

FED. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	R.I.			1	46

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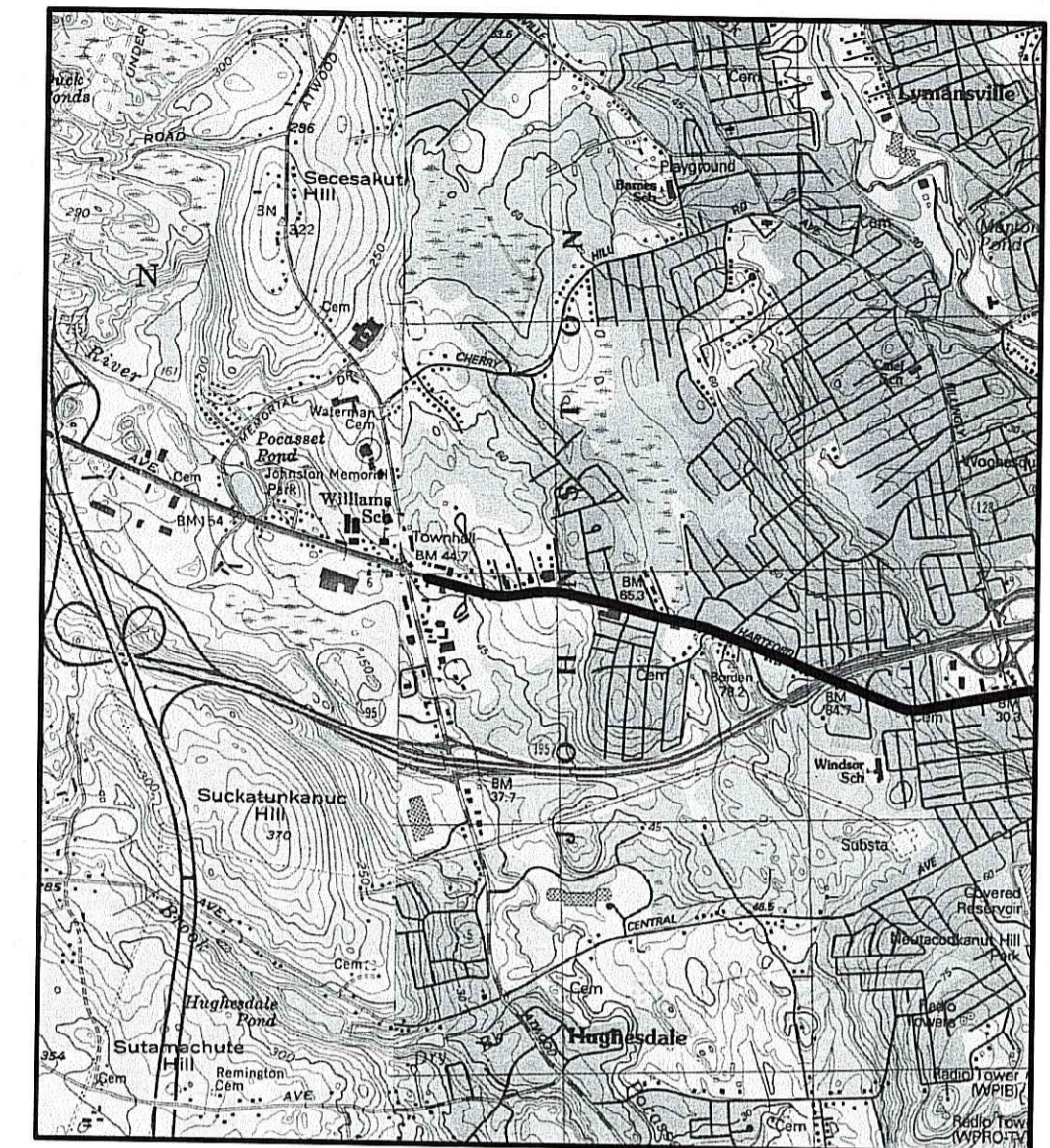
SET NO. 2	
SHEET NO.	DESCRIPTION
1-70	CROSS SECTIONS

STATE OF RHODE ISLAND  
**DEPARTMENT OF TRANSPORTATION**

PLAN, PROFILE AND SECTIONS OF PROPOSED  
**STATE HIGHWAY  
 RECONSTRUCTION OF HARTFORD AVENUE  
 (ROUTE 6A)**  
 ATWOOD AVENUE TO KILLINGLY STREET

TOWN OF JOHNSTON  
 CITY OF PROVIDENCE  
 COUNTY OF PROVIDENCE

R.I. CONTRACT NO. F.A. PROJECT NO. CRP-FY91 (003)  
 1.62 MILES



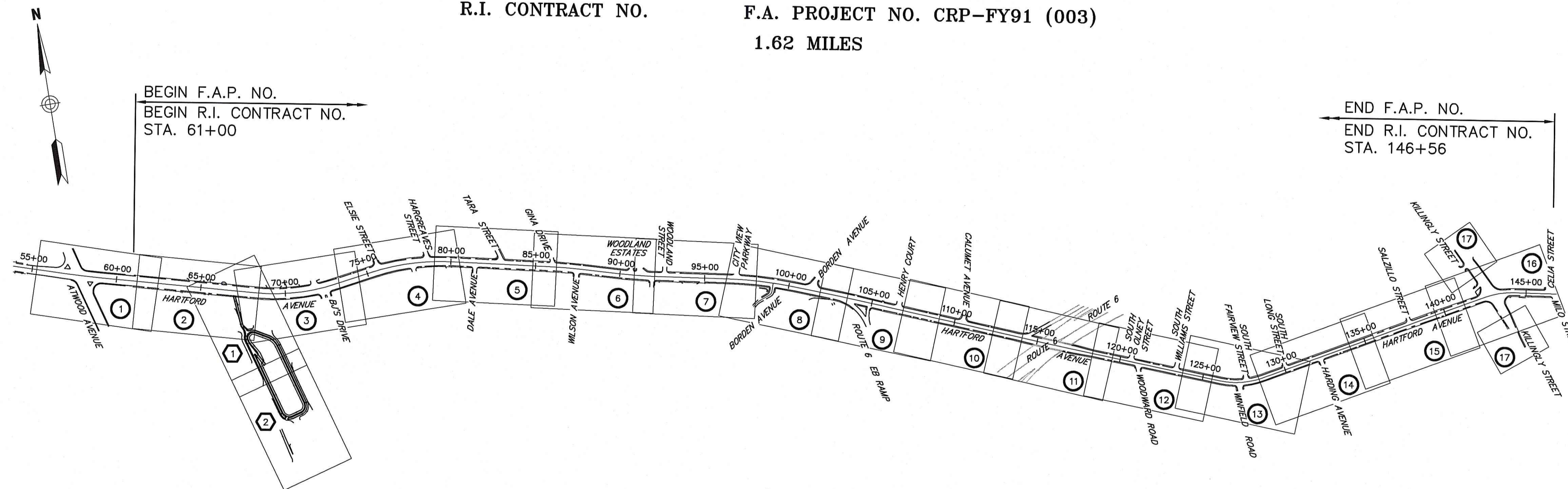
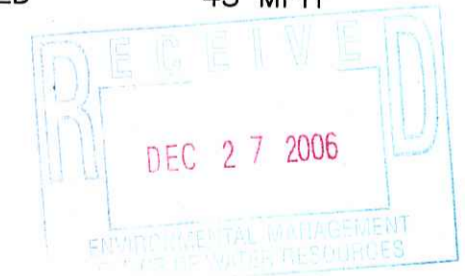
LOCATION PLAN  
 SCALE: 1"=1/2 MILE

**PAVEMENT COMPOSITION**

- 2" BITUMINOUS SURFACE COURSE, TYPE I-1
- 2" BITUMINOUS BINDER COURSE
- 4" BITUMINOUS BASE COURSE
- 12" GRAVEL BORROW SUBBASE COURSE

**DESIGN DESIGNATION**

2000 AADT	16,200 VPD
2025 AADT	20,800 VPD
D	60%
K	8.6%
T	2.3-2.6%
1994 DHV	1395 VPH
2015 DHV	1785 VPH
DESIGN SPEED	45 MPH



- (X) = DRAINAGE & UTILITY PLAN NO.
- (X) = STORMWATER MANAGEMENT FACILITY PLAN NO.

**LAYOUT**

Scale: 1"=400'

**SCALE OF DRAWINGS**

Plans:	1 inch = 20 feet
Profiles:	1 inch = 20 feet Horizontal
"	1 inch = 4 feet Vertical
Cross Sections	1 inch = 4 feet Vertical

*Charles A. [Signature]*  
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED JAN 8 2007 FILE # 05-0420  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE



**RIDEM SUBMISSION  
 SET 1  
 DECEMBER 12, 2006**

Vanasse Hangen Brustlin, Inc.  
 TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES  
 530 BROADWAY PROVIDENCE, R.I.

Contract Number \_\_\_\_\_  
 Number of Sheet 1  
 Total Sheets 46

R.I. DEPARTMENT OF TRANSPORTATION	
APPROVED _____	DATE _____
DEPUTY CHIEF ENGINEER _____	DATE _____
APPROVED _____	DATE _____
CHIEF ENGINEER _____	DATE _____
APPROVED _____	DATE _____
DIRECTOR _____	DATE _____
DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
APPROVED _____	DATE _____
DIVISION ADMINISTRATOR _____	DATE _____

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BASE OF LEVELS  
 N.G.V.D. 1929

**PLAN SYMBOLS**

**GENERAL LEGEND**

<p><b>EXISTING</b></p>	<p><b>NEW</b></p>	<p>(2.1.0)</p> <p>(2.1.0M)</p> <p>(3.2.0)</p> <p>(3.2.1)</p> <p>(3.3.2)</p> <p>(3.3.4)</p> <p>(3.4.1)</p> <p>(3.4.2)</p> <p>(4.2.0)</p> <p>(4.2.1)</p> <p>(4.2.2)</p> <p>(4.4.0)</p> <p>(4.5.0)</p> <p>(4.7.2)</p> <p>(6.2.1)</p> <p>(6.3.2) NUMBER (FLANGE)</p> <p>(6.3.4)</p> <p>(7.1.0S)</p> <p>(7.1.0C)</p> <p>(7.1.1)</p> <p>(7.1.2)</p> <p>(7.1.5)</p> <p>(7.1.6)</p> <p>(7.1.7)</p> <p>(7.1.8)</p> <p>(7.2.3)</p> <p>(7.3.0S)</p> <p>(7.3.0C)</p> <p>(7.3.1)</p> <p>(7.3.2)</p> <p>(7.5.0)</p> <p>(9.1.0)</p> <p>(9.3.0)</p> <p>(9.4.0)</p> <p>(9.9.0)</p> <p>(10.3.0)</p> <p>(15.1.0)</p> <p>(34.2.0)</p> <p>(34.3.1M)</p> <p>(34.3.5)</p> <p>(34.3.6)</p> <p>(43.1.0)</p> <p>(43.3.0)</p> <p>(43.3.1)</p> <p>(43.5.0)</p>
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<p>CONCRETE HEADWALLS FOR PIPE CULVERTS, R.I. STD. 2.1.0</p> <p>CONCRETE HEADWALL FOR PIPE CULVERT, R.I. STD. 2.1.0 MODIFIED (SEE DRAINAGE DETAILS)</p> <p>BRICK/SOLID BLOCK 4'-0" ROUND MANHOLE, R.I. STD. 3.2.0</p> <p>BRICK/SOLID BLOCK 5'-0" OR 6'-0" ROUND MANHOLE, R.I. STD. 3.2.1</p> <p>BRICK/SOLID BLOCK TYPE "F" SQUARE CATCH BASIN, R.I. STD. 3.3.2</p> <p>BRICK/SOLID BLOCK DOUBLE GRATE BASIN GRATE PARALLEL TO EDGE OF PAVEMENT, R.I. STD. 3.3.4</p> <p>BRICK/SOLID BLOCK ROUND CATCH BASIN WITH GUTTER INLET, R.I. STD. 3.4.1</p> <p>BRICK/SOLID BLOCK TYPE "F" ROUND CATCH BASIN, R.I. STD. 3.4.2</p> <p>PRECAST 4'-0" ROUND MANHOLE, R.I. STD. 4.2.0</p> <p>PRECAST 5'-0" ROUND MANHOLE, R.I. STD. 4.2.1</p> <p>PRECAST 6'-0" ROUND MANHOLE, R.I. STD. 4.2.2</p> <p>PRECAST 4'-0", 5'-0" OR 6'-0" ROUND CATCH BASIN, R.I. STD. 4.4.0</p> <p>PRECAST CONCRETE DROP INLET, R.I. STD. 4.5.0</p> <p>ALTERNATE TOP FOR ROUND PRECAST MANHOLES AND CATCH BASINS, R.I. STD. 4.7.2</p> <p>HEAVY DUTY ROUND FRAME &amp; COVER, R.I. STD. 6.2.1</p> <p>SQUARE FRAME &amp; GRATE (BICYCLE SAFE), R.I. STD. 6.3.2</p> <p>HIGH CAPACITY FRAME AND GRATE (BICYCLE SAFE), R.I. STD. 6.3.4</p> <p>PRECAST CONCRETE CURB, (STRAIGHT), R.I. STD. 7.1.0</p> <p>PRECAST CONCRETE CURB, (CIRCULAR), R.I. STD. 7.1.0</p> <p>3'-0" PRECAST CONCRETE TRANSITION CURB, R.I. STD. 7.1.1</p> <p>6'-0" PRECAST CONCRETE TRANSITION CURB, R.I. STD. 7.1.2</p> <p>PRECAST CONCRETE INLET STONE (FOR SQUARE CATCH BASIN), R.I. STD. 7.1.5</p> <p>PRECAST CONCRETE INLET STONE (FOR ROUND CATCH BASIN), R.I. STD. 7.1.6</p> <p>PRECAST CONCRETE APRON STONE (FOR SQUARE CATCH BASIN), R.I. STD. 7.1.7</p> <p>PRECAST CONCRETE APRON STONE (FOR ROUND CATCH BASIN), R.I. STD. 7.1.8</p> <p>PRECAST CONCRETE LOT CURB, R.I. STD. 7.2.3</p> <p>GRANITE CURB (STRAIGHT), R.I. STD. 7.3.0</p> <p>GRANITE CURB (CIRCULAR), R.I. STD. 7.3.0</p> <p>3'-0" GRANITE TRANSITION CURB, R.I. STD. 7.3.1</p> <p>6'-0" GRANITE TRANSITION CURB, R.I. STD. 7.3.2</p> <p>BITUMINOUS CONCRETE LIP CURB, R.I. STD. 7.5.0</p> <p>BALED HAY EROSION CHECK, R.I. STD. 9.1.0</p> <p>BALED HAY EROSION CHECK AND SILT FENCE COMBINED, R.I. STD. 9.3.0</p> <p>BALED HAY DITCH AND SWALE EROSION CHECK, R.I. STD. 9.4.0</p> <p>CONSTRUCTION ACCESS, R.I. STD. 9.9.0</p> <p>CONCRETE RETAINING WALL, R.I. STD. 10.3.0</p> <p>POST AND MOUNTING FOR RURAL MAILBOXES, R.I. STD. 15.1.0</p> <p>STEEL BEAM GUARDRAIL, R.I. STD. 34.2.0 SERIES; TYPICAL INSTALLATION, R.I. STD. 34.1.0</p> <p>STEEL BEAM GUARDRAIL, R.I. STDS. 34.2.1 &amp; 34.2.0</p> <p>STEEL BEAM GUARDRAIL FIXTURES, R.I. STD. 34.2.3</p> <p>GUARDRAIL END SECTION (ET-2000), R.I. STD. 34.3.1 (MODIFIED)</p> <p>GUARDRAIL CONNECTION TO EXISTING END POST APPROACH END SECTION, R.I. STD. 34.3.5</p> <p>GUARDRAIL CONNECTION TO EXISTING END POST TRAILING END SECTION, R.I. STD. 34.3.6</p> <p>CEMENT CONCRETE SIDEWALK, R.I. STD. 43.1.0</p> <p>WHEELCHAIR RAMP, R.I. STD. 43.3.0</p> <p>WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS, R.I. STD. 43.3.1</p> <p>CEMENT CONCRETE DRIVEWAYS, R.I. STD. 43.5.0</p>	<p>(48.1.0)</p> <p>(51.1.0)</p> <p>(51.2.0)</p> <p>SD- XX</p> <p>AB</p> <p>ACS</p> <p>AD</p> <p>AE</p> <p>AG</p> <p>AMH</p> <p>AS</p> <p>AT</p> <p>AW</p> <p>BCD</p> <p>BGH</p> <p>CB7</p> <p>CCD</p> <p>CFP</p> <p>CG</p> <p>CMH</p> <p>CSP (SIZE)</p> <p>DB</p> <p>DBOS</p> <p>DC</p> <p>DCB</p> <p>DFG</p> <p>DFH</p> <p>DFP</p> <p>DG</p> <p>DMH</p> <p>DP</p> <p>DRP</p> <p>DS</p> <p>DSW</p> <p>DT</p> <p>DW</p> <p>GAB</p> <p>HYD</p> <p>LS</p> <p>PS</p> <p>RBM</p> <p>RCB</p> <p>RHH</p> <p>RUP</p> <p>SG</p> <p>SPH</p> <p>UP</p>	<p>DETECTABLE WARNING SYSTEM, R.I. STD. 48.1.0</p> <p>TREE PROTECTIVE DEVICE, R.I. STD. 51.1.0</p> <p>SHRUB PROTECTION DEVICE, R.I. STD. 51.2.0</p> <p>STRUCTURAL DISPOSITION - SEE GS PAGES FOR LIST</p> <p>ADJUST CATCH BASIN TO GRADE</p> <p>ADJUST CURB STOP TO GRADE</p> <p>ADJUST DRAINAGE MANHOLE TO GRADE</p> <p>ADJUST ELECTRIC MANHOLE TO GRADE</p> <p>ADJUST GAS GATE BOX TO GRADE</p> <p>ADJUST MANHOLE TO GRADE</p> <p>ADJUST SANITARY SEWER MANHOLE TO GRADE</p> <p>ADJUST TELEPHONE MANHOLE TO GRADE</p> <p>ADJUST WATER GATE BOX TO GRADE</p> <p>BITUMINOUS CONCRETE DRIVEWAY</p> <p>2" BITUMINOUS CONCRETE, TYPE I-1</p> <p>6" GRAVEL BORROW SUBBASE COURSE</p> <p>BAR GRATE AT HEADWALLS</p> <p>7'-0" CATCH BASIN (SEE DRAINAGE DETAILS)</p> <p>CEMENT CONCRETE DRIVEWAY</p> <p>4" CEMENT CONC. CLASS "B"</p> <p>6" GRAVEL BORROW SUBBASE COURSE</p> <p>CLEAN AND FLUSH PIPE</p> <p>CLEARING AND GRUBBING</p> <p>CLEAN MANHOLE</p> <p>NEW TYPE K COPPER SERVICE PIPE WITH CORPORATION STOP</p> <p>REMOVE AND DISPOSE BITUMINOUS CURB</p> <p>DETENTION BASIN OUTLET STRUCTURE</p> <p>REMOVE AND DISPOSE CONCRETE CURB</p> <p>REMOVE AND DISPOSE CATCH BASIN</p> <p>REMOVE AND DISPOSE FRAME AND GRATE OR FRAME AND COVER</p> <p>REMOVE AND DISPOSE FIRE HYDRANT</p> <p>REMOVE AND DISPOSE FLEXIBLE PAVEMENT</p> <p>REMOVE AND DISPOSE GUARDRAIL</p> <p>REMOVE AND DISPOSE MANHOLE</p> <p>REMOVE AND DISPOSE PIPE</p> <p>REMOVE AND DISPOSE RIGID PAVEMENT</p> <p>REMOVE AND DISPOSE SIGN</p> <p>REMOVE AND DISPOSE SIDEWALK</p> <p>REMOVE AND DISPOSE TREE</p> <p>REMOVE AND DISPOSE WALL</p> <p>GABION</p> <p>FIRE HYDRANT</p> <p>4" LOAM BORROW AND SEED</p> <p>4" PLANTABLE SOIL AND SEED</p> <p>RECONSTRUCT CATCH BASIN TO MANHOLE</p> <p>RECONSTRUCT CATCH BASIN</p> <p>REMOVE, HANDLE, HAUL, TRIM, RESET CURB/EDGING, STRAIGHT, CIRCULAR ALL TYPE</p> <p>RELOCATE UTILITY POLE (BY OTHERS)</p> <p>REMOVE AND STOCKPILE GRANITE CURB</p> <p>STONE PROTECTION AT HEADWALL</p> <p>UTILITY POLE (BY OTHERS)</p>
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**ABBREVIATIONS**

R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RELOCATE
P.G.L.	PROPOSED PAVEMENT GRADE LINE, POINT OF PROFILE APPLICATION
S.H.L.	STATE HIGHWAY LINE
T.E.B.	TEMPORARY EASEMENT BOUNDARY
P.A.B.	PERMANENT AERIAL BOUNDARY
P.G.B.	PERMANENT GUY BOUNDARY
UP	UTILITY POLE
TYP.	TYPICAL



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED JAN 8 2007 FILE # 05-0420  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

VANASSE HANGEN BRUSTLIN, INC.  
 TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES  
 PROVIDENCE, R.I.

REVISIONS		
NO.	DATE	BY

RHODE ISLAND  
 DEPARTMENT OF TRANSPORTATION  
**RECONSTRUCTION OF**  
**HARTFORD AVENUE**  
 JOHNSTON/PROVIDENCE      RHODE ISLAND  
**PLAN SYMBOLS &**  
**GENERAL LEGEND**

CHECKED BY \_\_\_\_\_ DATE 5/06 SCALE \_\_\_\_\_

J:\70419\CAD\TE\HIWAY\PLANSET\CONTRACT\_2\RIDEM\70419LEG-DEM.dwg

**GENERAL NOTES**

- ALL ITEMS NOT REFERENCED FOR MODIFICATION WILL BE "EXISTING TO REMAIN" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- ANY DAMAGE TO EXISTING STATE OR PRIVATE PROPERTY CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.
- THE COST OF ANY CURB CUTTING REQUIRED TO INSTALL NEW CURB WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE NEW CURB.
- EXISTING RURAL MAILBOX MOUNTINGS SHALL BE REMOVED AND REPLACED WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. THE POST AND MOUNTING SHALL BE AS SHOWN ON R.I. STD. 15.1.0. THE CONTRACTOR SHALL RESET THE EXISTING MAILBOXES OR REPLACE ANY THAT DO NOT CONFORM TO U.S. POSTAL SERVICE SPECIFICATIONS WITH A NEW POSTAL SERVICE BOX SIZE 1. THE COST TO FURNISH AND INSTALL THE NEW BOX SHALL BE PAID FOR SEPARATELY UNDER THE ITEM "FURNISH AND INSTALL NEW POSTAL SERVICE BOX SIZE 1", ITEM CODE NO. 915.9901. THE CONTRACTOR SHALL REMOVE THE EXISTING MAILBOX AND MOUNTING AND DISPOSE OF THEM ON THE ADJACENT PRIVATE PROPERTY OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID TO REMOVE AND RELOCATE MAILBOX TO NEW MOUNTING SUPPORT, R.I. STD. 15.1.0.
- INTERSECTING ROADS SHALL BE RECONSTRUCTED TO THE LIMITS SHOWN ON THE PLANS AND CROSS SECTIONS OR AS DIRECTED BY THE ENGINEER. THE PAVEMENT MAKE-UP SHALL BE AS SHOWN ON THE PLANS AND TYPICAL DETAILS.
- DRIVEWAYS AND RESIDENTIAL WALKS SHALL BE MATCHED IN KIND AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE CONSTRUCTION METHODS, MATERIALS, MEASUREMENT AND PAYMENT SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 1997 EDITION.
- THE FREQUENCY AND APPLICATION RATES FOR DUST CONTROL ITEMS WILL BE DETERMINED BY THE ENGINEER.
- STEEL BEAM GUARDRAIL REFLECTORIZED TRIANGULAR DELINEATORS, R.I. STD. 34.2.5, SHALL BE FURNISHED AND INSTALLED ON ALL NEW GUARDRAIL INSTALLATIONS AT 37'-6" SPACING.
- THE CONTRACTOR SHALL READ, BECOME FAMILIAR WITH, AND ADHERE TO ALL OF THE PROVISIONS, CONDITIONS, AND STIPULATIONS STATED IN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN THE ENVIRONMENTAL PERMITS ISSUED FROM THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND THE US ARMY CORPS OF ENGINEERS. COPIES OF EACH OF THESE PERMITS ARE INCLUDED IN THE 65 PAGES OF THE CONTRACT DOCUMENTS. ALL COSTS ASSOCIATED WITH THESE CONDITIONS SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND INCLUDED WITH THE COST FOR THE ASSOCIATED BID ITEM.
- THE CONTRACTOR SHALL NOT STOCKPILE ANY MATERIAL OR CONSTRUCT TEMPORARY DEWATERING BASINS OR OTHER DEWATERING FACILITIES WITHIN AREAS UNDER RIDEM JURISDICTION INCLUDING BUT NOT LIMITED TO: WETLANDS, RIVERS, STREAMS, PONDS AND THEIR ASSOCIATED BUFFERS. IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN ANY NECESSARY PERMITS AND/OR PERMIT MODIFICATIONS FROM THE APPROPRIATE REGULATORY AUTHORITY(IES). ANY PERMITTING REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED AT NO COST TO THE STATE. THE RIDOT RESIDENT ENGINEER WILL COORDINATE SUBMISSION OF ANY REQUIRED PERMIT APPLICATION MATERIALS WITH THE RIDOT NATURAL RESOURCES UNIT.
- PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES, EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AT THOSE AREAS INDICATED ON THE PLANS. CLEARING MAY OCCUR PRIOR TO INSTALLATION OF SUCH CONTROLS, HOWEVER NO GRUBBING, GRADING, FILLING, OR OTHER SOIL DISTURBANCE SHALL OCCUR PRIOR TO INSTALLATION.
- NO UNDISTURBED AREAS SHALL BE CLEARED OF EXISTING VEGETATION AFTER OCTOBER 15 OF ANY CALENDAR YEAR.
- ALL DISTURBED SOILS EXPOSED PRIOR TO OCTOBER 15 OF ANY CALENDAR YEAR SHALL BE SEEDED OR PROTECTED BY THAT DATE. ANY SUCH AREAS WHICH DO NOT HAVE ADEQUATE VEGETATIVE STABILIZATION, AS DETERMINED BY THE RIDOT RESIDENT ENGINEER OR ENVIRONMENTAL INSPECTOR, BY NOVEMBER 15 OF ANY CALENDAR YEAR, MUST BE STABILIZED THROUGH THE USE OF EROSION CONTROL MATTING BONDED FIBER MATRIX, OR HAY MULCH, IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE RI SOIL EROSION AND SEDIMENT CONTROL HANDBOOK OR MANUFACTURER'S SPECIFICATIONS. IF WORK CONTINUES WITHIN ANY OF THESE AREAS DURING THE PERIOD FROM OCTOBER 15 THROUGH APRIL 15, CARE MUST BE TAKEN TO ENSURE THAT ONLY THE AREA REQUIRED FOR THAT DAY'S WORK IS EXPOSED, AND ALL ERODABLE SOIL SHALL BE RESTABILIZED WITHIN 5 WORKING DAYS. ANY ADDITIONAL WORK REQUIRED TO CORRECT PROBLEMS RESULTING FROM FAILURE TO COMPLY WITH THIS PROVISION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THERE SHALL BE NO SEPARATE PAYMENT FOR THIS PROVISION, IT SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OPERATIONS.
- ALL HAYBALES AND SILT FENCE SHALL BE INSTALLED WITH THE LOWER 6 INCHES BURIED AND BACKFILLED WITH COMPACTED SOIL MATERIAL. WHEN USED IN COMBINATION, A SUFFICIENT AMOUNT OF THE SILT FENCE SHALL BE PLACED IN THE TRENCH SO THAT THE HAYBALE STAKES ARE DRIVEN THROUGH THE FABRIC OF THE FENCE.
- THE TOE OF ANY FILL SLOPE IS TO REMAIN AT LEAST ONE FOOT INSIDE OF ALL EROSION CONTROLS. UNDER NO CIRCUMSTANCE SHALL THE CONTRACTOR COVER ANY PORTION OF THE EROSION CONTROLS WITH FILL MATERIAL. ANY FILL MATERIAL WHICH IS PLACED ON ANY EROSION CONTROLS BY THE CONTRACTOR OR THEIR SUBCONTRACTORS, SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR, AND ANY NECESSARY REPAIRS TO THE EROSION CONTROLS ACCOMPLISHED, AT NO COST TO THE STATE.
- ADDITIONAL EROSION CONTROLS, NOT SHOWN ON THESE PLANS, SHALL BE INSTALLED AS CONDITIONS WARRANT, OR AS DIRECTED BY THE RIDOT RESIDENT ENGINEER. THESE ADDITIONAL ITEMS WILL BE PAID AT THE UNIT PRICE FOR THAT BID ITEM.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE AND SHALL INSPECT/REPLACE ALL CONTROLS AS NEEDED. MAINTENANCE SHALL BE CARRIED OUT IN ACCORDANCE WITH THE SWPPP AND SECTION 212 OF THE RIDOT STANDARD SPECIFICATIONS, 1997 EDITION. THE CONTRACTOR IS RESPONSIBLE FOR CARRYING OUT NECESSARY MAINTENANCE DURING ALL PHASES OF PROJECT CONSTRUCTION, INCLUDING PERIODS OF "WINTER SHUTDOWN".

