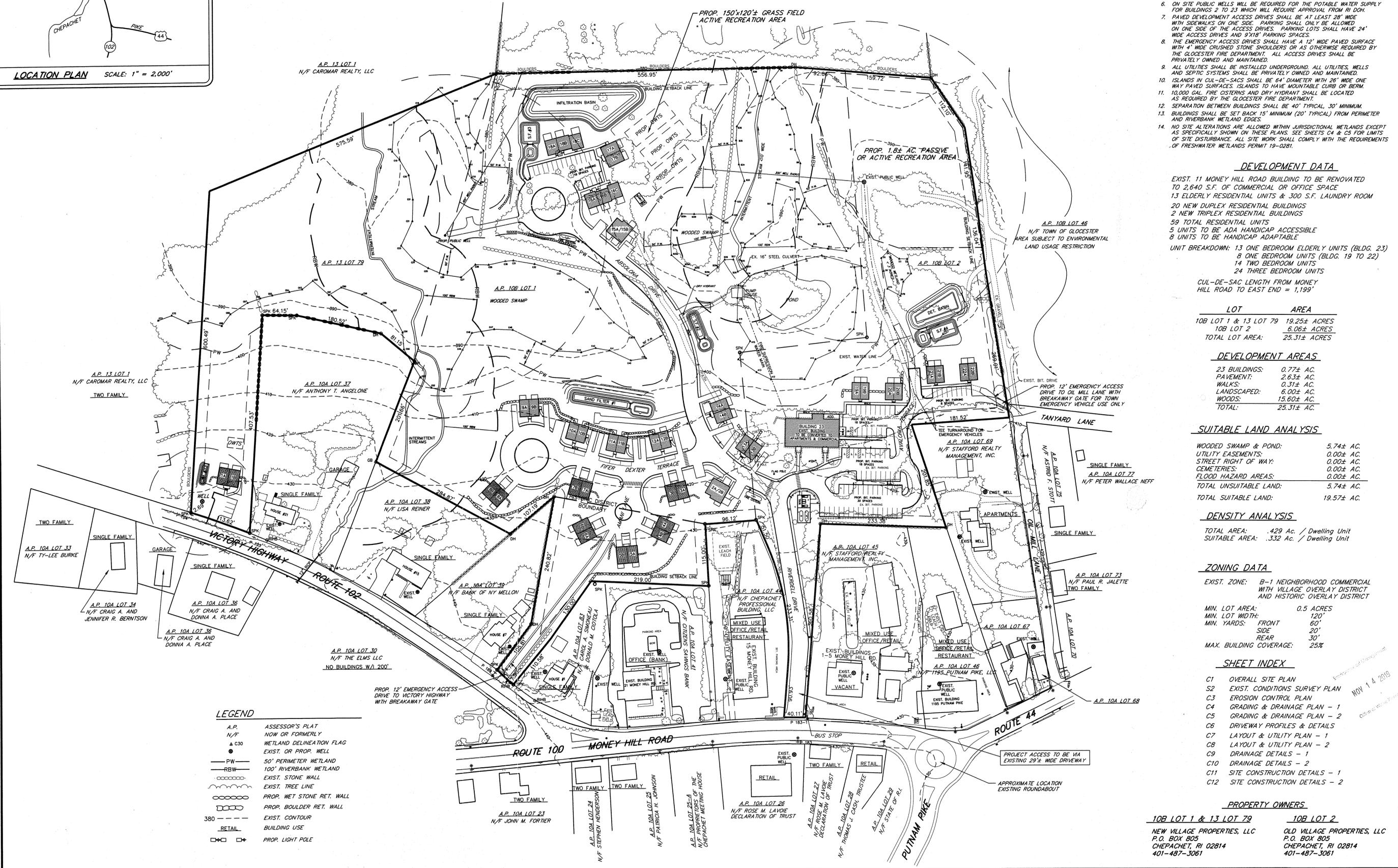


DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 AS APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED JAN 9 2020 FILE # 19-0281
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

A.P. 10B LOT 26
 N/F CAROMAR REALTY, LLC
 NO BUILDINGS W/ 200'

PARKING DATA
 2 PARKING SPACES REQUIRED PER RESIDENTIAL UNIT
 2 DRIVEWAY, GARAGE OR PARKING LOT SPACES PROVIDED FOR EACH OF THE 57 RESIDENTIAL UNITS
 PARKING REQUIRED FOR RESIDENTIAL UNITS = 104 SPACES
 EXISTING 11 MONEY HILL ROAD BUILDING TO HAVE 2,640 S.F. OF OFFICE OR COMMERCIAL SPACE ON THE LOWER LEVEL
 PARKING REQUIRED FOR COMMERCIAL SPACE = 30 SPACES
 TOTAL DEVELOPMENT PARKING REQUIRED = 148 SPACES
 TOTAL PARKING PROVIDED = 159 SPACES

- DEVELOPMENT NOTES**
- PROPERTY LINE AND TOPOGRAPHY FROM PLANS BY SQUATRE SURVEYS, INC. SEE SHEET 2 FOR SURVEY NOTES & DATA LIMITATIONS.
 - BUILDING 1 IS PROPOSED TO HAVE COMPOSTING TOILETS, AN ELVEN GRAYWATER ONSITE WASTEWATER TREATMENT SYSTEM AND PRIVATE WELL.
 - PROPOSED BUILDINGS 2 THROUGH 23 WILL HAVE COMPOSTING TOILETS WITH GRAYWATER RIVED BY GRAVITY SANITARY SEWERS TO A COMMUNAL ONSITE ADVANTECH GRAYWATER TREATMENT SYSTEM & GEOMAT DRAINFIELD.
 - THE RENOVATED 11 MONEY HILL ROAD (BLDG 23) WILL HAVE COMPOSTING TOILET CHAMBERS IN THE LOWER LEVEL TO SERVICE THE UPPER FLOORS. COMPOSTING TOILET CHAMBERS SHALL BE PROVIDED IN THE BUILDING ADDITION TO SERVICE THE LOWER LEVEL.
 - FULL OR PARTIAL BASEMENT AREAS WILL BE REQUIRED FOR LOCATION OF THE COMPOSTING TOILET TANKS.
 BUILDINGS 1, 9 TO 12, 13A, 14A & 19 TO 22 TO BE WALK OUT UNITS
 BUILDINGS 3 TO 8 TO BE DRIVE UNDER UNITS
 BUILDINGS 2, 13B, 14B & 15 TO 18 TO BE PARTIAL BASEMENT UNITS
 - ON SITE PUBLIC WELLS WILL BE REQUIRED FOR THE POTABLE WATER SUPPLY FOR BUILDINGS 2 TO 23 WHICH WILL REQUIRE APPROVAL FROM RI DGH.
 - PAVED DEVELOPMENT ACCESS DRIVES SHALL BE AT LEAST 28' WIDE WITH SIDEWALKS ON ONE SIDE. PARKING SHALL ONLY BE ALLOWED ON ONE SIDE OF THE ACCESS DRIVES. PARKING LOTS SHALL HAVE 24' WIDE ACCESS DRIVES AND 9'x18' PARKING SPACES.
 - THE EMERGENCY ACCESS DRIVES SHALL HAVE A 12' WIDE PAVED SURFACE WITH 4' WIDE CRUSHED STONE SHOULDERS OR AS OTHERWISE REQUIRED BY THE GLOUCESTER FIRE DEPARTMENT. ALL ACCESS DRIVES SHALL BE PRIVATELY OWNED AND MAINTAINED.
 - ALL UTILITIES SHALL BE INSTALLED UNDERGROUND. ALL UTILITIES, WELLS AND SEPTIC SYSTEMS SHALL BE PRIVATELY OWNED AND MAINTAINED.
 - ISLANDS IN CUL-DE-SACS SHALL BE 64' DIAMETER WITH 26' WIDE ONE WAY PAVED SURFACES. ISLANDS TO HAVE MOUNTABLE CURB OR BERM.
 - 10,000 GAL. FIRE CISTERNS AND DRY HYDRANT SHALL BE LOCATED AS REQUIRED BY THE GLOUCESTER FIRE DEPARTMENT.
 - SEPARATION BETWEEN BUILDINGS SHALL BE 40' TYPICAL, 30' MINIMUM.
 - BUILDINGS SHALL BE SET BACK 15' MINIMUM (20' TYPICAL) FROM PERIMETER AND RIVERBANK WETLAND EDGES.
 - NO SITE ALTERATIONS ARE ALLOWED WITHIN JURISDICTIONAL WETLANDS EXCEPT AS SPECIFICALLY SHOWN ON THESE PLANS. SEE SHEETS C4 & C5 FOR LIMITS OF SITE DISTURBANCE. ALL SITE WORK SHALL COMPLY WITH THE REQUIREMENTS OF FRESHWATER WETLANDS PERMIT 19-0281.



DEVELOPMENT DATA
 EXIST. 11 MONEY HILL ROAD BUILDING TO BE RENOVATED TO 2,640 S.F. OF COMMERCIAL OR OFFICE SPACE
 13 ELDERLY RESIDENTIAL UNITS & 300 S.F. LAUNDRY ROOM
 20 NEW DUPLEX RESIDENTIAL BUILDINGS
 2 NEW TRIPLEX RESIDENTIAL BUILDINGS
 59 TOTAL RESIDENTIAL UNITS
 5 UNITS TO BE ADA HANDICAP ACCESSIBLE
 8 UNITS TO BE HANDICAP ADAPTABLE
 UNIT BREAKDOWN: 13 ONE BEDROOM ELDERLY UNITS (BLDG. 23)
 8 ONE BEDROOM UNITS (BLDG. 19 TO 22)
 14 TWO BEDROOM UNITS
 24 THREE BEDROOM UNITS
 CUL-DE-SAC LENGTH FROM MONEY HILL ROAD TO EAST END = 1,199'

LOT	AREA
10B LOT 1 & 13 LOT 79	19.25± ACRES
10B LOT 2	6.06± ACRES
TOTAL LOT AREA:	25.31± ACRES

DEVELOPMENT AREAS

23 BUILDINGS:	0.77± AC.
PAVEMENT:	2.63± AC.
WALKS:	0.31± AC.
LANDSCAPED:	6.00± AC.
WOODS:	15.60± AC.
TOTAL:	25.31± AC.

SUITABLE LAND ANALYSIS

WOODED SWAMP & POND:	5.74± AC.
UTILITY EASEMENTS:	0.00± AC.
STREET RIGHT OF WAY:	0.00± AC.
CEMETERIES:	0.00± AC.
FLOOD HAZARD AREAS:	0.00± AC.
TOTAL UNSUITABLE LAND:	5.74± AC.
TOTAL SUITABLE LAND:	19.57± AC.

DENSITY ANALYSIS

TOTAL AREA:	.429 Ac. / Dwelling Unit
SUITABLE AREA:	.332 Ac. / Dwelling Unit

ZONING DATA

EXIST. ZONE: B-1 NEIGHBORHOOD COMMERCIAL WITH VILLAGE OVERLAY DISTRICT AND HISTORIC OVERLAY DISTRICT

MIN. LOT AREA:	0.5 ACRES
MIN. LOT WIDTH:	120'
MIN. YARDS:	FRONT 60'
	SIDE 20'
	REAR 30'
MAX. BUILDING COVERAGE:	25%

- SHEET INDEX**
- C1 OVERALL SITE PLAN
 - C2 EXIST. CONDITIONS SURVEY PLAN
 - C3 EROSION CONTROL PLAN
 - C4 GRADING & DRAINAGE PLAN - 1
 - C5 GRADING & DRAINAGE PLAN - 2
 - C6 DRIVEWAY PROFILES & DETAILS
 - C7 LAYOUT & UTILITY PLAN - 1
 - C8 LAYOUT & UTILITY PLAN - 2
 - C9 DRAINAGE DETAILS - 1
 - C10 DRAINAGE DETAILS - 2
 - C11 SITE CONSTRUCTION DETAILS - 1
 - C12 SITE CONSTRUCTION DETAILS - 2

PROPERTY OWNERS

10B LOT 1 & 13 LOT 79	10B LOT 2
NEW VILLAGE PROPERTIES, LLC P.O. BOX 805 CHEPACHET, RI 02814 401-487-3061	OLD VILLAGE PROPERTIES, LLC P.O. BOX 805 CHEPACHET, RI 02814 401-487-3061

- LEGEND**
- A.P. ASSESSOR'S PLAT
 - N/F NOW OR FORMERLY
 - ▲ C30 WETLAND DELINEATION FLAG
 - EXIST. OR PROP. WELL
 - PW 50' PERIMETER WETLAND
 - RBW 100' RIVERBANK WETLAND
 - EXIST. STONE WALL
 - EXIST. TREE LINE
 - PROP. WET STONE RET. WALL
 - PROP. BOULDER RET. WALL
 - EXIST. CONTOUR
 - BUILDING USE
 - PROP. LIGHT POLE

REVISION

DATE

SCOTT F. MOOREHEAD
 4296
 REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
 NEIGHBORWORKS BLACKSTONE RIVER VALLEY
 79 FRONT STREET SUITE 103
 WOONSOCKET, RI
 401-762-0993

RIVERDELL VILLAGE
 ASSESSOR'S PLAT 10B LOTS 1 & 2
 ASSESSOR'S PLAT 13 LOT 79
 VICTORY HIGHWAY & MONEY HILL ROAD
 GLOUCESTER, RHODE ISLAND

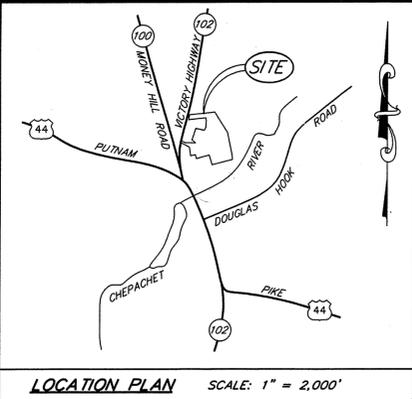
OVERALL SITE PLAN

S.F.M. ENGINEERING ASSOCIATES
 410 TIOGUE AVENUE
 COVENTRY, RI 02816
 PHONE: 401-826-3736
 FAX: 401-826-1771
 SCOTT@SFM.NECONMAIL.COM

DRN. BY: SFM
 CHK. BY: JZL
 SCALE: 1" = 80'
 DATE: OCT. 28, 2019
 DWG: SFM803-SP-1D
 SHEET 1 OF 12

DEM. PERMITTING SUBMISSION

C1



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED JAN 9 2020 FILE # 19-c281
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

NOV 14 2019
 Office of Water Resources

SCITUATE SURVEYS, INC.
 410 TOGUE AVENUE
 COVENTRY, RHODE ISLAND 02816
 401.821.8101
 LAND SURVEYING/MAPPING/SITE PLANNING
 PROJECT NO.: SS2597

ABRIDGMENT
 THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 23, 2015, AS FOLLOWS:

TYPE OF BOUNDARY SURVEY
 NOT A BOUNDARY SURVEY

MEASUREMENT SPECIFICATION
 N/A

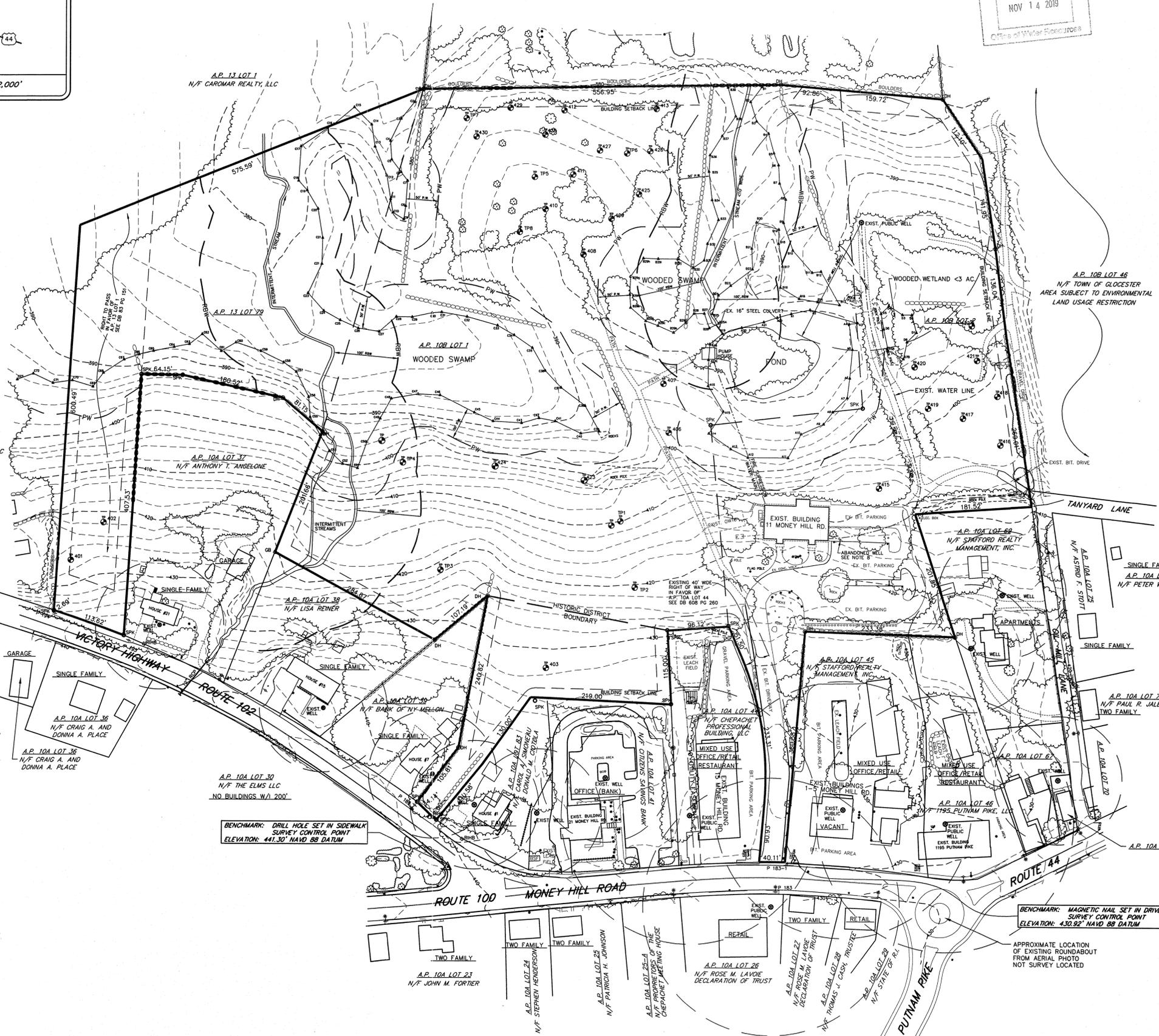
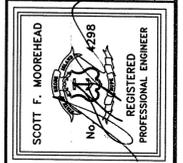
TYPE OF SURVEY-OTHER
 DATA ACCUMULATION SURVEY

MEASUREMENT SPECIFICATION
 CLASS III VERTICAL CONTROL STANDARD V-3 TOPOGRAPHIC SURVEY ACCURACY 1-2

COMPILED PLAN
 CLASS III BOUNDARY PREPARED FROM SOURCES OF INFORMATION AND DATA WHOSE POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED. THE PROPERTY LINES HEREIN DO NOT REPRESENT A BOUNDARY OPINION, AND ARE SUBJECT TO SUCH CHANGES AS AUTHORITY THE BOUNDARY SURVEY WOULD DISCLOSE.

