

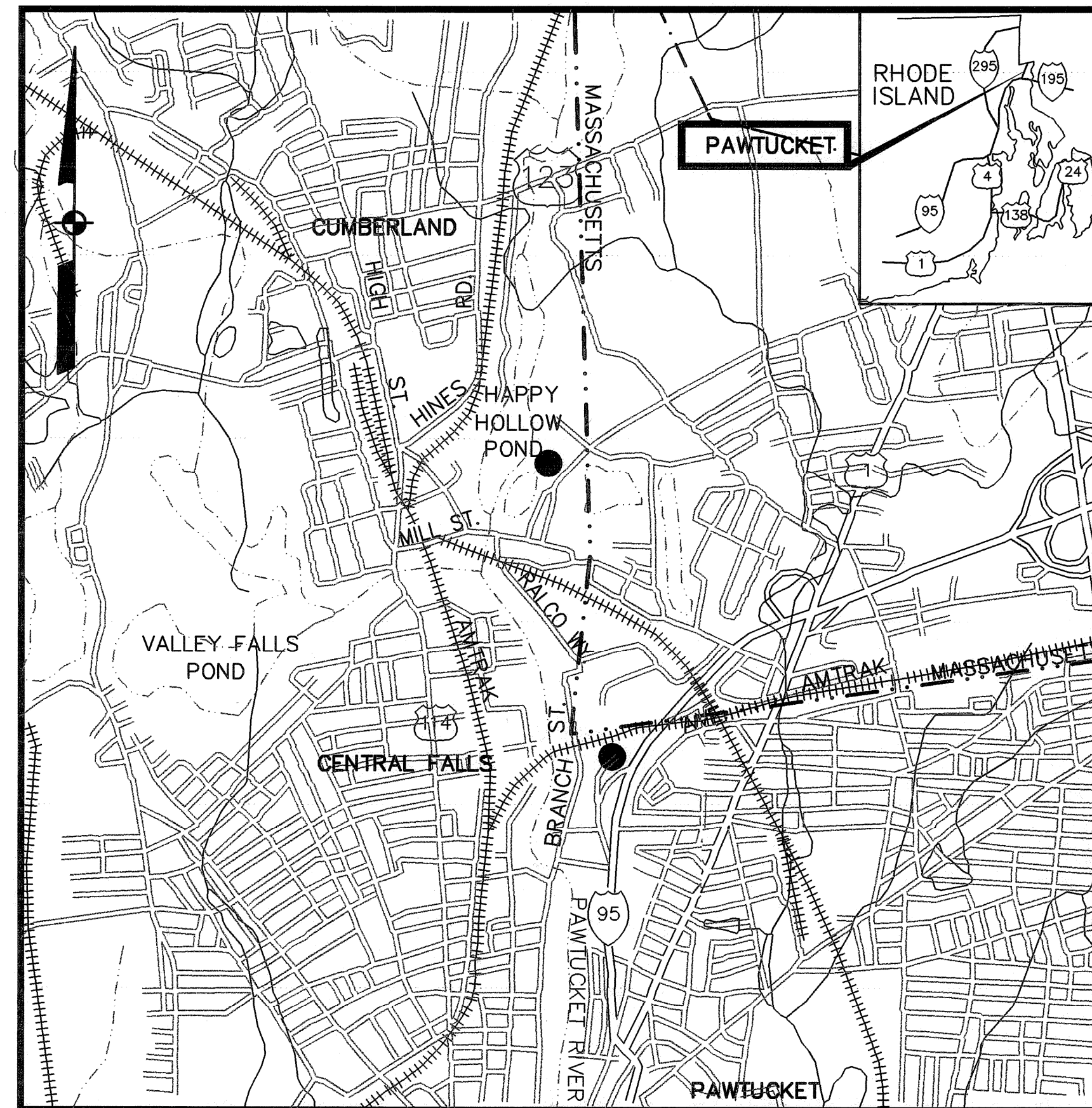
# CONTRACT DRAWINGS - FOR - Pawtucket Regional Water Treatment Facility

## Pkg 16- RAW WATER & RESIDUAL PIPELINES

Pawtucket, Rhode Island

OCTOBER 31, 2006

### INDEX



DWG.

REV.

TITLE

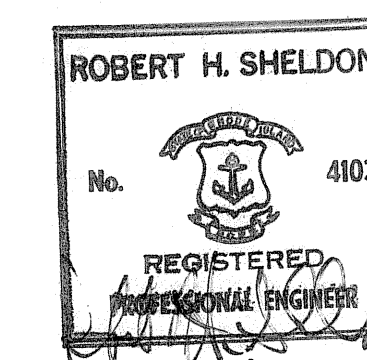
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COVER

#### PIPE LINES

- EXISTING CONDITIONS AND SILT FENCE PLAN
- EXISTING CONDITIONS AND SILT FENCE PLAN
- EXISTING CONDITIONS AND SILT FENCE PLAN
- STA 0+00 TO STA 13+50
- STA 13+50 TO STA 26+00
- STA 26+00 TO STA 34+00
- PROFILE AT RAILROAD CROSSING
- MICELLANEOUS DETAILS

LOCUS  
NOT TO SCALE



#### GENERAL NOTES

LOCATIONS OF ALL UTILITIES AND SUB-SURFACE STRUCTURES ARE FROM SURVEY AND RECORDS OF TOWN, CORPORATIONS, ETC., AND ARE CONSIDERED APPROXIMATE BOTH AS TO SIZE AND LOCATION AND ARE INDICATED ON THESE DRAWINGS TO GIVE BIDDERS A GENERAL IDEA OF EXISTING CONDITIONS TO BE INVESTIGATED BY THE BIDDER. IT IS UNDERSTOOD AND AGREED THAT EACH BIDDER WILL NOT RELY UPON THESE DRAWINGS FOR SUCH INFORMATION, BUT THAT EACH BIDDER SHALL MAKE EXAMINATIONS IN THE FIELD BY VARIOUS AVAILABLE METHODS AND SHALL OBTAIN INFORMATION FROM UTILITY CORPORATIONS AND INDIVIDUALS AS TO THE LOCATION OF ALL SUB-SURFACE STRUCTURES.

ALL ELEVATIONS REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929.



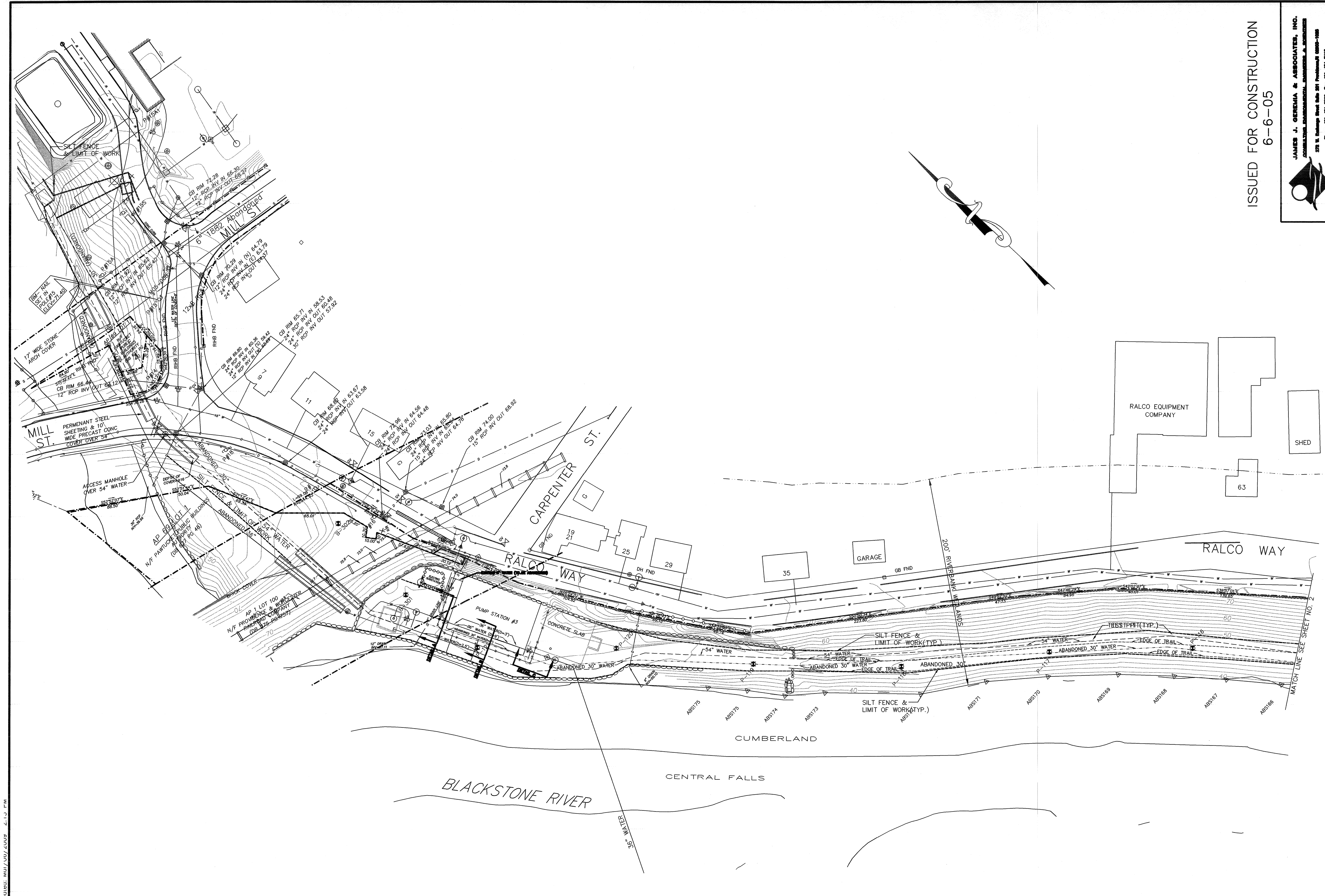
A Tyco International Ltd. Company

300 Baker Avenue Suite 290 Concord, Mass.

EARTH TECH  
AS-BUILT FILE  
JULY 2008



L:\work\89933\CD\As-Built\19 PIPELINE DESIGN\PAWLUCKET Water Main.dwg, 3/9/2009 2:13:37 PM, jason.melli, 1:1



PLAN  
SCALE: 1"=40'

