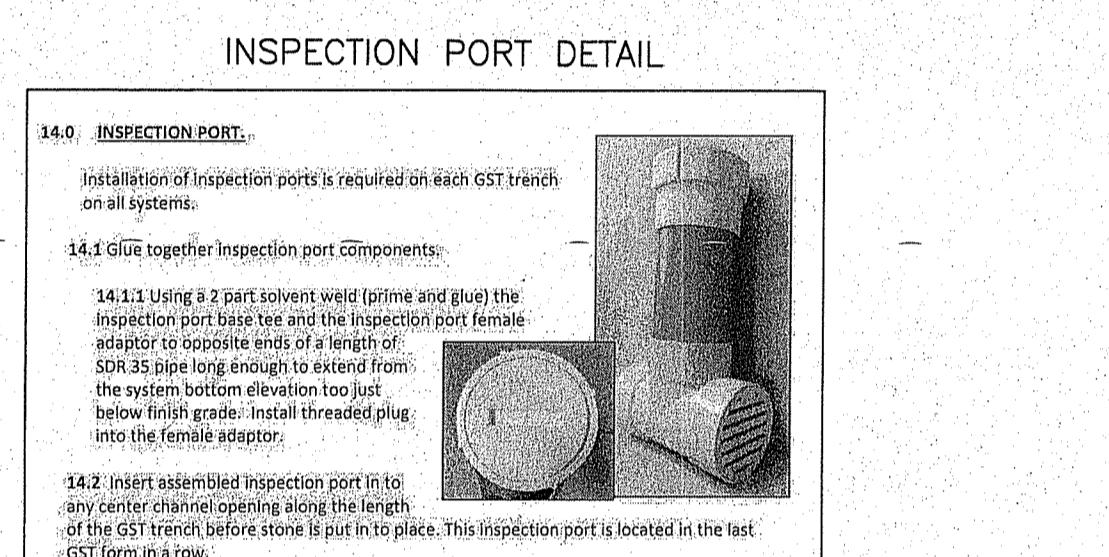


Additional OWTS Notes:

1. Refer to Application #2029-0986
2. Excavate OWTS area & 5' all around to elevation 100.0 or to remove all soil within the CD horizon.
3. Install septic gravel to elevation 102.5'
4. Install 3" of concrete sand then install GST templates and follow GST installation handout.
5. Installer to contact designer prior to start of construction
6. Installer to provide designer with copies of any State Inspection Reports and receipts of all materials & components.



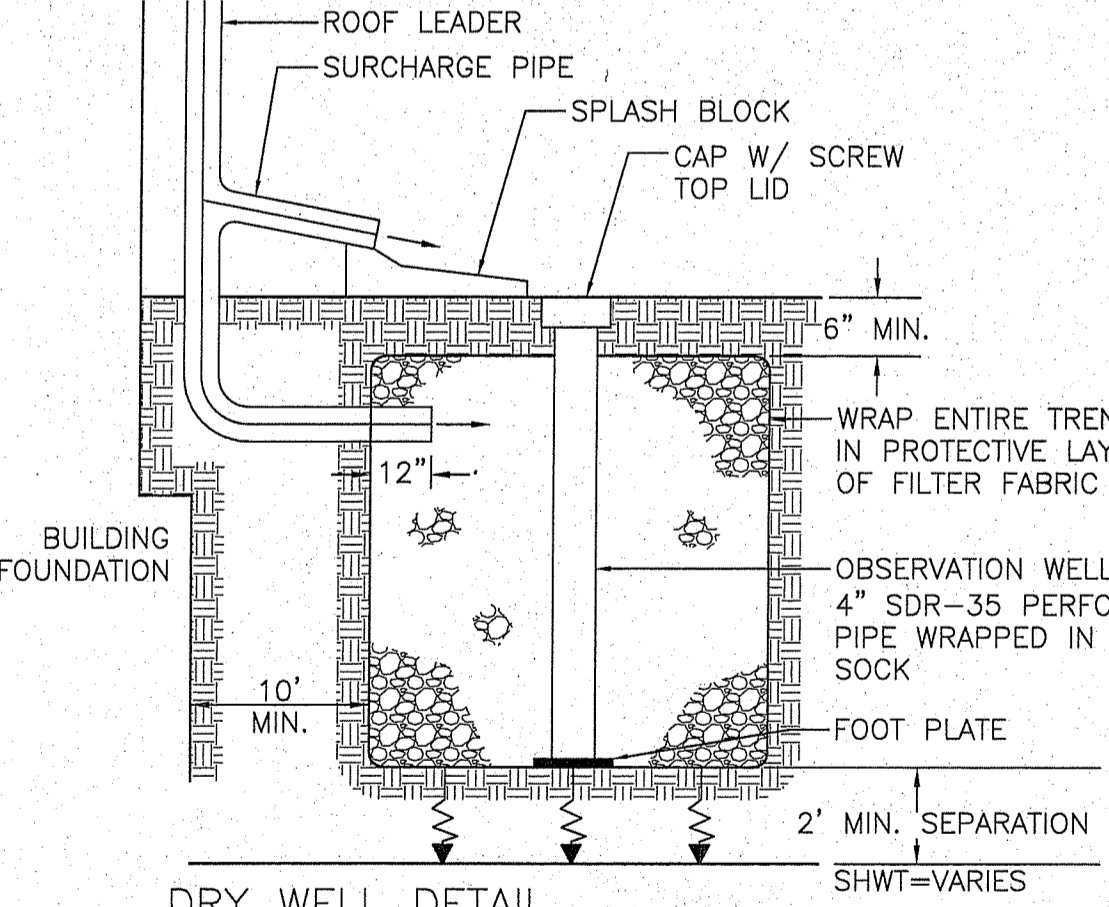
Stormwater Management

(CALCULATIONS PERFORMED USING CRMC GUIDANCE DOCUMENT)

Proposed Dwelling = 2,513 Sq. Feet
 Drive to Dwelling + 3,452 Sq. Feet
 Drainage Area = 5,965 Sq. Feet

FOR DWELLING: USING DRY WELLS ~ MAXIMUM 36" DEPTH (SILTY SOIL);
 FOR 2,513 SF OF DRAINAGE AREA THE REQUIRED DRY WELL AREA = 193.2 SF
 PROPOSED DRY WELL AREA TOTAL = 196 SF (A & B 7' X 14' X 3' DEEP)

FOR DRIVE: FROM CENTERLINE CULVERT TO HOUSE, USING INFILTRATION TRENCHES
 FOR 3,452 SF OF DRAINAGE AREA THE REQUIRED TRENCH AREA = 265.8 SF
 PROPOSED TRENCH AREA TOTAL = 276 SF (4 @ 3' X 23' X 3' DEEP)

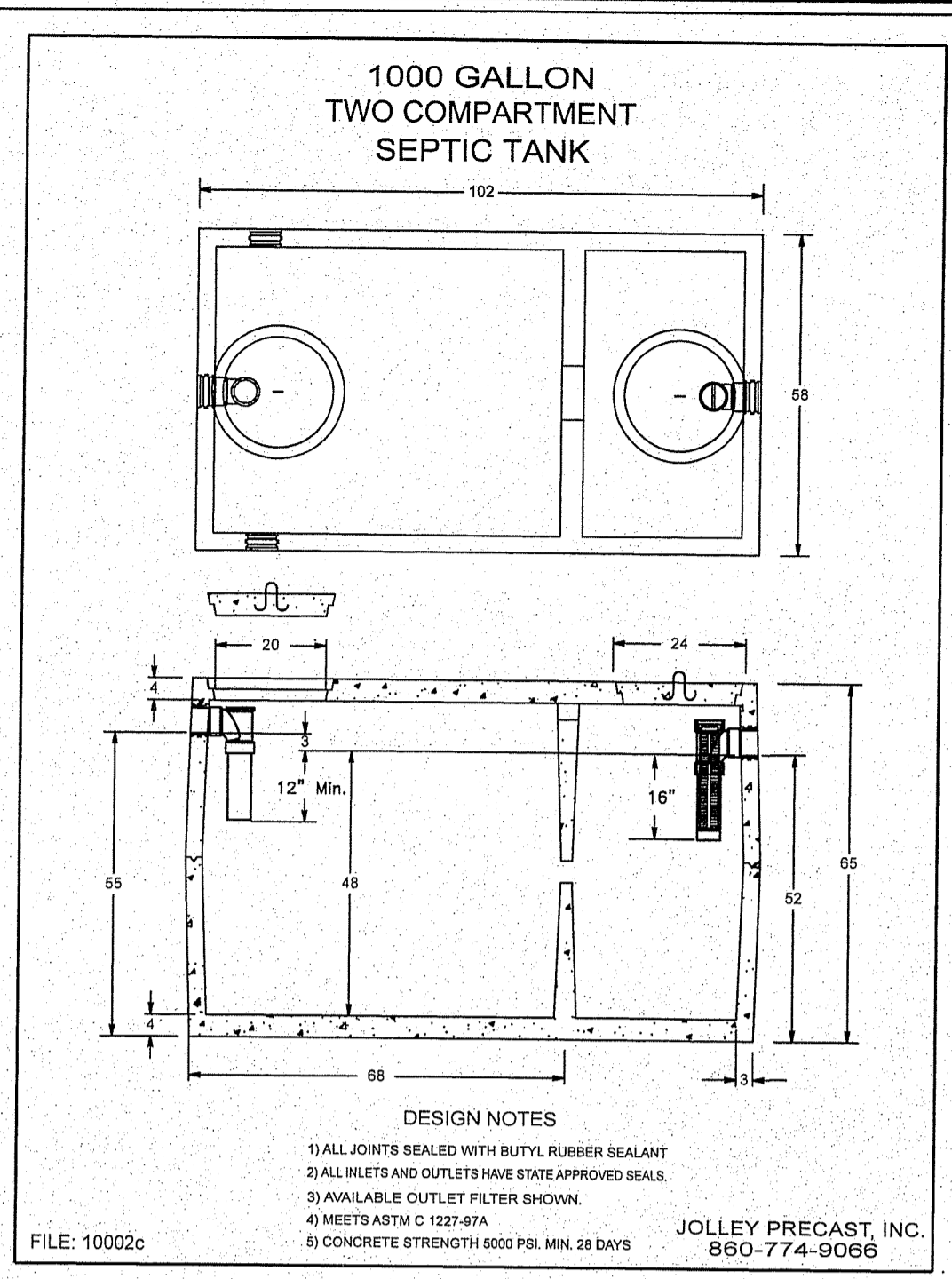


PLAN NOTES:

- 1) THE INFORMATION SHOWN OF THIS PLAN WAS OBTAINED FROM AN ON-SITE SURVEY.
- 2) THIS PARCEL LIES IN FEMA FLOOD ZONE X ON 4009C0152J EFF. 4/2/2020.
- 3) SEE WETLAND PERMIT # 22-0381

