

STATE OF RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

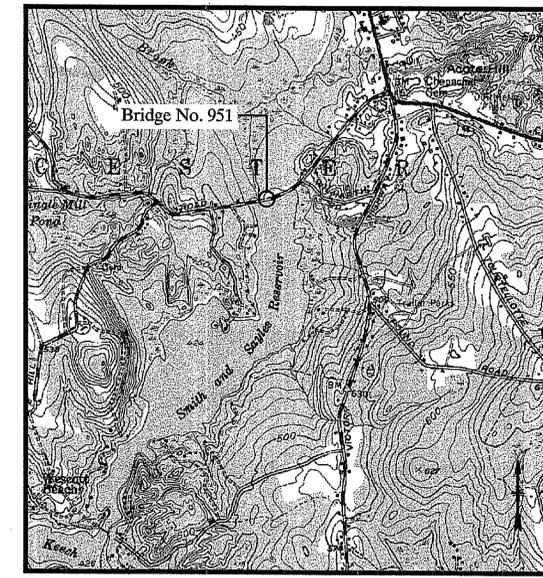
PLAN, PROFILE AND SECTIONS OF PROPOSED
**REPLACEMENT OF
 CHESTNUT HILL ROAD BRIDGE
 No. 951**

GLOCESTER, RHODE ISLAND
 PROVIDENCE COUNTY

CONTRACT R.I. FEDERAL AID PROJECT No. BRM-BCDR(003)
 R.I. CONTRACT No.
 LENGTH = 0.05 MILES

INDEX of DRAWINGS

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LOCATION MAP
 SCALE : 1"=2000'

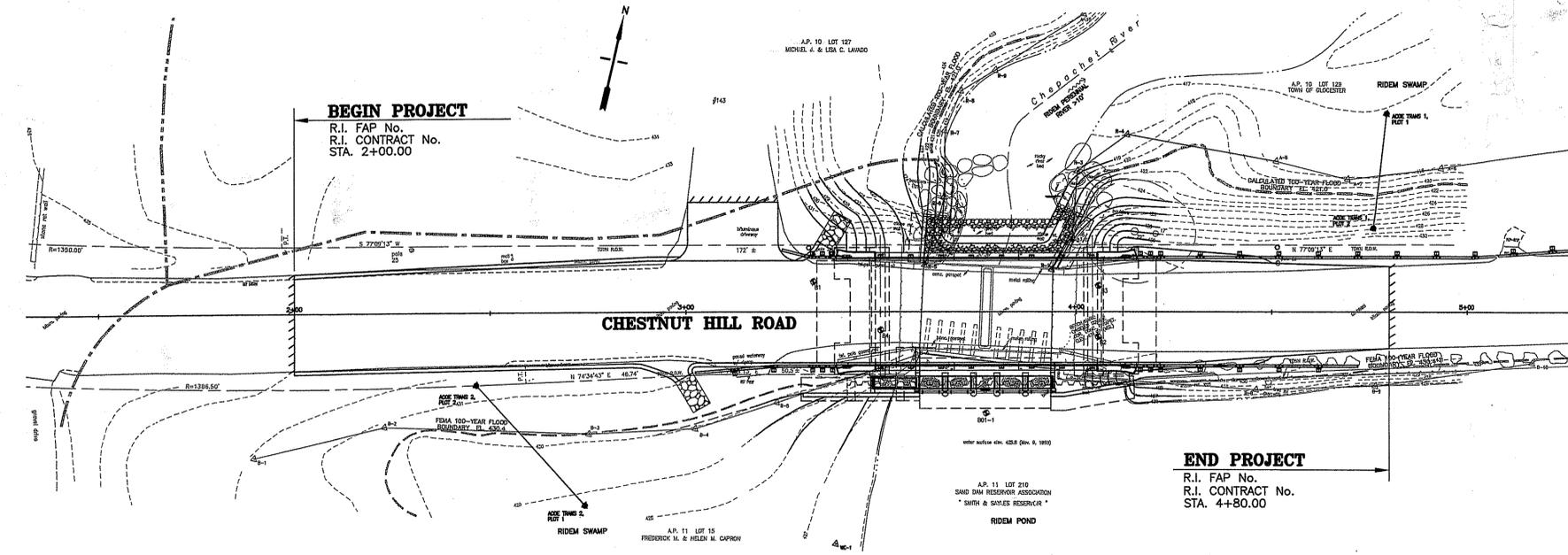
PAVEMENT COMPOSITION
 2" BITUMINOUS SURFACE COURSE, CLASS I-1
 5" BITUMINOUS BASE COURSE:
 (FIRST LAYER-3")
 (SECOND LAYER-2")
 12" GRAVEL BORROW SUBBASE COURSE

PROVIDE ASPHALT EMULSION TACK COAT
 BETWEEN ALL BITUMINOUS SURFACES.

DESIGN DESIGNATION
 AADT (2002) = 1525 VPD
 AADT (2022) = 1936 VPD
 DHV (2022) = 240 VPH

D = 56/44
 T = 3.4%
 V = 30 MPH

HYDRAULIC DATA
 DRAINAGE AREA = 7.80 SQ. MILES
 100-YEAR FLOOD EL. AT SPILLWAY = 430.4 FT.
 100-YEAR FLOOD EL. AT UP STREAM
 FACE OF BRIDGE = 426.0 FT.
 100-YEAR FLOOD PEAK DISCHARGE = 540 CFS
 100-YEAR FLOOD FLOW VELOCITY = 4.11 FPS



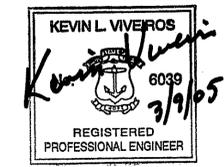
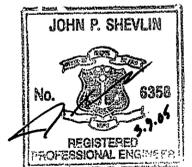
PLAN
 SCALE: 1"=20'

R.I. STANDARD SPECIFICATIONS

SPECIFICATIONS TO GOVERN THIS PROJECT ARE THE R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 1997 EDITION, AND PART 100, GENERAL REQUIREMENTS AND COVENANTS, REVISION OF 2002. THE STATE AND FEDERAL SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS. STANDARD DETAILS FOR THIS PROJECT ARE R.I. STANDARD DETAILS, REVISED JUNE 15, 1998.

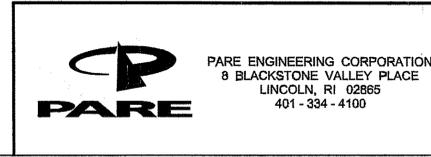
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED MAY 09 2005 FILE # 04-0458
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
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Charles A. Herbert