**EARTH TECH**  
AS-BUILT FILE  
JULY 2008

ISSUED FOR CONSTRUCTION  
6-6-05

**JAMES J. GEREMIA & ASSOCIATES, INC.**  
CONSULTING ENGINEERS  
275 W. Exchange Street, Suite 201, Pawtucket, RI 02860-1008  
Phone: 401-847-2000 Fax: 401-847-2113

RI COA 5153  
**EARTH TECH**  
198 Baker Avenue, Concord, MA 01742 (978) 371-4000

NO.	DATE	BY	REVISIONS
2	JULY 2008	DPB	AS-BUILT DRAWING FILE
1	10.31.06	RH	ISSUED FOR 181 POSTED SET
0	06.06.05	RH	ISSUED FOR CONSTRUCTION
0			

ROBERT H. SHELDON  
No. 4103  
3/17/09

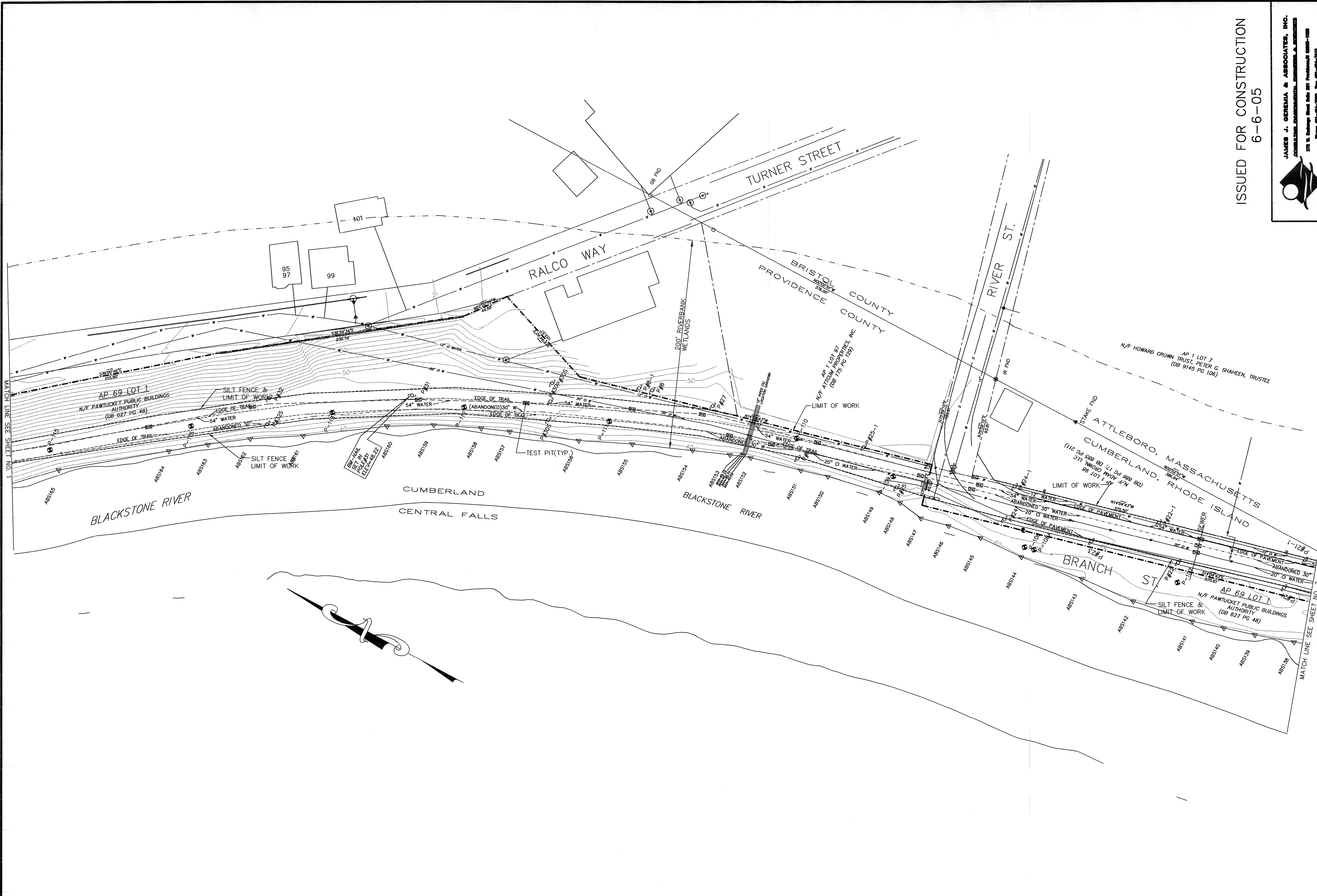
PAWTUCKET, RHODE ISLAND  
**PAWTUCKET REGIONAL  
WATER TREATMENT FACILITY**  
**PKG 16 RAW WATER & BACKWASH PIPE**  
EXISTING CONDITIONS & SILT FENCE PLAN

DESIGNED BY	RH	DWG SCALE	1"=40'
DRAWN BY	CJB	CONTRACT NO	PKG 16
CHECKED BY	JUG	DATE NOVEMBER	2004



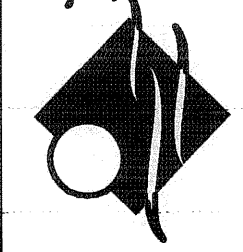
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PLAN  
SCALE: 1" = 40'

ISSUED FOR CONSTRUCTION  
6-6-05



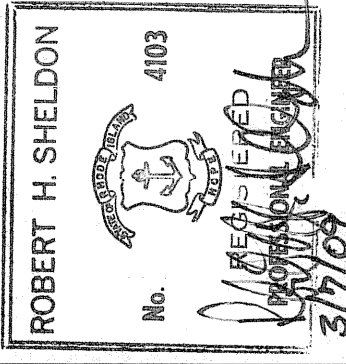
**JAMES J. GEREMIA & ASSOCIATES, INC.**  
 CONSULTING ENGINEERS, ARCHITECTS, PLANNERS, & SURVEYORS  
 278 W. Exchange Street, Suite 201, Providence, RI 02903  
 Phone: 401-454-7000 Fax: 401-454-7418

RI COA 5153



**EARTHTECH**  
 196 Baker Avenue, Concord, MA 01742 (978) 371-1000

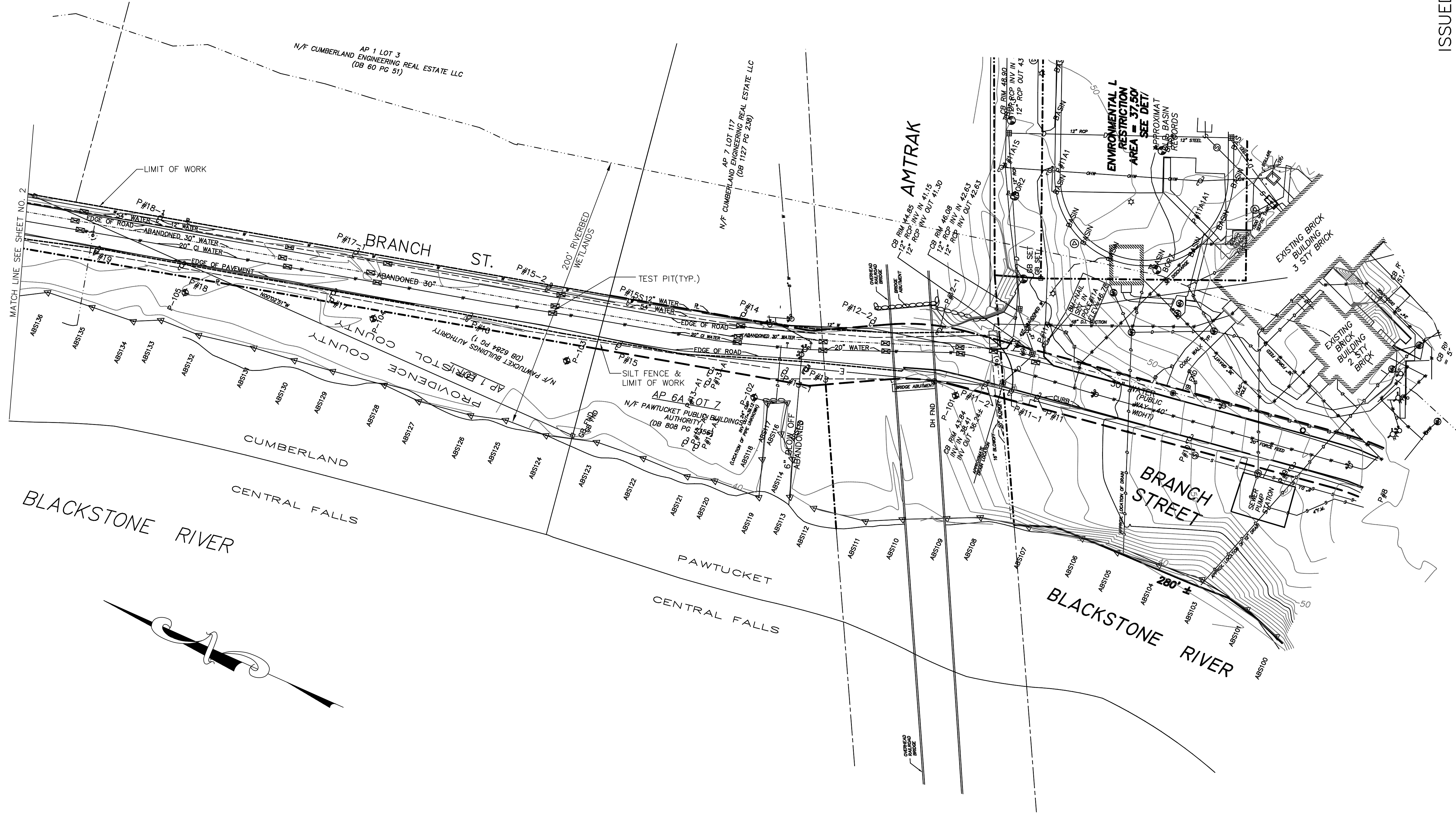
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1	10.31.08	RH	ISSUED FOR RFI POSTED SET
0	06.06.05	RH	ISSUED FOR CONSTRUCTION



PAWTUCKET, RHODE ISLAND  
**PAWTUCKET REGIONAL WATER TREATMENT FACILITY**  
**PKG 16 RAW WATER & BACKWASH PIPE**  
 EXISTING CONDITIONS & SILT FENCE PLAN

