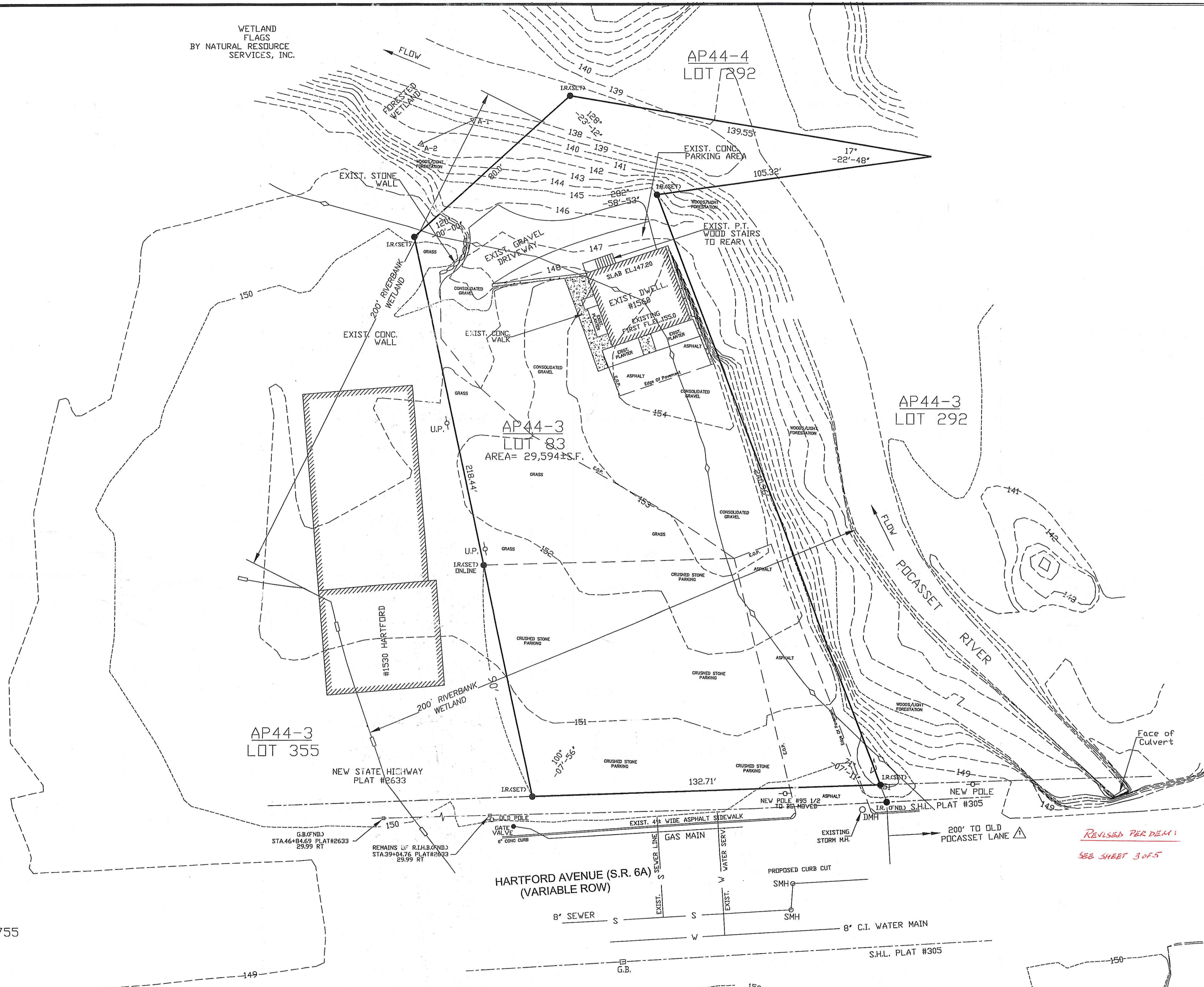
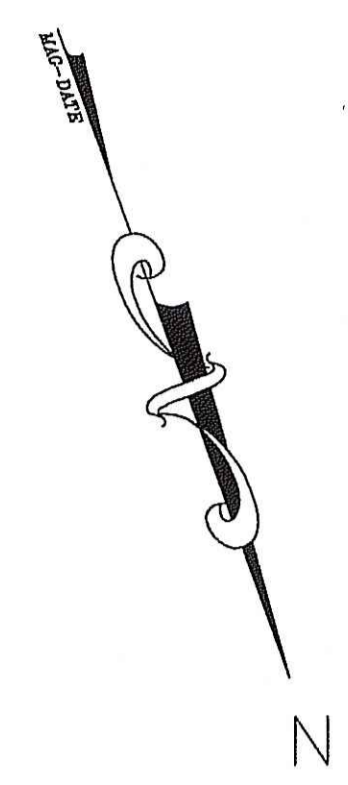
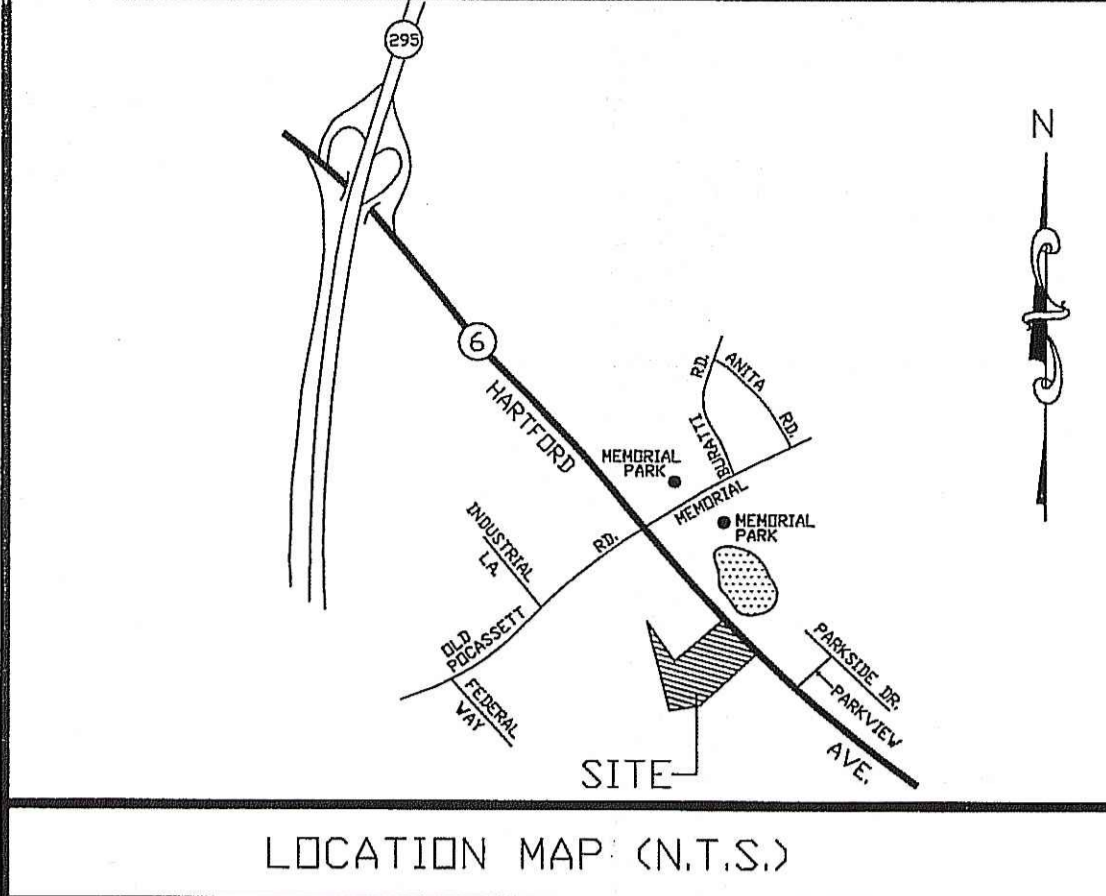


WETLAND  
FLAGS  
BY NATURAL RESOURCE  
SERVICES, INC.



**NOTES:**  
1. THIS SITE LIES WITHIN FLOODWAY AREAS IN ZONE AE AS SHOWN ON NATIONAL FLOOD INSURANCE PROGRAM, FIRM MAP, COMMUNITY PANEL NUMBER 440018 0020 C, MAP REVISED 11-17-93, PANEL 20 OF 20. 100 YR. FLOOD ELEV.146.00 M.S.L.  
2. THE SOIL SURVEY OF RHODE ISLAND PAGE 37, ILLUSTRATED THIS SITE AS A UD- UDDORTHTENTS-URBAN LAND COMPLEX. MODERATELY WELL DRAINED TO EXCESSIVELY DRAINED SOILS THAT HAVE BEEN DISTURBED BY CUTTING OR FILLING. PLACEMENT OF BUILDINGS AND OR PAVEMENT.

ESTIMATED WATER TABLE AT ELEV.139.00 M.S.L.

**ZONE B-2**  
(MIN. SETBACKS)  
FRONT 40FT.  
SIDE 40FT.  
REAR 40FT.

**REFERENCES:**  
1. LOT 83 BOOK 856, PAGE 293  
2. LOT 355 BOOK 118, PAGE 752-755

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

**UTILITY DISCLAIMER**  
LOCATION OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES AND STRUCTURES INDICATED ARE APPROXIMATE ONLY, AND THOSE INDICATED ARE NOT NECESSARILY ALL WHICH MAY EXIST ON THE SITE. CONTRACTOR SHALL DETERMINE ACTUAL LOCATIONS OF ALL UTILITIES AND STRUCTURES ON THE PROJECT SITE, WHETHER THEY ARE INDICATED OR NOT. CONTRACTOR SHALL ASSUME THE RESPONSIBILITY FOR ANY DAMAGE TO THE UTILITY LINES, WHETHER SHOWN ON THE PLANS OR NOT, DURING WORK ON THE PROJECT.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED APR 20 2009 FILE # 89-2015  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

*W. Joseph Carney*

NO.	DATE	REVISION/DESCRIPTION	BY
3-6-09		REVISED TO ADDRESS RIDEM REVIEW COMMENTS OF 2/04/09	FCI

THIS SURVEY AND PLAN CONFORM TO THE STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS SURVEY - CLASS IV



BY *Nicholas Veltri* 9/10/09  
REGISTERED PROFESSIONAL LAND SURVEYOR DATE



**EXISTING CONDITIONS PLAN**

- LEGEND:**
- DENOTES IRON ROD
  - DENOTES BOUND
  - 150--- DENOTES EXISTING CONTOUR
  - ◊ DENOTES 50FT PERIMETER WETLAND
  - ◻ DENOTES 200FT RIVERBANK SETBACK

<b>N. VELTRI SURVEY, INC.</b> SURVEYING-LAND PLANNING 266 PUTNAM PIKE SMITHFIELD R.I. 02917 (401)231-3200		NO. DATE REVISION 05/08 ORIG. ISSUE SHEET 1 OF 5 SHEETS CHECKED BY: N.V.
<b>EXISTING TOPOGRAPHIC SITE PLAN</b> AP 44/3 JOHNSTON - PREPARED FOR- MACERA/TOWER REALTY FAMILY LIMITED PARTNERSHIP SCALE: 1" = 20' DRAWN: JPARRILLO		LOT 83 R.I.

