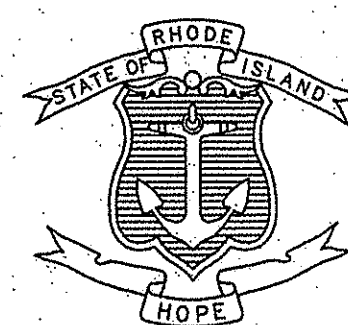


FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI.		2006	1	42

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2.	STANDARD PLAN SYMBOLS & STANDARD LEGEND
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9.	TYPICAL ROADWAY SECTIONS
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26.	BRIDGE NO. 478 - ELEVATION & CROSS-SECTION
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32.	BRIDGE NO. 479 - PRESTRESSED CONC. SLABS - 2
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39.	BRIDGE NOS. 478 & 479 - BRIDGE TYPICAL CROSS-SECTIONS
40.	ALUMINUM 1-BAR RAIL POST LOCATIONS
41.	ALUMINUM 1-BAR RAIL AND CONCRETE PARAPET DETAILS
42.	BRIDGE NOS. 478 & 479 - SIDEWALK DETAILS

STATE OF RHODE ISLAND



## DEPARTMENT OF TRANSPORTATION

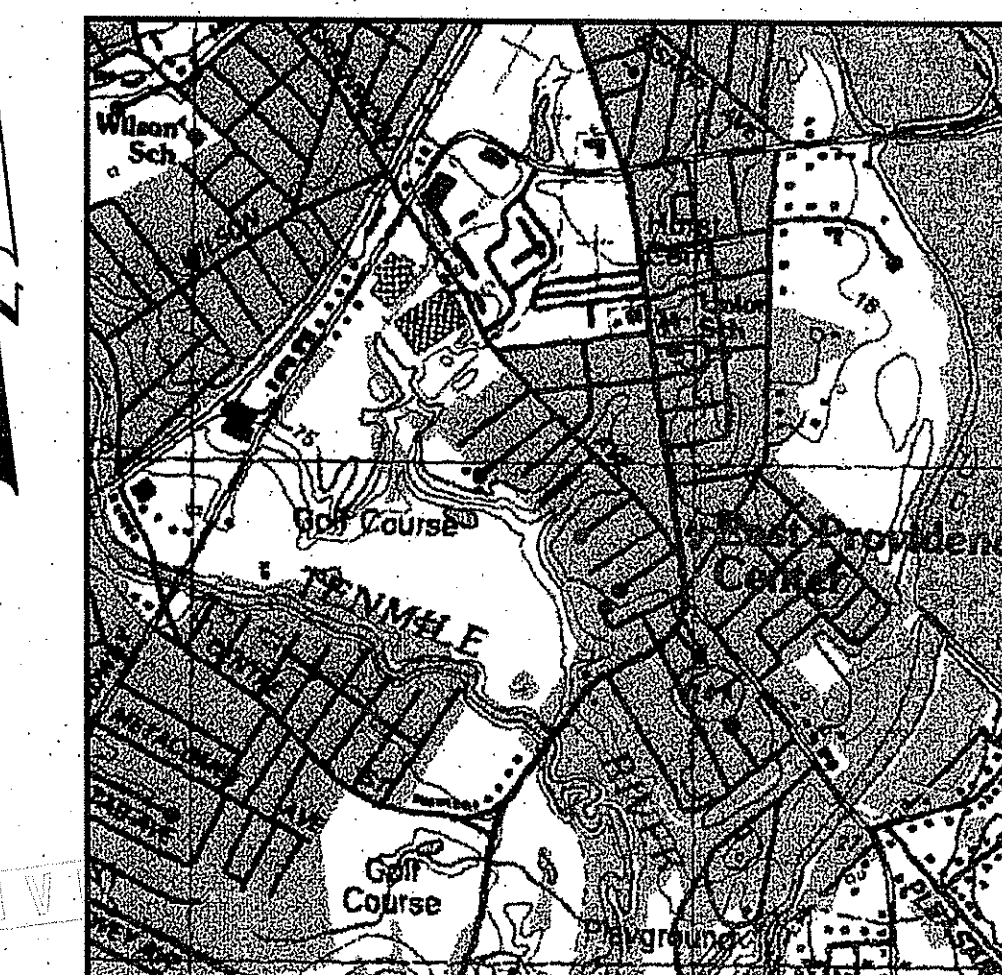
PLAN, PROFILE AND SECTIONS OF PROPOSED

### STATE HIGHWAY

# REHABILITATION OF TEN MILE RIVER BRIDGES Nos. 478 and 479

CITY OF EAST PROVIDENCE  
COUNTY OF PROVIDENCE

R.I. CONTRACT NO. 2001-EB-008 F. A. PROJECT NO.



LOCATION MAP  
SCALE: 1"=1000'

#### PAVEMENT COMPOSITION

3" BITUMINOUS SURFACE COURSE TYPE I-1

DESIGN	DESIGNATION
AADT	00 V.P.D.
AADT	00 V.P.D.
D	0000
K	00%
T	00%
DDHV	00 V.P.H.
DHV	00 V.P.D.
DESIGN SPEED	30 M/P.H.

#### HYDRAULIC DATA

DRAINAGE AREA	= 53.1 SQ. MI
100-YEAR FLOOD EL.	= 14.38 FT.
Q <sub>100</sub>	= 1759.52 CFS
V (Q <sub>100</sub> )	= 5.47 FT/S

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JUN 3 2010 FILE # 09-0314  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

### INTERIM 90% SUBMITTAL

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

Contract Number 2001-EB-008

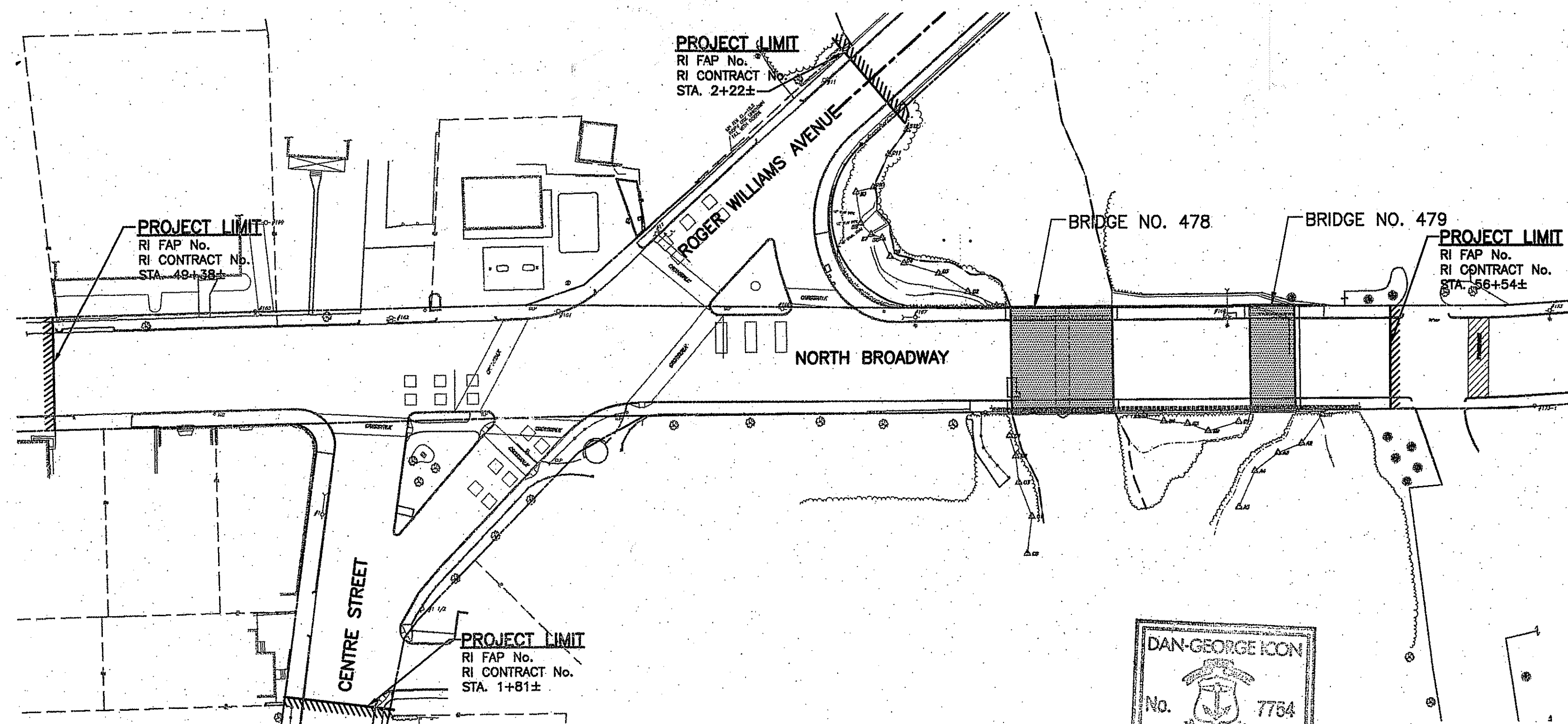
Number of Sheet 1

Total Sheets 42

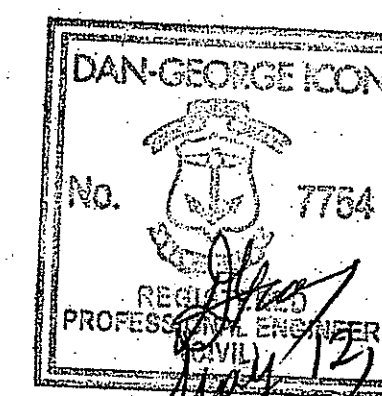
21 Sheets Approved by RI DEM (See Conditions 2 of Permit Letter)

#### R.I. STANDARD SPECIFICATIONS AND STANDARD DETAILS

SPECIFICATIONS TO GOVERN THIS PROJECT ARE THE R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION, AND THE STATE AND FEDERAL SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS. STANDARD DETAILS FOR THIS PROJECT ARE R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.



LAYOUT PLAN  
SCALE: 1"=50'



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

CROSSMAN ENGINEERING, INC.  
Civil - Transportation - Environmental - Site Planning - Land Surveying  
151 Centerville Road  
Warwick, Rhode Island 02886

AI Engineers, Inc.  
919 Middle Street  
Middletown, CT 06457

JACOBS  
343 CONGRESS STREET  
BOSTON, MA 02110  
617-242-2222

EXISTING		NEW					
EDGE OF PAVEMENT							
BERM							
CURB							
GUARDRAIL							
MAILBOX							
UTILITY POLE							
POLE GUY							
LUMINARE							
SIGN							
SUBDRAIN							
STORMDRAIN							
SANITARY SEWER							
WATER MAIN							
GAS MAIN							
TELEPHONE DUCT							
ELECTRIC DUCT							
PLUG AND CAP PIPE							
ABANDONED UTILITY							
FLARED END SECTION							
HEADWALL							
WATER OR GAS GATE							
CATCH BASIN							
MANHOLE							
HYDRANT							
BASELINE OR CENTERLINE							
STATE HIGHWAY LINE							
STATE FREEWAY LINE							
PERMANENT EASEMENT LINE							
TEMPORARY EASEMENT LINE							
PROPERTY LINE							
CITY OR TOWN LINE							
PAVED WATERWAY							
CONTOUR LINE							
OPEN DITCH							
R.I. HIGHWAY BOUND							
STONE BOUND							
RETAINING WALL							
FIELD STONE WALL							
BORINGS							
FENCE							
WOOD OR BRUSH LINE							
TREES							
RIVER OR STREAM							
WETLAND							
BUILDING							
FOUNDATION							
EXISTING BUILDING TO BE REMOVED							
RAILROAD TRACKS							
CUT AND MATCH							
RIP-RAP							
CUT SLOPE							
FILL SLOPE							
ROCK CUT							
SPOT GRADE							
AREA GRADED TO DRAIN							
BALED HAY RI STD. 9.1.0							
BALED HAY RI STD. 9.3.0							
EDGE OF WETLAND							
WETLAND PERIMETER							
ASSF							
AREA SUBJECT TO STORM FLOWAGE							
100-YEAR FLOOD PLAIN							
LIMIT OF DISTURBANCE							
LIMIT OF CLEARING							
			1.1.0 UNDERDRAIN	7.4.2 GRANITE TRANSITION CURB (VERTICAL FACE TO SLOPE FACE)	AB ADJUST CATCH BASIN TO GRADE		
		1.3.0 CONCRETE CONNECTING COLLAR	7.5.0 BITUMINOUS CONCRETE LIP CURB	ABM ADJUST CATCH BASIN TO MANHOLE			
		2.1.0 CONCRETE HEADWALLS FOR PIPE CULVERTS	7.5.1A BITUMINOUS BERM (CONSTRUCTION METHOD A)	AC ADJUST CURB STOP TO GRADE			
		2.2.0 STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0" PIPE CULVERTS	7.5.1B BITUMINOUS BERM (CONSTRUCTION METHOD B)	AD ADJUST DRAINAGE MANHOLE TO GRADE			
		2.3.0 (DIA.) PRECAST CONCRETE FLARED END SECTION	7.6.0 CURB SETTING DETAIL	AE ADJUST ELECTRIC MANHOLE TO GRADE			
		3.2.0 BRICK/SOLID BLOCK 4'-0" ROUND MANHOLE	8.2.0 BITUMINOUS CONCRETE DITCH	AFB ADJUST FRAME AND COVER TO GRADE			
		3.2.1 (DIA.) BRICK/SOLID BLOCK 5'-0" OR 6'-0" ROUND MANHOLE	8.3.0 RIP-RAP DITCH	AFG ADJUST FRAME AND GRATE TO GRADE			
		3.3.0 BRICK/SOLID BLOCK TYPE "D" SQUARE CATCH BASIN	8.4.0 PAVED WATERWAY	AG ADJUST GAS GATE BOX TO GRADE			
		3.3.2 BRICK/SOLID BLOCK TYPE "F" SQUARE CATCH BASIN	9.1.0 BALED HAY EROSION CHECK	AHH ADJUST HANDHOLE TO GRADE			
		3.3.3 SOLID BLOCK FLUSH SQUARE CATCH BASIN	9.2.0 SILT FENCE DETAIL	AS ADJUST SANITARY SEWER MANHOLE TO GRADE			
		3.4.0 BRICK/SOLID BLOCK TYPE "D" ROUND CATCH BASIN	9.3.0 BALED HAY DITCH EROSION CHECK AND SILT FENCE COMBINED	AT ADJUST TELEPHONE MANHOLE TO GRADE			
		3.4.1 BRICK/SOLID BLOCK ROUND CATCH BASIN WITH GUTTER INLET	9.4.0 BALED HAY DITCH AND SWALE EROSION CHECK	AW ADJUST WATER GATE BOX TO GRADE			
		3.4.2 BRICK/SOLID BLOCK TYPE "F" ROUND CATCH BASIN	9.5.0 LOG AND HAY CHECK DAM	BCD BITUMINOUS CONCRETE DRIVEWAY			
		3.4.3 BRICK/SOLID BLOCK TYPE "R" CATCH BASIN	9.7.0 DEWATERING BASIN	8 BITUMINOUS CONCRETE TYPE 1-2			
		3.4.4 SOLID BLOCK FLUSH ROUND CATCH BASIN	9.8.0 BALED HAY CATCH BASIN INLET PROTECTION	8 GRAVEL BORROW SUBBASE COURSE			
		3.4.5 (DIA.) BRICK/SOLID BLOCK 5'-0" OR 6'-0" ROUND CATCH BASIN	9.9.0 CONSTRUCTION ACCESS	BPS BUILD NEW STRUCTURE OVER EXISTING PIPE			
		3.5.0 SOLID BLOCK SHALLOW TYPE "F" SQUARE CATCH BASIN	10.1.0 WET STONE MASONRY RETAINING WALL	CCB CLEAN CATCH BASIN			
		3.5.1 (SIZE) SOLID BLOCK SHALLOW 5'-0" OR 6'-0" SQUARE CATCH BASIN	10.2.0 RUBBLE MASONRY WALL	CCP CUT AND CAP PIPE WITH RESTRAINT (ALL SIZES)			
		3.6.0 BRICK/SOLID BLOCK DROP INLET	10.3.0 CONCRETE RETAINING WALL	CFP CLEAN AND FLUSH PIPE			
		3.7.0 (DIA.) BRICK/SOLID BLOCK ROUND MANHOLE OR CATCH BASIN GREATER THAN 12'-0"	10.4.0 STONE MASONRY STEPS	CG CLEARING AND GRUBBING			
		4.2.0 PRECAST 4'-0" ROUND MANHOLE	14.1.0 CONCRETE HIGHWAY BOUND	CMH CLEAN MANHOLE			
		4.2.1 PRECAST 5'-0" ROUND MANHOLE	15.1.0 POST AND MOUNTINGS FOR RURAL MAILBOX	CP (X) COLD PLANE (DEPTH)			
		4.2.2 PRECAST 6'-0" ROUND MANHOLE	15.2.0 (X) POST AND MULTIPLE MOUNTINGS FOR RURAL MAILBOXES (NO.)	CPP CUT AND PLUG PIPE (ALL TYPES, ALL SIZES)			
		4.3.0 (SIZE) PRECAST 4'-0" OR 6'-0" SQUARE MANHOLE OR CATCH BASIN	18.2.0 PRECAST TYPE "A" HANDHOLE	DB REMOVE AND DISPOSE BITUMINOUS CURB			
		4.4.0 (DIA.) PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN	18.3.0 HEAVY DUTY TYPE "H" HANDHOLE	DC REMOVE AND DISPOSE CONCRETE CURB			
		4.5.0 PRECAST CONCRETE DROP INLET	20.2.0 ALUMINUM LIGHTING STANDARDS	DCB REMOVE AND DISPOSE CATCH BASIN			
		4.5.1 PRECAST CONCRETE DROP INLET LATERAL OUTLET	24.6.1 BI-DIRECTIONAL CONTROL DEVICE	DDI REMOVE AND DISPOSE DROP INLET			
		4.5.2 PRECAST CONCRETE DROP INLET LONGITUDINAL OUTLET	26.2.0 STREET SIGN MOUNTING DETAIL	DF REMOVE AND DISPOSE FENCE			
		5.3.0 CATCH BASIN AND MANHOLE STEP	26.3.0 POLYETHYLENE DRUM WITH MARKINGS	DFC REMOVE AND DISPOSE FRAME AND COVER			
		5.4.0 CONCRETE COLLARS	31.1.0 PVC PLASTIC PIPE TYPE III BARRICADE	DFE REMOVE AND DISPOSE FLARED END SECTION			
		6.1.0 LIGHT-DUTY SQUARE FRAME AND ROUND COVER	31.2.0 CHAIN LINK FENCE 3'-0" TO 4'-0"	DFG REMOVE AND DISPOSE FRAME AND GRATE			
		6.1.1 HEAVY DUTY SQUARE FRAME AND ROUND COVER	31.2.0 CHAIN LINK FENCE 5'-0" TO 6'-0"	DFH REMOVE AND DISPOSE FIRE HYDRANT			
		6.2.0 LIGHT-DUTY ROUND FRAME AND COVER	31.2.1 CHAIN LINK FENCE 5'-0" TO 6'-0" INTERMEDIATE POST	DFP REMOVE AND DISPOSE FLEXIBLE PAVEMENT			
		6.2.1 HEAVY-DUTY ROUND FRAME AND COVER	31.3.0 CHAIN LINK FENCE 5'-0" TO 6'-0" INTERMEDIATE POST	DG REMOVE AND DISPOSE GUARDRAIL			
		6.3.0 SQUARE FRAME AND GRATE	34.1.0 WOVEN WIRE RIGHT-OF-WAY FENCE (STEEL POST)	DH REMOVE AND DISPOSE HEADWALL			
		6.3.1 SQUARE FRAME AND GRATE	34.2.0 TYPICAL GUARDRAIL INSTALLATION	DHB REMOVE AND DISPOSE HIGHWAY BOUND			
		6.3.2 SQUARE FRAME AND GRATE (BICYCLE SAFE)	34.2.0 STEEL BEAM GUARDRAIL	DHH REMOVE AND DISPOSE HANDHOLE			
		6.3.3 HIGH CAPACITY FRAME AND GRATE	34.2.1 STEEL BEAM GUARDRAIL DETAILS	DL REMOVE AND DISPOSE LIGHT AND FOUNDATION			
		6.3.4 HIGH CAPACITY FRAME AND GRATE (BICYCLE SAFE)	34.2.2 STEEL BEAM GUARDRAIL DOUBLE FACED ASSEMBLY	DMB REMOVE AND DISPOSE MEDIAN BARRIER			
		6.4.0 ROUND FRAME AND GRATE	34.2.3 STEEL BEAM GUARDRAIL FIXTURES	DMH REMOVE AND DISPOSE MANHOLE			
		7.1.0S PRECAST CONCRETE CURB (STRAIGHT)	34.2.5 STEEL BEAM GUARDRAIL REFLECTORIZED TRIANGULAR DELINEATOR	DMM REMOVE AND DISPOSE MEDIAN MARKER			
		7.1.0C PRECAST CONCRETE CURB (CIRCULAR)	34.3.1 GUARDRAIL END SECTION	DOW REMOVE AND DISPOSE OBSERVATION WELL			
		7.1.1 3'-0" PRECAST CONCRETE TRANSITION CURB	34.3.2 TERMINAL END SECTION (SINGLE FACE)	DP REMOVE AND DISPOSE PIPE			
		7.1.2 6'-0" PRECAST CONCRETE TRANSITION CURB	34.3.3 ANCHORAGE DETAILS APPROACH END SECTION	DPB REMOVE AND DISPOSE RIGID BASE			
		7.1.4 PRECAST 2'-0" RADIUS CORNER	34.4.0 ANCHORAGE DETAILS TRAILING END SECTION	DRB REMOVE AND DISPOSE SIGN			
		7.1.5 PRECAST CONCRETE INLET STONE (FOR SQUARE CATCH BASIN)	34.4.0 STEEL BACKED TIMBER GUARDRAIL	DS REMOVE AND DISPOSE TRAFFIC SIGNAL SYSTEM			
		7.1.6 PRECAST CONCRETE INLET STONE (FOR ROUND CATCH BASIN)	34.4.1 STEEL BACKED TIMBER GUARDRAIL TERMINAL SECTION-TYPE 1	DSS REMOVE AND DISPOSE TRAFFIC SIGNAL SYSTEM			
		7.1.7 PRECAST CONCRETE APRON STONE (FOR SQUARE CATCH BASIN)	40.1.0 DOUBLE-FACED PRECAST MEDIAN BARRIER	DSW REMOVE AND DISPOSE SIDEWALK			
		7.1.8 PRECAST CONCRETE APRON STONE (FOR ROUND CATCH BASIN)	40.2.0 SINGLE-FACED PRECAST MEDIAN BARRIER	DTD REMOVE AND DISPOSE TELEPHONE DUCT BANKS			
		7.2.0S PRECAST CONCRETE SLOPED FACE CURB (STRAIGHT)	40.2.1 SINGLE-FACED PRECAST MEDIAN BARRIER	DUP REMOVE AND DISPOSE UTILITY POLE			
		7.2.0C PRECAST CONCRETE SLOPED FACE CURB (CIRCULAR)	40.3.0 PRECAST MEDIAN BARRIER TRANSITION UNIT	DWW REMOVE AND DISPOSE PAVED WATERWAY			
		7.2.1 PRECAST CONCRETE SLOPED FACE TRANSITION CURB	40.5.0 PRECAST MEDIAN BARRIER FOR TEMPORARY TRAFFIC CONTROL	FF CEMENT CONCRETE DRIVEWAYS			
		7.2.2 PRECAST CONCRETE TRANSITION CURB (VERTICAL FACE TO SLOPED FACE)	43.1.0 CEMENT CONCRETE SIDEWALK	GET FLARED GUARDRAIL END TREATMENT			
		7.3.0S GRANITE CURB (STRAIGHT)	43.2.0 BITUMINOUS CONCRETE SIDEWALK	IA IMPACT ATTENUATOR			
		7.3.0C GRANITE CURB (CIRCULAR)	43.3.0 WHEELCHAIR RAMP	IDL IMPERVIOUS DITCH LINER			
		7.3.1 3'-0" GRANITE TRANSITION CURB	43.3.1 WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS	LOD LIMIT OF DISTURBANCE			
		7.3.2 6'-0" GRANITE TRANSITION CURB	43.4.0 DRIVEWAY DEVELOPMENT FOR 3'-0" TRANSITION CURB	LOR LIMIT OF REGRADING			
		7.3.3 GRANITE WHEELCHAIR RAMP TRANSITION CURB	43.4.1 DRIVEWAY DEVELOPMENT FOR 6'-0" TRANSITION CURB	LS 4" LOAM AND SEED			
		7.3.4 GRANITE 2'-0" RADIUS CORNER	43.5.0 CEMENT CONCRETE DRIVEWAYS				
		7.3.5 GRANITE INLET STONE (FOR SQUARE CATCH BASIN)	48.1.0 DETECTABLE WARNING SYSTEM				
		7.3.6 GRANITE INLET STONE (FOR ROUND CATCH BASIN)	51.1.0 TREE PROTECTION DEVICE				
		7.3.7 GRANITE APRON STONE (FOR SQUARE CATCH BASIN)	51.1.1 DRIP LINE TREE PROTECTION DEVICE FOR EXISTING TREES				
		7.3.8 GRANITE APRON STONE (FOR ROUND CATCH BASIN)	51.2.0 SHRUB PROTECTION DEVICE				
		7.4.0 GRANITE SLOPED FACE CURB	51.3.0 TREE WELL				
		7.4.1 GRANITE SLOPED FACE TRANSITION CURB	51.4.0 TREE WALL				