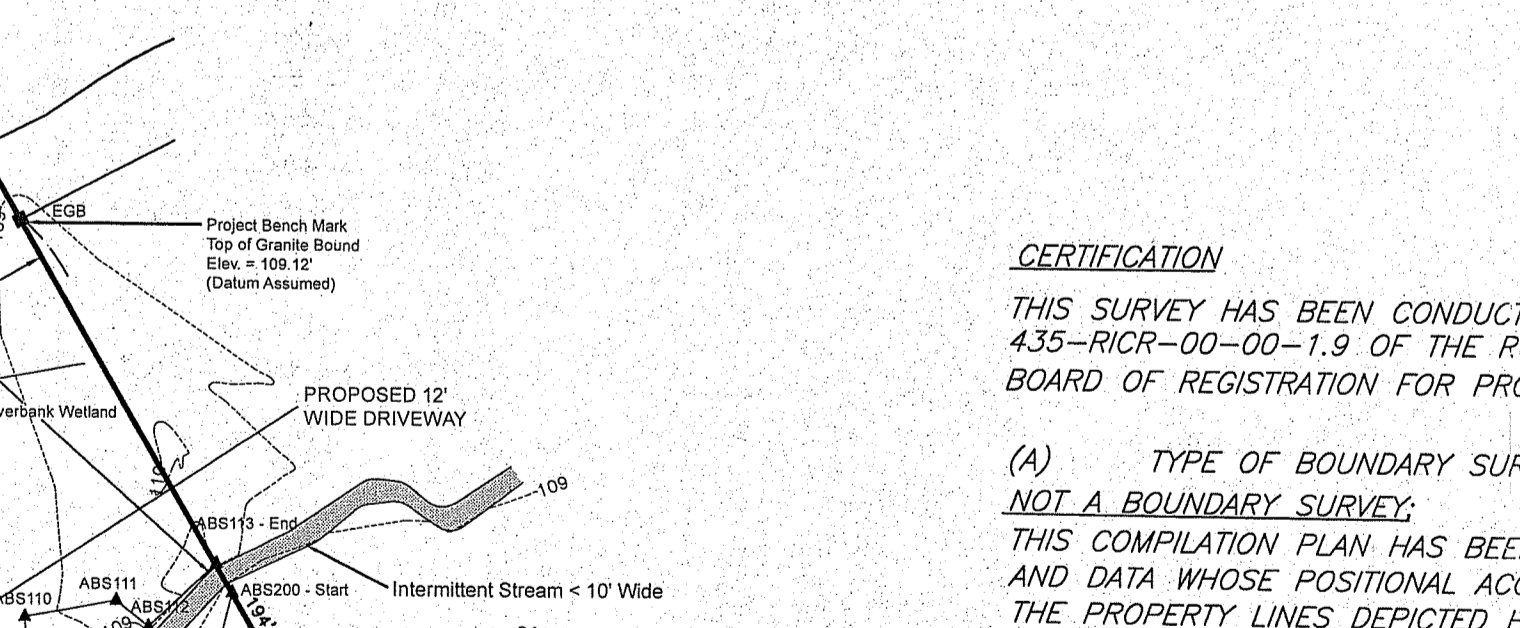
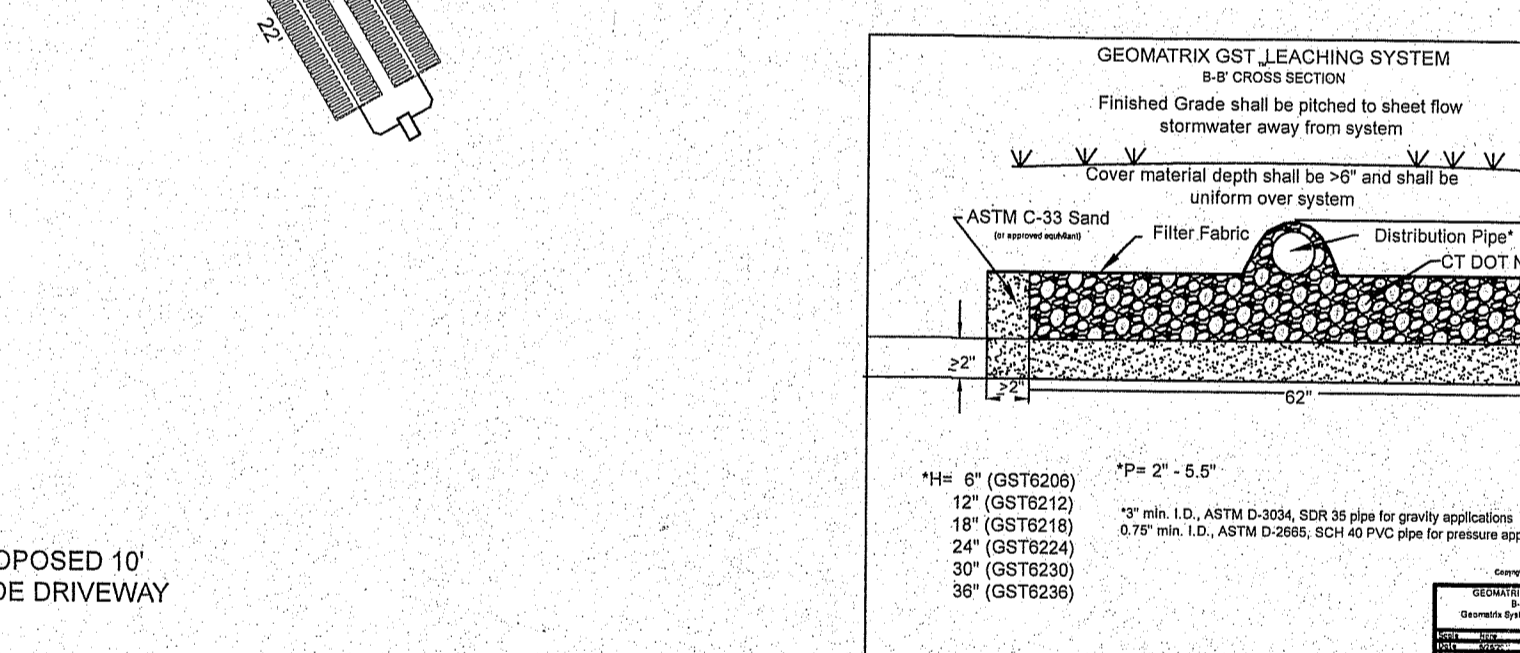
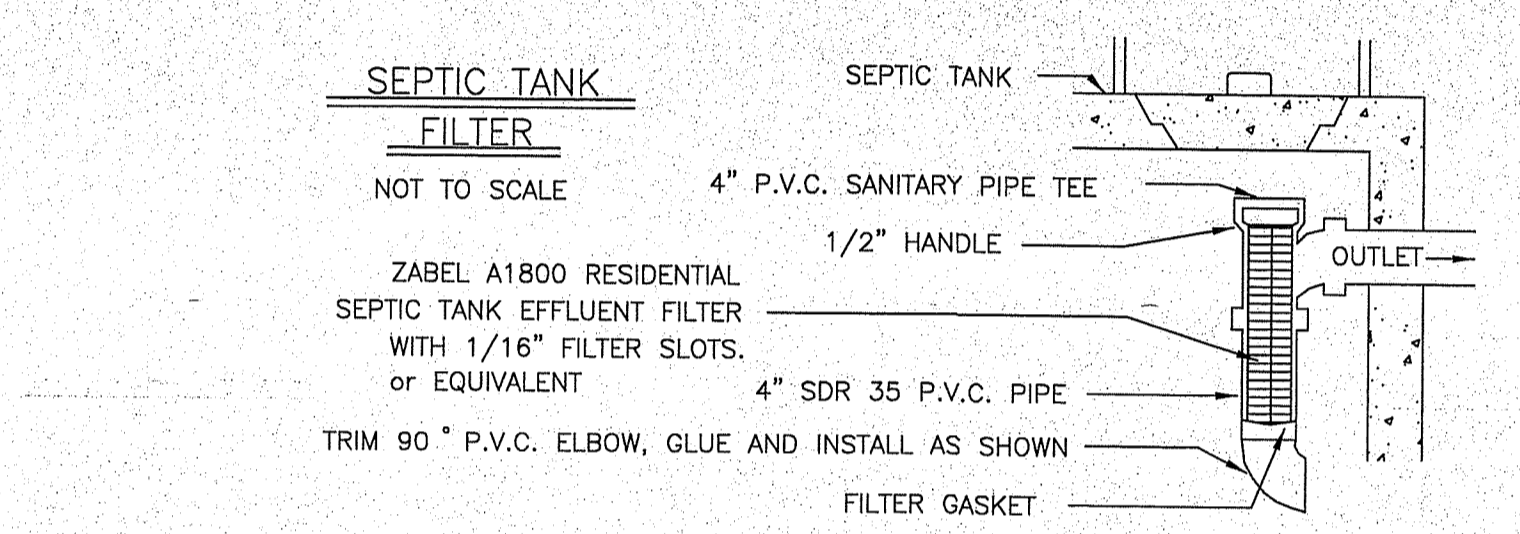
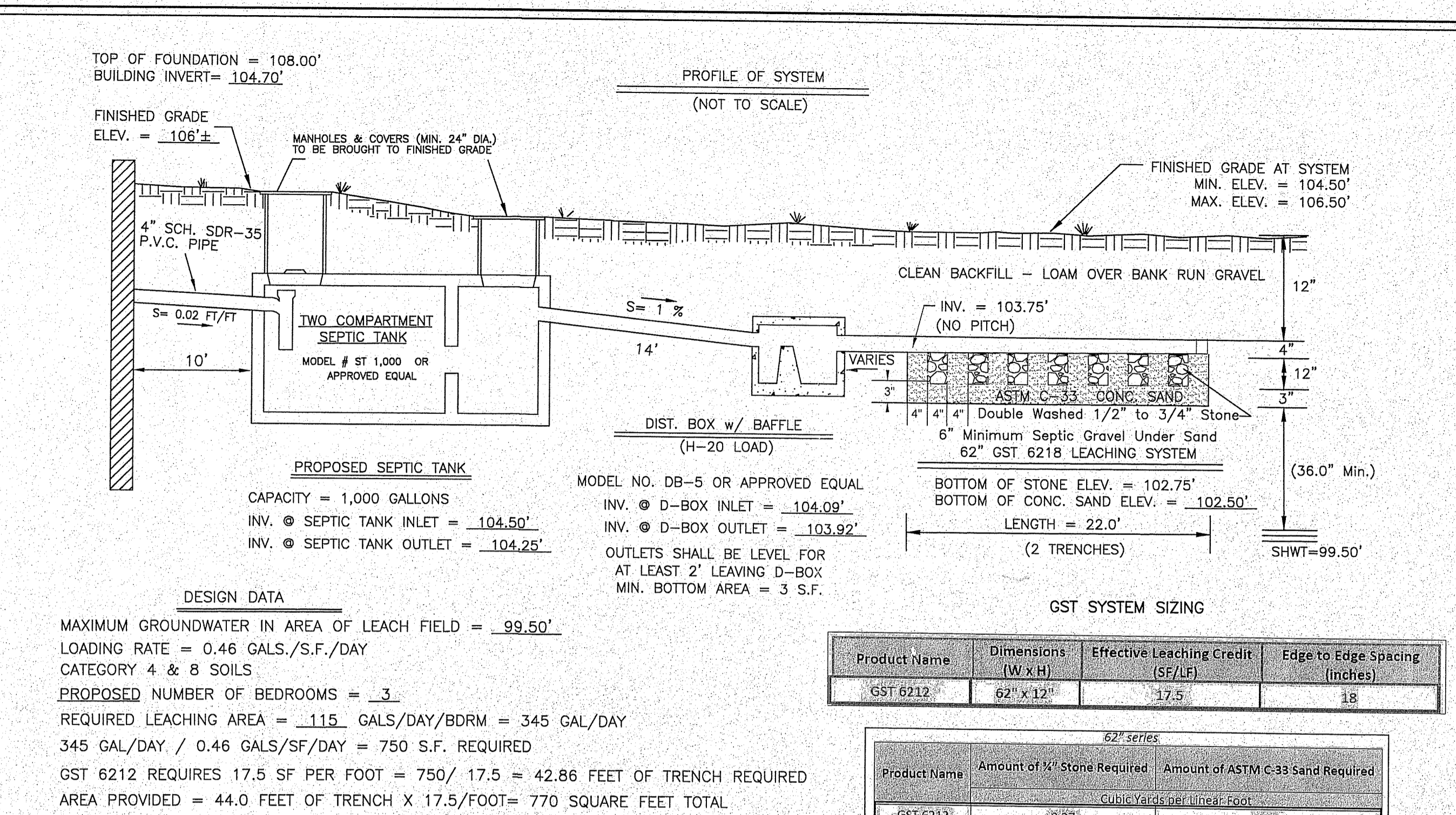
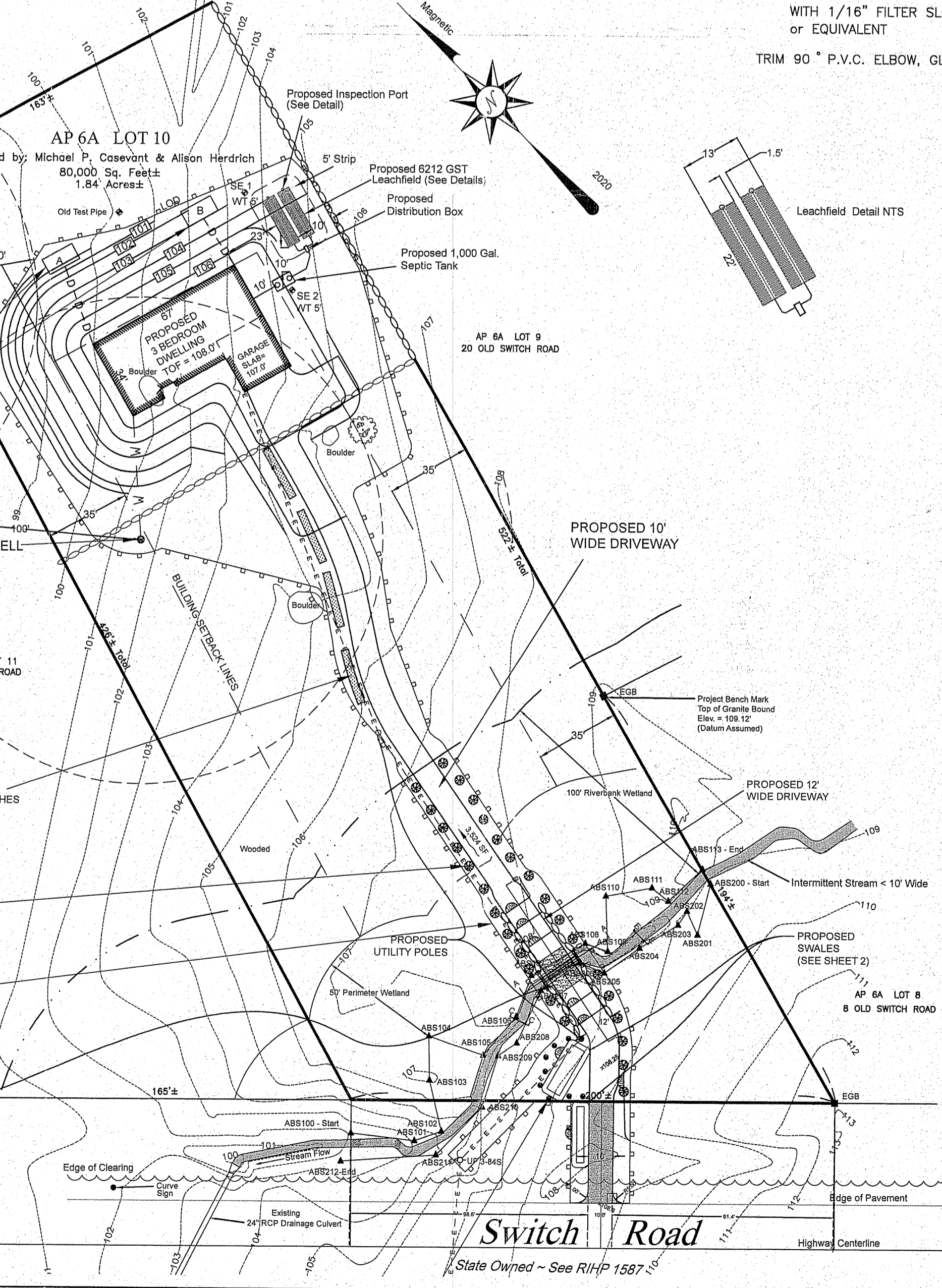
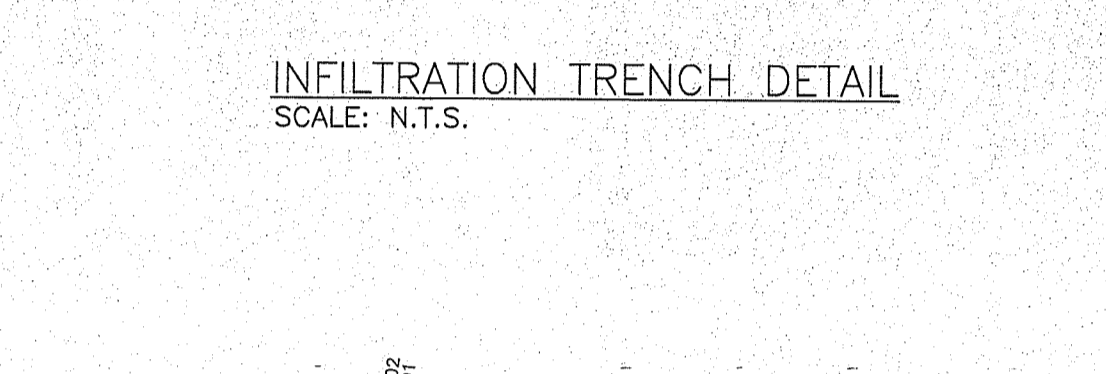
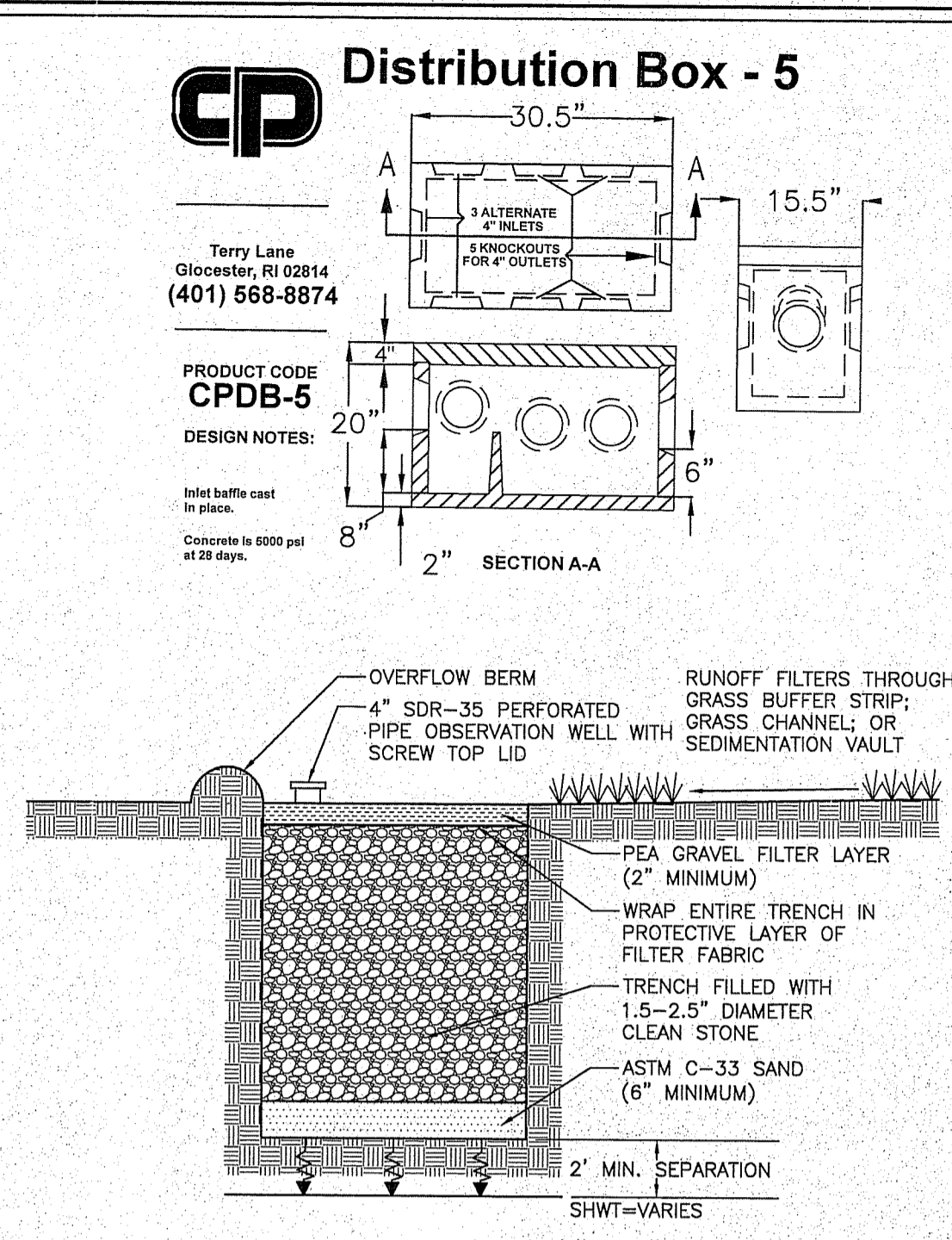
LEGEND:

AP	ASSESSOR'S PLAT
N/F	NOW OR FORMERLY
SE	SOIL EVALUATION TEST HOLE
EGB	EXISTING GRANITE BOUND
RIHP	RHODE ISLAND HIGHWAY PLAT
RIHB	RHODE ISLAND HIGHWAY BOUND
7444+50	HIGHWAY STATION NUMBER
▲ABS100	WETLAND FLAG
○	STONE WALL
- E - E -	OVERHEAD WIRES



NOTES:

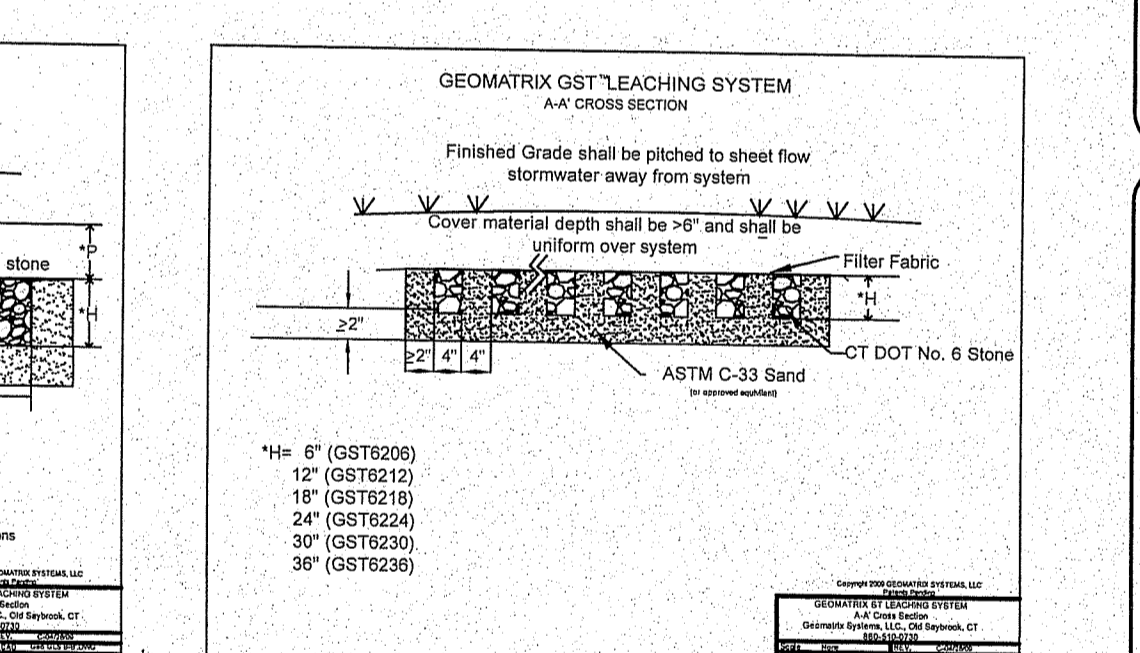
Do not park on OWTS area. Seed OWTS area with grass. Use H-20 Load distribution box. Minimum 3sq ft bottom area. Extend septic tank manholes to grade as shown. Grade to divert runoff. Remove all vegetation & trees within 10' of proposed OWTS. No wells existing or proposed within 200' of proposed OWTS, except as shown. No public wells existing or proposed within 500' of proposed OWTS. No underground drains existing or proposed within 25' of OWTS. Lot lines as shown are approximate and should be verified prior to construction. Use 4" diameter sewer pipe (SDR 35) watertight joints. Designer must supervise all phases of installation of OWTS.



