

FINAL SITE PLANS FOR HILLTOP CONDOMINIUMS

AP 38 LOT 34
GILCREST DRIVE & WATERFALL WAY
WEST WARWICK, RHODE ISLAND

ZONING DISTRICT: RFR 2

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED NOV 08 2011 FILE # 11-0023
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Hubert

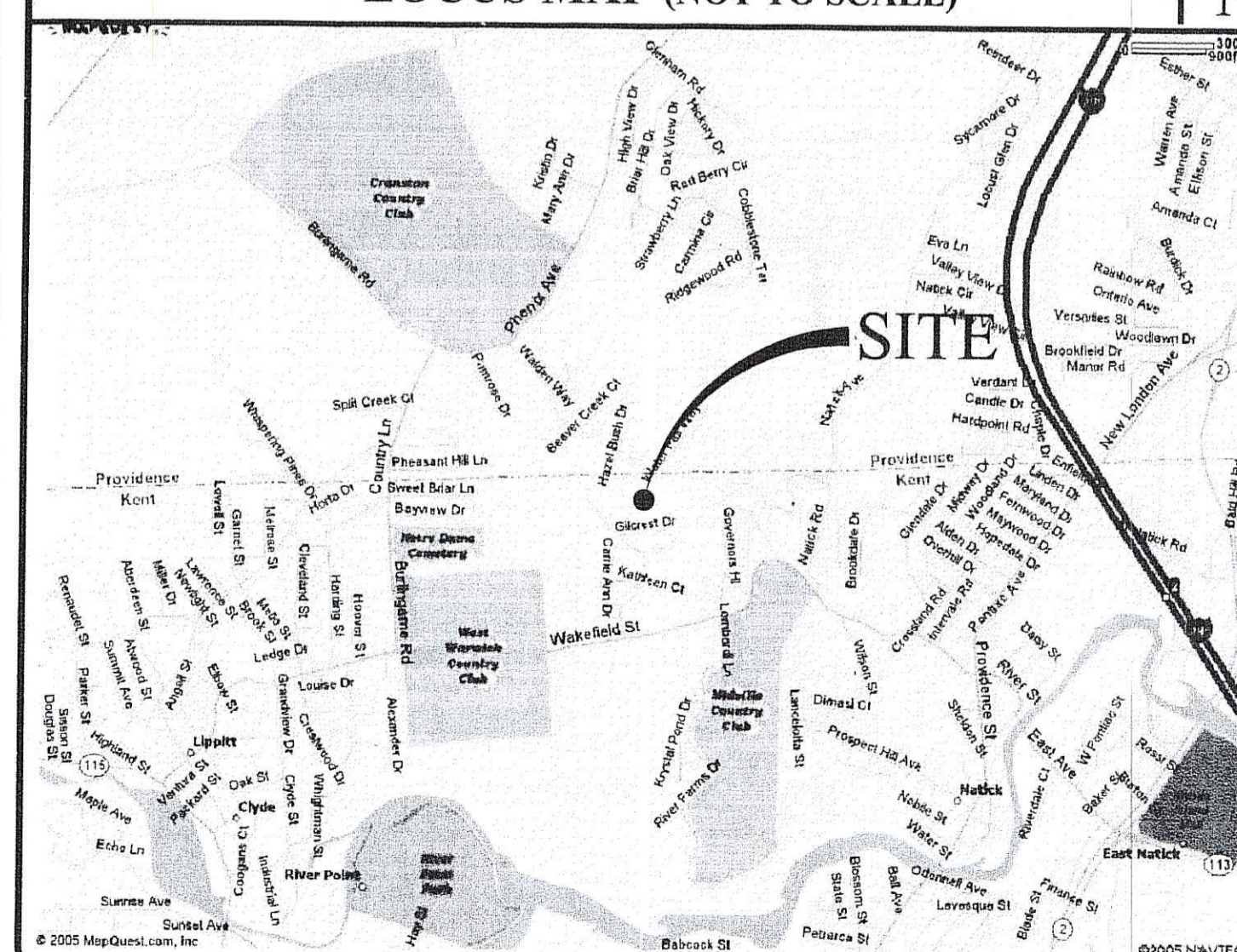
PROJECT TEAM

OWNER: BUILDERS FIRST FINANCIAL &
RAYMOND C. GREEN INC.
131 DARTMOUTH STREET, SUITE 101
BOSTON, MASSACHUSETTS 02116

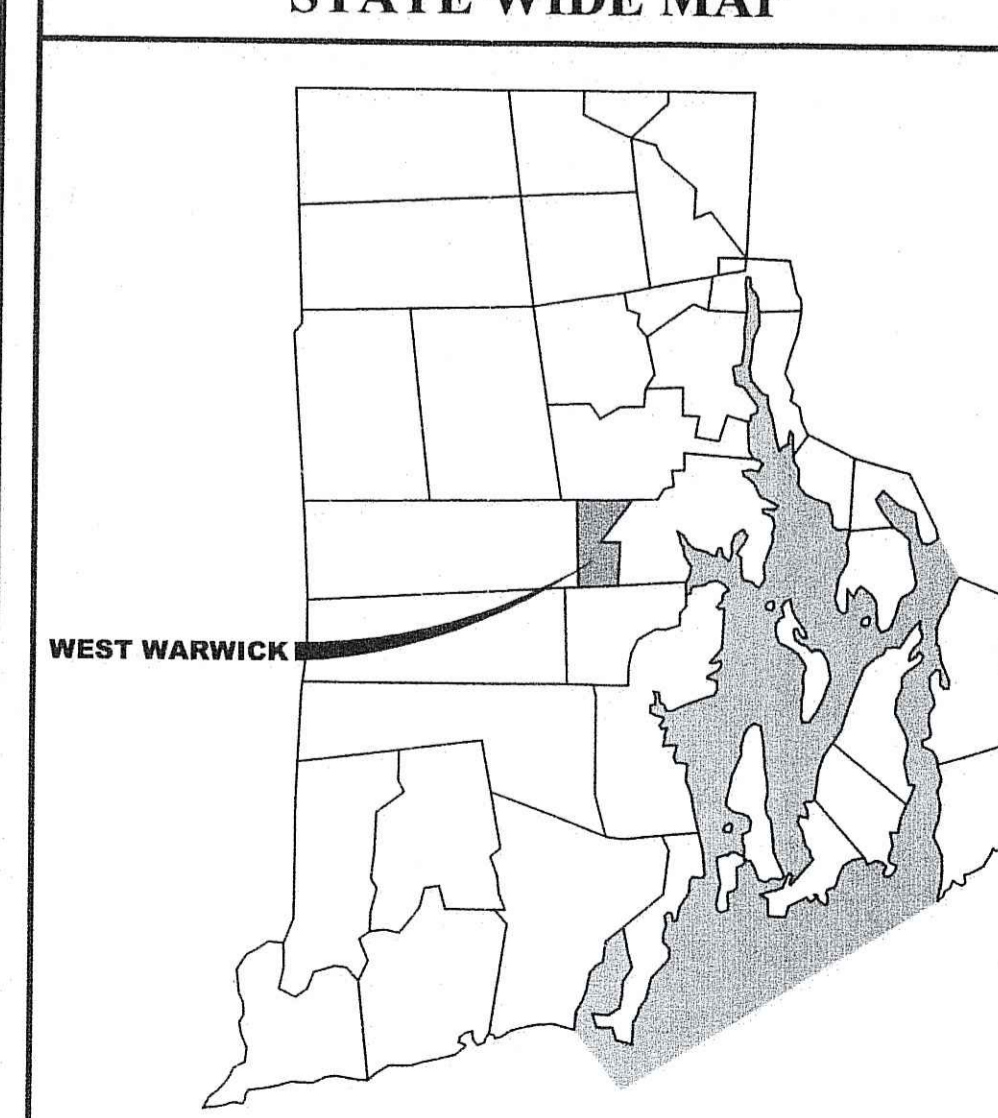
CIVIL: JOE CASALI ENGINEERING, INC.
300 POST ROAD
WARWICK, RI 02888
PHONE: 401-944-1300
FAX: 401-944-1313

SURVEYOR: K. ANDREWS ASSOCIATES
1050 MAIN STREET SUITE 30
EAST GREENWICH, RI 02818
PHONE: (401) 855-0770
FAX: (401) 855-0770

LOCUS MAP (NOT TO SCALE)



STATE WIDE MAP

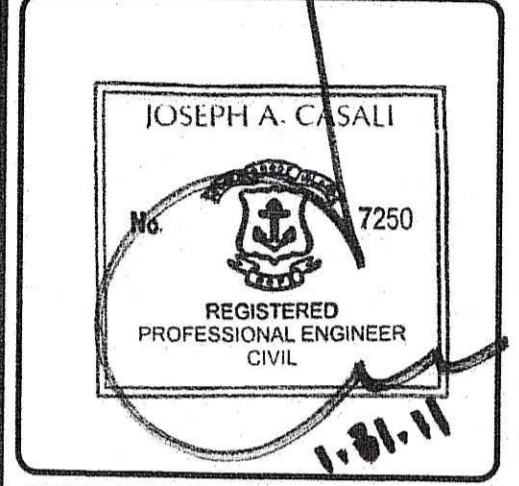
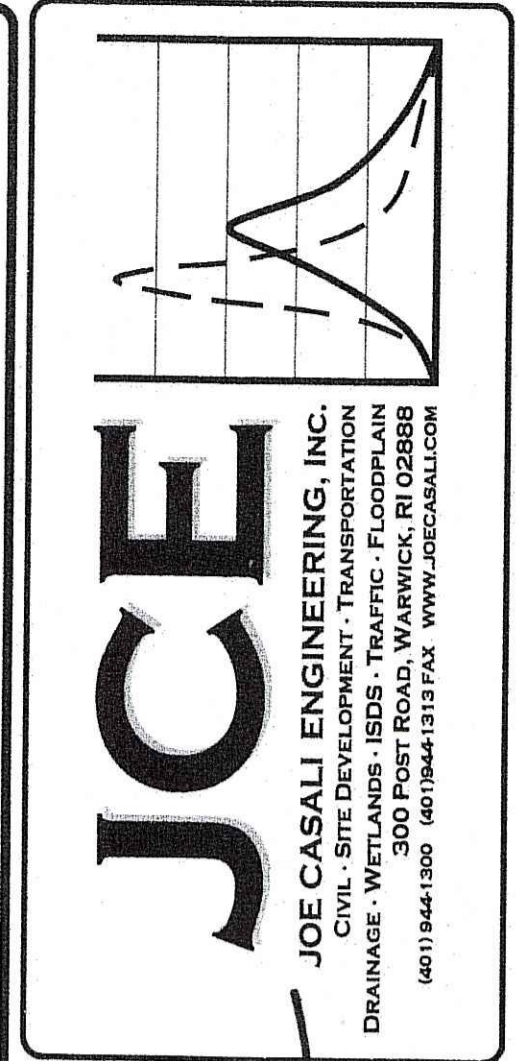


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Environmental Management
FEB - 9 2011
Office of Water Resources

RECEIVED
FEB - 8 2011
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES



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7	1/20/11	RIDEM SUBMISSION

DRAWN BY: GAH
CHECKED BY: AMS
DATE: MARCH 2006
PROJECT NO: 04-40a

COVER SHEET

SHEET 1 OF 16

Q:\03-40-Kirk Andrews\04-40a-Hilltop Estates\JEFF RODMAN - INFORMATION\ACAD\HILL TOP (PLAN-SET) R-6.dwg

GENERAL NOTES:

- BASE PLAN INFORMATION WAS TAKEN FROM A PLAN SET ENTITLED HILLTOP CONDOMINIUMS, EXISTING CONDITIONS PLAN 4 MONARK LANE, LINCOLN, RHODE ISLAND, DONE BY K ANDREWS ASSOCIATES LAND SURVEYING AND SITE PLANNING. (LOCATED AT 1050 MAIN STREET, UNIT 30, EAST GREENWICH, RHODE ISLAND 02815)
- THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATEST AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ALL INCLUSIVE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND "DIG-SAFE" MUST BE NOTIFIED PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL COST THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR TOWN WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.
- THIS SITE LIES IN ZONE C (AREA OF MINIMAL FLOODING), AS SHOWN ON THE FIRM MAP FOR THE TOWN OF WEST WARWICK, RI COMMUNITY PANEL NO. 440007 0001B, MAP REVISED APRIL 15, 1986.
- SOILS EXISTING ON THE SITE ARE CaC, CcC, NbC, Rf AND ALL HYDROLOGIC SOIL GROUP B & C.

SITE NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) OF ALL MATERIALS INDICATED ON THE PLANS.
- STOCKPILES OF EARTH MATERIALS SHALL NOT BE LOCATED ADJACENT TO DRAINAGE STRUCTURES.
- ALL DISTURBED AREAS OUTSIDE OF THE PAVED AREAS WILL RECEIVE A MINIMUM OF 6" OF LOAM AND SEED.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SURVEY LAYOUT SERVICES FOR THE WORK AND SHALL SUBMIT "AS-BUILT" DRAWINGS OF ALL WORK, WHICH SHALL BE STAMPED AND CERTIFIED BY A RHODE ISLAND REGISTERED PROFESSIONAL LAND SURVEYOR.
- ANY ITEM OF WORK NOT SPECIFICALLY INDICATED ON THE PLANS BUT IS REQUIRED FOR THE COMPLETE CONSTRUCTION OF THE PROJECT WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND INCLUDED IN THE CONTRACT BID PRICE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING SITE CONDITIONS.
- REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ACTUAL SIZE OF THE PROPOSED DWELLINGS.
- WHERE NECESSARY TO REMOVE CURBS, CATCH BASINS OR DRAINS TO COMPLETE WORK, THE CONTRACTOR SHALL REPLACE SUCH ITEMS TO THE SATISFACTION OF THE TOWN AT NO ADDITIONAL COST TO THE OWNER.
- ANY EXISTING PIPE OR UTILITY DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE OWNER OR TOWN.
- THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION OR REPLACE TREES, SHRUBS, FENCES, SIGNS, GUARDRAILS, DRIVEWAYS, SIDEWALKS AND ANY OTHER OBJECT AFFECTED BY THIS OPERATION.
- THE TOPS OF ALL VALVE BOXES AND CURB BOXES SHALL BE FLUSH WITH GROUND OR PAVEMENT SURFACE LEVEL AND PLUMB, UNLESS OTHERWISE DIRECTED.
- ROADWAYS SHALL BE LEFT PASSABLE AT ALL TIMES. CLOSURE OF ROADWAY IS NOT PERMITTED.
- THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL DRIVEWAYS AT COMPLETION OF EACH DAYS WORK.
- WATER SERVICE SHALL BE MAINTAINED AT ALL TIMES.
- ALL CONSTRUCTION WORK SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WET POINTS, SCREENS, OR OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE OF ALL SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE PERFORMANCE OF THE WORK.
- REFER TO PLUMBING PLANS FOR CONTINUATION OF ALL UTILITIES WITHIN 5' (FIVE) FEET OF THE BUILDING.
- ALL SITE WORK, INCLUDING BUT NOT LIMITED TO, BITUMINOUS PAVEMENT, ROADWAY CONSTRUCTION, AGGREGATE MATERIALS, DRAINAGE STRUCTURES, CURBING AND SIDEWALK, LANDSCAPING, SAW CUTTING ETC. SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, 2004 EDITION (WITH ADDENDA) AND THE RIDOT STANDARD DETAILS, 1998 EDITION (WITH LATEST ADDENDA).

MISCELLANEOUS UTILITY NOTES:

- PRIOR TO CONSTRUCTION ALL POTENTIAL UTILITY/DRAINAGE CONFLICTS MUST BE IDENTIFIED BY THE CONTRACTOR. ANY MODIFICATIONS TO THE PROPOSED UTILITIES TO AVOID CONFLICTS MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. NO EXTRA PAYMENT TO THE CONTRACTOR DUE TO RELOCATION WILL BE AUTHORIZED.
- THE CONTRACTOR SHALL AT ALL TIMES PROVIDE A SUFFICIENT NUMBER OF WORKMEN AND GUARDS AS MAY BE NECESSARY TO PROPERLY SAFEGUARD THE PUBLIC FROM THERE OPERATIONS.
- THE CONTRACTOR SHALL TAKE PRECAUTIONS AGAINST DAMAGING OF PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES AND SHALL PROMPTLY REPAIR AT HIS OWN EXPENSE ANY DAMAGE TO SUCH PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES TO THE SATISFACTION OF THE OWNER OR TOWN.
- EXISTING UTILITY FRAMES AND COVERS FOR SANITARY SEWER, WATER, GAS, STORM DRAINAGE AND OTHER UTILITIES SHALL BE ADJUSTED TO GRADE AS REQUIRED IN NEW PAVING AND PAVEMENT OVERLAY AREAS.

LAYOUT NOTE:

THE LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN, AND PRIOR TO THE CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE STATE OF RHODE ISLAND TO SET AND VERIFY ALL LINES AND GRADES. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS ARE TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY ITEMS FOUND WHICH DO NOT MATCH THE PLANS MUST BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO CONSTRUCTION FOR REVIEW. NO WORK SHALL PROCEED UNTIL AUTHORIZED BY THE ENGINEER.

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING POLICE PROTECTION. ALL TEMPORARY AND VEHICULAR SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE LATEST REVISIONS OF MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.)
- TEMPORARY CONSTRUCTION SIGNS AND ALL APPLICABLE TRAFFIC CONTROL DIVIDES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.
- THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS SHALL NOT BE PARKED IN THE STATE OR TOWN RIGHT-OF-WAY.
- ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS CHANNELING DEVICES, ETC, SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. 2004 EDITION, INCLUDING LATEST ADDENDA.
- SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE R.I.D.O.T. SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

DRAINAGE SYSTEM MAINTENANCE SCHEDULE:

UPON PROJECT COMPLETION, THE PROPERTY OWNER SHALL ADHERE TO THE FOLLOWING MAINTENANCE PLAN AND SCHEDULE:

- CATCH BASINS, MANHOLES AND DRAIN LINES:** AN INSPECTION MUST OCCUR ON AN ANNUAL BASIS BY QUALIFIED PERSONAL TO ENSURE PROPER OPERATION. THE INSPECTION SHOULD, AS A MINIMUM, CONCENTRATE ON THE FOLLOWING:
 - * DAMAGE TO GRATE/ COVERS
 - * EVIDENCE OF STANDING WATER
 - * DEBRIS REMOVAL
 - * STRUCTURAL ALIGNMENT/ INTEGRITY
 ANY DEFICIENCY NOTED DURING THE INSPECTION SHALL BE IMMEDIATELY REPAIRED OR REPLACED.
- SEDIMENT REMOVAL:** 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

DRAINAGE SYSTEM NOTES:

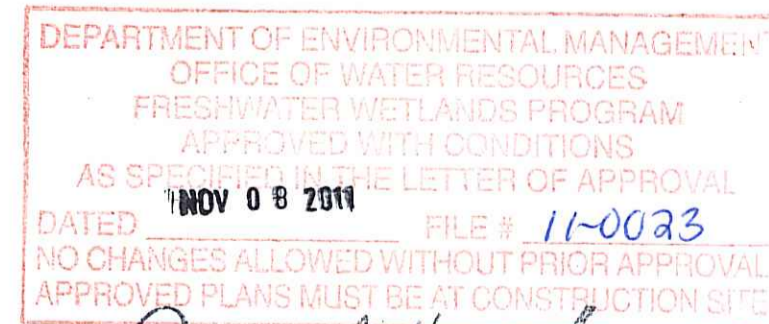
- THE PROPOSED DRAINAGE LINES SHALL BE ADS N-12 HDPE OR AN APPROVED EQUAL.
- ALL RIM ELEVATIONS SHOWN ARE APPROXIMATE AND ARE TO BE SET FLUSH WITH FINAL GRADES.
- THE DESIGN ENGINEER MUST SUBMIT AN AS BUILT PLAN AND A CERTIFICATION TO THE CITY ENGINEER THAT THE CONSTRUCTION IS IN COMPLIANCE WITH THE DESIGN PLANS FOR ALL ELEMENTS OF THE STORM OR DRAINAGE SYSTEM PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.

PROPOSED PAVEMENT STRUCTURE:

ON-SITE (PAVEMENT TYPE A)

- 1 1/2" BITUMINOUS CONCRETE SURFACE COURSE CLASS I-1
- 1 1/2" BITUMINOUS CONCRETE BINDER COURSE
- 4" COMPACTED PROCESSED GRAVEL
- 12" GRAVEL BORROW SUBBASE

ASPHALT EMULSION TACK COAT TO BE PLACED PRIOR TO SURFACE COURSE PAVING IF BINDER COURSE IS OPENED TO VEHICULAR USE, OR IF BINDER COURSE IS GREATER THAN 30 DAYS OLD. (SEE TYPICAL ROADWAY CROSS SECTION ON SHEET 4 OF 16)

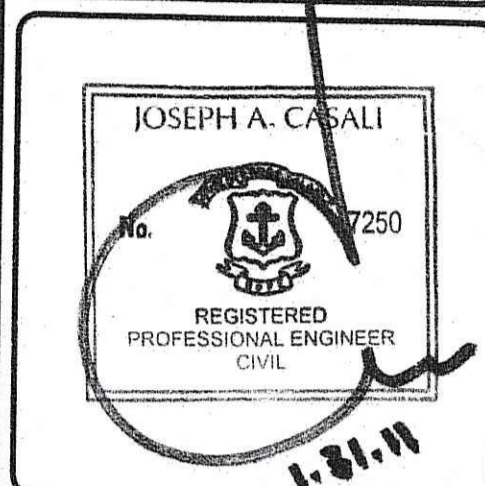
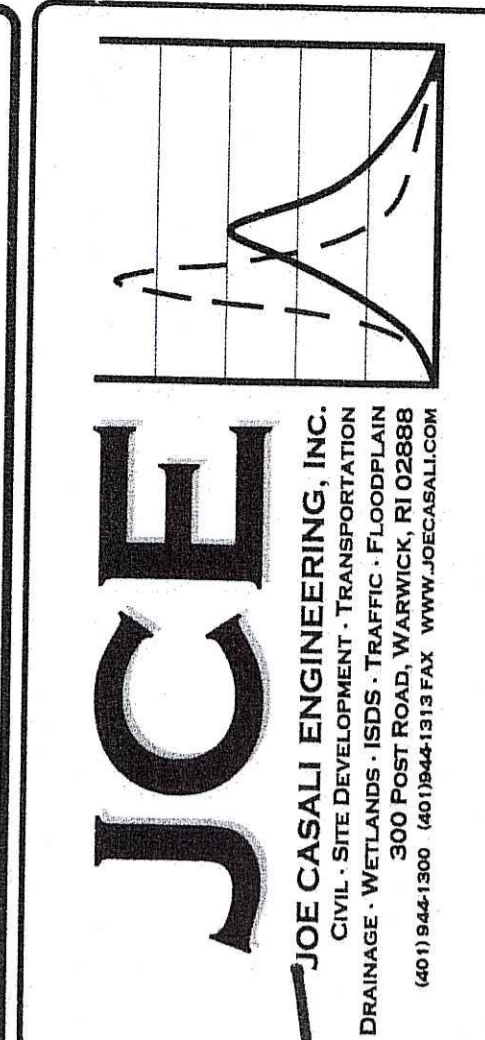


SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- THE HAYBALE AND SILT FENCE LINE ILLUSTRATED ON THESE PLANS SHALL SERVE AS THE STRICT LIMIT OF DISTURBANCE FOR THE PROJECT WITHIN OR ADJACENT TO REGULATED FRESHWATER WETLAND AREAS.
- THE LIMITS OF CLEARING, GRADING, AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THESE LIMITS, AS DEPICTED ON THE PLAN SHALL BE TOTALLY UNDISTURBED, TO REMAIN IN NATURAL CONDITION.
- ALL CATCH BASINS AND CULVERTS SHALL BE PROTECTED WITH STAKED HAYBALES (R.I. STD. 9.8.0) DURING CONSTRUCTION ACTIVITIES. ALL PROPOSED STORM WATER DISCHARGE AREAS SHALL BE LINED WITH A RIPRAP SPLASH PAD AND PROTECTED WITH STAKED HAYBALE OUTLET PROTECTION (R.I. STD. 9.1.0), OR STAKED HAYBALE WITH SILT FENCE (R.I. STD. 9.3.0) SHALL ALSO BE INSTALLED AT ALL EXISTING STORMWATER DISCHARGE LOCATIONS WHERE DISTRIBUTING PIPES, CATCH BASINS, AND MANHOLES ARE TO BE CLEANED AND FLUSHED.
- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL REGULARLY CHECK ALL SEEDED AREAS TO ENSURE THAT A GOOD STAND IS MAINTAINED.
- ALL HAYBALES, SILT FENCE, TEMPORARY TREATMENT (HAY, STRAW, ETC.) AND TEMPORARY EROSION PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
- STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES OF NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED.
- THE HAYBALES SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY HAYBALES AS NEEDED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE HAY-BALES BECOMES FILLED WITH SEDIMENTS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL FOLLOW THE DIRECTION OF THE RESIDENT ENGINEER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SOIL EROSION AND SEDIMENTATION CONTROLS ON THE PROJECT SITE. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS (HAYBALES, SILT FENCE, ETC.) SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND/OR RESEEDING ALL AREAS THAT DO NOT DEVELOP WITHIN ONE YEAR FROM THE COMPLETION OF CONSTRUCTION.
- ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND EROSION AND SEDIMENTATION HANDBOOK", DATED 1993.

BMP MAINTENANCE SCHEDULE

- ALL MAINTENANCE (INCLUDING CLEANING) REQUIRED DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- MEASURES NEEDED TO ENSURE THE PROPER OPERATION OF THE STORMWATER DRAINAGE SYSTEMS AND WATER QUALITY CONTROL SYSTEMS TO INCLUDE INSPECTION, CLEANING AND REPAIRS TO ALL PIPES, INTAKE AND DISCHARGE STRUCTURES (INCLUDING RIP-RAP SPLASH PADS), CATCH BASIN SUMPS, AND MANHOLES.
- INSPECTION OF ALL SLOPES, BERMS, AND OTHER CONTROL STRUCTURES (INCLUDING ROADWAY SIDE SLOPES, FOR STRUCTURAL INTEGRITY, STABILITY AND EVIDENCE OF SOIL EROSION, SHALL INCLUDE MAINTENANCE OF THESE STRUCTURES IF NECESSARY. INSPECTIONS SHALL BE PERFORMED FOLLOWING ALL RAIN EVENTS OF 1/2 INCH RAINFALL OR MORE IN A 24-HOUR PERIOD, OR BIMONTHLY IF NO RAINFALL EVENT OCCURS.
- FOLLOWING THE CONSTRUCTION OF A SWALE, A PERMANENT COVER OF RIP RAP SHALL BE INSTALLED. ALL OTHER DISTURBED AREAS WITHIN THE VICINITY OF A SWALE SHALL BE SEEDED AND STABILIZED IMMEDIATELY UPON COMPLETION OF THEIR CONSTRUCTION TO PREVENT EROSION.
- UPON COMPLETION OF PROJECT CONSTRUCTION, AND PRIOR TO VACATING THE SITE, THE CONTRACTOR SHALL CONDUCT A FINAL INSPECTION, REPAIR ANY VEGETATIVE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, (SEEDING, PLANTING, ETC.) WHERE REQUIRED, AND REPAIR (OR REMOVE WHERE APPROPRIATE) ANY TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL DEVICES. AFTER PERMANENT SOIL STABILIZATION ON THE ENTIRE SITE HAS OCCURRED, ALL TEMPORARY CONTROL MEASURES MUST BE REMOVED.
- AFTER THE COMPLETION OF PROJECT CONSTRUCTION AND THE FINAL STABILIZATION OF THE ENTIRE SITE, THE INSPECTION AND MAINTENANCE OF ALL STORMWATER FACILITIES MUST BE PERFORMED BY THE CONTRACTOR.
- REPLANTING, REGRADING, OR OTHER REPAIRS NEEDED AS A RESULT OF SOIL EROSION AND SEDIMENTATION PROCESSES SHALL BE DONE PROMPTLY TO ENSURE PROPER FUNCTIONING OF THE ENTIRE SYSTEM.
- ANY TRASH, DEBRIS, ETC. SHALL BE REMOVED FROM ANY WETLAND AREAS, SWALE, AND PIPE OUTLETS DURING CONSTRUCTION AND AFTER AS PART OF MAINTENANCE.
- SWALES SHALL BE MOWED AT LEAST TWICE DURING THE GROWING SEASON TO PREVENT UNWANTED WOODY GROWTH.
- SWALES AND DETENTION AREAS SHALL BE INSPECTED AFTER MAJOR STORM EVENTS OR ON AN ANNUAL BASIS. REPAIRS SHALL BE PERFORMED IMMEDIATELY AS CONDITIONS WARRANT. BARE SPOTS AND ERODED AREAS SHALL BE RESEDED IMMEDIATELY FOLLOWING OBSERVATIONS. ALL LITER AND TRASH SHALL BE REMOVED DURING INSPECTIONS.
- THE MAINTENANCE OF THE DETENTION PONDS, SWALES, CATCH BASINS, PIPES, FLARED END SECTIONS, OUTLET STRUCTURES AND RIP RAP OUTLETS/BERMS SHALL BE THE RESPONSIBILITY OF THE HILLTOP CONDOMINIUM HOME OWNERS ASSOCIATION.
- A COPY OF THE RIDEM APPROVED PLAN SET SHALL BE KEPT ON SITE AT ALL TIMES. MAINTENANCE AND INSPECTION OUTLINED IN SAID PLANS SHALL BE CARRIED OUT IN CONFORMANCE WITH THE WETLAND PERMIT.



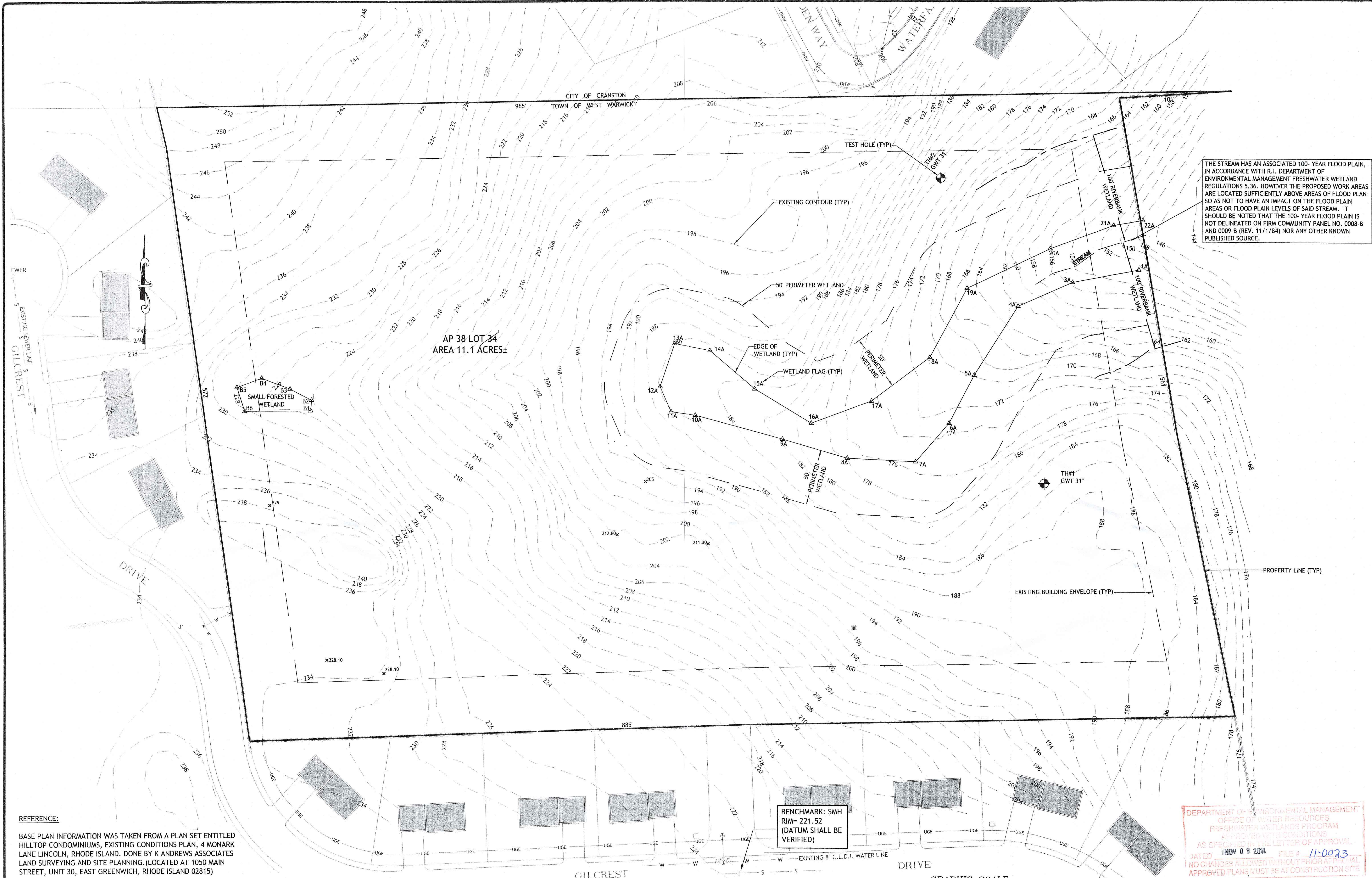
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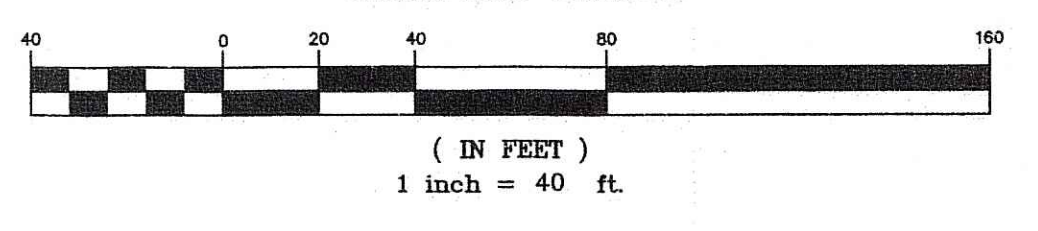
THE STREAM HAS AN ASSOCIATED 100-YEAR FLOOD PLAIN, IN ACCORDANCE WITH R.I. DEPARTMENT OF ENVIRONMENTAL MANAGEMENT FRESHWATER WETLAND REGULATIONS 5.36. HOWEVER THE PROPOSED WORK AREAS ARE LOCATED SUFFICIENTLY ABOVE AREAS OF FLOOD PLAN SO AS NOT TO HAVE AN IMPACT ON THE FLOOD PLAN AREAS OR FLOOD PLAIN LEVELS OF SAID STREAM. IT SHOULD BE NOTED THAT THE 100-YEAR FLOOD PLAIN IS NOT DELINEATED ON FIRM COMMUNITY PANEL NO. 0008-B AND 0009-B (REV. 11/1/84) NOR ANY OTHER KNOWN PUBLISHED SOURCE.