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI.		2007	2	42

NFH	NEW FIRE HYDRANT WITH GATE VALVE
NIC	NOT IN THIS CONSTRUCTION CONTRACT
NWB	FURNISH AND INSTALL NEW WATER GATE VALVE BOX
NWVB	FURNISH AND INSTALL NEW WATER GATE VALVE AND BOX
NWCB	FURNISH AND INSTALL NEW WATER CURB STOP BOX
NWSB	FURNISH AND INSTALL NEW WATER CURB STOP AND BOX
PCD	PERMANENT CHECK DAM
PS	4" PLANTABLE SOIL AND SEED
RCB	RECONSTRUCT TYPE "D" CATCH BASIN, TO CATCH BASIN WITH GUTTER INLET
RCM	R.I.D.O.T. COMMUNICATIONS MANHOLE
RHM	REMOVE, HANDLE, HAUL, TRIM, RESET CURB EDGING, STRAIGHT, CIRCULAR (ALL TYPES)
RLP	RELOCATE LAMP POST
RMB	RELOCATE MAILBOX (BY OTHERS)
RPM	REMOVE PAVEMENT MARKINGS
RRP	RIP-RAP PAD (SEE DETAIL)
RRS	REMOVE AND RELOCATE SIGN
RUP	RELOCATE UTILITY POLE (BY OTHERS)
SB	STONE BAFFLE
SBAE	STEEL BEAM BRIDGE CONNECTION APPROACH END (W/O NESTED RAIL)
SBTE	STEEL BEAM BRIDGE CONNECTION TRAILING END (W/NESTED RAIL)
SD	STRUCTURAL DISPOSITION - SEE CS PAGES OF SPECIFICATION
SF	REMOVE AND STOCKPILE FENCE
SGA	SPECIAL GRADED AGGREGATE
SGC	REMOVE AND STOCKPILE GRANITE CURB
SGR	REMOVE AND STOCKPILE GUARDRAIL
SH	REMOVE AND STOCKPILE HYDRANT
SS	REMOVE AND STOCKPILE SIGN
STS	REMOVE AND STOCKPILE TRAFFIC SIGNAL SYSTEM
TB	CONCRETE THRUST BLOCK
TEP	TIE EXISTING PIPE INTO NEW STRUCTURE
TNP	TIE NEW PIPE INTO EXISTING STRUCTURE
TBT	THREE BEAM TRANSITION
TBBC	THREE BEAM BRIDGE CONNECTION
TT	TREE TRIMMING
WCM	4" WOOD CHIP MULCH
4DY	4" EPOXY RESIN PAVEMENT MARKINGS - DOUBLE YELLOW
6W	6" EPOXY RESIN PAVEMENT MARKINGS - WHITE
12W	12" EPOXY RESIN PAVEMENT MARKINGS - WHITE
6WT	6" PREFORMED PATTERNED MARKING (HIGH PERFORMANCE TAPE)
4Y	4" EPOXY RESIN PAVEMENT MARKINGS - YELLOW
6Y	6" EPOXY RESIN PAVEMENT MARKINGS - YELLOW
P.G.L.	PROFILE GRADE LINE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED JUN 3 2010 FILE # 09-024  
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 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

**PAVEMENT STRUCTURE**

A (X)	BITUMINOUS SURFACE COURSE
-------	---------------------------

**GENERAL NOTES:**

1. ANY DAMAGE TO EXISTING PAVEMENT, BRIDGES, CONDUIT, SIDEWALK, FENCES, ETC., CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.
2. THE CONTRACTOR SHALL PLACE ALL EQUIPMENT AND MATERIAL AS FAR AWAY AS POSSIBLE FROM THE EDGE OF THE TRAVEL LANE SO AS NOT TO CAUSE A SAFETY HAZARD, IN ACCORDANCE WITH SECTION 106.06 OF THE R.I.D.O.T. STANDARD SPECIFICATION, LATEST EDITION.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE EXISTING CONDITIONS ARE NOT OBLITERATED BEFORE CONTROL POINTS ARE LOCATED AND CONSTRUCTION LAYOUT IS ESTABLISHED. THE CONSTRUCTION LAYOUT SHALL BE PROVIDED IN SUFFICIENT DETAIL, THEREBY ENABLING HIM TO CONSTRUCT THE PROJECT IN CONFORMITY WITH THE PLANS AND SPECIFICATIONS. SURVEY WILL BE PROVIDED BY THE CONTRACTOR. THE RESIDENT ENGINEER WILL NOT AUTHORIZE CONSTRUCTION ACTIVITIES TO BEGIN UNTIL HE IS SATISFIED THAT ALL GROUND CONTROL HAS BEEN ESTABLISHED, TIED DOWN, AND DULY RECORDED IN STANDARD FIELD BOOKS.
4. ALL R.I. STD. 9.9.0 CONSTRUCTION ACCESS ROADS SHALL BE CONSTRUCTED PRIOR TO ANY ROADWAY ACCEPTING CONSTRUCTION TRAFFIC.
5. THE FREQUENCY AND APPLICATION RATES FOR THE DUST CONTROL ITEMS WILL BE AS DIRECTED BY THE ENGINEER.
6. ALL SIDEWALK AND DRIVEWAYS DESIGNATED FOR REPLACEMENT SHALL BE CUT AND MATCHED AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
7. ASPHALT EMULSION TACK COAT SHALL BE PLACED PRIOR TO PAVEMENT PLACEMENT ON THE CONCRETE BASE OR COLD PLANED PAVEMENT, AND ON ANY NEW COURSE WHICH HAS BEEN OPEN TO TRAFFIC, OR ANY NEW COURSE WHICH HAS BEEN EXPOSED FOR MORE THAN 3 DAYS, AND/OR AS DIRECTED BY THE ENGINEER. IT SHALL ALSO BE APPLIED TO VERTICAL PAVEMENT FACES BETWEEN ADJOINING PAVEMENT SECTIONS. ALL APPLICATIONS ON BOTH HORIZONTAL AND VERTICAL SURFACES SHALL BE PAID FOR UNDER THE CONTRACT UNIT BID PRICE FOR CODE 403.0300 "ASPHALT EMULSION TACK COAT."
8. THE LIMITS OF CLEARING AND SURFACE DISTURBANCE MUST BE STRICTLY ADHERED TO IN ALL AREAS. IN ADDITION TO THOSE AREAS SPECIFICALLY DESIGNATED ON THE PLANS, THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND PLACING, AT HIS OWN EXPENSE, PLANTABLE SOIL AND SEED IN AREAS WHICH ARE OUTSIDE OF THE PROJECT'S AREAS OF DISTURBANCE AND WHERE SUCH AREAS ARE IMPACTED BY CONSTRUCTION OPERATIONS INCLUDING THOSE AREAS WHERE VEHICLES, EQUIPMENT AND MATERIALS ARE STORED WITH THE PERMISSION OF THE ENGINEER.
9. UNDER NO CIRCUMSTANCE WILL THE CONTRACTOR BE ALLOWED TO STOCKPILE REMOVED PAVEMENT MATERIALS WITHIN THE PROJECT LIMITS.
10. CLEANING AND SWEEPING OF PAVEMENT WILL INCLUDE REMOVAL OF ALL PAVEMENT DEBRIS PRIOR TO THE PLACEMENT OF EACH BITUMINOUS PAVEMENT LIFT. ALL CLEANING AND SWEEPING SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER.
11. PRIOR TO INSTALLATION, ALL SIGNS, MOUNTINGS AND LOCATIONS SHALL BE APPROVED OR MODIFIED BY THE ENGINEER.
12. THE COORDINATE SYSTEM IS THE R.I. STANDARD GRID SYSTEM, NAD 83. THE VERTICAL CONTROL IS NGVD 29.
13. PAVEMENT OPERATIONS FOR CURBED SECTIONS: IN AREAS WHERE CURBING IS SET TO FINISH LINE AND GRADE, THE CONTRACTOR WILL NOT BE REQUIRED TO UTILIZE THE SENSOR AND SKY-TYPE DEVICE FOR AUTOMATIC GRADE CONTROL, BUT WILL BE ALLOWED TO MANUALLY ADJUST THE BITUMINOUS PAVER FOR CONTROLLING GRADE.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ROADWAYS FREE OF DEBRIS RESULTING FROM THEIR CONSTRUCTION OPERATIONS. ALL DEBRIS SHALL BE REMOVED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.
15. NO FUEL STORAGE, VEHICLE REFUELING, OR EQUIPMENT STORAGE SHALL TAKE PLACE IN DESIGNATED WETLANDS NOR WITHIN 100' OF ANY WATER BODY. THIS REQUIREMENT SHALL NOT SUPERSEDE ANY FEDERAL, STATE OR LOCAL LAW, ORDINANCE, RULE OR REGULATION THAT APPLIES TO THE SAME, UNLESS THIS REQUIREMENT IS MORE STRINGENT THAN SAID LAW, ORDINANCE, RULE OR REGULATION.
16. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT AT THE END OF FINAL PAVING OPERATIONS, FLOW TO EXISTING DRAINAGE STRUCTURES HAS BEEN REESTABLISHED AND THAT NO ISOLATED DEPRESSIONS REMAIN. THERE SHALL BE NO SEPARATE PAYMENT FOR THIS PROVISION; IT SHALL BE CONSIDERED INCIDENTAL TO PAVING AND COLD PLANING OPERATIONS.
17. ALL EMBANKMENTS SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING 12" (AFTER COMPACTION) AND SHALL BE COMPACTED AS SPECIFIED BEFORE THE NEXT LAYER IS PLACED. ALSO, EMBANKMENT CONSTRUCTION SHALL CONFORM TO SECTION 202.03.2 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
18. IF THIS PROJECT IS ON A HURRICANE EVACUATION AND DIVERSIONARY ROUTE, AS DESIGNATED ON THE COVERSHEET, THE CONTRACTOR IS ADVISED THAT UPON 12 (TWELVE) HOURS NOTICE THE ROADWAY SHALL BE OPEN TO EVACUEES AND EMERGENCY PERSONNEL. ANY EXTRA WORK NECESSARY TO COMPLY WITH THIS REQUIREMENT WILL BE REIMBURSED UNDER FORCE ACCOUNT PROCEDURES.
19. THE CONTRACTOR SHALL READ, BECOME FAMILIAR WITH, AND ADHERE TO ALL OF THE PROVISIONS, CONDITIONS, AND STIPULATIONS STATED IN THE ENVIRONMENTAL APPROVALS ISSUED FOR THE PROJECT FROM THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (RIDEM), AND/OR THE ARMY CORPS OF ENGINEERS (ACEE), AND/OR THE COASTAL RESOURCES MANAGEMENT COUNCIL (CRMC). COPIES OF EACH OF THESE PERMITS ARE INCLUDED IN THE CS 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(S).
20. FOR ALL PROJECTS INVOLVING KNOWN SITE REMEDIATION ISSUES, THE CONTRACTOR SHALL READ, BECOME FAMILIAR WITH, AND ADHERE TO ALL OF THE CONSTRUCTION RELATED PROVISIONS, CONDITIONS, AND STIPULATIONS OF ANY REMEDIAL PLANS DEVELOPED FOR THE PROJECT. COPIES OF THESE DOCUMENTS ARE INCLUDED IN THE CS PAGES OF THE CONTRACT DOCUMENTS. ALL COSTS ASSOCIATED WITH COMPLIANCE WITH THESE DOCUMENTS SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND INCLUDED WITH THE COST FOR THE ASSOCIATED BID ITEM(S).
21. NO UNPROTECTED CONSTRUCTED FEATURE MAY PROJECT MORE THAN 4 INCHES ABOVE THE FINISHED GRADE OF A TRAVERSABLE SLOPE IN A CLEAR ZONE, e.g. HEADWALL, DRAINAGE INLET, ETC.
22. THE REMAINING SECTION OR STUB OF A BREAKAWAY BASE MAY NOT PROJECT MORE THAN 4 INCHES ABOVE THE FINISHED GRADE OF A TRAVERSABLE SLOPE IN A CLEAR ZONE, e.g. SIGN POSTS, LIGHT POLES, FIRE HYDRANTS, ETC.

**DRAINAGE AND EROSION CONTROL NOTES:**

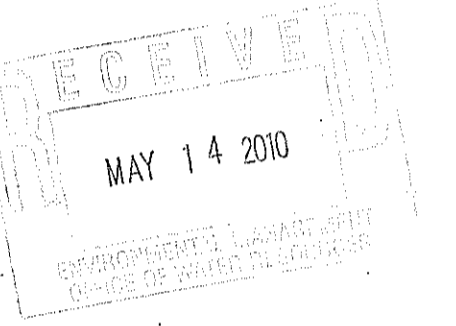
1. FOR ALL PROJECTS WITH AT LEAST ONE(1) ACRE OF SOIL DISTURBANCE, R.I.D.O.T. IS REQUIRED TO DEVELOP AND ENFORCE A SITE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ORDER TO REMAIN IN COMPLIANCE WITH THE RPPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL READ, BECOME FAMILIAR WITH, AND ADHERE TO ALL OF THE PROVISIONS, CONDITIONS, AND STIPULATIONS OF THE GENERAL PERMIT AND THE SITE SPECIFIC SWPPP FOR THIS PROJECT. COPIES OF THESE DOCUMENTS ARE INCLUDED IN THE CS PAGES OF THE CONTRACT DOCUMENTS. ALL COSTS ASSOCIATED WITH ADHERENCE TO THE SWPPP SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND INCLUDED WITH THE COST FOR THE ASSOCIATED BID ITEM(S).
2. NO UNDISTURBED AREAS SHALL BE CLEARED OF EXISTING VEGETATION AFTER OCTOBER 15 OF ANY CALENDAR YEAR OR DURING ANY PERIOD OF FULL OR LIMITED WINTER SHUTDOWN. ALL DISTURBED SOILS EXPOSED PRIOR TO OCTOBER 15 OF ANY CALENDAR YEAR SHALL BE SEEDED OR PROTECTED BY THAT DATE. ANY SUCH AREAS THAT DO NOT HAVE ADEQUATE VEGETATIVE STABILIZATION, AS DETERMINED BY THE RESIDENT ENGINEER OR ENVIRONMENTAL INSPECTOR, BY NOVEMBER 15 OF ANY CALENDAR YEAR, MUST BE STABILIZED THROUGH THE USE OF EROSION CONTROL MATTING OR HAY MULCH, IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK. 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 ERODIBLE SOIL MUST BE RESTABILIZED WITHIN 5 WORKING DAYS. ANY WORK TO CORRECT PROBLEMS RESULTING FROM FAILURE TO COMPLY WITH THIS PROVISION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THERE WILL BE NO SEPARATE PAYMENT FOR THIS PROVISION; IT SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OPERATIONS. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 2 WEEKS OF FINAL GRADING.
3. STOCKPILES OF MATERIAL SHALL NOT BE LOCATED WITHIN REGULATED WETLANDS OR BUFFER ZONE AREAS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES OF ERODIBLE MATERIAL SHALL ALSO BE SEEDED AND RINGED WITH R.I. STD. 9.1.0 TO STABILIZE.
4. IF THE PLANS INCLUDE SPECIFIC AREAS FOR PLACEMENT OF CONSTRUCTION DEWATERING BASINS AND/OR EQUIPMENT AND MATERIALS STORAGE AND STOCKPILING, AND IF THE CONTRACTOR ELECTS TO UTILIZE ANY OTHER AREAS FOR THESE PURPOSES, THIS SHALL BE APPROVED BY THE ENGINEER ONLY AFTER OBTAINING 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 ENGINEER WILL COORDINATE SUBMISSION OF ANY REQUIRED PERMIT APPLICATION MATERIALS WITH THE R.I.D.O.T. OFFICE OF ENVIRONMENTAL PROGRAMS.
5. JUTE MESH SHALL BE USED TO STABILIZE PLANTABLE SOIL AND/OR LOAM IN ALL DITCHES, ON ALL SLOPES ADJACENT TO WETLANDS AND WETLAND PERIMETERS, AND ON ALL SLOPES WITHIN WATER QUALITY BASINS. JUTE MESH IN DITCHES SHALL EXTEND TO AN ELEVATION 2 FEET ABOVE THE BOTTOM OF THE DITCH.
6. SEEDING ON ALL SLOPES 3 TO 1 OR STEEPER SHALL CONSIST OF THE FOLLOWING APPLICATIONS UNLESS CHANGED IN THE CONTRACT.  
SEEDING TYPE 1.  
ADHESIVE MULCH STABILIZER
7. UNVEGETATED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR PERIODS IN EXCESS OF 2 WEEKS OR THROUGH THE INACTIVE WINTER SEASON.
8. PRIOR TO DRAINAGE AND UTILITY CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION (HORIZONTAL AND VERTICAL) OF ALL EXISTING PIPES AND/OR STRUCTURES WHICH ARE TO BE CONNECTED. ANY VARIATION FOUND FROM THE PLANS MUST BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO DRAINAGE AND UTILITY CONSTRUCTION. WORK CAN COMMENCE ONLY UPON THE ENGINEER'S AUTHORIZATION.
9. ALL DRAINAGE AND UTILITY STRUCTURES WITHIN THE PAVED ROADWAY SHALL BE ADJUSTED TO GRADE WITH THE SURROUNDING PAVEMENT PRIOR TO THE WINTER SHUTDOWN.
10. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL THROUGHOUT THE WORK AREA.
11. CATCH BASIN RIM GRADES NOTED ON PLANS ARE DEPRESSED 0.1' LOWER THAN THE GUTTER GRADE. RIM ELEVATIONS SHOWN ARE FINAL GRADES. THE CONTRACTOR SHALL PLACE FRAMES AND GRATES 0.1' BELOW THE GRADE CONSTRUCTED IN THIS CONTRACT OR AS DIRECTED BY THE ENGINEER.
12. PROVISIONS FOR CLEARING TO ACCESS OUTFALLS DURING THE CLEANING AND FLUSHING OF THE CLOSED DRAINAGE SYSTEM SHALL BE KEPT TO A MINIMUM.  
ANY VEGETATIVE CLEARING SHALL BE LIMITED TO BRUSH AND TREES LESS THAN 3" DIAMETER.  
NO HEAVY EQUIPMENT MAY ENCROACH UPON VEGETATED PERIMETER OR RIVERBANK WETLANDS AS WELL AS BIOLOGICAL WETLANDS.
13. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL DEVICES FOR OUTLET PROTECTION PRIOR TO CLEANING AND FLUSHING STORM WATER DRAINAGE. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL ALL FLUSHED SEDIMENTS ARE REMOVED. AT ALL OUTFALL LOCATIONS WHERE PIPES ARE TO BE CLEANED AND FLUSHED, OUTLET PROTECTION (R.I. STD. 9.1.0 OR 9.3.0) SHALL BE INSTALLED TO TRAP SEDIMENTS. THESE SEDIMENTS SHALL THEN BE REMOVED AND DISPOSED OF LEGALLY BEFORE THE OUTLET PROTECTION DEVICES ARE REMOVED. IF OUTLET PROTECTION AT THE OUTFALL IS NOT FEASIBLE, THEN THE OUTLET PIPE OF THE LAST DRAINAGE STRUCTURE TO BE CLEANED SHALL BE PLUGGED TO CAPTURE ALL MATERIALS FLUSHED FROM PIPES. AFTER THE MATERIALS ARE REMOVED FROM THE DRAINAGE STRUCTURE, THE OUTLET SHALL BE UNPLUGGED TO RESUME NORMAL FUNCTIONING.
14. R.I. STD. 9.8.0 BALED HAY INLET PROTECTION SHALL BE INSTALLED AT ALL CATCH BASINS AND INLETS WHENEVER SUBBASE IS EXPOSED, AND SHALL REMAIN IN PLACE UNTIL THE ABUTTING GROUND SURFACES ARE STABILIZED.
15. WHERE BALED HAY INLET PROTECTION AND SILT FENCES ARE USED AT CATCH BASINS, THEY SHALL BE REMOVED AT THE END OF THE PROJECT OR AS DIRECTED BY THE ENGINEER IN ORDER TO PREVENT CLOGGING OF THE INLET.