STATEMENT OF PURPOSE
 THE PURPOSE OF THIS SURVEY WAS TO CONDUCT A DATA ACCUMULATION SURVEY, AND TO COLLECT TOPOGRAPHIC AND PHYSICAL FEATURE LOCATION DATA FOR SITE DEVELOPMENT DESIGN OF THE EXISTING PARCEL.

BY: *Angelo M. Raimondi*
 ANGELO M. RAIMONDI, PROFESSIONAL LAND SURVEYOR NO. 1762
 © SCITUATE SURVEYS, INC. COA NO. A30
 IF THIS MAP DOES NOT BEAR AN ORIGINAL SIGNATURE AND "MET" STAMP, THEN IT IS NOT AN AUTHENTICATED VERSION.



- SURVEY NOTES**
- THE DATA ACCUMULATION SURVEY DEPICTED HEREON IS A PRODUCT OF AERIAL PHOTOGRAMMETRY PREPARED BY AEROTECH CORPORATION IN FEBRUARY 2015 FROM PHOTOGRAPHY DATED DECEMBER 2014. THE TOPOGRAPHY AND PLANIMETRICS HAVE BEEN EDITED FROM CURRENT FIELD SURVEYS. THE DATA INCLUDES CONTOURS AT A TWO FOOT INTERVAL, PHYSICAL FEATURES (PLANIMETRICS) AND LIMITED SURFACE UTILITIES.
 - FOR PERIMETER REFERENCE, SEE PLAN ENTITLED "OLD CHEPACHET VILLAGE... MARCH, 1996 REVISED FEB. 4, 1998" RECORDED MAP #796, HANGING FILE #334.
 - THE PERIMETER DATA HEREON IS REPORTED TO A CLASS III STANDARD, AND IS SUBJECT TO SUCH CHANGES AS AN ACTUAL BOUNDARY SURVEY MAY DISCLOSE.
 - VERTICAL DATUM IS NAVD 88; HORIZONTAL DATUM IS NAD 83. BOTH WERE DERIVED FROM CONTROL SURVEYS WHICH EMPLOYED GLOBAL POSITIONING TECHNOLOGY.
 - THE FRESHWATER WETLANDS WERE DELINEATED IN THE FIELD BY NATURAL RESOURCE SERVICES INC. OF HARRISVILLE, RI, IN DECEMBER AND APRIL OF 2015. THE FLAGS WERE SURVEY LOCATED BY SCITUATE SURVEYS, INC. USING A COMBINATION OF CONVENTIONAL (TOTAL STATION) SURVEY METHODS AND GLOBAL POSITIONING TECHNOLOGY.
 - THE SUBJECT PARCEL IS LOCATED IN ZONE B-1 NEIGHBORHOOD COMMERCIAL, AND IS WITHIN THE VILLAGE OVERLAY DISTRICT AND HISTORIC DISTRICT ZONING OVERLAY.
 - THE PROPERTY IS LOCATED OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN AS DEPICTED ON FLOOD INSURANCE RATE MAP NO. 44007C0145G DATED MARCH 2, 2008.
 - SURFACE EVIDENCE OF PUBLIC AND PRIVATE UTILITIES IS BASED UPON LIMITED SURVEY LOCATION AND AERIAL PHOTOGRAMMETRY. UTILITY INFORMATION IS NOT COMPLETE, AND IS SUBJECT TO SUCH CHANGES AS ADDITIONAL DATA MAY DISCLOSE. ALL EXCAVATION MUST BE PRECEDED BY CONTACTING "DIG-SAFE" FOR A MORE RELIABLE LAYOUT OF EXISTING UTILITIES.
 - THE DEPICTION OF PUBLIC WELLS IN THE PROJECT AREA IS BASED ON INFORMATION OBTAINED FROM THE RHODE ISLAND DEPARTMENT OF HEALTH.
 - THE WELL LOCATED SOUTHERLY OF THE BUILDING ON LOT 2 A.P. 10B WAS FORMERLY A PUBLIC WELL, BUT ITS PERMIT HAS EXPIRED. AN APPLICATION FOR A RELOCATED PUBLIC WELL WAS FILED, APPROVED AND INSTALLED.
 - ON-SITE WASTEWATER TREATMENT SYSTEMS AND PRIVATE WELLS ARE DEPICTED BASED ON INFORMATION OBTAINED FROM THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT. NOT ALL LOTS HAVE R.I.D.E.M. RECORDS.

ZONING DATA

EXIST. ZONE: B-1 NEIGHBORHOOD COMMERCIAL WITH VILLAGE OVERLAY DISTRICT AND HISTORIC OVERLAY DISTRICT

MIN. LOT AREA: 0.5 ACRES
 MIN. LOT WIDTH: 120'
 MIN. YARDS: FRONT 60', SIDE 20', REAR 30'
 MAX. BUILDING COVERAGE: 25%

LEGEND

- A.P. ASSESSOR'S PLAT
- N/F NOW OR FORMERLY
- ▲ C30 WETLAND DELINEATION FLAG
- EXIST. WELL
- PW 50' PERIMETER WETLAND
- RBW 100' RIVERBANK WETLAND
- EXIST. STONE WALL
- EXIST. TREE LINE
- 380 EXIST. CONTOUR
- SOIL EVALUATION TEST PIT
- RETAIL BUILDING USE

LOT	AREA
10B LOT 1 & 13 LOT 79	19.25± ACRES
10B LOT 2	6.06± ACRES
TOTAL LOT AREA:	25.31± ACRES

PROPERTY OWNERS

10B LOT 1 & 13 LOT 79
 NEW VILLAGE PROPERTIES, LLC
 P.O. BOX 805
 CHEPACHET, RI 02814
 401-487-3061

10B LOT 2
 OLD VILLAGE PROPERTIES, LLC
 P.O. BOX 805
 CHEPACHET, RI 02814
 401-487-3061

PREPARED FOR:
 NEIGHBORWORKS BLACKSTONE RIVER VALLEY
 79 FRONT STREET SUITE 103
 WOONSOCKET, RI
 401-762-0993

RIVERDELL VILLAGE
 ASSESSOR'S PLAT 10B LOTS 1 & 2
 ASSESSOR'S PLAT 13 LOT 79
 VICTORY HIGHWAY & MONEY HILL ROAD
 GLOUCESTER, RHODE ISLAND
 EXISTING CONDITIONS PLAN

S.F.M. ENGINEERING ASSOCIATES
 410 TOGUE AVENUE
 COVENTRY, RI 02816
 PHONE: 401-826-3736
 FAX: 401-826-1711
 SCOTT@SFM.NECOMAIL.COM



DRN. BY: SFM
CHK. BY: JZL
SCALE: 1" = 80'
DATE: OCT. 28, 2019
DWG: SFM803-ECP-D
SHEET 2 OF 12
DEM PERMITTING SUBMISSION



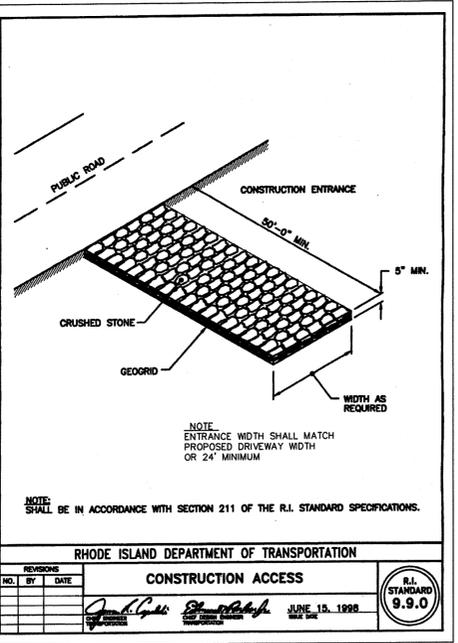
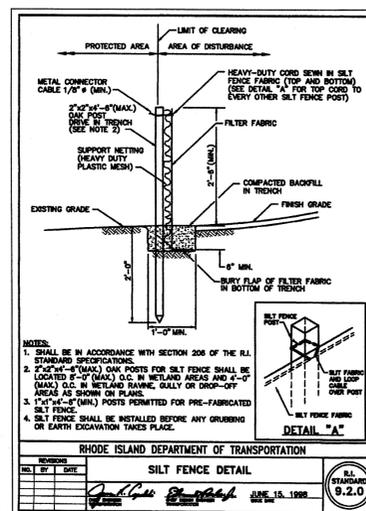
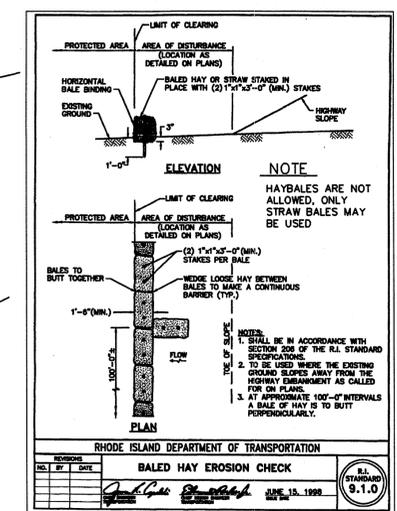
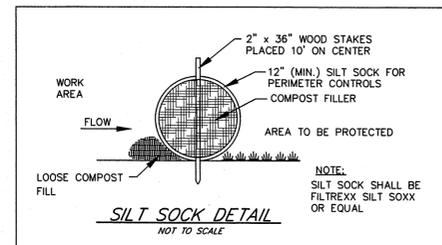
LEGEND

A.P.	ASSESSOR'S PLAT
N/F	NOW OR FORMERLY
△ C30	WETLAND DELINEATION FLAG
○	EXIST. OR PROP. WELL
—	50' PERIMETER WETLAND
—	100' RIVERBANK WETLAND
○	EXIST. STONE WALL
○	EXIST. TREE LINE
○	EXIST. CONTOUR
○	PROP. CATCH BASIN / MANHOLE
○	PROP. C.B. EROSION CONTROL
○	LIMIT OF DISTURBANCE
○	PROP. EROSION CONTROL

- GENERAL NOTES**
- STRAW BALE, SILT SOCK OR SILT FENCE EROSION CHECKS SHALL BE INSTALLED AND MAINTAINED AT ALL DOWNGRADIENT LIMITS OF DISTURBANCE PRIOR TO CONSTRUCTION OR EXCAVATION.
 - OWTS LEACHFIELD, STORMWATER BASIN & SAND FILTER AREAS SHALL BE PHYSICALLY DELINEATED PRIOR TO THE START OF CONSTRUCTION AND SHALL BE PROTECTED WITH BARRIERS TO PREVENT COMPACTION OF THESE AREAS.
 - SEE ADDITIONAL EROSION CONTROL DETAILS AND NOTES ON SHEET C12. SEE SHEETS C9 & C10 FOR DRAINAGE AND INFILTRATION BASIN EROSION CONTROL MEASURES.
 - CONSTRUCTION ENTRANCE PADS SHALL BE INSTALLED AT THE COMMENCEMENT OF SITE CLEARING. ALL TRUCK TRAFFIC MUST ENTER FROM THE EXISTING DRIVEWAY. CONSTRUCTION ENTRANCES SHALL BE MAINTAINED UNTIL THE DRIVEWAYS AND PARKING AREAS ARE READY FOR PAVING.
 - THE TOTAL AREA OF SITE DISTURBANCE IS APPROXIMATELY 10.29 ACRES. THE INITIAL PHASE OF CONSTRUCTION WILL ONLY INCLUDE SITE WORK FOR THE DRIVEWAY AND DRAINAGE INSTALLATION WHICH WILL INVOLVE APPROXIMATELY 8.0 ACRES OF SITE DISTURBANCE. BUILDING CONSTRUCTION WILL NOT COMMENCE UNTIL THE MAIN DRIVES HAVE BINDER PAVEMENT AND DRAINAGE BASINS ARE COMPLETE AND STABILIZED.
 - PRIOR TO THE START OF EXCAVATION FOR DRIVEWAY CONSTRUCTION, THE SEDIMENT FOREBAYS OR UPGRADE ADJACENT AREAS SHALL BE EXCAVATED AND STABILIZED TO BE USED AS TEMPORARY SEDIMENT TRAPS WITH STONE OVERFLOW WEIRS. DURING ROADWAY EXCAVATION AND GRADING, RUNOFF SHALL BE DIRECTED TO THESE TEMPORARY SEDIMENT TRAPS. OVERFLOW FROM THE SEDIMENT FOREBAY/TRAP AREAS SHALL NOT BE DIRECTED TO THE SAND FILTER AREAS OR STORMWATER BASINS UNTIL THOSE AREAS ARE FULLY STABILIZED WITH VEGETATION. DISTURBED AREAS DRAINING TO ANY TEMPORARY SEDIMENT TRAP SHALL BE KEPT TO LESS THAN ONE ACRE. SEDIMENT TRAPS SHALL BE INSPECTED AFTER EVERY RAIN EVENT OF 0.25" OR GREATER. ACCUMULATED SEDIMENTS SHALL BE REMOVED WHEN THEY REACH A DEPTH OF 12" AND THE TRAP SHALL BE RESTORED TO ITS ORIGINAL DIMENSIONS. WHEN THE SAND FILTER AREAS AND STORMWATER BASINS ARE COMPLETE AND STABILIZED, THE SEDIMENT FOREBAYS SHALL BE UTILIZED AND TEMPORARY TRAPS MAY BE FILLED.
 - THE SITE CONTRACTOR SHALL PROVIDE TEMPORARY EROSION CONTROLS ALONG THE FLOW PATH TO THE TEMPORARY SEDIMENT TRAPS TO REDUCE FLOW VELOCITY AND TO PREVENT EXCESS SEDIMENT TRANSPORT. SUCH CONTROLS SHALL INCLUDE DIVERSION BERMS, STRAW BALES, SILT SOCKS, DITCH EROSION CHECKS AND TEMPORARY GROUND COVERS AS NOTED ON SHEET C12.
 - ALL CATCH BASINS, DRAINAGE INLETS AND OUTLETS SHALL HAVE STAKED STRAW BALE OR SILT SOCK EROSION CHECKS WHICH SHALL BE MAINTAINED AND REPLACED AS REQUIRED UNTIL THE SITE IS FULLY STABILIZED. ALL CATCH BASINS SHALL ALSO HAVE SILT SOCK INLET FILTERS INSTALLED UNDER THE GRATES.

Environmental Management
NOV 14 2019
Office of Water Resources

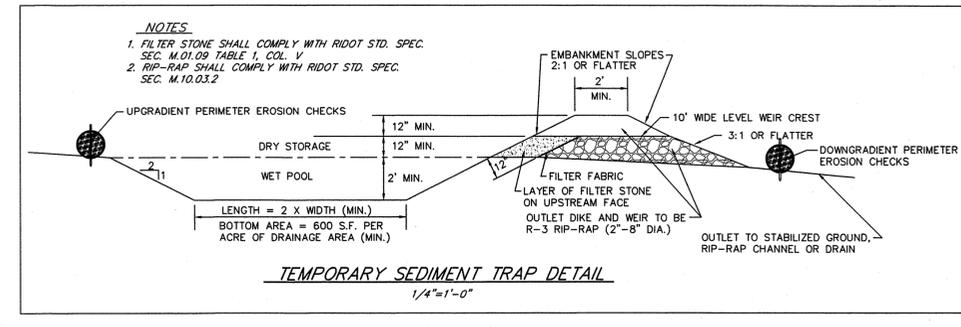
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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Kenny L. Frenkel



ROCK STABILIZATION PAD AT CONSTRUCTION ENTRANCE
NOT TO SCALE

4" (MIN.) OF CRUSHED STONE	SQUARE MESH SEVES	RIDOT 2" CRUSHED STONE OR GRAVEL	% FINER
	2 1/2"		100
	2"		95-100
	1 1/2"		30-55
	1 1/4"		0-25
	1"		0-5

6" GRAVEL BASE OR FILTER FABRIC
REFERENCE R.I. SOIL EROSION & SEDIMENT CONTROL HANDBOOK SECTION 6
INSTALL PER R.I. STD. DETAIL 9.9.0



REVISION

DATE

SCOTT F. MOOREHEAD
REGISTERED PROFESSIONAL ENGINEER
No. 4298

PREPARED FOR:
NEIGHBORHOODS BLACKSTONE RIVER VALLEY
79 FRONT STREET SUITE 103
MOONSOCKET, RI
401-762-0993

RIVERDELL VILLAGE
ASSESSOR'S PLAT 108 LOTS 1 & 2
ASSESSOR'S PLAT 13 LOT 79
VICTORY HIGHWAY & MONEY HILL ROAD
GLOUCESTER, RHODE ISLAND

