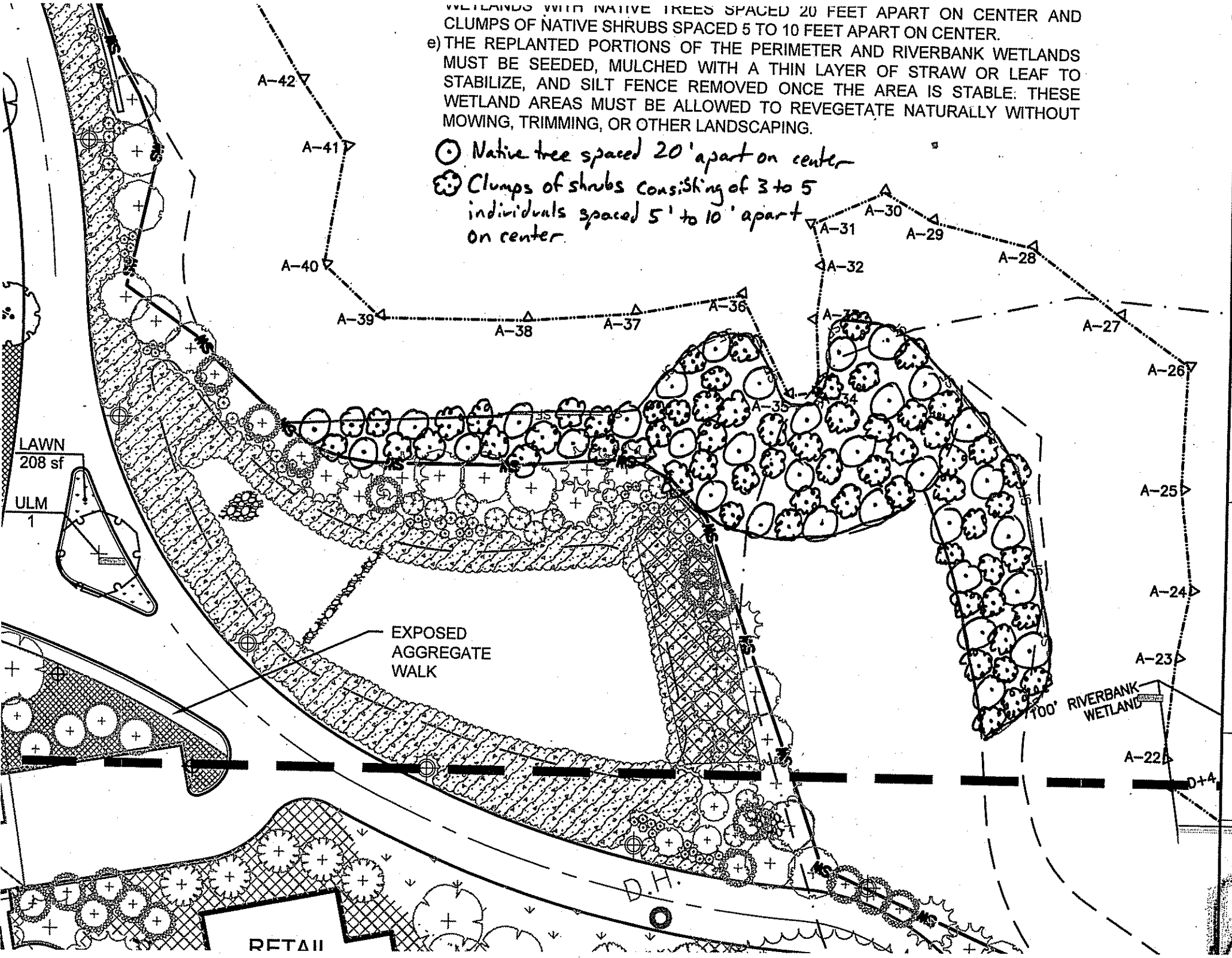


WETLANDS WITH NATIVE TREES SPACED 20 FEET APART ON CENTER AND CLUMPS OF NATIVE SHRUBS SPACED 5 TO 10 FEET APART ON CENTER.

e) THE REPLANTED PORTIONS OF THE PERIMETER AND RIVERBANK WETLANDS MUST BE SEEDED, MULCHED WITH A THIN LAYER OF STRAW OR LEAF TO STABILIZE, AND SILT FENCE REMOVED ONCE THE AREA IS STABLE. THESE WETLAND AREAS MUST BE ALLOWED TO REVEGETATE NATURALLY WITHOUT MOWING, TRIMMING, OR OTHER LANDSCAPING.

- Native tree spaced 20' apart on center
- ⊗ Clumps of shrubs consisting of 3 to 5 individuals spaced 5' to 10' apart on center.



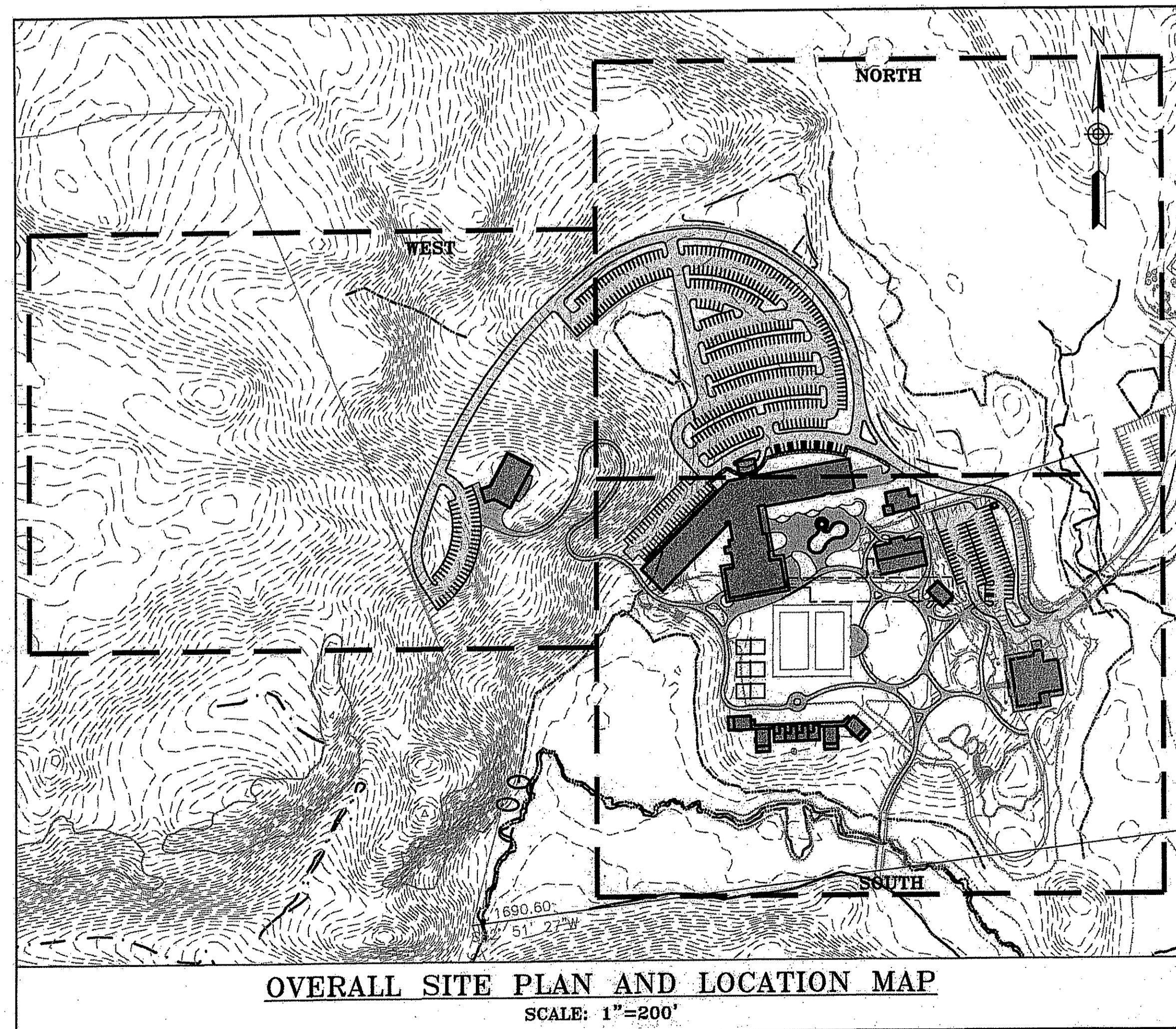
THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT

87 KINGSTOWN ROAD
PLAT 6B, LOT 4
RICHMOND, RHODE ISLAND

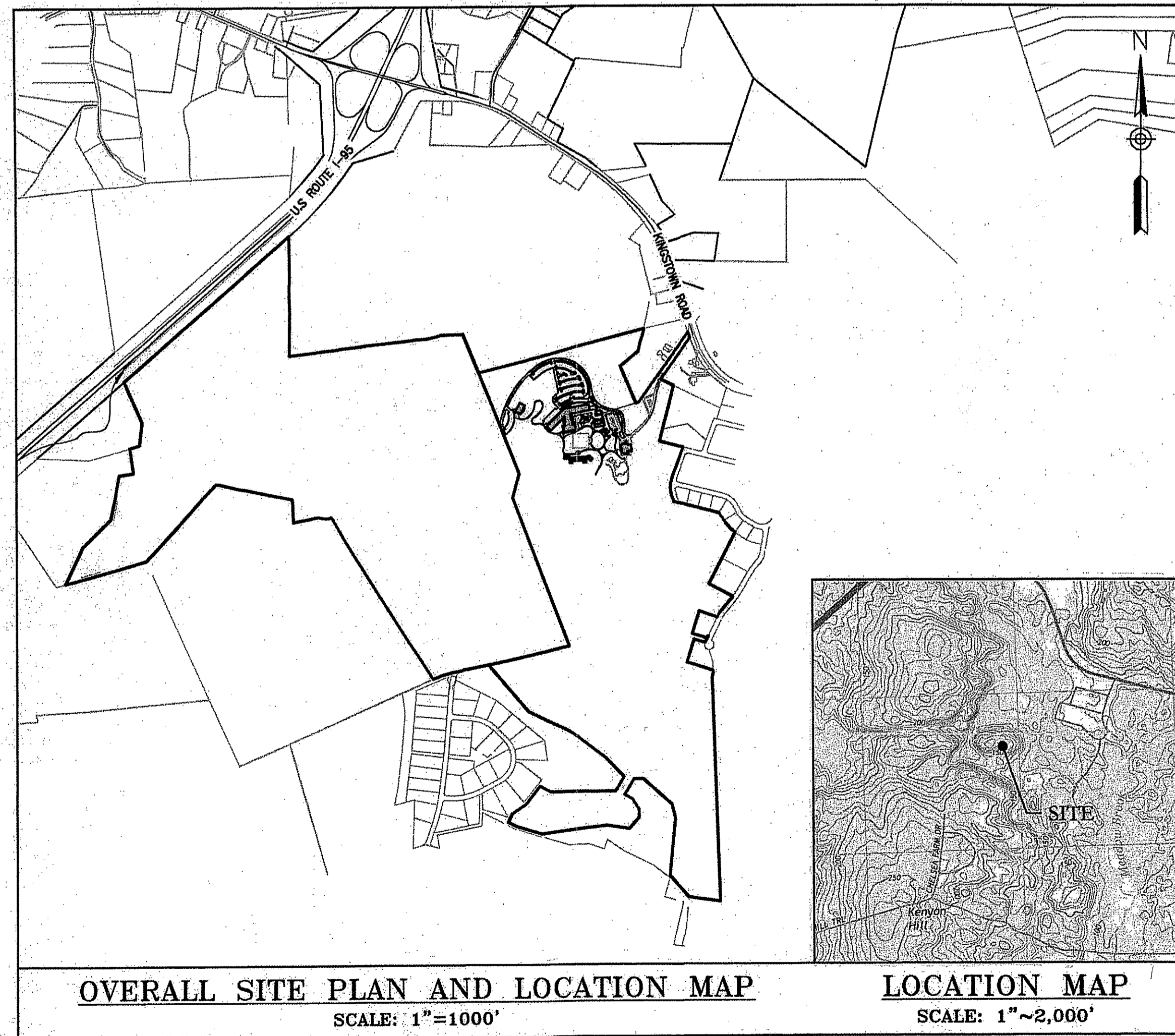
ISSUED FOR PERMITTING

PREPARED FOR THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT

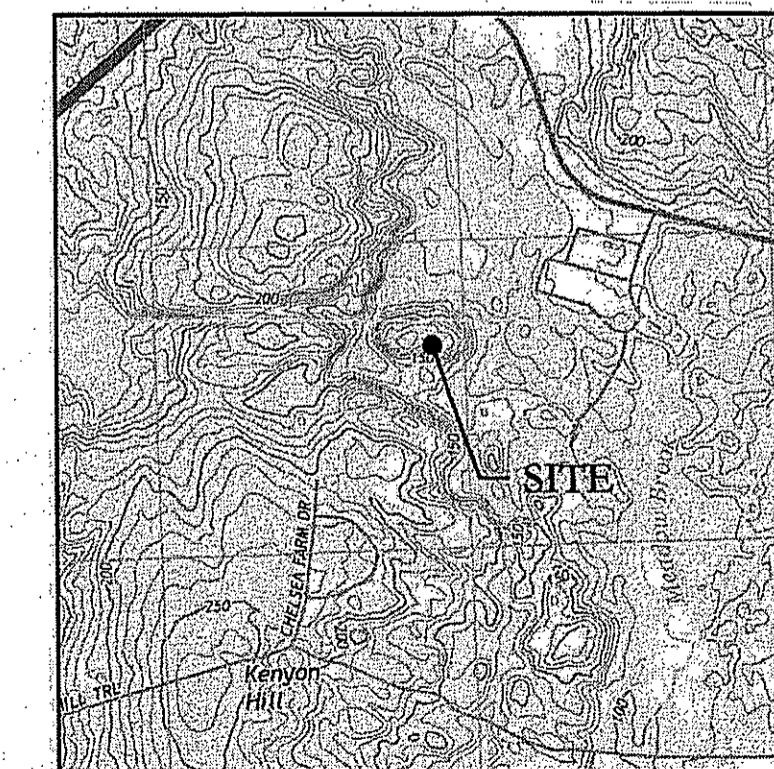
LATEST ISSUED: JUNE 27, 2016



OVERALL SITE PLAN AND LOCATION MAP
SCALE: 1"=200'



OVERALL SITE PLAN AND LOCATION MAP
SCALE: 1"=1000'



LOCATION MAP
SCALE: 1"=2,000'

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C-2	LAYOUT AND MATERIALS PLAN SOUTH	6/27/16
C-3	LAYOUT AND MATERIALS PLAN NORTH	6/27/16
C-4	LAYOUT AND MATERIALS PLAN WEST	6/27/16
C-5	GRADING AND DRAINAGE PLAN SOUTH	6/27/16
C-6	GRADING AND DRAINAGE PLAN NORTH	6/27/16
C-7	GRADING AND DRAINAGE PLAN WEST	6/27/16
C-8	SESC PLAN PHASE 1 AND DETAILS	6/27/16
C-9	SESC PLAN PHASE 1 AND PHASE 2	6/27/16
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C-13	OWTS PLAN SOUTH	6/27/16
C-14	OWTS PLAN NORTH	6/27/16
C-15	OWTS PLAN WEST	6/27/16
C-16	OWTS PIPING PLAN	6/27/16
C-17	OWTS PIPING PLAN	6/27/16
C-18	OWTS DETAILS 1	6/27/16
C-19	OWTS DETAILS 2	6/27/16
C-20	OWTS DETAILS 3	6/27/16
C-21	OWTS DETAILS 4	6/27/16
C-22	DETAILS 1	6/27/16
C-23	DETAILS 2	6/27/16

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P-101	BUFFER PLANTING PLAN	6/20/16
P-102	PLANTING PLAN SOUTH	6/20/16
P-103	PLANTING PLAN NORTH	6/20/16
P-104	PLANTING PLAN WEST	6/20/16
P-105	PLANTING PLAN ENLARGEMENT	6/20/16
P-106	PLANTING PLAN ENLARGEMENT	6/28/16
P-107	PLANTING DETAILS	6/20/16
L-101	LIGHTING PLAN	6/20/16
L-102	LIGHTING DETAILS	6/20/16

OWNER/APPLICANT
THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
C/O PAUL MIHAIDES
2091 NOOSENECK HILL ROAD
COVENTRY, RI 02816

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 8 2016 FILE # 16-0096
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED

Environmental Management
AUG 11 2016
Office of Water Resources

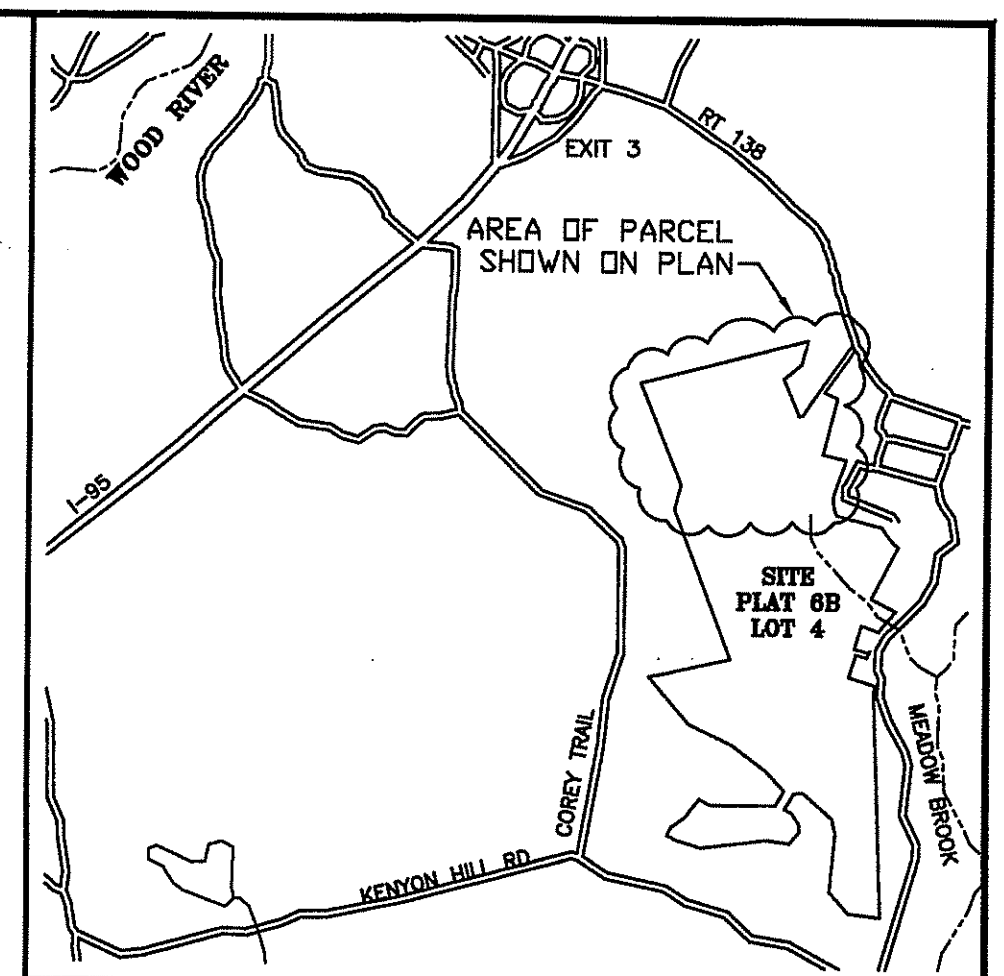
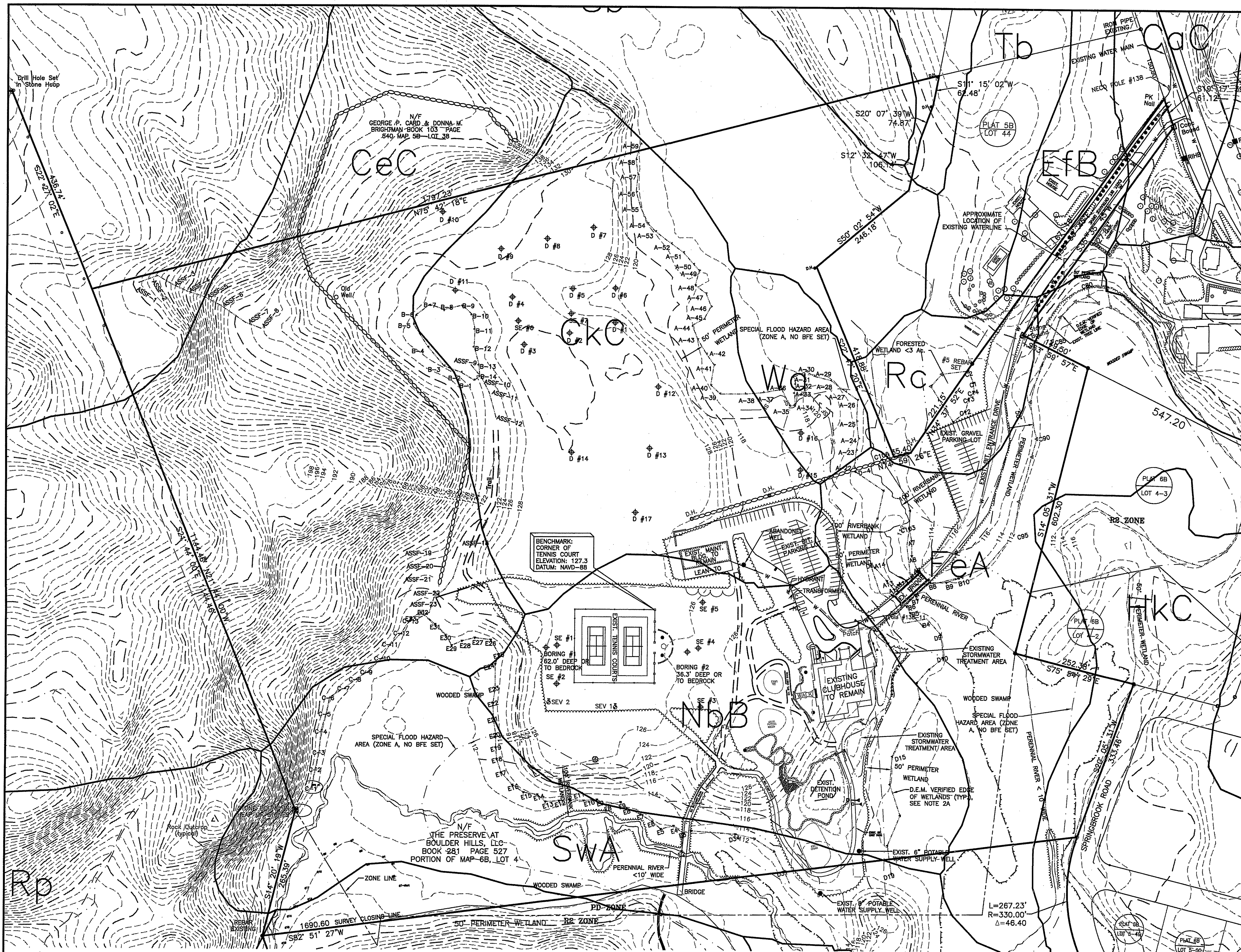
ISSUED FOR PERMITTING

LATEST ISSUE: JUNE 27, 2016
CA JOB # 215113

C N BEAULIEU-SHEA
No. 5701
REGISTERED PROFESSIONAL ENGINEER (CIVIL) 6/27/16

THE PRESERVE AT
BOULDER HILLS, LLC &
MTM DEVELOPMENT
87 KINGSTOWN ROAD
PLAT 6B, LOT 4
RICHMOND, RHODE ISLAND

CHERENZIA & ASSOCIATES, LTD.
99 Mechanic St. P.O. Box 513
Pawcatuck, CT 06379 Westley, RI 02891
Tel: 860.629.6500 Tel: 401.596.7747
Fax: 860.599.6090
Civil Engineers
Land Surveyors
Land Use Planners
Environmental Engineers
www.cherenzia.com



LOCATION MAP

- NOTES:**
- REFERENCE IS HEREBY MADE TO THE FOLLOWING DEEDS:
 - A WARRANTY DEED DATED JANUARY 25, 2013 FROM "OCEAN STATE GOLF INVESTORS, LLC" TO "THE PRESERVE AT BOULDER HILLS, LLC" AND RECORDED IN THE TOWN OF RICHMOND LAND EVIDENCE BOOK 281 AT PAGE 527.
 - A WARRANTY DEED DATED JUNE 2, 2015 FROM "DONNA M. BRIGHTMAN" TO "MTM DEVELOPMENT CORPORATION" AND RECORDED IN THE TOWN OF RICHMOND LAND EVIDENCE BOOK 297 AT PAGE 375.
 - REFERENCE IS HEREBY MADE TO THE FOLLOWING PLANS:
 - ADMINISTRATIVE SUBDIVISION PLAN PREPARED FOR MTM INVESTMENT TRUST KINGSTOWN ROAD/ROUTE 138 AP 6B/LOT 4 - AP 5B/LOT 38 RICHMOND, RI SCALE: 1" = 100' 4-28-15 E. GREENWICH SURVEYORS, LLC EAST GREENWICH, RHODE ISLAND REVISED: 5-11-15 CERTIFIED AS A CLASS II SURVEY
 - MASTER PLAN SITE DEVELOPMENT PLAN PREPARED FOR THE PRESERVE AT BOULDER HILLS, LLC 87 KINGSTOWN ROAD PLAT 6B LOT 4 RICHMOND, RHODE ISLAND SCALE: 1" = 100' AUGUST 19, 2015 S.F.M. ENGINEERING ASSOCIATES COVENTRY, RHODE ISLAND REVISED: 10-27-15
 - PLAN OF LAND PREPARED FOR THE PRESERVE AT BOULDER HILLS, LLC A RHODE ISLAND LIMITED LIABILITY COMPANY ROUTE 138 & MEADOWBROOK ROAD PLAT 6B LOT 4 RICHMOND, RHODE ISLAND SCALE: 1" = 200' MARCH 16, 2015 CHERENZIA & ASSOCIATES, LTD. PAWCATUCK, CONNECTICUT
 - FINAL SUBDIVISION PLAN FOSTER WOODS PHASE I ASSESSOR'S PLAT 6B LOTS 6, 9, 10, & 19 KENTON HILL TRAIL, RICHMOND, RHODE ISLAND SCALE: 1" = 50', SHEET 3 OF 7 DATE: AUGUST 24, 1984 SITUATE SURVEYS, INC. COVENTRY, RHODE ISLAND
 - BEARINGS AND NORTH ARROW ORIENTATION ARE REFERENCED TO THE RHODE ISLAND STATE PLANE GRID - NAD 83.
 - ELEVATIONS ARE REFERENCED TO THE NAVD-88 VERTICAL DATUM. LIDAR CONTOURS ARE SUPPORTED BY SPOT ELEVATIONS USING CONVENTIONAL SURVEY MEASUREMENTS.
 - PLAT 6B LOT 4 LIES IN PART WITHIN R2 AND PD ZONING DISTRICTS AND IS SUBJECT TO THE RESTRICTIONS THEREOF.
 - THE LOCUS PARCEL LIES WITHIN FLOOD ZONE "X", AN AREA OF MINIMAL FLOODING, AND FLOOD ZONE "A" AS DELINEATED ON THE FLOOD INSURANCE RATE MAP, WASHINGTON COUNTY, RHODE ISLAND (ALL JURISDICTIONS), PANEL 68 OF 368, MAP NUMBER 44009C0068H, EFFECTIVE DATE: OCTOBER 19, 2010.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 9 2016 FILE # 16-0076
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management
AUG 11 2016
Office of Water Resources

STREET INDEX
KINGSTOWN ROAD
(RT 138)

**EXISTING CONDITIONS PLAN
AND RESOURCES MAP
PREPARED FOR
THE PRESERVE AT
BOULDER HILLS, LLC
& MTM DEVELOPMENT
PORTION OF PLAT 6B LOT 4
87 KINGSTOWN ROAD
RICHMOND, RHODE ISLAND
SCALE: 1"=100' DRAWN BY: GAB
MAY 23, 2016 CHECK BY: NDL**

CHERENZIA & ASSOCIATES, LTD.
Civil Engineers
Land Surveyors
Land Use Planners
Environmental Engineers
99 Mechanic St.
Pawcatuck, CT 06379
Tel: 860.629.6500
Fax: 860.599.6090
P.O. Box 513
Westerly, RI 02891
Tel: 401.596.7747
www.cherenzia.com

NATHAN D. LAUDER
No. 1842
PROFESSIONAL
LAND SURVEYOR

By: *Nathan D. Lauder*
PLS Signature
Nathan D. Lauder PLS #1842
Printed PLS Name & License No.
LS.000A133-COA
COA No.

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, EFFECTIVE NOVEMBER 11, 2015, AS FOLLOWS:

TYPE OF SURVEY:
COMPILED BOUNDARY
COMPREHENSIVE BOUNDARY
TOPOGRAPHIC-RIGID LIDAR FOR CONTOURS
PLANIMETRIC SURVEY-PHOTOGRAMMETRY

MEASUREMENT SPECIFICATION:
CLASS IV, SEE NOTE 2A
CLASS I, SEE NOTE 2C
CLASS IV, SEE NOTE 4
CLASS III

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS: TO SUPPORT A RIDEM FRESHWATER WETLANDS PRELIMINARY DETERMINATION APPLICATION AND A MAJOR LAND DEVELOPMENT APPLICATION TO THE TOWN OF RICHMOND.

THIS COMPILATION PLAN HAS BEEN PREPARED FROM SOURCES OF INFORMATION AND DATA WHOSE POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED. SEE PLAN REFERENCE NOTE 2A ABOVE. THE PROPERTY LINES DEPICTED HEREON DO NOT REPRESENT A BOUNDARY OPINION, AND OTHER INFORMATION DEPICTED IS SUBJECT TO SUCH CHANGES AS AN AUTHORITY FIELD SURVEY MAY DISCLOSE.

DISTRICT DIMENSIONAL REGULATIONS

District	R2	PD
Use	Residence	Planned Development
Min. Lot Size	2 Acres	1 Acre
Min. Lot Width	200 feet	150 feet
Min. Front Yard	50 feet	20 feet
Min. Side Yard	35 feet	35 feet
Min. Rear Yard	100 feet	50 feet
Max. Main Structure Hgt.	35 feet	40 feet
Max. Acc. Structure Hgt.	25 feet	N/A
Max. Building Coverage	10%	N/A

LEGEND

—O/H—	Overhead Utilities	⊙	Fire Hydrant
—U/G—	Underground Electric	⊙	Utility Pole
B/C/L	Bituminous Concrete Lip Curb	R/H/B	Rhode Island Highway Bound
SMH	Sanitary Manhole	---	Existing Contours
DMH	Drainage Manhole	WF 60	Wetland Flag
P/C	Precast Concrete Curb	N/B	Soils Line
R/C/P	Reinforced Concrete Pipe		
X	Water Gate or Shut-Off		

LEGEND

	EXIST	PROP		EXIST	PROP
TOP/BOTTOM CURB ELEVATION	27.65 TC 27.15 BC X	27.65 TC 27.15 BC X	PROPERTY LINE	---	---
SPOT GRADE w/LEADER	21.25 X	21.25 X	PROJECT LIMIT LINE	---	---
SPOT GRADE	21.25 X	21.25 X	RIGHT-OF-WAY/PROPERTY LINE	---	---
BORING LOCATION	⊕ B-1	⊕ B-1	BUILDING SETBACK	---	---
TEST PIT LOCATION	⊕ TP-1	⊕ TP-1	STATE HIGHWAY BASELINE	---	---
MONITORING WELL	⊕ MW-1	⊕ MW-1	BASELINE	---	---
BENCH MARK	⊕	⊕	CONSTRUCTION LAYOUT	---	---
DRAIN MANHOLE	⊕ DMH	⊕ DMH	ZONING LINE	---	---
CATCH BASIN	⊕ CB	⊕ CB	TOWN LINE	---	---
DOUBLE CATCH BASIN	⊕ DCB	⊕ DCB	STATE LINE	---	---
GUTTER INLET	⊕ GI	⊕ GI	GRAVEL ROAD	---	---
TRENCH DRAIN	⊕ TD	⊕ TD	EDGE OF PAVEMENT	---	---
HEADWALL	⊕ HW	⊕ HW	BITUMINOUS CURB	---	---
FLARED END SECTION	⊕ FES	⊕ FES	CAPE COD BERM	---	---
DRAINAGE LINE	---	---	PRECAST CONC. CURB	---	---
OVERFLOW DRAIN	---	---	VERT. GRAN. CURB	---	---
ROOF DRAIN	---	---	SLOPED GRAN. EDGING	---	---
OVERHEAD WIRE	---	---	LIMIT OF CURB TYPE	---	---
WATER LINE	---	---	SAWCUT	---	---
FIRE PROTECTION LINE	---	---	MATCHLINE	---	---
GAS LINE	---	---	SOLID WHITE LINE	---	---
UNDERGROUND ELECTRIC	---	---	SOLID YELLOW LINE	---	---
UNDERGROUND TELEPHONE	---	---	BROKEN WHITE LINE	---	---
FIRE ALARM	---	---	BROKEN YELLOW LINE	---	---
FIRE & POLICE CABLE	---	---	SOLID WHITE CHANNELIZING LINE	---	---
CABLE TV	---	---	SOLID YELLOW CHANNELIZING LINE	---	---
PLUG/STUB	---	---	DOUBLE YELLOW LINE	---	---
GREASE TRAP	---	---	STOP LINE	---	---
CONTROL STRUCTURE	---	---	STEEL GUARD RAIL	---	---
SEWER MANHOLE	⊕ SMH	⊕ SMH	WOOD GUARD RAIL	---	---
SEWER LINE	---	---	PATH	---	---
WATER GATE	---	---	TREE LINE	---	---
TAPPING SLEEVE, VALVE, & BOX	---	---	CHAIN LINK FENCE	---	---
RISER	---	---	STONE WALL	---	---
PRESSURE REDUCER	---	---	RETAINING WALL	---	---
SIAMISE CONNECTION	---	---	HAY BALES	---	---
FIRE HYDRANT	---	---	SILT FENCE	---	---
WATER METER	---	---	STRAW WATTLE	---	---
POST INDICATOR VALVE	---	---	LIMIT OF DISTURBANCE	---	---
WELL	---	---	MINOR CONTOUR	---	---
GAS GATE	---	---	MAJOR CONTOUR	---	---
GAS METER	---	---	TOP OF SLOPE	---	---
ELECTRIC MANHOLE	---	---	TOE OF SLOPE	---	---
ELECTRIC BOX	---	---	BUILDING	---	---
ELECTRIC METER	---	---	BUILDING ENTRANCE	---	---
LIGHT POLE	---	---	LOADING DOCK	---	---
FLOOD LIGHT	---	---	BOLLARD	---	---
SINGLE LUMINAIRE	---	---	DUMPSTER PAD	---	---
DOUBLE LUMINAIRE	---	---	SIGN	---	---
TRIPLE LUMINAIRE	---	---	DOUBLE SIGN	---	---
QUAD LUMINAIRE	---	---	PARKING METER	---	---
WALL PACK	---	---	PARKING COUNT	---	---
TELEPHONE MANHOLE	---	---	COMPACT PARKING STALLS	---	---
TRAFFIC SIGNAL	---	---	CROSSWALK	---	---
SIGNAL BOX	---	---	CONC. PAVEMENT	---	---
FIRE ALARM CONTROL PANEL	---	---	STANDARD DUTY PAVEMENT HEAVY	---	---
FIRE ALARM BOX	---	---	DUTY PAVEMENT	---	---
TRANSFORMER PAD	---	---	ADA RAMP	---	---
MANHOLE	---	---	ADA PARKING	---	---
UTILITY POLE	---	---	VAN-ACCESSIBLE ADA PARKING	---	---
GUY POLE	---	---	ARCH. DETAIL (SEE ARCH. DWGS)	Detail no.	---
HAND HOLE	---	---		Sheet no.	---
PULL BOX	---	---			---

ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
ABANDON	ABAN	MAXIMUM	MAX
ADJUST	ADJ	MINIMUM	MIN
AMERICAN SOCIETY FOR TESTING & MATERIALS	ASTM	NOT IN CONTRACT	NIC
AMERICANS WITH DISABILITIES ACT	ADA	NOT TO SCALE	NTS
APPROXIMATE	APPROX	ON CENTER	OC
ASPHALT COATED CORRUGATED METAL PIPE	ACCMP	ONSITE WASTEWATER TREATMENT SYSTEM	OWTS
BITUMINOUS CURB	BC	PAVED WATER WAY	PWW
BOTTOM OF SLOPE	BOS	POLYVINYLCHLORIDE PIPE	PVC
CAPE COD BERM	CCB	PRECAST CONCRETE CURB	PCC
CAST IRON PIPE	CIP	PROPOSED	PROP
CHANGE IN TYPE	CIT	RADIUS	R
COLUMN	COL	REINFORCED CONCRETE PIPE	RCP
CONDUIT	COND	REMODEL	REM
CORRUGATED ALUMINUM PIPE	CAP	REMOVE	REM
CORRUGATED POLYETHYLENE PIPE	CPP	REMOVE AND DISPOSE	R&D
DUCTILE IRON PIPE	DIP	REMOVE AND RESET	R&R
ELEVATION	ELEV	REMOVE AND STORE	R&S
EXISTING	EXIST	RETAIN	RET
FOUNDATION	FDN	SLOPED GRANITE EDGING	SGE
FRAME AND COVER	F&C	TAPPING SLEEVE, VALVE AND BOX	TSV&B
FRAME AND GRATE	F&G	TOP OF SLOPE	TOS
GALVANIZED	GALV	TRANSITION	TRANS
GRANITE CURB	GC	TYPICAL	TYP
HIGH DENSITY POLYETHYLENE	HDPE	UTILITY POLE	UP
HYDRANT	HYD	VERTICAL GRANITE CURB	VGC
INVERT ELEVATION	INV	VITRIFIED CLAY PIPE	VCP
LANDSCAPE AREA	LA	WATER GATE	WG

GENERAL NOTES

- THESE PLANS AND THEIR CORRESPONDING ELECTRONIC DOCUMENTS, INCLUDING CAD FILES FOR THE PROJECT, ARE INSTRUMENTS OF PROFESSIONAL SERVICE AND SHALL NOT BE USED IN WHOLE OR IN PART FOR ANY OTHER PURPOSE THAN THE DEVELOPMENT OF THIS PROJECT WITHOUT THE EXPRESSED, WRITTEN CONSENT OF CHERENZIA & ASSOCIATES, LTD. ANY UNAUTHORIZED USE, RE-USE, ALTERATION, OR MODIFICATION OF THIS DATA SHALL BE AT THE USER'S RISK WITH NO LIABILITY ON THE PART OF CHERENZIA.
- UPON AWARD OF THE CONTRACT AND PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND BONDS AND PAYING ALL STATE AND LOCAL FEES RELATING TO THE WORK SHOWN ON THESE PLANS. THE CONSTRUCTION SPECIFICATIONS, AND CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL NOTIFY DIG-SAFE AT LEAST 72 BUSINESS HOURS PRIOR TO INITIATING ANY EXCAVATION WORK.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. WHERE SITE SPECIFICATIONS ARE NOT PROVIDED, THE CONTRACTOR SHALL ADHERE TO LOCAL MUNICIPAL STANDARDS OR THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AS APPLICABLE. WORK WITHIN LOCAL RIGHTS-OF-WAY SHALL ADHERE TO LOCAL MUNICIPAL STANDARDS; WORK WITHIN STATE RIGHTS-OF-WAY SHALL ADHERE TO STATE HIGHWAY STANDARDS. IF A DISCREPANCY EXISTS, THE MORE RESTRICTIVE STANDARD SHALL APPLY.
- REFERENCE MADE TO "STATE HIGHWAY STANDARDS," "STATE STANDARD SPECIFICATIONS," "STANDARD SPECIFICATIONS," OR "RIPDES STANDARDS" SHALL MEAN AND BE DEFINED AS THE "RHODE ISLAND DEPARTMENT OF TRANSPORTATION - STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION."
- ANY WORK NOT MEETING THE APPROVED STANDARDS SHALL BE CORRECTED IMMEDIATELY AND REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- AS A CONDITION OF THE RIPDES PERMIT FOR THIS PROJECT, THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF THE RIPDES PERMIT THROUGHOUT CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE SECURITY AND JOB SAFETY AND SHALL CONFORM TO THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING ANY REQUIRED POLICE PROTECTION, ANY WITH THE TEMPORARY SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE LATEST "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
- THE CONTRACTOR SHALL NOT OBSTRUCT PUBLIC ROADWAYS, SIDEWALKS, OR FIRE HYDRANTS WITHOUT FIRST OBTAINING THE NECESSARY PERMITS TO DO SO.
- ACCESSIBLE ROUTES, PARKING SPACES, SIDEWALKS, AND RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FEDERAL "AMERICANS WITH DISABILITIES ACT (ADA)" AND LOCAL AND STATE STANDARDS. WHERE A DISCREPANCY EXISTS, THE MORE RESTRICTIVE STANDARD SHALL APPLY.
- THE LIMITS-OF-WORK (A.K.A. "LIMIT OF DISTURBANCE") SHALL BE AS SHOWN ON THESE PLANS. AREAS DISTURBED BEYOND THESE DEFINED LIMITS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. LANDSCAPE AREAS SHALL BE RESTORED WITH 6 INCHES OF LOAM AND SEED.
- SHOULD THE CONTRACTOR ENCOUNTER SUSPECTED CONTAMINATED SOIL, GROUNDWATER, OR OTHER MATERIAL DURING EXCAVATION, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK IN THE SUSPECTED AREA AND NOTIFY THE OWNER SO THAT APPROPRIATE ACTIONS AND TESTING CAN TAKE PLACE. UNLESS OTHERWISE NOTED ON THE PLANS, ALL UNPAVED/LANDSCAPE AREAS SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED WITHIN THE LIMITS OF WORK SHOWN ON THESE PLANS. THE OWNER SHALL EVENLY SPREAD, SMOOTHED, AND COMPACTED PRIOR TO SEEDING.
- PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT THEIR PROPOSED INTERFACES WITH PROPOSED PAVEMENTS TO ENSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.
- HORIZONTAL AND VERTICAL DATUMS ARE PROVIDED ON THE SURVEY PLANS.

UTILITIES:

- UTILITY CONTACTS
 - a. RICHMOND WATER DEPARTMENT (WATER)
LEON MILLIS, DIRECTOR
5 RICHMOND TOWNHOUSE ROAD
WYOMING, RI
401.539.9000 EXT. 24
 - b. COX COMMUNICATIONS (TEL, INTERNET, CABLE)
35 SOUTH COUNTY COMMONS WAY, STE D1
SOUTH KINGSTOWN, RI 02879
401.284.3444
 - c. NATIONAL GRID (ELECTRIC)
4145 QUAKER LANE
NORTH KINGSTOWN, RI 02891
800.322.3223
 - d. VERIZON NEW ENGLAND (TEL, INTERNET, CABLE)
185 FRANKLIN STREET
BOSTON, MA 02107
800.841.9900
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL UTILITY COMPANIES AND WORK TRADES ASSOCIATED WITH THE WORK SHOWN ON THESE PLANS.
- PRIVATE UTILITIES
 - a. SERVICES SHALL BE APPROVED BY AND CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS AND REQUIREMENTS OF PRIVATE UTILITY SERVICE PROVIDERS (TELEPHONE, ELECTRIC, FIRE ALARM, CABLE, FIBER, ETC.)
 - b. CONTRACTOR SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ALL ELECTRIC WORK. THE CONTRACTOR SHALL ALSO FURNISH AND INSTALL CONCRETE ENCASUREMENT FOR DUCT BANKS, IF REQUIRED BY THE ELECTRIC COMPANY. PULLING OF ELECTRICAL CONDUIT SHALL BE BY THE ELECTRIC COMPANY.
- EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATION BASED ON BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE LOCATION, SIZE, MATERIAL(S), AND ELEVATION OF ALL EXISTING UTILITIES WITHIN THE LIMIT OF WORK PRIOR TO ORDERING OR INSTALLING THESE MATERIALS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES OR UTILITY CONFLICTS PRIOR TO CONSTRUCTION.
- WHERE AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED WORK, OR WHERE EXISTING CONDITIONS DIFFER FROM THE INFORMATION SHOWN ON THESE PLANS, SUCH THAT THE WORK CAN NOT BE COMPLETED AS INTENDED, THE CONTRACTOR SHALL IMMEDIATELY IDENTIFY AND PROVIDE THE ENGINEER WITH THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY IN CONFLICT. THE CONTRACTOR SHALL NOT CONTINUE WORK IN THIS AREA UNTIL THE APPROPRIATE REMEDIAL ACTION IS AGREED UPON BY THE OWNER AND ENGINEER.
- THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO OVERHEAD AND/OR UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THESE PLANS THROUGHOUT WORK ON THIS PROJECT.
- UTILITY PIPING SHALL BE CONSTRUCTED OF THE FOLLOWING MATERIALS, UNLESS OTHERWISE NOTED ON THE PLANS.

- a. WATER PIPES SHALL BE C900 POLYVINYL CHLORIDE (PVC)
- b. SANITARY SEWER PIPES SHALL BE SDR35 POLYVINYL CHLORIDE (PVC)
- c. STORM DRAINAGE PIPES SHALL BE HIGH-DENSITY POLYETHYLENE (HDPE)
- d. ALL DRAINAGE AND SANITARY SEWER MANHOLE DIAMETERS SHALL BE A MINIMUM OF FOUR (4) FEET AND AS DETERMINED BY THE MANHOLE MANUFACTURER(S), BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS AND LOCAL MUNICIPAL STANDARDS.
- e. ALL STRUCTURES UNDER PAVED AREAS SHALL BE DESIGNED TO MEET HS-20 TRUCK LOAD.

LAYOUT AND MATERIALS NOTES

- THE CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.
- SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THE ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
- DIMENSIONS ARE TO/FROM FACE OF CURB; FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED ON THESE PLANS.
- PROPOSED BOUNDS AND ANY OTHER EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
- ANY CONTRACTOR SHALL PROVIDE TEMPORARY BITUMINOUS PATCH FOR ANY TRENCH WORK WITHIN PAVEMENT OR SIDEWALK AREAS IN PUBLIC RIGHTS-OF-WAY UNTIL PERMANENT PATCHING IS INSTALLED.
- CURBING SHALL BE PRECAST CONCRETE CURB (PCC) WITH A 3-FOOT RADIUS (3'R), UNLESS OTHERWISE NOTED ON THE PLANS.

DEMOLITION

- WITHIN THE LIMIT OF WORK/DISTURBANCE, THE CONTRACTOR SHALL CLEAR AND GRUB ALL EXISTING VEGETATION AND STOCKPILE AND SCREEN TOPSOIL FOR RE-USE IN LANDSCAPE AREAS. THE CONTRACTOR SHALL ALSO REMOVE AND DISPOSE OF ALL EXISTING MANMADE FEATURES, INCLUDING BUT NOT LIMITED TO BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, WALLS, FENCES, UTILITIES (BOTH OVERHEAD AND UNDERGROUND), SIGNS, ETC., EXCEPT AS OTHERWISE NOTED ON THESE PLANS.
- WITHIN THE PROPOSED BUILDING ENVELOPE, AND TO A DISTANCE OF 10 FEET AROUND THE BUILDING PERIMETER, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL UNSUITABLE MATERIALS AND SHALL FURNISH AND INSTALL GRAVEL FILL (SEE SPECIFICATION) TO THE PROPOSED BUILDING SUBGRADE.
- THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
- THE EXTENT OF DEMOLITION DEPICTED ON THESE PLANS IS INTENDED TO AID THE CONTRACTOR IN BIDDING THE PROJECT AND IS NOT NECESSARILY INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE FULL EXTENTS OF THE DEMOLITION WORK PRIOR TO CONTRACT AWARD AND SHALL NOT BE COMPENSATED FOR UNFORESEEN CONDITIONS ONCE THE WORK HAS COMMENCED.
- EXISTING UTILITIES SHALL BE TERMINATED IN CONFORMANCE WITH APPLICABLE FEDERAL, STATE, LOCAL, AND SERVICE PROVIDER REQUIREMENTS.
- UNLESS OTHERWISE SPECIFICALLY PROVIDED ON THESE PLANS, THE ENGINEER HAS NOT PREPARED PLANS FOR THE DISCOVERY, REMOVAL, ABATEMENT, OR DISPOSAL OF ANY HAZARDOUS OR TOXIC MATERIALS FOUND DURING CONSTRUCTION.

