



# PUBLIC NOTICE

US Army Corps  
of Engineers  
New York District, CENAN-OP-R  
Upstate Regulatory Field Office  
1 Buffington Street, Bldg. 10, 3<sup>rd</sup> Floor  
Watervliet, New York 12189-4000

**In replying refer to:**

Public Notice Number: NAN-2017-00049-USH  
Issue Date: AUG 7, 2017  
Expiration Date: SEP 6, 2017

To Whom It May Concern:

The New York District, Corps of Engineers has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S. C. 1344).

**APPLICANT:** City of Troy – Engineering Department  
433 River Street, Suite 5001  
Troy, New York 12180

**ACTIVITY:** Discharge of material below the mean high tide elevation of the Hudson River to facilitate the repair and reconstruction of an existing seawall, and the dredging with upland disposal and return flow back to the waterway

**WATERWAY:** Hudson River

**LOCATION:** City of Troy, Rensselaer County, New York

A detailed description and plans of the applicant's activity are enclosed to assist in your review.

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

ALL COMMENTS REGARDING THE PERMIT APPLICATION MUST BE PREPARED IN WRITING AND MAILED TO THE ATTENTION OF BRAD SHERWOOD AT THE ABOVE ADDRESS, OR SENT VIA ELECTRONIC MAIL TO [Brad.Sherwood@usace.army.mil](mailto:Brad.Sherwood@usace.army.mil), TO REACH THIS OFFICE BY THE EXPIRATION DATE OF THIS NOTICE, otherwise, it will be presumed that there are no objections to the activity.

Comments submitted in response to this notice will be fully considered during the public interest review for this permit application. Comments provided will become part of the public record for this permit application. All written comments, including contact information, will be made a part of the administrative record, available to the public under the Freedom of Information Act. The Administrative Record, or portions thereof, may also be posted on a Corps of Engineers internet web site. Due to resource limitations, this office will normally not acknowledge the receipt of comments or respond to individual letters of comment.

Any person may request, in writing, before this public notice expires, that a public hearing be held to collect information necessary to consider this application. Requests for public hearings shall state, with particularity, the reasons why a public hearing should be held. It should be noted that information submitted by mail is considered just as carefully in the permit decision process and bears the same weight as that furnished at a public hearing.

The Federal Emergency Management Agency (FEMA) is the lead Federal agency for this project. As the lead agency, FEMA is responsible for coordinating the review of the project in accordance with the National Environmental Policy Act (NEPA). This coordinated review will be conducted pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act (Public Law 104-267), and Section 106 of the National Historic Preservation Act of 1966 (NHPA), as well as other applicable Federal regulations. The District will continue to coordinate with the FEMA during its review of the Department of the Army permit application for the project.

Reviews of activities pursuant to Section 404 of the Clean Water Act will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404 (b) of the Clean Water Act and the applicant will obtain a water quality certificate or waiver from the appropriate state agency in accordance with Section 401 of the Clean Water Act prior to a permit decision.

Pursuant to Section 307 (c) of the Coastal Zone Management Act of 1972 as amended [16 U.S.C. 1456 (c)], for activities under consideration that are located within the coastal zone of a state which has a federally approved coastal zone management program, the applicant has certified in the permit application that the activity complies with, and will be conducted in a manner that is consistent with, the approved state coastal zone management program. By this public notice, we are requesting the state's concurrence with, objection to, or waiver of the applicant's certification. No permit decision will be made until one of these actions occur. For activities within the coastal zone of New York State, the applicant's certification and accompanying information is available from the Consistency Coordinator, New York State Department of State, Division of Coastal Resources and Waterfront Revitalization, Coastal Zone Management Program, One Commerce Plaza, 99 Washington Avenue, Albany, New York 12231, Telephone (518) 474-6000. Comments regarding the applicant's certification, and copies of any letters to this office commenting upon this proposal, should be so addressed.

In addition to any required water quality certificate and coastal zone management program concurrence, the applicant has obtained or requested the following governmental authorization for the activity under consideration:

- New York State Department of Environmental Conservation – Article 15, Title 5 Excavation & Fill in Navigable Waters

In order for us to better serve you, please complete our Customer Service Survey located at:

<http://www.nan.usace.army.mil/Missions/Regulatory/CustomerSurvey.aspx>

It is requested that you communicate the foregoing information concerning the activity to any persons known by you to be interested and who did not receive a copy of this notice. If you have any questions concerning this application, you may contact Brad Sherwood of this office at (518) 266-6355.

For more information on New York District Corps of Engineers programs, visit our website at <http://www.nan.usace.army.mil>

  
**For and in behalf of**  
Stephan A. Ryba  
Chief, Regulatory Branch

Enclosures

## WORK DESCRIPTION

The applicant, the City of Troy, has requested Department of the Army permit for the discharge of fill material below the mean high tide elevation of the Hudson River to facilitate the repair of an existing seawall, along the Hudson River, in the City of Troy, Rensselaer County, New York.

The work would involve the discharge of approximately 2,640 cubic yards of material below the mean high tide elevation of the Hudson River to facilitate the repair of approximately 3,400 linear feet of existing seawall. A portion of the wall, approximately 1,770 feet, would be repaired in-kind and in-place by grouting to fill voids and prevent further damage. Another portion, approximately 1,175 feet of the seawall wall, would require the installation of pre-cast concrete panels in front of the existing wall and tied back into the existing wall and bedrock. These concrete panels would be approximately two (2) feet waterward of the existing seawall.

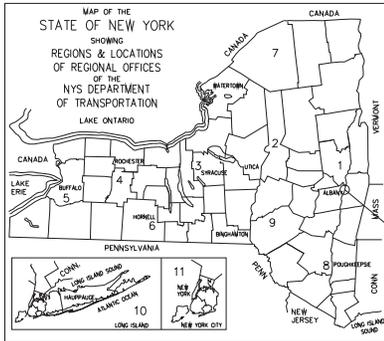
The remaining portion of the seawall, approximately 336 feet, would require the installation of concrete drilled shafts, supporting steel walers and precast concrete panels. These concrete shafts would be drilled into bedrock, in front of the existing seawall, and would support steel walers and tieback system. The precast concrete panels would be placed in front of the waler structure, and the concrete panels would be approximately five (5) feet waterward of the existing seawall. In addition, approximately 540 cubic yards of heavy stone will be discharged below the mean high tide elevation of the river against the entire base of this portion of the wall to provide additional support. This heavy stone will extend a maximum of 5 feet waterward from the base of the newly installed wall. The existing platform stairs, a 45-foot long by 5-foot wide floating gangway, that provides access to the City of Troy Fire Department Boat would be relocated approximately 800 feet upriver from their present location, and would be installed parallel to the seawall, and therefore projecting approximately 5 feet waterward from the seawall.

Additional work would occur at the mouth of the Poesten Kill, approximately 3,800 linear feet down river from the end of the seawall repair. This work would involve the mechanical dredging of approximately 100 cubic yards of accumulated debris from a 900 square foot area, utilizing a barge or land mounted excavator.

Prior to the commencement of work, a turbidity curtain will be installed along the length of the work area. All construction activities would be performed from barges or accessed directly from the top of the existing wall. It is estimated that 2 barges would be operating at the same time, and each barge would be approximately 100 feet long by 20-30 feet wide.

The stated purpose of this project is to repair the existing seawall, while stabilizing, protecting, and maintaining the structural integrity of the seawall and the adjacent businesses and infrastructure along the Hudson River.

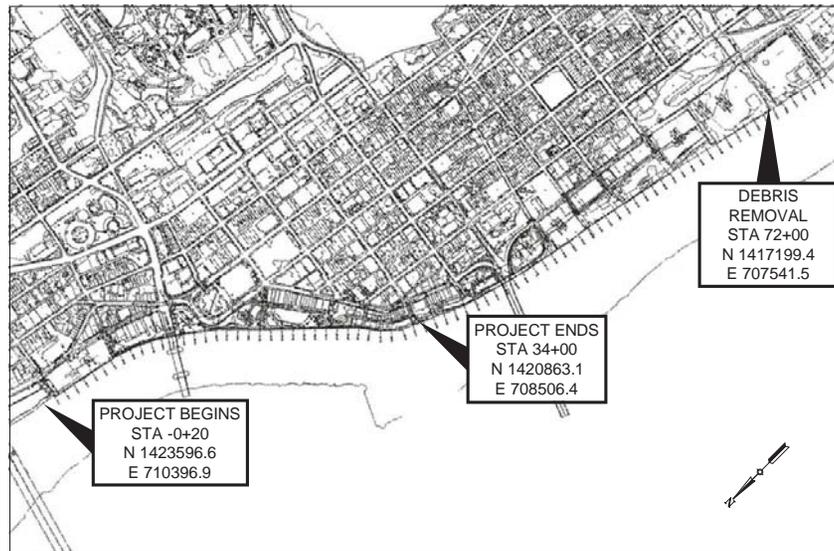
# TROY SEAWALL STABILIZATION PROJECT CITY OF TROY, RENSSELAER COUNTY HGMP # 4085-0011



PROJECT LOCATION

**PROJECT LOCATION:**

THE PROPOSED PROJECT IS LOCATED IN THE CITY OF TROY IN RENSSELAER COUNTY ALONG THE EAST BANK OF THE HUDSON RIVER. THE PROJECT BEGINS AT HUTTON STREET, APPROXIMATELY 600 FEET SOUTH OF THE STATE ROUTE 7 AND EXTENDS SOUTH APPROXIMATELY 3,450 FEET ALONG THE WALL ENDING NEAR STATE STREET. THE PROJECT ALSO INCLUDES DEBRIS REMOVAL AT THE OUTFLOW OF THE POESTEN KILL INTO THE HUDSON RIVER.



PROJECT LOCATION  
 NTS

PREPARED AND RECOMMENDED BY:

NAME:	DATE:	NAME:	DATE:	NAME:	DATE:
TITLE:		TITLE:		TITLE:	

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



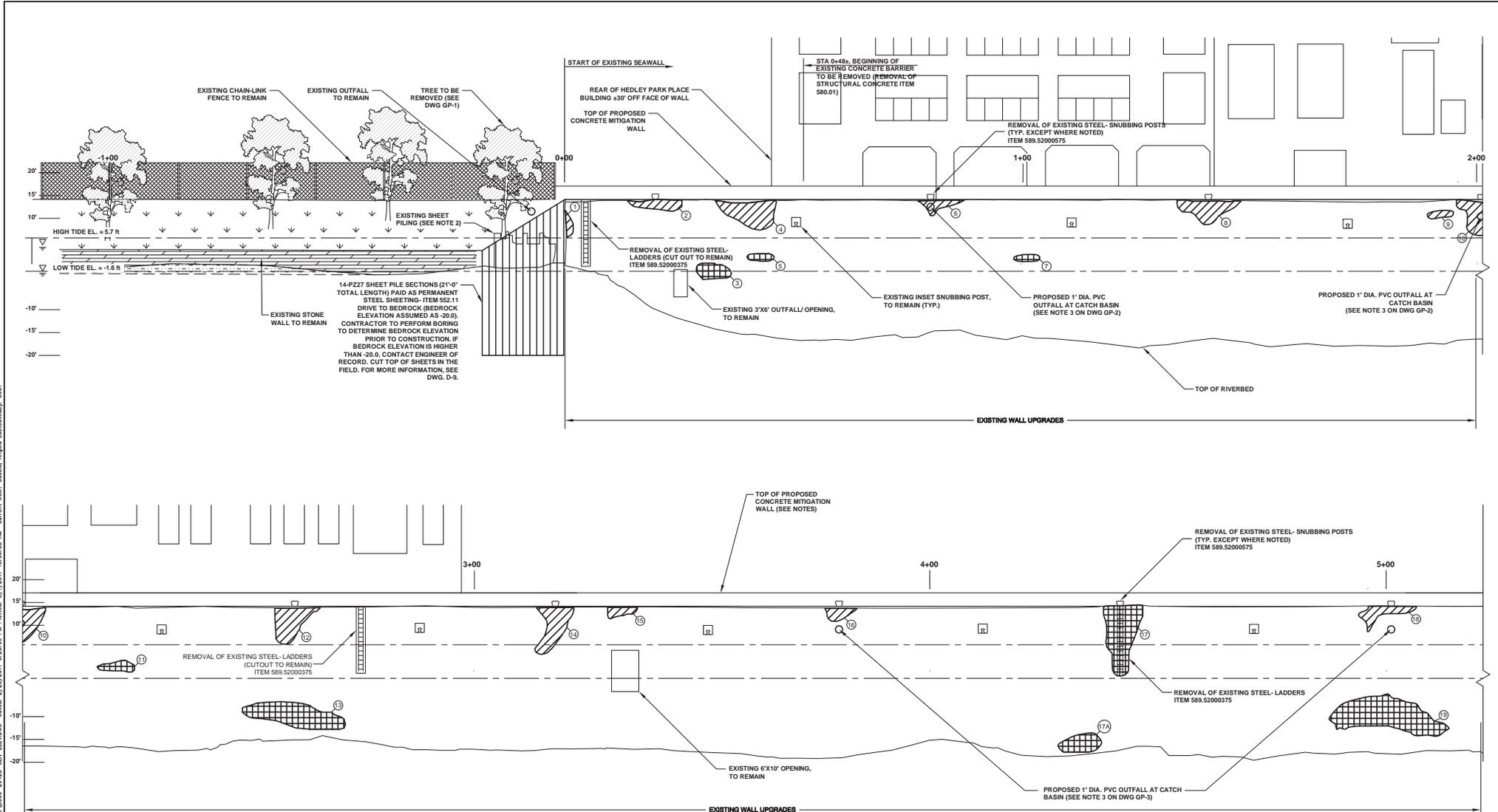
FEBRUARY 2017

CHA PROJECT NO.: 29425

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 Albany, NY 12205-0269  
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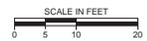


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**MAP REFERENCE:**  
 1. HORIZONTAL DATUM: NAD83 NEW YORK STATE PLANE EAST, FT. VERTICAL DATUM: NAVD83 FT AMSL  
 2. DRAWINGS BASED ON BATHYMETRIC AND ABOVE WATER LASER SCANNING PERFORMED BY H2H ASSOCIATES 11-26-2014 AND 12-09-2014 AS WELL AS DIVING INSPECTION PERFORMED BY COLLINS ENGINEERING 12-16-2014-12-22-2014.  
 3. HIGH AND LOW TIDE BASED ON AVERAGE TIDE OBSERVED BY COLLINS ENGINEERING 12-16-2014-12-22-2014.  
 4. STATIONING AS SURVEYED IN FIELD ON DEC. 5TH, 2014 BY H2H ASSOCIATES. STATIONING IS ALONG THE TOP CORNER OF THE EXISTING SEAWALL ON THE RIVER FACE. STATION 0+00 IS THE NORTHERNMOST POINT OF THE EXISTING WALL.

- LEGEND:**
-  ABOVE WATER CONCRETE UPGRADE- ITEM 582.05010075 WITH DESIGNATION
  -  UNDERWATER CONCRETE UPGRADE- ITEM 582.11010075 WITH DESIGNATION
  -  VOID TO BE FILLED IN BEHIND PROPOSED PANELS/TAPERS
  -  EXISTING TIMBER CRIBBING FOUNDATION
  -  PRECAST PANEL WALL PANEL NUMBER (SEE TABLE ON DWG T-1)
  -  CAST-IN-PLACE CONCRETE TAPER SECTION (SEE DWG D-6)
  -  CAST-IN-PLACE CONCRETE OUTFALL SECTION (SEE DWG D-7)

**NOTES:**  
 1. SEE DWG T-1 FOR SUMMARY OF VOIDS TABLE.  
 2. FOR SHEET PILING REMOVAL, SEE DWG D-9



DATE	REVISIONS RECORD/DESCRIPTION



DRAWN BY: AC  
 DESIGN BY: JCN  
 CHECK BY: RDH  
 PROJ. NO: 29425  
 SCALE: AS SHOWN  
 DATE: 02-28-2017

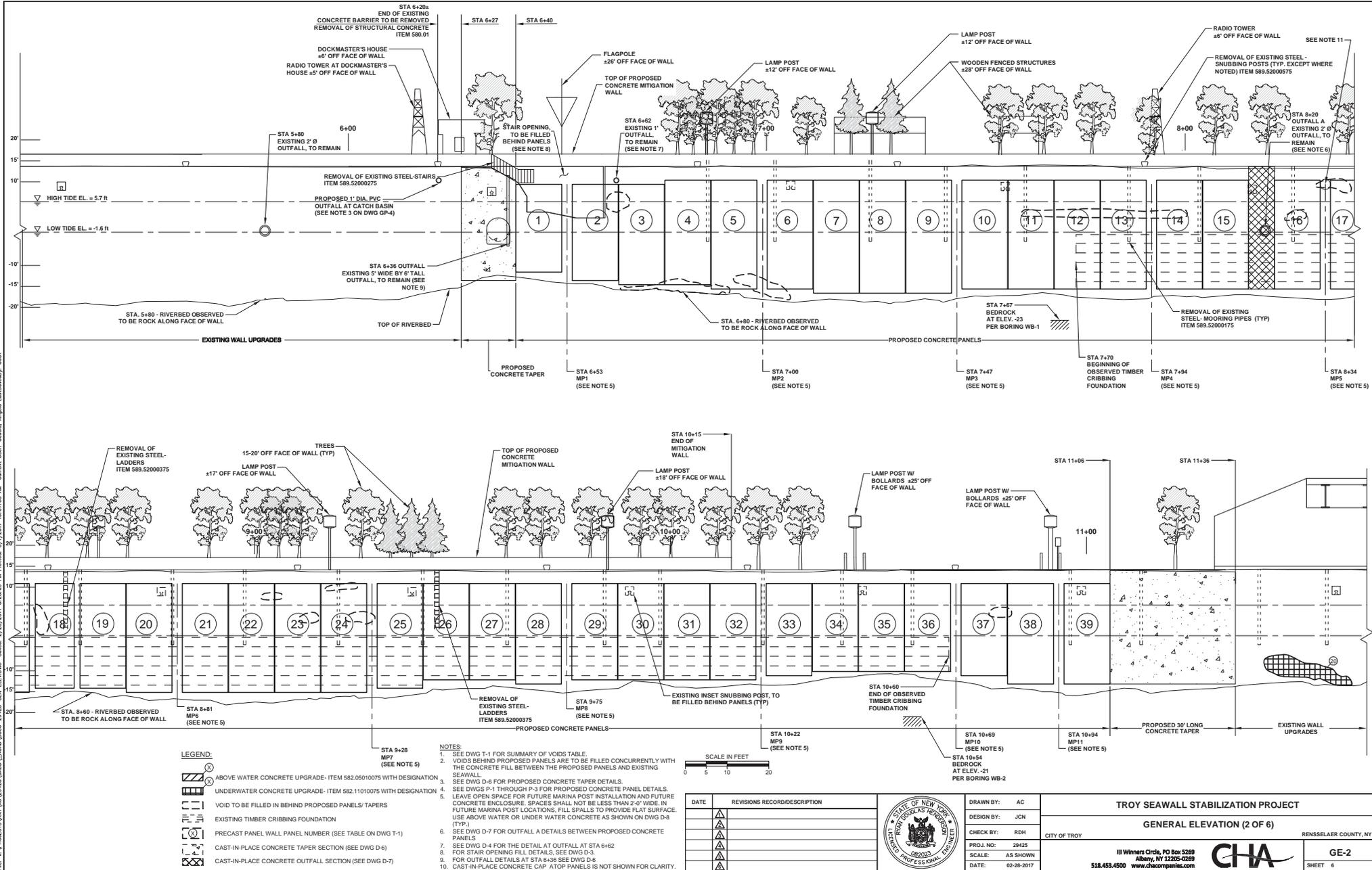
**TROY SEAWALL STABILIZATION PROJECT**

**GENERAL ELEVATION (1 OF 6)**

CITY OF TROY

RENSSELAER COUNTY, NY  
 111 Winners Circle, PO Box 5269  
 Albany, NY 12205-0269  
 518.453.4500 www.chacompanies.com


