

LOCATION MAP (N.T.S.)

ZONING INFORMATION
 ZONED...R-40
 Min.Lot Size,40,000 S.F.
 Min.Lot Width,140 Ft.

BUILDING SETBACK REQUIREMENTS

Front.....	40'
Rear.....	75'
Side.....	35'

Notes:

1. THE WETLAND EDGE WAS DELINEATED BY NATURAL RESOURCE SERVICE, INC. NOV. 2006 D.E.M. APPL. #07-0131 APPROVED 5-30-07.
2. THIS SITE LIES WITHIN A ZONE-X, AREAS DETERMINED TO BE OUTSIDE 500 YEAR FLOOD PLAIN FEMA PANEL NO.440018 0020 C II-17-93.
3. USDA SOIL SURVEY OF 1981 INDICATES THE PRESENCE OF CANTON & CHARLTON SOILS (CKC), WHICH ARE EXTREMELY STONEY FINE SANDY LOAMS, WITH 3% TO 15% SLOPES.
4. THERE ARE NO EXTRAORDINARY OR UNUSUAL NATURAL FEATURES FOUND FOR ON THIS SITE.
5. NO HISTORIC AREAS, CEMETRIES, FOUNDATION, ECT. FOUND ON THE SUBJECT SITE.
6. THIS SUBDIVISION WILL HAVE NO FORESEEABLE IMPACTS TO THE EXISTING COMMUNITY.
7. NO CONSTRUCTION PHASING REQUIRED FOR THIS SITE.
8. THIS SUBDIVISION COMPRISES LOT 68 ON A.P. 29 TOWN OF JOHNSTON.
9. THIS SUBDIVISION CONSISTS OF THE EXTENSION OF SECTION I OF ALVINA ESTATES AND DELINEATED AS SECTION II.

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.

DESIGN CRITERIA (ISDS)

PARCEL 1
 30' x 80' 3 BEDROOM DWELLING T.O.F. ELV. 286.0
 SEPTIC: 19' x 36' TRENCH TYPE SYSTEM W/1.5 OF STONE UNDER INVERT
 SHWT @ 8' = EL. 272.0 (TH 04-1A)
 BOTTOM = EL. 276.0
 INVERT = EL. 277.50
 COVER = EL. 279.00 MIN.
 EL. 280.00 MAX.
 PERCOLATION RATE: 10MIN/IN.

PARCEL 2
 30' x 80' 3 BEDROOM DWELLING T.O.F. ELV. 276.0
 SEPTIC: 18' x 36' ELJEN IN - DRAIN SYSTEM
 SHWT @ 2' = EL. 268.0 (TH 04-2A)
 BOTTOM = EL. 272.00 MIN.
 INVERT = EL. 272.58 MIN.
 COVER = EL. 275.08 MIN.
 EL. 276.08 MAX.
 PERCOLATION RATE: 15MIN/IN.

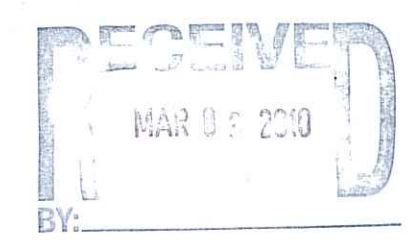
PARCEL 3
 30' x 80' 3 BEDROOM DWELLING T.O.F. ELV. 280.0
 SEPTIC: 18' x 36' ELJEN IN - DRAIN SYSTEM
 SHWT @ 2' = EL. 272.0 (TH 04-3A)
 BOTTOM = EL. 275.00 MIN.
 INVERT = EL. 275.58 MIN.
 COVER = EL. 277.08 MIN.
 EL. 278.08 MAX.
 PERCOLATION RATE: 15MIN/IN.

PARCEL 4
 30' x 60' 3 BEDROOM DWELLING T.O.F. ELV. 285.0
 SEPTIC: 19' x 36' TRENCH TYPE SYSTEM W/1.5 OF STONE UNDER INVERT
 SHWT @ 8' = EL. 275.50 (TH 04-4A)
 BOTTOM = EL. 278.50 MIN.
 INVERT = EL. 280.00 MIN.
 COVER = EL. 281.50 MIN.
 EL. 282.50 MAX.
 PERCOLATION RATE: 10MIN/IN.

PARCEL 5
 30' x 80' 3 BEDROOM DWELLING T.O.F. ELV. 298.0
 SEPTIC: 11' x 57' TRENCH TYPE SYSTEM W/1.5 OF STONE UNDER INVERT
 SHWT @ 8'-6" = EL. 287.50 (TH 04-5B)
 BOTTOM = EL. 291.0 MIN.
 INVERT = EL. 292.50 MIN.
 COVER = EL. 294.0 MIN.
 EL. 295.00 MAX.
 PERCOLATION RATE: 10MIN/IN.

LEGEND:

- D.H. DRILL HOLE
- I.P. IRON PIPE
- I.R. IRON ROD
- (OBS) OBSERVED
- R.H.B. RHODE ISLAND HIGHWAY BOUND
- (D) DEED
- R.O.W. RIGHT OF WAY
- PROPOSED GRANITE BOUND TO BE SET
- 280 EXISTING CONTOUR
- 280 DESIGN CONTOUR
- SOIL EVALUATION TEST (2004)
- OLD GROUND WATER TEST (1992)
- WATER LINE
- STORM DRAIN LINE
- GAS LINE
- WETLAND FLAG
- 50' PERIMETER WETLAND
- 200' RIVER PER. WETLAND
- BUILDING SETBACK ENVELOPE



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED APR 15 2010 FILE # 10-0035
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

DESIGN CRITERIA (ISDS)

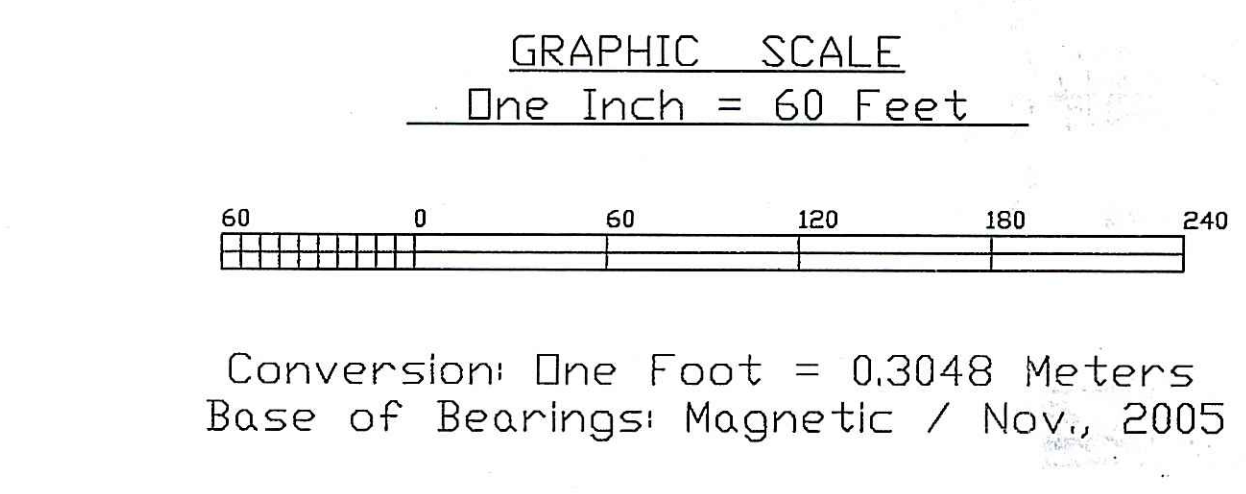
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SUBDIVISION NOTES

TOTAL LOTS AFFECTED...1
 TOTAL LOTS BEFORE SUBDIVISION...1
 TOTAL LOTS AFTER SUBDIVISION...5
 RESIDENTIAL + 1 DRAINAGE
 LENGTH OF ROAD.....255± FT.
 TOTAL PLAT AREA...7.27±Ac.

THIS PLAN IS TO BE INDEXED UNDER THE FOLLOWING STREET:
 ALVINA DRIVE
 OAKWOOD DRIVE

DWTS PRELIMINARY PLAT SUBDIVISION SUITABILITY PLAN
MAJOR SUBDIVISION - MASTER PLAN

FOR OWNERS: ALFRED RUSSO & VINCENT RUSSO JR,
 132 SIMMONSVILLE AVENUE JOHNSTON, R.I. 02919 AP 29 LOT 68

ALVINA ESTATES SECTION II
 A.P. 29 LOT 68
 TOTAL AREA= 7.27±Ac.

JOHNSTON, RHODE ISLAND JANUARY, 2006

THIS SURVEY AND PLAN CONFORM TO THE FOLLOWING STANDARDS AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS

BOUNDARY SURVEY- CLASS I
 TOPOGRAPHY- CLASS III

BY: _____ DATE _____
 REGISTERED PROFESSIONAL LAND SURVEYOR



N. VELTRI SURVEY, INC.
 SURVEYING-LAND PLANNING

190 PUTNAM PIKE
 JOHNSTON R.I. 02919
 (401)231-3200

NO.	DATE	REVISION
5	12/08	UPDATED PLAN
4	06/08	UPDATED PLAN
3	09/07	ADDED HYDRANT PER FIRE MARSHALL
2	08/07	UPDATED PLAN
1	03/06	UPDATED PER TOWN PLANNER
	01/06	ORIG. ISSUE

SHEET 1 OF 8 SHEETS

SCALE: 1" = 60' DRAWN: J.PARRILLO CHECKED BY: N.V.

PREPARED FOR:
ALFRED RUSSO &
VINCENT RUSSO JR.
132 SIMMONSVILLE AVENUE
JOHNSTON, RI.02919
(401)231-3200

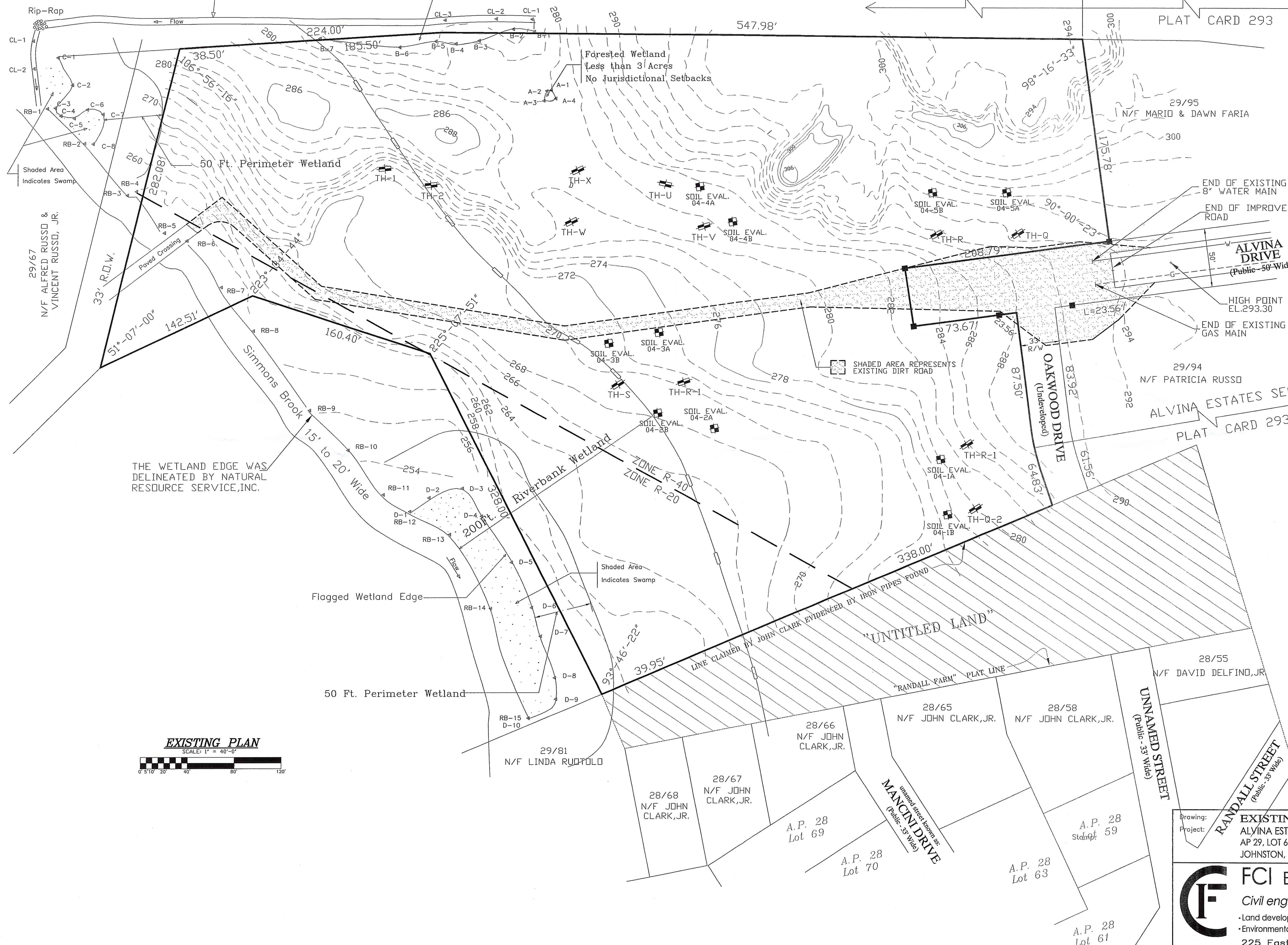
Open Channel
Area Subject to Storm Flow
No Jurisdictional Setback

Forested Wetland
Less than 3 Acres
No Jurisdictional Setbacks

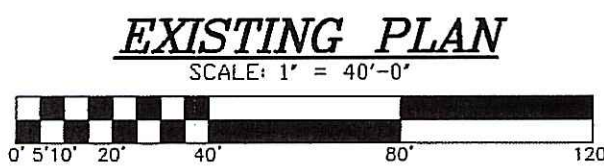
MAG. 12-05

NOTES

1. THE SURVEY INFORMATION PROVIDED ON THIS PLAN HAS BEEN PROVIDED BY N. VELTRI SURVEY, INC. OF 190 PUTNAM PIKE, SMITHFIELD, RI.02919, (401)231-3200.



