These data and related items of information have not been formally disseminated by NOAA, and do not represent any agency determination, view, or policy.

LAKE OKONOKA HABITAT RESTORATION PROJECT

BELLE ISLE PARK
DETROIT, MICHIGAN 48207

OCTOBER 2, 2017
ISSUED FOR CONSTRUCTION

SGJJR Project Number: 20490.001

SMITHGROUPJJR PACKAGE:

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C-3.20	BREAKWATER STRUCTURES-LAYOUT & MATERIALS PLAN
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C-4.20	WOODSIDE DRIVE- PLAN & PROFILE STA 0+00 TO 3+50
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WADETRIM PACKAGE:

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2	ALIGNMENT SHEET
3	DETOUR PLAN
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23	EXPANSION JOINT DETAILS
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C01-82700	
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26	PLAN OF SITE
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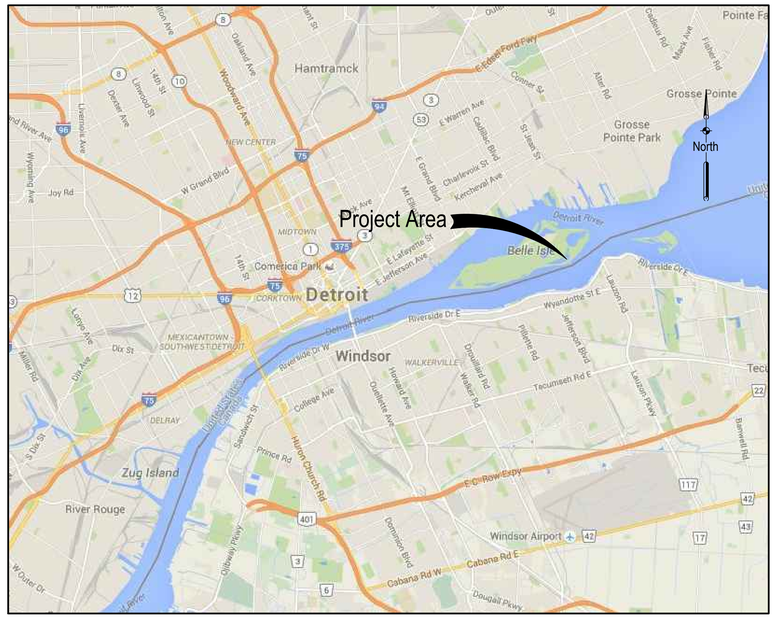
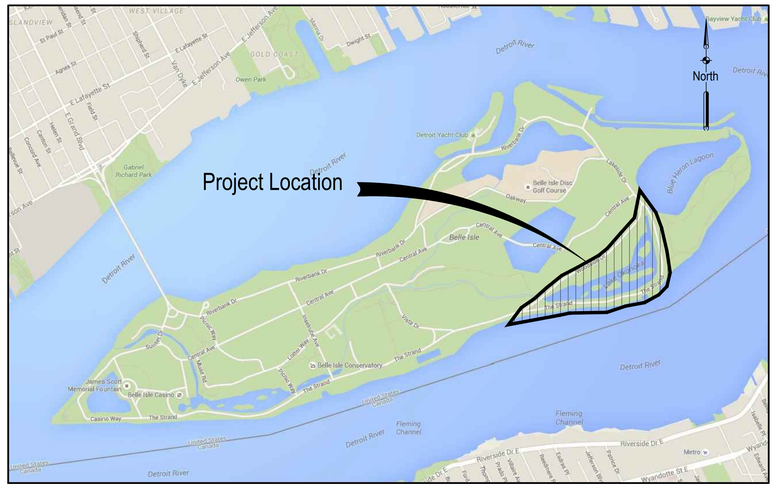


PROJECT VICINITY MAP



PROJECT LOCATION MAP

Prepared for:

FRIENDS OF THE DETROIT RIVER

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Prepared by:

SMITHGROUPJJR

201 DEPOT STREET
ANN ARBOR, MI 48104
734.662.4457
www.smithgroupjjr.com

Funded by:

THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION THROUGH A GREAT LAKES RESTORATION INITIATIVE GRANT

FILE:P:\20490.000\CAD\C\Lake Okonoka Connection to Detroit River\SHEET\20490-COVER-SHT.dwg USER:kobrien DATE:Oct. 02 2017 TIME: 11:09 am

TOPOGRAPHIC SURVEY

TOPOGRAPHY OF THE UPLANDS SURROUNDING LAKE OKONOKA COMBINED
WITH THE BATHYMETRY FOR LAKE OKONOKA, BELLE ISLE, CITY OF DETROIT,
WAYNE COUNTY, STATE OF MICHIGAN

VICINITY SKETCH -
BELLE ISLE, CITY OF DETROIT, MICHIGAN

NTS

SURVEY LEGEND

- BENCHMARK
- CONTROL POINT
- F FOUND IRON PIPE
- 700.00 EX. SPOT ELEV.
- TC 701.00 EX. TOP OF CONC. CURB ELEV.
- GU 700.50 EX. GUTTER ELEV.
- EM 700.70 EX. EDGE OF METAL ELEV.
- CC 700.70 EX. CURB CUT ELEV.
- TW 703.00 EX. TOP OF WALL ELEV.
- BW 702.00 EX. BOTTOM OF WALL ELEV.
- SOIL BORING
- ELECTRIC TRANSFORMER
- CABLE RISER
- UTILITY POLE
- GUY WIRE
- LIGHT POLE
- FIRE HYDRANT
- SHUT OFF VALVE
- (1221) CATCH BASIN (ROUND)
- (1221) CATCH BASIN (SQUARE)
- (1221) COMMUNICATIONS MANHOLE
- (1221) STORM MANHOLE
- (1221) SANITARY MANHOLE
- (1221) ELECTRIC MANHOLE
- (1221) GAS MANHOLE
- (1221) WATER MANHOLE
- (1221) STEAM TUNNEL MANHOLE
- AC AIR CONDITIONER
- IRRIGATION CONTROL VALVE
- FDC EX. FIRE DEPT. CONNECTION
- DS EX. DOWNSPOUT
- CO EX. CLEANOUT
- EX. BOLLARD/POST
- SIGN
- SIGN – DOUBLE POST
- EX. BIKE LOOP
- TREE – DECIDUOUS
- TREE – CONIFEROUS
- BUSH/SHRUB
- EX. TOPO CONTOUR
- BUILDING PERIMETER
- BUILDING/ROOF OVERHANG
- EX. BRUSH/WOODED LIMITS
- EX. FENCE LINE
- EX. GUARD RAIL
- ctv EX. CABLE TELEVISION
- com EX. COMMUNICATION
- ue EX. UNDERGROUND ELECTRIC
- oe EX. ELECTRIC
- fiber EX. FIBER OPTIC
- g EX. NATURAL GAS
- oh EX. OVERHEAD UTILITY
- s EX. SANITARY SEWER
- r EX. STORM SEWER
- w EX. WATER MAIN
- SL EX. ELECTRIC STREET LIGHTING
- EDGE OF WATER
- PROPERTY LINE
- WETLAND LIMIT

BENCHMARKS

SOURCE BENCHMARKS

BENCHMARK BI–261
CITY OF DETROIT CONTROL MONUMENT BI–261, BRASS DISC IN HAND–HOLE IN THE SIDEWALK AT THE COMFORT STATION/RESTROOM FACILITIES AT THE INTERSECTION OF THE STRAND AND WOODSIDE DRIVE.

ELEVATION = 97.82'(M) CITY OF DETROIT DATUM (C.D.D.)

(PREVIOUSLY RECORDED AS 97.882' ON BELLE ISLE BENCHMARK MAP PROVIDED BY CITY ENGINEER'S OFFICE. CONVERTED FROM NAVD88 DATUM, SEE SURVEYOR'S NOTE 2 BELOW)

BENCHMARK BI–253
CITY OF DETROIT CONTROL MONUMENT BI–253, BRASS DISC IN HAND–HOLE AT THE SOUTHEAST INTERSECTION OF RIVERBANK AND PICNIC WAY.

ELEVATION = 99.51'(M) – CITY OF DETROIT DATUM (C.D.D.)

(PREVIOUSLY RECORDED AS 99.272' ON BELLE ISLE BENCHMARK MAP PROVIDED BY CITY ENGINEER'S OFFICE. CONVERTED FROM NAVD88 DATUM, SEE SURVEYOR'S NOTE 2 BELOW)

SITE BENCHMARKS

BENCHMARK 300
DRILLED MAG IN SOUTH SIDE CONCRETE LIGHT POLE BASE, NORTH OF LAKESHORE DRIVE, APPROX. ±60 FEET WEST OF WOODSIDE DRIVE.

ELEVATION = 98.62' CITY OF DETROIT DATUM (C.D.D.)

BENCHMARK 301
SET BENCHTIE IN NORTHWEST FACE POWER POLE, SOUTH SIDE OF THE STRAND, EAST OF U.S. COAST GUARD STATION.

ELEVATION = 99.40' CITY OF DETROIT DATUM (C.D.D.)

BENCHMARK 302
ARROW ON HYDRANT NORTH OF INTERSECTION OF WOODSIDE DRIVE AND THE STRAND.

ELEVATION = 100.74' CITY OF DETROIT DATUM (C.D.D.)

THE FOLLOWING CONVERSION FACTORS MAY BE USED TO COMPARE DATA ON DIFFERENT VERTICAL DATUMS:

- CITY OF DETROIT DATUM +480.096 FEET = NORTH AMERICAN VERTICAL DATUM OF 1929 (NGVD29).
- CITY OF DETROIT DATUM +479.548 FEET = NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

CONTROL POINT TABLE

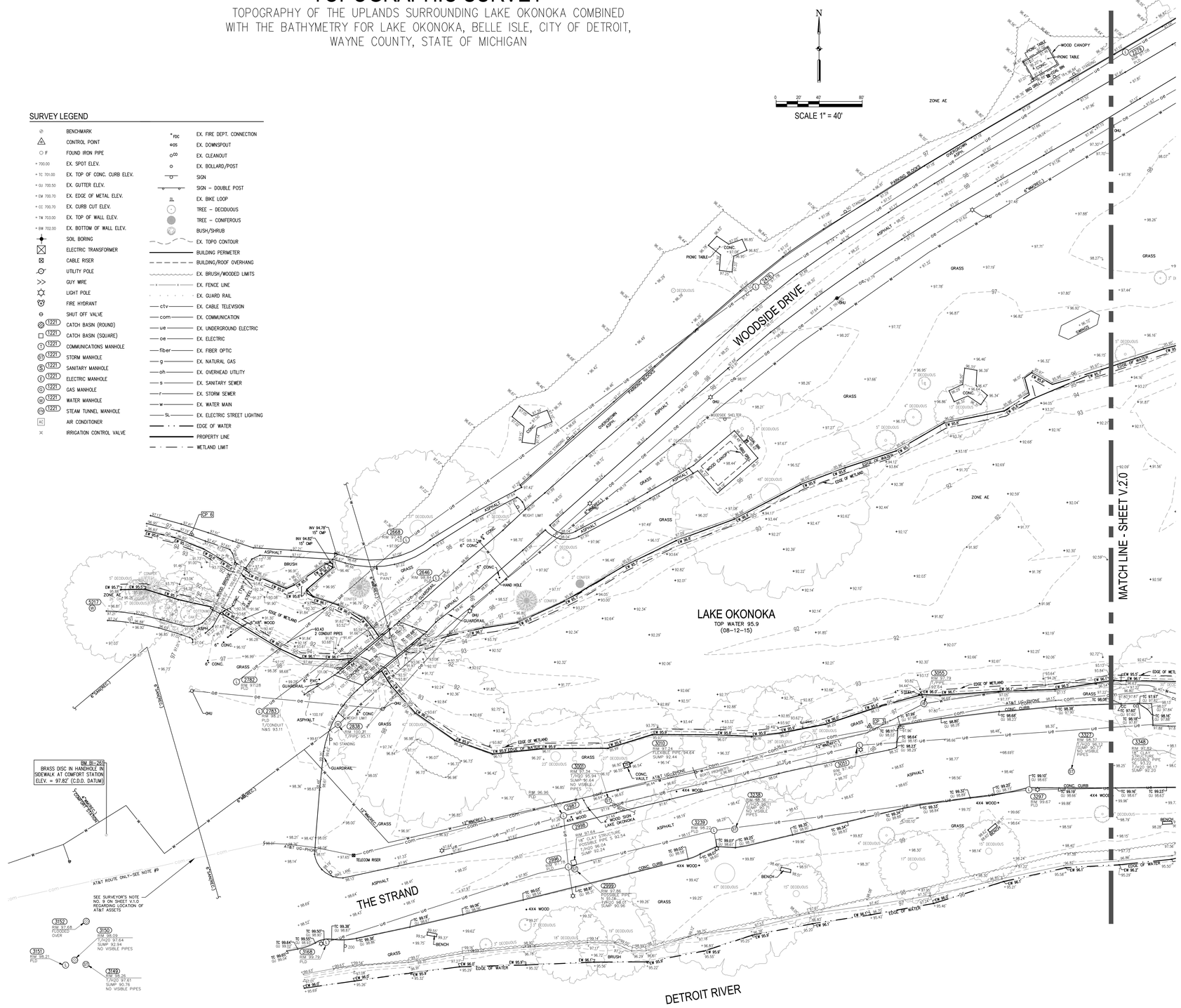
Point No.	Northing	Easting	Elevation	Description
1	310871.58	13503444.04	98.74	CP SGJJR CAP REBAR
2	310083.74	13502603.72	97.34	CP SGJJR CAP REBAR
3	309168.82	13501750.85	97.21	CP SGJJR CAP REBAR
4	309130.21	13502540.74	99.31	CP SGJJR CAP REBAR
5	309653.87	13503766.82	99.28	CP SGJJR CAP REBAR
6	309347.40	13501120.60	97.45	CP MAG NAIL

SURVEYOR'S NOTES

1. HORIZONTAL DATUM IS ACCORDING TO MICHIGAN STATE PLANE GRID COORDINATES, SOUTH ZONE (2113), GEOID 2012A, INTERNATIONAL FEET AS LINEAR UNIT OF MEASURE.
2. VERTICAL DATUM IS ACCORDING TO THE CITY OF DETROIT VERTICAL DATUM, AS PREVIOUSLY ESTABLISHED IN SMITHGROUPJJR TOPOGRAPHIC SURVEY OF THE SOUTH FISHING PIER, PROJECT NO. 50326, LAST REVISED 11–09–11, CITY OF DETROIT BENCHMARKS BI–261 & BI–253 AS DEFINED HEREON WERE USED TO CHECK AND RE–ESTABLISH THE VERTICAL DATUM. SEE BENCHMARK NOTES ABOVE FOR CONVERSION FACTORS TO OTHER VERTICAL DATUMS.
3. SMITHGROUPJJR PERFORMED THIS SURVEY UTILIZING DATA COLLECTED WITH GLOBAL POSITIONING RECEIVERS REFERENCING THE MICHIGAN CONTINUOUSLY OPERATING REFERENCE NETWORK FOR SITE CONTROL. FIELD WORK FOR THE TOPOGRAPHIC MAPPING WAS SUBCONTRACTED TO PROFESSIONAL ENGINEERING ASSOCIATES, INC. (PEA) OF TROY, MICHIGAN. PREPARATION OF DRAWINGS WAS COMPLETED BY SMITHGROUPJJR.
4. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH OR BOUNDARY SURVEY BY THE SURVEYOR. THE PROJECT SCOPE WAS STRICTLY LIMITED TO TOPOGRAPHIC MAPPING.
5. MISS–DIG TICKET A052100142–00A WAS ISSUED FOR THIS PROJECT.
6. UNDERGROUND UTILITY LOCATIONS WERE DERIVED FROM ACTUAL MEASUREMENTS ON VISIBLE UTILITIES, MISS DIG FLAGS/MARKINGS, AND/OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS, NOR SHOULD THEY IT BE ASSUMED THAT THEY ARE THE ONLY UNDERGROUND UTILITIES IN THE AREA.
7. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED AND ARE NOT CONSIDERED A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE AND OR DEVELOPMENT OF THIS SITE.
8. SMITHGROUPJJR COMPLETED A HYDROGRAPHIC SURVEY OF THE BOTTOMLANDS OF LAKE OKONOKA 11/23/2015–12/11/2015, USING ECHO–SOUNDING EQUIPMENT COMBINED WITH CONVENTIONAL SHORELINE SURVEY METHODS.
9. THE LOCATION OF AT&T ASSETS AS SHOWN ON THE SURVEY ARE A COMBINATION OF UTILITY MARKINGS FROM MISS DIG AND RECORD MAPS. THE RECORD MAPS ARE VAGUE AND LACK ANY DETAIL. IN AREAS WHERE AT&T LINES ARE SHOWN IN GRAY AND NOTED AS "ROUTE ONLY" THE LOCATION HAS NOT BEEN VERIFIED AND IS ONLY SHOWN TO EXPRESS THE ROUTE OF THE UTILITY. WHERE THE UTILITY IS DRAFTED AS A SOLID LINE, THE UTILITY IS SHOWN AS MARKED BY MISS DIG. SEE EXAMPLES BELOW.

——— com ——— AT&T UTILITY AS MARKED BY MISS DIG

——— com ——— AT&T ROUTE LOCATION ONLY. NOT THE PHYSICAL LOCATION OF THE UTILITY



FLOODPLAIN NOTE

PORTIONS OF THIS SITE, AS SHOWN ON THE TOPOGRAPHIC SURVEY LIE, IN SPECIAL FLOOD HAZARD AREA "ZONE AE" AND (OTHER) FLOOD AREA "ZONE X", ACCORDING TO FEDERAL EMERGENCY MANAGMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) NO. 26163C, PANELS 0302E & 0304E, FOR WAYNE COUNTY, MICHIGAN, EFFECTIVE DATE FEBRUARY 2, 2012.

ACCORDING TO SAID PANELS, ZONE AE IS DEFINED AS AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD – BASE FLOOD ELEVATIONS DETERMINED. ZONE X IS DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD..

SAID PANELS WERE USED TO PLOT THE APPROXIMATE LOCATIONS OF SAID FLOOD ZONES. ADDITIONAL EFFORTS ARE REQUIRED TO DETERMINE THE ACTUAL LOCATION OF THE FLOOD ZONES.

UNSURVEYED PORTIONS OF THE SUBJECT PROPERTY MAY LIE IN OTHER FLOOD ZONES.

CERTIFICATE

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH LOCAL AND STATE JURISDICTIONAL REQUIREMENTS REGULATING MAPPING STANDARDS. THE UNDERSIGNED STATES THAT PROPER FIELD PROCEDURES, INSTRUMENTATION AND ADEQUATE STAFF WERE EMPLOYED TO ACHIEVE THE RESULTS INDICATED HEREIN.

SMITHGROUPJJR, INC.

CHARLES A. LANGOLF
PROFESSIONAL SURVEYOR
STATE OF MICHIGAN
charles.langolf@smithgroupjjr.com

STATE OF MICHIGAN
CHARLES A. LANGOLF
PROFESSIONAL SURVEYOR
56210
LICENSED PROFESSIONAL SURVEYOR

DATE: 8.01.17

LAKE OKONOKA HABITAT RESTORATION

BELLE ISLE PARK
DETROIT, MICHIGAN 48207

Owner:
FRIENDS OF THE DETROIT RIVER

Leased to and managed by:
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

SMITHGROUPJJR

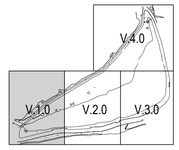
201 DEPOT STREET
SECOND FLOOR
ANN ARBOR, MI 48104
734.662.4457
www.smithgroupjjr.com

PEA, Inc.
2430 Rochester Court
Suite 100
Troy, MI 48083-1872
248.689.9090

ISSUED FOR	REV	DATE
CLIENT ISSUE	0	09/23/2015
CLIENT ISSUE	1	12/11/2015
DESIGN DEVELOPMENT	2	01-20-2016
CLIENT REVIEW	3	02-05-2016
AT&T ADDITIONAL MAPS	4	03-18-2016
JPA	5	08-30-2016
BIDS	6	08-01-2017

SEALS AND SIGNATURES

KEY PLAN



DRAWING TITLE

BELLE ISLE/LAKE OKONOKA
TOPOGRAPHIC SURVEY
DTMB File No. 751/15177.MNB
DTMB Index No. 59715

SCALE 1" = 40'

PROJECT NUMBER 20846.000

DRAWING NUMBER V.1.0/FIG.1

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LAKE OKONOKA HABITAT RESTORATION

BELLE ISLE PARK
DETROIT, MICHIGAN 48207

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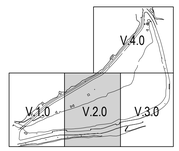
SEALS AND SIGNATURES

KEY PLAN



DRAWING TITLE

BELLE ISLE/LAKE OKONOKA
TOPOGRAPHIC SURVEY
DTMB File No. 751/15177.MNB
DTMB Index No. 59715

SCALE 1" = 40'

PROJECT NUMBER 20846.000

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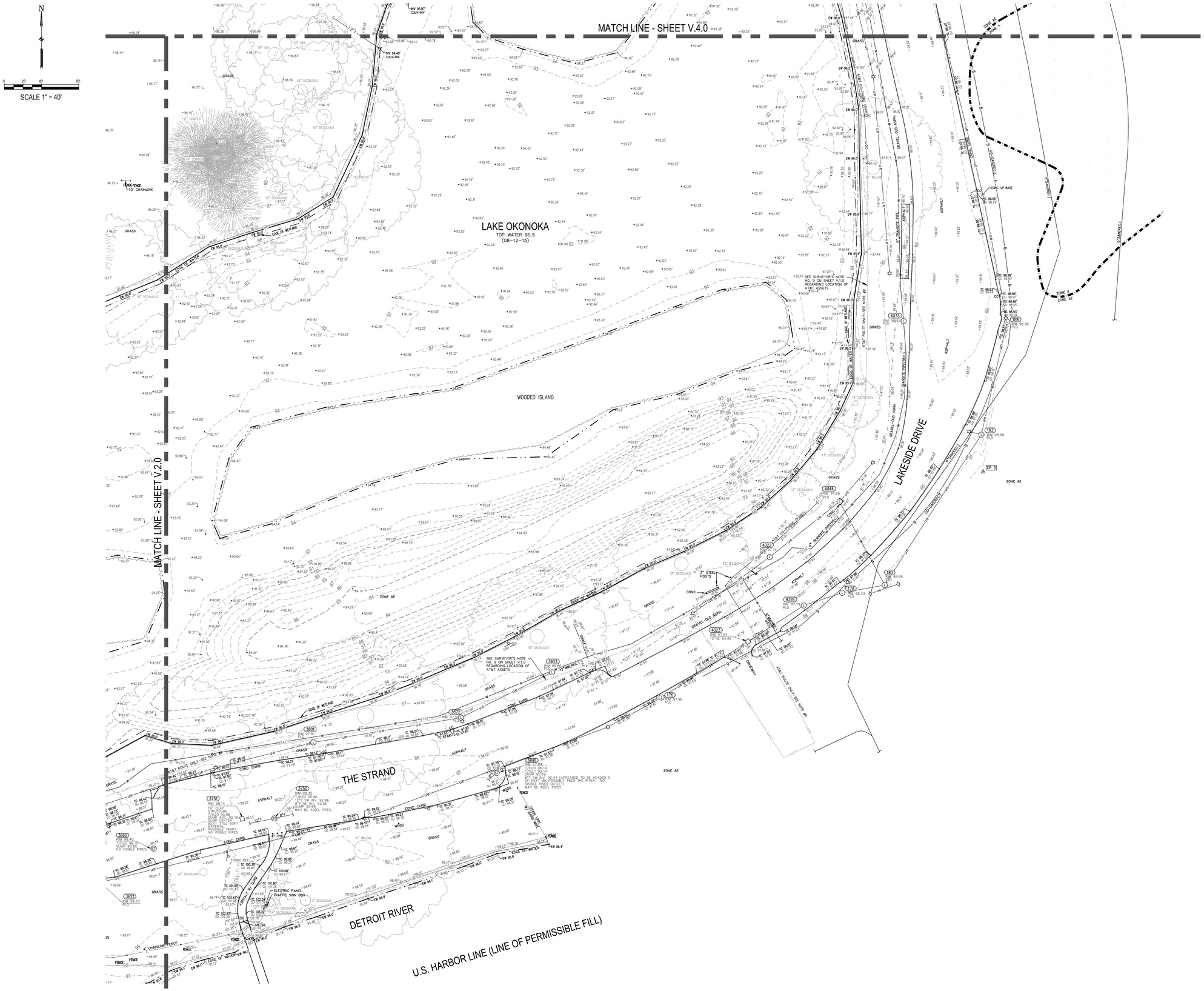

