

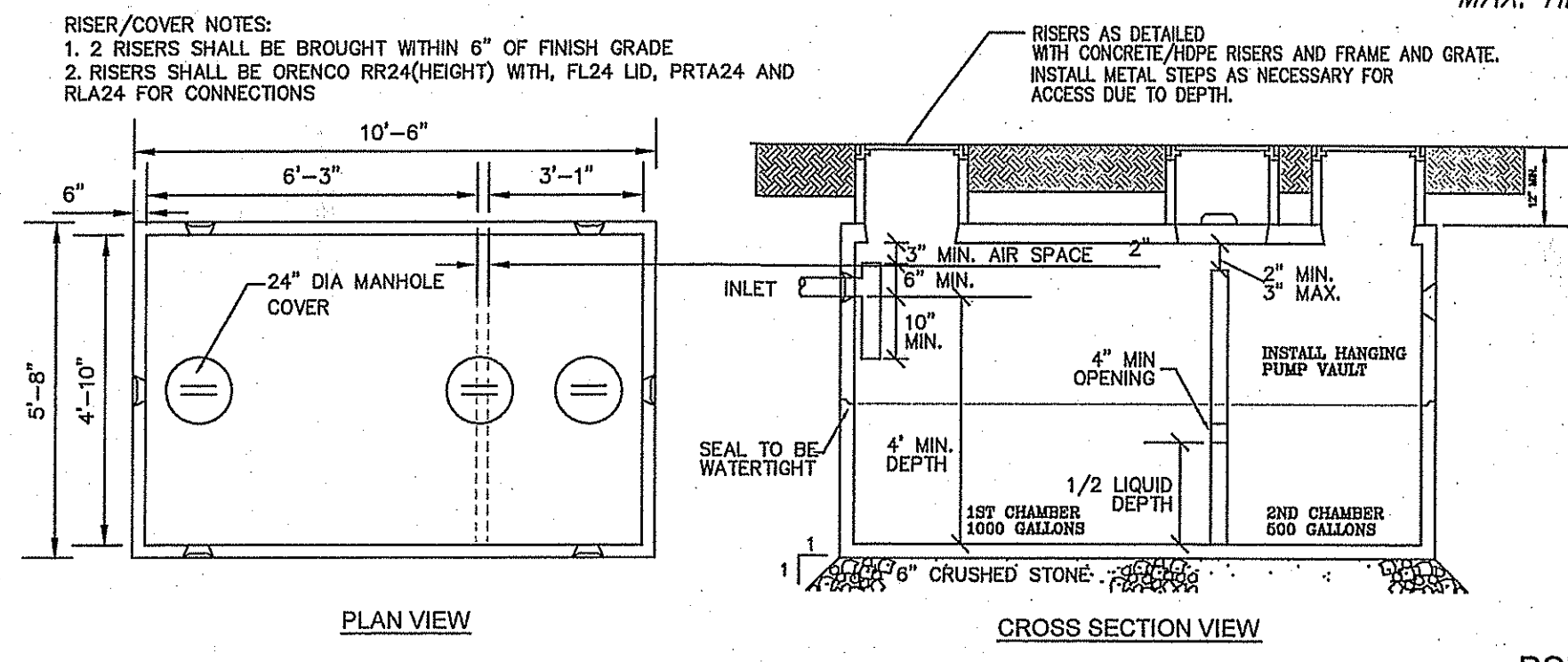
AP 44 LOT 23 & 31
N/F JOE ALMEIDA
TOTAL LOT AREA
91,178 SF 2.09 AC.

PROPOSED 4 BDRM HOUSE
GARAGE FFE 104.00
FIRST FLOOR FFE 104.50
SECOND FLOOR FFE 113.50

SNEECH POND RD

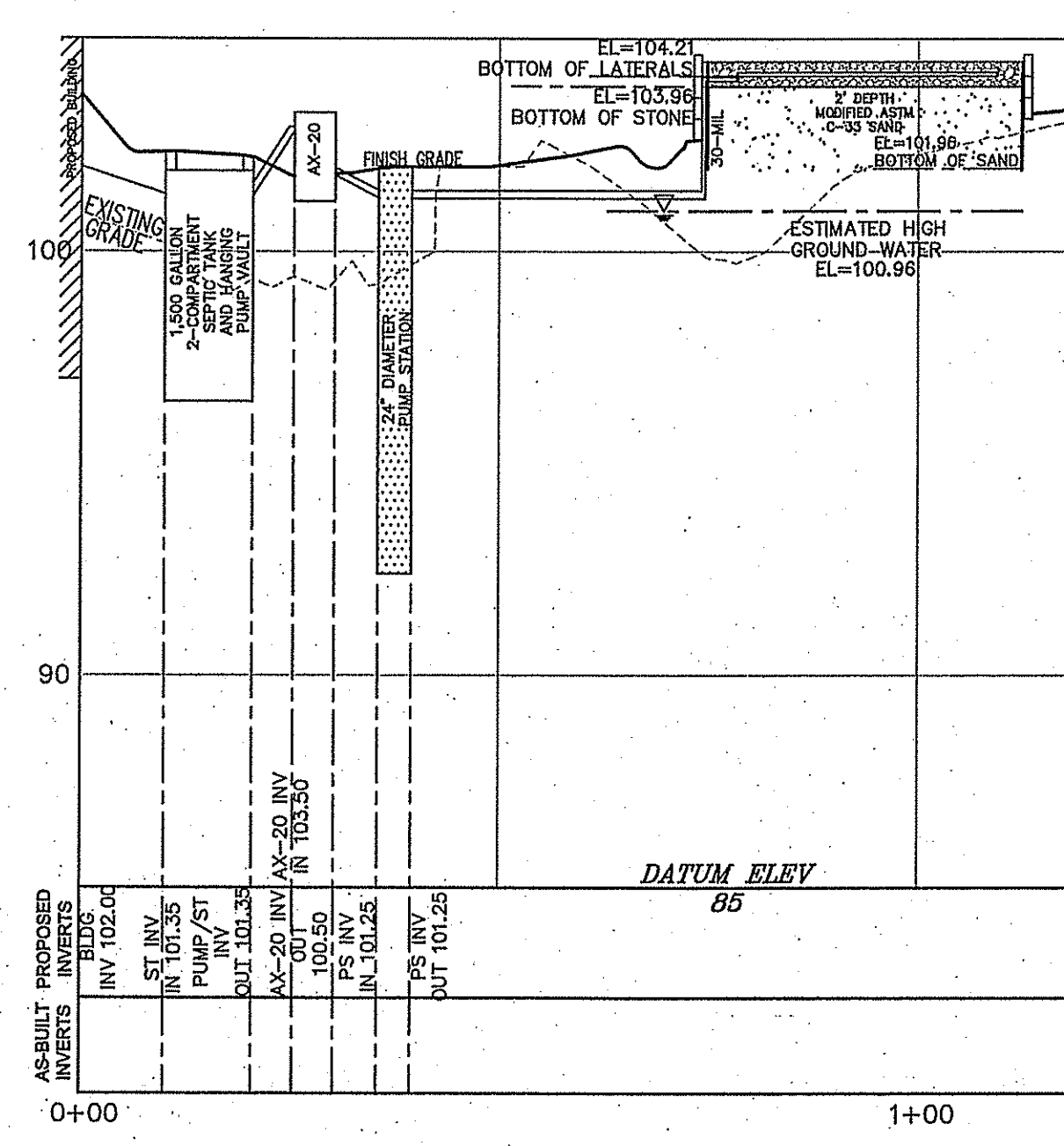
SITE PLAN
1"=20'

