

Z:\GEOPROJECTS\0953-001 PIPPIN ORCHARD\0489 AUTOCAD DRAWINGS\0953-001 PLANNING PLOTTED: 9/26/2024

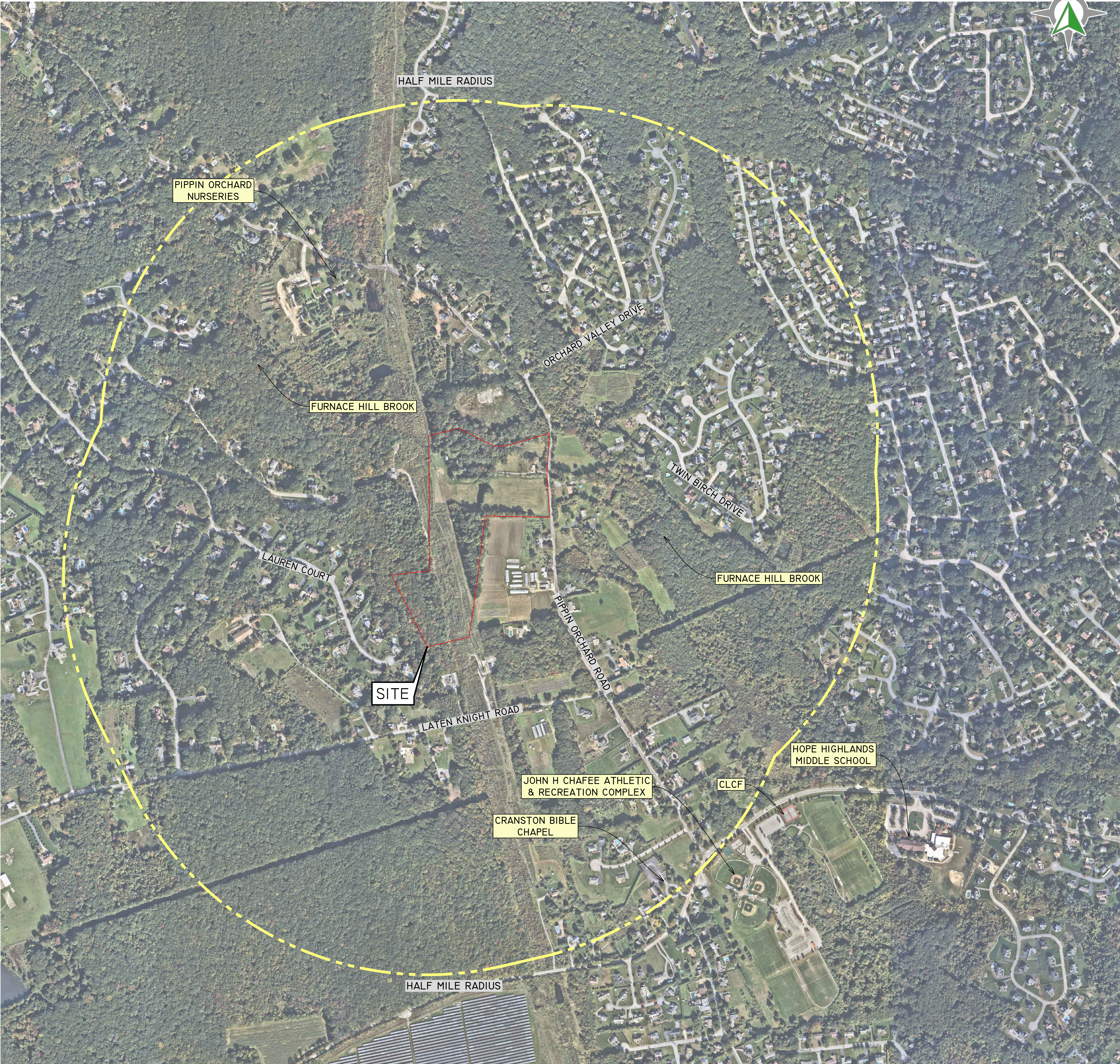
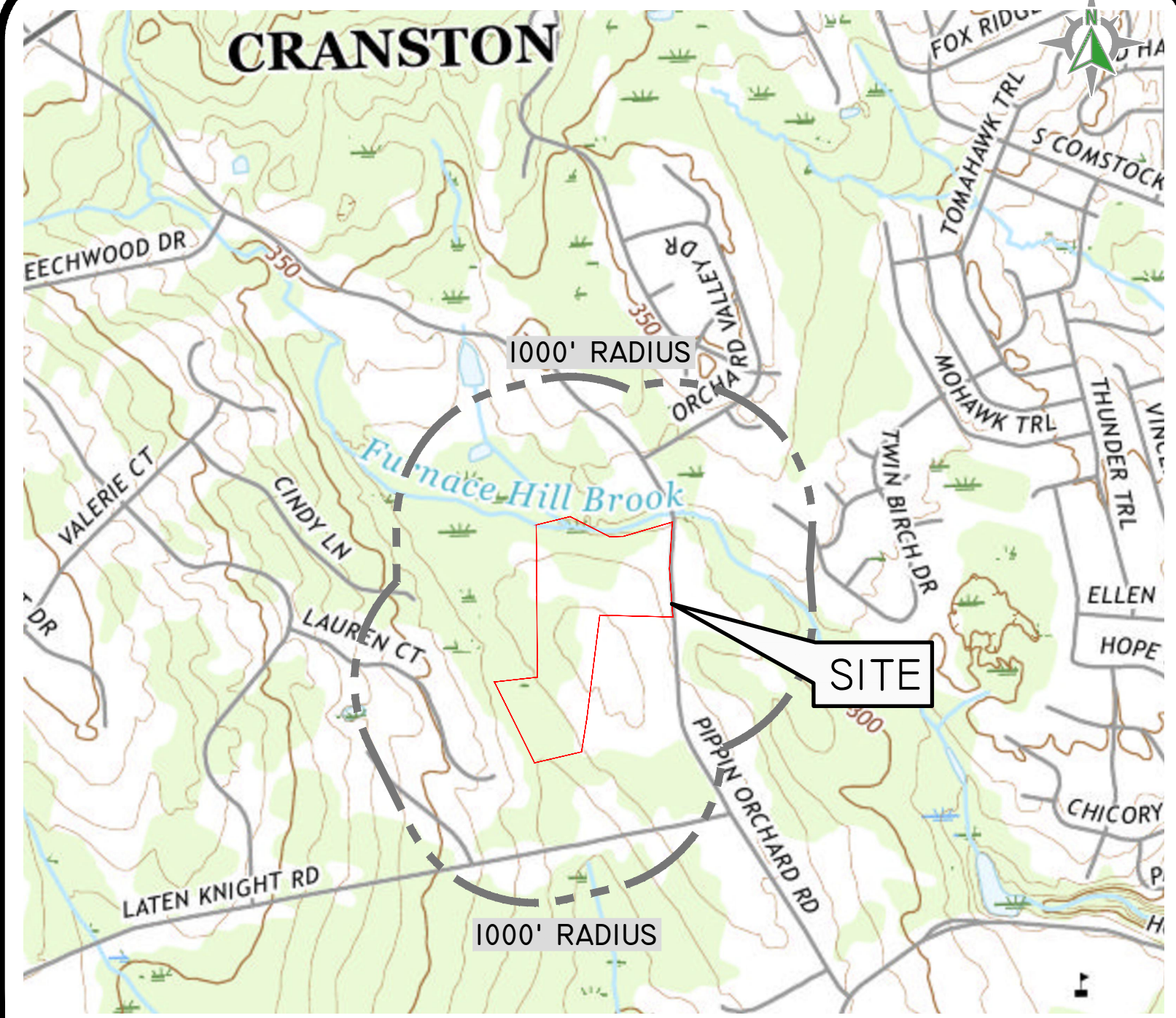


PHOTO OBTAINED FROM NEARMAP.
DATE OF PHOTOGRAPHY 10/12/2021.

SCALE: 1"=400'
0 200' 400' 800'



USGS MAP SCALE: 1"=1000'

AERIAL HALF MILE RADIUS
ORCHARD MEADOWS
1489 PIPPIN ORCHARD ROAD
ASSESSOR'S PLAT 28, LOTS 31 & 45
CRANSTON, RHODE ISLAND
PREPARED FOR
PIPPIN ORCHARD INVESTORS LLC
2269 FLAT RIVER ROAD
COVENTRY, RI 02916

SHEET 2 OF 8

THIS PLAN SET MUST NOT BE USED FOR CONSTRUCTION PURPOSES
UNLESS STAMPED, ISSUED FOR CONSTRUCTION AND STAMPED BY
THE REGISTERED PROFESSIONAL ENGINEER OF DIPRETE
ENGINEERING.
DIPRETE ENGINEERING ONLY WARRANTS PLANS ON A DIPRETE
ENGINEERING PROJECT. DIPRETE ENGINEERING DOES NOT
WARRANT PLANS BY ANY OTHER PARTY.
THE CONTRACTOR IS RESPONSIBLE FOR ALL OF THE MEANS, METHODS,
SEQUENCES, UTILITIES, AND LOCATIONS OF EXISTING UTILITIES.
ONLY DIPRETE ENGINEERING ASSUMES NO RESPONSIBILITY FOR
ERRORS OR OMISSIONS DUE TO LOCATIONS OF EXISTING UTILITIES.

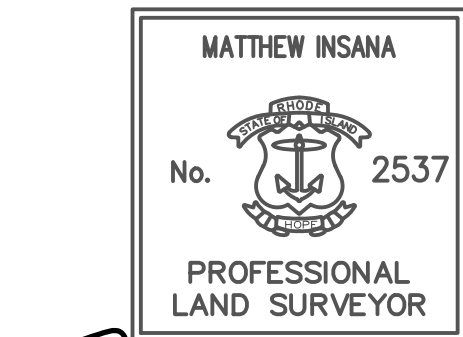
NO.	DATE	DESCRIPTION	BY:	DESIGN BY: J.L.S.
1	10/12/2021	MASTER PLAN PRIMARY SUBMISSION	S.D.H.	
2	09/26/2024	REVISION	S.D.H.	
3	08/07/2024	REVISION	S.D.H.	
4	07/17/2024	PASTED PRELIMINARY SUBMISSION	S.D.H.	
5	07/17/2024	DESCRIPTION	S.D.H.	

ERIC M. DRIVE
No. 8662
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

Diprete Engineering

Two Stafford Court Cranston, RI 02920
tel 401-943-1000 fax 401-464-6006 www.diprete-eng.com

Boston • Providence • Newport



LOCUS MAP NOT TO SCALE

LEGEND

	W	WATER LINE	123/1234	DEED BOOK/PAGE		BOLLARD
	S	SEWER LINE	AP	ASSESSOR'S PLAT		SOIL EVALUATION
	SFM	SEWER FORCE MAIN	HC	HANDICAPPED		CATCH BASIN
	G	GAS LINE	N/C	NOW OR FORMERLY		DOUBLE CATCH BASIN
	E	ELECTRIC LINE	L/F	LANDSCAPING		WATER VALVE
	OHW	OVERHEAD WIRES	(R)	RECORD		GAS VALVE
	D	DRAINAGE LINE	(CA)	CHORD ANGLE		WETLAND FLAG
		MINOR CONTOUR LINE		NAIL/SPIKE		DRAINAGE MANHOLE
	5	MAJOR CONTOUR LINE		CHORD		FLARED END SECTION
		PROPERTY LINE		IRON ROD/PIPE		GUY POLE
		ASSESSORS LINE		BOUND		ELECTRIC MANHOLE
		TREELINE		SIGN POST		UTILITY/POWER POLE
		GUARDRAIL		HYDRANT		WELL
	X	FENCE		SEWER CLEANOUT		MONITORING WELL
		RETAINING WALL		IRRIGATION VALVE		BENCH MARK
	WHL	STONE WALL		UNKNOWN MANHOLE		TREE
	WHL	SOILS LINES				
	BI	WETLAND LINE & FLAG				
	50'	50' BUFFER				
	75'	75' BUFFER				
	150'	150' BUFFER				