LAKE OKONOKA HABITAT RESTORATION

BELLE ISLE PARK
DETROIT, MICHIGAN 48207

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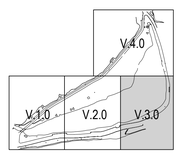
SEALS AND SIGNATURES

KEY PLAN



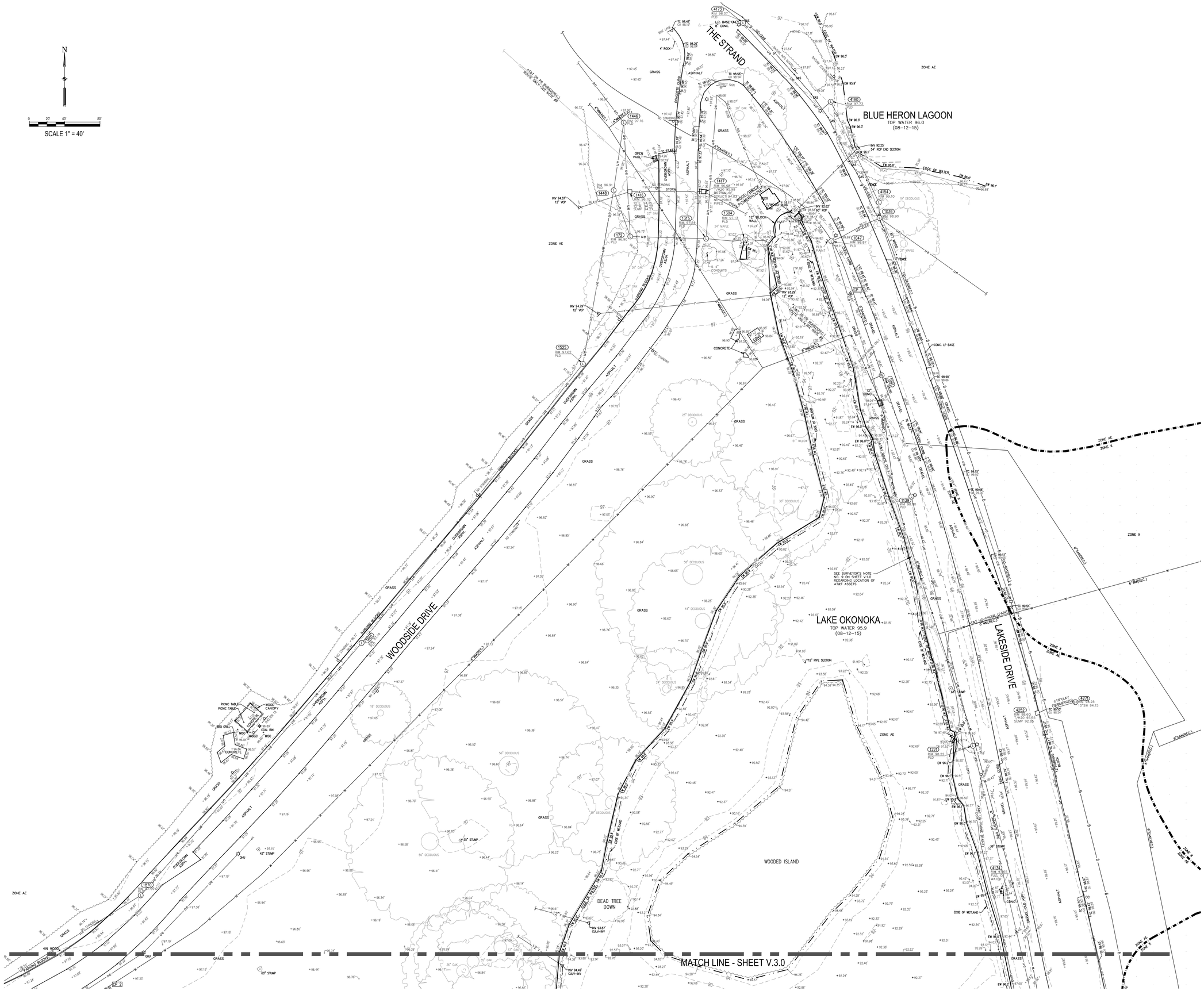
DRAWING TITLE

BELLE ISLE/LAKE OKONOKA
TOPOGRAPHIC SURVEY
DTMB File No. 751/15177.MNB
DTMB Index No. 59715

SCALE: 1" = 40'

PROJECT NUMBER: 20846.000

DRAWING NUMBER: V.3.0/FIG. 3



LAKE OKONOKA HABITAT RESTORATION

BELLE ISLE PARK
DETROIT, MICHIGAN 48207

Owner:

FRIENDS OF THE DETROIT RIVER

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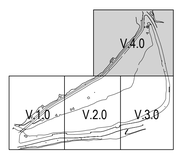
AT&T ADDITIONAL MAPS	4	03-18-2016
JPA	5	08-30-2016
BIDS	6	08-01-2017

SEALS AND SIGNATURES

KEY PLAN



DRAWING TITLE

BELLE ISLE/LAKE OKONOKA
TOPOGRAPHIC SURVEY
DTMB File No. 751/15177.MNB
DTMB Index No. 59715

SCALE: 1" = 40'

PROJECT NUMBER: 20846.000

DRAWING NUMBER: V.4.0/FIG. 4

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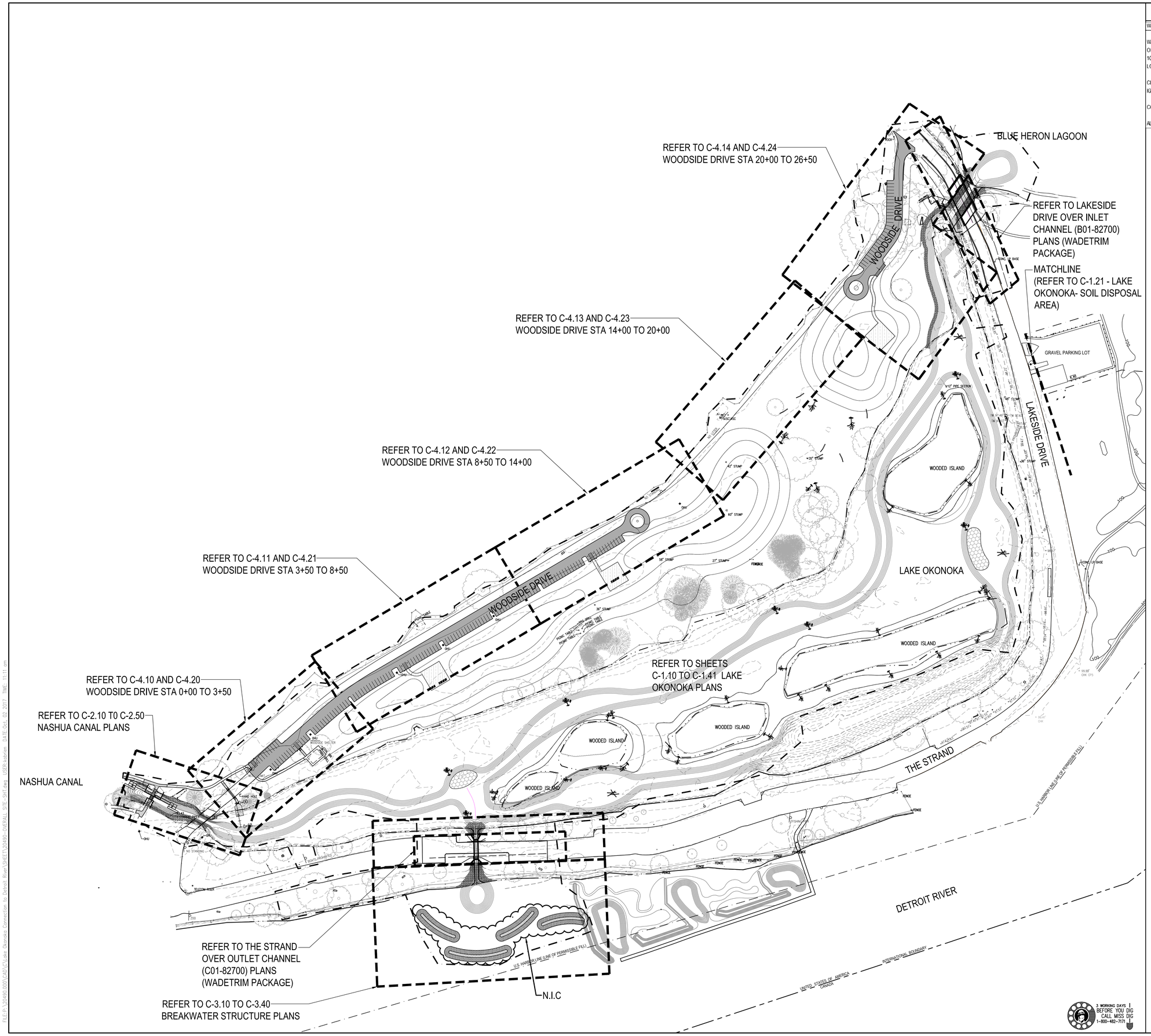

SHEET NOTES

WATER ELEVATIONS

	CDD	IGLD
WATER ELEVATION (OBSERVED 8/12/2015)	95.9	575
ORDINARY HIGH WATER (OHW)	96.9	576
100 YEAR FLOOD	98.25	577.3
LOW WATER DATUM	92.8	571.9

CDD = CITY OF DETROIT DATUM
IGLD = INTERNATIONAL GREAT LAKES DATUM 85

CONVERSION: IGLD = CDD+479.07

ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

LAKE OKONOKA HABITAT RESTORATION

BELLE ISLE PARK
DETROIT, MICHIGAN 48207

Owner:
FRIENDS OF THE DETROIT RIVER

Leased to and managed by:
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SMITHGROUP JJR

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SECOND FLOOR
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ISSUED FOR	REV	DATE
ISSUED FOR CONSTRUCTION		10-02-2017
BIDS		08-01-2017
FINAL OWNER REVIEW		07-21-2017
DESIGN DEVELOPMENT		05-13-2016
SCHEMATIC DESIGN TEAM MEETING		09-03-2015

SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

DRAWING TITLE
OVERALL SITE SUMMARY

0 50' 100' 200'
SCALE: 1"=100'

SCALE

PROJECT NUMBER
20490.000

DRAWING NUMBER
G-1.0

FILE P:\20490.000\CAD\C\Lake Okonoka Connection to Detroit River\SHEET\20490_OVERALL SITE SUM.dwg USER:vdavis DATE:Oct. 02 2017 TIME: 11:11 am

FDR WHO IS HEREAFTER REFERRED TO AS THE OWNER. AIA DOCUMENT A105-2017 WILL BE EXECUTED BETWEEN THE CONTRACTOR AND FDR WHO WILL SERVE AS THE OWNER.

ARCHITECT OR ENGINEER SHALL BE REFERRED TO AS OWNER'S REPRESENTATIVE.

PUMPED FROM THE RIVER TO "FILL" THE LAKES AND CANALS TO AN ARTIFICIAL

J

JUSTIN STANLEY, 313-331-3119, JUSTIN.S.STANLEY@USCG.MIL

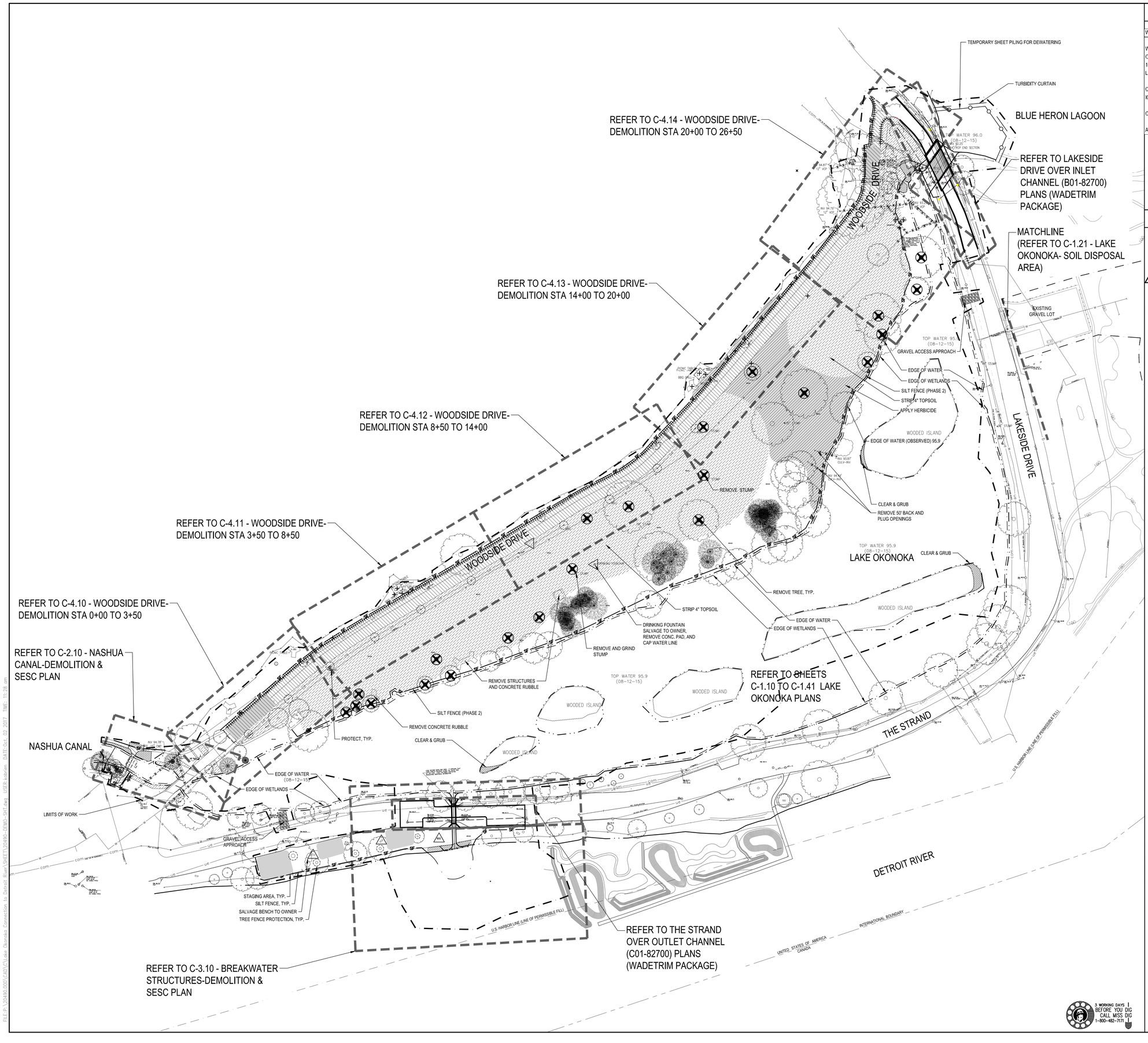
AMANDA HERTL, LANDSCAPE ARCHITECT, 313.396.6872, HERTLA@MICHIGAN.GOV

TOPSOIL - RESPREAD 4" MINIMUM TOPSOIL IN ALL LAWN AND NATIVE SEED

SMITHGROUP JJR

0' 10' 20' 40'

FILE:P:\20490.000\CADD\C\Lake Shoreline Connection to Detroit River\SHEET\20490-GENERAL NOTES-SHT.dwg USER:vdavies DATE:Oct. 02 2017 TIME: 11:11 am



SHEET NOTES

WATER ELEVATIONS

	CDD	IGLD
WATER ELEVATION (OBSERVED 8/12/2015)	95.9	575
ORDINARY HIGH WATER (OHW)	96.9	576
100 YEAR FLOOD	98.25	577.3
LOW WATER DATUM	92.8	571.9

CDD = CITY OF DETROIT DATUM
IGLD = INTERNATIONAL GREAT LAKES DATUM 85

CONVERSION: IGLD = CDD+479.07

ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

LEGEND

- LIMITS OF WORK
- EDGE OF WATER
- EDGE OF WETLANDS
- REMOVE ASPHALT PAVEMENT, FULL DEPTH, PULVERIZE AND REUSE AS BASE
- SALVAGE FOOT BRIDGE TO OWNER
- REMOVE TREE, STUMP, AND ROOTS
- SAWCUT
- REMOVE UTILITY LINE
- REMOVE CONCRETE CURB AND GUTTER/ CONCRETE PARKING BLOCKS
- REMOVE UTILITY POLE, FIXTURE, FOUNDATION
- REMOVE
- SALVAGE
- PROTECT
- CLEAR AND GRUB
- TREE PROTECTION FENCE (1 / C-1.41)
- SILT FENCE (2 / C-1.41)
- INLET PROTECTION (4 / C-1.41)
- TURBIDITY CURTAIN (6 / C-1.41)
- TEMPORARY SHEET PILING FOR DEWATERING
- CONSTRUCTION FENCE
- STAGING AREA
- GRAVEL ACCESS APPROACH (5 / C-1.41)
- HERBICIDE
- STRIP 4" TOPSOIL

LAKE OKONOKA HABITAT RESTORATION

BELLE ISLE PARK
DETROIT, MICHIGAN 48207

Owner:
FRIENDS OF THE DETROIT RIVER

Leased to and managed by:
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

SMITHGROUP JJR
201 DEPOT STREET
SECOND FLOOR
ANN ARBOR, MI 48104
734.662.4457
www.smithgroupjjr.com

ISSUED FOR	REV	DATE
ISSUED FOR CONSTRUCTION		10-02-2017
ADDENDUM NO. 4		09-22-2017
BIDS		08-01-2017
FINAL OWNER REVIEW		07-21-2017
DESIGN DEVELOPMENT		05-13-2016
SCHEMATIC DESIGN TEAM MEETING		09-03-2015

SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

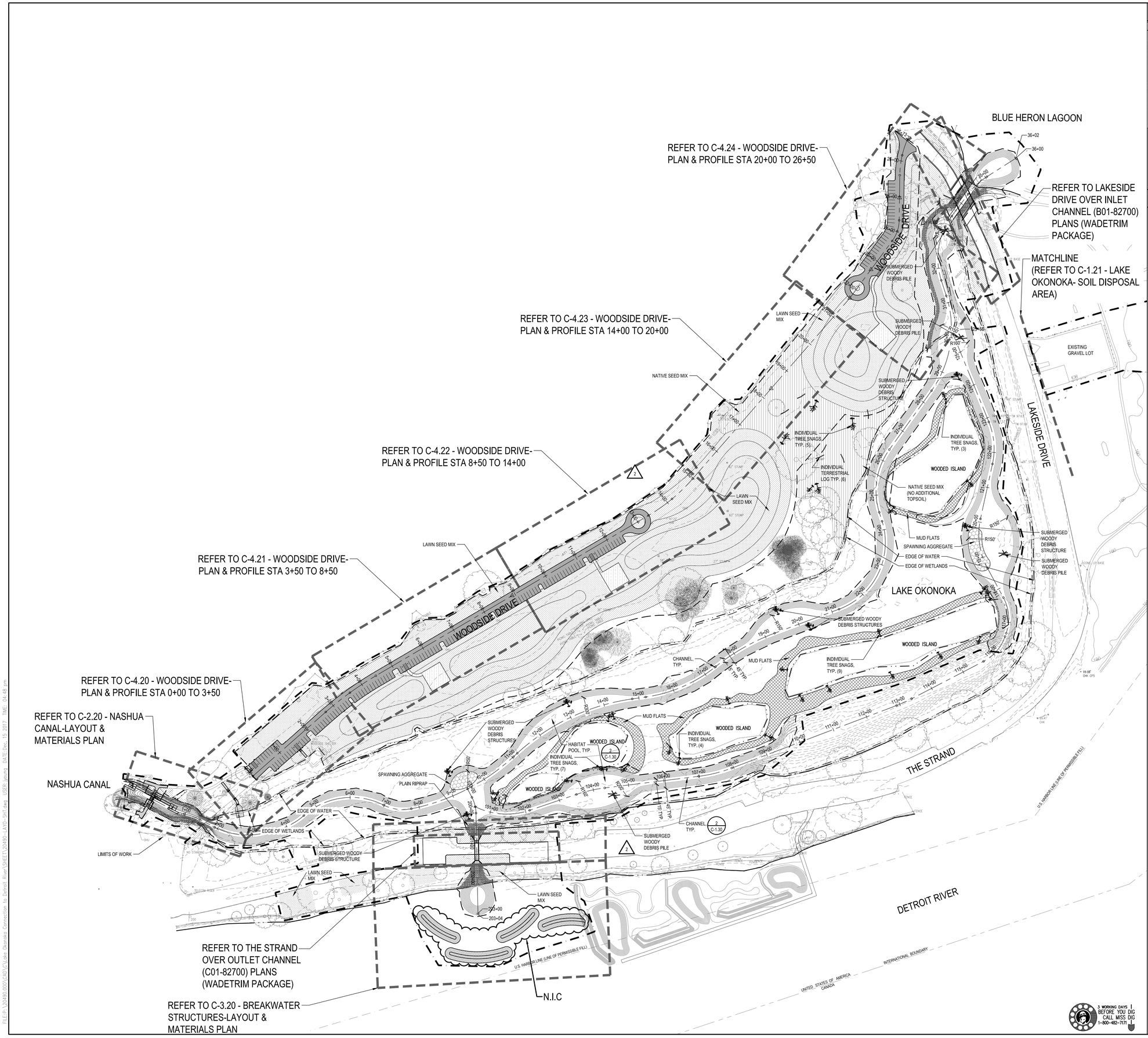
DRAWING TITLE
LAKE OKONOKA-DEMOLITION & SESC PLAN

0' 50' 100' 200'
SCALE: 1"=100'

SCALE 20490.000

PROJECT NUMBER

DRAWING NUMBER C-1.10



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CONVERSION: IGLD = CDD+479.07

ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

LEGEND

- LIMITS OF WORK
- EDGE OF WATER
- EDGE OF WETLANDS
- ASPHALT PAVEMENT (1 / C-4.40)
- NATIVE SEED MIX (2)
- LAWN SEED MIX
- RIP RAP (2 / C-1.40)
- SPAWNING AGGREGATE (3 / C-1.40)
- MUD FLATS (7 / C-1.40)
- INDIVIDUAL TREE SNAGS (28 TOTAL) (1 / C-1.40)
- INDIVIDUAL TERRESTRIAL LOGS (6 TOTAL) (5 / C-1.40)
- SUBMERGED WOODY DEBRIS STRUCTURES (7 TOTAL) (6 / C-1.40)
- SUBMERGED WOODY DEBRIS PILES (4 TOTAL) (4 / C-1.40)
- ENGINEERED FILL (FUTURE PICNIC SHELTER LOCATION)
- AGGREGATE SURFACE (KAYAK LAUNCH) (2 / C-4.40)

LAKE OKONOKA HABITAT RESTORATION

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ISSUED FOR	REV	DATE
DWSD PERMIT REVISED		12-15-2017
DWSD PERMIT		11-13-2017
ISSUED FOR CONSTRUCTION		10-02-2017
ADDENDUM NO. 3		09-07-2017
ADDENDUM NO. 2		09-01-2017
BIDS		08-01-2017
FINAL OWNER REVIEW		07-21-2017
DESIGN DEVELOPMENT		05-13-2016
SCHEMATIC DESIGN TEAM MEETING		09-03-2015

SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

DRAWING TITLE
LAKE OKONOKA-LAYOUT AND MATERIALS PLAN

0' 50' 100' 200'
SCALE: 1"=100'

