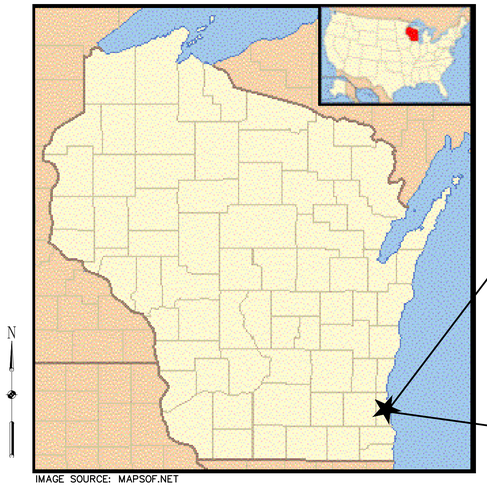


IMAGE SOURCE: MAPSOF.NET

STATE MAP

NOT TO SCALE

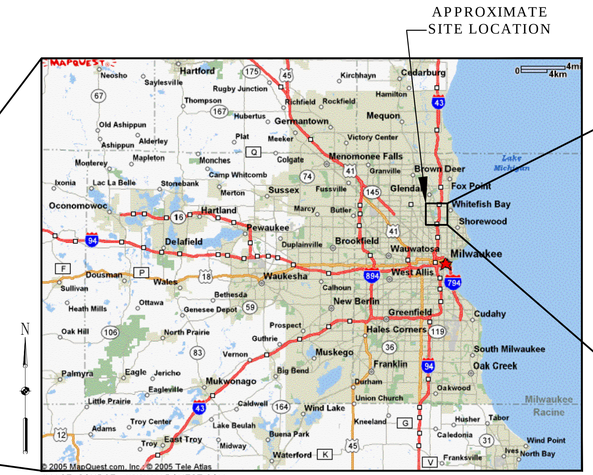


IMAGE SOURCE: WWW.MAPQUEST.COM

LOCAL AREA MAP

NOT TO SCALE

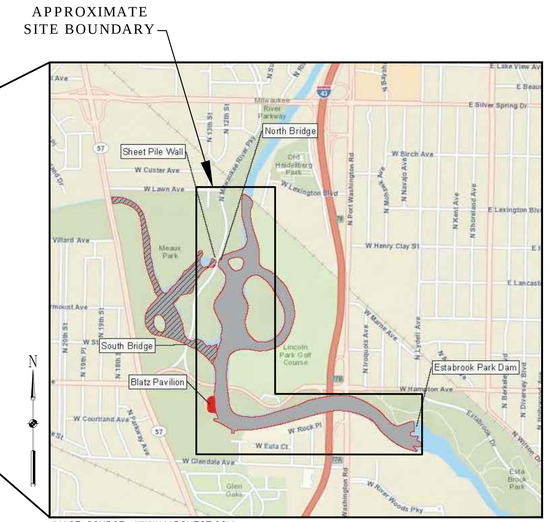


IMAGE SOURCE: WWW.MAPQUEST.COM

VICINITY MAP

NOT TO SCALE

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

PREPARED FOR

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, IL

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

TITLE SHEET

PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	G-001
SHEET NUMBER	1 OF 22

FILE PATH: F:\FEDERAL\VOA DOD\QUAES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\COVER SHEET.DWG [T TITLE SHEET] 3/19/14 jmather

GENERAL CONSTRUCTION NOTES:

1. THIS PROJECT INVOLVES THE DEWATERING, REMOVAL, HAULING, AND DISPOSAL OF PCB, PAH, AND NAPL CONTAMINATED SEDIMENT FROM THE MILWAUKEE RIVER.
2. THE CONTAMINATED SEDIMENTS ARE LOCATED AT NINE SEPARATE LOCATIONS IN THE RIVER SHOWN ON THE PLAN SET.
3. SOME OF THE CONTAMINATED SEDIMENTS HAVE PCB CONCENTRATIONS THAT CLASSIFY IT AS TSCA WASTE.
4. A SITE SURVEY WAS NOT CONDUCTED. LOCATIONS SHOWN ARE APPROXIMATE AND ARE BASED ON LIDAR. AERIAL PHOTOGRAPHY, PHASE 1 DOCUMENTS, UTILITY ONE-CALLS, AND HAND-HELD GPS MEASUREMENTS.
5. TEMPORARY FACILITIES ARE UP TO CONTRACTOR TO SIZE AND LAYOUT. ALTERNATE BUT EQUIVALENT DESIGNS ARE ALLOWED. SEE TECHNICAL SPECIFICATION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS.
6. SLOPES DEPICTED ON DRAWINGS IMPLY VERTICAL CUTS AND STEEP SLOPES IN SOME LOCATIONS, WHICH ARE INTENDED ONLY TO REFLECT THE ANTICIPATED EXTENT OF CONTAMINATED SEDIMENT. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF ALL CUT AND FILL SLOPES IN THE LIMITS OF WORK, AND TO PROVIDE APPROPRIATE TEMPORARY SHORING OR SUPPORT OF STRUCTURES FOR CUT SLOPES AS NEEDED TO PREVENT SEDIMENT OR SOIL INSTABILITY, SLOUGHING INTO EXCAVATION, OR SETTLEMENT OF ADJACENT STRUCTURES OR GRADES. ADDITIONAL SEDIMENT OR SOIL SLOUGHING INTO EXCAVATION AREAS BEYOND THE LIMITS OF THE APPROVED EXCAVATION PLAN WILL BE THE CONTRACTOR'S RESPONSIBILITY FOR PAYMENT.

INFORMATION SOURCE NOTES:

1. AERIAL IMAGE FROM 2010 WAS PROVIDED BY THE USGS WWW.VIEWER.NATIONALMAP.GOV/VIEWER.
2. SURFACE CONTOURS ARE BASED ON DEM OBTAINED FROM MILWAUKEE COUNTY LAND INFORMATION OFFICE'S INTERACTIVE MAPPING SERVICE http://county.milwaukee.gov/LandInformationProgr23113/LIOInteractiveMapping.htm, HORIZONTAL DATUM IS STATE PLANE COORDINATE 1983 ZONE: WISCONSIN SOUTH ZONE AND VERTICAL DATUM IS NGVD29.
3. BATHYMETRIC INFORMATION IS A COMBINATION OF SURVEY DONE BY EA IN FEBRUARY AND MAY 2013 AND INFORMATION PROVIDED BY A PREVIOUS SURVEY DONE IN FEBRUARY THROUGH APRIL 2010 BY CH2M HILL. HORIZONTAL DATUM IS STATE PLANE COORDINATE 1983 ZONE: WISCONSIN SOUTH ZONE AND VERTICAL DATUM IS NGVD29.
4. PUBLIC UTILITY INFORMATION OBTAINED FROM MAPS OBTAINED FROM WISCONSIN DIGGERS HOTLINE AUGUST 2013.
5. APPROXIMATE DEPOSIT BOUNDARIES, TSCA LOCATIONS, AND NAPL LOCATIONS ARE ESTIMATED BASED ON AN EXISTING ANALYTICAL DATA.
6. WETLAND LOCATIONS BASED ON A WETLAND DELINEATION DONE BY EA IN SEPTEMBER 2013.
7. FLOOD PLAIN INFORMATION BASED ON A FLOOD INSURANCE RATE MAP PROVIDED BY FEMA. MAP NUMBER 55079C0081E, SEPTEMBER 26, 2008. HORIZONTAL DATUM IS STATE PLANE COORDINATE 1983 ZONE: WISCONSIN SOUTH ZONE AND VERTICAL DATUM IS NGVD29.
8. CITY LIMITS AND COUNTY PARK BOUNDARY BASED ON WWW.MAPS.MILWAUKEECOUNTY.ORG DOWNLOADABLE GIS DATA OBTAINED AUGUST 2013.
9. PHASE 1 INFORMATION WAS OBTAINED FROM CH2M HILL RECORD DRAWINGS.

ABBREVIATIONS:

APPROX	APPROXIMATE
AVE	AVENUE
CD	COFFER DAM
℄	CENTERLINE
DEM	DIGITAL ELEVATION MODEL
EA	EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
EPA	ENVIRONMENTAL PROTECTION AGENCY
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
FL	FLOWLINE
G	GAS MAIN
GIS	GEOGRAPHIC INFORMATION SYSTEM
GPS	GLOBAL POSITIONING SYSTEM
HDPE	HIGH-DENSITY POLYETHYLENE PLASTIC PIPE
LBS	POUNDS
LOD	LIMITS OF DISTURBANCE
MAX	MAXIMUM
MIL	MILLIMETER
MIN	MINIMUM
MW	MONITORING WELL
N	NORTH
NAD83	NORTH AMERICAN DATUM 1983
NAPL	NON-AQUEOUS PHASE LIQUID
NG	NATIVE GRASS
NGVD29	NATIONAL GEODETIC VERTICAL DATUM 1929
NO.	NUMBER
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NTS	NOT TO SCALE
OHP	OVERHEAD POWER LINE
OZ	OUNCES
PAH	POLYCYCLIC AROMATIC HYDROCARBON
PCB	POLYCHLORINATED BIPHENYL
PRE	PRELIMINARY
SS	SEWER LINE
SC	SILT CURTAIN
SF	SILT FENCE
TEMP	TEMPORARY
TSCA	TOXIC SUBSTANCES CONTROL ACT
TYP	TYPICAL
USGS	UNITED STATES GEOLOGICAL SURVEY
W	WATER LINE
WISDOT	WISCONSIN DEPARTMENT OF TRANSPORTATION
YR	YEAR

LEGEND:

13 — DETAIL NUMBER
C-501 — DRAWING NUMBER OF DETAIL

NOTES:

1. "A" INDICATES THAT A SECTION, DETAIL, SCHEMATIC, OR DIAGRAM IS DRAWN ON THE SAME SHEET.
2. IF THE SECTION, DETAIL, SCHEMATIC, OR DIAGRAM IS REFERENCED ON MULTIPLE SHEETS, ALL SHEETS ARE REFERENCED WITHIN THE DETAIL BUBBLE.

INDEX:

DRAWING NO.	SHEET NO.	TITLE
G-001	1	TITLE SHEET
G-002	2	ABBREVIATIONS, GENERAL NOTES, LEGEND AND DRAWING INDEX
C-101	3	SITE SHEET INDEX
C-102	4	ZONES 3 AND 7 EXISTING CONDITIONS
C-103	5	ZONE 4 EXISTING CONDITIONS
C-104	6	ZONE 5 EXISTING CONDITIONS
C-201	7	AVAILABLE STAGING AREAS AND TEMPORARY FACILITIES
C-202	8	ZONES 3 AND 7 SEDIMENT REMOVAL PLAN
C-203	9	ZONES 3 AND 7 SEDIMENT REMOVAL CROSS SECTIONS
C-204	10	ZONE 4 SEDIMENT REMOVAL PLAN
C-205	11	ZONE 4 SEDIMENT REMOVAL CROSS SECTIONS
C-206	12	ZONE 5 SEDIMENT REMOVAL PLAN
C-207	13	ZONE 5 SEDIMENT REMOVAL CROSS SECTIONS
C-301	14	ZONES 3 AND 7 RESTORATION PLAN
C-302	15	ZONE 4 RESTORATION PLAN
C-303	16	ZONE 5 RESTORATION PLAN
C-304	17	RESTORATION AND BACKFILL CROSS SECTIONS
C-305	18	RESTORATION AND BACKFILL CROSS SECTIONS 2
C-501	19	DETAILS 1
C-502	20	DETAILS 2
C-503	21	DETAILS 3
C-504	22	DETAILS 4

LEGEND:

- CITY BOUNDARY
- FEMA 100-YR FLOOD PLAIN BOUNDARY
- SCRUB-SHRUB/EMERGENT WETLAND
- FORESTED WETLAND
- INTERMITTENT STREAM
- SEDIMENT REMOVAL AREA
- APPROXIMATE NAPL LOCATION
- APPROXIMATE TSCA LOCATION
- SS — APPROXIMATE SEWER LOCATION
- G — APPROXIMATE GAS MAIN LOCATION
- W — W — APPROXIMATE WATER LINE LOCATION
- OHP — OVERHEAD POWER LINE
- LOD — LIMITS OF DISTURBANCE
- CENTERLINE OF ROAD
- 620 — EXISTING CONTOURS
- TOPSOIL STOCKPILE AREA
- DECONTAMINATION PAD
- DEWATERING PAD
- WASTEWATER TREATMENT PAD
- MOBILE EQUIPMENT STORAGE
- ACCESS RAMP
- CONSTRUCTION ENTRANCE
- AVAILABLE STAGING AREA
- X — X — TEMPORARY CHAIN LINK SECURITY FENCE
- SF — SILT FENCE
- CD-1 — COFFERDAM 1
- CD-2 — COFFERDAM 2
- CD-3 — COFFERDAM 3
- CD-4 — COFFERDAM 4
- SC — SILT CURTAIN
- 620 — PROPOSED CONTOURS
- BOULDER RESTORATION
- ROOT WAD
- SUBSTRATE RESTORATION
- NG — NATIVE GRASS HYDROSEEDING
- SN — NO MOW/LOW GROW HYDROSEEDING