- THE PARCEL IS FOUND ON ASSESSOR'S PLAT 28, LOTS 10, 31, 45, & 86 IN THE CITY OF CRANSTON, PROVIDENCE COUNTY, RHODE ISLAND.
2. THE OWNER OF:
 - 2.1. LOT 10 PER DEED BOOK 544, PAGE 234 IS WILLIAM D. KEARNEY
 - 2.2. LOTS 31, 45, & 86 PER DEED BOOK L466-60, PAGE 29 IS NKC INVESTMENTS, LLC, AND CERSOSIMO CONSTRUCTION LLC, AND 58 LLC.
3. THIS SITE IS LOCATED IN FEMA FLOOD ZONE X, A, AND AE. REFERENCE FEMA FLOOD INSURANCE RATE MAP L4607C0294H, MAP REVISED OCTOBER 2, 2015. THIS DESIGNATION MAY CHANGE BASED UPON REVIEW BY A FLOOD ZONE SPECIALIST OR BY THE RESULTS OF A COMPREHENSIVE FLOOD STUDY.
4. THE SITE IS ZONED A80 BASED ON THE CITY OF CRANSTON ONLINE GIS. ANY OVERLAY DISTRICTS, SPECIAL PERMITS OR VARIANCES SPECIFIC TO THIS SITE ARE NOT TAKEN INTO CONSIDERATION. PLEASE CONTACT THE ZONING DEPARTMENT FOR ANY ADDITIONAL INFORMATION OR FOR A CERTIFICATE OF ZONING.
5. THERE WERE CEMETERIES, GRAVE SITES AND OR BURIAL GROUNDS OBSERVED WITHIN THE LIMITS OF THE SURVEY.
6. PLEASE REFER TO RHODE ISLAND GENERAL LAW § 23-23-18-II FOR BUILDING REQUIREMENTS AROUND A HISTORIC CEMETERY.
7. DIPRETE ENGINEERING IS NOT RESPONSIBLE FOR AN ARCHAEOLOGICAL INVESTIGATION NEEDED TO DETERMINE THE BOUNDARIES OF THE UNMARKED CEMETERY AS REQUIRED BY RHODE ISLAND GENERAL LAW § 23-23-18-II SUBSECTION 2C.
8. FIELD SURVEY PERFORMED BY DIPRETE ENGINEERING BETWEEN MAY 25 - JUNE 3, 2022. THIS PLAN REFLECTS ON THE GROUND CONDITIONS AS OF THOSE DATES.
9. ELEVATIONS SHOWN HEREON, IN U.S. SURVEY FEET, ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), AS DETERMINED BY DIPRETE ENGINEERING USING REAL TIME KINEMATIC C.P.S. OBSERVATIONS.
10. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. DIPRETE ENGINEERING IS NOT RESPONSIBLE FOR ANY UNKNOWN OR UNRECORDED EASEMENTS, DEEDS OR CLAIMS THAT A TITLE REPORT WOULD DISCLOSE.
11. A CLOSING LINE IS AN ARBITRARY SURVEY LINE USED FOR COMPUTATIONAL PURPOSES AND IS NOT TO BE MISINTERPRETTED AS A PROPERTY LINE.
12. CONTOUR DATA SHOWN ON THIS PLAN CONFORMS TO A T-4 TOPOGRAPHICAL SURVEY STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS: SAID DATA IS BASED ON A LIDAR DATA INNOVATION THAT WAS COLLECTED WITH AIRBORNE LIDAR TECHNOLOGY FOR THE ENTIRE AREA OF RHODE ISLAND BETWEEN APRIL 22 AND MAY 6, 2011 AS PART OF THE NORTHEAST LIDAR PROJECT. THIS DATA'S POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED BY DIPRETE ENGINEERING AND IS SUBJECT TO CHANGES AN AUTHORITY FIELD SURVEY MAY DISCLOSE.

1. RIDGEWOOD - SECTION 6, CRANSTON, RHODE ISLAND, SCALE 1"=100', DATED AUGUST 7, 1987, PLAN BY AVT ASSOCIATES, RECORDED ON PLAT CARD 565.
2. FIVE ACRE ORCHARD PLAT, AN ADMINISTRATIVE SUBDIVISION, BY W.P. SKORUPSKI, LOCATED IN CITY OF CRANSTON, ASSESSORS PLAT 28, LOTS 57 AND 65, SCALE 1"=80', DATED FEBRUARY, 2008, RECORDED ON PLAT CARD 653.
3. RECORD PLAT, PINE ORCHARD ESTATES, A.P. 28, LOT 197, PIPPIN ORCHARD ROAD, CRANSTON, RHODE ISLAND, SCALE 1"=60', DATED MAY 28, 2015, PLAN BY OCEAN STATE PLANNERS, RECORDED ON PLAT CARD 908.

 WIRE FENCE AND DIRT DRIVEWAY OVER PROPERTY LINE

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO 435-RCR-00-001-9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:

- LIMITED CONTENT BOUNDARY SURVEY (PERIMETER) CLASS I
- TOPOGRAPHIC SURVEY CLASS T-4

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS: PERIMETER RETRACEMENT WITH TOPOGRAPHY FOR SITE ENGINEERING AND PERMITTING.

ERIC M. PRIVE
No. 8662
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

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DIPRETE ENGINEERING ONLY WARRANTS PLANS ON A DIPRETE DIPRETE PROFESSIONAL ENGINEER OF DIPRETE ENGINEERING. DIPRETE ENGINEERING DOES NOT WARRANT PLANS BY ANY OTHER PARTY.

THE CONTRACTOR IS RESPONSIBLE FOR ALL OF THE MEANS, METHODS, SAFETY PRECAUTIONS AND REQUIREMENTS, AND OSHA COMPLIANCE IN THE IMPLEMENTATION OF THIS PLAN AND DESIGN.

EXISTING UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE LOCATIONS OF UTILITIES BASED ON RECORD DRAWINGS INQUIRED DUE TO LOCATIONS OF EXISTING UTILITIES.

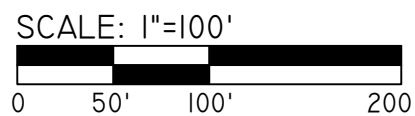
NO.	DATE	DESCRIPTION	BY:
1	09/26/2024	MASTER/PRELIMINARY SUBMISSION	S.D.M.
2	09/26/2024	RIDOT SUBMISSION	S.D.M.
3	08/01/2024	MASTER/PRELIMINARY SUBMISSION	S.D.M.
1	07/31/2024	RIDOT SUBMISSION	S.D.M.

DRAWN BY: S.D.M.
 DESIGN BY: J.L.S.

ORCHARD MEADOWS
489 PIPPIN ORCHARD ROAD
ASSESSOR'S PLAT 28, LOTS 31 & 45

PREPARED FOR:
PIPPIN ORCHARD INVESTORS LLC
2289 FLAT RIVER ROAD

DE JOB NO: 2953-001 COPYRIGHT 2024 BY DIPRETE ENGINEERING ASSOCIATES, INC.



CURRENT ZONING:	A80 REQUIRED 80,000 SF	RFP (SINGLE FAMILY) AS REQUIRED FROM A20 20,000 SF	PROVIDED 36,092 SF
MINIMUM LOT AREA:	200'	125'	200**
MINIMUM FRONTAGE AND LOT WIDTH:	40'	15'	42.5'
MINIMUM FRONT AND CORNER SIDE YARD:	20'	10'	36.6'
MINIMUM SIDE YARD:	20'	30'	102.5'
MINIMUM REAR YARD:	35'	35'	<35'
MAXIMUM STRUCTURE HEIGHT:	10%	20%*	<20%
MAXIMUM LOT COVERAGE:			

NO LESS THAN TWENTY-FIVE (25) PERCENT OF THE TOTAL LAND AREA OF A RESIDENTIAL PLANNED DISTRICT SHALL BE OPEN SPACE. THIS FIGURE SHALL BE COMPUTED BY MULTIPLYING THE APPLICANT'S TOTAL ADJACENT UNDEVELOPED LAND ACREAGE BY A FACTOR OF .25, EXCLUSIVE OF AREA COVERED BY EXISTING WATER BODIES AND STREAMS. THIS OPEN SPACE SHALL NOT INCLUDE BUILDING LOTS, STREET RIGHTS-OF-WAY OR LAND POSSESSING OTHER PHYSICAL CONSTRAINTS CAUSING IT TO BE UNSUITABLE FOR RESIDENTIAL DEVELOPMENT.

AT LEAST ONE-HALF OF THE OPEN SPACE OR TWELVE AND ONE-HALF (12.5) PERCENT OF THE TOTAL LAND AREA SHALL POSSESS NO SIGNIFICANT CONSTRAINTS TO DEVELOPMENT FOR ACTIVE RECREATION.

PROVISIONS SHALL BE MADE TO INSURE THAT NO MORE THAN TWENTY (20) PERCENT OF THE OPEN SPACE SHALL BE DEVOTED TO PAVED AREAS AND PERMITTED RECREATION RELATED STRUCTURES. OPEN SPACE WITHIN THIS PROJECT WILL BE LEFT UNDISTURBED.

** DIMENSIONAL VARIANCE TO BE REQUESTED FOR PROPOSED REAR LOT CONFIGURATION WITH 20' FRONTAGE FOR PRIVATE DRIVEWAYS TO LOTS 3 AND 4 AND REDUCED FRONTAGE TO 150' FOR LOTS 1 AND 2.

TOTAL SITE AREA:	22.3± ACRES
AREA SUITABLE FOR DEVELOPMENT:	10.1± ACRES
TOTAL NUMBER OF LOTS:	6

PROPOSED LOT WITH PROPOSED SINGLE FAMILY HOMES (LOTS 1-4)	4
TOTAL AREA OF LOTS 1-4	5.8± ACRES
PROPOSED LOT WITH EXISTING SINGLE FAMILY HOME (LOT 5)	1
AREA OF LOT 5	5.8± ACRES
TOTAL AREA OF LOTS 1-5 SUITABLE FOR DEVELOPMENT:	7.3± ACRES
AVERAGE AREA OF LOTS 1-5:	1.9± ACRES
PROPOSED PUBLIC OPEN SPACE (LOT 6)	
AREA OF PROPOSED PUBLIC OPEN SPACE LOT	12.72± ACRES
PUBLIC OPEN SPACE AREA SUITABLE FOR DEVELOPMENT:	2.8± ACRES

LOT 1	150'
LOT 2	150'
LOT 3	20'
LOT 4	20'
LOT 5	---
LOT 6	---

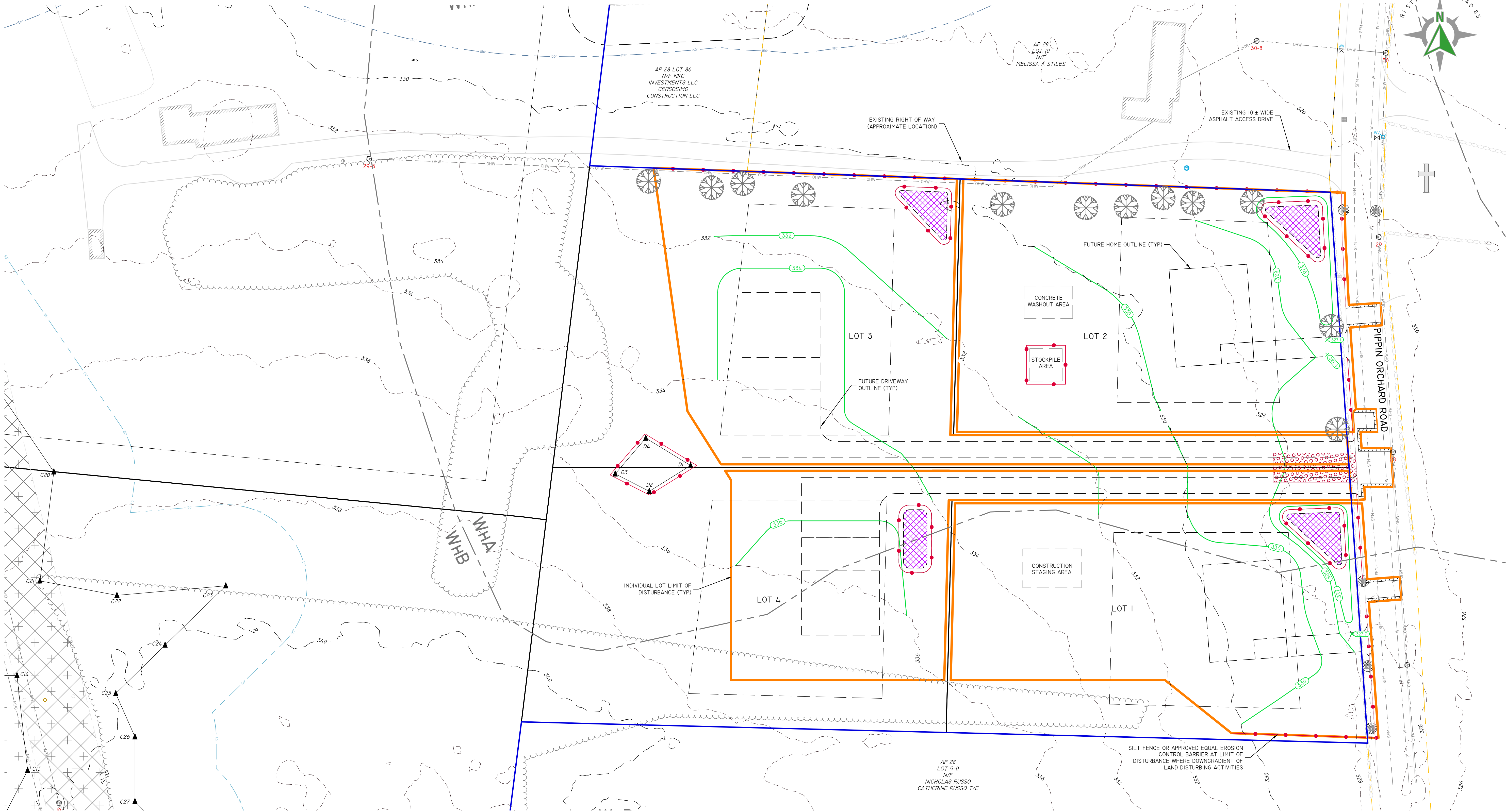
RELIEF IS REQUESTED FROM 17.20.120 SCHEDULE OF INTENSITY REGULATIONS (A-80 ZONE) FOR BOTH MINIMUM LOT AREA AND MINIMUM LOT FRONTAGE, FOR LOTS 1-4.

