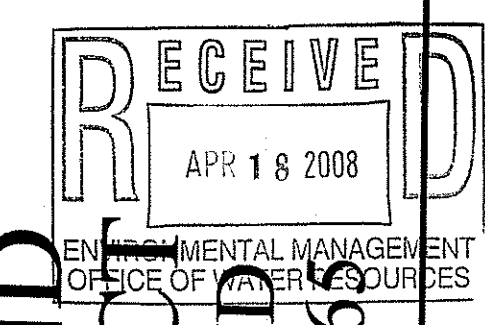
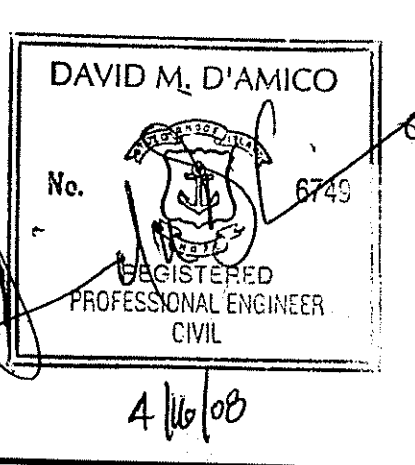


# WEST RIVER WETLAND RESTORATION PROJECT (MAINTENANCE)

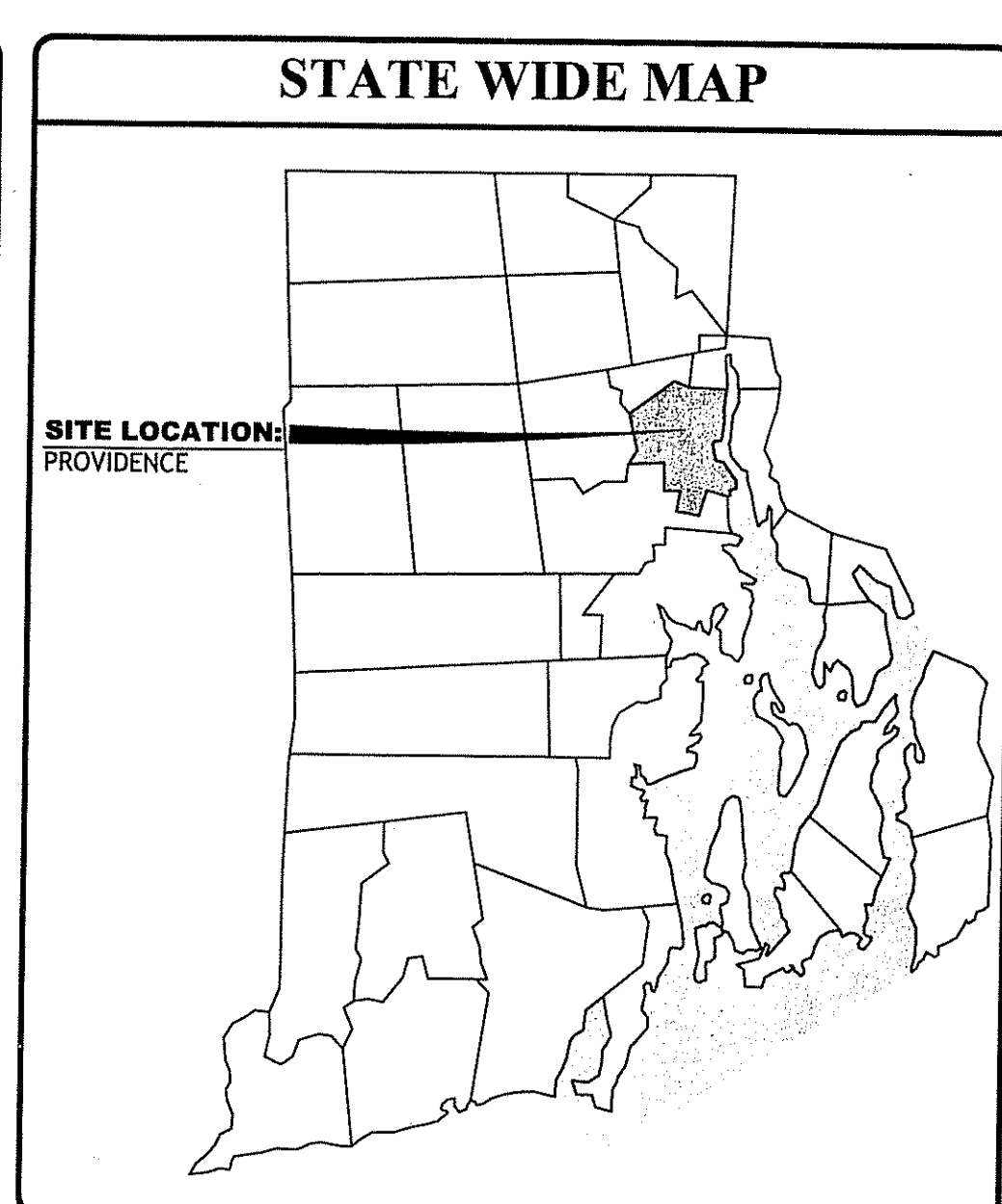
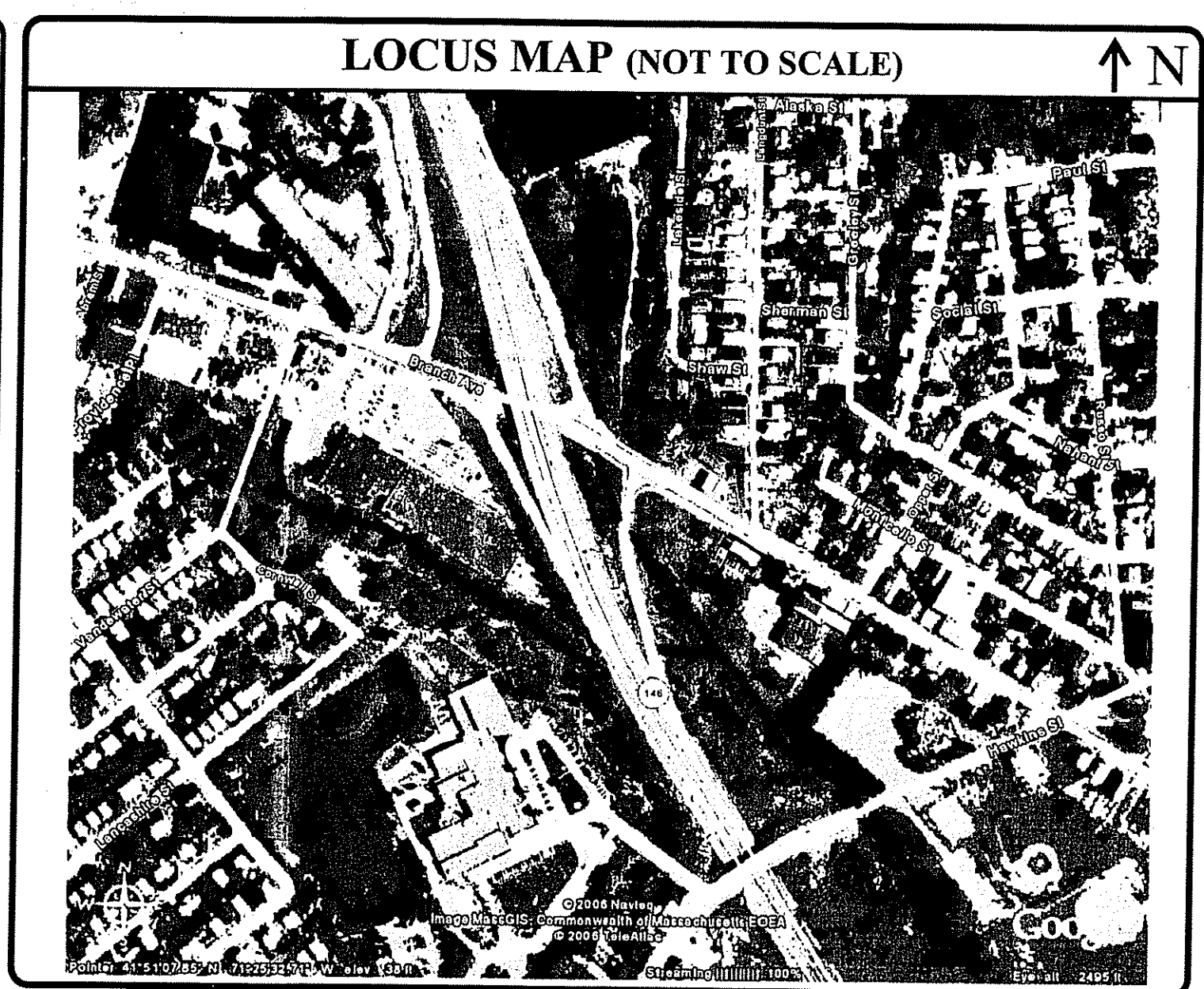
PREPARED FOR BRANCH AVENUE ASSOCIATES, LLC  
AP 99 LOTS 99, 466, 469, AND 165  
PROVIDENCE, RHODE ISLAND