REFERENCE:
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BENCHMARK: SMH
 RIM= 221.52
 (DATUM SHALL BE VERIFIED)

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Charles A. Harte



ZONING CRITERIA	
ZONING DISTRICT	RFR 2
MINIMUM LOT AREA	2.0 ACRES
MINIMUM LOT FRONTAGE	200 FT
MINIMUM FRONT YARD SETBACK	50 FT
MINIMUM SIDE YARD SETBACK	25 FT
MINIMUM REAR YARD SETBACK	50 FT



LOCATION OF EXISTING UTILITIES SHOWN, ARE FROM GATE LOCATION AND EXISTING DOCUMENTATION AND MAY NOT BE ACCURATE. EXACT LOCATION TO BE DONE BY THE APPROPRIATE UTILITY COMPANY OR MUNICIPALITY PRIOR TO ANY EXCAVATION CALL **DIGSAFE** AT **1-888-DIG-SAFE** OR **1-888-344-7233**

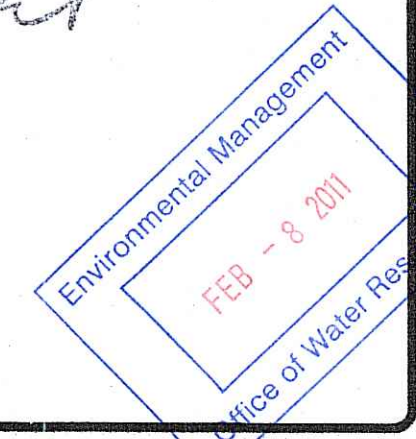
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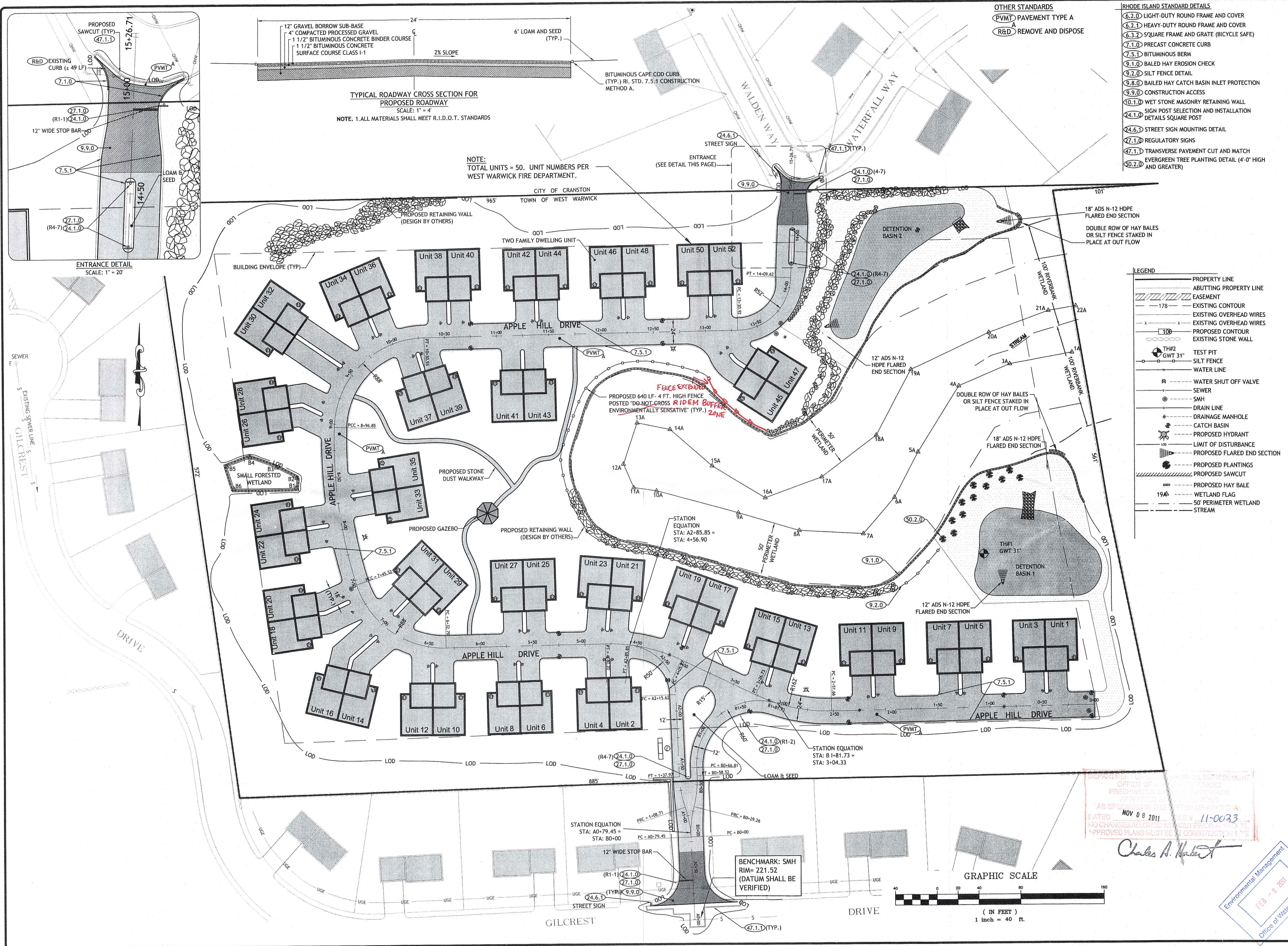
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JCE
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JOSEPH A. CASALI
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 REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 1-31-11

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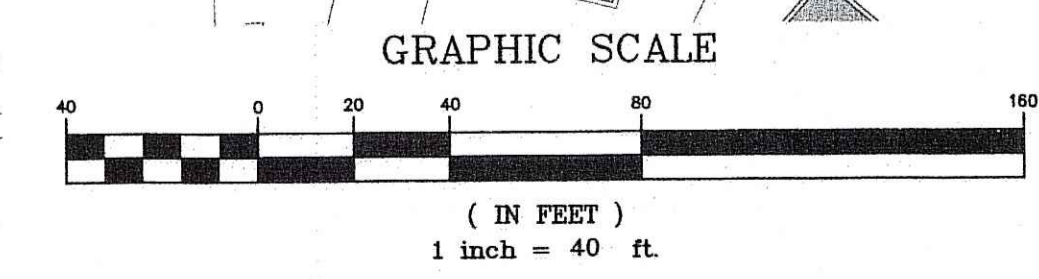
SITE PLAN

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SHEET 4 OF 16

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 FRESHWATER WETLANDS PROGRAM
 APPROVED FOR CONSTRUCTION
 AS SPECIFIED IN THE STATE OF APPROVAL
 NOV 08 2011 FILE # 11-0033
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BEY CONSTRUCTION SITE

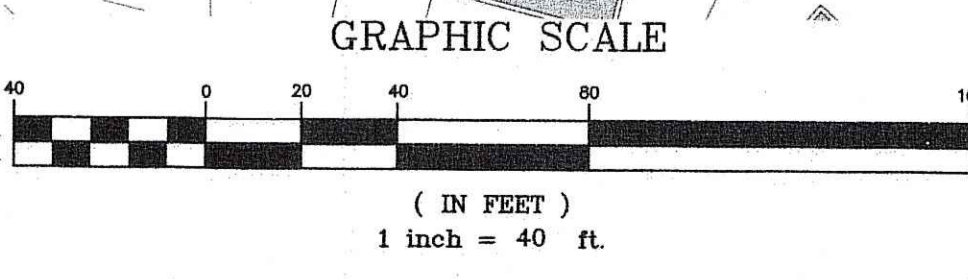
Charles A. Harkin



Q:\03-40-Kirk Andrews\04-40a-Hilltop Estates\JEFF RODMAN - INFORMATION\ACAD\HILL TOP (PLAN-SET) R-6.dwg



BENCHMARK: SMH
RIM = 221.52
(DATUM SHALL BE VERIFIED)



NOV 08 2011
11-0023
Charles A. Howard

JCE
JOE CASALI ENGINEERING INC.
JOE CASALI
CIVIL, SITE DEVELOPMENT, TRANSPORTATION,
DRAINAGE, WETLANDS, ISDS, TRAFFIC, FLOODPLAIN
300 POST ROAD, WARWICK, RI 02886
(401) 844-1300

JOSEPH A. CASALI
REGISTERED PROFESSIONAL ENGINEER
CIVIL
1981

HILLTOP CONDOMINIUMS
GILCREST DRIVE & WATERFALL WAY
WEST WARWICK, RHODE ISLAND
AP 38 LOT 34

REVISIONS:

NO.	DATE	DESCRIPTION
1	2/06	CONSTRUCTION PLANS
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3	11/06	KCWA RE-SUBMISSION
4	2/07	WWSA RE-SUBMISSION
5	3/08	KCWA SUBMISSION
6	8/08	FINAL PLANS
7	1/20/11	RIDEM SUBMISSION

DRAWN BY: GAH
CHECKED BY: AMS
DATE: MARCH 2006
PROJECT NO: 04-40a

GRADING PLAN

Environmental Management
Office of Water Resources
FEB - 8 2011

Q:\03-40-Kirk Andrews\04-40a-Hilltop Estates\JEFF RODMAN - INFORMATION\ACAD\HILL TOP (PLAN-SET) R-6.dwg



DRAINAGE STRUCTURE TABLE

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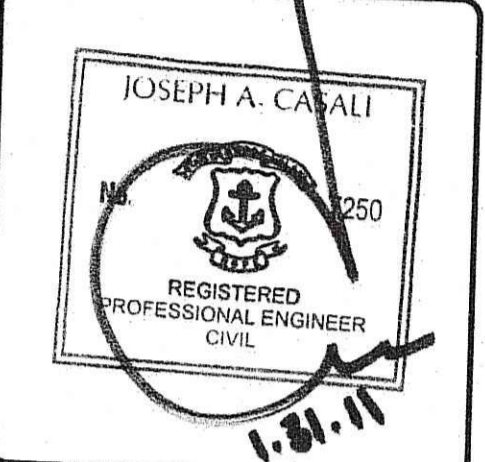
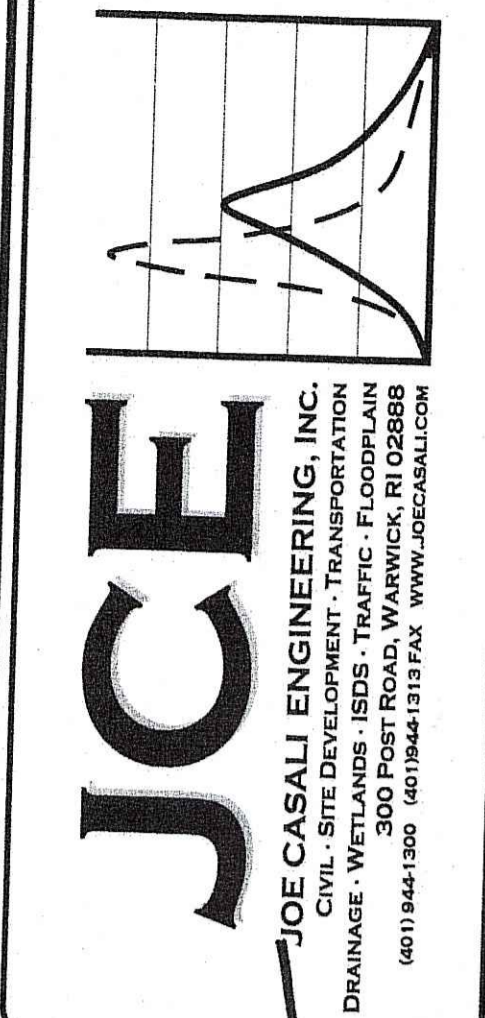
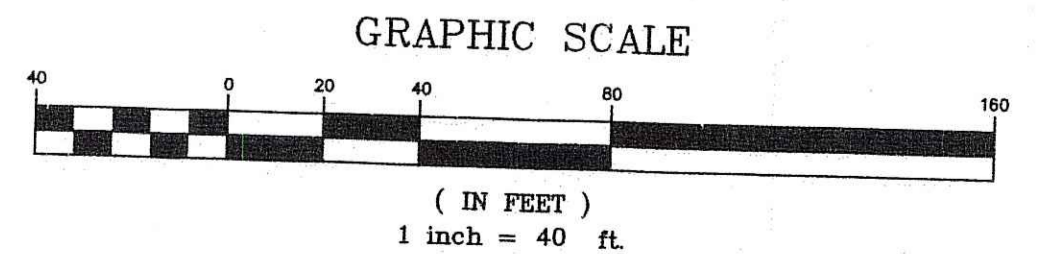
DRAINAGE PIPE CHART

PIPE NUMBER	PIPE SIZE	MATERIAL	PIPE LENGTH	PIPE SLOPE (FT/FT)
1	12"	ADS N-12	20LF	0.010
2	12"	ADS N-12	80LF	0.010
3	15"	ADS N-12	8LF	0.025
4	15"	ADS N-12	138LF	0.046
5	12"	ADS N-12	12LF	0.075
6	12"	ADS N-12	12LF	0.075
7	12"	ADS N-12	84LF	0.074
8	12"	ADS N-12	18LF	0.028
9	12"	ADS N-12	102LF	0.065
10	12"	ADS N-12	22LF	0.010
11	12"	ADS N-12	10LF	0.020
12	12"	ADS N-12	102LF	0.040
13	12"	ADS N-12	20LF	0.010
14	12"	ADS N-12	20LF	0.020
15	12"	ADS N-12	180LF	0.045
16	12"	ADS N-12	20LF	0.005
17	12"	ADS N-12	114LF	0.031
18	12"	ADS N-12	38LF	0.237
19	18"	ADS N-12	78LF	0.013
20	15"	ADS N-12	108LF	0.072
21	18"	ADS N-12	60LF	0.013

NOTE:
1. UNDERGROUND UTILITIES DESIGNED BY OTHERS (SEE ELECTRICAL PLANS)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER DIVISION
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DATED NOV 08 2011
NO CHANGES ALLOWED WITHOUT PERMISSION
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. H...
Environmental Management
FEB - 8 2011
Office of Water Resources



HILLTOP CONDOMINIUMS
GILCREST DRIVE & WATERFALL WAY
WEST WARWICK, RHODE ISLAND
AP 38 LOT 34

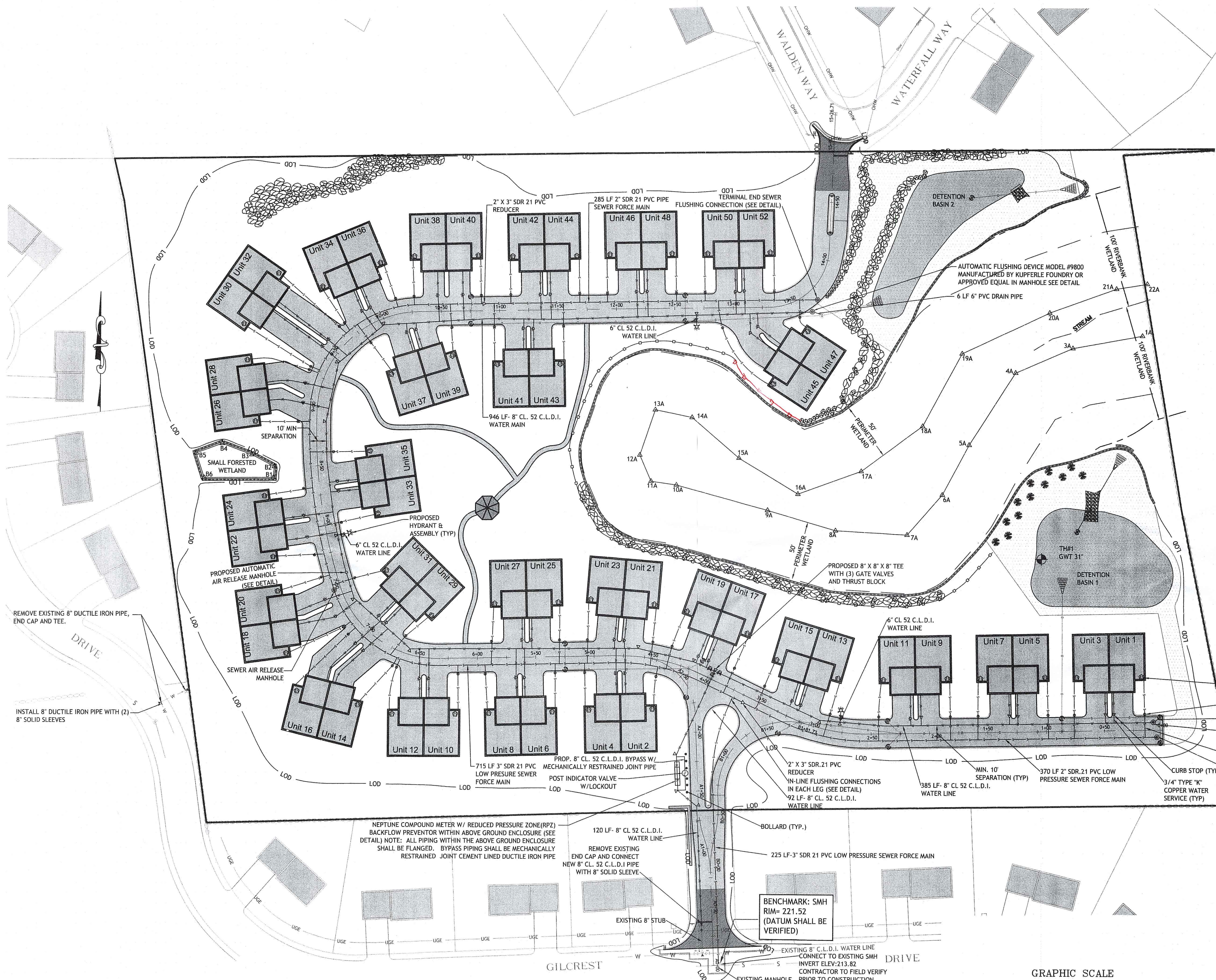
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DRAWN BY: GAH
CHECKED BY: AMS
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DRAINAGE PLAN

Q:\03-40-Kirk Andrews\04-40a-Hilltop Estates\JEFF RODMAN - INFORMATION\ACAD\HILL TOP (PLAN-SET) R-6.dwg



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 300 Post Road, Warwick, RI 02888
 (401) 944-1300 www.jceinc.com

JOSEPH A. CASALI
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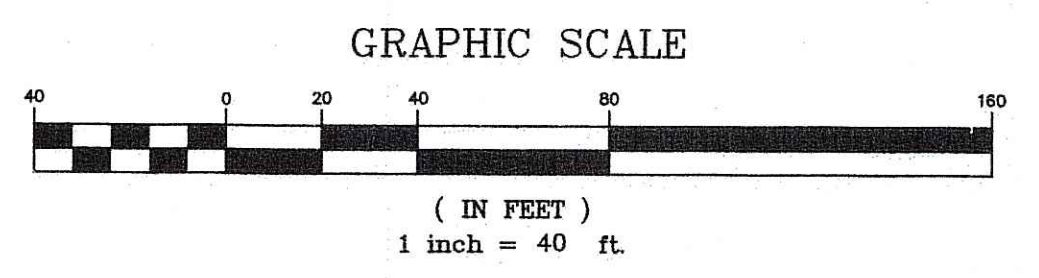
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF PERMITTING AND INSPECTION
 FRESHWATER PERMITTING DIVISION
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Charles A. Haber

DRAWN BY: GAH
 CHECKED BY: AMS
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 PROJECT NO: 04-40a

UTILITY PLAN

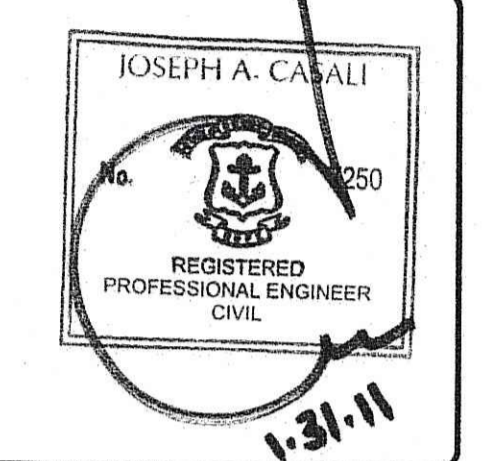
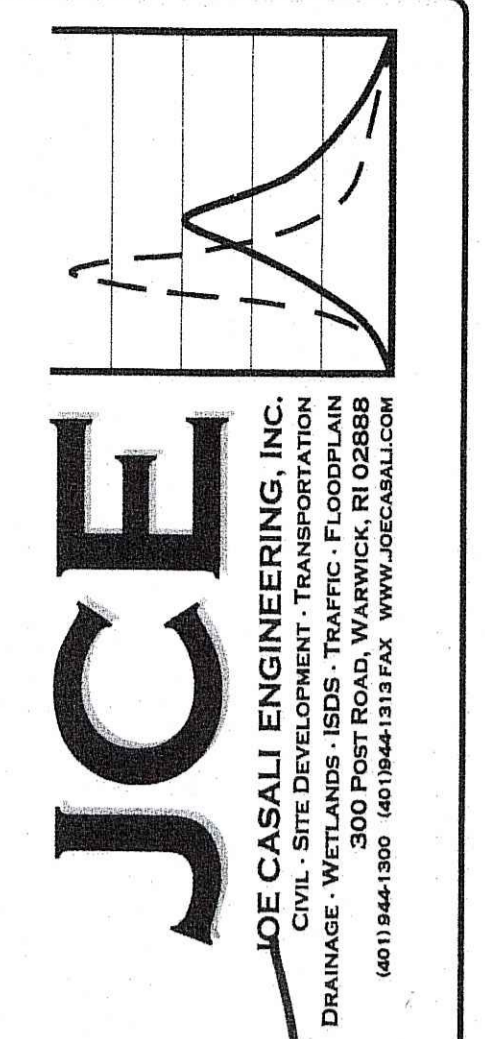
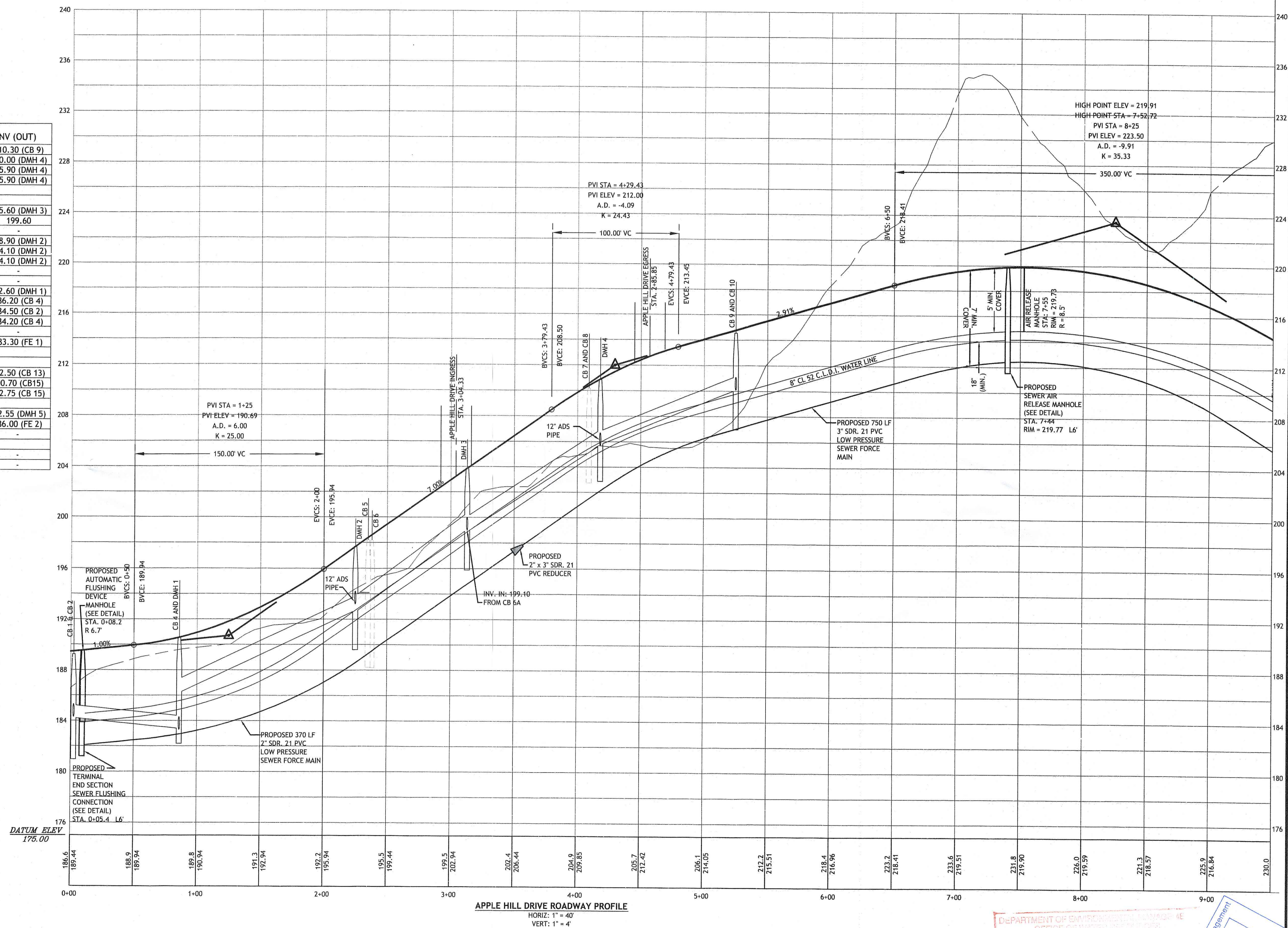
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 2. DETENTION BASINS DESIGN BY OTHERS.



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HILLTOP CONDOMINIUMS
 GILCREST DRIVE & WATERFALL WAY
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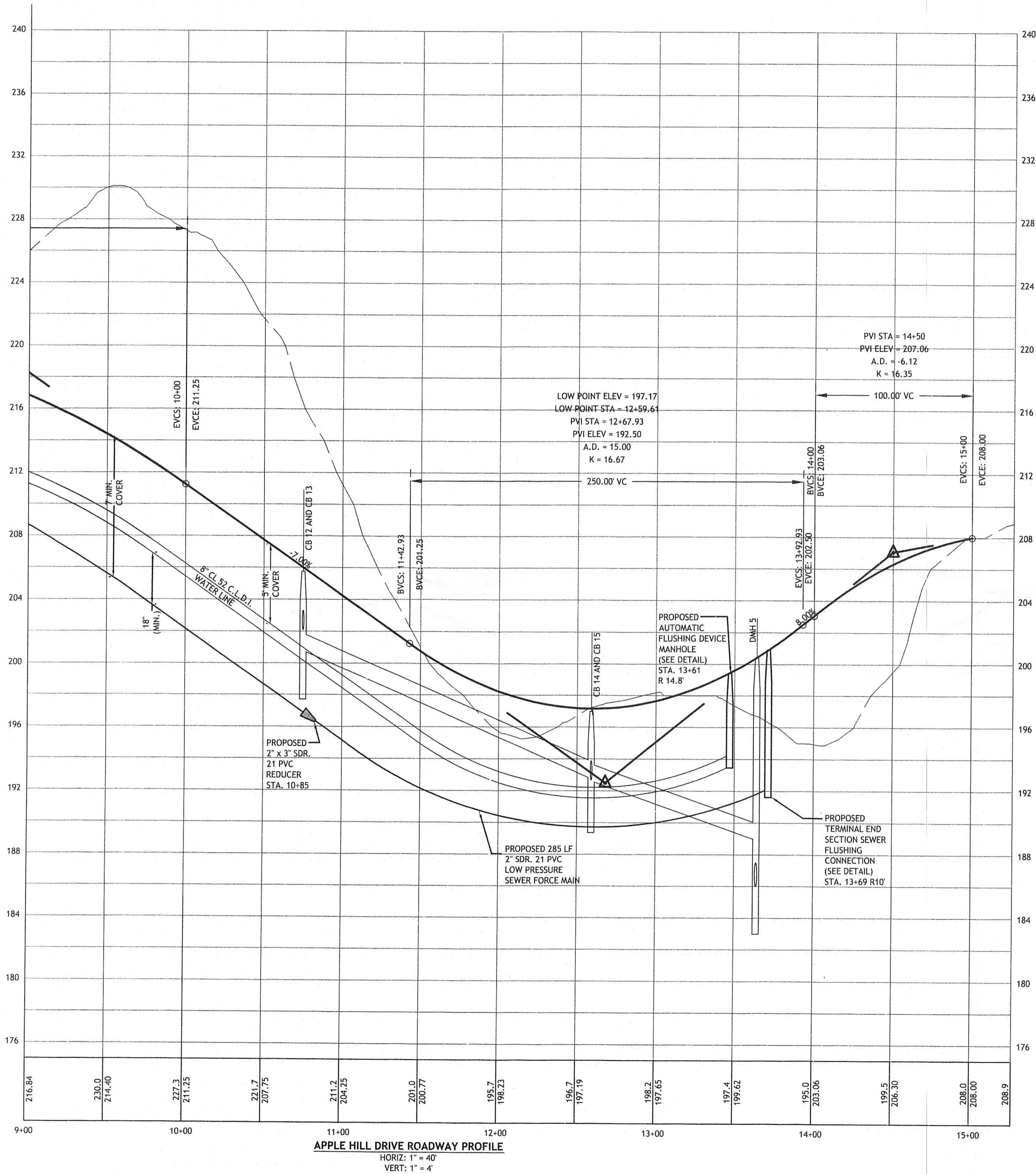
ROADWAY PROFILE I

SHEET 8 OF 16

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER VEGETATION PROGRAM
 APPROVED WITH LETTER OF APPROVAL
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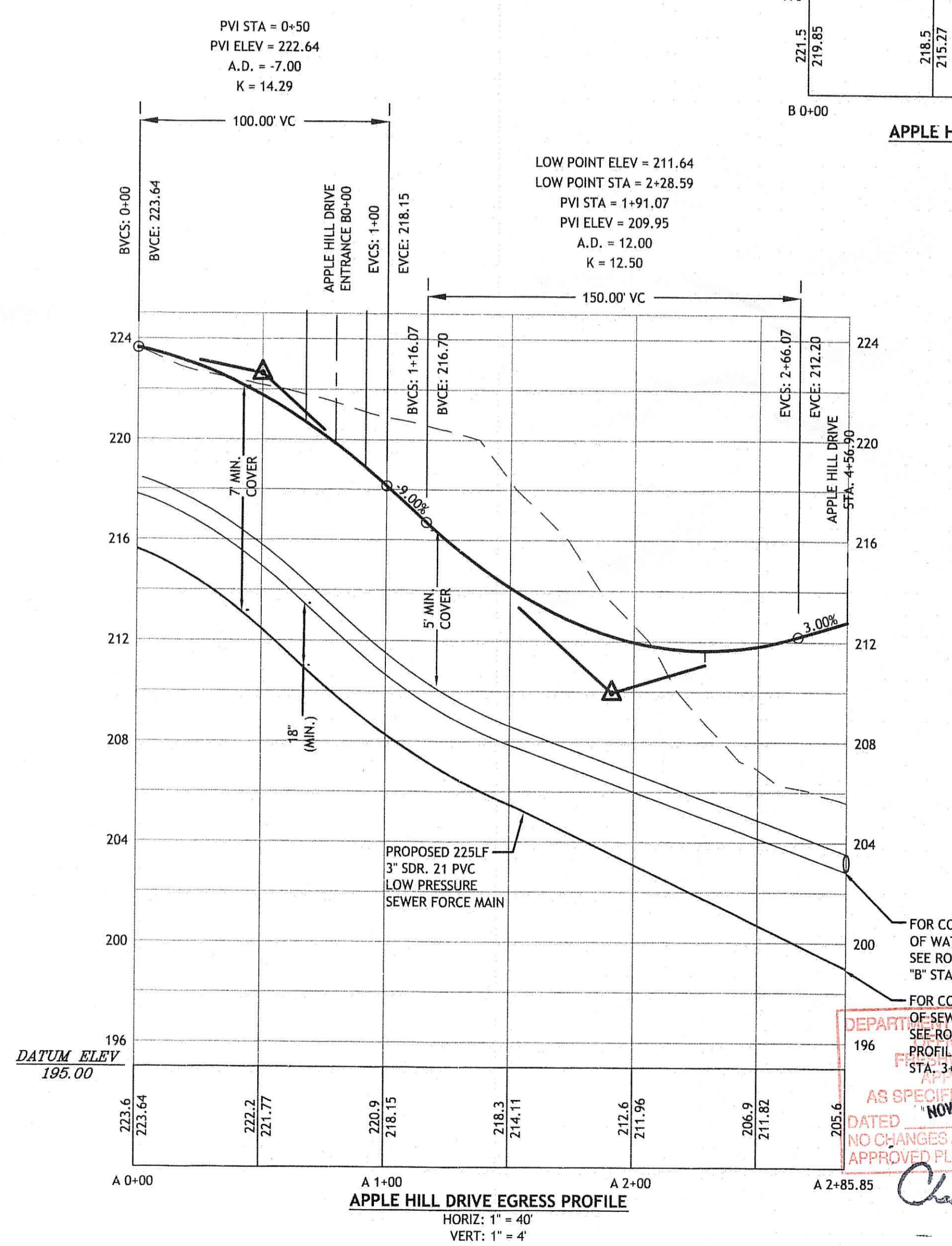
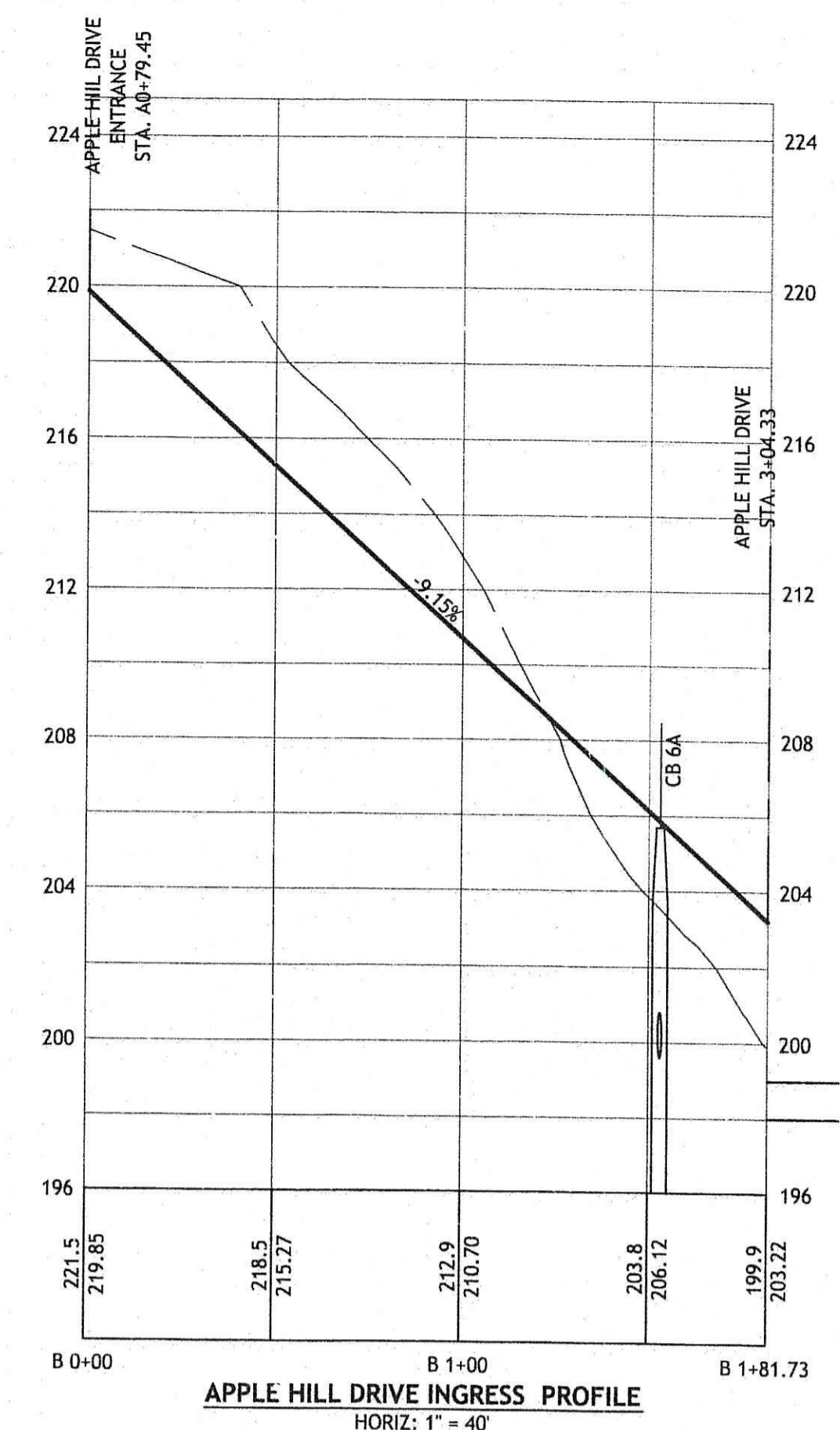
Charles A. Hubert
 Environmental Management
 Office of Water Resources
 FEB 8 2011

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FOR CONTINUATION OF WATER PROFILE SEE ROADWAY PROFILE "B" STA. 3+84

FOR CONTINUATION OF SEWER PROFILE SEE ROADWAY PROFILE "B" STA. 4+56.90

DEPARTMENT OF SEWER, ENVIRONMENTAL MANAGEMENT
 SEE ROADWAY PROFILE WATER RESOURCES
 PROFILE "B" FOR WETLANDS PROGRAM
 STA. 3+74
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KENT COUNTY WATER NOTES

3.1.2 INSPECTION:

- 3.1.2.1 INSPECTION OF ALL INSTALLATIONS SHALL BE CONDUCTED TO ENSURE COMPLIANCE WITH THE RULES AND REGULATIONS OF THE KENT COUNTY WATER AUTHORITY...
3.1.2.2 THE OWNER OR DEVELOPER IS SOLELY RESPONSIBLE TO CONTROL THEIR CONTRACTOR IN THE PROGRESSION OF WORK TO ENSURE THE WATER INFRASTRUCTURE INSTALLATION IS ACCOMPLISHED IN ACCORDANCE WITH THE REQUIREMENTS CONTAINED IN THE KENT COUNTY WATER AUTHORITY REGULATIONS AND APPROVED DESIGN...
3.1.2.3 DESIGN DRAWINGS ANNOTATED WITH CONSTRUCTION RECORD INFORMATION CONCURRENT WITH CONSTRUCTION PROGRESS SHALL BE MAINTAINED AT THE JOB SITE AND SHALL BE AVAILABLE FOR THE INSPECTOR OF THE KENT COUNTY WATER AUTHORITY TO VIEW AT ANY TIME...

