

# SITE PLANS FOR OLD CASTLE LAWN AND GARDEN MANUFACTURING FACILITY

**ZONING DISTRICT: FLEX-TECH & GENERAL BUSINESS  
PLAT MAP 4B, LOT 61  
35 STILSON ROAD  
RICHMOND, RHODE ISLAND 02898**

**OWNER/PREPARED FOR:**

**RICHMOND 208 REALTY, LLC  
800 JEFFERSON BOULEVARD  
WARWICK, RI 02887  
Tel. (401) 737-1300**

**PREPARED BY:**



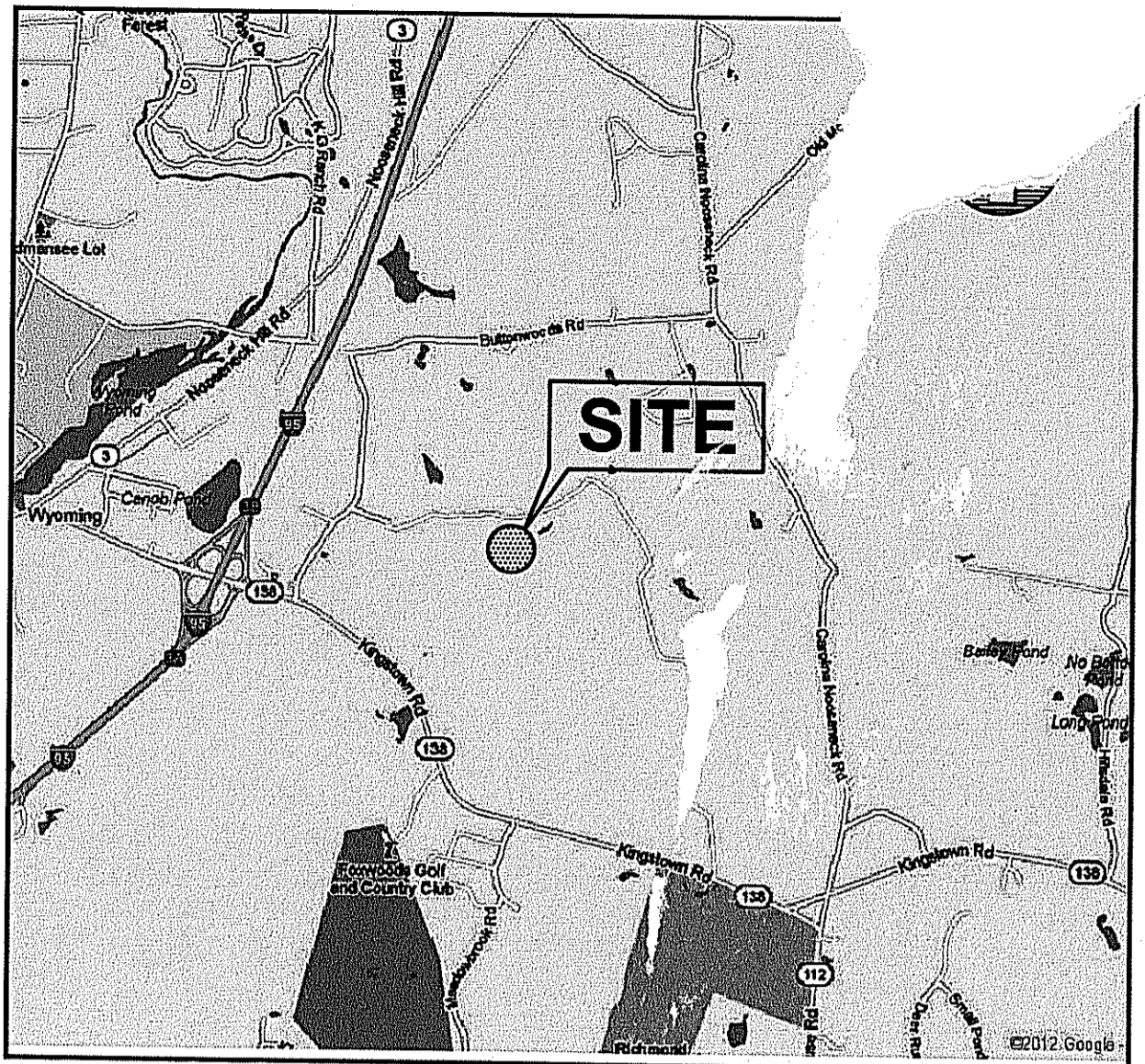
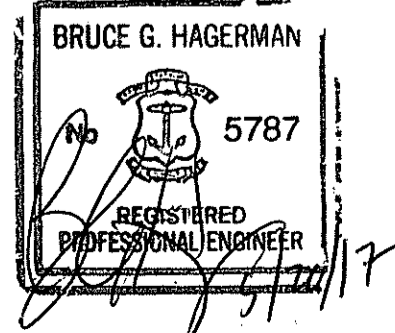
- Civil
- Transportation
- Environmental
- Site Planning
- Surveying
- Permitting
- Landscape Architecture

**CROSSMAN ENGINEERING**

<u>Rhode Island</u>	<u>Massachusetts</u>
151 Centerville Road Warwick, RI 02886 Phone: (401) 738-5660	103 Commonwealth Avenue North Attleboro, MA 02763 Phone: (508) 695-1700

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OCTOBER 2016  
SHEET: 1 of 10



LOCATION MAP  
NOT TO SCALE

INDEX OF DRAWINGS

<u>DRAWING No.</u>	<u>PLAN</u>
C1	GENERAL NOTES & LEGEND
C2	EXISTING SITE PLAN
C3	OVERALL SITE PLAN
C4	SITE PLAN
C5	OWTS PLAN
C6	OWTS DETAIL PLAN
C7	SOIL EROSION AND SEDIMENT CONTROL PLAN
C8	MISCELLANEOUS DETAILS PLAN NO. 1
C9	MISCELLANEOUS DETAILS PLAN NO. 2

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED JUN 16 2017 FILE # 16-0281  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Charles A. Hagerman*

**AGENCY REVIEW SUBMISSION**

**REVISIONS:**

No.:	DATE:	DESCRIPTION:
1	3/31/17	RIDEM COMMENTS
2	5/19/17	RIDEM COMMENTS
3	5/26/17	RIDEM COMMENTS

**GENERAL NOTES**

- ALL EXISTING UTILITIES HAVE BEEN PLOTTED BASED UPON EXISTING CONDITION PLANS PREPARED BY WATERMAN ENGINEERING. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING DRAINAGE & UTILITIES, BOTH UNDERGROUND AND OVERHEAD, BEFORE EXCAVATION BEGINS IN ACCORDANCE WITH "DIG SAFE PROGRAM LAW" ENACTED BY THE R.I. LEGISLATURE AND BY CONTACTING THE INDIVIDUAL UTILITY COMPANIES. EXCAVATION SHALL BE IN ACCORDANCE WITH ALL STATUTES, ORDINANCES, RULES AND REGULATIONS OF ANY CITY, STATE OR FEDERAL AGENCY THAT MAY APPLY. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- SPECIFICATIONS TO GOVERN THIS PROJECT ARE R.I.D.O.T. STANDARD SPECIFICATIONS. FOR ALL EXCAVATION, PLACEMENT OF FILL, PIPE INSTALLATION, BITUMINOUS PAVEMENT, CUTTING INTO CATCHBASIN/MANHOLE, CONCRETE AND SAWCUTTING, THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED AUGUST 2013, WITH LATEST REVISIONS UNLESS OTHERWISE SHOWN ON PLANS. THE "METHOD OF MEASUREMENT" AND "BASIS OF PAYMENT" ARE NOT APPLICABLE. THESE SPECIFICATIONS CAN BE OBTAINED ON-LINE AT: <http://www.dot.ri.gov/business/bluebook.php>
- FOR ALL EXCAVATION AND PLACEMENT OF FILL, THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE R.I. STANDARD SPECIFICATION SECTION 202.
- RHODE ISLAND STANDARDS REFERENCED ARE ACCORDING TO THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS "RHODE ISLAND STANDARD DETAILS" DATED MAY 20, 2015, WITH ALL REVISIONS AS PREPARED BY THE DEPARTMENT OF TRANSPORTATION.
- THE CONTRACTOR MUST VERIFY PRIOR TO CONSTRUCTION THAT ALL REQUIRED AUTHORIZATION TO PERFORM WORK HAS BEEN OBTAINED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION OPERATIONS INCLUDING ALL ACTIONS OR OMISSIONS OF ANY SUBCONTRACTORS, AGENTS OR EMPLOYEES. THE CONTRACTOR MUST ENSURE THAT THE CONDITIONS OF ALL PERMITS, SPECIFICATIONS AND FEDERAL, STATE AND LOCAL REGULATIONS ARE STRICTLY ENFORCED. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ASPECTS OF ON-SITE SAFETY INCLUDING ANY DAMAGE TO EXISTING STRUCTURES.
- WORK SHOWN ON THE PLANS FOR WHICH THERE ARE NO PARTICULAR DETAILS OR SPECIFICATIONS DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING THE WORK. THE CONTRACTOR SHALL THOROUGHLY EXAMINE THE CONTRACT DOCUMENTS AND PLANS AND INSPECT THE SITE, AND THE BID PRICE SHALL INCLUDE ALL SERVICES AND MATERIALS NECESSARY TO COMPLETE THE PROJECT. ANY CHANGES TO THE PROJECT OR THE INSTALLATION OF AN ITEM FOR WHICH NO PARTICULAR DETAIL OR SPECIFICATION WAS PROVIDED MUST BE REVIEWED BY AND MUST BE ACCEPTABLE TO THE ENGINEER.
- CONTRACTOR IS RESPONSIBLE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ANY WORK.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT PRIOR TO THE INITIATION OF WORK. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS, RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.
- ALL DISTURBED AREAS SHALL BE REPLACED IN KIND UNLESS OTHERWISE SHOWN.
- ANTICIPATED PERMITS/APPROVALS REQUIRED FOR THIS SITE INCLUDE: RICHMOND DEVELOPMENT PLAN REVIEW, RICHMOND SOIL EROSION PERMIT, R.I.D.E.M. WETLANDS AND R.I.D.E.M. RIPDES.

**LAYOUT NOTE**

THE LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN, AND PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE STATE 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 ITEM FOUND WHICH DOES NOT MATCH THE PLANS MUST BE BROUGHT TO THE ENGINEER'S 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 CONSTRUCTION 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 DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.
- THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS WILL NOT BE PARKED IN THE ROADWAY RIGHT-OF-WAY.
- ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS, CHANNELING DEVICES, ETC., SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 1988 EDITION, INCLUDING REVISION 3, SEPTEMBER 3, 1993, AND SUBSEQUENT ADDENDA.
- SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE STATE D.O.T. SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

**SITE LIGHTING NOTES:**

- LIGHTING FIXTURES MUST COMPLY WITH THE INTERNATIONAL DARK-SKY ASSOCIATION (IDA) STANDARDS.
- THE MAXIMUM LAMP WATTAGE IS 250 WATTS AND THE BOTTOM OF THE LIGHT FIXTURE SHALL BE NO MORE THAN 24 FEET FROM THE GROUND.
- ALL LIGHT FIXTURES SHALL BE ARRANGED TO FOCUS DIRECT LIGHT AWAY FROM ABUTTING PROPERTIES. ALL NEW FIXTURES SHALL HAVE LED LAMPS AND BE CUT-OFF STYLE FIXTURES WITH A MAXIMUM 75° DOWN ANGLE.

**FLOOD ZONE NOTE**

THE SITE IS LOCATED IN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FLOOD INSURANCE RATE MAP, WASHINGTON COUNTY, RHODE ISLAND (ALL JURISDICTIONS), PANEL 68 OF 368, MAP NUMBER 44009C0068H, EFFECTIVE DATE OCTOBER 19, 2010.

**ENVIRONMENTAL NOTES**

- THE WATERBODY ID AND BASIN NAME IS IDENTIFIED AS RI 0008 040R-160 WOOD RIVER AND TRIBUTARIES. THIS WATERBODY IS ON THE IMPAIRMENT LIST FOR AMBIENT BIOASSAYS-CHRONIC AQUATIC TOXICITY, BENTHIC MACROINVERTEBRATE BIO ASSESSMENTS, AND COPPER.
- THIS SITE IS PARTIALLY WITHIN A DESIGNATED NATURAL RESOURCE HERITAGE SITE (PER RIDEM ENVIRONMENTAL RESOURCE GIS).
- THE WATERSHED WATERBODY CLASSIFICATION IS B.
- THIS SITE IS NOT IDENTIFIED AS A LUHPLP SITE.

**STORMWATER MANAGEMENT SYSTEM DESIGN INFILTRATION RATES**

THE DESIGN INFILTRATION RATES USED FOR THE PROPOSED STORMWATER MANAGEMENT SYSTEM HAS BEEN ESTABLISHED BY USING THE SOIL EVALUATION SOIL TEXTURES FOR THE C HORIZON (LOAMY SAND) IN REFERENCE TO TABLE 5-3 IN THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, AMENDED MARCH 2015. THE DESIGN INFILTRATION RATE IS 2.41 in/hr.

**CONSTRUCTION NOTES**

- THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO INSTALLATION OF UTILITIES ON SITE. THE COORDINATION IS NECESSARY FOR THE ENGINEER TO SCHEDULE SITE INSPECTIONS. INSTALLATIONS PERFORMED WITHOUT INSPECTIONS BY THE ENGINEER MAY WARRANT COMPLETE REMOVAL AND REINSTALLATION AT THE CONTRACTOR'S SOLE EXPENSE.
- THE CONTRACTOR IS REQUIRED TO MAINTAIN DETAILED AS-BUILT INFORMATION FOR ALL UTILITY INSTALLATIONS. AS-BUILT INFORMATION MUST INCLUDE MATERIAL LIST, PIPE DEPTH AND SWING TIE LOCATIONS (2 MINIMUM) FROM NEW PIPE TO BUILDING CORNERS. ALL PIPE BEND/ELBOW LOCATIONS SHALL BE DIMENSIONED. FINAL PAYMENT WILL NOT BE MADE UNTIL SUITABLE AS-BUILT DATA IS PROVIDED.

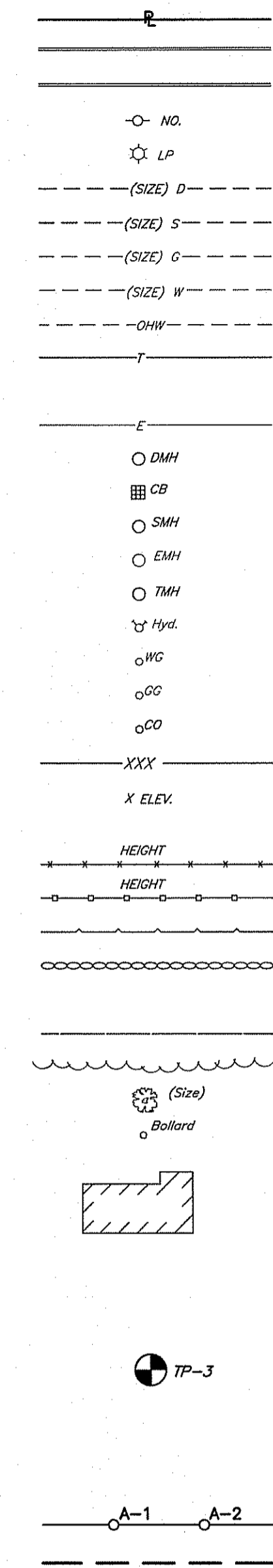
**SOIL NOTES**

SOILS IDENTIFIED ON SITE ACCORDING TO THE SOIL SURVEY OF RHODE ISLAND ARE AS FOLLOWS:  
 CeC - CANTON AND CHARLTON FINE SANDY LOAMS, ROCKY, 3 TO 15 PERCENT SLOPES  
 HkC - HINKLEY GRAVELLY SANDY LOAM, ROLLING  
 HkD - HINKLEY GRAVELLY SANDY LOAM, HILLY  
 CkC - CANTON AND CHARLTON EXTREMELY STONY FINE SANDY LOAMS, 3 TO 15 PERCENT SLOPES  
 Wg - WALPOLE SANDY LOAM

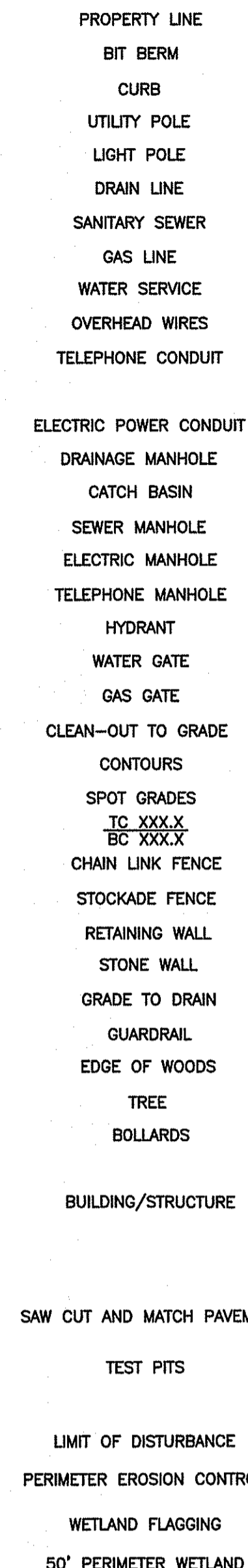
RICHMOND ZONING REQUIREMENTS ZONING DISTRICT: FLEX TECH (LOT 61)		
PERMITTED USE: INDUSTRIAL AND WHOLESALE PROPOSED USE: MANUFACTURE, PACKAGING AND WHOLESALE OF LANDSCAPE MULCH, WOOD CHIPS AND SOIL PRODUCTS		
	REQUIRED	PROVIDED
MINIMUM LOT REQUIREMENTS		
MINIMUM LOT AREA	2 ACRES	208 ACRES
MINIMUM LOT FRONTAGE	200'	975' (Stillson)
SETBACK REQUIREMENTS		
FRONT YARD SETBACK	50'	2,700'±
SIDE YARD SETBACK	35'	239'±
REAR YARD SETBACK	100'	785'±
RESIDENTIAL DISTRICT BOUNDARY	150'	239'±
MAXIMUM HEIGHT OF ACCESSORY STRUCTURE	35'	35'

OFF-STREET PARKING AND LOADING REQUIREMENTS	
PARKING REQUIREMENTS:	
INDUSTRIAL AND WHOLESALE USE:	
TWO (2) PARKING SPACES FOR EVERY THREE (3) EMPLOYEES PLUS ONE PARKING SPACE FOR EACH TRUCK OPERATED BY THE CONCERN.	
REQUIRED NUMBER OF PARKING SPACES:	
20 EMPLOYEES/3 X 2 SPACES = 14 SPACES TOTAL NUMBER OF REQUIRED SPACES = 14 SPACES	
PROVIDED NUMBER OF PARKING SPACES:	
TOTAL NUMBER OF PROPOSED PARKING SPACES AT THE PROPOSED BUILDING = 18	
LOADING SPACE REQUIREMENTS	
NUMBER OF LOADING SPACES PROVIDED = 3	

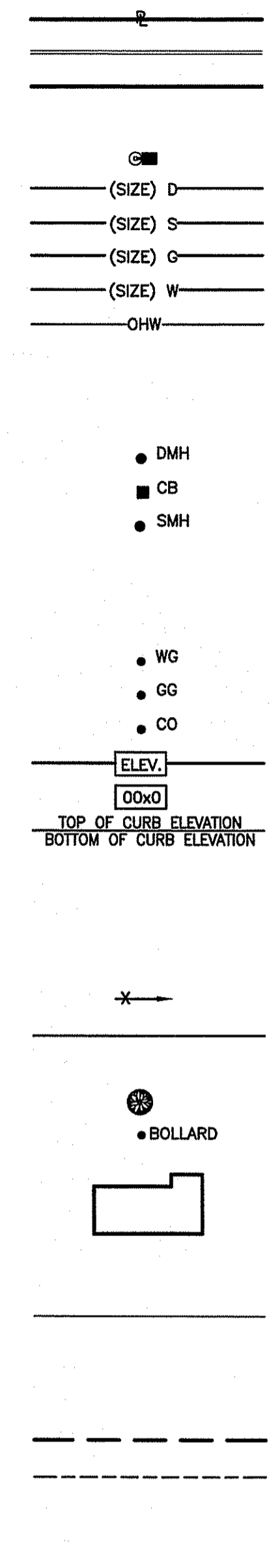
**EXISTING**



**LEGEND**

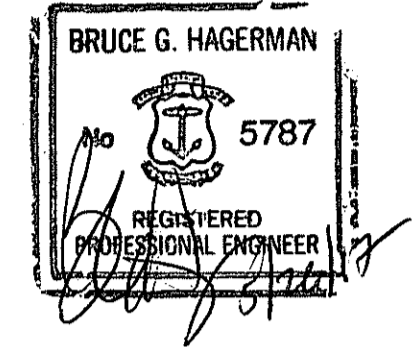


**PROPOSED**



**CROSSMAN ENGINEERING**  
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 Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763, Phone: (508) 695-1700  
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**OWNER:**  
 RICHMOND 208 REALTY, LLC  
 800 JEFFERSON BOULEVARD  
 WARWICK, RI 02887

**PROJECT TITLE:**  
 OLD CASTLE  
 LAWN AND GARDEN  
 MANUFACTURING FACILITY  
 PLAT MAP 4B, LOT 61  
 ZONING DISTRICT: FLEX-TECH AND  
 GENERAL BUSINESS  
 35 STILSON ROAD  
 RICHMOND, R.I. 02898