WEST RIVER WETLAND RESTORATION PROJECT  
PROVIDENCE, RHODE ISLAND  
AP 99 LOT 99, 466, 469, AND 165

**RIDEM PRELIMINARY DETERMINATION SUBMISSION**

PROJECT TEAM	
<b>APPLICANT:</b>	BRANCH AVENUE ASSOCIATES, LLC. 15 MAPLE AVENUE MORRISTOWN, NJ 07960
<b>BIOLOGIST:</b>	CASALI & D'AMICO ENGINEERING, INC. 300 POST ROAD WARWICK, RI 02888 PHONE: 401-944-1300 FAX: 401-944-1313
	ECO VERUS LLC 34 HIGHLAND AVENUE WESTERLY, RI 02891 PHONE: (401)212-7285
<b>CIVIL:</b>	CASALI & D'AMICO ENGINEERING, INC 300 POST ROAD WARWICK, RI 02888 PHONE: 401-944-1300 FAX: 401-944-1313
<b>SURVEYORS:</b>	LOUIS FEDERICI & ASSOCIATES 365 SMITH STREET SUITE 2 PROVIDENCE, RI 02908-1593 PHONE: (401)331-1570 FAX: (401)331-1593
	AERO TECH INTERNATIONAL CORP. 365 SMITH STREET SUITE 1 PROVIDENCE, RI 02908-1593 PHONE: (401)351-0600 FAX: (401)351-6755



INDEX OF DRAWINGS	
SHEET NO.	PLAN
1.	COVER SHEET
2.	EXISTING CONDITIONS
3.	SITE PLAN 1
4.	SITE PLAN 2
5.	DETAILS

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JUN 2 0 2008 FILE # 07-0796  
NO CHARGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.  
*Jonathan B. Wenzel*

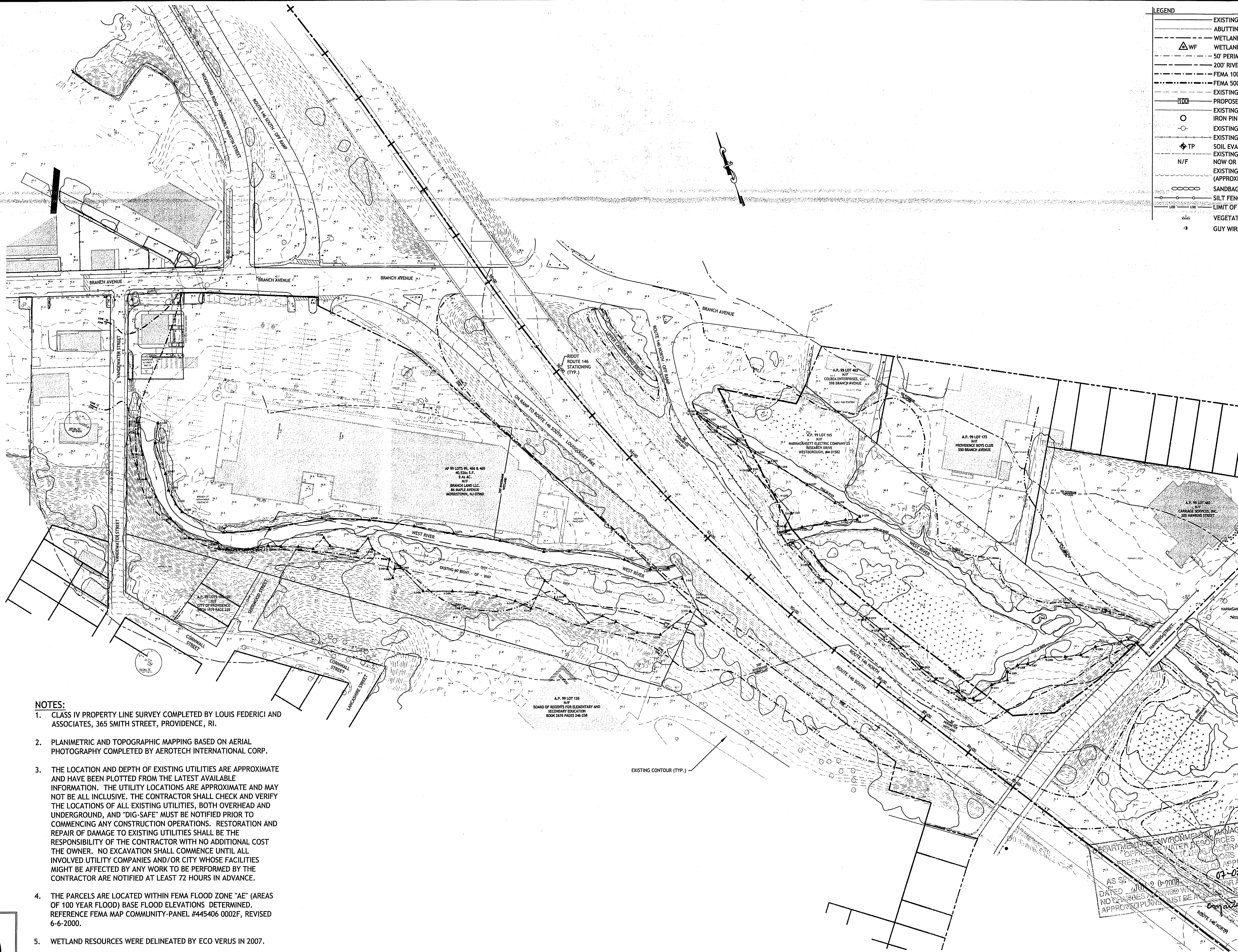
REVISIONS:	NO.	DATE	DESCRIPTION
	1	4/08	RIDEM COMMENTS

DESIGNED BY:	WRA
DRAWN BY:	MRB
CHECKED BY:	DMD
DATE:	JUNE 2007
PROJECT NO.:	05-85a

PRELIMINARY, NOT FOR CONSTRUCTION

**COVER**

**SHEET 1 OF 5**



**LEGEND**

---	EXISTING PROPERTY LINE
---	ABUTTING PROPERTY LINE
---	WETLAND EDGE
△ WF	WETLAND FLAG
---	50' PERIMETER WETLAND
---	200' RIVERBANK WETLAND
---	FEMA 100 YEAR FLOOD PLAIN
---	FEMA 500 YEAR FLOOD PLAIN
---	EXISTING CONTOUR
---	PROPOSED CONTOUR
○	EXISTING FENCE
○	IRON PIN
○	EXISTING UTILITY POLE
---	EXISTING GUARD RAIL
⊕ TP	SOIL EVALUATION
---	EXISTING OVERHEAD WIRES
N/F	NOW OR FORMERLY
---	EXISTING LIMIT OF WOODLAND (APPROXIMATE)
---	SANDBAG DAM
---	SILT FENCE
---	LIMIT OF DISTURBANCE
---	VEGETATED WETLAND
---	GUY WIRE

**NOTES:**

1. CLASS IV PROPERTY LINE SURVEY COMPLETED BY LOUIS FEDERICI AND ASSOCIATES, 365 SMITH STREET, PROVIDENCE, RI.
2. PLANIMETRIC AND TOPOGRAPHIC MAPPING BASED ON AERIAL PHOTOGRAPHY COMPLETED BY AEROTECH INTERNATIONAL CORP.
3. THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATEST AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ALL INCLUSIVE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND "DIG-SAFE" MUST BE NOTIFIED PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR CITY WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.
4. THE PARCELS ARE LOCATED WITHIN FEMA FLOOD ZONE "AE" (AREAS OF 100 YEAR FLOOD) BASE FLOOD ELEVATIONS DETERMINED. REFERENCE FEMA MAP COMMUNITY-PANEL #445406 0002F, REVISED 6-6-2000.
5. WETLAND RESOURCES WERE DELINEATED BY ECO VERUS IN 2007.

