS AND REMOVALS PLAN (SITE 46)

SHEET D.46.1

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16800 255TH AVE

16804 255TH AVE

16806 255TH AVE

16808 255TH AVE

EAST OKOBOJI LAKE

DO NOT DISTURB STAIRS

DO NOT DISTURB PATIO

EAST OKOBOJI LAKE OHWM: 1398.45

PROVIDE TILE UP TO PROJECT LIMITS FOR FUTURE PROPERTY OWNER CONNECTION

DO NOT DISTURB TREES

PROVIDE TILE UP TO PROJECT LIMITS FOR FUTURE PROPERTY OWNER CONNECTION

REMOVE TREE

LENGTH OF REPAIR = 83'

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

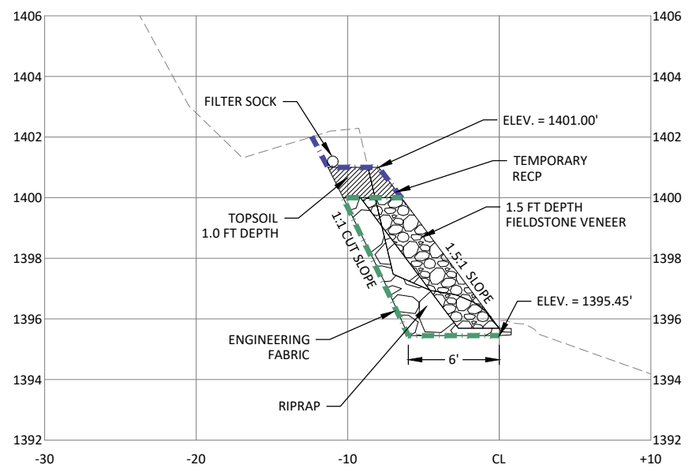
NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1412.00' ON 16808 255TH AVE AND 16806 255TH AVE.

2. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1410.00' ON 16804 255TH AVE.

3. WOODEN STAIRS WITHIN CLEARING LIMITS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

4. WOODEN STAIRS TO BE REPLACED BY OWNER.

HORZ. SCALE 0 10 20 FEET



A SITE 46 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET

SITE 46 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	18	CY
EXCAVATION, CLASS 13	41	CY
STORM SEWER, TRENCHED	39	LF
ENGINEERING FABRIC	154	SY
HYDRAULIC SEEDING	72	SY
FILTER SOCK, 9 INCH	90	LF
TEMPORARY RECP, 3.B	52	SY
RIP RAP, CLASS D	66	TONS
FIELDSTONE (IMPORTED)	56	TONS
FIELDSTONE (SALVAGED)	0	TONS

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IA GREAT LAKES SHORELINE STABILIZATION
GRADING AND STABILIZATION PLAN (SITE 46)

SHEET D.46.2

16782 255th AVE

255th AVE

16788 255th AVE

16792 255th AVE

1396 1398 1400 1402 1404 1406 1408 1410 1412 1414 1416 1418 1420 1422 1424 1426 1428 1430 1432 1434

REMOVE TREES

EAST OKOBOJI LAKE OHWM: 1398.45

SALVAGE & STOCKPILE EX. FIELDSTONE (18 TONS)

EAST OKOBOJI LAKE

SCARP

DO NOT DISTURB SIGN POST

DO NOT DISTURB WOODEN STAIRS



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1419.00'.

HORZ. 0 10 20 SCALE FEET

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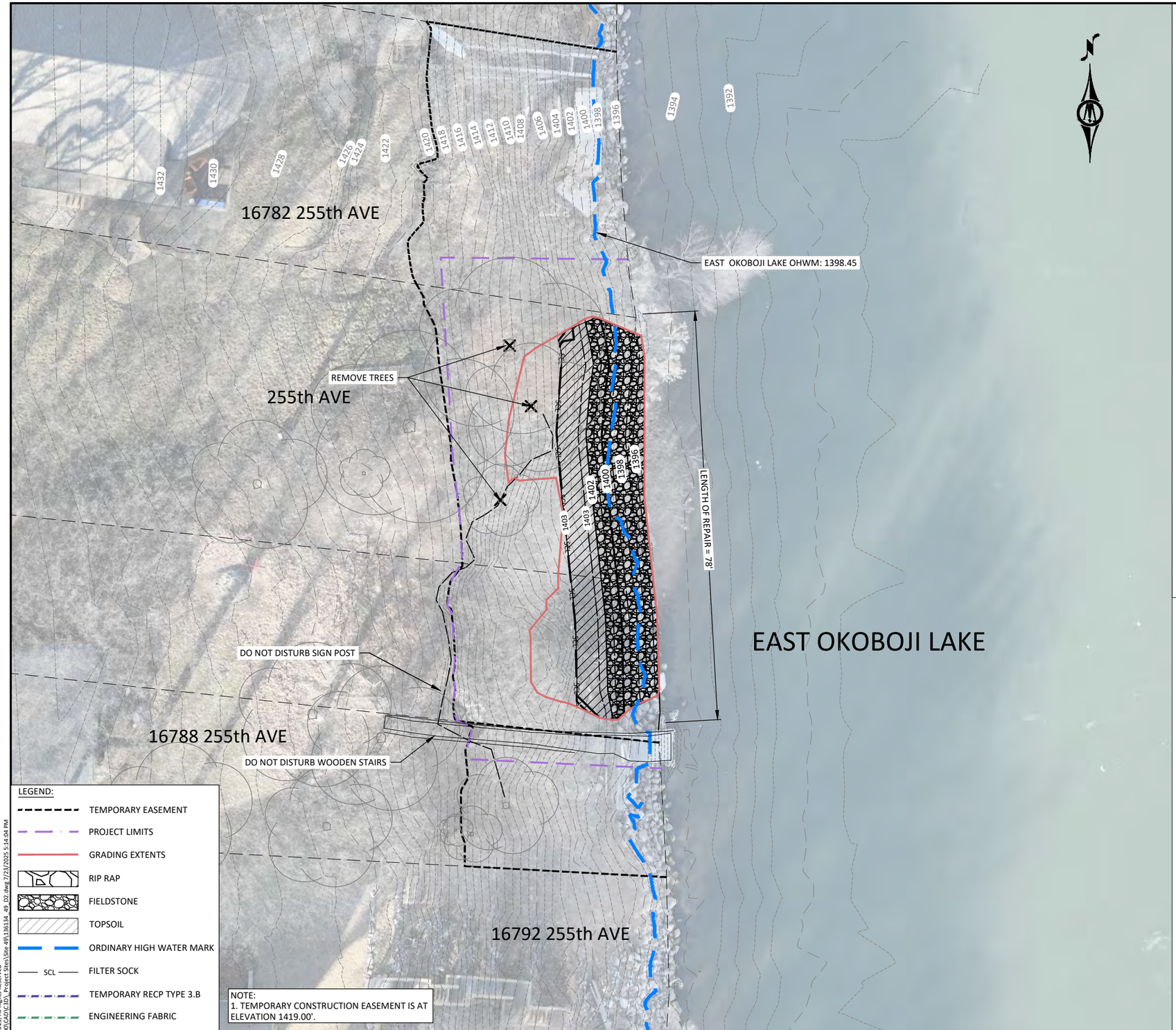
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 49)

SHEET D.49.1

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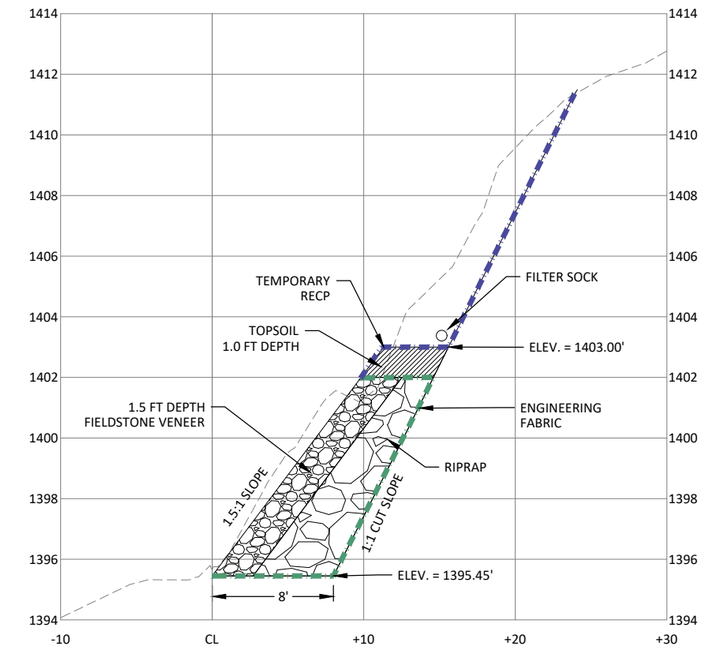


LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1419.00'.

HORZ. SCALE 0 10 20 FEET



A SITE 49 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET

SITE 49 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	12	CY
EXCAVATION, CLASS 13	150	CY
ENGINEERING FABRIC	193	SY
HYDRAULIC SEEDING	272	SY
FILTER SOCK, 9 INCH	72	LF
TEMPORARY RECP, 3.B	156	SY
RIP RAP, CLASS D	92	TONS
FIELDSTONE (IMPORTED)	40	TONS
FIELDSTONE (SALVAGED)	18	TONS

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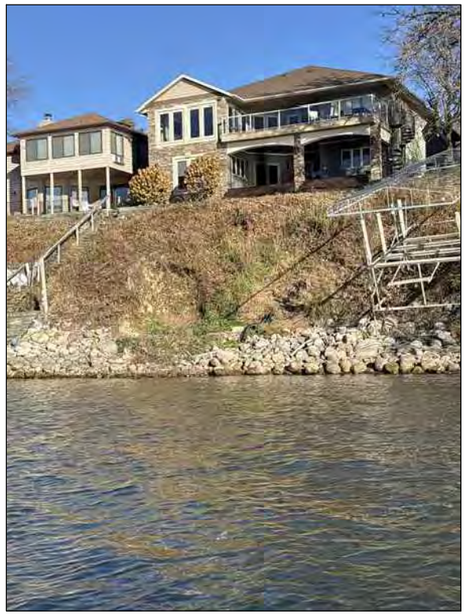
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GRADING AND STABILIZATION PLAN (SITE 49)

SHEET D.49.2



EAST OKOBOJI LAKE



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1411.00'.

HORZ. SCALE 0 10 20 FEET

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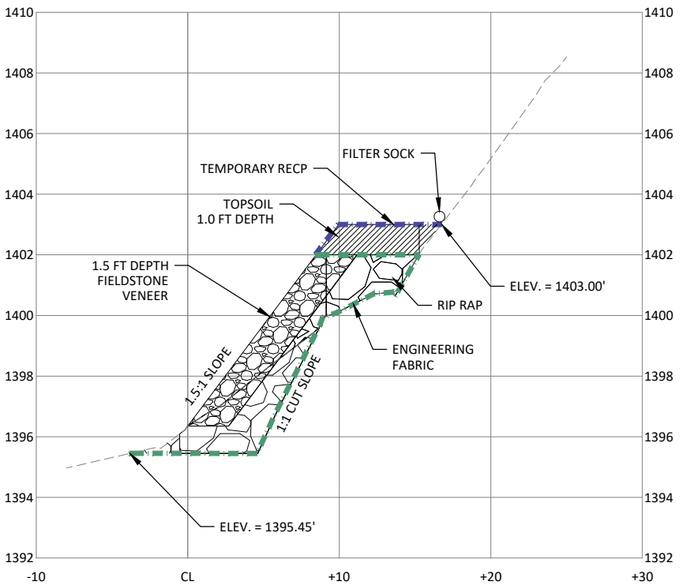
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 50)

SHEET D.50.1

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A SITE 50 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET

SITE 50 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	8	CY
EXCAVATION, CLASS 13	44	CY
ENGINEERING FABRIC	168	SY
HYDRAULIC SEEDING	230	SY
FILTER SOCK, 9 INCH	70	LF
TEMPORARY RECP, 3.B	44	SY
RIP RAP, CLASS D	54	TONS
FIELDSTONE (IMPORTED)	0	TONS
FIELDSTONE (SALVAGED)	52	TONS

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1411.00'.

2. THE TOTAL RIP RAP, CLASS D REQUIRED IS ESTIMATED TO BE 54 TONS, CONSISTING OF APPROXIMATELY 7 TONS OF SALVAGED FIELDSTONE AND 47 TONS OF IMPORTED RIP RAP, CLASS D.

3. THE TOTAL SALVAGED FIELDSTONE AVAILABLE IS ESTIMATED TO BE 52 TONS. THE TOTAL FIELDSTONE REQUIRED IS ESTIMATED TO BE 45 TONS, WHICH WILL BE ENTIRELY SUPPLIED FROM SALVAGED MATERIAL.

EAST OKOBOJI LAKE

16901 256TH AVENUE

16907 256TH AVENUE

16913 256TH AVENUE

16933 256TH AVENUE

EAST OKOBOJI LAKE OHWM: 1398.45

REMOVE LANDING, WOODEN STAIRS, AND TIMBER LANDSCAPE RETAINING WALL WITHIN CLEARING LIMITS

DO NOT DISTURB WOODEN STAIRS

PROTECT LIGHT POLE

TIMBER RETAINING WALL

LENGTH OF REPAIR = 62'

OUTLET EX. DRAIN TILE INTO RIP RAP (INCIDENTAL)

DO NOT DISTURB STAIRS

DO NOT DISTURB STAIRS

PROTECT ELECTRICAL OUTLET POST

HORZ. SCALE 0 10 20 FEET

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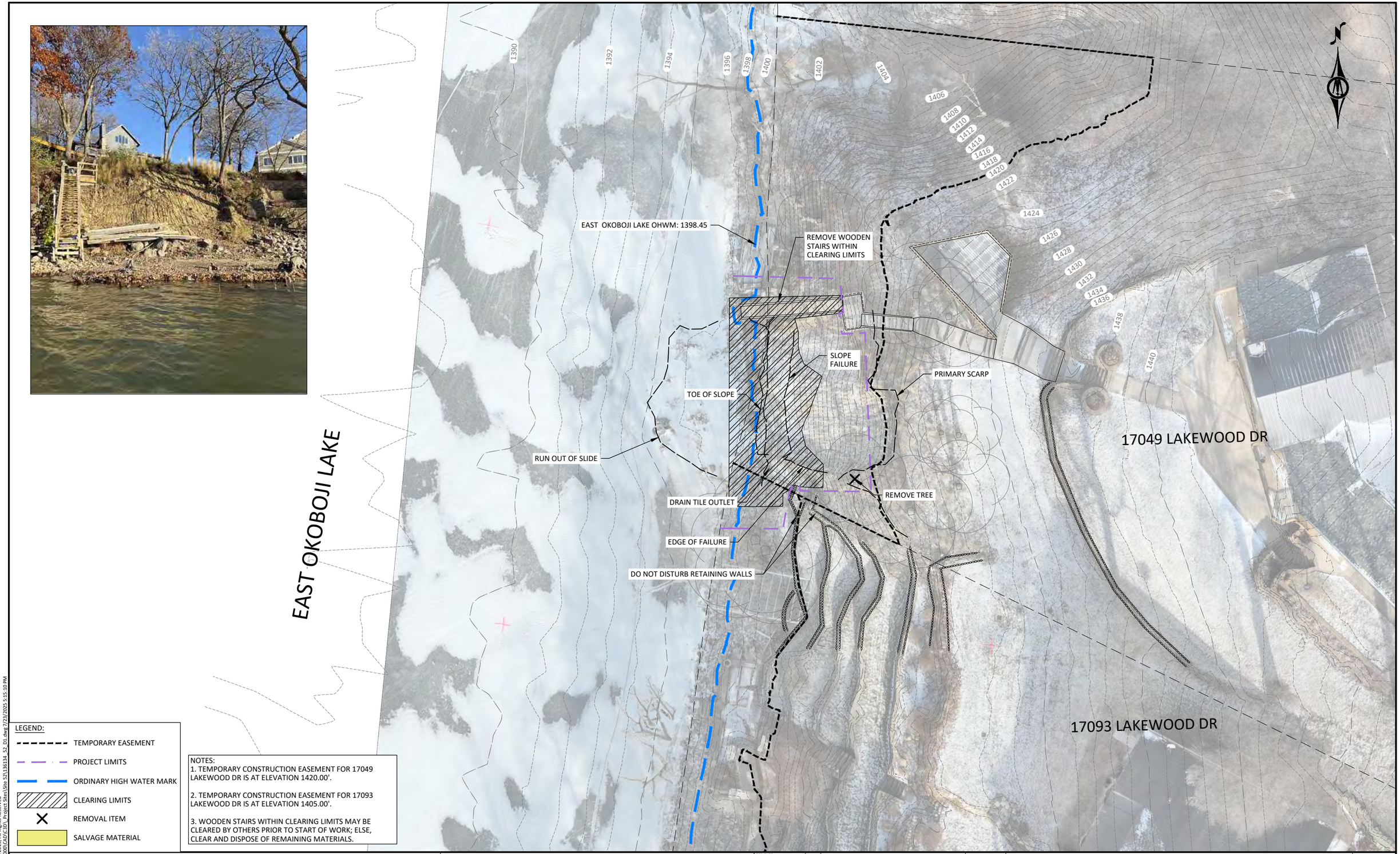
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IOWA DEPARTMENT OF NATURAL RESOURCES
IA GREAT LAKES SHORELINE STABILIZATION
GRADING AND STABILIZATION PLAN (SITE 50)

SHEET D.50.2

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LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT FOR 17049 LAKEWOOD DR IS AT ELEVATION 1420.00'.

2. TEMPORARY CONSTRUCTION EASEMENT FOR 17093 LAKEWOOD DR IS AT ELEVATION 1405.00'.

3. WOODEN STAIRS WITHIN CLEARING LIMITS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

HORZ. SCALE 0 10 20 FEET

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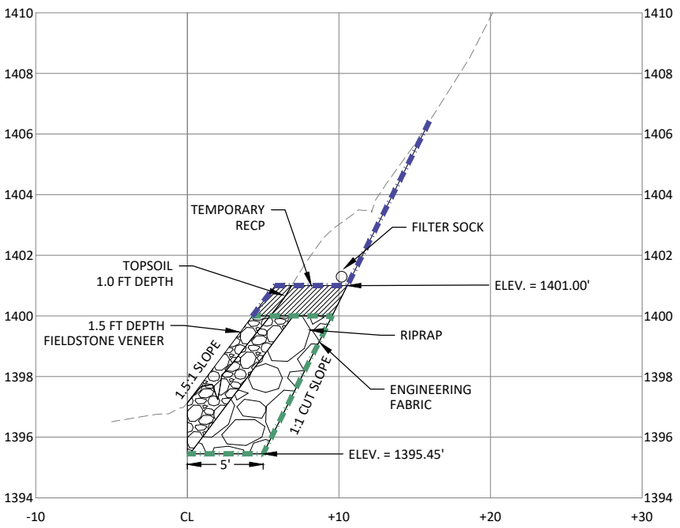
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REV	DESCRIPTION	DATE
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IA GREAT LAKES SHORELINE STABILIZATION
EXISTING CONDITIONS AND REMOVALS PLAN (SITE 52)

SHEET D.52.1

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A SITE 52 - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 0 2.5 5 SCALE FEET

SITE 52 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	8	CY
EXCAVATION, CLASS 13	53	CY
ENGINEERING FABRIC	88	SY
HYDRAULIC SEEDING	133	SY
FILTER SOCK, 9 INCH	24	LF
TEMPORARY RECP, 3.B	75	SY
RIP RAP, CLASS D	37	TONS
FIELDSTONE (IMPORTED)	25	TONS
FIELDSTONE (SALVAGED)	0	TONS

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT FOR 17049 LAKEWOOD DR IS AT ELEVATION 1420.00'.