**PREPARED FOR:**  
 RICHMOND 208 REALTY, LLC  
 800 JEFFERSON BOULEVARD  
 WARWICK, RI 02887

**DRAWING TITLE:**  
 GENERAL NOTES  
 and LEGEND

**DATE:** OCTOBER 2016 **SCALE:** NO SCALE

**DWG. NAME:** 1863-JC-C01-NOTES.dwg

REVISIONS		
NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/31/17
2	RIDEM COMMENTS	5/19/17
3	RIDEM COMMENTS	6/26/17

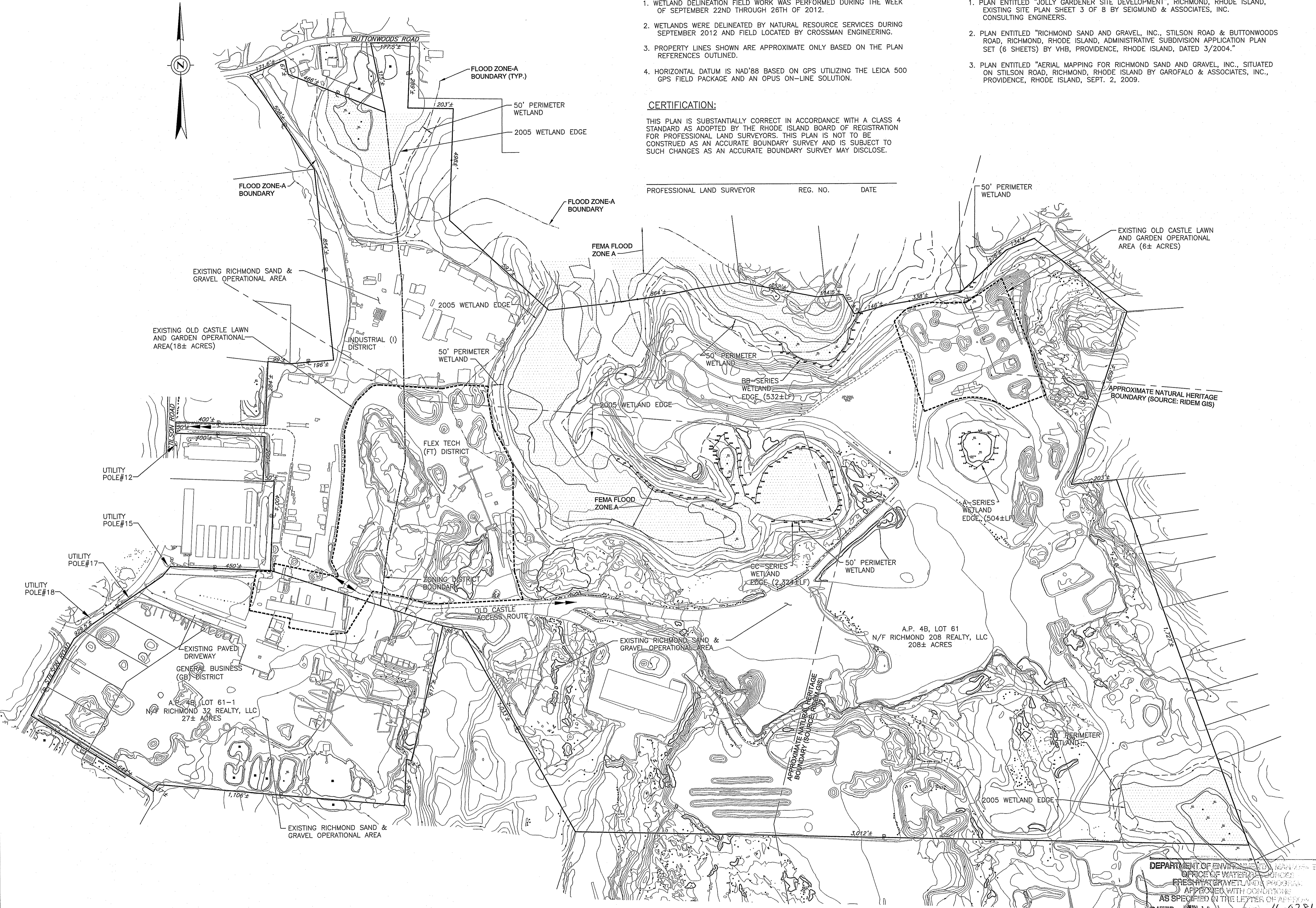
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED JUN 16 2017 FILE # 16-0287  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
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 Charles A. Hagerman

**DRAWING NUMBER**

**C1**

SHEET: 2 OF: 10

**AGENCY REVIEW SUBMISSION**



**PLAN NOTES:**

1. WETLAND DELINEATION FIELD WORK WAS PERFORMED DURING THE WEEK OF SEPTEMBER 22ND THROUGH 26TH OF 2012.
2. WETLANDS WERE DELINEATED BY NATURAL RESOURCE SERVICES DURING SEPTEMBER 2012 AND FIELD LOCATED BY CROSSMAN ENGINEERING.
3. PROPERTY LINES SHOWN ARE APPROXIMATE ONLY BASED ON THE PLAN REFERENCES OUTLINED.
4. HORIZONTAL DATUM IS NAD'88 BASED ON GPS UTILIZING THE LEICA 500 GPS FIELD PACKAGE AND AN OPUS ON-LINE SOLUTION.

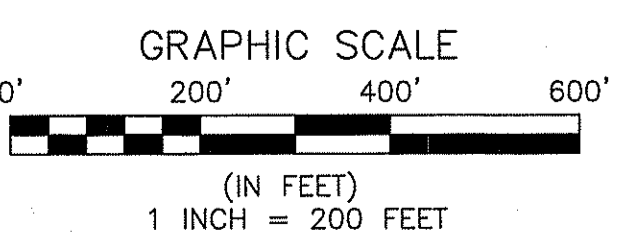
**CERTIFICATION:**

THIS PLAN IS SUBSTANTIALLY CORRECT IN ACCORDANCE WITH A CLASS 4 STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. THIS PLAN IS NOT TO BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY AND IS SUBJECT TO SUCH CHANGES AS AN ACCURATE BOUNDARY SURVEY MAY DISCLOSE.

PROFESSIONAL LAND SURVEYOR REG. NO. DATE

**PLAN REFERENCES:**

1. PLAN ENTITLED "JOLLY GARDENER SITE DEVELOPMENT", RICHMOND, RHODE ISLAND, EXISTING SITE PLAN SHEET 3 OF 8 BY SEIGMUND & ASSOCIATES, INC. CONSULTING ENGINEERS.
2. PLAN ENTITLED "RICHMOND SAND AND GRAVEL, INC., STILSON ROAD & BUTTWOODS ROAD, RICHMOND, RHODE ISLAND, ADMINISTRATIVE SUBDIVISION APPLICATION PLAN SET (6 SHEETS) BY VHB, PROVIDENCE, RHODE ISLAND, DATED 3/2004."
3. PLAN ENTITLED "AERIAL MAPPING FOR RICHMOND SAND AND GRAVEL, INC., SITUATED ON STILSON ROAD, RICHMOND, RHODE ISLAND BY GAROFALO & ASSOCIATES, INC., PROVIDENCE, RHODE ISLAND, SEPT. 2, 2009.

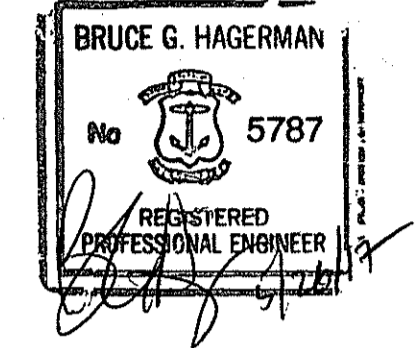


DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER QUALITY  
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*Charles A. Harber*

**CROSSMAN ENGINEERING**  
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OWNER:  
**RICHMOND 208 REALTY, LLC**  
 800 JEFFERSON BOULEVARD  
 WARWICK, RI 02887

PROJECT TITLE:  
**OLD CASTLE LAWN AND GARDEN MANUFACTURING FACILITY**  
 PLAT MAP 4B, LOT 61  
 ZONING DISTRICT: FLEX-TECH AND GENERAL BUSINESS  
 35 STILSON ROAD  
 RICHMOND, R.I. 02898

PREPARED FOR:  
**RICHMOND 208 REALTY, LLC**  
 800 JEFFERSON BOULEVARD  
 WARWICK, RI 02887

DRAWING TITLE:  
**EXISTING SITE PLAN**

DATE: OCTOBER 2016 SCALE: 1"=200'

DWG. NAME: 1863-JG-C02-EX SITE PLAN.dwg

REVISIONS

NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/31/17
2	RIDEM COMMENTS	5/19/17
3	RIDEM COMMENTS	5/26/17

DRAWING NUMBER  
**C2**  
 SHEET: 3 OF 10

AGENCY REVIEW SUBMISSION



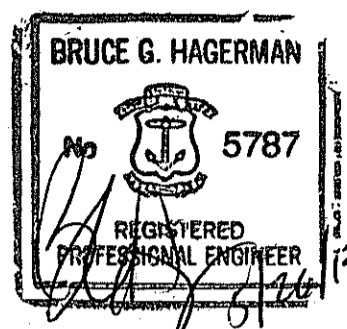
**CROSSMAN ENGINEERING**

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DRAWING TITLE:  
**OVERALL SITE PLAN**

DATE: OCTOBER 2016 SCALE: 1"=200'  
DWG. NAME: 1863-JG-C03-OVERALL.dwg

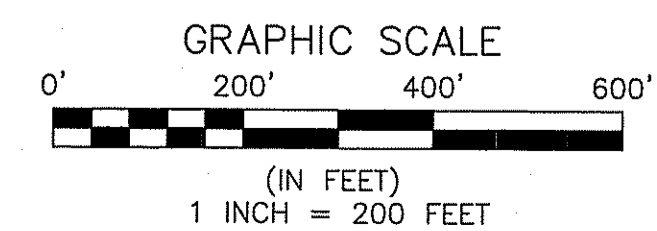
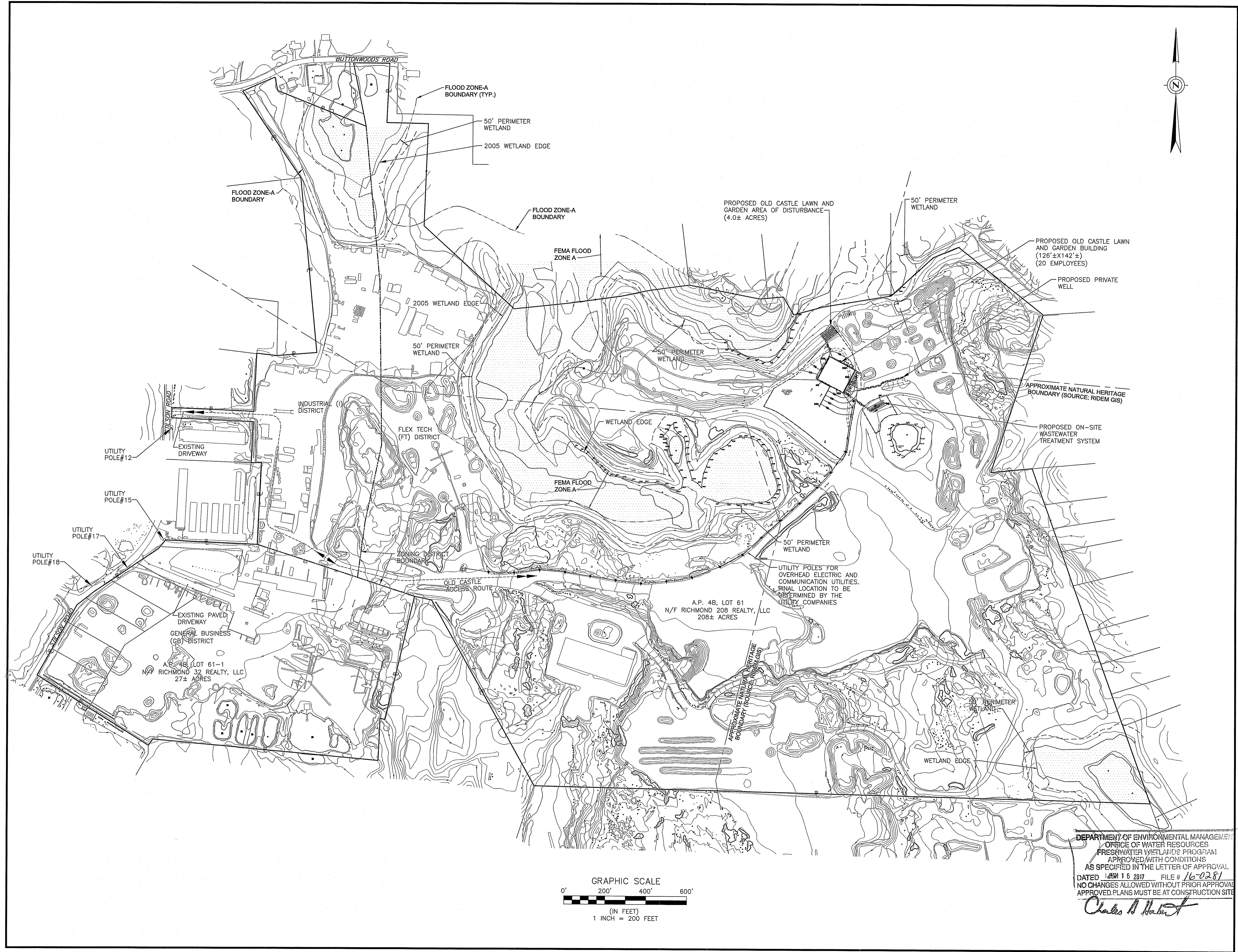
REVISIONS	NUMBER	REMARKS	DATE
△	1	RIDEM COMMENTS	3/31/17
	2	RIDEM COMMENTS	5/19/17
	3	RIDEM COMMENTS	5/28/17

DRAWING NUMBER

**C3**

SHEET: 4 OF 10

AGENCY REVIEW SUBMISSION



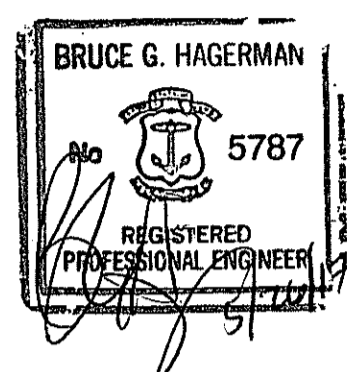
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
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 SITE PLAN

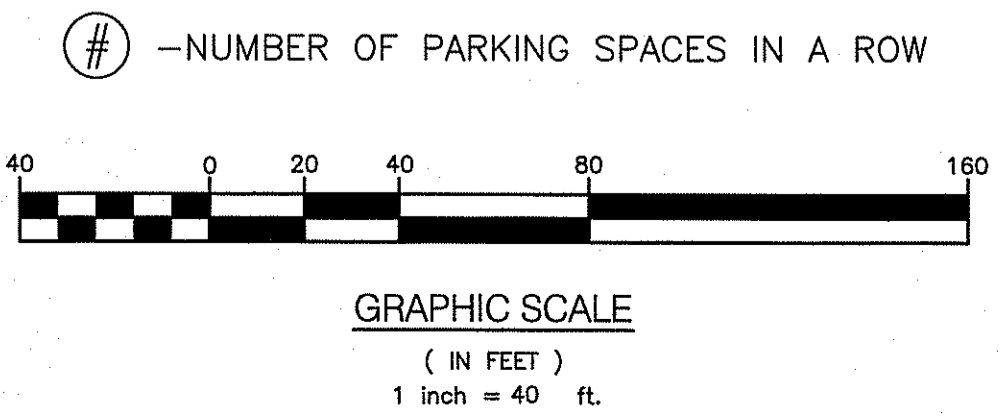
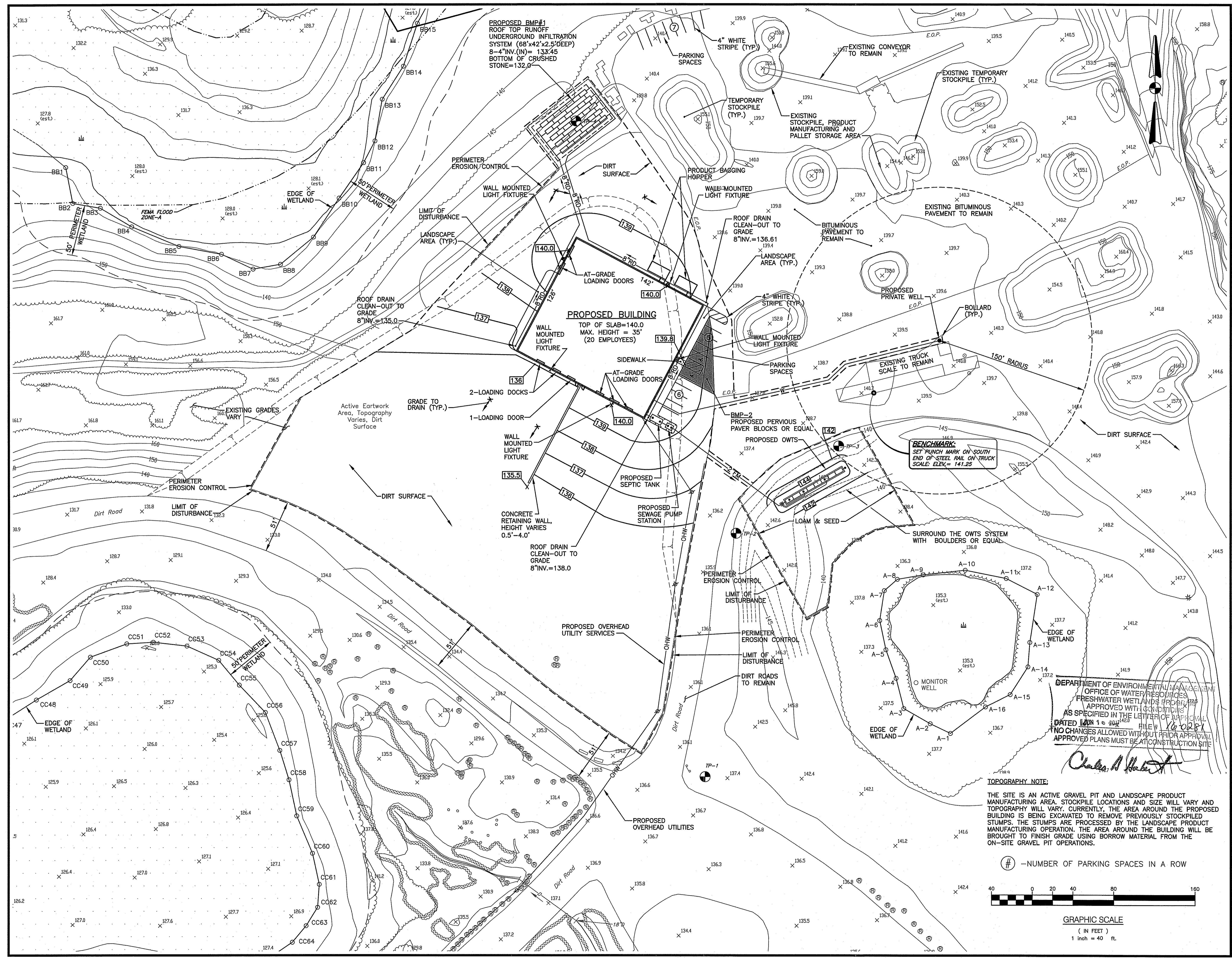
**DATE:** OCTOBER 2016 **SCALE:** 1" = 40'

**DWG. NAME:**

**REVISIONS**

NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/31/17
2	RIDEM COMMENTS	5/19/17
3	RIDEM COMMENTS	5/26/17