**GENERAL NOTES – DRAINAGE**

- ALL REINFORCED CONCRETE PIPE SHALL BE AASHTO M170, CLASS III UNLESS OTHERWISE NOTED.
- ALL CEMENT CONCRETE FOR DRAINAGE STRUCTURES SHALL BE CLASS B (AE).
- FOR DISPOSITION OF EXISTING DRAINAGE SYSTEM, SEE THE DRAINAGE AND UTILITY PLANS.
- WHEN A CATCH BASIN, MANHOLE OR HANDHOLE IS REMOVED AND DISPOSED, THE EXISTING FRAME AND GRATE OR COVER SHALL BE REMOVED AND DISPOSED AND SHALL BE INCLUDED IN THE COST TO REMOVE AND DISPOSE THE STRUCTURE.
- WHEN A CATCH BASIN OR MANHOLE IS REMOVED AND DISPOSED, ALL PIPES LEFT SHALL BE PLUGGED WITH A BRICK AND MORTAR PLUG UNLESS NOTED OTHERWISE ON THE PLANS.

**GENERAL NOTES – UTILITIES**

- LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES AND "DIGSAFE" ARE NOTIFIED 24 HOURS IN ADVANCE.
- BUILDING SERVICE CONNECTIONS (ELECTRIC, GAS, TELEPHONE, WATER AND SANITARY) ARE SHOWN WHEREVER POSSIBLE. THE CONTRACTOR IS TO ASSUME THAT SERVICES ARE PRESENT TO ALL BUILDINGS. THEIR LOCATIONS ARE TO BE CHECKED WITH THE APPROPRIATE UTILITY COMPANIES.
- NO BLASTING SHALL BE ALLOWED ON THIS PROJECT.

**GENERAL NOTES – SIGNS**

- ALL NEW REGULATORY, WARNING AND GUIDE SIGNS SHALL HAVE SIGN SUPPORTS. UNLESS OTHERWISE INDICATED, SIGN MOUNTINGS SHALL BE R.I. STD. 24.1.0.
- PRIOR TO INSTALLATION, ALL SIGNS, MOUNTINGS AND LOCATIONS SHALL BE APPROVED OR MODIFIED BY THE ENGINEER.
- ALL SIGNS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 7' OVER THE SIDEWALK.
- STREET NAME SIGNS, R.I. STD. 24.6.1, SHALL BE FURNISHED AND INSTALLED AT ALL UNSIGNALIZED STREET CROSSINGS. THE CONTRACTOR SHALL PLACE SIGNS AT LOCATIONS ACCEPTABLE TO THE ENGINEER AND SHALL VERIFY THE STREET NAMES LISTED ON THE SIGNING & STRIPING PLANS BEFORE FABRICATION. THE SIZE OF THE SIGNS AND LETTER HEIGHTS FOR BOTH GROUND MOUNTED AND OVERHEAD STREET NAME SIGNS SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE RHODE ISLAND STANDARD SPECIFICATIONS.
- ALL TEMPORARY CONSTRUCTION SIGNS AND TRAFFIC BARRICADES ARE TO BE REMOVED FROM THE HIGHWAY WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
- TEMPORARY CONSTRUCTION SIGN PANELS SHALL BE 3/4" THICK EXTERIOR GRADE PLYWOOD CONFORMING TO SECTION M-19 OF THE STANDARD SPECIFICATIONS.
- ALL SIGN RADII AND BORDERS SHALL BE AS SPECIFIED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2003 VERSION.
- AT NO TIME WILL THE CONES, BARRICADES OR DRUMS BE ALLOWED TO COVER THE LANES OF OR EXTEND INTO AN OPEN LANE.

**GENERAL NOTES – PAVEMENT MARKINGS**

- ALL PAVEMENT MARKINGS FOR THIS PROJECT SHALL BE EPOXY RESIN PIGMENT PAVEMENT MARKINGS UNLESS OTHERWISE INDICATED.
- THE LOCATION OF PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE 2003 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED.
- AT THE COMPLETION OF EACH DAYS PAVING, THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY FAST-DRYING WATERBORNE PAVEMENT MARKINGS BEFORE COMPLETING THE WORK OF THAT DAY AND OPENING THE LANES TO TRAFFIC.

**GENERAL NOTES – TRAFFIC SIGNALS**

- LOCATIONS OF ALL PROPOSED TRAFFIC SIGNAL MAST ARM POLES AND PEDESTAL POLES HAVE BEEN PROBED FOR UTILITY CONFLICTS. THE LOCATIONS OF THE PROPOSED EQUIPMENT SHOWN ON THE PLANS REFLECT THE RESULTS OF THE UTILITY INVESTIGATIONS AND ARE FREE OF CONFLICTS. THE LOCATIONS WHERE THE UTILITY PROBES WERE CONDUCTED HAVE BEEN MARKED IN THE FIELD AND HAVE BEEN PATCHED WITH CONCRETE. THE DIMENSIONS TO THE PROPOSED EQUIPMENT SHOWN ON THE PLANS ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MARK THE LOCATIONS WHERE THE UTILITY PROBES WERE TAKEN WITH NAILS IN THE ROAD. THERE SHALL BE A MINIMUM OF TWO (2) OFFSET POINTS FOR EACH PROPOSED FOUNDATION LOCATION.
- THE CONTRACTOR SHALL SUPPLY AND INSTALL ON THE UPPER LEFT HAND CORNER OF THE BACK OF CONTROLLER CABINET DOOR A LAMINATED INTERSECTION GRAPHIC AND TABLE DEPICTING THE TRAFFIC DETECTOR RELAY CHANNEL ASSIGNMENTS. THE DIAGRAM SHALL BE A GRAPHIC OF THE INDIVIDUAL INTERSECTION ORIENTED SIMILAR TO THE PLANS SHOWING THE LOCATIONS OF EACH OF THE LOOP DETECTORS. THE DIAGRAM SHALL, AT A MINIMUM, INCLUDE DETECTOR NUMBERS, STREET NAME LABELS, NORTH ARROW, AND CONTROLLER CABINET LOCATION. THE ASSIGNMENT INFORMATION SHALL BE INCLUDED IN A TABLE WHICH SHALL INCLUDE, AT A MINIMUM, THE APPROACH NAME, DETECTOR NUMBER, TERMINAL NUMBER, DETECTOR RACK SLOT NUMBER, RELAY NUMBER, RELAY CHANNEL NUMBER, AND PHASE ASSOCIATED WITH EACH DETECTOR.
- TYPICAL CONTROLLER CABINETS SHALL BE NEMA TS2 CABINET SIZE 6 ("P" TYPE) WITH NOMINAL DIMENSIONS OF 52"Hx44"Wx24"D.
- ALL DELAY AND EXTENSION TIMES, AS CALLED FOR ON THE PLANS, FOR PROPOSED LOOP DETECTORS SHALL BE PROGRAMMED IN THE TRAFFIC SIGNAL CONTROLLER AND NOT THE DETECTOR RELAY.
- PROPER SIGNAL HEAD PLACEMENT AND ALIGNMENT SHALL BE IN CONFORMANCE WITH THE MUTCD, 2003 EDITION, AND SHALL BE AS DIRECTED BY THE ENGINEER.
- FINAL PLACEMENT OF SIGNAL HEADS, DETECTORS, STOP BARS AND CROSSWALKS TO BE ACCOMPLISHED IN THE FIELD DURING CONSTRUCTION ACCORDING TO OBSERVED INTERSECTION CHARACTERISTICS BY THE ENGINEER.
- A 2 FOOT MINIMUM BUFFER SHALL BE PROVIDED BETWEEN THE CURB AND ALL LATERAL OBSTRUCTIONS (INCLUDING ALL SIGNAL POLES AND TRAFFIC/PEDESTRIAN SIGNAL HEADS) TO PROVIDE ADEQUATE CLEARANCE FOR TURNING VEHICLES.
- THE CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT NEW CONDUIT INSTALLED WITHIN THE LIMITS OF WHEELCHAIR RAMP AREAS HAS BEEN GIVEN SUFFICIENT DEPTH TO GO BENEATH DEPRESSED OR TRANSITION CURB.
- ALL FOUNDATIONS MUST HAVE CONES OR BARRELS BOLTED TO FOUNDATION BASES UNTIL ACTUAL POLE IS INSTALLED. FAILURE TO COMPLY WILL BE VIEWED AS FAILURE TO MEET MAINTENANCE AND MOVEMENT REQUIREMENTS.
- ALL SPLICES SHALL BE MADE INSIDE THE SIGNAL HEADS AT THE TERMINAL BLOCKS.
- WHEN PLACING TRAFFIC SIGNAL HANDHOLES OR CONDUIT IN EXISTING PORTLAND CEMENT CONCRETE SIDEWALKS, THE ENTIRE SIDEWALK SQUARE OF CONCRETE SHALL BE REPLACED IN ACCORDANCE WITH R.I. STD. 43.1.0. NO PATCHES WILL BE ALLOWED.
- ALL TRAFFIC SIGNAL POLES SHALL BE LOCATED A MINIMUM OF 3 FEET BEHIND THE CURB. ACCESS TO PEDESTRIAN PUSH BUTTONS SHALL MEET ADA REQUIREMENTS. ALL PEDESTRIAN PUSHBUTTONS SHALL BE ADA COMPLIANT WITH A MINIMUM 2" DIAMETER.
- SIGNS INSTALLED AT PROPOSED PEDESTRIAN PUSHBUTTONS SHALL BE MUTCD CODE R10-3B (LEFT OR RIGHT) AND SHALL BE INSTALLED SO THAT IS CLEARLY INDICATED WHICH CROSSING IS ASSIGNED TO EACH BUTTON.
- ALL SIGNAL HEAD HANGERS SHALL BE OF STEEL OR CAST IRON CONSTRUCTION.
- SAFETY CHAINS SHALL BE FURNISHED AND INSTALLED FOR ALL MAST ARM OR SPAN WIRE MOUNTED TRAFFIC SIGNAL HEADS. THE SAFETY CHAINS SHALL BE 3/16 INCH WELDED LINK AND ARE TO BE HOT DIPPED GALVANIZED. A 2 FOOT LENGTH SHALL BE PROVIDED AT EACH HEAD. FULL COMPENSATION AND PAYMENT FOR ALL MATERIALS, LABOR AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR NEW TRAFFIC SIGNAL HEADS.
- ALL NEW TRAFFIC SIGNAL CONTROLLERS SHALL PROVIDE 8 PHASE CAPABILITY AND INTERNAL TIME-BASED COORDINATION AND INTERNAL PRE-EMPTION. ALL NEW CONTROLLERS SHALL BE SUPPLIED WITH 12 POSITION BACK PANEL ASSEMBLIES AS INDICATED ON THE PLANS. SEE JOB SPECIFIC SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- ALL LOOP DETECTORS SHALL BE CENTERED WITHIN EACH LANE AS DELINEATED, UNLESS OTHERWISE DIMENSIONED ON PLANS.
- ALL LOOP DETECTORS SHALL BE CUT INTO THE FINAL PAVEMENT SURFACE COURSE.
- IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
- THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE, OR COMBINATION OF NON-CONFLICTING PHASES.
- TRAFFIC SIGNAL CONTROLLERS SHALL BE WIRED SO THAT ANY FIRE PRE-EMPT SHALL OVERRIDE MANUAL (PUSH BUTTON) OPERATION.
- ALL PROPOSED RED, YELLOW, AND GREEN TRAFFIC SIGNAL DISPLAYS THROUGHOUT THE LIMITS OF THIS PROJECT SHALL BE EQUIPPED WITH L.E.D. SIGNAL MODULES.
- THE CONTRACTOR SHALL KEEP THE EXISTING TRAFFIC SIGNAL SYSTEM FULLY OPERATIONAL UNTIL NEW TRAFFIC SIGNALS ARE OPERATIONAL.
- THE CONTRACTOR SHALL WORK CONTINUOUSLY TO RESTORE TRAFFIC SIGNAL OPERATION TO ITS INTENDED PURPOSE WHEN REPLACING THE TRAFFIC SIGNAL EQUIPMENT. A POLICE DETAIL IS REQUIRED TO DIRECT TRAFFIC AT THE INTERSECTION AT ALL TIMES THE TRAFFIC SIGNAL IS INOPERATIVE. AT NO TIME SHALL THE CONTRACTOR LEAVE THE SITE BEFORE RESTORING FULL TRAFFIC SIGNAL OPERATIONS OR WITH THE APPROVAL OF THE ENGINEER PROVIDE TRAFFIC CONTROL AS DIRECTED BY THE ENGINEER.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
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FRESHWATER WATERS PROGRAM  
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AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JAN 8 2007 FILE # 05-0120  
NO WORK SHALL BE ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

DEC 27 2006

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NO.	DATE	BY

RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION

RECONSTRUCTION OF  
**HARTFORD AVENUE**

JOHNSTON/PROVIDENCE      RHODE ISLAND

**GENERAL NOTES**

CHECKED BY \_\_\_\_\_ DATE 5/06 SCALE AS NOTED

VANASSE HANGEN BRUSTLIN, INC.  
TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES  
PROVIDENCE, R.I.

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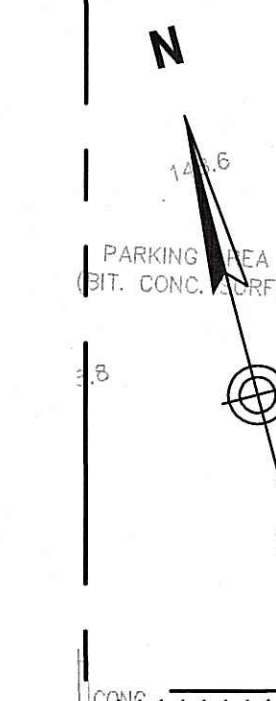
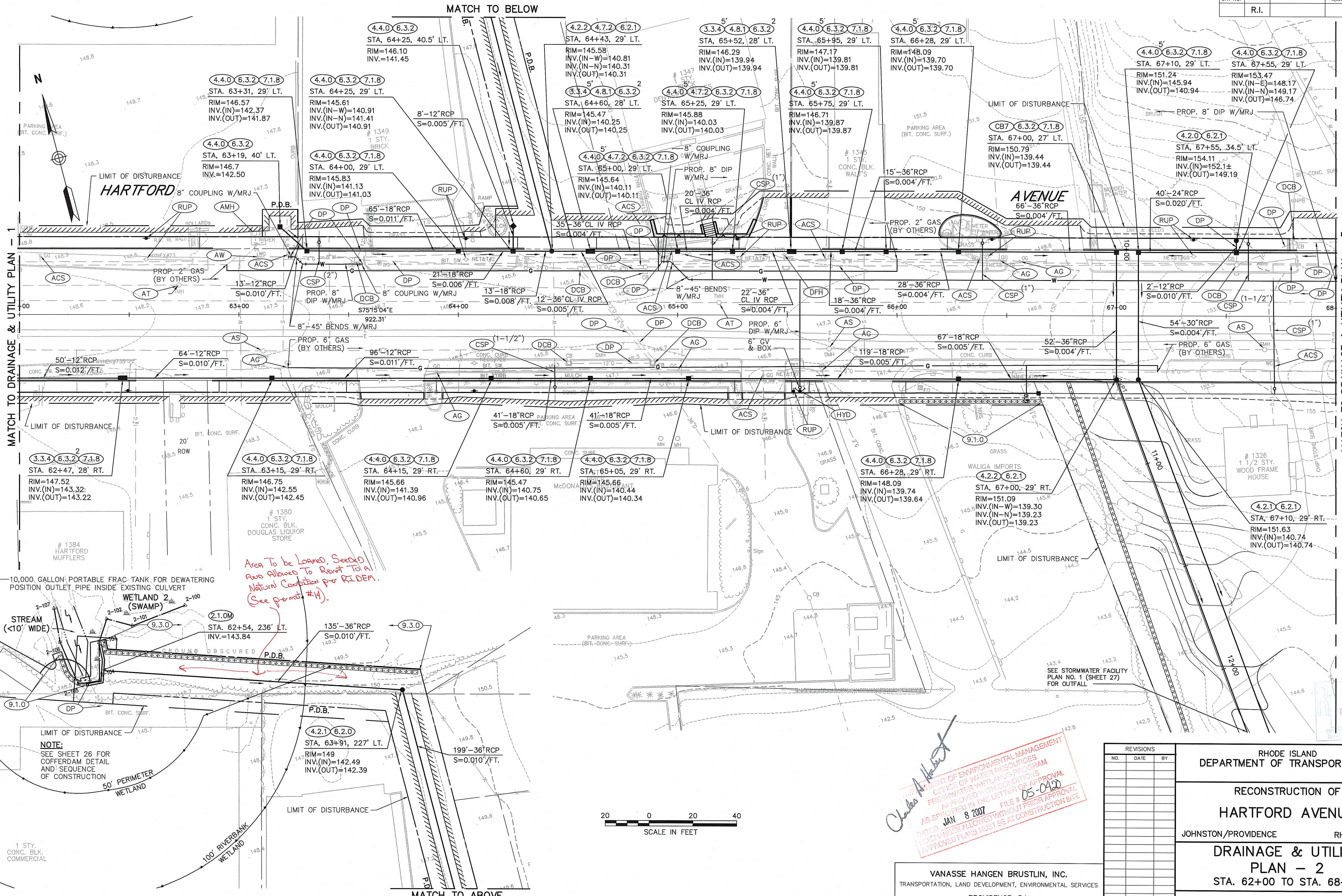












MATCH TO DRAINAGE & UTILITY PLAN - 1

MATCH TO DRAINAGE & UTILITY PLAN - 3

Area To be Leased, Seeded  
Also Allowed To Revert To A  
Natural Condition per RIDEM.  
(See permit #14)

**NOTE:**  
SEE SHEET 26 FOR  
COFFERDAM DETAIL  
AND SEQUENCE  
OF CONSTRUCTION

APPROVED FOR CONSTRUCTION

RHODE ISLAND  
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FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
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JAN 8 2007 FILE # 05-0420  
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**RECONSTRUCTION OF  
HARTFORD AVENUE**

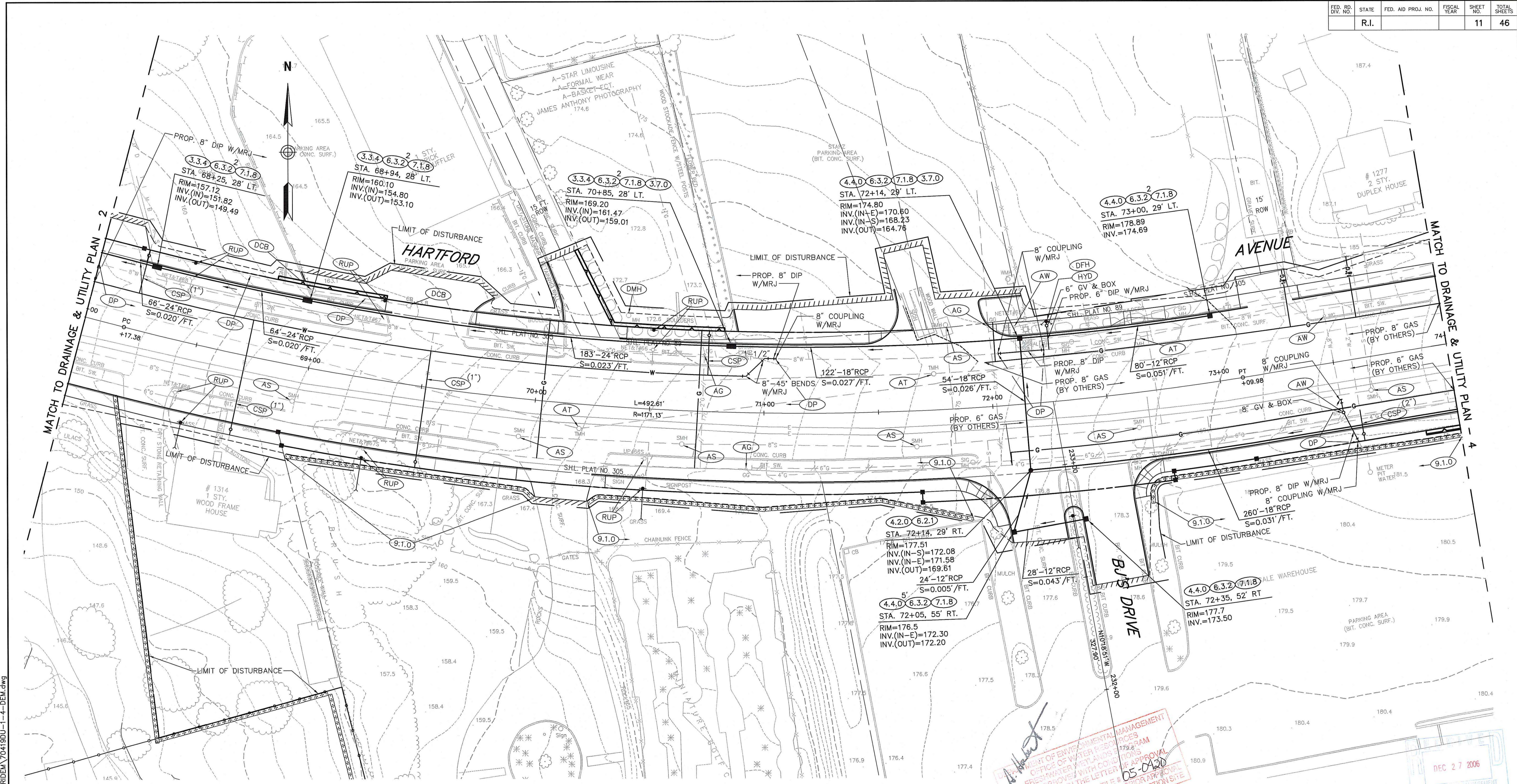
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**DRAINAGE & UTILITY  
PLAN - 2**  
STA. 62+00 TO STA. 68+00

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- NOTES:**
- SEE "TRAFFIC SIGNAL PLAN - 2" FOR CALLOUTS FOR PROPOSED TRAFFIC SIGNAL STRUCTURES, HANDHOLES, AND CONDUITS AT INTERSECTION OF HARTFORD AVENUE AT B.J.'S DRIVEWAY.
  - UTILITY LINES TO BE RAISED FOR PROPER VERTICAL CLEARANCE OVER PROPOSED TRAFFIC SIGNAL POLES.



APPROVED FOR CONSTRUCTION  
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 FILE # 05-0420  
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 DIVISION OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS DIVISION

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HARTFORD AVENUE**

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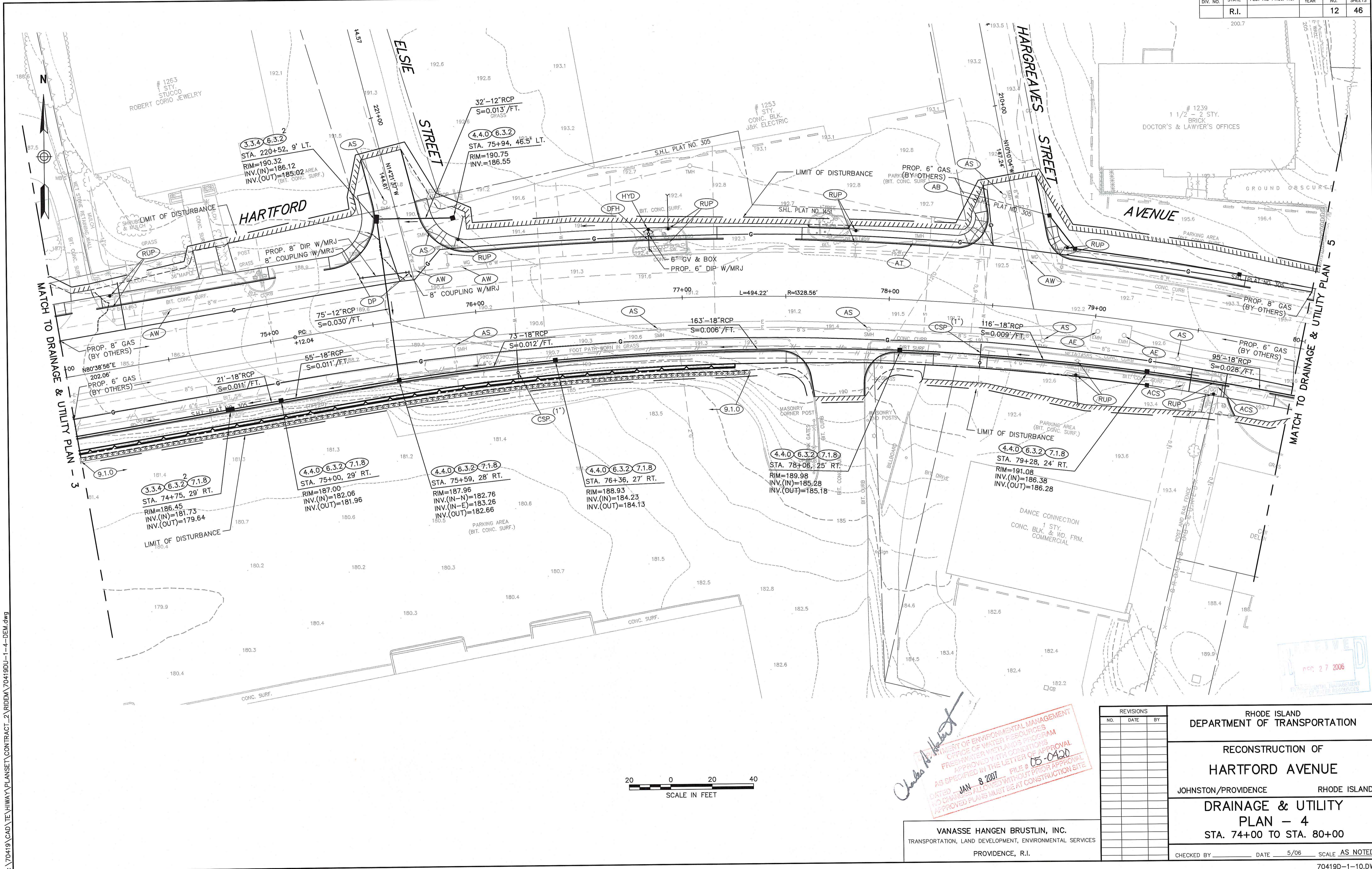
**DRAINAGE & UTILITY  
PLAN - 3**

STA. 68+00 TO STA. 74+00

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*Charles A. [Signature]*

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RECONSTRUCTION OF  
**HARTFORD AVENUE**

JOHNSTON/PROVIDENCE RHODE ISLAND

**DRAINAGE & UTILITY  
 PLAN - 4**

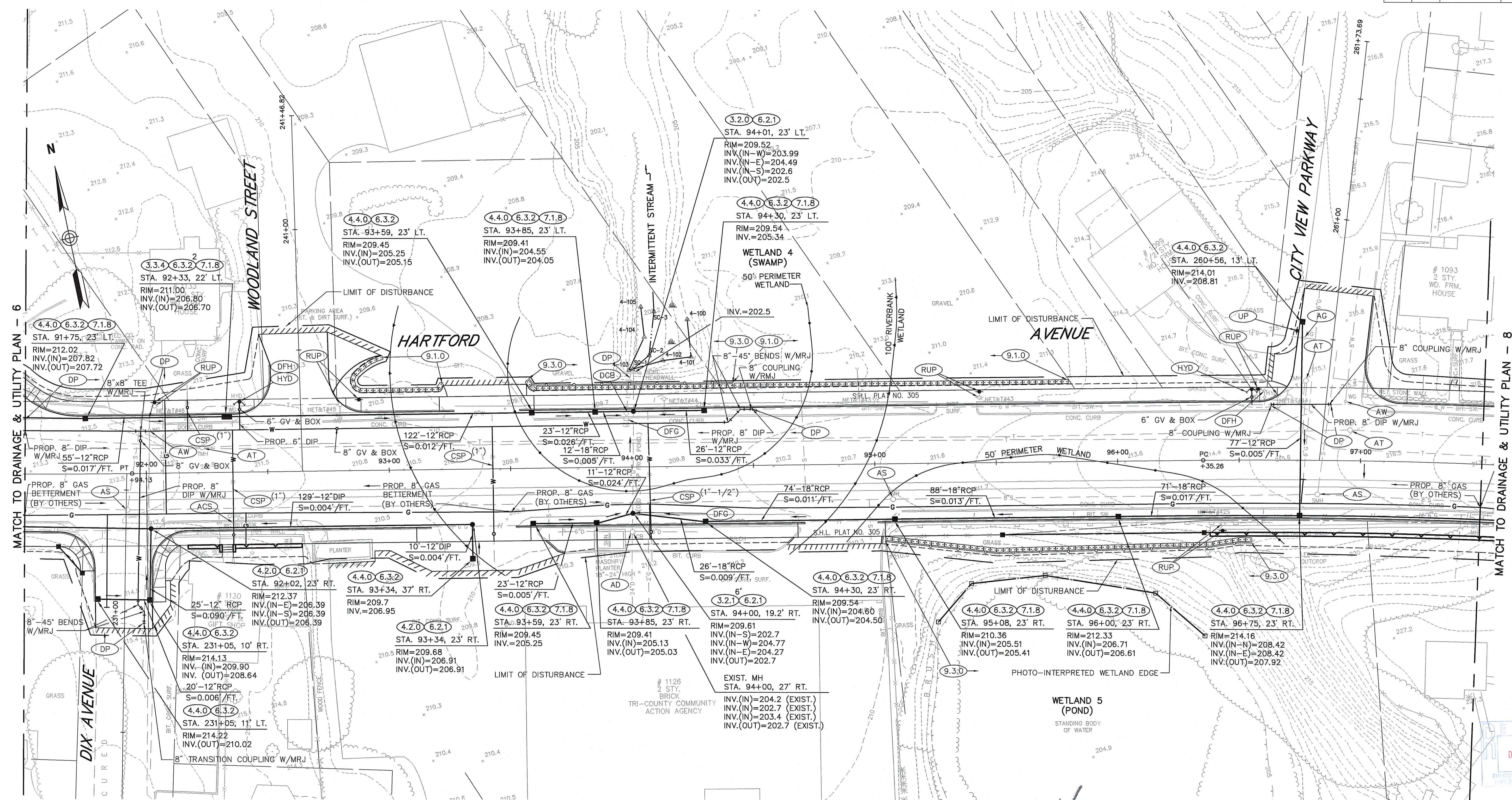
STA. 74+00 TO STA. 80+00

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MATCH TO DRAINAGE & UTILITY PLAN - 6

