

SALT MARSH CREATION AT RIVERS END PARK IN NEW BEDFORD, MASSACHUSETTS (Bristol County)

OWNER/SURVEYOR

City of New Bedford
Department of Public Infrastructure
1105 Shawmut Avenue
New Bedford, Massachusetts 02746

CIVIL ENGINEER AND WETLAND SCIENTIST

Beals and Thomas, Inc.
32 Court Street
Plymouth, Massachusetts 02360



Locus Map

Scale: 1" = 2000'

First Issue - October 22, 2012
Revised Per EPA Comments - November 2, 2012

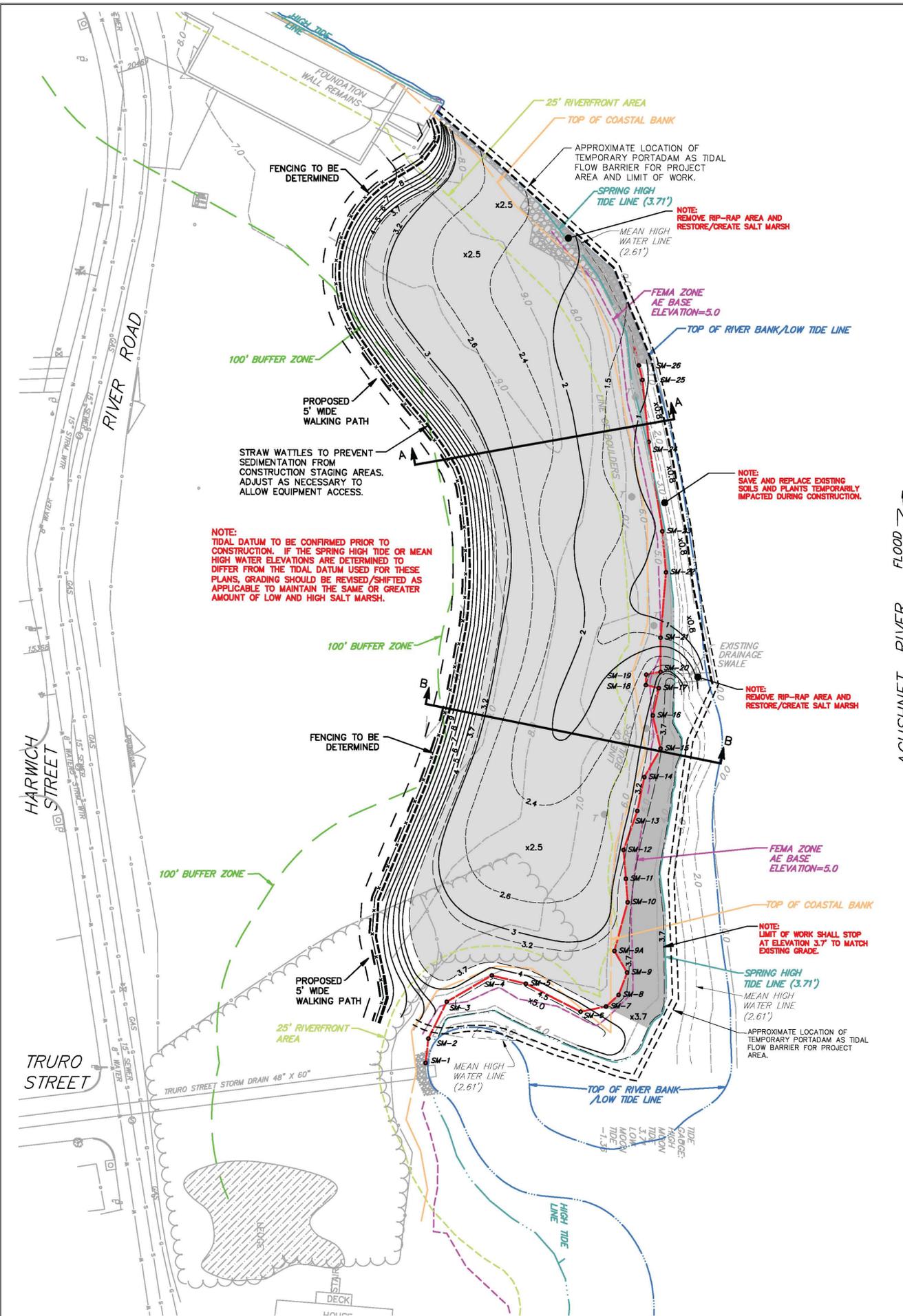
SHEET INDEX

- | | |
|---|------------------------|
| 1 | Cover Sheet |
| 2 | Grading Plan |
| 3 | Planting Plan |
| 4 | Cross Sections |
| 5 | Notes and Site Details |



NOT ISSUED FOR
CONSTRUCTION

Job No.: 1714.10
Dwg. No.: 171410P033B-001
Sheet 1 of 5



LEGEND

EXISTING	PROPOSED
	TREE
	TREE LINE
	LINE OF BOULDERS
	RIP RAP
	FENCE
	MINOR CONTOUR
	MAJOR CONTOUR
	SPOT ELEVATION
	100 YEAR FLOODPLAIN BOUNDARY
	25' RIVERFRONT AREA
	TOP OF COASTAL BANK
	SPRING HIGH TIDE LINE (ELEV. 3.71')
	MAXIMUM EXTENT OF SALT MARSH VEGETATION/BRACKISH WETLAND
	100' BUFFER ZONE
	TOP OF RIVERBANK/ LOW TIDE LINE
	PORTADAM
	4' HIGH BLACK VINYL FENCE
	MINOR CONTOUR
	MAJOR CONTOUR
	SPOT ELEVATION
	EROSION CONTROL BARRIER