**DRAWING NUMBER:**  
**C4**  
 SHEET: 5 OF 10  
**AGENCY REVIEW SUBMISSION**



**ONSITE WASTEWATER TREATMENT SYSTEM NOTES**

1. THE LEACHFIELD AND FIVE (5) FEET BEYOND THE LEACHFIELD SHALL BE STRIPPED OF ALL TOPSOIL (A HORIZON).
2. IN ORDER TO AVOID COMPACTION OF THE B SOIL HORIZON, ONLY TRACKED VEHICLES SHALL BE ALLOWED WITHIN LEACHFIELD AREA.
3. PROPERLY COMPACTED GRAVEL THAT MEETS THE REQUIREMENTS OF RULE 32.12 SHALL BE PLACED THROUGHOUT THE EXCAVATION TO AN ELEVATION THAT WILL BE TWO (2) INCHES ABOVE THE TOP OF THE DISTRIBUTION LINES. DISPERSAL TRENCHES SHALL BE EXCAVATED OUT OF THE COMPACTED GRAVEL. THERE SHALL BE A MINIMUM SIX (6) INCH GRAVEL BASE LAYER MEETING THE REQUIREMENTS OF RULE 32.12 BELOW THE ELGEN SAND LAYER.
4. THE SEPTIC TANK SHALL BE A TWO COMPARTMENT TANK (H-20 LOADING).
5. STRIPPING SHALL NOT BE DONE INTO THE WATER TABLE.
6. NO VEHICULAR TRAFFIC IS ALLOWED ON LEACH FIELD.
7. THERE ARE NO KNOWN EXISTING PRIVATE WELLS WITHIN 200' OF THE SYSTEM, AND THERE ARE NO KNOWN EXISTING OR PROPOSED PUBLIC WELLS WITHIN 500'.
8. ALL PVC PIPING IN LEACH FIELD TO BE SCHEDULE 35 (PERFORATED).
9. MINIMUM ELEVATION OF TRENCH INVERT TO BE MAINTAINED WITHIN 10 FEET OF TRENCHES.
10. SURFACE RUNOFF TO BE DIVERTED FROM SYSTEM.
11. UNLESS OTHERWISE SHOWN, ALL PVC PIPING FOR BUILDING SEWER AND PIPE BETWEEN TANKS TO BE SCHEDULE 40 AND WATER TIGHT, AND SLEEVED IN A LARGER PIPE WITH WATER TIGHT JOINTS, REFER TO RULE 22.1, (NOTE 6).
12. THE LICENSED INSTALLER MUST FOLLOW ALL R.I.D.E.M. "RULES AND REGULATIONS ESTABLISHING MINIMUM STANDARDS RELATIVE TO LOCATION, DESIGN, CONSTRUCTION AND MAINTENANCE OF ONSITE WASTEWATER TREATMENT SYSTEMS, JUNE 30, 2011."
13. NO KNOWN DRAINS, PROPOSED DRAINS OR UNDERDRAINS DISCHARGING INTO A SURFACE WATER SUPPLY ARE WITHIN 100' OF LEACH FIELD.
14. PROVIDE TEE AND EFFLUENT SCREEN (RULE 26.6.2) FOR SEPTIC TANK OUTLET PIPE.
15. ALL DISTURBED AREAS ARE TO RECEIVE 4" OF LOAM & SEED, UNLESS OTHERWISE NOTED.
16. THERE ARE NO KNOWN WETLANDS WITHIN 100' OF THE PROPOSED OWTS.
17. THE CONTRACTOR MUST ADHERE TO ALL CONSTRUCTION INSPECTION PROCEDURES AND REQUIREMENTS OF R.I.D.E.M. AND CROSSMAN ENGINEERING, INC.
18. ALL TREES AND BRUSH WITHIN 10' OF THE LEACH FIELD SHALL BE REMOVED.
19. NO GARBAGE DISPOSAL GRINDER IS ALLOWED TO BE USED.
20. DISTRIBUTION BOX SHALL BE A JOLLEY PRECAST, INC. (DB-5) OR APPROVED EQUAL, WITH AN INLET TEE OR SUITABLE BAFFLE.
21. THERE ARE NO PUBLIC SEWERS WITHIN 200' OF THE PARCEL.
22. THE LEACH FIELD IS NOT WITHIN THE CRITICAL RESOURCE AREA AS DEFINED BY SECTION 38.3.1-38.3.2 OF THE OWTS RULES AND REGULATIONS.
23. THE LEACH FIELD IS NOT WITHIN THE WATERSHED OF A PUBLIC WATER SUPPLY AS DEFINED IN SECTION 38.3.3.
24. PIPE BENDS FOR THE SOLID PIPE FROM THE D-BOX TO THE FLOW DIFFUSER UNITS SHALL BE 45° OR LESS.
25. SEPTIC TANK AND PUMP CHAMBER SHALL HAVE H-20 LOADING CAPACITY. CONTRACTOR SHALL SUPPLY WATER TIGHT CERTIFICATE FROM MANUFACTURER OR CONDUCT 24 HOUR TEST UNDER DIRECTION OF ENGINEER.
26. THE GRAVEL BASE MATERIAL (RULE 32.12) AND, WHERE APPLICABLE, THE GRAVEL BETWEEN THE TRENCHES SHALL CONSIST OF CLEAN SAND AND GRAVEL FREE OF ORGANIC MATTER AND FOREIGN SUBSTANCES. THE GRAVEL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN THREE (3) INCHES AND UP TO TEN PERCENT (10%) MAY BE SIZES BETWEEN THREE-QUARTERS (3/4) AND THREE (INCHES). GRAVEL SHALL MEET THE FOLLOWING CRITERIA:

GRAVEL BASE (RULE 32.12)	
SIEVE SIZE	PERCENT PASSING
3/4"	90%-100%
No. 4	55%-100%
No. 10	40%-100%
No. 40	10%-50%
No. 100	0-20%
No. 200	0-5%

THE GRAVEL SHALL BE PLACED IN SHALLOW LIFTS AND PROPERLY COMPACTED. THE SURFACE OF THE GRAVEL UPON WHICH THE STONE WILL BE LAID SHALL BE LEVEL AND SCARIFIED.

**DESIGN FLOW**

USE	DESIGN UNITS	UNIT FLOW RATE (gpd/unit)	DESIGN FLOW (gpd)
FACTORY/INDUSTRIAL PLANT (20 EMPLOYEES)	PER EMPLOYEE	15 gpd	300 gpd

**SEPTIC TANK SIZING**

REQUIRED SIZE: 300 gpd + 100% MAX. DAILY FLOW  
300 gpd + 300 gpd = 600 GALLONS

USE 1,000 GALLON TANK  
NOTE: AN EFFLUENT FILTER SHALL BE INSTALLED IN THE SEPTIC TANK WITH AN ACCESS MANHOLE TO GRADE. (RULE 26.6.2)

**PUMP CHAMBER SIZING**

DESIGN FLOW	EMERGENCY STORAGE CAPACITY ABOVE WORKING LEVEL	PROPOSED PUMP CHAMBER
300 gpd	300 GALLONS (MIN.)	1,000 GALLON

**LEACHING SYSTEM SIZING**

TYPE OF SYSTEM: PRECAST CONCRETE FLOWDIFFUSERS (SHALLOW CONCRETE CHAMBER)  
1' DEPTH OF STONE BELOW FLOWDIFFUSER AND 6' TOTAL WIDTH

EFFECTIVE AREA PER LINEAR FOOT: 64 SQUARE FEET/UNIT (INTERIOR UNIT)  
78 SQUARE FEET/UNIT (END UNIT)

R.I.D.E.M. SOIL CATEGORY = 1

LOADING RATE = 0.61 GAL/SF/DAY

DESIGN FLOW = 300 GAL/DAY

LEACHING AREA REQUIRED = 300/0.61 = 492 SF

TOTAL LEACHING AREA PROVIDED = 6 INTERIOR UNITS @ 64 SF/UNIT = 384 SF  
2 END UNITS @ 78 SF/UNIT = 156 SF  
TOTAL = 540 SF

**OWTS CONSTRUCTION SEQUENCE NOTES**

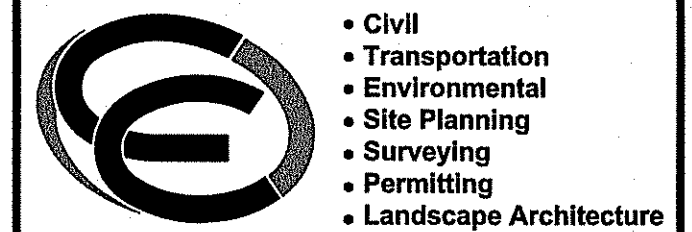
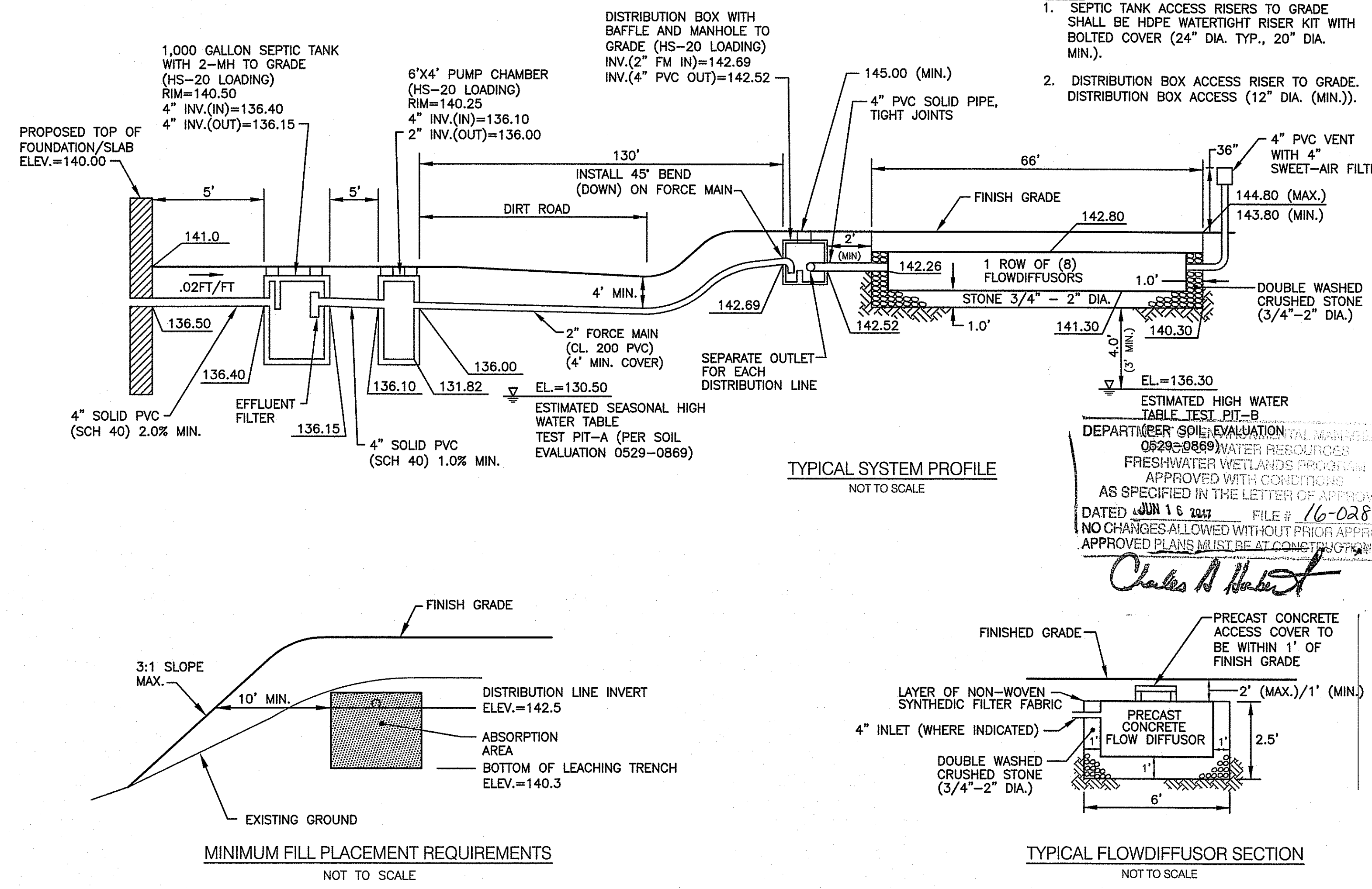
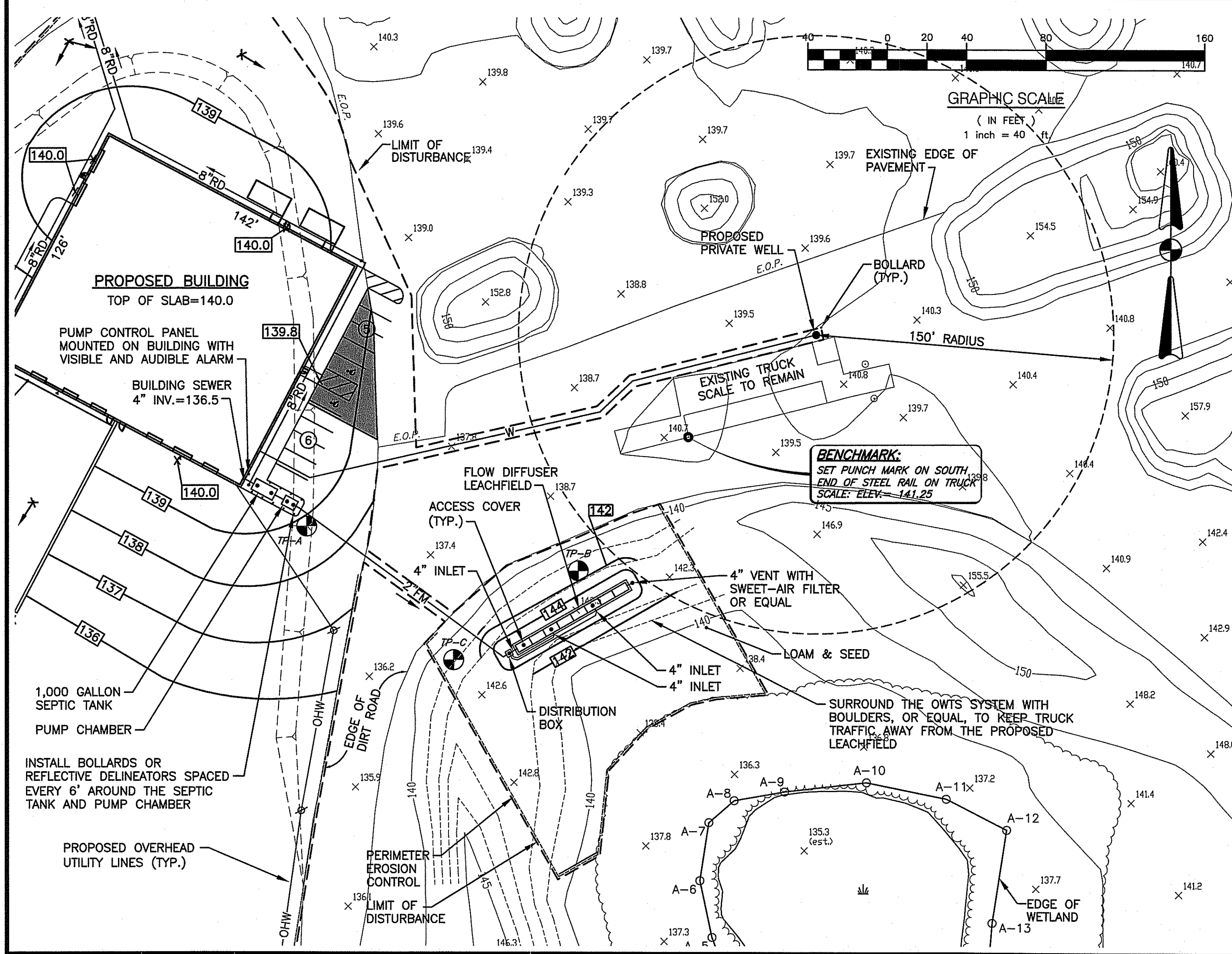
1. THE OWTS INSTALLER SHALL NOTIFY THE ISDS DESIGNER OF THE CONSTRUCTION START DATE AT LEAST FIVE (5) WORKING DAYS IN ADVANCE.
2. NO OWTS CONSTRUCTION SHALL BEGIN UNTIL AUTHORIZED BY R.I.D.E.M. AND THE OWTS DESIGNER.

**SOIL EVALUATION DATA**

SOIL EVALUATIONS A THROUGH C WERE CONDUCTED BY BRIAN KING (LIC# D4010) ON AUGUST 11, 2016.

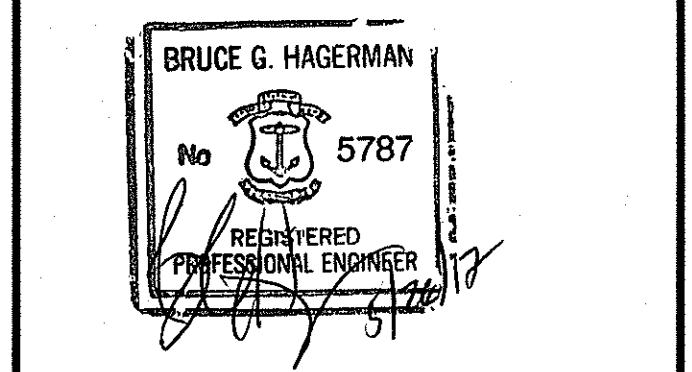
TEST PIT A		TEST PIT B	
SURFACE EL.=136.5		SURFACE EL.=142.3	
0"	LOAMY SAND, SANDY LOAM, SAND AND COBBLES-FRIABLE/FIRM	0"	MULCH
58"	OLIVE GRAY GRAVELLY FINE TO COARSE SAND-FIRM	3"	LIGHT OLIVE BROWN GRAVELLY COARSE SAND-LOOSE
88"	LIGHT YELLOWISH BROWN SAND-LOOSE	43"	LIGHT YELLOWISH BROWN FINE SAND/SAND-LOOSE
156"	SOIL CLASS: ICE CONTACT DEPTH TO SEEPAGE = 74" (14" FROM ORIGINAL GRADE) DEPTH TO IMPERVIOUS = NONE	81"	LIGHT OLIVE BROWN GRAVELLY COARSE SAND-LOOSE
		103"	STRONG BROWN COARSE SAND W/ FINES-LOOSE
		153"	SOIL CLASS: ICE CONTACT DEPTH TO SEEPAGE = 142" ESTIMATED SHWT = 72" DEPTH TO IMPERVIOUS = NONE

TEST PIT C	
SURFACE EL.=142.0	
0"	FILL
3"	LIGHT OLIVE BROWN SAND-LOOSE
43"	OLIVE GRAY VERY FINE SAND/LOAMY SAND-FRIABLE/FIRM
65"	LIGHT OLIVE BROWN GRAVELLY COARSE SAND-LOOSE
99"	LIGHT YELLOWISH BROWN SAND-LOOSE
111"	LIGHT OLIVE BROWN GRAVELLY COARSE SAND-LOOSE
147"	SOIL CLASS: ICE CONTACT DEPTH TO SEEPAGE = 132" ESTIMATED SHWT = 72" DEPTH TO IMPERVIOUS = NONE



**CROSSMAN ENGINEERING**  
Rhode Island: 151 Centerville Road, Warwick, RI 02886, Phone: (401) 738-5660  
Massachusetts: 103 Commonwealth Avenue, North Attleboro, MA 02763, Phone: (508) 695-1700  
Email: cel@crossmaneng.com

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OWNER:  
**RICHMOND 208 REALTY, LLC**  
800 JEFFERSON BOULEVARD  
WARWICK, RI 02887

PROJECT TITLE:  
**OLD CASTLE LAWN AND GARDEN MANUFACTURING FACILITY**  
PLAT MAP 4B, LOT 61  
ZONING DISTRICT: FLEX-TECH AND GENERAL BUSINESS  
35 STILSON ROAD  
RICHMOND, R.I. 02898

PREPARED FOR:  
**RICHMOND 208 REALTY, LLC**  
800 JEFFERSON BOULEVARD  
WARWICK, RI 02887

DRAWING TITLE:  
**OWTS PLAN**

DATE: OCTOBER 2016  
SCALE: 1" = 40'

