OSPREY ENVIRONMENTAL ENGINEERING, LLC
146 East Main Street Clinton, CT 06413
Phone: 860.669.8651 Fax: 860.664.3751

Mr. Richard Barlow
Ferguson-Williams Incorporated
550 Main Street
Stratford, CT 06615

02 January 2013

Re: Causeway 2012 Annual Inspection Report, Stratford Army Engine Plant, 550 Main Street, Stratford, CT

The annual causeway inspection was conducted on 12 November 2012, and the following is a report of the observations and recommendations. Pictures of the causeway along with a log and plan depicting the location and direction of the positions from which the pictures were taken are appended.

I. Survey Findings:

Location and dimensions of erosion rills, surface cracks, depressions, animal burrows – No erosion rills, surface cracks, or animal burrows were noted on the vegetative cover or in the marine mat during the inspection. Overall, with the exceptions noted below, surfaces were in good condition but have degraded slightly since last year. A hurricane had passed to the south on 29-30 October 2012, thirteen days before this inspection. Based on the position of vegetation deposited at the crest of the causeway, it appears that it was overtopped. Despite this, the surface vegetation remained intact and free of erosion rills or washouts. No significant erosion was noted at the contact between the marine mats and the surrounding river bottom. Areas at the southeast tip of the causeway, at the midpoint of the western side of the causeway, and the westerly edge of the southeast side of the causeway had some minor exposure of the underlying geotextile, but no significant scouring was noted at those locations. No ponding areas were apparent. The vegetative cover area was significantly impacted by the storm overtopping and subsequent debris removal, which should be corrected.

Condition of vegetative cover including bare spots, stress areas, and evaluation of mowing requirements – The vegetation on the causeway top was impacted from the storm event, with debris deposited across the entire surface. Most of the debris was vegetative in nature, consisting of dead reeds and branches. Portions of the grassed surface were disturbed by machinery used to remove the debris. The remainder was brown, most likely due to saltwater inundation. As is shown in the attached photographs, vegetation was sparse or lacking in a number of areas, and the predominant plants were weeds rather than turf grass. This is of concern, as if additional overtopping events occur, the lack of a dense root mat could allow damage to the soil surface.

General condition or observed deterioration of fence posts, gates, locks, and signage – Fence posts and gates were intact but showed signs of corrosion on the posts, cross members and fabric present, but not enough to present structural issues or reduce the effectiveness of the barriers. Some cross members were bent and should be repaired. Gates swung easily, and did not need adjustment. Locks were in proper working order, and signage was present. Fencing fabric was intact for more than 100 feet of the causeway, and other than minor surface corrosion and bent members, was in good condition.

Condition of groundwater monitoring wells including labels, covers, and protective casings – Monitoring wells appeared to be in good condition, with no deterioration of protective casings, covers, or

concrete anchoring. A light layer of corrosion was present on some casing covers. No labels were noted on the well protective boxes.

Sediment accumulation from erosion – No significant accumulation of sediment was noted on the causeway top or the mat covered sideslopes. River bed erosion in the form of channel scouring was not noted in close proximity to the causeway. Some minor accumulation of stones in the gravel-cobble range was noted at the tip of the causeway, and along the base of the mat slopes, but not in large quantities and not enough to threaten the integrity of the marine mat.

Condition of riprap - Riprap transitions on the causeway slopes from the marine mat to the western riverbank were continuous with no bare spots. The riprap slope on the north side of the causeway descended at a 2:1 slope to the river bed and was roughly in line with the marine mat edge. Either there was no horizontal riprap transition slope, or it was present but had been covered by the accumulation of inorganic sediments. The slope base appeared to be stable. The riprap slope on the south side of the causeway between the marine mat and the west bank of the river appeared to have had some erosion/removal of riprap, as the larger riprap aggregate ended about 40' higher up the slope as compared to the north side. It was also significantly offset from the adjoining marine mat. No significant settlement or displacement of riprap other than that noted above was observed.