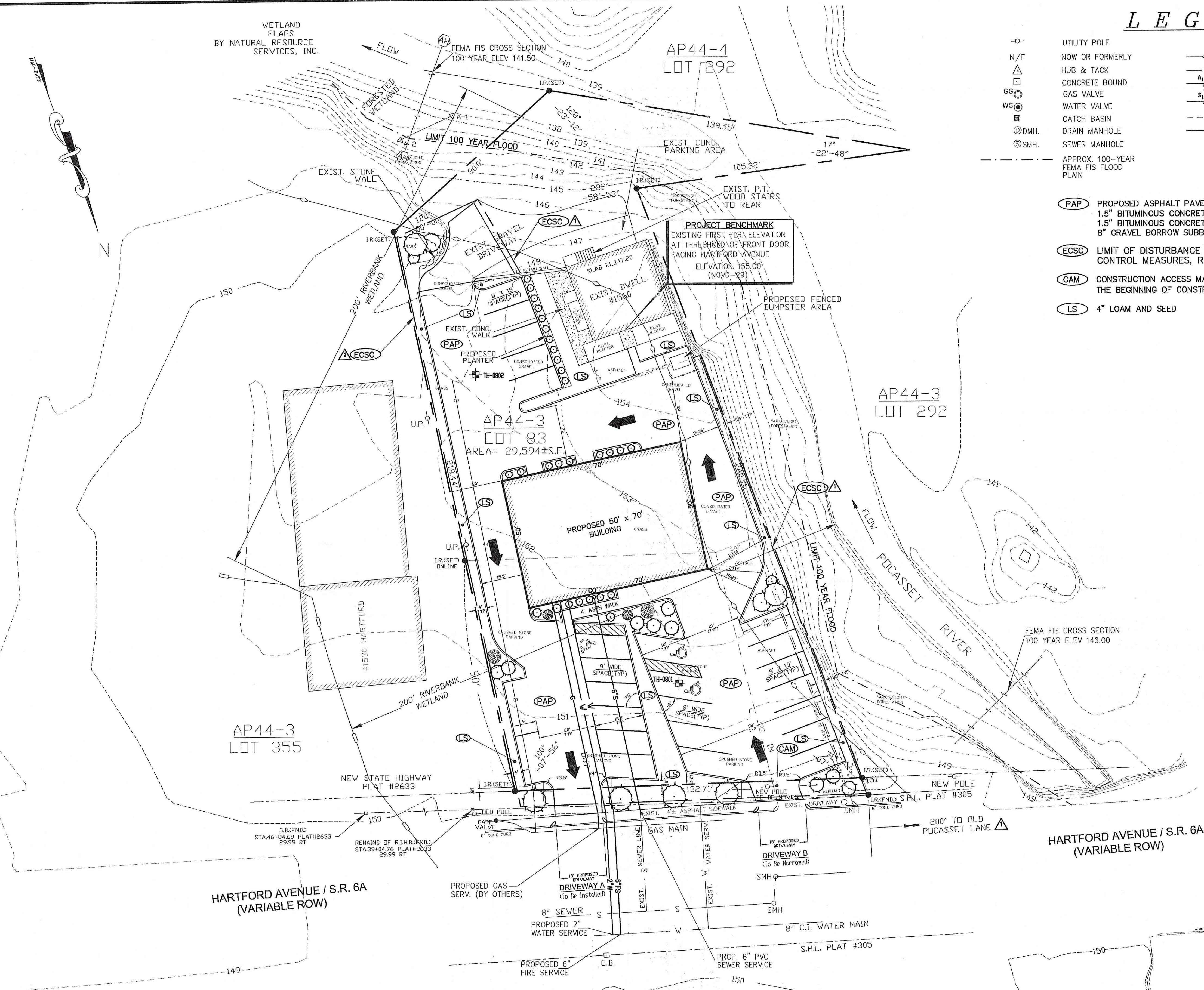
WETLAND  
FLAGS  
BY NATURAL RESOURCE  
SERVICES, INC.

# LEGEND

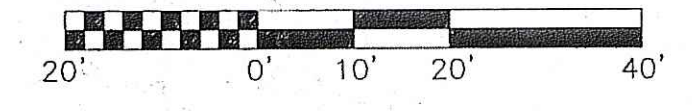
- UTILITY POLE
- N/F NOW OR FORMERLY
- △ CONCRETE BOUND
- GAS VALVE
- WATER VALVE
- CATCH BASIN
- DMH. DRAIN MANHOLE
- SMH. SEWER MANHOLE
- APPROX. 100-YEAR FEMA FIS FLOOD PLAIN
- CO CLEANOUT
- ◇ 50 FT PERIMETER WETLAND
- ◇ 200 FT RIVERBANK WETLAND
- △ SWAMP WETLAND FLAGS
- △ STREAM WETLAND FLAGS
- 190 EXISTING CONTOUR
- 150 DESIGN CONTOUR
- TH-0001 SOIL EVALUATION TEST HOLE NO.1
- RUNOFF FLOW PATTERN

## GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE TOWN OF JOHNSTON STANDARDS, R.I.D.E.M. STANDARDS AND WITH THE LATEST EDITION OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION, RIDOT, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION, INCLUDING ALL REVISIONS AND STANDARD DETAILS, JUNE 15, 1998, FOR EXCAVATION, PLACEMENT OF FILL, BITUMINOUS PAVEMENT, CURBING AND SIDEWALKS.
2. REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK" (1989), PREPARED BY THE RHODE ISLAND DEPT. OF ENVIRONMENTAL MANAGEMENT, R.I. STATE CONSERVATION COMMISSION AND THE U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, AS A PRACTICAL GUIDE.
3. CONTRACTOR SHALL OBTAIN ALL REQUIRED APPROVALS AND PERMITS, AS SET FORTH IN THE TOWN OF JOHNSTON ORDINANCES, PRIOR TO THE BEGINNING OF ANY CONSTRUCTION.
4. ALL STRUCTURES SHALL BE DESIGNED FOR HS-20 LOADING.
5. WATER PIPE SHALL TYPICALLY BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM SEWER PIPE, AND AT MINIMUM DEPTH OF COVER EQUAL TO 5'. WHERE A NEW WATER MAIN IS LESS THAN 10 FEET HORIZONTALLY OR 18 INCHES VERTICALLY ABOVE A SEWER OR WHERE A WATER MAIN PASSES BENEATH A SEWER OR STORM DRAIN, ENCASE THE SEWER OR THE DRAIN LINE IN 6" OF CONCRETE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING WATER MAIN. THE USE OF DUCTILE IRON TIGHT JOINT SEWER PIPE IN LIEU OF CONCRETE ENCASUREMENT WILL BE CONSIDERED UPON CONTRACTORS SUBMITTAL OF SPECIFICATIONS TO THE ENGINEER FOR APPROVAL.
6. ALL MODIFICATIONS OR CHANGES TO THE WORK, AS SHOWN ON THESE DRAWINGS, MUST HAVE THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
7. FCI ENGINEERING GROUP HAS NOT BEEN RETAINED TO HAVE ANY CONTROL OVER OR BE IN CHARGE OF ACTS OF OMISSION OF ANY CONTRACTOR, SUBCONTRACTOR, OTHER AGENT OR EMPLOYEE OR ANY PERSON PERFORMING ALL OR PORTIONS OF THE WORK. FCI ENGINEERING EXPRESSLY DISCLAIMS ANY RESPONSIBILITY FOR MONITORING, OBSERVING, INSPECTING OR SUPERVISING THE CONSTRUCTION SERVICE, MEANS, METHODS, SEQUENCES OR TECHNIQUES USED TO CONSTRUCT THE PROJECT DEFINED BY THESE PLANS.
8. THE LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A SURVEYOR, PLS. REGISTERED IN THE STATE OF RHODE ISLAND, TO SET AND VERIFY ALL LINES AND GRADES. PRIOR TO CONSTRUCTION, ANY ITEM FOUND WHICH DOES NOT MATCH THE PLANS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR REVIEW AND RESOLUTION.
9. ALL WORK WITHIN THE ROADWAY SHALL BE DURING OFF-PEAK HOURS TO MINIMIZE IMPACTS TO PEDESTRIAN AND VEHICULAR TRAFFIC.
10. SIDEWALK CONSTRUCTION SHALL INCLUDE ADJUSTING ALL MANHOLE COVERS, CATCH BASINS, HAND HOLES, WATER VALVES, GAS VALVES, ETC. COMPLETE IN PLACE.
11. PROJECT SITE IS LOCATED WITHIN "ZONE X" AREAS OF MINIMAL FLOODING OUTSIDE THE 500-YEAR FLOODPLAIN, AS SHOWN ON F.E.M.A. FLOOD INSURANCE RATE MAP FOR THE TOWN OF JOHNSTON, RHODE ISLAND, COMMUNITY PANEL NO. 440018V000, REVISED 11-17-1993.
12. THE 100-YEAR FLOOD LINE INTERPOLATED FROM F.E.M.A. FLOOD INSURANCE STUDY (FIS) 440018V000, REVISED 11-17-1993.
13. THIS SITE DOES NOT CONTAIN ANY HISTORIC CEMETERIES WITHIN OR ADJACENT TO THE SITE.
14. THIS SITE DOES NOT CONTAIN ANY AGRICULTURAL USE AREAS.
15. EXTREME CARE SHALL BE EXERCISED TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING THE WETLANDS.
16. ALL EROSION CONTROL TO REMAIN IN PLACE AND OPERATIONAL UNTIL SITE IS STABILIZED.
17. ALL DISTURBED AREAS TO BE FINE GRADED, LOAMED AND SEEDDED.
18. PLANTINGS TO BE DONE PER PLAN.
19. THERE IS APPROXIMATELY 2,860 SQUARE FEET OF DISTURBANCE WITHIN R.I.D.E.M. 50' PERIMETER WETLAND JURISDICTION.
20. SEE ARCHITECT PLANS FOR ACTUAL DIMENSIONS OF THE BUILDINGS, EXACT LOCATIONS AND DIMENSIONS OF ENTRANCES, DOORS, DECKS, WALKWAYS, FOUNDATION WALLS, LANDSCAPING, UTILITY ENTRY POINTS AND OTHER STRUCTURE DETAILS WITHIN 5' OF THE BUILDING AND FOR ALL PROPOSED FENCES.
21. THE SURVEY INFORMATION PROVIDED ON THIS PLAN HAS BEEN PROVIDED BY N. VELTRI SURVEY, INC. OF 266 PUTNAM PIKE, SMITHFIELD, RI.02917, (401)231-3200.
22. THE CONTRACTOR SHALL OBTAIN A RIDOT UTILITY PERMIT PRIOR TO ANY UTILITY WORK WITHIN THE STATE RDW.
23. SEE SHEET C-2 FOR GRADING AND DRAINAGE PLAN.