**GE-1**  
 SHEET 5



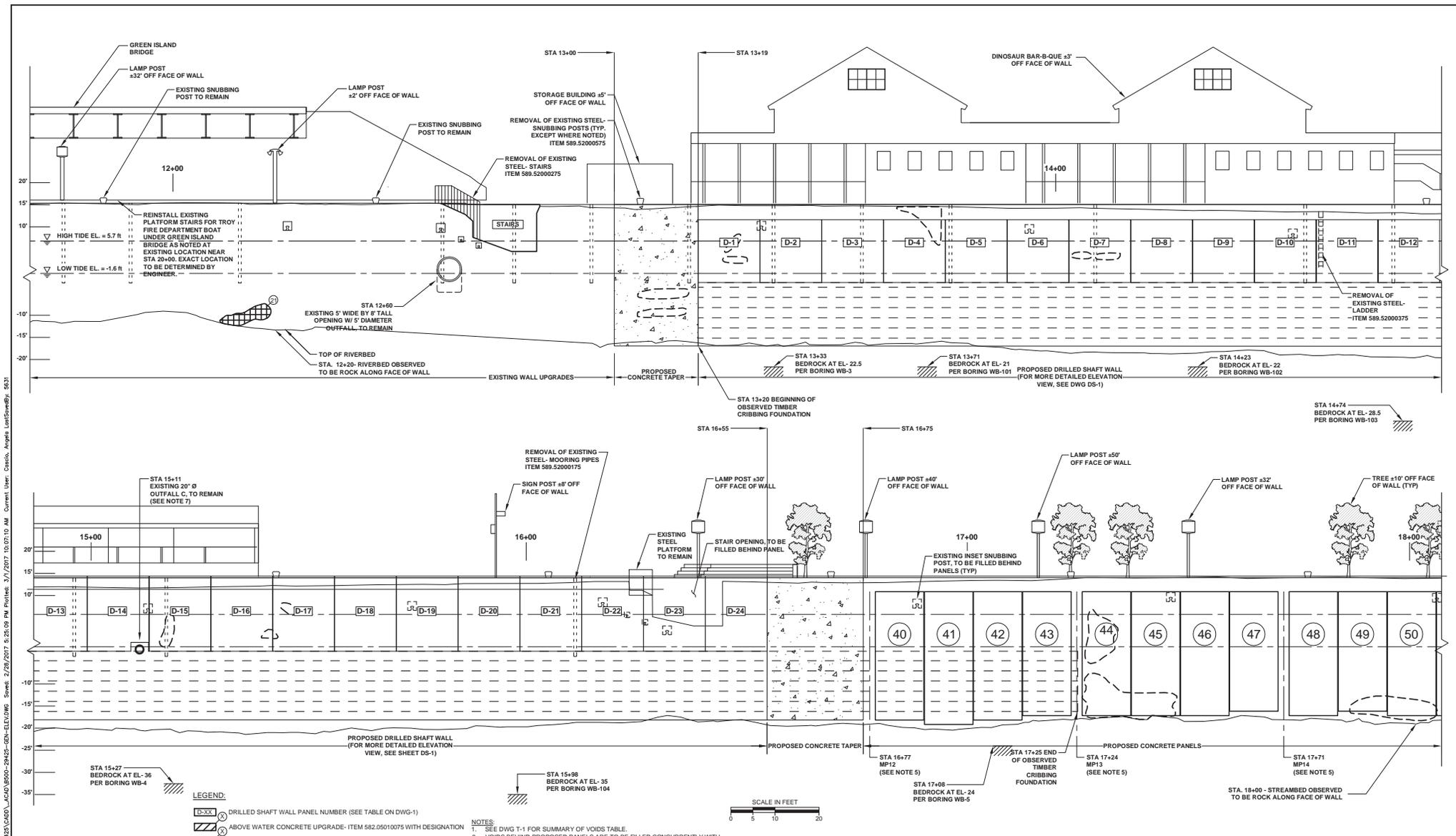
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DATE	REVISIONS RECORD/DESCRIPTION



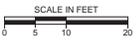
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 SCALE: AS SHOWN  
 DATE: 02-28-2017

<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>GENERAL ELEVATION (2 OF 6)</b>	
CITY OF TROY	RENSELAER COUNTY, NY
111 Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com	
<b>GE-2</b> SHEET 6	

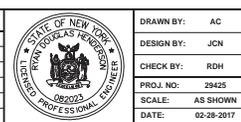


- LEGEND:**
- DRILLED SHAFT WALL PANEL NUMBER (SEE TABLE ON DWG-1)
  - ABOVE WATER CONCRETE UPGRADE- ITEM 582.05010075 WITH DESIGNATION
  - UNDERWATER CONCRETE UPGRADE- ITEM 582.110110075 WITH DESIGNATION
  - VOID TO BE FILLED IN BEHIND PROPOSED PANELS/ TAPERS
  - EXISTING TIMBER CRIBBING FOUNDATION
  - PRECAST PANEL WALL PANEL NUMBER (SEE TABLE ON DWG T-1)
  - CAST-IN-PLACE CONCRETE TAPER SECTION (SEE DWG D-6)
  - CAST-IN-PLACE CONCRETE OUTFALL SECTION (SEE DWG D-7)

- NOTES:**
1. SEE DWG T-1 FOR SUMMARY OF VOIDS TABLE.
  2. VOIDS BEHIND PROPOSED PANELS ARE TO BE FILLED CONCURRENTLY WITH THE CONCRETE FILL BETWEEN THE PROPOSED PANELS AND EXISTING SEAWALL.
  3. SEE DWG D-6 FOR PROPOSED CONCRETE TAPER DETAILS.
  4. SEE DWGS P-1 THROUGH P-3 FOR PROPOSED CONCRETE PANEL DETAILS.
  5. LEAVE OPEN SPACE FOR FUTURE MARINA POST INSTALLATION AND FUTURE CONCRETE ENCLOSURE. SPACES SHALL NOT BE LESS THAN 2'-0" WIDE. IN FUTURE MARINA POST LOCATIONS, FILL SPALLS TO PROVIDE FLAT SURFACE. USE ABOVE WATER OR UNDER WATER CONCRETE AS SHOWN ON DWG D-9 (TYP.)
  6. CAST-IN-PLACE CONCRETE CAP ATOP PANELS IS NOT SHOWN FOR CLARITY.
  7. FOR OUTFALL C DETAILS, SEE DWG D-9.



DATE	REVISIONS RECORD/DESCRIPTION

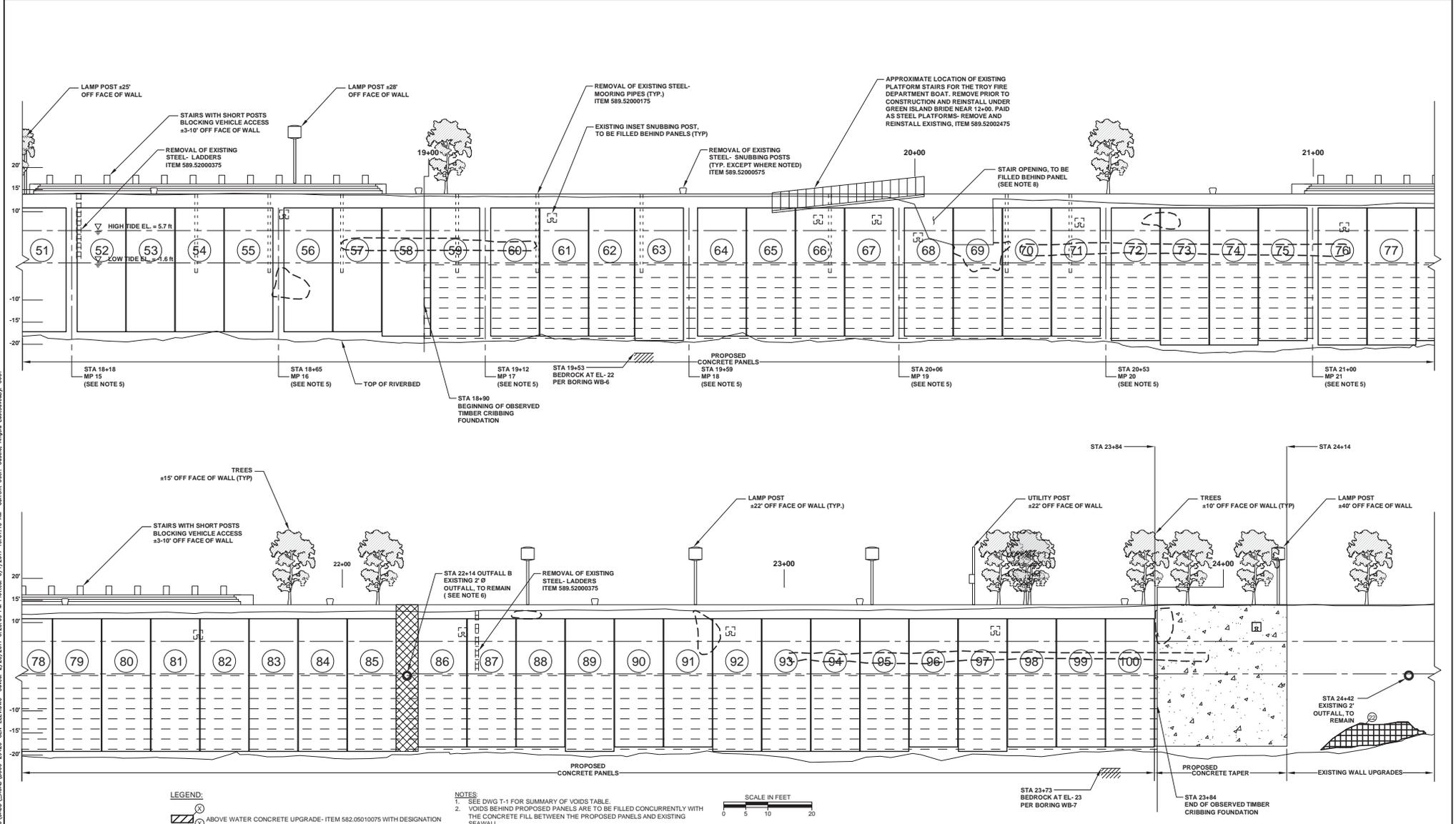


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CHECK BY: RDH		<b>GENERAL ELEVATION (3 OF 6)</b>	
PROJ. NO: 29425		CITY OF TROY	RENSELAER COUNTY, NY
SCALE: AS SHOWN			
DATE: 02-28-2017			

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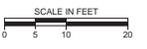
**GE-3**  
 SHEET 7

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- LEGEND:**
- ABOVE WATER CONCRETE UPGRADE- ITEM 582.05010075 WITH DESIGNATION
  - UNDERWATER CONCRETE UPGRADE- ITEM 582.11010075 WITH DESIGNATION
  - VOID TO BE FILLED IN BEHIND PROPOSED PANELS/ TAPERS
  - EXISTING TIMBER CRIBBING FOUNDATION
  - PRECAST PANEL WALL PANEL NUMBER (SEE TABLE ON DWG T-1)
  - CAST-IN-PLACE CONCRETE TAPER SECTION (SEE DWG D-6)
  - CAST-IN-PLACE CONCRETE OUTFALL SECTION (SEE DWG D-7)

- NOTES:**
1. SEE DWG T-1 FOR SUMMARY OF VOIDS TABLE.
  2. VOIDS BEHIND PROPOSED PANELS ARE TO BE FILLED CONCURRENTLY WITH THE CONCRETE FILL BETWEEN THE PROPOSED PANELS AND EXISTING SEAWALL.
  3. SEE DWG D-6 FOR PROPOSED CONCRETE TAPER DETAILS.
  4. SEE DWGS P-1 THROUGH P-3 FOR PROPOSED CONCRETE PANEL DETAILS.
  5. LEAVE OPEN SPACE FOR FUTURE MARINA POST INSTALLATION AND FUTURE CONCRETE ENCLOSURE. SPACES SHALL NOT BE LESS THAN 2'-0" WIDE IN FUTURE MARINA POST LOCATIONS. FILL SPALLS TO PROVIDE FLAT SURFACE USE ABOVE WATER OR UNDER WATER CONCRETE AS SHOWN ON DWG D-8 (TYP.)
  6. SEE DWG D-7 FOR OUTFALL B DETAILS BETWEEN PROPOSED CONCRETE PANELS
  7. CAST-IN-PLACE CONCRETE CAP ATOP PANELS IS NOT SHOWN FOR CLARITY.
  8. STAIR OPENING TO BE FILLED WITH CONCRETE SIMILAR TO STAIR OPENING DETAILS ON DWG D-3.



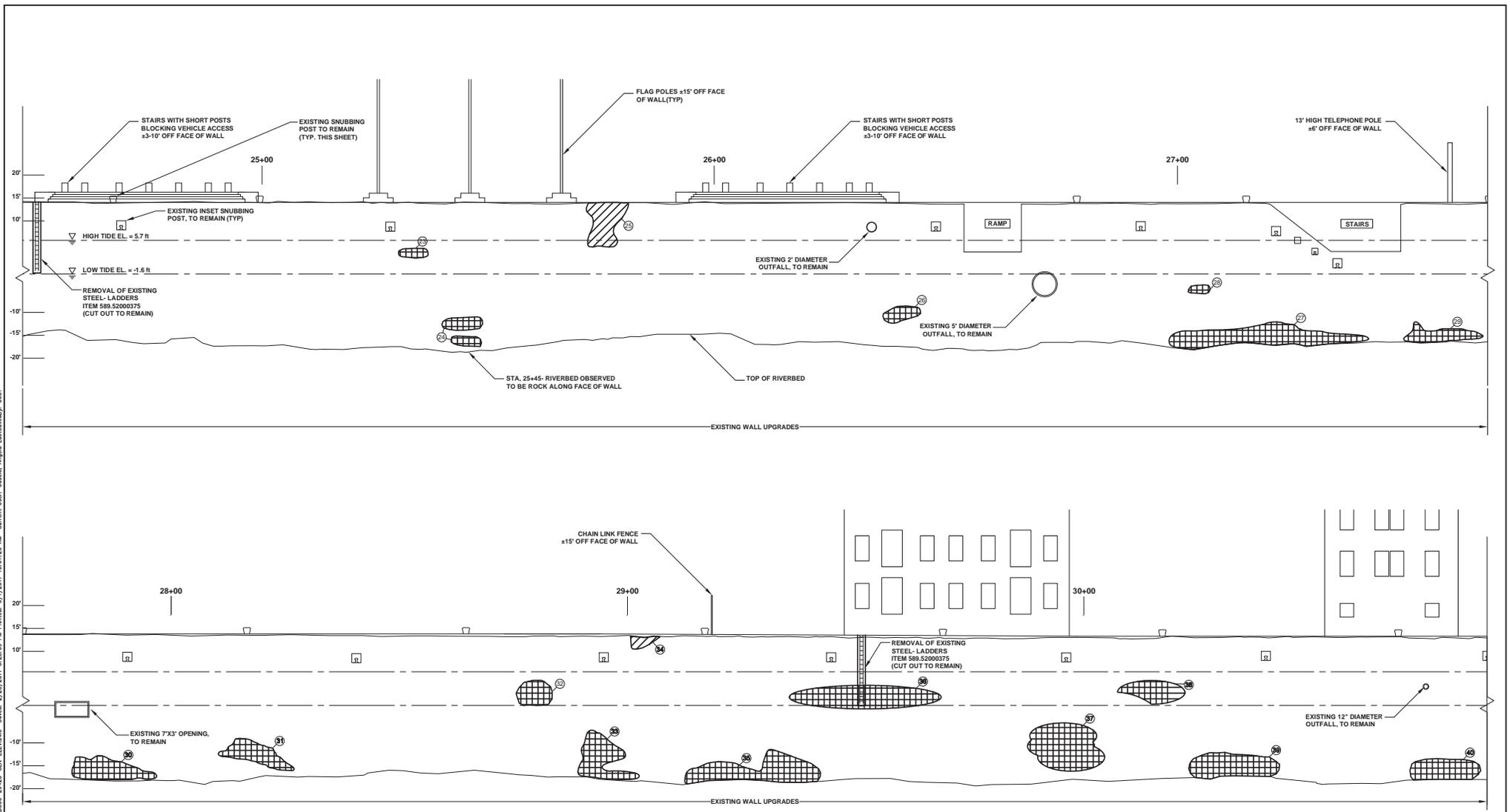
DATE	REVISIONS RECORD/DESCRIPTION



DRAWN BY: AC DESIGN BY: JCN CHECK BY: RDH PROJ. NO: 29425 SCALE: AS SHOWN DATE: 02-28-2017	<p align="center"><b>TROY SEAWALL STABILIZATION PROJECT</b></p> <p align="center"><b>GENERAL ELEVATION (4 OF 6)</b></p> CITY OF TROY RENSSELAER COUNTY, NY 111 Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.ch2m.com	<p align="center"><b>CHA</b></p> GE-4 SHEET 8
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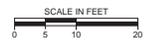
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**LEGEND:**