Condition of marine mats -
Geogrid aperture/transverse ribs – No significant damage was noted to apertures or transverse ribs
Internal baffle separation - No internal baffle separation was noted
Patch/repair deterioration – No deterioration of patched/repaired areas was noted
Material condition – cracking, crazing, tensile failure, stress discoloration – Materials appeared to be in good condition, with no significant cracking, crazing, or stress discoloration noted (see photo of typical mat condition). The only tensile failures noted were at a few mat edges, and a small area where a large driftwood tree trunk was lying on the mat surface.
Underlying geotextile exposure/deterioration – Geotextile exposure was present at the northeastern tip of the causeway, the midpoint of the westerly side, and at the mat/riprap transition on the southwest side of the causeway. No significant undermining of the mat was present It appeared that the exposed geotextile may have been due to minor scouring/undermining of the base edge of the mat. At the top of the mat edge/vegetative surface interface, the geotextile was exposed, but was folded over and appeared to be as installed rather than having been exposed due to erosion. It appeared to be in a stable configuration.
Braided rope fraying/separation – Some minor rope fraying/separation was noted at a few mat edges.
Mattress damage due to drift wood, ice, or wave action – Minor damage was present due to driftwood.
Marine organism growth on/within mats – An increase in shellfish attachment and barnacles on the accumulated cobble sized stones along the normally submerged edges of the toe of the slope at the northeast point. No significant vegetative growth was present on the mat slopes.
*Vegetative material rooted in mats - N*o vegetative growth had established itself on the mat slope. The riprap area had some vegetation present, but it was not widespread nor dense.

General visual assessment of surface settlement over the upper and lower cover system and at the interface of the lower cover/riverine sediment interface – Based solely on visual observations, no significant large scale settlement was noted of the upper covered vegetative cover system, the marine mat surfaces, the riprap surfaces (other than the noted scoured area), or the river bed adjacent to the causeway. The visual observations have been supplemented with a topographic survey of the causeway and the findings are discussed elsewhere.

Topographic Survey:
Field work for a topographic survey was completed for the causeway on 16 November 2012. The survey was completed to T-2 Topographic standards and has contours at 1' elevations. The survey was transposed over the most recent previous survey completed in 2004. A copy of the survey is appended.

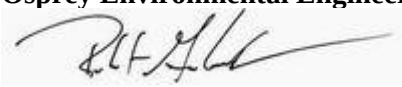
Comparison with previous surveys:
Visual observations indicate changes have occurred between the 2011 survey and the 2012 survey in the surface vegetative cover, the condition of the mat, exposure of the underlying geotextile base, and the relationship between the causeway and associated river sediments and marine life. The vegetative cover was in a more deteriorated state, due to the recent inundation from the storm event. Grass cover was less well established, vegetative debris deposited by the storm was still present to some degree, and turf grass was interspersed with non-grass vegetation and bare spots. The mat was slightly degraded from previous observations, with a few more tears, most likely due to the storm event. A few additional areas of exposure of the geotextile base were present that were not noted in the previous survey. The northerly tip of the causeway had an accumulation of cobble sized stones, which were more prevalent this year. A substantial increase was noted in shell fish populations in this area, which may over the long term help to stabilize the cobble stone substrate.

The overlay of the 2012 topographic survey on the 2004 survey did not indicate significant areas of settlement. Interestingly, the 2012 survey indicated the area currently occupied by the vegetated (grass) cover was generally slightly elevated as compared to the 2004 survey. There appear to be no areas of destabilization present at the causeway.

Recommendations:
Surface cover: Strip vegetation from vegetative cover surface, grade/rake surface to eliminate uneven areas adding topsoil as necessary, apply limestone and fertilizers as specified in the attached analysis, and reestablish appropriate turf vegetation. A mix of red fescue, perennial rye grass and Kentucky bluegrass is recommended. If turf is significantly impacted during dry weather conditions and/or if inundation with saltwater can reasonably be expected to recur, serious consideration should be given to installing an irrigation system. A healthy turf root system is essential to preventing disruption to the cover system from overtopping events as had happened in 2011 and 2012.
Marine mat/geotextile: Storm transported debris should continue to be carefully removed from the marine mat in a manner that will not cause damage to the mat enclosures when it washes up on the causeway. The minor tearing noted at various locations should be repaired, as should the frayed/separated braided rope sections. The small sections of exposed geotextile should be trimmed away to prevent further exposure of this component. The exposed geotextile at the vegetative cover/sideslope interface was stable and no recommendations other than avoidance of ensnaring the geotextile during mowing operations appear to be warranted.

Should you have any questions, please contact the undersigned.