SITE SPECIFIC DATA

- TOTAL SITE AREA = 203.7± ACRES
- TOTAL AREA OF DISTURBANCE = 19.0± ACRES
- NATURAL HERITAGE AREA (NHA) IMPACT = NO
- WATERSHED = UNNAMED STREAM THAT IS TRIBUTARY TO MEADOW BROOK: RI0008039R-13 (NO TMDL)

EROSION CONTROLS/CONSTRUCTION SEQUENCING

- PRIOR TO THE START OF CONSTRUCTION OF ANY EARTHWORK ACTIVITIES, THE CONTRACTOR SHALL NOTIFY ALL APPLICABLE AGENCIES AND INSTALL THE EROSION CONTROL MEASURES SHOWN ON THESE PLANS IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL PERMITS PERTAINING TO THIS PROJECT.
- THE CONTRACTOR SHALL KEEP A COPY OF THE "SOIL EROSION AND SEDIMENTATION CONTROL PLAN" (SESC) AND THE APPROVED PLAN SET AT THE CONSTRUCTION SITE AT ALL TIMES.
- THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES SHOWN ON THE PLAN SET IN ACCORDANCE WITH THE SESC AND THE MOST RECENT EDITION OF THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK."
- THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN AND/OR UPGRADE THESE MEASURES, AS NECESSARY, THROUGHOUT CONSTRUCTION, TO MEET THE REQUIREMENTS OF ALL RELATED PERMITS FOR THE PROJECT.
- THE CONTRACTOR SHALL PREPARE AND MAINTAIN A RED-LINED COPY OF THE SESC PLAN SHOWING INTENDED AREAS FOR STAGING, STOCKPILING, WASHOUT, SOLID WASTE CONTAINMENT, AND TEMPORARY SEDIMENTATION CONTROL AREAS. ALL SUCH AREAS SHALL BE LOCATED OUTSIDE OF REGULATED WETLAND AREAS OR AREAS INTENDED FOR INFILTRATION PRACTICES.
- EROSION CONTROL DEVICES
 - a. AT LEAST ONE STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED FOR ACCESS TO THE PROJECT BY CONSTRUCTION VEHICLES. THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED BEFORE CONSTRUCTION VEHICLES WILL BE ALLOWED TO ENTER THE CONSTRUCTION SITE. ADDITIONAL ENTRANCES/EXITS SHALL BE INSTALLED, IF MORE THAN ONE ACCESS POINT IS ANTICIPATED BY THE CONTRACTOR. A WASH OUT PAD MAY ALSO BE INSTALLED TO WASH CONSTRUCTION VEHICLES EXITING THE CONSTRUCTION SITE SHALL BE CLEAN AT THE END OF EACH WORK DAY.
 - b. ROADS ADJACENT TO THE CONSTRUCTION SITE SHALL BE CLEAN AT THE END OF EACH WORK DAY.
 - c. TEMPORARY SEDIMENT BASINS MAY BE EXCAVATED OR BERMED/HAYBALED AND SHALL BE SIZED IN ACCORDANCE WITH THE "RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL" AND THE "RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK." THE DISCHARGE LOCATION FROM THESE BASINS SHALL BE STABILIZED TO PREVENT EROSION.
 - d. STRAW WATTLE OR SILT SACKS SHALL BE INSTALLED AT ALL DOWN-GRADE CATCH BASINS WITHIN THE LIMIT OF WORK TO CONTROL EROSION AND SEDIMENTATION AND TO PROTECT OFF-SITE AREAS. THESE DEVICES SHALL BE INSTALLED AS SHOWN ON THE E&S CONTROL PLAN PRIOR TO INITIATION OF MAJOR SITE WORK ACTIVITIES AND SHALL BE MAINTAINED/REPAIRED UNTIL FINAL STABILIZATION OF ALL DISTURBED AREAS.
 - e. SILT FENCE SHALL BE INSTALLED AROUND ALL EARTH STOCKPILES.
- ALL OTHER EROSION CONTROL DEVICES SHOWN ON THESE PLANS SHALL BE INSTALLED IN ACCORDANCE WITH RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL AND THE "RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK."
- THE EROSION CONTROL MEASURES SHOWN ON THESE PLANS ARE INTENDED TO BE THE MINIMUM NECESSARY AT THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN AND SUPPLEMENT THESE EROSION CONTROLS, AS NECESSARY THROUGHOUT CONSTRUCTION, TO PREVENT DAMAGE TO WETLANDS AND/OR SURROUNDING PROPERTIES.
- THE CONTRACTOR SHALL PREVENT DUST, DEBRIS, OR SEDIMENTS FROM LEAVING THE SITE DURING CONSTRUCTION AND SHALL BE RESPONSIBLE TO REPAIR, CLEAN UP, OR TAKE OTHER CORRECTIVE ACTION IMMEDIATELY OR NO LATER THAN 24 HOURS AFTER ANY ISSUE ARISES.
- THE CONTRACTOR SHALL CONTROL CONSTRUCTION STORMWATER RUNOFF IN SUCH A MANNER AS TO PREVENT DAMAGE TO DOWN-GRADE PROPERTIES; ANY PROPERTIES SO DAMAGED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL DEVICES ON A WEEKLY BASIS AND WITHIN 12 HOURS AFTER A RAINFALL EVENT. THE CONTRACTOR SHALL IMMEDIATELY REPAIR DAMAGED DEVICES AND SHALL REMOVE ACCUMULATED SEDIMENTS IN ACCORDANCE WITH LOCAL REQUIREMENTS AND THE RIPDES PERMIT, WHEN APPLICABLE. ACCUMULATED SEDIMENTS SHALL BE REMOVED FROM THE SITE OR PLACED AWAY FROM WETLANDS AND CLOSED DRAINAGE SYSTEMS.
- THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PERFORM EARTHWORK IN PHASES THAT ALLOW FOR STABILIZATION OF THESE AREAS IN A RELATIVELY SHORT TIME PERIOD AND TO DISCOURAGE EROSION AND SEDIMENTATION. ANY EXPOSED SOILS INTENDED TO REMAIN FOR MORE THAN 14 DAYS SHALL BE STABILIZED WITH MULCH, OR TEMPORARY SEED AND WATERED TO ENCOURAGE VEGETATION.
- THE CONTRACTOR SHALL INSTALL PERMANENT SEEDING BETWEEN APRIL 15TH AND JUNE 15TH AND/OR AUGUST 15TH TO OCTOBER 15TH.
- THE CONTRACTOR SHALL APPLY PERMANENT SOIL STABILIZATION MEASURES TO ALL GRADED AREAS WITHIN SEVEN (7) DAYS OF ESTABLISHING FINAL GRADE.
- THE CONTRACTOR SHALL PERFORM A FINAL INSPECTION OF ALL EXISTING CATCH BASINS, DRAINAGE PIPING, AND ASSOCIATED DRAINAGE STRUCTURES WITHIN THE PROJECT LIMITS TO ENSURE THAT ALL SEDIMENTS HAVE BEEN REMOVED BEFORE WORK IS DEEMED COMPLETE.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL E&S MEASURES ONLY AFTER FINAL PAVEMENT IS PLACED AND VEGETATION IN LANDSCAPE AREAS IS WELL ESTABLISHED.

INFILTRATION AREAS

TO ENSURE THE LONG-TERM FUNCTION AND VALUE OF ANY AREA PROPOSED FOR INFILTRATION, INCLUDING BUT NOT LIMITED TO BIORETENTION BASINS, SAND FILTERS, SURFACE INFILTRATION BASINS, AND SUBSURFACE INFILTRATION CHAMBERS, THE CONTRACTOR SHALL EXERCISE THE FOLLOWING BEST MANAGEMENT PRACTICES THROUGHOUT CONSTRUCTION:

- THESE AREAS SHALL NOT BE USED FOR TEMPORARY CONSTRUCTION SEDIMENTATION CONTROL, SEDIMENTATION BASINS, OR DEWATERING AREAS.
- THESE AREAS SHALL REMAIN OFF-LINE UNTIL THE ENTIRE CONSTRUCTION AREA CONTRIBUTING TO THESE AREAS HAS BEEN STABILIZED WITH BUILDINGS, BUILDING FOUNDATIONS, PAVEMENT, OR VEGETATION, AS APPLICABLE.
- STORMWATER RUNOFF DURING CONSTRUCTION SHALL BE DIRECTED AWAY FROM THESE AREAS TO THE GREATEST EXTENT PRACTICABLE. WHERE NOT FEASIBLE, THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROLS UP-GRADE OF THESE AREAS TO PREVENT SEDIMENTATION OF THESE AREAS DURING CONSTRUCTION.
- THE SUBGRADE BELOW THESE AREAS SHALL NOT BE COMPACTED; THEREFORE, THE CONTRACTOR SHALL RESTRICT ACCESS TO THESE AREAS BY HEAVY EQUIPMENT AND SHALL NOT USE THESE AREAS FOR MATERIALS STOCKPILES.
- EXCAVATION AND CONSTRUCTION OF THESE AREAS SHALL BE PERFORMED USING HAND OR HYDRAULIC EQUIPMENT TO ENSURE THAT THE NATURAL FILTRATION EARTH MATERIAL IS NOT DISTURBED OR OTHERWISE COMPACTED.
- UPON COMPLETION OF CONSTRUCTION OF ANY OF THESE AREAS, THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES TO PREVENT SILTATION OF THE FILTER MATERIALS.

CONSTRUCTION PHASING

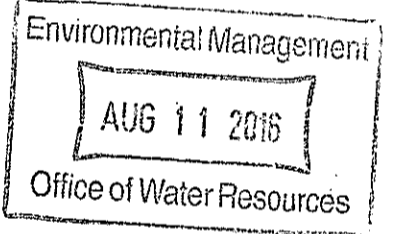
THE PROJECT SHALL BE CONSTRUCTED IN THE FOLLOWING PHASES:

- PHASE 1: HOTEL AND SURROUNDING BUILDINGS, POOL, WALKS, DUTS, UNDERGROUND INFILTRATION SYSTEM, AND SAND FILTER.
- PHASE 2: MAJORITY OF PARKING LOT, MAJOR ACCESS DRIVE, AND INFILTRATION BASIN.
- PHASE 3: HIGHER ELEVATIONS OF PROJECT, REMAINING ACCESS DRIVE, REMAINING TWO PARKING LOTS, DRAINAGE SWALE, AND LODGE BUILDING.

REFER TO SESC AND PLANS FOR MORE INFORMATION ON PROJECT PHASING.

CHERENZIA & ASSOCIATES, LTD.
 59 Mechanic St.
 Pawtucket, CT 06379
 Tel: 860.299.6500
 Fax: 860.599.6090
 P.O. Box 513
 Westbury, RI 02891
 Tel: 401.396.7747
 www.cherenzia.com

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 c/o PAUL MIHALIDES
 2001 NOOSENECK HILL ROAD
 COVENTRY, RI 02816



PLAN REVISIONS					
REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY	
1	5/12/16	OWTS/TOWN SUBMISSION	GAB/	AKG	CNB
2	5/25/16	TOWN PLANNER COMMENTS	AKG		CNB
3	6/27/16	EDITS PER DEM COMMENTS	AKG		CNB

CA JOB # 215113
 APRIL 11, 2016

DRAWN BY: AKG
 CHECK BY: CNB

ISSUED FOR PERMITTING

LEGEND & GENERAL NOTES

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED SEP 8 2016 FILE # 16-0096
 (NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL)
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Hester

PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 PROFESSIONAL ENGINEER
 CIVIL
CHERENZIA & ASSOCIATES, LTD.

C-1

SHEET 1 OF 23

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT

c/o PAUL MIHALIDES
 2001 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
 AUG 11 2016
 Office of Water Resources

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SCALE: 1"=40'
 CA JOB # 215113
 APRIL 11, 2016

DRAWN BY: AKG
 CHECK BY: CNB

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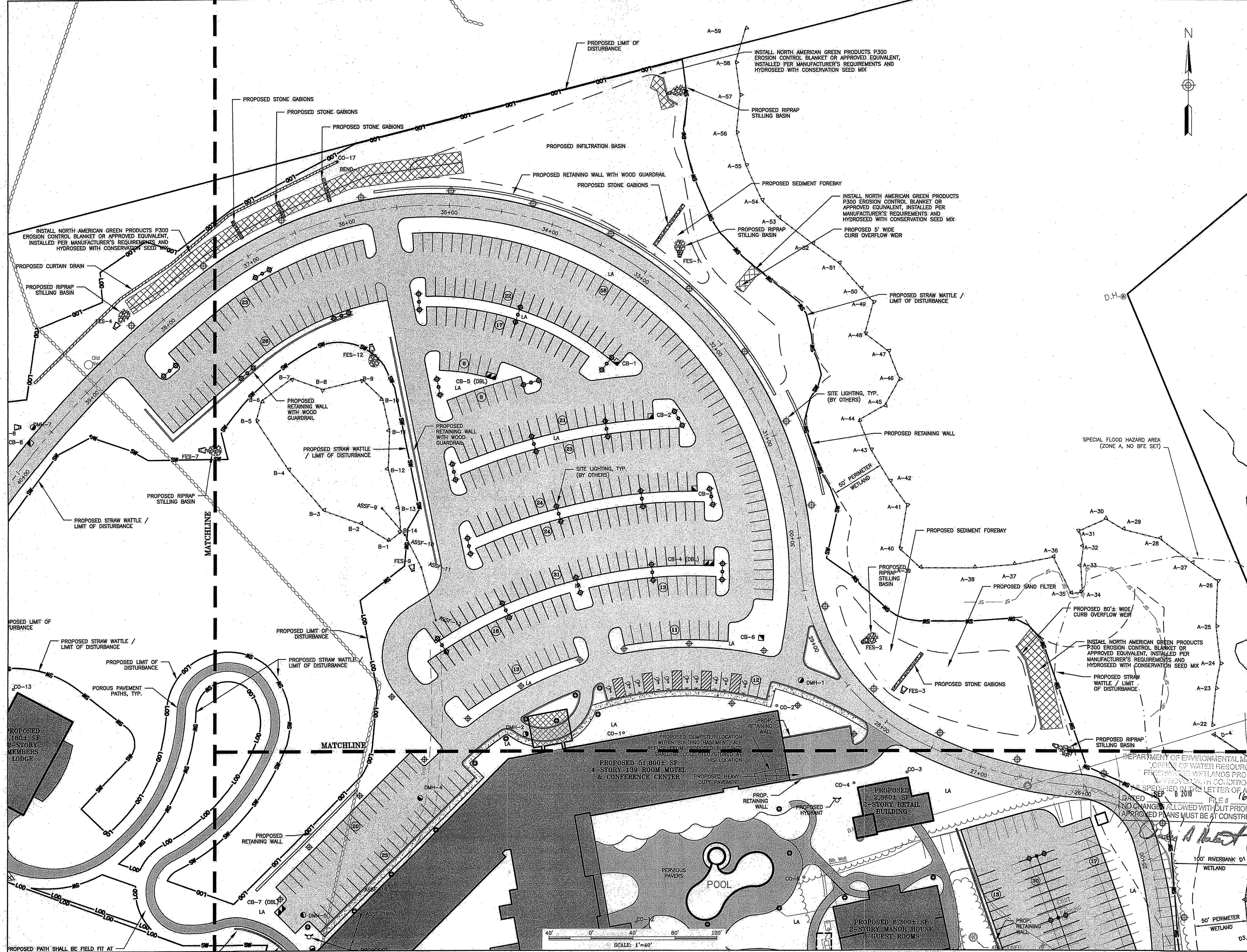
LAYOUT AND MATERIALS PLAN NORTH

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 PERMITTING WITHLANDS PROGRAM
 APPROVED WITH CONDITIONS
 SPECIFIED IN THE LETTER OF APPROVAL
 DATED SEP 8 2016 FILE # 16-0096
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THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)
C-3
 SHEET 3 OF 23
CHERENZIA & ASSOCIATES, LTD.



THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 c/o PAUL MIHALIDES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

ZONING CHART

	REQUIRED PD ZONE	PROVIDED
LOT AREA (SF)	1 ACRE	204 ACRES
FRONTAGE (FT)	150'	600' SPRINGBROOK ROAD
MAXIMUM BUILDING COVERAGE	10%	1%
MAXIMUM HEIGHT		
PRINCIPAL BUILDING (FT)	40 FT	40 FT
BLDG SETBACK		
- FRONT SETBACK (FT)	20'	490' SPRINGBROOK ROAD
- SIDE SETBACK (FT)	35'	307'
- REAR SETBACK (FT)	50'	204'

PARKING CHART

	REQUIRED*	PROVIDED
STD SPACES	517	543
ADA SPACES	11	12
TOTAL SPACES	528	555

*REQUIRED =
 CLUBHOUSE: 403 CAPACITY / 4 = 101 SPACES
 RETAIL: 4,100 SF / 90 + 2 = 59 SPACES
 HOTEL & LODGE: 155 UNITS X 1 + 5 = 160 SPACES
 RESTAURANT: 132 CAPACITY / 4 = 33 SPACES
 BANQUET HALL: 437 CAPACITY / 4 = 110 SPACES
 OTHER: 10,500 SF / 250 = 42 SPACES
TOTAL: 528 SPACES

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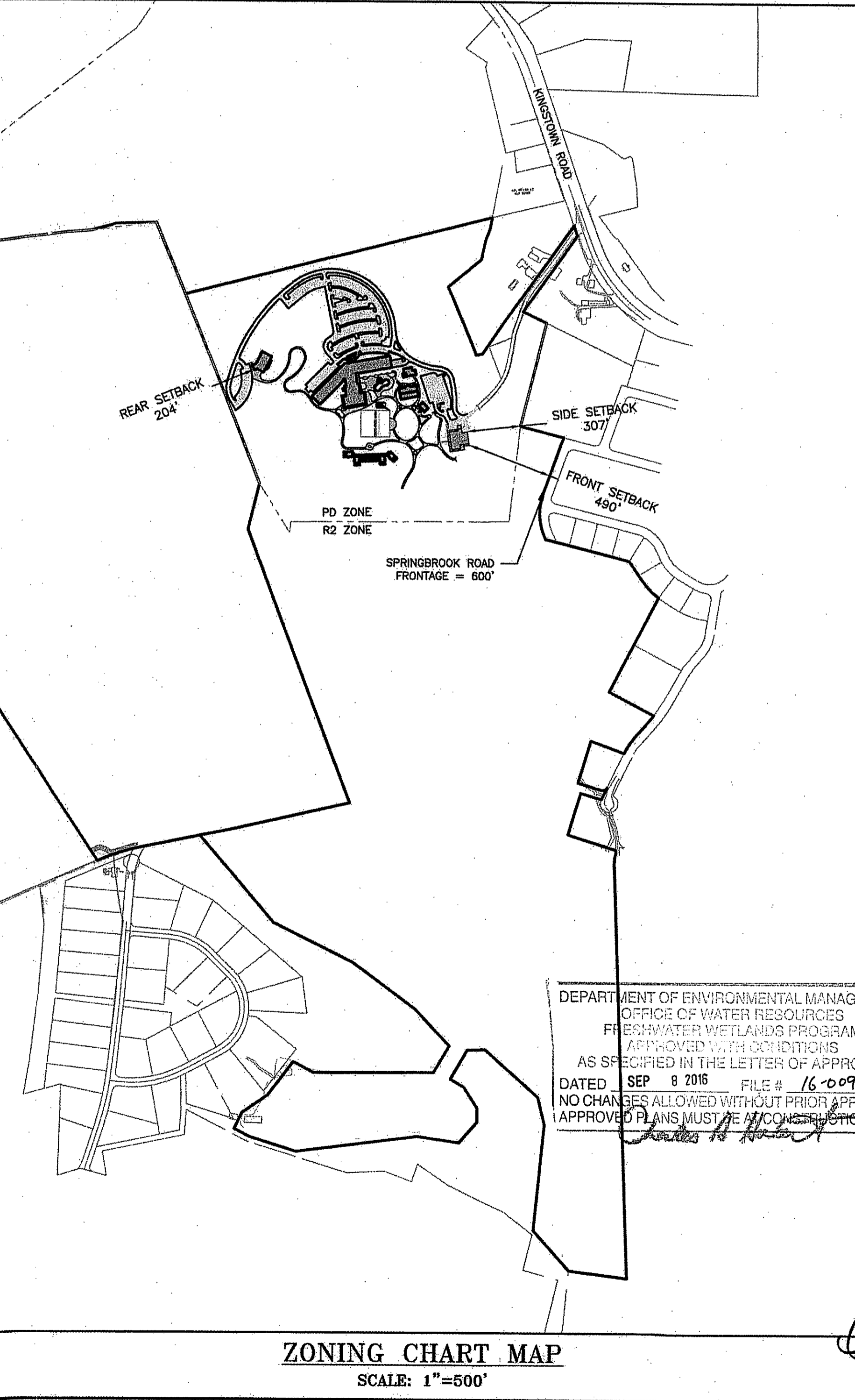
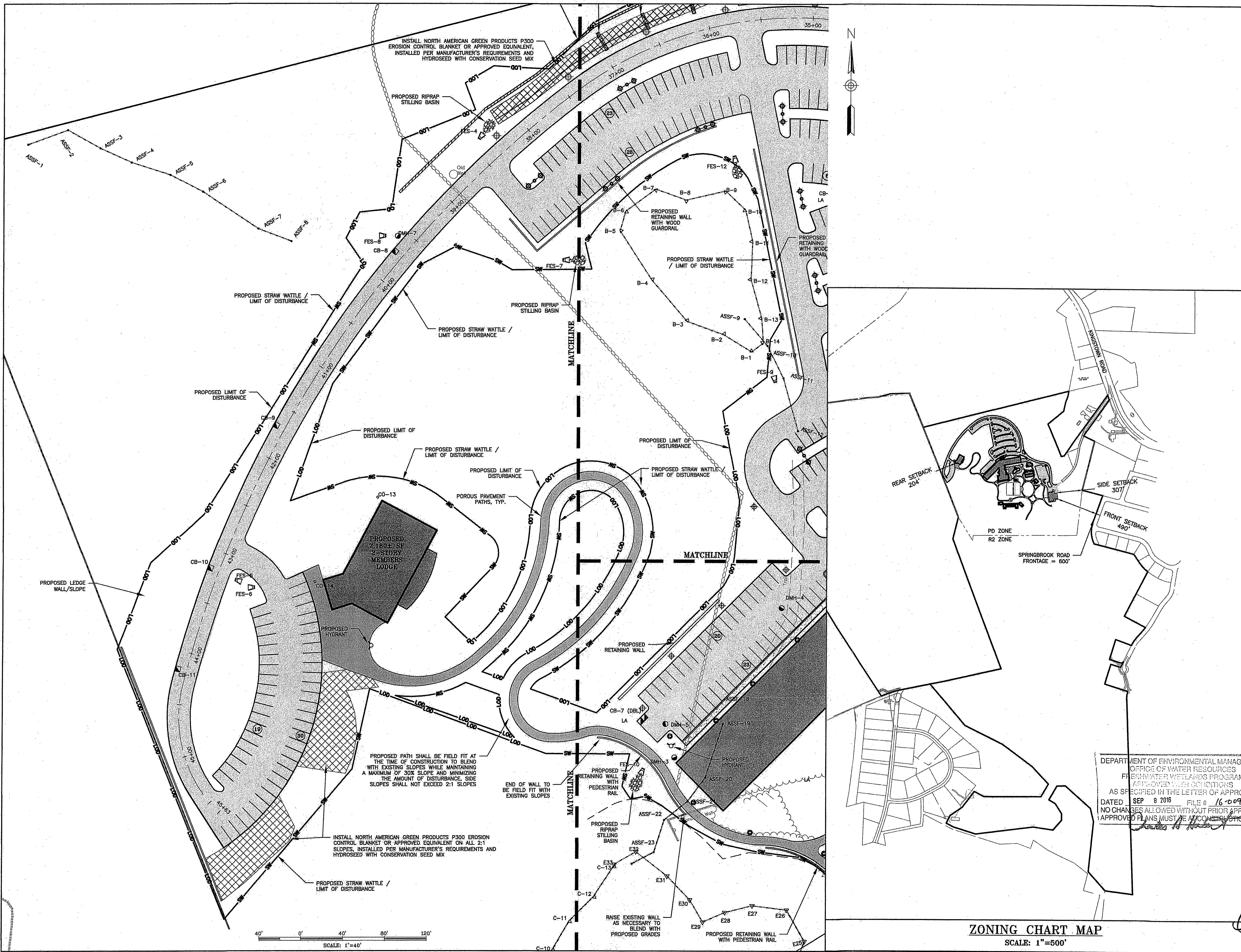
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LAYOUT AND MATERIALS PLAN WEST

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)
C-4
 SHEET 4 OF 23
CHERENZIA & ASSOCIATES, LTD.



ZONING CHART MAP
 SCALE: 1"=600'

40' 0' 40' 80' 120'
 SCALE: 1"=40'

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT

c/o PAUL MIHALIDES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

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 CA JOB # 216113
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GRADING AND DRAINAGE PLAN SOUTH

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

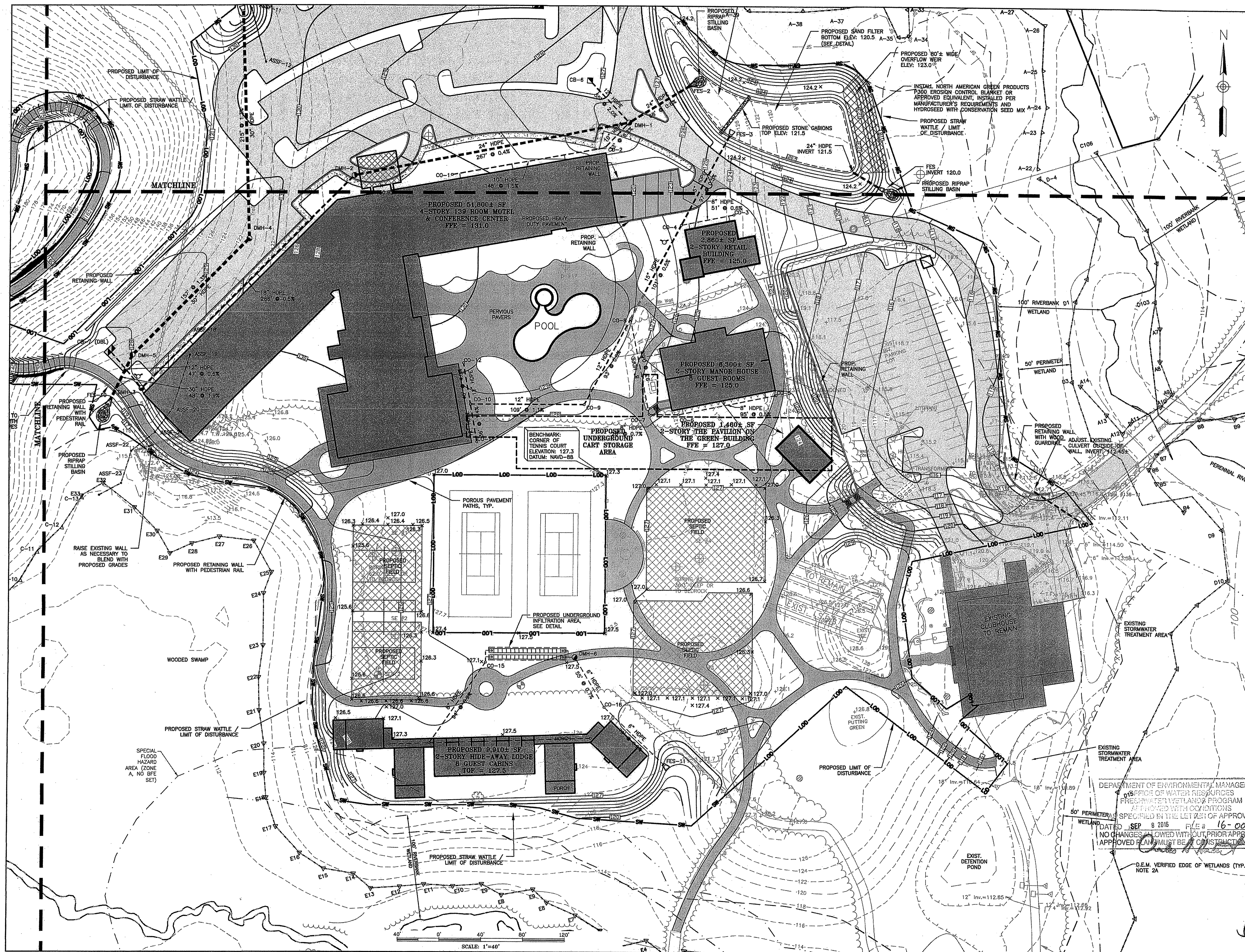
PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

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 No. 5701
 PROFESSIONAL ENGINEER
 CIVIL

C-5

SHEET 5 OF 23

CHERENZIA & ASSOCIATES, LTD.



SCALE: 1"=40'

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 c/o PAUL MIHALIDES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

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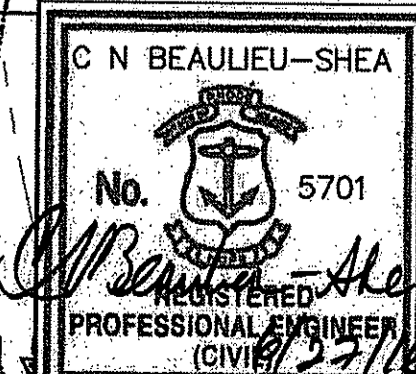
ISSUED FOR PERMITTING

GRADING AND DRAINAGE PLAN NORTH

ENVIRONMENTAL MANAGEMENT
 STATE OF RHODE ISLAND
 DIVISION OF WATER RESOURCES
 WITH CONDITIONS
 LETTER OF APPROVAL
 SEP 8 2016 FILE # 16-0096
 LAND CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED CHANGES MUST BE AT CONSTRUCTION SITE

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

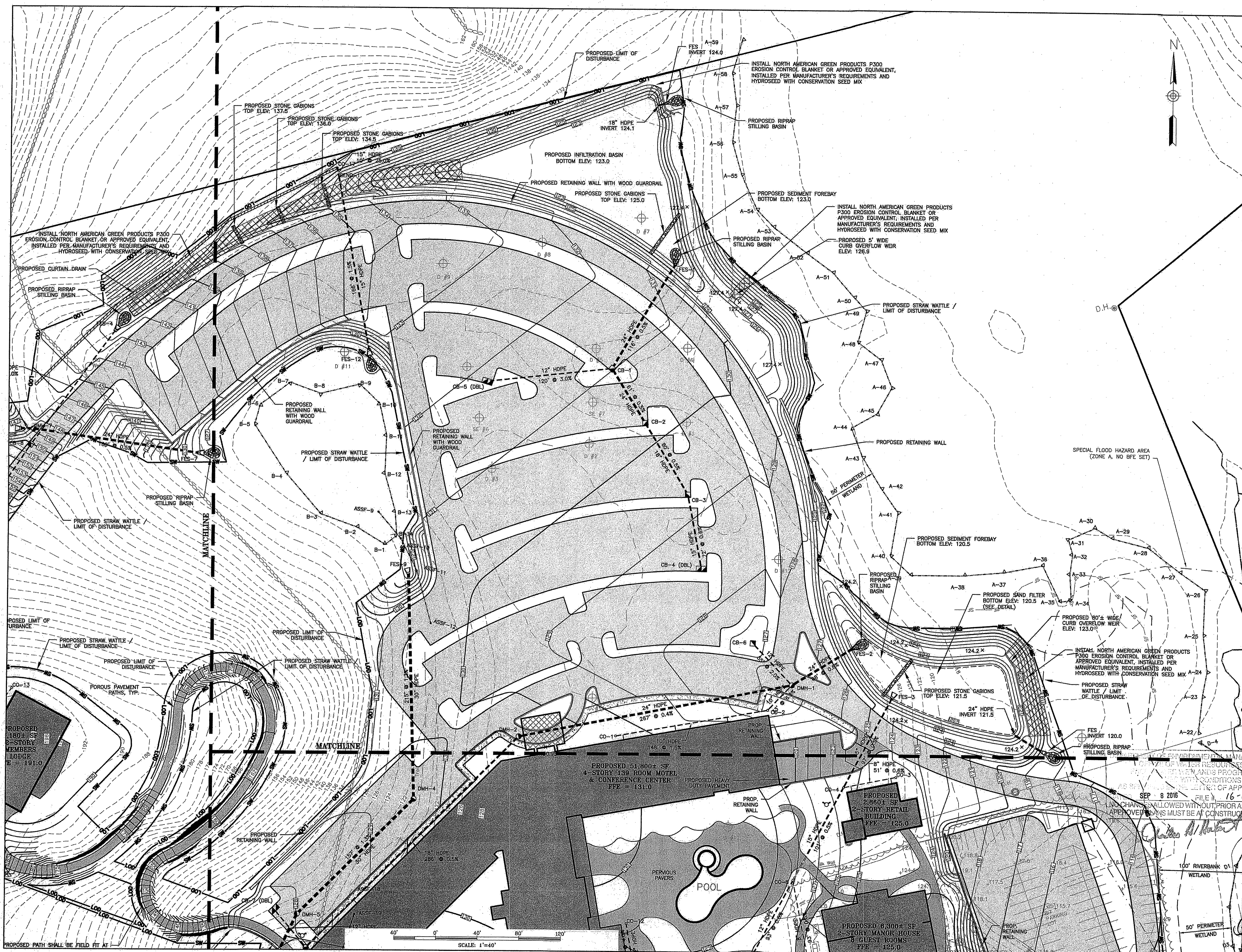
PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT



C-6

SHEET 6 OF 23

CHERENZIA & ASSOCIATES, LTD.



SCALE: 1"=40'

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT

c/o PAUL MHAILEDDES
 2001 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

- INTEGRATION AREAS**
1. THESE AREAS SHALL NOT BE USED FOR TEMPORARY CONSTRUCTION SEDIMENTATION CONTROL, SEDIMENTATION BASINS, OR DEWATERING AREAS.
 2. THESE AREAS SHALL REMAIN OFF-LINE UNTIL THE ENTIRE CONSTRUCTION AREA CONTRIBUTING TO THESE AREAS HAS BEEN STABILIZED WITH BUILDINGS, BUILDING FOUNDATIONS, PAVEMENT, OR VEGETATION, AS APPLICABLE.
 3. STORMWATER RUNOFF DURING CONSTRUCTION SHALL BE DIRECTED AWAY FROM THESE AREAS TO THE GREATEST EXTENT PRACTICABLE. WHERE NOT FEASIBLE, THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROLS UP-GRADE OF THESE AREAS TO PREVENT SEDIMENTATION OF THESE AREAS DURING CONSTRUCTION.
 4. THE SUBGRADE BELOW THESE AREAS SHALL NOT BE COMPACTED; THEREFORE, THE CONTRACTOR SHALL RESTRICT ACCESS TO THESE AREAS BY HEAVY EQUIPMENT AND SHALL NOT USE THESE AREAS FOR MATERIALS STOCKPILES.
 5. EXCAVATION AND CONSTRUCTION OF THESE AREAS SHALL BE PERFORMED USING HAND OR HYDRAULIC EQUIPMENT TO ENSURE THAT THE NATURAL FILTRATION EARTH MATERIAL IS NOT DISTURBED OR OTHERWISE COMPACTED.
 6. UPON COMPLETION OF CONSTRUCTION OF ANY OF THESE AREAS, THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES TO PREVENT SILTATION OF THE FILTER MATERIALS.
- CONSTRUCTION PHASING**
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- PHASE 2: MAJORITY OF PARKING LOT, MAJOR ACCESS DRIVE, AND INFILTRATION BASIN.
- PHASE 3: HIGHER ELEVATIONS OF PROJECT, REMAINING ACCESS DRIVE, REMAINING TWO PARKING LOTS, DRAINAGE SWALE, AND LODGE BUILDING.
- REFER TO SESC AND PLANS FOR MORE INFORMATION ON PROJECT PHASING.

Environmental Management
 AUG 11 2016
 Office of Water Resources

LEGEND

- X- TEMPORARY SNOW FENCE
- ← FLOW DIRECTION
- DRAINAGE DIVIDE DURING CONSTRUCTION
- CONSTRUCTION PHASING
- ALLOWABLE STAGING/STOCKPILING AREA
- LOD LOD
- SW STRAW WATTLE

PLAN REVISIONS

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 CHECK BY: CNB

ISSUED FOR PERMITTING

SOIL EROSION AND SEDIMENT CONTROL PLAN PHASE 1 & DETAILS

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

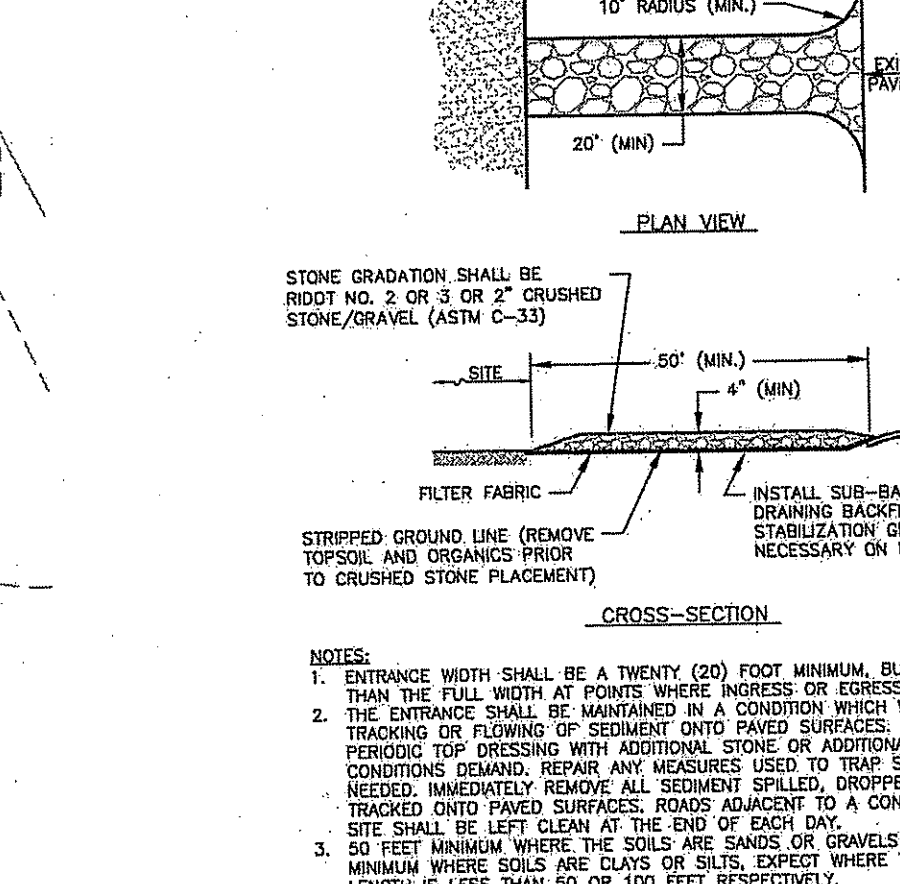
PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 C-8
 SHEET 8 OF 23
CHERENZIA & ASSOCIATES, LTD.

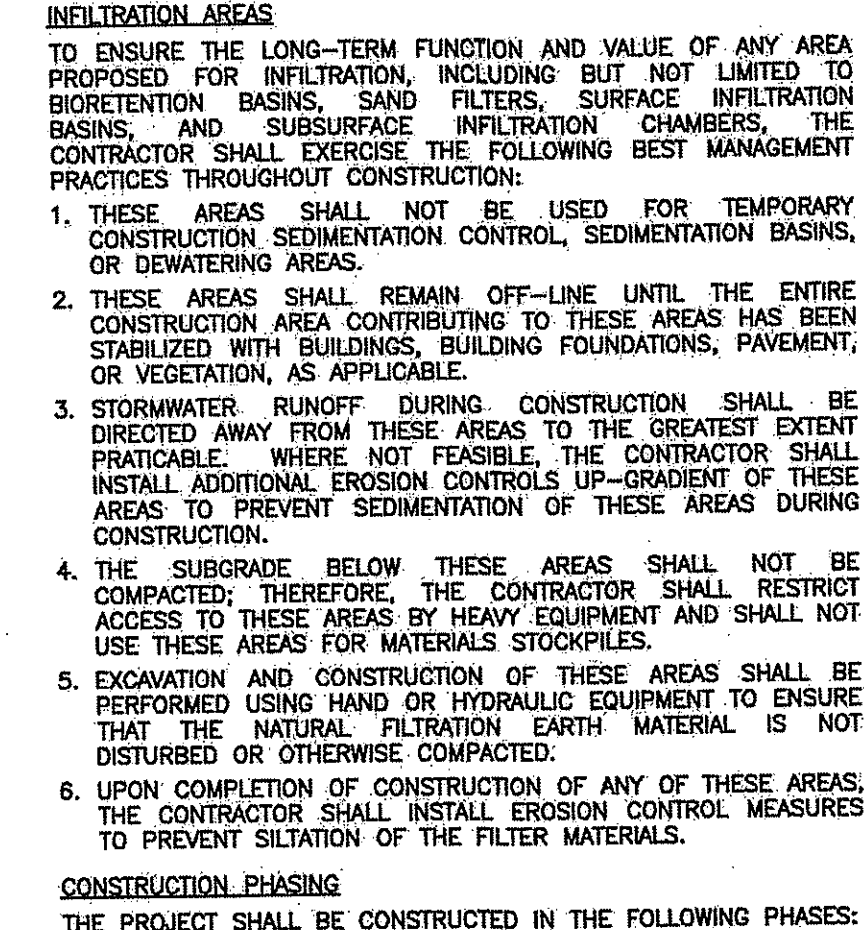
- SITE SPECIFIC DATA**
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 2. TOTAL AREA OF DISTURBANCE = 19.0± ACRES
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- EROSION CONTROL/CONSTRUCTION SEQUENCING**
1. PRIOR TO THE START OF CONSTRUCTION OF ANY EARTHWORK ACTIVITIES, THE CONTRACTOR SHALL NOTIFY ALL APPLICABLE AGENCIES AND INSTALL THE EROSION CONTROL MEASURES SHOWN ON THESE PLANS IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL PERMITS PERTAINING TO THIS PROJECT.
 2. THE CONTRACTOR SHALL KEEP A COPY OF THE "SOIL EROSION AND SEDIMENTATION CONTROL PLAN" (SESC) AND THE APPROVED PLAN SET AT THE CONSTRUCTION SITE AT ALL TIMES.
 3. THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES SHOWN ON THE PLAN SET IN ACCORDANCE WITH THE SESC AND THE MOST RECENT EDITION OF THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK."
 4. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN AND/OR UPGRADE THESE MEASURES, AS NECESSARY, THROUGHOUT CONSTRUCTION, TO MEET THE REQUIREMENTS OF ALL RELATED PERMITS FOR THE PROJECT.
 5. THE CONTRACTOR SHALL PREPARE AND MAINTAIN A RED-LINED COPY OF THE SESC PLAN SHOWING INTENDED AREAS FOR STAGING, STOCKPILING, WASHOUT, SOLID WASTE CONTAINMENT, AND TEMPORARY SEDIMENTATION CONTROL AREAS. ALL SUCH AREAS SHALL BE LOCATED OUTSIDE OF REGULATED WETLANDS OR AREAS INTENDED FOR INFILTRATION PRACTICES.
 6. EROSION CONTROL DEVICES
 - a. AT LEAST ONE STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED FOR ACCESS TO THE PROJECT BY CONSTRUCTION VEHICLES. THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED BEFORE CONSTRUCTION VEHICLES WILL BE ALLOWED TO ENTER THE CONSTRUCTION SITE. ADDITIONAL ENTRANCES/EXITS SHALL BE INSTALLED, IF MORE THAN ONE ACCESS POINT IS ANTICIPATED BY THE CONTRACTOR. A WASH OUT PAD MAY ALSO BE INSTALLED TO WASH CONSTRUCTION VEHICLES EXITING THE SITE.
 - b. ROADS ADJACENT TO THE CONSTRUCTION SITE SHALL BE CLEAN AT THE END OF EACH WORK DAY.
 - c. TEMPORARY SEDIMENT BASINS MAY BE EXCAVATED OR BERMED/HAYBALED AND SHALL BE SIZED IN ACCORDANCE WITH THE "RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL" AND THE "RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK." THE DISCHARGE LOCATION FROM THESE BASINS SHALL BE STABILIZED TO PREVENT EROSION.
 - d. STRAW WATTLE OR SILT SACKS SHALL BE INSTALLED AT ALL DOWN-GRADIENT CATCH BASINS WITHIN THE LIMIT OF WORK TO CONTROL EROSION AND SEDIMENTATION AND TO PROTECT OFF-SITE AREAS. THESE DEVICES SHALL BE INSTALLED AS SHOWN ON THE E&S CONTROL PLAN PRIOR TO INITIATION OF MAJOR SITE WORK ACTIVITIES AND SHALL BE MAINTAINED/REPAIRED UNTIL FINAL STABILIZATION OF ALL DISTURBED AREAS.
 - e. SILT FENCE SHALL BE INSTALLED AROUND ALL EARTH STOCKPILES.
 - f. ALL OTHER EROSION CONTROL DEVICES SHOWN ON THESE PLANS SHALL BE IN ACCORDANCE WITH "RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL" AND THE "RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK."

7. THE EROSION CONTROL MEASURES SHOWN ON THESE PLANS SHALL BE THE MINIMUM NECESSARY AT THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN AND SUPPLEMENT THESE EROSION CONTROLS, AS NECESSARY THROUGHOUT CONSTRUCTION, TO PREVENT DAMAGE TO WETLANDS AND/OR SURROUNDING PROPERTIES.
8. THE CONTRACTOR SHALL PREVENT DUST, DEBRIS, OR SEDIMENTS FROM LEAVING THE SITE DURING CONSTRUCTION AND SHALL BE RESPONSIBLE TO REPAIR, CLEAN UP, OR TAKE OTHER CORRECTIVE ACTION IMMEDIATELY OR NO LATER THAN 24 HOURS AFTER ANY ISSUE ARISES.
9. THE CONTRACTOR SHALL CONTROL CONSTRUCTION STORMWATER RUNOFF IN SUCH A MANNER AS TO PREVENT DAMAGE TO DOWN-GRADIENT PROPERTIES; ANY PROPERTIES SO DAMAGED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
10. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL DEVICES ON A WEEKLY BASIS AND WITHIN 12 HOURS AFTER A RAINFALL EVENT. THE CONTRACTOR SHALL IMMEDIATELY REPAIR DAMAGED DEVICES AND SHALL REMOVE ACCUMULATED SEDIMENTS IN ACCORDANCE WITH LOCAL REQUIREMENTS AND THE RIDGES PERMIT. WHEN APPLICABLE, ACCUMULATED SEDIMENTS SHALL BE REMOVED FROM THE SITE OR PLACED AWAY FROM WETLANDS AND CLOSED DRAINAGE SYSTEMS.
11. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PERFORM EARTHWORK IN PHASES THAT ALLOW FOR STABILIZATION OF THESE AREAS IN A RELATIVELY SHORT TIME PERIOD AND TO DISCOURAGE EROSION AND SEDIMENTATION. ANY EXPOSED SOILS INTENDED TO REMAIN FOR MORE THAN 1 DAY SHALL BE STABILIZED WITH MULCH, OR TEMPORARY SEED AND WATERED TO ENCOURAGE VEGETATION.
12. THE CONTRACTOR SHALL INSTALL PERMANENT SEEDING BETWEEN APRIL 15TH AND JUNE 15TH AND/OR AUGUST 15TH TO OCTOBER 15TH.
13. THE CONTRACTOR SHALL APPLY PERMANENT SOIL STABILIZATION MEASURES TO ALL GRADED AREAS WITHIN SEVEN (7) DAYS OF ESTABLISHING FINAL GRADE.
14. THE CONTRACTOR SHALL PERFORM A FINAL INSPECTION OF ALL EXISTING CATCH BASINS, DRAINAGE PIPING, AND ASSOCIATED DRAINAGE STRUCTURES WITHIN THE PROJECT LIMITS TO ENSURE THAT ALL SEDIMENTS HAVE BEEN REMOVED BEFORE WORK IS DEEMED COMPLETE.
15. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL E&S MEASURES ONLY AFTER FINAL PAVEMENT IS PLACED AND VEGETATION IN LANDSCAPE AREAS IS WELL ESTABLISHED.

