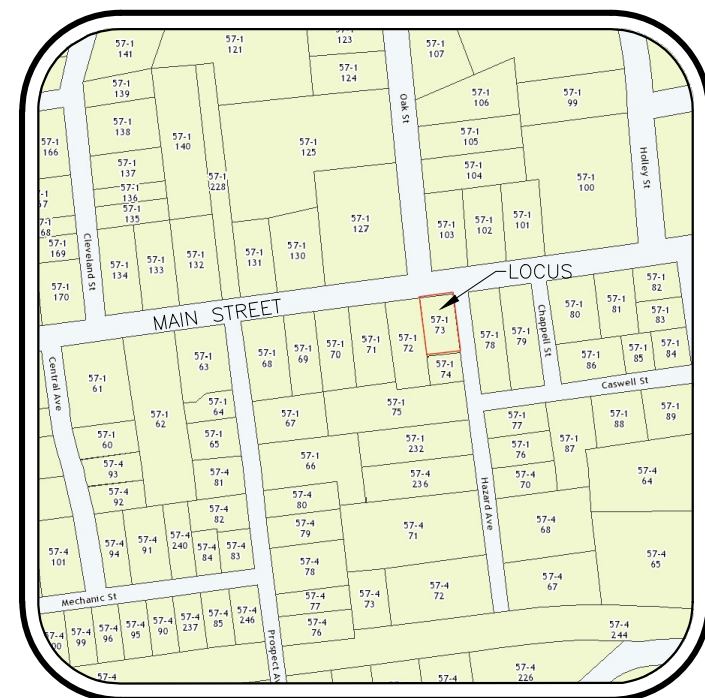


PRELIMINARY PLAN SET

FOR
KEYSTONE, LLC.



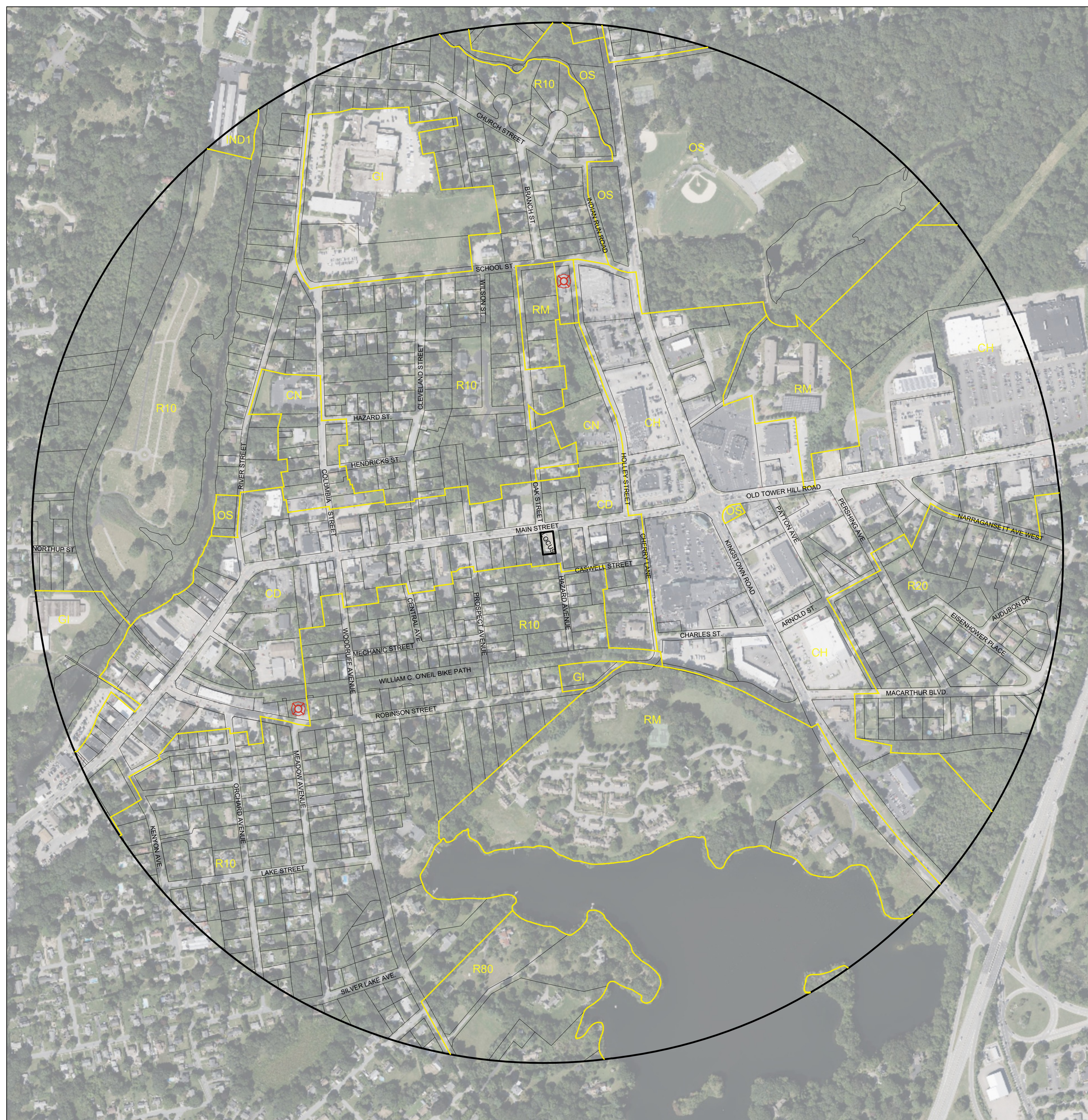
LOCUS MAP
NOT TO SCALE

BEING A.P. 57-1, LOT 73
LOT AREA = 0.15 ACRES

OWNER/APPLICANT INFORMATION
KEYSTONE, LLC.
P.O. BOX 669
WAKEFIELD, RI 02850

PARCEL ZONING CD

MIN. LOT SIZE: 5,000 S.F.
MIN. FRONTAGE/WIDTH: 50 FEET
MIN. FRONT YARD: 0 FEET
MIN. REAR YARD: 0 FEET
MIN. SIDE YARD: 0 FEET
MAX. LOT COVERAGE: 50%
MAX. HEIGHT: 40 FEET

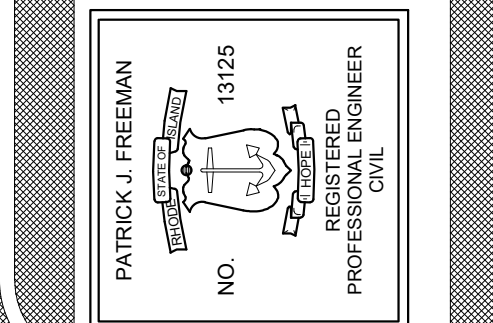


SHEET INDEX

- 1: HALF MILE RADIUS PLAN
- 2: EXISTING CONDITIONS PLAN
- 3: PROPOSED CONDITIONS PLAN
- 4: GENERAL NOTES AND DETAILS

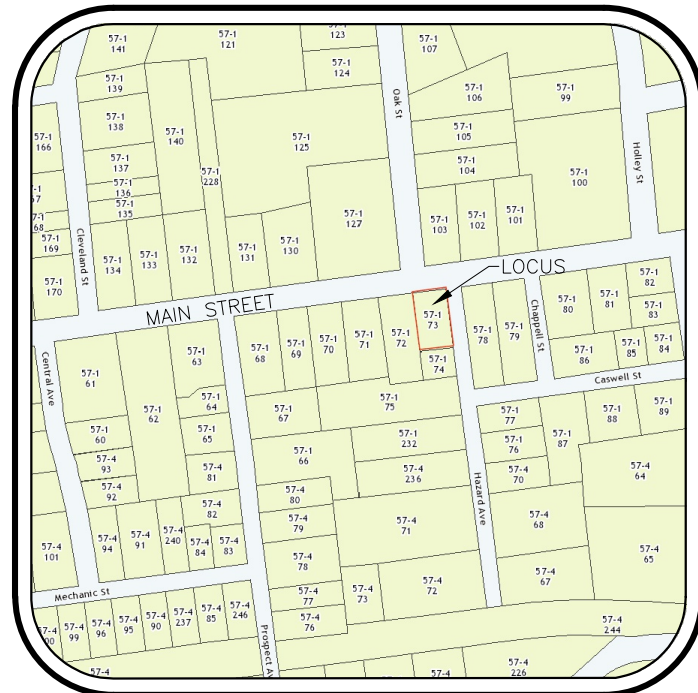
HALF MILE RADIUS PLAN
FOR
KEYSTONE, LLC.
LOCATED AT
A.P. 57-1, LOT 73
82 MAIN STREET
SOUTH KINGSTOWN, R.I.

Drawn By: MJC	Checked By: PJF
Scale: 1" = 300'	Date: 09/09/2025
REVISIONS	
NO.	REVISION



AMERICAN ENGINEERING, INC.
Professional Engineering & Land Surveying
400 South County Trail - Suite A 201
Exeter, Rhode Island 02822
DCotta@AmericanEngineeringRI.com
Phone (401) 294-4090 / Fax (401) 294-3825

Sheet
1
of 4 sheets
Drawing No. 125222



LOCUS MAP
NOT TO SCALE

BEING A.P. 57-1, LOT 73
LOT AREA = 0.15 ACRES

NOTES:

- PROPERTY LINE AND BASEMAP DATA HAS BEEN PROVIDED BY E. GREENWICH SURVEYORS, LLC.
- UNDERGROUND UTILITIES HAVE NOT BEEN LOCATED / VERIFIED. CONTACT DIGSAFE PRIOR TO ANY EXCAVATION.
- THERE ARE NO AREAS OF EXISTING, ACTIVE AGRICULTURAL USE.
- NO AREAS OF PRIME AGRICULTURAL SOILS AND/OR FARMLAND SOILS OF STATEWIDE IMPORTANCE ARE LOCATED ON SITE.
- NO HISTORIC CEMETERIES WERE FOUND ON SITE.
- NO UNIQUE HISTORIC FEATURES WERE FOUND ON SITE.
- NO UNIQUE NATURAL FEATURES WERE FOUND ON SITE.
- THE SITE IS NOT LOCATED IN A NATURAL HERITAGE AREA, CRMC SAMP, TOWN OF S.K. GROUNDWATER PROTECTION OVERLAY DISTRICT, AN OWTS CRITICAL RESOURCE AREA, OR DRINKING WATER SUPPLY WATERSHED.
- THE SITE IS LOCATED IN THE SAUGATUCKET RIVER WATERSHED WHICH IS DEFINED AS A TMDL WATERSHED FOR PATHOGENS (FECAL COLIFORM)
- NO BUILDINGS ARE LOCATED ON SITE THAT ARE LISTED ON THE NATIONAL REGISTER OF HISTORIC PLACES.
- TOPOGRAPHY BASED ON 2022 USGS LIDAR.

