Conservation Design Forum
Landscape Architecture · Planning · Civil / Water Resources Engineering · Sustainable Urbanism · Ecosystem Sciences

February 1, 2016

Federal Consistency Coordinator
Illinois Coastal Management Program
Illinois Department of Natural Resources
160 N LaSalle, Ste 700
Chicago, IL 60601

Re: Illinois Coastal Management Federal Consistency Application for Ravine Restoration at the Lake Forest Cemetery in Lake Forest, Illinois

To whom it may concern,

In accordance with the Coastal Zone Management Act (CZMA), the Federal and State Consistency Process for the Illinois' Coastal Management Program (ICMP), and as required by the USACE Individual Permit process, a federal consistency determination is requested from the Illinois Department of Natural Resources (IDNR) for the Lake Forest Cemetery Ravine Restoration Project. The Federal Permit Activity that has initiated this review is a permit for the disposal of dredged or fill material into waters of the United States required by Sec. 404 of the Clean Water Act, 33 U.S.C. § 403.

The proposed project consists of the restoration and bank stabilization of a natural ravine running through the Lake Forest Cemetery property from west to east. The western portion of the ravine extends onto private property west of the cemetery property line, up to the ravine head. Then the ravine extends eastward from the head approximately 500 linear feet, where a land bridge exists, under which the ravine flow is conveyed by a 30" culvert before outletting to the east portion of the ravine. The east ravine continues toward Lake Michigan in an open channel approximately 1,300 feet long, terminating at the bluff line, approximately 50 feet west of the Lake Michigan shoreline. This ravine restoration and bank stabilization project will restore and enhance the west and east portions of the ravine.

At the head of the west ravine, two existing PVC storm sewers, 6" and 18", discharge upstream stormwater. Being an intermittent drainageway with little to no baseflow, this is a flashy raving system, which has led to channel incision and headcutting of the west ravine, which in turn has allowed the banks to dewater and degrade the natural hydrology of the system.

The east ravine was previously stabilized with a concrete bottom, but it has become severely deteriorated such that water regularly flows underneath the channel. If this is allowed to continue, the degradation will accelerate undermining the concrete and downcutting the channel similar to the west ravine. The overall goal of the proposed restoration is to reestablish the historic hydrology, longitudinal slope, and banks of the two ravines to promote proper ravine ecology that allows stormwater to be conveyed in a manner that discourages erosion. It is proposed this be accomplished with the following measures:

Within the west ravine, the stormwater flows from the existing PVC storm sewers at the upstream end of the ravine will be captured in a proposed 24" storm sewer pipe to allow the flows to bypass the ravine. Over the pipe, clay backfill will be used to restore the channel to historic elevations and stop the dewatering of the slopes. The top

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layer of aggregate/topsoil mix will armor the channel against severe storm flows and allow for the establishment of vegetation.

Within the east ravine, the existing concrete channel will be rubbleized and then course aggregate will be added to the top of the existing concrete channel to form a stable channel. No planting is proposed for the east ravine, but over time sediment will likely fill in the voids of the stone and vegetation may begin to colonize.

The proposed ravine restoration effort will have a direct benefit to the ravine corridor and to Lake Michigan. The ravine channel restoration and the ravine slope stabilization will improve native plant diversity and cover, in particular in the groundlayer all along the wooded slopes. Expanding the restoration to include the top of slope and beyond will help to reduce stormwater runoff and provide an area of infiltration. Once established, the restored landscapes will help to hold water and allow for improved natural seepage along the ravine slopes. The restored ravine will have less erosion and lead to a reduction in the sediment load being transported down the ravine channel and toward the Lake Michigan shoreline. The project will have no other impacts on Lake Michigan. Construction within the ravine will end approximately fifty feet upstream of the limits of the Lake and will occur in dry periods, or will make use of Best Management Practices to ensure that construction discharges are not allowed to enter the ravine stream and flow toward the Lake Michigan shoreline.

Based on the expected positive impacts to the ravine corridor and Lake Michigan it has been determined that the project is consistent with the enforceable policies of the ICMP. **The proposed activity complies with Illinois' approved coastal management program and will be conducted in a manner consistent with such policies.**

Thank you for your review and consideration of this important project. Please do not hesitate to contact me should you have any questions or if we can provide you with any additional information.

Sincerely,
CONSERVATION DESIGN FORUM

Alex Heidtke
Project Manager
(630) 559-2006

JOINT APPLICATION FORM FOR ILLINOIS

ITEMS 1 AND 2 FOR AGENCY USE

1. Application Number	2. Date Received

3. and 4. (SEE SPECIAL INSTRUCTIONS) NAME, MAILING ADDRESS AND TELEPHONE NUMBERS

3a. Applicant's Name:	3b. Co-Applicant/Property Owner Name (if needed or if different from applicant):	4. Authorized Agent (an agent is not required):
Chuck Myers Company Name (if any) : City of Lake Forest Address: 800 N. Field Drive Lake Forest, IL 60045 Email Address:	Company Name (if any): Address: Email Address:	Tom Price P.E. Company Name (if any): Conservation Design Forum (CDF) Address: 403 W. St. Charles Road Lombard, Illinois 60148 Email Address:
Applicant's Phone Nos. w/area code Business: (847) 810-3565 Residence: Cell: Fax:	Applicant's Phone Nos. w/area code Business: Residence: Cell: Fax:	Agent's Phone Nos. w/area code Business: Residence: Cell: Fax:

STATEMENT OF AUTHORIZATION

I hereby authorize, Conservation Design Forum to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

Applicant's Signature

02/02/2016
Date

5. ADJOINING PROPERTY OWNERS (Upstream and Downstream of the water body and within Visual Reach of Project)

Name	Mailing Address	Phone No. w/area code
a. See attached sheet b. c. d.		

6. PROJECT TITLE:
Lake Forest Cemetery Ravine Restoration

7. PROJECT LOCATION:
Ravine passing through the Lake Forest Cemetery. Upstream project limit is the ravine head. Downstream project limit is the end of the ravine at the Lake Michigan beach.

LATITUDE: 42.26790 °N LONGITUDE: -87.83412 °W	UTMs Northing: Easting:				
STREET, ROAD, OR OTHER DESCRIPTIVE LOCATION Main entrance for Lake Forest Cemetery is at 520 Spruce Avenue. Continue on Elder Path to northwest corner of cemetery.	LEGAL DESCRIPT	QUARTER NE	SECTION 28	TOWNSHIP NO. 44N	RANGE 12E

☒ IN OR ☐ NEAR CITY OF TOWN (check appropriate box) Municipality Name City of Lake Forest			WATERWAY	RIVER MILE (If applicable)
COUNTY Lake	STATE IL	ZIP CODE 60045	Not named; storm drainage only within ravine.	N/A

Revised 2010

☐ Corps of Engineers ☐ IL Dep't of Natural Resources ☐ IL Environmental Protection Agency ☐ Applicant's Copy

LOCATION MAP

Revised 2010

☐ Corps of Engineers ☐ IL Dep't of Natural Resources ☐ IL Environmental Protection Agency ☐ Applicant's Copy

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December 16, 2015

Ms. Melyssa Navis and Kathy Chernich
U.S. Army Corps of Engineers, Chicago District
231 South LaSalle Street, Suite 1500
Chicago, Illinois 60604

Re: Joint Permit Application for the Lake Forest Cemetery Ravine Restoration, Lake Forest, Illinois

Dear Ms. Navis,

The City of Lake Forest is hereby requesting authorization via Individual Permit for the above referenced project, as discussed during our site meeting with you on December 15, 2015. As the designer, Conservation Design Forum is acting as an Authorized Agent on behalf of the City, the owner of Lake Forest Cemetery, including the ravine. The proposed improvements are located within the natural ravine running through cemetery property from west to east. The western portion of the ravine extends onto private property west of the cemetery property line, up to the ravine head. The ravine extends eastward from the head approximately 500 linear feet, where a land bridge exists, under which the ravine flow is conveyed by a 30" culvert before outletting to the east portion of the ravine and continuing to Lake Michigan in an open channel approximately 1,300 feet long. This ravine restoration and bank stabilization project will restore and enhance the west and east portions of the ravine.

At the head of the ravine, two existing PVC storm sewers, 18"and 6", discharge stormwater from upstream. Being an intermittent drainageway with little to no baseflow, this is a flashy ravine system which has led to channel incision and headcutting of the west ravine, which in turn has allowed the banks to dewater and degrade the natural hydrology of the system. The overall goal of the proposed west ravine restoration is to reestablish the historic hydrology, longitudinal slope, and banks of the ravine to promote a proper ravine ecology that allows stormwater to be conveyed in a manner that discourages erosion.

The east ravine receives discharge from the west ravine. Long ago, the bottom of the east ravine was lined with a concrete channel. However, the concrete is failing, allowing flow under the concrete and undermining the channel. As the undermining continues, it will lead to downcutting and destabilization of the ravine slopes. The goal of the proposed east ravine restoration is to allow restoration of the native ravine slide slopes by preventing downcutting of the ravine bottom that would lead to destabilization of the slopes.