LOCATION OF EXISTING UTILITIES SHOWN, ARE FROM GATE LOCATION AND EXISTING DOCUMENTATION AND MAY NOT BE ACCURATE. EXACT LOCATION TO BE DONE BY THE APPROPRIATE UTILITY COMPANY OR MUNICIPALITY PRIOR TO ANY EXCAVATION CALL DIGSAFE AT: 1-888-DIG-SAFE 1-888-344-7233



**CDEF**

CASALI & D'AMICO ENGINEERING, INC.  
 CIVIL SITE DEVELOPMENT, TRANSPORTATION  
 DRAINAGE, WETLANDS, ISDS, TRAFFIC, FLOODPLAIN  
 300 POST ROAD, WARWICK, RI 02888  
 (401) 944-1300 (401) 944-1373 Fax www.casaliandamico.com

DAVID M. D'AMICO  
 No. 12345  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 4/10/08

**WEST RIVER WETLAND RESTORATION PROJECT  
 PROVIDENCE, RHODE ISLAND  
 AP 99 LOT 99, 466, 469, AND 165**

APR 18 2008

**REVISIONS:**

NO.	DATE	DESCRIPTION
1	4/08	RIDEM COMMENTS

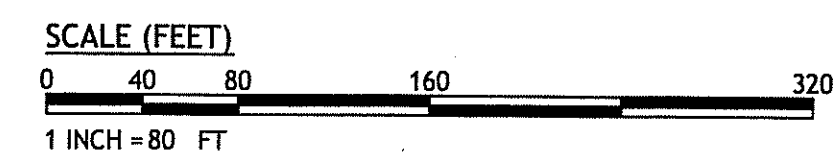
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 PERMITTING PROGRAM  
 APPROVED FOR CONSTRUCTION  
 AS SHOWN ON THIS PLAN  
 DATED JUL 2 0 2008  
 NO CHANGES MUST BE MADE TO APPROVED PLANS  
 APPROVED PLANNING

DESIGNED BY: WRA  
 DRAWN BY: MRB  
 CHECKED BY: DMD  
 DATE: JUNE 2007  
 PROJECT NO: 05-65A

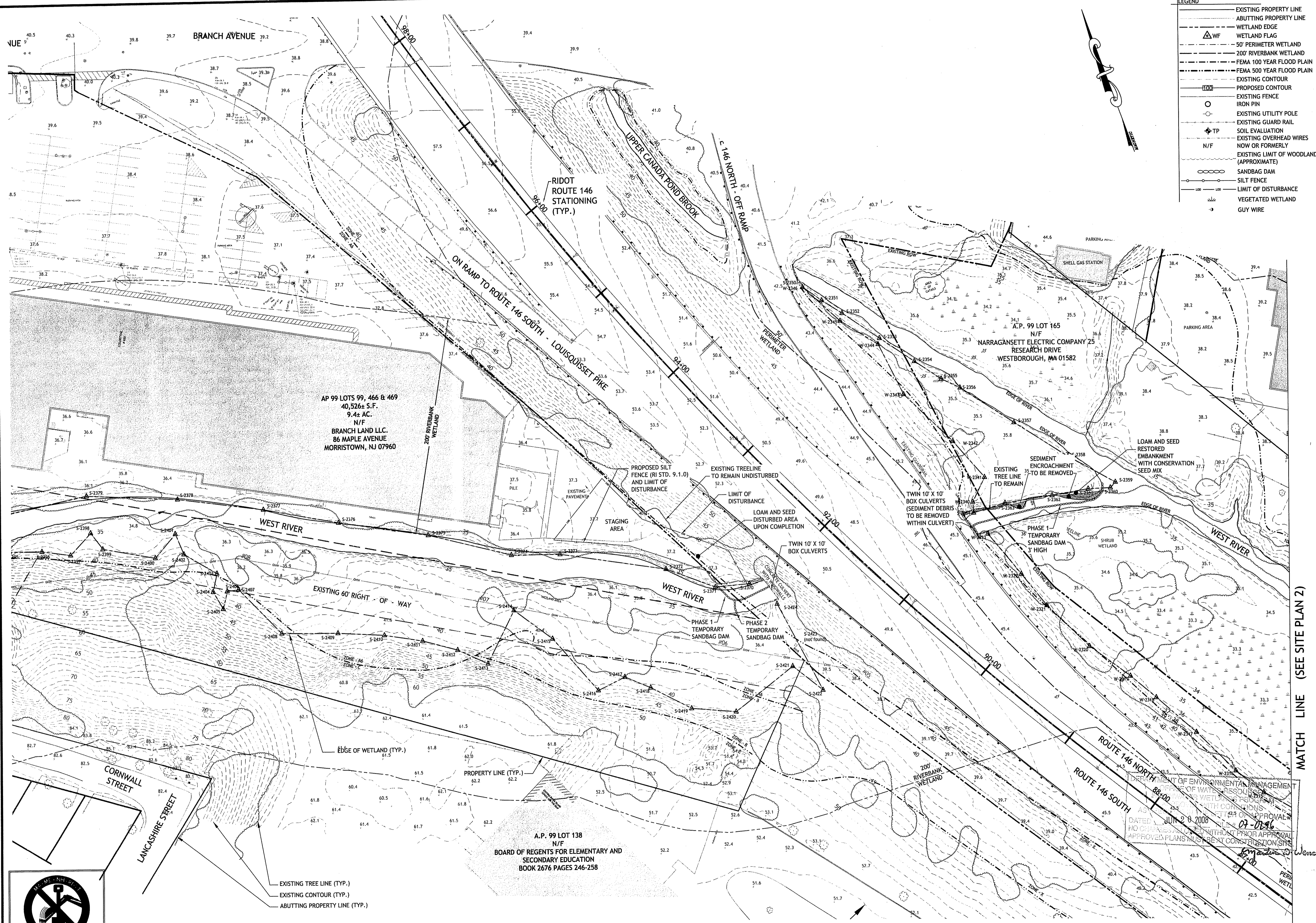
PRELIMINARY, NOT FOR CONSTRUCTION

**EXISTING CONDITIONS**

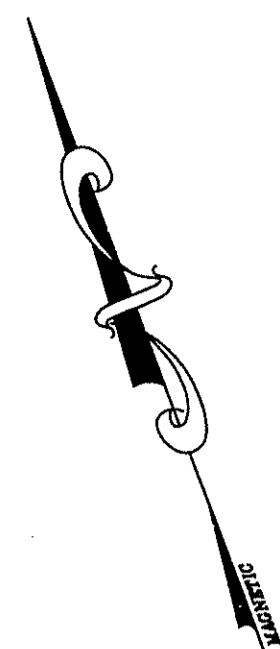
**SHEET 2 OF 5**



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- LEGEND**
- EXISTING PROPERTY LINE
  - ABUTTING PROPERTY LINE
  - WETLAND EDGE
  - △ WF WETLAND FLAG
  - 50' PERIMETER WETLAND
  - 200' RIVERBANK WETLAND
  - FEMA 100 YEAR FLOOD PLAIN
  - FEMA 500 YEAR FLOOD PLAIN
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - EXISTING FENCE
  - IRON PIN
  - EXISTING UTILITY POLE
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  - SOIL EVALUATION
  - EXISTING OVERHEAD WIRES
  - N/F NOW OR FORMERLY
  - EXISTING LIMIT OF WOODLAND (APPROXIMATE)
  - SANDBAG DAM
  - SILT FENCE
  - LIMIT OF DISTURBANCE
  - VEGETATED WETLAND
  - GUY WIRE



**CDE**

CASALI & D'AMICO ENGINEERING, INC.  
 CIVIL ENGINEERS - SURVEYORS - TRAFFIC ENGINEERS - FLOODPLAIN ENGINEERS  
 300 POST ROAD, WARWICK, RI 02888  
 (401) 844-1300 (401) 844-1313 fax www.casaliandamico.com

DAVID M. D'AMICO  
 No. 6745  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 A 16 08

**WEST RIVER WETLAND RESTORATION PROJECT**  
 PROVIDENCE, RHODE ISLAND  
 AP 99 LOT 99, 466, 469, AND 165

APR 18 2008

REVISIONS:

NO.	DATE	DESCRIPTION
1	4/08	RIDEM COMMENTS

DESIGNED BY: WRA  
 DRAWN BY: MRB  
 CHECKED BY: DMD  
 DATE: JUNE 2007  
 PROJECT NO: 05-85a

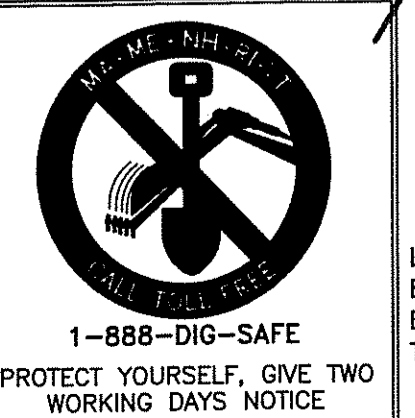
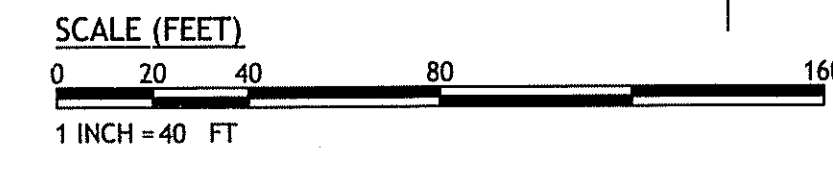
PRELIMINARY, NOT FOR CONSTRUCTION

**SITE PLAN 1**

**SHEET 3 OF 5**

MATCH LINE (SEE SITE PLAN 2)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 DIVISION OF WATERSOURCES  
 WETLANDS PERMITS SECTION  
 WITH CONDITIONS  
 APPROVAL  
 DATED JUN 9 2008  
 HO CHANGES WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE



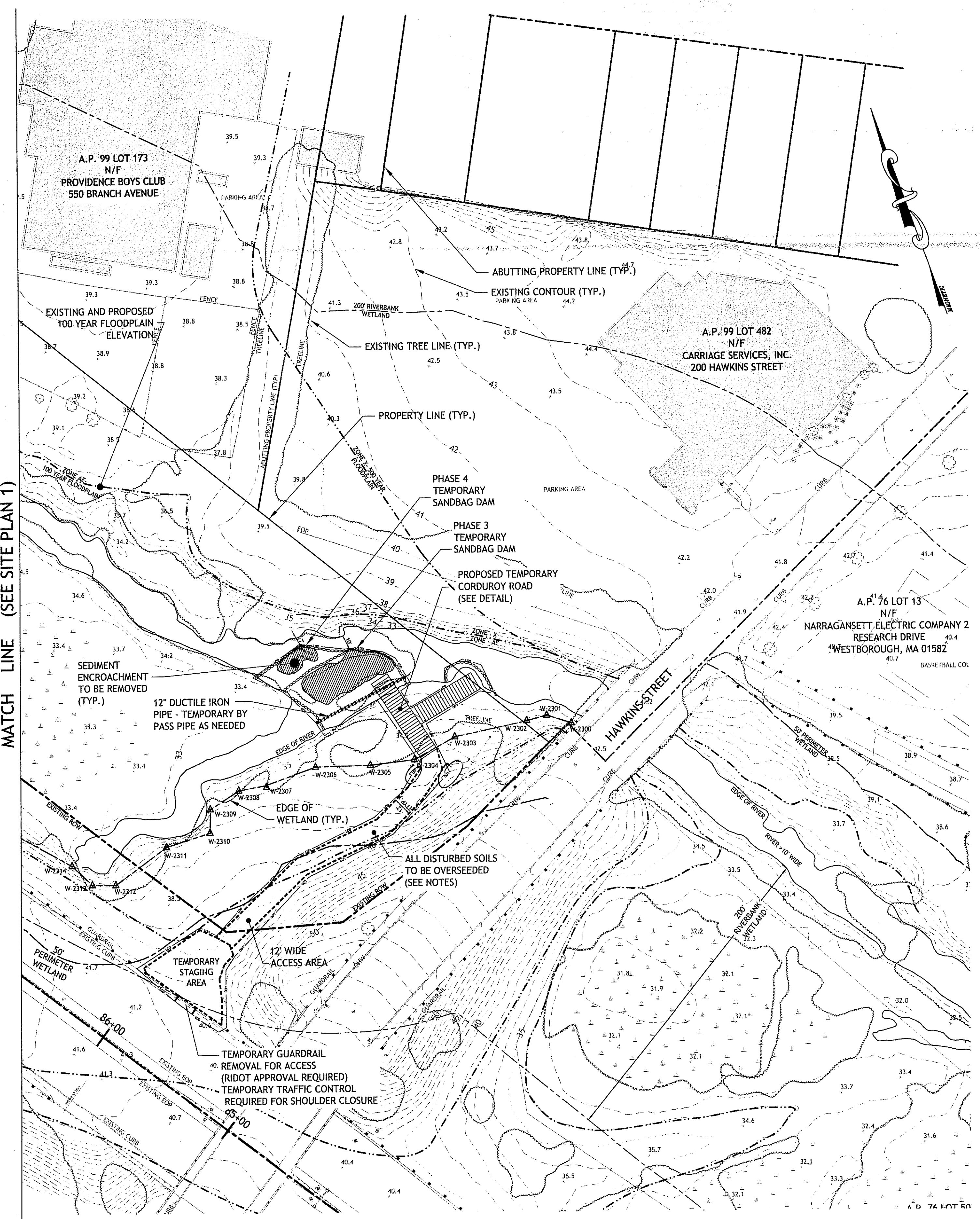
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LOCATION OF EXISTING UTILITIES SHOWN, ARE FROM GATE LOCATION AND EXISTING DOCUMENTATION AND MAY NOT BE ACCURATE. EXACT LOCATION TO BE DONE BY THE APPROPRIATE UTILITY COMPANY OR MUNICIPALITY PRIOR TO ANY EXCAVATION CALL DIGSAFE AT: 1-888-DIG-SAFE 1-888-344-7233

MATCH LINE (SEE SITE PLAN 1)



LEGEND

---	EXISTING PROPERTY LINE
---	ABUTTING PROPERTY LINE
---	WETLAND EDGE
△ WF	WETLAND FLAG
---	50' PERIMETER WETLAND
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○	SOIL EVALUATION
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N/F	NOW OR FORMERLY
---	EXISTING LIMIT OF WOODLAND (APPROXIMATE)
---	SANDBAG DAM
---	SILT FENCE
---	LIMIT OF DISTURBANCE
---	VEGETATED WETLAND
---	GUY WIRE

NOTE: DEWATERING BASINS TO BE EMPLOYED AS NECESSARY. ALL DEWATERING BASIN ACTIVITY SHALL OCCUR WITHIN THE PROPOSED LIMIT OF DISTURBANCE AND SHALL BE COMPLETED IN ACCORDANCE WITH THE "RHODE ISLAND EROSION AND SEDIMENTATION HANDBOOK", DATED 1993.

**CDE**  
CASALI & DIAMICO ENGINEERING, INC.  
CIVIL, SITE DEVELOPMENT, TRANSPORTATION  
DRAINAGE, WETLANDS, ISDS, TRAFFIC, FLOODPLAIN  
300 POST ROAD, WARWICK, RI 02888  
(401) 844-1500 (401) 844-1515 fax www.casaliandamico.com

DAVID M. DIAMICO  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL  
4/16/08

**WEST RIVER WETLAND RESTORATION PROJECT**  
PROVIDENCE, RHODE ISLAND  
AP 99 LOT 99, 466, 469, AND 165

APR 18 2008

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN LETTER OF APPROVAL  
DATED JUN 20 2008 FILE # 07-0796  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE  
*Christopher S. Wencel*

REVISIONS:

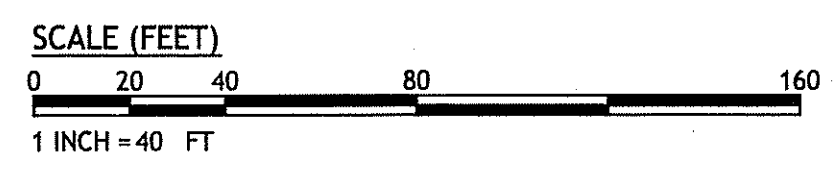
NO.	DATE	DESCRIPTION
1	4/08	RIDEM COMMENTS

DESIGNED BY:	WRA
DRAWN BY:	MRB
CHECKED BY:	DMD
DATE:	JUNE 2007
PROJECT NO:	05-85a

PRELIMINARY, NOT FOR CONSTRUCTION

**SITE PLAN 2**

**SHEET 4 OF 5**



**NEW ENGLAND CONSERVATION / WILDLIFE MIX (USE IN UPLAND AREAS)**

THE NEW ENGLAND CONSERVATION / WILDLIFE MIX PROVIDES A PERMANENT COVER OF GRASSES, FORBS, WILDFLOWERS, LEGUMES AND GRASSES TO PROVIDE BOTH GOOD EROSION CONTROL AND WILDLIFE HABITAT VALUE. THIS MIX IS APPROPRIATE FOR DISTURBED UPLAND AREAS.  
**APPLICATION RATE:** 25 Lbs./Ac. 1743 Sq.Ft. / Lb.