TESTHOLE & PERCOLATION DATA

TH 1 - SHWT @ 48" FROM O.G.
TH 2 - SHWT @ 72" FROM O.G. (12" of Fill)

FEMA DETERMINATION

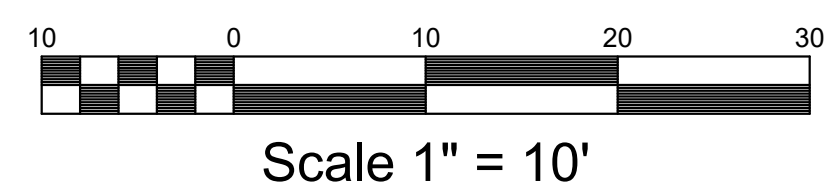
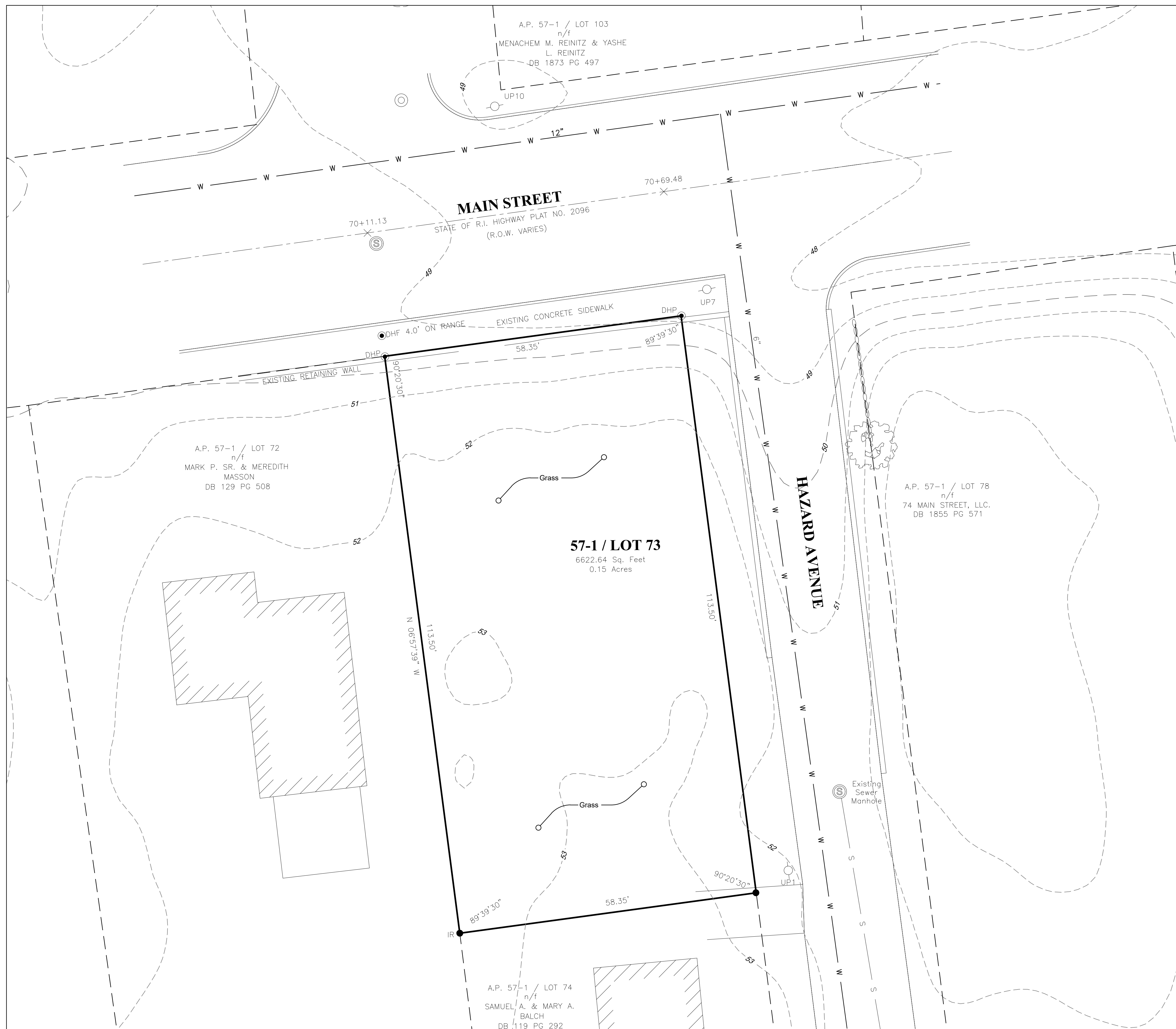
ZONE "X" - AREA OF MINIMAL CHANCE ANNUAL FLOODING
PANEL NO. - 44009C0203 K
EFFECTIVE - APRIL 3, 2020

PARCEL ZONING CD

MIN. LOT SIZE: 5,000 S.F.
MIN. FRONTAGE/WIDTH: 50 FEET
MIN. FRONT YARD: 0 FEET
MIN. REAR YARD: 0 FEET
MIN. SIDE YARD: 0 FEET
MAX. LOT COVERAGE: 50%
MAX. HEIGHT: 40 FEET

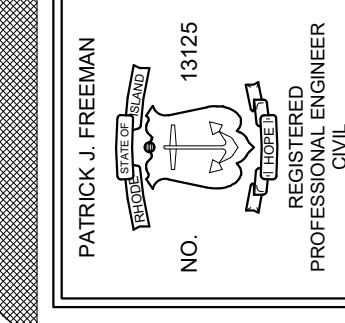
Soil Classification:

The entire site falls within soil classification MU - Merrimac-Urban land complex. This complex consists of well drained Merrimac soils and areas of Urban land. The complex is on terraces and outwash plains in densely populated areas of the State, mainly in the areas of Providence and Warwick. Areas are irregular in shape and mostly range from 10 to 400 acres. Slopes are mainly about 1 percent but range from 0 to 15 percent. The complex is about 40 percent Merrimac soils, 40 percent Urban land, and 20 percent other soils. The soils and urban land are so intermingled that it was not practical to map them separately. Typically the Merrimac soils have a surface layer of dark brown sandy loam 8 inches thick. The subsoil is yellowish brown and dark yellowish brown sandy loam 17 inches thick. The substratum is light yellowish brown gravelly sand to a depth of 60 inches or more. Urban land consists of areas covered by streets, parking lots, buildings, and other urban structures. Included with this complex in mapping are areas, up to 10 acres in size, of Udorthents, excessively drained Hinckley and Windsor soils, well drained Agawam and Enfield soils, and moderately well drained Sudbury and Ninigret soils. Also included are areas of darker colored soils. The permeability of the Merrimac soils is moderately rapid in the surface layer and upper part of the subsoil, moderately rapid to rapid in the lower part of the subsoil, and rapid in the substratum. The available water capacity is moderate. Runoff is slow to medium on the Merrimac soils. The soil is extremely acid through medium acid. This complex is mainly used for home sites, shopping centers, industrial parks, and other urban purposes. The home sites mostly range from 5,000 to 50,000 square feet. Onsite septic systems in this complex need careful design and installation to prevent pollution of ground water. Slopes of excavated areas are commonly unstable. Lawn grasses, shallow-rooted trees, and shrubs require watering in the summer. The use of straw bale sediment barriers and quickly establishing plant cover help to control erosion during construction. Areas of this complex require onsite investigation and evaluation for most uses. Capability subclass and wood land group not assigned.



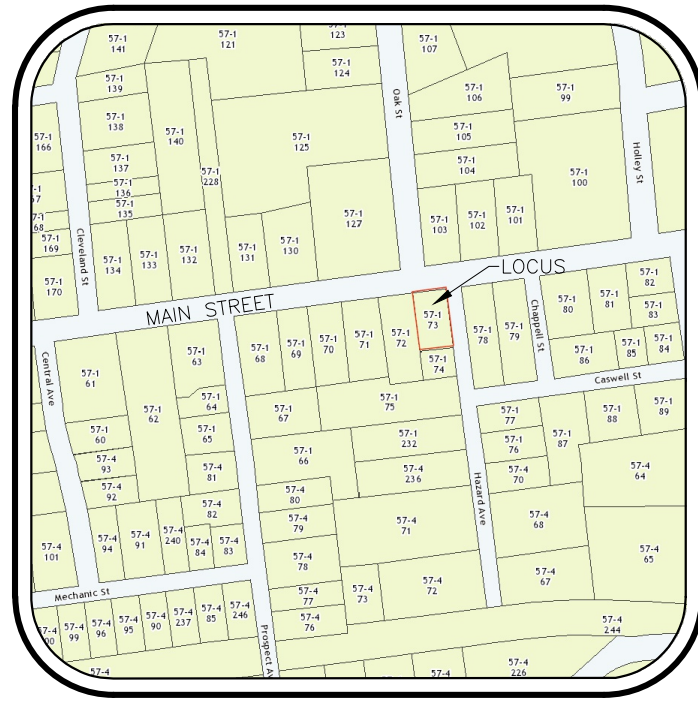
EXISTING CONDITIONS PLAN
FOR
KEYSTONE, LLC.
LOCATED AT
A.P. 57-1, LOT 73
82 MAIN STREET
SOUTH KINGSTOWN, R.I.