BENCHMARKS

BM-1, USGS DISK, STATE CONTROL POINT # 91D, TARKILN HILL ROAD NEAR BELLVILLE AVENUE. ELEV.=17.06' (DATUM NGVD29)	BM-2, GRANITE BOUND AT THE NORTHWEST CORNER OF THE INTERSECTION OF HARWICH ST. AND RIVER ROAD ELEV.=9.41' (DATUM NGVD29)
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TIDAL DATUM

	NGVD1929 (FT)
SPRING HIGH TIDE LINE	3.71'
MEAN HIGH WATER	2.61'
MEAN LOW WATER	-0.5'
SPRING LOW TIDE LINE	-1.36'

NOTE: TIDAL DATUM TO BE CONFIRMED PRIOR TO CONSTRUCTION. IF THE SPRING HIGH TIDE OR MEAN HIGH WATER ELEVATIONS ARE DETERMINED TO DIFFER FROM THE TIDAL DATUM USED FOR THESE PLANS, GRADING SHOULD BE REVISED/SHIFTED AS APPLICABLE TO MAINTAIN THE SAME OR GREATER AMOUNT OF LOW AND HIGH SALT MARSH.

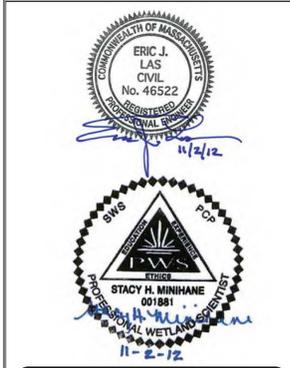
SALT MARSH MITIGATION

Legend	Acres
SALT MARSH CREATION	0.92
SALT MARSH RESTORATION	0.09
TOTAL MITIGATION AREA	1.02

Note: Creation acreage is calculated as area above the maximum extent of jurisdiction (i.e. above the observed maximum extent of salt marsh vegetation/brackish wetland) that will be converted to salt marsh by grading to an elevation below the Spring High Tide Line (Elev. 3.71') and planted. Restoration acreage is calculated as area above the Spring High Tide Line (Elev. 3.71') and above healthy low and high marsh habitats (i.e. within marginal/brackish wetland) that will be restored to salt marsh by grading to an elevation below the Spring High Tide Line (Elev. 3.71') and planted. Restoration area also includes the removal of rip-rap and conversion to salt marsh below the Spring High Tide Line (Elev. 3.71').

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PREPARED FOR:
APEX COMPANIES, LLC
125 BROAD STREET,
5TH FLOOR
BOSTON, MA 02110



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PREPARED BY:
BEALS + THOMAS
Civil Engineers + Landscape Architects +
Land Surveyors + Planners +
Environmental Specialists

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1	11/02/2012 REVISED PER EPA COMMENTS
0	10/22/2012 FIRST ISSUE
ISSUE DATE	DESCRIPTION
DES	DWN
CHK'D	APP'D

PROJECT:
SALT MARSH CREATION AT RIVERS END PARK
NEW BEDFORD, MASSACHUSETTS

SCALE: 1" = 30' DATE: OCTOBER 22, 2012

GRADING PLAN

B+T JOB NO.1714.10
B+T PLAN NO. 171410P033B-003
SHEET 2 OF 5

APEX COMPANIES, LLC

125 BROAD STREET,
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PROJECT:
SALT MARSH CREATION AT RIVERS END PARK
NEW BEDFORD, MASSACHUSETTS

SCALE: 1" = 30' DATE: OCTOBER 22, 2012
METERS: 0 5 10 25
FEET: 0 15 30 60 90

PLANTING PLAN

B+T JOB NO.1714.10
B+T PLAN NO. 171410P033B-002
SHEET 3 OF 5

LEGEND

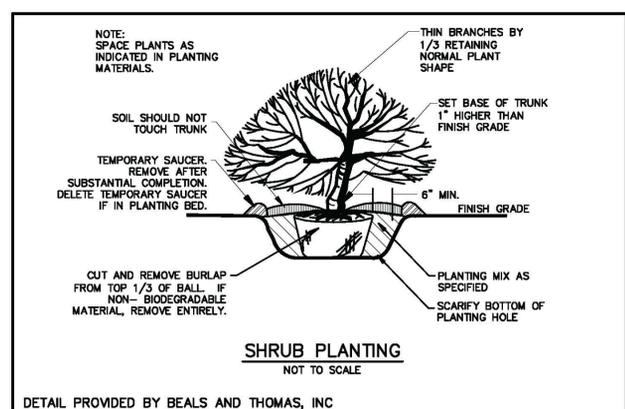
EXISTING	PROPOSED
TREE	PORTADAM
TREE LINE	4' HIGH BLACK VINYL FENCE
LINE OF BOULDERS	MINOR CONTOUR
RIP RAP	MAJOR CONTOUR
	SPOT ELEVATION
	100 YEAR FLOODPLAIN BOUNDARY
	25' RIVERFRONT AREA
	TOP OF COASTAL BANK
	SPRING HIGH TIDE LINE (ELEV.3.71')
	MAXIMUM EXTENT OF SALT MARSH VEGETATION/BRACKISH WETLAND
	100' BUFFER ZONE
	TOP OF RIVERBANK/ LOW TIDE LINE