PROPOSED SITE PLAN



Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED APR 20 2009 FILE # 09-0015  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

PREPARED FOR:  
MACERA/TOWER REALTY LLP  
P.O. BOX 810052  
BOCA RATON, FL 33481  
(561)504-6876

Project:	PROPOSED SITE PLAN 1560 HARTFORD AVENUE AP 44/3, LOT 83 JOHNSTON, RHODE ISLAND	FCI Project No. E0809	
Scale:	AS SHOWN	Design:	F.I.
Drawn:	F.I.	Checked:	F.I.
Date:	9-17-2008	Drawing Number:	DEM-1
<b>FCI ENGINEERING GROUP, LLC</b> Civil engineering Consultants • Land development      Transportation • • Environmental          Expert Witness • 225 East Avenue, Pawtucket, RI.02860 Phone: 401-726-8300      Fax: 401-831-0038			

NO.	DATE	REVISION/DESCRIPTION	BY
3-6-09		REVISED TO ADDRESS RIDEM REVIEW COMMENTS OF 2/04/09	FCI

Stamp:  
FERDINAND C. IENACHO  
No. 6136  
REGISTERED PROFESSIONAL ENGINEER



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PREPARED FOR:  
MACERA/TOWER REALTY LLP  
P.O. BOX 810052  
BOCA RATON, FL 33481  
(561)504-6876

WETLAND  
FLAGS  
BY NATURAL RESOURCE  
SERVICES, INC.

# LEGEND

- UTILITY POLE
- N/F NOW OR FORMERLY
- △ HUB & TACK
- CONCRETE BOUND
- GAS VALVE
- WATER VALVE
- CATCH BASIN
- DMH. DRAIN MANHOLE
- SMH. SEWER MANHOLE
- APPROX. 100-YEAR FLOOD PLAIN
- CO CLEANOUT
- 50' FT PERIMETER WETLAND
- 200 FT RIVERBANK WETLAND
- △ SWAMP WETLAND FLAGS
- △ STREAM WETLAND FLAGS
- 190 EXISTING CONTOUR
- 150 DESIGN CONTOUR
- SE-01 SOIL EVALUATION TEST HOLE NO.1
- FLW RUNOFF FLOW PATTERN

## GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE TOWN OF JOHNSTON STANDARDS, R.I.D.E.M. STANDARDS AND WITH THE LATEST EDITION OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION, RIDOT, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION, INCLUDING ALL REVISIONS AND STANDARD DETAILS, JUNE 15, 1998, FOR EXCAVATION, PLACEMENT OF FILL, BITUMINOUS PAVEMENT, CURBING AND SIDEWALKS.
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- WATER PIPE SHALL TYPICALLY BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM SEWER PIPE, AND AT MINIMUM DEPTH OF COVER EQUAL TO 5'. WHERE A NEW WATER MAIN IS LESS THAN 10 FEET HORIZONTALLY OR 18 INCHES VERTICALLY ABOVE A SEWER OR WHERE A WATER MAIN PASSES BENEATH A SEWER OR STORM DRAIN, ENCASE THE SEWER OR THE DRAIN LINE IN 6" OF CONCRETE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING WATER MAIN. THE USE OF DUCTILE IRON TIGHT JOINT SEWER PIPE IN LIEU OF CONCRETE ENCASUREMENT WILL BE CONSIDERED UPON CONTRACTORS SUBMITTAL OF SPECIFICATIONS TO THE ENGINEER FOR APPROVAL.
- ALL MODIFICATIONS OR CHANGES TO THE WORK, AS SHOWN ON THESE DRAWINGS, MUST HAVE THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
- FCI ENGINEERING GROUP HAS NOT BEEN RETAINED TO HAVE ANY CONTROL OVER OR BE IN CHARGE OF ACTS OF OMISSION OF ANY CONTRACTOR, SUBCONTRACTOR, OTHER AGENT OR EMPLOYEE OR ANY PERSON PERFORMING ALL OR PORTIONS OF THE WORK. FCI ENGINEERING EXPRESSLY DISCLAIMS ANY RESPONSIBILITY FOR MONITORING, OBSERVING, INSPECTING OR SUPERVISING THE CONSTRUCTION SERVICE, MEANS, METHODS, SEQUENCES OR TECHNIQUES USED TO CONSTRUCT THE PROJECT DEFINED BY THESE PLANS.
- ALL WORK WITHIN THE ROADWAY SHALL BE DURING OFF-PEAK HOURS TO MINIMIZE IMPACTS TO PEDESTRIAN AND VEHICULAR TRAFFIC.
- PROJECT SITE IS LOCATED WITHIN "ZONE X", AREAS OF MINIMAL FLOODING OUTSIDE THE 500-YEAR FLOODPLAIN, AS SHOWN ON F.E.M.A. FLOOD INSURANCE RATE MAP FOR THE TOWN OF JOHNSTON, RHODE ISLAND, COMMUNITY PANEL NO. 440018-0020C, REVISED 11-17-1993.
- THERE IS APPROXIMATELY 2,860 SQUARE FEET OF DISTURBANCE WITHIN R.I.D.E.M. 50' PERIMETER WETLAND JURISDICTION.
- THIS SITE DOES NOT CONTAIN ANY HISTORIC CEMETERIES WITHIN OR ADJACENT TO THE SITE.
- THIS SITE DOES NOT CONTAIN ANY AGRICULTURAL USE AREAS.
- EXTREME CARE SHALL BE EXERCISED TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING THE WETLANDS.
- ALL EROSION CONTROL TO REMAIN IN PLACE AND OPERATIONAL UNTIL SITE IS STABILIZED.
- ALL DISTURBED AREAS TO BE FINE GRADED, LOAMED AND SEEDED.
- PLANTINGS TO BE DONE PER PLAN.
- THE SURVEY INFORMATION PROVIDED ON THIS PLAN HAS BEEN PROVIDED BY N. VELTRI SURVEY, INC. OF 266 PUTNAM PIKE, SMITHFIELD, R.I.02917, (401)231-3200.
- PER SOIL SURVEY OF R.I. THIS SITE IS DELINEATED AS MERRIMAC SERIES GRAVELLY SAND, SINGLE GRAIN, LOOSE.
- ALL STRUCTURES SHALL BE DESIGNED FOR HS-20 LOADING.
- FRAMES AND GRATES/COVERS FOR DRYWELL SHALL BE SHALLOW/LOW PROFILE 3".
- CONTRACTOR TO VERIFY THAT ALL STRUCTURES ARE COMPATIBLE WITH FRAME AND GRATE.
- SEE SHEET C-3 FOR DRAINAGE DETAILS.
- ROOF LEADERS SHALL BE CONNECTED TO THE SUBSURFACE DRAINAGE SYSTEM AS SHOWN, WITH SDR-35PVC PIPE, S=0.005 (MIN) AND HAVE A MINIMUM OF 3" COVER.