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

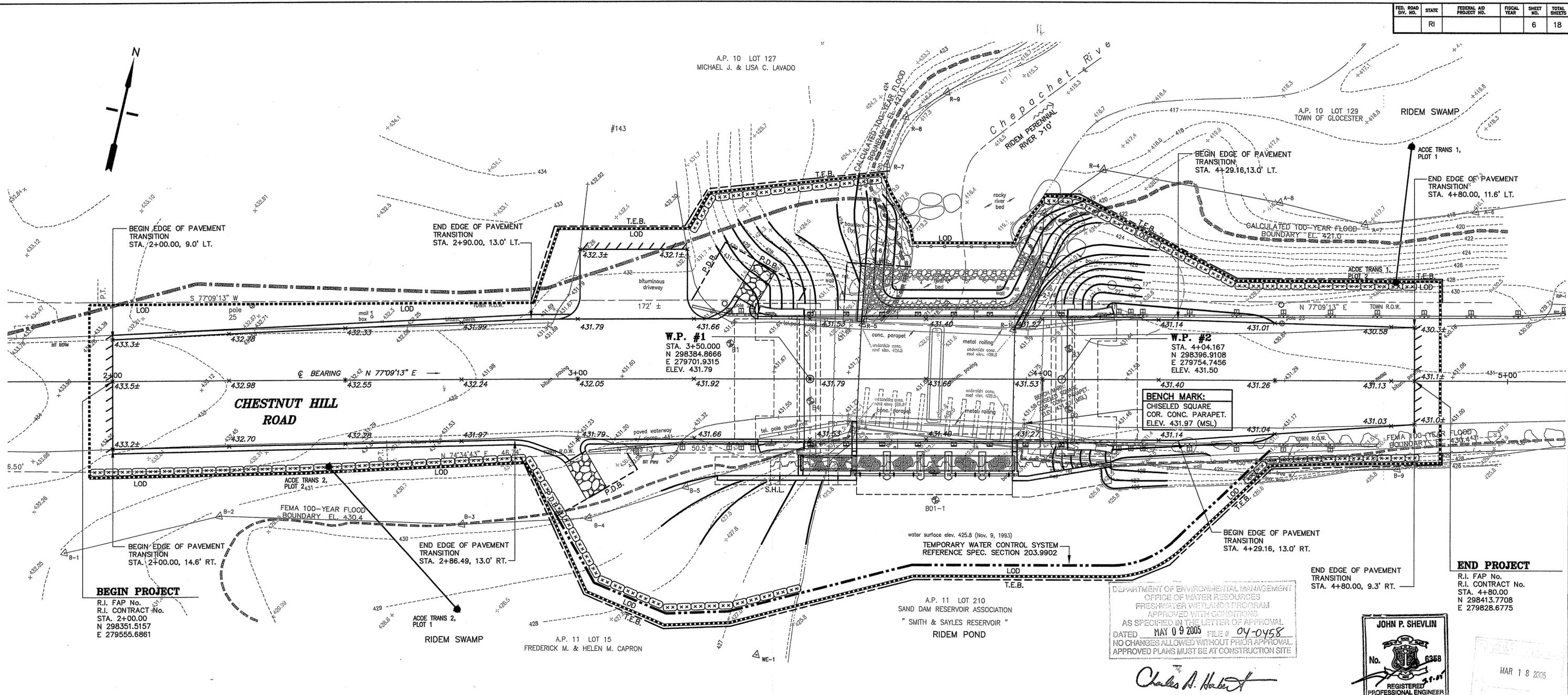
RIDEM PERMIT SUBMISSION
 AUGUST 2004
 REVISED FEBRUARY 2005



Contract Number
 Number of Sheet 1
 Total Sheets 18

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

MAR 18 2005



BEGIN PROJECT
 R.I. FAP No.
 R.I. CONTRACT No.
 STA. 2+00.00
 N 298351.5157
 E 279555.6861

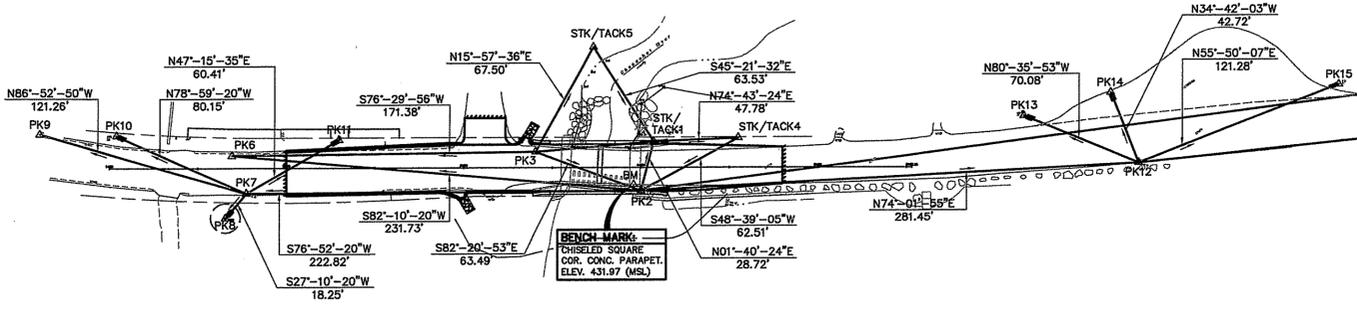
END PROJECT
 R.I. FAP No.
 R.I. CONTRACT No.
 STA. 4+80.00
 N 298413.7708
 E 279828.6775

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CONTROL TIE DETAIL
 SCALE: 1"=50'

Control Point Data							
POINT	DESCRIPTION	PT COORD.	STATION/OFFSET	POINT	DESCRIPTION	PT COORD.	STATION/OFFSET
STK/TACK1	STAKE & TACK	N 298411.9600 E 279754.5138	4+07.29, 14.72' LT.	PK11	NAIL IN POLE No. 25	N 298373.6411 E 279581.0456	2+29.64, 15.93' LT.
PK2	NAIL IN PAVEMENT	N 298383.2496 E 279753.6751	4+00.09, 13.08' RT.	PK12	NAIL IN PAVEMENT	N 298460.6767 E 280024.2671	6+81.12, 2.24' LT.
PK3	NAIL IN PAVEMENT	N 298391.7034 E 279690.7528	3+40.62, 9.15' LT.	PK13	NAIL IN POLE No. 22	N 298472.1251 E 279955.1285	6+16.26, 28.78' LT.
STK/TACK4	STAKE & TACK	N 298424.5491 E 279800.6051	4+55.03, 16.75' LT.	PK14	NAIL IN PAVEMENT	N 298495.7984 E 279999.9470	6+65.22, 41.89' LT.
STK/TACK5	STAKE & TACK	N 298456.5986 E 279709.3123	3+73.14, 68.30' LT.	PK15	NAIL IN POLE No. 21	N 298528.7842 E 280124.6175	7+94.10, 46.34' LT.
PK6	NAIL IN PAVEMENT	N 298351.6890 E 279524.1091	1+69.25, 7.19' LT.	BM	CHISELED SQUARE COR. CONC. PARAPET ELEV. 431.97(MSL)	N 298385.7495 E 279748.9284	3+96.02, 9.59' RT.
PK7	NAIL IN PAVEMENT	N 298332.6423 E 279536.6781	1+77.27, 14.17' RT.				
PK8	NAIL IN OAK TREE	N 298316.4065 E 279528.3439	1+65.54, 28.15' RT.				
PK9	NAIL IN PAVEMENT	N 298339.2413 E 279415.5978	0+60.69, 19.18' LT.				
PK10	NAIL IN POLE No. 26	N 298347.9511 E 279458.0037	1+03.97, 18.24' LT.				

