

# PUBLIC NOTICE

US Army Corps  
of Engineers  
New York District  
Jacob K. Javits Federal Building  
New York, N.Y. 10278-0090  
ATTN: Regulatory Branch

**In replying refer to:**  
Public Notice Number: **NAN-2017-00477-ERO**  
Issue Date: **November 3, 2017**  
Expiration Date: **December 2, 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:** New York City Department of Environmental Protection

**ACTIVITY:** Discharge of excavated or fill material into Waters of the United States for storm water management, wetland enhancement and establishment, and stream channelization.

**WATERWAY:** Neck Creek, a tributary of Arthur Kill

**LOCATION:** (40.5944, -74.1914), Borough of Staten Island, Richmond 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 REACH THIS OFFICE BEFORE THE EXPIRATION DATE OF THIS NOTICE,**

**CENAN-OP-RE  
PUBLIC NOTICE NO. NAN-2017-00477-ERO**

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. All written comments, including names and addresses, 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.

Our preliminary determination is that the activity for which authorization is sought herein is not likely to affect any Federally-endangered or threatened species or their critical habitat. However, pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the District Engineer is consulting with the appropriate Federal agency to determine the presence of and potential impacts to listed species in the project area or their critical habitat.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act (Public Law 104-267), requires all Federal agencies to consult with the National Oceanic and Atmospheric Administration Fisheries Service (NOAA/FS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). The proposed construction work, fully described in the enclosed Work Description, could cause minimum disruption of habitat for various life stages of some EFH-designated species as a result of a minor short-term temporary increase in turbidity during construction. However, the New York District has made the preliminary determination that the site-specific minor adverse effects are not likely to be substantial because it is expected that fish populations would avoid the small area of minor disturbance. Further consultation with NOAA/FS regarding EFH impacts and conservation recommendations is being conducted and will be concluded prior to the final decision on this permit application.

Based upon a review of the latest published version of the National Register of Historic Places, there is no known sites eligible for, or included in, the Register within the permit area. Presently unknown archeological, scientific, prehistorical, or historical data may be lost by work accomplished under the required permit.

Review 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 permit 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 application 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

**\*\*\*PLEASE USE THE 18-CHARACTER FILE NUMBER ON ALL CORRESPONDENCE WITH  
THIS OFFICE\*\*\***

**CENAN-OP-RE  
PUBLIC NOTICE NO. NAN-2017-00477-ERO**

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 occurs. For activities within the coastal zone of New York, the applicant's certification and accompanying information is available from the New York State Department of State Division of Coastal Resources, Coastal Management Program, 99 Washington Avenue – Suite 1010, Albany, New York 12231-0001, 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

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 this office at (917) 790-8521 and ask for Seika E. Robinson.

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>.

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

**\*\*\*PLEASE USE THE 18-CHARACTER FILE NUMBER ON ALL CORRESPONDENCE WITH  
THIS OFFICE\*\*\***

**WORK DESCRIPTION**

The applicant, New York City Department of Environmental Protection, has requested Department of the Army (DA) authorization to discharge excavated or fill material into Waters of the United States, including discharges associated with Best Management Practices (BMPs) for reducing storm water flooding, including outfall construction, culvert installation, construction of an outlet stilling basin, stream channelization, wetland enhancement and establishment, and stream channelization. The project would take place within freshwater and tidal wetlands, and within Neck Creek, a tributary of Arthur Kill at (40.5944, -74.1914), in the Borough of Staten Island, Richmond County, New York.

The work would involve:

**Stormwater Management**

Construct an approximately 6.5-foot-wide by 120-foot-long by 2.5-foot-high (54-inch diameter) concrete outfall pipe which would exit through an eight-foot-wide by six-foot-high concrete culvert with an associated concrete headwall. Adjacent to the proposed culvert would be an approximately a 25-foot-wide by 35-foot-long stilling basin composed of riprap to attenuate the exiting stormwater before the water drains into Neck Creek. Leading to the proposed culvert from Cannon Avenue, install a 12-foot wide by 83-foot-long access way (*page 13*). Removal of approximately 2,390 cubic yards of material is proposed to facilitate the creation of the outfall structure.

Regrade the existing wetland to create an approximately 25-foot-wide by 500-foot-long meandering channel from the proposed stormwater outlet to Neck Creek (*page 13 through page 15*). The regrading would provide positive flow of stormwater runoff into Neck Creek. The proposed channel bottom would be located approximately 0.48-feet below plane of Mean High Water.

**Compensatory Wetland Mitigation**

The applicant proposes on-site wetland mitigation as a result of the impacts the proposed stormwater management plan would have on the existing tidal and freshwater wetlands. The proposed work would temporarily impact approximately 0.57 acres of freshwater wetlands, of which, approximately 0.06 acres are permanent impacts, and temporarily impact 0.24 acres of tidal wetlands. The proposed mitigation plan would restore and enhance approximately 0.46 acres of freshwater wetlands and 0.39 acres of tidal wetlands (*page 2*).

The project proposes to expand and restore the existing freshwater and tidal wetlands in and around the project area. Restoration activities include, regrading the surrounding area to improve the wetland hydrology by creating (2) freshwater pocket wetlands on the eastern side of the proposed stream channel (*page 19 through page 21*). Activities also include the excavation and removal of *Phragmites* and replanting with native wetland species (*page 3*).

To separate the proposed stream channel and the proposed pocket wetlands, two (2) approximately 24-inch wide by 40-foot-long spillways composed of stone and concrete would be installed and positioned approximately 48-inches in depth and one-inch above the wetland grade, along the eastern side of the proposed channel (*page 14*).

**\*\*\*PLEASE USE THE 18-CHARACTER FILE NUMBER ON ALL CORRESPONDENCE WITH  
THIS OFFICE\*\*\***

**CENAN-OP-RE  
PUBLIC NOTICE NO. NAN-2017-00477-ERO**

Temporary Construction Structures

For the wetland restoration and stream channelization activities, the install temporary construction structures including turbidity curtains, silt curtains, flow diversion pipe. For the creation of the outfall structures, a cofferdam and sediment trap would be installed.

Structures proposed in the application and not regulated by USACE

Installation and replacement of storm sewer drain pipes located upland, which would either lead to the proposed outfall pipes on Cannon Avenue or to an existing culvert located northeast of proposed outlet on Meredith Avenue.

The applicant has stated that they have avoided, minimized, and mitigated for potential impacts proposed to the maximum extent practicable by limiting the impacts to wetlands and by mitigating for the loss of freshwater and tidal wetlands as described above. The use of an excavator from an upland area would provide the least obtrusive method possible for sediment removal and transport for this project, effectively localizing turbidity and minimizing to the greatest extent possible any potential adverse effects to the aquatic environment. Any potential impacts would be would be offset by implementing best management practices and mitigating for the loss of existing freshwater wetlands.

The applicant stated purpose of this project is to provide a currently underserved area with an improved storm water collection system to alleviate flooding within the adjacent residential area and to create ecological benefits through the establishment and restoration of wetland habitats.

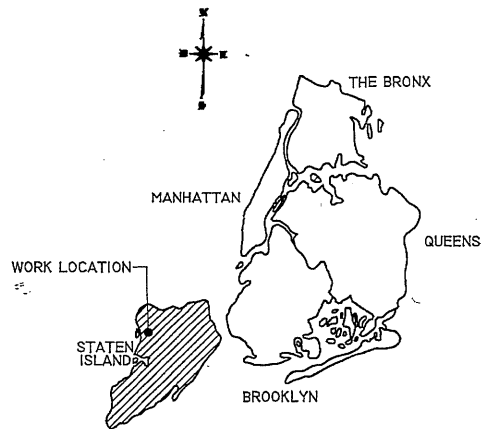
**\*\*\*PLEASE USE THE 18-CHARACTER FILE NUMBER ON ALL CORRESPONDENCE WITH  
THIS OFFICE\*\*\***



**NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION**

DIVISION OF INFRASTRUCTURE  
PROGRAM ADMINISTRATION - ENGINEERING SUPPORT UNIT  
PROJECT ID: SER002308

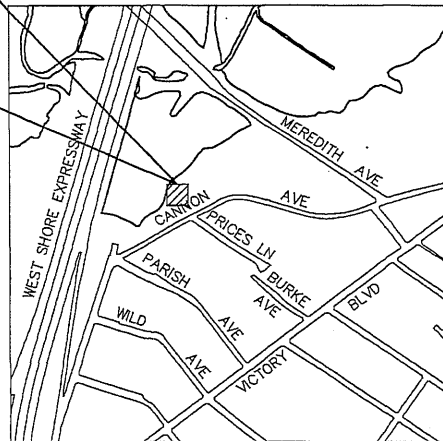
FOR THE STORMWATER BMP DESIGN  
IN THE TRAVIS AREA  
STATEN ISLAND, NY



PROJECT LOCATION  
LATITUDE 40°35'39.9"N  
LONGITUDE 74°11'27.1"W

BOROUGH OF STATEN ISLAND

CANNON AVENUE BMP



LOCATION PLAN  
N.T.S. PROJECT SITE

DRAWING LIST	
SHEET No.	TITLE OF DRAWING
1 OF 19	COVER SHEET
2 OF 19	EXISTING CONDITIONS
3 OF 19	EXISTING CONDITIONS
4 OF 19	EXISTING CONDITIONS
5 OF 19	SITE IMPACTS
6 OF 19	SITE IMPACTS
7 OF 19	SITE IMPACTS
8 OF 19	EROSION AND SEDIMENT CONTROL PLAN
9 OF 19	EROSION AND SEDIMENT CONTROL PLAN
10 OF 19	EROSION AND SEDIMENT CONTROL PLAN
11 OF 19	FINAL SITE PLAN
12 OF 19	FINAL SITE PLAN
13 OF 19	FINAL SITE PLAN
14 OF 19	PROFILE
15 OF 19	CROSS SECTION A
16 OF 19	CROSS SECTION B
17 OF 19	LANDSCAPING SITE PLAN
18 OF 19	LANDSCAPING SITE PLAN
19 OF 19	LANDSCAPING SITE PLAN

**Hazen**

CAPITAL PROJECT # SER002308 STORMWATER BMP DESIGN IN THE TRAVIS AREA BOROUGH OF STATEN ISLAND	
COVER SHEET	
FOR PERMIT REVIEW ONLY	DATE: 07/12/17

# USACE FILE: NAN-2017-00477-ERO

## NAN-2017-00477-ERO Travis Area Impacts and Wetland Restoration/Mitigation

**Table 1: Impacts (Area of Impact Plan – Sheets 5-7)**

Wetland Type	Impact Type	Impact Area (sq. ft.)
Tidal (High Marsh)	Permanent	0
	Temporary	10,245
Freshwater	Permanent	2,655
	Temporary	24,665