REFERENCE: SOIL MAPPING OBTAINED FROM RIGIS. SOIL GEOGRAPHIC DATA DEVELOPED BY THE RHODE ISLAND SOIL SURVEY PROGRAM IN PARTNERSHIP WITH THE NATIONAL COOPERATIVE SOIL SURVEY)

SOIL	NAME	DESCRIPTION
FA*	ENFIELD SILT LOAM, 0 TO 3 PERCENT SLOPES	
RF	RIDGEBURY, WHITMAN, AND LEICESTER EXTREMELY STONY FINE SANDY LOAMS	
RU	RUMNEY FINE SANDY LOAM	
VinA*	WOODBIDGE FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES	
VinB*	WOODBIDGE FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	
NOTE:	*PRIME FARMLAND **FARMLAND OF STATEWIDE IMPORTANCE	

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	GAS LINE	N/F	NOW OR FORMERLY		DOUBLE CATCH BASIN
	ELECTRIC LINE	LC	LANDSCAPING		WATER VALVE
	OVERHEAD WIRES	(R)	RECORD		GAS VALVE
	CHORD ANGLE	(CA)			WETLAND FLAG
	MINOR CONTOUR LINE				DRAINAGE MANHOLE
	MAJOR CONTOUR LINE				FLARED END SECTION
	SPOT ELEVATION				GUY POLE
	BOUND				ELECTRIC MANHOLE
	SEWER MANHOLE				UTILITY/POWER POLE
	SEWER CLEANOUT				WELL
	HYDRANT				MONITORING WELL
	IRRIGATION VALVE				BRANCH MARK
	UNKNOWN MANHOLE				TREE
	PROPERTY LINE				
	PROPOSED LOT LINE				
	ASSESORS LINE				
	TREELINE				
	GUARDRAIL				
	FENCE				
	RETAINING WALL				
	STONE WALL				
	FLAGGED WETLAND				
	50' PERIMETER WETLAND				
	75' WETLAND BUFFER				
	ASPHALT PAVEMENT				
	SETBACK LINE				
	SETBACK LABEL				
	SOIL LINE AND DESIGNATION				
	LIMIT OF DISTURBANCE				
	4" EPOXY RESIN PAVEMENT MARKINGS-DOUBLE YELLOW				
	4" EPOXY RESIN WHITE MARKINGS				
	LOAM BORROW 4 INCHES DEEP / SEEDING				

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SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL ON SITE WHICH MUST BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS AND AUTHORITY HAVING JURISDICTION. THE CONTRACTOR MUST NOTIFY THE CEOR, THE DIRECTOR OF PUBLIC WORKS, THE CITY ENGINEER, AND RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
2. ALL EROSION CONTROL INCLUDING (BUT NOT LIMITED TO) TEMPORARY SWALES, ETC. MUST BE INSTALLED PER THE LATEST EDITION OF THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL (RISESC) HANDBOOK AND THE SOIL EROSION AND SEDIMENT CONTROL PLAN. NOTE THE SOIL EROSION AND SEDIMENT CONTROL SHOWN ON THESE PLANS ARE THE MINIMUM QUANTITY/TYPE OF EROSION CONTROL DEVICES AND MATERIALS DEEMED REQUIRED BY THE CEOR TO MEET THE OBJECTIVES OF THE RISESC HANDBOOK, BUT IS CONSIDERED A GUIDE ONLY. ADDITIONAL MEASURES/ALTERNATE CONFIGURATIONS MAY BE REQUIRED IN ORDER TO MEET THE RISESC HANDBOOK BASED ON FACTORS INCLUDING (BUT NOT LIMITED TO) SITE PARAMETERS, WEATHER, INSPECTIONS AND UNIQUE FEATURES. THE SESC WILL CONTINUE TO EVOLVE THROUGHOUT CONSTRUCTION PHASES. PURSUANT TO NOTE 1 ABOVE, SESC REMAINS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE SITE IS FULLY STABILIZED AND/OR SESC RESPONSIBILITIES ARE ASSUMED BY THE OWNER IN WRITING.
3. TEMPORARY SWALES MUST BE USED TO CONTROL RUNOFF DURING CONSTRUCTION OF THE PROPOSED SITE WORK, AND MUST BE VEGETATED AFTER CONSTRUCTION. EROSION CONTROL MATS MUST BE INSTALLED, IF NECESSARY, TO PREVENT EROSION AND SUPPORT VEGETATION. AFTER CONSTRUCTION IS COMPLETE AND TRIBUTARY AREAS TO THE SWALES HAVE BEEN STABILIZED, THE TEMPORARY SWALES MUST BE CLEARED AND FINAL DESIGN MUST BE PER THE DESIGN PLANS.
4. FOR SEQUENCE OF CONSTRUCTION, PROJECT PHASING AND CONSTRUCTION PHASING SEE SESC PLAN.
5. CONTRACTOR MAY MODIFY SEQUENCE OF CONSTRUCTION WITH APPROVAL FROM THE CEOR AND OWNER.
6. IF CONCRETE TRUCKS ARE WASHED OUT ON SITE, ALL WASHOUT MUST BE PERFORMED IN THE DESIGNATED CONCRETE WASHOUT AREA.
7. SLOPES STEEPER THAN 3:1 REQUIRE TEMPORARY EROSION CONTROL BLANKETS, EROSION CONTROL BLANKETS TO BE NORTH AMERICAN GREEN OR APPROVED EQUAL AND INSTALLED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

SOIL EROSION CONTROL LEGEND

- EROSION CONTROL (COMPOST SOCK, SILT FENCE (RI STD 9.2.0, OR APPROVED EQUAL))
- LIMIT OF DISTURBANCE (NO SEDIMENT CONTROL)
- LIMIT OF DISTURBANCE (WITH SEDIMENT CONTROL)
- CONSTRUCTION ENTRANCE (RIDOT STD 9.9.0)
- INFILTRATING AREA (TO BE PROTECTED BY COMPOST SOCK OR SILT FENCE)
- FINAL CONTOUR GRADE
- SPOT ELEVATION
- INLET SEDIMENT CONTROL

SESC PLAN

ORCHARD MEADOWS
1489 PIPPIN ORCHARD ROAD
ASSESSOR'S PLAT 28, LOTS 31 & 45
CRANSTON, RHODE ISLAND

PREPARED FOR
PIPPI ORCHARD INVESTORS LLC
2289 FLAT RIVER ROAD
COVENTRY, RI 02816

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NO.	DATE	DESCRIPTION	BY:	DESIGN BY: J.L.S.
1	10/26/2023	WASTEWATER TREATMENT SUBMISSION	S.D.H.	
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3	08/01/2024	WASTEWATER TREATMENT SUBMISSION	S.D.H.	
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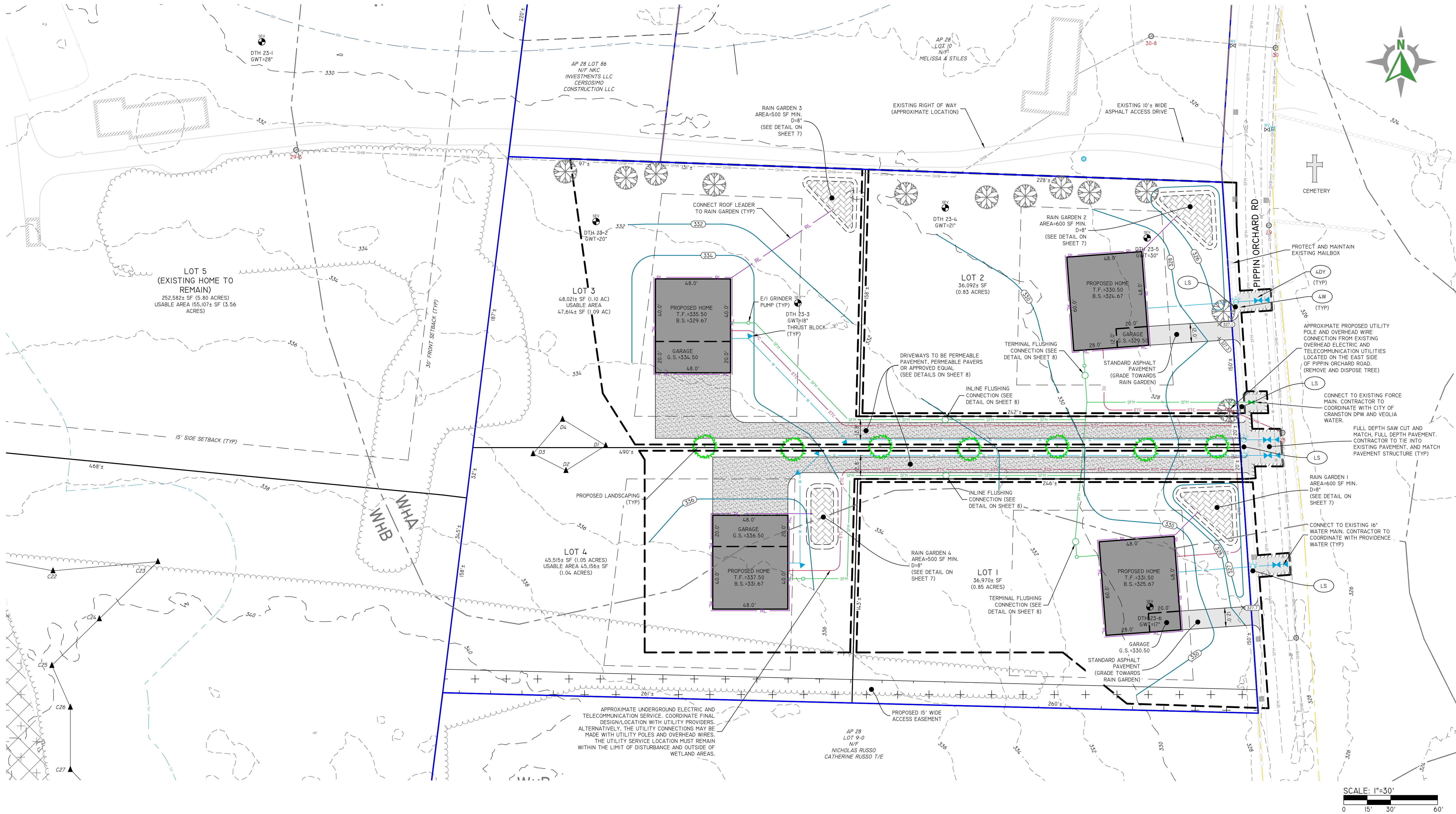
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GENERAL NOTES

- THE SITE IS NOT WITHIN A:
GROUNDWATER PROTECTION AREA (RIDEM)
NATURAL HERITAGE AREA (RIDEM)
GREENWICH BAY SAMP (CRMC)
METRO BAY SAMP (CRMC)

THE SITE IS WITHIN A:
SPECIAL FLOOD HAZARD DISTRICT (CITY)
- NO ENVIRONMENTAL HAZARDS WERE OBSERVED AT THE SITE.
- EACH LOT ON THE SITE IS PROPOSED TO BE BUILT PER THE STATE OF RHODE ISLAND STORMWATER MANAGEMENT GUIDANCE FOR INDIVIDUAL SINGLE-FAMILY RESIDENTIAL LOT DEVELOPMENT. NEW HOMES ARE PROPOSED TO BE 4 BEDROOMS.
- PROPOSED LOTS 1-4 TO BE SERVICED BY PUBLIC SEWER AND PUBLIC WATER. LOT 5 (EXISTING HOME 1489 PIPPIN ORCHARD ROAD) WILL REMAIN SERVICED BY PRIVATE DOWNS AND PRIVATE WELL.
- EACH PROPOSED LOT 1-4 MUST BE EQUIPPED WITH AN E/ONE GRINDER PUMP.
- THE DRAINAGE SYSTEM IS DESIGNED TO MEET CITY OF CRANSTON SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE STORMWATER MANAGEMENT SYSTEM MEETS THE RIDEM BEST MANAGEMENT PRACTICES.
- A PHASE I SITE IDENTIFICATION ARCHAEOLOGY SURVEY WAS COMPLETED BY PUBLIC ARCHAEOLOGY LABORATORY (PAL) IN SEPTEMBER 2023.