PLANTING LIST

Legend	Elevation	Area (sf)	Plant Species	% Coverage/Spacing	Size			
Low Marsh	Up To El. 2.6'	28,197	Smooth cordgrass (<i>Spartina alterniflora</i>)	100% at 1.5' on center, 2 culms per hole (26,826 plants)	plugs			
High Marsh	2.6' to 3.2'	10,066	Salt meadow grass (<i>Spartina patens</i>)	60% at 1' on center (6,946 plants)	plugs			
			Spike grass (<i>Distichlis spicata</i>)	30% at 1' on center (3,474 plants)	plugs			
			Black grass (<i>Juncus gerardii</i>)	10% at 1' on center (1,159 plants)	plugs			
High Marsh	3.2' to 3.7'	8,251	Salt meadow grass (<i>Spartina patens</i>)	60% at 1' on center (5,694 plants)	plugs			
			Spike grass (<i>Distichlis spicata</i>)	30% at 1' on center (2,154 plants)	plugs			
			Black grass (<i>Juncus gerardii</i>)	10% at 1' on center (950 plants)	plugs			
High Marsh/Upland (No mitigation credit)	3.7' and up	9,341	New England Coastal Salt Tolerant Grass Mix	100% at 1250 sf per pound	seed			
			Marsh elder (<i>Iva frutescens</i>)	145 at 4' on center	2'-3'			
			Seaside goldenrod (<i>Solidago sempervirens</i>)	25% @ 950 sf per pound	seed			
			Marsh elder (<i>Iva frutescens</i>)	165 at 4' on center	2'-3'			
			Eastern showy aster (<i>Eurybia spectabilis</i>)	25% @ 950 sf per pound	seed			
			Threadleaf coreopsis (<i>Coreopsis verticillata</i>)	25% @ 950 sf per pound	seed			
			Beach plum (<i>Prunus maritima</i>)	75 plants at 6' on center	2'-3'			
			Northern bayberry (<i>Myrica pensylvanica</i>)	75 plants @ 6' on center	2'-3'			

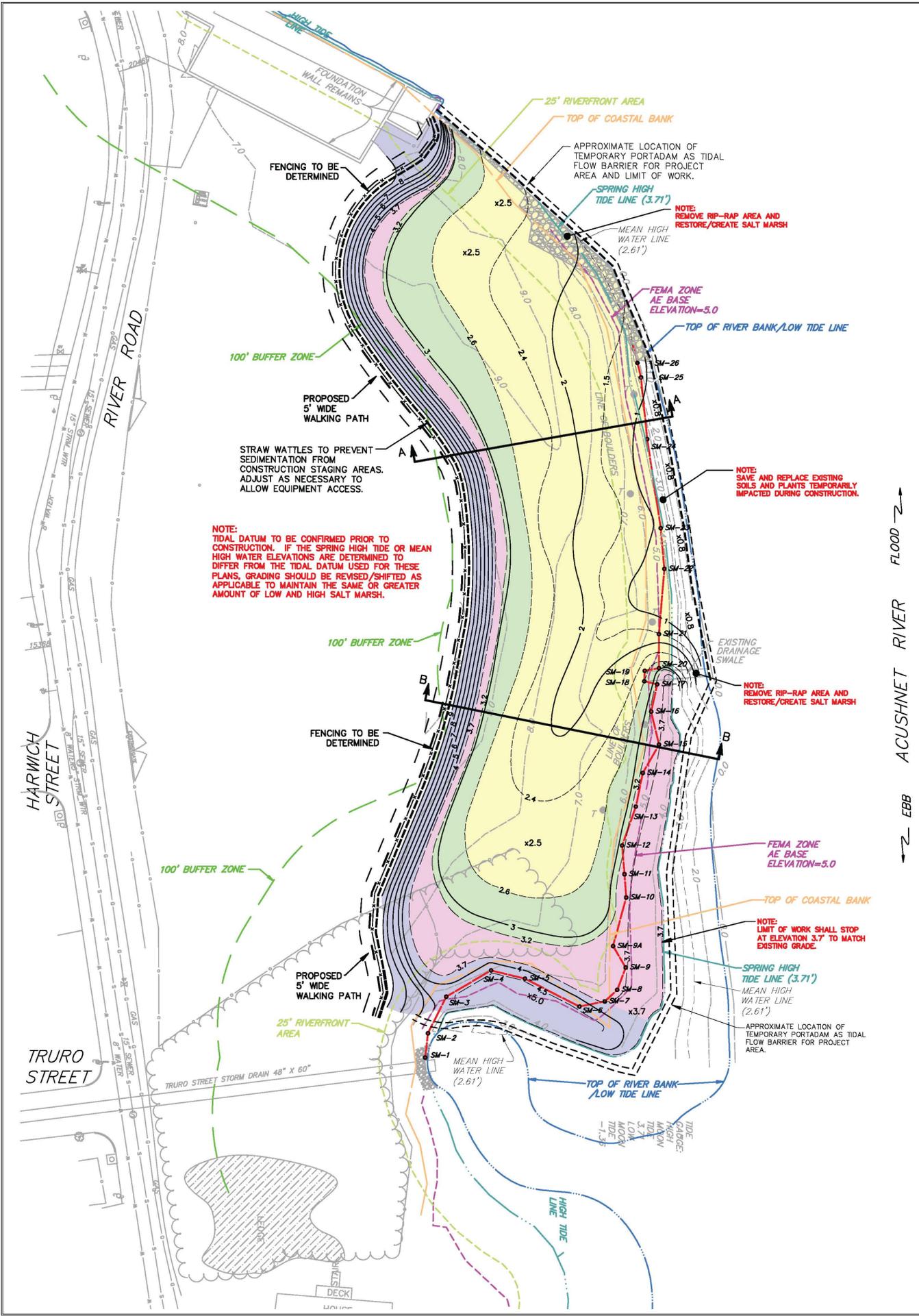
NOTE: Proposed planting elevation ranges are subject to adjustment by professional wetland scientist in accordance with observations of the reference wetlands (existing on-site salt marsh)



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PROJECT:

**SALT MARSH
CREATION AT
RIVERS END PARK**

NEW BEDFORD, MASSACHUSETTS

SCALE: AS NOTED DATE: OCTOBER 22, 2012

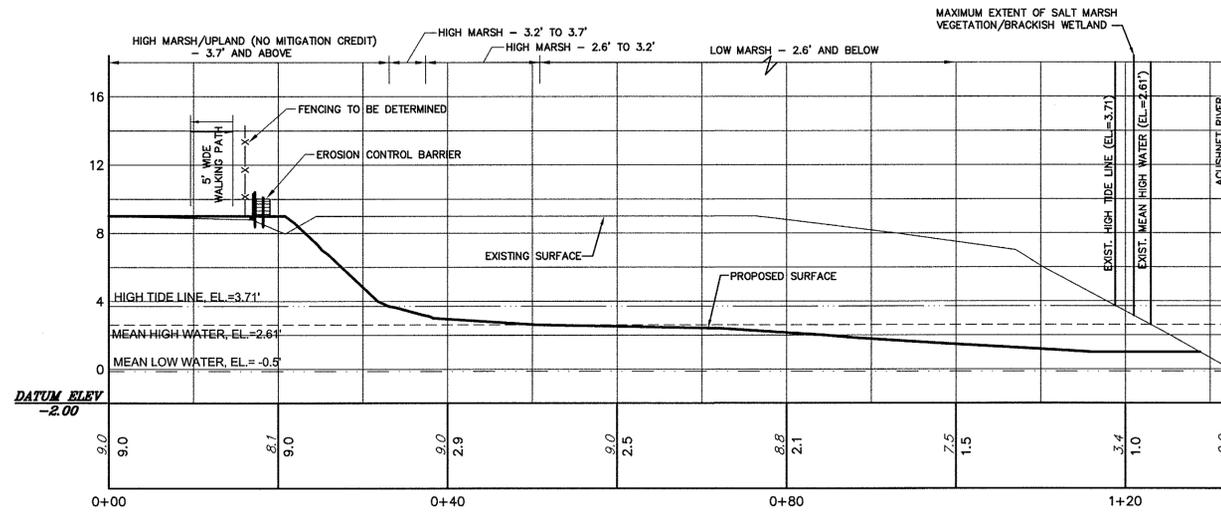
CROSS SECTIONS

B+T JOB NO. 1714.10

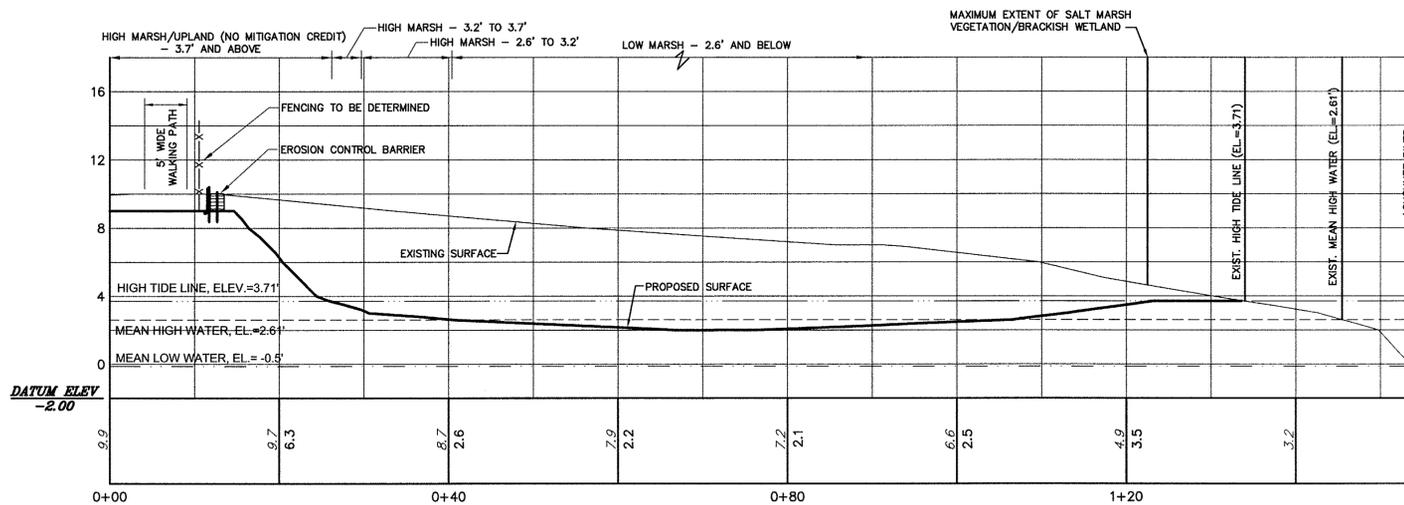
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SHEET 3 OF 5