3.2.1 INSTALLATION METHODS:

- 3.2.1.1 INSTALLATION OF ALL WATER CONVEYANCES, MAINS, PIPES OR LINES SHALL BE IN ACCORDANCE WITH THE DUCTILE IRON PIPE RESEARCH ASSOCIATION'S INSTALLATION MANUAL AND ALL OTHER REQUIREMENTS OF THE KENT COUNTY WATER AUTHORITY...
3.2.1.2 WATER MAIN AND SERVICES SHALL BE INSTALLED WITH A MINIMUM COVER OF 5 FEET TO THE CROWN OF THE PIPE IN AN AMERICAN WATER WORKS ASSOCIATION "TYPE 5 TRENCH"...
3.2.1.3 EACH LENGTH OF PIPE AND OF FITTING SHALL BE INSPECTED FOR CRACKS, DEFECTS IN COATING ON LINING, CLEANLINESS OR ANY OTHER EVIDENCE OF UNSUITABILITY...
3.2.1.4 PIPING SHALL BE LAID STRAIGHT TRUE TO LINE...
3.2.1.5 AIR RELEASE MANHOLES SHALL BE INSTALLED AT ALL HIGH POINTS THROUGHOUT THE PROPOSED INSTALLATION AND SHALL BE EQUIPPED WITH AUTOMATIC AIR RELEASE VALVES...

Table with 4 columns: ALLOWABLE DEFLECTION FOR 18-FOOT LENGTHS OF PIPE, SIZE OF PIPE (IN), PUSH-ON JOINT (IN), MECH. JOINT (IN). Rows for 4, 6, 8, 10, 12, 14, 16, 18, 20, 24 inch pipes.

- 3.2.1.12 WHENEVER PIPE REQUIRES CUTTING TO FIT THE LINE, THE WORK SHALL BE DONE ONLY BY EXPERIENCED (STATE OF RHODE ISLAND, LICENSED CONTRACTOR) OR PLUMBER, AND IN SUCH A MANNER AS TO LEAVE A SMOOTH END AT RIGHT ANGLES TO THE AXIS OF THE PIPE AND ON PIPE THAT IS CENTER ROUNDED DESIGNED SPECIFICALLY FOR FIELD CUTTING...
3.2.1.13 BLOCKING UNDER THE PIPE SHALL NOT BE PERMITTED EXCEPT WHERE A CONCRETE CRADLE IS PROVIDED...
3.2.1.14 METALIZED DETECTABLE IDENTIFICATION TAPES 2" IN WIDTH OR GREATER, BLUE IN COLOR AND PRINTED WITH "CAUTION WATER LINE BURIED BELOW" SHALL BE UTILIZED OVER ALL MAINS...
3.2.1.15 A TEMPORARY PATCH SHALL BE INSTALLED OVER THE FRESHLY BACKFILLED TRENCH IN AN EXISTING STREET OR SIDEWALK AFTER HOT BITUMINOUS CONCRETE...
3.2.1.16 AT ALL TEMPORARY CUT-DE-SACS AND FUTURE STREETS, THE MAIN SHALL END WITH A FULL SIZE LINE VALVE FOLLOWED BY A FULL LENGTH OF PIPE WITH AN ADDITIONAL 3-FOOT SECTION OF PIPE AND END WITH A (WJ) CAP THRU BLOCK AND 2-INCH STYLE BLOW OFF ASSEMBLY...
3.2.1.17 WATER DISTRIBUTION MAINS SHALL BE LOCATED IN GRASSY AREAS TO AVOID THE PRESENCE OF DEAD END LINES...
3.2.1.18 WATER MAINS SHALL BE LAID WITH A MINIMUM OF TEN-FOOT HORIZONTAL CLEARANCE FROM ANY EXISTING SEWER FACILITIES...
3.2.1.19 AT ALL TIMES, DURING CONSTRUCTION, ALL PIPING AND FITTINGS SHALL BE KEPT FROM BECOMING CONTAMINATED FROM CONSTRUCTION MATERIALS, DIRT, NON POTABLE WATER, YARD WASTE OR SUBSTANCES PRODUCED AS A RESULT OF ANIMALS, RODENTS, AND INSECTS...
3.2.1.20 ADEQUATE TEMPORARY PROVISIONS SHALL BE MADE TO CARE FOR THE FLOW FROM SEWERS OR DRAINAGE INTERFERED WITH BY THE WORK...
3.2.1.21 PIPE THAT IS REMOVED SHALL REMAIN THE PROPERTY OF THE PARTY WHOSE RESPONSIBILITY IT SHALL BE TO PROPERLY DISPOSE OF IT...
3.2.1.22 NO PERSON, EXCEPT AN AUTHORIZED REPRESENTATIVE OF THE KENT COUNTY WATER AUTHORITY OR UNDER THEIR OBSERVATION, WILL BE ALLOWED UNDER ANY CIRCUMSTANCES TO TAP THE MAINS OR DISTRIBUTION PIPES, INSERT CORPORATION STOPS THEREIN, SET OR REMOVE METERS ON SERVICE PIPES, OR INTERFERE WITH WATER GATES OR CURB STOPS...
3.2.1.23 NO NEW PIPING SYSTEM SHALL BE PERMANENTLY CONNECTED TO AN EXISTING KENT COUNTY WATER AUTHORITY MAIN UNTIL AFTER OBTAINING SUCCESSFUL RESULTS FROM WATER QUALITY TESTS FROM A STATE OF RHODE ISLAND CERTIFIED LABORATORY MEETING THE STANDARDS SET BY DEPARTMENT OF HEALTH, AND WATER QUALITY TEST INDICATE THAT THE SAMPLES ARE CONSISTENT WITH THE QUALITY OF WATER IN THE KENT COUNTY WATER AUTHORITY SYSTEM, INCLUDING HETEROTROPHIC PLATE COUNT RESULTS...
3.2.1.24 TEMPORARY FITTINGS FOR FLUSHING, PRESSURE TESTING AND CHLORINATION ARE REQUIRED FOR ALL NEWLY INSTALLED MAINS, NEW MAINS SHALL BE CAPPED AT EACH END, EACH END SHALL BE FITTED WITH A TEMPORARY RISER OF SUFFICIENT LENGTH TO REACH FINISHED GRADE AND AN ISOLATION VALVE...
3.2.2 PRESSURE TEST:
3.2.2.1 ALL SERVICES, WATER MAINS, BYPASS PIPING AND APPURTENANCES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ANY TEST...
3.2.2.2 EACH VALVE SECTION OF THE MAIN SHALL BE FILLED SLOWLY WITH WATER AT A RATE NOT GREATER THAN ONE FOOT OF PIPE SECTION PER SECOND...
3.2.2.3 THE TEST PRESSURE SHALL BE BROUGHT UP TO AT LEAST 50% HIGHER THAN THE NORMAL ANTICIPATED WORKING PRESSURE, OR 150 PSI, WHICHEVER IS GREATER, AND MAINTAINED FOR A CONTINUOUS TWO (2) HOUR PERIOD...
3.2.2.4 PROPER THRUSTING OF ALL PIPING/FITTING, CAPS, HYDRANTS, AND APPURTENANCES SHALL BE PROVIDED TO RESIST THE IMPOSED TEST PRESSURE.

3.2.3 CHLORINATION/DISINFECTION:

- 3.2.3.1 ALL NEW OR REPIPERED POTABLE WATER SYSTEM DISTRIBUTION MAINS, SERVICE PIPE AND THE NECESSARY CONNECTING PIPES, FITTINGS, CONTROL VALVES, AND ALL APPURTENANCES IN OR ADJACENT TO ANY RESIDENCE, BUILDING OR PREMISES SHALL BE PURGED OF DELETERIOUS WATER AND SHALL BE DISINFECTED PRIOR TO UTILIZATION OR PERMANENT CONNECTION TO THE KENT COUNTY WATER AUTHORITY SYSTEM...
3.2.3.2 THE PROPOSER OR THE CONTRACTOR FOR THE PROPOSER, IN ACCORDANCE WITH CHAPTER 5, DISTRIBUTION SYSTEM CHLORINATION, AMERICAN WATER WORKS ASSOCIATION MANUAL #20, SHALL PERFORM CHLORINATION. TABLET CHLORINATION SHALL NOT BE ALLOWED...
3.2.3.3 THE OWNER OR CUSTOMER IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE DISINFECTION PROCESS OR PROCEDURE...
3.2.3.4 THE DISINFECTION MUST RESULT IN ELIMINATING FRONTS OF THE EXISTENCE, THEREIN, OF BACTERIA INDICATIVE OF ANY CONTAMINATION, AS DETERMINED BY TESTS OF THE BACTERIAL CONTENT OF SAMPLES OF WATER TAKEN FROM THE NEW WATER MAIN...
3.2.3.5 THE NEW WATER SYSTEM SHALL BE FLUSHED OUT AND REFILLED WITH FRESH WATER...
3.2.3.6 WATER MUST SIT IN THE MAIN FOR AT LEAST 24 HOURS PRIOR TO TAKING A TEST SAMPLE...
3.2.3.7 AFTER FINAL FLUSHING AND BEFORE THE NEW WATER MAIN IS CONNECTED TO THE DISTRIBUTION SYSTEM, TWO CONSECUTIVE SETS OF ACCEPTABLE SAMPLES FOR COLIFORM BACTERIA AND HETEROTROPHIC PLATE COUNT (HPC), TAKEN 24 HOURS APART, SHALL BE COLLECTED FROM THE TERMINATION OF THE NEW MAIN...

4.1 BACKGROUND:

CONFIGURATION MANAGEMENT FOR THE SYSTEM WIDE STANDARDIZATION OF REPAIR PARTS, APPURTENANCES, AND CONSTRUCTION MATERIALS ARE NECESSARY TO MAINTAIN A REASONABLE SPARE PARTS INVENTORY FOR EMERGENCY REPAIR AND TO REDUCE THE COST OF THE CUSTOMER. FOR THESE REASONS, THE KENT COUNTY WATER AUTHORITY HAS SELECTED MATERIAL STANDARDS THAT PROVIDE THE GREATEST SERVICE LIFE, RELIABILITY AND OVERSIGHT WITH THE LOWEST INFRASTRUCTURE COMPATIBILITY...

4.2 SERVICES:

- 4.2.1 SERVICE PIPE SIZES 1/2 TO 2 INCH SHALL BE EITHER COPPER OR H.D.P.E. PIPE...
4.2.1.1 H.D.P.E. SHALL CONFORM TO ASTM D1248 TYPE III, GRADE P34, CLASS A, CATEGORY 5, COLOR BLUE WITH VIRGIN CLEAR NATURAL CENTER...
4.2.1.2 COPPER PIPE SHALL BE TYPE "K" COPPER TUBING DESIGNED FOR POTABLE WATER SERVICE ANSI/ASTM B88 SERVICES 3 INCH AND ABOVE SHALL BE DUCTILE IRON AND CONFORM TO THE REQUIREMENTS FOR MAIN MATERIALS AND INSTALLATION.

4.3 METERS:

- 4.3.1 ALL METERS SHALL BE COMPATIBLE WITH THE SYSTEM UTILIZED BY THE KENT COUNTY WATER AUTHORITY...
4.3.2 ALL METERS ARE TO READ IN CUBIC FEET...
4.3.3 ANY METER LOCATED IN A METER PIT OR CHAMBER SHALL BE EQUIPPED WITH REGISTERS DESIGNED SPECIFICALLY FOR MOISTURE PROTECTION AND "PIT" STYLE APPLICATION...
4.3.4 AIR SERVICE METERS SHALL BE IN ACCORDANCE WITH THE KENT COUNTY WATER AUTHORITY AND NFPA STANDARDS WITH UL/FM APPROVED STRAINER DESIGNED FOR FIRE SERVICE.

4.5 AIR RELEASE MANHOLE:

AIR RELEASE MANHOLES SHALL BE WATERTIGHT PRE-CAST CONCRETE CONSTRUCTED WITH WATERTIGHT CAST IRON MANHOLE FRAME AND DIAMOND CHECK PATTERN COVER... COVER SHALL HAVE THE WORD "WATER" CAST UPON IT IN 4" CAPITAL LETTERS...

4.6 THRUST RESTRAINT:

- 4.6.1 RESTRAINING DEVICES SHALL BE UTILIZED ON ALL MAINS...
4.6.2 THRUST RESTRAINT SHALL BE PROVIDED ON ALL DUCTILE IRON PIPE MEETING ANSI/AWWA C151/A21.51 AND ANSI/AWWA C111/A21.11...
4.6.3 GASKET AND RESTRAINT COMPONENTS MADE FROM DUCTILE IRON AND SHALL HAVE A BITUMINOUS OUTSIDE COATING IN ACCORDANCE WITH ANSI/AWWA C151/A21.51 AND ANSI/AWWA C111/A21.11...

4.7 WATER PIPE:

- 4.7.1 ALL DUCTILE IRON PIPE AND APPURTENANCES SHALL BE FROM A SINGLE MANUFACTURER SOURCE...
4.7.2 DUCTILE IRON PIPE SHALL CONFORM TO ANSI/AWWA C151/A21.51, ANSI/AWWA C150/A21.50, CLASS 52 DOUBLE CEMENT MORTAR LINED, GASKETS SHALL CONFORM TO ANSI/AWWA C111/A21.11...
4.7.3 COATING: EXTERIOR: ANSI/AWWA C104/A21.4, INTERIOR: ALL REQUIREMENTS OF EPA FOR POTABLE WATER, GASKET: RUBBER MEETING ANSI/AWWA C111/A21.11...

4.8 PIPE FITTINGS:

- 4.8.1 DUCTILE IRON FITTINGS SHALL CONFORM TO ANSI/AWWA C153/A21.53...
4.8.2 PRESSURE CLASS: PIPE FITTINGS SHALL HAVE A PRESSURE RATING OF 350 FOR 2-1/2 INCH AND SMALLER AND 250 PSI FOR 3-1/2 INCH AND LARGER...
4.8.3 GASKETS: RUBBER MEETING ANSI/AWWA C111/A21.11, NITRILE (IN CONTAMINATED SOIL)...

4.9 VALVES:

- 4.9.1 VALVES SHALL BE CAST IRON OR DUCTILE IRON 250-PSI WORKING PRESSURE...
4.9.1.1 RESILIENT SEAT GATE VALVES DESIGNED SPECIFICALLY FOR TAPPING...
4.9.1.2 BUTTERFLY 16" AND LARGER: RUBBER SEATED TIGHT CLOSING OR EXCEEDING AWWA C504 UNDERGROUND SERVICE...
4.9.1.3 TAPPING SLEEVES AND VALVES: VALVES SHALL BE FULL PORT TAPPING TYPE MEETING THE REQUIREMENTS PARAGRAPH 4.9.1.1 ABOVE...
4.9.2 VALVE ROAD BOX: ALL VALVES (EXCEPT SWING-CHECK) SHALL BE EQUIPPED WITH A CAST IRON "BUFFALO" TYPE, ADJUSTABLE (SLIDING) VALVE ROAD BOX...
4.9.2.1 ALL VALVES (EXCEPT SWING-CHECK) SHALL BE EQUIPPED WITH A CAST IRON "BUFFALO" TYPE, ADJUSTABLE (SLIDING) VALVE ROAD BOX...
4.9.2.2 THE UPPER PORTION OF THE BOX SHALL BE MANUFACTURED WITH A HEAVY FLANGE HAVING SUFFICIENT BEARING AREA TO PREVENT SETTLEMENT...

4.10 HYDRANTS:

TO MAINTAIN SYSTEM WIDE STANDARDIZATION, HYDRANTS SHALL BE DRY BARREL TYPE WITH 3/4 INCH LINING... SPECIFICATIONS FOR FIRE HYDRANTS FOR ORDINARY WATER WORKS SERVICE... AWWA C-502, AND SHALL IN ADDITION MEET THE SPECIFIC REQUIREMENTS OF THE KENT COUNTY WATER AUTHORITY AS LISTED...

- TYPE: 5 1/4 INCH VALVE OPENING/3 PORT STYLE, DRY BARREL.
DEPTH OF BURY: 5'-0" MINIMUM FROM BURY LINE TO TOP FLANGE OF HYDRANT BOOT.
PORTS: TWO 2 1/4 INCH BRONZE HOSE PORTS 180° APART NSI THREADED, ONE 1/2 INCH BRONZE PUMPER/STEAMER 90° FROM EACH HOSE PORT, NST THREADED.
DRAINWAYS: ALL HYDRANTS TO HAVE TRAFFIC BREAKAWAY FLANGE.
COATINGS: PRIOR TO PRIMING, SAND BLAST HYDRANT TO SSPC-SP-6 PRIMED WITH ZINC RICH URETHANE COMPATIBLE COATING...
EXTERIOR STEAM: COMPATIBLE LEAD FREE NON CORROSIVE MATERIALS.
MAIN VALVE: DUCTILE IRON.
WEATHER SHIELD AND CAP: DUCTILE IRON.
CHAINS: NO CHAINS TO BE SUPPLIED.

4.11 CORPORATION STOP:

- CORPORATION STOPS SHALL BE BALL TYPE WITH EITHER STAINLESS STEEL, SYNTHETIC COATED BRASS BALL OR NICKEL COATED BRASS BALL...
TYPE: FORD OR EQUAL.
SIZE: 1/2, 1 INCH, 1 1/2 INCH, AND 2 INCH.
OPENING: OPEN LEFT.
END CONNECTIONS: COMPRESSION WITH NON CORROSIVE GRIP RING MEETING ASTM B-159-BUNA N RUBBER AND CONDUCTIVITY RING...
MATERIAL: HEAVY CAST LEAD FREE "ENVIROBRASSI" UNS ALLOY NUMBER C89520 ASTM B584-98A AND/OR AWWA C800/ASTM B-62 MEETING OR EXCEEDING THE LEAD LEACHING PERFORMANCE SPECIFICATIONS OF ANSI/NSF 61 STANDARD.

4.12 CURB STOPS:

- CURB STOPS SHALL BE BALL TYPE WITH EITHER STAINLESS STEEL, SYNTHETIC COATED BRASS BALL OR NICKEL COATED BRASS BALL...
TYPE: FORD OR EQUAL.
SIZE: 1/2 INCH, 1 INCH, 1 1/2 INCH, AND 2 INCH.
OPENING: OPEN LEFT.
END CONNECTIONS: COMPRESSION WITH NON CORROSIVE GRIP RING MEETING ASTM B-159-BUNA N RUBBER AND CONDUCTIVITY RING...
MATERIAL: HEAVY CAST LEAD FREE "ENVIROBRASSI" UNS ALLOY NUMBER C89520 ASTM B584-98A AND/OR AWWA C800/ASTM B-62 MEETING OR EXCEEDING THE LEAD LEACHING PERFORMANCE SPECIFICATIONS OF ANSI/NSF 61 STANDARD.

4.13 SERVICE B GATE BOX:

- 4.13.1 CURB BOXES MAY BE MANUFACTURED IN NORTH AMERICA OR SELECTED FOREIGN MADE...
4.13.2 GATE VALVE BOXES MAY BE EITHER MANUFACTURED IN NORTH AMERICA OR SELECTED FOREIGN MADE...
TYPE: BURRED SERVICE NON-RISING STEM.
OPENING: LEFT OR RIGHT DEPENDING ON SYSTEM LOCATION.
STEM: 420 STAINLESS STEEL OR EQUAL WITH MINIMUM 60,000 PSI YIELD STRENGTH.
FASTENERS: STAINLESS STEEL, TYPE 304 FOR ALL OF THE VALVE.
COATINGS: EXCEEDING AWWA C550.
WEDGES: FULLY RUBBER ENCAPSULATED CAST IRON, DUCTILE IRON OR BRONZE GATE MEETING AWWA C509.
INTERIOR NUT: 2 INCH SQUARE OPERATING NUT WITH HEXAGON STAINLESS STEEL BOLT FASTENER.
STEM SEAL: MECHANICAL JOINT.
CONNECTION: MECHANICAL JOINT OR FLANGED.

4.14 SADDLES:

- SERVICE SADDLES AND REPAIR SADDLES SHALL BE DUCTILE IRON OR TYPE 304 STAINLESS STEEL, WITH STAINLESS STEEL BOLTS, WASHERS, NUTS AND BANDS...
4.14.1 SERVICE: FORD OR EQUAL.
BODY: DUCTILE IRON OR GRADE 18-8 TYPE 304 STAINLESS STEEL.
COATING: DUCTILE IRON COMPONENTS SHALL BE EPOXY COATED AWWA C 500 OR NYLON COATED.
FASTENERS: 304 STAINLESS STEEL STUD, NUT & WASHERS.
GASKET: VIRGIN RUBBER ASTM 2000.
OUTLET: THREADED OUTLET TAPPED TO AWWA C 800 FOR THE APPROPRIATE SERVICE SIZE.
4.14.2 REPAIR: FORD OR EQUAL.
BODY: DUCTILE IRON OR GRADE 18-8 TYPE 304 STAINLESS STEEL.
COATING: DUCTILE IRON COMPONENTS SHALL BE EPOXY COATED AWWA C 500 OR NYLON COATED.
FASTENERS: 304 STAINLESS STEEL STUD, NUT & WASHERS.
GASKET: VIRGIN RUBBER ASTM 2000.
OUTLET: THREADED OUTLET TAPPED TO AWWA C 800 FOR THE APPROPRIATE SERVICE SIZE.

4.15 FULL CIRCLE REPAIR:

- ALL COMPONENTS AND FASTENERS SHALL BE TYPE 304 STAINLESS STEEL...
TYPE: FORD OR EQUAL.
FASTENERS: 304 STAINLESS STEEL STUD, NUT & WASHERS.
GASKET: GRID PATTERN VIRGIN RUBBER ASTM 2000, FULL 360 DEGREE COVERAGE.

4.16 DUCTILE IRON COUPLINGS:

- STRAIGHT AND TRANSITION COUPLINGS SHALL BE DUCTILE IRON MANUFACTURED TO MEET AWWA C 219 AND FITTED WITH STAINLESS STEEL BOLTS WASHERS AND NUTS...
4.16.1 STRAIGHT: FORD OR EQUAL.
BODY: DUCTILE IRON.
COATING: DUCTILE IRON COMPONENTS SHALL BE EPOXY COATED AWWA C 500.
FASTENERS: 304 STAINLESS STEEL STUD, NUT & WASHERS.
GASKET: RUBBER ASTM 2000.
4.16.2 TRANSITIONAL: FORD OR EQUAL.
BODY: DUCTILE IRON.
COATING: DUCTILE IRON COMPONENTS SHALL BE EPOXY COATED AWWA C 500.
FASTENERS: 304 STAINLESS STEEL STUD, NUT & WASHERS.
GASKET: RUBBER ASTM 2000.

4.17 BACKFLOW PREVENTERS:

- ALL DEVICES MUST HAVE BEEN APPROVED BY THE UNIVERSITY OF SOUTHERN CALIFORNIA (FCCCHR, USC), AMERICAN WATER WORKS ASSOCIATION AND AMERICAN SOCIETY OF SANITARY ENGINEERS...
4.17.1 TESTABLE DOUBLE CHECK: FORD OR EQUAL.
BODY: CAST IRON, BRONZE OR STAINLESS STEEL DEPENDING ON SIZE.
COATING: IRON COMPONENTS SHALL BE EPOXY COATED AWWA C-500.
FASTENERS: 304 STAINLESS STEEL STUD, NUT & WASHERS.
PRESSURE: MAXIMUM 150 PSI MINIMUM 10 PSI.
4.17.2 TESTABLE REDUCED PRESSURE: WATTS OR EQUAL.
BODY: CAST IRON, BRONZE OR STAINLESS STEEL DEPENDING ON SIZE.
IRON COATING: IRON COMPONENTS SHALL BE EPOXY COATED AWWA C-500.
SPRINGS: STAINLESS STEEL.
PRESSURE: MAXIMUM 175 PSI - MINIMUM 10 PSI.
4.17.3 HOUSEHOLD DUAL CHECK: FORD OR EQUAL.
BODY: CAST BRONZE.
FASTENERS: STAINLESS STEEL.
PRESSURE: MAXIMUM 150 PSI - MINIMUM 10 PSI.

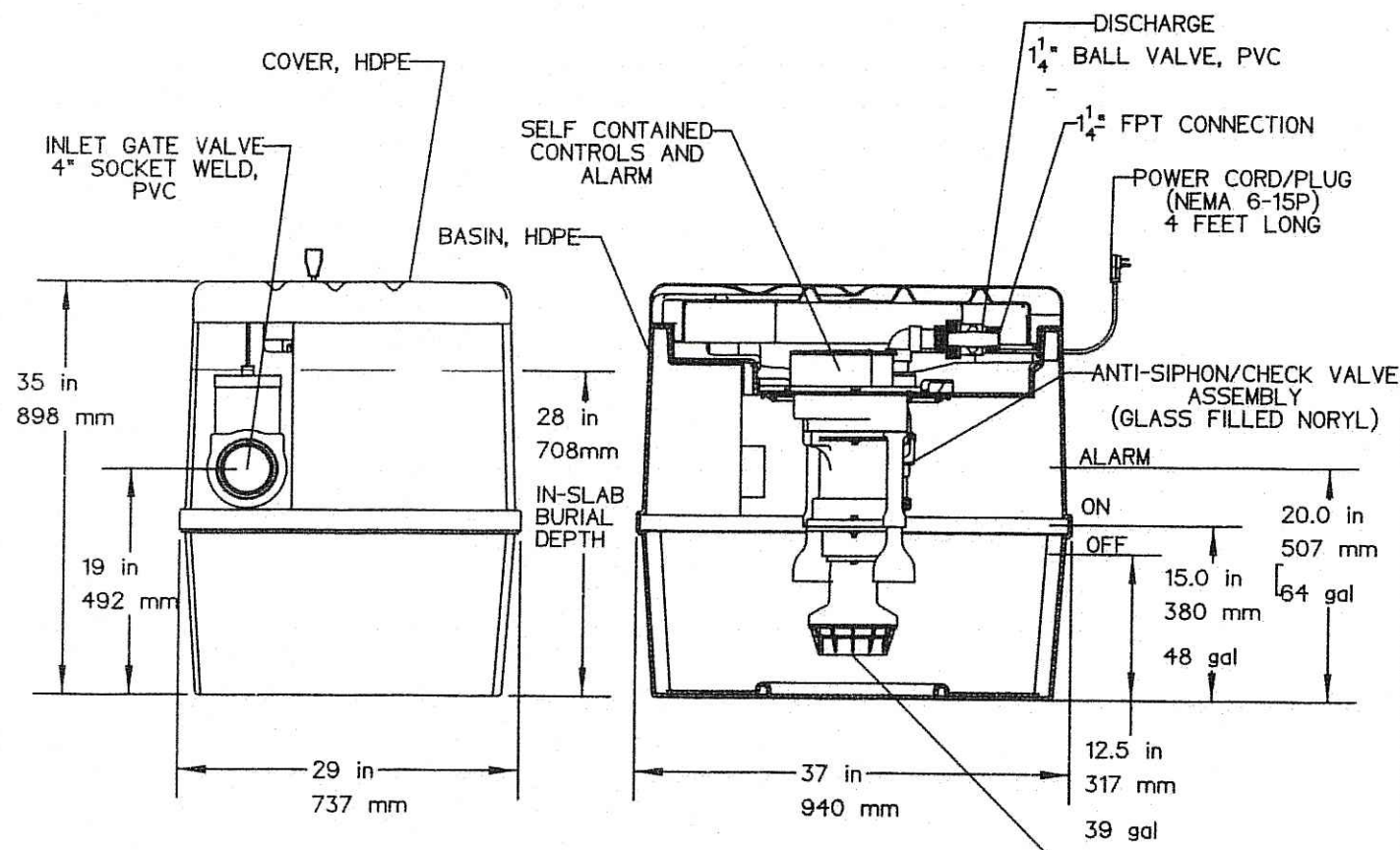
4.18 BACKFILL:

- 4.18.1 PIPE BEDDING SHALL BE PROCESSED BORROW GRAVEL, GRANULAR IN NATURE, THE MAJOR PORTION OF WHICH MAY BE SAND OR GRAVEL...
4.18.2 SELECTED BACKFILL MAY BE FROM EXISTING OR READILY OBTAINABLE. RECYCLED ROAD SWEEPINGS AND CONTAMINATED MATERIAL ARE FORBIDDEN...

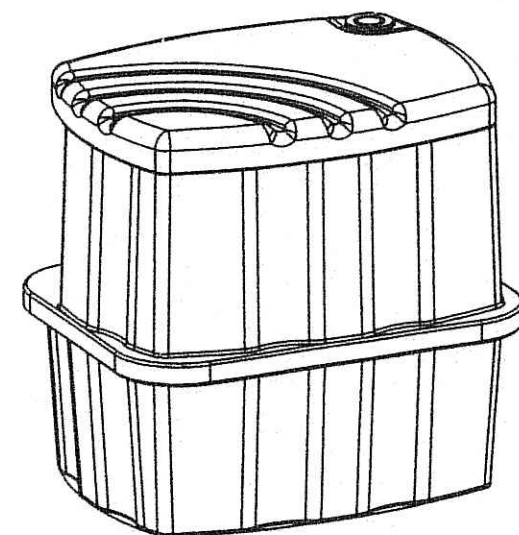
JOE CASALI ENGINEERING, INC. REGISTERED PROFESSIONAL ENGINEER CIVIL. 7250. 1-81-11. DRAINAGE, WETLANDS, EROSION, TRAFFIC, FLOODPLAIN, 300 BOYD ROAD, WARWICK, RI 02886. (401) 844-1900. (401) 844-1313 FAX. WWW.JOECSALI.COM

HILLTOP CONDOMINIUMS. GILCREST DRIVE & WATERFALL WAY. WEST WARWICK, RHODE ISLAND. AP 38 LOT 34. REVISIONS: NO. DATE DESCRIPTION. 1 2/06 CONSTRUCTION PLANS. 2 8/06 KCWA SUBMISSION. 3 11/06 KCWA SUB-MISSION. 4 2/07 WWSA SUB-MISSION. 5 3/08 KCWA SUBMISSION. 6 8/08 FINAL PLANS. 7 12/01 RIDEM SUBMISSION. DRAWN BY: GAH. CHECKED BY: AMS. DATE: MARCH 2006. PROJECT NO: 04-40a. KENT COUNTY WATER NOTES. SHEET 11 OF 16.