DESCRIPTION	PIPE SIZE	TOP	INVERT	BOTTOM	AS-BUILT
HOUSE (OUT)	4"		100.00		
SEPTIC TANK (IN)	4"		101.35		
SEPTIC TANK (OUT)	2" FM		101.35		
PUMP CHAMBER (IN)	3"		101.25		
PUMP CHAMBER (OUT)	2" FM		101.25		
MANIFOLD (IN)	1.25"		104.10		
MANIFOLD (OUT)	1.25"		104.10		
LATERALS	1"		104.21		
BOTTOMLESS SAND FILTER	SAND	103.96		101.96	
CW ELEV.					100.96

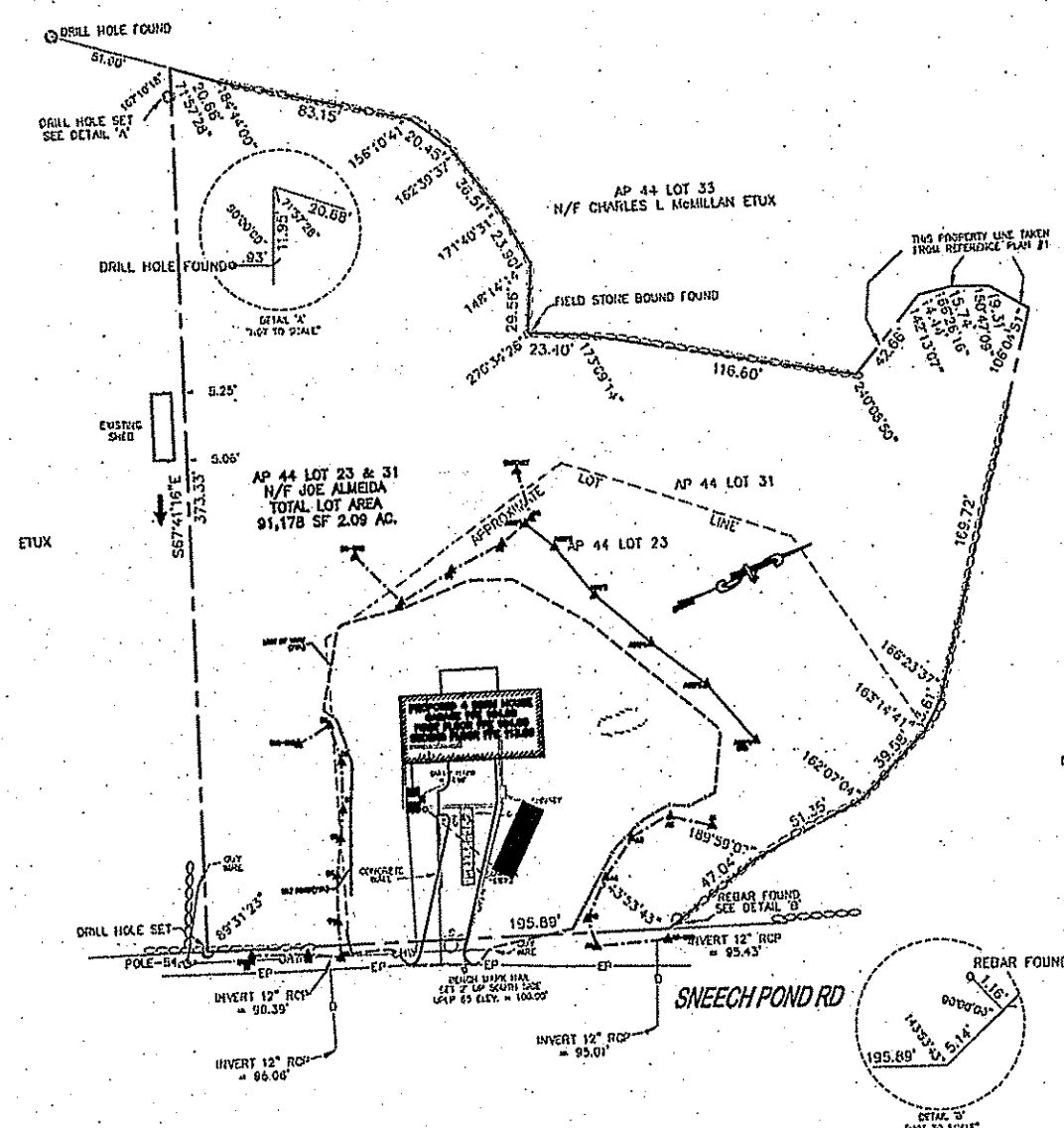


- NOTES:
- SEPTIC TANK TO WITHSTAND H-20 LOADING.
 - ALL PIPE CONNECTIONS AND CONCRETE CONSTRUCTION TO BE WATER TIGHT.
 - INLET AND OUTLET TEES SHALL HAVE A MIN. 6" SEPARATION, AND TANK SHALL HAVE A MIN. 3" WIDTH INSIDE LENGTH TO WIDTH RATION SHALL BE NO LESS THAN 1.5 TO 1.
 - NO MORE THAN 6" OF COVER SHALL BE PLACED OVER THE SEPTIC TANK.
 - TANK JOINTS SHALL BE SEALED WITH A BUTYL RESIN.
 - INTERNAL COMPONENTS MAY VARY OUTLET AND INLET DESIGN.
 - IF INTERNAL EQUIPMENT THAT EQUIPMENT SHALL BE INSTALLED IN THE SECOND COMPARTMENT - IF NO ADDITIONAL EQUIPMENT THE SECOND COMPARTMENT SHALL HAVE AN OUTLET TEE EQUIVALENT TO THE Baffle Outlet Shown, and Effluent Filter shall be installed at that point.