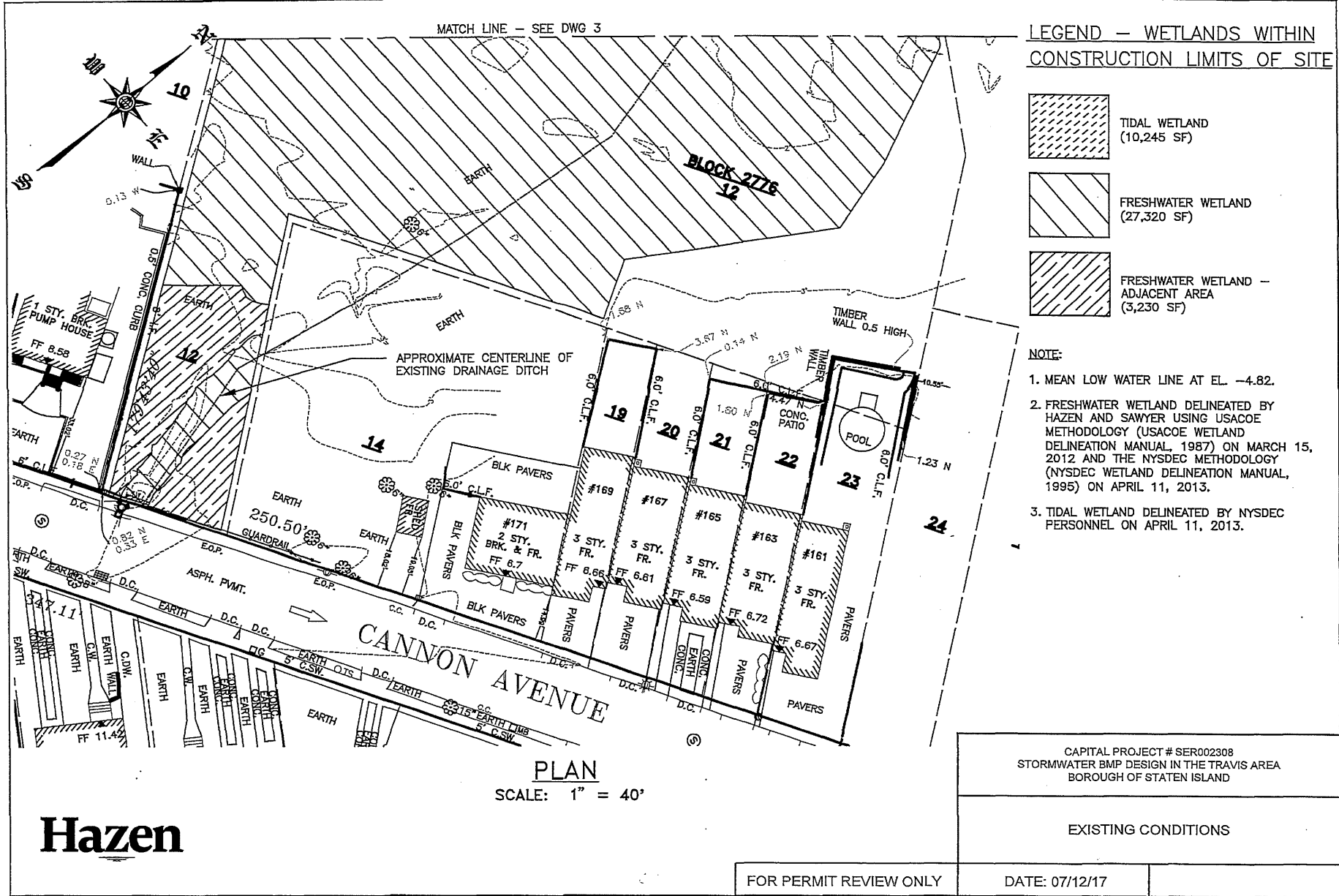
**Table 2: Wetland Restoration/Mitigation (Landscaping Plan – Sheets 17-19)**

Wetland Type	Restoration Zone Type	Restoration Area (sq. ft.)
<b>Tidal</b>	Intertidal Marsh	4,540
	High Marsh	7,525
	Tidal Channel (unvegetated)	5,075
	<b>Total</b>	<b>17,140</b>
<b>Freshwater</b>	Aquatic	1,880
	Emergent Marsh	4,715
	Freshwater Wetland (w/ salt resistant species)	2,190
	Open Water	685
	Maritime Shrubland	10,520
	<b>Total</b>	<b>19,990</b>



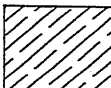
**Table B-1  
Vegetation Inventory for the Proposed Sites of  
BMP-1: Cannon Avenue**

Common name	Scientific name
<b>Trees and shrubs</b>	
hackberry	<i>Celtis sp.</i>
willow sp.	<i>Salix sp.</i>
northern arrowwood	<i>Viburnum dentatum</i>
poplar	<i>Populus sp.</i>
white oak	<i>Quercus alba</i>
red maple	<i>Acer rubrum</i>
pin oak	<i>Quercus palustris</i>
groundsel bush	<i>Baccharis halimifolia</i>
apple sp.	<i>Malus sp.</i>
silky dogwood	<i>Cornus amomum</i>
black cherry	<i>Prunus serotina</i>
black locust	<i>Robinia pseudoacacia</i>
cherry sp.	<i>Prunus sp.</i>
eastern red cedar	<i>Juniperus virginiana</i>
tree-of-heaven	<i>Ailanthus altissima</i>
callery pear	<i>Pyrus calleryana</i>
elderberry	<i>Sambucus Canadensis</i>
mulberry	<i>Morus alba</i>
multiflora rose	<i>Rosa multiflora</i>
Glossy Buckthorn	<i>Rhamnus frangula</i>
sweet pepperbush	<i>Clethra alnifolia</i>
<b>Vines</b>	
Japanese honeysuckle	<i>Lonicera japonica</i>
poison ivy	<i>Toxicodendron radicans</i>
Virginia creeper	<i>Parthenocissus quinquefolia</i>
Chinese wisteria	<i>Wisteria sinensis</i>
roundleaf catbrier	<i>Smilax rotundifolia</i>
hedge bindweed	<i>Calystegia sepium</i>
asiatic bittersweet	<i>Celastrus orbiculatus</i>
porcelainberry	<i>Ampelopsis brevipedunculata</i>
grape	<i>Vitis sp.</i>
<b>Herbaceous species</b>	
Japanese knotweed	<i>Polygonum cuspidatum</i>
jewelweed	<i>Impatiens sp.</i>
duck weed	<i>Vinca minor</i>
black nighshade	<i>Solanum nigrum</i>
mugwort	<i>Artemisia vulgaris</i>
dock sp.	<i>Rumex sp.</i>
bouncing bet	<i>Saponaria officinalis</i>
common mullein	<i>Verbascum thapsus</i>
garlic mustard	<i>Alliaria petiolata</i>
field mustard	<i>Brassica rapa</i>
purple loosestrife	<i>Lythrum salicaria</i>
climbing nightshade	<i>Solanum dulcamara</i>



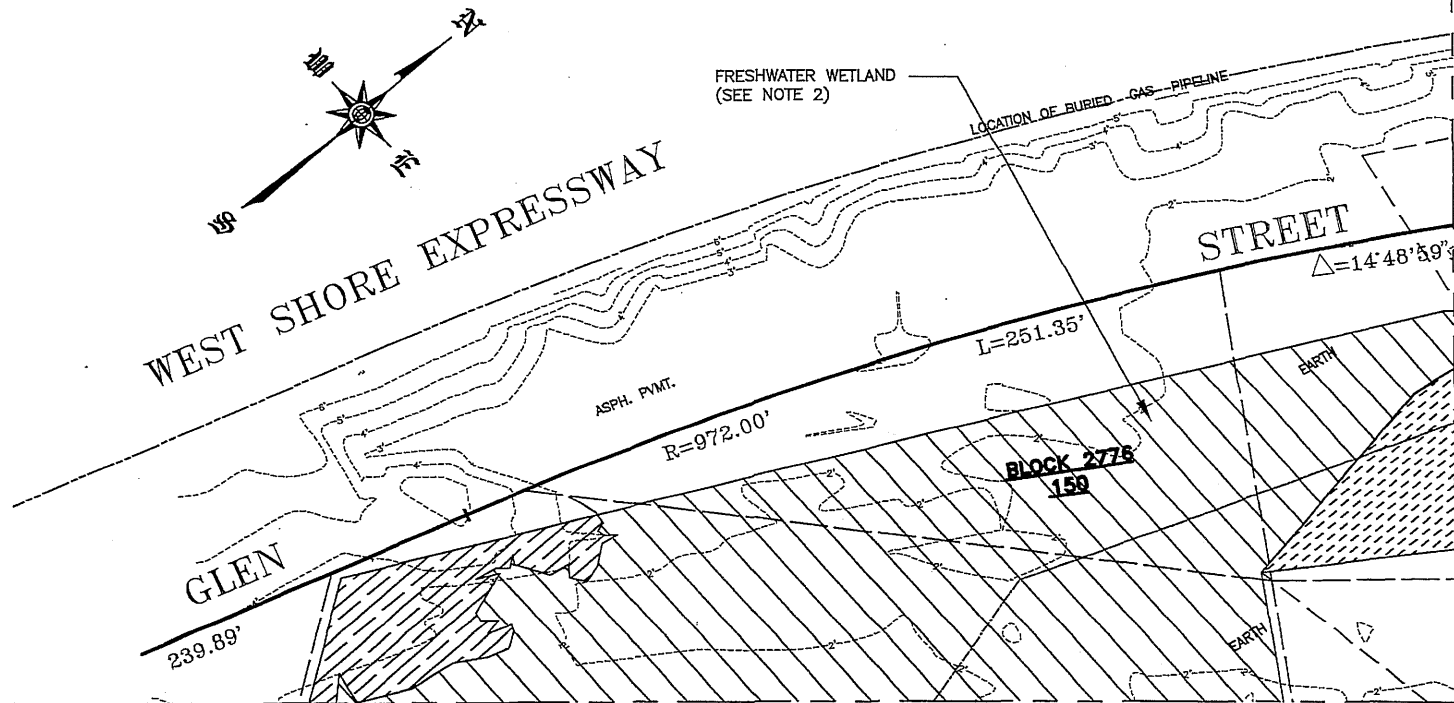


LEGEND - WETLANDS WITHIN  
CONSTRUCTION LIMITS OF SITE

-  TIDAL WETLAND  
(10,245 SF)
-  FRESHWATER WETLAND  
(27,320 SF)
-  FRESHWATER WETLAND  
- ADJACENT AREA  
(3,230 SF)

NOTE:

1. MEAN LOW WATER LINE AT  
EL. -4.82.
2. FRESHWATER WETLAND  
DELINEATED BY HAZEN AND  
SAWYER USING USACOE  
METHODOLOGY (USACOE WETLAND  
DELINEATION MANUAL, 1987) ON  
MARCH 15, 2012 AND THE  
NYSDEC METHODOLOGY (NYSDEC  
WETLAND DELINEATION MANUAL,  
1995) ON APRIL 11, 2013.
3. TIDAL WETLAND DELINEATED BY  
NYSDEC PERSONNEL ON APRIL  
11, 2013.