SCALE

PROJECT NUMBER
20490.000

DRAWING NUMBER
C-1.20

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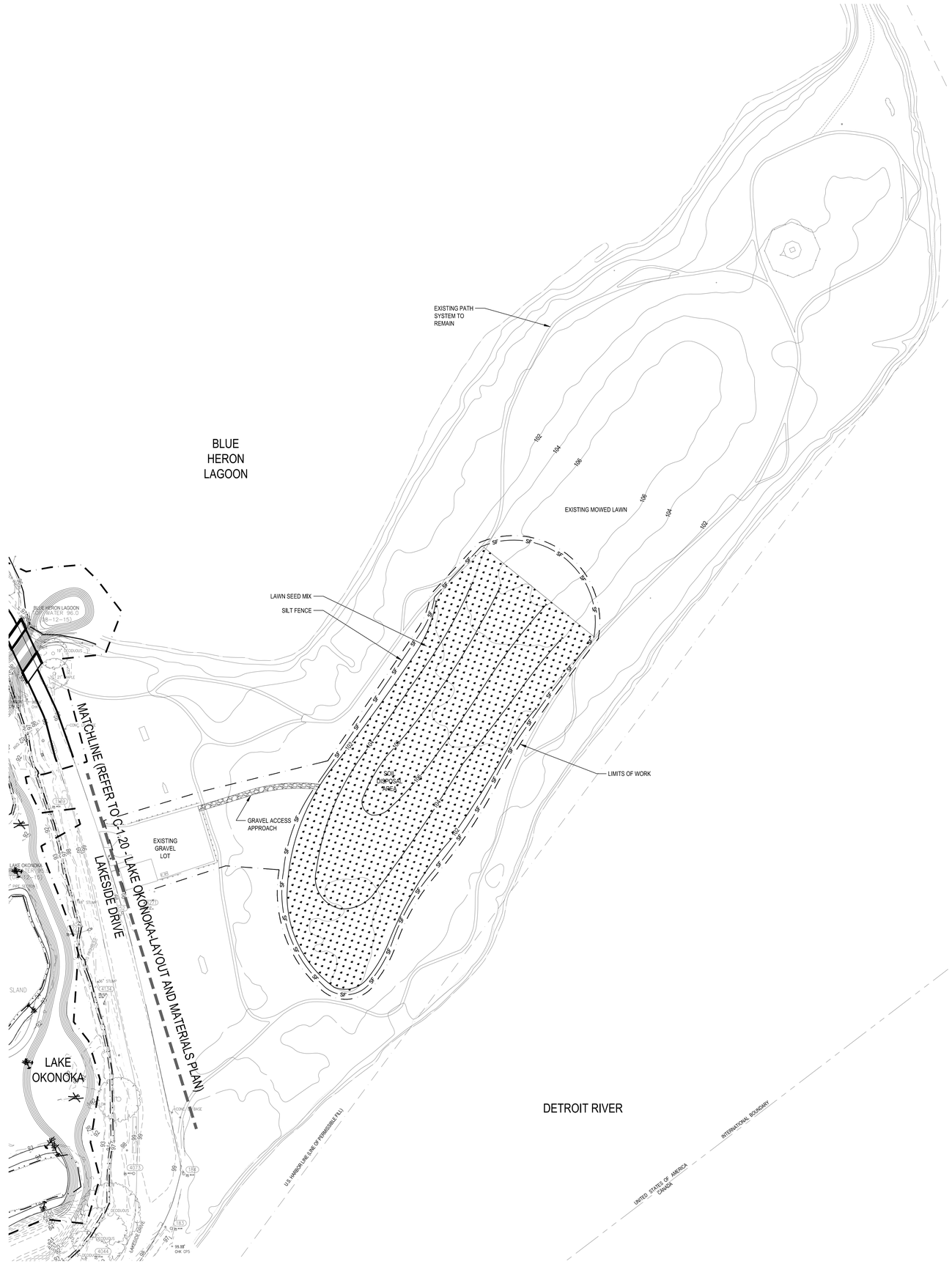

SHEET NOTES

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ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

LEGEND

- LIMITS OF WORK
- EDGE OF WATER
- EDGE OF WETLANDS
- LAWN SEED MIX
- GRAVEL ACCESS APPROACH (5 / C-1.41)
- 865 EXISTING MAJOR CONTOUR
- 864 EXISTING MINOR CONTOUR
- 865 PROPOSED MAJOR CONTOUR
- 864 PROPOSED MINOR CONTOUR
- SF SILT FENCE (2 / C-1.41)

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171

LAKE OKONOKA HABITAT RESTORATION

BELLE ISLE PARK
DETROIT, MICHIGAN 48207

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ISSUED FOR	REV	DATE
ISSUED FOR CONSTRUCTION		10-02-2017
BIDS		08-01-2017
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SCHEMATIC DESIGN TEAM MEETING		09-03-2015

SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

DRAWING TITLE
LAKE OKONOKA- SOIL DISPOSAL AREA

0' 50' 100' 200'
SCALE: 1'=100'

SCALE
20490.000

PROJECT NUMBER

DRAWING NUMBER
C-1.21

FILE:P:\20490\000\CAD\C\Lake Okonoka Connection to Detroit River\SHEET\20490-LAYO-ENLG-SHT.dwg USER:kmoyles DATE:Oct. 02 2017 TIME: 01:55 pm

WATER ELEVATIONS

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WATER ELEVATION (OBSERVED 8/12/2015)	95.9	575
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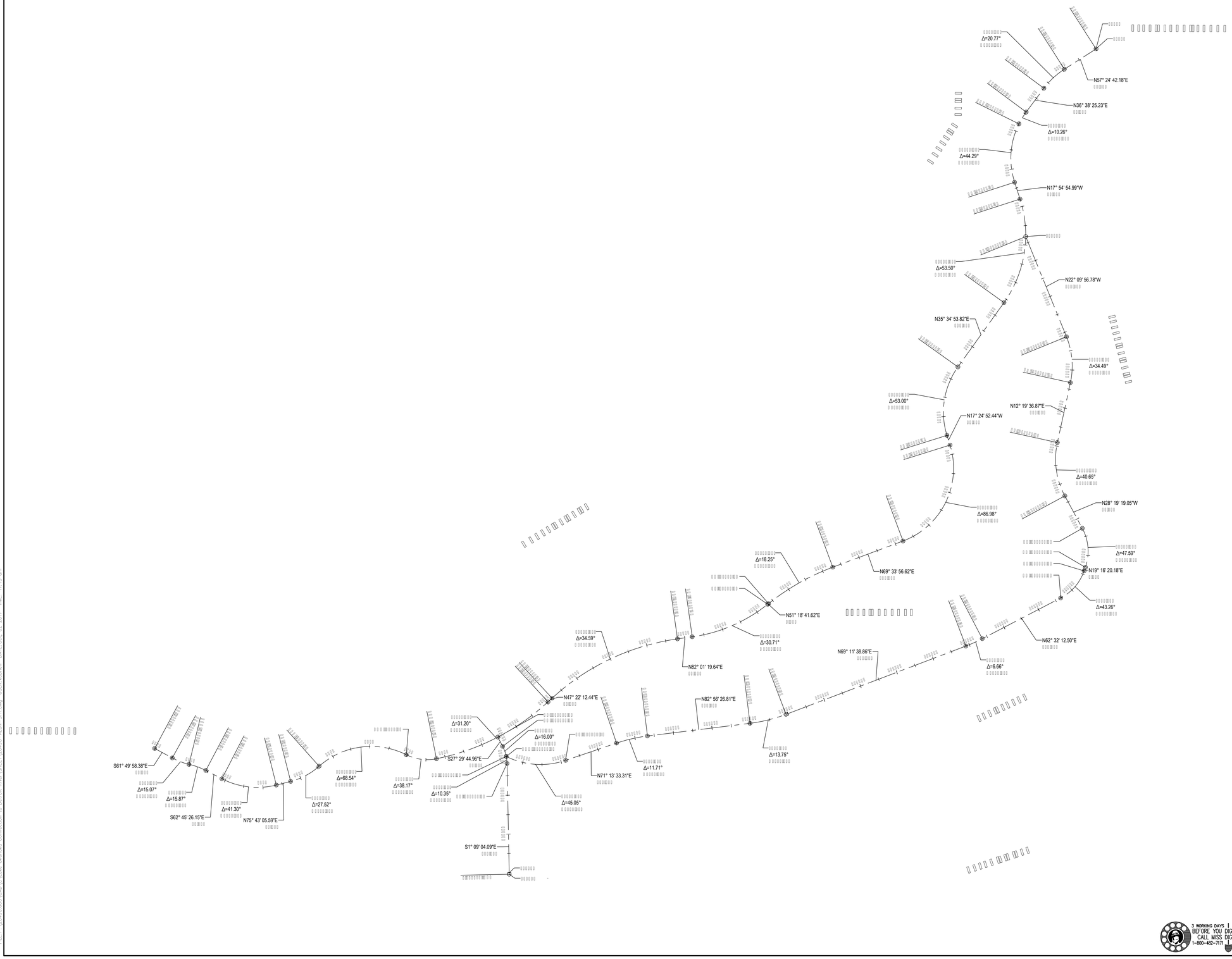

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171

SMITHGROUP JJR

0' 50' 100' 200'

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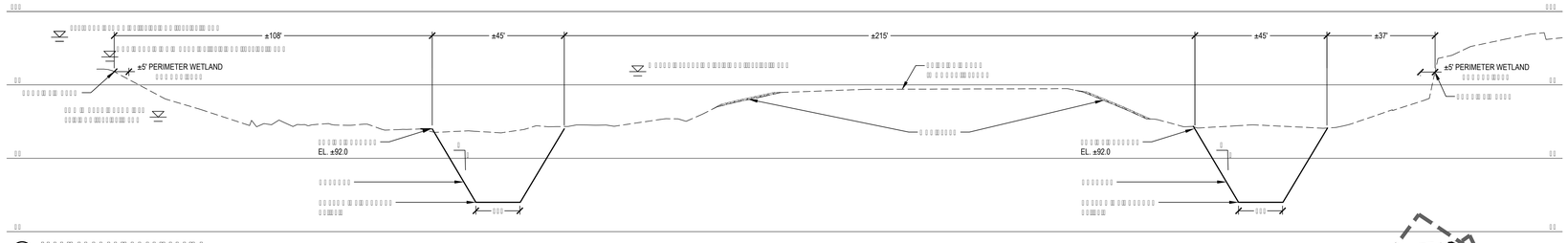

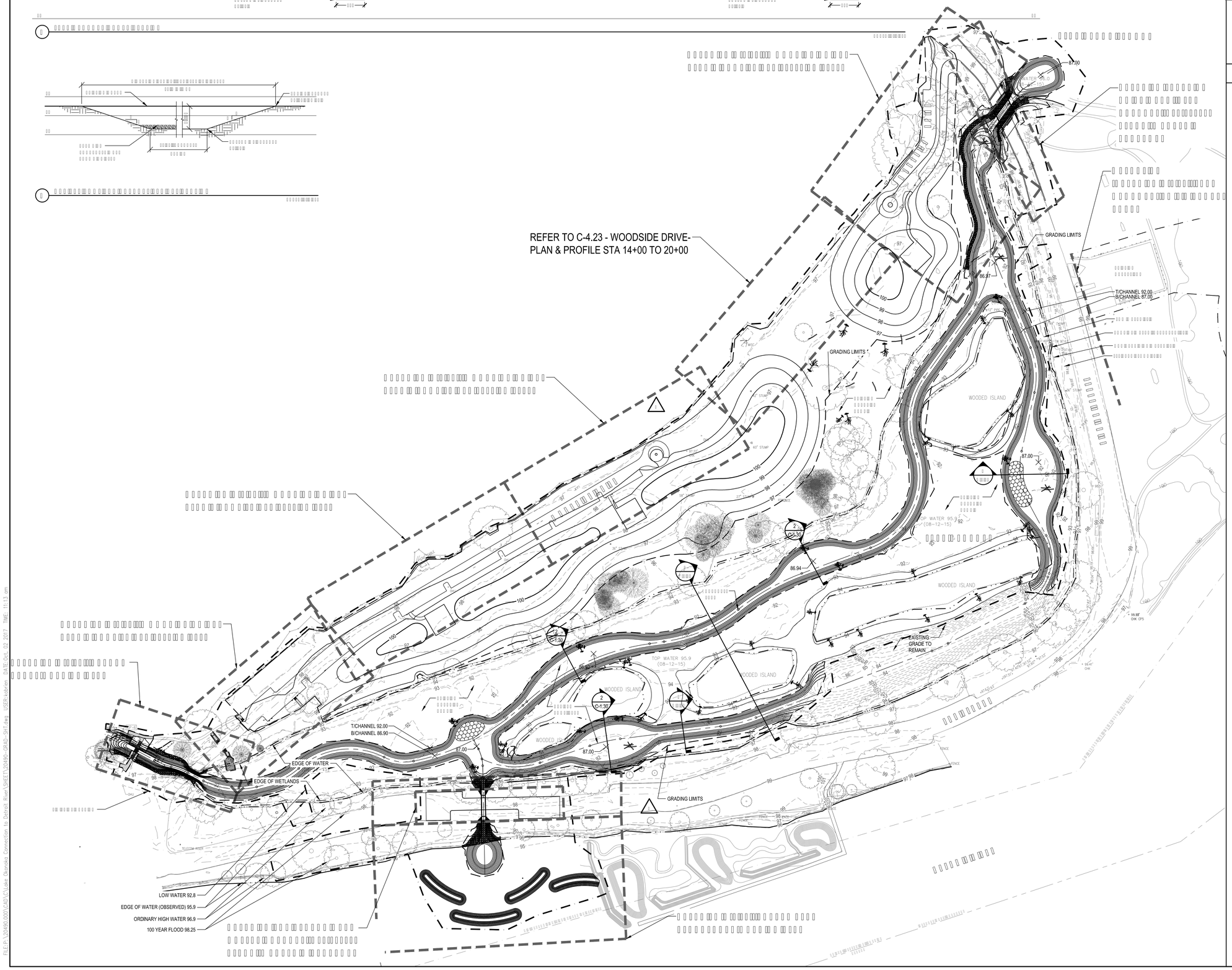

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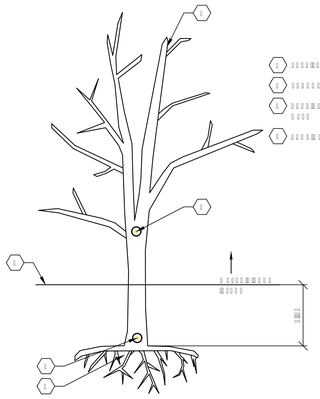
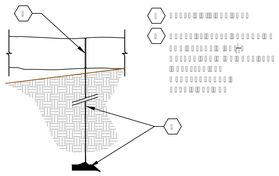
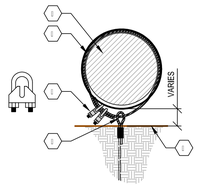
SMITHGROUPJJR

0' 50' 100' 200'

E:\E:\P 104595\100\CAD\C\Lidar Obvious Connection to Detroit River\SHEET\104595_IRAI-SH.dwg USER:hoerner DATE:Oct. 02 2017 TIME: 1:11:15 am

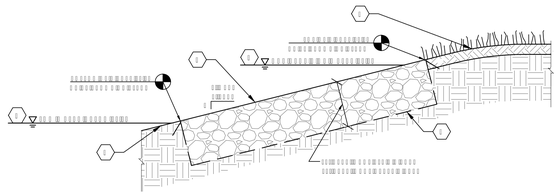




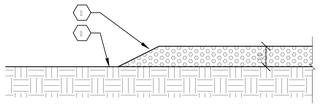


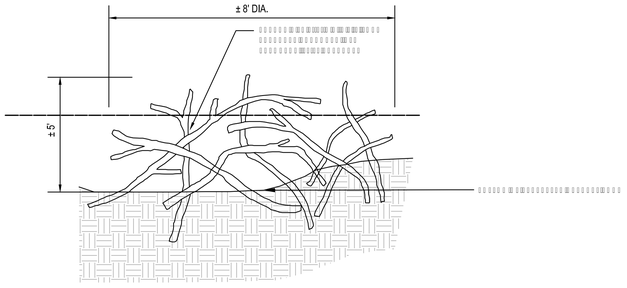
EACH TREE SHALL BE FIRMLY ANCHORED TO THE TOP OF BANK BY EMBEDDING ½ OF THE

ALL TREES SHALL HAVE A MINIMUM 12" DIAMETER DBH WITH MEASUREMENT TAKEN FROM 4-FEET ABOVE TREE COLLAR. MULTI-STEM

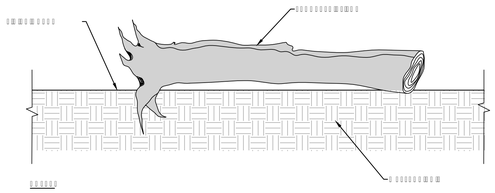


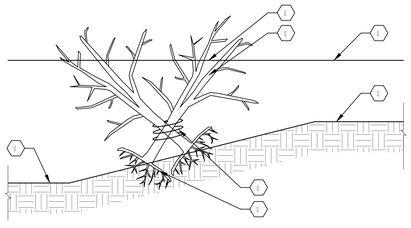
1.5" Ø UNWASHED COBBLE.

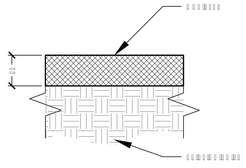




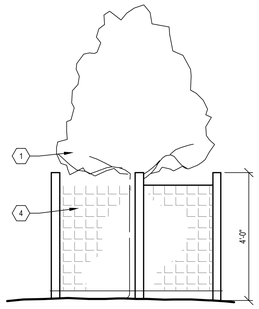
THE OWNER'S REPRESENTATIVE MAY ASSIST IN THE SELECTION OF BRANCHES SUITABLE FOR USE IN THE CONSTRUCTION OF THE



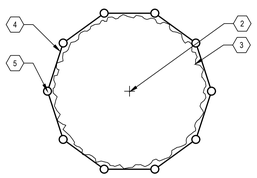




SMITHGROUPJJR



ELEVATION



PLAN

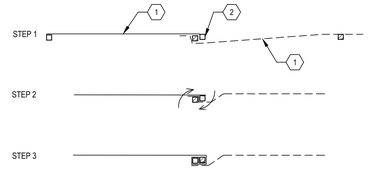
1. TREE
2. TREE TRUNK
3. DRIP LINE / EDGE OF TREE CANOPY
4. ORANGE PLASTIC SAFETY FENCE
5. STEEL FENCE POST - 8' O.C. MAX.

NOTES:

1. TREE PROTECTION FENCE SHALL BE CONSTRUCTED OF ORANGE PLASTIC SAFETY FENCE.
2. TREE PROTECTION FENCE SHALL BE LOCATED AT THE OUTER PERIMETER OF THE SPREAD OF THE BRANCHES (DRIP LINE) OR 1.5 FEET X DBH (INCHES) FROM TREE TRUNK (EX. FOR 10" DBH PLACE FENCE 15' FROM TREE TRUNK) EXCEPT WHERE PROHIBITED BY EXISTING PAVEMENTS, STRUCTURES, OR PROPOSED CUT AREA.
3. CONTRACTOR SHALL MAINTAIN INTEGRITY OF TREE PROTECTION FENCE THROUGHOUT THE PROJECT. REPAIR DAMAGED FENCING IMMEDIATELY. TREE PROTECTION FENCE SHALL NOT BE RELOCATED, FOR ANY REASON, WITHOUT WRITTEN CONSENT BY OWNER.

1 TREE PROTECTION FENCE

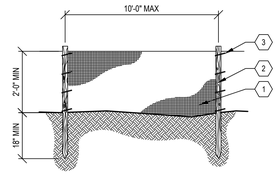
ELEVATION AND PLAN — 1/2" = 1'-0"



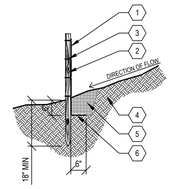
1. FILTER FABRIC
2. POSTS
3. FASTENER-MIN. NO. 16 GAUGE WIRE, 4 PER POST REQUIRED (EVENLY SPACED), TYP.
4. UNDISTURBED SUBGRADE
5. COMPACTED BACKFILL
6. EXTENDED FILTER FABRIC TO 6" BELOW GRADE

ATTACHMENT STEPS:

1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. DRIVE BOTH POSTS A MINIMUM OF 18 INCHES INTO THE GROUND AND BURY THE FLAP.



ELEVATION



FABRIC ANCHOR DETAIL

NOTES:

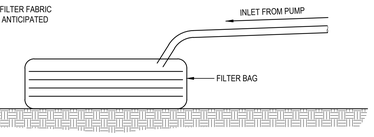
1. TEMPORARY SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. FENCE POSTS SHALL BE WOOD POSTS WITH A MINIMUM CROSS-SECTIONAL AREA OF 3.0 SQ. IN.
3. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS I WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NON-WOVEN AND 50 FOR WOVEN.

2 SILT FENCE

1/2"= 1'-0"

WATER SEEPS OUT OF BAG ON ALL SIDES

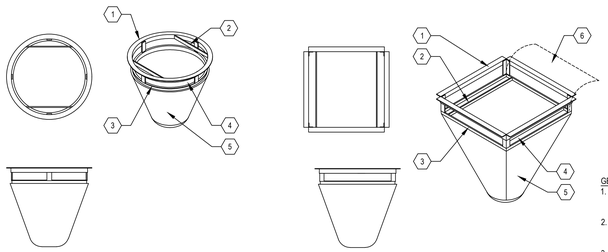
MADE OF GEOTEXTILE FILTER FABRIC AND SIZED TO HANDLE ANTICIPATED SEDIMENT LOAD



NOTE:
1. FILTERBAGS WILL BE REQUIRED WHEREVER SILT LADEN WATER REQUIRES DISCHARGING ONTO DISTURBED SOILS OR WILL DISCHARGE VIA OVERLAND FLOW INTO WARDS CANAL.
2. PLACE FILTER BAG ON FLAT, VEGETATED GROUND AND AT LEAST 50 FEET FROM WATER TO ENSURE EFFICIENCY. PROVIDE SILT FENCE CONTAINMENT ALONG DOWN HILL SIDE OF DEWATERING.

3 FILTER BAGS

SECTION — 1"= 1'-0"



ROUND INLET FILTER

RECTANGLE INLET FILTERS

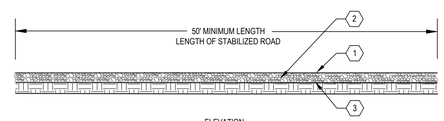
1. GALVANIZED STEEL FRAME
2. LIFT HANDLES
3. STAINLESS STEEL LOCKING BAND
4. OVERFLOW FEATURE
5. GEOTEXTILE FILTER BAG WITH REINFORCED POLYESTER OUTER MESH
6. REAR CURB GUARD FLAP INCLUDED FOR CURB BOX INLET FILTERS

GENERAL NOTES:

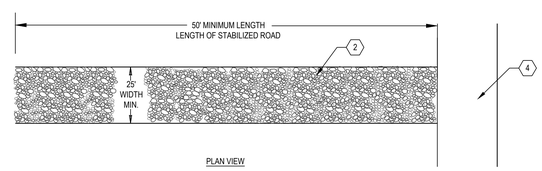
1. INLET PROTECTION SHALL BE NON-BLACK IN COLOR AND SHALL HAVE THE NAME OF THE CONTRACTOR WRITTEN OR ATTACHED TO IT.
2. TEMPORARY INLET SEDIMENT FILTER TO BE INSTALLED ON ALL CATCH BASINS AND STORM INLETS NOTED ON DRAWINGS. CLEAN FILTER AS NEEDED.
3. INLET FILTERS TO BE FLEXSTORM INLET FILTERS AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC. (800-821-6710) OR SIMILAR PRODUCT.