DESIGNED BY RH	DWG SCALE 1" = 40'
DRAWN BY CJB	CONTRACT NO PKG 16
CHECKED BY JUG	DATE / MONTH / YEAR 2004

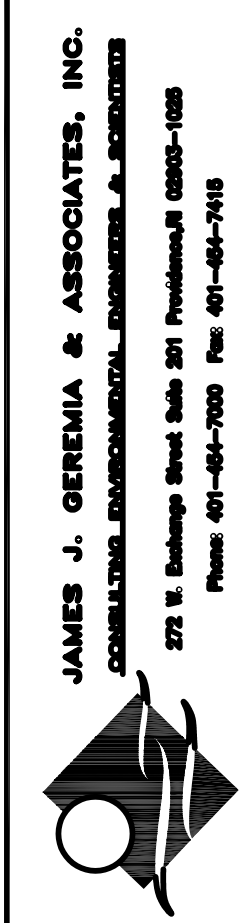
**EARTH TECH**  
 AS-BUILT FILE  
 JULY 2008



PLAN  
 SCALE: 1"=40'

ISSUED FOR CONSTRUCTION  
 6-6-05

**EARTH TECH**  
 AS-BUILT FILE  
 JULY 2008



**JAMES J. GEREMIA & ASSOCIATES, INC.**  
 CONSULTING AND ENVIRONMENTAL ENGINEERING & ARCHITECTURE  
 270 W. Exchange Street Suite 201 Providence, RI 02903-1028  
 Phone: 401-451-2000 Fax: 401-451-7418

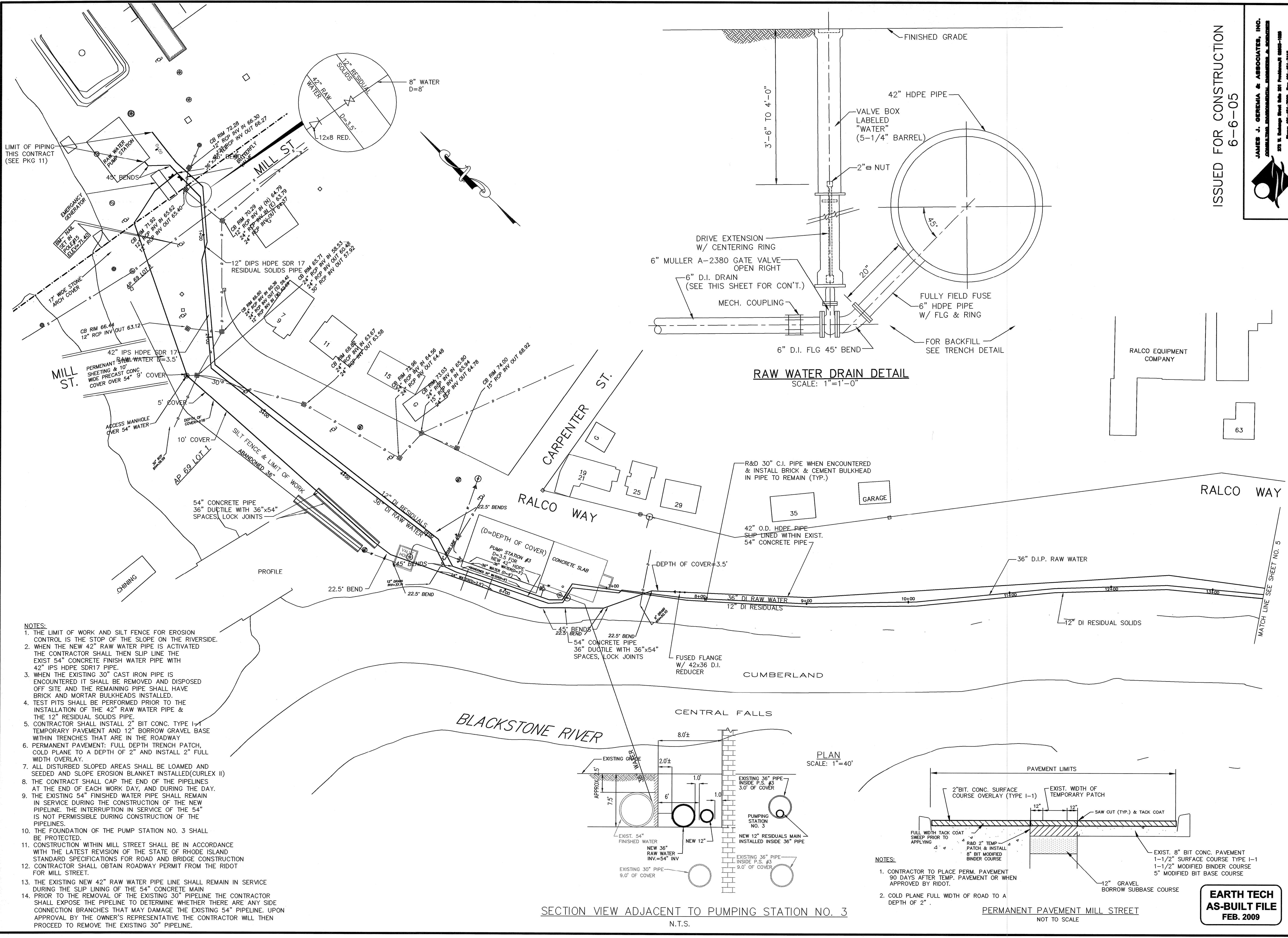
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RI COA 5153
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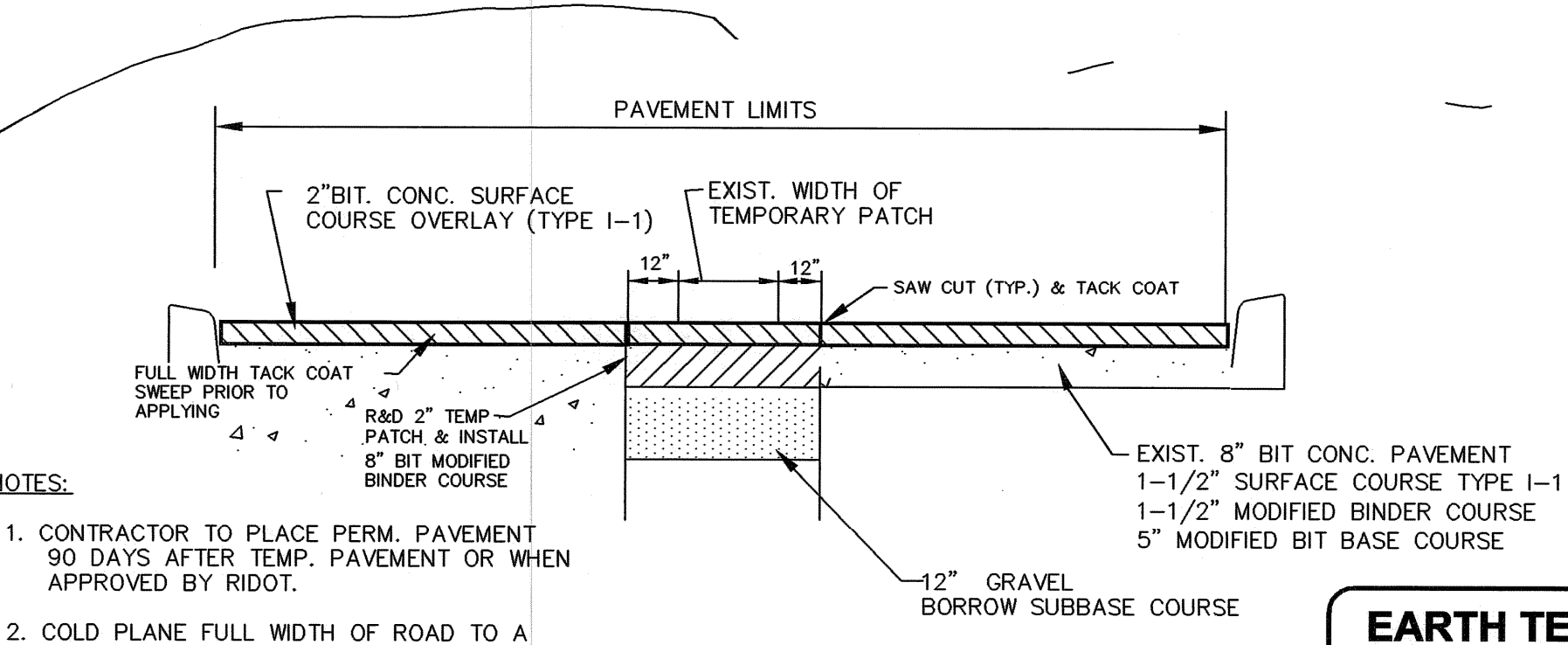
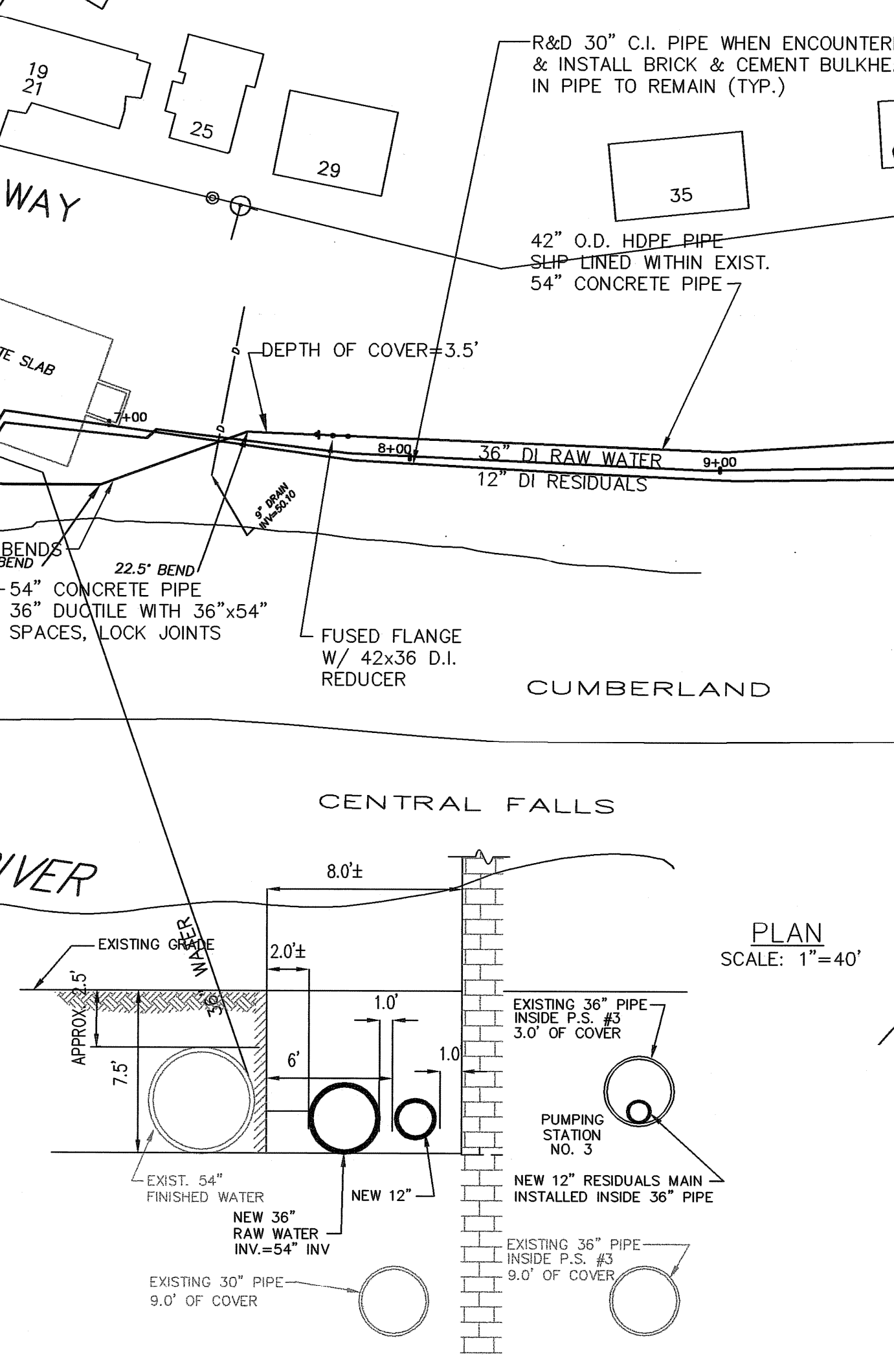
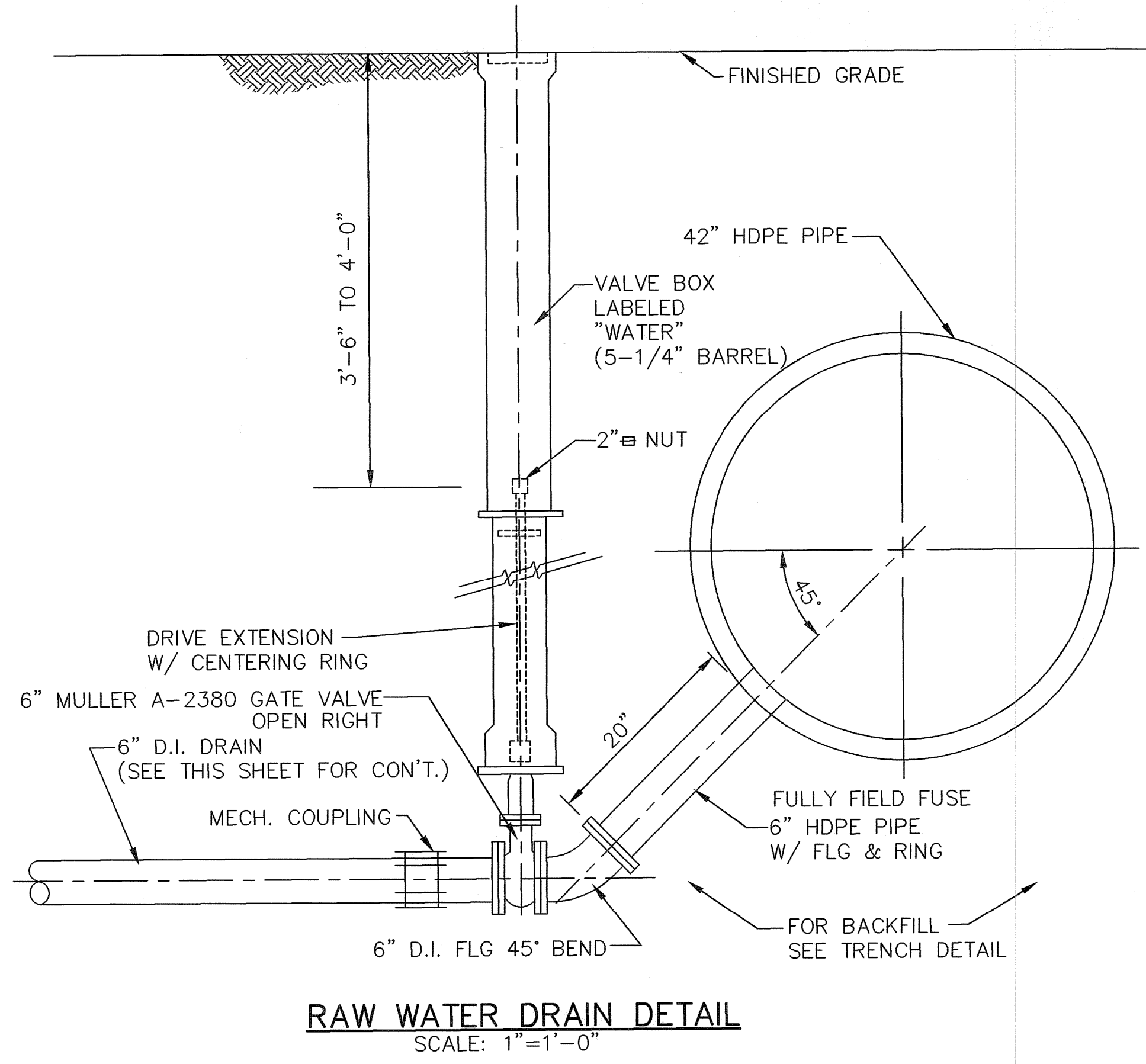
PAWTUCKET, RHODE ISLAND  
**PAWTUCKET REGIONAL WATER TREATMENT FACILITY**  
**PKG 16 RAW WATER & BACKWASH PIPE**  
 EXISTING CONDITIONS & SILT FENCE PLAN