Drawn By: MJC	Checked By: PJF		
Scale: 1" = 10'	Date: 09/09/2025		
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NO.	REVISION	BY	DATE



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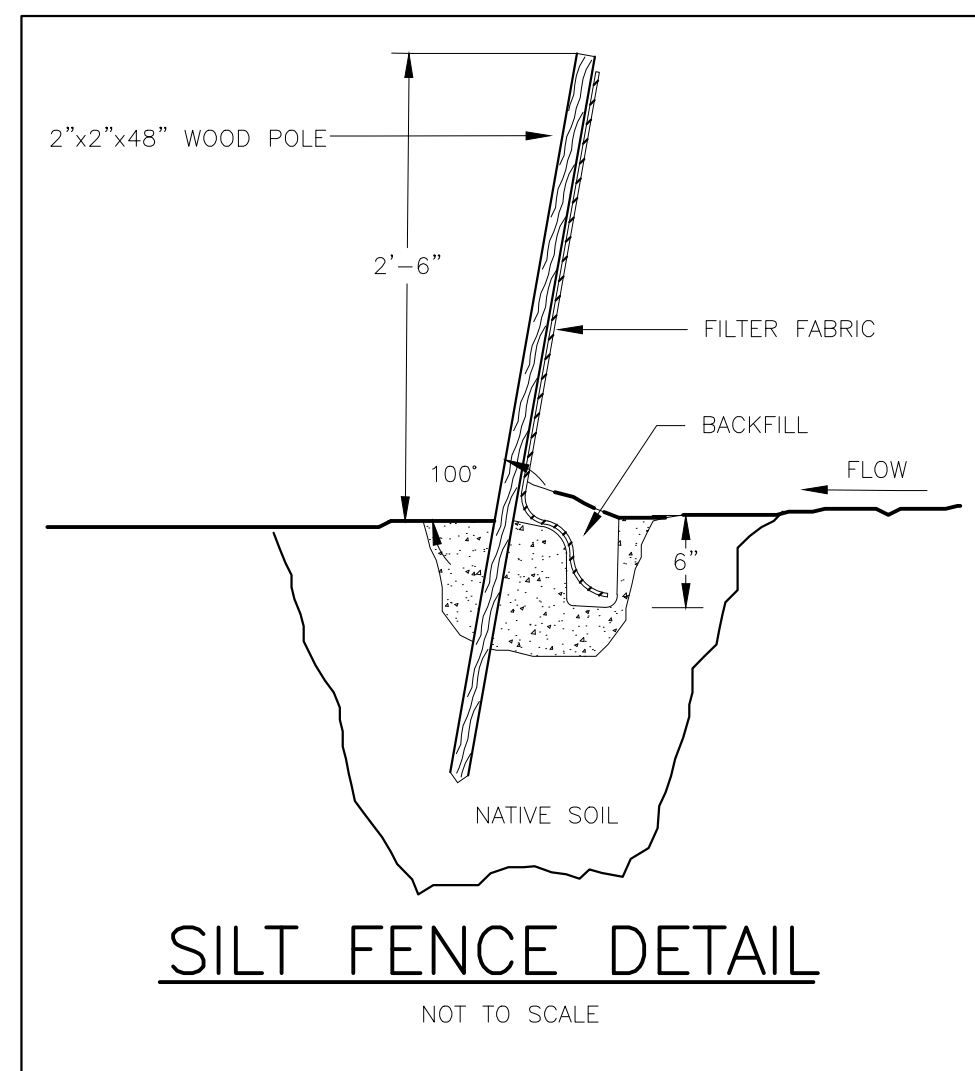
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of 4 sheets
Drawing No. 125222



LOCUS MAP
NOT TO SCALE

BEING A.P. 57-1, LOT 73
LOT AREA = 0.15 ACRES

INFILTRATION PRACTICE TABLE	
Area Of Stone	917 sf
Depth Of Stone	2'-4"
Rows Of Stormtech Chambers	8
Stormtech Chambers Per Row	4
Inv. In From CB	(1) 49.50 (2) 49.50
Top Of Chamber	50.83
Bottom Of Chamber	49.50
Top Of Stone	51.33
Bottom Of Stone	49.00
Water Table	46.00
Min. Cover	52.50



NOTES:

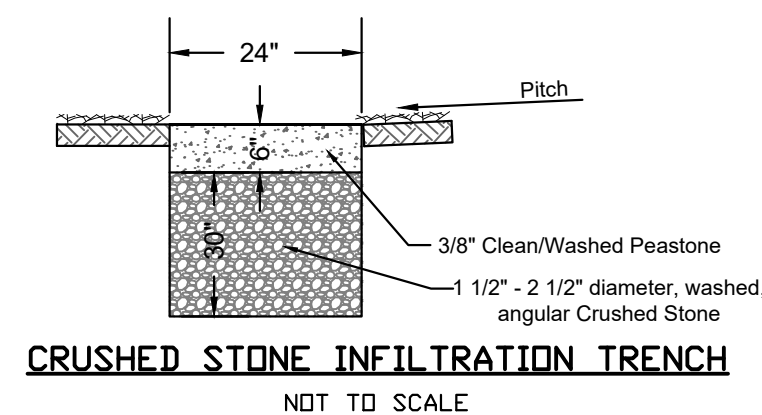
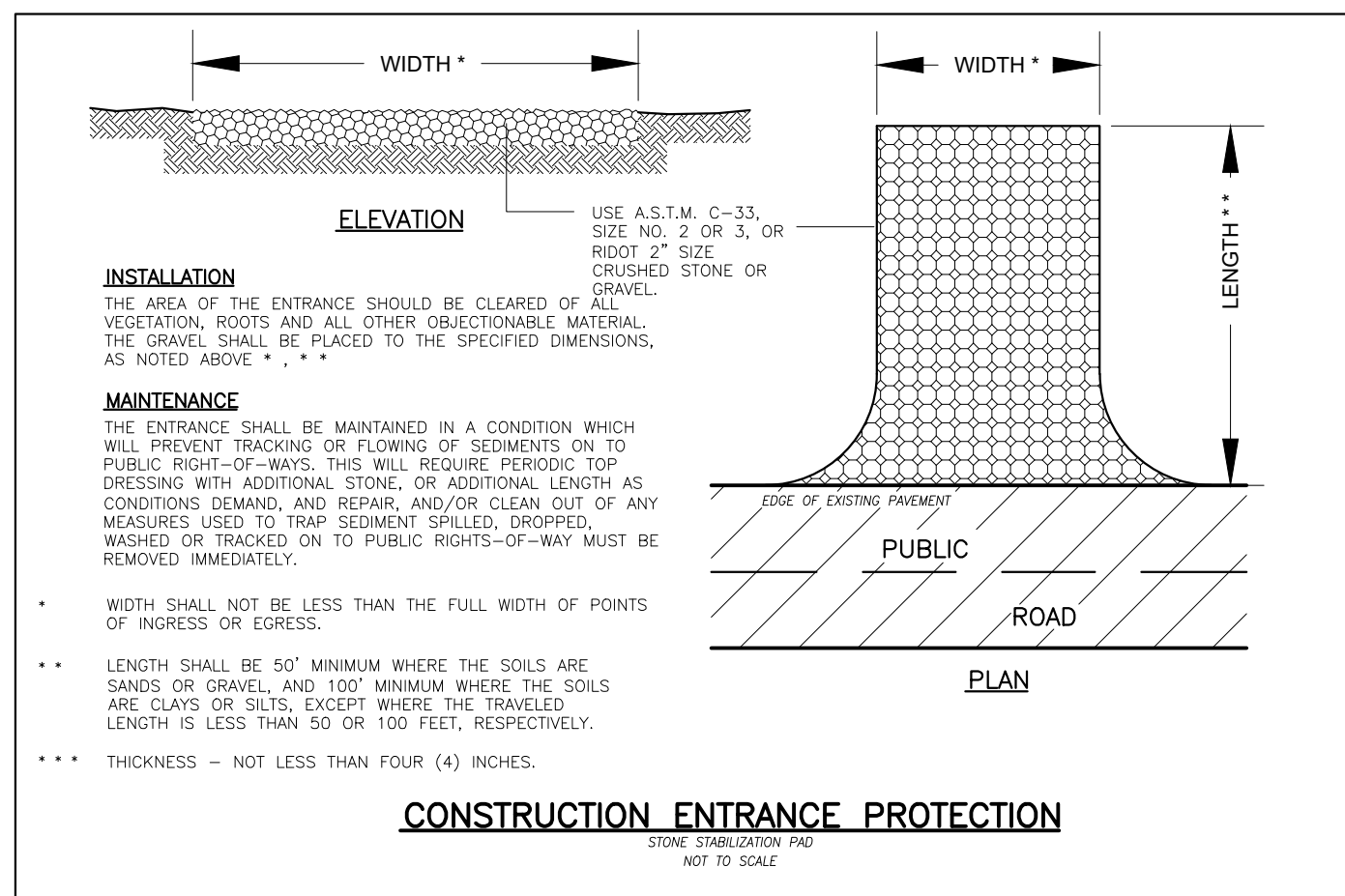
- PROPERTY LINE AND BASEMAP DATA HAS BEEN PROVIDED BY E. GREENWICH SURVEYORS, LLC.
- UNDERGROUND UTILITIES HAVE NOT BEEN LOCATED / VERIFIED. CONTACT DIGSAFE PRIOR TO ANY EXCAVATION.
- THREE (3) 2-BEDROOM RESIDENTIAL UNITS ARE PROPOSED.
- PROPOSED 12" DRAIN PIPE TO BE ADS N-12 OR EQUIVALENT.
- TOPOGRAPHY BASED ON 2022 USGS LIDAR

TESTHOLE & PERCOLATION DATA

TH 1 - SHWT @ 48" FROM O.G.
TH 2 - SHWT @ 72" FROM O.G. (12" of Fill)