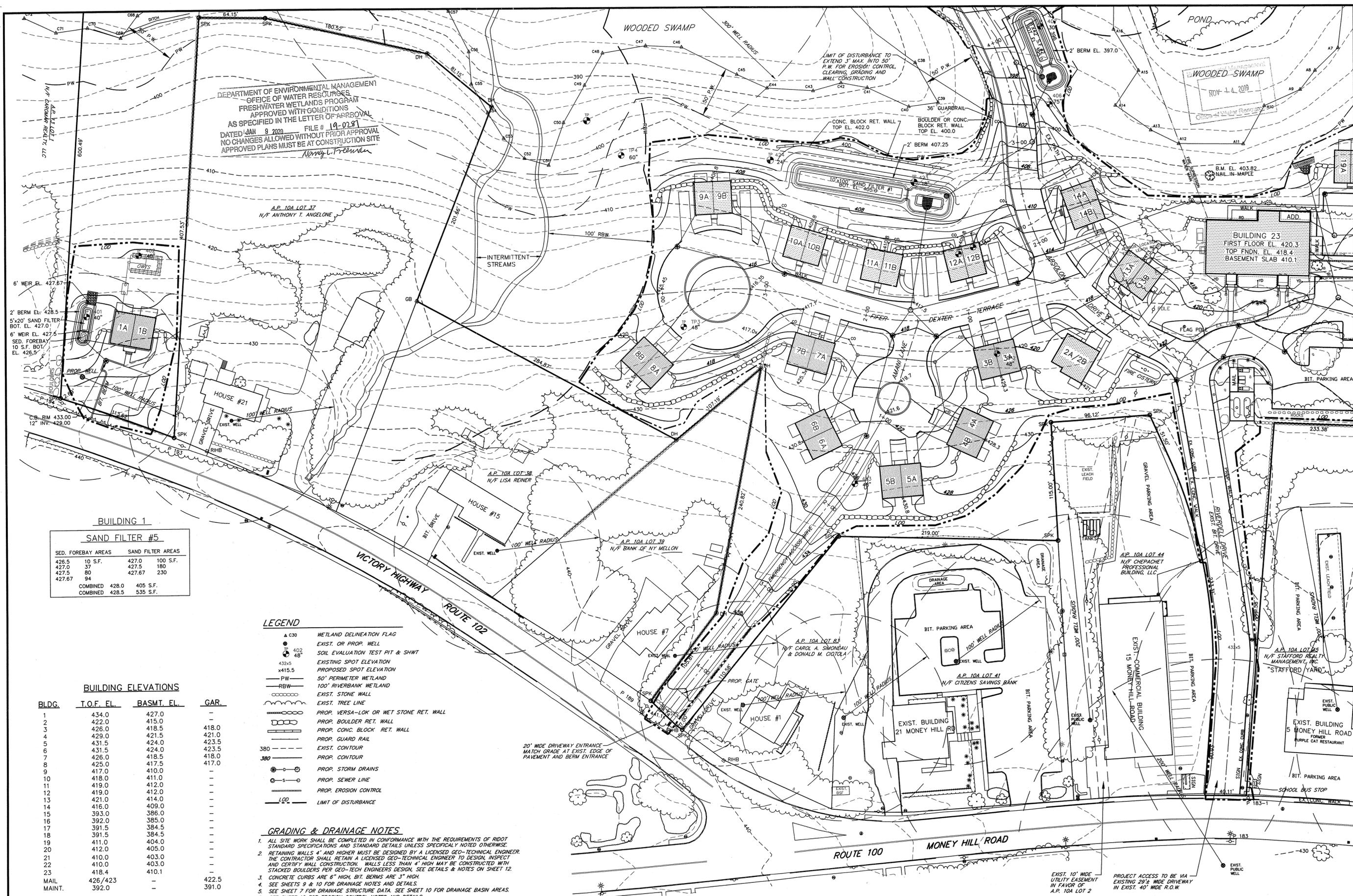
EROSION CONTROL PLAN

S.F.M. ENGINEERING ASSOCIATES
410 TOIGUE AVENUE
COVENTRY, RI 02816
PHONE: 401-826-3736
FAX: 401-826-1711
SCOTT@SFM.NECOMAIL.COM

SFM

DRN. BY: SFM
CHK. BY: JZL
SCALE: 1"= 80'
DATE: OCT. 28, 2019
DWG: SFM03-EC-D
SHEET 3 OF 12
DEM PERMITTING SUBMISSION

C3



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
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Nancy L. Freeman

BUILDING 1

SAND FILTER #5

SED. FOREBAY AREAS	SAND FILTER AREAS
426.5 10 S.F.	427.0 100 S.F.
427.0 37	427.5 180
427.5 80	427.67 230
427.67 94	
COMBINED 428.0	405 S.F.
COMBINED 428.5	535 S.F.

BUILDING ELEVATIONS

BLDG.	T.O.F. EL.	BASMT. EL.	GAR.
1	434.0	427.0	-
2	422.0	415.0	-
3	426.0	418.5	418.0
4	429.0	421.5	421.0
5	431.5	424.0	423.5
6	431.5	424.0	423.5
7	426.0	418.5	418.0
8	425.0	417.5	417.0
9	417.0	410.0	-
10	418.0	411.0	-
11	419.0	412.0	-
12	419.0	412.0	-
13	421.0	414.0	-
14	416.0	409.0	-
15	393.0	386.0	-
16	392.0	385.0	-
17	391.5	384.5	-
18	391.5	384.5	-
19	411.0	404.0	-
20	412.0	405.0	-
21	410.0	403.0	-
22	410.0	403.0	-
23	418.4	410.1	-
MAIL	426/423	-	422.5
MAINT.	392.0	-	391.0

- LEGEND**
- ▲ C30 WETLAND DELINEATION FLAG
 - 402 EXIST. OR PROP. WELL
 - 48 SOIL EVALUATION TEST PIT & SHWT
 - 432.5 EXISTING SPOT ELEVATION
 - x415.5 PROPOSED SPOT ELEVATION
 - PW 50' PERIMETER WETLAND
 - RBW 100' RIVERBANK WETLAND
 - EXIST. STONE WALL
 - EXIST. TREE LINE
 - PROP. VERSA-LOK OR WET STONE RET. WALL
 - PROP. BOULDER RET. WALL
 - PROP. CONC. BLOCK RET. WALL
 - PROP. GUARD RAIL
 - 380 EXIST. CONTOUR
 - 380 PROP. CONTOUR
 - PROP. STORM DRAINS
 - PROP. SEWER LINE
 - PROP. EROSION CONTROL
 - LDD LIMIT OF DISTURBANCE

- GRADING & DRAINAGE NOTES**
- ALL SITE WORK SHALL BE COMPLETED IN CONFORMANCE WITH THE REQUIREMENTS OF RIDOT STANDARD SPECIFICATIONS AND STANDARD DETAILS UNLESS SPECIFICALLY NOTED OTHERWISE.
 - RETAINING WALLS 4' AND HIGHER MUST BE DESIGNED BY A LICENSED GEO-TECHNICAL ENGINEER. THE CONTRACTOR SHALL RETAIN A LICENSED GEO-TECHNICAL ENGINEER TO DESIGN, INSPECT AND CERTIFY WALL CONSTRUCTION. WALLS LESS THAN 4' HIGH MAY BE CONSTRUCTED WITH STACKED BOULDERS PER GEO-TECH ENGINEER'S DESIGN. SEE DETAILS & NOTES ON SHEET 12.
 - CONCRETE CURBS ARE 8" HIGH. BIT. BERMS ARE 1" HIGH.
 - SEE SHEETS 9 & 10 FOR DRAINAGE NOTES AND DETAILS.
 - SEE SHEET 7 FOR DRAINAGE STRUCTURE DATA. SEE SHEET 10 FOR DRAINAGE BASIN AREAS.
 - SEE SHEET 12 FOR EROSION CONTROL NOTES AND DETAILS.
 - STORM DRAINS AND STRUCTURES SHALL BE PROTECTED FROM SILTATION AT ALL TIMES.
 - SEE ARCHITECT'S PLANS FOR LOCATION OF ROOF DOWNSPOUTS & DRAIN CONNECTIONS.
 - THE LIMIT OF DISTURBANCE SHALL NOT EXTEND INTO ANY JURISDICTIONAL WETLAND AREA EXCEPT AS SPECIFICALLY NOTED ON THE PLANS.
 - C.B. FRAMES & GRATES SHALL BE SET 1.5" BELOW DESIGN GRADE UNTIL FINAL PAVEMENT COURSE IS TO BE INSTALLED. JUST PRIOR TO FINAL PAVING, RAISE FRAMES & GRATES TO DESIGN GRADE.
 - GRADING AT ALL SIDEWALK RAMPS SHALL COMPLY WITH RI STD. 43.3.0 OR 43.3.1
 - VERTICAL DATUM IS NAVD83

REVISION DATE

NOV 14 2019

SCOTT F. MOOREHEAD
 REGISTERED PROFESSIONAL ENGINEER
 No. 0086

PREPARED FOR:
 NEIGHBORWORKS BLACKSTONE RIVER VALLEY
 79 FRONT STREET SUITE 103
 WOONSOCKET, RI
 401-762-0993

RIVERDELL VILLAGE
 ASSESSOR'S PLAT 109 LOTS 1 & 2
 ASSESSOR S PLAT 13 LOT 79
 VICTORY HIGHWAY & MONEY HILL ROAD
 GLOUCESTER, RHODE ISLAND

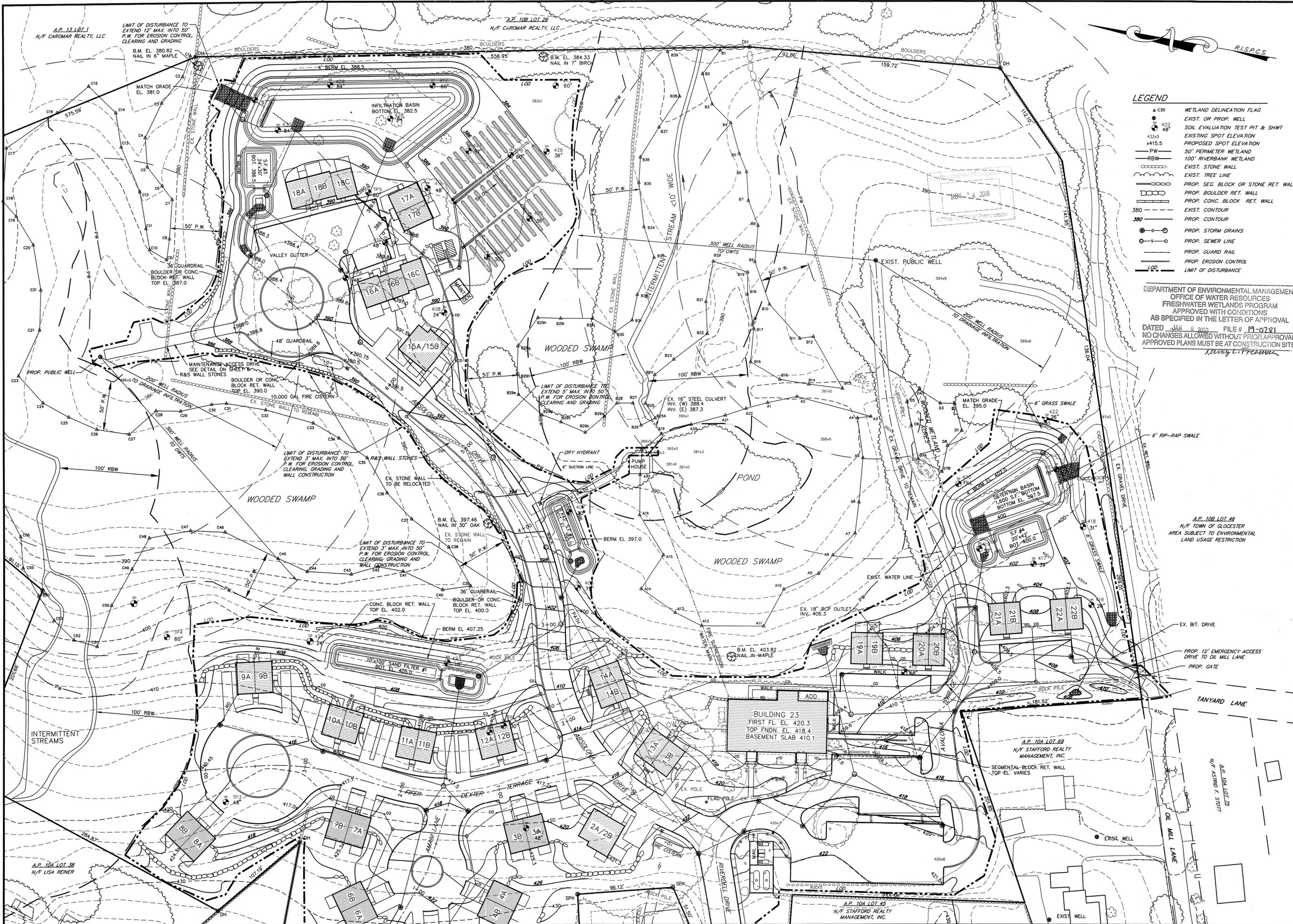
S.F.M. ENGINEERING ASSOCIATES
 410 TROQUE AVENUE
 COVENTRY, RI 02816
 PHONE: 401-826-3736
 FAX: 401-826-1711
 SCOTT@SFMENGINEERING.COM

SFM

DRN. BY: SFM
 CHK. BY: JZL
 SCALE: 1" = 40'
 DATE: OCT. 28, 2019
 DWG: SFM803-GP-1D
 SHEET 4 OF 12

DEM PERMITTING SUBMISSION

C4



- LEGEND**
- ▲ C30 WETLAND DELINEATION FLAG
 - TP 402 48" EXIST. OR PROP. WELL
 - 432x5 SOIL EVALUATION TEST PIT & SHWT
 - x415.5 EXISTING SPOT ELEVATION
 - PW 50' PERIMETER WETLAND
 - RBW 100' RIVERBANK WETLAND
 - EXIST. STONE WALL
 - EXIST. TREE LINE
 - PROP. SEG. BLOCK OR STONE RET. WALL
 - PROP. BOULDER RET. WALL
 - PROP. CONC. BLOCK RET. WALL
 - 380 EXIST. CONTOUR
 - 390 PROP. CONTOUR
 - PROP. STORM DRAINS
 - PROP. SEWER LINE
 - PROP. GUARD RAIL
 - PROP. EROSION CONTROL
 - LDD LIMIT OF DISTURBANCE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED JAN 8 2019 FILE # 19-0781
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

REVISION

DATE

SCOTT F. MOOREHEAD
 REGISTERED PROFESSIONAL ENGINEER
 No. 4298

PREPARED FOR:
 NEIGHBORHOODS BLACKSTONE RIVER VALLEY
 79 FRONT STREET SUITE 103
 WOODSOCKE T, RI
 401-762-0993

RIVERDELL VILLAGE
 ASSESSOR'S PLAT 108 LOTS 1 & 2
 ASSESSOR'S PLAT 13 LOT 79
 VICTORY HIGHWAY & MONEY HILL ROAD
 GLOUCESTER, RHODE ISLAND

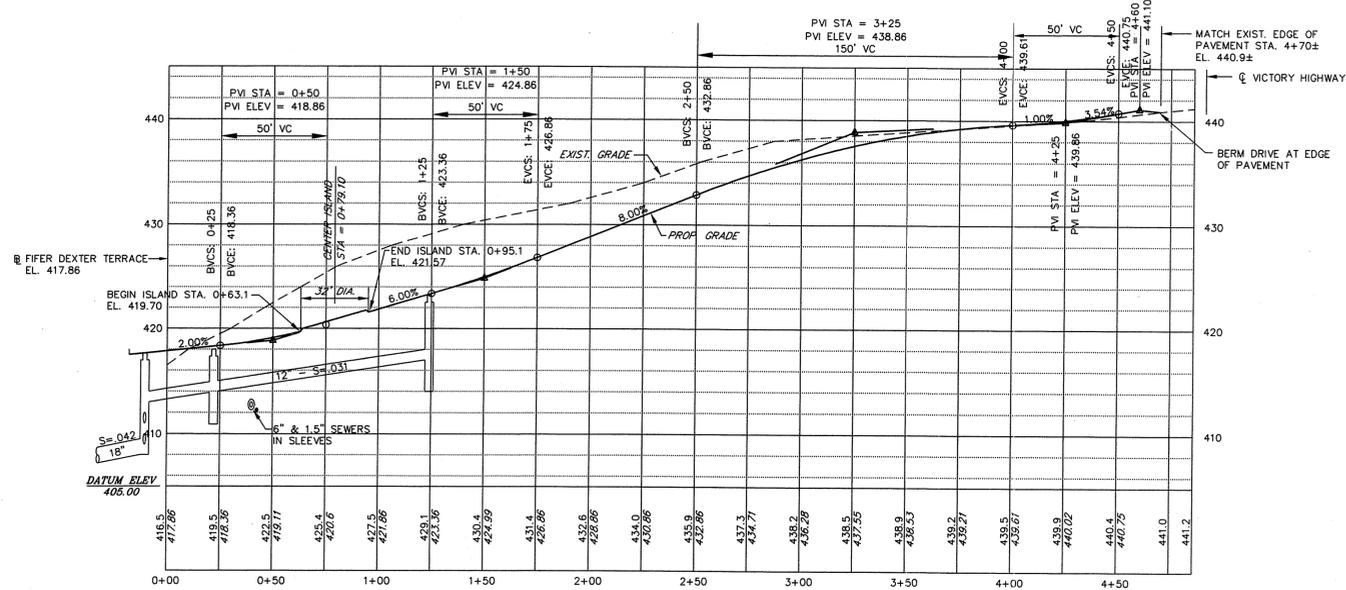
GRADING PLAN-2

S.F.M. ENGINEERING ASSOCIATES
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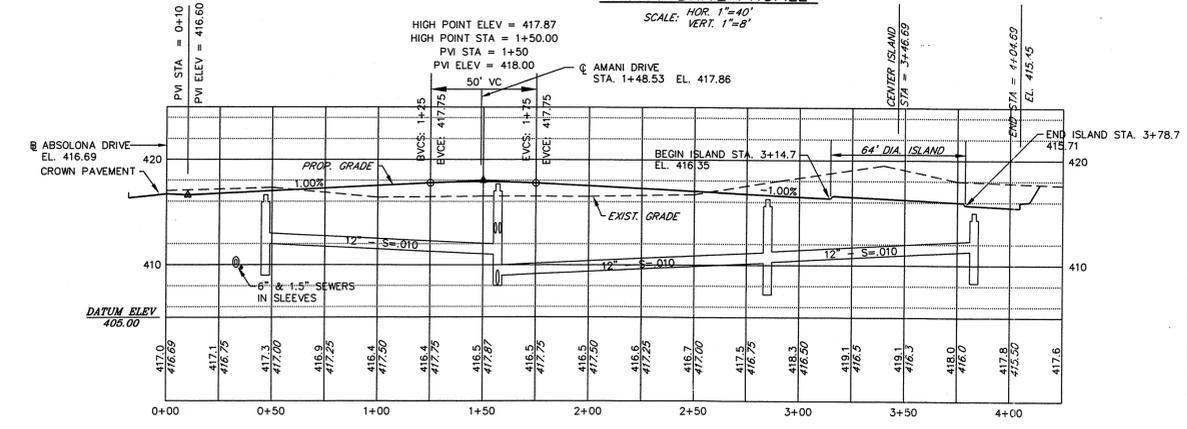
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 CHK. BY: JZL
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 DATE: OCT. 28, 2019
 DWG: SFM803-GP-2D
 SHEET 5 OF 12
 DEM PERMITTING SUBMISSION