MATCH TO DRAINAGE & UTILITY PLAN - 8



*Charles H. [Signature]*

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**HARTFORD AVENUE**

JOHNSTON/PROVIDENCE RHODE ISLAND

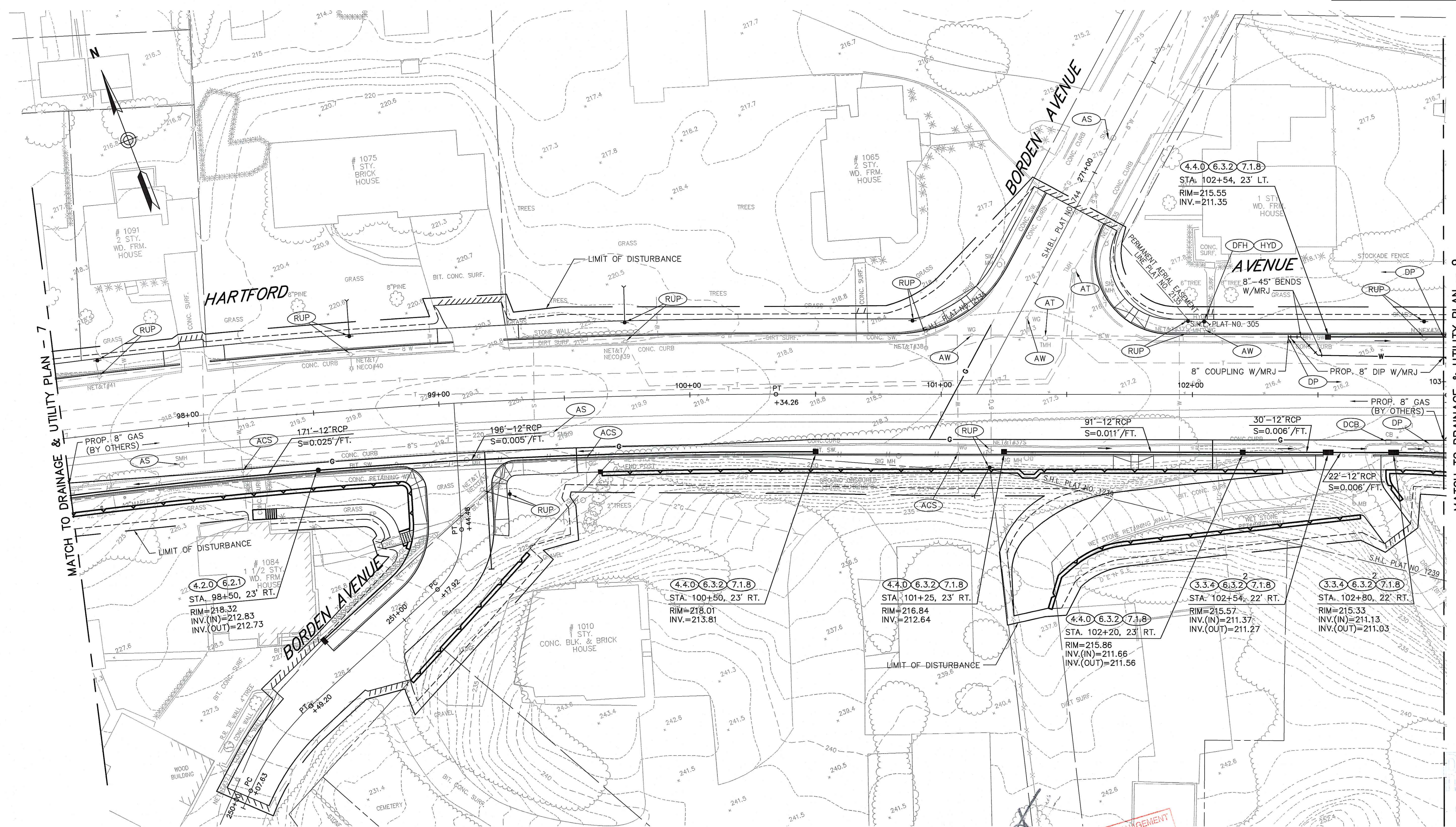
**DRAINAGE & UTILITY  
PLAN - 7**

STA. 91+50 TO STA. 97+50

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MATCH TO DRAINAGE & UTILITY PLAN - 7

MATCH TO DRAINAGE & UTILITY PLAN - 9

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- NOTES:**
- SEE "TRAFFIC SIGNAL PLAN - 3" FOR CALLOUTS FOR PROPOSED TRAFFIC SIGNAL STRUCTURES, HANDHOLES, AND CONDUITS AT INTERSECTION OF HARTFORD AVENUE AT BORDEN AVENUE (NORTH).
  - UTILITY LINES TO BE RAISED FOR PROPER VERTICAL CLEARANCE OVER PROPOSED TRAFFIC SIGNAL POLES.

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**RECONSTRUCTION OF  
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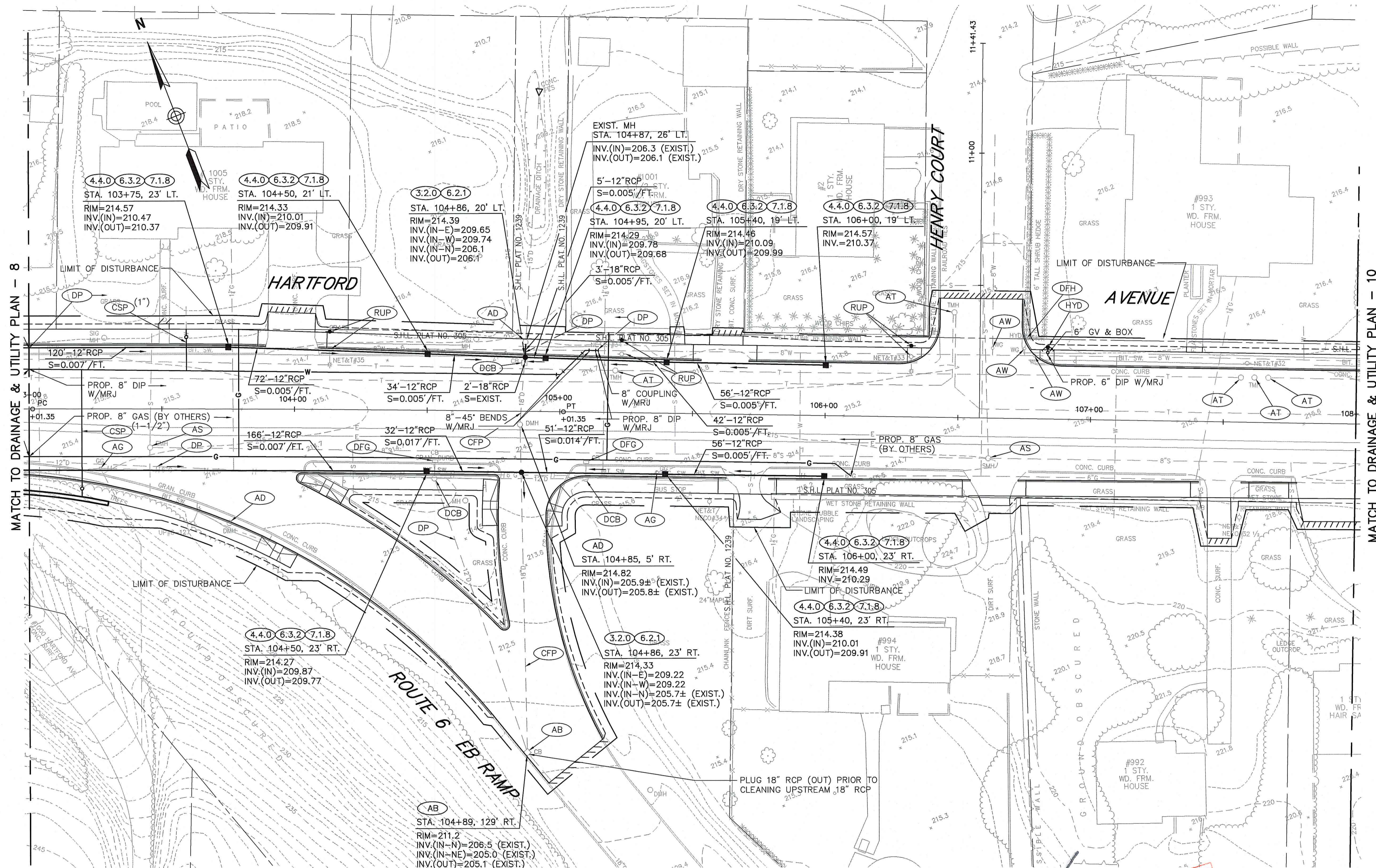
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**DRAINAGE & UTILITY  
PLAN - 8**

STA. 97+50 TO STA. 103+00

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MATCH TO DRAINAGE & UTILITY PLAN - 8

MATCH TO DRAINAGE & UTILITY PLAN - 10



*Charles A. [Signature]*  
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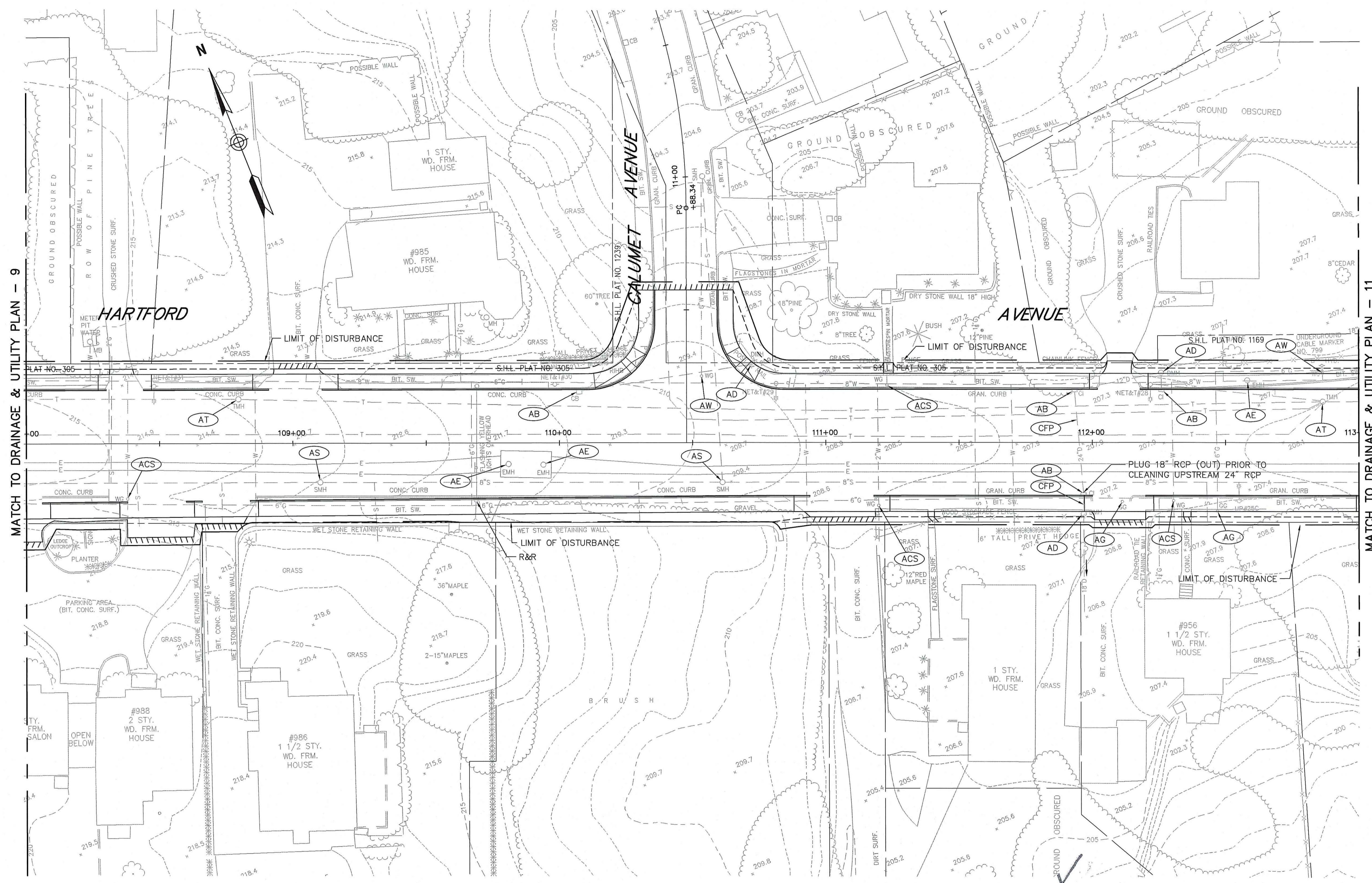
RECONSTRUCTION OF  
**HARTFORD AVENUE**

JOHNSTON/PROVIDENCE RHODE ISLAND

**DRAINAGE & UTILITY  
 PLAN - 9**  
 STA. 103+00 TO STA. 108+00

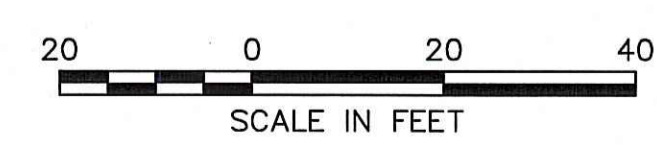
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MATCH TO DRAINAGE & UTILITY PLAN - 9

MATCH TO DRAINAGE & UTILITY PLAN - 11



*Charles A. [Signature]*  
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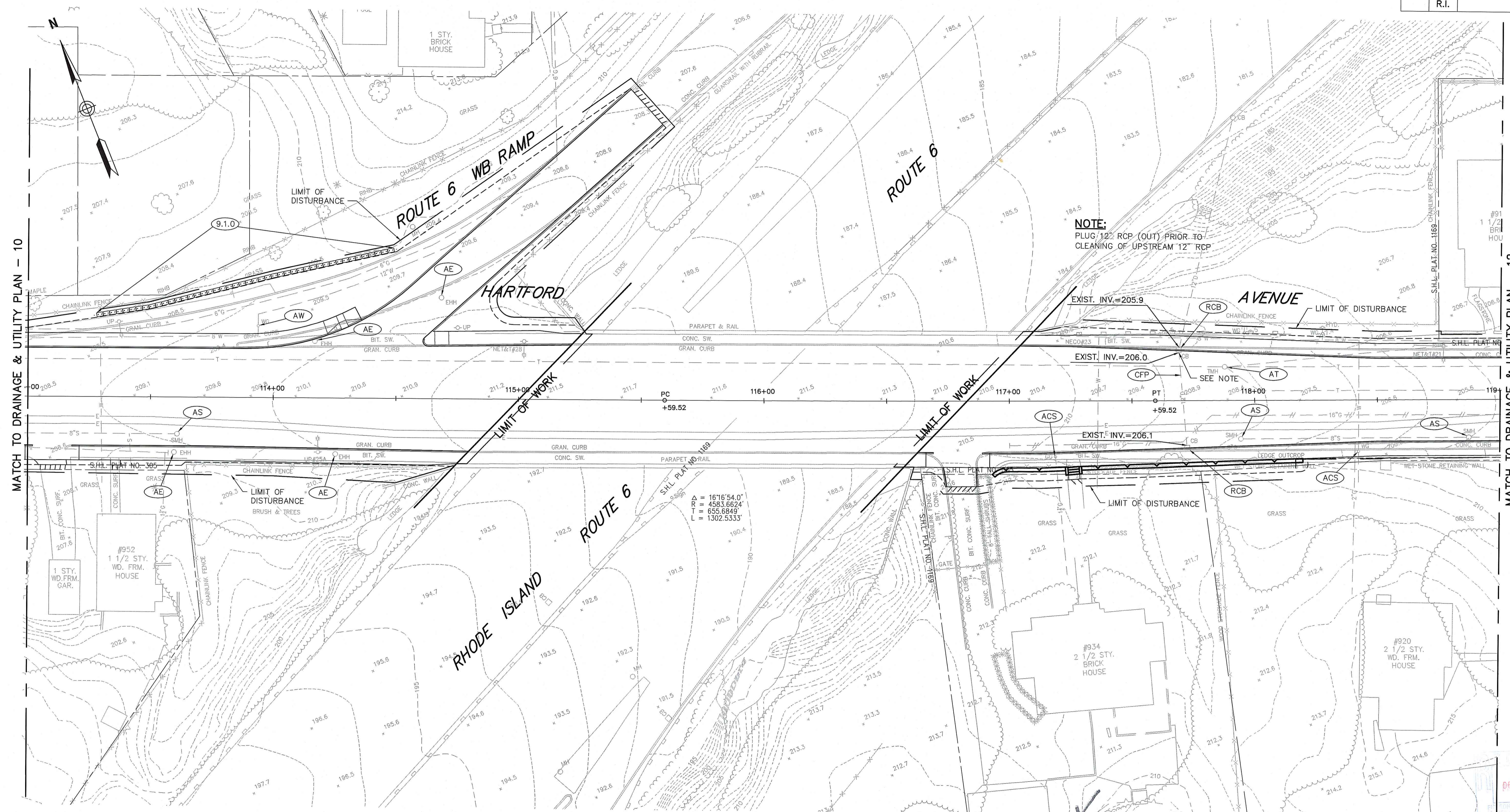


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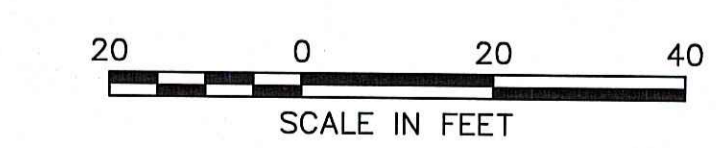
RECONSTRUCTION OF  
HARTFORD AVENUE  
JOHNSTON/PROVIDENCE RHODE ISLAND  
DRAINAGE & UTILITY  
PLAN - 10  
STA. 108+00 TO STA. 113+00  
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MATCH TO DRAINAGE & UTILITY PLAN - 10

MATCH TO DRAINAGE & UTILITY PLAN - 12



*Charles A. Hackett*  
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 FRESHWATER WETLANDS PROGRAM  
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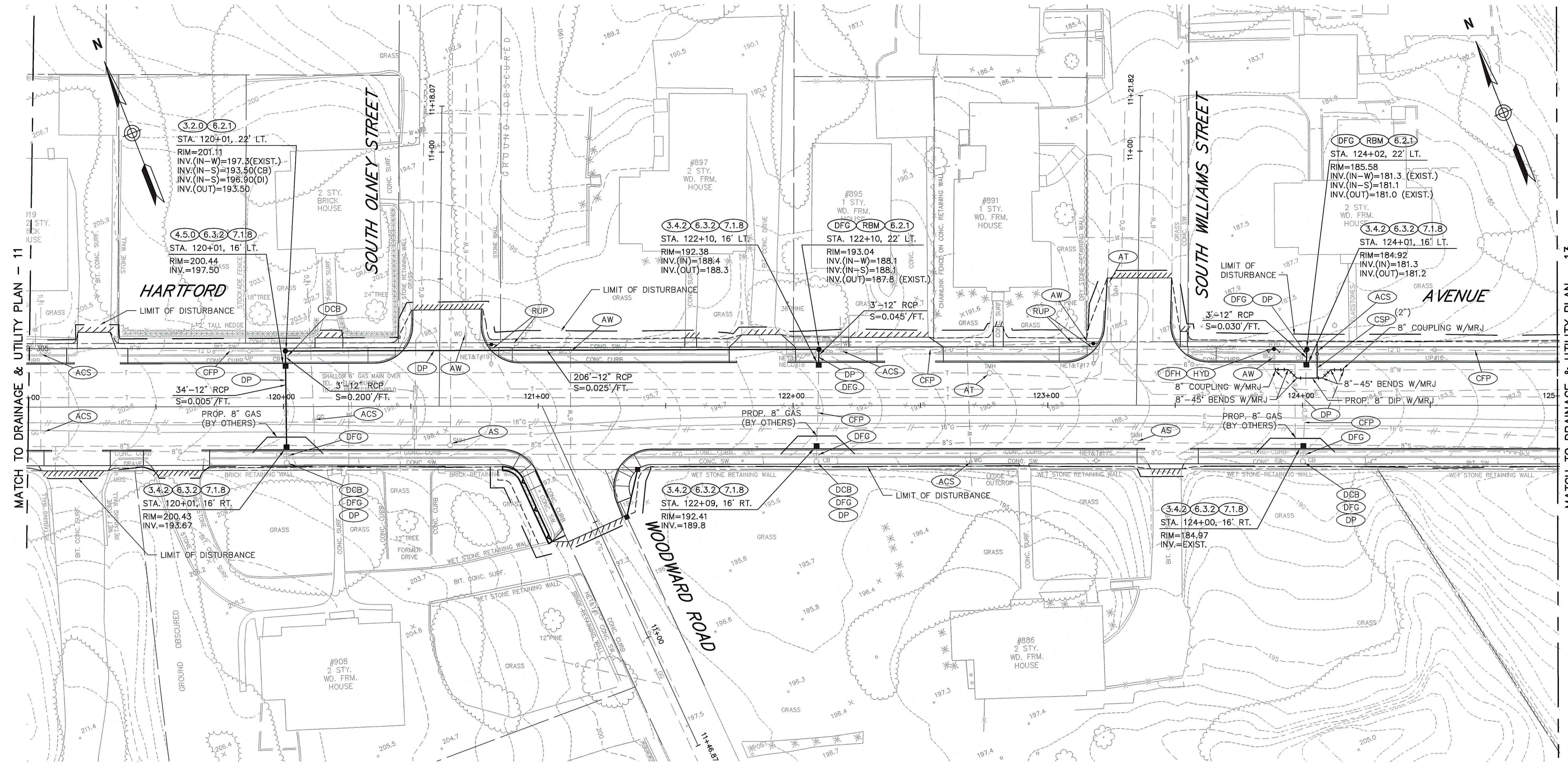
RECONSTRUCTION OF  
HARTFORD AVENUE

JOHNSTON/PROVIDENCE RHODE ISLAND

DRAINAGE & UTILITY  
PLAN - 11  
STA. 113+00 TO STA. 119+00

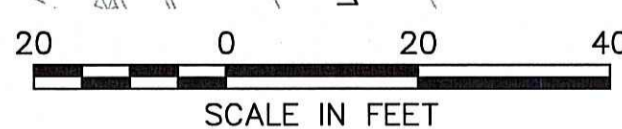
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MATCH TO DRAINAGE & UTILITY PLAN - 11

MATCH TO DRAINAGE & UTILITY PLAN - 13



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*Charles A. Hackett*  
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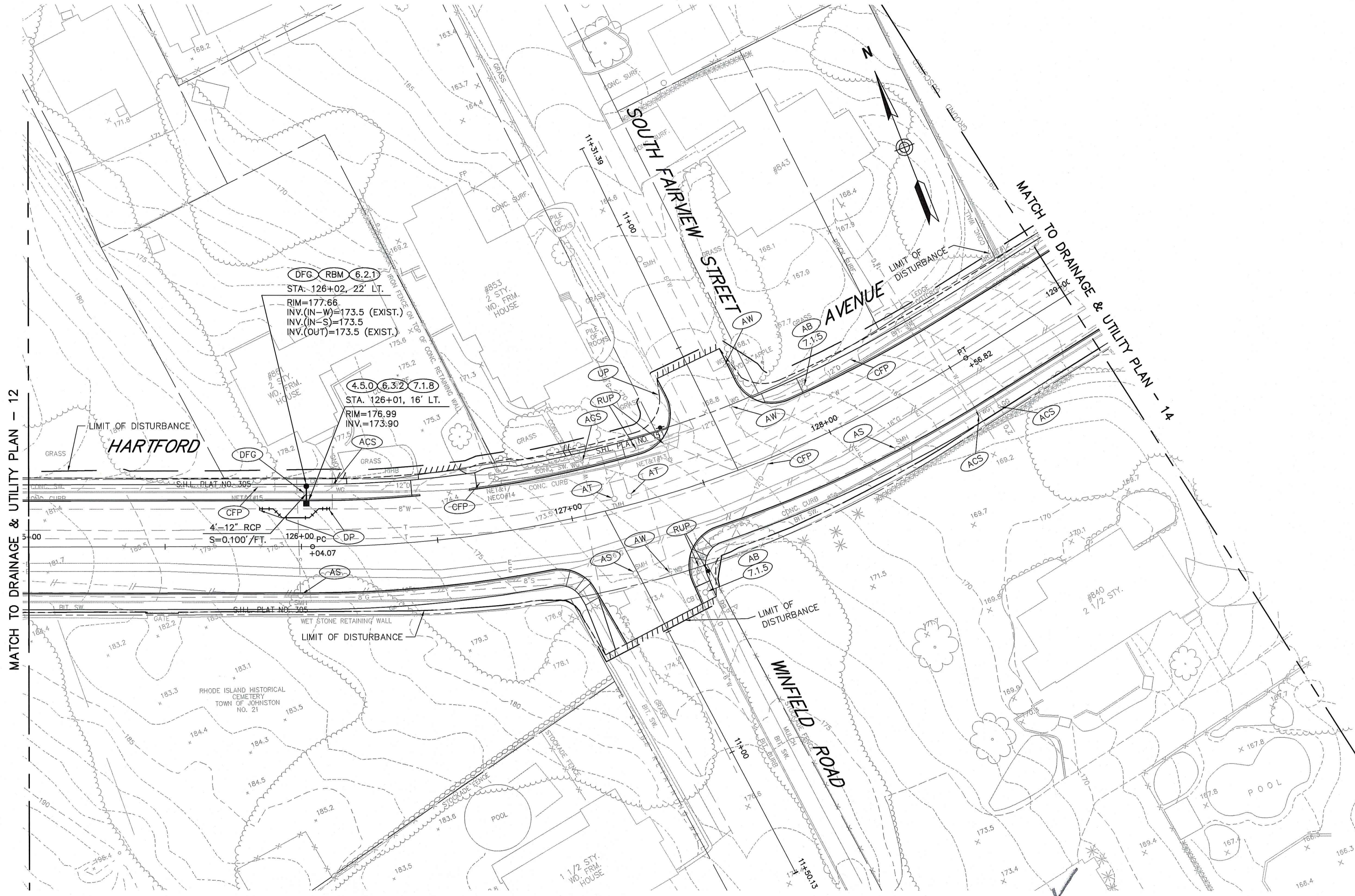
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RECONSTRUCTION OF  
**HARTFORD AVENUE**  
 JOHNSTON/PROVIDENCE RHODE ISLAND

**DRAINAGE & UTILITY  
 PLAN - 12**  
 STA. 119+00 TO STA. 125+00

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MATCH TO DRAINAGE & UTILITY PLAN - 12

MATCH TO DRAINAGE & UTILITY PLAN - 14



*Charles A. Albert*  
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NO.	DATE	BY

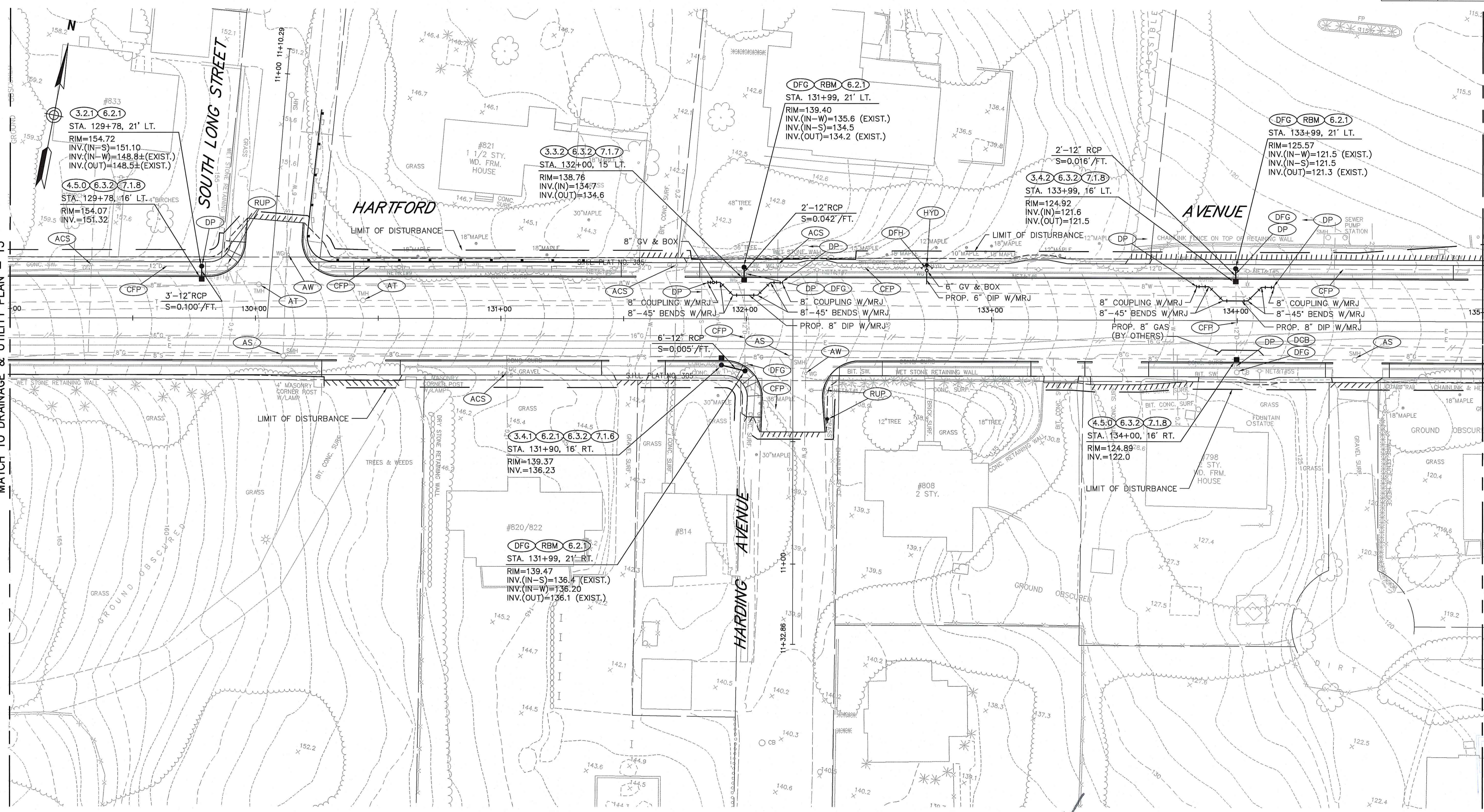
RHODE ISLAND DEPARTMENT OF TRANSPORTATION	
RECONSTRUCTION OF HARTFORD AVENUE	
JOHNSTON/PROVIDENCE	RHODE ISLAND
DRAINAGE & UTILITY PLAN - 13 STA. 125+00 TO STA. 129+00	
CHECKED BY _____	DATE 5/06 SCALE AS NOTED



