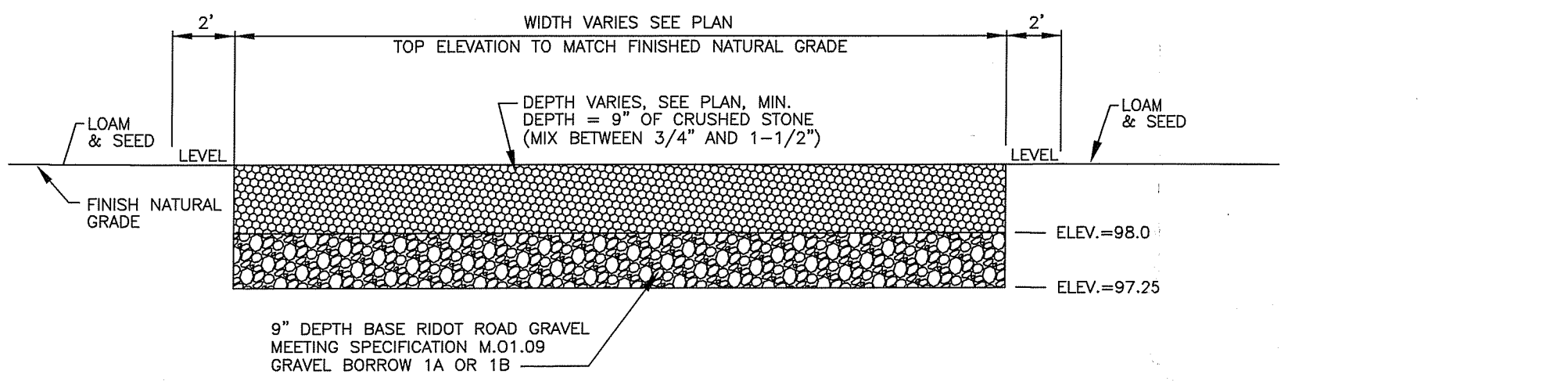


**PLAN VIEW**

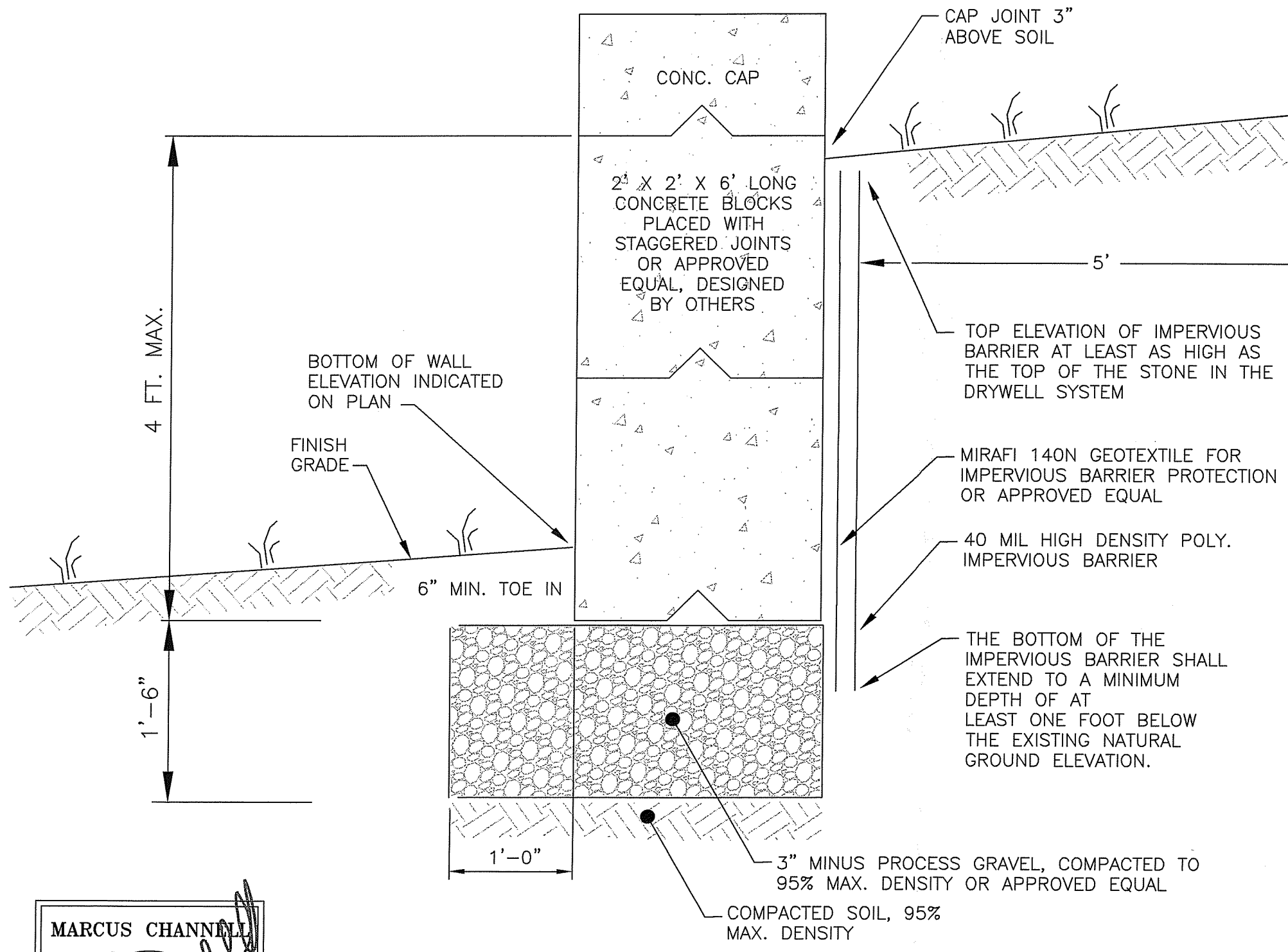
SCALE: 1"=20'