- ABOVE WATER CONCRETE UPGRADE- ITEM 582.05010075 WITH DESIGNATION
- UNDERWATER CONCRETE UPGRADE- ITEM 582.11010075 WITH DESIGNATION
- VOID TO BE FILLED IN BEHIND PROPOSED PANELS/TAPERS
- EXISTING TIMBER CRIBBING FOUNDATION
- PRECAST PANEL WALL PANEL NUMBER (SEE TABLE ON DWG T-1)
- CAST-IN-PLACE CONCRETE TAPER SECTION (SEE DWG D-6)
- CAST-IN-PLACE CONCRETE OUTFALL SECTION (SEE DWG D-7)

**NOTES:**  
 1. SEE DRAWING T-1 FOR SUMMARY OF VOIDS TABLE.



DATE	REVISIONS RECORD/DESCRIPTION



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 SCALE: AS SHOWN  
 DATE: 02-28-2017

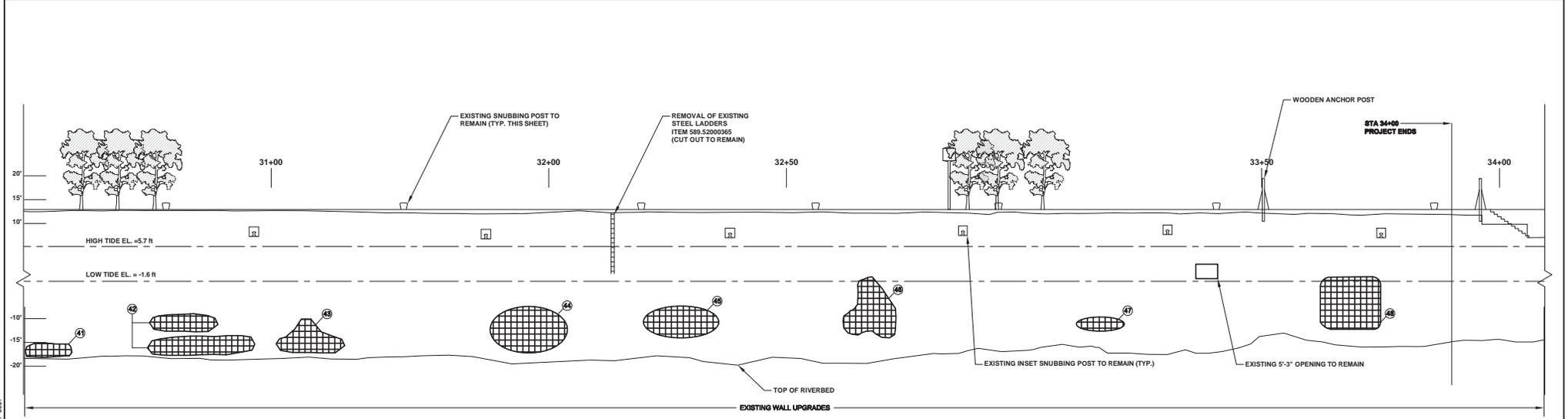
**TROY SEAWALL STABILIZATION PROJECT**

**GENERAL ELEVATION (5 OF 6)**

CITY OF TROY RENSELAER COUNTY, NY

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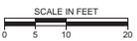
**GE-5**  
 SHEET 9



**LEGEND:**

- ABOVE WATER CONCRETE UPGRADE- ITEM 582.05010075 WITH DESIGNATION
- UNDERWATER CONCRETE UPGRADE- ITEM 582.11010075 WITH DESIGNATION
- VOID TO BE FILLED IN BEHIND PROPOSED PANELS/ TAPERS
- EXISTING TIMBER CRIBBING FOUNDATION
- PRECAST PANEL WALL PANEL NUMBER (SEE TABLE ON DWG T-1)
- CAST-IN-PLACE CONCRETE TAPER SECTION (SEE DWG D-6)
- CAST-IN-PLACE CONCRETE OUTFALL SECTION (SEE DWG D-7)

**NOTES:**  
 1. SEE DRAWING T-1 FOR SUMMARY OF VOIDS TABLE.



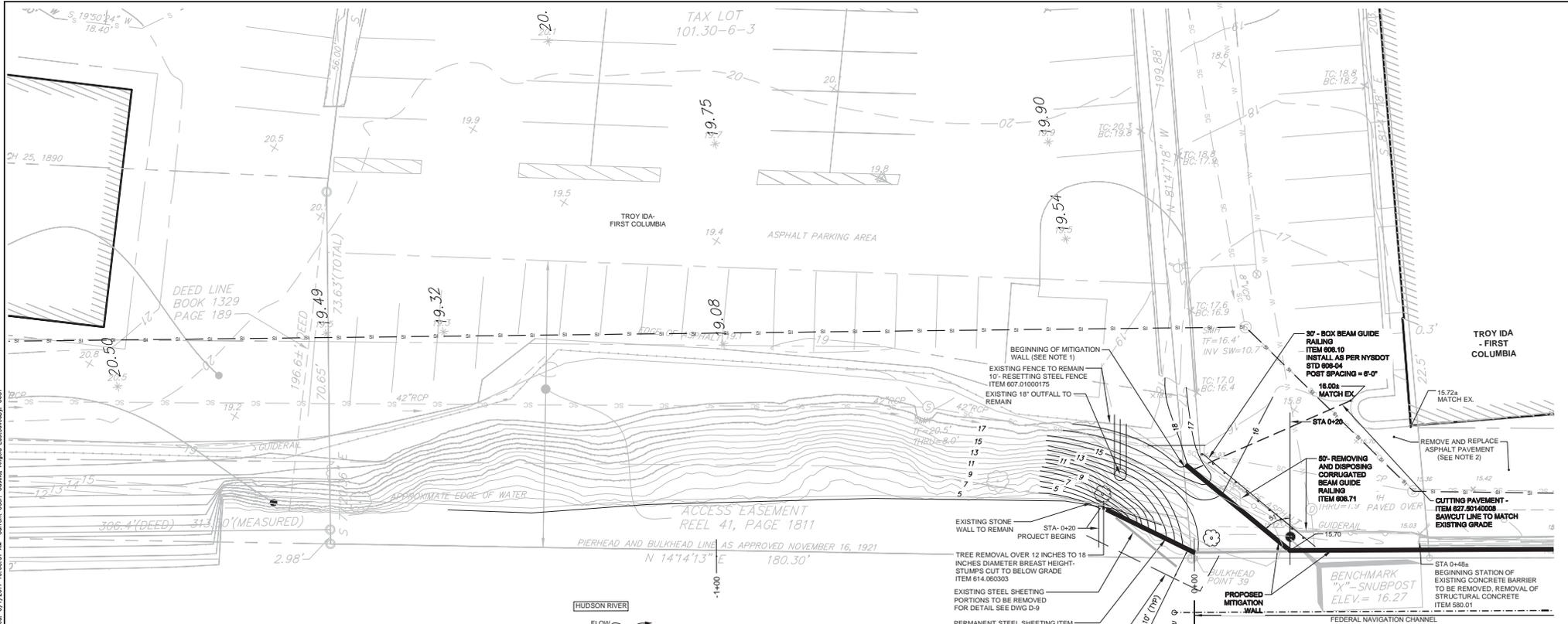
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<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>GENERAL ELEVATION (6 OF 6)</b>	
CITY OF TROY	RENSSELAER COUNTY, NY
III Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com	
<b>CHA</b>	<b>GE-6</b> SHEET 10

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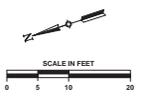
---	PARCEL LINE
---	EXISTING SEAWALL
---	PROPOSED MITIGATION WALL
---	PROPOSED CONCRETE PANELS
---	PROPOSED CONCRETE TAPER
---	PROPOSED DRILLED SHAFT WALL
W	WATER PIPES
ST	SEWER - STORM
S	SEWER - SANITARY
SC	SEWER - COMBINED
SI	SEWER - INTERCEPTOR
---	FENCE
---	GUIDERAIL
---	FEDERAL NAVIGATION EASTERN CHANNEL LINE
---	TURBIDITY CURTAIN - TEMPORARY (APPROX.)
⊕	WATER VALVE
⊕	FIRE HYDRANT
⊕	MANHOLE
⊕	CATCH BASIN
⊕	ELECTRICAL BOX
⊕	LIGHT POST
⊕	LAND BORING LOCATION
⊕	WATER BORING LOCATION
⊕	BOLLARD/SNUBBING POST
⊕	FUTURE MARINA POST (MP#X) (BY OTHERS)

- MAP REFERENCE:**
- HORIZONTAL DATUM = NAD 83 NEW YORK STATE PLANE EAST, FEET
  - VERTICAL DATUM = NAVD83FT, AMSL
  - CONTOUR INTERVAL = 1'
  - TOPOGRAPHY AND PLANIMETRICS BASED ON AERIAL PHOTOGRAMMETRY PERFORMED IN SEPT. 2011 BY INFOTECH, UPDATED BASED ON 2015 SURVEYING BY H2H ASSOCIATES, LLC.
  - BASEMAPPING FROM STA. 0+00 TO STA. 18+00 WAS OBTAINED FROM SURVEYS THAT WERE NOT GEOREFERENCED. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND GRADES PRIOR TO CONSTRUCTION.
  - STATIONING AS SURVEYED IN FIELD ON DEC. 5TH, 2014 BY H2H ASSOCIATES. STATIONING IS ALONG THE TOP CORNER OF THE EXISTING SEAWALL ON THE RIVER FACE. STATION 0+00 IS THE NORTHERNMOST POINT OF THE EXISTING WALL
  - ALL UTILITY LOCATIONS ARE APPROXIMATED AND REQUIRE FIELD VERIFICATION.

**NOTE 1:**  
 SHEVED PORTION OF MITIGATION WALL TO HAVE CONSTANT TOP ELEVATION OF 18.0. MITIGATION WALL TO BEGIN AT END OF EXISTING FENCE (APPROXIMATELY STA 0+02). CONTRACTOR TO LOCATE, BUT NOT EXCAVATE, SEWER PRIOR TO EXCAVATION. AT BEGIN WALL, FILL SHALL BE PLACED TO MATCH CONTOURS AS SHOWN. SEE TYPICAL SECTION ON DWG D-2 FOR MORE INFORMATION.

**NOTE 2:**  
 BITUMINOUS ASPHALT PAVEMENT (AND SUBBASE IF NECESSARY) TO BE REMOVED TO AN ELEVATION 4' BELOW PROPOSED GRADES AND DISPOSED OF (COST INCLUDED WITH ITEM 400.30). REGRADE OR INSTALL ADDITIONAL SUBBASE IF NECESSARY TO PROVIDE A SURFACE 4' BELOW PROPOSED GRADES (INCLUDED WITH ITEM 304.12). ASPHALT PAVEMENT SHALL CONSIST OF 2-1/2" BINDER COURSE AND 1-1/2" TOP COURSE. PAY ITEMS ARE AS FOLLOWS:  
 400.30 MISCELLANEOUS COLD MILLING OF BITUMINOUS PAVEMENT  
 304.12 SUBBASE COURSE, TYPE 2  
 402.198903 19 F9 BINDER COURSE HMA, 80 SERIES  
 402.128203 12.5 F2 TOP COURSE HMA, 80 SERIES  
 COMPACTION

**HORIZONTAL CONTROL NOTE**  
 INFORMATION PROVIDED ON THE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE DURING THE DESIGN PHASE. THE ACTUAL HORIZONTAL GEOMETRY OF THE EXISTING WALL MAY DIFFER DUE TO THE MOVEMENT OF THE WALL OVER TIME. CONTRACTOR SHALL VERIFY THE HORIZONTAL CONTROL BEFORE THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER REGARDING ANY SIGNIFICANT DISCREPANCIES WHICH COULD POTENTIALLY AFFECT THE PROPOSED WORK. COST OF VERIFICATION AND COORDINATION WITH THE ENGINEER SHALL BE INCLUDED IN THE ASSOCIATED ITEMS OF WORK.



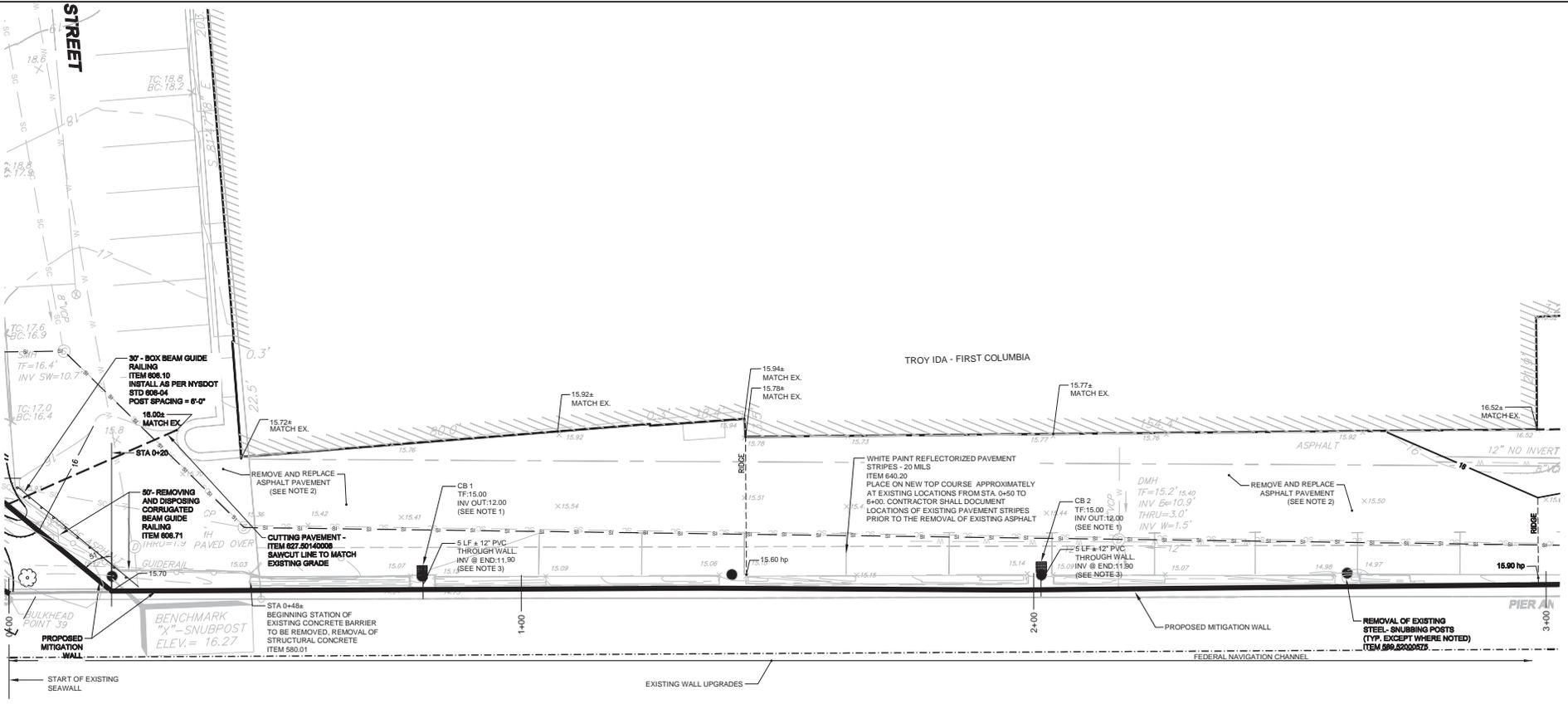
DATE	REVISIONS RECORD/DESCRIPTION



DRAWN BY: JTM DESIGN BY: JCN CHECK BY: RDH PROJ. NO: 29425 SCALE: AS SHOWN DATE: 02-28-2017	<b>TROY SEAWALL STABILIZATION PROJECT</b> GENERAL PLAN (1 OF 13) CITY OF TROY RENSSELAER COUNTY, NY 111 Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com	GP-1 SHEET 11
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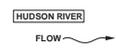
**NOTE 1:**  
 NEW CATCH BASIN, FRAME, EXCAVATION AND BACKFILL PAID UNDER THE RESPECTIVE ITEMS:  
 604.3022 RECTANGULAR DRAINAGE STRUCTURE TYPE U FOR #22 WELDED FRAME  
 655.1122 WELDED FRAME AND RETICULINE GRATE 22  
 208.0201 TRENCH AND CLVERT EXCAVATION  
 203.07 SELECT GRANULAR FILL

CONTRACTOR MUST CONFORM TO STANDARD 604-02. CONTRACTOR SHALL EXCAVATE TRENCH FOR STRUCTURE IN SAME APPROXIMATE LOCATION AS THE REMOVED SNUBBING POST. CONTRACTOR MUST ENSURE THAT NEW STRUCTURE WILL NOT INTERFERE WITH TAPERED FACE OF EXISTING SEAWALL. SEE DWG D-1 FOR CROSS-SECTIONS OF EXISTING WALL. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY ENGINEER PRIOR TO ORDERING MATERIALS.

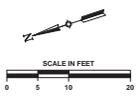
**NOTE 2:**  
 BITUMINOUS ASPHALT PAVEMENT (AND SUBBASE IF NECESSARY) TO BE REMOVED TO AN ELEVATION 4" BELOW PROPOSED GRADES AND DISPOSED OF (COST INCLUDED WITH ITEM 604.30). REGRADE OR INSTALL ADDITIONAL SUBBASE IF NECESSARY TO PROVIDE A SURFACE 4" BELOW PROPOSED GRADES (INCLUDED WITH ITEM 304.12). ASPHALT PAVEMENT SHALL CONSIST OF 2-1/2" BINDER COURSE AND 1-1/2" TOP COURSE. PAY ITEMS ARE AS FOLLOWS:  
 490.30 MISCELLANEOUS COLD MILLING OF BITUMINOUS PAVEMENT  
 304.12 SUBBASE COURSE, TYPE 2  
 402.198903 19 F9 BINDER COURSE HMA, 80 SERIES COMPACTION  
 402.128203 12.5 F2 TOP COURSE HMA, 80 SERIES COMPACTION.