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MATCH TO DRAINAGE & UTILITY PLAN - 13

MATCH TO DRAINAGE & UTILITY PLAN - 15



*Charles A. [Signature]*

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FRESHWATER WETLANDS PROGRAM  
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RECONSTRUCTION OF  
**HARTFORD AVENUE**

JOHNSTON/PROVIDENCE RHODE ISLAND

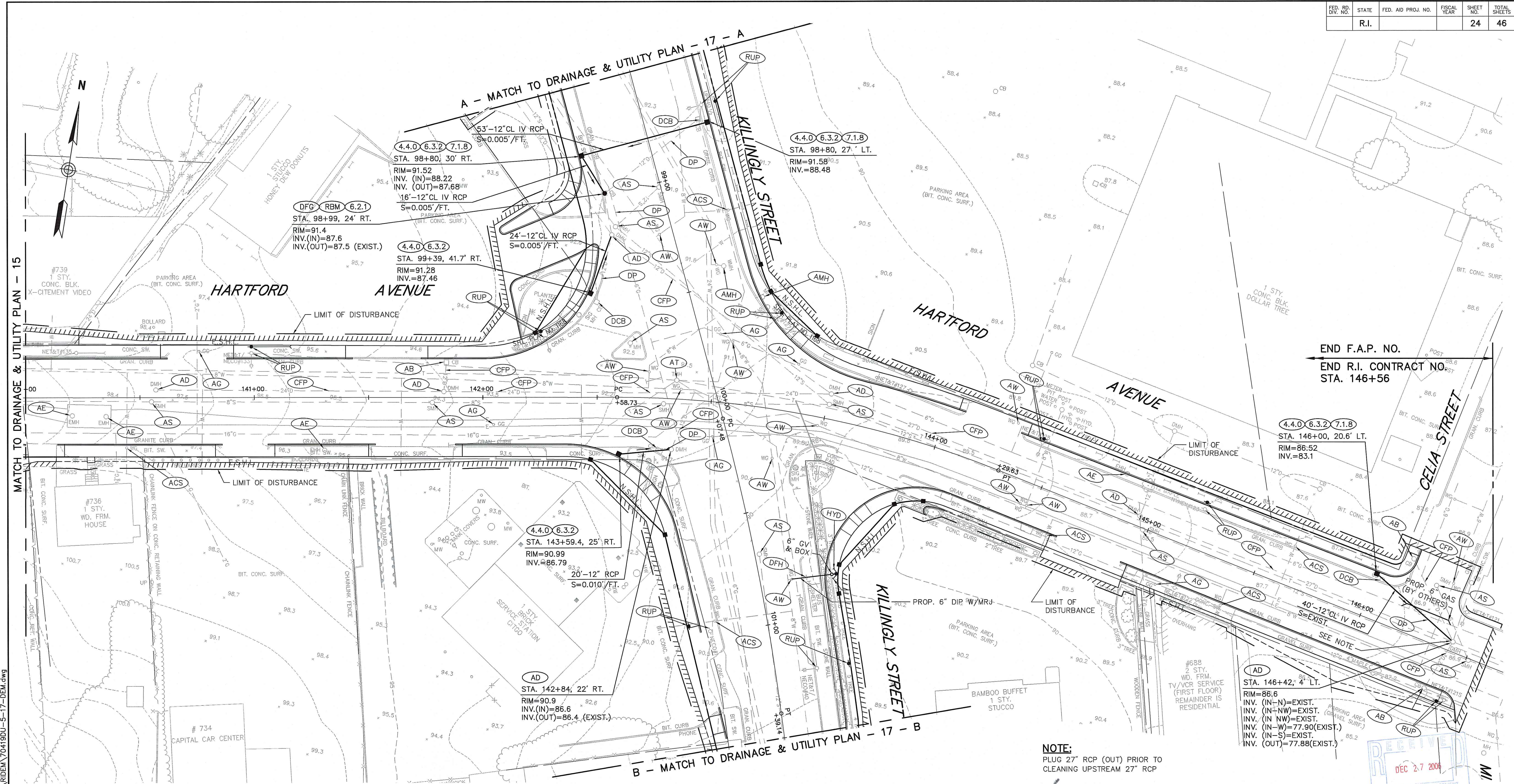
**DRAINAGE & UTILITY  
PLAN - 14**  
STA. 129+00 TO STA. 135+00

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MATCH TO DRAINAGE & UTILITY PLAN - 15

A - MATCH TO DRAINAGE & UTILITY PLAN - 17 - A

B - MATCH TO DRAINAGE & UTILITY PLAN - 17 - B

END F.A.P. NO.  
END R.I. CONTRACT NO.  
STA. 146+56

- NOTES:
- UTILITY LINES TO BE RAISED FOR PROPER VERTICAL CLEARANCE OVER PROPOSED TRAFFIC SIGNAL POLES.
  - SEE "TRAFFIC SIGNAL PLAN - 4" FOR CALLOUTS FOR PROPOSED TRAFFIC SIGNAL STRUCTURES, HANDHOLES, AND CONDUITS AT INTERSECTION OF HARTFORD AVENUE AT KILLINGLY STREET.



NOTE:  
PLUG 27" RCP (OUT) PRIOR TO CLEANING UPSTREAM 27" RCP

*Charles A. Hackett*  
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED JAN 9 2007 FILE # 05-0120  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

VANASSE HANGEN BRUSTLIN, INC.  
 TRANSPORTATION, LAND DEVELOPMENT, ENVIRONMENTAL SERVICES  
 PROVIDENCE, R.I.

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RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION

RECONSTRUCTION OF  
HARTFORD AVENUE

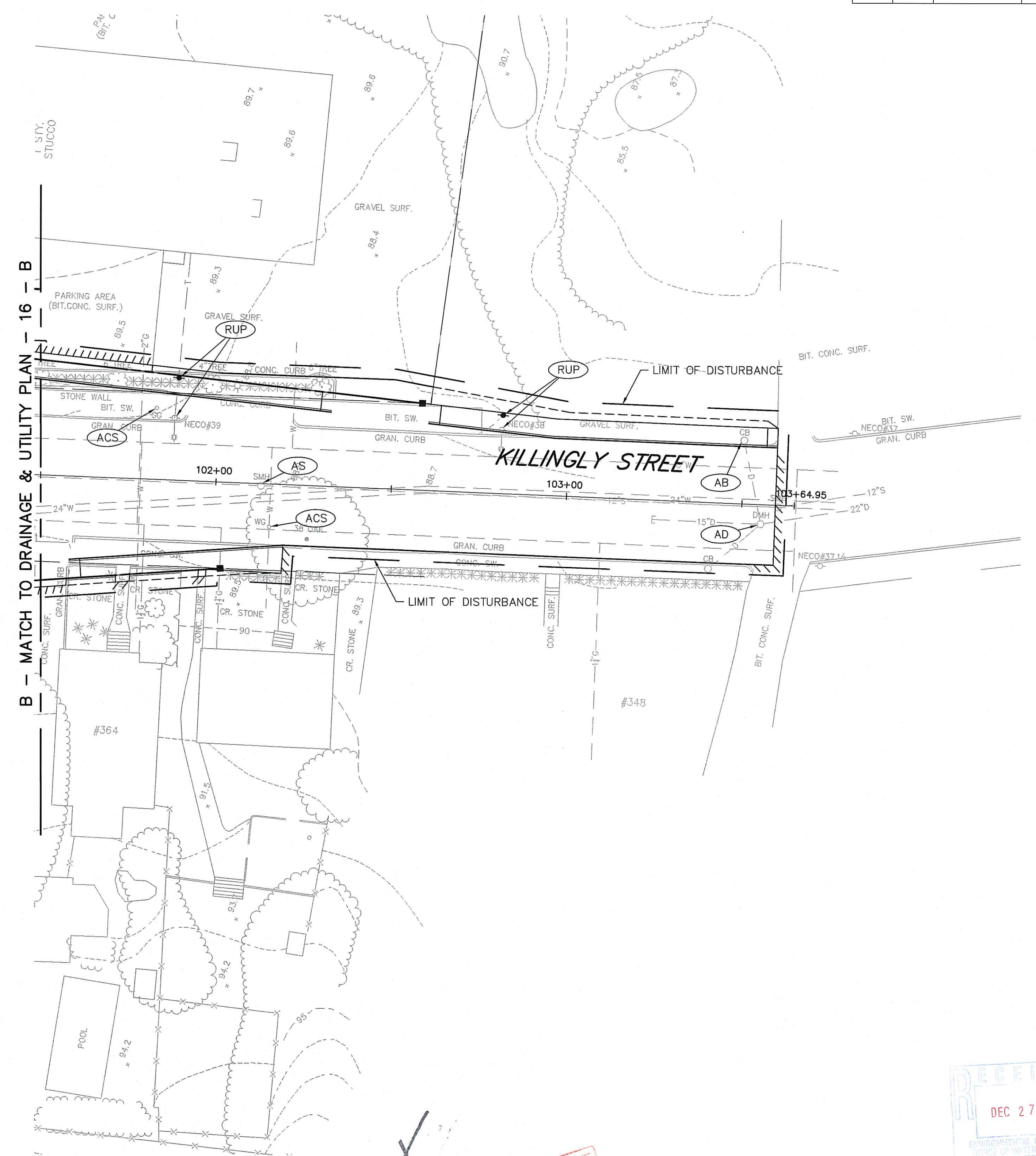
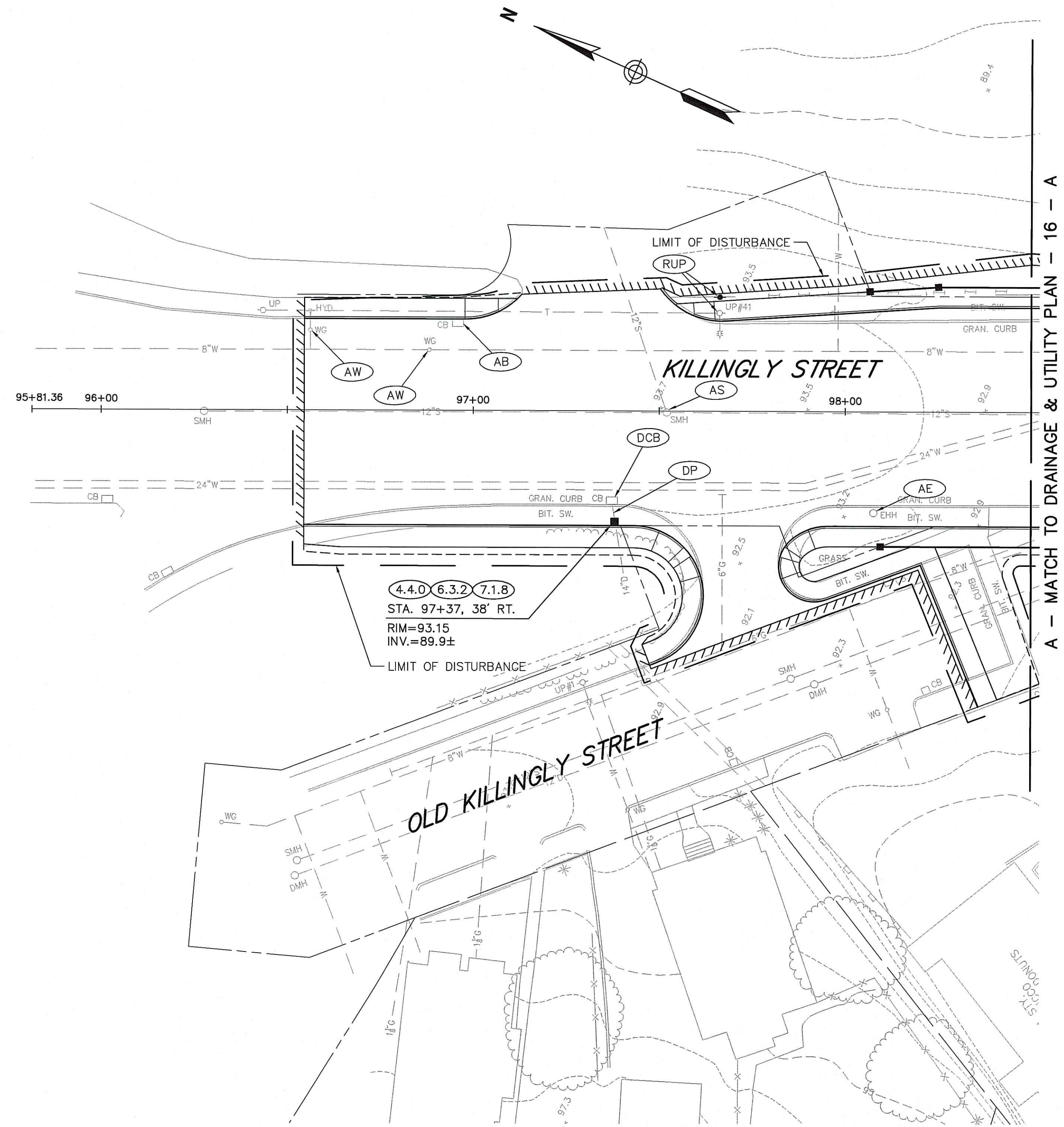
JOHNSTON/PROVIDENCE RHODE ISLAND

DRAINAGE & UTILITY  
PLAN - 16  
STA. 140+00 TO STA. 146+56

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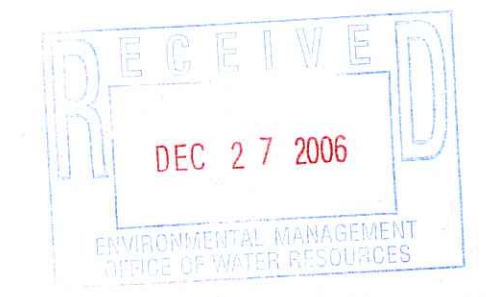


A - MATCH TO DRAINAGE & UTILITY PLAN - 16 - A

B - MATCH TO DRAINAGE & UTILITY PLAN - 16 - B



*Charles A. Hest*  
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
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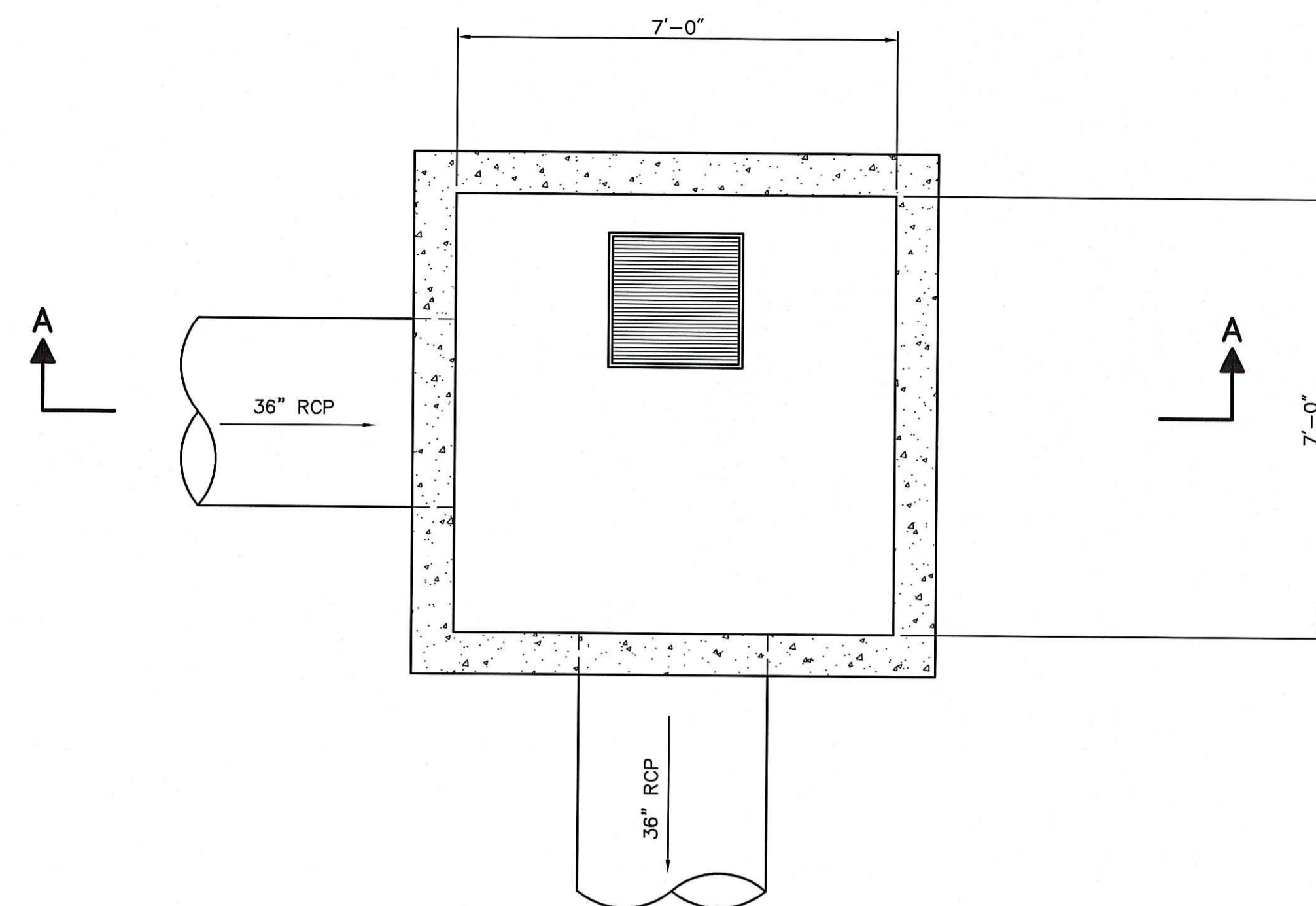
RECONSTRUCTION OF  
**HARTFORD AVENUE**  
 JOHNSTON/PROVIDENCE RHODE ISLAND

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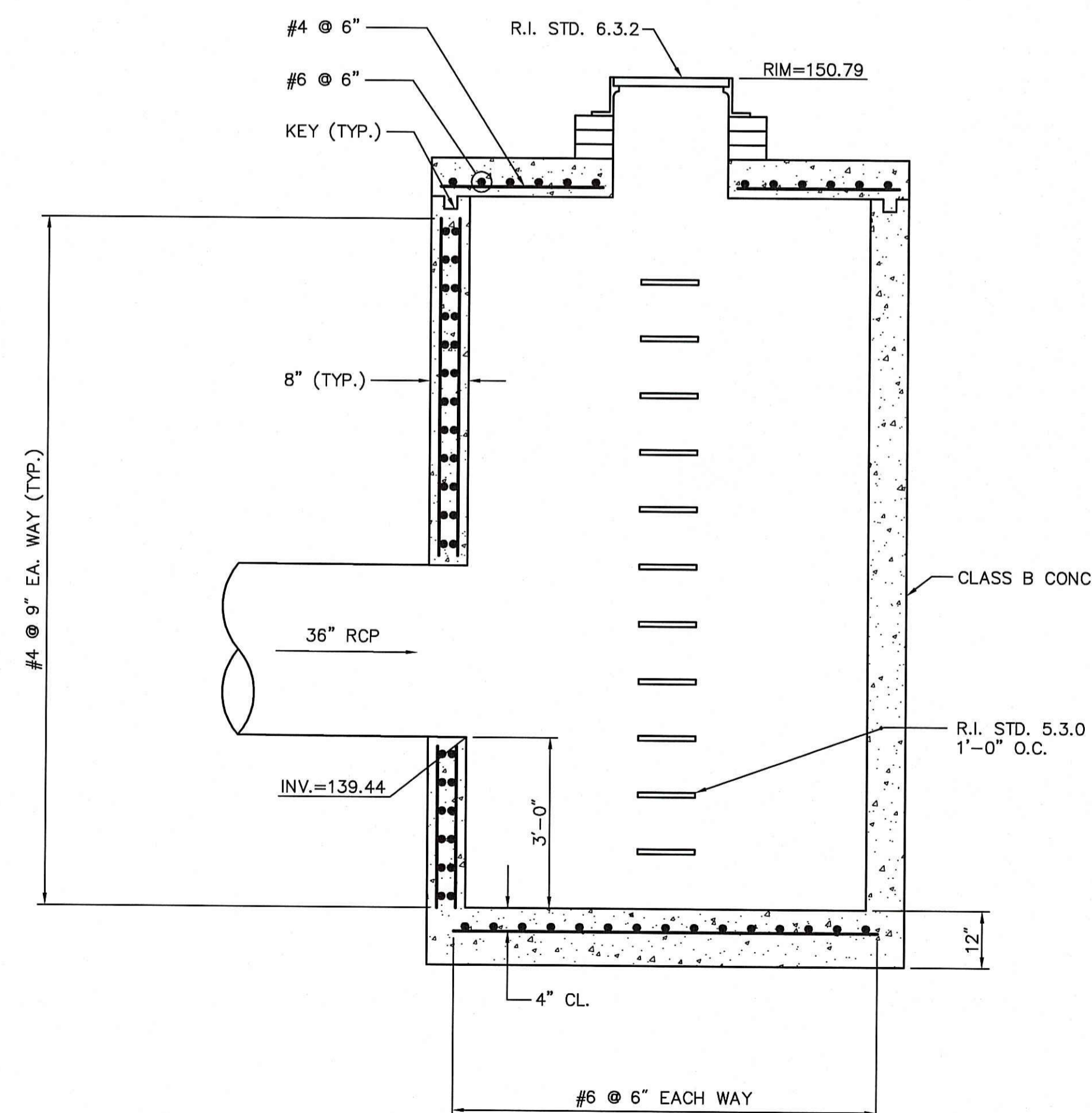
DRAINAGE & UTILITY  
**PLAN - 17**  
 KILLINGLY STREET

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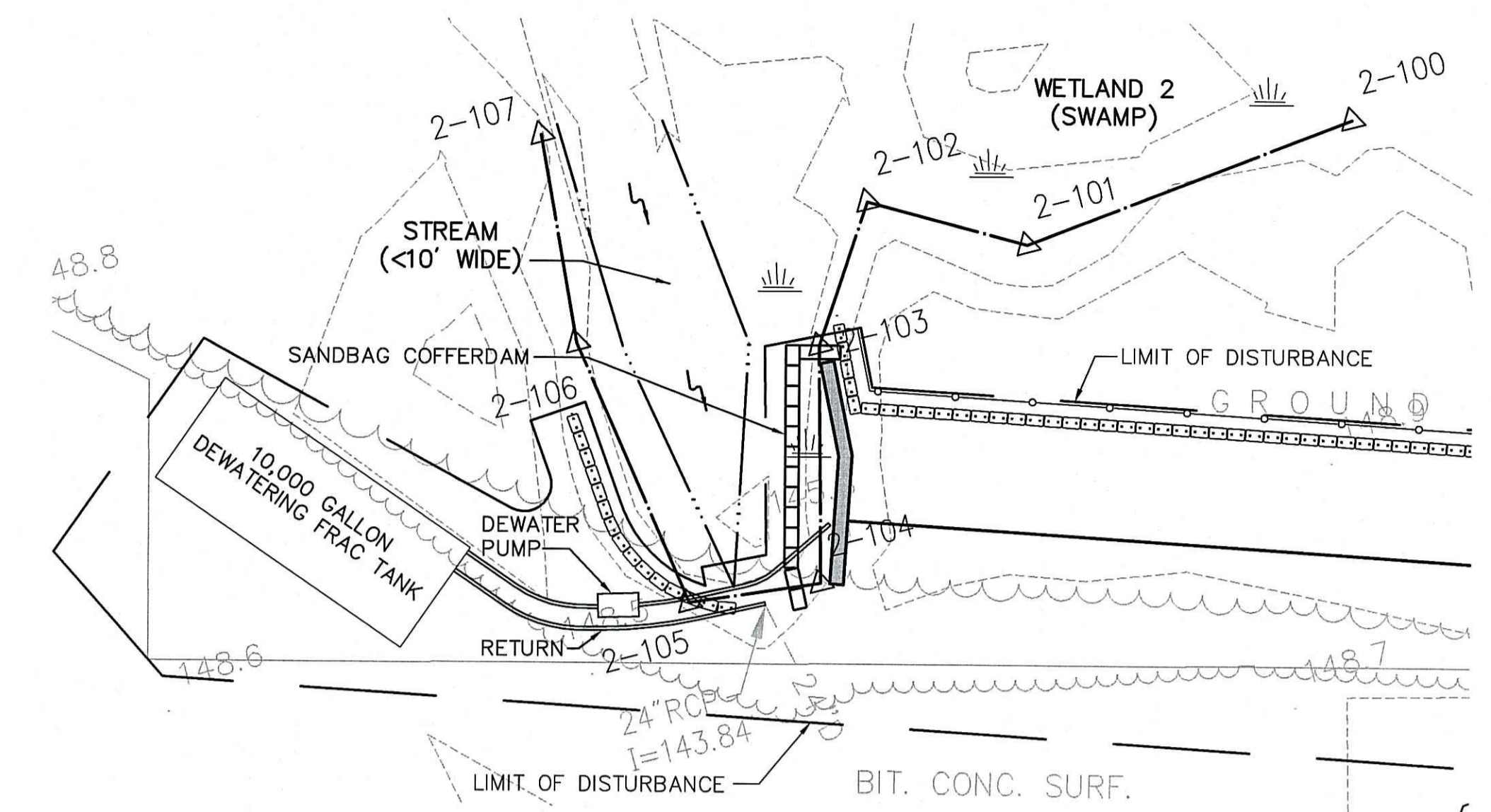