2. TEMPORARY CONSTRUCTION EASEMENT FOR 17093 LAKEWOOD DR IS AT ELEVATION 1405.00'.

EAST OKOBOJI LAKE

EAST OKOBOJI LAKE OHWM: 1398.45

REMOVE LOWER WOODEN STAIRS

DO NOT DISTURB UPPER WOODEN STAIRS

LENGTH OF REPAIR = 47'

OUTLET EX. DRAIN TILE INTO RIPRAP AT 1400' (INCIDENTAL)

PROTECT RETAINING WALLS

17049 LAKEWOOD DR

17093 LAKEWOOD DR

HORZ. 0 10 20 SCALE FEET

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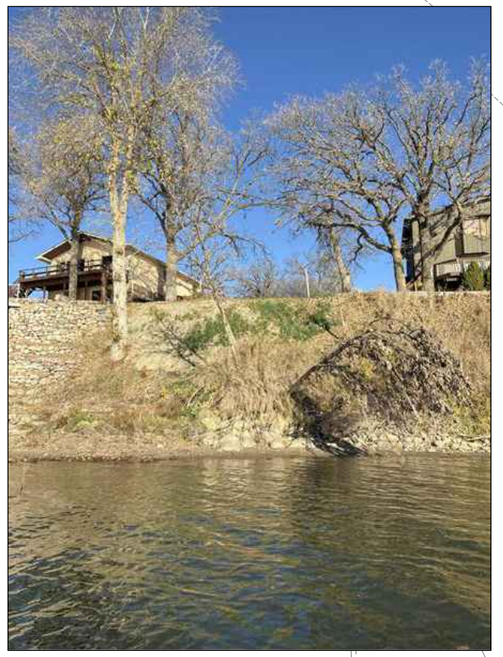
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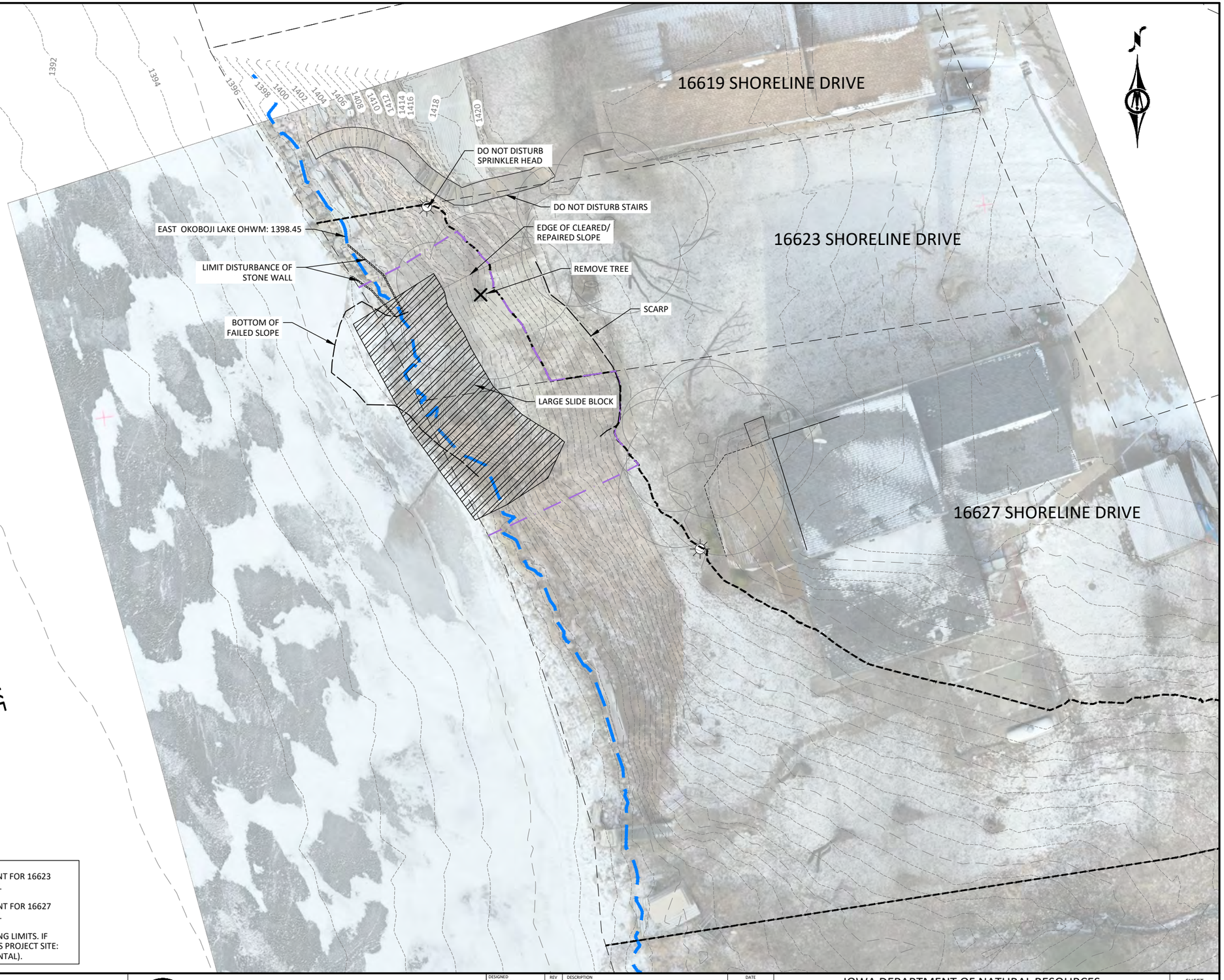
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IA GREAT LAKES SHORELINE STABILIZATION
GRADING AND STABILIZATION PLAN (SITE 52)

SHEET D.52.2

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LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT FOR 16623 SHORELINE DR IS AT ELEVATION 1411.00'.

2. TEMPORARY CONSTRUCTION EASEMENT FOR 16627 SHORELINE DR IS AT ELEVATION 1419.00'.

3. REMOVE STONE WALL WITHIN CLEARING LIMITS. IF ACCEPTABLE MATERIAL, USE WITHIN THIS PROJECT SITE: ELSE SALVAGE TO HOMEOWNER (INCIDENTAL).

HORZ. SCALE 0 10 20 FEET

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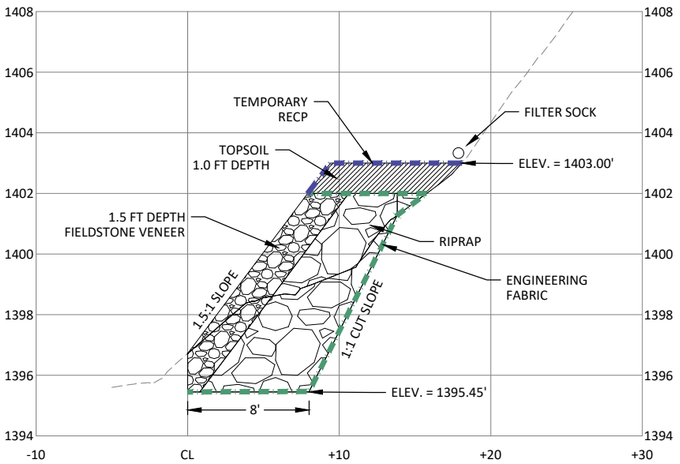
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 55)

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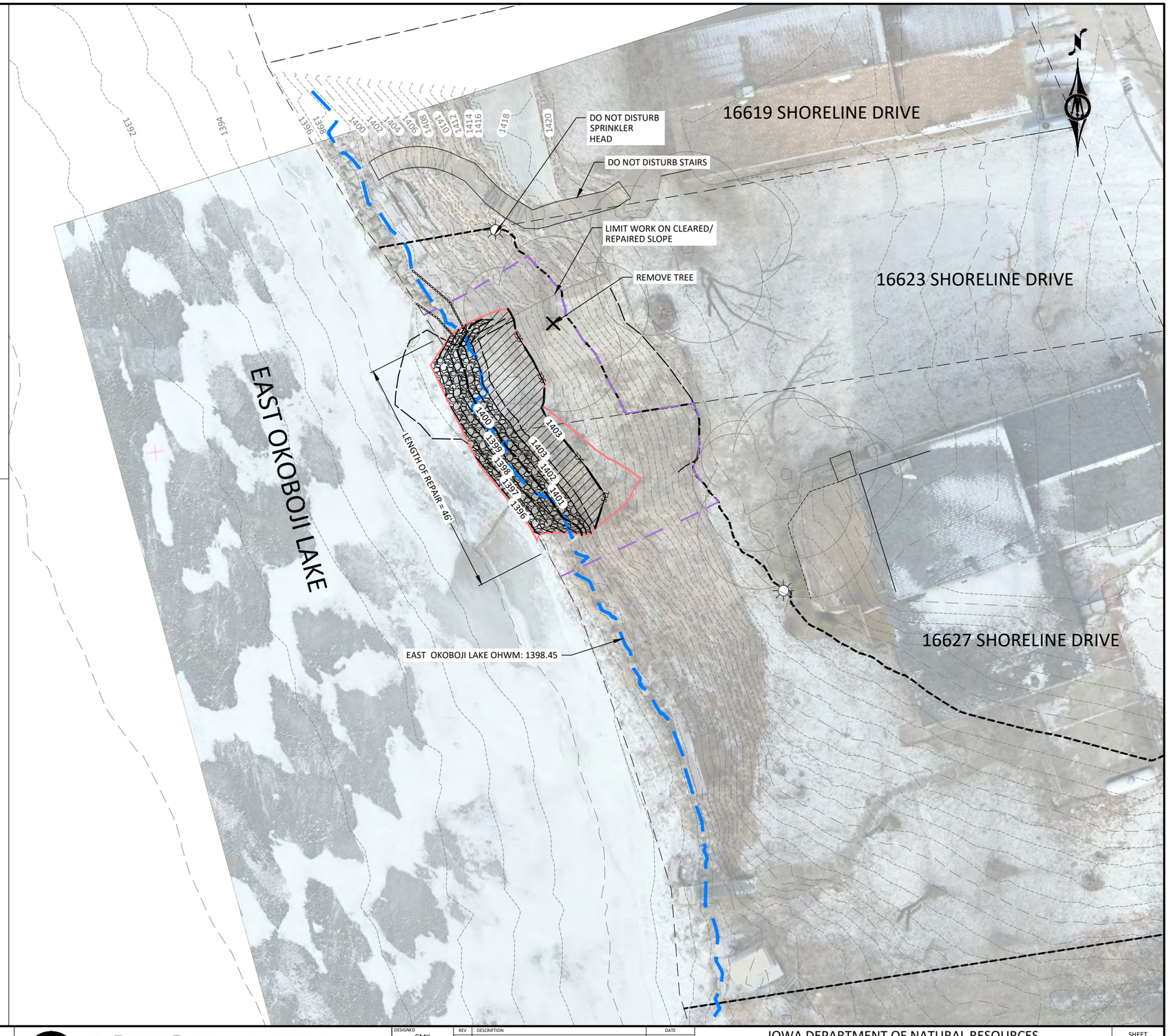
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A SITE 55 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 55 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	8	CY
EXCAVATION, CLASS 13	71	CY
ENGINEERING FABRIC	133	SY
HYDRAULIC SEEDING	126	SY
FILTER SOCK, 9 INCH	58	LF
TEMPORARY RECP, 3.B	54	SY
RIP RAP, CLASS D	63	TONS
FIELDSTONE (IMPORTED)	33	TONS
FIELDSTONE (SALVAGED)	0	TONS

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT FOR 16623 SHORELINE DR IS AT ELEVATION 1411.00'.

2. TEMPORARY CONSTRUCTION EASEMENT FOR 16627 SHORELINE DR IS AT ELEVATION 1419.00'.

HORZ. SCALE 0 10 20 FEET

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GRADING AND STABILIZATION PLAN (SITE 55)

SHEET D.55.2

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EAST OKOBOJI LAKE

1390
1392
1394
1396
1398
1400
1402
1404
1406
1408
1410
1412

EAST OKOBOJI LAKE OHWM: 1398.45

DO NOT DISTURB STAIRS

SCARP

REMOVE STONE RETAINING WALL FAILURE

DO NOT DISTURB STONE RETAINING WALL (TYP.)

SALVAGE & STOCKPILE
EX. FIELDSTONE (12 TONS)

DO NOT DISTURB ELECTRIC OUTLET POST

DO NOT DISTURB TREE

DO NOT DISTURB TREE

EDGE OF EX.
FIELDSTONE

24336 182ND ST

24320 182ND ST

24310 182ND ST

24306 182ND ST

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1408.00'.

2. FAILED RETAINING WALL MATERIALS MAY BE SALVAGED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

HORZ. 0 10 20
SCALE FEET

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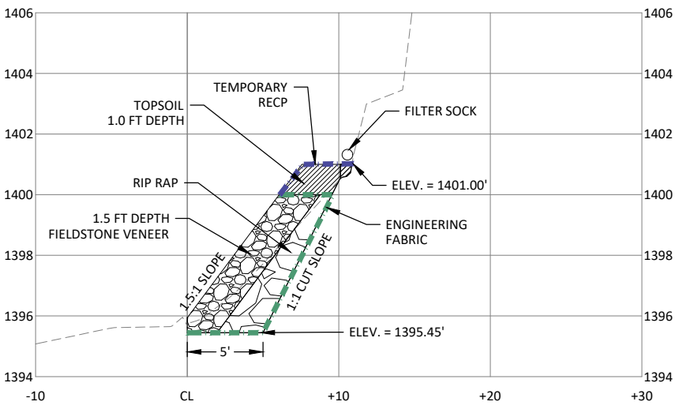
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IA GREAT LAKES SHORELINE STABILIZATION
EXISTING CONDITIONS AND REMOVALS PLAN (SITE 56)

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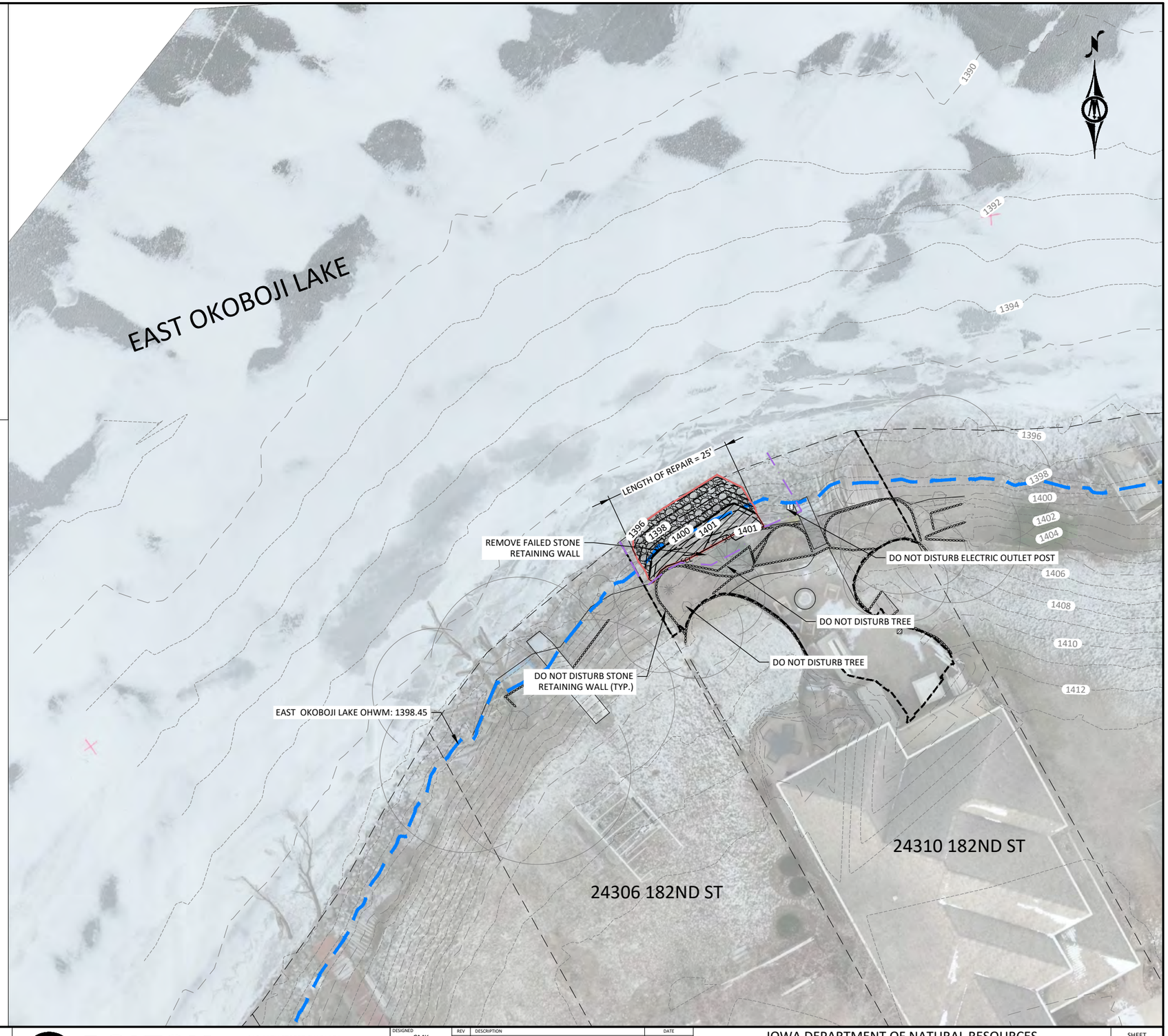
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A SITE 56 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET



SITE 56 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	3	CY
EXCAVATION, CLASS 13	8	CY
ENGINEERING FABRIC	41	SY
HYDRAULIC SEEDING	21	SY
FILTER SOCK, 9 INCH	25	LF
TEMPORARY RECP, 3.B	14	SY
RIP RAP, CLASS D	10	TONS
FIELDSTONE (IMPORTED)	3	TONS
FIELDSTONE (SALVAGED)	12	TONS

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1408.00'.

2. FAILED RETAINING WALL MATERIALS MAY BE SALVAGED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

HORZ. SCALE 0 10 20 FEET

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GRADING AND STABILIZATION PLAN (SITE 56)

SHEET D.56.2

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EAST OKOBOJI LAKE

1392

1394

SALVAGE & STOCKPILE
EX. FIELDSTONE
(11 TONS)

DO NOT DISTURB DECK

REMOVE FAILED WOOD
RETAINING WALL MATERIALS

EAST OKOBOJI LAKE OHWM: 1398.45

DO NOT DISTURB STAIRS

1396

1398

1400

1402

1404

SCARP

DO NOT DISTURB WOOD RETAINING WALL

1406

DO NOT DISTURB WOOD RETAINING WALL

LEAVE TREE STUMP

DO NOT DISTURB TREE

DO NOT DISTURB TREE

1408

24040 KELLEY'S BEACH DR

1410

24046 KELLEY'S BEACH DR

24050 KELLEY'S BEACH DR

24054 KELLEY'S BEACH DR

24060 KELLEY'S BEACH DR

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1407.75'.

2. FAILED RETAINING WALL MATERIALS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

HORZ. 0 10 20
SCALE FEET

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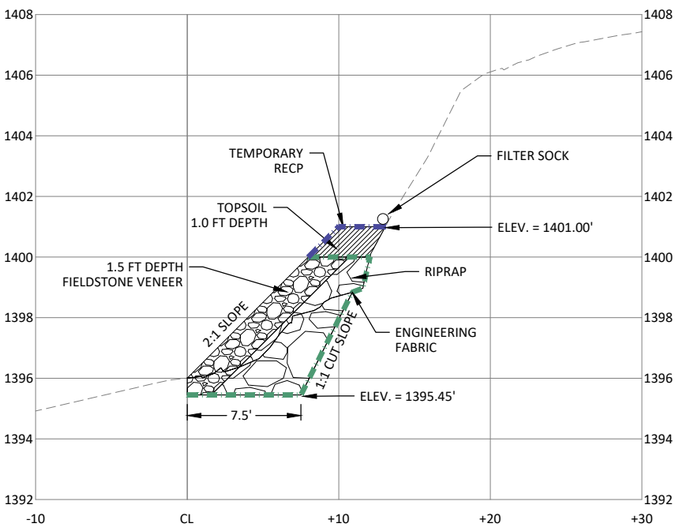
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 58)

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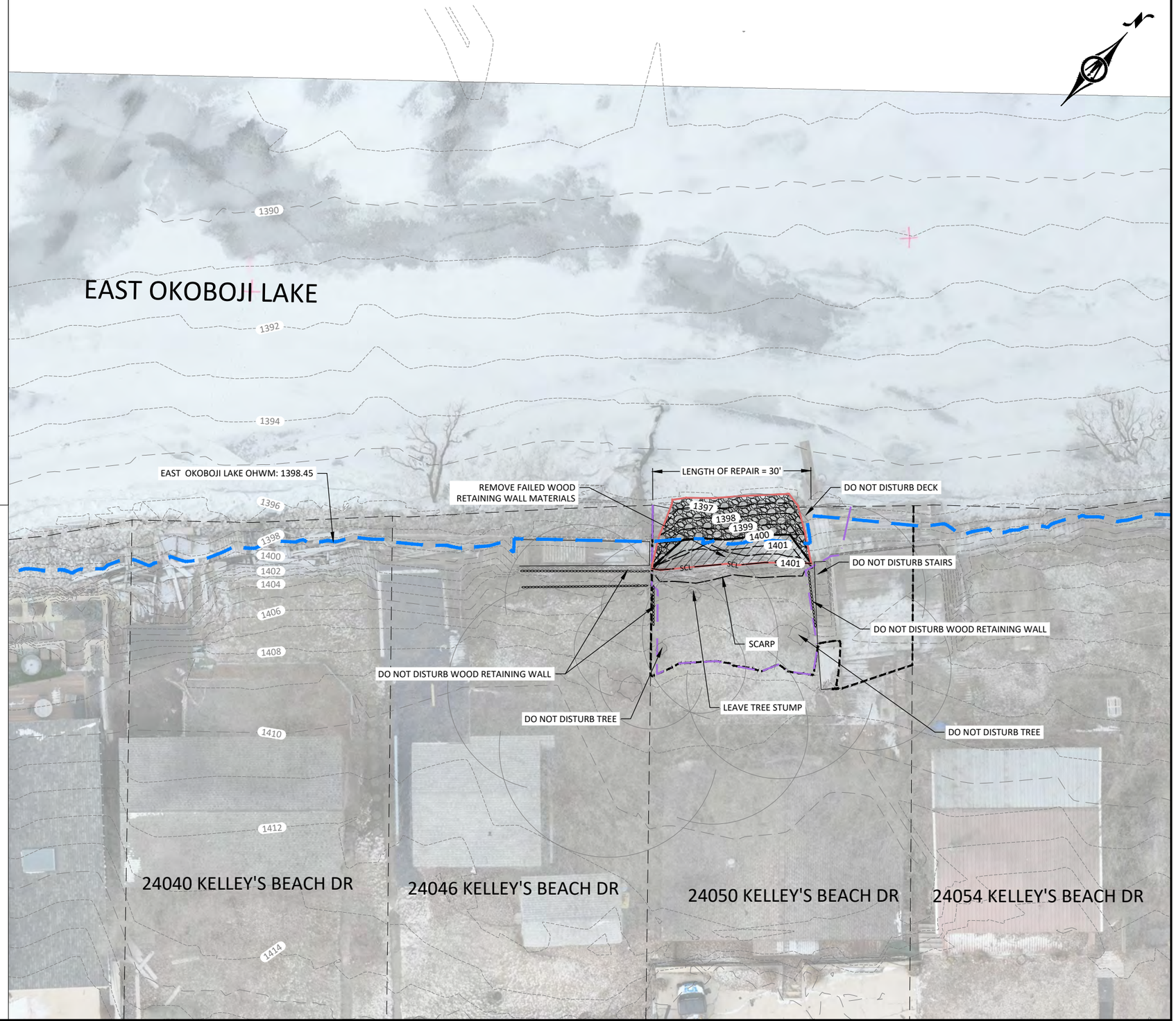
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A SITE 58 - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 0 2.5 5 SCALE FEET



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 58 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	4	CY
EXCAVATION, CLASS 13	12	CY
ENGINEERING FABRIC	61	SY
HYDRAULIC SEEDING	79	SY
FILTER SOCK, 9 INCH	7	LF
TEMPORARY RECP, 3.B	18	SY
RIP RAP, CLASS D	23	TONS
FIELDSTONE (IMPORTED)	5	TONS
FIELDSTONE (SALVAGED)	11	TONS

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1407.75'.