SFM

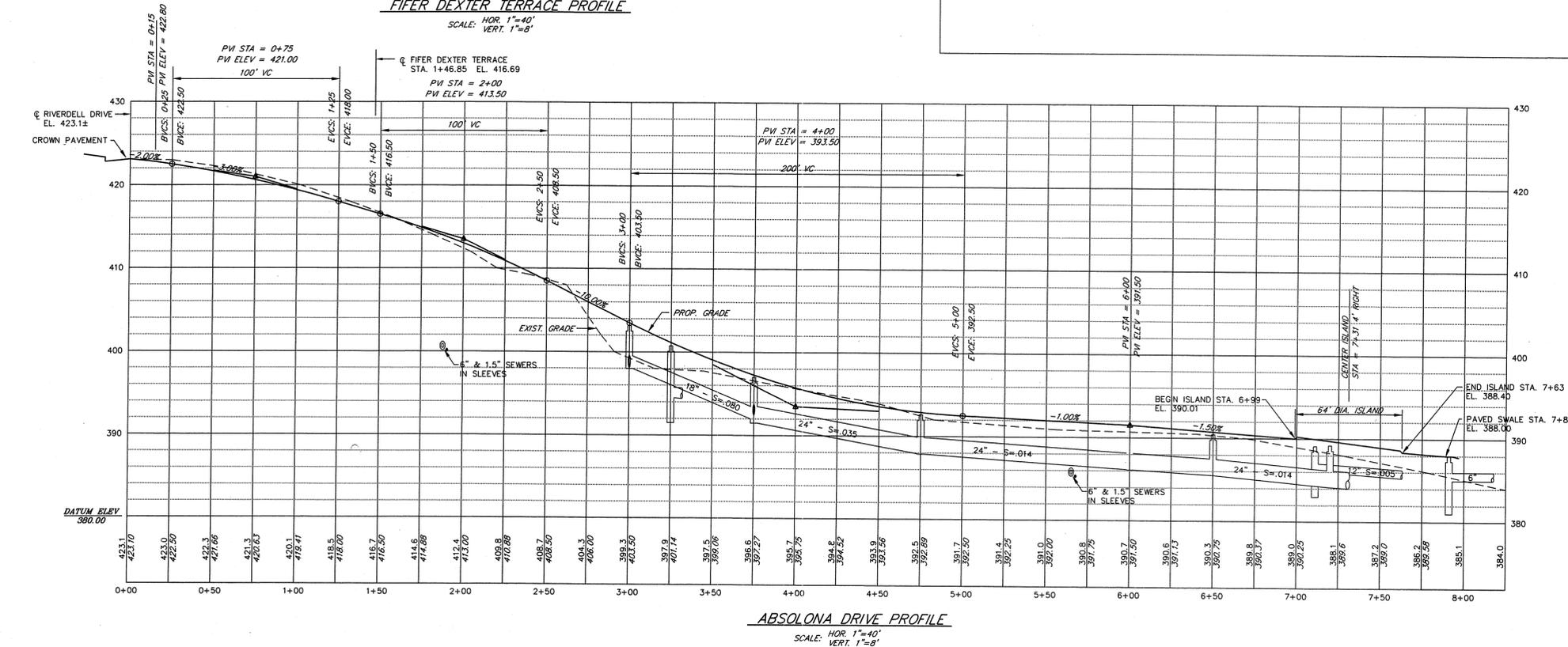
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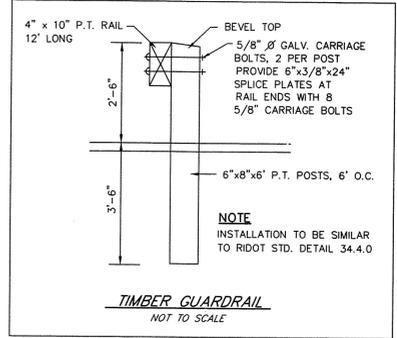
AMANI DRIVE PROFILE
SCALE: HOR. 1"=40'
VERT. 1"=8'



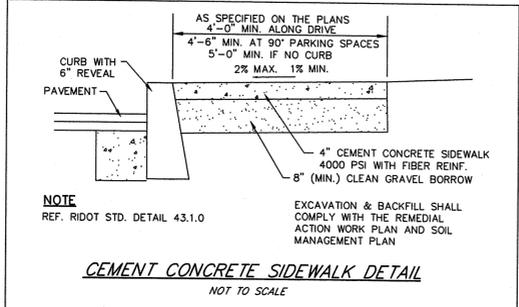
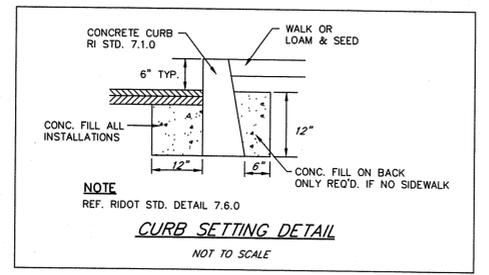
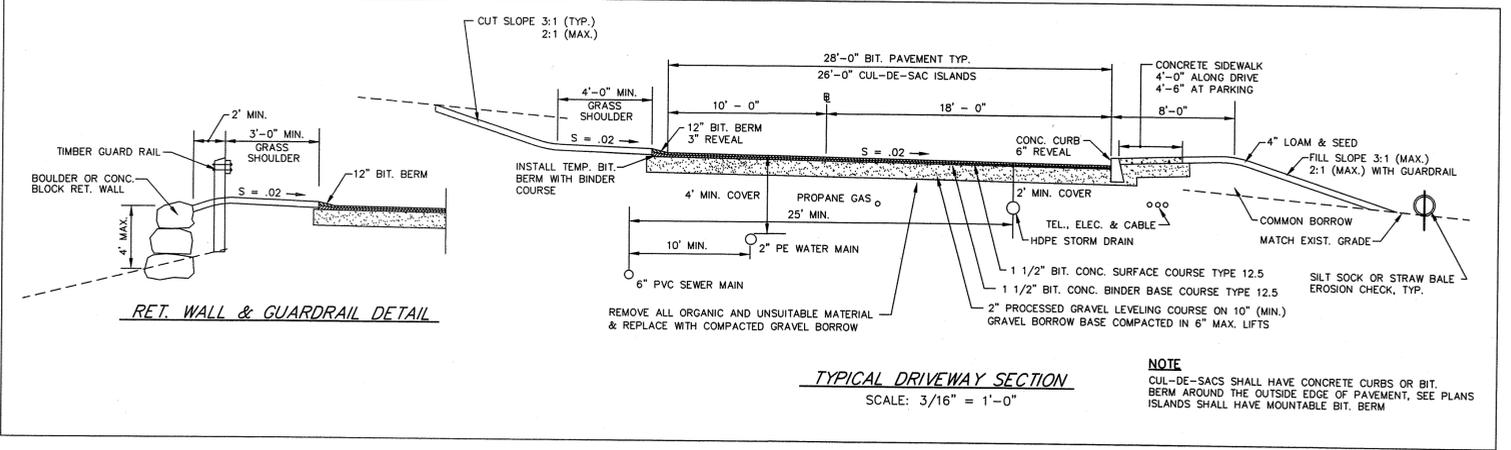
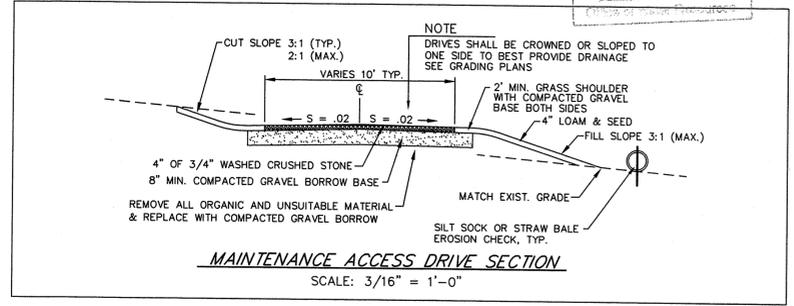
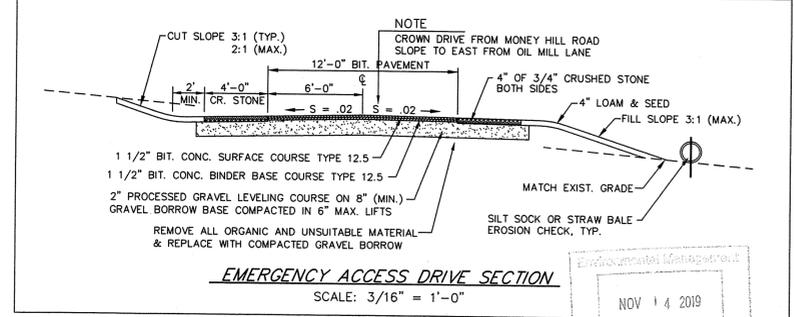
FIFER DEXTER TERRACE PROFILE
SCALE: HOR. 1"=40'
VERT. 1"=8'



ABSOLONA DRIVE PROFILE
SCALE: HOR. 1"=40'
VERT. 1"=8'



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
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NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



DATE: _____

SCOTT F. MOOREHEAD
REGISTERED PROFESSIONAL ENGINEER
NO. 4298

PREPARED FOR:
NEIGHBORHOODS BLACKSTONE RIVER VALLEY
79 FRONT STREET SUITE 103
WOONSOCKET, RI
401-762-0993

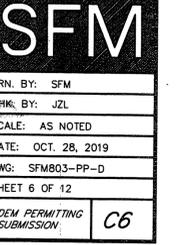
OLD CHEPACHET VILLAGE
ASSESSOR'S PLAT 10B LOTS 1 & 2
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GLOUCESTER, RHODE ISLAND

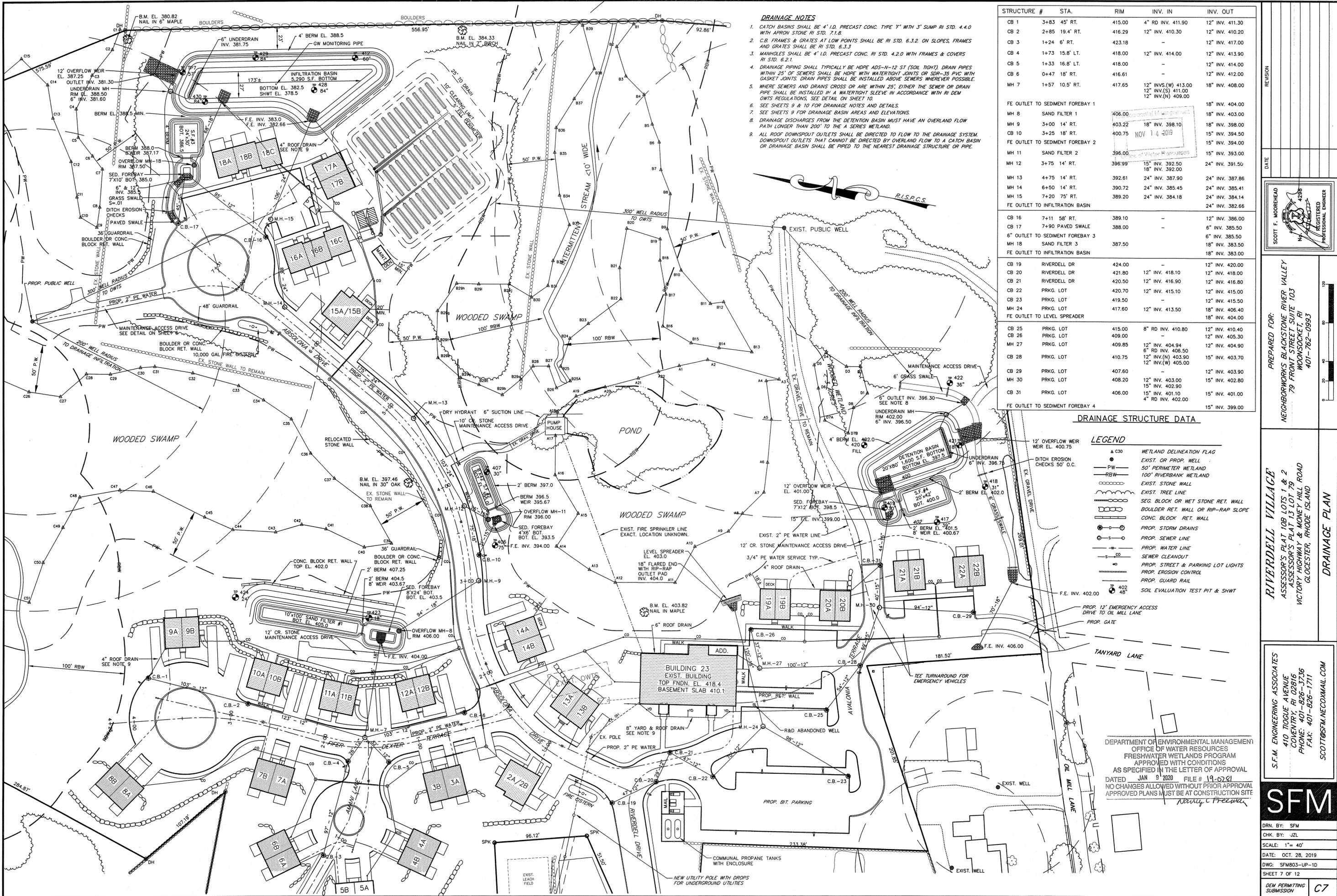
DRIVEWAY PROFILES & DETAILS

S.F.M. ENGINEERING ASSOCIATES
410 TIOQUE AVENUE
COVENTRY, RI 02816
PHONE: 401-826-3736
FAX: 401-826-1711
SCOTT@SFM.NECOMAIL.COM

DRN. BY: SFM
CHK. BY: JZL
SCALE: AS NOTED
DATE: OCT. 28, 2019
DWG: SFM803-PP-D
SHEET 6 OF 12

DEM PERMITTING SUBMISSION





- DRAINAGE NOTES**
- CATCH BASINS SHALL BE 4' I.D. PRECAST CONC. TYPE 'F' WITH 3" SUMP RI STD. 4.4.0 WITH ARROW STONE RI STD. 7.1.8
 - C.B. FRAMES & GRATES AT LOW POINTS SHALL BE RI STD. 6.3.2. ON SLOPES, FRAMES AND GRATES SHALL BE RI STD. 6.3.3
 - MANHOLES SHALL BE 4' I.D. PRECAST CONC. RI STD. 4.2.0 WITH FRAMES & COVERS RI STD. 6.2.1.
 - DRAINAGE PIPING SHALL TYPICALLY BE HDPE ADS-N-12 ST (SOIL TIGHT). DRAIN PIPES WITHIN 25' OF SEWERS SHALL BE HDPE WITH WATERTIGHT JOINTS OR SDR-35 PVC WITH GASKET JOINTS. DRAIN PIPES SHALL BE INSTALLED ABOVE SEWERS WHEREVER POSSIBLE.
 - WHERE SEWERS AND DRAINS CROSS OR ARE WITHIN 25', EITHER THE SEWER OR DRAIN PIPE SHALL BE INSTALLED IN A WATERTIGHT SLEEVE IN ACCORDANCE WITH RI DEM OWS REGULATIONS. SEE DETAIL ON SHEET 10.
 - SEE SHEETS 9 & 10 FOR DRAINAGE NOTES AND DETAILS.
 - SEE SHEETS 9 FOR DRAINAGE BASIN AREAS AND ELEVATIONS.
 - DRAINAGE DISCHARGES FROM THE DETENTION BASIN MUST HAVE AN OVERLAND FLOW PATH LONGER THAN 200' TO THE A SERIES WETLAND.
 - ALL ROOF DOWNSPOUT OUTLETS SHALL BE DIRECTED TO FLOW TO THE DRAINAGE SYSTEM. DOWNSPOUT OUTLETS THAT CANNOT BE DIRECTED BY OVERLAND FLOW TO A CATCH BASIN OR DRAINAGE BASIN SHALL BE PIPED TO THE NEAREST DRAINAGE STRUCTURE OR PIPE.

STRUCTURE #	STA.	RIM	INV. IN	INV. OUT
CB 1	3+83 45' RT.	415.00	4" RD INV. 411.90	12" INV. 411.30
CB 2	2+85 19'4" RT.	416.29	12" INV. 410.30	12" INV. 410.20
CB 3	1+24 6' RT.	423.18	-	12" INV. 417.00
CB 4	1+73 15'8" LT.	418.00	12" INV. 414.00	12" INV. 413.90
CB 5	1+33 16'8" LT.	418.00	-	12" INV. 414.00
CB 6	0+47 18' RT.	416.61	-	12" INV. 412.00
MH 7	1+57 10'5" RT.	417.65	12" INVS.(W) 413.00 12" INV.(S) 411.00 12" INV.(N) 409.00	18" INV. 408.00
FE OUTLET TO SEDIMENT FOREBAY 1				18" INV. 404.00
MH 8	SAND FILTER 1	406.00		18" INV. 403.00
MH 9	3+00 14' RT.	403.22	18" INV. 398.10	18" INV. 398.00
CB 10	3+25 18' RT.	400.75		15" INV. 394.50
FE OUTLET TO SEDIMENT FOREBAY 2				15" INV. 394.00
MH 11	SAND FILTER 2	396.00		15" INV. 393.00
MH 12	3+75 14' RT.	396.99	15" INV. 392.50 18" INV. 392.00	24" INV. 391.50
MH 13	4+75 14' RT.	392.61	24" INV. 387.90	24" INV. 387.86
MH 14	6+50 14' RT.	390.72	24" INV. 385.45	24" INV. 385.41
MH 15	7+20 75' RT.	389.20	24" INV. 384.18	24" INV. 384.14
FE OUTLET TO INFILTRATION BASIN				24" INV. 382.66
CB 16	7+11 58' RT.	389.10	-	12" INV. 386.00
CB 17	7+90 PAVED SWALE	388.00	-	6" INV. 385.50
6" OUTLET TO SEDIMENT FOREBAY 3				6" INV. 385.50
MH 18	SAND FILTER 3	387.50		18" INV. 383.50
FE OUTLET TO INFILTRATION BASIN				18" INV. 383.00
CB 19	RIVERDELL DR	424.00	-	12" INV. 420.00
CB 20	RIVERDELL DR	421.80	12" INV. 418.10	12" INV. 418.00
CB 21	RIVERDELL DR	420.50	12" INV. 416.90	12" INV. 416.80
CB 22	PRKG. LOT	420.70	12" INV. 415.10	12" INV. 415.00
CB 23	PRKG. LOT	419.50	-	12" INV. 415.50
MH 24	PRKG. LOT	417.60	12" INV. 413.50	18" INV. 406.40
FE OUTLET TO LEVEL SPREADER				18" INV. 404.00
CB 25	PRKG. LOT	415.00	8" RD INV. 410.80	12" INV. 410.40
CB 26	PRKG. LOT	409.00	-	12" INV. 405.30
MH 27	PRKG. LOT	409.85	12" INV. 404.94 6" RD INV. 406.50	12" INV. 404.90
CB 28	PRKG. LOT	410.75	12" INV.(N) 403.90 12" INV.(W) 405.00	15" INV. 403.70
CB 29	PRKG. LOT	407.60	-	12" INV. 403.90
MH 30	PRKG. LOT	408.20	12" INV. 403.00 15" INV. 402.90	15" INV. 402.80
CB 31	PRKG. LOT	406.00	15" INV. 401.10 4" RD INV. 402.00	15" INV. 401.00
FE OUTLET TO SEDIMENT FOREBAY 4				15" INV. 399.00