**DRAINAGE AND EROSION CONTROL NOTES (CONTINUED):**

16. DETENTION AND RETENTION BASINS MAY BE ROUGH GRADED AND STABILIZED WITH VEGETATION AND/OR OTHER EROSION CONTROL MEASURES AS REQUIRED BY THE ENGINEER PRIOR TO USE AS TEMPORARY SEDIMENTATION BASINS DURING PROJECT CONSTRUCTION. FINAL BASIN CONSTRUCTION SHALL NOT COMMENCE UNTIL ALL SOURCES OF SEDIMENT HAVE BEEN ELIMINATED, FINAL ROADSIDE VEGETATION IS ESTABLISHED AND USE OF TEMPORARY BASINS IS NO LONGER REQUIRED AS DIRECTED BY THE ENGINEER. ANY ISSUES RELATING TO EROSION AND/OR SEDIMENT TRANSPORT INTO WETLAND AREAS RESULTING FROM SUCH USE OF SEDIMENTATION BASINS DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY CORRECTIVE ACTION REQUIRED TO RESOLVE SUCH ISSUES SHALL BE COMPLETED BY THE CONTRACTOR.
17. THE TOE OF ANY FILL SLOPE IS TO REMAIN AT LEAST 1' INSIDE OF ALL EROSION CONTROLS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR COVER ANY PORTION OF THE EROSION CONTROL MEASURES WITH MATERIAL. ANY MATERIAL THAT IS PLACED ON ANY EROSION CONTROLS BY THE CONTRACTOR, OR ANY AGENT OF THE CONTRACTOR, SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR, AND ANY NECESSARY REPAIRS TO THE EROSION CONTROLS ACCOMPLISHED.
18. 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. THE LIMITS OF CLEARING AND SURFACE DISTURBANCE MUST BE STRICTLY ADHERED TO IN ALL AREAS.
19. ALL HAY BALES, SILT FENCE OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN HELP TO MINIMIZE EROSION. TEMPORARY SEED WILL CONFORM TO R.I.D.O.T. STANDARD TEMPORARY SEED MIX.
20. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE TO THE STATE.
21. THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE SPECIFIED IN SUBSECTION L.02.03 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
22. ADDITIONAL EROSION CONTROLS, SHALL BE INSTALLED AS DIRECTED BY THE RESIDENT ENGINEER. THESE ADDITIONAL ITEMS WILL BE PAID AT THE UNIT PRICE FOR THAT BID ITEM.

**UTILITY NOTES:**

1. EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS USING THE BEST AVAILABLE INFORMATION AND ARE APPROXIMATE. BUILDING SERVICE CONNECTIONS (ELECTRIC, GAS, TELEPHONE, WATER AND SANITARY) ARE NOT SHOWN. CONTRACTOR IS TO ASSUME SERVICES ARE PRESENT TO ALL BUILDINGS.
2. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING DRAINAGE AND UTILITIES BOTH UNDERGROUND AND OVERHEAD BEFORE EXCAVATION BEGINS IN ACCORDANCE WITH THE "DIG SAFE LAW" ENACTED BY R.I. LEGISLATURE BILL NO. 79S-291, WHICH BECAME EFFECTIVE JULY 1, 1979 AND BY CONTACTING THE INDIVIDUAL UTILITY COMPANIES. EXCAVATION SHALL BE IN ACCORDANCE WITH ALL STATUTES, ORDINANCES, RULES AND REGULATIONS OF ANY APPLICABLE CITY, TOWN, STATE OR FEDERAL AGENCY. THE CONTRACTOR SHOULD UNDERSTAND THAT NOT ALL UTILITIES SUBSCRIBE TO THE DIG SAFE PROGRAM. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES AND ENSURE THAT ALL UTILITIES HAVE BEEN MARKED PRIOR TO COMMENCING THEIR WORK. ANY DAMAGE TO EXISTING UTILITIES MARKED IN THE FIELD, OR AS A RESULT OF FAILING TO CONTACT THE APPROPRIATE UTILITY COMPANY, SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE STATE.
3. ALL EXISTING UTILITIES TO BE ABANDONED SHALL BE CAPPED.
4. EXISTING WATER SERVICES SHALL BE RECONNECTED TO THE NEW WATER MAINS.
5. UTILITY SERVICE CONNECTIONS SHALL BE MAINTAINED TO ALL EXISTING FACILITIES TO REMAIN.
6. FIRE HYDRANTS SHALL NOT BE REMOVED FROM SERVICE WITHOUT WRITTEN AUTHORIZATION FROM THE FIRE DEPARTMENT OR THE WATER AUTHORITY.
7. ALL NEW WATER LINES SHALL BE DISINFECTED TO THE SATISFACTION OF THE WATER AUTHORITY IN ACCORDANCE WITH THE SPECIFICATIONS.
8. ALL UTILITY POLE RELATED WORK SHALL BE BY OTHERS.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JUN 3 2010 FILE # 09-024  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

REVISIONS			RHODE ISLAND DEPARTMENT OF TRANSPORTATION	
NO.	DATE	BY		
			REPLACEMENT OF NORTH BROADWAY-TEN MILE RIVER BRIDGE NOS. 478 & 479	
			PROVIDENCE RHODE ISLAND	
			<b>STANDARD NOTES - 1</b>	
			CHECKED BY _____	DATE _____
			SCALE	NA

**JACOBS** 343 CONGRESS STREET  
BOSTON, MA 02110





FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2008	6	23

**JOB SPECIFIC GENERAL NOTES:**

1. THE REMOVAL AND DISPOSAL OF CEMENT AND/OR BITUMINOUS CONCRETE DRIVEWAYS SHALL BE PAID FOR UNDER ITEM CODE 201.0403 REMOVE AND DISPOSE SIDEWALKS.
2. ALL ITEMS NOT REFERENCED FOR MODIFICATION WILL BE "EXISTING TO REMAIN" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. THE COST OF ANY CURB CUTTING REQUIRED TO INSTALL NEW CURB WILL BE INCLUDED IN THE UNIT BID PRICE FOR THE NEW CURB.
4. PAVEMENT REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH RHODE ISLAND STANDARD SPECIFICATIONS.
5. CALCIUM CHLORIDE SHALL NOT BE USED FOR DUST CONTROL.
6. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO WALLS, LOT CURBS, AND FENCES ABUTTING SIDEWALKS AND DRIVEWAYS DESIGNATED FOR REPLACEMENT. WHERE DIRECTED, NEW SIDEWALKS SHALL MEET SAID WALLS AND FENCES. PRIOR TO SIDEWALK REMOVAL, A SAWCUT SHALL BE PROVIDED IN ALL SIDEWALKS TO BE PROVIDED A DISTANCE, TO BE DETERMINED BY THE ENGINEER (6" MINIMUM) FROM THE FACE OF ADJACENT BUILDINGS, RETAINING WALLS, LOT CURBS AND FENCES. THE FINAL 6" (MINIMUM) OF SIDEWALK SHALL BE REMOVED WITH CAUTION UNDER THE RESIDENT ENGINEER'S SUPERVISION. THERE WILL BE NO ADDITIONAL PAYMENT FOR LABOR AND EQUIPMENT NECESSARY TO MEET THIS "REMOVE WITH CAUTION" REQUIREMENT. PAYMENT FOR THE REMOVAL OF THE FINAL 6" (MINIMUM) OF SIDEWALK WILL BE INCLUDED UNDER CODE 201.0403 "REMOVE AND DISPOSE SIDEWALKS." THE REQUIRED SAWCUT WILL BE PAID FOR UNDER 932.0220 "FULL DEPTH SAWCUT OF BITUMINOUS SIDEWALK/DRIVEWAY" OR 932.0230 "FULL DEPTH SAWCUT OF PORTLAND CEMENT CONCRETE SIDEWALK/DRIVEWAY" WHICHEVER IS APPLICABLE.
7. THE FOLLOWING CRITERIA SHALL APPLY FOR QUANTIFYING CODE 201.0610 "REMOVE AND DISPOSE DIRECTIONAL, WARNING, REGULATION, SERVICE AND STREET SIGN" FOR PAYMENT ON THIS PROJECT:
  - A. MULTIPLE SIGNS ON A SINGLE POST OR MOUNTING SHALL BE CONSIDERED AS A SINGLE SIGN STRUCTURE AND THE REMOVAL OF SAID STRUCTURE SHALL BE QUANTIFIED AS ONE EACH.
  - B. REMOVAL OF MULTIPLE SIGNS FROM A UTILITY POLE SHALL BE QUANTIFIED AS ONE EACH FOR EACH SEPARATE SIGN REMOVED FROM SAID UTILITY POLE.
8. DAMAGED CURB IN RHH AREAS:  
ANY GRANITE CURB DESIGNATED FOR RESETTING WHICH IS DAMAGED AND IN THE OPINION OF THE ENGINEER IS UNSUITABLE FOR RESETTING WILL BE REMOVED AND DISPOSED AND REPLACED WITH NEW GRANITE CURB. PAYMENT FOR THE REMOVAL OF THE EXISTING CURB WILL BE PAID FOR UNDER ITEM CODE 201.0401 "REMOVE AND DISPOSE GRANITE CURB." NEW GRANITE CURB WILL BE PAID FOR UNDER EITHER ITEM CODE 906.0110 "GRANITE CURB QUARRY SPLIT STRAIGHT, STANDARD 7.3.0" OR 906.0111 "GRANITE CURB QUARRY SPLIT CIRCULAR, STANDARD 7.3.0." ALL OTHER ITEMS INCLUDING EXCAVATION, REMOVAL AND DISPOSAL OF PAVEMENT STRUCTURE, GRAVEL BORROW SUBBASE COURSE AND TRIMMING AND FINE GRADING WILL BE PAID FOR IN ACCORDANCE WITH SUBSECTION 906.05.5 OF THE SPECIFICATIONS.

**JOB SPECIFIC MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:**

1. TRAFFIC FINES IN WORK ZONE REGULATORY SIGN, R.I. STD. 27.1.1 SHALL BE UTILIZED WHENEVER CONSTRUCTION ACTIVITIES ARE IN PROGRESS AND CONSTRUCTION PERSONNEL ARE PRESENT. THE SIGNS SHALL BE REMOVED FROM THE SITE OR COVERED AT ALL OTHER TIMES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL APPLICABLE REGULATORY AND WARNING SIGNS (EXCEPT FOR PARKING SIGNS) ARE VISIBLE TO TRAFFIC AT ALL TIMES ON EITHER PERMANENT OR TEMPORARY MOUNTINGS.
3. TEMPORARY STRIPING SHALL BE INSTALLED AT THE END OF ALL DAILY COLD PLANING AND PAVING OPERATIONS.

**JOB SPECIFIC SIGNING NOTES:**

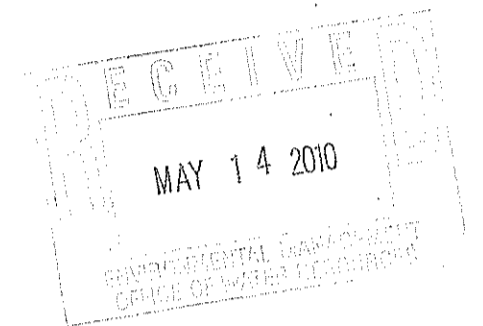
1. ALL NEW SIGN POST FOR R.I. STANDARDS 28.1.0 AND 29.2.0 INSTALLATIONS AND ALL OTHER INSTALLATIONS AS SHOWN IN R.I. STANDARDS 24.2.0, INSTALLED IN THIS CONTRACT SHALL BE R.I. STANDARD 24.2.0.

**JOB SPECIFIC DRAINAGE AND UTILITY NOTES:**

1. DURING THE PROCESS OF THE WORK, THE CONTRACTOR SHALL COOPERATE WITH THE OWNERS OF ADJACENT OVERHEAD OR UNDERGROUND UTILITIES AND PERMIT THEIR REPRESENTATIVES ACCESS TO THE WORK AREA TO DETERMINE IF THEIR UTILITIES ARE BEING ENDANGERED IN ANY WAY.
2. ANY DRAINAGE STRUCTURES, PIPES OR CULVERTS DAMAGED BY THE CONTRACTOR WHILE CARRYING OUT THIS CONTRACT SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL CHARGE TO THE STATE.
3. THE PER EACH PAYMENT FOR CODE 707.1100 "ADJUST CATCH BASINS" SHALL INCLUDE FULL COMPENSATION FOR RESETTING BOTH FRAMES AND GRATES AND FRAMES AND COVERS AS REQUIRED, AND MEASURED FOR PAYMENT PER EACH CATCH BASIN SO TREATED. THE ADJUSTING OF APRON STONES AND INLET STONES SHALL BE INCLUDED IN THE LINEAR FOOT PAYMENT FOR CODE 905.0700 "REMOVE, HANDLE, HAUL, TRIM RESET CURB EDGING, STRAIGHT, CIRCULAR ALL TYPES."
4. COMPENSATION FOR THE ADJUSTMENT OF NEW FRAMES AND COVERS AND FRAMES AND GRATES TO FINAL GRADE AS WELL AS ANY INTERMEDIATE ADJUSTMENTS SHALL BE INCLUDED IN THE CONTRACT BID PRICES FOR 702.0517 "FRAME AND GRATE, STD. 6.3.2," AND 702.0510 "HEAVY-DUTY SQUARE FRAME AND ROUND COVER, RI STANDARD 6.1.1." PAYMENT FOR THESE ITEMS SHALL INCLUDE FULL COMPENSATION FOR ALL ITEMS INCLUDED IN ADJUSTING DRAINAGE STRUCTURES AS PER SUBSECTION 707.05 OF THE RHODE ISLAND STANDARD SPECIFICATIONS, 2004 EDITION.
5. THE CONTRACTOR SHALL ADJUST ALL DRAINAGE AND UTILITY STRUCTURES IN ROADWAY AREAS TO THE SURROUNDING PAVEMENT GRADE AT THE END OF EACH WORK DAY. THE CONTRACT PROVIDES FOR TWO ADJUSTMENTS, ONE PRIOR TO COLD PLANING AND ONE TO FINAL GRADE.

**JOB SPECIFIC WHEELCHAIR RAMP NOTES:**

1. CURBING FOR NEW WHEELCHAIR RAMPS SHALL BE PAID FOR UNDER ITEM CODE 905.0120 "GRANITE WHEELCHAIR RAMP CURB, R.I. STD. 43.31 AND 43.3.0." THIS ITEM WILL BE MEASURED BY THE UNIT "EACH" FOR EACH WHEELCHAIR RAMP INSTALLED AND WILL INCLUDE TWO TRANSITION PIECES, THE CENTER PIECE WHEN REQUIRED, AND ANY AND ALL LENGTHS OF R.I. STD. 7.3.0 GRANITE CURB REQUIRED PER R.I. STD. 43.3.0.
2. ANY CUTTING OF ADJACENT CURB NECESSARY TO INSTALL NEW WHEELCHAIR RAMPS SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE PER EACH FOR CODE 905.0250 "GRANITE WHEELCHAIR RAMP CURB, R.I. STD. 43.31 AND 43.3.0."
3. THE FINAL LOCATION OF ALL WHEELCHAIR RAMPS SHALL BE COORDINATED IN THE FIELD WITH PROPOSED AND/OR EXISTING LOCATIONS OF DRAINAGE STRUCTURES, UTILITY POLES AND OTHER APPURTENANCES TO ENSURE A CLEAR PEDESTRIAN PATH IN ACCORDANCE WITH A.D.A. REQUIREMENTS.
4. R.I. STD. 48.1.0 "DETECTABLE WARNING SYSTEM" SHALL BE INSTALLED AT ALL PROPOSED WHEELCHAIR RAMPS WITHIN THE PROJECT LIMITS.
5. WHERE EXISTING WHEELCHAIR RAMPS ARE TO BE MAINTAINED, THE EXISTING CURB IS TO BE RESET SO THAT THE WHEELCHAIR RAMP SLOPE DOES NOT EXCEED 1:12.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CURB DIMENSIONS AND RADII PRIOR TO ORDERING NEW CURB. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE NEW CURB.
7. PRIOR TO REMOVAL OF EXISTING CURB, THE CONTRACTOR SHALL ESTABLISH ALL EXISTING CURB ELEVATIONS. ONCE THESE GRADES HAVE BEEN ESTABLISHED, THE CONTRACTOR MAY REMOVE CURB AND THEN REPLACE OR RESET THEM TO THE ORIGINAL ELEVATIONS, UNLESS OTHERWISE NOTED ON THE PLANS.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
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 DATED JUN 3 2010 FILE # 09-0214  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

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**CROSSMAN ENGINEERING, INC.**  
 Civil - Transportation - Environmental - Site Planning - Land Surveying  
 151 Centerville Road  
 Warwick, Rhode Island 02886

REVISIONS		
NO.	DATE	BY

**RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION**

**REPLACEMENT OF  
NORTH BROADWAY-TEN MILE RIVER  
BRIDGE NOS. 478 & 479**

PROVIDENCE RHODE ISLAND

**JOB SPECIFIC  
NOTES**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE NA

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2007	7	42

### GENERAL NOTES

1. ALL CONSTRUCTION INDICATED ON THESE PLANS SHALL BE IN ACCORDANCE WITH:
  - THE 2004 EDITION OF AND SUPPLEMENTS TO THE STATE OF RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (RI STANDARD SPECIFICATIONS).
  - THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, (AASHTO) LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 4TH EDITION, DATED 2007, INCLUDING THE LATEST INTERIM REVISIONS.
  - THE SPECIFICATIONS ACCOMPANYING THESE PLANS.
2. DIMENSIONS, STATIONS, AND ELEVATIONS ARE SHOWN TO THE NEAREST ONE-HUNDREDTH OF A FOOT OR ONE-EIGHTH OF AN INCH, EXCEPT STRUCTURAL STEEL DIMENSIONS WHICH ARE TO THE NEAREST ONE-SIXTEENTH OF AN INCH.
3. ALL ELEVATIONS ARE REFERENCED TO NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).
4. COORDINATES USED ON THESE PLANS ARE BASED ON THE STATE COORDINATE SYSTEM. THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
5. FOR BENCH MARKS AND TIES SEE HIGHWAY LOCATION PLANS.
6. ANGLES ARE SHOWN TO THE NEAREST SECOND.
7. ALL FOOTINGS SHALL BE APPROVED BY THE ENGINEER AS TO DIMENSIONS, ELEVATIONS, AND SUITABILITY OF FOUNDATION MATERIAL BEFORE THE PLACING OF CONCRETE.
8. ALL WORKING POINTS ARE SHOWN AT THE CENTERLINES OF BEARINGS OF ABUTMENTS, UNLESS OTHERWISE NOTED.
9. ALL ABUTMENTS ARE DRAWN LOOKING AT THE EXPOSED FACES.
10. 100-YEAR FLOOD ELEVATION WAS OBTAINED FROM THE HYDRAULIC REPORT CREATED FOR THIS PROJECT BY JACOBS CIVIL INC. DATED JULY 2001, AND UPDATED ON JULY 2005.
11. EXISTING CONDITIONS SURVEY WAS PREPARED BY AEROTECH CORPORATION, 365 SMITH STREET, SUITE ONE, PROVIDENCE RI 02908, DATED JANUARY 3, 2007.
12. THE EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND WERE LOCATED USING THE BEST AVAILABLE INFORMATION. NO BUILDING SERVICE CONNECTIONS (ELECTRIC, TELEPHONE, GAS, WATER, SANITARY AND OTHERS) ARE SHOWN. THE CONTRACTOR IS TO ASSUME THAT SERVICES TO ALL BUILDINGS ARE PRESENT.
13. BOTH FEDERAL AND STATE LAW (RI GENERAL LAW 39-1.2) REQUIRE NOTIFICATION OF APPROPRIATE UTILITY COMPANIES BEFORE DIGGING, TRENCHING, BLASTING DEMOLISHING, BORING, BACK FILLING, GRADING, LANDSCAPING, OR OTHER EARTH MOVING OPERATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES (INCLUDING THROUGH THE "DIG SAFE" PROGRAM) TO ENSURE THAT ALL UTILITIES, BOTH UNDERGROUND AND OVERHEAD, HAVE BEEN MARKED BEFORE COMMENCEMENT OF SUCH WORK. THE CONTRACTOR SHOULD UNDERSTAND THAT NOT ALL UTILITIES SUBSCRIBE TO THE "DIG SAFE" PROGRAM. ANY DAMAGE TO THE EXISTING UTILITIES MARKED IN THE FIELD, OR AS A RESULT OF FAILING TO CONTACT THE APPROPRIATE UTILITY COMPANIES, SHALL BE REPAIRED OR REPLACED (AS DEEMED APPROPRIATE BY THE STATE AND/OR THE IMPACTED UTILITY COMPANY) AT NO ADDITIONAL COST TO THE STATE.
14. ASPHALT EMULSION TACK COAT SHALL BE PLACED PRIOR TO PAVEMENT PLACEMENT OF HORIZONTAL AND VERTICAL FACES, AND WILL BE PAID FOR UNDER THE CONTRACT UNIT BID PRICE FOR ITEM CODE "403.0300 ASPHALT EMULSION TACK COAT."
15. FOR TEMPORARY TRAFFIC CONTROLS DURING CONSTRUCTION, SEE "MAINTENANCE AND PROTECTION OF TRAFFIC PLAN"
16. CONSTRUCTION EQUIPMENT SHALL NOT BE ALLOWED IN THE WATERWAY.
17. THE AREAS DISTURBED AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE RESTORED TO ITS ORIGINAL STATE UNLESS NOTED OTHERWISE.
18. 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.
19. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING PERIODS OF RAINFALL AT NO ADDITIONAL COST TO THE STATE.