**NOTE 3:**  
 DRILL HOLE THROUGH EXISTING WALL AT INVERT SPECIFIED. NEW 12" DIA. PVC PIPE OUTFALL TO BE PLACED FROM CATCH BASIN THROUGH WALL TO BE FLUSH WITH RIVER FACE AND GAPS IN DRILLED HOLE FILLED WITH GROUT. PVC SHALL CONFORM TO SECTION 706-15. COST OF THIS WORK TO BE PAID AS DRILLING WEEPOLES- ITEM 586.18000075.

**HORIZONTAL CONTROL NOTE:**  
 INFORMATION PROVIDED ON THE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE DURING THE DESIGN PHASE. THE ACTUAL HORIZONTAL GEOMETRY OF THE EXISTING WALL MAY DIFFER DUE TO THE MOVEMENT OF THE WALL OVER TIME. CONTRACTOR SHALL VERIFY THE HORIZONTAL CONTROL BEFORE THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER REGARDING ANY SIGNIFICANT DISCREPANCIES WHICH COULD POTENTIALLY AFFECT THE PROPOSED WORK. COST OF VERIFICATION AND COORDINATION WITH THE ENGINEER SHALL BE INCLUDED IN THE ASSOCIATED ITEMS OF WORK.



SEE DWG GP-1 FOR LEGEND



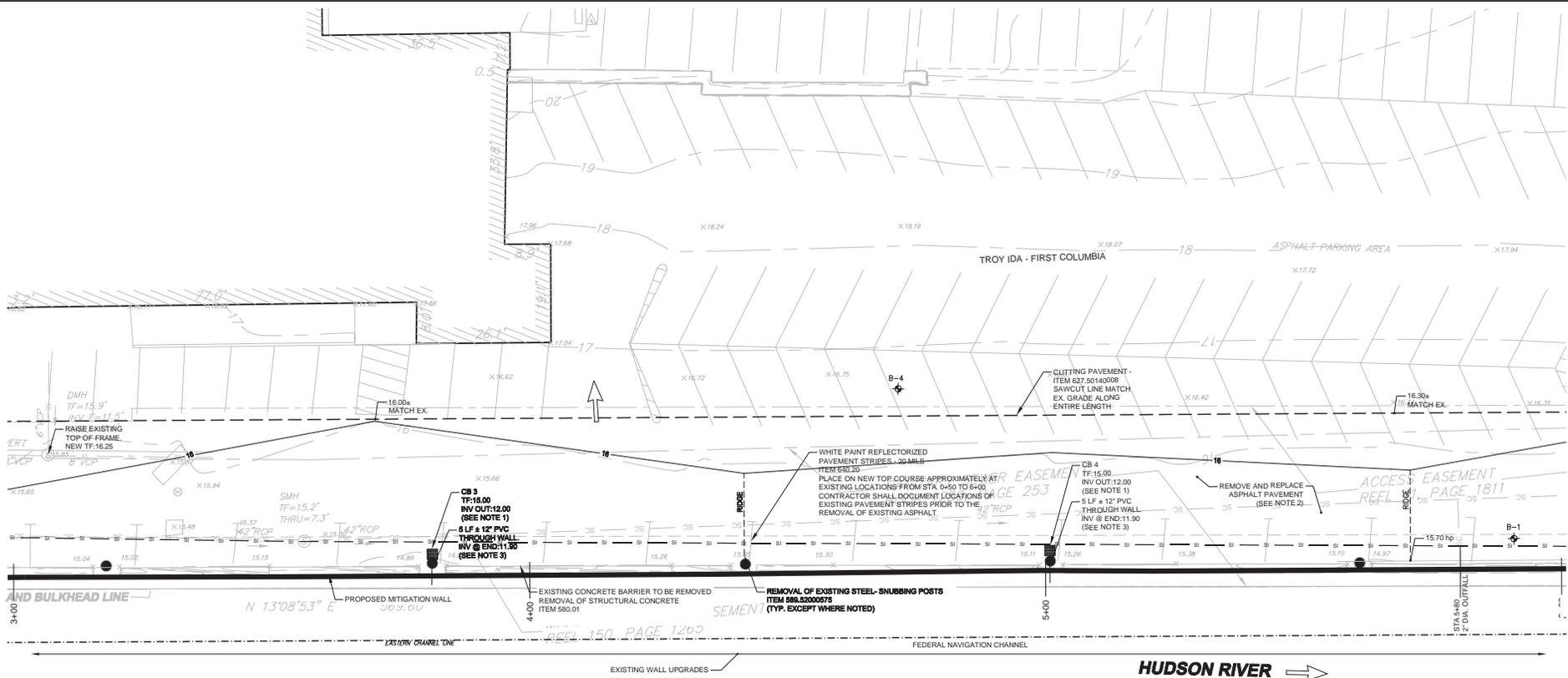
**NOTES:**  
 IT IS THE DESIGN INTENT TO MATCH EXISTING GRADE ALONG THE BUILDING FACE. CONTRACTOR TO VERIFY EXISTING GRADES PRIOR TO PAVING.  
 EXISTING VALVE COVERS AND MANHOLE FRAMES AND COVERS/GATES SHALL BE ADJUSTED TO MEET NEW GRADE. PAID AS RESETTING DRAINAGE FRAMES ON EXISTING DRAINAGE STRUCTURES- ITEM 804.07210010

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 DESIGN BY: JCN  
 CHECK BY: RDH  
 PROJ. NO: 29425  
 SCALE: AS SHOWN  
 DATE: 02-28-2017

<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>GENERAL PLAN (2 OF 13)</b>	
CITY OF TROY	RENSSELAER COUNTY, NY
111 Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com	
<b>CHA</b>	
GP-2	SHEET 12



**NOTE 1:**  
NEW CATCH BASIN, FRAME, EXCAVATION AND BACKFILL PAID UNDER THE RESPECTIVE ITEMS:  
604.3022 RECTANGULAR DRAINAGE STRUCTURE TYPE U FOR #22 WELDED FRAME  
655.1122 WELDED FRAME AND RETICULINE GRATE 22  
208.0201 TRENCH AND CULVERT EXCAVATION  
203.07 SELECT GRANULAR FILL

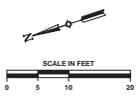
CONTRACTOR MUST CONFORM TO STANDARD 604-02. CONTRACTOR SHALL EXCAVATE TRENCH FOR STRUCTURE IN SAME APPROXIMATE LOCATION AS THE REMOVED SNUBBING POST. CONTRACTOR MUST ENSURE THAT NEW STRUCTURE WILL NOT INTERFERE WITH TAPERED FACE OF EXISTING SEAWALL. SEE DWG D-1 FOR CROSS-SECTIONS OF EXISTING WALL. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY ENGINEER PRIOR TO ORDERING MATERIALS.

**NOTE 2:**  
BITUMINOUS ASPHALT PAVEMENT (AND SUBBASE IF NECESSARY) TO BE REMOVED TO AN ELEVATION 4\"/>

**NOTE 3:**  
DRILL HOLE THROUGH EXISTING WALL AT INVERT SPECIFIED. NEW 12\"/>

**HORIZONTAL CONTROL NOTE:**  
INFORMATION PROVIDED ON THE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE DURING THE DESIGN PHASE. THE ACTUAL HORIZONTAL GEOMETRY OF THE EXISTING WALL MAY DIFFER DUE TO THE MOVEMENT OF THE WALL OVER TIME. CONTRACTOR SHALL VERIFY THE HORIZONTAL CONTROL BEFORE THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER REGARDING ANY SIGNIFICANT DISCREPANCIES WHICH COULD POTENTIALLY AFFECT THE PROPOSED WORK. COST OF VERIFICATION AND COORDINATION WITH THE ENGINEER SHALL BE INCLUDED IN THE ASSOCIATED ITEMS OF WORK.

SEE DWG GP-1 FOR LEGEND



HUDSON RIVER  
FLOW →

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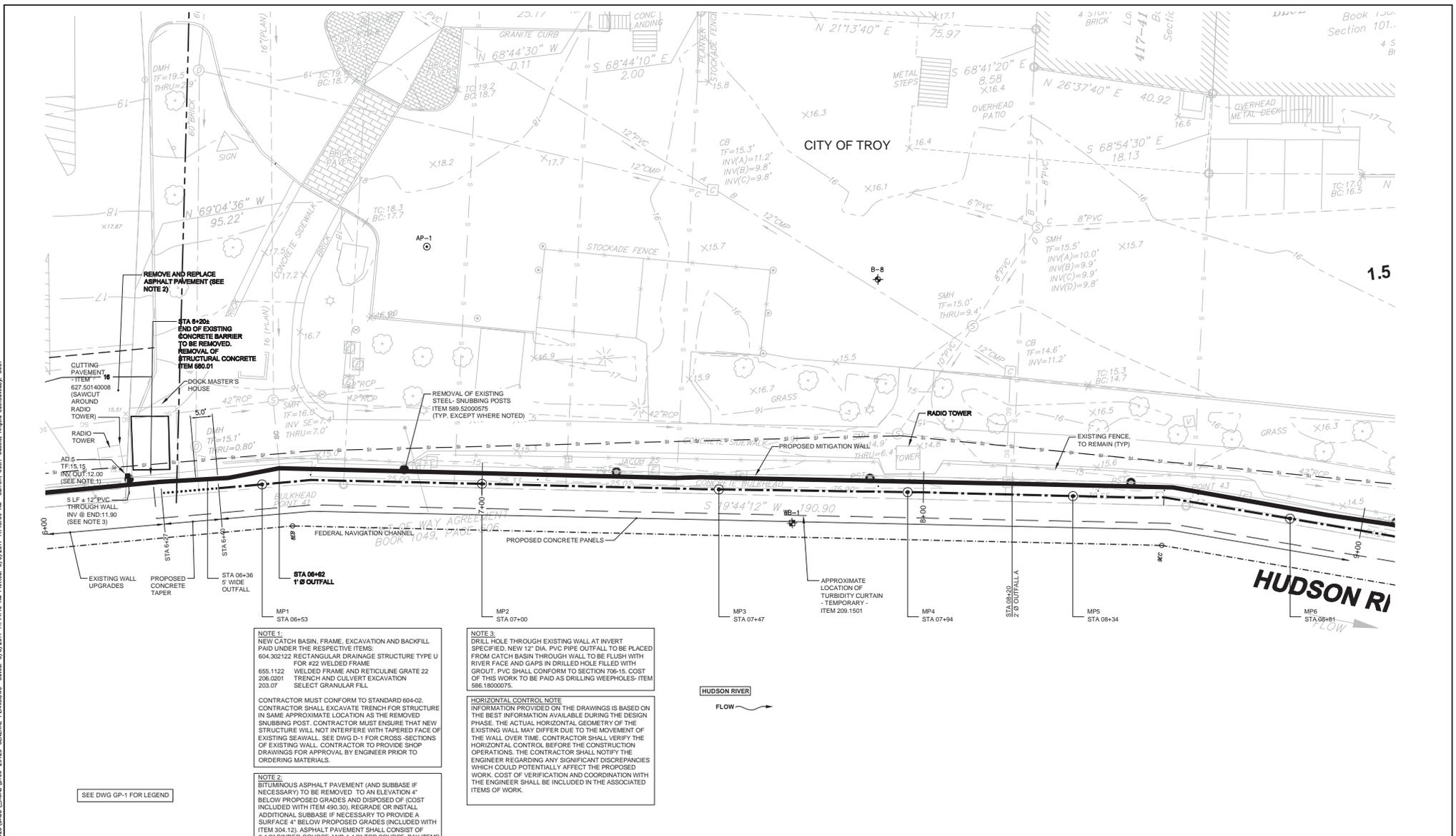


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CHECK BY: RDH  
PROJ. NO: 29425  
SCALE: AS SHOWN  
DATE: 02-28-2017

**TROY SEAWALL STABILIZATION PROJECT**  
GENERAL PLAN (3 OF 13)  
CITY OF TROY  
RENSSELAER COUNTY, NY  
111 Winners Circle, PO Box 5269  
Albany, NY 12205-0269  
518.453.4500 www.chacompanies.com  
**CHA**  
GP-3  
SHEET 13

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**NOTE 1:**  
 NEW CATCH BASIN, FRAME, EXCAVATION AND BACKFILL PAID UNDER THE RESPECTIVE ITEMS:  
 604.30212 RECTANGULAR DRAINAGE STRUCTURE TYPE U FOR #22 WELDED FRAME  
 655.1122 WELDED FRAME AND RETICULINE GRATE 22  
 206.0201 TRENCH AND CULVERT EXCAVATION  
 203.07 SELECT GRANULAR FILL

CONTRACTOR MUST CONFORM TO STANDARD 604-02. CONTRACTOR SHALL EXCAVATE TRENCH FOR STRUCTURE IN SAME APPROXIMATE LOCATION AS THE REMOVED SNUBBING POST. CONTRACTOR MUST ENSURE THAT NEW STRUCTURE WILL NOT INTERFERE WITH TAPERED FACE OF EXISTING SEAWALL. SEE DWG D-1 FOR CROSS SECTIONS OF EXISTING WALL. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL BY ENGINEER PRIOR TO ORDERING MATERIALS.

**NOTE 2:**  
 BITUMINOUS ASPHALT PAVEMENT (AND SUBBASE IF NECESSARY) TO BE REMOVED TO AN ELEVATION 4\"/>

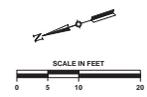
MISCELLANEOUS COLD MILLING OF BITUMINOUS PAVEMENT  
 304.12 SUBBASE COURSE, TYPE 2  
 402.198903 1 1/2\"/>

**NOTE 3:**  
 DRILL HOLE THROUGH EXISTING WALL AT INVERT SPECIFIED. NEW 12\"/>

**HORIZONTAL CONTROL NOTE:**  
 INFORMATION PROVIDED ON THE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE DURING THE DESIGN PHASE. THE ACTUAL HORIZONTAL GEOMETRY OF THE EXISTING WALL MAY DIFFER DUE TO THE MOVEMENT OF THE WALL OVER TIME. CONTRACTOR SHALL VERIFY THE HORIZONTAL CONTROL BEFORE THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER REGARDING ANY SIGNIFICANT DISCREPANCIES WHICH COULD POTENTIALLY AFFECT THE PROPOSED WORK. COST OF VERIFICATION AND COORDINATION WITH THE ENGINEER SHALL BE INCLUDED IN THE ASSOCIATED ITEMS OF WORK.



SEE DWG GP-1 FOR LEGEND



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DRAWN BY: JTM  
 DESIGN BY: JCN  
 CHECK BY: RDH  
 PROJ. NO: 29425  
 SCALE: AS SHOWN  
 DATE: 02-28-2017

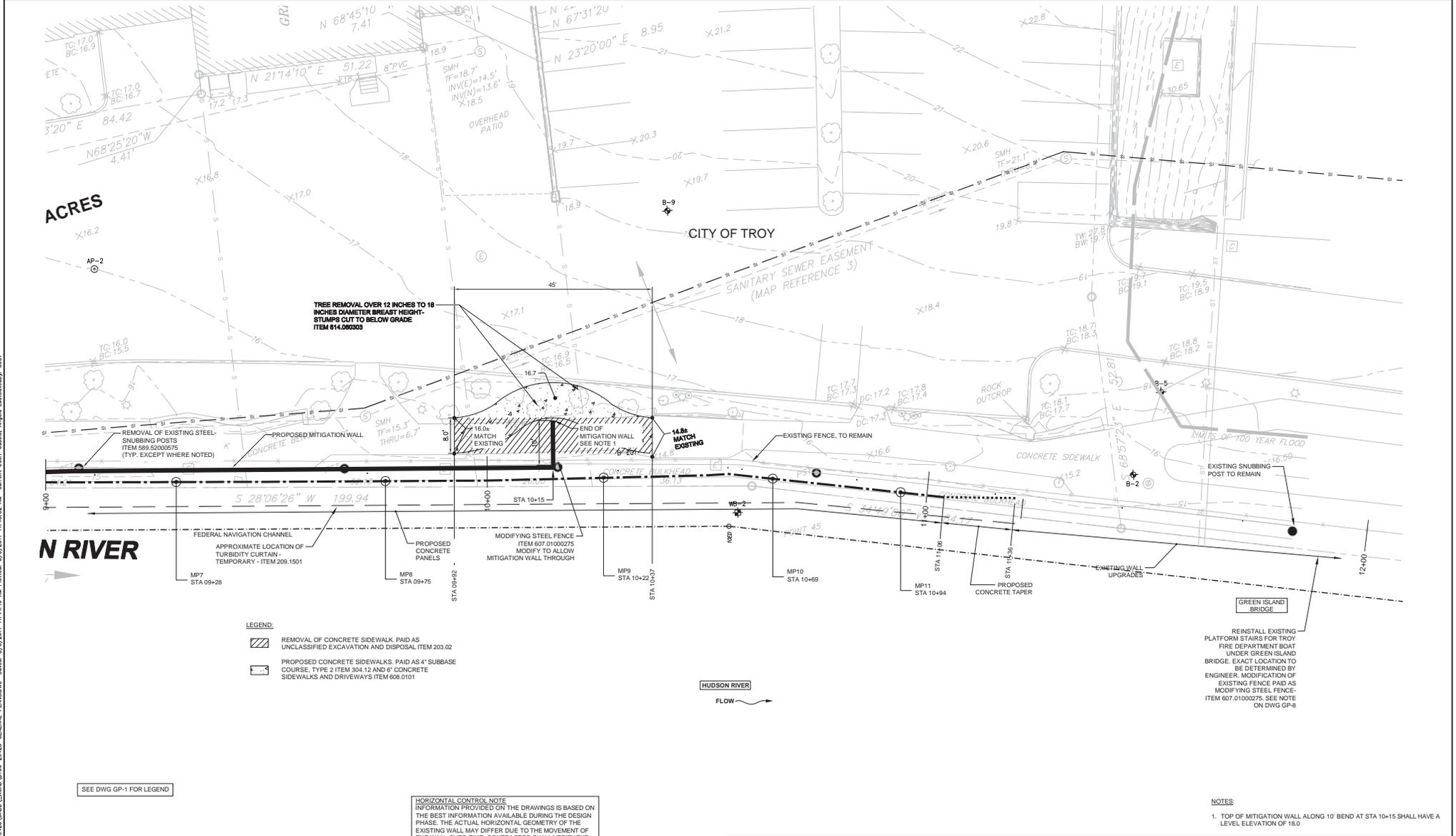
**TROY SEAWALL STABILIZATION PROJECT**

**GENERAL PLAN (4 OF 13)**

CITY OF TROY RENSSELAER COUNTY, NY

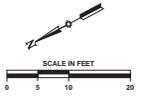
111 Winners Circle, PO Box 5269  
 Albany, NY 12205-0269  
 518.453.4500 www.chacompanies.com

**GP-4**  
 SHEET 14



- LEGEND:**
- REMOVAL OF CONCRETE SIDEWALK, PAID AS UNCLASSIFIED EXCAVATION AND DISPOSAL ITEM 203.02
  - PROPOSED CONCRETE SIDEWALKS, PAID AS 4" SUBBASE COURSE, TYPE 2 ITEM 304.12 AND 6" CONCRETE SIDEWALKS AND DRIVEWAYS ITEM 608.0101

**HORIZONTAL CONTROL NOTE**  
 INFORMATION PROVIDED ON THE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE DURING THE DESIGN PHASE. THE ACTUAL HORIZONTAL GEOMETRY OF THE EXISTING WALL MAY DIFFER DUE TO THE MOVEMENT OF THE WALL OVER TIME. CONTRACTOR SHALL VERIFY THE HORIZONTAL CONTROL BEFORE THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER REGARDING ANY SIGNIFICANT DISCREPANCIES WHICH COULD POTENTIALLY AFFECT THE PROPOSED WORK. COST OF VERIFICATION AND COORDINATION WITH THE ENGINEER SHALL BE INCLUDED IN THE ASSOCIATED ITEMS OF WORK.