4 INLET PROTECTION

1/4" = 1'-0"



ELEVATION

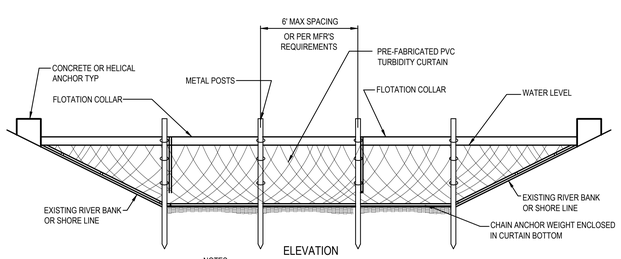


PLAN VIEW

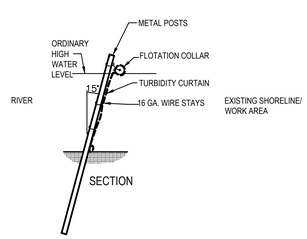
1. EXISTING GRADE
2. 2"-3" CRUSHED ROCK (8" DEPTH)
3. NON-WOVEN GEOTEXTILE FABRIC
4. EXISTING PAVEMENT

5 GRAVEL ACCESS APPROACH

ELEVATION AND PLAN — 1" = 1'-0"



ELEVATION



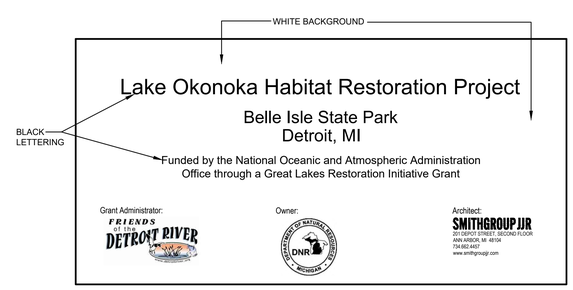
SECTION

NOTES:

1. SUBMIT MANUFACTURER'S PRODUCT DATA SHEET FOR APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
2. LOCATION AND WIDTH OF TURBIDITY CURTAIN TO BE DETERMINED IN THE FIELD. CONFIRM LOCATION AND WIDTH WITH OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.

6 TURBIDITY CURTAIN

SECTION — 1/2" = 1'-0"



SIGN DIMENSIONS: 1200mm x 2400 mm x 19mm (approx. 4'X8'X¾") PLYWOOD PANEL (APA RATED A-B GRADE-EXTERIOR)

NOTE: AN AUTO-CAD FILE OF THIS GRAPHIC WILL BE PROVIDED. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

7 TEMPORARY CONSTRUCTION SIGN

NTS

LAKE OKONOKA HABITAT RESTORATION

BELLE ISLE PARK
DETROIT, MICHIGAN 48207

Owner:
FRIENDS OF THE DETROIT RIVER

Leased to and managed by:
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

SMITHGROUP JJR

201 DEPOT STREET
SECOND FLOOR
ANN ARBOR, MI 48104
734.662.4457
www.smithgroupjjr.com

ISSUED FOR	REV	DATE
ISSUED FOR CONSTRUCTION		10-02-2017
BIDS		08-01-2017
FINAL OWNER REVIEW		07-21-2017
DESIGN DEVELOPMENT		05-13-2016
SCHEMATIC DESIGN TEAM MEETING		09-03-2015

SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

DRAWING TITLE
LAKE OKONOKA- DETAILS SESC

SCALE: AS SHOWN

SCALE 20490.000

PROJECT NUMBER

C-1.41

DRAWING NUMBER

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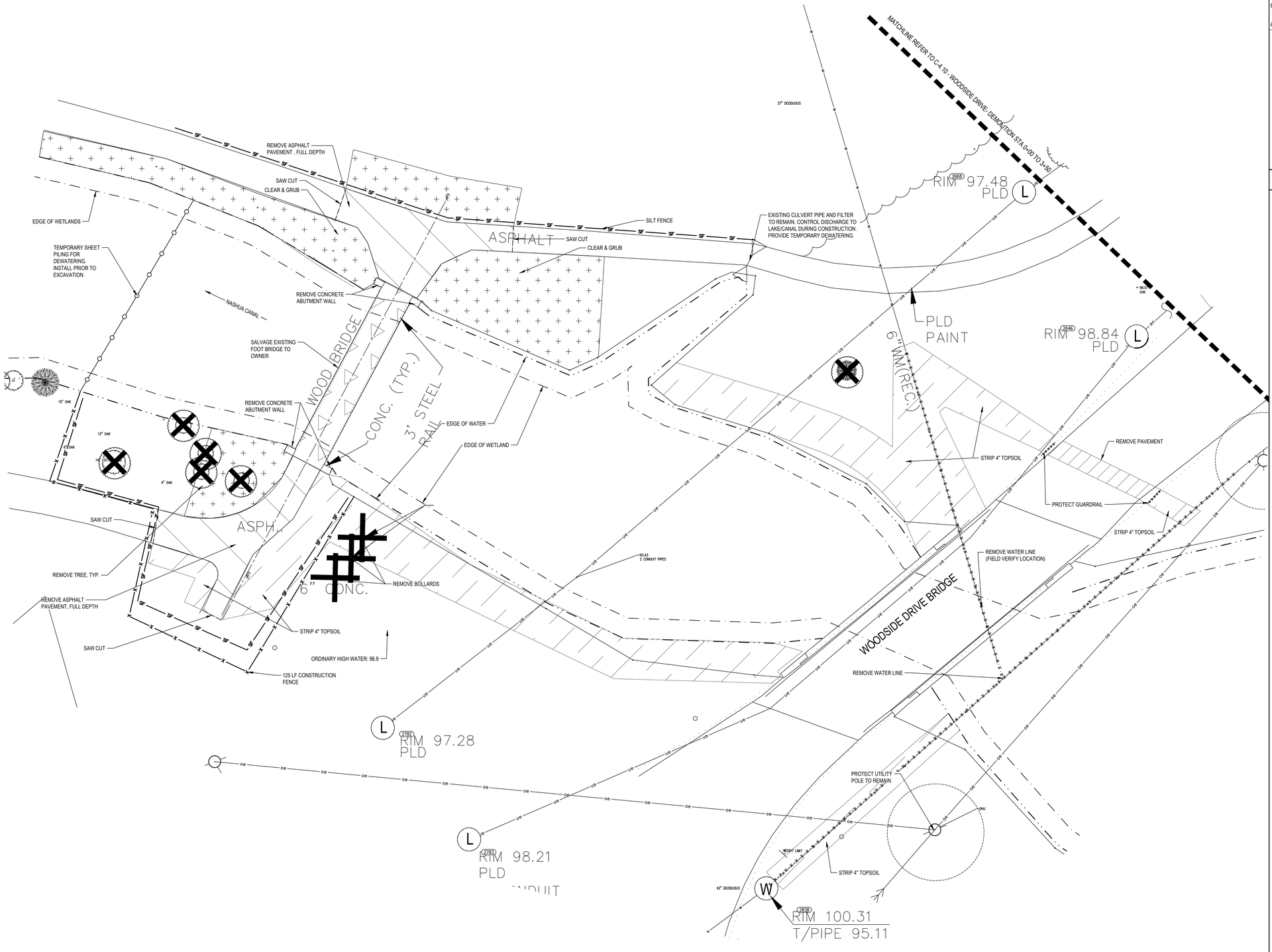

SHEET NOTES

WATER ELEVATIONS

	CDD	IGLD
WATER ELEVATION (OBSERVED 8/12/2015)	95.9	575
ORDINARY HIGH WATER (OHW)	96.9	576
100 YEAR FLOOD	98.25	577.3
LOW WATER DATUM	92.8	571.9

CDD = CITY OF DETROIT DATUM
IGLD = INTERNATIONAL GREAT LAKES DATUM 85

CONVERSION: IGLD = CDD+479.07

ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

LEGEND

- EDGE OF WATER
- EDGE OF WETLANDS
- REMOVE ASPHALT PAVEMENT, FULL DEPTH, PULVERIZE AND REUSE AS BASE
- SALVAGE FOOT BRIDGE TO OWNER
- REMOVE TREE, STUMP, AND ROOTS
- SAWCUT
- REMOVE UTILITY LINE
- REMOVE CONCRETE CURB AND GUTTER/ CONCRETE PARKING BLOCKS
- REMOVE UTILITY POLE, FIXTURE, FOUNDATION
- REMOVE
- SALVAGE
- PROTECT
- CLEAR AND GRUB
- TREE PROTECTION FENCE (1 / C-1.41)
- SILT FENCE (2 / C-1.41)
- INLET PROTECTION (4 / C-1.41)
- TURBIDITY CURTAIN (6 / C-1.41)
- TEMPORARY SHEET PILING FOR DEWATERING
- CONSTRUCTION FENCE
- STAGING AREA
- GRAVEL ACCESS APPROACH (5 / C-1.41)
- HERBICIDE
- STRIP 4" TOPSOIL

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SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

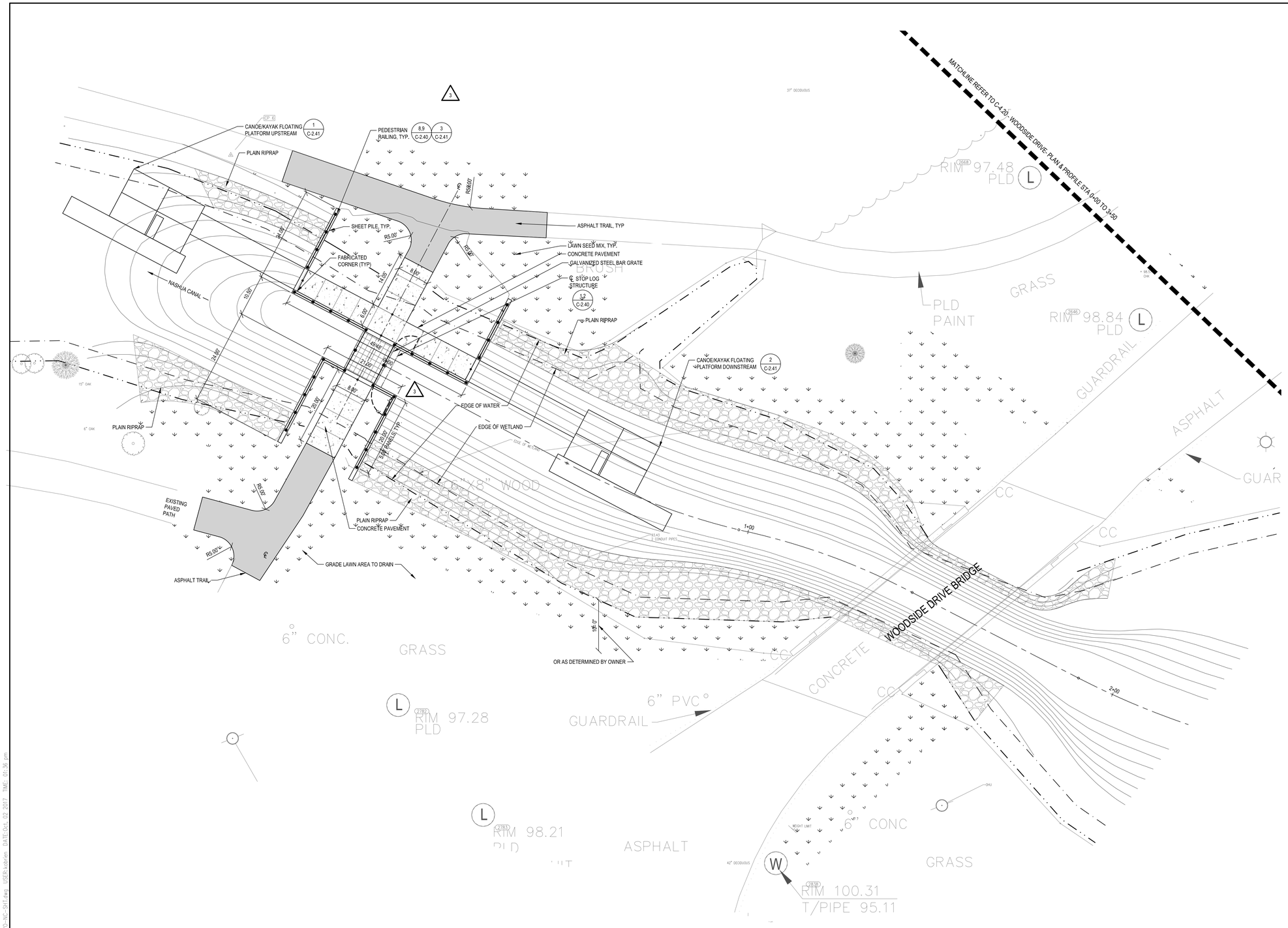
DRAWING TITLE
NASHUA CANAL-DEMOLITION & SESC PLAN

SCALE: 1"= 10'

SCALE
20490.000

PROJECT NUMBER
C-2.10

DRAWING NUMBER



SHEET NOTES

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LEGEND

- EDGE OF WATER
- EDGE OF WETLANDS
- SHEET PILING CAP OUTLINE
- PEDESTRIAN RAILING (8 / C-2.40)
- PEDESTRIAN RAILING WITH REMOVABLE PANELS (10 / C-2.40)
- ASPHALT TRAIL (4 / C-2.40)
- CONCRETE PAVEMENT (5 / C-2.40)
- RIP RAP (2 / C-1.40)
- LAWN SEED MIX
- CANOE/KAYAK FLOATING PLATFORM (1,2 / C-2.41)
- 90 EXISTING MAJOR CONTOUR
- 89 EXISTING MINOR CONTOUR
- 90 PROPOSED MAJOR CONTOUR
- 89 PROPOSED MINOR CONTOUR
- 87.0 + FINISH GRADE ELEVATION
- DRAINAGE SWALE
- CONTROL JOINT (6 / C-2.40)
- EXPANSION JOINT (7 / C-2.40)

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SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

DRAWING TITLE
NASHUA CANAL-LAYOUT & MATERIALS PLAN

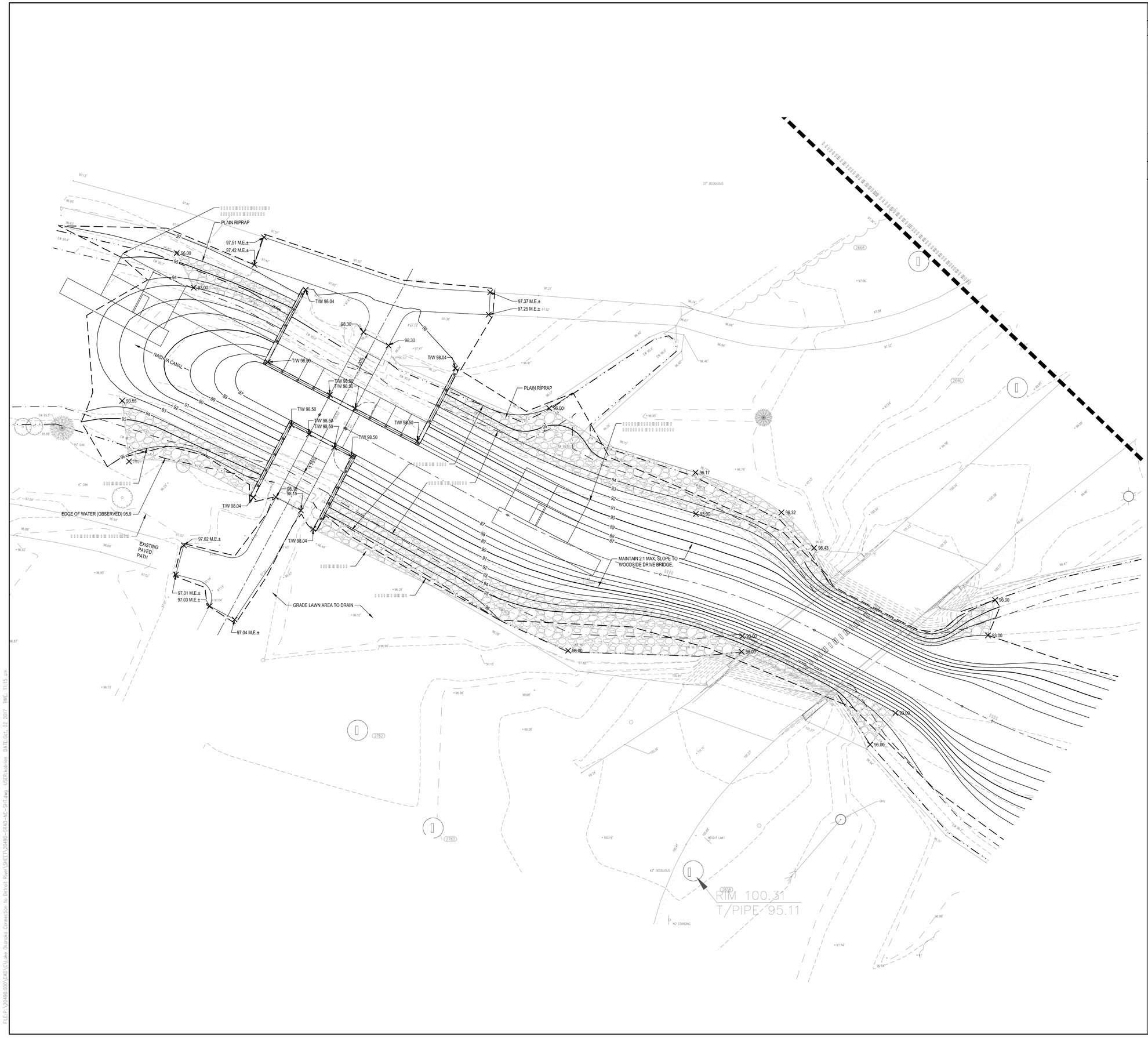
SCALE: 1"= 10'

SCALE
20490.000

PROJECT NUMBER

C-2.20

DRAWING NUMBER



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861.50 M.E. ±

SMITHGROUP JJR

0' 5' 10' 20'

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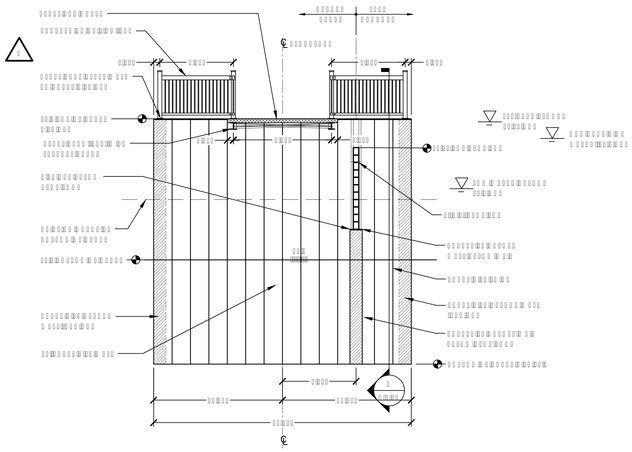

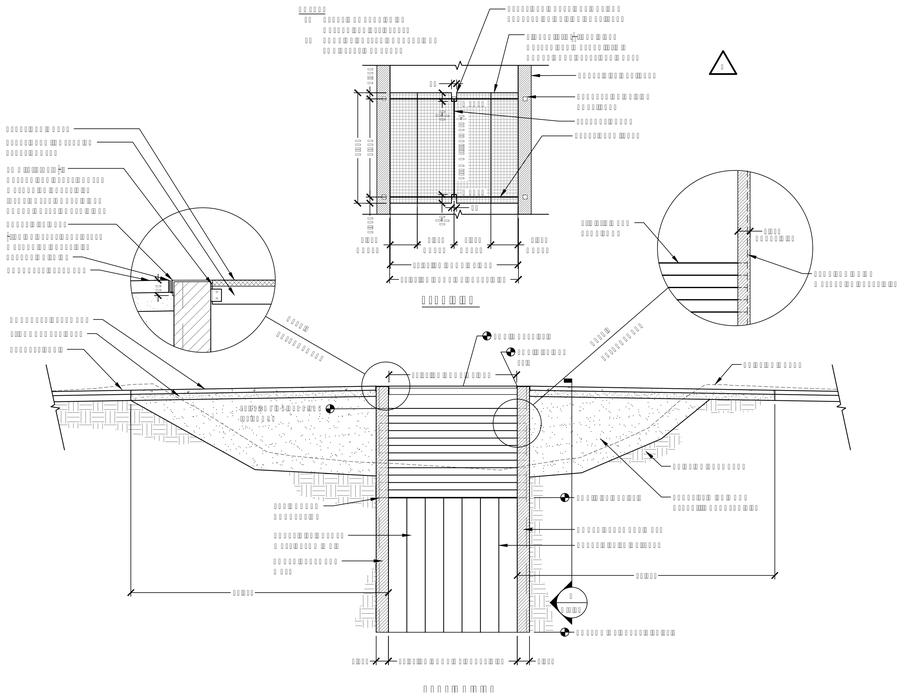

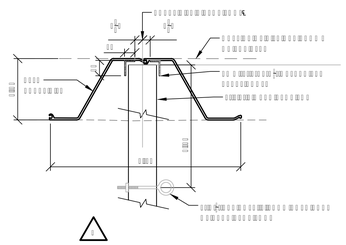

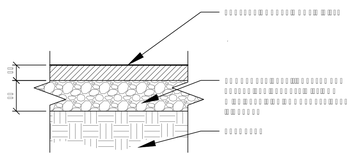

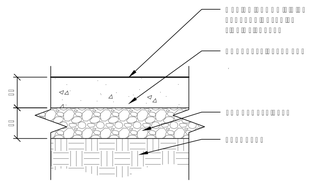

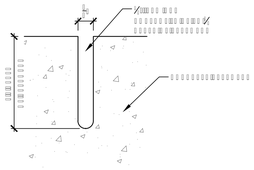

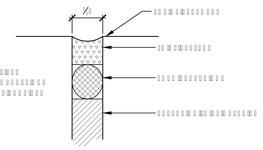

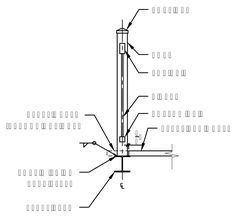

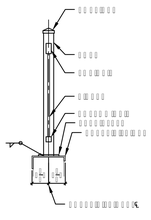

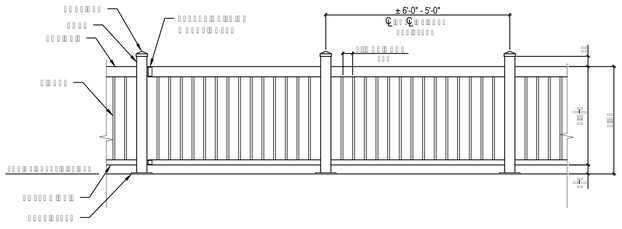

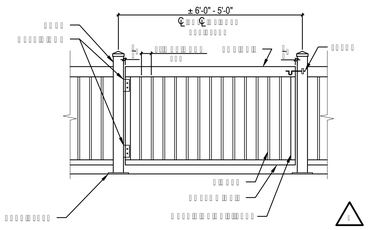

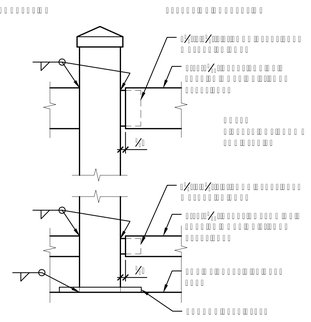

SMITHGROUP JJR

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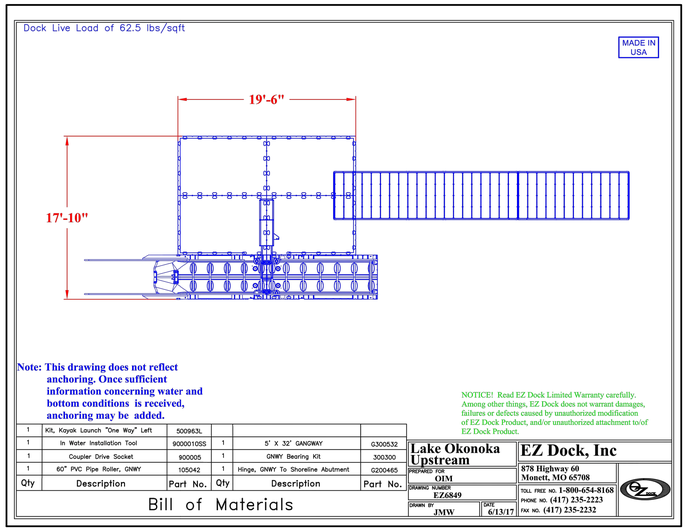


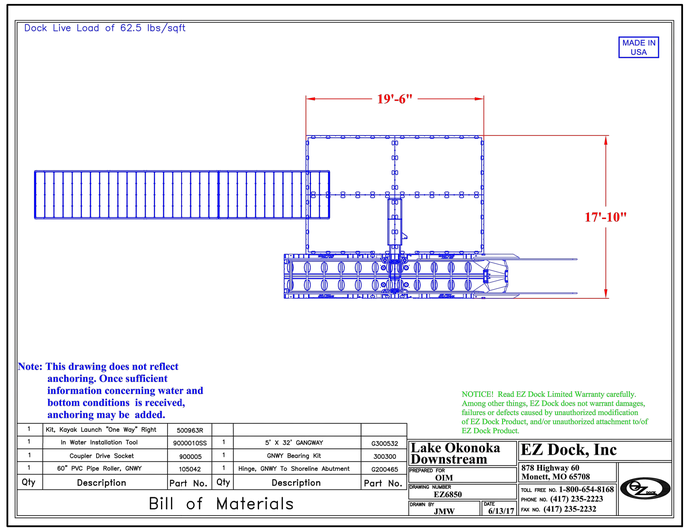
Qty	Description	Part No.	Qty	Description	Part No.
1	Kit, Kayak Launch "One Way" Left	500963L			
1	In Water Installation Tool	900001055	1	5' X 32' GANGWAY	G300532
1	Coupler Drive Socket	900005	1	GNWY Bearing Kit	300300
1	60" PVC Pipe Roller, GNWY	105042	1	Hinge, GNWY To Shoreline Abutment	G200465

Bill of Materials

NOTE:
1. CONTRACTOR SHALL SUPPLY AND INSTALL PLATFORMS PER MANUFACTURER'S REQUIREMENTS.