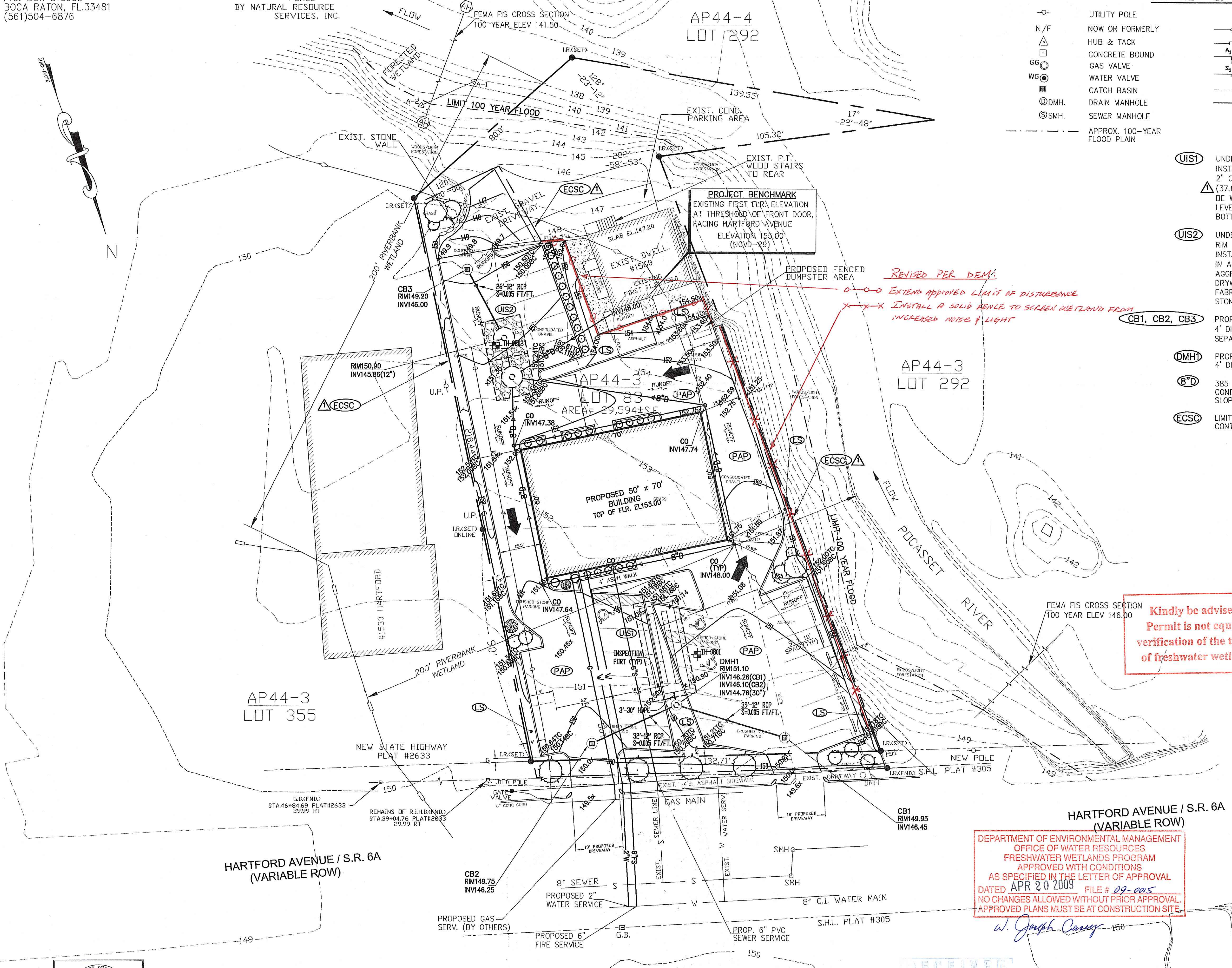
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## DRAINAGE SYSTEM MAINTENANCE SCHEDULE

- UPON COMPLETION, THE SITE OWNER SHALL ADHERE TO THE FOLLOWING MAINTENANCE RECOMMENDATIONS:
- CATCH BASINS, DRAIN LINES AND DRYWELL SYSTEMS SHALL BE INSPECTED ANNUALLY BY QUALIFIED PERSONNEL TO ENSURE PROPER OPERATION. THE INSPECTION SHALL INCLUDE, AT A MINIMUM, DAMAGE TO GRATES AND COVERS, EVIDENCE OF STANDING WATER, DEBRIS ACCUMULATION AND STRUCTURAL ALIGNMENT/INTEGRITY.
  - IN ACCORDANCE WITH THE REQUIREMENTS OF THE RIDEM UNDERGROUND INJECTION CONTROL PROGRAM, THE DRYWELL UNITS ARE LOCATED AT LEAST 400 FEET FROM ANY PUBLIC WELL, 100 FEET FROM ANY PRIVATE WELL, 50 FEET FROM NON-CRITICAL SURFACE WATERS, 25 FEET FROM OTHER SUBSURFACE DISPOSAL SYSTEMS (SDS, ETC), 10 FEET FROM ALL BUILDING SLABS, FOUNDATIONS AND PROPERTY LINES, 200 FEET FROM ALL SURFACE WATER SUPPLIES/TRIBUTARIES, 150 FEET FROM ALL COASTAL PONDS, 3 FEET ABOVE SEASONAL HIGH GROUND WATER AND 5 FEET ABOVE LEDGE.
  - PROCEDURES FOR SOIL PREPARATION AND SEEDING SHALL BE DONE IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, CHAPTER 4.
  - THE ACCUMULATED SEDIMENTS IN THE CATCH BASINS SHALL BE MANUALLY REMOVED AT LEAST ONCE PER YEAR OR WHEN ACCUMULATING SEDIMENTS CAUSE A CHANGE IN THE GRADE ELEVATION. SUCH SEDIMENT IS TO BE TESTED TO DETERMINE POLLUTANT CONTENT. THE SEDIMENT IS TO BE PROPERLY DISPOSED IN UPLAND AREAS BASED UPON THE TEST RESULTS AND LOCAL, STATE AND FEDERAL REGULATIONS.
  - LONG TERM PERFORMANCE OF THE DRAINAGE SYSTEM SHALL BE MONITORED. THE SYSTEM SHALL BE INSPECTED OFTEN DURING THE FIRST FEW MONTHS AND ANNUALLY THEREAFTER. IF THE SUBSURFACE INFILTRATION SYSTEM FAILS TO DRAIN WITHIN 3 DAYS AFTER A STORM EVENT, THEN FAILURE OF THE SYSTEM HAS OCCURRED AND SHOULD BE ADDRESSED THROUGH REPAIR AND/OR REPLACEMENT.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED APR 20 2009 FILE # 29-005  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

*W. Joseph Carney*



PROPOSED SITE PLAN  
20' 0' 10' 20' 40'



NO.	DATE	REVISION/DESCRIPTION	BY
3-6-09		REVISED TO ADDRESS RIDEM REVIEW COMMENTS OF 2/04/09	FCI

Project: PROPOSED DRAINAGE/GRADING PLAN  
1560 HARTFORD AVENUE  
AP 44/3, LOT 83  
JOHNSTON, RHODE ISLAND

FCI Project No. E0809

Scale: AS SHOWN  
Design: F.I.  
Drawn: F.I.  
Checked:  
Date: 9-17-2008

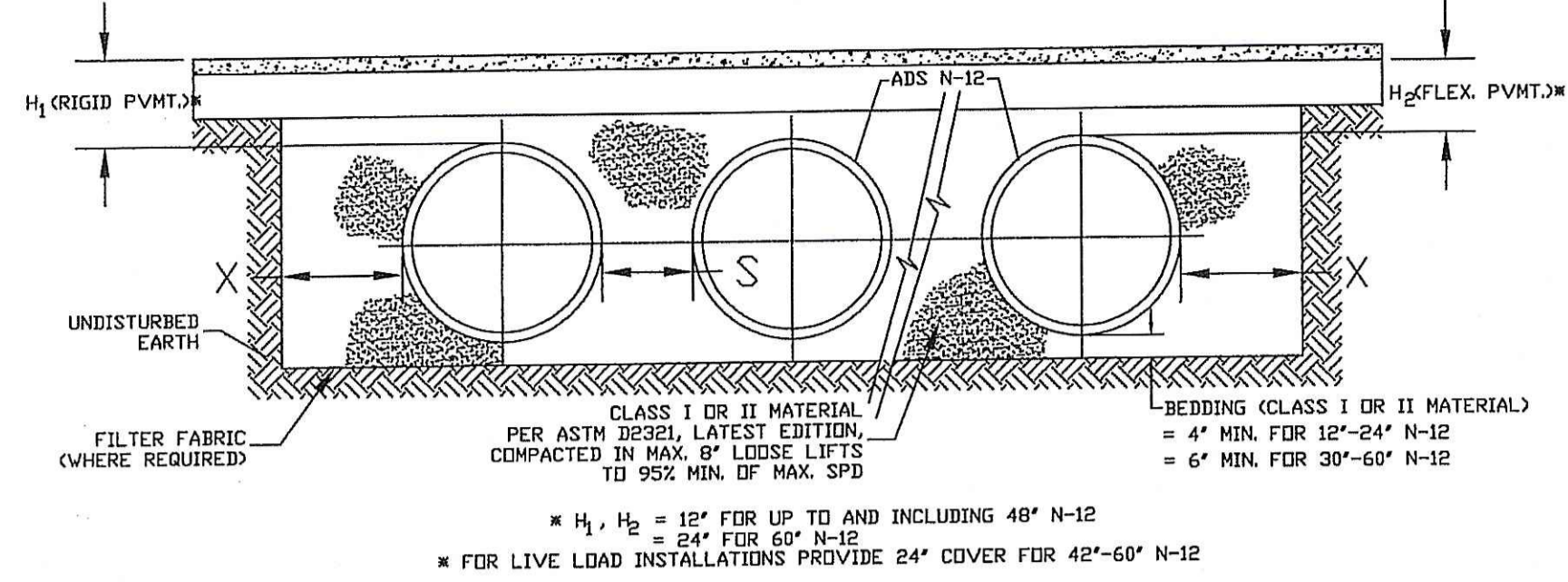
Drawing Number: DEM-2

Sheet 3 of 5

FCI ENGINEERING GROUP, LLC  
Civil engineering Consultants  
Land development Transportation  
Environmental Expert Witness  
225 East Avenue, Pawtucket, RI.02860  
Phone: 401-726-8300 Fax: 401-831-0038

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TYPICAL SUBSURFACE DET/RET CROSS SECTION