MATCH LINE - SEE DWG 2

PLAN

SCALE: 1" = 40'

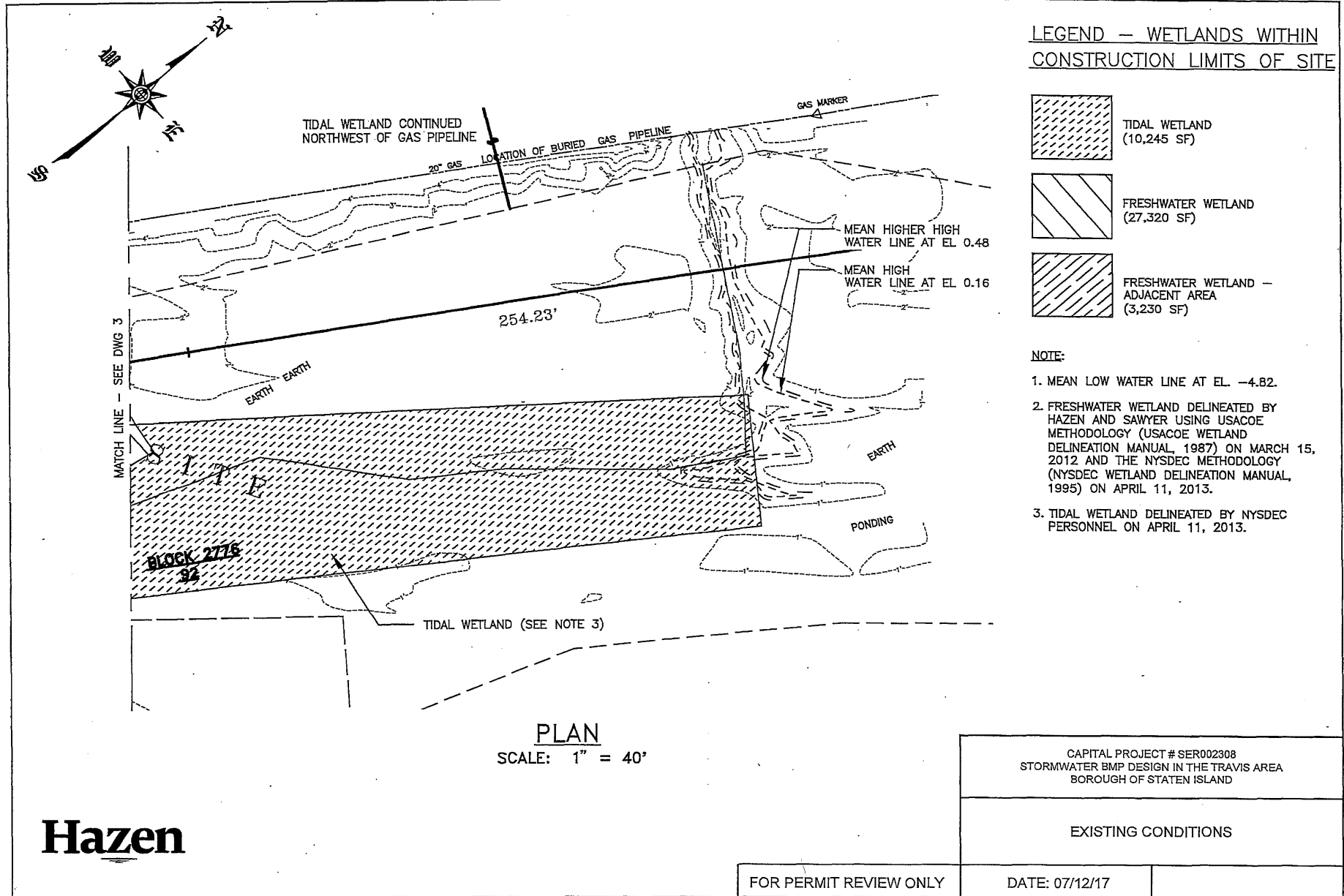
**Hazen**

CAPITAL PROJECT # SER002308  
STORMWATER BMP DESIGN IN THE TRAVIS AREA  
BOROUGH OF STATEN ISLAND

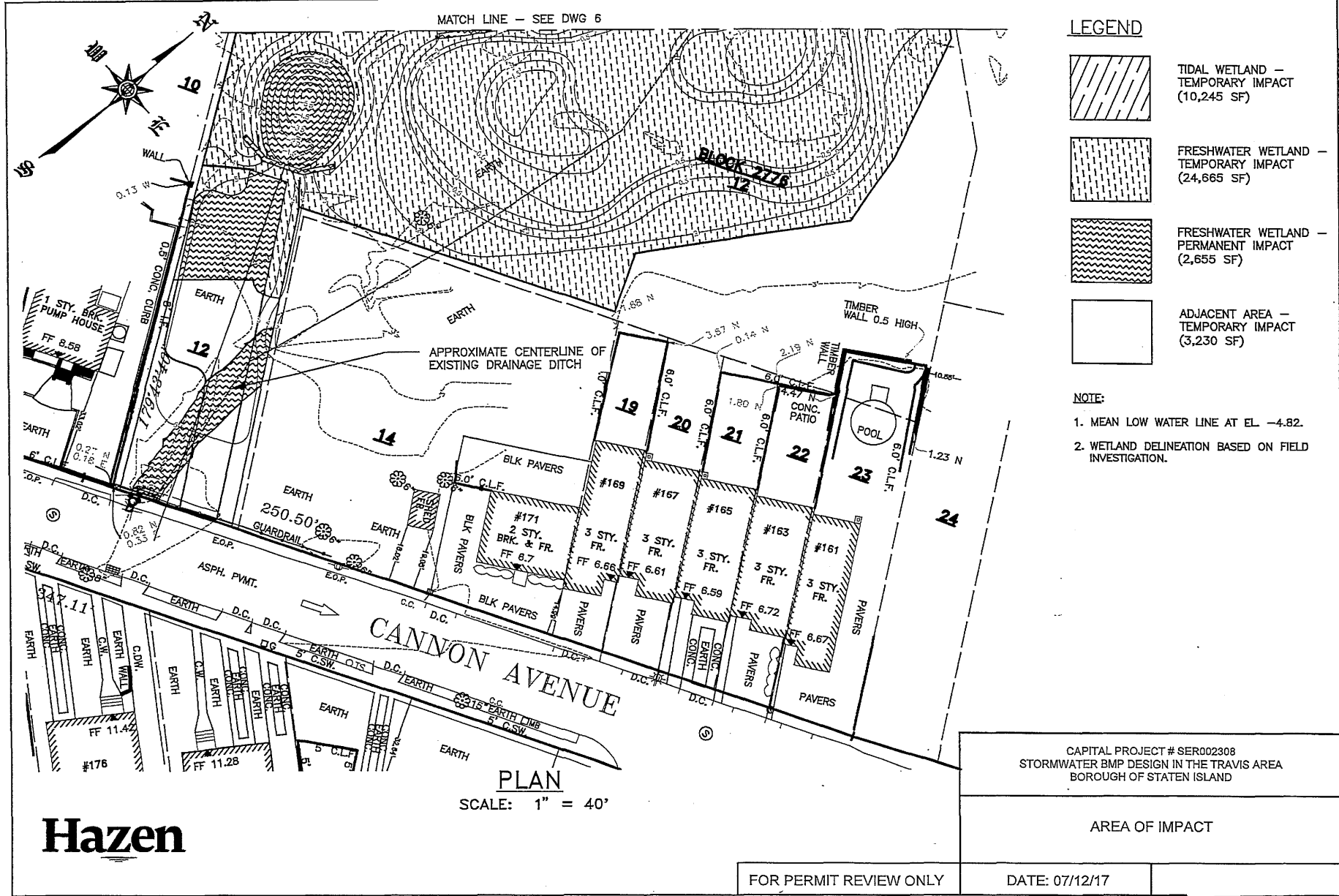
EXISTING CONDITIONS

FOR PERMIT REVIEW ONLY

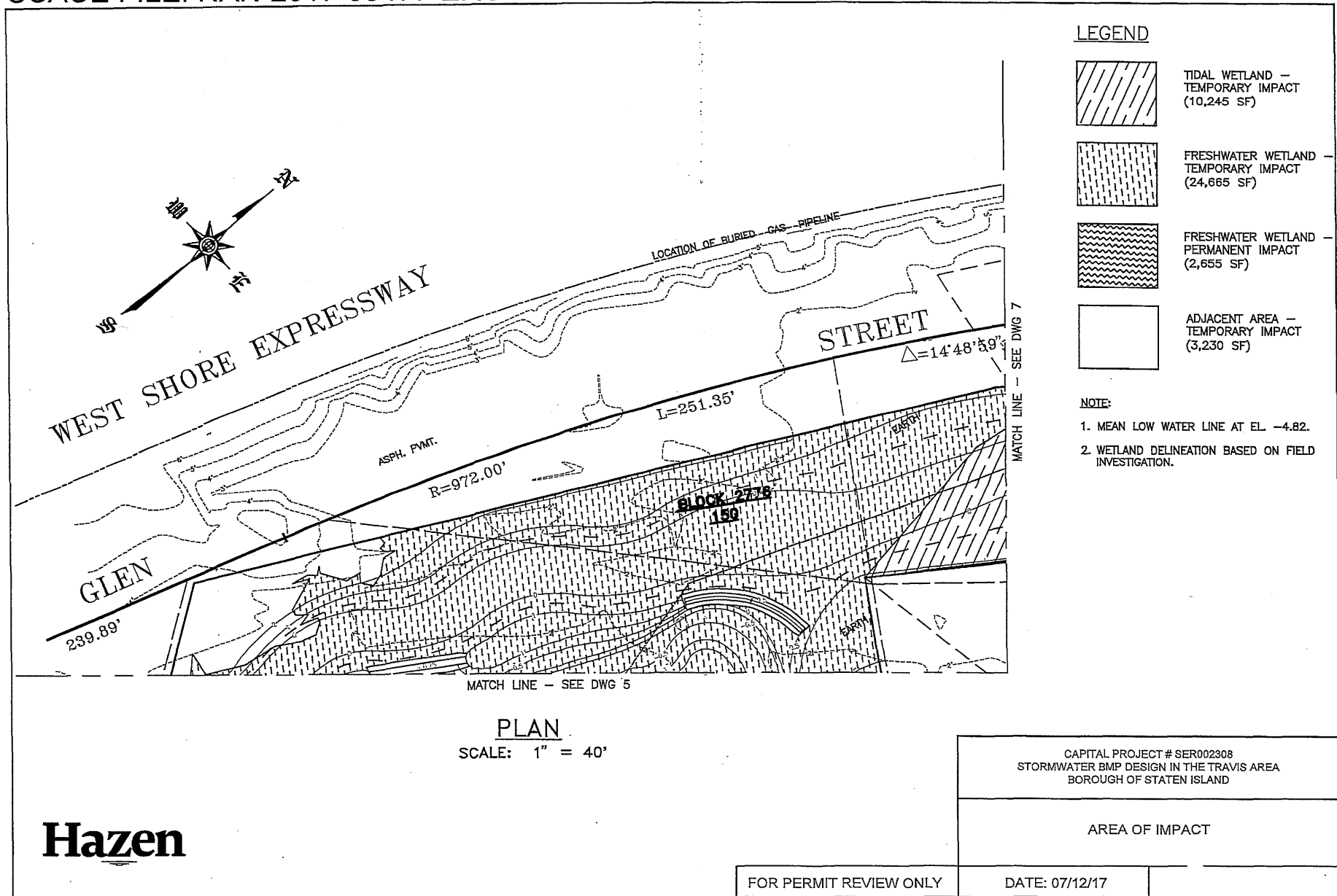
DATE: 07/12/17



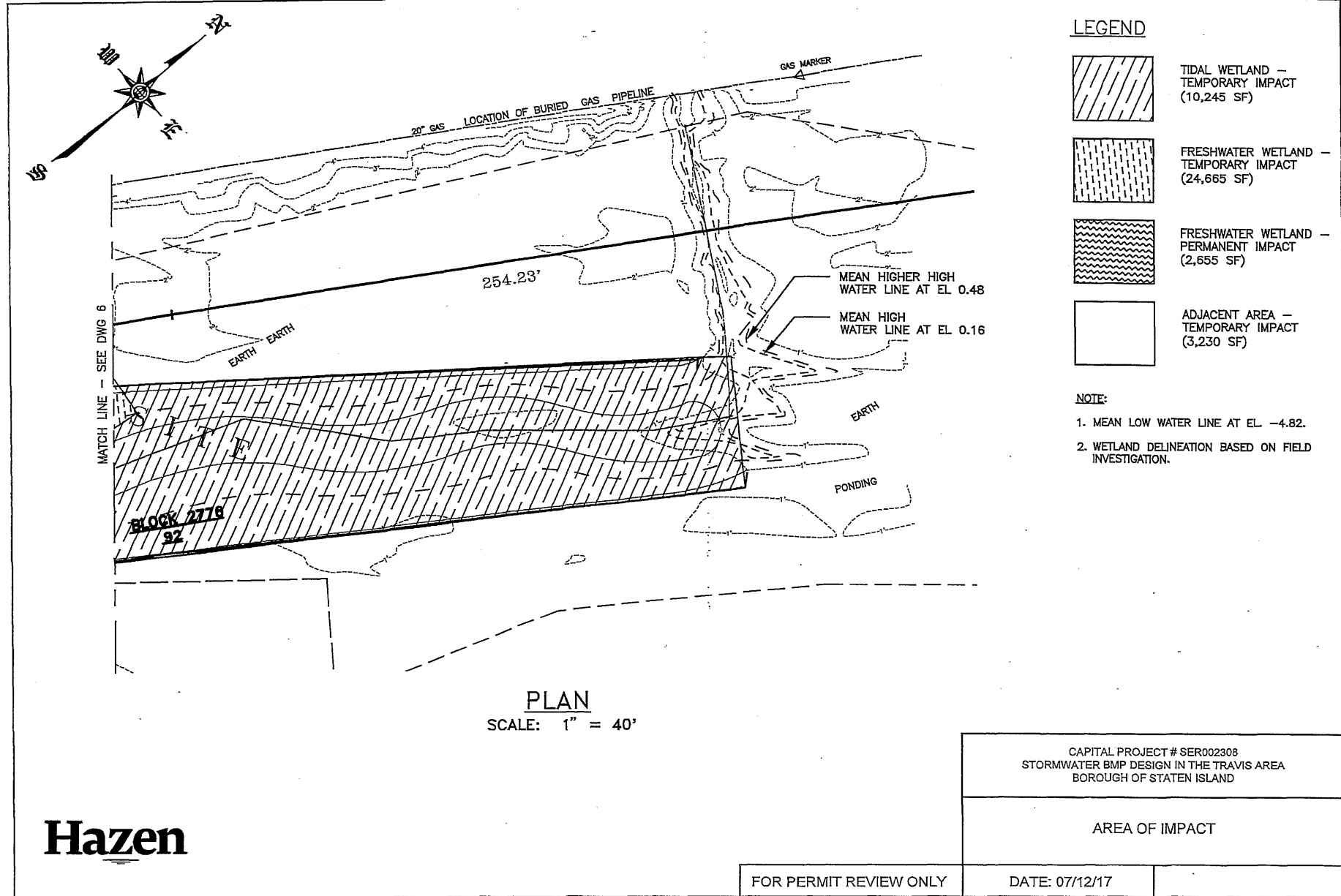
USACE FILE: NAN-2017-00477-ERO




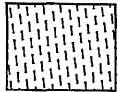
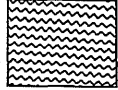