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL: WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER 3/12/14

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ABBREVIATIONS, GENERAL NOTES, LEGEND AND DRAWING INDEX

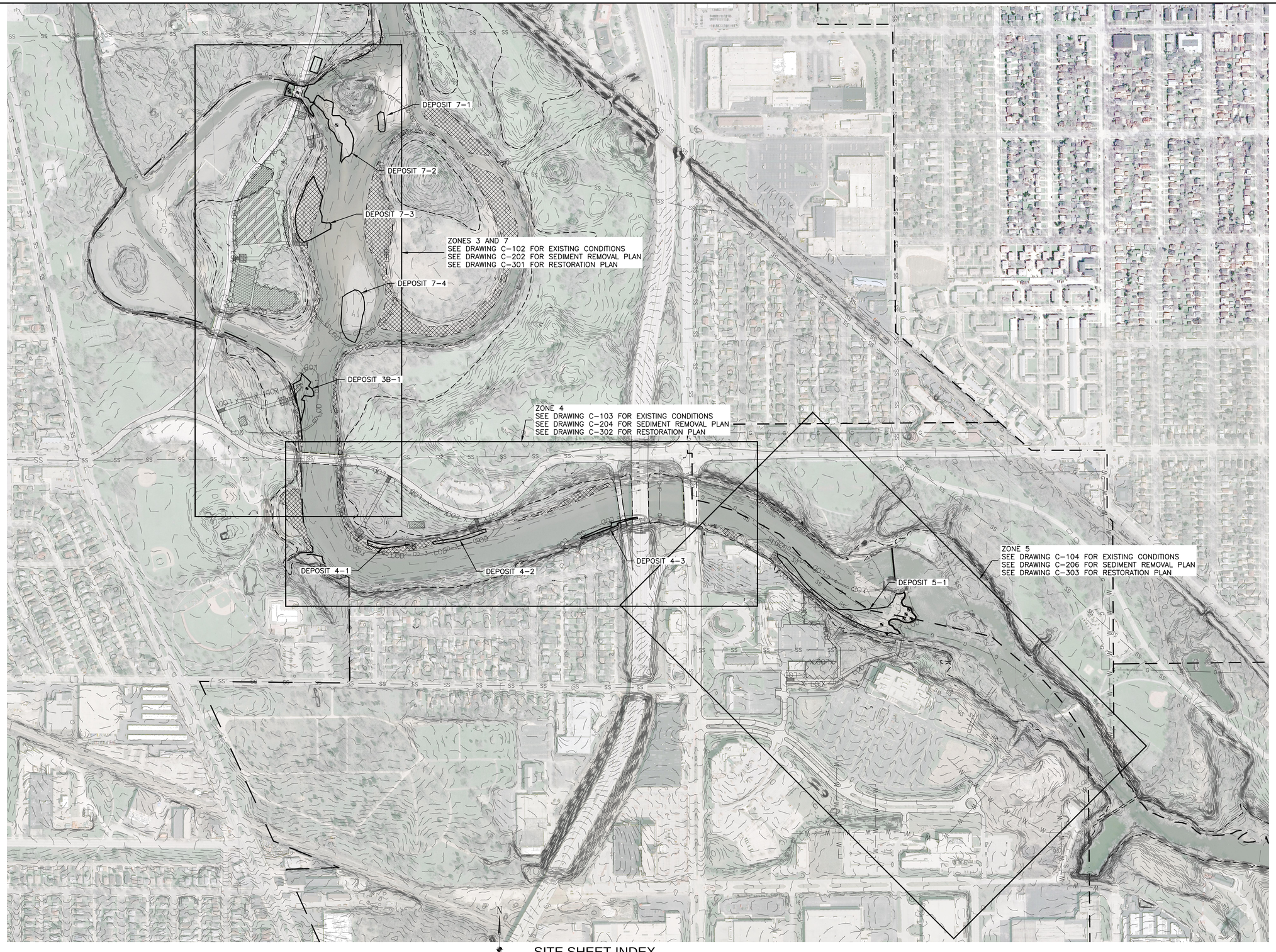
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	G-002
SHEET NUMBER	2 OF 22

FILE PATH: F:\FEDERAL\NON 1000\QUAES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\NOTES, LEGEND, INDEX.DWG [INDEX OF SHEETS] 3/19/14 jmother



SITE SHEET INDEX

300 150 0 300 600

GRAPHIC SCALE IN FEET

NO.	DATE	BY	DESCRIPTION

REVISIONS

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL
SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

SITE SHEET INDEX

PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-101
SHEET NUMBER	3 OF 22

FILE PATH: F:\FEDERAL\NON DOD\QUEST\PROJECTS\6256105 - LINCOLN PARK CS-MOV\FIGURES\WORK DRAWINGS\C-7 OVERALL SEDIMENT REMOVAL SITE PLAN\OVERALL SEDIMENT REMOVAL SITE PLAN2 2/21/14 jmather

ZONES 3 AND 7 EXISTING CONDITIONS

N

100 50 0 100 200

GRAPHIC SCALE IN FEET

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL
SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ZONES 3 AND 7 EXISTING CONDITIONS

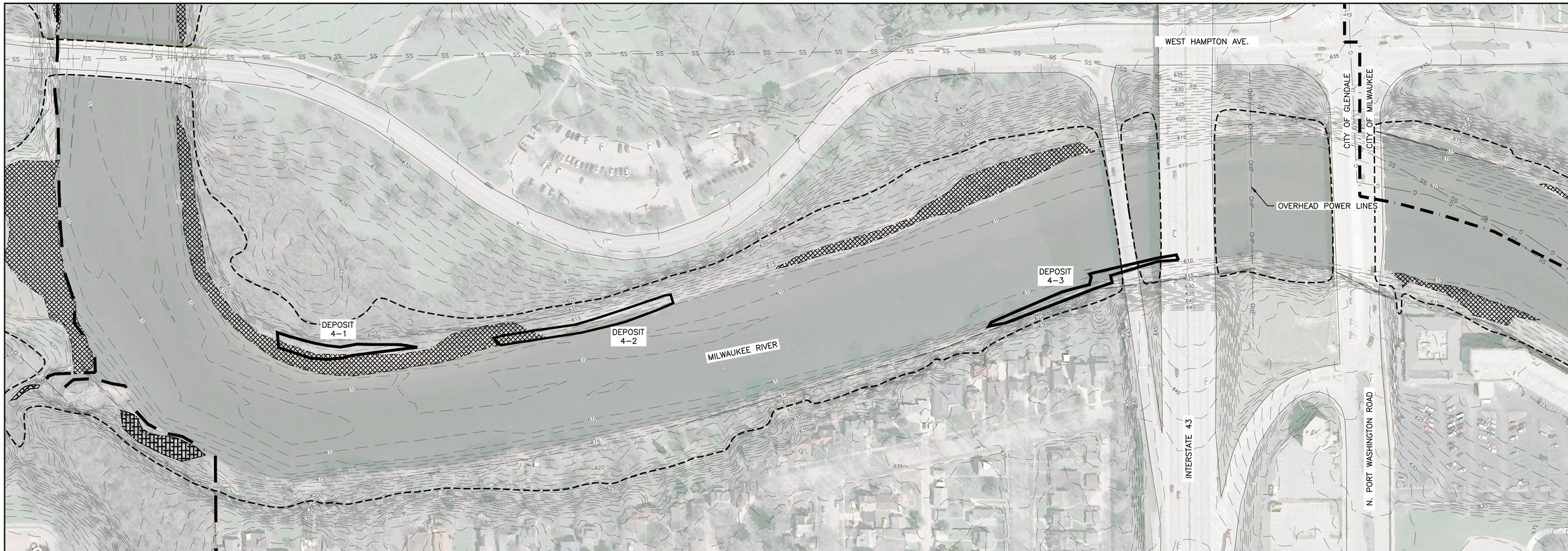
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-102
SHEET NUMBER	4 OF 22

FILE PATH: F:\FEDERAL\NON DOD\DCAES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\WORK DRAWINGS\EXISTING CONDITIONS.DWG [04 ZONES 3 AND 7 EXISTING CONDITIONS] 2/27/14 jmattner



N

ZONE 4 EXISTING CONDITIONS

100 50 0 100 200

GRAPHIC SCALE IN FEET

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL
SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ZONE 4 EXISTING CONDITIONS

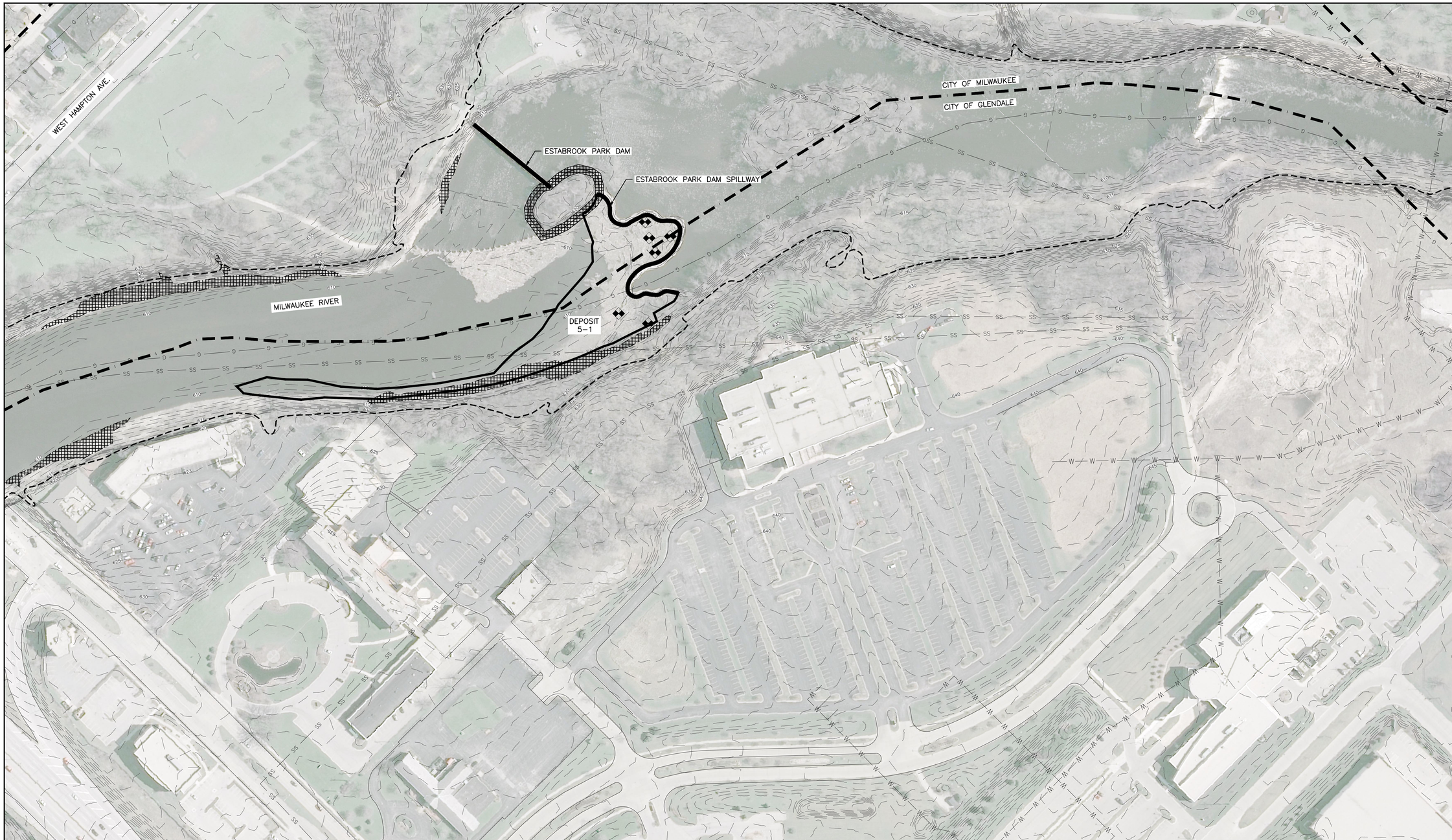
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-103
SHEET NUMBER	5 OF 22