REINSTALL EXISTING PLATFORM STAIRS FOR TROY FIRE DEPARTMENT BOAT UNDER GREEN ISLAND BRIDGE. EXACT LOCATION TO BE DETERMINED BY ENGINEER. MODIFICATION OF EXISTING FENCE PAID AS MODIFYING STEEL FENCE- ITEM 607.01000275. SEE NOTE ON DWG GP-8

**NOTES:**  
 1. TOP OF MITIGATION WALL ALONG 10' BEND AT STA 10+15 SHALL HAVE A LEVEL ELEVATION OF 18.0

SEE DWG GP-1 FOR LEGEND

DATE	REVISIONS RECORD/DESCRIPTION

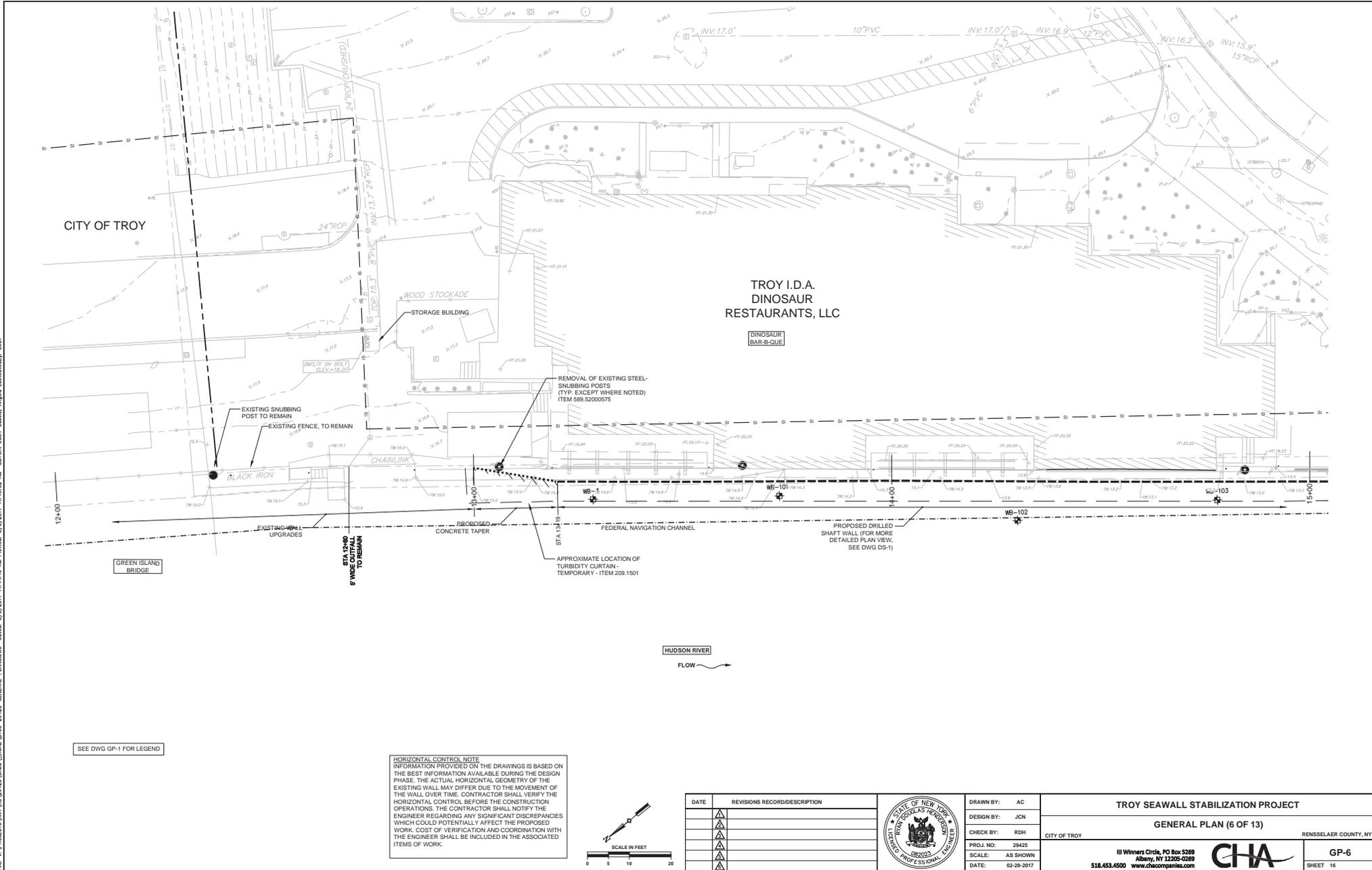


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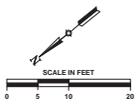
<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>GENERAL PLAN (5 OF 13)</b>	
CITY OF TROY	RENSSELAER COUNTY, NY
111 Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.checompanies.com	
<b>GP-5</b>	
SHEET 15	

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**HORIZONTAL CONTROL NOTE**  
 INFORMATION PROVIDED ON THE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE DURING THE DESIGN PHASE. THE ACTUAL HORIZONTAL GEOMETRY OF THE EXISTING WALL MAY DIFFER DUE TO THE MOVEMENT OF THE WALL OVER TIME. CONTRACTOR SHALL VERIFY THE HORIZONTAL CONTROL BEFORE THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER REGARDING ANY SIGNIFICANT DISCREPANCIES WHICH COULD POTENTIALLY AFFECT THE PROPOSED WORK. COST OF VERIFICATION AND COORDINATION WITH THE ENGINEER SHALL BE INCLUDED IN THE ASSOCIATED ITEMS OF WORK.



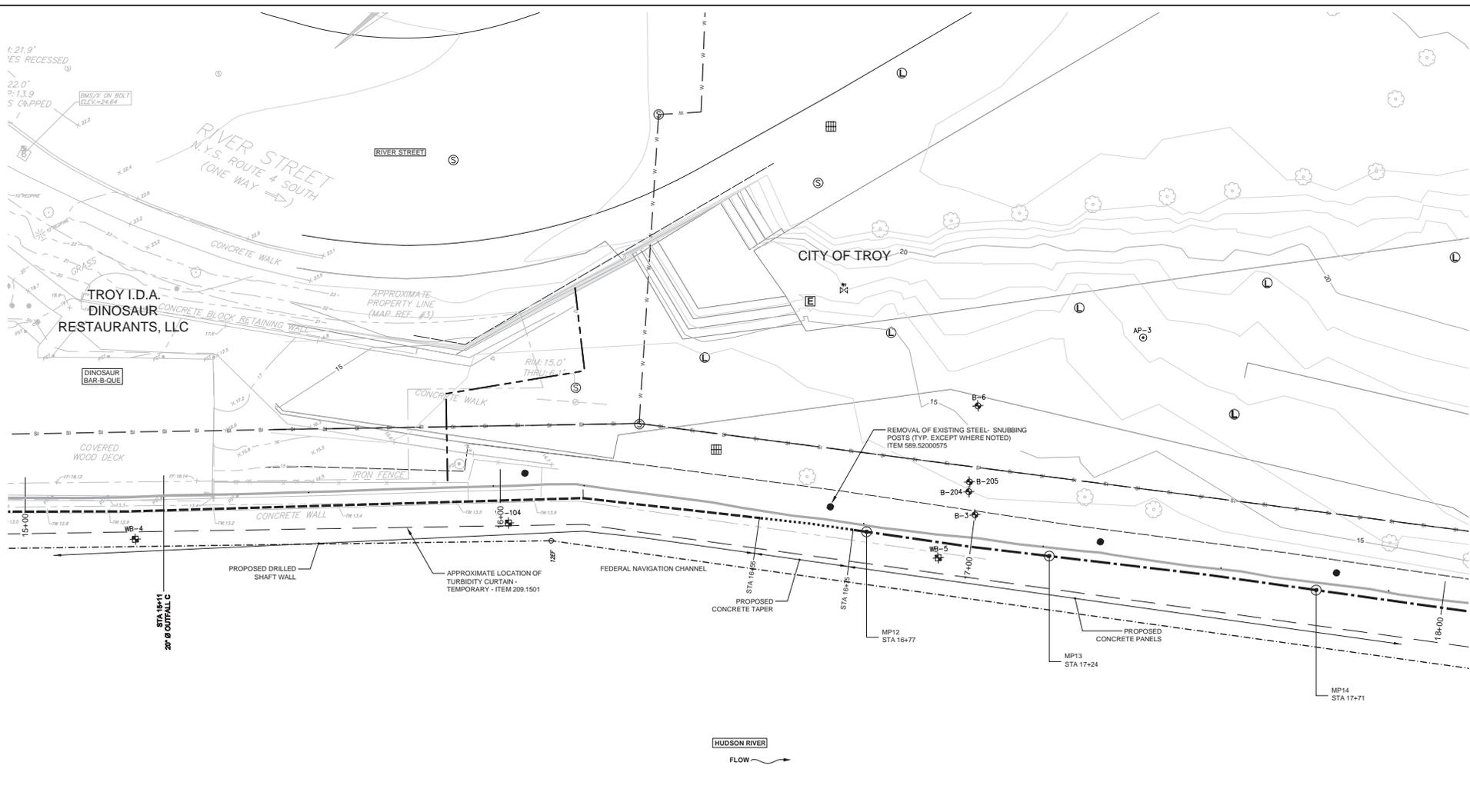
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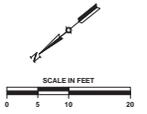
<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>GENERAL PLAN (6 OF 13)</b>	
CITY OF TROY	RENSELAER COUNTY, NY
111 Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.checompanies.com	
<b>CHA</b>	
<b>GP-6</b>	SHEET 16

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SEE DWG GP-1 FOR LEGEND

**HORIZONTAL CONTROL NOTE**  
 INFORMATION PROVIDED ON THE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE DURING THE DESIGN PHASE. THE ACTUAL HORIZONTAL GEOMETRY OF THE EXISTING WALL MAY DIFFER DUE TO THE MOVEMENT OF THE WALL OVER TIME. CONTRACTOR SHALL VERIFY THE HORIZONTAL CONTROL BEFORE THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER REGARDING ANY SIGNIFICANT DISCREPANCIES WHICH COULD POTENTIALLY AFFECT THE PROPOSED WORK. COST OF VERIFICATION AND COORDINATION WITH THE ENGINEER SHALL BE INCLUDED IN THE ASSOCIATED ITEMS OF WORK.

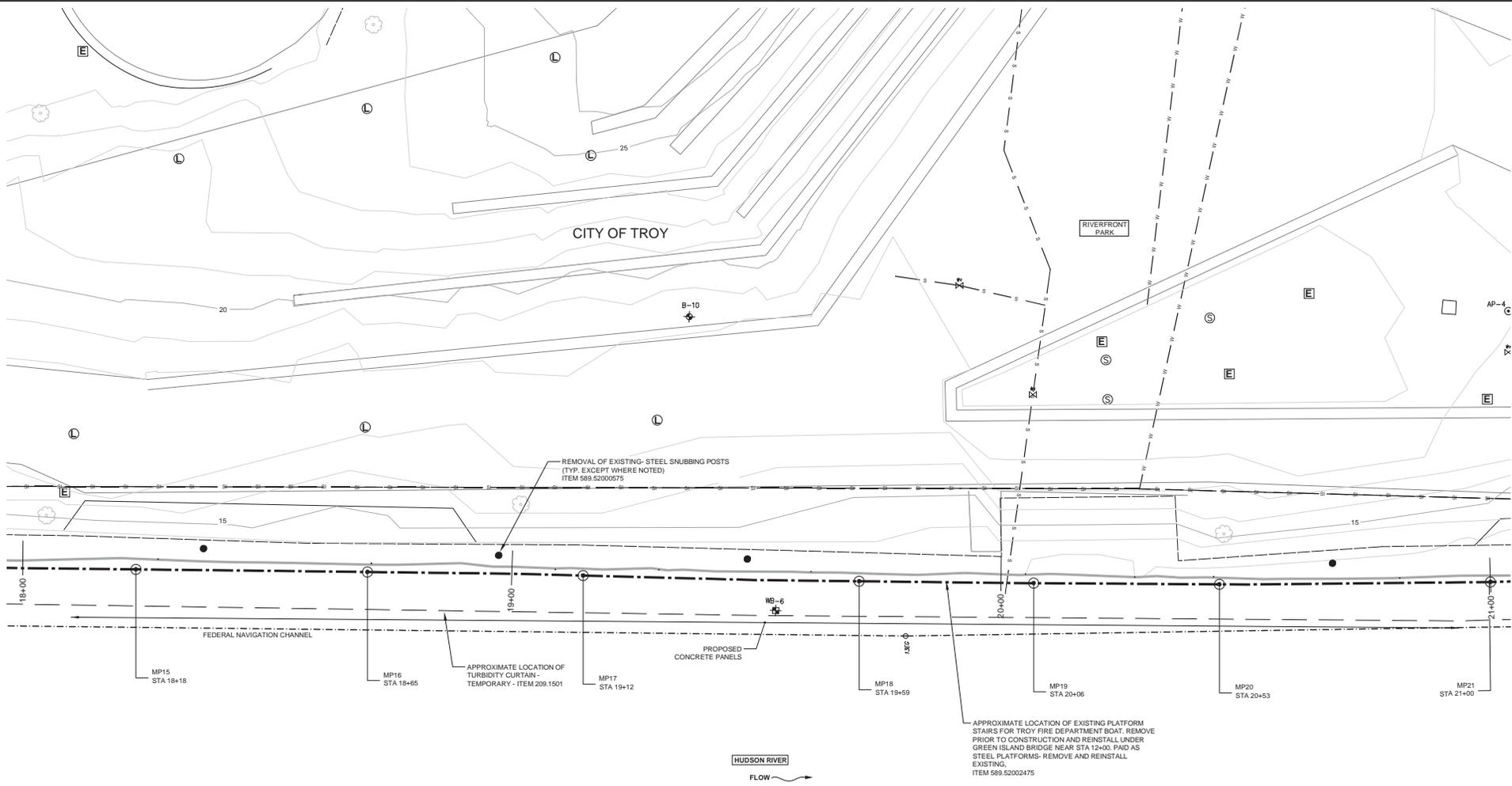


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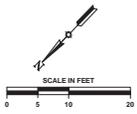


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 CHECK BY: RDH  
 PROJ. NO: 29425  
 SCALE: AS SHOWN  
 DATE: 02-28-2017

<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>GENERAL PLAN (7 OF 13)</b>	
CITY OF TROY	RENSSELAER COUNTY, NY
III Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com	
<b>CHA</b>	<b>GP-7</b>
	SHEET 17



**HORIZONTAL CONTROL NOTE**  
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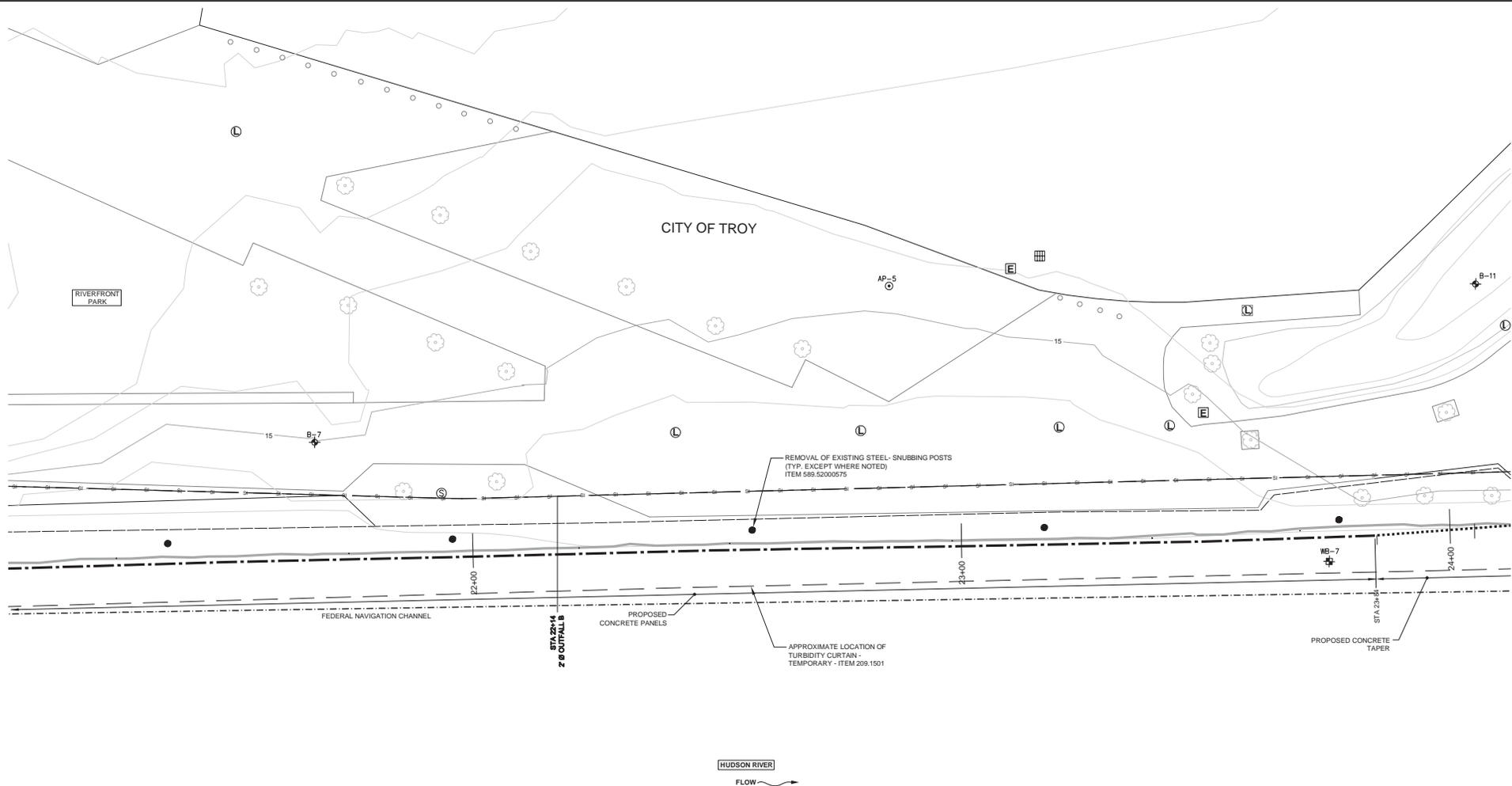
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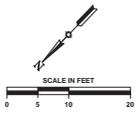
<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>GENERAL PLAN (8 OF 13)</b>	
CITY OF TROY	RENSELAER COUNTY, NY
III Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com	
<b>CHA</b>	<b>GP-8</b>
	SHEET 18