FEMA DETERMINATION

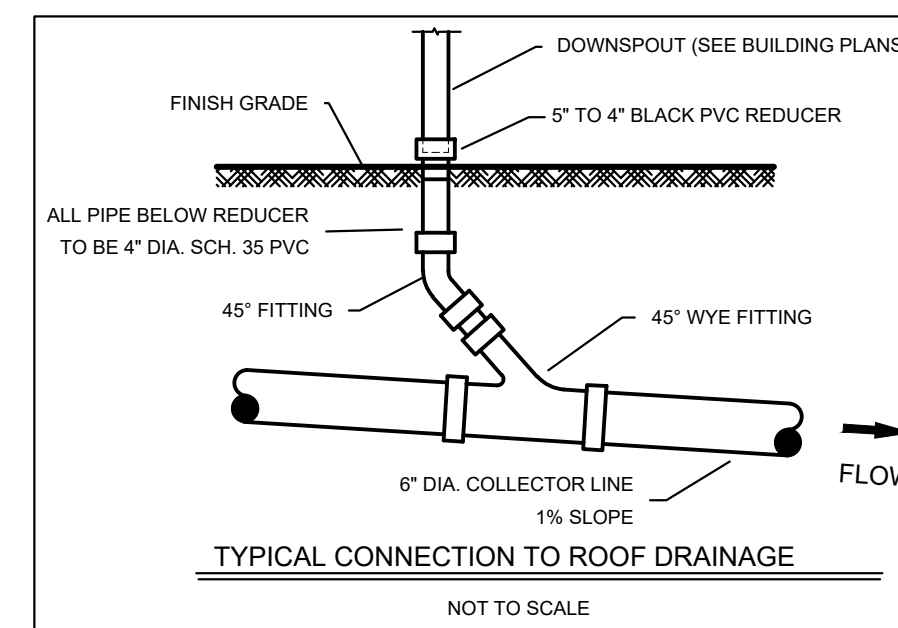
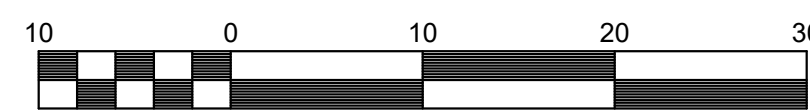
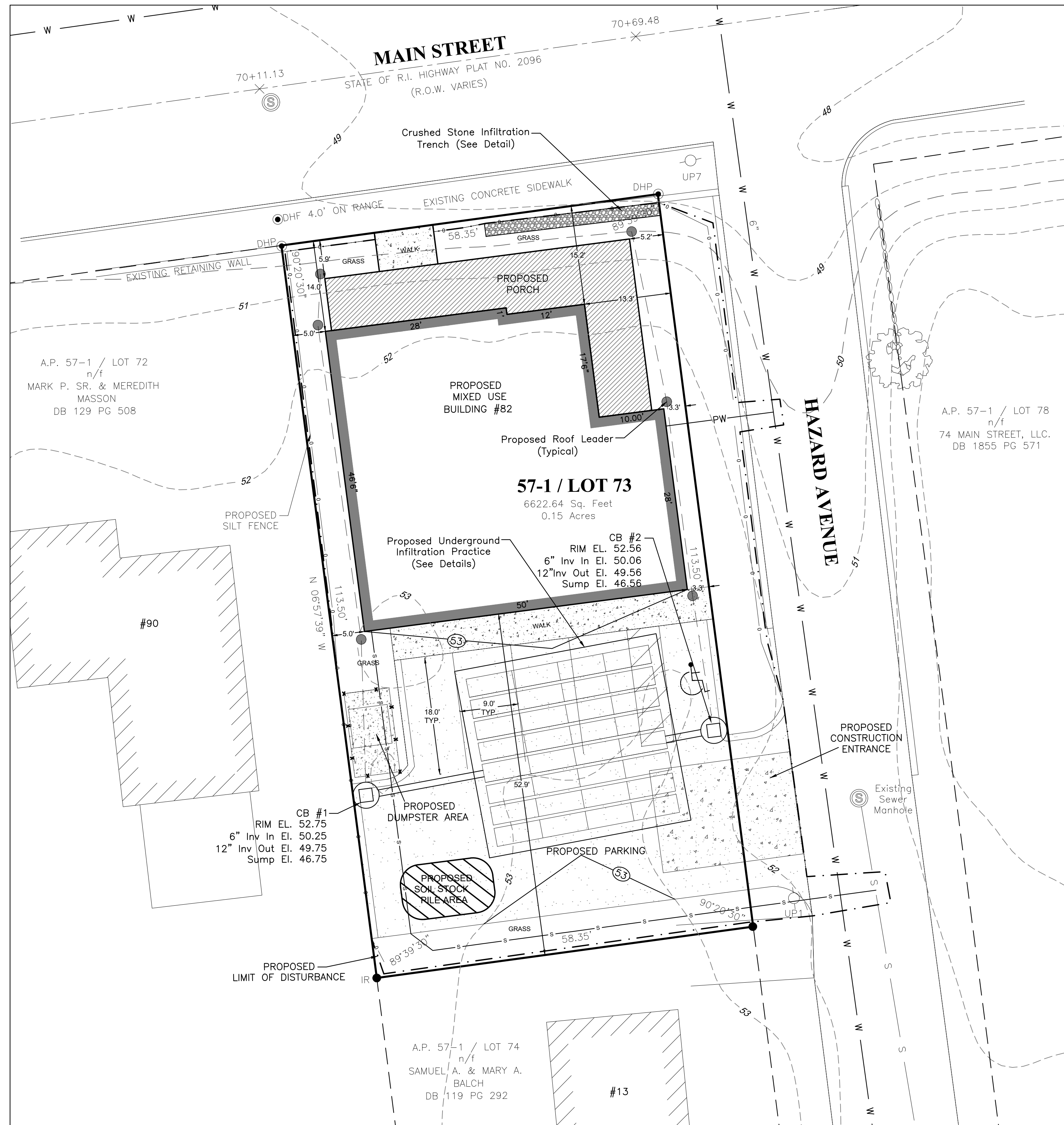
ZONE "X" - AREA OF MINIMAL CHANCE ANNUAL FLOODING
PANEL NO. - 44009C0203 K
EFFECTIVE - APRIL 3, 2020



INFILTRATION TRENCH MAINTENANCE NOTES:

- THE PEASTONE DIAPHRAGM SHALL BE MAINTAINED ON A CONTINUAL BASIS, AS NEEDED. ANY OBSERVED CLOGGING OF THE SURFACE SHALL BE RECIFIED IN A TIMELY MANNER.
- THE PROPOSED INFILTRATION TRENCH SHALL BE INSPECTED ANNUALLY TO ENSURE THAT DESIGN INFILTRATION RATES ARE BEING MET.
- IF THE TRENCH FAILS TO INFILTRATE STORMWATER RUNOFF WITHIN 2-3 DAYS FOLLOWING A STORM EVENT, THE STONE WILL NEED TO BE REMOVED. ANY SILT OR DEBRIS REMOVED TO NATIVE SOIL, AND THE STONE REPLACED TO THE ORIGINAL DESIGN SPECIFICATIONS.

STONE TRENCH VOLUME CALCULATIONS:
VOLUME REQUIRED TO MITIGATE INCREASE IN RUNOFF VOLUME PRODUCED BY THE 10-YEAR STORM EVENT = 53 CF
27' Long X 2' Wide X 3' Deep X 33% Voids = 53.5 C.F. PROVIDED



EROSION CONTROL & SOIL STABILIZATION PROGRAM

- DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDED OR PROTECTED BY THAT DATE FOR ANY WORK COMPLETED DURING EACH CONSTRUCTION PERIOD.
- THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LIMBS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS, AND SHALL CONFORM WITH R. I. STANDARD SPECIFICATION M. 20.
- THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS, BEFORE MIXING AND PLANTING, WITH APPROPRIATE NODULUM FOR EACH VARIETY.
- THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING: PERMANENT SEEDING MIXTURES: A - MOWED AREA: ALL FLAT OR SLOPES LESS THAN 3:1

MIXTURE	% BY WT.	SEEDING DATES
RED FESCUE	75	APRIL 1 - JUNE 15
KENTUCKY BLUEGRASS	15	AUG. 15 - OCT. 15
COLONIAL BENTGRASS	5	
PERENNIAL RYEGRASS	5	

TOTAL 100%/ACRE

MIXTURE	% BY WT.	SEEDING DATES
RED FESCUE	75	APRIL 1 - JUNE 15
PERENNIAL RYEGRASS	5	AUG. 15 - OCT. 15
COLONIAL BENTGRASS	5	
BIRDSFOOT TREFLOE	15	

TOTAL 100%/ACRE

- 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). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
- HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3000-4000 LBS/AC.
- ALL HAYBALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN BE USED TO HELP MINIMIZE EROSION. A TEMPORARY SEEDING GUIDE MUST BE INCLUDED AS A REFERENCE. THE FOLLOWING SPECIES ARE RECOMMENDED:

SPECIES	LBS/ACRE	LBS/1,000 SQ. FT.	SEEDING DATES
ANNUAL RYEGRASS	60	1.5	MAR. 15 - JUNE 15
PERENNIAL SUDAN GRASS	40	1.0	MAY 15 - AUGUST 15
MILLET	40	1.0	MAY 15 - AUGUST 15
WINTER RYE	120	3.0	AUGUST 15 - JUNE 15
OATS	120	3.0	MAR. 15 - JUNE 15
WEERNING LOVEGRASS	20	0.5	MAY 1 - JUNE 30

- THE CONTRACTOR MUST REPAIR AND OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE.
- THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST THRU OCT. 15TH.
- ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I.D.P.W. STANDARD SPECIFICATIONS SECTION 202.
- STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
- STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS OR WETLANDS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES SHALL ALSO BE SEEDED AND/OR STABILIZED.
- ON BOTH STEEP AND LONG SLOPES CONSIDERATION SHOULD BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.
- REFERENCE THE SEDIMENTATION CONTROL PROGRAM AND ORDER OF PROCEDURE FOR PROPER COORDINATION.

SEDIMENTATION CONTROL PROGRAM

- ALL DISTURBED AREAS SUBJECT TO EROSION TENDENCIES WHETHER THEY ARE NEWLY FILLED OR EXCAVATED SHALL RECEIVE SUITABLE SLOPE PROTECTION.
- DURING CONSTRUCTION, THE CONTRACTOR AND/OR DESIGNER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
- CARE SHALL BE TAKEN SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING EITHER EXISTING OR PROPOSED DRAINAGE OR SEWER STRUCTURES.
- SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED PERIODICALLY AND AFTER PERIODS OF RAINFALL. SUCH DEVICES SHALL BE REPAIRED OR REPLACED AS NEEDED.
- CARE SHALL BE TAKEN SO AS NOT TO PLACE 'REMOVED SEDIMENTS' WITHIN THE PATH OF EXISTING, NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECT TO STORM WATER FLOW.
- ADDITIONAL HAYBALES, SILT FENCE OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
- REFERENCE THE 'RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK' PREPARED BY THE U.S. DEPT. OF AGRICULTURE, SOIL CONSERVATION SERVICE, 1989, WITH ANY AMENDMENTS, AS A GUIDE.

