

**City of Detroit**  
**OFFICE OF THE CITY CLERK**

Janice M. Winfrey  
City Clerk

Vivian A. Hudson  
Deputy City Clerk

**DEPARTMENTAL REFERENCE COMMUNICATION**

*Thursday, June 22, 2017*

*To: The Department or Commission Listed Below*

*From: Janice M. Winfrey, Detroit City Clerk*

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The following petition is herewith referred to you for report and recommendation to the City Council.

In accordance with that body's directive, kindly return the same with your report in duplicate within four (4) weeks.

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DPW - CITY ENGINEERING DIVISION

**1659** *United States Environmental Protection Agency, request for temporary street closure of a portion of Medina Street.*



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
GREAT LAKES NATIONAL PROGRAM OFFICE  
REGION 5  
9311 GROH ROAD  
GROSSE ILE, MI 48138

07 June 2017

The Honorable City Council  
ATTN: Office of the City Clerk  
200 Coleman A. Young Municipal Center  
Detroit, Michigan 48226

RE: Request for Temporary Closure of Portion of Medina Street

Dear Sirs & Mesdames:

We are writing to you to request a hearing before the City Council to approve temporary closure of a portion of Medina Street, located in the Delray neighborhood, Detroit, Michigan. The closure is required as part of a major clean-up of contaminated sediments in the Rouge River Old Channel which will improve the quality of the river and the related environment. Additional details are provided in this letter and its attachments.

The U.S. Environmental Protection Agency (USEPA) and Honeywell Inc. have been working cooperatively under the Great Lakes Legacy Act (GLLA) to remediate contaminated sediment in the Rouge River Old Channel that impacts the river. Dredging as part of the remedy necessitates building of a permanent bulkhead wall along the shoreline. Tiebacks for this wall in turn require temporary closure of the terminal 50 feet of Medina Street. Bulkhead wall construction is set to start in summer of 2017 to allow dredging in 2018. The limits of work are designed to allow access street access for residential properties. USEPA and Honeywell will continue to work with local property owners to minimize any inconvenience. We are submitting this package to request a grant for temporary closure of the terminal end of Medina Street between January 2018 and May 2018.

Enclosed are a fact sheet describing the project and the engineering plan sets depicting the proposed changes to Medina Street. Should you have any questions, please feel free to contact me, Rose Ellison at (734) 692-7689 or provide emailed comments to [Ellison.Rosanne@epa.gov](mailto:Ellison.Rosanne@epa.gov).

Sincerely,

A handwritten signature in black ink that reads "Rose Ellison". The signature is fluid and cursive.

Rose Ellison  
Great Lakes National Program Office  
U.S. Environmental Protection Agency

Enclosures: Fact Sheet  
Drawing Set

CC: Will Tamminga, EDC

**FACT SHEET  
LOWER ROUGE RIVER OLD CHANNEL  
SEDIMENT REMEDIATION PROJECT  
JUNE 2017**

### **Introduction and Overview**

The United States Environmental Protection Agency Great Lakes National Program Office (GLNPO) is working throughout the Great Lakes region to implement remediation and restoration projects under the Great Lakes Legacy Act. These projects focus on addressing beneficial use impairments at known areas of concern (AOCs).

As part of a collaborative agreement, GLNPO has worked with Honeywell International Inc. (the non-federal sponsor; Honeywell), to develop a plan to address sediment contamination in the Lower Rouge River Old Channel (LRROC), which is part of the Rouge River AOC. The LRROC contains sediments contaminated with multiple constituents of concern, including polycyclic aromatic hydrocarbons (PAHs) and non-aqueous phase liquid (NAPL).

### **Site Setting**

The Project is located in Detroit, Michigan, adjacent to Zug Island. A history of multiple industrial discharges, stormwater outfalls, combined sewer overflows, and non-point pollution sources culminated in highly contaminated sediment. The LRROC is maintained as an active channel for industrial and commercial shipping traffic. Only maintenance dredging has occurred within the project area; no remedial actions have been performed.

### **Overview of Project Components**

Based on an engineering feasibility study and the results of extensive pre-design investigation studies, the remedial design concept for the LRROC includes the following key components:

- **Dredging:** Dredging of approximately 70,000 cubic yards (CY) from 10 acres to remove contaminated sediments. Dredging will be completed using an environmental (e.g. closed/sealed) bucket. Dredging will be conducted from a barge surrounded by silt curtains to limit suspended sediment movement. Dredging will be performed with consideration of surface water quality during remediation; monitoring will be performed to maintain water quality within permitted limits. Sediment dredged as part of the Project is expected to be placed in the United States Army Corps of Engineers (USACE) Point Mouillee Confined Disposal Facility (CDF). The distance from the LRROC to the CDF is approximately 22 miles. No barge overflow of water or sediments may occur at any time—during excavation, navigation, or placement at the CDF.
- **Capping:** Subaqueous capping of about 1 acre to limit exposures to materials that are difficult to dredge due to limitations associated with a nearby water intake, shoreline/structural stability, or material depth. The aggregate cap will consist of a bulk sand/organoclay mixture for chemical isolation, overlain by a granular/gravel filter layer to prevent piping, overlain by an armor layer consisting of a cobble/boulder material. Surface water quality will also be considered during capping operations.
- **Temporary Shoreline Stabilization:** Four areas targeted for dredging are on or adjacent to the toe of the channel slopes or in proximity to existing structures; these areas will require temporary stabilization using sheet pile and backfill. Sheet pile will be driven to a depth of at least 20 feet below sediment surface with approximately 30 feet remaining above sediment surface. After dredging, the area downslope of the temporary shoring will be backfilled to preserve the stability of the channel side slopes and shoreline. After backfilling, the sheetpile will be removed.

- **Permanent Shoreline Stabilization:** In some areas along the mainland side of the LRROC, the existing slopes are very steep. To achieve a stable slope after dredging, temporary shoreline stabilization would require large amounts of backfill encroaching into the navigation channel. Temporary shoreline stabilization is not feasible in these areas. Therefore, approximately 2,500 linear feet (LF) of shoreline will be permanently stabilized via installation of a bulkhead wall with tie-backs/deadmen to address shoreline stability in areas of moderate to deep dredging. The wall will be continuous with the exception of several “windows” or openings in the sheet pile wall which will be included to allow the passage of active underground utilities and the Zug Island Bridge that cross the river.
- **Permitting, Stakeholder Coordination, and Sustainability:** A key component of the design is obtaining permits. Because the work occurs in a waterbody and floodplain, a Joint Permit Application has been submitted to the Michigan Department of Environmental Quality (MDEQ) and U.S. Army Corps of Engineers (USACE). MDEQ has issued the public notice for their permitting process and USACE issued public notice in early Fall 2016. Additional municipal and county permit applications are being submitted concurrently.
- **Schedule:** Permanent bulkhead wall construction is expected to begin in summer of 2017 and take approximately 13 months. The remedial contractor will mobilize to the site in 2018 and begin remedial construction activities (i.e., dredging, material handling and disposal, and capping), which are anticipated to take approximately 9 months to complete.

#### Relevance to Medina Street

The design of the permanent sheetpile bulkhead wall includes approximately 2,500 feet of shoreline along the channel. The bulkhead requires tiebacks of up to 125 feet in length which connect to an anchor wall that would be located within the limits of Medina Street. Construction of the tiebacks and anchor wall require closure of the full width of the terminal 25 feet of Medina Street, and half the width of an additional 50 feet prior. The project sponsors are seeking to obtain temporary closure of this portion of the road for a duration of 3 months in early 2018. Planning for this closure has been conducted in close coordination with the adjacent landowners/residents, with whom the project team is working to obtain signed access agreements.

#### Contact Us

For further information, please contact Rose Ellison, U.S. Environmental Protection Agency, by phone at (734) 692-7689 or by email at [ellison.rosanne@epa.gov](mailto:ellison.rosanne@epa.gov).

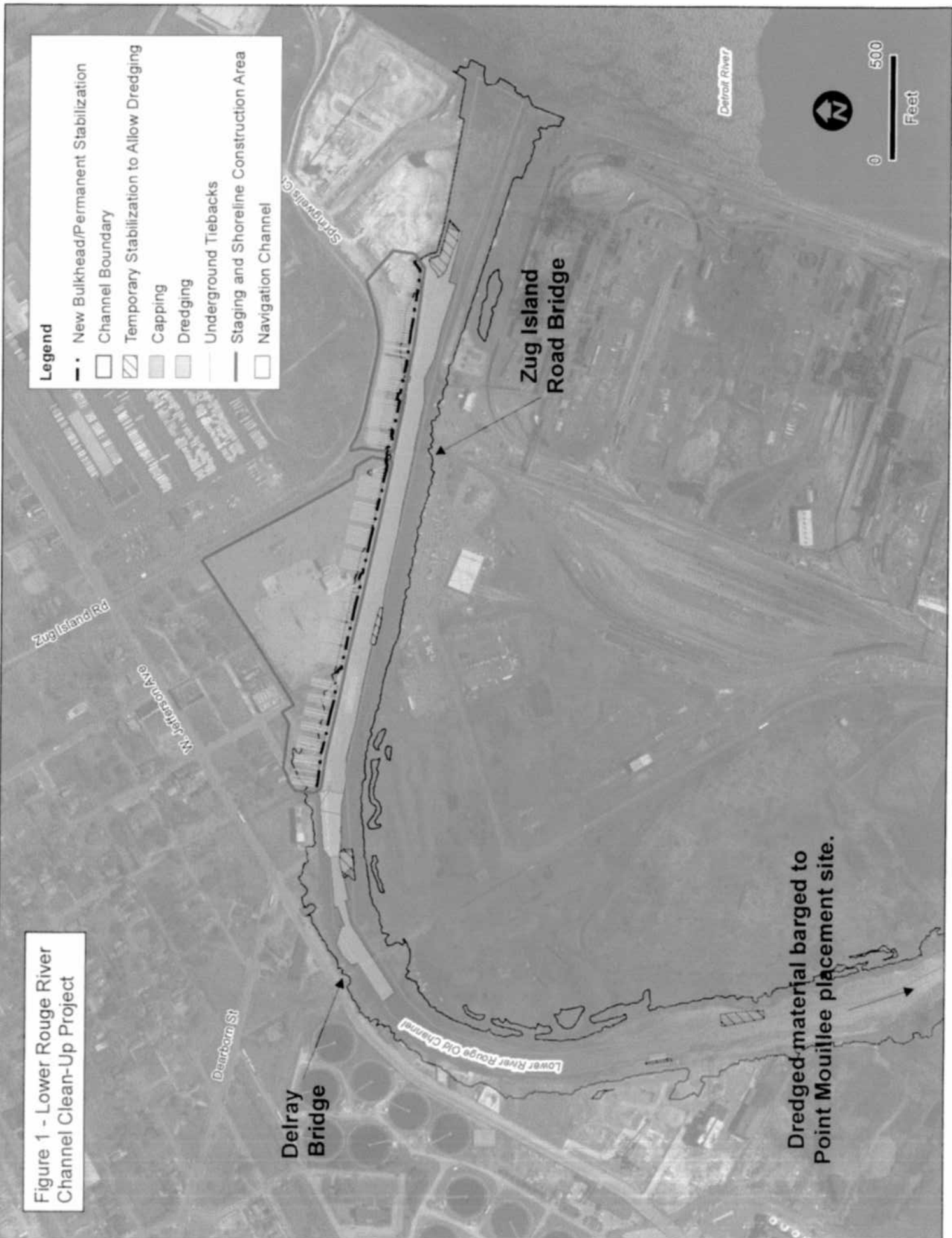
**Figure 1 - Lower Rouge River Channel Clean-Up Project**

- Legend**
- · - New Bulkhead/Permanent Stabilization
  - Channel Boundary
  - ▨ Temporary Stabilization to Allow Dredging
  - Capping
  - ▩ Dredging
  - Underground Tiebacks
  - Staging and Shoreline Construction Area
  - Navigation Channel

**Delray Bridge**

**Zug Island Road Bridge**

**Dredged material barged to Point Mouillee placement site.**

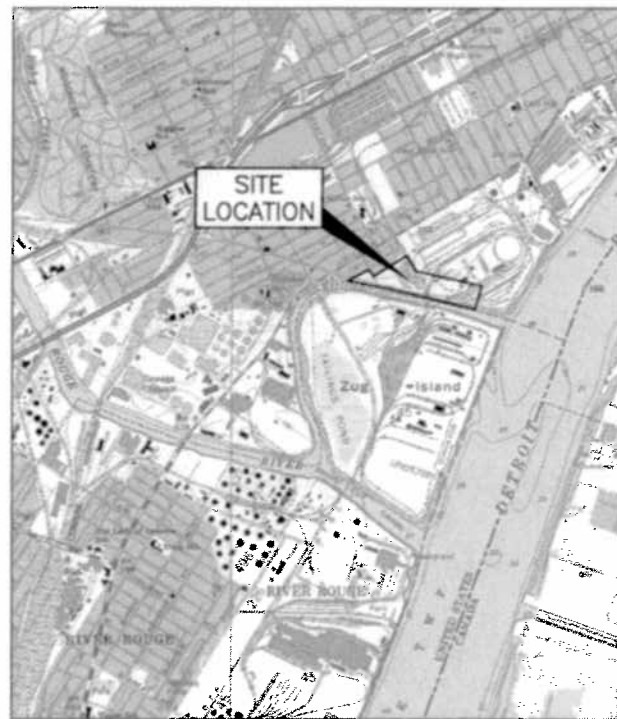


# LOWER ROUGE RIVER OLD CHANNEL ROUGE RIVER AREA OF CONCERN PERMANENT SHEETPILE WALL INSTALLATION DETROIT, MICHIGAN

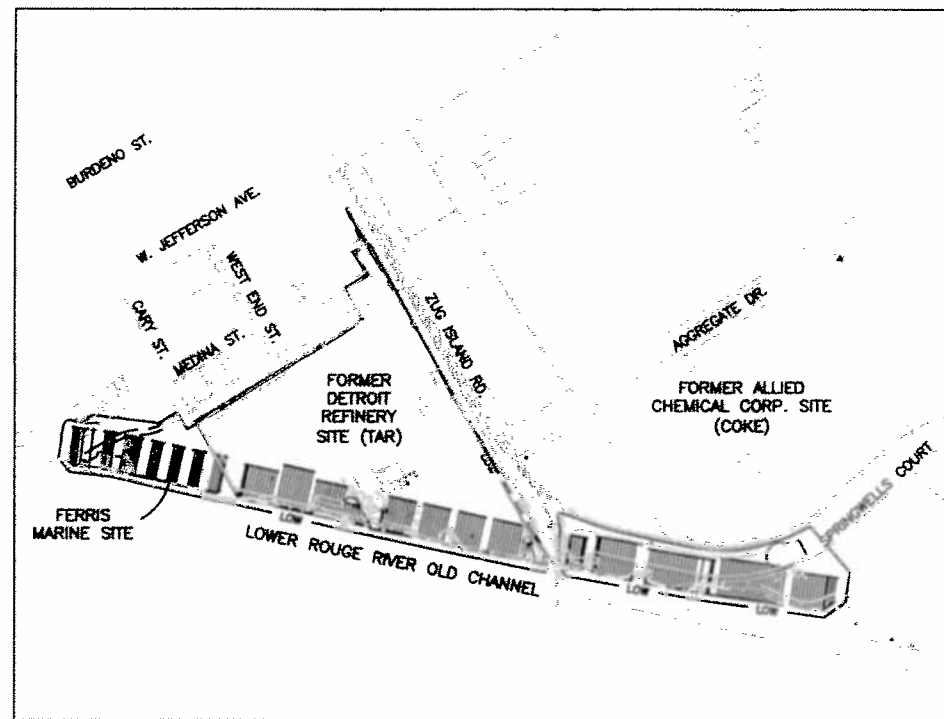
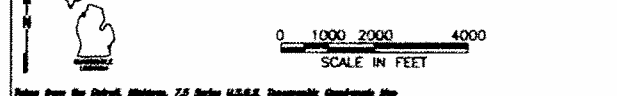
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MARCH 3, 2017

### DRAWING INDEX

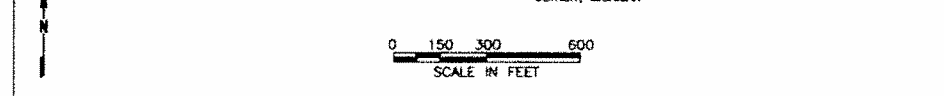
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SITE LOCATION MAP



PROJECT LIMITS MAP



**REFERENCE DRAWINGS**

- GROUNDWATER MITIGATION CONTROL SYSTEM, HONEYWELL INTERNATIONAL INC. FORMER DETROIT TAR REFINERY - SITE No. 35057, DETROIT, MICHIGAN PREPARED BY AMEC FOSTER WHEELER AND CONSISTING OF 20 DRAWINGS (REV 1, 90% DESIGN DRAWINGS, DATED MAY 16, 2016).
- LOWER ROUGE RIVER OLD CHANNEL, ROUGE RIVER AREA OF CONCERN, DETROIT, MICHIGAN, 90% DESIGN, JUNE 17, 2009.