DWG. NAME: 1863-JG-C05-OWTS.dwg

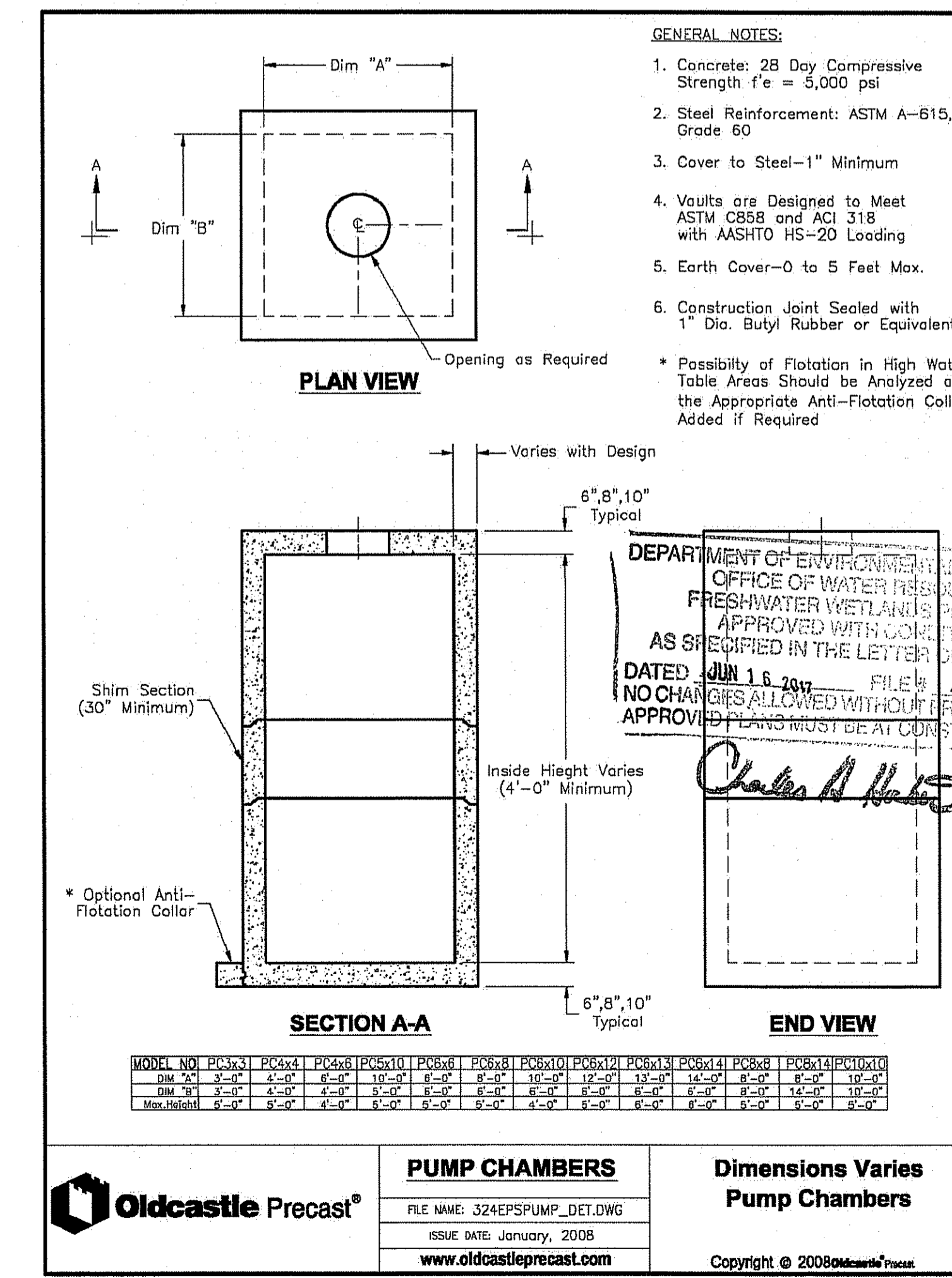
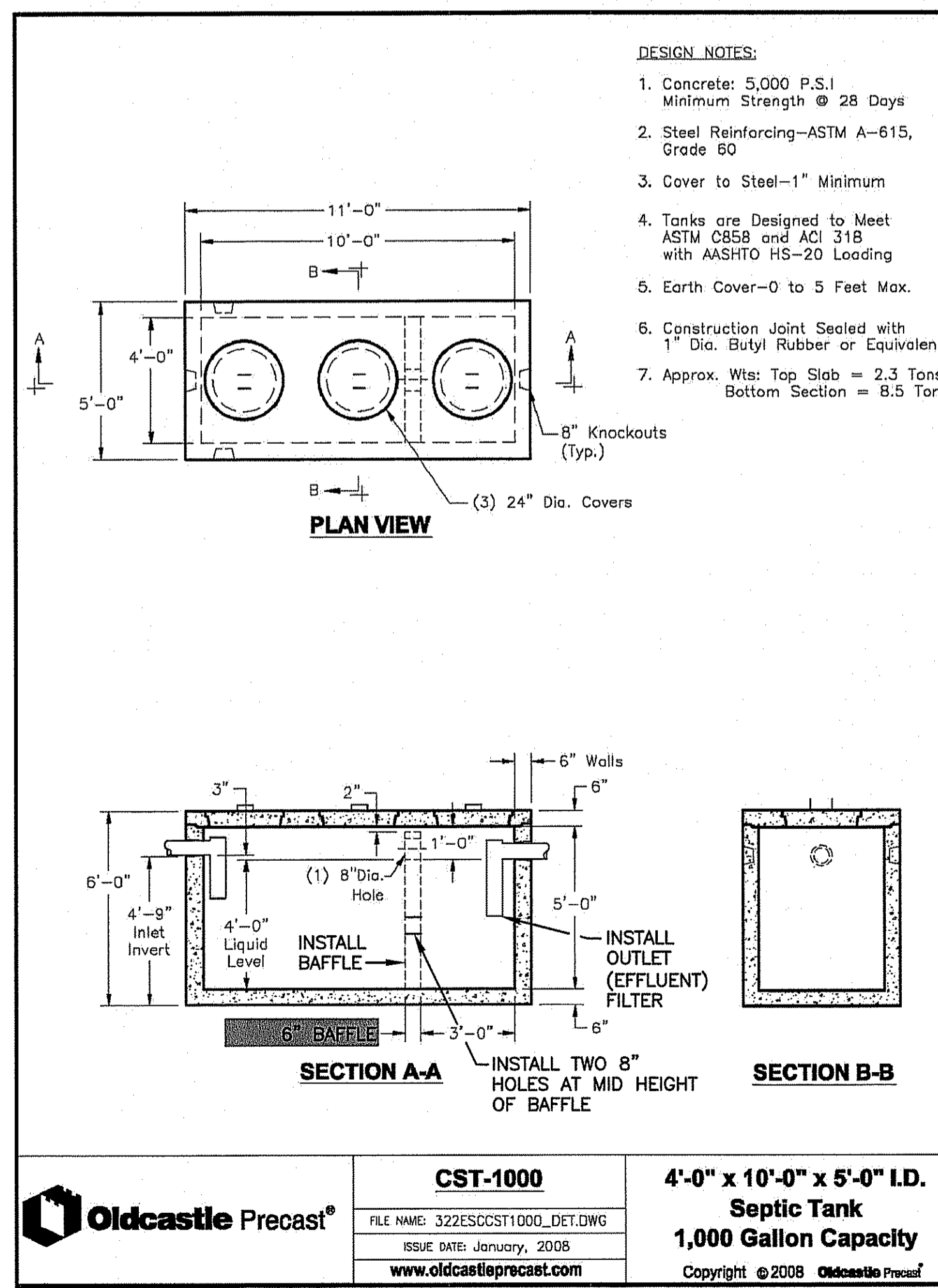
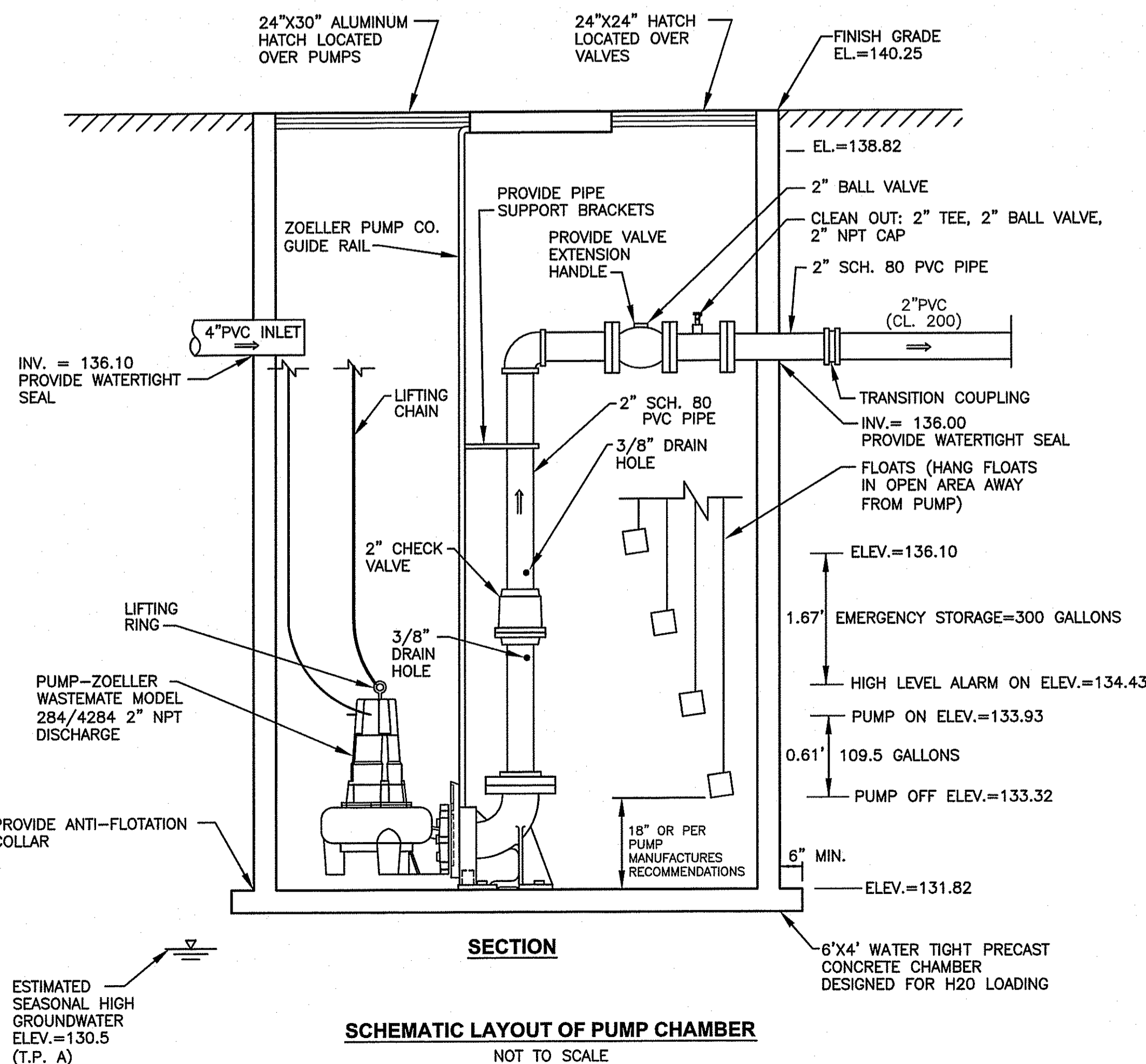
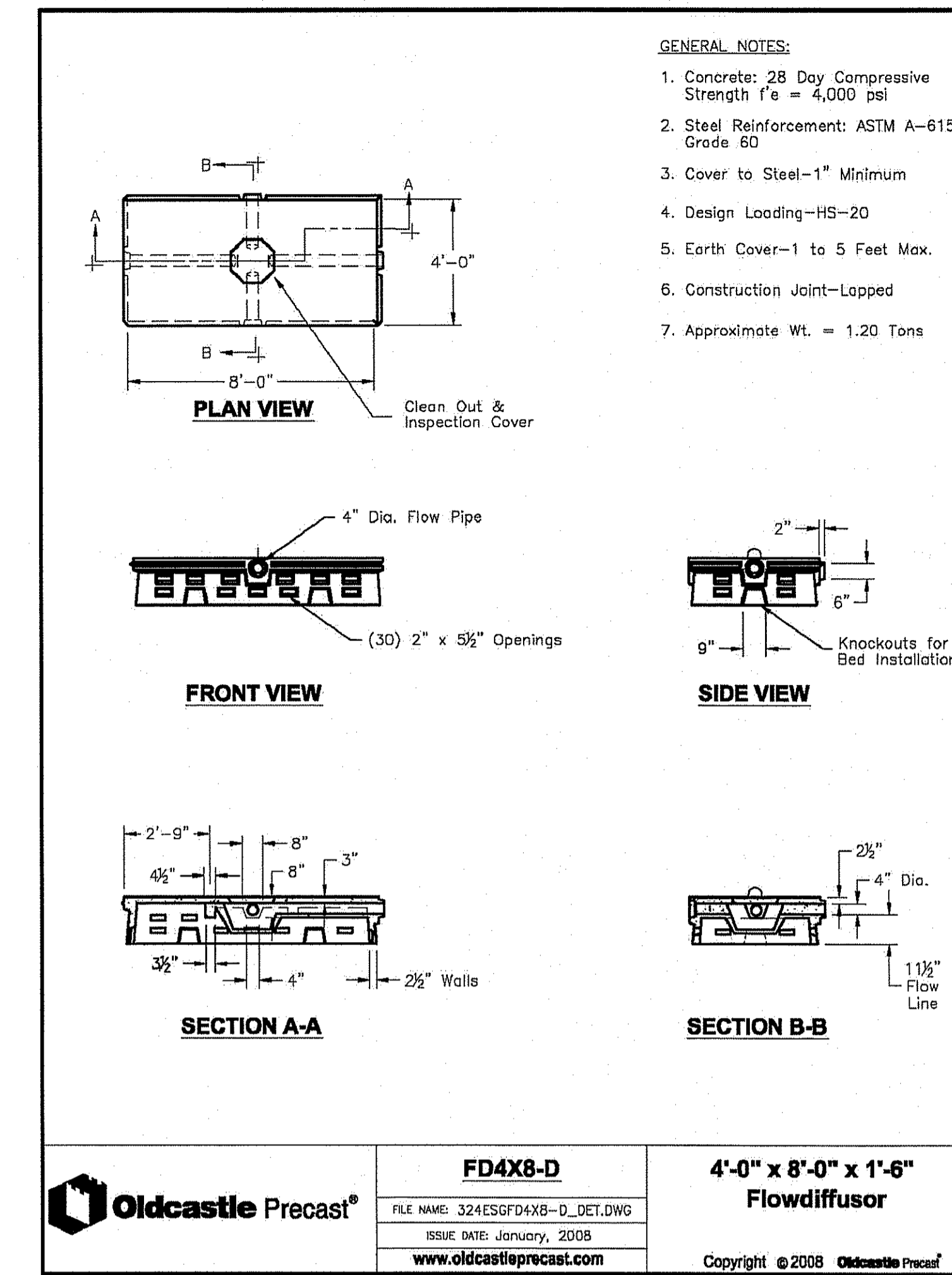
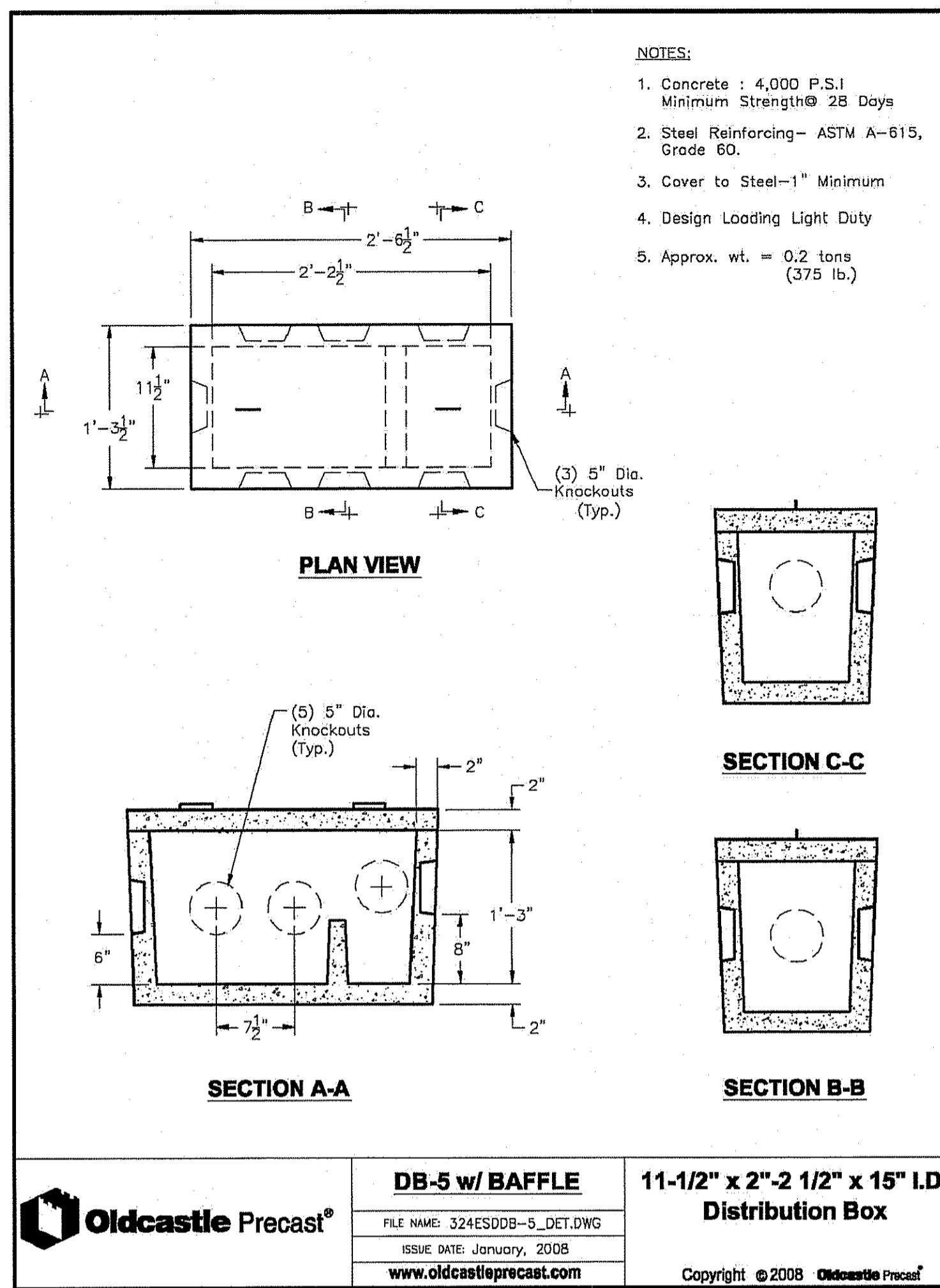
REVISIONS	NUMBER	REMARKS	DATE
1	1	RIDEM COMMENTS	3/31/17
2	2	RIDEM COMMENTS	5/19/17
3	3	RIDEM COMMENTS	5/26/17

DRAWING NUMBER: **C5**  
SHEET: 6 OF 10

AGENCY REVIEW SUBMISSION

**PUMP SYSTEM NOTES**

- "PUMP STATION" PUMP SHALL BE A "ZOLLER PUMP CO. SERIES 284/4284 "WASTE MATE", 2" NPT DISCHARGE, 3 PHASE 230 VOLT, DOUBLE SEAL, OR APPROVED EQUAL.
- ALL PLUMBING AND ELECTRICAL WORK AND MATERIALS SHALL CONFORM TO ALL STATE, FEDERAL AND LOCAL CODES.
- FORCE MAIN SHALL BE 2" CL 200 PVC (MIN.) OR EQUAL.
- INSTALLATION MUST MEET MANUFACTURER'S RECOMMENDATIONS.
- A HIGH WATER LEVEL ALARM (VISIBLE AND AUDIBLE POWERED BY CIRCUIT SEPARATE FROM THE PUMP POWER SHALL BE LOCATED IN A NORMALLY OCCUPIED AREA OF THE BUILDING.
- THE PUMP CHAMBER SHALL BE WATERTIGHT, AND ALL UNSUITABLE OR SOFT MATERIAL BELOW THE PUMP CHAMBER SHALL BE REMOVED AND REPLACED WITH GRAVEL BEDDING. A MINIMUM 6" LAYER OF GRAVEL SHALL BE SET LEVEL TO FORM A STABLE BASE. DAMP OR WET SOIL SHALL BE REMOVED AND REPLACED WITH 12" LAYER OF CRUSHED STONE (1 1/4"-2").
- STANDBY POWER SUPPLY IS RECOMMENDED.
- DOSING CRITERIA: 0.5" EFFLUENT OVER BOTTOM OF SYSTEM. (58'X6'=348 S.F.) X 0.5"=14.6 C.F.=109.3 GALLONS
- PUMP OPERATION DATA:  
PUMP RATE=70± GPM @ 25.59± HEAD  
DOSE VOLUME=109.5 GALLONS  
CYCLES=2.7 CYCLES/DAY  
CYCLE TIME=1.57 MIN.
- THE PUMP CHAMBER MANUFACTURER SHALL CERTIFY THAT THE PUMP CHAMBER IS WATER TIGHT. ALSO, THE CONTRACTOR SHALL COORDINATE WATER TIGHT FIELD TESTING WITH THE ENGINEER PRIOR TO PUMP USE.
- PUMP SHALL RUN TEST CYCLES WITNESSED BY THE ENGINEER PRIOR TO USE.