- NOTES:**
1. ALL LOAM, SUBSOIL FILL, TREE ROOTS ETC. BENEATH PROPOSED DRIVEWAY SHALL BE REMOVED & DISPOSED AND REPLACED WITH RIDOT ROAD GRAVEL.
  2. ALL MATERIALS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY.
  3. EXISTING PAVEMENT EDGES SHALL BE SAW CUT (IF APPLICABLE).
  4. THE SURFACE COURSE SIZE OF SEASHELL STONE CAN VARY TO CUSTOMER PREFERENCE, BUT THE SURFACE SHALL REMAIN HIGHLY PERVIOUS AND ALL STONE SHALL BE CRUSHED, WASHED AND VERY ANGULAR. STONE SHALL BE OF VARYING SIZES SO STONE DOES NOT 'ROLL'. STONE POROSITY SHALL BE 33% OR GREATER.

**TYPICAL PERVIOUS DRIVEWAY SECTION**

NOT TO SCALE



**IMPERVIOUS BARRIER DETAIL**

NOT TO SCALE

**STORMWATER CONTROL REQUIRED:**

NOTE: DRAINAGE DESIGN TO MEET NARRAGANSETT ZONING ORDINANCE 7.7.  
 LOCATION: PENNSYLVANIA AVENUE, NARRAGANSETT. A.P. T. LOT 280  
 DESIGN STORM: 25-YEAR, 24-HOUR STORM PRODUCE 6.1 INCHES (0.51 FEET) OF RAIN.

COVER TYPE	AREA	% RUNOFF	RAINFALL	RUNOFF VOLUME
PRE - WOODS	4,800 SQ. FT.	15% RUNOFF	0.51 FT.	368 CUB. FT.
TOTAL	4,800 SQ. FT.			368 CUB. FT.
POST - HOUSE	988 SQ. FT.	95% RUNOFF	0.51 FT.	478 CUB. FT.
POST - DRIVE (CRUSHED STONE)	567 SQ. FT.	90% RUNOFF	0.51 FT.	280 CUB. FT.
POST - LAWN	3,245 SQ. FT.	15% RUNOFF	0.51 FT.	248 CUB. FT.
TOTAL	4,800 SQ. FT.			986 CUB. FT.

PRE-PROJECT VOLUME = 368 CUB. FT.  
 POST-PROJECT VOLUME = 986 CUB. FT.  
 VOLUME REQUIRED = 618 CUB. FT.

**PROPOSED STORMWATER SYSTEM:**  
 USE A CRUSHED STONE DRIVEWAY & DRYWELL TO MITIGATE THE INCREASE IN RUNOFF.

AREA OF DRIVEWAY = 567 SQ. FT.  
 DEPTH OF DRIVEWAY CRUSHED STONE = 9"  
 VOLUME OF DRIVEWAY CRUSHED STONE = 567 SQ. FT. X 9" DEEP X 33% POROSITY = 140 CUB. FT.  
 VOLUME OF STORMWATER INFILTRATED AT DRIVEWAY IN 24 HRS = 567 SQ. FT. X 0.27 IN/HR / 12 IN/FT X 24 HRS = 306 CUB. FT.

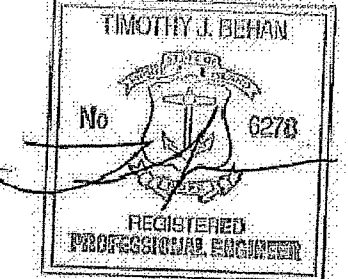
BOTTOM AREA OF DRYWELL = 176 SQ. FT.  
 STORAGE VOLUME OF DRYWELL STONE = 87 CUB. FT.  
 VOLUME OF STORMWATER INFILTRATED VIA DRYWELL IN 24 HRS = 176 SQ. FT. X 0.27 IN/HR / 12 IN/FT X 24 HRS = 85 CUB. FT.