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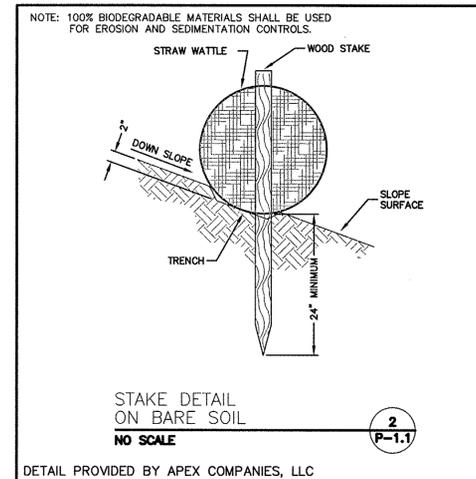
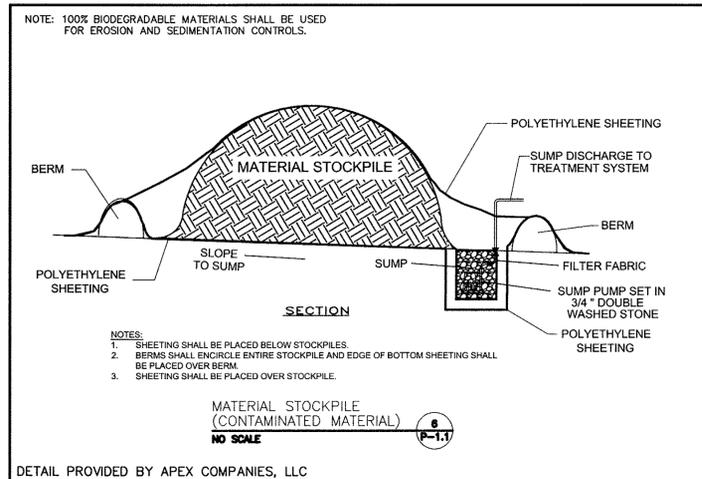
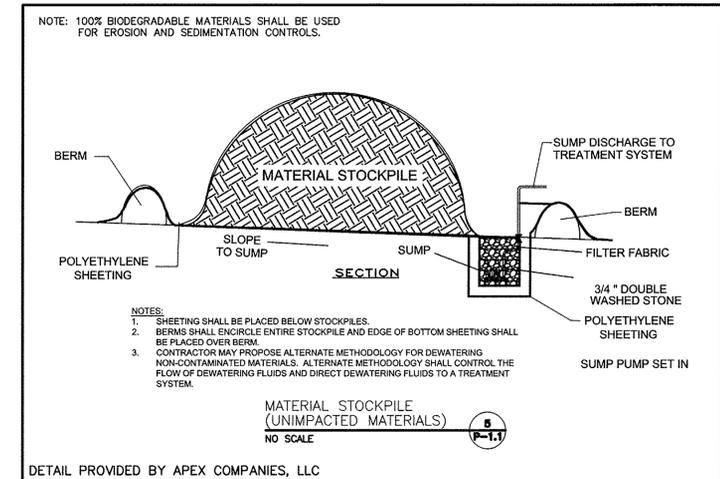
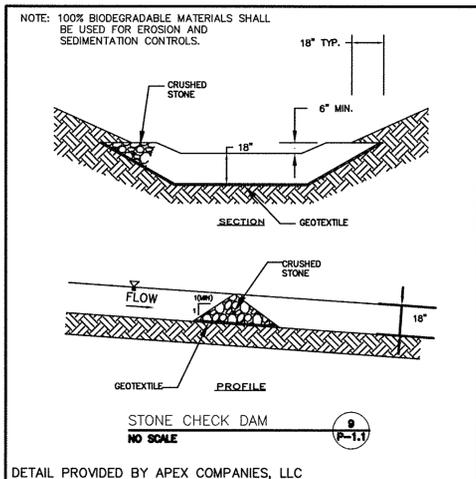
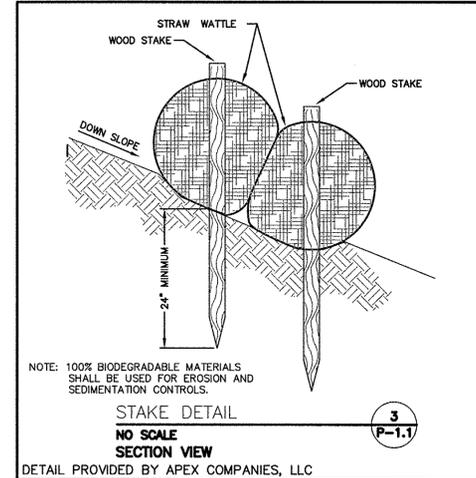
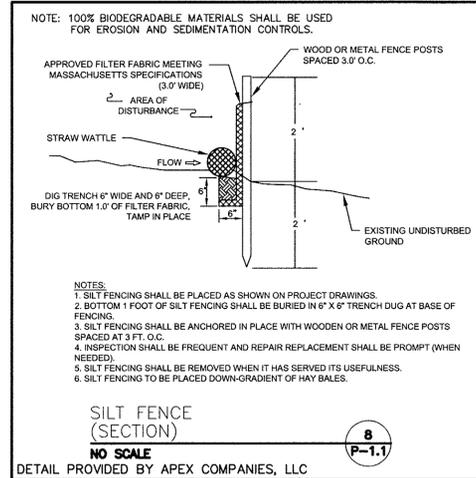
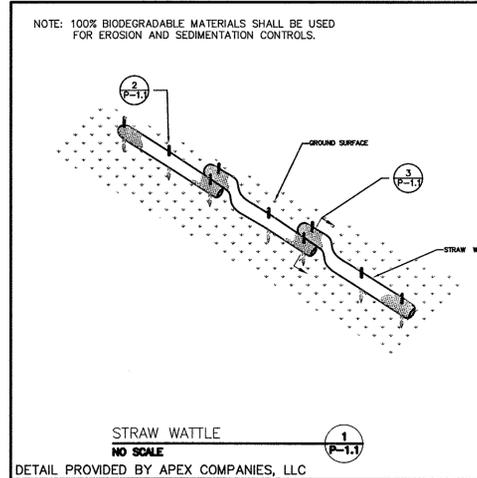
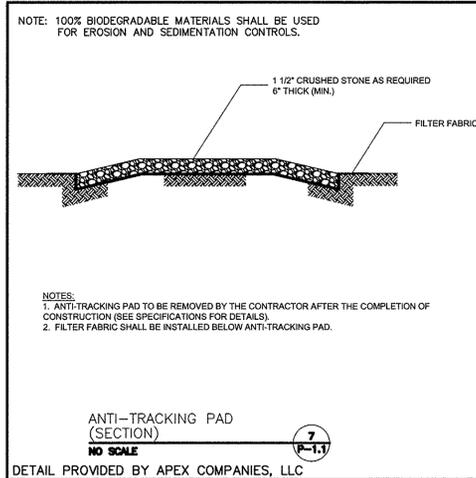
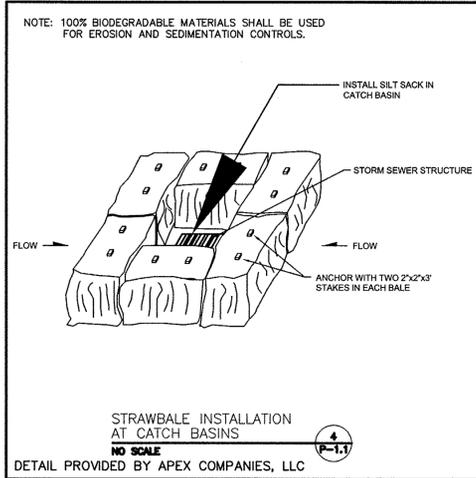
**SECTION A-A
SALT MARSH CROSS SECTION**
SCALE: 1" = 10' (HOR.) 1" = 4' (VER.)