Q:\03-40-Kirk Andrews\04-40a-Hilltop Estates\JEFF RODMAN -INFORMATION\CAD\HILL TOP (PLAN-SET) R-6.dwg

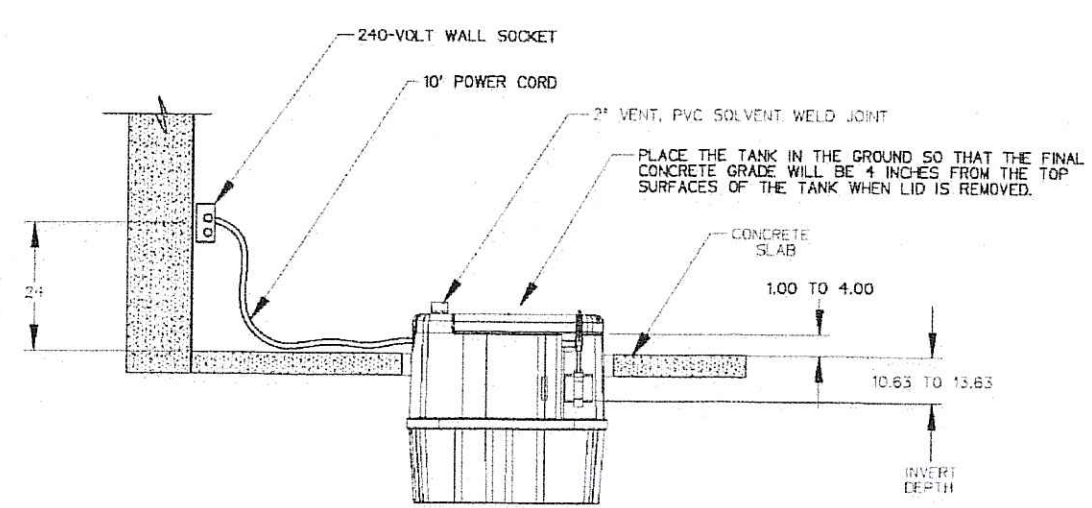
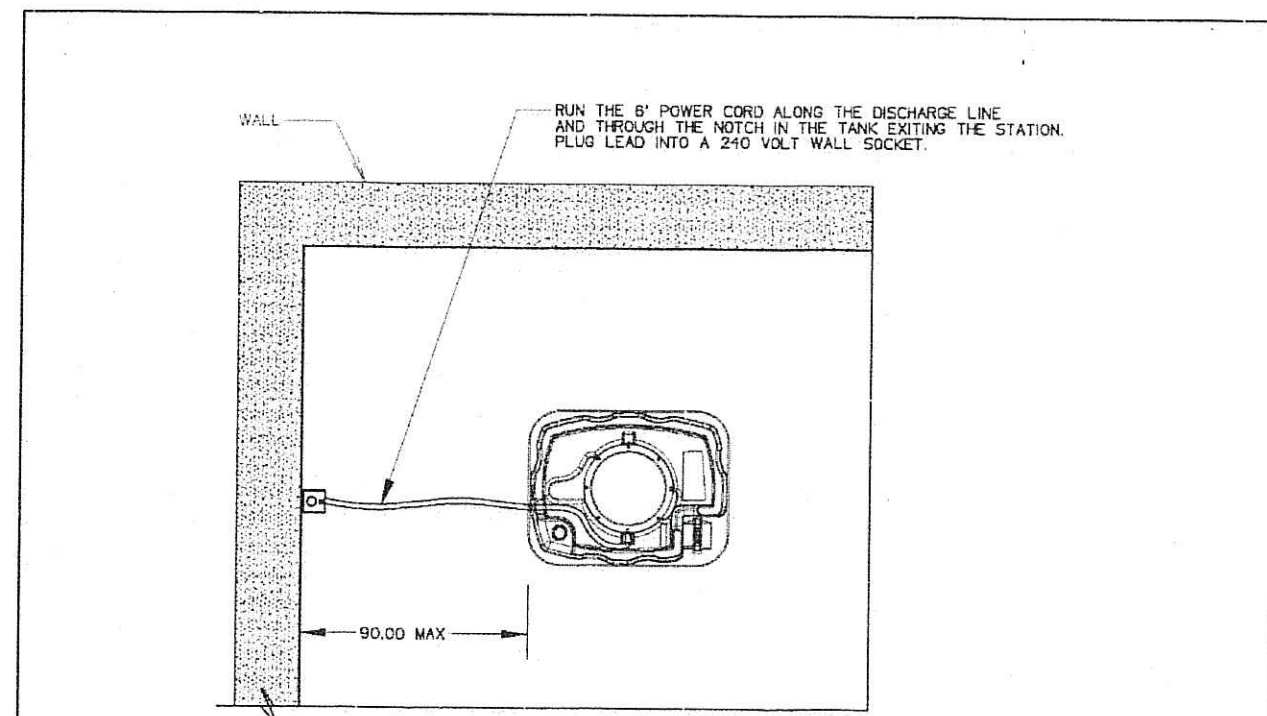


SEMI-POSITIVE DISPLACEMENT TYPE PUMP DIRECTLY DRIVEN BY A 1 HP MOTOR CAPABLE OF DELIVERING 9 gpm AT 138' T.D.H. (34 lpm AT 42m T.D.H.)



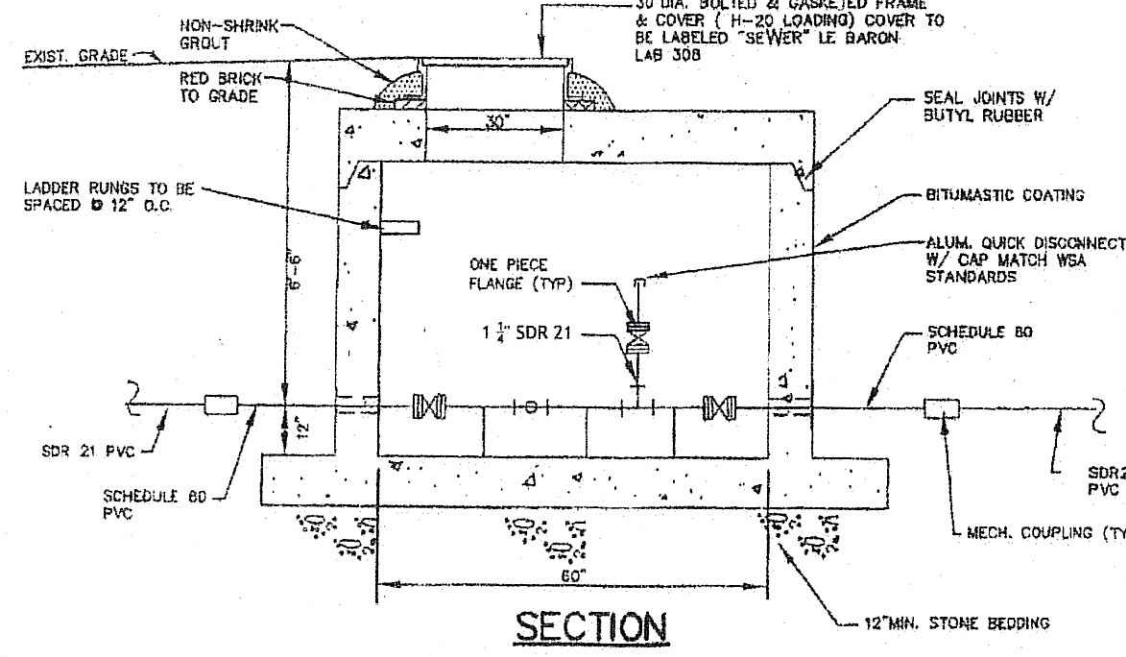
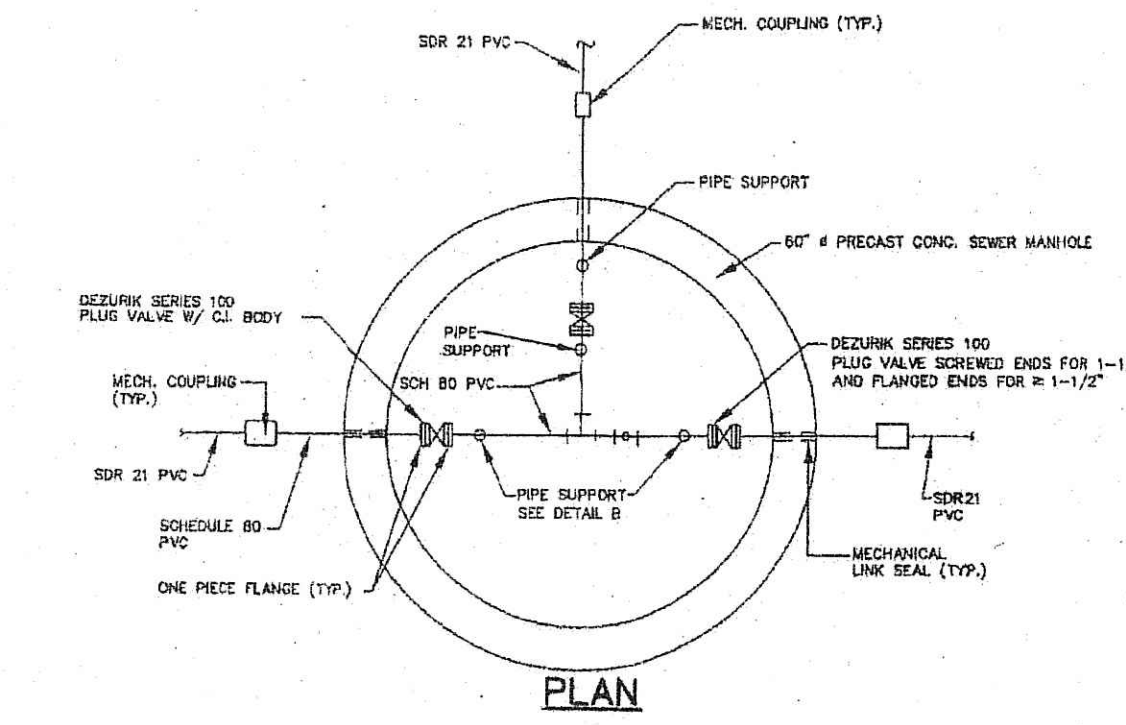
BASIN CAPACITY = 91 GALLONS

SGS	CAH	2/22/01	A	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE
eone SEWER SYSTEMS				
2010-IDU, DETAIL SHEET				
LM000159				

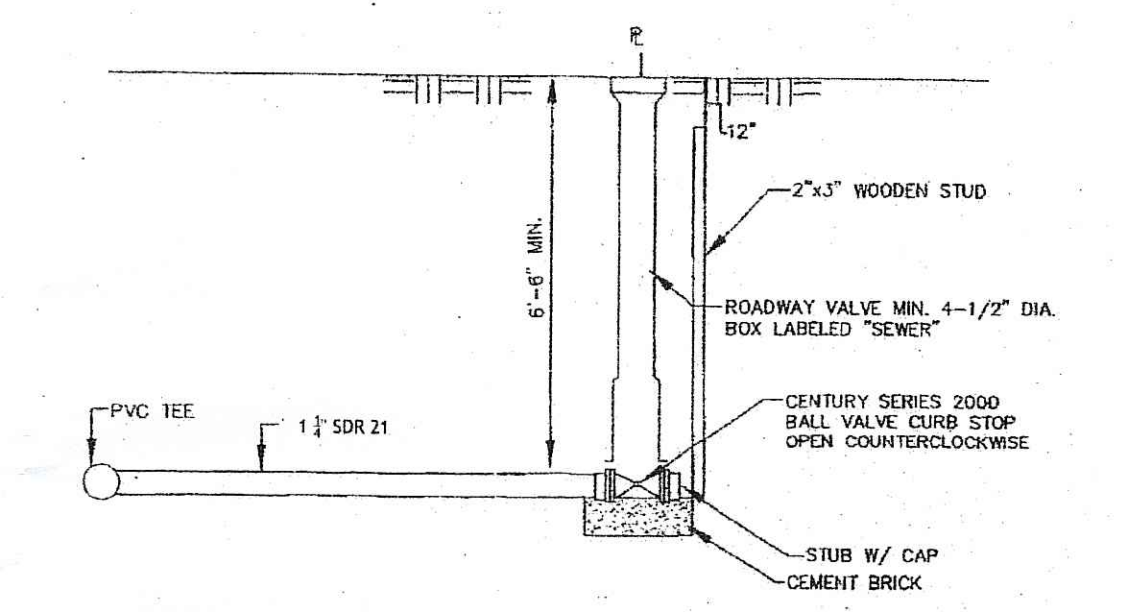


NOTE: STATION HAS A 10 FT POWER CORD

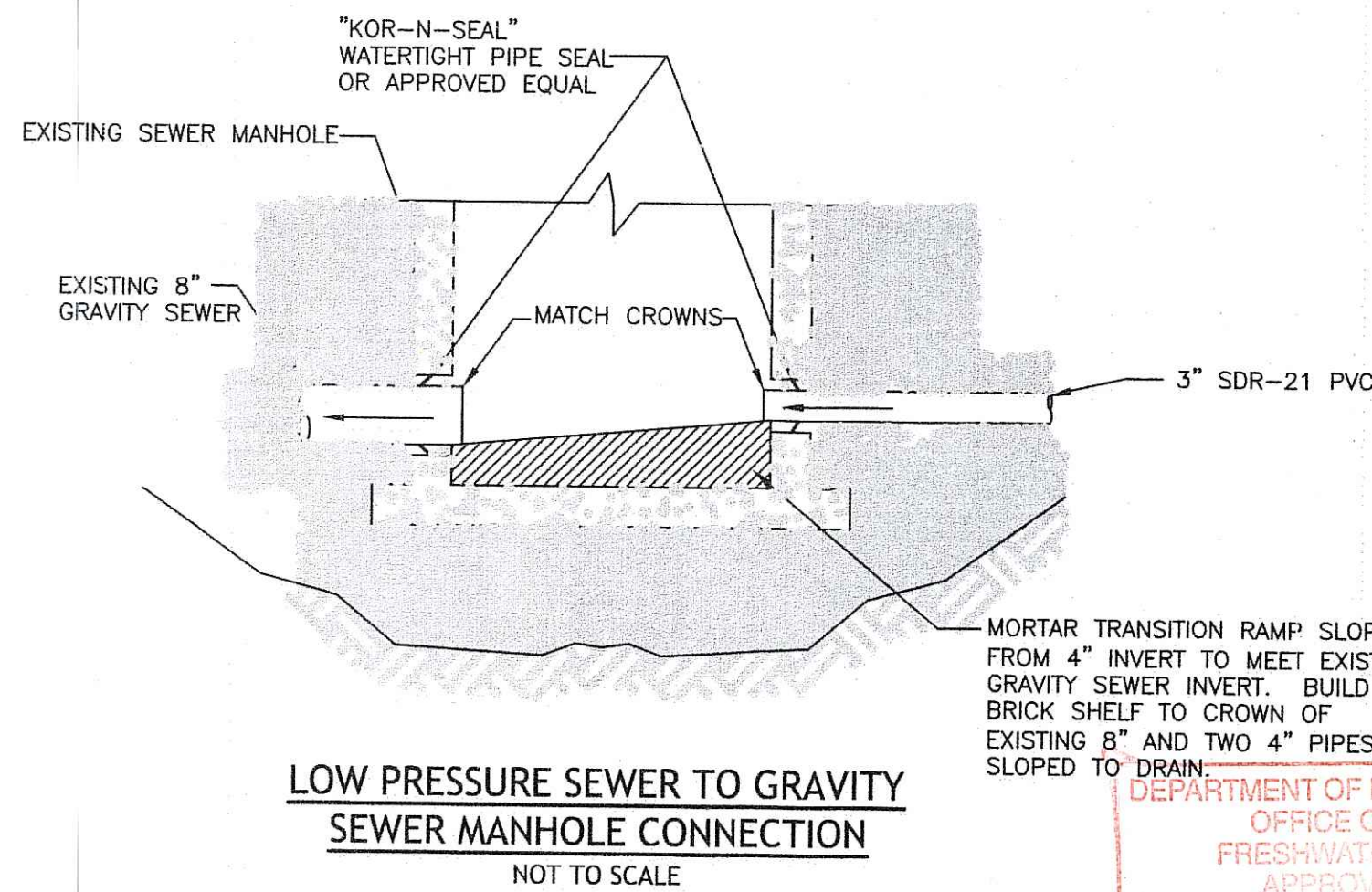
AD	SOS	3/37/06	3
DR BY	CHK'D	DATE	ISSUE
environment one CORPORATION			
IDU IN-SLAB INSTALLATION PLAN VIEW			
ESD 05-0054			



LOW PRESSURE SEWER IN-LINE FLUSHING CONNECTION



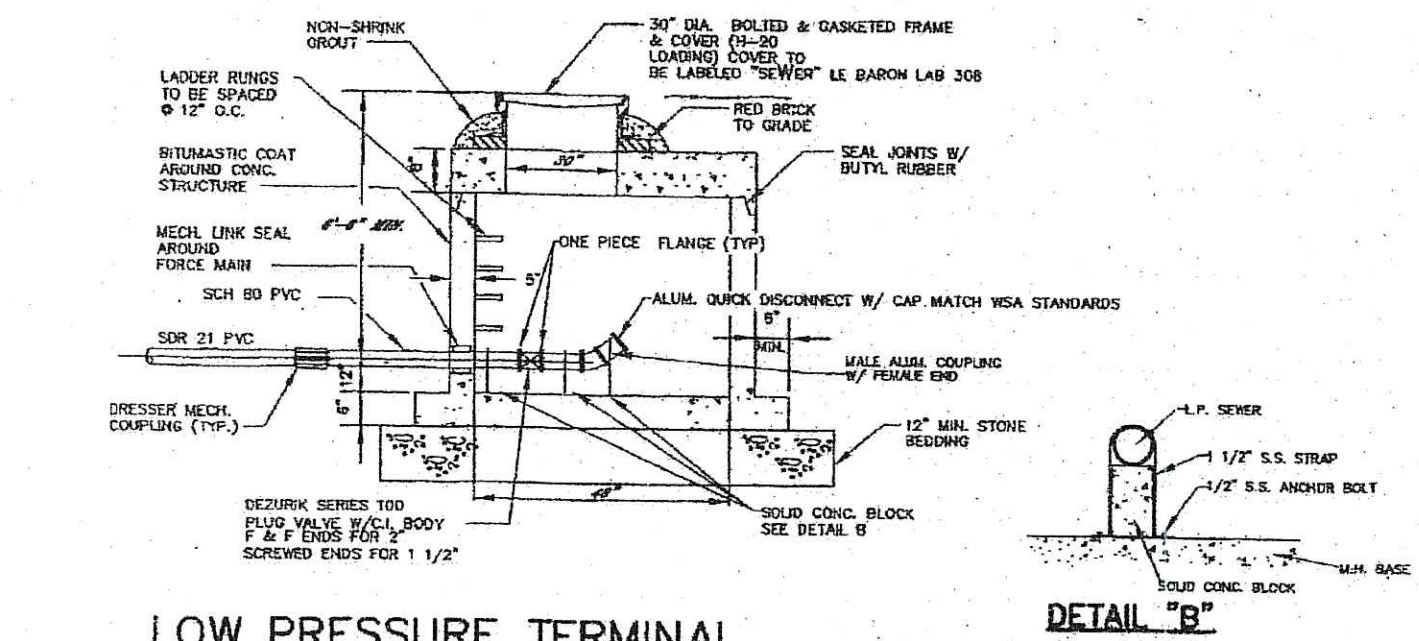
LOW PRESSURE SEWER SERVICE CONNECTION



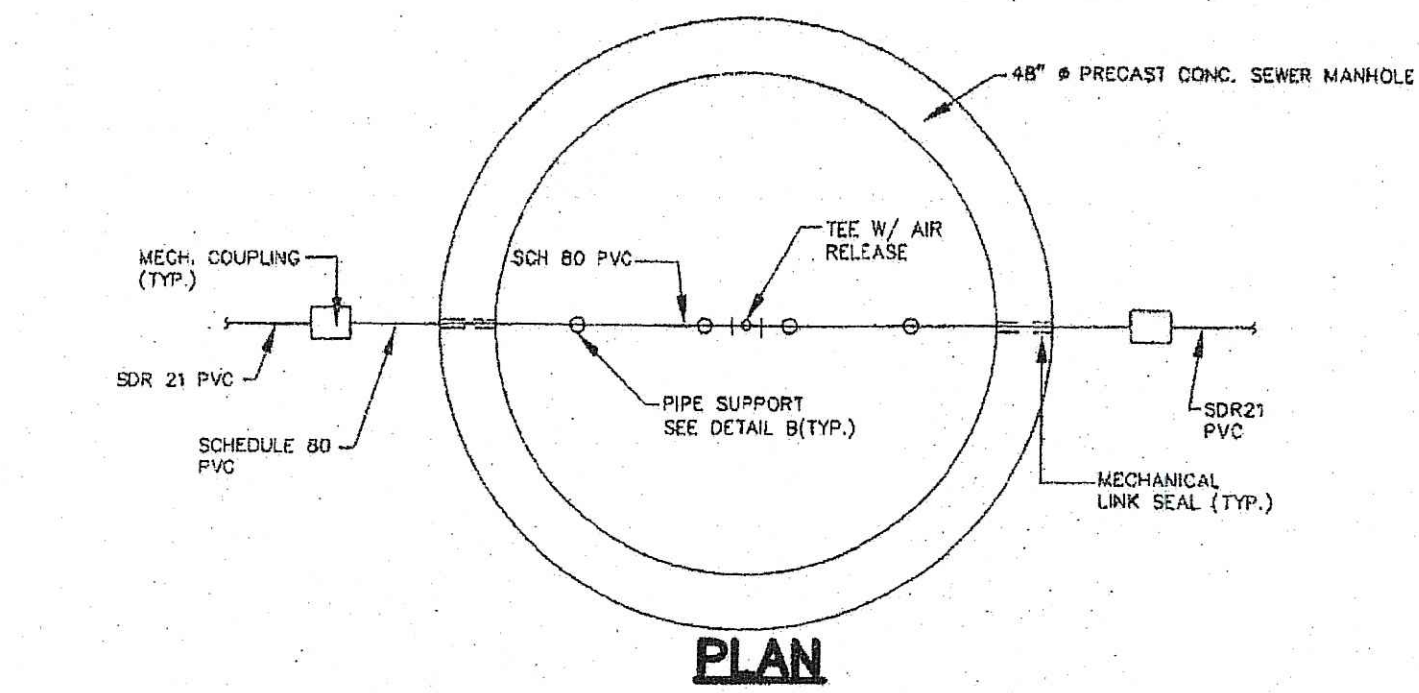
LOW PRESSURE SEWER TO GRAVITY SEWER MANHOLE CONNECTION
NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED NOV 08 2011 FILE # 11-0093
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION

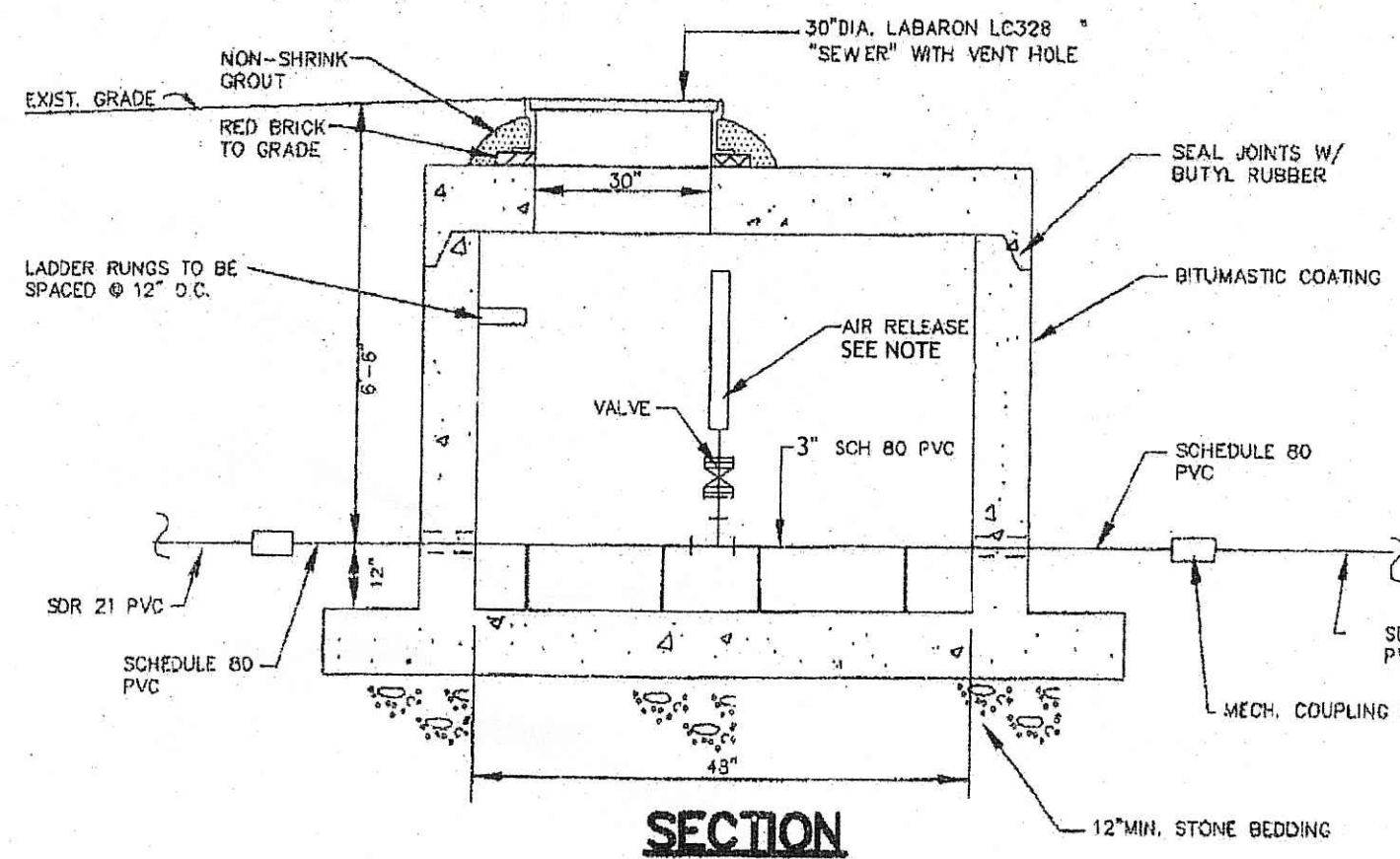
Charles A. Herbert



LOW PRESSURE TERMINAL END SEWER FLUSHING CONNECTION



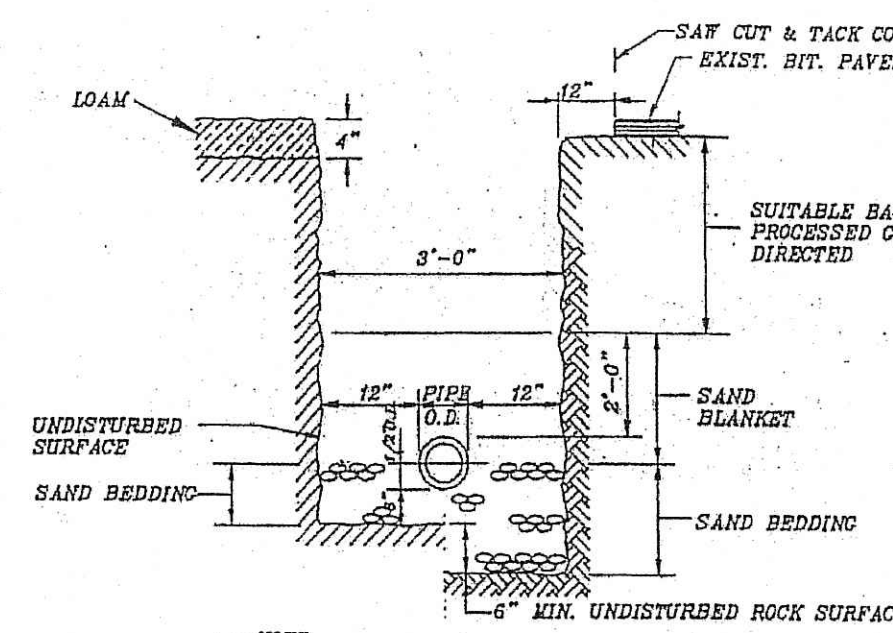
PLAN



SECTION

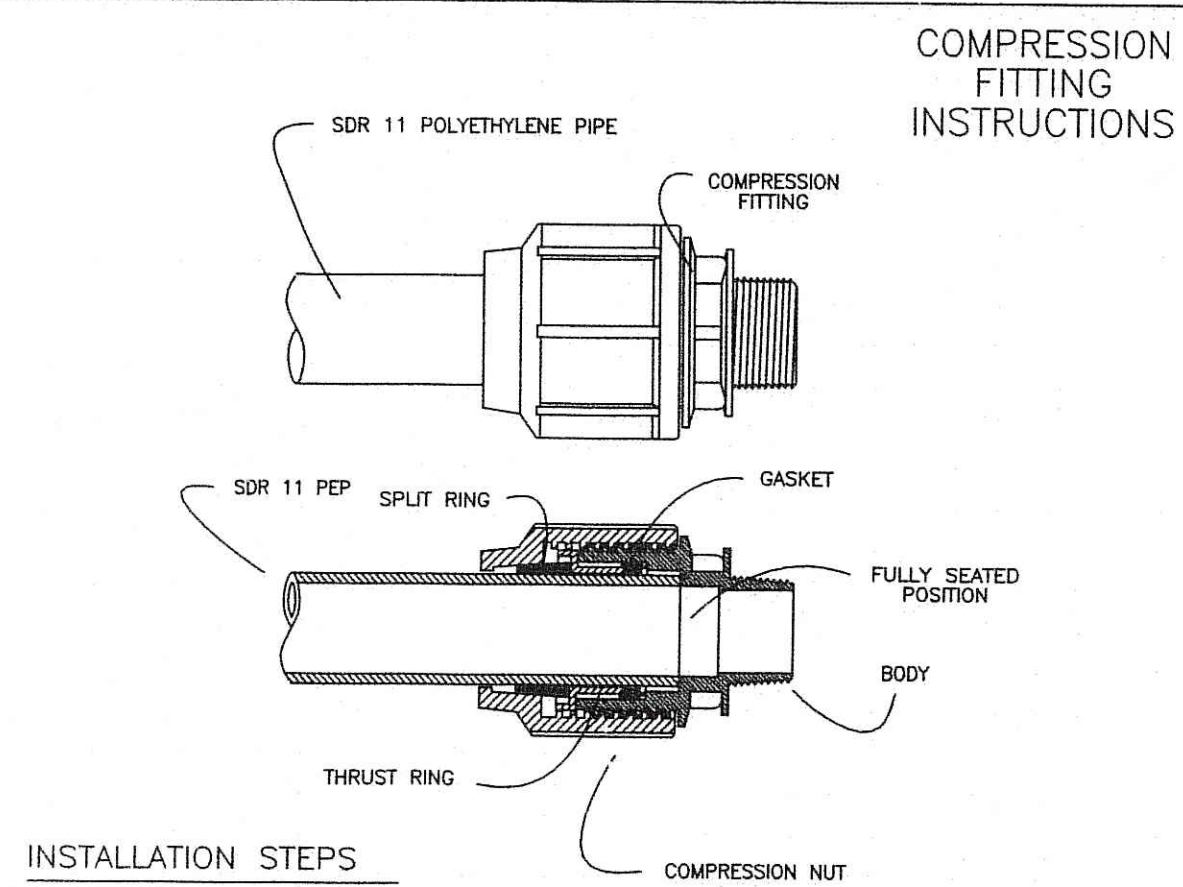
NOTE:
AIR RELEASE TO BE 2-INCH MODEL D-025 MANUFACTURED BY A.R.I OR APPROVED EQUAL

SEWER AIR RELEASE MANHOLE
NOT TO SCALE



NOTE: MINIMUM DEPTH OF COVER SHALL BE 7'-0"

LOW PRESSURE SEWER TRENCH DETAIL



COMPRESSION FITTING INSTRUCTIONS

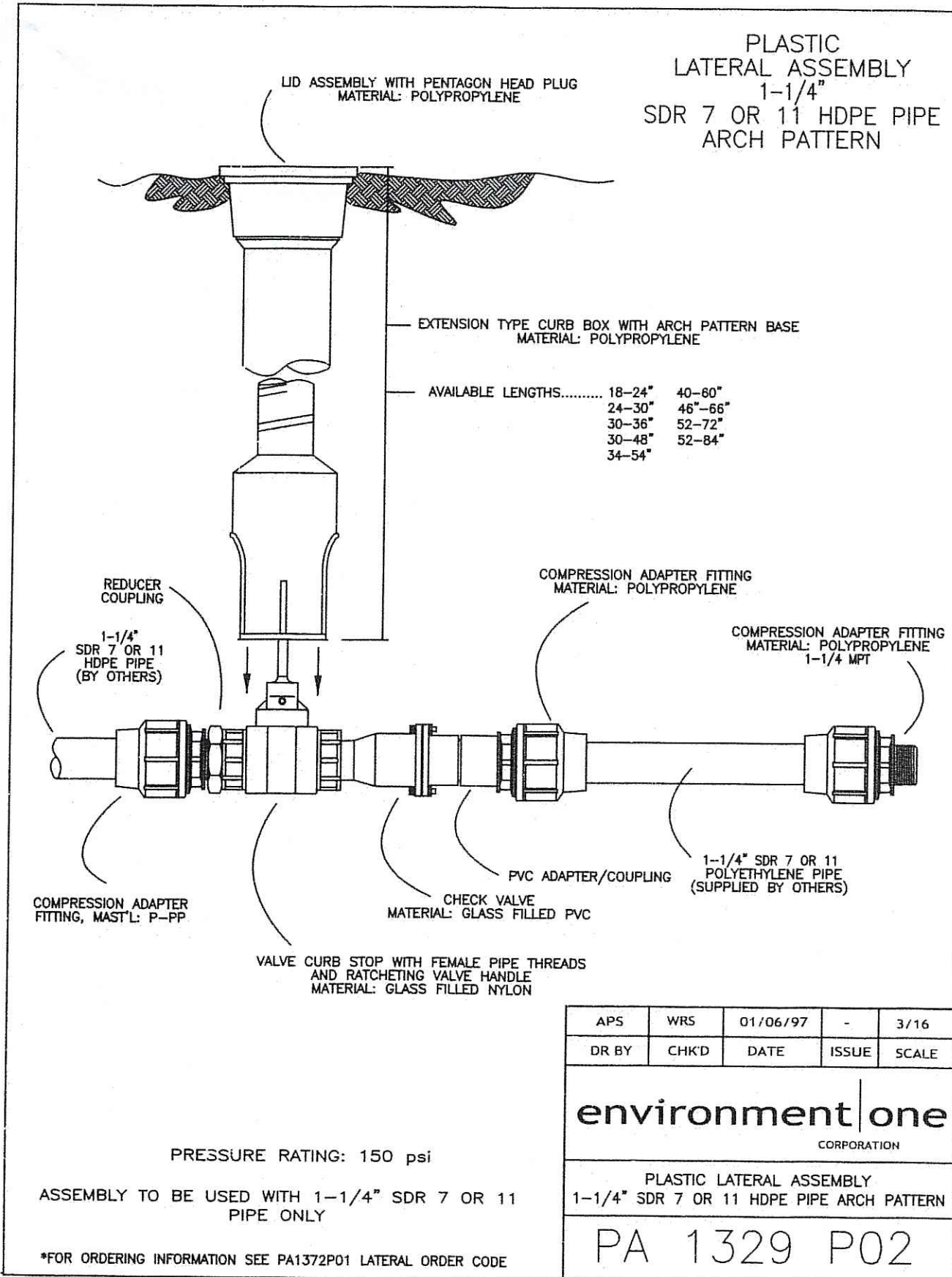
INSTALLATION STEPS

- 1- Cut pipe square.
- 2- Make sure pipe is round, not flattened. Clean off any dirt so that the surface is smooth.
- 3- Insert pipe through compression nut. Position split ring on the end of pipe with the tapered end toward the compression nut.
- 4- Slide compression nut over split ring and align it with the threads on the body.
- 5- Insert pipe into the body of the fitting until firmly seated.
- 6- Tighten compression nut securely to the fitting body.

PRECAUTIONS

- 1- Always pressure test for leaks prior to backfilling.
- 2- Fittings can be damaged by improper handling. Protect threads. Do not drop. Back fill and compact carefully per ASTM D2321 so that fittings are not stressed by the weight of the earth.
- 3- Protect ball valve assemblies from freezing. Attempting to forcibly open or close a frozen valve will destroy the valve.