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SEE DWG GP-1 FOR LEGEND

**HORIZONTAL CONTROL NOTE**  
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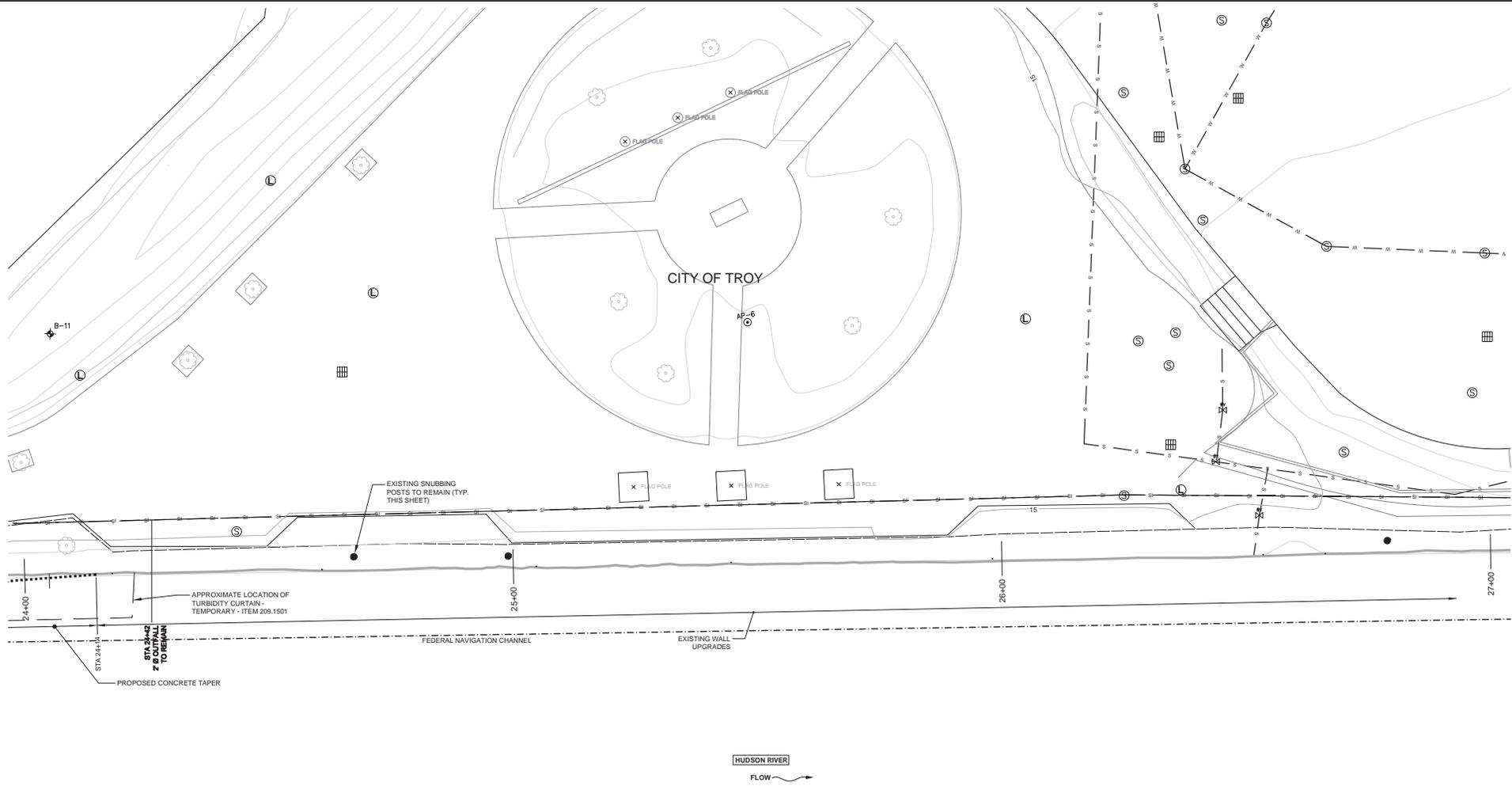


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<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>GENERAL PLAN (9 OF 13)</b>	
CITY OF TROY	RENSSELAER COUNTY, NY
III Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com	
<b>CHA</b>	<b>GP-9</b>
	SHEET 19

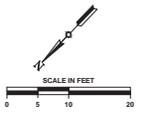
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SEE DWG GP-1 FOR LEGEND

**HORIZONTAL CONTROL NOTE**  
 INFORMATION PROVIDED ON THE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE DURING THE DESIGN PHASE. THE ACTUAL HORIZONTAL GEOMETRY OF THE EXISTING WALL MAY DIFFER DUE TO THE MOVEMENT OF THE WALL OVER TIME. CONTRACTOR SHALL VERIFY THE HORIZONTAL CONTROL BEFORE THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER REGARDING ANY SIGNIFICANT DISCREPANCIES WHICH COULD POTENTIALLY AFFECT THE PROPOSED WORK. COST OF VERIFICATION AND COORDINATION WITH THE ENGINEER SHALL BE INCLUDED IN THE ASSOCIATED ITEMS OF WORK.

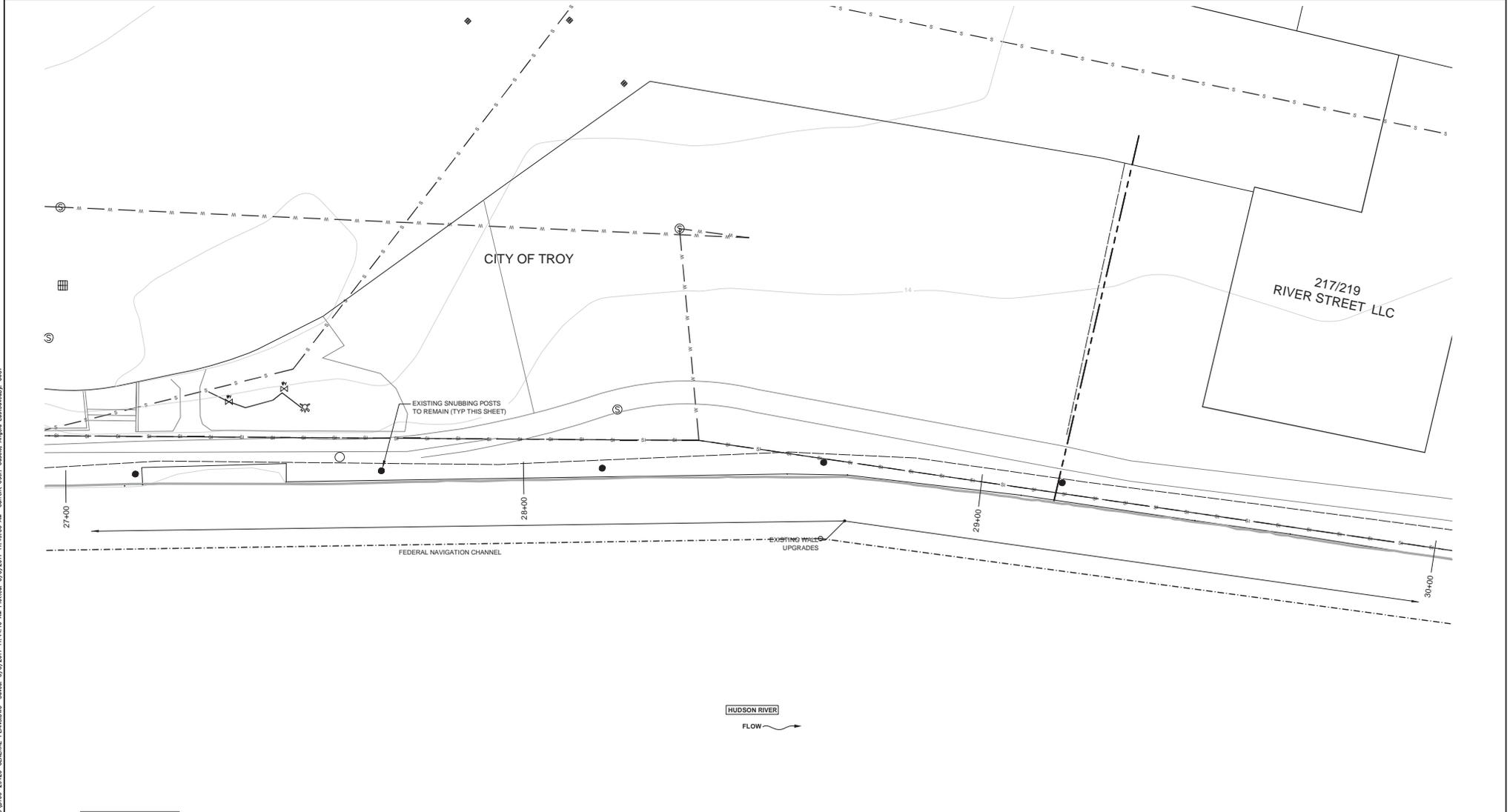


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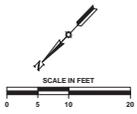
DRAWN BY: AC  
 DESIGN BY: JCN  
 CHECK BY: RDH  
 PROJ. NO: 2425  
 SCALE: AS SHOWN  
 DATE: 02-28-2017

<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>GENERAL PLAN (10 OF 13)</b>	
CITY OF TROY	RENSSELAER COUNTY, NY
111 Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com	
<b>CHA</b>	<b>GP-10</b>
	SHEET 20



SEE DWG GP-1 FOR LEGEND

**HORIZONTAL CONTROL NOTE**  
 INFORMATION PROVIDED ON THE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE DURING THE DESIGN PHASE. THE ACTUAL HORIZONTAL GEOMETRY OF THE EXISTING WALL MAY DIFFER DUE TO THE MOVEMENT OF THE WALL OVER TIME. CONTRACTOR SHALL VERIFY THE HORIZONTAL CONTROL BEFORE THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER REGARDING ANY SIGNIFICANT DISCREPANCIES WHICH COULD POTENTIALLY AFFECT THE PROPOSED WORK. COST OF VERIFICATION AND COORDINATION WITH THE ENGINEER SHALL BE INCLUDED IN THE ASSOCIATED ITEMS OF WORK.



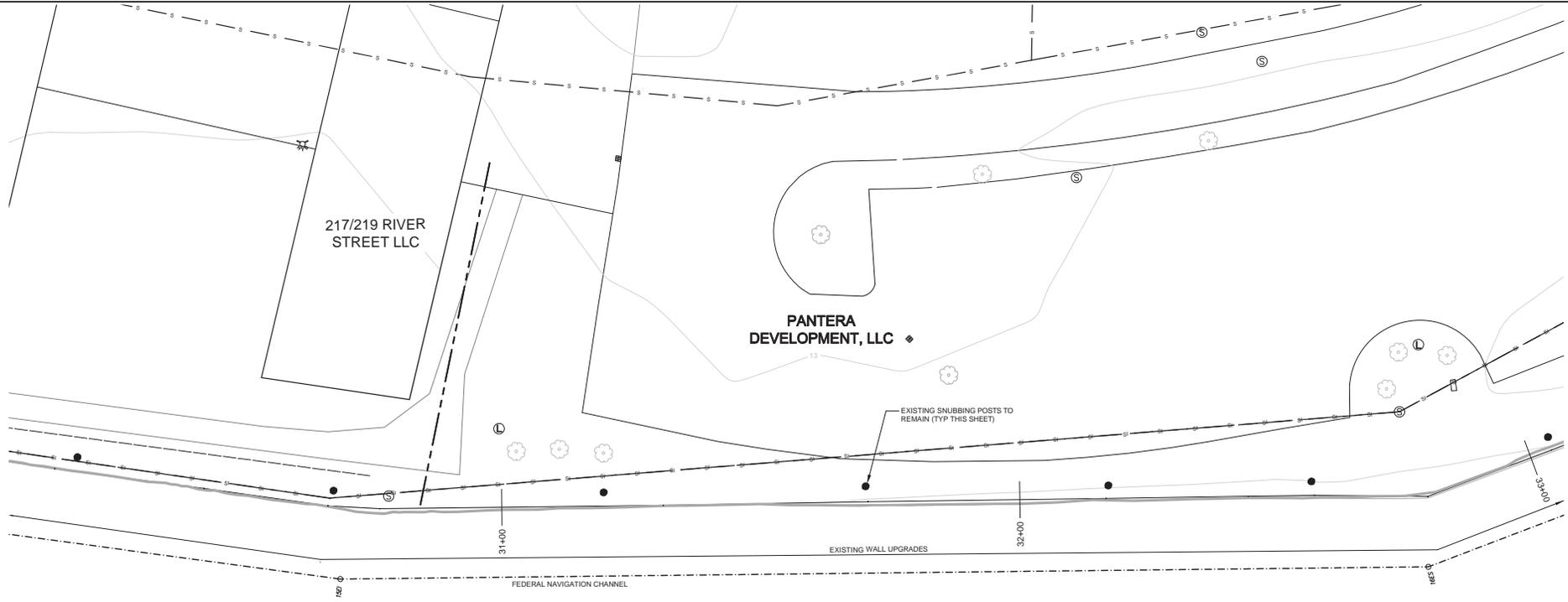
DATE	REVISIONS RECORD/DESCRIPTION
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DRAWN BY: AC  
 DESIGN BY: JCN  
 CHECK BY: RDH  
 PROJ. NO: 29425  
 SCALE: AS SHOWN  
 DATE: 02-28-2017

<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>GENERAL PLAN (11 OF 13)</b>	
CITY OF TROY	RENSSELAER COUNTY, NY
III Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com	
<b>CHA</b>	<b>GP-11</b> SHEET 21

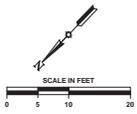
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HUDSON RIVER  
 FLOW →

SEE DWG GP-1 FOR LEGEND

**HORIZONTAL CONTROL NOTE**  
 INFORMATION PROVIDED ON THE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE DURING THE DESIGN PHASE. THE ACTUAL HORIZONTAL GEOMETRY OF THE EXISTING WALL MAY DIFFER DUE TO THE MOVEMENT OF THE WALL OVER TIME. CONTRACTOR SHALL VERIFY THE HORIZONTAL CONTROL BEFORE THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER REGARDING ANY SIGNIFICANT DISCREPANCIES WHICH COULD POTENTIALLY AFFECT THE PROPOSED WORK. COST OF VERIFICATION AND COORDINATION WITH THE ENGINEER SHALL BE INCLUDED IN THE ASSOCIATED ITEMS OF WORK.



DATE	REVISIONS RECORD/DESCRIPTION
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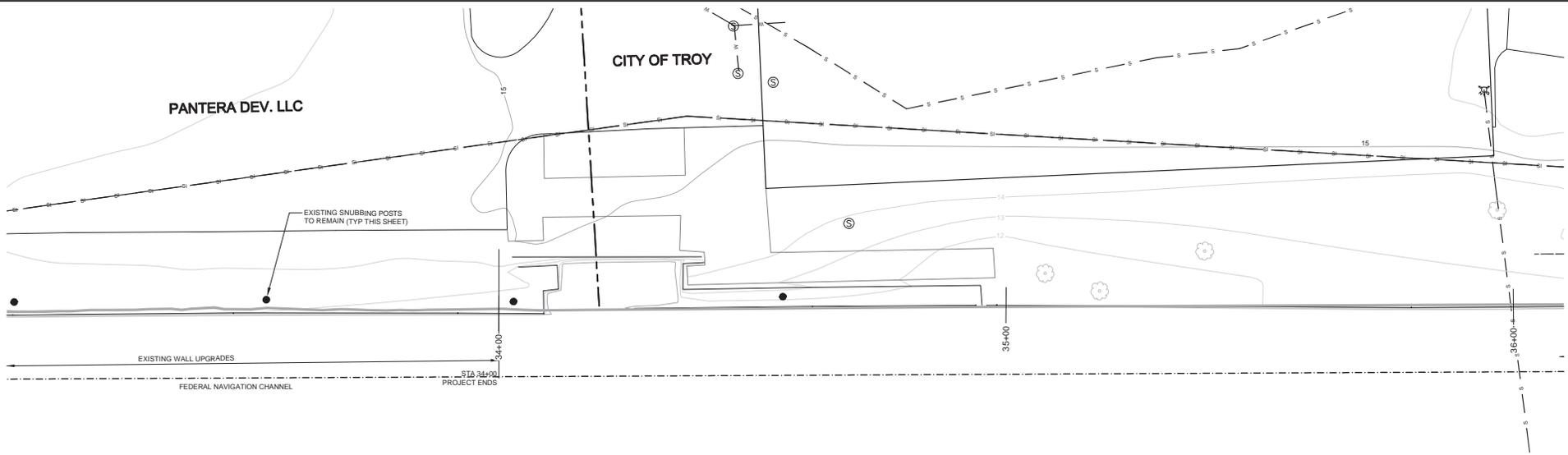


DRAWN BY: AC  
 DESIGN BY: JCN  
 CHECK BY: RDH  
 PROJ. NO: 29425  
 SCALE: AS SHOWN  
 DATE: 02-28-2017

<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>GENERAL PLAN (12 OF 13)</b>	
CITY OF TROY	RENSSELAER COUNTY, NY
III Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com	
<b>CHA</b>	<b>GP-12</b>
	SHEET 22

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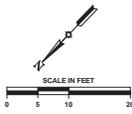
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HUDSON RIVER  
 FLOW →

SEE DWG GP-1 FOR LEGEND

**HORIZONTAL CONTROL NOTE**  
 INFORMATION PROVIDED ON THE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE DURING THE DESIGN PHASE. THE ACTUAL HORIZONTAL GEOMETRY OF THE EXISTING WALL MAY DIFFER DUE TO THE MOVEMENT OF THE WALL OVER TIME. CONTRACTOR SHALL VERIFY THE HORIZONTAL CONTROL BEFORE THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER REGARDING ANY SIGNIFICANT DISCREPANCIES WHICH COULD POTENTIALLY AFFECT THE PROPOSED WORK. COST OF VERIFICATION AND COORDINATION WITH THE ENGINEER SHALL BE INCLUDED IN THE ASSOCIATED ITEMS OF WORK.



