



DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
231 SOUTH LA SALLE STREET, SUITE 1500
CHICAGO IL 60604

09 AUG 2016

James P. Casey
Illinois Department of Natural Resources
Office of Water Resources
Lake Michigan Management Section
160 North LaSalle Street, Suite S-700
Chicago, Illinois 60601

RECEIVED
AUG 1 2 2016

OFFICE OF WATER RESOURCES
DIVISION OF RESOURCE MANAGEMENT

Dear Mr. Casey,

The U.S. Army Corps of Engineers (USACE), Chicago District, respectfully requests a Federal consistency determination for the Waukegan Harbor North Pier Resurfacing Project. The proposed activity complies with Illinois' approved coastal management program and will be conducted in a manner consistent with such policies.

The surface of the existing concrete on the Waukegan North Pier has deteriorated and is in poor condition. This project will resurface the pier with new concrete in order to improve safety, structural integrity, and the appearance. The current plan is to use cast-in-place concrete, but precast may be used in some locations. Steel face plates will be anchored to both sides of the pier, and these plates will help contain the concrete during placement and provide structural support. A large portion of the pier is presently underwater, so the Contractor will have the option to seal sections of the pier to pump out the water prior to concrete placement, or to place the concrete underwater. Adverse water quality impacts to Lake Michigan will be minimized by using environmentally protective and appropriate placement techniques, using a proper concrete mix design, and by monitoring the construction activities. The concrete will cover a maximum surface area on the pier of about one half acre, and the maximum quantity of concrete (fill material) will be approximately 1,400 cubic yards. The project is expected to start during October 2016 and the initial contract should largely be completed by the end of September 2017. However, additional work may be conducted through one or more subsequent contracts over multiple years, depending on the availability of funding, so a permit is requested to cover a five (5) year time period, until September 2021. A copy of the application for Clean Water Act Section 401 Water Quality Certification has been enclosed that shows the project location and includes further details on the project and drawings.

If you have any questions concerning this letter, please feel free to contact Richard Saichek at (312) 846-5507, by e-mail to richard.e.saichek@usace.army.mil, or at the address above.

Sincerely,

Linda M. Sorn, P.E.
Acting Deputy for Project Management

Enclosures

JOINT APPLICATION FORM FOR ILLINOIS

ITEMS 1 AND 2 FOR AGENCY USE

1. Application Number	2. Date Received
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3. and 4. (SEE SPECIAL INSTRUCTIONS) NAME, MAILING ADDRESS AND TELEPHONE NUMBERS

3a. Applicant's Name: Richard Saichek Company Name (if any) : U.S. Army Corps of Engineers, Chicago District Address: 231 South LaSalle Street, Ste. 1500, Chicago, IL 60604 Email Address:	3b. Co-Applicant/Property Owner Name (if needed or if different from applicant): Company Name (if any): Address: Email Address:	4. Authorized Agent (an agent is not required): Company Name (if any): Address: Email Address:
Applicant's Phone Nos. w/area code Business: Residence: Cell: Fax:	Applicant's Phone Nos. w/area code Business: Residence: Cell: Fax:	Agent's Phone Nos. w/area code Business: Residence: Cell: Fax:

STATEMENT OF AUTHORIZATION

I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

Applicant's Signature

Date

5. ADJOINING PROPERTY OWNERS (Upstream and Downstream of the water body and within Visual Reach of Project)

Name	Mailing Address	Phone No. w/area code
a. See attached sheet.		
b.		
c.		
d.		

