City of Detroit
Inter-Departmental Communication

TO: Richard Doherty, City Engineer
City Engineering/Department of Public Works

FROM: Debra Singleton, Engineer
Detroit Water and Sewerage Department

DATE: February 8, 2018

RE: Petition No. 1659
Requested Encroachment Into Medina At 8150 Medina (With Tiebacks And Deadmans)

We have reviewed the above Petition received by this office. With regard to DWSD's interests, our comments are as follows:

- DWSD has shallow in depth water mains and sewers, which are shown in the attached plans for the area of the proposed encroachment. DWSD has no objections to the requested encroachments provided that the attached Provisions for Encroachment are strictly followed.

  If you have any questions, please call me at (313) 267-8309 or Mohammed Fa Siddique at (313)-964-9245.

Sincerely,

For

Debra Singleton
Engineer
Permits

DS/MS/gl

Attachments

CC: Mohamad Farhat, CSF

City of Detroit

City Engineering Division, Department of Public Works
Survey Bureau

NOTICE OF PROPOSED CHANGE IN PROPERTY

Date: 01/02/2018

Petition: x1659

- ☐ AT&T Telecommunication
- ☐ Comcast Television (CATV)
- ☐ Detroit Edison (DTE)
- ☐ Fire Department
- ☐ Great Lakes Water Authority
- ☐ Land Bank Authority
- ☐ Michcon (DTE)
- ☐ Planning & Development Department
- ☐ Public Lighting Authority
- ☐ Public Lighting Department
- ☐ Police Department
- ☐ Solid Waste Division, DPW
- ☐ Street Design Bureau, DPW
- ☐ Street Maintenance Division, DPW
- ☐ Traffic Engineering Division, DPW
- ☐ Water and Sewerage Department
- ☐ _____

- ☐ Berm Use
- ☐ Conversion to Easement
- ☐ Dedication
- ☒ Encroachment
- ☐ Outright Vacation
- ☐ Temporary Closing

A petition drawing is attached. Property shown on the attached print is proposed to be changed as indicated. Kindly report (using the back of this sheet) the nature of your services, if any affected by the proposed change and the estimated costs of removing and rerouting such services (if necessary).

Please return one copy to City Engineering Division, DPW within two weeks of the submittal date. Retain one copy and print for you file.

Ron Brundidge, Director, Department of Public Works

By: Richard Doherty, CED DPW
City Engineer

TO: City Engineering Division, DPW
2 Woodward Ave., Suite 642
Detroit, Michigan 48226-3462
Survey Bureau: 313-224-3970

Petition: x1659

The proposed change in property (referred to on the other side of this sheet) would affect our services as follows:

☐ Not Involved

☐ Involved; but asking you to hold action on this petition until further notice.

☐ Involved; but no objections to the property change.

☐ Involved; objection to the property change.

☐ Involved; but no objections to the property change…provided as easement of the full width of the public right-of-way (street, alley or other public place) is reserved.

☐ Involved; the nature of our services and the estimated costs of removing and/or rerouting such services are:

_____
(Utility or City Department)

_____
By

_____
Title

_____
Date

_____
Area code – Telephone number

8/29/2017 wlw

PETITION NO. 1659
U.S. ENVIRONMENTAL PROTECTION AGENCY
9311 GROH RD.
GROSSE ILE., MICHIGAN 48138
C/O JAMIE BEAVER
PHONE NO. 971 409-2478

- *AREA OF ENCROACHMENT*

CARTO 1 A & F

(FOR OFFICE USE ONLY)

B					
A					
DESCRIPTION		DRWN	CHKD	APPD	DATE
REVISIONS					
DRAWN BY	*WLW*	CHECKED			
DATE	*01-02-18*	APPROVED			

REQUEST ENCROACHMENT
INTO MEDINA
AT 8150 MEDINA ST.
(With Tiebacks and Deadmans)

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
SURVEY BUREAU

JOB NO. *01-01*

DRWG. NO. *X 1659*

PROVISIONS FOR ENCROACHMENT
For Petition 1659

Detroit Water and Sewerage (DWSD) agree to the proposed encroachment subject to the fulfilling of the following provisions:

1. By approval of this petition the (DWSD) does not waive any of its rights to its facilities located in the right of way, and at all time, DWSD, its agents or employees, shall have the right to enter upon the right of way to maintain, repair, alter, service, inspect, or install its facilities. All costs incident to the damaging, dismantling, demolishing, removal and replacement of structures or other improvements herein permitted and incurred in gaining access to DWSD's facilities for maintenance, repairing, alteration, servicing or inspection caused by the encroachment shall be borne by the petitioner. All costs associated with gaining access to DWSD's facilities, which could normally be expected had the petitioner not encroached into the right of way shall be borne by DWSD.

2. All construction performed under this petition shall not be commenced until after five (5) days written notice to DWSD. Seventy-two (72) hours notice shall also be provided in accordance with P.A. 53 1974, as amended, utilizing the MISS DIG one call system.

3. Construction under this petition is subject to inspection and approval by DWSD forces. The cost of such inspection shall, at the discretion of DWSD, be borne by the petitioner.

4. If DWSD facilities located within the right of way shall break or be damaged as the result of any action on the part of the petitioner, then in such event the petitioner agrees to be liable for all costs incident to the repair, replacement or relocation of such broken or damaged DWSD facilities.

5. The petitioner shall hold DWSD harmless for any damage to the encroaching device constructed or installed under this petition, which may be caused by the failure of DWSD's facilities.

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Detroit Water & Sewerage Department (DWSD) Notes:

- Our records indicate that there are water mains and sewers which are located in the vicinity of the proposed project limits.

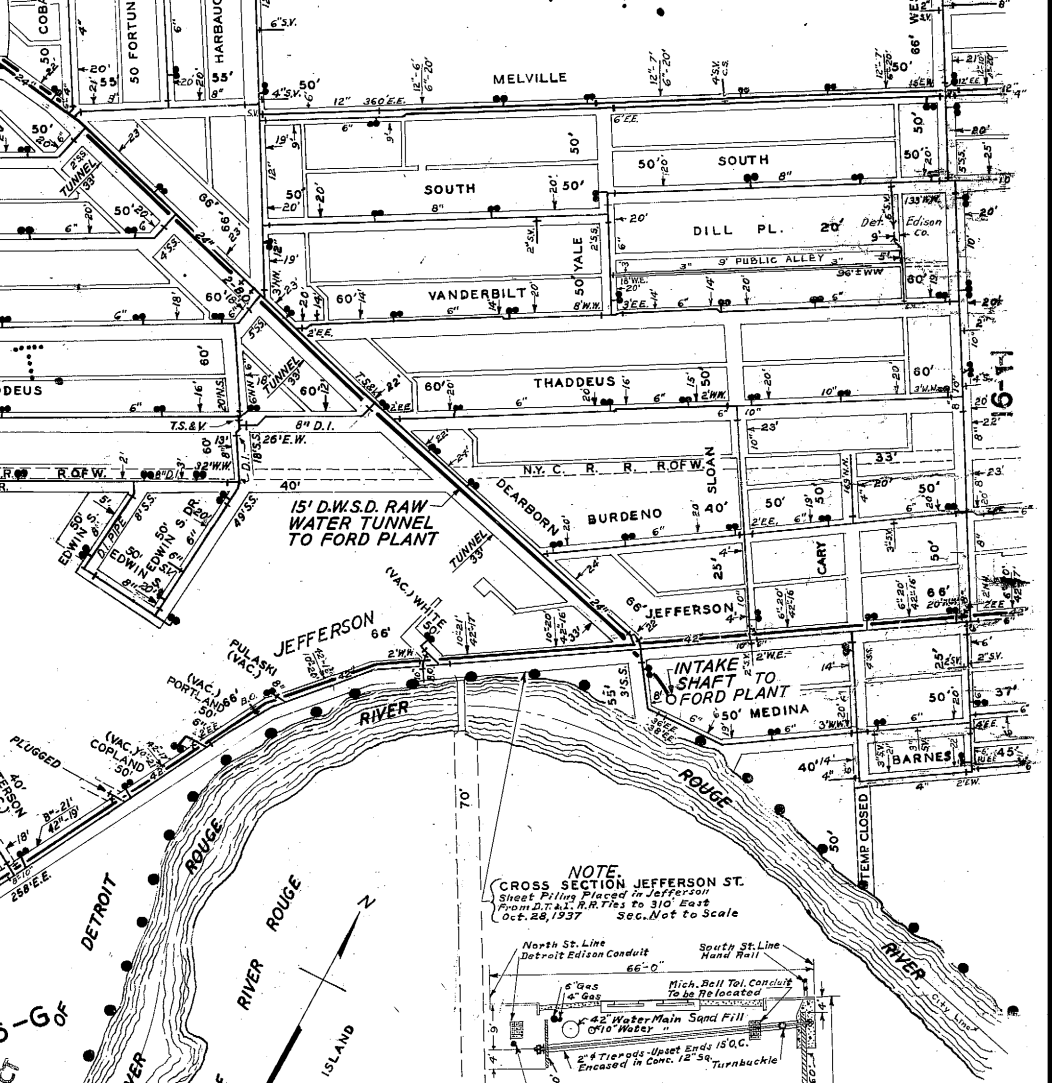
- It is DWSD's requirement that any proposed utility crossing DWSD water mains or sewers perpendicularly must maintain a minimum of 18 inches vertical clearance. Also any proposed utility running adjacent to DWSD water mains and sewers must maintain a minimum of 5 feet lateral clearance including any conduit and/or manholes walls. No utility is allowed to run along the top of the water main or sewer.