62" Series

Product Name	Amount of 1/2" Stone Required (Cubic Yards per Linear Foot)	Amount of ASTM C-33 Sand Required (Cubic Yards per Linear Foot)
GST 6212	0.27	0.35

Total Stone Volume Req. = 12 CU Yards
 Total Sand Volume Req. = 15.4 CU Yards



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED: AUG - 9 2024 FILE #: 22-0381
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 THIS PLAN HAS BEEN PREPARED PURSUANT TO SECTION 435-RICR-00-00-1.9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:

(A) TYPE OF BOUNDARY SURVEY:
 NOT A BOUNDARY SURVEY;
 THIS COMPILATION PLAN HAS BEEN PREPARED FROM SOURCES OF INFORMATION AND DATA WHOSE POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED. THE PROPERTY LINES DEPICTED HEREON DO NOT REPRESENT A BOUNDARY OPINION, AND OTHER INFORMATION DEPICTED IS SUBJECT TO SUCH CHANGES AS AN AUTHORITY FIELD SURVEY MAY DISCLOSE.

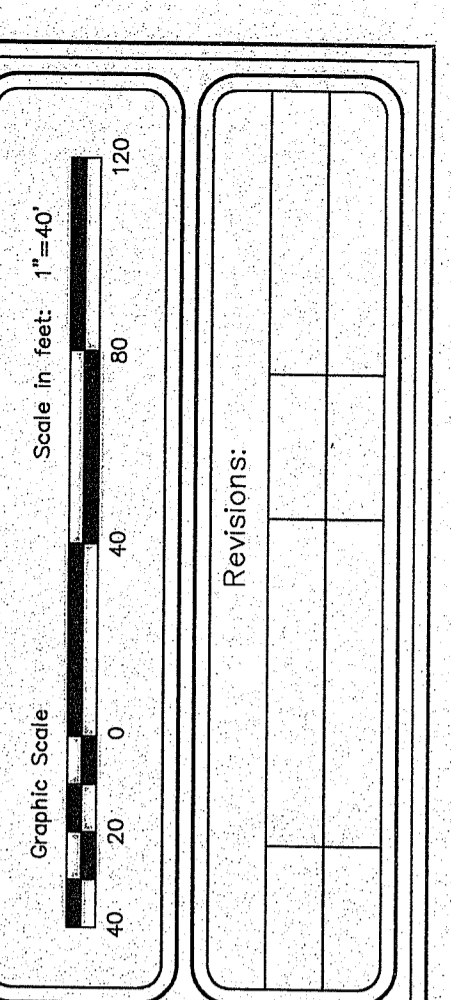
(B) OTHER TYPE OF SURVEY:
 DATA ACCUMULATION SURVEY - LOCATION OF SITE FEATURES & TOPOGRAPHY

(C) STATEMENT OF PURPOSE:
 THE PURPOSE OF THIS SURVEY AND PLAN IS TO SHOW EXISTING SITE FEATURES SUFFICIENT TO DESIGN & INSTALL A SEPTIC SYSTEM.

By: John Rockwell 04/24/2024
 REGISTERED PROFESSIONAL LAND SURVEYOR SIGNATURE

John Rockwell, PLS
 REGISTERED PROFESSIONAL LAND SURVEYOR PRINTED NAME

A-68
 CERTIFICATE OF AUTHORIZATION NO.



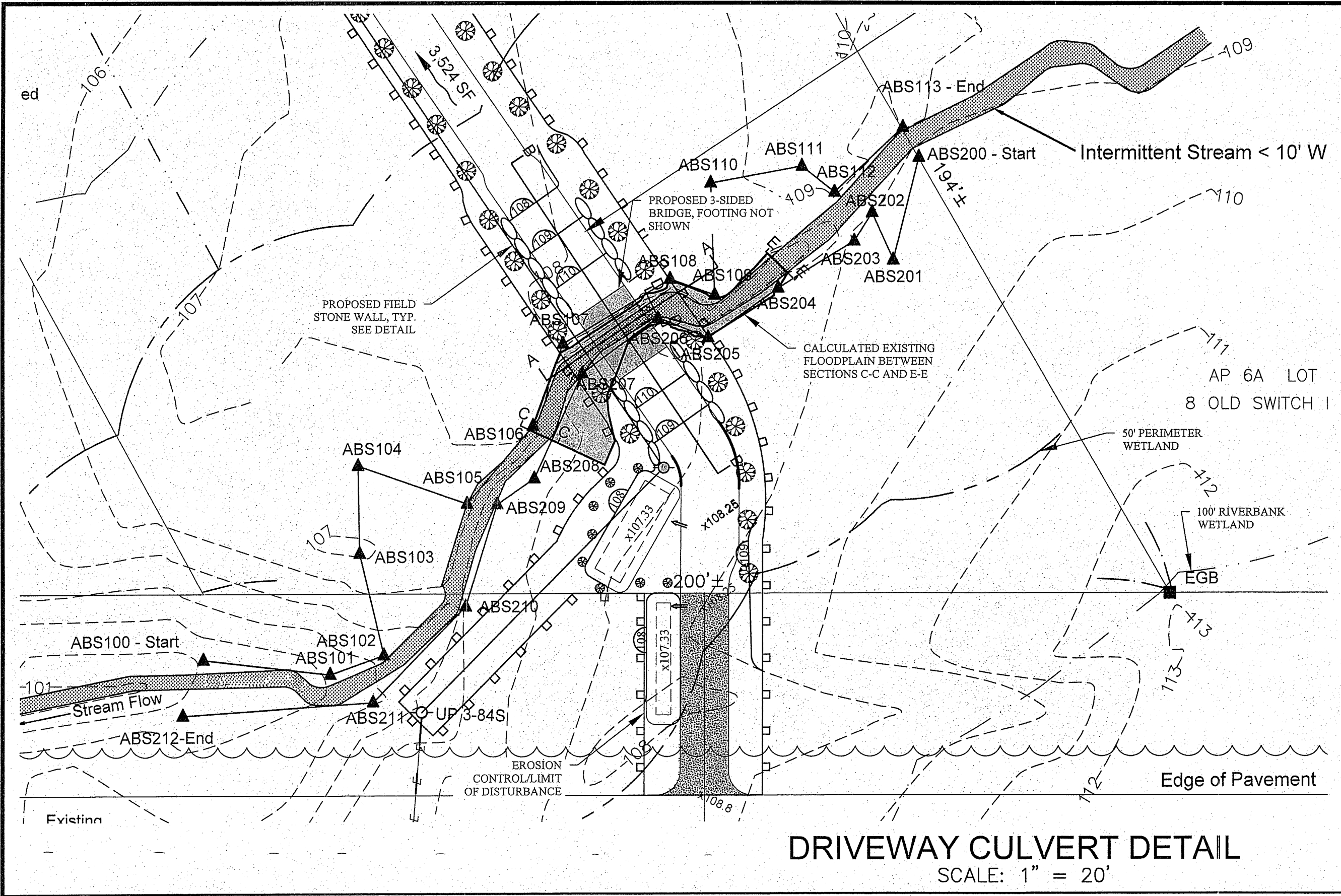
JOHN E. ROCKWELL
 No. 1959
 John Rockwell
 PROFESSIONAL LAND SURVEYOR

GOVENTRY SURVEY CO.
 46 South Main Street
 Coventry, Rhode Island 02816
 (401) 823-5028
 Land Surveying / Mapping / OWTS Designs

Proposed OWTS at 128 Switch Road
 Assessor's Plat 6A / Lot 10
 in the Town of Richmond, R. I.
 Prepared for: Michael Casevart