6. PROJECT TITLE:
 Waukegan Harbor North Pier Breakwater Resurfacing

7. PROJECT LOCATION:
 Waukegan Harbor, Waukegan, Illinois

LATITUDE: 42.36142 °N LONGITUDE: -87.81554 °W	UTM's Northing: 2074664.43 (Illinois State Plane, East Zone) Easting: 639707.66 (Illinois State Plane, East Zone)										
STREET, ROAD, OR OTHER DESCRIPTIVE LOCATION Waukegan Harbor North Pier	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">LEGAL DESCRIPT</th> <th style="width: 15%;">QUARTER</th> <th style="width: 15%;">SECTION</th> <th style="width: 20%;">TOWNSHIP NO.</th> <th style="width: 35%;">RANGE</th> </tr> <tr> <td style="text-align: center;">NW</td> <td style="text-align: center;">22</td> <td style="text-align: center;">45N</td> <td style="text-align: center;">12E</td> <td></td> </tr> </table>	LEGAL DESCRIPT	QUARTER	SECTION	TOWNSHIP NO.	RANGE	NW	22	45N	12E	
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NW	22	45N	12E								
<input checked="" type="checkbox"/> IN OR <input type="checkbox"/> NEAR CITY OF TOWN (check appropriate box) Municipality Name Waukegan	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 75%;">WATERWAY</th> <th style="width: 25%;">RIVER MILE (if applicable)</th> </tr> <tr> <td style="text-align: center;">Lake Michigan</td> <td></td> </tr> </table>	WATERWAY	RIVER MILE (if applicable)	Lake Michigan							
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Lake	Illinois	60079									

Revised 2010

- Corps of Engineers
 IL Dep't of Natural Resources
 IL Environmental Protection Agency
 Applicant's Copy

Waukegan Harbor North Pier Breakwater Resurfacing Project
Joint Application Form
Block 13. Antidegradation Assessment

The proposed project involves the resurfacing of the concrete on the Waukegan Harbor North Pier Breakwater, which is located along the shore of Lake Michigan. As discussed in the attached Joint Application Form, the existing concrete on the pier has deteriorated and is in poor condition. Resurfacing of the pier with new concrete is needed in order to improve safety, structural integrity, and the appearance. The current plan is to use cast-in-place concrete, but precast may be used in some locations. Steel face plates will be anchored to both sides of the pier, and these plates will help contain the concrete during placement and provide structural support. A large portion of the pier is presently underwater, so the Contractor will have the option to seal sections of the pier to pump out the water prior to concrete placement, or to place the concrete underwater. Adverse water quality impacts to Lake Michigan will be minimized by using environmentally protective and appropriate placement techniques, using a proper concrete mix design, and by monitoring the construction activities. The concrete will cover a maximum surface area on the pier of about one half acre, and the maximum quantity of concrete (fill material) will be approximately 1,400 cubic yards.

Several different alternatives were taken into consideration; including the no action alternative, removal of the existing structure, construction of a new and/or different type of structure, such as a rubble mound breakwater, and maintenance of the existing structure. The no action alternative was rejected because the deteriorated concrete is unsafe and could potentially cause injuries to people that utilize the pier. Furthermore, failure to perform needed maintenance would result in excessive deterioration and destabilization of the structure. Another drawback of the no action alternative is that the appearance of the deteriorated structure is unattractive for visitors to the lakefront and adjacent Waukegan Municipal Beach. The option to remove the existing structure was rejected because the pier is beneficial for safe navigation, and it helps prevent the accumulation of sediment in the Federal navigation channel. The option to construct a new or different type of structure was rejected because it would likely cause greater environmental impacts and the associated costs would be higher than resurfacing and maintaining the existing pier. As a consequence, the preferred alternative is to resurface the existing pier.

No mitigation plan is proposed for the Waukegan Harbor North Pier Breakwater Project because *de minimis* or no long-term environmental degradation is anticipated. Some minor, short-term increases in turbidity and pH will likely occur when placing concrete, since the steel face plates will not completely contain the material, but by using best management practices, environmentally protective and appropriate placement techniques, a proper concrete mix design, and by monitoring the construction activities, there should not be any long-term adverse impacts to the water quality or aquatic species. Rough coastal weather conditions on Lake Michigan, such as high winds, waves, and strong currents, or the disturbance of sediment by large vessels passing through the navigation channel, would be expected to cause similar or higher and more

persistent levels of turbidity than the minor, short-term increases that are likely to occur as a result of the proposed construction activities. The turbidity associated with the construction activities would be expected to be composed of inorganic particles that should settle or dissipate within a few days or less under quiescent conditions. The pH values of water in contact with newly placed concrete are commonly elevated, but the values can be kept low by utilizing proper concrete placement techniques and mix designs.