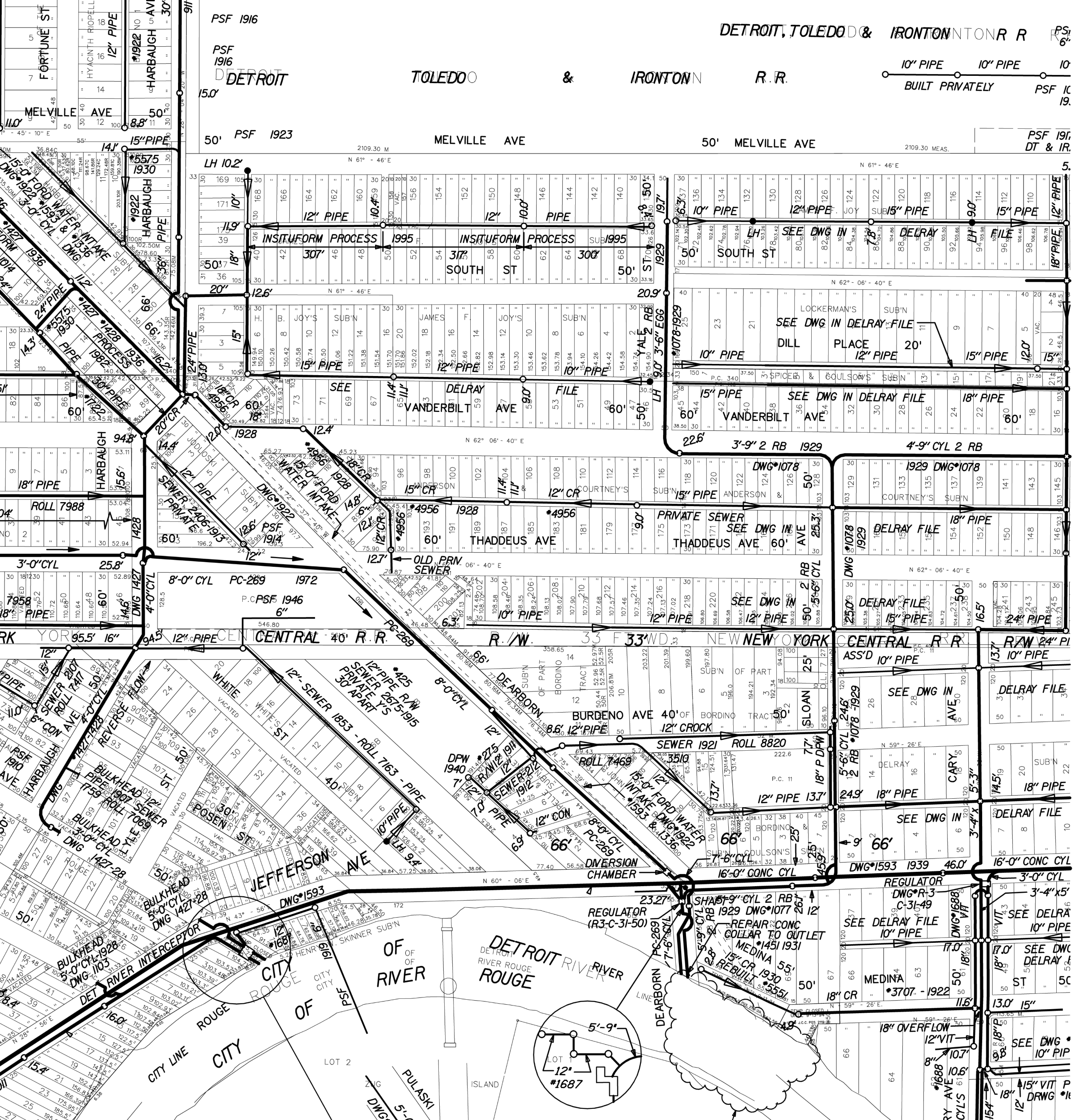
- There are possibilities of several water and sewer service lines crossing in the vicinity of proposed work, field verify their location and depth to maintain our required clearance.

- Detroit Water and Sewerage Department (DWSD) prohibits the use of heavy construction equipment (bulldozers, backhoes, extremely large rollers, etc.) and or storage of building material directly over or near our mains or sewers. DWSD also prohibits the use of cranes and balls or hydraulic rams for pavement removal where the DWSD facilities are involved. If the water main or sewer facilities are broken or damaged as a result of any action on the part of the contractor, then the contractor shall be liable for all costs incidental to the repair of such broken or damaged water main/sewer facilities and appurtenances. The contractor shall waive all claims for damages under such circumstances.

- For any proposed work that involves DWSD utilities (water mains and/or sewers), an approval and a permit is required from DWSD before the commencement of work.


W Jefferson Ave
W Jefferson Ave
W Jefferson Ave
W Jefferson Ave
S Sloan St
Cary St
Medina St
Barnes St
Barnes St
8150 Medina Street
Dearborn St
Rouge River
Rouge River
Rouge River


MELVILLE
SOUTH
SOUTH
DILL PL.
9' PUBLIC ALLEY
VANDERBILT
THADDEUS
DEARBORN
BURDENO
SLOAN
CARY
JEFFERSON
JEFFERSON
INTAKE SHAFT TO FORD PLANT
50' MEDINA
BARNES
15' D.W.S.D. RAW WATER TUNNEL TO FORD PLANT
TUNNEL
N.Y.C. R. R. R.OF W.
R. OF W.
DETROIT RIVER ROUGE
RIVER ROUGE
RIVER ROUGE
RIVER
ISLAND
TEMP CLOSED
PLUGGED
NOTE.
CROSS SECTION JEFFERSON ST.
Sheet Pilings Placed in Jefferson
From D.T.&I. R.R. Ties to 310' East
Oct. 28, 1937 Scale Not to Scale
North St. Line
Detroit Edison Conduit
66'-0"
South St. Line
Hand Rail
Mich. Bell Tel. Conduit
To be Relocated
6" Gas
4" Gas
42" Water Main Sand Fill
10" Water "
2"x4" Tierods-Upset Ends 15'0.C.
Encased in Conc. 12"Sq.
Turnbuckle
City Line



DETROIT, TOLEDO & IRONTON R R
DETROIT TOLEDO & IRONTON R.R.
10" PIPE
BUILT PRIVATELY
PSF 1916
PSF 1923
MELVILLE AVE
50' MELVILLE AVE
SOUTH ST
INSITUFORM PROCESS 1995
12" PIPE
SEE DWG IN DELRAY FILE
LOCKERMAN'S SUB'N
DILL PLACE
SPICER & COULSON'S SUB'N
H. B. JOY'S SUB'N
VANDERBILT AVE
3'-9" 2 RB 1929
4'-9" CYL 2 RB
1929 DWG*1078
ANDERSON & COURTNEY'S SUB'N
THADDEUS AVE
PRIVATE SEWER
OLD PRIV SEWER
8'-0" CYL PC-269 1972
PSF 1946
NEW YORK CENTRAL R R
15'-0" FORD WATER INTAKE DWG*1922
HARBAUGH
FORTUNE ST
JODLOSKI SUB'N
DEARBORN
BURDENO AVE 40'
SUB'N OF PART BORDINO TRACT
SLOAN
12" CROCK SEWER 1921 ROLL 8820
DELRAY SUB'N
CARY
WHITE ST
12"-SEWER 1853 - ROLL 7163 - PIPE
12" PIPE R/W SEWER 2675-1915 PRIVATE Y'S 30' APART
REVERSE FLOW
POSEN ST
JEFFERSON AVE
BULKHEAD 5'-0" CYL DWG 1427-28
DET RIVER INTERCEPTOR
DIVERSION CHAMBER
16'-0" CONC CYL
DWG*1593 1939
REGULATOR (R3-C-31-50)
REGULATOR DWG*R-3 C-31-49
REPAIR CONC COLLAR TO OUTLET
MEDINA ST
15" CR 1930 REBUILT *5551
18" OVERFLOW
DETROIT RIVER
CITY OF RIVER ROUGE
CITY LINE
LOT 1
LOT 2
ZUG ISLAND
PULASKI
W. SKINNER SUB'N
#1687

Roll 10/3/22.

74

MEDINA

LATERAL SEWER IN ~~ALLEY~~

IN BLOCKS BOUNDED BY

FROM JEFFERSON TO CARY

DETAILS

TOTAL LENGTH OF SEWER 677.50 FT. M. OR L.

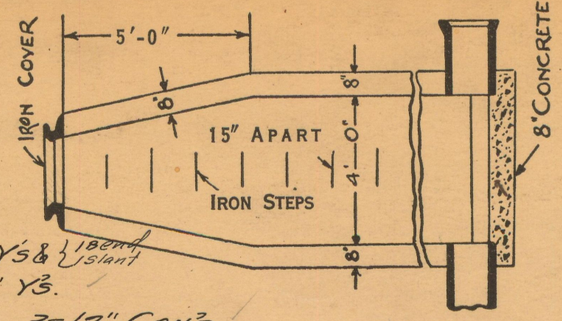
" " " 18" CROCK 417.50 INC. 15-6" Y's & 1 Bend 1 Slant

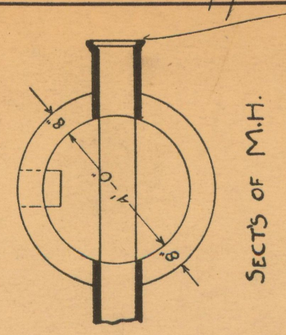
" " " 15" " 260.00 " 9-6" Y's.

TWO MANHOLES INC. 6 IRON STEPS & 3-12" CON's.

MATERIAL for EXTENSION of Y's.

15-2 FT. BENDS & 240.00 of 6" CROCK

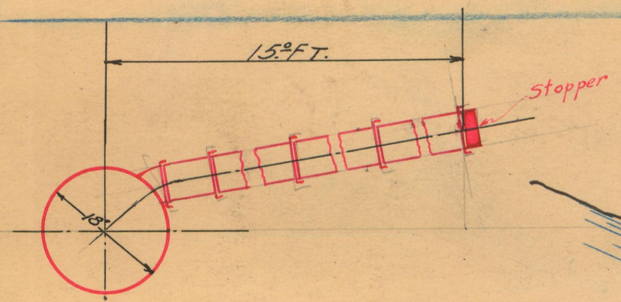




SEWER NO. 3707
ROLL NO. 9017A
PETITION NO. Letter to Commis. from A. Gro.
PETITION DATE June 21, 1922
RESOLUTION AUG 15 1922
BIDS OPENED AUG 23 - 1922
CONTRACT CONF'D Aug. 29-1922
COMPLETED OCT 3 1922
CONT'R M. Mucci
$ 2,140.00

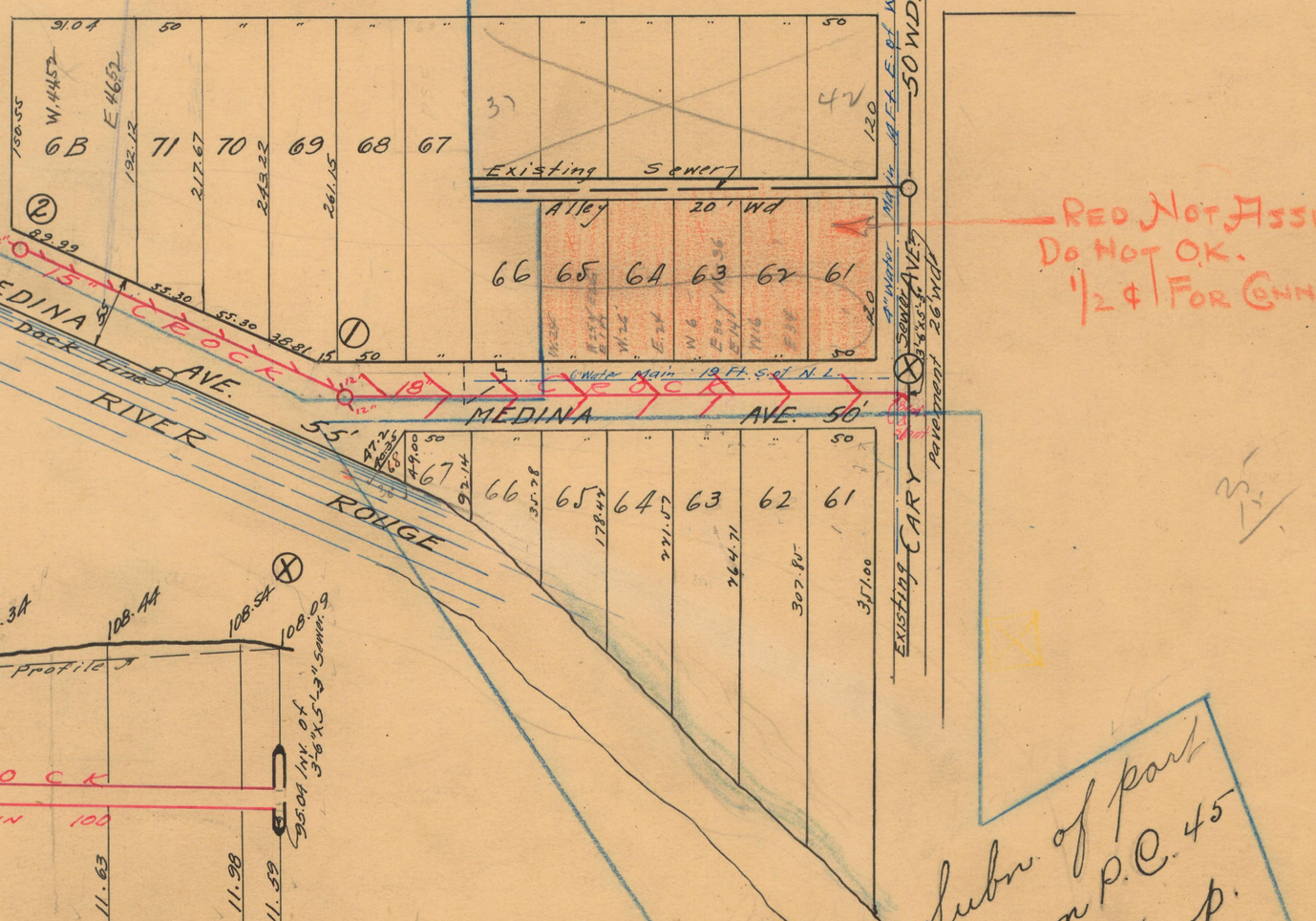
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
DETROIT, MICH.