2. FAILED RETAINING WALL MATERIALS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

HORZ. 0 10 20 SCALE FEET

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GRADING AND STABILIZATION PLAN (SITE 58)

SHEET D.58.2

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EAST OKOBOJI LAKE

SALVAGE & STOCKPILE EX. FIELDSTONE (1 TON)

EAST OKOBOJI LAKE OHWM: 1398.45

DO NOT DISTURB TREE STUMPS

DO NOT DISTURB TREE STUMP

SCARP

REMOVE TREE STUMP

DO NOT DISTURB TREE STUMP

EXISTING DRAIN TILE OUTLETS

570 LINDEN DRIVE

1390 1392 1394 1396 1398 1400 1402 1404 1406 1408 1410 1412 1414 1416 1418 1420

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1414.00'.

HORZ. SCALE 0 10 20 FEET

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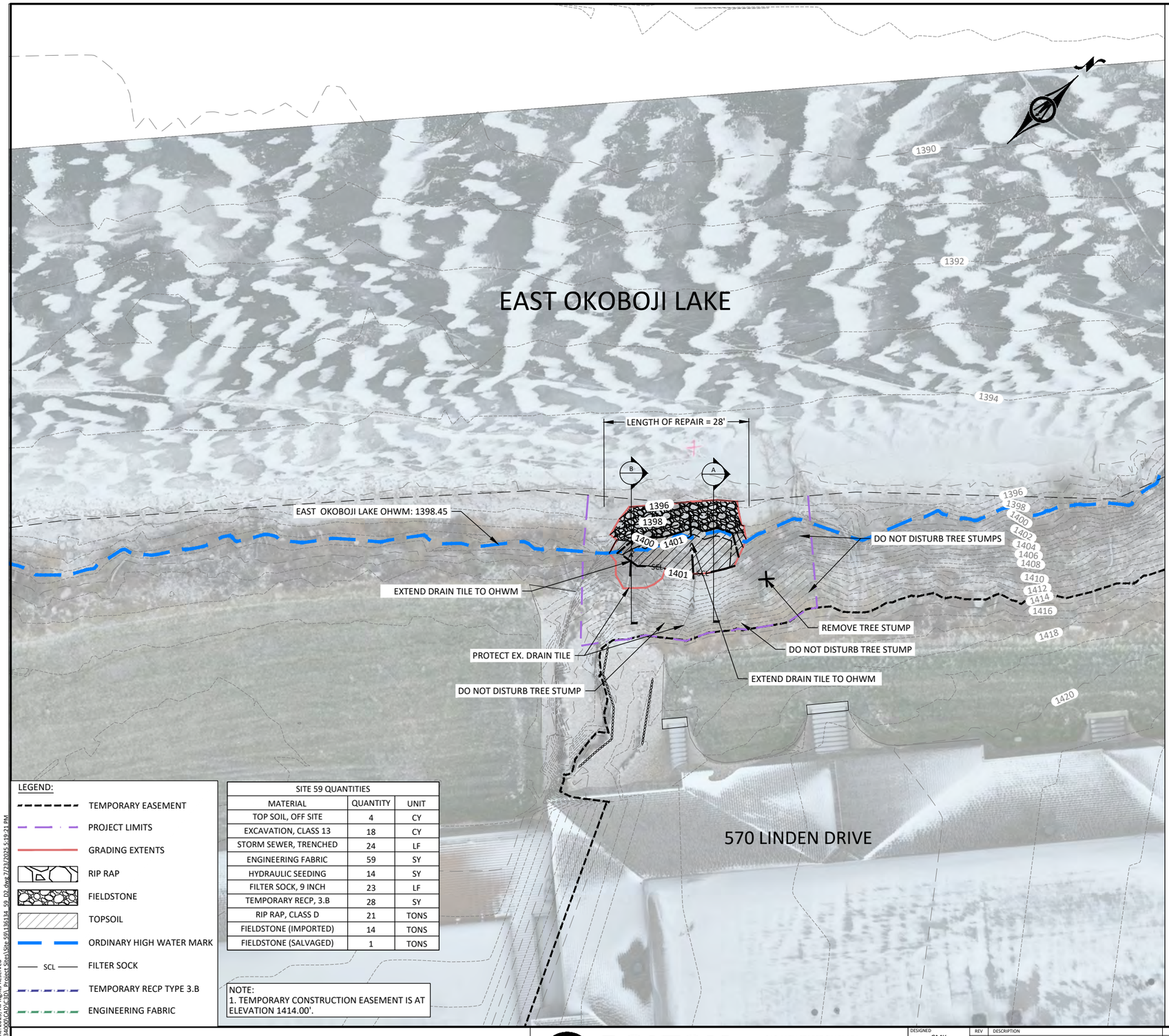
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 59)

SHEET D.59.1

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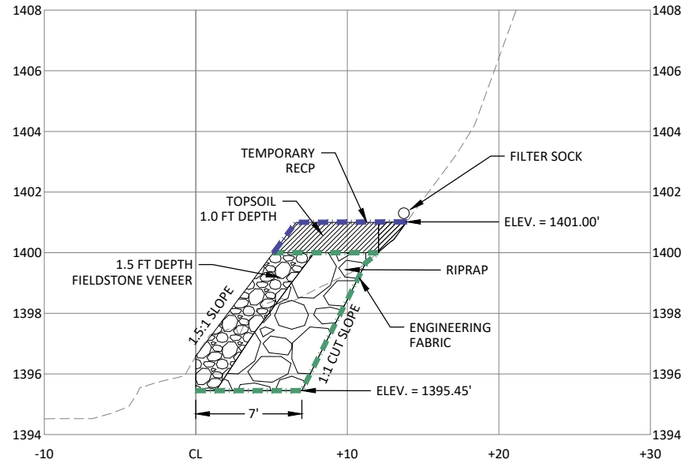


LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

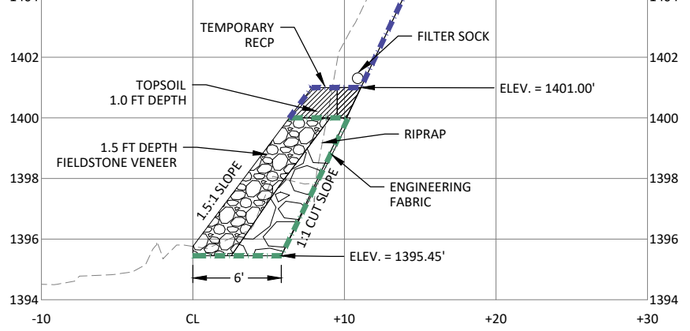
SITE 59 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	4	CY
EXCAVATION, CLASS 13	18	CY
STORM SEWER, TRENCHED	24	LF
ENGINEERING FABRIC	59	SY
HYDRAULIC SEEDING	14	SY
FILTER SOCK, 9 INCH	23	LF
TEMPORARY RECP, 3.B	28	SY
RIP RAP, CLASS D	21	TONS
FIELDSTONE (IMPORTED)	14	TONS
FIELDSTONE (SALVAGED)	1	TONS

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1414.00'.



A SITE 59 - SECTION A

HORZ. SCALE 0 5 10 FEET — VERT. SCALE 0 2.5 5 FEET



B SITE 59 - SECTION B

HORZ. SCALE 0 5 10 FEET — VERT. SCALE 0 2.5 5 FEET

HORZ. SCALE 0 10 20 FEET

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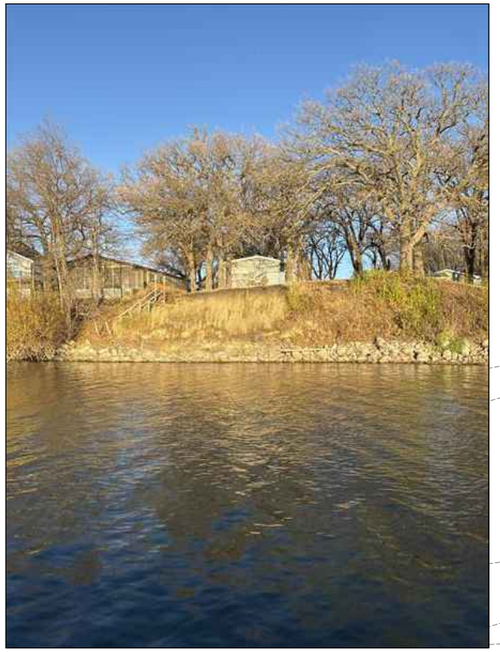
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CHECKED	RMB
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REV	DESCRIPTION	DATE
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IA GREAT LAKES SHORELINE STABILIZATION
GRADING AND STABILIZATION PLAN (SITE 59)

SHEET D.59.2

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EAST OKOBOJI LAKE

436 252ND AVENUE

440 252ND AVENUE

450 252ND AVENUE

EAST OKOBOJI LAKE OHWM: 1398.45

TOE OF SLIDE, NEW

SLOPE BREAK

REMOVE EX. STAIRS

SCARP

DO NOT DISTURB TREES

TOE OF SLIDE, OLD

SECONDARY SCARP

SALVAGE & STOCKPILE EX. FIELDSTONE (12 TONS)

DO NOT DISTURB TREE

1412
1410
1408
1406
1404
1402
1400
1398
1396

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1412.00'.

2. STAIRS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

HORZ. SCALE 0 10 20 FEET

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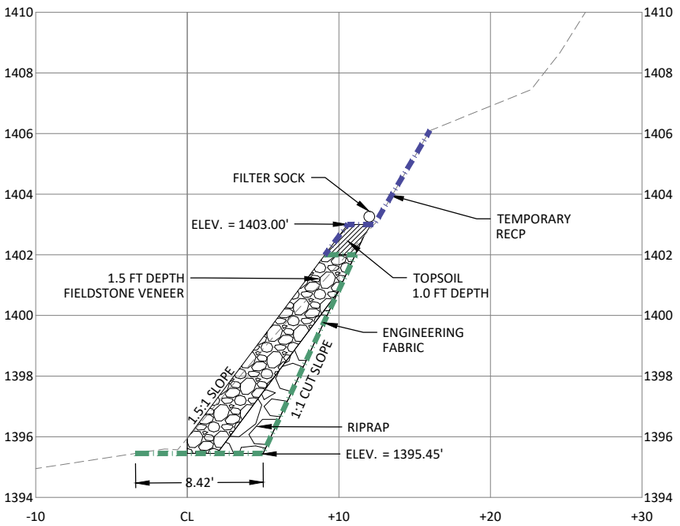
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IA GREAT LAKES SHORELINE STABILIZATION
EXISTING CONDITIONS AND REMOVALS PLAN (SITE 60)

SHEET D.60.1

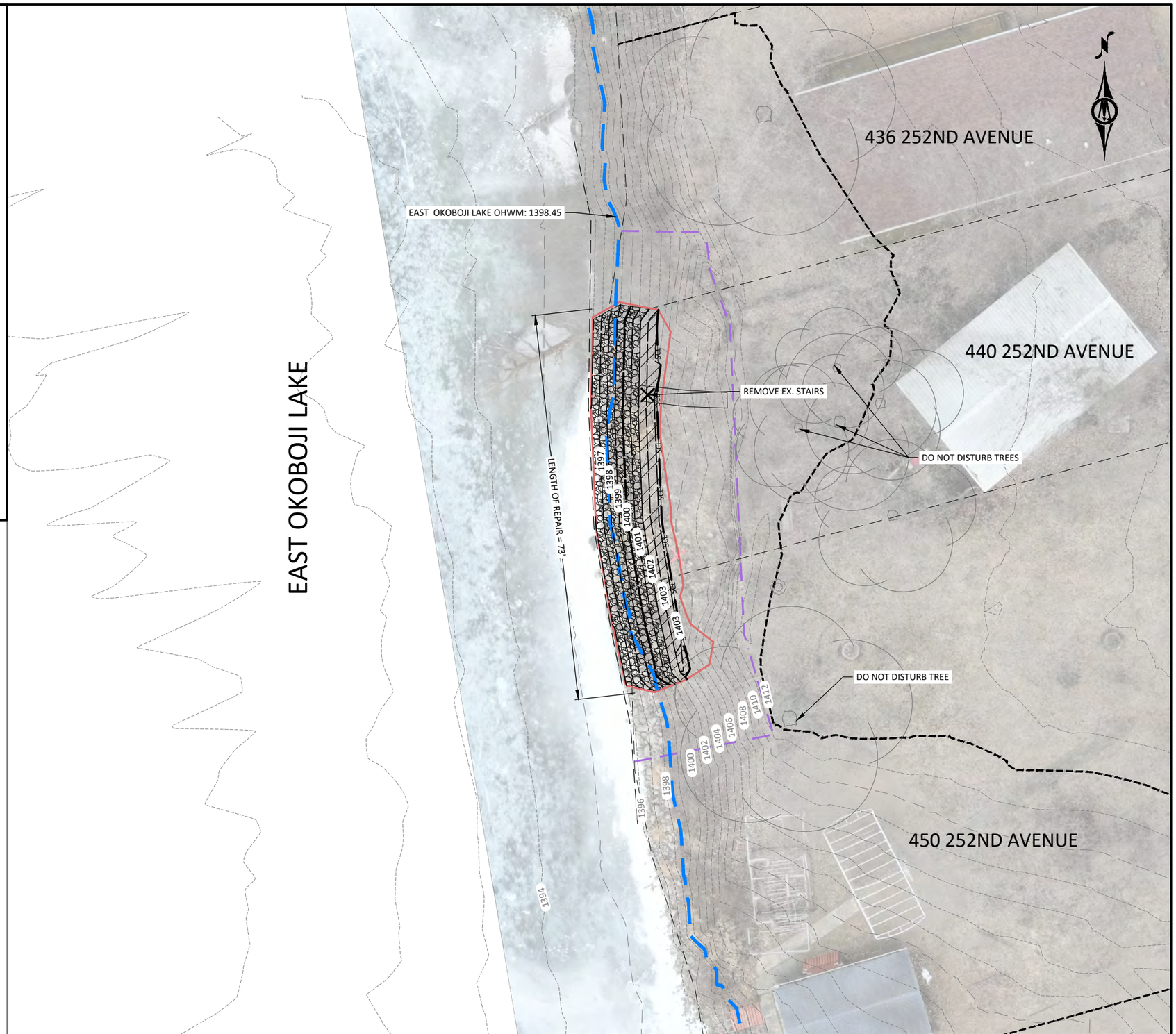
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A SITE 60 - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 0 2.5 5 SCALE FEET



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 60 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	6	CY
EXCAVATION, CLASS 13	88	CY
ENGINEERING FABRIC	126	SY
HYDRAULIC SEEDING	164	SY
FILTER SOCK, 9 INCH	72	LF
TEMPORARY RECP, 3.B	65	SY
RIP RAP, CLASS D	38	TONS
FIELDSTONE (IMPORTED)	57	TONS
FIELDSTONE (SALVAGED)	12	TONS

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1412.00'.

2. STAIRS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

HORZ. 0 10 20 SCALE FEET

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GRADING AND STABILIZATION PLAN (SITE 60)

SHEET D.60.2

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13710 240TH AVENUE

13726 240TH AVENUE

240TH AVENUE

BIG SPIRIT LAKE

1394 1396 1398 1400 1402 1404 1406 1408 1410 1412 1414 1416 1418 1420 1422 1424 1426 1428

BENCH ABOVE STONE WALL

TOE OF PREVIOUS REPAIR (BY LANDOWNER)

REMOVE WALL

SALVAGE & STOCKPILE EX. FIELDSTONE (33 TONS)

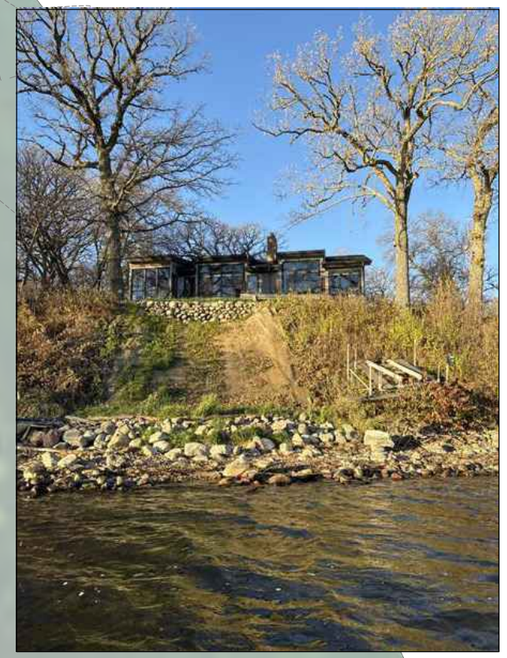
REMOVE DECK

BACK EDGE OF DECK

TOP OF SCARP

SCARP

BIG SPIRIT LAKE OHWM: 1402.42



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1416.00'.

2. DECK AND WALL MATERIALS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

HORZ. SCALE 0 10 20 FEET

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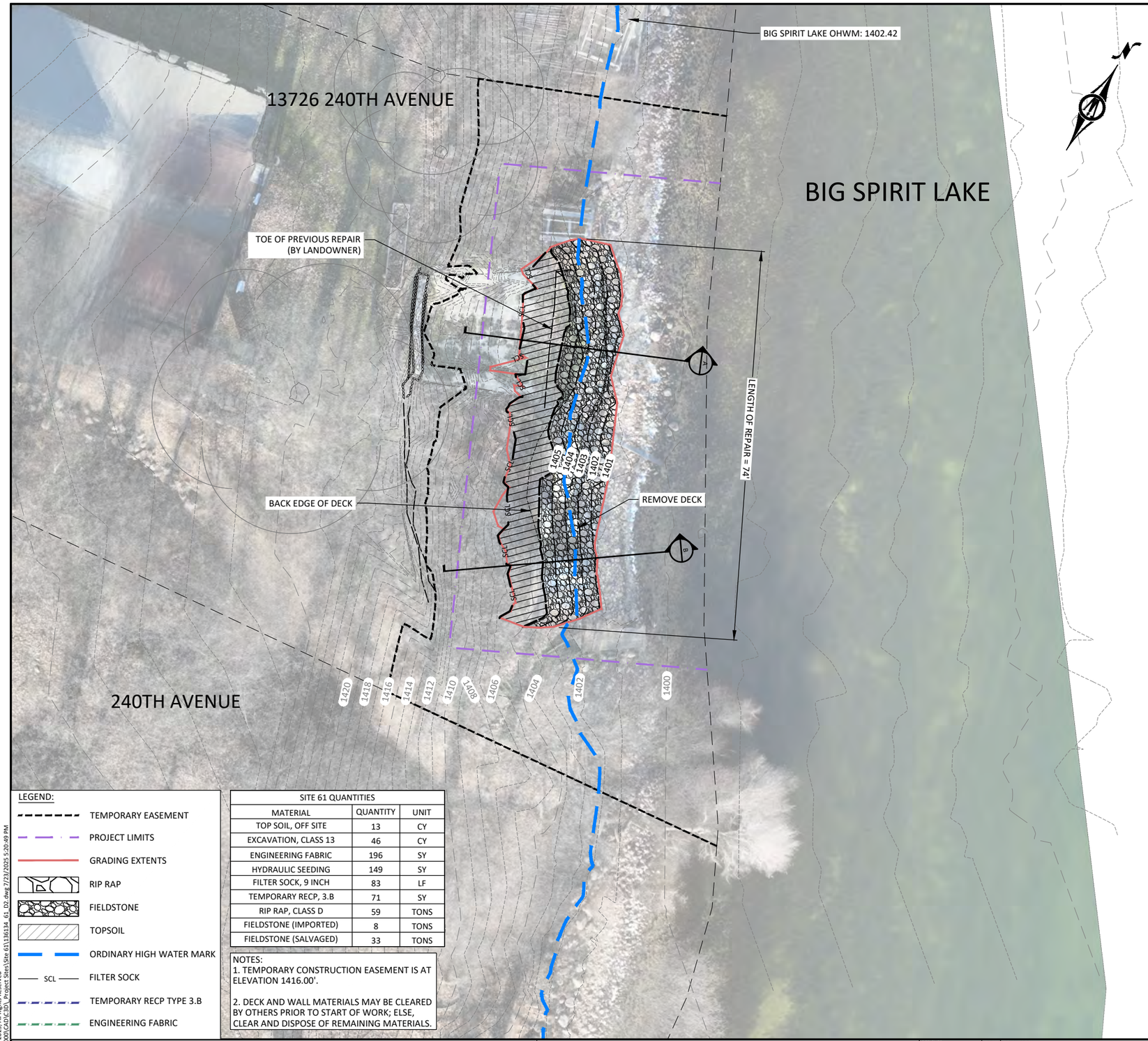
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 61)

SHEET D.61.1

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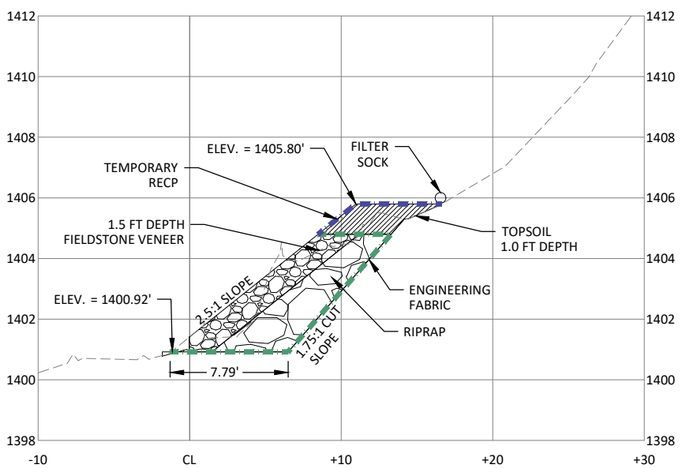
LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 61 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	13	CY
EXCAVATION, CLASS 13	46	CY
ENGINEERING FABRIC	196	SY
HYDRAULIC SEEDING	149	SY
FILTER SOCK, 9 INCH	83	LF
TEMPORARY RECP, 3.B	71	SY
RIP RAP, CLASS D	59	TONS
FIELDSTONE (IMPORTED)	8	TONS
FIELDSTONE (SALVAGED)	33	TONS

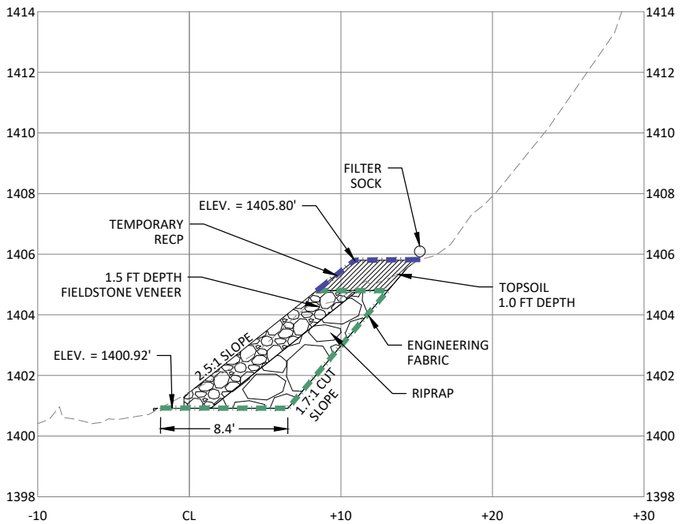
NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1416.00'.