THE WETLAND EDGE WAS DELINEATED BY NATURAL RESOURCE SERVICE, INC.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE

FERDINAND C. IHENACHO
WARNING: Original in Red Seal
No. 6136
2010
REGISTERED PROFESSIONAL ENGINEER

Drawing: **EXISTING PLAN**
Project: **ALVINA ESTATES II**
AP 29, LOT 68
JOHNSTON, RHODE ISLAND

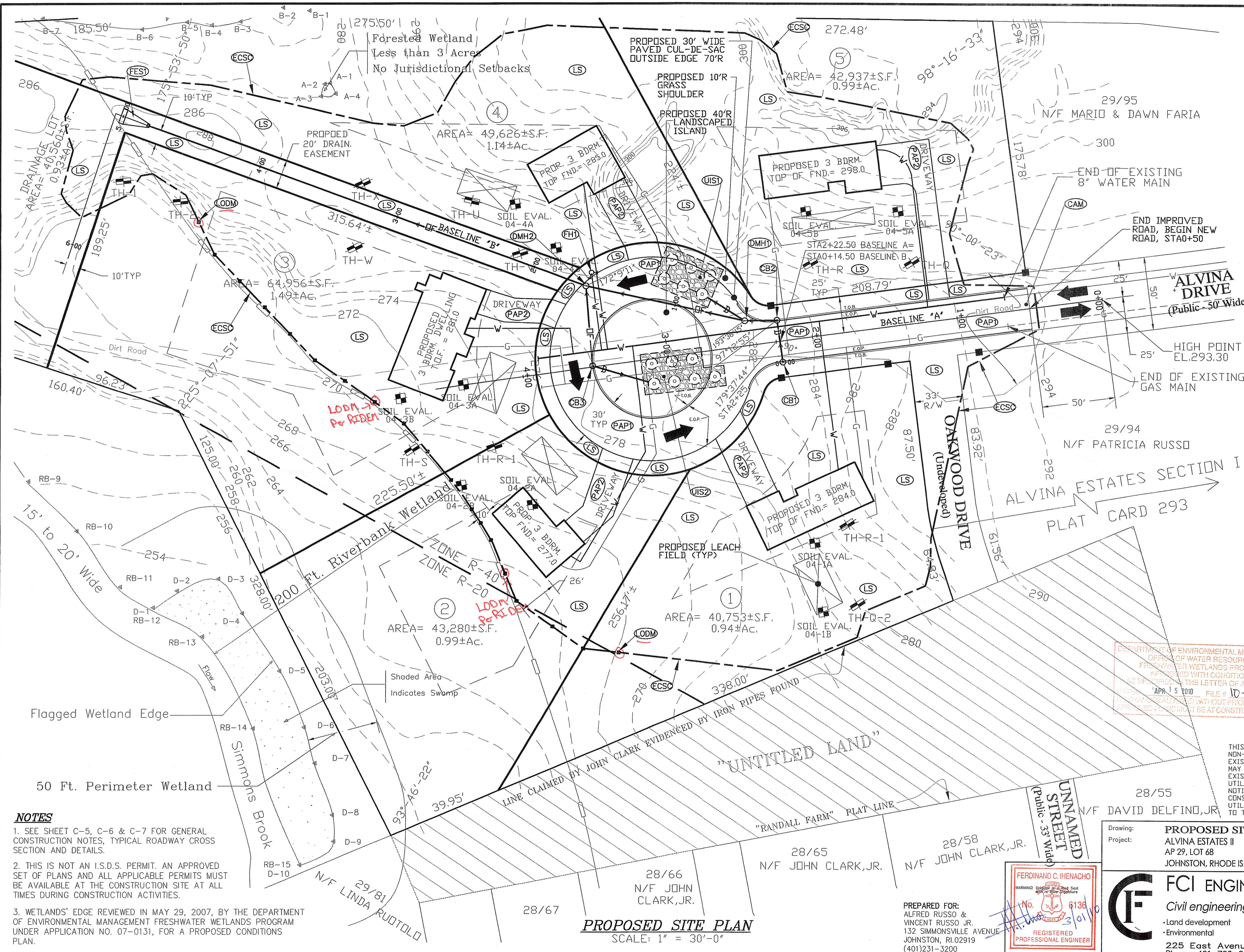
FCI ENGINEERING GROUP, LLC
Civil engineering Consultants
- Land development - Transportation -
- Environmental - Expert Witness -

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

FCI Project No.	E0904
Scale:	AS SHOWN
Design:	F.I.
Drawn:	F.I.
Date:	11-13-2009
Revised:	
Drawing Number:	C-1
Sheet	2_of_8

LEGEND

- 298 --- EXISTING CONTOUR
- W — EXISTING WATER LINE
- W — PROPOSED 8" D.I. WATER MAIN
- W — PROPOSED 1" COPPER SERVICE
- (FHI) PROPOSED FIRE HYDRANT WITH 6" D.I. SERVICE
- G --- EXISTING GAS LINE
- G — PROPOSED GAS LINE
- E.O.P. PROPOSED EDGE OF PAVEMENT
- T.O.B. PROPOSED TOP OF 6" HIGH, 12" WIDE, ASPHALT BERM
- OF — PROPOSED STORM DRAIN OVERFLOW (ABOVE 100 YEAR PRECIPITATION)
- D — PROPOSED STORM DRAIN
- (FEST) FLARED END SECTION #1
- (UIS1) UNDERGROUND INFILTRATION SYSTEM #1
- (UIS2) UNDERGROUND INFILTRATION SYSTEM #2
- (CB1) (CB2) (CB3) PROPOSED PRECAST CATCH BASINS
- (DMH1) (DMH2) PROPOSED DRAINAGE MANHOLES
- (CAM) CONSTRUCTION ACCESS MAT FURNISH & INSTALL CONSTRUCTION MAT PRIOR TO THE BEGINNING OF CONSTRUCTION, RI. STD. 9.9.0
- (LS) FURNISH & INSTALL 4" LOAM AND SEED
- (PAP1) PROPOSED ASPHALT PAVEMENT #1 1.5" BITUMINOUS CONCRETE SURFACE COURSE, CLASS I-1 1.5" BITUMINOUS CONCRETE BASE COURSE 12" GRAVEL BORROW SUBBASE
- (PAP2) PROPOSED ASPHALT PAVEMENT #2 1.5" BITUMINOUS CONCRETE SURFACE COURSE, CLASS I-1 1.5" BITUMINOUS CONCRETE BASE COURSE 18" GRAVEL BORROW SUBBASE
- BASILINE "A" PROPOSED ROADWAY EXTENSION BASELINE
- BASILINE "B" PROPOSED DRAINAGE SYSTEM BASELINE
- (ECSC) LIMIT OF DISTURBANCE, LIMIT OF EROSION AND SEDIMENT CONTROL MEASURES (1930'); INSTALL PRIOR TO BEGINNING OF CONSTRUCTION, RI. STD. 9.1.0. & 9.2.0
- (LODM) LIMIT OF DISTURBANCE PERMANENT MARKERS (3"x3" WOOD POSTS); FURNISH & INSTALL 19 EA. AS SHOWN.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
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NOTES

- SEE SHEET C-5, C-6 & C-7 FOR GENERAL CONSTRUCTION NOTES, TYPICAL ROADWAY CROSS SECTION AND DETAILS.
- THIS IS NOT AN I.S.D.S. PERMIT. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.
- WETLANDS' EDGE REVIEWED IN MAY 29, 2007, BY THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT FRESHWATER WETLANDS PROGRAM UNDER APPLICATION NO. 07-0131, FOR A PROPOSED CONDITIONS PLAN.

PROPOSED SITE PLAN
 SCALE: 1" = 30'-0"

PREPARED FOR:
 ALFRED RUSSO &
 VINCENT RUSSO JR.
 132 SIMMONSVILLE AVENUE
 JOHNSTON, RI 02919
 (401)231-3200



Drawing: **PROPOSED SITE PLAN**
 Project: **ALVINA ESTATES II**
 AP 29, LOT 68
 JOHNSTON, RHODE ISLAND

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

FCI Project No. E0904
Scale: AS SHOWN
Design: F.I.
Drawn: F.I.
Date: 11-13-2009
Revised:
Drawing Number: C-2
Sheet 3 of 8

PREPARED FOR:
ALFRED RUSSO &
VINCENT RUSSO JR.
132 SIMMONSVILLE AVENUE
JOHNSTON, RI 02919
(401)231-3200

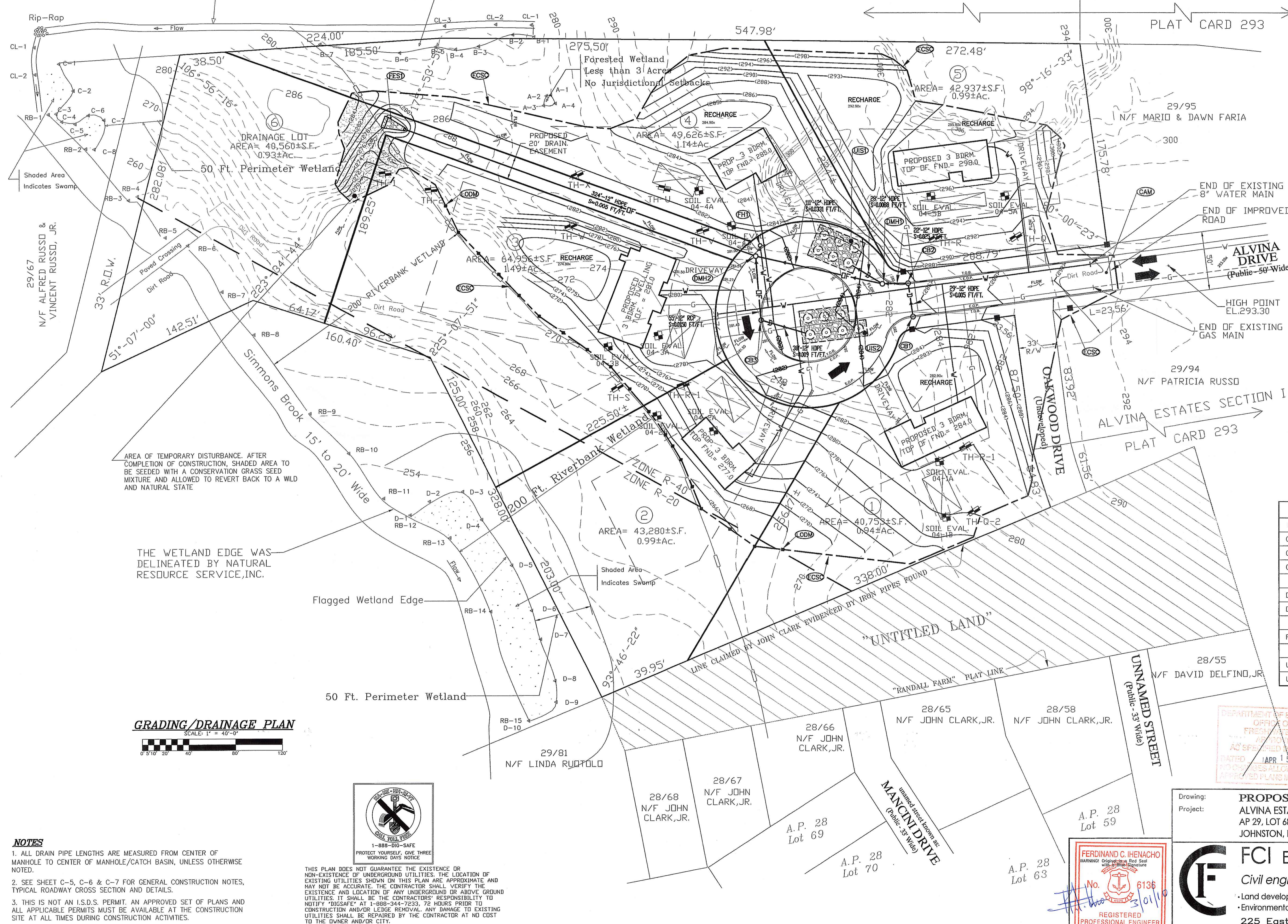
Open Channel
Area Subject to Storm Flow
No Jurisdictional Setback

Forested Wetland
Less than 3 Acres
No Jurisdictional Setbacks

MAG. 12-05

ALVINA ESTATES SECTION II ALVINA ESTATES SECTION I

PLAT CARD 293



- LEGEND**
- 298 --- EXISTING CONTOUR
 - (298) --- PROPOSED CONTOUR
 - W --- EXISTING WATER LINE
 - W --- PROPOSED 8" D.I. WATER MAIN
 - W --- PROPOSED 1" COPPER SERVICE
 - (FH) PROPOSED FIRE HYDRANT WITH 6" D.I. SERVICE PER TOWN OF JOHNSTON FIRE DEPARTMENT, ALL WORK TO BE COORDINATED WITH JOHNSTON WATER DEPARTMENT
 - G --- EXISTING GAS LINE
 - G --- PROPOSED GAS LINE
 - 284.33 --- PROPOSED SPOT ELEV.
 - 2.0A --- PROPOSED EDGE OF PAVEMENT
 - 1.0A --- PROPOSED TOP OF 6" ASPHALT BERM
 - (ECSA) LIMIT OF DISTURBANCE / EROSION AND SEDIMENT CONTROL MEASURES (1930); INSTALL PRIOR TO BEGINNING OF CONSTRUCTION, RI. STD. 9.1.0. & 9.2.0
 - (LODM) FURNISH & INSTALL 19 EA., LIMIT OF DISTURBANCE PERMANENT MARKERS (3"x3" WOOD POSTS) AS SHOWN,
 - (OF) PROPOSED STORM DRAIN OVERFLOW FOR ABOVE 100 YEAR PRECIPITATION
 - (D) PROPOSED STORM DRAIN
 - (FES1) FLARED END SECTION #1 FURNISH & INSTALL 12" DIA. CONCRETE FLARED END SECTION, TO BE PLACED ON 12" BED OF SIZE 6" RIP-RAP, ON 6" CRUSHED STONE LAYER ON MIRAFI GEOTEXTILE FILTER FABRIC, AS SHOWN.
 - (UIS1) UNDERGROUND INFILTRATION SYSTEM #1 FURNISH & INSTALL 6 DRYWELL UNITS - 8'DIA x 4'H IN A BED OF 2" CRUSHED/WASHED STONE AGGREGATE, 28.4"x41.8"x4.5'H (6" AT BOTTOM), DRYWELL & STONE TO BE WRAPPED IN FILTER FABRIC, BOTTOM DRYWELL EL276.88, BOTT. STONE EL276.38, RI. STD. 6.2.1 FRAME & COVER (6 EA.)
 - (UIS2) UNDERGROUND INFILTRATION SYSTEM #2 FURNISH & INSTALL 7 DRYWELL UNITS - 8'DIA x 4'H IN A BED OF 2" CRUSHED/WASHED STONE AGGREGATE, (6" AT BOTTOM), DRYWELL & STONE TO BE WRAPPED IN FILTER FABRIC, BOTTOM DRYWELL EL274.80, BOTT. STONE EL274.30, RI. STD. 6.2.1 FRAME & COVER (7 EA.)
 - (CB1) (CB2) PROPOSED PRECAST CATCH BASIN (2 EA.) FURNISH & INSTALL 4' DIA. CATCH BASIN WITH OIL/WATER SEPARATOR AND 4' SUMP, RI. STD. 4.4.0 & 6.3.0, SINGLE GRATE.
 - (CB3) PROPOSED PRECAST CATCH BASIN (1 EA.) FURNISH & INSTALL 4' DIA. CATCH BASIN WITH OIL/WATER SEPARATOR AND 4' SUMP, RI. STD. 4.4.0 & 6.3.0, DOUBLE GRATE.
 - (DMH1) (DMH2) PROPOSED DRAINAGE MANHOLE (2 EA.) FURNISH & INSTALL 4' DIA. PRECAST CONCRETE MANHOLE, RI. STD. 4.2.0 & 6.2.1.
 - (CAM) CONSTRUCTION ACCESS MAT FURNISH & INSTALL CONSTRUCTION MAT PRIOR TO THE BEGINNING OF CONSTRUCTION, RI. STD. 9.9.0
 - RECHARGE PROPOSED RECHARGE AREA
 - (SR) PROPOSED SURFACE RUNOFF FLOW

DRAINAGE STRUCTURES SCHEDULE

NO.	RIM	INVI	INVI	INVO	INVO	BOTT	REMARKS
CB-1	285.38'	---	---	281.70'	---	277.70'	
CB-2	285.38'	281.55'	---	280.55'	---	276.55'	
CB-3	280.50'	---	---	277.35'	278.35'	273.35'	*OVERFLOWS ABOVE 100-YR FLOOD ELEV.
DMH-1	284.70'	280.00'	---	280.00'	281.00'	279.00'	*OVERFLOWS ABOVE 100-YR FLOOD ELEV.
DMH-2	281.20'	277.52'	277.32'	---	277.32'	276.32'	*OVERFLOWS ABOVE 100-YR FLOOD ELEV.
FES-1	---	---	275.73'	---	275.70'	275.70'	*OVERFLOWS ABOVE 100-YR FLOOD ELEV.
UIS-1	282.80'	279.70'	---	---	---	276.88'	
UIS-2	282.80'	277.00'	---	---	---	274.80'	

(LODM) LIMIT OF DISTURBANCE PERMANENT MARKERS FURNISH & INSTALL 3"x3" WOOD POSTS AS SHOWN, 19

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESH WATER WETLANDS PROGRAM
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GRADING/DRAINAGE PLAN
SCALE: 1" = 40'-0"

THE WETLAND EDGE WAS DELINEATED BY NATURAL RESOURCE SERVICE, INC.

