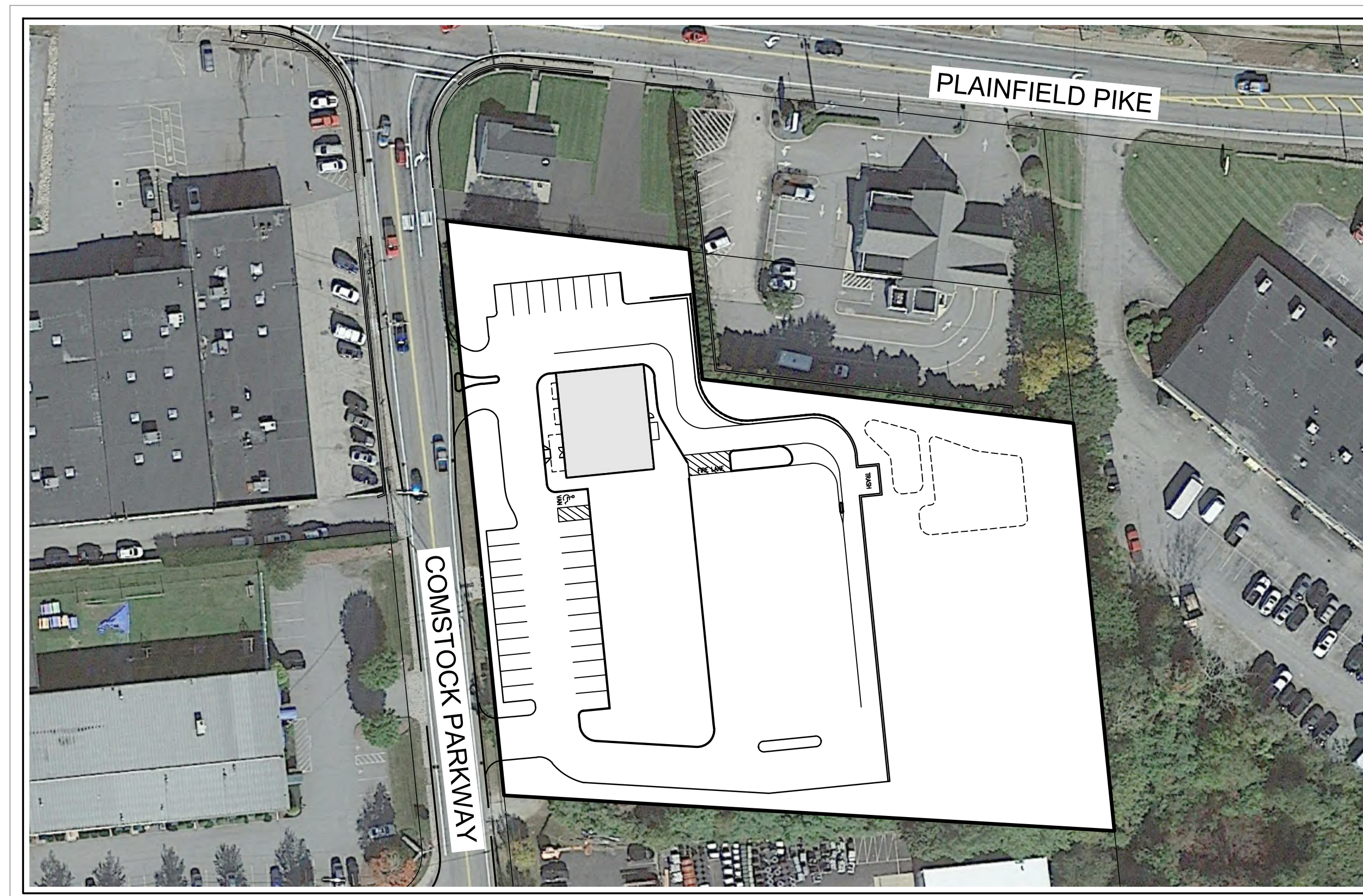


PERMIT SET

FOR:

COMSTOCK CROSSINGS

A.P. 36, LOTS 51, 52 & 53
COMSTOCK PARKWAY
CRANSTON, RHODE ISLAND



AERIAL IMAGE
SCALE: 1"=60'