2. DECK AND WALL MATERIALS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.



A — SITE 61 - SECTION A

HORZ. SCALE 0 5 10 FEET — VERT. SCALE 0 2.5 5 FEET



B — SITE 61 - SECTION B

HORZ. SCALE 0 5 10 FEET — VERT. SCALE 0 2.5 5 FEET

HORZ. SCALE 0 10 20 FEET

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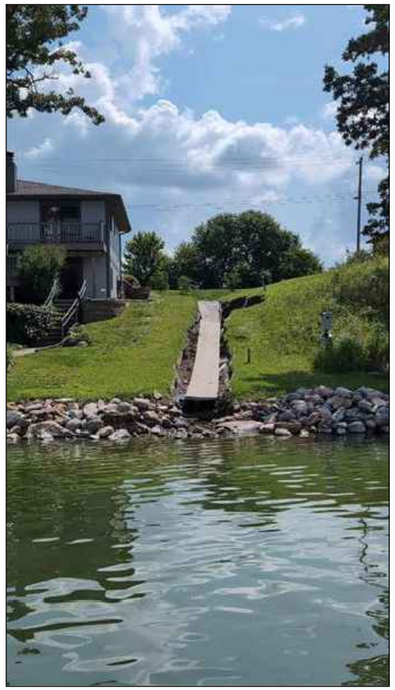
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GRADING AND STABILIZATION PLAN (SITE 61)

SHEET D.61.2

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BIG SPIRIT LAKE

BIG SPIRIT LAKE OHWM: 1402.42

SALVAGE & STOCKPILE EX. FIELDSTONE (21 TONS)

CONCRETE CHANNEL — DO NOT DISTURB

EDGE EX. FIELDSTONE

12415 253RD AVE

12425 253RD AVE

12435 253RD AVE

12445 253RD AVE

1398 1400 1402 1404 1406 1408 1410 1412 1414 1416 1418 1420

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1407.00'.

HORZ. SCALE 0 10 20 FEET

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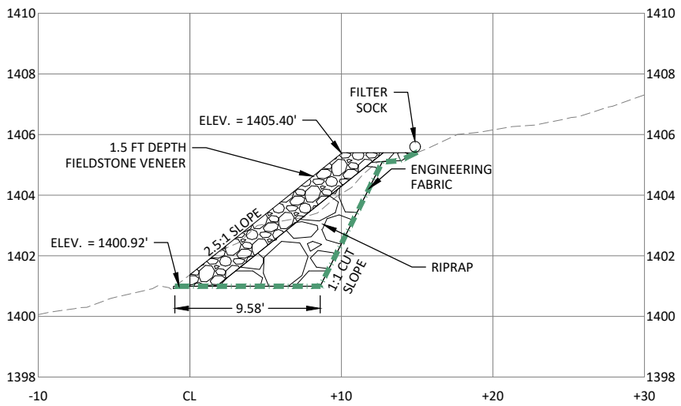
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 62)

SHEET D.62.1

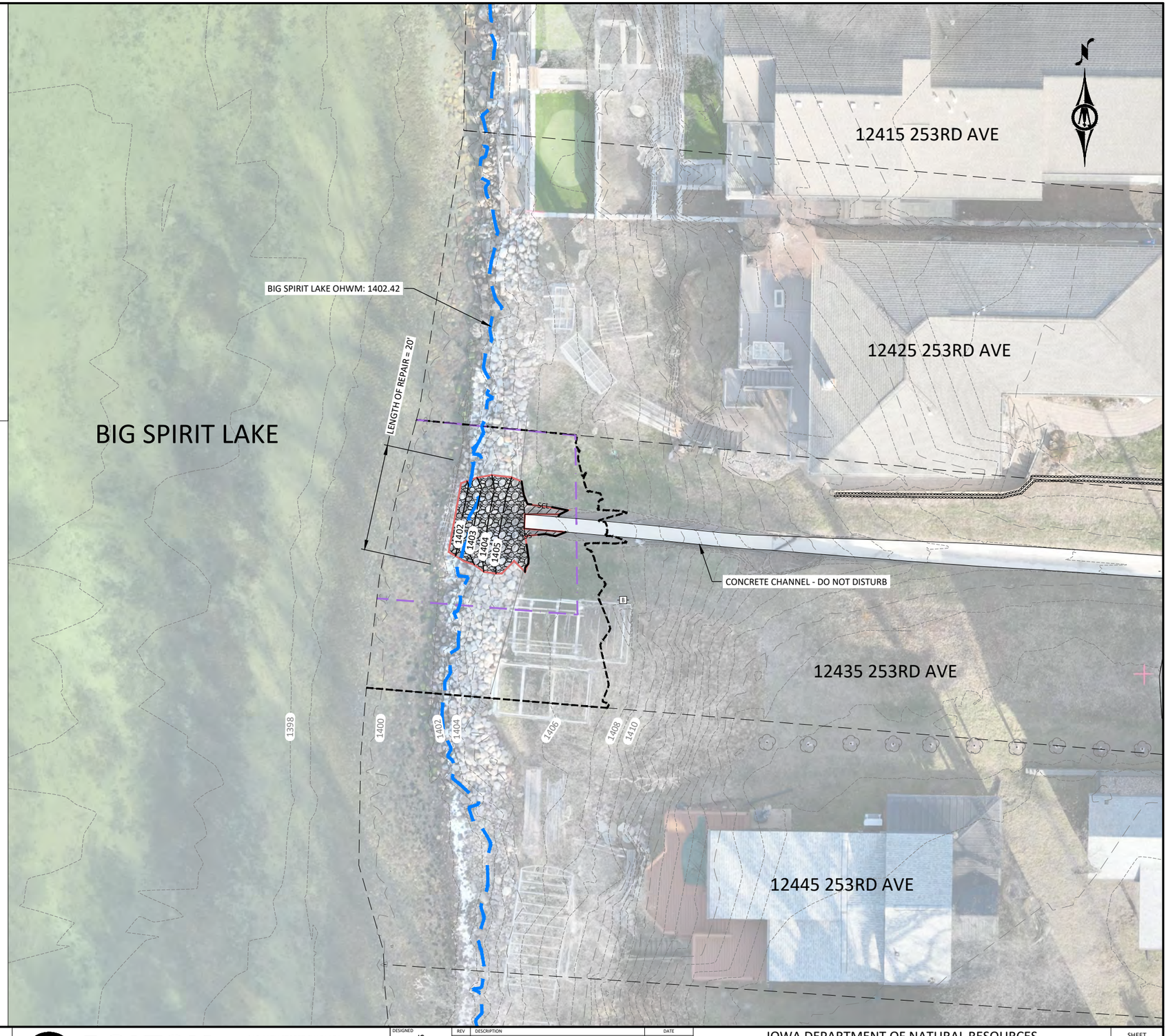
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A SITE 62 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 62 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	1	CY
EXCAVATION, CLASS 13	10	CY
ENGINEERING FABRIC	40	SY
HYDRAULIC SEEDING	36	SY
FILTER SOCK, 9 INCH	30	LF
TEMPORARY RECP, 3.B	0	SY
RIP RAP, CLASS D	2	TONS
FIELDSTONE (IMPORTED)	0	TONS
FIELDSTONE (SALVAGED)	21	TONS

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1407.00'.

2. THE TOTAL RIP RAP, CLASS D REQUIRED IS ESTIMATED TO BE 13 TONS, CONSISTING OF APPROXIMATELY 11 TONS OF SALVAGED FIELDSTONE AND 2 TONS OF IMPORTED RIP RAP, CLASS D.

3. THE TOTAL SALVAGED FIELDSTONE AVAILABLE IS ESTIMATED TO BE 21 TONS. THE TOTAL FIELDSTONE REQUIRED IS ESTIMATED TO BE 10 TONS, WHICH WILL BE ENTIRELY SUPPLIED FROM SALVAGED MATERIAL.

HORZ. SCALE 0 10 20 FEET

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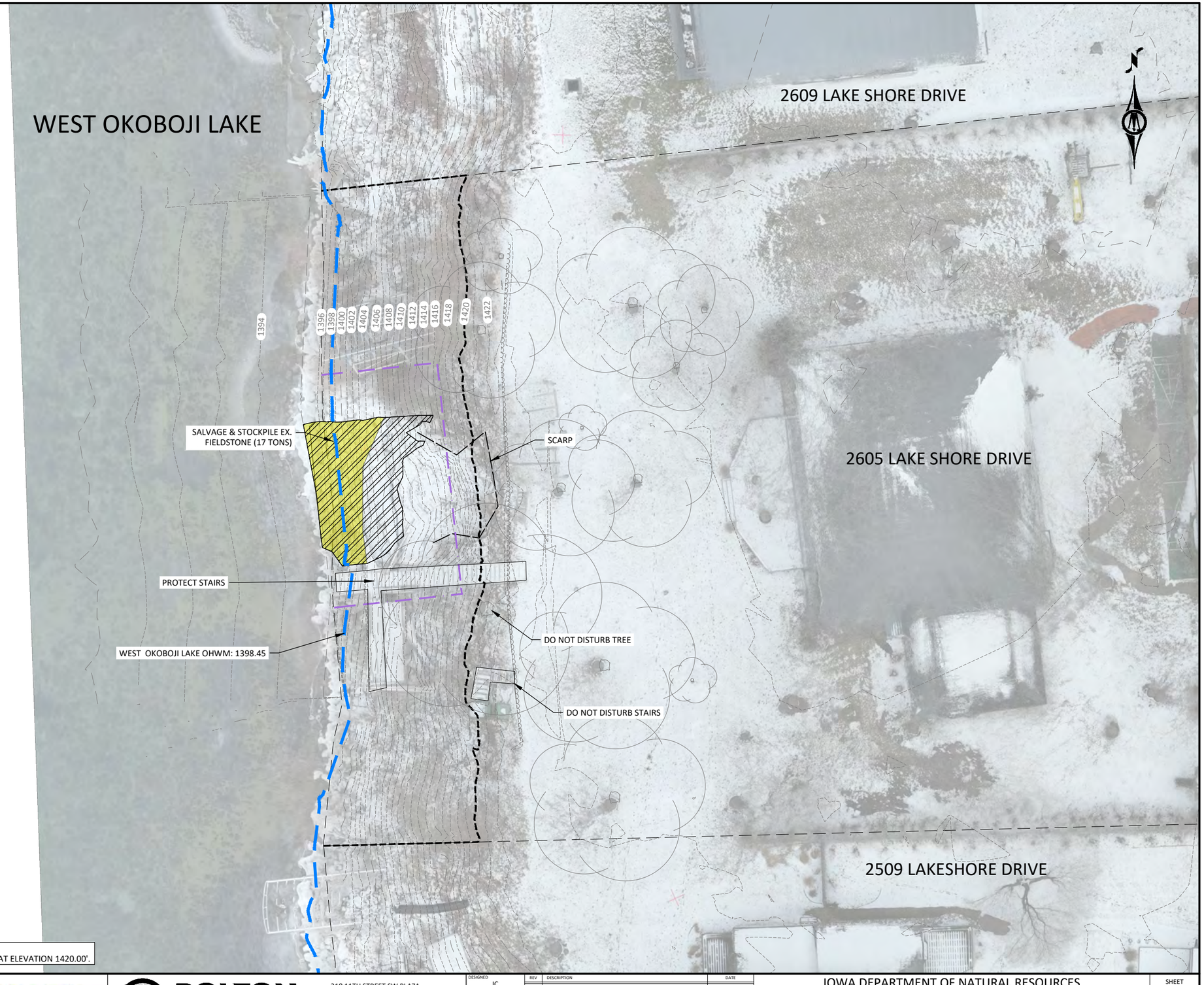
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GRADING AND STABILIZATION PLAN (SITE 62)

SHEET D.62.2

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LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1420.00'.

HORZ. SCALE 0 10 20 FEET

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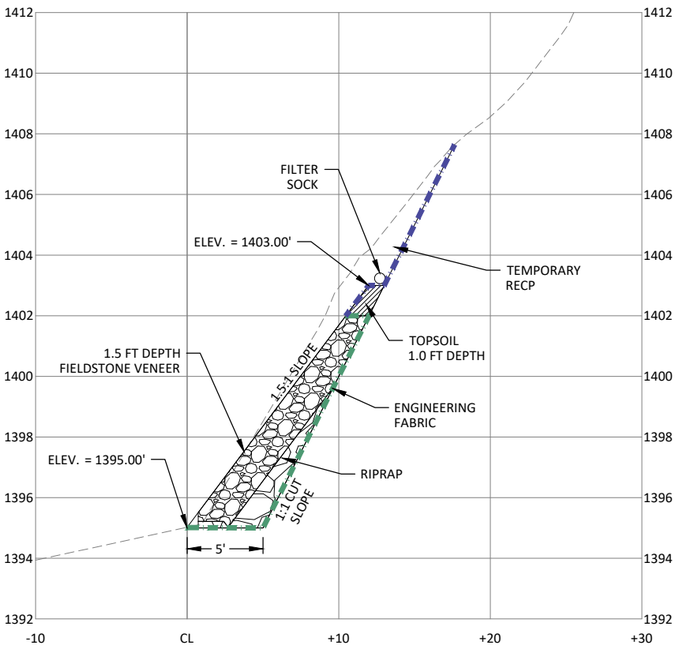
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 63)

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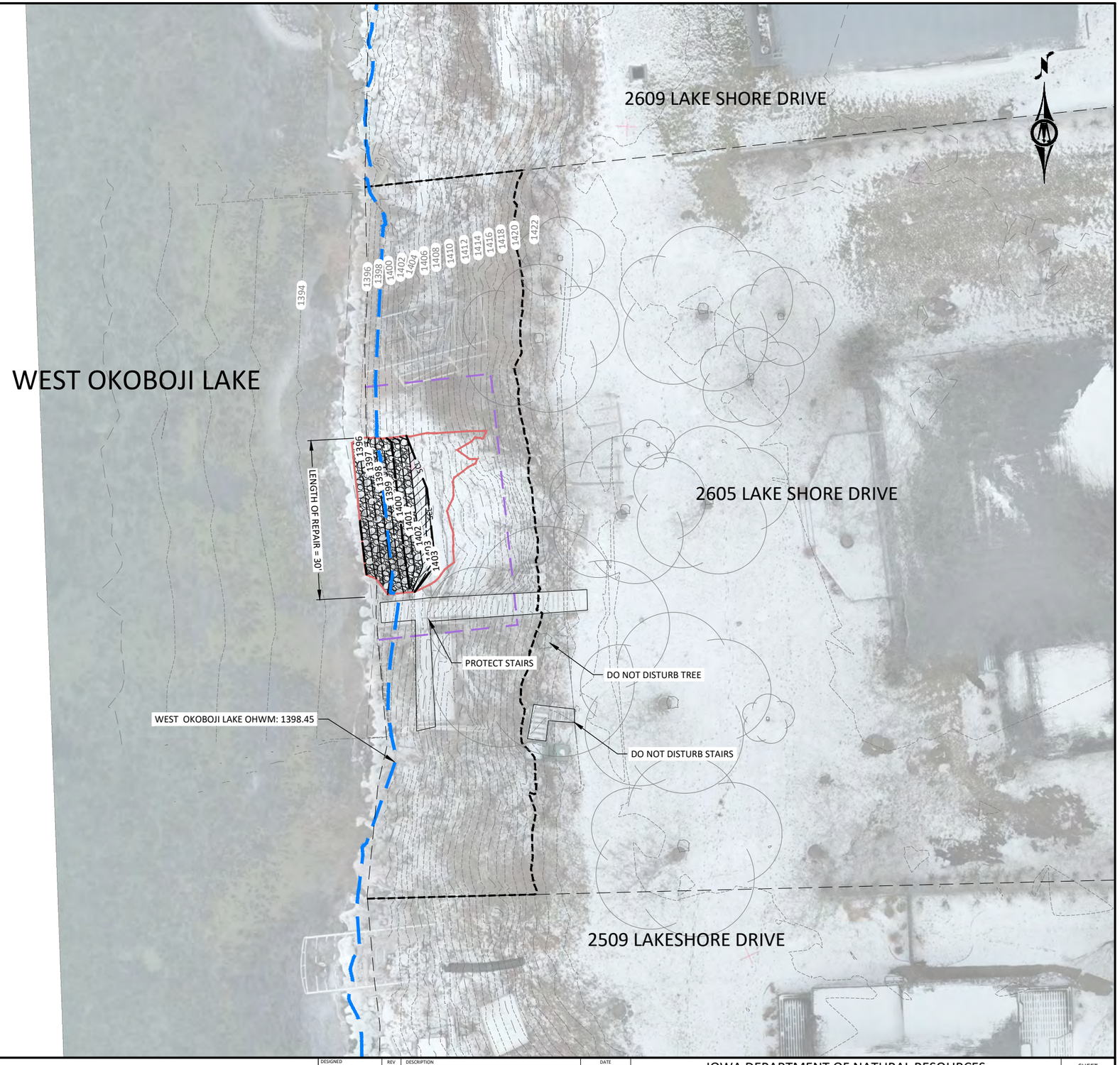
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A SITE 63 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 63 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	1	CY
EXCAVATION, CLASS 13	30	CY
ENGINEERING FABRIC	53	SY
HYDRAULIC SEEDING	72	SY
FILTER SOCK, 9 INCH	32	LF
TEMPORARY RECP, 3.B	31	SY
RIP RAP, CLASS D	7	TONS
FIELDSTONE (IMPORTED)	6	TONS
FIELDSTONE (SALVAGED)	17	TONS

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1420.00'.

HORZ. SCALE 0 10 20 FEET

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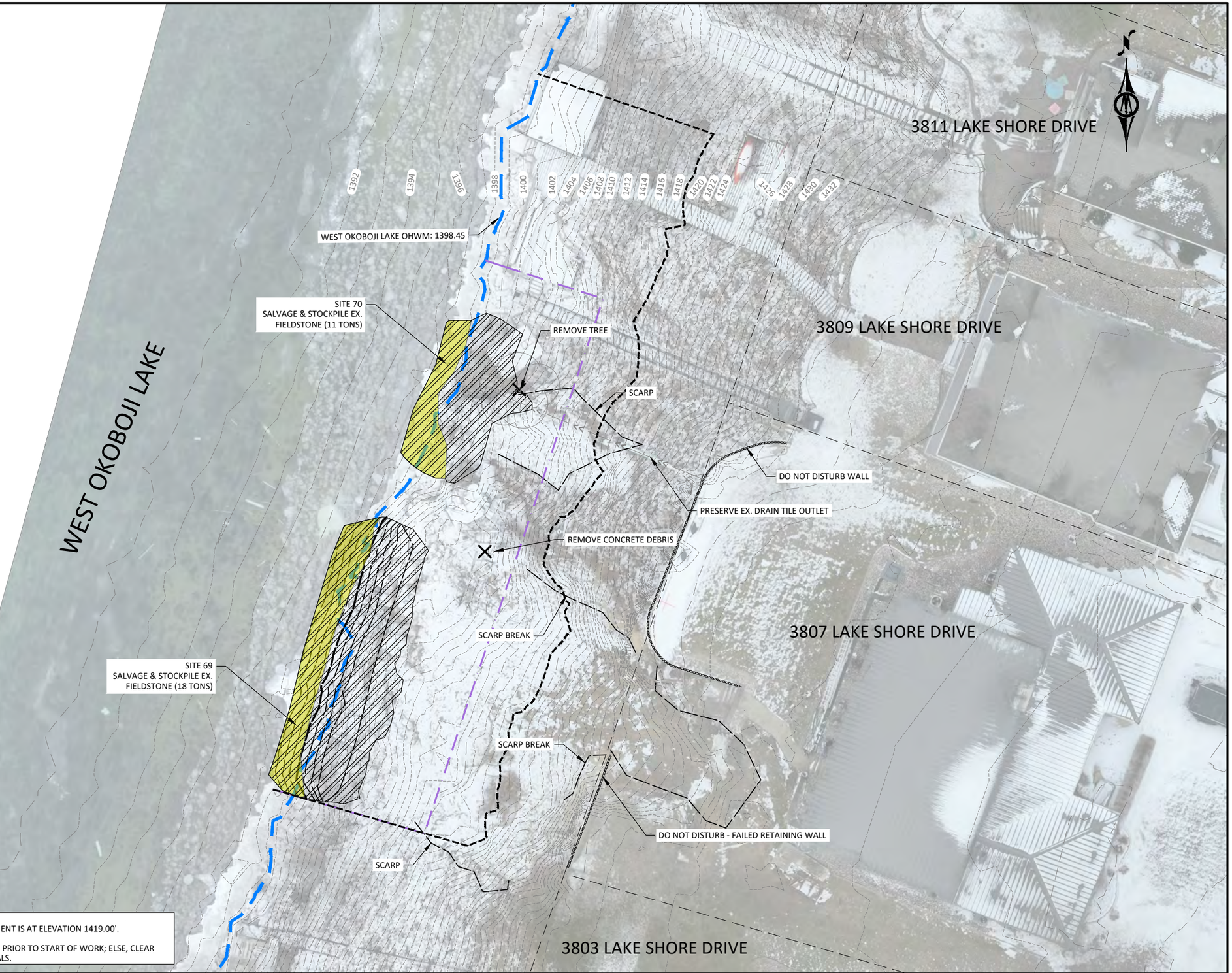
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SHEET D.63.2

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LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1419.00'.