Hazen



**Hazen**



**LEGEND**

-  TIDAL WETLAND - TEMPORARY IMPACT (10,245 SF)
-  FRESHWATER WETLAND - TEMPORARY IMPACT (24,665 SF)
-  FRESHWATER WETLAND - PERMANENT IMPACT (2,655 SF)
-  ADJACENT AREA - TEMPORARY IMPACT (3,230 SF)

**NOTE:**

1. MEAN LOW WATER LINE AT EL. -4.82.
2. WETLAND DELINEATION BASED ON FIELD INVESTIGATION.

**PLAN**  
SCALE: 1" = 40'

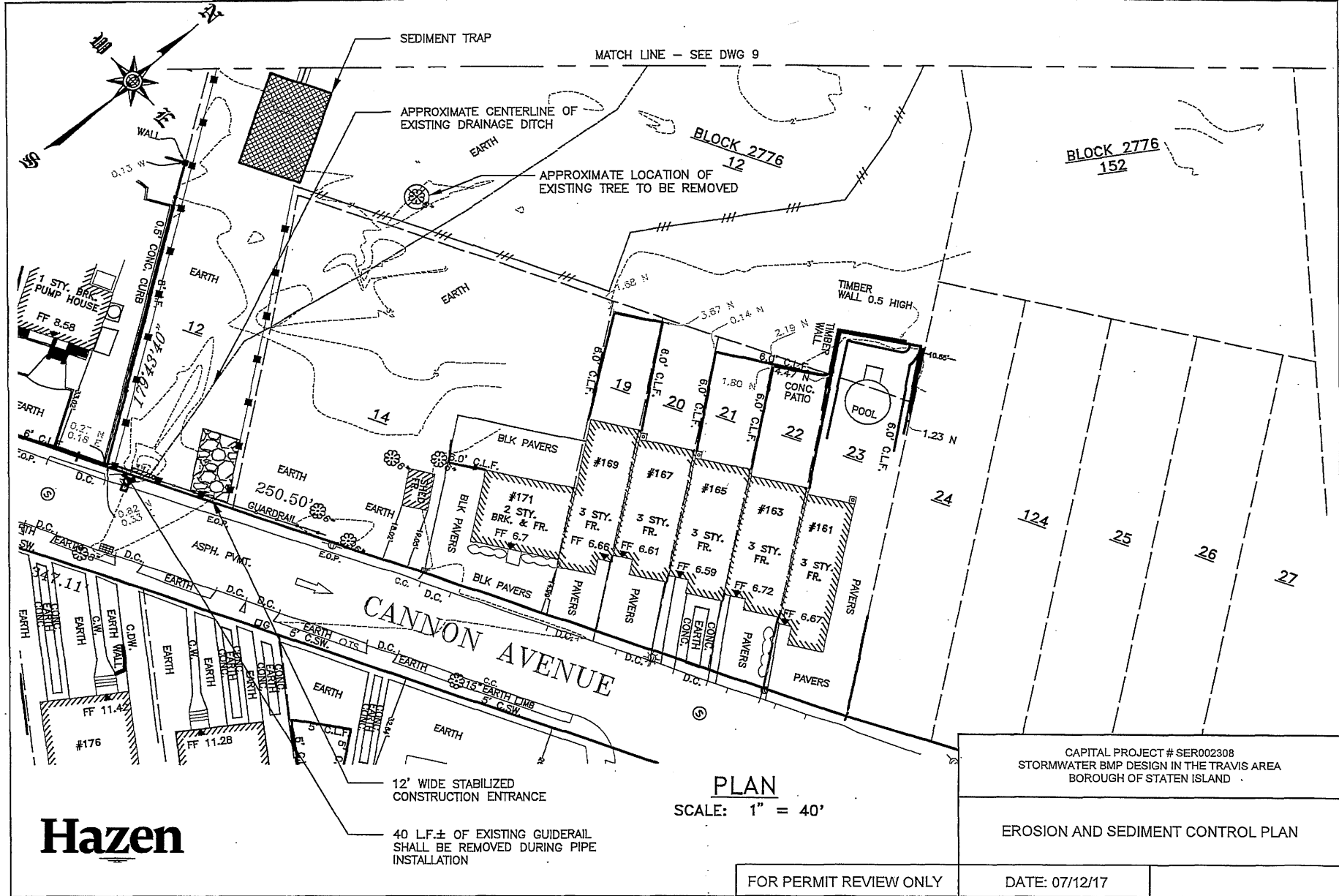
CAPITAL PROJECT # SER002308  
STORMWATER BMP DESIGN IN THE TRAVIS AREA  
BOROUGH OF STATEN ISLAND