DRAINAGE STRUCTURE DATA

STRUCTURE #	STA.	RIM	INV. IN	INV. OUT
CB 1	3+83 45' RT.	415.00	4" RD INV. 411.90	12" INV. 411.30
CB 2	2+85 19'4" RT.	416.29	12" INV. 410.30	12" INV. 410.20
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CB 4	1+73 15'8" LT.	418.00	12" INV. 414.00	12" INV. 413.90
CB 5	1+33 16'8" LT.	418.00	-	12" INV. 414.00
CB 6	0+47 18' RT.	416.61	-	12" INV. 412.00
MH 7	1+57 10'5" RT.	417.65	12" INVS.(W) 413.00 12" INV.(S) 411.00 12" INV.(N) 409.00	18" INV. 408.00
FE OUTLET TO SEDIMENT FOREBAY 1				18" INV. 404.00
MH 8	SAND FILTER 1	406.00		18" INV. 403.00
MH 9	3+00 14' RT.	403.22	18" INV. 398.10	18" INV. 398.00
CB 10	3+25 18' RT.	400.75		15" INV. 394.50
FE OUTLET TO SEDIMENT FOREBAY 2				15" INV. 394.00
MH 11	SAND FILTER 2	396.00		15" INV. 393.00
MH 12	3+75 14' RT.	396.99	15" INV. 392.50 18" INV. 392.00	24" INV. 391.50
MH 13	4+75 14' RT.	392.61	24" INV. 387.90	24" INV. 387.86
MH 14	6+50 14' RT.	390.72	24" INV. 385.45	24" INV. 385.41
MH 15	7+20 75' RT.	389.20	24" INV. 384.18	24" INV. 384.14
FE OUTLET TO INFILTRATION BASIN				24" INV. 382.66
CB 16	7+11 58' RT.	389.10	-	12" INV. 386.00
CB 17	7+90 PAVED SWALE	388.00	-	6" INV. 385.50
6" OUTLET TO SEDIMENT FOREBAY 3				6" INV. 385.50
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CB 22	PRKG. LOT	420.70	12" INV. 415.10	12" INV. 415.00
CB 23	PRKG. LOT	419.50	-	12" INV. 415.50
MH 24	PRKG. LOT	417.60	12" INV. 413.50	18" INV. 406.40
FE OUTLET TO LEVEL SPREADER				18" INV. 404.00
CB 25	PRKG. LOT	415.00	8" RD INV. 410.80	12" INV. 410.40
CB 26	PRKG. LOT	409.00	-	12" INV. 405.30
MH 27	PRKG. LOT	409.85	12" INV. 404.94 6" RD INV. 406.50	12" INV. 404.90
CB 28	PRKG. LOT	410.75	12" INV.(N) 403.90 12" INV.(W) 405.00	15" INV. 403.70
CB 29	PRKG. LOT	407.60	-	12" INV. 403.90
MH 30	PRKG. LOT	408.20	12" INV. 403.00 15" INV. 402.90	15" INV. 402.80
CB 31	PRKG. LOT	406.00	15" INV. 401.10 4" RD INV. 402.00	15" INV. 401.00
FE OUTLET TO SEDIMENT FOREBAY 4				15" INV. 399.00

- LEGEND**
- ▲ C30 WETLAND DELINEATION FLAG
 - EXIST. OR PROP. WELL
 - PW 50' PERIMETER WETLAND
 - RBW 100' RIVERBANK WETLAND
 - EXIST. STONE WALL
 - EXIST. TREE LINE
 - SEG. BLOCK OR WET STONE RET. WALL
 - BOULDER RET. WALL OR RIP-RAP SLOPE
 - CONC. BLOCK RET. WALL
 - PROP. STORM DRAINS
 - PROP. SEWER LINE
 - PROP. WATER LINE
 - S CO SEWER CLEANOUT
 - PROP. STREET & PARKING LOT LIGHTS
 - PROP. EROSION CONTROL
 - PROP. GUARD RAIL
 - SOIL EVALUATION TEST PIT & SHWT

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
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SCOTT F. MOOREHEAD
 REGISTERED PROFESSIONAL ENGINEER
 NO. 4298

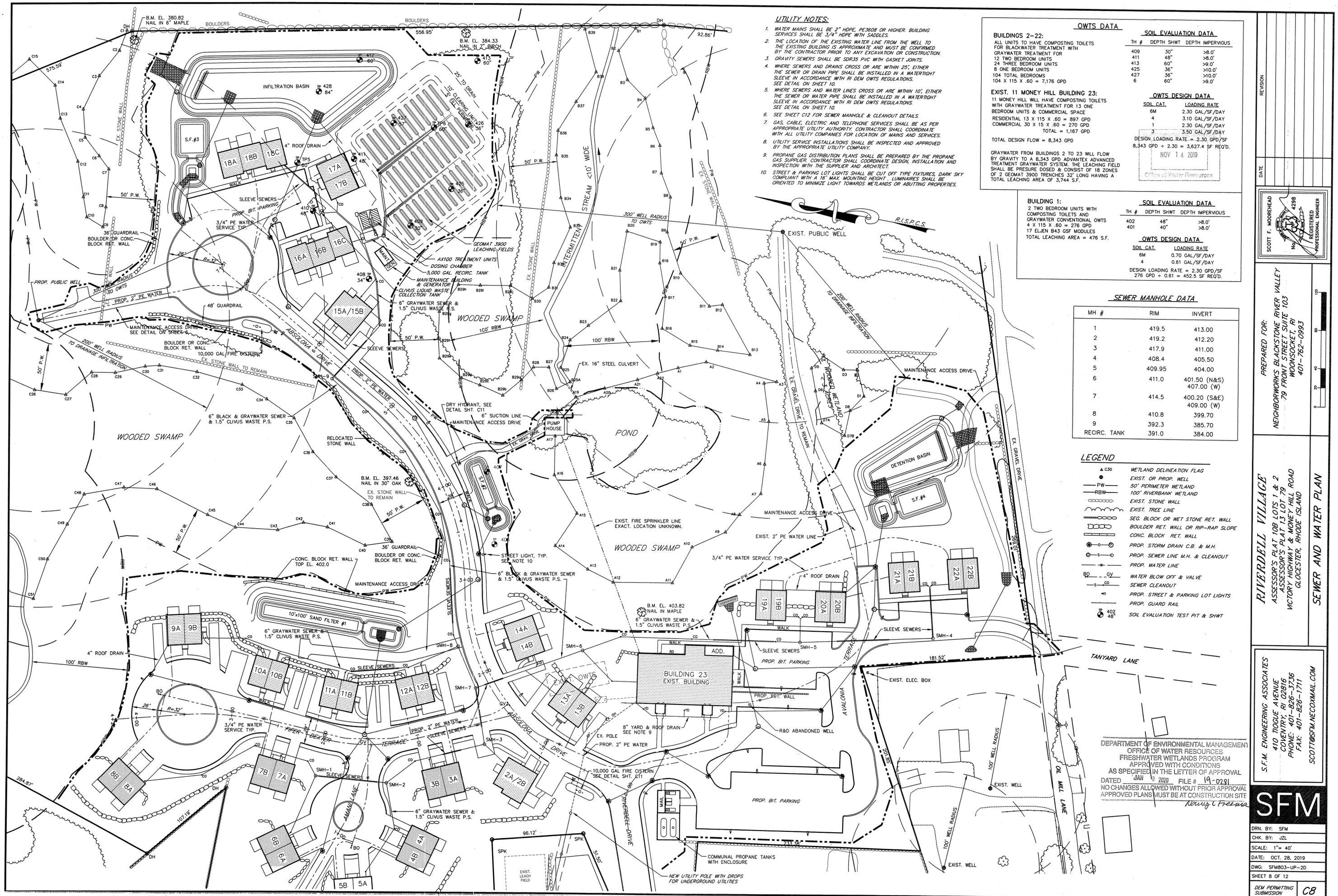
PREPARED FOR:
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RIVERDELL VILLAGE
 ASSESSOR'S PLAT 108 LOTS 1 & 2
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DRN. BY: SFM
 CHK. BY: JZL
 SCALE: 1" = 40'
 DATE: OCT. 28, 2019
 DWG: SFM803-UP-1D
 SHEET 7 OF 12
 DEM PERMITTING SUBMISSION

C7



- UTILITY NOTES:**
- WATER MAINS SHALL BE 2" HOPE, PE3608 OR HIGHER. BUILDING SERVICES SHALL BE 3/4" HOPE WITH SADDLES.
 - THE LOCATION OF THE EXISTING WATER LINE FROM THE WELL TO THE EXISTING BUILDING IS APPROXIMATE AND MUST BE CONFIRMED BY THE CONTRACTOR PRIOR TO ANY EXCAVATION OR CONSTRUCTION.
 - GRAVITY SEWERS SHALL BE SDR35 PVC WITH GASKET JOINTS.
 - WHERE SEWERS AND DRAINS CROSS OR ARE WITHIN 25', EITHER THE SEWER OR DRAIN PIPE SHALL BE INSTALLED IN A WATERTIGHT SLEEVE IN ACCORDANCE WITH RI DEM OWS REGULATIONS. SEE DETAIL ON SHEET 10.
 - WHERE SEWERS AND WATER LINES CROSS OR ARE WITHIN 10', EITHER THE SEWER OR WATER PIPE SHALL BE INSTALLED IN A WATERTIGHT SLEEVE IN ACCORDANCE WITH RI DEM OWS REGULATIONS. SEE DETAIL ON SHEET 10.
 - SEE SHEET C12 FOR SEWER MANHOLE & CLEANOUT DETAILS.
 - GAS, CABLE, ELECTRIC AND TELEPHONE SERVICES SHALL BE AS PER APPROPRIATE UTILITY AUTHORITY. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR LOCATION OF MAINS AND SERVICES.
 - UTILITY SERVICE INSTALLATIONS SHALL BE INSPECTED AND APPROVED BY THE APPROPRIATE UTILITY COMPANY.
 - PROPANE GAS DISTRIBUTION PLANS SHALL BE PREPARED BY THE PROPANE GAS SUPPLIER. CONTRACTOR SHALL COORDINATE DESIGN, INSTALLATION AND INSPECTION WITH THE SUPPLIER AND ARCHITECT.
 - STREET & PARKING LOT LIGHTS SHALL BE CUT OFF TYPE FIXTURES, DARK SKY COMPLIANT WITH A 15' MAX. MOUNTING HEIGHT. LUMINAIRES SHALL BE ORIENTED TO MINIMIZE LIGHT TOWARDS WETLANDS OR ADJUTING PROPERTIES.

OWTS DATA

BUILDINGS 2-22:
 ALL UNITS TO HAVE COMPOSTING TOILETS FOR BLACKWATER TREATMENT WITH GRAYWATER TREATMENT FOR 12 TWO BEDROOM UNITS
 24 THREE BEDROOM UNITS
 8 ONE BEDROOM UNITS
 104 TOTAL BEDROOMS
 104 X 115 X .60 = 7,176 GPD

TH #	DEPTH SHWT	DEPTH IMPERVIOUS
409	30"	>8.0'
411	48"	>8.0'
413	60"	>9.0'
425	36"	>10.0'
427	36"	>10.0'
6	60"	>8.0'

OWTS DESIGN DATA

SOIL CAT.	LOADING RATE
6M	2.30 GAL/SF/DAY
4	3.10 GAL/SF/DAY
1	2.30 GAL/SF/DAY
3	3.50 GAL/SF/DAY

DESIGN LOADING RATE = 2.30 GPD/SF
 8,343 GPD + 2.30 = 3,627.4 SF REQ'D.

NOV 14 2019
 Office of Water Resources

EXIST. 11 MONEY HILL BUILDING 23:
 11 MONEY HILL WILL HAVE COMPOSTING TOILETS WITH GRAYWATER TREATMENT FOR 13 ONE BEDROOM UNITS & COMMERCIAL SPACE
 RESIDENTIAL 13 X 115 X .60 = 897 GPD
 COMMERCIAL 30 X 115 X .60 = 270 GPD
 TOTAL = 1,167 GPD

TOTAL DESIGN FLOW = 8,343 GPD

GRAYWATER FROM BUILDINGS 2 TO 23 WILL FLOW BY GRAVITY TO A 8,343 GPD ADVANTEC ADVANCED TREATMENT GRAYWATER SYSTEM. THE LEACHING FIELD SHALL BE PRESSURE DOSED & CONSIST OF 18 ZONES OF 2 GEOMAT 3900 TRENCHES 32' LONG HAVING A TOTAL LEACHING AREA OF 3,744 S.F.

BUILDING 1:
 2 TWO BEDROOM UNITS WITH COMPOSTING TOILETS AND GRAYWATER CONVENTIONAL OWTS
 4 X 115 X .60 = 276 GPD
 17 ELJEN B43 OSF MODULES
 TOTAL LEACHING AREA = 476 S.F.

TH #	DEPTH SHWT	DEPTH IMPERVIOUS
402	48"	>8.0'
401	40"	>8.0'

SOIL CAT.	LOADING RATE
6M	0.70 GAL/SF/DAY
4	0.61 GAL/SF/DAY

DESIGN LOADING RATE = 2.30 GPD/SF
 276 GPD + 0.61 = 452.5 SF REQ'D.

SEWER MANHOLE DATA

MH #	RIM	INVERT
1	419.5	413.00
2	419.2	412.20
3	417.9	411.00
4	408.4	405.50
5	409.95	404.00
6	411.0	401.50 (N&S) 407.00 (W)
7	414.5	400.20 (S&E) 409.00 (W)
8	410.8	399.70
9	392.3	385.70
RECIRC. TANK	391.0	384.00

- LEGEND**
- ▲ C30 WETLAND DELINEATION FLAG
 - EXIST. OR PROP. WELL
 - PW 50' PERIMETER WETLAND
 - RBW 100' RIVERBANK WETLAND
 - EXIST. STONE WALL
 - EXIST. TREE LINE
 - SEG. BLOCK OR WET STONE RET. WALL
 - BOULDER RET. WALL OR RIP-RAP SLOPE
 - CONC. BLOCK RET. WALL
 - PROP. STORM DRAIN C.B. & M.H.
 - PROP. SEWER LINE M.H. & CLEANOUT
 - PROP. WATER LINE
 - BO - CV WATER BLOW OFF & VALVE
 - S - CO SEWER CLEANOUT
 - PROP. STREET & PARKING LOT LIGHTS
 - PROP. GUARD RAIL
 - 402 48" SOIL EVALUATION TEST PIT & SHWT

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED JAN 9 2020 FILE # 19-0291
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Nancy C. Freeman

REVISION

DATE

SCOTT F. MOOREHEAD
 4298
 REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
 NEIGHBORWORKS BLACKSTONE RIVER VALLEY
 79 FRONT STREET SUITE 103
 WOODSOCKET, RI
 401-762-0993

RIVERDELL VILLAGE
 ASSESSOR'S PLAT 10B LOTS 1 & 2
 ASSESSOR'S PLAT 13 LOT 79
 VICTORY HIGHWAY & MONEY HILL ROAD
 GLOUCESTER, RHODE ISLAND

SEWER AND WATER PLAN

S.F.M. ENGINEERING ASSOCIATES
 410 TIGOLE AVENUE
 COVENTRY, RI 02816
 PHONE: 401-826-3736
 FAX: 401-826-1711
 SCOTT@SFM.NECOMAIL.COM

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SFM

DRN. BY: SFM
 CHK. BY: JZL
 SCALE: 1" = 40'
 DATE: OCT. 28, 2019
 DWG: SFM803-UP-2D
 SHEET 8 OF 12

DEM PERMITTING SUBMISSION

CB

DRAINAGE BASIN AREAS

SAND FILTER #1

SED. FOREBAY AREAS	SAND FILTER AREAS
403.5	190 S.F.
404.0	300
405.67	770
406.0	875
406.5	1040
COMBINED	407.25 3925 S.F.

SAND FILTER #2

SED. FOREBAY AREAS	SAND FILTER AREAS
393.5	24 S.F.
394.0	60
395.67	310
396.0	370
396.5	460
COMBINED	397.0 1630 S.F.

SAND FILTER #3

SED. FOREBAY AREAS	SAND FILTER AREAS
385.0	70 S.F.
386.0	200
387.17	450
387.5	520
388.0	860
COMBINED	388.5 2640 S.F.

SAND FILTER #4

SED. FOREBAY AREAS	SAND FILTER AREAS
398.5	84 S.F.
400.0	315
400.67	484
401.5	615
401.5	730
COMBINED	402.0 3260 S.F.

SAND FILTER #5

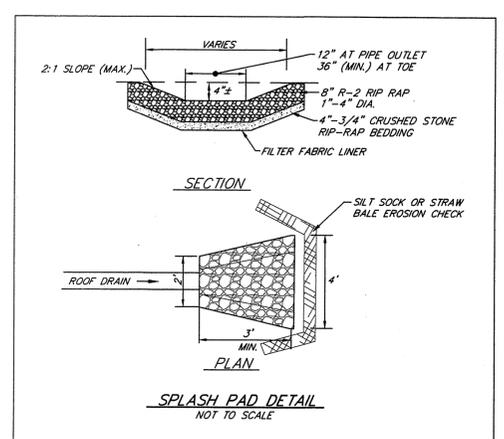
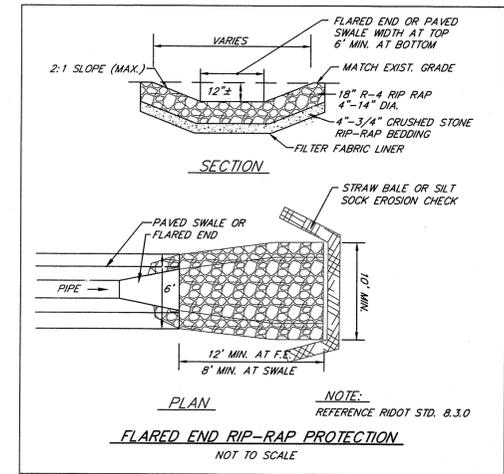
SED. FOREBAY AREAS	SAND FILTER AREAS
426.5	10 S.F.
427.0	37
427.5	80
427.67	94
COMBINED	428.0 405 S.F.
COMBINED	428.5 535 S.F.

INFIL. BASIN 1

INFIL. BASIN AREAS	DET. BASIN AREAS
382.5	5,290 S.F.
384.0	7,260
386.0	10,080
387.25	11,960
387.5	12,350
388.5	13,950
COMBINED	497.5 51,930 S.F.

DET. BASIN 2

INFIL. BASIN AREAS	DET. BASIN AREAS
397.5	1,600 S.F.
398.0	1,930
400.0	3,300
400.75	3,940
402.0	4,915
COMBINED	14,785 S.F.