TOTAL VOLUME MITIGATED = 628 CUB. FT.

**CONCLUSION:**  
 POST DEVELOPMENT HAS LESS RUNOFF THAN PRE DEVELOPMENT SINCE 628 > 618 CUB. FT.

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 400 SMITH STREET  
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 401-273-6600

**CERTIFICATION:**

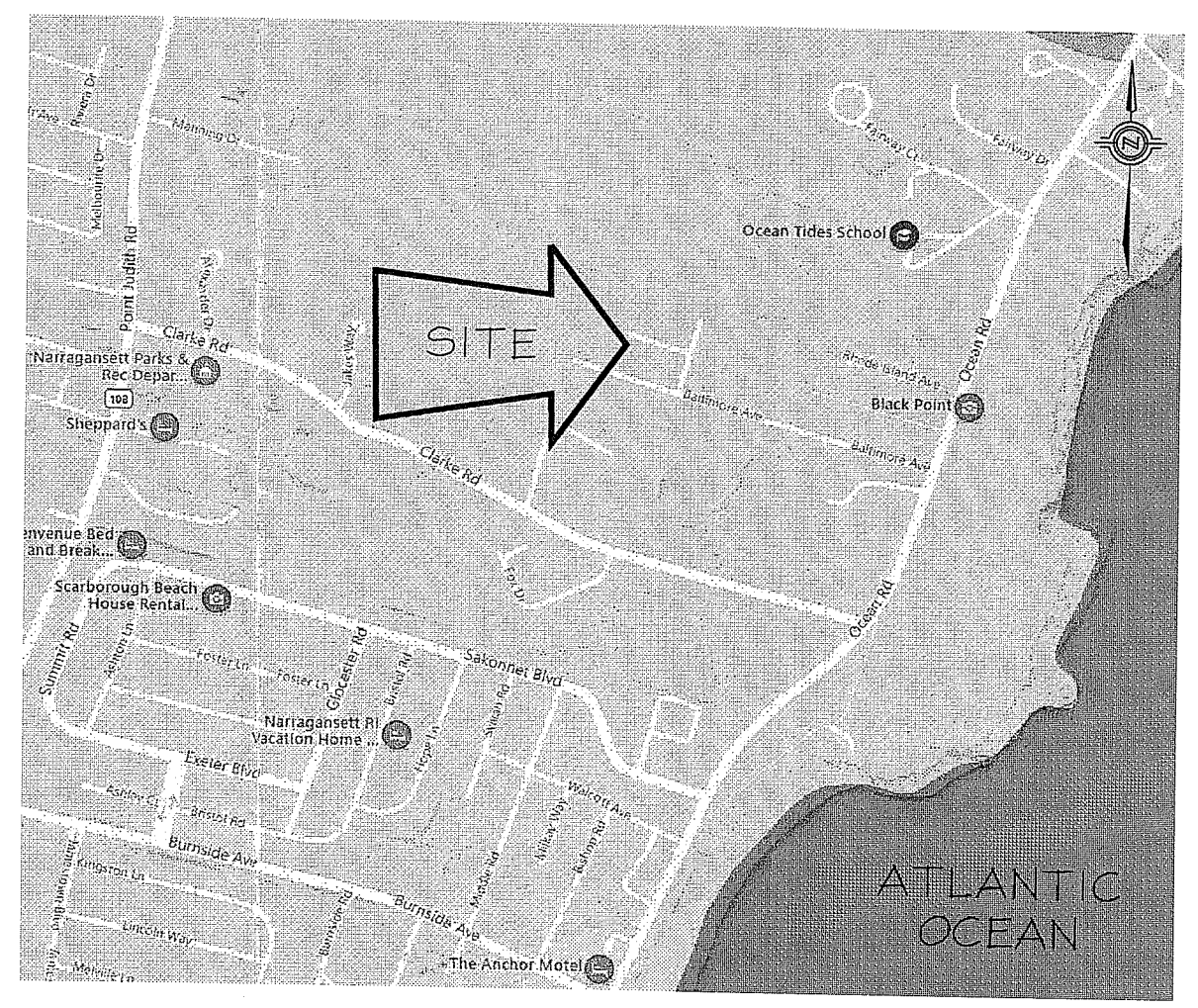


THIS PLAN AND ACCOMPANYING CALCULATIONS FOR PROPOSED STORMWATER MANAGEMENT WAS PREPARED IN ACCORDANCE WITH THE PROVISIONS OF THE TOWN OF NARRAGANSETT ZONING ORDINANCE SECTION 7.7. "SUPPLEMENTAL DRAINAGE REQUIREMENTS" AND WAS DESIGNED TO CONFORM TO THE PROVISIONS THEREOF. I UNDERSTAND THAT THE TOWN OF NARRAGANSETT DOES NOT ASSUME LIABILITY FOR STORMWATER MANAGEMENT FACILITIES DESIGNED BY OTHERS.