PREPARED FOR:
ELIZABETH PAUL

PREPARED BY:

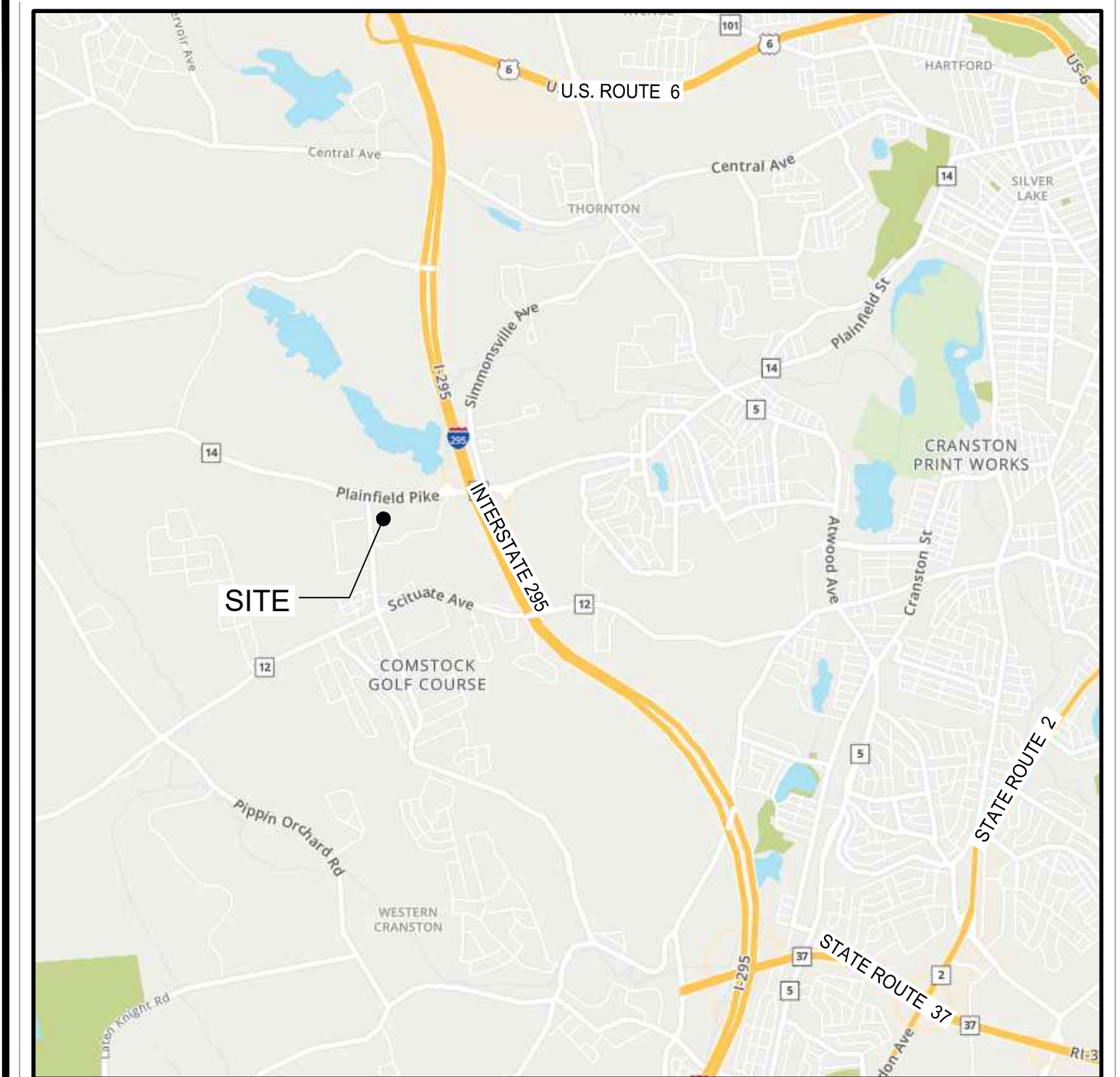


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NOVEMBER 2022

APPLICANT:
ELIZABETH PAUL
21 STEPHANIE DRIVE
FOSTER, RI 02825

ENGINEER/SURVEYOR:
MILLSTONE ENGINEERING, P.C.
250 CENTERVILLE ROAD, BLDG. E-12
WARWICK, RI 02866
(401) 921-3344



LOCUS
NOT TO SCALE

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SHEET	DESCRIPTION	REVISED
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2	EXISTING CONDITIONS PLAN	01/19/23
3	SITE LAYOUT PLAN	03/20/23