- NOTE:**
- THE NORTH ARROW IS BASED ON THE RHODE ISLAND STATE PLANE (NAD 83) COORDINATE SYSTEM.
 - THE CONTRACTOR SHALL ESTABLISH AT LEAST TWO BENCHMARKS FOR VERTICAL CONTROL OUTSIDE OF THE LIMIT OF DISTURBANCE PRIOR TO BEGINNING WORK.
 - ELEVATIONS AND CONTOURS ARE BASED UPON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

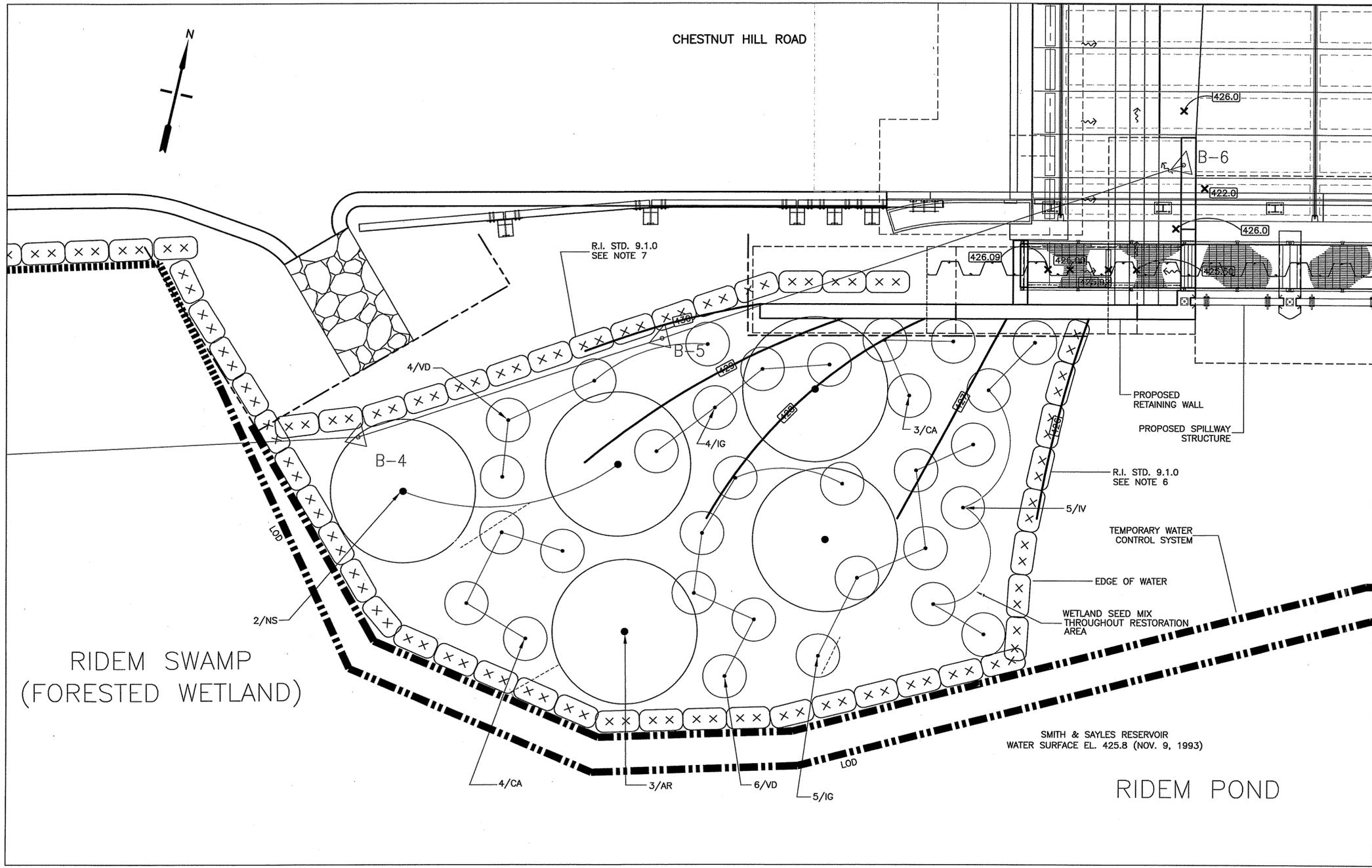
REVISIONS		
NO.	DATE	BY

RHODE ISLAND
 DEPARTMENT OF TRANSPORTATION
 REPLACEMENT OF
CHESTNUT HILL ROAD
 BRIDGE No. 951
 GLOCESTER RHODE ISLAND

PARE
 PARE ENGINEERING CORPORATION
 8 BLACKSTONE VALLEY PLACE
 LINCOLN, RI 02865
 401-334-4100

LOCATION/GRADE PLAN

CHECKED BY: K.V. DATE: AUG. 2004 SCALE: 1"=10'



WETLAND RESTORATION NOTES:

- ALL RESTORATION AREA PREPARATION AND PLANTING SHALL CONFORM TO RIDOT STANDARD SPECIFICATIONS, PART L LANDSCAPING, AND RIDOT STANDARD DETAILS AS APPLICABLE.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RESTORE THE DISTURBED WETLAND AREA AS SOON AS PRACTICABLE FOLLOWING REMOVAL OF THE TEMPORARY WATER CONTROL SYSTEM.
- WETLAND SOILS IN THE AREAS TO BE EXCAVATED SHALL BE CAREFULLY STOCKPILED FOR LATER USE IN WETLAND RESTORATION. THE SOIL SHALL BE COVERED TO RETAIN MOISTURE.
- ALL CONSTRUCTION ACTIVITY WITHIN THE WETLAND SHALL BE CONDUCTED IN A MANNER THAT MINIMIZES THE AMOUNT OF SURFACE DISTURBANCE.
- MATURE, HEALTHY TREES SHALL BE RETAINED AS FEASIBLE AND PROTECTED FROM DAMAGE DURING CONSTRUCTION (R.I. STD. 51.1.0).
- FOLLOWING REMOVAL OF THE TEMPORARY WATER CONTROL SYSTEM A SECOND EROSION CONTROL BARRIER (R.I. STD. 9.1.0) SHALL BE INSTALLED BETWEEN THE RESERVOIR AND THE WETLAND TO BE RESTORED.
- FOLLOWING COMPLETION OF THE WETLAND RESTORATION AN ADDITIONAL BARRIER (R.I. STD. 9.1.0) SHALL BE INSTALLED AT THE UPPER LIMITS OF THE RESTORED AREA TO PROTECT FROM SEDIMENTATION DURING THE REMAINDER OF THE CONSTRUCTION.
- UPON COMPLETION OF CONSTRUCTION, THE SEDIMENT BARRIERS SHALL BE REMOVED AND DISPOSED OF IN AN APPROPRIATE FASHION, AND THE UNDERLYING GROUND SEEDED WITH WETLAND SEED MIX.
- SHOULD RESTORATION PLANTING BE DELAYED DUE TO SEASON, THE RESTORATION AREA SHALL BE MULCHED WITH STRAW OR HAY, WOODCHIPS (AT LEAST 50% DECOMPOSED) OR OTHER SUITABLE ORGANIC MATERIAL.
- PREPARATION OF THE AREA TO BE RESTORED SHALL INCLUDE REMOVING ANY CONSTRUCTION DEBRIS AND TEMPORARY FILL MATERIAL. SOIL AREAS COMPACTED BY HEAVY EQUIPMENT SHALL BE LOOSENEED AND SURFACE ELEVATIONS THAT EXISTED PRIOR TO THE DISTURBANCE SHALL BE RESTORED. STOCKPILED WETLAND SOILS SHALL BE PLACED TO FINISH GRADE.
- PLANTING OF THE RESTORATION AREA SHALL BE IN CONFORMANCE WITH RIDOT SPECIFICATION L.06 PLANTING.
- ALL WETLAND PLANTINGS SHALL BE PERFORMED BY HAND USING HAND IMPLEMENTS E.G. SHOVEL OR TROWEL.
- THE RESTORED WETLAND AREA SHALL BE MONITORED FOR ONE GROWING SEASON TO ENSURE SATISFACTORY PLANT ESTABLISHMENT AND COMPLIANCE WITH THE INTENT OF THE PLAN. ALL DEAD OR UNSATISFACTORY PLANTS SHALL BE REMOVED AND REPLACED IN KIND AND SIZE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER SHALL HAND REMOVE ANY IDENTIFIED INVASIVE SPECIES AS NECESSARY. SEE CONTRACT SPECIFICATION FOR INVASIVE PLANT SPECIES INFORMATION.
- PRIOR TO ACCEPTANCE OF ANY PLANT SPECIES SUBSTITUTIONS, WRITTEN APPROVAL MUST BE OBTAINED FROM RIDEM FRESHWATER WETLANDS PROGRAM THROUGH COORDINATION WITH RIDOT'S NATURAL RESOURCES UNIT.
- ACCEPTABLE PLANTING TIMES FOR TYPE 5 SEEDING ARE AS FOLLOWS:
 SPRING - MAY 1 TO JUNE 15
 FALL - AUGUST 15 TO SEPTEMBER 30