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SAND FILTER ELEVATION DATA

S.F. #	S.F. SURFACE EL.	S.F. WEIR EL.	OUTLET WEIR EL.	TOP BERM EL.	Q100 WATER EL.
1	405.00	403.67	406.00	407.25	406.56
2	395.00	395.67	396.00	397.00	396.24
3	386.50	387.17	387.50	388.50	387.79
4	400.00	400.67	401.00	402.00	401.39
5	427.00	427.50	427.67	428.50	427.83

- STORMWATER SYSTEM MAINTENANCE PLAN**
- THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE STORMWATER SYSTEM PROTECTION, INSPECTION AND MAINTENANCE PRIOR TO, DURING AND POST CONSTRUCTION UNTIL FINAL ACCEPTANCE OF CONSTRUCTION.
 - SAND FILTER AREAS AND INFILTRATION BASIN BOTTOMS SHALL BE PROTECTED PRIOR TO COMMENCEMENT OF CONSTRUCTION TO PREVENT COMPACTION OF BOTTOM AREA.
 - SEDIMENT FOREBAYS & GRASS SWALES SHALL BE MAINTAINED ACCORDING TO THE FOLLOWING SCHEDULE:
 - THE GRASS IN THE SWALES & FOREBAYS (BOTTOM & SLOPES) SHALL BE MOWED AT LEAST THREE (3) TIMES BETWEEN THE MONTHS OF MAY AND OCTOBER. MOWED HEIGHT OF VEGETATION SHALL NOT BE LESS THAN TWO INCHES. THE MAXIMUM HEIGHT OF VEGETATION SHALL BE 18 INCHES.
 - THE INLET & OUTLET STRUCTURES TO THE SWALES & FOREBAYS SHALL BE KEPT CLEAN OF SILT AND DEBRIS. THE PIPES SHALL BE CLEANED AT THE THREE (3) MOWINGS AND ONCE DURING THE WINTER MONTHS.
 - ACCUMULATED SILT AND DEBRIS SHALL BE REMOVED FROM THE SWALES AT LEAST TWICE EVERY YEAR OR AS NEEDED.
 - SILT & DEBRIS SHALL BE REMOVED FROM THE SEDIMENT FOREBAYS EVERY YEAR OR WHEN THE ACCUMULATION EXCEEDS 6 INCHES IN DEPTH.
 - CATCH BASINS SHALL BE CLEANED & MAINTAINED AS NEEDED BY THE SITE CONTRACTOR DURING SITE CONSTRUCTION AND ANNUALLY BY THE OWNER AFTER ACCEPTANCE. (ACCUMULATED SILT, SAND, DEBRIS & OIL SHALL BE REMOVED AND DISPOSED OF AT A LICENSED WASTE FACILITY.)
 - ALL PAVED AREAS SHALL BE SHEPT AS NEEDED. ACCUMULATED SILT, SAND & DEBRIS SHALL BE REMOVED AND DISPOSED.
 - SAND FILTERS, DETENTION & INFILTRATION BASIN AREAS SHALL BE MAINTAINED ACCORDING TO THE FOLLOWING SCHEDULE:
 - ALL FILTER & BASIN AREAS SHALL BE INSPECTED AT LEAST TWICE PER YEAR.
 - SOIL EROSION GULLIES SHALL BE REPAIRED WHEN THEY OCCUR.
 - THE GRASS IN THE SAND FILTERS, DET. & INFIL BASINS SHALL BE MOWED AT LEAST THREE (3) TIMES BETWEEN THE MONTHS OF MAY AND OCTOBER. MOWED HEIGHT OF VEGETATION SHALL NOT BE LESS THAN TWO INCHES. THE MAXIMUM HEIGHT OF VEGETATION SHALL BE 12" INCHES.
 - DEBRIS AND GRASS CLIPPINGS SHALL BE REMOVED FROM THE SAND FILTERS, DET. & INFIL. BASINS FERTILIZER SHALL NOT BE APPLIED TO THE SAND FILTERS OR INFILTRATION BASIN EXCEPT STARTER FERTILIZER FOR RESEEDING.
 - SILT AND DEBRIS SHALL BE REMOVED WHEN THE ACCUMULATION EXCEEDS ONE INCH.
 - SHOULD THE INFILTRATION CAPACITY OF THE SAND FILTERS OR INFILTRATION BASIN DECREASE OVER TIME SUCH THAT STANDING WATER REMAINS FOR MORE THAN 72 HOURS AFTER A RAINFALL EVENT, REMEDIATION SHALL BE REQUIRED. REMEDIATION SHALL INCLUDE, AT A MINIMUM, SEDIMENT REMOVAL, NARROWING AND RESEEDING OF THE BASIN BOTTOM AFTER DEWATERING THE BASIN. AFTER REMEDIATION A QUALIFIED TESTING LABORATORY SHALL PERFORM INFILTRATION TESTS TO INSURE DESIGN INFILTRATION RATES ARE RESTORED.
 - DURING CONSTRUCTION AND THE FIRST 6 MONTHS OF OPERATION, THE SAND FILTERS AND THE INFILTRATION BASIN SHALL BE INSPECTED WITHIN 24 HOURS OF EACH RAINFALL EVENT THAT GENERATES .25 INCHES OF RAIN IN A 24 HOUR PERIOD. AFTER THE FIRST SIX MONTHS OF OPERATION, THE INFILTRATION SYSTEMS SHOULD BE INSPECTED AFTER ANY RAINFALL EVENT THAT GENERATES MORE THAN 2 INCHES OF RAIN IN A 24 HOUR PERIOD.
 - ANY INADVERTENT OR DELIBERATE DISCHARGE OF WASTE OIL OR ANY OTHER POLLUTANT TO THE STORMWATER DISPOSAL SYSTEM REQUIRES IMMEDIATE NOTIFICATION OF RI DEM.
 - ANY INCIDENT OF GROUNDWATER CONTAMINATION RESULTING FROM THE IMPROPER DISCHARGE OF CONTAMINANTS TO THE DISPOSAL SYSTEM SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE RI DEM WILL REQUIRE THE PROPERTY OWNER TO REMEDIATE ANY INCIDENTS THAT MAY ADVERSELY IMPACT GROUNDWATER QUALITY.
 - UPON FINAL ACCEPTANCE OF THE CONSTRUCTION, THE OWNER OR HOMEOWNERS ASSOCIATION SHALL BE RESPONSIBLE FOR INSPECTION & MAINTENANCE OF THE PAVEMENT, DRAIN PIPES, OUTLET STRUCTURES, CATCH BASINS, ROOF DRAINS, SEDIMENT FOREBAYS, SAND FILTERS, DETENTION BASIN AND INFILTRATION BASIN WITHIN THE SITE.

PREPARED FOR:
NEIGHBORHOODS BLACKSTONE RIVER VALLEY
79 FRONT STREET SUITE 103
WOONSOCKET, RI
401-762-0993

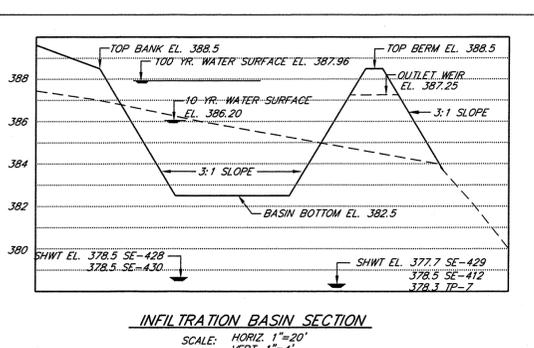
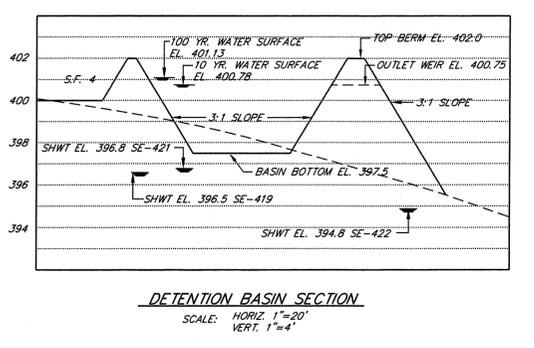
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DRN. BY: SFM
CHK. BY: JZL
SCALE: AS NOTED
DATE: OCT. 28, 2019
DWG: SFM803-DD-1D
SHEET 9 OF 12
DEM PERMITTING SUBMISSION

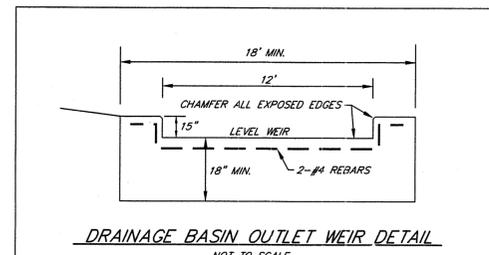
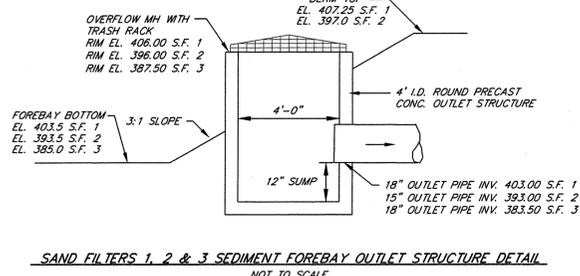
STORMWATER BASIN CONSTRUCTION NOTES

- INSIDE AND OUTSIDE SLOPES OF BASINS SHALL BE 3:1 OR FLATTER.
- STORMWATER BASINS SHALL BE CONSTRUCTED AND STABILIZED PRIOR TO OTHER CONSTRUCTION. TEMPORARY DRAINAGE SHALL BE DIVERTED TO TEMPORARY SEDIMENT BASINS OR FOREBAYS, SEE SHEET 3.
- ALL LOAM AND SUBSOIL SHALL BE STRIPPED FROM THE BASIN AREA. THE BOTTOM AREA AND 3 FEET AROUND SHALL BE EXCAVATED TO THE GRAVELLY SUBSTRATE SOILS AT LEAST 12" BELOW THE FINISH BOTTOM GRADE. SCREENED GRAVEL SHALL BE PLACED AS REQUIRED TO BRING THE SUBGRADE TO 6" BELOW FINISH BOTTOM GRADE.
- INFILTRATION BASIN SUBGRADE MUST BE INSPECTED AND APPROVED BY SFM ENGINEERING PRIOR TO PLACEMENT OF LOAMY SAND.
- THE GRAVEL SUBGRADE SHALL BE COVERED WITH A 6" LAYER OF SOIL WITH A LOAMY SAND TEXTURE, LEVELED, HARROWED AND IMMEDIATELY HYDRO-SEEDED.
- LOAMY SAND SHALL CONTAIN 70% MIN. SAND AND SHALL BE LAB TESTED. SOIL SAMPLES AND LAB TEST RESULTS SHALL BE SUBMITTED TO SFM ENGINEERING FOR APPROVAL PRIOR TO PLACEMENT.
- BOTTOM AND LOWER SLOPES OF STORMWATER BASINS SHALL HAVE A MINIMUM OF 6" LOAMY SAND AND SHALL BE SEEDER WITH NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES. BERM AND UPPER SLOPES SHALL BE SEEDER WITH NEW ENGLAND CONSERVATION/WILDLIFE MIX OR EQUAL. SEE SHEET C12 FOR SEEDING MIXES.
- SEEDER SLOPES SHALL BE PROTECTED WITH EITHER SPREAD STRAW MULCH, ADHESIVE MULCH STABILIZER OR BIO-DEGRADABLE EROSION CONTROL BLANKET.
- ONLY LIGHT EARTH MOVING EQUIPMENT ON TRACKS SHALL BE USED TO INSURE THAT THE BASIN BOTTOM IS NOT OVERLY COMPACTED.
- THE CONTRACTOR SHALL MAINTAIN ADEQUATE EROSION AND SEDIMENT CONTROLS AT ALL TIMES TO INSURE NO SILTS ARE DEPOSITED IN THE STORMWATER BASINS. THE STORMWATER BASINS SHALL BE MAINTAINED IN ACCORDANCE WITH THE STORMWATER SYSTEM MAINTENANCE PLAN.
- INLETS AND OUTLETS TO SEDIMENT FOREBAYS AND BASINS SHALL BE PROTECTED WITH SILT SOCK OR STRAW BALE EROSION CHECKS.
- ACCUMULATED SILTS AND SEDIMENTS SHALL BE REMOVED IMMEDIATELY FROM THE BASINS AS REQUIRED DURING SITE CONSTRUCTION. AFTER EVERY RAIN EVENT AND IMMEDIATELY PRIOR TO LOAMING AND SEEDING.
- THE DEWATERING VALVE SHALL BE KEPT CLOSED EXCEPT AS NEEDED TO FACILITATE CONSTRUCTION, MAINTENANCE OR REPAIR OF THE INFIL. BASIN.
- UNDERDRAINS SHALL BE PROTECTED WITH STRAW BALE OR SILT SOCK EROSION CHECKS UNTIL PERMANENT STABILIZATION IS ESTABLISHED. ACCUMULATED SILTS SHALL BE REMOVED AND CRUSHED STONE ENVELOPE REPLACED AS REQUIRED.
- STORMWATER BASIN SHALL BE CONSTRUCTION STAKED BY THE PROJECT SURVEYOR TO INSURE ACCURATE LOCATION AND ELEVATION. THE PROJECT SURVEYOR SHALL AS-BUILT SURVEY THE BASINS PRIOR TO SEEDING AND PROVIDE A REPORT TO S.F.M. ENGINEERING. ANY DISCREPANCIES SHALL BE CORRECTED PRIOR TO SEEDING.
- SEE MAINTENANCE NOTES ON THIS SHEET.

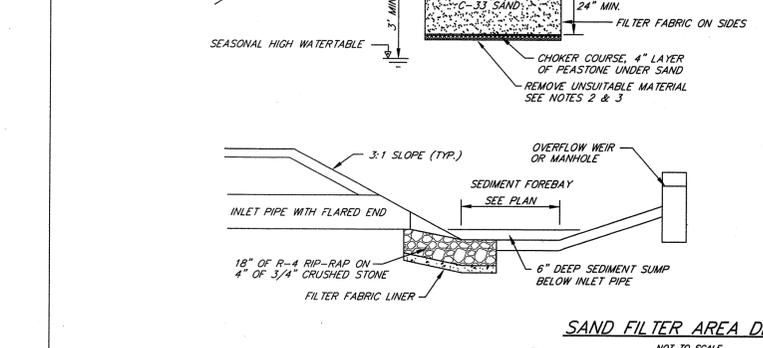
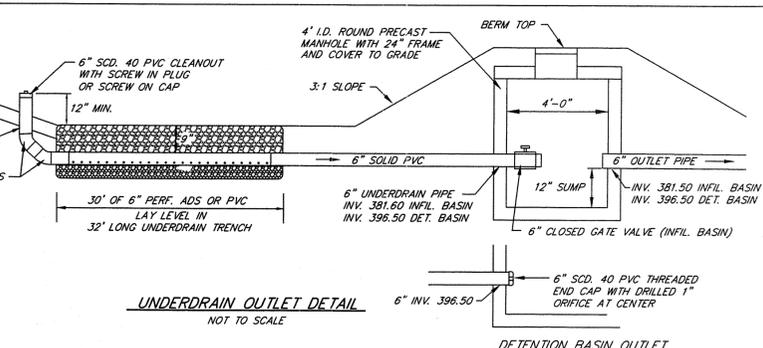
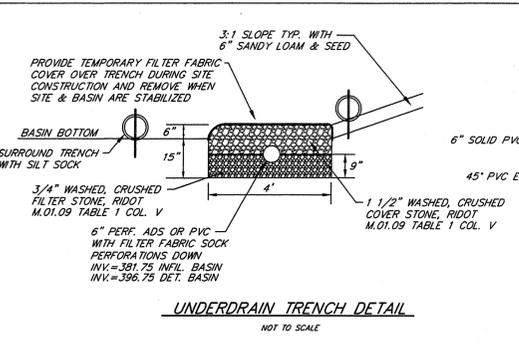
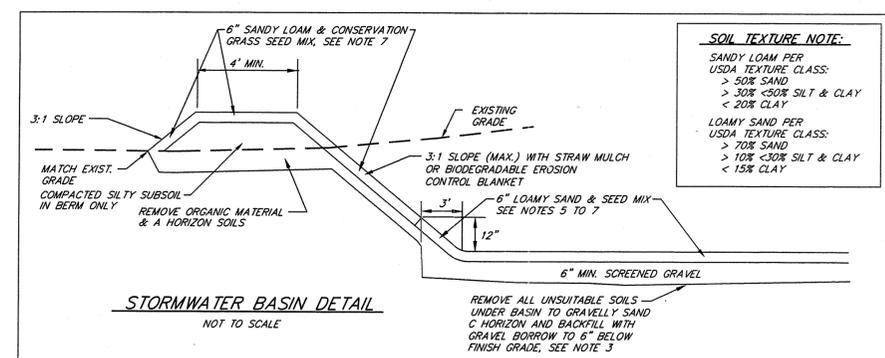
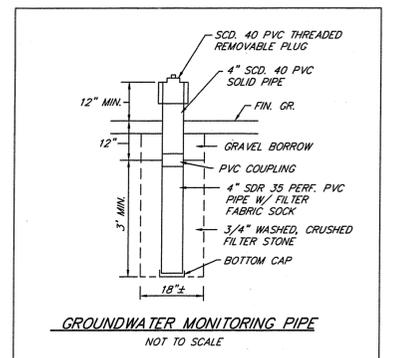


NOTE: TRASH RACKS BY ACF ENVIRONMENTAL OR EQUAL. PLASTIC PYRAMID STYLE INLET PROTECTION. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