ORDER OF PROCEDURE

- IMMEDIATELY UPON COMPLETION OF THE CLEARING AND GRUBBING OPERATION AND PRIOR TO ANY GRADING, TEMPORARY HAYBALES, SILT FENCE OR SANDBAGS SHALL BE PLACED OUTSIDE THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS. (I.E. ALONG NEW ROADWAYS, STREAMBANKS, CRITICAL AREAS, ETC.)
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE PERIODICALLY CLEANED AND MAINTAINED AS PER THE RESPECTIVE PROGRAMS DURING THE CONSTRUCTION.
- IF WORK PROGRESS IS TO BE INTERRUPTED AT ANY TIME, REFERENCE EROSION AND SEDIMENTATION CONTROL PROGRAMS FOR TEMPORARY CONTROL.

MAINTENANCE AND RESPONSIBILITY

- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE THE SOLE RESPONSIBILITY FOR THE DESIGN IMPLEMENTATION. HE SHALL ALSO BE RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION WORKERS AND SUB-CONTRACTORS ARE AWARE OF THE PROVISIONS OF THE PLAN AND THE ENGINEER'S REPORT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ASPECTS OF THE DESIGN PRIOR TO FINAL APPROVAL BY THE TOWN. DURING THAT TIME, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHOULD BE CHECKED ON A WEEKLY BASIS AS WELL AS AFTER EACH SIGNIFICANT RAINFALL. ALL SUCH MEASURES SHOULD BE CLEANED OR REPLACED AS NECESSARY.
- REPLANTING, REGRADING OR OTHER REPAIRS NEEDED AS A RESULT OF EROSION AND SEDIMENTATION SHOULD BE DONE PROMPTLY.

NOTES:

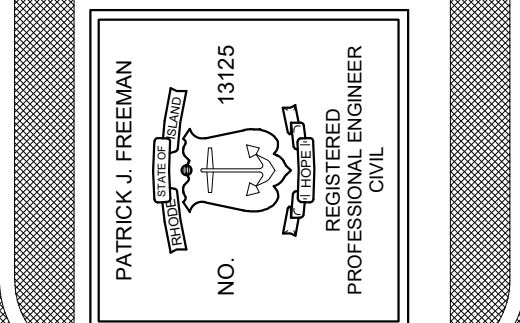
- ALL EROSION CONTROL MEASURES TO REMAIN FOR 3 CONSECUTIVE MOWINGS.
- CONTRACTOR TO CALL PUBLIC WORKS PRIOR TO CONSTRUCTION AND AGAIN FOR FINAL INSPECTION.
- THIS SITE AS DESIGNED WILL HAVE NO ADVERSE EFFECT ON ABUTTING PROPERTIES ASSUMING EROSION CONTROL PLAN IS IMPLEMENTED.
- FOR DRIVEWAYS SLOPING DOWN TOWARD THE ROAD HAYBALES TO BE SET ACROSS DRIVEWAY AT THE END OF DAY.
- CONSTRUCTION TO COMMENCE IMMEDIATELY FOLLOWING APPROVAL AND WILL TAKE APPROXIMATELY 6 MONTHS TO COMPLETE.

GENERAL NOTES

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY THE STATE OF RHODE ISLAND AND THE MUNICIPALITY PRIOR TO COMMENCING ANY WORK.
- IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITIES, STRUCTURES, AND ABUTTING PROPERTIES. THE COST OF ANY REPAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE MUNICIPAL ENGINEERING DEPARTMENT AND ALL UTILITY INSTALLATIONS AND INSPECTIONS WITH THE APPROPRIATE UTILITY CO. A 48 HOUR ADVANCE NOTICE IS REQUIRED BEFORE WORK COMMENCEMENT.
- ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDO'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2013 (AMENDED AUGUST 2013 AND STANDARD DETAILS, JUNE 15, 1998 AS AMENDED BY REVISION).
- ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR QUANTITY TAKE OFF IN COMPUTING ANY ESTIMATES.
- EMBANKMENT SLOPES AND ALL DISTURBED AREAS ARE TO RECEIVE 4" OF TOPSOIL AND SEED. SEE EROSION CONTROL PROGRAM DETAILS.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION INDICATED ON THESE PLANS, THAT INCLUDES ANY CONSTRUCTION TO BRING UTILITIES TO THE SITE, ANY REPAIRS, ANY TRENCHING REQUIRED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND SOIL EROSION CONTROL MEASURES.
- THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE AND SHOULD BE VERIFIED BY THE CONTRACTOR WITH THE APPROPRIATE UTILITY COMPANIES. CALL DIG-SAFE (888)944-7233.
- IN ALL EXCAVATION AND PLACEMENT OF FILL THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE R.I. STANDARD SPECIFICATION SECTION 202.
- ALL CONSTRUCTION AND UTILITY WORK SHALL CONFORM TO THE LATEST MUNICIPAL STANDARDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN, COMPREHEND AND IMPLEMENT THESE REQUIREMENTS PROPERLY.

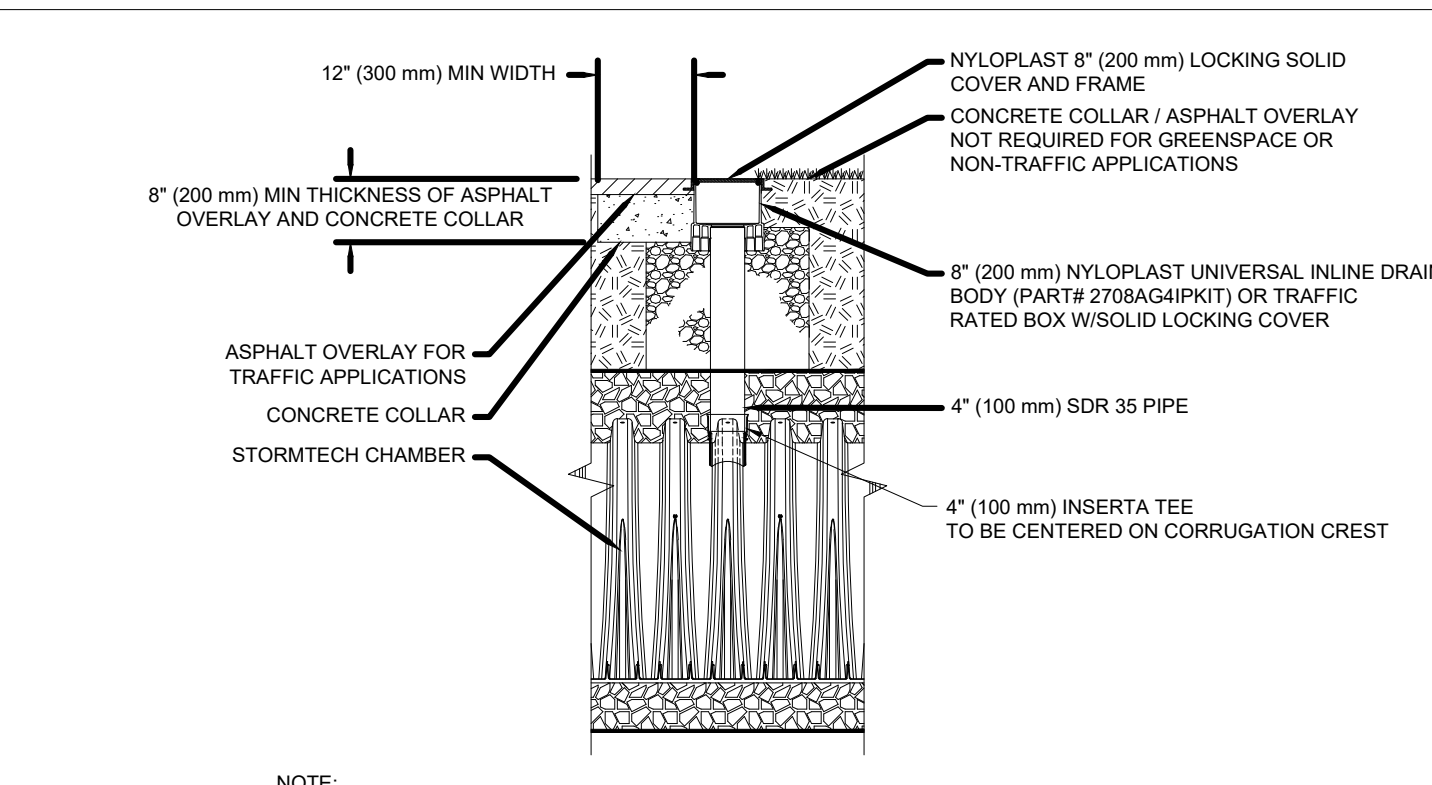
PROPOSED CONDITIONS PLAN
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LOCATED AT
A.P. 57-1, LOT 73
82 MAIN STREET
SOUTH KINGSTOWN, R.I.