AREA OF IMPACT

FOR PERMIT REVIEW ONLY

DATE: 07/12/17





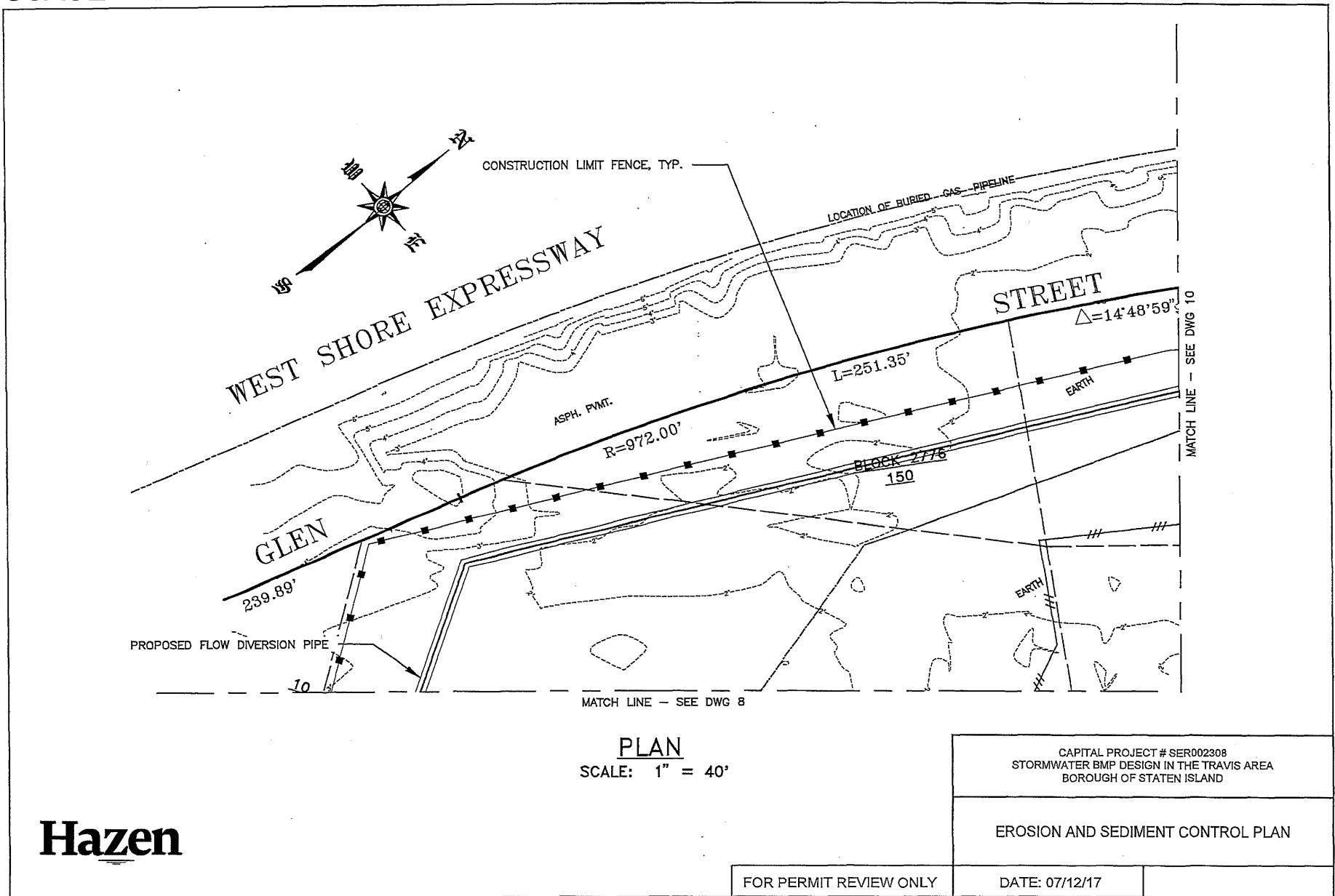
**Hazen**

12' WIDE STABILIZED  
CONSTRUCTION ENTRANCE

40 LF.± OF EXISTING GUIDERAIL  
SHALL BE REMOVED DURING PIPE  
INSTALLATION

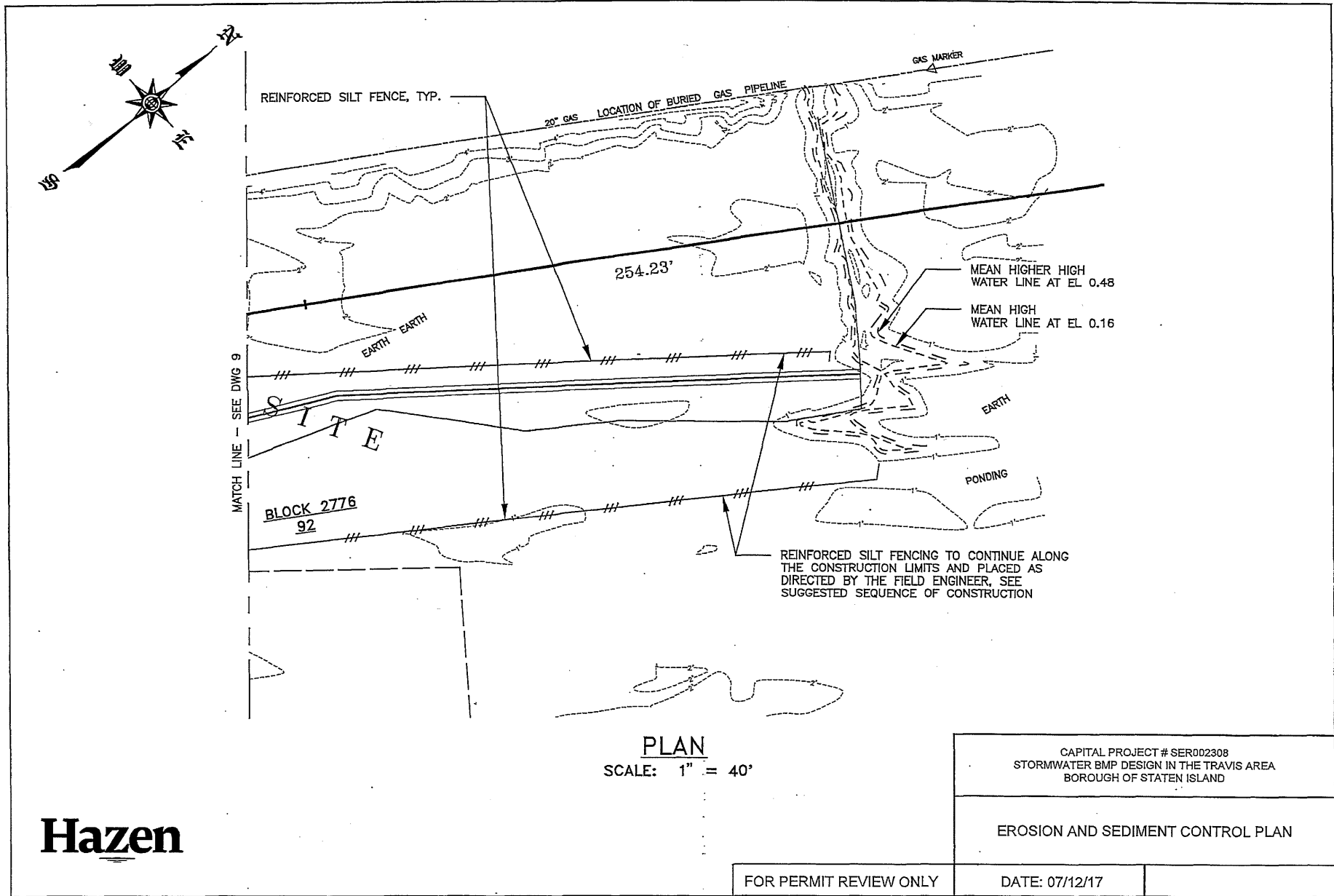
**PLAN**  
SCALE: 1" = 40'

CAPITAL PROJECT # SER002308 STORMWATER BMP DESIGN IN THE TRAVIS AREA BOROUGH OF STATEN ISLAND	
EROSION AND SEDIMENT CONTROL PLAN	
FOR PERMIT REVIEW ONLY	DATE: 07/12/17