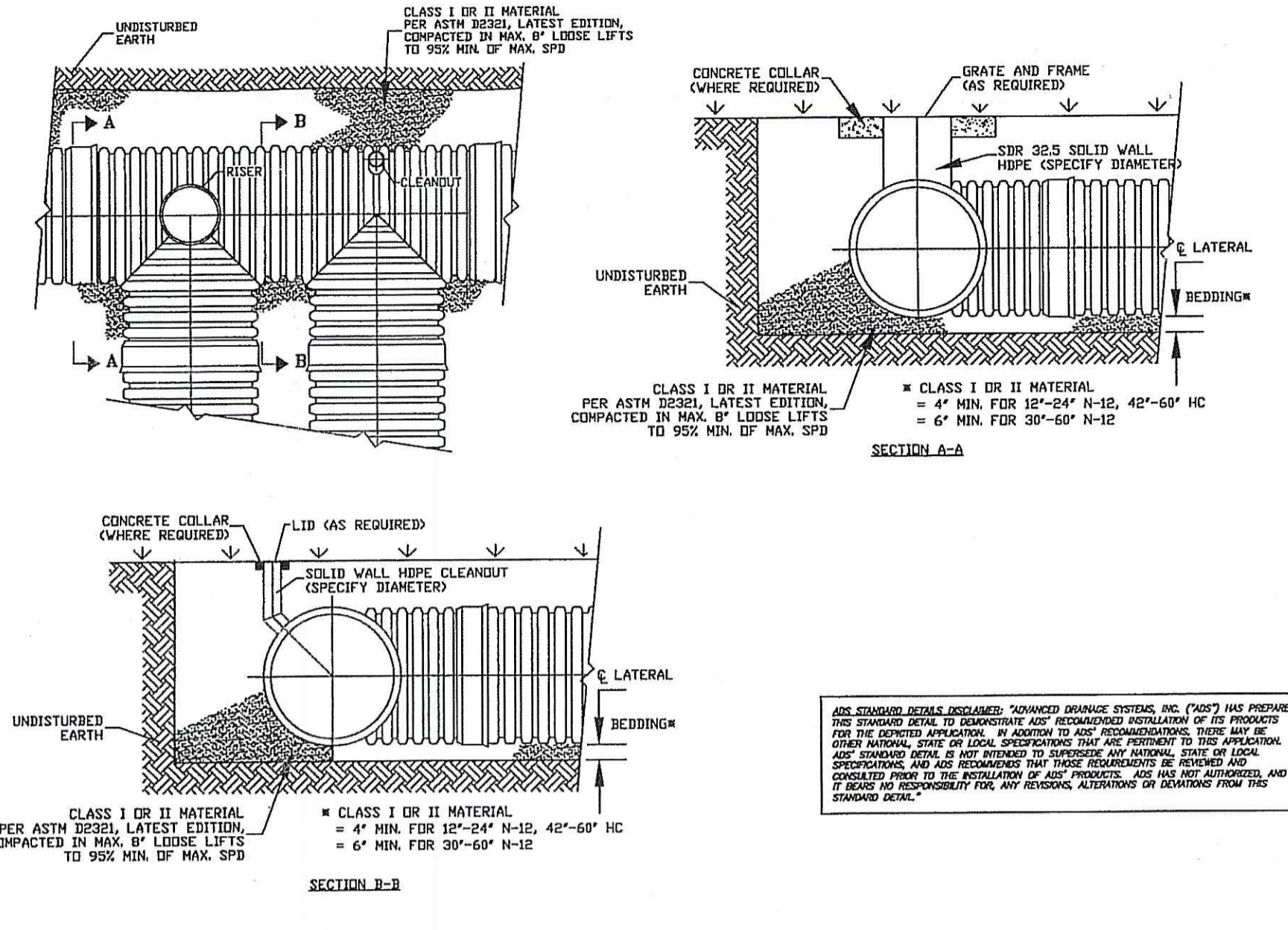


NOMINAL DIAMETER	MINIMUM X	MINIMUM S
12"	0.89'	1.04'
15"	0.89'	1.12'
18"	0.74'	1.36'
24"	0.84'	1.36'
30"	1.5'	1.88'
36"	1.5'	2.21'
42"	1.5'	2.08'
48"	1.5'	2.10'
60"	1.5'	2.48'

- NOTES
1. ALL RETENTION AND DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
  2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
  3. FOR MORE DETAILED INFORMATION, SEE ADS TECHNICAL NOTE 2.120, "STORM WATER DETENTION/RETENTION SYSTEM DESIGN".

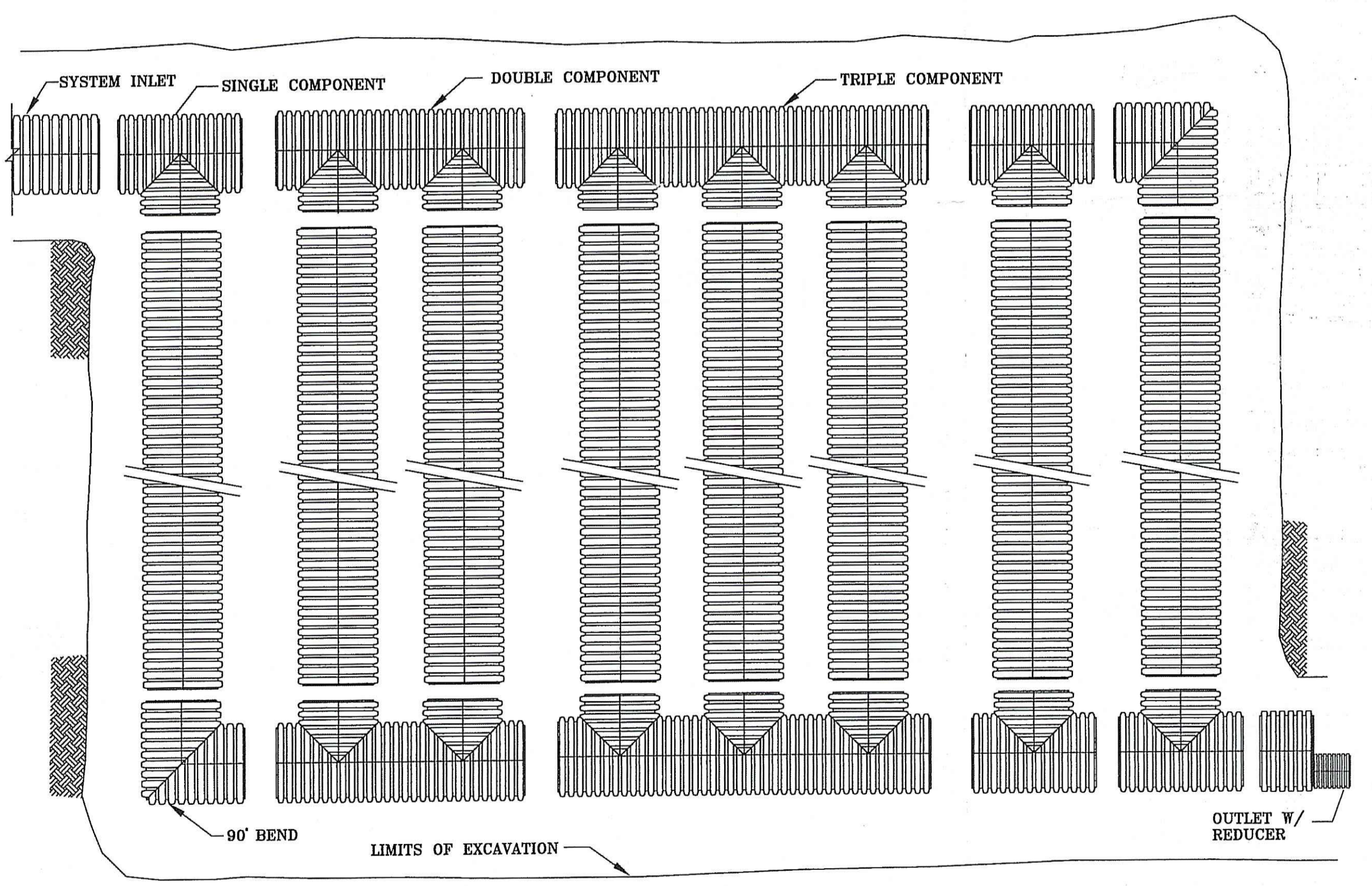
ADS STANDARD DETAILS DISCLAIMER: "ADVANCED DRAINAGE SYSTEMS, INC. (ADS) HAS PREPARED THIS STANDARD DETAIL TO DEMONSTRATE ADS' RECOMMENDED INSTALLATION OF ITS PRODUCTS FOR THE DEPICTED APPLICATION. IN ADDITION TO ADS' RECOMMENDATIONS, THERE MAY BE OTHER NATIONAL, STATE OR LOCAL SPECIFICATIONS THAT ARE PERTINENT TO THIS APPLICATION. ADS' STANDARD DETAIL IS NOT INTENDED TO SUPERSEDE ANY NATIONAL, STATE OR LOCAL SPECIFICATIONS, AND ADS RECOMMENDS THAT THOSE REQUIREMENTS BE REVIEWED AND CONSULTED PRIOR TO THE INSTALLATION OF ADS' PRODUCTS. ADS HAS NOT AUTHORIZED, AND IT BEARS NO RESPONSIBILITY FOR, ANY REVISIONS, ALTERATIONS OR DEVIATIONS FROM THIS STANDARD DETAIL."

