



**GREELEY AND HANSEN**

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**D T** : 2/05/2015

**PR CT**: City of New York  
Department of Design & Construction  
Marine Transfer Station Conversion Program  
Southwest Brooklyn MTS

**S CT N**: 02325

We are sending you herewith the following sheets:

<u>Submittal Number</u>	<u>Review Cycle</u>	<u>Description</u>	<u>Action Taken</u>
02325-001	001	Dredge and Disposal Plan	3,7

- T e e are:**
1. To be checked.
  2. Revise and resubmit.
  3. Approved - subject to corrections marked.
  4. Approved.
  5. For your information and use.
  6. Incomplete submittal.
  7. See remarks.
  8. Not Reviewed

**R R S**:  
See submittal or comment .

c: J. Cuervo, DDC  
M. Balarezo, URS/LiRo

our very truly

**GR ND NS N C**

Chris McEntee

# SOUTHWEST BROOKLYN MARINE TRANSFER STATION PRISMATIC DEVELOPMENT CORPORATION SUBMITTAL COVER SHEET

<b>Project Name:</b>	SOUTHWEST BROOKLYN MARINE TRANSFER STATION		
Contract No. 1:	GENERAL CONSTRUCTION WORK		
Contractor's Name:	PRISMATIC DEVELOPMENT CORPORATION		
Date:	Monday, December 29, 2014		
Item:	Dredge and Disposal Plan		
Specifications:	Dredging & Dredged Material Disposal		
Section:	02325		
Page No.:	3-4		
Para. No.:	1.06.A.1		
Contract Drawing No.:	Z-002		
Location:	Waterfont		
Submittal No.:	02325	.	001
Review Cycle No.:	001		
Shop Drawing Reference No.:			
Source company name:	JT Cleary		
Approved By:	Mike Cortese		

PDC Notes for Reviewer:

J T Cleary Inc.  
100 Red Schoolhouse Rd, #A-12  
Chestnut Ridge, NY 10977  
Ph : 845-352-1099

**Submittal**

**Project No.:** 12-2067-1

**Project Name:** SouthWest Marine Transfr Statn  
1824 Shore Parkway  
Brooklyn, NY 11214

**Submittal No:** 02325 -- 001

**Review Cycle:** 001

**Sent Date:** 12/18/2014

**Spec Section Title:**

**Submittal Title:** Dredge and Disposal Plan

**Contractor:**  
J T Cleary Inc.

[ Contractor's Stamp ]

Project Name: SouthWest Marine Transfr Statn  
Contract No.: S216-399A  
Contractor's Name: J T Cleary Inc.  
Date: 12-18-2014  
Item: Dredge and Disposal Plan  
Specifications:  
Section: 02325  
Page No.: 3-4  
Para. No.: 1.06.A.1  
Contract Drawing No.: Z-002.00 of \_\_\_\_\_  
Location: \_\_\_\_\_  
Submittal No.: 001 Review Cycle No.: 001  
Shop Drawing Reference No.: \_\_\_\_\_  
Source company name: J.T. Cleary Inc.  
Approved By: \_\_\_\_\_

**GC (Primary):**  
Prismatic Development Corp.  
Mike Cortese

**SHOP DRAWING REVIEW**

**Consulting Engineer's Review**

- Approved
- Approved – Subject to Corrections** Not a Shop Drawing
- Examined and Returned for Correction

**Consulting Engineer's review is for general conformance with the design concept and contract documents. Markings or comments shall not be construed as relieving the Contractor from compliance with the project plans and specifications nor departure therefrom. The contractor remains responsible for details and accuracy, for confirming, and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, and for performing his work in a safe manner.**

**Consulting Engineer AECOM USA**

By *Maxima* Date: 02-03-2015

[ Engineer's Stamp ]



# Dredge and Disposal Plan

Project: Southwest Brooklyn Marine Transfer Station  
Contract No: S216-399A  
Location: Gravesend Bay of Lower New York Bay  
Sub-contractor: JT Cleary, Inc.  
Date: December 17, 2014