Although Waukegan Harbor is a commercial deep draft harbor, it is also associated with a substantial amount of recreational boating. The inner portion of the harbor contains no tributary outlet, and tends to be somewhat stagnant. The water quality is typically similar to, but perhaps slightly lower in quality, than nearshore Lake Michigan along the Northern Illinois coastline. The 2016 Illinois Integrated Water Quality Report and Section 303(d) List includes specific assessment information for Lake Michigan open waters, harbors, and shoreline waters. This information reports that Waukegan Harbor was not supporting of aquatic life, fish consumption, and aesthetic quality, and the causes were listed as arsenic, cadmium, chromium, copper, lead, mercury, polychlorinated biphenyls (PCBs), zinc, phosphorus, and bottom deposits. Sources included contaminated sediments, urban runoff/storm sewers, industrial point discharge, and atmospheric deposition – toxics, as well as unknown sources. The same report provides information for the Waukegan North and South Beaches, and these beaches were not supporting of fish consumption or primary contact. The causes were listed as mercury, PCBs, and *E. coli* bacteria, and the sources were reportedly atmospheric deposition – toxics and unknown sources.

The proposed project will be contained within the harbor breakwaters, and no impacts to Lake Michigan are anticipated. It is also important to understand that the project will benefit the community at large, because the pier helps facilitate safe navigation to and from Waukegan Harbor. The harbor is beneficial because it supports the transport of commodities and enhances the operations of several companies that represent a source for jobs and growth for the local economy. Moreover, the harbor provides environmental benefits because the transportation of commodities by vessels is often more efficient and causes less pollution than the alternative methods, particularly rail or truck, since these other methods tend to increase congestion and air emissions.

In summary, the proposed Waukegan Harbor North Pier Breakwater Project is not anticipated to cause adverse water quality impacts or violations of the Lake Michigan Basin water quality standards. Rather, the proposed work is a necessary part of maintaining safe conditions for the commercial and recreational vessels that require access to and from Waukegan Harbor.



MARK	DESCRIPTION	DATE

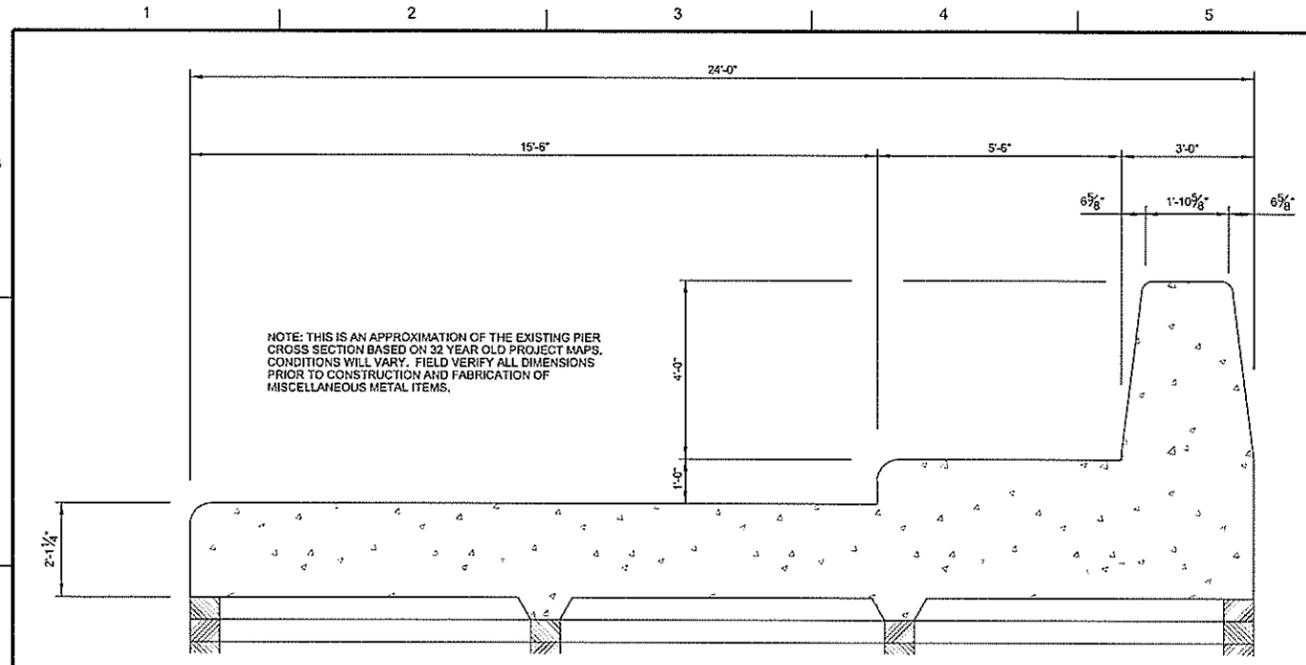
DESIGNED BY:	ISSUE DATE:
DRAWN BY:	SOLICITATION NO.:
CHECKED BY:	CONTRACT NO.:
SUBMITTED BY:	PROJECT CODE:
SIZE:	FILE NAME:
ANSI D:	11374-S-101.dwg