AREA OF TEMPORARY DISTURBANCE. AFTER COMPLETION OF CONSTRUCTION, SHADED AREA TO BE SEEDDED WITH A CONSERVATION GRASS SEED MIXTURE AND ALLOWED TO REVERT BACK TO A WILD AND NATURAL STATE

- NOTES**
- ALL DRAIN PIPE LENGTHS ARE MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE/CATCH BASIN, UNLESS OTHERWISE NOTED.
 - SEE SHEET C-5, C-6 & C-7 FOR GENERAL CONSTRUCTION NOTES, TYPICAL ROADWAY CROSS SECTION AND DETAILS.
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Ferdinand C. Ihenacho
No. 6136
REGISTERED PROFESSIONAL ENGINEER

Drawing: **PROPOSED DRAINAGE/GRADING PLAN**
Project: ALVINA ESTATES II
AP 29, LOT 68
JOHNSTON, RHODE ISLAND

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

FCI Project No. **E0904**
Scale: AS SHOWN
Design: F.I.
Drawn: F.I.
Date: 11-13-2009
Revised:
Drawing Number: **C-3**
Sheet 4_of_8

PREPARED FOR:
ALFRED RUSSO &
VINCENT RUSSO JR.
132 SIMMONSVILLE AVENUE
JOHNSTON, RI 02919
(401)231-3200

Open Channel
Area Subject to Storm Flow
No Jurisdictional Setback

Forested Wetland
Less than 3 Acres
No Jurisdictional Setbacks

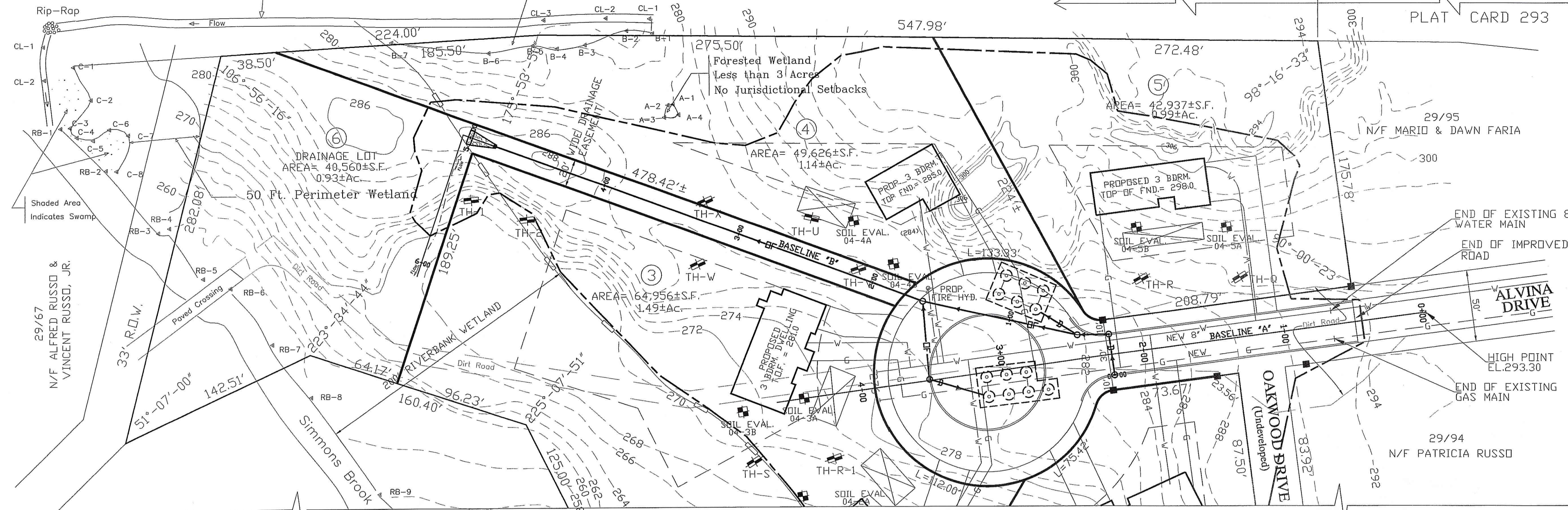
MAG. 12-05

ALVINA ESTATES SECTION II ALVINA ESTATES SECTION I

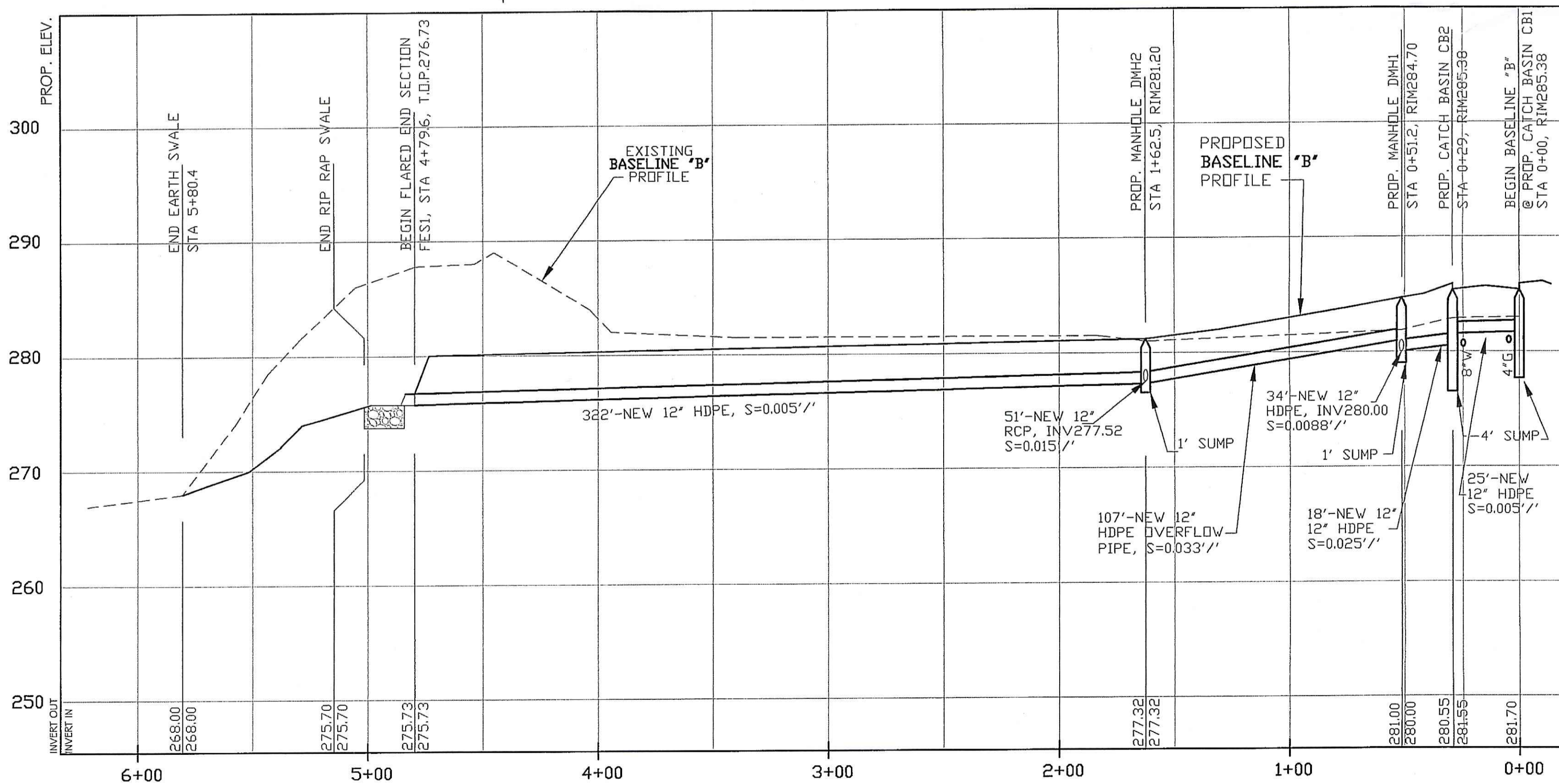
PLAT CARD 293

NOTES

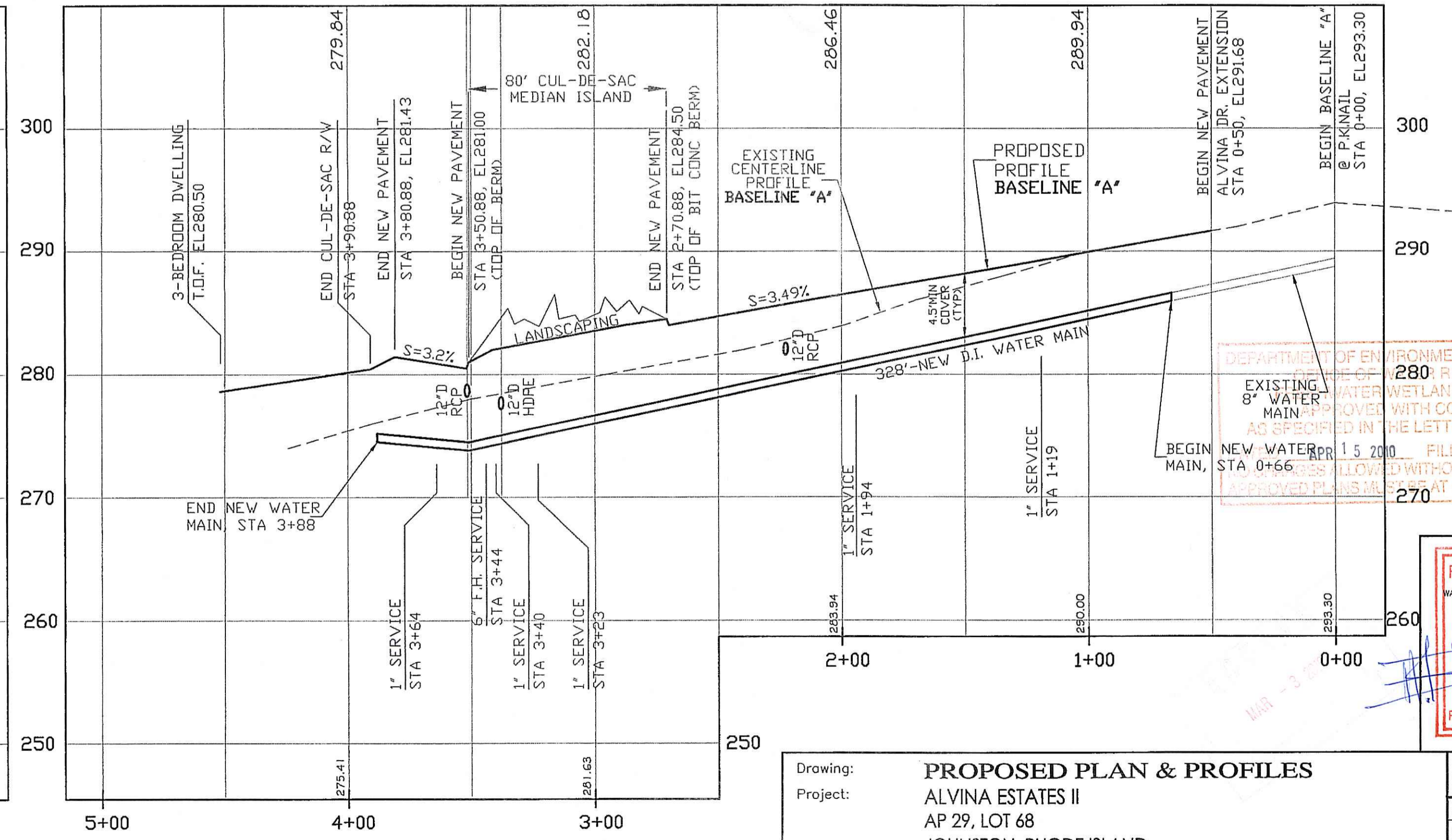
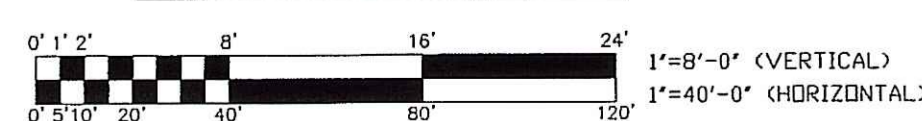
1. ALL WATER WORK IS SHOWN ON THIS PLAN.
2. WATER PIPING SHALL BE INSTALLED AT A DEPTH OF 4.5 FEET MIN.
3. ALL CROSSINGS OF SEWER LINES AND WATER LINES SHALL BE MADE IN ACCORDANCE WITH THE TOWN OF JOHNSTON REGULATIONS WITH RESPECT TO MATERIALS, COVER, SEPARATION AND TESTING.
4. ALL WATER WORK AND MATERIALS SHALL COMPLY WITH THE TOWN OF JOHNSTON WATER SUPPLY BOARD REGULATIONS.



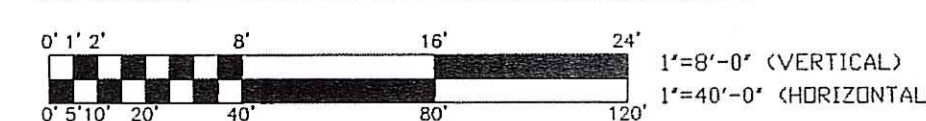
THIS PLAN DOES NOT GUARANTEE THE EXISTENCE OR NON-EXISTENCE OF UNDERGROUND UTILITIES. THE LOCATION OF EXISTING UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND MAY NOT BE ACCURATE. THE CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OF ANY UNDERGROUND OR ABOVE GROUND UTILITIES. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO NOTIFY "DIGSAFE" AT 1-888-344-7233, 72 HOURS PRIOR TO CONSTRUCTION AND/OR LEAVE REMOVAL. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER AND/OR CITY.



DRAINAGE PROFILE



CENTERLINE ROAD PROFILE



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
LINE OF WETLANDS PROGRAM
EXISTING 8" WATER MAIN
AS SHOWN IN THE LETTER OF APPROVAL
FILE # 10-0035
BEGIN NEW WATER MAIN STA 0+66
ALLOWED WITHOUT PRIOR APPROVAL AT CONSTRUCTION SITE

FERDINAND C. IHENACHO
No. 6136
REGISTERED PROFESSIONAL ENGINEER

Drawing: **PROPOSED PLAN & PROFILES**
Project: ALVINA ESTATES II
AP 29, LOT 68
JOHNSTON, RHODE ISLAND

FCI Project No. **E0904**
Scale: AS SHOWN
Design: F.I.
Drawn: F.I.
Date: 11-13-2009
Revised:

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

Drawing Number:	
C-4	
Sheet 5 of 8	

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, R.I.D.T. 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.
- REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK" (1999), 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.
- CONTRACTOR SHALL OBTAIN ALL REQUIRED APPROVALS AND PERMITS, AS SET FORTH IN THE TOWN OF JOHNSTON ORDINANCES, PRIOR TO THE BEGINNING OF ANY CONSTRUCTION.
- WATER PIPE SHALL TYPICALLY BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM SEWER PIPE, AND AT A MINIMUM DEPTH OF COVER EQUAL TO 4.5'. 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 ENCASEMENT 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.
- THE LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A SURVEYOR, P.L.S. 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.
- 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. 44007C-0292G, REVISED 3-2-09.
- 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.
- THERE IS NO DISTURBANCE WITHIN R.I.D.E.M. 50' PERIMETER WETLAND JURISDICTION.
- THERE IS APPROXIMATELY 3277 S.F. OF DISTURBANCE WITHIN R.I.D.E.M. 200' RIVERBANK WETLAND JURISDICTION, INVOLVING GRADING TO CREATE A SWALE AND CONSTRUCT ARIPRAP OUTFALL FOR STORMWATER OVERFLOWS.
- IN ACCORDANCE WITH THE RIDEM RULES AND REGULATIONS GOVERNING THE ADMINISTRATION AND ENFORCEMENT OF THE FRESHWATER WETLANDS ACT, RULE 6.00-EXEMPT ACTIVITIES, THE PROPOSED GRADING SHALL ADHERE TO THE FOLLOWING:
 - THE GRADING IS LOCATED AT LEAST 50 FEET (133') FROM THE RIVERBANK
 - DOES NOT RESULT IN A DECREASE OF THE FLOODPLAIN
 - DOES NOT RESULT IN LOSS/DEGRADATION OF WILDLIFE AND/OR HABITAT WITHIN THE 50' PERIMETER WETLAND
 - DOES NOT JEOPARDIZE THE EXISTENCE OF A RARE FRESHWATER WETLAND TYPE, SPECIES OR HABITAT
 - ALL WORK SHALL BE WITHIN THE EROSION AND SEDIMENT CONTROL LIMITS AS SHOWN ON SHEET C-2
 - ALL CONSTRUCTION EQUIPMENT SHALL BE REMOVED FROM THE WETLAND AT THE END OF EACH WORK DAY
 - POLLUTANTS AND SEDIMENTS TO BE REMOVED FROM THE STORMWATER, BY DEEP SUMP CATCH BASINS (WITH OIL/WATER SEPARATORS) AND DRYWELL SYSTEMS
 - ALL PLANTINGS MUST BE OF NATIVE SPECIES AND BE SUITABLE FOR THE SITE CONDITIONS
 - ALL PLANTINGS MUST BE MAINTAINED UNTIL THEY ARE ESTABLISHED
 - ALL DISTURBED SOILS MUST BE STABILIZED WITH SOUTHERN NEW ENGLAND NATIVE MIX
 - NO SOIL DISTURBANCE IS ALLOWED FROM MAY 15 THROUGH SEPTEMBER 15 TO SAFEGARD POTENTIAL TURTLE NESTING AREAS, WITHIN PERIMETER WETLAND OR RIVERBANK WETLAND.
- 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.
- THE SURVEY INFORMATION PROVIDED ON THIS PLAN HAS BEEN PROVIDED BY N. VELTRI SURVEY, INC. OF 190 PUTNAM PIKE, SMITHFIELD, RI 02919, (401)291-3200.
- SEE SHEET C-3 FOR GRADING AND DRAINAGE PLAN.
- AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.