- EXISTING SITE FEATURES SHALL REMAIN UNLESS OTHERWISE NOTED ON THESE PLANS.
- CONTRACTOR MUST NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES.
- THE CONTRACTOR MUST OBTAIN ALL NECESSARY LOCAL PERMITS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR MUST ENSURE FINAL GRADING DIRECTS STORMWATER AWAY FROM ALL UTILITIES.
- ANY DAMAGE TO PRIVATE PROPERTY CAUSED BY THE CONTRACTOR MUST BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR MUST COMPLY WITH ALL APPLICABLE EROSION CONTROL REQUIREMENTS IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.
- UNLESS SPECIFIED OTHERWISE ALL MATERIALS MUST MEET THE R.I. DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- THIS PLAN SET REFERENCES RIDOT STANDARD DETAILS (DESIGNATED AS RIDOT STD X.X.X.). RIDOT STANDARD DETAILS ARE AVAILABLE FROM RIDOT AND ONLINE AT:
[HTTP://WWW.DOT-RI.GOV/BUSINESS/CONTRACTORSANDCONSULTANTS.PHP](http://www.dot-ri.gov/business/contractorsandconsultants.php).

GRADING AND UTILITIES PLAN

ORCHARD MEADOWS
1489 PIPPIN ORCHARD ROAD
ASSESSOR'S PLAT 28, LOTS 31 & 45
CRANSTON, RHODE ISLAND
PREPARED FOR
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ESTABLISHMENT OF VEGETATIVE COVER

- SLOPES SHALL NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON. THE CONTRACTOR SHALL INITIATE APPROPRIATE VEGETATIVE PRACTICES ON ALL DISTURBED AREAS AS SOON AS POSSIBLE BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS THE ACTIVITY IS TO RESUME WITHIN TWENTY-ONE (21) DAYS.
- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED OR PROTECTED.
- THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, M.20.
- THE TEMPORARY SEEDING DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING:

TYPE	% BY WEIGHT
ANNUAL RYEGRASS	40
PERENNIAL RYEGRASS	60

- THE NEW ENGLAND EROSION CONTROL/RESTORATION SEED MIX SHALL BE COMPRISED OF THE FOLLOWING:

TYPE	% BY WEIGHT
UPLAND BENTGRASS	1.0
CREeping BENTGRASS	1.0
BIG BLUESTEM	8.0
NEW ENGLAND ASTER	1.0
FOX SEDGE	8.0
VIRGINIA WILD RYE	28.0
BONASET	1.0
GRASS LEAVED GOLDENROD	1.0
CREeping RED FESCUE	24.0
SOFT RUSH	0.5
SENSITIVE FERN	1.0
SWITCH GRASS	8.0
LITTLE BLUESTEM	15.0
GREEN BULLRUSH	1.0
WOOL GRASS	0.5
BLUE Vervain	1.0

- THE GENERAL PURPOSE SEED MIX SHALL BE COMPRISED URI #2 OF THE FOLLOWING:

TYPE	% BY WEIGHT
CREeping RED FESCUE	40
IMPROVED PERENNIAL RYE GRASS	20
IMPROVED KENTUCKY BLUEGRASS	30
KENTUCKY BLUEGRASS	10

EARLY SPRING OR LATE SUMMER SEEDING IS RECOMMENDED. SEEDING SCHEDULE SHOULD CONFORM WITH RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, L.02.03.1 SEEDING DATES. PERMANENT SEEDING SHALL BE DURING THE PERIODS OF APRIL 1 TO MAY 31 OR AUGUST 15 TO OCTOBER 15. TEMPORARY SEEDING MAY BE DONE ANYTIME BETWEEN MARCH 15 AND NOVEMBER 15 WITH THE APPROVAL OF THE ENGINEER OF RECORD. FERTILIZE AS REQUIRED BY SOIL TESTING TO COMPLIMENT OR UPGRADE EXISTING CONDITIONS. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS AND BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULANTS FOR EACH VARIETY.

7. TEMPORARY TREATMENTS SHALL CONSIST OF STRAW OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING. TEMPORARY STRAW MULCH TO BE TACKED IN PLACE WITH NYLON MESH NETTING. SLOPES OF BASINS SHALL BE TREATED WITH NORTH AMERICAN GREEN EROSION CONTROL BLANKETS SUCH AS SIS0 OR APPROVED EQUAL. THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER. STRAW APPLICATIONS SHALL BE IN THE AMOUNT OF 2 TONS/ACRE.

- ALL SILT FENCE OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.

- ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION PART 200.

- STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDDED AND/OR STABILIZED.

- ALL AREAS PROPOSED TO BE VEGETATED THAT ARE DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. PERMANENTLY SEEDDED AREAS SHALL BE PROTECTED DURING ESTABLISHMENT WITH MULCH. ALL SEEDDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STANDARD IS MAINTAINED. WELL ESTABLISHED VEGETATION SHALL BE MAINTAINED. BARE OR ERODED AREAS SHALL BE IMMEDIATELY REPAIRED AND RESEEDED BY THE CONTRACTOR. ACTIVITIES SHALL BE CONFINED TO WITHIN THE LIMIT OF WORK AS SHOWN ON THE PLANS.

- MAXIMUM PERMANENT GRADED SLOPE WITHIN THE SITE IS TO BE 3:1 UNLESS NOTED OTHERWISE.

- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR PLAN IMPLEMENTATION AND FOR SEEING THAT THE APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND SHALL DO SO AT NO ADDITIONAL EXPENSE TO THE OWNER.

- REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE, REVISED 2014, AS A GUIDE.

MAINTENANCE: SHORT TERM / LONG TERM

- THE STONE STABILIZATION PADS AT THE SITE ENTRANCE SHALL BE MAINTAINED BY THE CONTRACTOR. THE MAINTENANCE SHALL INCLUDE TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND OR AS DIRECTED BY THE ENGINEER. ALL SEDIMENTS SPILLED, DROPPED, WASHED, OR TRACKED ON THE PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
- ALL SILT FENCE, TEMPORARY TREATMENTS (STRAW, ETC.), AND TEMPORARY PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION. SILT FENCE SHALL BE INSPECTED BY THE CONTRACTOR WITHIN 24 HOURS AFTER EACH STORM EVENT OR EVERY 7 DAYS, WHICHEVER COMES FIRST. FOR UNDERMINING AND DETERIORATION, A STORM EVENT SHALL BE DEFINED AS 0.25 INCHES OF RAIN WITHIN A 24-HOUR PERIOD. THE SILT FENCE SHALL BE REPAIRED OR REPLACED AS WARRANTED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE SILT FENCE BECOMES FILLED IN WITH SEDIMENT. THE SILT FENCE SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. FOLLOWING CONFIRMATION FROM THE OWNER AND/OR THE PROJECT ENGINEER THAT AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER HAS BEEN ESTABLISHED, THE SILT FENCE SHALL BE REMOVED.

- THE CONTRACTOR SHALL MAINTAIN ALL TOPSOIL STOCKPILES AND SEDIMENT BARRIERS THROUGHOUT CONSTRUCTION. EXTREME CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT SPILL OVER THE SEDIMENT BARRIER. SILT FENCE SHALL BE STAKED AROUND THE STOCKPILES.

- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDDED, PROTECTED, AND MAINTAINED BY THE CONTRACTOR FOLLOWING FINAL GRADING AND CONSTRUCTION. THE CONTRACTOR SHALL CHECK ALL SEEDDED AREAS REGULARLY TO SEE THAT A GOOD STAND OF VEGETATION IS MAINTAINED. THE CONTRACTOR MUST REPAIR OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND SHALL DO SO AT NO ADDITIONAL EXPENSE TO THE OWNER.

- THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF THE DRAINAGE BMPs DURING AND UP TO A YEAR AFTER COMPLETION OF CONSTRUCTION AND ACCEPTANCE BY THE OWNER. THE OWNER IS RESPONSIBLE FOR INSPECTIONS AND MAINTENANCE THEREAFTER. THE DRAINAGE BMPs SHALL BE INSPECTED/MAINTAINED AS DETAILED BELOW.

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, MAINTENANCE AND REPAIR TO ALL DRAINAGE STRUCTURES AND RELATED APPURTENANCES ON SITE DURING CONSTRUCTION AND IMMEDIATELY FOLLOWING CONSTRUCTION FOR A MAXIMUM OF ONE YEAR, OR UNTIL ACCEPTANCE BY THE ENGINEER AND THE OWNER. THE OWNER IS RESPONSIBLE FOR INSPECTIONS AND MAINTENANCE THEREAFTER.

- A LEGALLY BINDING AND ENFORCEABLE MAINTENANCE AGREEMENT SHALL BE EXECUTED BETWEEN THE OWNER AND THE RESPONSIBLE AUTHORITY TO ENSURE THE FOLLOWING MAINTENANCE SCHEDULES ARE FOLLOWED.

- DURING THE FIRST SIX (6) MONTHS OF OPERATIONS, INSPECTIONS SHALL BE ACCOMPLISHED IN EACH DRAINAGE BMP AFTER EVERY RAINFALL EVENT. TO CHECK FOR CLOGGINGS OR, CONVERSELY, TOO RAPID A STORMWATER RELEASE, FOLLOWING THE SIX (6) MONTHS, INSPECTIONS SHALL BE CONDUCTED, AT A MINIMUM, ANNUALLY.

- IF STANDING WATER IS OBSERVED WITHIN THE DRAINAGE BMPs FOR MORE THAN THREE (3) DAYS AFTER A RAINFALL, THEN FAILURE OF THE SYSTEM MAY HAVE OCCURRED AND SHALL BE ADDRESSED THROUGH REPAIR OR REPLACEMENT.

- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR THE MAINTENANCE PROGRAM DURING THE CONSTRUCTION PHASE AND FOR A PERIOD OF ONE YEAR AFTER CONSTRUCTION. THE SUPERINTENDENT SHALL SEE THAT THE APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.

- AFTER ACCEPTANCE OF THE SITE BY THE OWNER, THE OWNER SHALL HAVE OVERALL RESPONSIBILITY FOR IMPLEMENTING THE MAINTENANCE PROGRAM FOR THE STORMWATER MANAGEMENT PLAN.

- THE RESPONSIBLE PARTY FOR THE STORMWATER MANAGEMENT PROGRAM IS THE OWNER OF THE SITE. THE FUNDING FOR THE STORMWATER MANAGEMENT PROGRAM IS BY THE OWNER. IF THE PROPERTY IS SOLD, THE RESPONSIBILITY OF THE STORMWATER MANAGEMENT PROGRAM WILL BE TRANSFERRED TO THE NEW OWNER.