Plat of Division of P.C. 45
Rec - Oct 14 - 1851 - 43-45

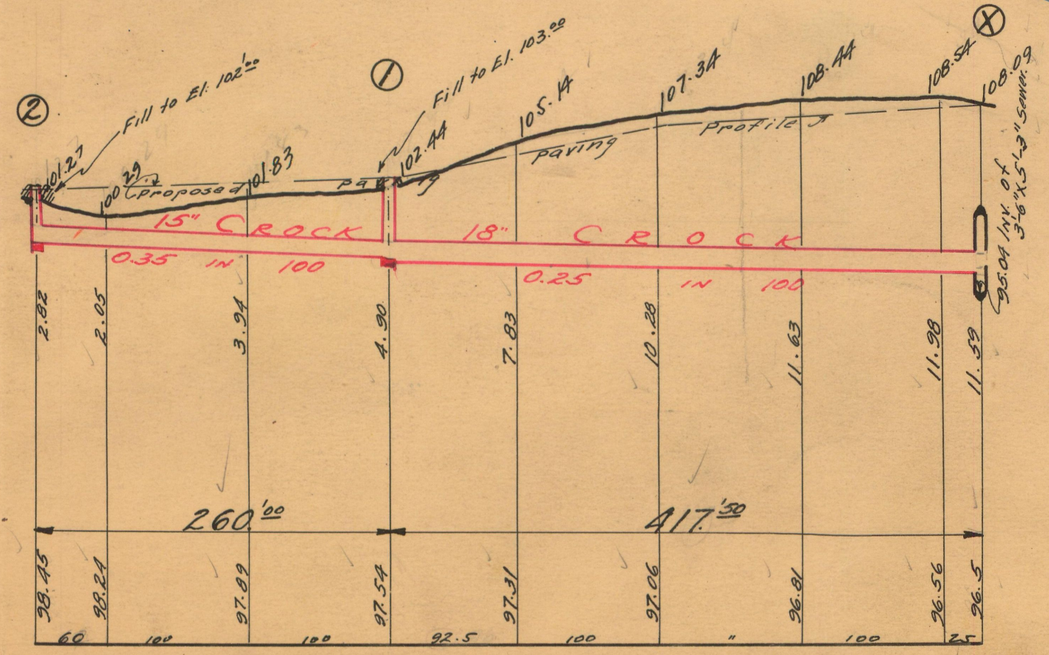


DETAIL SHOWING BEND & STRAIGHT PIPE for EXTENSION of Y's.

MINIMUM GRADE TO BE 0.5 FT. IN 100 FT.



RED NOT ASSESSED
DO NOT O.K.
1/2 ¢ FOR CONN.



Delay - Subn. of part of Lot 7 - on P.C. 45 Springwells Twp. Wayne Co. Mich.

28340

NOTE--Contractor to furnish and set as markers for all connections ½ inch iron rods 2 feet long with 3 inch tile collar 6 inches long.

NOTE:—Each bidder is expected to examine the drawings, to visit the locality of the work, to make his own estimate of the facilities and difficulties attending the execution of the work, including local conditions and all other contingencies, whether surface or underground, to do all his own pumping and provide proper bulk heads when directed by city engineer. Above costs to be borne by contractor.

SCALE	VERTICAL 1"=10'		
	HORIZONTAL 1"=100'		
DRAWN	JL	CHECK	RJ
TRACED	O.K.	NOTE BOOK	223/12

LATERAL SEWER IN ALLEY

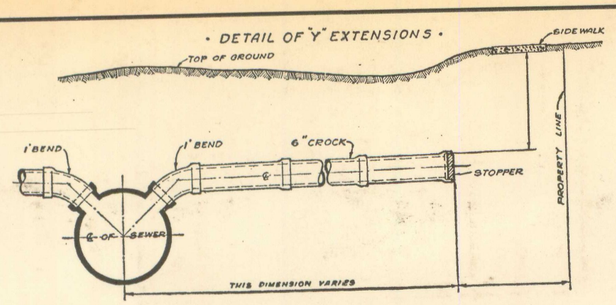
IN BLOCKS BOUNDED BY

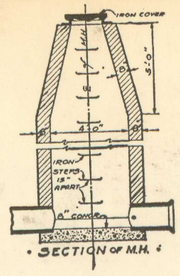
REBUILDING OF 15" PIPE IN MEDINA - E. OF DEARBORN

TOTAL LENGTH OF SEWER 260.00 FT. M. OR L.

" " " 15" PIPE = 260.'00 & 9-6" Ys.

TWO STANDARD MANHOLES INCL. IRON STEPS.



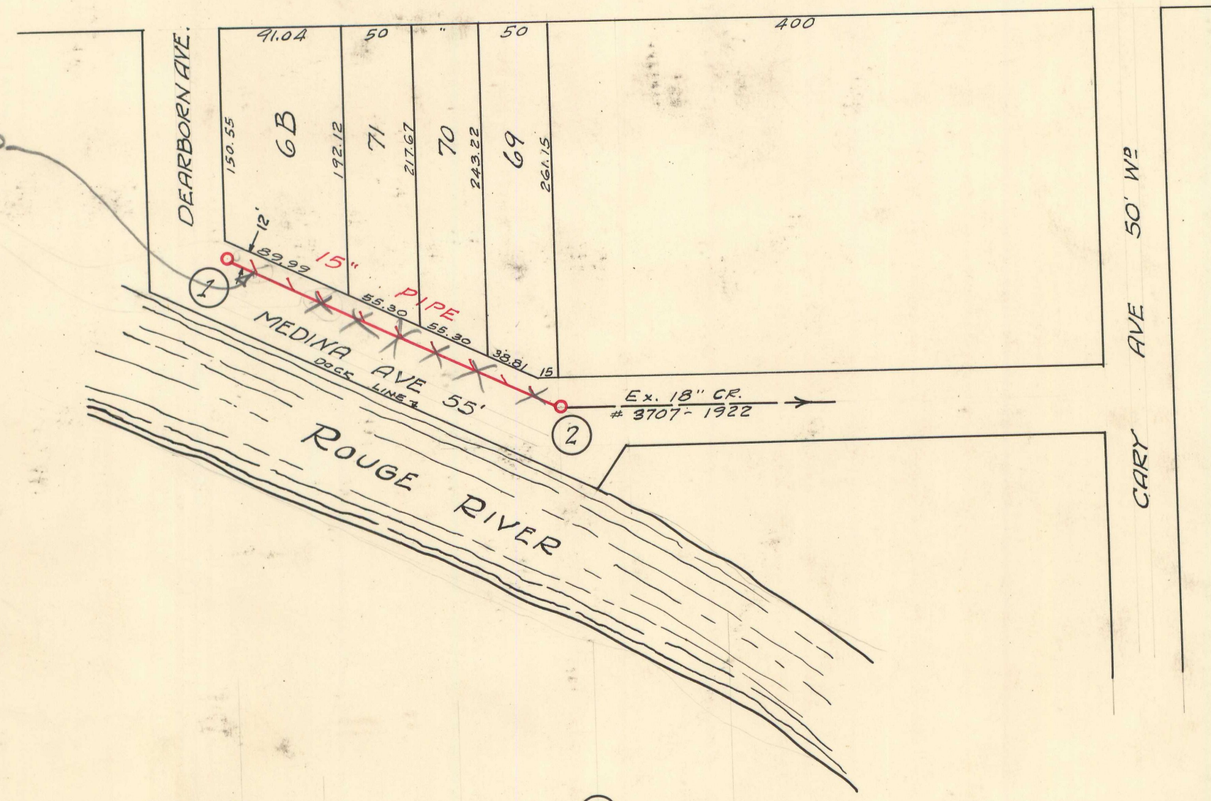


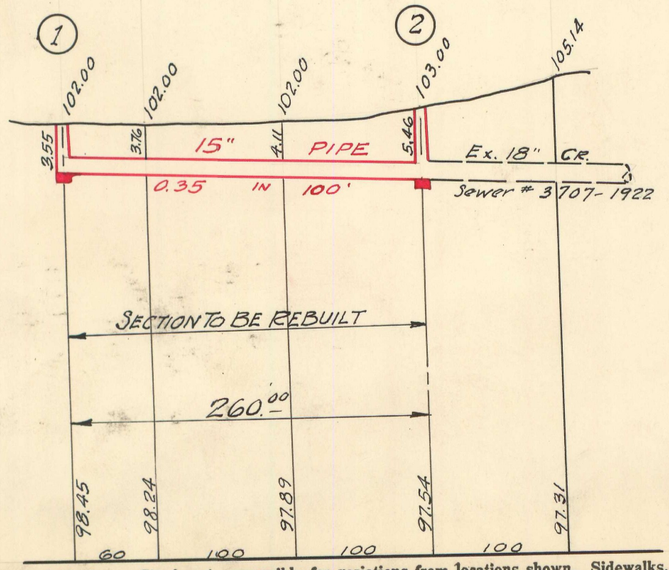
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
DETROIT, MICH.

SEWER No. 5551
ROLL No. PRIVATE

PETITION No. _____ DATE _____
RESOLUTION _____ BIDS OPENED _____
CONTRACT CONF'D _____ COMPLETED 11-1-30
TIME LIMIT _____
CONT'R _____ PRICE _____
B. M. _____

ALL CONNECTIONS OUT EXCEPT ONE INDICATED





NOTE:- CONTRACTOR TO EXCAVATE TRENCH DOWN TO CONCRETE SLAB AND BACKFILL WITH SAND UP TO INVERT OF 15" PIPE

NOTE--Contractor to furnish and set as markers for all connections ½ inch iron rods 2 feet long with 3 inch tile collar 6 inches long.

IMPORTANT NOTICE:—The location of all public utilities are taken from best available data: City is not responsible for variations from locations shown. Sidewalks, pavements, and other existing surface and underground public utilities, whether shown on drawings or not, must be adequately protected, and when damaged the contractor must restore them to their original status. Water mains and water service pipes if damaged, are to be repaired in a manner to meet the requirements of the Water Board. Sewer is to be built in tunnel under pavement, and backfilled with Class "C" concrete. Each bidder is expected to make his estimates of the facilities and difficulties attending the execution of the work, to do all necessary pumping and build or remove bulkheads when directed by City Engineer. All above costs to be borne by Contractors.