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MAR 18 2005



PLAN

PLANT LIST						
	QUANTITY	KEY	SCIENTIFIC NAME	COMMON NAME	SIZE	COMMENTS
TREES	3	AR	ACER RUBRUM	RED SWAMP MAPLE	1 1/2" - 2" CAL.	B&B
	2	NS	NYSSA SYLVATICA	BLACK TUPELO	1" - 1 1/2" CAL.	CONTAINER
SHRUBS	7	CA	CLETHERA ALNIFOLIA	SWEET PEPPERBUSH	18" - 24"	CONTAINER
	9	IG	ILEX GLABRA	INKBERRY	18" - 24"	CONTAINER (1 MALE; 8 FEMALE)
	5	IV	ILEX VERTICILLATA	WINTERBERRY	24" - 30"	CONTAINER (1 MALE; 4 FEMALE)
	10	VD	VIBURNUM DENTATUM	NORTHERN ARROWWOOD	18" - 24"	CONTAINER
WETLAND SEED MIX SEE CHART, RIGHT						

NORTHEAST WETLAND GRASS SEED MIX*		
% BY NUMBER OF SEEDS	SCIENTIFIC NAME	COMMON NAME
63.0%	AGROSTIS STOLONIFERA	CREeping BENTGRASS
17.0%	POA TRIVIALIS	ROUGH BLUEGRASS
11.0%	ALOPECURUS ARUNDINACEUS	MEADOW FOXTAIL
4.5%	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS
4.5%	PANICUM CLADESTINUM	DEERTONGUE

*SEEDING RATE=1 LB. PER 2,900 SQUARE FEET

LANDSCAPE ARCHITECT:
DIANE C. SOULE & ASSOCIATES, ASLA
 SMITHFIELD RHODE ISLAND

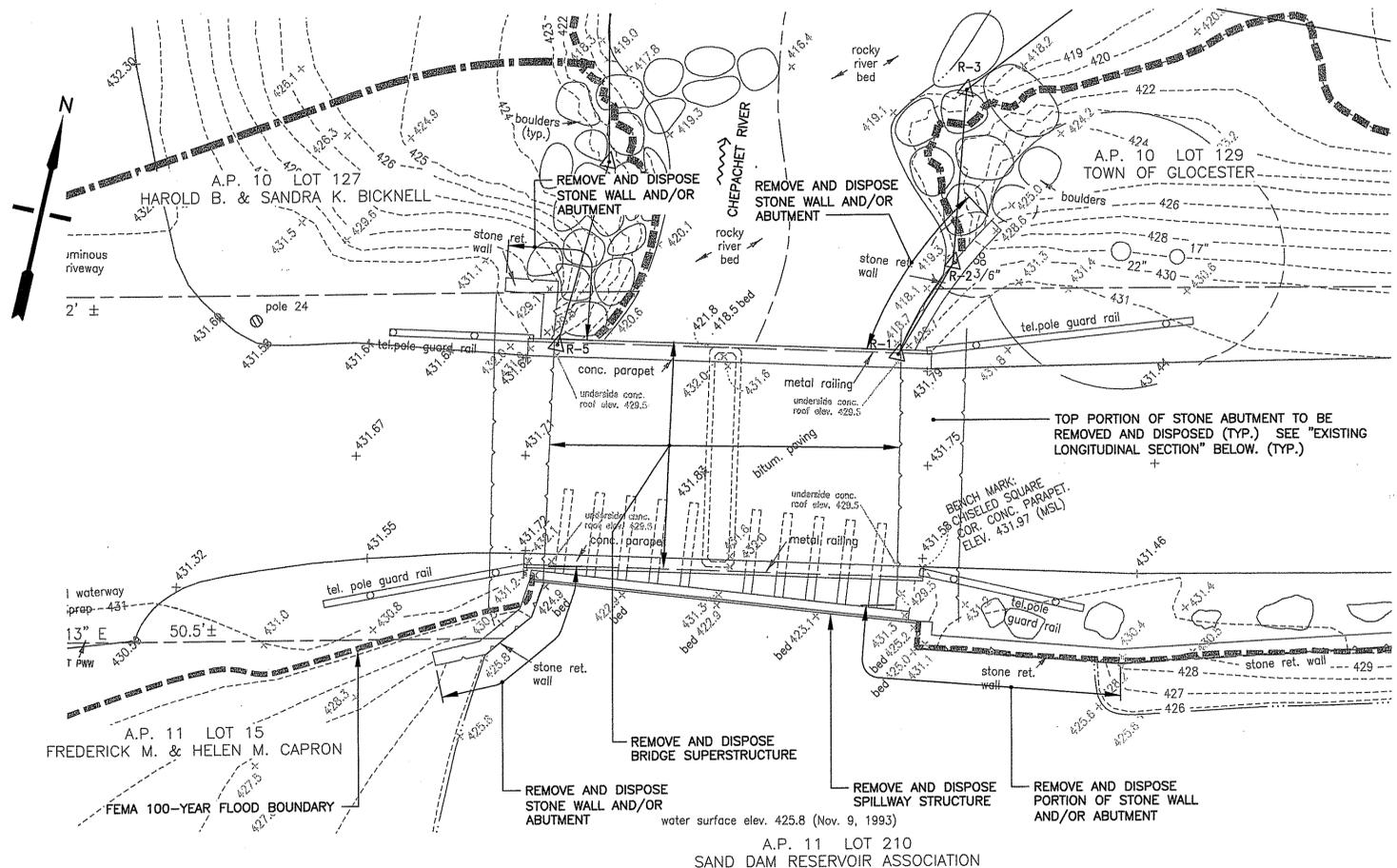
PARE
 PARE ENGINEERING CORPORATION
 8 BLACKSTONE VALLEY PLACE
 LINCOLN, RI 02885
 401-334-4100

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NO.	DATE	BY
1	1/05	BBL

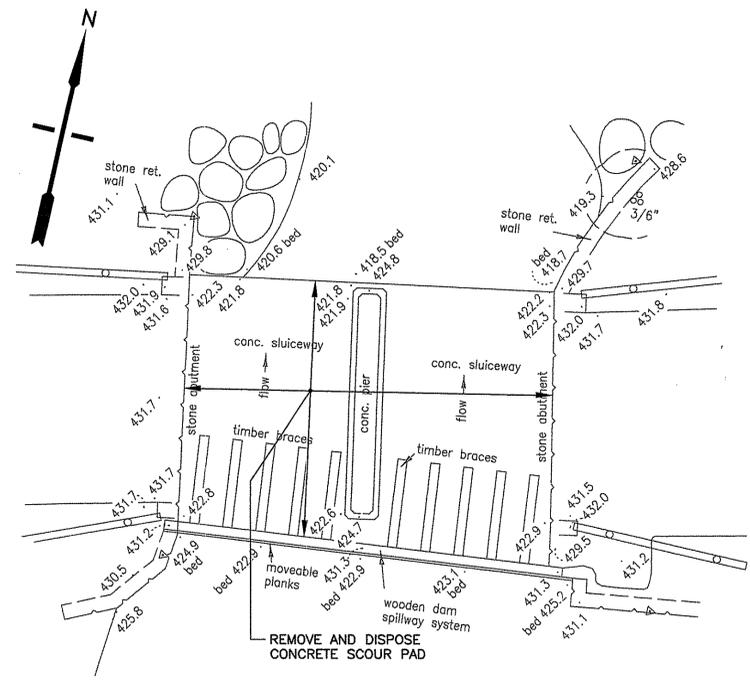
RHODE ISLAND DEPARTMENT OF TRANSPORTATION
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 No. 951
 GLOUCESTER RHODE ISLAND