DESIGNED BY RH	DWG SCALE 1"=40'
DRAWN BY CJB	CONTRACT NO PKG 16
CHECKED BY JUG	DATE NOVEMBER 2004



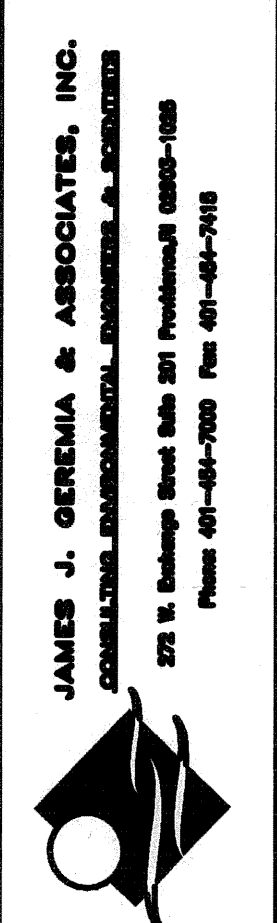


- NOTES:**
1. THE LIMIT OF WORK AND SILT FENCE FOR EROSION CONTROL IS THE STOP OF THE SLOPE ON THE RIVERSIDE.
  2. WHEN THE NEW 42" RAW WATER PIPE IS ACTIVATED THE CONTRACTOR SHALL THEN SLIP LINE THE EXIST 54" CONCRETE FINISH WATER PIPE WITH 42" IPS HDPE SDR17 PIPE.
  3. WHEN THE EXISTING 30" CAST IRON PIPE IS ENCOUNTERED IT SHALL BE REMOVED AND DISPOSED OFF SITE AND THE REMAINING PIPE SHALL HAVE BRICK AND MORTAR BULKHEADS INSTALLED.
  4. TEST PITS SHALL BE PERFORMED PRIOR TO THE INSTALLATION OF THE 42" RAW WATER PIPE & THE 12" RESIDUAL SOLIDS PIPE.
  5. CONTRACTOR SHALL INSTALL 2" BIT CONC. TYPE I-1 TEMPORARY PAVEMENT AND 12" BORROW GRAVEL BASE WITHIN TRENCHES THAT ARE IN THE ROADWAY.
  6. PERMANENT PAVEMENT: FULL DEPTH TRENCH PATCH, COLD PLANE TO A DEPTH OF 2" AND INSTALL 2" FULL WIDTH OVERLAY.
  7. ALL DISTURBED SLOPED AREAS SHALL BE LOAMED AND SEEDED AND SLOPE EROSION BLANKET INSTALLED (CURLX II).
  8. THE CONTRACT SHALL CAP THE END OF THE PIPELINES AT THE END OF EACH WORK DAY, AND DURING THE DAY.
  9. THE EXISTING 54" FINISHED WATER PIPE SHALL REMAIN IN SERVICE DURING THE CONSTRUCTION OF THE NEW PIPELINE. THE INTERRUPTION IN SERVICE OF THE 54" IS NOT PERMISSIBLE DURING CONSTRUCTION OF THE PIPELINES.
  10. THE FOUNDATION OF THE PUMP STATION NO. 3 SHALL BE PROTECTED.
  11. CONSTRUCTION WITHIN MILL STREET SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
  12. CONTRACTOR SHALL OBTAIN ROADWAY PERMIT FROM THE RIDOT FOR MILL STREET.
  13. THE EXISTING NEW 42" RAW WATER PIPE LINE SHALL REMAIN IN SERVICE DURING THE SLIP LINING OF THE 54" CONCRETE MAIN.
  14. PRIOR TO THE REMOVAL OF THE EXISTING 30" PIPELINE THE CONTRACTOR SHALL EXPOSE THE PIPELINE TO DETERMINE WHETHER THERE ARE ANY SIDE CONNECTION BRANCHES THAT MAY DAMAGE THE EXISTING 54" PIPELINE. UPON APPROVAL BY THE OWNER'S REPRESENTATIVE THE CONTRACTOR WILL THEN PROCEED TO REMOVE THE EXISTING 30" PIPELINE.