PREPARED FOR:



101 COLUMBIA RD. BOX 2100, MORRISTOWN, NJ 07960

AND



IN ASSOCIATION WITH:



AND



L. TRACY  
M. PROFESSIONAL ENGINEER  
LICENSE NUMBER LNT

	WJM LNT	100% DESIGN	
	WJM LNT	100% DESIGN - FOR REVIEW	
	JVM LNT	90% DESIGN - CLIENT REVIEW	
	BY JAPVO	REVISION	
	NO. DATE	CHK	
	DSGN	OR	
	L. TRACY	L. STURBAN	APVO

Honeywell

101 COLUMBIA RD. BOX 2100, MORRISTOWN, NJ 07960

LOWER ROUGE RIVER OLD CHANNEL  
ROUGE RIVER AREA OF CONCERN  
PERMANENT SHEETPILE WALL INSTALLATION  
DETROIT, MICHIGAN  
HONEYWELL SITE ID - 35057

COVER SHEET

DRAWING STATUS  
100% DESIGN

amec foster wheeler  
Environment & Infrastructure, Inc.  
811 Congress Street, Suite 200  
Portland, ME 04112  
(207) 775-5401

VERIFY SCALE  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1"

DATE	JUNE 2016
PROJ	3293-18-1667
DWG	G-001
SHEET	1 OF 52

**EXISTING**

**LEGEND**

**PROPOSED**

**EXISTING**

**LEGEND**

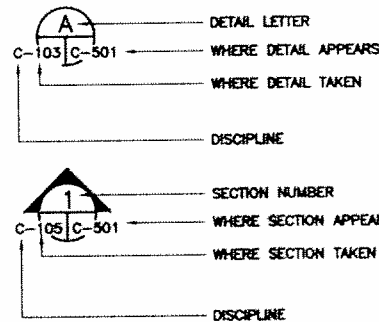
**PROPOSED**

**ABBREVIATIONS**

ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ASF	AUGMENTED SILT FENCE
AWG	AMERICAN WIRE GAUGE
BGS	BELOW GROUND SURFACE
BM	BENCH MARK
CJ	CONTROL JOINT
CLR	CLEAR
CL	CENTER LINE
CON	CONCRETE
CS	CARBON STEEL
CP	CONTROL POINT
DI	DUCTILE IRON
DOT	DEPARTMENT OF TRANSPORTATION
E	ELECTRICAL
EF	EFFLUENT
EL, ELEV	ELEVATION
EW	EACH WAY
EX	EXISTING
F	FILTER
FE	FLOW ELEMENT
FF	FINISHED FLOOR
FM	FORCE MAIN
FT	FEET
G, GAS	GAS
GW	GROUND WATER
HDPE	HIGH DENSITY POLYETHYLENE
HP	HIGH POINT
I, INST	INSTRUMENTATION
INV	INVERT
LOW	LIMITS OF WORK
LP	LOW POINT
MI	MICHIGAN
MIN	MINIMUM
MAX	MAXIMUM
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NIC	NOT IN THIS CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
P	PUMP
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
RET	RETAINING
RCP	REINFORCED CONCRETE PIPE
R.O.W.	RIGHT OF WAY
S	SAMPLE
SAN	SANITARY
SC	TURBIDITY CURTAIN
SCH	SCHEDULE
SS	SANITARY SEWER
STA	STATION
T	TANK
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TYP	TYPICAL
W	WATER
Ø	DIAMETER

PROPERTY BOUNDARY	
INTERIOR BOUNDARY LINES	
LEASE AREA LINE	
BUILDING/FOUNDATIONS	
EXISTING FOUNDATION/ FORMER BUILDING	
CONTOUR	
NEGATIVE CONTOUR	
SPOT GRADE	
EXISTING RETAINING WALL	
PAVED ROAD	
EDGE OF WATER	
FENCE	
SANITARY SEWER	
UNDERGROUND ELECTRIC	
OVERHEAD UTILITIES	
FORCE MAIN	
WATER LINE	
GAS LINE	
STORM DRAIN LINE	
WETLAND	
TREE LINE	
AUGMENTED SILTATION FENCE	
SILTATION FENCE	
TURBIDITY CURTAIN	
LIMIT OF EXCAVATION	
PERMANENT CHAIN LINK FENCE	
TEMPORARY CONSTRUCTION FENCE	
CHAINLINK FENCE ON PRECAST CONCRETE BARRIER	
FLOODPLAIN	
SITE SUPPORT AREA	
500 FT WATERFRONT DEVELOPMENT LINE	
APPROXIMATE LIMIT OF ASPHALT DISTURBANCE	
LIMITS OF WORK	
WATER MANHOLE	
BOLLARD	
CATCH BASIN	
SANITARY SEWER MANHOLE	
SIGNS	
SINGLE TREE	
SOIL BORING	
RAILROAD	
UTILITY POLE	
LIGHT POLE	
GUY POLE	
ELECTRIC MANHOLE/VAULT	
GAS SHUT-OFF VALVE	
AIR RELEASE VALVE	
WATER SHUT-OFF VALVE	
HYDRANT	
SETTLEMENT PLATFORM	
MONIROING WELL	
VES WELL	
SLOPE DIRECTION	
GROUNDWATER LEVEL	
SHEETPILE LADDER	

**REFERENCE LEGEND:**



**BENCHMARK/CONTROL POINT TABLE**

POINT	NORTHING	EASTING	ELEVATION
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CP #101	290320.5410	13463281.2300	582.01
CP #102	290504.5770	13462833.2210	581.49
CP #201	290468.9220	13463071.2900	584.02

Lya N Tracy  
MI PROFESSIONAL ENGINEER  
LICENSE NUMBER LNT

NO.	DATE	BY	CHK
3	3/03/17	J. TRACY	APVD
2	8/08/16	M. WILKINSON	CHK
1	6/17/16	L. TRACY	DR

DRAWING STATUS  
100% DESIGN

GENERAL  
LEGEND AND ABBREVIATIONS

LOWER ROUGE RIVER OLD CHANNEL  
ROUGE RIVER AREA OF CONCERN  
PERMANENT SHEETPILE WALL INSTALLATION  
DETROIT, MICHIGAN  
HONEYWELL SITE ID - 35057

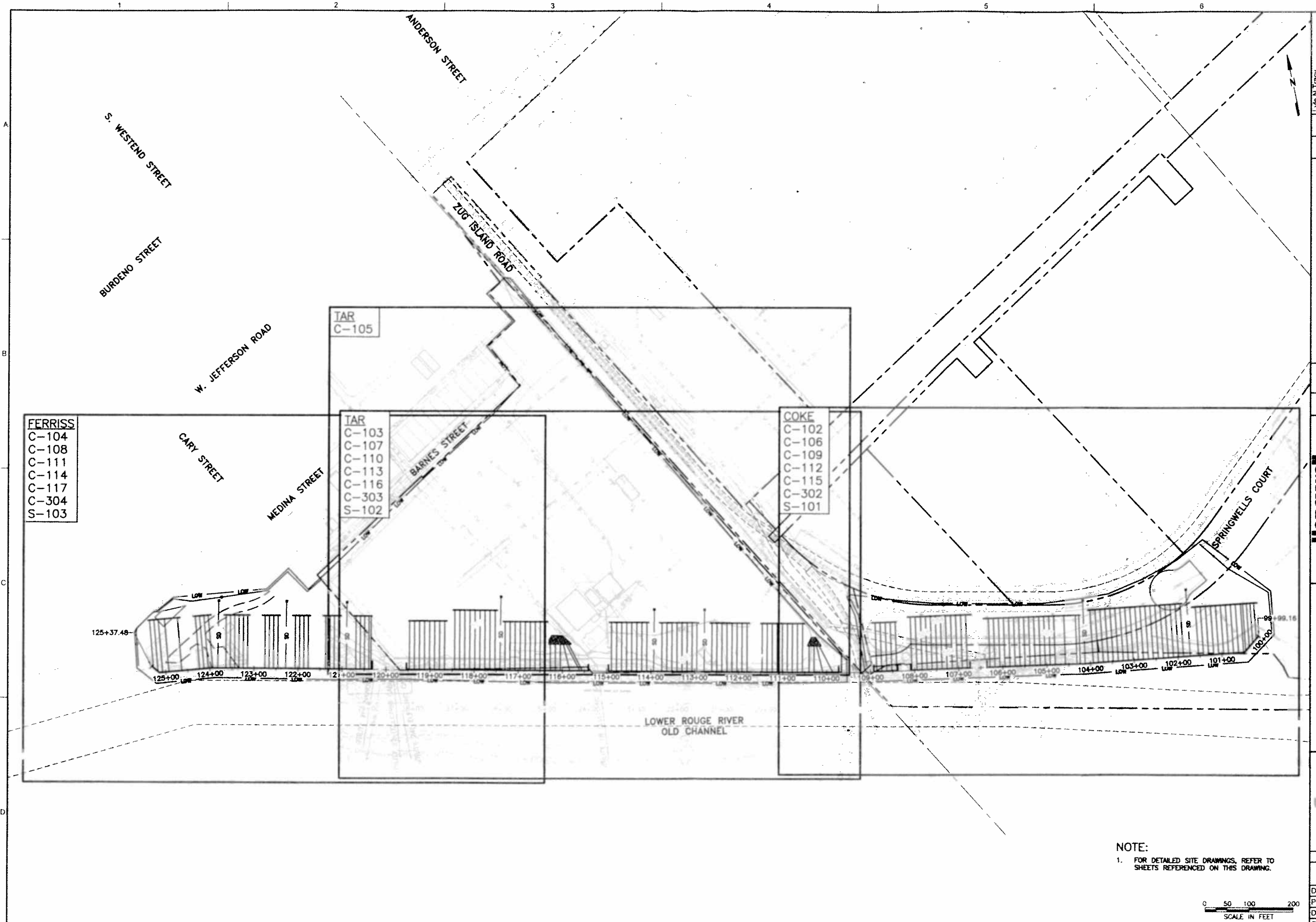
amec foster wheeler  
 Environment & Infrastructure, Inc.  
 511 Congress Street, Suite 200  
 Portland, ME 04112  
 (207) 776-5401

VERIFY SCALE  
BAR IS ONE INCH ON ORIGINAL DRAWINGS

DATE	JUNE 2016
PROJ	3293-16-1667
DWG	G-002
SHEET	2 OF 52







**FERRISS**  
 C-104  
 C-108  
 C-111  
 C-114  
 C-117  
 C-304  
 S-103

**TAR**  
 C-105

**TAR**  
 C-103  
 C-107  
 C-110  
 C-113  
 C-116  
 C-303  
 S-102

**COKE**  
 C-102  
 C-106  
 C-109  
 C-112  
 C-115  
 C-302  
 S-101

S. WESTEND STREET  
 BURDENO STREET

W. JEFFERSON ROAD

CARY STREET

MEDINA STREET

BARNES STREET

ZUG ISLAND ROAD

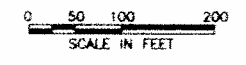
ANDERSON STREET

SPRINGWELLS COURT

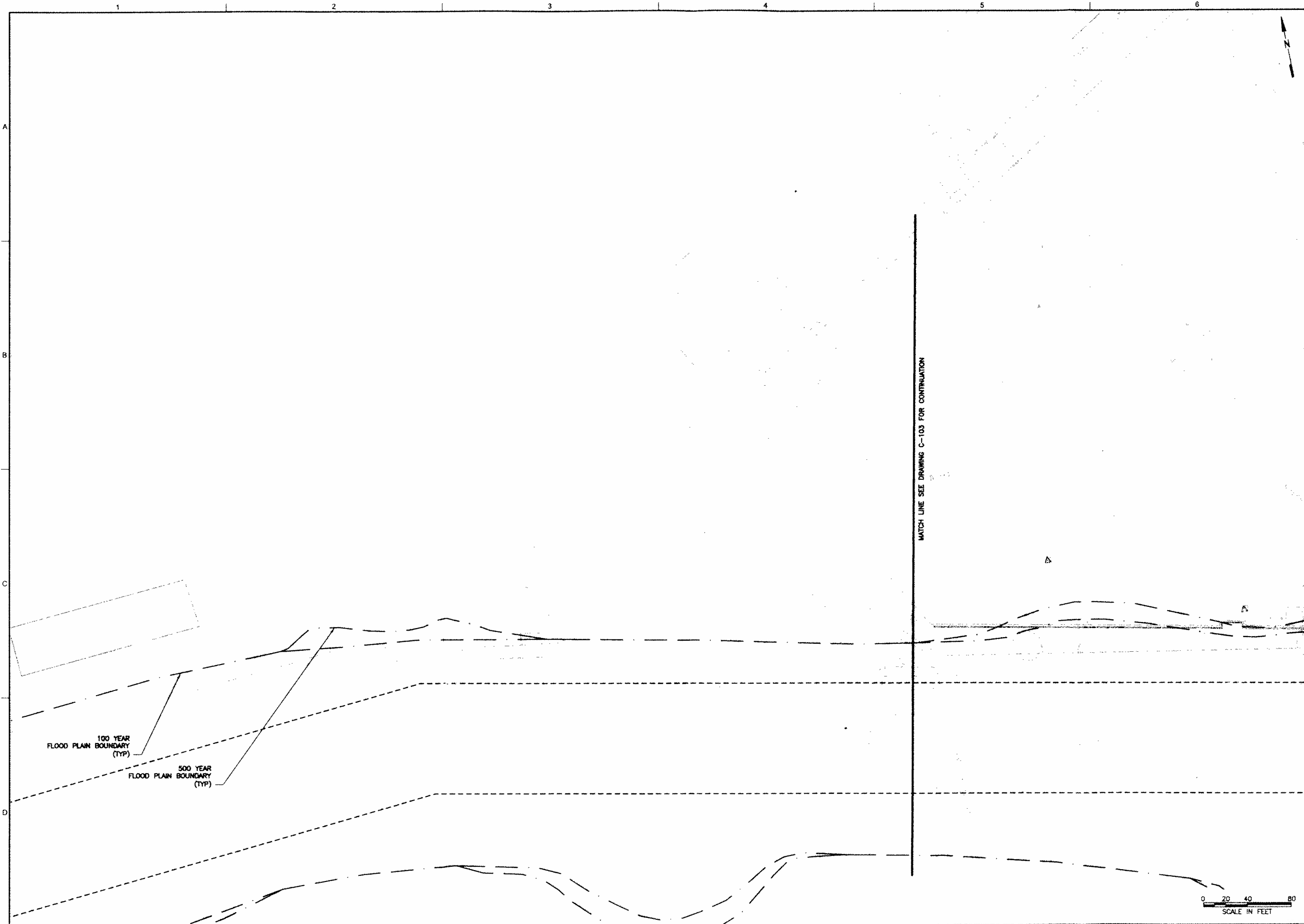
LOWER ROUGE RIVER  
 OLD CHANNEL

125+00 124+00 123+00 122+00 121+00 120+00 119+00 118+00 117+00 116+00 115+00 114+00 113+00 112+00 111+00 110+00 109+00 108+00 107+00 106+00 105+00 104+00 103+00 102+00 101+00 100+00