1,500 GALLON PRECAST CONCRETE SEPTIC TANK
NOT TO SCALE
MUST CONFORM TO RULE 28



SEWAGE DISPOSAL SYSTEM PROFILE
TRENCH No. BSF CENTERLINE
1" = 20' H, 1" = 4' V



PLOT PLAN
SCALE: 1" = 80'

ZONING: A-2 NO SEWER WITH WATER (80,000 S.F.)
MINIMUM LOT WIDTH - 180'
FRONT - 75'
SIDE - 20'
REAR - 30'
MAX. HEIGHT - 35'

BSF NOTES:

- INFLUENT APPLIED TO A BSF IS DISTRIBUTED OVER THE SAND SURFACE USING SMALL DIAMETER, PRESSURE RATED PVC PIPE. FOR THE BSF'S DISTRIBUTION MANIFOLD WILL TYPICALLY BE 1 TO 1 1/2 INCH PVC (CLASS 200 MINIMUM) AND THE DISTRIBUTION LATERALS WILL BE 3/4 INCH SCHEDULE 40 PVC. INDIVIDUAL LATERALS SHALL BE NO LONGER THAN 50 FEET.
- ORIFICES - A SERIES OF 18 INCH DIAMETER HOLES (ORIFICES) SHALL BE DRILLED IN THE DISTRIBUTION LATERALS AND SPACED 20 INCHES APART. THE LATERALS SHALL BE INSTALLED WITH ALL ORIFICE HOLES POINTING DOWN (6 O'CLOCK POSITION) COVERED BY ORIFICE SHIELDS WITH SLOTS OR HOLES TO PROVIDE FREE DRAINING (USUALLY REFERRED TO AS COLD WEATHER ORIFICE SHIELDS).

BOTTOMLESS SAND FILTER
NOT TO SCALE
INSTALLATION IN ACCORDANCE WITH BSF GUIDANCE DOCUMENT

GENERAL PLAN NOTES:

- EXISTING CONDITIONS WERE OBTAINED FROM A PLAN ENTITLED 'LINCOLN, RI. EXISTING CONDITIONS PLAN FOR JOSE C. & AURORA ALMEIDA, CLASS I SURVEY OF A.P. 44 LOT 23 & 31, LONSDALE AVENUE, LINCOLN, RI', PREPARED BY MLC SURVEYING, INC., LINCOLN, RI, DATED MAY 15, 2012 AS REVISED AUGUST 23, 2012. WETLAND AREAS FLAGGED BY NATURAL RESOURCE SERVICE, AUGUST 2012.
- THE LOCATION OF EXISTING UTILITIES IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. NOTIFY "DIG-SAFE" AT 1-888-344-7233 AT LEAST TWO BUSINESS DAYS PRIOR TO ANY SITE DEMOLITION OR EXCAVATION.
- CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES IN THE DESIGN PLANS PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING PAVEMENT SHALL BE SAWCUT PRIOR TO REMOVAL.
- ALL EXISTING PAVEMENT, CURB, WALKS, UTILITIES, LIGHT POLES, TREES, SHRUBS, ETC., SHALL BE REMOVED FROM THE AREAS TO BE DEVELOPED. ALL SUCH ITEMS NOT WITHIN THE WORK AREA SHALL BE PROTECTED AND UNDISTURBED.
- ALL DISTURBED AREAS NOT RECEIVING IMPROVEMENTS SHALL BE LOAMED AND SEEDED.
- ALL CONSTRUCTION AND CONSTRUCTION ACTIVITIES SHALL CONFORM TO STATE AND LOCAL REQUIREMENTS, INCLUDING BUT NOT LIMITED TO THE TOWN OF CUMBERLAND, THE STATE OF RHODE ISLAND AND ANY OTHER AGENCIES HAVING JURISDICTION.
- SUBJECT PROPERTY IS NOT LOCATED WITHIN A NATURAL HERITAGE DISTRICT OR AN AREA OF PLANNING CONCERN.

NOTES:

- ALL BUILDING SEWERS TO BE 4" PVC, SLOPE 0.02 FT/FT LATERAL CONNECTION. SEWER SERVICES SHALL WYE INTO MAIN AT ELEVATION OF LATERAL CONNECTION WITH CLEANOUT.
- GAS SERVICE TO BE DESIGNED BY NATIONAL GRID GAS FOR VALVE LOCATIONS, SIZE AND MATERIALS REQUIRED FOR EACH SERVICE AND MAIN. MAIN CONNECTION POINT WITHIN PLEASANT STREET AS SPECIFIED BY NATIONAL GRID.
- WHERE GAS AND ELECTRIC SHOWN TO ENTER BUILDING A METER BANK IS PROPOSED IN ACCORDANCE WITH REQUIREMENTS, SETBACKS AND OFFSETS REQUIRED BY EACH UTILITY COMPANY.
- ALL WATER SERVICES SHALL HAVE SHUT OFF 10' FROM BUILDING FOUNDATION.
- ALL EXISTING STRUCTURES SHALL BE RAZED AND LEGALLY DISPOSED OF.
- ABANDON EXISTING OWTS IN PLACE IN ACCORDANCE WITH RULE 52 OF THE DEM RULES ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION, DESIGN, CONSTRUCTION AND MAINTENANCE OF ONSITE WASTEWATER TREATMENT SYSTEMS.