**CROSSMAN ENGINEERING**  
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**BRUCE G. HAGERMAN**  
No. 5787  
REGISTERED PROFESSIONAL ENGINEER

**OWNER:**  
RICHMOND 208 REALTY, LLC  
800 JEFFERSON BOULEVARD  
WARWICK, RI 02887

**PROJECT TITLE:**  
OLD CASTLE  
LAWN AND GARDEN  
MANUFACTURING FACILITY  
PLAT MAP 4B, LOT 61  
ZONING DISTRICT: FLEX-TECH AND  
GENERAL BUSINESS

35 STILSON ROAD  
RICHMOND, R.I. 02898

**PREPARED FOR:**  
RICHMOND 208 REALTY, LLC  
800 JEFFERSON BOULEVARD  
WARWICK, RI 02887

**DRAWING TITLE:**  
OWTS DETAILS

**DATE:** OCTOBER 2016  
**SCALE:** NO SCALE

**DWG. NAME:** 1863-JG-C06-OWTS-DET.dwg

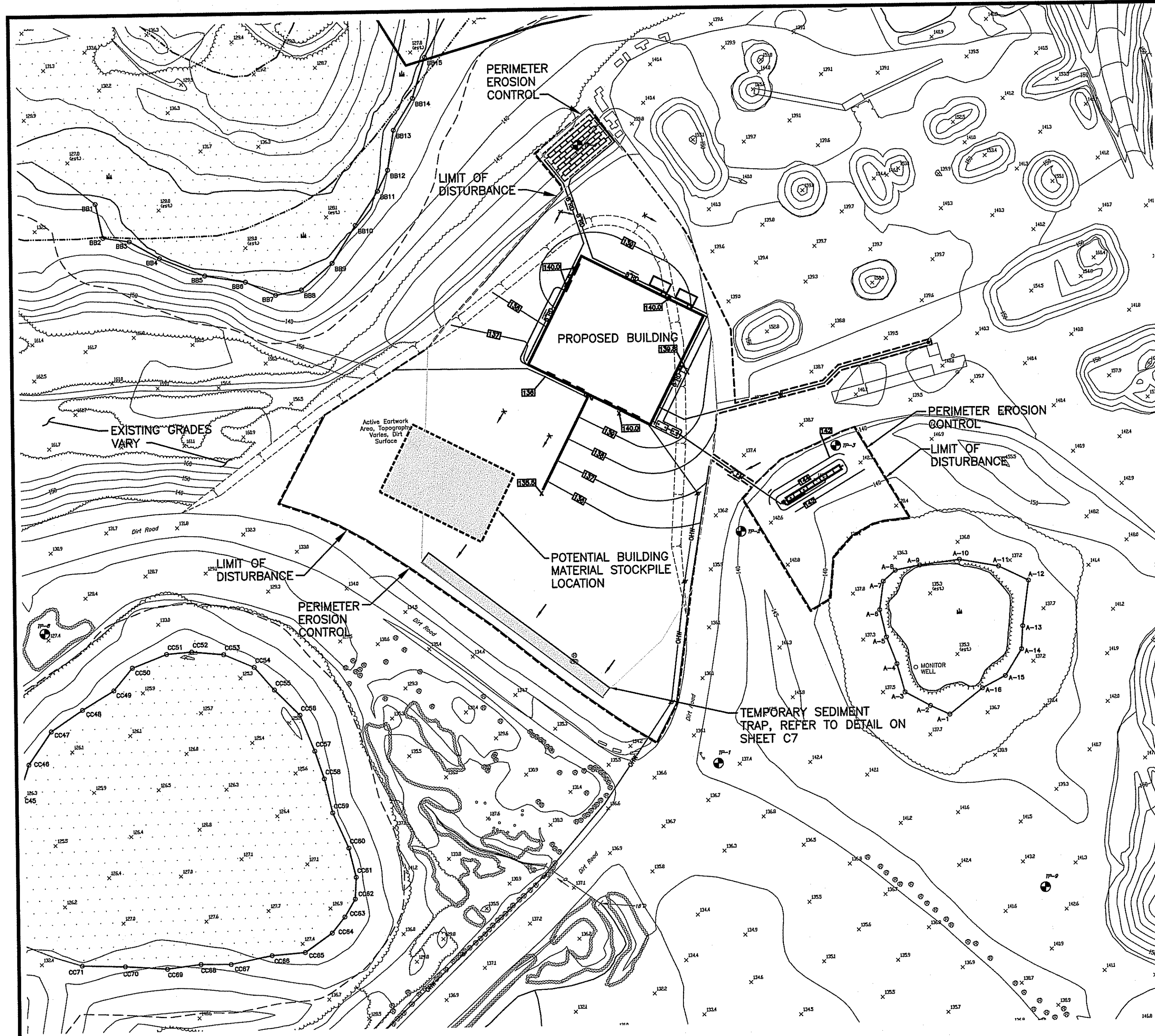
**REVISIONS**

NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/31/17
2	RIDEM COMMENTS	5/19/17
3	RIDEM COMMENTS	5/26/17

**Charles H. Hagerman**  
REGISTERED PROFESSIONAL ENGINEER

**DRAWING NUMBER**  
**C6**  
SHEET: 7 OF 10

**AGENCY REVIEW SUBMISSION**



**TOPOGRAPHY NOTE:**  
 THE SITE IS AN ACTIVE GRAVEL PIT AND LANDSCAPE PRODUCT MANUFACTURING AREA. STOCKPILE LOCATIONS AND SIZE WILL VARY AND TOPOGRAPHY WILL VARY. CURRENTLY, THE AREA AROUND THE PROPOSED BUILDING IS BEING EXCAVATED TO REMOVE PREVIOUSLY STOCKPILED STUMPS. THE STUMPS ARE PROCESSED BY THE LANDSCAPE PRODUCT MANUFACTURING OPERATION. THE AREA AROUND THE BUILDING WILL BE BROUGHT TO FINISH GRADE USING BORROW MATERIAL FROM THE ON-SITE GRAVEL PIT OPERATIONS.

**AREAS OF CRITICAL CONCERN  
 PLAN VIEW  
 SCALE: 1" = 80'**

**STOCKPILE NOTE:**  
 EXCESS EXCAVATED SOIL SHALL BE TRANSFERRED TO THE RICHMOND SAND AND GRAVEL OPERATIONS.

**NOTES FOR AREAS OF CONCERN:**

1. FINISHED SLOPES ARE NOT TO EXCEED 3:1.
2. DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED.
3. TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS).
4. HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3,000-4,000 LBS/ACRE.
5. THE FINISHED SLOPES SHALL RECEIVE 4" OF LOAM AND SEED.
6. THE SEED MIXTURE SHALL BE:  
 LBS/ACRES  
 FINE RYE 66  
 K-31 FESCUE 34  
 OR AN ALTERNATIVE APPROVED BY THE SCS DISTRICT OFFICE.
7. ALL 3:1 SLOPES ARE TO BE LINED WITH CURLEX EXCELSIOR EROSION CONTROL BLANKET (AMERICAN EXCELSIOR COMPANY), OR EQUAL.

**SITE CONSTRUCTION SEQUENCE AND SCHEDULE:**

1. INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO ANY SOIL DISTURBANCE.
2. PRIOR TO CONSTRUCTION CLEARLY MARK AREAS TO BE LEFT UNDISTURBED.
3. SELECTIVE CLEARING OF TREES AND VEGETATION AS SHOWN ON THE SITE PLANS.
4. TOP SOIL TO BE STRIPPED AND STOCKPILED. ESTABLISH EROSION CONTROLS AROUND PILES (HAYBALES). ESTABLISH COVER IF STOCKPILES WILL REMAIN FOR LONGER THAN ONE MONTH.
5. ROUGH GRADING FOR STORMWATER BASINS AND BUILDING.
6. LANDSCAPE AND STABILIZE STORMWATER BASINS.
7. BUILDING CONSTRUCTION.
8. FINAL GRADING AND LANDSCAPING.
9. CLEANING OF ALL EROSION AND SEDIMENT CONTROLS, AND SWALES. CLEANING OF DRAINAGE SYSTEM.
10. ESTIMATED DURATION OF SOIL EXPOSURE, MAY 2017 TO NOV. 2017.

**ENVIRONMENTAL NOTES**

- RECEIVING WATERBODY: UNNAMED WETLANDS AND MOONSHINE CREEK, RI 0008040R-22. NO IMPAIRMENTS LISTED AND NO TMDLS DETERMINED. STREAM ORDER-0.
- ULTIMATE RECEIVING WATERBODY - WOOD RIVER, RI0008040R-16B, COLD WATER FISHERY. IMPAIRMENTS: NON-NATIVE AQUATIC PLANTS. NO TMDLS DETERMINED. STREAM ORDER-4.
- LIMIT OF DISTURBANCE AREA = 4.0± ACRES
- GROUNDWATER CLASSIFICATION - GA (SOURCE: RIDEM)

**DUST CONTROL NOTES:**

ON AN AS-NEEDED BASIS OR AS DIRECTED BY THE TOWN OR ENGINEER, THE CONTRACTOR SHALL UTILIZE ONE OF THE FOLLOWING METHODS (AS RECOMMENDED BY THE "R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK") TO CONTROL DUST:  
 A. THE EXPOSED SOIL SURFACE SHOULD BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.  
 B. CALCIUM CHLORIDE SHOULD BE EITHER LOOSE DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH A SPREADER AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE.  
 THE METHODS SHOULD BE REPEATED AS NEEDED, AND SPECIAL ATTENTION MUST BE GIVEN TO THE ACCESS DRIVES.

**INSPECTION/MAINTENANCE NOTES:**

1. PRIOR TO COMMENCING CLEARING AND GRUBBING OPERATIONS, EROSION CONTROLS SHALL BE PLACED SO AS TO PREVENT SEDIMENT FROM ENTERING EXISTING ROADWAY DRAINAGE SYSTEM, WETLAND AREAS AND ADJUTING PROPERTIES.
2. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING WETLANDS AND DRAINAGE SYSTEMS.
3. ALL DISTURBED AREAS WHICH BECOME SUBJECT TO EROSION TENDENCIES WHETHER THEY BE NEWLY FILLED OR EXCAVATED SHALL RECEIVE SLOPE PROTECTION - SUCH AS RIP-RAP, OR APPROVED EQUAL.
4. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING PERIODS OF RAINFALL.
5. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE AND SHALL INSPECT / REPLACE DAILY DURING CONSTRUCTION, FOLLOWING RAINFALL AND WEEKLY DURING NON CONSTRUCTION PERIODS.
6. ADDITIONAL EROSION CONTROLS OR DEWATERING METHODS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER. EROSION CONTROL MAINTENANCE AND REPLACEMENT SHALL BE INCLUDED IN THE BASE BID PRICE.
7. THE "R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE RHODE ISLAND STATE CONSERVATION COMMITTEE, REVISED 2014, MUST BE UTILIZED BY THE CONTRACTOR AS A GUIDE.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL DUST CONTROL AND FOR THE ENTIRE PROJECT DURATION, INCLUDING TEMPORARY SHUT-DOWN PERIODS, MUST MONITOR AND REPAIR, AS NEEDED, ALL SLOPES TO ENSURE A STABLE PRODUCT.

**GENERAL PROJECT WIDE NOTES:**

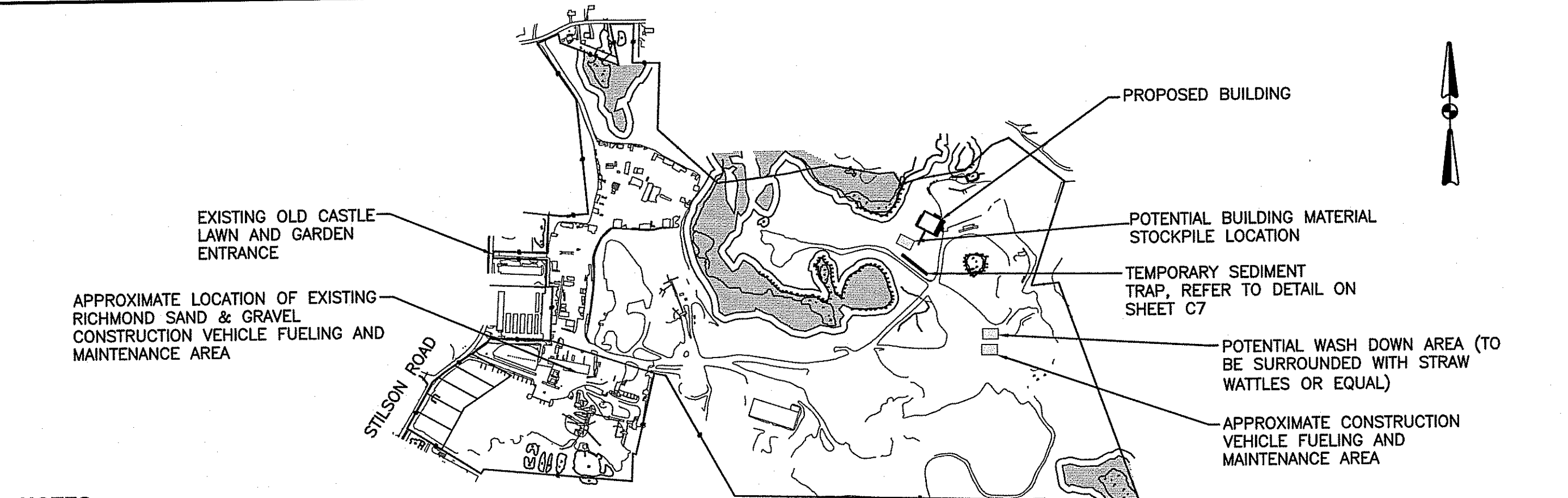
1. EROSION CONTROLS SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, MAINTAINED ON A REGULAR BASIS, AND SHALL BE PLACED TO PREVENT SEDIMENTATION TO ADJACENT PROPERTY DRAINAGE SYSTEMS AND WETLANDS.
2. WHERE APPLICABLE, THE CONTRACTOR MUST REPLACE AND/OR RESEED ANY VEGETATION THAT DOES NOT DEVELOP/SURVIVE WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE TO THE OWNER.
3. ALL STRAW WATTLES OR OTHER TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AREA IS STABILIZED WHICH INCLUDES ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. SLOPES OF 2:1 OR 3:1 SHALL BE STABILIZED WITH FILTREX VEGETATED COVER, AND OTHER AREAS SHALL BE STABILIZED WITH CRUSHED STONE OR LOAM AND SEED, AS APPROVED BY THE OWNER.
4. TREES AND OTHER EXISTING VEGETATION SHALL BE RETAINED WHENEVER FEASIBLE; THE AREA BEYOND THE DRIFLINE SHALL BE FENCED OR ROPED OFF TO PROTECT TREES FROM CONSTRUCTION EQUIPMENT.
5. AREAS DAMAGED DURING CONSTRUCTION SHALL BE STABILIZED, OR OTHERWISE RESTORED AT THE CONTRACTOR'S EXPENSE.
6. UNLESS REFERENCED ON THE PLANS, STOCKPILES SHALL HAVE NO SLOPE STEEPER THAN 2:1 AND SHALL BE SURROUNDED BY STRAW WATTLES.
7. STOCKPILES EXPOSED FOR EXCESSIVE PERIODS SHALL RECEIVE TEMPORARY TREATMENT CONSISTING OF HAY, STRAW, FIBER MATTING OR APPROVED EQUAL.
8. SILT FENCE OR STAKED HAYBALES MAY BE USED IN LIEU OF THE STRAW WATTLES.

**CONSTRUCTION NOTES**

THE PROPOSED VEGETATIVE AND STRUCTURAL PRACTICES TO BE IMPLEMENTED DURING CONSTRUCTION ARE DESCRIBED AND ILLUSTRATED WITHIN THE ACCOMPANYING SITE PLANS. IN ADDITION, THE OPERATOR SHOULD INITIATE APPROPRIATE STABILIZATION PRACTICES ON ALL DISTURBED AREAS AS SOON AS POSSIBLE BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS THE ACTIVITY IS TO RESUME WITHIN TWENTY-ONE (21) DAYS. IF BUILDING CONSTRUCTION CANNOT BEGIN WITHIN TWENTY-ONE (21) DAYS OF COMPLETING SITE PREPARATION ACTIVITIES, ALL DISTURBED AREAS SHALL BE STABILIZED WITH LOAM AND SEEDING.

**ADDITIONAL CONTROLS**

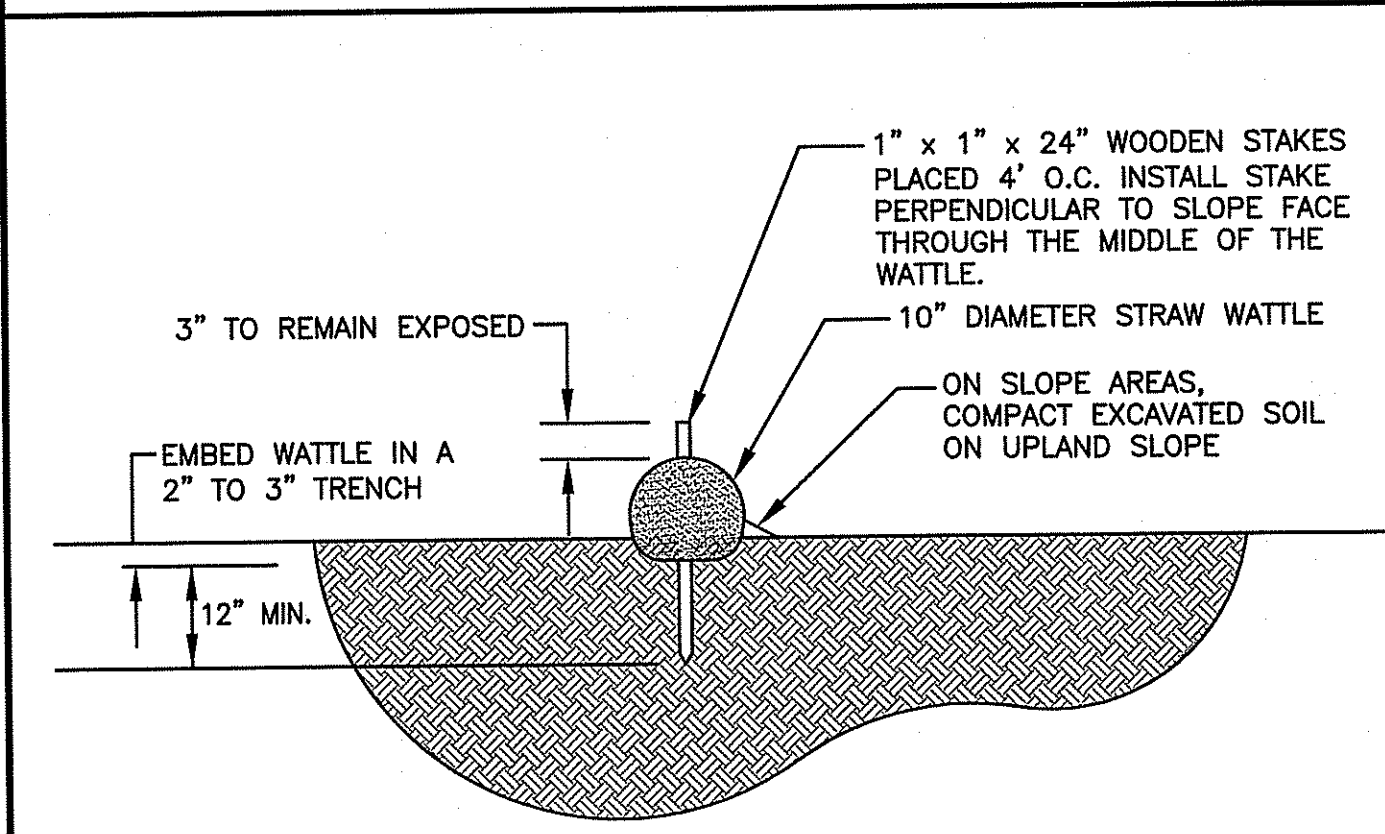
- ALL TYPES OF WASTE GENERATED AT THE SITE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- THE CONTRACTOR IS REQUIRED TO NOTIFY LOCAL AUTHORITIES AND THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, OFFICE OF WASTE MANAGEMENT, OF ANY HAZARDOUS MATERIAL SPILL.
- THE CONTRACTOR IS REQUIRED TO MAINTAIN THE SITE IN AN ORDERLY AND CLEAN STATE. ALL CONSTRUCTION WASTE SHALL BE STORED IN APPROPRIATE CONTAINERS PRIOR TO REMOVAL AND CONTACT WITH PRECIPITATION SHALL BE KEPT TO A MINIMUM.
- GENERAL MAINTENANCE PROCEDURES ARE OUTLINED IN THE ACCOMPANYING SITE PLANS. IN ADDITION, THE OPERATOR AND CONTRACTOR ARE REQUIRED TO INSPECT ALL EROSION CONTROLS ON THE SITE AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY-FOUR (24) HOURS AFTER A RAIN EVENT, WHICH GENERATES 0.25 INCHES OF RAIN IN A TWENTY-FOUR (24) HOUR PERIOD AND/OR AFTER A SIGNIFICANT AMOUNT OF RUNOFF.



**NOTES**

1. CONTRACTOR SHALL INSTALL TEMPORARY MEASURES SUCH AS: FIBER MATTING, CRUSHED STONE, HAY OR STRAW IN AREAS WHERE SLOPES OR STABILIZATION HAS FAILED.
3. STRAW WATTLES (OR SILT FENCE OR STAKED HAYBALES) SHALL BE INSTALLED AROUND THE PERIMETER OF THE AREA TO BE DISTURBED BY CONSTRUCTION. ADDITIONAL APPLICATIONS OF THESE CONTROLS MEASURES MAY BE REQUIRED DURING THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL INSPECT THE SITE AT A MINIMUM OF ONCE PER WEEK OR WITHIN 24 HOURS AFTER A STORM EVENT.
4. IF EROSION OR EROSION TENDENCIES ARE APPARENT ON THE SITE, THE CONTRACTOR IS RESPONSIBLE TO INSTALL ADDITIONAL CONSTRUCTION BMP'S SUCH AS SAND BAGS AS DIRECTED BY LOCAL MUNICIPALITY, STATE OR ENGINEER DURING CONSTRUCTION.
5. IF SEDIMENT OR DEBRIS IS TRACKED ONTO EXISTING PAVED AREAS ADJACENT TO THE CONSTRUCTION AREA, THE CONTRACTOR IS REQUIRED TO SWEEP THE PAVEMENT ON A DAILY BASIS. THE AREA SHALL BE INSPECTED DAILY.
6. THE CONTRACTOR IS RESPONSIBLE TO KEEP THE SITE CLEAN OF TRASH. RECOMMENDED DAILY PATROL OF THE CONSTRUCTION SHOULD BE CONDUCTED TO PICK-UP TRASH. THE OPERATOR SHALL REQUIRE THE CONTRACTOR TO HAVE PORTABLE SANITARY FACILITIES ON SITE. ROUTING CLEANING AND WASTE DISPOSAL OF THESE PORTABLE SANITARY FACILITIES IS REQUIRED.

**OVERALL  
 PLAN VIEW  
 SCALE: 1" = 800'**



**NOTES**

1. INSTALLATION OF THE STRAW WATTLE SHALL CONFORM TO ALL THE MANUFACTURER'S RECOMMENDATIONS. AN "OR EQUAL" PRODUCT MUST BE APPROVED BY THE ENGINEER OR OWNER PRIOR TO CONSTRUCTION.
2. STAKED HAYBALES AND/OR SILT FENCE MAY BE USED IN LIEU OF STRAW WATTLE. APPROVAL FROM THE TOWN AND ENGINEER IS REQUIRED.