It is proposed that the east and west ravine restoration goals be accomplished with the following measures:

Being split by a land bridge, and having differing existing conditions, separate restorative approaches are needed for the west and east ravines. Within the west ravine the existing PVC storm sewers at the upstream end of the ravine will be extended a short distance to tie into a common manhole structure. A proposed 24" concrete pipe will also tie into this structure and extend downstream, with appropriately placed manholes to accommodate bends in the pipe, to discharge into a final manhole that is the upstream point of the existing 30"culvert under the land bridge. The pipe trench will be filled with CA-6 stone. Over the pipe, clay backfill will be used to restore the channel to historic elevations and stop dewatering of the slopes. An additional measure to prevent dewatering of the slopes and transmission of flow through the trench backfill around the pipe is the installation of concrete waterstops along the pipe trench, extended into the clay backfill. Finally, a 6" thick

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layer of a topsoil/crushed stone mix will serve as the top surface of the newly restored ravine section to facilitate plant growth while also providing armoring of the ravine bottom to prevent scour that could occur as the result of an extreme runoff event. The final manhole in the ravine before the land bridge will have a beehive lid to collect any runoff that flows down the ravine, allowing it to continue under the land bridge via the 30"culvert.

The ravine bottom will be restored to previous elevations by implementing a standard section as shown in the plan set, which includes a CA-6 aggregate pipe trench with clay backfill material above the trench up to a field-determined historic elevation to restore and prevent continued dewatering of the slopes. This will create stable ravine slopes and hydrologic conditions that support plant growth instead of leading to continued erosion. The proposed work within the west ravine will impact a total of 0.54 acres. The intent is to establish growth along the west ravine bottom and slopes with a diverse cover crop seed mix. After multiple site visits during different seasons, including an informal onsite meeting with the Lake County Stormwater Commission (SMC), we believe no wetlands exist on the site.

The east ravine, into which the 30" culvert under the land bridge discharges, was previously stabilized with a concrete bottom. While the concrete eliminated any natural ravine bottom flora, it has helped to prevent downcutting of the ravine bottom and destabilization of the ravine slopes. However, the concrete has become severely deteriorated such that water regularly flows underneath the channel. The proposed approach through this section of ravine is to rubblize (break up) the existing concrete into ± 8" chunks and add 3"-6" cobble to create a consistent and stable section. The length of this concrete bottom east ravine is approximately 1,300 feet, terminating at the bluff line west of the beach. While no planting is currently planned for the east ravine bottom, sediment will likely fill the voids in the stone over time and vegetation may begin to colonize. The proposed work within the east ravine will impact a total of 0.61 acres.

The restoration and stabilization measures described above were developed based on the included Restoration Management Plan (RMP), a guiding document for the City and cemetery for the long-term management of the ravine. However, it is important to note several differences between the RMP and the proposed work for which a permit is being requested:

- The RMP lays out a long-term plan (10+ years) for restoring the ravine. The first phase – installation of stabilization features along with establishment of cover crop – is what this permit application refers to. Follow-up phases are intended to provide further clearing of invasives, plugging to establish a diverse native plant ground cover, and ongoing maintenance. This approach is important because it allows the City to understand how the ravine will react and adapt the plantings and maintenance practices accordingly.
- The RMP discusses a small wetland, approximately 1,180 square feet in size, just west of the land bridge. At the time of initial site investigation, this area lacked a dominance of wetland vegetation and it was determined it would not meet the criteria of jurisdictional wetland habitat. Subsequent site visits over three years and during multiple seasons have corroborated this determination. No additional plans are included in this application to address this small area that was initially thought to be wetland.
- The RMP indicates removal of woody debris along the side slopes. However, this will be done as part of separate management work and invasives removal, and is not part of this application package.
- The RMP indicates use of double-walled corrugated plastic pipe along the west ravine, but discussions with the City regarding engineering standards have concluded with the use of reinforced concrete pipe with standard manholes flush with the reestablished ravine bottom and water stop along the pipe trench to prevent water movement through the granular backfill.

Based on our onsite conversation with you on December 15, 2015, we understand the documentation included within this submittal appropriately details the proposed work within the ravine. We are hereby requesting authorization for this project via Individual Permit.

This request for authorization will serve as written notification to the District regarding our desire to receive authorization for this project as an Individual Permit. Under this cover, please find: a completed joint application form with appendices mentioned above (Section 1); Site Characterization and Plant List (Section 2); 11"x17" engineering drawings showing the proposed work within the ravine, the location of waters of the US, the location of impacts to waters of the US, and soil erosion and sediment control measures (Section 3); and the Restoration Management Plan describing proposed work on both the east and west ravine (Section 4).

We plan to commence work with the west ravine improvements in the summer of 2016. East ravine work is planned to begin within five years, the exact timeframe dependent on securing funds. It is anticipated construction will be substantially complete by 2020.

Thank you for your review and consideration of this important project. Please do not hesitate to contact me should you have any questions or if we can provide you with any additional information.

Sincerely,
CONSERVATION DESIGN FORUM

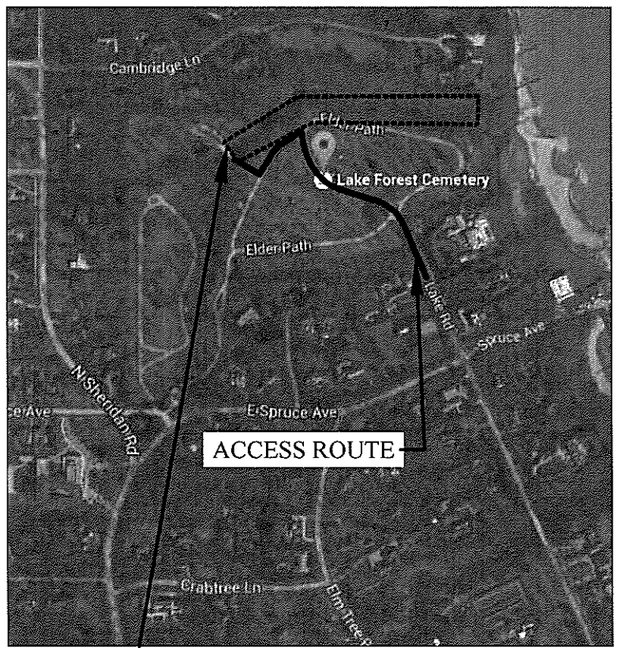
Thomas Price, P.E.
Principal Water Resources Engineer

LAKE FOREST CEMETERY RAVINE RESTORATION
EAST RAVINE

1525 N. LAKE ROAD
LAKE FOREST, ILLINOIS

12015.00

LOCATION MAP



NTS

SCHEDULE OF DRAWINGS

ABBREVIATIONS & SYMBOLS

AC	ACRE	LBS	POUNDS
A.S.T.M.	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MANUF'S	MANUFACTURE'S
		MAX.	MAXIMUM
BIT.	BITUMINOUS	MGR	MANAGER
BC	BOTTOM OF CURB	MH	MANHOLE
BS	BOTTOM OF STEP	NO.	NUMBER
BW	BOTTOM OF WALL	MIN.	MINIMUM
CA	COARSE AGGREGATE	NTS	NOT TO SCALE
CB	CATCH BASIN	OC	ON CENTER
CLR	CLEARANCE	OD	OUTSIDE DIAMETER
CONC.	CONCRETE	ORD.	ORDINANCE
CONT.	CONTINUOUS	PC	POINT OF CURVATURE
CMU	CONCRETE MASONRY UNIT	PCC	PORTLAND CEMENT CONCRETE
CL	CENTER LINE		
DF	DRINKING FOUNTAIN	PI	POINT OF INTERSECTION
DI	DUCTILE IRON PIPE	PSI	POUNDS PER SQUARE INCH
DIA.	DIAMETER	PT	POINT OF TANGENCY
DWG	DRAWING	R	RADIUS
EJ	EXPANSION JOINT	REINF.	REINFORCED
EP	EDGE OF PAVEMENT	REQD	REQUIRED
ELEV.	ELEVATION	SAN.	SANITARY
EQ	EQUAL	SIM.	SIMILAR
EXT.	EXTERIOR	SPEC(S)	SPECIFICATION(S)
FH	FIRE HYDRANT	STD	STANDARD
FP	FOCAL POINT	STL	STEEL
FT	FEET	SS	STAINLESS STEEL
GA	GAUGE	TS	TOP OF STEP
GAL.	GALLON	TC	TOP OF CURB
GEN.	GENERAL	TW	TOP OF WALL
GPM	GALLONS PER MINUTE	TYP.	TYPICAL
GV	GAS VALVE	VIT.	VITRIFIED
HT	HEIGHT	VCP	VITRIFIED CLAY PIPE
HP	HIGH POINT	W/	WITH
HYD.	HYDRANT	WSP	WOODEN SERVICE POLE
IDEN.	IDENTIFICATION	WV	WATER VALVE
INFO.	INFORMATION	WM	WATER METER
INL	INLET	WWM	WELDED WIRE MESH
INV	PIPE INVERT		