December 28, 2021  
**COMMONWEALTH ENGINEERS & CONSULTANTS, INC.**  
 400 SMITH STREET  
 PROVIDENCE, RHODE ISLAND 02908

**LEGEND**

- STONE BOUND FOUND
- STONE BOUND DRILLHOLE FOUND
- IRON PIPE FOUND
- UTILITY POLE
- WATER SHUTOFF
- DRILLHOLE FOUND
- CESSPOOL/SEPTIC TANK LID
- WELL
- STONE WALL
- PROPERTY LINE
- APPROX. PROPERTY LINE
- PROP. SILT FENCE
- CONTOUR (ASSUMED DATUM)
- EXISTING WATERLINE
- EXISTING ELECTRICLINE
- EXISTING TREELINE
- SOIL EVALUATION
- PROPOSED WATERLINE
- EXIST. SPOT ELEVATION
- PROPOSED 4" SDR 35 PVC SOLID DRAINLINE
- PROPOSED ELECTRICAL

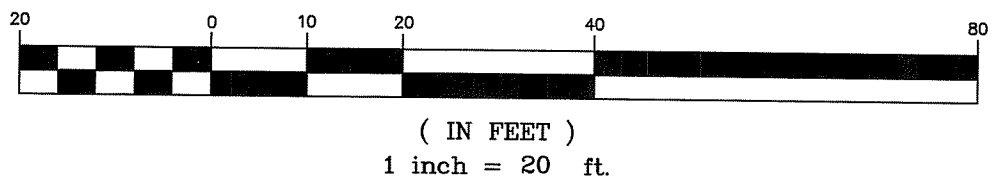


**LOCUS MAP**

**R-40 ZONING DATA**

NON-CONFORMING LOT OF RECORD SETBACKS:  
 FRONT = 25'  
 SIDES = 10'  
 REAR = 25'  
 STRUCTURE LOT COVERAGE = 25%

**GRAPHIC SCALE**



**STORMWATER BMP NOTES**

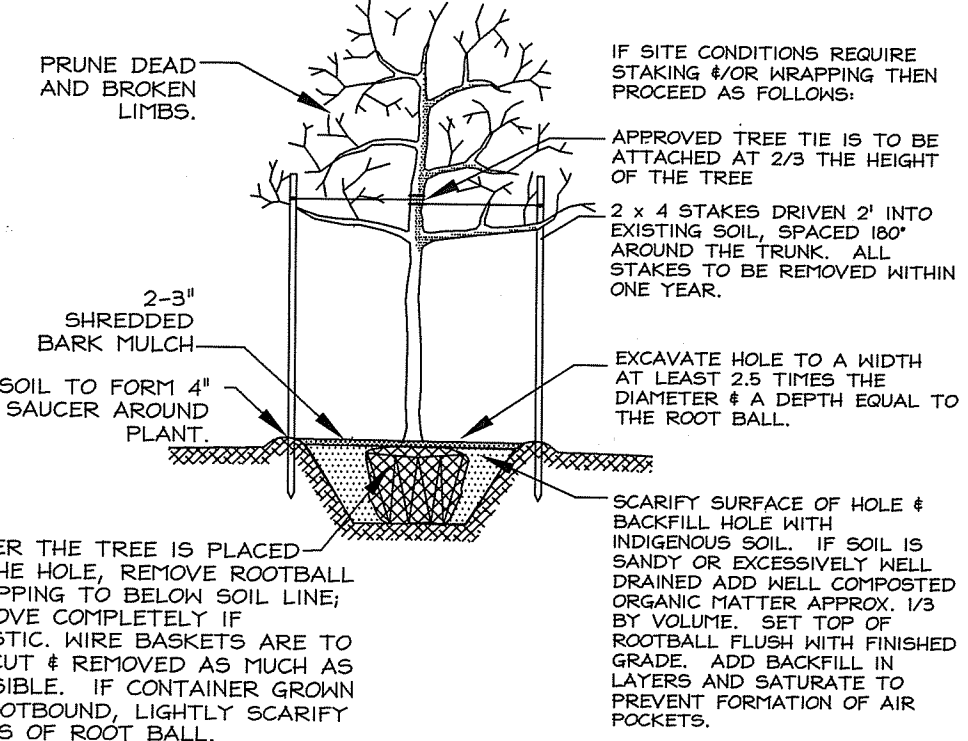
- GENERAL:**
1. PROPERTY OWNER SHALL MAINTAIN BMPs IN ACCORDANCE WITH THE 'STATE OF RHODE ISLAND STORMWATER MANAGEMENT GUIDANCE FOR INDIVIDUAL SINGLE FAMILY RESIDENTIAL LOT DEVELOPMENT
  3. SPECIFICATIONS, DETAILS, INSTALLATION AND MAINTENANCE REQUIREMENTS TO GOVERN THIS PROJECT FOR STORMWATER BEST MANAGEMENT PRACTICES (BMPs) ARE THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, AS REVISED. THE MANUAL IS AVAILABLE FOR DOWNLOAD AT THE CRMC AND RIDEM WEBSITES.
  4. ALL BMP AREAS SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES SO SOILS DON'T BECOME COMPACTED.
  5. ALL AREAS COMPACTED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO PROMOTE INFILTRATION BY TILLING THE TOP 12 INCHES OF SOIL PRIOR TO FINAL STABILIZATION
- PERVIOUS DRIVEWAY:**
- A. CRUSHED STONE SHALL BE REPLACED OR RE-GRADED PERFORMED AS NECESSARY IN CRUSHED STONE DRIVEWAYS TO MAINTAIN A DESIGN DEPTHS AND A LEVEL SURFACE.
- DRYWELL:**
- A. INFILTRATION PRACTICES SHALL BE INSPECTED ANNUALLY AND REPAIRED AS NECESSARY TO ENSURE PROPER OPERATION.
  - B. ACCUMULATED SEDIMENT AND DEBRIS SHALL BE REMOVED.