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## a) Methods, Equipment, and Schedule

*The proposed methods, equipment and schedule to dredge, transport and dispose of the dredged materials from the dredge area.*

### Overview

JT Cleary proposes to perform contract required dredging utilizing a barge-mounted crane, equipped with an environmental clamshell bucket. The crane barge will be situated and secured on spuds and will be relocated as necessary, as work progresses. The crane will be equipped with sophisticated GPS guidance and monitoring software to ensure dredging is performed accurately and to the contract limits. In addition, Aqua Survey Inc. will provide pre- and post-dredge surveys and routine progress surveys for quality control. Dredge spoils will be loaded into hopper scows for decanting and transport.

Once fully loaded, scows will be moved to an onsite, temporary mooring for a settling period, prior to decanting and transport to the material handling site. After a settling period to avoid turbidity, decant water will be pumped from the surface of the loaded scow to the waterway in the project area. After decanting, the dredged sediment will be transported to the offloading facility, where it will be stabilized in-scow for subsequent transport to the approved disposal facility.

The sequence of operation is as follows:

1. Mobilize to jobsite
2. Install temporary mooring
3. Set crane barge on spuds
4. Install silt curtain
5. Dredge (inshore to offshore)
6. Treat and dispose of spoils
7. Demobilize equipment from site

### Methodology

The crane barge will be secured within the dredge area on spuds and will be repositioned as necessary as work progresses. The work platform will be moved from an inshore to offshore position as work progresses to accommodate the dredging operation. Hopper barges will remain immediately adjacent to the crane barge within the dredge area, as work proceeds.

Dredged material stabilization operations will be conducted at the Cashman Marine Terminal located at:



Cashman Marine Terminal  
c/o Jay Cashman Inc. - Dredged Material Processing Facility  
632-650 South Front Street  
Elizabeth, NJ 07207

See **Appendix A**, Site Map.

Dredged materials and associated debris will be placed in hopper barges at the project site. Materials will be placed in the barge carefully to 1) prevent splashing or spillage, and 2) avoid imparting energy to the material matrix in order to promote optimal water separation in the barge. Loaded barges will be transported by tug from the removal site to the Cashman Marine Terminal (CMT), located along the Arthur Kill along the Gulfport Reach. Barges will be loaded appropriately to prevent groundings in the removal area and navigation channel.

Loaded barges will be allowed to consolidate for a minimum of 24 hours to promote adequate decanting of interstitial water to the surface. During the consolidation step, barges will be moored at mooring dolphin/buoys located in the Gravesend Bay Anchorage. Once the consolidation and water separation process time has been achieved, the barge will be towed and fleeted along the CMT unloading dock.

Decant water from the surface of the loaded material barge will be removed using a submersible pump, and returned directly to the waterway in the project area.

The stabilization process will be conducted at CMT, using a cement feed system, consisting of heavy duty conveyors, silos, and auger conveyor. The system will be stationed at the unloading wharf and deliver Portland cement or Calciment reagent to the dredged material barge at specific rates. A reagent will be added at a rate of 8% by weight to the hopper barge and mixed in-barge. The weight of reagent will be determined by the difference in the draft of the hopper barge before it was loaded and the draft of the barge after dewatering. The drafts of the hopper barge will be compared to the Ullage tables for the barge in order to determine the weight of dredged material, and the required amount of reagent, based on the selected dosage. The reagent dosage will be optimized throughout the material solidification/stabilization process, in order to meet the required consistency and workability criteria, while minimizing cement addition and disposal tonnage to the extent practical.

The cement will be blended with the dredged material in the barge using a mixing head mounted on a CAT 385, or similar tracked hydraulic excavator. The mixing excavator will be able to travel alongside the barge, and have the capacity to reach the outbound corners of the largest material barge, in order to achieve consistent solidification and stabilization results per barge load.