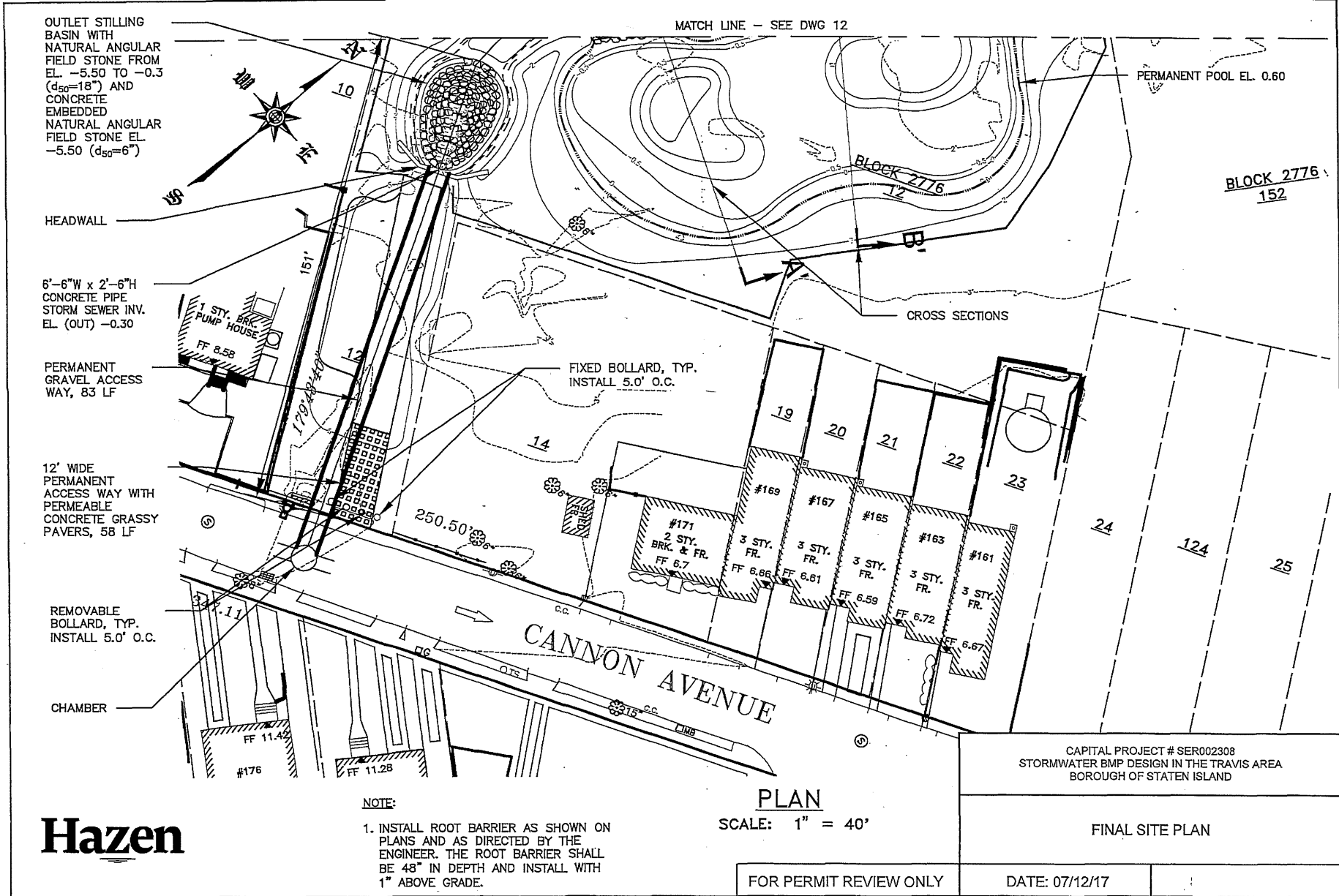


**Hazen**

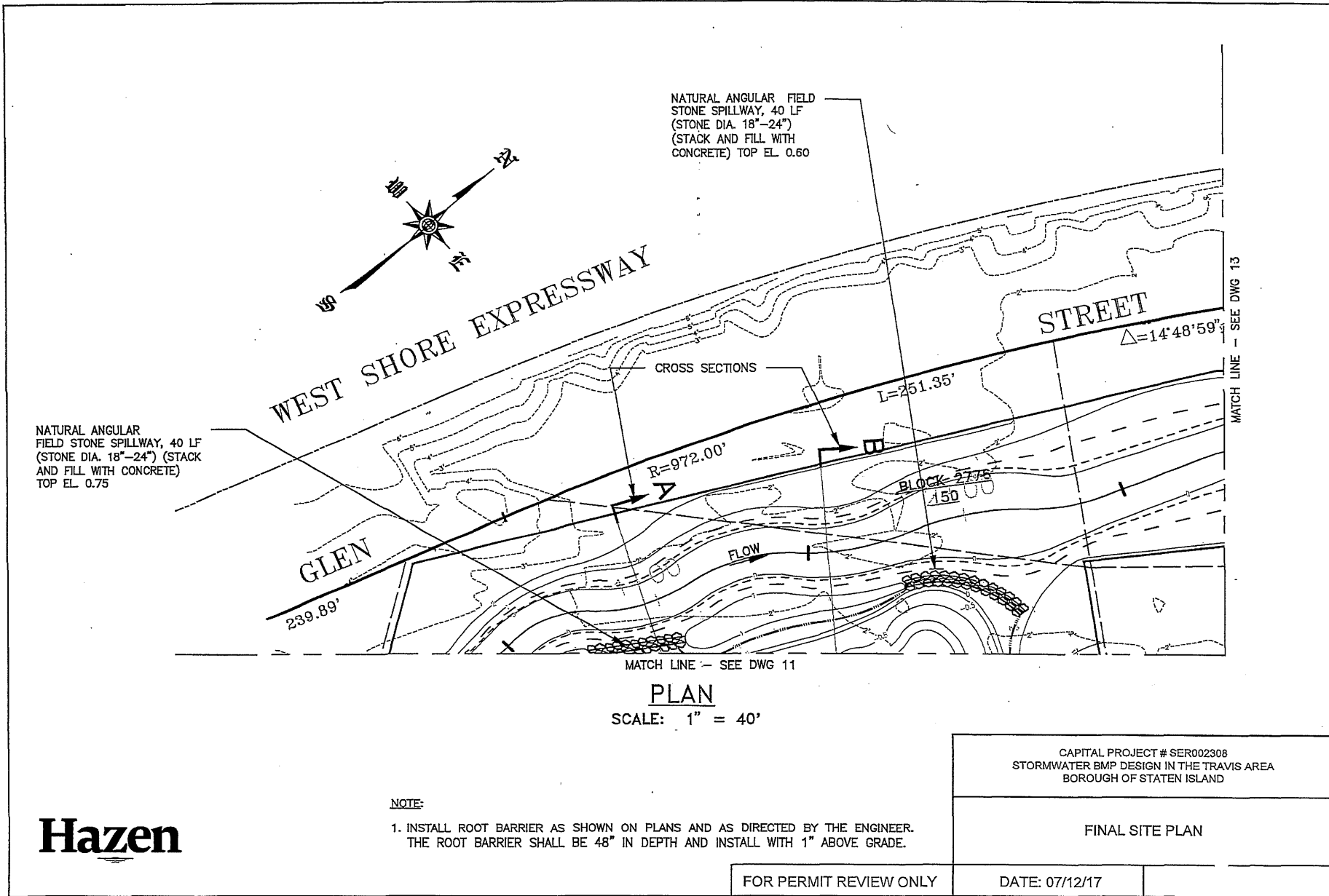




**Hazen**



**Hazen**

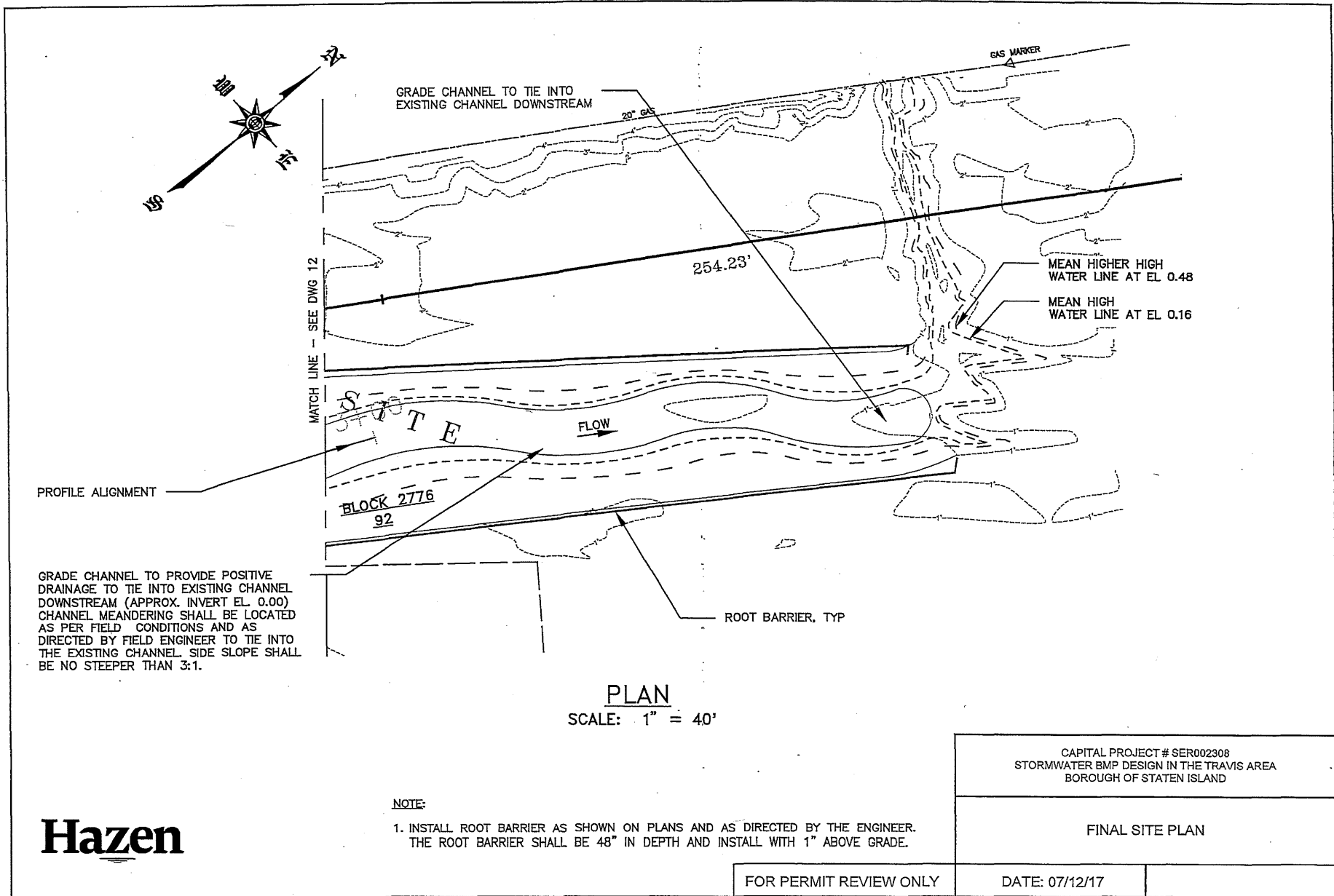


**Hazen**

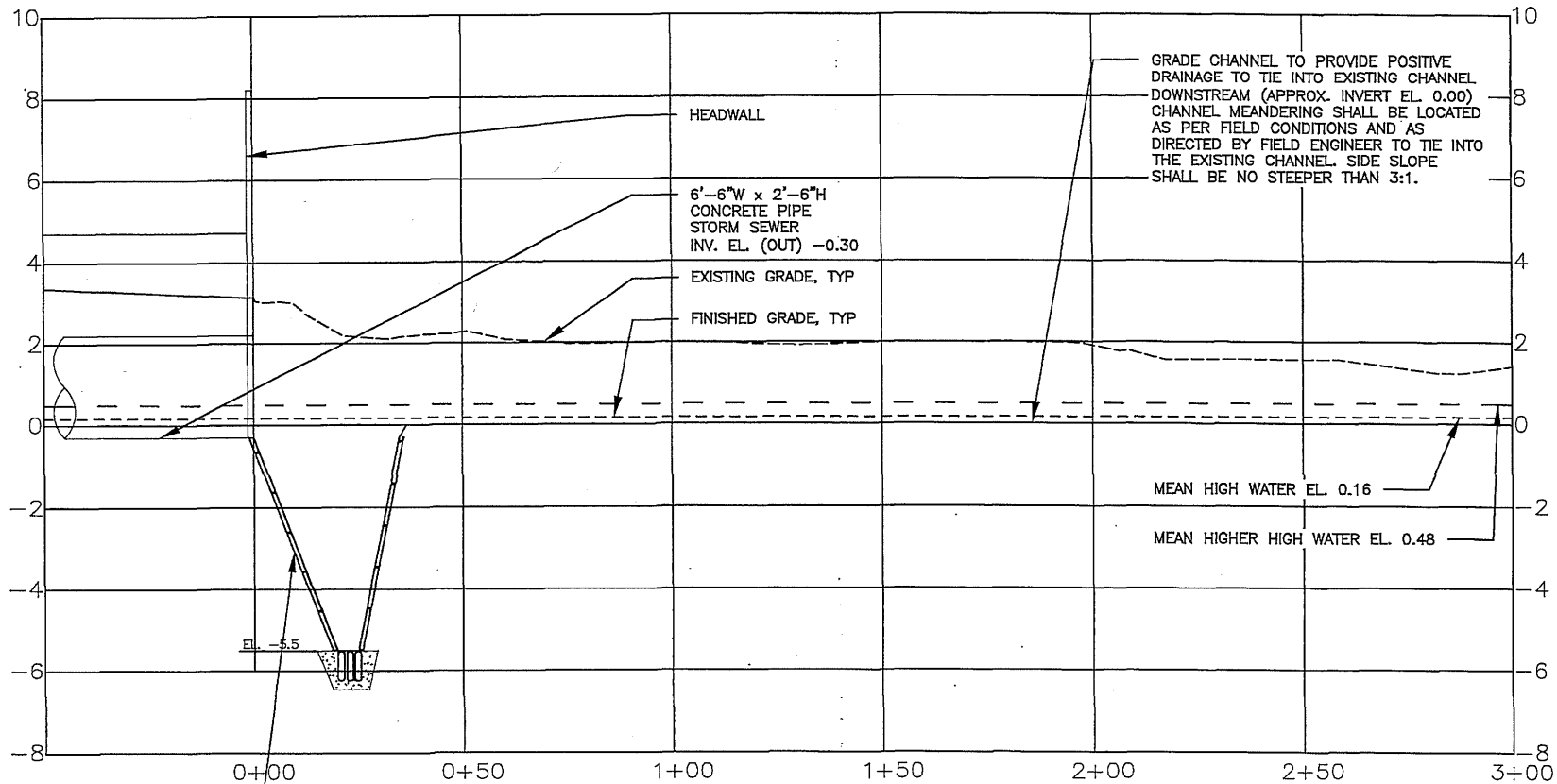
**NOTE:**

1. INSTALL ROOT BARRIER AS SHOWN ON PLANS AND AS DIRECTED BY THE ENGINEER. THE ROOT BARRIER SHALL BE 48" IN DEPTH AND INSTALL WITH 1" ABOVE GRADE.