**SECTION B-B
SALT MARSH CROSS SECTION**
SCALE: 1" = 10' (HOR.) 1" = 4' (VER.)

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NOTES

GENERAL NOTES

THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS. THE CONTRACTOR SHALL ALSO PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE ENGINEER AS REQUIRED.

CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AND ALL CONSTRUCTION MEANS AND METHODS.

LIMIT OF WORK SHALL BE EROSION CONTROL BARRIERS, PORTADAM, LIMIT OF GRADING, SITE PROPERTY LINES, AND/OR AS INDICATED ON DRAWINGS.

PORTIONS OF THE ROADWAY, SIDEWALK AND ROADSIDE AREA DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR CONDITIONS PRIOR TO DISTURBANCE.

ANY ALTERATION TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE CONTRACTOR ON RECORD DOCUMENTS.

ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.

EXISTING TREES AND SHRUBS OUTSIDE THE LIMITS OF GRADING SHALL BE REMOVED UPON PRIOR APPROVAL OF THE OWNER.

PROTECT EXISTING PROPERTY MONUMENTS AND ADJUTING PROPERTIES DURING CONSTRUCTION ACTIVITIES.

EROSION CONTROL AND SEDIMENTATION NOTES

100% BIODEGRADABLE MATERIALS SHALL BE USED FOR EROSION AND SEDIMENTATION CONTROLS.

AN EROSION CONTROL BARRIER AND PORTADAM SHALL BE INSTALLED ALONG THE EDGE OF PROPOSED WORK AS INDICATED ON THE PLAN PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OPERATIONS.

ANY SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS SHALL BE SWEEPED AT THE END OF EACH WORKING DAY.

ALL STOCKPILE AREAS SHALL BE LOCATED WITHIN LIMIT OF WORK LINE AND STABILIZED TO PREVENT EROSION.

ALL DEBRIS GENERATED DURING SITE PREPARATION ACTIVITIES SHALL BE LEGALLY DISPOSED OF OFF-SITE.

SITE ELEMENTS TO REMAIN MUST BE PROTECTED FOR DURATION OF PROJECT.

ALL TOPSOIL ENCOUNTERED WITHIN WORK AREA SHALL BE STRIPPED TO ITS FULL DEPTH AND STOCKPILED FOR REUSE. TOPSOIL PILES SHALL REMAIN SEGREGATED FROM EXCAVATED SUBSURFACE SOIL MATERIALS.

ADDITIONAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.

ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADS.

TEMPORARY DIVERSION DITCHES, PERMANENT DITCHES, CHANNELS, EMBANKMENTS AND ANY DENUDED SURFACE WHICH WILL BE EXPOSED FOR A PERIOD OF ONE MONTH OR MORE SHALL BE CONSIDERED CRITICAL VEGETATION AREAS. THESE AREAS SHALL BE MULCHED WITH STRAW. MULCH SHALL BE SPREAD UNIFORMLY IN A CONTINUOUS BLANKET OF SUFFICIENT THICKNESS TO COMPLETELY HIDE THE SOIL FROM VIEW.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A DAILY BASIS DURING CONSTRUCTION TO INSURE THAT CHANNELS, DITCHES AND PIPES ARE CLEAR OF DEBRIS AND THAT THE EROSION CONTROL BARRIERS ARE INTACT.

EROSION CONTROL AND SEDIMENTATION NOTES (CONT.)

CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS AS APPROVED BY OWNER.

DUST SHALL BE CONTROLLED BY SPRINKLING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE.

STRAWBALE CHECK DAMS SHALL BE PROVIDED AROUND ALL EXISTING DRAIN INLETS PRIOR TO CONSTRUCTION ACTIVITIES TO CONTROL SILTATION.

EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING THE WETLANDS.

ADDITIONAL STRAW WATTLES SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE.

CLEAN AND MAINTAIN EROSION CONTROL BARRIER AND PORTADAM AS REQUIRED DURING AND AFTER CONSTRUCTION OPERATIONS TO ENSURE ITS CONTINUED FUNCTIONALITY.

THE CONTRACTOR SHALL REMOVE ALL EROSION CONTROL BARRIERS AFTER REVEGETATION OF DISTURBED AREAS AND AFTER APPROVAL OF THE CONSERVATION COMMISSION AND PROFESSIONAL WETLAND SCIENTIST.

INSTALL PORTADAM IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

GRADING AND DRAINAGE NOTES

BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-344-7233 TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED IN ADVANCE.

THE CONTRACTOR SHALL VERIFY EXISTING GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE OWNER AND ENGINEER FOR RESOLUTION.

CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION. ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS WILL BE RESTORED TO ORIGINAL CONDITION.

EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.