GENERAL CONSTRUCTION SEQUENCE

- INSTALL CONSTRUCTION FENCING AND/OR TREE PROTECTION AS SPECIFIED.
- INSTALL PERIMETER EROSION CONTROL MEASURES, CONSTRUCTION ENTRANCE/EXIT AND INLET PROTECTION ON ADJACENT DRAINAGE STRUCTURES.
- CLEAR AND GRUB PROPERTY. INSTALL DRAINAGE SYSTEM FOR COLLECTION OF SEDIMENT.
- ROUGH GRADE SITE.
- INSTALL UTILITIES AND SITE IMPROVEMENTS. FINISH GRADE AND INSTALL LANDSCAPE MATERIALS AS SPECIFIED.

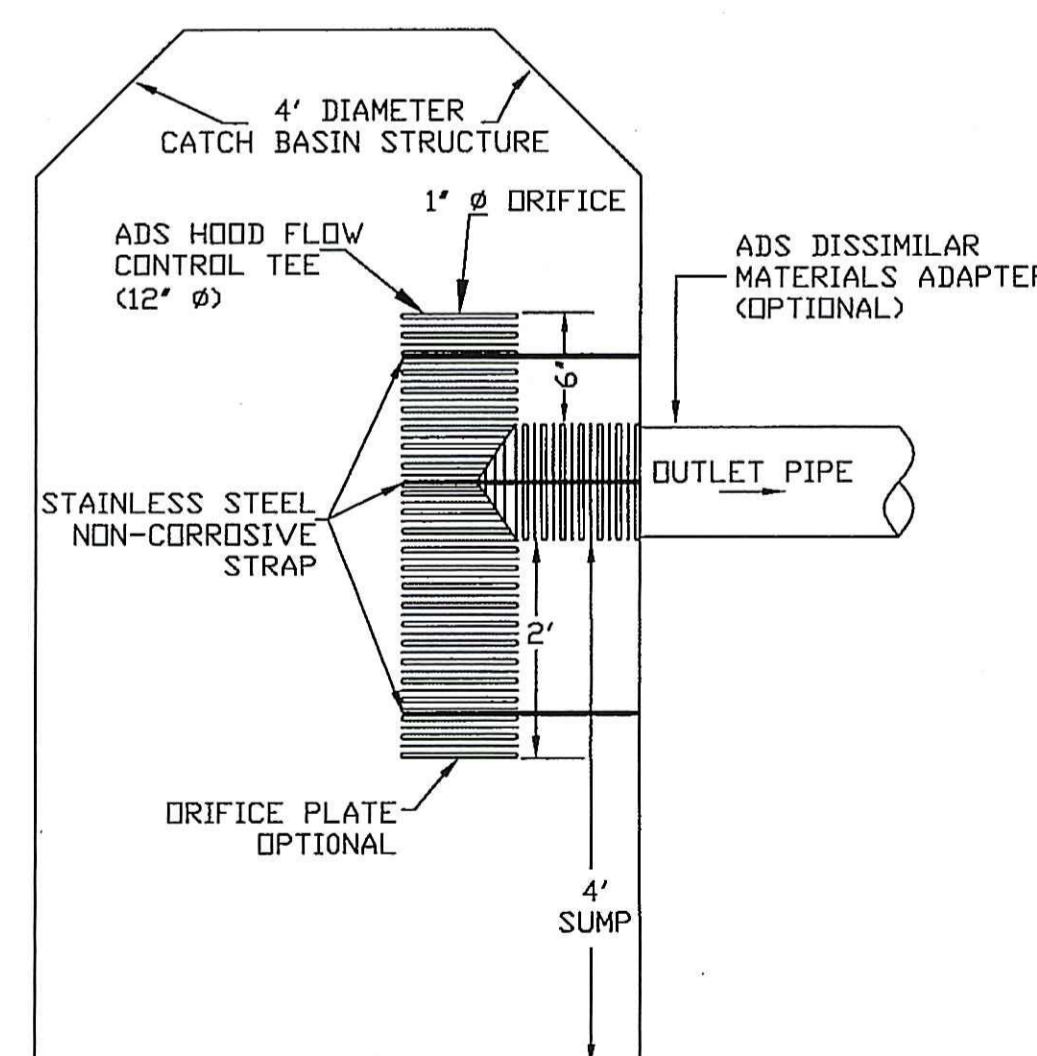
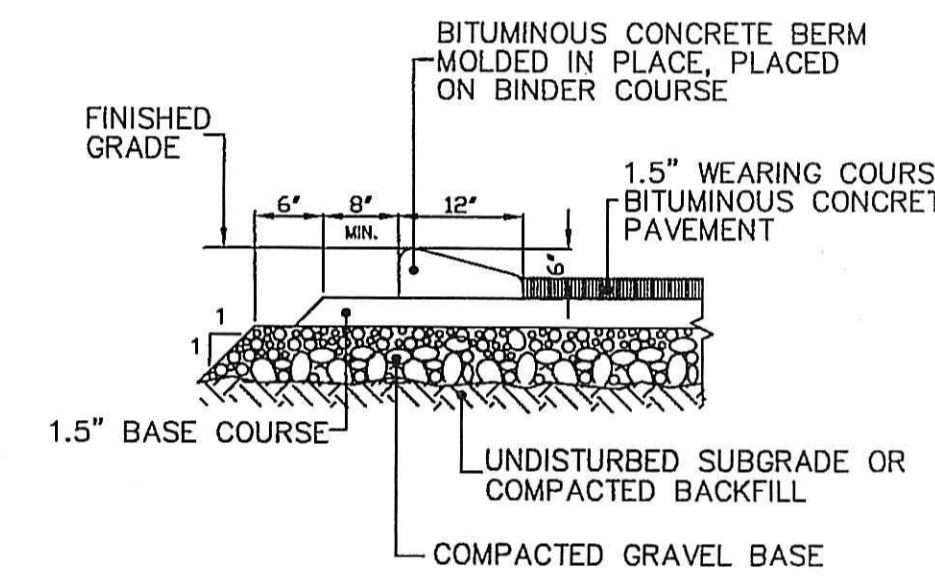
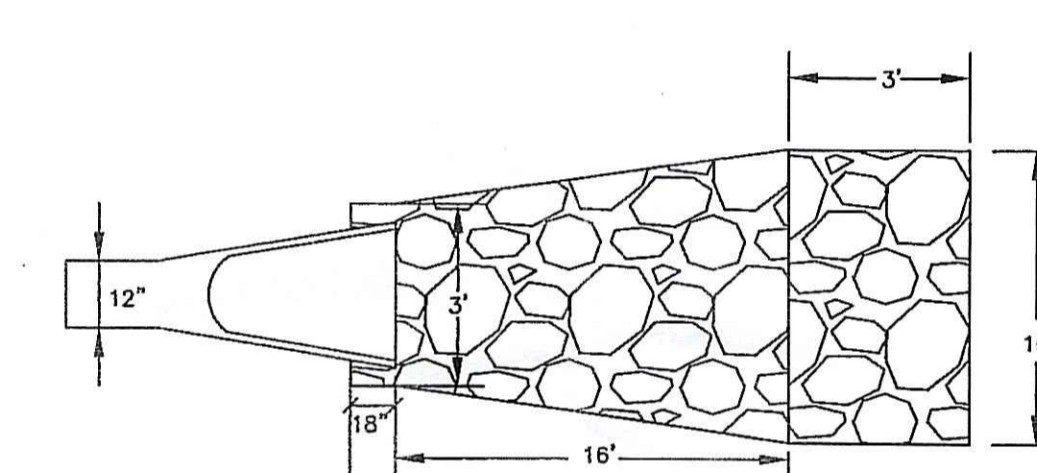
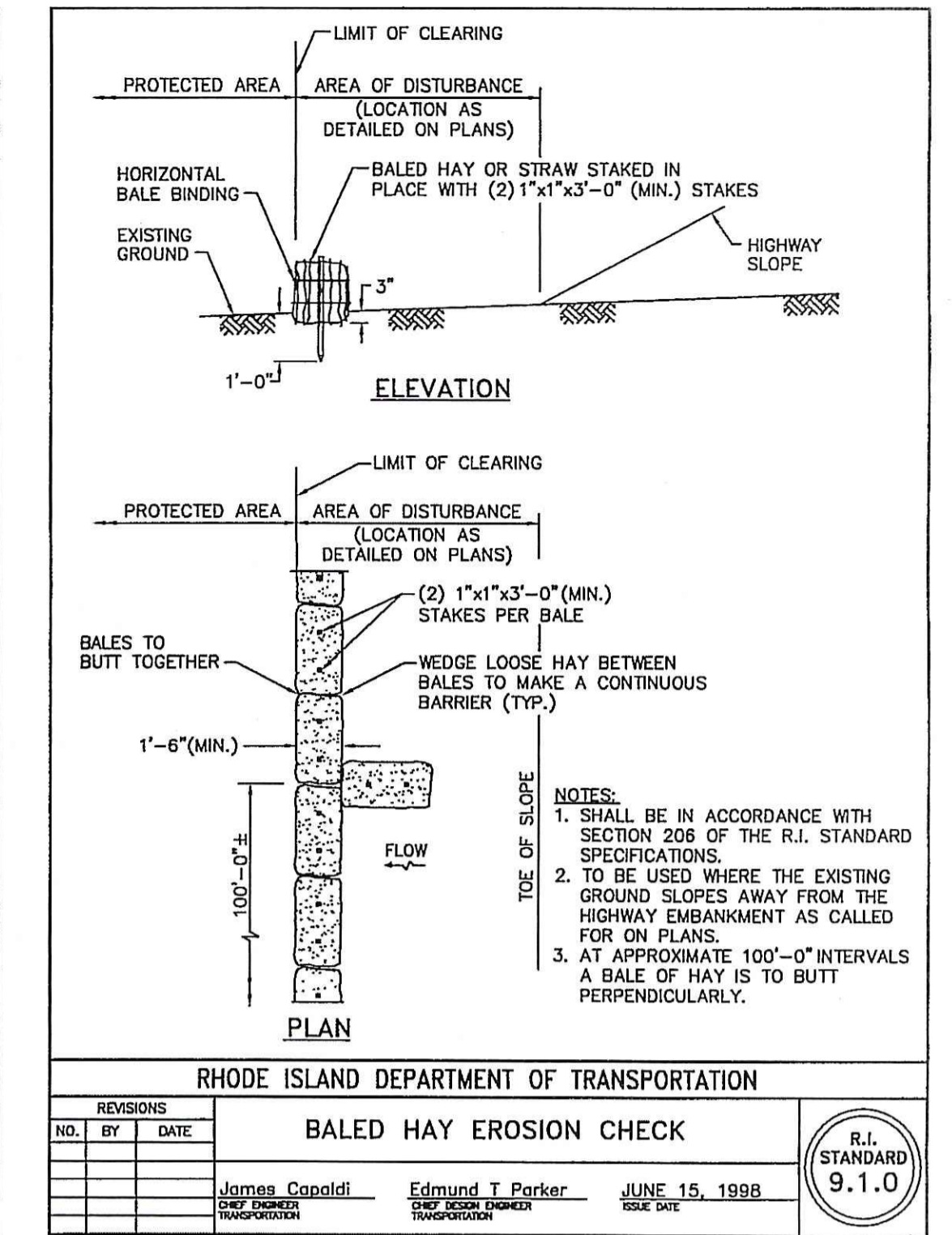
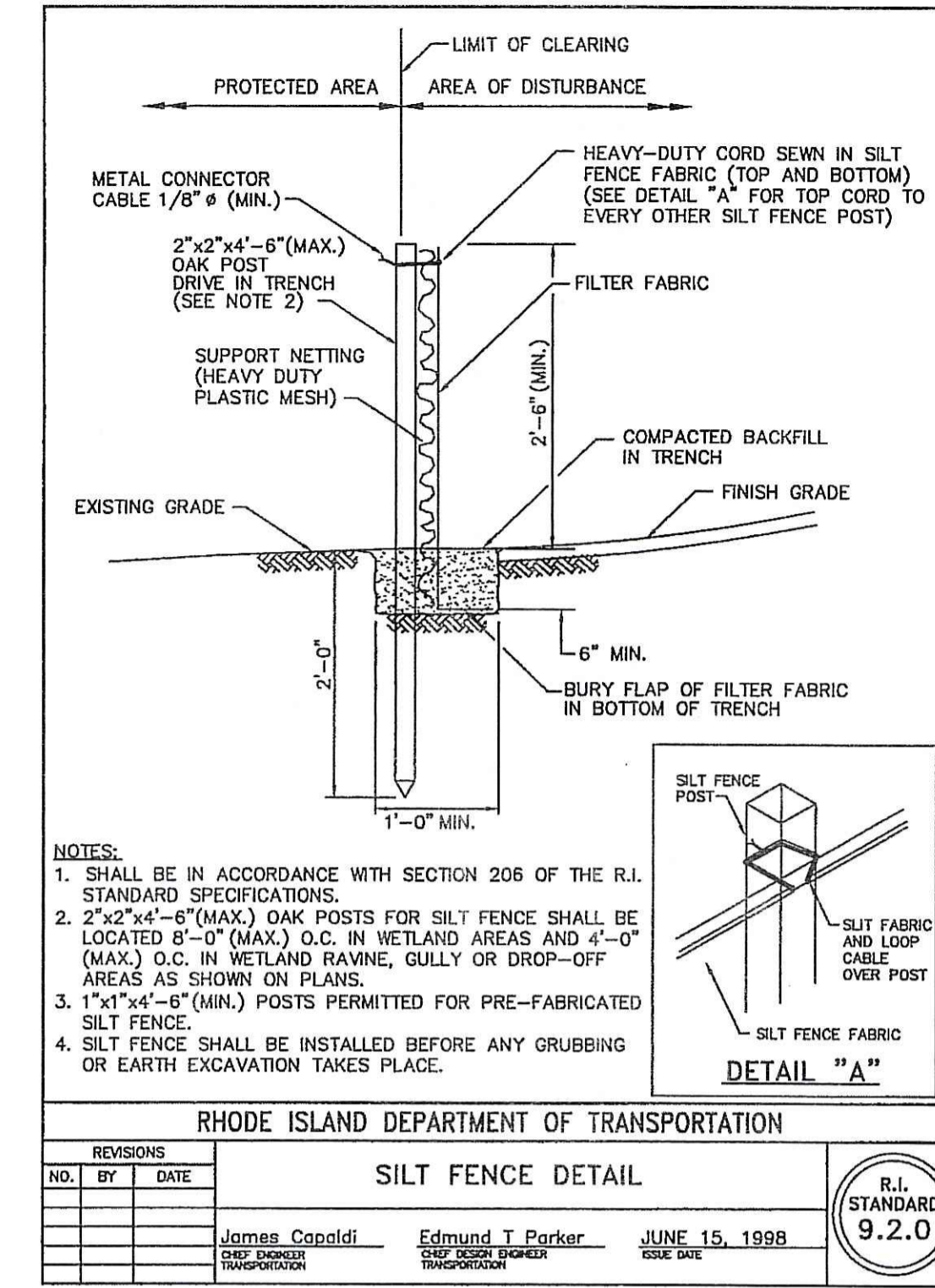
DRAINAGE NOTES

- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AS NECESSARY, IN ORDER TO LOCATE ANY EXISTING UTILITIES, VERIFY ALL DIMENSIONS, SITE CONDITIONS AND MATERIAL SPECIFICATIONS AND SHALL NOTIFY THE ENGINEER OF ANY ERRORS, OMISSIONS OR DISCREPANCIES.
- THE PIPING LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN ONLY AND DOES NOT SHOW ALL OF THE REQUIRED FITTINGS TO OBTAIN PROPER ALIGNMENT. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED FITTINGS TO OBTAIN PROPER ALIGNMENT AND FOR EXISTING UTILITY CONNECTIONS BASED UPON FIELD CONDITIONS. ITEMS AND/OR ALIGNMENT WHICH DO NOT MATCH THE PLANS MUST BE BROUGHT TO THE ENGINEERS' ATTENTION, PRIOR TO CONSTRUCTION, FOR REVIEW. NO SUCH WORK SHALL PROCEED UNTIL AUTHORIZED BY THE ENGINEER.
- PROPOSED CONDITIONS ARE TO FINISH GRADE.
- THE MAXIMUM SLOPE OF EMBANKMENT AREAS SHALL NOT EXCEED 1.0 FOOT VERTICAL RISE ON A 2.0 FEET HORIZONTAL RUN, OR PER APPLICABLE JURISDICTIONAL REGULATION.
- ALL RIM ELEVATIONS ARE APPROXIMATE AND SHALL BE VERIFIED FOR THEIR RELATIONSHIP TO EXISTING GRADES AND CROSS SLOPES. CONTRACTOR SHALL ADJUST RIM ELEVATIONS AS REQUIRED TO PROVIDE A SMOOTH SURFACE IN CONJUNCTION WITH ALL OTHER SPECIFIED SURFACE REQUIREMENTS.
- ALL STRUCTURES SHALL BE DESIGNED FOR HS-20 LOADING.
- ANY ITEM OF WORK NOT SPECIFICALLY INDICATED ON THE PLANS, BUT MUST BE PERFORMED FOR THE COMPLETE CONSTRUCTION OF THE PROPOSED WORK, WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND INCLUDED IN THE CONTRACT BID PRICE. IT WILL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY ALL EXISTING SITE CONDITIONS.
- THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE UTILITY SERVICES AND IN ACCORDANCE WITH THE INSTALLATION PROCEDURES OF THE LOCAL UTILITY COMPANY.
- TELEPHONE/CABLE SERVICE SHALL BE DESIGNED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE UTILITY SERVICES AND IN ACCORDANCE WITH THE INSTALLATION PROCEDURES OF THE LOCAL UTILITY COMPANY.
- ROADS SHALL BE LEFT PASSABLE AT ALL TIMES. ROAD CLOSURE MAY OCCUR ONLY IN THE PRESENCE OF A LICENSED TRAFFIC CONTROL OFFICER.
- THE CONTRACTOR SHALL MAINTAIN ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES AND DURING INCLIMATE WEATHER. ROADS, AROUND AND THROUGH THE CONSTRUCTION SITE, SHALL BE OF A MINIMUM WIDTH OF 20 FEET AND SHALL BE STRUCTURALLY ABLE TO CARRY A FIRE TRUCK.

DRAINAGE SYSTEM MAINTENANCE SCHEDULE

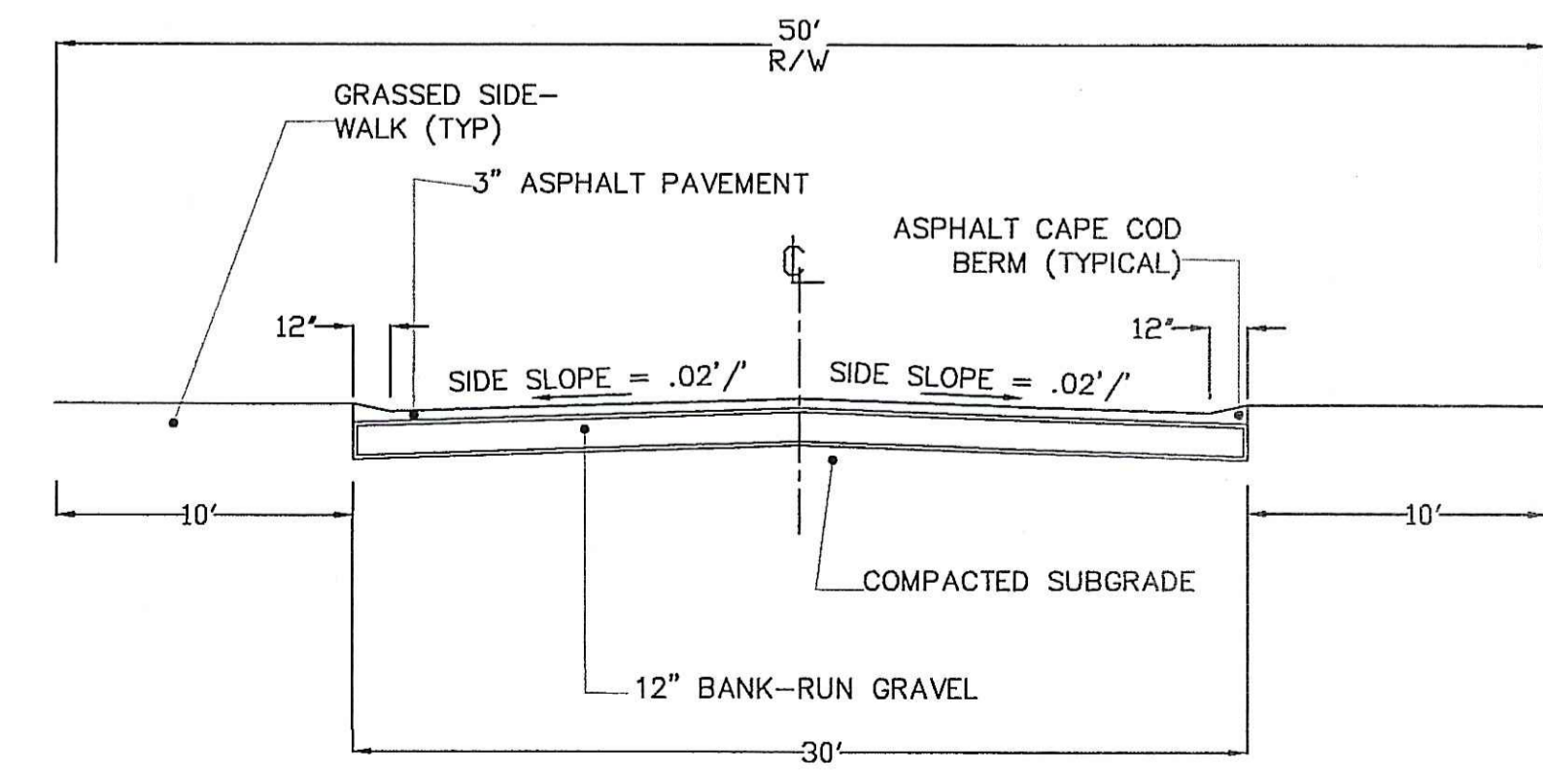
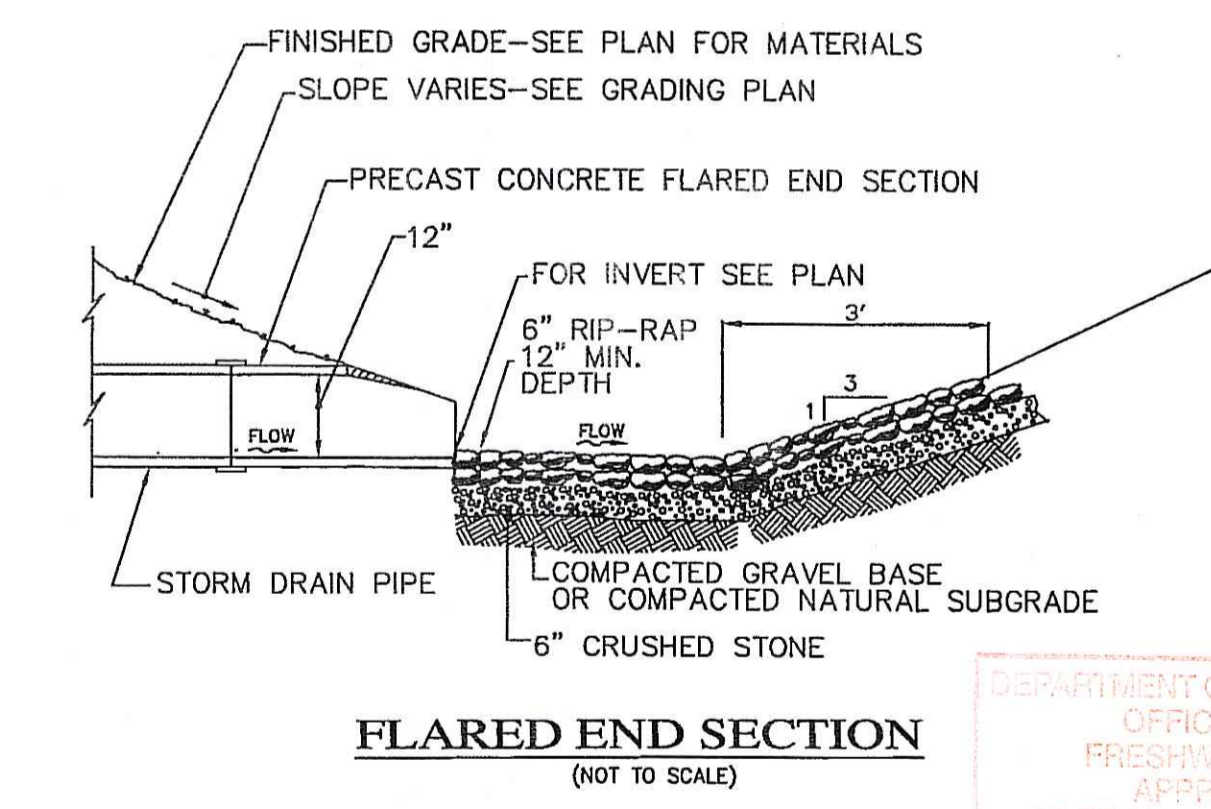
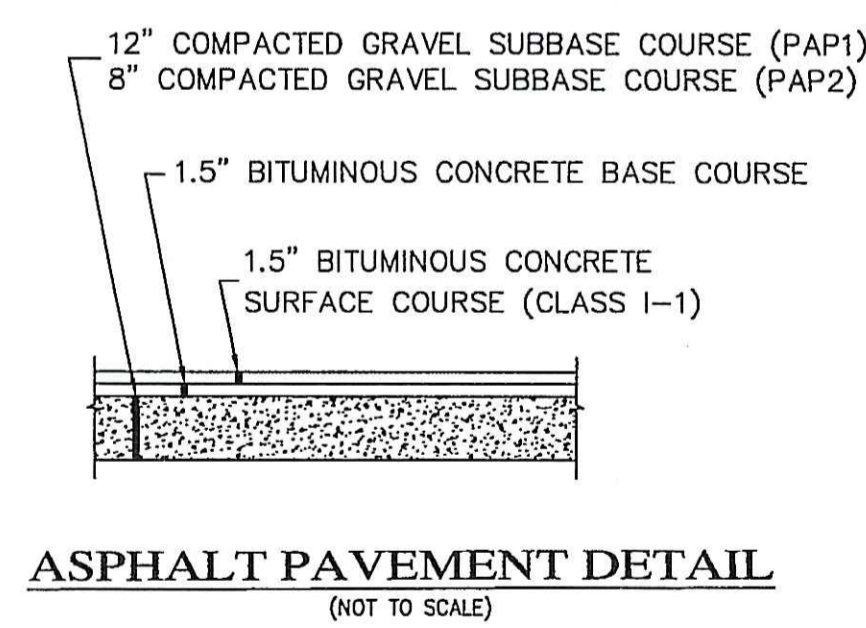
UPON COMPLETION, THE SITE OWNER SHALL ADHERE TO THE FOLLOWING MAINTENANCE RECOMMENDATIONS:

- CATCH BASINS, MANHOLES, DRYWELL SYSTEMS AND DRAIN LINES SHALL BE INSPECTED ANNUALLY, BY QUALIFIED PERSONNEL, TO ENSURE PROPER OPERATION. THE INSPECTION SHALL INCLUDE, AT A MINIMUM, DAMAGE DUE TO EROSION, EVIDENCE OF STANDING WATER, DEBRIS ACCUMULATION AND STRUCTURAL ALIGNMENT/INTEGRITY.
- IN ACCORDANCE WITH THE REQUIREMENTS OF THE RIDEM UNDERGROUND INJECTION CONTROL PROGRAM, THE UNDERGROUND INFILTRATION SYSTEMS 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 (ISDS, ETC), 10 FEET FROM ALL BUILDINGS AND PROPERTY LINES, 200 FEET FROM ALL SURFACE WATER SUPPLIES/TRIBUTARIES, 150 FEET FROM ALL COASTAL PONDS, 2' ABOVE SEASONAL HIGH GROUND WATER TABLE AND AT LEAST 5' ABOVE LEDGE.
- 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. ALL REMOVED 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.
- AT A MINIMUM, INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM SHALL FOLLOW THE STANDARDS OUTLINED IN THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, SEPTEMBER 1993 OR LATEST EDITION.
- PROCEDURES FOR SOIL PREPARATION AND SEEDING SHALL BE DONE IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, CHAPTER 4.
- 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 THREE DAYS AFTER A STORM EVENT, THEN FAILURE OF THE SYSTEM HAS OCCURED AND SHOULD BE ADDRESSED THROUGH REPAIR AND/OR REPLACEMENT.



- NOTES:**
- FOR RETROFIT INSTALLATIONS OR DISSIMILAR MATERIALS, ADAPTING TEE SHALL BE FABRICATED WITH N-12 DISSIMILAR MATERIALS ADAPTER (SHOWN ABOVE).
 - 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 MIDDLE OF STRUCTURE WALL AND SHALL EITHER BE GROUTED OR BOOTED IN PLACE.
 - TEE SHALL BE SUPPORTED WITH A MINIMUM OF THREE STAINLESS STEEL STRAPS AT APPROXIMATE LOCATIONS SHOWN.
 - STAINLESS STEEL STRAPS SHALL BE ANCHORED INTO STRUCTURE WITH FASTENERS.
 - IF ORIFICES ARE INCORPORATED FOR FLOW CONTROL, CARE SHALL BE TAKEN SO AS NOT TO INSTALL STRAPS OVER THE ORIFICE.
 - FINAL DIAMETER AND LENGTH OF TEE AND SIZE AND LOCATION OF ORIFICES (EITHER ON PLATE OR IN THE TEE) SHALL BE DETERMINED BY THE ENGINEER.