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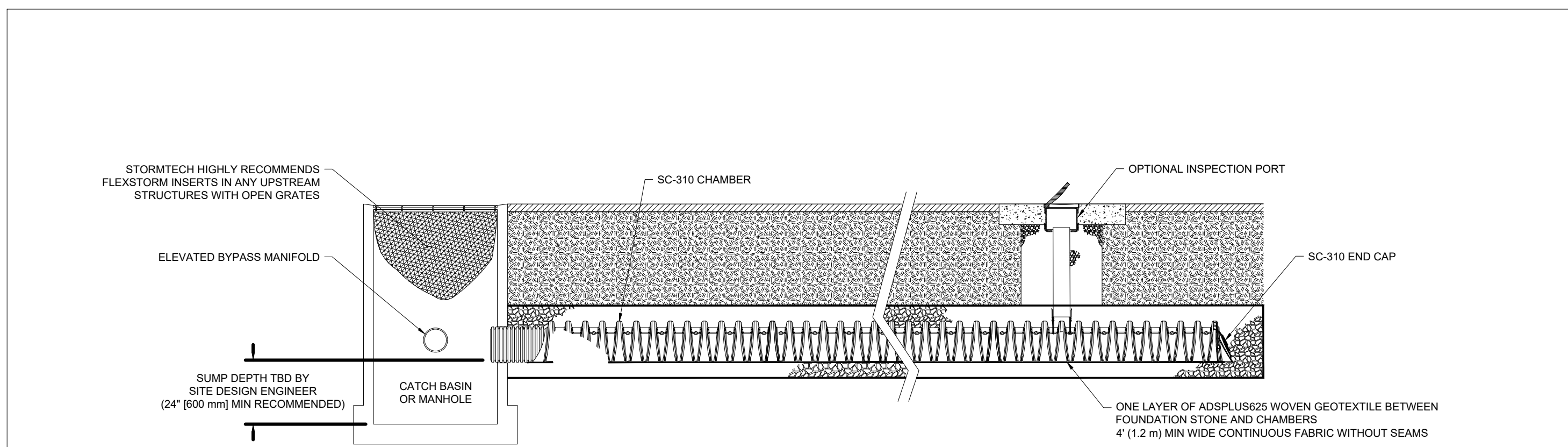
4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER) NTS

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXFORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADIUM ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG AS WELL AS AFTER EACH SIGNIFICANT RAINFALL.
 - LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL). IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

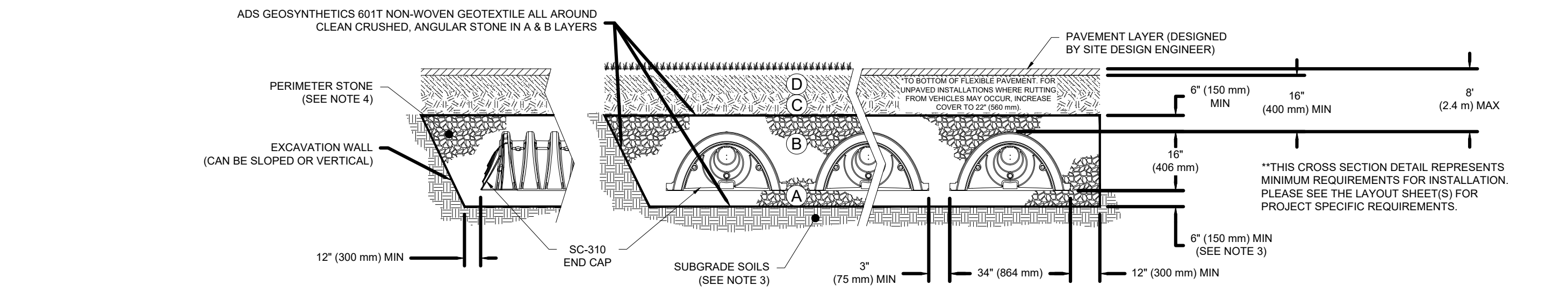


SC-310 ISOLATOR ROW PLUS DETAIL NTS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	3.25
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 16" (400 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M45 ¹ A-1, A-2.4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ²	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ²	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57

PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE.
 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION REQUIREMENTS.
 4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
 5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS¹.
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2" (50 mm).
 TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, ALL THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT².
 AND TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

MAINTENANCE AND RESPONSIBILITY

- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE THE SOLE RESPONSIBILITY FOR THE DESIGN IMPLEMENTATION. THEY SHALL ALSO BE RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION WORKERS AND SUB-CONTRACTORS ARE AWARE OF THE PROVISIONS OF THE PLAN AND THE ENGINEER'S REPORT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ASPECTS OF THE DESIGN PRIOR TO FINAL APPROVAL BY THE TOWN. DURING THAT TIME, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHOULD BE CHECKED ON A WEEKLY BASIS AS WELL AS AFTER EACH SIGNIFICANT RAINFALL. ALL SUCH MEASURES SHOULD BE CLEANED OR REPLACED AS NECESSARY.
- REPLANTING, REGRADING OR OTHER REPAIRS NEEDED AS A RESULT OF EROSION AND SEDIMENTATION SHOULD BE DONE PROMPTLY.
- ALL VEGETATION NOT SURVIVING AT LEAST ONE FULL GROWING SEASON SHALL BE REPLACED AT THE OWNERS EXPENSE.
- UPON PROJECT COMPLETION, THE PROPERTY OWNER SHALL ADHERE TO THE FOLLOWING MAINTENANCE RECOMMENDATIONS:
 A. MOWING:
 THE MOWING OF GRASS IN AND AROUND THE BASIN SHOULD BE DONE AT LEAST ONCE PER GROWING SEASON, PREFERABLY AFTER AUGUST 15 TO PROTECT GROUND NESTING BIRDS AND OTHER ANIMALS. MORE FREQUENT MOWINGS WILL BE REQUIRED FOR BASINS MAINTAINED AS RECREATIONAL OR OPEN SPACE FACILITIES. TRASH AND LITTER MUST BE REMOVED DURING MOWING OPERATIONS.
 B. INSPECTIONS:
 THE STRUCTURAL INTEGRITY OF THE BASIN, ESPECIALLY ANY IMPOUNDING STRUCTURES, SHOULD BE INSPECTED ON AN ANNUAL BASIS. IN ADDITION, THE INLETS FOR THE BASIN SHOULD ALSO BE INSPECTED ANNUALLY. ANY DEFICIENCIES MUST BE CORRECTED IMMEDIATELY AFTER OBSERVATION. THE BASIN AND ALL STRUCTURES SHOULD BE INSPECTED MORE OFTEN DURING THE FIRST YEAR OF OPERATION, ESPECIALLY AFTER LARGE STORMS, TO ENSURE PROPER STABILIZATION AND FUNCTION.
 EMBANKMENT SUBSIDENCE:
 EROSION
 CRACKING
 TREE GROWTH
 OUTLET & SPILLWAY CONDITION
 SEDIMENT ACCUMULATION
 SLOPE STABILITY

ANY DEFICIENCY NOTED DURING THE INSPECTION WILL BE IMMEDIATELY REPAIRED OR REPLACED. IF ENCOUNTERED, TRASH, DEBRIS, ETC. SHOULD BE REMOVED FROM THE DRAINAGE SYSTEM AT LEAST TWICE A YEAR.

RESEEDING OF ANY ERODED OR BARE SPOTS IN OR AROUND THE BASIN MUST BE DONE IMMEDIATELY FOLLOWING EXAMINATIONS TO PREVENT SUBSEQUENT SOIL EROSION. MAINTAINING A FULLY VEGETATED BASIN WITH HEALTHY GRASS IS PARAMOUNT TO A SUCCESSFULLY OPERATING FACILITY.

C. SEDIMENT REMOVAL:
 FOLLOWING CONSTRUCTION, THE PONDS, BASINS, AND DRAINAGE SYSTEMS ARE TO BE CLEANED OF ACCUMULATED SEDIMENT PRIOR TO ACCEPTANCE BY THE TOWN AND THEN ONCE EVERY TEN YEARS. THE RESULTING POND CONDITION AFTER SEDIMENT REMOVAL MUST BE THE ORIGINAL DESIGN CONDITIONS. ALL REMOVED SEDIMENT IS TO BE TESTED TO DETERMINE POLLUTANT CONTENT. THE SEDIMENT IS TO BE PROPERLY DISPOSED IN UPLAND AREAS BASED UPON THE TEST RESULTS AND LOCAL, STATE AND FEDERAL REGULATIONS.

D. CATCH BASINS, MANHOLES AND DRAIN LINES:
 AN INSPECTION MUST OCCUR ON AN ANNUAL BASIS BY QUALIFIED PERSONNEL TO ENSURE PROPER OPERATION. THE INSPECTION SHOULD, AS A MINIMUM, CONCENTRATE ON THE FOLLOWING:
 • DAMAGE TO GRATE/COVER
 • EVIDENCE OF STANDING WATER
 • DEBRIS REMOVAL
 • STRUCTURAL ALIGNMENT/INTEGRITY

ANY DEFICIENCY NOTED DURING THE INSPECTION WILL BE IMMEDIATELY REPAIRED OR REPLACED.