**PLAN**

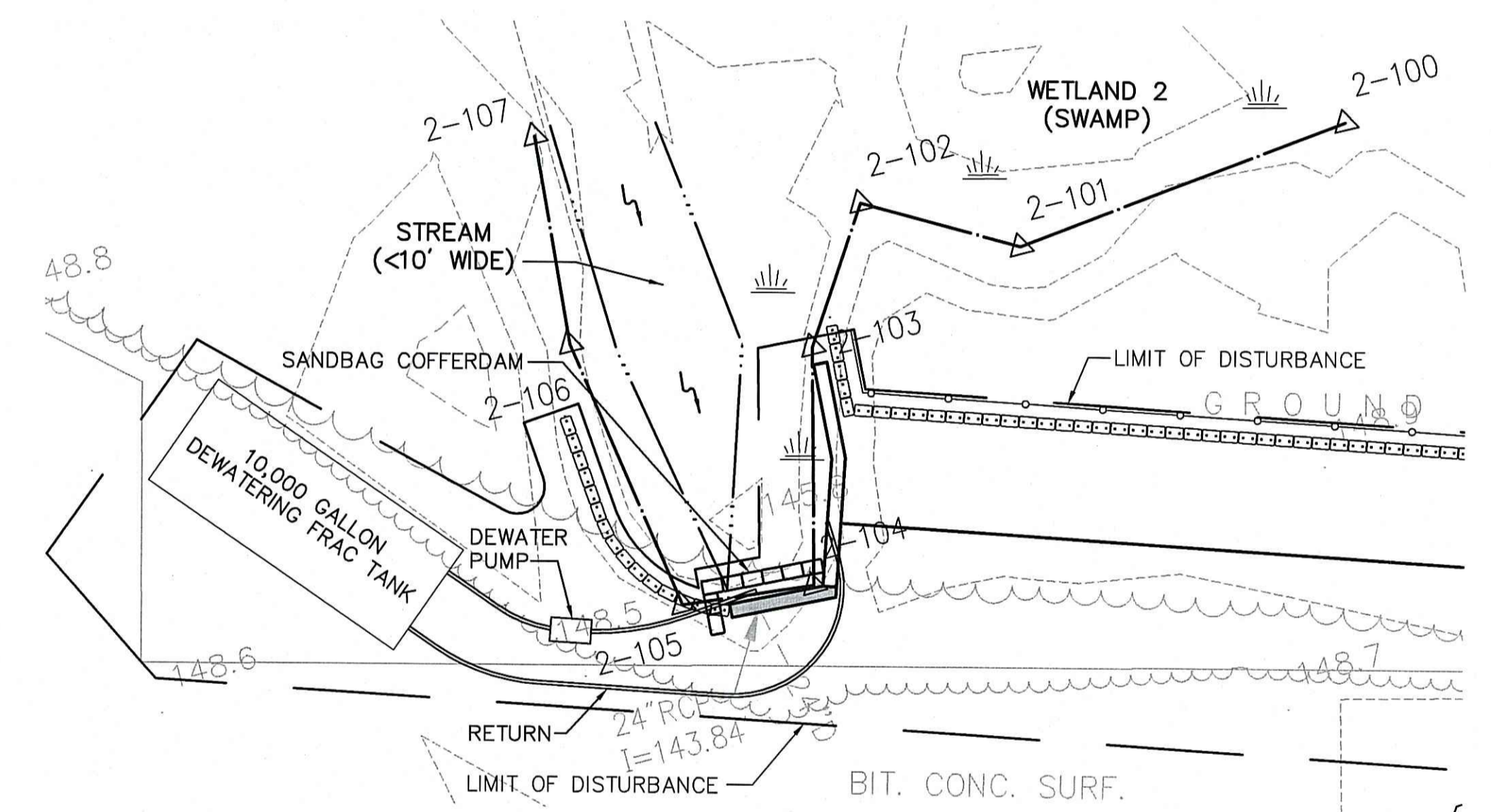


**SECTION A-A**

**7'-0" DIA. CATCH BASIN (CB7)**  
**STA. 67+00 LT.**  
**SCALE: 1"=2'**

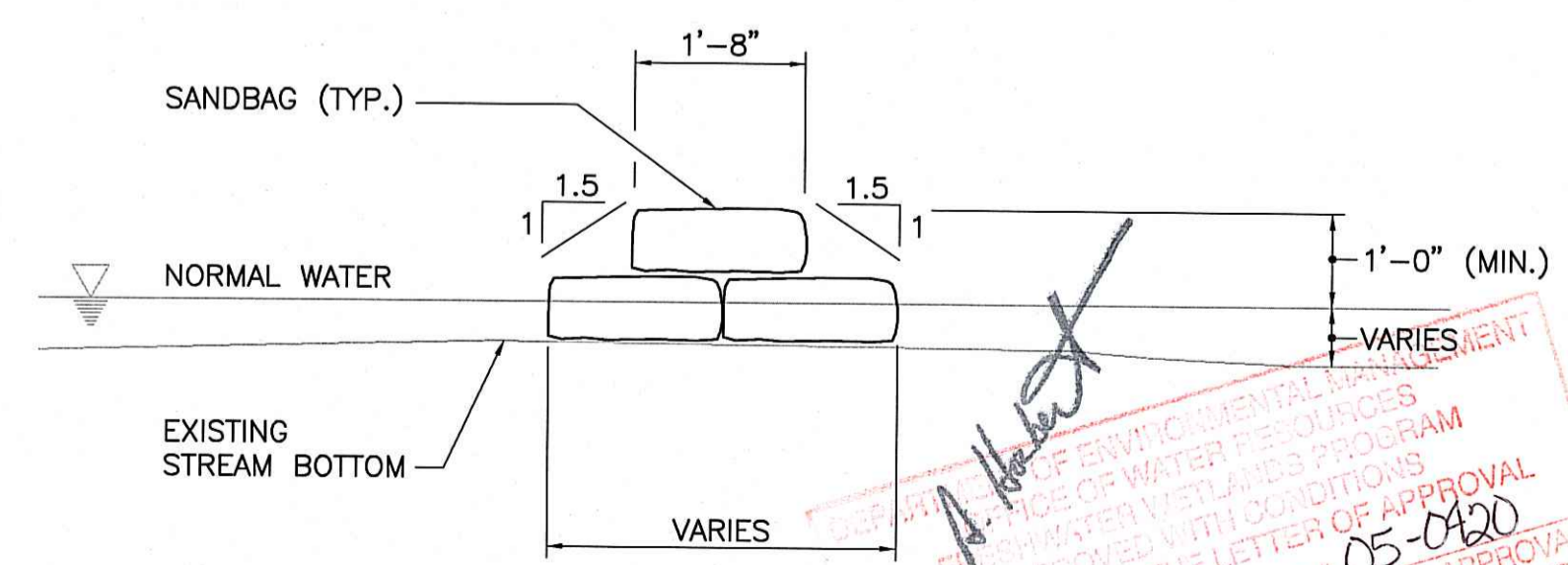
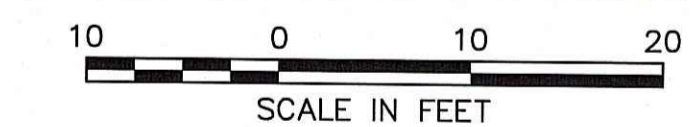


**PHASE 1**



**PHASE 2**

**COFFERDAM DEPLOYMENT SEQUENCE**



**SANDBAG COFFERDAM**  
**NOT TO SCALE**

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**VANASSE HANGEN BRUSTLIN, INC.**  
 TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES  
 PROVIDENCE, R.I.

**PHASE 1**  
 INITIAL COFFERDAM ISOLATES WORK AREA TO INSTALL NEW CULVERT AND HEADWALL. PROVIDE 10,000 GALLON PORTABLE FRAC TANK TO TREAT DEWATERING PUMPATE. RETURN LINE TO BE DIRECTED INTO EXISTING 24-INCH RCP.

**NOTE:**  
 SEE SHEET 10 FOR LOCATION.

**PHASE 2**  
 ONCE NEW HEADWALL IS CURED AND FORMS REMOVED, REMOVE COFFERDAM. INSTALL NEW COFFERDAM TO DIVERT WATER TO NEW CULVERT AND FACILITATE CONSTRUCTION OF FINAL HEADWALL SECTION. DEWATER RETURN LINE TO BE INSTALLED IN NEW 30-INCH RCP.

- NOTES:**
1. THE STORMWATER MANAGEMENT FACILITY SHOWN ON SHEETS 27 & 28 MUST BE CONSTRUCTED PRIOR TO INITIATING THIS DIVERSION.
  2. THE COFFERDAM IS TO BE REMOVED WITHIN 30 DAYS OF THE FINAL HEADWALL SECTION CURING AND FORM REMOVAL.
  3. FRAC TANK TO BE REMOVED AFTER DEWATERING OPERATIONS ARE COMPLETE.
  4. SEDIMENT FROM FRAC TANK TO BE DISPOSED OF OFF-SITE IN A MANNER CONSISTENT WITH STATE AND FEDERAL REGULATIONS.

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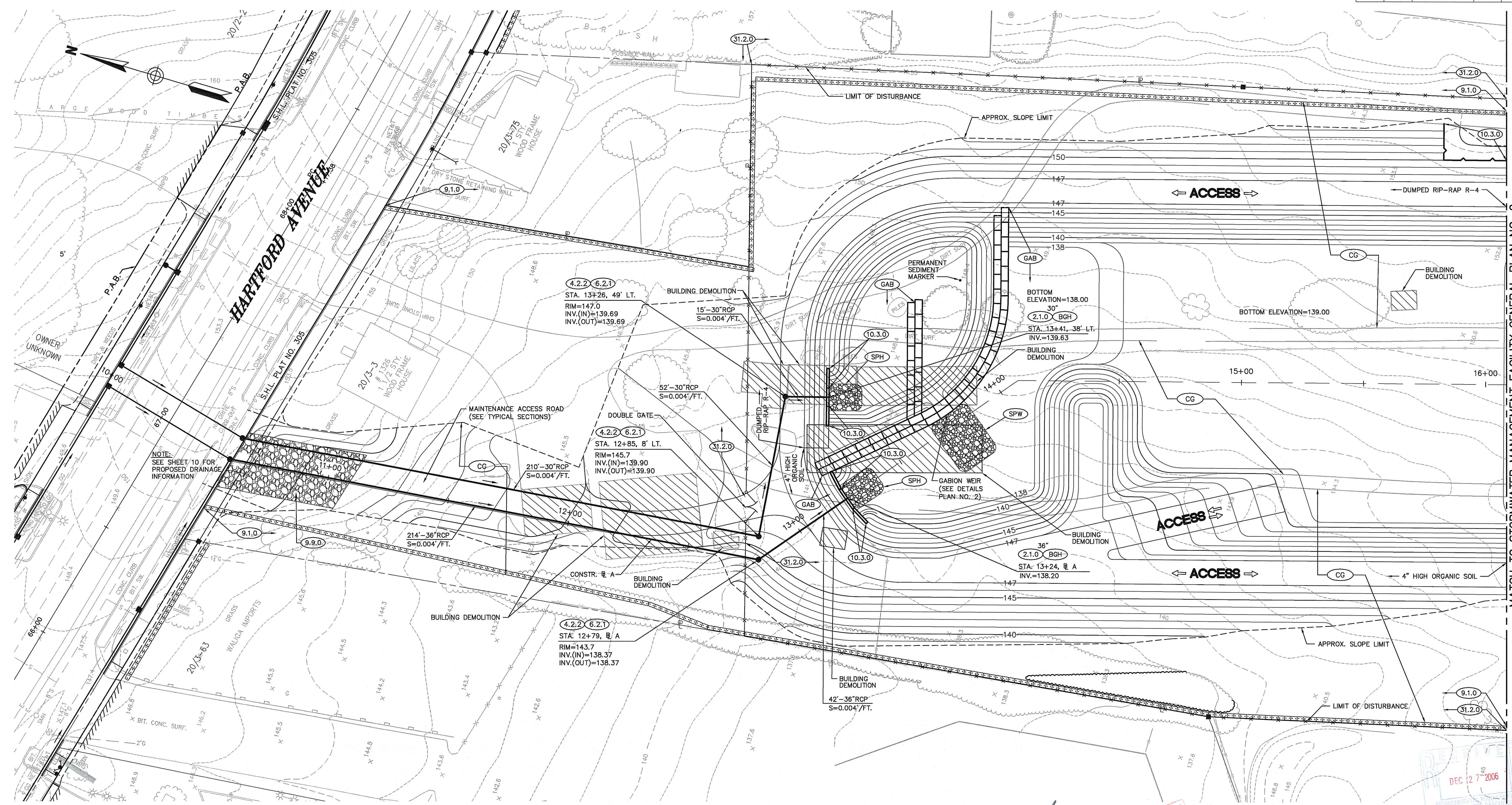
**RHODE ISLAND**  
**DEPARTMENT OF TRANSPORTATION**

**RECONSTRUCTION OF**  
**HARTFORD AVENUE**

JOHNSTON/PROVIDENCE      RHODE ISLAND

**DRAINAGE DETAILS**

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NOTE: SEE SHEET 10 FOR PROPOSED DRAINAGE INFORMATION



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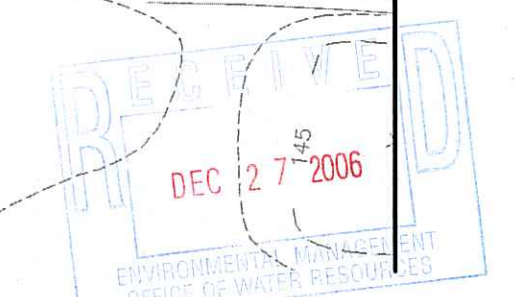
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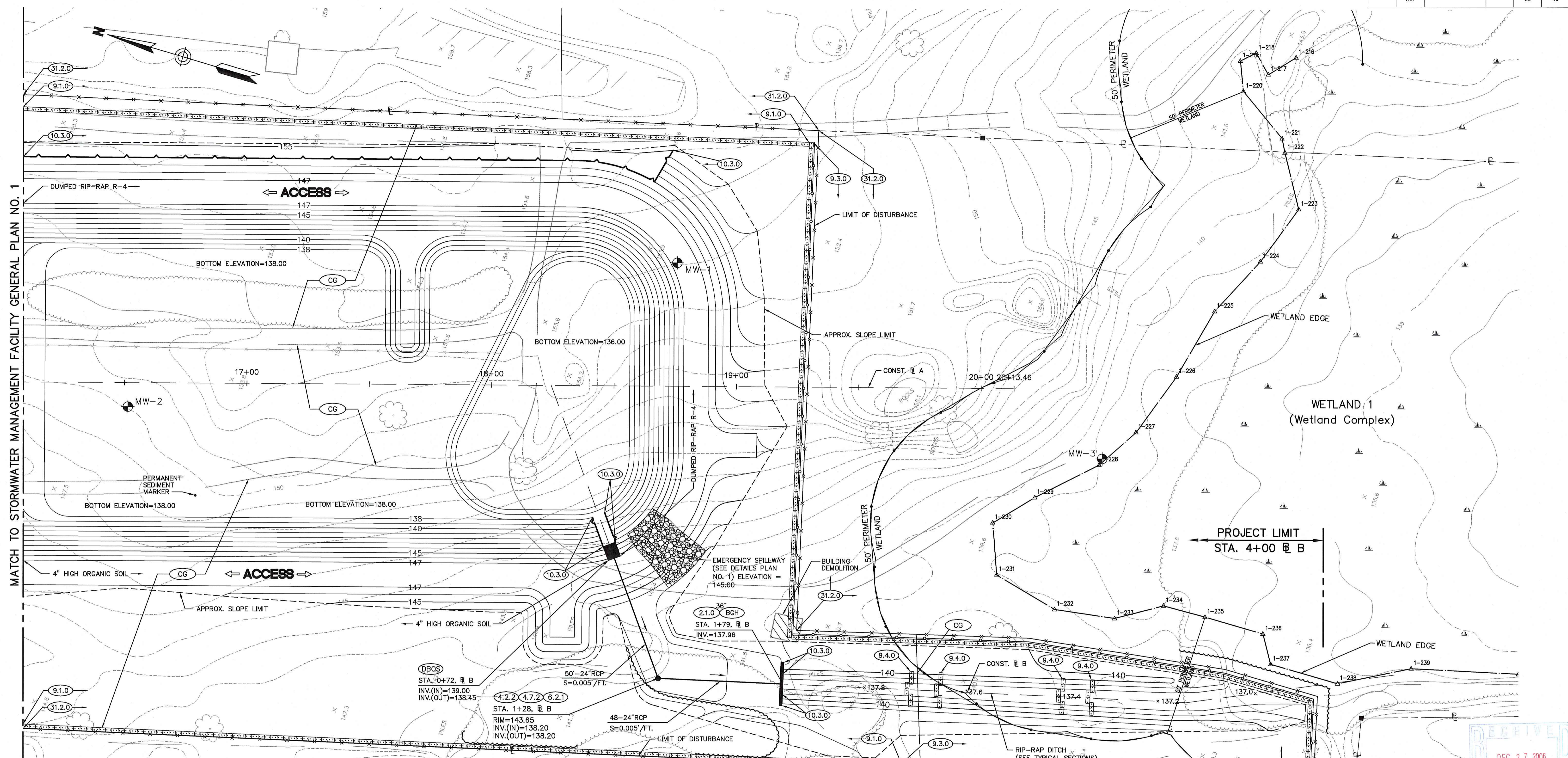
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**RHODE ISLAND**  
**DEPARTMENT OF TRANSPORTATION**  
 RECONSTRUCTION OF  
**HARTFORD AVENUE**  
 JOHNSTON/PROVIDENCE RHODE ISLAND  
**STORMWATER MANAGEMENT FACILITY**  
**GENERAL PLAN NO. 1**  
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MATCH TO STORMWATER MANAGEMENT FACILITY GENERAL PLAN NO. 2





**LONG-TERM MAINTENANCE ACTIVITIES FOR STORMWATER MANAGEMENT FACILITY**

ACTIVITY	SCHEDULE
IF NECESSARY, RE-PLANT WETLAND VEGETATION TO MAINTAIN AT LEAST 50% SURFACE AREA COVERAGE IN WETLAND PLANTS AFTER THE SECOND AND THIRD GROWING SEASONS.	ANNUAL FALL INSPECTION
INSPECT FOR INVASIVE VEGETATION AND REMOVE WHERE POSSIBLE. MONITOR WATER LEVELS IN THE WETLANDS. INSPECT FOR DAMAGE TO THE EMBANKMENT AND INLET/OUTLET STRUCTURES. NOTE SIGNS OF HYDROCARBON BUILD-UP, AND DEAL WITH APPROPRIATELY. MONITOR FOR SEDIMENT ACCUMULATION IN THE FACILITY, FOREBAY AND MICROPPOOL.	ANNUAL INSPECTION
MOW SIDE SLOPES. REPAIR UNDERCUT OR ERODED AREAS. HARVEST WETLAND PLANTS THAT HAVE BEEN "CHOKED OUT" BY SEDIMENT BUILD-UP (IF NEEDED).	AS NEEDED MAINTENANCE
EXAMINE TO ENSURE THAT INLET AND OUTLET DEVICES ARE FREE OF DEBRIS AND ARE OPERATIONAL. CLEAN AND REMOVE DEBRIS FROM INLET AND OUTLET STRUCTURES.	FREQUENT (QUARTERLY)
REMOVAL OF SEDIMENT FROM THE FOREBAY AND MICROPPOOL.	AS NEEDED, MIN. 5 YEAR MAINTENANCE
MONITOR SEDIMENT ACCUMULATIONS, AND REMOVE SEDIMENT WHEN THE WETLAND VOLUME HAS BECOME REDUCED SIGNIFICANTLY, PLANTS ARE "CHOKED" WITH SEDIMENT, OR THE WETLAND BECOMES EUTROPHIC.	AS NEEDED, TYPICAL 20 TO 50 YEAR MAINTENANCE



*Chris A. [Signature]*

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 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 DIVISION OF WATER RESOURCES  
 WETLANDS MANAGEMENT PROGRAM  
 THIS PLAN WAS PREPARED IN ACCORDANCE WITH REGULATIONS  
 AND CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE  
 JAN 8 2007 FILE # 05-0120

VANASSE HANGEN BRUSTLIN, INC.  
 TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES  
 PROVIDENCE, R.I.

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RHODE ISLAND  
 DEPARTMENT OF TRANSPORTATION

RECONSTRUCTION OF  
 HARTFORD AVENUE

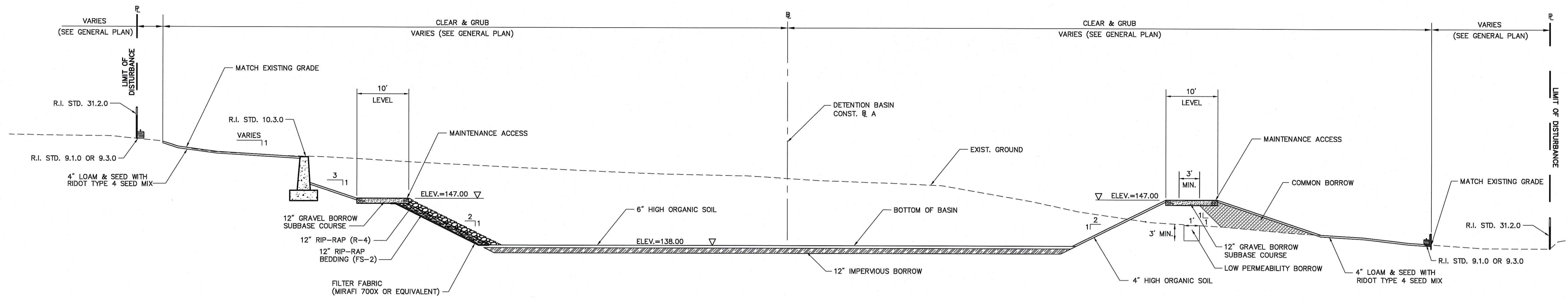
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STORMWATER MANAGEMENT FACILITY  
 GENERAL PLAN NO. 2

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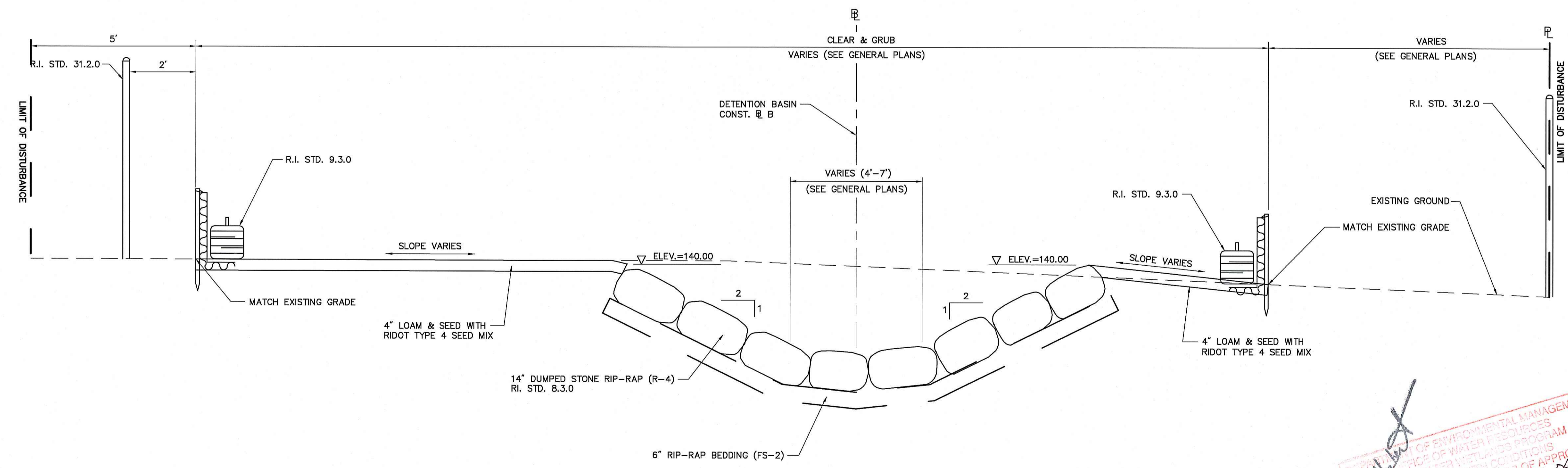
### EXTENDED DETENTION SHALLOW TYPICAL SECTION

STA. 13+24 TO STA. 18+56, 'A'

SCALE: 1"=10'

**NOTES:**

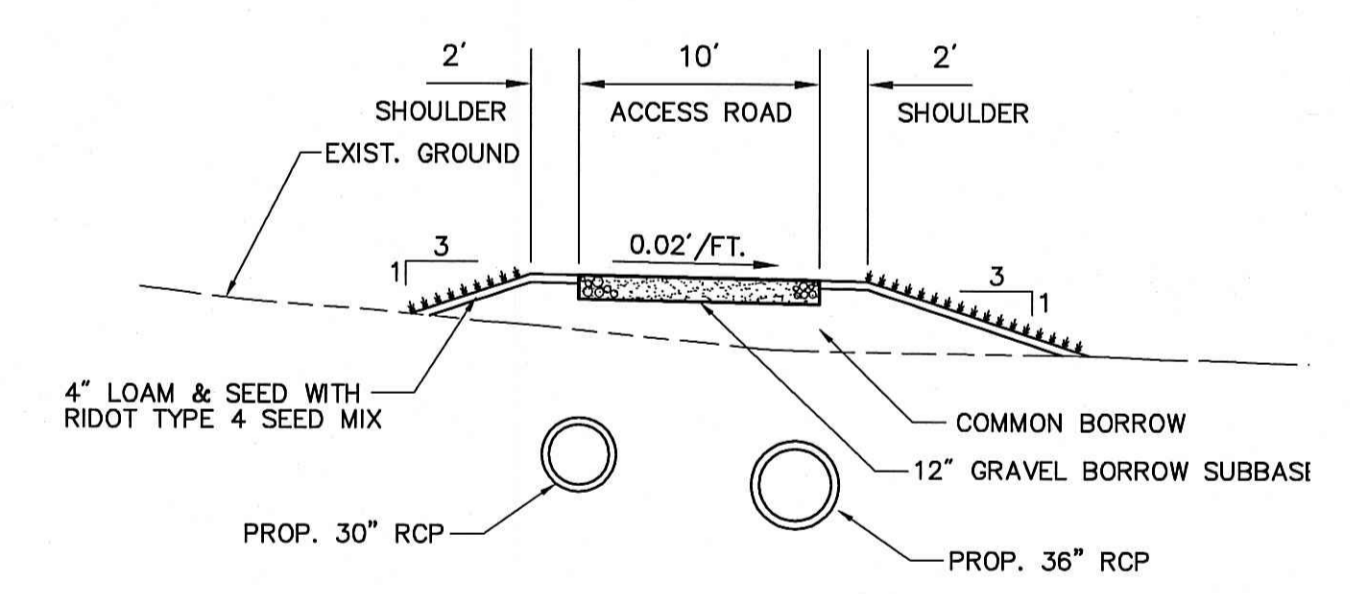
1. WRAP FILTER FABRIC AROUND TOE OF RIP-RAP BEDDING.
2. COMMON BORROW IS TO BE COMPACTED IN 1' LIFTS.
3. REFER TO LANDSCAPE PLANS FOR PLANTING AND SEEDING NOTES FOR INTERIOR OF BASIN.



### EXTENDED DETENTION SHALLOW WETLAND RIP-RAP DITCH OUTLET TYPICAL SECTION

STA. 1+79 TO STA. 3+74, 'B'

SCALE: 1"=2'



### MAINTENANCE ACCESS ROAD TYPICAL SECTION

STA. 10+59 TO STA. 13+03, 'A'

SCALE: 1"=10'

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CHIEF OF ENVIRONMENTAL MANAGEMENT
   
 DIVISION OF WATER RESOURCES
   
 STATE OF RHODE ISLAND
   
 APPROVED BY THE LETTER OF APPROVAL
   
 FILE # 05-0120
   
 JAN 8 2007
   
 APPROVED WITHOUT PRIOR APPROVAL
   
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

VANASSE HANGEN BRUSTLIN, INC.
   
 TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES
   
 PROVIDENCE, R.I.

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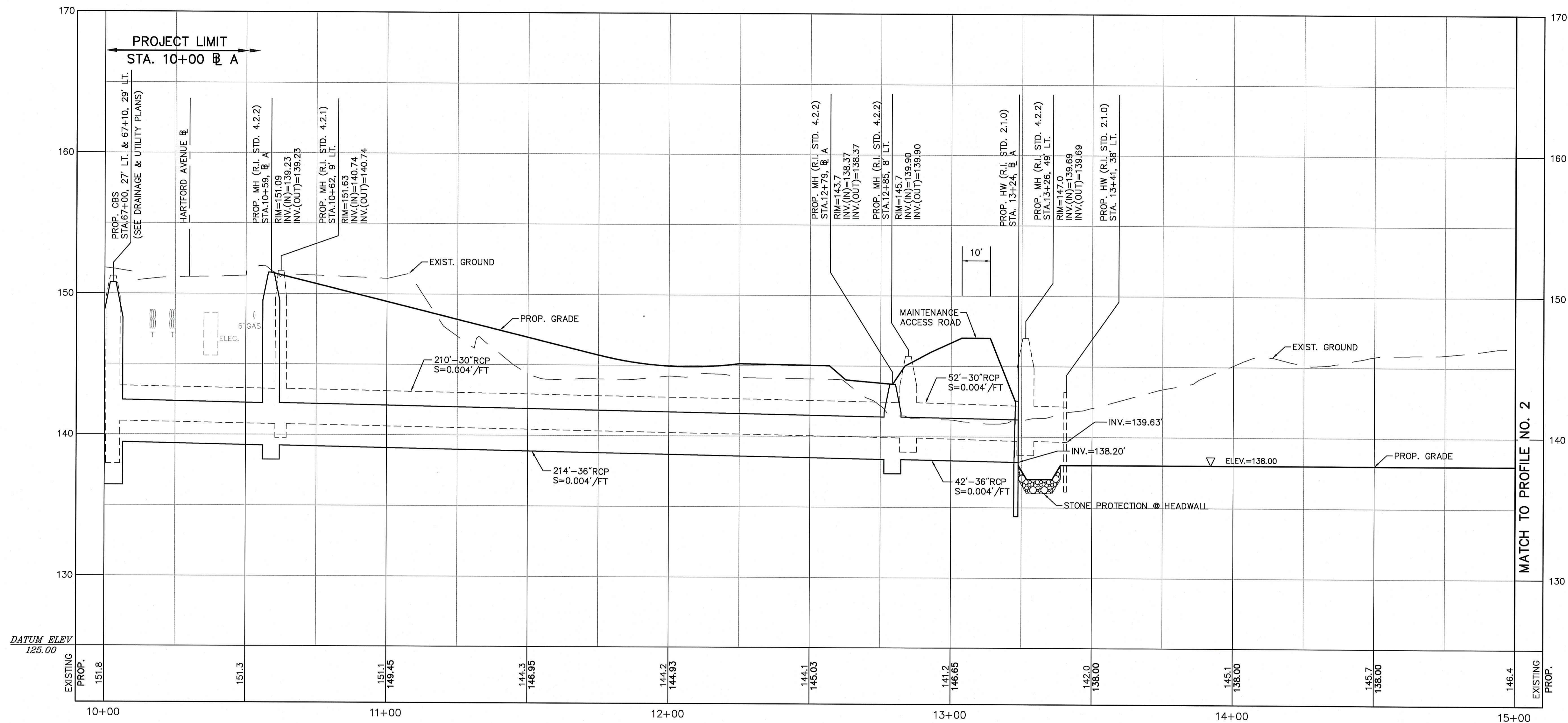
RHODE ISLAND  
 DEPARTMENT OF TRANSPORTATION

RECONSTRUCTION OF  
 HARTFORD AVENUE

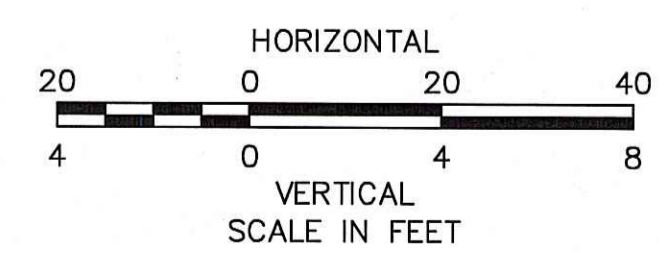
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**STORMWATER MANAGEMENT FACILITY  
 TYPICAL SECTIONS**

CHECKED BY \_\_\_\_\_ DATE 5/06 SCALE AS SHOWN



**STORMWATER MANAGEMENT FACILITY**  
CONSTRUCTION BASELINE A



*Charles A. [Signature]*

**DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
OFFICE OF WATER RESOURCES  
FRESHWATER WATERS PROGRAM  
APPROVED WITH CONDITIONS  
SPECIFIED IN THE LETTER OF APPROVAL  
PLANS NOT ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

**JAN 8 2007** FILE # **05-0120**

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TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES  
PROVIDENCE, R.I.