**NOTE:**  
 1. FOR DETAILED SITE DRAWINGS, REFER TO SHEETS REFERENCED ON THIS DRAWING.



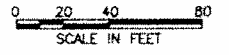
		101 COLLEEN RD. BOX 2100, WESTPORT, MI 48150 HONEYWELL SITE ID - 35057																	
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		Environmental & Infrastructure, Inc. 511 Congress Street, Suite 200 Portland, ME 04112 (207) 778-5401																	
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SHEET 4 OF 52		REVISIONS <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>REVISION</th> <th>BY</th> </tr> <tr> <td>3</td> <td>3/03/17</td> <td>100% DESIGN</td> <td>JVM LNT</td> </tr> <tr> <td>2</td> <td>8/08/16</td> <td>100% DESIGN - FOR REVIEW</td> <td>JVM LNT</td> </tr> <tr> <td>1</td> <td>8/17/16</td> <td>90% DESIGN - CLIENT REVIEW</td> <td>JVM LNT</td> </tr> </table>		NO.	DATE	REVISION	BY	3	3/03/17	100% DESIGN	JVM LNT	2	8/08/16	100% DESIGN - FOR REVIEW	JVM LNT	1	8/17/16	90% DESIGN - CLIENT REVIEW	JVM LNT
NO.	DATE	REVISION	BY																
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2	8/08/16	100% DESIGN - FOR REVIEW	JVM LNT																
1	8/17/16	90% DESIGN - CLIENT REVIEW	JVM LNT																
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100 YEAR  
FLOOD PLAIN  
BOUNDARY  
(TYP)

500 YEAR  
FLOOD PLAIN  
BOUNDARY  
(TYP)

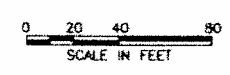
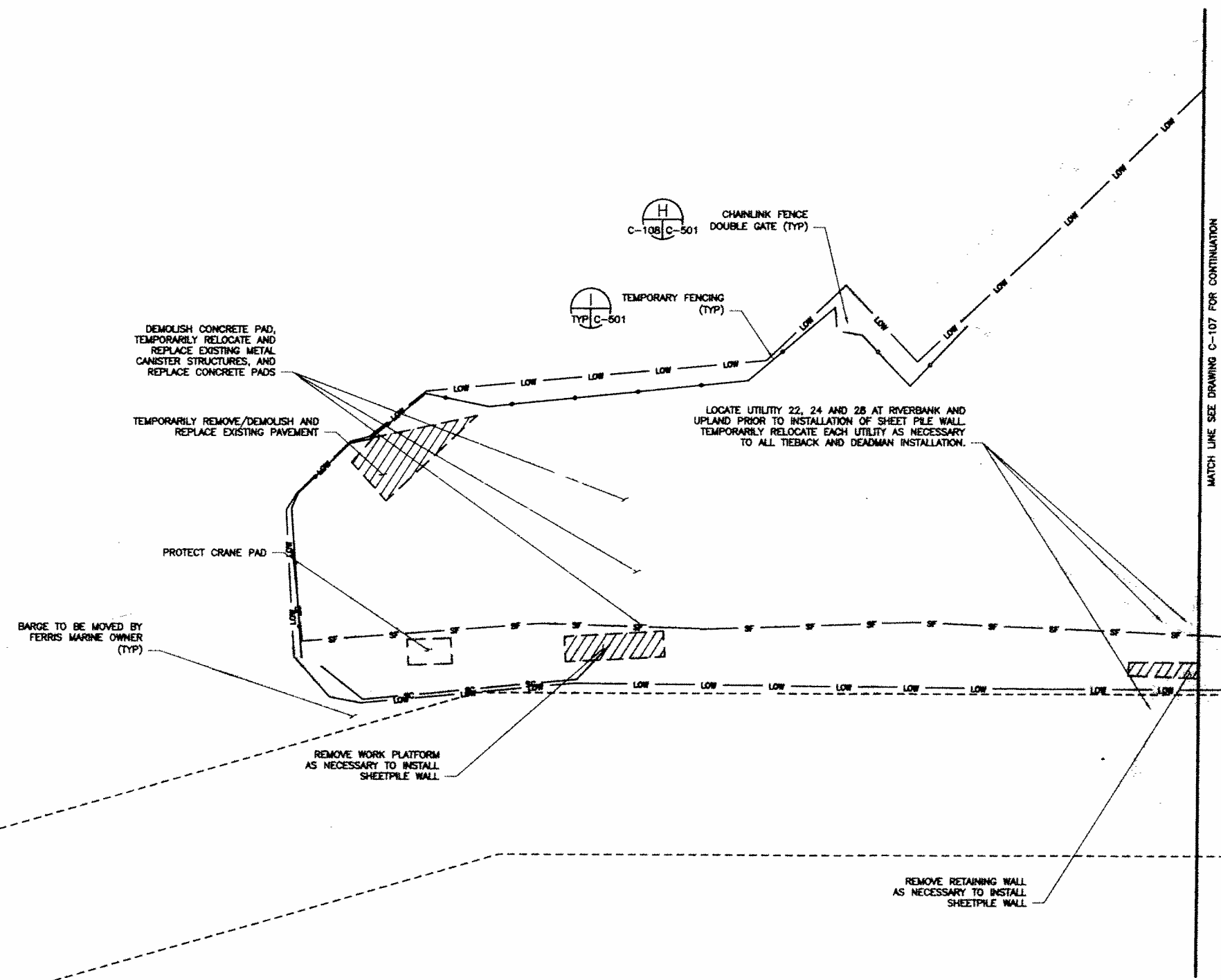
MATCH LINE SEE DRAWING C-103 FOR CONTINUATION



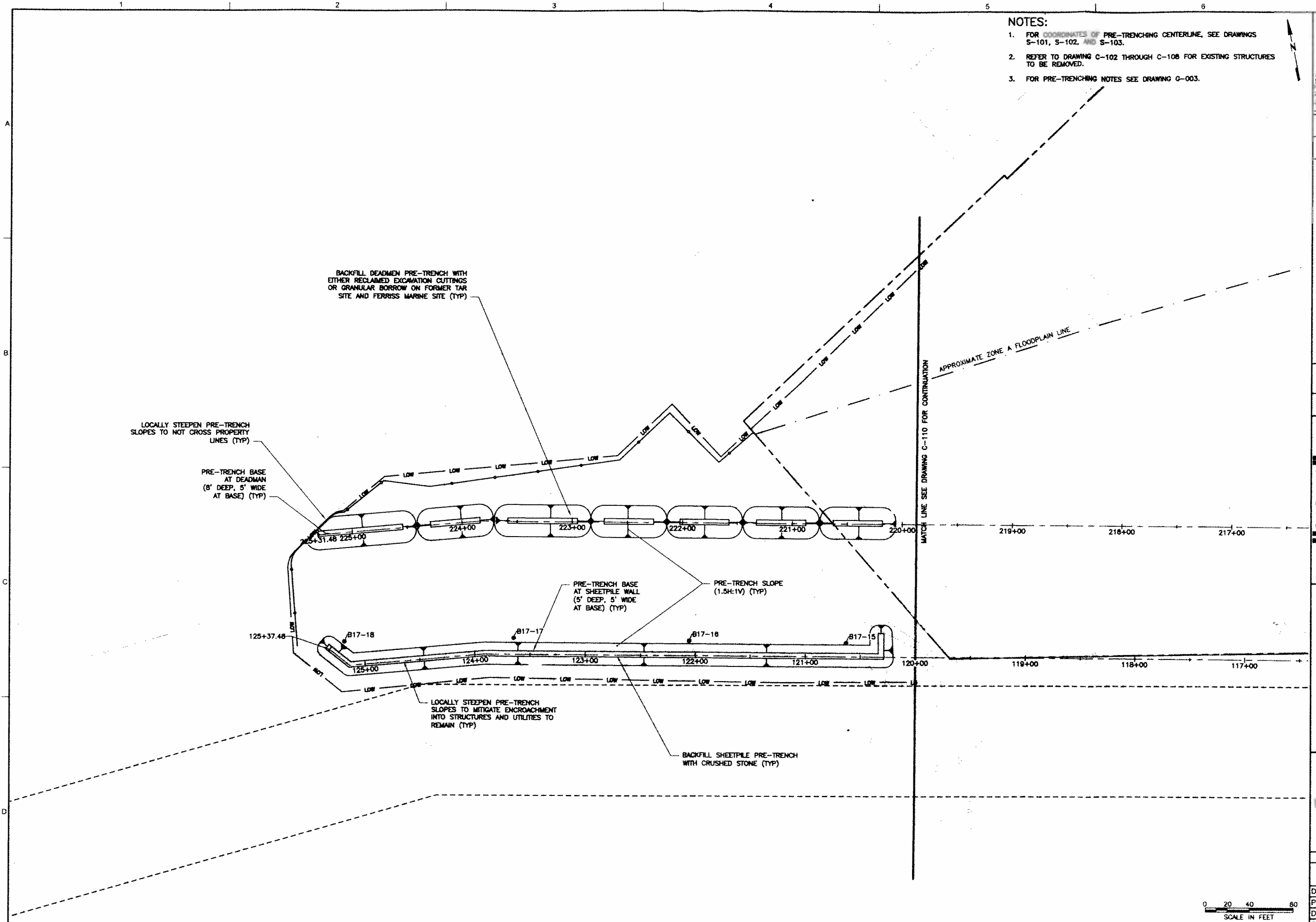
<p>100 COLUMBIA RD. SUITE 2100, ANN ARBOR, MI 48106</p>		<p>DRIVING STATUS 100% DESIGN</p>		<p>DATE JUNE 2016</p>	
<p>LOWER ROUGE RIVER OLD CHANNEL ROUGE RIVER AREA OF CONCERN PERMANENT SHETPILE WALL INSTALLATION DETROIT, MICHIGAN HONEYWELL SITE ID - 30057</p>		<p>CIVIL EXISTING CONDITIONS PLAN (FERRISS)</p>		<p>PROJ 3293-16-1867</p>	
<p>NO. DATE</p>		<p>NO. DATE</p>		<p>DWG C-104</p>	
<p>1 6/17/16</p>		<p>1 6/17/16</p>		<p>SHEET 7 OF 52</p>	
<p>2 8/08/16</p>		<p>2 8/08/16</p>		<p>DWG C-104</p>	
<p>3 3/03/17</p>		<p>3 3/03/17</p>		<p>SHEET 7 OF 52</p>	
<p>100% DESIGN - FOR REVIEW</p>		<p>100% DESIGN - FOR REVIEW</p>		<p>DWG C-104</p>	
<p>100% DESIGN</p>		<p>100% DESIGN</p>		<p>SHEET 7 OF 52</p>	
<p>DESIGN</p>		<p>DESIGN</p>		<p>DWG C-104</p>	
<p>CHK</p>		<p>CHK</p>		<p>SHEET 7 OF 52</p>	
<p>APVD</p>		<p>APVD</p>		<p>DWG C-104</p>	
<p>L. TRACY</p>		<p>L. TRACY</p>		<p>SHEET 7 OF 52</p>	
<p>J. MCKENZIE</p>		<p>J. MCKENZIE</p>		<p>DWG C-104</p>	
<p>L. STURBAN</p>		<p>L. STURBAN</p>		<p>SHEET 7 OF 52</p>	
<p>L. TRACY</p>		<p>L. TRACY</p>		<p>DWG C-104</p>	
<p>MI PROFESSIONAL ENGINEER</p>		<p>MI PROFESSIONAL ENGINEER</p>		<p>SHEET 7 OF 52</p>	
<p>LIC. NO. 1780</p>		<p>LIC. NO. 1780</p>		<p>DWG C-104</p>	
<p>L. TRACY</p>		<p>L. TRACY</p>		<p>SHEET 7 OF 52</p>	
<p>J. MCKENZIE</p>		<p>J. MCKENZIE</p>		<p>DWG C-104</p>	
<p>L. STURBAN</p>		<p>L. STURBAN</p>		<p>SHEET 7 OF 52</p>	
<p>L. TRACY</p>		<p>L. TRACY</p>		<p>DWG C-104</p>	

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NOTES:  
 1. FOR DEMOLITION NOTES  
 SEE DRAWING G-003.



<p><b>Honeywell</b>          101 COLUMBIA RD. SUITE 2100, WARRINGTON, VA 22096</p>		<p>LOWER ROUGE RIVER OLD CHANNEL          ROUGE RIVER AREA OF CONCERN          PERMANENT SHEETPILE WALL INSTALLATION          DETROIT, MICHIGAN          HONEYWELL SITE ID - 36057</p>	
<p>DRAWING STATUS          100% DESIGN</p>		<p>CIVIL          SITE DEMOLITION PLAN          (FERRISS)</p>	
<p>amec          foster          wheeler          Environment &amp; Infrastructure, Inc.          511 Congress Street, Suite 200          Portland, ME 04112          (207) 775-5401</p>		<p>VERIFY SCALE          BAR IS ONE INCH ON          ORIGINAL DRAWING          0 1"</p>	
<p>DATE          JUNE 2016</p>		<p>PROJ          3293-16-1667</p>	
<p>DWG          C-108</p>		<p>SHEET          11 OF 52</p>	



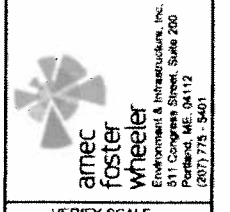
- NOTES:**
- FOR COORDINATES OF PRE-TRENCHING CENTERLINE, SEE DRAWINGS S-101, S-102, AND S-103.
  - REFER TO DRAWING C-102 THROUGH C-108 FOR EXISTING STRUCTURES TO BE REMOVED.
  - FOR PRE-TRENCHING NOTES SEE DRAWING C-003.