Sincerely,
Osprey Environmental Engineering, LLC



Robert Grabarek, P.E., L.S., LEP
President

VISUAL INSPECTION CHECKLIST, MAINTENANCE AND INSPECTION PLAN
CAUSEWAY COVER SYSTEM, STRATFORD ARMY ENGINE PLANT, STRATFORD, CONNECTICUT

SHEET 1 OF 2 All items checked by: Robert Grabarek

LOCATION/COMPONENT	COMMENTS/NOTES **(Use additional sheets as necessary)**
VEGETATIVE COVER	
Erosion rill/channel/depression, length, width, depth and baseline location	None noted
Eroded areas with exposure of ACB	None noted
Eroded areas with exposure of geotextile	Geotextile exposed at vegetative cover/slope interface – not erosion related
Surface cracks in vegetative cover description, and baseline, location	None noted
Condition of vegetation (bare, sparse, stressed, woody growth)	Turf cover poorly established, needs improvement
Evaluation of mowing requirements and/or needs	Vegetation properly mown but in poor condition after storm debris cleanup
Sediment accumulation	Accumulation of drift debris from previous storm event
Apparent ponding areas	None present
RIP-RAP TRANSITIONS AND APRON AREAS	
Settlement of RIP-RAP fill	None noted
Displacement of RIP-RAP fill	Possibly present on the north face, definitely noted on the south face
Sedimentation of RIP-RAP void space	None noted
Geotextile exposure	Minor amounts at northeast tip, mid-point north face, transition to riprap south face
FENCES,GATES AND LOCKS	
Locks lubricated and functional	Yes
Gate hinges adjusted and lubricated	Yes
Fence fabric intact within 100-feet of Causeway east and west	Yes, but in need of maintenance
VISUAL OBSERVATION OF SETTLEMENT (A)	
Settlement observations of upper cover areas	Moderate sized depressions noted in west face

VISUAL INSPECTION CHECKLIST, MAINTENANCE AND INSPECTION PLAN
CAUSEWAY COVER SYSTEM, STRATFORD ARMY ENGINE PLANT, STRATFORD, CONNECTICUT

SHEET 2 OF 2 All items checked by: Robert Grabarek

LOCATION/COMPONENT	COMMENTS/NOTES **(Use additional sheets as necessary)**
Settlement observations of lower cover areas	None noted
Cracking or settlement in tidal flats within 100- feet of lower cover limits	None noted
POLYMERIC MARINE MATTRESSES	
Inspect per M&I Plan Appendix E	See report
MONITORING WELLS	
Well Identification clearly marked	Well identification not marked
Flush mount casings and collars intact	Yes
Condition of PVC riser	Intact
Well cap in place	Yes
INSPECTION OF SURFACE DESIGN FEATURES(B)	Other than items noted in report, all appears to be in
OTHER	-

NAME Robert Grabarek, P.E., L.S., LEP **SIGNATURE** 

FIRM Osprey Environmental Engineering **DATE/TIME 12 November 2012**

NOTES:
1. Observations should be as quantitative as practical. And located relative to construction baseline distance and off-set as depicted on record drawings
2. Supplement inspection with photographic documentation as follows:
a. A minimum of 25 Photos will be collected at each inspection event. Photos will be cataloged and locations and compass direction indicated on a site figure to facilitate historical comparison of conditions.
b. Additional photos will be collected at the inspector's discretion relative to identified inspection issues.
3. Erosion channel or depression length, width, depth and location shall be recorded.
(A) Settlement monitoring will be evaluated and assessed at initial 2-year period and 5-year schedule after construction
(B) Surface design feature inspection is to be reviewed with Town of Stratford personnel for applicable concerns and procedures and incorporated into the plan.
M&I = Maintenance and inspection Plan
ACB = Articulating Concrete Block

MONITORING REPORT FORM
MAINTENANCE AND INSPECTION PLAN FOR CAUSEWAY COVER SYSTEM
STRATFORD ARMY ENGINE PLANT, STRATFORD, CONNECTICUT

CONTRACTOR: OSPREY ENVIRONMENTAL ENGINEERING **REPORT NO:** 1
CONTRACTOR'S REP: Robert Grabarek, P.E., L.S., LEP **DATE:** 12 November 2012
DATE OF LAST INSPECTION: 8/31/11
DAYS ELAPSED SINCE LAST INSPECTION: 432
PROJECTED DATE OF NEXT INSPECTION: October 2013
U.S. Army and CTDEP notified 5 days prior to inspection? No
WEATHER CONDITIONS: Sunny, light breeze, 50°F temperature
IMPORTANT DIRECTIONS, DISCUSSIONS, AND MEETINGS RELATIVE TO EVENT: None
SUMMARY OF INSPECTIONS PERFORMED AND MAJOR FINDINGS:

- Attach Visual Observation Checklist Sheet
- Attach Photographic Log
- Unusual Events or Conditions
- Recommendations for Maintenance Activities
- Issues to Consider at or prior to next scheduled 5-year site review

ATTACHMENTS

- Historical Data Trends
- Photographic Documentation
- Previous Topographical Survey Annotated with Visual Identified Settlement Areas
- Monitoring Schedule

SUBMITTED BY: Robert Grabarek, P.E., L.S., LEP

PHOTOGRAPH LOG - MAINTENANCE & INSPECTION PLAN FOR CAUSEWAY COVER SYSTEM
STRATFORD ARMY ENGINE PLANT, STRATFORD, CONNECTICUT

DATE: 12 November 2012 **PHOTOGRAPHER:** Robert Grabarek **SHEET** 1 **OF** 2

PHOTO #	PHOTO LOCATION	COMPASS DIRECTION	DESCRIPTION
1	Above west end of causeway	Northeast	Top center of causeway
2	Above northwest end of causeway	East	View of northwest face of causeway
3	Above southwest end of causeway	North	View of southwest face of causeway
4	Southwest end of causeway	Northeast	Northwest face of causeway showing condition of riprap section
5	Southeast end of causeway	Northeast	Southwest face of causeway
6	Southeast end of causeway	Northeast	View of southwest face of causeway
7	Southwest end of causeway	East	View of upper/lower cover system geotextile exposure
8	South end of east slope marine mat	East	View of marine mat edge adjacent to river sediments
9	South end of east slope marine mat	South	View of marine mat interface and storm debris
10	Southeast slope	North	View of typical slope view, also showing storm debris
11	Southeast slope	West	View of marine mat transition to river bed
12	Northeast end of southeast slope	North	View of east end of causeway slope showing some differential mat settling and storm debris
13	Northeast tip of causeway	East	View of marine mat transition to river bed showing accretion of cobbles
14	Northeast tip of causeway	North	View of tear in marine mat enclosure
15	Northeast tip of causeway	Southwest	View of repair to marine mat tear
16	Northeast tip of causeway	North	View of marine mat at northeast tip of causeway
17	East side of northeast tip of causeway	East	View of mat/river bed transition showing exposed geotextile
18	East side of northeast tip of causeway	East	Second view of mat/river bed transition showing exposed geotextile
19	Northeast tip of causeway	Northeast	View of end of causeway showing marine mat
20	Northeast tip of causeway	Down	View of typical section of marine mat

PHOTOGRAPH LOG - MAINTENANCE & INSPECTION PLAN FOR CAUSEWAY COVER SYSTEM
STRATFORD ARMY ENGINE PLANT, STRATFORD, CONNECTICUT

DATE: 12 November 2012 PHOTOGRAPHER: Robert Grabarek SHEET 2 OF 2

PHOTO #	PHOTO LOCATION	COMPASS DIRECTION	DESCRIPTION
21	Northeast end of causeway	Northeast	View of marine mat showing typical conditions
22	Northeast end of causeway	Northeast	View of marine mat showing minor differential settlement
23	Northeast end of causeway	West	View of marine mat showing minor tear
24	Northeast end of causeway	Southwest	View of differential settlement of marine mat
25	West face of causeway	North	View of marine mat slope
26	West face pf causeway	Southwest	View of marine mat river bed transition
27	West face of causeway	Northeast	View of west slope of causeway
28	West face of causeway	Southwest	View of marine mat transition to river bed
29	West face of causeway	South	View of marine mat/riprap transition
30	West face of causeway	Southwest	View of riprap face of west slope of causeway
31	Upper west side of causeway	Southwest	View of marine mat/riprap transition and general slope conditions
32	East face of causeway	Northeast	View of marine mat/riprap transition and general slope conditions
33	Top of east side of causeway	Northeast	View of marine mat/vegetation transition and storm debris
34	Top of east side of causeway	Northeast	View of vegetated surface on top of causeway
35	Top of east side of causeway	South	View of vegetative cover in poor condition
36	West slope of causeway	Southwest	View of storm debris on marine mat
37	Central causeway	Southwest	View of monitoring well caps and vegetative cover
38	Central causeway	North	View of disturbed vegetative cover
39	Central causeway	Southwest	View of electrical conduit stubs and vegetative cover
40	Gate	Southwest	View of gate entrance