4	GRADING AND DRAINAGE PLAN	03/20/23
5	UTILITY PLAN	03/20/23
6	SOIL EROSION & SEDIMENT CONTROL PLAN - 1	03/20/23
7	SOIL EROSION & SEDIMENT CONTROL PLAN - 2	01/19/23
8	NOTES AND DETAILS	
9	DETAILS - 1	01/19/23
10	DETAILS - 2	01/19/23
11	DETAILS - 3	02/16/23

REFERENCES:
1. AERIAL PHOTOGRAPH TAKEN FROM RIDEM.
2. LOCUS MAP TAKEN FROM MAPQUEST.

NO.	DATE	REVISION
1	1/19/23	RIDEM COMMENTS
2	2/16/23	ADD SIDEWALK
3	3/3/23	BUILDING FOOTPRINT
3	3/20/23	CITY COMMENTS

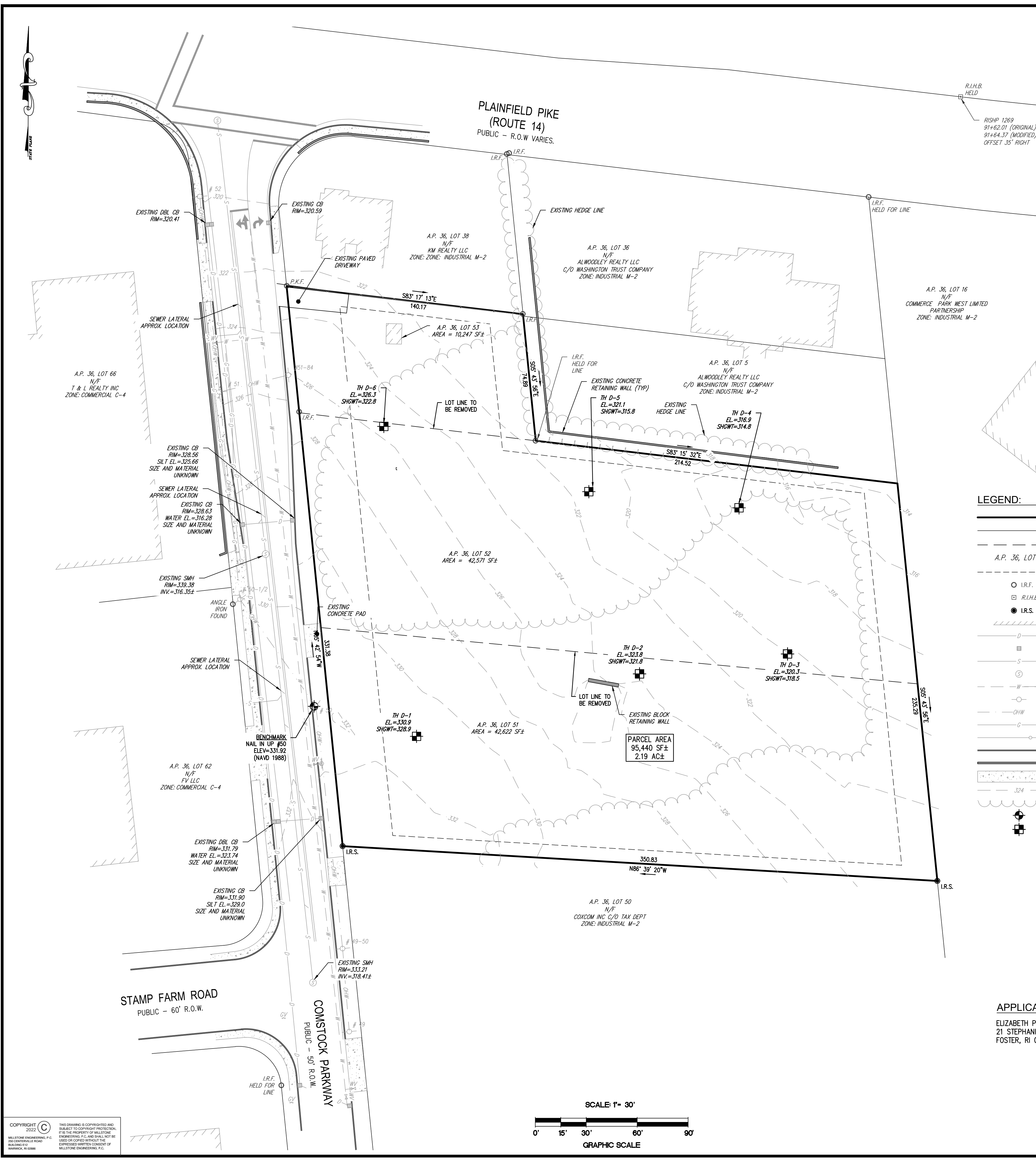
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3/13/2023