HOOD/FLOW CONTROL TEE
(NOT TO SCALE)



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 15 2010 FILE # 10-0035
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

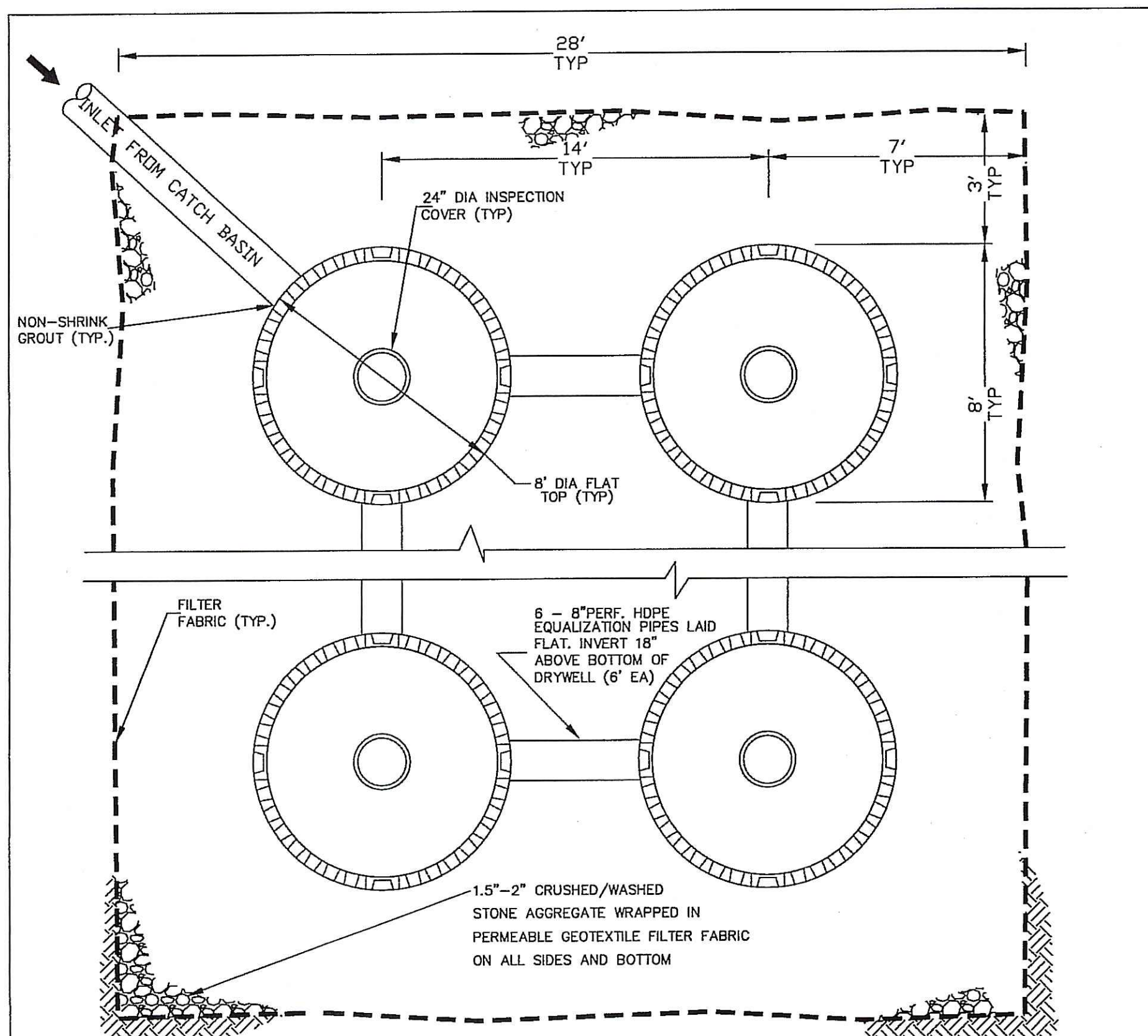
FERDINAND C. IHENACHO
WARNING: Original in Red Seal
No. 6136
2010
REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
ALFRED RUSSO &
VINCENT RUSSO JR.
132 SIMMONSVILLE AVENUE
JOHNSTON, RI 02919
(401)231-3200

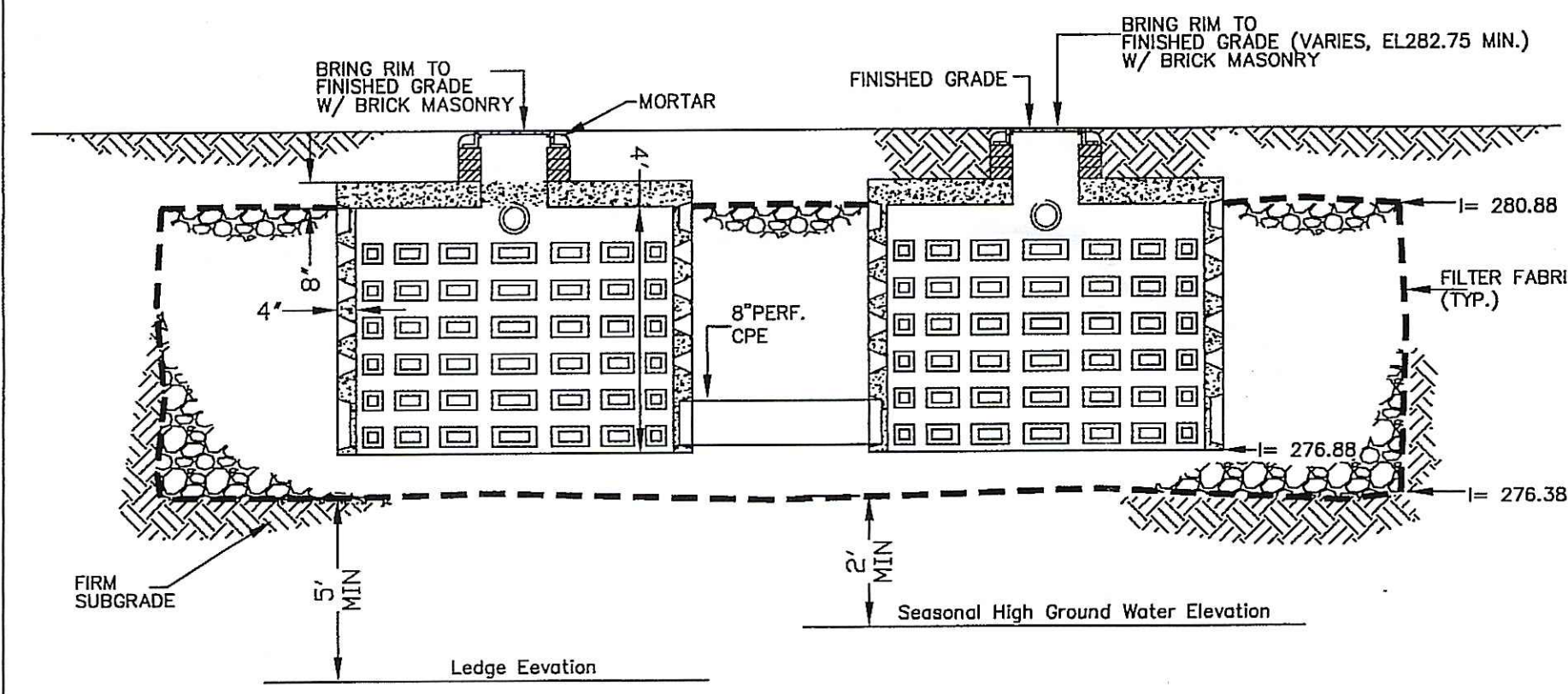
Drawing: **DETAIL SHEET I**
Project: **ALVINA ESTATES II**
AP 29, LOT 68
JOHNSTON, RHODE ISLAND

FCI ENGINEERING GROUP, LLC
Civil engineering Consultants
• Land development • Transportation •
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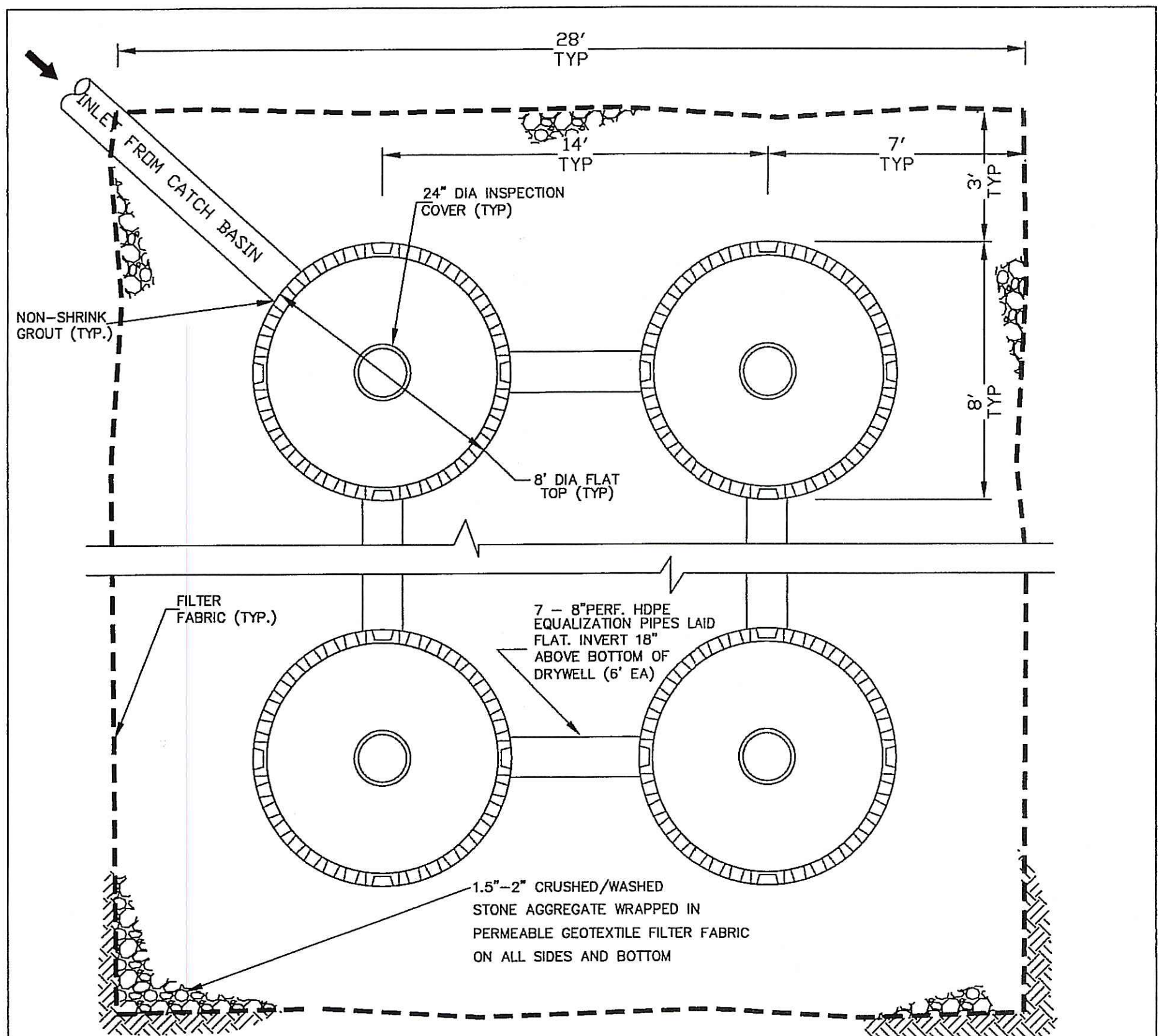
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Drawn: F.I.
Date: 11-13-2009
Revised:
Drawing Number: **C-5**
Sheet 6_of_8