NO.	DATE	BY	CHK	APVD
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2	8/08/16	JVM	LNT	
1	8/17/16	JVM	LNT	

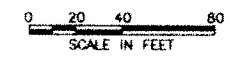
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REVISION	100% DESIGN - FOR REVIEW	8/08/16	JVM	LNT
	90% DESIGN - CLIENT REVIEW	8/17/16	JVM	LNT

**Honeywell**  
 101 COLUMBIA RD. SUITE 1100, WASHINGTON, N.C. 27883  
 LOWER ROUGE RIVER OLD CHANNEL  
 ROUGE RIVER AREA OF CONCERN  
 PERMANENT SHEETPILE WALL INSTALLATION  
 DETROIT, MICHIGAN  
 HONEYWELL SITE ID - 35057

DRAWING STATUS  
 100% DESIGN  
 CIVIL  
 PRE-TRENCHING PLAN  
 (FERRISS)

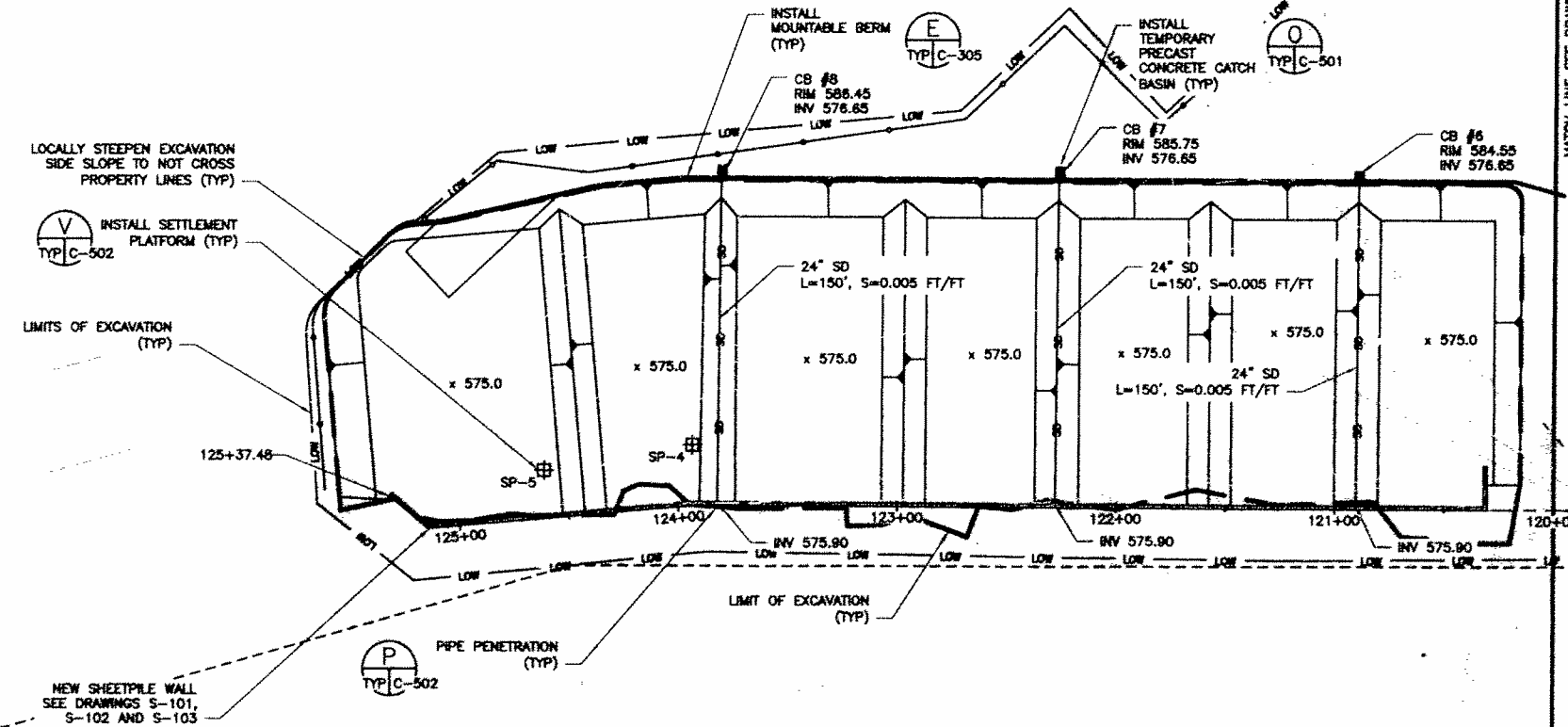


VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING
DATE	JUNE 2016
PROJ	3293-16-1667
DWG	C-111
SHEET	14 OF 52



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- NOTES:**
- FOR COORDINATES OF PRE-TRENCHING CENTERLINE, SEE DRAWINGS S-101, S-102, AND S-103.
  - REFER TO DRAWING C-106 THROUGH C-108 FOR EXISTING STRUCTURES TO BE REMOVED.
  - FOR EXCAVATION NOTES SEE DRAWING G-003.



DATE	3/03/17	100% DESIGN	L. TRACY
NO.	2	100% DESIGN - FOR REVIEW	L. TRACY
BY	8/08/16	90% DESIGN - CLIENT REVIEW	J. MCKENZIE
REVISION	6/17/16		L. TRACY
NO.	1		L. TRACY
DATE			L. TRACY
DESIGN			L. TRACY
CHK			L. TRACY
APPV			L. TRACY
DATE			L. TRACY
DESIGN			L. TRACY
CHK			L. TRACY
APPV			L. TRACY

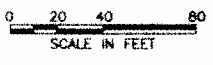
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CHK			L. TRACY
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DESIGN			L. TRACY
CHK			L. TRACY
APPV			L. TRACY

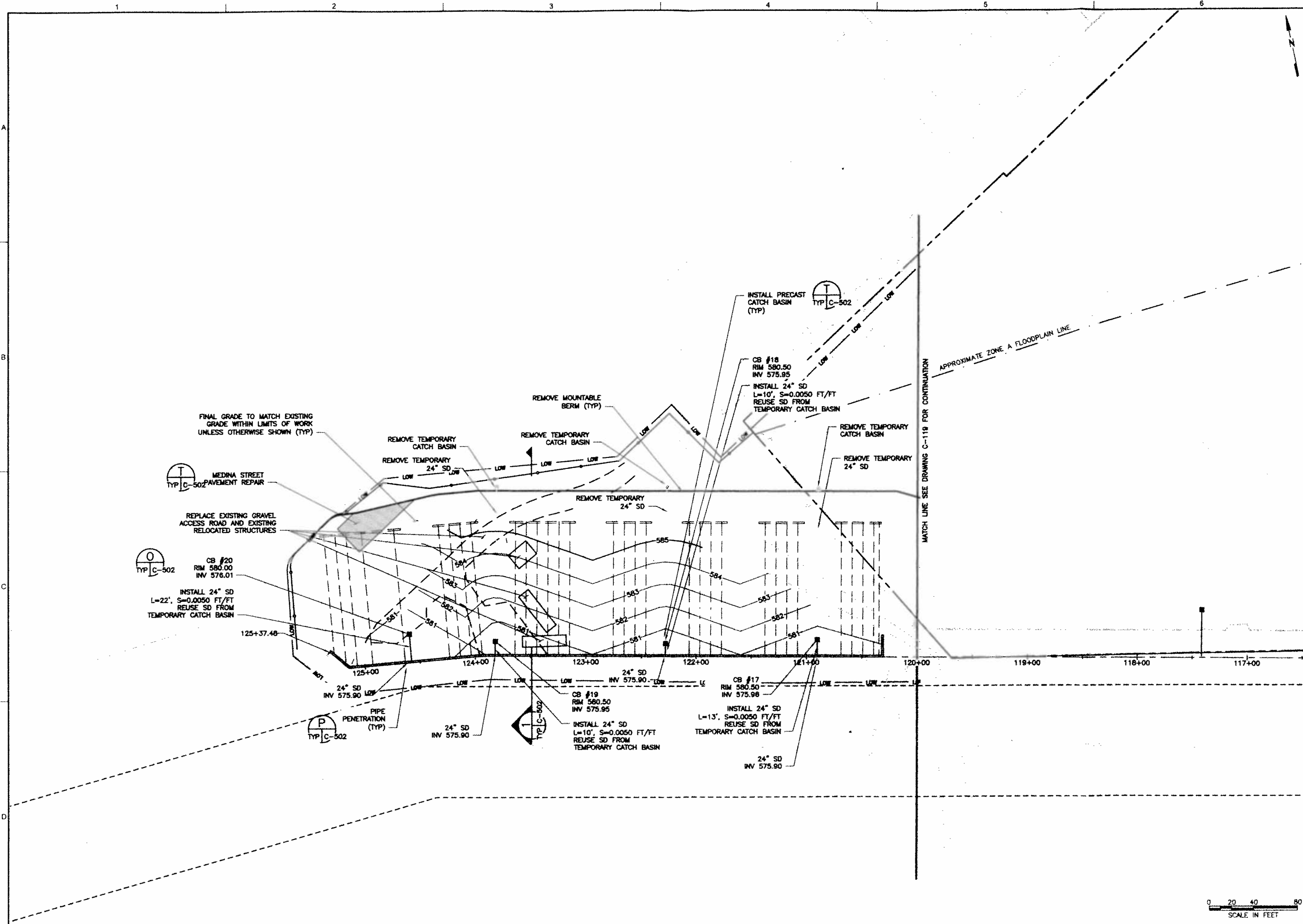
**Honeywell**  
 100% DESIGN  
 CIVIL  
 EXCAVATION PLAN  
 (FERRISS)

LOWER ROUGE RIVER OLD CHANNEL  
 ROUGE RIVER AREA OF CONCERN  
 PERMANENT SHEETPILE WALL INSTALLATION  
 DETROIT, MICHIGAN  
 HONEYWELL SITE ID - 3587



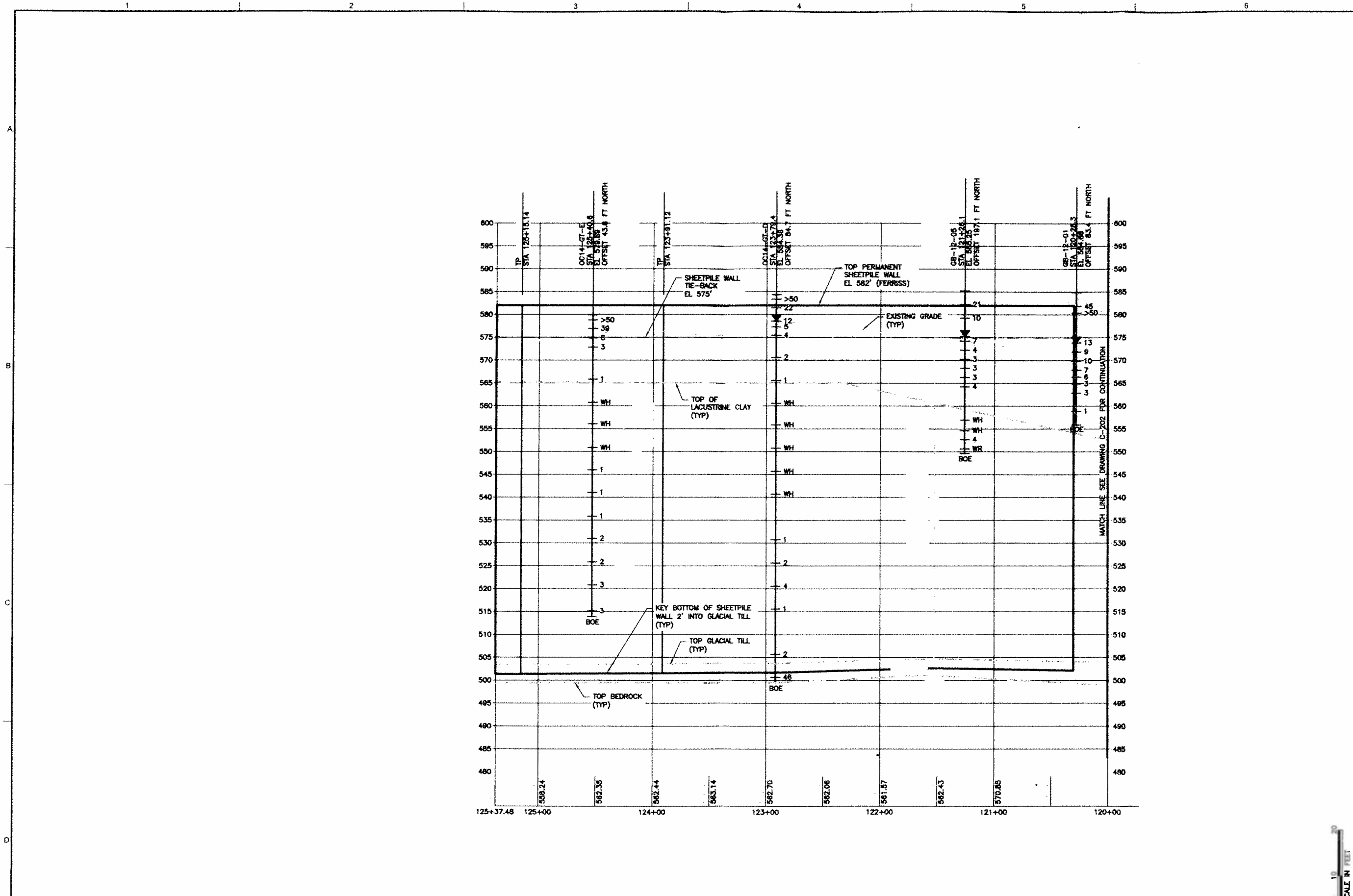
VERIFY SCALE	DATE	JUNE 2016
BAR IS ONE INCH ON ORIGINAL DRAWING	PROJ	3293-16-1667
0 1"	DWG	C-114
	SHEET	17 OF 52



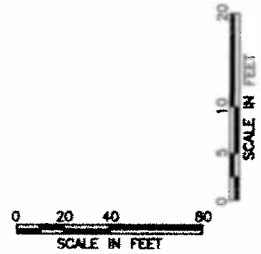


<p><b>Honeywell</b> 101 COLLEEN RD. SUITE 2100, MONROEVILLE, PA 15146</p>		<p>LOWER ROUGE RIVER OLD CHANNEL ROUGE RIVER AREA OF CONCERN PERMANENT SHEETPILE WALL INSTALLATION DETROIT, MICHIGAN HONEYWELL SITE ID - 35057</p>	
<p>DRAWING STATUS 100% DESIGN</p>		<p>CIVIL FINAL GRADING PLAN (FERRISS)</p>	
<p>amec foster wheeler Environmental &amp; Infrastructure, Inc. 51 Woodland Street, Suite 200 Portland, ME 04112 (207) 775-5401</p>		<p>VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING 0 1'</p>	
<p>DATE JUNE 2016</p>		<p>PROJ 3293-16-1667</p>	
<p>DWG C-117</p>		<p>SHEET 20 OF 52</p>	

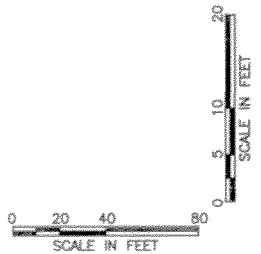
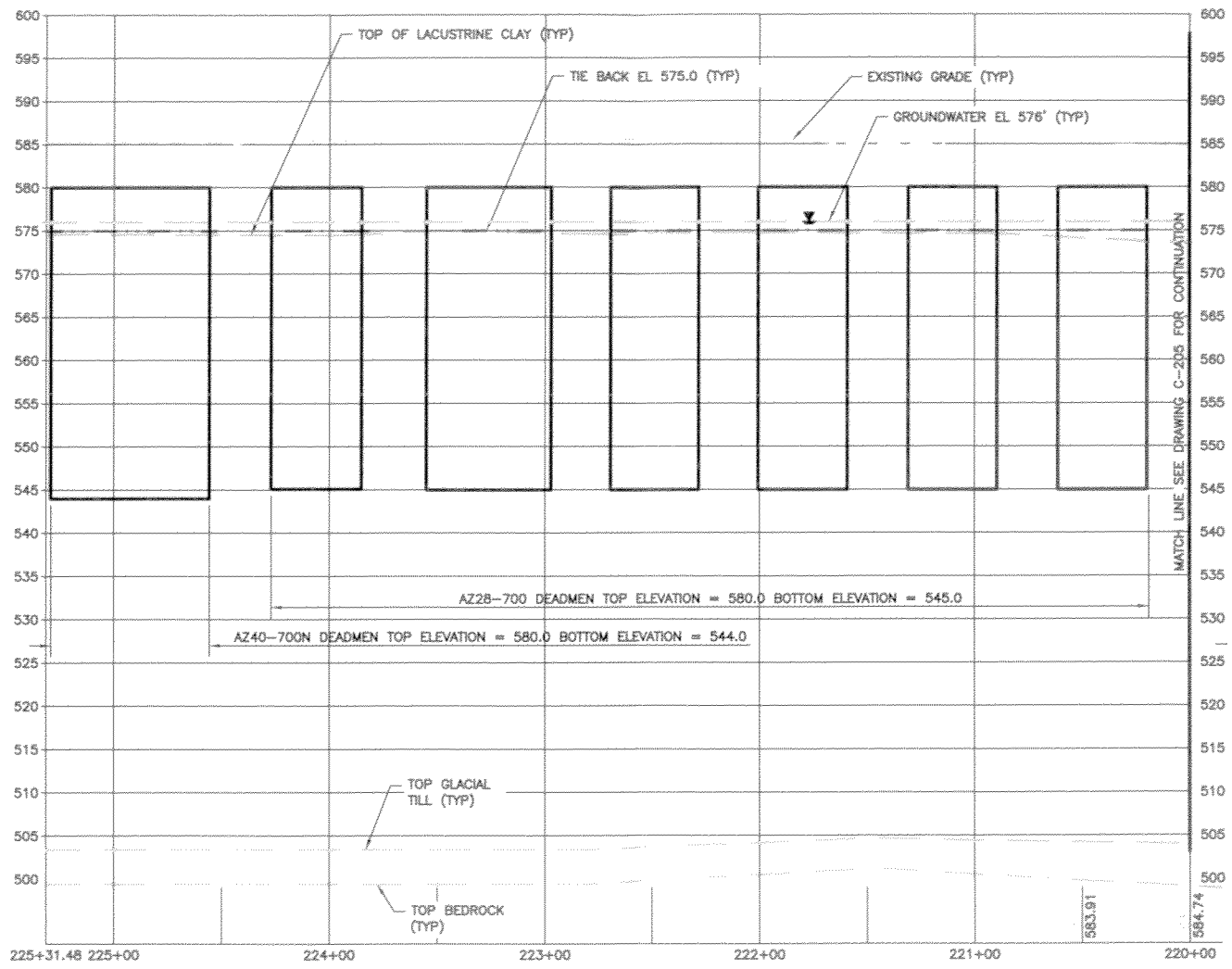
REPRODUCE THIS DRAWING IN WHOLE OR PART, EITHER INCL. OR EXCL. FROM ANY BOOK, MAP, OR OTHER PUBLICATION, WITHOUT THE WRITTEN PERMISSION OF AMEC FOSTER WHEELER, INC.