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Checked By: JCH
Sheet

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of 11

FILE NO.: 21.448.668



ZONING INFORMATION:
ZONE C-5 PER ZONING ORDINANCE 17.20.120

	REQUIRED
MINIMUM LOT AREA	10,000 S.F.
MINIMUM LOT FRONTAGE	80 FT.
MINIMUM FRONT YARD	30 FT.
MINIMUM SIDE YARD	8 FT.
MINIMUM REAR YARD	20 FT.
MAXIMUM LOT COVERAGE	60 %
MAXIMUM BUILDING HEIGHT	35 FT.



LOCATION MAP
NOT TO SCALE

REFERENCES:

- SURVEY FOR C.G. INC. BY BOYER ASSOCIATES DATED MAY 15, 1995.
- RHODE ISLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY PLAT NO. 1269.
- RHODE ISLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY PLAT NO. 2161.
- RECORD PLAN, CITY OF CRANSTON, RHODE ISLAND PUBLIC WORKS DEPARTMENT, SEWER DIVISION, POCASSET VALLEY SEWER SYSTEM 10, SEWERS, COMSTOCK PARKWAY FROM PLAINFIELD PIKE SO. POC. 10, SHEET 47.
- STATE OF RHODE ISLAND AND CITY OF CRANSTON ON-LINE GIS INFORMATION.
- LOCUS MAP OBTAINED FROM USGS MAPPING.

FLOOD NOTE:

THIS SITE LIES ENTIRELY WITHIN ZONE "X" - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON THE NATIONAL FLOOD INSURANCE RATE MAPS (FIRM), MAP NUMBER 44007C0292H, EFFECTIVE DATE OCTOBER 2, 2015.

UTILITY NOTE:

LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 72-HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG-SAFE (1-888-344-7233) A MINIMUM OF 72 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG-SAFE, IF IT IS DIFFERENT FROM THE CALLER.

SITE NOTES:

- THERE ARE NO KNOWN WETLANDS ON THE SITE.
- THE EXISTING GROUND COVER CONSISTS OF COMPACTED GRAVEL, GRASS, BRUSH, WOODS, AND LANDSCAPE STOCKPILES.
- THE TOPOGRAPHY SHOWN ON THIS PLAN EXCLUDES MATERIAL STOCKPILES.
- THE PROPERTY CONSISTS OF USDA SOIL TYPES WOODBRIDGE FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES (WNB) AND UDORTHENS-URBAN LAND COMPLEX (UD).
- THE PROPERTY IS NOT WITHIN A NATURAL HERITAGE AREA PER RIGIS INFORMATION.
- THERE IS PUBLIC WATER AND PUBLIC SEWER AVAILABLE IN THE ADJACENT ROADWAY.