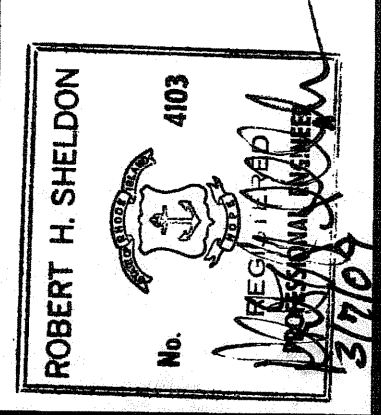
- NOTES:**
1. CONTRACTOR TO PLACE PERM. PAVEMENT 90 DAYS AFTER TEMP. PAVEMENT OR WHEN APPROVED BY RIDOT.
  2. COLD PLANE FULL WIDTH OF ROAD TO A DEPTH OF 2" .

ISSUED FOR CONSTRUCTION  
6-6-05



RI COA 5153  
**EARTH TECH**  
198 Balar Avenue Concord MA 01742 (978) 371-4000

NO.	DATE	BY	REVISIONS
1	10/3/04	JJC	ISSUED FOR CONSTRUCTION
2	04/06/05	JJC	ISSUED FOR CONSTRUCTION
3	04/06/05	JJC	ISSUED FOR CONSTRUCTION
4	04/12/05	JJC	ISSUED FOR CONSTRUCTION
5	07/12/05	JJC	ISSUED FOR CONSTRUCTION



PAWTUCKET, RHODE ISLAND  
**PAWTUCKET REGIONAL WATER TREATMENT FACILITY**  
**PKG 16 RAW WATER & BACKWASH PIPE**  
STA 0+00 TO STA 13+50

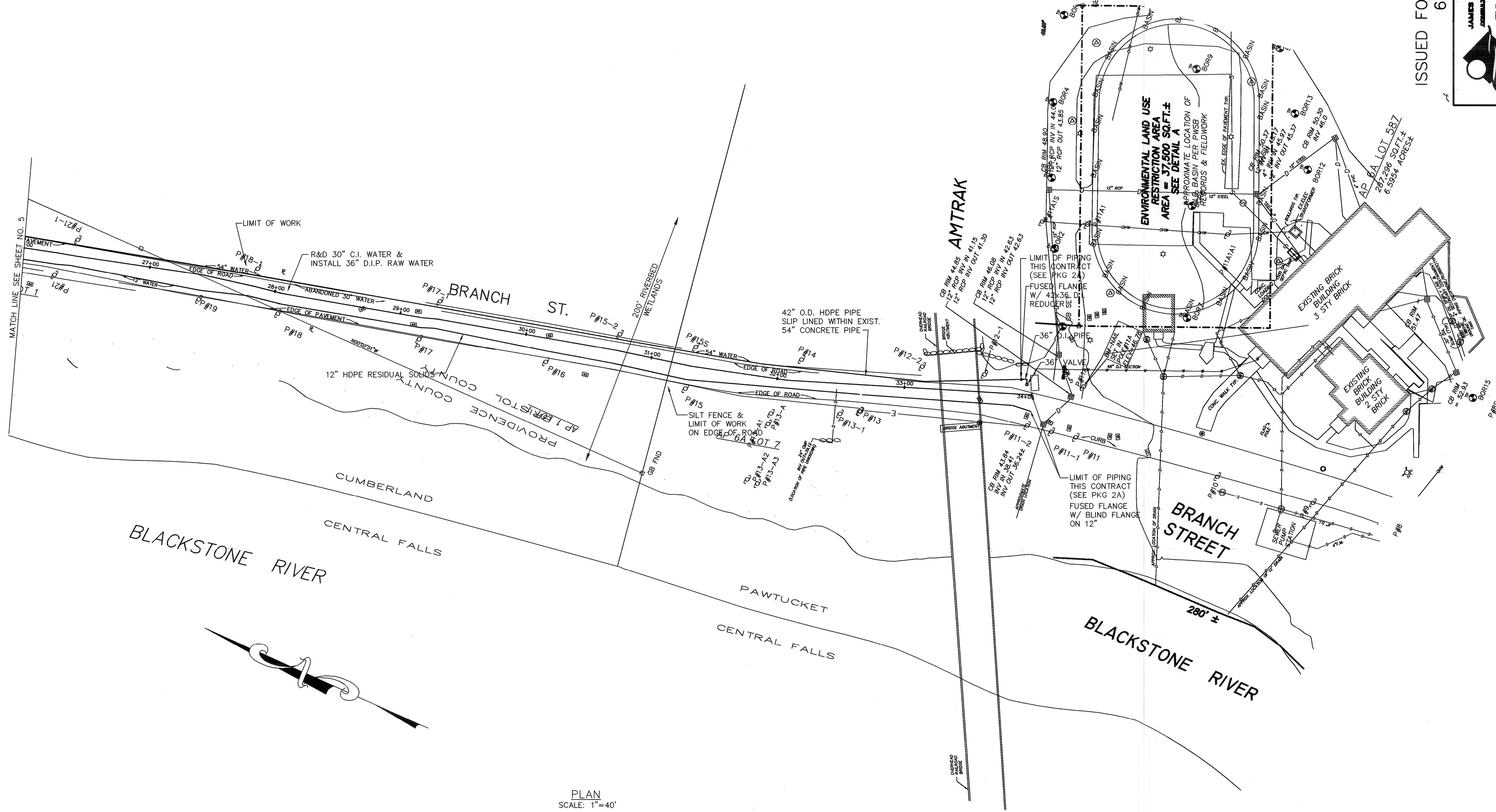
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DRAWN BY	1"=40'
CHECKED BY	CONTRACT NO
JJC	PKG 16
	DATE NOVEMBER 2004

**EARTH TECH**  
AS-BUILT FILE  
FEB. 2009









PLAN  
 SCALE: 1"=40'

**EARTH TECH**  
 AS-BUILT FILE  
 FEB. 2009

ISSUED FOR CONSTRUCTION  
 6-6-05

**JAMES J. GEREMA & ASSOCIATES, INC.**  
 CONSULTING ENGINEERS, ARCHITECTS & SURVEYORS  
 278 N. Main Street, Suite 201, Pawtucket, RI 02860-1008  
 Phone: 401-841-1000 Fax: 401-841-7410

PAWTUCKET, RHODE ISLAND  
**PAWTUCKET REGIONAL  
 WATER TREATMENT FACILITY**  
**PKG 16 RAW WATER & BACKWASH PIPE**  
 STA. 26+00 TO STA. 34+00

DESIGNED BY RH	DWG SCALE 1"=40'
DRAWN BY CJB	CONTRACT NO. PKG 16
CHECKED BY JUG	DATE NOVEMBER 2004

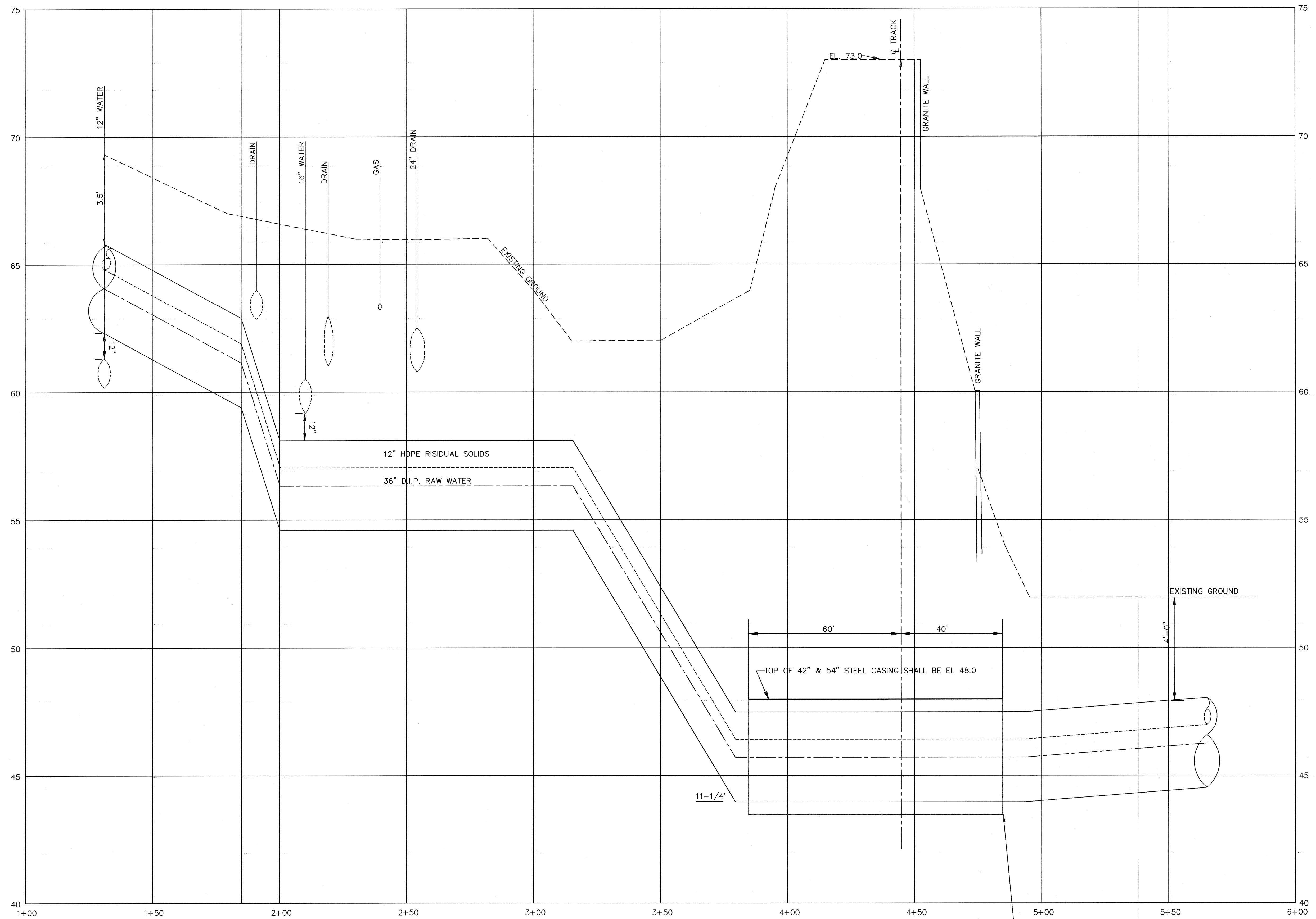
ROBERT H. SHELDON  
 No. 4103  
 REG. PROFESSIONAL ENGINEER  
 STATE OF RHODE ISLAND

NO.	REVISIONS	BY	DATE
1	ISSUED FOR RFP PORTED SET	RH	10.31.04
2	ISSUED FOR CONSTRUCTION	RH	04.26.05
3	REVISION COMMENTS	RH	04.26.05
4	ENR/TECH REVIEW COMMENTS	RH	02.17.05



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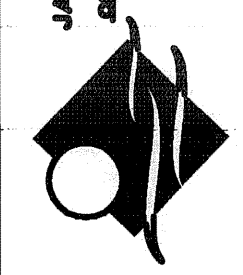


PROFILE AT RAILROAD CROSSING

SCALE:  
HORIZ: 1"=20'  
VERT: 1"=2'

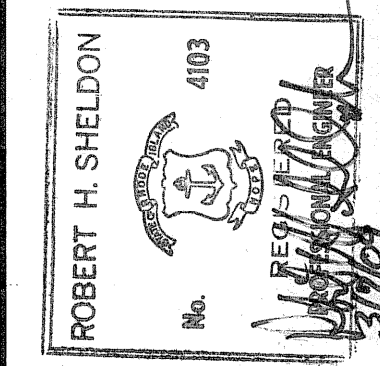
SEAL BOTH ENDS OF STEEL CASINGS WITH CONC. GROUT(TYP.)