The hopper barge will be removed from the processing site and allowed to cure a minimum of 24 hours. After curing, hopper barges will be transported to the 380 Development Site for unloading. Processed dredged material will be unloaded from the barge to the initial stockpile area using the off-loader equipped with a clamshell bucket.

To prevent loss on any material from the unloading operation to the waterway, a spill plate will be stationed between the material barge and the wharf along the swing radius of the offloading excavator. The spill plate will capture and redirect any spilled material back to the material barge.



Cashman Dredging and Marine Contracting Co., LLC (Cashman) maintains a seamless partnership with Jay Cashman, Inc. (JCI), and Elizabeth Marine Terminal, LLC (EMT), as they are owned and managed under the same organization. The partnership gives Cashman direct access to JCI assets, such as the Elizabeth Marine Terminal, LLC in Elizabeth, NJ (also known as Jay Cashman, Inc. Dredged Material Processing Facility).

Elizabeth Marine Terminal, LLC has been issued and maintains the following permits for acceptance and processing of dredged material:

1. Permit No. 0000-04-0018.1; WQC 040001 for in-barge processing of dredged material;
2. Permit No. 2004-06-0004.1; WFD 060002 for pug mill processing of dredged material and construction of the bulkhead;
3. Permit No. PCP 070001; an Air Pollution Control Pre-Construction Permit for dredged material processing.

Based on a review of the analytical data provided, Cashman is authorized to accept and stabilize the sediment from this project. The permits identified above require that an Acceptable Use Determination (AUD) be issued by the New Jersey Department of Environmental Protection (NJDEP) prior to the acceptance of the material. AUDs for individual dredging projects are issued by the NJDEP upon review of sediment characterization for each project. JT Cleary will coordinate the request for an AUD for this project.

After stabilization and solidification process, the material will be off-loaded for reuse at the 380 Development Site located at:

380 Development Site  
Staten Island Marine Development  
500 Western Ave  
Staten Island, NY

See **Appendix A**, Site Map.

### Equipment Listing

The following equipment will be mobilized to the project site for the dredging operation:

Crane:	Liebherr LR 1300 lattice boom crane (330 ton capacity)
Crane Barge:	150'x54'x10' ABS barge equipped with GPS location
Clamshell:	5.5 CY Level Cut environmental bucket by Cable Arm
Tug Boats:	JT Cleary's "Christy Anne" 500 HP tug, and services by Henry Marine and Millers Launch
Monitoring Software:	ClamVision software by Cable Arm equipped with open/close sensor





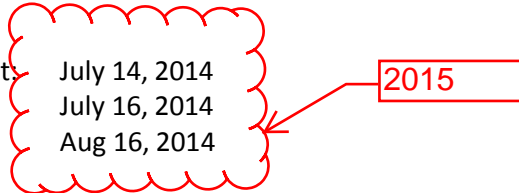
Material Scows: 3 Units – Open top 150’x37’x12.75 hopper scows

Decanting Pumps: 1 Unit - Godwin CD100/110 Dri-Prime pumps

### Schedule

The dredging operation will commence after completion of work on the king pile bulkhead, but not before July 16, 2014, due to environmental restrictions noted in the permit. Following is the proposed schedule:

Mobilization of dredging equipment:	July 14, 2014
Dredging begins:	July 16, 2014
Dredging completed:	Aug 16, 2014



Anticipated dredging time is subject to weather conditions and quantity/type of debris encountered in the dredge area.

### b) Debris Removal

*The proposed methods, equipment and schedule for removal, transport and disposal of debris from each dredge areas.*

Debris is defined as any non-sediment material, such as wooden pile remnants, revetment stone (rip rap), logs, driftwood, wire, cable, anchors, lumber, and trash, that does not require special equipment to remove.

Debris will be removed with the dredge bucket and placed in the barge for transport and disposal at the 380 Development Site (see previous section).