APS	WRS	01/06/97	-	3/16
DR BY	CHK'D	DATE	ISSUE	SCALE
environment one CORPORATION				
COMPRESSION FITTING INSTRUCTIONS				
PA 1333 P04				



PLASTIC LATERAL ASSEMBLY
1-1/4" SDR 7 OR 11 HDPE PIPE ARCH PATTERN

PRESSURE RATING: 150 psi
ASSEMBLY TO BE USED WITH 1-1/4" SDR 7 OR 11 PIPE ONLY

*FOR ORDERING INFORMATION SEE PA132901 LATERAL ORDER CODE

APS	WRS	01/06/97	-	3/16
DR BY	CHK'D	DATE	ISSUE	SCALE
environment one CORPORATION				
PLASTIC LATERAL ASSEMBLY 1-1/4" SDR 7 OR 11 HDPE PIPE ARCH PATTERN				
PA 1329 P02				

JOE
JOE CASALI ENGINEERING, INC.
CIVIL, SITE DESIGN, SURVEYING, FLOODPLAIN DRAINAGE, WETLANDS, ISSS, TRAFFIC, FLOODPLAIN
300 POST ROAD, WARWICK, RI 02888
(401) 844-1100 (401) 844-1313 FAX: WWW.JOECSA.COM

JOSEPH A. CASALI
No. 250
REGISTERED PROFESSIONAL ENGINEER
CIVIL
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HILLTOP CONDOMINIUMS
GILCREST DRIVE & WATERFALL WAY
WEST WARWICK, RHODE ISLAND
AP 38 LOT 34

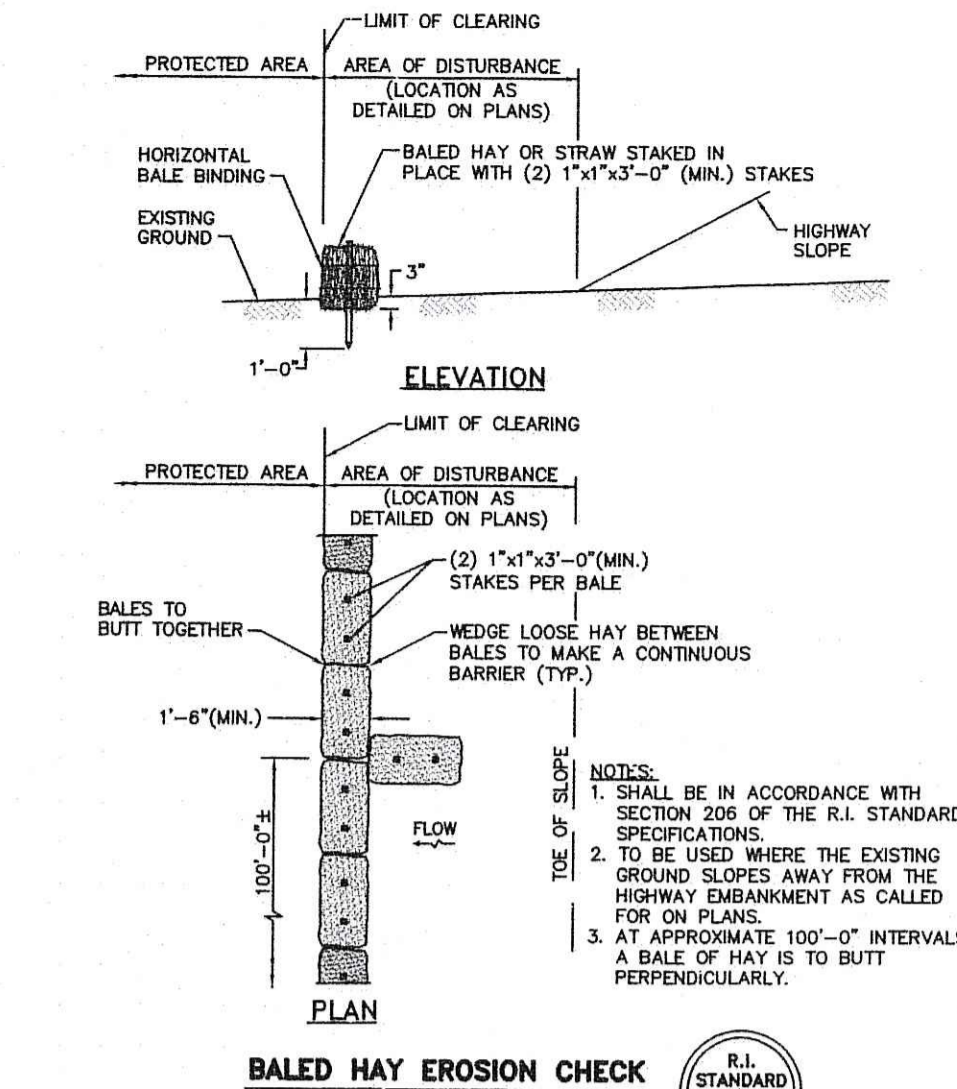
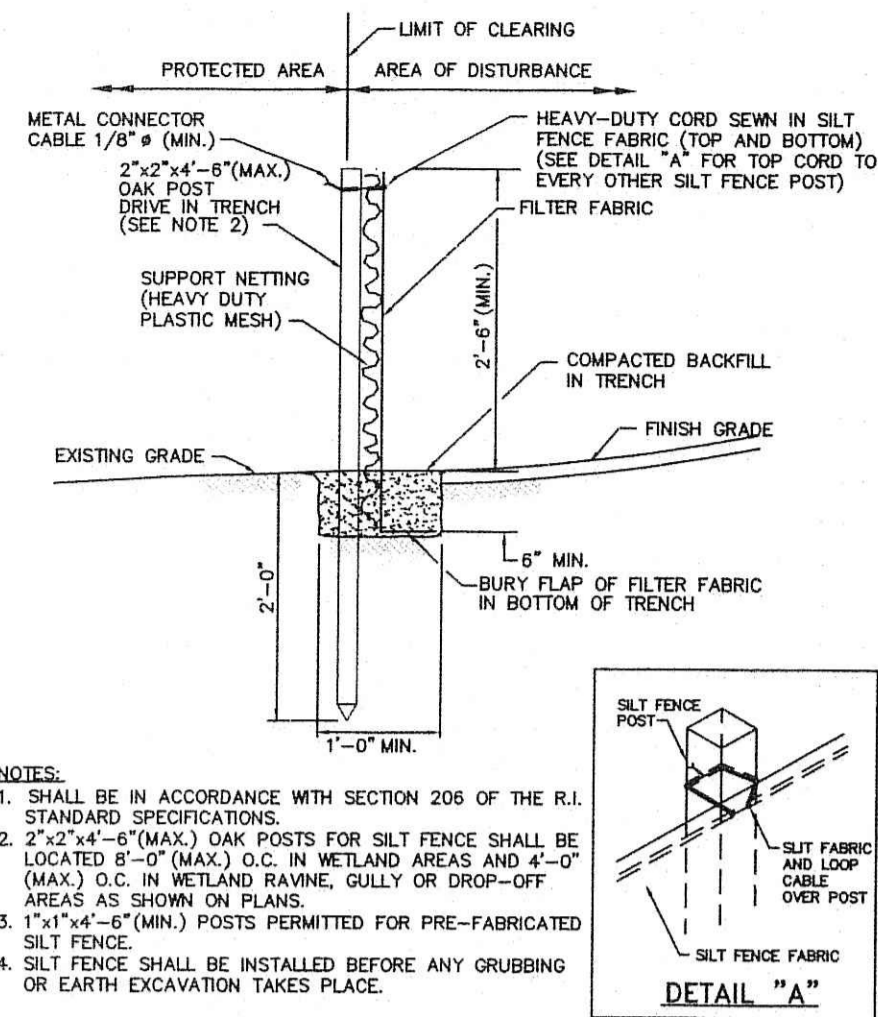
NO.	DATE	DESCRIPTION
1	2/06	CONSTRUCTION PLANS
2	8/06	KCWA SUBMISSION
3	11/06	RE-SUBMISSION
4	2/07	WWSA RE-SUBMISSION
5	3/08	KCWA SUBMISSION
6	8/08	FINAL PLANS
7	1/20/11	RIDEM SUBMISSION