CAPITAL PROJECT # SER002308 STORMWATER BMP DESIGN IN THE TRAVIS AREA BOROUGH OF STATEN ISLAND	
FINAL SITE PLAN	
FOR PERMIT REVIEW ONLY	DATE: 07/12/17



**Hazen**



OUTLET STILLING BASIN WITH NATURAL ANGULAR FIELD STONE FROM EL. -5.50 TO EL. -0.30 ( $d_{50}=12"$ ) AND CONCRETE EMBEDDED NATURAL ANGULAR FIELD STONE EL. -5.50 ( $d_{50}=6"$ )

**PROFILE 1**  
(TRAVIS SITE HEADWALL TO CHANNEL)  
HORIZ: 1"=40'  
VERT: 1"=4'

**NOTE:**

1. MEAN LOW WATER LINE AT EL. -4.82.

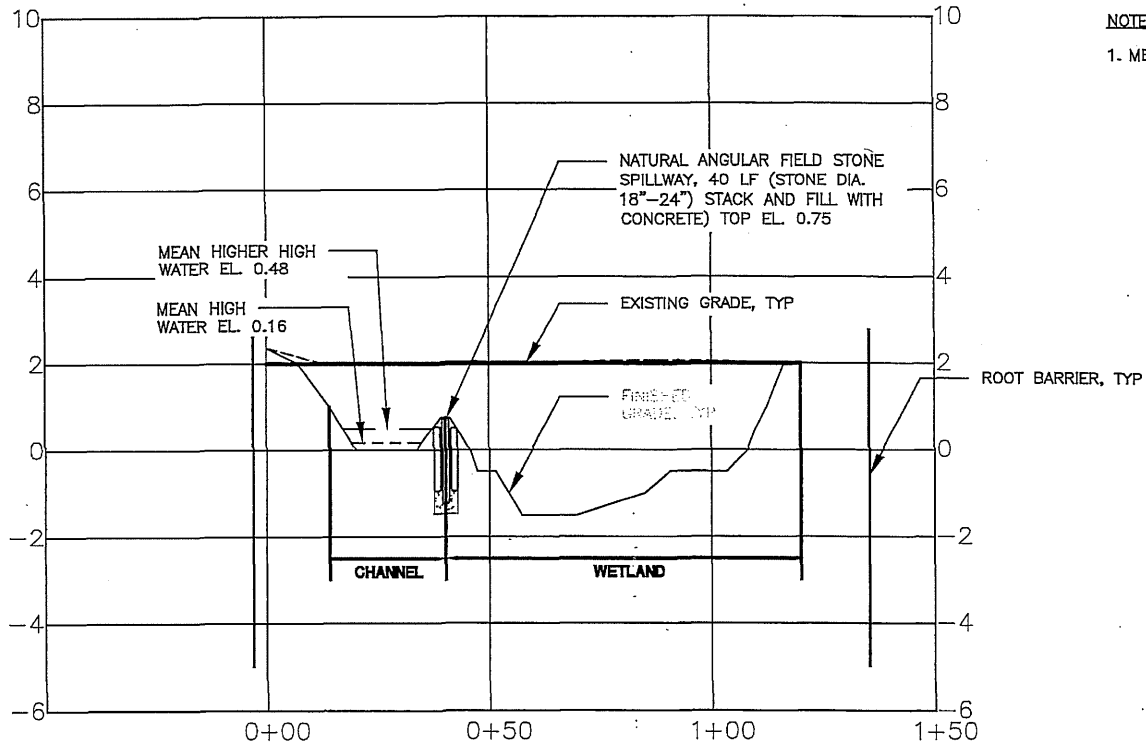
CAPITAL PROJECT # SER002308  
STORMWATER BMP DESIGN IN THE TRAVIS AREA  
BOROUGH OF STATEN ISLAND

PROFILE

**Hazen**

FOR PERMIT REVIEW ONLY

DATE: 07/12/17



**NOTE:**  
1. MEAN LOW WATER LINE AT EL. -4.82.

**CROSS SECTION A-A**

HORIZ: 1"=40'  
VERT: 1"=4'

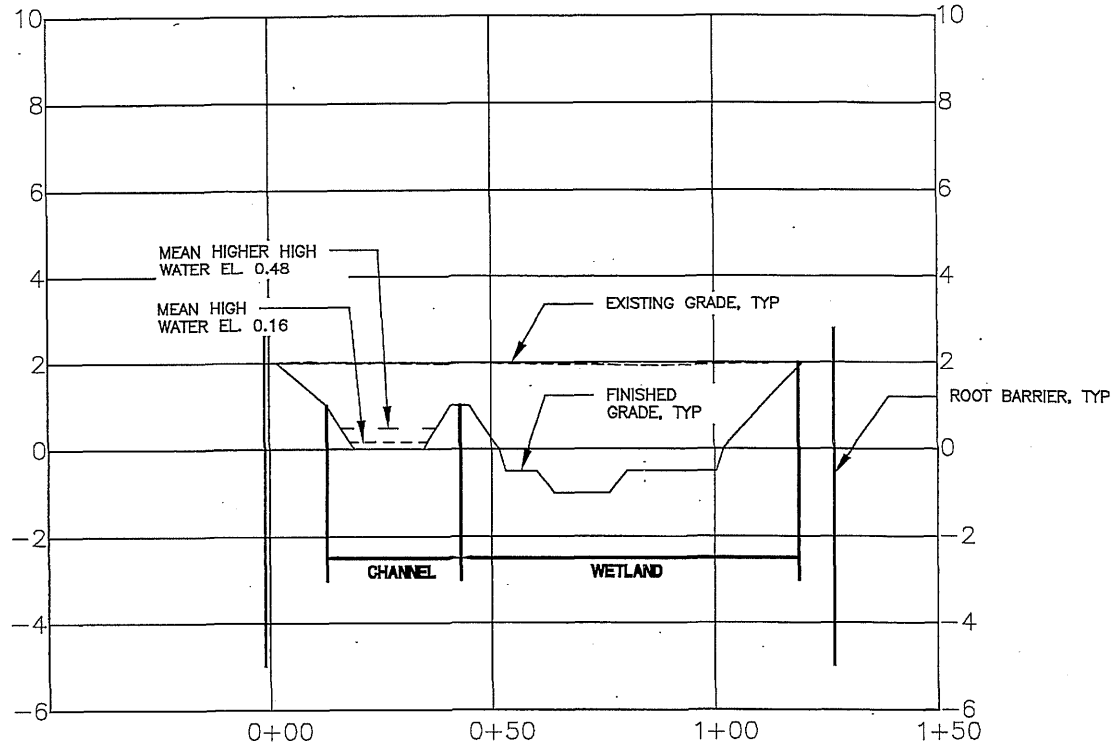
CAPITAL PROJECT # SER002308  
STORMWATER BMP DESIGN IN THE TRAVIS AREA  
BOROUGH OF STATEN ISLAND

CROSS SECTION



FOR PERMIT REVIEW ONLY

DATE: 07/12/17



**NOTE:**

1. MEAN LOW WATER LINE AT EL. -4.82.

**CROSS SECTION B-B**

HORIZ: 1"=40'  
 VERT: 1"=4'

CAPITAL PROJECT # SER002308  
 STORMWATER BMP DESIGN IN THE TRAVIS AREA  
 BOROUGH OF STATEN ISLAND

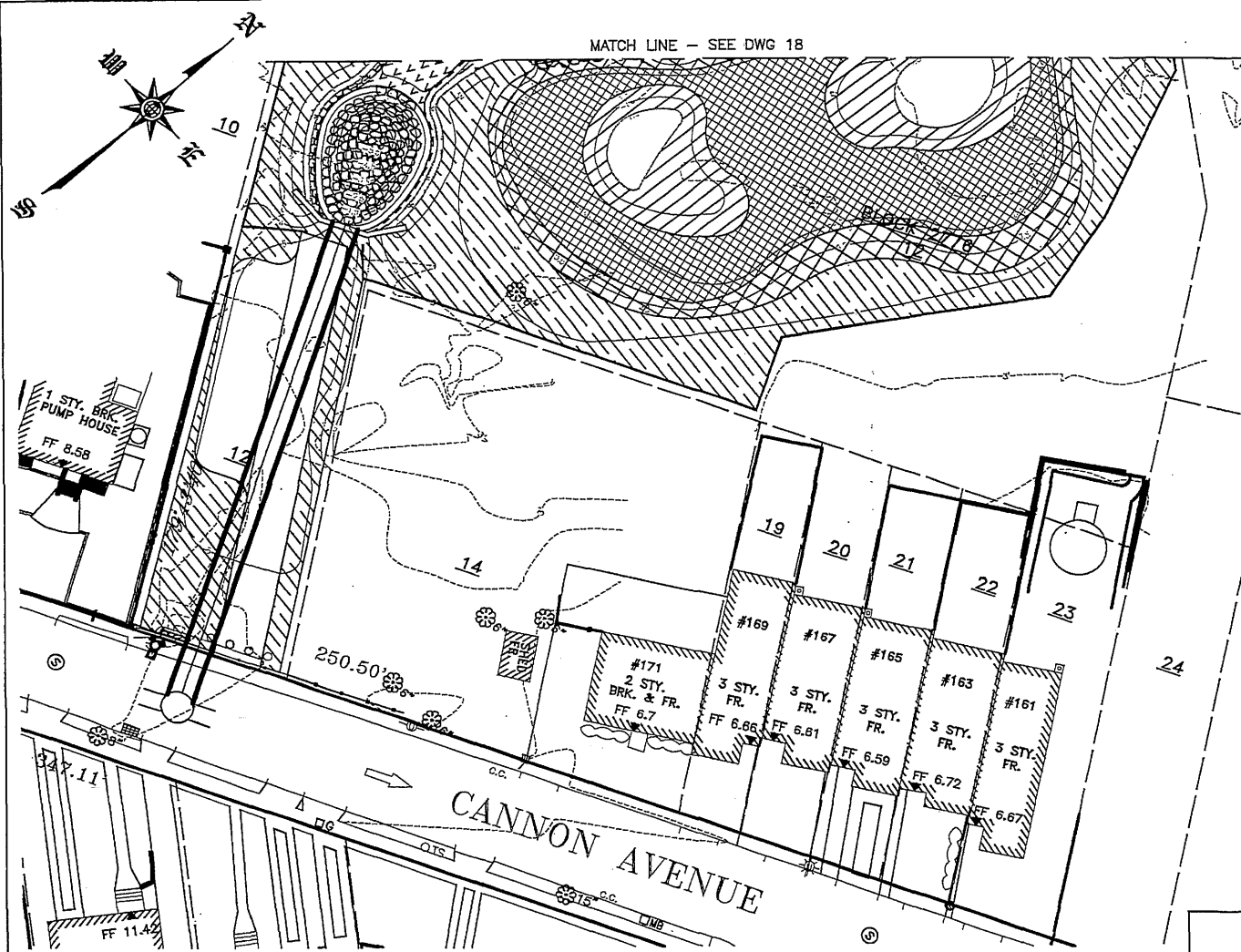
CROSS SECTION



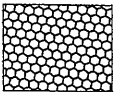
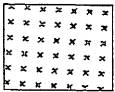
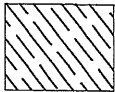
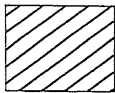
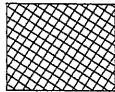
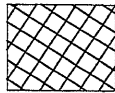
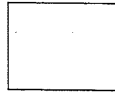