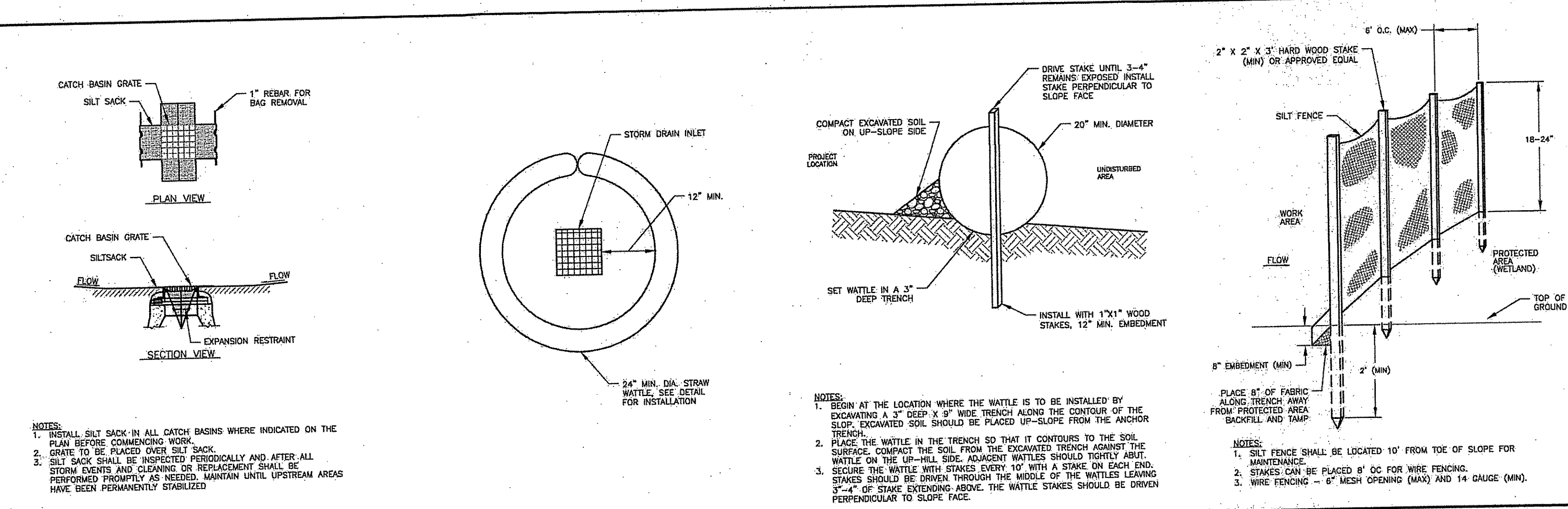
TEMPORARY CONCRETE WASHOUT FACILITY
 PREPARED FOR WETLANDS PROTECTION PROGRAM
 AS SPECIFIED IN THE LETTER OF APPROVAL DATED SEP 8 2016 FILE # 16-0096
 NO CHANGES ALLOWED WITH OUT THE WRITTEN APPROVAL OF THE STATE OF RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT



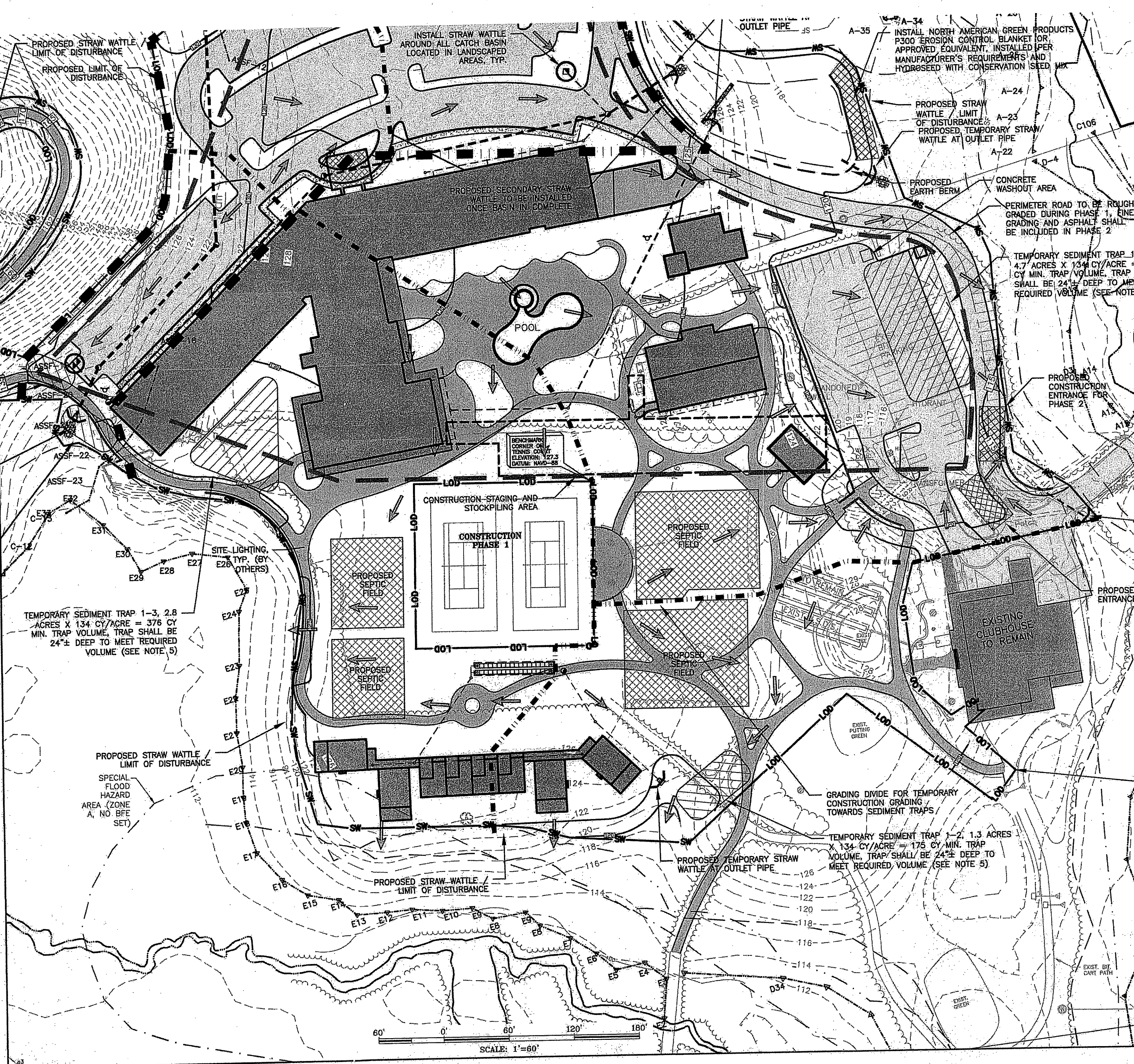
TEMPORARY CONSTRUCTION EXIT
 CA-80-006



TEMPORARY SEDIMENT TRAP
 CA-80-007



SILT SACK SEDIMENT TRAP CA-80-005
STRAW WATTLE AT CATCH BASINS CA-80-001
STRAW WATTLE CA-80-001
SILT FENCE CA-80-001



SCALE: 1"=60'

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT

c/o PAUL MIHALIDES
 2091 NOOSENBCK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
 AUG 11 2016
 Office of Water Resources

LEGEND

- X- TEMPORARY SNOW FENCE
- FLOW DIRECTION
- ▬ DRAINAGE DIVIDE DURING CONSTRUCTION
- ▬ CONSTRUCTION PHASING
- ▬ ALLOWABLE STAGING/STOCKPILING AREA
- LOD LOD
- SW STRAW WATTLE

PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	5/12/16	OWTS/TOWN SUBMISSION	GAB/	CNB
2	5/25/16	TOWN PLANNER COMMENTS	AKG	CNB
3	6/27/16	EDITS PER DEM COMMENTS	AKG	CNB

SCALE: 1"=60'
 CA JOB # 215113
 APRIL 11, 2016

DRAWN BY: AKG
 CHECK BY: CNB

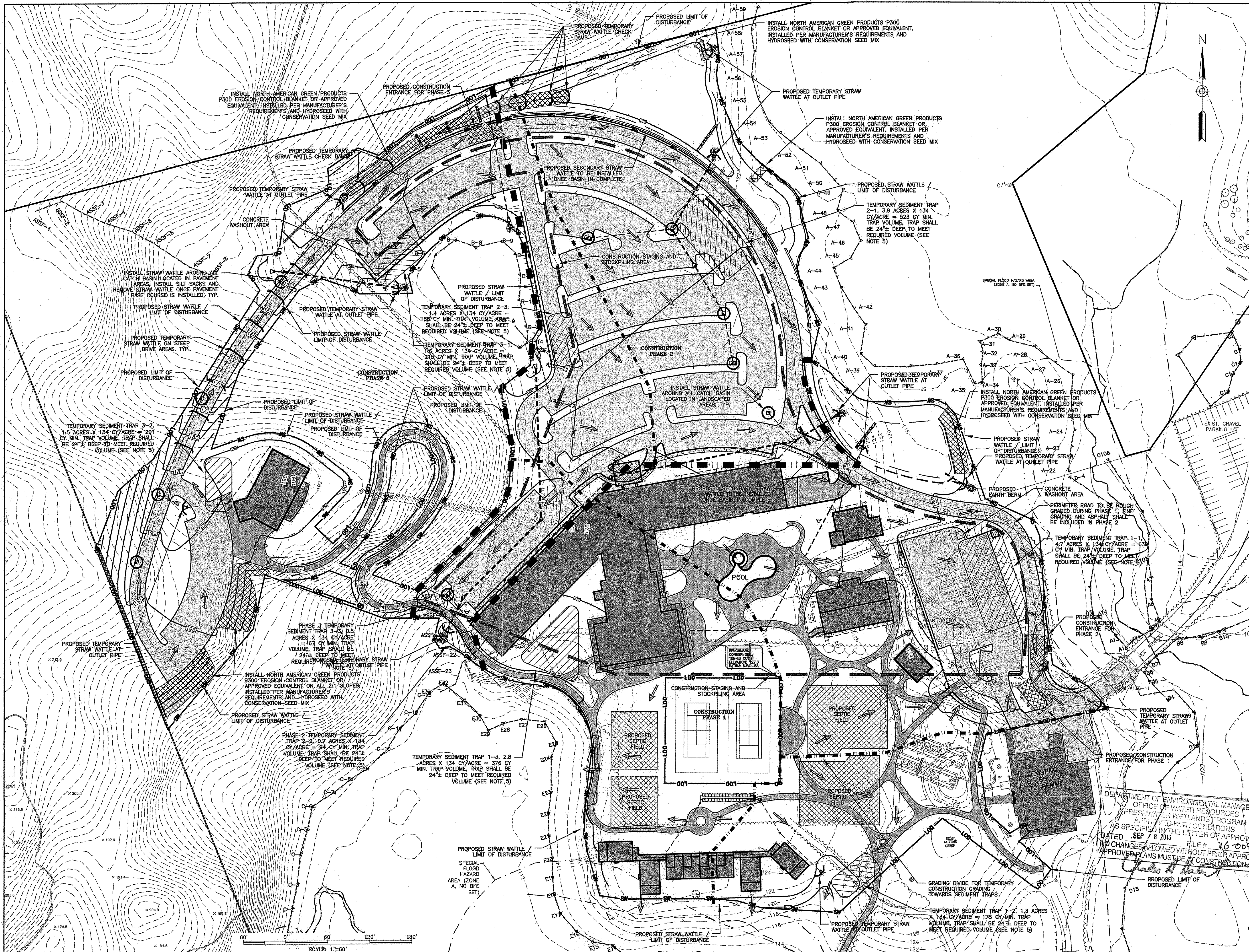
ISSUED FOR PERMITTING

SOIL EROSION AND SEDIMENT CONTROL PLAN PHASE 2 & PHASE 3

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)
C-9
 SHEET 9 OF 23
CHERENZIA & ASSOCIATES, LTD.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED SEP 8 2016 FILE # 16-009
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 c/o PAUL MIHALIDES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
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 Office of Water Resources

PLAN REVISIONS

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1	5/12/16	OWTS/TOWN SUBMISSION	AKG	CNB
2	5/25/16	TOWN PLANNER COMMENTS	AKG	CNB
3	6/27/16	EDITS PER DEM COMMENTS	AKG	CNB

SCALE: 1"=40'
 CA JOB # 215113
 APRIL 11, 2016

DRAWN BY: AKG
 CHECK BY: CNB

ISSUED FOR PERMITTING

UTILITY PLAN SOUTH

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 DIVISION OF WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 WETLAND DATED SEP 8 2016 FILE # 16-0096
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSISTENT WITH SITE

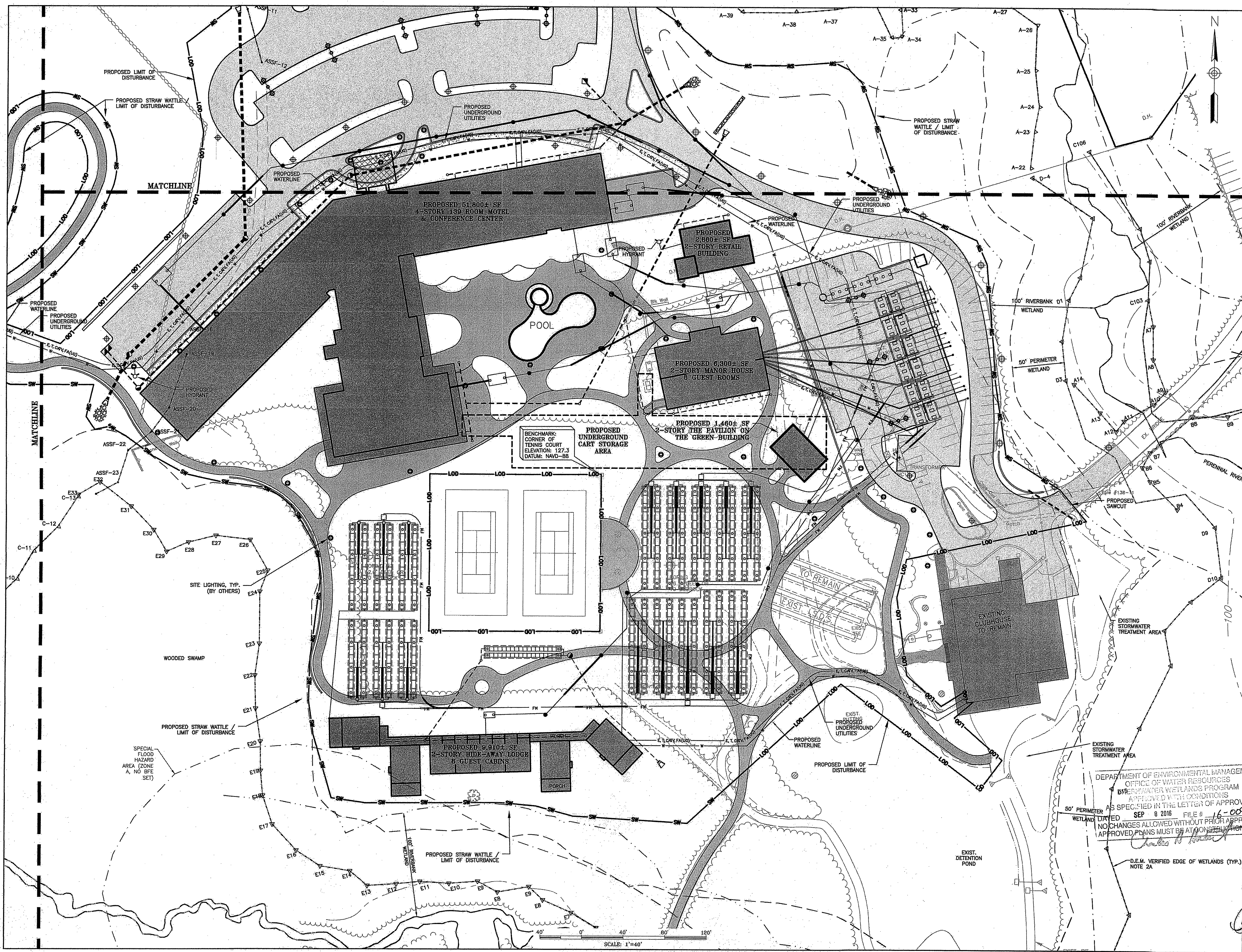
PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER
 (CIVIL) 6/23/91

C-10

SHEET 10 OF 23

CHERENZIA & ASSOCIATES, LTD.



THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 c/o PAUL MHALLIDES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
 AUG 11 2016
 Office of Water Resources

PLAN REVISIONS				
REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	5/12/16	OWTS/TOWN SUBMISSION	GAB/ AKG	CNB
2	5/25/16	TOWN PLANNER COMMENTS	AKG	CNB
3	6/27/16	EDITS PER DEM COMMENTS	AKG	CNB

SCALE: 1"=40'
 CA JOB # 215113
 APRIL 11, 2016

DRAWN BY: AKG
 CHECK BY: CNB

ISSUED FOR PERMITTING

UTILITY PLAN NORTH

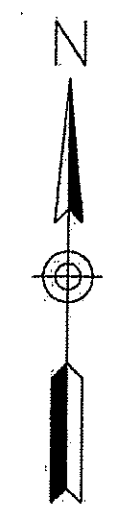
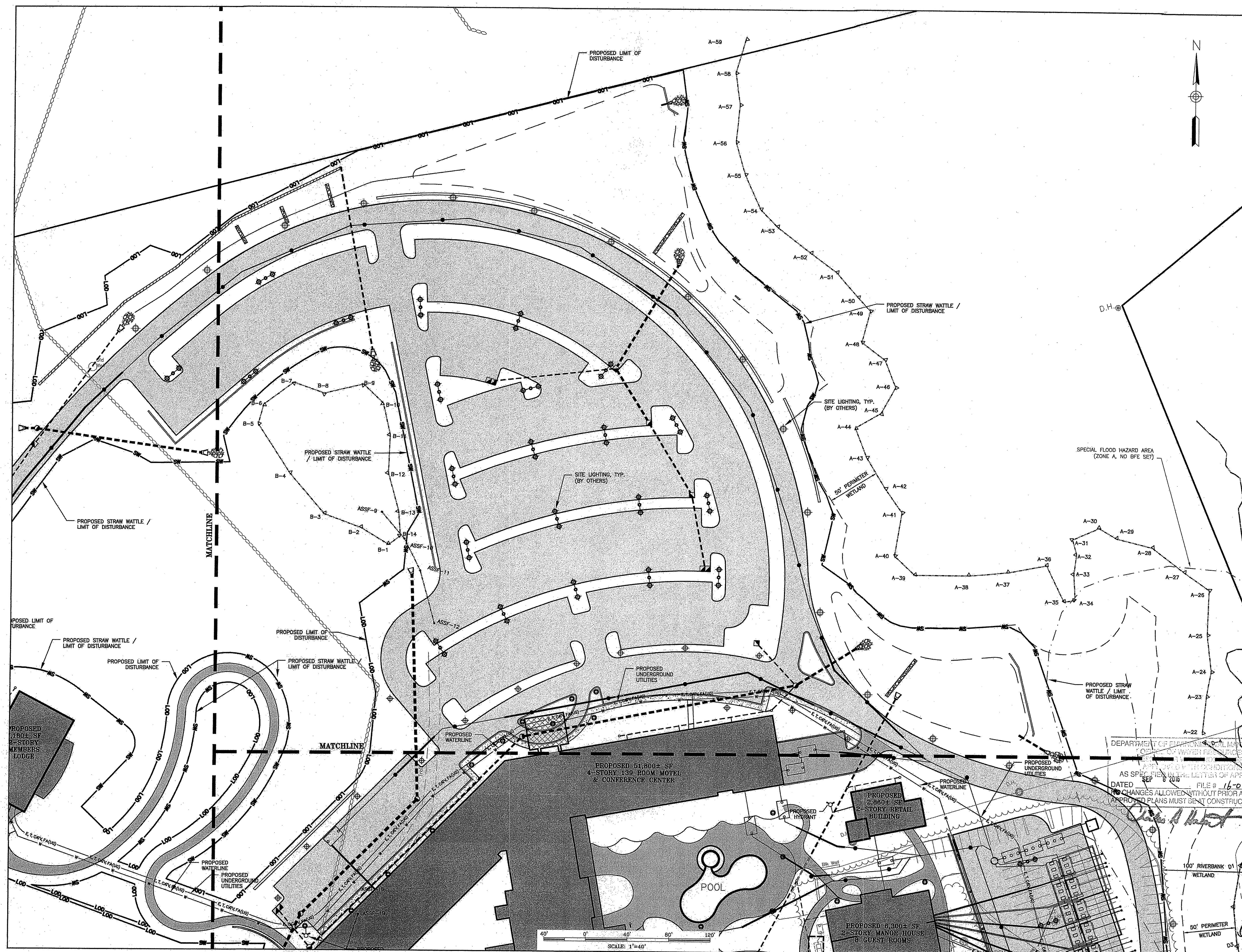
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED SEP 8 2016 FILE # 16-0076
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

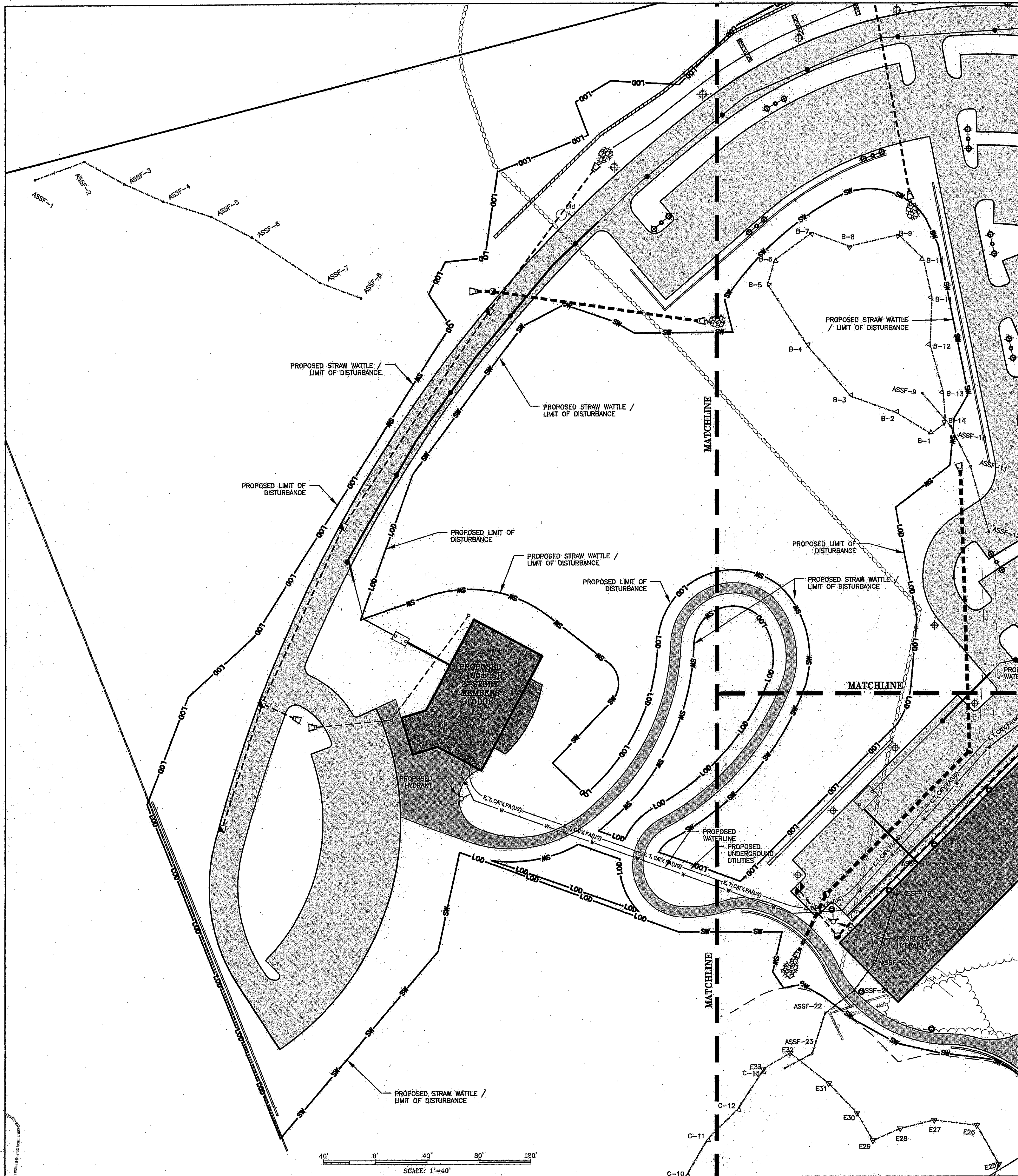
PREPARED FOR
 THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL 2744

C-11
 SHEET 11 OF 23
 CHERENZIA & ASSOCIATES, LTD.



SCALE: 1"=40'



THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 c/o PAUL MIHALIDES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
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 Office of Water Resources

PLAN REVISIONS

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3	6/27/16	EDITS PER DEM COMMENTS	AKG	CNB

SCALE: 1"=40'
 CA JOB # 215113
 APRIL 11, 2016

DRAWN BY: AKG
 CHECK BY: CNB

ISSUED FOR PERMITTING

UTILITY PLAN
 WEST

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESH WATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED SEP 8 2016 FILE # 16-0096
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles H. Hebert

PREPARED FOR
 THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER (CIVIL 16-716)

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SHEET 12 OF 23
 CHERENZIA & ASSOCIATES, LTD.

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 c/o PAUL MHALIDES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
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PLAN REVISIONS				
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3	6/27/16	EDITS PER DEM COMMENTS	AKG	CNB

SCALE: 1"=40'
 CA JOB # 215113
 APRIL 11, 2016

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OWTS PLAN SOUTH

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

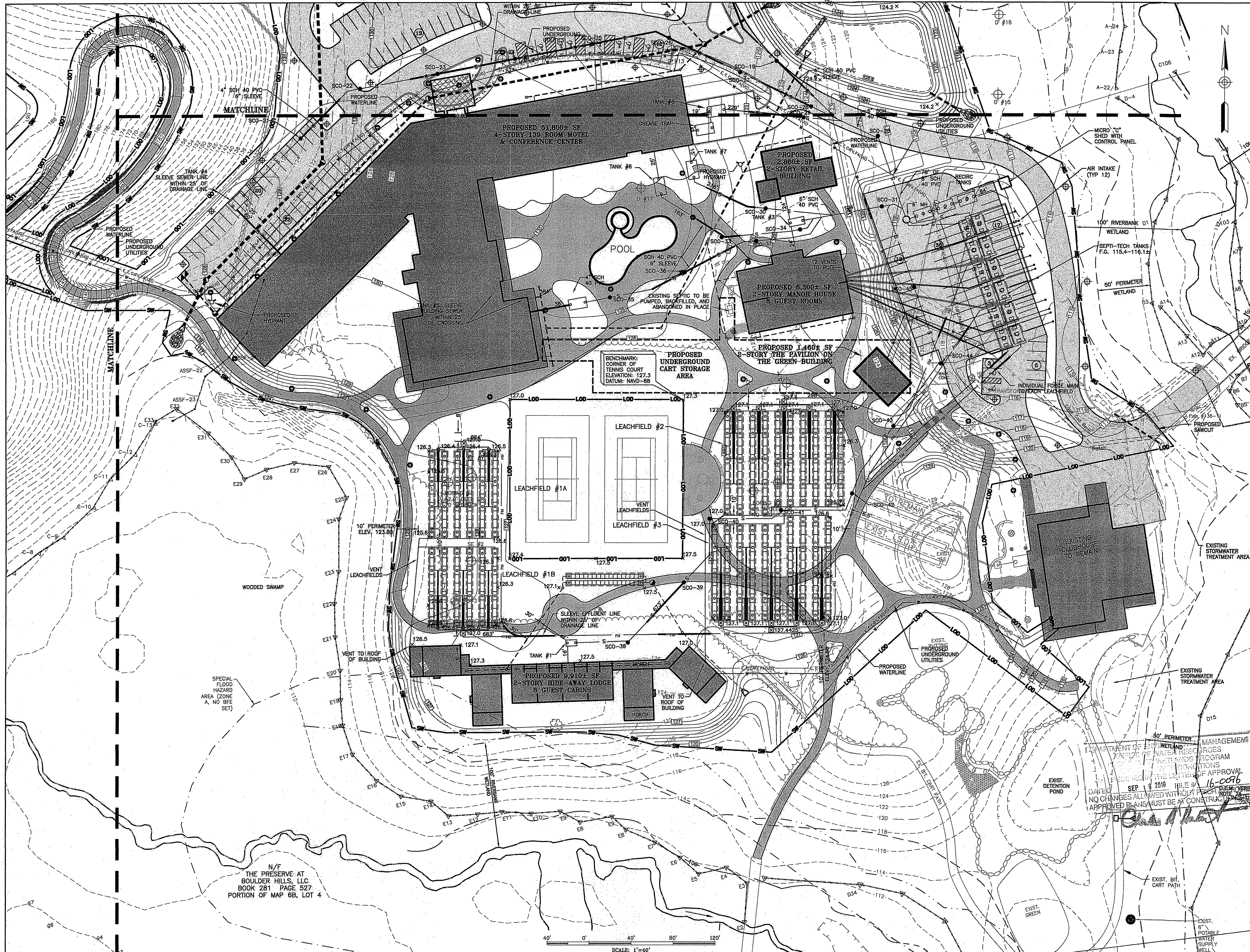
PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

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 REGISTERED PROFESSIONAL ENGINEER (CIVIL)
 CHERENZIA & ASSOCIATES, LTD.

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SHEET 13 OF 23

CHERENZIA & ASSOCIATES, LTD.



N/F
 THE PRESERVE AT BOULDER HILLS, LLC
 BOOK 281 PAGE 527
 PORTION OF MAP 6B, LOT 4

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 WETLANDS PROGRAM
 RECEIVED IN THE LETTER OF APPROVAL
 SEP 13 2016 FILE # 16-0096
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION

N/F
 GEORGE P. CARD & DONNA M.
 BRIGHTMAN BOOK 103 PAGE
 840 MAP 5B LOT 38

CHERENZIA & ASSOCIATES, LTD.
 Civil Engineers
 Land Surveyors
 Land Use Planners
 Environmental Engineers

99 Mechanic St.
 Pawcatuck, CT 06379
 Tel: 860.629.6500
 Fax: 860.595.6000

P.O. Box 513
 Westerly, RI 02891
 Tel: 401.596.7747
 www.cherenzia.com

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT

c/o PAUL MIHALIDES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
 AUG 11 2016
 Office of Water Resources

PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	OWN BY	CHK BY
1	5/12/16	OWTS/TOWN SUBMISSION	GAB/AGK	CNB
2	5/25/16	TOWN PLANNER COMMENTS	AGK	CNB
3	6/27/16	EDITS PER DEM COMMENTS	AGK	CNB

SCALE: 1"=40'
 CA JOB # 215113
 APRIL 11, 2016

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 CHECK BY: CNB

ISSUED FOR PERMITTING

OWTS PLAN
 NORTH

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CHERENZIA & ASSOCIATES, LTD.

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SHEET 14 OF 23

RIDEM REVIEW
 PAGE 16 OF 35



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 DIVISION OF WATER RESOURCES
 RICHMOND, RHODE ISLAND
 APPROVED FOR THE WATER RESOURCES
 DIVISION SEP 8 2016 FILE # 16-0076
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

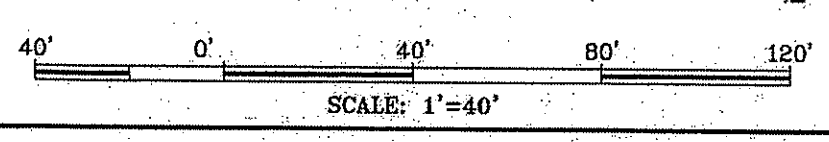
SLEEVE EFFLUENT LINE
 WITHIN 25' OF DRAINAGE LINE
 4" SCH 40 PVC
 6" SCH 40 PVC SLEEVE

SLEEVE EFFLUENT LINE
 WITHIN 25' OF DRAINAGE LINE

PROPOSED 51,000 SF
 4-STORY 138 ROOM MOTEL
 & CONFERENCE CENTER

PROPOSED 2,880 SF
 2-STORY RETAIL
 BUILDING

SCALE: 1"=40'



THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 c/o PAUL MIHALIDES
 2001 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
 AUG 11 2016
 Office of Water Resources
PLAN REVISIONS:

REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	5/12/16	OWTS/TOWN SUBMISSION	GAB/	CNB
2	5/25/16	TOWN PLANNER COMMENTS	AKG	CNB
3	6/27/16	EDITS PER DEM COMMENTS	AKG	CNB

SCALE: 1"=40'
 CA JOB # 215113
 APRIL 11, 2016

DRAWN BY: AKG
 CHECK BY: CNB

ISSUED FOR PERMITTING

OWTS PLAN WEST

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED SEP 8 2016 FILE # 16-0096
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Hackett

PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT



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SHEET 15 OF 23

Environmental Management
AUG 11 2016
 Office of Water Resources

PLAN REVISIONS				
REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	5/12/16	OWTS/TOWN SUBMISSION	GAB/AGK	CNB
2	5/25/16	TOWN PLANNER COMMENTS	AGK	CNB
3	6/27/16	EDITS PER DEM COMMENTS	AGK	CNB

SCALE: 1"=20'
 CA JOB # 215113
 APRIL 11, 2016

DRAWN BY: AGK
 CHECK BY: CNB

REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	5/12/16	OWTS/TOWN SUBMISSION	GAB/AGK	CNB
2	5/25/16	TOWN PLANNER COMMENTS	AGK	CNB
3	6/27/16	EDITS PER DEM COMMENTS	AGK	CNB

ISSUED FOR PERMITTING

OWTS PIPING PLAN

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED SEP 8 2016
 NO CHANGES ALLOWED WITHOUT UNDERGROUND APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

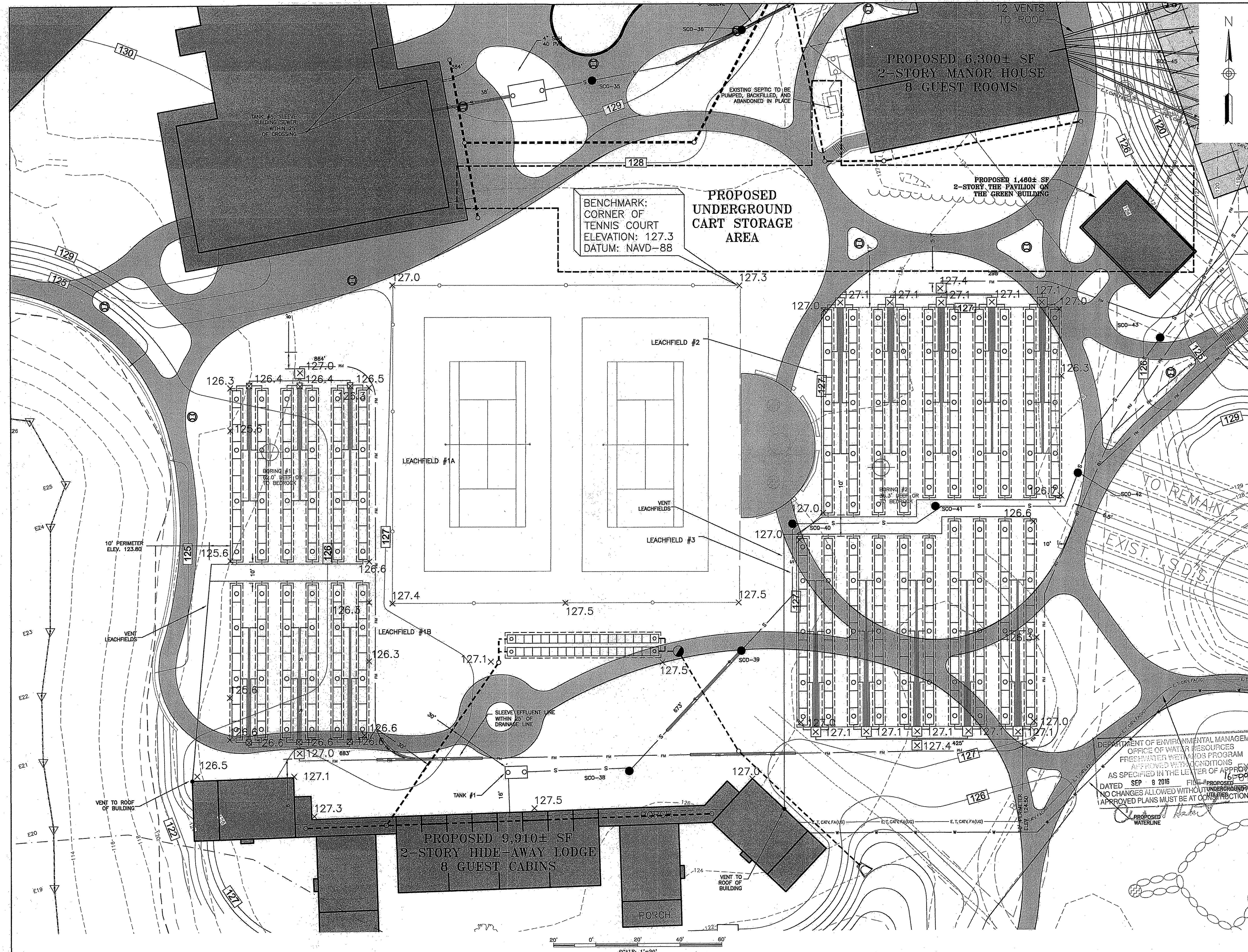
PREPARED FOR
 THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL 021716

C-16

SHEET 16 OF 23

CHERENZIA & ASSOCIATES, LTD.



SCALE: 1"=20'

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 c/o PAUL MIRAHLIDES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Office of Water Resources
 AND 11 2016
 Office of Water Resources

PLAN REVISIONS				
REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
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2	5/25/16	TOWN PLANNER COMMENTS	AKG	CNB
3	6/27/16	EDITS PER DEM COMMENTS	AKG	CNB

SCALE: 1"=20'
 CA JOB # 215113
 APRIL 11, 2016

DRAWN BY: AKG
 CHECK BY: CNB

ISSUED FOR PERMITTING

OWTS PIPING PLAN

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

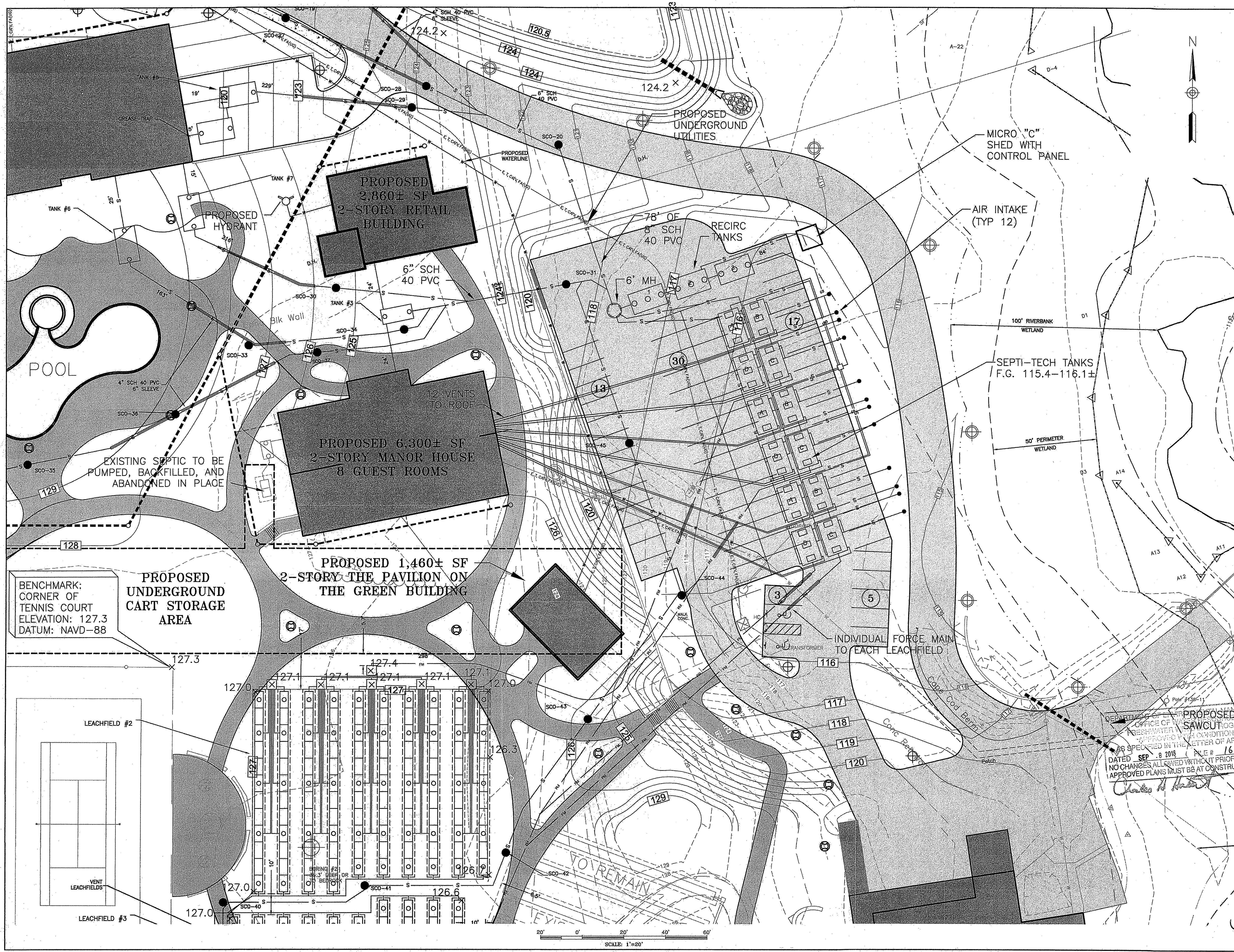
PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)
 CHERENZIA & ASSOCIATES, LTD.

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SHEET 17 OF 23

RIDEM REVIEW
 PAGE 19 OF 35



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER MANAGEMENT
 PROPOSED SAWCUT PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED SEP 8 2016 FILE # 16-0086
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles H. Hester

GENERAL NOTES:

1. THERE ARE NO SUBSURFACE DRAINS, FOUNDATION DRAINS, OR STORM DRAINS EXISTING OR PROPOSED WITHIN 25' UP GRADIENT OR 50' DOWN GRADIENT OF THE PROPOSED OWTS.
2. CLEAR ALL BRUSH AND TREES WITHIN 10' OF OWTS.
3. PARKING OVER SYSTEM PERMITTED, MEETS H2O WHEEL LOAD.
4. ALL SEPTIC TANK FILTERS SHALL BE CLEANED ON A YEARLY BASIS.
5. THE SEPTIC TANK SHALL BE PUMPED OF CONTENTS WHEN THE SLUDGE DEPTH BECOMES GREATER THAN 1/4 THE LIQUID DEPTH. THE TIME BETWEEN PUMPING WILL VARY, BUT IT IS SUGGESTED THAT THE TANK BE PUMPED OF CONTENTS AND INSPECTED AT LEAST EVERY TWO YEARS AND MORE FREQUENTLY WHEN EXTENDED PERIODS OF HIGH FLOW RATES ARE EXPERIENCED.
6. CONSTRUCTION SUPERVISION OF THE INSTALLATION OF THIS SEPTIC SYSTEM BY THE SYSTEM DESIGNER IS REQUIRED. CHERENZIA AND ASSOCIATES, LTD. MUST BE CONTACTED 48 HOURS PRIOR TO THE START OF CONSTRUCTION TO ASSURE COMPLIANCE WITH RIDEM OWTS REGULATIONS.
7. ACCESS MANHOLES TO BE H-20 FRAME AND COVERS AT GRADE IN AREAS SUBJECT TO VEHICULAR TRAFFIC. ALL OTHER ACCESS MANHOLES TO BE WITHIN 12" OF FINISHED GRADE.
8. ALL EFFLUENT LINES TO BE SLEEVED 25' FROM ANY DRAINAGE LINE CROSSINGS.
9. ALL EFFLUENT LINES TO BE SLEEVED 10' FROM ANY WATER LINE CROSSINGS.

OWTS PLAN REQUIREMENTS:

1. WELL OR DRAINS, EXISTING AND PROPOSED WITHIN 200' OF OWTS OR ALTERNATE AREA ARE SHOWN ON PLAN.
2. PUBLIC WELLS, EXISTING AND PROPOSED WITHIN 500' OF OWTS OR ALTERNATE AREA ARE SHOWN ON PLAN.
3. OWTS WITHIN 100' OF ANY PROPOSED WELL ARE SHOWN ON PLAN.
4. A BENCHMARK SHALL BE SET WITHIN 100' OF PROPOSED OWTS.
5. EFFLUENT PIPE SHALL BE CONSTRUCTED OF PVC PIPE SDR 35 MINIMUM OR EQUIVALENT. EFFLUENT PIPE THAT WILL BE SUBJECT TO VEHICULAR TRAFFIC SHALL BE CONSTRUCTED OF SCHEDULE 40 PVC OR EQUIVALENT.
6. MINIMUM ELEVATION OF 68.51 TO BE MAINTAINED AT LEAST 10' BEYOND SYSTEM.
7. SEPTIC TANK TO HAVE OUTLET TEE AND PROVIDE MANHOLE ACCESS AT GRADE.