FILE PATH: F:\FEDERAL\VOA DOD\GLACE\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\EXISTING CONDITIONS.DWG [05 ZONE 4 EXISTING CONDITIONS] 2/21/14 jmather



ZONE 5 EXISTING CONDITIONS

100 50 0 100 200

GRAPHIC SCALE IN FEET

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL
SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ZONE 5 EXISTING CONDITIONS

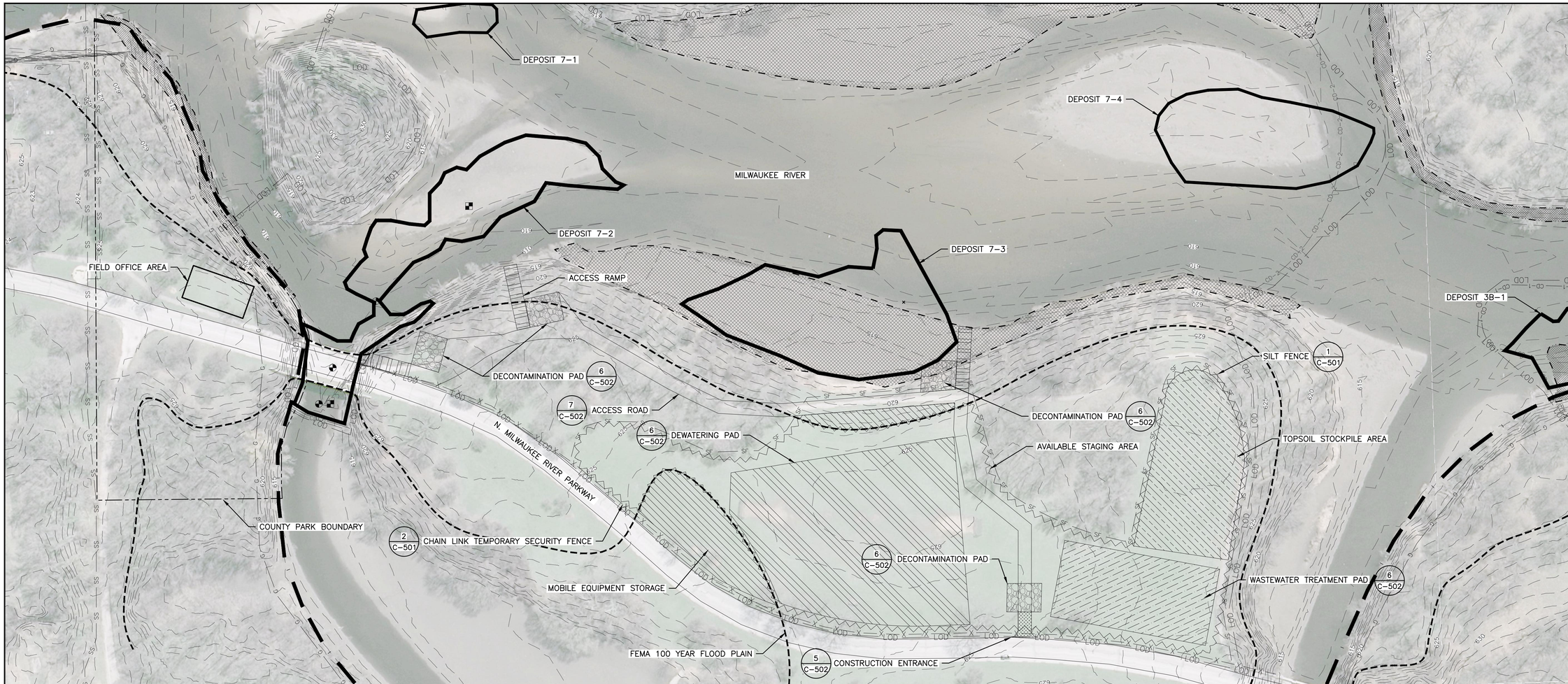
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-104
SHEET NUMBER	6 OF 22

FILE PATH: F:\FEDERAL\NON DOD\DCAES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\WORK DRAWINGS\EXISTING CONDITIONS.DWG [06 ZONE 5 EXISTING CONDITIONS] 2/21/14 jmattner



AVAILABLE STAGING AREAS AND TEMPORARY FACILITIES

N

80 40 0 80 160

GRAPHIC SCALE IN FEET

NO.	DATE	BY	DESCRIPTION

REVISIONS

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL
SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

AVAILABLE STAGING AREAS AND TEMPORARY FACILITIES

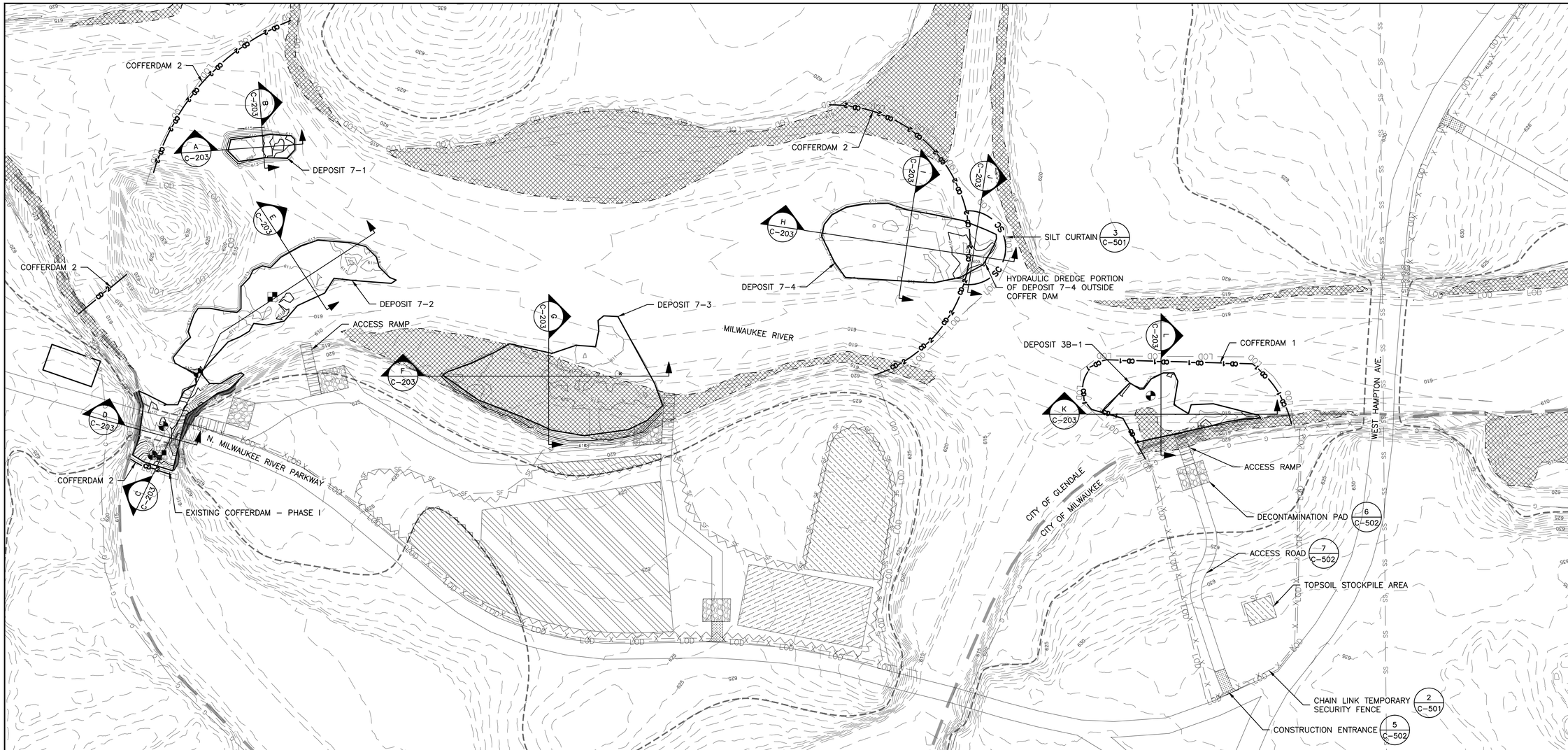
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-201
SHEET NUMBER	7 OF 22

FILE PATH: F:\FEDERAL\NON DOD\CLIAES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\C-4 STAGING AREAS.DWG [07 AVAILABLE STAGING AREAS] 2/21/14 jmather



ZONES 3 AND 7 SEDIMENT REMOVAL PLAN

N

100 50 0 100 200

GRAPHIC SCALE IN FEET

NO.	DATE	BY	DESCRIPTION

REVISIONS

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ZONES 3 AND 7 SEDIMENT REMOVAL PLAN

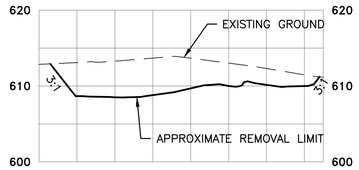
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-202
SHEET NUMBER	8 OF 22

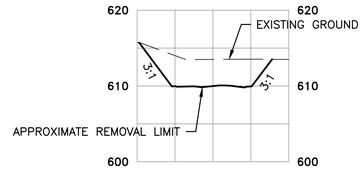
FILE PATH: P:\FEDERAL\NON DOD\DUES\PROJECTS\6256105 - LINCOLN PARK (TS-HOV)\FIGURES\90% DRAWINGS\C-9 ZONES 3, 7 SEDIMENT REMOVAL PLAN\DWG [08 ZONES 3 AND 7 SEDIMENT REMOVAL PLAN] 3/18/14 jmather



A C-202 DEPOSIT 7-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

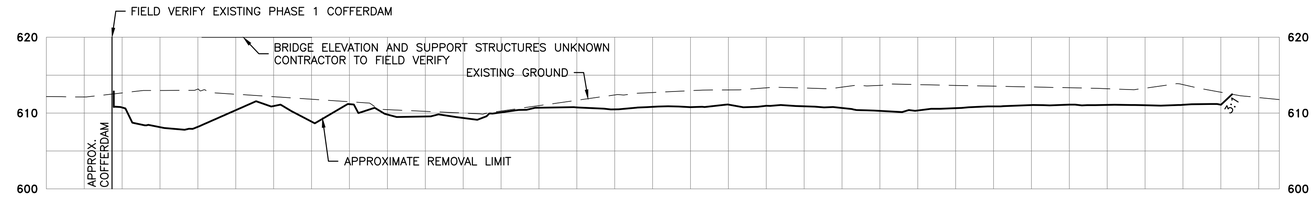
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



B C-202 DEPOSIT 7-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

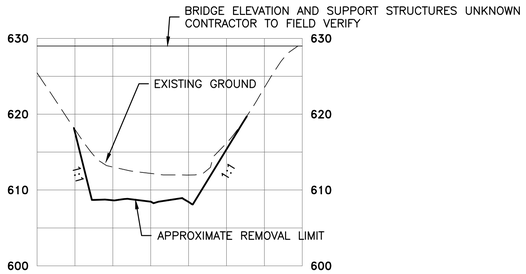
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



C C-202 DEPOSIT 7-2 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

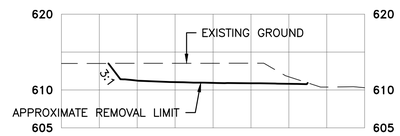
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



D C-202 DEPOSIT 7-2 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

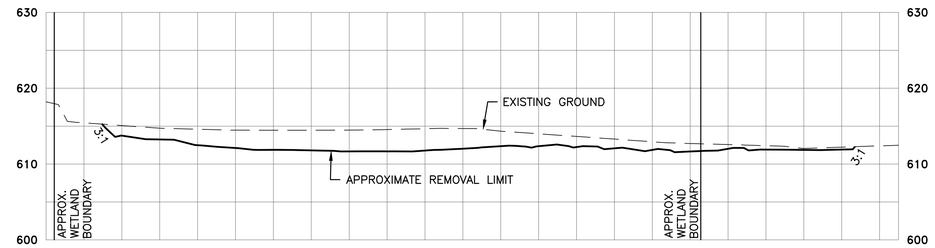
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



E C-202 DEPOSIT 7-2 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

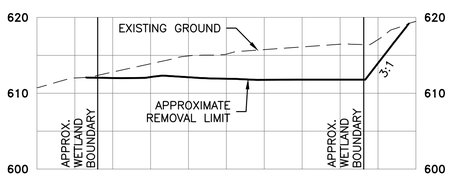
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