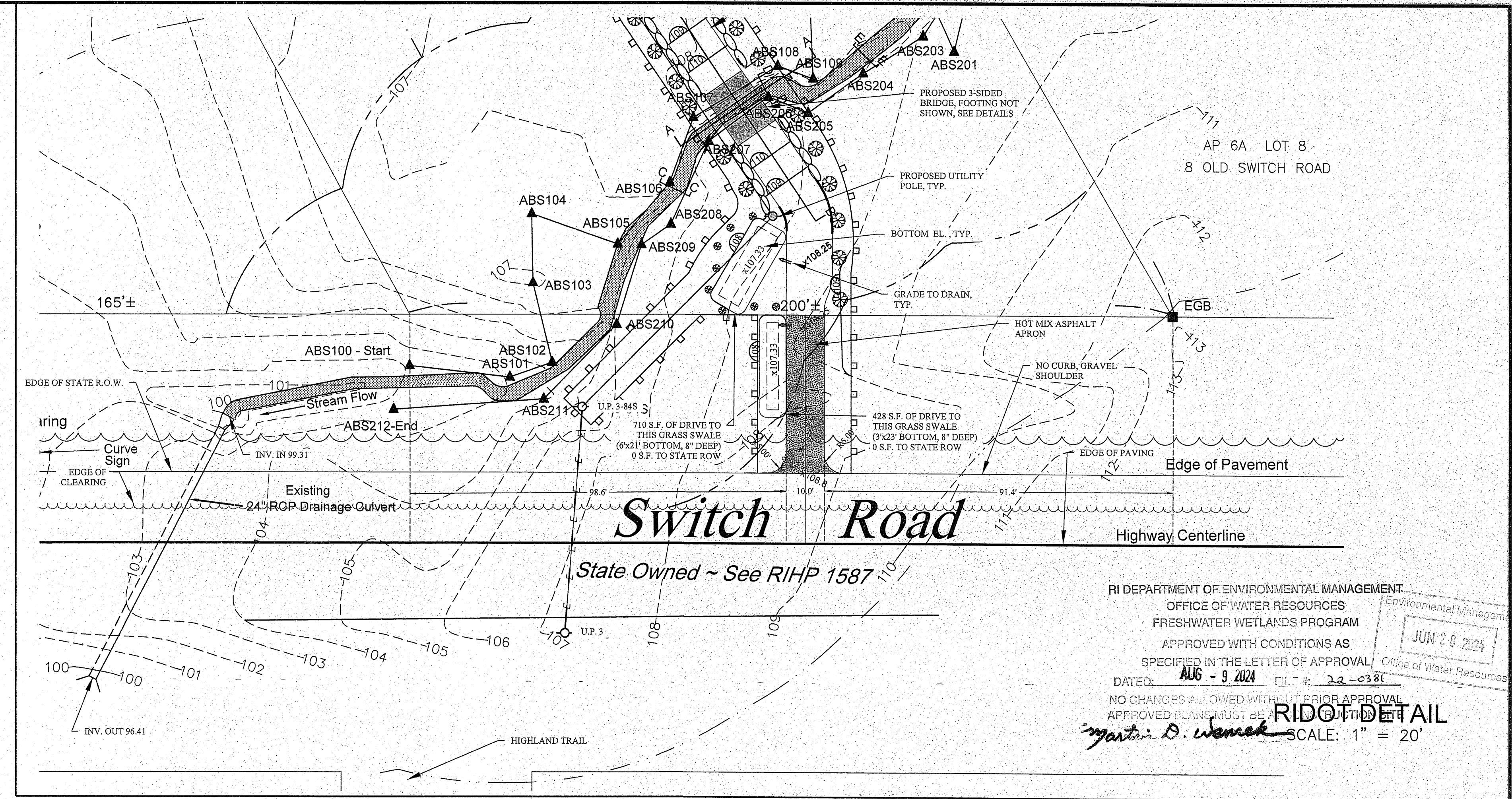
Redesign of

Date:
 April 24, 2024



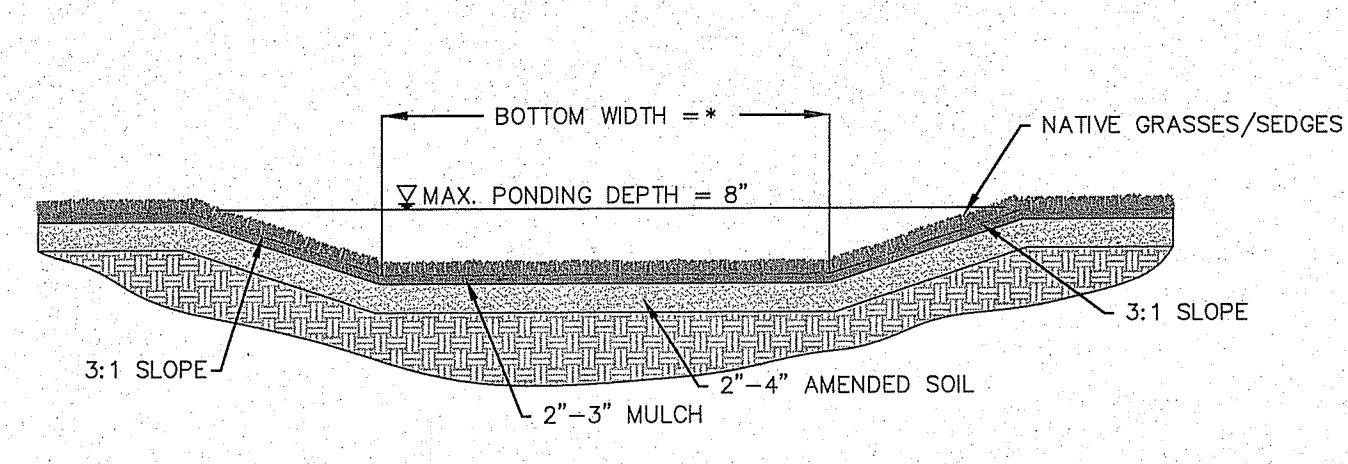
DRIVEWAY CULVERT DETAIL
SCALE: 1" = 20'

CALCULATED 100-YEAR FLOOD PLAIN ELEVATIONS:
 1. AT SECTION C-C, EL. 107.3
 2. AT SECTION D-D, EL. 108.0



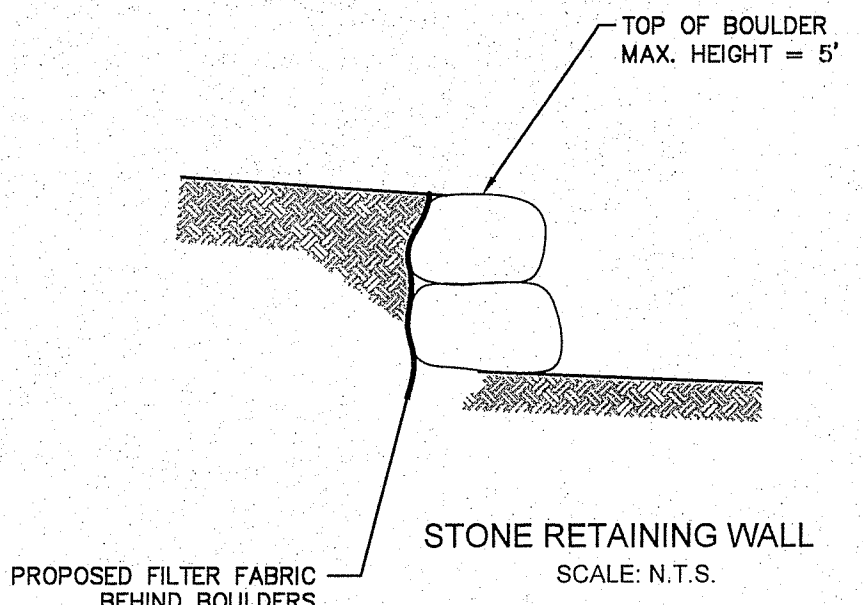
RIDGE DETAIL
SCALE: 1" = 20'

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED: **AUG - 9 2024** FILE #: **22-0381**
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE A TRUE COPY OF THE ORIGINAL
Walter D. Wemak



TYPICAL GRASS SWALE SECTION
NOT TO SCALE

GRASS SWALE NOTE:
 1. * DIMENSIONS PER PLAN

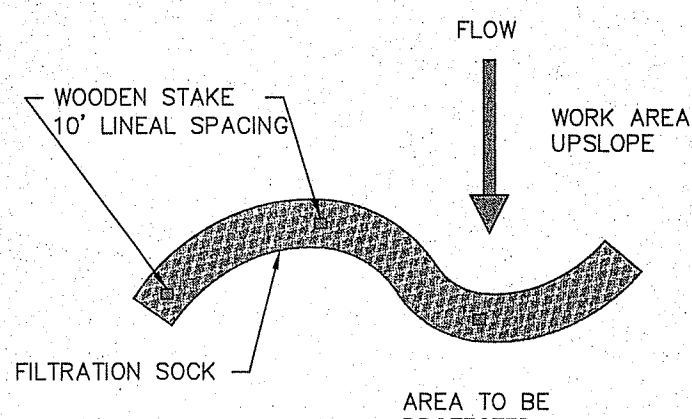


STONE RETAINING WALL
SCALE: N.T.S.

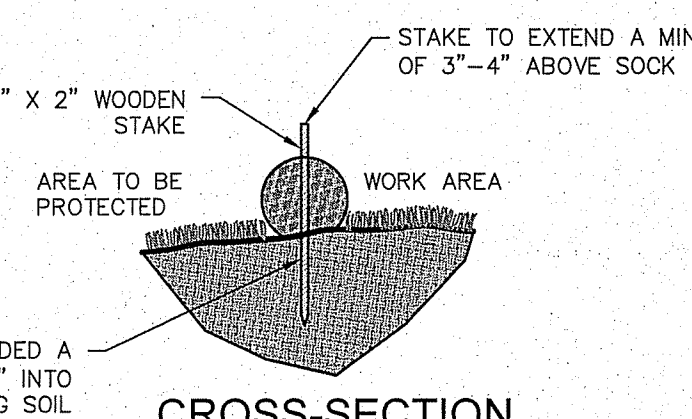
- BRIDGE NOTES:**
1. MINIMUM HEIGHT ABOVE STREAM BOTTOM 3.0'
 2. BRIDGE SHALL BE H-20 RATED.
 3. STRUCTURAL DESIGN OF BRIDGE AND FOOTINGS BY OTHERS.
 4. FOOTING JOINTS SHALL BE STAGGERED IN RELATION TO BRIDGE JOINTS.
 5. WHEN REQUIRED USE NON-SHRINK GROUT CONFORMING TO ASTM C1107.
 6. EACH BRIDGE JOINT SHALL BE WRAPPED WITH 5" WIDE BUTYL ADHESIVE TAPE.
 7. BRIDGE SHALL BE MANUFACTURED BY OLDCASTLE PRECAST OR EQUIVALENT.
 8. INSTALL PER MANUFACTURER'S GUIDELINES.

- RIDOT GENERAL NOTES:**
1. ALL WORK WITHIN THE STATE'S ROW SHALL CONFORM TO RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2004 EDITION INCLUDING ALL REVISIONS AND RHODE ISLAND STANDARD DETAILS.
 2. ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES 2003 EDITION INCLUDING ALL REVISIONS.
 3. NEW PAVEMENT SHALL BE 2 INCH BITUMINOUS SURFACE COURSE, CLASS 12.5 HMA AND SHALL MATCH FINISH GRADE.
 4. NO CURBING IS PRESENT ALONG SWITCH ROAD IN THIS AREA.
 5. UTILITY WORK REQUIRED FOR THE PROPOSED HOUSE DEVELOPMENT SHALL BE APPLIED FOR UNDER SEPARATE UTILITY PERMIT.
 6. RI STD DETAIL 9.0.0 - CONSTRUCTION ACCESS SHALL BE USED.

EROSION AND SEDIMENTATION CONTROL NOTES:
 TEMPORARY AND/OR PERMANENT EROSION CONTROL DEVICES SUCH AS BALED HAY, SILT FENCING, FILTRATION SOCK, ETC. SHALL BE INSTALLED PRIOR TO ANY CLEARING OR EXCAVATION. HAY BALES OR SILT FENCING SHALL BE PLACED IMMEDIATELY DOWN SLOPE AND ADJOINING AREAS OF SOIL DISTURBANCE AND STOCKPILES. INSTALLATION OF ALL EROSION CONTROL DEVICES SHALL BE CONDUCTED IN ACCORDANCE TO DETAIL SPECIFICATIONS.
 CLEARING OF EXISTING VEGETATION SHALL BE DONE IN A CONTROLLED MANNER SO AS TO AVOID EXTENSIVE AREAS OF DEFOLIATED TERRAIN SUBJECT TO EROSION. AREAS SO DISTURBED SHALL BE BROUGHT TO FINAL GRADES AND STABILIZED AS SOON AS POSSIBLE.
 DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
 ALL EROSION CONTROL DEVICES SHALL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS DURING CONSTRUCTION, ESPECIALLY AFTER EACH RAINFALL.
 DUE TO CHANGING CHARACTERISTICS OF THE SITE CAUSED BY AND DURING CONSTRUCTION ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS SITE CONDITIONS WARRANT.
 IF CONSTRUCTION IS SUSPENDED, ALL DISTURBED AREAS SHALL BE SEEDED AND ALL NECESSARY EROSION CONTROL DEVICES SHALL BE IN PLACE AND IN GOOD WORKING ORDER. IF SEEDED IS NOT POSSIBLE THEN EROSION CONTROL MATS SHALL BE PLACED OVER ALL DISTURBED SOIL.
 EROSION CONTROL BLANKETS (MATS) SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. EROSION CONTROL BLANKETS (MATS) SHALL BE MANUFACTURED BY NORTH AMERICAN GREEN OR APPROVED EQUIVALENT AND INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
 ALL EROSION CONTROL METHODS, MATERIALS AND MAINTENANCE SHALL BE DONE IN ACCORDANCE WITH THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK".
 ALL AREAS WHICH ARE DISTURBED DURING CONSTRUCTION ARE TO BE BROUGHT TO FINISHED GRADE WITH AT LEAST 8" MINIMUM DEPTH OF GOOD QUALITY LOAM AND ALL SOIL AMENDMENTS DEEMED NECESSARY. THE AREA SHALL BE SEEDED WITH A QUICK GERMINATING GRASS SEED SUCH AS URI #2 OR APPROVED EQUIVALENT.
 THE CONTRACTOR SHALL PROVIDE FOR ALL SEEDED AREAS TO BE WATERED AND IN GOOD CONDITION UNTIL A GOOD HEALTHY AND UNIFORM GROWTH IS ESTABLISHED OVER THE ENTIRE AREA.