### DESIGN DATA

1. DESIGN SPECIFICATIONS
  - THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 4TH EDITION, DATED 2007, INCLUDING ALL INTERIM REVISIONS TO DATE.
  - THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL 2007 EDITION INCLUDING ALL REVISIONS TO DATE.
  - ALL OTHER APPLICABLE DESIGN SPECIFICATIONS ARE REFERENCED IN SECTION 1 OF THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL DATED 2007.
  - THE 2008 REVISION OF AND SUPPLEMENTS TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (RI STANDARD SPECIFICATIONS).
  - IN CASE OF CONFLICT, THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL SHALL GOVERN.
2. LOAD MODIFIERS

THE LOAD MODIFIERS FOR THE PROJECT ARE AS FOLLOWS:

  - THE LOAD MODIFIER FOR DUCTILITY SHALL BE TAKEN AS 1.0 FOR ALL LIMIT STATES.
  - THE LOAD MODIFIER FOR REDUNDANCY SHALL BE TAKEN AS 1.0 FOR ALL LIMIT STATES.
  - THE LOAD MODIFIER FOR OPERATIONAL IMPORTANCE SHALL BE TAKEN AS 1.0 FOR TYPICAL BRIDGES.
3. LOAD FACTORS

ALL LOAD FACTORS SHALL BE ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, EXCEPT AS MODIFIED IN THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL:

  - THE LOAD FACTOR FOR TEMPERATURE GRADIENT SHALL BE TAKEN AS:  
0.0 AT THE STRENGTH AND EXTREME EVENT LIMIT STATES  
1.0 AT THE SERVICE LIMIT STATE WITHOUT LIVE LOAD  
0.5 AT THE SERVICE LIMIT STATE WITH LIVE LOAD
  - THE LOAD FACTOR FOR LIVE LOAD FOR THE EXTREME EVENT I SHALL BE TAKEN AS ZERO
  - THE LOAD FACTOR FOR DEAD LOAD FOR THE EXTREME EVENT I AND EXTREME EVENT II SHALL BE TAKEN AS 1.0
  - THE LOAD FACTOR FOR SETTLEMENT FOR ALL LIMIT STATES SHALL BE TAKEN AS 1.0
4. LIVE LOADS
  - THE DESIGN VEHICULAR LIVE LOAD SHALL BE THE HL-93 DESIGNATION ADJUSTED FOR DYNAMIC LOAD ALLOWANCE AND MULTIPLE PRESENCE FACTOR.
  - THE DESIGN PEDESTRIAN LIVE LOAD SHALL BE BASED ON AASHTO 3.6.1.6.
5. WIND LOADING DESIGN DATA

THE WIND LOADING DESIGN SHALL BE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL, AND AS MODIFIED HEREIN.

  - EXCEPT DURING CONSTRUCTION THE DESIGN WIND PRESSURE IS BASED ON A DESIGN WIND SPEED OF 100 MPH.
  - THE DESIGN WIND PRESSURES DURING CONSTRUCTION SHALL BE AS SPECIFIED UNDER THE NOTES TITLED "GENERAL NOTES REGARDING TEMPORARY CONSTRUCTION CONDITIONS."

6. TRAFFIC DATA
  - AADT (2008) = 00 VPD
  - AADT (2028) = 00 VPD
  - DHV (2028) = 0
  - D = %
  - T = %
  - V = 30 MPH
7. HYDRAULIC DATA
  - DRAINAGE AREA = 53.1 SQ. MI.
  - 100-YEAR FLOOD EL. = 14.38 FT.
  - Q = 1759.52 CFS
  - V = 5.47 FT/S
8. SEISMIC DESIGN DATA
  - THE SEISMIC ANALYSIS AND DESIGN SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL.
  - THE COMBINATION OF SEISMIC FORCE EFFECTS IS IN ACCORDANCE WITH THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL.
  - THIS BRIDGE HAS BEEN CLASSIFIED AS A SINGLE SPAN CRITICAL BRIDGE.
  - SCOUR AND LIQUEFACTION EFFECTS HAVE BEEN CONSIDERED IN THE SEISMIC ANALYSIS OF THIS BRIDGE

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
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APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JUN 3 2010 FILE # 09-0214  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
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**JACOBS** 343 CONGRESS STREET  
BOSTON, MA 02110

REVISIONS		
NO.	DATE	BY

RHODE ISLAND DEPARTMENT OF TRANSPORTATION	
REPLACEMENT OF NORTH BROADWAY-TEN MILE RIVER BRIDGE NOS. 478 & 479	
PROVIDENCE	RHODE ISLAND
<b>GENERAL NOTES - 1</b>	
CHECKED BY _____	DATE _____ SCALE NA

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2007	8	42

**MATERIALS**

**STRUCTURAL STEEL**

- AASHTO DESIGNATION M270, GRADE 50
- AASHTO DESIGNATION M270, GRADE 50W

**REINFORCING STEEL**

- AASHTO DESIGNATION M31, GRADE 60

**PRESTRESSING STEEL**

- 1/2" DIAMETER UNCOATED SEVEN WIRE LOW-RELAXATION STRAND, AASHTO DESIGNATION M203, GRADE 270

**CONCRETE STRENGTHS**

- CLASS HP 3/4" F'c = 6,500 PSI – PRESTRESSED BEAMS
- CLASS HP 3/4" F'c = 5,000 PSI – ABUTMENT STEMS, BACKWALLS AND SIDEWALKS
- CLASS HP 3/4" F'c = 4,000 PSI – APPROACH SLABS

**CONCRETE NOTES**

1. CLASSES OF CONCRETE SHALL BE HIGH PERFORMANCE CLASS HP AND CLASS XX AS DESCRIBED IN THE RI STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS OF THE SPECIFICATIONS. REFER TO THE "MATERIAL" NOTES FOR CLASSES OF CONCRETE SPECIFIED FOR VARIOUS COMPONENTS.  
  
ALL CLASSES OF CONCRETE ARE TO MODIFIED THROUGH THE ADDITION OF CALCIUM NITRITE-BASED CORROSION INHIBITOR IN ACCORDANCE WITH SECTION 605 OF THE RI STANDARD SPECIFICATIONS.
2. THE CONTRACTOR MAY, AT THE APPROVAL OF THE ENGINEER, PROPOSE THE USE OF SELF-CONSOLIDATING CONCRETE FOR ANY CLASS OF CONCRETE ON THIS PROJECT. SECTION 606 "SELF CONSOLIDATING CONCRETE (SCC)" CONTAINS THE REQUIREMENTS FOR MODIFY ALL CLASSES OF CONCRETE MIX DESIGN FOR SELF-CONSOLIDATING APPLICATIONS.
3. ALL PORTLAND CEMENT CONCRETE SHALL BE AIR ENTRAINED.

4. EXCEPT FOR FOOTINGS CAST BELOW GRADE, ALL REINFORCING STEEL SHALL BE EPOXY COATED. ALL WIRE TIES AND MISCELLANEOUS HARDWARE USED FOR PLACEMENT OF EPOXY COATED REINFORCING SHALL ALSO BE EPOXY COATED. EPOXY COATING FOR REINFORCING STEEL SHALL CONFORM TO AASHTO DESIGNATION M284.

5. ALL CRITICAL LAP SPLICES SHALL BE SHOWN ON THE PLANS. ALL SPLICES NOT SHOWN ON PLANS SHALL BE LAPPED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR CLASS C LAP SPLICES.

6. UNLESS OTHERWISE INDICATED ON THE PLANS, ALL MAIN REINFORCING BARS SHALL THE FOLLOWING MINIMUM COVER

CONCRETE CAST AGAINST OR PERMANENTLY EXPOSED TO EARTH (FOOTINGS, ABUTMENT AND WALL FACES, BACKWALLS)	3"
BRIDGE SIDEWALK	TOP 2" (+1/4", -0") BOTTOM 1" (+1/8", -0")
ALL OTHER BARS	2"

COVER TO TIES AND STIRRUPS MAY BE 0.5 INCH LESS THAN THE ABOVE VALUES SPECIFIED FOR MAIN REINFORCING, BUT IN NO CASE LESS THAN 1.5 INCHES.

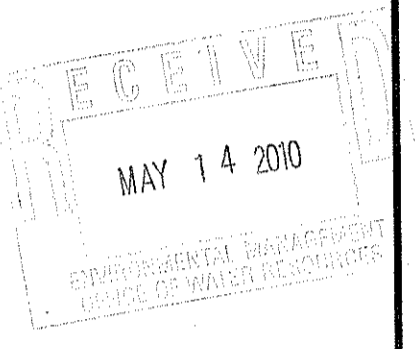
7. ALL ANCHOR BOLTS SHALL BE ASTM DESIGNATION A 307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO DESIGNATION M 232 OR METALIZED IN ACCORDANCE WITH SECTION M.05. SWEDGED RODS SHALL BE AASHTO DESIGNATION M 270 GRADE 36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO DESIGNATION M232.
8. ALL ANCHOR BOLTS SHALL BE SET PRIOR TO PLACEMENT OF CONCRETE UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.
9. HORIZONTAL CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON PLANS WILL NOT BE PERMITTED WITHOUT A WRITTEN REQUEST BY THE CONTRACTOR AND PRIOR AUTHORIZATION BY THE ENGINEER.
10. UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CONCRETE SURFACES VISIBLE IN ELEVATION TO ONE FOOT BELOW FINAL GROUND LINE (AND THE UNDERSIDE OF ALL CONCRETE DECK SLABS OUTSIDE OF THE FASCIA BEAMS), SHALL RECEIVE A CONCRETE SURFACE RUBBED FINISH IN ACCORDANCE WITH THE RI STANDARD SPECIFICATIONS.

11. THE ENTIRE TOPSIDE SURFACES OF ABUTMENT BEAM SEATS, AS WELL AS VERTICAL FACES OF BACKWALLS, SHALL BE PROVIDED WITH A FILM-FORMING SEALER (M12.03.1) CONCRETE SURFACE TREATMENT-PROTECTIVE COATING IN ACCORDANCE WITH SECTION 820 9F THE RI STANDARD SPECIFICATIONS
12. ALL EXPOSED EDGES AND REENTRANT CORNERS NOT OTHERWISE DETAILED ON THE PLANS SHALL HAVE A MINIMUM 3/4" CHAMFER.
13. ALL JOINT SEALANT SHALL BE POLYURETHANE, POLYURETHANE ELASTOMERIC, OR SILICONE SEALANT AS DESIGNATED ON THE PLANS. THE COLOR OF THE JOINT SEALANT, WHERE EXPOSED SHALL BE NEUTRAL (LIGHT GRAY OR TAN). THE COLOR OF THE SEALANT, WHERE NOT EXPOSED, WILL BE AT THE DISCRETION OF THE CONTRACTOR.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING CONCRETE STAINS OR DISCOLORATIONS DURING CONSTRUCTION UNTIL SUCH TIME WHEN THE SURFACES ARE APPROVED AND ACCEPTED. ANY CONCRETE STAINS OR DISCOLORATIONS OCCURRING PRIOR TO ACCEPTANCE OF THE SURFACES SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.
15. UNLESS OTHERWISE NOTED ON THE PLANS, JOINT FILLER IS TO A PREFORMED NON-EXPANSIVE, NON-EXTRUDING TYPE IN ACCORDANCE WITH SECTION M.02.11.1 OF THE RI STANDARD SPECIFICATIONS.
16. PLACEMENT, FINISHING AND CURING OF BRIDGE SIDEWALK CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 814 OF THE RI STANDARD SPECIFICATIONS.
17. EMBEDMENT LENGTHS FOR DRILLED AND GROUTED DOWELS SHALL BE IN ACCORDANCE WITH SECTION 819 OF THE RI STANDARD SPECIFICATIONS.
18. IN ACCORDANCE WITH THE RI STANDARD SPECIFICATIONS, ALL METAL TIES OR ANCHORAGES WITH ARE REQUIRED FOR CONCRETE FORMWORK SHALL BE SO CONSTRUCTED THAT THEY CAN BE REMOVED TO AT LEAST TWO INCHES BELOW THE EXPOSED SURFACE OF THE CONCRETE WITHOUT CAUSING DAMAGE TO THE CONCRETE SURFACE. SNAP TIES MAY BE USED ONLY IF APPROVED BY THE ENGINEER. IF THE CONTRACTOR PROPOSED TO USE THEM, A CATALOG CUT AND ANY OTHER NECESSARY INFORMATION MUST BE SUBMITTED TO THE ENGINEER TO DEMONSTRATE THAT THE TIES WILL SNAP-OFF FAR ENOUGH INTO THE CONCRETE TO ALLOW FOR PROPER PATCHING. SNAP TIES MUST PROVIDE ADEQUATE STRENGTH TO SUPPORT THE FORMS. ALL CAVITIES SHALL BE FILLED WITH AN APPROVED CEMENT MORTAR MEETING THE REQUIREMENTS OF ASTM C928.

**PRESTRESSED CONCRETE NOTES**

1. THE FABRICATION OF ALL PRESTRESSED ELEMENTS SHALL BE IN ACCORDANCE WITH SECTION 809 "PRECAST/PRESTRESSED CONCRETE MASONRY" OF THE RI STANDARD SPECIFICATIONS.
2. ANY PRECAST MANUFACTURING PLANT FURNISHING PRECAST PRESTRESSED BRIDGE MEMBERS MUST BE CERTIFIED BY THE PRECAST PRESSED CONCRETE INSTITUTE PLANT CERTIFICATION PROGRAM. THE CERTIFICATION SHALL BE AS A MINIMUM IN THE B3 CATEGORY, EXCEPT FOR DRAPED STRAND BRIDGE MEMBERS IN WHICH CASE A B4 CATEGORY WILL BE REQUIRED. THE MANUFACTURER SHALL SUBMIT PROOF OF CERTIFICATION PRIOR TO THE START OF PRODUCTION;
3. BOX BEAMS AND SLABS ARE DETAILED WITH NOMINAL DIMENSIONS (SUCH AS 47 1/2") AND NOMINAL 1/2" JOINTS BETWEEN UNITS TO ACCOUNT FOR CONSTRUCTION TOLERANCES AND TO PROVIDE FOR AN EXACT OVERALL STRUCTURE WIDTH.
4. LIFTING DEVICES ARE THE RESPONSIBILITY OF THE PRECASTER.
5. THE CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 6,500 PSI. THE MINIMUM REQUIRED COMPRESSIVE STRENGTH AT STRESS TRANSFER SHALL NOT BE LESS THAN 5,000 PSI.
6. PRESTRESSING STRANDS SHALL CONSIST OF UNCOATED HIGH STRENGTH SEVEN WIRE LOW-RELAXATION STRANDS HAVING A NOMINAL DIAMETER OF 0.5" (OR 0.6" AS REQUIRED BY DESIGN) CONFORMING TO THE REQUIREMENTS OF AASHTO DESIGNATION M203 GRADE 270.
7. LATERAL TIES SHALL CONSIST OF UNCOATED HIGH STRENGTH STRENGTH SEVEN WIRE LOW-RELAXATION STRANDS HAVING A NOMINAL DIAMETER OF 0.6" CONFORMING TO THE REQUIREMENTS OF AASHTO DESIGNATION M203 GRADE 270. CORROSION PROTECTION OF THE LATERAL TIES SHALL BE AS DETAILED ON THE DRAWINGS. COST OF THE LATERAL TIES SHALL BE INCLUDED IN THE UNIT PRICE FOR THE PRESTRESSED CONCRETE DECK OR BOX BEAM UNITS.
8. NON-PRESTRESSED REINFORCEMENT SHALL CONFORM TO AASHTO DESIGNATION M31 GRADE 60 AND SHALL BE EPOXY COATED.
9. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4", UNLESS OTHERWISE NOTED.
10. ANY STRUCTURAL MEMBERS DAMAGED DURING FABRICATION, SHIPPING OR ERECTION, SUCH THAT THEIR STRUCTURAL INTEGRITY IS COMPROMISED, SHALL BE REJECTED AND REPLACE AT THE CONTRACTOR'S OWN EXPENSE. THE ENGINEER SHALL BE THE SOLE JUDGE IN DETERMINING THE STRUCTURAL INTEGRITY OF DAMAGED PRESTRESSED MEMBERS. ANY DAMAGE THAT IS NOT STRUCTURAL IN NATURE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE STATE.
11. DURING HANDLING, THE BEAMS MUST BE MAINTAINED IN UPRIGHT POSITION AT ALL TIMES AND MUST BE PICKED UP ONLY BY MEANS OF APPROVED LIFTING DEVICES AT THEIR APPROVED SUPPORT POINTS.