**OWTS GENERAL NOTES:**

1. THE PROPERTY 'IS NOT' SUBJECT TO RHODE ISLAND COASTAL RESOURCES MANAGEMENT COUNCIL REVIEW.
2. ALL PRIVATE AND PUBLIC DRINKING WATER LINES WITHIN 50 FEET OF THE PROPOSED ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) ARE SHOWN, UNLESS OTHERWISE NOTED ON SITE PLAN.
3. THERE ARE NO PUBLIC SEWERS AVAILABLE TO THE PROPERTY WITHIN 200 FEET UNLESS NOTED ON SITE PLAN.
4. ALL EXISTING AND PROPOSED PRIVATE DRINKING WATER WELLS, 4/OR THERE RADI, ARE SHOWN WITHIN 200' OF THE PROPOSED OWTS COMPONENTS SHOWN ON SITE PLAN.
5. ALL EXISTING AND PROPOSED HELLS SERVING NON-POTABLE USES WITHIN 100 FEET OF THE OWTS ARE SHOWN, UNLESS OTHERWISE NOTED ON THE SITE PLAN.
6. ALL EXISTING AND PROPOSED PUBLIC DRINKING WATER WELLS WITHIN 500 FEET OF THE PROPOSED OWTS ARE SHOWN, UNLESS OTHERWISE NOTED ON THE SITE PLAN. THE CONSTRUCTION DETERMINATION OF SAID WELLS IS IDENTIFIED ON THE SITE PLAN, UNLESS OTHERWISE NOTED.
7. ALL WATERCOURSES, WETLANDS, AND DRAINS WITHIN 200 FEET OF THE PROPOSED OWTS ARE SHOWN, UNLESS OTHERWISE NOTED ON SITE PLAN.
8. ALL STORM AND SUBSURFACE DRAINS WITHIN 200 FEET OF THE PROPOSED OWTS ARE SHOWN, UNLESS OTHERWISE NOTED ON SITE PLAN. THE ULTIMATE DISCHARGE OF SAID DRAINS ARE IDENTIFIED ON THE SITE PLANS.
9. THE OWTS 'IS NOT' LOCATED WITHIN THE WATERSHED OF A PUBLIC WATER SUPPLY OR OTHER CRITICAL RESOURCE AREA.
10. ALL EXISTING OWTS ON ABUTTING PROPERTIES WITHIN 200 FEET OF A PROPOSED WELL TO SERVICE THE SUBJECT PROPERTY ARE IDENTIFIED ON THE SITE PLAN, UNLESS OTHERWISE NOTED.
11. THE SUBJECT PROPERTY IS NOT LOCATED WITHIN AN IDENTIFIED FLOOD ZONE ACCORDING TO FEMA MAP # 4400040214J, EFFECTIVE ON 10/16/2013.
12. IF A PROPOSED WELL IS REQUIRED TO SERVICE THE WATER REQUIREMENTS FOR THE SUBJECT PROPERTY, SAID WELL "DOES NOT" REQUIRE A VARIANCE FROM RIDEM "RULES AND REGULATIONS GOVERNING THE ENFORCEMENT OF CHAPTER 46-13.2 RELATING TO THE DRILLING OF DRINKING WATER WELLS".
13. OWTS DESIGN DATA:
  - 3 BEDROOM - 15 GALLONS PER BEDROOM - TOTAL DESIGN FLOW = 345 GPD
  - BASED ON THE SOIL EVALUATION, THE MOST RESTRICTIVE SOIL DESIGN CATEGORY IS Bm.
  - THE SOIL APPLICATION RATE = 1.9 GAL/SQ FT/DAY
  - TOTAL REQUIRED LEACHING AREA = 181.67 SQUARE FEET
  - TOTAL PROVIDED LEACHING AREA = 184.00 SQUARE FEET
  - LEACHFIELD: 8' W X 23' L BOTTOMLESS SAND FILTER.
14. OWTS GENERAL CONSTRUCTION NOTES:
  - ALL PIPING SHALL BE 4" PVC SCH 40 OR EQUIVALENT, UNLESS OTHERWISE NOTED
  - ALL PIPE SLOPES SHALL BE A MINIMUM OF 1/8" AND A MAXIMUM OF 5% REFER TO THE PROFILE
  - THE SEPTIC TANK SHALL BE A CONCRETE TANK WITH THE CAPACITY AS STATED ON THE SITE PLAN
  - THE SEPTIC TANK INLET SHALL EXTEND 1' BELOW THE FLOW LINE AND THE OUTLET TEE SHALL EXTEND 1/3 THE DEPTH BELOW THE FLOW LINE.