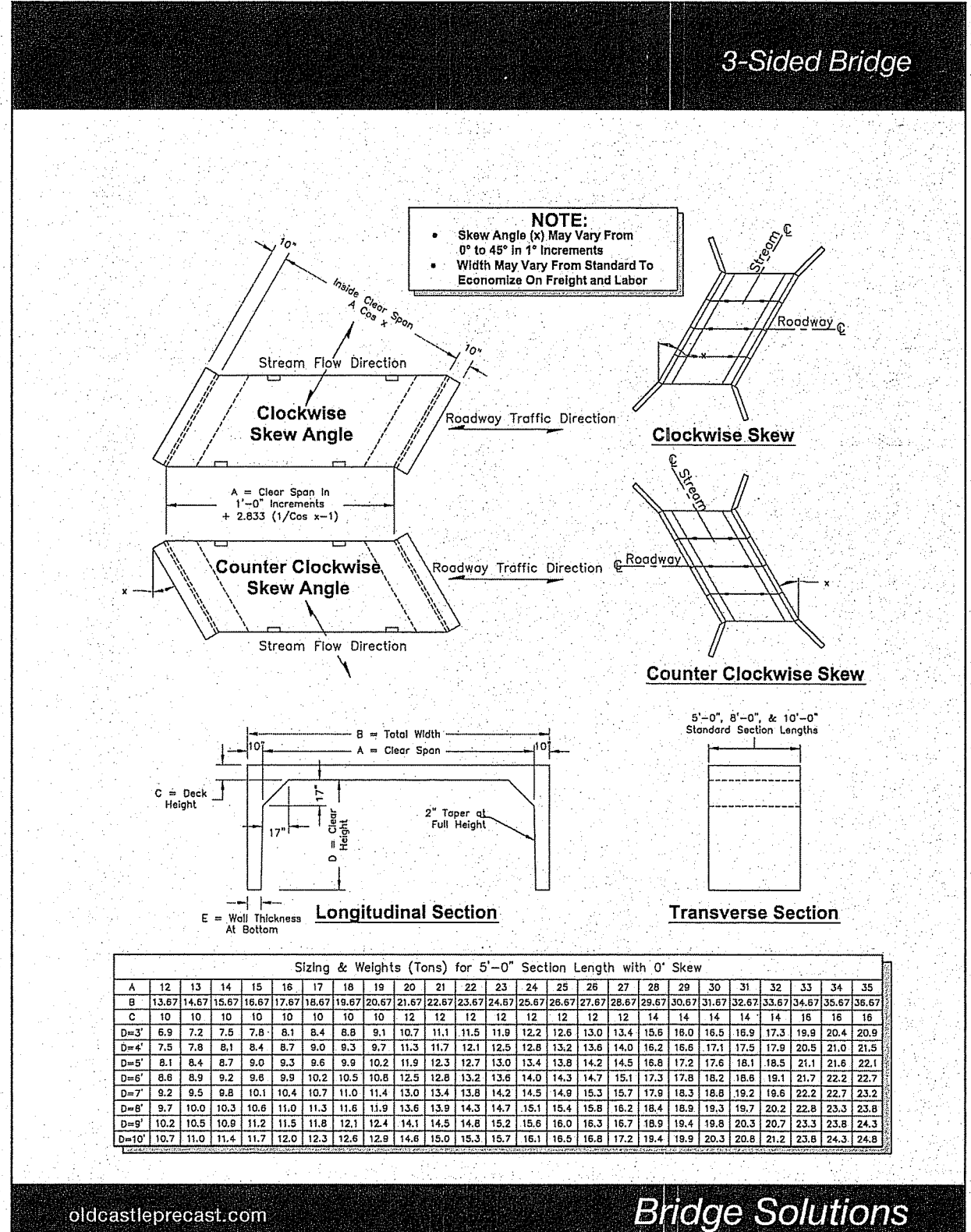


PLAN VIEW

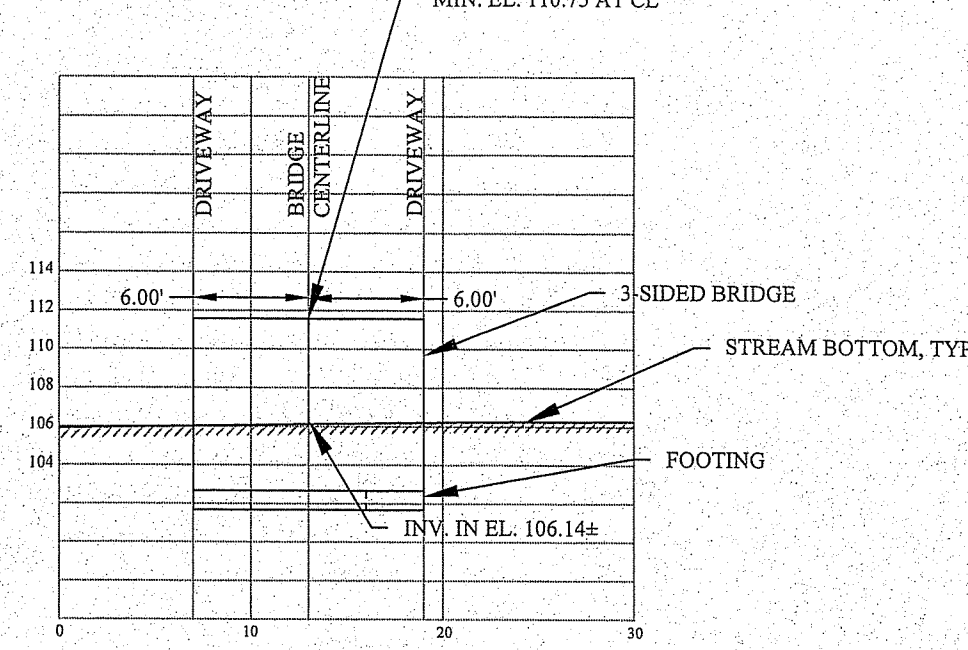


CROSS-SECTION

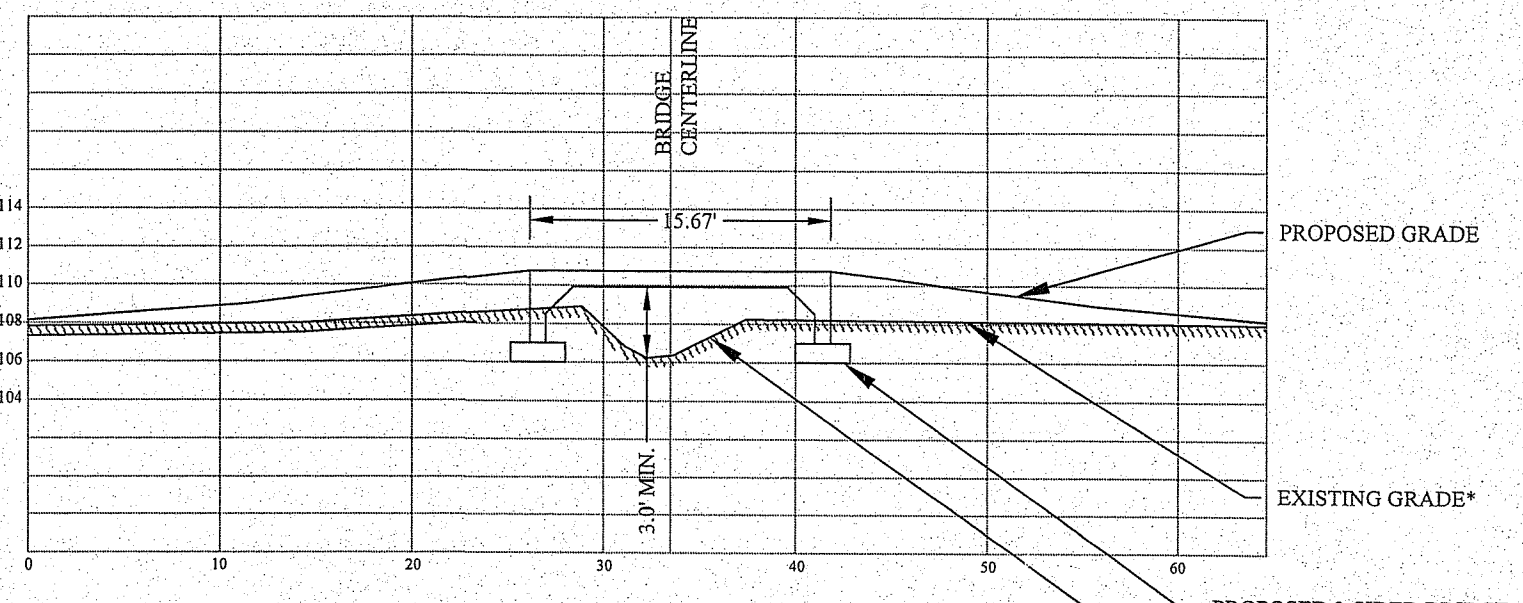
FILTRATION SOCK DETAIL
NOT TO SCALE



Bridge Solutions



DETAIL SECTION A-A THROUGH BRIDGE
SCALE: 1" = 10'



DETAIL SECTION B-B THROUGH DRIVEWAY
SCALE: 1" = 10'

CJ DOYLE, P.E.
 CIVIL ENGINEERING
 MAILING ADDRESS:
 P.O. BOX 1161, HOPE VALLEY, RI 02832
 OFFICE LOCATION:
 1122 MAIN STREET, WYOMING, RI
 PHONE (401) 491-9530
 cjdengine@cox.net

NO.	DATE	DESCRIPTION	BY

DRAWING TITLED:
DRIVEWAY CULVERT

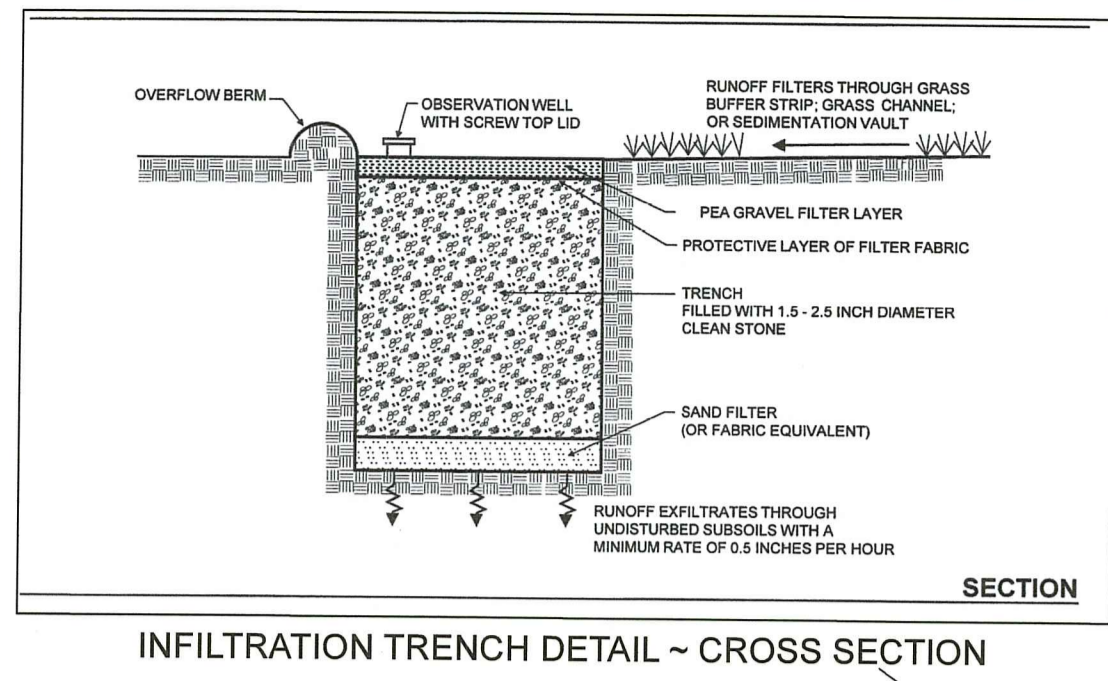
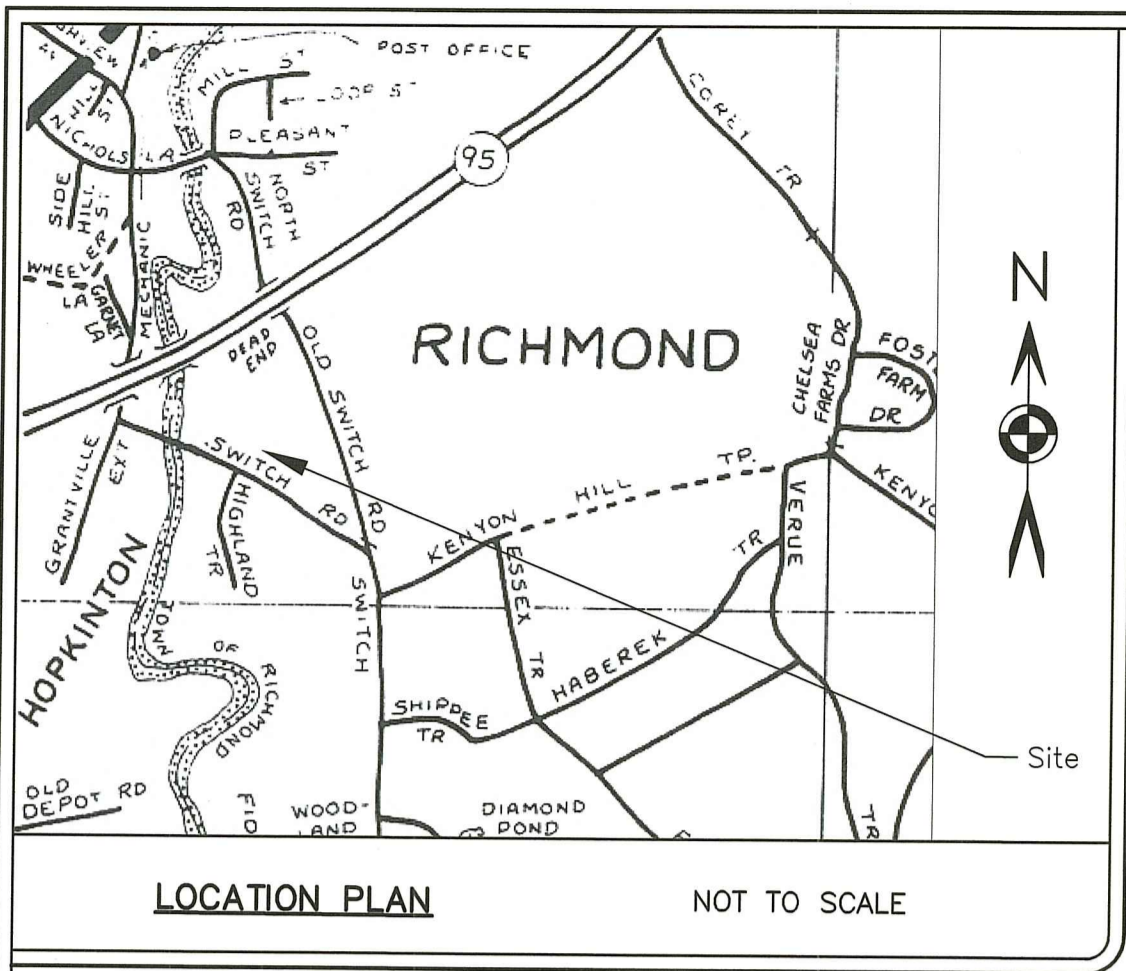
LOCATED ON:
LOT 10 PLAT 6A