WETLAND RESTORATION PLAN

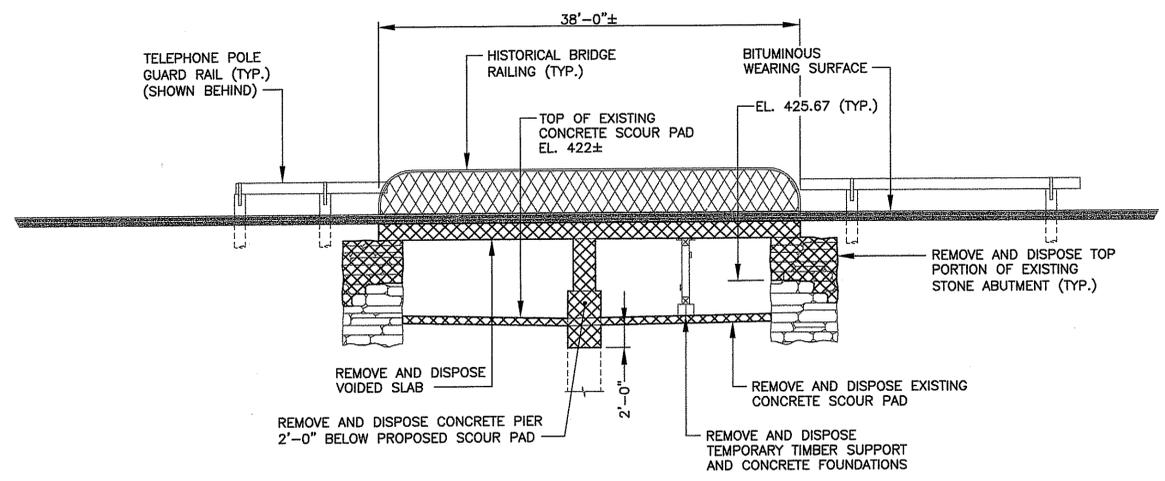
CHECKED BY: K.V. DATE: AUG. 2004 SCALE: 1/4"=1'-0"



EXISTING BRIDGE PLAN
SCALE: 1/8"=1'-0"



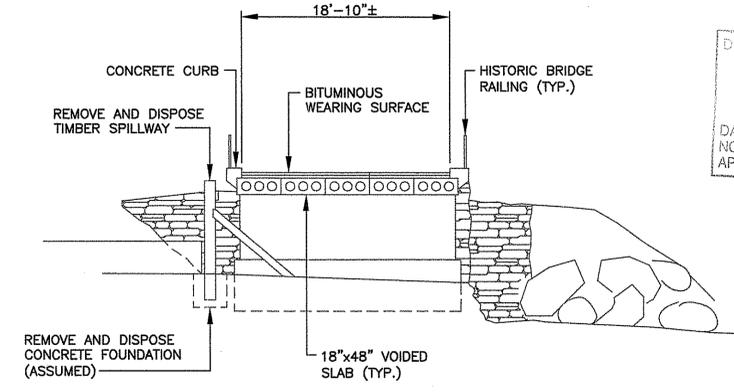
EXISTING SPILLWAY PLAN
SCALE: 1/8"=1'-0"



EXISTING LONGITUDINAL SECTION
SCALE: 1/8"=1'-0"

NOTE:
HISTORIC BRIDGE RAILING TO BE REMOVED AND SALVAGED. THE RAILING IS INTENDED TO BE STOCKPILED AT THE TOWN OF GLOUCESTER'S PUBLIC WORKS GARAGE.

EL. 430.4 (FEMA 100-YEAR FLOOD)
EL. 425.8 OBSERVED WATER SURFACE 11/09/93 (SMITH & SAYLES RESERVOIR)
EL. 421.0 (CALCULATED 100-YEAR FLOOD, DOWN STREAM)



TYPICAL BRIDGE SECTION
SCALE: 1/8"=1'-0"

ESTIMATED REMOVE AND DISPOSE BRIDGE AND SPILLWAY QUANTITIES

*FIELDSTONE MASONRY SUBSTRUCTURE	40 CY
*CONCRETE VOIDED SLABS	900 SF
*REINFORCED CONCRETE	25 CY
*BITUMINOUS WEARING SURFACE	35 TONS
**CONCRETE SCOUR PAD	30 CY
***TIMBER SPILLWAY	3,600 BF
***SPILLWAY FOUNDATION (UNCLASSIFIED EXCAVATION)	15 CY

ESTIMATED REMOVE AND SALVAGE BRIDGE QUANTITIES

HISTORIC BRIDGE RAILING (ITEM 201.9902)	1 LS
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NOTE: ESTIMATED QUANTITIES ARE BASED ON FIELD MEASUREMENTS, AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR, RIDOT AND THE ENGINEER. ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY.

- * NOTED ITEMS ARE TO BE INCLUDED IN ITEM 803.0000.
- ** NOTED ITEMS ARE TO BE INCLUDED IN ITEM 203.0310.
- *** NOTED ITEMS ARE TO BE INCLUDED IN ITEM 803.9901.

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Charles A. Herbert

KEVIN L. VIVEIROS
6039
REGISTERED PROFESSIONAL ENGINEER
3/9/05

MAR 18 2005

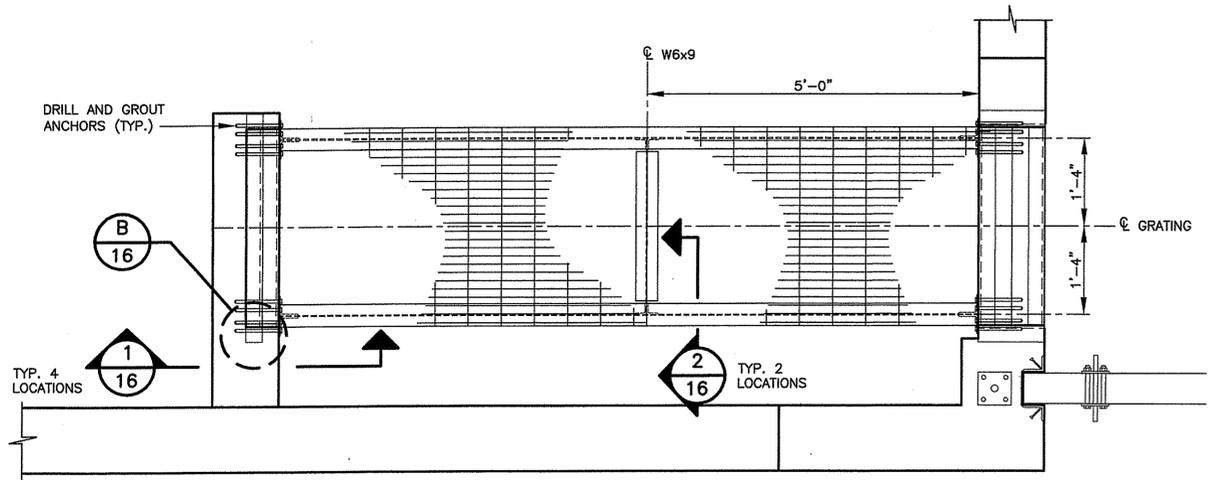
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RHODE ISLAND DEPARTMENT OF TRANSPORTATION
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GLOUCESTER RHODE ISLAND