### c) Surveys

*The proposed hydrographic survey equipment, methods and personnel for progress surveys.*

Aqua Survey, Inc. (ASI) will perform the surveys, using a two-man crew, survey vessel, Odom CVM single beam fathometer or equivalent, notebook computer, and DGPS system to perform the bathymetric surveys. The area to be surveyed covers an area in the Gravesend Bay at the SW Brooklyn Marine Transfer Station of approximately 300 ft x 300 ft. ASI will use Hypack for survey control, ship track recording, and data acquisition, and will run survey lanes every 20 feet within the survey area, as well as some perpendicular lanes for cross-checking the data.

ASI will use an established benchmark for horizontal and vertical control to QA/QC the bathymetry data. ASI will provide all the reduced, raw data in an ASCII file format for each survey. Data will be processed and a survey map produced as an E-size drawing and on a CD-ROM as both an Auto-CAD and ASCII version file for the pre- and post- surveys. Maps will be signed by an ACSM certified hydrographer.



ASI owns and operates over 20 sampling and surveying research vessels, ranging in size and function to include a four-person amphibious vehicle, geophysical survey vessels, a 32-foot pontoon-hulled coring vessel, and a 30-foot, landing-craft R/V Tesla. Having a fleet of vessels in-house allows deployment the right vessel for the waterway conditions. ASI maintains appropriate levels of insurance for all vessels and on-water activities, operates all vessels in full compliance with United States Coast Guard rules and regulations and in compliance with the Jones Act. All vessels, at a minimum, are equipped with safety equipment for all crew members and passengers. An appropriately sized and equipped vessel will be used to perform bathymetric survey services at the Southwest Brooklyn Marine Transfer Station.

ASI's personnel are OSHA Hazwoper 40-hour trained, and ASI makes safety a top priority. ASI currently owns and operates its vessels and equipment and has an experienced, professional staff of degreed mariners.

## d) Dredging near Structures

*Special procedures for dredging near structures.*

By using a hydraulic, rather than friction, crane, the dredging operation will have a smoother and more precise movement. The environmental bucket will have protective, rubber bumpers attached to it as a precaution. The top of the bucket is sealed by rubber flaps, stopping the inflow of water into the bucket during bucket ascension, reducing the loss of material from the bucket due to washout.

The dredging operation will be aided by ClamVision monitoring software, which allows for precise positioning of the bucket. In addition, the bucket will have an open-close sensor. The bucket hoist speed will be limited to two feet per second, and will be lifted in a continuous motion through the water column to the barge. JT Cleary has expertise in dredging near structures and will have its most experienced dredge operator assigned to this project.

## e) Layout Site Locations

*Layout site locations, equipment laydown areas and equipment storage areas.*

See **Appendix B** for a layout sketch of dredge equipment. See **Appendix C** for temporary mooring location for the decant barge.

Equipment storage containers will be on the dredge barge.