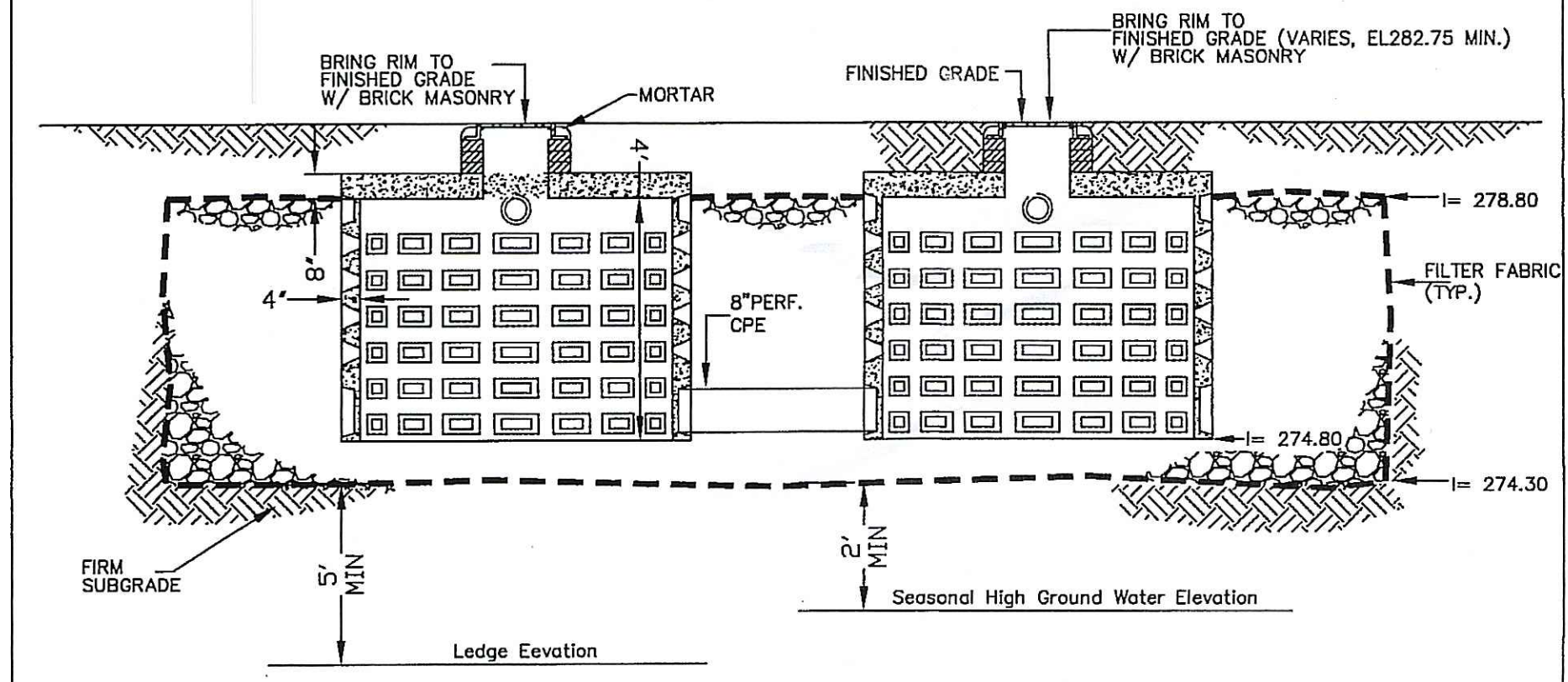
PLAN VIEW



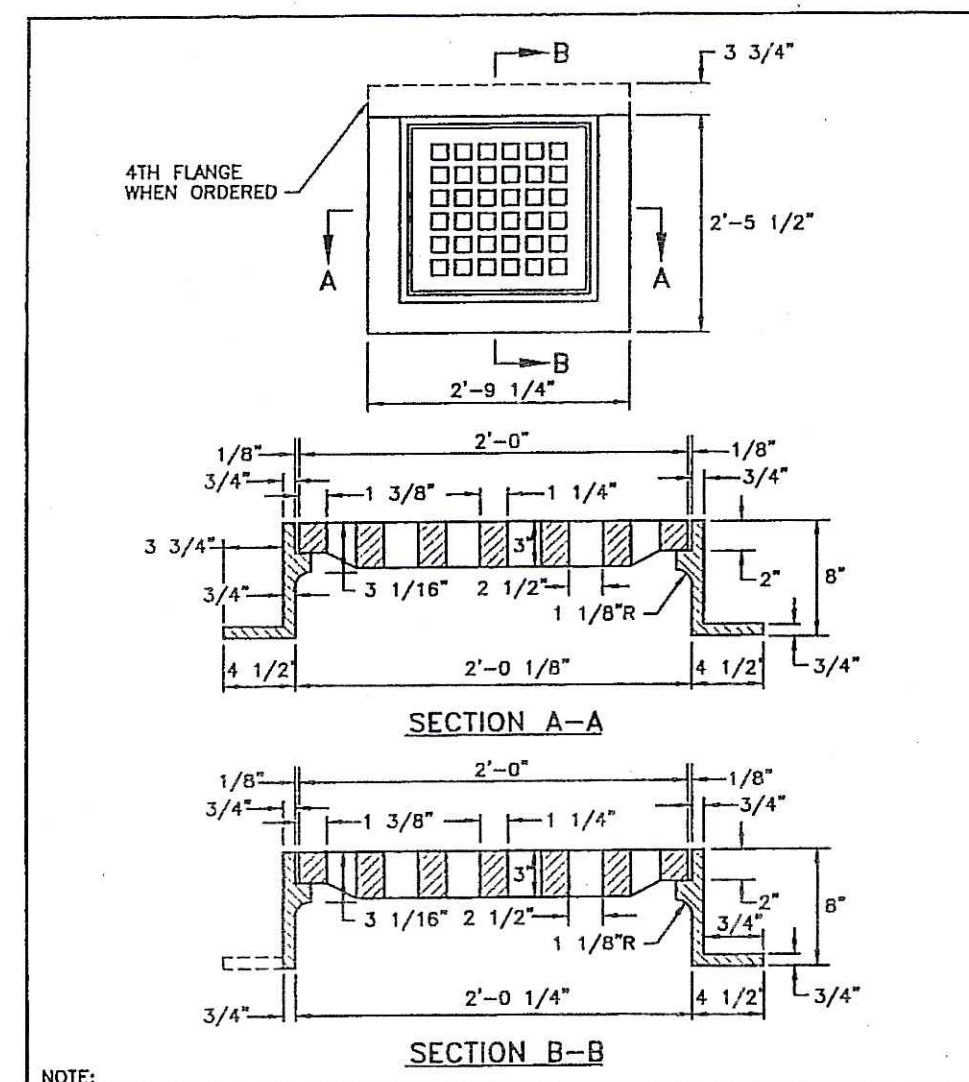
SECTION VIEW
TYPICAL DRYWELL UIS1
NOT TO SCALE



PLAN VIEW



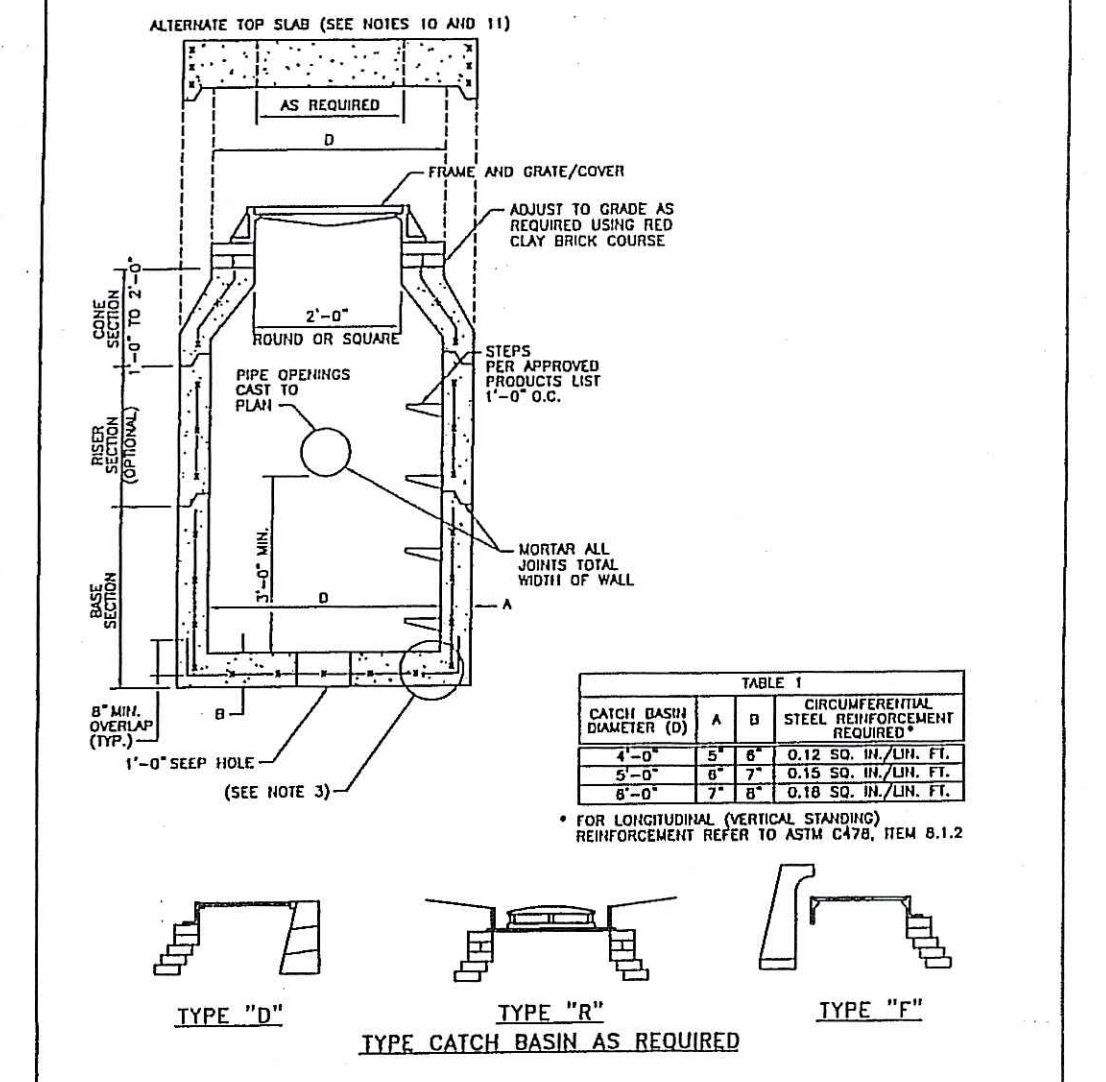
SECTION VIEW
TYPICAL DRYWELL UIS2
NOT TO SCALE



NOTE: FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.

REVISIONS		RHODE ISLAND DEPARTMENT OF TRANSPORTATION		R.I. STANDARD 6.3.0
NO.	BY	DATE		

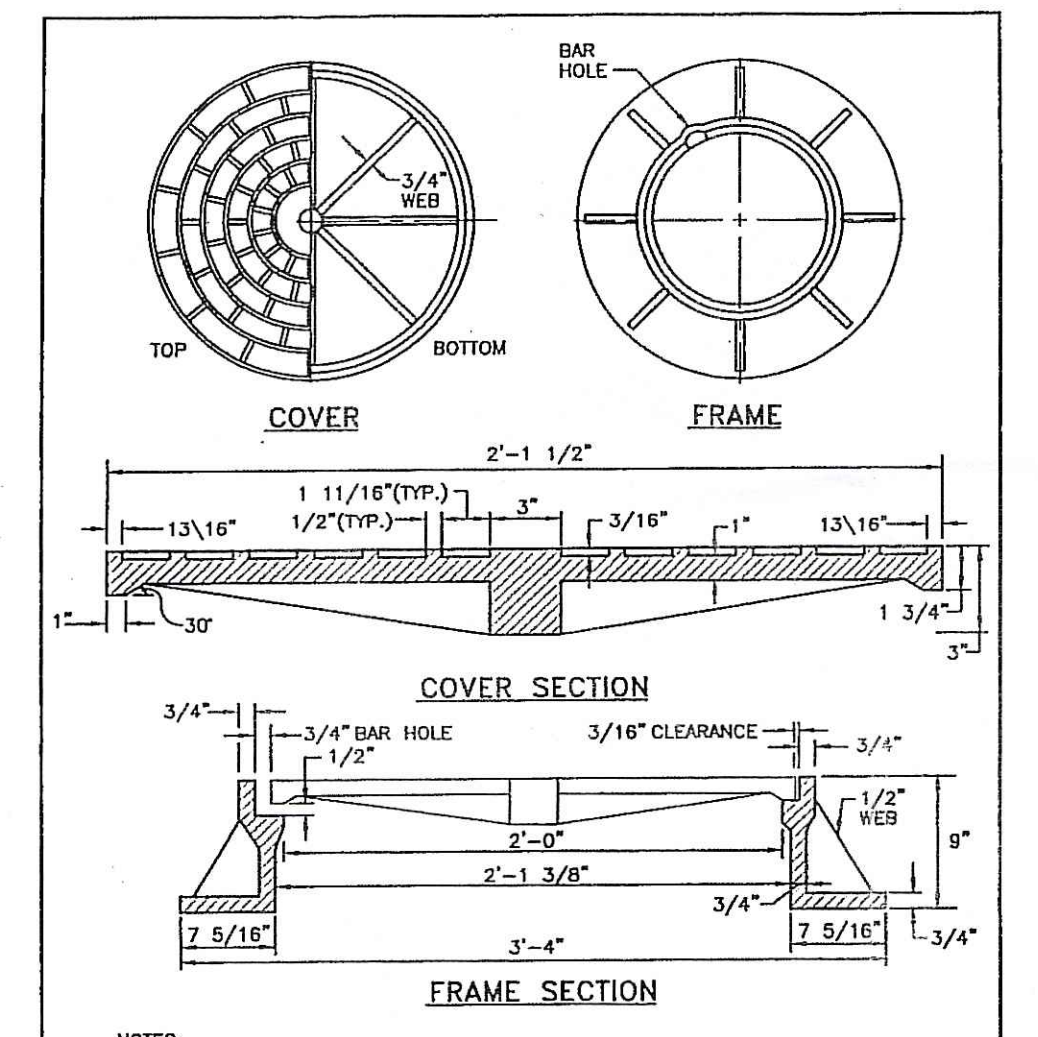
DATE: JUNE 15, 1998



NOTE: 1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS. 2. SET TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS. 3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LN. FT. (BOTH WAYS). 4. ONE FOUR MONOLITHIC BASE SECTION. 5. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED. 6. STEPS SHALL CONFORM TO STD. S.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT. 7. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED 11-23 LOADING (SEE STD. 4.7.2). 8. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH. 9. REFER TO STD. S.2.0 FOR MAXIMUM PIPE SIZES.

REVISIONS		RHODE ISLAND DEPARTMENT OF TRANSPORTATION		R.I. STANDARD 4.4.0
NO.	BY	DATE		

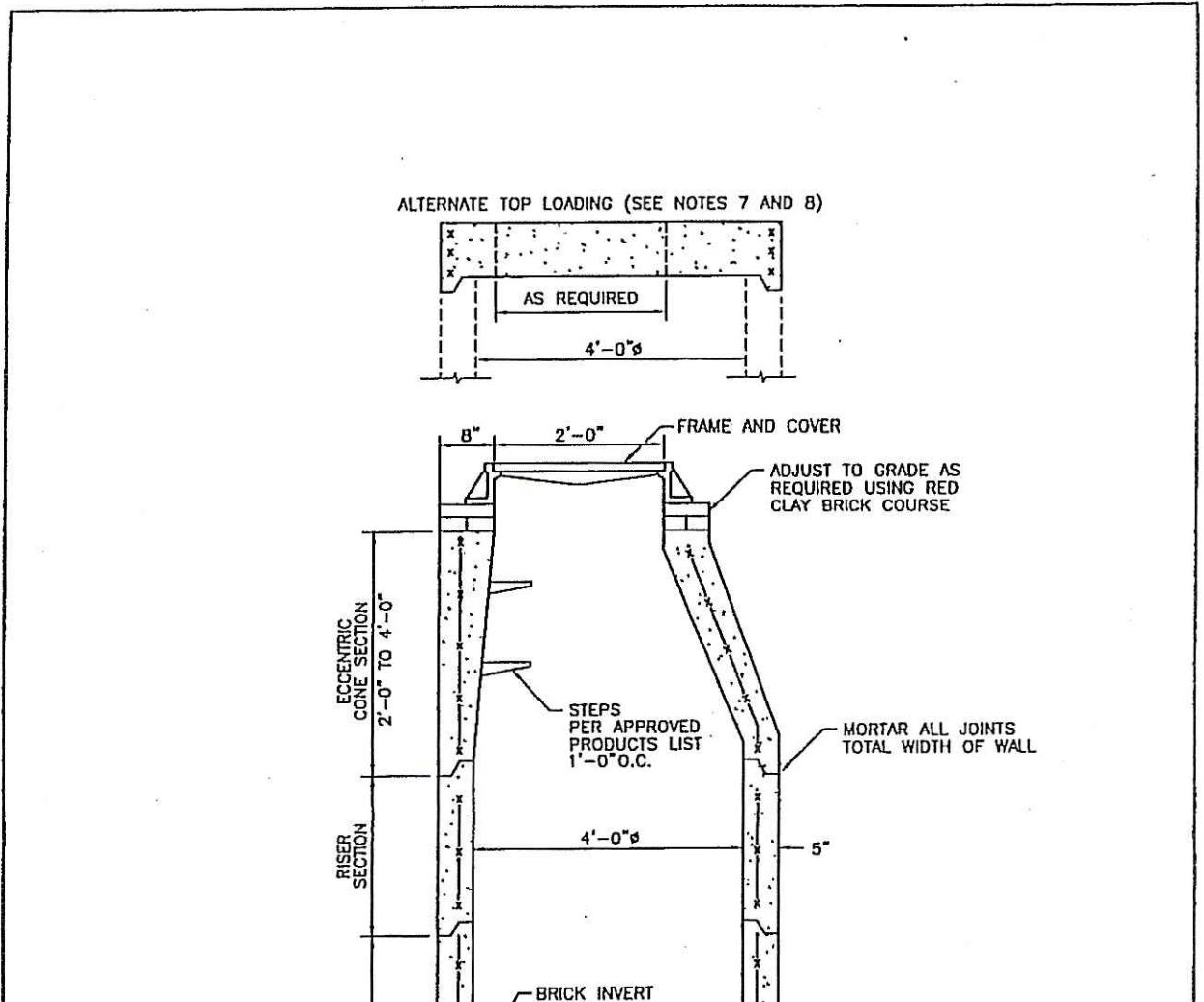
DATE: JUNE 15, 1998



NOTE: 1. FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS. 2. FRAME AND COVER SEATS MUST HAVE MACHINE FINISH.

REVISIONS		RHODE ISLAND DEPARTMENT OF TRANSPORTATION		R.I. STANDARD 6.2.1
NO.	BY	DATE		

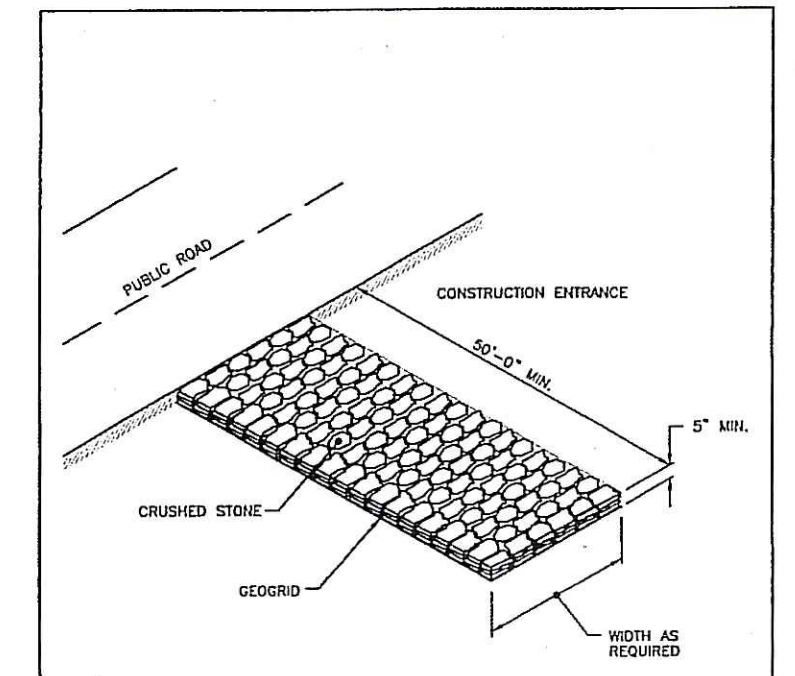
DATE: JUNE 15, 1998



NOTE: 1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS. 2. CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED = 0.12 SQ. IN. / LN. FT. MINIMUM. 3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LN. FT. (BOTH WAYS). 4. ONE FOUR MONOLITHIC BASE SECTION. 5. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED. 6. STEPS SHALL CONFORM TO STD. S.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT. 7. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED 11-23 LOADING (SEE STD. 4.7.2). 8. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH. 9. REFER TO STD. S.2.0 FOR MAXIMUM PIPE SIZES.