**SPECIES:**

BLUE BLUESTEM (ANDROPOGON GERARDII), SWITCHGRASS (PANICUM VIRGATUM), LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM), CANADA WILD RYE (ELYMUS CANADENSIS), FOX SEDGE (CAREX VULPINOIDEA), PARTRIDGE PEA (CHAMAECRISTA FASCICULATA), FRINGED BROMEGRASS (BROMUS CILIATUS), PENNSYLVANIA SMARTWEED (CHAMAECRISTA FASCICULATA), COMMON MILKWEED (ASCLEPIAS AYRIACA), SHOWY TICK TREFOIL (DESMODIUM CANADENSE), NEW ENGLAND ASTER (ASTER NOVAE-ANGLIAE), FLAT TOP ASTER (ASTER UMBELLATUS), NODDING BUR-MARIGOLD (BIDENS CERNUA).

**NEW ENGLAND EROSION CONTROL / RESTORATION MIX (FOR VEGETATED WETLAND AREAS)**

THE NEW ENGLAND EROSION CONTROL / RESTORATION MIX CONTAINS A SELECTION OF NATIVE GRASSES AND WILD FLOWERS DESIGNED TO COLONIZE GENERALLY MOIST, RECENTLY DISTURBED SITES WHERE QUICK GROWTH OF VEGETATION IS DESIRED TO STABILIZE SOIL SURFACES. IT IS AN EXCELLENT SEED MIX FOR ECOLOGICALLY APPROPRIATE RESTORATIONS ON MOIST SITES THAT REQUIRE QUICK AS WELL AS LONG TERM ESTABLISHMENTS OF NATIVE VEGETATION. THE PLANTS IN THIS MIX CAN TOLERATE INFREQUENT INUNDATION, BUT NOT CONSTANT FLOODING. THE MIX MAY BE APPLIED BY HYDROSEEDING, BY MECHANICAL SPREADER, OR IN SMALL SITES IT CAN BE SPREAD BY HAND. WHEN APPLYING ON BARE SOIL, RAKE THE SOIL TO CREATE GROOVES, APPLY SEED, AND THEN LIGHTLY RAKE OVER IT. IN NEW ENGLAND, THE BEST RESULTS ARE OBTAINED WITH A SPRING OR EARLY FALL SEEDING. SUMMER AND LATE FALL WILL BENEFIT WITH A LIGHT MULCHING OR WEED FREE STRAW TO CONSERVE MOISTURE. LATE FALL AND WINTER SEEDING DORMANT SEEDING REQUIRE A SLIGHT INCREASE IN THE SEEDING RATE.

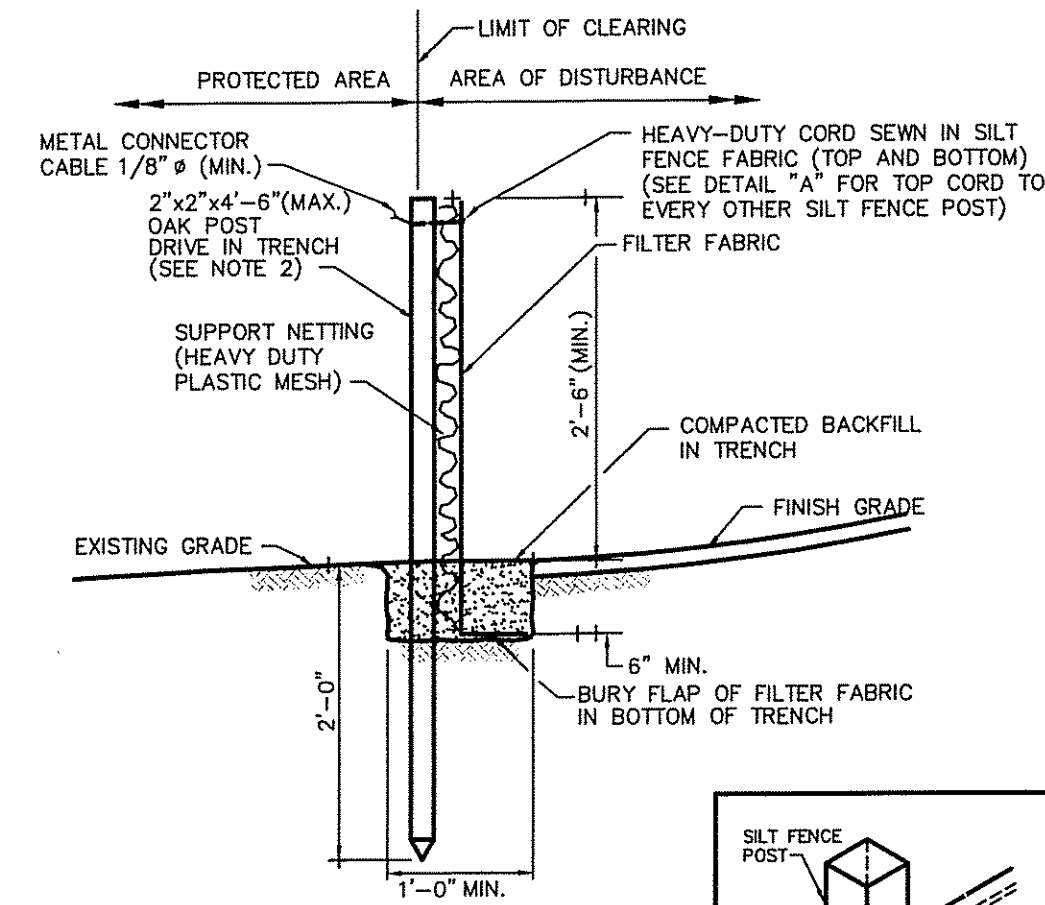
**APPLICATION RATE:** 35 Lbs./Ac. 1245 Sq.Ft. / Lb.

**SPECIES:**

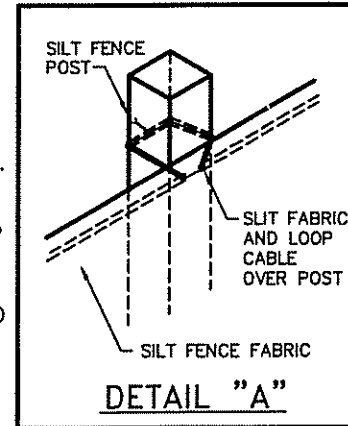
SWITCHGRASS (PANICUM VIRGATUM), VIRGINIA WILD RYE (ELYMUS VIRGINICUS), CREEPING RED FESCUE (FESTUCA RUBRA), FOX SEDGE (CAREX VULPINOIDEA), CREEPING BENTGRASS (AGROSTIS STOLONIFERA), SOFT RUSH (JUNCUS EFFUSES), NEW ENGLAND ASTER (ASTER NOVAE-ANGLIAE), GRASS-LEAVED GOLDENROD (EUTHAMIA GRAMINIFOLIA), NODDING BUR MARIGOLD (BIDENS CERNUA), GREEN BLURUSH (SCIRPUS ATROVIRENS), JOE-PYE WEED (EUPATORIUM MACULATUM), BONESET (EUPATORIUM PERFOLIATUM), BLUE VERVAIN (VERBENA HASTATA).