TYPICAL RISER AND CLEANOUT DETAILS



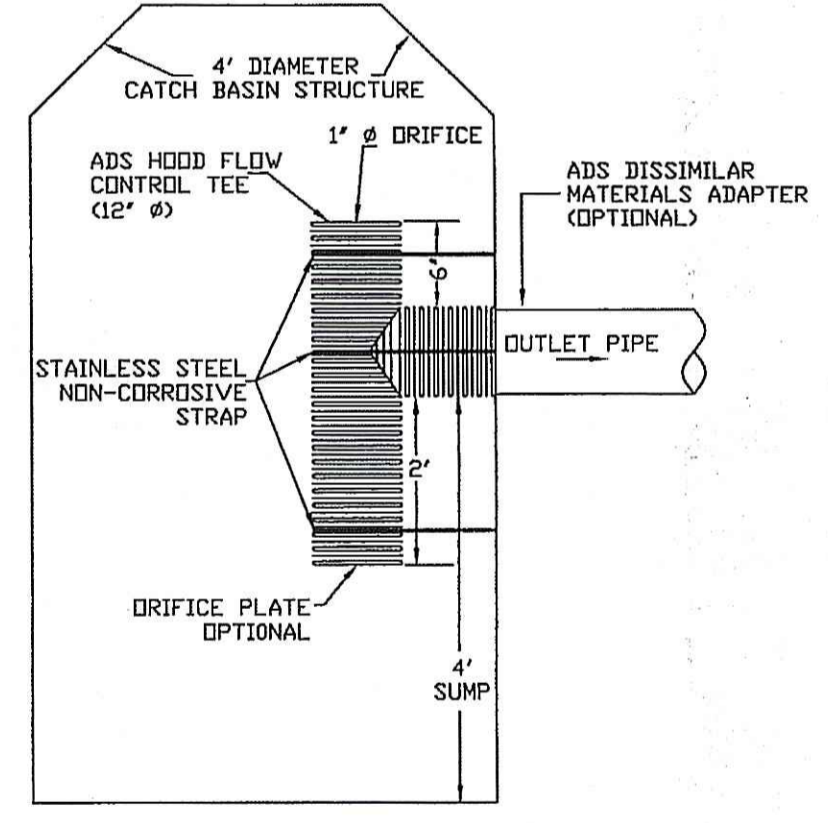
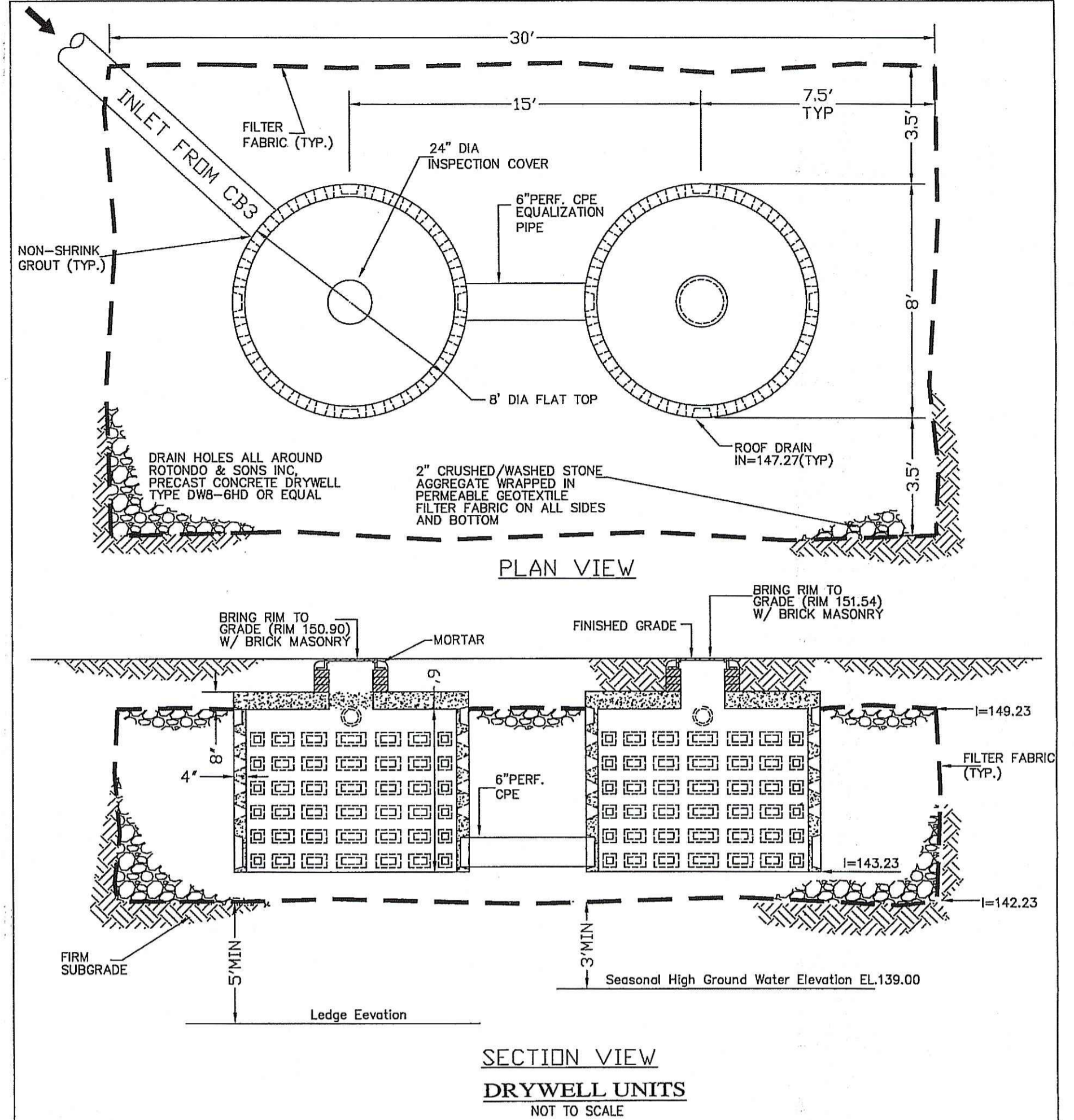
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TYPICAL SUBSURFACE DET/RET SYSTEM LAYOUT



- NOTES
- FOR MORE DETAILED INFORMATION, SEE ADS TECHNICAL NOTE 2.120, "STORM WATER DETENTION/RETENTION SYSTEM DESIGN".
- FOR INSERTABLE CAD BLOCKS, REFERENCE THE ADS STORM WATER DETENTION/RETENTION DESIGN TOOL CD ROM, AVAILABLE FROM YOUR LOCAL ADS SALES REPRESENTATIVE.
- FOR ADDITIONAL DETAILS, SEE ADS STD-702 & STD-703.

ADS STANDARD DETAILS DISCLAIMER: "ADVANCED DRAINAGE SYSTEMS, INC. (ADS) HAS PREPARED THIS STANDARD DETAIL TO DEMONSTRATE ADS' RECOMMENDED INSTALLATION OF ITS PRODUCTS FOR THE DEPICTED APPLICATION. IN ADDITION TO ADS' RECOMMENDATIONS, THERE MAY BE OTHER NATIONAL, STATE OR LOCAL SPECIFICATIONS THAT ARE PERTINENT TO THIS APPLICATION. ADS' STANDARD DETAIL IS NOT INTENDED TO SUPERSEDE ANY NATIONAL, STATE OR LOCAL SPECIFICATIONS, AND ADS RECOMMENDS THAT THOSE REQUIREMENTS BE REVIEWED AND CONSULTED PRIOR TO THE INSTALLATION OF ADS' PRODUCTS. ADS HAS NOT AUTHORIZED, AND IT BEARS NO RESPONSIBILITY FOR, ANY REVISIONS, ALTERATIONS OR DEVIATIONS FROM THIS STANDARD DETAIL."



- NOTES
1. FOR RETROFIT INSTALLATIONS OR DISSIMILAR MATERIALS, ADAPTING TEE SHALL BE FABRICATED WITH N-12 DISSIMILAR MATERIALS ADAPTER (SHOWN ABOVE).
  2. FOR NEW INSTALLATIONS CONNECTING TO HDPE PIPE, CONNECTION FROM OUTLET PIPE TO TEE SHALL BE MADE WITH ADS SPLIT COUPLER. JOINT SHALL BE LOCATED AT MIDPOINT OF STRUCTURE WALL AND SHALL EITHER BE GROUTED OR BOOTED IN PLACE.
  3. TEE SHALL BE SUPPORTED WITH A MINIMUM OF THREE STAINLESS STEEL STRAPS AT APPROXIMATE LOCATIONS SHOWN.
  4. STAINLESS STEEL STRAPS SHALL BE ANCHORED INTO STRUCTURE WITH FASTENERS.
  5. IF DRIFICES ARE INCORPORATED FOR FLOW CONTROL, CARE SHALL BE TAKEN SO AS TO NOT INSTALL STRAPS OVER THE DRIFICE.
  6. FINAL DIAMETER AND LENGTH OF TEE AND SIZE AND LOCATION OF DRIFICES (EITHER ON PLATE OR IN THE TEE) SHALL BE DETERMINED BY THE ENGINEER.

HOOD/FLOW CONTROL TEE (NOT TO SCALE)

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
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AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED APR 20 2009 FILE # 09-045  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