12. DIMENSIONAL TOLERANCES SHALL NOT EXCEED THOSE RECOMMENDED IN THE LASTED EDITION OF PCI "MANUAL FOR QUALITY CONTROL FOR PLANTS AND PRODUCTION OF PRECAST AND PRESTRESSED CONCRETE PRODUCTS."
13. THE EXTERIOR FACE OF FASCIA BEAMS SHALL RECEIVE A RUBBED FINISH (IN FIELD OR IN THE PLANT) IN ACCORDANCE WITH THE RI STANDARD SPECIFICATIONS. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PRESTRESSED CONCRETE MEMBER.
14. THE TOP SURFACES OF THE PRESTRESSED SLABS, BOX BEAMS, & GIRDERS SHALL HAVE EITHER A SMOOTHED OR A RAKED FINISHED FINISH (1/4" AMPLITUDE) AS INDICATED ON THE PLANS.
15. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER IN SUFFICIENT TIME TO PERMIT CAREFUL CHECKING.
16. ALL PRESTRESSING STEEL AND EPOXY COATED REINFORCING BARS SHALL BE SECURELY TIED TO PREVENT DISLOCATION. TIES USED FOR THE EPOXY COATED REINFORCING STEEL SHALL ALSO BE EPOXY COATED.
17. THE DETAILS OF ALL INSERTS, ANCHORS, AND ANY OTHER ITEMS REQUIRED TO BE CAST INTO THE PRECAST PRESTRESSED UNITS (WHETHER DETAILED ON THE CONTRACT DRAWINGS OR PROVIDED FOR THE CONTRACTOR'S CONVENIENCE) SHALL BE SHOWN ON THE SHOP DRAWINGS. PRECAST UNITS SHALL NOT BE FIRED OR DRILLED INTO FOR ATTACHMENT PURPOSES. ALL HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M232.
18. THE NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 10,000 PSI AFTER 28 DAYS AS DETERMINED BY TESTING UNDER ASTM DESIGNATION C-109 AND SHALL NOT EXHIBIT ANY MEASURABLE DECREASE IN VOLUME AFTER CURING. THE CONTRACTOR SHALL STRICTLY FOLLOW THE MANUFACTURER'S RECOMMENDATIONS. NO TRAFFIC OR EQUIPMENT SHALL BE PERMITTED ON THE STRUCTURE UNTIL THE GROUT HAS CURED FOR AT LEAST 72 HOURS OR AS DIRECTED BY THE ENGINEER. GROUTING SHALL BE PERFORMED IN ACCORDANCE WITH THE DETAILS SHOWN. THE GROUT SHALL BE ON THE RIDOT APPROVED MATERIAL LIST.
19. THE ENDS OF BEAMS SHALL BE VERTICAL AFTER ALL DEAD LOADS HAVE BEEN PLACED.
20. HANDHELD VIBRATORS SHALL BE EQUIPPED WITH RUBBER TIPPED HEADS.
21. FOR SIZE AND LOCATION OF ANCHOR BOLTS, SEE ABUTMENT AND BEARING DRAWINGS.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
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DATED JUN 3 2010 FILE # 09-0214  
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DEPARTMENT OF TRANSPORTATION

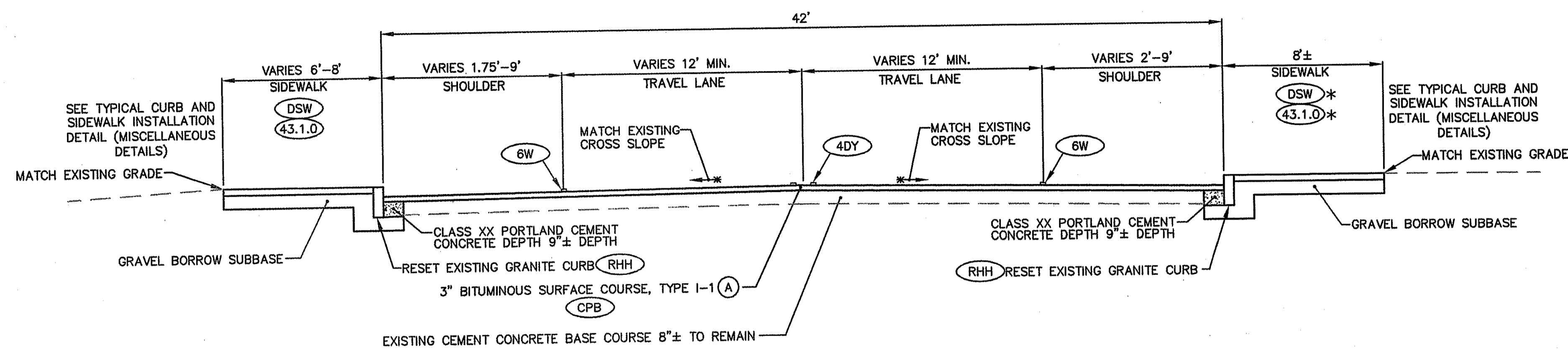
REPLACEMENT OF  
NORTH BROADWAY-TEN MILE RIVER  
BRIDGE NOS. 478 & 479  
PROVIDENCE RHODE ISLAND

GENERAL NOTES - 2

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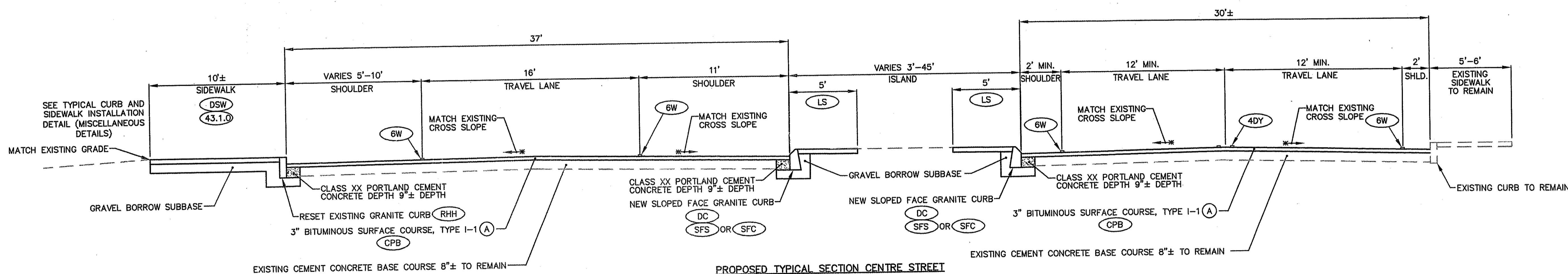


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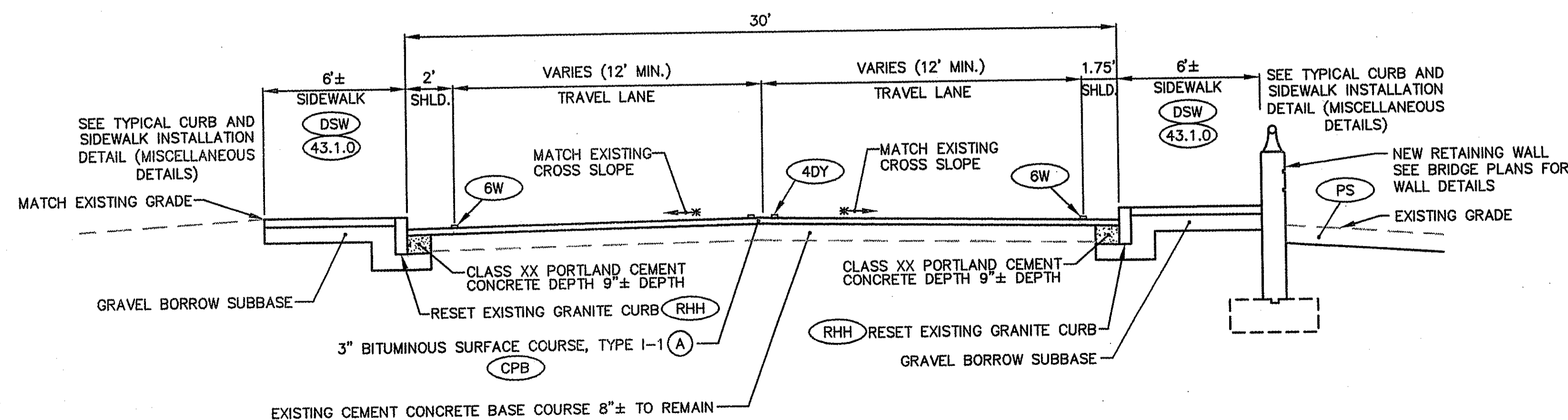


**PROPOSED TYPICAL SECTION NORTH BROADWAY  
FACING NORTH**  
SCALE: 1"=4'

\*EXISTING SIDEWALK AND CURB TO REMAIN FROM CENTRE STREET TO THE NORTH BROADWAY TEN MILE RIVER BRIDGE.



**PROPOSED TYPICAL SECTION CENTRE STREET  
FACING WEST**  
SCALE: 1"=4'



**PROPOSED TYPICAL SECTION ROGER WILLIAMS AVENUE  
FACING WEST**  
SCALE: 1"=4'

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OFFICE OF THE ASSISTANT COMMISSIONER  
DIVISION OF HIGHWAYS

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
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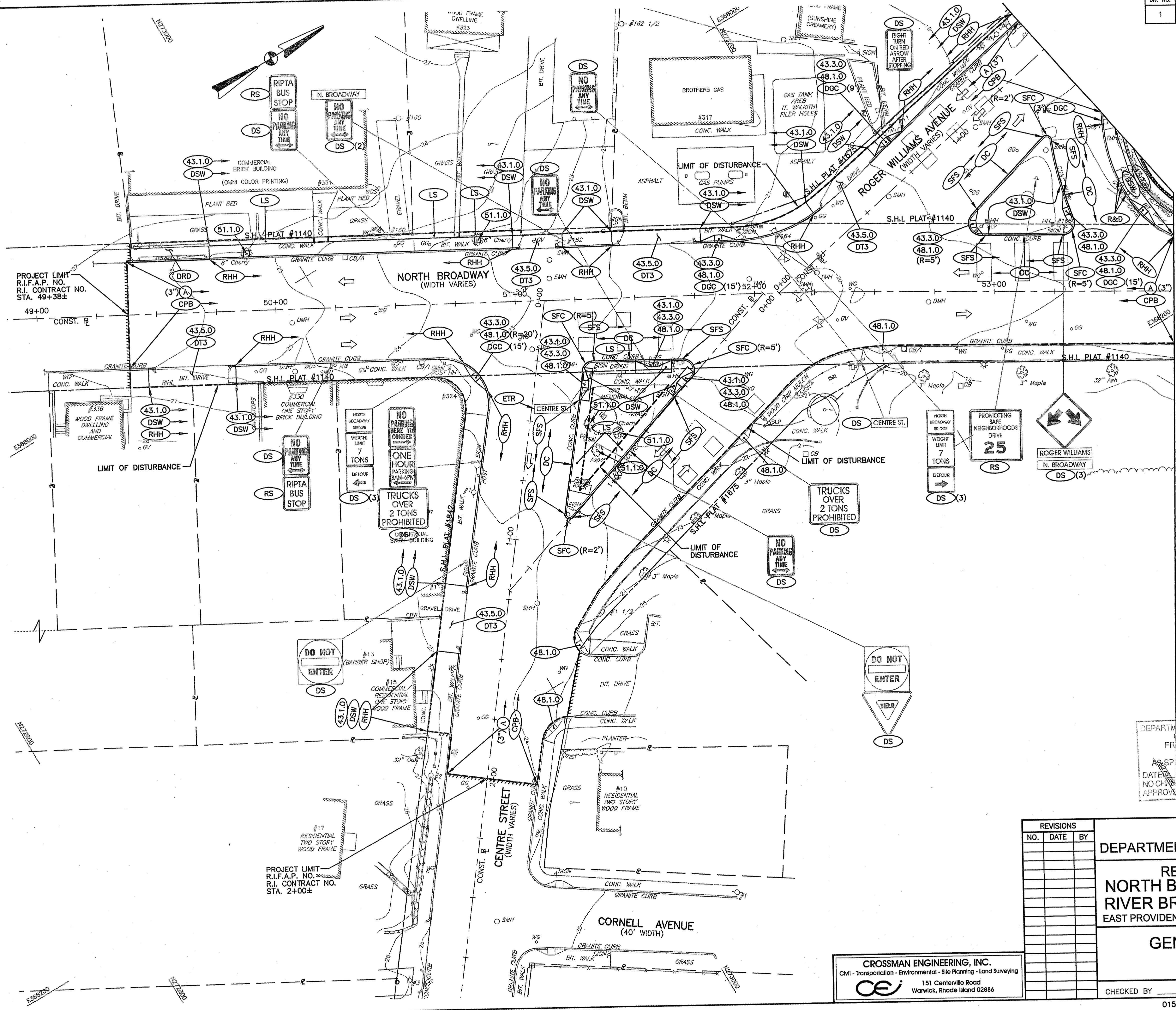
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NO.	DATE	BY

**RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION**  
  
**REPLACEMENT OF  
NORTH BROADWAY TEN-MILE  
RIVER BRIDGE NOS. 478 & 479  
EAST PROVIDENCE RHODE ISLAND**  
  
**TYPICAL ROADWAY SECTIONS**

CROSSMAN ENGINEERING, INC.  
Civil - Transportation - Environmental - Site Planning - Land Surveying  
151 Centerville Road  
Warwick, Rhode Island 02886

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE 1"=4'

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2009	10	42



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MATCHLINE TO GENERAL PLAN NO. 2

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
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DATE JUN 3 2010 FILE # D9-021A  
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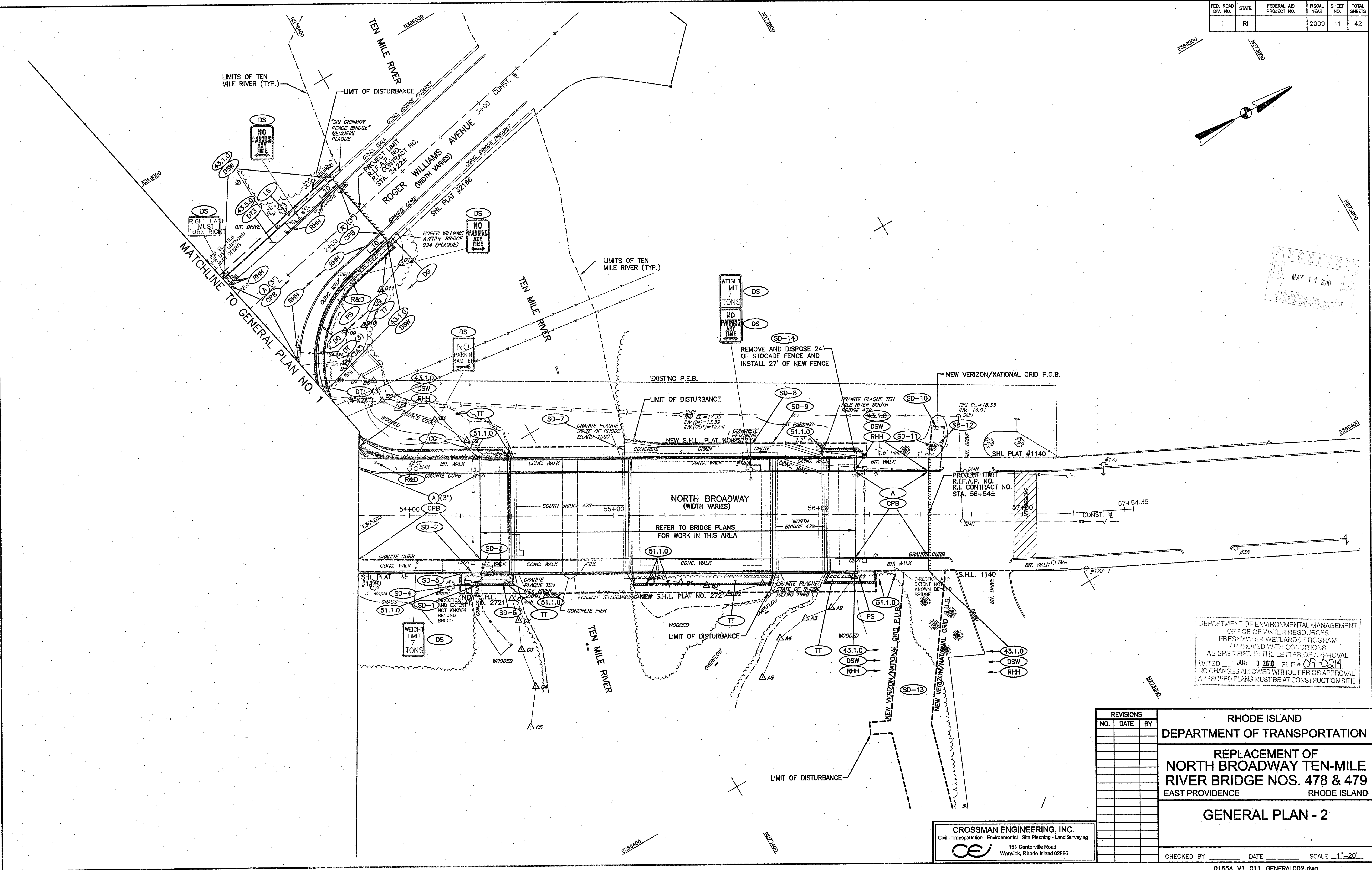
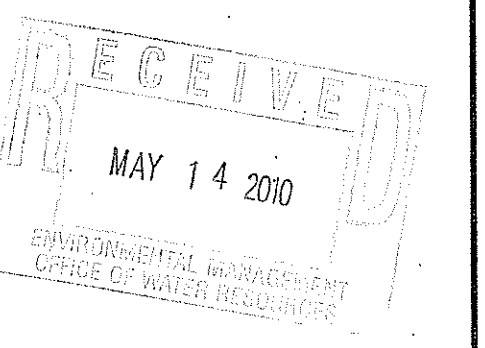
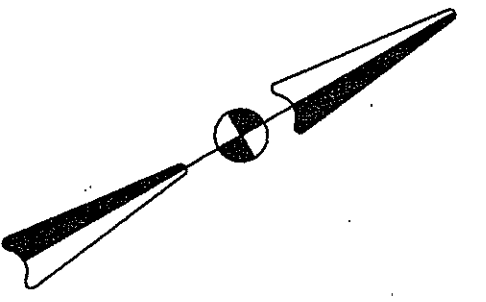
RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION  
REPLACEMENT OF  
NORTH BROADWAY TEN-MILE  
RIVER BRIDGE NOS. 478 & 479  
EAST PROVIDENCE RHODE ISLAND

GENERAL PLAN - 1

CROSSMAN ENGINEERING, INC.  
Civil - Transportation - Environmental - Site Planning - Land Surveying  
151 Centerville Road  
Warwick, Rhode Island 02886

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE 1"=20'

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2009	11	42



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
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NO.	DATE	BY

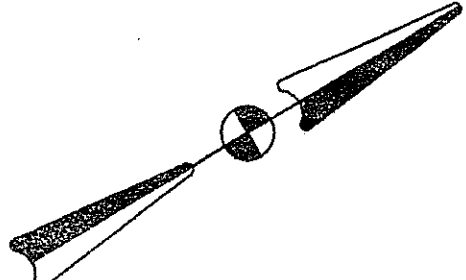
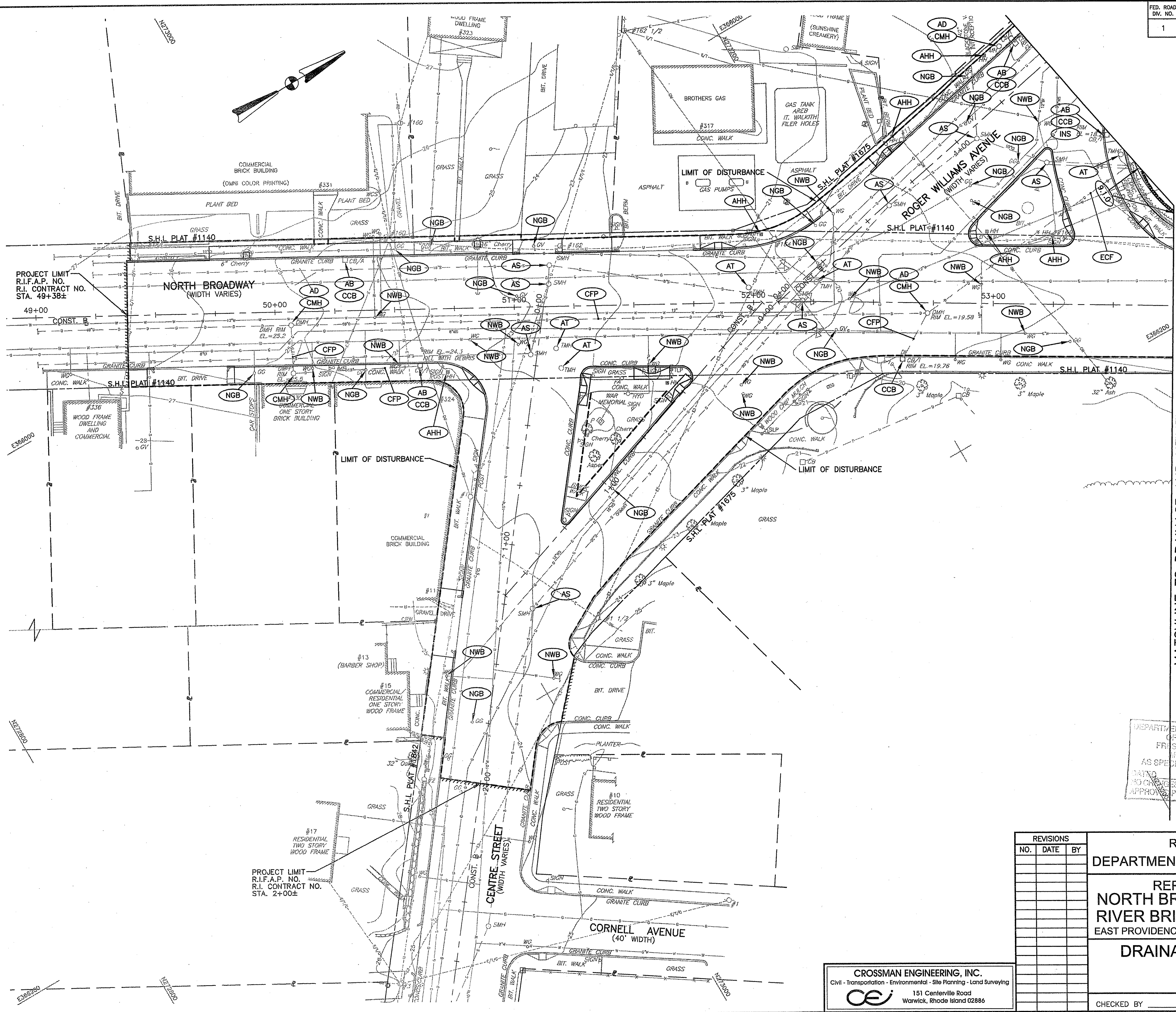
**RHODE ISLAND**  
**DEPARTMENT OF TRANSPORTATION**  
**REPLACEMENT OF**  
**NORTH BROADWAY TEN-MILE**  
**RIVER BRIDGE NOS. 478 & 479**  
**EAST PROVIDENCE**      **RHODE ISLAND**

**GENERAL PLAN - 2**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE 1"=20'

**CROSSMAN ENGINEERING, INC.**  
Civil - Transportation - Environmental - Site Planning - Land Surveying  
151 Centerville Road  
Warwick, Rhode Island 02886

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2009	12	42




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MATCHLINE TO DRAINAGE AND UTILITY PLAN NO. 2

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATE JUN 3 2010 FILE # 09-024  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