2. DEBRIS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

HORZ. SCALE 0 10 20 FEET

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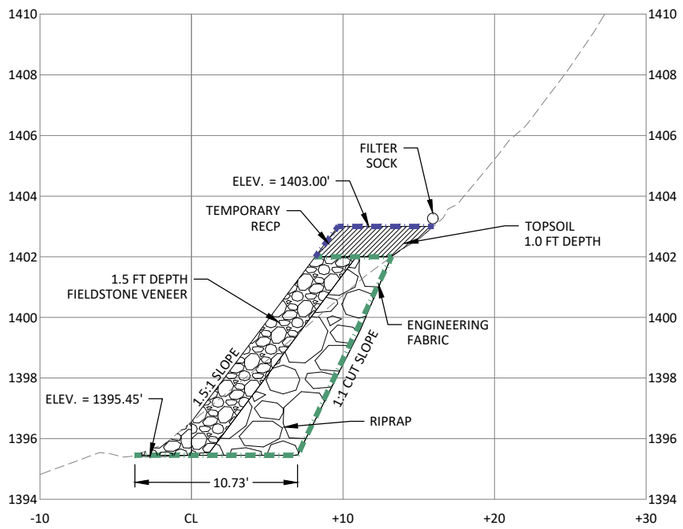
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 69 & 70)

SHEET D.69.1

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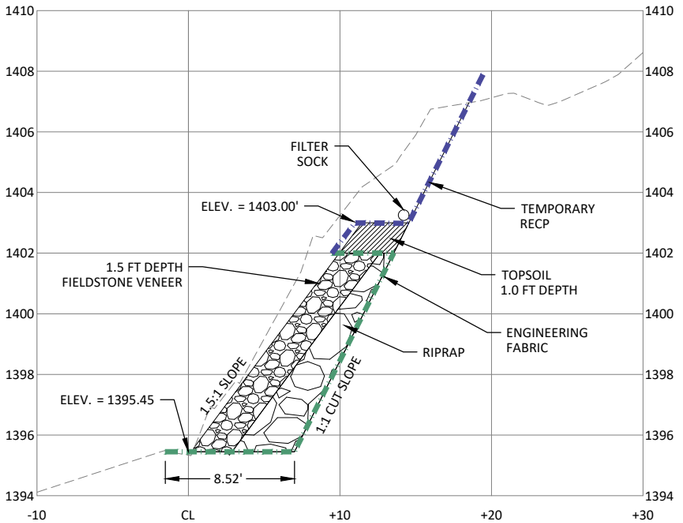
A SITE 70 - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 0 2.5 5 SCALE FEET

SITE 70 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	6	CY
EXCAVATION, CLASS 13	33	CY
STORM SEWER, TRENCHED	22	LF
ENGINEERING FABRIC	92	SY
HYDRAULIC SEEDING	94	SY
FILTER SOCK, 9 INCH	34	LF
TEMPORARY RECP, 3.B	37	SY
RIP RAP, CLASS D	45	TONS
FIELDSTONE (IMPORTED)	18	TONS
FIELDSTONE (SALVAGED)	11	TONS

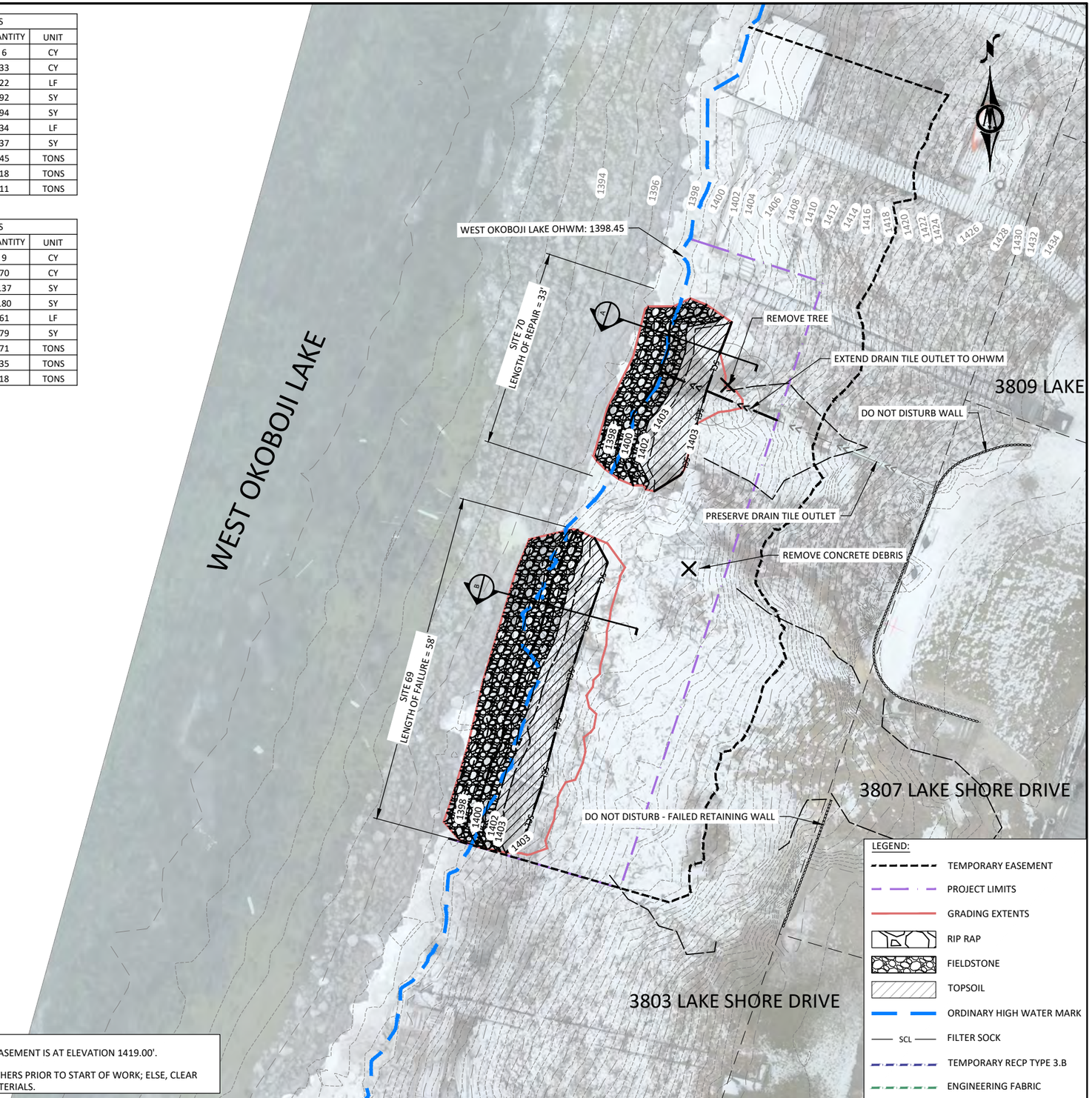
SITE 69 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	9	CY
EXCAVATION, CLASS 13	70	CY
ENGINEERING FABRIC	137	SY
HYDRAULIC SEEDING	180	SY
FILTER SOCK, 9 INCH	61	LF
TEMPORARY RECP, 3.B	79	SY
RIP RAP, CLASS D	71	TONS
FIELDSTONE (IMPORTED)	35	TONS
FIELDSTONE (SALVAGED)	18	TONS



B SITE 69 - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 0 2.5 5 SCALE FEET



NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1419.00'.

2. DEBRIS MAY BE CLEARED BY OTHERS PRIOR TO START OF WORK; ELSE, CLEAR AND DISPOSE OF REMAINING MATERIALS.

HORZ. 0 10 20 SCALE FEET

IOWA Department of Natural Resources

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IOWA DEPARTMENT OF NATURAL RESOURCES
IA GREAT LAKES SHORELINE STABILIZATION
GRADING AND STABILIZATION PLAN (SITE 69 & 70)

SHEET D.69.2

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SILVER LAKE

SILVER LAKE OHWM: 1460.8

SALVAGE AND STOCKPILE EX. FIELDSTONE (EST. 44 TONS)

REMOVE TREES

REMOVE LOWER SECTION OF STAIRS

DO NOT DISTURB EX. STONE RETAINING WALL

DO NOT DISTURB UPPER SECTION OF STAIRS

PRESERVE AND PROTECT TREE

REPAIR WORK IN PROGRESS BY OTHERS

EDGE OF CLEARED SLOPE

108 W BAY RD

104 W BAY RD

106 W BAY RD

102 W BAY RD

1456 1458 1460 1462 1464 1466 1468 1470 1472 1474 1476 1478 1480 1482 1484 1486 1488 1490

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1475.00'.

HORZ. SCALE 0 10 20 FEET

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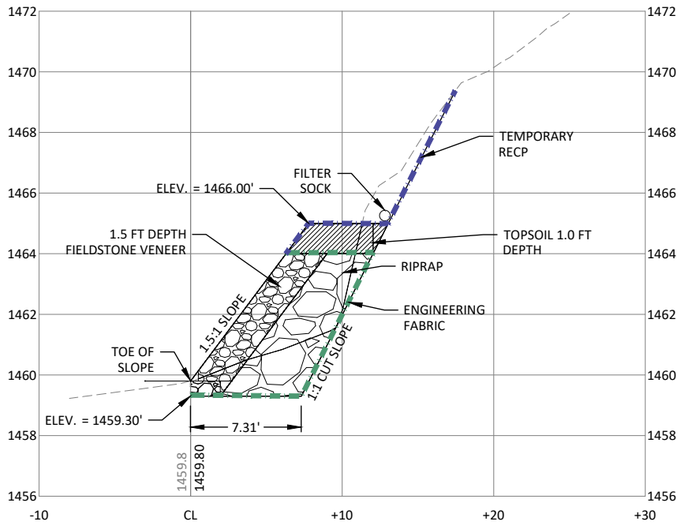
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IOWA DEPARTMENT OF NATURAL RESOURCES
IA GREAT LAKES SHORELINE STABILIZATION
EXISTING CONDITIONS AND REMOVALS PLAN (SITE 93)

SHEET D.93.1

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A SITE 93 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 93 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	10	CY
EXCAVATION, CLASS 13	56	CY
ENGINEERING FABRIC	148	SY
HYDRAULIC SEEDING	139	SY
FILTER SOCK, 9 INCH	54	LF
TEMPORARY RECP, 3.B	40	SY
RIP RAP, CLASS D	54	TONS
FIELDSTONE (IMPORTED)	2	TONS
FIELDSTONE (SALVAGED)	41	TONS

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1475.00'.

HORZ. SCALE 0 10 20 FEET

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GRADING AND STABILIZATION PLAN (SITE 93)

SHEET D.93.2

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SILVER LAKE

1456

1458

TOE BULGE

REMOVE TREE

DO NOT DISTURB STAIRS

1460
1460
1462
1464
1466
1468
1470
1472
1474
1476
1478
1480
1482
1484

SILVER LAKE OHWM: 1460.8

DO NOT DISTURB TREE

SLOPE, BREAK LINE

SLIDE BLOCK

TOP OF SCARP

DO NOT DISTURB TREE

SCARP

160 COUNTRY CLUB DR

156 COUNTRY CLUB DR

152 COUNTRY CLUB DR

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1479.00'

HORZ. SCALE 0 10 20 FEET

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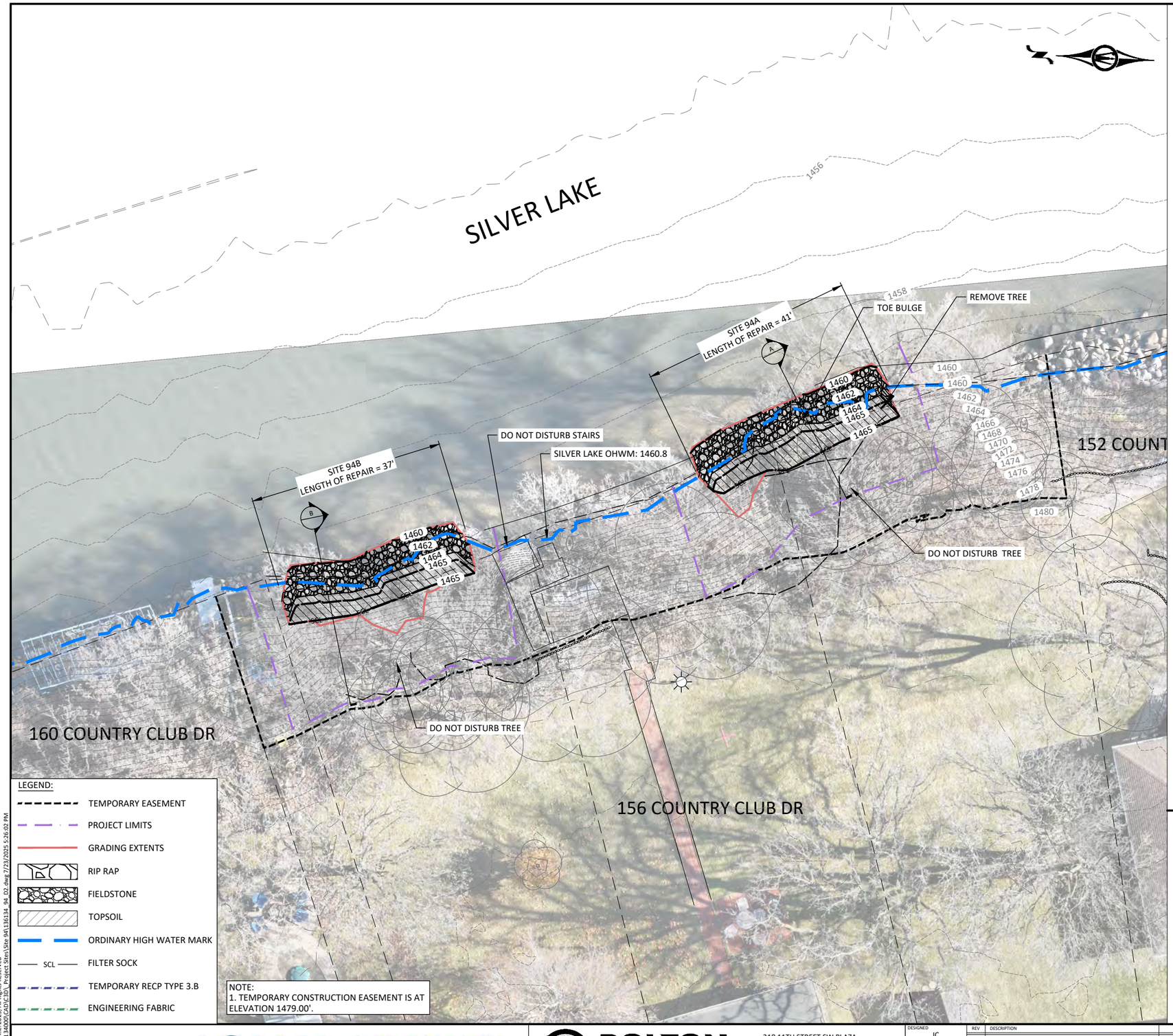
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 94)

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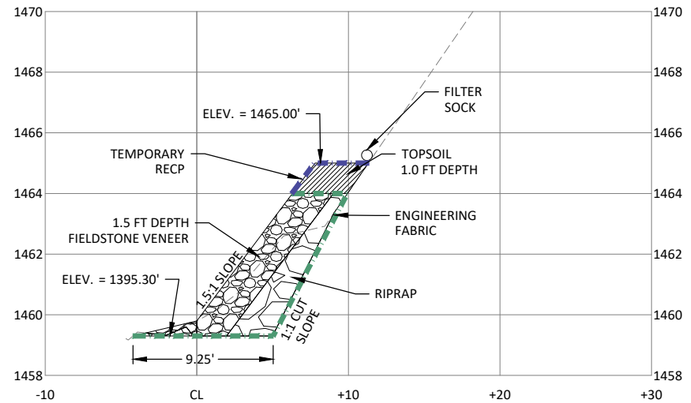
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LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

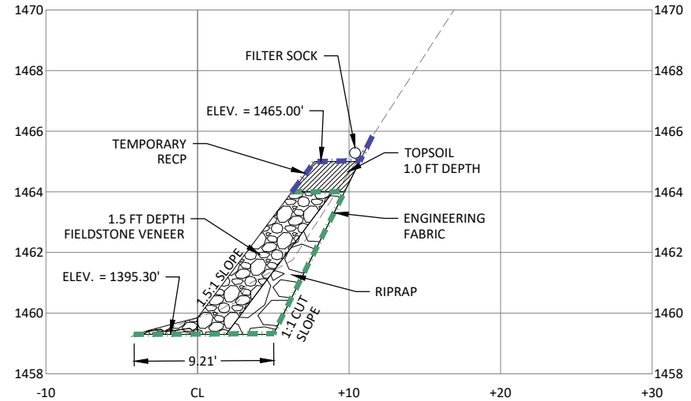
NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1479.00'.



A SITE 94A - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 0 2.5 5 SCALE FEET



B SITE 94B - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 0 2.5 5 SCALE FEET

SITE 94 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	10	CY
EXCAVATION, CLASS 13	43	CY
ENGINEERING FABRIC	174	SY
HYDRAULIC SEEDING	207	SY
FILTER SOCK, 9 INCH	78	LF
TEMPORARY RECP, 3.B	78	SY
RIP RAP, CLASS D	42	TONS
FIELDSTONE (IMPORTED)	54	TONS
FIELDSTONE (SALVAGED)	0	TONS

HORZ. 0 10 20 SCALE FEET

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GRADING AND STABILIZATION PLAN (SITE 94)

SHEET D.94.2

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156 COUNTRY CLUB DR.

152 COUNTRY CLUB DR

146 COUNTRY CLUB DR

SILVER LAKE

DO NOT DISTURB FIELDSTONE WALL

EDGE OF EX. FIELDSTONE

DRAIN TILE OUTLET

TILE

SALVAGE & STOCKPILE EX. FIELDSTONE (15 TONS)

TOE OF SLIDE

SCARP

DO NOT DISTURB FIELDSTONE WALL

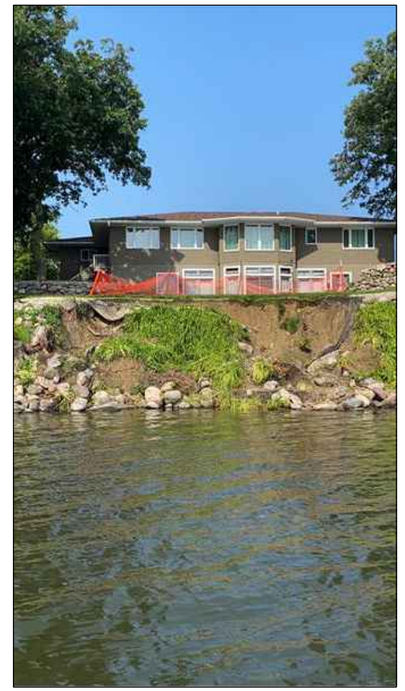
SILVER LAKE OHWM: 1460.8

DO NOT DISTURB STAIRS

TILE

1460 1461 1461 1466 1468 1470 1472 1474 1476 1478 1480

1476 1474 1472 1470 1468 1466 1464 1462



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTES:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1476.00'.