## f) Silt Curtain Configuration

*Silt curtain configuration and details.*

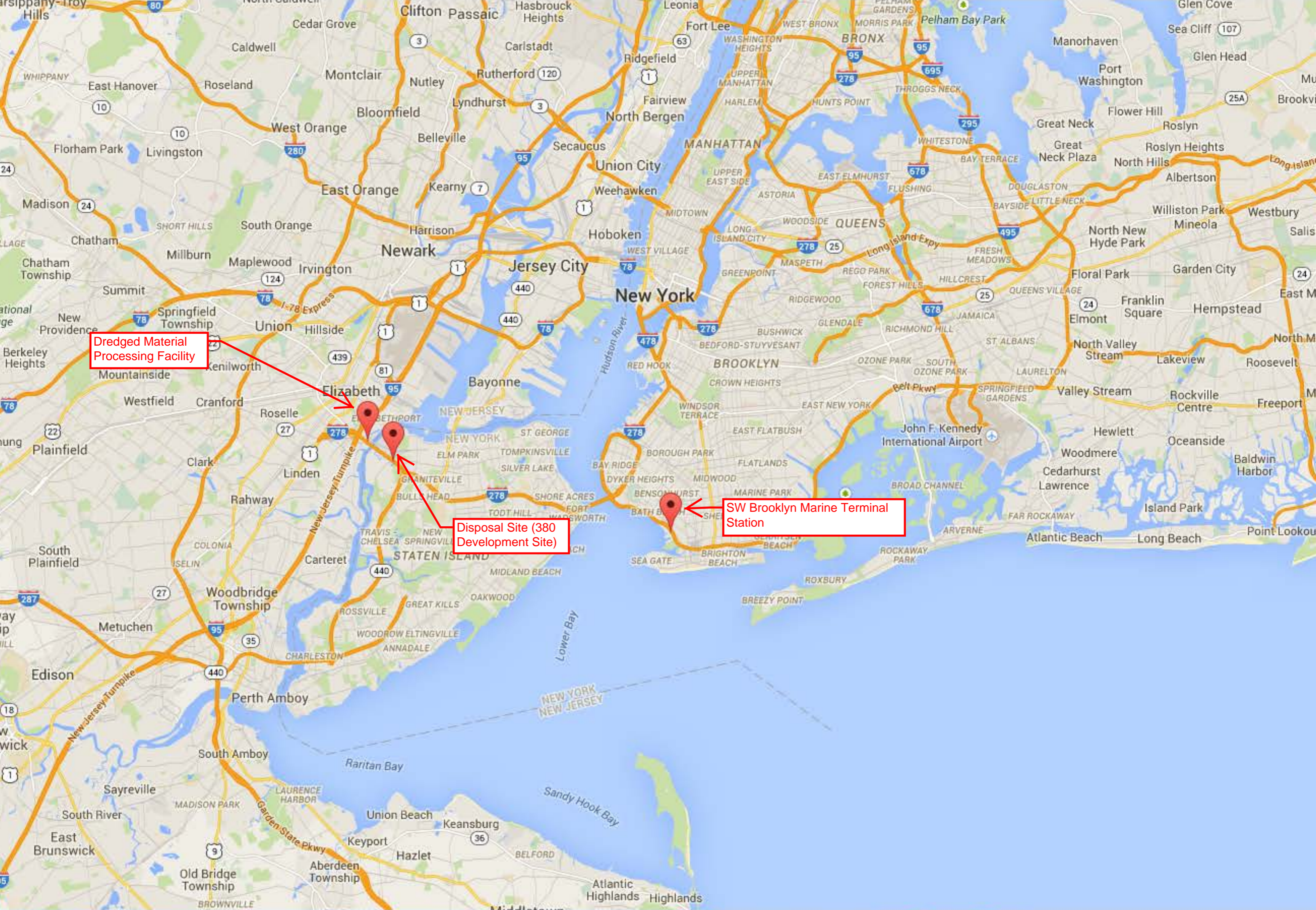
The silt curtain will be placed around the entire dredge area. The hopper scow will be just outside the silt curtain to facilitate transport, once loaded. The silt curtain may be tightly secured to the side of the hopper to ensure no dredge material spills outside the curtain during the dredging operation. See **Appendix B**.

## Material

A durable, semi-permeable woven geotextile was selected, rather than an impermeable curtain, due to tidal flows in the project area. See **Appendix D** for a drawing and details of the silt curtain. The following materials will be used:

- Approximately 650 lf of Siltdam Type II, 22 ft depth
  - 12" dia., flexible, closed cell foam floatation
  - 22 oz. PVC coated polyester float cover (Int'l orange)
  - 5/16" dia., PVC coated, galvanized, 7x19 top tension cable
  - 22 ft depth 4-6% woven monofilament geotextile filter fabric skirt (permeable AOS = US sieve70, 18 gpm/ft flow rate)
  - 3/8" dia., galvanized steel ballast chain
  - Aluminum universal/lacing grommet ends
  - Taper ends to match shoreline approaches
  - (4) 100 ft sections (3) 50 sections
- 13 Danforth anchor sets