ISSUED FOR CONSTRUCTION  
6-6-05



JAMES J. GEREMIA & ASSOCIATES, INC.  
CONSULTING ENGINEERS & ARCHITECTS  
275 W. Exchange Street Suite 201 Pawtucket, RI 02860-1000  
Phone: 401-841-7000 Fax: 401-841-7410

NO.	REVISIONS	BY	DATE
2	AS-BUILT DRAWING FILE	DPB	JULY 2008
1	ISSUED FOR RFI POSTED SET		10.31.08
0	ISSUED FOR CONSTRUCTION	RH	06.06.05



PAWTUCKET, RHODE ISLAND  
**PAWTUCKET REGIONAL WATER TREATMENT FACILITY**  
**PKG 16 RAW WATER & BACKWASH PIPE**  
PROFILE AT RAILROAD CROSSING

DESIGNED BY RH	DWG SCALE 1"=40'
DRAWN BY CJB	CONTRACT NO PKG 16
CHECKED BY JUG	DATE NOVEMBER 2004

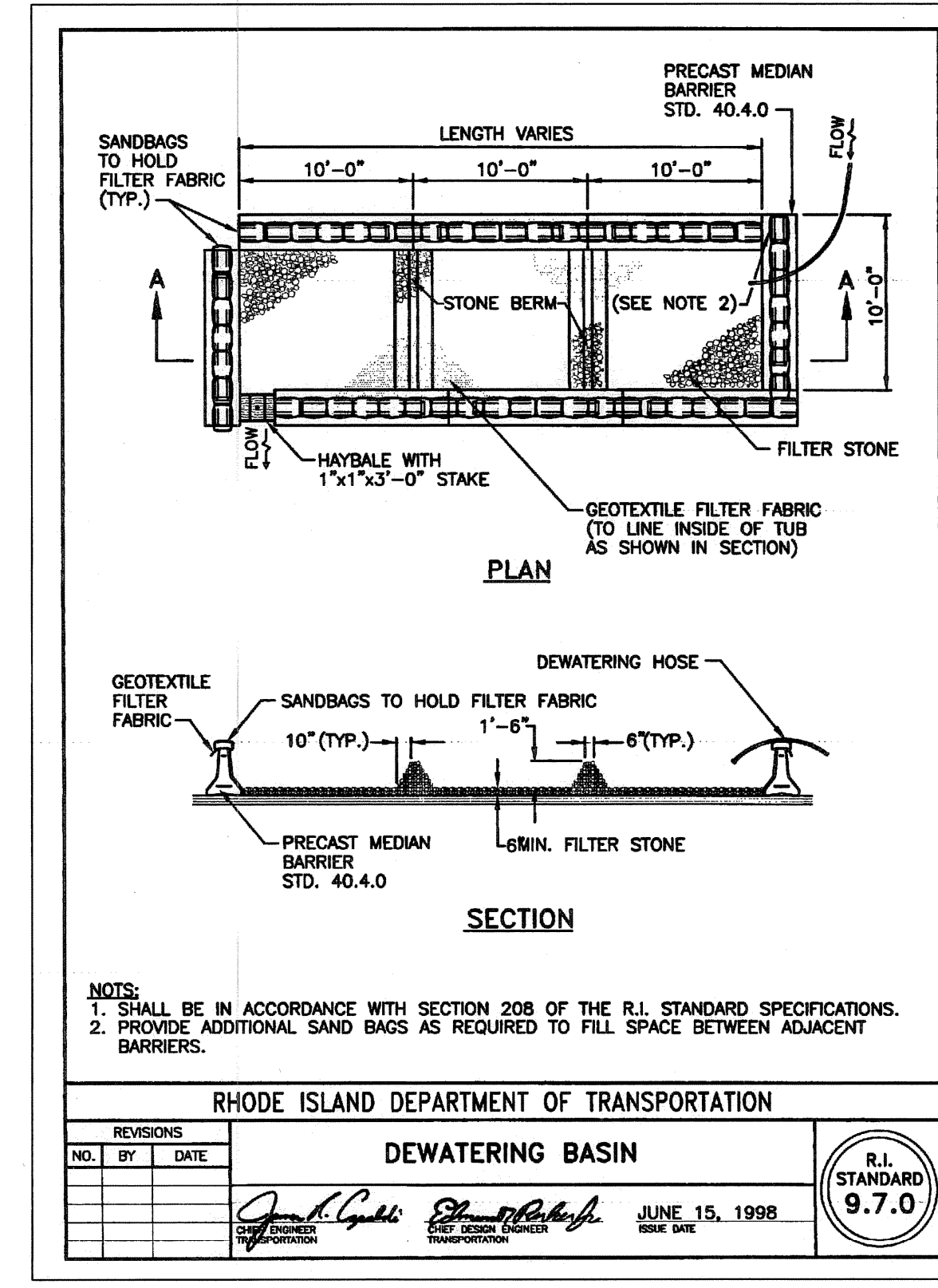
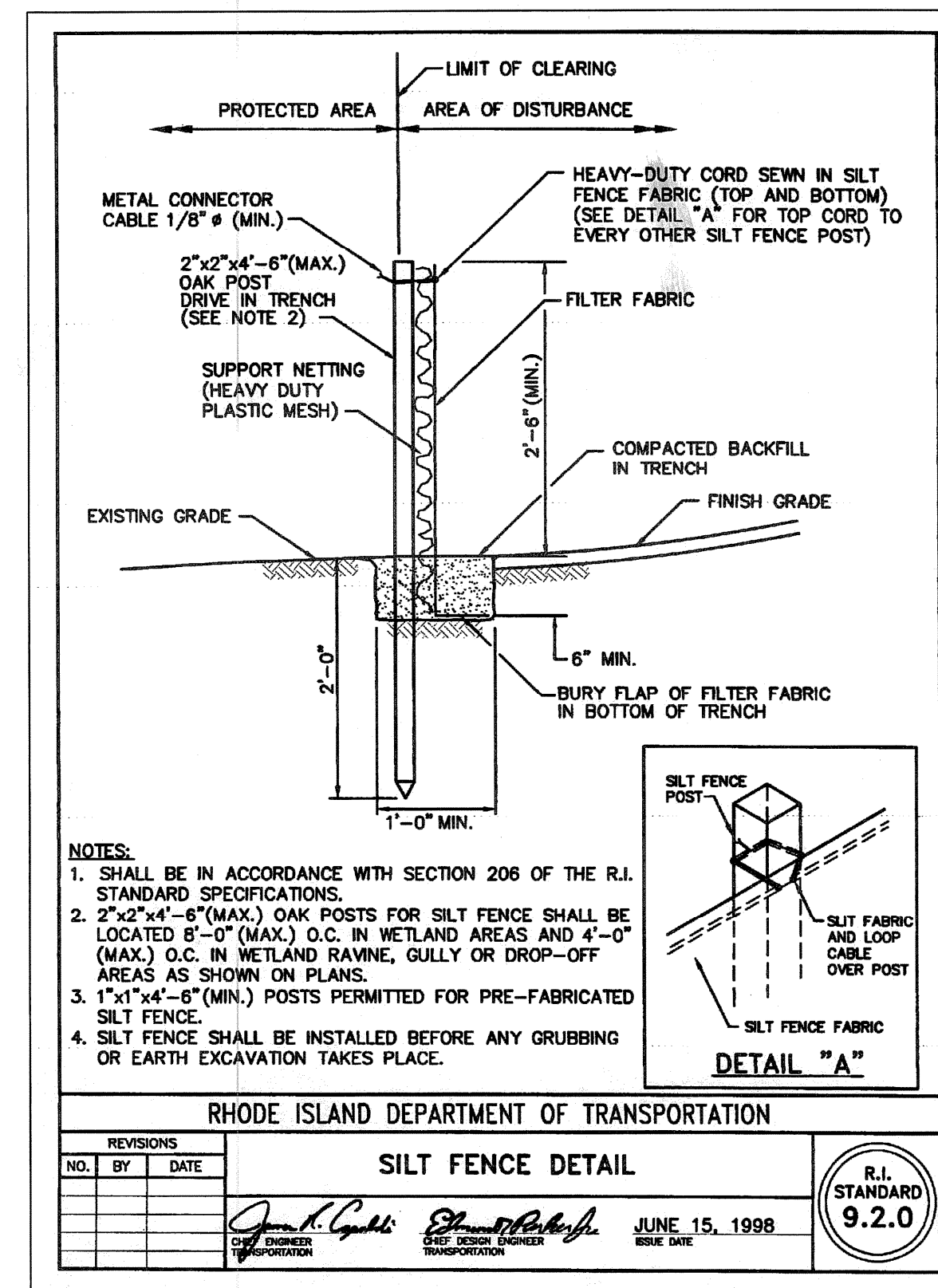
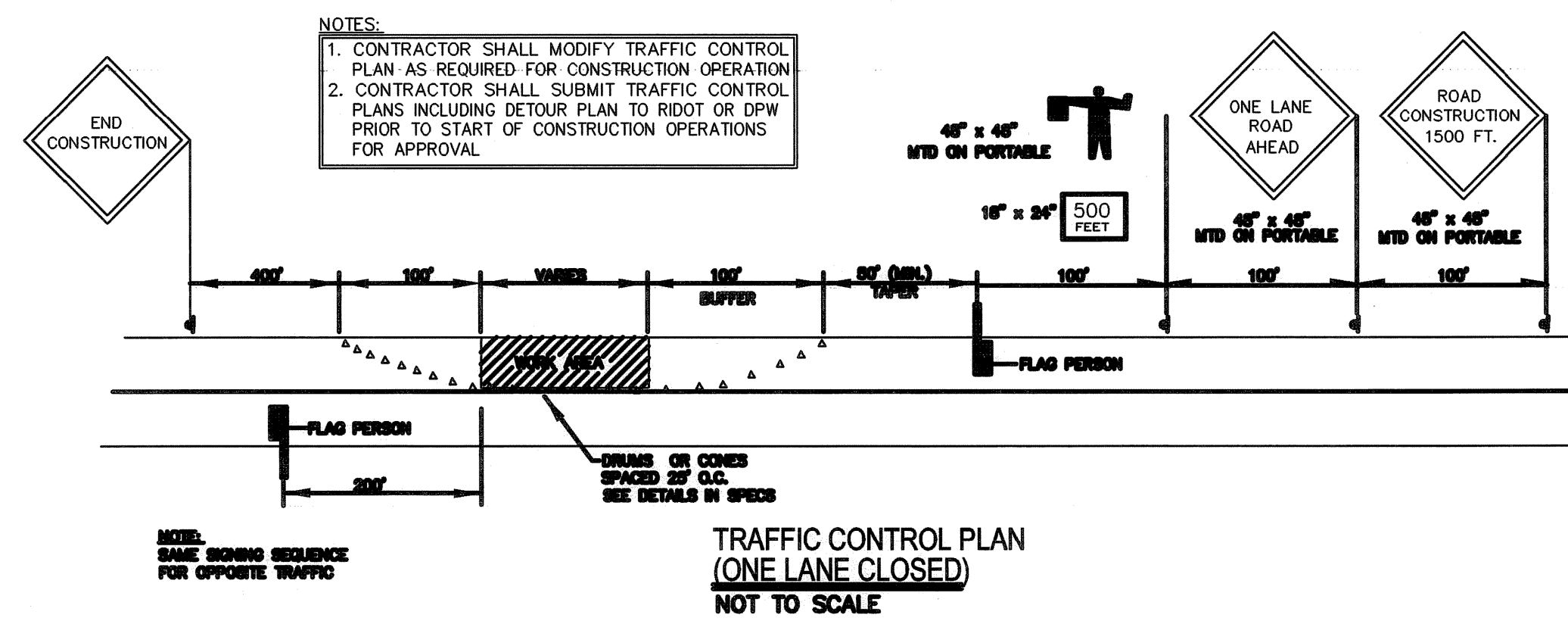
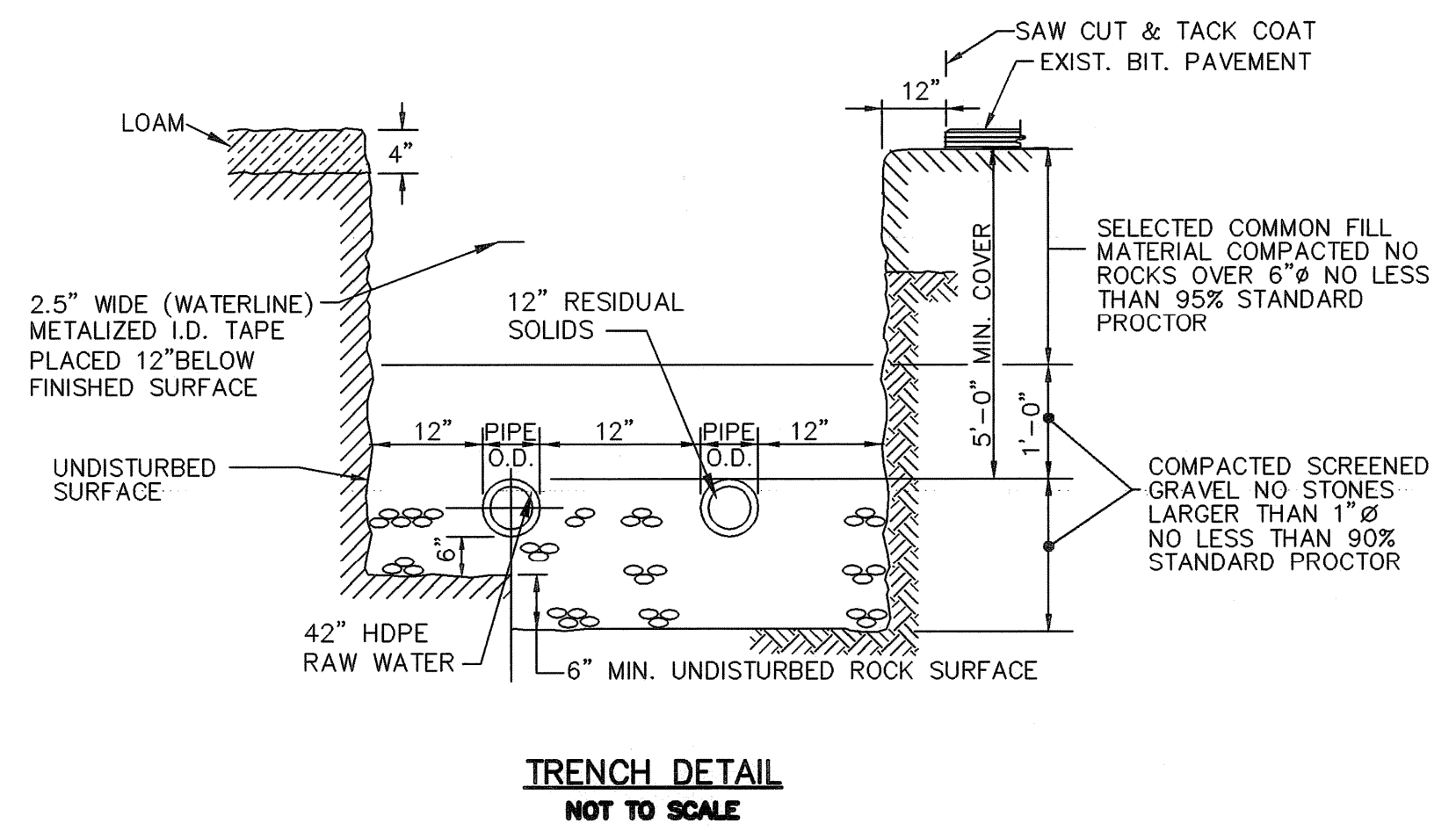
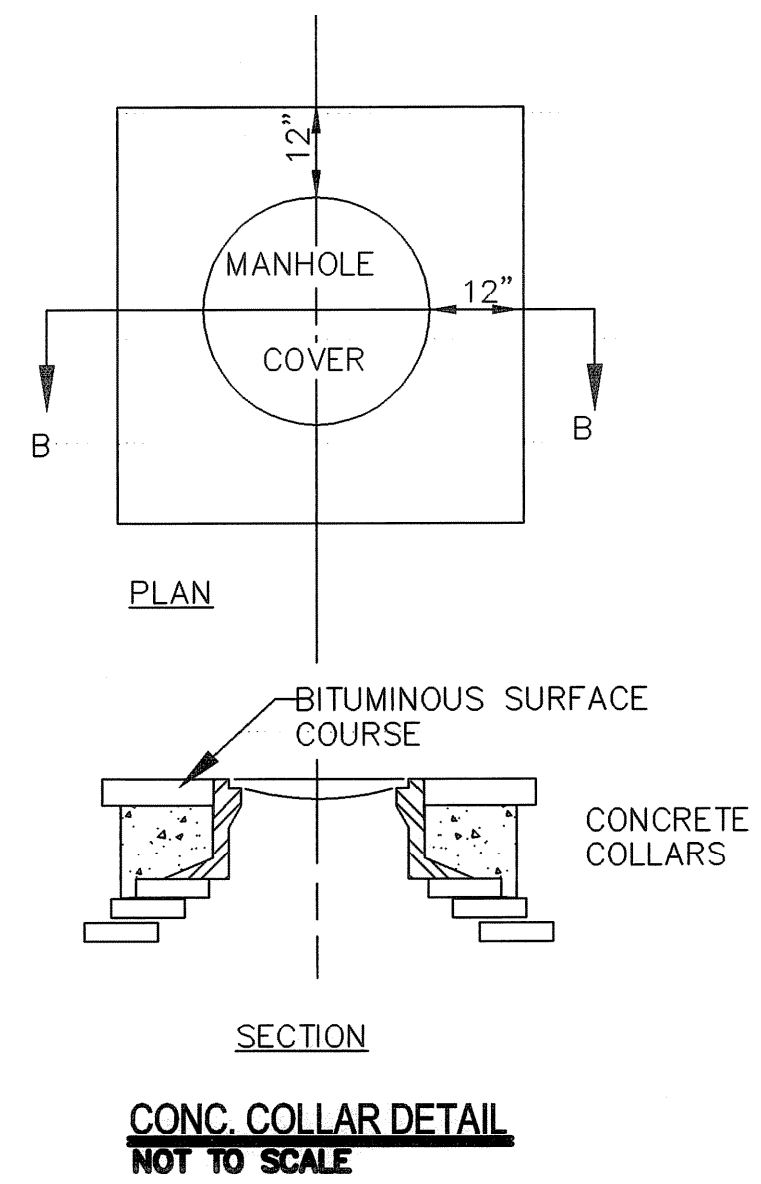
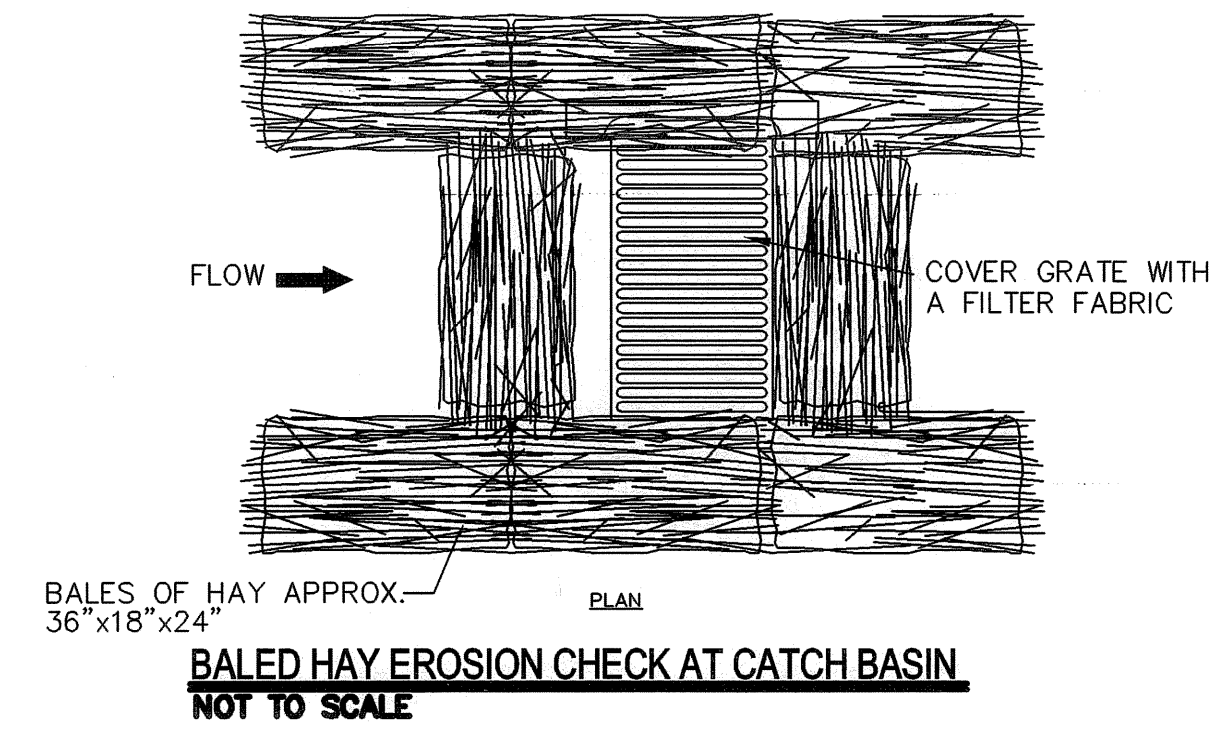
**EARTH TECH**  
AS-BUILT FILE  
JULY 2008