PERMIT SET
DATE: FEBRUARY 2016

NOTE:
THE EXACT LOCATIONS OF ALL UTILITIES SHALL BE VERIFIED BE THE CONTRACTOR PRIOR TO CONSTRUCTION ACTIVITIES. FOR UTILITY LOCATIONS CALL:

DIGGER 312-744-7000

DETAIL REFERENCE

X / XX - DETAIL NUMBER / - SHEET NUMBER

Civil Engineer:
Conservation Design Forum
403 W. St. Charles Road
Lombard, Illinois 60148
630.559.2000 Phone
630.559.2030 Fax
www.cdfinc.com

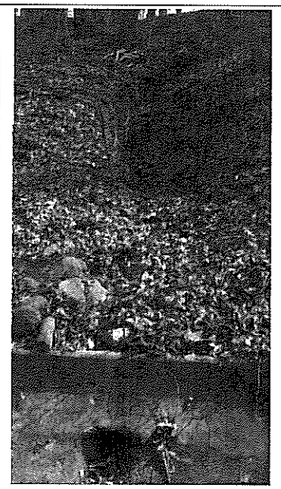
Client:
City of Lake Forest
800 North Field Drive
Lake Forest, Illinois 60045
847.810.3561 Phone

Lake Forest Cemetery
Ravine Restoration
East Ravine
Cover

Issue/Revision

Status: Permit Set | Drwn by: AH | Chkd by: JG
Date: February 2016 | Job No. 12015.00

C-0.00



13

14

EX. MANHOLE

TOP OF RAVINE

GULLY DEPTH VARIES 1'-6'. 9

GULLY DEPTH VARIES 1'-4'. 10

LAKE FOREST SUBDIVISION

LAKE FOREST CEMETERY

IMPERIAL WOOD SUBDI

LOT 8 -

RECORDED AUGUST 12, 1965 AS DOCUMEN

11 SLUMP AREA AVERAGE SOIL LOSS 3'.

EX. MANHOLE

EX. WOOD BRIDGE

GULLY DEPTH VARIES 1'-6'. 12

LOT 7
IMPERIAL WOOD SUBDIVISION
RECORDED AUGUST 12, 1965 AS DOCUMENT NUMBER 1273371

SLUMP AREA

LOT6
IMPERIAL WOOD SUBDIVISION
RECORDED AUGUST 12, 1965 AS DOCUMENT NUMBER 1273371

TOP OF RAVINE

MOW LINE

GULLY DEPTH VARIES 1'-3'. 13

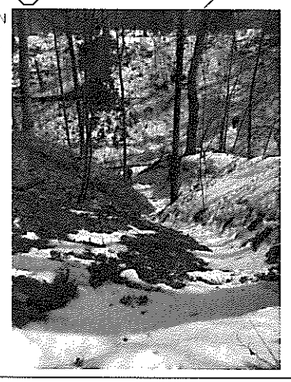
GULLY DEPTH VARIES 1'-4'. 14

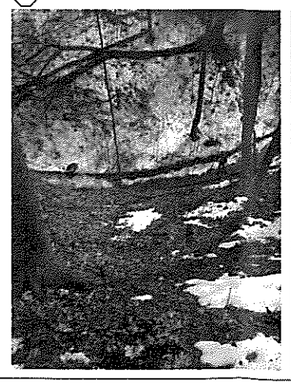
ELDER PATH ℄

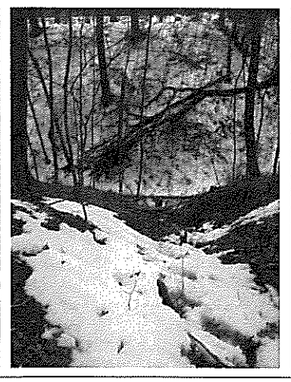
LAKE FOREST SUBDIVISION

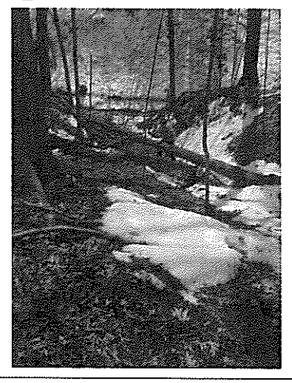
LAKE FOREST CEMETERY

12 11 10 9







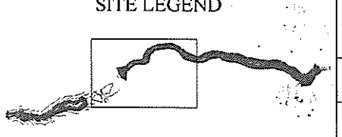


LEGEND

EXISTING CONTOUR

GULLY

SITE LEGEND



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Scale 1"=20'-0"

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Lake Forest Cemetery
Ravine Restoration
East Ravine
Existing Conditions

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APPROXIMATE LOCATION OF EX. STRUCTURE

SLUMP AREA AVERAGE SOIL LOSS 2'-3'. (8)

GULLY DEPTH VARIES 2'-3'. (7)

GULLY DEPTH 3'. (6)

GULLY DEPTH VARIES 4'-7'. (5)

GULLY DEPTH VARIES 3'-6'. (3)

GULLY DEPTH VARIES 1'-4'. (2)

GULLY DEPTH 1.5'. (1)

TOP OF RAVINE

SLUMP AREA (4)

EX. BRICK WALL

TOP OF RAVINE

MOW LINE

ELDER PATH ℄

FERRY FIELD AND FERRY WOOD SUBDIVISION
RECORDED MAY 18, 1911 AS DOCUMENT NUMBER 135670

LOT 5

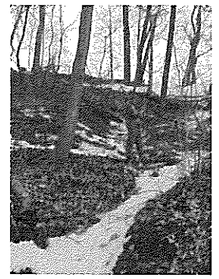
FOREST SUBDIVISION

FOREST CEMETERY

FERRY FIELD AND FE
RECORDED MAY 18, 1911


4


3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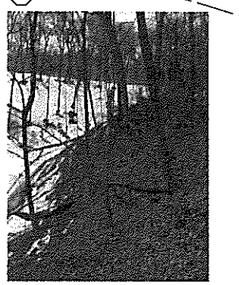
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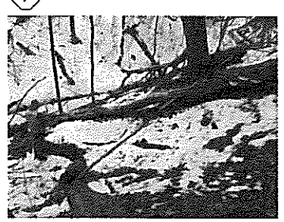
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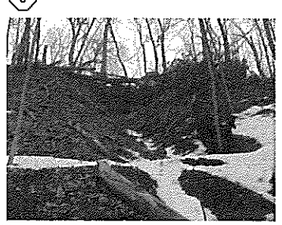
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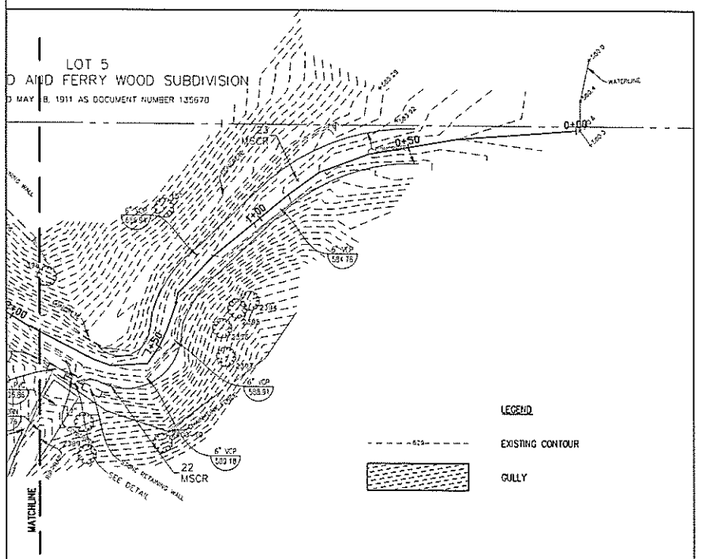
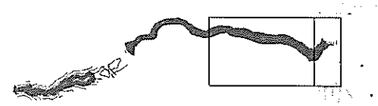


SITE LEGEND



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Scale 1"=20'-0"