DRAWN BY: GAH
CHECKED BY: AMS
DATE: MARCH 2006
PROJECT NO: 04-40a

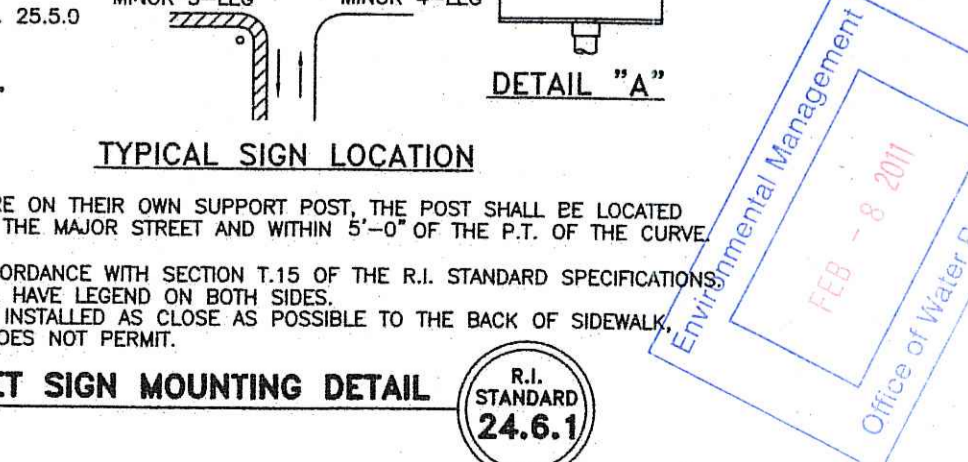
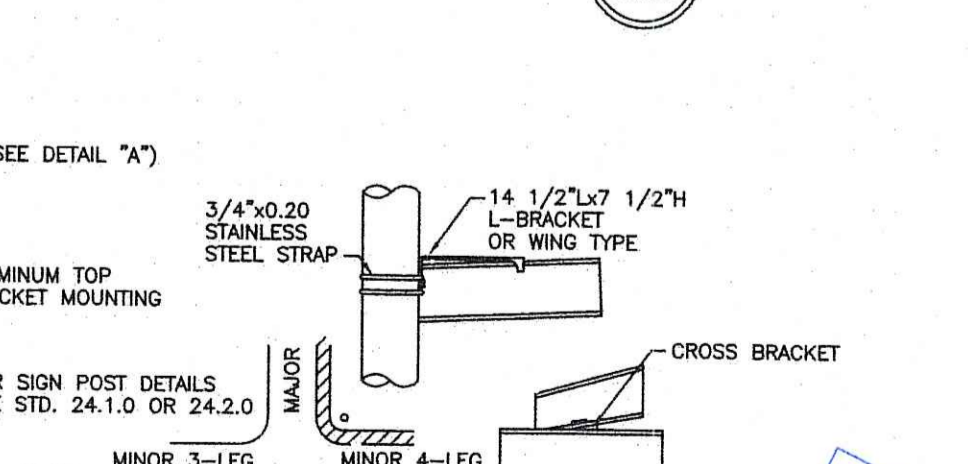
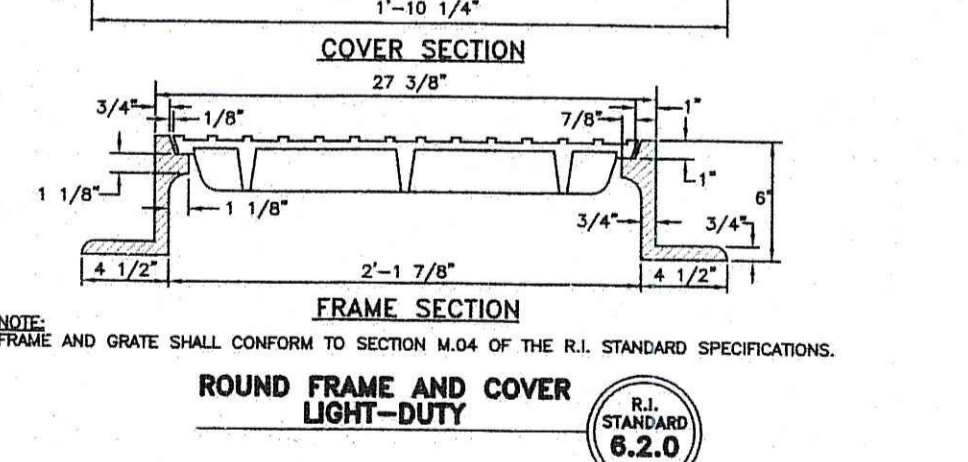
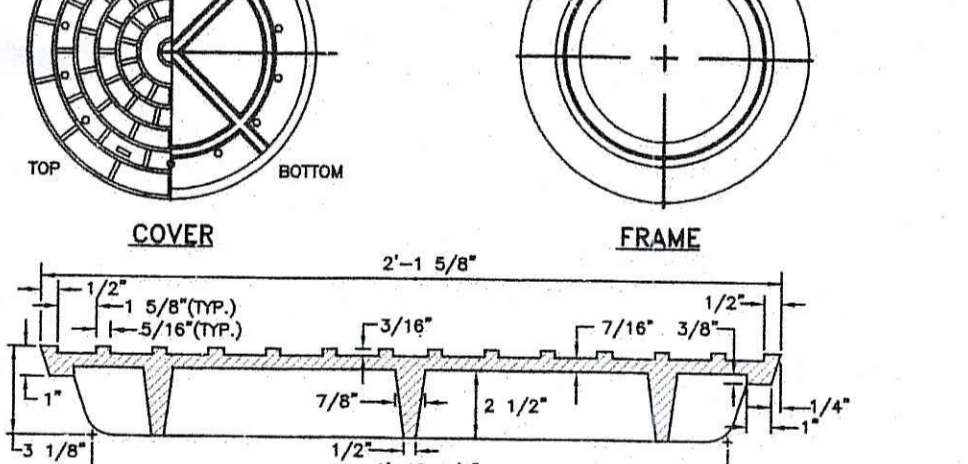
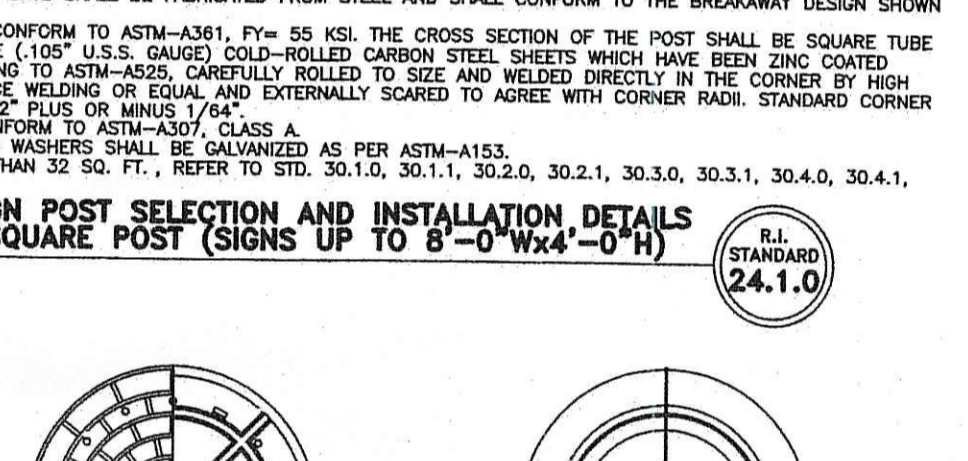
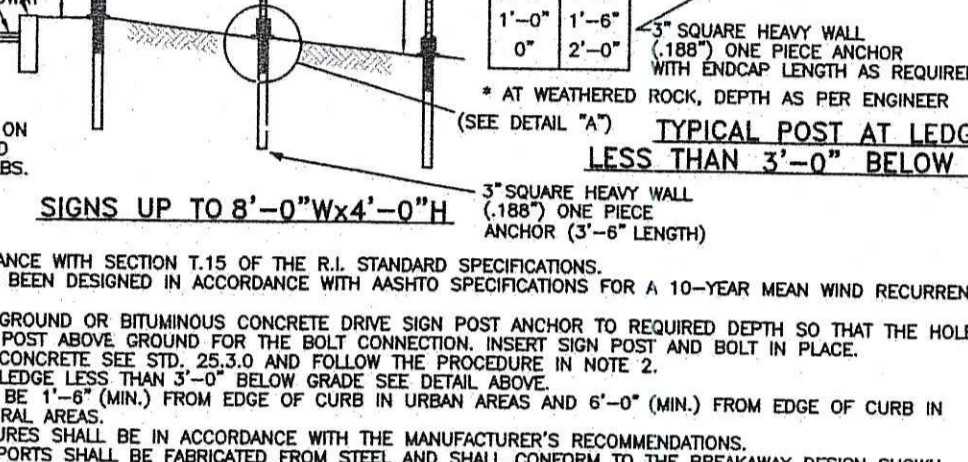
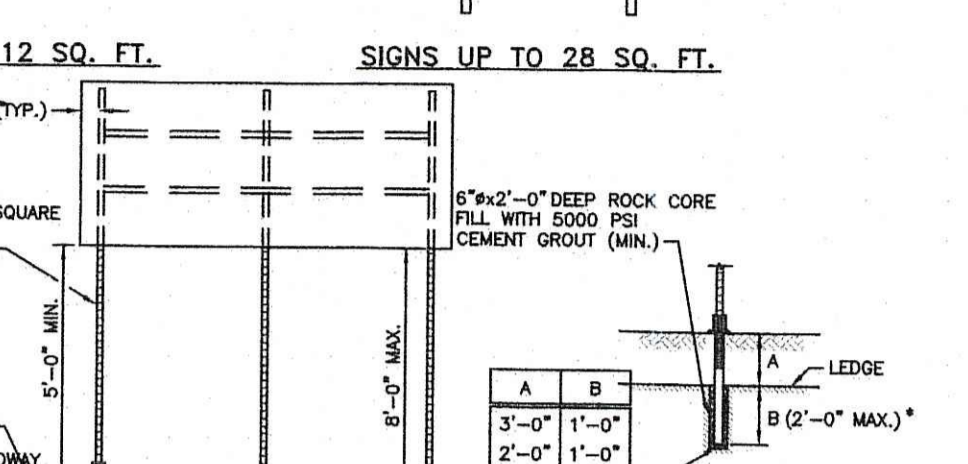
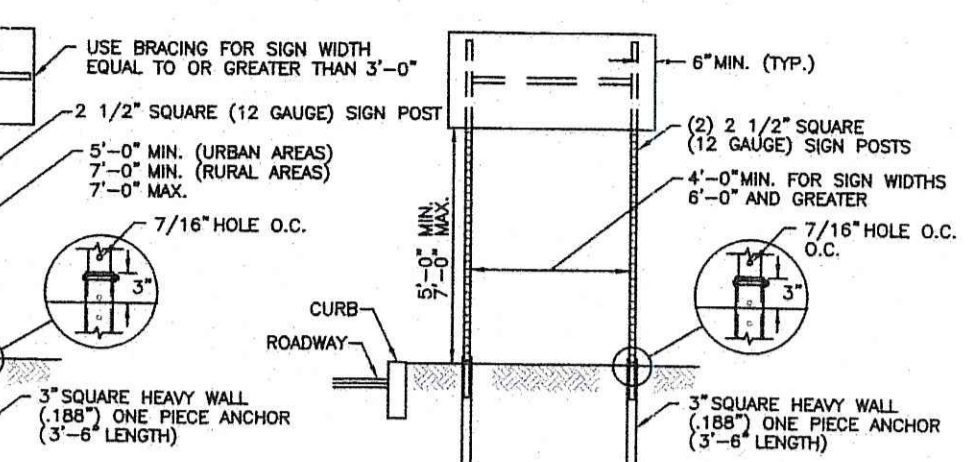
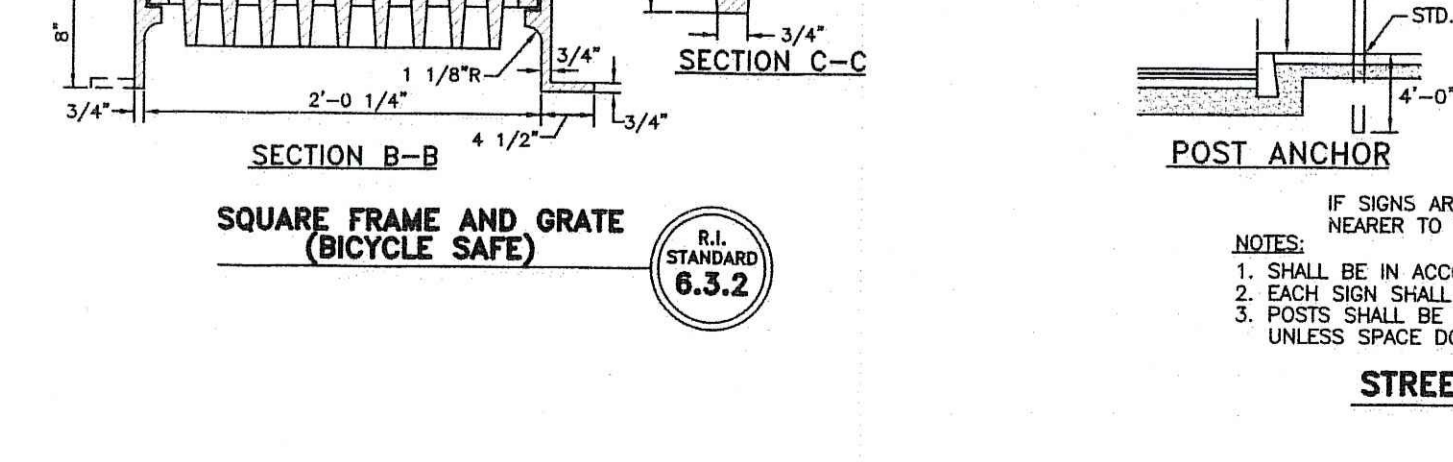
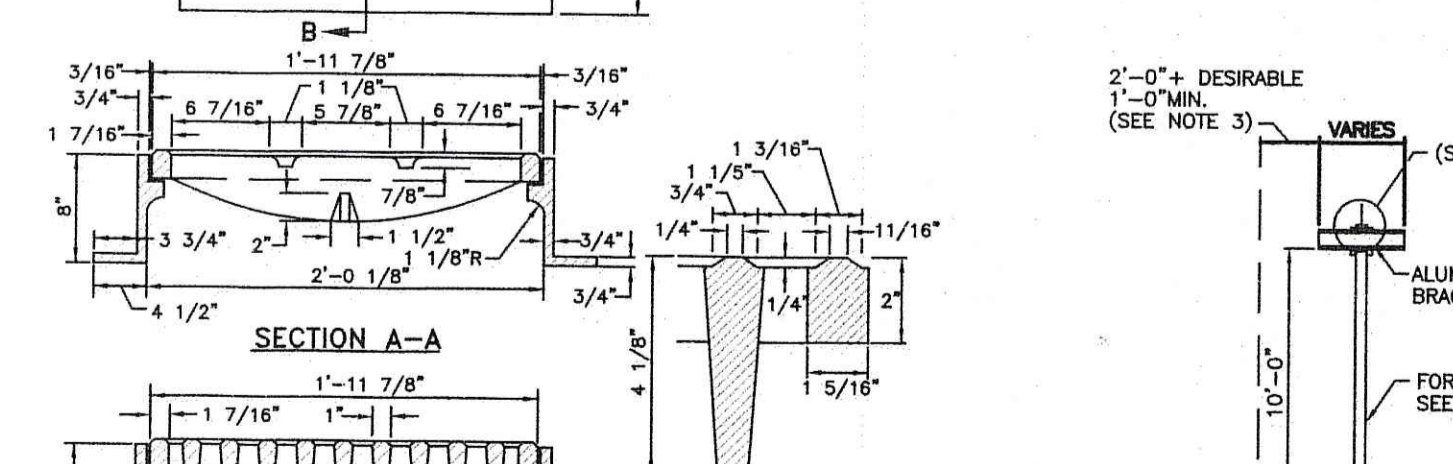
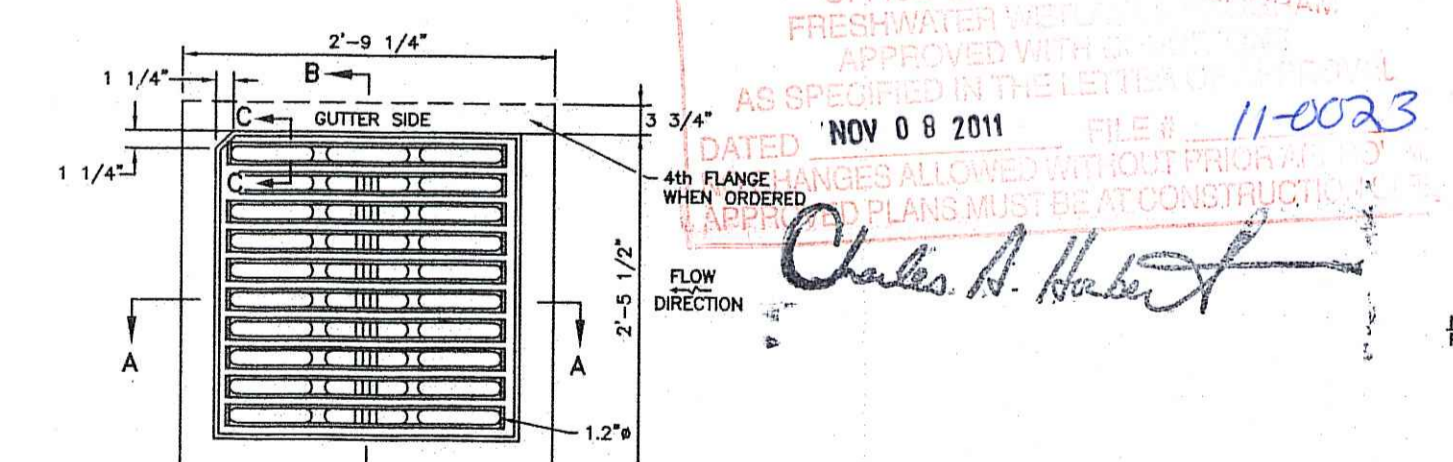
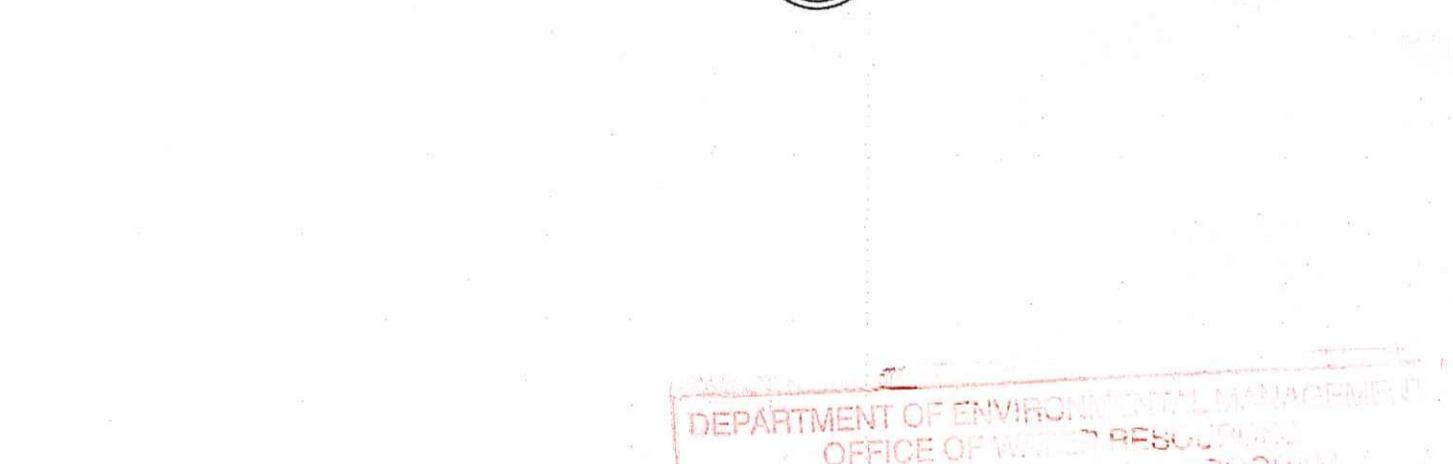
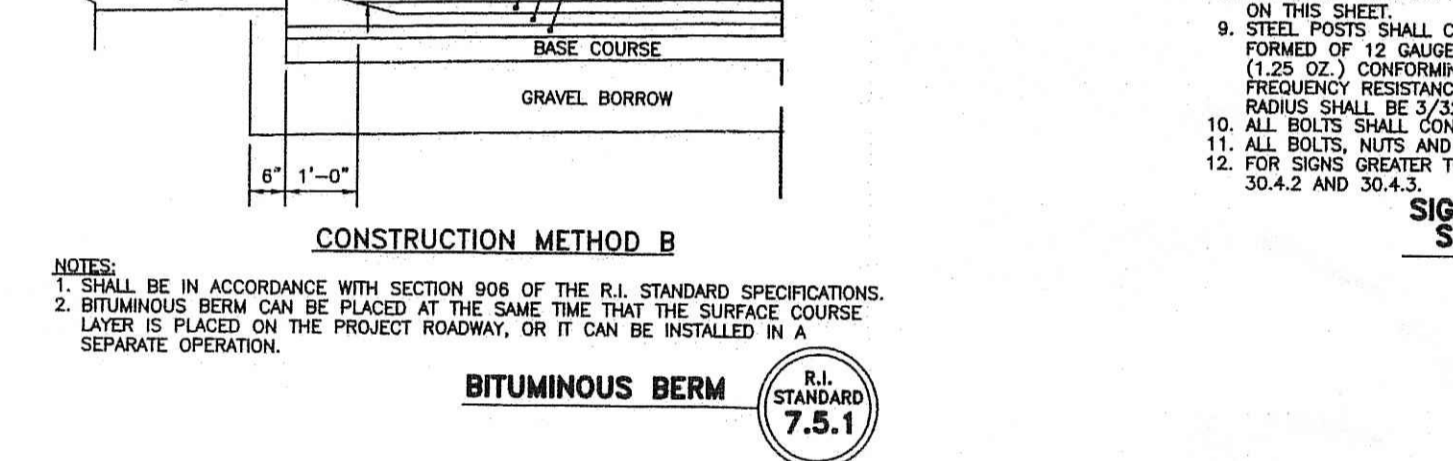
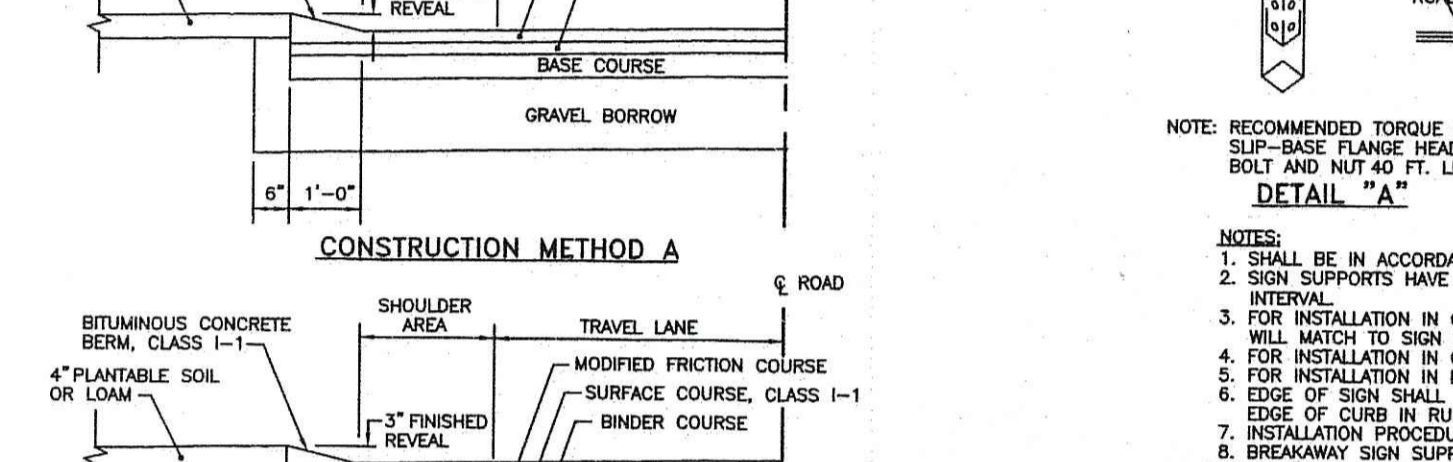
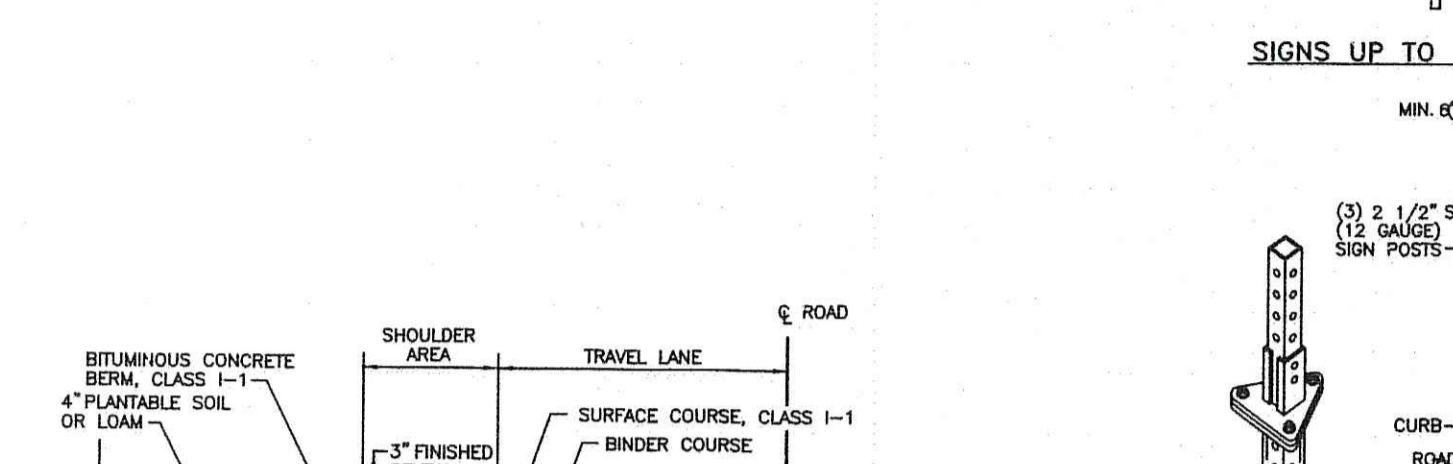
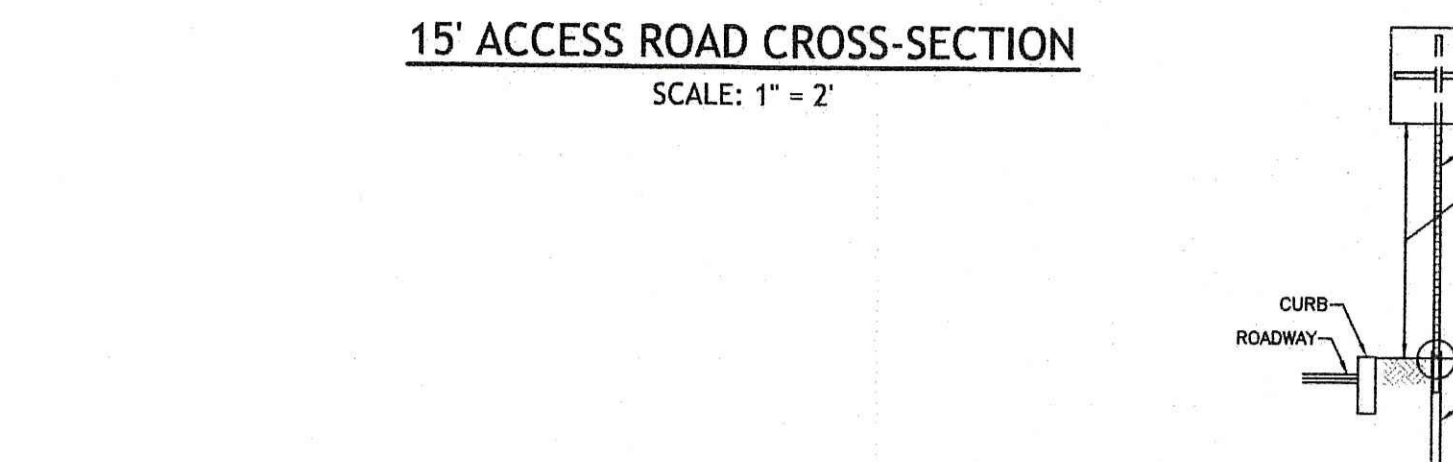
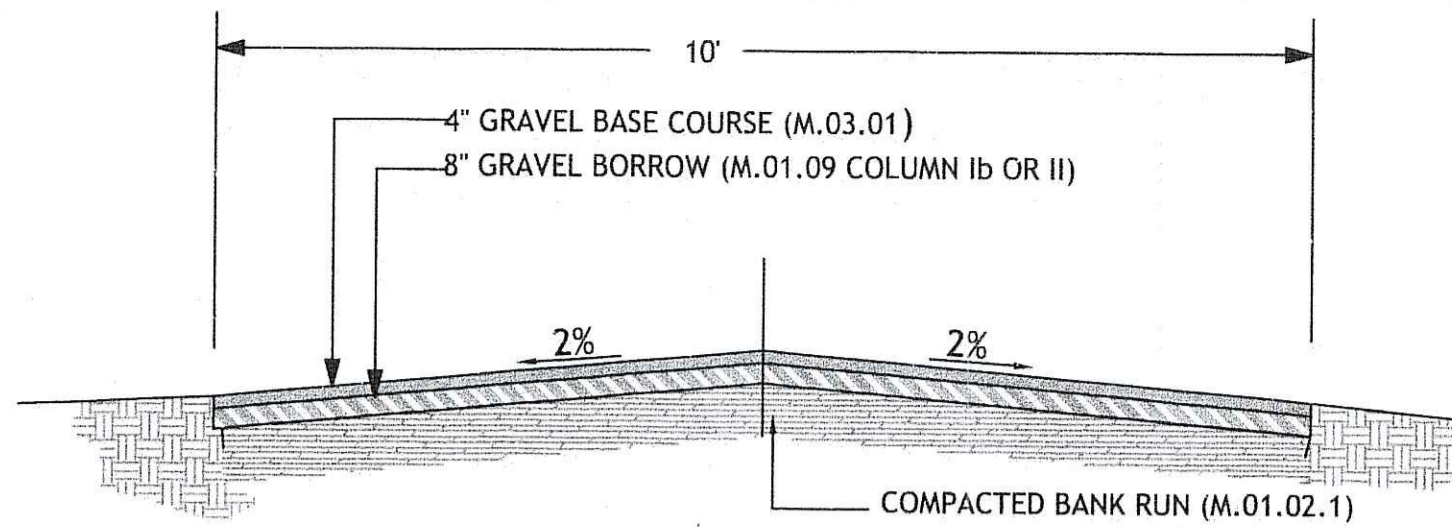
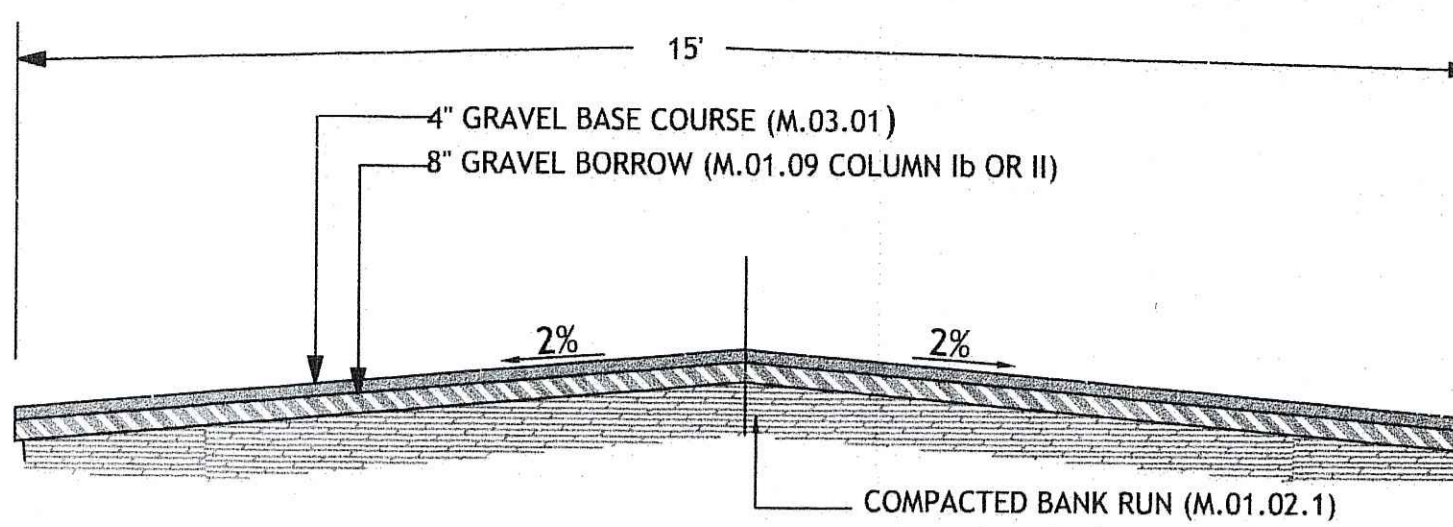
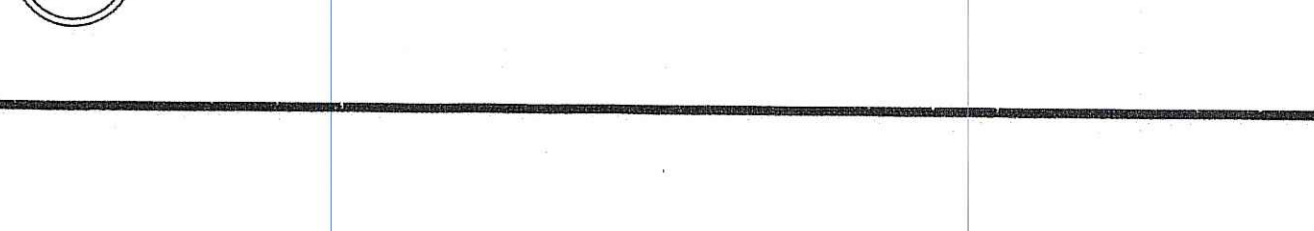
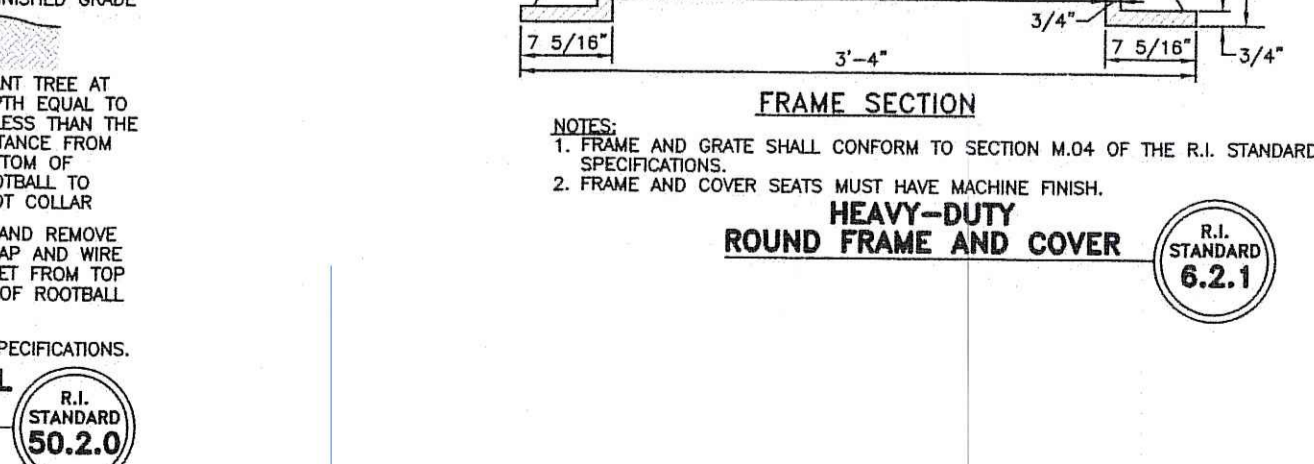
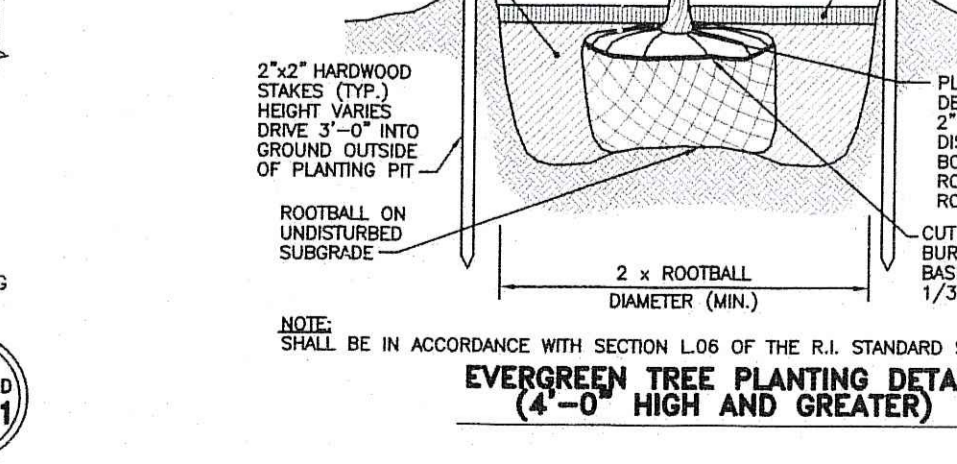
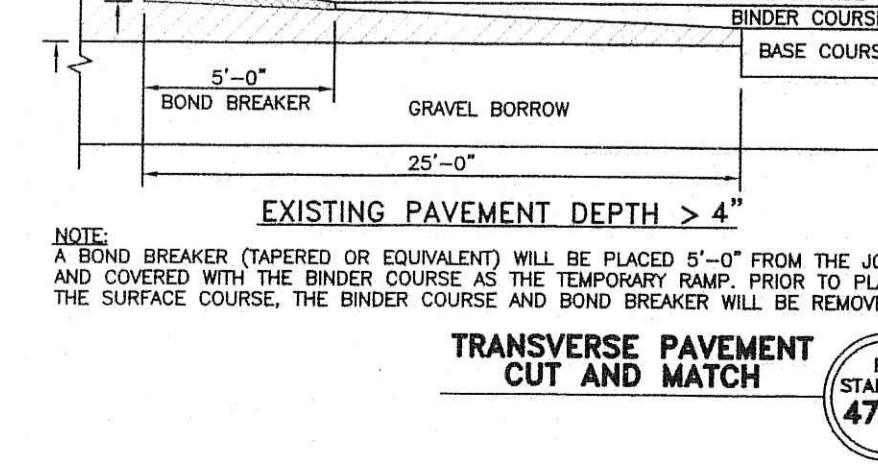
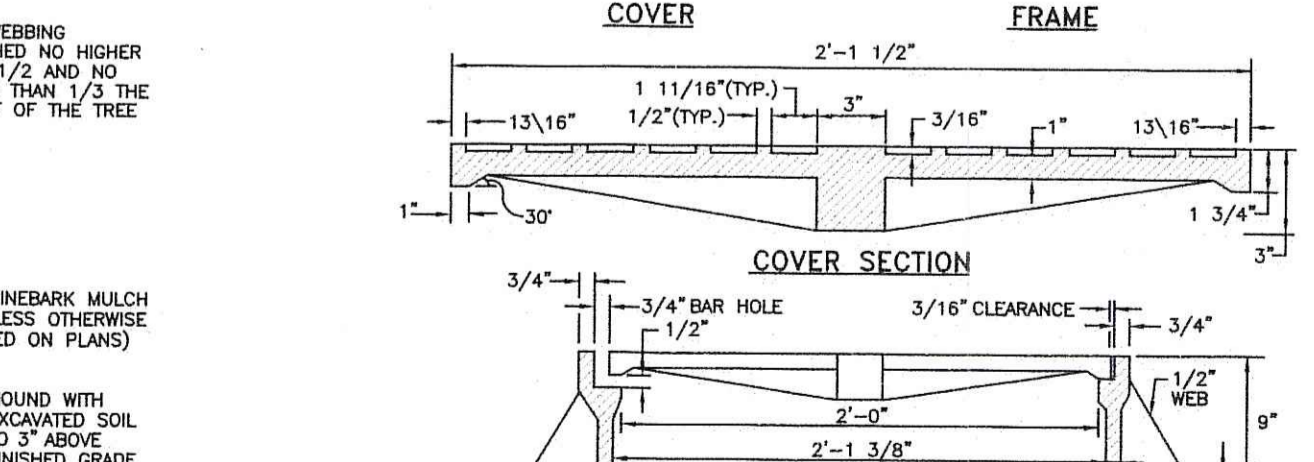
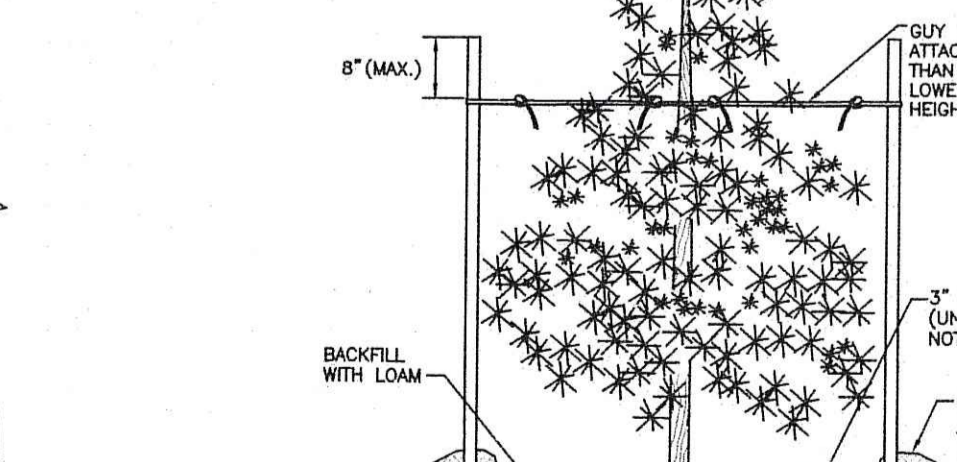
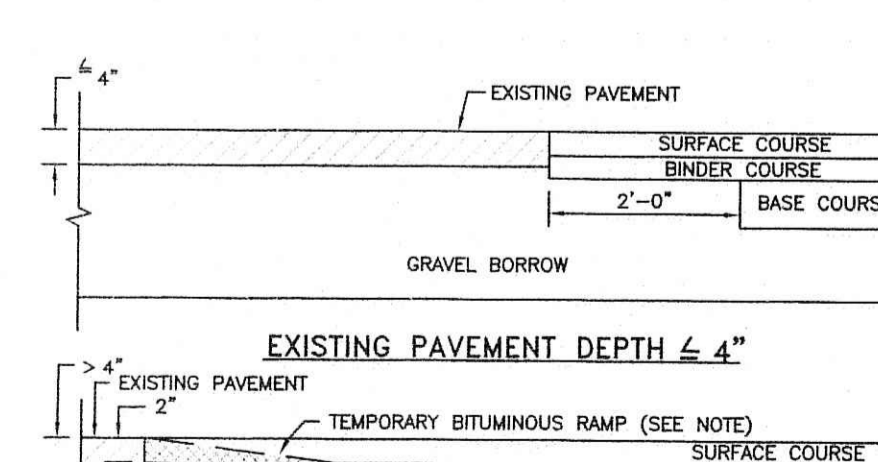
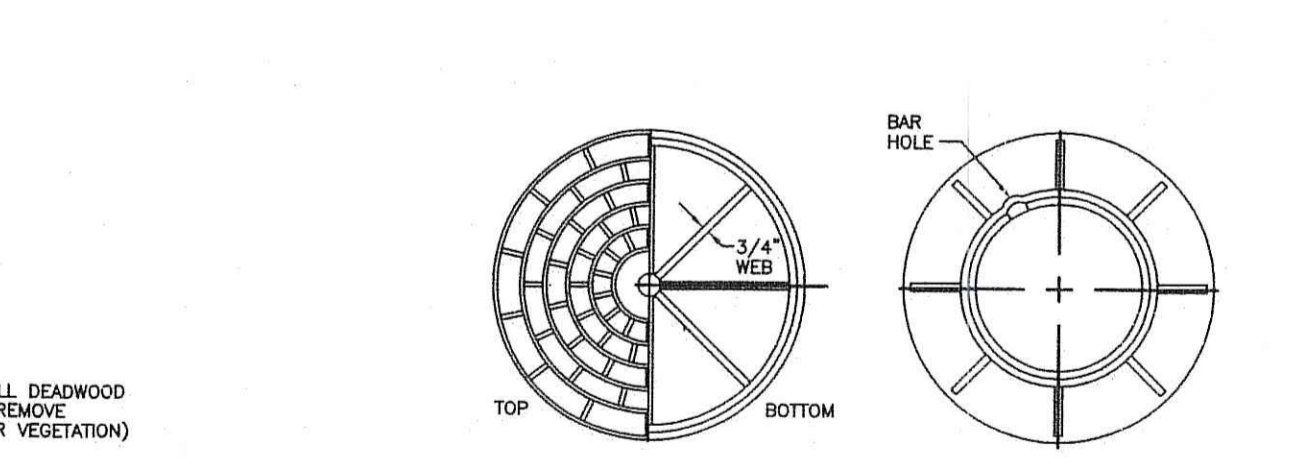
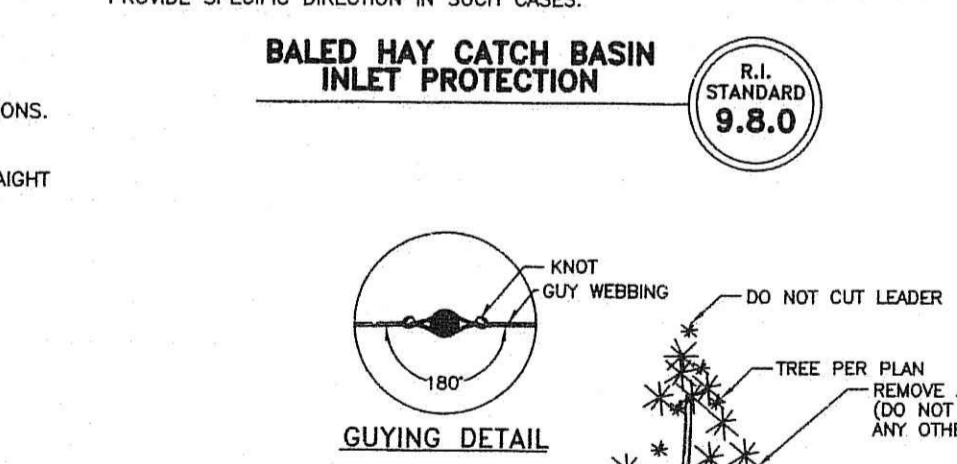
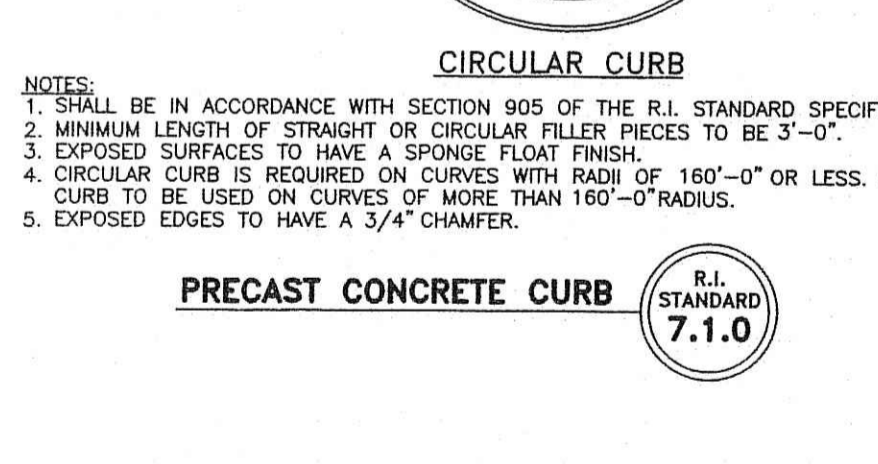
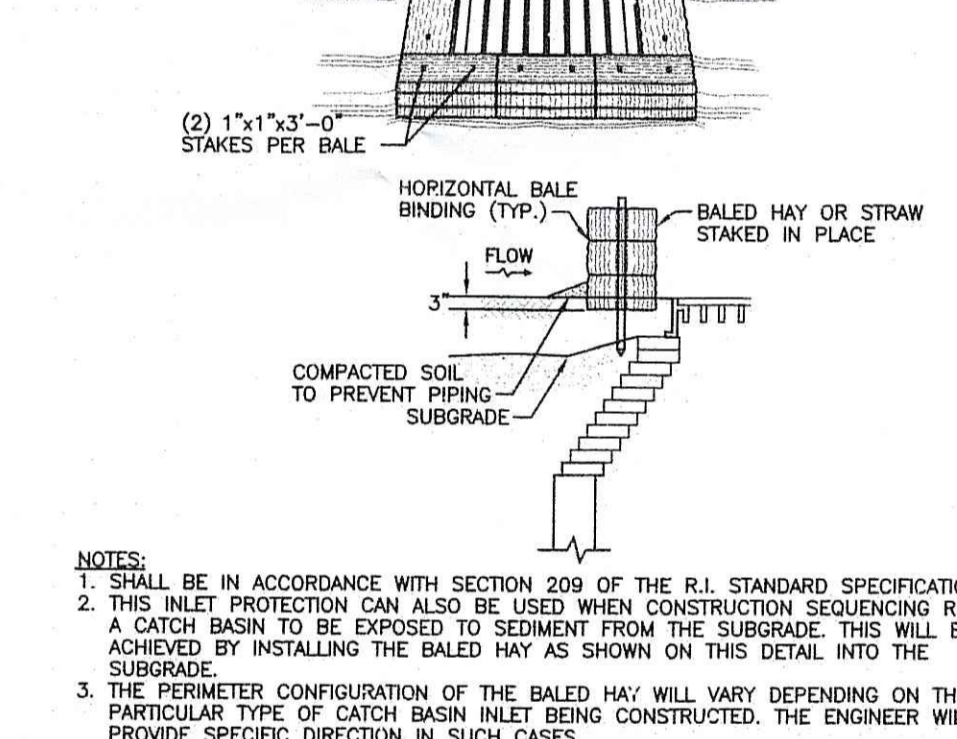
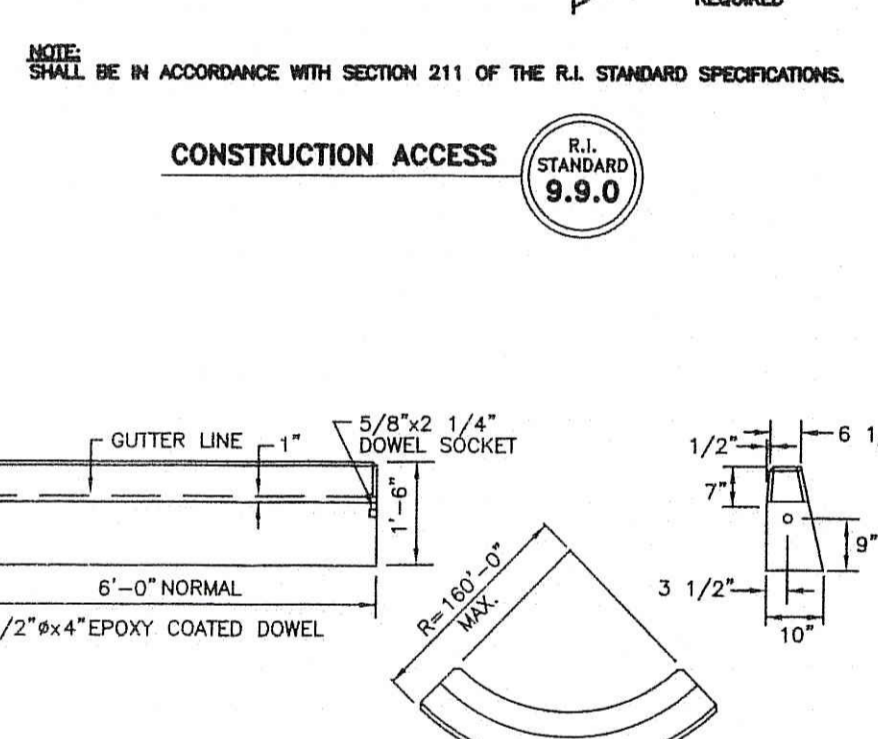
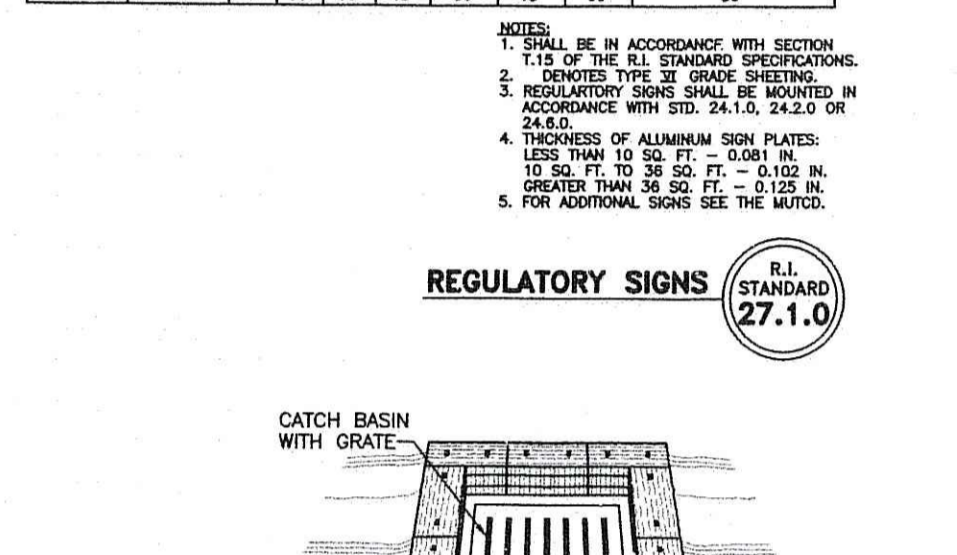
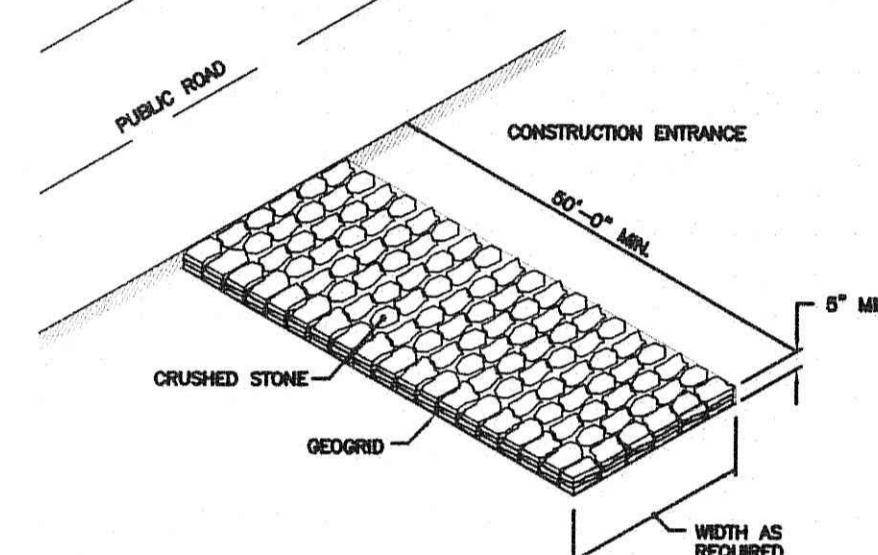
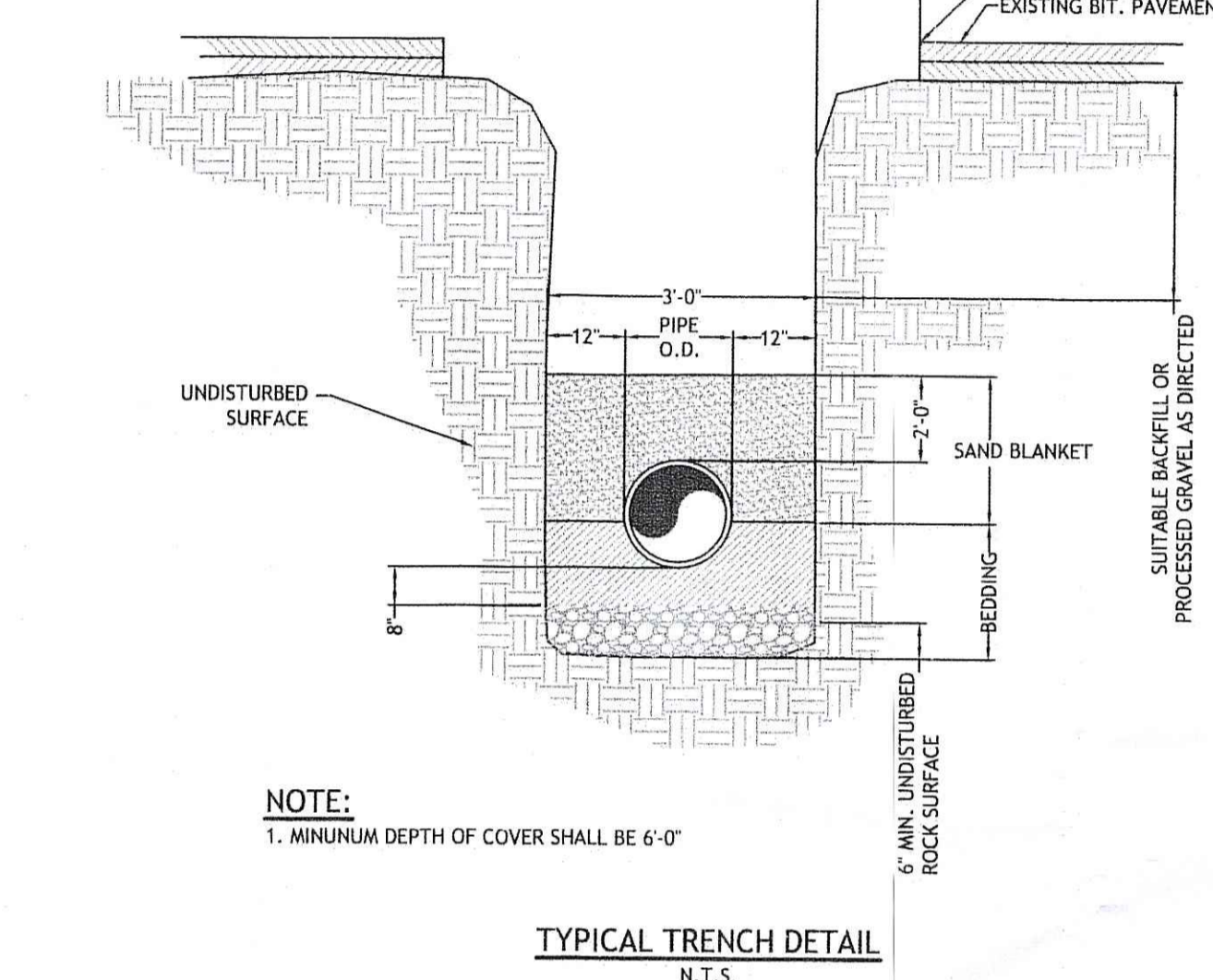
SEWER DETAILS

SHEET 12 OF 16

Q:\03-40-Kirk Andrews\04-40a-Hilltop Estates\JEFF RODMAN - INFORMATION\ACAD\HILL TOP (PLAN-SET) R-6.dwg



SIGN NUMBER	R1-1	R1-2	R4-7
LEGEND			
COLOR	RED	RED	WHITE
BACKGROUND	WHITE	WHITE	WHITE
TEXT	RED	RED	BLACK
SIZE	24" x 30"	30" x 48"	30" x 48"
HEIGHT	30"	48"	48"



JOE CASALI ENGINEERING, INC.
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300 POST ROAD, WARWICK, RI 02888
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JOSEPH A. CASALI
REGISTERED PROFESSIONAL ENGINEER
CIVIL
1-811

HILLTOP CONDOMINIUMS
GILCREST DRIVE & WATERFALL WAY
WEST WARWICK, RHODE ISLAND
AP 38 LOT 34

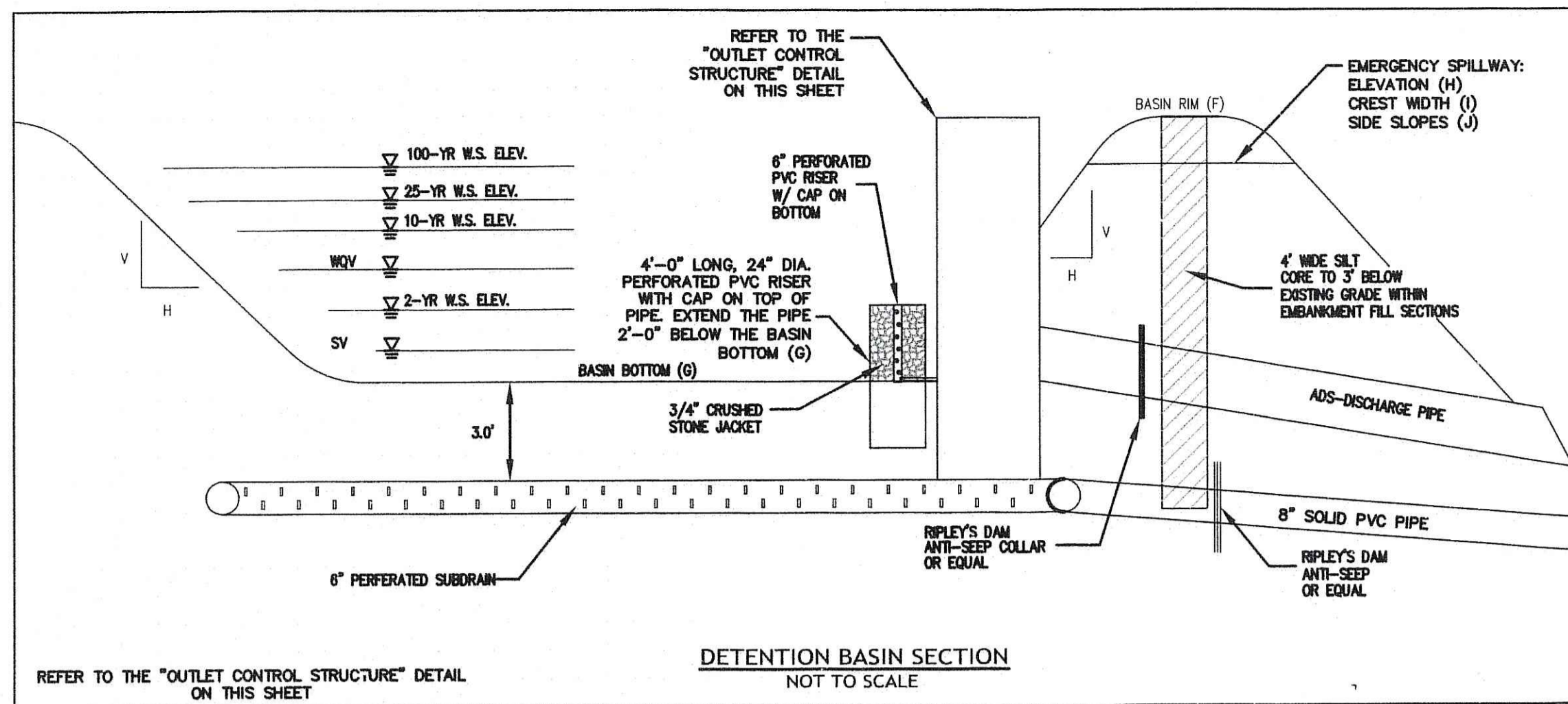
REVISIONS:

NO.	DATE	DESCRIPTION
1	2/06	CONSTRUCTION PLANS
2	8/06	KCWA SUBMISSION
3	11/06	KCWA RE-SUBMISSION
4	2/07	WWSA RE-SUBMISSION
5	3/08	KCWA SUBMISSION
6	8/08	FINAL PLANS
7	1/20/11	RIDEM SUBMISSION

DRAWN BY: GAH
CHECKED BY: AMS
DATE: MARCH 2006
PROJECT NO: 04-40a

CONSTRUCTION DETAILS I

SHEET 13 OF 16



STRUCTURE TABLE

DETENTION BASIN	(A) WEEP HOLE DIAMETER (INCHES)	(B) WEIR LENGTH (FEET)	(C) DISCHARGE PIPE DIAMETER (INCHES)	(D) INVERT ELEVATION (FEET)	(E) TOP OF STRUCTURE ELEVATION (FEET)
1	1.4	5.0	18	175.0	181.5
2	1.0	4.5	18	174.2	175.5

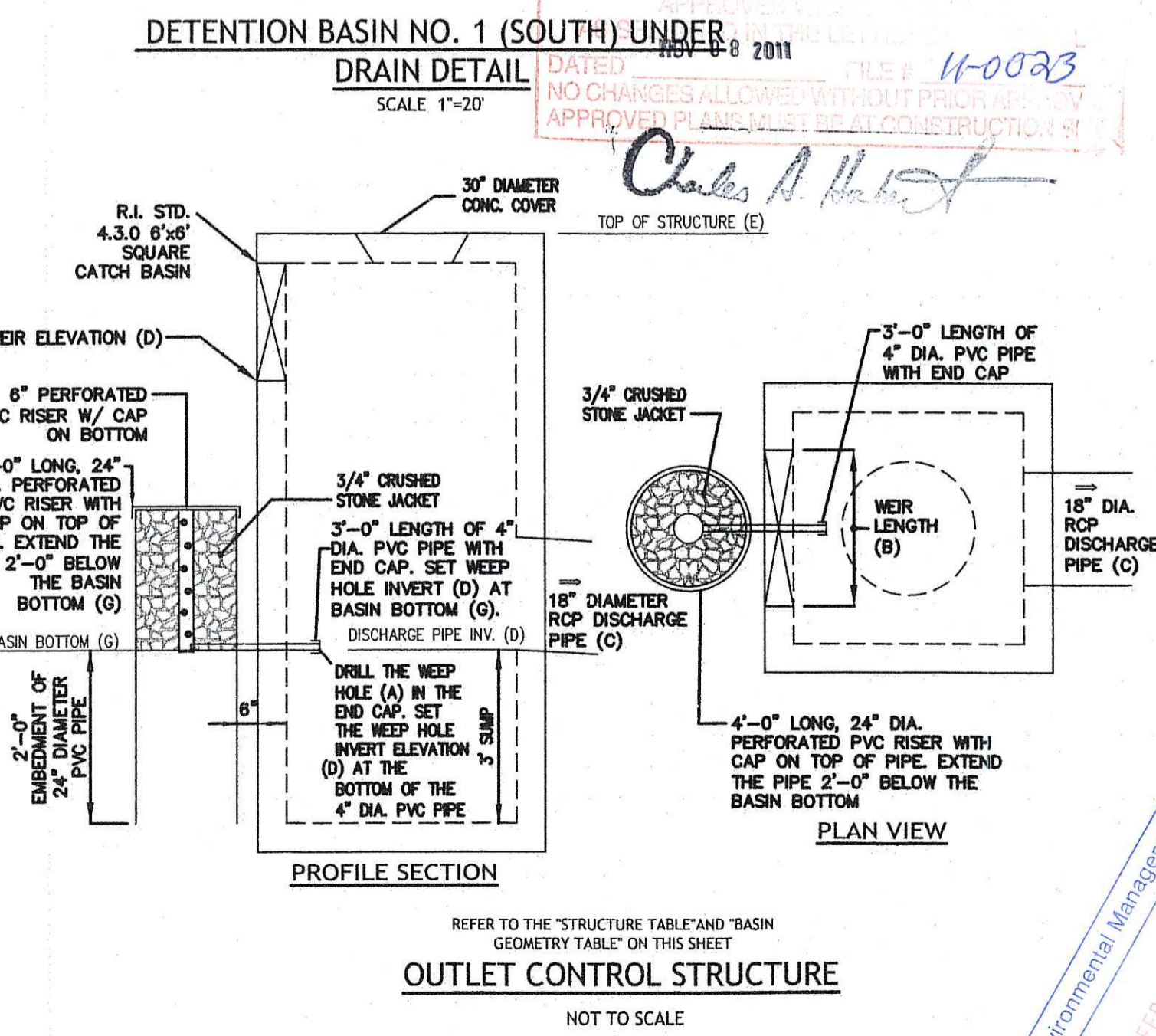
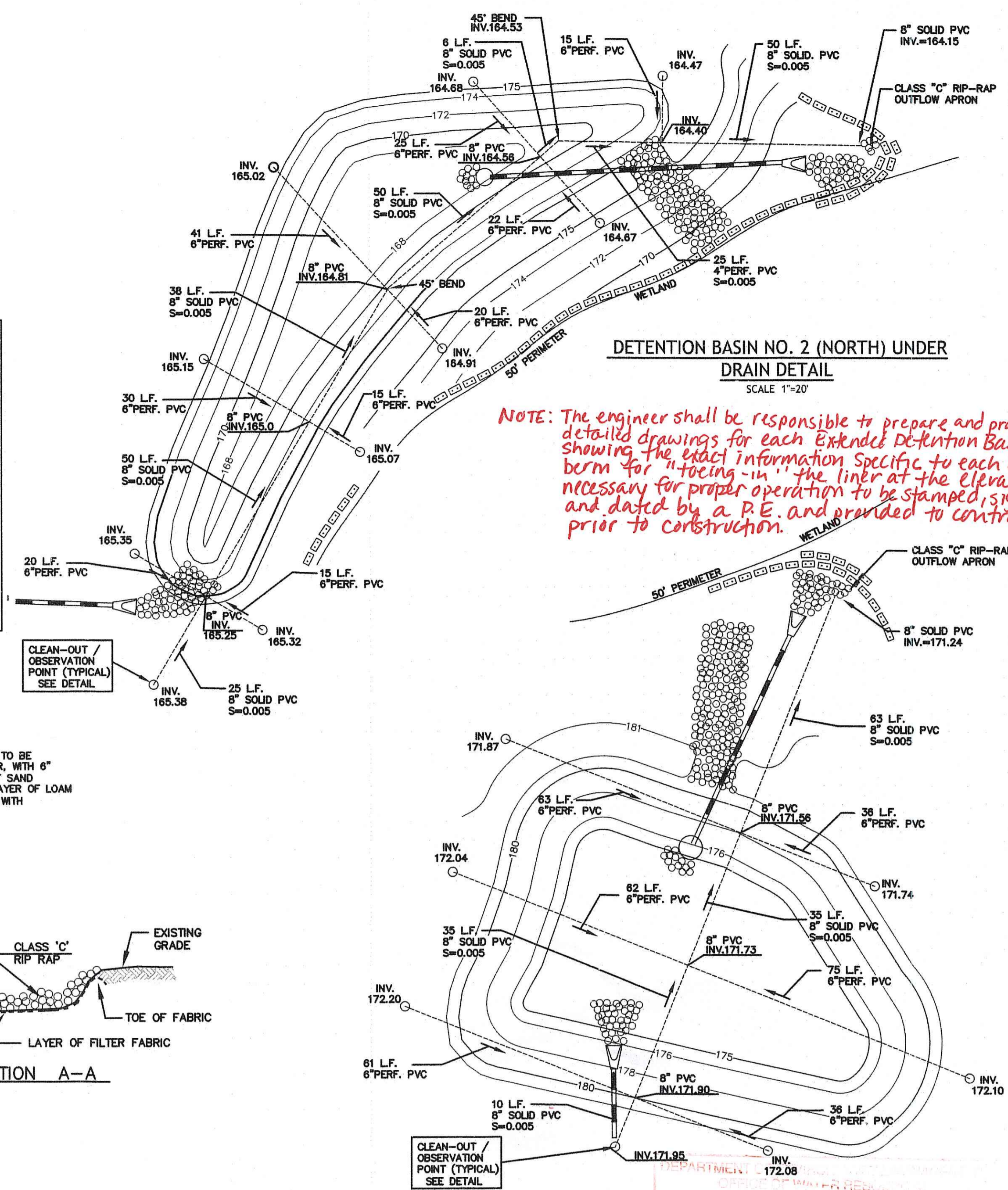
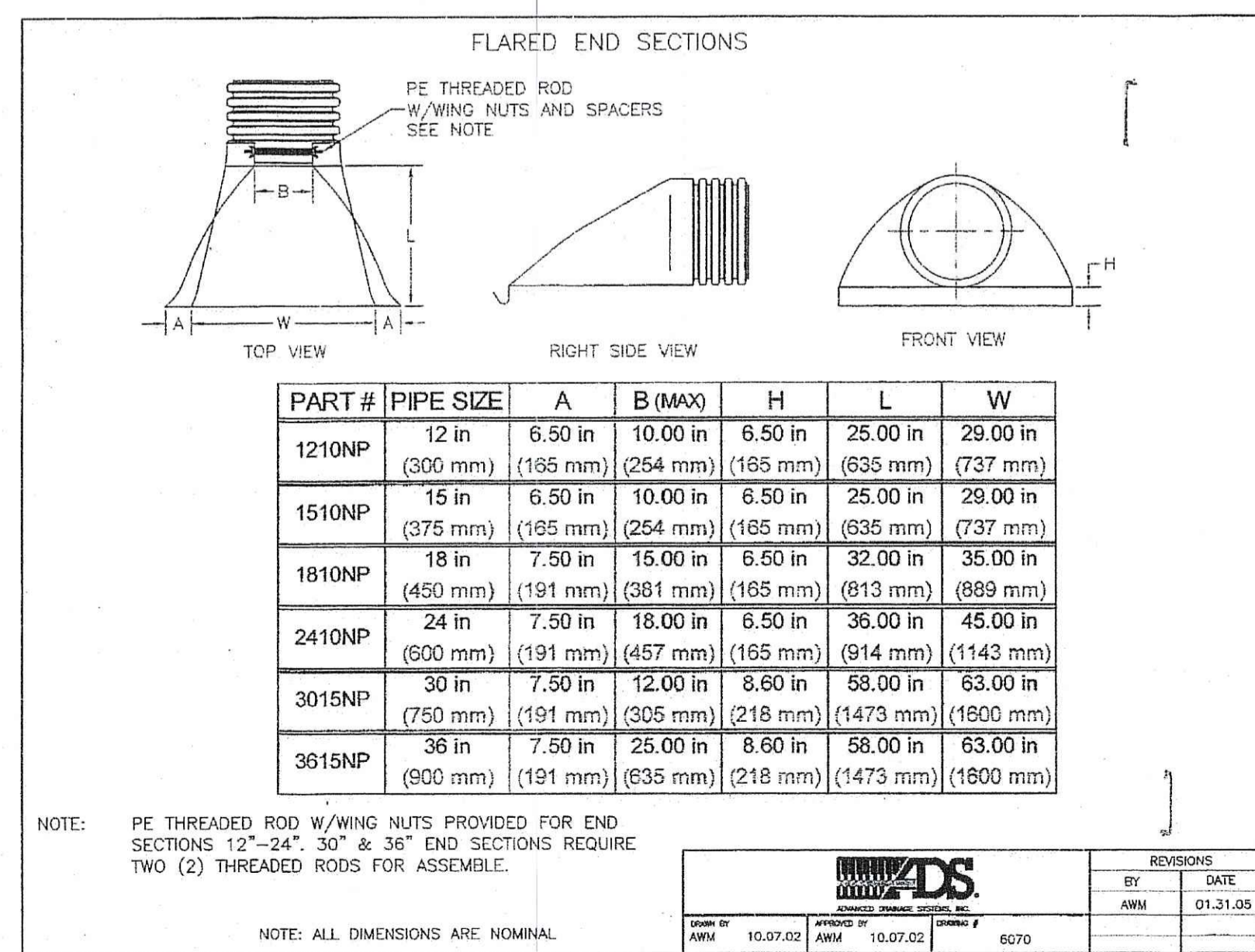
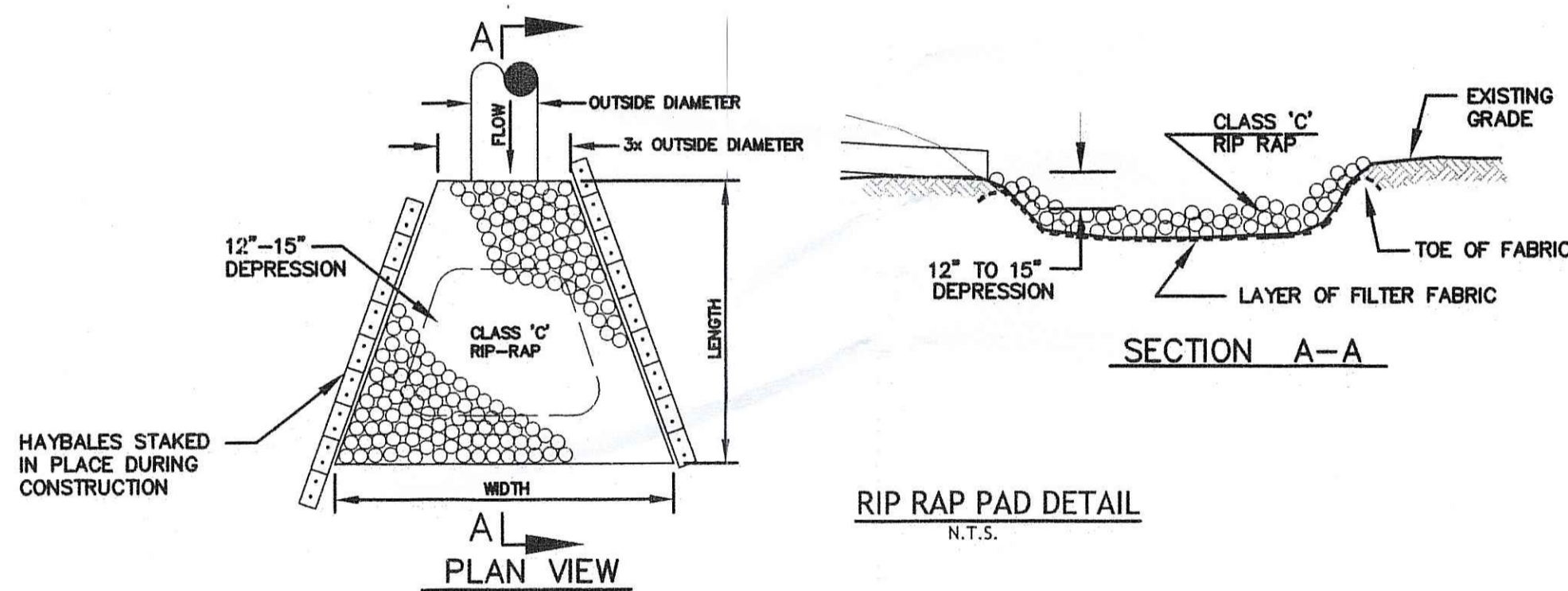
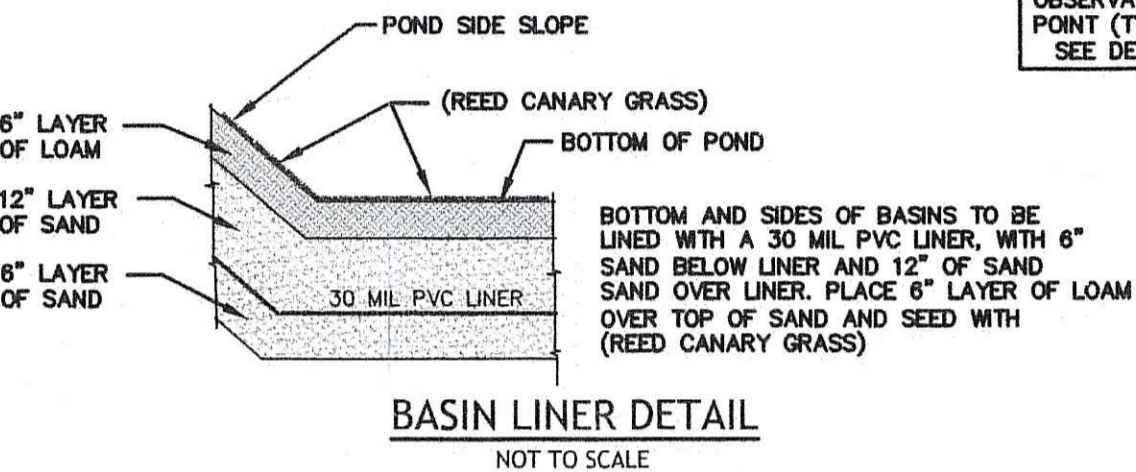
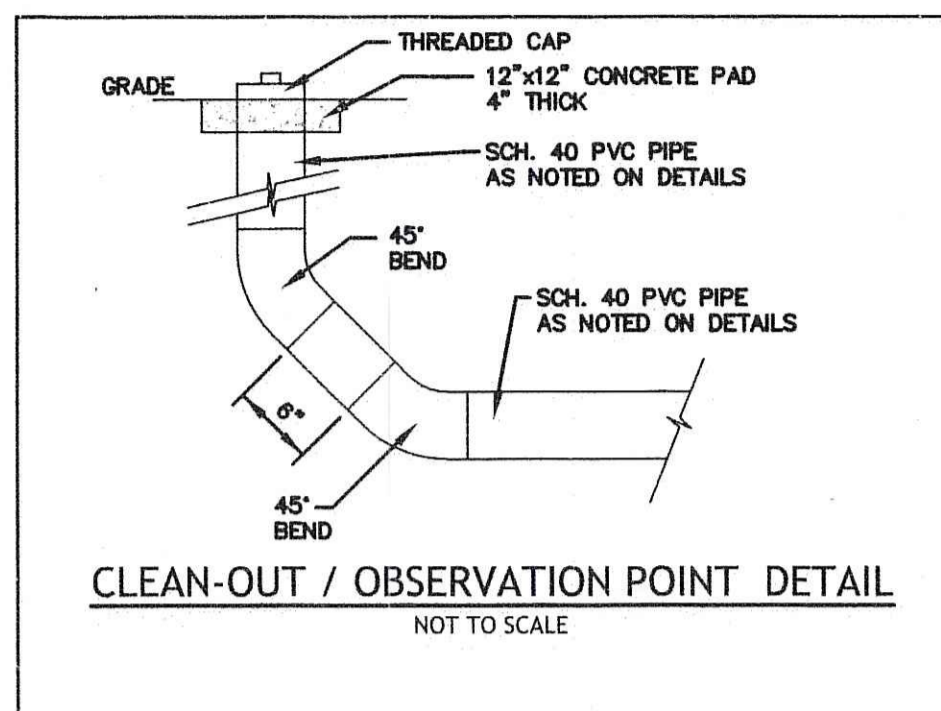
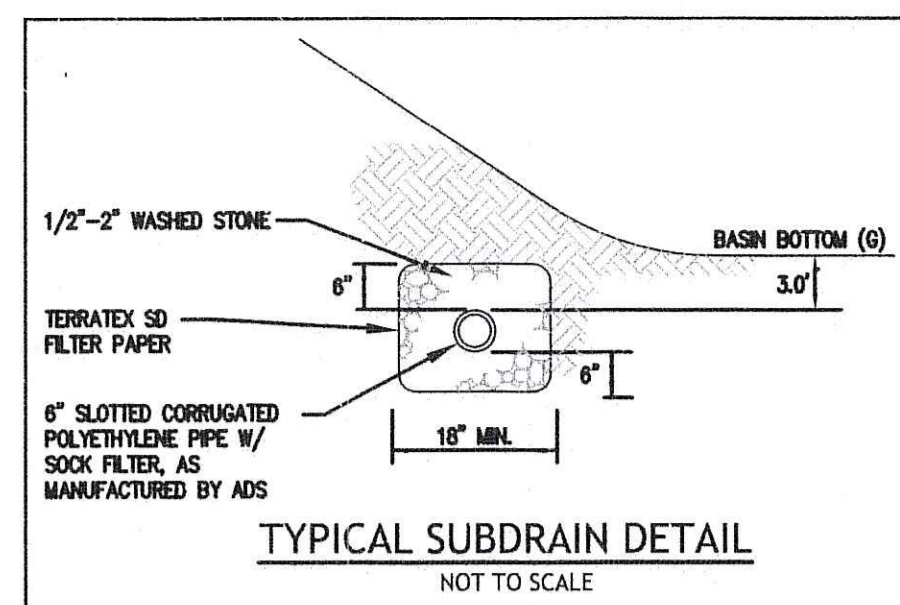
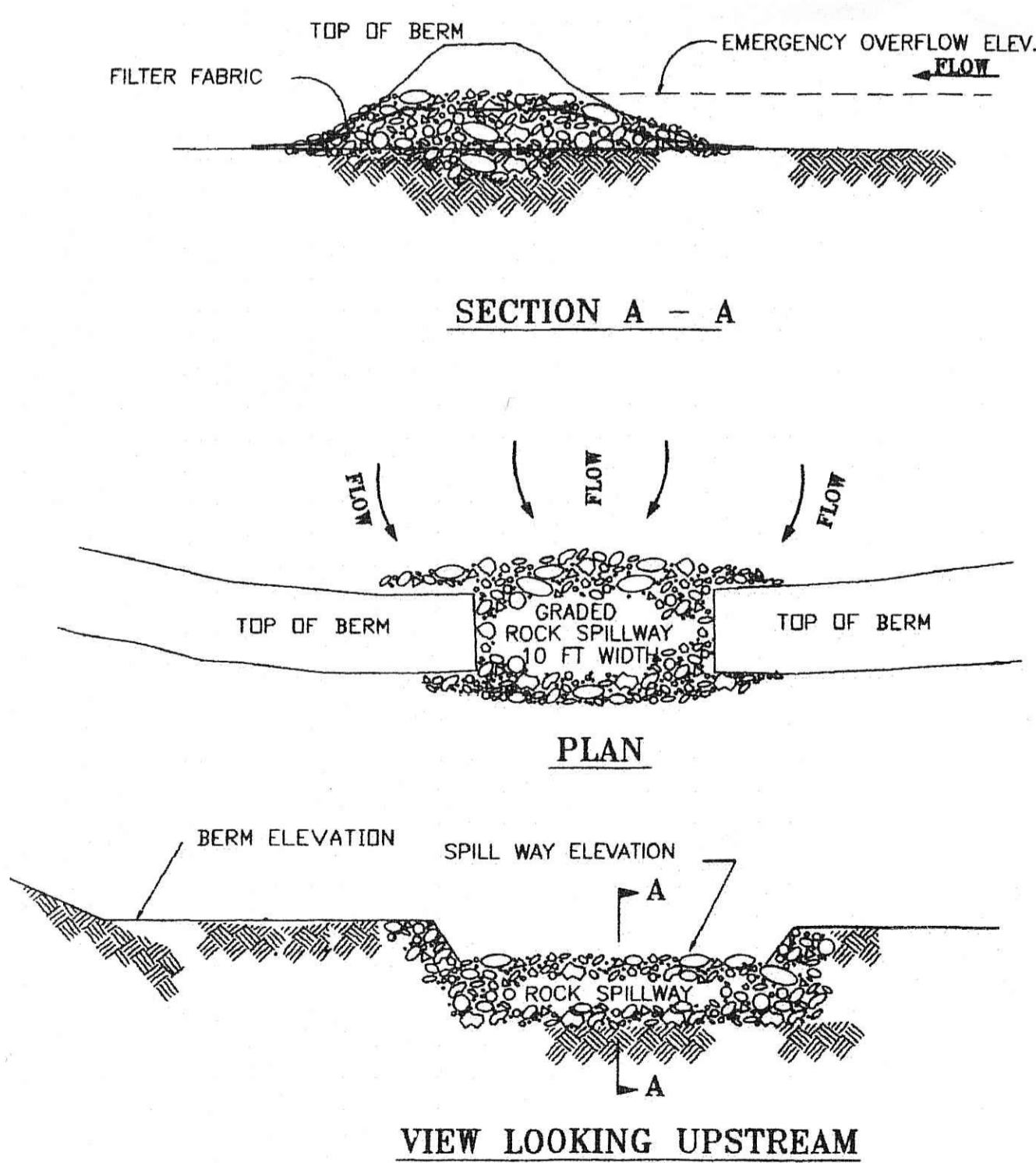
WATER SURFACE ELEVATIONS:

DETENTION BASIN	2-YEAR W.S. ELEV. (FEET)	10-YEAR W.S. ELEV. (FEET)	25-YEAR W.S. ELEV. (FEET)	100-YEAR W.S. ELEV. (FEET)
1	178.17	180.17	180.28	180.62
2	173.06	174.39	174.61	175.19

BASIN GEOMETRY TABLE

DETENTION BASIN	SIDE SLOPES (H:V)	(F) BASIN RIM ELEVATION (FEET)	(G) BASIN BOTTOM ELEVATION (FEET)	(H) EMERGENCY SPILLWAY ELEVATION (FEET)	(I) EMERGENCY SPILLWAY CREST WIDTH (FEET)	(J) EMERGENCY SPILLWAY SIDE SLOPES
1	3:1	181.0	175.0	180.75	12.5	5:1
2	2:1	175.0	168.0	174.50	15.0	5:1

NOTE: DRAINAGE AS PER RIDEM PERMIT 04-0074. ANY DISCREPANCIES WITH APPROVED RIDEM PLAN SHALL BE BROUGHT TO THE ATTENTION OF TOWN ENGINEER. A COPY OF SAID PLAN SHALL BE KEPT ON SITE THROUGHOUT ALL STAGES AND CONDITIONS.



JCE
JOE CASALI ENGINEERING, INC.
CIVIL - SITE DEVELOPMENT - TRANSPORTATION
DRAINAGE - WETLANDS - EROSION CONTROL - FLOOD DAMAGE
REPAIRS - PAVEMENT - CONSTRUCTION
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HILLTOP CONDOMINIUMS
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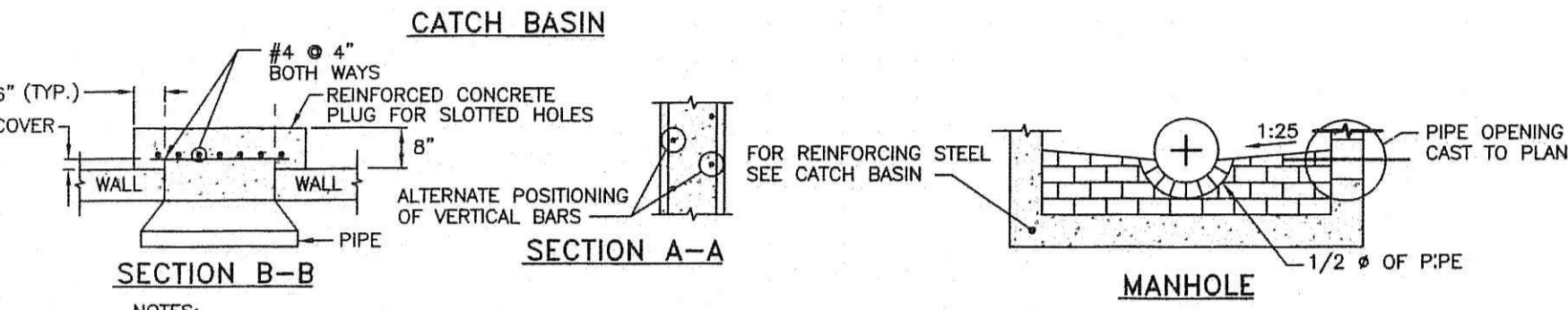
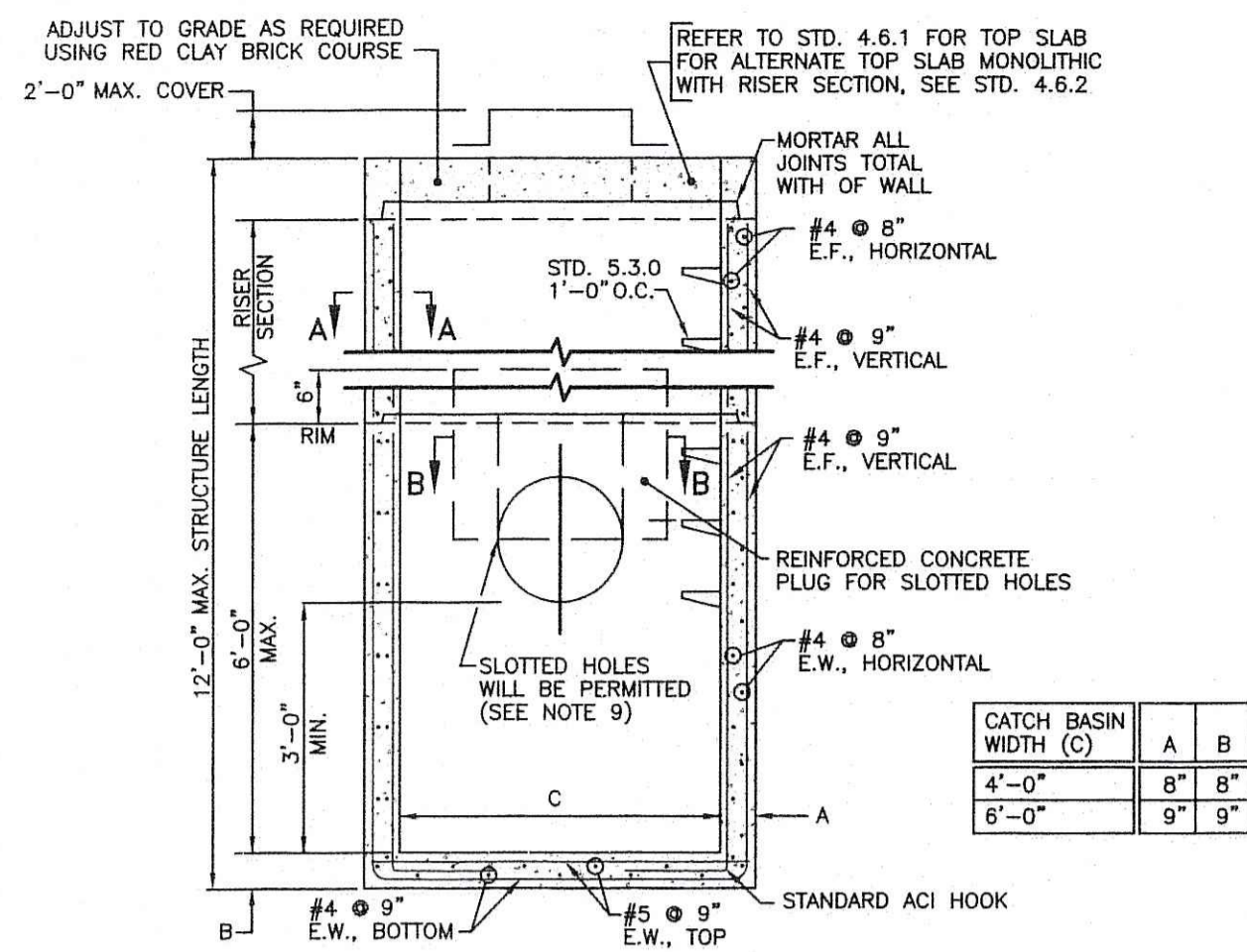
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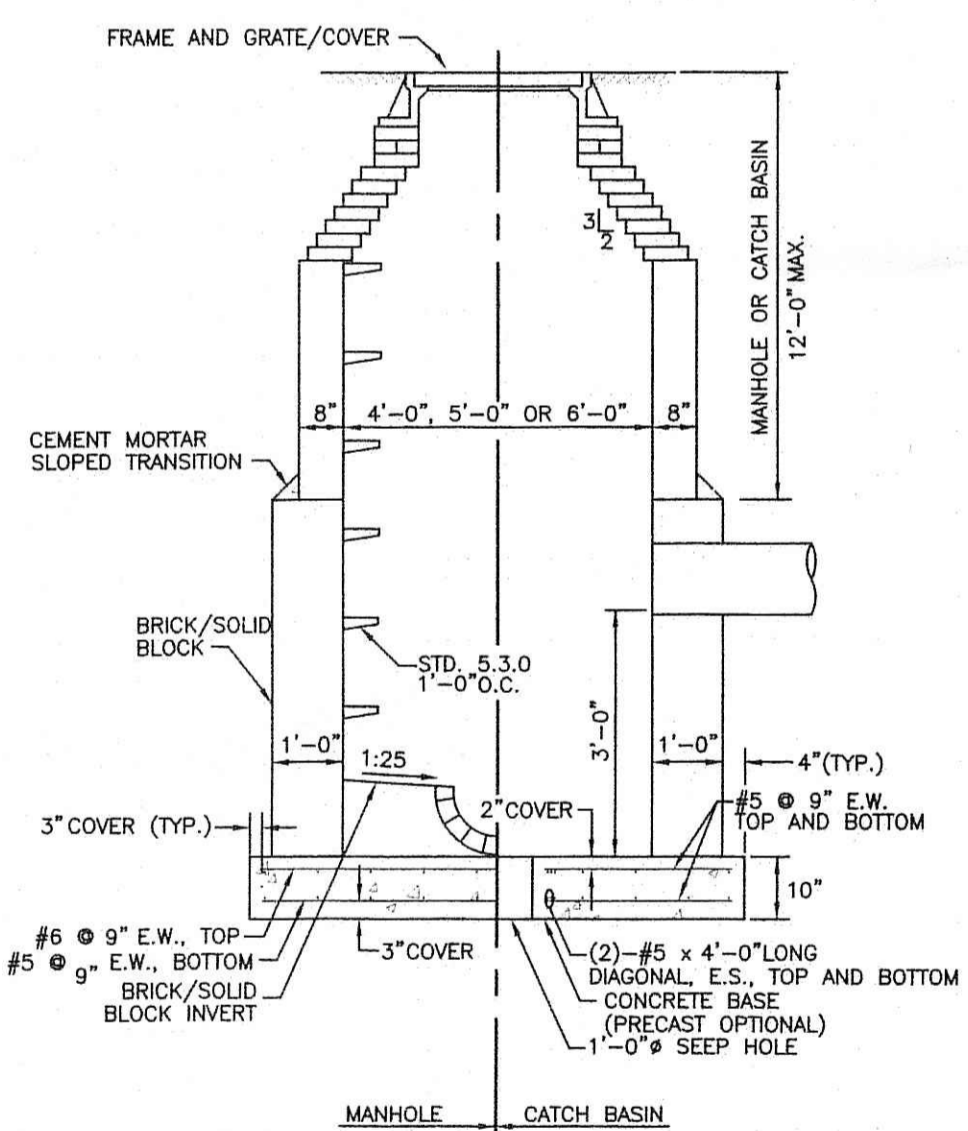
CONSTRUCTION DETAILS II

SHEET 14 OF 16



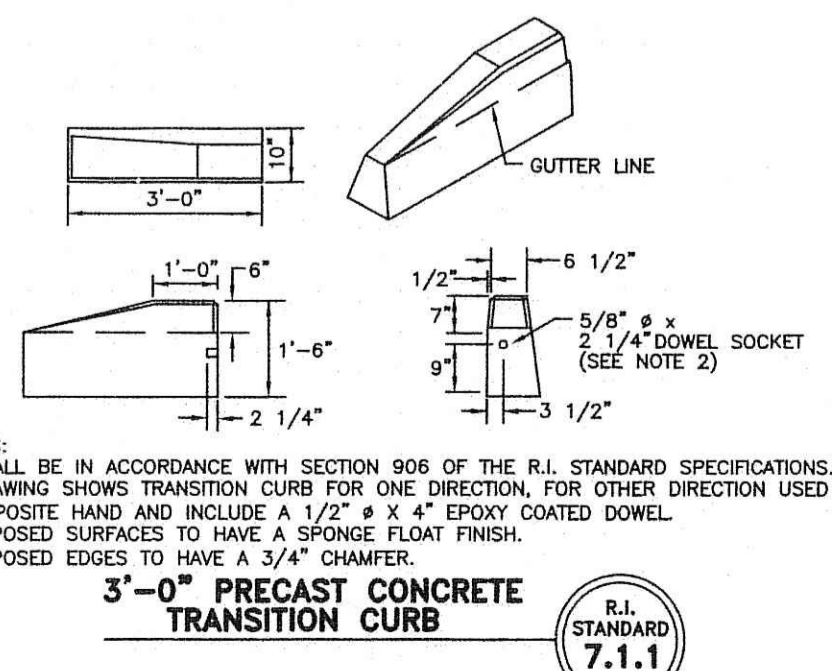
NOTES:
 1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
 2. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
 3. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.
 4. TOP SLAB, RISER AND BASE SECTIONS HAVE BEEN REINFORCED TO MEET OR EXCEED H-25 OR HS-25 LOADINGS WITH EARTH PRESSURES INCLUDED. THIS IMPLIES THAT THE TOP SLAB, RISER AND BASE SECTIONS ARE DESIGNED FOR AXLE LOAD OF NO GREATER THAN 20 TONS.
 5. THERE IS TO BE 2" MINIMUM COVER ON ALL REBAR.
 6. ALL REBARS ARE TO HAVE MINIMUM 2" CLEARANCE FROM OPENING.
 7. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
 8. THE SPICE LENGTHS ON TIES ARE TO BE A MINIMUM OF 1'-7".
 9. WHERE THE CLEARANCE FROM THE TOP OF THE PIPE TO THE RIM IS "B" OR LESS, PLUGS SHALL BE USED IN CONJUNCTION WITH SLOTTED HOLES. NO SLOTTED HOLE WILL BE PERMITTED WHERE THE CLEARANCE IS GREATER THAN "B". IN CASES WHERE SLOTTED HOLES ARE NOT USED AND THE WALL OPENING COMES WITHIN 1'-3" OF THE RIM, AN ADDITIONAL #8 BAR SHALL BE USED ABOVE THE OPENING THE WIDTH "C" OF THE WALL.