**NOTES:**

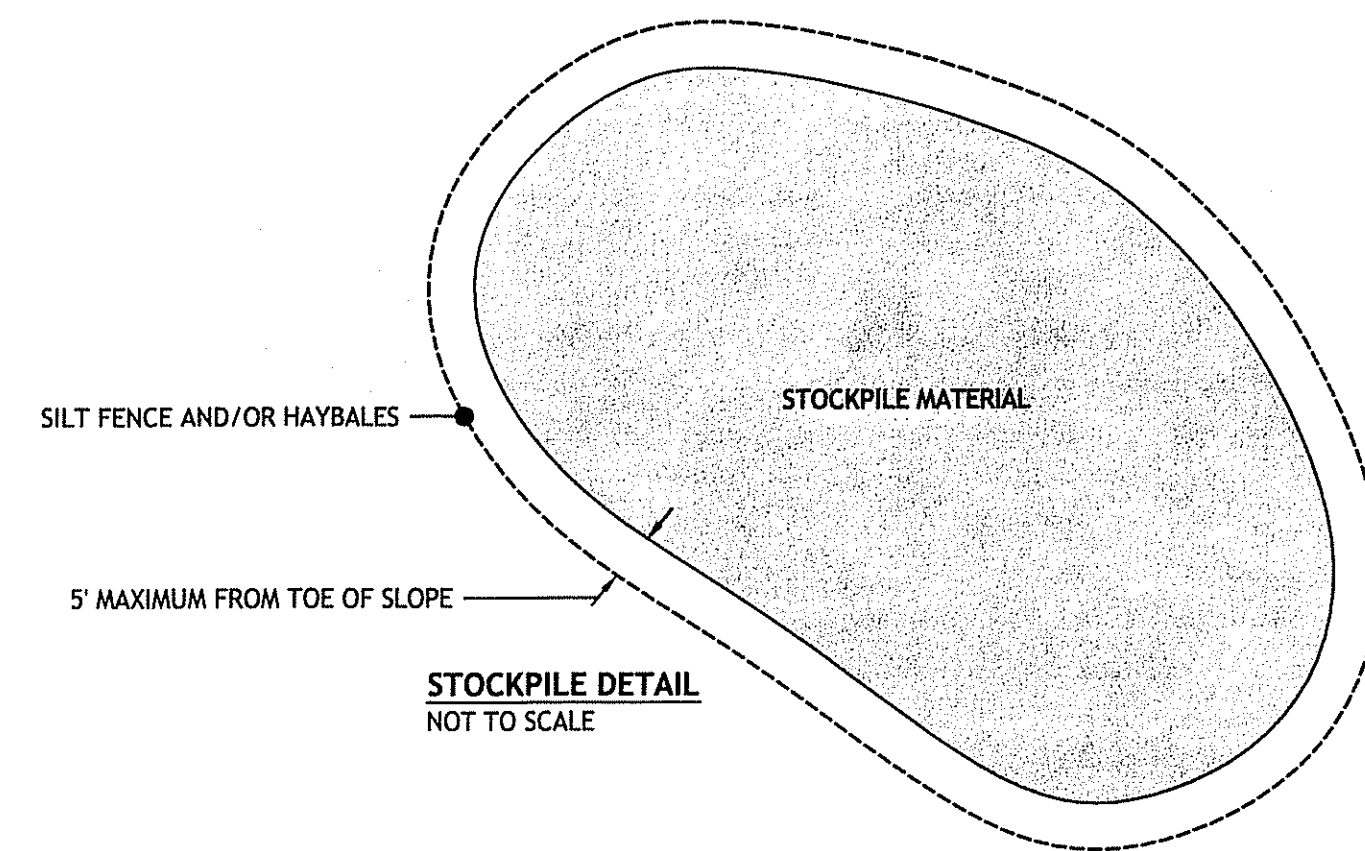
1. ADD WINTER RYE TO THE MIX IF SEEDING OCCURS IN THE FALL.
2. DO NOT ADD ANNUAL RYE, KENTUCKY BLUE OR PERENNIAL RYE GRASS.
3. WETLAND SEED MIXES CAN BE PURCHASED FROM NEW ENGLAND WETLAND PLANTS, INC. 820 WEST STREET, AMERHERST, MA 01002. OR APPROVED EQUAL



- NOTES:**
1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
  2. 2"x2"x4"-6" (MAX.) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
  3. 1"x1"x4"-6" (MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
  4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.



**SILT FENCE DETAIL**  
R.I. STANDARD 9.2.0



**NOTE:**

STOCKPILE AREAS NOT ANTICIPATED. HOWEVER, IF REQUIRED SHALL BE LOCATED IN UPLAND AREAS OUTSIDE FRESHWATER WETLANDS IN ACCORDANCE WITH STATE AND LOCAL RULES AND REGULATIONS.

**SITE NOTES:**

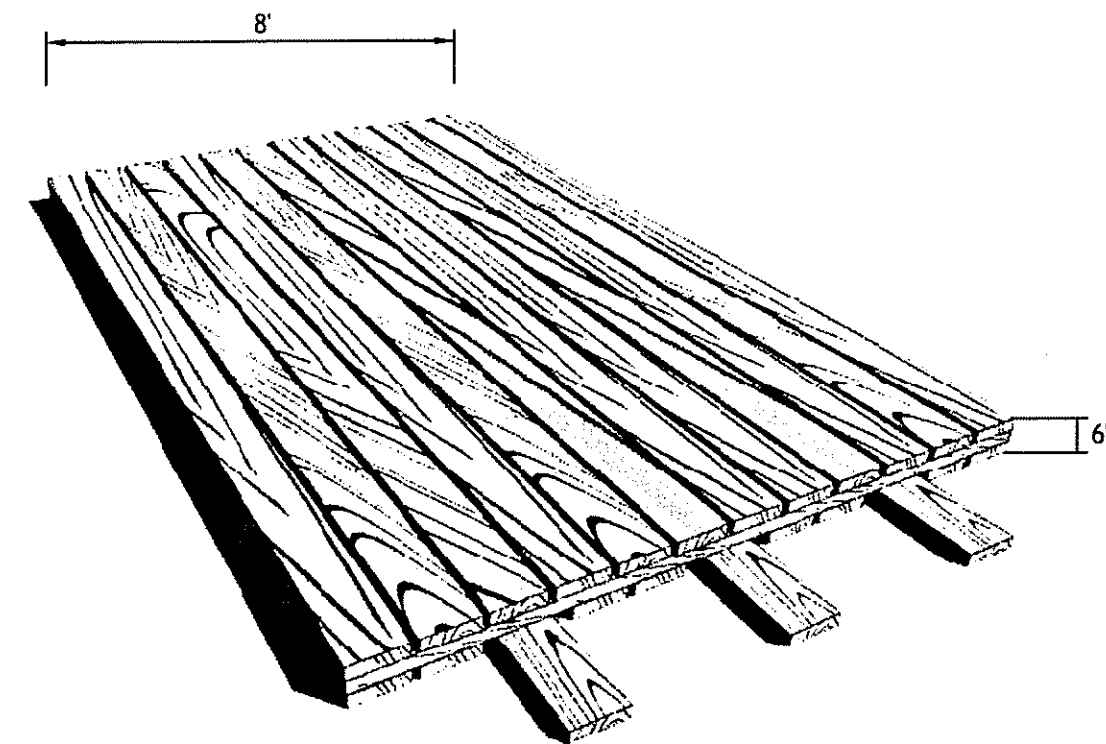
1. ANY EXISTING PIPE OR UTILITY DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE OWNER OR TOWN.
2. THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION OR REPLACE TREES, SHRUBS, FENCES, SIGNS, GUARDRAILS, DRIVEWAYS, SIDEWALKS AND ANY OTHER OBJECT AFFECTED BY THIS OPERATION.
3. ROADWAYS SHALL BE LEFT PASSABLE AT ALL TIMES. CLOSURE OF ROADWAY IS NOT PERMITTED.