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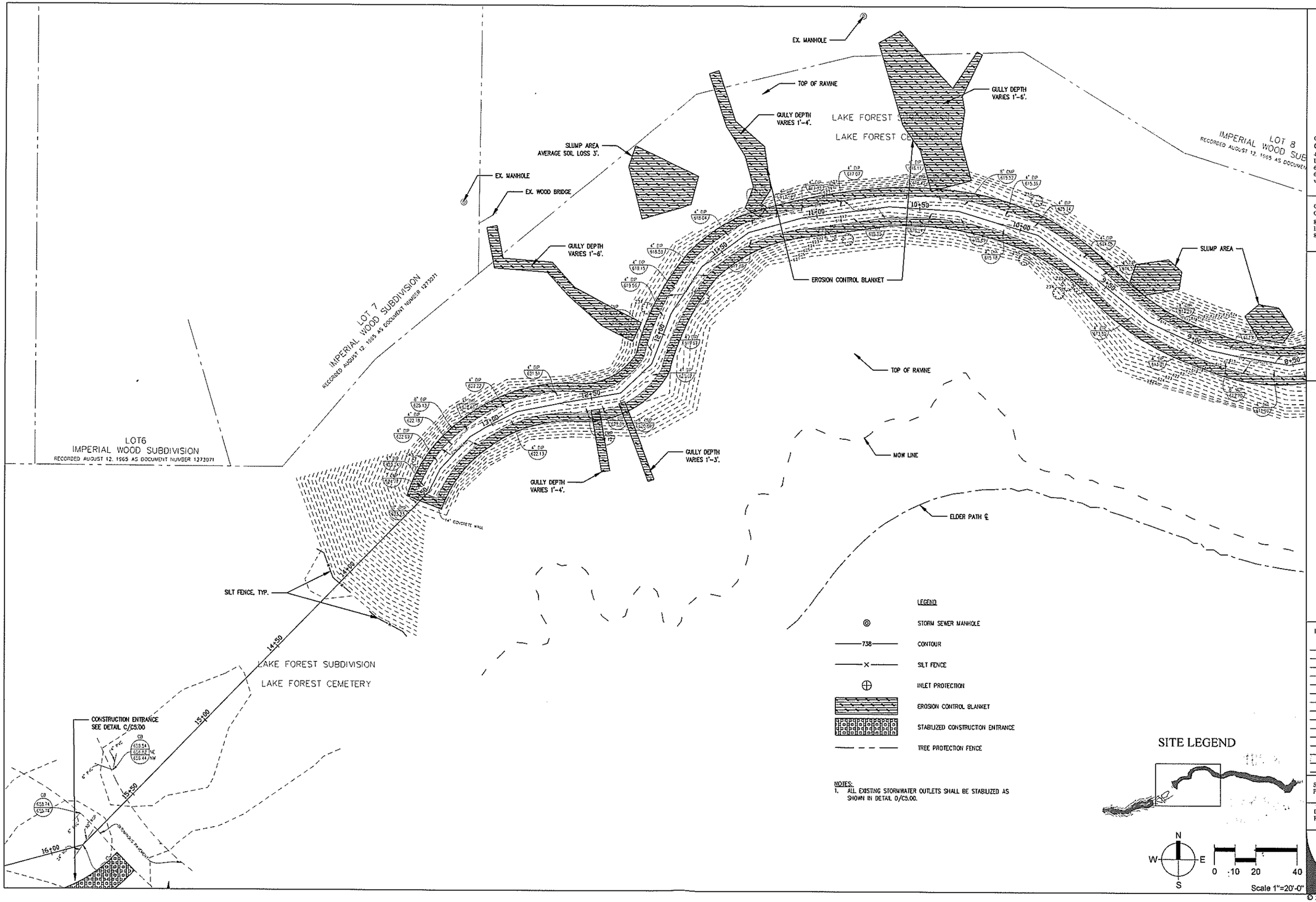

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Lake Forest Cemetery Ravine Restoration East Ravine Stormwater Pollution Prevention Plan

Issue/Revision

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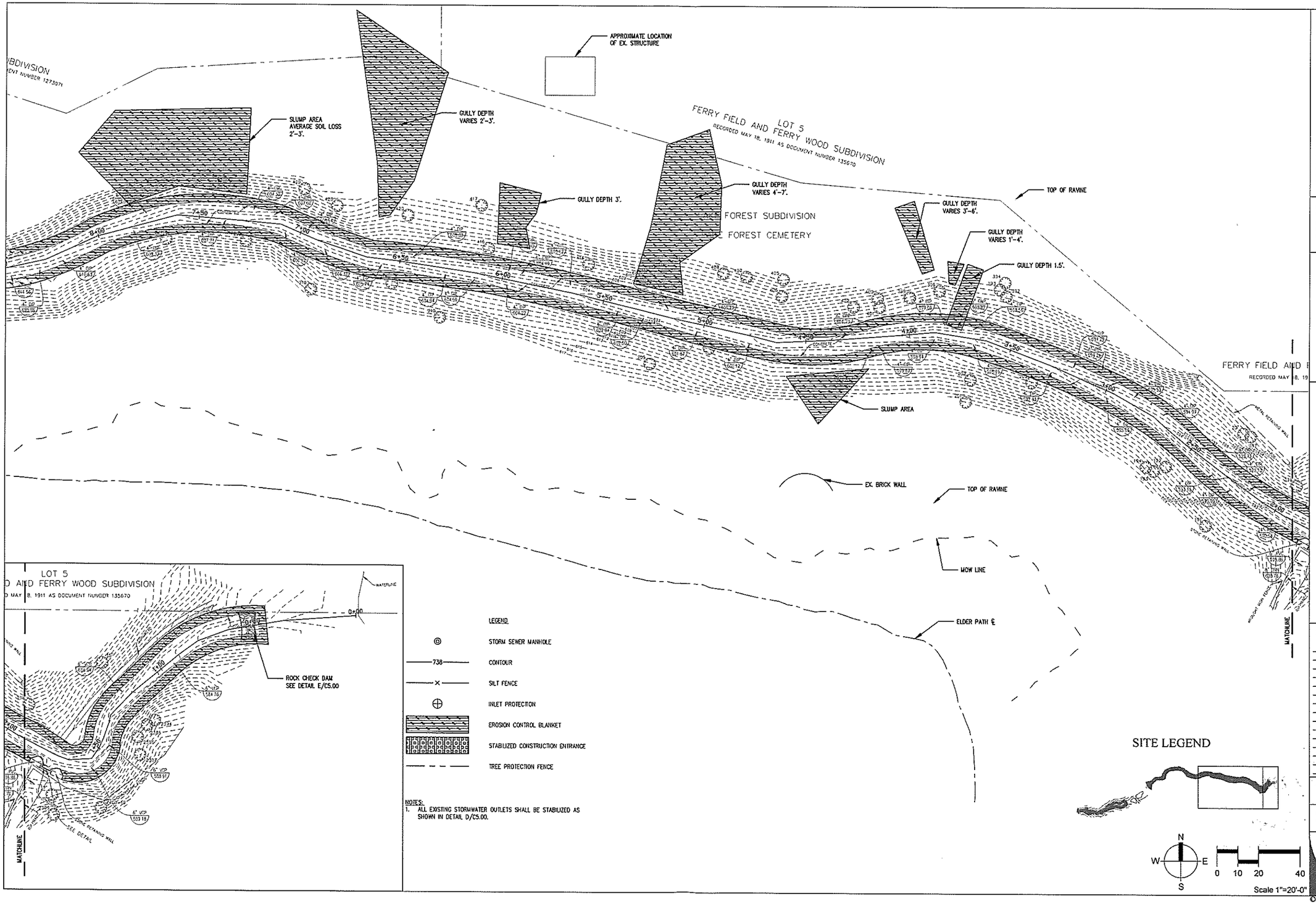

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C-2.01

STORMWATER POLLUTION PREVENTION PLAN

I. SITE DESCRIPTION

A. THE FOLLOWING IS A DESCRIPTION OF THE NATURE OF THE CONSTRUCTION ACTIVITY OR DEMOLITION WORK:

THE PROJECT INCLUDES THE REGRADING AND STABILIZATION OF THE RAVINE.

B. THE FOLLOWING IS A DESCRIPTION OF THE INTENDED SEQUENCE OF MAJOR ACTIVITIES WHICH DISTURB SOILS FOR MAJOR PORTIONS OF THE SITE.

- INSTALLATION OF SESC MEASURES
- DEMOLITION
- TOPSOIL STRIPPING
- GRADING
- CONSTRUCTION OF PROPOSED IMPROVEMENTS
- TOPSOIL RESPREAD
- PLANTINGS AND FINAL STABILIZATION
- REMOVAL OF SESC MEASURES

C. THE FOLLOWING IS AN ESTIMATE OF THE TOTAL AREA OF THE SITE AND THE TOTAL AREA OF THE SITE THAT IS EXPECTED TO BE DISTURBED BY EXCAVATION, GRADING, OR OTHER ACTIVITIES.

DISTURBED AREA: +/- 0.61 AC

D. THE FOLLOWING IS AN ESTIMATE OF THE RUNOFF COEFFICIENT OF THE SITE AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED AND EXISTING DATA DESCRIBING THE SOIL OR THE QUALITY OF ANY DISCHARGE FROM THE SITE.

POST-DEVELOPMENT RUNOFF COEFFICIENT: 0.78 (NO CHANGE FROM EXISTING)
SOIL TYPES: SILT LOAM

E. REFER TO THE DRAWINGS FOR SITE MAPS INDICATING DRAINAGE PATTERNS AND APPROXIMATE SLOPES ANTICIPATED BEFORE AND AFTER MAJOR GRADING ACTIVITIES, LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AND CONTROLS TO PREVENT OFFSITE SEDIMENT TRACKING, AREAS OF SOIL DISTURBANCE, THE LOCATION OF MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS IDENTIFIED IN THIS PLAN, THE LOCATION OF AREAS WHERE STABILIZATION PRACTICES ARE EXPECTED TO OCCUR, SURFACE WATERS (INCLUDING WETLANDS) AND LOCATIONS WHERE STORMWATER IS DISCHARGED TO A SURFACE WATER.