SCALE	VERTICAL 1"=10'	DRAWN	C.J.C.	CHECK	
	HORIZONTAL 1"=100'	TRACED		NOTE BOOK	

BKD - 1-2-31 - C.J.C. - S.W. 72 - MAP 1

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.

Sincerely,

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.

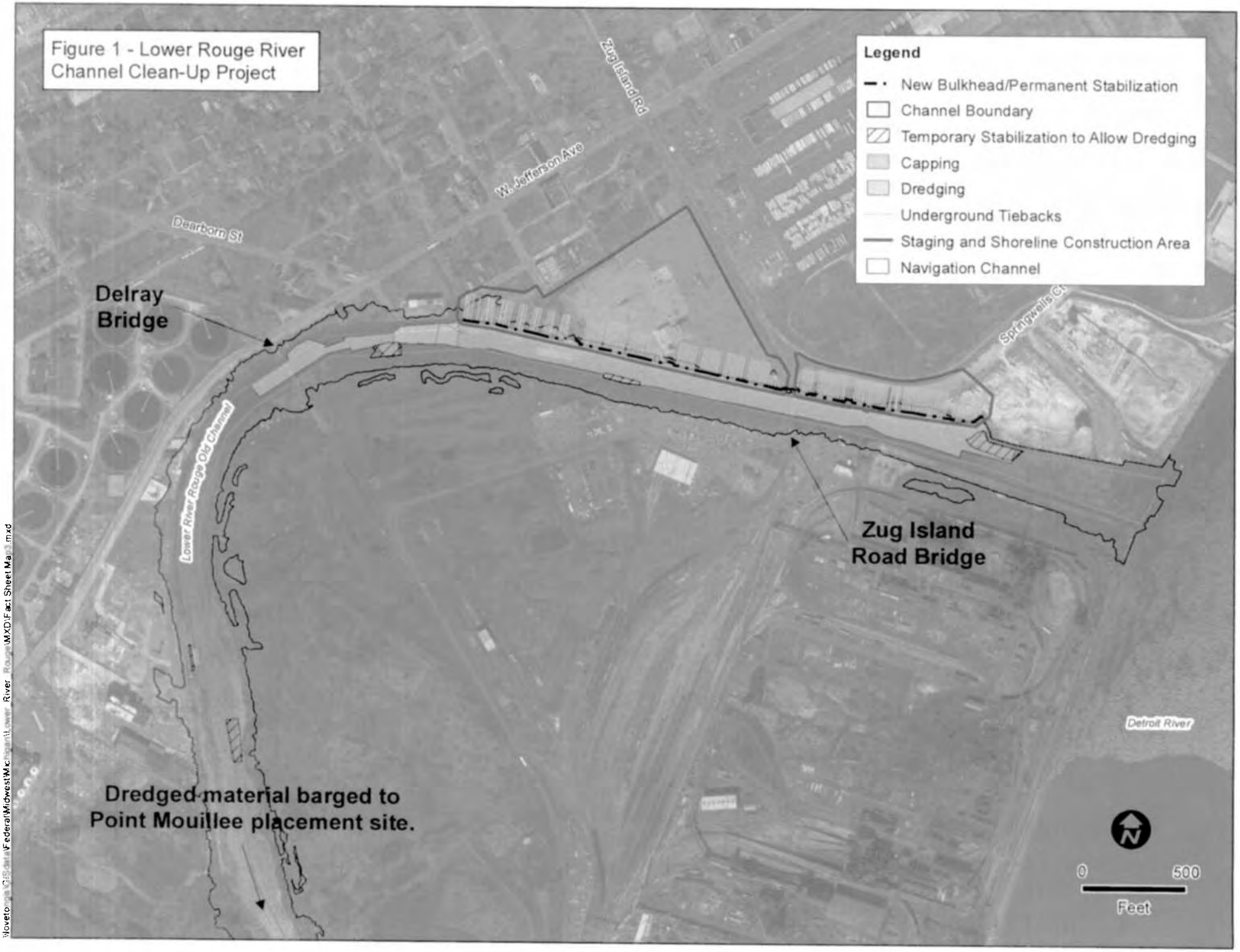
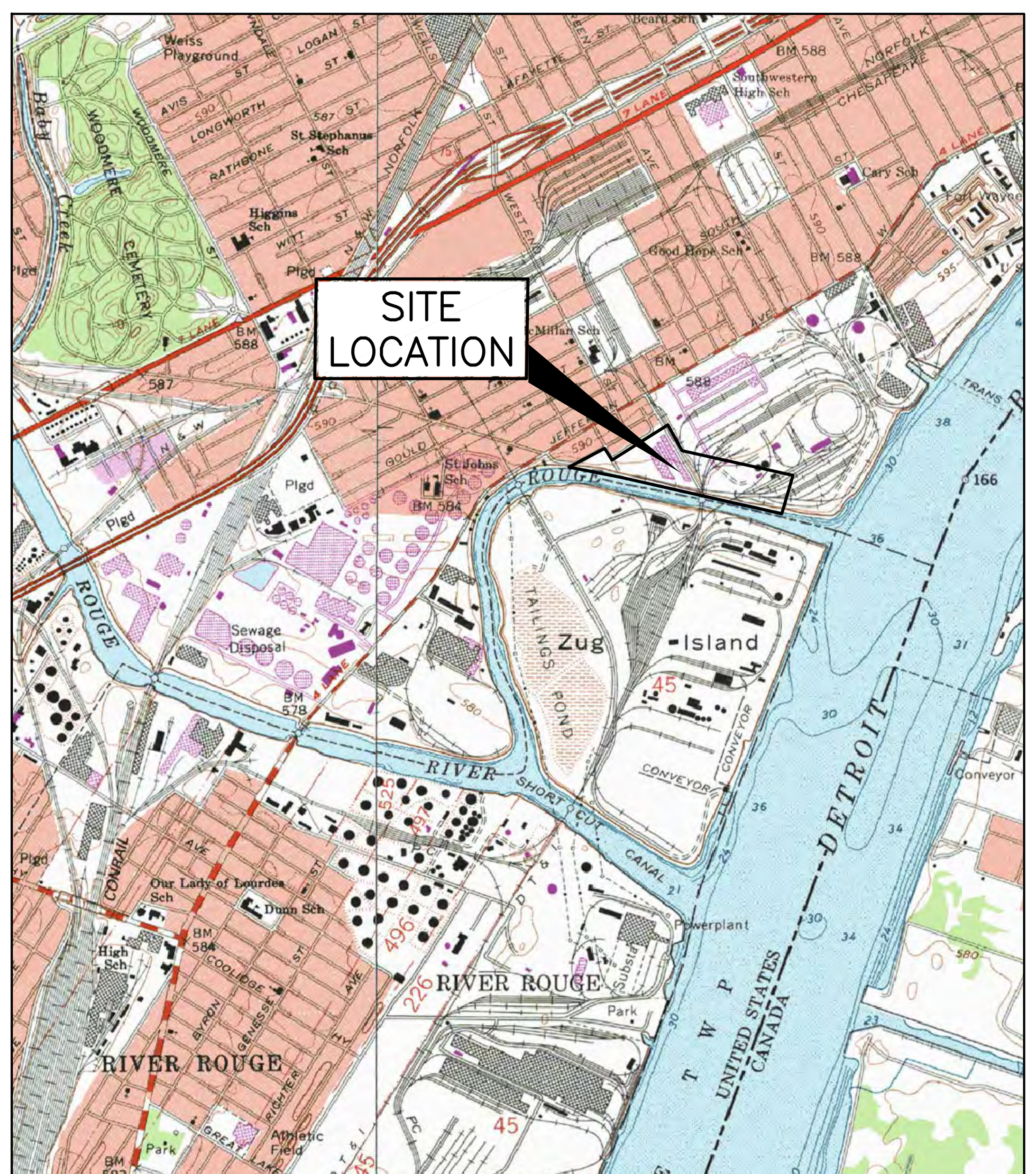


Figure 1 - Lower Rouge River Channel Clean-Up Project
Legend
New Bulkhead/Permanent Stabilization
Channel Boundary
Temporary Stabilization to Allow Dredging
Capping
Dredging
Underground Tiebacks
Staging and Shoreline Construction Area
Navigation Channel
Zug Island Rd
W. Jefferson Ave
Dearborn St
Springwells Ct
Delray Bridge
Lower River Rouge Old Channel
Zug Island Road Bridge
Detroit River
Dredged material barged to Point Mouillee placement site.
N
0
500
Feet

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

100% DESIGN
MARCH 3, 2017

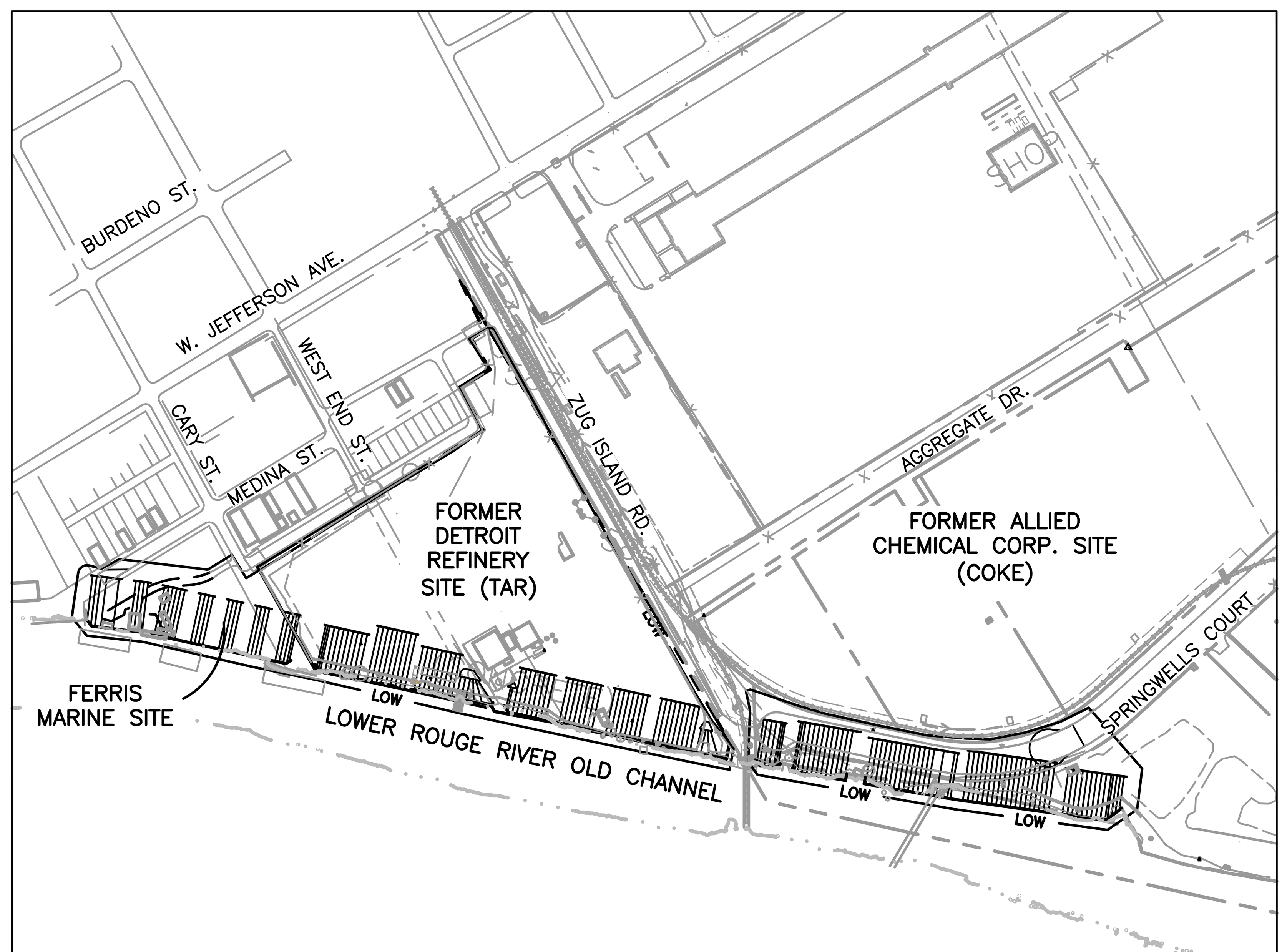


SITE LOCATION MAP

0 1000 2000 4000
SCALE IN FEET

QUADRANGLE LOCATION

Taken from the Detroit, Michigan, 7.5 Series U.S.G.S. Topographic Quadrangle Map



PROJECT LIMITS MAP

1800 ZUG ISLAND ROAD
DETROIT, MICHIGAN

0 150 300 600
SCALE IN FEET

REFERENCE DRAWINGS

1. 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).
2. LOWER ROUGE RIVER OLD CHANNEL, ROUGE RIVER AREA OF CONCERN, DETROIT, MICHIGAN, 90% DESIGN, JUNE 17, 2009.