OWNED BY:
MICHAEL CASEVANT

ADDRESS:
**128 SWITCH ROAD
IN THE TOWN OF RICHMOND, RI**

APRIL 25, 2024
 DESIGNED BY:
CAROLYN J. DOYLE, P.E.
 SCALE: 1" = 20'
 DRAWN BY:
CJD CHECKED BY:
CJD
 DRAWING NO.
SHEET 2 OF 2

CAROLYN J. DOYLE
 No. 5078
 REGISTERED PROFESSIONAL ENGINEER



Additional OWTS Notes:

1. Refer to Application #2029-0986
2. Excavate OWTS area & 5' all around to elevation 100.0 or to remove all soil within the CD horizon.
3. Install septic gravel to elevation 102.6'
4. Excavate trenches for eljen in-drains to elevation 101.5'
4. Install 6" of concrete sand under and around in-drains.
5. Installer to contact designer prior to start of construction
6. Installer to provide designer with copies of any State Inspection Reports and receipts of all materials & components.

Zoning District = R-3

Dimensional Regulations

- Minimum Lot Size 3 Acres
- Minimum Frontage 300'
- Front Setback 50'
- Side Setback 35'
- Rear Setback 100'
- Max. Building Hgt. 35'
- Assy Building-1 Story
- Side & Rear 20'

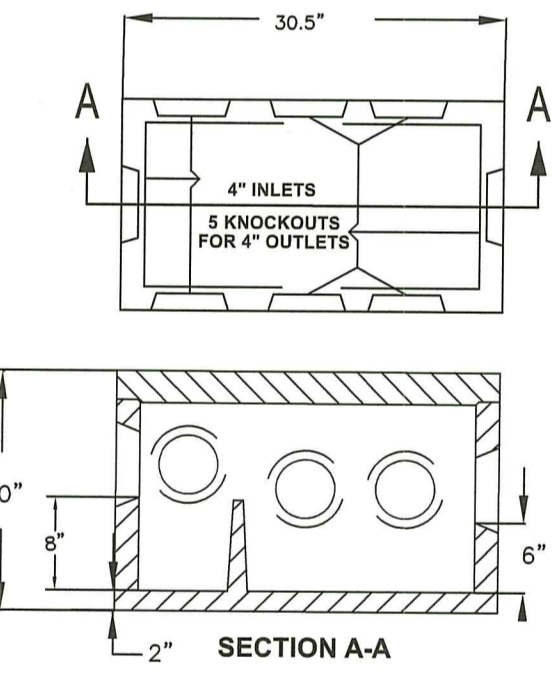


Terry Lane
Glocester, RI 02814
(401) 568-8874

PRODUCT CODE CPDB-5

- DESIGN NOTES:**
- Inlet baffle cast in place.
 - Concrete is 5000 psi at 28 days.

Distribution Box - 5



PLAN NOTES:

- 1) THE INFORMATION SHOWN OF THIS PLAN WAS OBTAINED FROM AN ON-SITE SURVEY.
- 2) THIS PARCEL LIES IN FEMA FLOOD ZONE X ON 4009C0152J EFF. 4/2/2020.
- 3) WETLAND AREA DELINEATED BY APPLIED BIO-SYSTEMS, INC. PO BOX 985 WEST KINGSTON, RI 02892 (401) 783-6740 ON MARCH 31, 2020.

Stormwater Management

(CALCULATIONS PERFORMED USING CRMC GUIDANCE DOCUMENT)

Proposed Dwelling = 1,516 Sq. Feet
Drive to Dwelling + 3,524 Sq. Feet
Drainage Area = 5,030 Sq. Feet

FOR DWELLING: USING DRY WELLS ~ MAXIMUM 36" DEPTH (SILTY SOIL):
FOR 1,516 SF OF DRAINAGE AREA THE REQUIRED DRY WELL AREA = 117.3 SF
PROPOSED DRY WELL AREA TOTAL = 124 SF (A & B 7.87' X 7.87' X 3' DEEP)