CERTIFICATION:

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO 435-RICR-00-00-1.9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON APRIL 28, 2016, AS FOLLOWS:

TYPE OF BOUNDARY SURVEY	MEASUREMENT SPECIFICATION
COMPREHENSIVE BOUNDARY SURVEY	I
DATA ACCUMULATION SURVEY	III

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS:

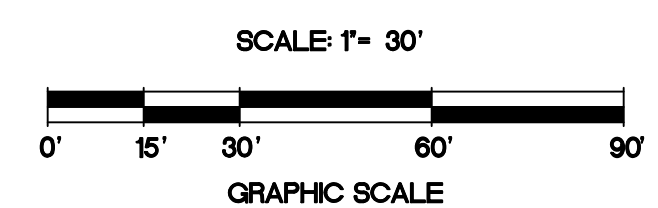
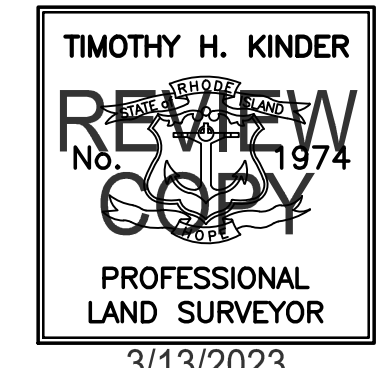
TO PROVIDE AN ACCURATE PROPERTY LINE AND EXISTING CONDITIONS SURVEY PLAN.

BY **REVIEW COPY**
TIMOTHY H. KINDER, PLS LICENSE NO. 1974 COA. NO. A-534 DATE

LEGEND:

- SUBJECT LOT LINE
- ASSESSOR'S LOT LINE
- - - LOT LINE TO BE REMOVED
- - - ASSESSOR'S PLAT AND LOT
- - - BUILDING SETBACK LINE
- I.R.F. IRON ROD FOUND
- R.L.H.B. RHODE ISLAND HIGHWAY BOUND FOUND
- I.R.S. IRON ROD TO BE SET
- ▭ EXISTING BUILDING
- - - EXISTING DRAIN LINE
- ▭ EXISTING CATCH BASIN
- - - EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
- - - EXISTING WATER LINE
- EXISTING UTILITY POLE
- - - EXISTING OVERHEAD WIRE
- - - EXISTING GAS LINE
- - - EXISTING FENCE
- - - EXISTING CURB
- - - EXISTING WALL
- - - EXISTING CONCRETE SIDEWALK / PAD
- - - EXISTING CONTOUR
- - - EDGE OF VEGETATION
- ⊕ PROJECT BENCHMARK
- ⊕ TEST HOLE