*W. Joseph Cray*



PREPARED FOR:  
MACERA/TOWER REALTY LLP  
P.O. BOX 810052  
BOCA RATON, FL.33481  
(561)504-6876

Project: PROPOSED DETAILS SHEET 1  
1560 HARTFORD AVENUE  
AP 44/3, LOT 83  
JOHNSTON, RHODE ISLAND

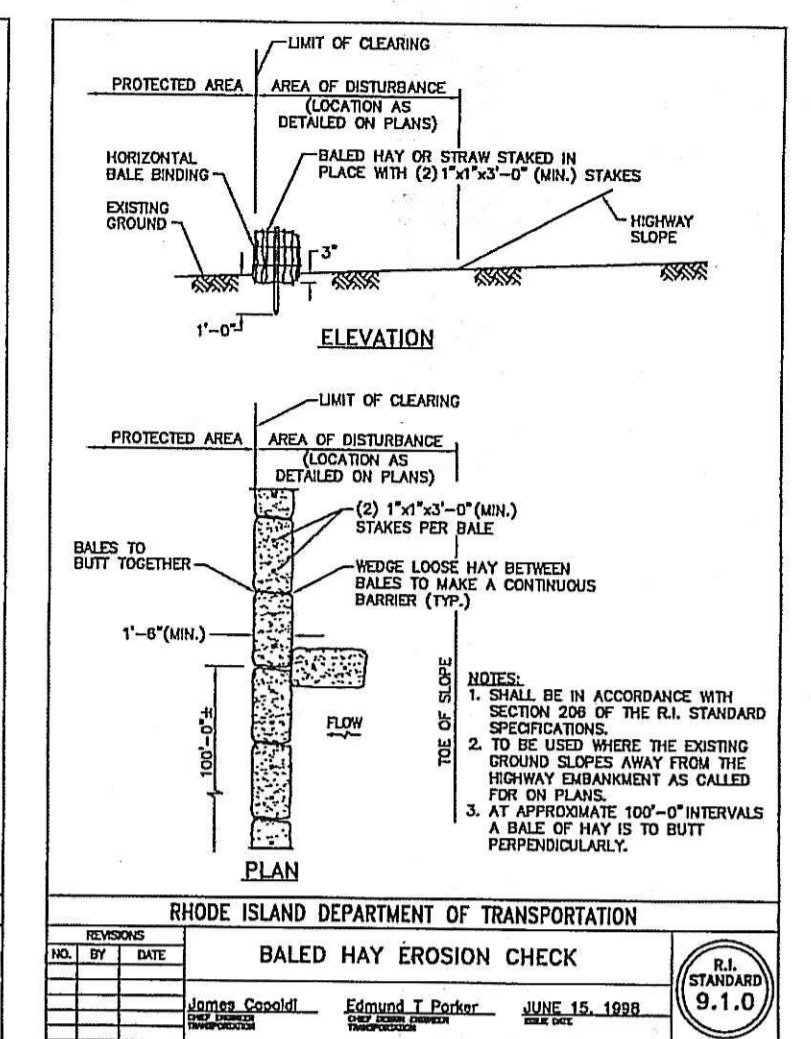
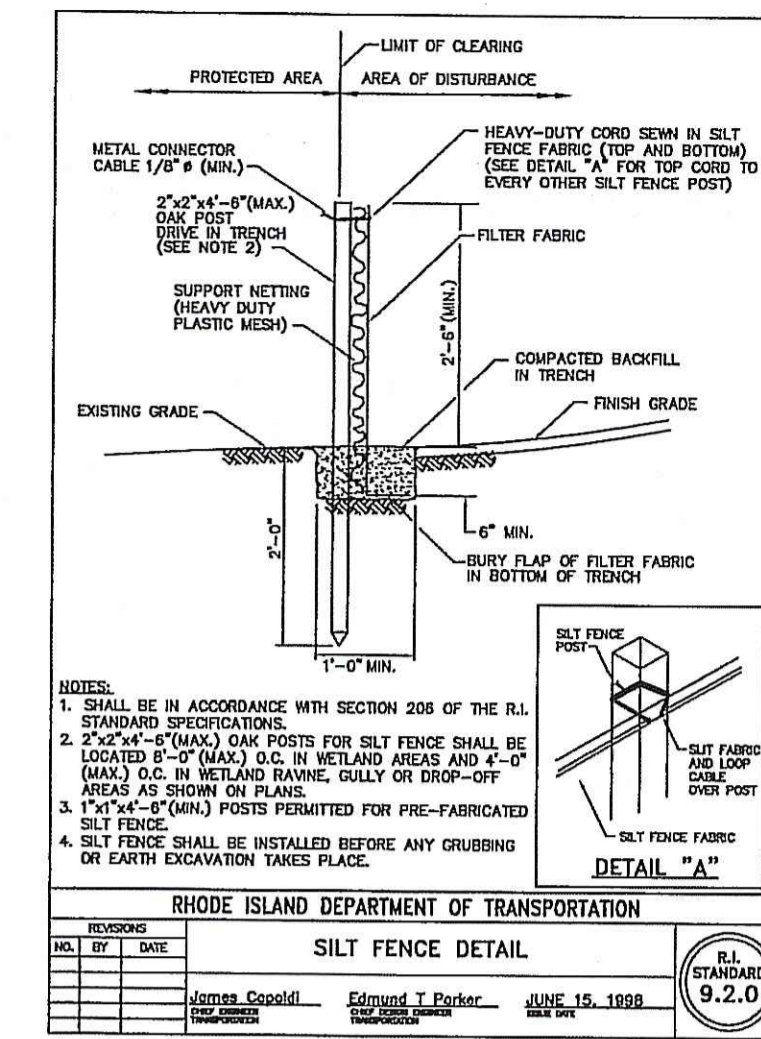
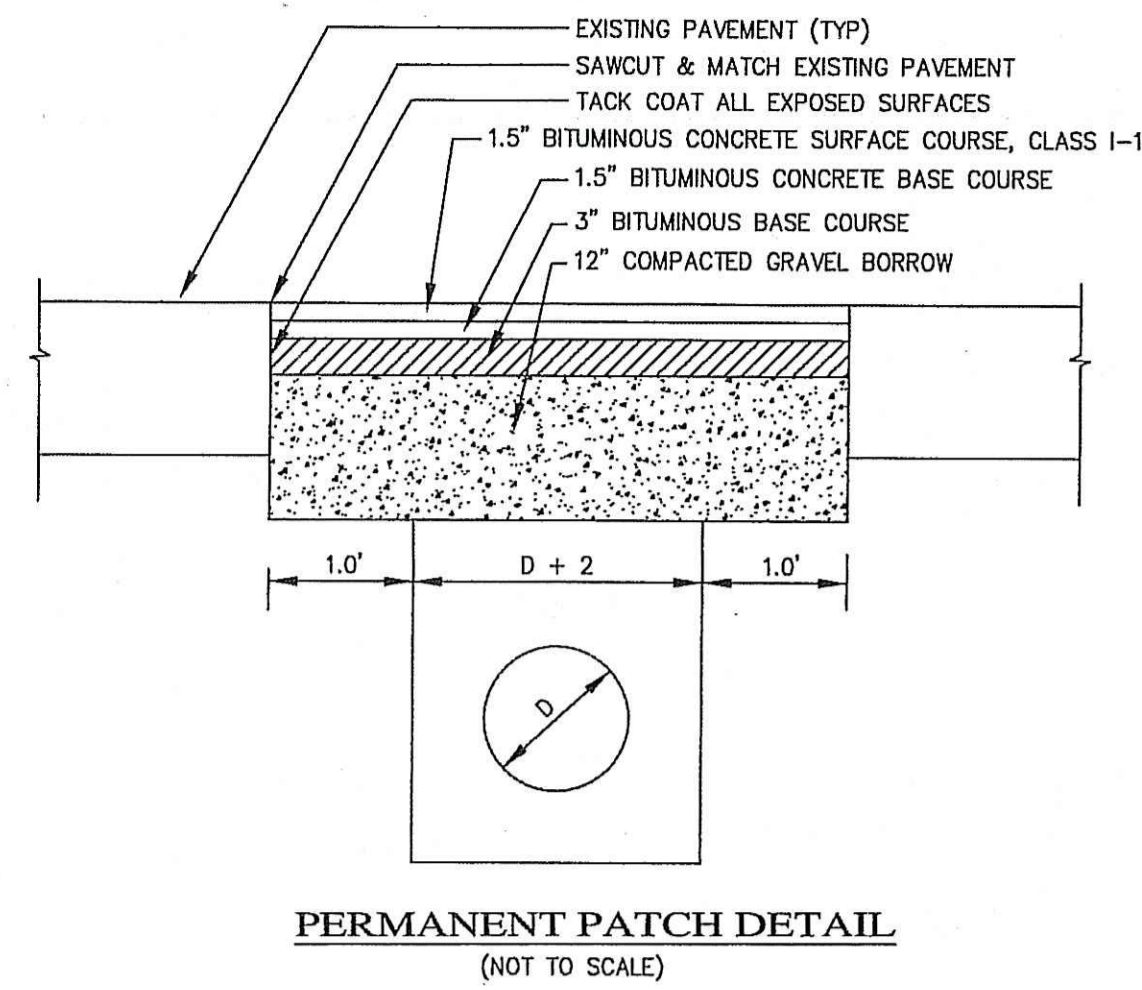
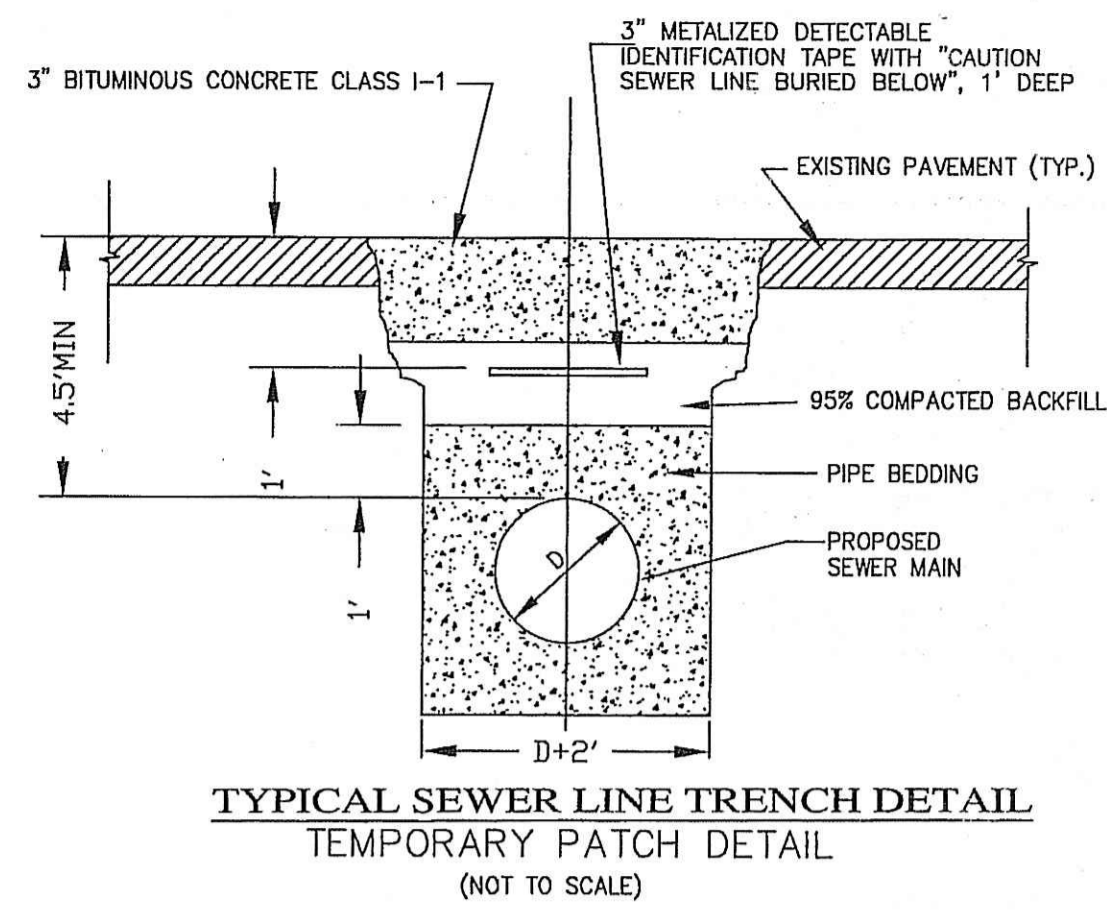
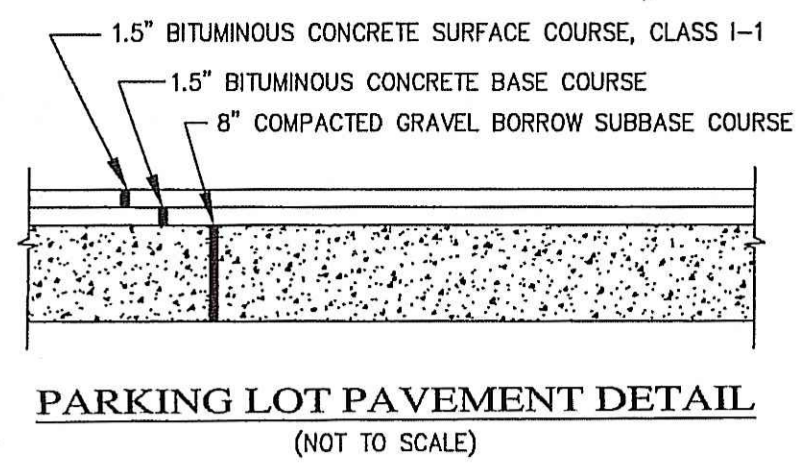
**FCI ENGINEERING GROUP, LLC**  
Civil engineering Consultants