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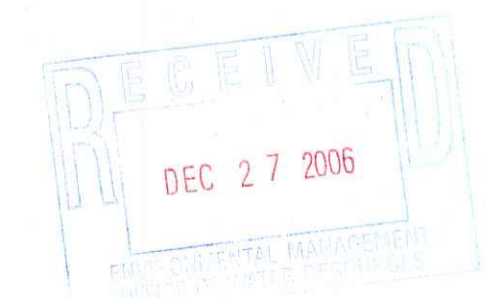
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**HARTFORD AVENUE**

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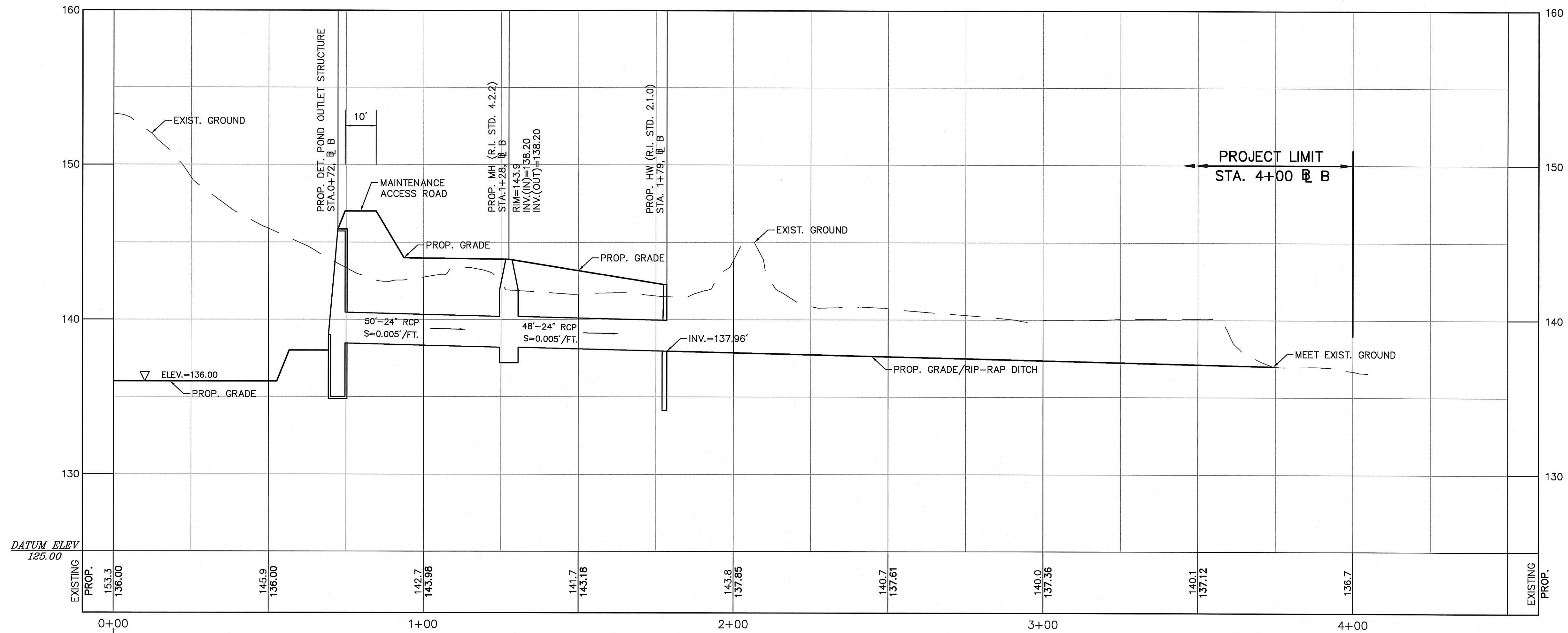
**STORMWATER MANAGEMENT FACILITY**  
**PROFILE NO. 1**

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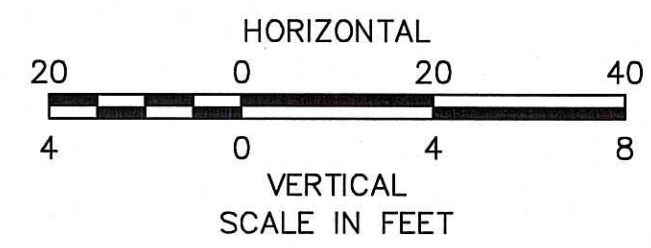
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DETENTION BASIN CONSTRUCTION @ A STA. 0+00.00 =  
 DETENTION BASIN CONSTRUCTION @ B STA. 18+24.30

**STORMWATER MANAGEMENT FACILITY**  
**CONSTRUCTION BASELINE B**



*Charles A. [Signature]*  
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 DIVISION OF WATER RESOURCES  
 WATERSHED PROTECTION PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED JAN 8 2007 FILE # 05-0420  
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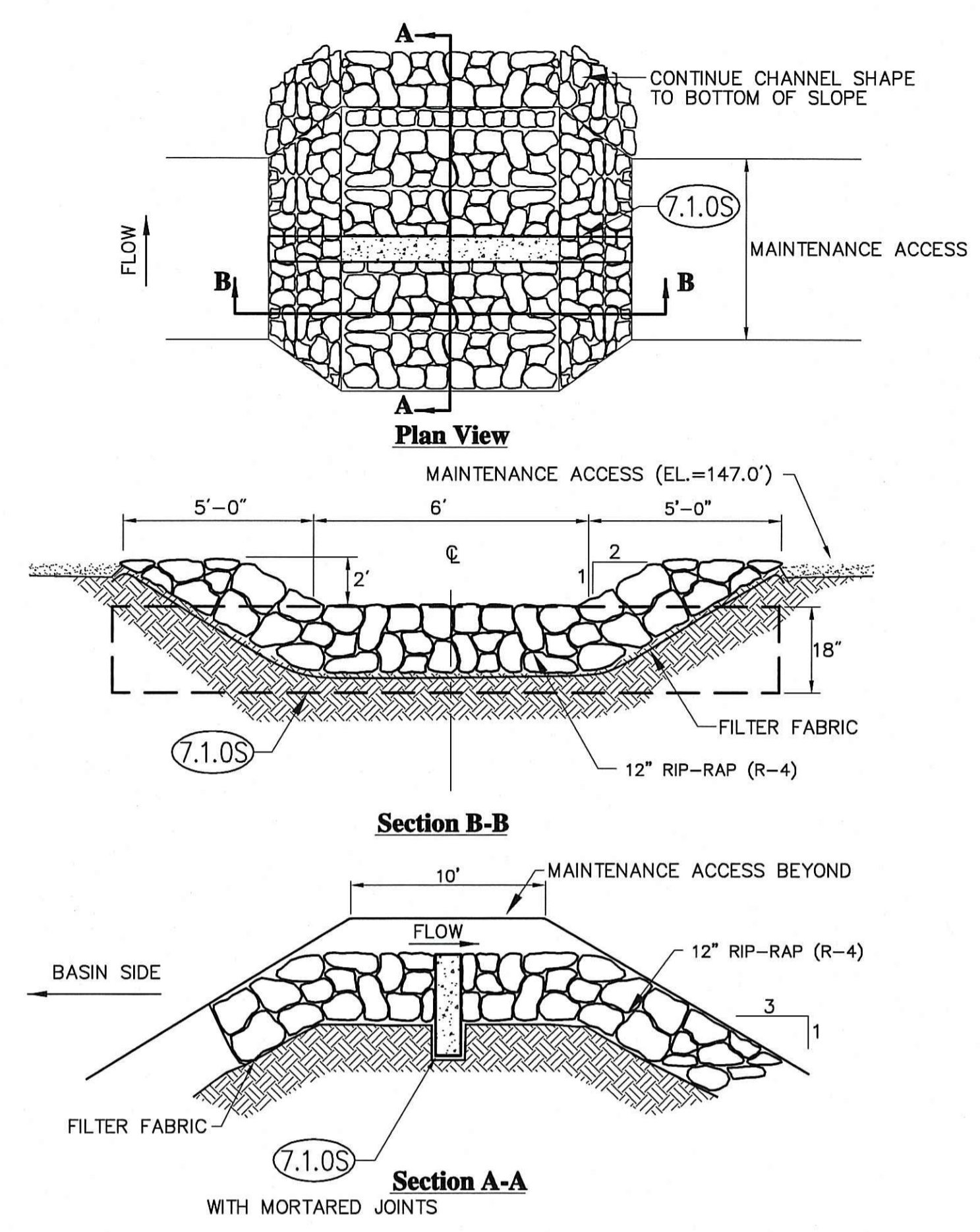
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 FACILITY RECONSTRUCTION

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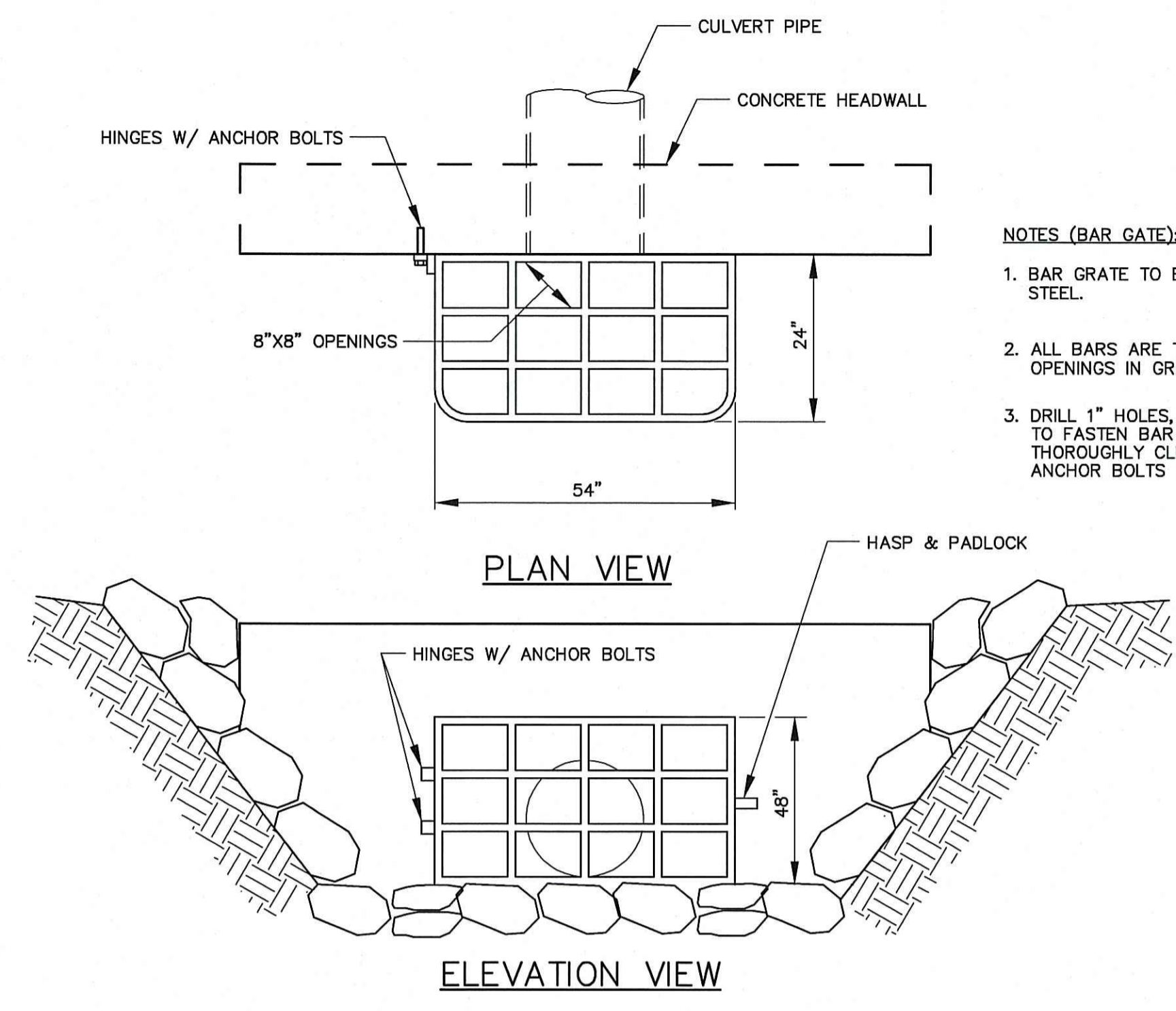
  

RHODE ISLAND DEPARTMENT OF TRANSPORTATION	
RECONSTRUCTION OF HARTFORD AVENUE	
JOHNSTON/PROVIDENCE	RHODE ISLAND
STORMWATER MANAGEMENT FACILITY PROFILE NO. 3	
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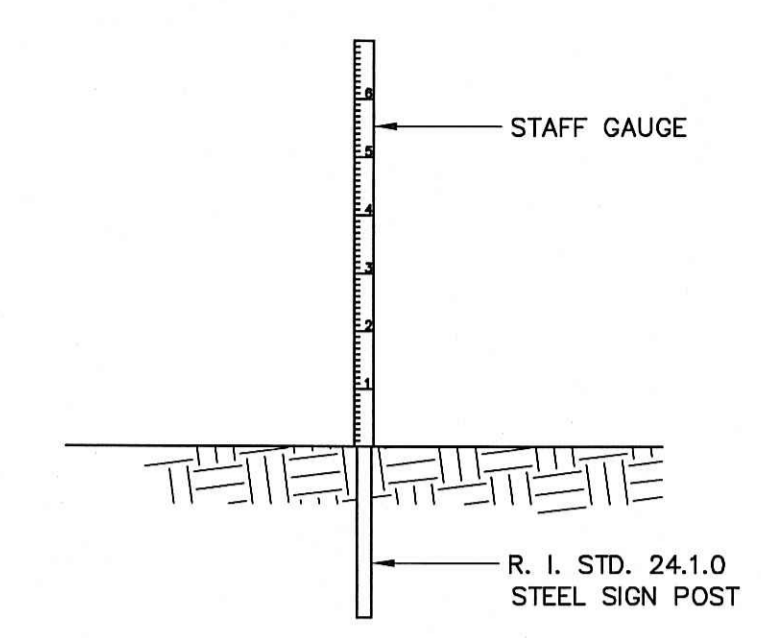


**EMERGENCY SPILLWAY**  
SCALE: N.T.S.

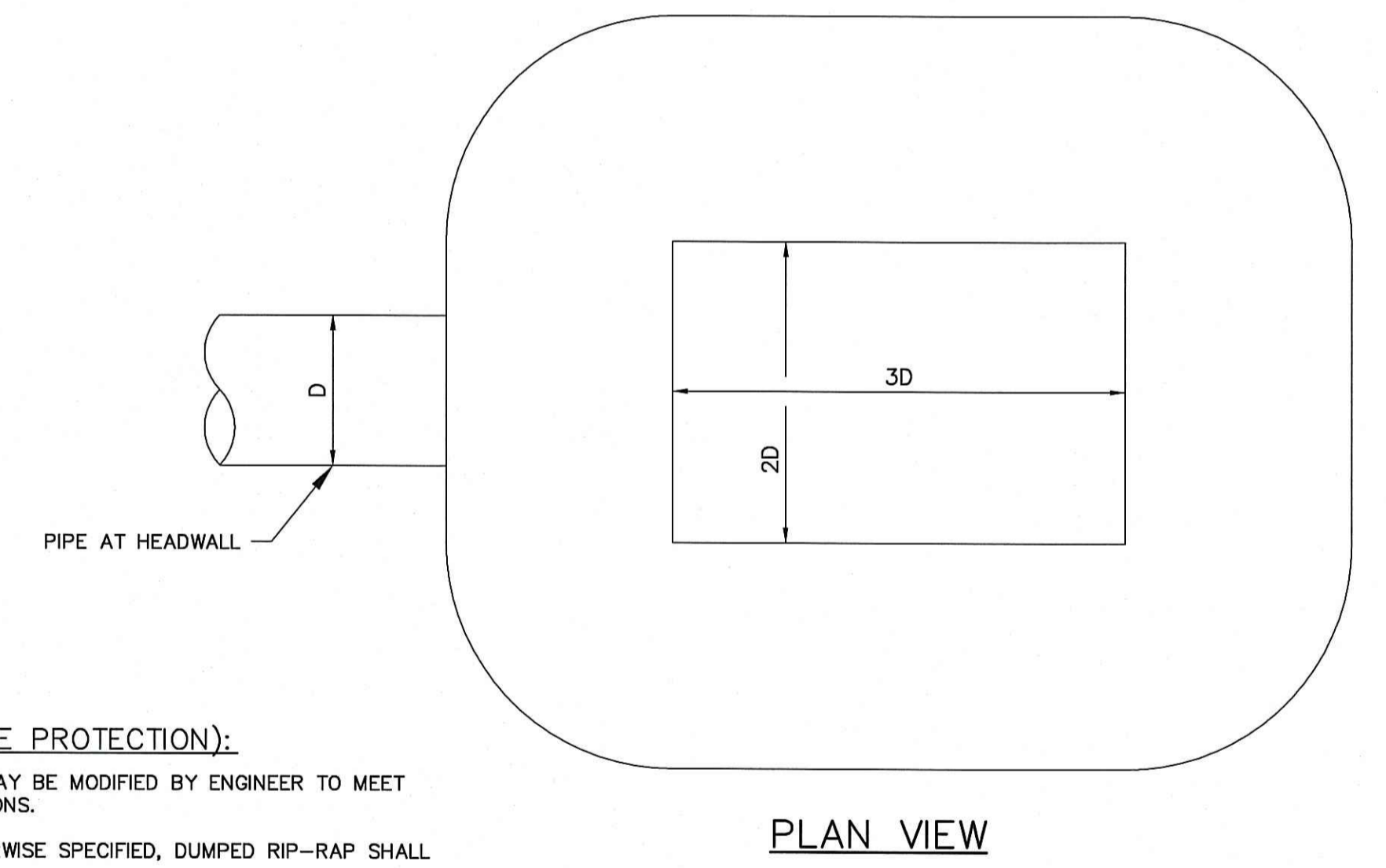
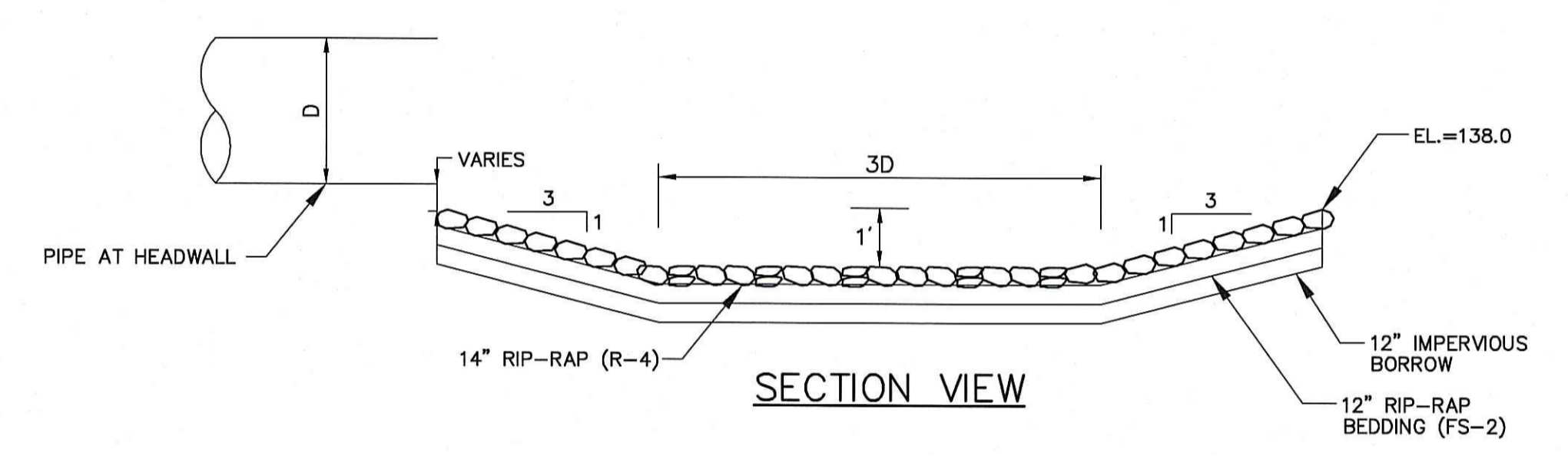


**BAR GATE AT HEADWALL**  
SCALE: N.T.S.

- NOTES (BAR GATE):**
1. BAR GRATE TO BE ASTM A-588 WEATHERING STEEL.
  2. ALL BARS ARE TO BE SIZE NO. 4. PROVIDE OPENINGS IN GRATE AS SHOWN IN THE PLAN.
  3. DRILL 1\"/>

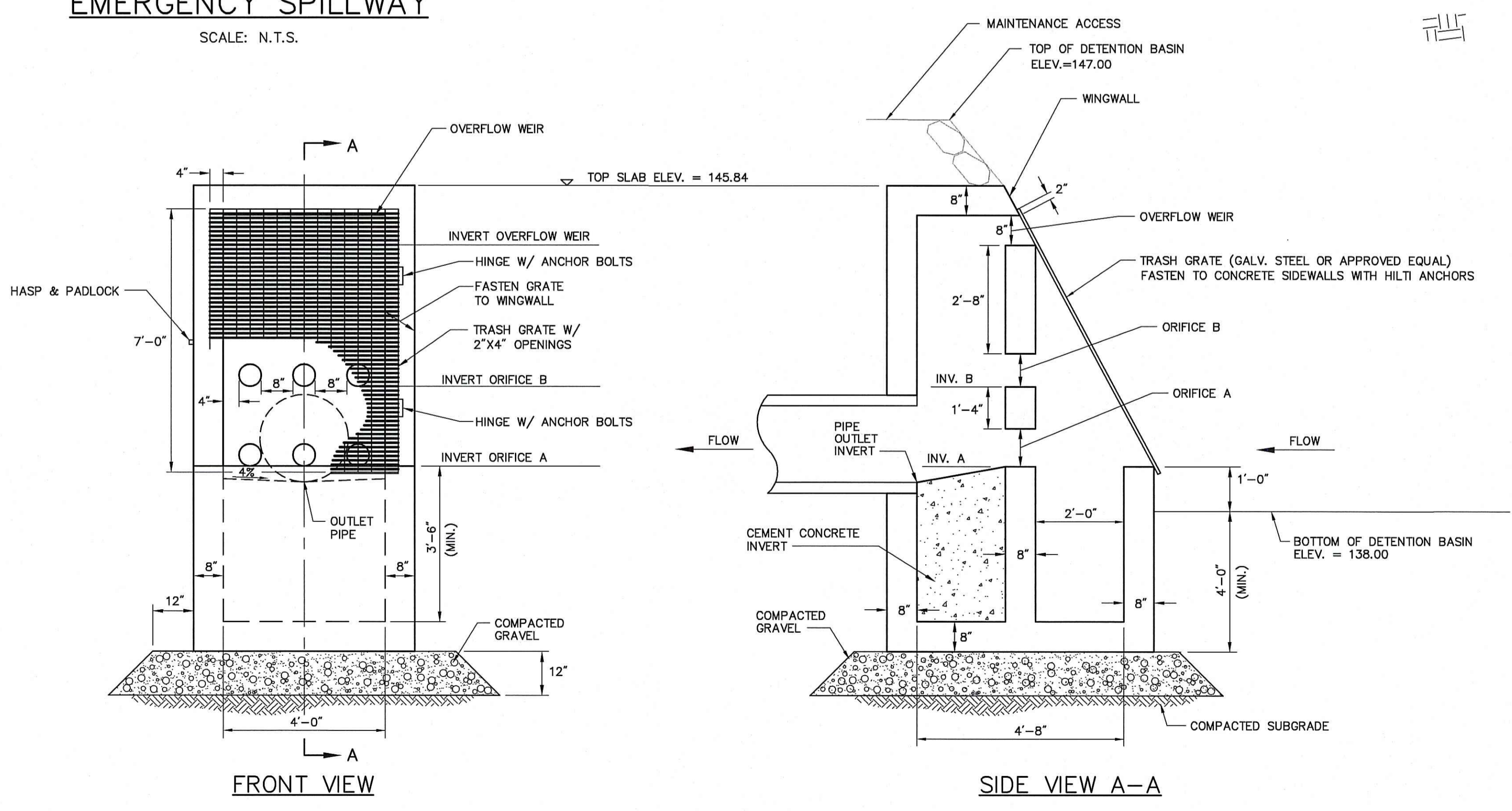


**PERMANENT SEDIMENT MARKER**  
SCALE: N.T.S.



- NOTES (STONE PROTECTION):**
1. DIMENSIONS MAY BE MODIFIED BY ENGINEER TO MEET FIELD CONDITIONS.
  2. UNLESS OTHERWISE SPECIFIED, DUMPED RIP-RAP SHALL BE USED.
  3. D IS INSIDE DIAMETER OF PIPE.