PREPARED FOR:

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

AND

EPA

IN ASSOCIATION WITH:

ANCHOR QEA

AND

EA Engineering, Science, and Technology, Inc., PBC

DRAWING INDEX

Lyle N Tracy

MI PROFESSIONAL ENGINEER
LICENSE NUMBER LNT

NO.	DATE	REVISION	BY	APVD
3	3/03/17	100% DESIGN	WJW	LNT
2	8/08/16	100% DESIGN - FOR REVIEW	WJW	LNT
1	6/17/16	90% DESIGN - CLIENT REVIEW	JVM	LNT

DSGN	DR	CHK	APVD
L. TRACY	W. WHITTEN	L. STIRBAN	L. TRACY

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

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

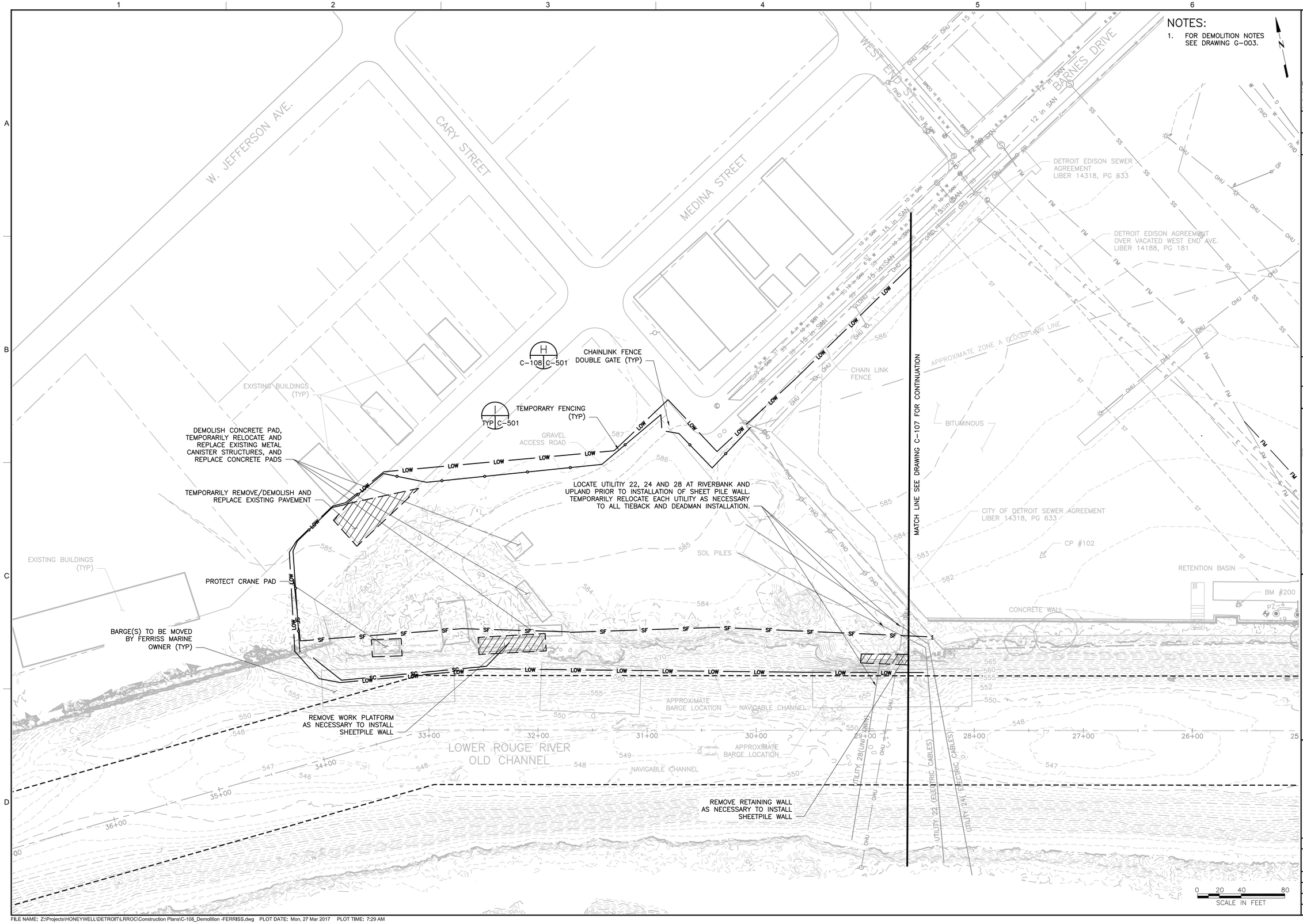
DRAWING STATUS
100% DESIGN

GENERAL
COVER SHEET

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
0 1"

DATE	JUNE 2016
PROJ	3293-16-1667
DWG	G-001
SHEET	1 OF 52



NO.	DATE	REVISION	BY	APVD
4	3/28/17	100% DESIGN - REVISED	WJW	LNT
3	3/03/17	100% DESIGN	WJW	LNT
2	8/08/16	100% DESIGN - FOR REVIEW	WJW	LNT
1	6/17/16	90% DESIGN - CLIENT REVIEW	JVM	LNT

DSGN L. TRACY | DR J. McKENZIE | CHK L. STIRBAN | APVD L. TRACY

Lyle N Tracy
MI 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 SHETPILE WALL INSTALLATION
DETROIT, MICHIGAN
HONEYWELL SITE ID - 35057

DRAWING STATUS
100% DESIGN

CIVIL
SITE DEMOLITION PLAN
(FERRISS)

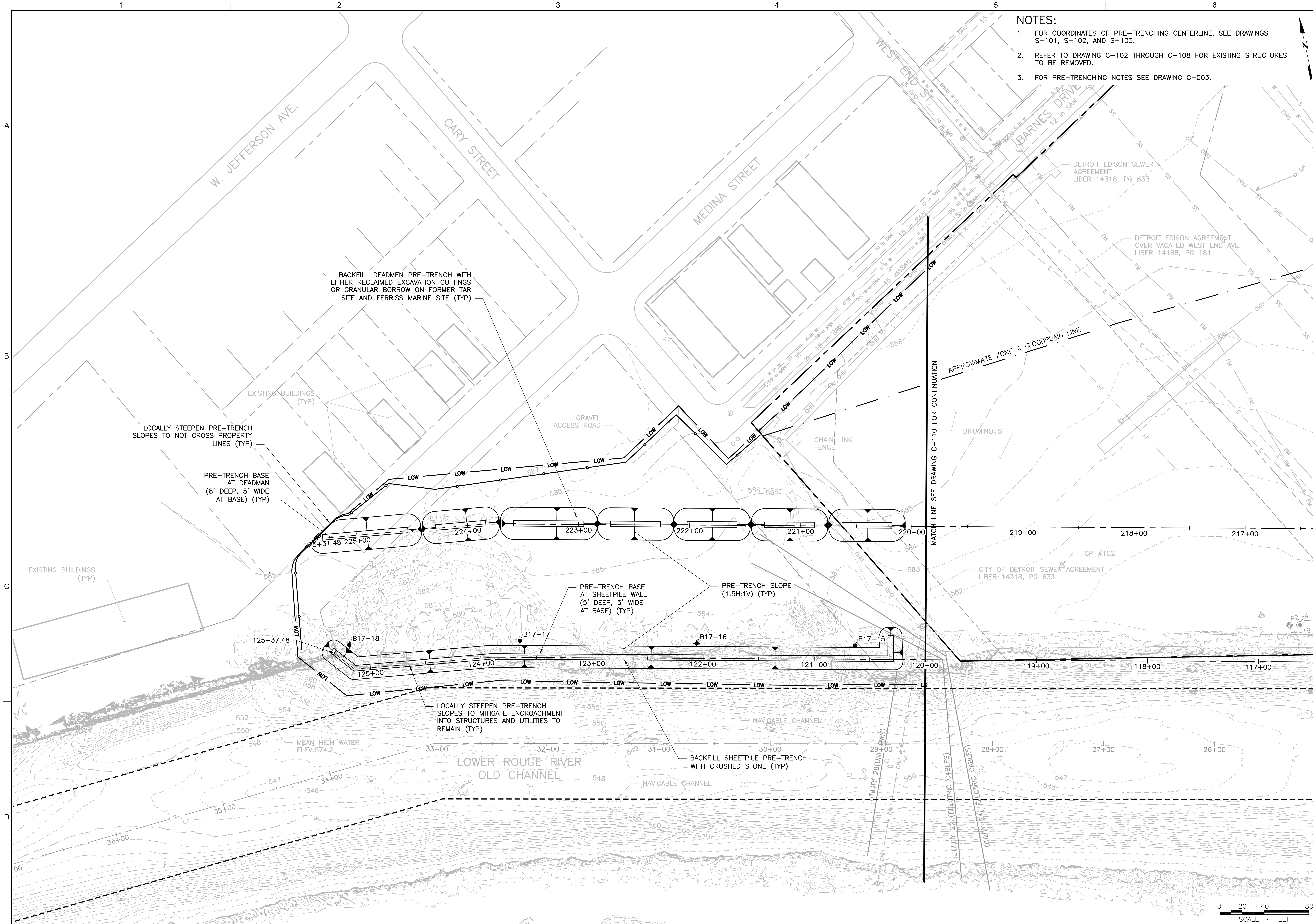
amec foster wheeler
Environment & Infrastructure, Inc.
511 Congress Street, Suite 200
Portland, ME, 04112
(207) 775 - 5401

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

DATE JUNE 2016
PROJ 3293-16-1667
DWG C-108
SHEET 11 OF 52

NOTES:

1. FOR COORDINATES OF PRE–TRENCHING CENTERLINE, SEE DRAWINGS S–101, S–102, AND S–103.
2. REFER TO DRAWING C–102 THROUGH C–108 FOR EXISTING STRUCTURES TO BE REMOVED.
3. FOR PRE–TRENCHING NOTES SEE DRAWING G–003.