PHOTOGRAPH DOCUMENTATION
12 November 2012 CAUSEWAY COVER SYSTEM INSPECTION
STRATFORD ARMY ENGINE PLANT, STRATFORD, CONNECTICUT

Photograph 1: Top of causeway, view to northeast

Photograph 2: Northwest face of causeway, view to east

Photograph 3: Southwest face of causeway, view to north

Photograph 4: Northwest face of causeway, view to northeast

Photograph 5: Southwest face of causeway, view to northeast

Photograph 6: Southwest face of causeway, view to northeast

Photograph 7: Transition between upper and lower cover system, geotextile exposed adjacent to fence post base

Photograph 8: Edge of marine mat at base of slope

Photograph 9: Minor separation of marine mat units

Photograph 10: View of southwest slope of causeway. Driftwood stump and floating dock structure deposited during passage of Hurricane Sandy on 29 October 2012

Photograph 11: East face of causeway showing marine mat edge

Photograph 12: East face of causeway at north end showing storm debris and some differential mat settling

PHOTOGRAPH DOCUMENTATION
12 NOVEMBER 2012 CAUSEWAY COVER SYSTEM INSPECTION
STRATFORD ARMY ENGINE PLANT, STRATFORD, CONNECTICUT

Photograph 13: Eastern tip of causeway showing cobble and shellfish accretion on marine mat

Photograph 14: Marine mat on east side of causeway showing surface tear

Photograph 15: Marine mat with repair to torn section

Photograph 16: Northeast tip of causeway showing general slope condition

Photograph 17: Marine mat edge at northeast tip of causeway showing minor woven geotextile base exposure

Photograph 18: Marine mat edge at northeast tip of causeway showing minor woven geotextile base exposure, second view

Photograph 19: Eastern tip of causeway showing general marine mat condition and storm debris

Photograph 20: Marine mat at eastern tip of causeway showing typical condition

Photograph 21: Marine mat at eastern edge of causeway showing typical condition

Photograph 22: Marine mat at eastern end of causeway showing minor differential settlement

Photograph 23: Marine mat at eastern end of causeway showing minor tear

Photograph 24: Marine mat at eastern end of causeway showing minor differential settlement

Photograph 25: View of west face of causeway, view to north

Photograph 26: Toe of marine mat slope, west face of causeway

Photograph 27: Edge of marine mat on west slope, view to northeast

Photograph 28: Additional west slope view

Photograph 29: Transition between marine mat and riprap slope, west face of causeway

Photograph 30: Riprap face of west slope of causeway, view to southwest

Photograph 31: View of upper west face of causeway looking southwest

Photograph 32: View of eastern face of causeway showing mat/riprap transition, view to southwest

Photograph 33: Top of eastern side of causeway showing storm debris and vegetation condition

Photograph 34: Top of eastern side of causeway showing vegetation condition

Photograph 35: Vegetative cover on causeway showing typical bare spots

Photograph 36: West face of causeway showing storm debris

Photograph 37: View of easterly monitoring wells

Photograph 38: View of vegetative cover condition

Photograph 39: View of vegetative cover looking west

Photograph 40: View of access gate

NOTES:

1. A. THIS MAP/SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THROUGH 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC., ON SEPTEMBER 26, 1996, AND THE "GUIDELINES AND SPECIFICATIONS FOR GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) LAND SURVEYS IN CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC., ON JUNE 26, 2008.

   B. THE TYPE OF SURVEY IS A "TOPOGRAPHIC SURVEY" SPECIFICALLY INTENDED TO DEPICT TOPOGRAPHIC CONDITIONS. GNSS OBSERVATIONS, HYDROGRAPHIC SOUNDINGS, AND GROUND OBSERVATIONS WERE COLLECTED BY COASTLINE CONSULTING & DEVELOPMENT, LLC ON 11/16/12.