**SOIL EROSION AND SEDIMENTATION CONTROL NOTES**

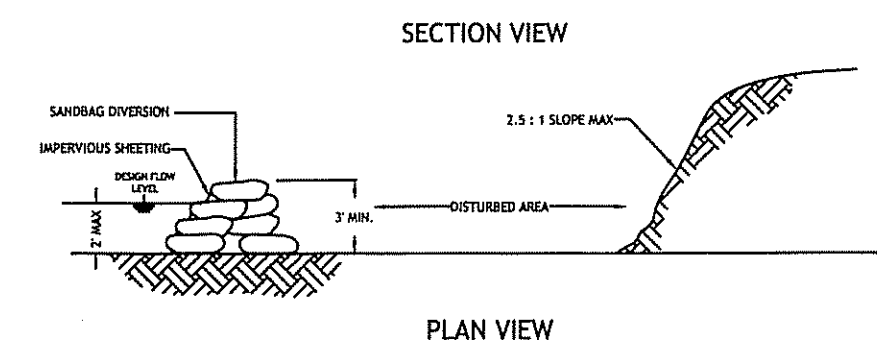
1. THE LIMITS OF CLEARING, GRADING, AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THESE LIMITS, AS DEPICTED ON THE PLAN SHALL BE TOTALLY UNDISTURBED, TO REMAIN IN NATURAL CONDITION.
2. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL REGULARLY CHECK ALL SEEDED AREAS TO ENSURE THAT A GOOD STAND OF VEGETATION IS MAINTAINED.
3. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
4. THE SEDIMENT CONTROLS SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY SEDIMENT CONTROLS AS NEEDED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE SILT FENCE OR HAY-BALES BECOMES FILLED WITH SEDIMENTS.
5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS (HAYBALES, SILT FENCE, ETC.) SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND/OR RESEEDING ALL AREAS THAT DO NOT DEVELOP WITHIN ONE YEAR FROM THE COMPLETION OF CONSTRUCTION.
6. ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND EROSION AND SEDIMENTATION HANDBOOK", DATED 1993 UNLESS SPECIFIED OTHERWISE IN THESE PLANS.
7. ALL MAINTENANCE (INCLUDING CLEANING) REQUIRED DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. INSPECTION OF ALL SLOPES, BERMS, AND OTHER CONTROL STRUCTURES (INCLUDING ROADWAY SIDE SLOPES, FOR STRUCTURAL INTEGRITY, STABILITY AND EVIDENCE OF SOIL EROSION, SHALL INCLUDE MAINTENANCE OF THESE STRUCTURES IF NECESSARY. INSPECTIONS SHALL BE PERFORMED FOLLOWING ALL RAIN EVENTS OF 1/2 INCH RAINFALL OR MORE IN A 24-HOUR PERIOD, OR BIMONTHLY IF NO RAINFALL EVENT OCCURS.
9. UPON COMPLETION OF PROJECT CONSTRUCTION, AND PRIOR TO VACATING THE SITE, THE CONTRACTOR SHALL CONDUCT A FINAL INSPECTION, REPAIR ANY VEGETATIVE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, (SEEDING, PLANTING, ETC.) WHERE REQUIRED, AND REPAIR (OR REMOVE WHERE APPROPRIATE) ANY TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL DEVICES. AFTER PERMANENT SOIL STABILIZATION ON THE ENTIRE SITE HAS OCCURRED, ALL TEMPORARY CONTROL MEASURES MUST BE REMOVED.
10. REPLANTING, REGRAIDING, OR OTHER REPAIRS NEEDED AS A RESULT OF SOIL EROSION AND SEDIMENTATION PROCESSES SHALL BE DONE PROMPTLY TO ENSURE PROPER FUNCTIONING OF THE ENTIRE SYSTEM.
11. ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND EROSION AND SEDIMENTATION HANDBOOK", DATED 1993.
12. ANY TRASH, DEBRIS, ETC. SHOULD BE REMOVED FROM ANY WETLAND AREAS, AND PIPE OUTLETS WITHIN THE LIMITS OF WORK.

**SANDBAG DIVERSION NOTES**

1. DIVERSIONS ARE USED TO ISOLATE WORK AREAS FROM FLOW DURING THE CONSTRUCTION OF IN-STREAM PROJECTS.
2. SANDBAG DIVERSION MATERIALS:
  - SANDBAGS: SANDBAGS SHOULD CONSIST OF MATERIALS WHICH ARE RESISTANT TO ULTRA-VIOLET RADIATION, TEARING, AND PUNCTURE AND SHOULD BE WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF THE FILL MATERIAL (I.E., SAND, FINE GRAVEL, ETC.).
  - SHEETING: SHEETING SHOULD CONSIST OF POLYETHYLENE OR OTHER MATERIALS WHICH ARE IMPERVIOUS AND RESISTANT TO PUNCTURE AND TEARING.
3. INSTALLATION GUIDELINES
  - A. ALL EROSION AND SEDIMENT CONTROL DEVICES, SILT FENCE AND SANDBAG DIVERSIONS, SHOULD BE IMPLEMENTED UPON START OF CONSTRUCTION.
  - B. THE DIVERSION STRUCTURE SHOULD BE INSTALLED FROM UPSTREAM TO DOWNSTREAM.
  - C. HEIGHT SPECIFICATIONS ARE MINIMUM AND SHOULD BE INCREASED AS NECESSARY TO ENSURE PROPER DIVERSION.
  - D. ALL EXCAVATED MATERIAL SHOULD BE REMOVED OFF-SITE IN AN APPROVED UPLAND LOCATION IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
  - E. SHEETING ON THE DIVERSION SHOULD BE POSITIONED SUCH THAT THE UPSTREAM PORTION COVERS THE DOWNSTREAM PORTION WITH AT LEAST A 18-INCH (0.45 METERS) OVERLAP.
  - F. SANDBAG OR STONE DIVERSIONS SHOULD NOT OBSTRUCT MORE THAN 45% OF THE STREAM WIDTH.
4. PRIOR TO REMOVAL OF THESE TEMPORARY STRUCTURES, ANY ACCUMULATED SEDIMENT SHOULD BE REMOVED OFF-SITE IN AN APPROVED UPLAND LOCATION IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS
5. SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED.



**CORDUROY ROAD DETAIL**  
NOT TO SCALE



**TYPICAL SANDBAG DIVERSION DETAIL**  
NOT TO SCALE

- NOTES:**
1. MIXED HARD OR OAK LAMINATED BOARDS
  2. 8' WIDE x 6" THICK
  3. "OILFIELD MAT" BY QUALITY MAT COMPANY (1-800-227-8159) OR EQUAL

**CONSTRUCTION SEQUENCING NOTES**

ALL WORK TO BE PERFORMED DURING LOW FLOW PERIOD BETWEEN JULY 1ST AND OCTOBER 31ST OF THE CALENDAR YEAR. ANY GIVEN PHASE (1 THROUGH 4) SHALL NOT BE COMMENCED IF A RAINFALL EVENT IS FORECASTED.

ALL SOIL EROSION CONTROL MEASURES SHALL BE IN PLACE BEFORE ANY EARTHWORK IS TO BEGIN AND SHALL REMAIN IN PLACE UNTIL THE AREA IS STABILIZED.

ALL WORK WITHIN THE RIVER TO BE PERFORMED WITH A BOBCAT STYLE MACHINE. NO OTHER MOTORIZED EQUIPMENT TO BE LOCATED WITHIN THE RIVER.

IF DEWATERING OPERATIONS ARE REQUIRED, DEWATERING BASINS SHALL BE LOCATED WITHIN THE PROPOSED LIMIT OF DISTURBANCE (LOD). NO DISTURBANCE INCLUDING CLEARING OR GRADING SHALL OCCUR BEYOND THE APPROVED LOD.

ALL DEBRIS AND SEDIMENT SHALL BE TRUCKED OFF SITE TO AN APPROVED DISPOSAL SITE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.

**PHASE 1**  
INSTALL SILT FENCE AND TEMPORARY SANDBAG DAM AS SHOWN ON PLANS AND DETAILS. SANDBAG HEIGHT SHALL BE ADJUSTED TO ENSURE 1-FOOT OF FREE BOARD WITHIN BY-PASS CHANNEL AND TO DIVERT LOW PROPERLY FROM THE AREA OF WORK.

SEDIMENT REMOVAL SHALL BE COMPLETED WITHIN THE PHASE 1 AREA INCLUDING THE NORTHERN PORTION OF THE ROUTE 146 CULVERT AND SLOPES SHALL BE SEEDED AND STABILIZED.

UPON STABILIZATION, PHASE 1 SANDBAG DAM ON THE EASTERN SIDE OF THE CULVERT SHALL BE REMOVED AND THE WESTERN END ADJUSTED AS SHOWN FOR PHASE 2. SANDBAG DAM HEIGHT TO BE ADJUSTED TO ENSURE 1-FOOT OF FREE BOARD WITHIN BY-PASS CHANNEL AND TO PROPERLY DIVERT FLOW FROM THE AREA OF WORK.

APPROXIMATE DURATION OF PHASE 1 - 3 DAYS

**PHASE 2**  
THE BOBCAT WILL BE USED TO MOVE THE SEDIMENT FROM THE SOUTHERN HALF OF THE CULVERT TO THE WESTERN END OF THE PHASE 2 WORK AREA. AN EXCAVATOR WILL BE STATIONED ON THE EDGE OF THE RIVER TO REMOVE THE SEDIMENT FROM THE WORK AREA.

PHASE 2 WORK AREA TO BE STABILIZED AND TEMPORARY SANDBAG DAM TO BE REMOVED.