THE FOLLOWING MAINTENANCE PROCEDURES MUST BE FOLLOWED FOR THE RAIN GARDENS:

- RAIN GARDENS SHALL BE INSPECTED FOLLOWING AT LEAST THE FIRST TWO PRECIPITATION EVENTS OF AT LEAST 1.0 INCH TO ENSURE THAT THE SYSTEM IS FUNCTIONING PROPERLY. THEREAFTER, THE RAIN GARDENS SHALL BE MONITORED AND MAINTAINED TO ASSURE PROPER FUNCTIONING, PLANT GROWTH, AND SURVIVAL. PLANTS SHALL BE REPLACED ON AS-NEEDED BASIS DURING THE GROWING SEASON.
- SILT/SEDIMENT SHALL BE REMOVED FROM THE RAIN GARDENS WHEN THE ACCUMULATION EXCEEDS ONE INCH, OR WHEN WATER PONDS ON THE SURFACE OF THE RAIN GARDEN FOR MORE THAN 48 HOURS. THE TOP FEW INCHES OF MATERIAL SHALL BE REMOVED AND SHALL BE REPLACED WITH FRESH SOIL MIXTURE AND MULCH.
- PRUNING OR REPLACEMENT OF WOODY VEGETATION SHALL OCCUR WHEN DEAD OR DYING VEGETATION IS OBSERVED.
- SOIL EROSION GULLIES SHALL BE REPAIRED WHEN THEY OCCUR.
- FERTILIZER OR PESTICIDES MUST NOT BE APPLIED TO PLANTS WITHIN RAIN GARDENS.
- PERENNIAL PLANTS AND GROUND COVERS SHALL BE REPLACED AS NECESSARY TO MAINTAIN AN ADEQUATE VEGETATED GROUND COVER. ANNUAL PLANTS MAY ALSO BE USED TO MAINTAIN GROUND COVER.

THE FOLLOWING MAINTENANCE PROCEDURES MUST BE FOLLOWED FOR CRUSHED STONE DRIVEWAYS:

- THE SURFACE OF CRUSHED STONE SHALL BE MONITORED AFTER STORMS TO ENSURE IT DRAINS PROPERLY. THE SURFACE SHALL BE INSPECTED ANNUALLY FOR DETERIORATION AND BE REPAIRED AS NEEDED.
- CRUSHED STONE SHALL BE REPLACED OR RE-GRADING PERFORMED AS NECESSARY IN CRUSHED STONE DRIVEWAYS TO MAINTAIN A MINIMUM 3" DEPTH OF STONE AND A LEVEL SURFACE.
- USE OF SAND AND SALT ON CRUSHED STONE DRIVEWAYS SHALL BE MINIMIZED.

THE FOLLOWING MAINTENANCE PROCEDURES SHALL BE FOLLOWED FOR THE PERMEABLE ASPHALT DRIVEWAYS:

- THE SURFACE OF PERMEABLE ASPHALT SHALL BE MONITORED AFTER STORMS TO ENSURE IT DRAINS PROPERLY. THE SURFACE SHALL BE INSPECTED ANNUALLY FOR DETERIORATION AND REPAIRED AS NEEDED.
- USE OF SAND AND SALT ON PERMEABLE ASPHALT DRIVEWAYS SHALL BE MINIMIZED.
- USE OF SEALANTS ON PERMEABLE ASPHALT DRIVEWAYS IS PROHIBITED.

SEQUENCE OF CONSTRUCTION OF CONSTRUCTION AND STAGING OF LAND DISTURBING ACTIVITIES

- CONTRACTOR IS RESPONSIBLE FOR SOIL EROSION AND SEDIMENT CONTROL (SE & SC) ONSITE. SEQUENCE OF CONSTRUCTION PROVIDED MAY BE MODIFIED AS FIELD CONDITIONS WARRANT WITH PRIOR APPROVAL FROM OWNER OR THEIR REPRESENTATIVE.
- CONSTRUCTION TO BEGIN IN THE FALL 2024 OR UPON RECEIPT OF ALL NECESSARY APPROVALS.
- SURVEY AND STAKE THE DRAINAGE BMPs (RAIN GARDENS AND/OR OTHER DRAINAGE FEATURES) AND LIMIT OF SEDIMENTATION BARRIERS/LIMIT OF DISTURBANCE.
- PLACE SEDIMENTATION BARRIERS (SILT FENCE OR APPROVED EQUAL) AS SHOWN ON THE PLANS AND STAKED OUT IN THE FIELD. IN NO CASE IS THE LIMIT OF WORK TO EXTEND BEYOND THE SEDIMENTATION BARRIERS. PLACE BARRIERS AROUND RAIN GARDENS. NO CONSTRUCTION TRAFFIC IS PERMITTED IN THESE AREAS.
- INSTALL TEMPORARY SEDIMENTATION CONTROL MEASURES AND DEVICES AS WARRANTED. ALL TEMPORARY CONTROL DEVICES SHALL BE INSTALLED PER THE RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK.
- BEGIN DEMOLITION AND CLEARING AND GRUBBING IN AREA OF THE BUILDINGS, DRAINAGE BMPs, AND OTHER AREAS AS INDICATED ON THE PLANS. TOPSOIL IS TO BE STRIPPED AND STOCKPILED IN APPROVED LOCATIONS. TOPSOIL STOCKPILES ARE TO BE PROTECTED BY A ROW OF SEDIMENTATION BARRIERS AND COVERED OR TEMPORARILY SEEDDED.
- BEGIN CONSTRUCTION OF THE BUILDING FOUNDATIONS AND STRUCTURES.
- BEGIN CONSTRUCTION OF DRAINAGE BMPs.
- ONCE THE SITE IS STABILIZED THE DRAINAGE BMPs AND DRAINAGE NETWORK MAY BE BROUGHT ONLINE WITH THE APPROVAL OF THE DESIGN ENGINEER.
- REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING VEGETATIVE ESTABLISHMENT OF ALL DISTURBED AREAS.

STRUCTURAL MEASURES

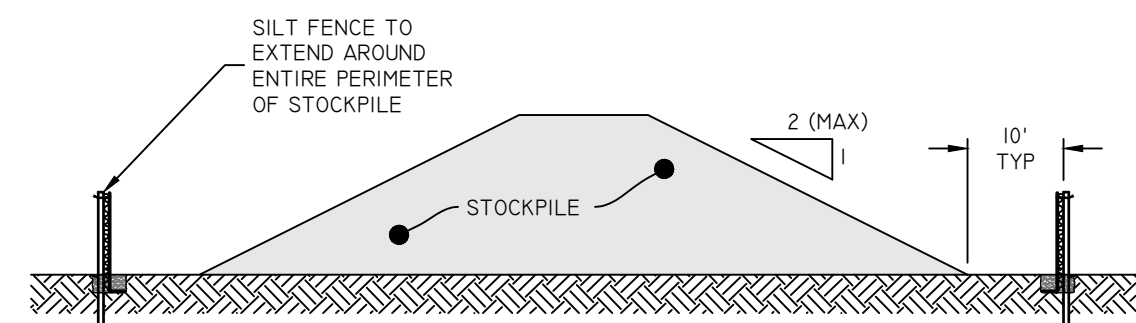
- RUNOFF WATER QUALITY IS IMPROVED UTILIZING FOUR RAIN GARDENS AND PERMEABLE DRIVEWAYS. CONSTRUCTION OF THE BMPs SHALL BE SUPERVISED BY THE PROJECT ENGINEER.
- A STONE STABILIZATION PAD IS LOCATED AT THE SITE ENTRANCE TO REDUCE THE TRACKING OR FLOWING OF SEDIMENT ONTO THE PUBLIC RIGHT OF WAY.
- SILT FENCE SHALL BE INSTALLED DOWNSTREAM OUTSIDE THE LIMITS OF ANY PROPOSED CONSTRUCTION AS SHOWN ON THE SITE PLANS AND PRIOR TO THE COMMENCEMENT OF THE PROPOSED ALTERATION.
- IF NECESSARY TEMPORARY BERMS AND/OR SWALES SHALL BE USED DURING CONSTRUCTION TO DIRECT SURFACE TO TEMPORARY SEDIMENTATION TRAPS TO CAPTURE AND TREAT THE MAXIMUM AMOUNT OF STORMWATER.
- THE RAIN GARDEN AREAS ARE NOT TO BE USED AS SEDIMENTATION TRAPS DURING CONSTRUCTION AND SHOWN PROTECTED FROM CONSTRUCTION ACTIVITIES (I.E. HEAVY MACHINERY) TO PREVENT COMPACTION. THE CONTRACTOR SHALL CONSTRUCT ANY SEDIMENTATION TRAPS WHICH ARE REQUIRED TO MEET ALL GUIDELINES IN THE RHODE ISLAND SOIL EROSION SEDIMENT CONTROL HANDBOOK.
- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE THE OVERALL RESPONSIBILITY FOR STRUCTURAL MEASURE IMPLEMENTATION AND FOR SEEING THAT THE APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.
- REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE, REVISED 2014, AS A GUIDE.
- INSTALL ROOF LEADERS TO DIRECT STORMWATER TOWARDS THE RAIN GARDENS.

NON-STRUCTURAL MEASURES

- CONSTRUCTION TRAFFIC SHALL BE LIMITED TO THE DRIVEWAYS AND AREAS TO BE GRADED.
- TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER USE. STOCKPILE LOCATION SHALL BE SUBJECT TO APPROVAL BY THE PROJECT ENGINEER. A SEDIMENT BARRIER SHALL SURROUND ALL TOPSOIL STOCKPILES.
- ALL TYPES OF WASTE GENERATED AT THE SITE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH STATE LAW AND TOWN REGULATIONS. CONSTRUCTION DEBRIS SHALL BE DISPOSED OF DAILY TO AVOID EXPOSURE TO PRECIPITATION.
- THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR PLAN IMPLEMENTATION OF NON-STRUCTURAL MEASURES AND FOR SEEING THAT THE APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.
- REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE, REVISED 2014, AS A GUIDE.