   C. THE TOPOGRAPHICAL ACCURACY CONFORMS TO "CLASS T-2".

2. REFERENCE IS MADE TO THE FOLLOWING MAPS/DRAWINGS:

   A. A CLASS A-1 & T-1 SURVEY TITLED, "NON-TIME CRITICAL REMOVAL ACTION CAUSEWAY COVER DESIGN (PHASE I), STRATFORD ARMY ENGINE PLANT, STRATFORD, CONNECTICUT, PHASE I TOPOGRAPHIC SURVEY," SCALE 1" = 40', DATED10/3/2001 - 10/29/2001, AND PREPARED BY US ARMY CORPS OF ENGINEERS, NEW ENGLAND DISTRICT.

   B. A DRAWING TITLED "FIGURE 3-1, GENERAL SITE CONDITIONS, MAINTENANCE AND INSPECTION PLAN FOR CAUSEWAY COVER SYSTEM, STRATFORD ARMY ENGINE PLANT, STRATFORD, CONNECTICUT," SCALE 1" = 40', DATED JANUARY 6, 2004, AND PREPARED BY HARDING ESE.

   C. STRATFORD ASSESSOR MAP, #50.5.

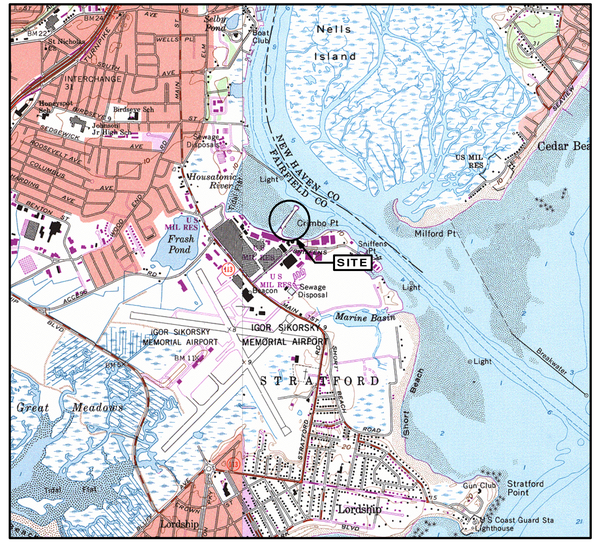
   D. A MARCH 2012 AERIAL IMAGE OF THE PROJECT SITE TAKEN FROM "GOOGLE EARTH" ON NOVEMBER 26, 2012.

3. BENCHMARK, TIDE LINES, AND SOUNDINGS ARE IN FEET, FIELD-LOCATED BY COASTLINE CONSULTING & DEVELOPMENT, LLC, AND REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29). TIDAL DATUM ELEVATIONS WERE ESTABLISHED USING NOAA TIDE STATION #8466442 (1983-2001 EPOCH) IN MILFORD, CONNNECTICUT. THE CJL (COASTAL JURISDICTION LINE) ELEVATION OF 5.9' (NGVD29) IS THE VALUE FOR STRATFORD, CT. AS RECOMMENDED BY THE CONNECTICUT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION.

4. THIS MAP IS FOR PLANNING PURPOSES ONLY AND IS NOT INTENDED FOR FILING ON THE LAND RECORDS IN ANY TOWN OR CITY CLERK'S OFFICE. NOT ALL IMPROVEMENTS AND FEATURES HAVE BEEN DEPICTED.

5. SITE MAY BE SUBJECT TO AND/OR TOGETHER WITH CERTAIN LITTORAL, RIPARIAN, OR OTHER RIGHTS AS PER THE RECORD MAY APPEAR.

6. ANY UNDERGROUND AND/OR UNDERWATER UTILITY, STRUCTURE, AND FACILITY LOCATIONS DEPICTED AND/OR NOTED HEREON MAY HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROLE TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE LOCATIONS OF WHICH ARE UNKNOWN TO COASTLINE CONSULTING & DEVELOPMENT, LLC. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION. CALL BEFORE YOU DIG: 1-800-922-4455.