## Appendix A

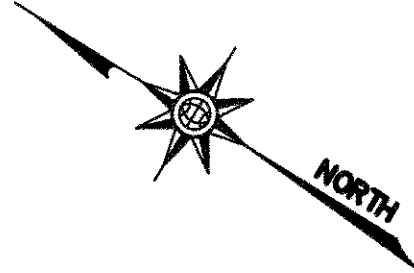
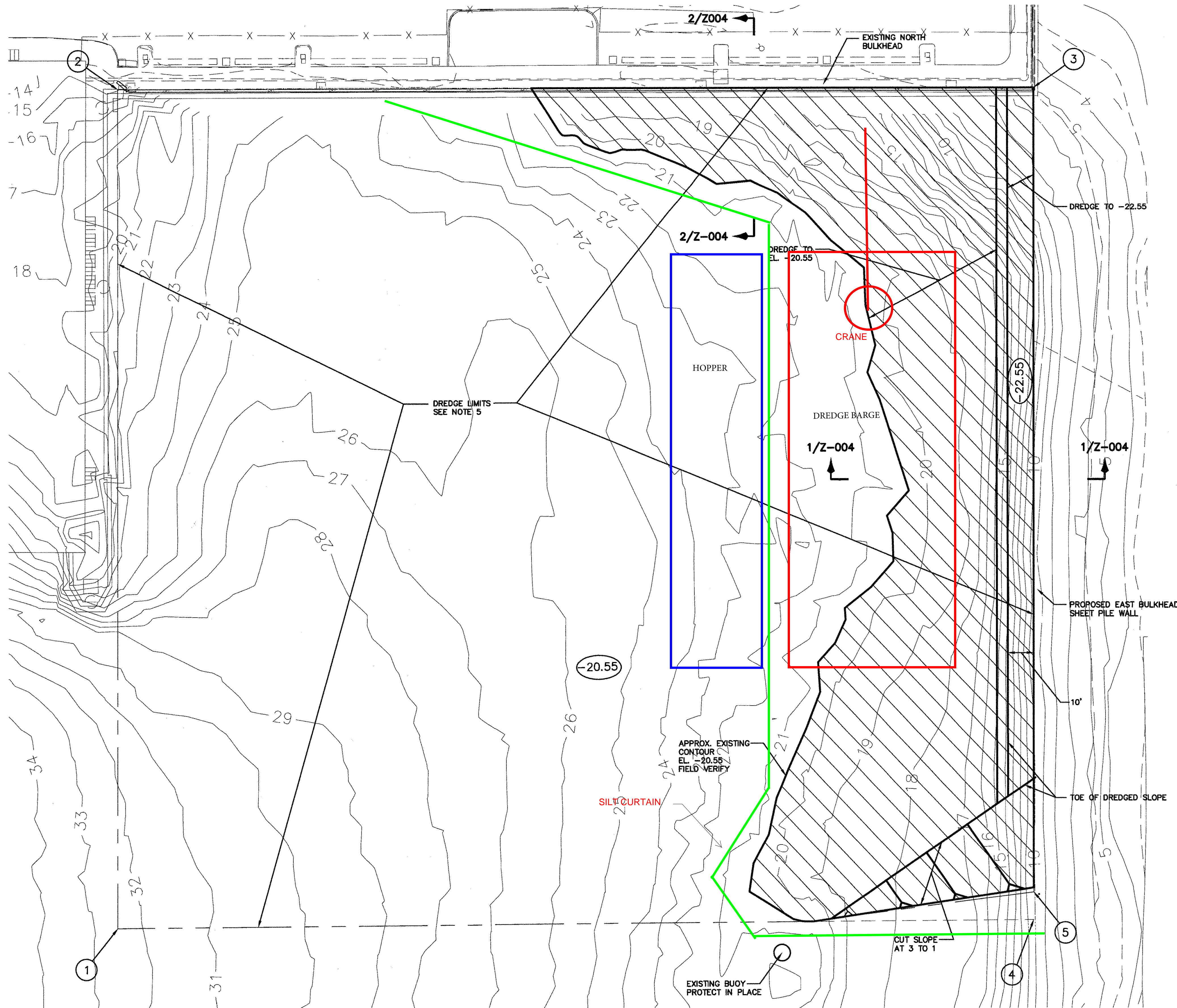