**STRAW WATTLE DETAIL  
 NOT TO SCALE**

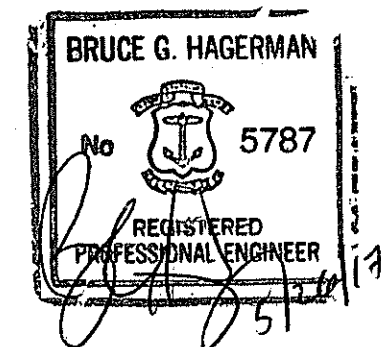
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH COMMENTS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED: 10/16/2017 FILE # 16-0281  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Charles A. Hester*



**CROSSMAN ENGINEERING**  
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**OWNER:**  
 RICHMOND 208 REALTY, LLC  
 800 JEFFERSON BOULEVARD  
 WARWICK, RI 02887

**PROJECT TITLE:**  
 OLD CASTLE  
 LAWN AND GARDEN  
 MANUFACTURING FACILITY  
 PLAT MAP 4B, LOT 61  
 ZONING DISTRICT: FLEX-TECH AND  
 GENERAL BUSINESS  
 35 STILSON ROAD  
 RICHMOND, R.I. 02898

**PREPARED FOR:**  
 RICHMOND 208 REALTY, LLC  
 800 JEFFERSON BOULEVARD  
 WARWICK, RI 02887

**DRAWING TITLE:**  
 SOIL EROSION AND  
 SEDIMENT CONTROL PLAN

**DATE:** OCTOBER 2016 **SCALE:** AS NOTED  
**DWG NAME:** 1863-JG-C07-EROS.dwg

**REVISIONS:**

NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/31/17
2	RIDEM COMMENTS	5/19/17
3	RIDEM COMMENTS	5/26/17

**DRAWING NUMBER:** C7  
**SHEET:** 8 OF 10

**AGENCY REVIEW SUBMISSION**

**SEEDING NOTES:**

- LOAM SHALL BE SPREAD TO A MINIMUM DEPTH OF 4" OVER ALL AREAS DESIGNATED ON PLANS.
- SHAPE AND SMOOTH THE SURFACE TO THE LINES AND GRADES AS SHOWN ON PLANS.
- FERTILIZE WITH 10-10-10 OR EQUIVALENT ANALYSIS. AT LEAST 40% OF THE FERTILIZER NITROGEN SHALL BE IN A SLOW RELEASE FORM. INCORPORATE THE FERTILIZER INTO THE TOP 3 TO 4 INCHES OF THE PLANTING SOIL. APPLY AT THE RATE OF 8 POUNDS PER 1,000 SQUARE FEET AT SEEDING.
- LIME: SPREAD EVENLY AND WORK INTO THE SOIL DURING PREPARATION OF SEED BED AT THE RATE OF ONE TON PER ACRE. INCORPORATE INTO THE SOIL BY DICING OR OTHER APPROVED METHOD. DISTRIBUTE LIME UNIFORMLY AND WORK INTO TOP 4 INCHES OF TOP SOIL (MINIMUM) AND UNIFORMLY BLEND BY DICING OR ROTOTILLING.
- APPLICATION OF SEED:
  - RATE OF APPLICATION OF SEED SHALL BE 8 POUNDS PER 1,000 SQUARE FEET OR AS INDICATED ON PLANS.
  - SEEDING SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS, AND ONLY DURING THE FOLLOWING DATES:
    - SPRING SEEDING: MARCH 15 TO MAY 31
    - FALL SEEDING: AUGUST 15 TO OCTOBER 15
  - THE CONTRACTOR SHALL KEEP ALL SEEDED AREAS WATERED AND IN GOOD CONDITION, RESEEDING IF AND WHEN NECESSARY FOR AN 8 WEEK PERIOD OR UNTIL A GOOD, HEALTHY, UNIFORM GROWTH IS ESTABLISHED OVER THE ENTIRE AREA. THE CONTRACTOR SHALL ALSO MAINTAIN THESE AREAS IN AN APPROVED CONDITION UNTIL PROVISIONAL ACCEPTANCE.
  - DURING THIS PERIOD, WATER TURF AS NECESSARY TO MAINTAIN AN ADEQUATE SUPPLY OF MOISTURE WITHIN THE ROOT ZONE - THE EQUIVALENT OF ONE INCH OF ABSORBED WATER PER WEEK THAT IS DELIVERED AT WEEKLY INTERVALS IN THE FORM OF NATURAL RAIN OR IS AUGMENTED AS REQUIRED BY PERIODIC WATERING IS REQUIRED FOR A PERIOD OF ONE (1) YEAR.
  - OVERSEED WHEN NECESSARY TO PROMOTE GRASS GROWTH.
  - REPLANT AREAS VOID OF TURF ONE SQUARE FOOT OR LARGER.

**SEED MIX #1**  
(SLOPES)

TYPE	% BY WEIGHT
CREeping RED FESCUE	70
ASTORIA BENTGRASS	5
BIRDSFOOT TREFLOIL	15
PERENNIAL RYE GRASS	10

APPLICATION RATE = 200 lbs. / ACRE

**SEED MIX #2**  
(MOWED AREAS)

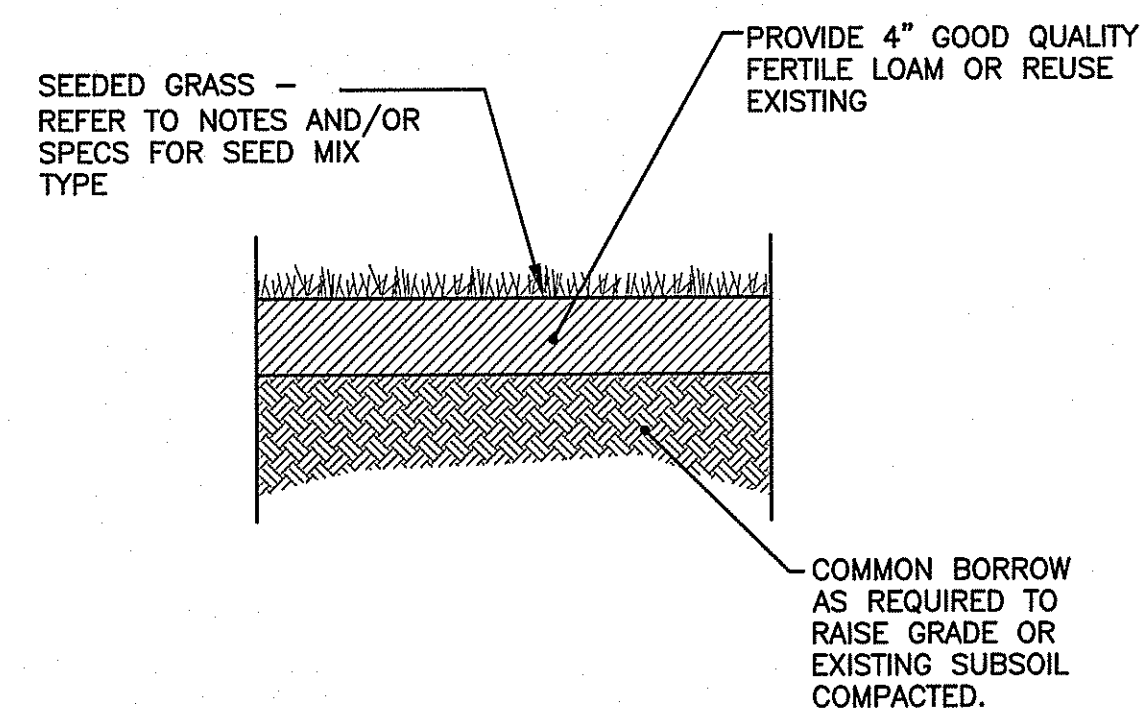
TYPE	% BY WEIGHT
NASSAU KENT BLUE	60
JAMESTOWN CHEWINGS FESCUE	20
PALMER PERENNIAL RYE GRASS	20

APPLICATION RATE = 200 lbs. / ACRE

**SEED MIX #3**  
(DETENTION AREAS)

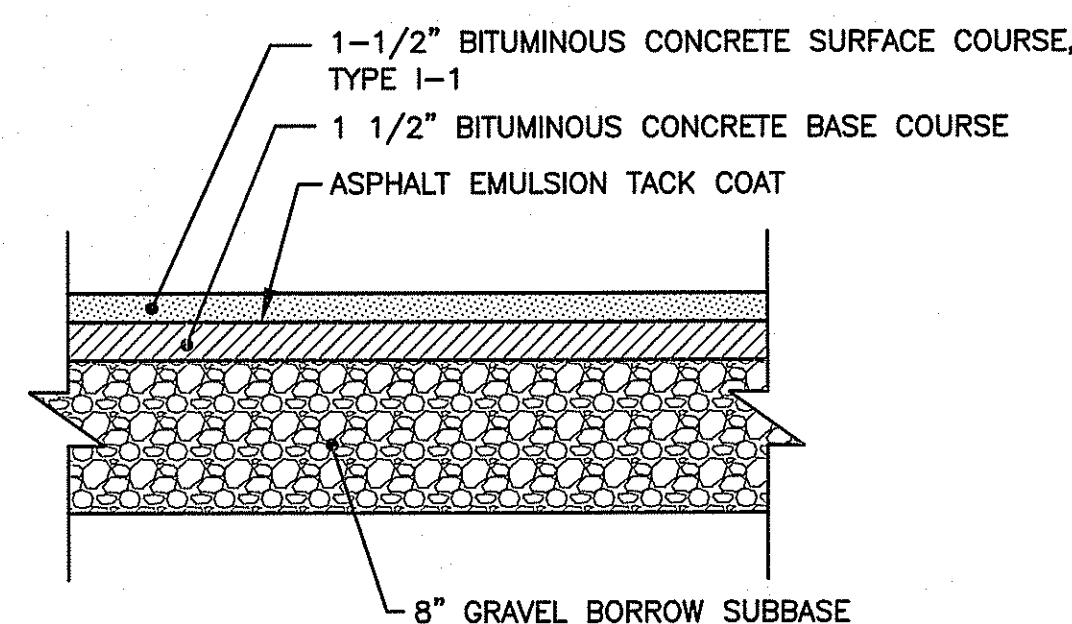
TYPE	% BY WEIGHT
TALL FESCUE	32
RED FESCUE	24
PERENNIAL RYE GRASS	18
WILDFLOWER MIX	15
REED CANARY GRASS	7
REDTOP	4

APPLICATION RATE = 200 lbs. / ACRE



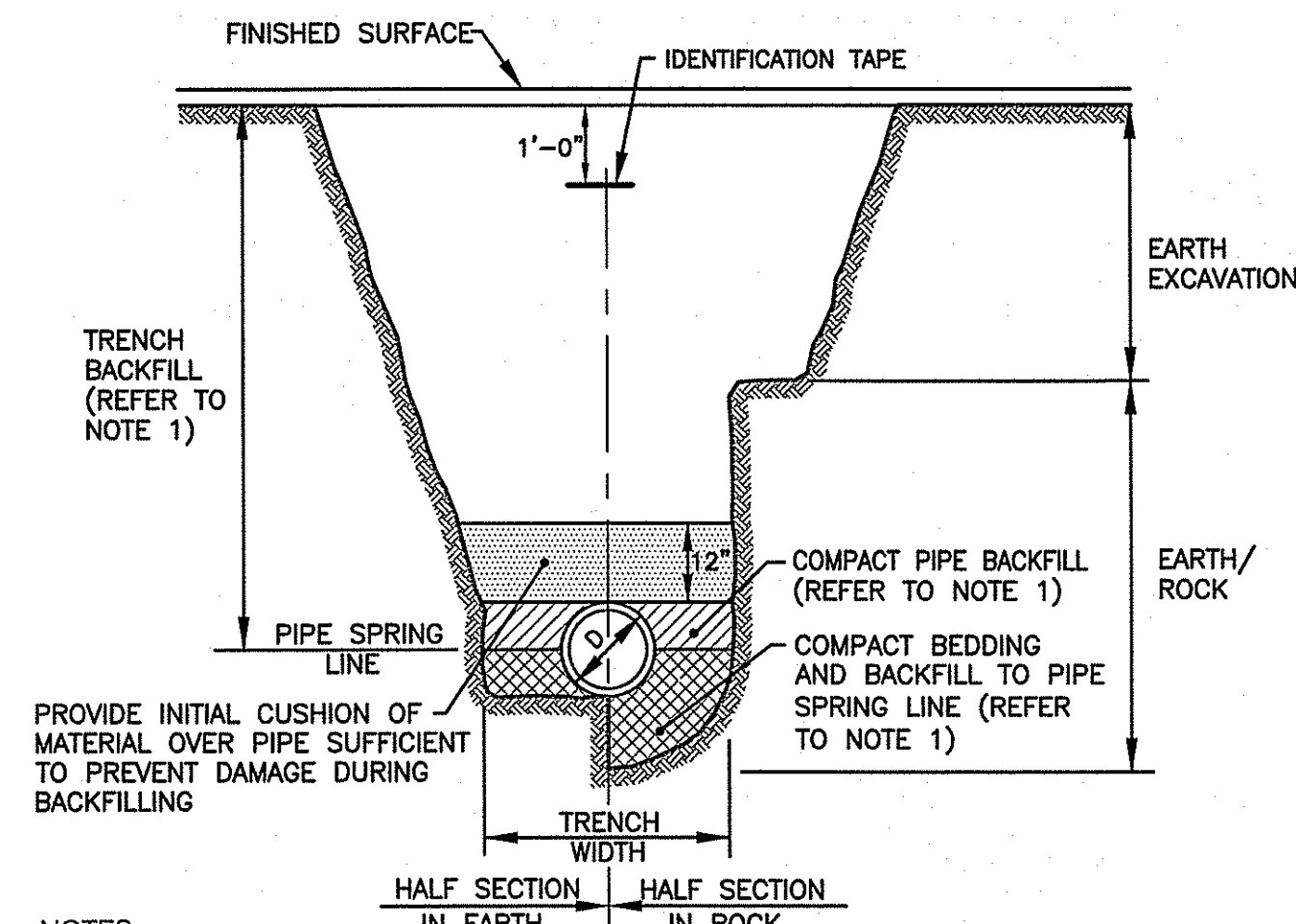
**NOTE:**  
THE CONTRACTOR WILL BE RESPONSIBLE FOR WATERING LAWN DURING THE COURSE OF THE GROWING SEASON FOR A PERIOD OF ONE (1) YEAR.

**LOAM-SEED DETAIL**  
NOT TO SCALE



**NOTE:**  
THE ABOVE PAVEMENT THICKNESS REPRESENTS THE MINIMUM THICKNESS FOR PASSENGER VEHICLE AREAS. PAVEMENT DEPTH TO BE BASED UPON SITE SPECIFIC SOIL CONDITIONS.

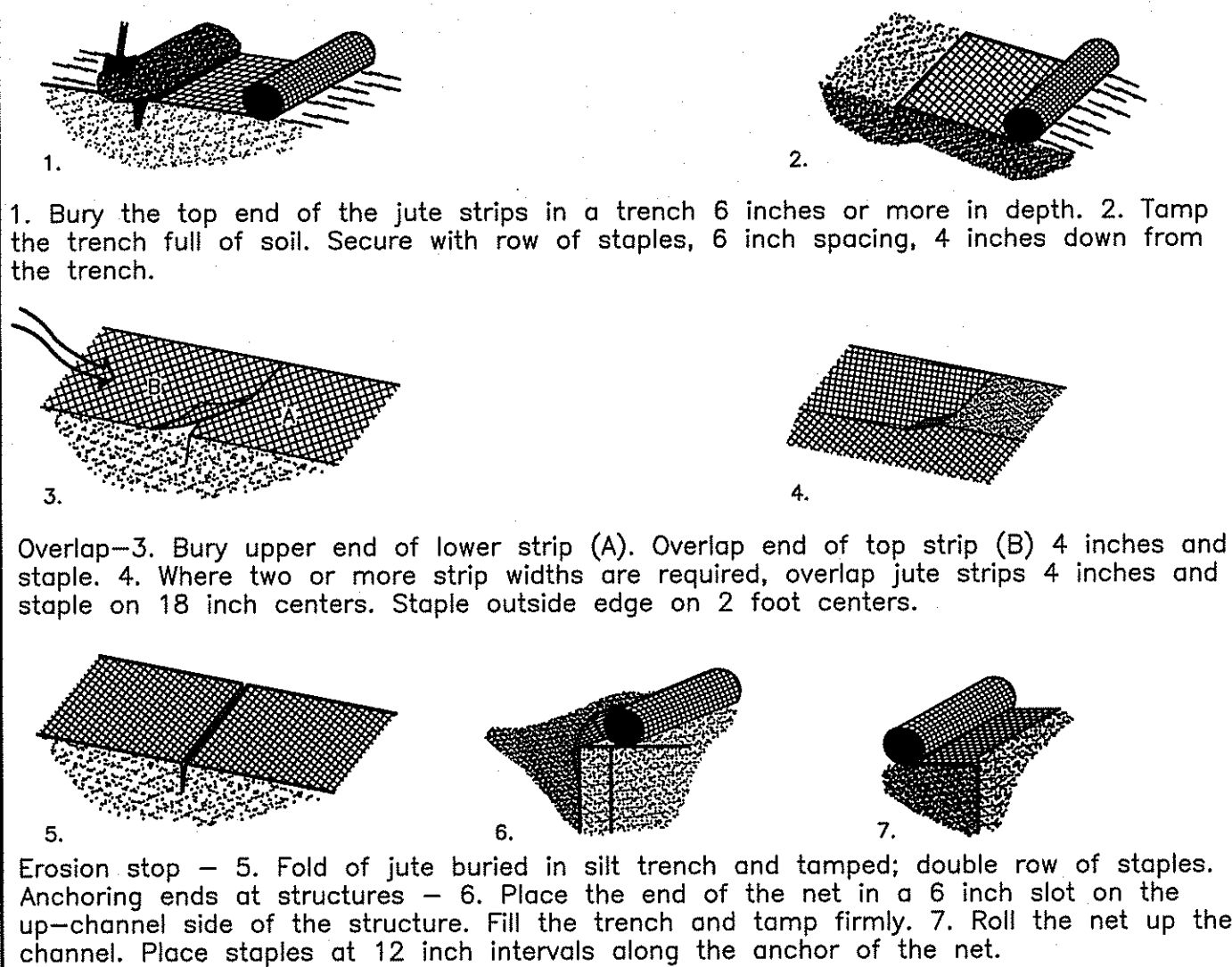
**TYPICAL PAVEMENT STRUCTURE DETAIL**  
NOT TO SCALE



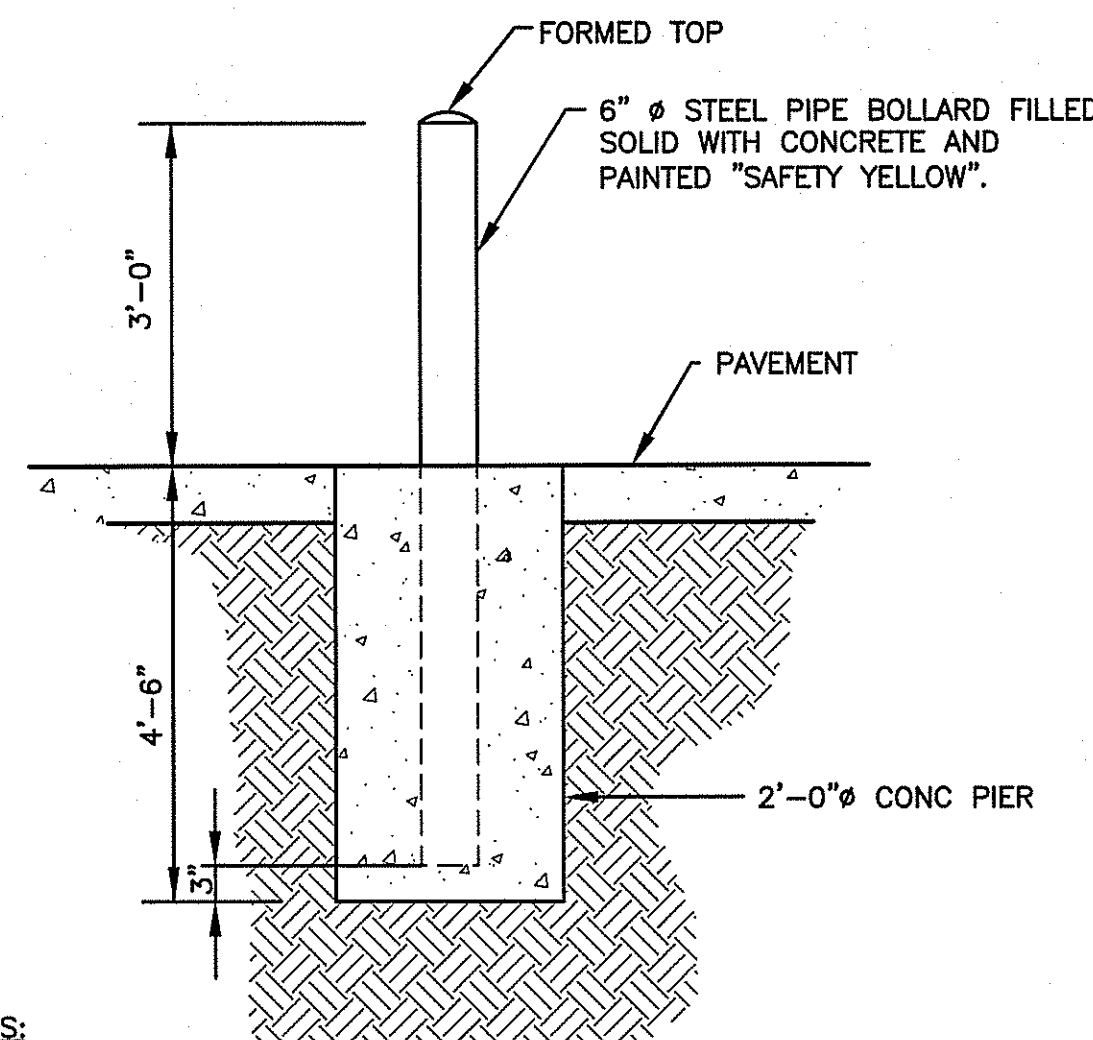
**NOTES:**

- PIPE BEDDING AND BACKFILL TO SPRING LINE SHALL CONSIST OF CRUSHED STONE-3/4" MINUS. PIPE BACKFILL SHALL CONSIST OF CRUSHED STONE (WRAPPED IN FILTER FABRIC) OR GRAVEL (3" MINUS, WITH SIEVE ANALYSIS APPROVED BY ENGINEER), OR OTHER APPROVED MATERIAL. TRENCH BACKFILL SHALL CONSIST OF SUITABLE EXCAVATED MATERIAL OR OTHER APPROVED MATERIAL. ALL BEDDING/BACKFILL TO BE COMPACTED TO 95% DRY DENSITY, MODIFIED PROCTOR METHOD.
- ALL TRENCH EXCAVATION AND ANY SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND OSHA REGULATIONS.
- MINIMUM TRENCH WIDTH SHALL BE OUTSIDE DIAMETER OF PIPE AT BELL PLUS 12". MAXIMUM TRENCH WIDTH SHALL BE OUTSIDE DIAMETER OF PIPE AT BELL PLUS 24".