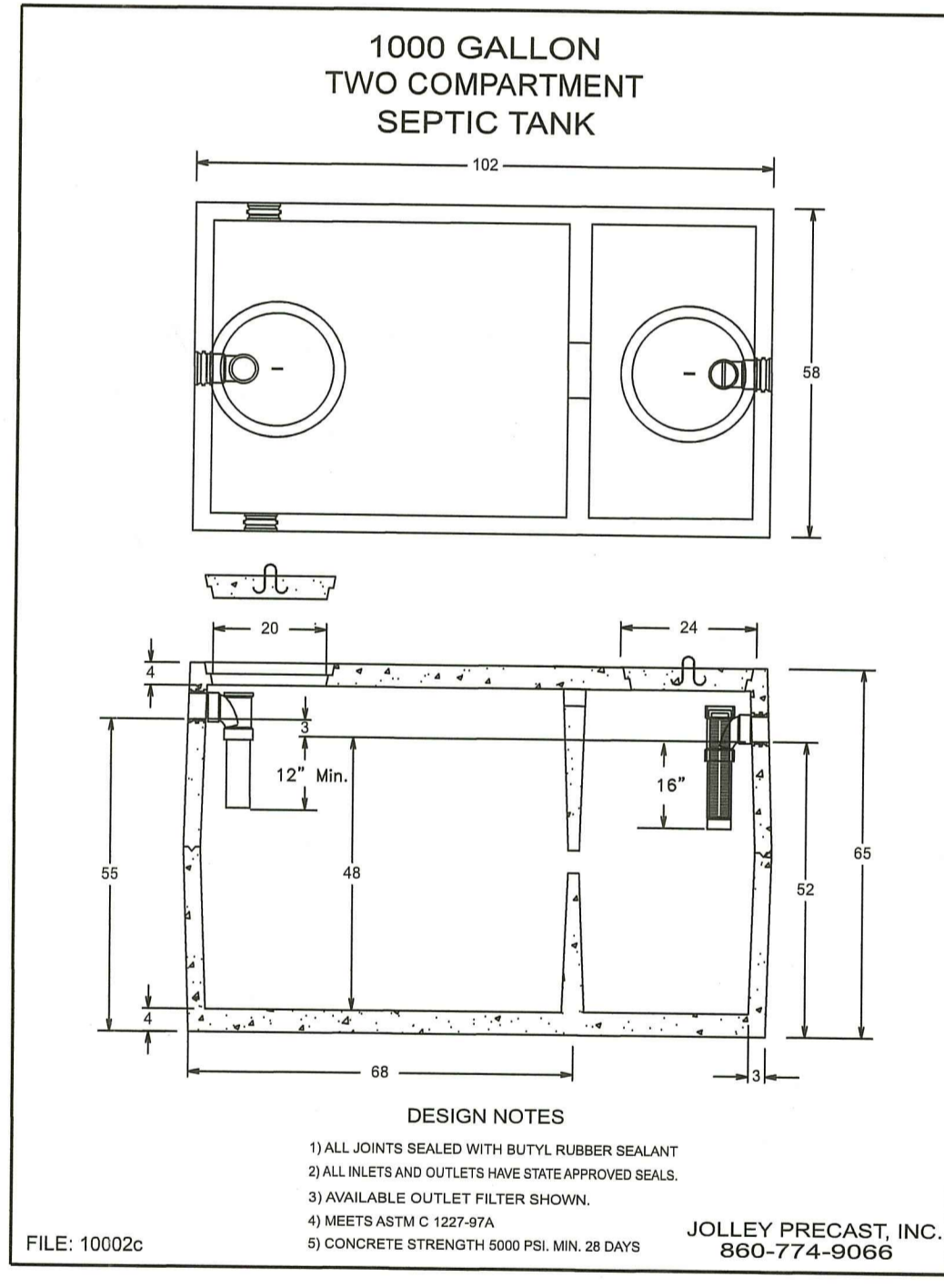
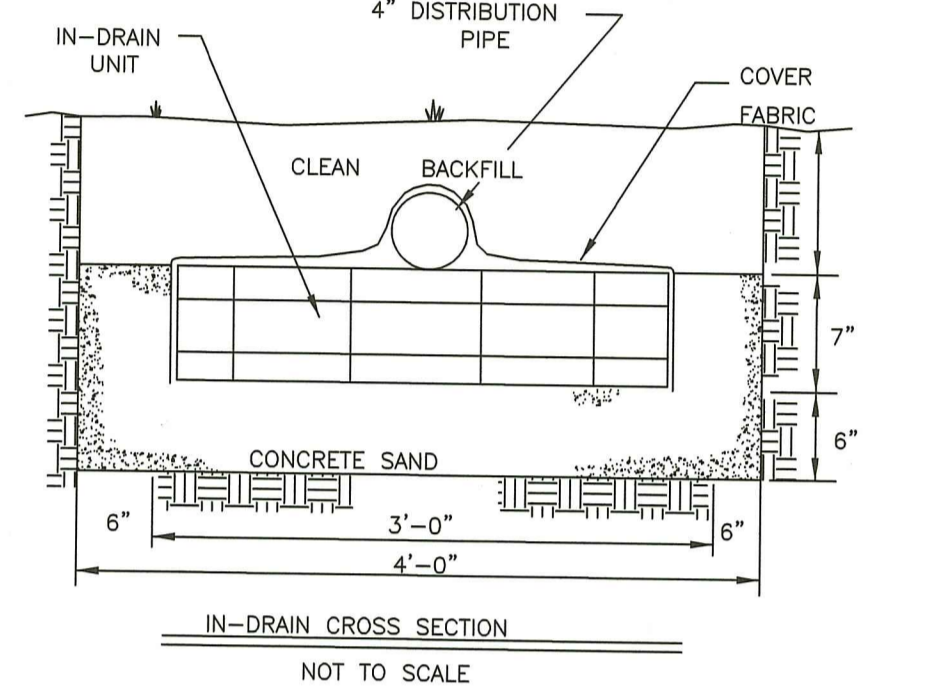
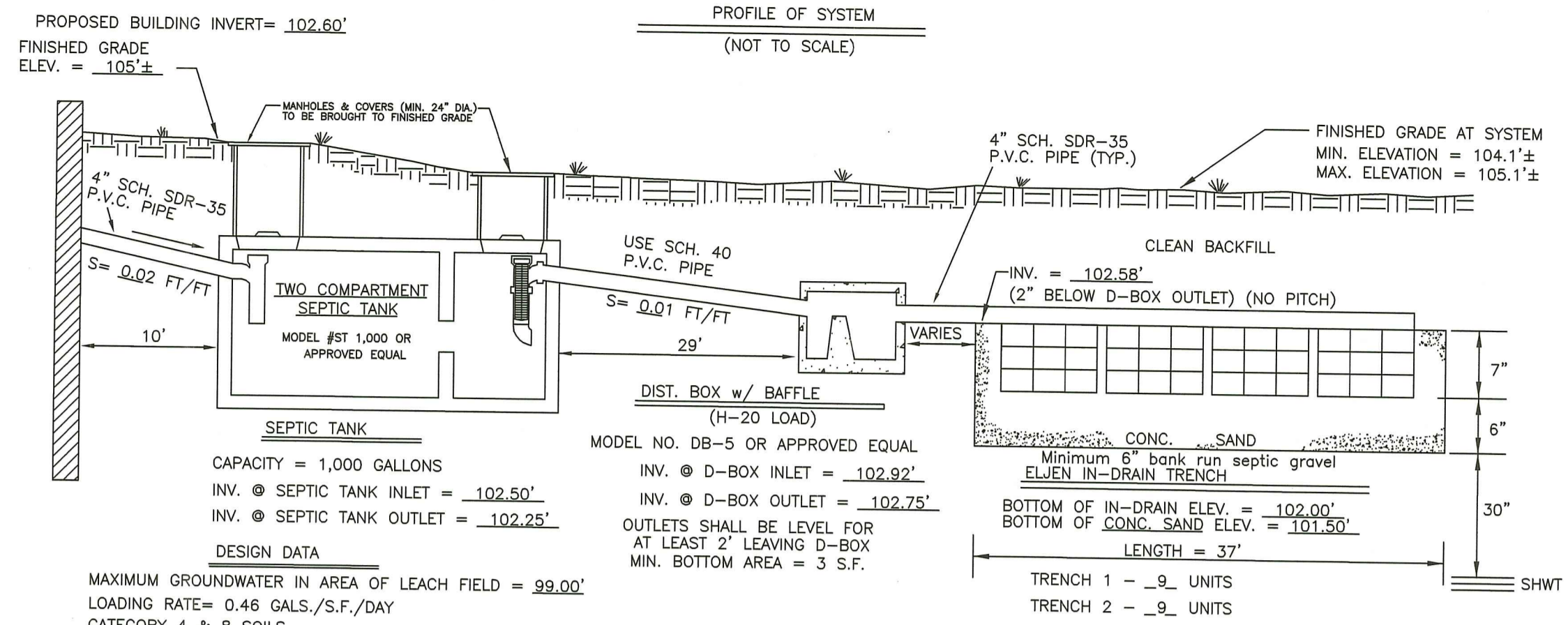
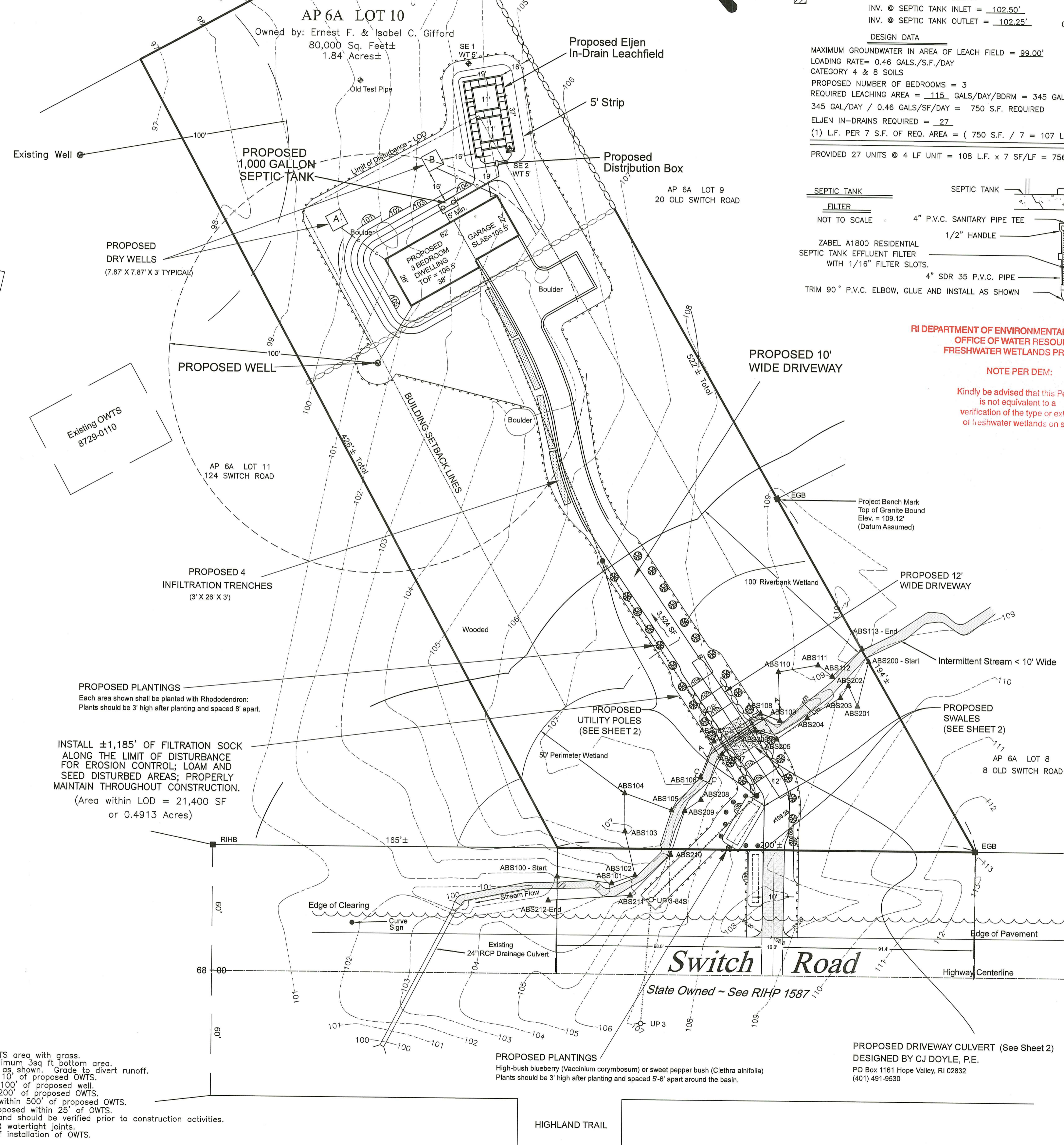
FOR DRIVE: FROM CENTERLINE CULVERT TO HOUSE, USING INFILTRATION TRENCHES
FOR 3,524 SF OF DRAINAGE AREA THE REQUIRED DRY WELL AREA = 291.9 SF
PROPOSED TRENCH AREA TOTAL = 312 SF (4 @ 3' X 26' X 3' DEEP)

LEGEND:

- AP ASSESSOR'S PLAT
- N/F NOW OR FORMERLY
- SE SOIL EVALUATION TEST HOLE
- EGB EXISTING GRANITE BOUND
- RIHP RHODE ISLAND HIGHWAY PLAT
- RIHB RHODE ISLAND HIGHWAY BOUND
- 744+50 HIGHWAY STATION NUMBER
- ▲ABS100 WETLAND FLAG
- STONE WALL
- OVERHEAD WIRES

GENERAL OWTS NOTES

Do not park on OWTS area. Seed OWTS area with grass.
Use 11-20 Load distribution box. Minimum 5sq ft bottom area.
Extend septic tank manhole to grade as shown. Grade to divert runoff.
Remove all vegetation & trees within 10' of proposed well.
No OWTS existing or proposed within 100' of proposed OWTS.
No wells existing or proposed within 200' of proposed OWTS.
No underground drains existing or proposed within 25' of OWTS.
No underground drains existing or proposed within 500' of proposed OWTS.
Lot lines as shown are approximate and should be verified prior to construction activities.
Use 4" diameter sewer pipe (SDR 35) watertight joints.
Designer must supervise all phases of installation of OWTS.



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

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

CERTIFICATION

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 435-RICR-00-00-1.5 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:

(A) TYPE OF BOUNDARY SURVEY: MEASUREMENT SPECIFICATION
NOT A BOUNDARY SURVEY.
THIS COMPILATION PLAN HAS BEEN PREPARED FROM SOURCES OF INFORMATION AND DATA WHOSE POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED. THE PROPERTY LINES DEPICTED HEREON DO NOT REPRESENT A BOUNDARY OPINION, AND OTHER INFORMATION DEPICTED IS SUBJECT TO SUCH CHANGES AS AN AUTHORITY FIELD SURVEY MAY DISCLOSE.

(B) OTHER TYPE OF SURVEY: III
DATA ACCUMULATION SURVEY - LOCATION OF SITE FEATURES & TOPOGRAPHY

(C) STATEMENT OF PURPOSE:
THE PURPOSE OF THIS SURVEY AND PLAN IS TO SHOW EXISTING SITE FEATURES SUFFICIENT TO DESIGN & INSTALL A SEPTIC SYSTEM

BY: **John Rockwell**
REGISTERED PROFESSIONAL LAND SURVEYOR SIGNATURE

John E. Rockwell, PLS
REGISTERED PROFESSIONAL LAND SURVEYOR PRINTED NAME
12/20/2022

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

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: JAN 27 2023 FILE #: 22-0381

Date: November 5, 2021

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Sheet 1 of 2

Scale in feet: 1"=30'

Revisions:
5/1/22 RIOT COMMENTS 6/27/22 RIHM COMMENTS 12/19/22 COMMENTS
4/7/22 RIOT COMMENTS 10/25/22 CROSS SECTIONS 12/20/22 REVISED

JOHN E. ROCKWELL
No. 1959
Professional Land Surveyor
12-20-2022

SOVEREYTY CO. SURVEY CO.
46 South Main Street
Coventry, Rhode Island 02816
(401) 823-5028
Land Surveying / Mapping / OWTS Designs

Proposed On-site Wastewater Treatment System
Showing Proposed Driveway & Culvert
at Pole #3-84 Switch Road
in the Town of Richmond, Rhode Island
Assessor's Plat 6A / Lot 10
Prepared for: Ernest F. Gifford, Jr.
PO Box 263 Hope, RI 02831

RI Environmental Management
DEC 2 2022
Office of Water Resources

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: JAN 27 2023 FILE #: 22-0381
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