SOILS DATA

TEST HOLES EXCAVATED 4/18/12
APPLICATION NUMBER 1208-03567
TEST HOLE NO. 2
HOLE DEPTH 8'
WATER TABLE: 24" FROM ORIG. GRADE

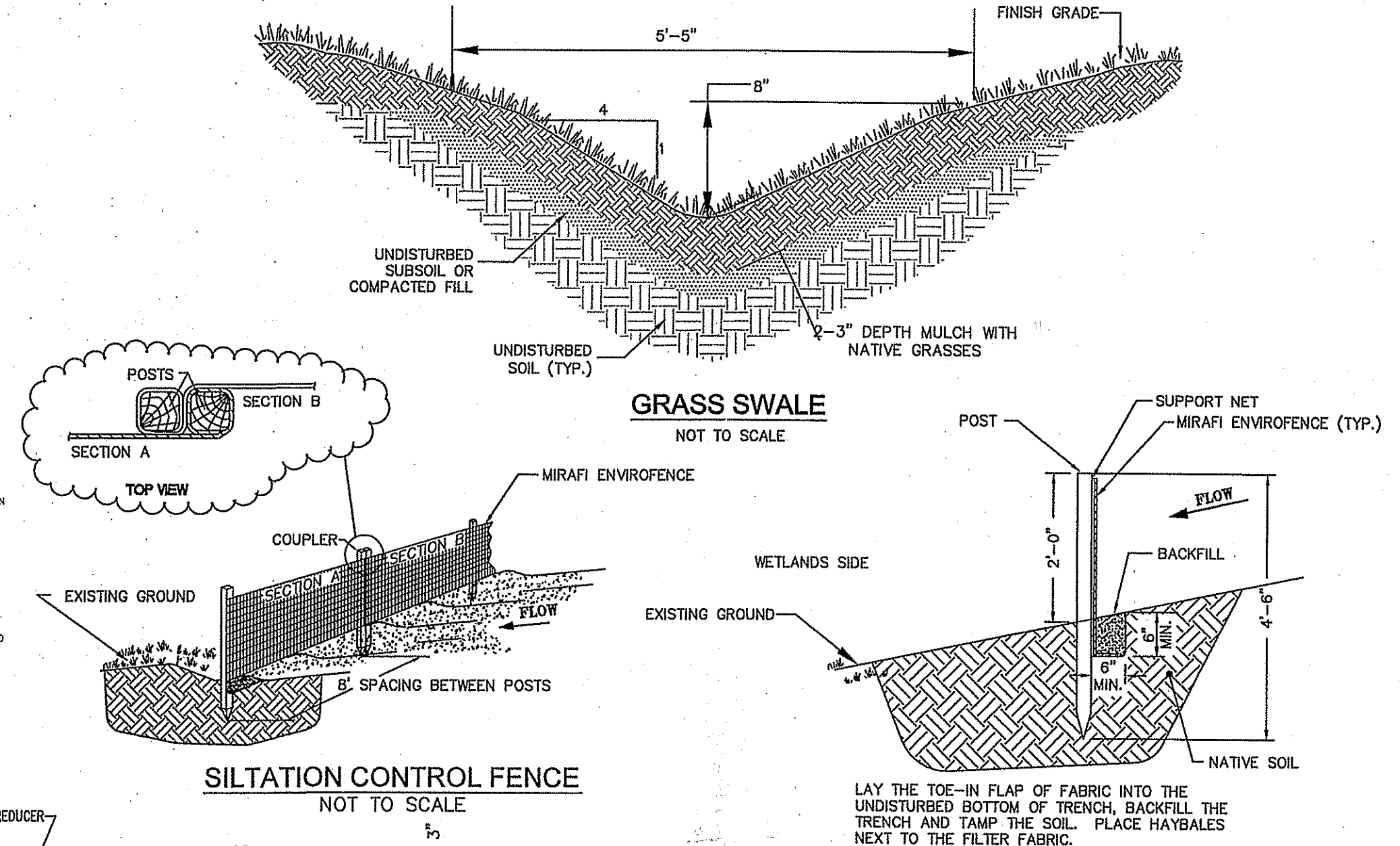
TEST HOLE NO. 3
HOLE DEPTH 8'
WATER TABLE: 24" FROM ORIG. GRADE

SOIL CATEGORY OBSERVED 8

DRAINAGE NOTES:

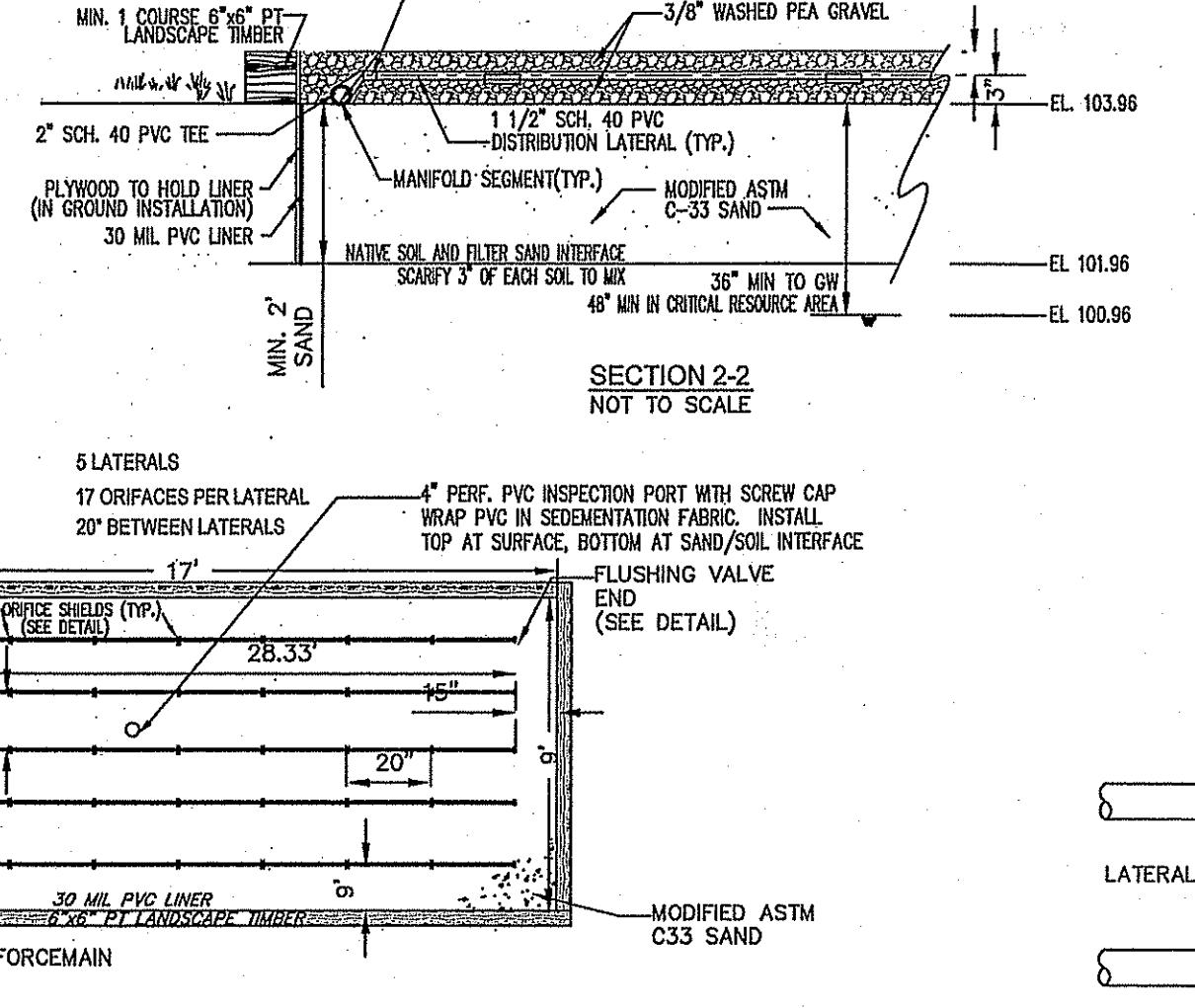
SFH REQUIREMENTS:
EXIST HOUSE 1,328 SF
PROP HOUSE 1,680 SF
1680-1328 = 352 < 600 - NO DRAINAGE REQUIRED

DRIVE REQUIREMENTS:
EXIST DRIVE / WALK 300 SF
PROP DRIVE / WALK 1,550 SF
1,550 SF SILTY SOILS FOR DRAINAGE SWALE
160 SF. SWALE / 1,000 SF IMPERVIOUS



GRASS SWALE
NOT TO SCALE

SILTATION CONTROL FENCE
NOT TO SCALE



NOTES:

- TWO ORIFICES ALONG EACH LATERAL, ONE AT ONE THIRD THE LENGTH AND ONE AT TWO THIRDS THE LENGTH OF THE LATERAL, SHALL BE POINTED IN THE TWELVE O'CLOCK POSITION TO ALLOW FOR FREE DRAINAGE OF THE LATERALS.

ORIFICE SHIELD
NOT TO SCALE

NO. DATE REVISIONS

1	06/22/2012	DEM SUBMISSION
2	07/27/2012	DEM COMMENTS
3	10/23/2012	DEM COMMENTS
4	01/02/2013	DEM COMMENTS

JAN - 9 - 2013

SEALED

DANIEL R CAMPBELL
No. 8393
REGISTERED PROFESSIONAL ENGINEER
CUMBERLAND, RHODE ISLAND

OWTS DESIGNER 03056
DATE: JUNE 22, 2012
DRAWN: DRC/NF
SCALE: 1" = 20'

ALMEIDA HOUSE
A.P. 44, LOT 23 & 31
ONSITE WASTEWATER TREATMENT SYSTEM

70 SNEECH POND ROAD
CUMBERLAND, RHODE ISLAND

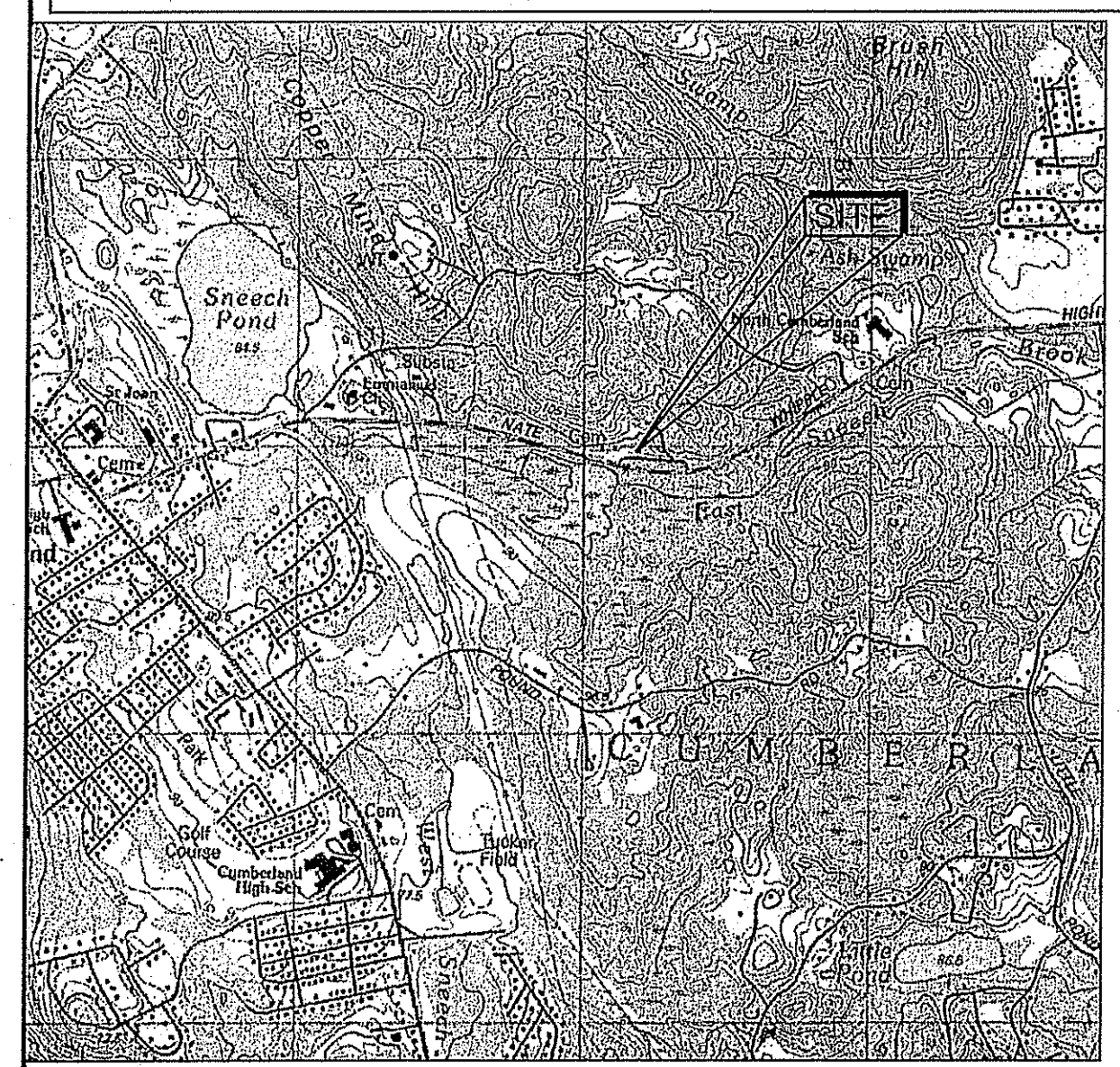
LEVEL
CIVIL ENGINEERING
60 MANMAR DRIVE
UNITY 12
PLAINVILLE, MA 02762
TEL. (608) 686-2221 FAX. (608) 686-2219