Dredged Material Processing Facility

Disposal Site (380 Development Site)

SW Brooklyn Marine Terminal Station

## Appendix B



DREDGE AREA COORDINATES		
POINT	NORTHING	EASTING
1	153780.11	984363.04
2	153941.14	984625.36
3	153654.66	984801.25
4	153494.97	984541.18
5	153500.23	984549.82

**NOTES:**

1. CONTOUR LABELS SHOWN INDICATE DEPTHS BELOW PROJECT DATUM.
2. FOR DREDGE AREA COORDINATES SEE DREDGE AREA COORDINATES TABLE.
3. FOR GENERAL NOTES, ABBREVIATIONS AND LEGEND SEE DRAWING Z-001.
4. FOR DREDGE AND DISPOSAL NOTES SEE DRAWING Z-001.
5. REMOVE ALL MATERIALS & DEBRIS WITHIN DREDGE LIMITS TO PROJECT DEPTH.
6. DREDGING SHALL BE DONE AFTER INSTALLATION OF EAST BULKHEAD SHEET PILE WALL.

**APPENDIX #3 ITEM A-RF128**

28 Please refer to Drawing Z-002 (Sheet 52). It shows dredge limits and references Note 5, which states "Remove all materials & debris within dredge limits to project depth." It is very difficult for the bidder to establish a cost for this work, not having pay lines to go by and not having information to establish what quantity of material to estimate. We respectfully request that the Agency establish an allowance item to pay for this work.

Dredging is a unit cost item. An assumed dredge quantity is provided in the Bid Schedule.

DSNYZ0020.dwg 07-16-12 10:15 SAVED: lizanof\_DH

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DESIGNED: RM  
 DRAWN: RK  
 CHECKED: JK

APPROVED:



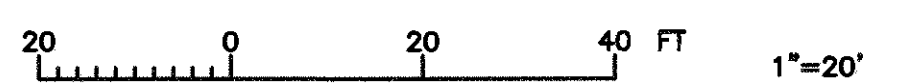
NO.	DATE	APPD.	REVISION

SCALE



FOR NEW YORK CITY  
 DEPARTMENT OF SANITATION  
 MARINE EXPORT OF SOLID WASTE  
 SOUTHWEST BROOKLYN  
 MARINE TRANSFER STATION

CONTRACT NO. 2  
 DREDGING  
 DREDGE PLAN



**WARNING**  
 IT IS A VIOLATION OF SECTION 2209.2 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER IN ANY WAY PLANS, SPECIFICATIONS, PLATS OR REPORTS TO WHICH THE SEAL OF A PROFESSIONAL ENGINEER HAS BEEN APPLIED, IF AN ITEM BEARING THE SEAL OF A PROFESSIONAL ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE, THE DATE, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NYC DOB NO.