- Land development
- Environmental
- Transportation
- Expert Witness

225 East Avenue, Pawtucket, RI.02860  
Phone: 401-726-8300 Fax: 401-831-0038

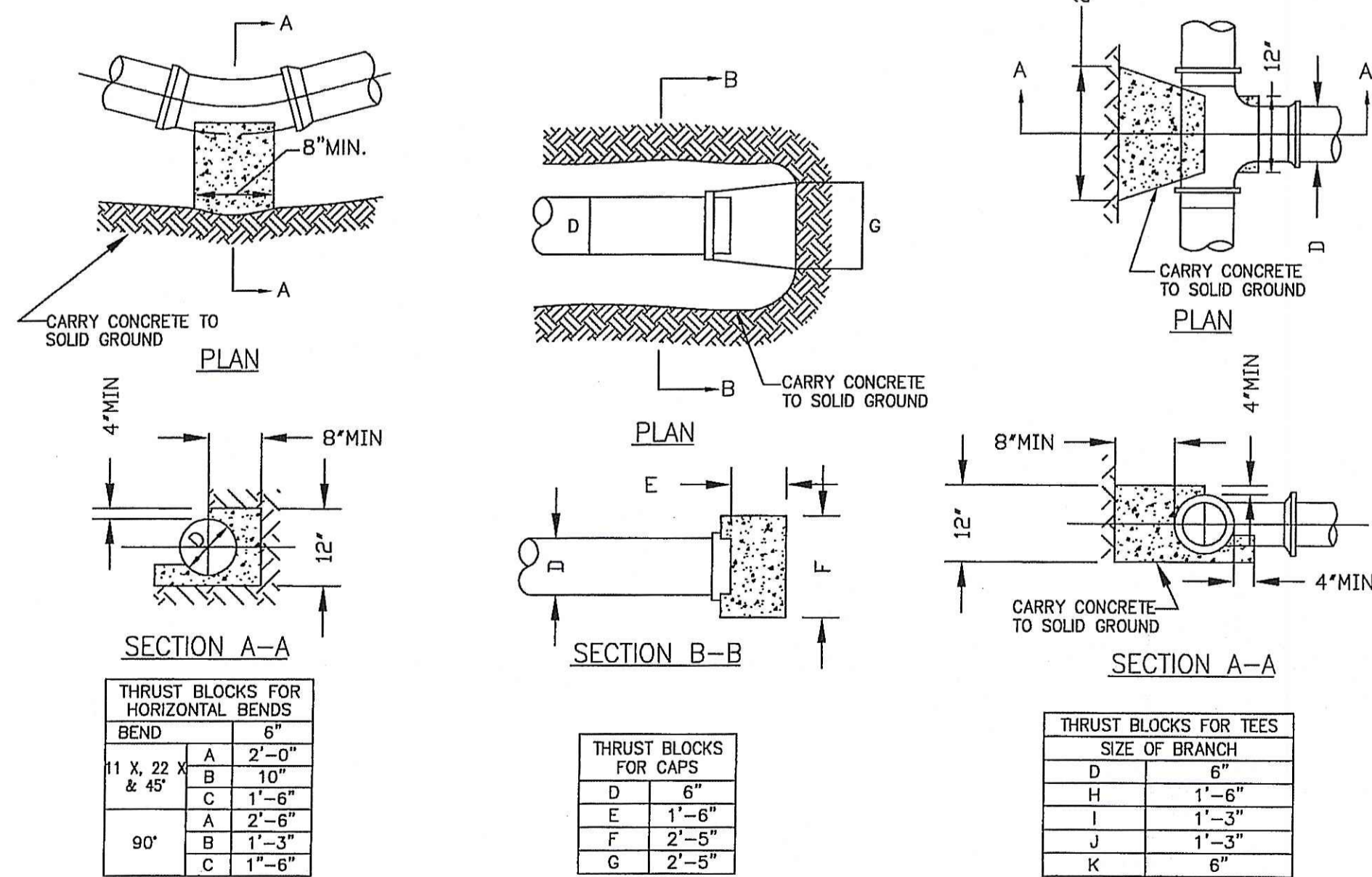
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Drawn: F.I.
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Date: 9-17-2008
Drawing Number: <b>DEM-3</b>

Sheet 4 of 5



**WATER NOTES**

- ALL INSTALLATION, JOINTS, CONSTRUCTION METHODS AND MATERIALS SHALL BE ACCORDING TO THE PROVIDENCE WATER SUPPLY BOARD (PWSB) REQUIREMENTS, THE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS AND OTHER GOVERNMENTAL REQUIREMENTS.
- THE GENERAL CONTRACTOR SHALL PRIOR TO CONSTRUCTION, CONTACT THE PWSB FOR THE ACTUAL WATERLINE PLAN AND PERMIT.
- PRESSURE AND LEAKAGE TESTS AND DISINFECTING PIPES SHALL BE PERFORMED BY THE CONTRACTOR PRIOR TO CONNECTION TO THE PWSB SYSTEM AND IN CONFORMANCE TO AWWA RECOMMENDATIONS, PROVIDENCE WATER SUPPLY BOARD'S REQUIREMENTS AND OTHER GOVERNMENTAL AGENCIES HAVING JURISDICTION.
- WATER PIPE SHALL TYPICALLY BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM SEWER PIPE, AND AT A MINIMUM DEPTH OF COVER EQUAL TO 5', WHERE A NEW WATER MAIN IS LESS THAN 18 INCHES CLEAR DISTANCE ABOVE A SEWER OR WHERE A WATER MAIN PASSES BENEATH A SEWER OR STORM DRAIN, ENCASE THE SEWER OR WATER MAIN IN 6" OF CONCRETE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING WATER MAIN. THE USE OF DUCTILE IRON TIGHT JOINT SEWER PIPE IN LIEU OF CONCRETE ENCASEMENT WILL BE CONSIDERED UPON CONTRACTOR'S SUBMITTAL OF SPECIFICATIONS TO ENGINEERS FOR APPROVAL.
- ALL SYSTEM COMPONENTS AND CONSTRUCTION METHODS, SUCH AS PIPE, RESTRAINED MECHANICAL JOINTS, FITTINGS, CASTINGS, ETC. SHALL BE SUBMITTED TO THE PROVIDENCE WATER SUPPLY BOARD AND ENGINEER FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION. THIS SUBMISSION SHALL INCLUDE MANUFACTURER'S LITERATURE, SHOP DRAWINGS, PROPOSED CONSTRUCTION METHODS, ETC.
- WATER LINE TRENCH TO BE AWWA TYPE 5. A METALIZED DETECTABLE IDENTIFICATION TAPE 2" IN WIDTH, BLUE IN COLOR AND PRINTED WITH "CAUTION WATERLINE BURIED BELOW" SHALL BE UTILIZED OVER ALL MAINS. TAPE SHALL BE SET AT APPROXIMATELY 1'-0" BELOW FINISHED GRADE.
- EACH 1" DOMESTIC WATER SERVICE SHOWN SHALL BE VERIFIED BY THE PWSB PRIOR TO THE CONTRACTOR ORDERING PIPE, METERS AND BACKFLOW PREVENTER.
- EACH 1" DOMESTIC WATER SERVICE SHOWN SHALL BE INSPECTED BY THE PWSB FROM CURB STOP TO UTILITY ROOM PRIOR TO BEING BACKFILLED. 48 HOUR NOTICE REQUIRED. TO SCHEDULE INSPECTION CALL (401)521-6300, EXTENSION 7234.
- WATER SERVICE PIPES SHALL BE INSTALLED AT A MINIMUM OF 10 FEET FROM ANY SEPTIC TANK, GREASE TRAP OR DISTRIBUTION BOX AND AT LEAST 25 FEET FROM ANY CESSPOOL, SEEPAGE PIT, DISPOSAL TRENCH/BED OR OTHER SEWAGE LEACHING STRUCTURE.



**THRUST BLOCKS FOR CAPS TEES AND HORIZONTAL BENDS**  
NOT TO SCALE

THRUST BLOCKS FOR HORIZONTAL BENDS		
BEND		6"
11 X 22 & 45°	A	2'-0"
	B	10"
90°	A	1'-6"
	B	2'-6"
	C	1'-6"

THRUST BLOCKS FOR CAPS		
D		6"
D		6"
E		1'-6"
F		2'-5"
G		2'-5"

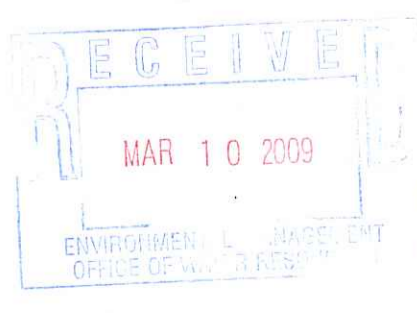
THRUST BLOCKS FOR TEES		
SIZE OF BRANCH		6"
D		6"
H		1'-6"
I		1'-3"
J		1'-3"
K		6"

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*W. Joseph Carey*

PREPARED FOR:  
MACERA/TOWER REALTY LLP  
P.O. BOX 810052  
BOCA RATON, FL 33481  
(561)504-6876



Stamp:  
**FERDINAND C. IHENACHO**  
REGISTERED PROFESSIONAL ENGINEER  
No. 6136  
3/10/09

Project: PROPOSED DETAILS SHEET 2  
1560 HARTFORD AVENUE  
AP 44/3, LOT 83  
JOHNSTON, RHODE ISLAND

FCI Project No. E0809  
Scale: AS SHOWN  
Design: F.I.  
Drawn: F.I.  
Checked: [ ]  
Date: 9-17-2008  
Drawing Number: DEM-4

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Sheet 5 of 5