U.S. ARMY CORPS OF ENGINEERS
CHICAGO DISTRICT
231 SOUTH CHICAGO, IL 60604

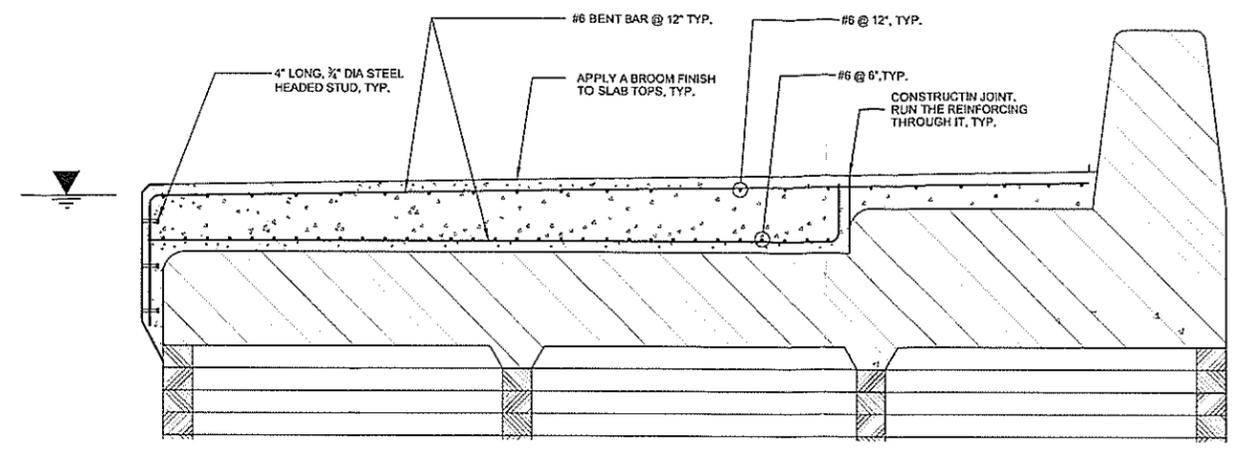
WAUKEGAN HARBOR
NORTH PIER BREAKWATER RESURFACING

SLAB OVERLAY
PLAN, ELEVATIONS, AND
SECTIONS

SHEET ID