F. THE FOLLOWING IS THE NAME OF THE THE RECEIVING WATER(S), AND WETLAND ACREAGE AT THE SITE.

RECEIVING WATERS: LAKE MICHIGAN
WETLAND ACREAGE: 0 AC

2. CONTROLS

THIS SECTION OF THE PLAN INCLUDES A DESCRIPTION OF APPROPRIATE CONTROLS THAT WILL BE IMPLEMENTED AT THE CONSTRUCTION SITE FOR EACH MAJOR ACTIVITY IDENTIFIED IN PARAGRAPH I.B. ABOVE. FOR EACH CONTROL DISCUSSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS IMPLEMENTATION AS INDICATED. EACH CONTRACTOR HAS SIGNED THE REQUIRED CERTIFICATION ON FORMS WHICH ARE ATTACHED TO, AND ARE A PART OF, THIS PLAN. THE SWPPP DRAWINGS INCLUDED SHALL DEFINE THE SIZE AND LOCATION OF THE CONTROLS TO BE INSTALLED DURING THE CONSTRUCTION OF THIS PROJECT

A. EROSION AND SEDIMENT CONTROLS

(i) STABILIZATION PRACTICES

PROVIDED BELOW IS A DESCRIPTION OF INTERIM AND PERMANENT STABILIZATION PRACTICES, INCLUDING SITE-SPECIFIC SCHEDULING OF THE IMPLEMENTATION OF THE PRACTICES. SITE PLANS ENSURE THAT EXISTING VEGETATION IS PRESERVED WHERE PRACTICABLE AND DISTURBED PORTIONS OF THE SITE WILL BE STABILIZED. EXCEPT AS PROVIDED BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

- WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 7TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY SNOW COVER, STABILIZATION SHALL BE INITIATED AS SOON AS PRACTICABLE.
- WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 14 DAYS FROM WHEN ACTIVITIES CEASED, THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE BY THE 7TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.

DESCRIPTION OF STABILIZATION PRACTICES

- TEMPORARY STABILIZATION WITH EROSION CONTROL BLANKET - TEMPORARY SEEDING OR STRAW MULCH - TEMPORARY SEEDING SHALL BE USED TO STABILIZE CONSTRUCTION AREAS WHERE CONSTRUCTION ACTIVITY IS HALTED FOR MORE THAN 14 DAYS OR AREAS WHERE THE FINAL GRADE HAS BEEN REACHED BUT CANNOT BE PERMANENTLY STABILIZED DUE TO THE PLANTING SEASON RESTRICTIONS OF THE PERMANENT STABILIZATION.
- PERMANENT STABILIZATION WITH PERMANENT SEEDING AND LIVE PLANT MATERIAL SHALL BE USED TO STABILIZE AREAS WHERE FINAL GRADE HAS BEEN REACHED.

(ii) STRUCTURAL PRACTICES

PROVIDED BELOW IS A DESCRIPTION OF STRUCTURAL PRACTICES UTILIZED TO DIVERT FLOWS FROM EXPOSED SOILS, STORE FLOWS, OR OTHERWISE LIMIT RUNOFF AND THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO SECTION 404 OF THE CLEAN WATER ACT.

DESCRIPTION OF STRUCTURAL PRACTICES

- SILT FENCE SHALL BE INSTALLED AT THE LOCATIONS INDICATED, AND ALL OTHER LOCATIONS AS APPROPRIATE.
- INLET PROTECTION SHALL BE INSTALLED AT THE LOCATIONS INDICATED, AND ALL OTHER LOCATIONS AS APPROPRIATE.
- STABILIZED CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED AT THE LOCATIONS INDICATED, AND ALL OTHER LOCATIONS WHERE CONSTRUCTION TRAFFIC ENTERS OR EXITS THE SITE.
- STOCKPILES THAT ARE TO REMAIN IN PLACE FOR MORE THAN THREE DAYS SHALL HAVE SOIL EROSION AND SEDIMENT CONTROL PROVIDED. AT A MINIMUM, SILT FENCE SHALL BE PLACED AROUND THE BOTTOM OF THE STOCKPILE.

(iii) BEST MANAGEMENT PRACTICES

VEGETATION ESTABLISHMENT, GEOTEXTILES

B. STORMWATER MANAGEMENT

PROVIDED BELOW IS A DESCRIPTION OF THE MEASURES THAT WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORMWATER DISCHARGES THAT WILL OCCUR AFTER CONSTRUCTION OPERATION HAVE BEEN COMPLETED. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO SECTION 404 OF THE CLEAN WATER ACT. THIS PLAN ONLY ADDRESSES THE INSTALLATION OF STORMWATER MANAGEMENT MEASURES, AND NOT THE ULTIMATE OPERATION AND MAINTENANCE OF SUCH STRUCTURES AFTER THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED AND THE SITE HAS UNDERGONE FINAL STABILIZATION. PERMITTEES ARE RESPONSIBLE FOR ONLY INSTALLATION AND MAINTENANCE OF STORMWATER MANAGEMENT MEASURES PRIOR TO FINAL STABILIZATION OF THE SITE, AND ARE NOT RESPONSIBLE FOR MAINTENANCE OF STORMWATER MANAGEMENT MEASURES AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED AND THE SITE HAS UNDERGONE FINAL STABILIZATION.

DESCRIPTION OF STORMWATER MANAGEMENT MEASURES

- VEGETATION ESTABLISHMENT AND GEOTEXTILES WILL HELP STABILIZE THE CHANNEL SLOPES AND REDUCE EROSION THROUGH THE CHANNEL.

C. OTHER CONTROLS

(i) VEHICLE ENTRANCES AND EXITS: STABILIZED CONSTRUCTION ENTRANCES AND EXITS SHALL BE CONSTRUCTED TO PREVENT TRACKING OF SEDIMENT ON ROADWAYS.

(ii) MATERIAL DELIVERY, STORAGE, AND USE: THE FOLLOWING BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED TO HELP PREVENT DISCHARGES OF CONSTRUCTION MATERIALS DURING DELIVERY, STORAGE, AND USE.

- ALL PRODUCTS DELIVERED TO THE PROJECT SITE MUST BE PROPERLY LABELED
- WATER TIGHT SHIPPING CONTAINERS AND/OR SEMI TRAILERS SHALL BE USED TO STORE HAND TOOLS, SMALL PARTS, AND MOST CONSTRUCTION MATERIALS THAT CAN BE CARRIED BY HAND, SUCH AS PAINT CANS, SOLVENTS, AND GREASE.
- A STORAGE / CONTAINMENT FACILITY SHOULD BE CHOSEN FOR LARGER ITEMS SUCH AS DRUMS AND ITEMS SHIPPED OR STORED ON PALLETS. SUCH MATERIAL IS TO BE COVERED BY A TIN ROOF OR LARGE SHEETS OF PLASTIC TO PREVENT PRECIPITATION FROM COMING INTO CONTACT WITH THE PRODUCTS BEING STORED.
- LARGE ITEMS SUCH AS LIGHT STANDS, FRAMING MATERIALS AND LUMBER SHALL BE STORED IN THE OPEN IN A GENERAL STORAGE AREA. SUCH MATERIAL SHALL BE ELEVATED WITH WOOD BLOCKS TO MINIMIZE CONTACT WITH STORMWATER RUNOFF.
- SPILL CLEAN-UP MATERIALS, MATERIAL SAFETY DATA SHEETS, AN INVENTORY OF MATERIALS, AND EMERGENCY CONTACT NUMBERS SHALL BE MAINTAINED AND STORED IN ONE DESIGNATED AREA AND EACH CONTRACTOR IS TO INFORM THEIR EMPLOYEES AND THE OWNER / ENGINEER OF THIS LOCATION.

(iii) STOCKPILE MANAGEMENT: BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED TO REDUCE OR ELIMINATE POLLUTION OF STORMWATER FROM STOCKPILES OF SOIL AND PAVING MATERIALS SUCH AS BUT NOT LIMITED TO PORTLAND CEMENT CONCRETE RUBBLE, ASPHALT CONCRETE, ASPHALT CONCRETE RUBBLE, AGGREGATE BASE, AGGREGATE SUBBASE, AND PRE-MIXED AGGREGATE. BEST MANAGEMENT PRACTICES SHALL INCLUDE TEMPORARY SEEDING, SILT FENCE, AND INLET PROTECTION.

(iv) WASTE DISPOSAL: NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT. ALL SOLID WASTE MATERIALS INCLUDING TRASH, CONSTRUCTION DEBRIS, EXCESS CONSTRUCTION MATERIALS, MACHINERY, TOOLS AND OTHER ITEMS SHALL BE COLLECTED AND DISPOSED OF OFFSITE BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE TO ACQUIRE ANY PERMIT REQUIRED FOR SUCH DISPOSAL. BURNING ON-SITE SHALL NOT BE PERMITTED.

(v) THE PROVISIONS OF THIS PLAN SHALL ENSURE AND DEMONSTRATE COMPLIANCE WITH THE APPLICABLE STATE AND/OR LOCAL WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEM REGULATIONS. THE CONTRACTOR SHALL NOT CREATE OR ALLOW UNSANITARY CONDITIONS.

(vi) THE CONTRACTOR SHALL PROVIDE THE OWNER / ENGINEER WITH A WRITTEN PLAN IDENTIFYING THE LOCATION OF THE PRACTICES AND THE PROCEDURES THEY WILL USE TO MAINTAIN THEM.