F C-202 DEPOSIT 7-3 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

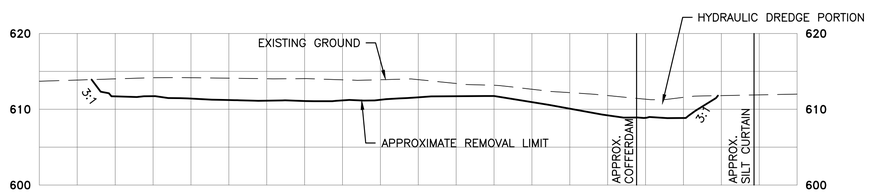
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



G C-202 DEPOSIT 7-3 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

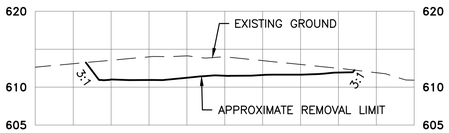
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



H C-202 DEPOSIT 7-4 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

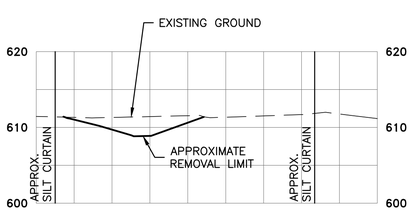
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



I C-202 DEPOSIT 7-4 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

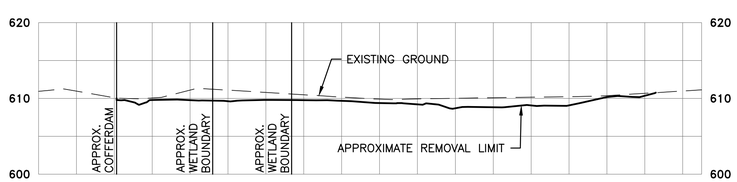
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



J C-202 DEPOSIT 7-4 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

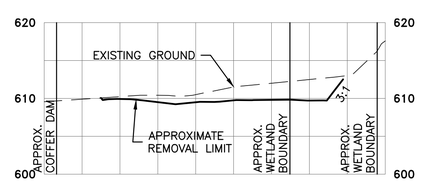
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



K C-202 DEPOSIT 3B-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



L C-202 DEPOSIT 3B-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL
SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ZONES 3 AND 7 SEDIMENT REMOVAL CROSS SECTIONS

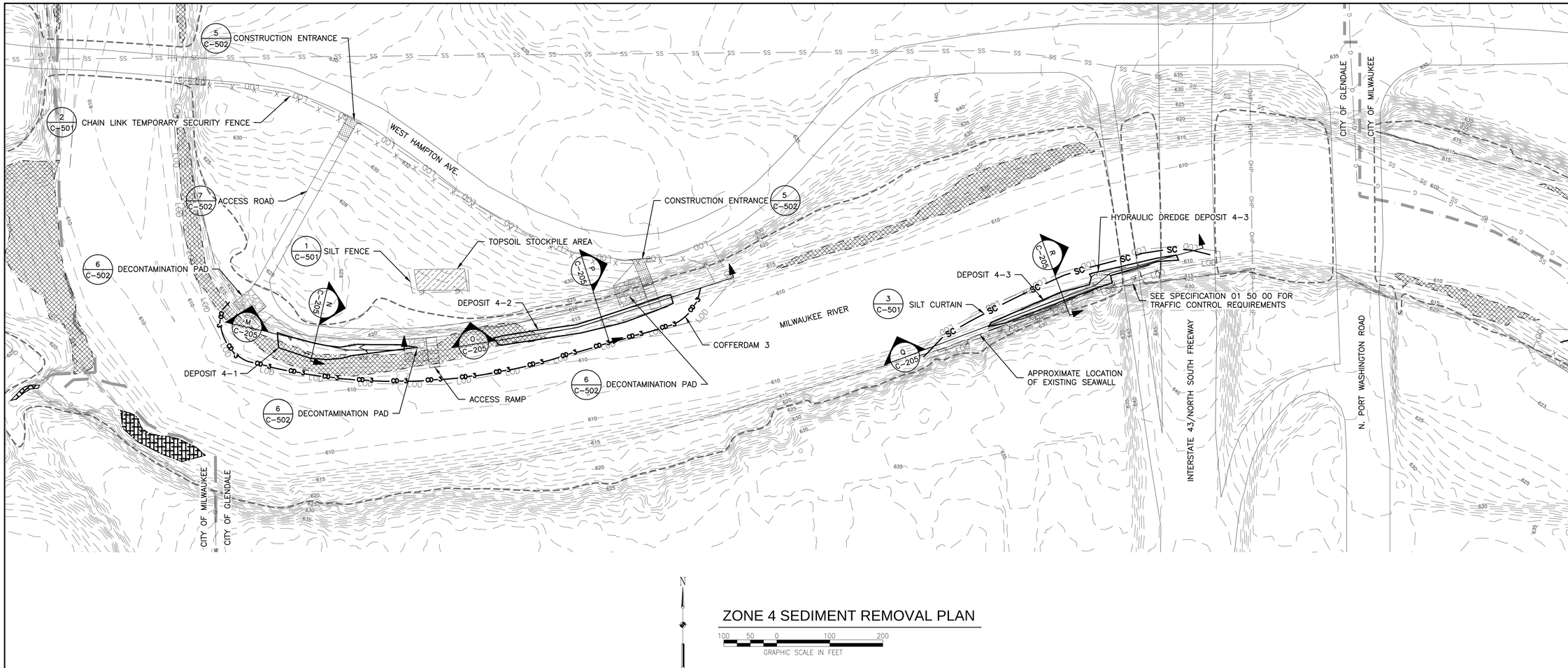
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-203
SHEET NUMBER	9 OF 22

FILE PATH: F:\FEDERAL\NON DOD\GLAES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\C-9 ZONES 3, 7 SEDIMENT REMOVAL PLAN.DWG [09 ZONES 3 AND 7 REMOVAL CROSS SECTIONS] 3/18/14 jmather



ZONE 4 SEDIMENT REMOVAL PLAN

100 50 0 100 200
GRAPHIC SCALE IN FEET

NO.	DATE	BY	DESCRIPTION

REVISIONS

SEAL: WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL
SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ZONE 4 SEDIMENT REMOVAL PLAN

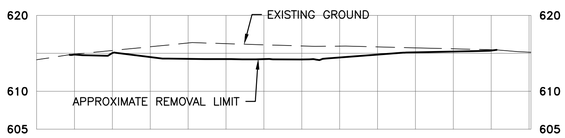
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-204
SHEET NUMBER	10 OF 22

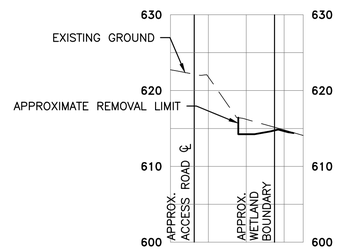
FILE PATH: F:\FEDERAL\VON DOD\GLACE\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\C-10 ZONE 4 SEDIMENT REMOVAL PLAN.DWG [10 ZONE 4 SEDIMENT REMOVAL PLAN] 2/26/14 jmather



M C-204 DEPOSIT 4-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

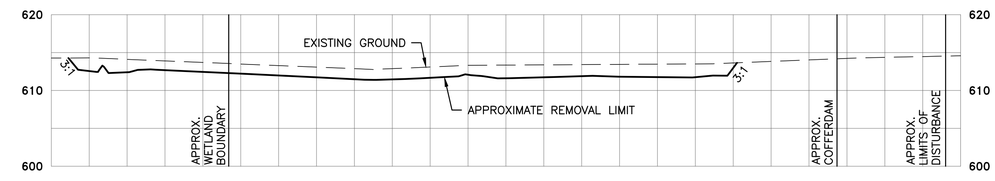
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



N C-204 DEPOSIT 4-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

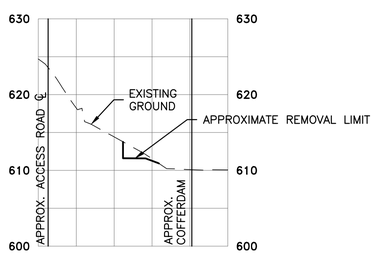
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



O C-204 DEPOSIT 4-2 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

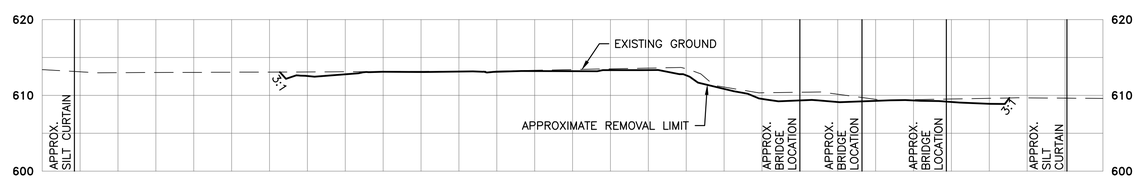
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



P C-204 DEPOSIT 4-2 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

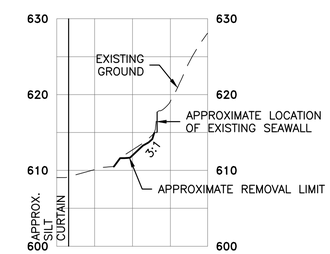
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



Q C-204 DEPOSIT 4-3 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



R C-204 DEPOSIT 4-3 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER 5/12/14

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL
SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ZONE 4 SEDIMENT REMOVAL CROSS SECTIONS

PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-205
SHEET NUMBER	11 OF 22

FILE PATH: F:\FEDERAL\NON DOD\GLAES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\C-10 ZONE 4 SEDIMENT REMOVAL PLAN.DWG [11 ZONE 4 SEDIMENT REMOVAL CROSS SECTIONS] 2/26/14 jmather

ZONE 5 SEDIMENT REMOVAL PLAN

100 50 0 100 200
GRAPHIC SCALE IN FEET

NO.	DATE	BY	DESCRIPTION

REVISIONS

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ZONE 5 SEDIMENT REMOVAL PLAN

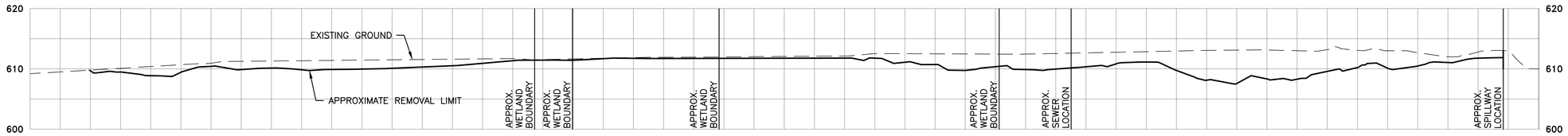
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-206
SHEET NUMBER	12 OF 22

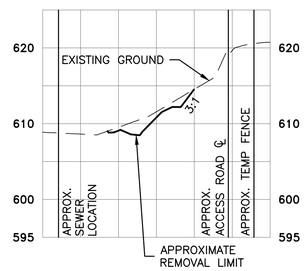
FILE PATH: P:\FEDERAL\MDN DOD\GLAES\PROJECTS\6256105 - LINCOLN PARK FS-HD\FIGURES\&#0# DRAWINGS\C-11 ZONE 5 SEDIMENT REMOVAL PLAN.DWG [12 ZONE 5 SEDIMENT REMOVAL PLAN] 2/24/14 jmattner



S C-206 DEPOSIT 5-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

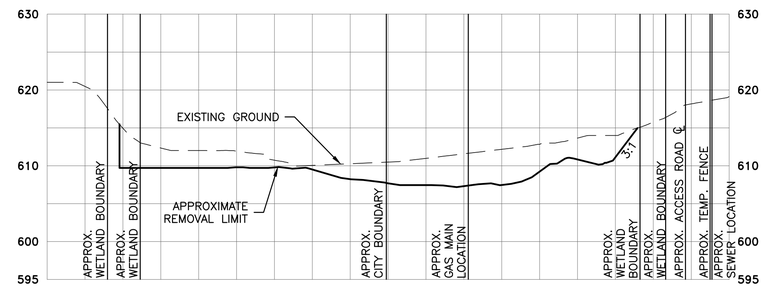
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



T C-206 DEPOSIT 5-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

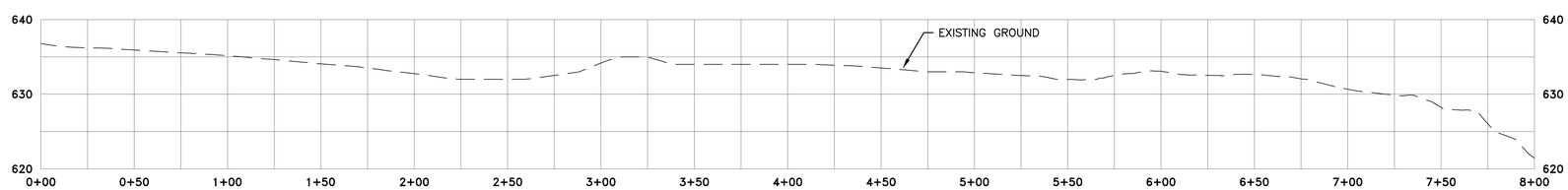
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