1 CANOE/KAYAK FLOATING PLATFORM UPSTREAM

NTS



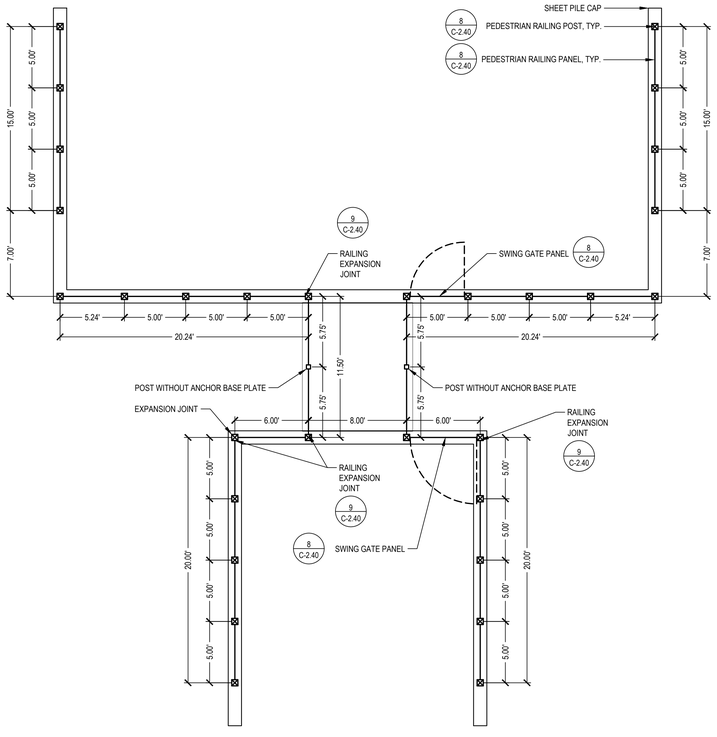
Qty	Description	Part No.	Qty	Description	Part No.
1	Kit, Kayak Launch "One Way" Right	500963R			
1	In Water Installation Tool	900001055	1	5' X 32' GANGWAY	G300532
1	Coupler Drive Socket	900005	1	GNWY Bearing Kit	300300
1	60" PVC Pipe Roller, GNWY	105042	1	Hinge, GNWY To Shoreline Abutment	G200465

Bill of Materials

NOTE:
1. CONTRACTOR SHALL SUPPLY AND INSTALL PLATFORMS PER MANUFACTURER'S REQUIREMENTS.

2 CANOE/KAYAK FLOATING PLATFORM DOWNSTREAM

NTS



3 PEDESTRIAN RAILING PLAN

1"=5'

3

LAKE OKONOKA HABITAT RESTORATION

BELLE ISLE PARK
DETROIT, MICHIGAN 48207

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SEALS AND SIGNATURES

KEY PLAN

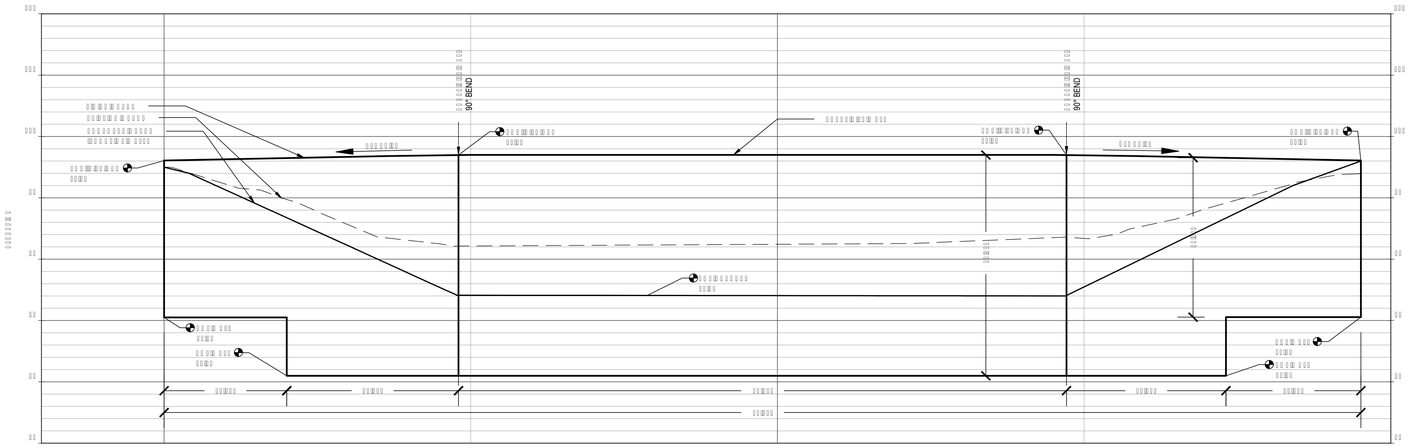
DRAWING TITLE
NASHUA CANAL-DETAILS 2

SCALE

PROJECT NUMBER

DRAWING NUMBER
C-2.41

FILE:P:\20490.000\CAD\C\Lake Okonoka Connection to Detroit River\SHEET\20490-DETAILS-NC-SHT.dwg USER:kobrien DATE:Oct. 02 2017 TIME: 11:16 am



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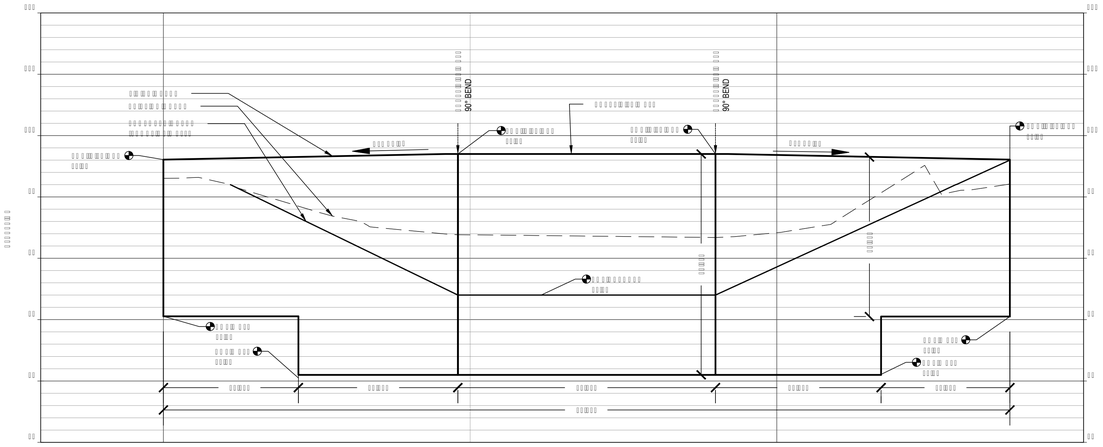

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SMITHGROUPJJR

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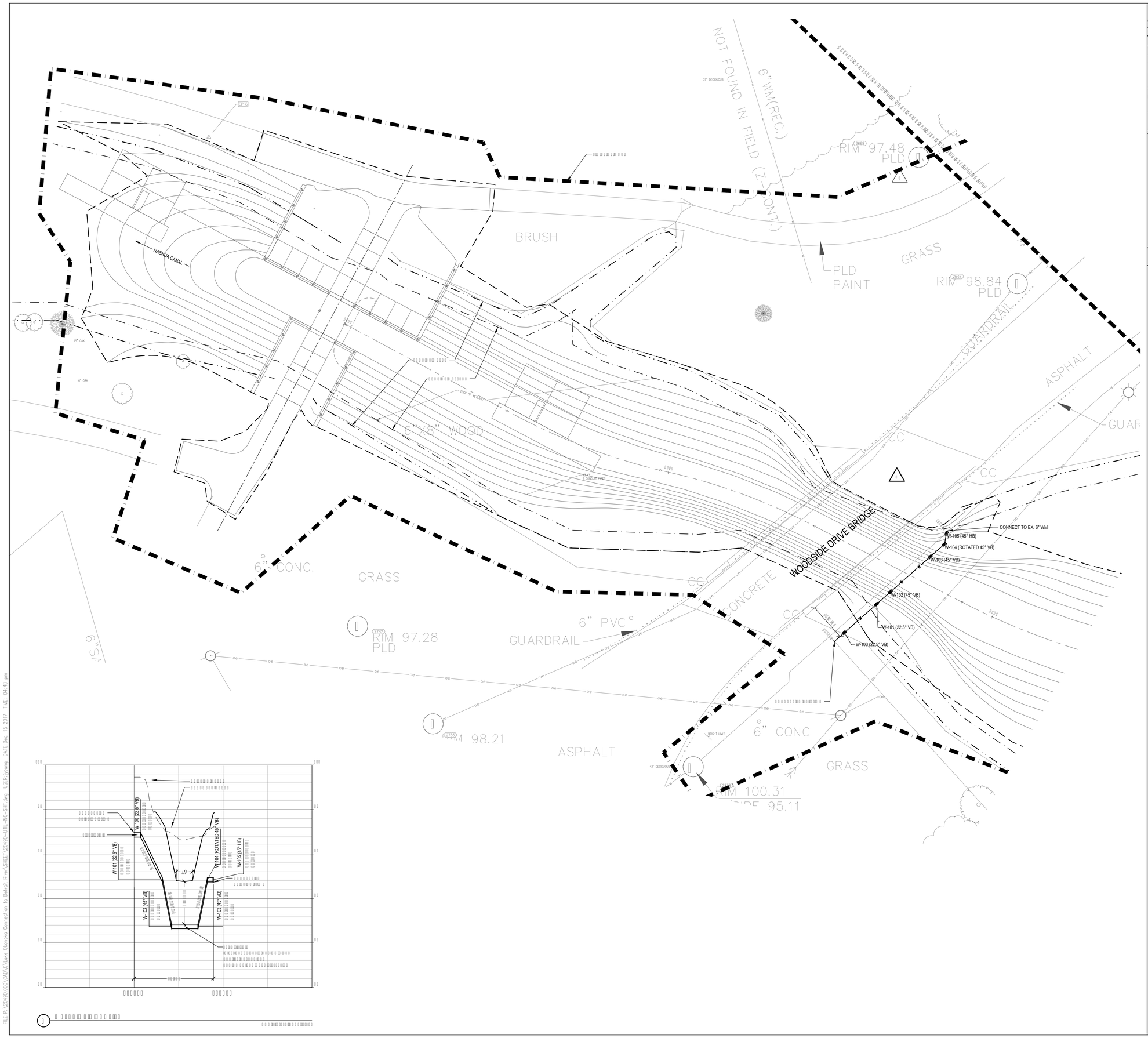

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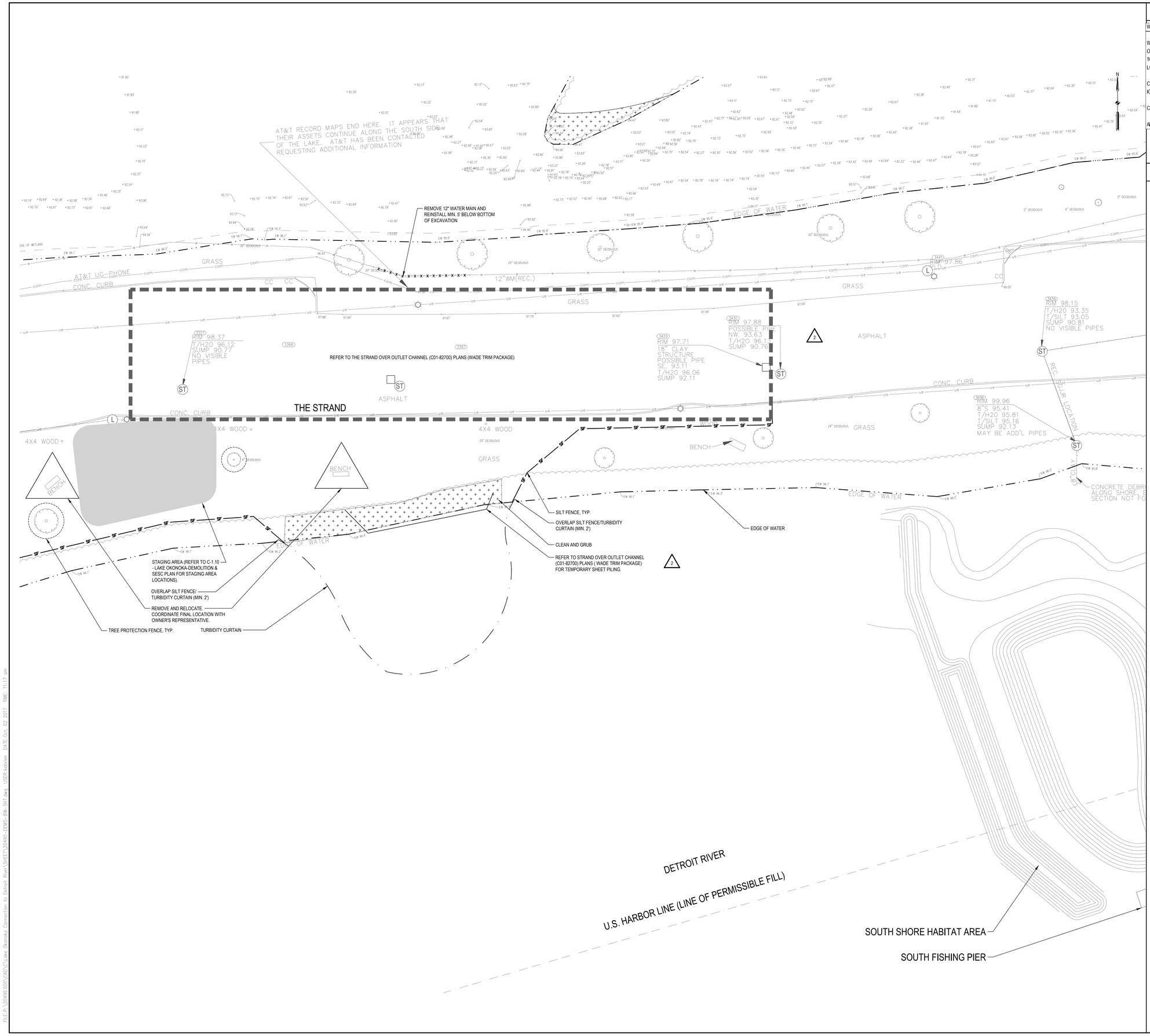

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SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

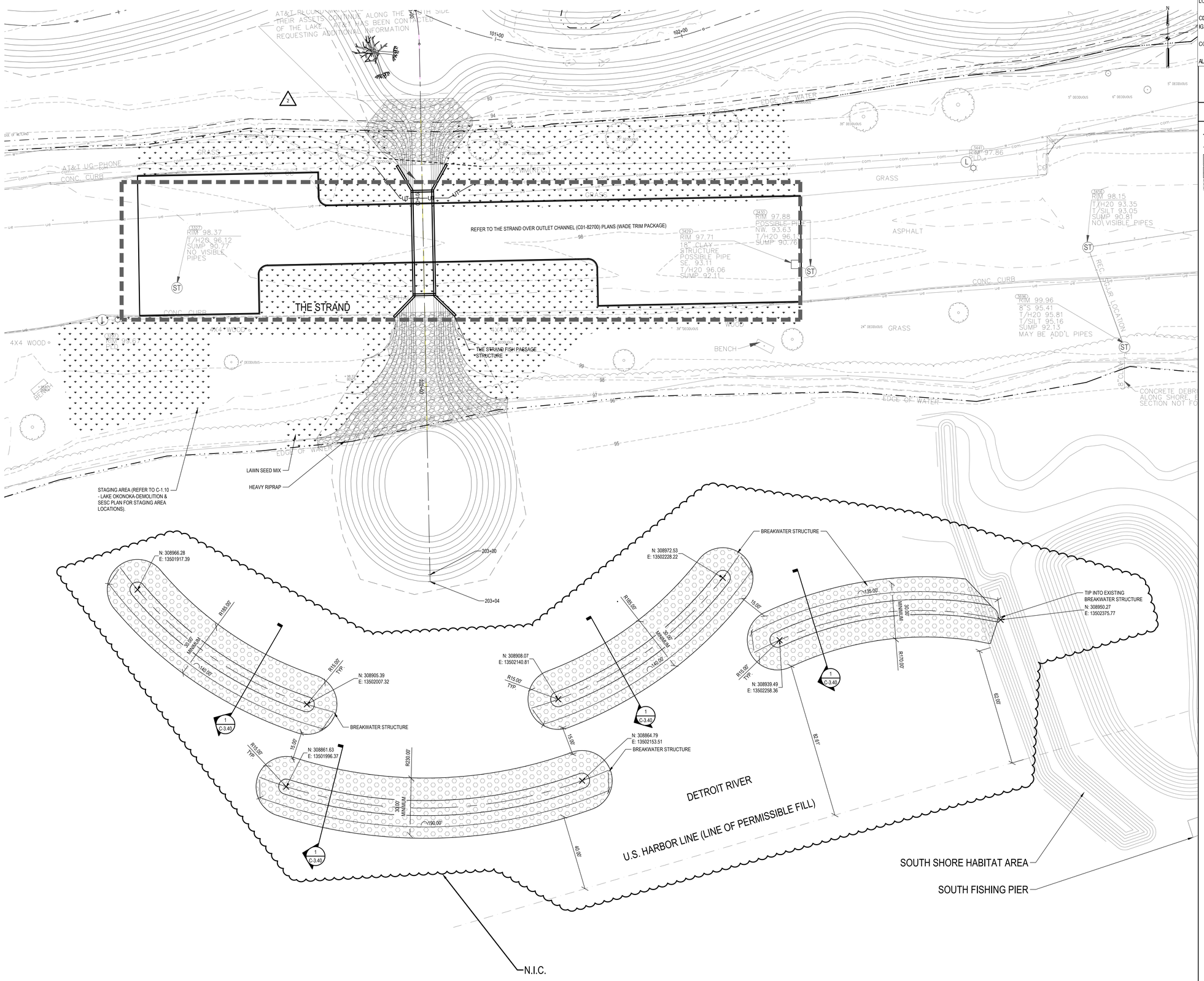
DRAWING TITLE
BREAKWATER STRUCTURES-DEMOLITION & SESC PLAN

0' 10' 20' 40'
SCALE: 1"=20'

SCALE

PROJECT NUMBER
20490.000

DRAWING NUMBER
C-3.10



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LEGEND

- EDGE OF WATER
- EDGE OF WETLANDS
- BREAKWATER STRUCTURE (1 / C-3.40)
- LAWN SEED MIX
- RIP RAP (2 / C-1.40)

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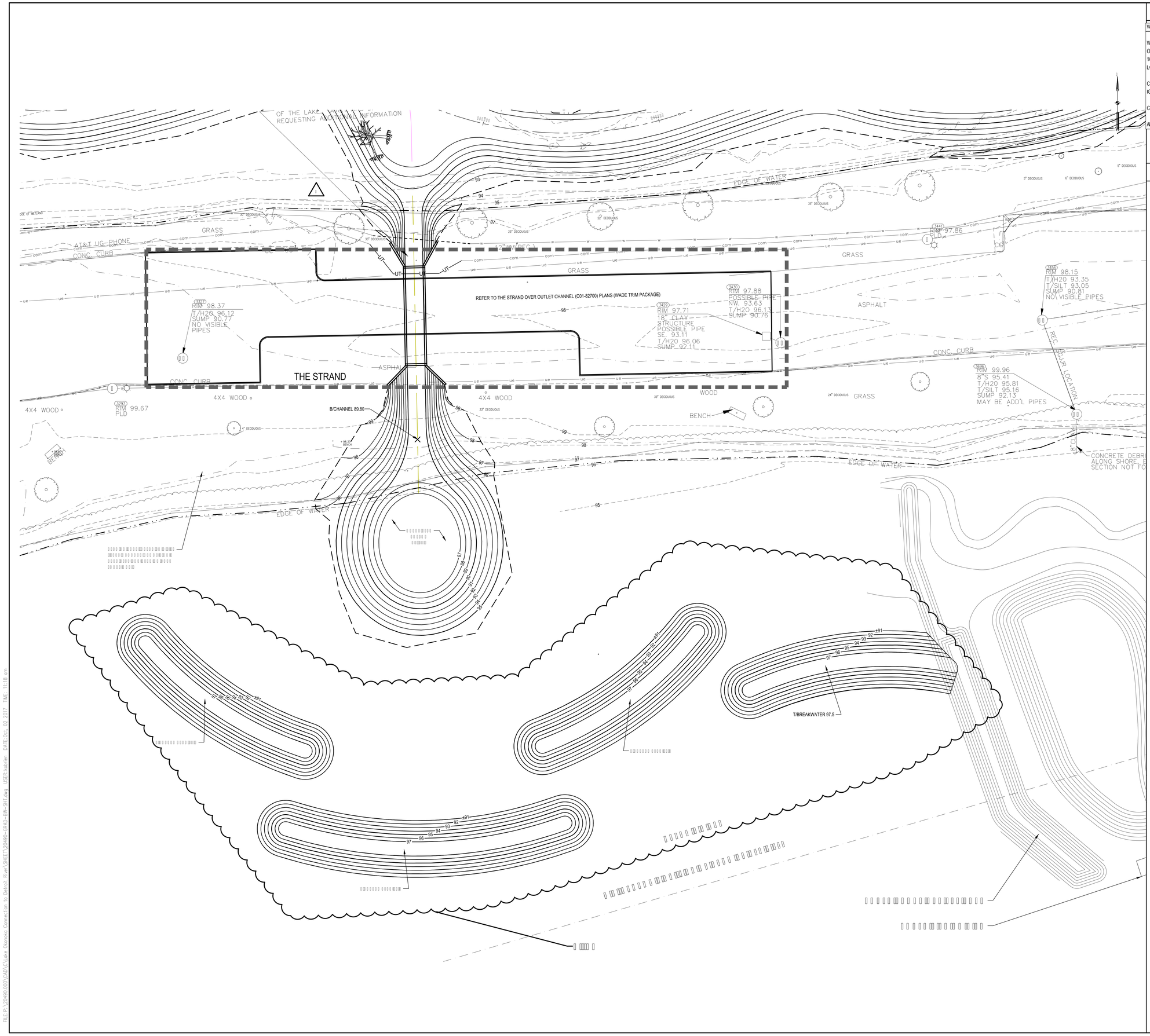
DRAWING TITLE
BREAKWATER STRUCTURES-LAYOUT & MATERIALS PLAN

SCALE: 1"=20'

SCALE
20490.000

PROJECT NUMBER

DRAWING NUMBER
C-3.20



WATER ELEVATIONS

	CDD	IGLD
WATER ELEVATION (OBSERVED 8/12/2015)	95.9	575
ORDINARY HIGH WATER (OHW)	96.9	576
100 YEAR FLOOD	98.25	577.3
LOW WATER DATUM	92.8	571.9

CDD = CITY OF DETROIT DATUM
IGLD = INTERNATIONAL GREAT LAKES DATUM 85

CONVERSION: IGLD = CDD+479.07

ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

SMITHGROUP JJR

0' 10' 20' 40'