UTILITY NOTES

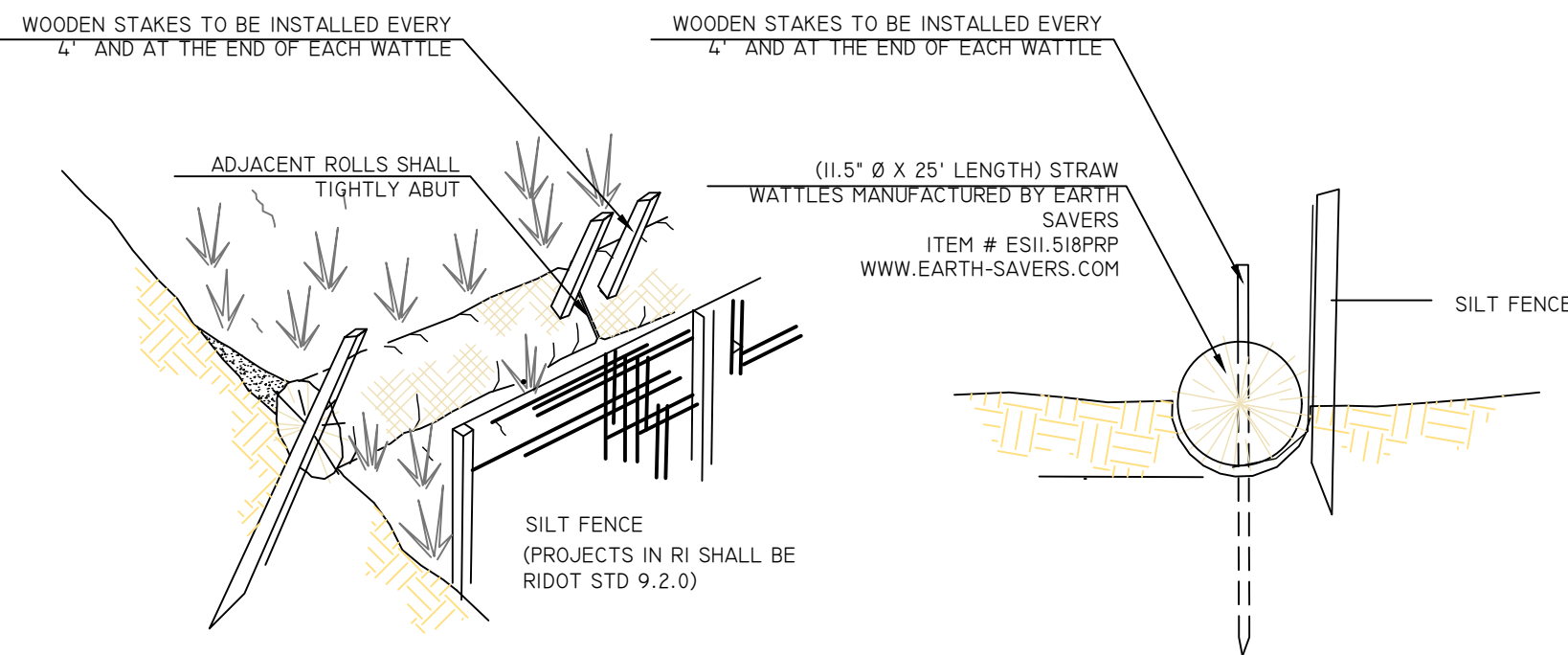
- ALL EXISTING UTILITIES DEPICTED ARE SHOWN ACCORDANCE WITH UTILITY QUALITY LEVEL C AS DEFINED IN C/ASCE STANDARD 38-02 (STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA), LATEST REVISION.
- ALL EXISTING UNDERGROUND UTILITIES SHOWN WERE PROVIDED BY OTHERS AND ARE APPROXIMATE ONLY. LOCATIONS MUST BE DETERMINED IN THE FIELD BEFORE EXCAVATION, BLASTING, UTILITY INSTALLATION, BACKFILLING, GRADING, PAVEMENT RESTORATION, AND ALL OTHER SITE WORK. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, MUST BE CONTACTED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THESE DOCUMENTS. CONTACT DIG SAFE A MINIMUM OF 72 WORKING HOURS PRIOR TO ANY CONSTRUCTION AT 811. DIG SAFE IS RESPONSIBLE FOR CONTACTING MEMBER UTILITY COMPANIES. DIG SAFE MEMBER UTILITY COMPANIES ARE RESPONSIBLE TO MARK ONLY THE FACILITIES THAT THEY OWN OR MAINTAIN. NON DIG SAFE MEMBER COMPANIES ARE NOT NOTIFIED BY DIG SAFE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INVESTIGATE AND NOTIFY IF ANY PRIVATELY OWNED OR NON DIG SAFE MEMBER UTILITIES ARE IN THE AREA.
- PER THE CODE OF FEDERAL REGULATIONS - TITLE 29, PART 1926 IT IS THE SITE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ACCURATE UNDERGROUND UTILITY LINE LOCATIONS FROM THE UTILITY COMPANIES, UTILITY OWNERS AND/OR VIA UNDERGROUND UTILITY LOCATION EQUIPMENT AS NEEDED TO ESTABLISH ACCURATE LOCATIONS PRIOR TO ANY EXCAVATION. THE USE OF PROFESSIONAL UTILITY LOCATING COMPANIES PRIOR TO ANY EXCAVATION IS RECOMMENDED.
- DIPRETE ENGINEERING IS NOT A PROFESSIONAL UTILITY LOCATION COMPANY, AND IS NOT RESPONSIBLE FOR UNDERGROUND UTILITIES, DEPICTED OR NOT, EITHER IN SERVICE OR ABANDONED, ANY SIZES, LOCATIONS, EXISTENCE, OR LACK OF EXISTENCE OF UTILITIES SHOWN ON THESE PLANS SHOULD BE CONSIDERED APPROXIMATE UNTIL VERIFIED BY A PROFESSIONAL UTILITY LOCATION COMPANY. DIPRETE ENGINEERING ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED.
- UTILITY PLAN REFERENCES:
 - WATER INFORMATION OBTAINED FROM PROVIDENCE WATER.
 - SEWER INFORMATION OBTAINED FROM THE CITY OF CRANSTON.
 - GAS INFORMATION NOT RECEIVED AT THE TIME OF THE SURVEY.
 - DRAINAGE INFORMATION OBTAINED ON THE GROUND BY DIPRETE ENGINEERING. (SEE SHEET # FOR DATE OF FIELD SURVEY)



- NOTES:
- ALL STOCKPILES MUST BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH SECTION 4-9 "STOCKPILE MANAGEMENT" OF THE CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL (LATEST REVISION).
 - DIVERT ALL STORMWATER AWAY FROM STOCKPILES.
 - SOIL STOCKPILES THAT ARE NOT TO BE USED WITHIN 30 DAYS MUST BE SEEDDED AND MULCHED IMMEDIATELY AFTER FORMATION OF THE STOCKPILE WITH SEED MIX COMPATIBLE WITH THE SOIL TYPE.
 - STOCKPILE AND SILT FENCE MUST BE INSPECTED AT LEAST ONCE PER WEEK AND AFTER RAIN EVENTS IN EXCESS OF 1/2" OF RAINFALL. REPAIR/REPLACE SILT FENCE (AND STOCKPILE COVERS WHERE APPLICABLE) AS NEEDED TO KEEP THEM FUNCTIONING ADEQUATELY.
 - SEDIMENT TRAPPED BY SILT FENCES MUST BE REMOVED AND PROPERLY DISPOSED OF WHENEVER SIGNIFICANT ACCUMULATION OCCURS.

STOCKPILE PROTECTION

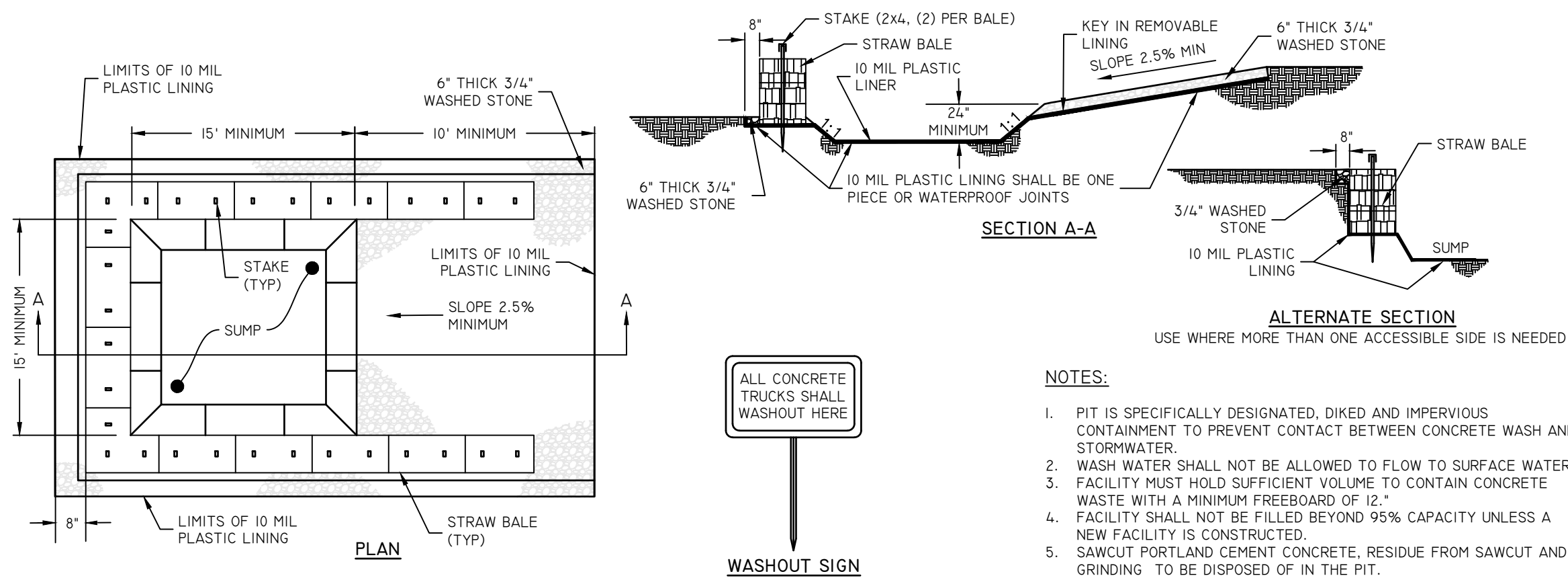
NOT TO SCALE



Silt Fence/Straw Wattle Sediment Barrier

NOT TO SCALE

- NOTES:
- EROSION CONTROL BARRIER TO BE INSTALLED PER MANUFACTURER RECOMMENDATIONS AND SPECIFICATIONS.
 - FOR SOFT SOILS, DIG A 3 TO 5 INCH TRENCH. FOR HARD SOILS, DIG A 2 TO 3 INCH TRENCH.
 - INSTALL WOOD STAKES FOR EVERY 4' (MAX) OF STRAW WATTLE, AS WELL AS ADDITIONAL WOOD STAKE ON EACH END OF EACH STRAW WATTLE.
 - MINIMUM WOOD STAKE DIMENSIONS TO BE 1"x2"x24" (SOFT SOIL) AND 1"x2"x18" (HARD SOIL).



CONCRETE WASHOUT AREA

NOT TO SCALE

- NOTES:
- PIT IS SPECIFICALLY DESIGNATED, DIKED AND IMPERVIOUS CONTAINMENT TO PREVENT CONTACT BETWEEN CONCRETE WASH AND STORMWATER.
 - WASH WATER SHALL NOT BE ALLOWED TO FLOW TO SURFACE WATER.
 - FACILITY MUST HOLD SUFFICIENT VOLUME TO CONTAIN CONCRETE WASTE WITH A MINIMUM FREEBOARD OF 12".
 - FACILITY SHALL NOT BE FILLED BEYOND 95% CAPACITY UNLESS A NEW FACILITY IS CONSTRUCTED.
 - SAWCUT PORTLAND CEMENT CONCRETE, RESIDUE FROM SAWCUT AND GRINDINGS TO BE DISPOSED OF IN THE PIT.
 - CONCRETE WASHOUTS SHALL BE LOCATED A MINIMUM OF 100' FROM DRAINAGE WAYS, INLETS, AND SURFACE WATERS.
 - MANUFACTURED CONCRETE WASHOUT DEVICES MAY BE USED IF REMOVED FROM THE SITE WHEN 95% FULL CAPACITY.

SIZING NOTE:

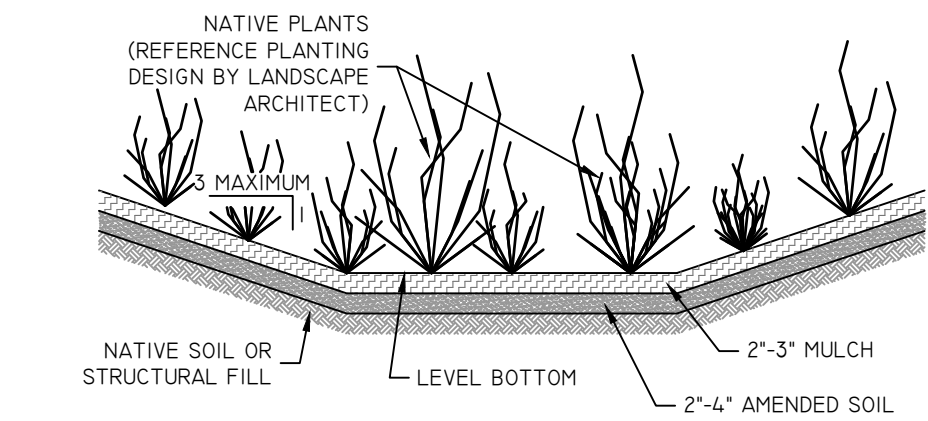
- RAIN GARDENS SIZED USING TABLE 8 OF THE STATE OF RHODE ISLAND STORMWATER MANAGEMENT GUIDANCE FOR INDIVIDUAL SINGLE-FAMILY RESIDENTIAL LOT DEVELOPMENT

SIZING DATA:
SOIL CONDITIONS: SILTY
RAIN GARDEN DEPTH: 8 INCHES

RAIN GARDEN SIZING CALCULATION (RAIN GARDEN 1):

$$\begin{aligned} \text{TOTAL IMPERVIOUS AREA} &= 3,428 \text{ SF} \\ \text{RAIN GARDEN SIZING RATIO} &= \frac{160 \text{ SF (RAIN GARDEN SURFACE AREA)}}{1,000 \text{ SF (IMPERVIOUS SURFACE AREA)}} \\ \frac{160 \text{ SF}}{1,000 \text{ SF}} &= \frac{X \text{ SF}}{3,428 \text{ SF}} = 54.9 \text{ SF RAIN GARDEN 1 REQUIRED} \end{aligned}$$

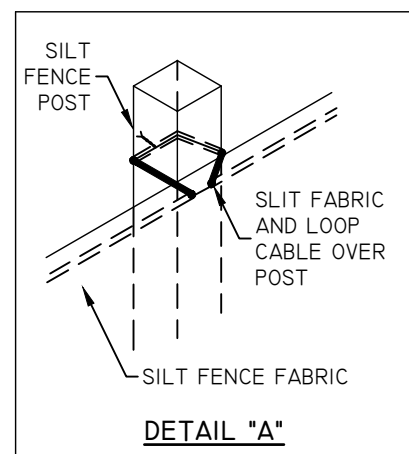
RAIN GARDEN 1 AREA PROVIDED = 600 SF MINIMUM



RAIN GARDEN CROSS SECTION

NOT TO SCALE

- NOTES:
- SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
 - 2"x2"x4'-6" (MAXIMUM) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAXIMUM) O.C. IN WETLAND AREAS AND 4'-0" (MAXIMUM) O.C. IN WETLAND RAVIDE. GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
 - 1"x12"x4'-6" (MINIMUM) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
 - SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.