OWTS DESIGN & PROFILE

S-1.0
SHEET 1 OF 2

OWNER AND APPLICANT:
JOSE ALMEIDA
201 BROAD STREET
CUMBERLAND, RHODE ISLAND 02864

1303.00

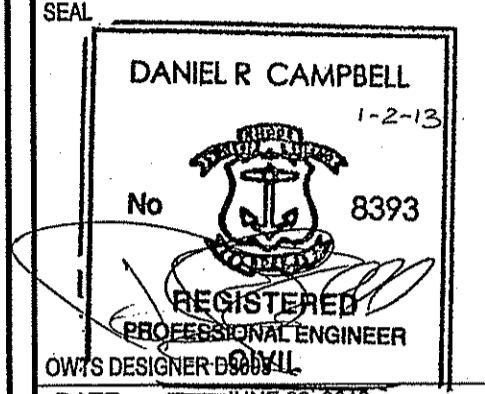
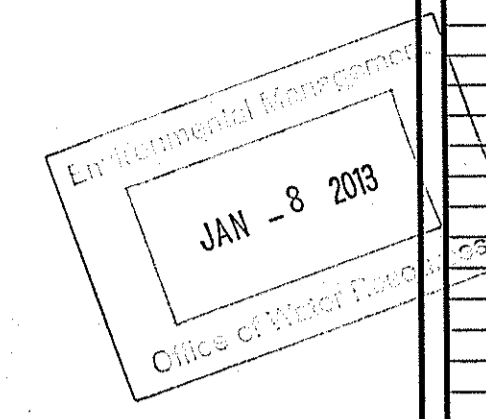


LOCUS MAP
SCALE: 1" = 500'

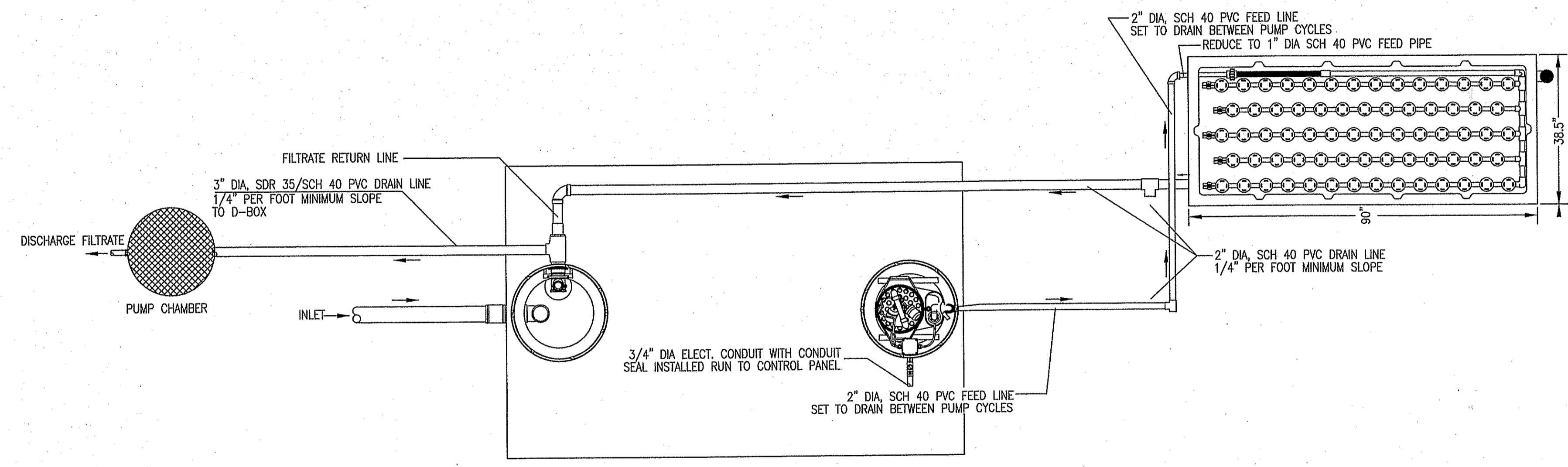
SYSTEM GENERAL NOTES:

- CONSTRUCTION SHALL CONFORM TO THE RHODE ISLAND SPECIFICATIONS SET FORTH IN THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER RESOURCES RULES ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION, DESIGN, CONSTRUCTION AND MAINTENANCE OF ON-SITE WASTEWATER TREATMENT SYSTEMS. IN ADDITION TO THE MINIMUM STANDARDS CALLED FOR IN THE REGULATIONS, THE FOLLOWING SHALL ALSO APPLY:
 - ALL STONE SHALL BE DOUBLE WASHED, IF DOUBLE WASHED STONE IS NOT AVAILABLE THE CONTRACTOR SHALL BE ALLOWED TO WASH THE STONE ON-SITE ONCE. IN NO CASE SHALL THE STONE DELIVERED TO THE SITE NOT BE WASHED AT LEAST ONCE AND IN NO CASE SHALL THE INSTALLED STONE NOT BE DOUBLE WASHED PRIOR TO INSTALLATION.
 - THE FILL AROUND THE SYSTEM SHALL BE MODIFIED ASTM C-33 SAND WITH AN EFFECTIVE SIZE (D₁₀) OF 0.3MM AND UNIFORMITY COEFFICIENT (D₆₀/D₁₀) OF 3.0 TO 4.0. THE MAXIMUM ALLOWABLE PERCENTAGE OF FINES PASSING THROUGH A NUMBER 200 SIEVE SHALL BE 1%.
- THERE ARE NO KNOWN OR PROPOSED WELLS WITHIN 200' OF THE SYSTEM OTHER THAN THOSE SHOWN. THERE ARE NO KNOWN EXISTING OWTS'S UNLESS SHOWN WITHIN 100' OF THE PROPOSED OR EXISTING WELLS, UNLESS OTHERWISE SHOWN. THERE ARE NO KNOWN OR EXISTING PUBLIC WELLS WITHIN 400' OF THE PROPOSED SYSTEM, UNLESS OTHERWISE SHOWN.
- THERE ARE NO KNOWN OR PROPOSED DRAINS WITHIN 25' OF THE PROPOSED OWTS.
- THESE PLANS AND SPECIFICATIONS ARE INTENDED TO BE EXPLANATORY OF THE WORK TO BE DONE AND OF EACH OTHER, BUT SHOULD ANY OMISSIONS, ERRORS OR DISCREPANCIES APPEAR THEY SHALL BE SUBJECT TO CORRECTION AND INTERPRETATION BY THE DESIGN ENGINEER.
- ALTERNATIVE MANUFACTURERS FOR MATERIALS SHOWN ON THESE PLANS MAY BE USED ONLY UPON WRITTEN APPROVAL BY THE DESIGN ENGINEER. ALTERNATE MANUFACTURERS WILL NOT BE APPROVED IF THE USE OF THEIR EQUIPMENT REQUIRES DESIGN CHANGES.
- IF ANY PART OF THIS DESIGN IS TO BE ALTERED IN ANY WAY, THE DESIGN ENGINEER AND THE APPROVING AGENCIES SHALL BE NOTIFIED IN WRITING AND THEIR APPROVAL OBTAINED PRIOR TO CONSTRUCTION.
- NO RAINWATER LEADER OR ANY DRAIN OTHER THAN SANITARY SEWAGE LINES SHALL DISCHARGE OR BE CONNECTED TO THE SANITARY SYSTEM. NO INDUSTRIAL WASTE SHALL BE DISCHARGED INTO THE SANITARY SYSTEM.
- THE INSTALLER SHALL CONTACT THE DESIGN ENGINEER AND RHODE ISLAND DEM AND PRIOR TO THE START OF CONSTRUCTION AND CONFORM TO ALL INSPECTION REQUIREMENTS OF THE DESIGN ENGINEER AND RHODE ISLAND DEM BEFORE, DURING AND AFTER CONSTRUCTION.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SEE THAT ALL PERMITS AND APPROVALS ARE OBTAINED. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL SAFETY CODES IN THE CONSTRUCTION OF THIS ON-SITE WASTEWATER TREATMENT SYSTEM.
- THE LOCATION OF EXISTING UTILITIES IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. NOTIFY "DIG-SAFE" AT 1-888-344-7233 AT LEAST 48 HOURS PRIOR TO ANY SITE DEMOLITION OR EXCAVATION.
- NO WATER SUPPLY LINES OR DRAIN LINES ARE TO BE CONSTRUCTED WITHIN 25 FEET OF THE BOTTOMLESS SAND FILTER OR SEPTIC TANK UNLESS OTHERWISE NOTED HEREIN. THE WATERLINE IS PROPOSED AS SHOWN AT 25' FROM THE BSF AND A VARIANCE REQUEST IS NOT REQUIRED.
- GRAVITY SEWER PIPING BELOW GRADE SHALL BE PVC PIPE, SCH. 35 AT A MINIMUM. JOINTS SHALL BE PUSH-ON BELL & SPIGOT WITH A RUBBER GASKET AND CONFORMING TO ASTM STANDARDS FOR THIS PIPE.
- PIPE CONNECTIONS AT INLET AND OUTLET OF THE SEPTIC TANK AND PUMP CHAMBERS SHALL BE GROUTED WITH HYDRAULIC CEMENT GROUT FOR WATERTIGHTNESS.
- THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE DESIGN ENGINEER IMMEDIATELY IF CONDITIONS ENCOUNTERED DIFFER FROM THOSE SHOWN.
- SEPTIC TANK AND PUMP CHAMBER SHALL BE CONSTRUCTED TO WITHSTAND H-10 LOADING.
- THE SYSTEM AS DESIGNED IS NOT DESIGNED FOR USE OF GARBAGE GRINDERS.
- THE HOUSE SEWER LINE SHALL BE CONSTRUCTED OF FOUR (4) INCH DIAMETER SCH 40 PVC. PIPING SHALL BE WATERTIGHT AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. A CLEANOUT SHALL BE REQUIRED AT CHANGES OF LINE AND/OR GRADE.
- THE DISTRIBUTION MANIFOLD SHALL BE CONSTRUCTED OF ONE AND A QUARTER INCH (1 1/4") SOLVENT WELDED SCH40 PVC. THE DISTRIBUTION LINES SHALL BE CONSTRUCTED OF ONE (1) INCH DIAMETER SOLVENT WELDED SCH40 PVC. DISTRIBUTION LINES INSIDE THE LEACHING AREA SHALL PERFORATED AND LAID AT A SLOPE OF 0.0 FT/FT. DISTRIBUTION LINE ENDS SHALL BE CAPPED WITH CLEANING ENDS AS REQUIRED. ONE ORIFICE ALONG EACH LINE AT APPROX 1/2 OR 3/4 SHALL FACE UP TO PROVIDE A VACUUM BREAK ALONG THE LINE.
- THE BOTTOM OF THE SOIL ABSORPTION SYSTEM SHALL BE AN EXCAVATED TO A LEVEL GRADE AND THE TOP 3" OF SOIL MIXED WITH THE FIRST 3" OF SAND THROUGH MANUAL OR MECHANICAL MEANS. IF THE REMOVAL OF STONES OR BOULDERS IS REQUIRED, CREATING LOCALIZED DEPRESSIONS, FILLING TO GRADE WITH EXCAVATED SOIL IS NOT ACCEPTABLE.
- ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.
- THE 3/4" WASHED PEASTONE PLACED AS BACKFILL OVER THE SYSTEM SHALL BE A MINIMUM OF SIX (6) INCHES.
- THE INSTALLER SHALL STRIP TOPSOIL AND FILL AT THE SITE OF THE BOTTOMLESS SAND FILTER AND MATERIALS FOR A DEPTH OF 24" AND REPLACE WITH SAND MEDIA AS REQUIRED.
- MAINTENANCE SHALL BE PERFORMED PER THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT REQUIREMENTS AS THEY MAY CHANGE FROM TIME TO TIME AND ORENCO SPECIFICATIONS WHICHEVER MAY BE MORE STRINGENT.
- THE PROPOSED OWTS IS NOT WITHIN THE GROUNDWATER PROTECTION AREA IN THE TOWN OF CUMBERLAND AS DETAILED ON THE RHODE ISLAND GIS MAPPING REVIEWED JUNE 18, 2012.