NOTE:  
 1. SHEETPILE LIMIT SHOWN IS THAT ALONG SHEETPILE STATION ALIGNMENT. WINGWALLS (OFFSETS) NOT SHOWN FOR CLARITY.



		101 CONGRESS RD. BOX 2100, DETROIT, MI 48206	
CIVIL INTERPRETIVE SUBSURFACE PROFILE ALONG PERMANENT SHEET PILE ALIGNMENT (FERRISS)		LOWER ROUGE RIVER OLD CHANNEL ROUGE RIVER AREA OF CONCERN PERMANENT SHEETPILE WALL INSTALLATION DETROIT, MICHIGAN HONEYWELL SITE ID - 35057	
DRAWING STATUS 100% DESIGN		THIS DRAWING IS THE PROPERTY OF HONEYWELL. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF HONEYWELL.	
		amec foster wheeler Environment & Infrastructure, Inc. 511 Congress Street, Suite 200 Portland, ME, 04112 (207) 773-5401	
VERIFY SCALE SIZE IS ONE INCH ON ORIGINAL DRAWING 1"		DATE: JUNE 2016 PROJ: 3293-16-1667 DWG: C-203 SHEET: 23 OF 52	
W/JW LNT J/WJ LNT J/WJ LNT J/WJ LNT		100% DESIGN 100% DESIGN - FOR REVIEW 90% DESIGN - CLIENT REVIEW	
DESGN NO. DATE 3 3/30/17 2 8/28/16 1 6/03/16		CHK L. TRACY J. MCKENZIE L. STURBAN L. TRACY	
REVISION BY APVD		L. TRACY L. TRACY L. TRACY	
PROFESSIONAL ENGINEER LICENSE NUMBER LC 1004		L. TRACY L. TRACY L. TRACY	



<p>101 COLUMBIA RD., BOX 2100, MICHIGAN, MI 48106</p>		<p>LOWER ROUGE RIVER OLD CHANNEL ROUGE RIVER AREA OF CONCERN PERMANENT SHEPPILE WALL INSTALLATION DETROIT, MICHIGAN HONEYWELL SITE ID - 35057</p>	
<p>DRAWING STATUS 100% DESIGN</p>		<p>CIVIL INTERPRETIVE SUBSURFACE PROFILE ALONG DEADMAN ALIGNMENT (FERRISS)</p>	
<p>Environment &amp; Infrastructure, Inc. 511 Commercial Street, Suite 200 Portland, ME 04112 (207) 775-5401</p>		<p>THIS DRAWING IS THE PROPERTY OF AMEC FOSTER WHEELER, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC FOSTER WHEELER.</p>	
<p>VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"</p>		<p>DATE JUNE 2016 PROJ 3293-16-1667 DWG C-206 SHEET 26 OF 52</p>	
<p>NO. DATE</p>		<p>NO. DATE</p>	
<p>DSGN</p>		<p>DR</p>	
<p>L. TRACY</p>		<p>L. TRACY</p>	
<p>J. MCKENZIE</p>		<p>L. STIRBAN</p>	
<p>CHK</p>		<p>APVD</p>	
<p>100% DESIGN</p>		<p>100% DESIGN - FOR REVIEW</p>	
<p>3/03/17</p>		<p>8/08/16</p>	
<p>WJM LNT</p>		<p>JVM LNT</p>	
<p>BY</p>		<p>BY</p>	
<p>APVD</p>		<p>APVD</p>	
<p>L. TRACY</p>		<p>L. TRACY</p>	
<p>MI PROFESSIONAL ENGINEER</p>		<p>MI PROFESSIONAL ENGINEER</p>	
<p>LICENSE NUMBER LIC. NUM</p>		<p>LICENSE NUMBER LIC. NUM</p>	



EROSION AND SEDIMENTATION CONTROL NOTES:

GENERAL

- 1. THE FOLLOWING EROSION AND STORMWATER CONTROL MEASURES SHALL BE IMPLEMENTED TO MINIMIZE EROSION AND SEDIMENTATION AND CONTROL STORMWATER BEFORE AND DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL EXERCISE SPECIAL CARE AT ALL TIMES TO LIMIT EXTENT OF DISTURBANCE, REGULARLY MONITOR THE EFFECTIVENESS OF EROSION, SEDIMENTATION, AND STORMWATER CONTROL MEASURES, AND IMMEDIATELY CORRECT ANY EROSION PROBLEMS THAT MAY DEVELOP.
2. THE CONTRACTOR MAY BE REQUESTED AND IS REQUIRED TO FURNISH AND INSTALL ADDITIONAL MEASURES AS NECESSARY TO MINIMIZE ON OR OFF SITE EROSION AND TURBIDITY PROBLEMS DURING CONSTRUCTION.
3. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER IS DIRECTED TO TEMPORARY STORMWATER CONTROL STRUCTURES.
4. ALL GRADING SHALL BE HELD TO A MAXIMUM 2:1 SLOPE WHERE PRACTICAL UNLESS OTHERWISE INDICATED.

TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES

- 1. SILT FENCE SHALL BE INSTALLED ALONG THE RIVERBANK DOWN GRADIENT OF ALL DEMOLITION AND DEADMAN PRETRENCH WORK, AS SHOWN ON THE DRAWINGS.
2. AUGMENTED SILT FENCE (SILT FENCE WITH HAY BALES) SHALL BE INSTALLED AS NECESSARY TO MAINTAIN EROSION AND SEDIMENT CONTROLS IF ADDITIONAL PROTECTION IS REQUIRED.
3. A FLOATING TURBIDITY CURTAIN SHALL BE INSTALLED PROXIMATE TO THE TOE OF THE RIVERBANK SLOPE IN THE LOWER ROUGE RIVER OLD CHANNEL PRIOR TO PRE TRENCHING AND DURING SHEETPILE INSTALLATION, AS SHOWN ON THE DRAWINGS.

TEMPORARY STORMWATER WATER CONTROL MEASURES

- 1. MOUNTABLE STORMWATER DIVERSION BERMS SHALL BE INSTALLED AND MAINTAINED ALONG THE NORTHERN PERIMETER OF THE EXCAVATION LIMITS, AS SHOWN ON THE DRAWINGS PRIOR TO ANY INVASIVE EXCAVATION OR PRE TRENCHING WORK.
2. TEMPORARY CATCH BASINS AND STORM DRAIN PIPE SHALL BE INSTALLED TO THE NORTH OF THE MOUNTABLE BERMS. STORM DRAINS SHALL DIRECTLY DISCHARGE SURFACE WATER COLLECTED IN THE CATCH BASINS INTO THE LOWER ROUGE RIVER OLD CHANNEL, AS SHOWN ON THE DRAWINGS.
3. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED PER MICHIGAN REGULATIONS.

SILT FENCE/AUGMENTED SILT FENCE

- 1. SILT FENCE SHALL BE INSTALLED PRIOR TO DEMOLITION AND DEADMAN PRETRENCHING WORK. SILT FENCE SHALL BE REMOVED FOLLOWING THE INSTALLATION OF THE PERMANENT SHEETPILE WALL.
2. THIS SEDIMENT BARRIER UTILIZES STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS. IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED.
3. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).
4. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED.
5. POSTS SHALL BE SPACED 8 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND. WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.
6. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
7. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
8. STANDARD STRENGTH OF FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
9. WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ITEM (7) APPLYING.

- 10. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
11. BALES SHALL BE PLACED IN A SINGLE ROW, LENGTHWISE ON THE CONTOUR, WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER.
12. ALL BALES SHALL BE EITHER WIRE-BOUND OR STRING-TIED. BALES SHALL BE INSTALLED SO THAT BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES TO PREVENT DETRIORATION OF THE BINDINGS.
13. THE BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED THE WIDTH OF A BALE AND THE LENGTH OF THE PROPOSED BARRIER TO A MINIMUM DEPTH OF 4 INCHES. AFTER THE BALES ARE STAKED AND CHINKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AGAINST THE BARRIER. BACKFILL SOIL SHALL CONFORM TO THE GROUND LEVEL ON THE DOWNHILL SIDE AND SHALL BE BUILT UP TO 4 INCHES AGAINST THE UPHILL SIDE OF THE BARRIER. IDEALLY, BALES SHOULD BE PLACED 10 FEET AWAY FROM THE TOE OF SLOPE.
14. EACH BALE SHALL BE SECURELY ANCHORED BY AT LEAST TWO STAKES DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN DEEP ENOUGH INTO THE GROUND TO SECURELY ANCHOR THE BALES.
15. THE GAPS BETWEEN BALES SHALL BE CHINKED (FILLED BY WEDGING) WITH STRAW TO PREVENT WATER FROM ESCAPING BETWEEN THE BALES. (LOOSE STRAW SCATTERED OVER THE AREA IMMEDIATELY UPHILL FROM A STRAW BALE BARRIER TENDS TO INCREASE BARRIER EFFICIENCY.)
16. IN SLOPING AREAS WHERE SURFACE FLOW FOLLOWS THE BALE LINE, PERPENDICULAR BALE CHECKS SHALL BE INSTALLED AT APPROPRIATE INTERVALS (50 FEET MAXIMUM).
17. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED PER STATE OF MICHIGAN REGULATIONS.

TURBIDITY CURTAIN

- 1. TURBIDITY CURTAINS SHALL BE INSTALLED PRIOR TO PERMANENT SHEETPILE PRETRENCHING WORK. TURBIDITY CURTAIN SHALL BE REMOVED FOLLOWING THE INSTALLATION OF THE PERMANENT SHEETPILE WALL.
2. TURBIDITY CURTAINS SHALL BE INSTALLED, INSPECTED, AND MAINTAINED BY THE CONTRACTOR THROUGHOUT THE PERFORMANCE OF THE WORK.

MOUNTABLE STORMWATER DIVERSION BERMS

- 1. MOUNTABLE BERMS SHALL BE CONSTRUCTED PRIOR TO COMMENCEMENT OF SOIL DISTURBANCE. THE BERMS SHALL BE REMOVED FOLLOWING THE COMPLETION OF FINAL GRADING.

- 2. MOUNTABLE BERMS SHALL BE CONSTRUCTED OF BITUMINOUS CONCRETE, A MAXIMUM OF 6-INCHES IN HEIGHT, AND A MINIMUM OF 12-INCHES IN WIDTH.

CATCH BASINS AND STORM DRAINS

- 1. CATCH BASINS AND STORM DRAINS SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF SOIL DISTURBANCE. TEMPORARY CATCH BASINS AND STORM DRAINS SHALL BE REMOVED PRIOR TO FINAL GRADING.
2. CATCH BASINS SHALL CONSIST OF 4-FOOT DIAMETER PRECAST CONCRETE MANHOLES, AS SHOWN ON THE DRAWINGS.
3. STORM DRAINS SHALL CONSIST OF 24-INCH DIAMETER DR17 HDPE PIPE, AS SHOWN ON THE DRAWINGS.

INSPECTION AND MAINTENANCE

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING, AND REMOVING ALL OF THE EROSION, SEDIMENT, AND STORMWATER CONTROL MEASURES AND STRUCTURES REQUIRED FOR THE SUCCESSFUL EXECUTION OF THIS PROJECT. MAINTENANCE MEASURES SHALL BE IMPLEMENTED AS NECESSARY DURING THE ENTIRE DURATION OF THE PROJECT.
2. AT A MINIMUM ALL EROSION, SEDIMENT, AND STORMWATER CONTROL MEASURES SHALL BE INSPECTED WEEKLY. SILT FENCE, AUGMENTED SILT FENCE, AND OTHER FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL (GREATER THAN 1/2 INCH IN 24 HOURS) AND AT LEAST DAILY DURING PROLONGED RAINFALL. REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. SEDIMENT SHOULD BE REMOVED AFTER EACH STORM EVENT AND MUST BE REMOVED WHEN DEPOSITS REACH 1/2 THE HEIGHT OF THE BARRIER. SHOULD ANY SEDIMENT BARRIER PROVE TO BE INEFFECTIVE, THE CONTRACTOR SHALL AUGMENT THE BARRIER AS NECESSARY AND ACCEPTABLE TO THE ENGINEER. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM AT THE DIRECTION OF THE ENGINEER.
3. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE.
5. MAINTAIN ALL MEASURES IN EFFECTIVE OPERATING CONDITION FOR THE REQUIRED DURATION. IF BEST MANAGEMENT PRACTICES (BMPs) NEED TO BE MAINTAINED OR MODIFIED, ADDITIONAL BMPs ARE NECESSARY, OR OTHER CORRECTIVE ACTION IS NEEDED, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL).
6. KEEP A LOG (REPORT) SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS, THE DATE(S) OF THE INSPECTIONS, AND MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS, MATERIALS STORAGE AREAS, AND VEHICLE ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE BMPs THAT NEED MAINTENANCE, BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPs, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN.
7. THE LOG MUST BE MADE ACCESSIBLE TO MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. COPIES OF THE LOGS SHALL BE RETAINED FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF THE WORK.

TEMPORARY STABILIZATION

- 1. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION SHALL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. PERMANENT SEEDING OR FINAL STABILIZATION, WHERE REQUIRED, SHALL BE CARRIED OUT IMMEDIATELY AFTER FINAL GRADING IS COMPLETED.
2. TOPSOIL AND OTHER CONSTRUCTION MATERIALS SHALL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM WETLAND AREAS, EXISTING DRAINAGE COURSES, ETC. THE BASE OF ALL STOCKPILES SHALL BE CONTAINED BY SILT FENCE. ALL STOCKPILES EXPECTED TO BE IN PLACE AND UNDISTURBED FOR MORE THAN 30 DAYS SHALL BE EITHER TREATED WITH ANCHORED MULCH OR SEEDED WITH CONSERVATION MIX AND MULCHED IMMEDIATELY.