Lyle N Tracy

NO.	DATE	REVISION	BY	APVD
4	3/28/17	100% DESIGN - REVISED	WJW	LNT
3	3/03/17	100% DESIGN	WJW	LNT
2	8/08/16	100% DESIGN - FOR REVIEW	WJW	LNT
1	6/17/16	90% DESIGN - CLIENT REVIEW	JVM	LNT

DSGN	DR	CHK	APVD
L. TRACY	W. WHITTEN	L. STIRBAN	L. TRACY

MI 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 SHETPILE WALL INSTALLATION
DETROIT, MICHIGAN
HONEYWELL SITE ID - 35057

DRAWING STATUS
100% DESIGN

CIVIL
PRE-TRENCHING PLAN
(FERRISS)

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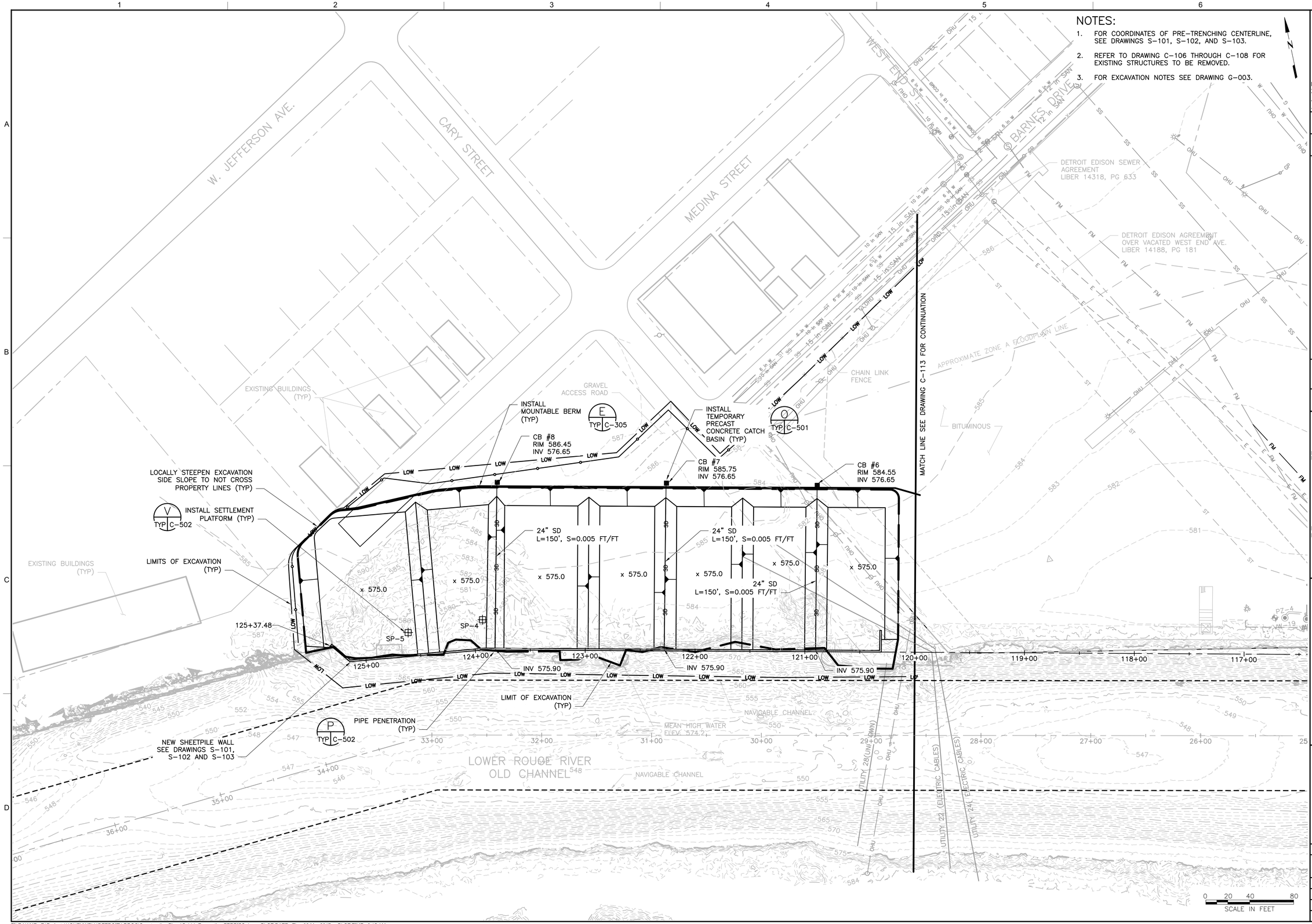
Portland, ME, 04112
(207) 775 - 5401

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

DATE	JUNE 2016
PROJ	3293-16-1667
DWG	C-111
SHEET	14 OF 52

NOTES:

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



NO.	DATE	DR	CHK	APVD
3	3/03/17	WJW	LNT	
2	8/08/16	WJW	LNT	
1	6/17/16	JVM	LNT	
	REVISION	BY	APVD	
DSGN	L. TRACY	J. McKENZIE	L. STIRBAN	L. TRACY

Lyle N Tracy
MI 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

CIVIL
EXCAVATION PLAN
(FERRISS)

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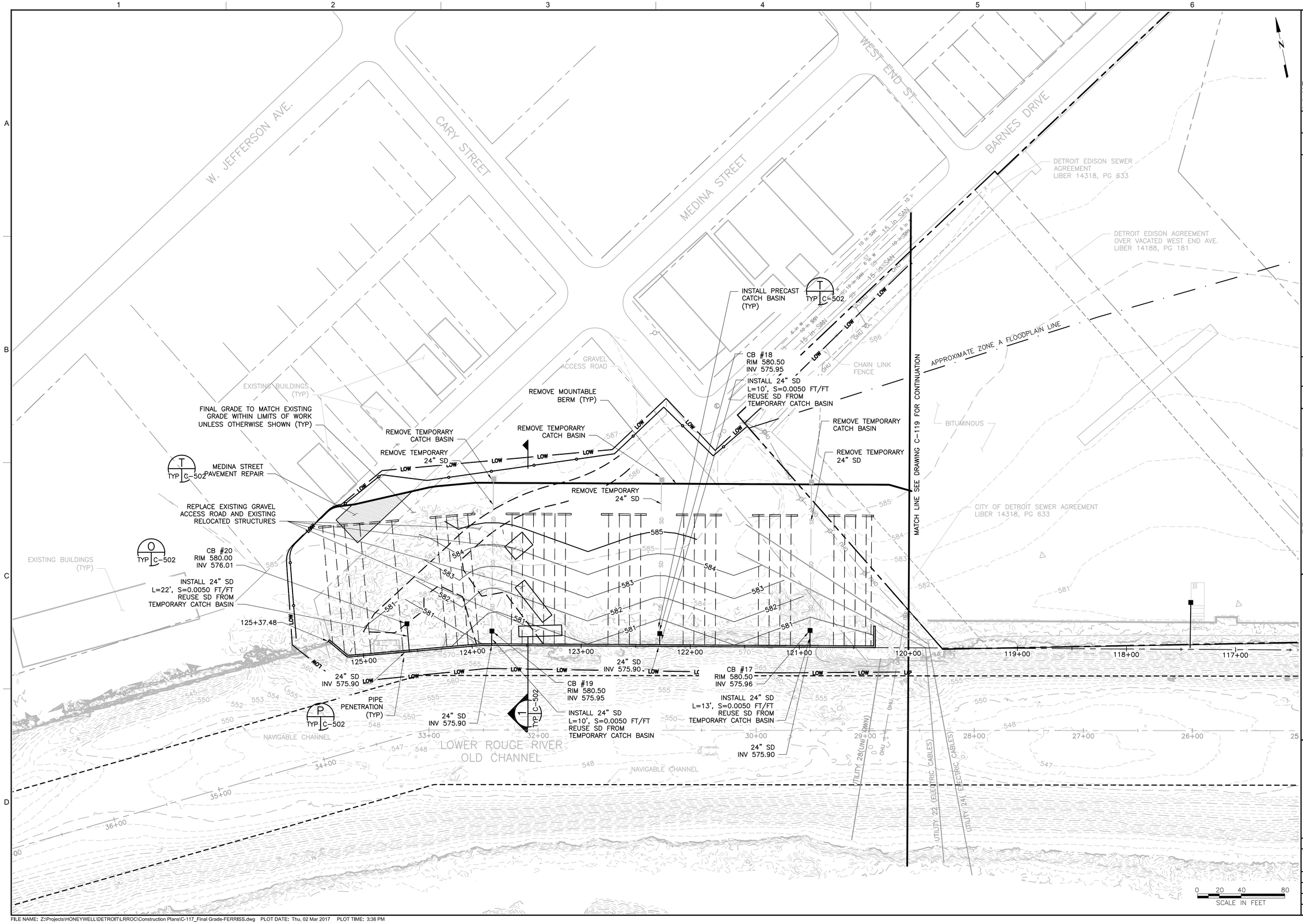
Environment & Infrastructure, Inc.
511 Congress Street, Suite 200
Portland, ME. 04112
(207) 775 - 5401

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

DATE	JUNE 2016
PROJ	3293-16-1667
DWG	C-114
SHEET	17 OF 52

FILE NAME: Z:\Projects\HONEYWELL\DETROIT\LRROC\Construction Plans\C-114_Excavation-FERRISS.dwg PLOT DATE: Thu, 02 Mar 2017 PLOT TIME: 9:15 AM



NO.	DATE	REVISION	BY	APVD
3	3/03/17	100% DESIGN	WJW	LNT
2	8/08/16	100% DESIGN - FOR REVIEW	WJW	LNT
1	6/17/16	90% DESIGN - CLIENT REVIEW	JVM	LNT

DSGN L. TRACY | DR J. McKENZIE | CHK L. STIRBAN | APVD L. TRACY

Lyle N Tracy
MI 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 SHETPILE WALL INSTALLATION
DETROIT, MICHIGAN
HONEYWELL SITE ID - 35057

DRAWING STATUS
100% DESIGN

CIVIL
FINAL GRADING PLAN
(FERRISS)