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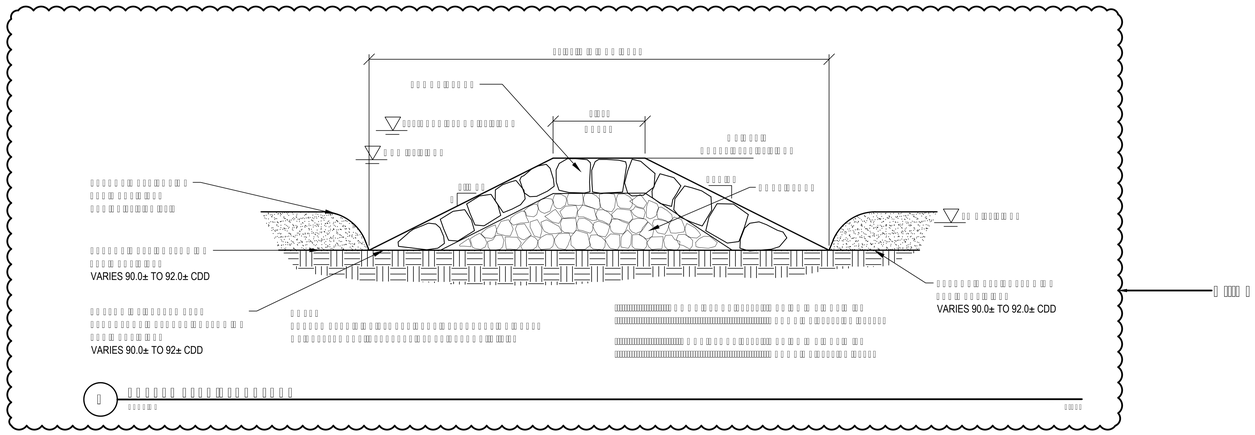

WATER ELEVATIONS

	CDD	IGLD
WATER ELEVATION (OBSERVED 8/12/2015)	95.9	575
ORDINARY HIGH WATER (OHW)	96.9	576
100 YEAR FLOOD	98.25	577.3
LOW WATER DATUM	92.8	571.9

CDD = CITY OF DETROIT DATUM
IGLD = INTERNATIONAL GREAT LAKES DATUM 85

CONVERSION: IGLD = CDD+479.07

ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

SMITHGROUPJJR

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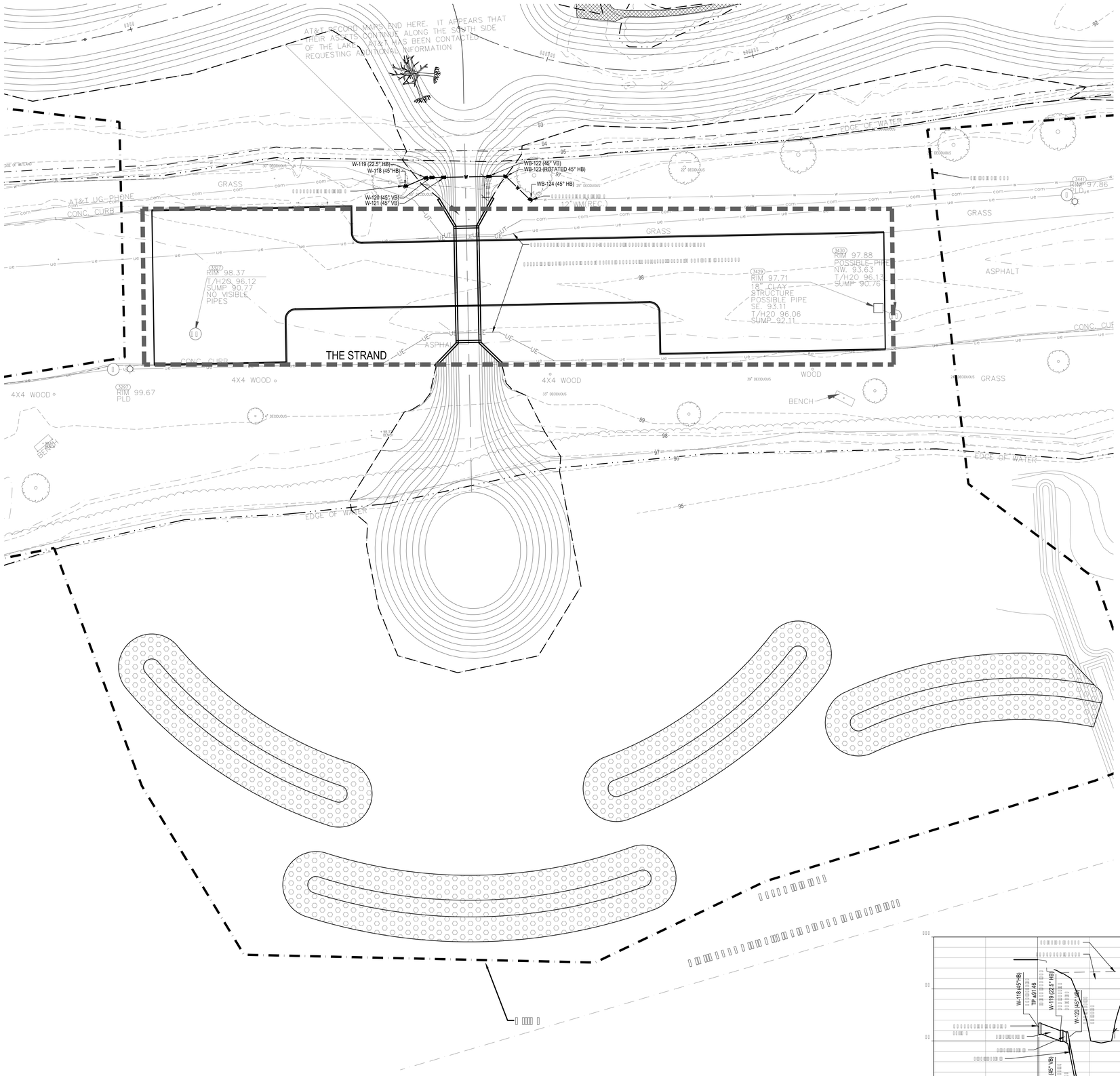

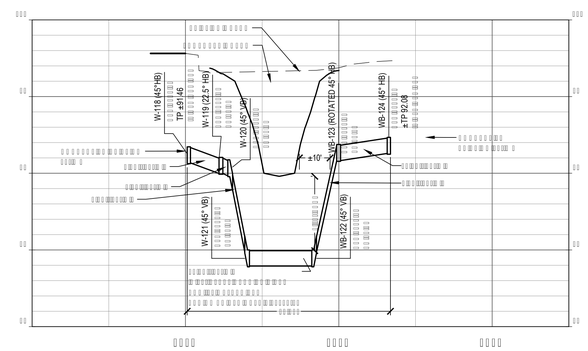

WATER ELEVATIONS	CDD	IGLD
WATER ELEVATION (OBSERVED 8/12/2015)	95.9	575
ORDINARY HIGH WATER (OHW)	96.9	576
100 YEAR FLOOD	98.25	577.3
LOW WATER DATUM	92.8	571.9

CDD = CITY OF DETROIT DATUM
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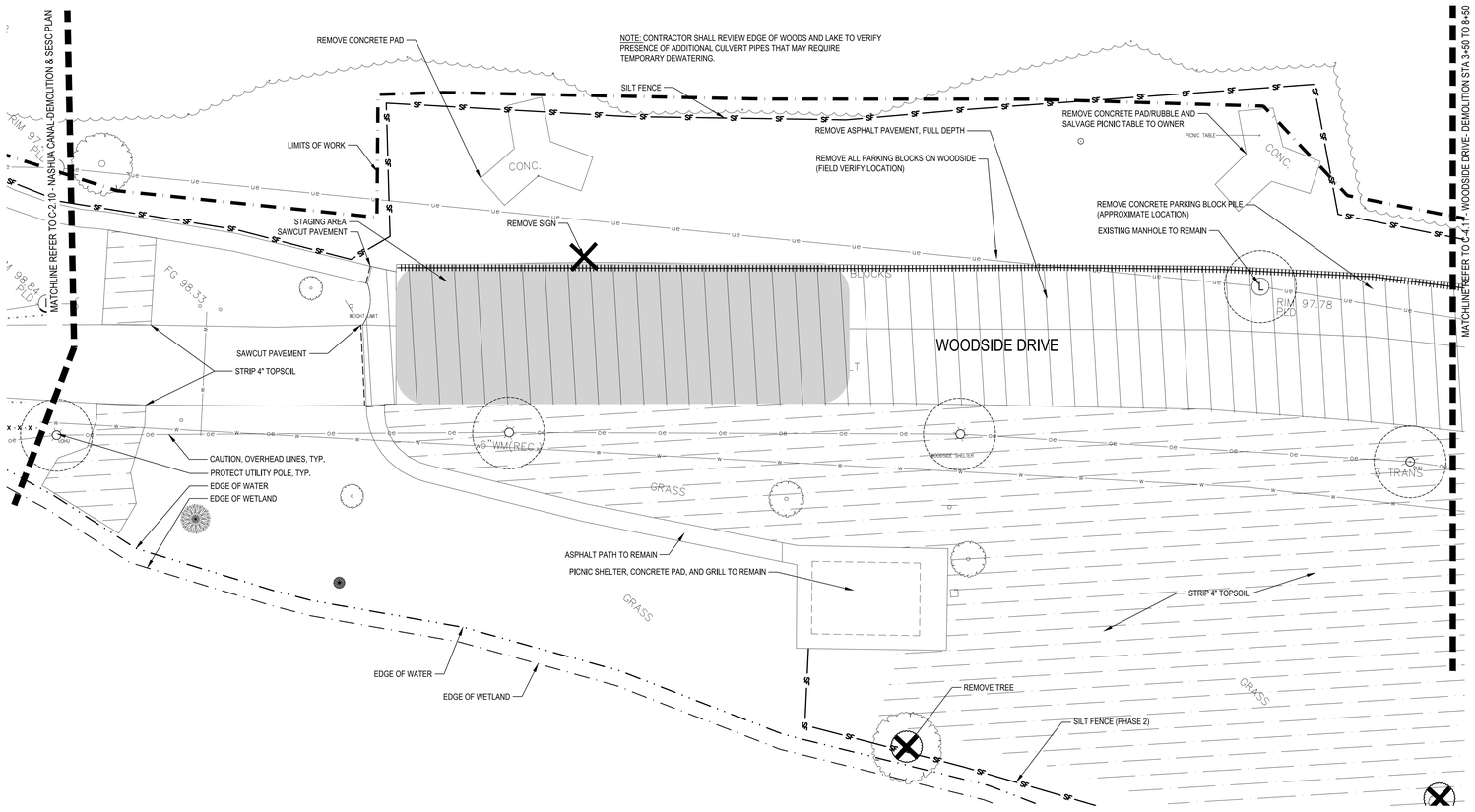
CONVERSION: IGLD = CDD+479.07

ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

SMITHGROUP JJR

0' 10' 20' 40'



SHEET NOTES

WATER ELEVATIONS

	CDD	IGLD
WATER ELEVATION (OBSERVED 8/12/2015)	95.9	575
ORDINARY HIGH WATER (OHW)	96.9	576
100 YEAR FLOOD	98.25	577.3
LOW WATER DATUM	92.8	571.9

CDD = CITY OF DETROIT DATUM
IGLD = INTERNATIONAL GREAT LAKES DATUM 55

CONVERSION: IGLD = CDD+479.07

ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

LEGEND

- LIMITS OF WORK
- EDGE OF WATER
- EDGE OF WETLANDS
- REMOVE ASPHALT PAVEMENT, FULL DEPTH, PULVERIZE AND REUSE AS BASE
- SALVAGE FOOT BRIDGE TO OWNER
- REMOVE TREE, STUMP, AND ROOTS
- SAWCUT
- REMOVE UTILITY LINE
- REMOVE CONCRETE CURB AND GUTTER/ CONCRETE PARKING BLOCKS
- REMOVE UTILITY POLE, FIXTURE, FOUNDATION
- REMOVE
- SALVAGE
- PROTECT
- CLEAR AND GRUB
- TREE PROTECTION FENCE (1 / C-1.41)
- SILT FENCE (2 / C-1.41)
- INLET PROTECTION (4 / C-1.41)
- TURBIDITY CURTAIN (6 / C-1.41)
- TEMPORARY SHEET PILING FOR DEWATERING
- CONSTRUCTION FENCE
- CONTRACTOR STAGING AREA
- GRAVEL ACCESS APPROACH (5 / C-1.41)
- HERBICIDE
- STRIP 4" TOPSOIL

LAKE OKONOKA HABITAT RESTORATION

BELLE ISLE PARK
DETROIT, MICHIGAN 48207

Owner:
FRIENDS OF THE DETROIT RIVER

Leased to and managed by:
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

SMITHGROUP JJR

201 DEPOT STREET
SECOND FLOOR
ANN ARBOR, MI 48104
734.662.4457
www.smithgroupjjr.com

ISSUED FOR	REV	DATE
MDOT PERMIT		12-05-2017
ISSUED FOR REVISION TO SESC PERMIT		11-01-2017
ISSUED FOR CONSTRUCTION		10-02-2017
BIDS		08-01-2017
FINAL OWNER REVIEW		07-21-2017
DESIGN DEVELOPMENT		06-13-2016
SCHEMATIC DESIGN TEAM MEETING		09-03-2015

SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

DRAWING TITLE

WOODSIDE DRIVE- DEMOLITION STA 0+00 TO 3+50

0 10 20 40

SCALE: 1"=20'

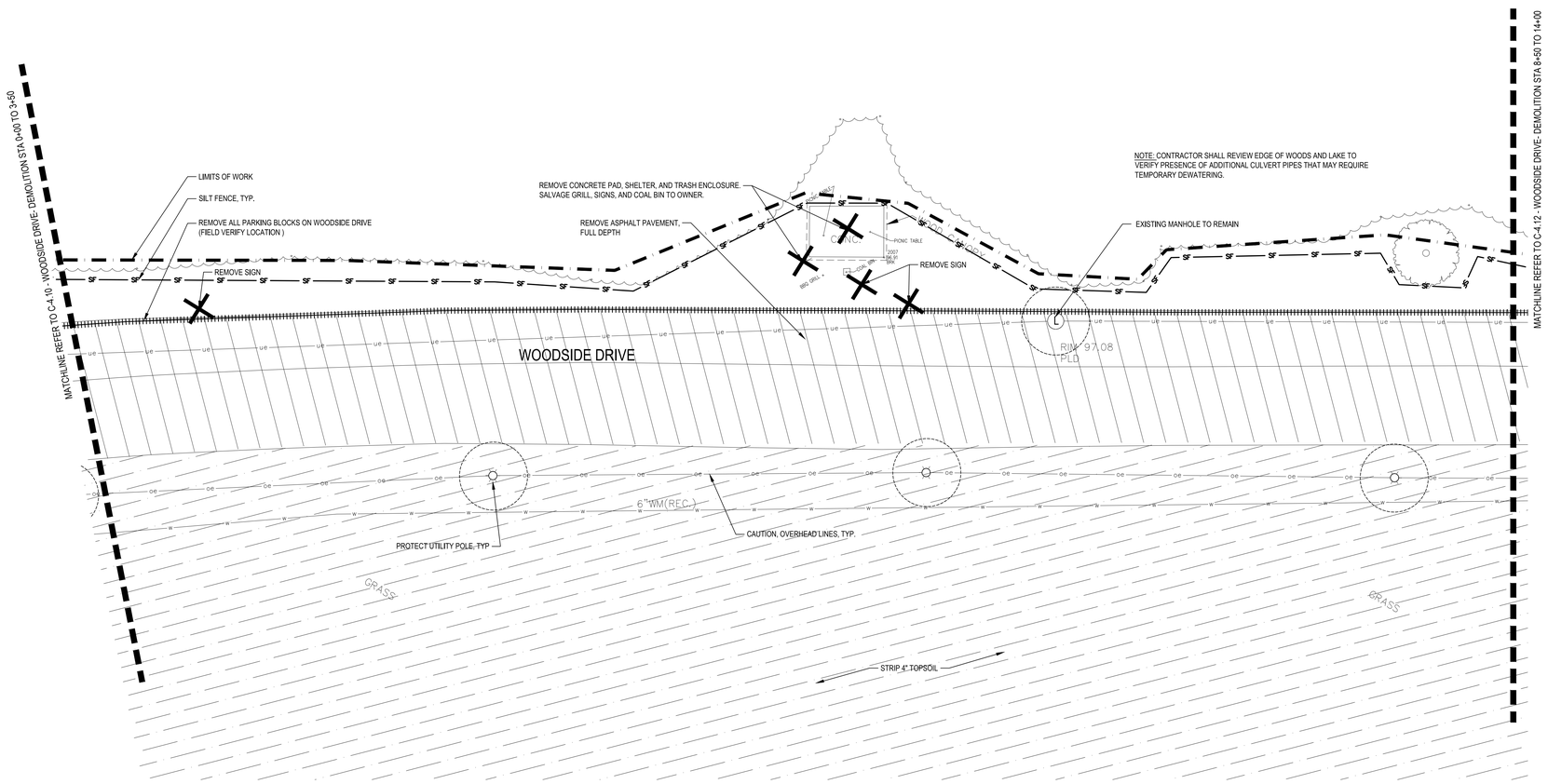
SCALE

20490.000

PROJECT NUMBER

C-4.10

DRAWING NUMBER



SHEET NOTES

WATER ELEVATIONS

	CDD	IGLD
WATER ELEVATION (OBSERVED 8/12/2015)	95.9	575
ORDINARY HIGH WATER (OHW)	96.9	576
100 YEAR FLOOD	98.25	577.3
LOW WATER DATUM	92.8	571.9

CDD = CITY OF DETROIT DATUM
IGLD = INTERNATIONAL GREAT LAKES DATUM 85

CONVERSION: IGLD = CDD+479.07

ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

LEGEND

- LIMITS OF WORK
- EDGE OF WATER
- EDGE OF WETLANDS
- REMOVE ASPHALT PAVEMENT, FULL DEPTH, PULVERIZE AND REUSE AS BASE
- SALVAGE FOOT BRIDGE TO OWNER
- REMOVE TREE, STUMP, AND ROOTS
- SAWCUT
- REMOVE UTILITY LINE
- REMOVE CONCRETE CURB AND GUTTER/ CONCRETE PARKING BLOCKS
- REMOVE UTILITY POLE, FIXTURE, FOUNDATION
- REMOVE
- SALVAGE
- PROTECT
- CLEAR AND GRUB
- TREE PROTECTION FENCE (1 / C-1.41)
- SF SILT FENCE (2 / C-1.41)
- INLET PROTECTION (4 / C-1.41)
- TURBIDITY CURTAIN (6 / C-1.41)
- TEMPORARY SHEET PILING FOR DEWATERING
- CONSTRUCTION FENCE
- CONTRACTOR STAGING AREA
- GRAVEL ACCESS APPROACH (5 / C-1.41)
- HERBICIDE
- STRIP 4" TOPSOIL

LAKE OKONOKA HABITAT RESTORATION

BELLE ISLE PARK
DETROIT, MICHIGAN 48207

Owner:
FRIENDS OF THE DETROIT RIVER

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ANN ARBOR, MI 48104
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ISSUED FOR	REV	DATE
MDOT PERMIT		12-05-2017
ISSUED FOR REVISION TO SESC PERMIT		11-01-2017
ISSUED FOR CONSTRUCTION		10-02-2017
BIDS		08-01-2017
FINAL OWNER REVIEW		07-21-2017
DESIGN DEVELOPMENT		05-13-2016
SCHEMATIC DESIGN TEAM MEETING		09-03-2015

SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

DRAWING TITLE

WOODSIDE DRIVE- DEMOLITION STA 3+50 TO 8+50

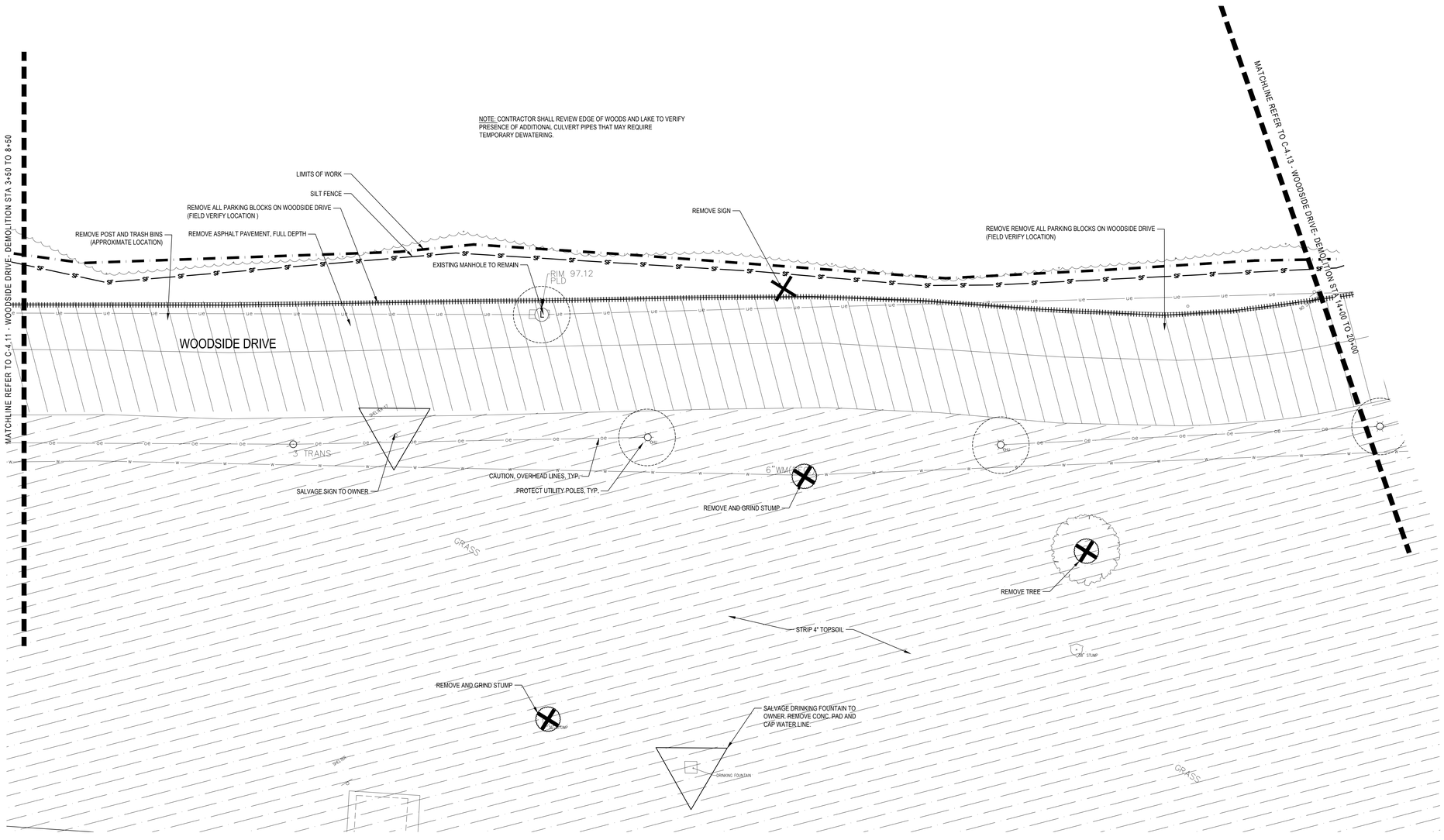
0' 10' 20' 40'
SCALE: 1"=20'

SCALE

PROJECT NUMBER
20490.000

DRAWING NUMBER
C-4.11

F:\E\P-\20490.000\CAD\C\Lake Okonoka Connection to Detroit River\SHEETS\20490-DEMO-WOODSIDE-SHT.dwg LOGIN:jpeyong DATE:Dec. 05, 2017 TIME:09:15 am



SHEET NOTES

WATER ELEVATIONS

	CDD	IGLD
WATER ELEVATION (OBSERVED 8/12/2015)	95.9	575
ORDINARY HIGH WATER (OHW)	96.9	576
100 YEAR FLOOD	98.25	577.3
LOW WATER DATUM	92.8	571.9