REVISIONS		RHODE ISLAND DEPARTMENT OF TRANSPORTATION		R.I. STANDARD 4.2.0
NO.	BY	DATE		

DATE: JUNE 15, 1998



REVISIONS		RHODE ISLAND DEPARTMENT OF TRANSPORTATION		R.I. STANDARD 9.9.0
NO.	BY	DATE		

DATE: JUNE 15, 1998

PREPARED FOR:
ALFRED RUSSO &
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132 SIMMONSVILLE AVENUE
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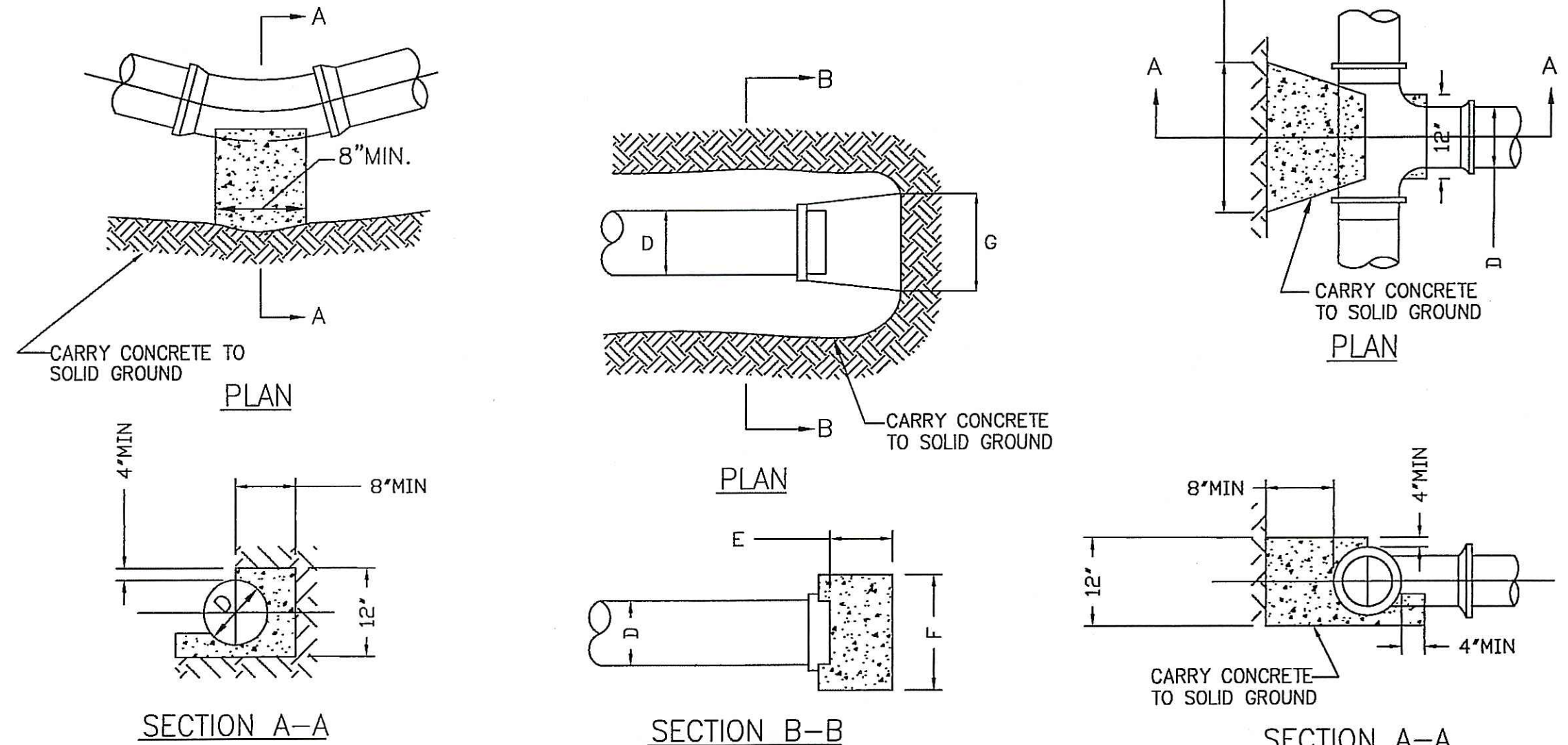
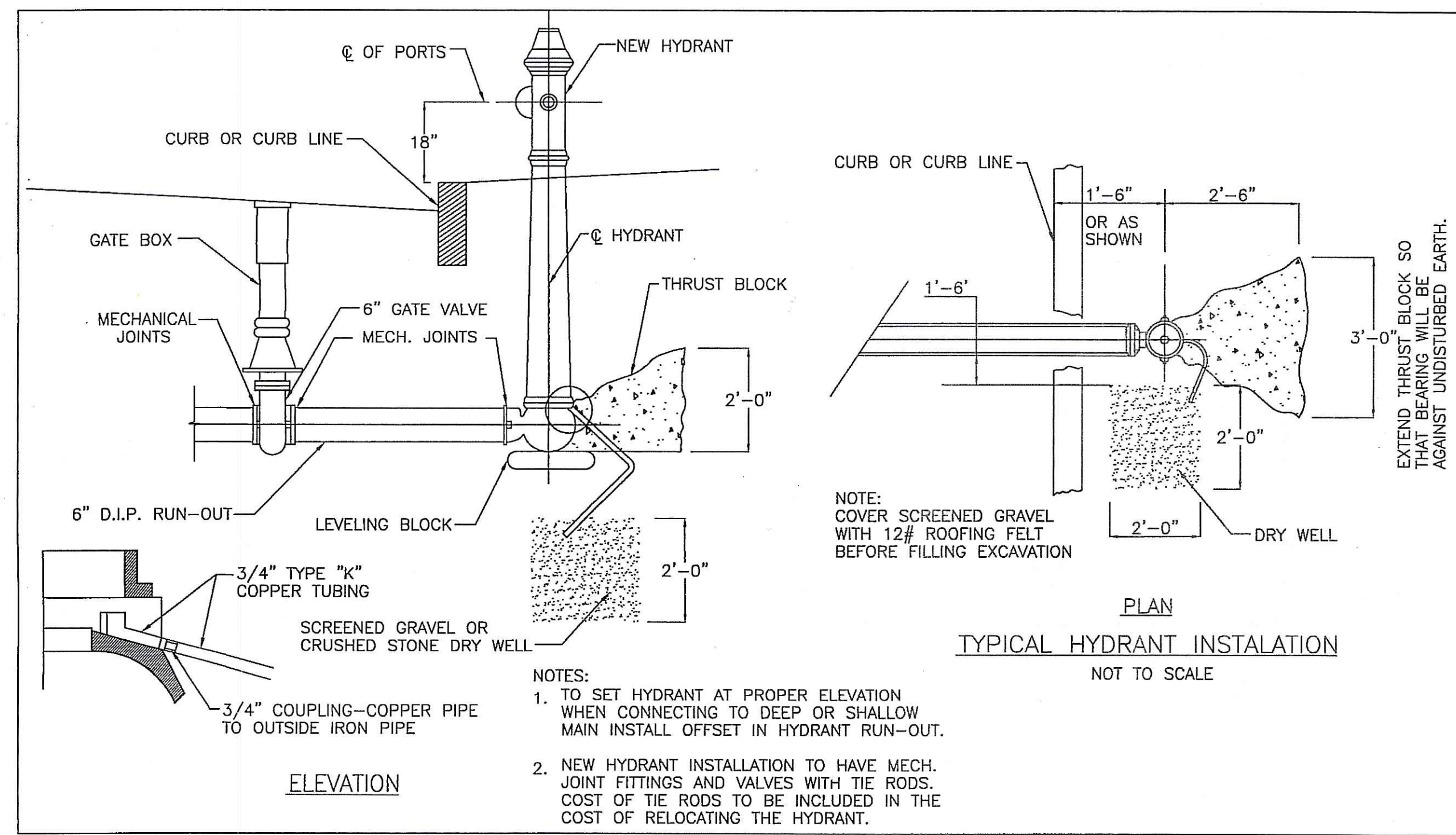
Drawing: **DRAINAGE DETAIL SHEET II**
Project: **ALVINA ESTATES II**
AP 29, LOT 68
JOHNSTON, RHODE ISLAND

FCI Project No. E0904
Scale: AS SHOWN
Design: F.I.
Drawn: F.I.
Date: 11-13-2009
Revised:
Drawing Number: **C-6**
Sheet_7_of_8_

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

WATER NOTES

- ALL INSTALLATION, JOINTS, CONSTRUCTION METHODS AND MATERIALS SHALL BE ACCORDING TO THE JOHNSTON WATER SUPPLY BOARD (JWSB) REQUIREMENTS, THE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS AND OTHER GOVERNMENTAL REQUIREMENTS.
- THE GENERAL CONTRACTOR SHALL, PRIOR TO CONSTRUCTION, CONTACT THE JWSB 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 JWSB SYSTEM AND IN CONFORMANCE TO AWWA RECOMMENDATIONS, JOHNSTON 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 4.5'. 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.
- THE CONTRACTOR MUST LOCATE THE EXISTING WATER MAIN, ON ALVINA DRIVE, TO OBTAIN THE PROPER OUTSIDE DIAMETER TO SIZE THE MAIN EXTENSION, CORPORATION AND VALVE.
- ALL SYSTEM COMPONENTS AND CONSTRUCTION METHODS, SUCH AS PIPE, RESTRAINED MECHANICAL JOINTS, FITTINGS, CASTINGS, ETC., SHALL BE SUBMITTED TO THE JOHNSTON 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 JWSB PRIOR TO THE CONTRACTOR ORDERING PIPE AND BACKFLOW PREVENTER. UPON REQUEST, METERS WILL BE FURNISHED AND INSTALLED BY THE JWSB.
- THE DOMESTIC WATER SERVICES SHOWN SHALL BE INSPECTED BY THE JWSB FROM CURB STOP TO UTILITY ROOM PRIOR TO BEING BACKFILLED. 48-HOUR NOTICE REQUIRED. TO SCHEDULE INSPECTION CALL (401)351-1760
- 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 HORIZONTAL BENDS

BEND	6"
11 X, 22 X & 45°	A 2'-0"
	B 10"
	C 1'-6"
90°	A 2'-6"
	B 1'-3"
	C 1'-6"

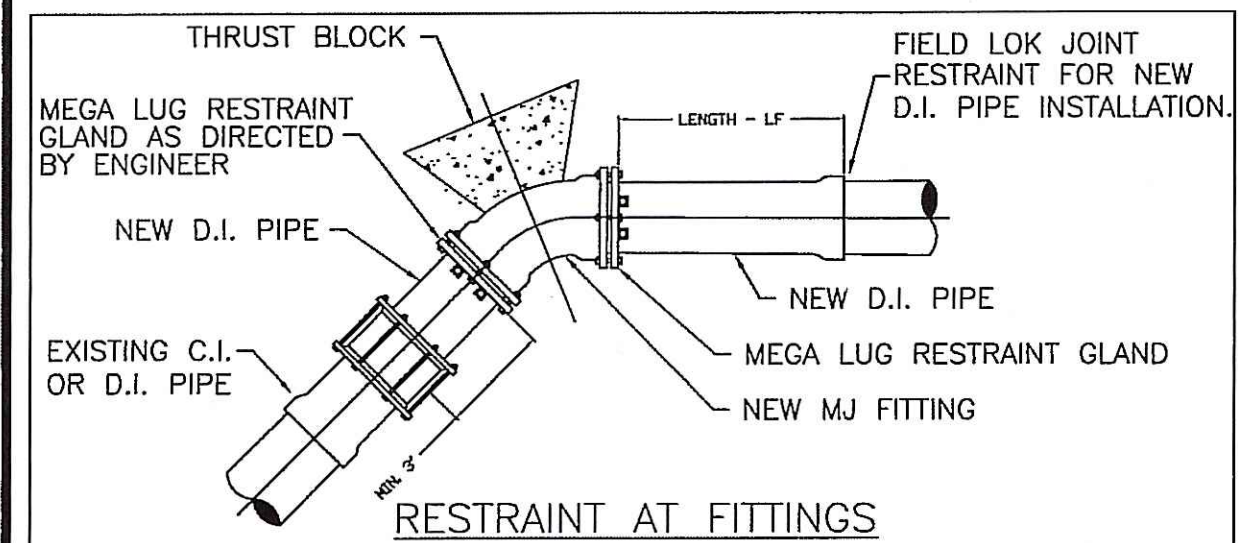
THRUST BLOCKS FOR CAPS

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"

THRUST BLOCKS FOR CAPS TEES AND HORIZONTAL BENDS
NOT TO SCALE



MINIMUM SURFACE AREA OF CONCRETE THRUST BLOCK AGAINST UNDISTURBED EARTH - IN SF. (GRADE FEET)

MINIMUM RESTRAINED LENGTH OF PIPE ON EITHER SIDE OF FITTING - IN LF. (LINEAR FEET)

PIPE SIZE SF	PLUG LF	TEE SF	90° BEND LF	45° BEND LF	22½° BEND LF	11½° BEND LF
6"	2.8	37	2.8	32	4.0	18
8"	4.8	48	4.8	43	6.0	23
10"	7.3	58	7.3	53	10.3	28
12"	10.3	69	10.3	63	14.3	33
16"	17.8	89	17.8	83	25.2	42
20"	27.5	108	27.5	102	38.9	51
24"	39.2	127	39.2	121	55.4	59

- ALL CONCRETE TO BE CLASS B (A2)
- THE "SF" VALUES IN THE ABOVE TABLE ARE BASED ON 3000 p.s.f. SOIL BEARING CAPACITY, 150 p.s.f. TEST PRESSURE AND A 1.5 FACTOR OF SAFETY.
- THE "LF" VALUES IN THE ABOVE TABLE ARE BASED ON A TYPE 3 LAYING CONDITIONS, A SAND SILT SOIL DESIGNATION, A 5 FOOT RUN LENGTH, 150 P.S.F. TEST PRESSURE AND A 1.5 FACTOR OF SAFETY AS USED IN THE "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" COMPUTER PROGRAM BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION.
- IF SOIL CONDITIONS OR EXCAVATION LIMITS ENCOUNTERED DURING CONSTRUCTION MAKE IT UNFEASIBLE TO PLACE THRUST BLOCKS AGAINST UNDISTURBED EARTH OF THE PROPER BEARING CAPACITY, THE CONTRACTOR SHALL DESIGN AND PLACE SPECIAL REACTION BLOCKS OF SUFFICIENT WEIGHT TO RESIST FULL THRUST UNDER ALL CONDITIONS. THE DESIGN SHALL BE SUBJECT TO PWSB APPROVAL.
- MINIMUM SURFACE AREAS SHALL BE INCREASED BY 50% IF DEEMED NECESSARY BY THE ENGINEER.
- A MECHANICAL JOINT RESTRAINT SYSTEM MUST BE USED FOR VERTICAL BENDS.
- AT THE DISCRETION OF THE ENGINEER, A JOINT RESTRAINT SYSTEM MAY BE SUBSTITUTED FOR OR USED IN COMBINATION WITH PROPER THRUST BLOCKING.
- A 48 HR. CURING PERIOD MUST BE GIVEN BEFORE FULL LINE PRESSURE CAN BE APPLIED TO NEW CONCRETE THRUST BLOCKS.
- ANCHOR BLOCK DESIGN FOR PIPE LARGER THAN 24" SHALL BE REVIEWED ON AN INDIVIDUAL BASIS BY THE PWSB.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 15 2010 FILE # 10-0035
NO CHANGES ALLOWED WITHOUT PRIOR WRITTEN APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

FERDINAND C. IHENACHO
REGISTERED PROFESSIONAL ENGINEER
No. 6136
3/01

PREPARED FOR:
ALFRED RUSSO &
VINCENT RUSSO JR.
132 SIMMONSVILLE AVENUE
JOHNSTON, RI 02919
(401)231-3200

Drawing: **WATER DETAIL SHEET III**
Project: **ALVINA ESTATES II**
AP 29, LOT 68
JOHNSTON, RHODE ISLAND

FCI Project No. E0904
Scale: AS SHOWN
Design: F.I.
Drawn: F.I.
Date: 11-13-2009
Revised:

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Civil engineering Consultants
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• Environmental • Expert Witness •

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Drawing Number: **C-7**
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