**TRENCH DETAIL**  
NOT TO SCALE



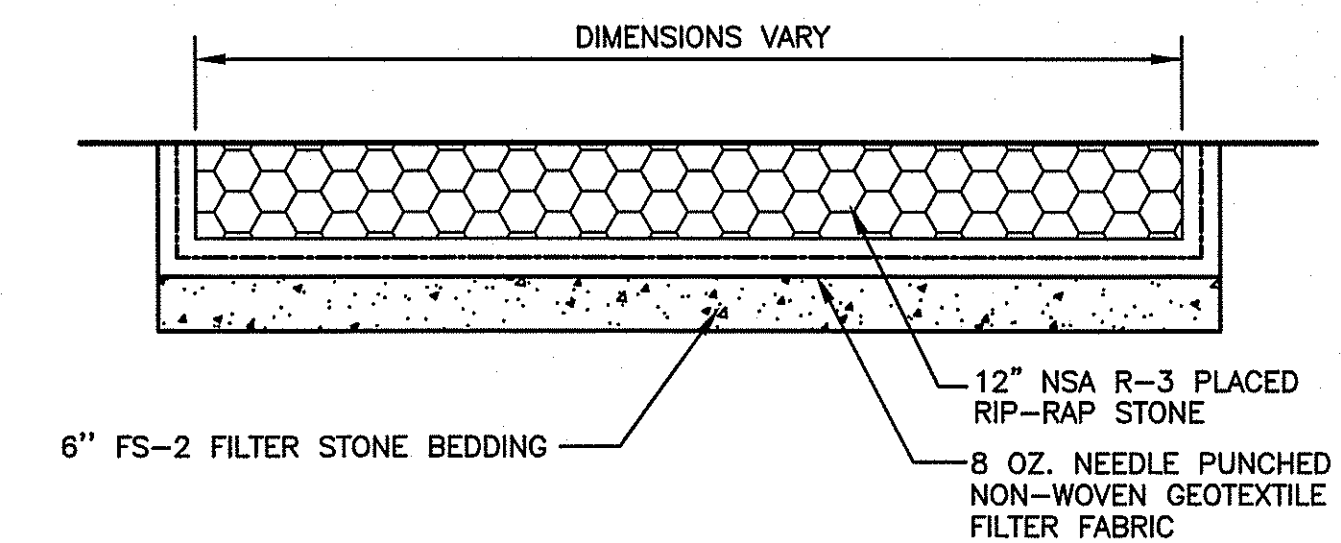
**FIGURE 5-1 DETAIL FOR INSTALLATION OF JUTE NETTING**  
R.I. SOIL EROSION and SEDIMENT CONTROL HANDBOOK  
NOT TO SCALE



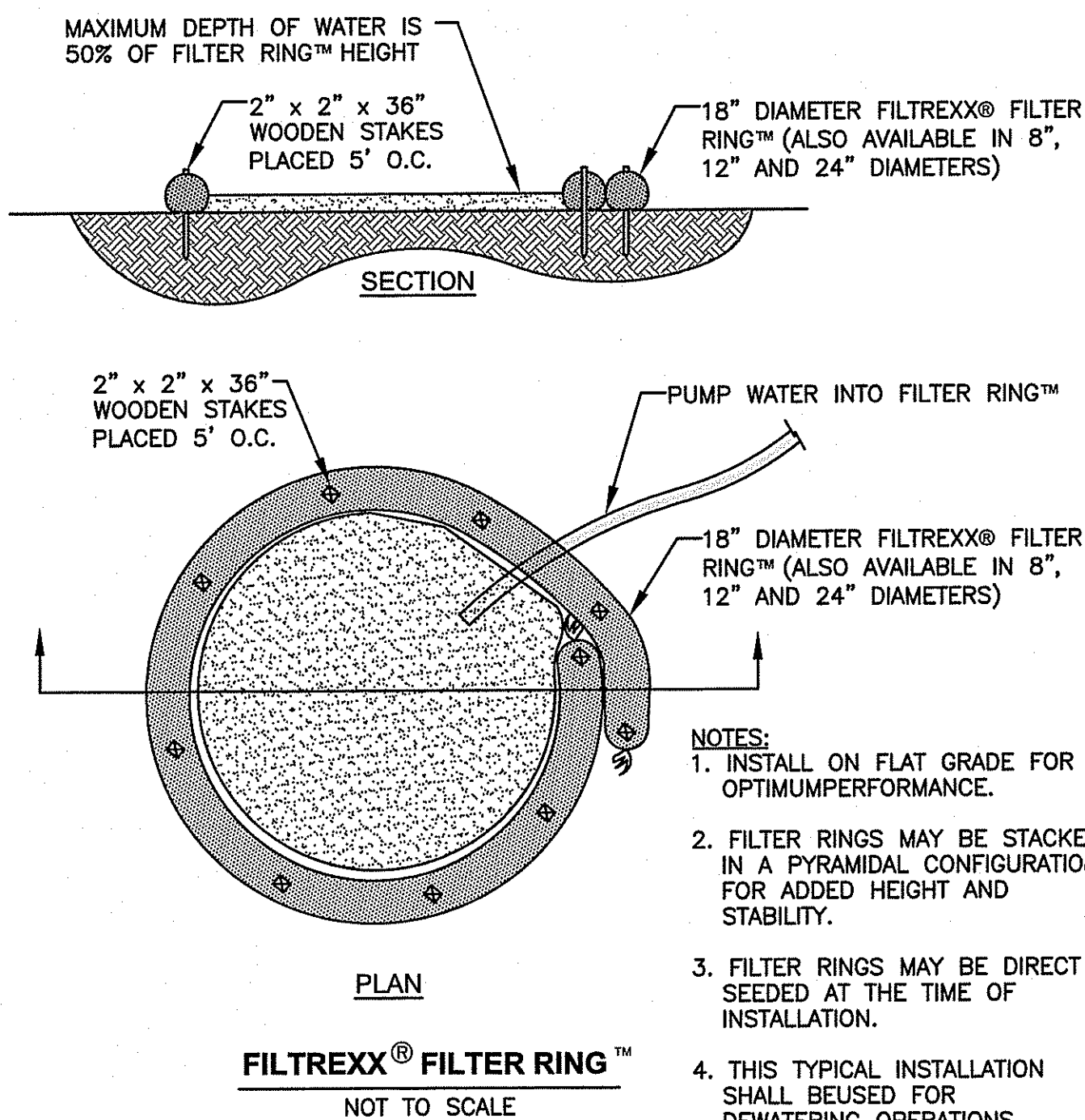
**NOTES:**

- THE LOCATION AND NUMBER OF BOLLARDS TO BE APPROVED BY THE OWNER.
- POST MOUNTED REFLECTORS CAN BE SUBSTITUTED FOR BOLLARDS AT THE DISCRETION OF THE OWNER.

**TYPICAL BOLLARD DETAIL**  
NOT TO SCALE



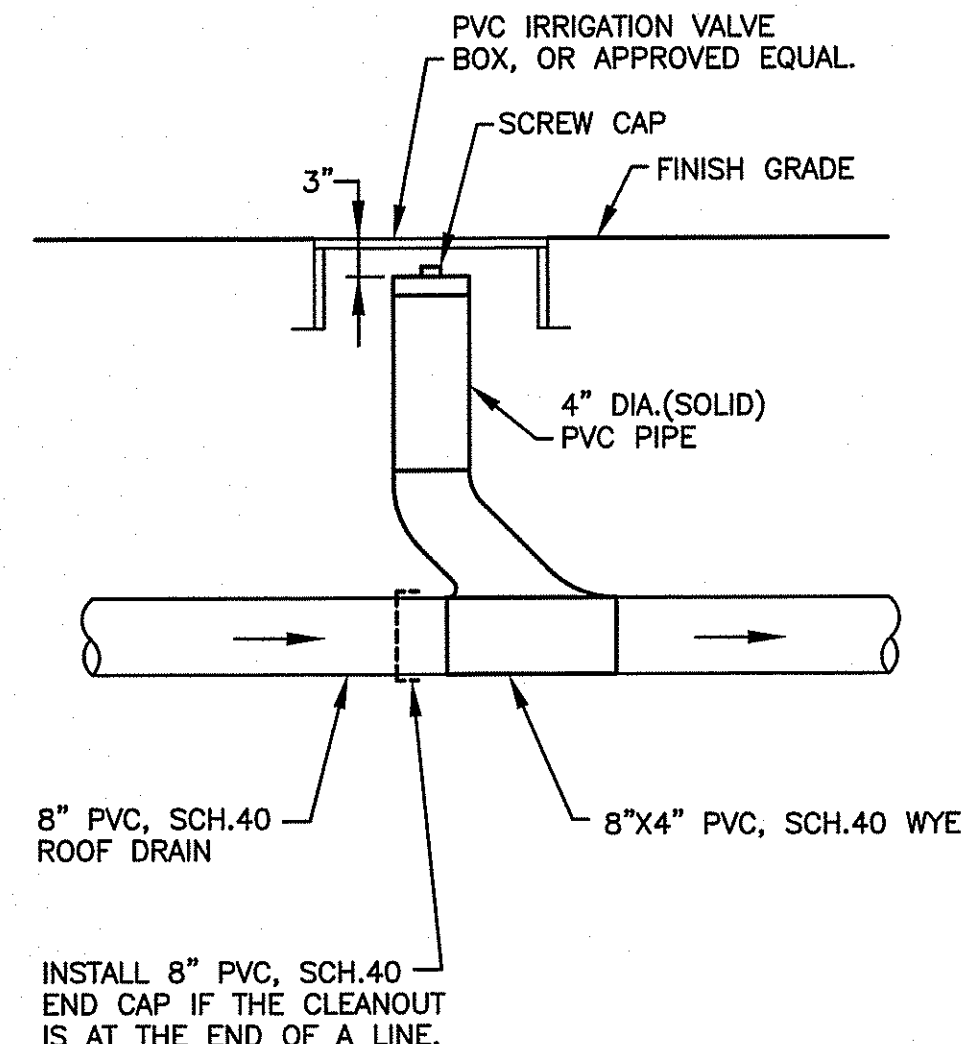
**TYPICAL SECTION OF RIP-RAP**  
NOT TO SCALE



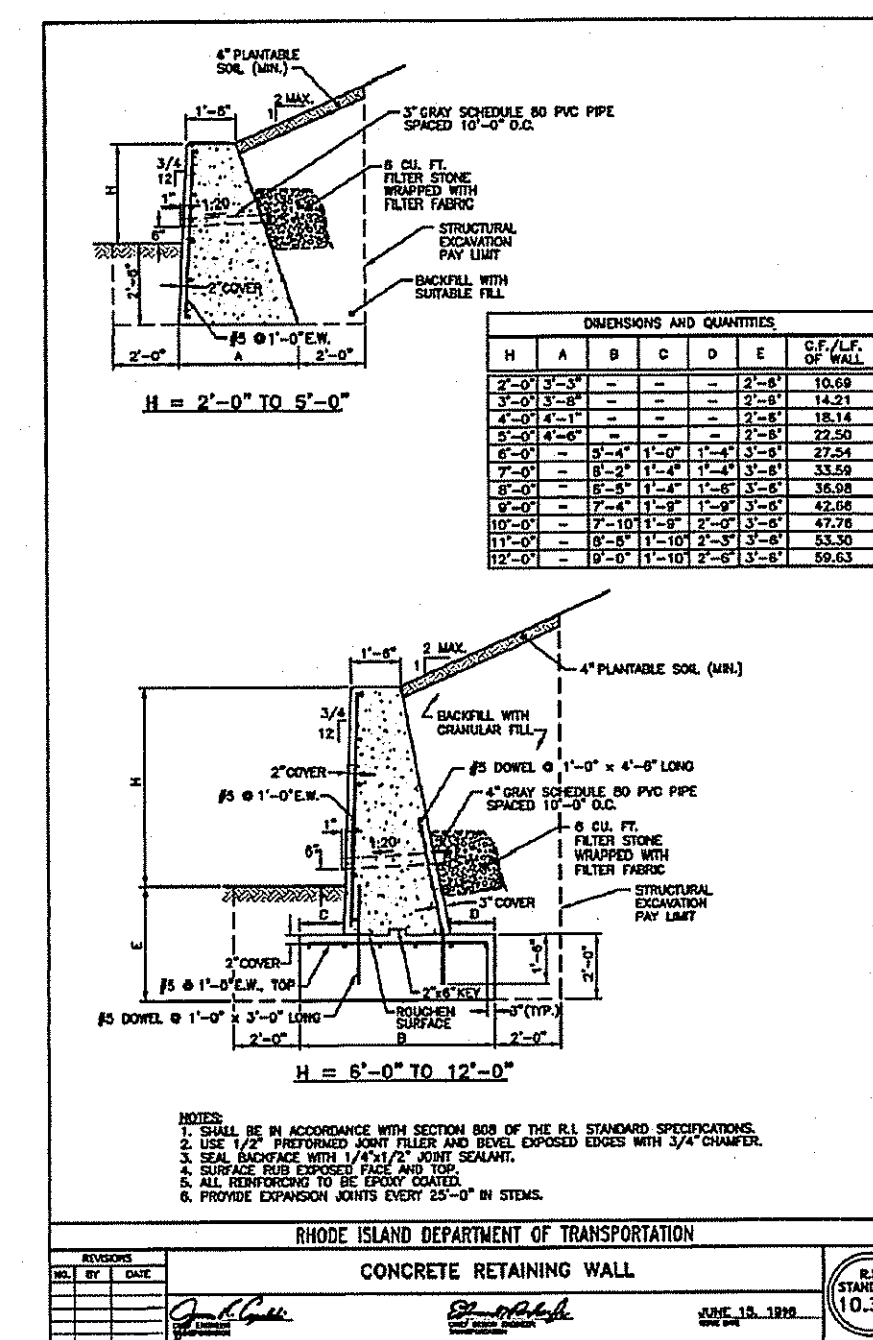
**NOTES:**

- INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
- FILTER RINGS MAY BE STACKED IN A PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT AND STABILITY.
- FILTER RINGS MAY BE DIRECT SEEDED AT THE TIME OF INSTALLATION.
- THIS TYPICAL INSTALLATION SHALL BE USED FOR DEWATERING OPERATIONS.

**FILTREXX® FILTER RING™**  
NOT TO SCALE



**ROOF DRAIN CLEAN-OUT DETAIL**  
NOT TO SCALE



**CONCRETE RETAINING WALL DETAIL**  
NOT TO SCALE

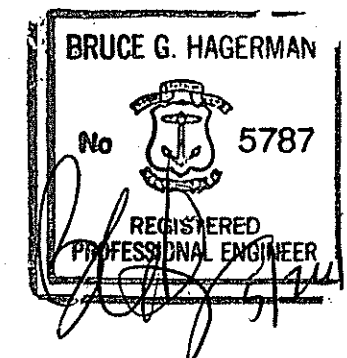
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER MANAGEMENT PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JUN 16 2017 FILE # 16-0281  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Charles A. Hester*

**NOTE:**  
THE CONTRACTOR CAN INSTALL A CONCRETE BLOCK RETAINING WALL WITH APPROVAL OF THE OWNER.

**Crossman Engineering**  
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**OWNER:**  
RICHMOND 208 REALTY, LLC  
800 JEFFERSON BOULEVARD  
WARWICK, RI 02887

**PROJECT TITLE:**  
OLD CASTLE  
LAWN AND GARDEN  
MANUFACTURING FACILITY  
PLAT MAP 4B, LOT 61  
ZONING DISTRICT: FLEX-TECH AND  
GENERAL BUSINESS  
35 STILSON ROAD  
RICHMOND, R.I. 02898

**PREPARED FOR:**  
RICHMOND 208 REALTY, LLC  
800 JEFFERSON BOULEVARD  
WARWICK, RI 02887

**DRAWING TITLE:**  
MISCELLANEOUS DETAILS  
PLAN NO.1

**DATE:** OCTOBER 2016 **SCALE:** NO SCALE

**DWG NAME:** 1863-JG-C08-DET-MISC1.dwg

**REVISIONS:**

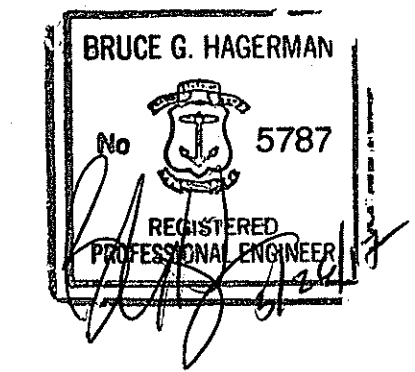
NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/31/17
2	RIDEM COMMENTS	5/19/17
3	RIDEM COMMENTS	5/26/17

**DRAWING NUMBER:**  
**C8**  
SHEET: 9 OF 10  
AGENCY REVIEW SUBMISSION



**CROSSMAN ENGINEERING**  
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**OWNER:**  
 RICHMOND 208 REALTY, LLC  
 800 JEFFERSON BOULEVARD  
 WARWICK, RI 02887

**PROJECT TITLE:**  
 OLD CASTLE  
 LAWN AND GARDEN  
 MANUFACTURING FACILITY  
 PLAT MAP 4B, LOT 61  
 ZONING DISTRICT: FLEX-TECH AND  
 GENERAL BUSINESS  
 35 STILSON ROAD  
 RICHMOND, R.I. 02898

**PREPARED FOR:**  
 RICHMOND 208 REALTY, LLC  
 800 JEFFERSON BOULEVARD  
 WARWICK, RI 02887

**DRAWING TITLE:**  
 MISCELLANEOUS DETAILS  
 PLAN NO.2

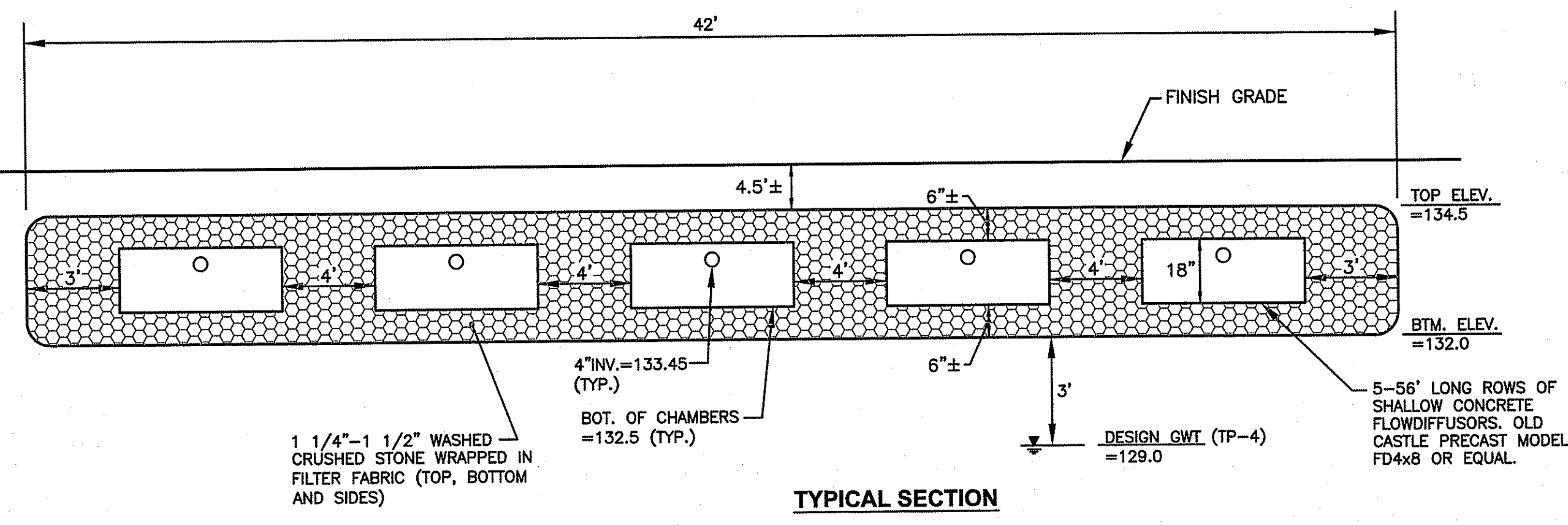
**DATE:** OCTOBER 2016 **SCALE:** NO SCALE  
**DWG NAME:** 1863-JG-C09-DET-MISC2.dwg