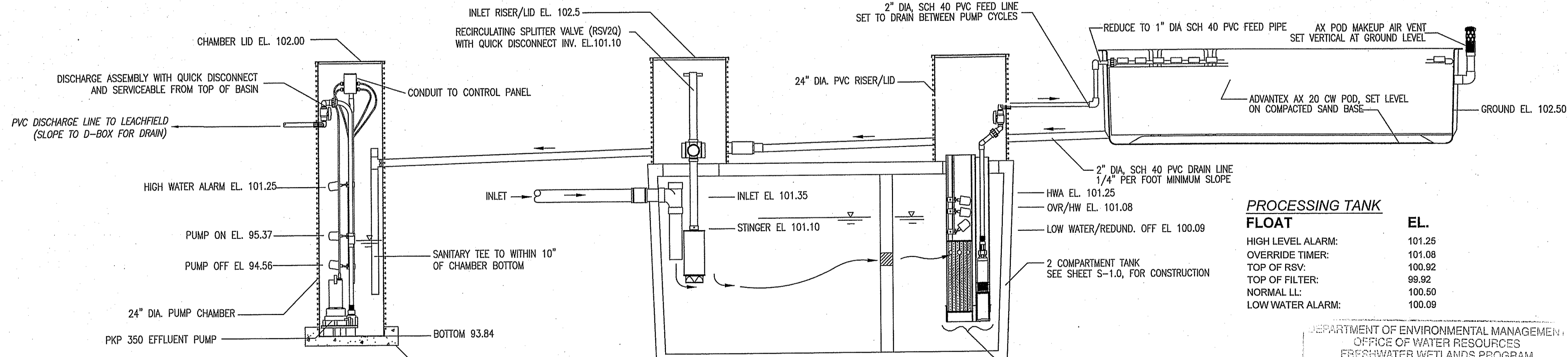
NO	DATE	REVISIONS
1	06/22/2012	DEM SUBMISSION
2	07/27/2012	DEM COMMENTS
3	01/02/2013	DEM COMMENTS



DATE: JUNE 22, 2012
 DRAWN: DRG/NF
 SCALE: AS SHOWN



TOP VIEW



PUMP CHAMBER

TIMER/OBJECT	RUN TIME
PUMP ON	0.95 MIN/DOSE
PUMP OFF	46.94 MIN
OVERRIDE TIMER ON	0.38 MIN/DOSE
OVERRIDE TIMER OFF	2.96 MIN

NOTES:

- SYSTEM IS DESIGNED WITH THE USE OF A VERRICOMM TELEMETRY CONTROL PANEL, MODEL VCOM-AXA1HT, OR APPROVED EQUAL. HOUSE ELECTRICIAN SHALL PROVIDE 1-10 AMP CIRCUIT, 1-20 AMP CIRCUIT AND PHONE JACK FOR PANEL CONTROLS.
- PANEL SHALL BE MOUNTED TO THE GARAGE EXTERIOR IN THE SOUTHEAST CORNER OF THE PROPOSED GARAGE FOR EASE OF ACCESS, SHALL NOT BE MOUNTED TO LIVING AREA.
- DISCHARGE ASSEMBLY DRAWN TO SHOW KEY COMPONENTS, ALL PIPING, AND FITTINGS SHALL BE INSTALLED TO ENSURE DISCHARGE TO THE HEADER FOR COMPLETE PIPE EVACUATIONS OF THE DISCHARGE PIPE EXTERIOR TO THE PUMP STATION TO PREVENT FREEZING FROM OCCURRING.

ADVANTEK AX-20 LAYOUT
 NOT TO SCALE

- BOUYANCY IS ANTICIPATED ON THE PUMP BASIN, THE PUMP BASIN REQUIRES A MINIMUM OF 13.83 CF OF CONCRETE AS BALLAST AROUND THE BOTTOM OF THE BASIN. BALLAST SHALL INTERCEPT THE BASIN RIBS TO PREVENT UPLIFT.
- SYSTEM SHOULD BE INSTALLED PER MANUFACTURER SPECIFICATIONS AND REQUIREMENTS OF THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.
- INSTALLER SHALL UTILIZE THE SHALLOW INSTALL RSV PROCEDURE.

PROCESSING TANK FLOAT

FLOAT	EL.
HIGH LEVEL ALARM:	101.25
OVERRIDE TIMER:	101.08
TOP OF RSV:	100.92
TOP OF FILTER:	98.92
NORMAL LL:	100.50
LOW WATER ALARM:	100.09

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED FEB 13 2013 FILE # 12-D189
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

ALMEIDA HOUSE
 A.P. 44, LOT 23 & 31
 ON-SITE WASTEWATER TREATMENT SYSTEM
 70 SNEECH POND ROAD
 CUMBERLAND, RHODE ISLAND



SSDS DESIGN

S-2.0
 SHEET 2 OF 2

1303.00