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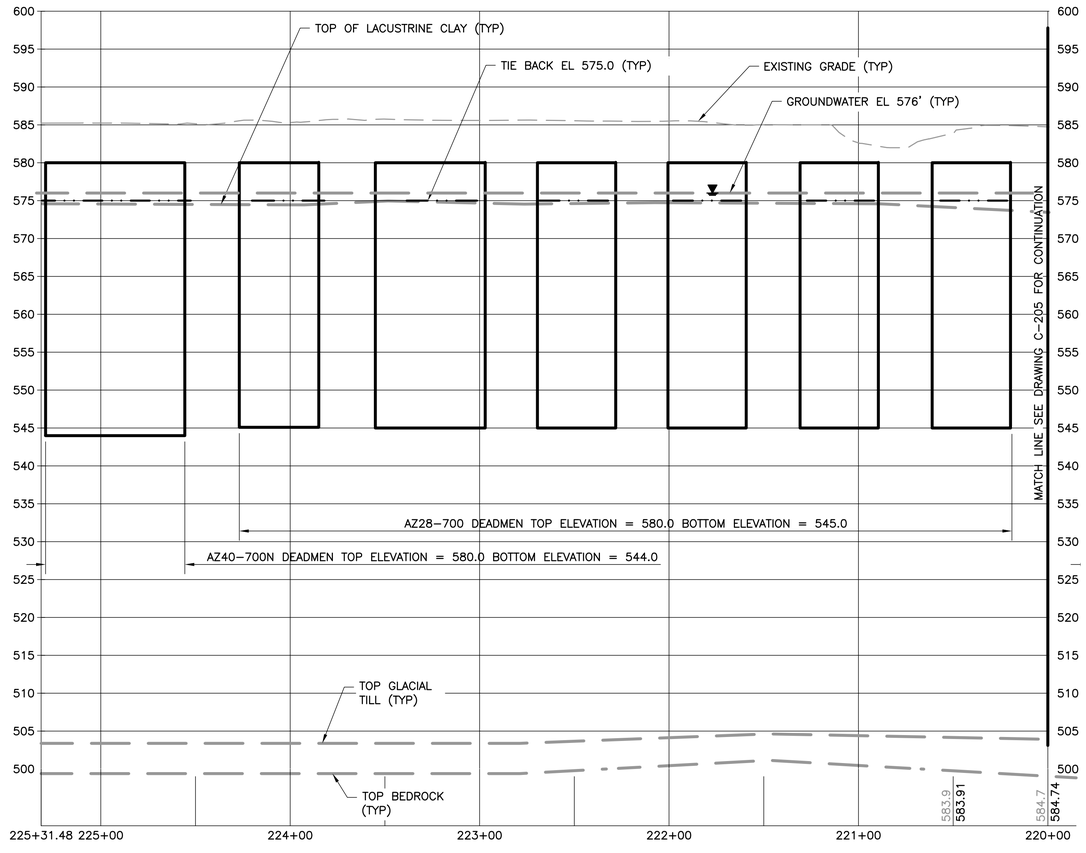
Portland, ME, 04112
(207) 775 - 5401

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

DATE	JUNE 2016
PROJ	3293-16-1667
DWG	C-117
SHEET	20 OF 52



0 20 40 80
SCALE IN FEET

0 5 10 20
SCALE IN FEET

Lyle N Tracy

NO.	DATE	DSGN	DR	CHK	APVD
3	3/03/17	L. TRACY	J. McKENZIE	L. STIRBAN	L. TRACY
2	8/08/16	100% DESIGN			
1	6/17/16	100% DESIGN - FOR REVIEW			
		90% DESIGN - CLIENT REVIEW			
		REVISION			

BY	APVD
WJW	LNT
JVM	LNT
JVM	LNT

MI 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 SHETPILE WALL INSTALLATION
DETROIT, MICHIGAN
HONEYWELL SITE ID - 35057

DRAWING STATUS
100% DESIGN

CIVIL

INTERPRETIVE SUBSURFACE
PROFILE ALONG DEADMAN
ALIGNMENT
(FERRISS)

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

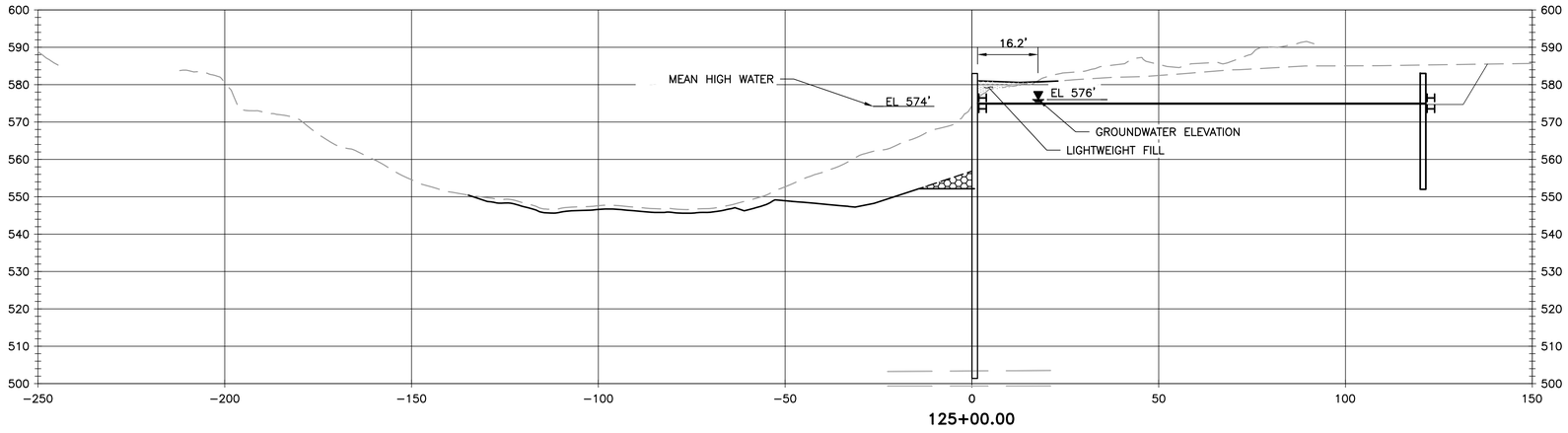
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	JUNE 2016
PROJ	3293-16-1667
DWG	C-206
SHEET	26 OF 52

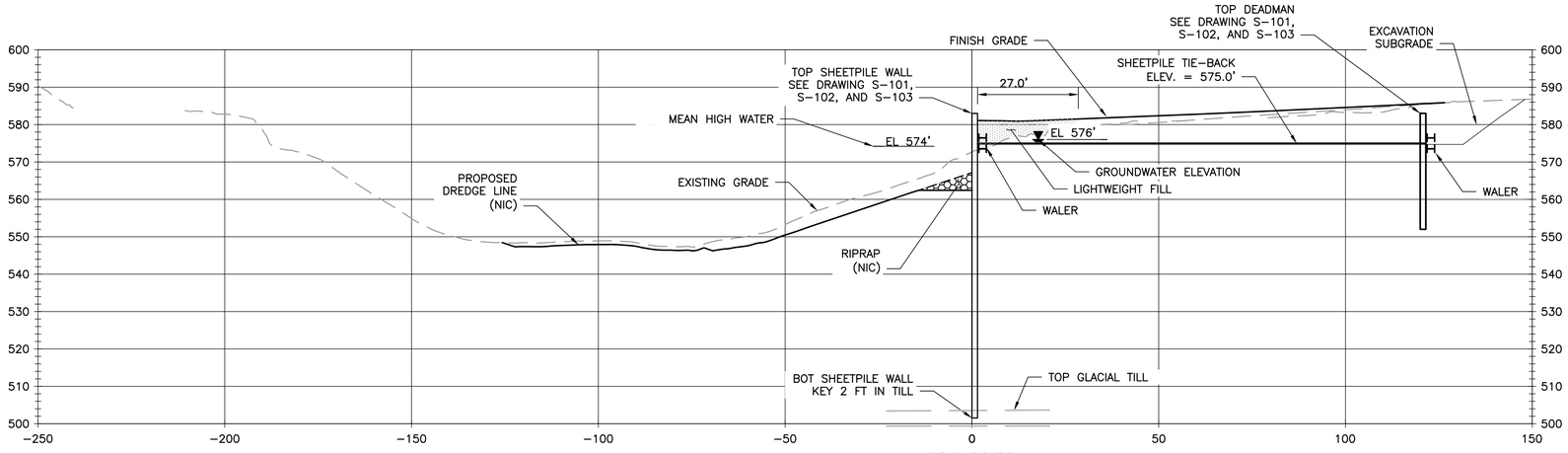
FILE NAME: Z:\Projects\HONEYWELL\DETROIT\LRROC\Construction Plans\C-206_Deadman Profile - FERRISS.dwg PLOT DATE: Thu, 02 Mar 2017 PLOT TIME: 12:43 PM

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.



125+00.00



124+00.00

0 10 20 40
SCALE IN FEET

Lyle N Tracy

MI PROFESSIONAL ENGINEER
LICENSE NUMBER Lic_NUM

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

Honeywell
101 COLUMBIA RD. BOX 2102, MORRISTOWN, NJ 07962

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
CROSS SECTIONS
STA 124+00 TO STA 125+00

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Environment & Infrastructure, Inc.
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Portland, ME. 04112
(207) 775 - 5401

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

DATE	JUNE 2016
PROJ	3293-16-1667
DWG	C-409
SHEET	40 OF 52

LAYOUT DATA SHEETPILE WALL

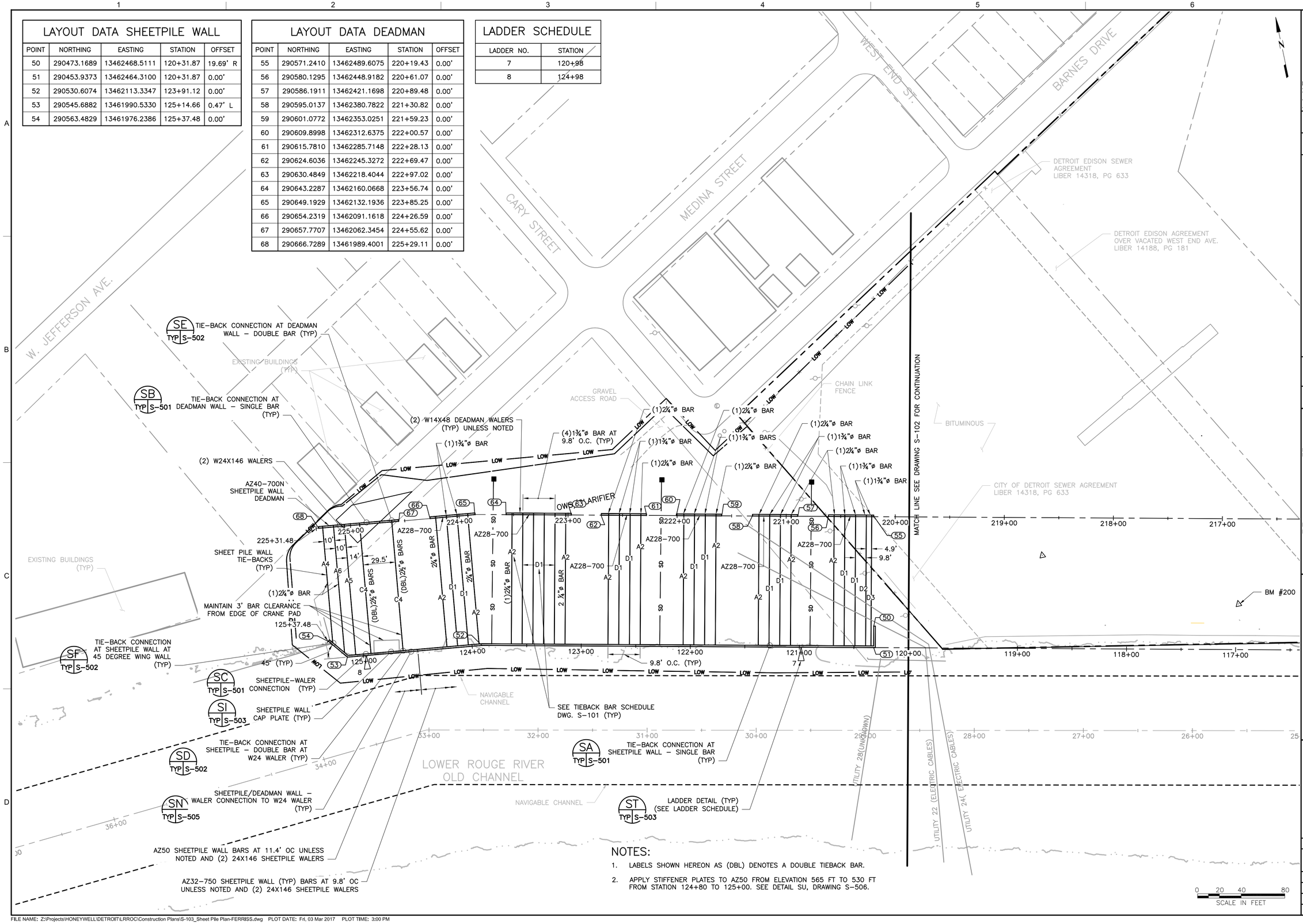
POINT	NORTHING	EASTING	STATION	OFFSET
50	290473.1689	13462468.5111	120+31.87	19.69' R
51	290453.9373	13462464.3100	120+31.87	0.00'
52	290530.6074	13462113.3347	123+91.12	0.00'
53	290545.6882	13461990.5330	125+14.66	0.47' L
54	290563.4829	13461976.2386	125+37.48	0.00'