DATE	REVISIONS RECORD/DESCRIPTION
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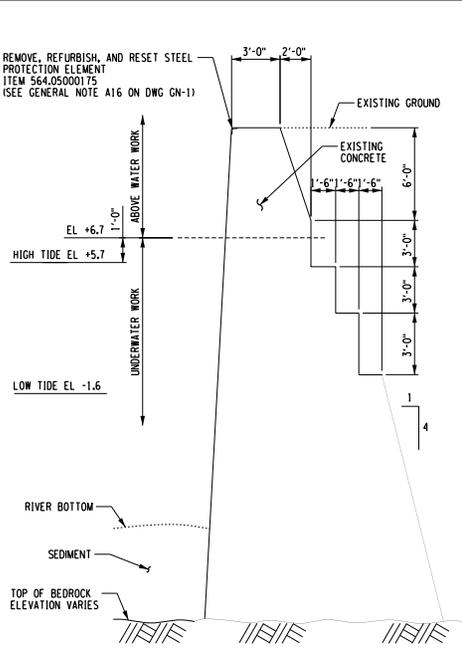
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 CHECK BY: RDH  
 PROJ. NO: 29425  
 SCALE: AS SHOWN  
 DATE: 02-28-2017

<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>GENERAL PLAN (13 OF 13)</b>	
CITY OF TROY	RENSSELAER COUNTY, NY
III Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.ch2m.com	
<b>CHA</b>	<b>GP-13</b>
	SHEET 23

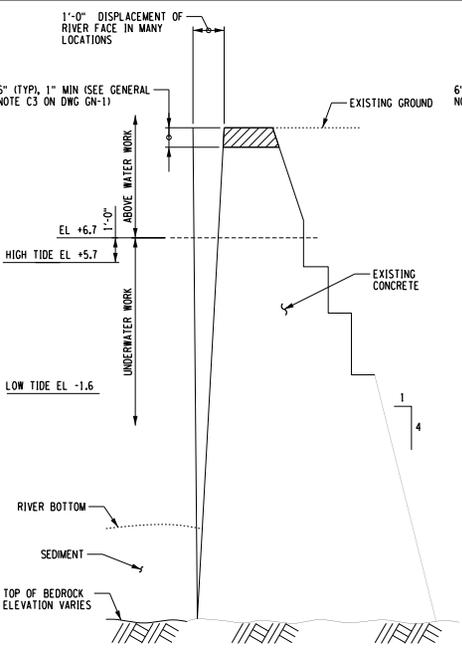
USER: 4879

DATE/TIME: 3/1/2017

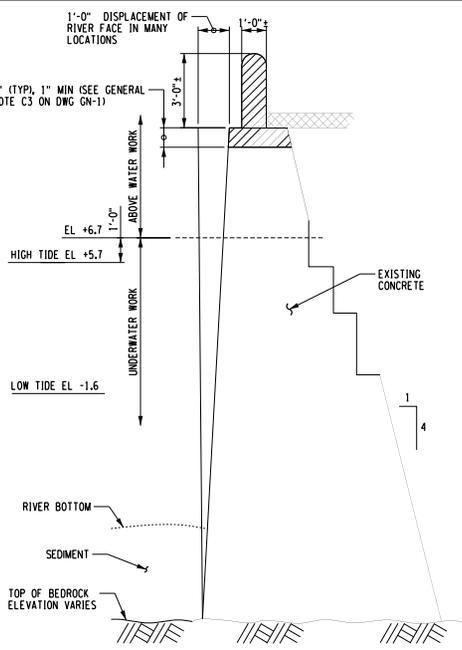
FILE NAME: \\V:\Projects\NAN\3\24\25\CAD\NAN\24\25\cwb-wall\_removal.dwg,01.dgn



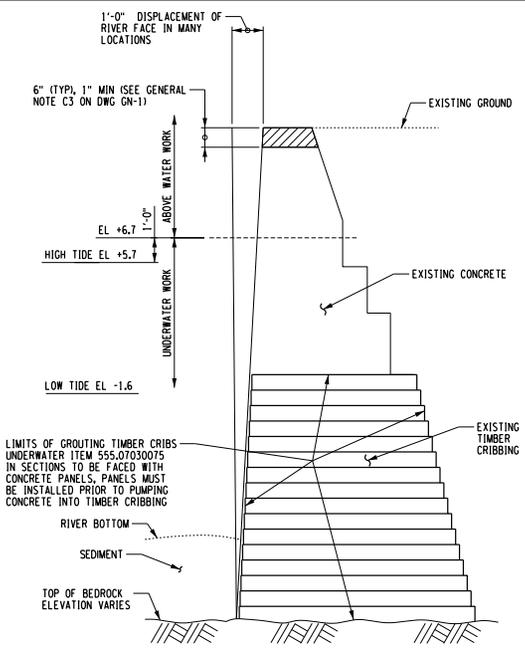
**TYPICAL EXISTING SECTION**  
STA 0+00 TO STA 0+20  
STA 11+36 TO STA 13+00  
STA 24+14 TO STA 34+00  
NOT TO SCALE



**TYPICAL REMOVAL SECTION**  
STA 0+20 TO STA 0+48  
STA 6+20 TO STA 7+70  
STA 10+60 TO STA 11+36  
STA 13+00 TO STA 13+19  
STA 17+25 TO STA 18+90  
STA 23+84 TO STA 24+14  
NOT TO SCALE



**TYPICAL REMOVAL SECTION**  
STA 0+48 TO STA 6+20  
NOT TO SCALE



**TYPICAL REMOVAL SECTION**  
STA 7+70 TO STA 10+60  
STA 13+19 TO STA 17+25  
STA 18+90 TO STA 23+84  
NOT TO SCALE

**LEGEND:**

- DENOTES AREA OF REMOVAL OF STRUCTURAL CONCRETE - ITEM 580.01
- DENOTES AREA MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE - ITEM 490.30

**NOTES:**

1. FOR GENERAL NOTES SEE DWG GN-1.
2. DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS, FOR WHICH NO SCALE IS SHOWN, ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.

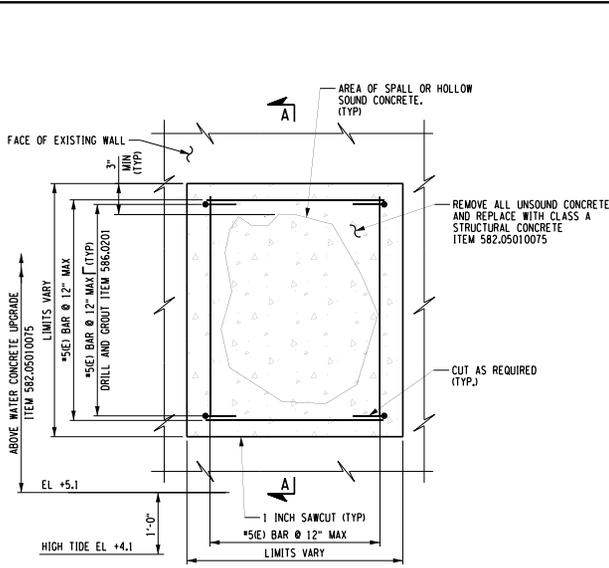
DATE	REVISIONS RECORD/DESCRIPTION



DRAWN BY: PKR
DESIGN BY: JCN
CHECK BY: RDH
PROJ. NO: 29425
SCALE: AS SHOWN
DATE: 2/28/2017

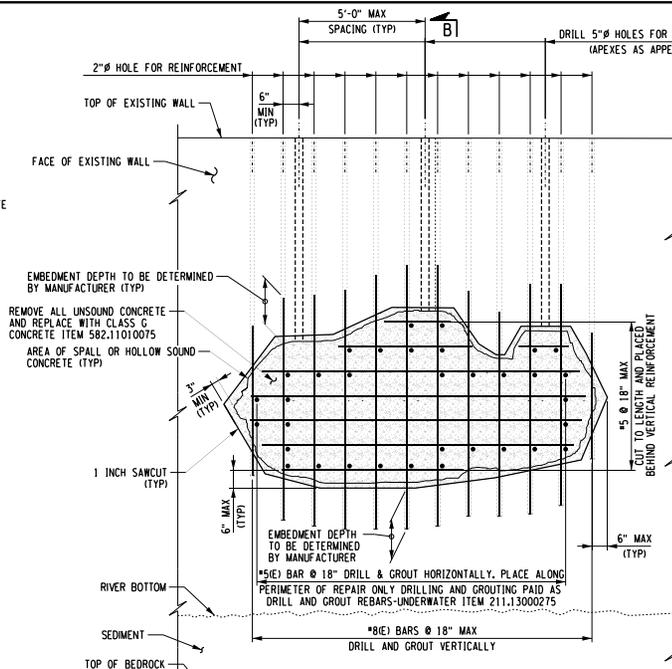
<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>EXISTING WALL REMOVAL CROSS-SECTIONS</b>	
CITY OF TROY	RENSSELAER COUNTY, NY
III Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com	<b>CHA</b>
D-1	SHEET 24

USER: 14079 DATE/TIME: 3/2/2017 FILE NAME: \\P:\projects\NYS\329425\COORDS\MS\1\329425\_cdb.dwg



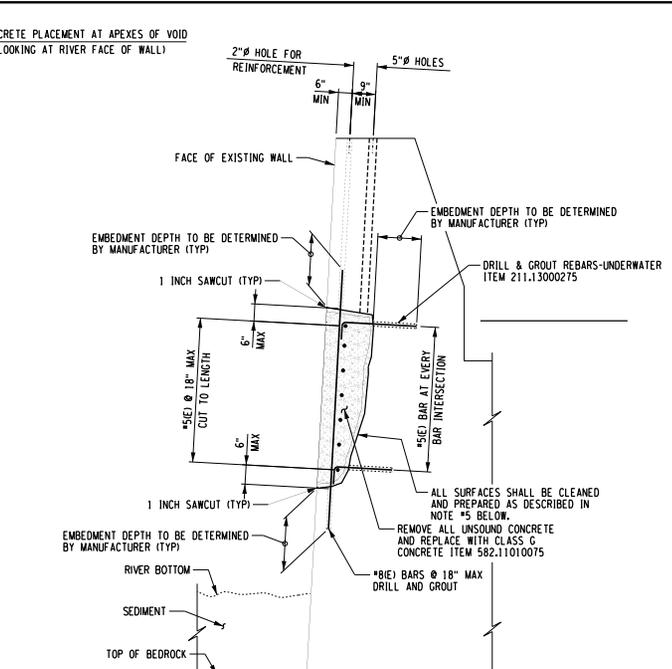
**TYPICAL ABOVE WATER CONCRETE UPGRADE DETAIL**

ITEM 582.05010075 (UON)  
NOT TO SCALE



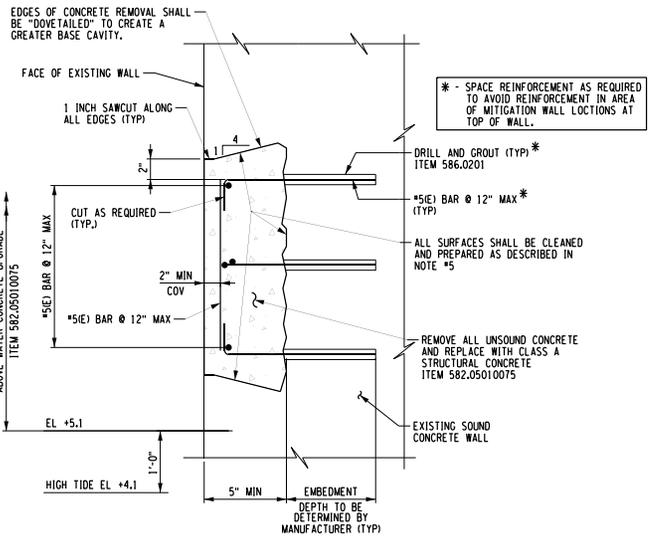
**TYPICAL UNDERWATER CONCRETE UPGRADE DETAIL**

ITEM 582.11010075  
NOT TO SCALE



**SECTION B-B**

NOT TO SCALE



**SECTION A-A**

NOT TO SCALE

**NOTE:**  
UNDERWATER CONCRETE UPGRADE ITEM 582.11010075 SHALL BE COMPLETED PRIOR TO INSTALLATION OF MITIGATION WALL

**CONCRETE UPGRADE NOTES:**

- FOR GENERAL NOTES SEE DWG CN-1.
- FOR LOCATION OF CONCRETE VOIDS AND DESCRIPTION OF WHICH VOIDS ARE CONSIDERED ABOVE WATER OR UNDERWATER, SEE DWG GE-1 THRU GE-6 & T-1.
- APPROXIMATE VOID VOLUMES ARE SHOWN IN SUMMARY OF VOIDS ON DWG T-1.
- CONCRETE RETAINING WALL DETERIORATION REQUIRING UPGRADES AS INDICATED ON THE PLANS HAS BEEN DETERMINED BY A FIELD INSPECTION. ALL OF THE MAJOR AREAS KNOWN TO EXIST AT THE TIME HAVE BEEN SHOWN TO INDICATE THE APPROXIMATE EXTENT OF DETERIORATION THAT WILL HAVE TO BE UPGRADED BY THE CONTRACTOR. THE EXTENT OF CONCRETE UPGRADE TO BE MADE SHALL BE APPROVED AND/OR DIRECTED BY THE ENGINEER.
- WHEN JOINING FRESH CONCRETE TO NEW CONCRETE WHICH HAS ALREADY SET, OR TO EXISTING CONCRETE, THE CONCRETE IN PLACE SHALL HAVE ITS SURFACE SCOURED OR ABRADED WITH A SUITABLE TOOL TO REMOVE ALL LOOSE AND FOREIGN MATERIALS. THIS SURFACE SHALL BE SCRUBBED WITH WIRE BRUSHES. AFTER THE SURFACE PREPARATION HAS BEEN ACCEPTED, THIS SURFACE SHALL BE THOROUGHLY WET AND KEPT SO FOR A PERIOD OF 12 HOURS IMMEDIATELY PRIOR TO PLACING THE NEW CONCRETE. THIS MAY BE ACCOMPLISHED BY CONTINUOUS WETTING WITH SOAKER HOSES OR THE USE OF BURLAP/BURLINE/ETC. SO THAT MOISTURE CAN BE MAINTAINED. IF, IN THE OPINION OF THE ENGINEER, CONDITIONS OR THE SITUATION PROHIBITS THIS, THEN THE SURFACES SHALL BE WETTED FOR AS LONG AS POSSIBLE. THE CONTRACTOR SHALL REMOVE ANY PUDDLES OR FREE STANDING WATER WITH OIL-FREE COMPRESSED AIR, AND PROTECT THE SURFACES FROM DRYING, SO THAT THE EXISTING CONCRETE REMAINS IN A CLEAN, SATURATED SURFACE DRY CONDITION UNTIL PLACEMENT OF THE NEW CONCRETE. IMMEDIATELY BEFORE PLACING THE NEW CONCRETE, THE FORMS SHALL BE DRAWN TIGHT AGAINST THE CONCRETE ALREADY IN PLACE.
- WHERE CONCRETE REMOVAL AND REPLACEMENT NECESSITATES ADJACENT SEPARATE CONCRETE PLACEMENTS, CONCRETE REMOVAL SHALL NOT BE ALLOWED WITHIN 1 FOOT OF ADJACENT UPGRADE AREAS. ADJACENT AREAS WHERE THIS 1 FOOT BUFFER IS NOT ATTAINABLE SHALL BE COMBINED INTO A SINGLE UPGRADE AREA.
- DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS, FOR WHICH NO SCALE IS SHOWN, ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.