DESIGN CALCULATIONS:

105 HOTEL ROOMS @ 100 GAL/RM	=	10,500 GPD
34 EFFICIENCY HOTEL ROOMS @ 150 GAL/RM	=	5,100 GPD
132 SEAT RESTAURANT @ 40 GAL/SEAT	=	5,280 GPD
437 SEAT BANQUET HALL @ 5 GAL/SEAT	=	2,185 GPD
8 GUEST ROOMS (HOUSE MANOR) @ 100 GAL/RM	=	800 GPD
8 GUEST CABINS (HIDE-AWAY LODGE) @ 115 GAL/RM	=	920 GPD
10 HOTEL ROOMS (MEMBERS LODGE) @ 100 GAL/RM	=	1,000 GPD
25 EMPLOYEES (RETAIL/OFFICE/POOL STAFF) @ 15 GAL/EMPL	=	375 GPD
2 TENNIS COURTS @ 100 GAL/COURT	=	200 GPD
TOTAL DESIGN FLOW		26,360 GPD

LOADING RATE: 0.61 GAL./S.F./DAY, SOIL CATEGORY 4
 26,360 GALLONS PER DAY/0.61 GAL. PER S.F. PER DAY = 43,213 S.F.
 43,213 S.F. X 50% (50% REDUCTION FOR ADVANCED TREATMENT) = 21,607 S.F. REQUIRED

LEACHFIELD #1

6 ROWS OF 10 AND 6 ROWS OF 9 FLOW DIFFUSORS PROVIDED (114 TOTAL)
 24 END UNITS X 78 SF = 1,872 S.F.
 +94 INT. UNITS X 64 SF = 6,016 S.F.
 7,888 S.F. PROVIDED

LEACHFIELD #2

4 ROWS OF 12 AND 6 ROWS OF 11 FLOW DIFFUSORS PROVIDED (114 TOTAL)
 20 END UNITS X 78 SF = 1,560 S.F.
 +94 INT. UNITS X 64 SF = 6,016 S.F.
 7,576 S.F. PROVIDED

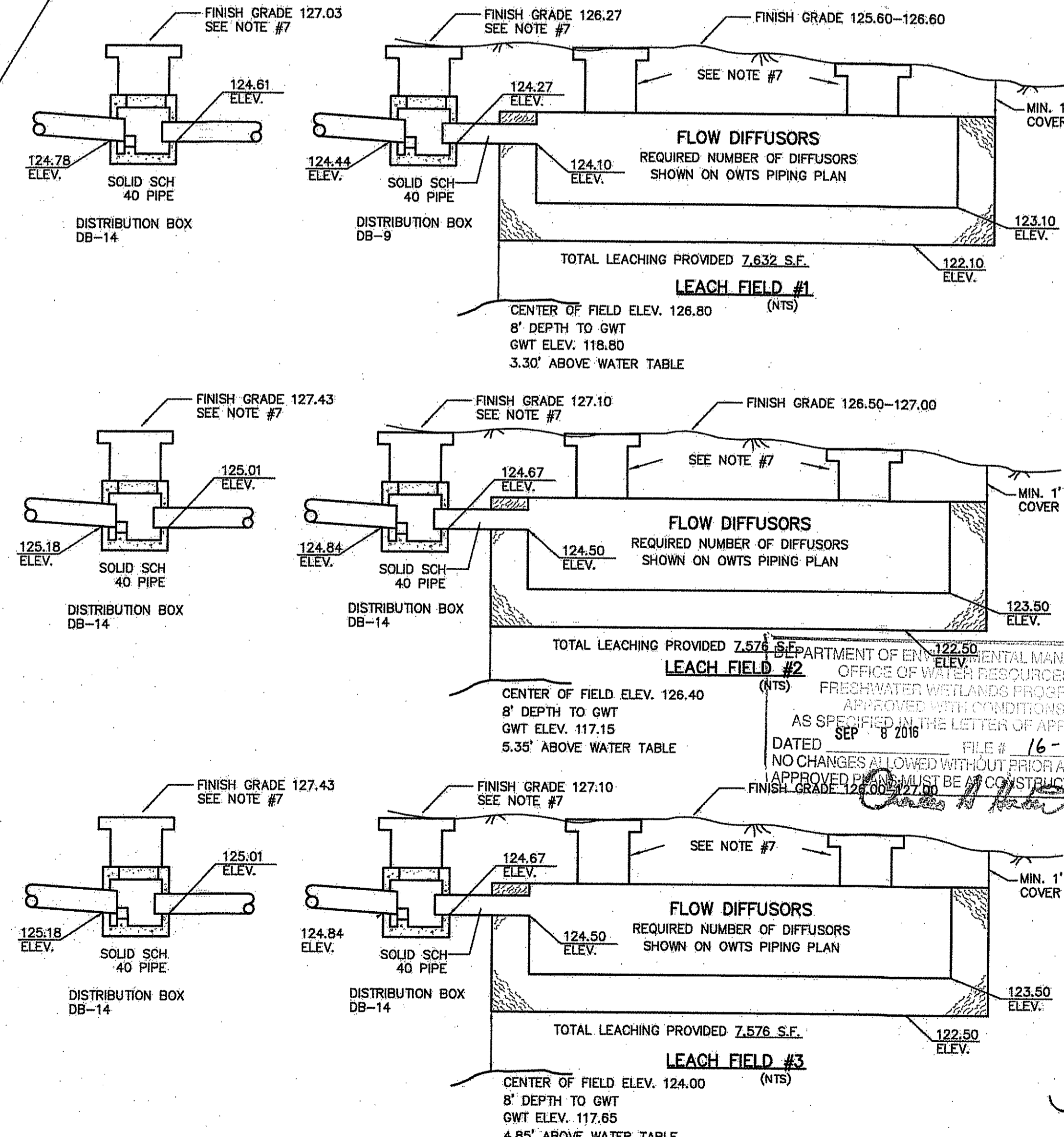
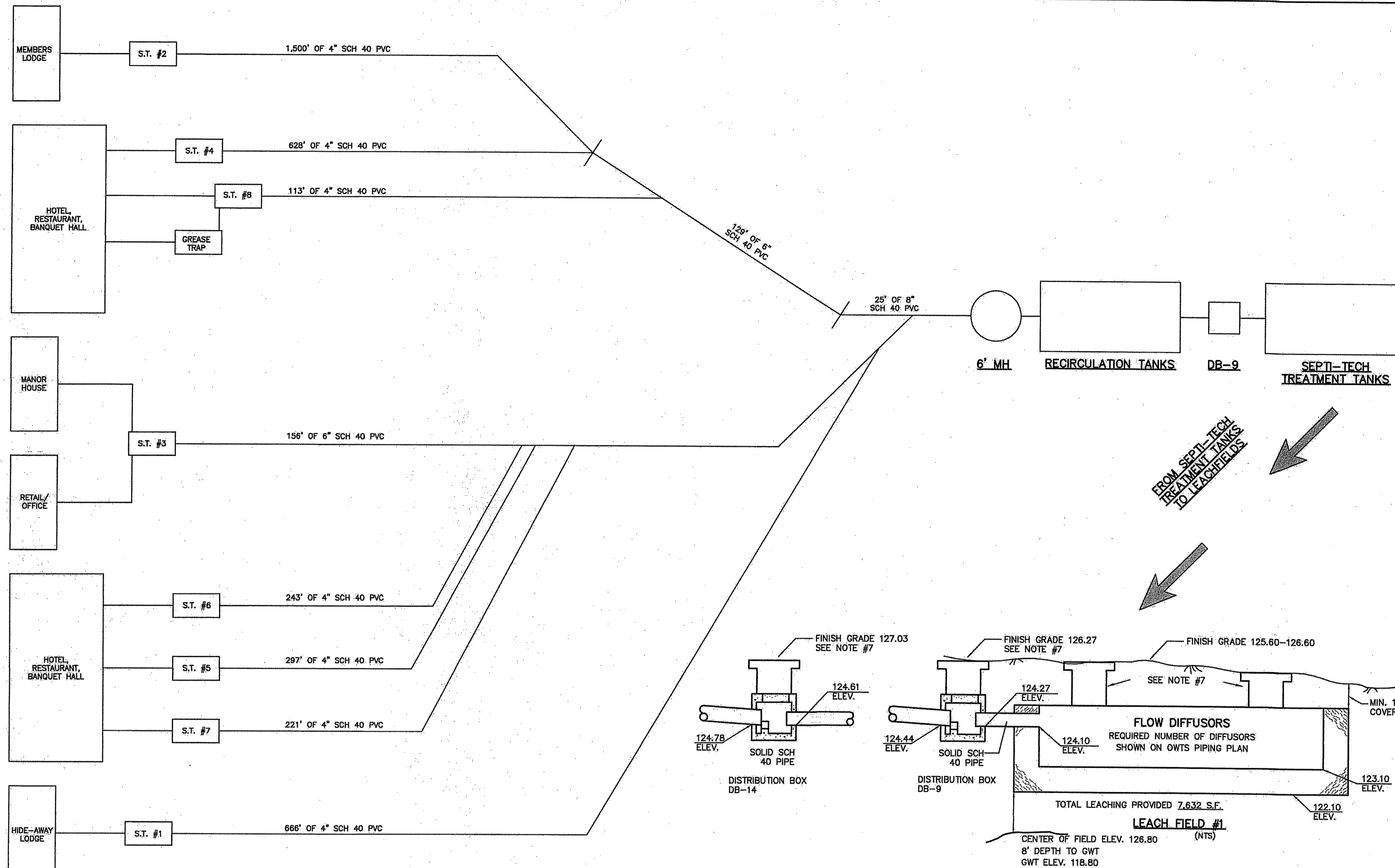
LEACHFIELD #3

4 ROWS OF 12 AND 6 ROWS OF 11 FLOW DIFFUSORS PROVIDED (114 TOTAL)
 20 END UNITS X 78 SF = 1,560 S.F.
 +94 INT. UNITS X 64 SF = 6,016 S.F.
 7,576 S.F. PROVIDED

TOTAL LEACHFIELD AREA PROVIDED = 22,784 S.F.

SEPTIC TANK INVERT SCHEDULE

LOCATION	STRUCTURE NUMBER	SIZE	BUILDING INVERT	INVERT IN	INVERT OUT	FINISH GRADE
8 GUEST CABINS (HIDE-AWAY LODGE)	1	2,500	122.32	122.00	121.75	127.00
10 HOTEL ROOMS (MEMBERS LODGE)	2	3,000	187.67	187.00	186.75	190.00
HOUSE MANOR, RETAIL, TENNIS COURTS, POOL	3	3,500 H-20	122.48	122.00	121.75	125.00
HOTEL WEST WING	4	9,000 H-20	126.15	125.75	125.50	128.75
HOTEL SOUTH WING	5	9,000 H-20	126.90	126.00	125.75	129.00
HOTEL CENTRAL	6	9,000 H-20	127.50	127.00	126.75	130.00
HOTEL EAST WING	7	9,000 H-20	124.30	124.00	123.75	127.00
RESTAURANT	8	8,000 H-20	117.35	116.95	116.70	120.70
RESTAURANT	GREASE TRAP	8,000 H-20	117.40	117.30	117.05	120.00
RECIRCULATION TANK				114.66	114.56	117.80
RECIRCULATION TANK	1	10,000 H-20		114.51	114.26	117.40
RECIRCULATION TANK	2	10,000 H-20		114.21	113.96	116.80
RECIRCULATION TANK	3	10,000 H-20		113.91	113.66	116.20
D-BOX				112.82	112.65	115.50
QUAD 1						
TANK "A"				111.75	108.58	116.00
TANK "B"				111.65	108.48	115.90
TANK "C"				111.65	116.98	115.80
TANK "D"				111.75	117.08	115.90
QUAD 2						
TANK "A"				111.55	108.38	115.80
TANK "B"				111.45	108.28	115.70
TANK "C"				111.45	116.78	115.60
TANK "D"				111.55	116.88	115.70
QUAD 3						
TANK "A"				111.35	108.18	115.60
TANK "B"				111.25	108.08	115.50
TANK "C"				111.25	116.58	115.40
TANK "D"				111.35	116.68	115.50



CHERENZIA & ASSOCIATES, LTD.
 99 Mechanic St. P.O. Box 513
 Pawtucket, RI 02879 Woonsocket, RI 02891
 Civil Engineers Tel: 860.626.6500
 Land Surveyors Tel: 860.626.6500
 Land Use Planners Fax: 860.599.6090
 Environmental Engineers www.cherenzia.com

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 c/o PAUL MHALLES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
 AUG 11 2016
 Office of Water Resources

PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	5/12/16	OWTS/TOWN SUBMISSION	AKG	CNB
2	5/25/16	TOWN PLANNER COMMENTS	AKG	CNB
3	6/27/16	EDITS PER DEM COMMENTS	AKG	CNB

SCALE: 1"=30'
 CA JOB # 215113
 APRIL 11, 2016

ISSUED FOR PERMITTING

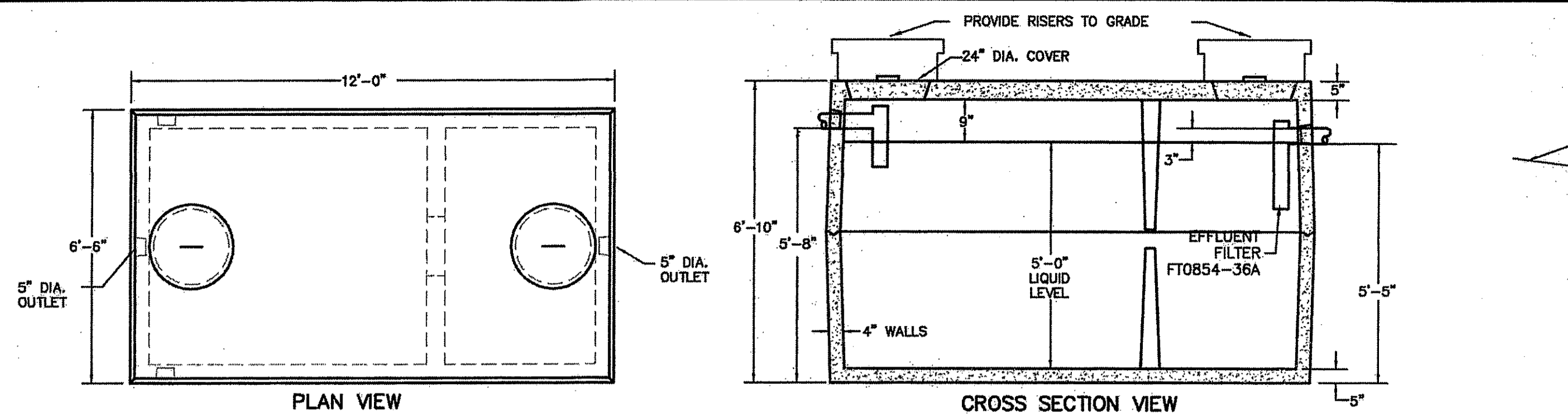
OWTS DETAILS 1
 THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 0B, LOT 4
 RICHMOND, RHODE ISLAND

PREPARED FOR
 THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

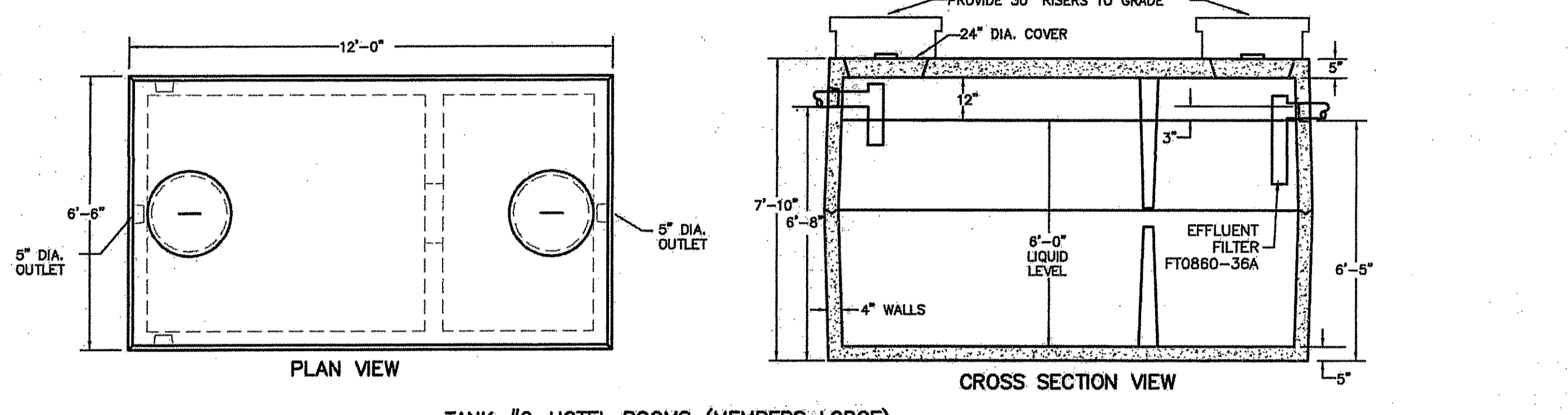
C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)
C-18
 SHEET 18 OF 23
CHERENZIA & ASSOCIATES, LTD.

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 c/o PAUL MIHALIDES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

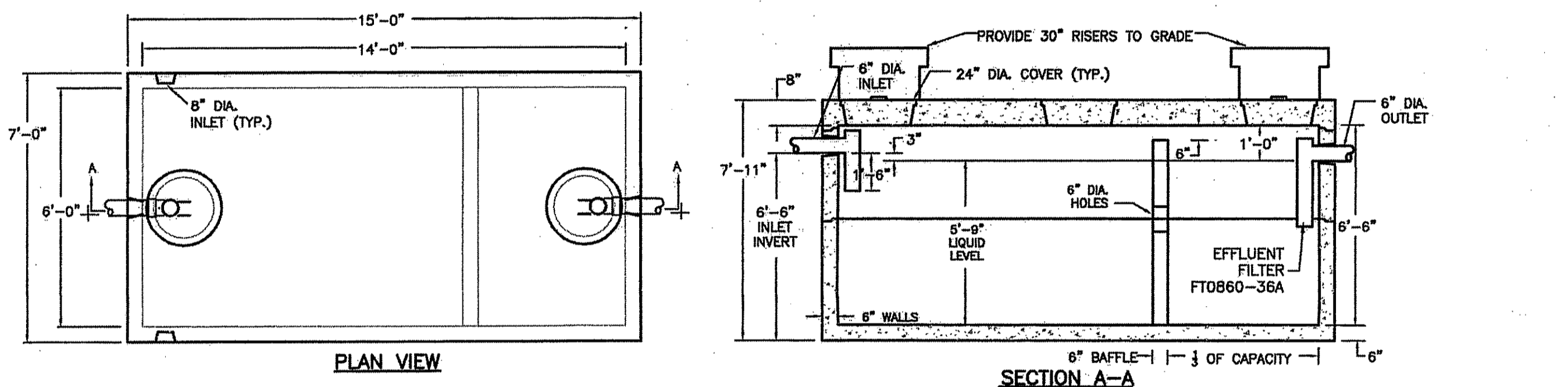
Environmental Management
 AUG 11 2016
 Office of Water Resources



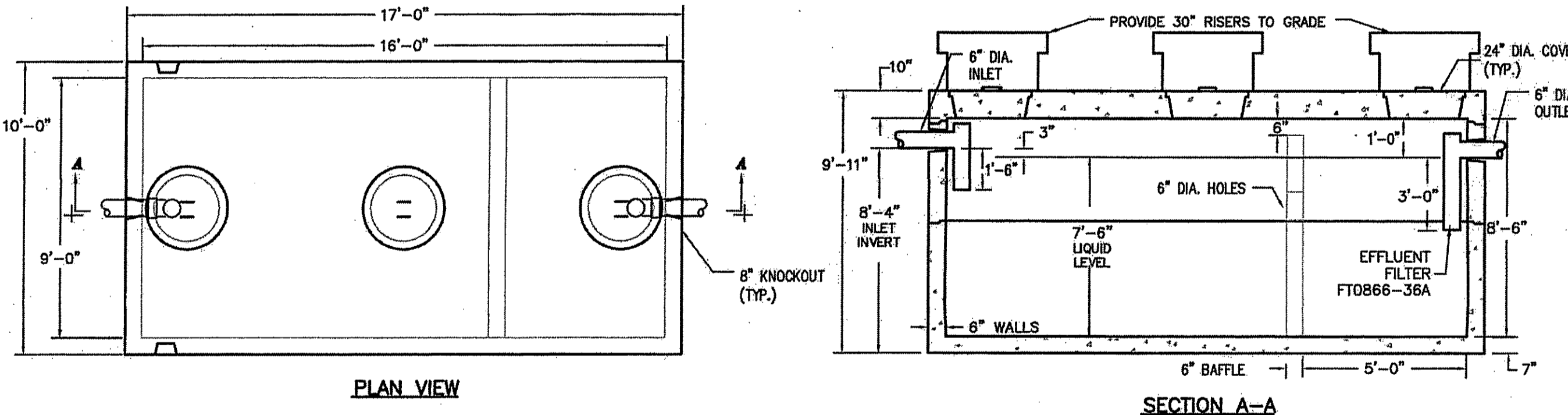
TANK #1-GUEST CABINS (HIDE-AWAY LODGE)
 2,500 GALLON TWO COMPARTMENT SEPTIC TANK
 (NTS)



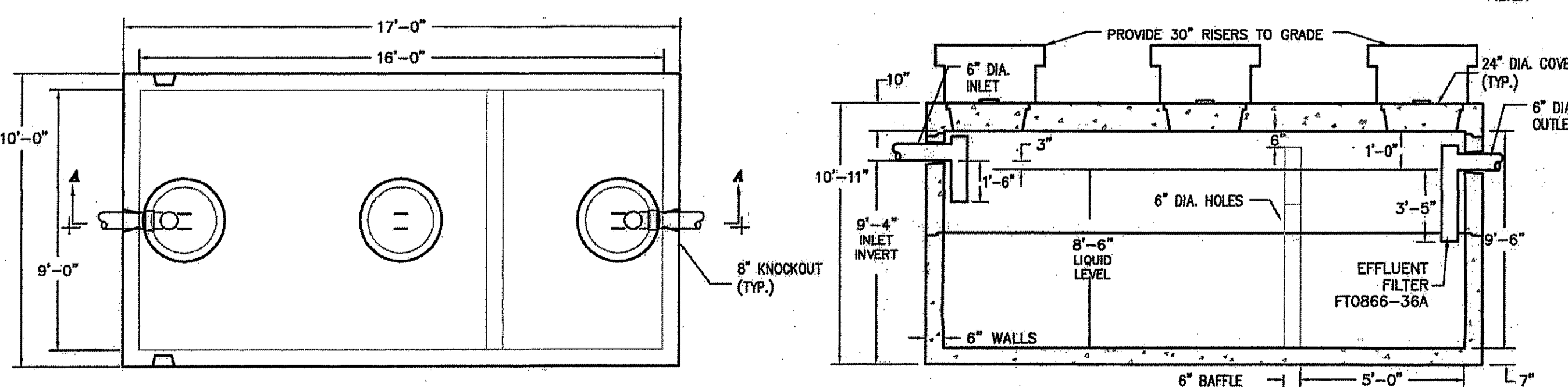
TANK #2-HOTEL ROOMS (MEMBERS LODGE)
 3,000 GALLON TWO COMPARTMENT SEPTIC TANK
 NTS



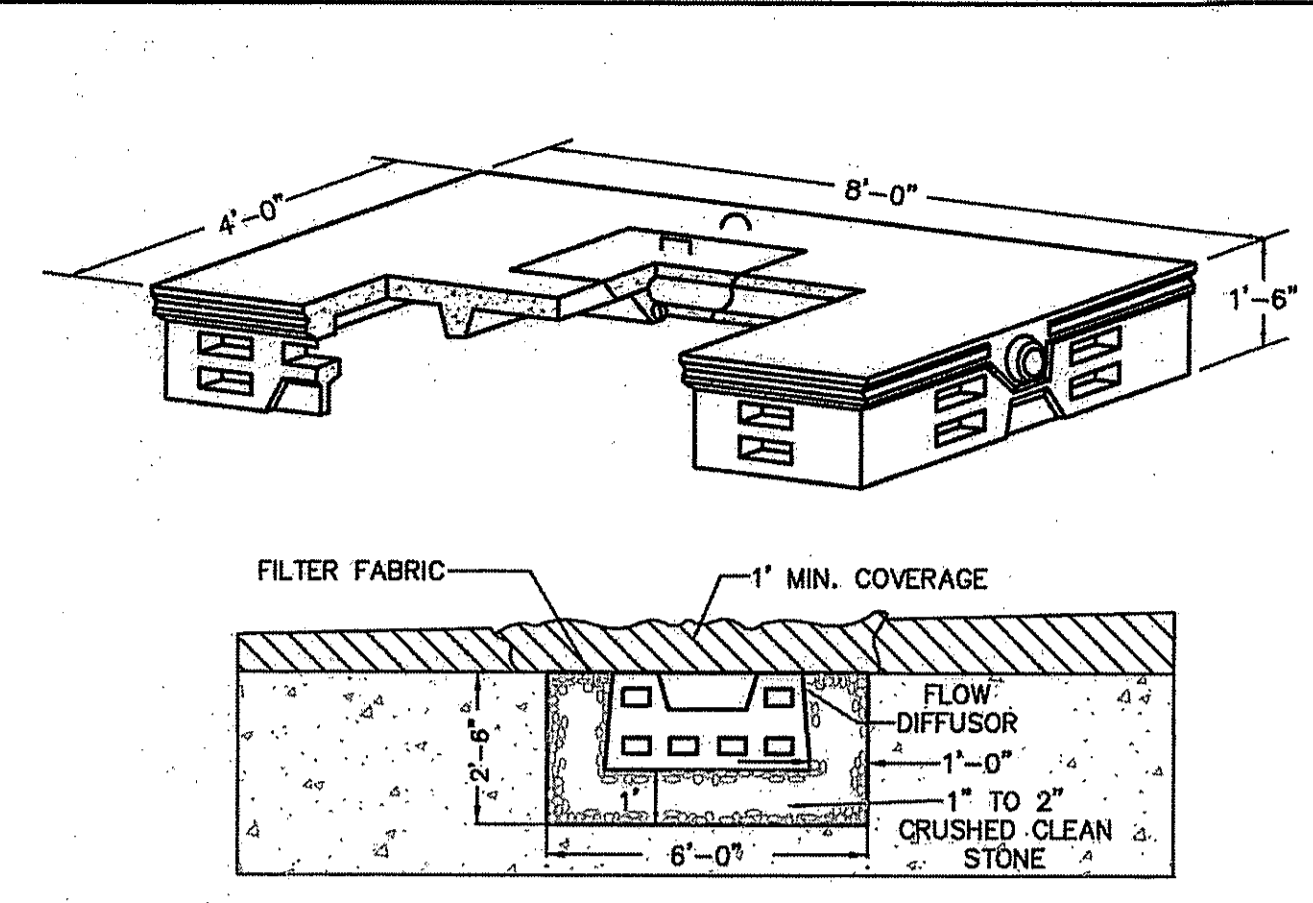
TANK #3-HOUSE MANOR, RETAIL OFFICE
 3,500 GALLON TWO COMPARTMENT SEPTIC TANK
 NTS (H-20)



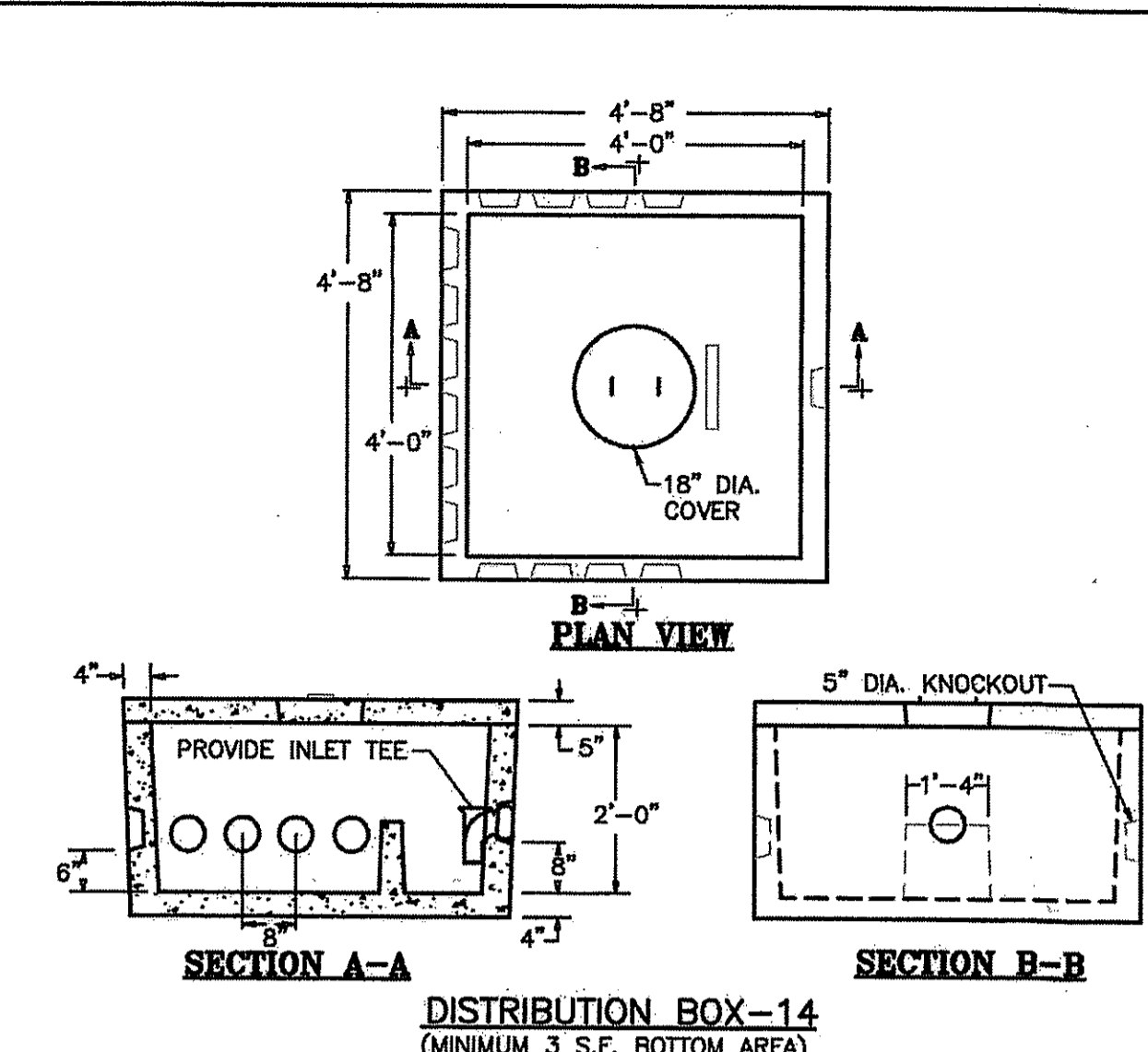
TANK #8-RESTAURANT & BANQUET HALL
 8,000 GALLON TWO COMPARTMENT SEPTIC TANK
 NTS (H-20)



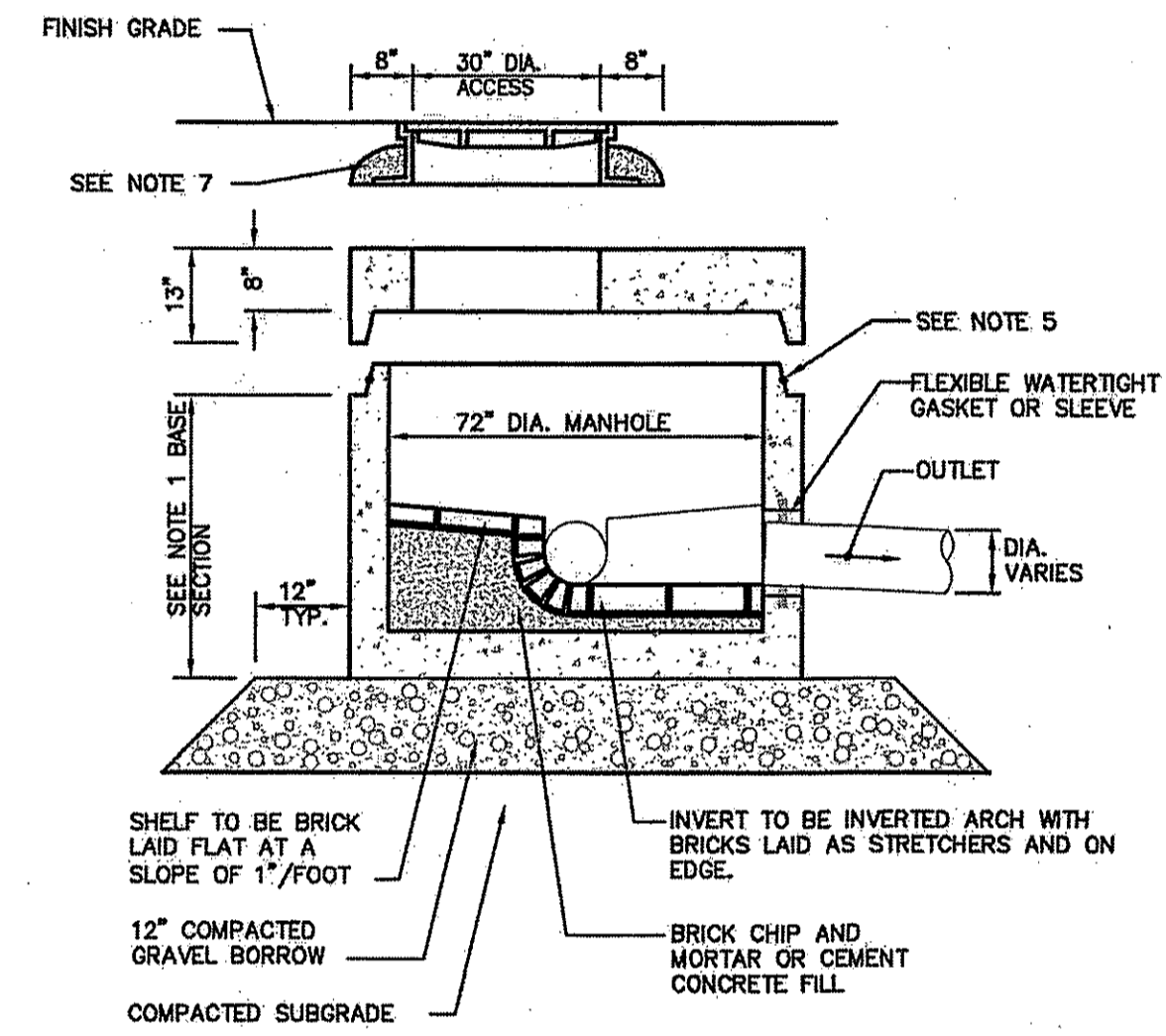
TANK #4, 5, 6, & 7-HOTEL
 9,000 GALLON TWO COMPARTMENT SEPTIC TANK
 NTS (H-20)



TYPICAL FLOW DIFFUSER SECTION
 H-20 RATED (NTS)

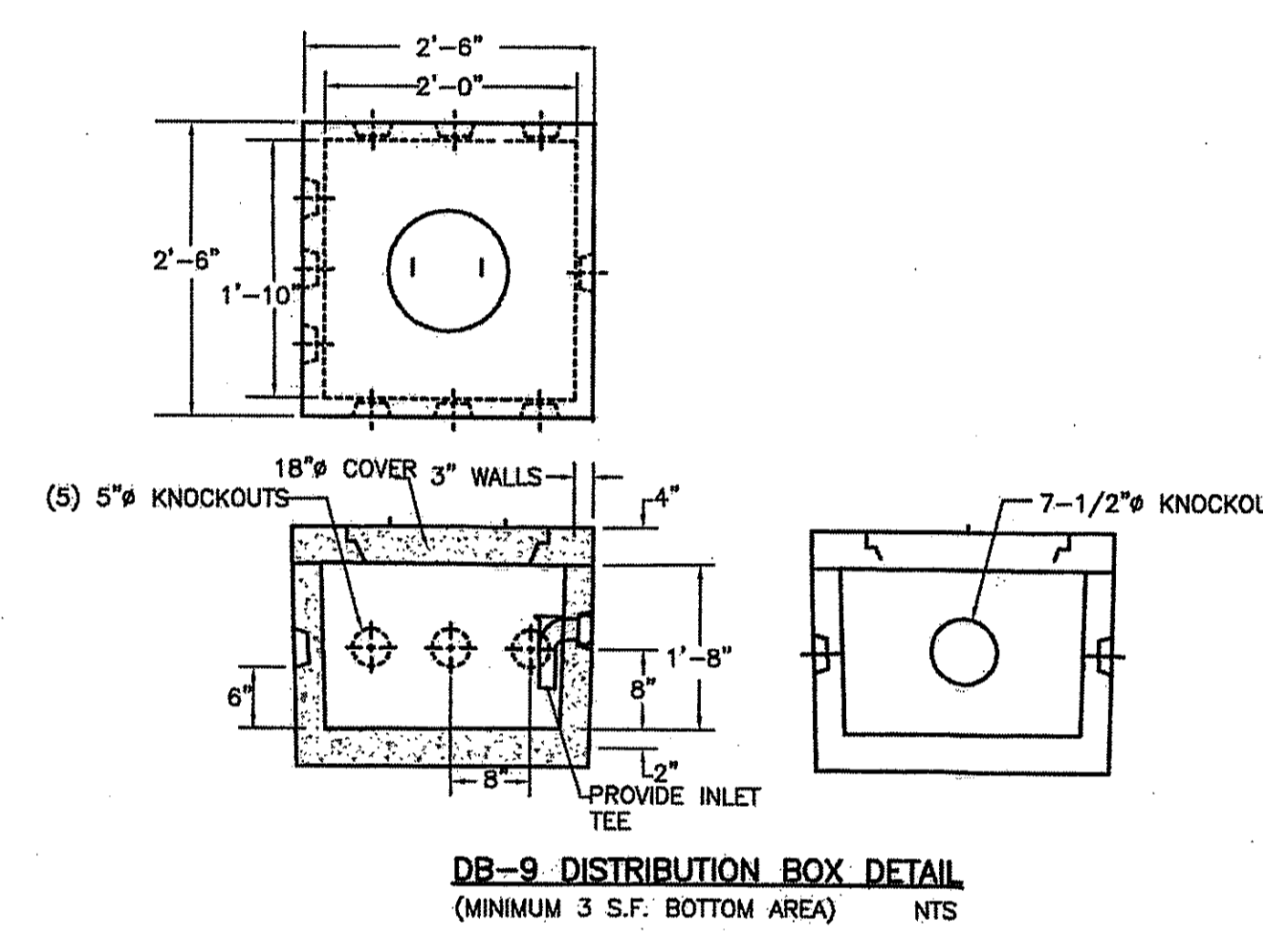


DISTRIBUTION BOX-14
 (MINIMUM 3 S.F. BOTTOM AREA)

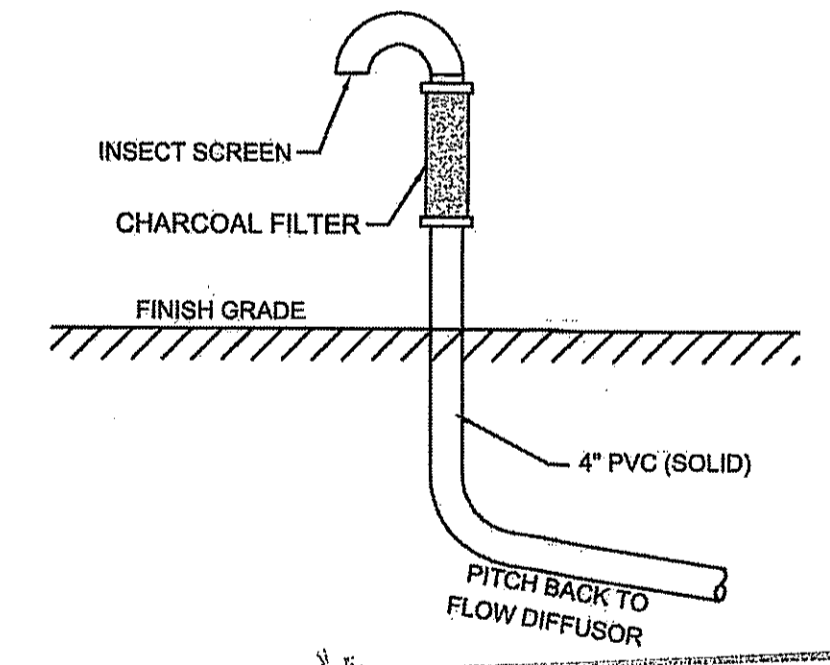


6" SANITARY MANHOLE DETAIL
 NTS

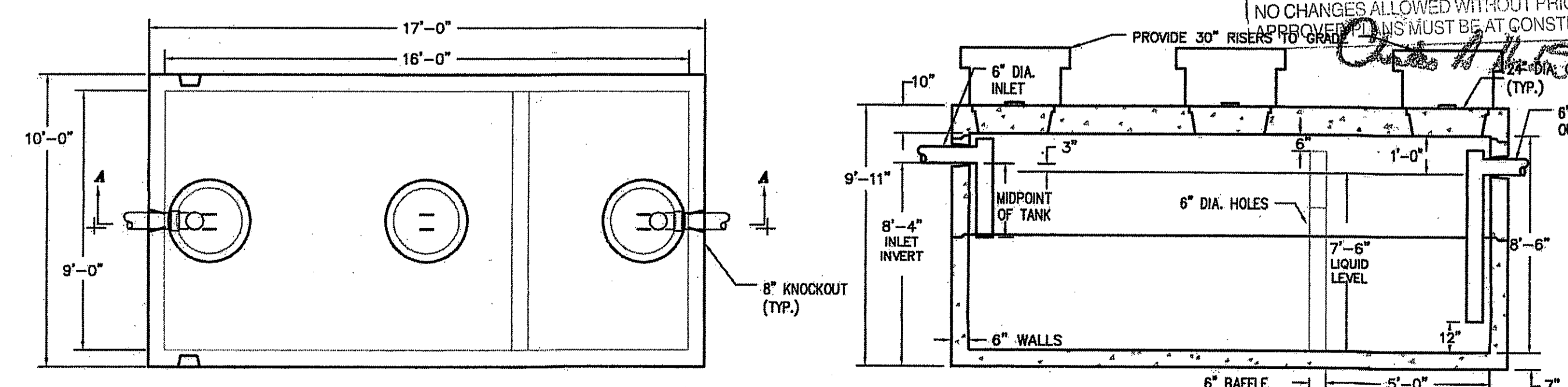
- NOTES:**
1. BASE SECTION SHALL BE TWO PIECE WITH A 72" INSIDE DIAMETER.
 2. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
 3. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI TYPE II CEMENT.
 4. ALL EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
 5. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
 6. STANDARD SEWER MANHOLE FRAME AND COVER SHALL MEET MUNICIPAL AND/OR STATE SPECIFICATIONS WHEN APPLICABLE.
 7. STANDARD SEWER MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED, ADJUST TO GRADE WITH CLAY BRICK AND MORTAR.



DB-9 DISTRIBUTION BOX DETAIL
 (MINIMUM 3 S.F. BOTTOM AREA) NTS



LEACHFIELD CHARCOAL FILTER VENT DETAIL
 (NTS)



GREASE TRAP-RESTAURANT & BANQUET HALL
 8,000 GALLON TWO COMPARTMENT SEPTIC TANK
 NTS (H-20)

PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	5/12/16	OWTS/TOWN SUBMISSION	GAB/	CNB
2	5/25/16	TOWN PLANNER COMMENTS	AKG	CNB
3	6/27/16	EDITS PER DEM COMMENTS	AKG	CNB

SCALE: NTS
 CA JOB # 215113
 APRIL 11, 2016

DRAWN BY: AKG
 CHECK BY: CNB

ISSUED FOR PERMITTING

OWTS DETAILS 2

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)
 CHERENZIA & ASSOCIATES, LTD.

C-19

SHEET 19 OF 23

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT

c/o PAUL MIHALIDES
 2001 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
 AUG 11 2016
 Office of Water Resources

SCALE: NTS
 CA JOB # 215113
 APRIL 11, 2016

ISSUED FOR PERMITTING

OWTS DETAILS 3

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

PREPARED FOR THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

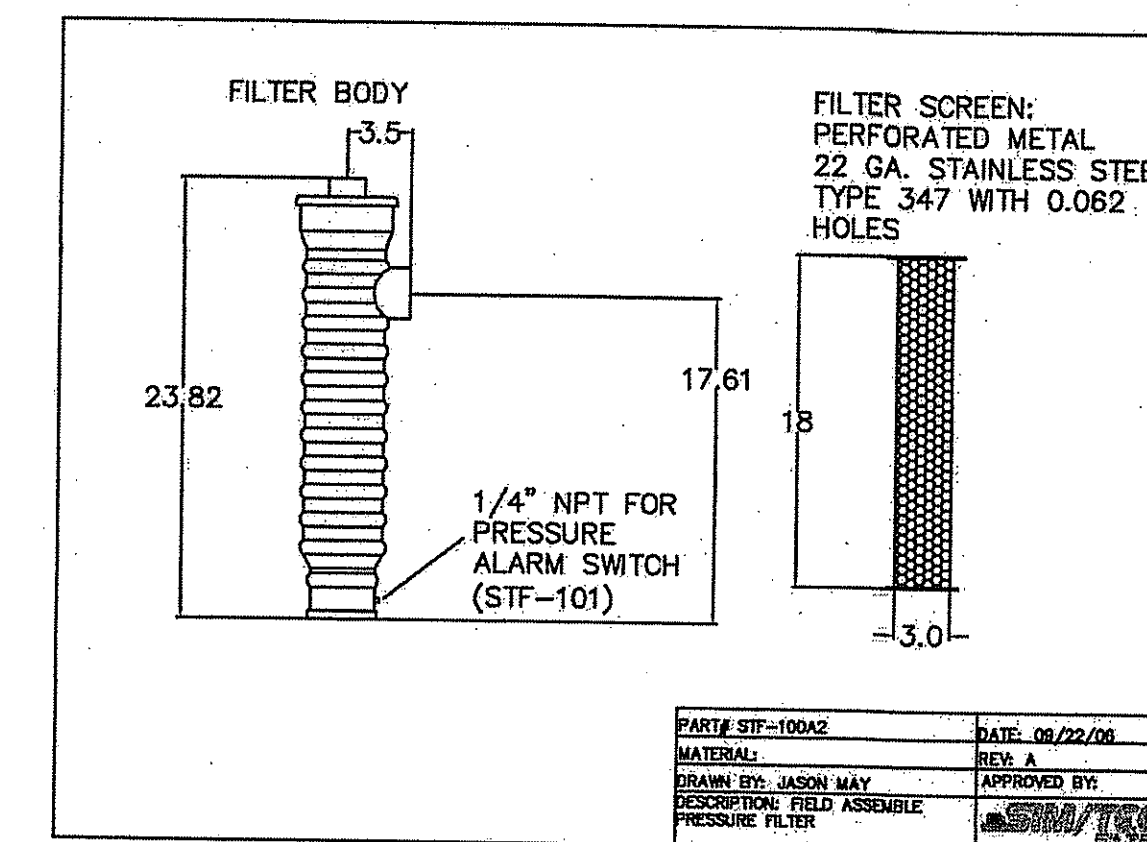
C N BEAULIEU-SHEA
 No. 5701
 PROFESSIONAL ENGINEER (CIVIL)

C-20

SHEET 20 OF 23

CHERENZIA & ASSOCIATES, LTD.