U C-206 DEPOSIT 5-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

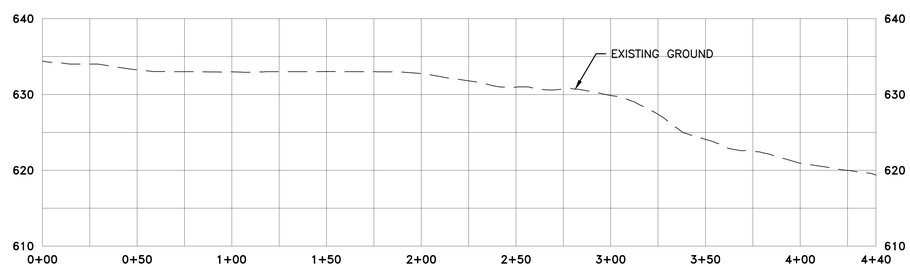
VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



V C-206 ACCESS 1 ROAD PROFILE

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET



W C-206 ACCESS 2 ROAD PROFILE

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL
SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ZONE 5 SEDIMENT REMOVAL CROSS SECTIONS

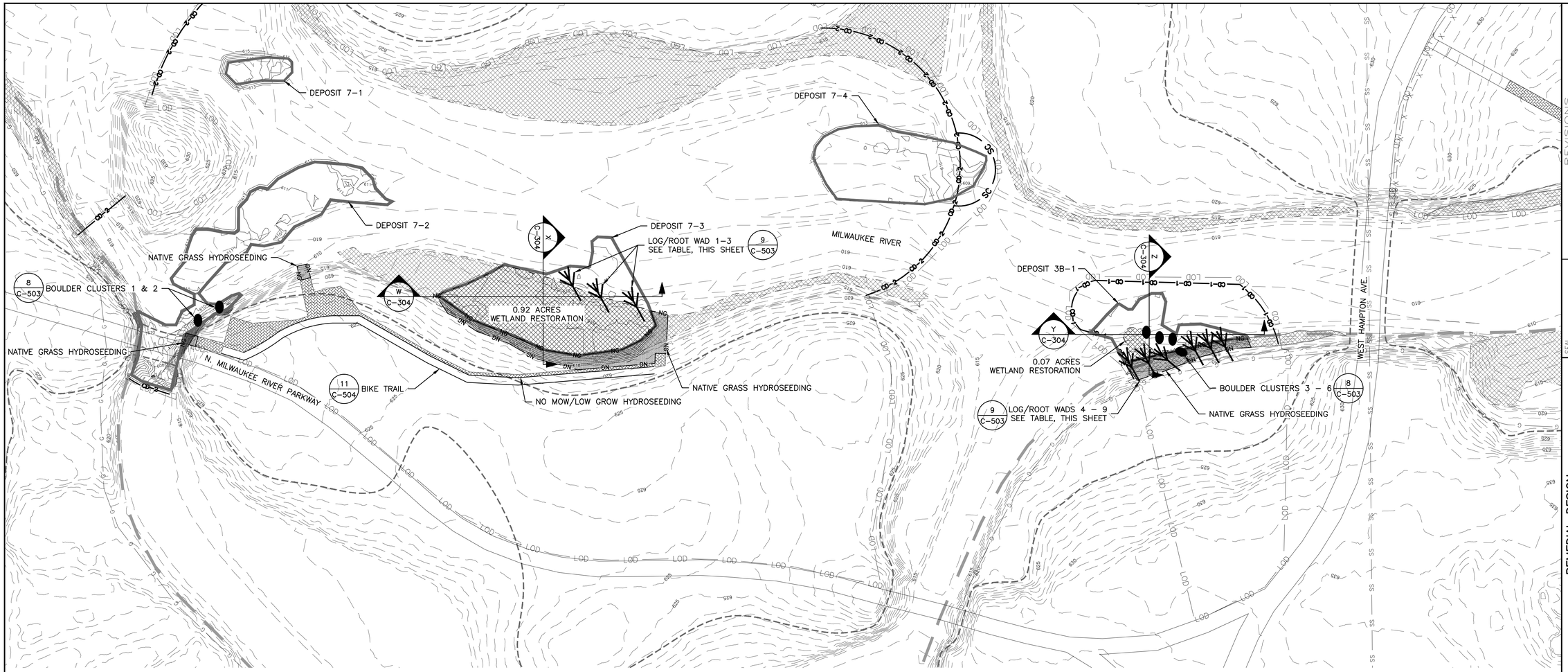
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-207
SHEET NUMBER	13 OF 22

FILE PATH: F:\FEDERAL\NON DOD\OLAES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\C-11 ZONE 5 SEDIMENT REMOVAL PLAN.DWG [13 ZONE 5 SEDIMENT REMOVAL CROSS SECTIONS] 2/24/14 jmather



ZONES 3 AND 7 RESTORATION PLAN

N

100 50 0 100 200

GRAPHIC SCALE IN FEET

LOG/ROOT WAD TABLE						
ROOT WAD NO.	ZONE	ARM LENGTH A	POSITION B	BANK ANGLE C	POSITION D	ANCHOR LENGTH E
#1	3–7	10'–20'	611'–612'	40–60	613'	>10'
#2	3–7	10'–20'	611'–612'	40–60	613'	>10'
#3	3–7	10'–20'	611'–612'	40–60	613'	>10'
#4–9	3–7	10'–20'	612'	60–90	613'–614'	>10'

PLANTING/SEEDING SCHEDULE	
DESCRIPTION	ACRES
WETLAND PLANTING	0.99
NATIVE GRASS HYDROSEEDING	1.44
NO MOW/LOW GROW GRASS HYDROSEEDING	0.35

NOTES:
1. OTHER DISTURBED AREAS SHALL BE HYDROSEEDED FOR TURFGRASS IN ACCORDANCE WITH SECTION 32 90 00 – PLANTING.
2. HYDROSEEDING AREAS ARE BASED ON TEMPORARY FACILITY LOCATIONS AS SHOWN ON DRAWINGS. CONTRACTOR SHALL HYDROSEED ADDITIONAL AREAS DUE TO CHANGES IN TEMPORARY FACILITIES.

NOTE:
RESTORATION AND HYDROSEEDING AREAS ARE SHOWN BASED ON APPROXIMATE REMOVAL LIMITS AND DISTURBED AREAS. RESTORATION AND HYDROSEEDING AREAS WILL CHANGE BASED ON actual EXCAVATION AND DISTURBED AREAS.

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ZONES 3 AND 7 RESTORATION PLAN

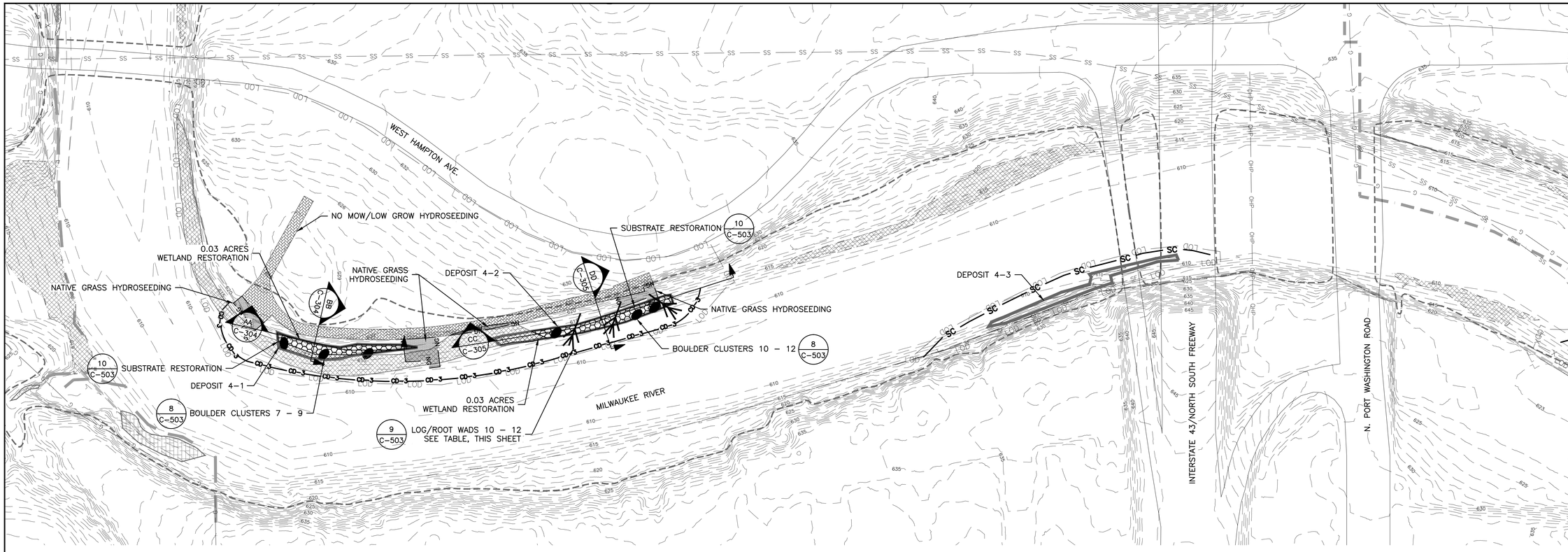
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JM
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-301
SHEET NUMBER	14 OF 22

FILE PATH: F:\FEDERAL\NON 1000\QUALES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\C-12 HABITAT RESTORATION SITE PLAN.DWG [14 ZONES 3 AND 7 HABITAT RESTORATION] 3/18/14 jmoltner



N

ZONE 4 RESTORATION PLAN

100 50 0 100 200

GRAPHIC SCALE IN FEET

NOTE:
RESTORATION AND HYDROSEEDING AREAS ARE SHOWN BASED ON APPROXIMATE REMOVAL LIMITS AND DISTURBED AREAS. RESTORATION AND HYDROSEEDING AREAS WILL CHANGE BASED ON ACTUAL EXCAVATION AND DISTURBED AREAS.

LOG/ROOT WAD TABLE						
ROOT WAD NO.	ZONE	ARM LENGTH A	POSITION B	BANK ANGLE C	POSITION D	ANCHOR LENGTH E
#10–12	4	10'–20'	610'	60–120	612'	>10'

PLANTING/SEEDING SCHEDULE	
DESCRIPTION	ACRES
WETLAND PLANTING	0.06
NATIVE GRASS HYDROSEEDING	0.22
NO MOW/LOW GROW GRASS HYDROSEEDING	0.49

NOTES:
1. OTHER DISTURBED AREAS SHALL BE HYDROSEEDED FOR TURFGRASS IN ACCORDANCE WITH SECTION 32 90 00 – PLANTING.
2. HYDROSEEDING AREAS ARE BASED ON TEMPORARY FACILITY LOCATIONS AS SHOWN ON DRAWINGS. CONTRACTOR SHALL HYDROSEED ADDITIONAL AREAS DUE TO CHANGES IN TEMPORARY FACILITIES.