SITE LOCATION MAP
SCALE 1:12,000

CT STATE PLANE COORDINATE SYSTEM (NAD 83)

MARINE MATTING (TYP)

RIPRAP STONE (TYP)

TIDAL FLAT

APPROXIMATE CONTACT OF FILL/RIVERINE SEDIMENTS

CONCRETE PILLAR (TYP)

BENCHMARK
TOP OF REBAR
ELEV. 10.12' NGVD29
N: 623604.27'
E: 897810.03

BENCHMARK
SEWER COVER
LETTER 'T' OF "TOWN"
CROSS OF T
ELEV. 11.34' NGVD29
N: 623573.93'
E: 897815.44

AREA DISTURBED BY CONSTRUCTION

GRASS COVER

PROPERTY OF
UNITED STATES OF AMERICA
"STRATFORD ARMY ENGINE PLANT"
550 MAIN STREET

MONITORING WELL (TYP)

BASELINE

0+00 1+00 2+00 4+00 5+00 6+00 7+00 8+00 9+00

HOUSATONIC RIVER

SR8 STRATFORD

Spartina alterniflora

CONCRETE WALK

ROCK PILE
TOP = -0.3'

GRAPHIC SCALE
20 10 0 30 60

TIDAL DATUM PLANE
NOT TO SCALE

- COASTAL JURISDICTION LINE (CJL) = EL +5.9'
- MEAN HIGH WATER (MHW) = EL +4.1'
- NATIONAL GEODETIC VERTICAL DATUM OF 1929 = EL 0.0'
- MEAN LOW WATER (MLW)= EL -2.4'

5.9' / 4.1' / -2.4'

LEGEND

- 10' EXISTING CONTOUR LINE
- RIPRAP STONE
- CONCRETE PILLAR
- MONITORING WELL
- EDGE OF CONCRETE
- MARINE MATTING

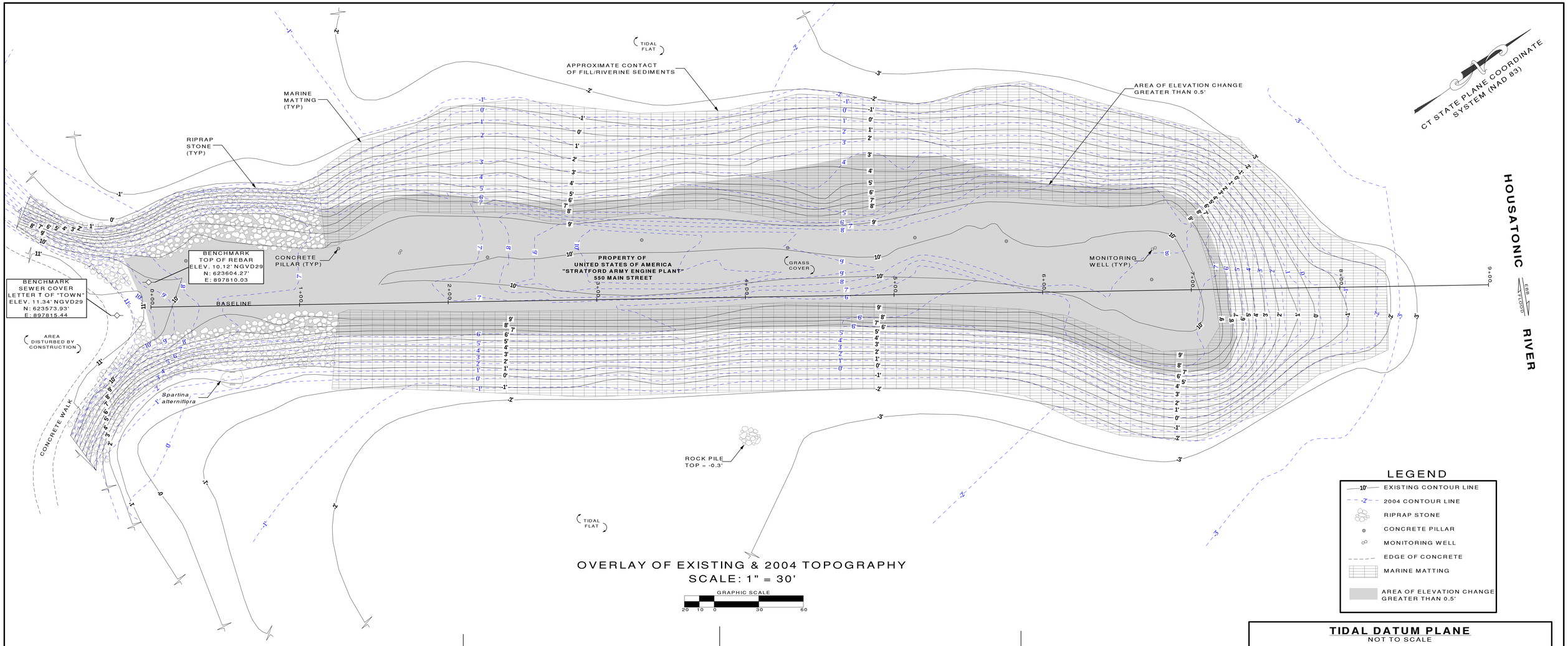
JAMES NAGLE, L.S. CT Lic. No. 15195

Coastline Consulting & Development
5-B Old Post Road, Madison, CT 06443
(203) 245-8138