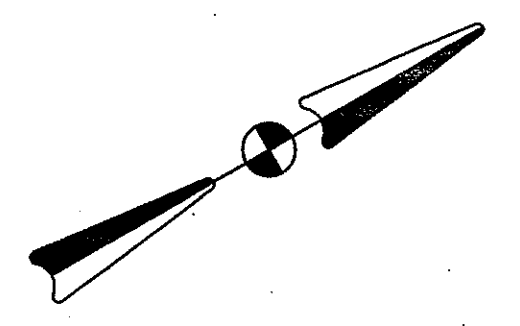
REVISIONS		
NO.	DATE	BY

RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION  
  
REPLACEMENT OF  
NORTH BROADWAY TEN-MILE  
RIVER BRIDGE NOS. 478 & 479  
EAST PROVIDENCE RHODE ISLAND  
  
DRAINAGE AND UTILITY  
PLAN - 1

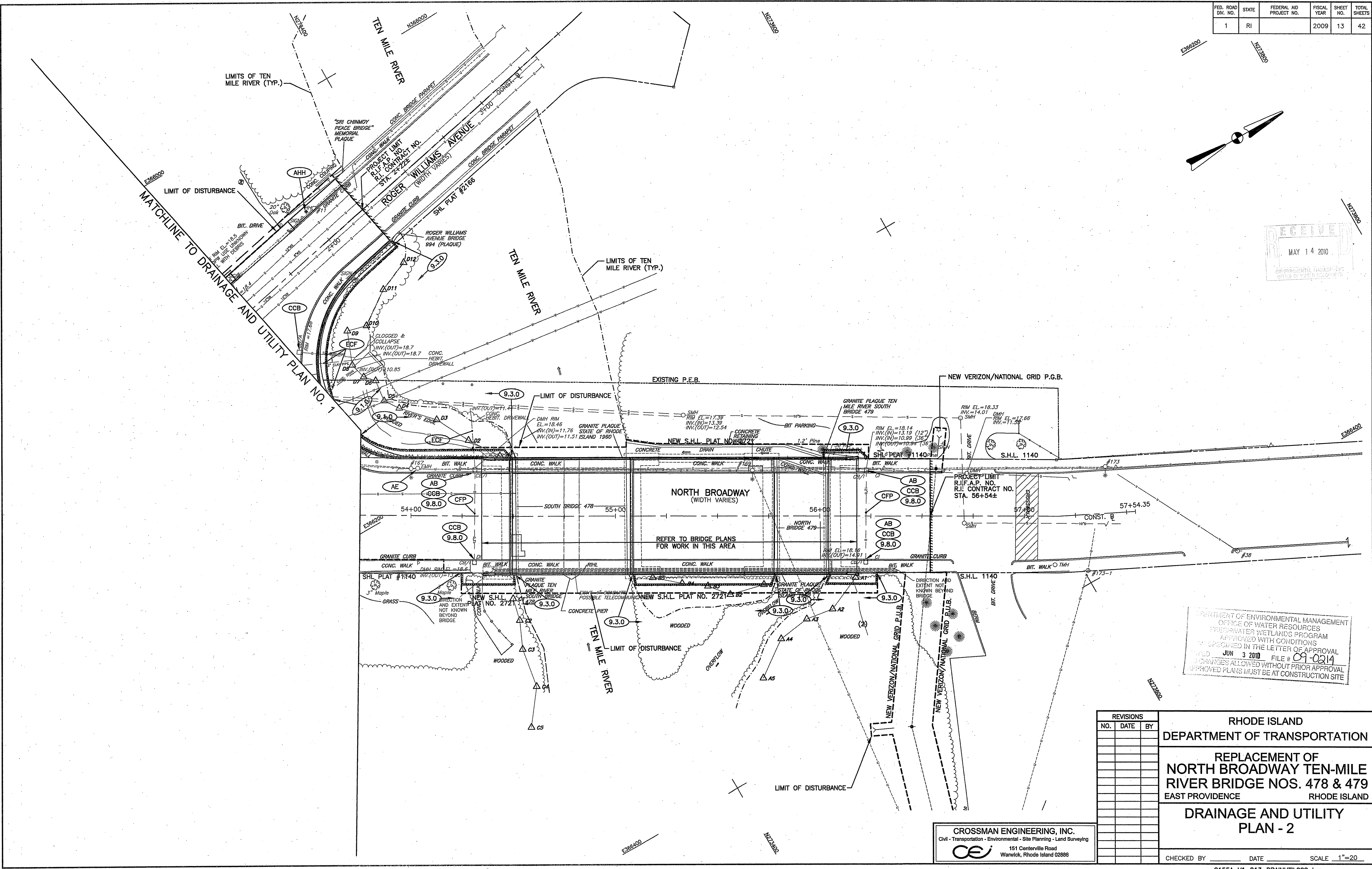
CROSSMAN ENGINEERING, INC.  
Civil - Transportation - Environmental - Site Planning - Land Surveying  
 151 Centerville Road  
Warwick, Rhode Island 02886

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE 1"=20'

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2009	13	42



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ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES



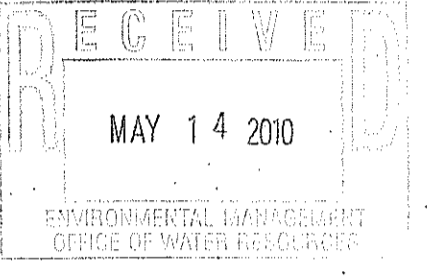
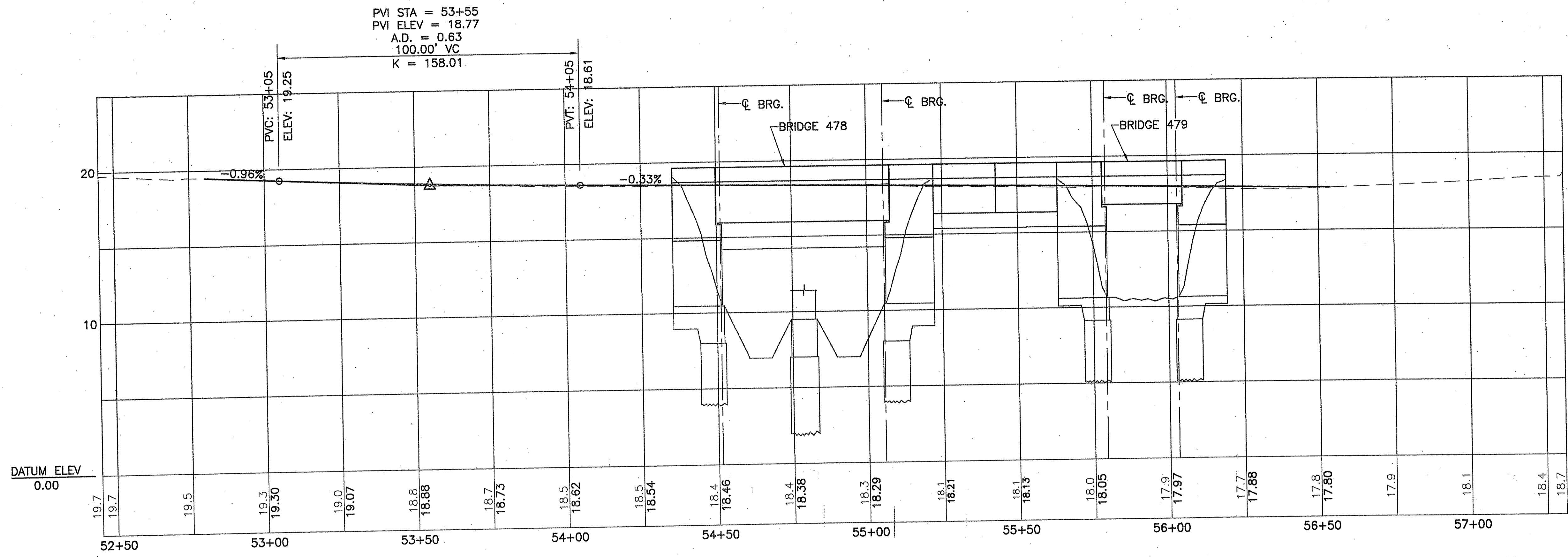
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
FILED JUN 3 2010 FILE # 09-0214  
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE

CROSSMAN ENGINEERING, INC.  
Civil - Transportation - Environmental - Site Planning - Land Surveying  
151 Centerville Road  
Warwick, Rhode Island 02886

REVISIONS		
NO.	DATE	BY

RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION  
  
REPLACEMENT OF  
NORTH BROADWAY TEN-MILE  
RIVER BRIDGE NOS. 478 & 479  
EAST PROVIDENCE RHODE ISLAND  
  
DRAINAGE AND UTILITY  
PLAN - 2  
  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE 1"=20'

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2007	14	42



**VERTICAL PROFILE**

HORIZONTAL SCALE  
1" = 20'

VERTICAL SCALE  
1" = 4'

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JUN 3 2010 FILE # 09-0214  
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE

**JACOBS** 343 CONGRESS STREET  
BOSTON, MA 02110

REVISIONS		
NO.	DATE	BY

**RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION**

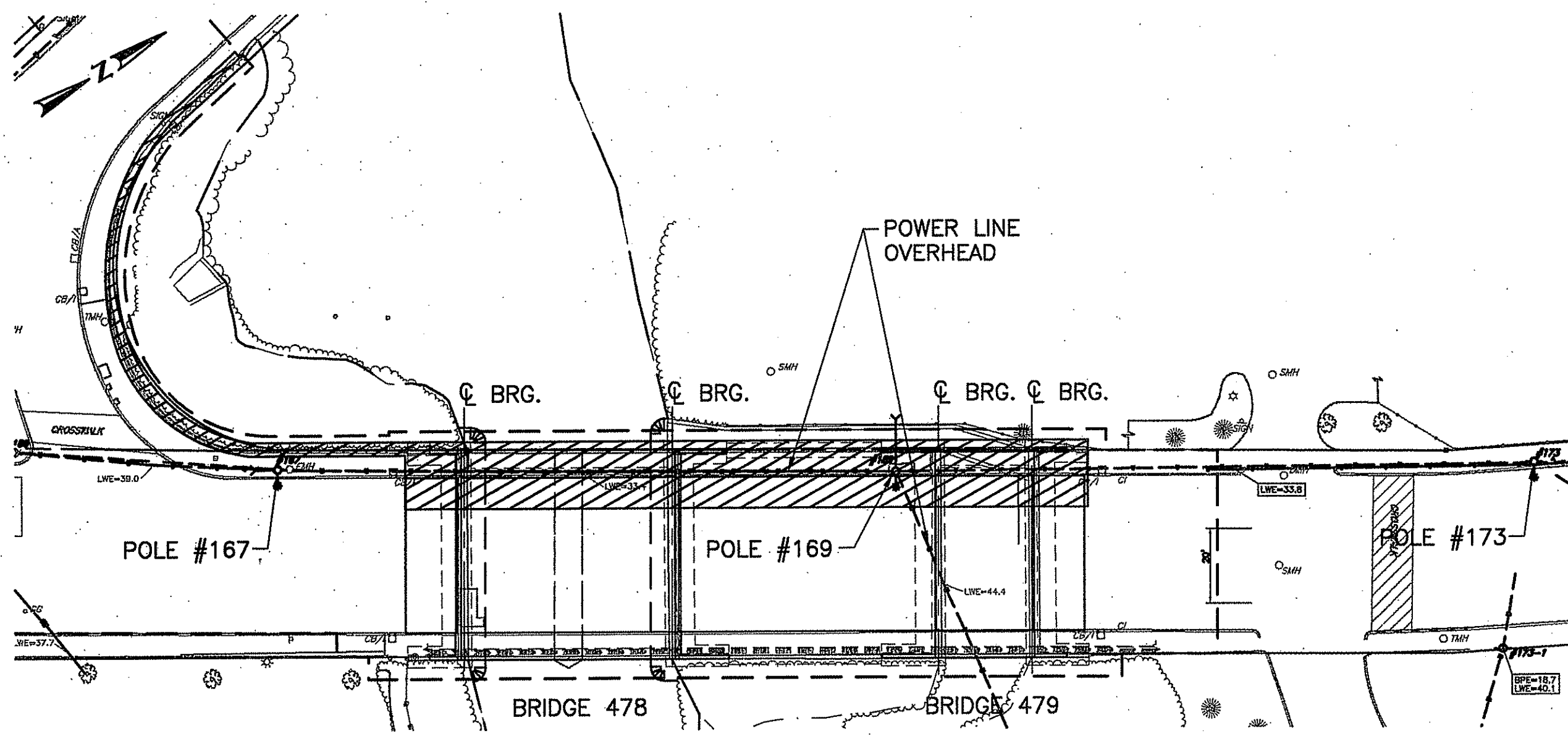
REPLACEMENT OF  
**NORTH BROADWAY—TEN MILE RIVER  
BRIDGE NOS. 478 & 479**

PROVIDENCE RHODE ISLAND

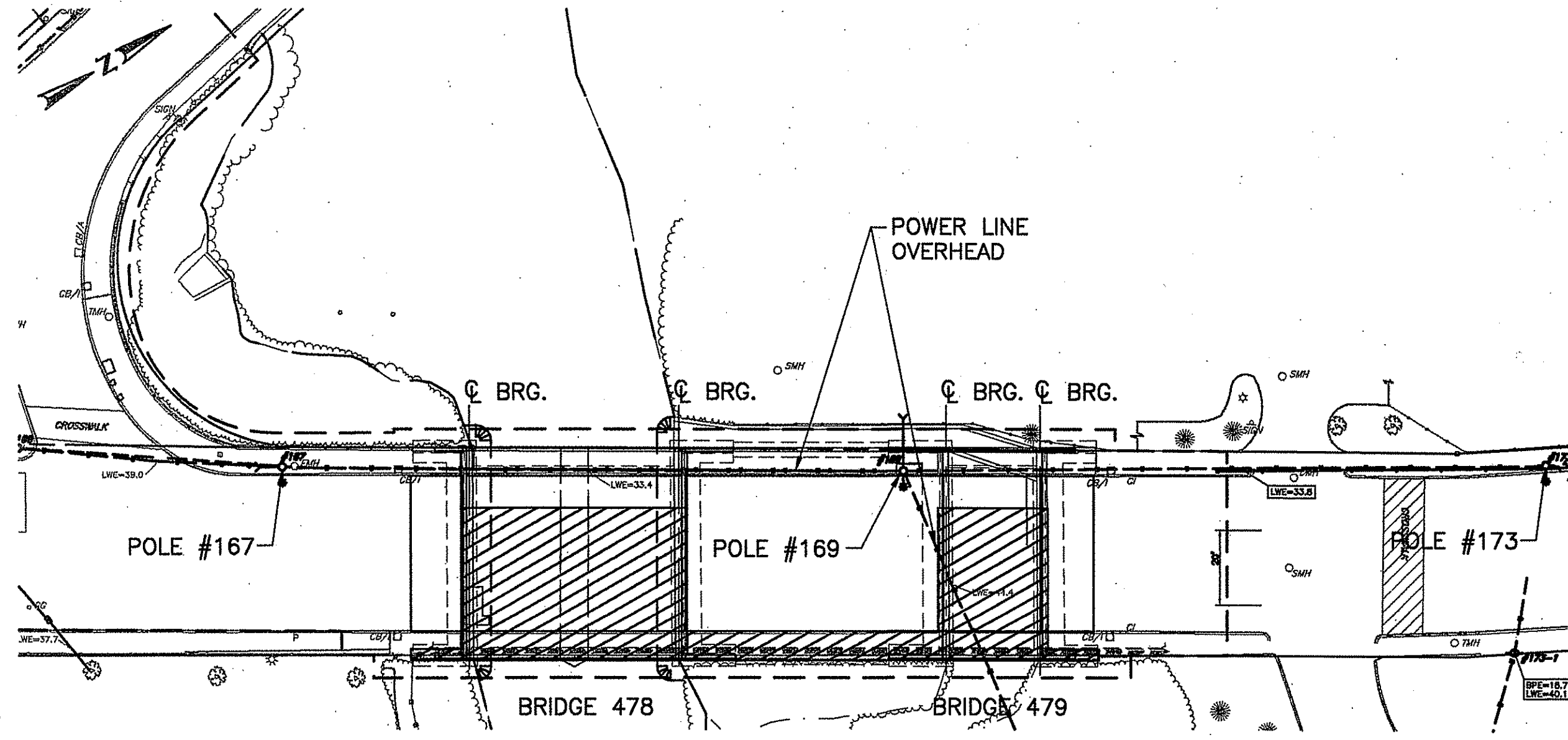
**BRIDGE  
VERTICAL PROFILE**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE \_\_\_\_\_

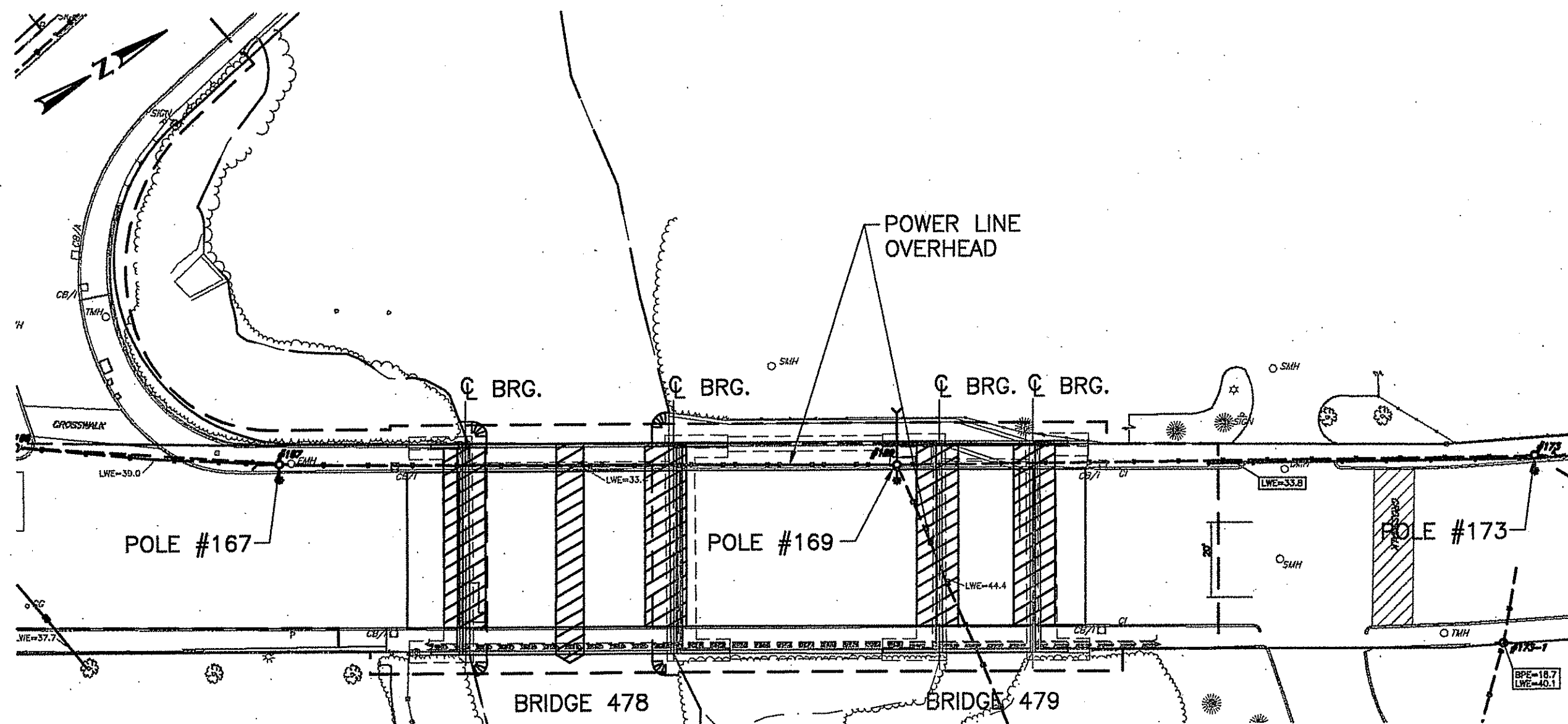
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PHASE 1



PHASE 2



PHASE 3

**BASELINE PHASING**

THE BRIDGES WILL BE COMPLETELY CLOSED DURING CONSTRUCTION, THUS THE BASELINE PHASING WILL BE COMPLETE DEMOLITION OF BOTH BRIDGE'S SUPERSTRUCTURES, WITH ACCESS BETWEEN THE BRIDGES DETERMINED BY THE CONTRACTOR. THE ABUTMENTS ON BOTH BRIDGES WILL BE PARTIALLY DEMOLISHED AND THEN RETROFITTED BEFORE THE NEW SUPERSTRUCTURE CONSTRUCTION WOULD BEGIN.

THE SUPERSTRUCTURE DEMOLITION SEQUENCE WOULD BE DETERMINED BY THE CONTRACTOR. HOWEVER A LOGICAL SEQUENCE WOULD BE TO START ON THE WEST FASCIA OF ONE OR BOTH BRIDGES, AND SAW CUTTING CONCRETE FROM THE WEST TOWARDS THE EAST, AND LIFTING LARGE PORTIONS WITH CONVENTIONAL CRANES.

ACCESS BETWEEN THE BRIDGES WOULD BE DETERMINED BY THE CONTRACTOR, AND IT COULD BE ACCOMMODATED BY EITHER DELAYING THE CONSTRUCTION ON BRIDGE 479, AND USING IT FOR ACCESS TO BRIDGE 478, OR USING TEMPORARY DECKING ACROSS BRIDGE 479 TO REACH BRIDGE 478.