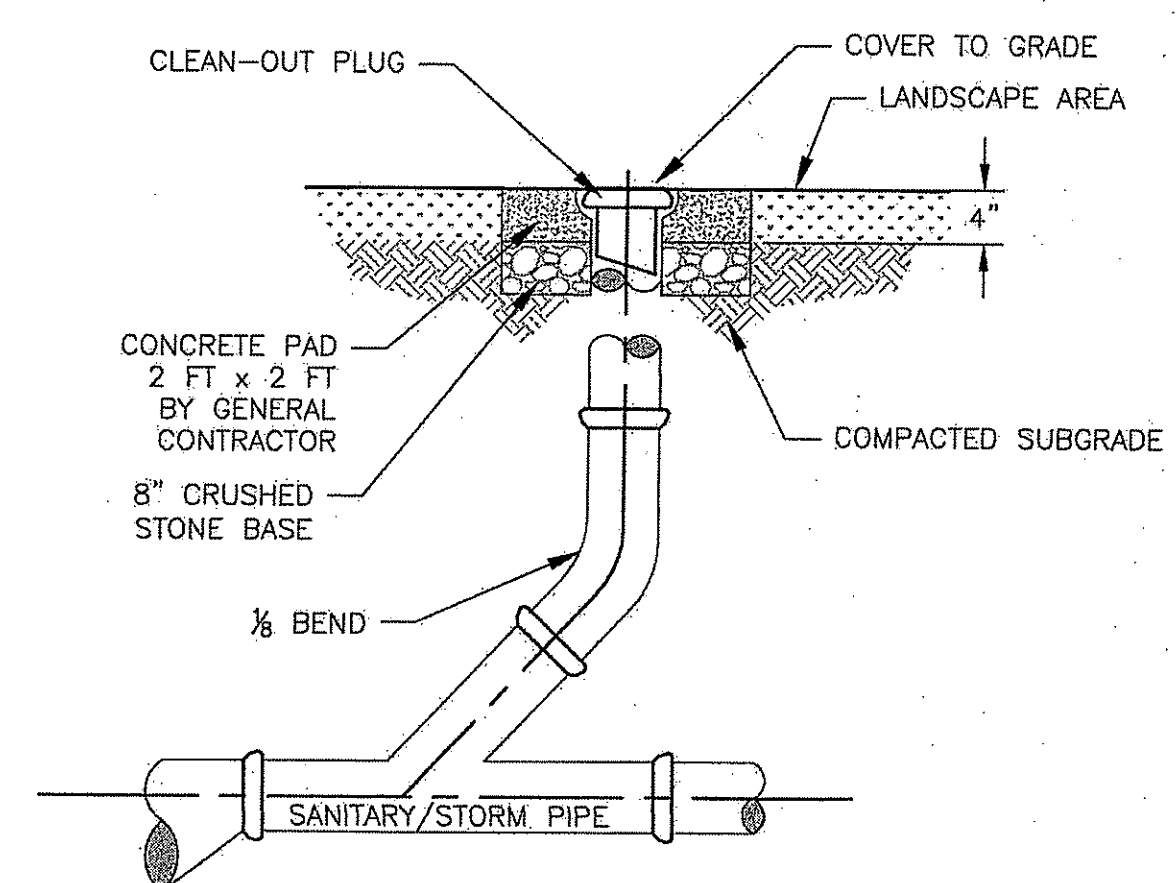
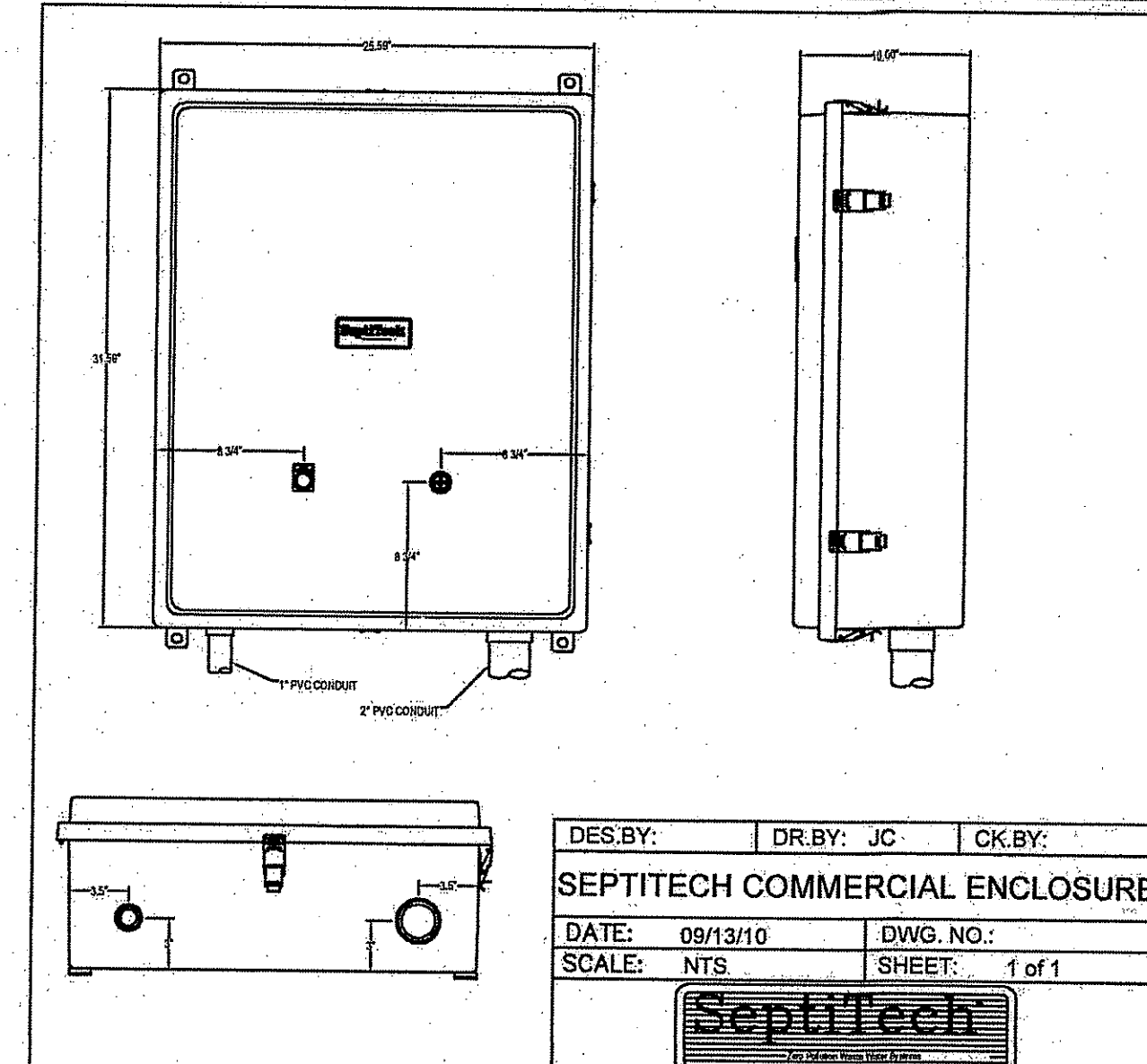
RIDEM REVIEW
 PAGE 22 OF 35



PART# STF-10042	DATE: 06/22/06
MATERIAL:	REV: A
DRAWN BY: JASON MAY	APPROVED BY:
DESCRIPTION: FIELD ASSEMBLY PRESSURE FILTER	

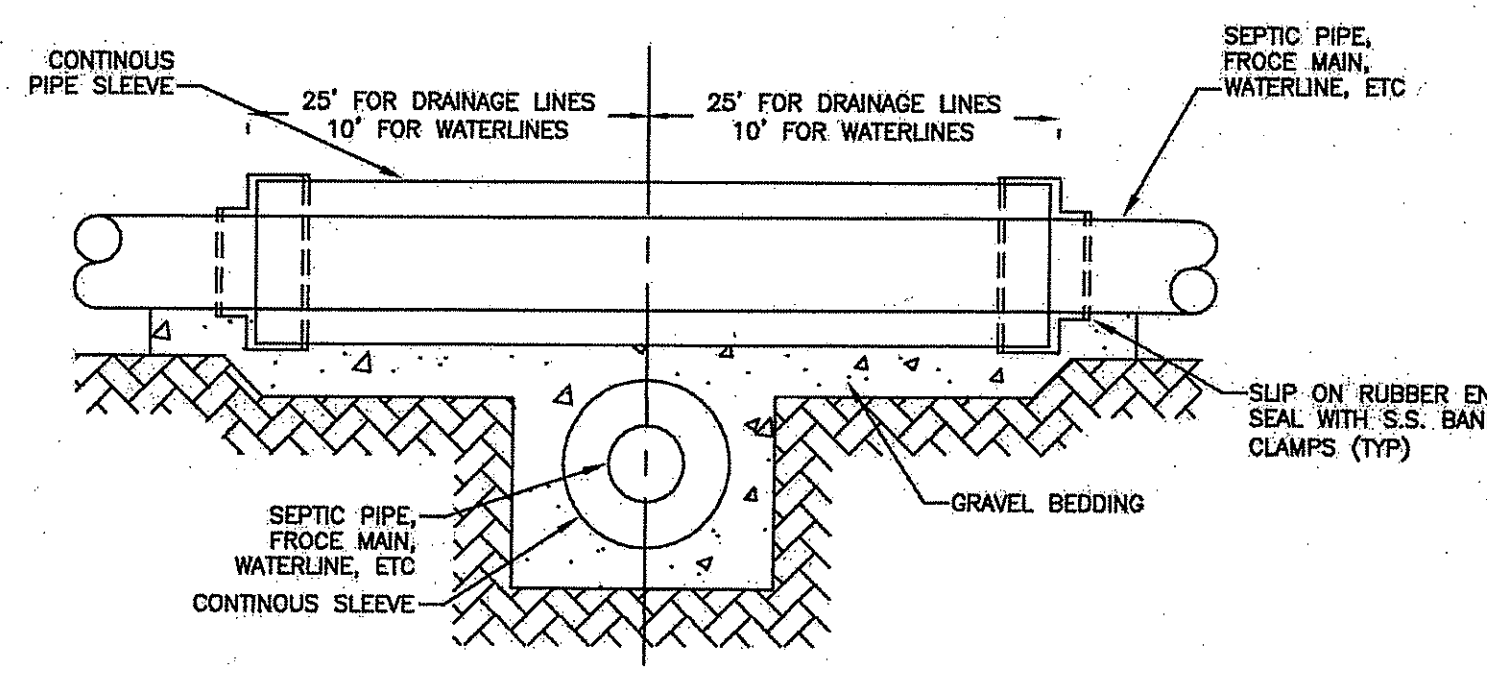
DES. BY: DR. BY: JC CK. BY:
SEPTITECH COMMERCIAL ENCLOSURE
 DATE: 09/13/10 DWG. NO.:
 SCALE: NTS SHEET: 1 of 1

EFFLUENT PIPING CLEAN-OUTS		EFFLUENT PIPING CLEAN-OUTS	
CLEAN-OUT NUMBER	ELEVATION	CLEAN-OUT NUMBER	ELEVATION
SCO-1	174.00	SCO-25	121.75
SCO-2	165.00	SCO-26	121.00
SCO-3	155.00	SCO-27	120.25
SCO-4	146.00	SCO-28	119.50
SCO-5	140.00	SCO-29	115.95
SCO-6	138.00	SCO-30	120.75
SCO-7	137.00	SCO-31	117.75
SCO-8	134.00	SCO-32	OMITTED
SCO-9	132.00	SCO-33	122.75
SCO-10	130.50	SCO-34	120.75
SCO-11	129.00	SCO-35	115.60
SCO-12	128.25	SCO-36	124.00
SCO-13	127.50	SCO-37	122.25
SCO-14	126.75	SCO-38	120.50
SCO-15	126.00	SCO-39	118.90
SCO-16	125.25	SCO-40	121.25
SCO-17	124.50	SCO-41	120.50
SCO-18	123.75	SCO-42	119.75
SCO-19	122.00	SCO-43	119.00
SCO-20	117.80	SCO-44	118.25
SCO-21	124.75	SCO-45	117.50
SCO-22	124.00		
SCO-23	123.25		
SCO-24	122.50		



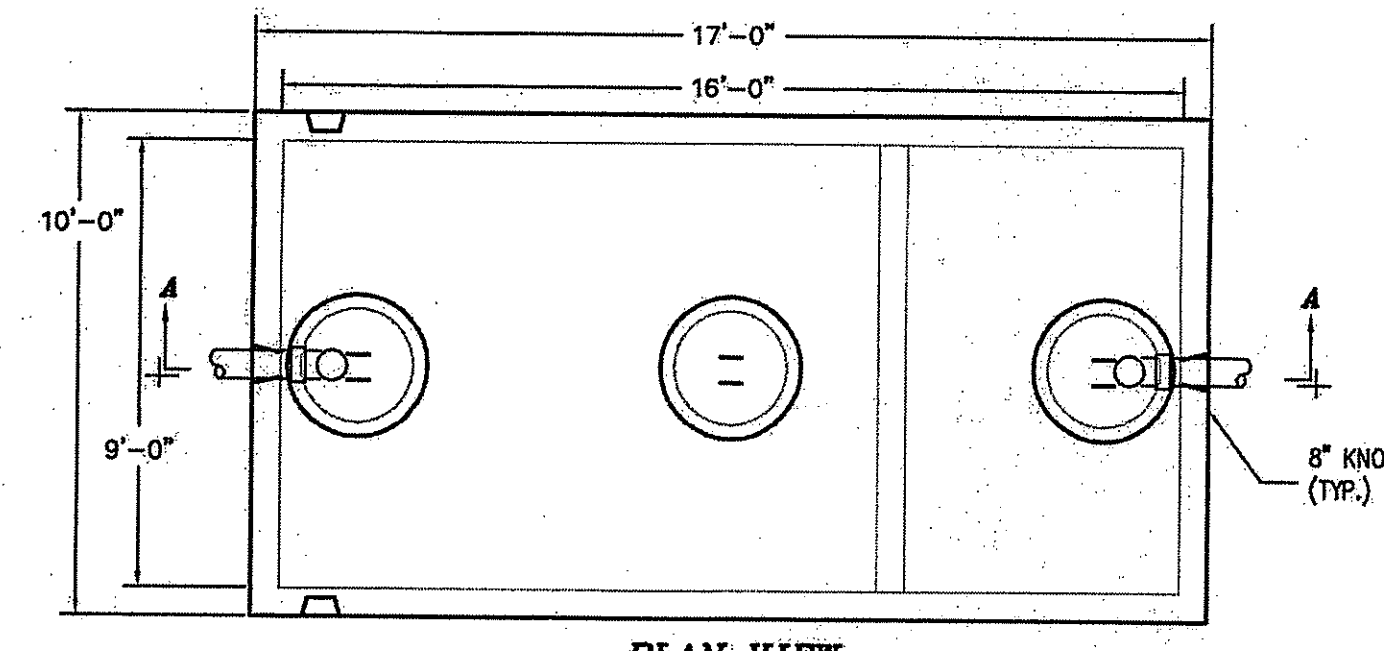
CLEANOUT

NTS CA-D-008

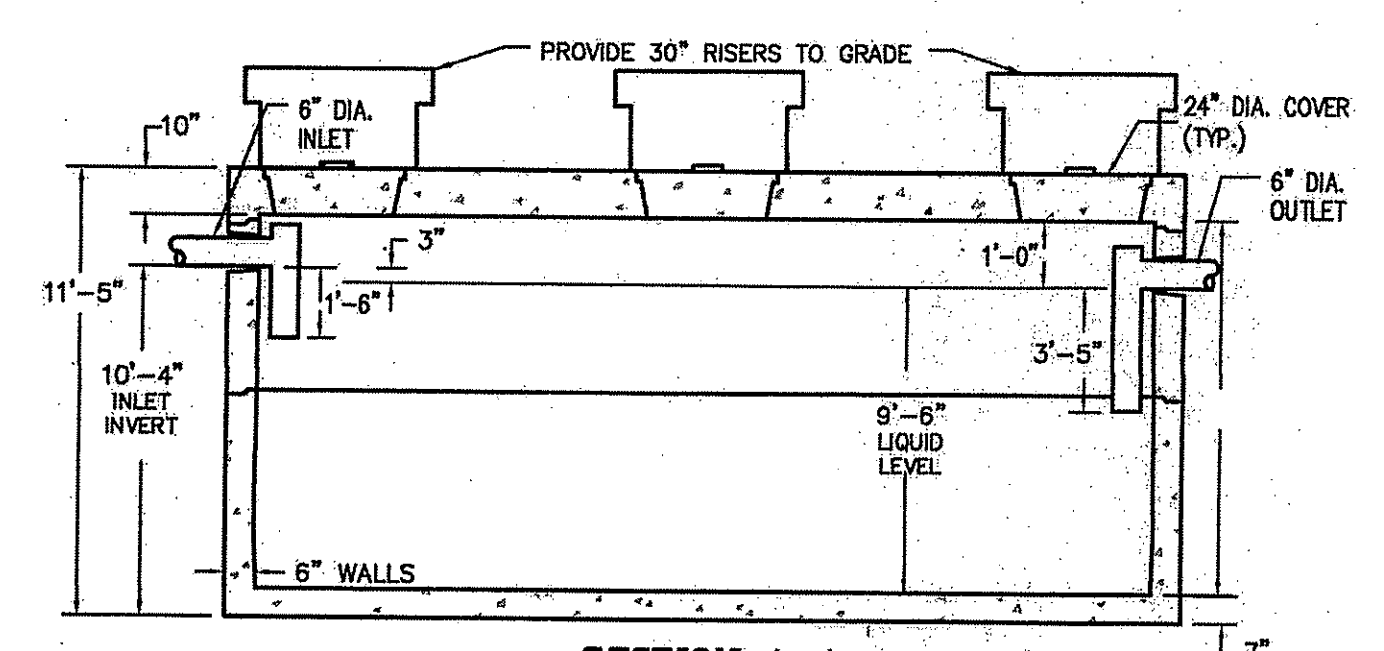


PIPE SLEEVE DETAIL

- NOTES:
 1. ALL SEPTIC PIPING TO BE SLEEVED WITHIN 25' AND AT ALL CROSSINGS OF DRAINAGE LINES.
 2. ALL WATERLINES TO BE SLEEVED WITHIN 10' AND AT ALL CROSSINGS OF SEPTIC PIPING.



PLAN VIEW



SECTION A-A

**RECIRCULATION TANK
 10,000 GALLON SINGLE COMPARTMENT SEPTIC TANK**

NTS (H-20)

Horizon	Depth	Horizon Boundaries	Soil Colors	Re-Box Description	Texture	Structure	Consistence	Soil Category
Dist	Topo	Matrix	Re-Box Features	Ab. S. Con.				
1A	0-4	a s	10YR 3/3		fsl	1sbk f	fr	4
Bw1	4-13	c s	10YR 5/4		fsl	1sbk f	fr	4
Bw2	13-24	u s	2.5Y 5/4 10YR 5/6	c-m-d	fsl	1sbk f	fr	4
2C	24-36	a s	10YR 5/4		vgf	O-sg	loose	1m
2C2	36-120		2.5Y 7/2		s	O-sg	loose	1

Horizon	Depth	Horizon Boundaries	Soil Colors	Re-Box Description	Texture	Structure	Consistence	Soil Category
Dist	Topo	Matrix	Re-Box Features	Ab. S. Con.				
1A	15-0	a s	10YR 3/2		fsl	1sbk f	fr	4
Ab	0-2	a s	10YR 3/3		fsl	1sbk f	fr	4
Bw1	2-11	c s	10YR 4/6		fsl	1sbk f	fr	4
Bw2	11-19	a s	2.5Y 5/6		fsl	1sbk f	fr	4
2C	19-32	a s	10YR 5/6		cos	O-sg	loose	1
2C2	32-135		2.5Y 7/2		s	O-sg	loose	1

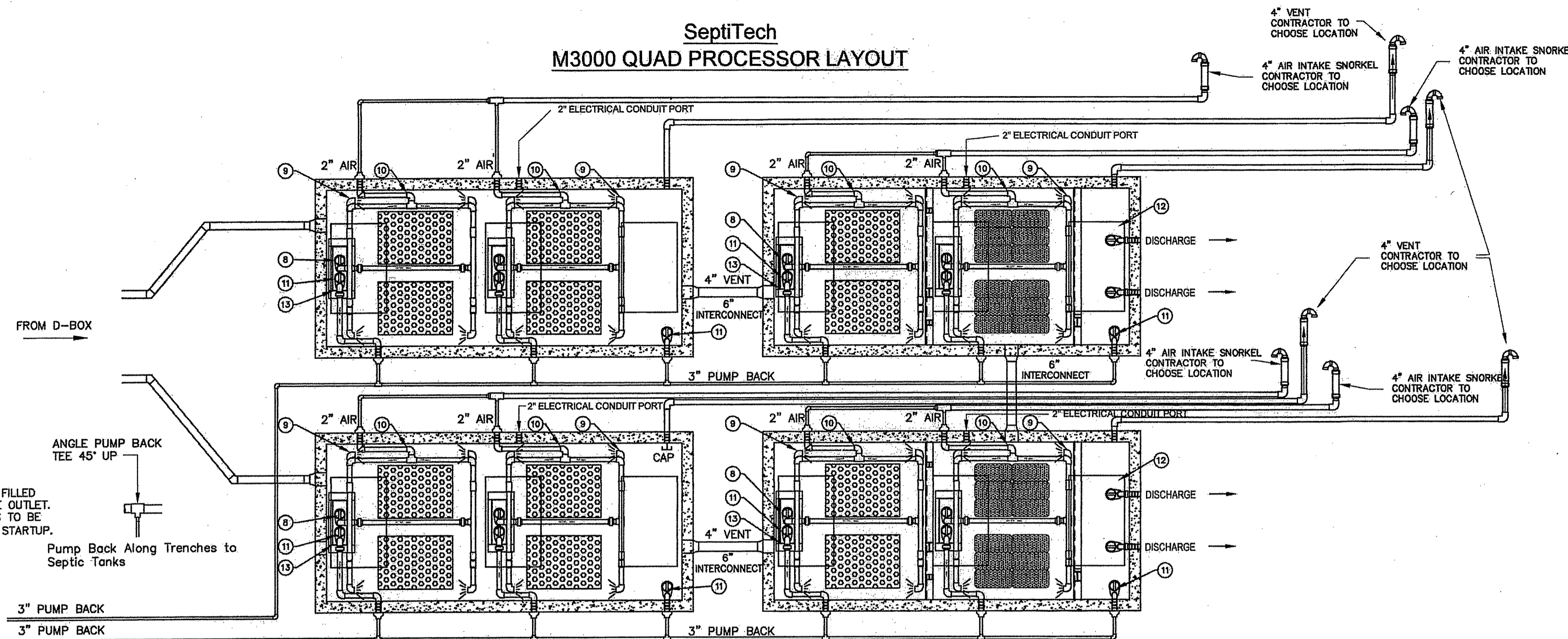
Horizon	Depth	Horizon Boundaries	Soil Colors	Re-Box Description	Texture	Structure	Consistence	Soil Category
Dist	Topo	Matrix	Re-Box Features	Ab. S. Con.				
1A	34-13	a s	10YR 2/2		fsl	1sbk f	fr	4
1C	13-7	a s	2.5 4/1		cos	O-sg	loose	1
1A'	7-0	c s	10YR 3/2		fsl	1sbk f	fr	4
2C	0-135		10YR 5/3		s	O-sg	loose	1

Horizon	Depth	Horizon Boundaries	Soil Colors	Re-Box Description	Texture	Structure	Consistence	Soil Category
Dist	Topo	Matrix	Re-Box Features	Ab. S. Con.				
1A	0-5	a s	10YR 3/2		fsl	1sbk f	fr	4
Bw1	5-10	c s	10YR 3/6		fsl	1sbk f	fr	4
Bw2	10-20	a s	10YR 4/4		gsf	1sbk f	fr	4
2C	20-72	a s	10YR 4/4		vgf	O-sg	loose	1m
2C2	72-120		10YR 5/3		vgf	O-sg	loose	1

SOIL NOTES:
 APPLICATION #1611-0035
 FEBRUARY 16, 2016
 TEST HOLE #1 (ELEV. 126.40)
 DEPTH TO GWT = 96"
 GROUNDWATER ELEV. = 118.40
 TEST HOLE #2 (ELEV. 126.80)
 DEPTH TO GWT = 96"
 GROUNDWATER ELEV. = 118.80
 TEST HOLE #3 (ELEV. 123.50)
 DEPTH TO GWT = 96"
 GROUNDWATER ELEV. = 114.25*
 *15" FILL + 96" TO GWT = 111" FROM E.G. (9.25")
 TEST HOLE #4 (ELEV. 126.40)
 DEPTH TO GWT = 96"
 GROUNDWATER ELEV. = 117.15*
 *15" FILL + 96" TO GWT = 111" FROM E.G. (9.25")

AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED SEP 8 2016
 NO CHANGES ALLOWED
 ANY CHANGES MUST BE APPROVED BY THE
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 BEFORE CONSTRUCTION

SeptiTech
M3000 QUAD PROCESSOR LAYOUT



NOTE TO INSTALLER
THE PRIMARY SEPTIC TANK NEEDS TO BE FILLED WITH CLEAN WATER TO THE LEVEL OF THE OUTLET. THE SEPTI-TECH PROCESSOR TANK NEEDS TO BE 1/2 FILLED WITH CLEAN WATER PRIOR TO STARTUP.

ANGLE PUMP BACK TEE 45° UP
Pump Back Along Trenches to Septic Tanks

GENERAL NOTES

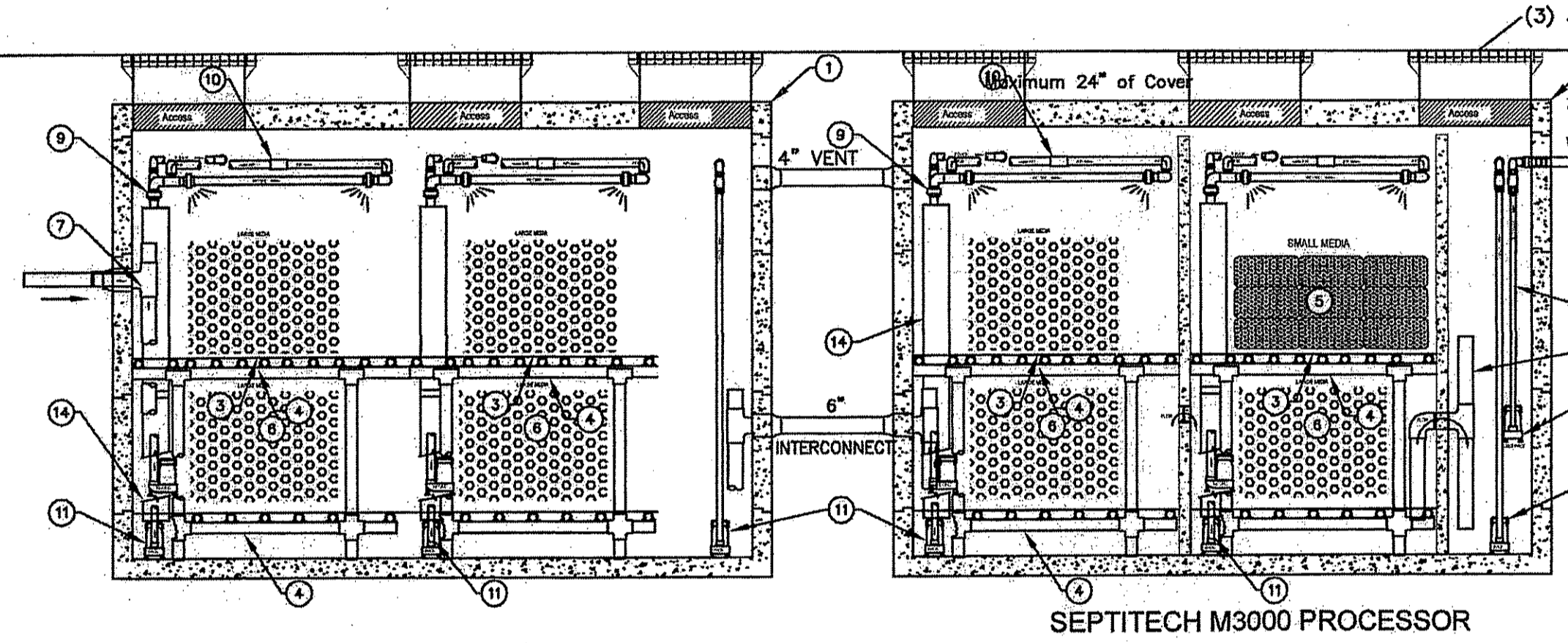
- TANK(S) SHALL NOT BE INSTALLED AT A DEPTH ANY GREATER THAN 24-INCHES. TANK INSTALLATIONS REQUIRING A DEPTH GREATER THAN 24-INCHES SHALL DO SO WITH PRIOR APPROVAL BY SEPTITECH ONLY. ANY RISERS REQUIRED TO BRING THE ALUMINUM HATCHES TO GRADE ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- TANK(S) SHALL BE INSTALLED WITH A MINIMUM OF 12-INCHES OF COMPACTED CRUSHED STONE BEDDING. SELECT FILL SHALL BE USED FOR BACKFILLING AROUND TANKS. NATIVE MATERIAL MAY BE USED IF APPROVED BY THE DESIGN ENGINEER.
- WATER TESTING: CONTRACTOR IS RESPONSIBLE FOR WATER TESTING THE CONCRETE TANK(S) ONCE THE TANK(S) INSTALLATION HAS BEEN COMPLETED AND ALLOWED TO SET OVERNIGHT. WATER TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM C1227.2. INSTALLING CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CLEAN WATER FOR THE TESTING, FILLING THE TANKS, AND PUMPING THE TANKS DRY ONCE TESTING IS COMPLETED.
- EXTERIOR PIPING: CONTRACTOR IS RESPONSIBLE FOR SUPPLYING AND INSTALLING ALL EXTERIOR PIPING PER SEPTITECH INSTALLATION DRAWINGS.
- AIR INTAKE PIPING: AIR INTAKE SNORKEL SHALL BE INSTALLED WITHIN 100 FEET OF THE PROCESSOR TANK. AIR INTAKE PIPING SHALL BE INSTALLED SUCH THAT A POSITIVE RITCH IS PROVIDED BACK TOWARDS THE PROCESSOR TANK SUCH THAT ANY CONDENSATION BUILD UP IS FREE TO DRAIN.
- PIPE INSULATION: CONTRACTOR IS RESPONSIBLE FOR INSULATING ALL PIPING EXTERIOR TO THE SEPTITECH PROCESSOR INCLUDING THE DISCHARGE LINE FROM THE PROCESSOR TO THE DISPOSAL FIELD.
- TANK INSULATION: AFTER CONCRETE TANKS HAVE BEEN INSTALLED AND WATER TESTING IS COMPLETED, CONTRACTOR SHALL INSULATE THE TOP AND SIDES OF THE PROCESSOR TANK BELOW FROST DEPTH (4 FEET MINIMUM DOWN THE SIDES OF THE TANK WITH 2" RIGID FOAM (BLUE) BOARD INSULATION AND THEN COMPLETE BACKFILLING. CONTRACTOR IS ALSO RESPONSIBLE FOR INSTALLING INSULATION OVER THE TOP OF THE FORCEMAIN FROM THE SEPTITECH SYSTEM TO THE DISPOSAL FIELD IF NOT BURIED BELOW FROST LEVEL IN ORDER TO PREVENT FREEZING.
- ELECTRICAL: ALL ELECTRICAL WORK IS THE RESPONSIBILITY OF THE CONTRACTOR'S LICENSED ELECTRICIAN AND IS NOT PROVIDED BY SEPTITECH. SYSTEM CONTROLLER SHOULD BE INSTALLED IN A HEATED BUILDING WHERE AN AMBIENT TEMPERATURE RANGE OF 60 TO 100 DEGREES F IS MAINTAINED. IF THE CONTROL PANEL MUST BE LOCATED OUTSIDE, PLEASE NOTIFY SEPTITECH, INC. SO A HEATER MAY BE INSTALLED WITHIN THE ENCLOSURE.
- SEPTITECH PROCESSORS CAN ALSO BE BUILT TO 3-PHASE POWER REQUIREMENTS. IF 3-PHASE IS REQUIRED, PLEASE NOTIFY SEPTITECH AT THE TIME OF CONTRACT SIGNING.
- PHONE LINE: CONTRACTOR IS RESPONSIBLE FOR INSTALLING A DEDICATED ANALOG PHONE LINE TO THE PROCESSOR CONTROL PANEL FOR THE AUTODIALER/MODEM. PHONE LINE MUST BE INSTALLED AND WORKING IN ORDER TO HAVE ANY WORK PERFORMED UNDER WARRANTY. ANY WORK PERFORMED ON THE SYSTEM WITHOUT THE INSTALLATION OF THE PHONE LINE SHALL BE AT THE EXPENSE OF THE OWNER.

ANTICIPATED INFLUENT CHARACTERISTICS TO SEPTI-TECH PROCESSOR

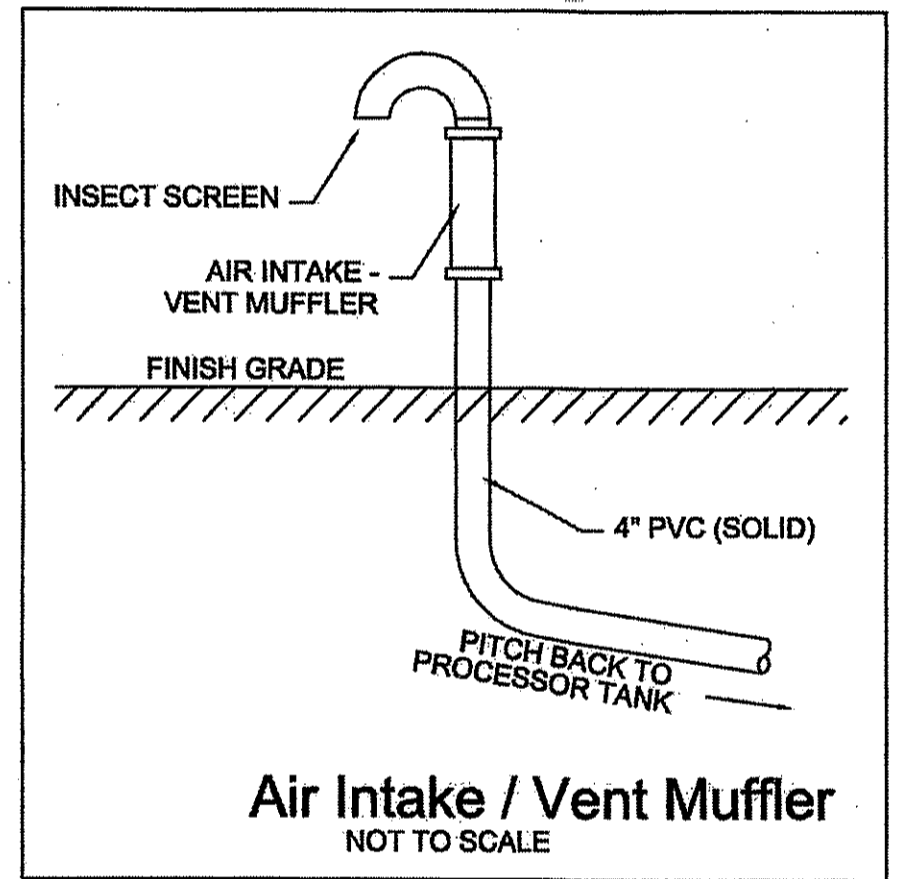
CHARACTERISTIC	AVERAGE	MAXIMUM
	MG/L	MG/L
BOD	425	600
TSS	300	450
TKN	60	90
FOG	20	40

ONCE A FACILITY IS PLACED INTO OPERATION, THE FLOWS AND WASTE STRENGTHS TO THE FACILITY SHALL BE MONITORED. IF FLOW OR ANY OF THE INFLUENT WASTE STRENGTHS EXCEED THOSE LISTED IN THE DESIGN ABOVE, MEASURES SHOULD BE TAKEN TO REDUCE THESE PARAMETERS TO THOSE LISTED ON THE PLAN SET. OTHERWISE ADDITIONAL TREATMENT CAPACITY AND PLANT EXPANSION WILL BE NECESSARY.

TOXICS OR CHEMICALS SHALL NOT BE DISPOSED OF INTO THE SYSTEM (E.G. RESTAURANT DEGREASERS AND CLEANSERS, WAX STRIPPER FOR LINOLEUM, CARPET SHAMPOO, COFFEE GRINDS, YOGURT AND CREAMS AND OTHER TOXINS).



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	8000 Gal. Concrete Tank	8	Recirc Pump
2	Interior Piping Assembly	9	Blaster Assembly
3	Screening Assembly	10	Blaster Air Header Assembly
4	Support Structure	11	Pump Back Pump
5	Small Media	12	Discharge Pump Assembly
6	Large Media	13	Pump Chute Assembly
7	Inlet Piping Assembly	14	Pump Back Chute Assembly



Environmental Management
AUG 11 2016
Office of Water Resources

PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	OWN BY	CHK BY
1	5/12/16	OWTS/TOWN SUBMISSION	GAB/ AKG	CNB
2	5/25/16	TOWN PLANNER COMMENTS	AKG	CNB
3	6/27/16	EDITS PER DEM COMMENTS	AKG	CNB

SCALE: NTS
CA JOB # 215113
APRIL 11, 2016

DRAWN BY: AKG
CHECK BY: CNB

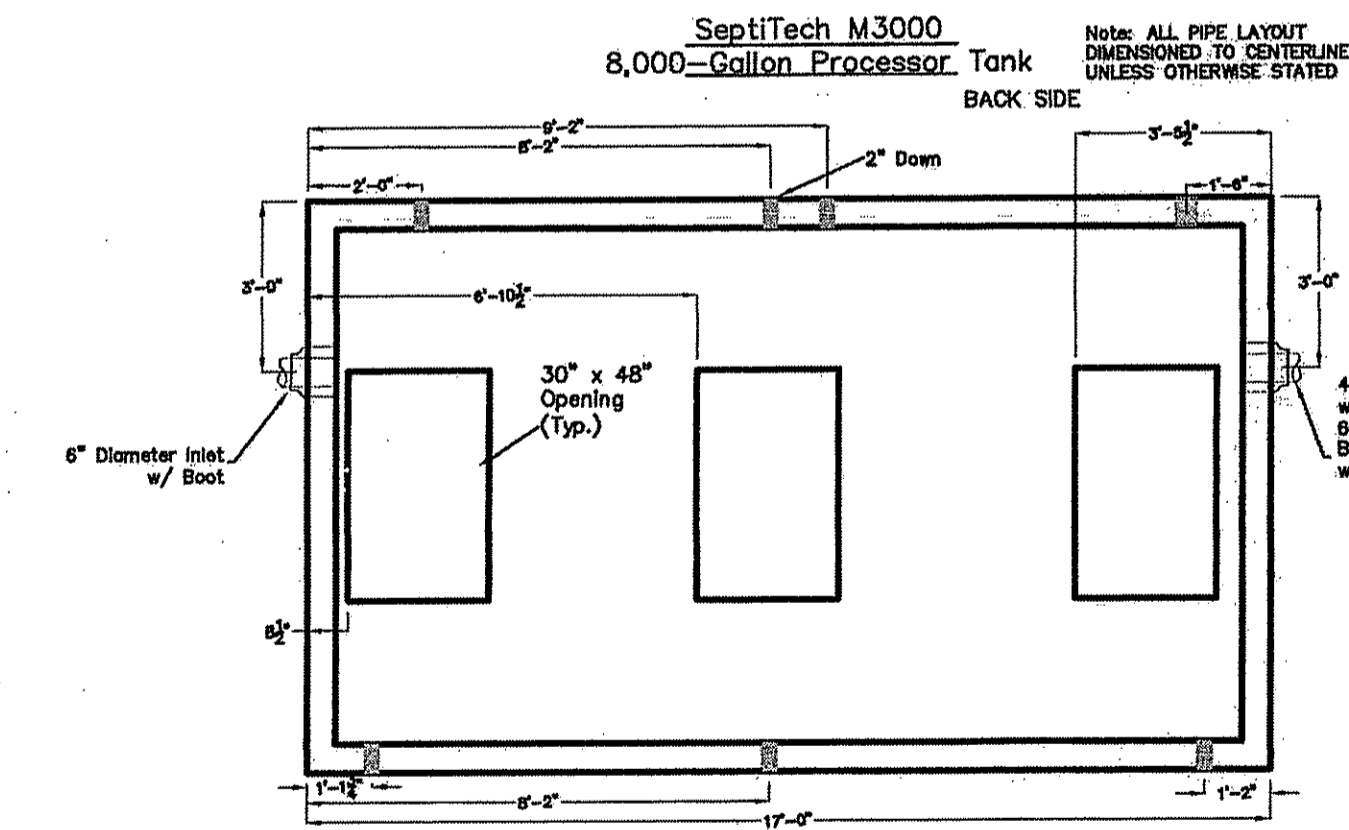
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OWTS DETAILS 4

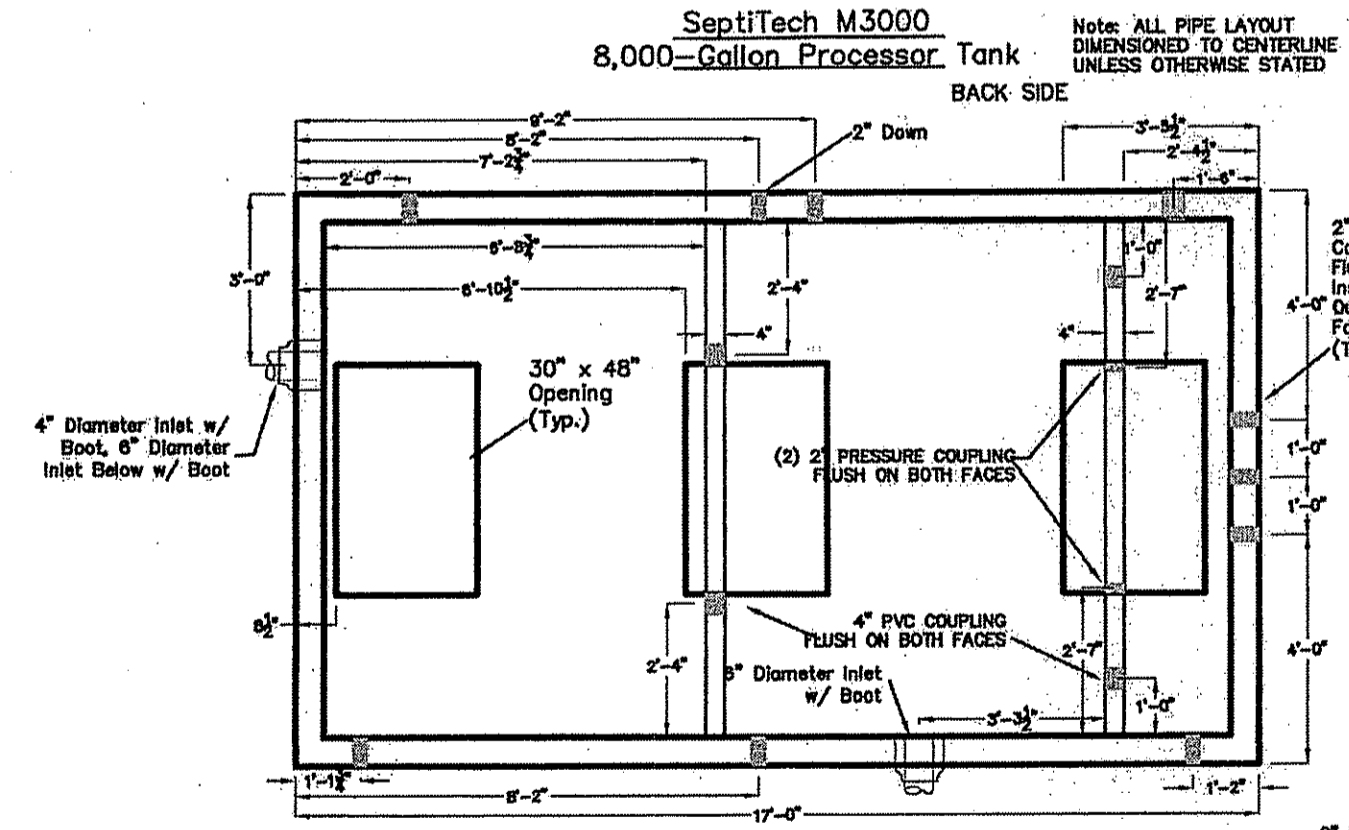
THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
87 KINGSTOWN ROAD
PLAT 6B, LOT 4
RICHMOND, RHODE ISLAND

PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

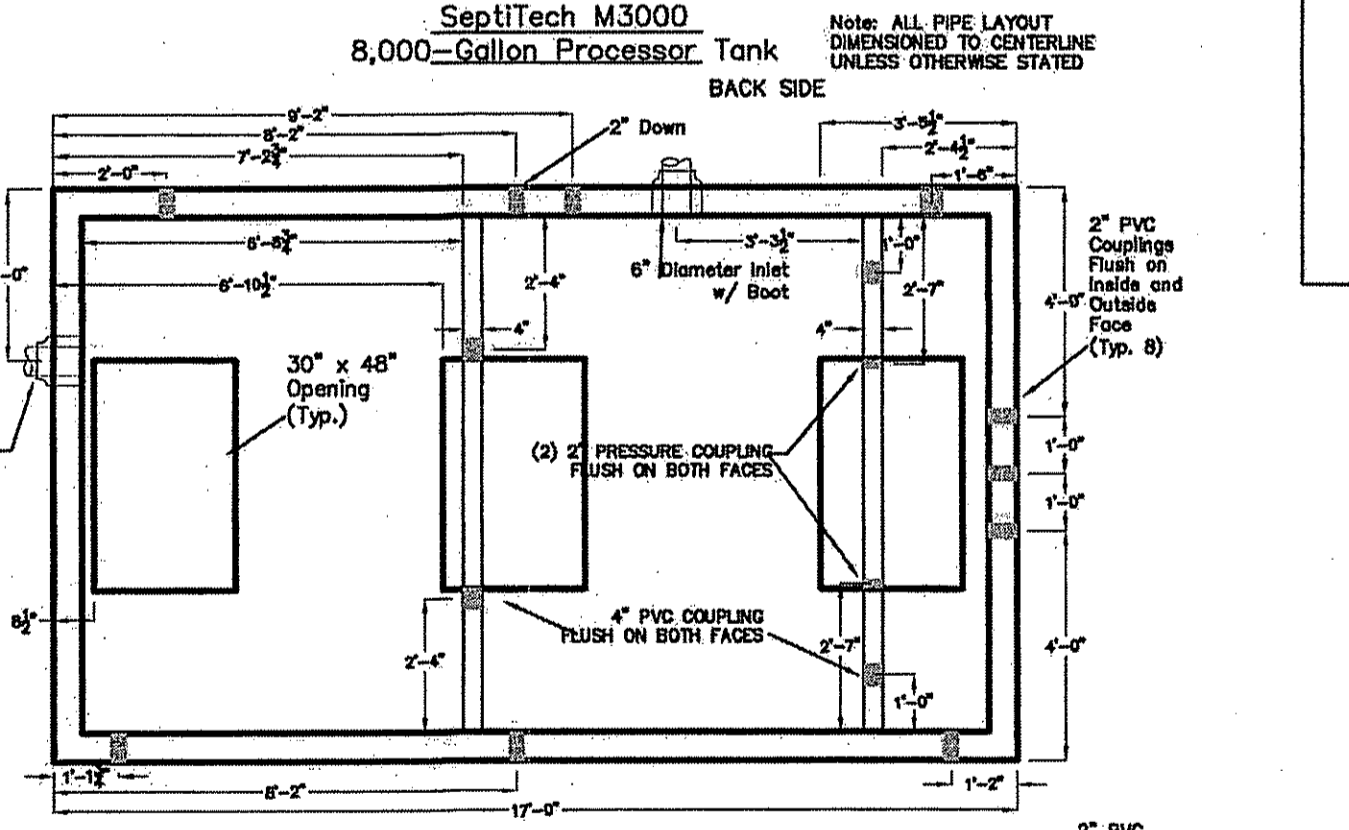
C N BEAULIEU-SHEA
No. 5701
REGISTERED PROFESSIONAL ENGINEER (CIVIL) 6/27/16
C-21
SHEET 21 OF 23
CHERENZIA & ASSOCIATES, LTD.