STOCKPILED SOIL SHALL BE PLACED NEATLY IN AN AREA AS INDICATED ON THE SITE PLANS.

PITCH EVENLY BETWEEN SPOT GRADES.

ACCEPTANCE OF FINAL GRADING SHALL NOT OCCUR UNTIL THE CREATION AREA HAS BEEN SUBJECTED TO A MINIMUM OF SIX TIDAL CYCLES. A SURVEY SHALL THEN BE CONDUCTED TO DETERMINE IF SUPPLEMENTAL BACKFILL MATERIALS ARE NECESSARY TO ACHIEVE REQUIRED ELEVATIONS FOR PLANTING. BACKFILL MATERIALS SHALL ALSO BE ALLOWED TO SETTLE FOR A MINIMUM OF SIX TIDAL CYCLES PRIOR TO PLANTING.

SALT MARSH CONSTRUCTION GUIDELINE

TIDAL DATUM TO BE CONFIRMED PRIOR TO CONSTRUCTION. IF THE SPRING HIGH TIDE OR MEAN HIGH WATER ELEVATIONS ARE DETERMINED TO DIFFER FROM THE TIDAL DATUM USED FOR THESE PLANS, GRADING SHOULD BE REVISED/SHIFTED AS APPLICABLE TO MAINTAIN THE SAME OR GREATER AMOUNT OF LOW AND HIGH SALT MARSH.

FLAG OR STAKE LIMITS OF SALT MARSH MITIGATION AREA.

OVER EXCAVATE AND REMOVE SOIL TO 12" BELOW FINAL GRADE ELEVATIONS AS NOTED. TO ACHIEVE FINAL GRADE, BACKFILL OVER EXCAVATION WITH MARSH BASE AS SPECIFIED BY THE PROFESSIONAL WETLAND SCIENTIST. PEAT SOILS ENCOUNTERED DURING EXCAVATION MAY BE LEFT IN PLACE. IF TEMPORARY STOCKPILING OF WETLAND SOIL IS NECESSARY, MATERIAL MUST BE COVERED TO PREVENT LEACHING, MOISTURE LOSS AND SEDIMENT TRANSPORT.

EROSION CONTROL BARRIERS AND PORTADAM AS SPECIFIED ARE TO BE MAINTAINED THROUGHOUT AND FOLLOWING THE CONSTRUCTION PERIOD UNTIL THE SALT MARSH MITIGATION AREA BECOMES STABILIZED AND THEIR REMOVAL HAS BEEN AUTHORIZED BY THE PROFESSIONAL WETLAND SPECIALIST OR CONSERVATION COMMISSION. DILAPIDATED STRAW WATTLES AND/OR EROSION CONTROL BARRIER SHALL BE REPLACED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE BARRIER.

UPON APPROVAL BY THE PROFESSIONAL WETLAND SCIENTIST, PLANT SPECIFIED TREE, SHRUB AND/OR HERBACEOUS WETLAND PLANTINGS WITHIN THE DESIGNATED AREA(S) AS NOTED. FOLLOWING PLANTING, PLACE SEED MIX THROUGHOUT THE SALT MARSH MITIGATION AREA AS SPECIFIED. SPACING AND LOCATION OF WETLAND PLANTINGS AND SEEDING APPLICATION RATES SHALL BE DETERMINED BY THE PROFESSIONAL WETLAND SCIENTIST. PRIOR TO PLANTING OR SEEDING, THE PROFESSIONAL WETLAND SCIENTIST MUST APPROVE THE PLANT MATERIALS.

PLANTING WILL PREFERABLY OCCUR DURING THE SPRING PLANTING PERIOD. DEVIATIONS FROM THE PLANTING SCHEDULE AND/OR APPROVED PLANTING LIST MUST BE APPROVED IN ADVANCE BY THE PROFESSIONAL WETLAND SCIENTIST.

THE SALT MARSH CREATION AREA SHALL BE EVALUATED DURING THE FIRST AND SECOND GROWING SEASONS TO DETERMINE PLANT SURVIVAL. THE CONSERVATION SPECIALIST SHALL BE NOTIFIED OF EXISTING SITE CONDITIONS AND ANY CORRECTIVE ACTION IF NECESSARY. AT LEAST 75 PERCENT OF THE SURFACE AREA SHALL BE ESTABLISHED WITH INDIGENOUS WETLAND PLANT SPECIES WITHIN TWO GROWING SEASONS.

INCORPORATED BY REFERENCE ARE THE PROVISIONS OF THE SUBJECT ORDER OF CONDITIONS ISSUED BY THE CONSERVATION COMMISSION AND ANY OTHER PERMITS.

A TIME-RELEASE FERTILIZER SHALL BE USED FOR MARSH ELDER AND SLOPE PLANTINGS.

TRANSPLANTATION OF EXISTING *Spartina alterniflora* AND OTHER EXISTING SALT MARSH PLANTS WILL BE PERFORMED DURING THE GROWING SEASON USING A GRADING BUCKET. MARSH BASE AS SPECIFIED BY THE PROFESSIONAL WETLAND SCIENTIST WILL BE USED TO SMOOTH TRANSPLANTED AREAS, AND A BEANPOLE WILL BE PLACED THROUGH THE CENTER OF TUSSOCKS TO KEEP TRANSPLANTED SPECIMENS IN PLACE.

ANY PLANT MATERIALS FROM *Phragmites australis* OR OTHER INVASIVE SPECIES ENCOUNTERED DURING SITE PREPARATION AND EXCAVATION ARE TO BE DISPOSED OF AT AN APPROVED OFF-SITE LOCATION.

ALL PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.

NO PLANT SHALL BE PLANTED BEFORE ACCEPTANCE OF ROUGH GRADING.

ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL ACCEPTANCE.