PRECAST 4'-0" OR 6'-0" SQUARE MANHOLE OR CATCH BASIN
 R.I. STANDARD 4.3.0

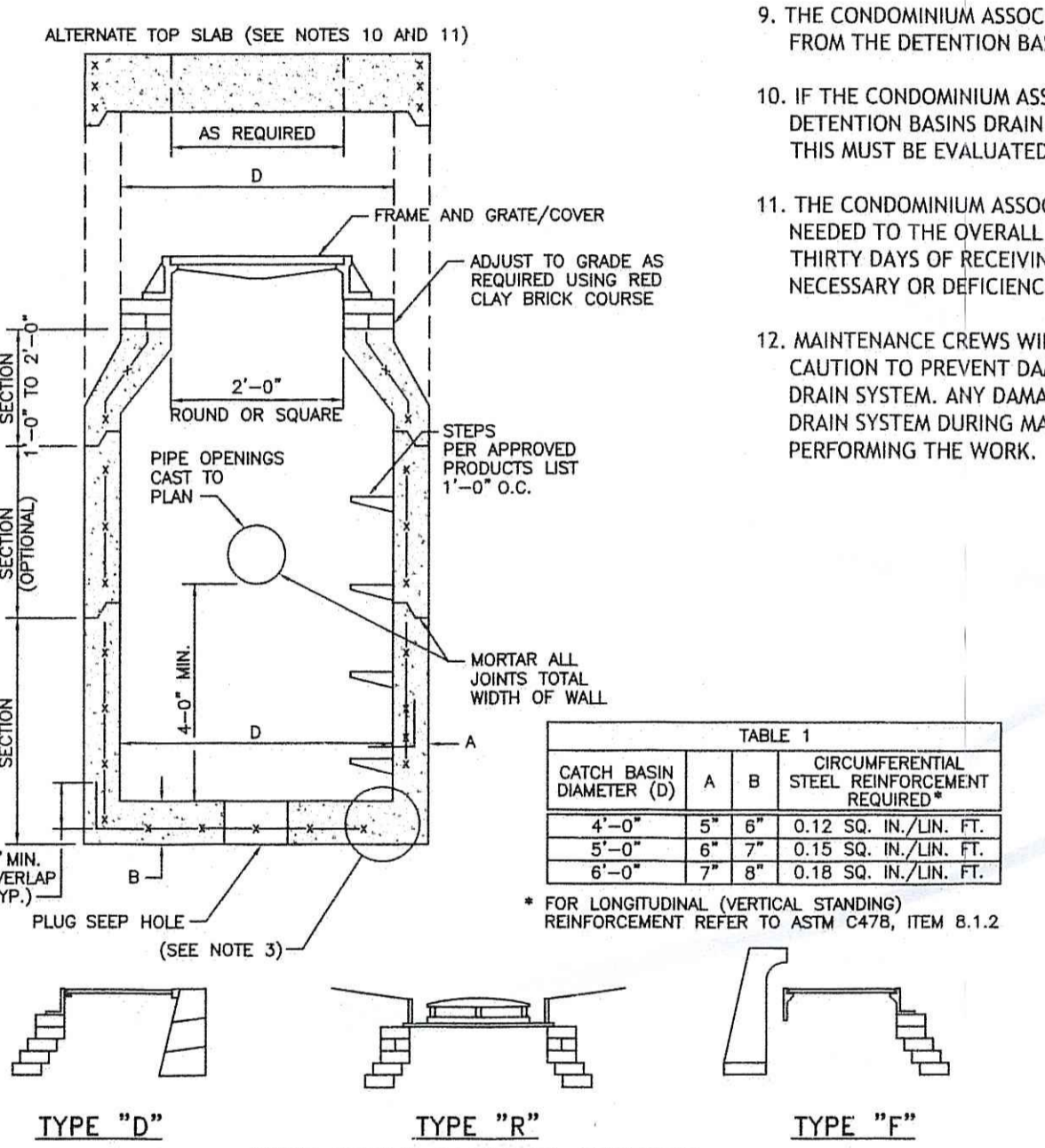


NOTES:
 1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
 2. 1/2" CEMENT MORTAR PLASTER COAT REQUIRED ON ALL INSIDE AND OUTSIDE SURFACES.
 3. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

BRICK/SOLID BLOCK ROUND MANHOLES AND CATCH BASINS DEPTH GREATER THAN 12'-0"
 R.I. STANDARD 3.7.0

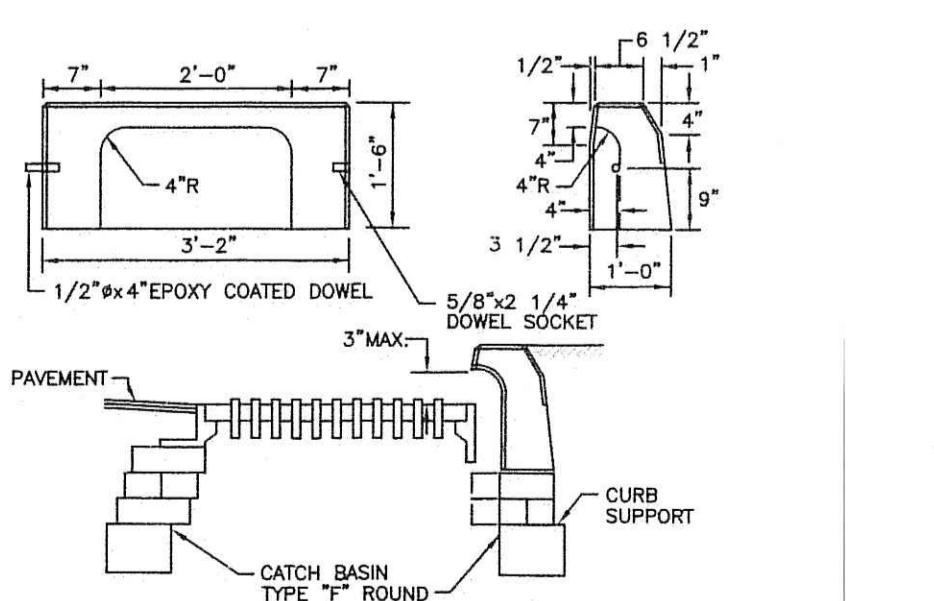


3'-0" PRECAST CONCRETE TRANSITION CURB
 R.I. STANDARD 7.1.1



NOTES:
 1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
 2. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
 3. STEEL REINFORCEMENT FOR BASE SECTION SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
 4. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
 5. ONE FOUR MONOLITHIC BASE SECTION.
 6. 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.
 7. CORREL MADE OF RED CLAY BRICK WILL BE PERMITTED FOR THE CONE SECTION OF THE 4'-0" CATCH BASIN ONLY. (PRECAST OPTIONAL)
 8. FOR CATCH BASIN TYPES "D" AND "F" STEPS MUST BE INSTALLED ON THE CURB SIDE OF THE STRUCTURE.
 9. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.
 10. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADINGS (SEE STD. 4.7.2).
 11. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
 12. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN
 R.I. STANDARD 4.4.0



PRECAST CONCRETE APRON STONE (FOR ROUND CATCH BASIN)
 R.I. STANDARD 7.1.8

DETENTION BASINS INSPECTION MAINTENANCE AND REPAIR NOTES:

- THE CONTRACTOR SHALL HAVE OVERALL RESPONSIBILITY FOR THE DRAINAGE SYSTEM MAINTENANCE PROGRAM DURING THE CONSTRUCTION PHASE OF THE PROJECT. THE CONTRACTOR SHALL SEE TO IT THAT ALL PARTIES INVOLVED IN THE SITE BUILDING PORTION OF THE PROJECT SHALL BE AWARE OF THE PROVISIONS OF THE PLAN.
- DURING THE CONSTRUCTION PHASE OF THE PROJECT, THE CONTRACTOR IS RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF ALL DETENTION BASINS. DURING AND UP TO ONE YEAR AFTER COMPLETION OF CONSTRUCTION, MAINTENANCE SHALL INCLUDE RE-SEEDING ANY UNDEVELOPED AREAS AFTER A FULL GROWING SEASON, AT NO ADDITIONAL EXPENSE TO THE OWNER; ACCUMULATED SILT OVER 4" DEEP INSIDE THE BASIN SHALL BE REMOVED; AND GROWING GRASS SHALL BE MAINTAINED TO A HEIGHT OF 2" - 10". EXCAVATION OF ACCUMULATED SILT SHALL BE BY MANUAL MEANS USING NOTHING BUT SHOVEL AND WHEELBARREL.
- THE CONTRACTOR SHALL INSPECT ALL RIP RAP PADS AFTER EACH STORM AND REPAIR AS NECESSARY.
- IMMEDIATELY PRIOR TO THE TIME THE PROJECT IS COMPLETED BY THE TOWN OF WEST WARWICK, RI, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THOROUGHLY CLEANING ROADWAY PAVEMENTS, PIPES, CATCH BASINS, DETENTION BASINS, AND APPURTENANCES THERETO, OF SILT, ROCKS, AND/OR OTHER DELETERIOUS ACCUMULATIONS.
- THE TOWN OF WEST WARWICK, RI, SHALL BE RESPONSIBLE FOR INSPECTING AND APPROVING THE INSTALLATION OF THE ENTIRE DRAINAGE SYSTEM, INCLUDING DETENTION BASINS, AT THE COMPLETION OF THE CONSTRUCTION OF THE PROJECT.
- AFTER THE TOWN OF WEST WARWICK, RI, HAS OFFICIALLY ACKNOWLEDGED ACCEPTANCE OF THE DRAINAGE SYSTEM (PIPES, CATCH BASINS, RIP RAP PADS, DETENTION BASINS, AND APPURTENANCES TO ALL OF THE SAME), THE CONDOMINIUM ASSOCIATION SHALL BE RESPONSIBLE FOR LONG TERM INSPECTION, MAINTENANCE AND REPAIR OF THE SAME. FURTHERMORE, THE CONDOMINIUM ASSOCIATION SHALL BE RESPONSIBLE FOR MAINTAINING TIMELY INSPECTION AND MAINTENANCE REPORTS OF THE DRAINAGE SYSTEM AND SHALL PROVIDE ANY REPORTS TO THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (RIDEM) UPON REQUEST.
- THE CONDOMINIUM ASSOCIATION SHALL ENSURE DETENTION BASIN BOTTOMS ARE TO BE CLEANED ON AN ANNUAL BASIS OR WHEN THE ACCUMULATED SEDIMENT REACHES A 4" DEPTH, WHICHEVER COMES FIRST; THAT GRASS GROWING INSIDE THE BASINS IS MAINTAINED TO A GROWING HEIGHT OF 4" - 10" ON A REGULAR BASIS; AND THAT ANY BARE LANDSCAPED AREAS BE RE-SEED AS SOON AS POSSIBLE DURING THE CURRENT OR COMING GROWING SEASON.
- THE CONDOMINIUM ASSOCIATION SHALL INSPECT AND MAINTAIN THE OUTLET STRUCTURES IN EACH DETENTION BASIN AFTER MAJOR RAINFALL EVENT DURING THE FIRST SIX MONTHS OF OPERATION (AFTER ACCEPTANCE BY THE TOWN OF WEST WARWICK, RI,) AND TWICE PER YEAR THEREAFTER.
- THE CONDOMINIUM ASSOCIATION SHALL REMOVE ACCUMULATED TRASH AND LITTER FROM THE DETENTION BASINS (JANUARY, APRIL, JULY AND OCTOBER).
- IF THE CONDOMINIUM ASSOCIATION OBSERVES THAT EITHER OR BOTH OF THE DETENTION BASINS DRAIN EITHER TOO QUICKLY OR TOO SLOWLY, THE REASONS FOR THIS MUST BE EVALUATED AND REPAIRS MADE TO CORRECT THE SITUATION PREVIOUSLY.
- THE CONDOMINIUM ASSOCIATION SHALL BE RESPONSIBLE FOR AFFECTING ANY REPAIRS NEEDED TO THE OVERALL DRAINAGE SYSTEM, OR CORRECTION OF DEFICIENCIES, WITHIN THIRTY DAYS OF RECEIVING AN INSPECTION REPORT STATING THAT REPAIRS ARE NECESSARY OR DEFICIENCIES NEED TO BE ATTENDED TO.
- MAINTENANCE CREWS WILL EXCAVATE SEDIMENTS FROM BASINS WITH EXTREME CAUTION TO PREVENT DAMAGE TO PROPOSED IMPERMEABLE MEMBRANE AND UNDER DRAIN SYSTEM. ANY DAMAGE TO EITHER THE IMPERMEABLE MEMBRANE OR THE UNDER DRAIN SYSTEM DURING MAINTENANCE WILL BE REPAIRED BY MAINTENANCE CONTROL PERFORMING THE WORK.

STRUCTURAL MEASURES

- A DRAINAGE SYSTEM IS DESIGNED TO TREAT RUNOFF.
- A PERMANENT COVER SHALL BE ESTABLISHED IN ACCORDANCE WITH THE VEGETATIVE COVER PROVISIONS. THE SEEDING SHALL EXTEND TO AT LEAST THE DESIGN TOP WIDTH AND INCLUDE ANY OTHER AREAS DISTURBED BY CONSTRUCTION ACTIVITIES. ACTIVITIES SHALL BE CONFINED TO WITHIN THE LIMIT OF WORK AS SHOWN ON THE PLANS.
- VIGOROUS VEGETATION SHALL BE MAINTAINED BY APPLYING LIME AND FERTILIZER. BARE OR ERODED AREAS SHALL BE IMMEDIATELY REPAIRED AND RESEED BY THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF THE DRAINAGE SYSTEM DURING CONSTRUCTION.
- THE GRASS SHALL BE ALLOWED TO GROW BETWEEN 2" - 10".
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE GRASS SWALES DURING CONSTRUCTION.
- RIP RAP APRONS SHALL BE INSTALLED AT THE OUTLETS OF ALL CULVERTS.
- RIP RAP PADS SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. IF REPAIRS ARE NEEDED, THEY SHALL BE ACCOMPLISHED IMMEDIATELY.
- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE THE OVERALL RESPONSIBILITY FOR STRUCTURAL MEASURES IMPLEMENTATION AND FOR SEEING THAT APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.
- REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY USDA SOIL CONSERVATION SERVICE 1989, AS A GUIDE.

ESTABLISHMENT OF VEGETATIVE COVER

- SLOPES SHALL NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
- SLOPES SHALL BE SEED OR PROTECTED. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED
- TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH RHODE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE ISLANDS STANDARD SPECIFICATION, M.20.
- THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING:

TYPE	LBS./AC.
CREeping REE FESCUE	75
KENTUCKY BLUE GRASS	15
COLONIAL BENT GRASS	5
PERENNIAL RUE GRASS	5
- EXISTING CONDITIONS. THE SEED MIX SHALL BE INOCULATED WITHIN FERTILIZE AS REQUIRED BY SOIL TESTING TO COMPLEMENT OR UPGRADE EARLY SPRING OR LATE SUMMER SEEDING IS RECOMMENDED. LIME AND FOR EACH VARIETY. 24 HOURS, BEFORE MIXING AND PLANTING, WITH APPROPRIATE MIXTURE
- AMOUNT OF 2 TONS/ACRE. BY THE ENGINEER. HAY OR STRAW APPLICATIONS SHALL BE IN THE SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED OR PROTECTIVE COVERS SUCH AS NORTH AMERICAN 5150 OR EQUAL. THEY TEMPORARY TREATMENTS SHALL CONSIST OF HAY, STRAW OR FIBER MULCH,
- ALL HAYBALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE IS ESTABLISHED. UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER
- CONFORMANCE WITH THE RHODE ISLAND STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 202. ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT
- THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 2:1 AND SHALL BE STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAY. TEMPORARILY SEED OR STABILIZED.
- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY THE PERIOD OF ONE YEAR AND SHALL DO SO AT NO ADDITIONAL EXPENSE. MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN. THE CONTRACTOR FOR PLAN IMPLEMENTATION AND FOR SEEING THAT THE APPROPRIATE
- SERVICE AS A GUIDE. CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENTATION
- TEMPORARY HAY MULCH TO BE TACKLED IN PLACE WITH NYLON MESH NETTING.
- MAXIMUM GRADED SLOPE WITHIN SUBDIVISION TO BE 3:1 ACCORDING TO HAG SPECIFICATIONS, WITH NORTH AMERICAN GREEN 575 EROSION BLANKET INSTALLED ALL 3:1 OR STEEPER SLOPES TO BE LOAMED, SEED, AND PROTECTED.

MAINTENANCE: SHORT TERM/LONG TERM

- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEED, PROTECTED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL CHECK REGULARLY ALL SEED AREAS TO SEE THAT A GOOD STAND IS MAINTAINED.
- THE CONTRACTOR MUST REPAIR OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR.
- ALL HAYBALES, TEMPORARY TREATMENTS (HAY, STRAW, ETC.) AND TEMPORARY PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
- THE CONTRACTOR SHALL MAINTAIN ALL TOP SOIL STOCKPILES AND SEDIMENT BARRIERS THROUGHOUT CONSTRUCTION. EXTREME CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT SPILL OVER THE SEDIMENT BARRIER.
- THE HAYBALES OR SILT FENCE SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. CONTRACTOR SHALL REPAIR OR REPLACE THE HAYBALES AS NEEDED. CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE BALES BECOMES FILLED IN WITH SEDIMENTS.
- THE STONE STABILIZATION PAD AT THE SITE ENTRANCE SHALL BE MAINTAINED BY THE CONTRACTOR. THE MAINTENANCE SHALL INCLUDE TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND OR AS DIRECTED BY THE ENGINEER. ALL SEDIMENTS SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF THE SWALES DURING AND UP TO A YEAR AFTER COMPLETION OF CONSTRUCTION. MAINTENANCE SHALL INCLUDE RESEEDING ANY UNDEVELOPED AREAS AFTER A FULL GROWING SEASON AT NO ADDITIONAL EXPENSE. REMOVING ACCUMULATED SILT OVER 2" IN THE SWALES, AND MAINTAINING THE GRASS TO A GROWING HEIGHT BETWEEN 2" - 10". EXCAVATION OF SILT SHALL BE MANUAL WITH SHOVEL AND WHEEL BARREL ONLY.
- THE CONTRACTOR SHALL INSPECT RIP RAP PADS AFTER EACH STORM AND REPAIR AS NEEDED.
- THE CONTRACTOR SHALL MAINTAIN THE DRAINAGE SYSTEM THROUGHOUT CONSTRUCTION. THE ACCUMULATED SEDIMENTS IN THE SWALES SHALL BE REMOVED BY THE CONTRACTOR AT THE END OF CONSTRUCTION.
- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR THE MAINTENANCE PROGRAM DURING THE CONSTRUCTION PHASE. THE SUPERINTENDENT SHALL SEE THAT THE APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.

PROPOSED UNDER DRAIN INSTALLATION

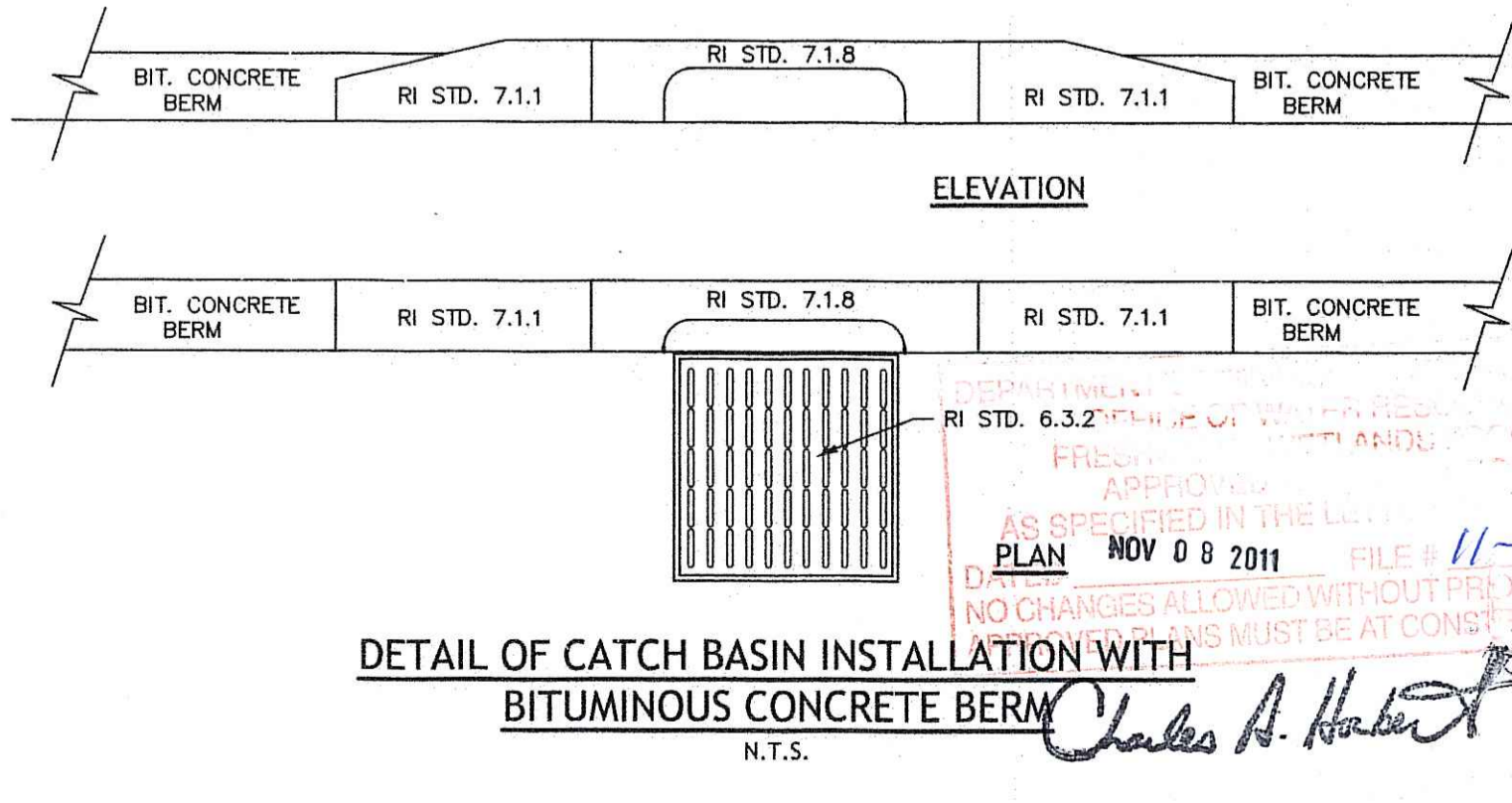
- THE CONTRACTOR SHALL INSTALL UNDER DRAINS TO LINES AND GRADE AS SHOWN ON THE PLANS AND DETAILS.
- CONTRACTOR SHALL PROVIDE AS-BUILT PLANS SHOWING FIELD LOCATED UNDER DRAIN PIPE LOCATIONS, INVERTS AND SIZES UPON COMPLETION OF PROJECT.
- IF AS-BUILT PLANS INDICATE THAT UNDER DRAINS ARE NOT INSTALLED AS SHOWN ON THE PLANS AND DETAILS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECONSTRUCTING UNDER DRAINS ACCORDING TO DESIGN SHOWN ON PLANS AND DETAILS, AND SUBMIT NEW AS-BUILT DRAWINGS.

STAGING AND SEQUENCE OF LAND DISTURBING ACTIVITIES

- SURVEY AND STAKE CENTERLINE OF THE PROPOSED ROAD(S) AND LIMIT OF SEDIMENTATION BARRIERS.
- PLACE SEDIMENTATION BARRIERS (HAYBALES OR SILT FENCE) AS SHOWN ON THE PLANS AND STAKED OUT IN THE FIELD. IN NO CASE IS THE LIMIT OF WORK TO EXTEND BEYOND THE SEDIMENTATION BARRIERS.
- BEGIN WORK (CLEARING AND STRIPPING, EXCAVATING AND GRADING, ETC.). TOPSOIL TO BE GRUBBED AND STOCKPILED IN APPROVED AREA. THE STOCKPILES ARE TO BE PROTECTED BY A ROW OF SEDIMENTATION BARRIER. STOCK PILES TO BE COVERED OR TEMPORARILY SEED.
- INSTALL UTILITIES AND DRAINAGE, IMMEDIATELY PLACE THE RIP RAP AT THE DISCHARGE POINTS AND SEED DISTURBED AREAS.
- BEGIN ROAD PAVING.
- BEGIN HOUSE LAYOUT, LOT CLEARING AND GRADING.
- BEGIN LANDSCAPING WHILE HOUSES ARE UNDER CONSTRUCTION.
- FINISH HOUSE AND ROAD CONSTRUCTION.
- FINISH LANDSCAPING AND PERMANENT STABILIZATION.
- REMOVE ALL TEMPORARY EROSION AND CONTROL MEASURES.
- CONSTRUCTION TO OCCUR DURING 2003-2004.
- DUE TO SEASONAL HIGH GROUND WATER TABLE CONCERNS, DETENTION BASINS SHALL ONLY BE CONSTRUCTED IN THE DRIEST MONTHS OF THE YEAR. (JULY - AUGUST)

NON-STRUCTURAL MEASURES

- CONSTRUCTION TRAFFIC SHALL BE LIMITED TO ACCESS ROADS, DRAINAGE EASEMENTS AND AREAS TO BE GRADED.
- A STONE STABILIZATION PAD IS LOCATED AT THE SITE ENTRANCE TO REDUCE THE TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY.
- THE ENTRANCE SHALL BE MAINTAINED BY THE CONTRACTOR. THE MAINTENANCE SHALL INCLUDE TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND OR AS DIRECTED BY THE ENGINEER. ALL SEDIMENTS SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT OF WAY, MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
- TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER USE. STOCK PILE LOCATION SHALL BE SUBJECT TO APPROVAL BY THE PROJECT ENGINEER. A SEDIMENT BARRIER SHOULD SURROUND ALL TOPSOIL STOCKPILES.
- HAYBALES OR SILT FENCE SHALL BE INSTALLED DOWNSTREAM OUTSIDE THE LIMITS OF ANY PROPOSED CONSTRUCTION AS SHOWN ON THE SITE PLANS AND PRIOR TO THE COMMENCEMENT OF THE PROPOSED ALTERATION.
- HAYBALES SHALL BE MAINTAINED BY THE CONTRACTOR. INSPECTION SHALL BE MADE AFTER EACH STORM EVENT AND REPAIR OR REPLACEMENT. CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE BALES BECOMES FILLED WITH SEDIMENT.
- THE HAYBALES OR SILT FENCE SHALL BE CHECKED WEEKLY FOR UNDERMINING OR DETERIORATION BY THE CONTRACTOR.
- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR PLAN IMPLEMENTATION OF NON-STRUCTURAL MEASURES AND FOR SEEING THAT APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.
- REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE 1989, AS A GUIDE.



DETAIL OF CATCH BASIN INSTALLATION WITH BITUMINOUS CONCRETE BERM
 N.T.S.

JOCE
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 CIVIL
 1-81-11

HILLTOP CONDOMINIUMS
 GILCREST DRIVE & WATERFALL WAY
 WEST WARWICK, RHODE ISLAND
 AP 38 LOT 34

REVISIONS:

NO.	DATE	DESCRIPTION
1	2/06	CONSTRUCTION PLANS
2	8/06	KCWA SUBMISSION
3	11/06	KCWA RE-SUBMISSION
4	2/07	WWSA RE-SUBMISSION
5	3/08	KCWA SUBMISSION
6	8/08	FINAL PLANS
7	12/011	RIDEM SUBMISSION

DRAWN BY: GAH
 CHECKED BY: AMS
 DATE: MARCH 2006
 PROJECT NO: 04-40a

CONSTRUCTION DETAILS III

Q:\103-40-Kirk Andrews\04-40a-Hilltop Estates\JEFF RODMAN - INFORMATION\ACAD\HILL TOP (PLAN-SET) R-6.dwg

<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 0+16 CROSSING #: 1 PROPOSED PAVEMENT: 189.57</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 0+77 CROSSING #: 2 PROPOSED PAVEMENT: 190.51</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 0+99 CROSSING #: 3 PROPOSED PAVEMENT: 190.82</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 1+59 CROSSING #: 4 PROPOSED PAVEMENT: 193.35</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 1+82 CROSSING #: 5 PROPOSED PAVEMENT: 194.75</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 2+44 CROSSING #: 6 PROPOSED PAVEMENT: 199.02</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 2+90 CROSSING #: 7 PROPOSED PAVEMENT: 202.24</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 3+51 CROSSING #: 8 PROPOSED PAVEMENT: 206.44</p>
<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 3+85 CROSSING #: 9 PROPOSED PAVEMENT: 208.88</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 3+98 CROSSING #: 10 PROPOSED PAVEMENT: 209.73</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 4+37 CROSSING #: 11 PROPOSED PAVEMENT: 211.76</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 4+51 CROSSING #: 12 PROPOSED PAVEMENT: 212.42</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 4+73 CROSSING #: 13 PROPOSED PAVEMENT: 213.26</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 4+80 CROSSING #: 14 PROPOSED PAVEMENT: 213.45</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 5+05 CROSSING #: 15 PROPOSED PAVEMENT: 214.20</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 5+30 CROSSING #: 16 PROPOSED PAVEMENT: 214.89</p>
<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 5+60 CROSSING #: 17 PROPOSED PAVEMENT: 215.79</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 5+67 CROSSING #: 18 PROPOSED PAVEMENT: 215.99</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 5+88 CROSSING #: 19 PROPOSED PAVEMENT: 216.61</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 6+42 CROSSING #: 20 PROPOSED PAVEMENT: 218.18</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 6+50 CROSSING #: 21 PROPOSED PAVEMENT: 218.41</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 6+71 CROSSING #: 22 PROPOSED PAVEMENT: 218.96</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 6+90 & 7+00 CROSSING #: 23 PROPOSED PAVEMENT: 219.51</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 7+36 & 7+35 CROSSING #: 24 PROPOSED PAVEMENT: 219.88</p>
<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 7+45 CROSSING #: 25 PROPOSED PAVEMENT: 219.90</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 7+90 CROSSING #: 26 PROPOSED PAVEMENT: 219.70</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 7+98 CROSSING #: 27 PROPOSED PAVEMENT: 219.62</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 8+19 CROSSING #: 28 PROPOSED PAVEMENT: 219.28</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 8+62 CROSSING #: 29 PROPOSED PAVEMENT: 218.21</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 9+00 CROSSING #: 30 PROPOSED PAVEMENT: 216.84</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 9+18 CROSSING #: 31 PROPOSED PAVEMENT: 216.04</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 9+46 CROSSING #: 32 PROPOSED PAVEMENT: 21</p>
<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 9+53 CROSSING #: 33 PROPOSED PAVEMENT: 214.23</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 9+80 CROSSING #: 34 PROPOSED PAVEMENT: 212.59</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 9+90 CROSSING #: 35 PROPOSED PAVEMENT: 211.94</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 9+95 CROSSING #: 36 PROPOSED PAVEMENT: 211.60</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 10+40 CROSSING #: 37 PROPOSED PAVEMENT: 208.45</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 10+60 CROSSING #: 38 PROPOSED PAVEMENT: 207.05</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 10+70 CROSSING #: 39 PROPOSED PAVEMENT: 206.35</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 10+90 CROSSING #: 40 PROPOSED PAVEMENT: 204.95</p>
<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 11+36 CROSSING #: 41 PROPOSED PAVEMENT: 201.73</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 11+45 CROSSING #: 42 PROPOSED PAVEMENT: 201.11</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 11+55 CROSSING #: 43 PROPOSED PAVEMENT: 200.45</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 12+18 CROSSING #: 44 PROPOSED PAVEMENT: 197.68</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 12+27 CROSSING #: 45 PROPOSED PAVEMENT: 197.49</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 12+89 CROSSING #: 46 PROPOSED PAVEMENT: 197.43</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 13+05 CROSSING #: 47 PROPOSED PAVEMENT: 197.78</p>	<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: 13+10 CROSSING #: 48 PROPOSED PAVEMENT: 197.93</p>
<p>CROSSING DETAIL: NOT TO SCALE REFERENCE SHEET # 7 STATION: AD+10 CROSSING #: 49 PROPOSED PAVEMENT: 221.65</p>	<p>DEPARTMENT OF PUBLIC WORKS OFFICE OF WATER RESOURCES FRESHWATER UTILITIES DIVISION APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL DATED NOV 08 2011 FILE # 11-0033 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL APPROVED PLANS MUST BE AT CONSTRUCTION SITE</p> <p>Charles A. H... Environmental Management FEB - 8 2011 Office of Water</p>						

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SEWER/WATER CROSSING DETAILS