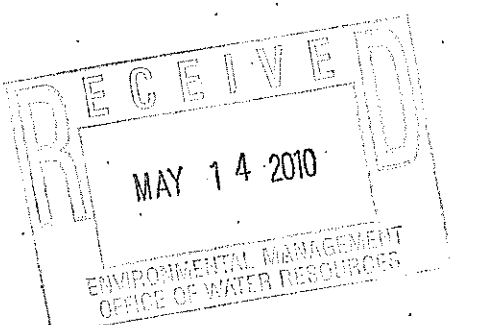
**BASELINE FACTS AND LIMITATIONS**

AT BRIDGE WEST FASCIAS LARGE PORTIONS OF CONCRETE, AND STEEL STRINGERS WILL HAVE TO BE REMOVED DURING DEMOLITION WITH HEAVY EQUIPMENT UNDER EXISTING UTILITY LINES, BETWEEN POWER POLES NUMBER 167 AND 169 AT BRIDGE 478 AND BETWEEN 169 AND 173 AT BRIDGE 479. ALSO ATTENTION SHOULD BE GIVEN TO THE POWER LINE THAT IS CROSSING THE NORTH BROADWAY STREET FROM POLE NUMBER 169 ON THE WEST SIDE TO THE EAST SIDE OVER BRIDGE 479.

THE MULTIPLE COMMUNICATION UTILITIES, CABLE AND TELEPHONE, ARE STACKED ABOVE ONE ANOTHER WITH THE LOWEST LINE BEING NOMINALLY 14.1 FT ABOVE THE EXISTING ROADWAY SURFACE. THE POWER LINES ARE ABOVE THE COMMUNICATION UTILITIES AND ARE NOMINALLY 30.1 FT ABOVE THE EXISTING ROADWAY SURFACE.

BASED ON CONSULTATIONS WITH ALL UTILITIES, THE CONSENSUS WAS TO AVOID COSTLY POWER LINE RELOCATIONS, AND THE AFFECTED UTILITY WOULD SCHEDULE 2 TO 3 HOURS POWER OUTAGES TO ACCOMMODATE THE SAFE OPERATION DURING THE LIFTING AND REMOVAL OF LARGE PORTIONS OF SUPERSTRUCTURE AT THE WEST FASCIA OF BOTH BRIDGES

**LEGEND**  
 DEMOLITION ZONE



**SUGGESTED DEMOLITION SEQUENCE**

**PHASE 1**

- BRIDGES 478 AND 479 WILL BE CLOSED DURING CONSTRUCTION, AND ACCESS BETWEEN THE BRIDGES WILL BE DETERMINED BY THE CONTRACTOR.
- START SUPERSTRUCTURE DEMOLITION FROM THE WEST FASCIA AND PROCEED TOWARDS THE EAST FASCIA.
- CONTRACTOR SHOULD USE ONLY SMALL EQUIPMENT IN ORDER TO MAINTAIN, AT ALL TIMES THE MINIMUM REQUIRED CLEARANCE UNDER POWER LINES, AS IMPOSED BY OSHA, OR CONTACT THE UTILITY TO OBTAIN POWER OUTAGE APPROVALS FOR THE SAFE OPERATION OF LARGER LIFTING EQUIPMENT.
- SAW CUT THE ENTIRE WESTERN PARAPET ON BOTH BRIDGE 478 AND 479, AND THEN SAW CUT THE CONCRETE PARAPETS ON TOP OF THE WESTERN WINGWALLS TO THE ELEVATIONS AS INDICATED IN THE CONSTRUCTION DRAWINGS.
- DEMOLISH ENTIRELY THE APPROACH PARAPET AND ITS FOUNDATION ON THE SOUTH-WEST SIDE OF BRIDGE 478, THAT EXTENDS INTO ROGER WILLIAMS STREET TOWARDS THE BRIDGE LOCATED ON THIS STREET.
- REMOVE THE BITUMINOUS WEARING SURFACE FROM THE SOUTH APPROACH OF BRIDGE 478 TO THE NORTH APPROACH OF BRIDGE 479.
- REMOVE FIRST THREE STRINGERS NEAR THE WEST FASCIA OF BOTH BRIDGES, PERFORMING LONGITUDINAL SAW CUTS IN THE CONCRETE DECK BETWEEN STRINGERS. NETS SHOULD BE PROVIDED UNDER THE BRIDGE TO PREVENT ANY DEBRIS FALLING IN THE RIVER.

**PHASE 2**

- REMOVE BITUMINOUS WEARING SURFACE AS DESCRIBED AT PHASE 1, PARAGRAPH 6.
- THE BRIDGE SUPERSTRUCTURE REMOVAL WILL CONTINUE, AS DESCRIBED IN PHASE 1 AT PARAGRAPH 7, FROM THE WESTERN SIDEWALK TO THE EASTERN SIDEWALK OF BOTH BRIDGES.
- SAW CUT THE ENTIRE EASTERN PARAPET ON BOTH BRIDGE 478 AND 479, AND THEN SAW CUT THE CONCRETE PARAPETS ON TOP OF THE EASTERN WINGWALLS TO AN ELEVATION AS INDICATED IN THE CONSTRUCTION DRAWINGS.

**PHASE 3**

- PREPARE PROTECTIVE NETS AND OTHER SAFETY MEASURES TO PREVENT DEBRIS SPILLS IN THE RIVER AND START TO DEMOLISH PORTIONS OF ABUTMENTS AND CENTER PIER.
- SAW CUT THE CENTER PIER, ALL ABUTMENT BACKWALLS AND TOP OF ABUTMENT STEMS TO THE ELEVATIONS AS INDICATED IN THE CONSTRUCTION DRAWINGS, AND DEVELOP ADEQUATE CLEAN CONCRETE SURFACES FOR THE RECONSTRUCTION RETROFIT PROCESS TO FOLLOW.

**ESTIMATED DEMOLITION QUANTITIES BRIDGES 478 & 479**

ITEM	QUANTITY
BITUMINOUS WEARING SURFACE REMOVAL	500 TON
SUBBASE GRAVEL EXCAVATION	360 CY
CONCRETE PARAPETS AND WINGWALL SAW CUT	420 CY
SUPERSTRUCTURE REINFORCED CONCRETE SAW CUT	137 CY
SUPERSTRUCTURE STRUCTURAL STEEL REMOVAL	102 TON
CONCRETE ABUTMENT SUBSTRUCTURE SAW CUT REMOVAL	276 CY

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 FRESHWATER WETLANDS RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED JUN 3 2010 FILE # 09-0214  
 ALL WORKS MUST BE APPROVED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

**JACOBS** 343 CONGRESS STREET  
 BOSTON, MA 02110

REVISIONS		
NO.	DATE	BY

RHODE ISLAND  
 DEPARTMENT OF TRANSPORTATION

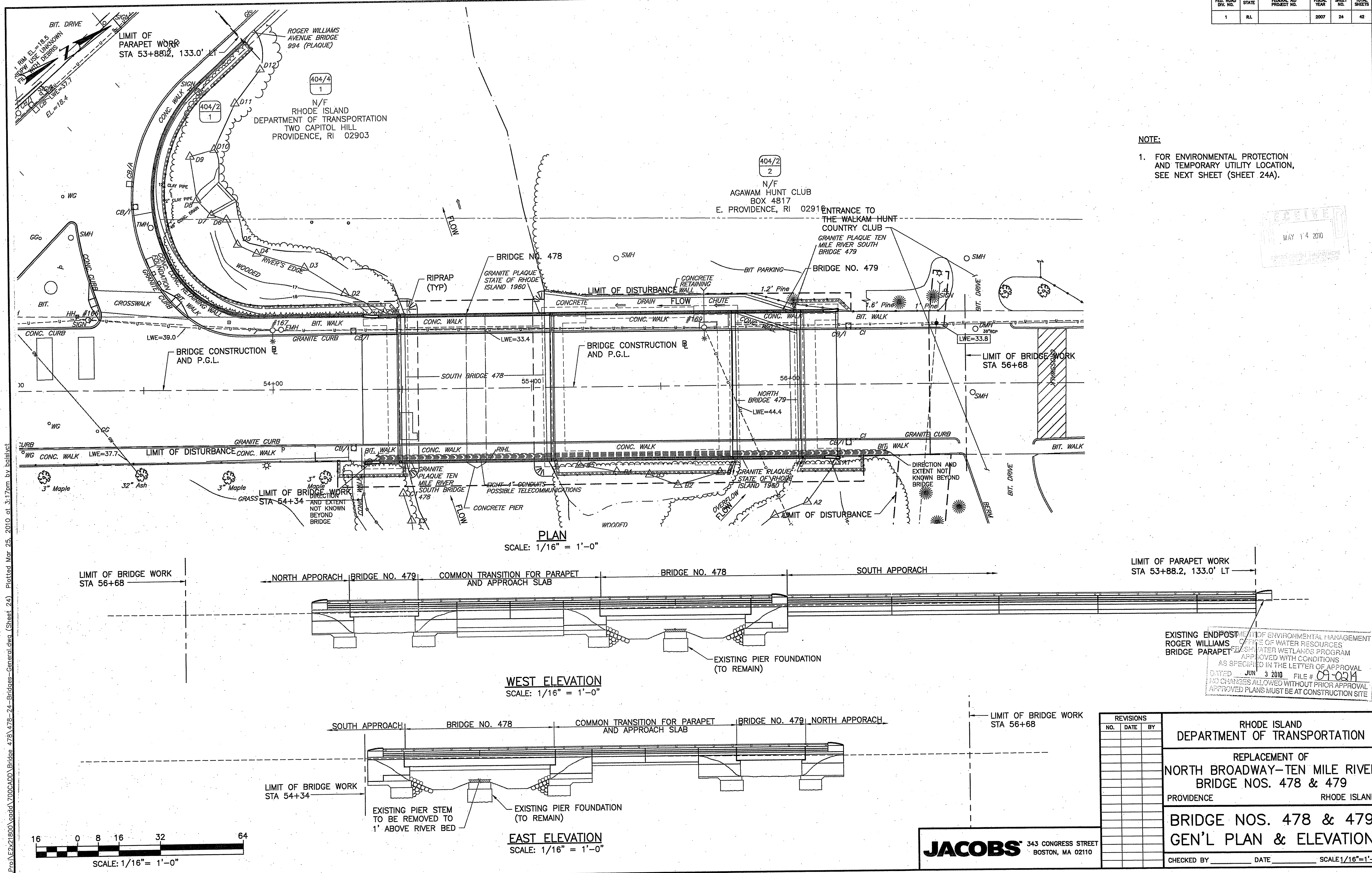
REPLACEMENT OF  
 NORTH BROADWAY-TEN MILE RIVER  
 BRIDGE NOS. 478 & 479  
 PROVIDENCE RHODE ISLAND

**BRIDGE  
 DEMOLITION PLAN**

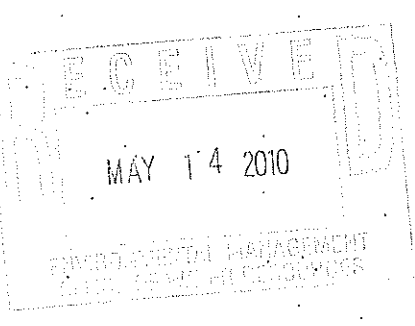
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FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2007	24	42



**NOTE:**  
1. FOR ENVIRONMENTAL PROTECTION AND TEMPORARY UTILITY LOCATION, SEE NEXT SHEET (SHEET 24A).



EXISTING ENDPOST OF ENVIRONMENTAL MANAGEMENT  
ROGER WILLIAMS OFFICE OF WATER RESOURCES  
BRIDGE PARAPET FEDERAL WATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
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DATED JUN 3 2010 FILE # 09-0214  
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NO.	DATE	BY

**RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION**

**REPLACEMENT OF  
NORTH BROADWAY-TEN MILE RIVER  
BRIDGE NOS. 478 & 479**

PROVIDENCE RHODE ISLAND

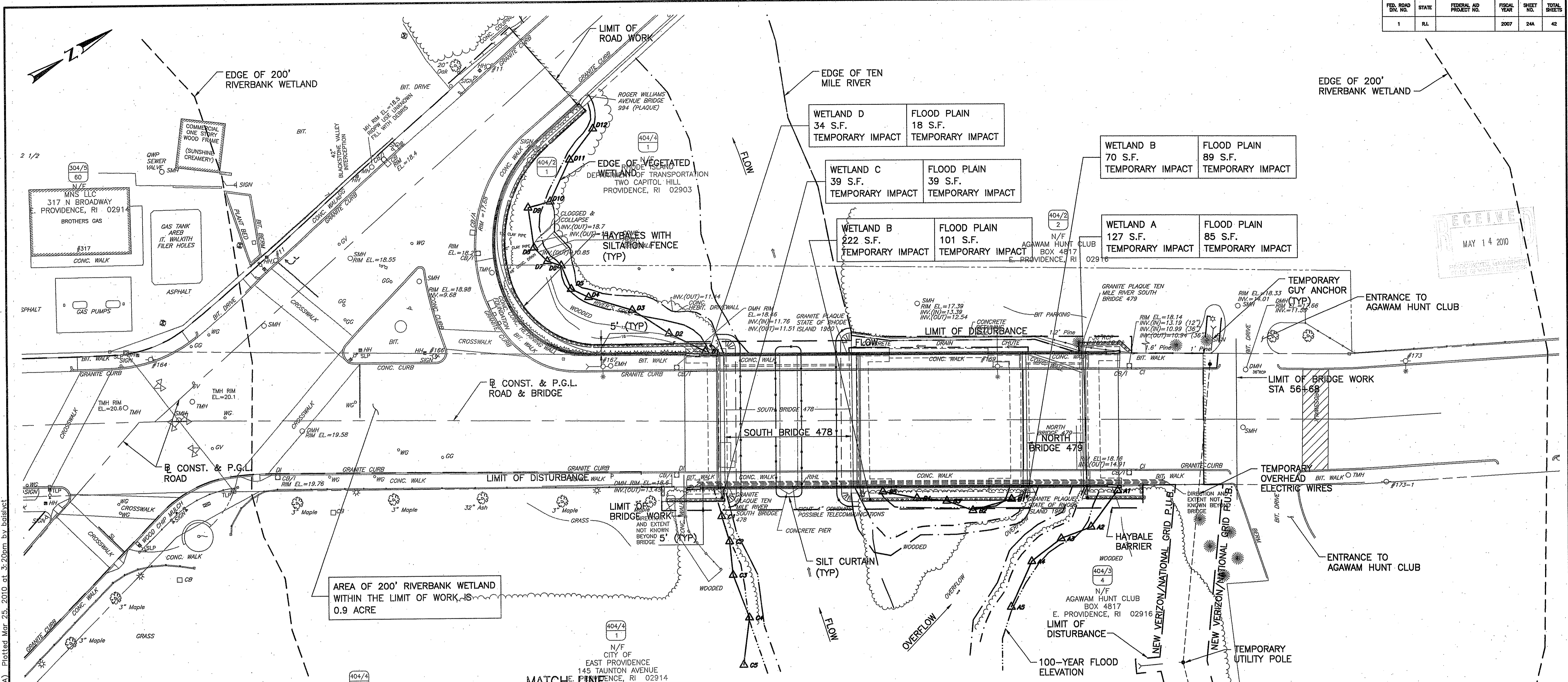
**BRIDGE NOS. 478 & 479  
GEN'L PLAN & ELEVATION**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE 1/16"=1'-0"

**JACOBS** 343 CONGRESS STREET  
BOSTON, MA 02110

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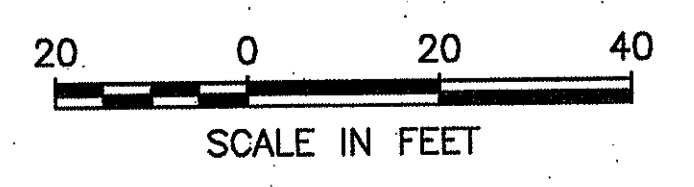
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2007	24A	42



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MAY 14 2010

AREA OF 200' RIVERBANK WETLAND WITHIN THE LIMIT OF WORK IS 0.9 ACRE

- LEGEND**
- - - - EDGE OF RIVER
  - - - - 100-YEAR FLOOD ELEVATION
  - - - - EDGE OF 200' RIVERBANK WETLAND
  - ▲-▲- EDGE OF VEGETATED WETLAND
  - ▧ HAYBALES
  - - - - SILT CURTAIN



**PROPOSED WORK PLAN**

**NOTE:**  
THE ONLY DISTURBANCE WITHIN THE TEMPORARY EASEMENT IS POLE INSTALLATION AND SELECTIVE CLEARING NECESSARY ONLY FOR THE OVERHEAD WIRES AND POLE INSTALLATION.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
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DATED JUN 3 2010 FILE # 07-0214  
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REVISIONS		
NO.	DATE	BY

RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION

REPLACEMENT OF  
NORTH BROADWAY-TEN MILE RIVER  
BRIDGE NOS. 478 & 479  
PROVIDENCE RHODE ISLAND

ENVIRONMENTAL PROTECTION  
& TEMP. UTILITY LOCATION

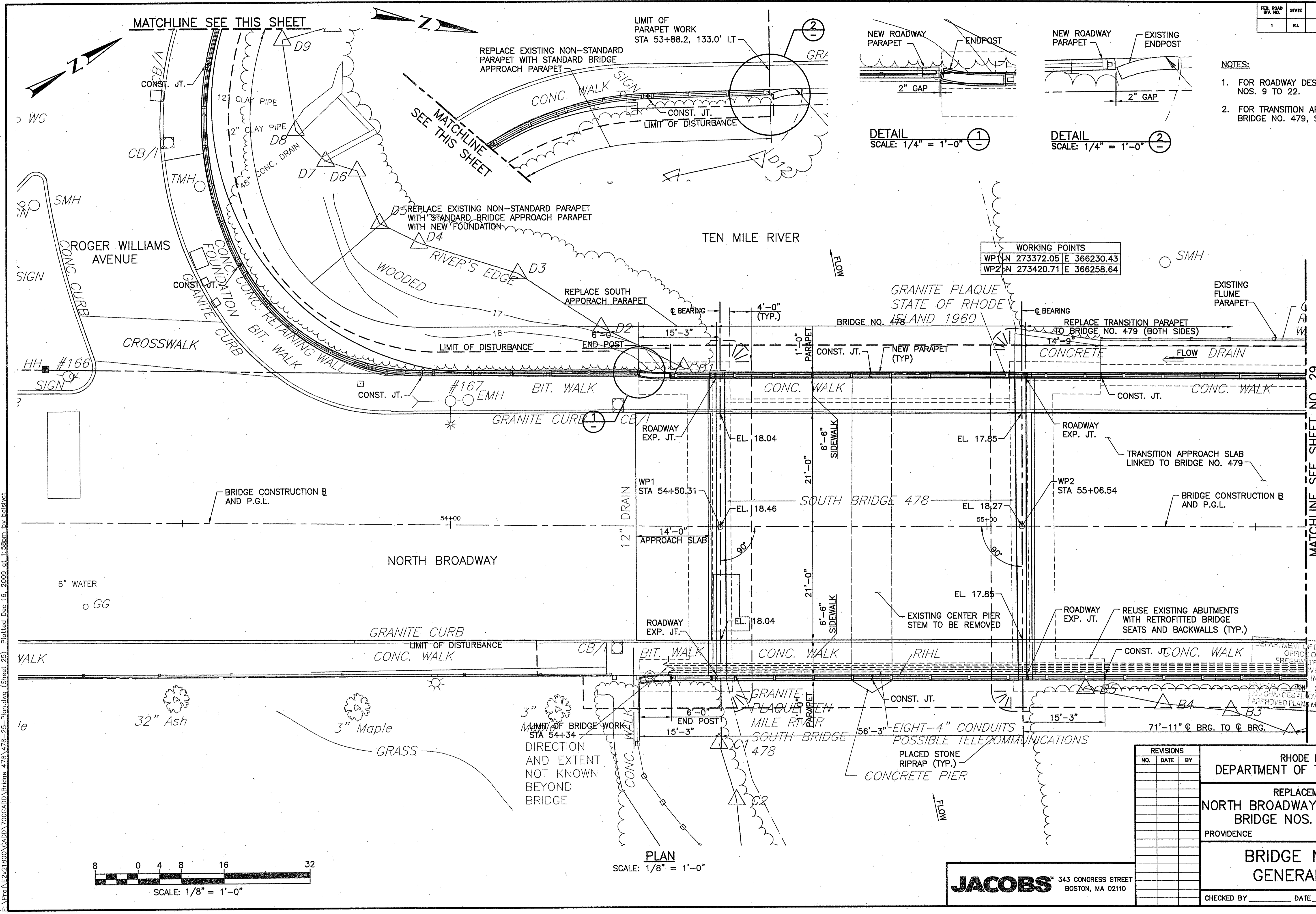
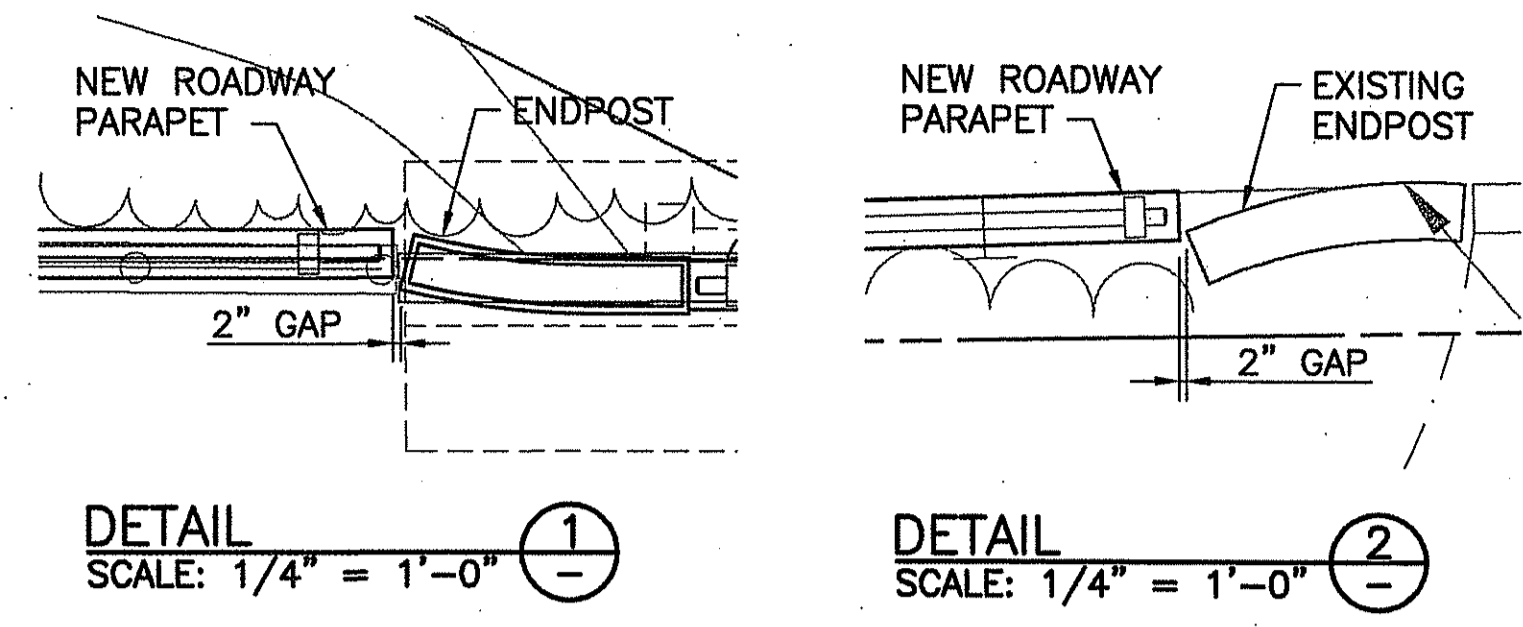
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE 1"=20'-0"