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL
SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ZONE 4 RESTORATION PLAN

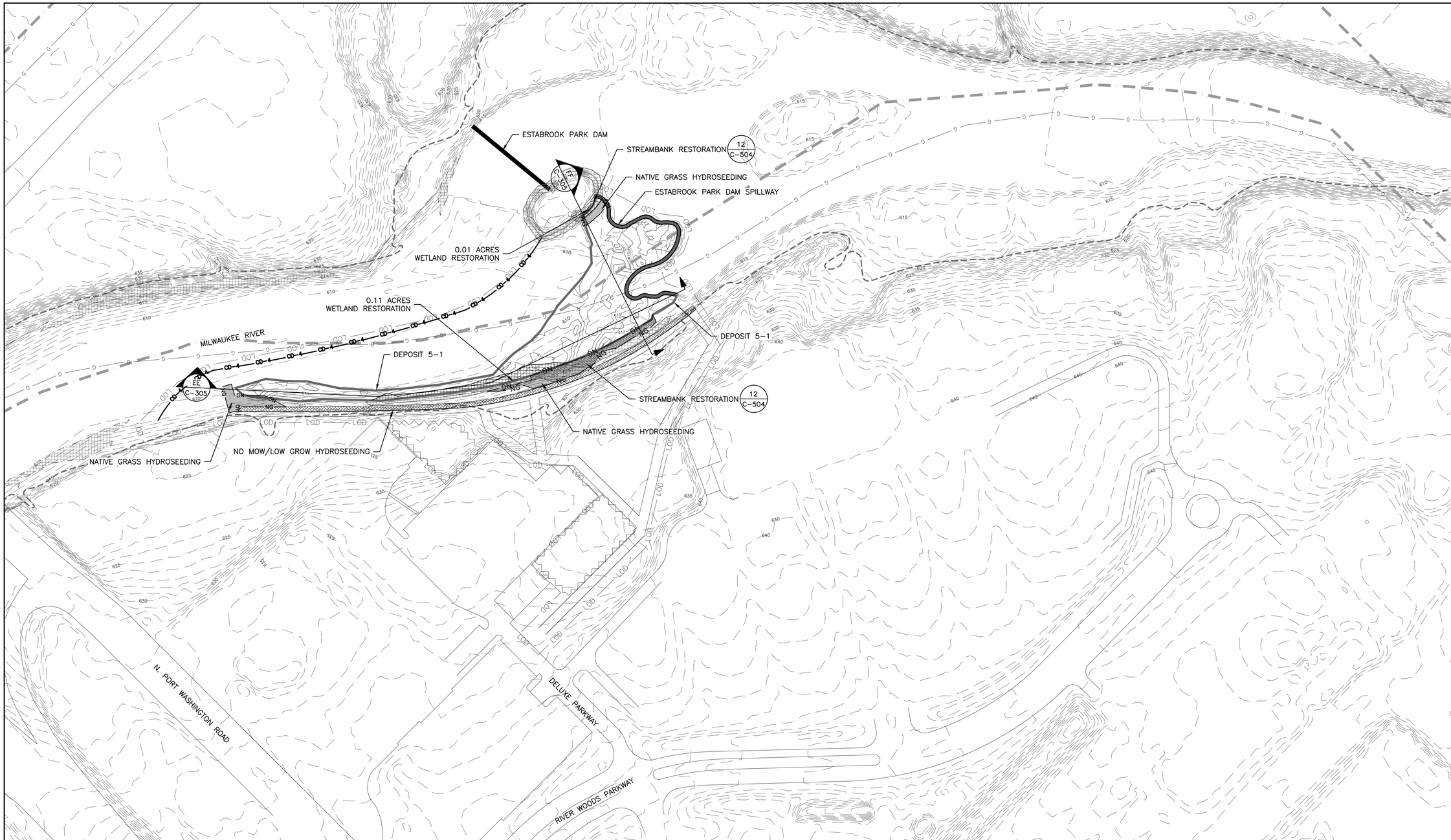
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945–8010

DATE	MAY 2014
DESIGNED BY	JM
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C–302
SHEET NUMBER	15 OF 22

FILE PATH: F:\FEDERAL\NON DOD\QUAES\PROJECTS\6256105 – LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\C-12 HABITAT RESTORATION SITE PLAN\DWG 115 ZONE 4 HABITAT RESTORATION) 3/18/14 jmather



PLANTING/SEEDING SCHEDULE	
DESCRIPTION	ACRES
WETLAND PLANTING	0.12
NATIVE GRASS HYDROSEEDING	0.36
NO MOW/LOW GROW GRASS HYDROSEEDING	0.23

NOTES:
1. OTHER DISTURBED AREAS SHALL BE HYDROSEEDED FOR TURFGRASS IN ACCORDANCE WITH SECTION 32 90 00 – PLANTING.
2. HYDROSEEDING AREAS ARE BASED ON TEMPORARY FACILITY LOCATIONS AS SHOWN ON DRAWINGS. CONTRACTOR SHALL HYDROSEED ADDITIONAL AREAS DUE TO CHANGES IN TEMPORARY FACILITIES.

ZONE 5 RESTORATION PLAN

N

100 50 0 100 200
GRAPHIC SCALE IN FEET

NOTE:
RESTORATION AND HYDROSEEDING AREAS ARE SHOWN BASED ON APPROXIMATE REMOVAL LIMITS AND DISTURBED AREAS. RESTORATION AND HYDROSEEDING AREAS WILL CHANGE BASED ON ACTUAL EXCAVATION AND DISTURBED AREAS.

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

3/12/14

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

ZONE 5 RESTORATION PLAN

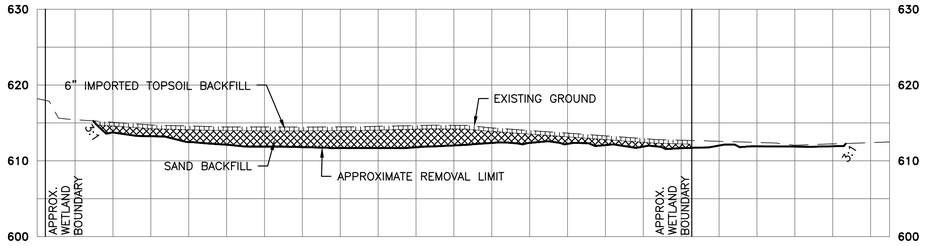
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JM
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-303
SHEET NUMBER	16 OF 22

FILE PATH: P:\FEDERAL\NON DOD\GLAES\PROJECTS\6256105 - LINCOLN PARK FS-HD\FIGURES\ACAD DRAWINGS\C-12 HABITAT RESTORATION SITE PLAN.DWG [16 ZONE 5 HABITAT RESTORATION] 3/18/14 jmather

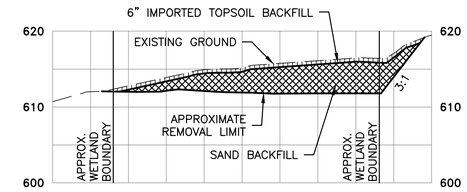


W / C-301 DEPOSIT 7-3 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

NOTE:
BACKFILL EXCAVATION WITH SAND UP TO 6 INCHES WITHIN EXISTING/FINAL GROUND. BACKFILL WITH IMPORTED TOPSOIL TO EXISTING/FINAL GROUND.

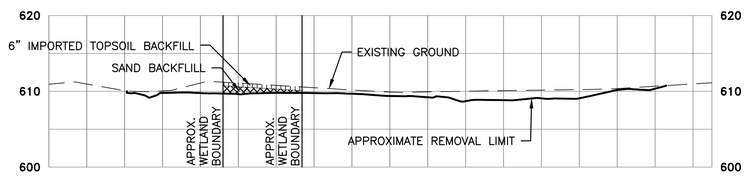


X / C-301 DEPOSIT 7-3 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

NOTE:
BACKFILL EXCAVATION WITH SAND UP TO 6 INCHES WITHIN EXISTING/FINAL GROUND. BACKFILL WITH IMPORTED TOPSOIL TO EXISTING/FINAL GROUND.

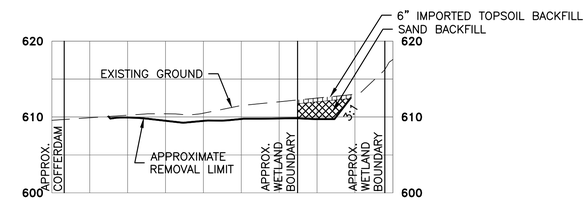


Y / C-301 DEPOSIT 3B-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

NOTE:
BACKFILL EXCAVATION WITH SAND UP TO 6 INCHES WITHIN EXISTING/FINAL GROUND. BACKFILL WITH IMPORTED TOPSOIL TO EXISTING/FINAL GROUND.

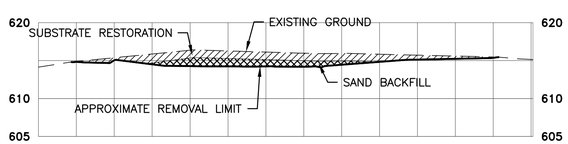


Z / C-301 DEPOSIT 3B-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

NOTE:
BACKFILL EXCAVATION WITH SAND UP TO 6 INCHES WITHIN EXISTING/FINAL GROUND. BACKFILL WITH IMPORTED TOPSOIL TO EXISTING/FINAL GROUND.

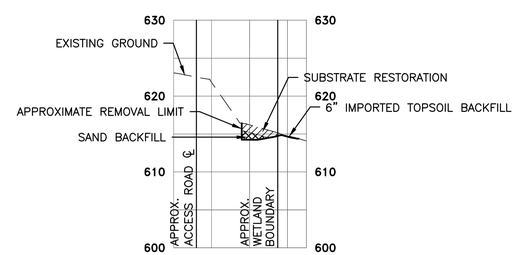


AA / C-302 DEPOSIT 4-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

NOTE:
BACKFILL EXCAVATION WITH SAND UP TO 12 INCHES WITHIN EXISTING/FINAL GROUND OUTSIDE WETLAND AREAS. BACKFILL WITH SUBSTRATE RESTORATION TO EXISTING/FINAL GROUND OUTSIDE WETLAND AREAS.



BB / C-302 DEPOSIT 4-1 - CROSS SECTION

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

NOTES:
1. BACKFILL EXCAVATION WITH SAND UP TO 12 INCHES WITHIN EXISTING/FINAL GROUND OUTSIDE WETLAND AREAS. BACKFILL WITH SUBSTRATE RESTORATION TO EXISTING/FINAL GROUND OUTSIDE WETLAND AREAS.
2. BACKFILL WETLAND AREAS WITH SAND UP TO 6 INCHES WITHIN EXISTING/FINAL GROUND. BACKFILL WITH IMPORTED TOPSOIL TO EXISTING/FINAL GROUND.

NO.	DATE	BY	DESCRIPTION

REVISIONS

SEAL: WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

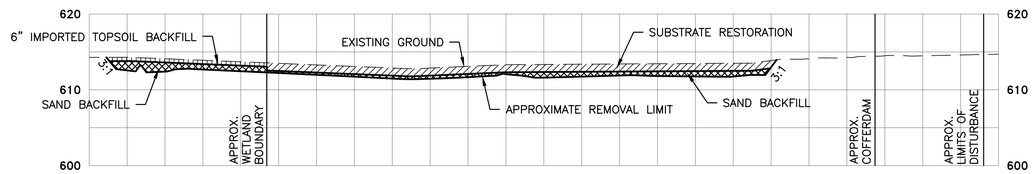
RESTORATION AND BACKFILL CROSS SECTIONS

PREPARED FOR: EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-5010

DATE	MAY 2014
DESIGNED BY	JM
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-304
SHEET NUMBER	17 OF 22

FILE PATH: F:\FEDERAL\NON DOD\GLAES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\60% DRAWINGS\RESTORATION PLAN CROSS SECTIONS.DWG [17 RESTORATION CROSS SECTIONS] 3/18/14 jmather



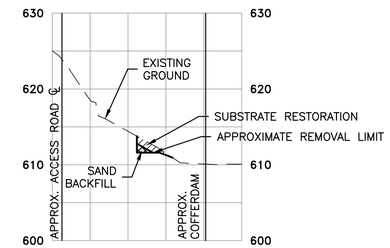
DEPOSIT 4-2 - CROSS SECTION

CC / C-302

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

NOTES:
1. BACKFILL EXCAVATION WITH SAND UP TO 12 INCHES WITHIN EXISTING/FINAL GROUND OUTSIDE WETLAND AREAS. BACKFILL WITH SUBSTRATE RESTORATION TO EXISTING/FINAL GROUND OUTSIDE WETLAND AREAS.
2. BACKFILL WETLAND AREAS WITH SAND UP TO 6 INCHES WITHIN EXISTING/FINAL GROUND. BACKFILL WITH IMPORTED TOPSOIL TO EXISTING/FINAL GROUND.



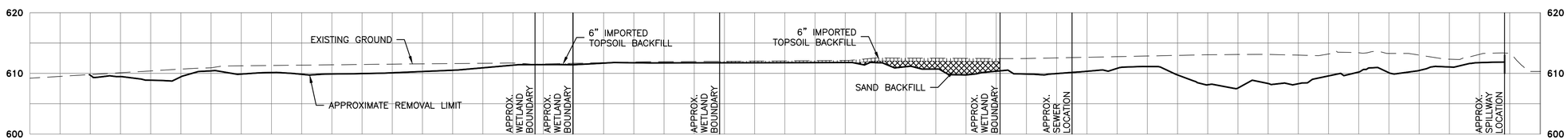
DEPOSIT 4-2 - CROSS SECTION

DD / C-302

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

NOTE:
BACKFILL EXCAVATION WITH SAND UP TO 12 INCHES WITHIN EXISTING/FINAL GROUND OUTSIDE WETLAND AREAS. BACKFILL WITH SUBSTRATE RESTORATION TO EXISTING/FINAL GROUND OUTSIDE WETLAND AREAS.