Tank A & B

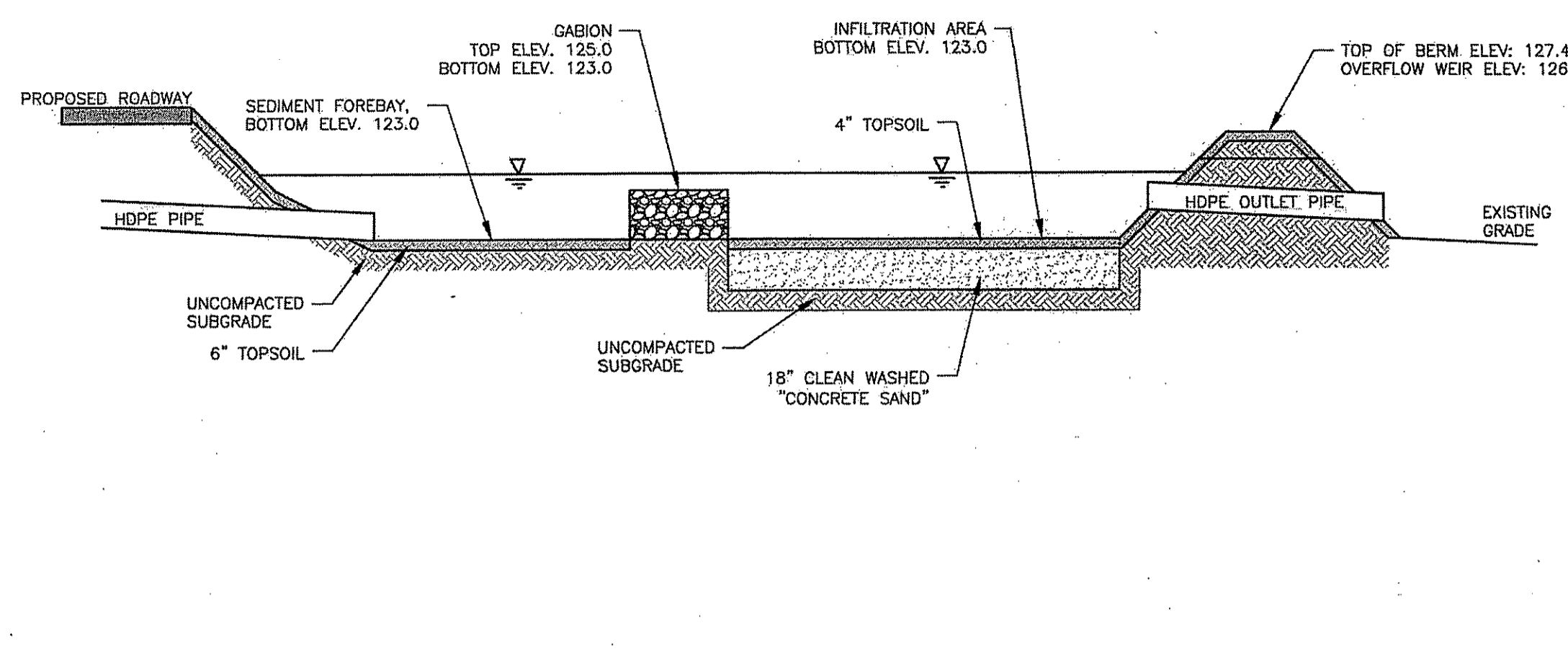


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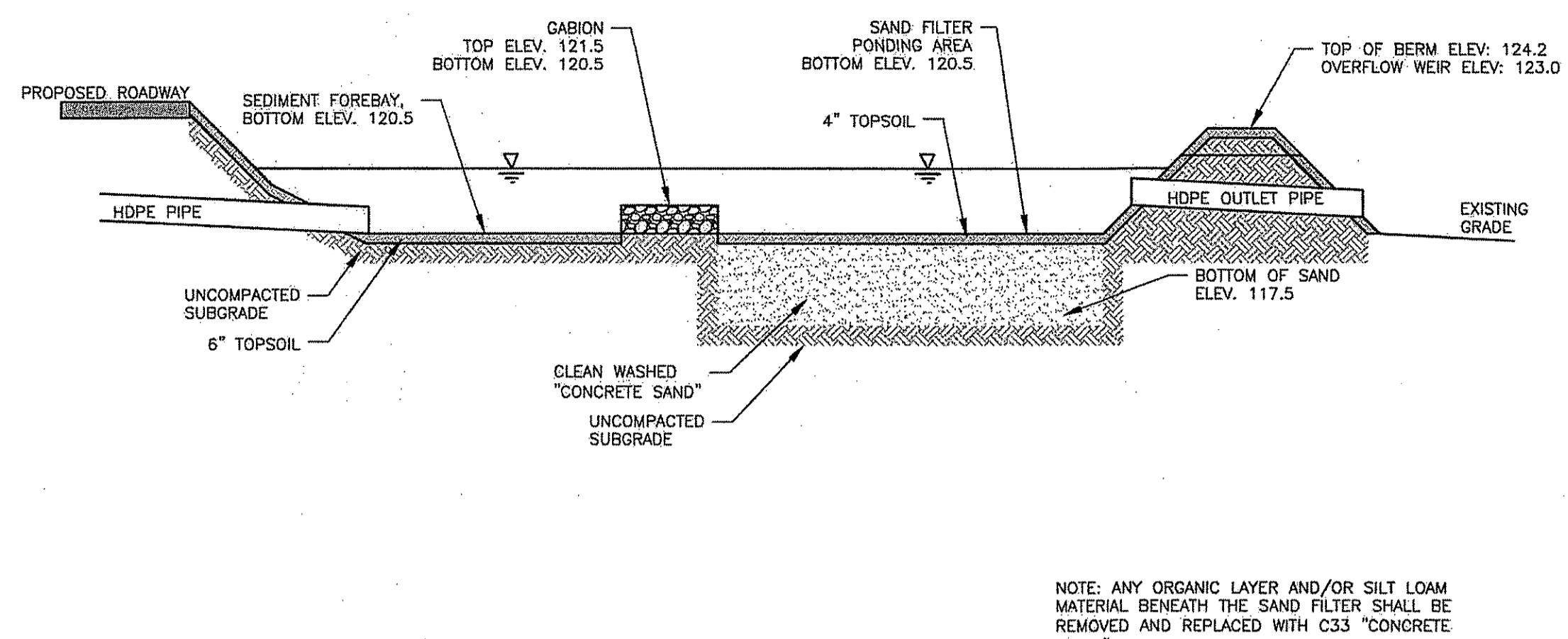


Tank D

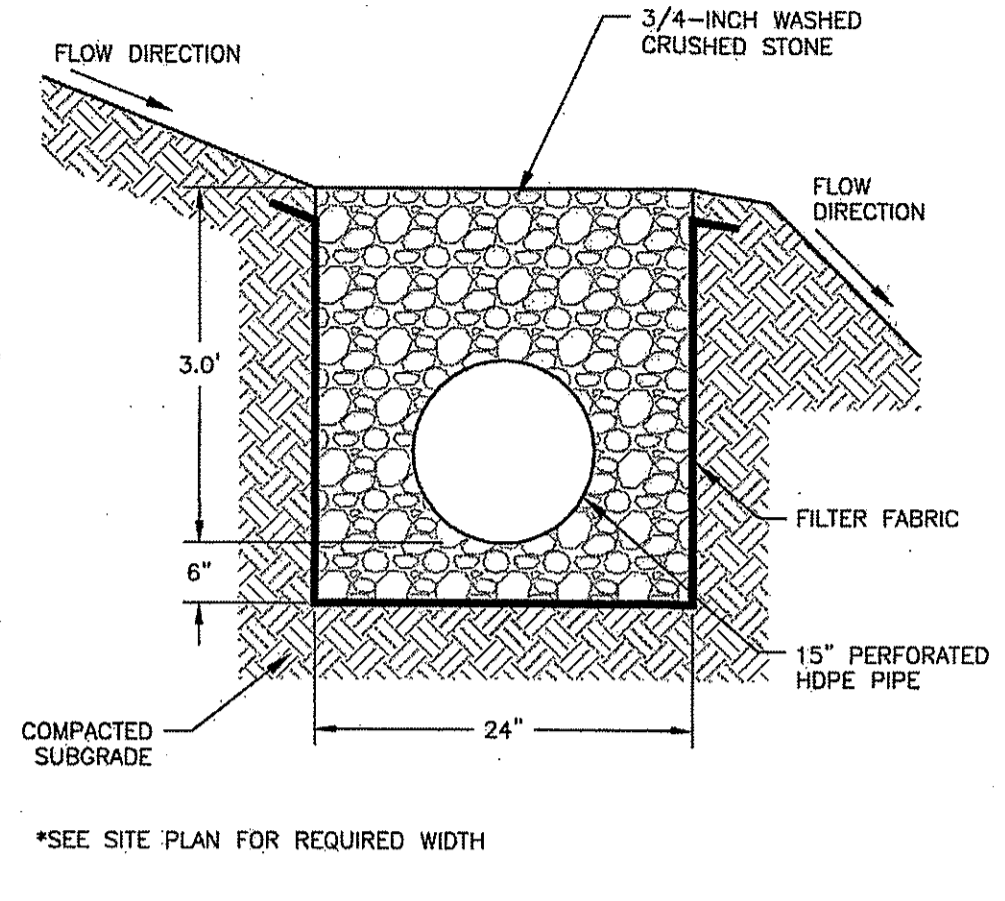
THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 c/o PAUL MIHALIDES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816



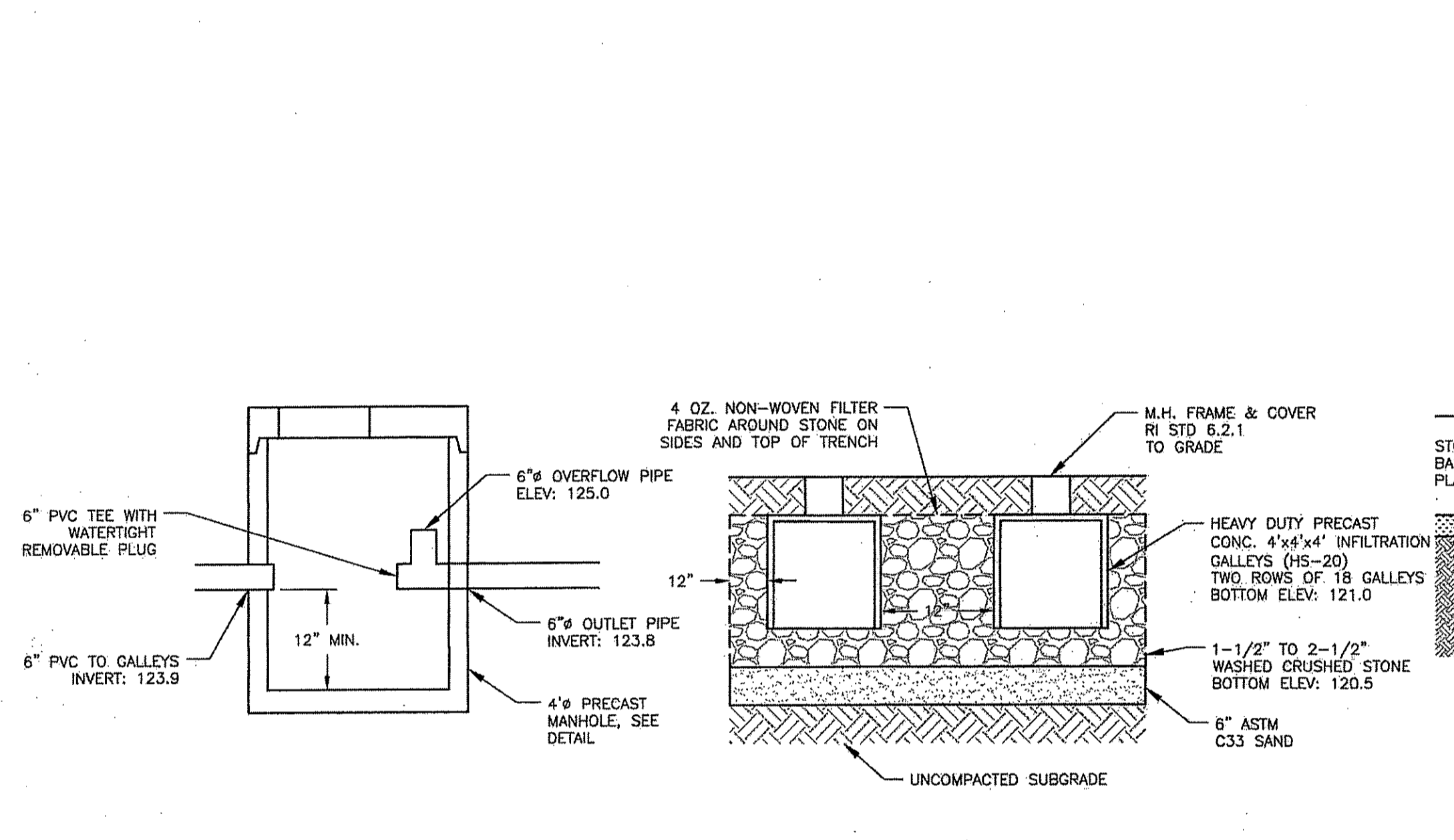
INFILTRATION BASIN/SEDIMENT FOREBAY CROSS SECTION
 NTS CA-D-8C



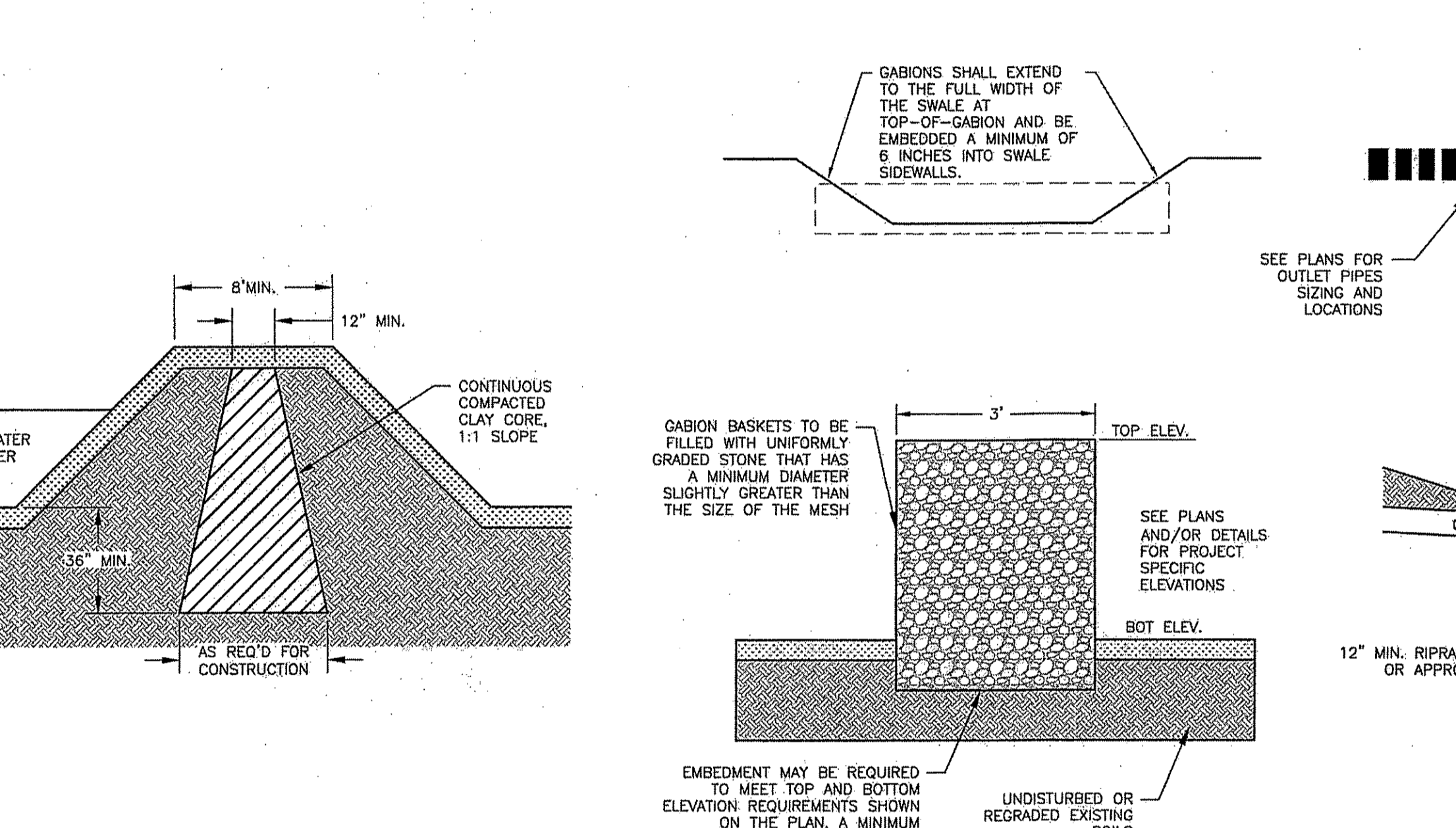
SAND FILTER/SEDIMENT FOREBAY CROSS SECTION
 NTS CA-BE



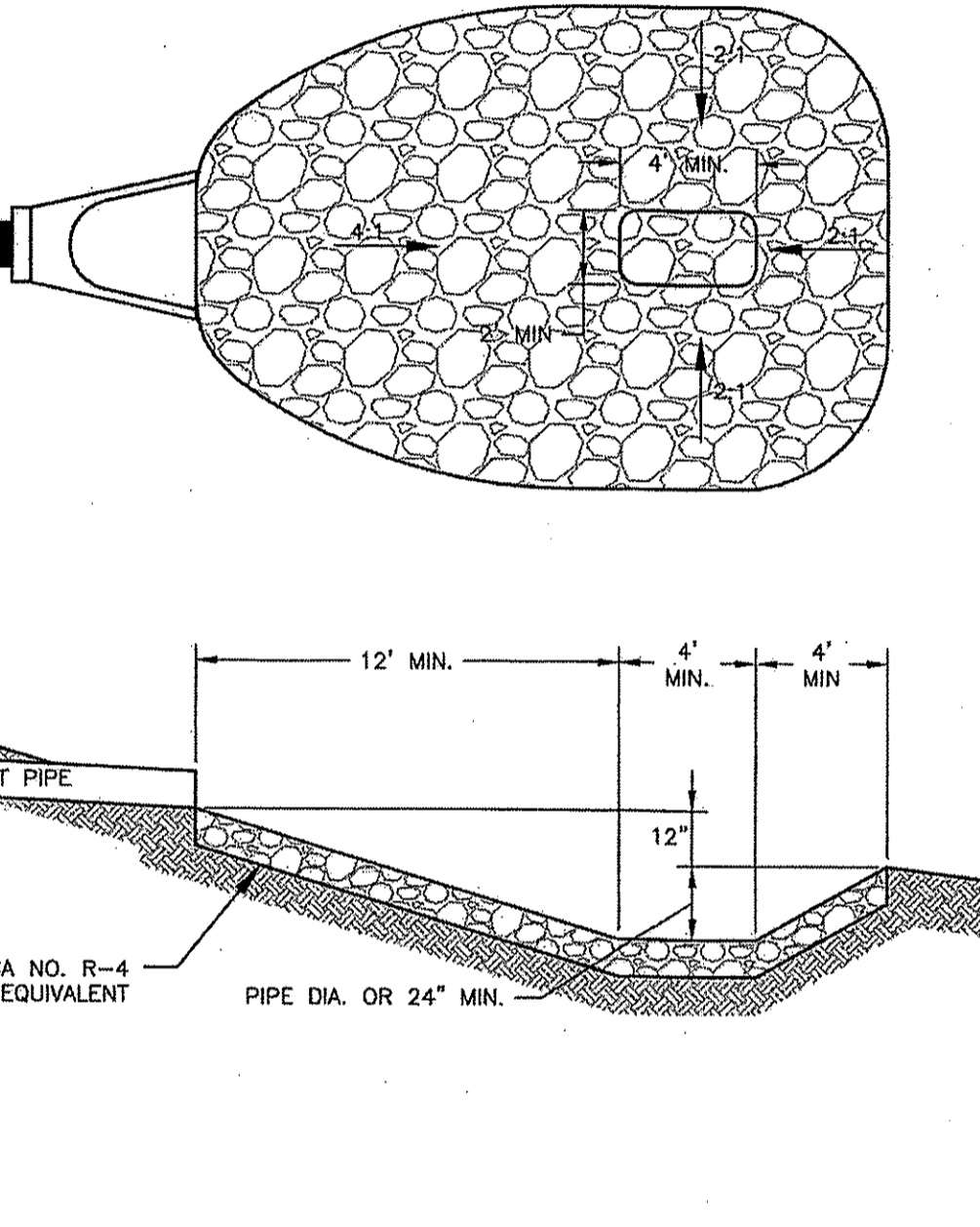
CURTAIN DRAIN
 NTS CA-D-088



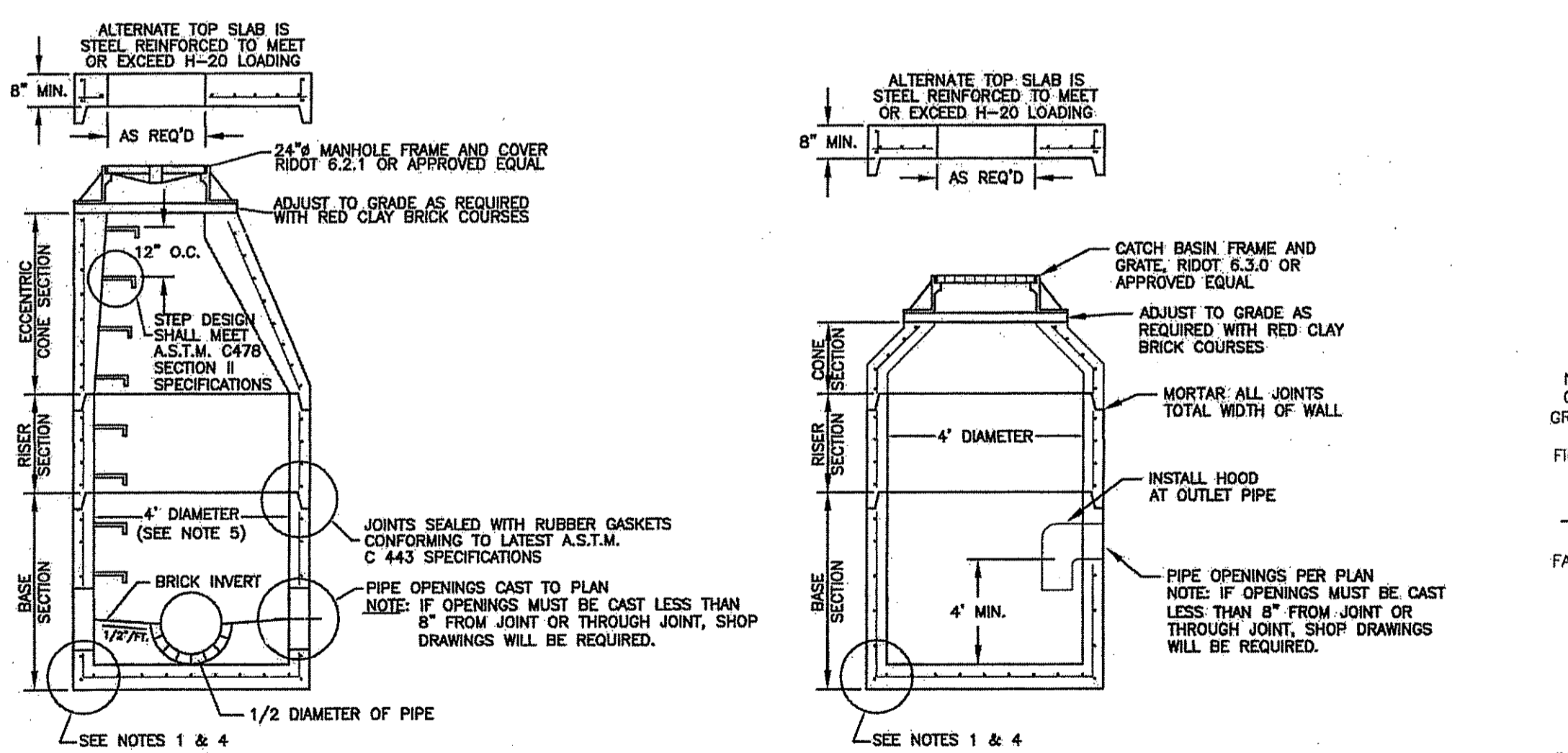
GALLEY OUTLET MANHOLE CA-D-011
INFILTRATION GALLEY CA-D-011



STONE GABION CA-D-017

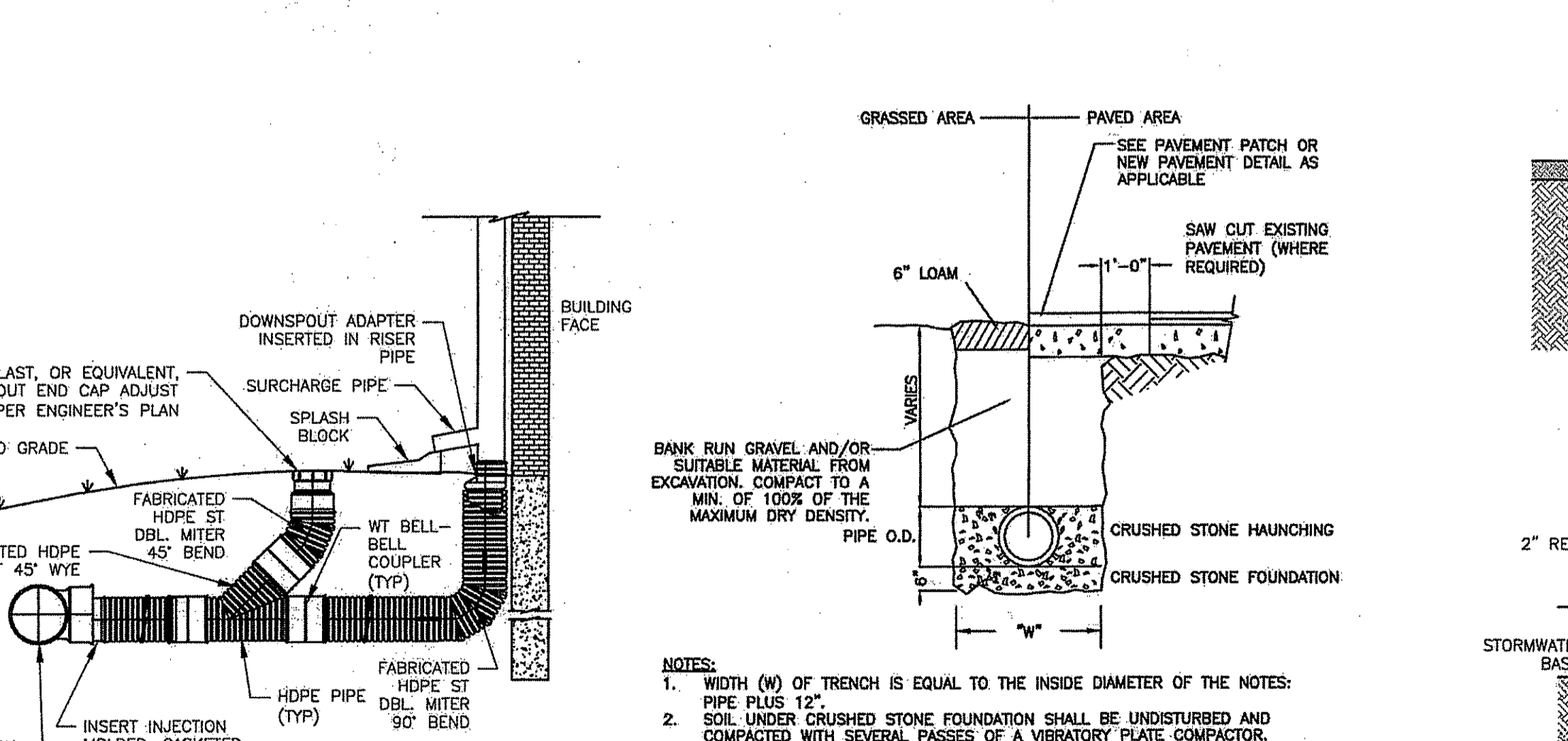


STILLING BASIN REV CA-D-018



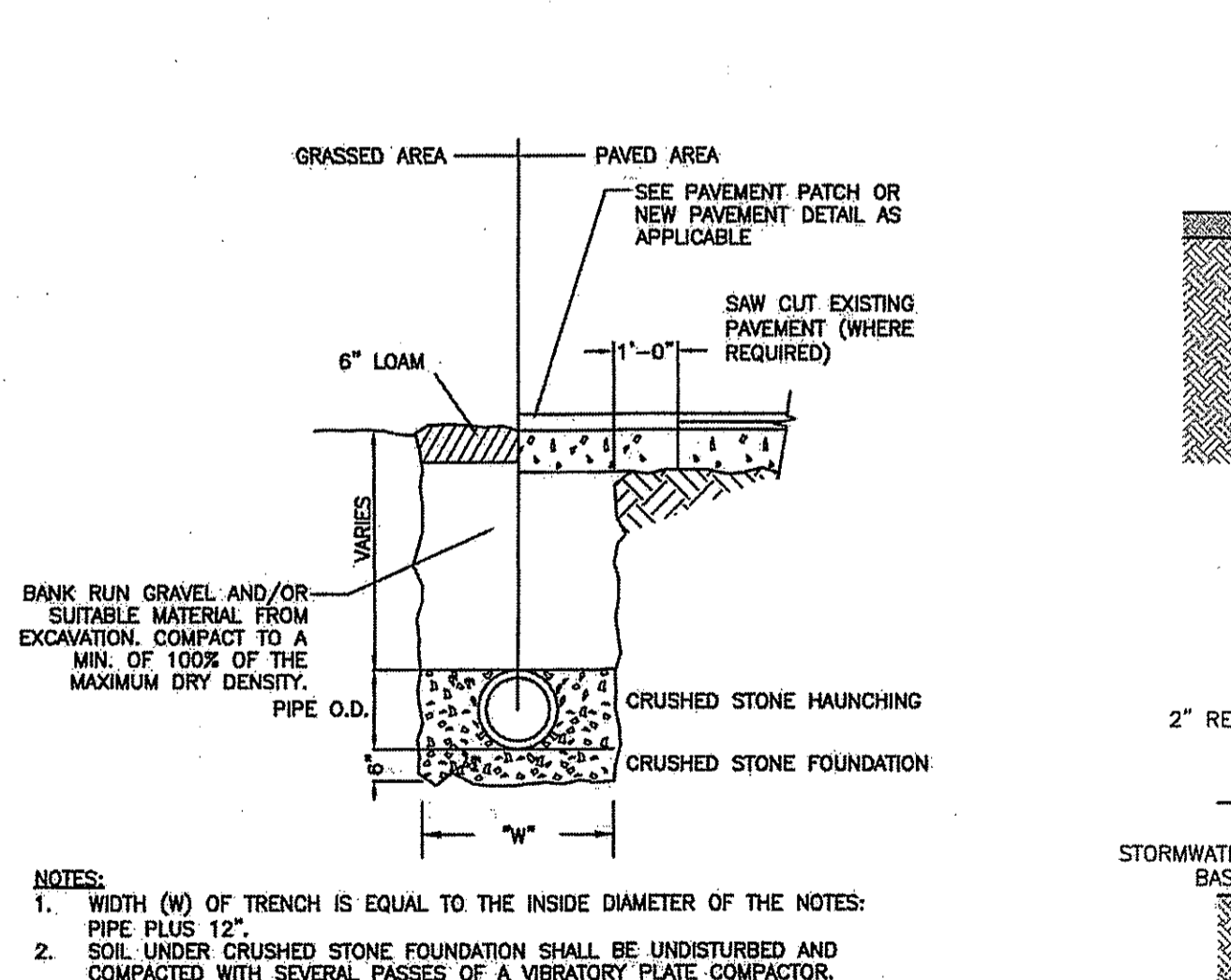
- GENERAL NOTES**
1. REINFORCING STEEL CONFORMS TO LATEST A.S.T.M. A 185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM CONCRETE MINIMUM COMPRESSIVE STRENGTH = 4000 PSI TYPE I CEMENT.
 2. MANHOLE DESIGN SPECIFICATIONS CONFORM TO LATEST A.S.T.M. C 478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
 3. ONE POUR MONOLITHIC BASE SECTION.
 4. LARGER DIAMETERS CAN BE USED AS REQUIRED IF THE FOLLOWING IS INCORPORATED INTO THE MANHOLE.
 - 5.1. FOR 5' AND 6' DIAMETER MANHOLES, 0.15 SQ. IN./LINEAL FT. MINIMUM CIRCUMFERENTIAL STEEL REINFORCEMENT IS REQUIRED.
 - 5.2. REDUCER SECTIONS TO 4' DIAMETER OR AN ALTERNATE SLAB TOP MEETING H-20 LOADS SHALL BE USED AS APPLICABLE.

PRECAST MANHOLE NTS
PRECAST CATCH BASIN NTS



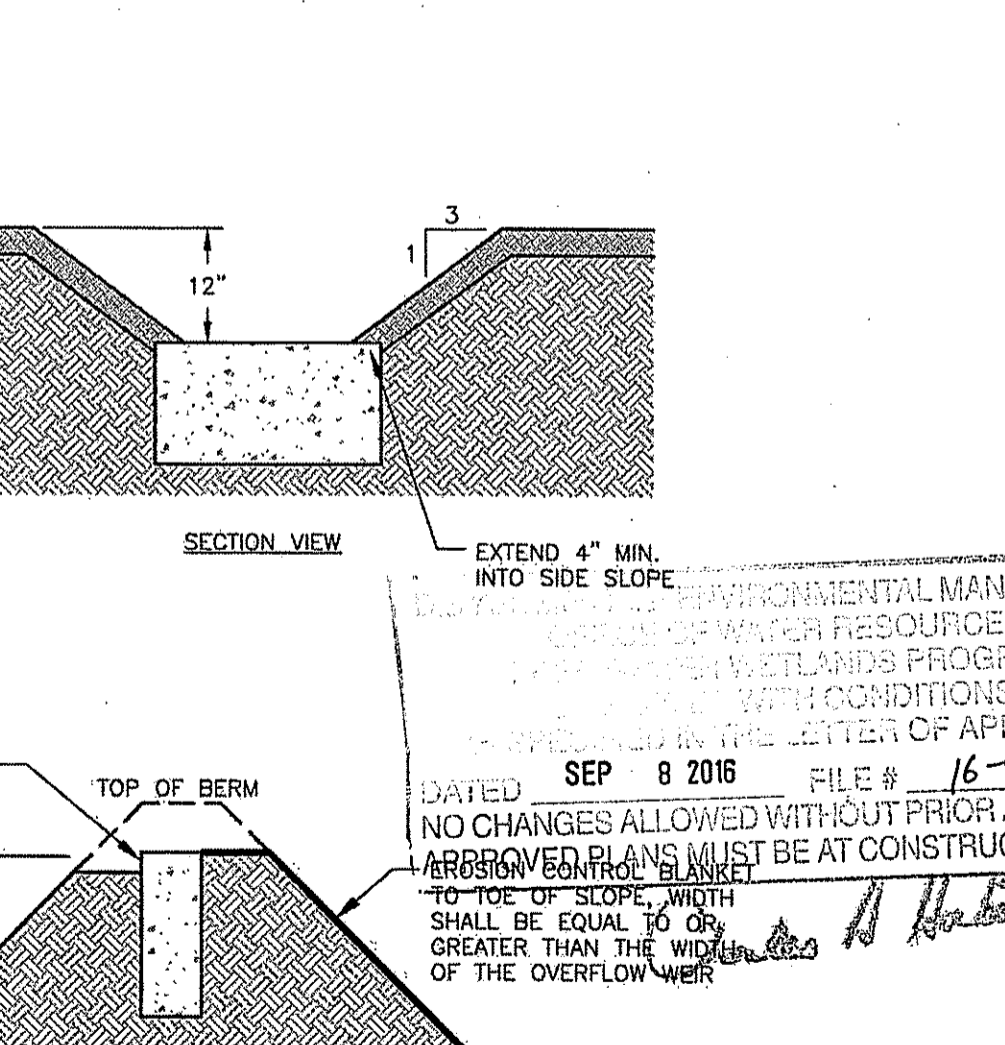
- NOTES:**
1. FABRICATED FITTINGS ARE AVAILABLE IN TEES, WYES, REDUCERS, 45° BENDS.
 2. FITTINGS SHOWN ARE EITHER WATERTIGHT (WT) OR SOIL-TIGHT (ST).

TYPICAL ROOF DRAIN CONNECTION CA-D-016
 NTS



- NOTES:**
1. WIDTH (W) OF TRENCH IS EQUAL TO THE INSIDE DIAMETER OF THE NOTES: PIPE PLUS 12".
 2. SOIL UNDER CRUSHED STONE FOUNDATION SHALL BE UNDISTURBED AND COMPACTED WITH SEVERAL PASSES OF A VIBRATORY PLATE COMPACTOR.
 3. CRUSHED STONE FOUNDATION 3/4" MAXIMUM SIZE SHALL BE PLACED 6" UNDER THE PIPE AND UP TO THE PIPE GRADE. THE PIPE AND THEREON, CRUSHED STONE PULLED AGAINST THE PIPE SIDES TO FIRMLY HOLD THE PIPE IN PLACE. CRUSHED STONE HAUNCHING 3/4" MAXIMUM SIZE SHALL BE BROUGHT LEVEL TO THE TOP OF THE PIPE AND OUT TO THE TRENCH WALL AT THIS ELEVATION FOR ALL PIPE.

TYPICAL STORM DRAIN TRENCH CROSS-SECTION NTS



- NOTES:**
1. EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN PRODUCTS P300 OR APPROVED EQUIVALENT.
 2. EROSION CONTROL BLANKET SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS.

CURB EMERGENCY SPILLWAY CA-D-088
 NTS

Environmental Management
 AUG 11 2016
 Office of Water Resources

PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
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SCALE: NTS
 CA JOB # 215113
 APRIL 11, 2016
 DRAWN BY: AKG
 CHECK BY: CNB

ISSUED FOR PERMITTING

DETAIL SHEET 1

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

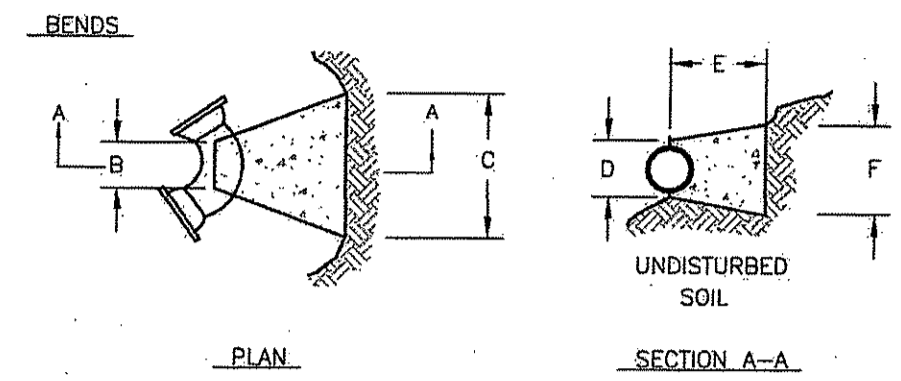
C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)
C-22
 SHEET 22 OF 23
CHERENZIA & ASSOCIATES, LTD.

TABLE OF DIMENSIONS

BENDS	B	C	D	E	F	BENDS	B	C	D	E	F
6" 11-1/4"	8"	15"	12"	24"	12"	12"	6" 45"	8"	30"	12"	24"
6" 22-1/2"	"	19"	"	"	13"	6" 90"	"	30"	"	"	27"
8" 11-1/4"	"	20"	"	"	12"	8" 45"	"	30"	"	"	24"
8" 22-1/2"	"	22"	"	"	17"	8" 90"	"	38"	"	"	36"
12" 11-1/4"	"	30"	"	"	15"	12" 45"	"	40"	"	"	40"
12" 22-1/2"	"	35"	"	"	25"	12" 90"	"	60"	"	"	52"

TABLE OF DIMENSIONS

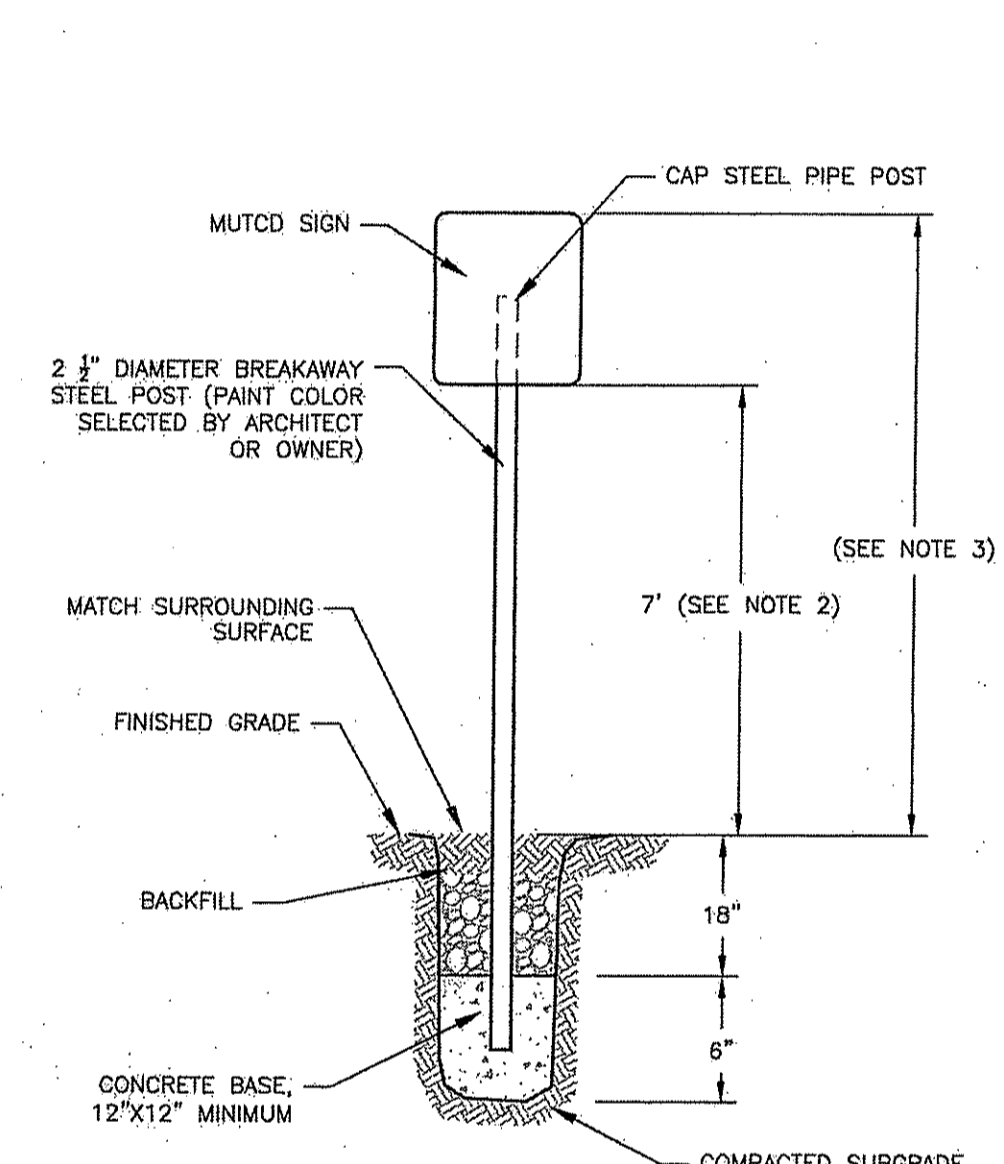
TEES	G	H	I	J	TEES	G	H	I	J
6" x 6" x 6"	12"	24"	24"	18"	12" x 12" x 6"	12"	24"	24"	18"
8" x 8" x 6"	"	"	"	"	12" x 12" x 8"	"	"	"	24"
8" x 8" x 8"	"	"	"	24"	12" x 12" x 12"	"	36"	"	36"



- NOTES:
- PROVIDE BLOCKS FOR TAPPING SLEEVES, DEAD ENDS, GATE VALVES, AND VERTICAL BENDS (SAME SIZE AS REQUIRED FOR TEES). PROVIDE ANCHOR RODS AT VERTICAL BENDS AND GATE VALVES.
 - CONCRETE SHALL NOT BE PLACED AGAINST PIPE BEYOND FITTING.

CONCRETE THRUST BLOCK

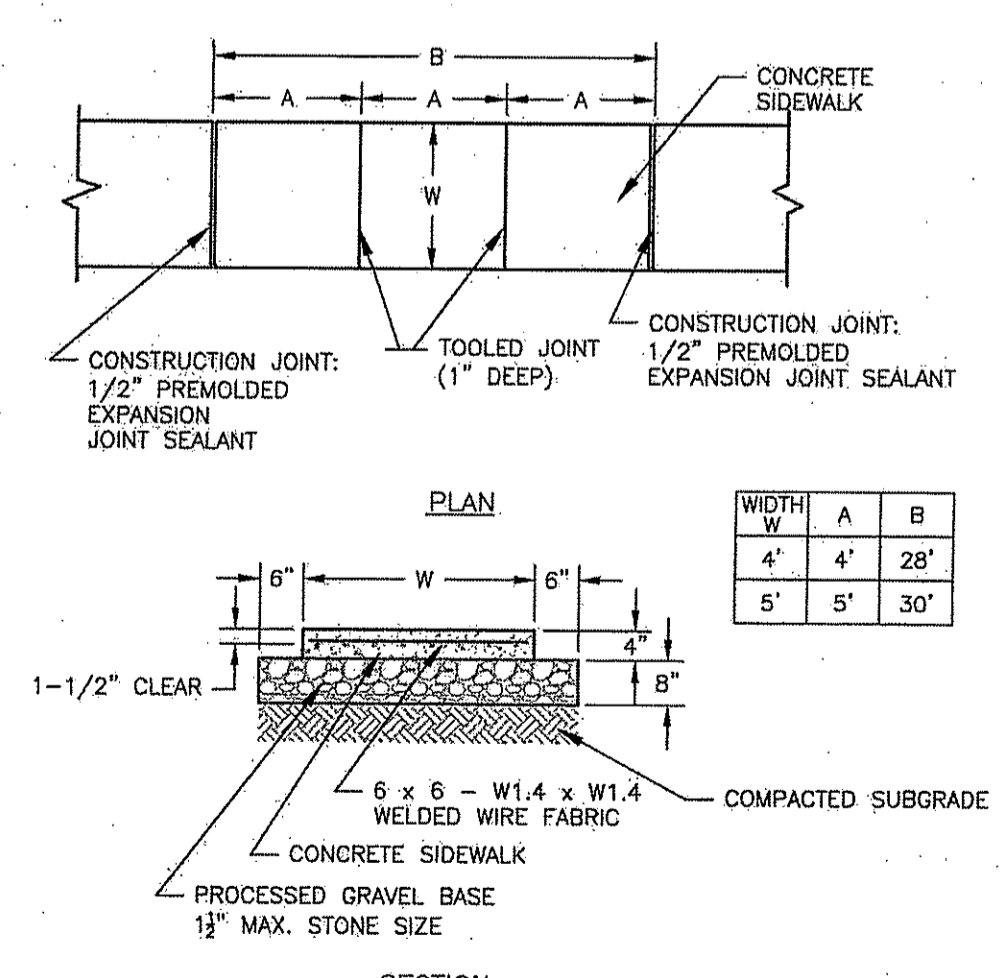
NTS CA-U-001



- NOTES:
- FOR USE IN LANDSCAPE AREAS AND SIDEWALKS ONLY. NOT FOR USE IN PARKING LOTS OR TRAVELED WAYS.
 - FOR ADA SIGNAGE, THIS DIMENSION SHALL BE 5" (MIN.).
 - FOR ADA SIGNAGE, THIS DIMENSION SHALL BE 8" (MAX.).

SIGN POST

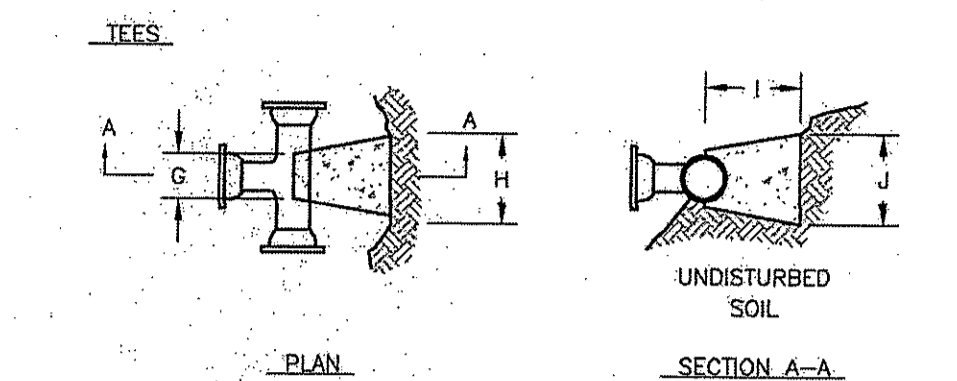
NTS CA-SS-001



- NOTES:
- SIDEWALK SLOPE SHALL BE A MIN. OF 1% AND A MAX. OF <2%.
 - CONCRETE SHALL BE MIN. 4,000 P.S.I. TYPE II.
 - BROOM FINISH PERPENDICULAR TO CURB OR TRAFFIC PATH.
 - PROVIDE A 1/2" WIDE EXPANSION JOINT WHERE SIDEWALK MEETS FACE-OF-BUILDING OR OTHER FIXED OBJECT.