**STONE PROTECTION AT HEADWALL**  
SCALE: N.T.S.



**DETENTION BASIN OUTLET STRUCTURE**  
SCALE: N.T.S.

DETENTION BASIN OUTLET STRUCTURE (DBOS)	DIAMETER ORIFICE A	INVERT ORIFICE A	DIAMETER ORIFICE B	INVERT ORIFICE B	DIAMETER OUTLET PIPE	INVERT OUTLET PIPE	OVERFLOW WEIR ELEV.	EMERGENCY SPILLWAY DIMENSIONS	EMERGENCY SPILLWAY ELEV.	TOP OF DETENTION BASIN
STA. 0+59.10 CONST. B	(3)-8"	139.00	(3)-8"	141.00	24"	138.53	144.50	W=6' D=2'	145.00	147.00

VANASSE HANGEN BRUSTLIN, INC.  
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**RECONSTRUCTION OF  
HARTFORD AVENUE**

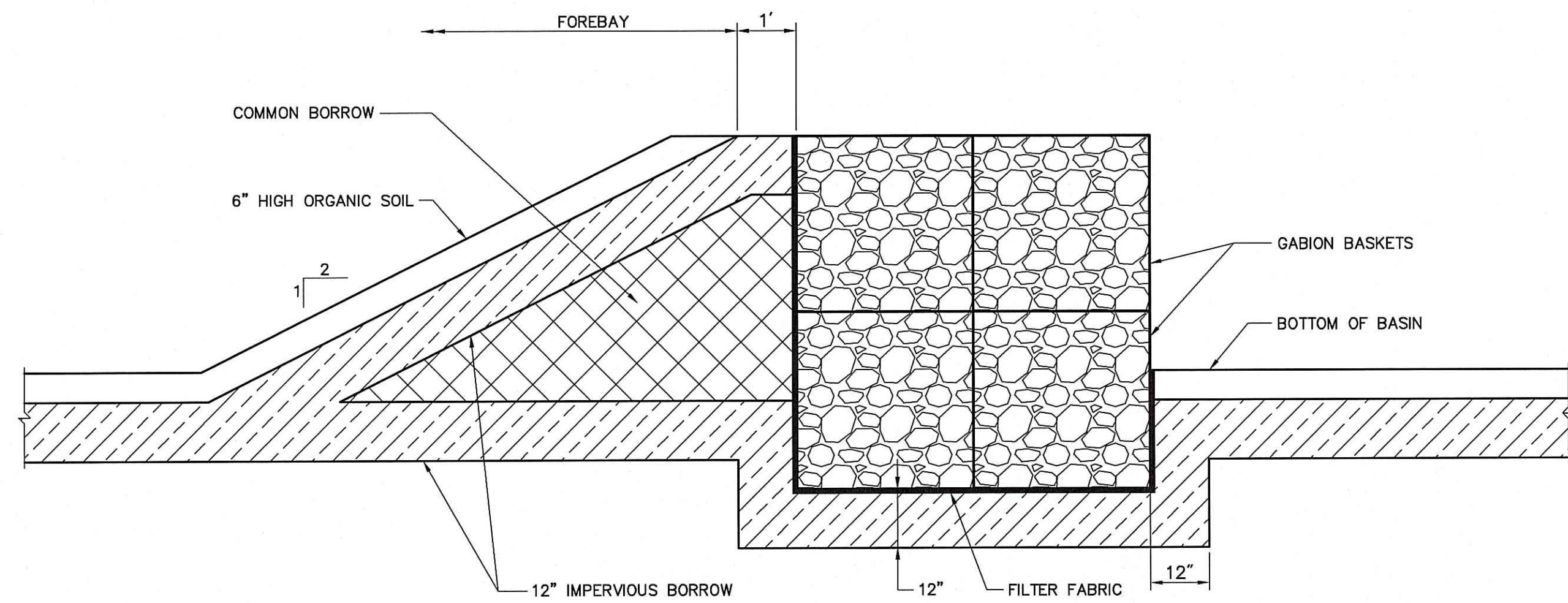
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**STORMWATER MANAGEMENT FACILITY  
DETAILS NO. 1**

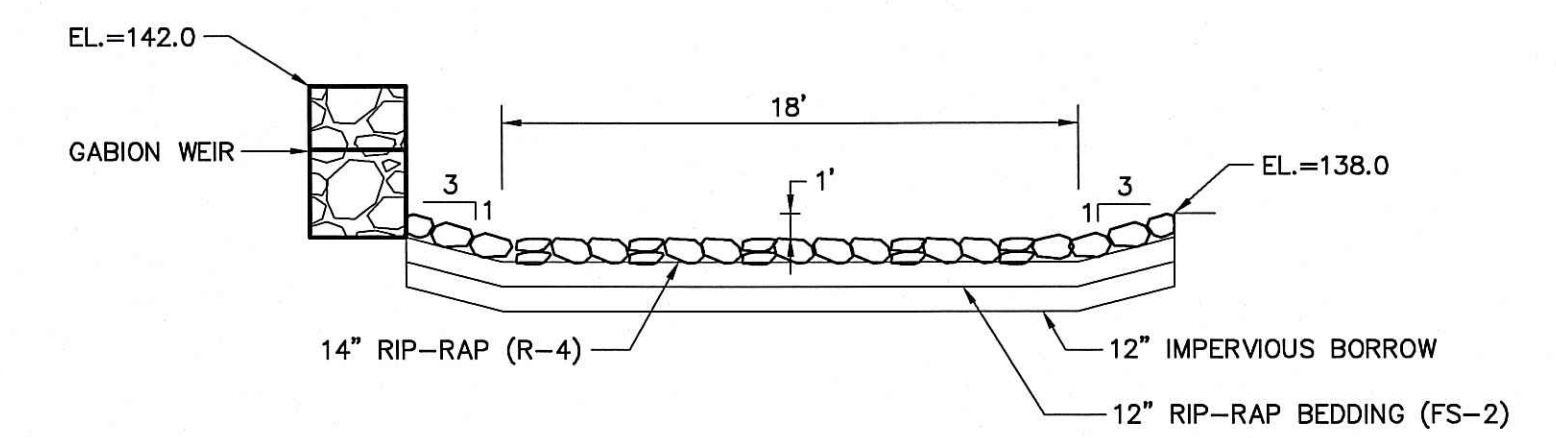
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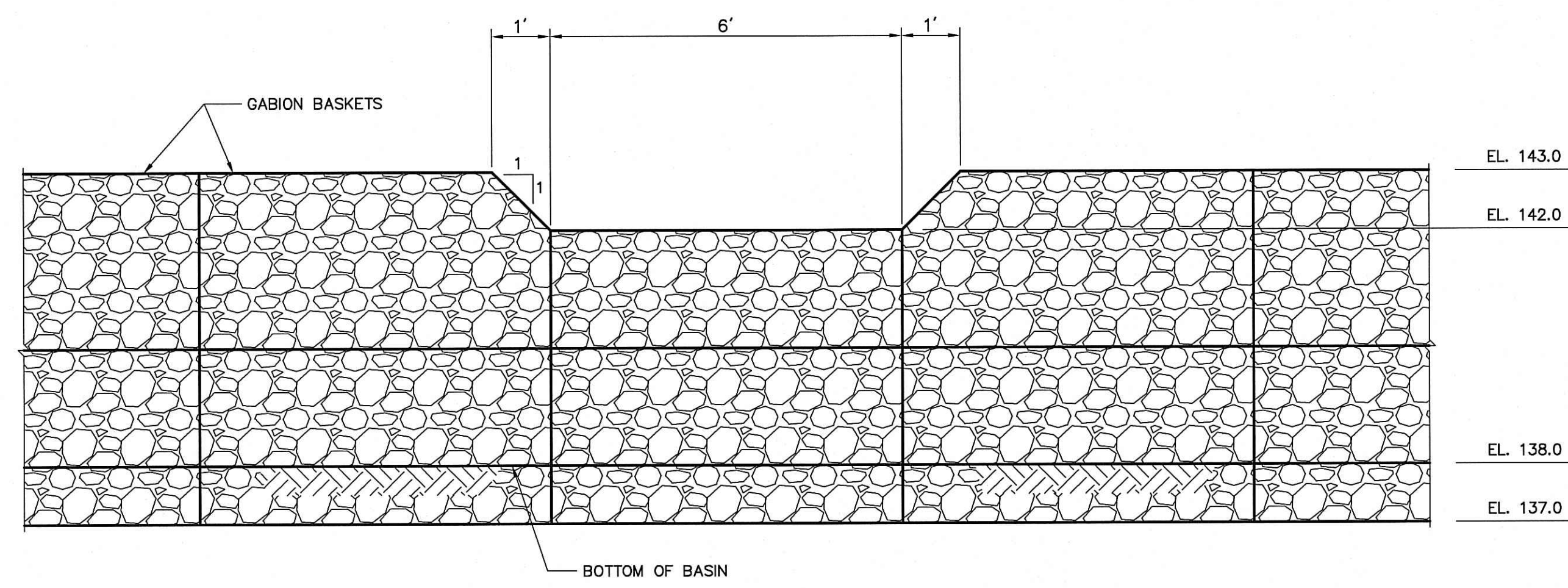
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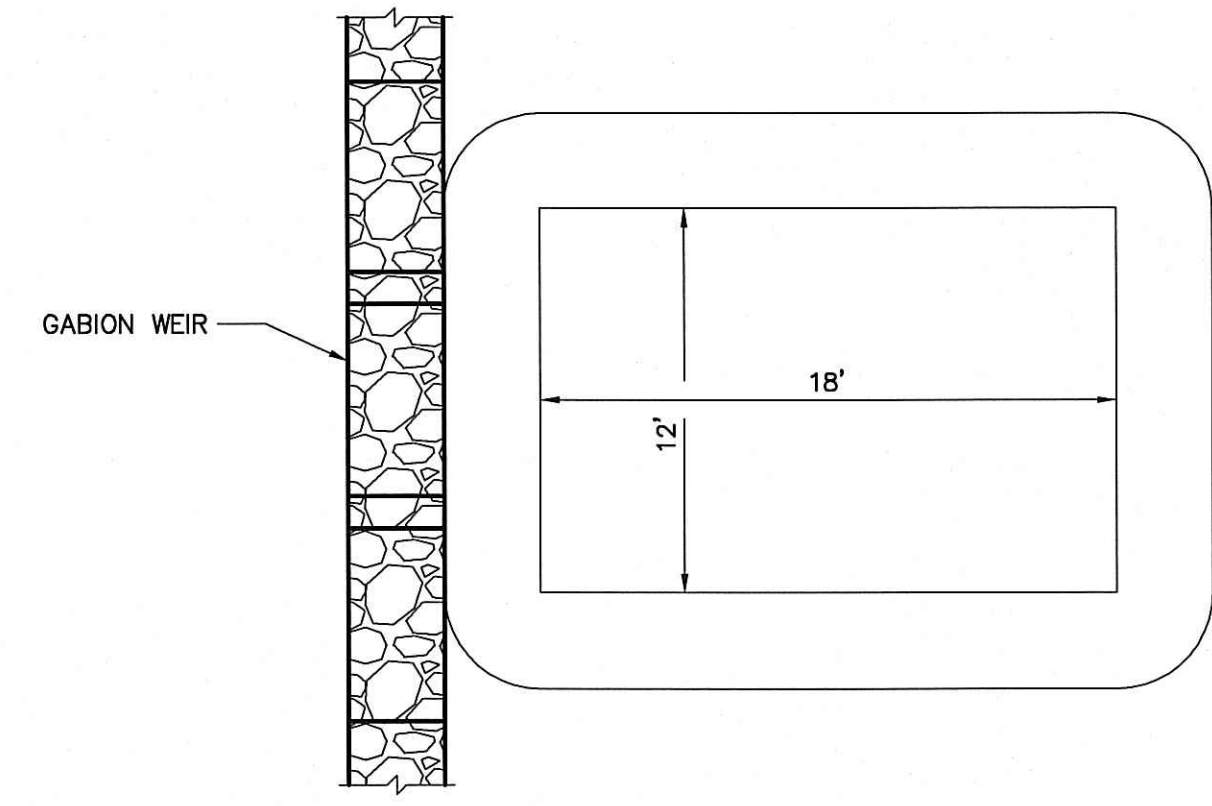
**GAB**  
**GABION DETAIL**  
 SCALE: 1"=2'



**SECTION VIEW**



**GABION WEIR DETAIL**  
 SCALE: 1"=2'



**PLAN VIEW**  
**STONE PROTECTION AT WEIR**  
 SCALE: N.T.S.

- NOTES(STONE PROTECTION):**
- DIMENSIONS MAY BE MODIFIED BY ENGINEER TO MEET FIELD CONDITIONS.
  - UNLESS OTHERWISE SPECIFIED, DUMPED RIP-RAP SHALL BE USED.

*Charles A. Hackett*  
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 FILE # **05-0420**  
 DATED **JAN 8 2007**  
 NO CHANGES PERMITTED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

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 PROVIDENCE, R.I.

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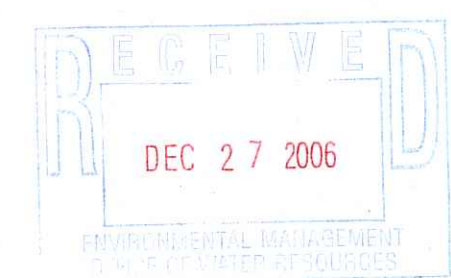
**RHODE ISLAND  
 DEPARTMENT OF TRANSPORTATION**

**RECONSTRUCTION OF  
 HARTFORD AVENUE**

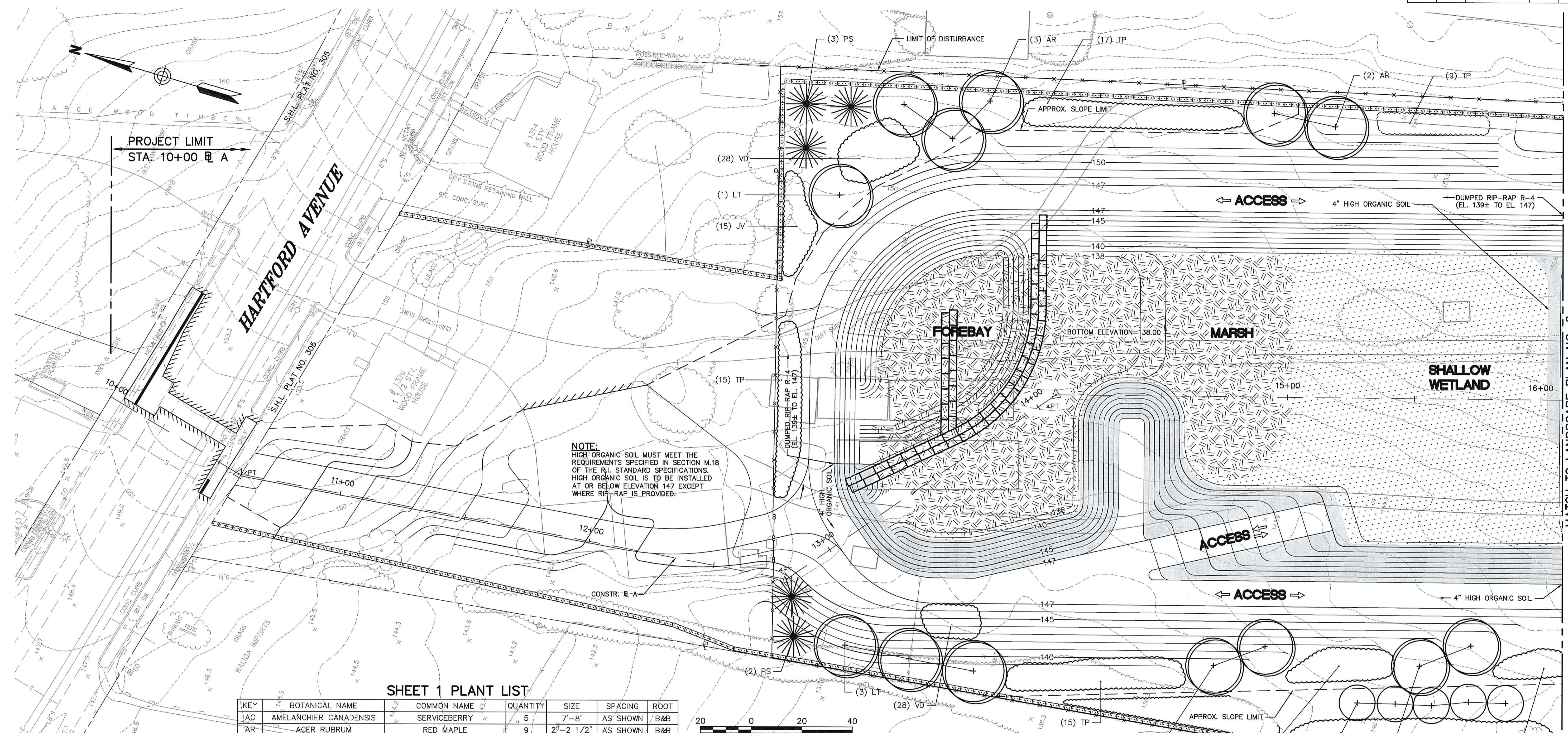
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**STORMWATER MANAGEMENT FACILITY  
 DETAILS NO. 2**

CHECKED BY \_\_\_\_\_ DATE 5/06 SCALE AS SHOWN



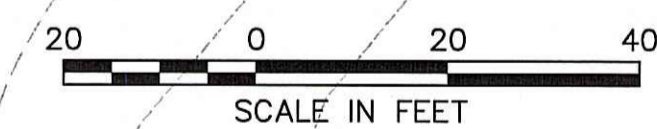
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**SHEET 1 PLANT LIST**

KEY	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	SPACING	ROOT
AC	AMELANCHIER CANADENSIS	SERVICEBERRY	5	7'-8'	AS SHOWN	B&B
AR	ACER RUBRUM	RED MAPLE	9	2"-2 1/2"	AS SHOWN	B&B
JV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	30	5'-6"	3' O.C.	B&B
LT	LIRIODENDRON TULIPIFERA	TULIP TREE	4	2"-2 1/2"	AS SHOWN	B&B
PS	PINUS STROBUS	WHITE PINE	5	6'-7'	AS SHOWN	B&B
TP	THUJA PLICATA	GIANT ARBORVITAE	77	5'-6"	5' O.C.	B&B
VD	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	71	3'-4'	3' O.C.	B&B

SEE LANDSCAPE PLAN NO. 2 FOR TOTAL PLANT LIST AND LANDSCAPE NOTES



**STORMWATER MANAGEMENT FACILITY PLANTING NOTES:**

- ALL AREAS DISTURBED AROUND THE TOP AND OUTSIDE OF THE BASIN BERM SHALL BE PLANTED WITH A RIDOT TYPE 4 NATIVE SEED MIX.
- AVOID COMPACTING THE TOPSOIL LAYER WITHIN THE BASIN WHICH WOULD INHIBIT VEGETATION ESTABLISHMENT.
- ADDITIONAL TEMPORARY EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED DURING CONSTRUCTION, AND ACCUMULATED SEDIMENT IN THE CONSTRUCTED WETLANDS SHOULD BE REMOVED AFTER GRADING, AND BEFORE WETLAND VEGETATION IS PLANTED.
- TEMPORARY DEWATERING MAY BE REQUIRED IF EXCAVATION EXTENDS BELOW THE WATER TABLE. APPROPRIATE SEDIMENTATION CONTROLS WILL BE REQUIRED FOR ANY DEWATERING DISCHARGES (R.I. STD. 9.7.0 TEMPORARY DEWATERING BASIN). THE TEMPORARY DEWATERING BASIN MUST BE SIZED TO HOLD THE VOLUME EQUIVALENT TO 4 HOURS OF PUMPING AND BE LOCATED WITHIN THE APPROVED LIMITS OF DISTURBANCE.
- THE SWMF OUTLET SWALE (APPROX. STA. 1+80 TO 3+50) MUST BE CONSTRUCTED AND STABILIZED BEFORE DEWATERING. ALL DEWATERING DISCHARGES MUST BE DIRECTED TO THIS SWALE.
- ESTABLISHMENT OF WETLAND PLANTINGS IS CRITICAL. INSTALLATION SHOULD BE AS DIRECTED BY A WETLAND BIOLOGIST OR LANDSCAPE ARCHITECT. HERBACEOUS PLUGS TO BE PLANTED BETWEEN APRIL 1 TO JULY 1 UNLESS OTHERWISE APPROVED BY RIDOT NATURAL RESOURCES UNIT (NRU).
- APPROPRIATE SOIL STABILIZATION METHODS SHOULD BE USED BEFORE PERMANENT VEGETATION IS ESTABLISHED. SEEDING AND OTHER TEMPORARY SOIL STABILIZATION CONTROLS SHOULD BE IMPLEMENTED IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.

Wetland Types	Water Regime	Approximate Contours*	Typical Vegetation	Stock	Quantity	Notes
	Permanently flooded	< 137.5 feet	Nymphaea odorata Potamogeton peclunatus	Tubers	25	Plant in 5 clusters of 5 tubers 2 foot on center
	Temporarily to Seasonally flooded - intermittently exposed	137.5 to 138.5 feet	Scirpus acutus Scirpus validus Cyperus candensis Eleocharis palustris Sagittaria latifolia Carex comosa	2' plug	1400	Plant in groups of 5 to 10 plugs of same species 2 foot on center
	Seasonally saturated to Seasonally flooded	138.5 to 139.5 feet	Wetland Seed Mix*	1b per 2500 sf		Mulched lightly with straw
	Seasonally saturated	139.5 to 147 feet	Basin Slope** Seed Mix	1b per 1250 sf		Hydroseeded and secured with a bonded fiber matrix inside basin side slope

\* See plan for planting and seeding limits

\* Refer to job specific specification code L029901 for composition of seed mix and seeding dates  
\*\* Refer to job specific specification code L029902 for composition of seed mix and seeding dates

VANASSE HANGEN BRUSTLIN, INC.  
TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES  
PROVIDENCE, R.I.

REVISIONS	NO.	DATE	BY

**RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION**

**RECONSTRUCTION OF  
HARTFORD AVENUE**

JOHNSTON/PROVIDENCE RHODE ISLAND

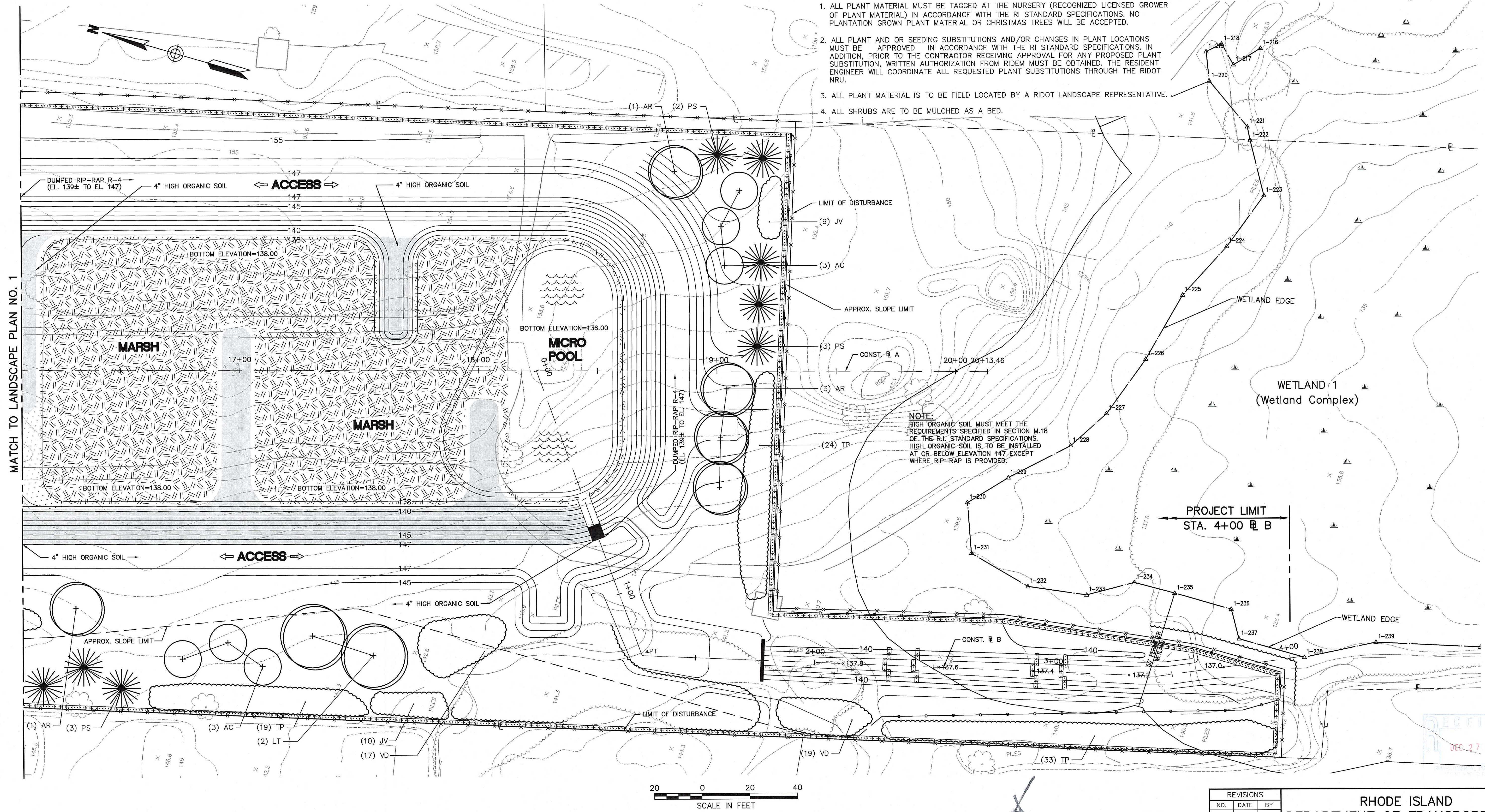
**STORMWATER MANAGEMENT FACILITY  
LANDSCAPE PLAN NO. 1**

CHECKED BY \_\_\_\_\_ DATE 5/06 SCALE AS SHOWN

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**LANDSCAPE NOTES:**

1. ALL PLANT MATERIAL MUST BE TAGGED AT THE NURSERY (RECOGNIZED LICENSED GROWER OF PLANT MATERIAL) IN ACCORDANCE WITH THE RI STANDARD SPECIFICATIONS. NO PLANTATION GROWN PLANT MATERIAL OR CHRISTMAS TREES WILL BE ACCEPTED.
2. ALL PLANT AND OR SEEDING SUBSTITUTIONS AND/OR CHANGES IN PLANT LOCATIONS MUST BE APPROVED IN ACCORDANCE WITH THE RI STANDARD SPECIFICATIONS. IN ADDITION, PRIOR TO THE CONTRACTOR RECEIVING APPROVAL FOR ANY PROPOSED PLANT SUBSTITUTION, WRITTEN AUTHORIZATION FROM RIDEM MUST BE OBTAINED. THE RESIDENT ENGINEER WILL COORDINATE ALL REQUESTED PLANT SUBSTITUTIONS THROUGH THE RIDOT NRU.
3. ALL PLANT MATERIAL IS TO BE FIELD LOCATED BY A RIDOT LANDSCAPE REPRESENTATIVE.
4. ALL SHRUBS ARE TO BE MULCHED AS A BED.



**NOTE:**  
HIGH ORGANIC SOIL MUST MEET THE REQUIREMENTS SPECIFIED IN SECTION M.18 OF THE R.I. STANDARD SPECIFICATIONS. HIGH ORGANIC SOIL IS TO BE INSTALLED AT OR BELOW ELEVATION 147 EXCEPT WHERE RIP-RAP IS PROVIDED.

**SHEET 2 PLANT LIST**

KEY	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	SPACING	ROOT
AC	AMELANCHIER CANADENSIS	SERVICEBERRY	6	7'-8'	AS SHOWN	B&B
AR	ACER RUBRUM	RED MAPLE	5	2"-2 1/2"	AS SHOWN	B&B
JV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	19	5'-6'	3' O.C.	B&B
LT	LIRIODENDRON TULIPIFERA	TULIP TREE	2	2"-2 1/2"	AS SHOWN	B&B
PS	PINUS STROBUS	WHITE PINE	8	6'-7'	AS SHOWN	B&B
TP	THUJA PLICATA	GIANT ARBORVITAE	76	5'-6'	5' O.C.	B&B
VD	VIBURNUM DENTATUM	ARROWOOD VIBURNUM	36	3'-4'	3' O.C.	B&B

**TOTAL PLANT LIST**

KEY	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	SPACING	ROOT
AC	AMELANCHIER CANADENSIS	SERVICEBERRY	11	7'-8'	AS SHOWN	B&B
AR	ACER RUBRUM	RED MAPLE	14	2"-2 1/2"	AS SHOWN	B&B
JV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	49	5'-6'	3' O.C.	B&B
LT	LIRIODENDRON TULIPIFERA	TULIP TREE	6	2"-2 1/2"	AS SHOWN	B&B
PS	PINUS STROBUS	WHITE PINE	13	6'-7'	AS SHOWN	B&B
TP	THUJA PLICATA	GIANT ARBORVITAE	153	5'-6'	5' O.C.	B&B
VD	VIBURNUM DENTATUM	ARROWOOD VIBURNUM	107	3'-4'	3' O.C.	B&B

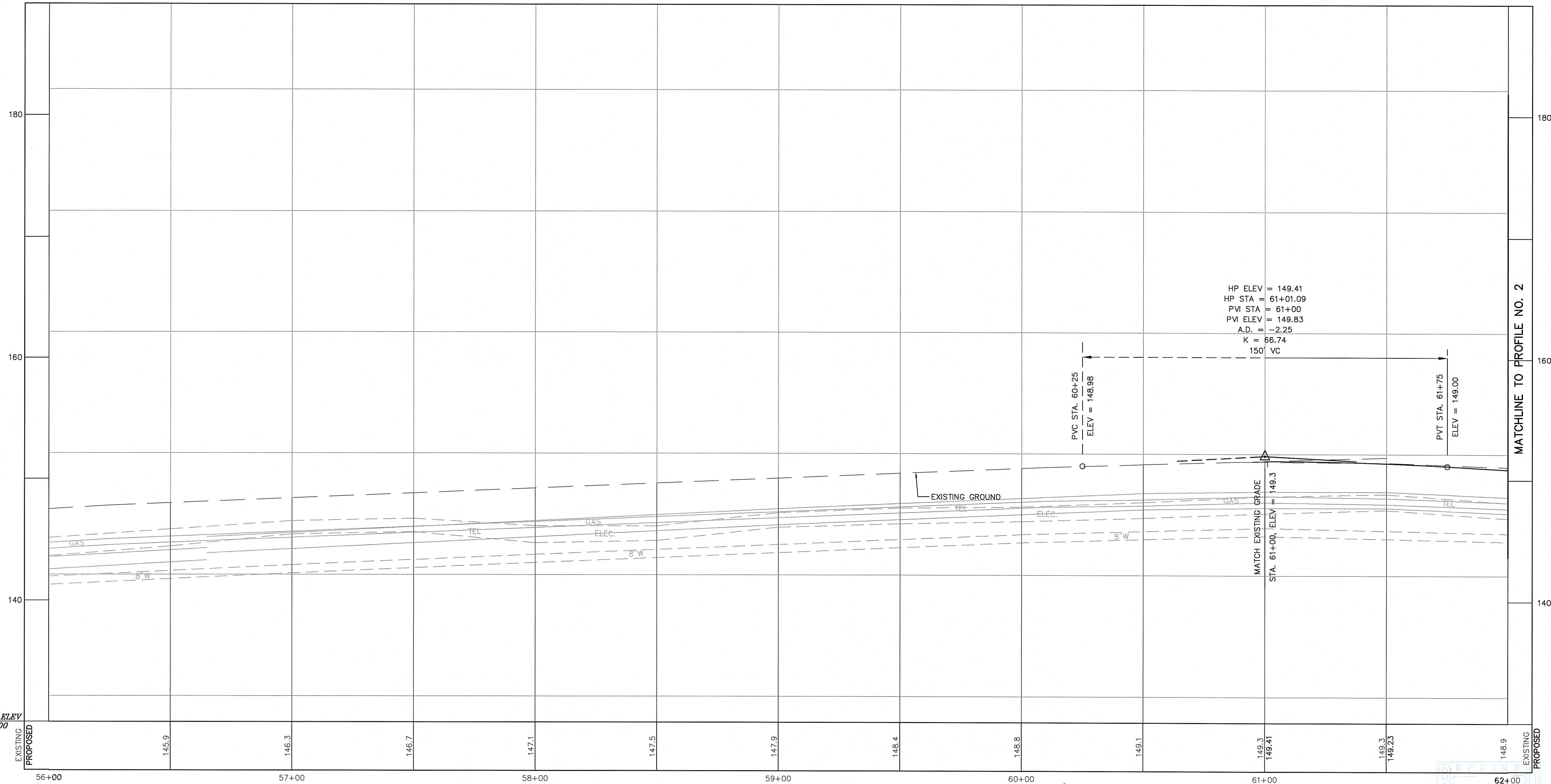
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JAN 8 2007 FILE # 05-0420  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

VANASSE HANGEN BRUSTLIN, INC.  
TRANSPORTATION LAND DEVELOPMENT ENVIRONMENTAL SERVICES  
PROVIDENCE, R.I.