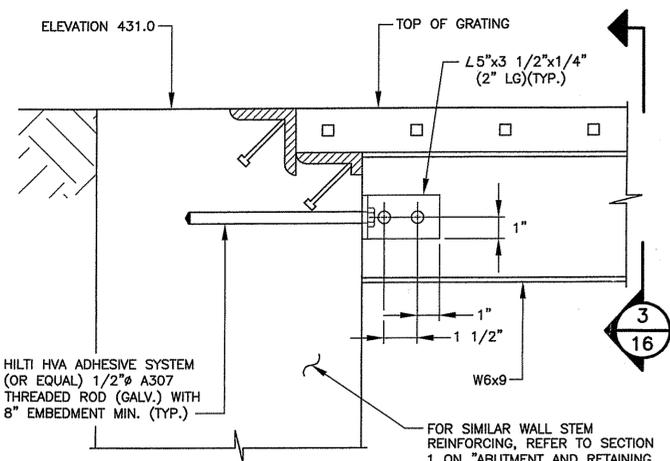
BRIDGE DEMOLITION PLAN AND SECTIONS

CHECKED BY: K.V. DATE: AUG. 2004 SCALE: AS NOTED

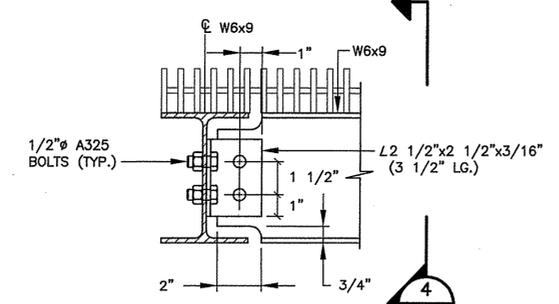
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PARE ENGINEERING CORPORATION
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100



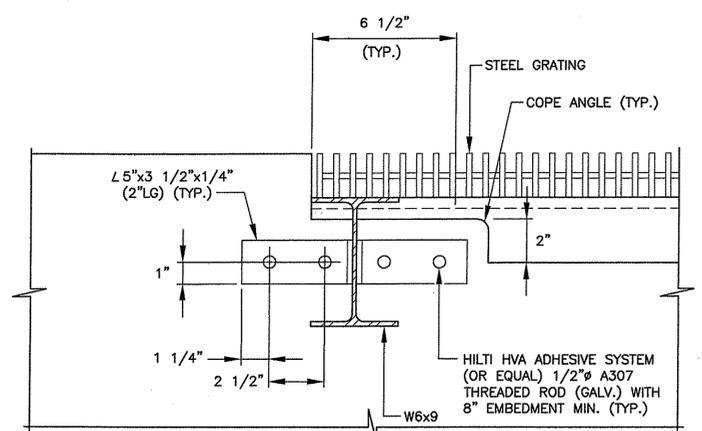
PLAN
SCALE: 3/4"=1'-0"



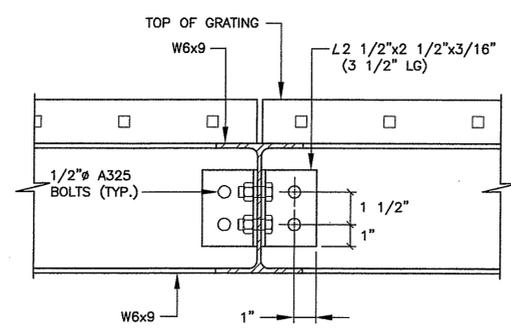
SECTION 1
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SECTION 2
SCALE: 3"=1'-0"

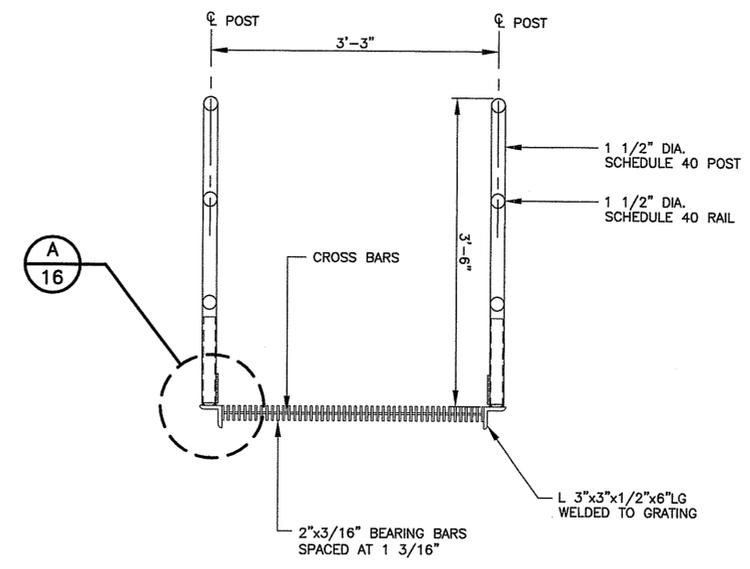


SECTION 3
SCALE: 3"=1'-0"



SECTION 4
SCALE: 3"=1'-0"

NOTE:
ALL STEEL SHAPES AND BOLTS SHALL BE GALVANIZED.

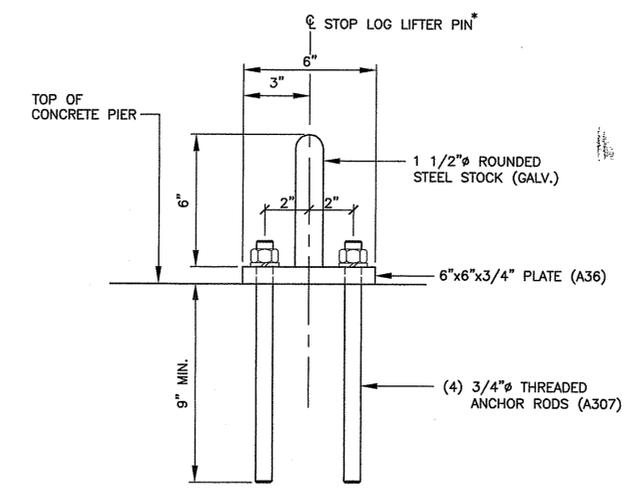


NOTES:

1. GRATING SHALL SPAN IN THE DIRECTION SHOWN (←) WITH MAIN BEARING BARS 2"x3/16" AT 1 3/16" CENTER TO CENTER AND CROSS BARS AT 4" CENTER TO CENTER.
2. ALL GRATING SHALL BE GALVANIZED.
3. GRATING DESIGN LIVE LOAD UNIFORM LOAD = 250 psf, CONCENTRATED LOAD = 1000 lb.
4. ALL RAILS AND POSTS SHALL BE GALVANIZED.