APPLICANT:
ELIZABETH PAUL
21 STEPHANE DRIVE
FOSTER, RI 02825



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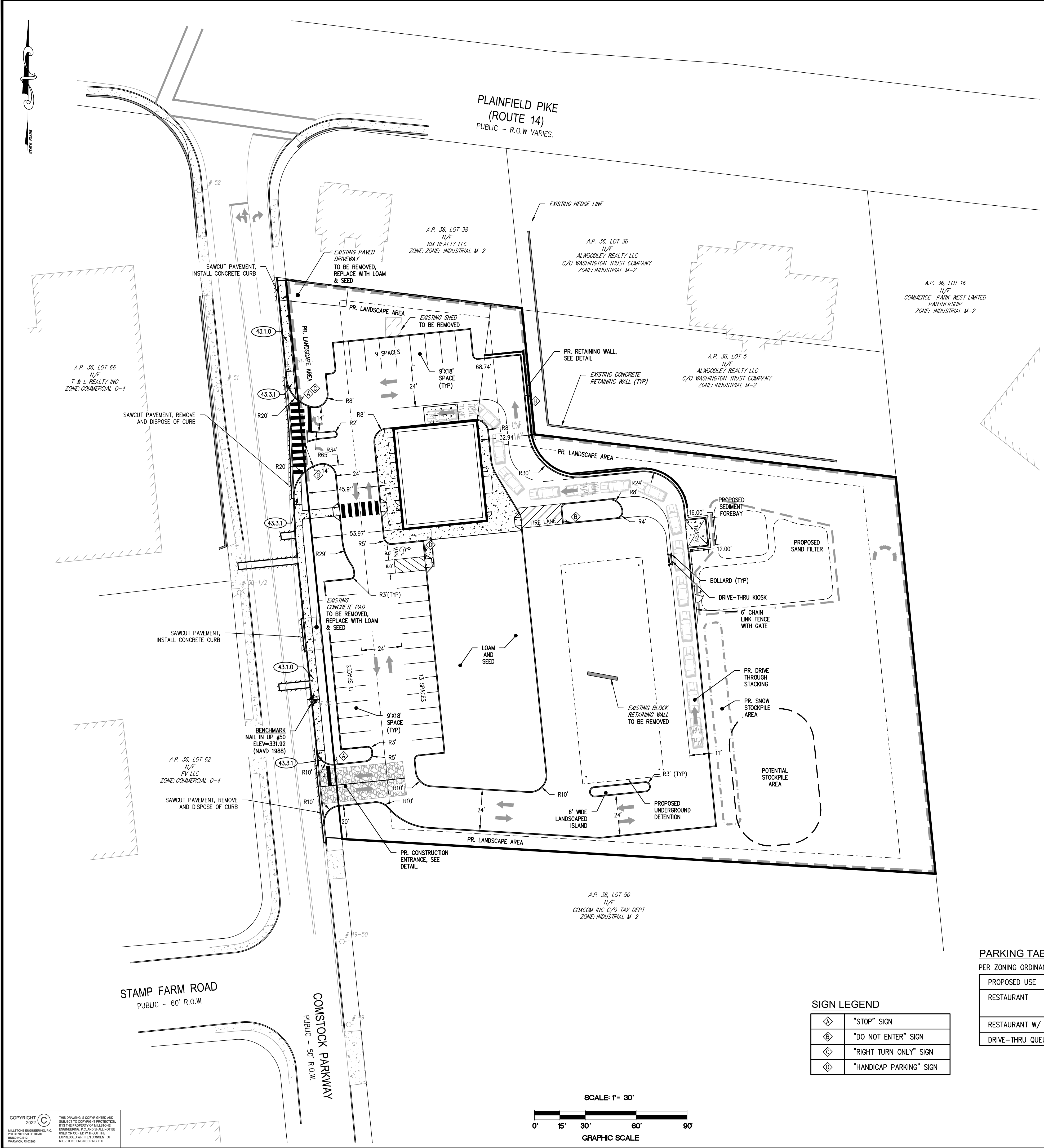
NO.	DATE	REVISION
1	1/19/23	RIDEM COMMENTS

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EXISTING CONDITIONS PLAN
COMSTOCK CROSSINGS
ASSESSOR'S PLAT 36
LOTS 51, 52 & 53
COMSTOCK PKWY.
CRANSTON, RI
PREPARED FOR:
ELIZABETH PAUL
SCALE: 1" = 30'
NOVEMBER 2022

Drawn By: BJC
Checked By: JCH/THK
Sheet
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of 11
FILE NO.: 21.448.668



LEGEND:

[Symbol]	SUBJECT LOT LINE
[Symbol]	ASSESSOR'S LOT LINE
[Symbol]	A.P. 36, LOT 5 ASSESSOR'S PLAT AND LOT
[Symbol]	BUILDING SETBACK LINE
[Symbol]	EXISTING BUILDING
[Symbol]	EXISTING UTILITY POLE
[Symbol]	EXISTING FENCE
[Symbol]	EXISTING CURB
[Symbol]	EXISTING WALL
[Symbol]	EXISTING CONCRETE SIDEWALK / PAD
[Symbol]	EXISTING CONTOUR
[Symbol]	EDGE OF VEGETATION
[Symbol]	PROPOSED BUILDING
[Symbol]	PROPOSED BOLLARD
[Symbol]	PROPOSED CONCRETE CURB
[Symbol]	PROPOSED PARKING LOT STRIPING
[Symbol]	TRAFFIC FLOW ARROW
[Symbol]	PROPOSED CONCRETE WALK
[Symbol]	PROPOSED RETAINING WALL
[Symbol]	PROPOSED SAWCUT PAVEMENT
[Symbol]	PROPOSED CHAIN LINK FENCE
[Symbol]	LIMIT OF DISTURBANCE
[Symbol]	PROPOSED SILT SOCK / SILT FENCE
[Symbol]	PROJECT BENCHMARK
[Symbol]	R.I. STD. 43.1.0 CEMENT CONCRETE SIDEWALK
[Symbol]	R.I. STD. 43.3.1 WHEELCHAIR RAMP