S-101



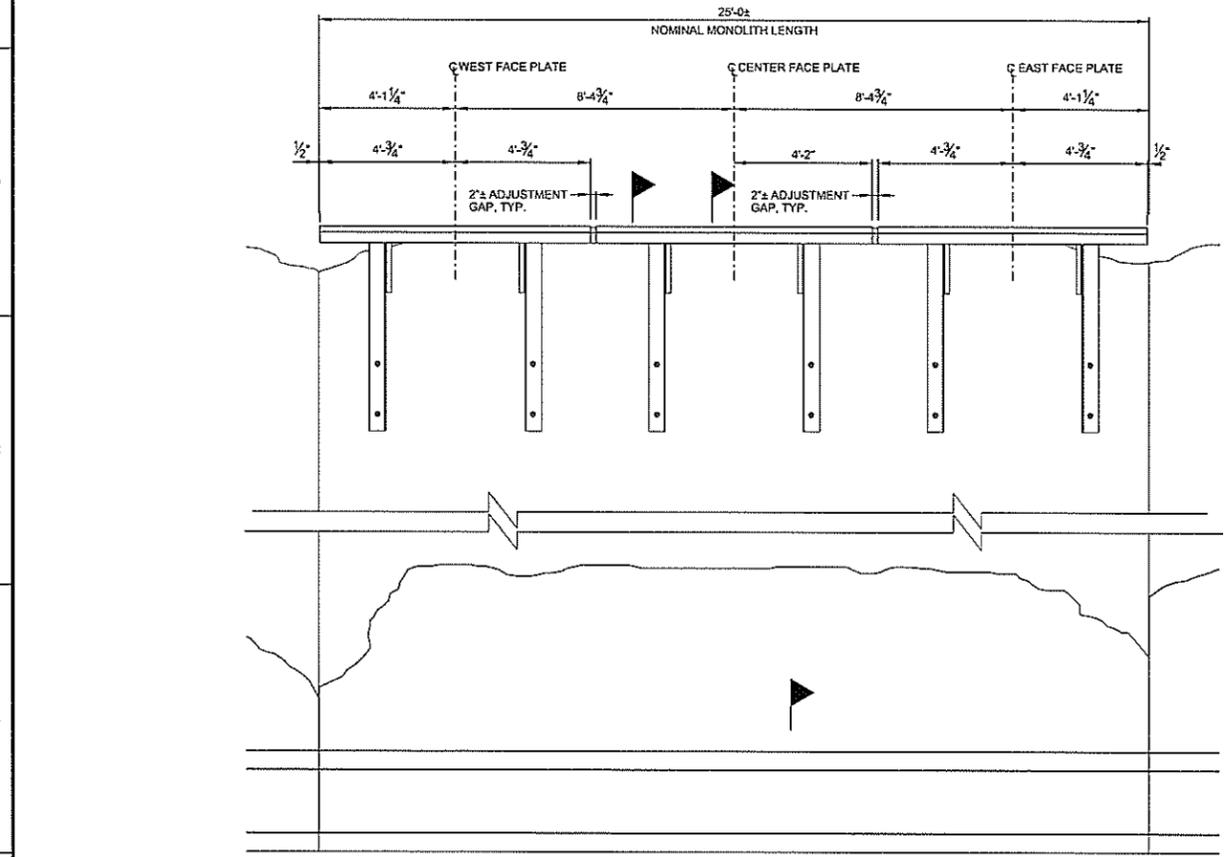
TYPICAL EXISTING NORTH PIER SECTION
SCALE: 1/2" = 1'



TYPICAL SLAB SECTION
SCALE: 1/2" = 1'

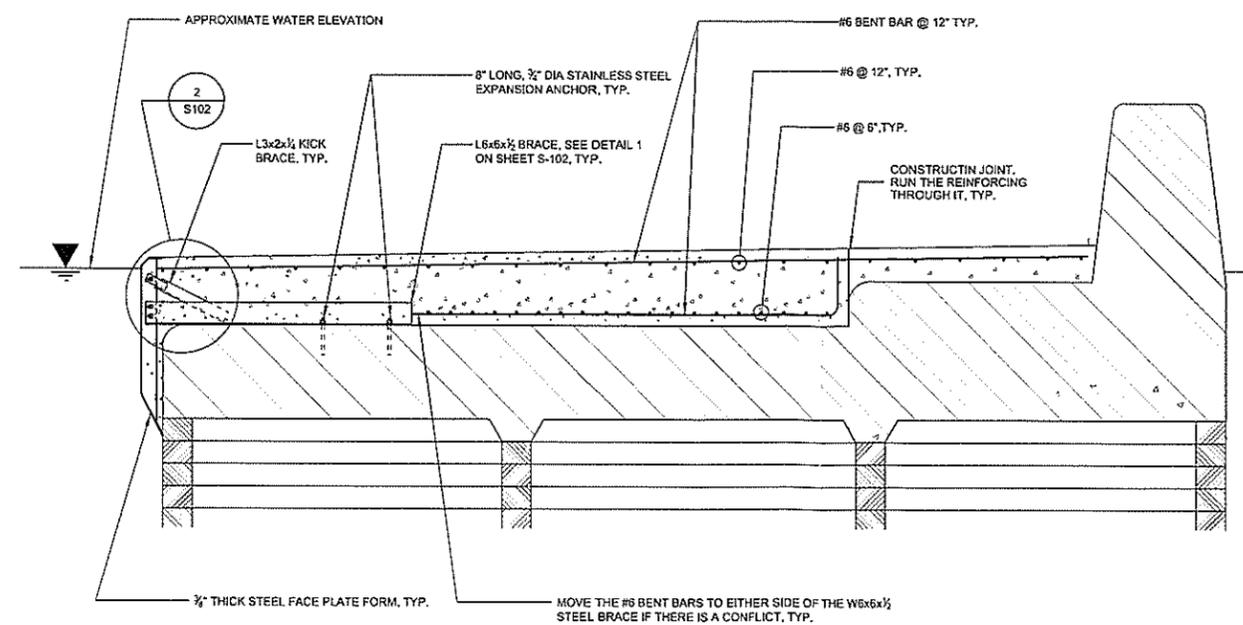
GENERAL STEEL PLATE NOTES:

1. EACH MONOLITH SHALL HAVE ONE MIDDLE 8'-4" LONG PLATE AND TWO SIDE PLATES OF 8'-1 1/2"± EACH. FIELD VERIFY ALL MONOLITH DIMENSIONS PRIOR TO THE FABRICATION OF THE STEEL PLATES. ADJUST THE LENGTH OF THE SIDE PLATES AS NECESSARY BASED ON THE FIELD DIMENSION VERIFICATION IF THE MONOLITH LENGTH IS GREATER THAN 25'-0" OR LESS THAN 24'-0".
2. THE MIDDLE 8'-4" PLATE SHALL BE SET IN PLACE FIRST THEN THE TWO SIDE PLATES. THE SIDE PLATES SHALL OVERLAP THE JOINT PLATE THAT IS WELDED TO EACH END OF THE 8'-4" MIDDLE PLATE.
3. ALL PLATE ASSEMBLAGES SHALL BE SHOP FABRICATED, UNLESS OTHERWISE NOTED, AND DELIVERED TO THE SITE FOR INSTALLATION.
4. SLOTTED CONNECTIONS AND OVERSIZED BOLT HOLES ALLOW FOR LEVELING/PLUMBING UP OF THE SUPPORT FRAMES AND FACE PLATES.

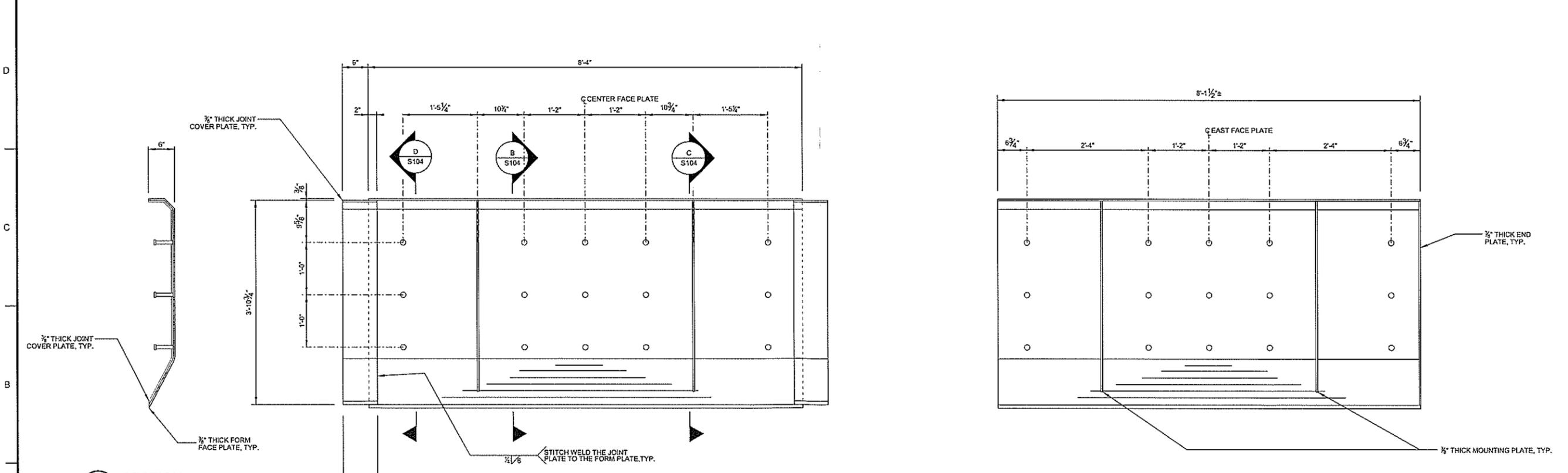
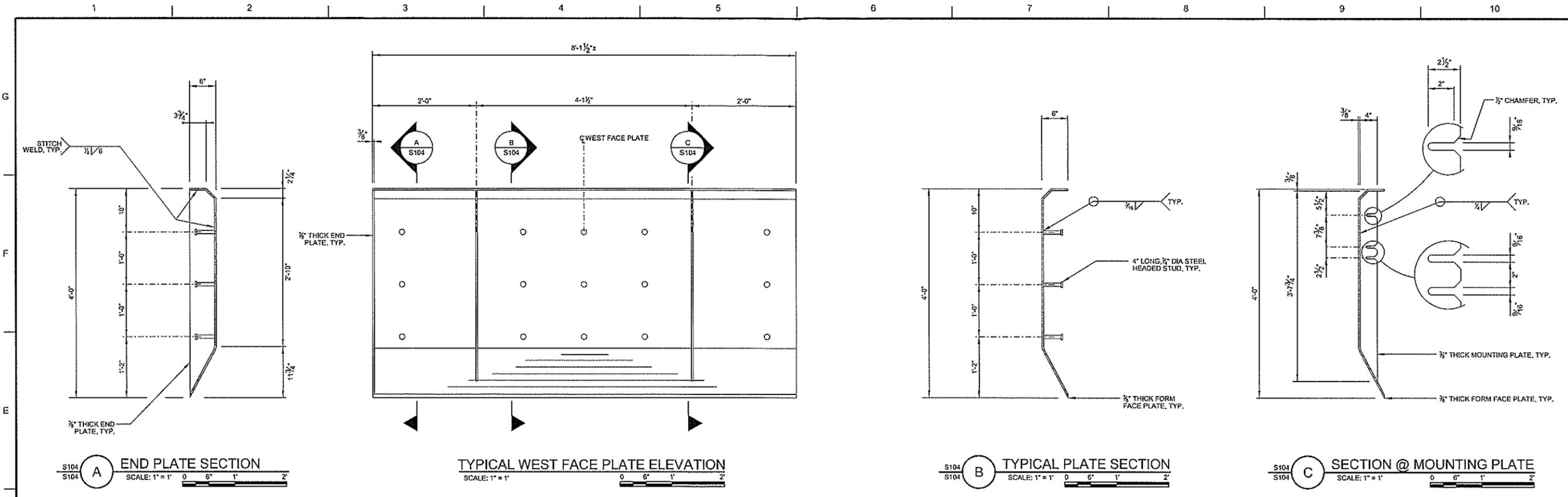


TYPICAL MONOLITH PLAN
SCALE: 3/8" = 1'

NOTE: PLAN SHOWN WITHOUT CONCRETE



TYPICAL SLAB SECTION @ PLATE BRACE
SCALE: 1/2" = 1'



MARK	DESCRIPTION	DATE

DESIGNED BY: ERIC G. SAMSON	ISSUE DATE:
DRAWN BY: ERIC G. SAMSON	SOLICITATION NO.:
CHECKED BY: STEPHEN TREHARNE	CONTRACT NO.:
SUBMITTED BY: STEPHEN TREHARNE	PROJECT CODE:
SIZE: ANSI D	FILE NAME: 110324CS-04.dgn
U.S. ARMY CORPS OF ENGINEERS CHICAGO DISTRICT 231 SOUTH LA SALLE STREET, SUITE 1500 CHICAGO, IL 60604	

WAUKEGAN HARBOR
NORTH PIER BREAKWATER RESURFACING

PLATE DETAILS

SHEET ID
S-104

RECEIVED
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DIVISION OF RESOURCE MANAGEMENT