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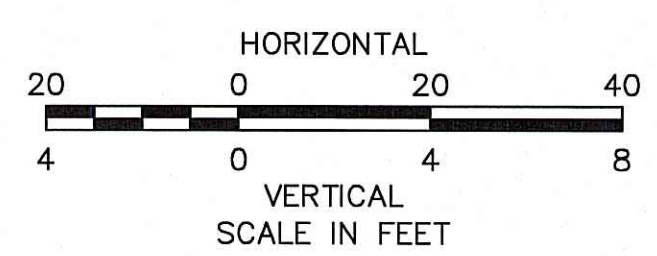
RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION  
RECONSTRUCTION OF  
HARTFORD AVENUE  
JOHNSTON/PROVIDENCE RHODE ISLAND  
STORMWATER MANAGEMENT FACILITY  
LANDSCAPE PLAN NO. 2  
CHECKED BY \_\_\_\_\_ DATE 5/06 SCALE AS SHOWN

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DATUM ELEV  
130.00



*Charles A. [Signature]*

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OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
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DATED JAN 8 2007 FILE # 05-040  
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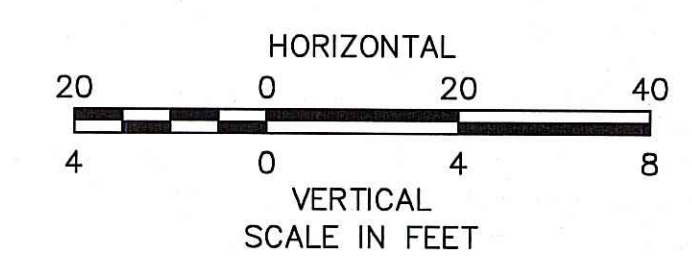
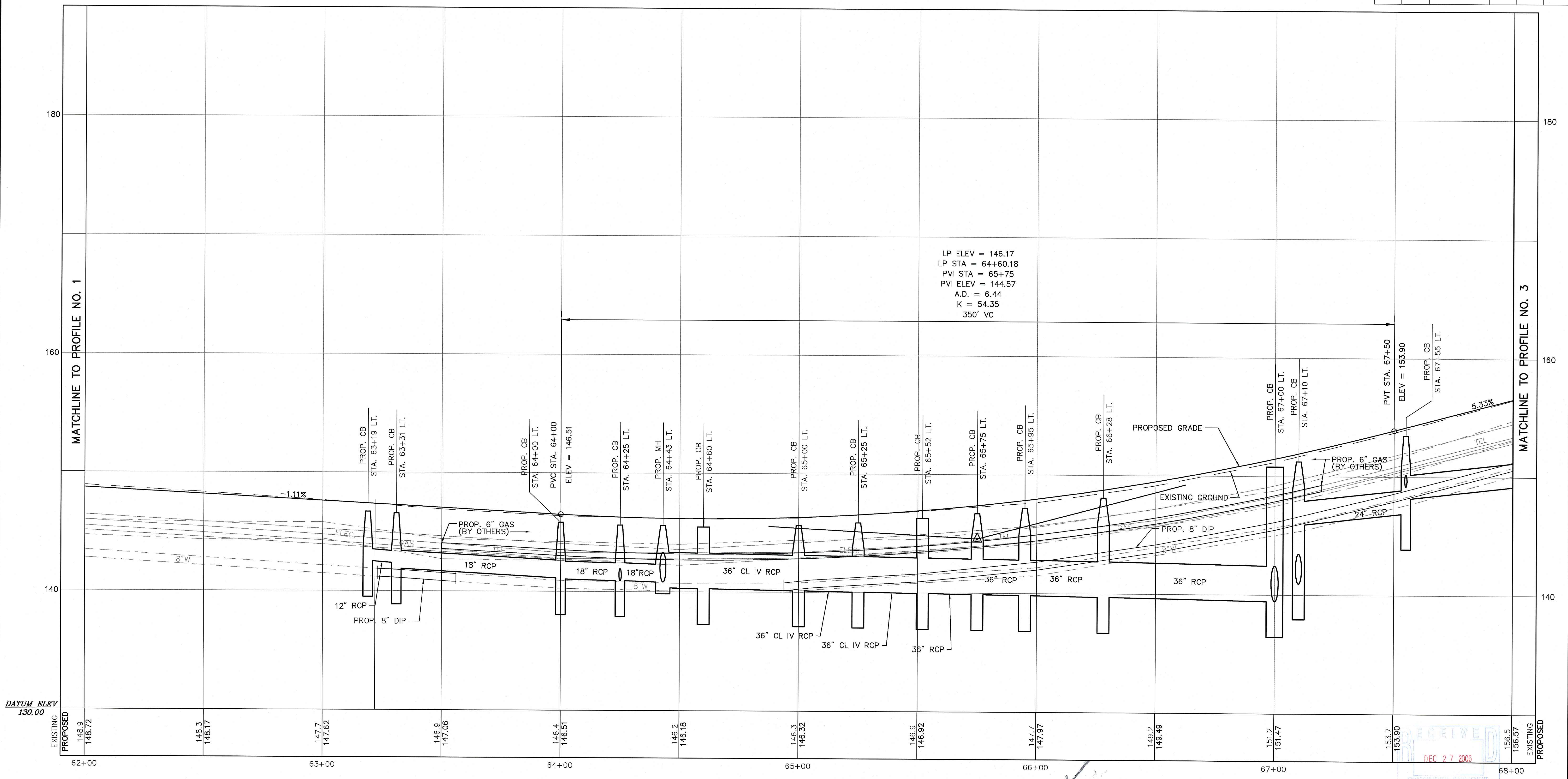
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PROFILE NO. 1

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FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JAN 8 2007 FILE # 05-0420  
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**RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION**

RECONSTRUCTION OF  
**HARTFORD AVENUE**

JOHNSTON/PROVIDENCE RHODE ISLAND

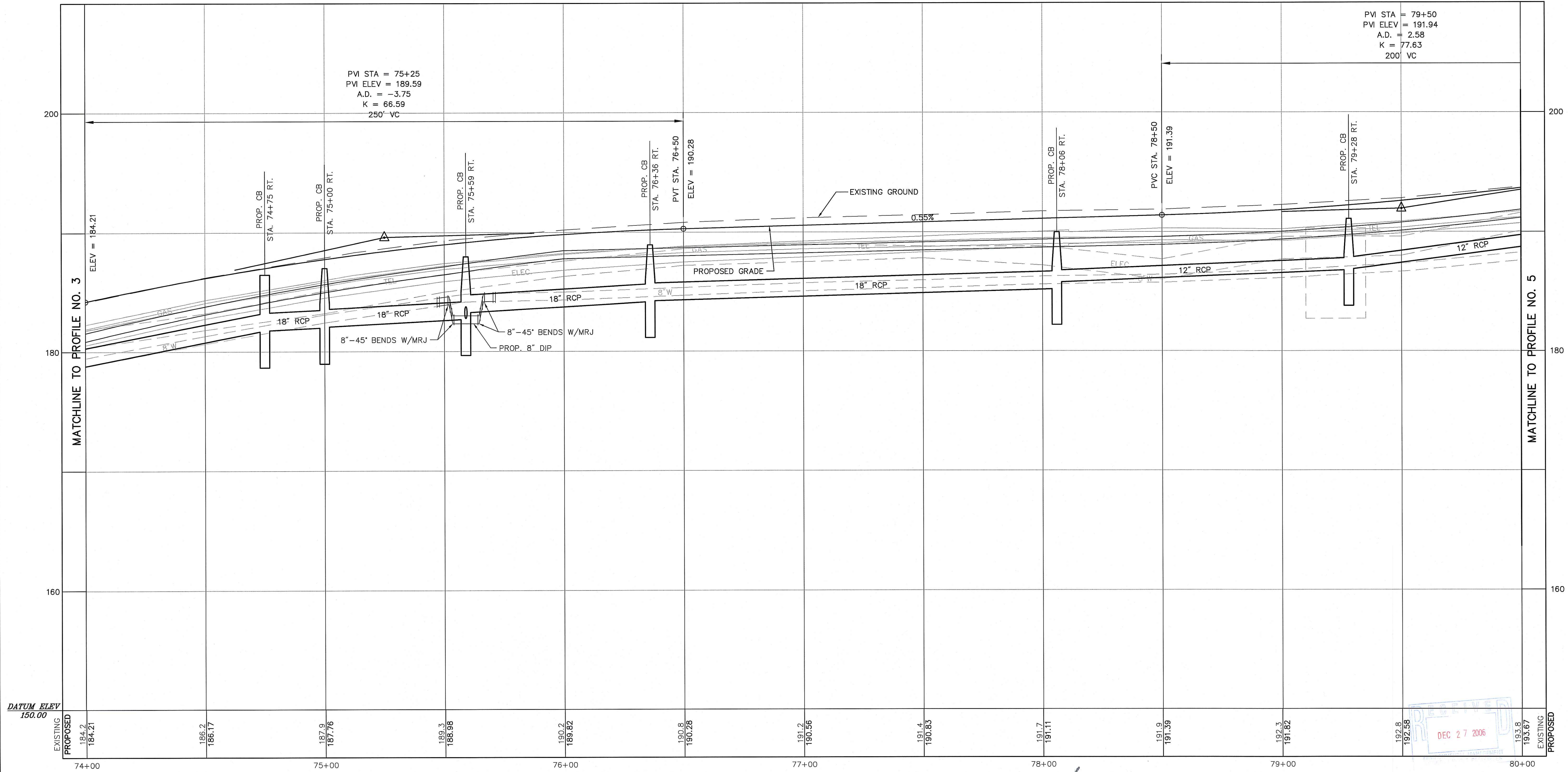
**PROFILE NO. 2**

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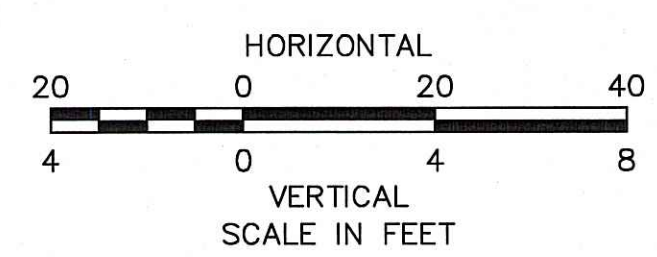
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PVI ELEV = 191.94  
A.D. = 2.58  
K = 77.63  
200' VC

PVI STA = 75+25  
PVI ELEV = 189.59  
A.D. = -3.75  
K = 66.59  
250' VC



DATUM ELEV  
150.00

STATION	EXISTING ELEVATION	PROPOSED ELEVATION
74+00	184.2	184.21
	186.2	186.17
75+00	187.9	187.76
	189.3	188.98
76+00	190.2	189.82
	190.8	190.28
77+00	191.2	190.56
	191.4	190.83
78+00	191.7	191.11
	191.9	191.39
79+00	192.3	191.82
	192.8	192.58
80+00	193.8	193.67



*Charles A. [Signature]*  
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FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
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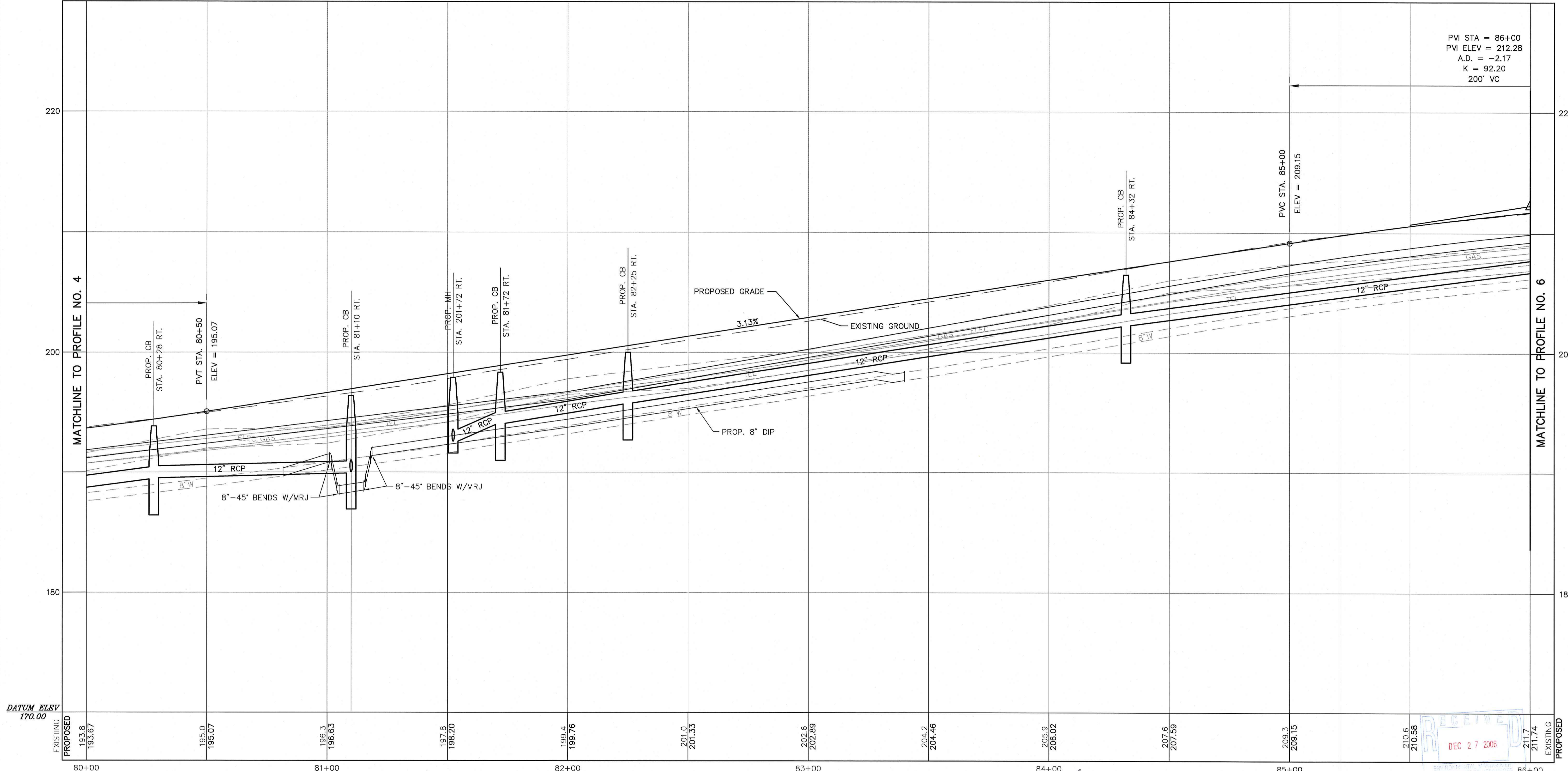
REVISIONS		
NO.	DATE	BY

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DEPARTMENT OF TRANSPORTATION  
RECONSTRUCTION OF  
HARTFORD AVENUE  
JOHNSTON/PROVIDENCE RHODE ISLAND  
PROFILE NO. 4  
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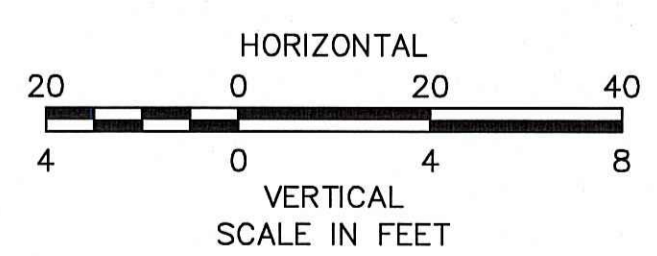
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PVI STA = 86+00  
 PVI ELEV = 212.28  
 A.D. = -2.17  
 K = 92.20  
 200' VC



DATUM ELEV  
170.00

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*Charles A....*

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 FRESHWATER WETLANDS PROGRAM  
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 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED JAN 8 2007 FILE # 05-0426  
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RECONSTRUCTION OF  
**HARTFORD AVENUE**

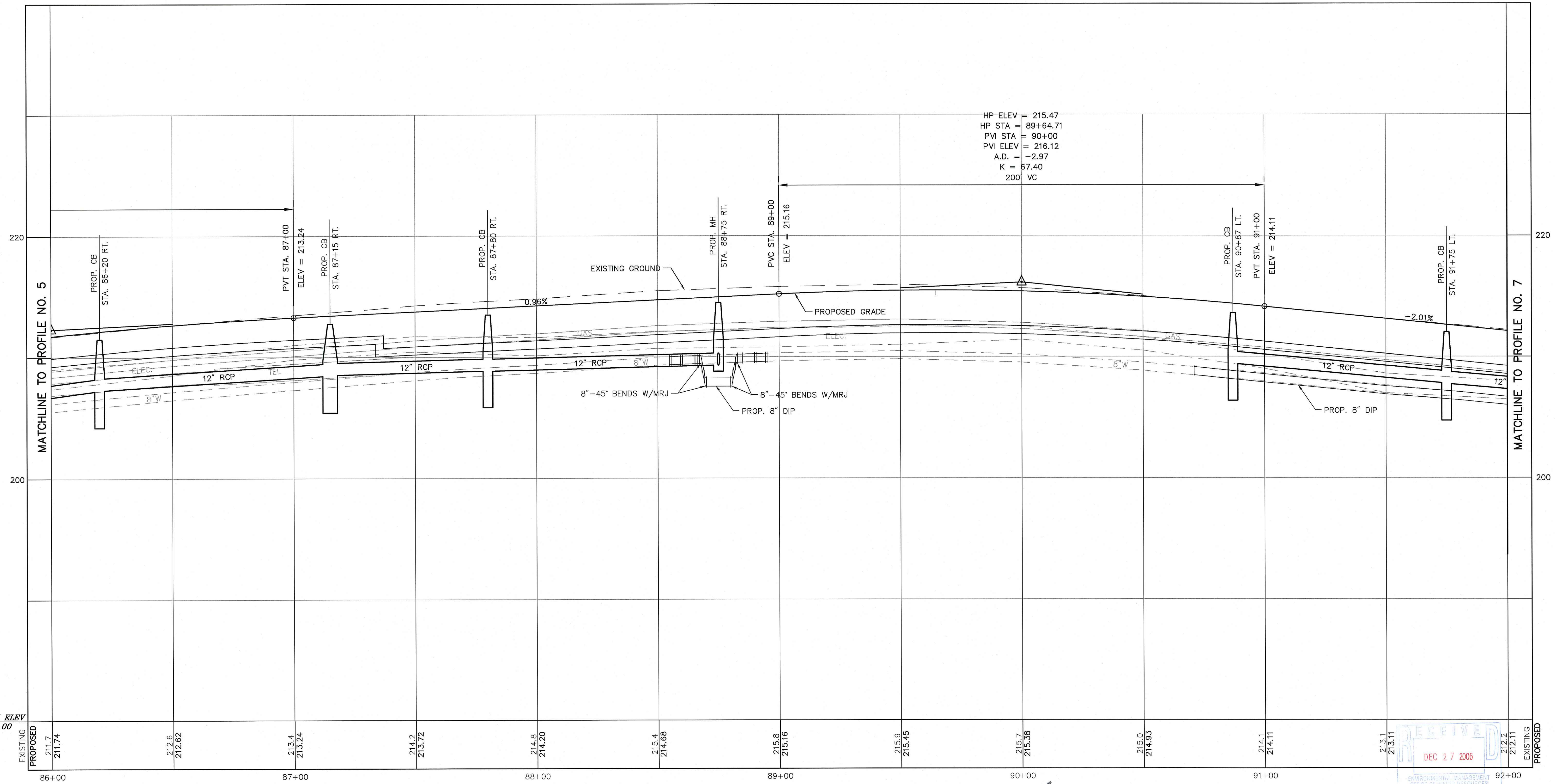
JOHNSTON/PROVIDENCE RHODE ISLAND

**PROFILE NO. 5**

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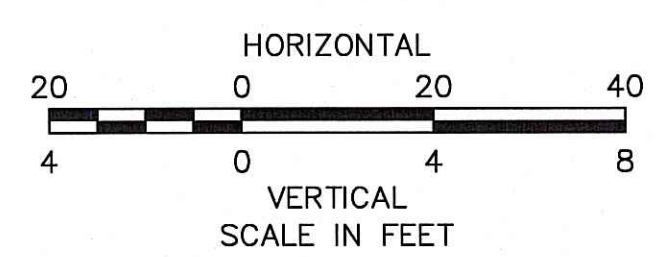
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 HP STA = 89+64.71  
 PVI STA = 90+00  
 PVI ELEV = 216.12  
 A.D. = -2.97  
 K = 67.40  
 200' VC



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DATUM ELEV  
180.00

EXISTING	211.7	212.6	213.4	214.2	214.8	215.4	215.8	215.9	215.7	215.0	214.1	213.1	212.2
PROPOSED	211.74	212.62	213.24	213.72	214.20	214.68	215.16	215.45	215.38	214.93	214.11	213.11	212.11
	86+00		87+00		88+00		89+00		90+00		91+00		92+00



*Charles A. [Signature]*  
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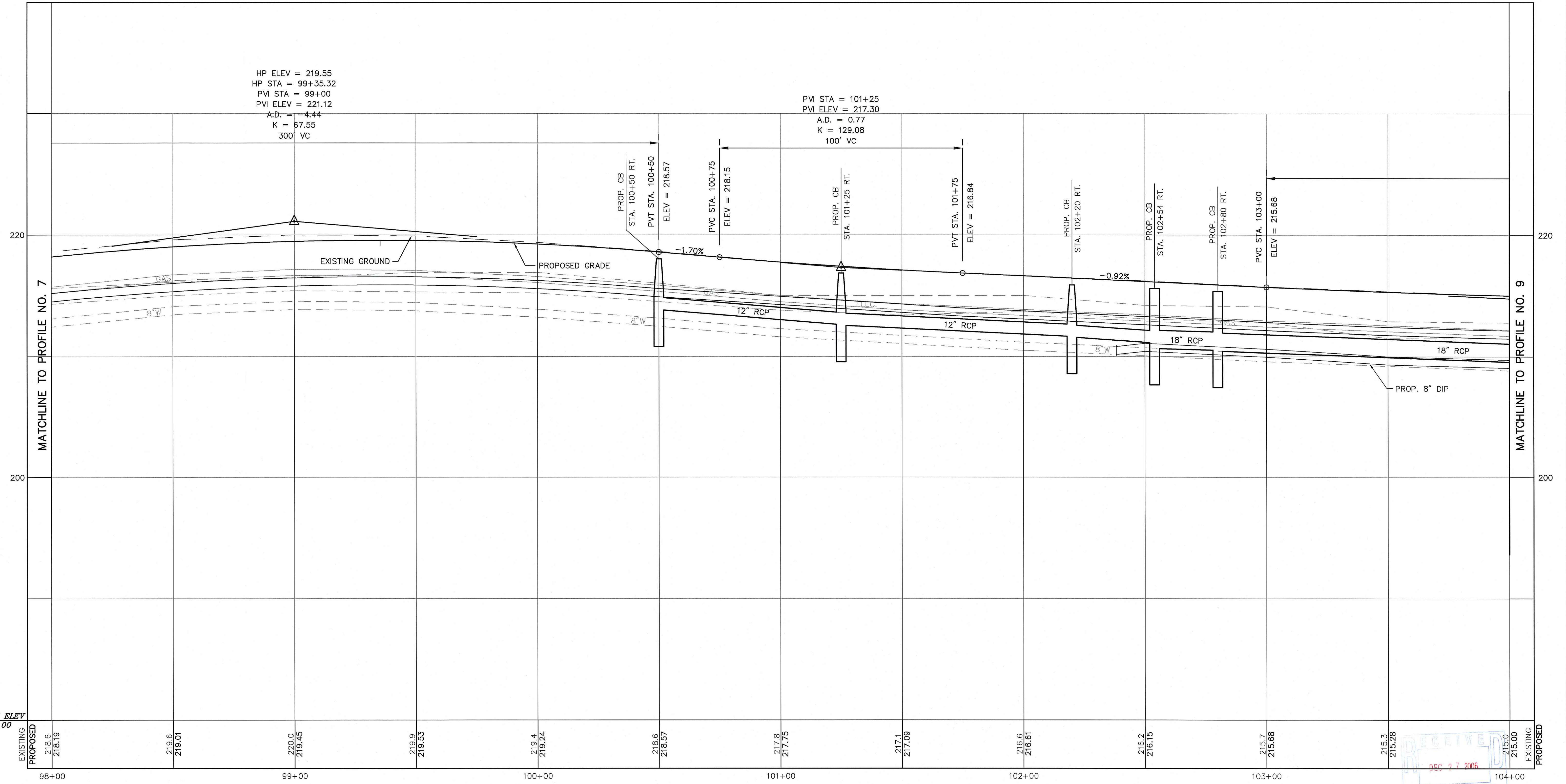
REVISIONS		
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 HARTFORD AVENUE  
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 PROFILE NO. 6  
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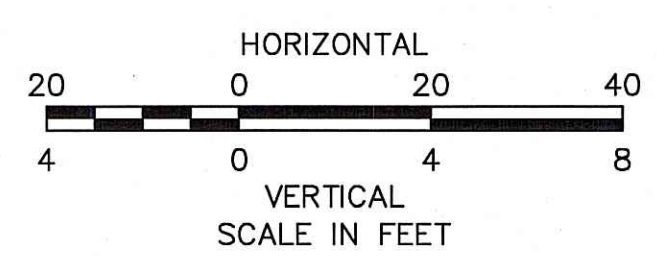




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DATUM ELEV  
180.00



*Charles A. [Signature]*

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APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JAN 8 2007 FILE # 05-0420  
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HARTFORD AVENUE**

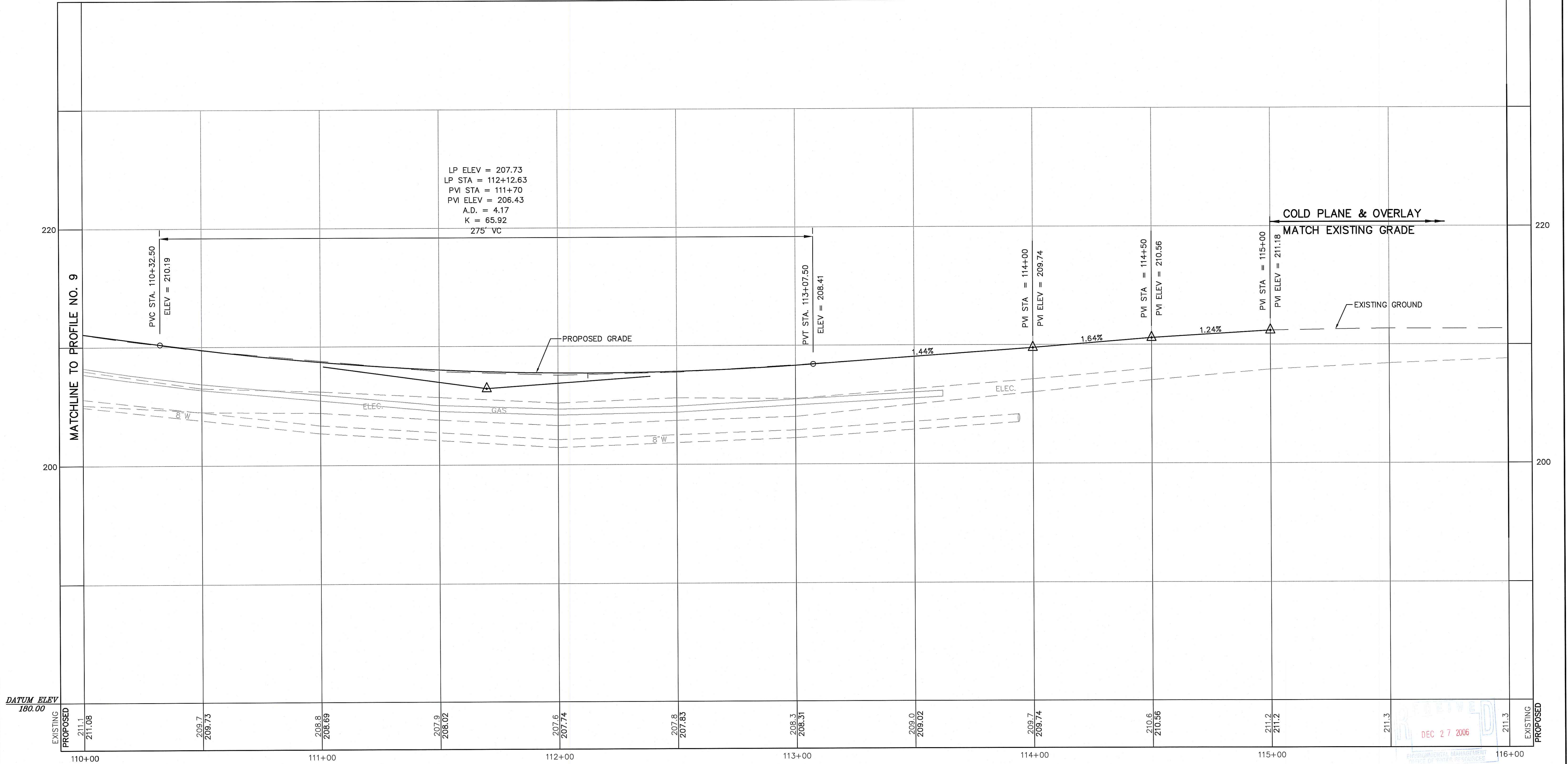
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OFFICE OF WATER RESOURCES



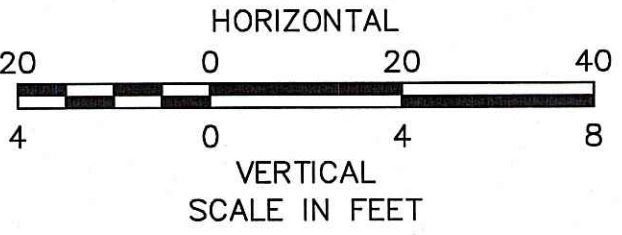


LP ELEV = 207.73  
 LP STA = 112+12.63  
 PVI STA = 111+70  
 PVI ELEV = 206.43  
 A.D. = 4.17  
 K = 65.92  
 275' VC

COLD PLANE & OVERLAY  
 MATCH EXISTING GRADE

EXISTING GROUND

DATUM ELEV 180.00



VERIFIED BY: [Signature]  
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 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
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 AS SPECIFIED IN THE LETTER OF APPROVAL  
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 PROFILE NO. 10  
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