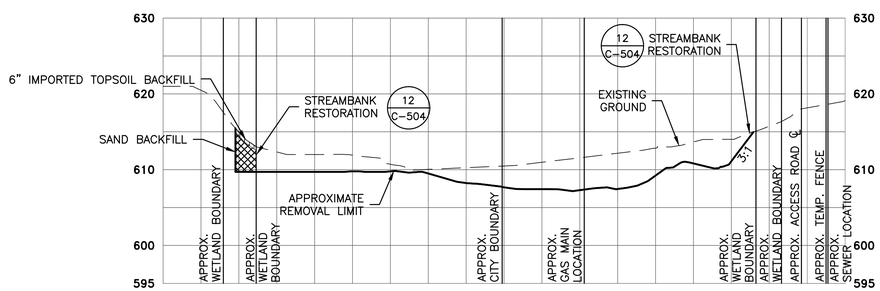
DEPOSIT 5-1 - CROSS SECTION

EE / C-303

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

NOTE:
BACKFILL EXCAVATION WITH SAND UP TO 6 INCHES WITHIN EXISTING/FINAL GROUND. BACKFILL WITH IMPORTED TOPSOIL TO EXISTING/FINAL GROUND.



DEPOSIT 5-1 - CROSS SECTION

FF / C-303

HORIZONTAL SCALE: 40 20 0 40 80 GRAPHIC SCALE IN FEET

VERTICAL SCALE: 10 5 0 10 20 GRAPHIC SCALE IN FEET

NOTE:
BACKFILL EXCAVATION WITH SAND UP TO 6 INCHES WITHIN EXISTING/FINAL GROUND. BACKFILL WITH IMPORTED TOPSOIL TO EXISTING/FINAL GROUND.

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL: WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL
SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

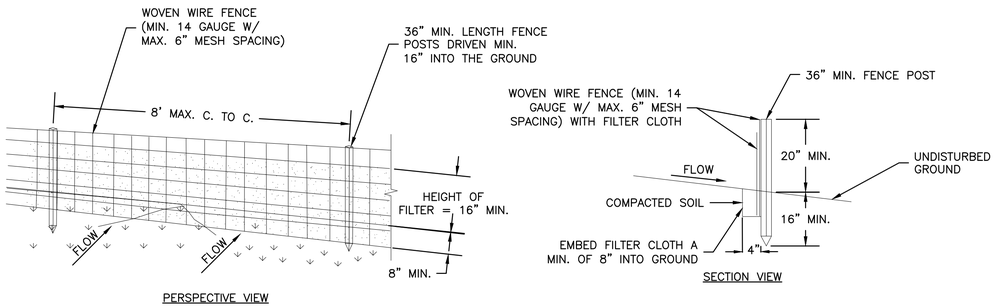
RESTORATION AND BACKFILL CROSS SECTIONS 2

PREPARED FOR: EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JM
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-305
SHEET NUMBER	18 OF 22

FILE PATH: F:\FEDERAL\NON DOD\GLAES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\RESTORATION PLAN CROSS SECTIONS\DWG [18 RESTORATION CROSS SECTIONS (2)] 3/18/14 jmather

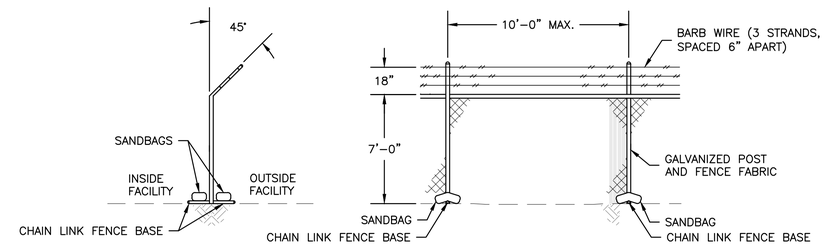


NOTES:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD WITH A MINIMUM CROSS-SECTIONAL AREA OF 3 SQUARE INCHES.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH SPACED EVERY 24" AT TOP, MID SECTION, AND BOTTOM. FENCE SHALL BE WOVEN WIRE, 14 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
6. ANY TORN SILT FENCE CLOTH SECTIONS SHALL BE REPLACED BY THE CONTRACTOR IMMEDIATELY.

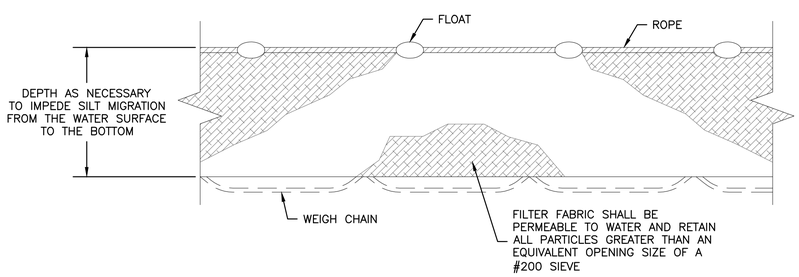
TEMPORARY SILT FENCE DETAIL

1 / C-201 — NTS
C-202
C-204
C-206



CHAIN LINK TEMPORARY SECURITY FENCE DETAIL

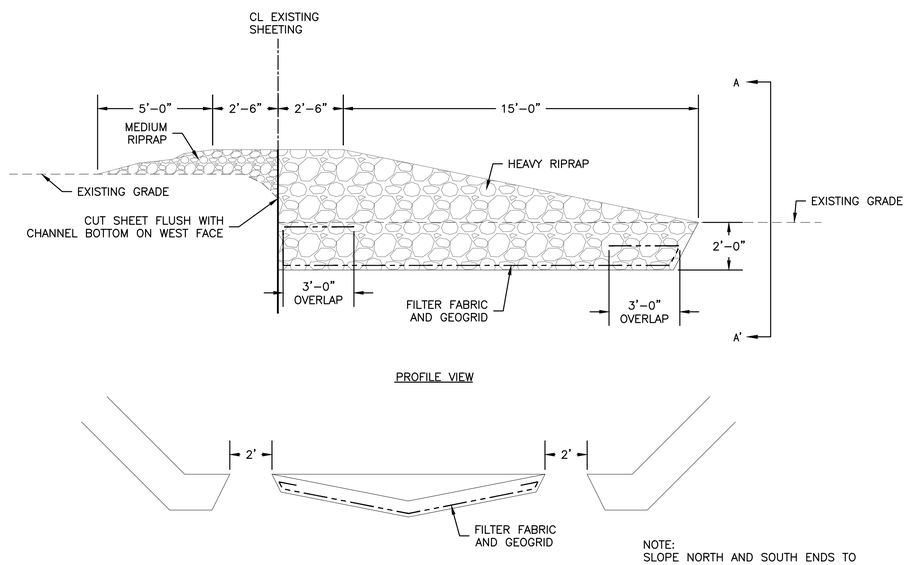
2 / C-201 — NTS
C-202
C-204
C-206



SILT CURTAIN DETAIL

3 / C-202 — NTS
C-204

NOTE:
THE TOP SHALL BE WITHIN 6 INCHES FROM THE WATER SURFACE AND THE BOTTOM OF SILT FENCE SHALL BE MAINTAINED TO PREVENT CONTACT WITH SEDIMENT AND CAUSE RE-SUSPENSION.



NOTE:
SLOPE NORTH AND SOUTH ENDS TO TIE IN WITH BANK TOE TO MAINTAIN DEEPEST PORTION OF THIS DETAIL IN THE CENTER OF THE CHANNEL.

EXISTING PHASE I SHEET PILE DETAIL

4 / C-102 — NTS

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

DETAILS 1

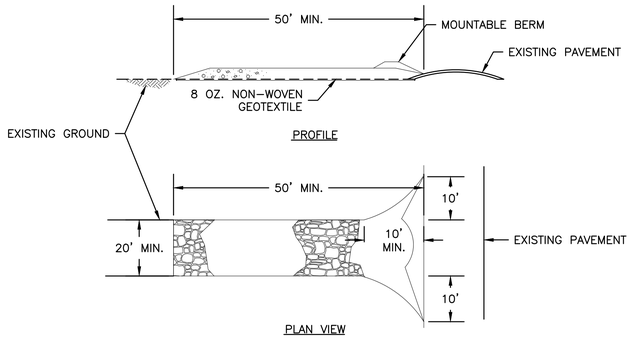
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-501
SHEET NUMBER	19 OF 22

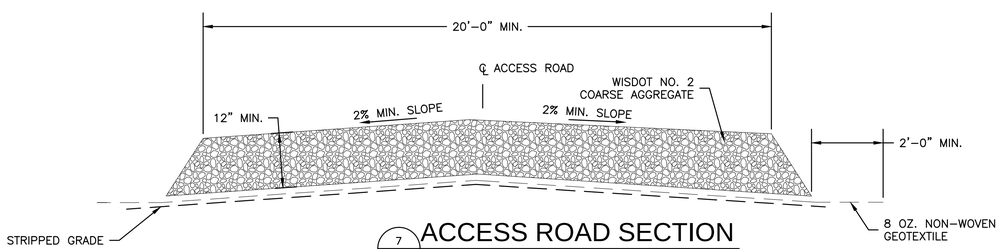
FILE PATH: F:\FEDERAL\NON DOD\GLAES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\C-18 DETAILS 1.DWG [19 DETAILS 1] 3/18/14 jmsither



STABILIZED CONSTRUCTION ENTRANCE

5 C-201 NTS
C-202
C-204
C-206

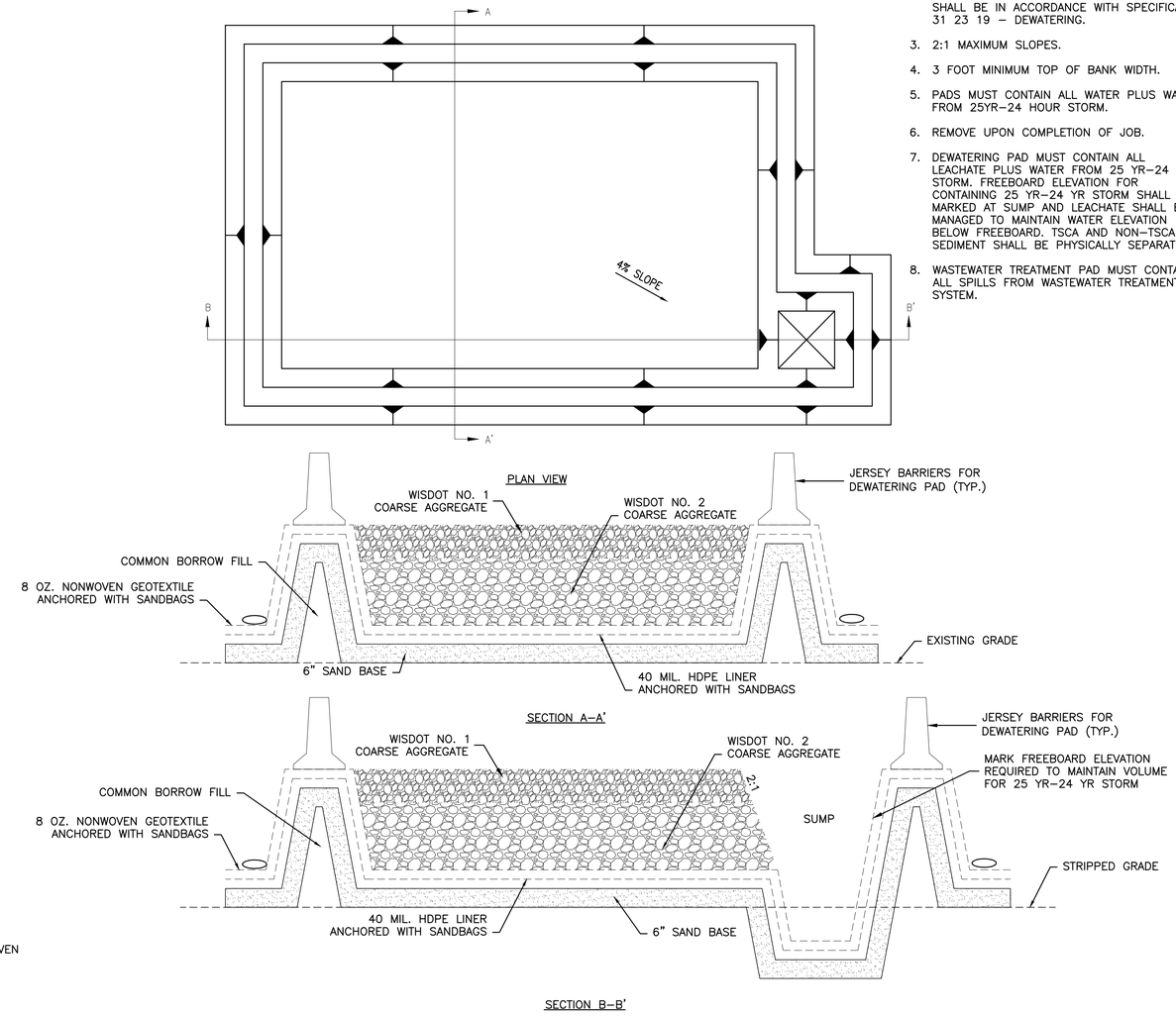
NOTE:
ENTRANCE SHALL BE AS SHOWN OR AS APPROVED BY OWNER.