APPLICANT:
 ELIZABETH PAUL
 21 STEPHANIE DRIVE
 FOSTER, RI 02825

NO.	DATE	REVISION
1	1/19/23	RIDEM COMMENTS
2	2/16/23	ADD SIDEWALK
3	3/03/23	BUILDING FOOTPRINT
4	3/20/23	QTY COMMENTS

ISSUED FOR BIDDING
 3/20/2023

- SITE NOTES:**
- THERE ARE NO KNOWN WETLANDS ON THE SITE.
 - THE EXISTING GROUND COVER CONSISTS OF COMPACTED GRAVEL, GRASS, BRUSH, WOODS, AND LANDSCAPE STOCKPILES.
 - THE TOPOGRAPHY SHOWN ON THIS PLAN EXCLUDES MATERIAL STOCKPILES.
 - THE PROPERTY CONSISTS OF USDA SOIL TYPES WOODBRIDGE FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES (Wb) AND UDORTHERTS-URBAN LAND COMPLEX (UD).
 - THE PROPERTY IS NOT WITHIN A NATURAL HERITAGE AREA PER RIGIS INFORMATION.
 - THE PROPOSED DEVELOPMENT SHALL BE SERVICED BY PUBLIC WATER AND PUBLIC SEWER.
 - COORDINATE WITH ARCHITECTURAL DRAWINGS FOR BOLLARD LOCATIONS AND DETAILS OF WALKS/PADS/PATIOS ADJACENT TO BUILDING, INCLUDING LOCATIONS OF ADA RAMPS.

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SITE LAYOUT PLAN

COMSTOCK CROSSINGS

ASSESSOR'S PLAT 36
 LOTS 51, 52 & 53
 COMSTOCK PKWY.
 CRANSTON, RI

PREPARED FOR:
 ELIZABETH PAUL

SCALE: 1" = 30'
 NOVEMBER 2022

Drawn By: BJC/JSC
 Checked By: JCH
 Sheet

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FILE NO.: 21.448.668

PARKING TABLE
 PER ZONING ORDINANCE 17.64.010

PROPOSED USE	ORDINANCE / CALCULATION	REQUIRED	PROVIDED
RESTAURANT	1 SPACE PER 3 SEATS: 84 SEATS / 3 SEATS PER SPACE	28 SPACES	28 SPACES
RESTAURANT W/ DRIVE IN	5 SPACES PER ORDERING STATION	5 SPACES	5 SPACES
DRIVE-THRU QUEUE			15 CARS

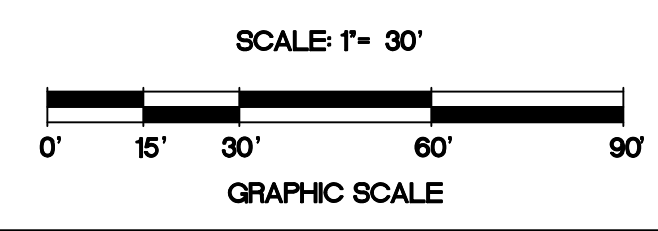
ZONING INFORMATION:
 ZONE C-5 PER ZONING ORDINANCE 17.20.120

	REQUIRED	PROVIDED
MINIMUM LOT AREA	10,000 S.F.	95,440 S.F.
MINIMUM LOT FRONTAGE	80 FT.	331.38 FT.
MINIMUM FRONT YARD	40 FT*	45.91 FT.
MINIMUM SIDE YARD	8 FT.	68.74 FT.
MINIMUM REAR YARD	20 FT.	32.94 FT.
MAXIMUM LOT COVERAGE	60 %	3.5 %
MAXIMUM BUILDING HEIGHT	35 FT.	28.9 FT±