D. APPROVED STATE OR LOCAL PLANS

THE MANAGEMENT PRACTICES, CONTROLS, AND OTHER PROVISIONS CONTAINED IN THIS PLAN ARE AT LEAST AS PROTECTIVE AS THE REQUIREMENTS CONTAINED IN THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S ILLINOIS URBAN MANUAL, LATEST EDITION. PROCEDURES AND REQUIREMENTS SPECIFIED IN APPLICABLE SEDIMENT AND EROSION SITE PLANS OR STORMWATER MANAGEMENT PLANS APPROVED BY LOCAL OFFICIALS SHALL BE DESCRIBED OR INCORPORATED BY REFERENCE BELOW. REQUIREMENTS SPECIFIED IN SEDIMENT AND EROSION SITE PLANS, OR SITE PERMITS, OR STORMWATER MANAGEMENT SITE PLANS OR SITE PERMITS, APPROVED BY LOCAL OFFICIALS THAT ARE APPLICABLE TO PROTECTING SURFACE WATER RESOURCES ARE, UPON SUBMITTAL OF A NOTICE OF INTENT (NOI), TO BE AUTHORIZED TO DISCHARGE UNDER PERMIT IL R10 INCORPORATED BY REFERENCE AND ARE ENFORCEABLE UNDER THIS PERMIT EVEN IF THEY ARE NOT SPECIFICALLY INCLUDED IN THE PLAN.

THE SOIL EROSION AND SEDIMENT CONTROL FOR THIS SITE MUST MEET THE REQUIREMENTS OF THE FOLLOWING AGENCIES:

- ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
- ILLINOIS DEPARTMENT OF NATURAL RESOURCES
- U.S. ARMY CORPS OF ENGINEERS

3. MAINTENANCE

PROVIDED BELOW IS A DESCRIPTION OF PROCEDURES THAT SHALL BE USED TO MAINTAIN, IN GOOD AND EFFECTIVE OPERATING CONDITIONS, THE VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES, AND OTHER PROTECTIVE MEASURES IDENTIFIED IN THE PLAN.

ALL MAINTENANCE OF EROSION CONTROL SYSTEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL LOCATIONS WHERE VEHICLES ENTER AND EXIT THE CONSTRUCTION SITE AND ALL OTHER AREAS SUBJECT TO EROSION SHOULD ALSO BE INSPECTED PERIODICALLY.

THE FOLLOWING SHALL BE THE MINIMUM MAINTENANCE REQUIREMENTS:

A. TEMPORARY SEEDING: ALL ERODIBLE BARE SOIL AREAS WILL BE TEMPORARILY SEEDED ON A WEEKLY BASIS TO MINIMIZE THE AMOUNT OF ERODIBLE SURFACE WITHIN THE CONTRACT LIMITS.

B. EROSION CONTROL BLANKET: ANY AREAS THAT FAIL WILL BE REPAIRED IMMEDIATELY

C. SILT FENCE: SEDIMENT SHALL BE REMOVED IF THE INTEGRITY OF THE FENCING IS IN JEOPARDY, OR WHEN THE SEDIMENT REACHES A HEIGHT EQUAL TO 50% OF THE FENCE HEIGHT, AND ANY AREAS THAT FAIL SHALL BE REPAIRED IMMEDIATELY.

D. INLET PROTECTION: SEDIMENT SHALL BE REMOVED IF THE INTEGRITY OF THE INLET PROTECTION IS IN JEOPARDY AND ANY AREAS THAT FAIL SHALL BE REPAIRED IMMEDIATELY.

E. STABILIZED CONSTRUCTION ENTRANCE: SEDIMENT SHALL BE REMOVED AS NEEDED, AND ANY AREAS THAT FAIL SHALL BE REPAIRED IMMEDIATELY.

4. INSPECTIONS

QUALIFIED PERSONNEL PROVIDED BY THE CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER OR EQUIVALENT SNOWFALL. QUALIFIED PERSONNEL MEANS A PERSON KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICES OF EROSION AND SEDIMENT CONTROLS MEASURES, SUCH AS A LICENSED PROFESSIONAL ENGINEER (PE), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORMWATER INSPECTOR (CESSWI) OR OTHER KNOWLEDGEABLE PERSON WHO POSSESSES THE SKILLS TO ASSESS CONDITIONS AT THE CONSTRUCTION SITE THAT COULD IMPACT STORMWATER QUALITY AND TO ASSESS THE EFFECTIVENESS OF ANY SEDIMENT AND EROSION CONTROL MEASURES SELECTED TO CONTROL THE QUALITY OF STORMWATER DISCHARGES FROM THE CONSTRUCTION ACTIVITIES.

A. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.

B. BASED ON THE RESULTS OF THE INSPECTION, THE DESCRIPTION OF POTENTIAL POLLUTANT SOURCES IDENTIFIED IN PART 1. SITE DESCRIPTION AND POTENTIAL POLLUTION PREVENTION MEASURES IDENTIFIED IN PART 2. CONTROLS SHALL BE REVISED AS APPROPRIATE AS SOON AS PRACTICABLE AFTER SUCH INSPECTION. ANY CHANGES TO THE PLAN RESULTING FROM THE REQUIRED INSPECTIONS SHALL BE IMPLEMENTED WITHIN 9.3 HOUR TO 1 WEEK BASED ON THE URGENCY OF THE SITUATION.

C. A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE STORMWATER POLLUTION PREVENTION PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PART 4.B. SHALL BE MADE AND RETAINED AS PART OF THE STORMWATER POLLUTION PREVENTION PLAN FOR AT LEAST 3 YEARS AFTER THE DATE OF THE INSPECTION. A COPY OF THE INSPECTION REPORT SHALL BE RETAINED AT THE CONSTRUCTION SITE. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART V.G. OF THE GENERAL PERMIT

D. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE IEPA FIELD OPERATIONS SECTION BY EMAIL AT EPA.SWNONCOMP@ILLINOIS.GOV, TELEPHONE, OR FAX WITHIN 24 HOURS OF NAY INCIDENCE OF NONCOMPLIANCE FOR ANY VIOLATION OF THE STORMWATER POLLUTION PREVENTION PLAN OBSERVED DURING ANY INSPECTION CONDUCTED, OR FOR VIOLATIONS OF ANY CONDITION OF THE PERMIT. THE CONTRACTOR SHALL COMPLETE AND SUBMIT WITHIN 5 DAYS AN INCIDENCE OF NONCOMPLIANCE (ION) REPORT FOR ANY VIOLATION OF THE STORMWATER POLLUTION PLAN OBSERVED DURING ANY INSPECTION CONDUCTED, OR FOR VIOLATIONS OF ANY CONDITION OF THE PERMIT. SUBMISSION SHALL BE ON FORMS PROVIDED BY THE IEPA AND INCLUDE SPECIFIC INFORMATION ON THE CAUSE OF NONCOMPLIANCE, ACTIONS WHICH WERE TAKEN TO PREVENT ANY FURTHER CAUSES OF NONCOMPLIANCE, AND A STATEMENT DETAILING ANY ENVIRONMENTAL IMPACT WHICH MAY HAVE RESULTED FROM THE NONCOMPLIANCE.

E. ALL REPORTS OF NONCOMPLIANCE SHALL BE SIGNED BY A RESPONSIBLE AUTHORITY AS DEFINED IN PART V.I.G. OF THE GENERAL PERMIT.

F. AFTER THE INITIAL CONTACT HAS BEEN MADE WITH THE APPROPRIATE IEPA FIELD OPERATIONS SECTION OFFICE, ALL REPORTS OF NONCOMPLIANCE SHALL BE MAILED TO THE IEPA AT THE FOLLOWING ADDRESS:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
COMPLIANCE ASSURANCE SECTION
1021 NORTH GRAND AVENUE EAST
POST OFFICE BOX 19276
SPRINGFIELD, ILLINOIS 62794-9276

5. NON-STORMWATER DISCHARGES

EXCEPT FOR FLOWS FROM FIRE-FIGHTING ACTIVITIES, SOURCES OF NON-STORMWATER THAT MAY BE COMBINED WITH STORMWATER DISCHARGES ARE TREATED BY THE MEASURES INCLUDED IN THE PLAN. THESE SOURCES INCLUDE THE FOLLOWING:

- WATER USED TO WASH VEHICLES
- WATER USED TO CONTROL DUST
- PAVEMENT WASH WATERS WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS SPILLED MATERIALS HAVE BEEN REMOVED)
- IRRIGATION DITCHES
- UNCONTAMINATED GROUNDWATER

6. CERTIFICATIONS

"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT IL R10 THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION"