EROSION CONTROL & SOIL STABILIZATION PROGRAM

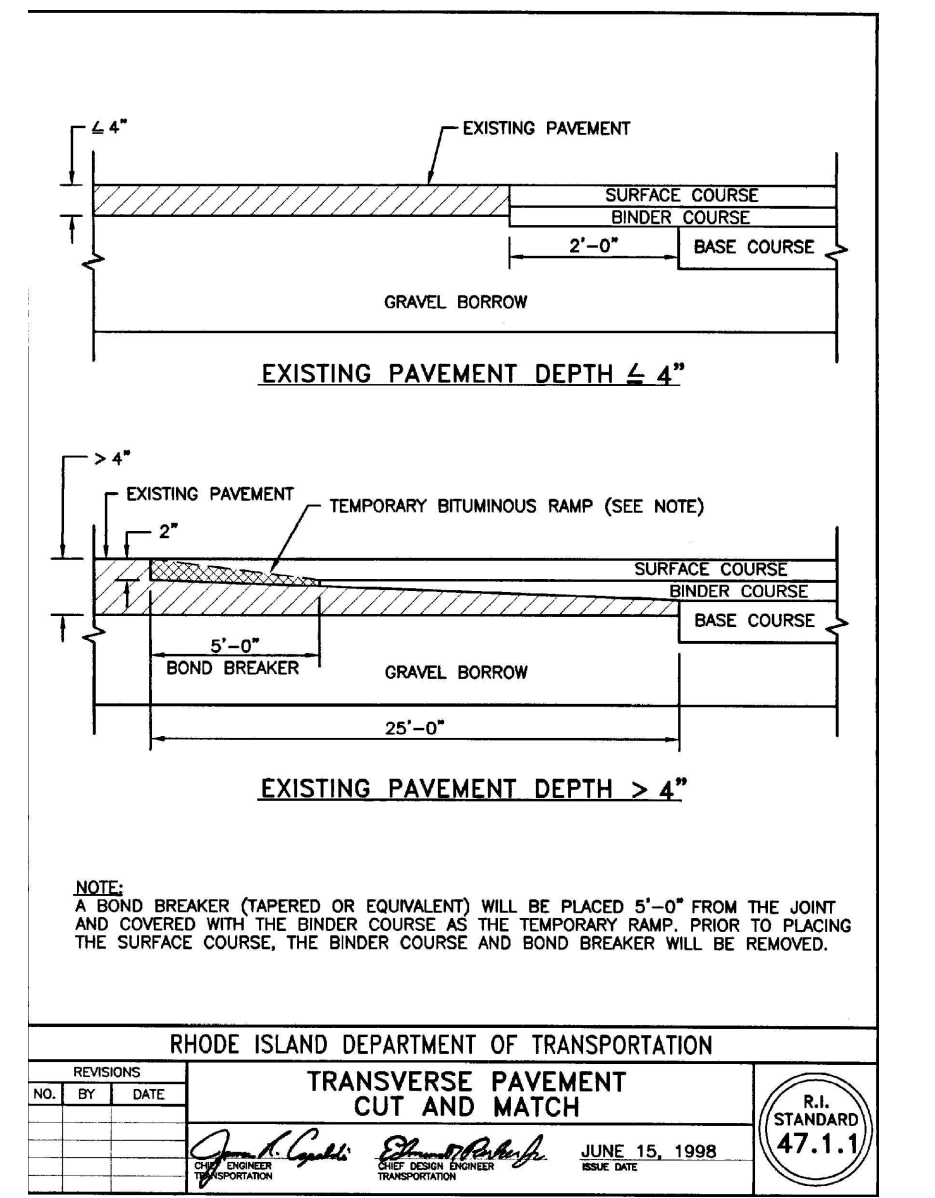
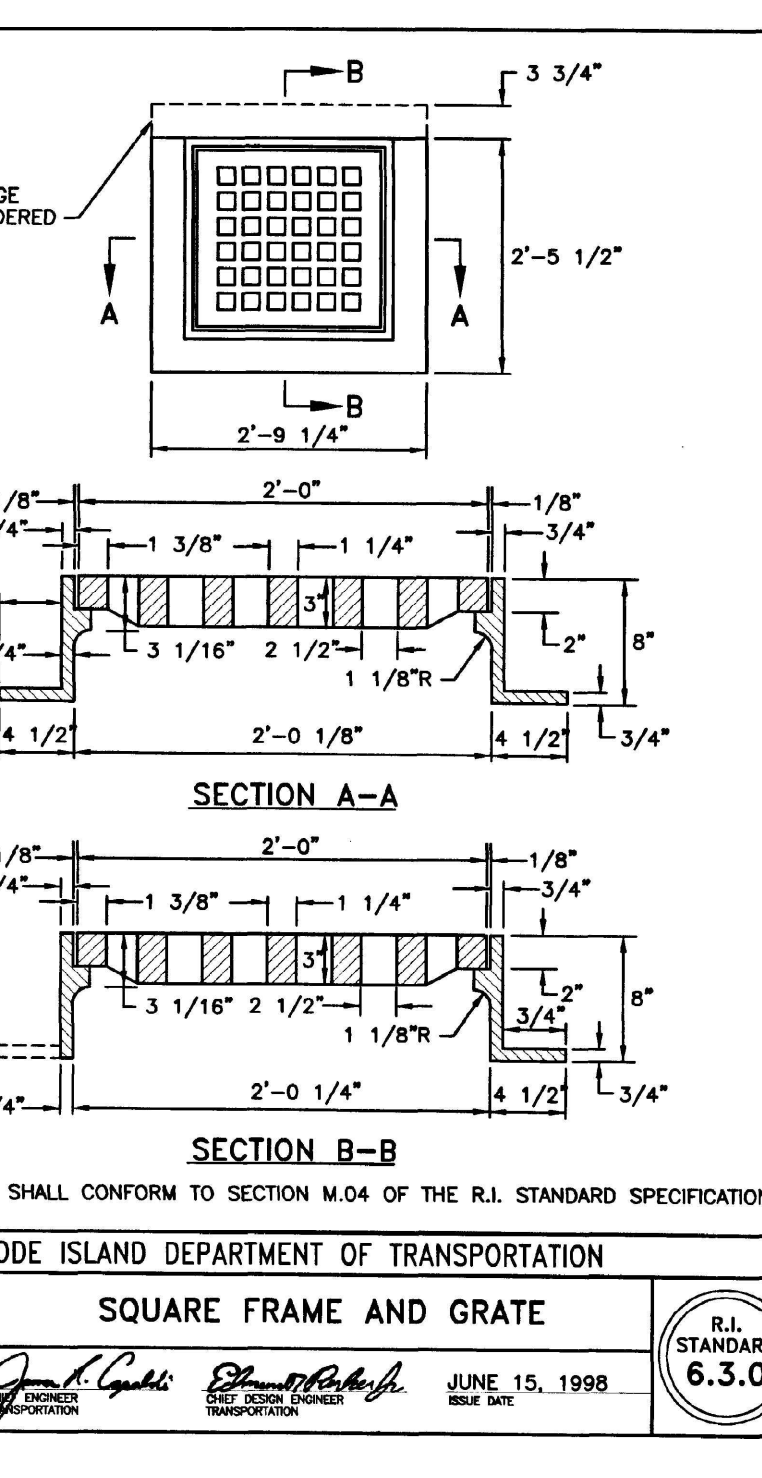
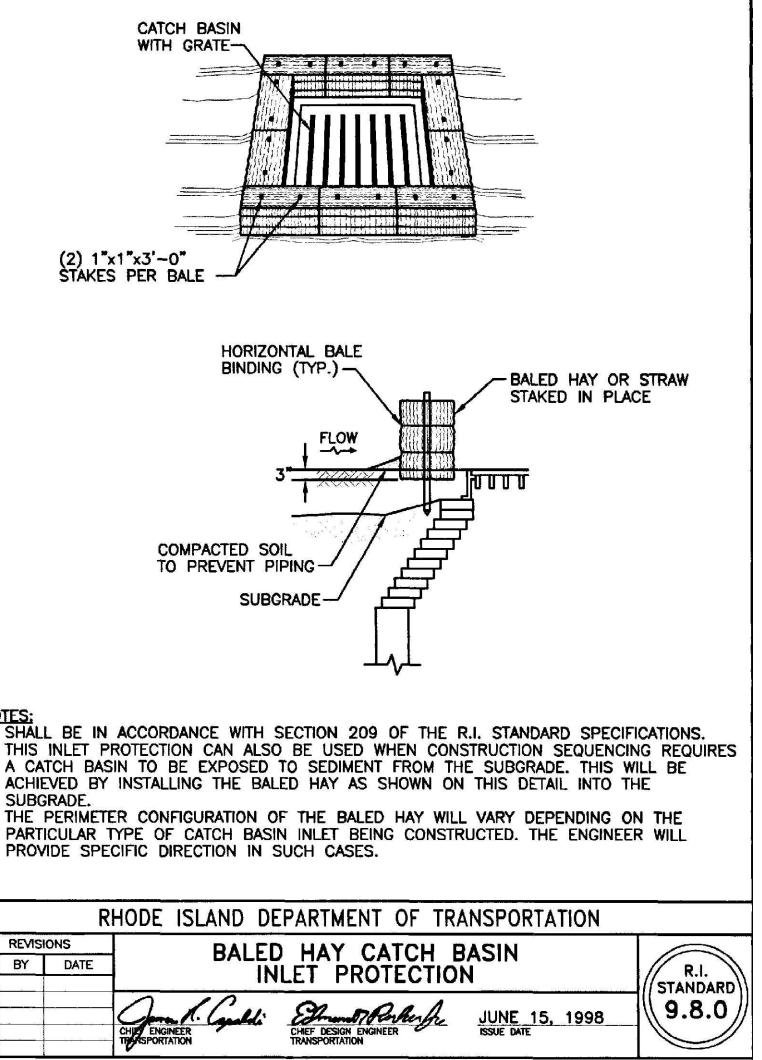
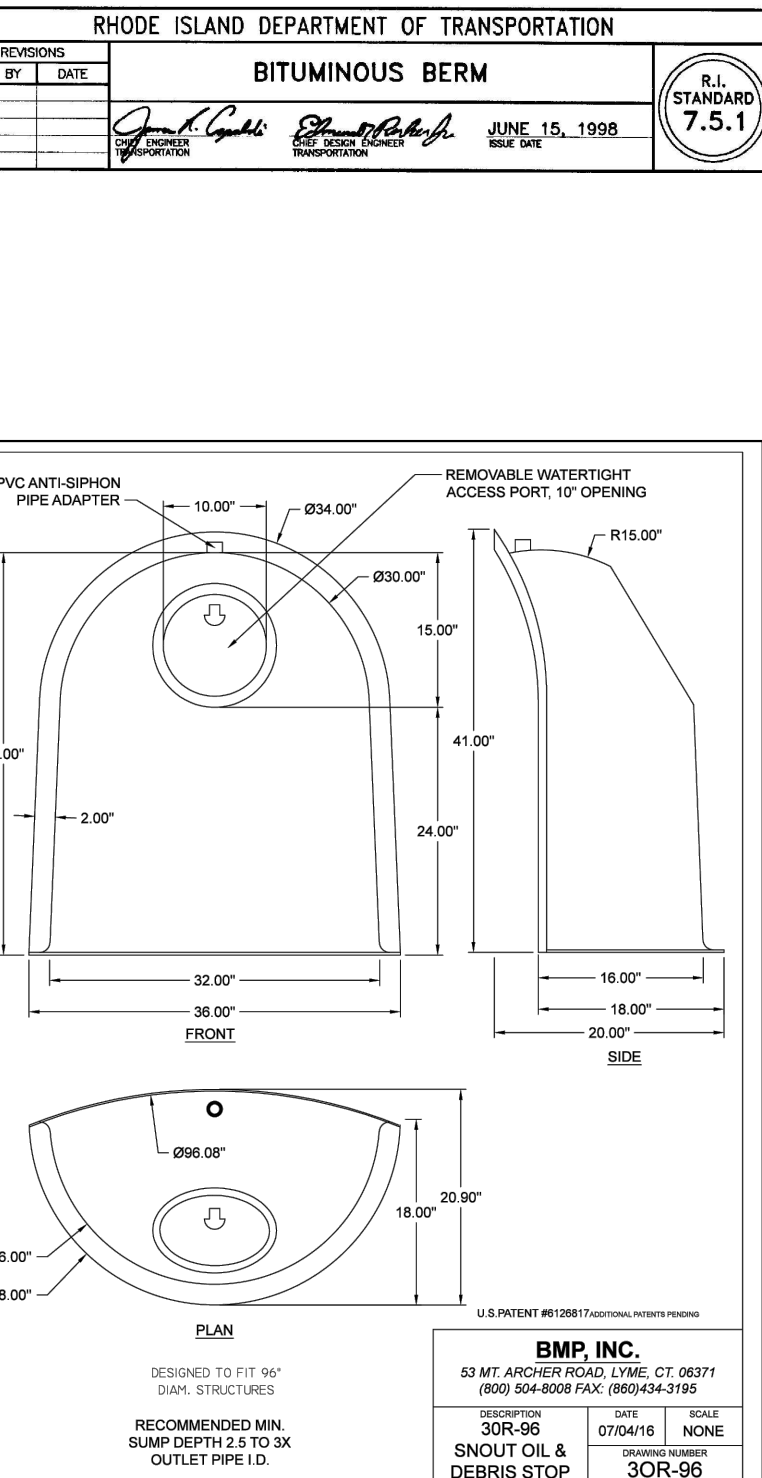
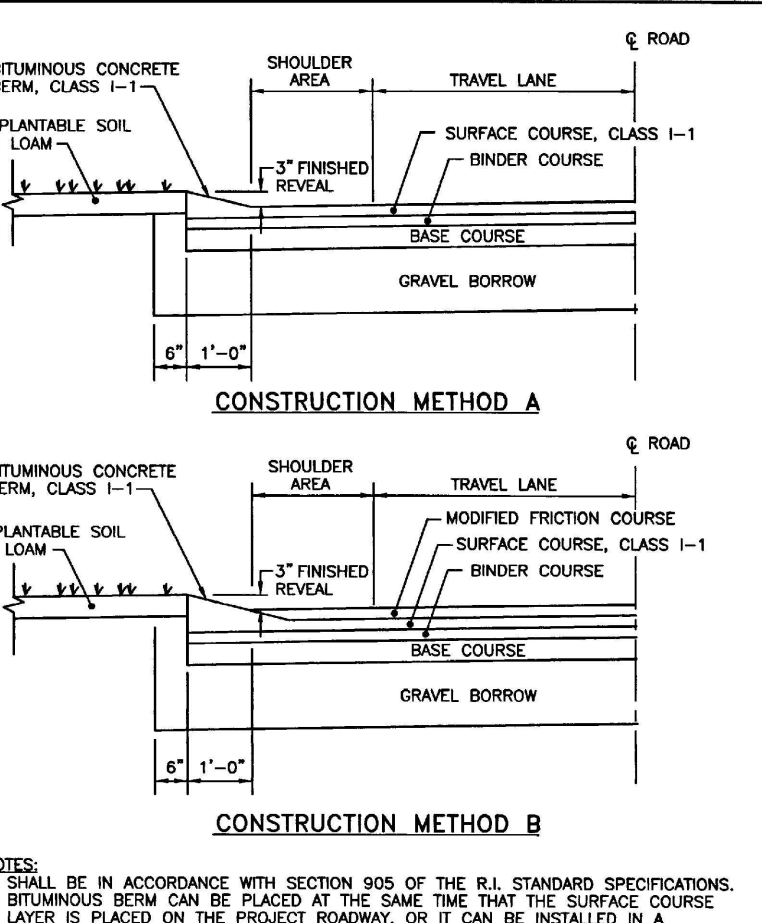
- DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
 - ALL DISTURBED SLOPES EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15 SHALL BE SEEDING OR COVERED BY THAT DATE FOR ANY WORK COMPLETED DURING EACH CONSTRUCTION PERIOD.
 - THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL. PERMANENT SEEDING MIXTURES SHALL BE USED FOR ALL SLOPES GREATER THAN 3:1. THE SEEDING MIXTURE SHALL BE APPLIED AT A RATE OF 1.0 TON PER ACRE. THE SEEDING MIX SHALL BE COMPRISED OF THE FOLLOWING: PERMANENT SEEDING MIXTURES: A - MOVED AREA: ALL FLAT OR SLOPES LESS THAN 3:1
- | MIXTURE | % BY WT. | SEEDING DATES |
|--------------------|----------|-------------------|
| RED RESCUE | 75 | APRIL 1 - JUNE 15 |
| KENTUCKY BLUEGRASS | 15 | AUG. 15 - OCT. 15 |
| COLONIAL BENTGRASS | 5 | |
| PERENNIAL RYEGRASS | 5 | |
| TOTAL 100% ARE | | |
- 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, EXCELSDOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
 - HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3000-4000 LBS/AC.
 - ALL HAYBALS OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN BE USED TO HELP MINIMIZE EROSION. A TEMPORARY SEEDING GUIDE MUST BE INCLUDED AS A REFERENCE. THE FOLLOWING SPECIES ARE RECOMMENDED:
- | SPECIES | LBS/ACRE | LBS/1,000 SQ. FT. | SEEDING DATES |
|--------------------|----------|-------------------|---------------------|
| ANNUAL RYEGRASS | 60 | 1.5 | MAR. 15 - JUNE 15 |
| PERENNIAL RYEGRASS | 40 | 1.0 | MAY 15 - AUGUST 15 |
| SUDAN GRASS | 40 | 1.0 | MAY 15 - AUGUST 15 |
| MILLET | 40 | 1.0 | AUGUST 15 - JUNE 15 |
| WINTER RYE | 120 | 3.0 | MAR. 15 - JUNE 15 |
| OATS | 120 | 3.0 | MAR. 15 - JUNE 15 |
| WEEDING LOVEGRASS | 20 | 0.5 | MAY 1 - JUNE 30 |
- THE CONTRACTOR MUST REPAIR AND OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE.
 - THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST THRU OCT. 15TH.
 - ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2004 EDITION, AMENDED MARCH 2018), SECTION 202.03.3
 - STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
 - STOCKPILES OF TOPSOILS SHALL NOT BE LOCATED NEAR WATERWAYS OR WETLANDS. THEY SHALL HAVE SLOPE SLOPES NO GREATER THAN 30% AND STOCKPILES SHALL ALSO BE SEEDING AND/OR STABILIZED.
 - ON BOTH STEEP AND LONG SLOPES CONSIDERATION SHOULD BE GIVEN TO "CRIMPING" OR TRACKING TO TACK DOWN MULCH APPLICATIONS.
 - REFERENCE THE SEDIMENTATION CONTROL PROGRAM AND ORDER OF PROCEDURE FOR PROPER COORDINATION.