SILT FENCE DETAIL

NOT TO SCALE

RAIN GARDEN SIZING CALCULATION (RAIN GARDEN 2):

$$\begin{aligned} \text{TOTAL IMPERVIOUS AREA} &= 3,528 \text{ SF} \\ \text{RAIN GARDEN SIZING RATIO} &= \frac{160 \text{ SF (RAIN GARDEN SURFACE AREA)}}{1,000 \text{ SF (IMPERVIOUS SURFACE AREA)}} \\ \frac{160 \text{ SF}}{1,000 \text{ SF}} &= \frac{X \text{ SF}}{3,528 \text{ SF}} = 565 \text{ SF RAIN GARDEN 2 REQUIRED} \end{aligned}$$

RAIN GARDEN 2 AREA PROVIDED = 600 SF MINIMUM

RAIN GARDEN SIZING CALCULATION (RAIN GARDEN 3):

$$\begin{aligned} \text{TOTAL IMPERVIOUS AREA} &= 2,880 \text{ SF} \\ \text{RAIN GARDEN SIZING RATIO} &= \frac{160 \text{ SF (RAIN GARDEN SURFACE AREA)}}{1,000 \text{ SF (IMPERVIOUS SURFACE AREA)}} \\ \frac{160 \text{ SF}}{1,000 \text{ SF}} &= \frac{X \text{ SF}}{2,880 \text{ SF}} = 461 \text{ SF RAIN GARDEN 3 REQUIRED} \end{aligned}$$

RAIN GARDEN 3 AREA PROVIDED = 500 SF MINIMUM

RAIN GARDEN SIZING CALCULATION (RAIN GARDEN 4):

$$\begin{aligned} \text{TOTAL IMPERVIOUS AREA} &= 2,880 \text{ SF} \\ \text{RAIN GARDEN SIZING RATIO} &= \frac{160 \text{ SF (RAIN GARDEN SURFACE AREA)}}{1,000 \text{ SF (IMPERVIOUS SURFACE AREA)}} \\ \frac{160 \text{ SF}}{1,000 \text{ SF}} &= \frac{X \text{ SF}}{2,880 \text{ SF}} = 461 \text{ SF RAIN GARDEN 4 REQUIRED} \end{aligned}$$

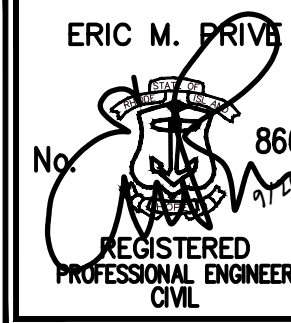
RAIN GARDEN 4 AREA PROVIDED = 500 SF MINIMUM

DiPrete Engineering



Two Stafford Court Cranston, RI 02920
tel 401-943-1000 fax 401-464-6006 www.diprete-eng.com

Boston • Providence • Newport



THIS PLAN SET MUST NOT BE USED FOR CONSTRUCTION PURPOSES UNLESS STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER AND STAMPED BY THE STATE OF RHODE ISLAND. DIPRETE ENGINEERING, PROFESSIONAL ENGINEER OF DIPRETE ENGINEERING.

DIPRETE ENGINEERING ONLY WARRANTS PLANS ON A DIPRETE ENGINEERING PROJECT. DIPRETE ENGINEERING DOES NOT WARRANT PLANS BY ANY OTHER PARTY. DIPRETE ENGINEERING ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED DUE TO LOCATIONS OF EXISTING UTILITIES.

NO.	DATE	DESCRIPTION	BY:	DESIGN BY: J.L.S.
1	10/26/2024	WATER/SEWER PRIMARY SUBMISSION	S.D.H.	
2	10/26/2024	WATER/SEWER SECONDARY SUBMISSION	S.D.H.	
3	10/26/2024	WATER/SEWER TRENCH SUBMISSION	S.D.H.	
4	10/26/2024	WATER/SEWER TRENCH SUBMISSION	S.D.H.	
5	10/26/2024	WATER/SEWER TRENCH SUBMISSION	S.D.H.	
6	10/26/2024	WATER/SEWER TRENCH SUBMISSION	S.D.H.	
7	10/26/2024	WATER/SEWER TRENCH SUBMISSION	S.D.H.	
8	10/26/2024	WATER/SEWER TRENCH SUBMISSION	S.D.H.	
9	10/26/2024	WATER/SEWER TRENCH SUBMISSION	S.D.H.	
10	10/26/2024	WATER/SEWER TRENCH SUBMISSION	S.D.H.	

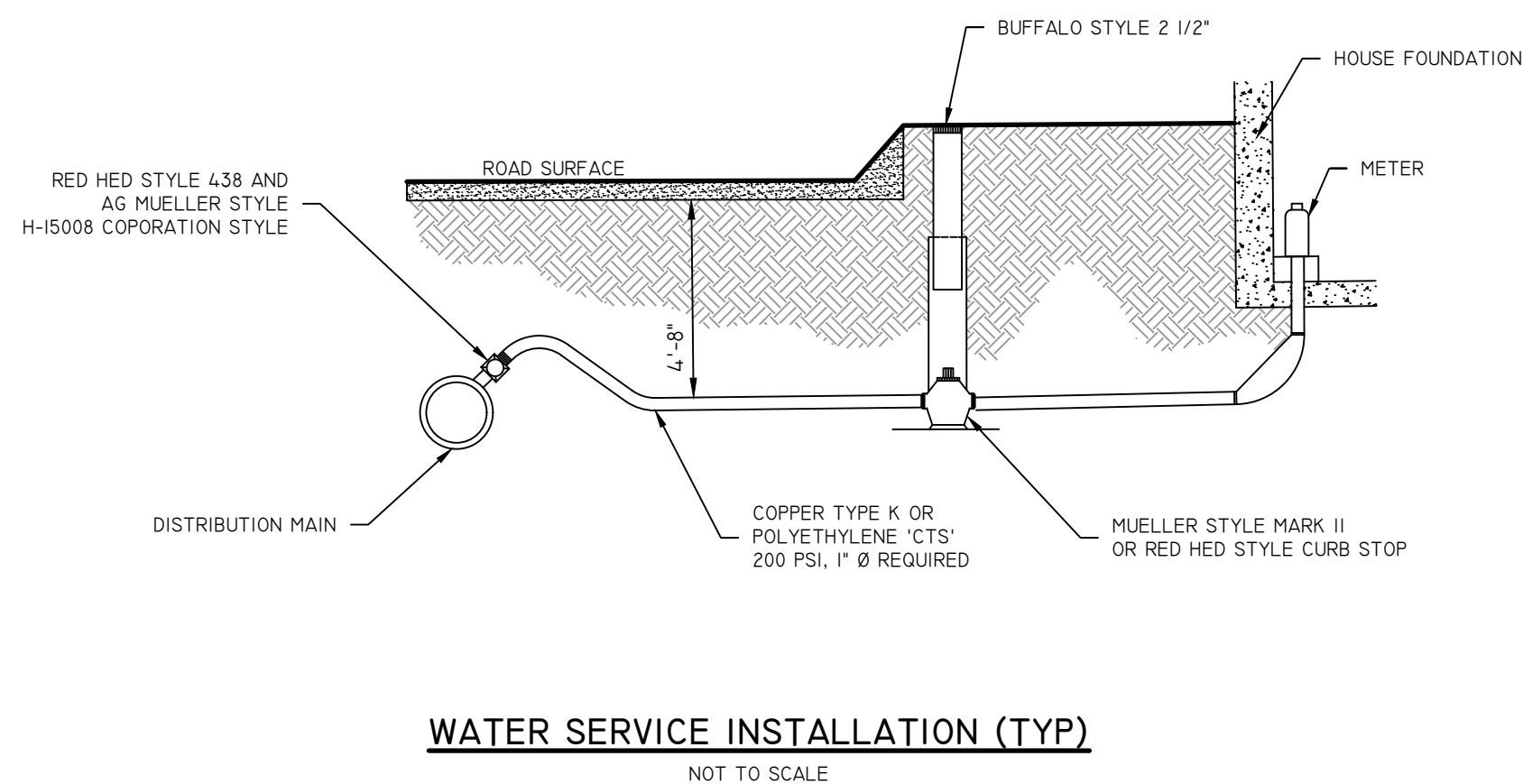
DETAIL SHEET 1

ORCHARD MEADOWS

1489 PIPIN ORCHARD ROAD
ASSASSINOR'S FLAT 28, LOTS 31 & 45
CRANSTON, RHODE ISLAND

PREPARED FOR:
PIPIN ORCHARD INVESTORS LLC
2269 FLAT RIVER ROAD
COVENTRY, RI 02816

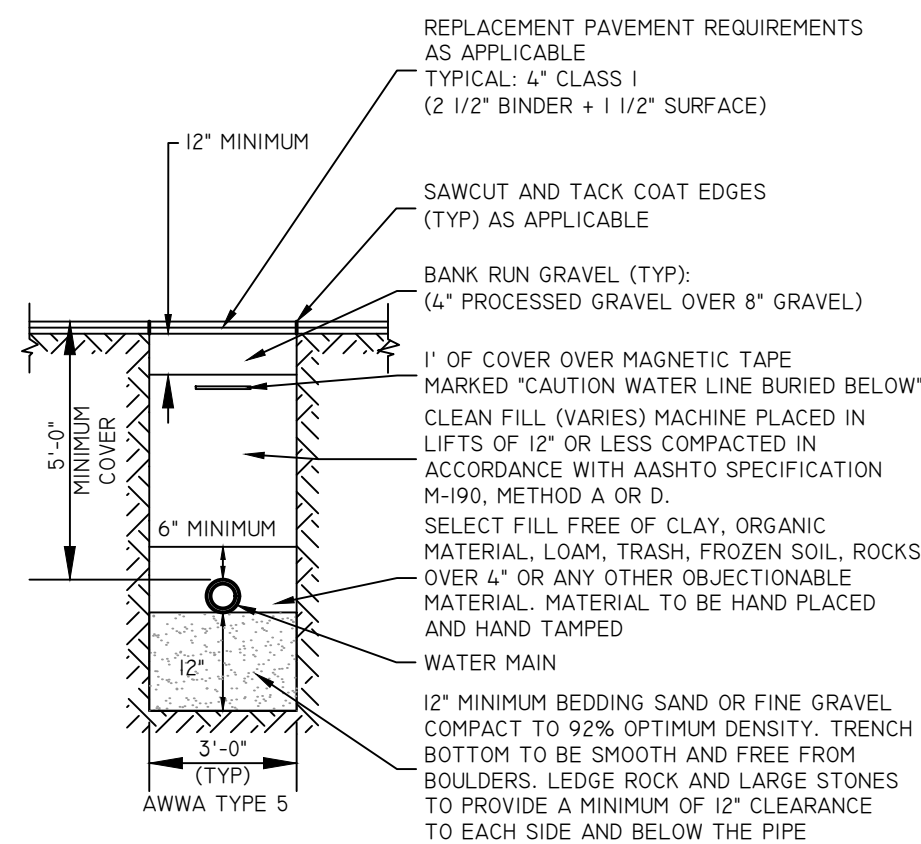
SHEET 7 OF 8



WATER SERVICE INSTALLATION (TYP)

A. LATERAL PLACEMENT OF SEWERS AND WATER MAINS

SEWERS SHALL BE LAID AT LEAST 10' HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED OUTSIDE EDGE-TO-OUTSIDE EDGE. THERE IS NO MINIMUM VERTICAL SEPARATION REQUIRED PROVIDED THE 10' HORIZONTAL SEPARATION IS MAINTAINED. STRUCTURES, OTHER THAN PIPELINES OR CONDUITS, THROUGH WHICH SANITARY WASTEWATER FLOWS SUCH AS, BUT NOT LIMITED TO, MANHOLES, VALVE VAULTS, METERS PITS AND PUMP STATION WET WELLS SHALL ALSO BE CONSTRUCTED AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER LINE, MEASURED EDGE-TO-EDGE.



IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10' HORIZONTAL SEPARATION, THE AUTHORITY HAVING JURISDICTION, MAY ALLOW DEVIATION ON A CASE BY CASE BASIS, IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER. SUCH DEVIATION MAY ALLOW INSTALLATION OF THE SEWER CLOSER TO A WATER MAIN, PROVIDED THAT:

1. THE SEWER AND WATER MAIN ARE LAID IN SEPARATE TRENCHES, OR
2. THE SEWER AND WATER MAIN MAY BE INSTALLED IN THE SAME TRENCH WITH THE WATER MAIN PLACED ON A BENCH OF UNDISTURBED EARTH, AND
3. IN EITHER CASE, THE CROWN OF THE SEWER SHALL BE AT LEAST 18" BELOW THE INVERT OF THE WATER MAIN.

IN SITUATIONS WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, THE FOLLOWING PROTECTION SHALL BE PROVIDED:

1. ENCASEMENT OF THE SEWER PIPE IN CONCRETE (MINIMUM 6" THICKNESS) OR A CARRIER PIPE FOR AT LEAST 10' EITHER SIDE OF THE AREA NOT COMPLYING WITH THE MINIMUM HORIZONTAL AND VERTICAL SEPARATION, OR
2. DESIGN AND CONSTRUCTION OF THE SEWER EQUAL TO WATER MAIN PIPE (CEMENT-LINED DUCTILE IRON OR OTHER AWWA-APPROVED MATERIAL FOR POTABLE WATER CONVEYANCE), AND PRESSURE TESTED IN ACCORDANCE WITH AWWA SPECIFICATIONS.

3. IN INSTANCES OF CONFLICT WITH SANITARY WASTEWATER STRUCTURES MENTIONED ABOVE, RELOCATE THE WATER LINE TO ACHIEVE EITHER A 10 FOOT HORIZONTAL OR 18 INCH VERTICAL SEPARATION.

SEWERS CROSSING WATER MAINS

SEWERS CROSSING OVER WATER MAINS SHOULD BE AVOIDED, BUT IF CONDITIONS WARRANT THIS SITUATION, THEN ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE. SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL SEPARATION OF 18" BETWEEN THE SEWER AND THE WATER MAIN. IF THE CROSSING OF THE SEWER OVER AN EXISTING WATER LINE MAY BE NECESSARY TO ACHIEVE THIS VERTICAL SEPARATION, RELOCATED WATER LINES SHALL BE CONSTRUCTED OF AN AWWA-APPROVED MATERIAL AND SHALL BE PROTECTED AND DEEMED FOR THE REQUIRED WATER SERVICE PRESSURE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, MEASURED PERPENDICULAR TO THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN

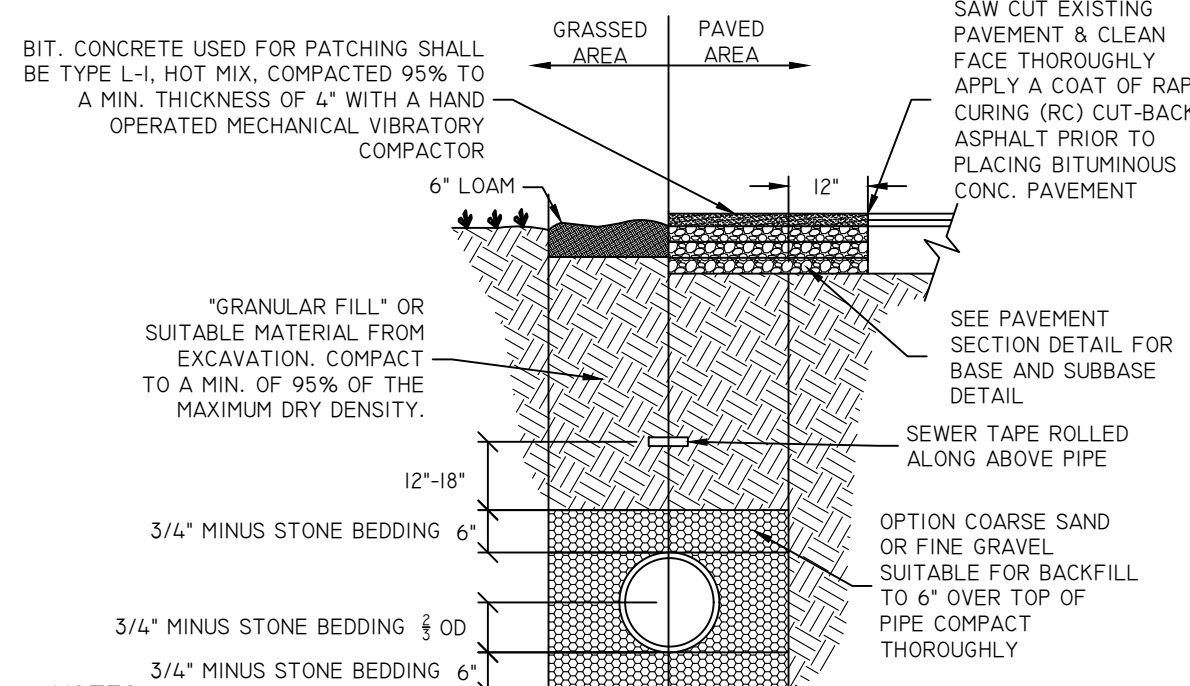
WHERE CONDITIONS PREVENT AN 18" VERTICAL SEPARATION FROM BEING MAINTAINED
THE FOLLOWING METHODS SHALL BE SPECIFIED:

A. THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO WATER MAIN PIPE (CEMENT-LINED DUCTILE IRON PIPE, PVC OR OTHER AWWA APPROVED MATERIAL FOR POTABLE WATER CONVEYANCE) FOR A DISTANCE OF 12' ON EACH SIDE OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER MAIN AND PRESSURE TESTED IN ACCORDANCE WITH AWWA SPECIFICATIONS, OR

B. EITHER THE WATER MAIN OR THE SEWER MAY BE ENCASED IN CONCRETE (MINIMUM 6" THICKNESS) OR A CARRIER PIPE FOR A DISTANCE OF 12' ON EACH SIDE OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER MAIN. THE CARRIER PIPE SHALL BE DESIGNED AND CONSTRUCTED OF MATERIALS WHICH ARE SATISFACTORY TO THE AUTHORITY HAVING JURISDICTION, OR

WATER LINES ARE DEFINED AS ANY CONDUITS OR PIPELINES THAT CONVEY POTABLE WATER.

SEWER LINE/WATER MAIN SEPARATION POLICY FOR DESIGN OF SANITARY SEWERS



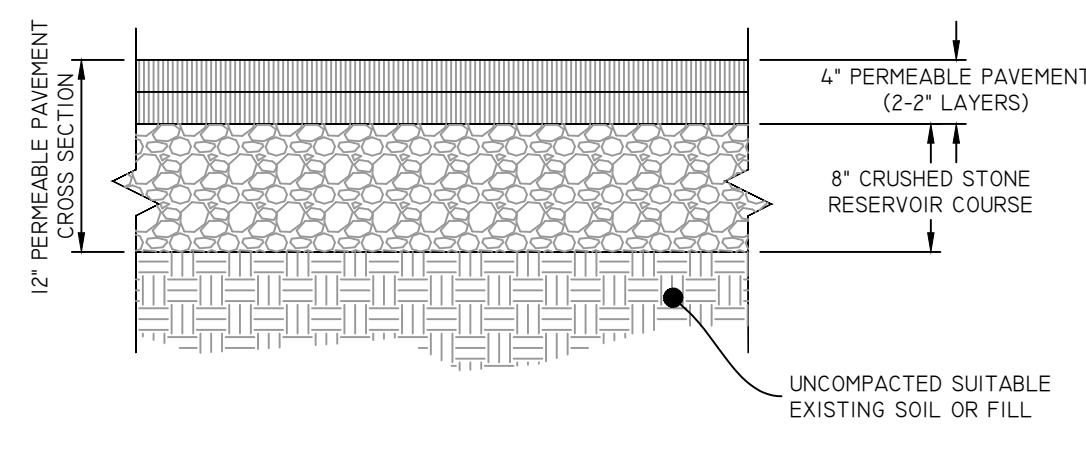
NOTES

1. PERMEABLE PAVERS CAN BE ANY OF THE FOLLOWING:
 - PERMEABLE SOLID BLOCK WITH A MINIMUM VOID RATIO OF 15% WITH OPEN-CELL GRIDS
 - SOLID BLOCK WITH OPEN-CELL JOINTS >15% OF SURFACE
2. ALL PERMEABLE PAVERS ARE TO BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.

STANDARD SIEVE SIZE (INCHES)	AASHTO NO. 57	AASHTO NO. 8	AASHTO NO. 2
3			100
2 1/2			90-100
2			35-70
1 1/2	100		0-15
1	95-100		
3/4	-		
1/2	25-60	100	
3/8	-	85-100	
#4	0-10	10-30	
#8	0-5	0-10	
#16	-	0-5	
#200	0	0-2	

SEWER TRENCH DETAIL

NOT TO SCALE



NOTE:
TYPICAL PERMEABLE ASPHALT DESIGN SHOWN. ALTERNATIVE PERMEABLE OPTIONS INCLUDE PERMEABLE PAVERS, AND 3" CLEAN CRUSHED STONE. CONTRACTOR TO COORDINATE WITH FINAL SURFACE WITH OWNER.

NOTES:

1. ALL CONCRETE SHALL BE 4,000 P.S.I. @ 28 DAYS
2. CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH
3. FORMS TO BE USED AS NECESSARY
4. ALL BOLTS AND NUTS TO BE PROTECTED FROM CONCRETE AND EASILY ACCESSIBLE WHEN THRUST BLOCK INSTALLED
5. REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF RHODE ISLAND SHALL VERIFY CALCULATIONS DURING DESIGN TO MEET CONDITIONS OF PROJECT.

PLAN & ELEVATION PLUGS

BENDS & TEES SECTIONS

PLAN TEES

SIZE	TEES		PLUGS		90° BEND		45° BEND		22.5° BEND		11.25° BEND	
	A	B	C	D	A	B	A	B	A	B	A	B
6"	20"	10"	10"	21"	24"	12"	18"	9"	13"	7"	9"	5"
8"	26"	13"	12"	26"	32"	16"	24"	12"	17"	9"	12"	6"
10"	36"	17"	14"	36"	40"	20"	30"	15"	22"	11"	15"	8"
12"	41"	20"	16"	41"	48"	24"	35"	18"	25"	13"	18"	9"
16"	56"	27"	20"	56"	64"	32"	47"	23"	36"	17"	24"	12"

THRUST BLOCK
NOT TO SCALE

NOT TO SCALE

Two Stafford Court Cranston, RI 02920
tel 401-943-1000 fax 401-464-6006 www.diprete-eng.com

Boston • Providence • Newport

ERIC M. PRIVE
No. 80
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

THIS PLAN SET MUST NOT BE USED FOR CONSTRUCTION PURPOSES
UNLESS STAMPED 'ISSUED FOR CONSTRUCTION' AND STAMPED BY
REGISTERED PROFESSIONAL ENGINEER OF DIPRETE

ENGINEERING. DIPRETE ENGINEERING ONLY WARRANTS PLANS ON A DIPRETE ENGINEERING TITLE BLOCK STAMPED BY REGISTERED PROFESSIONAL ENGINEER OF DIPRETE ENGINEERING. DIPRETE ENGINEERING DOES NOT WARRANT OR ASSURE ANY OTHER PARTY.

THE CONTRACTOR IS RESPONSIBLE FOR ALL OF THE MEANS, METHODS, SAFETY PRECAUTIONS AND REQUIREMENTS, AND OSHA COMPLIANCE IN THE IMPLEMENTATION OF THIS PLAN AND PERFORMANCE.

EXISTING UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. DIPRETE ENGINEERING ASSUMES NO RESPONSIBILITY FOR DESIGN.

NO.	DATE	DESCRIPTION	BY:
1	05/24/2024	MASTER/PEER MINUTARY SUBMISSION	S.D.M.
2	09/26/2024	PILOT SUBMISSION	S.D.M.
3	09/26/2024	PILOT SUBMISSION	S.D.M.
4	09/01/2024	PILOT SUBMISSION	S.D.M.
5	07/31/2024	MASTER/PEER MINUTARY SUBMISSION	S.D.M.

DETAIL SHEET 2

ORCHARD MEADOWS

489 PIPPIN ORCHARD ROAD
ASSESSOR'S PLAT 28, LOTS 31 & 45

CRANSTON, RHODE ISLAND
PREPARED FOR:
DIPPIN ORCHARD INVESTORS LLC

COVENTRY, RI 02816
 JOB NO. 2053-001 CONVEYOR 2001 BY DIODETE ENGINEERING ASSOCIATES INC

SHEET **8** OF 8

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