WELDED GRATING DETAIL

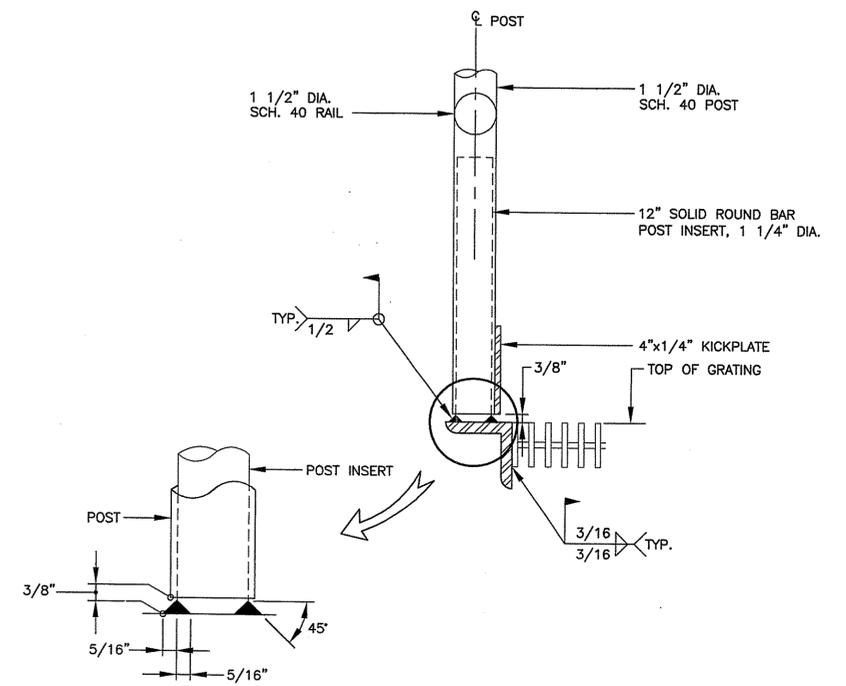
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STOP LOG LIFTER PIN DETAIL

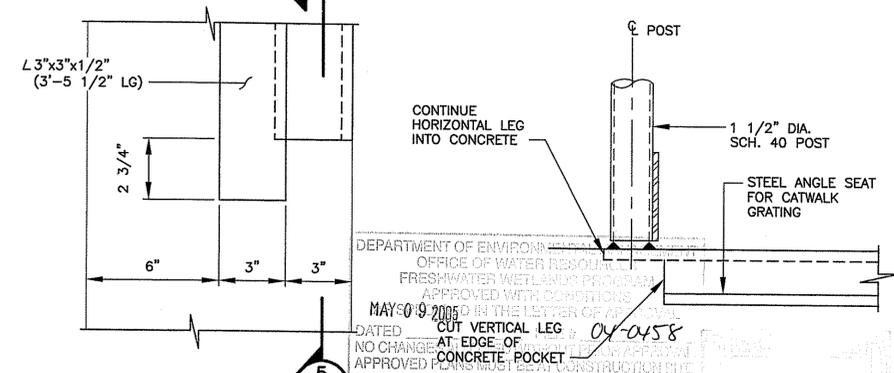
SCALE: 3"=1'-0"

* FOR STOP LOG LIFTER DETAIL SEE SHEET 16.



DETAIL A

SCALE: 3"=1'-0"



SECTION 5

SCALE: 3"=1'-0"

DETAIL B

SCALE: 3"=1'-0"

KEVIN L. VIVEIROS
REGISTERED PROFESSIONAL ENGINEER
6039
3/2/05

REVISIONS		
NO.	DATE	BY

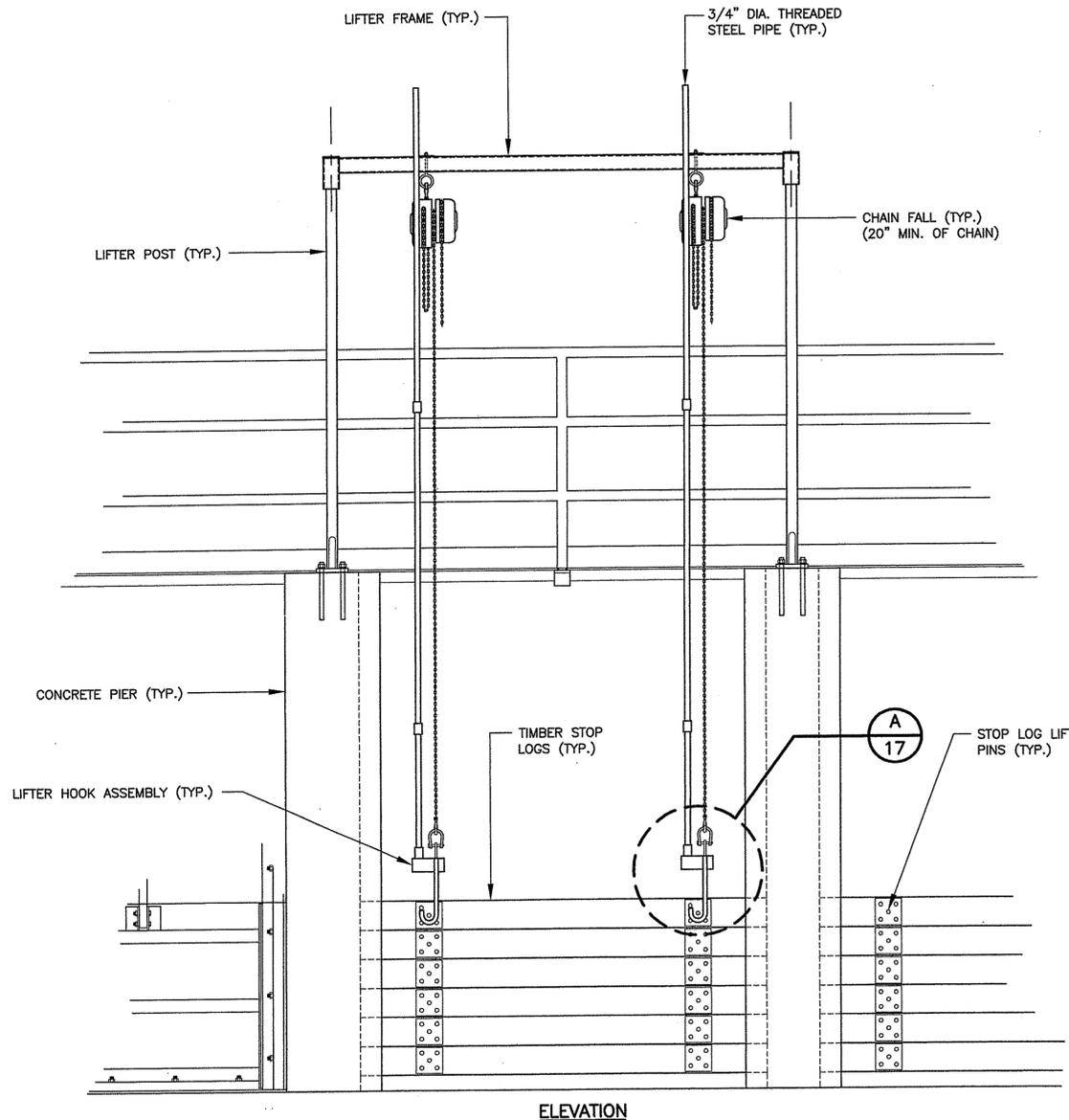
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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APPROVED WITH CONDITIONS
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NO CHANGE AT EDGE OF CONCRETE POCKET
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MAR 18 2005