GENERAL CONTRACTOR

SIGNATURE

TITLE

DATE

COMPANY

SUBCONTRACTOR RESPONSIBLE FOR _____

SIGNATURE

TITLE

DATE

COMPANY

SUBCONTRACTOR RESPONSIBLE FOR _____

SIGNATURE

TITLE

DATE

COMPANY

WITNESSED BY OWNER

SIGNATURE

TITLE

DATE

COMPANY

NOTES

1. THE CONTRACTOR SHALL OBTAIN PERMISSION IN WRITING FROM THE OWNER PRIOR TO MODIFYING THE STORMWATER POLLUTION PREVENTION PLAN.
2. EROSION CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE SEQUENCE OF STAGED CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION AND SOIL EROSION AND SEDIMENT CONTROL SEQUENCING FOR APPROVAL PRIOR TO COMMENCING CONSTRUCTION. A COPY OF THE STORMWATER POLLUTION PREVENTION PLAN SHALL BE MAINTAINED ON THE SITE.
3. SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE FUNCTIONAL BEFORE THE PROJECT SITE IS OTHERWISE DISTURBED.
4. WHEN TEMPORARY DRAINAGE IS ESTABLISHED, ADDITIONAL SOIL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED BY THE ENGINEER.
5. ANY SOIL REACHING A PUBLIC OR PRIVATE ROADWAY SHALL BE REMOVED BEFORE THE END OF EACH WORKDAY AND AS NEEDED.
6. CLEANING OF VEHICLES AND EQUIPMENT, INCLUDING CONCRETE MIXERS, SHALL BE PERFORMED IN A MANNER TO MINIMIZE POLLUTANTS DISCHARGING TO DRAINAGE SYSTEMS AND OPEN WATER TO THE MAXIMUM EXTENT PRACTICABLE. VEHICLE WASH DOWN AREAS SHALL BE LOCATED A MINIMUM OF 100 FEET FROM EXISTING CHANNELS, WETLANDS, AND OPEN WATER AREAS. THE OWNER SHALL IDENTIFY LOCATIONS AS NECESSARY.
7. ALL NECESSARY MEASURES SHALL BE TAKEN TO CONTAIN ANY FUEL OR POLLUTION RUNOFF. LEAKING EQUIPMENT OR SUPPLIES SHALL BE IMMEDIATELY REPAIRED OR REMOVED FROM THE SITE.
8. BIORETENTION AREAS USED AS TEMPORARY SEDIMENT BASINS SHALL HAVE ACCUMULATED SEDIMENTS REMOVED PRIOR TO THE FINAL 12" OF EXCAVATION AND PLACEMENT OF SAND, AGGREGATE, AND AMENDED TOPSOIL.
9. NO SOIL STOCKPILES SHALL BE LOCATED WITHIN 50 FEET OF WETLANDS, WATERS, OR BIORETENTION AREAS.
10. WORK IN THE RAVINE SHOULD BE TIMED TO TAKE PLACE DURING NO-FLOW CONDITIONS.
11. COFFERDAM CONSTRUCTION IS NOT ANTICIPATED AS WORK WILL BE PERFORMED IN NO-FLOW CONDITIONS. HOWEVER, IF IT BECOMES NECESSARY TO CONSTRUCT A COFFERDAM, WATER SHALL BE ISOLATED FROM THE IN-STREAM WORK AREA USING A COFFERDAM CONSTRUCTED OF NON-ERODIBLE MATERIALS (STEEL SHEETS, AQUA BARRIERS, RIP RAP, AD GEOTEXTILE LINER, ETC.). EARTHEN COFFERDAMS ARE NOT PERMISSIBLE.
12. THE COFFERDAM MUST BE CONSTRUCTED FROM THE UPLAND AREA AND NO EQUIPMENT MAY ENTER THE WATER AT ANY TIME. IF THE INSTALLATION OF THE COFFERDAM CANNOT BE COMPLETED FROM SHORE AND ACCESS IS NEEDED TO REACH THE AREA TO BE COFFERD, OTHER MEASURES, SUCH AS THE CONSTRUCTION OF A CAUSEWAY, WILL BE NECESSARY TO ENSURE THAT EQUIPMENT DOES NOT ENTER THE WATER. ONCE THE COFFERDAM IS IN PLACE AND THE ISOLATED AREA IS DEWATERED, EQUIPMENT MAY ENTER THE COFFERED AREA TO PERFORM THE REQUIRED WORK.
13. IF BYPASS PUMPING IS NECESSARY, THE INTAKE HOSE SHALL BE PLACED ON A STABLE SURFACE OR FLOATED TO PREVENT SEDIMENT FROM ENTERING THE HOSE. THE BYPASS DISCHARGE SHALL BE PLACED ON A NON-ERODIBLE, ENERGY DISSIPATING SURFACE PRIOR TO REJOINING THE STREAM FLOW AND SHALL NOT CAUSE EROSION. FILTERING OF BYPASS WATER IS NOT NECESSARY UNLESS THE BYPASS WATER HAS BECOME SEDIMENT-LADEN AS A RESULT OF THE CURRENT CONSTRUCTION ACTIVITIES.
14. DURING DEWATERING OF THE COFFERED WORK AREA, ALL SEDIMENT-LADEN WATER MUST BE FILTERED TO REMOVE SEDIMENT. POSSIBLE OPTIONS FOR SEDIMENT REMOVAL INCLUDE BAFFLE SYSTEMS, ANIONIC POLYMER SYSTEMS, DEWATERING BAGS, OR OTHER APPROPRIATE METHODS. WATER SHALL HAVE SEDIMENT REMOVED PRIOR TO BEING RE-INTRODUCED TO THE DOWNSTREAM WATERWAY. A STABILIZED CONVEYANCE FROM THE DEWATERING DEVICE TO THE WATERWAY MUST BE IDENTIFIED IN THE PLAN. DISCHARGE WATER SHALL NOT RESULT IN A VISUALLY IDENTIFIABLE DEGRADATION OF WATER CLARITY.
15. THE PORTION OF THE SIDE SLOPE THAT IS ABOVE THE OBSERVED WATER ELEVATION SHALL BE STABILIZED AS SPECIFIED IN THE PLANS PRIOR TO ACCEPTING FLOWS. THE SUBSTRATE AND TOE OF SLOPE THAT HAS BEEN DISTURBED DUE TO CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO PROPOSED OR PRE-CONSTRUCTION CONDITIONS AND FULLY STABILIZED PRIOR TO ACCEPTING FLOWS.

REQUIREMENTS FOR THE TEMPORARY CONSTRUCTION ACTIVITIES REGIONAL PERMIT

THE FOLLOWING REQUIREMENTS WILL BE ADHERED TO FOR ANY PROJECT REQUIRING IN-STREAM WORK AND SHALL BE INCORPORATED INTO THE SOIL EROSION AND SEDIMENT CONTROL PLANS FOR THE PROJECT:

1. WORK IN THE WATERWAY SHOULD BE TIMED TO TAKE PLACE DURING LOW OR NO-FLOW CONDITIONS. LOW FLOW CONDITIONS ARE AT OR BELOW THE NORMAL WATER ELEVATION
2. WATER SHALL BE ISOLATED FROM THE IN-STREAM WORK AREA USING A COFFERDAM CONSTRUCTED OF NON-ERODIBLE MATERIALS (STEEL SHEETS, AQUA BARRIERS, RIP RAP, AD GEOTEXTILE LINER, ETC.). EARTHEN COFFERDAMS ARE NOT PERMISSIBLE.
3. THE COFFERDAM MUST BE CONSTRUCTED FROM THE UPLAND AREA AND NO EQUIPMENT MAY ENTER THE WATER AT ANY TIME. IF THE INSTALLATION OF THE COFFERDAM CANNOT BE COMPLETED FROM SHORE AND ACCESS IS NEEDED TO REACH THE AREA TO BE COFFERD, OTHER MEASURES, SUCH AS THE CONSTRUCTION OF A CAUSEWAY, WILL BE NECESSARY TO ENSURE THAT EQUIPMENT DOES NO ENTER THE WATER. ONCE THE COFFERDAM IS IN PLACE AND THE ISOLATED AREA IS DEWATERED, EQUIPMENT MAY ENTER THE COFFERED AREA TO PERFORM THE REQUIRED WORK.
4. IF BYPASS PUMPING IS NECESSARY, THE INTAKE HOSE SHALL BE PLACED ON A STABLE SURFACE OR FLOATED TO PREVENT SEDIMENT FROM ENTERING THE HOSE. THE BYPASS DISCHARGE SHALL BE PLACED ON A NON-ERODIBLE, ENERGY DISSIPATING SURFACE PRIOR TO REJOINING THE STREAM FLOW AND SHALL NOT CAUSE EROSION. FILTERING OF BYPASS WATER IS NOT NECESSARY UNLESS THE BYPASS WATER HAS BECOME SEDIMENT-LADEN AS A RESULT OF THE CURRENT CONSTRUCTION ACTIVITIES.
5. DURING DEWATERING OF THE COFFERED AREA, ALL SEDIMENT-LADEN WATER MUST BE FILTERED TO REMOVE SEDIMENT. POSSIBLE OPTIONS FOR SEDIMENT REMOVAL INCLUDE BAFFLE SYSTEMS, ANIONIC POLYMERS SYSTEMS, DEWATERING BAGS, OR OTHER APPROPRIATE METHODS. WATER SHALL HAVE SEDIMENT REMOVED PRIOR TO BEING RE-INTRODUCED TO THE DOWNSTREAM WATERWAY. A STABILIZED CONVEYANCE FROM THE DEWATERING DEVICE TO THE WATERWAY MUST BE IDENTIFIED IN THE PLAN. DISCHARGE WATER SHALL NOT RESULT IN A VISUALLY IDENTIFIABLE DEGRADATION OF WATER CLARITY.
6. THE PORTION OF THE SIDE SLOPE THAT IS ABOVE THE OBSERVED WATER ELEVATION SHALL BE STABILIZED AS SPECIFIED IN THE PLANS PRIOR TO ACCEPTING FLOWS. THE SUBSTRATE AND TOE OF SLOPE THAT HAS BEEN DISTURBED DUE TO CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO PROPOSED OR PRE-CONSTRUCTION CONDITIONS AND FULLY STABILIZED PRIOR TO ACCEPTING FLOWS.