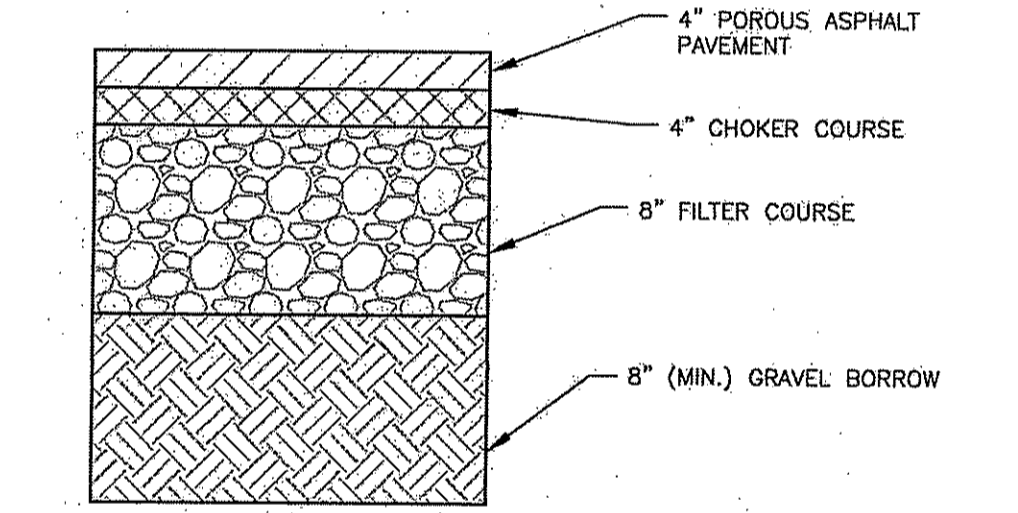
CONCRETE SIDEWALK

NTS CA-RD-011A



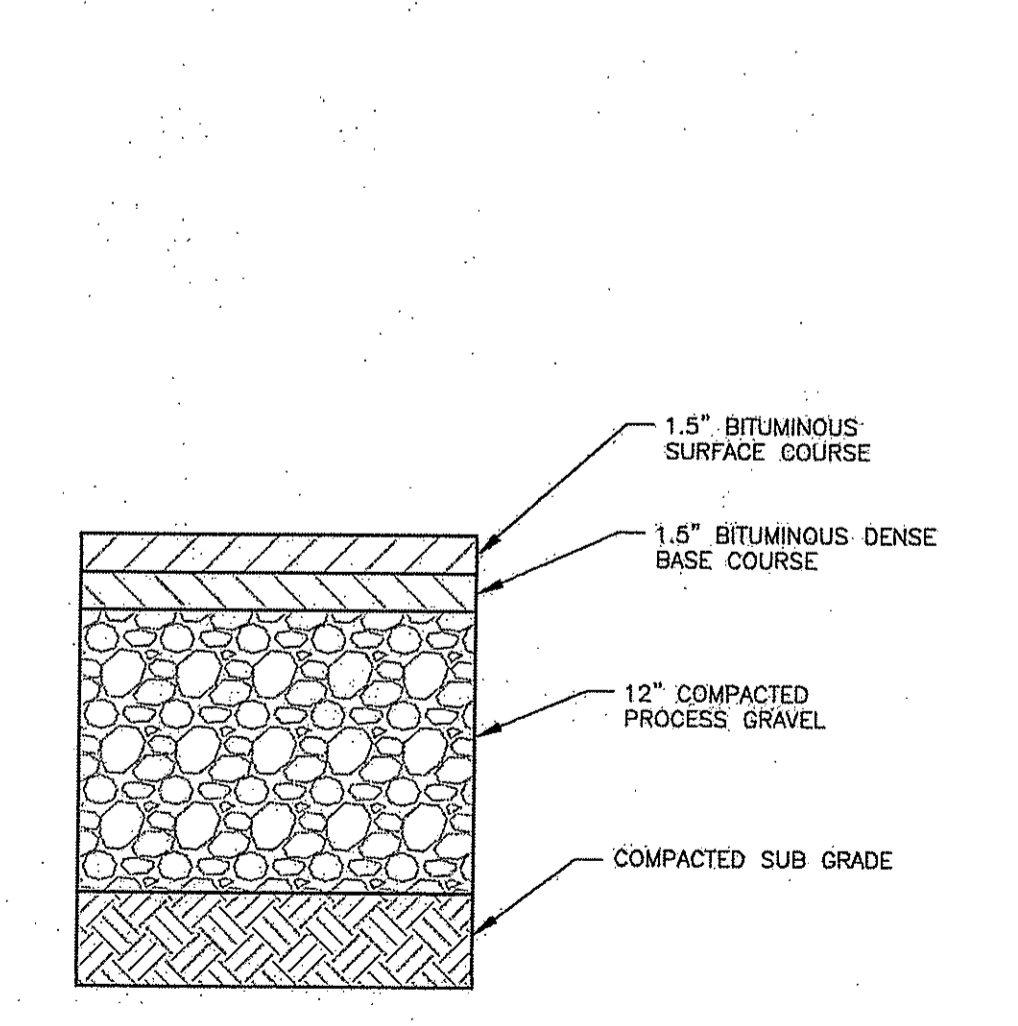
POROUS PAVERS

NTS CA-RD-001



POROUS PAVEMENT

NTS CA-RD-001

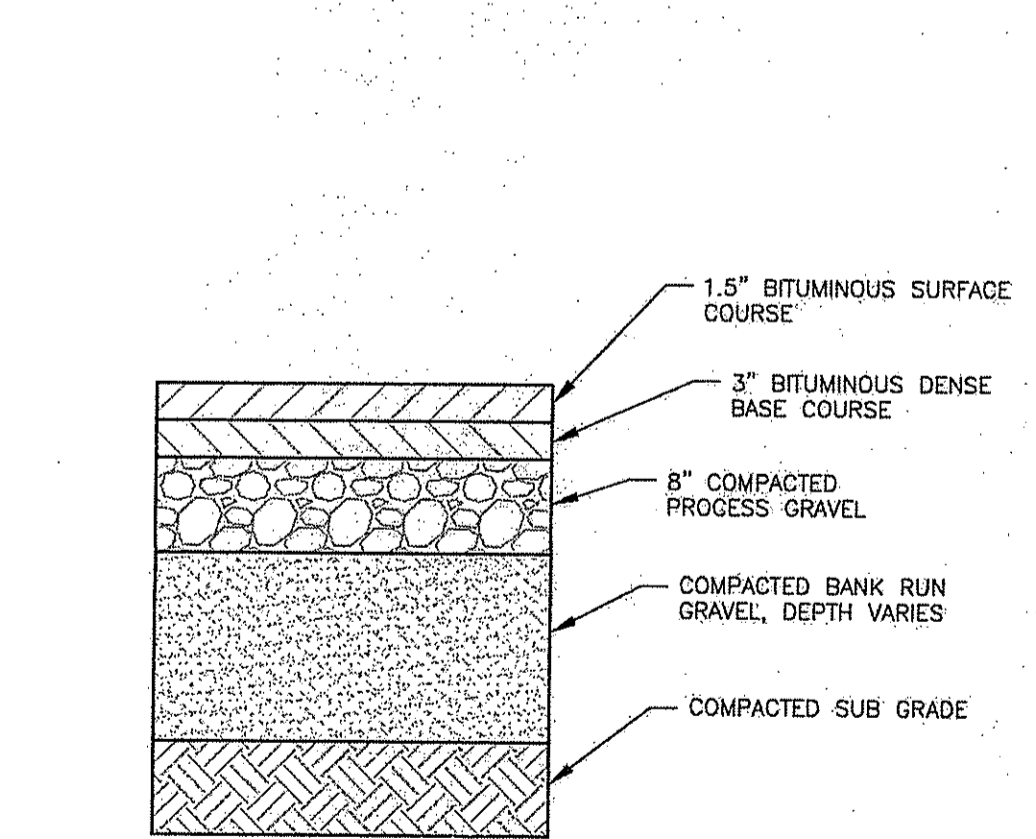


STANDARD DUTY PAVEMENT

NTS CA-RD-001

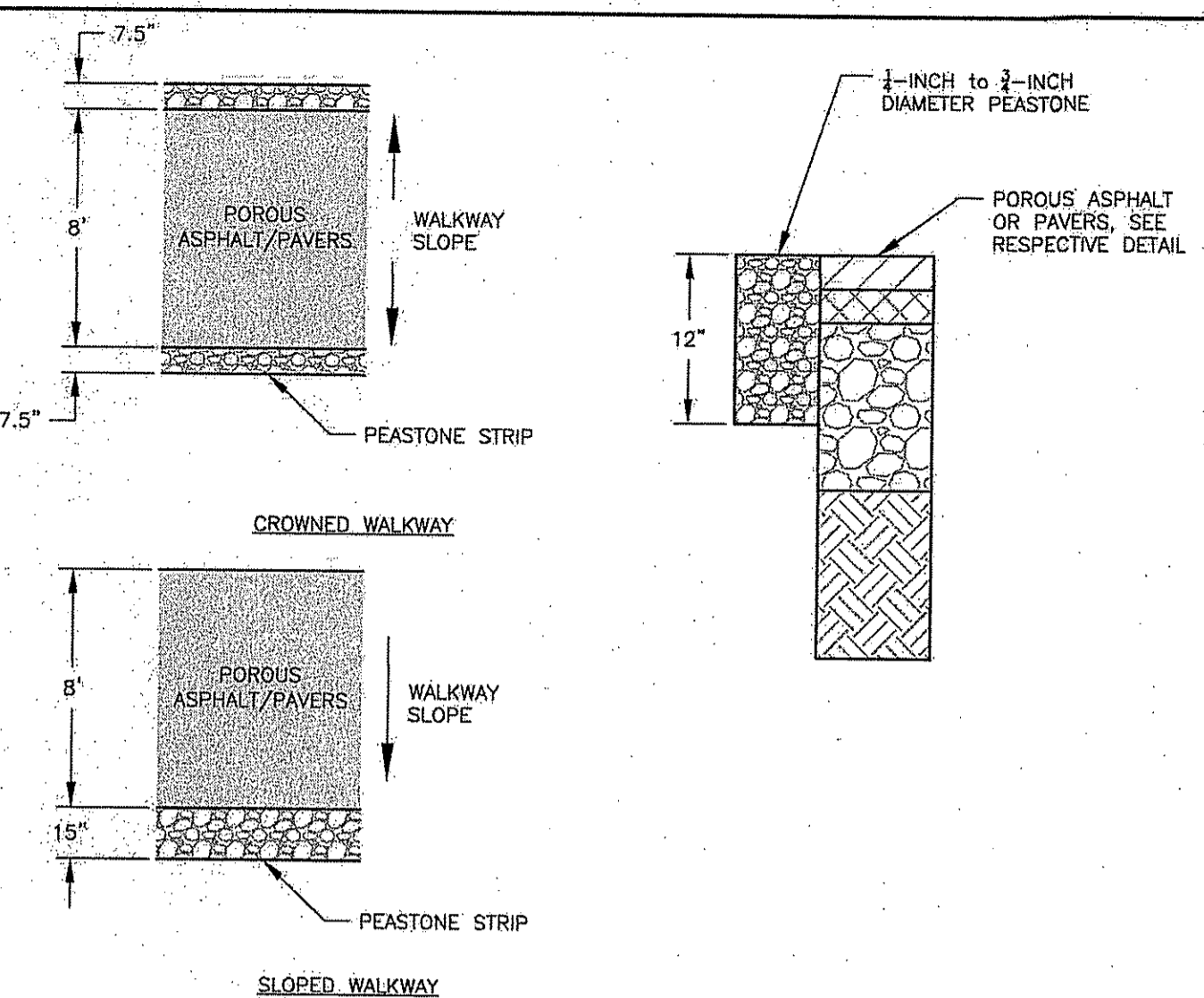
PRECAST CONCRETE CURB

NTS CA-RD-003



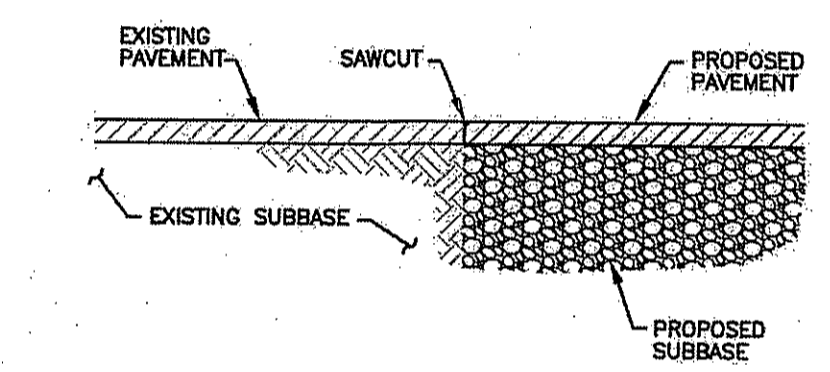
HEAVY DUTY PAVEMENT

NTS CA-RD-002



POROUS PATH PEASTONE STRIP

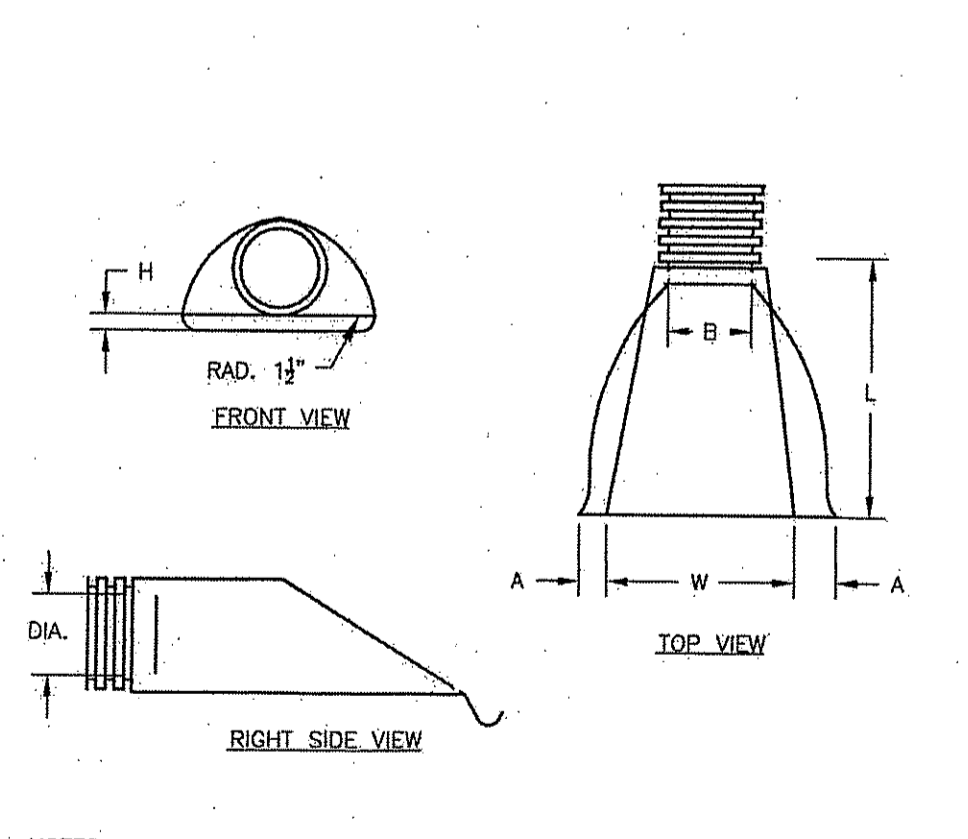
NTS



- SAWCUT PAVEMENT SEALING PROCEDURE**
- CLEAN SAWED JOINTS WITH COMPRESSED AIR.
 - APPLY JOINT SEAL MATERIAL FILLING FROM THE BOTTOM UP.
 - THE HOT-SEAL MATERIAL SHALL COMPLETELY FILL THE SAWCUT SUCH THAT AFTER COOLING THE LEVEL OF THE SEALER WILL NOT BE GREATER THAN 1/8 INCH BELOW THE PAVEMENT SURFACE.
 - CARE SHALL BE TAKEN DURING THE SEALING OPERATION TO INSURE THAT THE FINAL APPEARANCE WILL PRESENT A NEAT LINE.

PAVEMENT SAWCUT

NTS CA-001

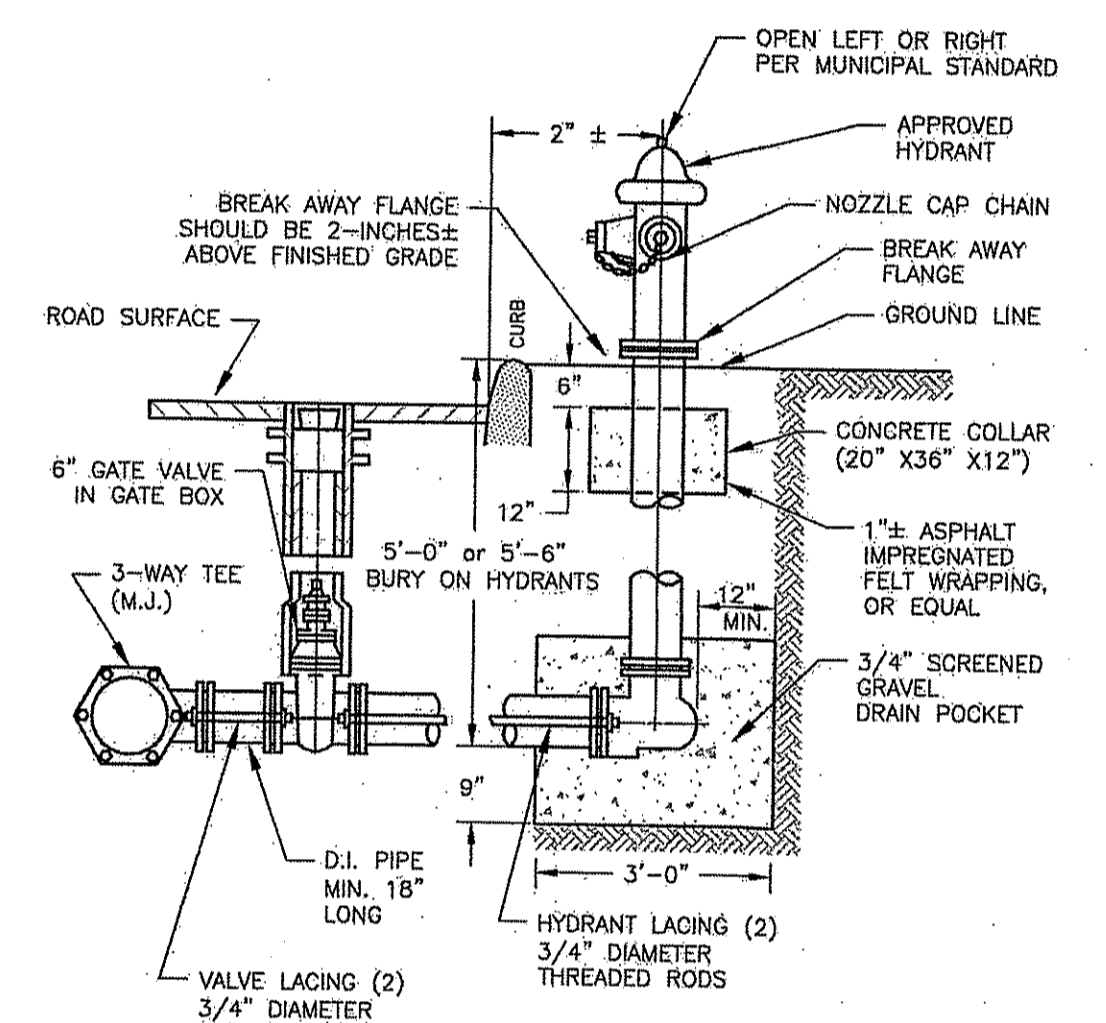


- NOTES:
- JOINTS SHALL BE TONGUE AND GROOVE OR BELL AND SPIGOT AS REQUIRED TO CONFORM TO PIPE INSTALLED.
 - WALL THICKNESS SHALL CONFORM TO PIPE THICKNESS.

DIAMETER IN	PIPE DIAMETER, IN					
	12	15	18	24	30	36
A IN	6.5	6.5	7.5	7.5	7.5	7.5
B (MAX) IN	10	10	15.0	18.0	22.0	25.0
H IN	6.5	6.5	6.5	6.5	8.6	8.6
L IN	25.0	25.0	32.0	36.0	58.0	58.0
W IN	29.0	29.0	35.0	45.0	63.0	63.0

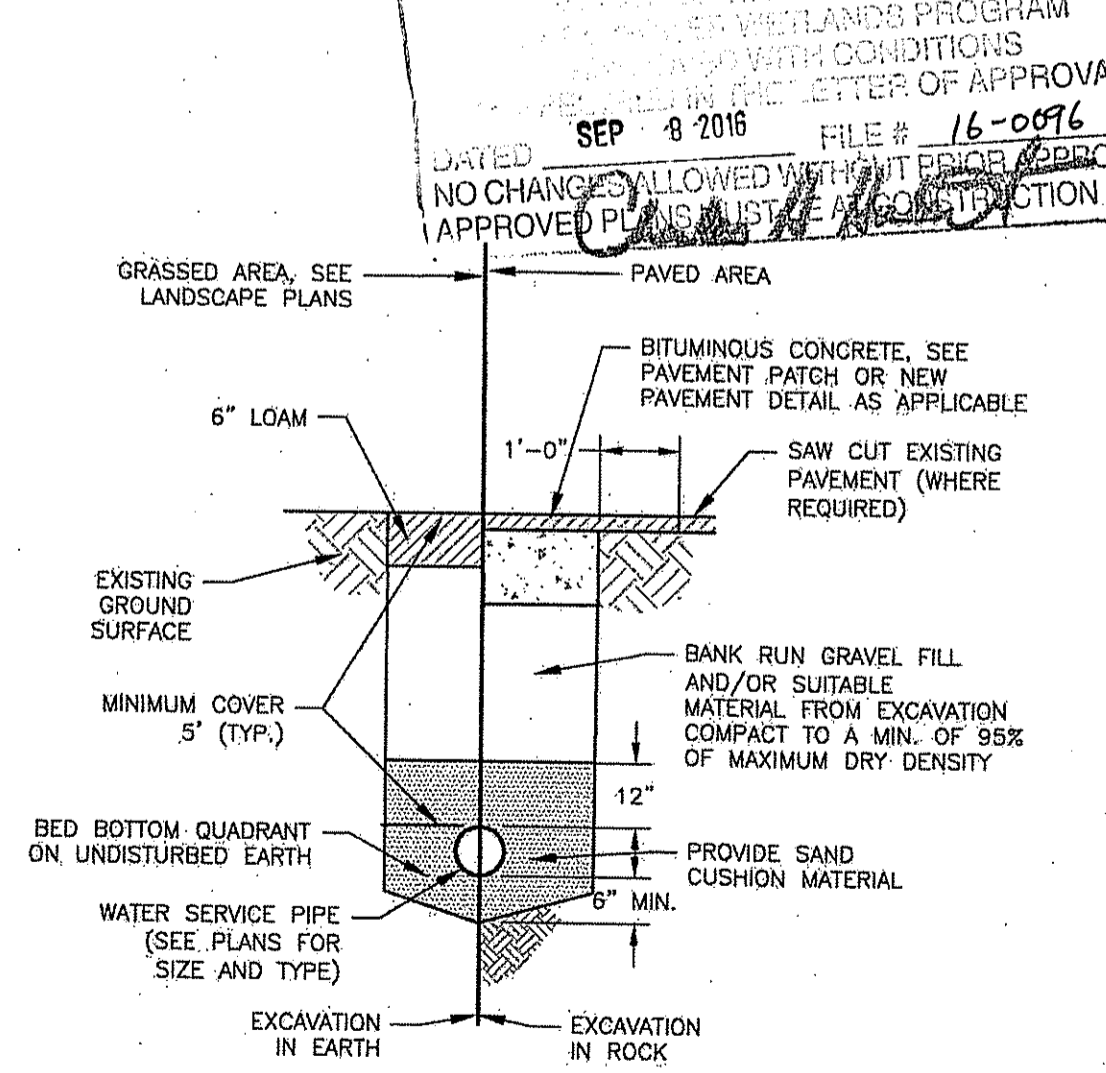
HDPE FLARED END SECTION

NTS CA-D-004



HYDRANT

NTS CA-U-003



WATER SERVICE TRENCH

NTS CA-U-002

CHERENZIA & ASSOCIATES, LTD.
 Civil Engineers
 Land Surveyors
 Land Use Planners
 Environmental Engineers
 99 Mechanic St.
 Pawtucket, CT 06379
 Tel: 800.629.6300
 Fax: 860.599.6990
 P.O. Box 513
 Westerly, RI 02891
 Tel: 401.595.7147
 www.cherenzia.com

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT

c/o PAUL MHALIDES
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
 AUG 11 2016
 Office of Water Resources

PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	5/12/16	OWTS/TOWN SUBMISSION	GAB/	CNB
2	5/25/16	TOWN PLANNER COMMENTS	AKG	CNB
3	6/27/16	EDITS PER DEM COMMENTS	AKG	CNB

SCALE: NTS
 CA JOB # 215113
 APRIL 11, 2016

ISSUED FOR PERMITTING

DETAIL SHEET 2

THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 RICHMOND, RHODE ISLAND

PREPARED FOR
THE PRESERVE AT BOULDER HILLS LLC & MTM DEVELOPMENT

C N BEAULIEU-SHEA
 No. 5701
 REGISTERED PROFESSIONAL ENGINEER
 C-23
 SHEET 23 OF 23
 CHERENZIA & ASSOCIATES, LTD.

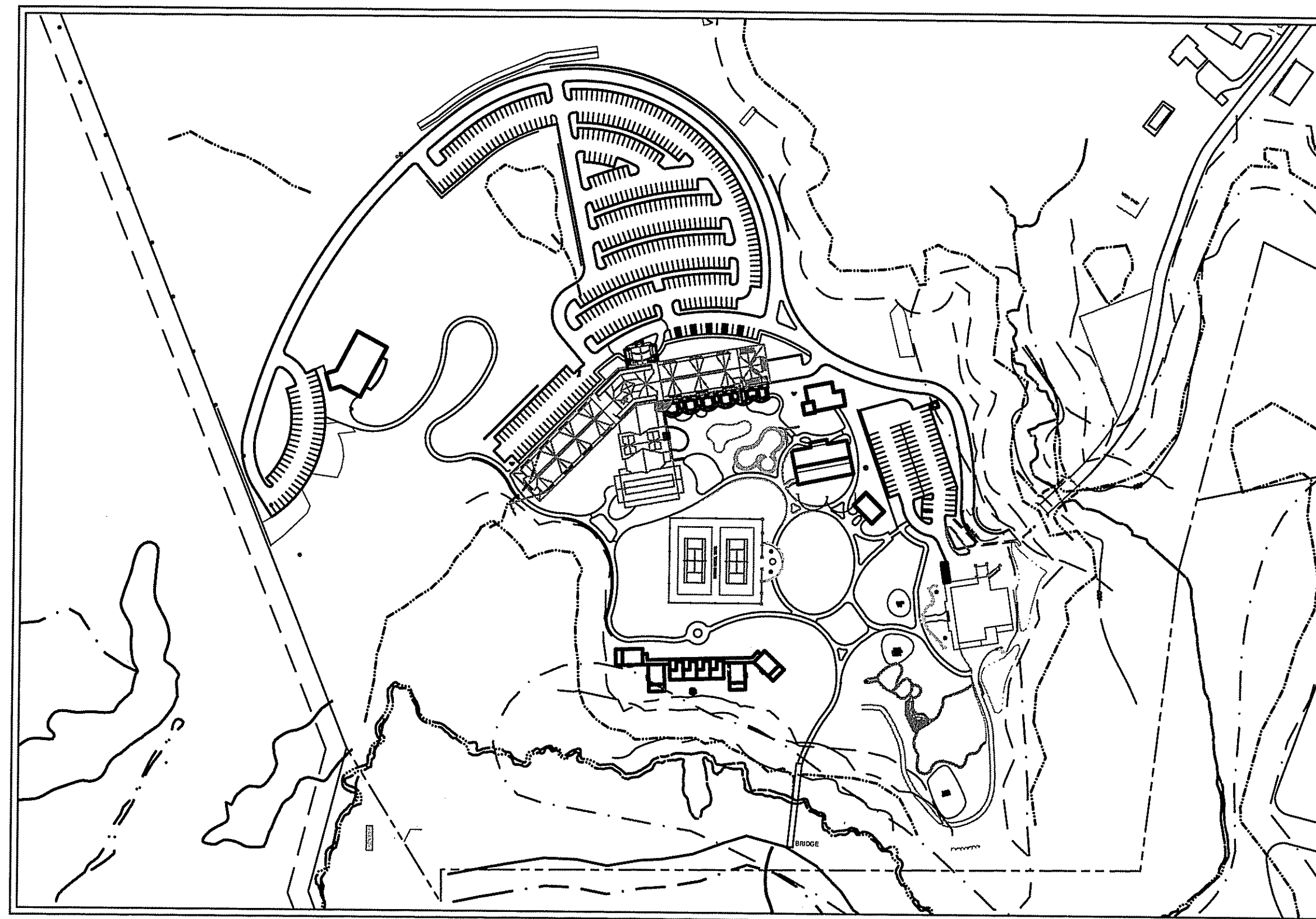
THE PRESERVE AT BOULDER HILLS, LLC & MTM DEVELOPMENT

87 KINGSTOWN ROAD
PLAT 6B, LOT 4
RICHMOND, RHODE ISLAND

PREPARED FOR

THE PRESERVE AT BOULDER HILLS, LLC
& MTM DEVELOPMENT

MAY 2016



OVERALL SITE PLAN



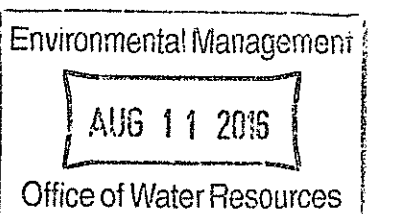
SHEET INDEX

COVER

- P-101 BUFFER PLANTING PLAN**
- P-102 PLANTING PLAN SOUTH**
- P-103 PLANTING PLAN NORTH**
- P-104 PLANTING PLAN WEST**
- P-105 PLANTING PLAN ENLARGEMENT**
- P-106 PLANTING PLAN ENLARGEMENT**
- P-107 PLANTING DETAIL PLAN**
- L-101 LIGHTING PLAN**
- L-102 LIGHTING DETAILS PLAN**

ISSUED FOR PERMITTING

REVISED AUGUST 10, 2016



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 9 2016 FILE # 16-0096
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



**THE PRESERVE AT
 BOULDER HILLS**
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
 AUG 11 2015
 Office of Water Resources

PLAN REVISIONS				
REV. NO.	DATE	DESCRIPTION	OWN BY	CHK BY
1	6-20-16	EDITS PER DEM COMMENTS	CC	DSL
2	6-28-16	ADD BIO-SWALE GARDENS & NOTES	CC	DSL
3	8-10-16	EDITS PER DEM COMMENTS	CC	DSL

SCALE: 1"=60'
 CA JOB # 215113
 FEB. 12, 2016

DRAWN BY: CNB
 CHECK BY: CNB

MANAGEMENT
 RESOURCES
 PROVISIONS
 APPROVAL
 FILE # 16-0096
 PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CO

**ISSUED FOR REVIEW
 NOT FOR CONSTRUCTION**

**BUFFER
 PLANTING PLAN**

**THE PRESERVE AT
 BOULDER HILLS**
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 PLAT 5B, LOT 38
 RICHMOND, RHODE ISLAND

PREPARED FOR
**THE PRESERVE AT
 BOULDER HILLS**

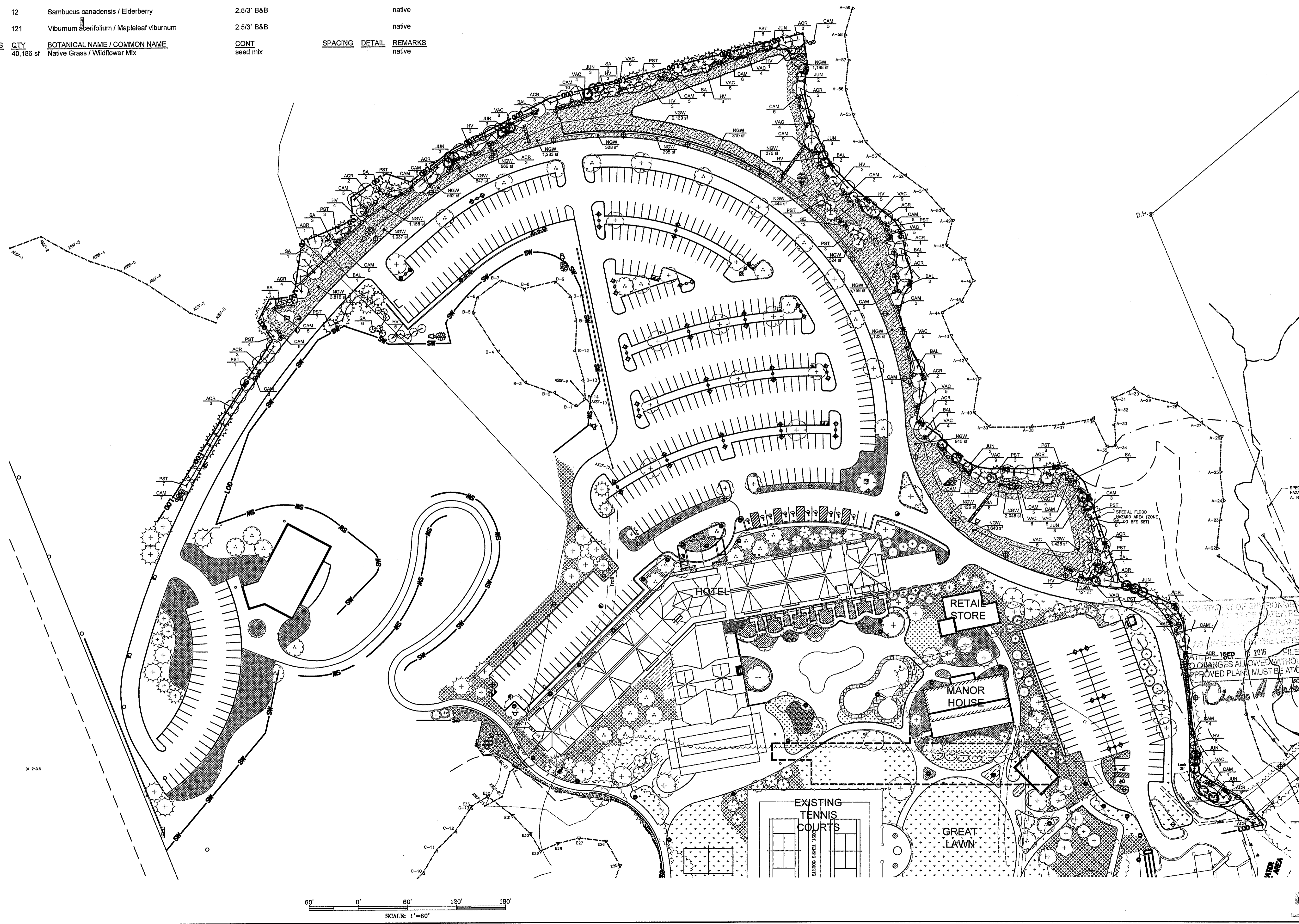
P-101

SHEET 2 OF 10

**CHERENZIA &
 ASSOCIATES, LTD.**

PLANT SCHEDULE BUFFER PLANTING AREA

TREES	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL	DETAIL	REMARKS
ACR	50	Acer rubrum / Red Maple	B&B	2.5" - 3" Cal.		native
BAL	13	Betula alleghaniensis / Yellow Birch	B&B	2.5" - 3" Cal.		native
HV	44	Hamamelis virginiana / Common Witch Hazel	B&B	5-6' Hgt.		native
JUN	34	Juniperus virginiana 'Emerald Sentinel' / Native Red Cedar	B&B	7'-8' hgt		native
PST	54	Pinus strobus / White Pine—medium	B&B	5-6' Hgt.		native
SA	42	Sassafras albidum / Sassafras	B&B	5-6' Hgt.		native
SHRUBS	QTY	BOTANICAL NAME / COMMON NAME	SIZE	DETAIL	REMARKS	
CAM	171	Cornus amomum / Silky Dogwood	2.5/3' B&B		native	
SE	12	Sambucus canadensis / Elderberry	2.5/3' B&B		native	
VAC	121	Viburnum acerifolium / Mapleleaf viburnum	2.5/3' B&B		native	
GROUND COVERS	QTY	BOTANICAL NAME / COMMON NAME	CONT	SPACING	DETAIL	REMARKS
NGW	40,186 sf	Native Grass / Wildflower Mix	seed mix			native



PLANT SCHEDULE PLANTING PLAN NO. 1

TREES	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL	DETAIL	REMARKS
ACE	10	Acer rubrum "October Glory" TM / October Glory Maple	B&B	2.5" - 3" Cal.		
BET	8	Betula nigra / River Birch Multi-Trunk	B&B	8'-10" hgt		native
CRY	15	Cryptomeria japonica "Yoshino" / Yoshino Cryptomeria	B&B	8'-10" hgt		
JUN	30	Juniperus virginiana "Emerald Sentinel" / Native Red Cedar	B&B	7'-8" hgt		native
PIC	6	Picea pungens "Isell Foxtail" / Foxtail Colorado Spruce	B&B	8'-10" hgt		native
PST	22	Pinus strobus / White Pine—medium	B&B	5'-6" Hgt.		native
PST2	9	Pinus strobus / White Pine—large	B&B	8'-10" hgt		native
QR	5	Quercus rubra / Red Oak	B&B	2.5" - 3" Cal.		native
THU	7	Thuja occidentalis "Green Giant" / Green Giant Arborvitae	B&B	8'-10" hgt		native
ULM	4	Ulmus americana "Valley Forge" / American Elm	B&B	3"-3.5" Cal.		native

SHRUBS	QTY	BOTANICAL NAME / COMMON NAME	SIZE	DETAIL	REMARKS
AME	54	Aronia melanocarpa / Chokeberry	4/5" B&B		native
CEP	46	Cephalanthus occidentalis / Buttonbush	3 Gal.		native
CPE	72	Comptonia peregrina / Sweet Fern	2 gal cont		native

GROUND COVERS	QTY	BOTANICAL NAME / COMMON NAME	CONT	SPACING	DETAIL	REMARKS
LAWN	63,847 sf	Lawn Areas	seed mix			use a low-mow, deep rooted seed mix
PCI	323	Groundcovers / Perennials for Color & Interest	1 gal	30" o.c.		Such as: vinca, hosta, juniper, astilbe, daylilies
WGP	4,448	Woodland Groundcover/Shrub Plantings	1 gal	30" o.c.		Including ferns, clostra, blueberry, viburnum, sweetfern, mountain laurel

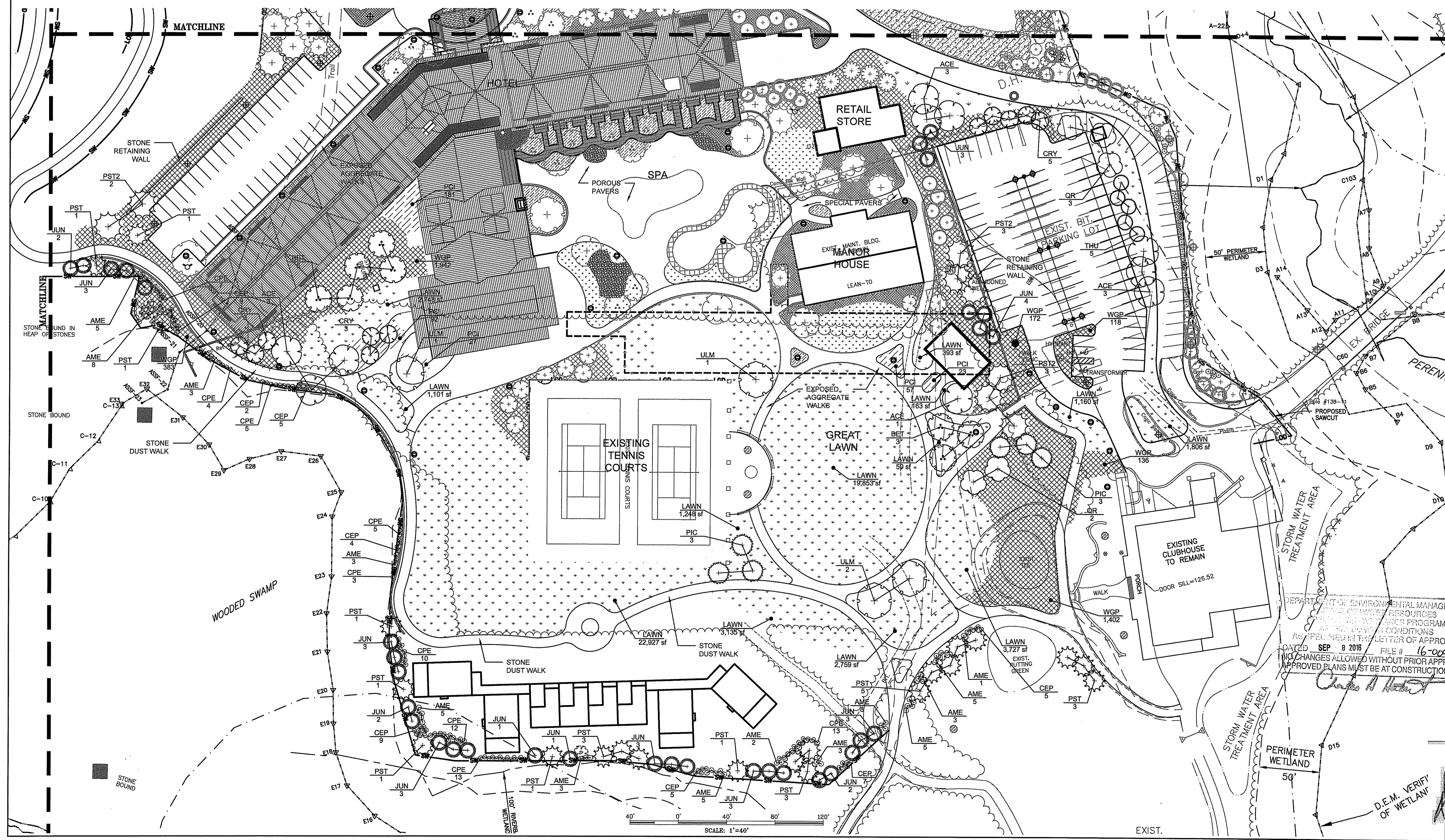
CHERENZIA & ASSOCIATES, LTD.
 Civil Engineers
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 Land Use Planners
 Environmental Engineers

99 Mechanic St.
 Pawtucket, CT 06379
 Tel: 860.629.6500
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www.cherenzia.com

THE PRESERVE AT BOULDER HILLS
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 COVENTRY, RI 02816



PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	6-20-16	EDITS PER DEM COMMENTS	CC	DSL
2	6-28-16	ADD BIO-SWALE GARDENS & NOTES	CC	DSL
3	8-10-16	EDITS PER DEM COMMENTS	CC	DSL

SCALE: 1"=40'
 CA JOB # 215113
 FEB. 12, 2016

DRAWN BY: CNB
 CHECK BY: CNB

**ISSUED FOR REVIEW
 NOT FOR CONSTRUCTION**

PLANTING PLAN SOUTH

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 PERENNIALS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED SEP 8 2016 FILE # 16-004
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles H. Hester

THE PRESERVE AT BOULDER HILLS
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 PLAT 5B, LOT 38
 RICHMOND, RHODE ISLAND

PREPARED FOR
THE PRESERVE AT BOULDER HILLS

DE.M. VERIFY OF WETLAND

P-102

SHEET 3 OF 10

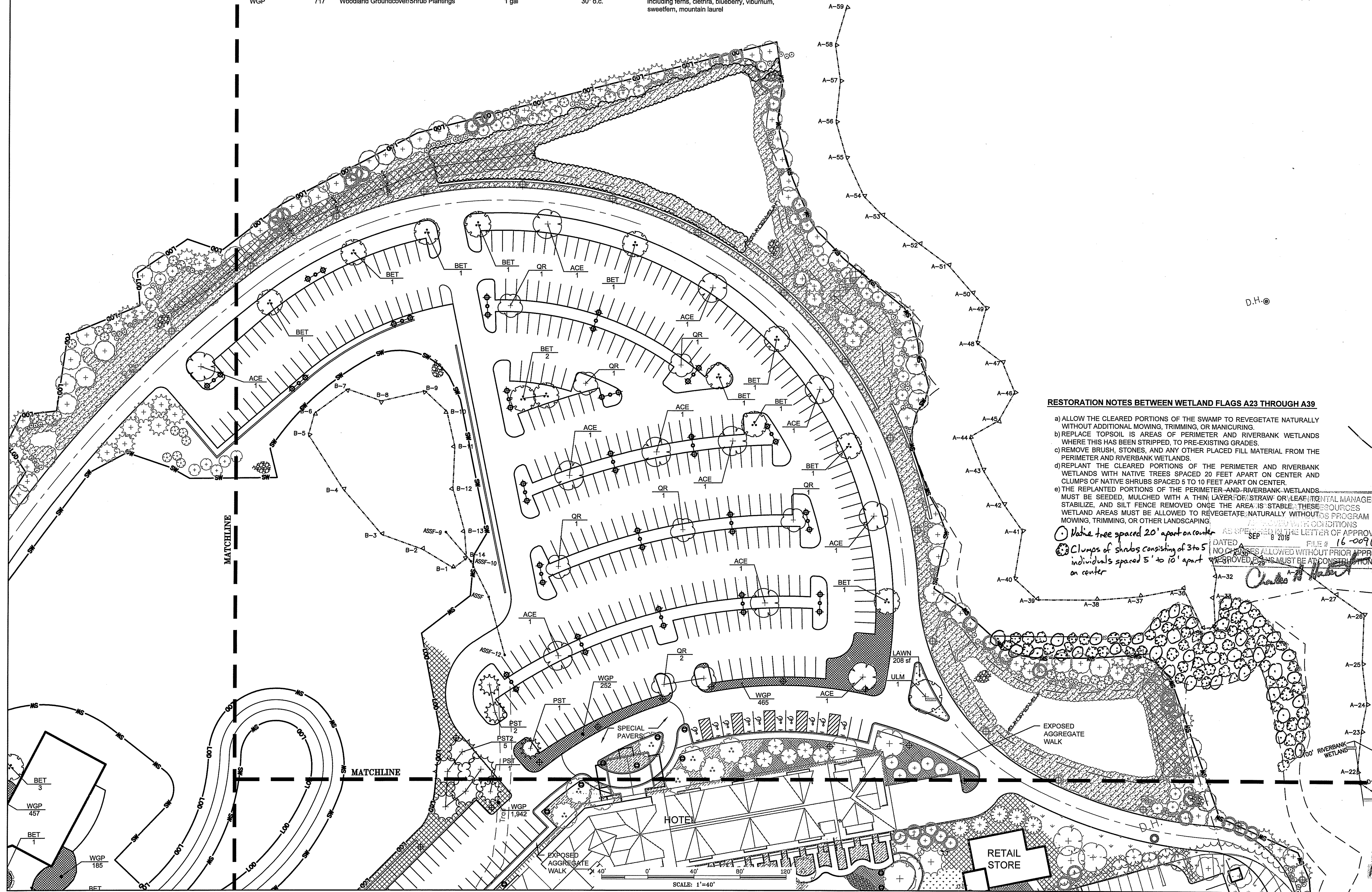
CHERENZIA & ASSOCIATES, LTD.