CDD = CITY OF DETROIT DATUM
IGLD = INTERNATIONAL GREAT LAKES DATUM 85

CONVERSION: IGLD = CDD+479.07

ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

LEGEND

- LIMITS OF WORK
- EDGE OF WATER
- EDGE OF WETLANDS
- REMOVE ASPHALT PAVEMENT, FULL DEPTH, PULVERIZE AND REUSE AS BASE
- SALVAGE FOOT BRIDGE TO OWNER
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- TEMPORARY SHEET PILING FOR DEWATERING
- CONSTRUCTION FENCE
- CONTRACTOR STAGING AREA
- GRAVEL ACCESS APPROACH (5 / C-1.41)
- HERBICIDE
- STRIP 4" TOPSOIL

LAKE OKONOKA HABITAT RESTORATION

BELLE ISLE PARK
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ISSUED FOR	REV	DATE
MDOT PERMIT		12-05-2017
ISSUED FOR REVISION TO SESC PERMIT		11-01-2017
ISSUED FOR CONSTRUCTION		10-02-2017
BIDS		08-01-2017
FINAL OWNER REVIEW		07-21-2017
DESIGN DEVELOPMENT		05-13-2016
SCHEMATIC DESIGN TEAM MEETING		09-03-2015

SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

DRAWING TITLE

WOODSIDE DRIVE- DEMOLITION STA 8+50 TO 14+00

0' 10' 20' 40'
SCALE: 1"=20'

SCALE

PROJECT NUMBER
20490.000

DRAWING NUMBER
C-4.12

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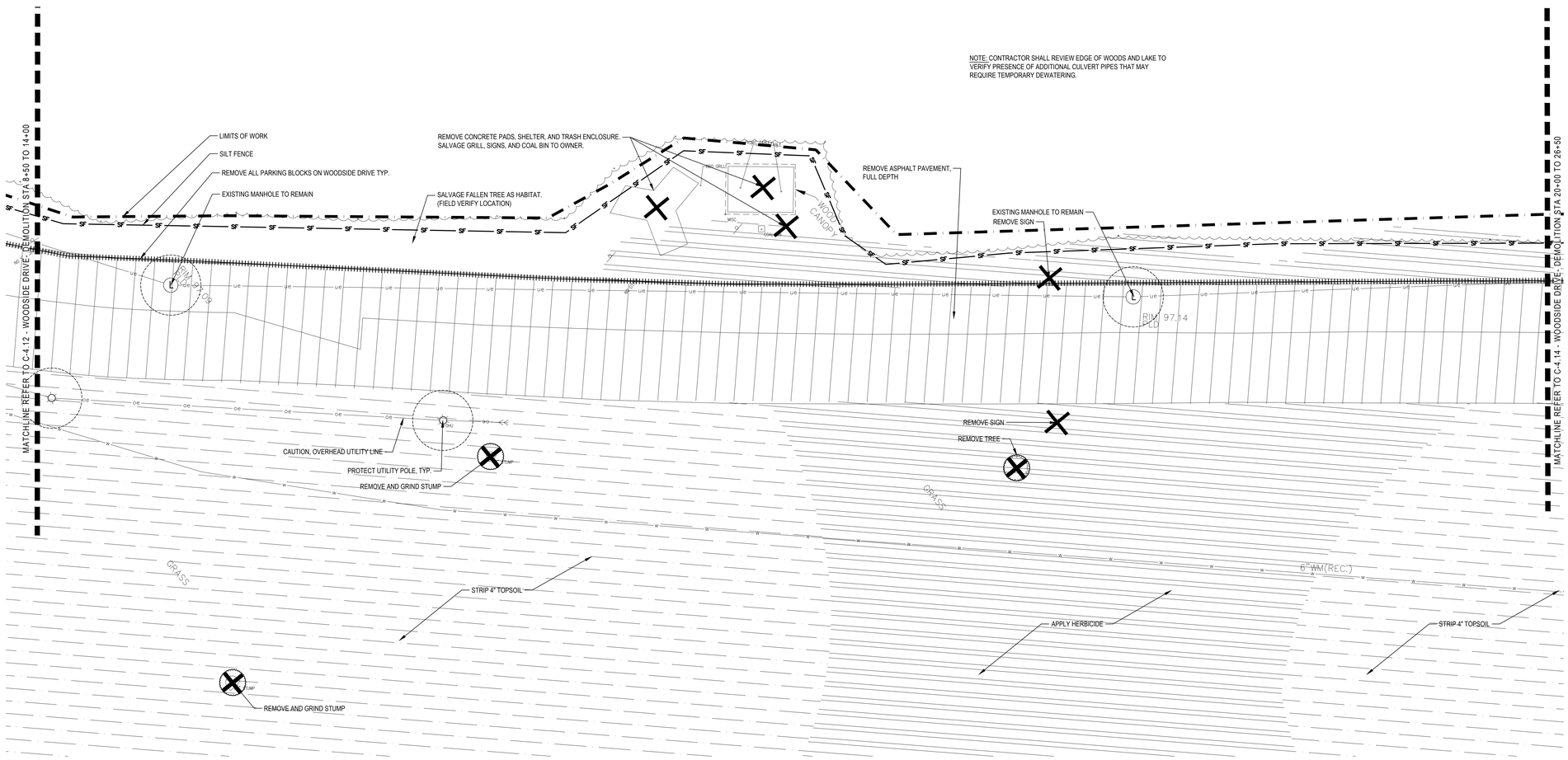

SHEET NOTES

WATER ELEVATIONS

	CDD	IGLD
WATER ELEVATION (OBSERVED 8/12/2015)	95.9	575
ORDINARY HIGH WATER (OHW)	96.9	576
100 YEAR FLOOD	98.25	577.3
LOW WATER DATUM	92.8	571.9

CDD = CITY OF DETROIT DATUM
IGLD = INTERNATIONAL GREAT LAKES DATUM 85

CONVERSION: IGLD = CDD+479.07

ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

LEGEND

- LIMITS OF WORK
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- REMOVE ASPHALT PAVEMENT, FULL DEPTH, PULVERIZE AND REUSE AS BASE
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- STRIP 4" TOPSOIL

LAKE OKONOKA HABITAT RESTORATION

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DETROIT, MICHIGAN 48207

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ISSUED FOR	REV	DATE
MDOT PERMIT		12-05-2017
ISSUED FOR REVISION TO SESC PERMIT		11-01-2017
ISSUED FOR CONSTRUCTION		10-02-2017
BIDS		08-01-2017
FINAL OWNER REVIEW		07-21-2017
DESIGN DEVELOPMENT		05-13-2016
SCHEMATIC DESIGN TEAM MEETING		09-03-2015

SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

DRAWING TITLE

WOODSIDE DRIVE-DEMOLITION STA 14+00 TO 20+00

0' 10' 20' 40'

SCALE: 1"=20'

SCALE

PROJECT NUMBER 20490.000

DRAWING NUMBER C-4.13

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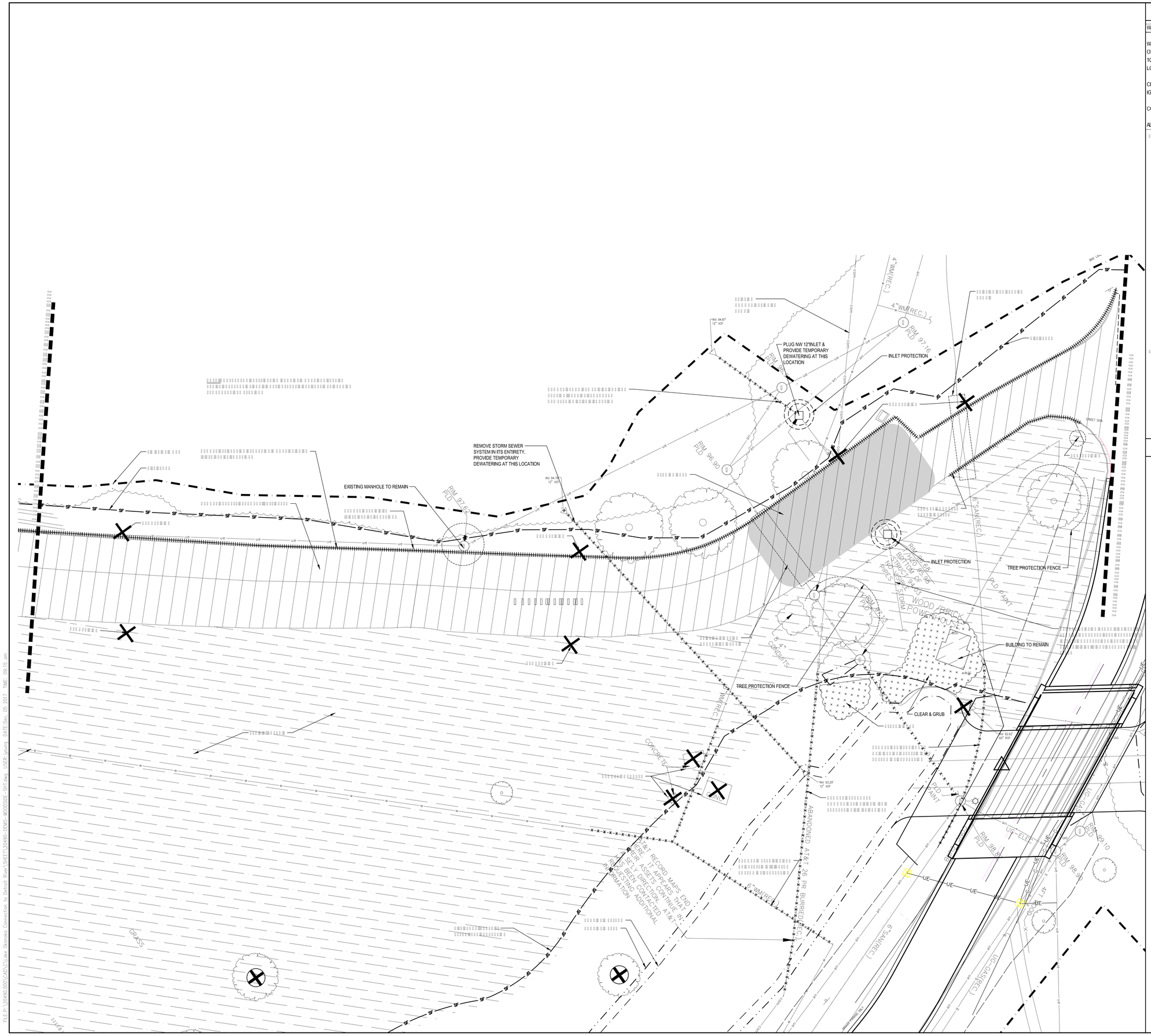

WATER ELEVATIONS

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WATER ELEVATION (OBSERVED 8/12/2015)	95.9	575
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CDD = CITY OF DETROIT DATUM
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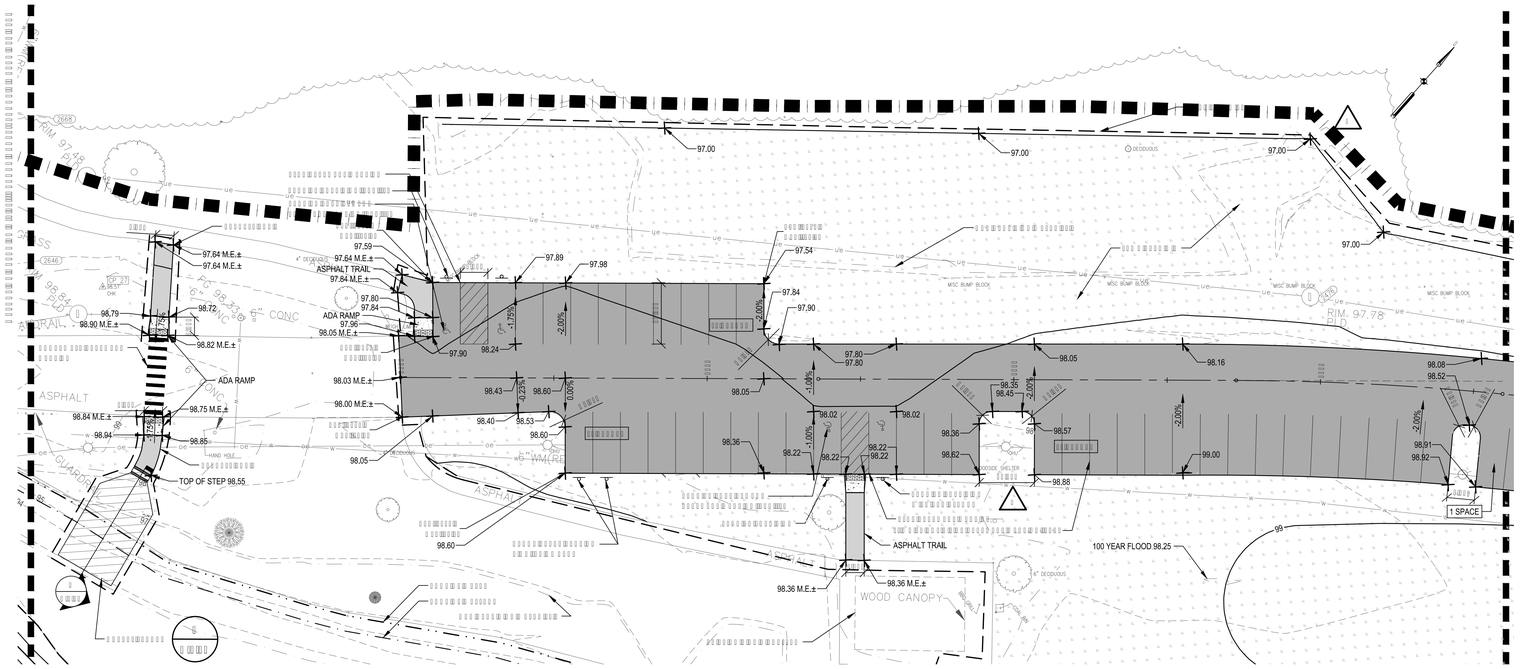
CONVERSION: IGLD = CDD+479.07

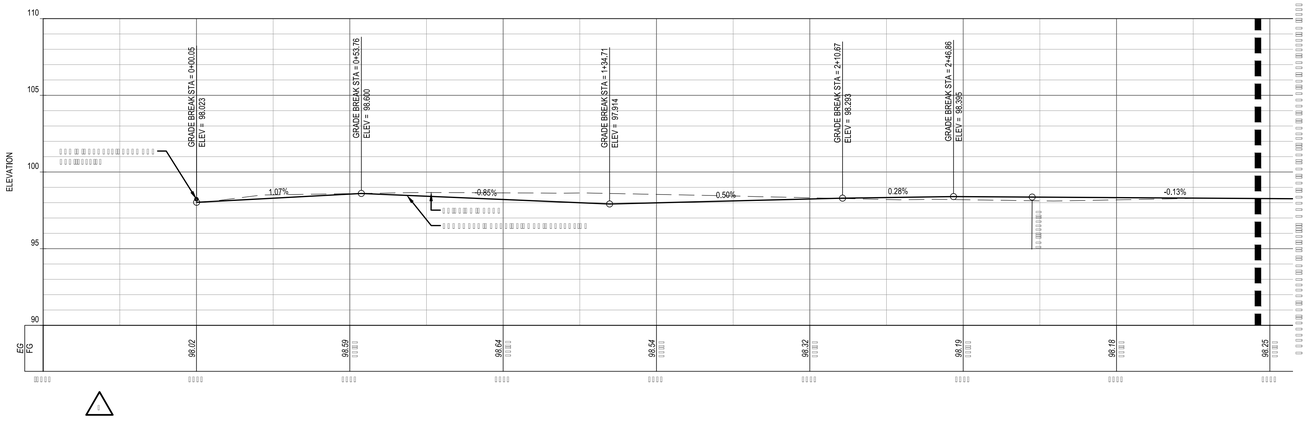
ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

- - BRIDGE – ENTIRE STRUCTURE
- - BOX CULVER – ENTIRE STRUCTURE
- - OVERFLOW STRUCTURE – ENTIRE STRUCTURE
- - BREAKWATER STRUCTURES – ENTIRE STRUCTURES
- - RIP RAP – ALL LOCATIONS

SMITHGROUP JJR

0 10 20 40





WATER ELEVATIONS

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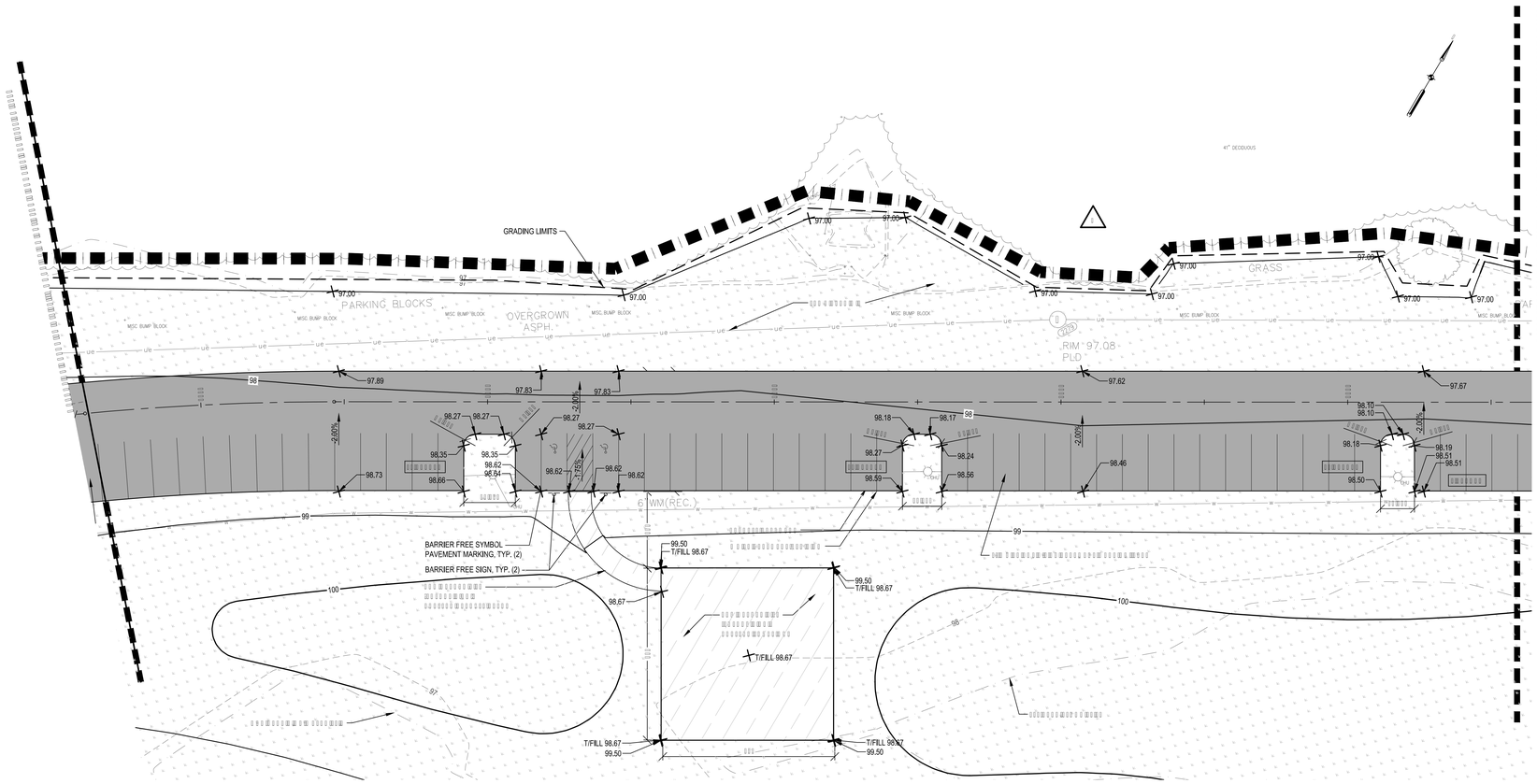
CONVERSION: IGLD = CDD +479.07

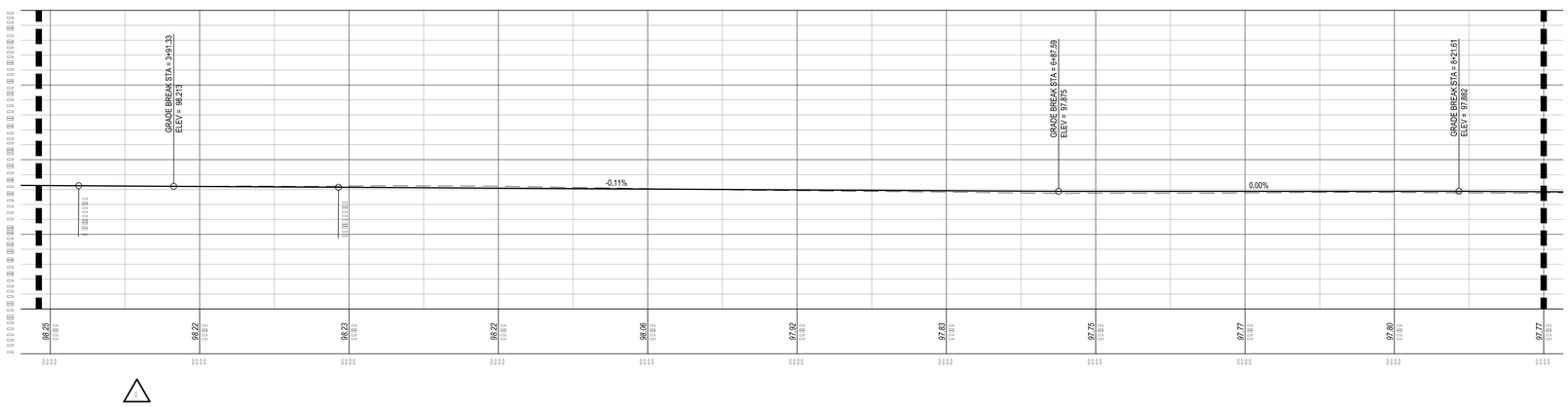
ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

861.50 M.E. ±

SMITHGROUP JJR

0 10 20 40





WATER ELEVATIONS

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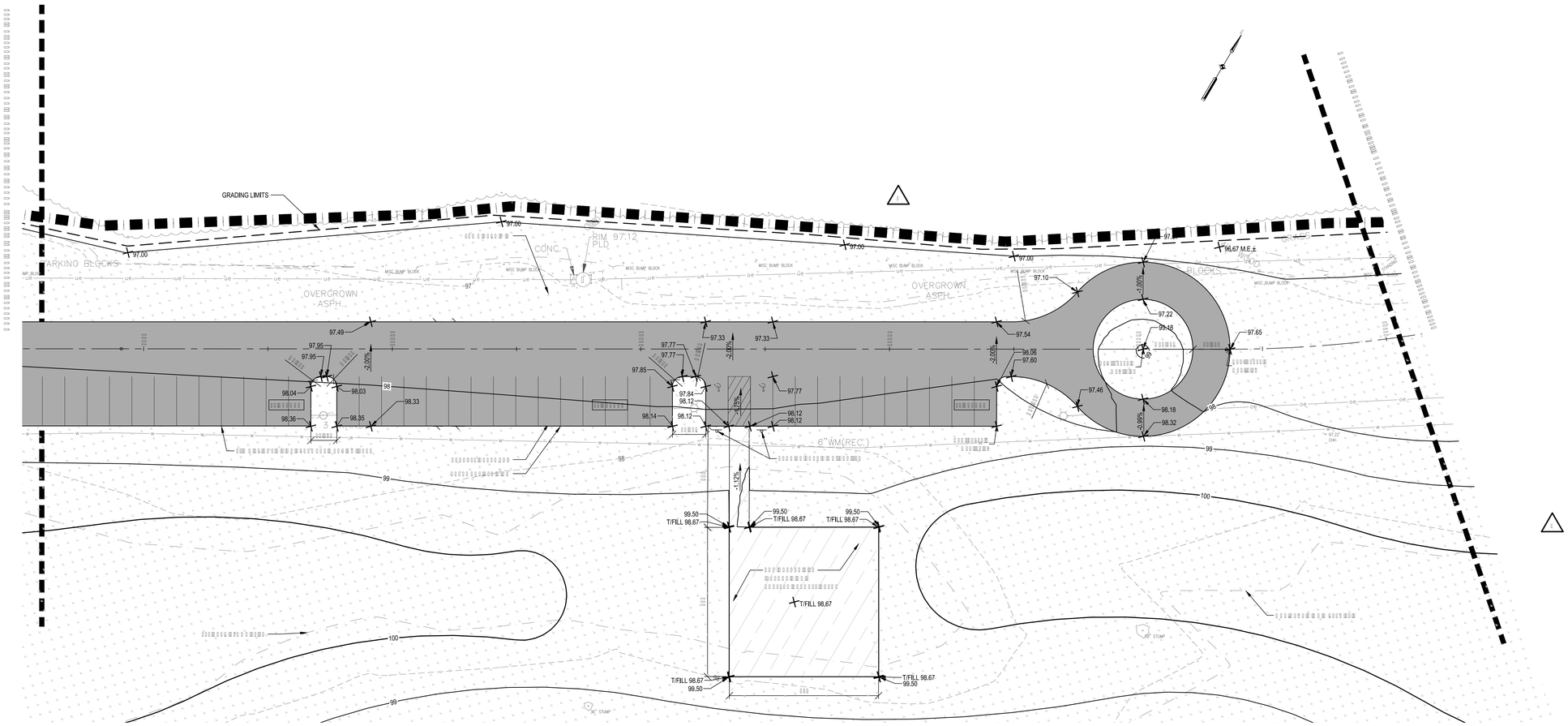
CONVERSION IGLD = CDD+479.07