  - THE SEPTIC TANK SHALL BE FITTED WITH TWO ACCESS HANDBOLE RISERS NOT LESS THAN 20" IN DIAMETER AND 3' CLEARANCE FROM THE BOTTOM AREA AND BE CAPABLE OF CARRYING A MINIMUM 300 PSF LOAD WITH MINIMAL SIDEWALL DEFLECTION.
  - LEACHFIELD STONE, IF USED SHALL BE 3/4" TO 2" DOUBLE WASHED STONE, FREE OF ALL DEBRIS.
  - SURFACE GRADES WITHIN 5 FEET OF THE LEACHFIELD SHALL NOT BE LOWER THAN ELEVATION 98.75' AT THE 10' FEET DISTANCE FROM THE LEACHFIELD, THE SLOPE SHALL BE A MINIMUM OF 3% TO MATCH INTO EXISTING GRADES.
  - THE LEACHFIELD AND THE AREA WITHIN 10 FEET FROM THE LEACHFIELD SHALL BE STRIPPED OF ALL TREES, BRUSH, STUMPS AND BOULDERS. THE SIDES AND BOTTOM OF THE EXCAVATION SHALL NOT BE COMPACTED OR SHEARED AND THE BOTTOM SHALL BE SCARIFIED PRIOR TO LEACHFIELD PLACEMENT TO A MINIMUM DEPTH OF 36.75'.
  - REFER TO THE SITE PLAN FOR LEACHFIELD STRIP REQUIREMENTS.
  - THE FINISH GRADE OVER THE SEPTIC TANK SHALL BE GRADED TO DIVERT SURFACE WATER RUNOFF AWAY FROM THE TANK.
  - IF A DRIVEWAY OR PAVEMENT IS TO BE LOCATED NEAR THE PROPOSED OWTS, A FENCE OR VEHICULAR TRAFFIC FROM DRIVING ONTO THE SYSTEM.
  - CONTRACTOR TO OBSERVE & CONFIRM ALL EXISTING PLUMBING INSIDE THE DWELLING WILL BE TIED TO VERIFY WHERE ALL EXISTING PLUMBING EXISTS THE BUILDING(S), SHOWN ON THIS PLAN, PRIOR TO INSTALLING ANY OWTS COMPONENTS. NEW PLUMBING, INSIDE THE BUILDING(S) SHOWN ON THIS PLAN, MAY BE REQUIRED AS PART OF THIS OWTS INSTALLATION.
15. THIS PLAN CONFORMS TO A CLASS "III" PROPERTY LINE & A CLASS "III" TOPOGRAPHY AS ADOPTED BY THE RI BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. THIS SURVEY IS NOT VALID FOR ANY OTHER PURPOSE, OTHER THAN SHOWN ON THIS PLAN, WITHOUT WRITTEN CONSENT.
16. GENERAL OWNER NOTES:
  - FOOD/GARBAGE GRINDERS INSIDE DWELLING AND DISPOSAL OF GREASES, OILS, AND OR FATS ARE PROHIBITED.
  - VEHICLE PARKING OR TRAFFIC OVER THE OWTS COMPONENTS IS PROHIBITED.
  - BACKWASH WATER FROM A WATER TREATMENT SYSTEM WAS NOT TAKEN INTO CONSIDERATION WITH THE DESIGN OF THIS OWTS. WATER TREATMENT SYSTEM DISCHARGE TO THIS OWTS IS PROHIBITED.
  - THE SEPTIC TANK SHALL BE PUMPED WHEN DEEMED NECESSARY BY OPERATIONS & MAINTENANCE PERSONNEL OR LICENSED SEPTIC INSPECTOR.
17. INSTALLER TO PROVIDE DESIGNER W/ ALL COPIES OF MATERIALS PURCHASED & USED ON INSTALLING THIS OWTS PRIOR TO ISSUANCE OF CERTIFICATE OF CONSTRUCTION.
18. THERE ARE NO EXISTING OR PROPOSED SUBSURFACE DRAINS WITHIN 25' OF THE PROPOSED OWTS COMPONENTS SHOWN ON THIS PLAN.
19. THIS PLAN CONSTITUTES A NEW CONSTRUCTION OWTS PERMIT VARIANCE FROM THE FOLLOWING RIDEM RULES & REGULATIONS GOVERNING OWTS DESIGN:
  - 1.) & 33 LEACHFIELD'S DEPTH TO GROUNDWATER FROM ORIGINAL GROUND SURFACE - 24" WATER TABLE FROM ORIGINAL GROUND SURFACE IS REQUIRED. THIS APPLICATION IS REQUESTING AN OWTS DESIGN BASED ON 18" WATER TABLE FROM ORIGINAL GROUND SURFACE.