CONTACT: PLASTIC SOLUTIONS INC.
P.O. BOX 4386
WINCHESTER, VA 22604
(877) 877-5727
WWW.ACENVIRONMENTAL.COM

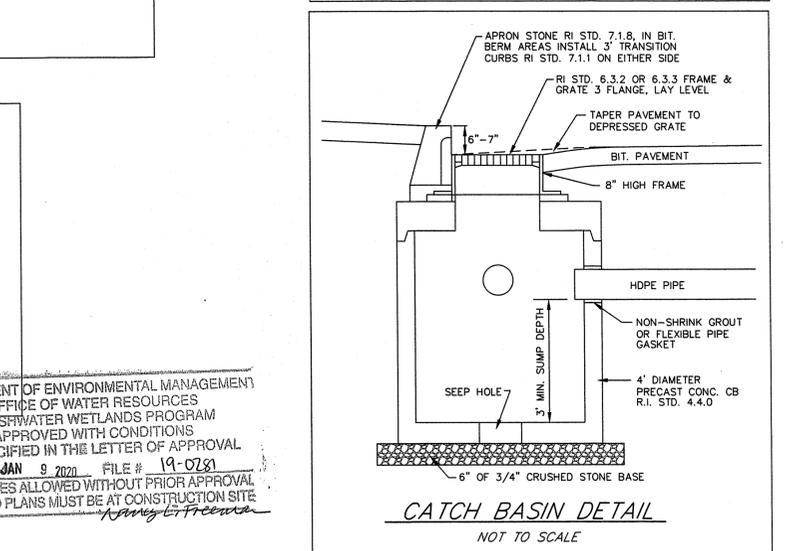
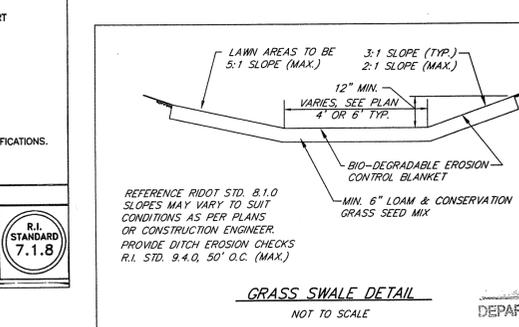
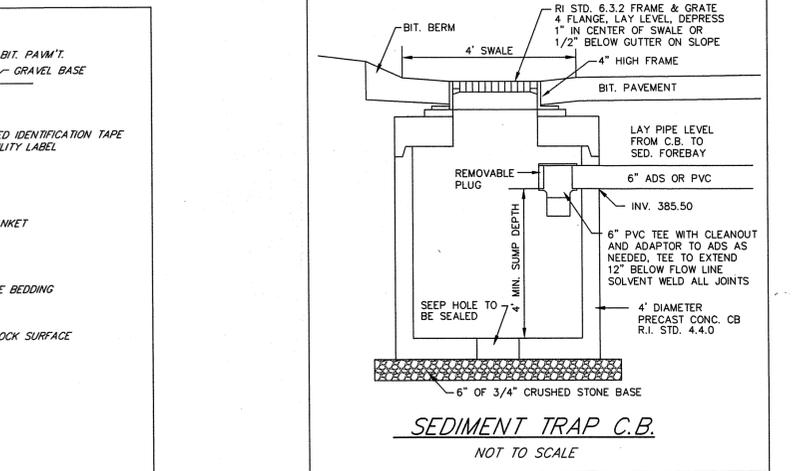
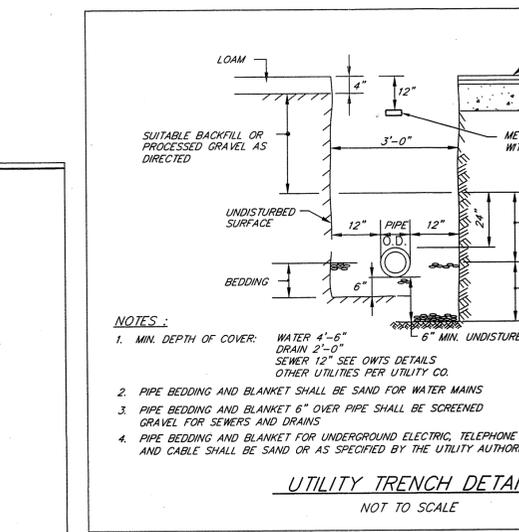
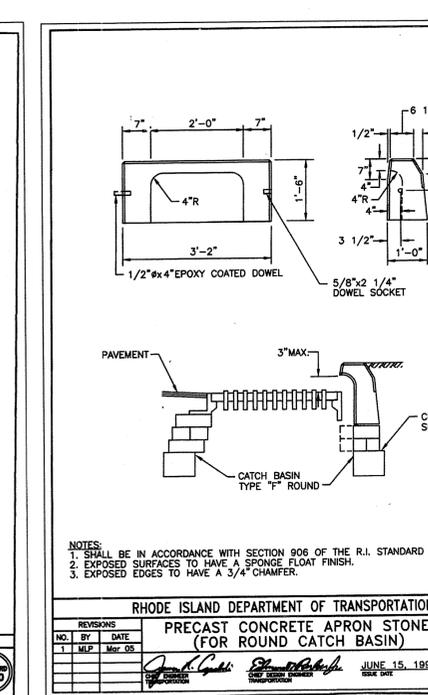
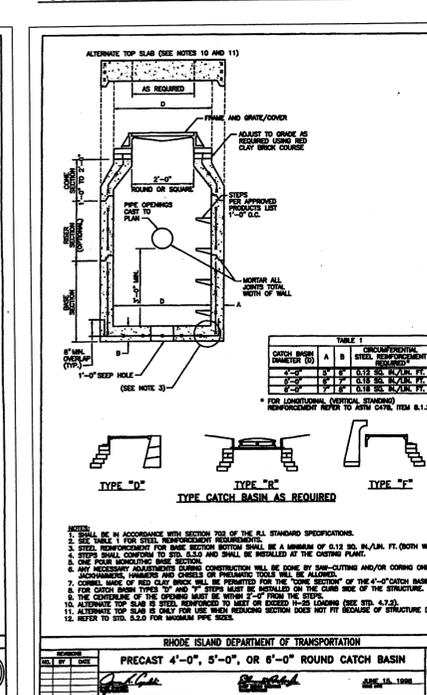
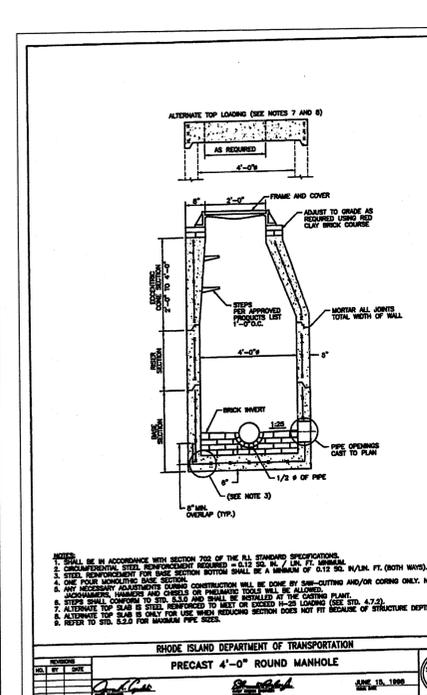
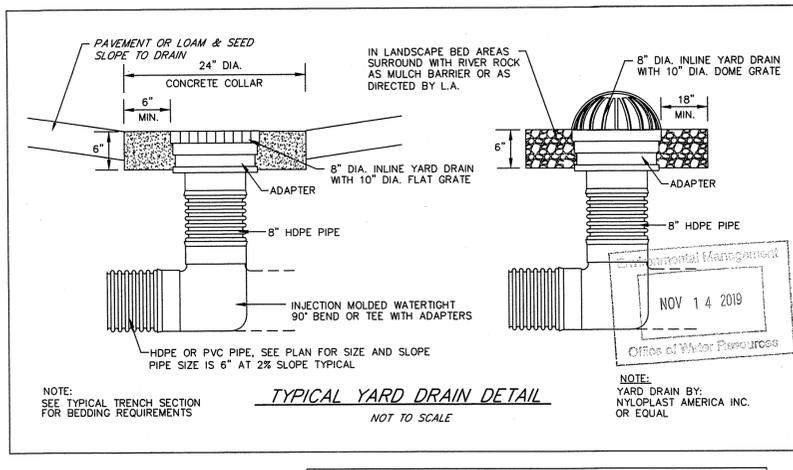
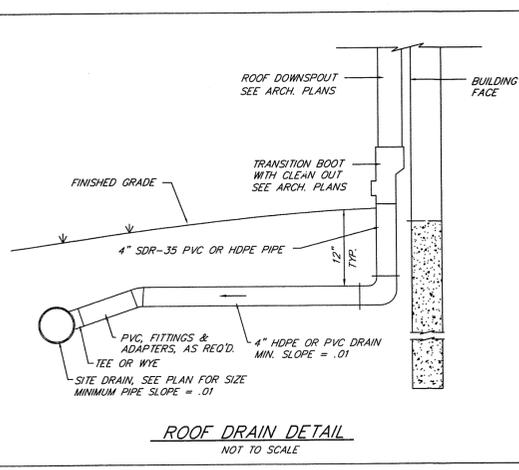
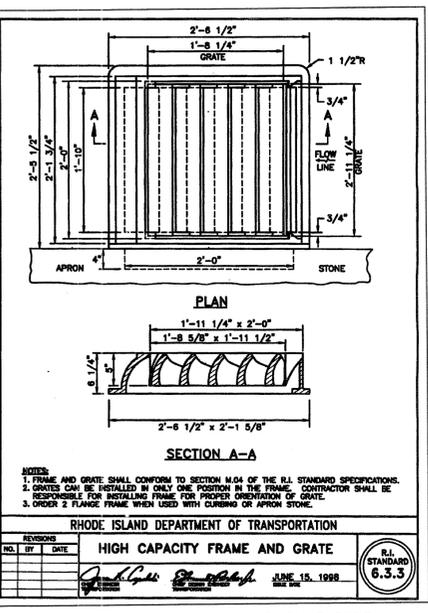
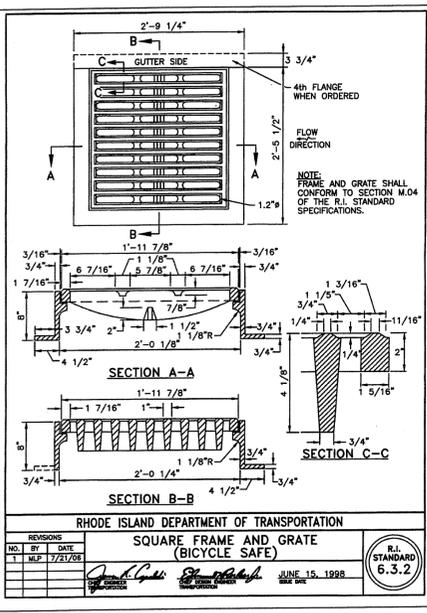
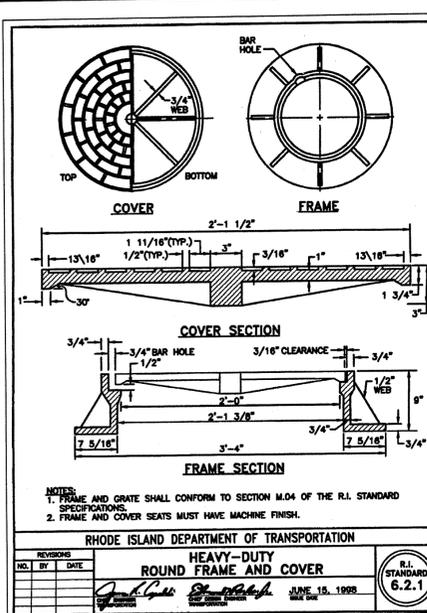


- OUTLET WEIR NOTES**
- WEIR WALL SHALL BE 12" THICK 3,000 PSI CONCRETE.
 - OUTLET SIDE OF WEIR WALL SHALL HAVE A 12" WIDE RIP-RAP SWALE EXTENDING OUT TO NATURAL GRADE. RIP-RAP SHALL BE 18" OF R-4 RIP-RAP ON 4" OF 3/4" CRUSHED STONE BASE.



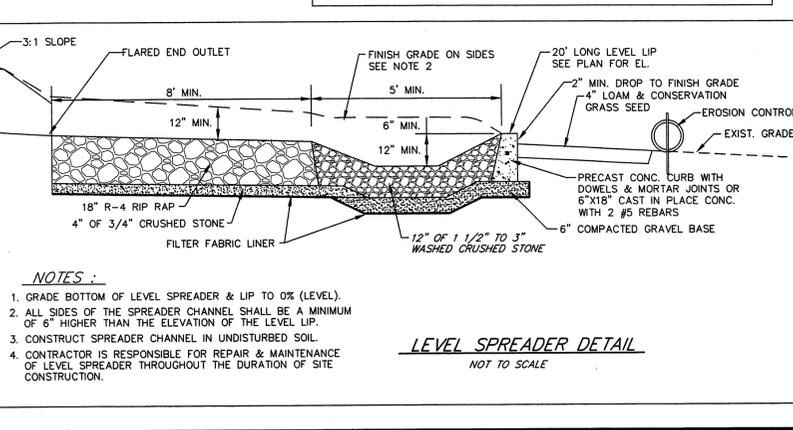
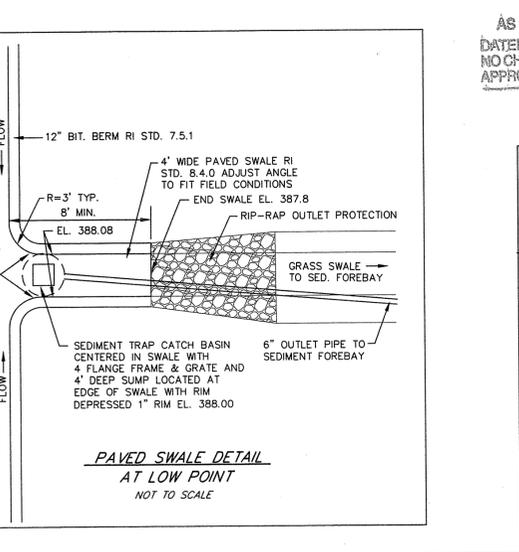
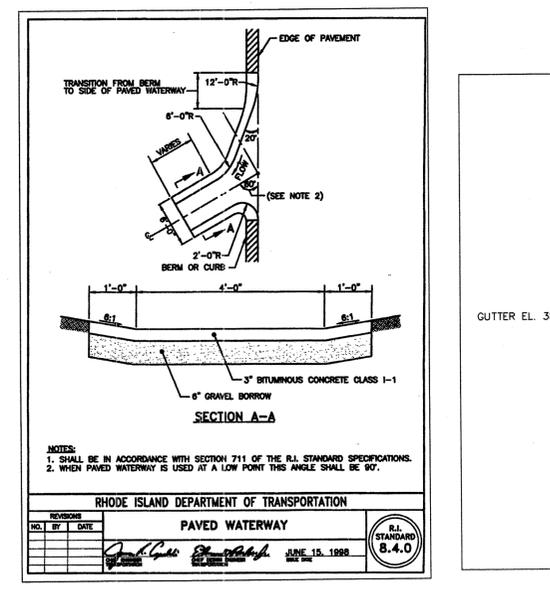
- SAND FILTER AREA NOTES**
- SAND FILTER AREAS SHALL BE PROTECTED FROM COMPACTION PRIOR TO AND DURING CONSTRUCTION.
 - ALL A & B LOAM HORIZONS AND UNSUITABLE MATERIAL IN THE SAND FILTER AREAS SHALL BE REMOVED TO THE GRAVELLY SAND C HORIZON. THE BOTTOM OF EXCAVATION MUST BE APPROVED BY SFM ENGINEERING PRIOR TO THE PLACEMENT OF GRAVEL BORROW OR SAND.
 - IF AN OVERDIG IS REQUIRED, COMPACTED GRAVEL BORROW SHALL BE PLACED TO THE BOTTOM OF THE CHOKER COURSE.
 - PEASTONE LAYERS AND C-33 SAND FILTER MATERIAL SHALL BE PLACED TO THE DEPTHS NOTED AND INSPECTED AND APPROVED BY SFM ENGINEERING.
 - FILTER FABRIC SHALL BE NON-WOVEN POLYPROPYLENE WITH A MINIMUM FLOW RATE OF 125 GPM/S.F. MIRAFIT 140N OR EQUIVALENT.
 - THE GRASS SEED MIXTURE FOR THE SAND FILTER BOTTOM AREA AND 6" UP SLOPE SHALL BE NEW ENGLAND EROSION CONTROL/RESTORATION MIX (FOR MOST SITES) BY NEW ENGLAND WETLAND PLANTS, INC. OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT.
 - OUTLET WEIRS OR MANHOLES SHALL BE SET 4" HIGHER THAN OVERFLOW WEIRS TO SAND FILTERS EXCEPT FOR S.F. 1, WHICH SHALL BE 2".
 - SEE MAINTENANCE NOTES ON THIS SHEET.