Civil Engineer:
Conservation Design Forum
403 W. St. Charles Road
Lombard, Illinois 60148
630.559.2000 Phone
630.559.2030 Fax
www.cdfinc.com

Client
City of Lake Forest
800 North Field Drive
Lake Forest, Illinois 60045
847 810.3561 Phone

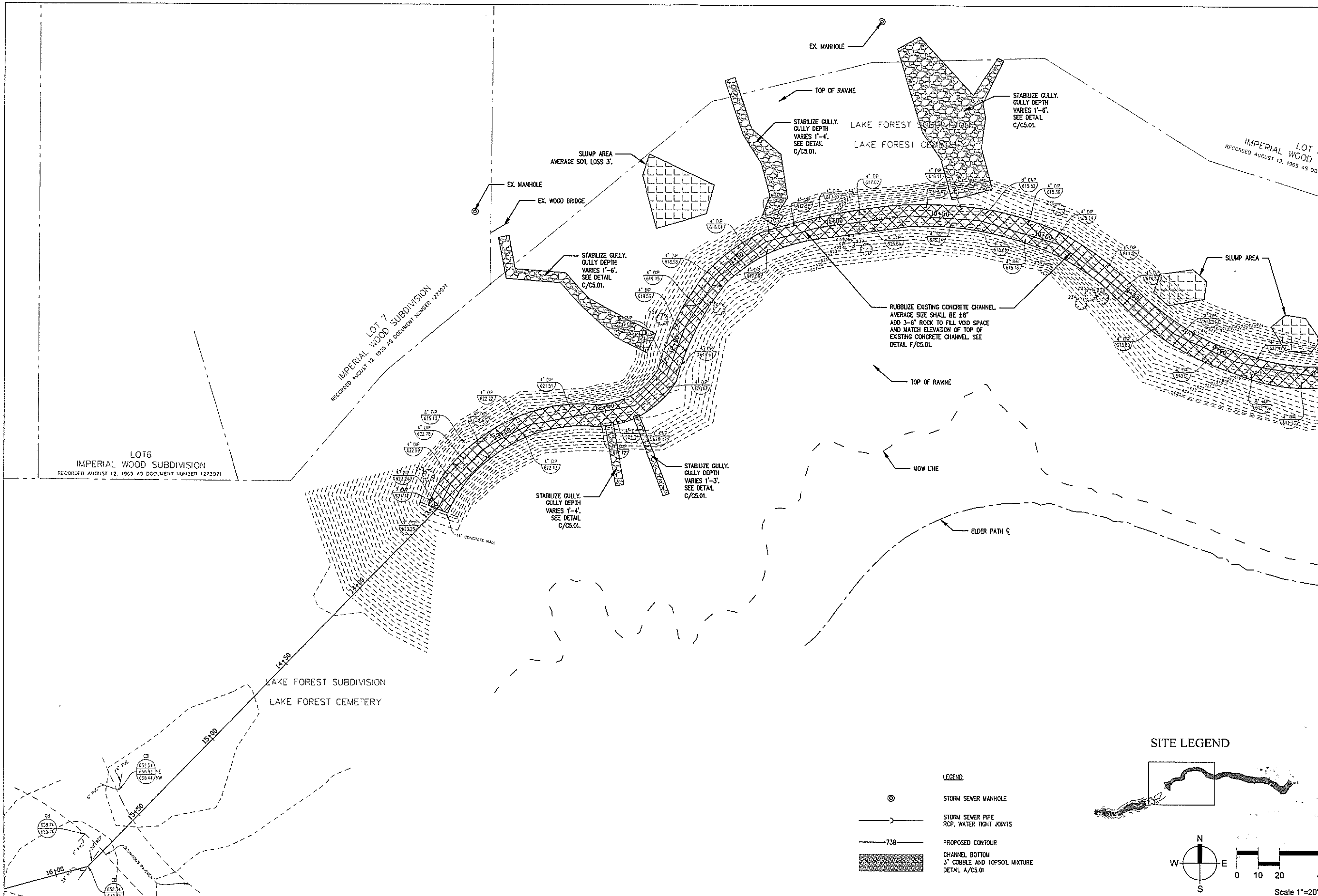
Lake Forest Cemetery
Ravine Restoration
East Ravine
Stormwater Pollution Prevention Plan

Issue/Revision

Status: Permit Set
Drwn by: AH
Chkd by: JG

Date: February 2016
Job No. 12015.00

C-2.02



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800 North Field Drive
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Lake Forest Cemetery Ravine Restoration East Ravine Site Plan

Issue/Revision

Status: Permit Set
Drwn by: AH
Chkd by: JG

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C-3.00

APPROXIMATE LOCATION OF EX. STRUCTURE

SLUMP AREA AVERAGE SOIL LOSS 2'-3'.

STABILIZE GULLY. GULLY DEPTH VARIES 2'-3'. SEE DETAIL C/C5.01.

REMOVE RAILROAD TIES

STABILIZE GULLY. GULLY DEPTH 3'. SEE DETAIL C/C5.01.

STABILIZE GULLY. GULLY DEPTH VARIES 4'-7'. SEE DETAIL C/C5.01.

TOP OF RAVINE

STABILIZE GULLY. GULLY DEPTH VARIES 3'-6'. SEE DETAIL C/C5.01.

STABILIZE GULLY. GULLY DEPTH VARIES 1'-4'. SEE DETAIL C/C5.01.

STABILIZE GULLY. GULLY DEPTH 1.5'. SEE DETAIL C/C5.01.

SLUMP AREA

RUBBLIZE EXISTING CONCRETE CHANNEL. AVERAGE SIZE SHALL BE ±8" ADD 3-6" ROCK TO FILL VOID SPACE AND MATCH ELEVATION OF TOP OF EXISTING CONCRETE CHANNEL. SEE DETAIL F/C5.01.

EX. BRICK WALL

TOP OF RAVINE

MOW LINE

ELDER PATH ℄

MATCHLINE

LOT 5
FERRY FIELD AND FERRY WOOD SUBDIVISION
RECORDED MAY 18, 1911 AS DOCUMENT NUMBER 135670

FOREST SUBDIVISION

FOREST CEMETERY

LOT 5
D AND FERRY WOOD SUBDIVISION
D MAY 18, 1911 AS DOCUMENT NUMBER 135670

WATERLINE

0+50

0+00

SEE DETAIL

MATCHLINE

LEGEND

STORM SEWER MANHOLE

STORM SEWER PIPE RCP, WATER TIGHT JOINTS

738 PROPOSED CONTOUR

CHANNEL BOTTOM 3" COBBLE AND TOPSOIL MIXTURE DETAIL A/C5.01

SITE LEGEND

N
W E
S

0 10 20 40

Scale 1"=20'-0"

Civil Engineer:
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403 W. St. Charles Road
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800 North Field Drive
Lake Forest, Illinois 60045
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Lake Forest Cemetery Ravine Restoration East Ravine Site Plan

Issue/Revision

Status: Permit Set
Drwn by: AH
Chkd by: JG

Date: February 2016
Job No: 12015.00

C-3.01

G WATERSTOP DETAIL

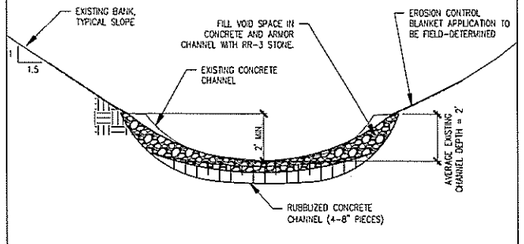
A NOT USED

H NOT USED

D NOT USED

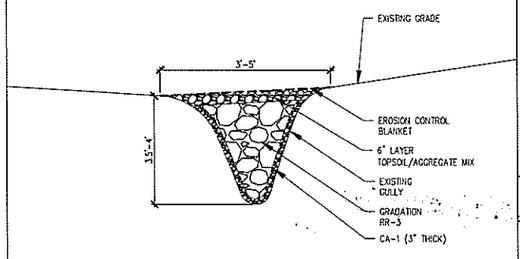
B NOT USED

I NOT USED



F EAST CHANNEL ARMOR NTS

E NOT USED



C GULLY STABILIZATION NTS

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Lake Forest Cemetery
Ravine Restoration
East Ravine
Construction Details

Issue/Revision

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C-5.01