P177 SW Brooklyn MTS  
 Contract Drawings  
 PDC Conformed 5/21/13

FILE NAME: DSNYZ002\_00  
 DWG: Z-002.00  
 SHEET NO.: 52 OF 708  
 DATE: JUNE 2012

## Appendix C

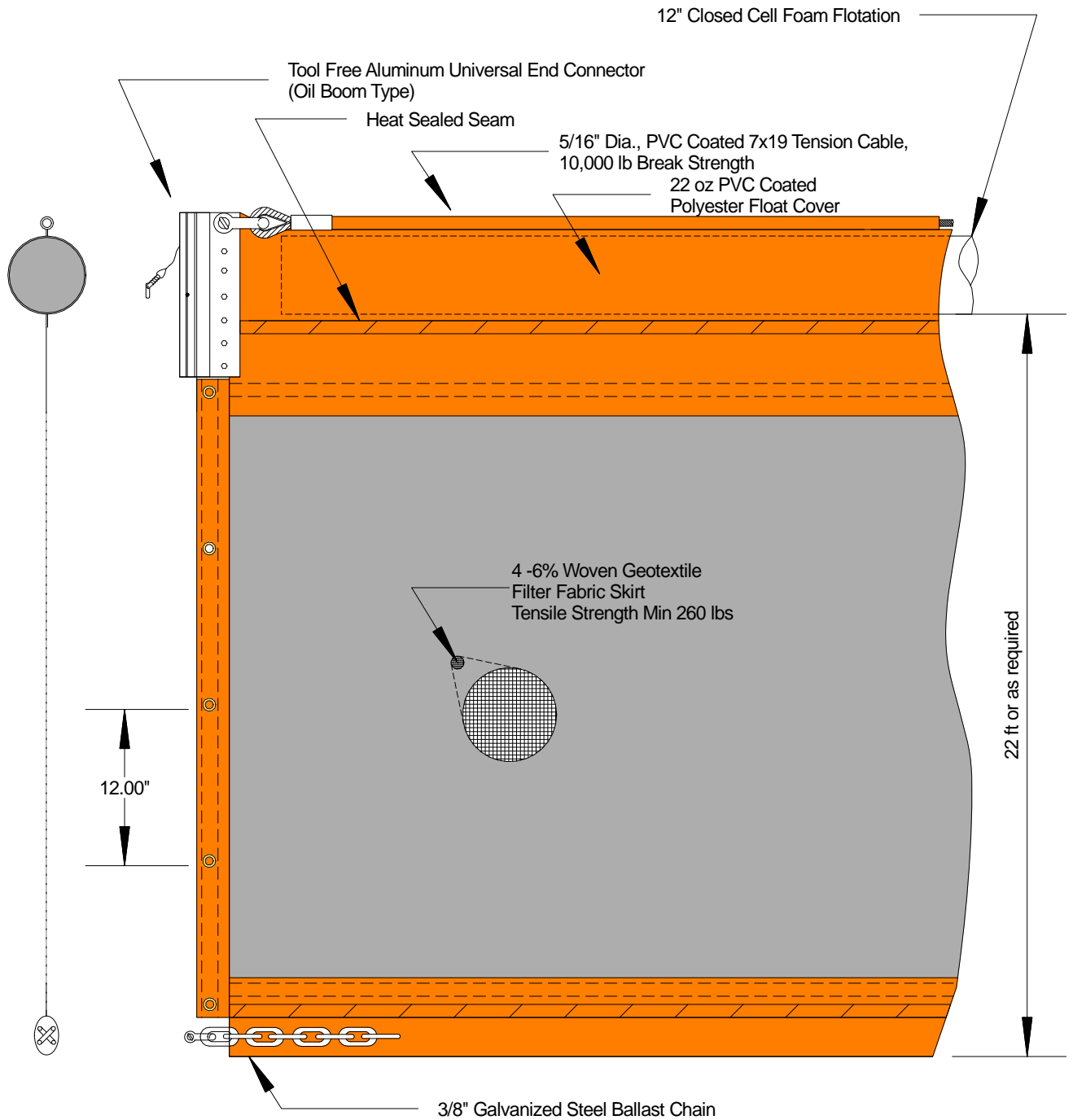


Gravesend Bay

Decant Barge 



## Appendix D



This drawing is conceptual and is not designed by the manufacturer for a specific application. The manufacturer makes no guarantee of the suitability of the representative components for any intended use. The manufacturer shall not be liable for damages of any kind resulting from the use of this drawing or its concepts.

**S T D T P T N G T R D T R R R**  
**Semi-Permeable Turbidity Barrier**  
**with Aluminum Universal Connector**



PO Box 960 Brockton MA 02303-0960  
 508-583-7850 F 508-583-5231  
 www.spilldam.com

PROJECT: J T Cleary, Southwest Marine Transfer Terminal

LOCATION: Brooklyn, NY

SHEET NO.: 1 of 1

SCALE: Not To Scale

DATE: December 17, 2014

DRAWN BY: TJP