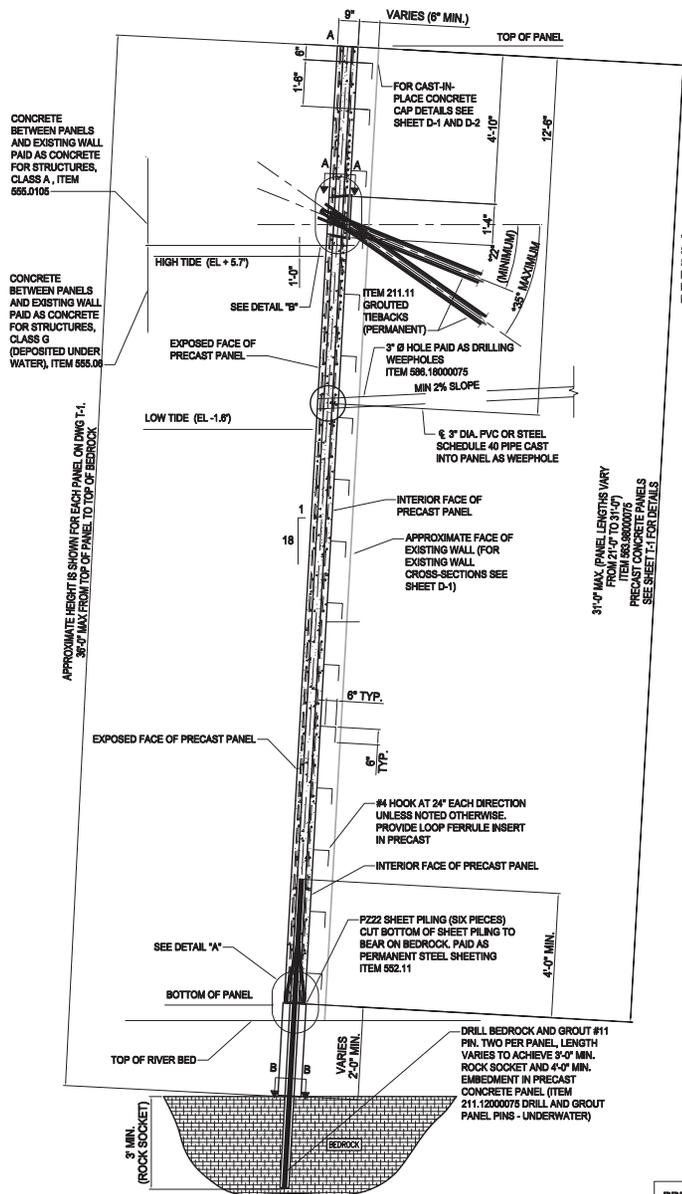
DATE	REVISIONS RECORD/DESCRIPTION



DRAWN BY: PKR  
DESIGN BY: JCN  
CHECK BY: RDH  
PROJ. NO: 29425  
SCALE: AS SHOWN  
DATE: 2/28/2017

<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>TYPICAL CONCRETE UPGRADE DETAILS</b>	
CITY OF TROY	RENSSELAER COUNTY, NY
<small>111 Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com</small>	
<b>D-8</b>	SHEET 31

File: A:\PROJECTS\NY\13\2420\CAD\ACAD\23-5 - PRECAST PANEL DETAILS.DWG, Scale: 2/28/2017 6:26:54 PM, Plotted: 3/7/2017 10:11:06 AM, Current User: Cecelia, Anaple, Lott, Sweeney, 5631

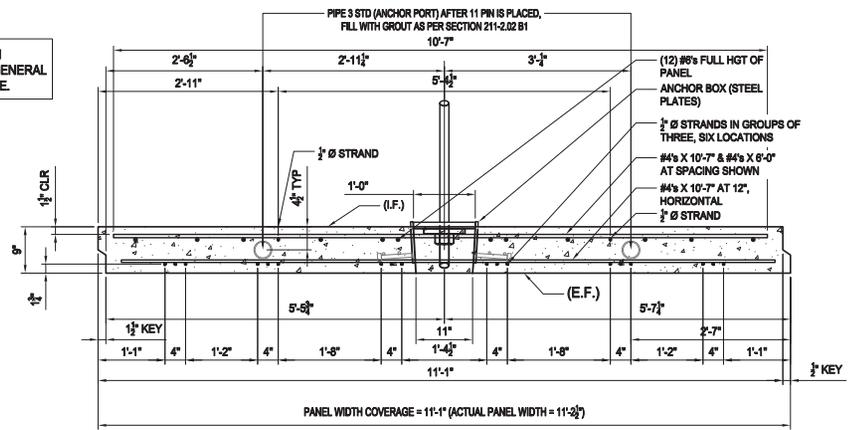


TYPICAL 11'-1\"/>
 STATIONS 8+40 TO 11+06  
 STATIONS 18+75 TO 23+04

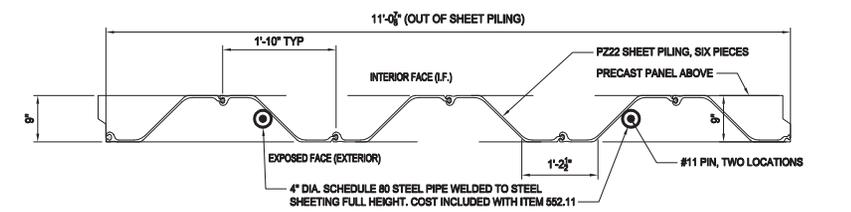
PRECAST PANEL DESIGN STAMPED BY  
 DELTA ENGINEERS, ARCHITECTS, &  
 LAND SURVEYORS

NOTE: FOR TIEBACK DESIGN INFORMATION, SEE GENERAL NOTES SECTIONS D&E.

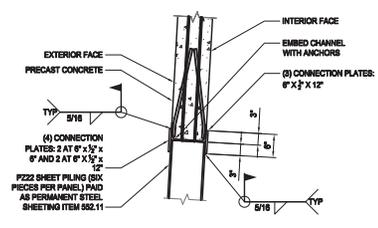
\* MINIMUM ANGLE SHOWN AVOIDS SEWER RUNNING PARALLEL TO WALL, PROVIDING 2'-0\"/>
 MINIMUM CLEARANCE.



SECTION A-A

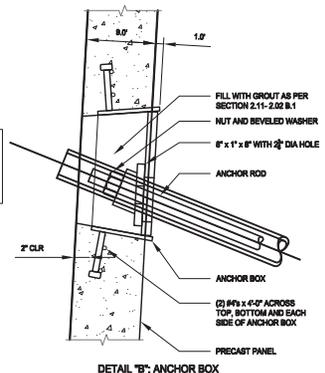


SECTION B-B



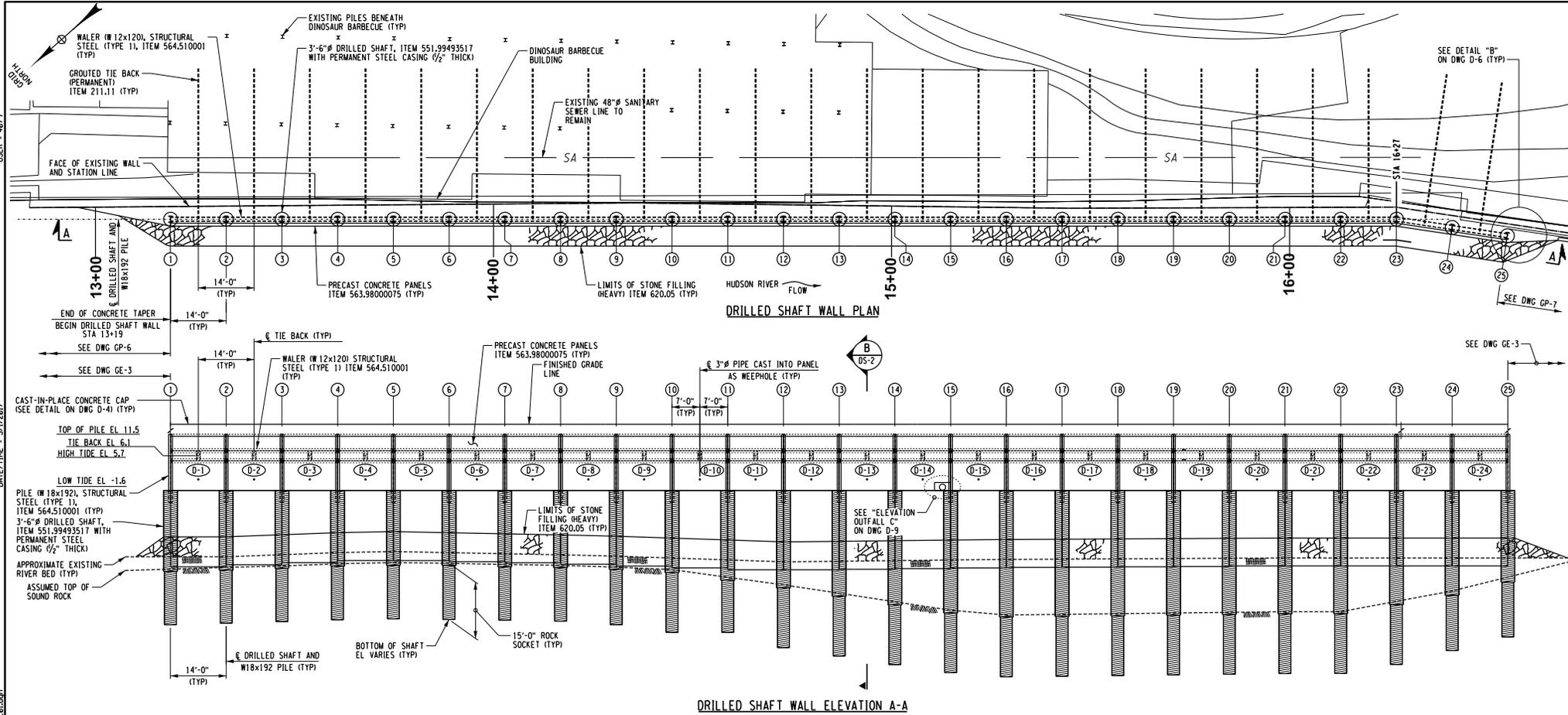
NOTE: FOR ADDITIONAL DETAILS SEE DETAIL 'A' OR DWG P-3.  
 DETAIL 'A': ATTACHMENT OF SHEET PILING TO PRECAST CONCRETE PANEL.

NOTE: GALVANIZING COATINGS AND REPAIRS SHALL CONFORM TO SECTION 719-01



DETAIL 'B': ANCHOR BOX

DATE	REVISIONS RECORD/DESCRIPTION	DRAWN BY:	AC	TROY SEAWALL STABILIZATION PROJECT	
▲		DESIGN BY:	JCN	PRECAST PANEL WALL TYPICAL SECTION AND DETAILS	
▲		CHECK BY:	RDH	RENSSELAER COUNTY, NY	
▲		PROJ. NO.:	2945	CITY OF TROY	
▲		SCALE:	AS SHOWN	III Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.checompanies.com	
▲		DATE:	02-28-2017	CHA P-1	
				SHEET 33	



**NOTES:**

(X) - DENOTES DRILLED SHAFT AND PILE NUMBER.

(O-X) - DENOTES PRECAST CONCRETE PANEL NUMBER (SEE TABLE ON DWG T-1)

DRILLED SHAFT LOCATIONS HAVE BEEN SET TO ACCOMMODATE THE SURVEYED HORIZONTAL DISPLACEMENT OF THE EXISTING WALL. THE MAXIMUM HORIZONTAL DISPLACEMENT OCCURS AT APPROXIMATELY STA. 14+00. AT THIS LOCATION THE TOP OF THE EXISTING WALL IS PROTRUDING APPROXIMATELY 1'-0" INTO THE RIVER.

TIEBACK LOCATIONS HAVE BEEN ESTABLISHED TO AVOID THE EXISTING BUILDING PILES AND SANITARY SEWER LINE.

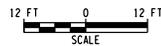
CONTRACTOR SHALL VERIFY THERE ARE NO CONFLICTS BETWEEN EXISTING INFRASTRUCTURE AND ALL ELEMENTS OF THE PROPOSED DRILLED SHAFT WALL PRIOR TO SUBMITTING SHOP DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS AT LEAST THIRTY DAYS PRIOR TO THE START OF CONSTRUCTION OF THE DRILLED SHAFTS.

FOR PRECAST CONCRETE PANEL DETAILS, SEE DWG. DS-5.

CONTRACTOR MAY MAKE ATTACHMENTS TO THE EXISTING SEAWALL IN ORDER TO ENSURE PLUMBNESS OF SHAFT DURING INSTALLATION.

FOR APPROXIMATE EXISTING RIVER BED ELEVATIONS AND TOP OF SOUND ROCK ELEVATIONS, SEE DRILLED SHAFT AND PILE TABLE ON DWG. DS-4.

FOR BORING LOCATIONS, SEE DWG GP-6 AND GP-7.



DATE	REVISIONS RECORD/DESCRIPTION



DRAWN BY: PKR  
 DESIGN BY: JCN  
 CHECK BY: RDH  
 PROJ. NO: 29425  
 SCALE: AS SHOWN  
 DATE: 2/28/2017

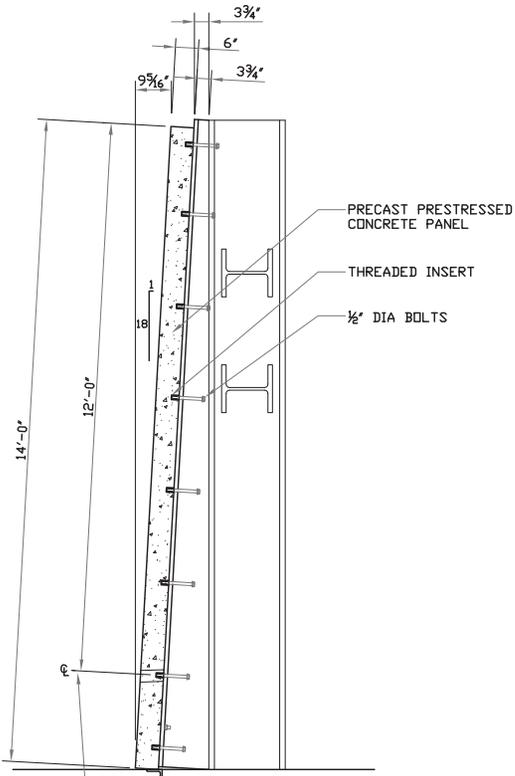
<b>TROY SEAWALL STABILIZATION PROJECT</b>	
<b>DRILLED SHAFT WALL PLAN AND ELEVATION</b>	
CITY OF TROY	RENSSELAER COUNTY, NY
III Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacompanies.com	<b>CHA</b>
DS-1	SHEET 36

USER: 4879

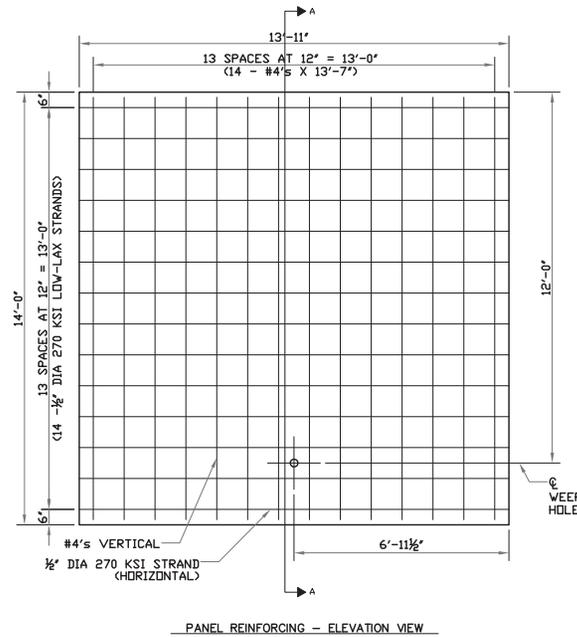
DATE/TIME: 3/17/2017

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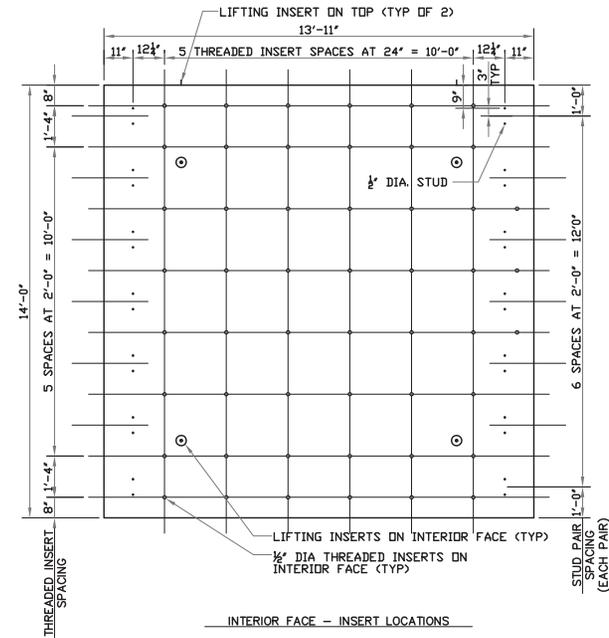




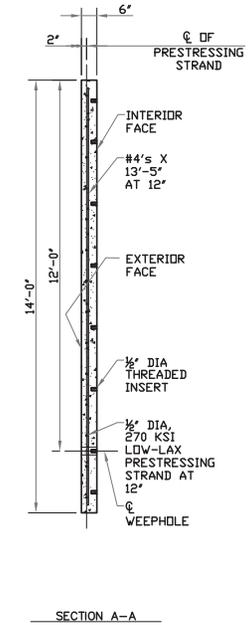
TYPICAL SECTION AT DRILLED SHAFT WALL (SHOWING PANEL)



PANEL REINFORCING - ELEVATION VIEW



INTERIOR FACE - INSERT LOCATIONS



SECTION A-A

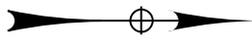
NOTES: 1. PLATES ATTACHED TO STUDS. NOT SHOWN FOR CLARITY. (SEE DWG DS-3)  
 2. SEE GENERAL NOTE SECTION F&G FOR MORE PANEL INFORMATION.

PRECAST PANEL DESIGN STAMPED BY  
 DELTA ENGINEERS, ARCHITECTS, &  
 LAND SURVEYORS

DATE	REVISIONS RECORD/DESCRIPTION	DRAWN BY:	TROY SEAWALL STABILIZATION PROJECT	
		AC	RENSSELAIR COUNTY, NY	
		JCN	DRILLED SHAFT WALL PRECAST PANEL DETAILS	
		RDH	CITY OF TROY	
			PROJ. NO: 29435	
			SCALE: AS SHOWN	
			DATE: 02-28-2017	
			111 Winners Circle, PO Box 5269 Albany, NY 12205-0269 518.453.4500 www.chacongaries.com	
				
			DS-5	
			SHEET 40	

File: \\PROJECTS\NY\3\29435\CADD\ACAD\05-4 - DRILLED SHAFT WALL PRECAST PANEL DETAILS.DWG, Sheet: 3/7/2017 10:05:23 AM, Plotfile: 3/7/2017 10:11:27 AM, Current User: Cdevis, Applet: lastSaveBy: 6531

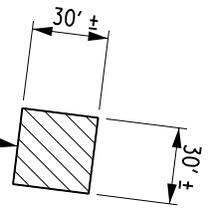
GRID  
NORTH



FEDERAL NAVIGATION  
EASTERN CHANNEL LINE

HUDSON RIVER

APPROXIMATE AREA  
OF DEBRIS REMOVAL



POESTEN KILL