TOPOGRAPHIC SURVEY EXISTING CONDITIONS

STRATFORD ARMY ENGINE PLANT
550 MAIN STREET
STRATFORD, CONNECTICUT

DECEMBER 4, 2012 | SHEET 1 OF 2 | SCALE: 1" = 30'

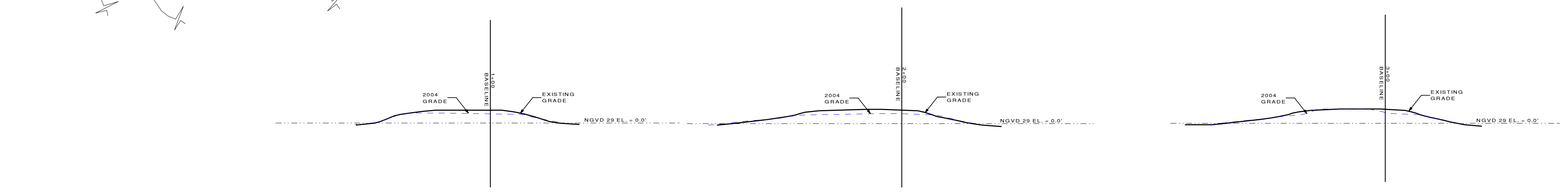


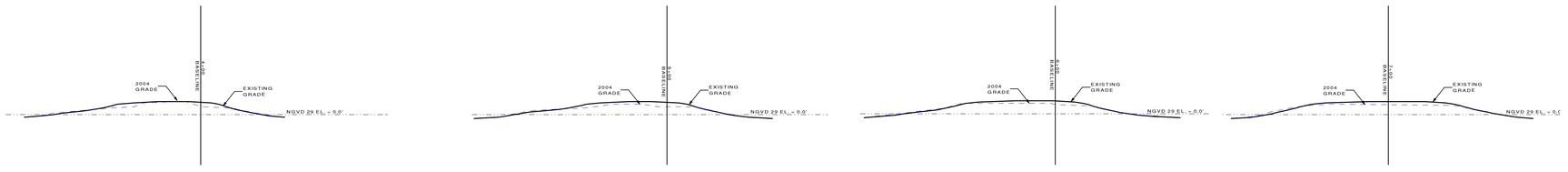
OVERLAY OF EXISTING & 2004 TOPOGRAPHY
SCALE: 1" = 30'

GRAPHIC SCALE
20 10 0 30 60

LEGEND

- EXISTING CONTOUR LINE
- 2004 CONTOUR LINE
- RIPRAP STONE
- CONCRETE PILLAR
- MONITORING WELL
- EDGE OF CONCRETE
- MARINE MATTING
- AREA OF ELEVATION CHANGE GREATER THAN 0.5'





PROJECT CROSS-SECTIONS
SCALE: 1" = 50'

GRAPHIC SCALE
20 10 0 50 100

TIDAL DATUM PLANE

NOT TO SCALE

- COASTAL JURISDICTION LINE (CJL) = EL +5.9'
- MEAN HIGH WATER (MHW) = EL +4.1'
- NATIONAL GEODETIC VERTICAL DATUM OF 1929 = EL 0.0'
- MEAN LOW WATER (MLW)= EL -2.4'

5.9'
4.1'
-2.4'

Coastline Consulting & Development
5-B Old Post Road, Madison, CT 06443
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OVERLAY OF EXISITING TOPOGRAPHY AND 2004 TOPOGRAPHY

STRATFORD ARMY ENGINE PLANT
550 MAIN STREET
STRATFORD, CONNECTICUT

DECEMBER 4, 2012 | SHEET 2 OF 2 | SCALE: AS NOTED

REFER TO NOTES FOR THIS SHEET ON SHEET 1 OF 2.