FOR PERMIT REVIEW ONLY

DATE: 07/12/17

MATCH LINE - SEE DWG 18



ZONE LEGEND

- 
**INTERTIDAL MARSH (4540 SF)**  
 EL. 0.0 TO 0.25
- 
**HIGH MARSH (7525 SF)**  
 EL. 0.25 TO 1.0
- 
**MARITIME SHRUBLAND (10520 SF)** EL. 1.0 AND HIGHER
- 
**AQUATIC (1880 SF)**  
 EL. -1.5 TO -0.5
- 
**EMERGENT MARSH (4715 SF)**  
 EL. -0.5 TO 0.0
- 
**FRESHWATER WETLAND (WITH SALT RESISTANCE SPECIES) (2190 SF)** EL. 0.0 TO 1.0
- 
**FRESHWATER WETLAND OPEN WATER (685 SF)** EL. -1.5
- 
**TIDAL CHANNEL (COASTAL SHOALS, BARS AND MUDFLATS) (5075 SF)**  
 EL. 0.0

PLAN

SCALE: 1" = 40'

NOTE:

1. MEAN HIGHER HIGH WATER LINE AT EL. 0.48.
2. MEAN HIGH WATER LINE AT EL. 0.16.
3. MEAN LOW WATER LINE AT EL. -4.82.

Hazen

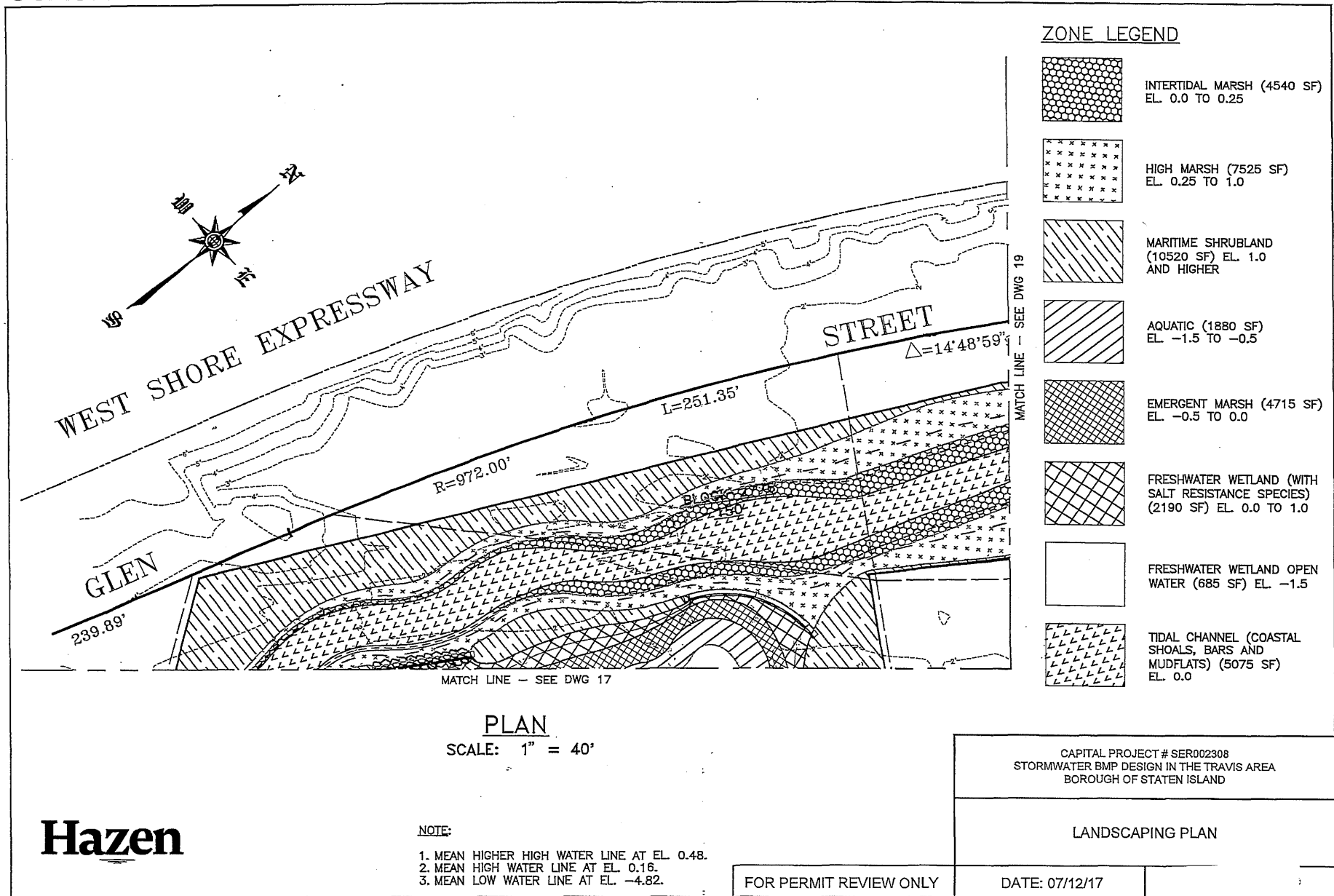
CAPITAL PROJECT # SER002308  
 STORMWATER BMP DESIGN IN THE TRAVIS AREA  
 BOROUGH OF STATEN ISLAND

LANDSCAPING PLAN

FOR PERMIT REVIEW ONLY

DATE: 07/12/17





**Hazen**

**NOTE:**

- 1. MEAN HIGHER HIGH WATER LINE AT EL. 0.48.
- 2. MEAN HIGH WATER LINE AT EL. 0.16.
- 3. MEAN LOW WATER LINE AT EL. -4.82.

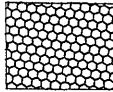
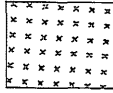
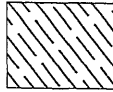
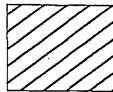
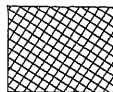
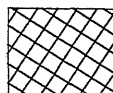


FOR PERMIT REVIEW ONLY

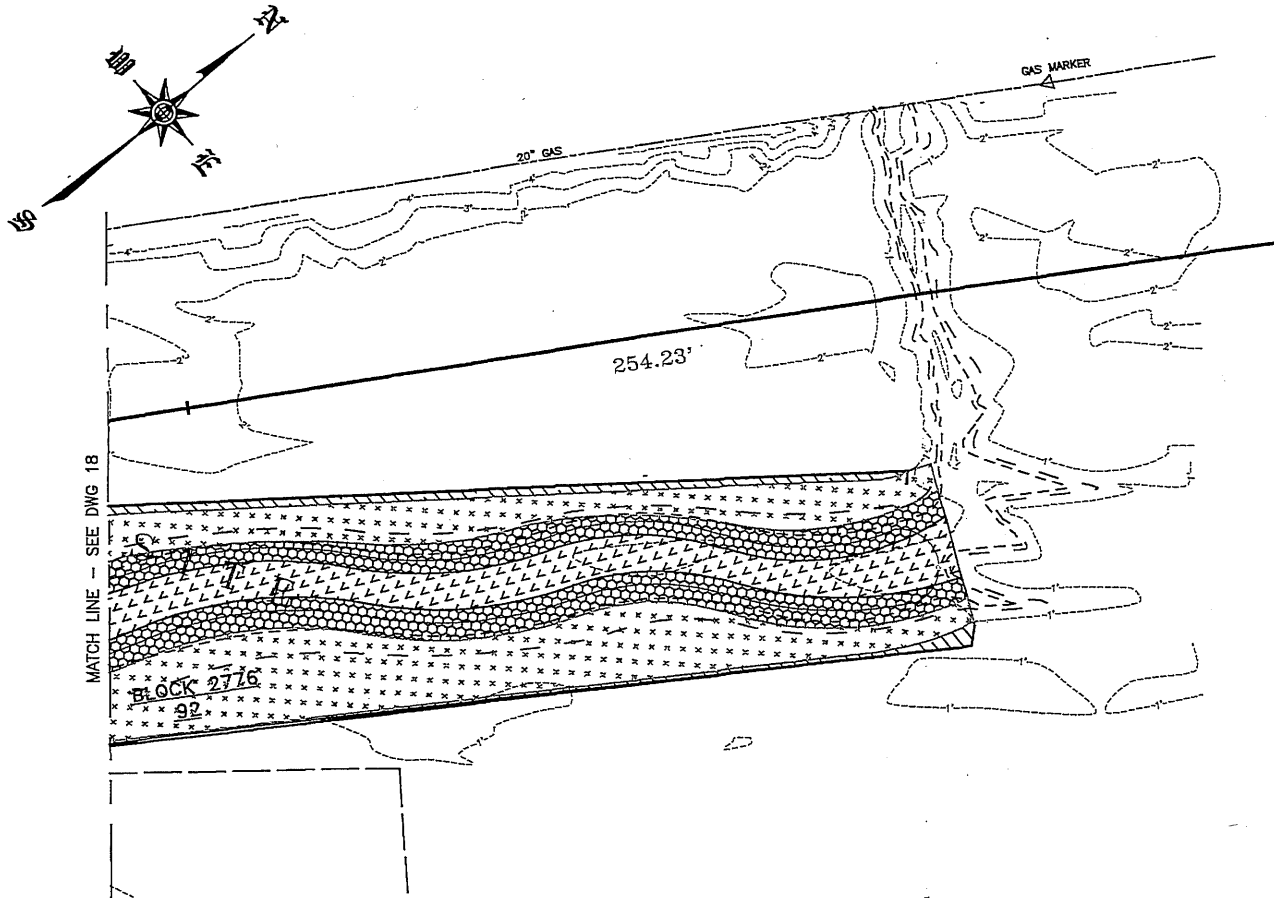
DATE: 07/12/17

CAPITAL PROJECT # SER002308  
 STORMWATER BMP DESIGN IN THE TRAVIS AREA  
 BOROUGH OF STATEN ISLAND

LANDSCAPING PLAN

**ZONE LEGEND**

- 
INTERTIDAL MARSH (4540 SF)  
EL. 0.0 TO 0.25
- 
HIGH MARSH (7525 SF)  
EL. 0.25 TO 1.0
- 
MARITIME SHRUBLAND (10520 SF)  
EL. 1.0 AND HIGHER
- 
AQUATIC (1880 SF)  
EL. -1.5 TO -0.5
- 
EMERGENT MARSH (4715 SF)  
EL. -0.5 TO 0.0
- 
FRESHWATER WETLAND (WITH  
SALT RESISTANCE SPECIES)  
(2190 SF) EL. 0.0 TO 1.0
- 
FRESHWATER WETLAND OPEN  
WATER (685 SF) EL. -1.5
- 
TIDAL CHANNEL (COASTAL  
SHOALS, BARS AND  
MUDFLATS) (5075 SF)  
EL. 0.0



MATCH LINE - SEE DWG 18

BLOCK 2776  
92

**PLAN**  
SCALE: 1" = 40'

- NOTE:**
1. MEAN HIGHER HIGH WATER LINE AT EL. 0.48.
  2. MEAN HIGH WATER LINE AT EL. 0.16.
  3. MEAN LOW WATER LINE AT EL. -4.82.

CAPITAL PROJECT # SER002308 STORMWATER BMP DESIGN IN THE TRAVIS AREA BOROUGH OF STATEN ISLAND	
LANDSCAPING PLAN	
FOR PERMIT REVIEW ONLY	DATE: 07/12/17