ACCESS ROAD SECTION

7 C-201 NTS
C-202
C-204
C-206

NOTES:
1. EXISTING PARK TRAILS MAY BE UTILIZED INSTEAD OF BUILDING AN ACCESS ROAD WITH PRIOR APPROVAL OF OWNER. ANY PARK TRAILS UTILIZED MUST BE REMOVED AND RECONSTRUCTED AT COMPLETION OF PROJECT.
2. ACCESS ROAD SHALL BE AS SHOWN OR AS APPROVED BY OWNER.



DECONTAMINATION PAD , DEWATERING PAD, AND WATER TREATMENT PAD - TYPICAL DETAIL

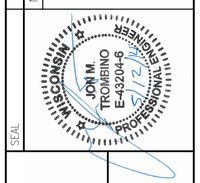
6 C-201 NTS
C-202
C-204
C-206

NOTES:
1. PADS SHALL BE AS SHOWN OR AS APPROVED BY OWNER.
2. WASTEWATER TREATMENT AND DISCHARGE SHALL BE IN ACCORDANCE WITH SPECIFICATION 31 23 19 – DEWATERING.
3. 2:1 MAXIMUM SLOPES.
4. 3 FOOT MINIMUM TOP OF BANK WIDTH.
5. PADS MUST CONTAIN ALL WATER PLUS WATER FROM 25YR-24 HOUR STORM.
6. REMOVE UPON COMPLETION OF JOB.
7. DEWATERING PAD MUST CONTAIN ALL LEACHATE PLUS WATER FROM 25 YR-24 YR STORM. FREEBOARD ELEVATION FOR CONTAINING 25 YR-24 YR STORM SHALL BE MARKED AT SUMP AND LEACHATE SHALL BE MANAGED TO MAINTAIN WATER ELEVATION BELOW FREEBOARD. TSCA AND NON-TSCA SEDIMENT SHALL BE PHYSICALLY SEPARATED.
8. WASTEWATER TREATMENT PAD MUST CONTAIN ALL SPILLS FROM WASTEWATER TREATMENT SYSTEM.

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL



REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

DETAILS 2

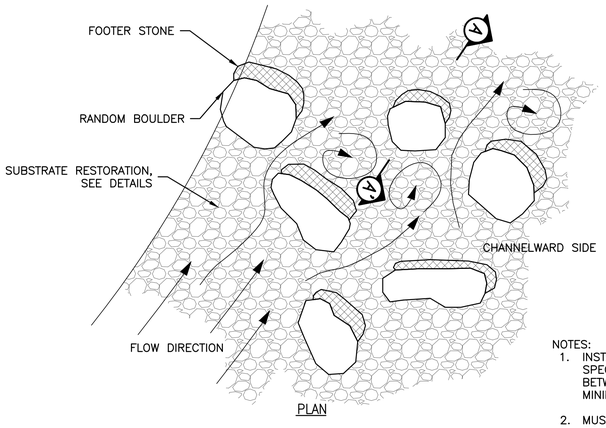
PREPARED FOR:

EPA

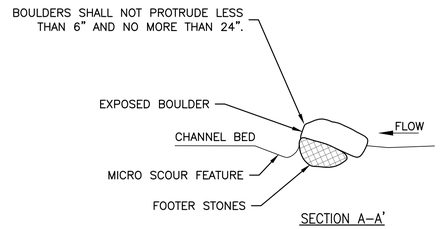
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-502
SHEET NUMBER	20 OF 22

FILE PATH: F:\FEDERAL\NON DOD\DGAES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\C-18 DETAILS 1.DWG [20 DETAILS 2] 3/18/14 jmother



PLAN

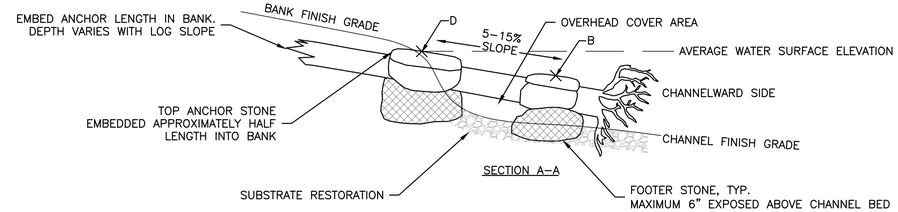


SECTION A–A'

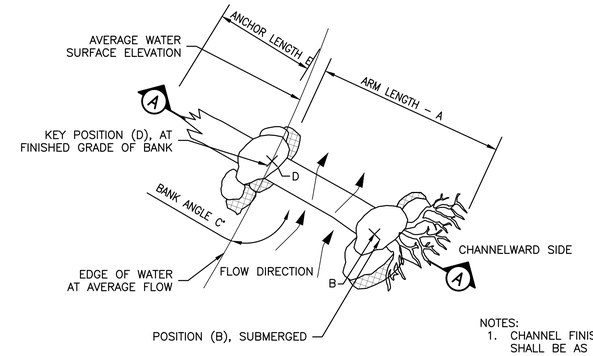
NOTES:
1. INSTALL BOULDERS AT SIZE SPECIFIED. MAXIMUM SPACING BETWEEN BOULDERS IS 5 FEET, MINIMUM 2 FEET.
2. MUST BE FIELD–FIT. CONFIGURATION VARIES. MINIMUM 6 BOULDERS PER CLUSTER.
3. COORDINATE ACTUAL LOCATIONS/ ELEVATIONS WITH OWNER.

8 / C–301 / C–302 BOULDER CLUSTER PLACEMENT

NTS



SECTION A–A

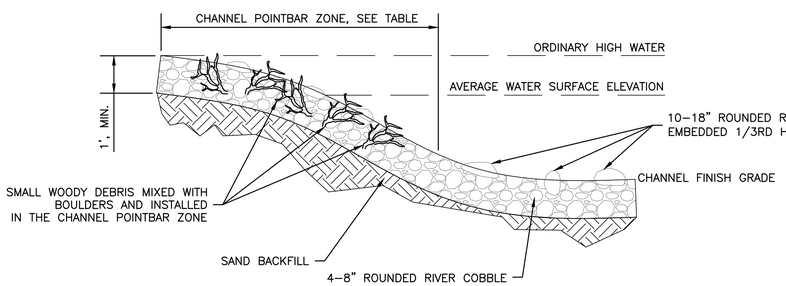


PLAN

NOTES:
1. CHANNEL FINISH GRADE SHALL BE AS SHOWN ON CROSS SECTIONS AND C–203, C–205, C–207, C–304, AND C–305.
2. SEE ROOT WAD TABLES ON C–301 AND C–302.

9 / C–301 / C–302 LOG/ROOT WAD DETAIL

NTS



NOTES:
1. CHANNEL FINISH GRADE SHALL BE AS SHOWN ON CROSS SECTIONS AND C–203, C–205, C–207, C–304, AND C–305.
2. LIMITS OF SUBSTRATE RESTORATION SHALL BE AS SHOWN ON DRAWINGS C–302, C–304, AND C–305.

TABLE A: POINTBAR ELEVATION BY ZONES	
ZONE	ELEVATION RANGE
ZONES 3 & 7	PRACTICE NOT PROPOSED
ZONE 4	ELEVATION 610–612'
ZONE 5	PRACTICE NOT PROPOSED

10 / C–302 SUBSTRATE RESTORATION TYPICAL DETAIL

NTS

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL: WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER 3/18/14

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

DETAILS 3

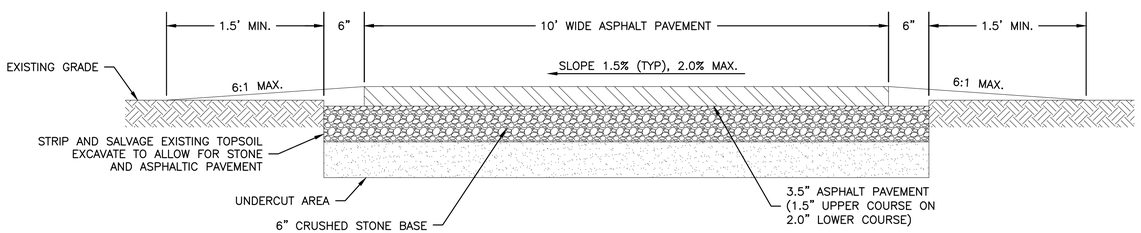
PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945–8010

DATE	MAY 2014
DESIGNED BY	JM
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C–503
SHEET NUMBER	21 OF 22

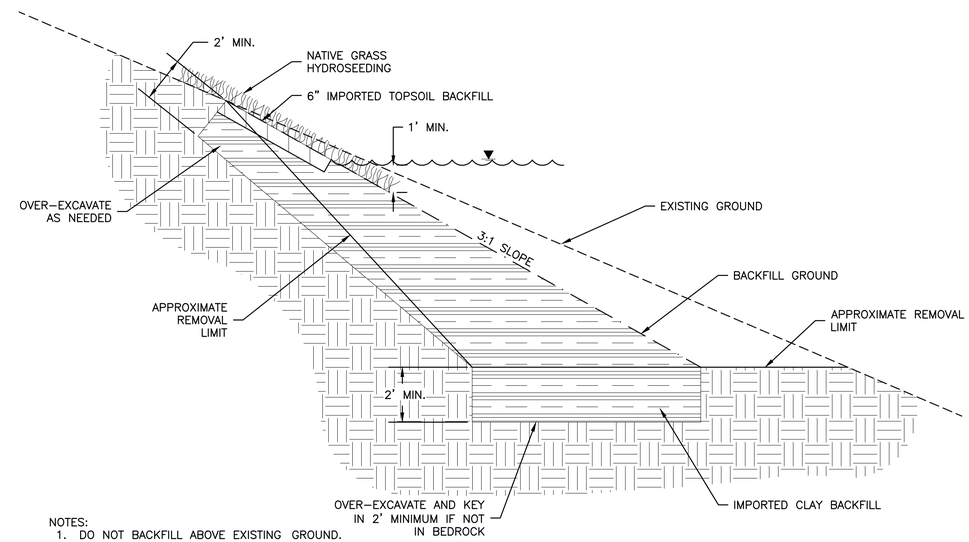
FILE PATH: F:\FEDERAL\VOA 000\QUALES\PROJECTS\6256105 – LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\C-18 DETAILS 1.DWG [21 DETAILS 3] 3/18/14 jmather



NOTES:
1. PROVIDE CLEAR ZONE WITH NO VERTICAL OBSTRUCTION WITHIN 3' FROM EDGE OF TRAIL UNLESS SHOWN OTHERWISE ON THE PLAN.
2. UNDERCUT ONLY WHERE DIRECTED BY OWNER.
3. CROSS SLOPE OF PAVEMENT SHALL BE TO LOW SIDE OF TOPOGRAPHY.

11 / C-301 TYPICAL BIKE TRAIL SECTION ON GRADE

NTS



NOTES:
1. DO NOT BACKFILL ABOVE EXISTING GROUND.
2. OWNER MAY REDUCE OVER-EXCAVATION REQUIREMENTS.

12 / C-305 STREAMBANK RESTORATION DETAIL

NTS

REVISIONS

NO.	DATE	BY	DESCRIPTION

SEAL

WISCONSIN JON M. TROMBINO E-43204-6 PROFESSIONAL ENGINEER 3/12/14

REMEDIAL DESIGN
LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II
MILWAUKEE COUNTY, WISCONSIN

DETAILS 4

PREPARED FOR:

EPA

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
444 LAKE COOK ROAD
SUITE 18
DEERFIELD, IL 60015
(847) 945-8010

DATE	MAY 2014
DESIGNED BY	JRB
DRAWN BY	JRM
CHECKED BY	JMT
PROJECT MANAGER	MC
PROJECT NUMBER	6256105
SCALE	AS SHOWN
FILE NAME	SEE FILE PATH
DRAWING NUMBER	C-504
SHEET NUMBER	22 OF 22

FILE PATH: F:\FEDERAL\NON DOD\DALES\PROJECTS\6256105 - LINCOLN PARK FS-RD\FIGURES\90% DRAWINGS\C-18 DETAILS 1.DWG [22 DETAILS 4] 3/18/14 jmother