HORZ. 0 10 20
SCALE FEET

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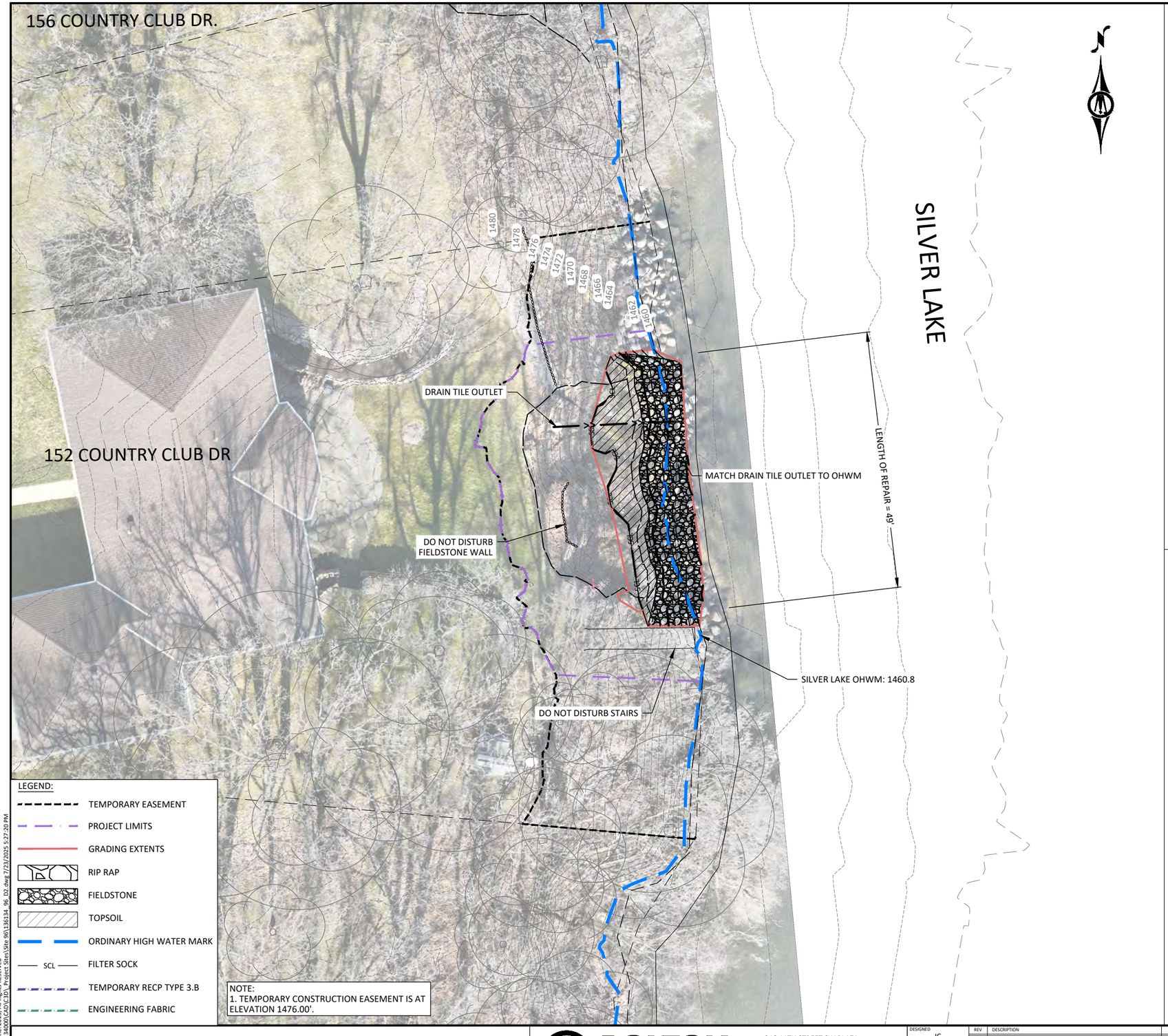
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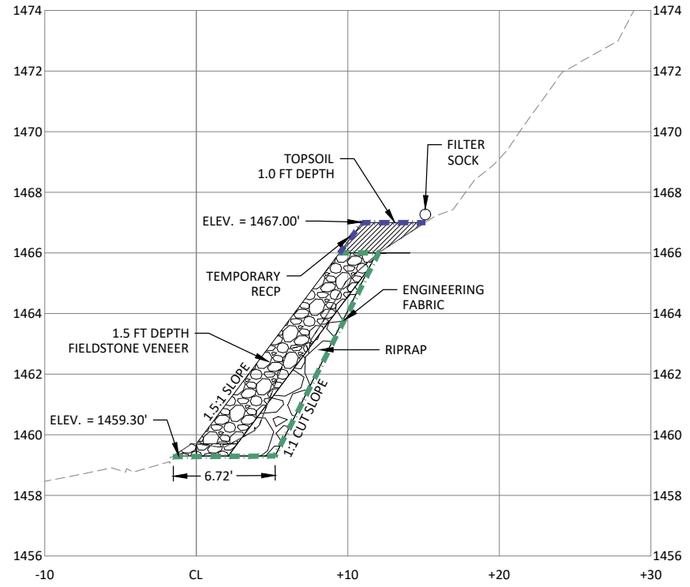
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IA GREAT LAKES SHORELINE STABILIZATION
EXISTING CONDITIONS AND REMOVALS PLAN (SITE 96)

SHEET D.96.1

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A SITE 96 - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 0 2.5 5 SCALE FEET

SITE 96 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	6	CY
EXCAVATION, CLASS 13	28	CY
STORM SEWER, TRENCHED	23	LF
ENGINEERING FABRIC	104	SY
HYDRAULIC SEEDING	134	SY
FILTER SOCK, 9 INCH	54	LF
TEMPORARY RECP, 3.B	34	SY
RIP RAP, CLASS D	32	TONS
FIELDSTONE (IMPORTED)	32	TONS
FIELDSTONE (SALVAGED)	15	TONS

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IA GREAT LAKES SHORELINE STABILIZATION

GRADING AND STABILIZATION PLAN (SITE 96)

SHEET D.96.2





LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1478.00'.

HORZ. SCALE 0 10 20 FEET

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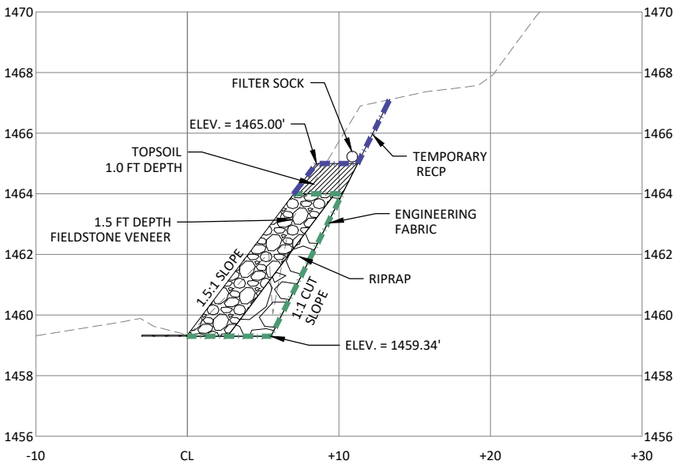
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 97)

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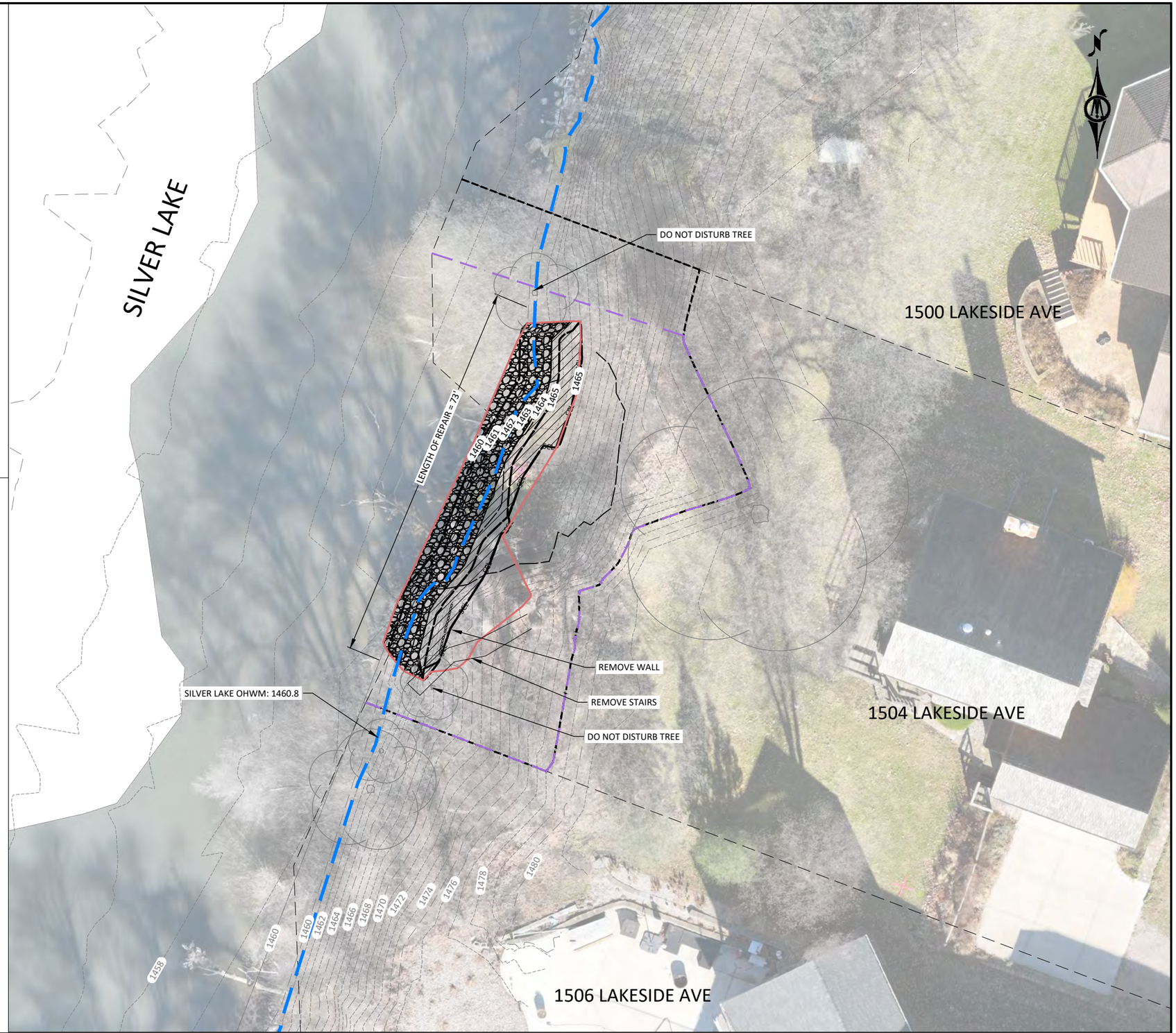
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A SITE 97 - SECTION

HORZ. 0 5 10 SCALE FEET

VERT. 0 2.5 5 SCALE FEET



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 97 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	8	CY
EXCAVATION, CLASS 13	53	CY
ENGINEERING FABRIC	123	SY
HYDRAULIC SEEDING	303	SY
FILTER SOCK, 9 INCH	73	LF
TEMPORARY RECP, 3.B	57	SY
RIP RAP, CLASS D	35	TONS
FIELDSTONE (IMPORTED)	51	TONS
FIELDSTONE (SALVAGED)	0	TONS

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1478.00'.

HORZ. 0 10 20 SCALE FEET

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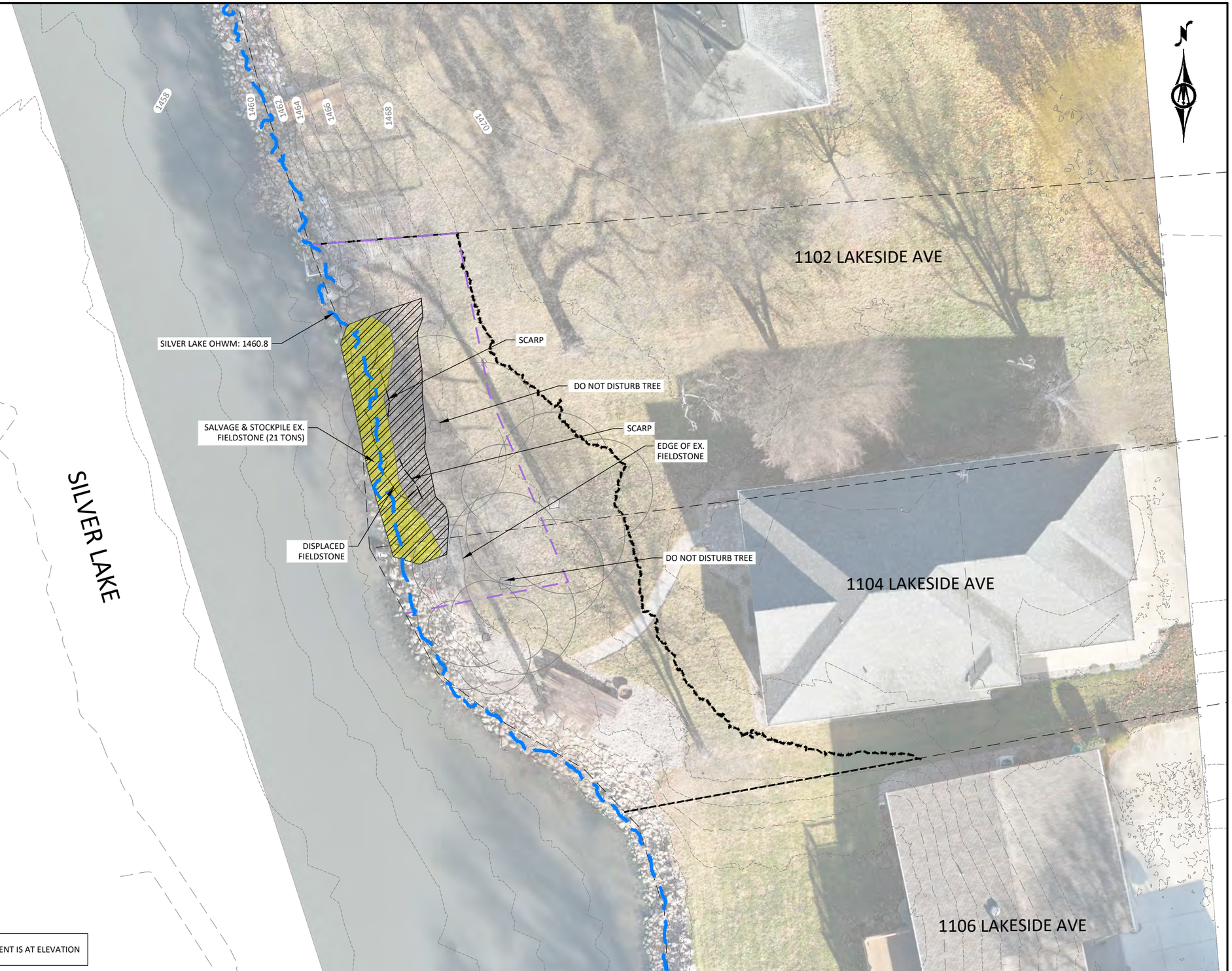
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GRADING AND STABILIZATION PLAN (SITE 97)

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LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1468.00'.

HORZ. SCALE 0 10 20 FEET

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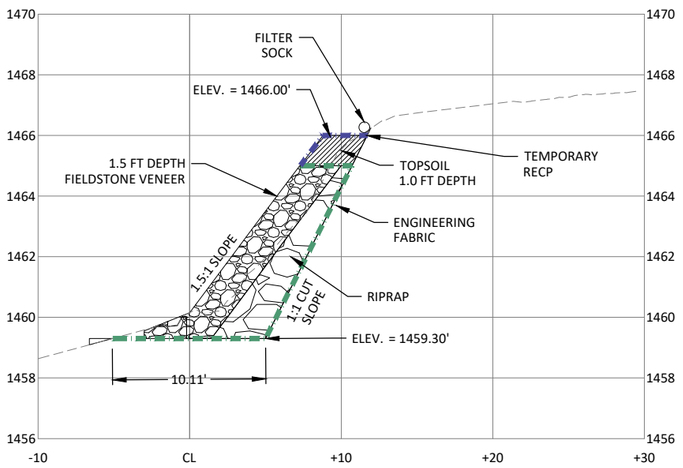
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EXISTING CONDITIONS AND REMOVALS PLAN (SITE 98)

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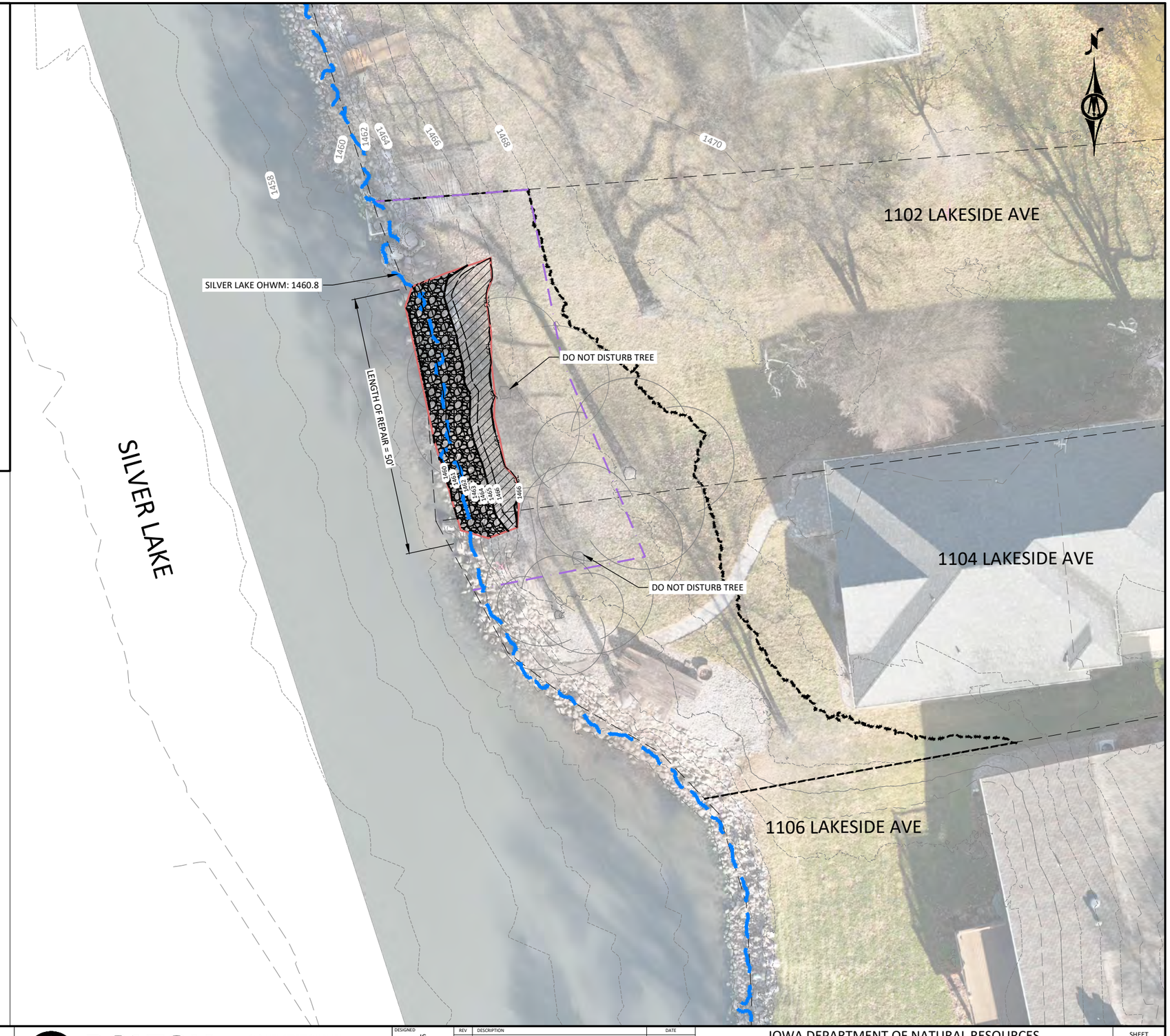
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A SITE 98 - SECTION

HORZ. SCALE 0 5 10 FEET

VERT. SCALE 0 2.5 5 FEET



LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 98 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	7	CY
EXCAVATION, CLASS 13	23	CY
ENGINEERING FABRIC	120	SY
HYDRAULIC SEEDING	142	SY
FILTER SOCK, 9 INCH	54	LF
TEMPORARY RECP, 3.B	31	SY
RIP RAP, CLASS D	29	TONS
FIELDSTONE (IMPORTED)	20	TONS
FIELDSTONE (SALVAGED)	21	TONS

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1468.00'.

HORZ. SCALE 0 10 20 FEET

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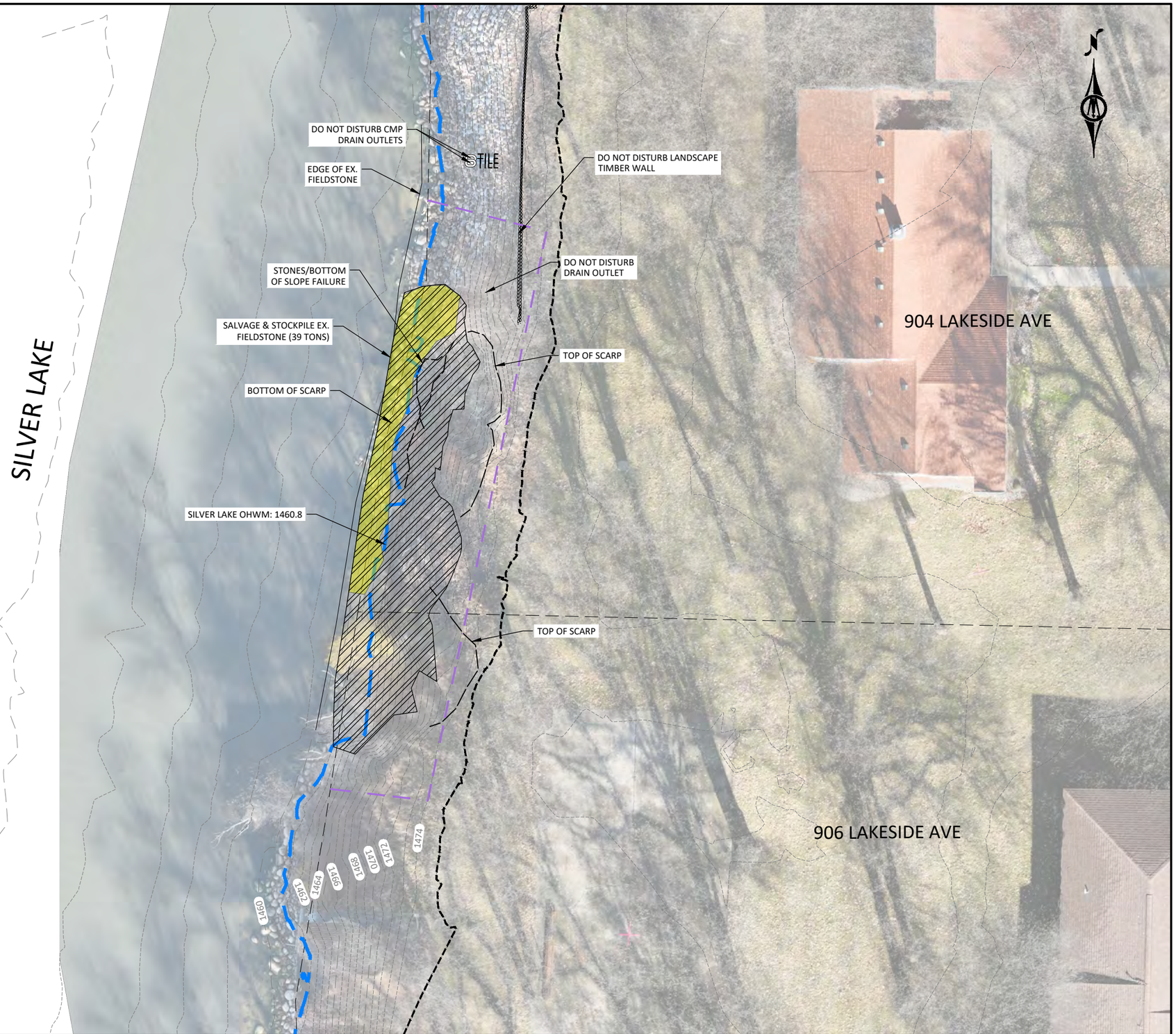
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LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- ORDINARY HIGH WATER MARK
- CLEARING LIMITS
- REMOVAL ITEM
- SALVAGE MATERIAL

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1475.00'.