RI COA 5153  
**EARTH TECH**  
198 Baker Avenue Concord MA 01742 (978) 371-4000

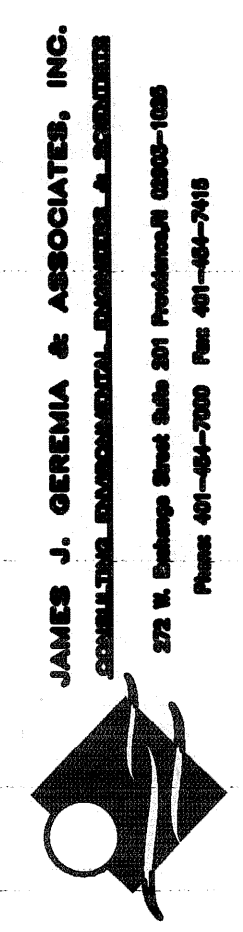


**GENERAL NOTES:**

1. PLANIMETRIC AND TOPOGRAPHIC MAPPING BY FOSTER SURVEY COMPANY
2. WETLAND FLAGGING BY APPLIED BIO-SYSTEMS.
3. LOCATION AND DEPTHS OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION BY FOSTER SURVEY COMPANY. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXIST. UTILITIES AND NOTIFY THE APPROPRIATED UTILITY AUTHORITIES INCLUDING "DIG SAFE" PRIOR TO STARTING WORK ANY DAMAGE TO UTILITIES CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THE COST OF REPAIRS SHALL BE BORNE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
4. THE CONTRACTOR SHALL CONFINE HIS OPERATIONS AND ACTIVITIES FOR CONSTRUCTION PURPOSES TO WITHIN THE STREET LINES AND EASEMENTS
5. ALL AREAS DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
6. WATER, GAS, SEWER AND OTHER UTILITIES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
7. ALL GRASSED AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE LOOMED AND SEEDDED.
8. ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1983 M.S.L. = EL. 0.00 (MEAN SEA LEVEL). BENCH MARK ELEVATIONS ARE AS SHOWN ON PLANS.
9. SAW CUT PAVEMENT FULL-DEPTH PRIOR TO THE INSTALLATION OF PIPE FITTING.
10. AT THE END OF EACH WORK DAY THE TRENCH SHALL BE TOTALLY BACKFILLED AND TEMPORARY PAVEMENT INSTALLED.
11. DEWATERING SYSTEMS EFFLUENT FOR TRENCH EXCAVATIONS SHALL BE DISCHARGED INTO DEWATERING BASINS. THE EFFLUENT FROM THE DEWATERING BASINS SHALL HAVE NO VISUAL SEDIMENTATION PRESENT AND SHALL NOT CAUSE SILTATION OF EXISTING DRAINAGE SYSTEM AND REGULATED WETLANDS. THE DEWATERING BASINS SHALL HAVE A VOLUME NOT LESS THAN THE TOTAL VOLUME OF WATER THAT WILL BE PUMPED DURING A FOUR - HOUR PERIOD.
12. THE DEWATERING BASINS SHALL BE DESIGNED IN ACCORDANCE WITH THE R.I. SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK.
13. THE CONTRACTOR SHALL SUBMIT CALCULATIONS FOR SIZING OF DEWATERING BASINS TO THE ENGINEER FOR REVIEW.
14. THE CONTRACTOR WILL BE RESPONSIBLE FOR SEDIMENTATION THAT ENTERS THE DRAINAGE SYSTEM AND REGULATED WETLANDS. THE WETLANDS SHALL BE RESTORED IN ACCORDANCE WITH RIDOT REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR WILL BE RESPONSIBLE FOR FINES THAT MAY BE IMPOSED BY THE RIDOT, AND THE OWNER WILL NOT REIMBURSE THE CONTRACTOR.
15. PRIOR TO COMMENCING CONSTRUCTION OPERATIONS, SILT FENCING SHALL BE PLACED SO AS TO PREVENT SEDIMENT FROM ENTERING ADJOINING REGULATED WETLANDS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE AND SHALL INSPECT/REPLACE DAILY AND AFTER EACH RAINFALL. REPAIRS SHALL BE MADE IMMEDIATELY.
17. ALL SEDIMENT MUST BE REMOVED WHEN THE HEIGHT OF THE SEDIMENT REACHES THE HEIGHT OF THE SEDIMENT BARRIER (SILT FENCE).
18. THE "R.I. EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, LATEST EDITION, MUST BE UTILIZED BY THE CONTRACTOR AS A GUIDE.
19. IF DRAIN PIPES ARE REMOVED THEY SHALL BE RESET OR REPLACED IMMEDIATELY IN ACCORDANCE WITH DEPARTMENT OF PUBLIC WORKS AND OR RIDOT.
20. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE CERTIFICATION BY A PROFESSIONAL ENGINEER THAT THE SOIL COMPACTION OF TRENCHES MEETS SPECIFIED STANDARDS.
21. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF AND MODIFICATIONS TO THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS ROAD AND BRIDGE CONSTRUCTION WITHIN RIDOT ROADWAYS
22. AT THE END OF EACH DAY THE CONTRACTOR SHALL SWEEP THE ROADWAY USING MECHANICAL SWEEPERS. DUST CONTROL SHALL BE EMPLOYED BY SPRAYING WATER FROM CONTRACTORS PORTABLE WATER TRUCK.
23. THE CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY TO SECURE AND PROVIDE SHIELDS AS REQUIRED DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
24. IF GAS FACILITIES BECOME EXPOSED THE CONTRACTOR SHALL NOTIFY NEW ENGLAND GAS CO. (NEGC) BEFORE BACKFILLING. BACKFILL AND COMPACTION AT GAS FACILITY CROSSINGS SHALL CONFORM TO "GUIDELINES FOR BACKFILL AND COMPACTION AROUND GAS PIPES- PERMANENT BACKFILL AND COMPACTION."
25. WHERE THE PROPOSED WATER MAIN CROSSES EXISTING GAS FACILITIES "GUIDELINES FOR SUPPORT OF GAS PIPES-TEMPORARY SUPPORT OF GAS PIPES" SHALL BE ADHERED TO.
26. TREE PROTECTION ALONG THE PIPELINE ROUTE SHALL BE IN ACCORDANCE WITH RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION L11 TREE AND SHRUB PROTECTION DEVICE.
27. THE SLIPLINING OF THE EXISTING 54" REINFORCED CONCRETE FINISH WATER PIPELINE CAN NOT COMMENCE UNTIL THE NEW 36" RAW WATER PIPELINE, THE RAW WATER PUMPING STATION AND THE NEW WATER TREATMENT PLANT ARE IN FULL OPERATION & ALSO WHEN THE EXISTING WATER TREATMENT PLANT HAS BEEN PERMANENTLY TAKEN OFFLINE. THERE MAY BE SEVERAL MONTHS OF DOWNTIME FOR THE CONTRACTOR PRIOR TO THE SLIP LINING THE EXISTING 54" FINISH WATER PIPELINE.
28. DURING CONSTRUCTION OF THE 12" AND 36" PIPELINE THE CONTRACTOR SHALL NOT CAUSE ANY DISRUPTION OF SERVICE TO THE EXISTING 54" PIPELINE. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING 54" FINISH WATER PIPELINE.
29. THE EXISTING NEW 36" RAW WATER PIPE LINE SHALL REMAIN IN SERVICE DURING THE SLIP LINING OF THE 54" CONCRETE MAIN

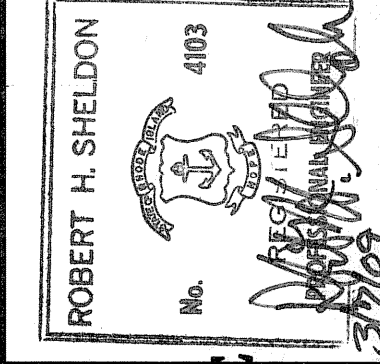


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6-6-05



RI COA 5153  
**EARTHTECH**  
198 Butler Avenue Concord MA 01742 (978) 371-4000

NO.	BY	DATE	REVISIONS
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0	OC	06.03.05	ISSUED FOR CONSTRUCTION



PAWTUCKET, RHODE ISLAND  
**PAWTUCKET REGIONAL WATER TREATMENT FACILITY**  
**PKG 16 RAW WATER & BACKWASH PIPE**  
MISCELLANEOUS DETAILS

DESIGNED BY	DWG SCALE
RH	1"=40'
DRAWN BY	CONTRACT NO
CJB	PKG 16
CHECKED BY	DATE
JUG	NOVEMBER 2004

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