FINAL (PERMANENT) STABILIZATION

- 1. THE FORMER TAR SITE SHALL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOLLOWING FINAL GRADING.
2. THE FORMER COKE SITE AND FERRISS MARINE SITE TOPSOIL SURFACE SHALL BE SEEDED FOLLOWING FINAL GRADING.
3. TOPSOIL UNIFORM APPLICATION TO A DEPTH OF 4" (FINISHED DEPTH) SHALL BE SPREAD OVER AREAS TO BE SEEDED.
4. IF FINAL GRADING IS ACHIEVED DURING THE NORMAL GROWING SEASON (4/15 TO 9/15), PERMANENT SEEDING SHALL BE PERFORMED.
5. PERMANENT SEEDING: REFER TO SPECIFICATION 02900 "TOPSOIL AND SEEDING" FOR ADDITIONAL INFORMATION.
6. AFTER PERMANENT SEEDING HAS BEEN ACCOMPLISHED, THE SITE SHALL BE INSPECTED EVERY 14 DAYS UNTIL 90% COVER HAS BEEN ESTABLISHED. RESEEDING SHALL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF DETERMINATION/NOTIFICATION THAT THE EXISTING CATCH IS INADEQUATE.
7. CONSTRUCTION SHALL BE PLANNED SO THAT SEEDING IS PERFORMED BETWEEN 4/15 AND 9/15. SHOULD SEEDING BE NECESSARY OUTSIDE THOSE DATES, THE FOLLOWING PROCEDURE SHALL BE IMPLEMENTED:
A. ONLY UNFROZEN TOPSOIL SHALL BE USED.
B. PLACEMENT OF TOPSOIL, SEED, AND MULCH SHALL NOT BE PERFORMED OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED.
C. WHERE PERMANENT SEED IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS./1,000 SF) SHALL BE ADDED TO THE PERMANENT SEED MIX.
D. AFTER PERMANENT SEEDING HAS BEEN ACCOMPLISHED, THE SITE SHALL BE INSPECTED EVERY 14 DAYS UNTIL 90% COVER HAS BEEN ESTABLISHED. RESEEDING SHALL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF DETERMINATION/NOTIFICATION THAT THE EXISTING CATCH IS INADEQUATE.

ADDITIONAL NOTES:

STABILIZED CONSTRUCTION ACCESS

- 1. STABILIZED CONSTRUCTION ACCESS SHALL BE INSTALLED TO PREVENT SEDIMENT FROM DISTURBED WORK AREAS ENTERING PAVED AREAS.
2. THE TEMPORARY CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS.

DUST CONTROL

- 1. DEFINITION: THE CONTROL OF DUST ON CONSTRUCTION SITES AND ROADS.

- 2. PURPOSE: TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, AND REDUCE THE PRESENCE OF DUST WHICH MAY CAUSE OFF-SITE DAMAGE, BE A HEALTH HAZARD TO HUMANS, WILDLIFE AND PLANT LIFE, OR BECOME A TRAFFIC SAFETY HAZARD.
3. APPLICABILITY: TO AREAS SUBJECT TO DUST BLOWING AND SOIL MOVEMENT WHERE ON-SITE AND OFF-SITE DAMAGE IS LIKELY TO OCCUR IF PREVENTIVE MEASURES ARE NOT TAKEN.
4. ENVIRONMENTAL CONSIDERATIONS: AIRBORNE SOIL PARTICLES CAN BE A SOURCE OF POLLUTION AS WELL AS A NUISANCE FACTOR.
5. PLANNING CONSIDERATIONS: USE TRAFFIC CONTROL TO RESTRICT TRAFFIC TO PREDETERMINED ROUTES. MAINTAIN AS MUCH NATURAL VEGETATION AS IS PRACTICABLE. USE PHASING OF CONSTRUCTION TO REDUCE THE AREA OF LAND DISTURBED AT ANY ONE TIME. THE USE OF TEMPORARY MULCHING, PERMANENT MULCHING, TEMPORARY VEGETATIVE COVER, PERMANENT VEGETATIVE COVER, OR OTHER MEASURES WILL REDUCE THE NEED FOR DUST CONTROL. USE MECHANICAL SWEEPERS ON PAVED SURFACES WHERE NECESSARY TO PREVENT DUST BUILDUP. STATIONARY SOURCES OF DUST, I.E., ROCK CRUSHERS, SHOULD UTILIZE FINE WATER SPRAYS TO CONTROL DUST.

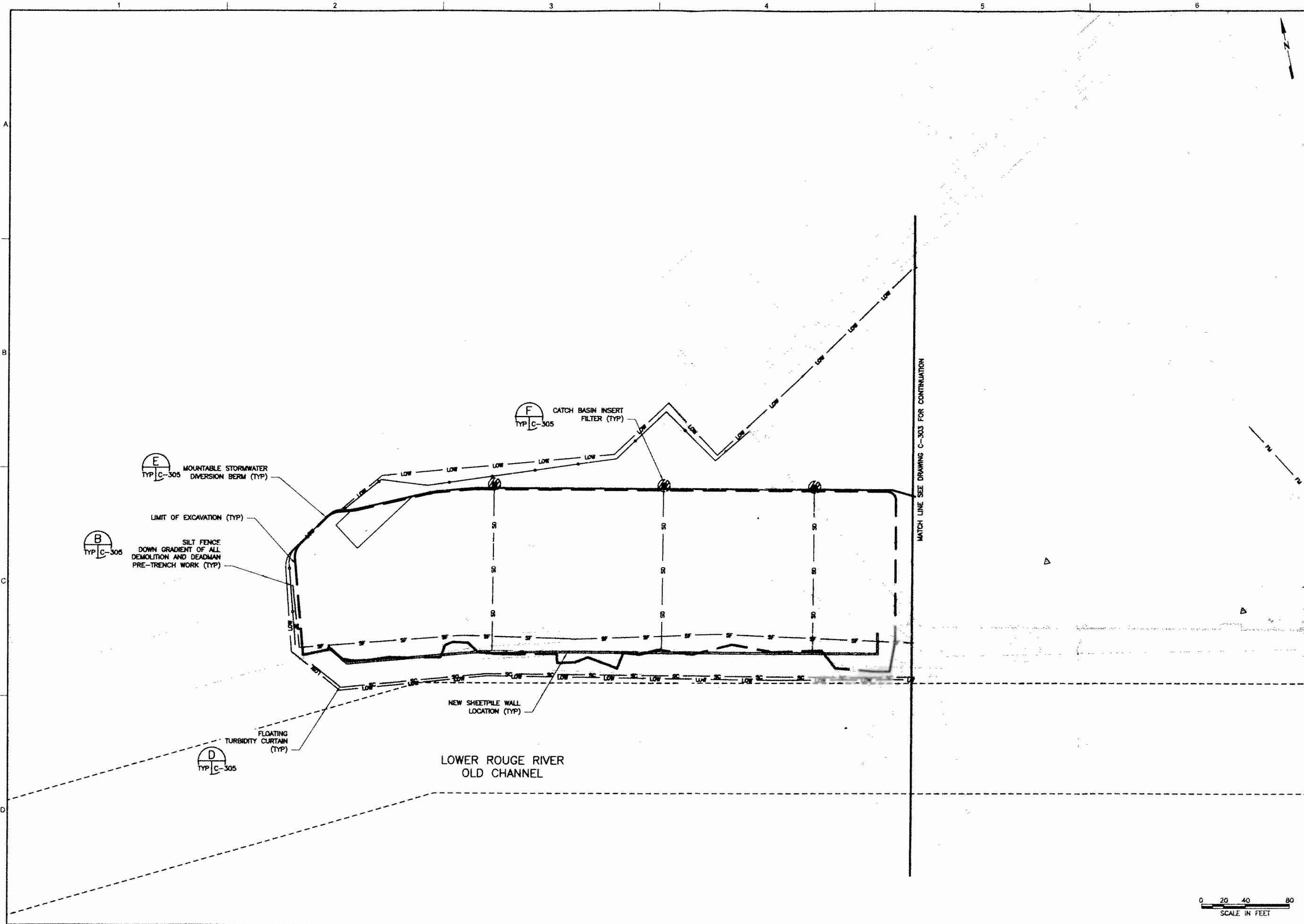
MATERIALS SPECIFICATIONS:

- A. WATER: THE EXPOSED SOIL SURFACE SHOULD BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.
B. STONE: COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL IN AREAS ADJACENT TO WATERWAYS, USE CHEMICALLY STABLE AGGREGATE.
7. MAINTENANCE: WHEN TEMPORARY DUST CONTROL MEASURE ARE USED, REPETITIVE TREATMENT SHALL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.
8. REFER TO SPECIFICATION 01560 "DUST CONTROL" FOR ADDITIONAL INFORMATION.

DEWATERING

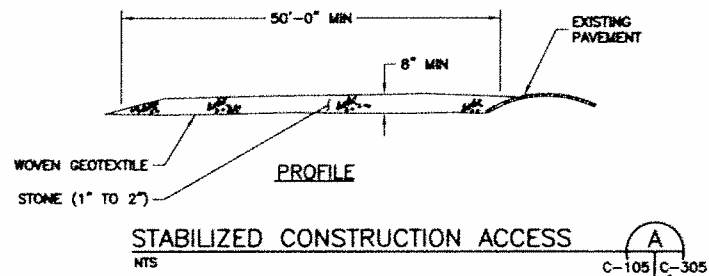
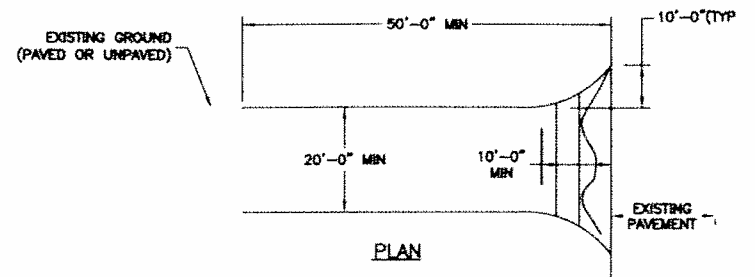
- 1. DEWATERING OPERATIONS MUST BE CONDUCTED IN ACCORDANCE WITH SPECIFICATION 02660 "DEWATERING" AND SHALL NOT DISCHARGE DIRECTLY INTO SURFACE WATERS.

Project information block including: Honeywell logo, project name 'LOWER ROUGE RIVER OLD CHANNEL ROUGE RIVER AREA OF CONCERN PERMANENT SHEETPILE WALL INSTALLATION DETROIT, MICHIGAN HONEYWELL SITE ID - 35057', drawing status '100% DESIGN', drawing title 'SOIL EROSION AND SEDIMENTATION CONTROL NOTES', drawing scale '1" = 100 FEET', date 'JUNE 2016', project number '3293-16-1687', drawing number 'C-301', and sheet number '27 OF 52'. Includes logos for amec, foster, and wheeler.

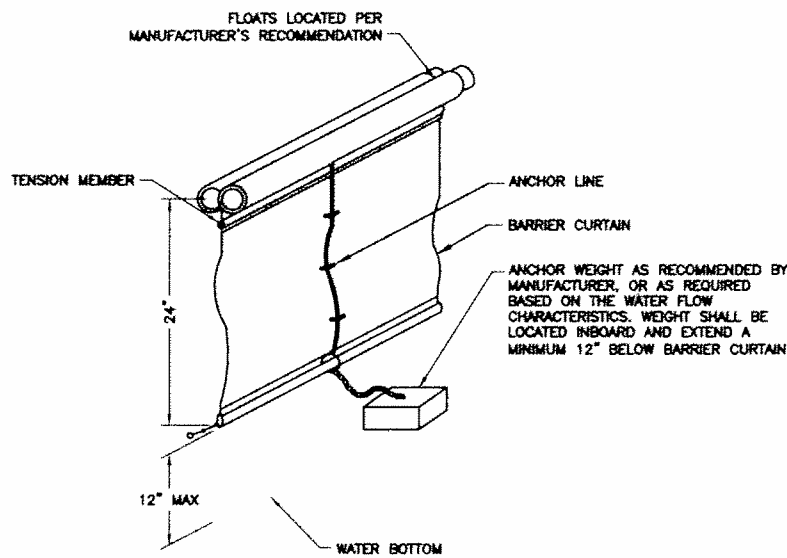


 101 COLUMBIA RD., BOX 2100, ANN ARBOR, MI 48106		L. TRACY L. TRACY LICENSE NUMBER LC 1000	
DRAWING STATUS 100% DESIGN		NO. I. DATE 1 8/17/16 2 8/08/16 3 3/03/17	
CIVIL SOIL EROSION AND SEDIMENTATION CONTROL PLAN (FERRISS)		100% DESIGN - FOR REVIEW 100% DESIGN - CLIENT REVIEW 90% DESIGN - CLIENT REVIEW	
 amec foster wheeler Environmental & Infrastructure, Inc. 511 Congress Street, Suite 200 Portland, ME 04112 (207) 775-5401		HONEYWELL SITE ID - 35057	
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING  SCALE IN FEET		DATE JUNE 2016 PROJ 3293-16-1667 DWG C-304 SHEET 30 OF 52	

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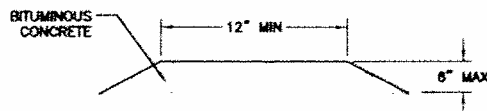
**STABILIZED CONSTRUCTION ACCESS**  
NTS  
C-105 | C-305



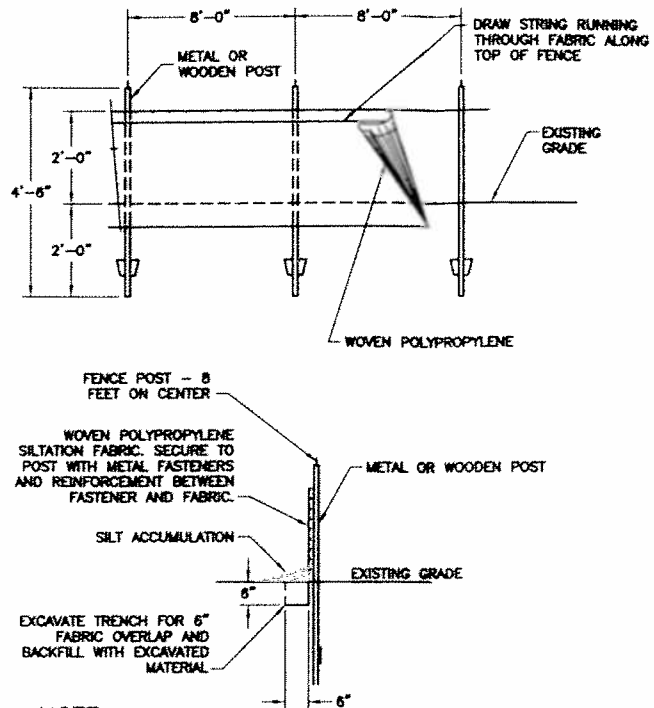
**NOTES:**

1. THE SILT CURTAIN SHALL BE DEPLOYED PRIOR TO DISTURBING THE RIVER BANK, BED, OR UPLAND SOILS.
2. THE SILT CURTAIN SHALL WITHSTAND A VELOCITY OF UP TO 5 FT/SEC.