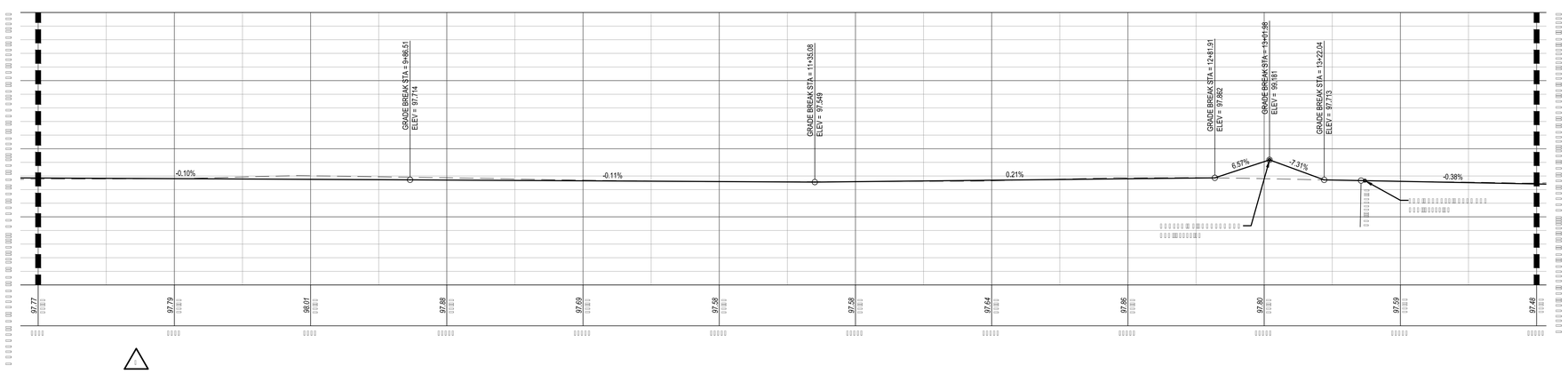
ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

861.50 M.E. ±

SMITHGROUP JJR

0' 10' 20' 40'





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861.50 M.E. ±

SMITHGROUP JJR

0' 10' 20' 40'

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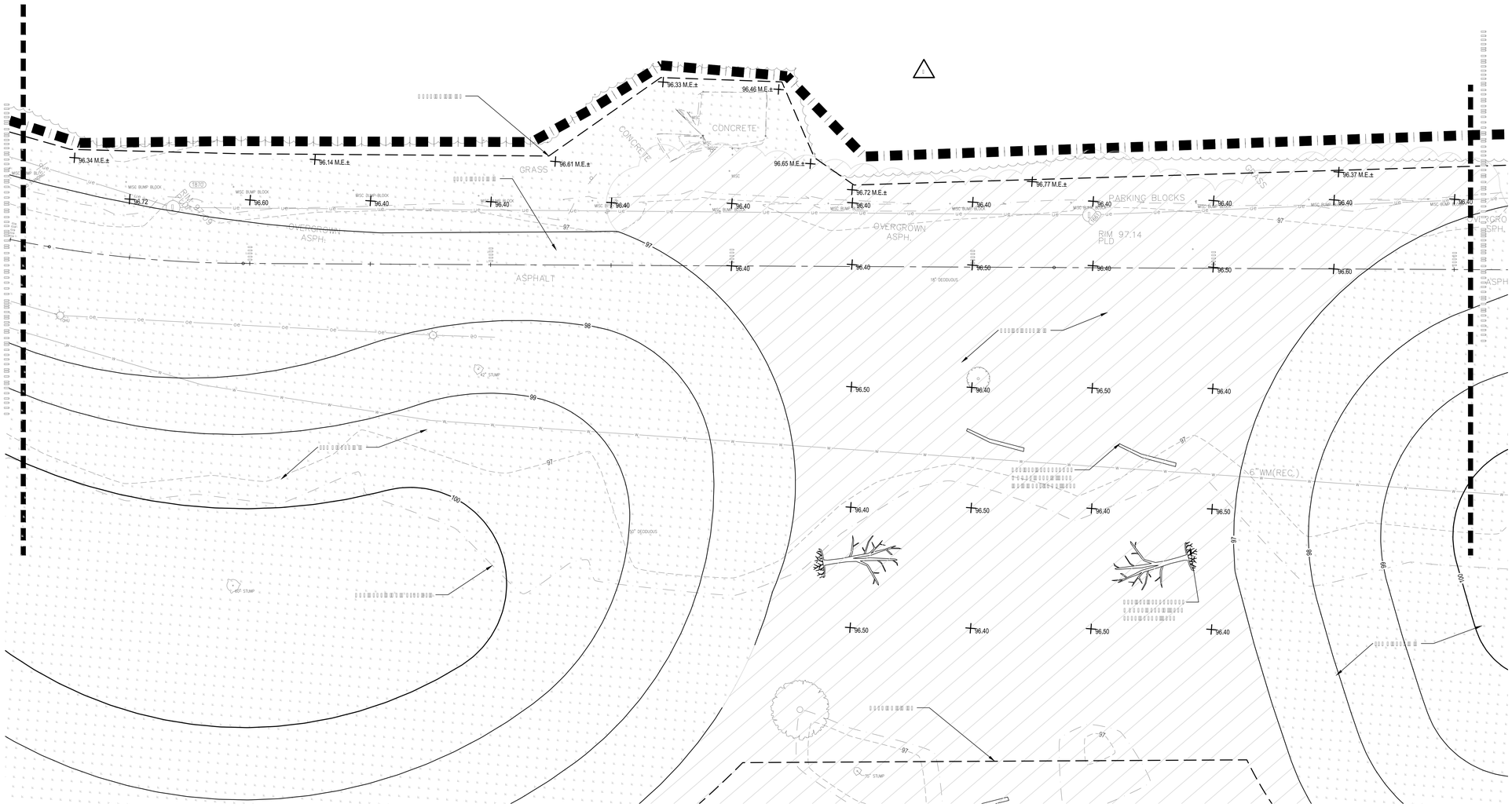

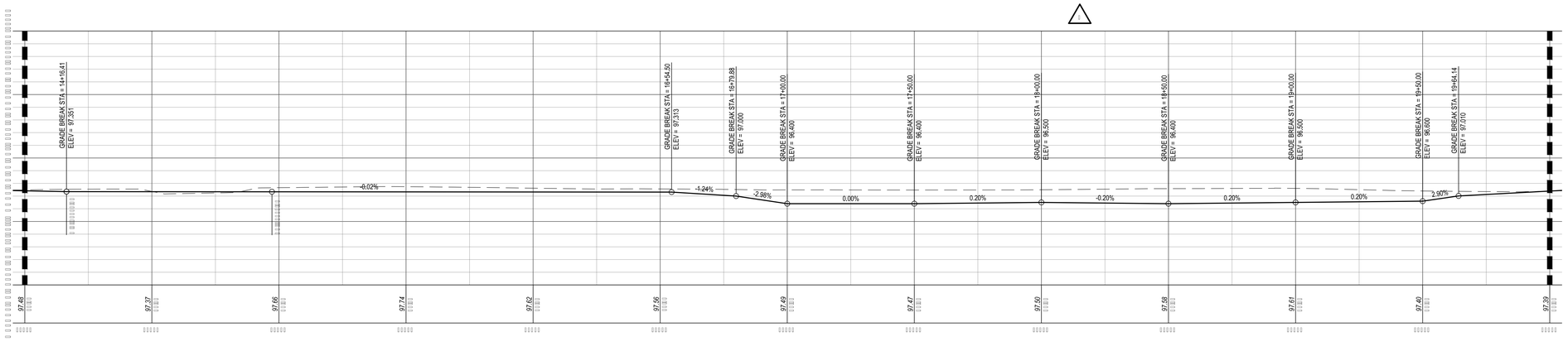

WATER ELEVATIONS

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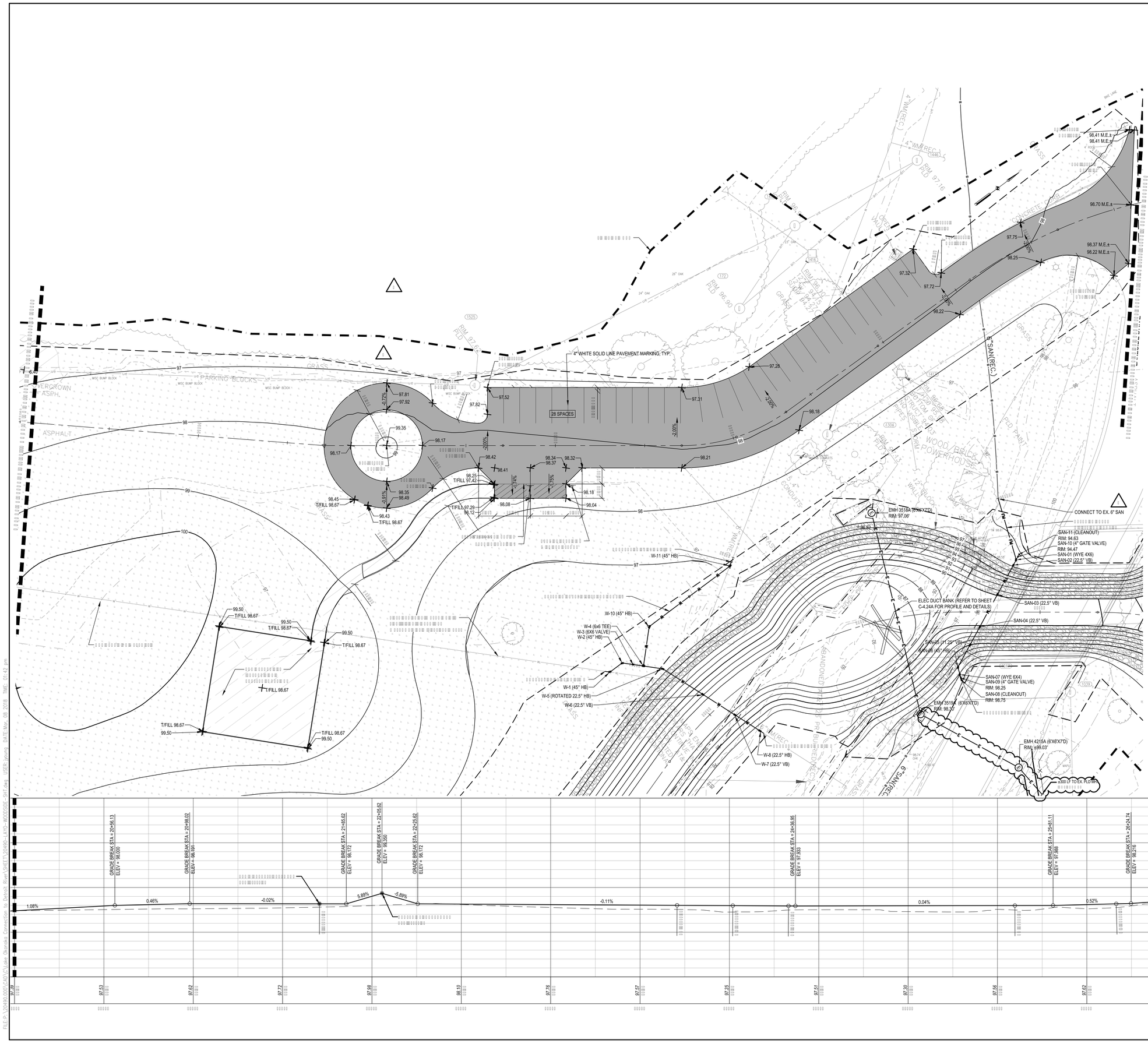
ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

861.50 M.E. ±

SMITHGROUP JJR

0' 10' 20' 40'



WATER ELEVATIONS

	CDD	IGLD
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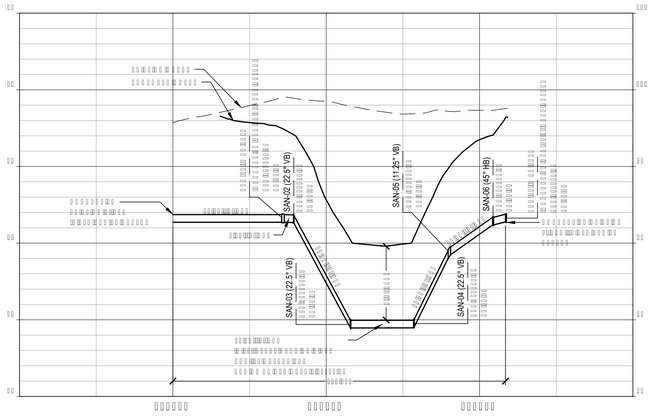
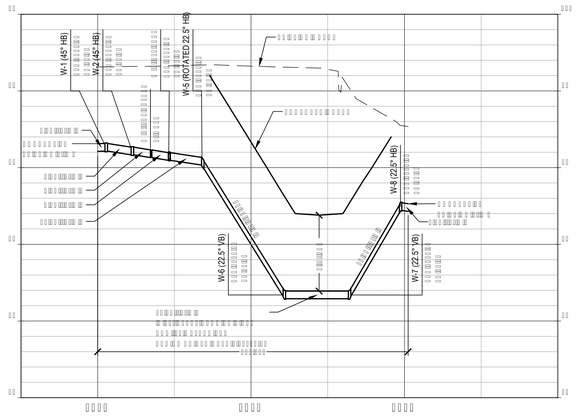
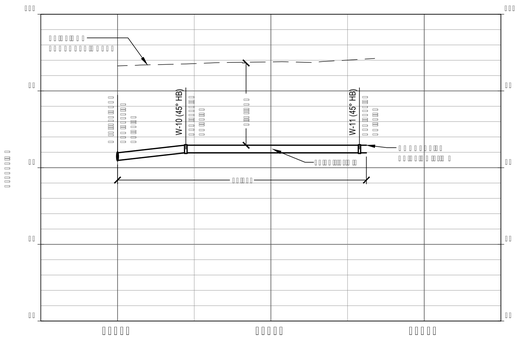
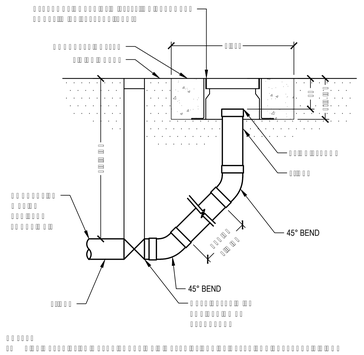
ALL ELEVATIONS ON PLANS ARE CDD UNLESS OTHERWISE NOTED.

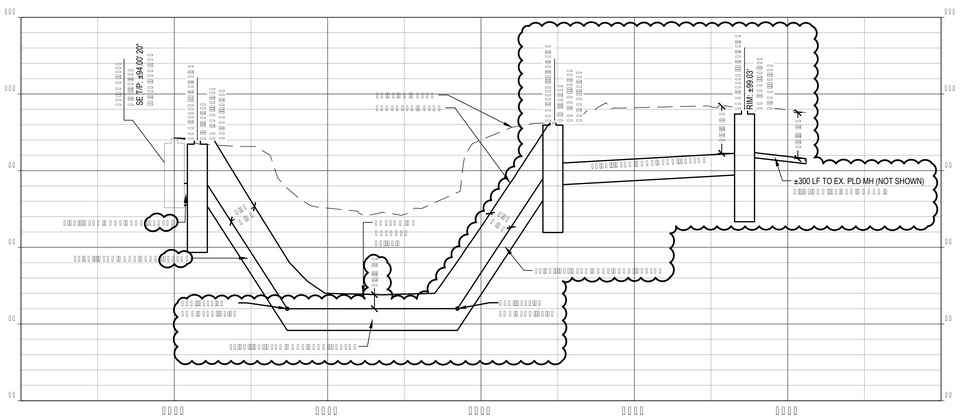
SMITHGROUP JJR

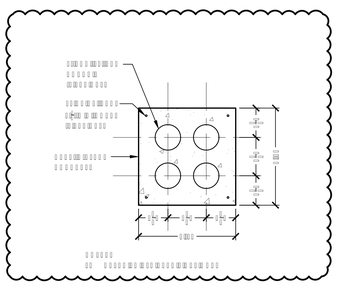












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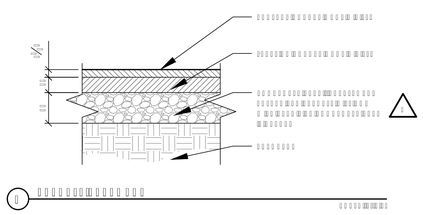
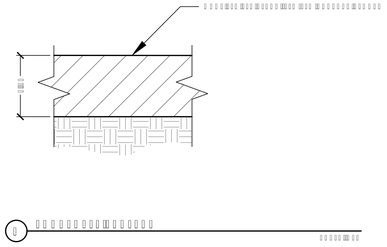
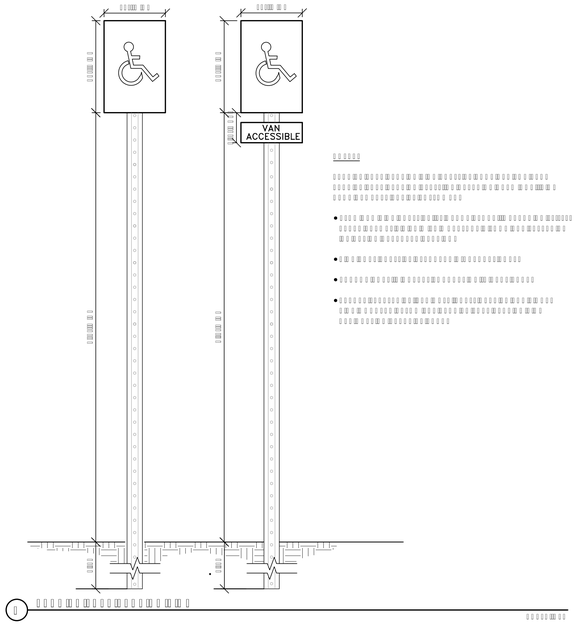
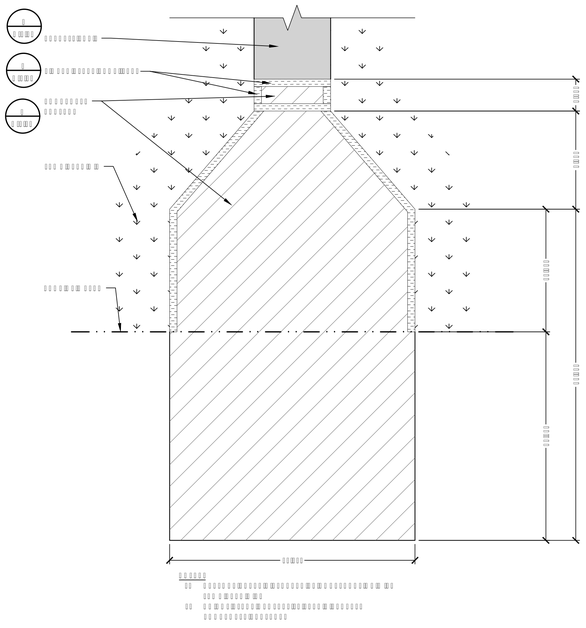
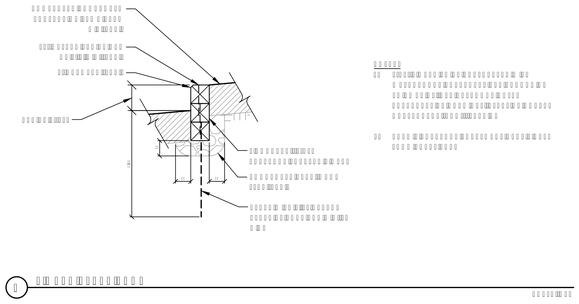
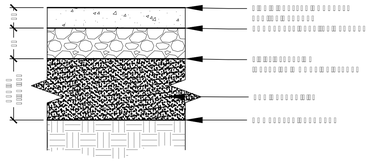


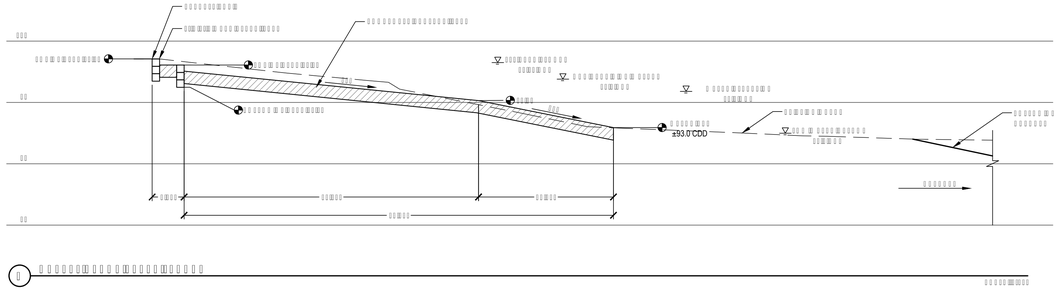


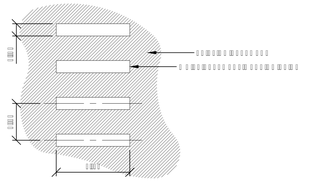






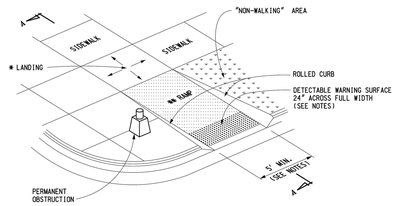




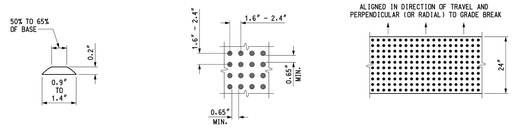


* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.

** MAXIMUM RAMP CROSS SLOPE IS 2.0%. RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.



SIDEWALK RAMP TYPE R
(ROLLED SIDES)



DOME SECTION | DOME SPACING | DOME ALIGNMENT

DETECTABLE WARNING DETAILS

NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS IN THE PUBLIC RIGHT OF WAY.

SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING, TRANSVERSE TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP. WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION. PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

WHEN 5' MINIMUM WIDTHS ARE NOT PRACTICABLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND LANDINGS TO NOT LESS THAN 4' x 4'.

DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBED OR FLARED CURB TRANSITION AREAS. A BORDER OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING IS ALLOWABLE. FOR RADIAL CURB THE OFFSET IS MEASURED FROM THE ENDS OF THE RADIUS.

FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2.0%. FOR ALTERATIONS TO EXISTING ROADWAYS, THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.

THE MAXIMUM RUNNING SLOPE OF 8.3% IS RELATIVE TO A FLAT (0%) REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH NOT INCLUDING LANDINGS OR TRANSITIONS.

DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL, USE A MANUFACTURER'S ADA COMPLIANT GRATE. OPENINGS SHALL NOT BE GREATER THAN ½". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE ROADSIDE CURB LINE, SHALL BE PROVIDED WHERE AN UNOBSTRUCTED CIRCULATION PATH LATERALLY CROSSES THE SIDEWALK RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS BORDERED BY LANDSCAPING, UNPAVED SURFACE OR PERMANENT FIXED OBJECTS. WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB RETURNS AT RAMP OPENINGS.

DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	6-27-2017 PLAN DATE	R-28-J	SHEET 7 OF 7

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