SALT MARSH CONSTRUCTION GUIDELINE (CONT.)

PEAT AND ORGANIC MATERIAL IS TO BE PROPERLY STOCKPILED AND USED FOR PREPARATION OF PROPOSED WETLAND AREA. SEED SHALL BE FRESH, RECLEANED SEED OF THE LATEST CROP. SEED SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL CONTAINERS WHICH SHALL BEAR THE VENDOR'S GUARANTEE OF ANALYSIS.

REMOVE ALL ROCKS AND DEBRIS FROM SOIL SURFACE AND GRADE TO AN EVEN SURFACE.

PLANTING SEED SHALL BE SOWN EVENLY WITH MECHANICAL SPREADER OR BY HAND. ALL SEEDING SHALL BE DONE ON DAYS WHEN THE WIND DOES NOT EXCEED A VELOCITY OF FIVE (5) MILES PER HOUR AND THE SEED SHALL BE DRY.

STRAW MULCH SHALL BE SPREAD UNIFORMLY OVER ALL SEEDING AREAS AT THE RATE OF TWO (2) BALES PER ONE THOUSAND (1,000) SQUARE FEET.

EXCAVATED SOIL TO BE DISPOSED OF AS DIRECTED BY THE OWNER OR ITS REPRESENTATIVE.

PEAT SOILS TO BE UTILIZED IN THE SALT MARSH MITIGATION AREA SHALL NOT BE HARVESTED IN A DESTRUCTIVE MANNER FROM EXISTING WETLANDS.

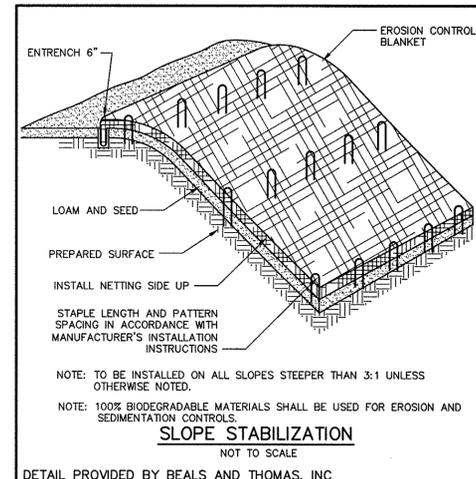
DURING DROUGHT PERIODS THE CONTRACTOR SHALL MAINTAIN MOISTURE IN STOCKPILED SOILS THAT WILL BE USED ON-SITE.

HERBACEOUS SALT MARSH PLANTS AND SOILS FROM EXISTING SALT MARSH AREAS TO BE IMPACTED BY PROPOSED WORK SHALL BE TRANSPLANTED/TRANSLOCATED TO THE MITIGATION AREA OR REUSED TO RESTORE THE TEMPORARILY IMPACTED EXISTING SALT MARSH AREA.

PLANTS SHALL NOT BE STORED ON-SITE FOR LONGER THAN TWO WEEKS.

A NITROGEN RICH SLOW RELEASE FERTILIZER MAY BE ADDED TO EACH PLANTING HOLE PRIOR TO CLOSING.

THE ORGANIC CONTENT OF THE SOIL SUBSTRATE WITHIN THE SALT MARSH MITIGATION AREA SHALL BE DETERMINED BY MATCHING THAT WITHIN THE ADJACENT EXISTING SALT MARSH. SPECIFICALLY REFERENCE SAMPLES SHALL BE TAKEN FROM THE EXISTING LOW AND HIGH MARSHES TO DETERMINE WHAT THE ORGANIC CONTENT OF THE PROPOSED LOW AND HIGH MARSHES SHALL BE.



REFERENCES

- 1) ALL EXISTING CONDITIONS INCLUDING RESOURCE AREAS (WITH THE EXCEPTION OF THE MAXIMUM EXTENT OF SALT MARSH VEGETATION/BRACKISH WETLAND) PROVIDED BY CITY OF NEW BEDFORD, DEPARTMENT OF PUBLIC INFRASTRUCTURE CAD FILE ENTITLED, "RIVERS END PARK PROJECT 'PHASE II' SCOPE", DATED JULY 10, 2012 AND RECEIVED BY BEALS AND THOMAS, INC ON JULY 13, 2012.
- 2) ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).
- 3) THE PARCEL SHOWN IS LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE AS SHOWN ON "FLOOD INSURANCE RATE MAP, CITY OF NEW BEDFORD, MASSACHUSETTS", BRISTOL COUNTY, COMMUNITY PANEL NUMBER 25005C0391F, EFFECTIVE DATE JULY 7, 2009.
- 4) MAXIMUM EXTENT OF SALT MARSH VEGETATION/BRACKISH WETLAND DELINEATED AND SUB-METER GPS LOCATED BY BEALS AND THOMAS, INC. ON OCTOBER 18, 2012. LIMIT OF JURISDICTIONAL AREA IS COINCIDENT WITH THE SPRING HIGH TIDE LINE, OR ELEVATION 3.71'

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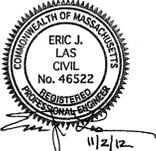
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PREPARED FOR:

APEX COMPANIES, LLC

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Land Surveyors + Planners +
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ISSUE DATE	DESCRIPTION
5	
4	
3	
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1	11/02/2012 REVISED PER EPA COMMENTS
0	10/22/2012 FIRST ISSUE

DES DWN CHK'D APP'D

PROJECT:
SALT MARSH CREATION AT RIVERS END PARK
NEW BEDFORD, MASSACHUSETTS

SCALE: AS NOTED DATE: OCTOBER 22, 2012

NOTES AND SITE DETAILS

B+T JOB NO. 1714.10

B+T PLAN NO. 171410P033B-005

SHEET 4 OF 5

5