Charles A. Herbert

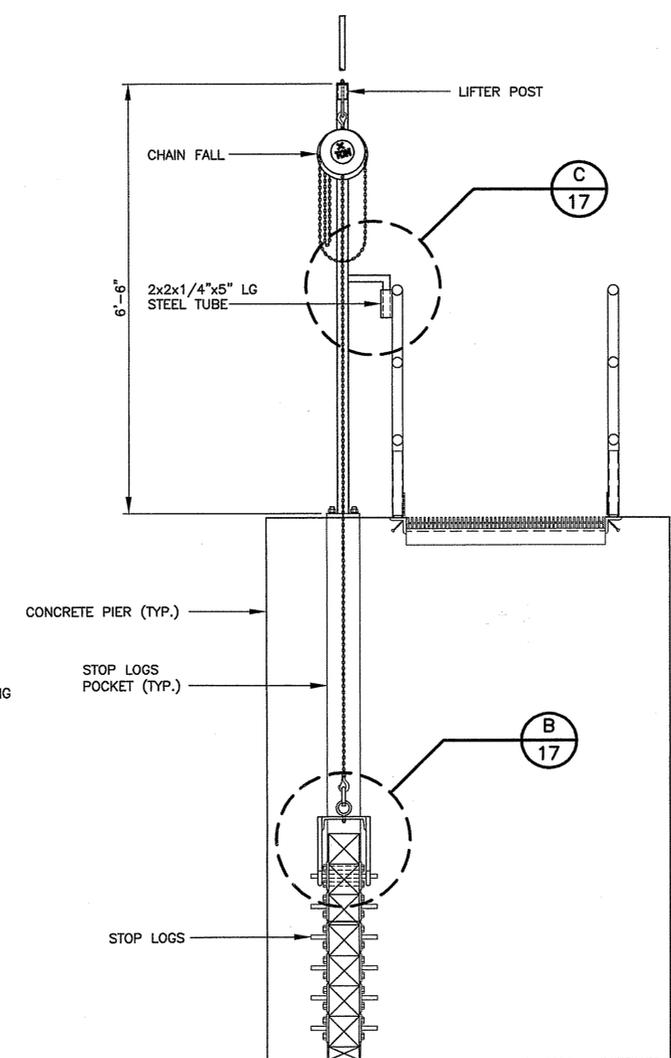
RHODE ISLAND DEPARTMENT OF TRANSPORTATION
REPLACEMENT OF CHESTNUT HILL ROAD BRIDGE No. 951
GLOUCESTER RHODE ISLAND

SPILLWAY SECTIONS AND DETAILS - 2
CHECKED BY: K.V. DATE: AUG. 2004 SCALE: AS NOTED

PARE
PARE ENGINEERING CORPORATION
9 BLACKSTONE VALLEY PLACE
LINGOLN, RI 02865
401-334-4100

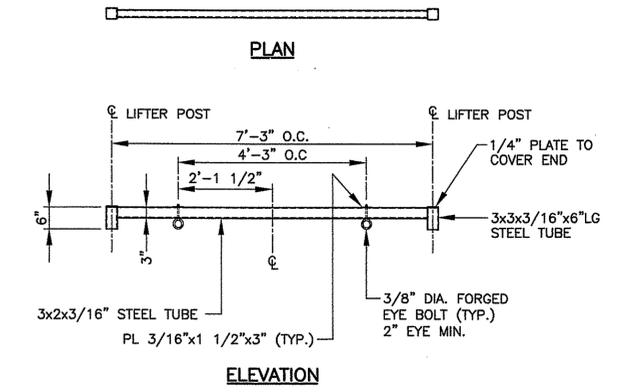


ELEVATION



SECTION

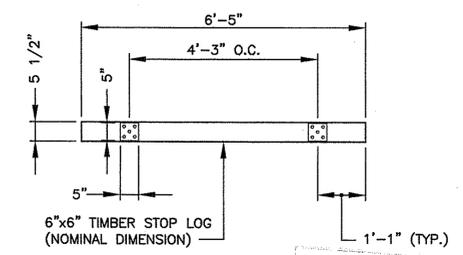
PORTABLE STOP LOG LIFTER DETAIL
SCALE: 3/4"=1'-0"



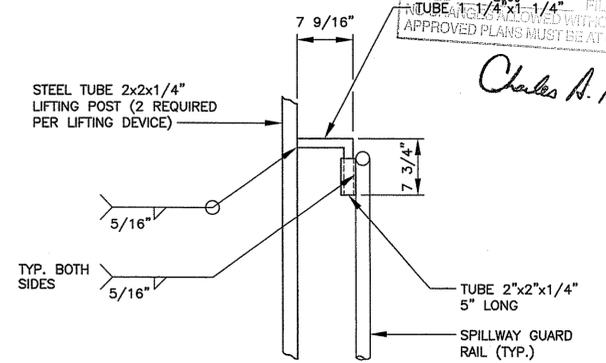
ELEVATION

NOTE:
ALL STEEL TO BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 OR A153-AS APPLICABLE.

STOP LOG LIFTER FRAME DETAIL
SCALE: 1/2"=1'-0"



ELEVATION - TIMBER STOP LOG
SCALE: 1/2"=1'-0"



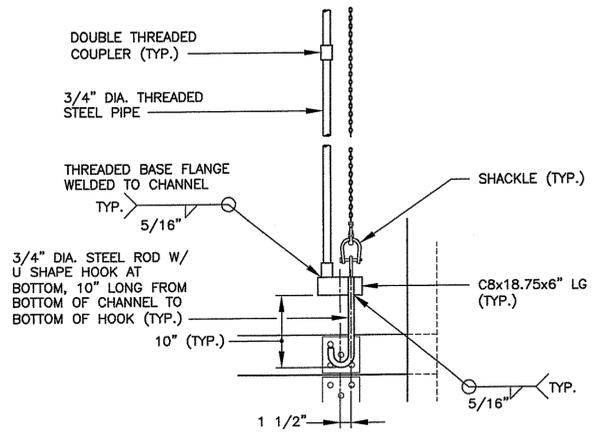
DETAIL C
SCALE: 1"=1'-0"

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FILE # 04-0458
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

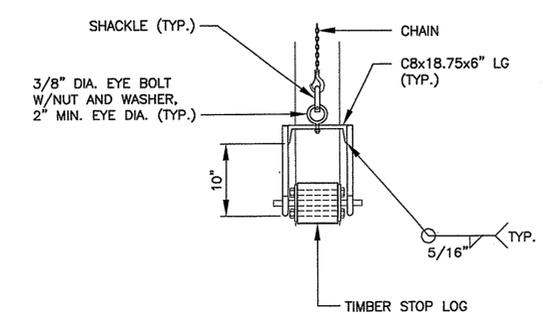
Charles A. Herbert

MAR 18 2005

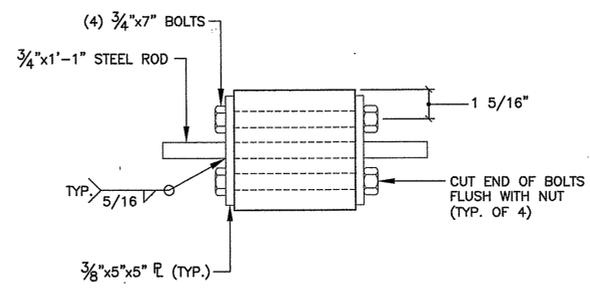
KEVIN L. VIVEIROS
6039
REGISTERED PROFESSIONAL ENGINEER
3/19/05



DETAIL A
SCALE: 1"=1'-0"



DETAIL B
SCALE: 1"=1'-0"



STOP LOG LIFTER PIN DETAIL
SCALE: 3"=1'-0"

- NOTES:
- 3/4" STEEL PIPE NOT SHOWN FOR CLARITY IN DETAIL B.
 - TOTAL LENGTH OF STEEL PIPE PER EACH LIFTER HOOK TO BE DETERMINED BY CONTRACTOR. PIPE SHALL CONSIST OF 5 FOOT SECTIONS, 2 FOOT SECTIONS, DOUBLE THREADED COUPLERS, AND THREADED BASE FLANGE.
 - ALL STEEL SHAPES AND BOLTS TO BE GALVANIZED.

PARE
PARE ENGINEERING CORPORATION
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION
REPLACEMENT OF
CHESTNUT HILL ROAD BRIDGE
No. 951
GLOUCESTER RHODE ISLAND

SPILLWAY SECTIONS
AND DETAILS - 3

CHECKED BY: K.V. DATE: AUG. 2004 SCALE: AS NOTED