FLARED END SECTIONS

PART #	PIPE SIZE	A	B(MAX)	H	L	W
121GNP	12 in (300 mm)	6.5 in (165 mm)	10.0 in (254 mm)	6.5 in (165 mm)	25.0 in (635 mm)	28.0 in (712 mm)
151GNP	15 in (375 mm)	8.5 in (215 mm)	10.0 in (254 mm)	8.5 in (215 mm)	25.0 in (635 mm)	28.0 in (712 mm)
181GNP	18 in (450 mm)	10.5 in (267 mm)	10.0 in (254 mm)	10.5 in (267 mm)	25.0 in (635 mm)	28.0 in (712 mm)
241GNP	24 in (600 mm)	14.5 in (368 mm)	10.0 in (254 mm)	14.5 in (368 mm)	25.0 in (635 mm)	28.0 in (712 mm)
301GNP	30 in (750 mm)	18.5 in (469 mm)	10.0 in (254 mm)	18.5 in (469 mm)	25.0 in (635 mm)	28.0 in (712 mm)
361GNP	36 in (900 mm)	22.5 in (571 mm)	10.0 in (254 mm)	22.5 in (571 mm)	25.0 in (635 mm)	28.0 in (712 mm)



REVISIONS

DATE

NOV 14 2019

Office of Water Resources

SCOTT F. MOOREHEAD
REGISTERED PROFESSIONAL ENGINEER
NO. 4298

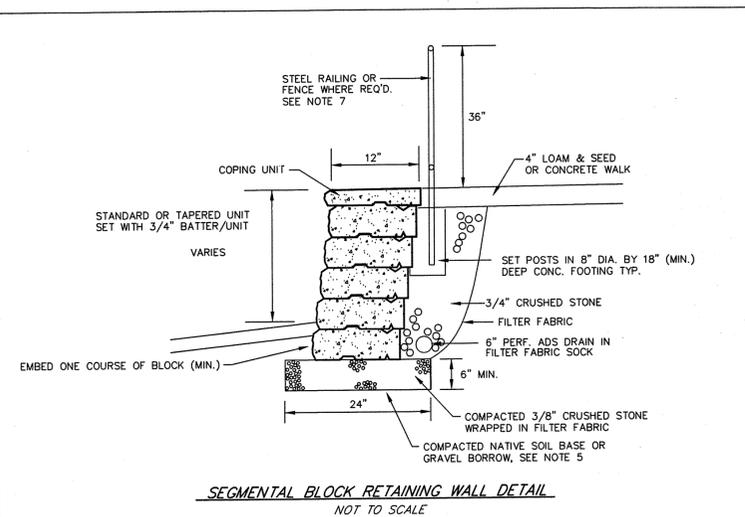
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DRAINAGE DETAIL SHEET - 2

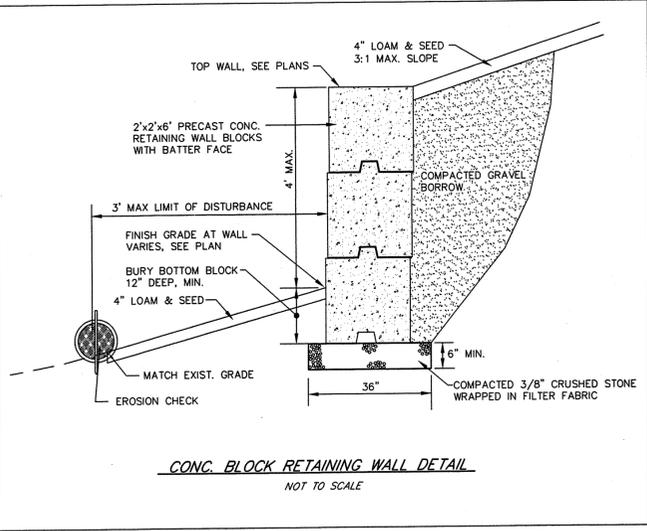
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DRN. BY: SFM
CHK. BY: JZL
SCALE: AS NOTED
DATE: OCT. 28, 2019
DWS: SFM803-DD-2D
SHEET 10 OF 12
DEM PERMITTING SUBMISSION C10

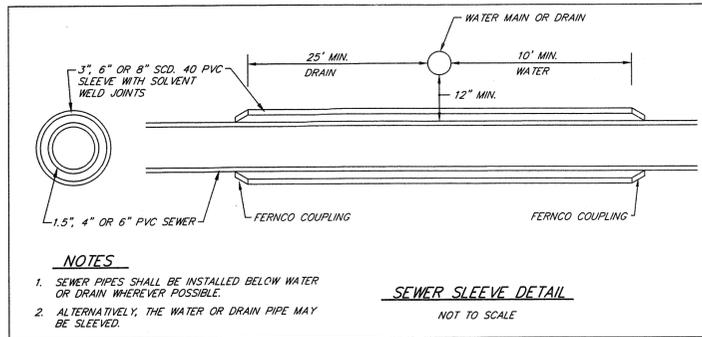
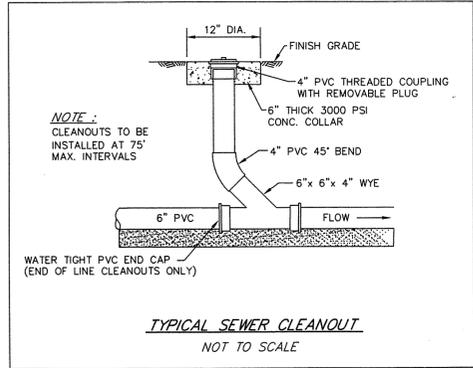
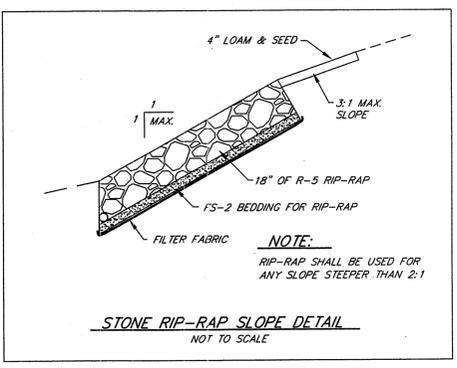
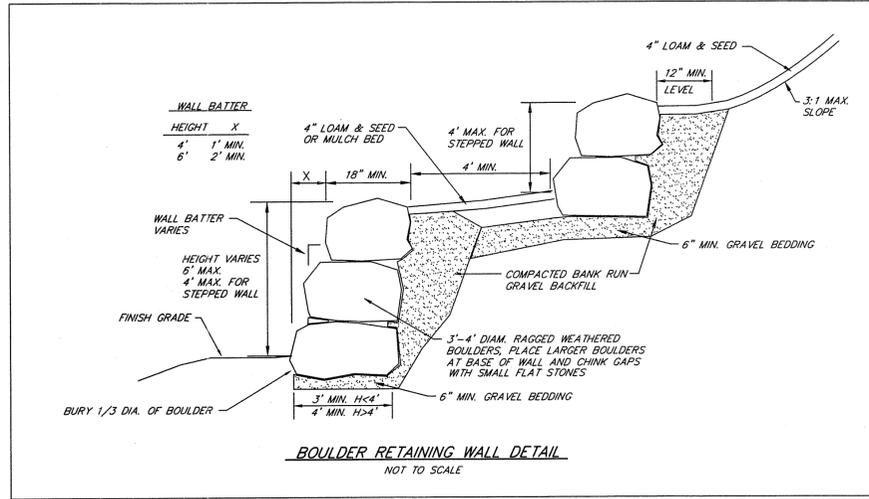


RETAINING WALL NOTES

- RETAINING WALLS SHALL BE PRECAST CONCRETE SEGMENTAL BLOCK, VERSA-LOK MOSAIC, UNLOCK PISA 2 OR OWNER APPROVED EQUAL, COLOR TO BE SELECTED BY OWNER.
- RETAINING WALLS SHALL BE CONSTRUCTED IN CONFORMANCE WITH MANUFACTURER'S SPECIFICATIONS.
- RUN ADS DRAINS TO DAYLIGHT OR DRAINAGE SYSTEM.
- THE SITE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ANY WALLS TALLER THAN 4' DESIGNED BY A R.I. REGISTERED PROF. ENGINEER. WALL DESIGN & MATERIALS SHALL BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION. POST CONSTRUCTION CERTIFICATION TO THE OWNER SHALL BE PROVIDED BY THE ENGINEER.
- UNSATURABLE MATERIAL ENCOUNTERED IN THE WALL AREAS SHALL BE REMOVED AND REPLACED WITH COMPACTED GRAVEL BORROW APPROVED BY THE ENGINEER.
- WALL DETAILS ARE SHOWN FOR DESIGN INTENT ONLY. WALL CONSTRUCTION SHALL COMPLY WITH THE DESIGN DETAILS PROVIDED BY THE ENGINEER.
- PEDESTRIAN RAILINGS OR FENCE SHALL BE PROVIDED FOR ALL WALLS HIGHER THAN 30\"/>



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 02/26/2020 FILE # 10-0721
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman



- GENERAL NOTES**
- ALL WORK PERFORMED HEREIN SHALL BE GOVERNED BY THE R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (AMENDED 2018) WITH ALL CORRECTIONS AND ADDENDA AND THE JUNE 21, 2019 R.I. STANDARD DETAILS WITH ALL CORRECTIONS AND ADDENDA.
 - EMBANKMENT SLOPES AND ALL DISTURBED AREAS ARE TO RECEIVE 4\"/>

- SEDIMENTATION CONTROL PROGRAM**
- EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY SEDIMENTS FROM ENTERING THE WETLANDS OR ADJOINING PROPERTIES.
 - BANKS OR SLOPES OVER 5 PERCENT SHALL BE SEEDED AS SOON AS POSSIBLE AND SHALL BE PROTECTED WITH A HAY, STRAW OR FIBER MULCH.
 - DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
 - SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
 - CARE SHALL BE TAKEN SO 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 STRAW BALES, SILT FENCE OR SILT SOCKS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
 - REFERENCE THE "R.I. EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE RI STATE CONSERVATION COMMITTEE, ISSUED 1989 REVISED 2014, AS A GUIDE.

- ORDER OF PROCEDURE**
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OR EXCAVATION, THE SITE CONTRACTOR SHALL PHYSICALLY MARK THE ENTIRE LIMIT OF DISTURBANCE. EROSION CHECKS SHALL BE ESTABLISHED AT ALL DOWN GRADIENT LIMITS OF DISTURBANCE AND AS DEPICTED ON THE SITE PLANS. TEMPORARY EROSION CHECKS SHALL BE INSTALLED AT LIMIT OF WORK ACTIVITY IF CONSTRUCTION IS TO BE DONE IN PHASES. EROSION CHECKS CONSIST OF STRAW BALES, SILT FENCE OR SILT SOCKS.
 - SITE CONTRACTOR SHALL PROVIDE A BARRIER AROUND THE SAND FILTER AND INFILTRATION BASIN AREAS TO PROTECT THEM FROM SOIL COMPACTION.
 - ONLY AREAS THAT CAN BE REASONABLY EXPECTED TO HAVE ACTIVE CONSTRUCTION WORK BEING PERFORMED WITHIN 14 DAYS OF DISTURBANCE SHALL BE GRUBBED AT ONE TIME. IF CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED FOR MORE THAN 14 DAYS, STABILIZATION PRACTICES SHALL BE INITIATED. REFERENCE THE EROSION CONTROL & SEDIMENTATION PROGRAMS FOR TEMPORARY CONTROLS.
 - ALL EROSION AND SEDIMENTATION CONTROL STRUCTURES SHALL BE PERIODICALLY MAINTAINED AS PER THE RESPECTIVE PROGRAMS FOR TEMPORARY CONTROL.
 - EROSION CHECKS ALONG AND AT THE ENDS OF ROADWAYS MAY ALSO BE REMOVED AFTER FINAL SOIL STABILIZATION HAS BEEN ACHIEVED AND APPROVED.
 - EROSION CHECKS LOCATED AT DRAINAGE INLETS OR OUTLETS MUST REMAIN UNTIL SUCH TIME THAT A DESIRABLE STAND OF GRASS OR GROUND COVER HAS BEEN ESTABLISHED AND THE PROJECT RECEIVES A FAVORABLE APPROVAL FOR FINAL ACCEPTANCE FROM THE ENGINEER.
 - NON-BIODEGRADABLE EROSION CONTROLS, SUCH AS SILT FENCE, MUST BE REMOVED FROM THE SITE WHEN THEY ARE NO LONGER FUNCTIONAL OR REQUIRED FOR SEDIMENT CONTROL.

NOTE
BALED HAY SHALL ONLY BE USED FOR SHORT TERM EROSION CONTROL OF THREE MONTHS OR LESS. PERIMETER EROSION CONTROLS SHALL BE STRAW BALE, SILT FENCE, SILT SOCK OR COMBINATION THEREOF.

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 YEAR.
- THE TOP SOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS 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 INOCULANT FOR EACH VARIETY.
- SEEDING SPECIFICATIONS SHALL BE IN ACCORDANCE WITH THE WATER RESOURCES LANDSCAPE ARCHITECT'S PLANS. FOR AREAS NOT DESIGNATED BY THE L.A., THE DESIGN MIX SHALL COMPLY WITH THE FOLLOWING:

MIXTURE	% BY WT.	SEEDING DATES
CREeping RED FESCUE	70	APRIL 1-MAY 31
KENTUCKY BLUEGRASS	15	AUG. 15-OCT. 15
COLONIAL BENTGRASS	5	
PERENNIAL RYEGRASS	10	
TOTAL	150 LBS/AC	

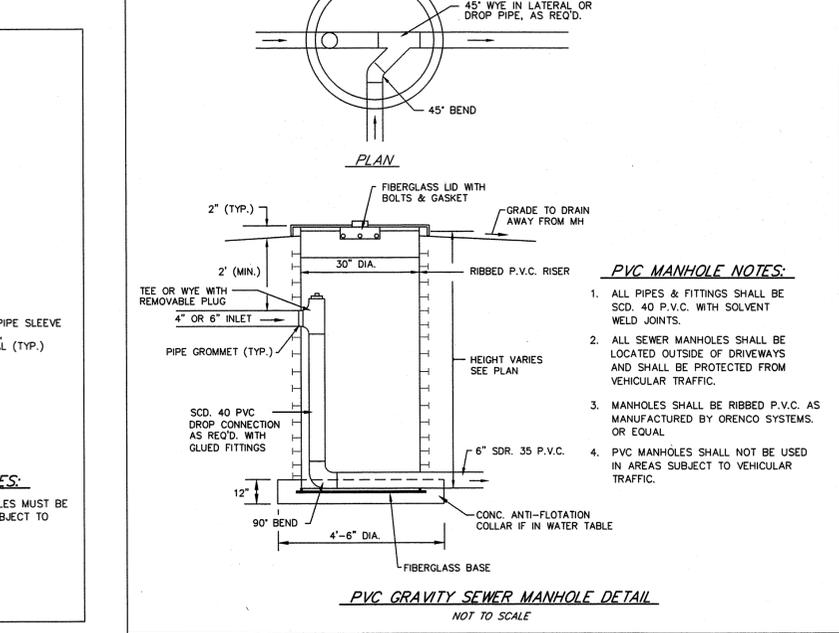
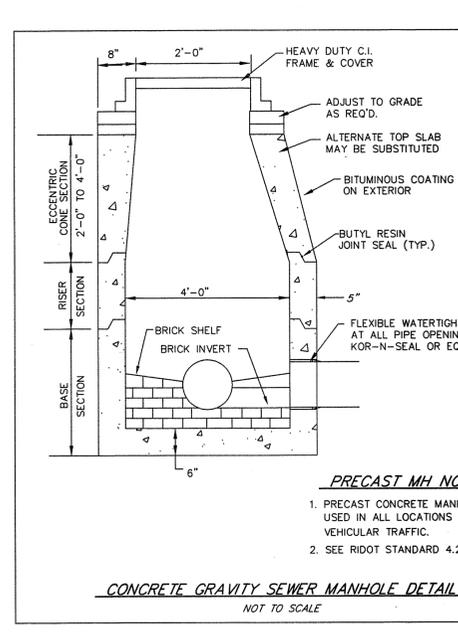
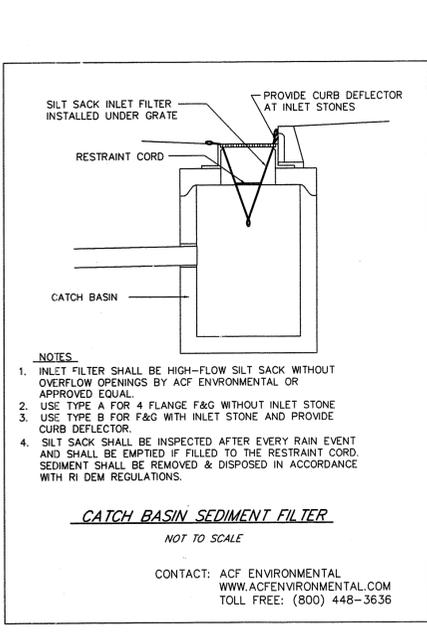
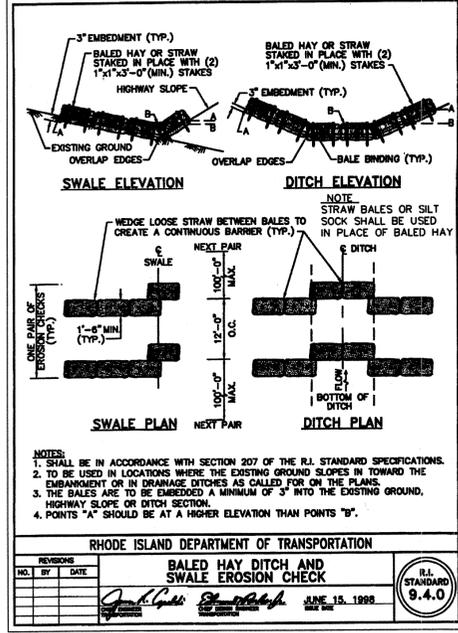
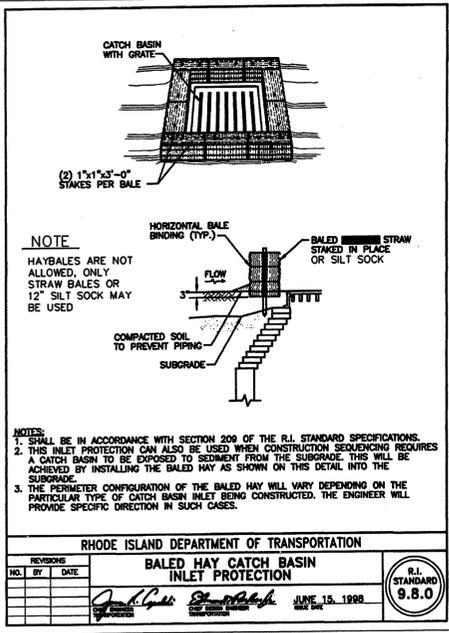
CONSERVATION SEEDING AREAS

MIXTURE	% BY WT.	SEEDING DATES
SWITCH GRASS	20	APRIL 1-MAY 31
LITTLE BLUE STEM	20	AUG. 15-OCT. 15
PERENNIAL RYEGRASS	20	
WILDFLOWER MIX	20	
HARD FESCUE	20	
TOTAL	60 LBS/AC	

OR NEW ENGLAND CONSERVATION/WILDLIFE MIX BY NEW ENGLAND WETLAND PLANTS, INC

- 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 3,000-4,000 LBS/AC.
- ALL STRAW BALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN HELP TO MINIMIZE EROSION. A TEMPORARY SEEDING GUIDE MUST BE INCLUDED AS A REFERENCE. THE FOLLOWING SPECIES ARE RECOMMENDED:

SPECIES	LBS./1,000 SQ. FT.	LBS./AC.	SEEDING DATES
ANNUAL RYEGRASS	1.0 - 1.5	40 - 60	3/1 - 6/1
PERENNIAL RYEGRASS	1.0 - 1.5	40 - 60	3/1 - 6/1
SUDAN GRASS	0.7 - 1.0	30 - 40	5/15 - 8/15
MILLET	0.7 - 1.0	30 - 40	5/15 - 8/15
WINTER RYE	3.0	120	4/15 - 6/15
- OR RIDOT TEMPORARY SEED MIX AT 75 LBS/AC
- 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 1 - OCTOBER 15.
- ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I.D.P.W. STD. SPECIFICATIONS SECTION 202.
- 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. 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.



REVISION

DATE

SCOTT F. MOOREHEAD
REGISTERED PROFESSIONAL ENGINEER
4298

PREPARED FOR:
NEIGHBORWORKS BLACKSTONE RIVER VALLEY
79 FRONT STREET SUITE 103
WOONSOCKET, RI
401-762-0993

RIVERDELL VILLAGE
ASSESSOR'S PLAT 108 LOTS 1 & 2
ASSESSOR'S PLAT 13 LOT 79
VICTORY HIGHWAY & MONEY HILL ROAD
GLOUCESTER, RHODE ISLAND

S.F.M. ENGINEERING ASSOCIATES
410 TOIGUE AVENUE
COVENTRY, RI 02816
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SFM

DRN. BY: SFM
CHK. BY: JZL
SCALE: AS NOTED
DATE: OCT. 28, 2019
DWG: SFM803-CD-2D
SHEET 12 OF 12
DEM PERMITTING SUBMISSION

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