RIDEM REVIEW
 PAGE 28 OF 35

PLANT SCHEDULE PLANTING PLAN NO. 2

TREES	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL	DETAIL	REMARKS
ACE	11	Acer rubrum / October Glory Maple	B&B	2.5" - 3" Cal.		native
BET	12	Betula nigra / River Birch Multi-Trunk	B&B	8'-10' hgt		native
PST	4	Pinus strobus / White Pine-medium	B&B	5-6' Hgt.		native
PST2	4	Pinus strobus / White Pine-large	B&B	8'-10' hgt		native
QR	8	Quercus rubra / Red Oak	B&B	2.5" - 3" Cal.		native
ULM	1	Ulmus americana "Valley Forge" / American Elm	B&B	3"-3.5" Cal.		native
GROUND COVERS	QTY	BOTANICAL NAME / COMMON NAME	CONT	SPACING	DETAIL	REMARKS
LAWN	208 sf	Lawn Areas	seed mix			use a low-mow, deep rooted seed mix
WGP	717	Woodland Groundcover/Shrub Plantings	1 gal	30" o.c.		Including ferns, clethra, blueberry, viburnum, sweetfern, mountain laurel

**THE PRESERVE AT
BOULDER HILLS**
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816



RESTORATION NOTES BETWEEN WETLAND FLAGS A23 THROUGH A39

- ALLOW THE CLEARED PORTIONS OF THE SWAMP TO REVEGETATE NATURALLY WITHOUT ADDITIONAL MOWING, TRIMMING, OR MANICURING.
 - REPLACE TOPSOIL IN AREAS OF PERIMETER AND RIVERBANK WETLANDS WHERE THIS HAS BEEN STRIPPED, TO PRE-EXISTING GRADES.
 - REMOVE BRUSH, STONES, AND ANY OTHER PLACED FILL MATERIAL FROM THE PERIMETER AND RIVERBANK WETLANDS.
 - REPLANT THE CLEARED PORTIONS OF THE PERIMETER AND RIVERBANK WETLANDS WITH NATIVE TREES SPACED 20 FEET APART ON CENTER AND CLUMPS OF NATIVE SHRUBS SPACED 5 TO 10 FEET APART ON CENTER.
 - THE REPLANTED PORTIONS OF THE PERIMETER AND RIVERBANK WETLANDS MUST BE SEEDED, MULCHED WITH A THIN LAYER OF STRAW OR LEAF LITTER, STABILIZED, AND SILT FENCE REMOVED ONCE THE AREA IS STABLE. THESE WETLAND AREAS MUST BE ALLOWED TO REVEGETATE NATURALLY WITHOUT PROGRAM MOWING, TRIMMING, OR OTHER LANDSCAPING.
- Native tree spaced 20' apart on center
 ○ Clumps of shrubs consisting of 3 to 5 individuals spaced 5' to 10' apart on center

Environmental Management
AUG 11 2016
 Office of Water Resources

PLAN REVISIONS				
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3	8-10-16	EDITS PER DEM COMMENTS	CC	DSL

DATED SEP 8 2016 FILE # 16-0096
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SCALE: 1"=40'
 CA JOB # 215113
 FEB. 12, 2016

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**PLANTING PLAN
NORTH**

**THE PRESERVE AT
BOULDER HILLS**
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 PLAT 5B, LOT 3B
 RICHMOND, RHODE ISLAND

PREPARED FOR
**THE PRESERVE AT
BOULDER HILLS**

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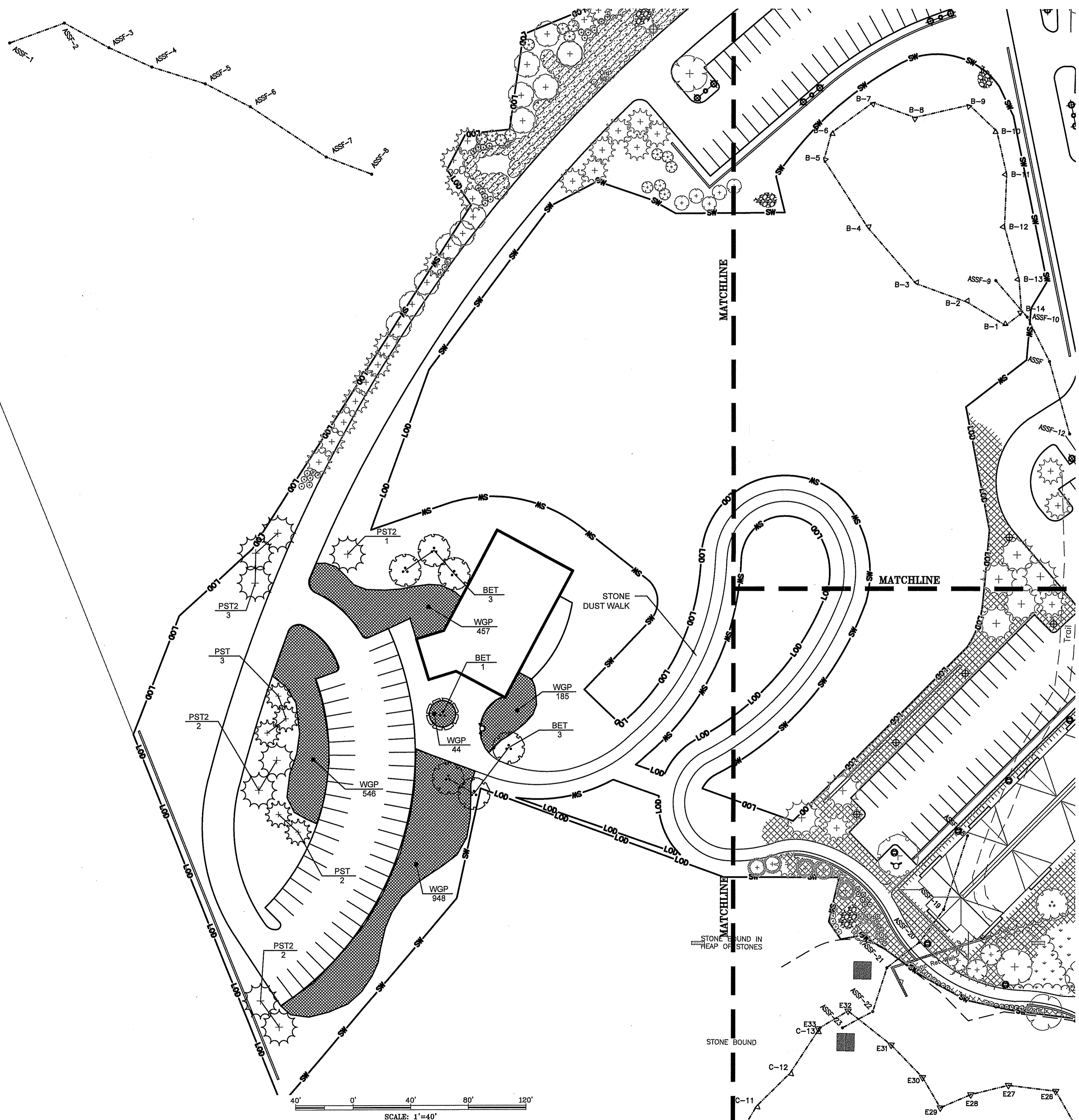
SHEET 4 OF 10

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RIDEM REVIEW
 PAGE 29 OF 35

PLANT SCHEDULE PLANTING PLAN NO. 3

TREES	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL	DETAIL	REMARKS
BET	7	Betula nigra / River Birch Multi-Trunk	B&B	8'-10" hgt		native
JUN	1	Juniperus virginiana 'Emerald Sentinel' / Native Red Cedar	B&B	7'-8" hgt		native
PST	5	Pinus strobus / White Pine--medium	B&B	5'-6" Hgt.		native
PST2	8	Pinus strobus / White Pine--large	B&B	8'-10" hgt		native
GROUND COVERS	QTY	BOTANICAL NAME / COMMON NAME	CONT	SPACING	DETAIL	REMARKS
WGP	2,180	Woodland Groundcover/Shrub Plantings	1 gal	30" o.c.		Including ferns, clethra, blueberry, viburnum, sweetfern, mountain laurel



CHERENZIA & ASSOCIATES, LTD.
 Civil Engineers
 Land Use Planners
 Environmental Engineers
 99 Mechanic St.
 Pawcatuck, CT 06379
 Tel: 860.629.6500
 Fax: 860.599.6090
 P.O. Box 513
 Westerly, RI 02891
 Tel: 401.596.7747
 www.cherenzia.com

THE PRESERVE AT BOULDER HILLS
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

Environmental Management
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 Office of Water Resources

PLAN REVISIONS

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3	8-10-16	EDITS PER DEM COMMENTS	CC	DSL

SCALE: 1"=40'
 CA JOB # 215113
 FEB. 12, 2016
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PLANTING PLAN
 WEST

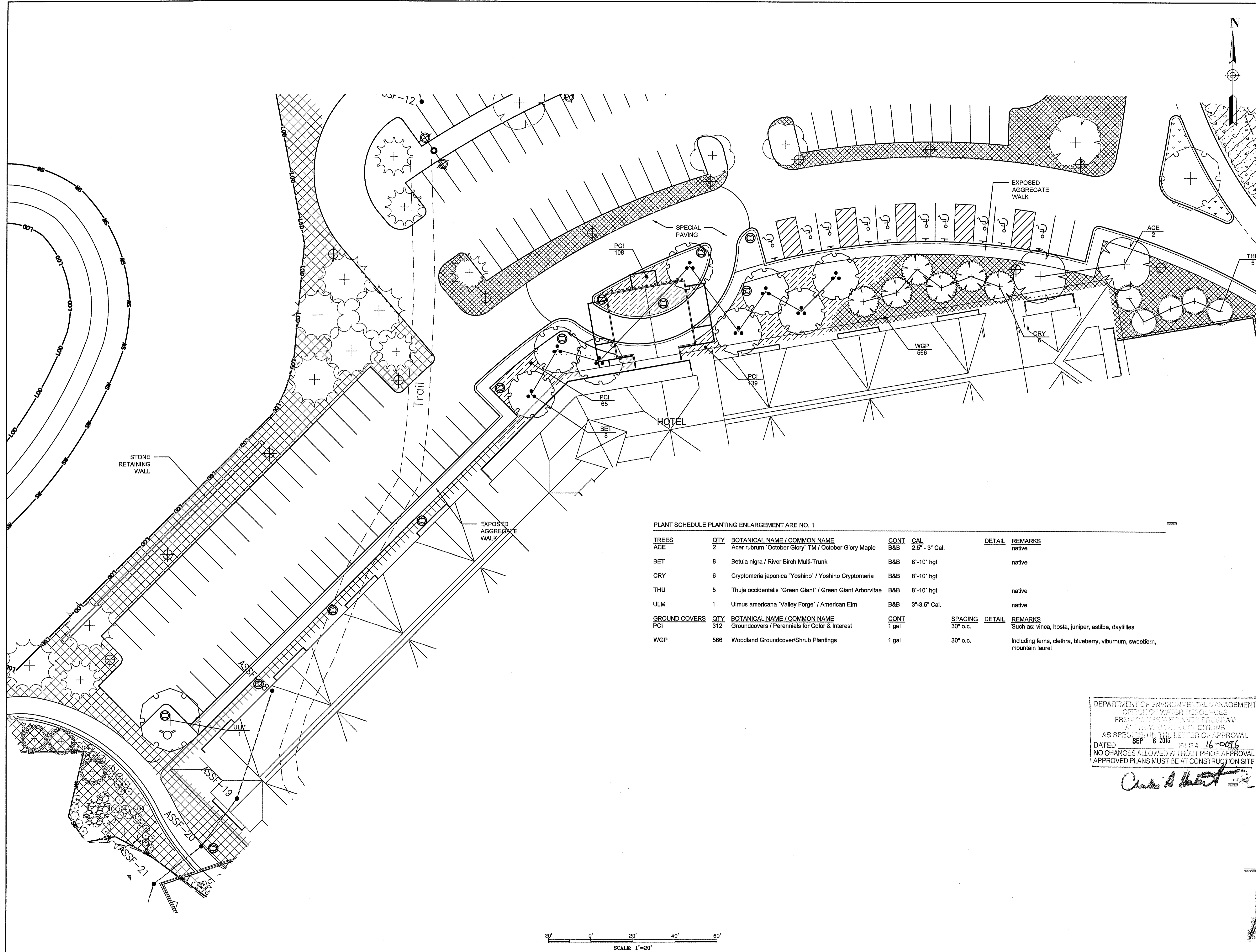
THE PRESERVE AT
 BOULDER HILLS
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 PLAT 5B, LOT 38
 RICHMOND, RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
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Charles A. Hester

PREPARED FOR
 THE PRESERVE AT
 BOULDER HILLS

P-104
 SHEET 5 OF 10
 CHERENZIA & ASSOCIATES, LTD.
 RIDEM REVIEW
 PAGE 30 OF 35

**THE PRESERVE AT
 BOULDER HILLS**
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816



PLANT SCHEDULE PLANTING ENLARGEMENT ARE NO. 1

TREES	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL	DETAIL	REMARKS
ACE	2	Acer rubrum 'October Glory'™ / October Glory Maple	B&B	2.5" - 3" Cal.		native
BET	8	Betula nigra / River Birch Multi-Trunk	B&B	6'-10' hgt		native
CRY	6	Cryptomeria japonica 'Yoshino' / Yoshino Cryptomeria	B&B	6'-10' hgt		
THU	5	Thuja occidentalis 'Green Giant' / Green Giant Arborvitae	B&B	6'-10' hgt		native
ULM	1	Ulmus americana 'Valley Forge' / American Elm	B&B	3"-3.5" Cal.		native
GROUND COVERS	QTY	BOTANICAL NAME / COMMON NAME	CONT	SPACING	DETAIL	REMARKS
PCI	312	Groundcovers / Perennials for Color & Interest	1 gal	30" o.c.		Such as: vinca, hosta, juniper, astilbe, daylilies
WGP	566	Woodland Groundcover/Shrub Plantings	1 gal	30" o.c.		Including ferns, clethra, blueberry, viburnum, sweetfern, mountain laurel

Environmental Management
AUG 11 2016
 Office of Water Resources

PLAN REVISIONS

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SCALE: 1"=20'
 CA JOB # 215113
 FEB. 12, 2016

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**PLANTING PLAN
 ENLARGEMENT**

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED BY: [Signature]
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED SEP 8 2016 FILE # 16-0076
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
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Chris A. [Signature]

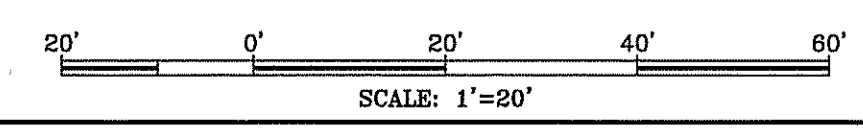
**THE PRESERVE AT
 BOULDER HILLS**
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 PLAT 5B, LOT 38
 RICHMOND, RHODE ISLAND

PREPARED FOR
**THE PRESERVE AT
 BOULDER HILLS**

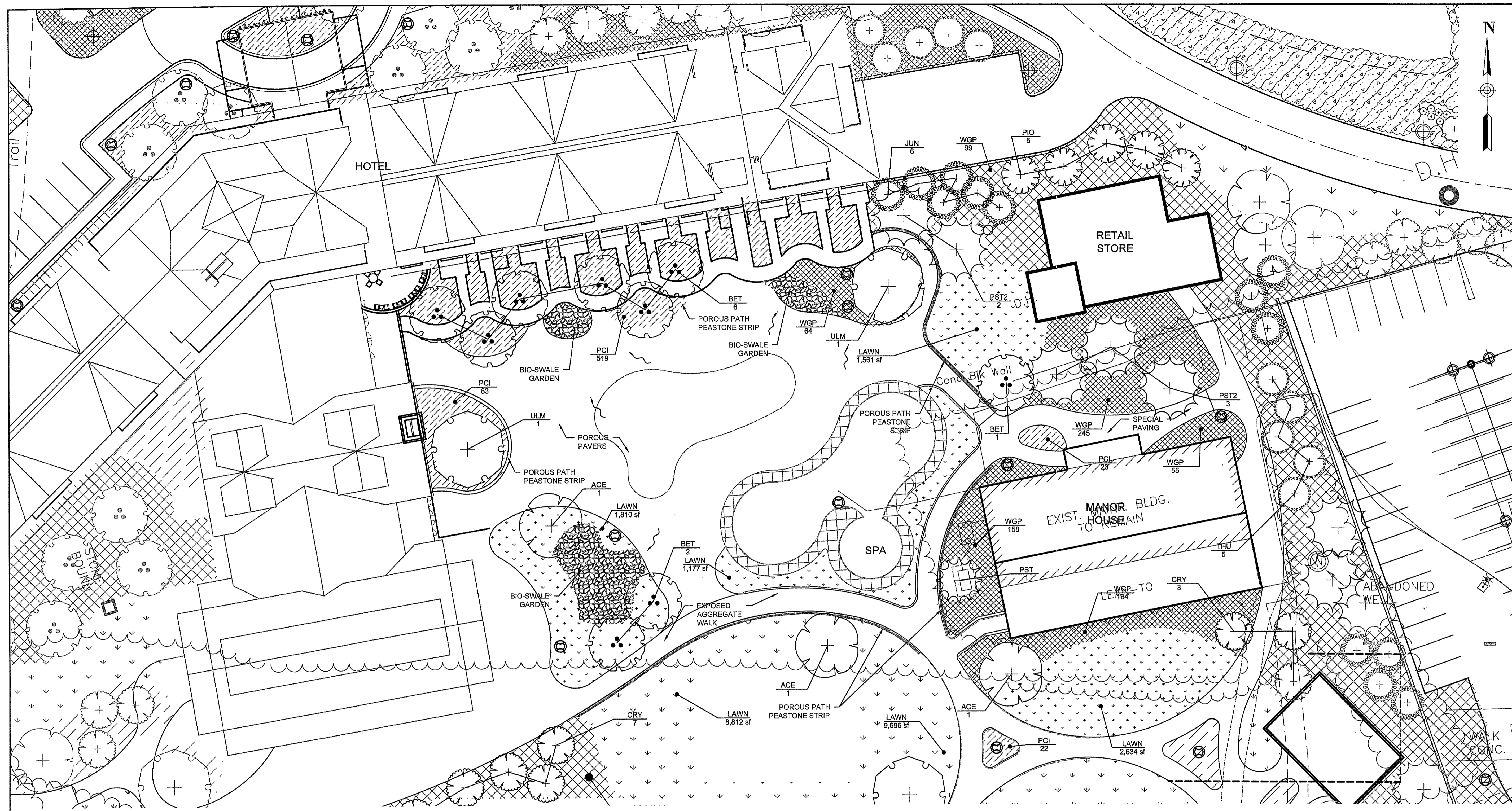
P-105

SHEET 6 OF 10

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**THE PRESERVE AT
 BOULDER HILLS**
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816



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SCALE: 1"=20'
 CA JOB # 215113
 FEB. 12, 2016

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PLANT SCHEDULE PLANTING ENLARGEMENT AREA NO. 2

TREES	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL	DETAIL	REMARKS
ACE	3	Acer rubrum 'October Glory'™ / October Glory Maple	B&B	2.5" - 3" Cal.		native
BET	9	Betula nigra / River Birch Multi-Trunk	B&B	8'-10' hgt		native
CRY	6	Cryptomeria japonica 'Yoshino' / Yoshino Cryptomeria	B&B	8'-10' hgt		native
JUN	8	Juniperus virginiana 'Emerald Sentinel' / Native Red Cedar	B&B	7'-8' hgt		native
PIO	5	Picea omorika / Serbian Spruce	B&B	8'-10' hgt		native
PST	1	Pinus strobus / White Pine—medium	B&B	5'-6' Hgt.		native
PST2	5	Pinus strobus / White Pine—large	B&B	8'-10' hgt		native
THU	3	Thuja occidentalis 'Green Giant' / Green Giant Arborvitae	B&B	8'-10' hgt		native
ULM	2	Ulmus americana 'Valley Forge' / American Elm	B&B	3"-3.5" Cal.		native
GROUND COVERS	QTY	BOTANICAL NAME / COMMON NAME	CONT	SPACING	DETAIL	REMARKS
LAWN	15,995 sf	Lawn Areas	seed mix			use a low-mow, deep rooted seed mix
PCI	704	Groundcovers / Perennials for Color & Interest	1 gal	30" o.c.		Such as: vinca, hosta, juniper, astilbe, daylilies
WGP	785	Woodland Groundcover/Shrub Plantings	1 gal	30" o.c.		Including ferns, clethra, blueberry, viburnum, sweetfern, mountain laurel

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER PLANTS PROGRAM
 AS SPECIFIED BY THE LETTER OF APPROVAL
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Charles A. Hester

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**PLANTING PLAN
 ENLARGEMENT**

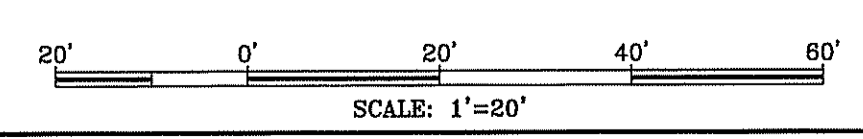
**THE PRESERVE AT
 BOULDER HILLS**
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 PLAT 5B, LOT 38
 RICHMOND, RHODE ISLAND

PREPARED FOR
**THE PRESERVE AT
 BOULDER HILLS**

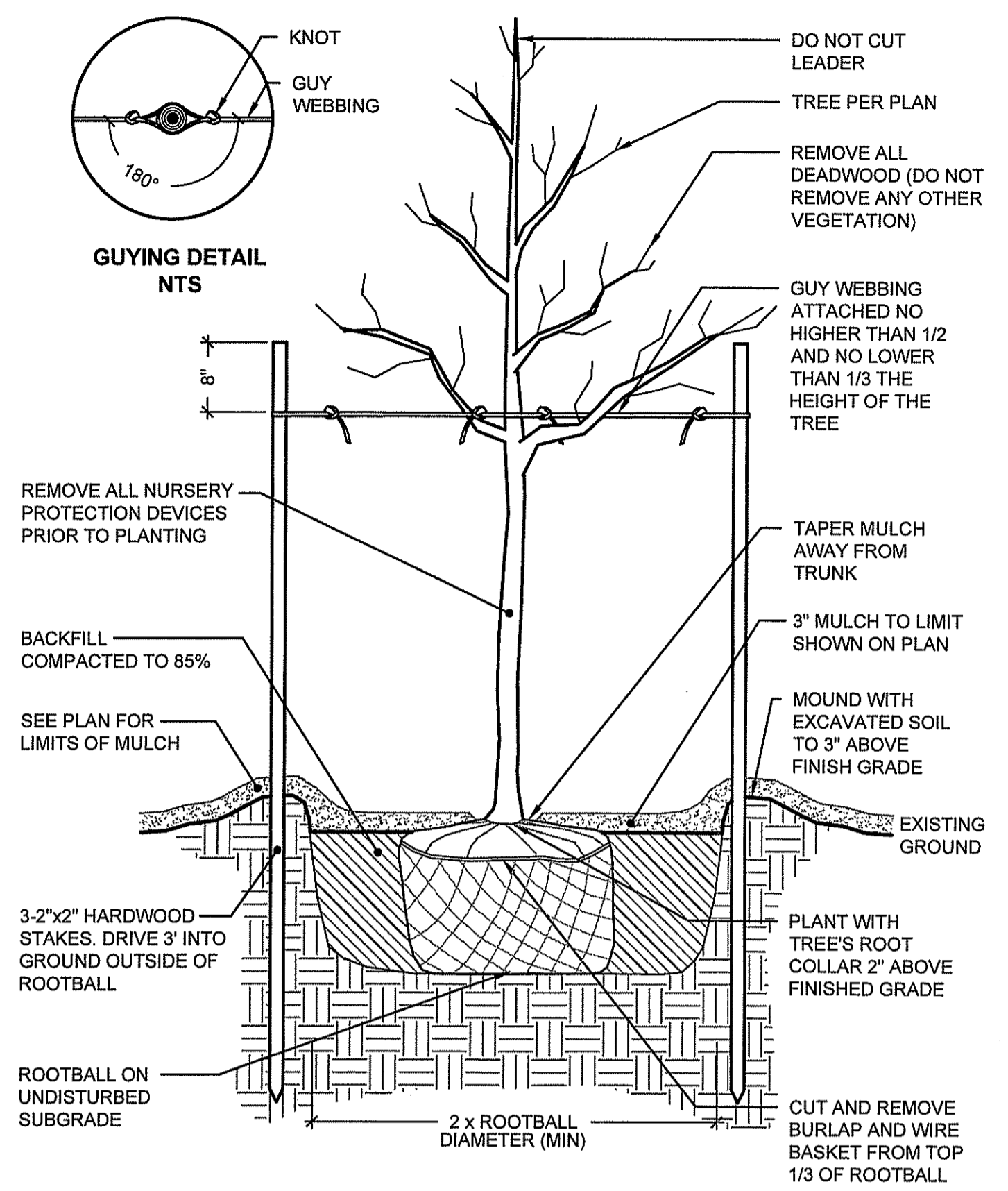
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SHEET 7 OF 10

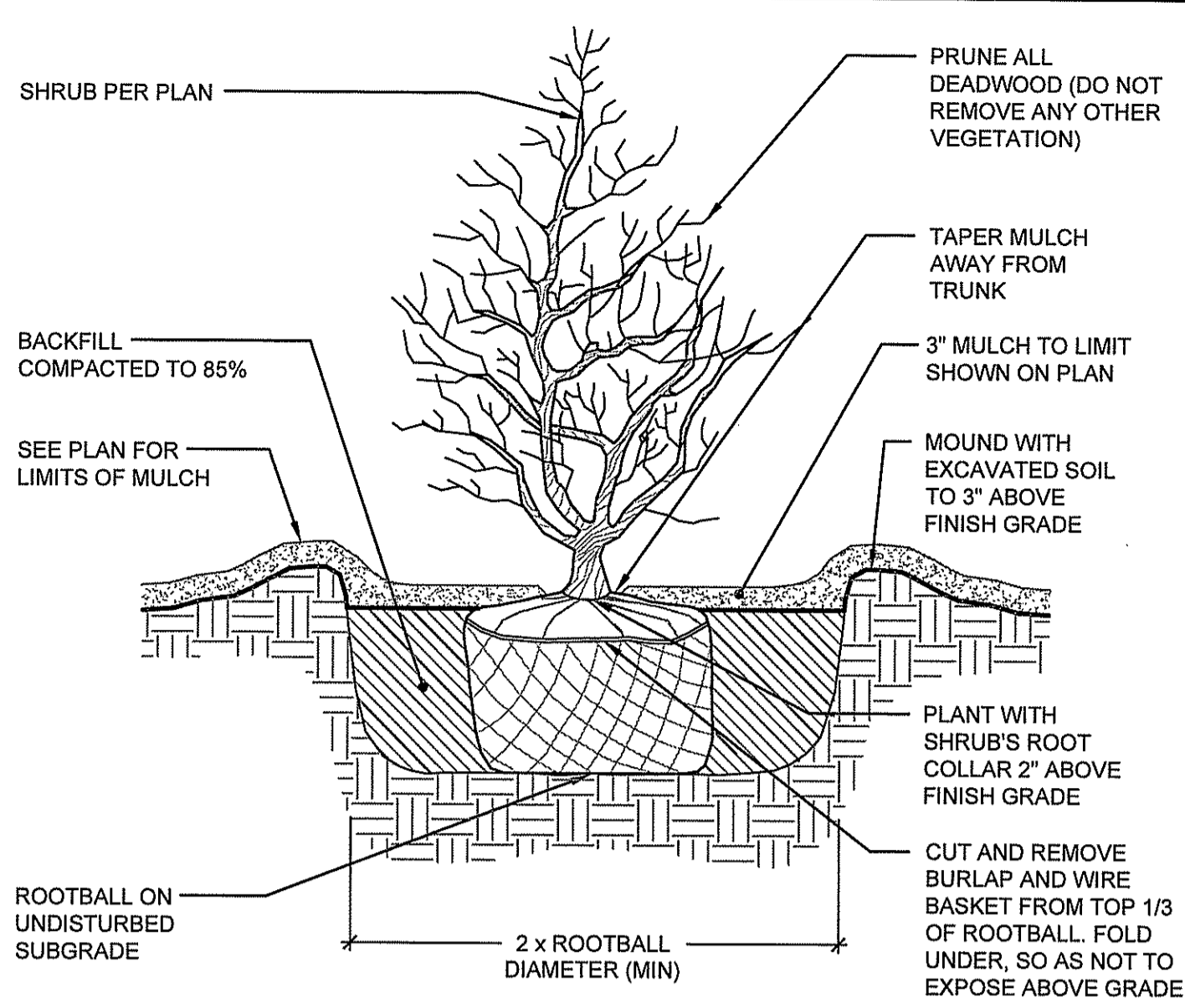
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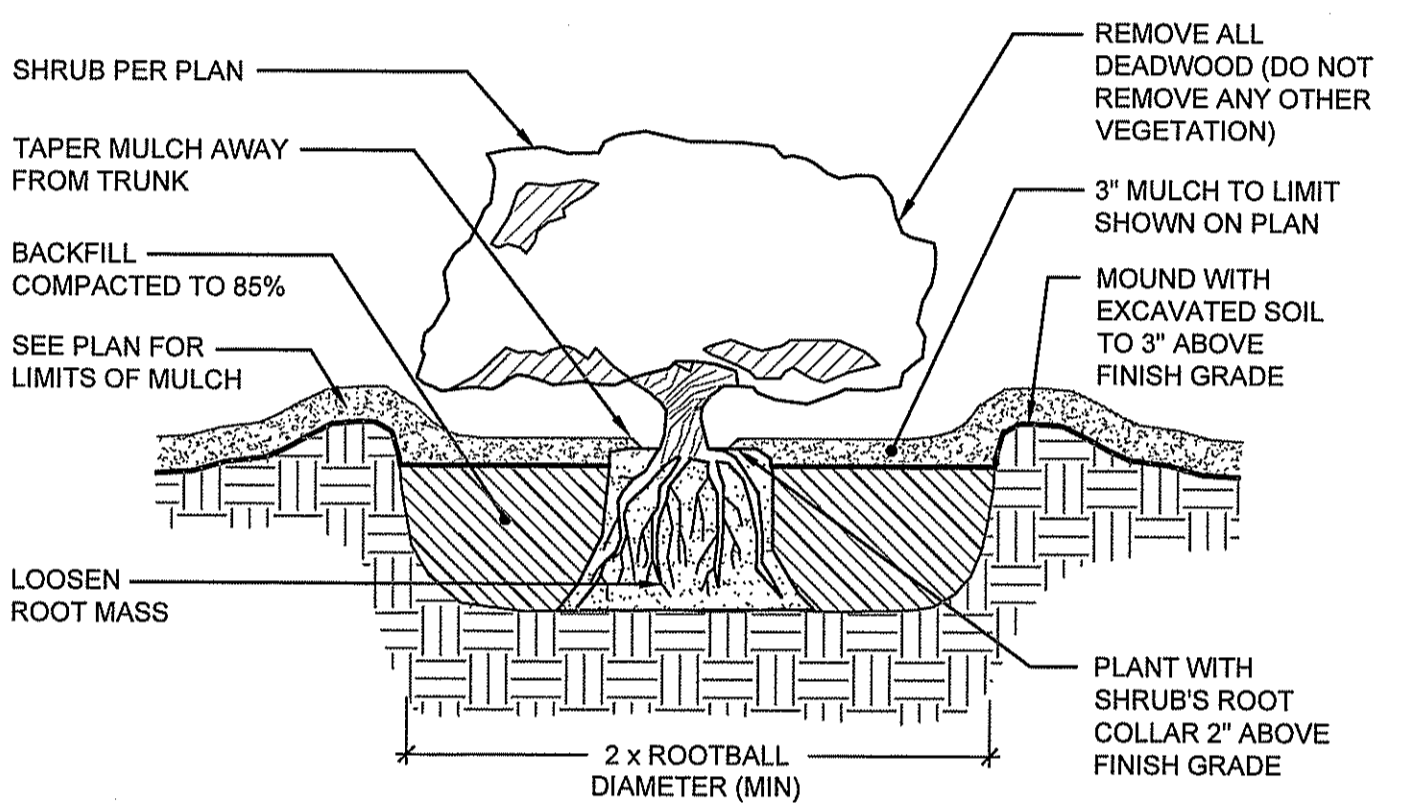
THE PRESERVE AT BOULDER HILLS
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816



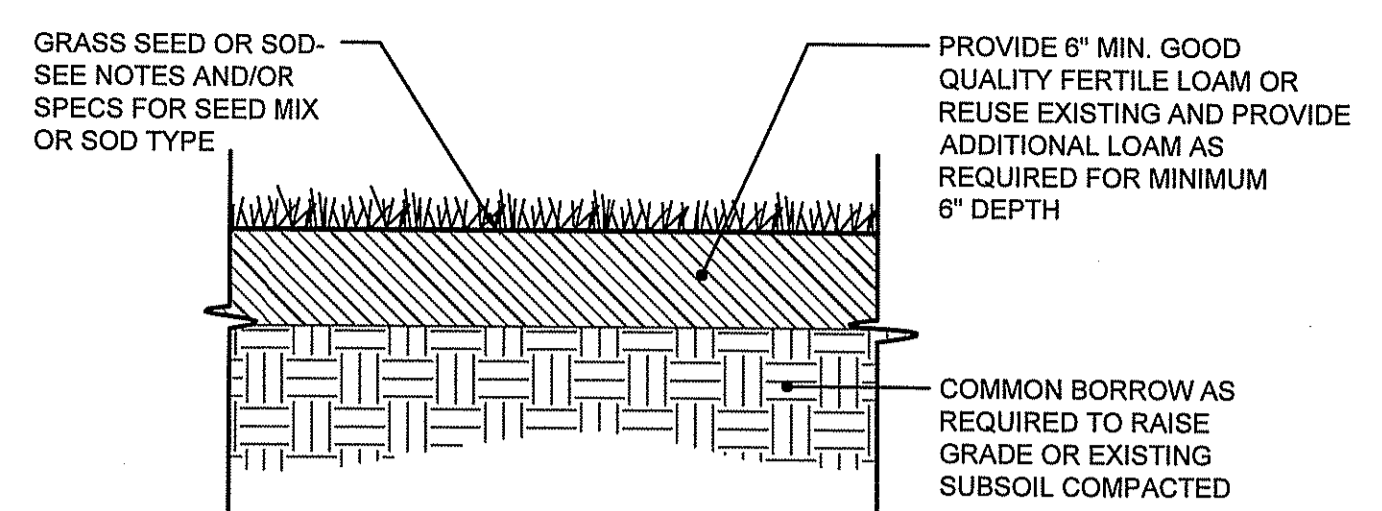
DECIDUOUS TREE STAKING & PLANTING
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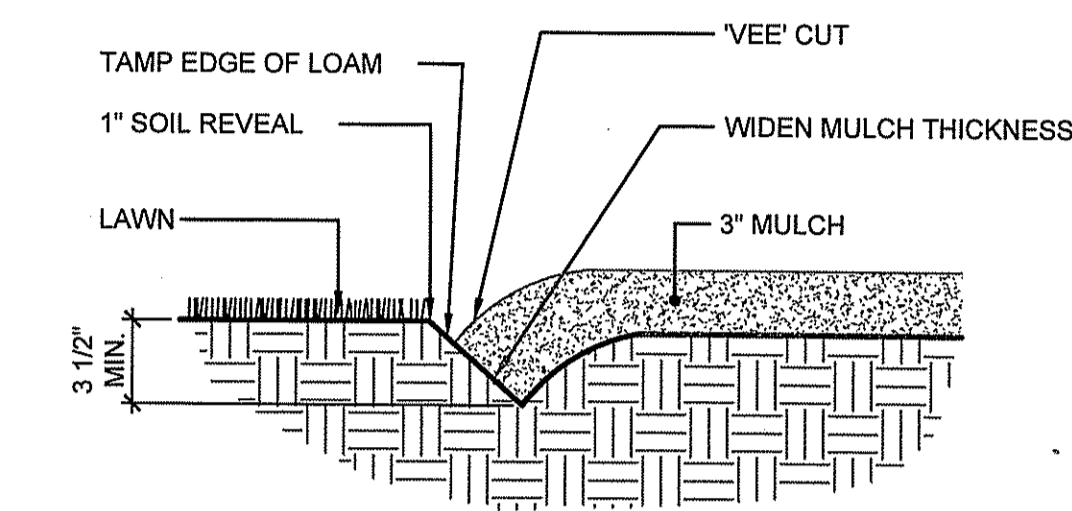
SHRUB PLANTING
 SCALE: NOT TO SCALE



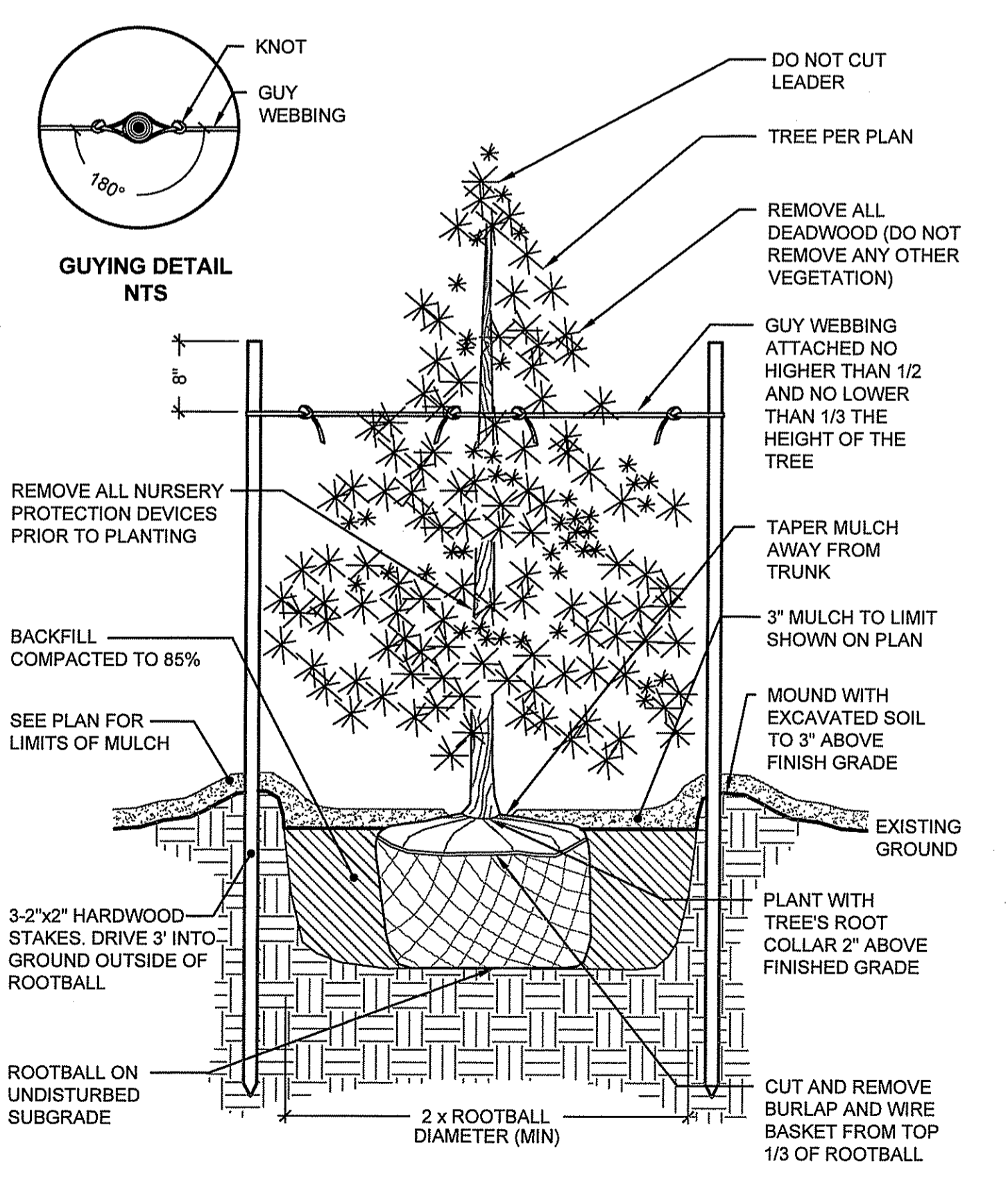
CONTAINER GROWN TREE & SHRUB PLANTING
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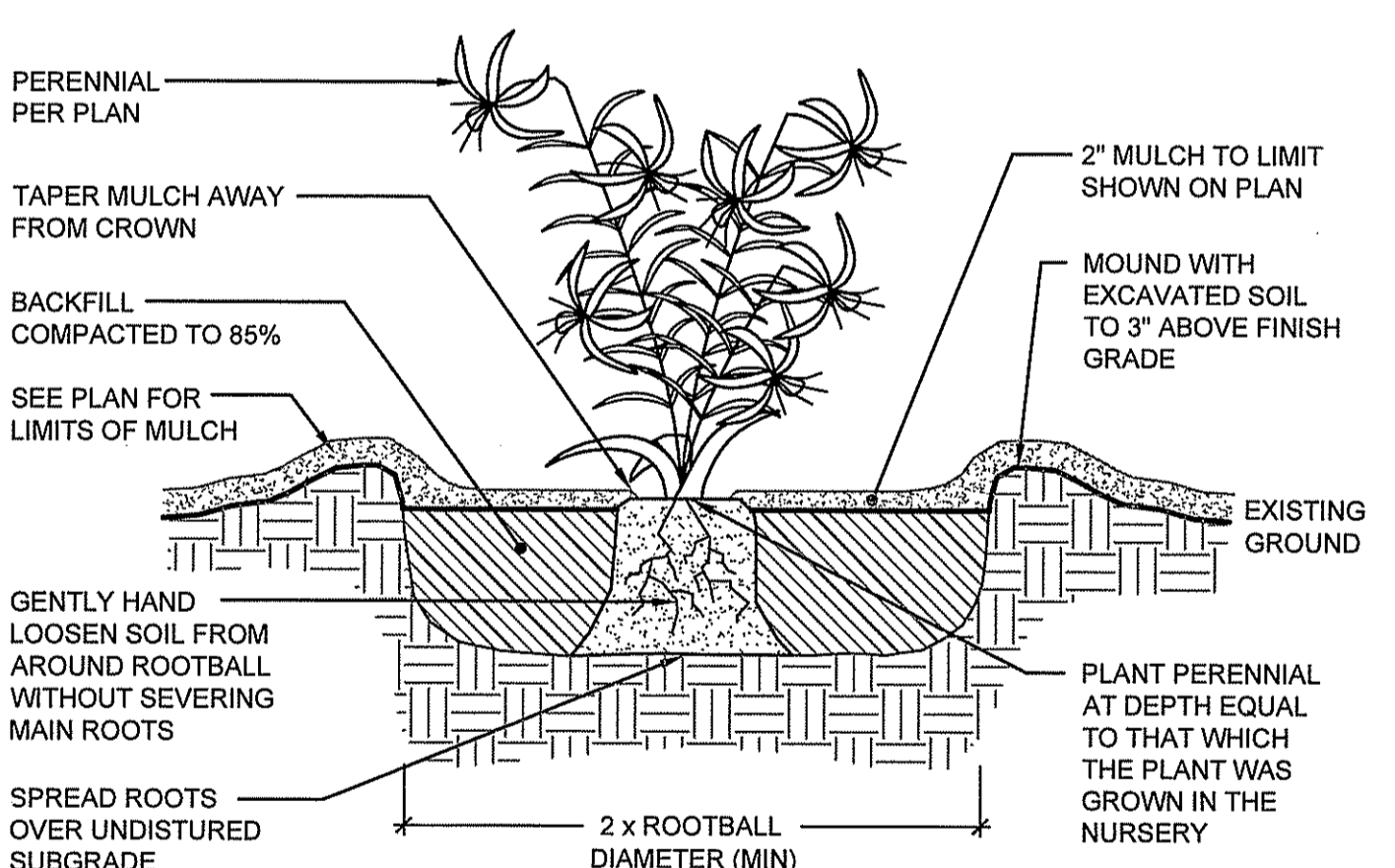
LOAM AND SEED OR LOAM AND SOD
 SCALE: NOT TO SCALE



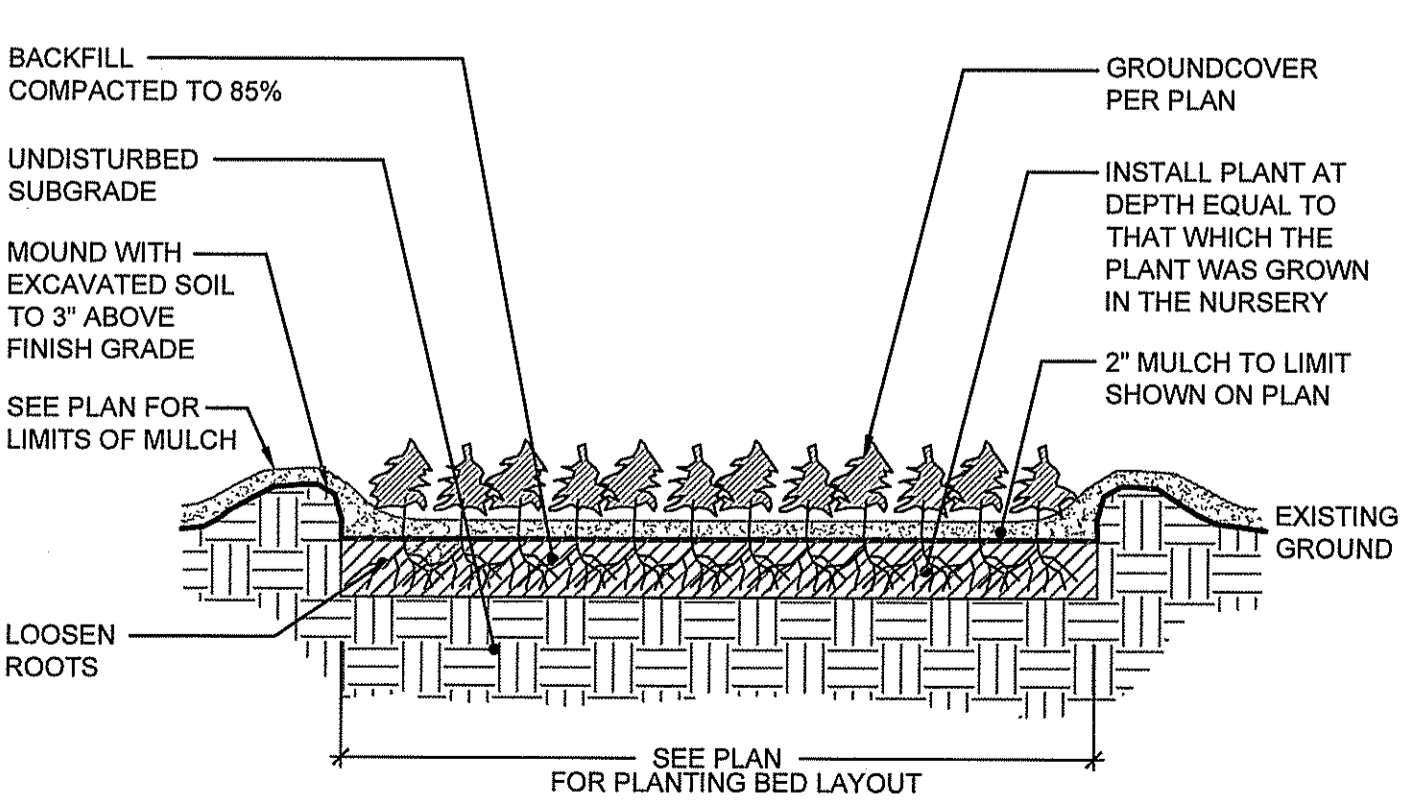
BEDLINE EDGE
 SCALE: NOT TO SCALE



EVERGREEN TREE STAKING & PLANTING
 SCALE: NOT TO SCALE



PERENNIALS & GRASSES PLANTING
 SCALE: NOT TO SCALE



GROUNDCOVER PLANTING
 SCALE: NOT TO SCALE

APPROVED BY THE OFFICE OF WATER RESOURCES
 FILE # 16-0096
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 CA JOB # 215113
 FEB. 12, 2016

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PLANTING DETAILS

THE PRESERVE AT BOULDER HILLS
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 PLAT 5B, LOT 3B
 RICHMOND, RHODE ISLAND

PREPARED FOR
THE PRESERVE AT BOULDER HILLS

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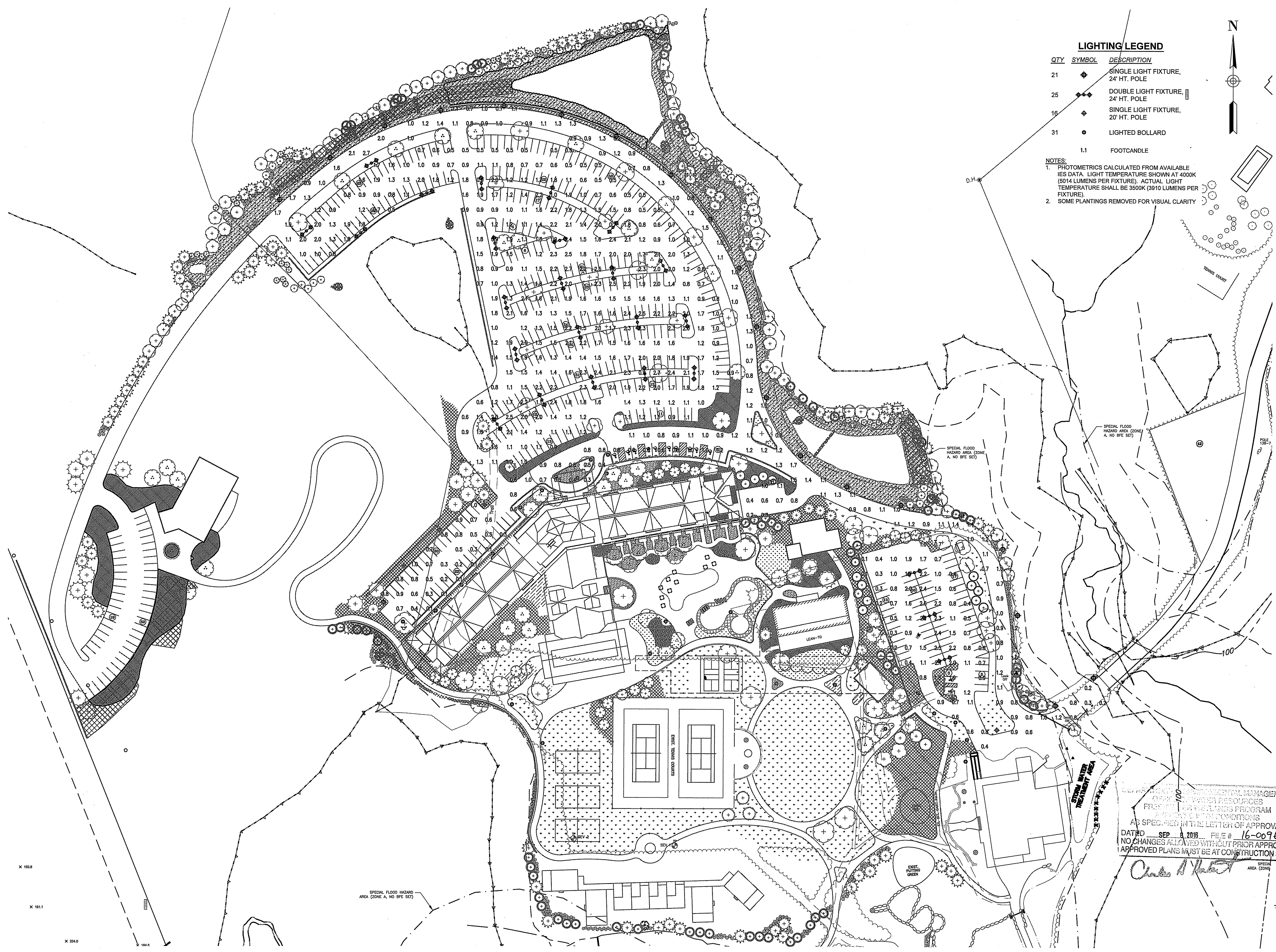
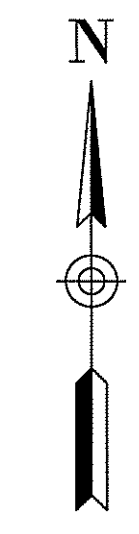
SHEET 8 OF 10
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THE PRESERVE AT BOULDER HILLS
 2091 NOOSENECK HILL ROAD
 COVENTRY, RI 02816

LIGHTING LEGEND

QTY	SYMBOL	DESCRIPTION
21	◆	SINGLE LIGHT FIXTURE, 24' HT. POLE
25	◆◆	DOUBLE LIGHT FIXTURE, 24' HT. POLE
16	◆	SINGLE LIGHT FIXTURE, 20' HT. POLE
31	●	LIGHTED BOLLARD
1.1	○	FOOTCANDLE

NOTES:
 1. PHOTOMETRICS CALCULATED FROM AVAILABLE IES DATA. LIGHT TEMPERATURE SHOWN AT 4000K (5014 LUMENS PER FIXTURE). ACTUAL LIGHT TEMPERATURE SHALL BE 5500K (3910 LUMENS PER FIXTURE).
 2. SOME PLANTINGS REMOVED FOR VISUAL CLARITY



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 Office of Water Resources

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SCALE: 1"=60'
 CA JOB # 215113
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LIGHTING PLAN

THE PRESERVE AT BOULDER HILLS
 87 KINGSTOWN ROAD
 PLAT 6B, LOT 4
 PLAT 5B, LOT 3B
 RICHMOND, RHODE ISLAND

PREPARED FOR
THE PRESERVE AT BOULDER HILLS

PREPARED FOR ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FREEPORT WETLANDS PROGRAM
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Charles A. Hester

1-101

SHEET 9 OF 10

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RIDEM REVIEW
 PAGE 34 OF 35