**JACOBS** 343 CONGRESS STREET  
BOSTON, MA 02110

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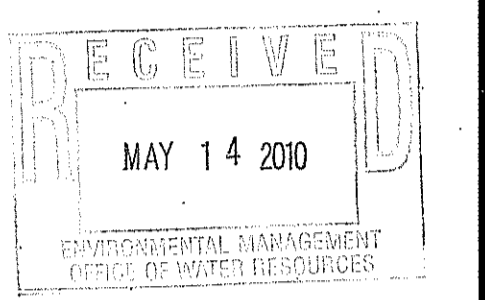
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	R.I.		2007	25	42

- NOTES:
- FOR ROADWAY DESIGN, SEE SHEET NOS. 9 TO 22.
  - FOR TRANSITION APPROACH SLAB TO BRIDGE NO. 479, SEE SHEET 39.



WORKING POINTS

WP1	N 273372.05	E 366230.43
WP2	N 273420.71	E 366258.64



REVISIONS		
NO.	DATE	BY

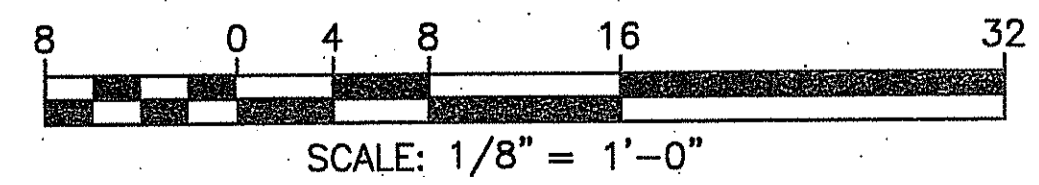
RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION

REPLACEMENT OF  
NORTH BROADWAY-TEN MILE RIVER  
BRIDGE NOS. 478 & 479  
PROVIDENCE RHODE ISLAND

**BRIDGE NO. 478  
GENERAL PLAN**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE AS NOTED

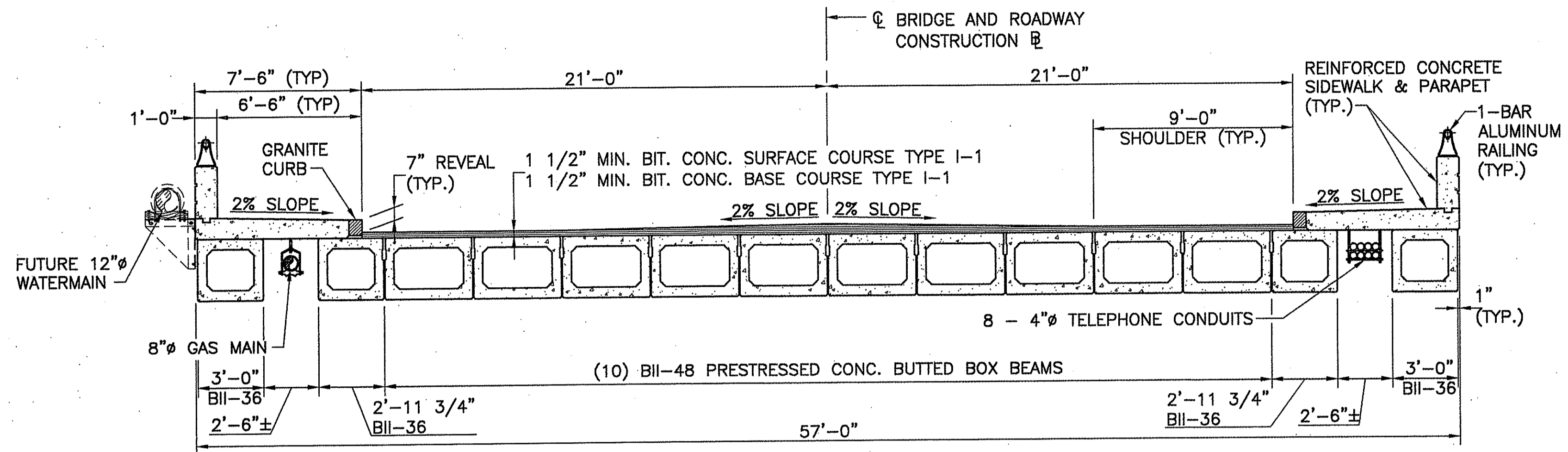
**JACOBS** 343 CONGRESS STREET  
BOSTON, MA 02110



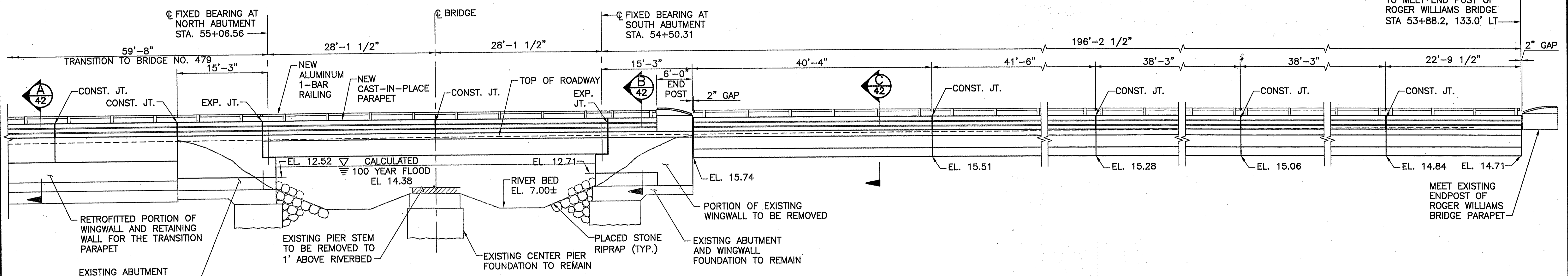
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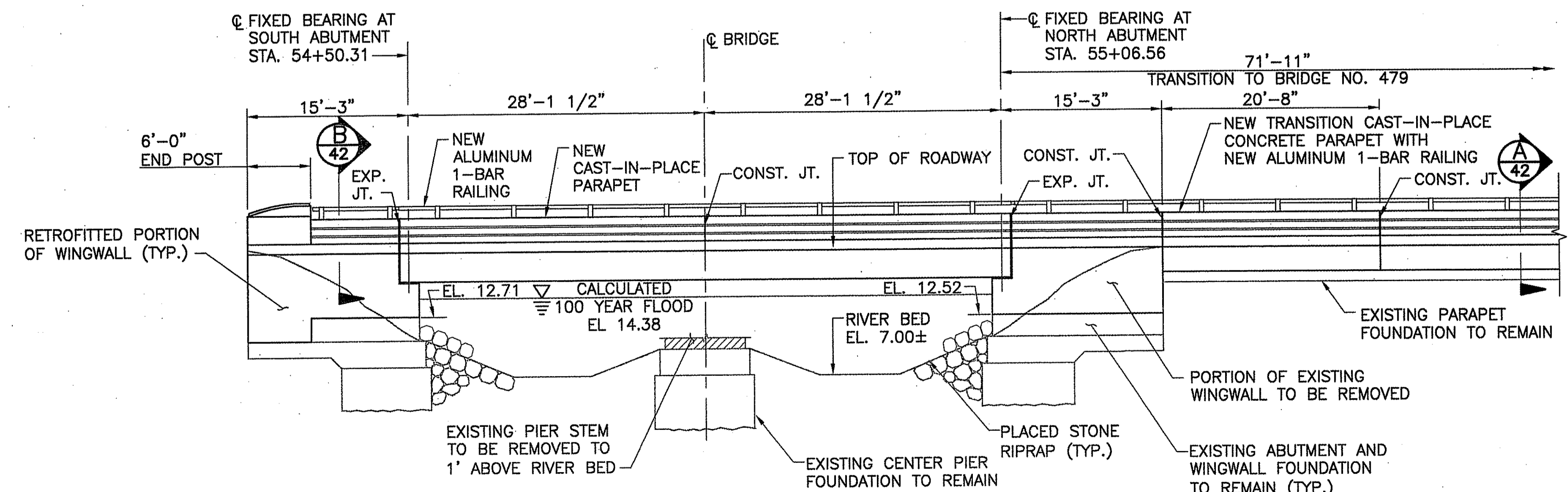
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2007	28	42



**BRIDGE CROSS SECTION**  
SCALE: 1/4" = 1'-0"



**PROPOSED LONGITUDINAL WEST ELEVATION**  
SCALE: 1/8" = 1'-0"



**PROPOSED LONGITUDINAL EAST ELEVATION**  
SCALE: 1/8" = 1'-0"

RECEIVED  
MAY 14 2010

LIMIT OF BRIDGE WORK  
TO MEET END POST OF  
ROGER WILLIAMS BRIDGE  
STA 53+88.2, 133.0' LT

**NOTE:**  
1. PLACE 50 CY OF STONE RIPRAP MANAGEMENT FRONT OF EACH ABUTMENT AS SOURCES WETLANDS PROGRAM SHOWN ON SHEET 25. APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL DATED JUN 3 2010 FILE # 09-0214. NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL APPROVED PLANS MUST BE AT CONSTRUCTION SITE

REVISIONS		
NO.	DATE	BY

RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION

REPLACEMENT OF  
NORTH BROADWAY-TEN MILE RIVER  
BRIDGE NOS. 478 & 479  
PROVIDENCE RHODE ISLAND

BRIDGE NO. 478  
ELEVATION & CROSS SECTION

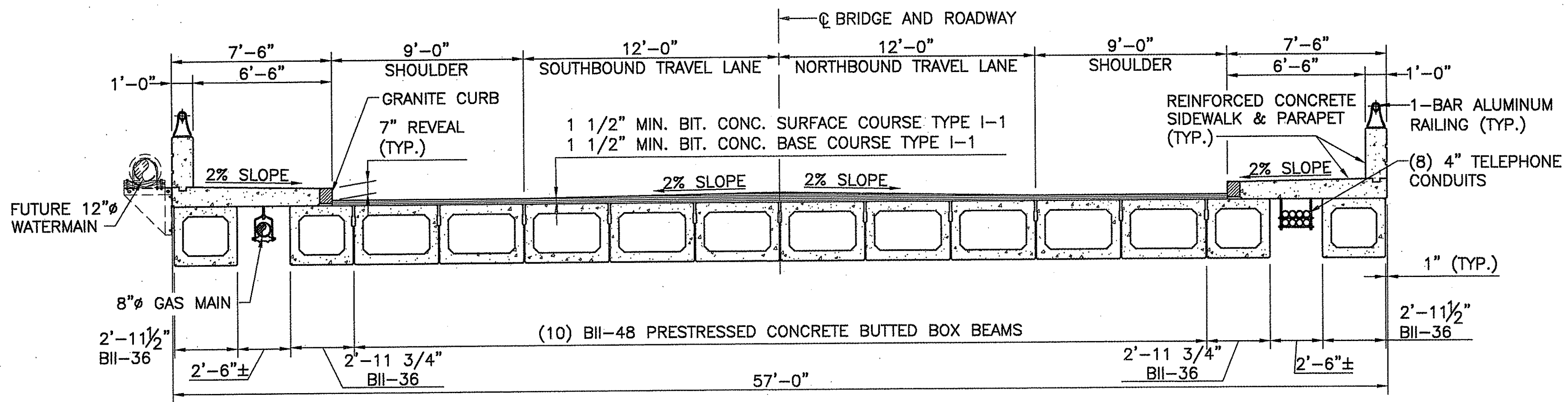
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE AS NOTED

**JACOBS** 343 CONGRESS STREET  
BOSTON, MA 02110

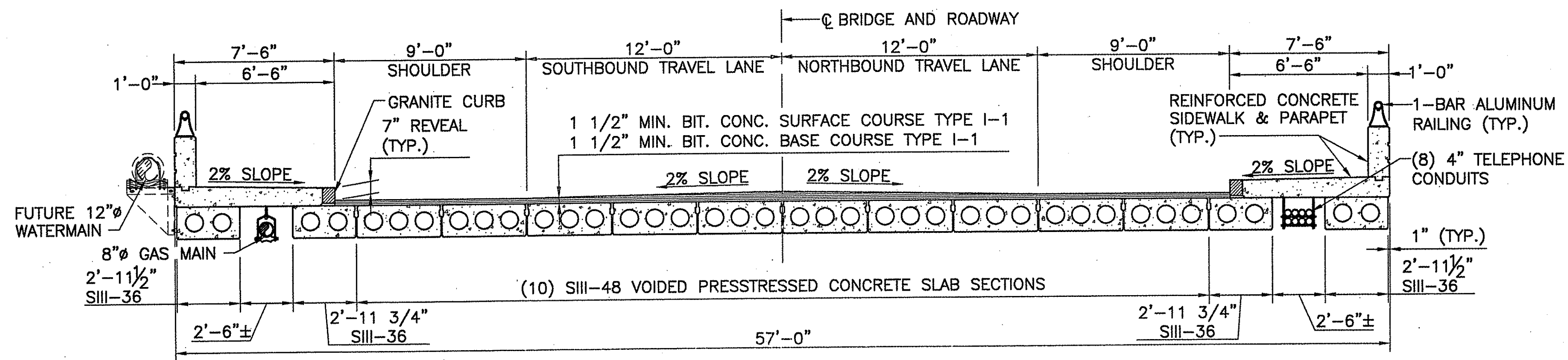
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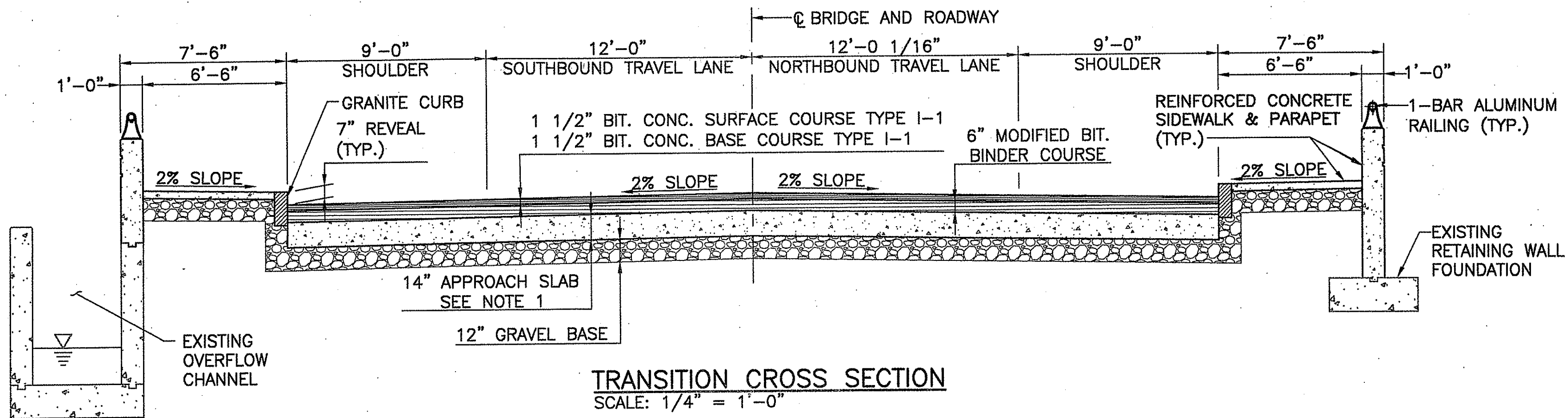
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI		2007	39	42



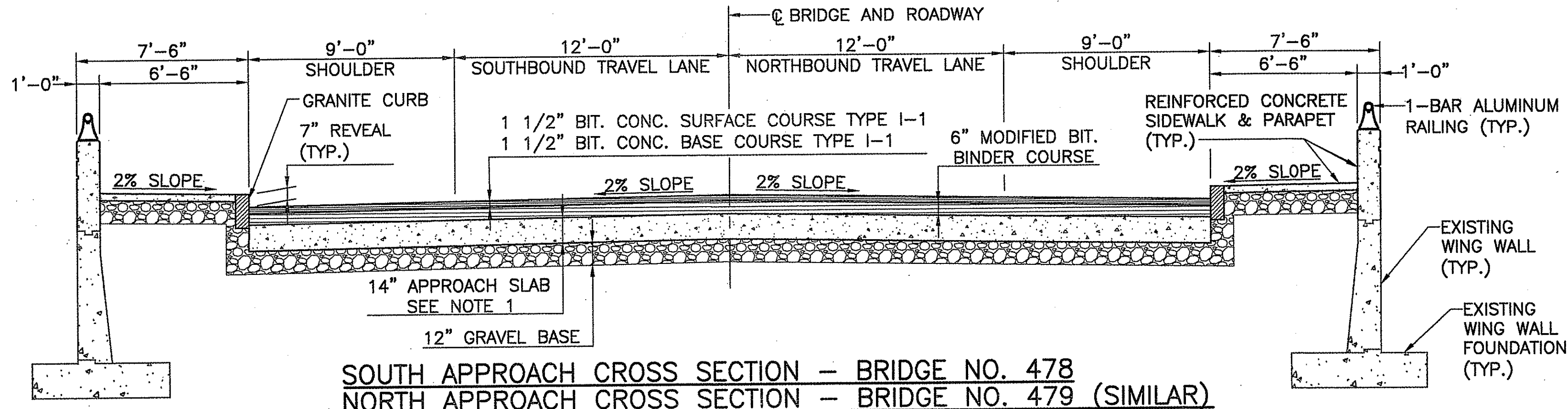
**BRIDGE NO. 478 CROSS SECTION**  
SCALE: 1/4" = 1'-0"



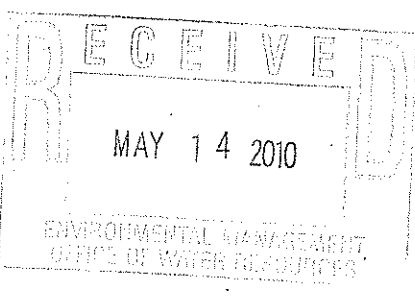
**BRIDGE NO. 479 CROSS SECTION**  
SCALE: 1/4" = 1'-0"



**TRANSITION CROSS SECTION**  
SCALE: 1/4" = 1'-0"



**SOUTH APPROACH CROSS SECTION - BRIDGE NO. 478**  
**NORTH APPROACH CROSS SECTION - BRIDGE NO. 479 (SIMILAR)**  
SCALE: 1/4" = 1'-0"



**NOTE:**  
1. FOR APPROACH SLAB REINFORCEMENT SEE SHEETS 35 AND 38.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
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REVISIONS		
NO.	DATE	BY

**RHODE ISLAND  
DEPARTMENT OF TRANSPORTATION**

**REPLACEMENT OF  
NORTH BROADWAY-TEN MILE RIVER  
BRIDGE NOS. 478 & 479**

PROVIDENCE RHODE ISLAND

**BRIDGE NOS. 478 & 479  
TYPICAL CROSS-SECTIONS**

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_ SCALE AS NOTED

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BOSTON, MA 02110

F:\Proj\2221800\CADD\700CADD\Bridge 478-479-Typ. Cross Section.dwg (Sheet 39) Plotted Dec. 16, 2009 at 2:10pm by bolstvt