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	290601.0772	13462353.0251	221+59.23	0.00'
60	290609.8998	13462312.6375	222+00.57	0.00'
61	290615.7810	13462285.7148	222+28.13	0.00'
62	290624.6036	13462245.3272	222+69.47	0.00'
63	290630.4849	13462218.4044	222+97.02	0.00'
64	290643.2287	13462160.0668	223+56.74	0.00'
65	290649.1929	13462132.1936	223+85.25	0.00'
66	290654.2319	13462091.1618	224+26.59	0.00'
67	290657.7707	13462062.3454	224+55.62	0.00'
68	290666.7289	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 565 FT TO 530 FT FROM STATION 124+80 TO 125+00. SEE DETAIL SU, DRAWING S-506.

NO.	DATE	REVISION	CHK	APVD
DSGN	L. TRACY	DR W. WHITTEN	L. STIRBAN	L. TRACY
4	3/03/17	100% DESIGN	WJW	LNT
3	11/22/16	USACE PERMIT RESPONSE	WJW	LNT
2	8/08/16	100% DESIGN - FOR REVIEW	WJW	LNT
1	6/17/16	90% DESIGN - CLIENT REVIEW	JVM	LNT
			BY	APVD

Lyle N Tracy
MI 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 SHETPILE WALL INSTALLATION
DETROIT, MICHIGAN
HONEYWELL SITE ID - 35057

DRAWING STATUS
100% DESIGN

STRUCTURAL

PERMANENT SHEET PILE WALL AND ANCHOR SYSTEN PLAN (FERRISS)

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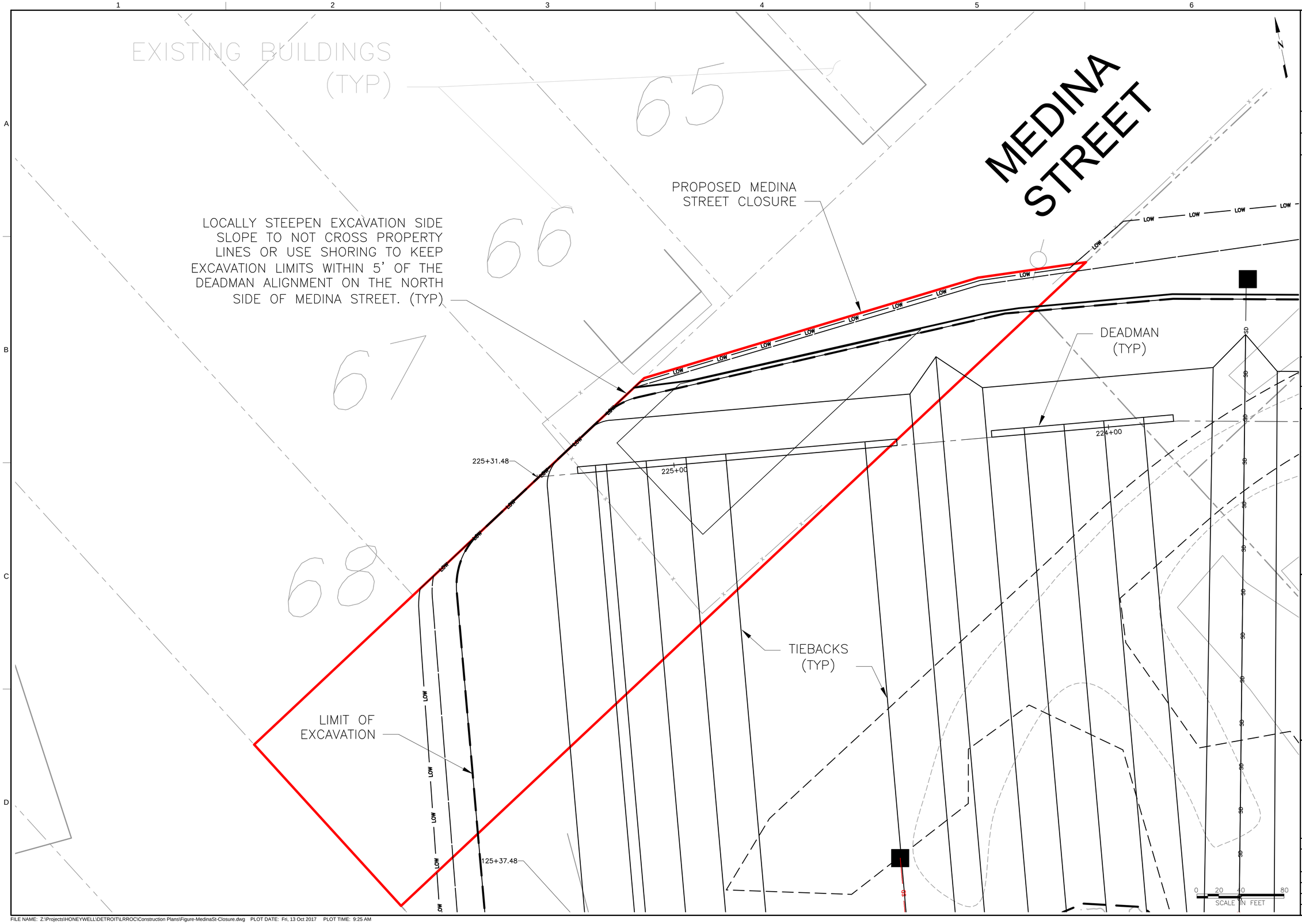
Environment & Infrastructure, Inc.
511 Congress Street, Suite 200
Portland, ME 04112
(207) 775 - 5401

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

DATE	JUNE 2016
PROJ	3293-16-1667
DWG	S-103
SHEET	46 OF 52



NO.	DSGN	DATE	REVISION	DR	CHK	APVD	BY	APVD

MI PROFESSIONAL ENGINEER
LICENSE NUMBER

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

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

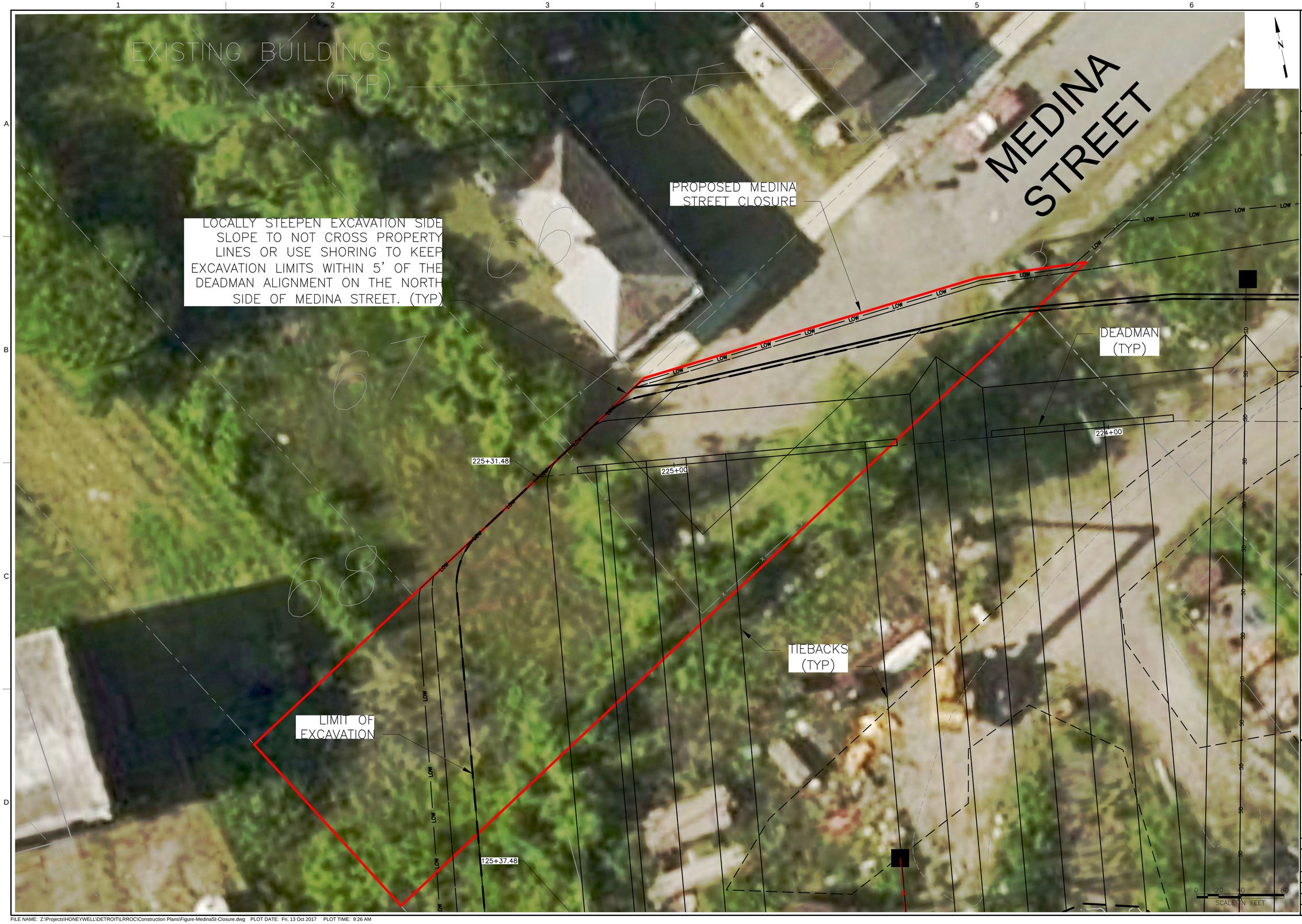
DRAWING STATUS
ISSUED CONSTRUCTION - DRAFT

PROPOSED MEDINA STREET CLOSURE

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
0 1"

DATE
PROJ 3293-16-1667
DWG
SHEET OF 53



NO.	DATE	REVISION	BY	APVD
DSGN		DR CHK	APVD	

MI PROFESSIONAL ENGINEER LICENSE NUMBER

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

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

DRAWING STATUS
ISSUED CONSTRUCTION - DRAFT

PROPOSED MEDINA STREET CLOSURE

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
0 1"

DATE	
PROJ	3293-16-1667
DWG	
SHEET	OF 53