HORZ. SCALE 0 10 20 FEET

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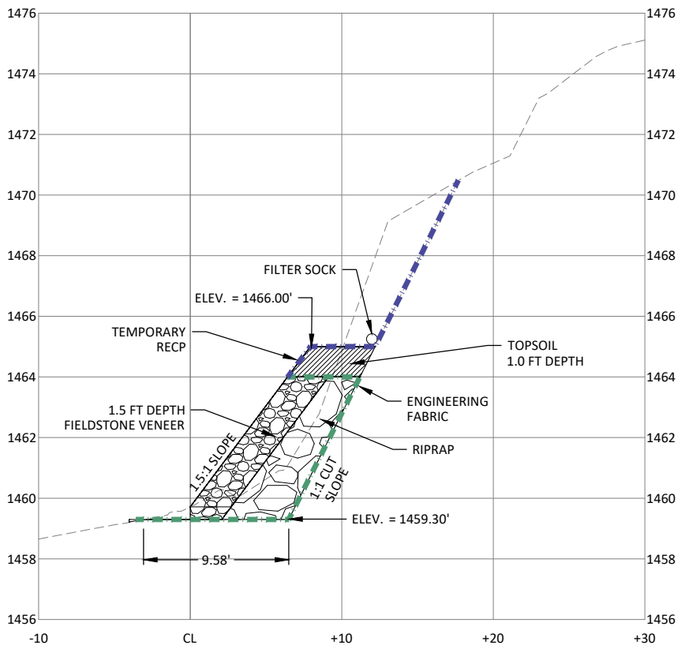
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SHEET D.99.1

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A SITE 99 - SECTION

HORZ. SCALE 0 5 10 FEET

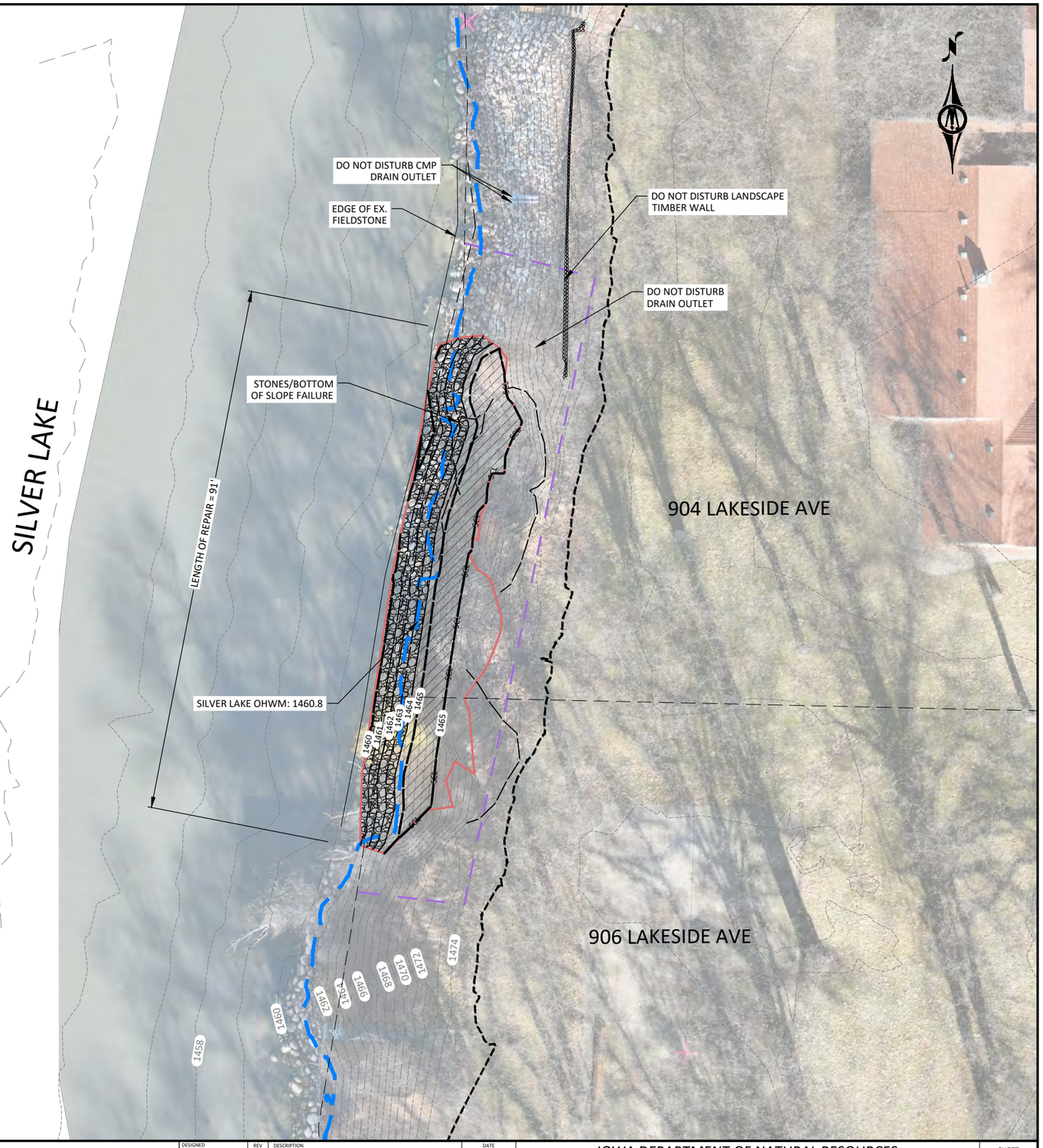
VERT. SCALE 0 2.5 5 FEET

LEGEND:

- TEMPORARY EASEMENT
- PROJECT LIMITS
- GRADING EXTENTS
- RIP RAP
- FIELDSTONE
- TOPSOIL
- ORDINARY HIGH WATER MARK
- SCL — FILTER SOCK
- TEMPORARY RECP TYPE 3.B
- ENGINEERING FABRIC

SITE 99 QUANTITIES		
MATERIAL	QUANTITY	UNIT
TOP SOIL, OFF SITE	16	CY
EXCAVATION, CLASS 13	63	CY
ENGINEERING FABRIC	213	SY
HYDRAULIC SEEDING	204	SY
FILTER SOCK, 9 INCH	95	LF
TEMPORARY RECP, 3.B	119	SY
RIP RAP, CLASS D	79	TONS
FIELDSTONE (IMPORTED)	20	TONS
FIELDSTONE (SALVAGED)	39	TONS

NOTE:
1. TEMPORARY CONSTRUCTION EASEMENT IS AT ELEVATION 1475.00'.



HORZ. SCALE 0 10 20 FEET

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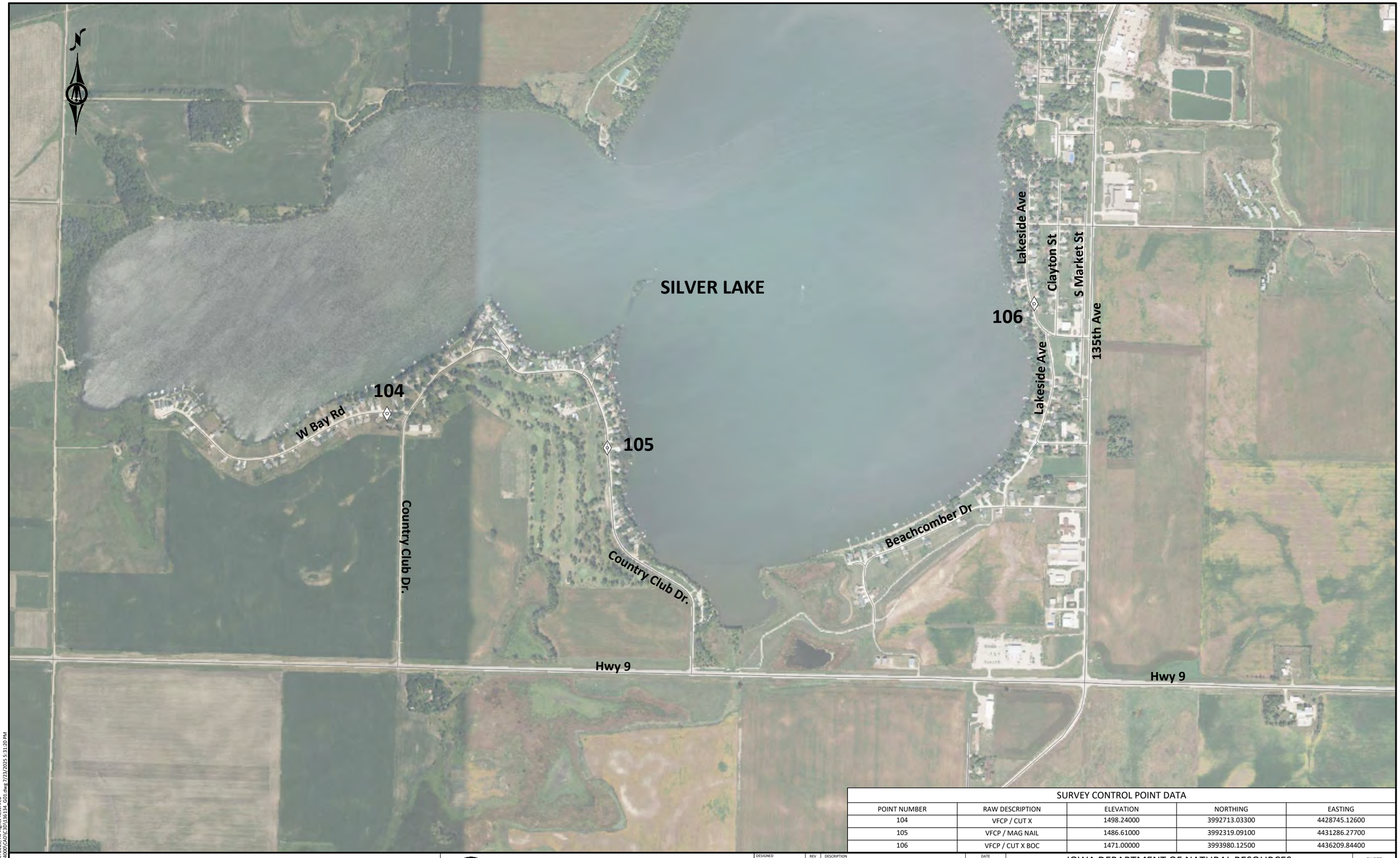
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Email: Spencer@bolton-menk.com
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IA GREAT LAKES SHORELINE STABILIZATION
GRADING AND STABILIZATION PLAN (SITE 99)

SHEET D.99.2

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SURVEY CONTROL POINT DATA				
POINT NUMBER	RAW DESCRIPTION	ELEVATION	NORTHING	EASTING
104	VFCP / CUT X	1498.24000	3992713.03300	4428745.12600
105	VFCP / MAG NAIL	1486.61000	3992319.09100	4431286.27700
106	VFCP / CUT X BOC	1471.00000	3993980.12500	4436209.84400

0 500 1000
SCALE FEET

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CONTROL PLANS

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SURVEY CONTROL POINT DATA				
POINT NUMBER	RAW DESCRIPTION	ELEVATION	NORTHING	EASTING
100	VFCP / CUT X BOC	1443.15000	3972952.36000	4482603.66800
101	VFCP / CUT X BOC	1422.42000	3980462.76300	4480491.77200

0 500 1000
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SHEET
G.02

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SURVEY CONTROL POINT DATA				
POINT NUMBER	RAW DESCRIPTION	ELEVATION	NORTHING	EASTING
102	VFCP / MAG NAIL	1429.09000	3977513.16500	4501341.91400
5000	VFCP / 59 - 60 -1	1395.50000	3977750.52900	4503697.73900
5001	VFCP / 59 - 60 -2	1395.56000	3977467.03800	4503724.35700
5002	VFCP / 59 - 60 -3	1428.60000	3977443.66100	4503827.96900
5003	VFCP / 59 - 60 -4	1415.01000	3977792.11200	4503792.11200
5004	VFCP / 61 - 1	1439.57000	3977052.84800	4503872.31900
5005	VFCP / 61 - 2	1395.54000	3976944.80800	4503727.72500
5006	VFCP / 61 - 3	1395.55000	3976852.86000	4503731.18200
5007	VFCP / 61 - 4	1427.99000	3976848.03300	4503843.79300
5012	VFCP / 62 - 1	1411.69000	3970257.40200	4494400.49200
5013	VFCP / 62 - 2	1415.11000	3970176.53700	4494255.61500
5014	VFCP / 62 - 3	1395.58000	3970367.27400	4494097.48100
5015	VFCP / 62 - 4	1395.54000	3970468.80900	4494269.82300
5016	VFCP / 63 - 1	1415.35000	3969012.92400	4493068.70000
5017	VFCP / 63 - 2	1418.48000	3968903.09600	4492933.08800
5018	VFCP / 63 - 3	1395.51000	3969043.00100	4492848.58800
5019	VFCP / 63 - 4	1395.52000	3969132.79300	4492936.36800

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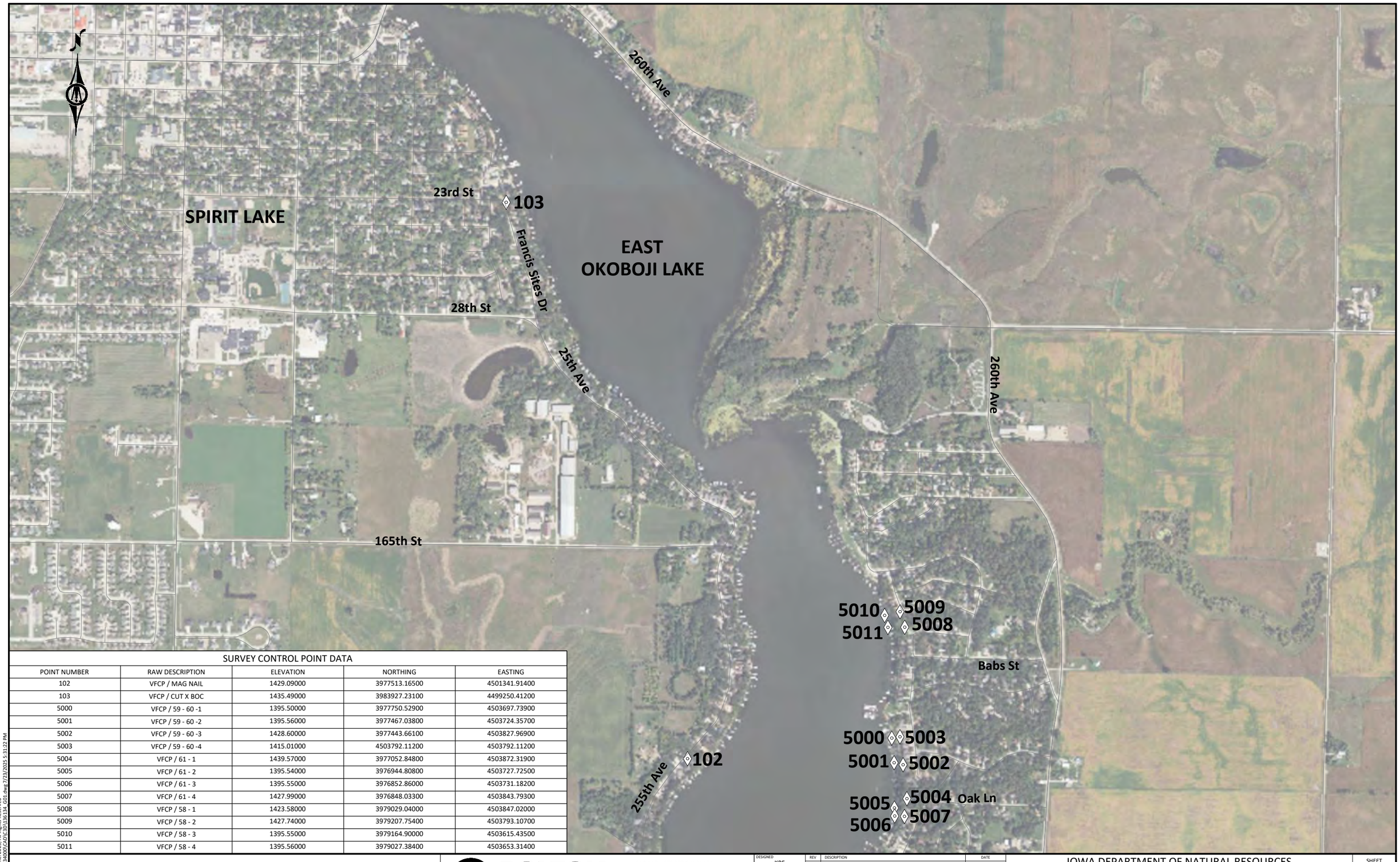
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IA GREAT LAKES SHORELINE STABILIZATION
CONTROL PLANS

SHEET G.03



SURVEY CONTROL POINT DATA

POINT NUMBER	RAW DESCRIPTION	ELEVATION	NORTHING	EASTING
102	VFCP / MAG NAIL	1429.09000	3977513.16500	4501341.91400
103	VFCP / CUT X BOC	1435.49000	3983927.23100	4499250.41200
5000	VFCP / 59 - 60 -1	1395.50000	3977750.52900	4503697.73900
5001	VFCP / 59 - 60 -2	1395.56000	3977467.03800	4503724.35700
5002	VFCP / 59 - 60 -3	1428.60000	3977443.66100	4503827.96900
5003	VFCP / 59 - 60 -4	1415.01000	4503792.11200	4503792.11200
5004	VFCP / 61 - 1	1439.57000	3977052.84800	4503872.31900
5005	VFCP / 61 - 2	1395.54000	3976944.80800	4503727.72500
5006	VFCP / 61 - 3	1395.55000	3976852.86000	4503731.18200
5007	VFCP / 61 - 4	1427.99000	3976848.03300	4503843.79300
5008	VFCP / 58 - 1	1423.58000	3979029.04000	4503847.02000
5009	VFCP / 58 - 2	1427.74000	3979207.75400	4503793.10700
5010	VFCP / 58 - 3	1395.55000	3979164.90000	4503615.43500
5011	VFCP / 58 - 4	1395.56000	3979027.38400	4503653.31400