**REVISIONS:**

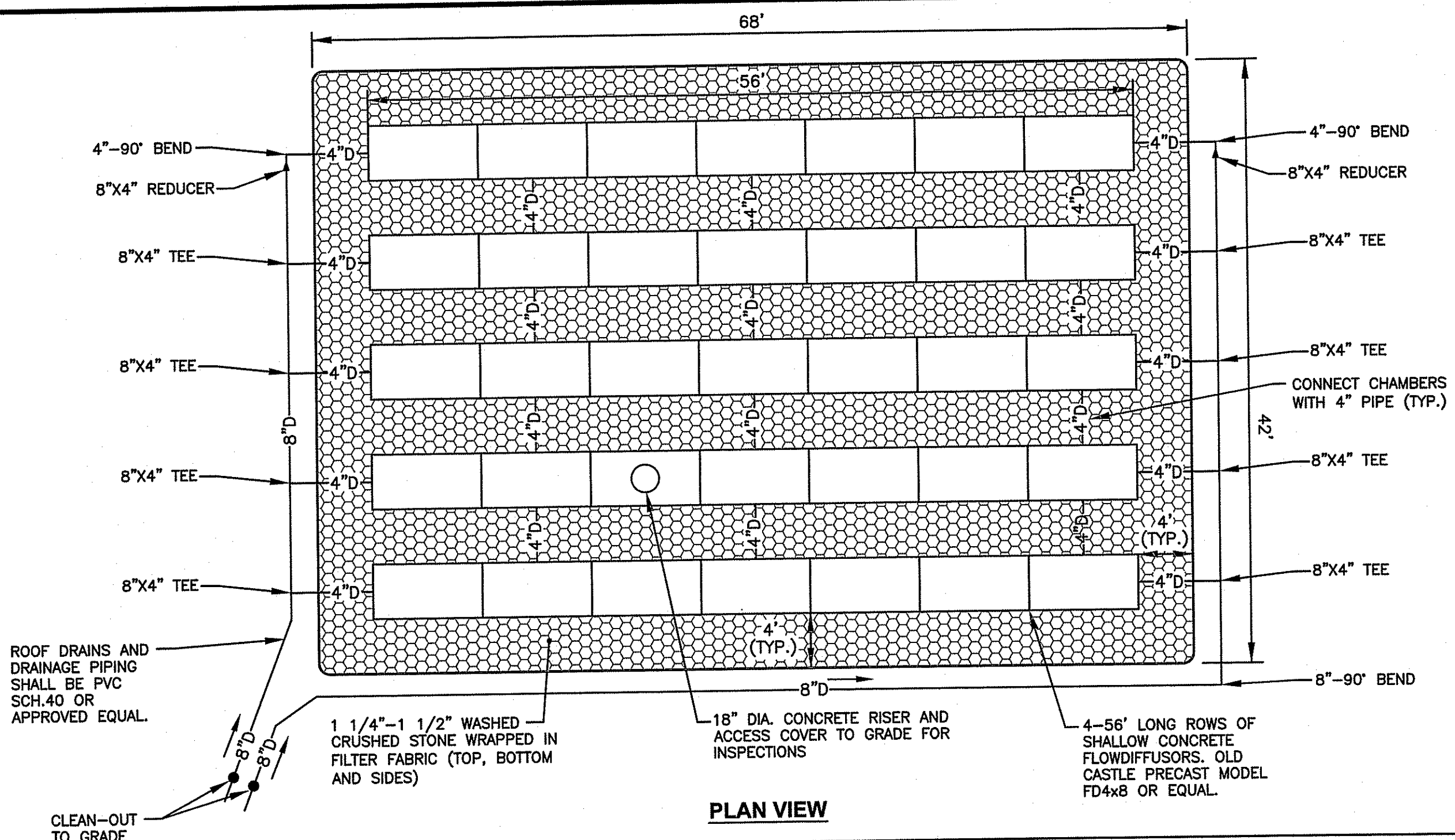
NUMBER	REMARKS	DATE
1	RIDEM COMMENTS	3/31/17
2	RIDEM COMMENTS	5/19/17
3	RIDEM COMMENTS	5/26/17

DEPARTMENT OF ENVIRONMENTAL AFFAIRS  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PERMITTING  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF PERMIT  
 DATED JAN 18 2016 FILE # 16-0281  
 NO CHANGES ALLOWED WITHOUT PREVIOUS APPROVAL  
 APPROVED PLANS MUST BE AT ALL TIMES

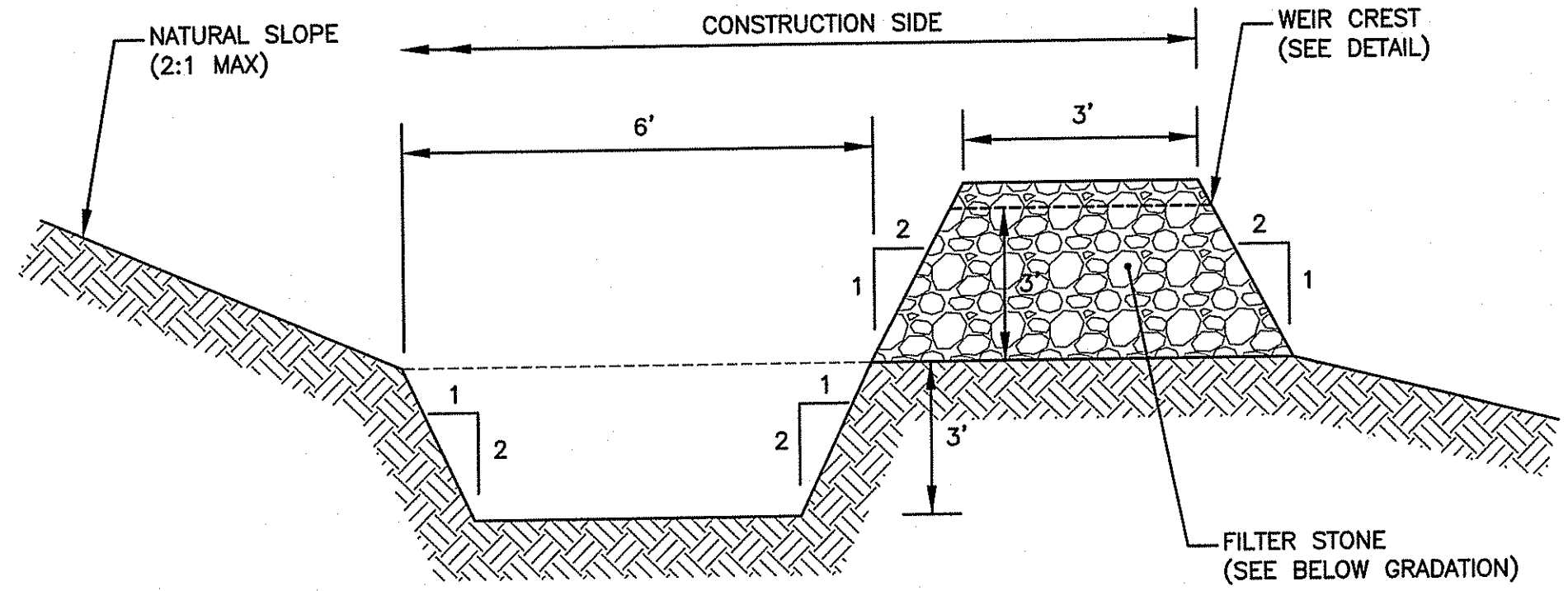
*Charles A. Hallett*  
**C9**  
 SHEET: 10 OF 10



**BMP-1 UNDERGROUND INFILTRATION SYSTEM DETAILS**  
 NOT TO SCALE



**PLAN VIEW**

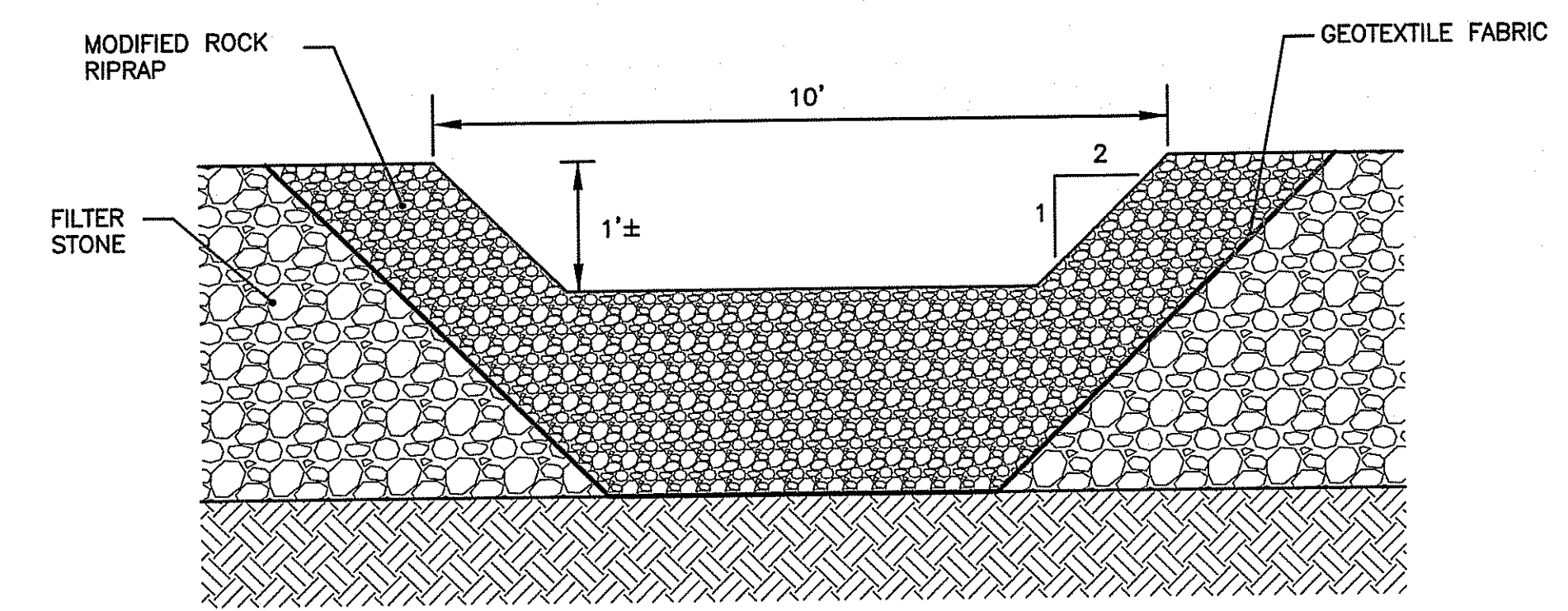


**TEMPORARY SEDIMENT TRAP DETAIL**  
 NOT TO SCALE

**GRADATION OF FILTER STONE MATERIAL**

US STANDARD SIEVE SIZE (INCHES)	FILTER STONE
1	100
3/4	70-85
1/2	10-40
3/8	0-20
#4	0-5

- NOTES:**
- FILTER STONE SHALL MEET THE REQUIREMENTS OF R.I.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.01.09 TABLE 1, COLUMN V FILTER STONE.



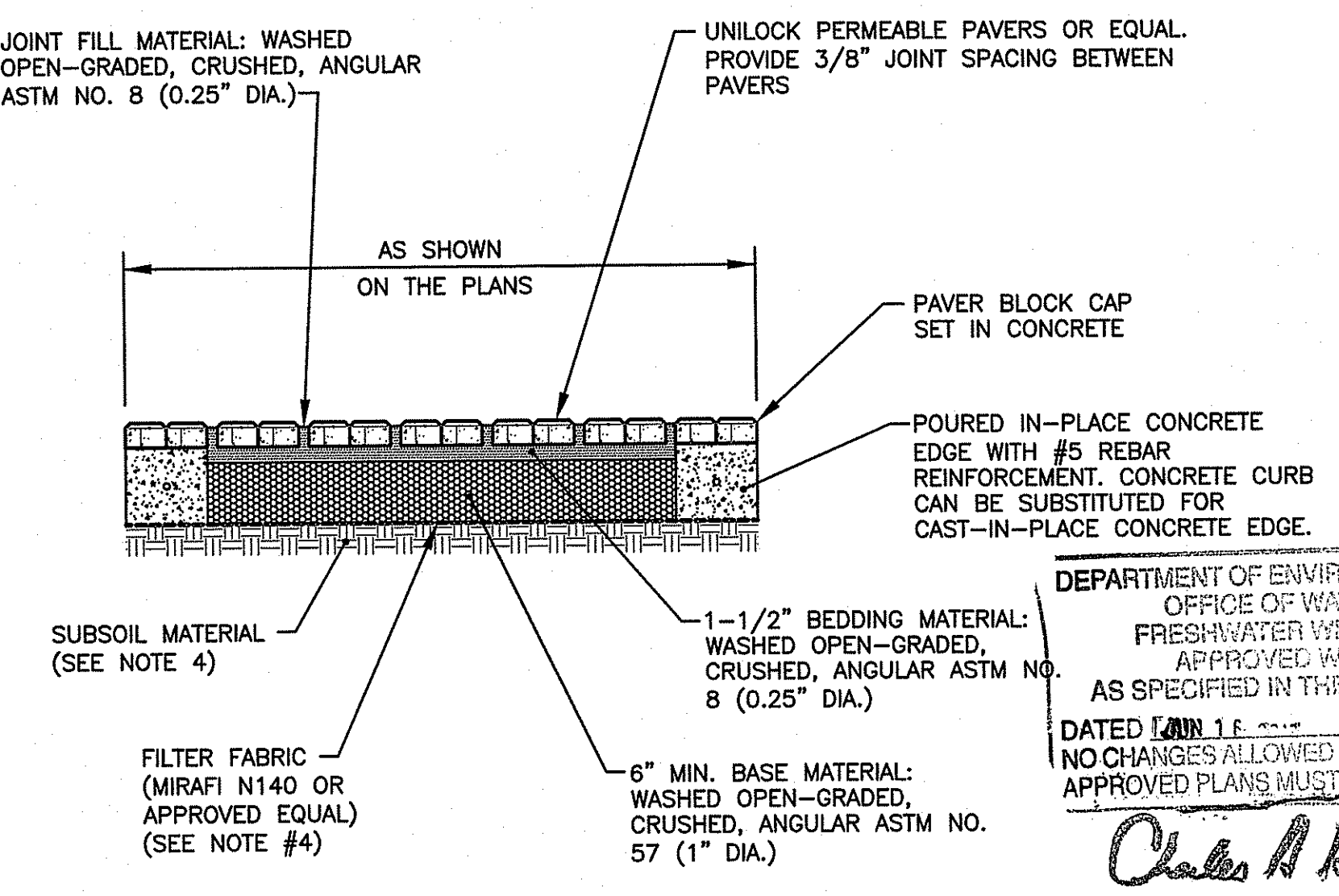
**TEMPORARY SEDIMENT TRAP OUTLET DETAIL**  
 NOT TO SCALE

- NOTES:**
- THE TEMPORARY SEDIMENT TRAPS MUST OUTLET ONTO UNDISTURBED, STABILIZED GROUND.
  - CONTRACTOR SHALL INSTALL 1 OUTLET PER 100' LENGTH OF TEMPORARY SEDIMENT TRAP (1 OUTLET MIN. PER TEMPORARY SEDIMENT TRAP).
  - THE MODIFIED ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF THE R.I.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.10.0.3.2.
  - CONTRACTOR MUST REFER TO THE INSTALLATION, INSPECTION, MAINTENANCE, AND REMOVAL REQUIREMENTS PROVIDED IN THE R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, AS AMENDED.

**SOIL EVALUATION DATA**  
 TEST PITS CONDUCTED ON DECEMBER 12, 2012 BY BRIAN KING (D4010), CROSSMAN ENGINEERING.

TP-1	TP-2	TP-3	TP-4	TP-9
SURFACE EL. = 137.0	SURFACE EL. = 140.0	SURFACE EL. = 140.5	ORIGINAL SURFACE EL. = 144.5±	SURFACE EL. = 142.8
0" FINE SANDY LOAM/PEAT MIX A / HTM	0" YELLOWISH BROWN GRAVELLY COARSE SAND-LOOSE C1	0" BOULDERS AND MIX OF SANDS HTM	0" DARK BROWN FINE SANDY LOAM-VERY FRIABLE A	0" ORGANICS Oo
12" FINE SANDY LOAM/FINE SAND HTM MIX	30" YELLOWISH BROWN VERY FINE SAND-LOOSE C2	24" LIGHT YELLOWISH BROWN VERY FINE SAND-FIRM (REDOX FEATURES @ 33") C1	8" DARK YELLOWISH BROWN LOAMY FINE SAND-VERY FRIABLE Bw1	3" DARK BROWN FINE SANDY LOAM-VERY FRIABLE A
42" GRAYISH BROWN FINE SAND-FIRM C1	72" LIGHT OLIVE BROWN FINE SAND-FIRM 2C	36" YELLOWISH BROWN GRAVELLY COARSE SAND WITH REDOX FEATURES 2C	18" DARK YELLOWISH BROWN LOAMY FINE SAND-VERY FRIABLE Bw2	14" DARK YELLOWISH BROWN LOAMY FINE SAND-VERY FRIABLE Bw1
63" LIGHT GRAYISH BROWN SAND-LOOSE C2	83" LIGHT YELLOWISH BROWN SAND-LOOSE (REDOX FEATURES @ 63") 3C	49" YELLOWISH BROWN SAND WITH REDOX FEATURES 3C1	27" YELLOWISH BROWN GRAVELLY SAND/COARSE SAND-LOOSE C1	19" YELLOWISH BROWN LOAMY FINE SAND-VERY FRIABLE Bw2
140" SOIL CLASS: OUTWASH DEPTH TO SEEPAGE=123" DEPTH TO LIMITING LAYER=NONE ESTIMATED SEASONAL HIGH WATER TABLE=80"	96" LIGHT YELLOWISH BROWN SILTY SAND-LOOSE 4C	56" LIGHT OLIVE BROWN FINE SAND WITH REDOX FEATURES 3C2	67" LIGHT YELLOWISH BROWN FINE SAND-LOOSE C2	27" LIGHT YELLOWISH BROWN FINE SAND-LOOSE C1
	104" LIGHT YELLOWISH BROWN SAND-LOOSE 5C	85" SOIL CLASS: OUTWASH DEPTH TO SEEPAGE=85" DEPTH TO LIMITING LAYER=NONE ESTIMATED SEASONAL HIGH WATER TABLE=40"	168" SOIL CLASS: OUTWASH DEPTH TO SEEPAGE=128" DEPTH TO LIMITING LAYER=NONE ESTIMATED SEASONAL HIGH WATER TABLE=123"	96" GRAYISH BROWN GRAVELLY COARSE SAND-LOOSE C2
	192" SOIL CLASS: OUTWASH DEPTH TO SEEPAGE=140" DEPTH TO LIMITING LAYER=NONE ESTIMATED SEASONAL HIGH WATER TABLE=95"			148" GRAY FINE SAND-LOOSE C3
				196" SOIL CLASS: OUTWASH DEPTH TO SEEPAGE=192" DEPTH TO LIMITING LAYER=NONE ESTIMATED SEASONAL HIGH WATER TABLE=148"

- NOTES:**
- ALL INSTALLATION SHALL MEET MANUFACTURERS RECOMMENDATIONS/STANDARDS.
  - ALL AGGREGATE MATERIAL SHALL BE WASHED, CRUSHED, ANGULAR STONE AND FREE OF FINES.
  - COMPACT SUBSOIL TO 95% MAXIMUM DENSITY
  - REMOVE ALL FILL AND ORGANIC MATERIAL TO NATIVE SOILS. REPLACE WITH GRAVEL BORROW (GRAVEL BORROW: <0% PASSING 200 SIEVE) IF POSSIBLE. IF ALL OF THE EXISTING FILL MATERIAL CAN NOT BE REMOVED: THE MIRAFI FILTER FABRIC SHALL BE DELETED, A 6" LAYER OF GRAVEL BORROW SHALL BE PLACED BENEATH THE ASTM NO. 57 COURSE AND A LAYER OF TENSAR TRIAX REINFORCING GRID SHALL BE PLACED BENEATH THE GRAVEL BORROW.
  - THE PROVIDED AGGREGATE THICKNESSES ARE AFTER COMPACTION.
  - CONTRACTOR SHALL COORDINATE WITH MANUFACTURER TO HAVE A REPRESENTATIVE ONSITE FOR THE FIRST WEEK OF PAVEMENT INSTALLATION.
  - CONTRACTOR SHALL TOP DRESS STONE IN VOIDS AFTER BLOCKS ARE COMPACTED AND 3-6 MONTHS AFTER INITIAL INSTALLATION.
  - RECOMMENDATION - PERMEABLE PAVEMENT BLOCK SURFACE REQUIRES SWEEPING TWICE PER YEAR (EARLY SPRING AND LATE FALL). REFER TO MANUFACTURER'S MAINTENANCE GUIDE FOR ADDITIONAL MAINTENANCE RECOMMENDATIONS.



**PERMEABLE PAVEMENT BLOCK WALKWAY DETAIL**  
 NOT TO SCALE