SEDIMENTATION CONTROL PROGRAM

- ALL DISTURBED AREAS SUBJECT TO EROSION TENDENCIES WHETHER THEY ARE NEWLY FILLED OR EXCAVATED MUST RECEIVE SUITABLE SLOPE PROTECTION.
 - CARE SHALL BE TAKEN SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING EITHER EXISTING OR PROPOSED DRAINAGE OR SEWER STRUCTURES.
 - SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED PERIODICALLY AND AFTER PERIODS OF RAINFALL. DEVICES SHALL BE REPAIRED OR REPLACED AS NEEDED.
 - CARE SHALL BE TAKEN SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED BOX CULVERTS OR OTHER AREAS SUBJECT TO STORM WATER FLOW.
 - ADDITIONAL HAYBALS, SILT FENCE OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
 - REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE U.S. DEPT. OF AGRICULTURE, SOIL CONSERVATION SERVICE, 1989, WITH ANY AMENDMENTS, AS A GUIDE.
- ORDER OF PROCEDURE**
- IMMEDIATELY UPON COMPLETION OF THE CLEARING AND GRUBBING OPERATION AND PRIOR TO ANY GRADING, TEMPORARY HAYBALS, SILT FENCE OR SANDBAGS SHALL BE PLACED OUTSIDE THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS. (I.E. ALONG NEW ROADWAYS, STREAMBANKS, CRITICAL AREAS, ETC.)
 - ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE PERIODICALLY CLEANED AND MAINTAINED AS PER THE RESPECTIVE PROGRAMS DURING THE CONSTRUCTION.
 - IF WORK PROGRESS IS TO BE INTERRUPTED AT ANY TIME, REFERENCE EROSION AND SEDIMENTATION CONTROL PROGRAMS FOR TEMPORARY CONTROL.

GENERAL NOTES

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY THE STATE OF RHODE ISLAND AND THE MUNICIPALITY PRIOR TO COMMENCING ANY WORK.
- IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITIES, STRUCTURES, AND ABUTTING PROPERTIES. THE COST OF ANY REPAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE MUNICIPAL ENGINEERING DEPARTMENT AND ALL UTILITY INSTALLATIONS AND INSPECTIONS WITH THE APPROPRIATE UTILITY CO. A 48 HOUR ADVANCE NOTICE IS REQUIRED BEFORE WORK COMMENCEMENT.
- ALL WORK WITHIN THE STATES ROW WILL CONFORM TO RIDOT'S STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2013 AMENDED AUGUST 2013 AND STANDARD DETAILS, JUNE 15, 1998 AS AMENDED BY REVISION.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR QUANTITY TAKE OFF IN COMPUTING ANY ESTIMATES.
- EMBAKMENT SLOPES AND ALL DISTURBED AREAS ARE TO RECEIVE 4" OF TOPSOIL AND SEED. SEE EROSION CONTROL PROGRAM DETAILS.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION INDICATED ON THESE PLANS, THAT INCLUDES ANY CONSTRUCTION TO BRING UTILITIES TO THE SITE, ANY REPAIRS, ANY TRENCHING REQUIRED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND SOIL EROSION CONTROL MEASURES.
- THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE AND SHOULD BE VERIFIED BY THE CONTRACTOR WITH THE APPROPRIATE UTILITY COMPANIES. CALL DIG-SAFE 1(800)225-4977
- IN ALL EXCAVATION AND PLACEMENT OF FILL THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE R.I. STANDARD SPECIFICATION SECTION 202.



GENERAL NOTES AND DETAILS FOR
KEYSTONE, LLC.
 LOCATED AT
 A.P. 57-1, LOT 73
 82 MAIN STREET
 SOUTH KINGSTOWN, R.I.

Checked By: P.J.F
 Drawn By: M.J.C
 Scale: AS SHOWN
 Date: 09/09/2025
 REVISIONS
 NO. REVISION BY DATE

PATRICK J. FREEMAN
 13125
 PROFESSIONAL ENGINEER
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 Job No. 125222