**FLOATING TURBIDITY CURTAIN**  
NTS  
C-302 | C-305  
C-303  
C-304

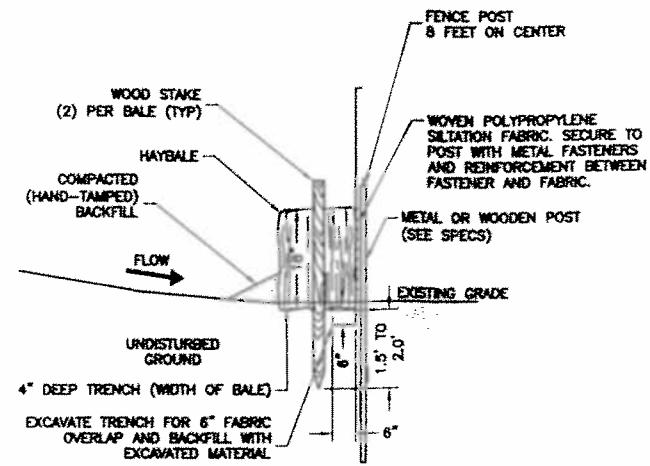


**MOUNTABLE BERM**  
NTS  
C-103 | C-305  
C-104  
C-105  
C-106

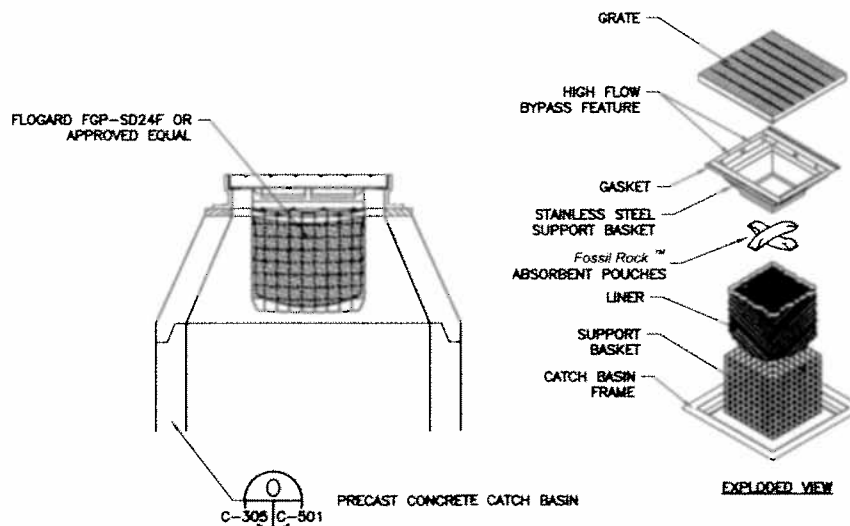


**NOTE:**  
WHERE REQUIRED AT CRITICAL LOCATIONS, AUGMENTED SILTATION FENCE OR SILTATION FENCE REINFORCED WITH HOG OR CHICKEN WIRE OR INTEGRAL PLASTIC MESH REINFORCING MAY BE USED.

**SILTATION FENCE**  
NTS  
TYP | C-306



**AUGMENTED SILTATION FENCE**  
NTS  
C-302 | C-305  
C-303  
C-304



- NOTES:**
1. Filter insert shall have a high flow bypass feature.
  2. Filter support frame shall be constructed from stainless steel Type 304.
  3. Filter medium shall be Fossil Rock™, installed and maintained in accordance with manufacturer specifications.
  4. Storage capacity reflects 80% of maximum solids collection prior to impeding filtering bypass.

**CATCH BASIN INSERT FILTER**  
NTS  
TYP | C-305

Lyle N Tracy  
M PROFESSIONAL ENGINEER  
LICENSE NUMBER LC 1414

W/JM	LNT	100% DESIGN	3/03/17
W/JM	LNT	100% DESIGN - FOR REVIEW	8/08/16
JUM	LNT	90% DESIGN - CLIENT REVIEW	6/17/16
JUM	LNT	REVISION	NO. DATE

DR: W. WHITTEN  
CHK: L. STURBAN  
APVD: L. TRACY

**Honeywell**  
101 OLLIVAN BLVD, BOX 2100, LANSING, MI 48206

LOWER ROUGE RIVER OLD CHANNEL  
ROUGE RIVER AREA OF CONCERN  
PERMANENT SHETPILE WALL INSTALLATION  
DETROIT, MICHIGAN  
HONEYWELL SITE ID - 35057

DRAWING STATUS: 100% DESIGN  
CIVIL  
SOIL EROSION AND SEDIMENTATION CONTROL DETAILS

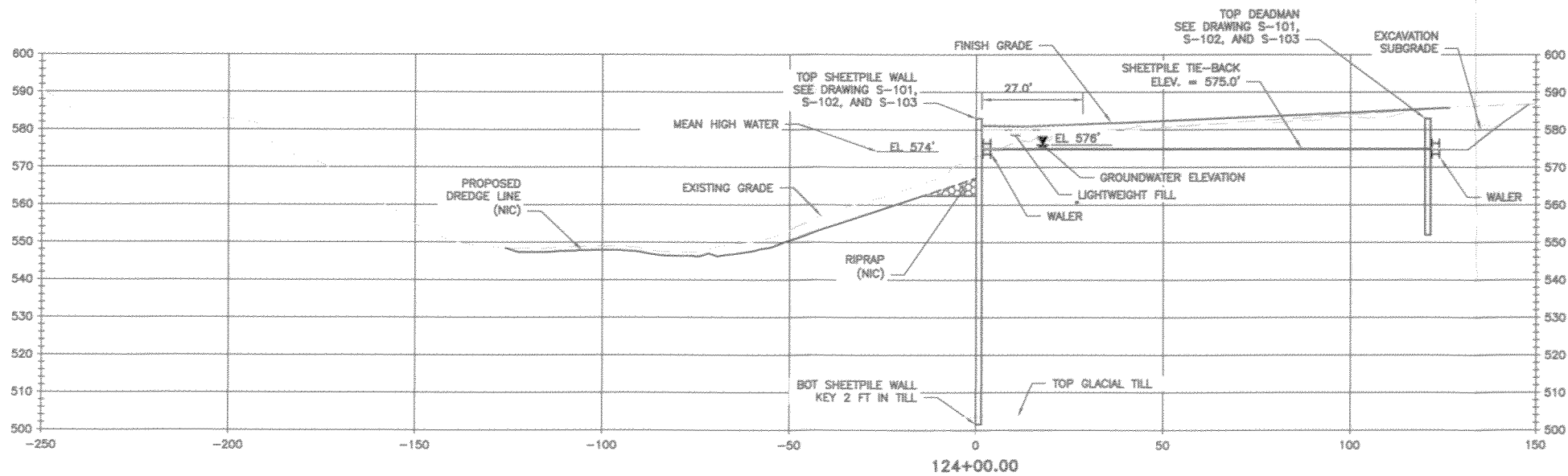
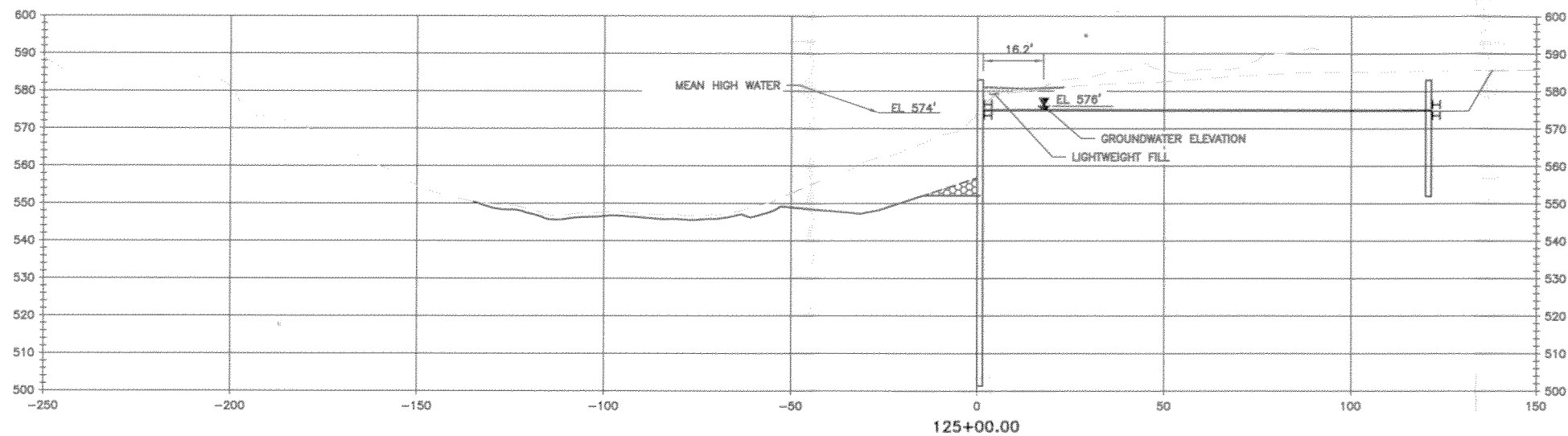
**amec foster wheeler**  
Environment & Infrastructure, Inc.  
511 Congress Street, Suite 200  
Portland, ME, 04112  
(207) 775-5401

VERIFY SCALE  
BAR IS ONE INCH ON ORIGINAL DRAWING  
DATE: JUNE 2016  
PROJ: 3293-16-1687  
DWG: C-305  
SHEET: 31 OF 52

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**NOTES**

1. BACKFILL DETAILS, EXCEPT LIGHTWEIGHT FILL, NOT SHOWN FOR CLARITY. SEE TYPICAL BACKFILL SECTION 1 ON DRAWING C-502 FOR DETAILS.
2. LIGHTWEIGHT FILL SHOWN FOR CLARIFICATION OF TYPICAL BACKFILL SECTION 1 ON DRAWING C-502.
3. FOR EXCAVATION LIMIT DETAILS SEE DRAWINGS C-115 THROUGH C-117.
4. WALERS SHOWN NOT TO SCALE FOR CLARITY.
5. DREDGE LINE SHOWN FOR INFORMATION PURPOSES - NOT IN THIS CONTRACT.



Lyle N Tracy  
MI PROFESSIONAL ENGINEER  
LICENSE NUMBER LC 1400

NO.	DATE	REVISION	BY	CHK	DR	APVD
3	3/03/17	100% DESIGN	L. TRACY	W. WHITTEN	L. TRACY	L. TRACY
2	8/08/16	100% DESIGN - FOR REVIEW	JVM	L. TRACY	L. TRACY	L. TRACY
1	6/17/16	90% DESIGN - CLIENT REVIEW	JVM	L. TRACY	L. TRACY	L. TRACY

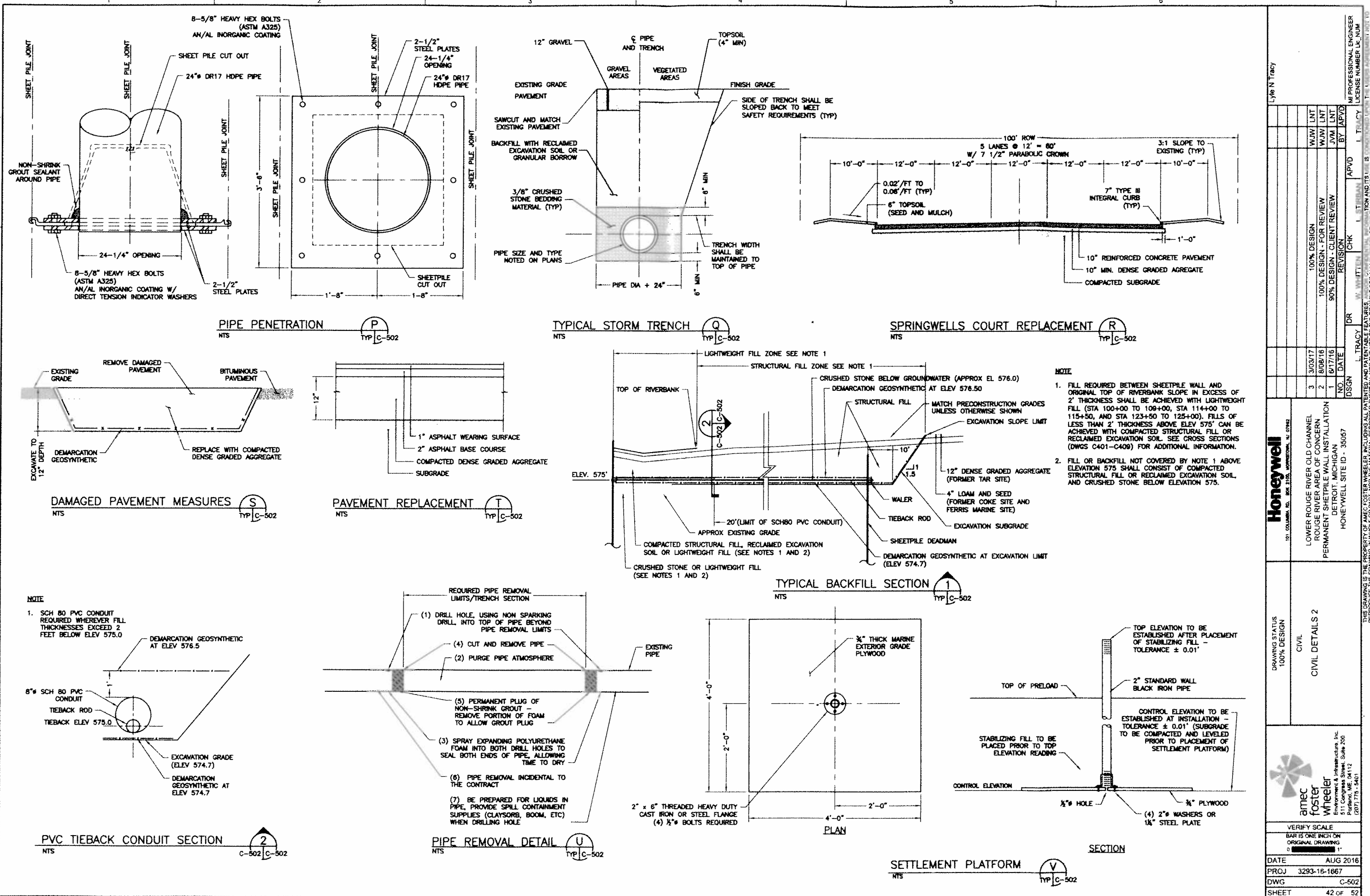
**Honeywell**  
101 COLUMBIA RD. BOX 2100, WESTPORT, MI 48152  
LOWER ROUGE RIVER OLD CHANNEL  
ROUGE RIVER AREA OF CONCERN  
PERMANENT SHEETPILE WALL INSTALLATION  
DETROIT, MICHIGAN  
HONEYWELL SITE ID - 35057

DRAWING STATUS:  
100% DESIGN  
CIVIL  
CROSS SECTIONS  
STA 124+00 TO STA 125+00



VERIFY SCALE  
BAR IS ONE INCH ON ORIGINAL DRAWING  
DATE: JUNE 2016  
PROJ: 3293-16-1667  
DWG: C-409  
SHEET: 40 OF 52

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**NOTE**

- FILL REQUIRED BETWEEN SHEETPILE WALL AND ORIGINAL TOP OF RIVERBANK SLOPE IN EXCESS OF 2' THICKNESS SHALL BE ACHIEVED WITH LIGHTWEIGHT FILL (STA 100+00 TO 109+00, STA 114+00 TO 115+50, AND STA 123+50 TO 125+00). FILLS OF LESS THAN 2' THICKNESS ABOVE ELEV 575' CAN BE ACHIEVED WITH COMPACTED STRUCTURAL FILL OR RECLAIMED EXCAVATION SOIL. SEE CROSS SECTIONS (DWGS C401-C409) FOR ADDITIONAL INFORMATION.
- FILL OR BACKFILL NOT COVERED BY NOTE 1 ABOVE ELEVATION 575 SHALL CONSIST OF COMPACTED STRUCTURAL FILL OR RECLAIMED EXCAVATION SOIL, AND CRUSHED STONE BELOW ELEVATION 575.