0 500 1000
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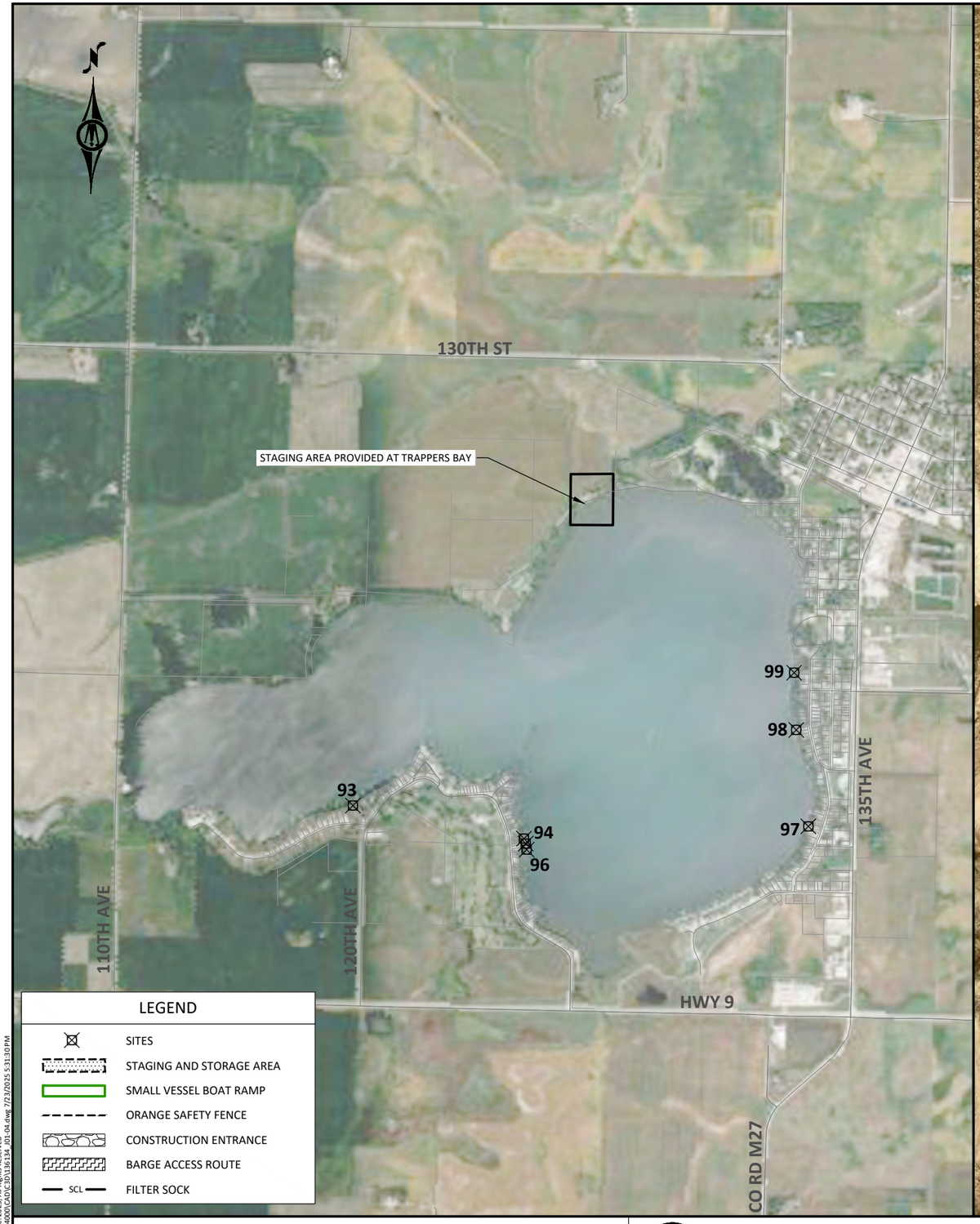
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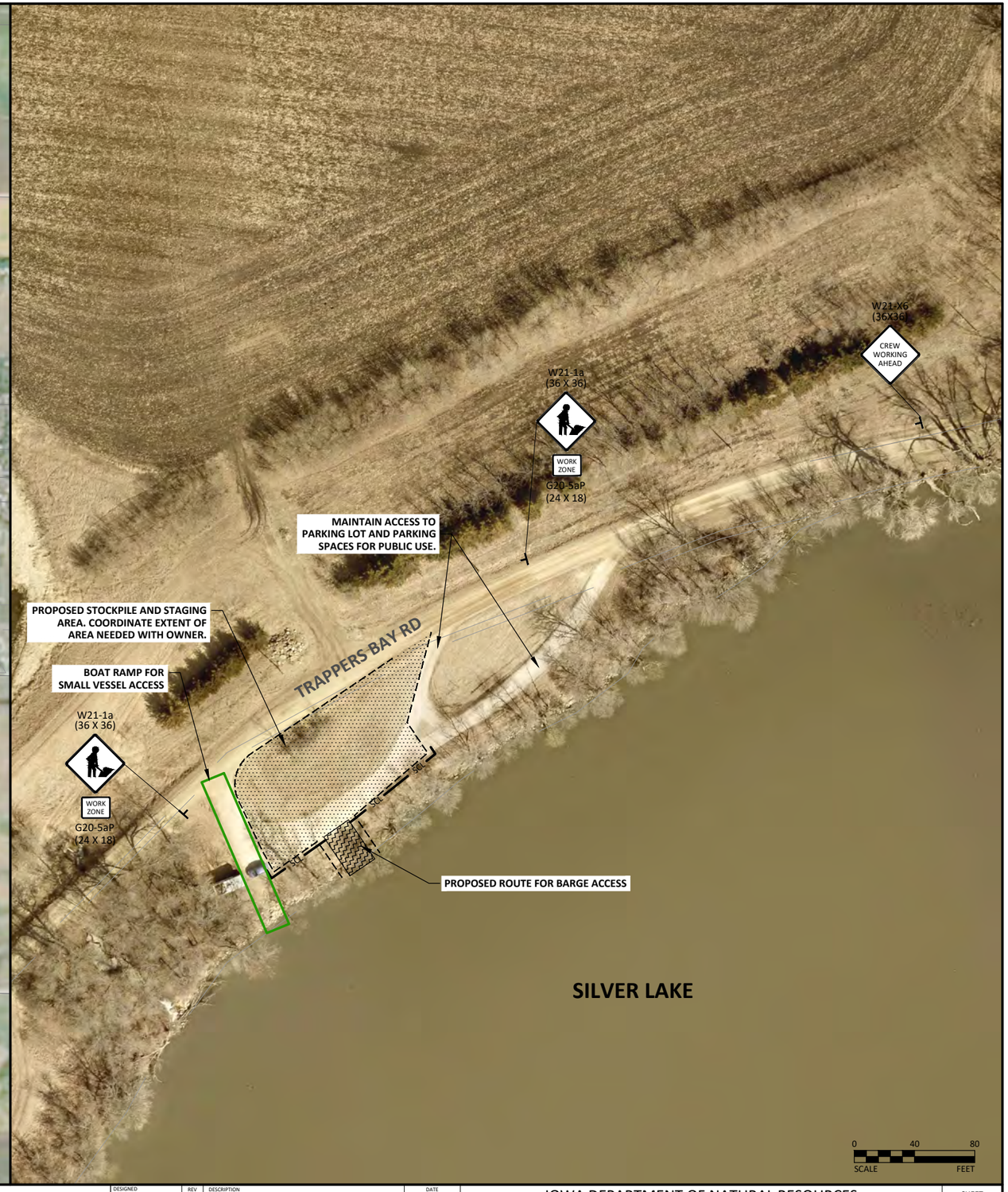
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CONTROL PLANS

SHEET
G.04

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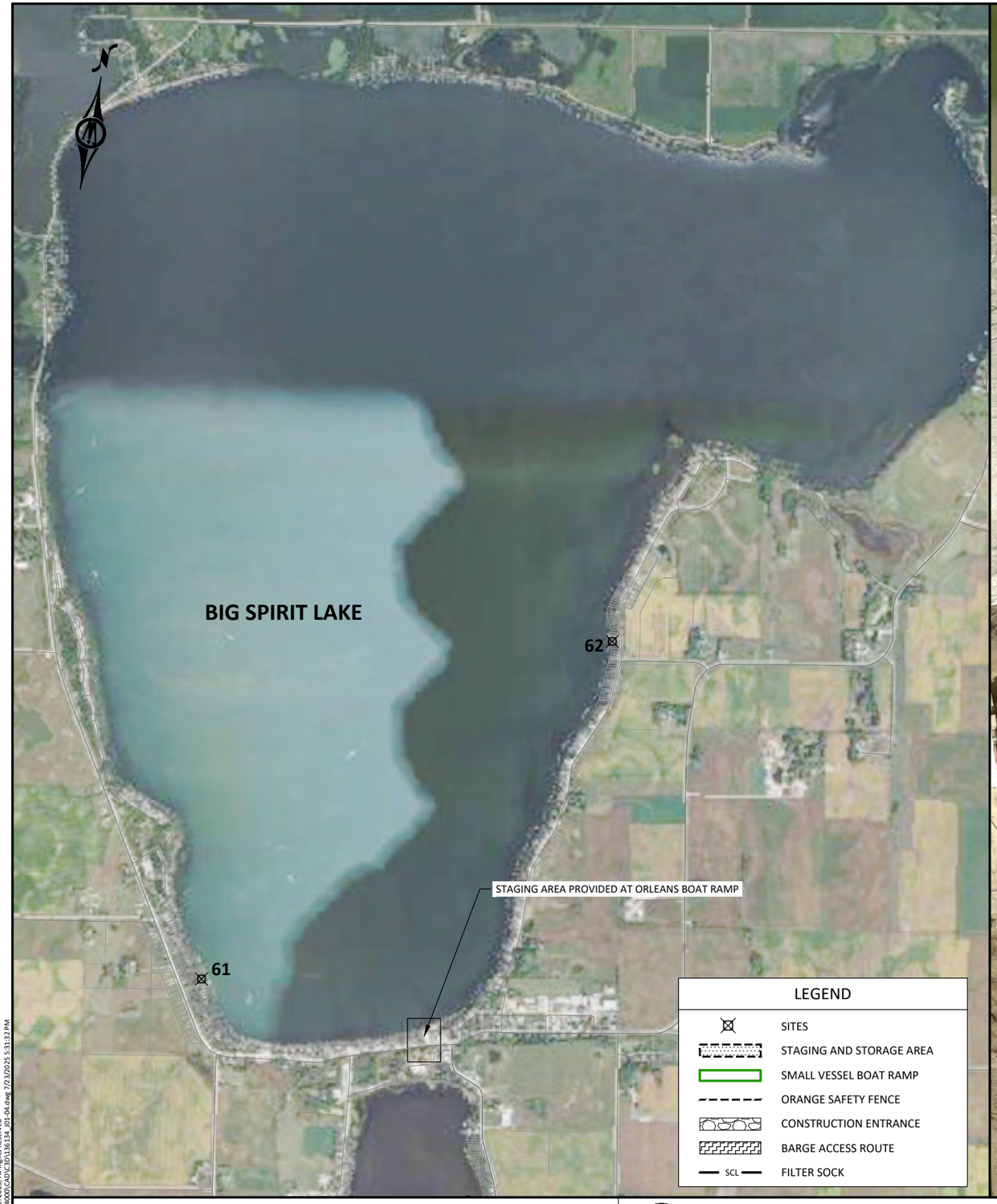
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STAGING AND TRAFFIC CONTROL - SILVER LAKE

SHEET
J.01





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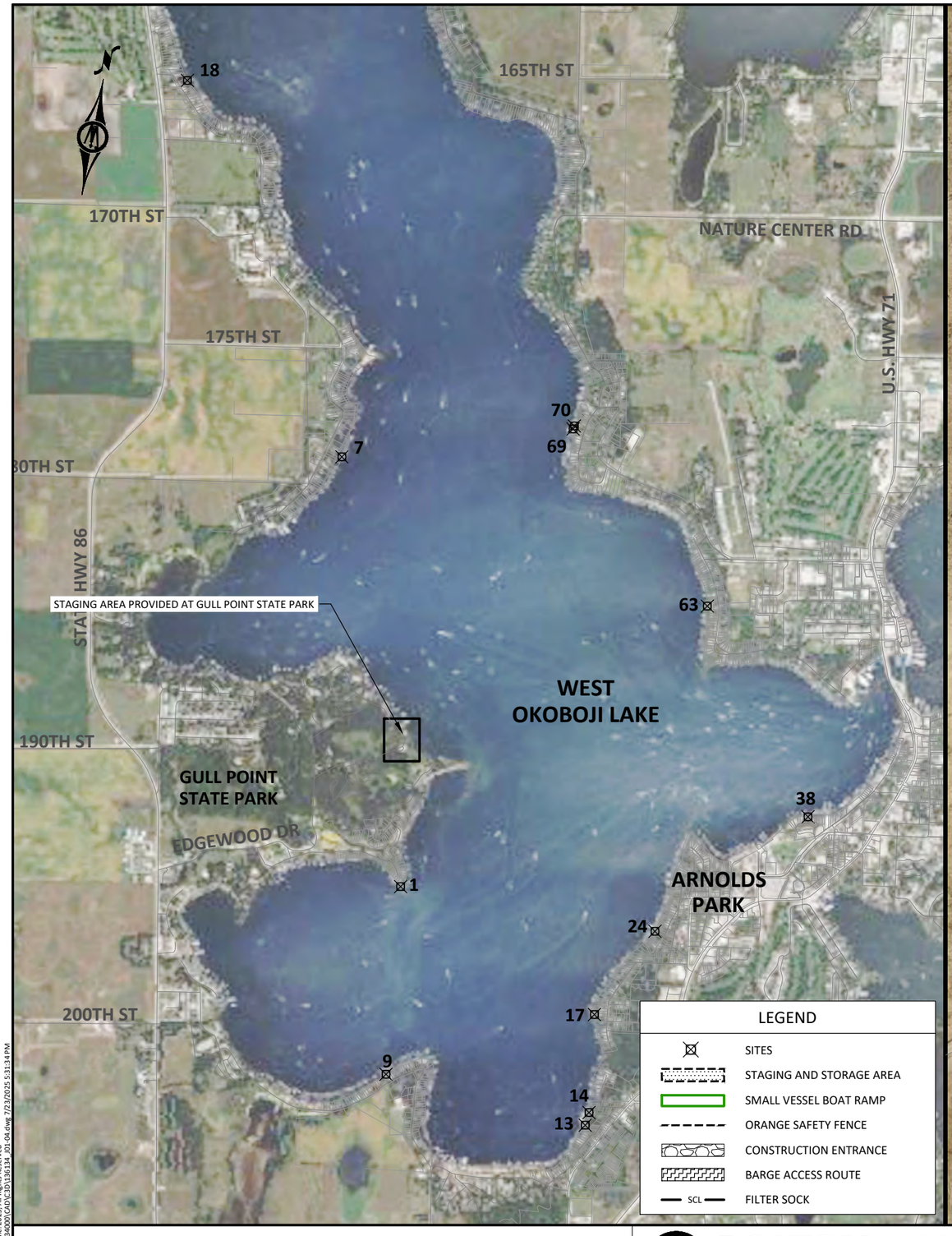
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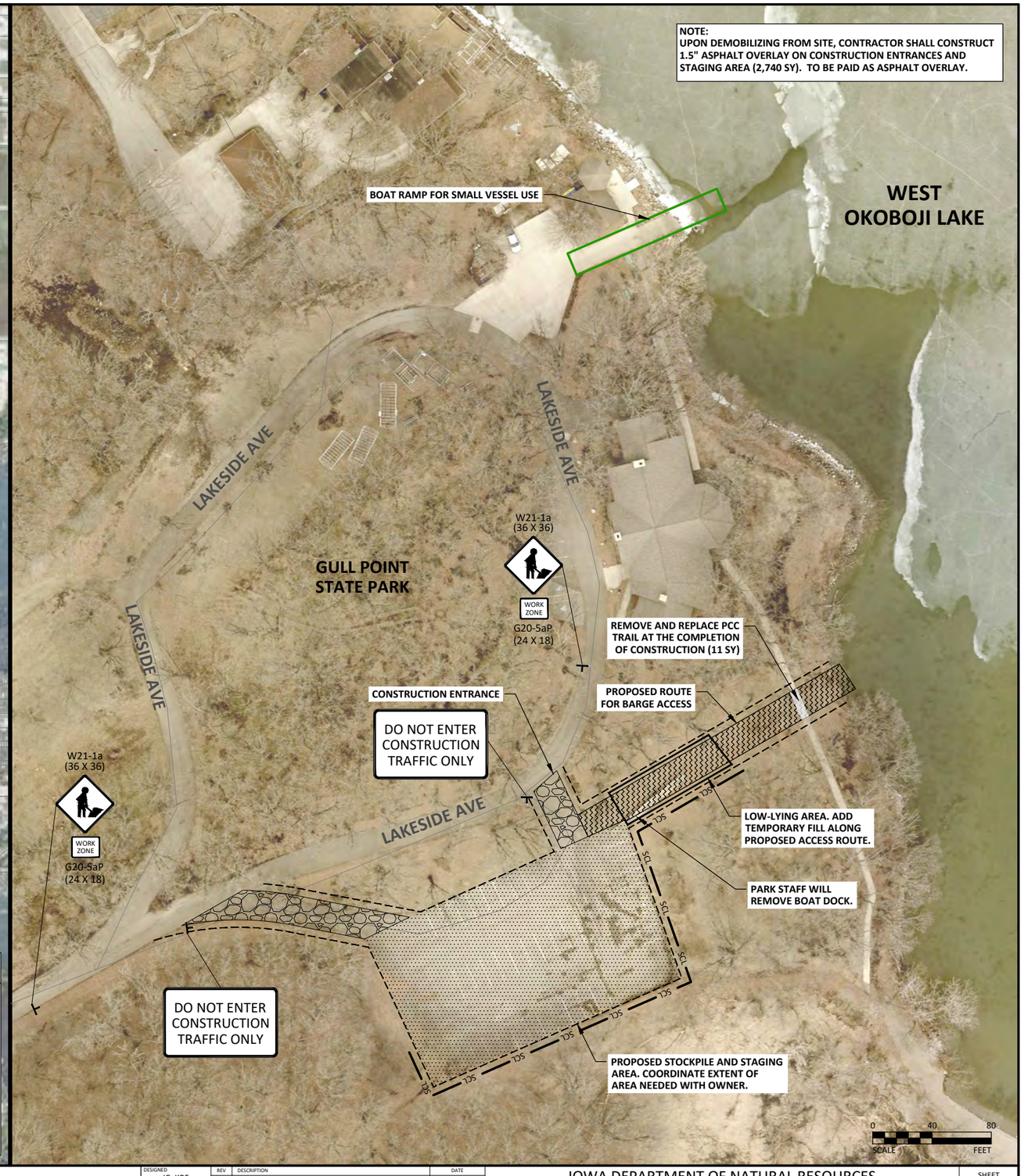
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STAGING AND TRAFFIC CONTROL - BIG SPIRIT LAKE

SHEET J.02

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IOWA DEPARTMENT OF NATURAL RESOURCES
IA GREAT LAKES SHORELINE STABILIZATION
STAGING AND TRAFFIC CONTROL - WEST OKOBOJI LAKE

SHEET
J.03

STAGING AREA PROVIDED AT ISTHMUS PARK

240TH AVE

60

U.S. HWY 71

5TH ST

SUNNER AVE

CITY OF SPIRIT LAKE

U.S. HWY 71

NATURE CENTER RD

HILL AVE

185TH ST

40
41

U.S. HWY 71

165TH ST

175TH ST

44
55
45
49
46
50
52

EAST OKOBOJI LAKE

56
58
59

260TH ST

173TH ST

W21-1a
(36 X 36)

WORK ZONE

G20-5aP
(24 X 18)

DO NOT ENTER CONSTRUCTION TRAFFIC ONLY

PROPOSED STOCKPILE AND STAGING AREA. COORDINATE EXTENT OF AREA NEEDED WITH OWNER.

SPIRIT LAKE HATCHERY

HILL AVE

MAINTAIN ACCESS TO PARK FACILITIES OUTSIDE OF STAGING AREA.

SCL

PROPOSED ROUTE FOR BARGE ACCESS

BOAT RAMP FOR SMALL VESSEL ACCESS

W21-1a
(36 X 36)

DO NOT ENTER CONSTRUCTION TRAFFIC ONLY

WORK ZONE

G20-5aP
(24 X 18)

EAST OKOBOJI LAKE

LEGEND

- SITES
- STAGING AND STORAGE AREA
- SMALL VESSEL BOAT RAMP
- ORANGE SAFETY FENCE
- CONSTRUCTION ENTRANCE
- BARGE ACCESS ROUTE
- SCL — FILTER SOCK

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SCALE FEET

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SCALE FEET

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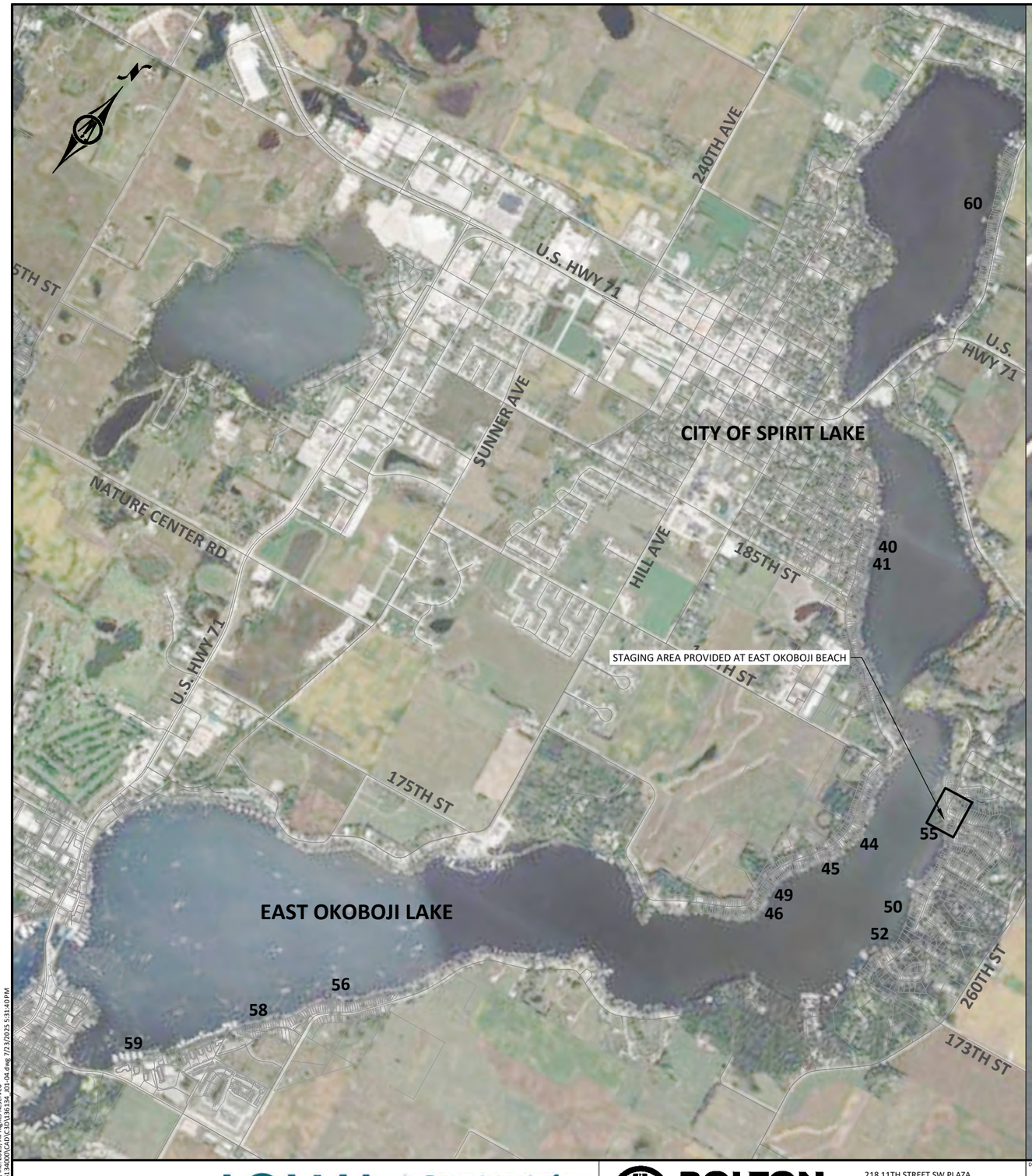
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STAGING AND TRAFFIC CONTROL - EAST OKOBOJI LAKE

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