**PLANTING DETAIL**

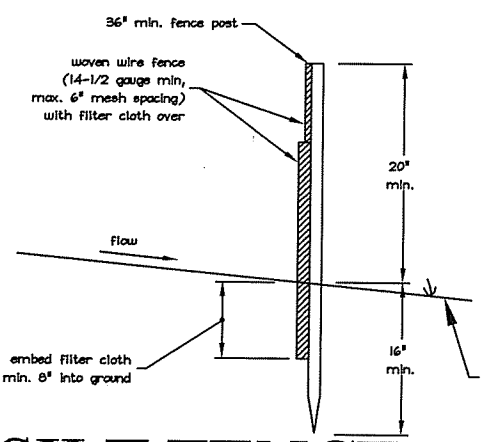
NOT TO SCALE



**PLANTING NOTES:**

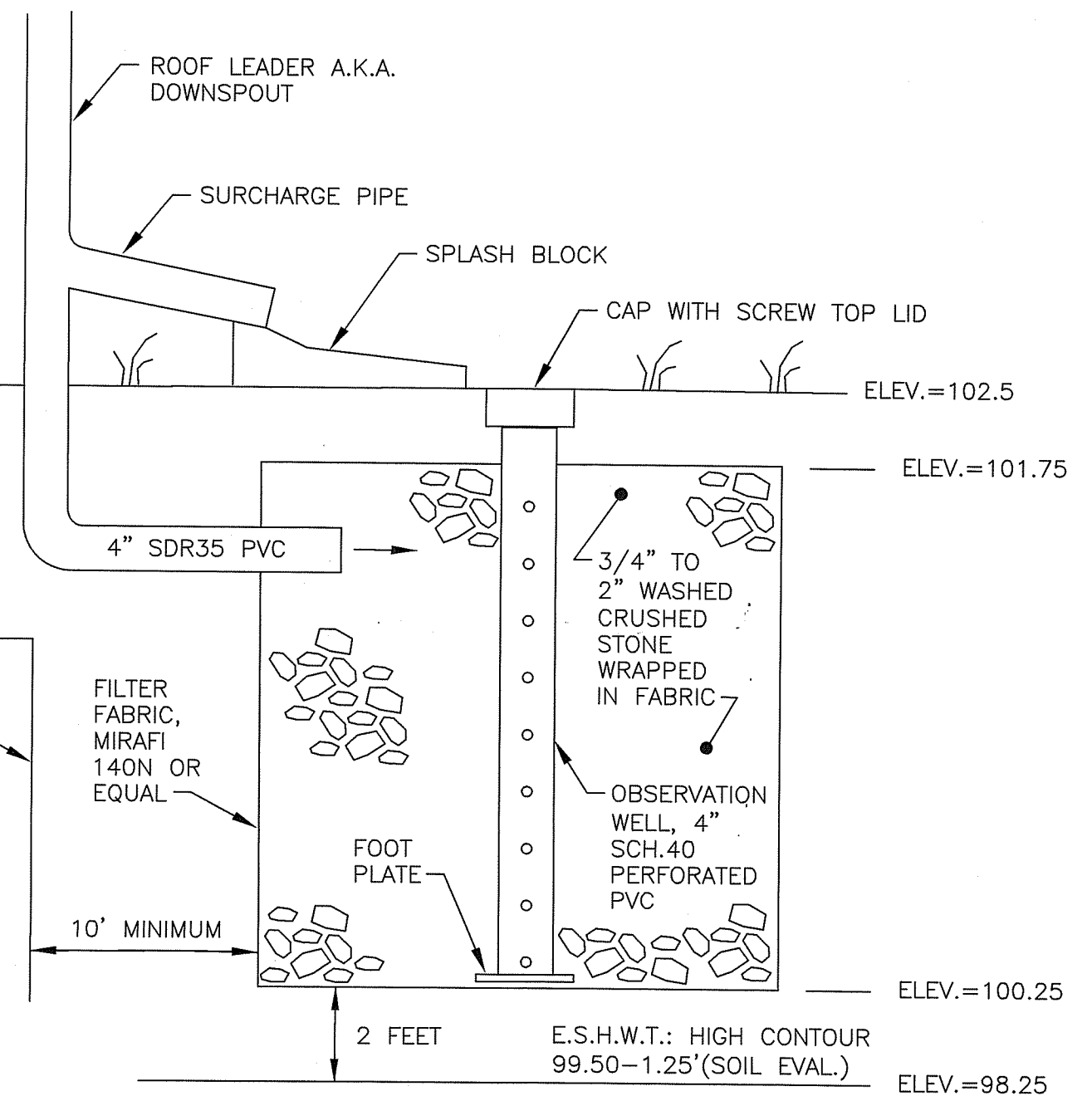
1. THE TOP 50% OF BURLAP AND WIRE BASKET SHALL BE REMOVED.
2. ENOUGH SOIL FROM THE TOP OF THE ROOT BALL SHALL BE REMOVED TO EXPOSE TRUNK/ROOT FLARE.
3. TORN OR RAGGED ROOTS SHALL BE PRUNED TO MAKE A CLEAN TERMINATION.
4. THE SOIL AT THE BOTTOM OF THE HOLE SHALL BE COMPACTED TO RESIST SETTILING OF THE TREE.
5. SOIL THAT IS NUTRIENT DEFICIENT SHALL BE AMENDED BY THE ADDITION OF COMPOST PRIOR TO PLANTING.
6. TREES SHALL BE PLANTED AT A DEPTH THAT ALLOWS FULL EXPOSURE OF TRUNK/ROOT FLARE.
7. SOIL FROM THE PLANTING HOLE SHALL BE BUILT UP ALONG THE PERIMETER, TO ACT AS A DAM TO RETAIN WATER.
9. TREES SHALL BE MULCHED WITH 2 (TWO) TO 3 (THREE) INCHES OF MULCH, KEEPING MULCH 3 (THREE) INCHES AWAY FROM TRUNK

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED: JAN 30 2024 FILE #: 20-092  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE



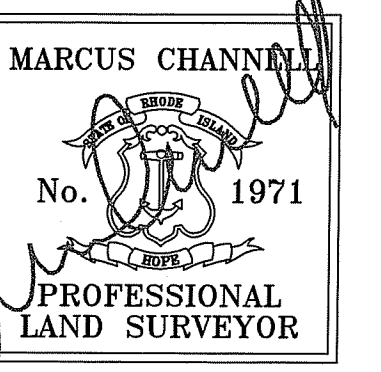
**SILT FENCE DETAIL**

N.T.S.



**DRYWELL DETAIL**

N.T.S.



NOTE: THIS DETAIL PERTAINS TO THE IMPERVIOUS BARRIER LOCATED BETWEEN THE WALL AND DRYWELL SYSTEM. THE RETAINING WALL SHALL BE DESIGNED BY A RI PROFESSIONAL ENGINEER, SHOP DRAWING REQUIRED PRIOR TO CONSTRUCTION.

**SIGNIFICANT ALTERATION TO FRESHWATER WETLANDS SITE PLAN**

Environmental Management  
 AP. T. LOT 280  
 PENNSYLVANIA AVENUE  
 NARRAGANSETT, RHODE ISLAND  
 Prepared For:  
 JAMES DURKIN

**COMMONWEALTH ENGINEERS & CONSULTANTS, INC.**

400 SMITH STREET  
 PROVIDENCE, RHODE ISLAND 02908  
 401-273-6600

**ATLAS LAND SURVEYING, LLC**

PROPERTY & CONSTRUCTION SURVEYING & MAPPING  
 91 Parkway Drive - Warwick, RI 02886  
 401-737-4407  
 WWW.ATLASLANDSURVEYING.COM

REVISION: MAY 2022  
 NOV. 2022  
 DEC. 2022

DATE: DEC. 2021  
 DRAWN BY: KRC  
 SCALE: 1" = 20'

SHEET 1  
 OF 1 SHEETS 2

JOB NO. DURKIN  
 DWG. NO. DURKIN-OWTS