LYN N TRACY PROFESSIONAL ENGINEER LICENSE NUMBER LC 1400	WJM LNT WJM LNT JYM LNT BY JAPVD REVISION	100% DESIGN 100% DESIGN - FOR REVIEW 90% DESIGN - CLIENT REVIEW	3/30/17 8/08/18 1/16/17/18 NO. 1 DATE	DSGN L. TRACY W. WHITTEN L. STUBBINS APVD OR	HONEYWELL 101 COLUMBIA RD. BOX 1100, WASHINGTON, NJ 07872 LOWER ROUGE RIVER OLD CHANNEL ROUGE RIVER AREA OF CONCERN PERMANENT SHEETPILE WALL INSTALLATION DETROIT, MICHIGAN HONEYWELL SITE ID - 35057	CIVIL CIVIL DETAILS 2	amec foster wheeler Environment & Infrastructure, Inc. 511 Congress Street, Suite 200 Portland, ME 04112 (207) 778-5401	VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING DATE AUG 2016 PROJ 3293-18-1667 DWG C-502 SHEET 42 OF 52
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THIS DRAWING IS THE PROPERTY OF AMEC FOSTER WHEELER, INCLUDING ALL PATENTED AND UNPATENTED FEATURES. REPRODUCTION OF THIS DRAWING IN WHOLE OR PART, FOR THE MATERIAL DESCRIBED THEREON, FOR ANY PURPOSE OTHER THAN SPECIFICALLY STATED BY AMEC FOSTER WHEELER IS STRICTLY PROHIBITED.

GENERAL STRUCTURAL NOTES

- USE STRUCTURAL DRAWINGS (S-SERIES) IN CONJUNCTION WITH THE CIVIL DRAWING (C-SERIES) AND IN CONJUNCTION WITH THE NOTES ON DRAWING G-003.
- REFER TO DRAWING G-003 FOR PROJECT SEQUENCING.
- MAKE NO DEVIATIONS FROM THE DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE ENGINEER.
- VERIFY ALL DIMENSIONS IN THE FIELD. NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN THE NOTES, DRAWINGS AND EXISTING CONDITIONS BEFORE PROCEEDING WITH AFFECTED PORTIONS OF THE WORK.
- COORDINATE ALL WORK WITH THE OWNER TO MINIMIZE DISRUPTION TO OPERATIONS, AND PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITIES FROM DISRUPTION AND DAMAGE.
- THE PERMANENT SHEETPILE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE ONLY AFTER THE STRUCTURAL WORK CONTAINED IN THE DRAWINGS IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, TEMPORARY BRACING, GUYS OR TIEDOWNS. SUCH TEMPORARY MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
- SUBMIT COMPLETE SHOP DRAWINGS FOR ALL PARTS OF THE STRUCTURAL WORK, INCLUDING DESCRIPTIONS OF TEMPORARY SHORING, SHEETPILE WALL GUIDE/FALSEWORK FRAMING, CONSTRUCTION METHODS AND SEQUENCING, WHERE APPLICABLE. NO PERFORMANCE OF THE WORK SHALL COMMENCE WITHOUT REVIEW OF THE SHOP DRAWINGS BY THE ENGINEER.
- ADHERE TO ALL APPLICABLE FEDERAL, STATE, AND MUNICIPAL LAWS, RULES, REGULATIONS AND ORDINANCES.
- ALL HOLES IN BEARING PLATES SHALL BE DRILLED AND FABRICATED OFF-SITE.
- ALL HOLES IN SHEETING SHALL BE DRILLED.
- ALL HOLES SHALL PROVIDE 1/2 INCH CLEARANCE ON ALL SIDES FOR BOLT CONNECTIONS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- ALL WALER SPLICES SHALL BE LOCATED AT MID-POINTS BETWEEN TIE-BACKS.

DESIGN LOADS AND LOAD RESTRICTIONS

- DEAD LOADS: PER BASIS OF DESIGN REPORT.
- EARTH PRESSURE COEFFICIENTS: PER BASIS OF DESIGN REPORT.
- SURCHARGE LOADS:
  - STATION 115+38 TO 119+74: 850 PSF, 30 FEET BY 55 FEET IN PLAN APPLIED 5 FEET BEHIND THE SHEETPILE WALL (REPRESENTS SURCHARGE IMPOSED 100-TON CRANE AND POTENTIAL SOIL STOCKPILES).
  - NO SURCHARGE LOAD ALONG REMAINDER OF ALIGNMENT.
- LIVE LOADS:
  - SEISMIC LOADING: PEAK GROUND ACCELERATION (PGA) ASSOCIATED WITH A PROBABILITY OF EXCEEDING (PE) 2% IN 50 YEARS OF 0.06G BASED ON UNITED STATES GEOLOGICAL SURVEY'S (USGS) 2014 SEISMIC HAZARDS MAPPING DATA.
  - ROUGE RIVER DATA: ELEVATION 574 FT UPLAND OF SHEETPILE WALL (FORMER TAR) AND ELEVATION 575 FT (FORMER COKE AND FERRISS MARINE), ELEVATION 572 FT ON RIVER SIDE OF SHEETPILE WALL.
  - DURING CONSTRUCTION OF THE PERMANENT SHEETPILE WALL, ANY EQUIPMENT LOADING EXCEEDING THAT DEVELOPED BY A 50 TON CRANE OR LARGER SHALL NOT ENCRDACH CLOSER THAN 50 FEET OF THE PERMANENT SHEETPILE WALL LOCATION UNTIL THE TIE-BACKS ARE INSTALLED AND PRE-TENSIONED.
  - FOUR LOCATIONS SHALL BE SLOT DREDGED AND BACKFILLED AS SHOWN ON DRAWINGS C-201, C-202, AND C-203. DREDGING DETAILS ARE PROVIDED LRROC AREA OF CONCERN DESIGN DRAWING DATED AUGUST 2016, AND IS NOT IN THIS CONTRACT.

MATERIALS

- SHEETPILE WALL STEEL SHEETING:
  - AZ-50, ASTM A572-65 (65 KSI) STEEL, FORMER COKE SITE, FORMER TAR SITE, AND FERRISS MARINE.
  - AZ-32-750, ASTM A572-50 (50 KSI) STEEL, FERRISS MARINE SITE.
- DEADMAN WALL STEEL SHEETING:
  - AZ-20-700, ASTM A572-50 (50 KSI) STEEL, FORMER COKE SITE AND EASTERN HALF OF FORMER TAR SITE.
  - AZ-38-700M, ASTM A572-50 (50 KSI) STEEL, WESTERN HALF OF FORMER TAR SITE.
  - AZ-40-700M, ASTM A572-50 (50 KSI) STEEL, WESTERN-MOST DEADMAN WALL FERRISS MARINE.
- TIE-BACKS: 1-3/4 INCH, 2-1/4 INCH, AND 2-1/2 INCH DIAMETER ALL-THREAD BAR, ASTM A722 (150 KSI) STEEL.
- WALERS: W14X48, ASTM A992 (50 KSI) STEEL AND W24X117 ASTM A992 (50 KSI) STEEL.
- WALER-SHEETPILE AND WALER-DEADMAN WALL BOLTS: 1-1/4 INCH DIAMETER ASTM A722 (150 KSI) STEEL.
- CAST-IN-PLACE CONCRETE: F'C = 4,000 PSI.
- REINFORCING STEEL FOR CONCRETE: ASTM A615-60 (60 KSI) STEEL.
- STRUCTURAL STEEL:
  - BEARING PLATES: ASTM A572-50 (50 KSI) STEEL.
  - TIE AND SHM PLATES: ASTM A572-50 (50 KSI) STEEL.
- H-PILES:
  - HP16X183: ASTM 572 GR50 (50KSI) STEEL.
- TIE-BACK CONDUIT: ASTM D1785, SCHEDULE 80 PVC.
- WASHERS FOR WALER SHEETPILE BOLTED CONNECTIONS: DIRECT TENSION INDICATOR WASHERS ASTM F959.
- SHEETPILE SEALING ANGLES, L 2-1/2" x 2-1/2" x 3/8" AND 3/8" BASE PLATE ASTM A572-50 (50 KSI) STEEL REFER TO DETAILS SG & SH DRAWING S-503.
- STIFFENER PLATES, 3" x 1/2" ASTM A572-50 (50 KSI)
- TIE-BACK PRE-TENSION LOADING IS PROVIDED IN SPECIFICATION SECTION 05120.

BASIS OF DESIGN REPORT REFERENCE:

- THE PERMANENT SHEETPILE WALL DESIGN PARAMETERS ARE BASED ON DESIGN EVALUATION RESULTS PRESENTED IN THE REPORT ENTITLED "BASIS OF DESIGN REPORT, LOWER ROUGE RIVER - OLD CHANNEL, PREPARED FOR U.S. ENVIRONMENTAL PROTECTION AGENCY'S GREAT LAKES NATIONAL PROGRAM OFFICE AND HONEYWELL INTERNATIONAL, INC., DATED AUGUST 2016.

Lyle N Tracy

WJM	LNT	100% DESIGN
JVM	LNT	100% DESIGN - FOR REVIEW
JVM	LNT	90% DESIGN - CLIENT REVIEW
BY	APVD	REVISION

ME PROFESSIONAL ENGINEER LICENSE NUMBER LIC. NUM

Honeywell

101 COLUMBIA RD, BOX 2105, MORRISTOWN, NJ 07962

LOWER ROUGE RIVER OLD CHANNEL ROUGE RIVER AREA OF CONCERN PERMANENT SHEETPILE WALL INSTALLATION DETROIT, MICHIGAN HONEYWELL SITE ID - 35057

DRAWING STATUS 100% DESIGN

STRUCTURAL NOTES



amec foster wheeler Environment & Infrastructure, Inc. 511 Congress Street, Suite 200 Portland, ME 04112 (207) 778-5401

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING 1"

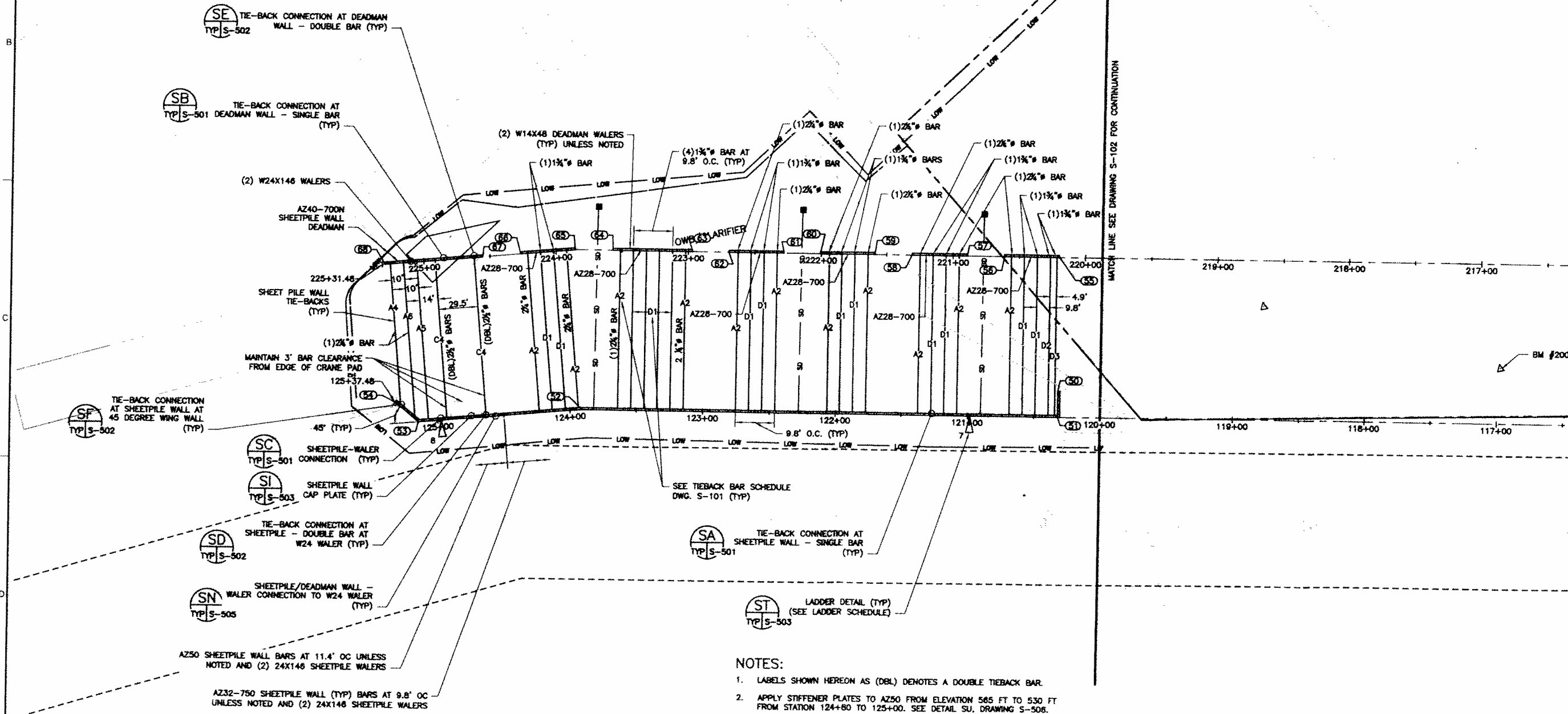
DATE	JUNE 2016
PROJ	3293-16-1667
DWG	S-001
SHEET	43 OF 52

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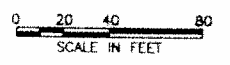
LAYOUT DATA SHEETPILE WALL				
POINT	NORTHING	EASTING	STATION	OFFSET
50	290473.1689	13462468.5111	120+31.87	19.89' R
51	290453.9373	13462464.3100	120+31.87	0.00'
52	290530.8074	13462113.3347	123+91.12	0.00'
53	290545.6882	13461990.5330	125+14.68	0.47' L
54	290563.4829	13461976.2386	125+37.48	0.00'

LAYOUT DATA DEADMAN				
POINT	NORTHING	EASTING	STATION	OFFSET
55	290571.2410	13462489.6075	220+19.43	0.00'
56	290580.1295	13462448.9182	220+61.07	0.00'
57	290586.1911	13462421.1698	220+89.48	0.00'
58	290595.0137	13462380.7822	221+30.82	0.00'
59	290801.0772	13462353.0261	221+59.23	0.00'
60	290809.8998	13462312.6375	222+00.57	0.00'
61	290815.7810	13462285.7148	222+26.13	0.00'
62	290824.8036	13462245.3272	222+59.47	0.00'
63	290830.4849	13462218.4044	222+87.02	0.00'
64	290843.2287	13462180.0688	223+56.74	0.00'
65	290849.1929	13462132.1936	223+85.25	0.00'
66	290854.2319	13462091.1618	224+26.59	0.00'
67	290857.7707	13462062.3454	224+55.82	0.00'
68	290866.7289	13461989.4001	225+29.11	0.00'

LADDER SCHEDULE	
LADDER NO.	STATION
7	120+98
8	124+98



- NOTES:
1. LABELS SHOWN HEREON AS (DBL) DENOTES A DOUBLE TIEBACK BAR.
  2. APPLY STIFFENER PLATES TO AZ50 FROM ELEVATION 585 FT TO 530 FT FROM STATION 124+80 TO 125+00. SEE DETAIL SU, DRAWING S-506.



<b>Honeywell</b> 101 COLUMBIA RD. BOX 2100, MORRISTOWN, NJ 07958	
LOWER ROUGE RIVER OLD CHANNEL ROUGE RIVER AREA OF CONCERN PERMANENT SHEETPILE WALL INSTALLATION DETROIT, MICHIGAN HONEYWELL SITE ID - 35057	
DRAWING STATUS 100% DESIGN	STRUCTURAL PERMANENT SHEET PILE WALL AND ANCHOR SYSTEM PLAN (FERRISS)
amec foster wheeler Environment & Infrastructure, Inc. 811 Congress Street, Suite 200 Detroit, MI 48226-1112 (313) 775-5400	
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING	
DATE	JUNE 2016
PROJ	3293-18-1667
DWG	S-103
SHEET	46 OF 52

2017-06-22

**1659**

**1659** *Petition of United States  
Environmental Protection Agency,  
request for temporary street closure of  
a portion of Medina Street.*

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REFERRED TO THE FOLLOWING DEPARTMENT(S)

DPW - CITY ENGINEERING DIVISION