UPON COMPLETION OF PHASE 1 AND 2, ALL DISTURBED SOILS SHALL BE LOAMED AND SEEDED AS NECESSARY TO ENSURE PROPER STABILIZATION.

APPROXIMATE DURATION OF PHASE 2 - 1 DAY

**PHASE 3**  
INSTALL SILT FENCE AND TEMPORARY SANDBAG DAM AS SHOWN ON PLANS AND DETAILS. SANDBAG HEIGHT SHALL BE ADJUSTED TO ENSURE 1-FOOT OF FREE BOARD WITHIN BY-PASS CHANNEL AND TO DIVERT LOW PROPERLY FROM THE AREA OF WORK. IF FLOW IS OBSERVED WITHIN THE CHANNEL FROM THE STORMWATER OUTFLOW CHANNEL TO THE WEST, A 12-INCH DUCTILE IRON PIPE SHALL BE USED TO BYPASS FLOW TO KEEP THE CONSTRUCTION AREA FREE OF SURFACE WATER.

SEDIMENT REMOVAL SHALL BE COMPLETED WITHIN THE PHASE 3 WORK AREA.

APPROXIMATE DURATION OF PHASE 3 - 3 DAYS

**PHASE 4**  
UPON COMPLETION OF PHASE 3 THE SANDBAG DAM SHALL BE MODIFIED AS SHOWN FOR PHASE 4. THE HEIGHT OF THE SANDBAG DAM SHALL BE ADJUSTED AS NECESSARY TO ENSURE 1-FOOT OF FREEBOARD.

SEDIMENT REMOVAL SHALL BE COMPLETED WITHIN THE PHASE 4 WORK AREA.

UPON COMPLETION OF PHASE 3 AND 4, ALL DISTURBED SOILS SHALL BE LOAMED AND SEEDED AS NECESSARY TO ENSURE PROPER STABILIZATION.

APPROXIMATE DURATION OF PHASE 4 - 1 DAY

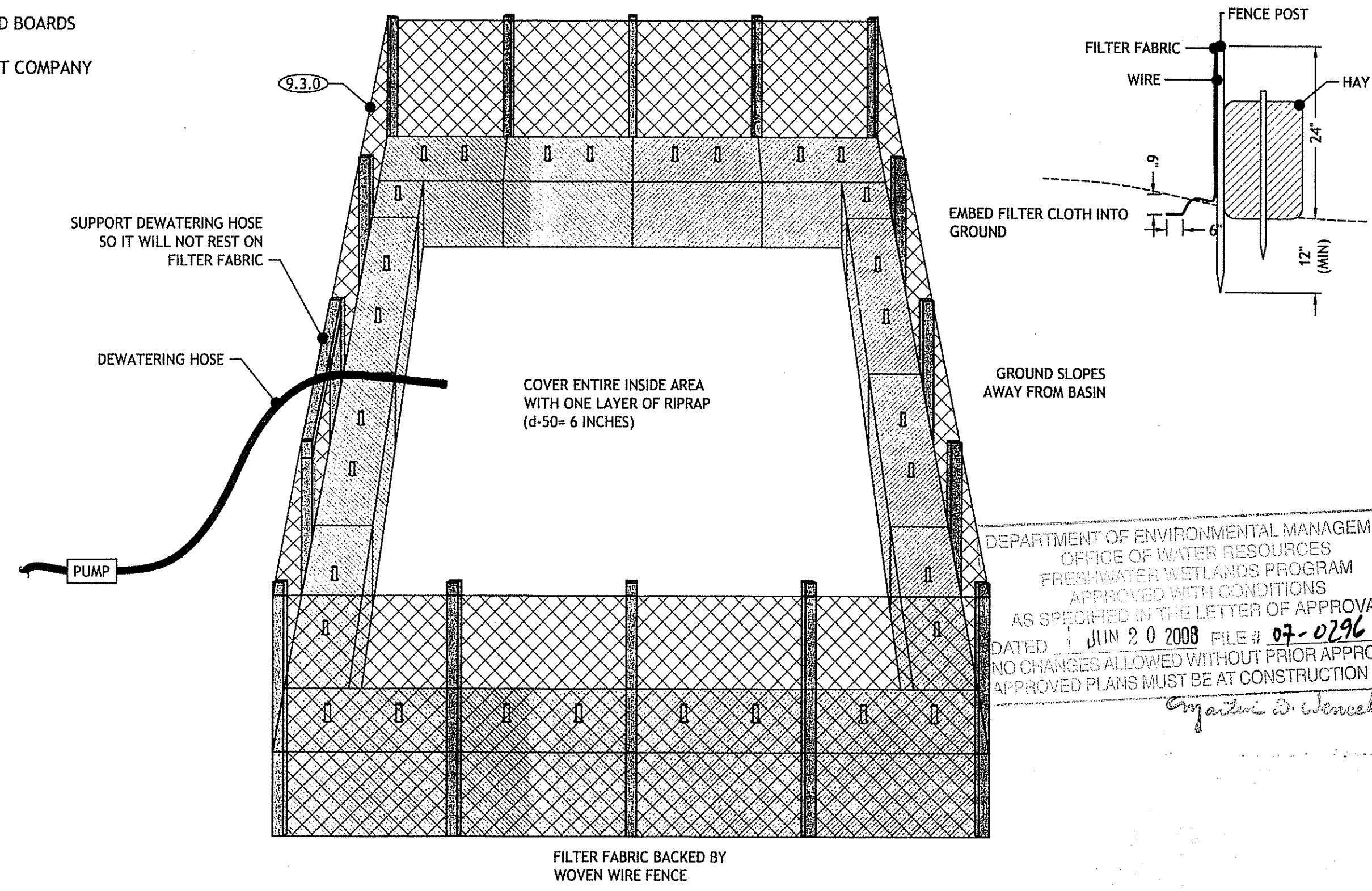
**CULVERT MAINTENANCE NOTES**  
THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION IS RESPONSIBLE FOR THE LONG TERM MAINTENANCE OF THE ROUTE 146 CULVERT. RIDOT INSPECTS CULVERTS YEARLY. IF SEDIMENT IS AT 6 INCHES OR HIGHER, RIDOT MAINTENANCE CREWS WILL BE DISPATCHED FOR CLEANING IN ACCORDANCE WITH RIDEM CULVERT MAINTENANCE REQUIREMENTS.

**CATCH BASIN MAINTENANCE NOTES**  
ALL CATCH BASINS ON AP 99 LOTS 466 & 469 WILL BE INSPECTED ANNUALLY FOR SEDIMENT AND DEBRIS. IF SEDIMENT OR DEBRIS IS PRESENT CATCH BASINS SHALL BE CLEANED. SEDIMENT OR DEBRIS DISPOSAL SHALL BE PERFORMED IN ACCORDANCE WITH STATE AND LOCAL RULES AND REQUIREMENTS.

A) THE INSPECTION OF THE CATCH BASINS SHALL OCCUR ON AN ANNUAL BASIS TO CHECK FOR DEBRIS REMOVAL (SEDIMENT & HYDROCARBONS) AND STRUCTURAL INTEGRITY OR DAMAGE. SUCH DEFICIENCIES MUST BE CORRECTED IMMEDIATELY.

B) SEDIMENT MUST BE REMOVED FROM CATCH BASINS WHEN SUMPS ARE HALF FILLED.

C) SEDIMENT REMOVED IS TO BE PROPERLY DISPOSED IN UPLAND AREAS BASED UPON THE TEST RESULTS AND LOCAL, STATE AND FEDERAL REGULATIONS.



**DEWATERING BASIN DETAIL**  
NOT TO SCALE

**CDE**  
CASALI & D'AMICO ENGINEERING, INC.  
CIVIL, SITE DEVELOPMENT, TRANSPORTATION  
DESIGN, CONSTRUCTION MANAGEMENT  
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DAVID M. D'AMICO  
No. 6745  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL  
4/16/08

**WEST RIVER WETLAND RESTORATION PROJECT**  
PROVIDENCE, RHODE ISLAND  
AP 99 LOT 99, 466, 469, AND 165

APR 18 2008

**REVISIONS:**

NO.	DATE	DESCRIPTION
1	4/08	RIDEM COMMENTS

DESIGNED BY: WRA  
DRAWN BY: MRB  
CHECKED BY: DMD  
DATE: JUNE 2007  
PROJECT NO: 05-85a

PRELIMINARY, NOT FOR CONSTRUCTION

**DETAILS AND NOTE**

**SHEET 5 OF 5**