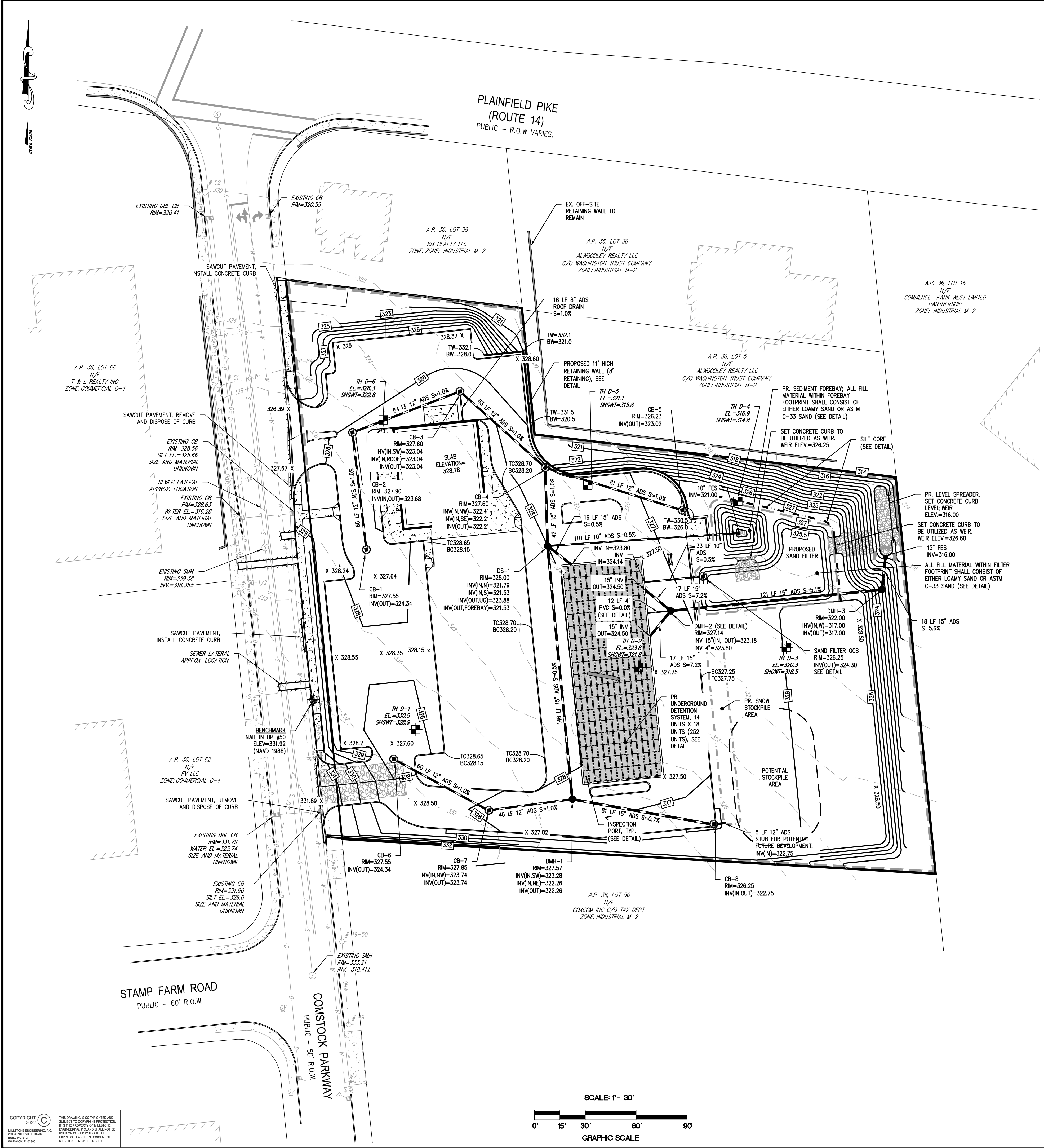
*CHAPTER 17.28-DRIVE IN BUSINESS REQUIRES 40 FT FRONT SETBACK

SIGN LEGEND

[Symbol]	"STOP" SIGN
[Symbol]	"DO NOT ENTER" SIGN
[Symbol]	"RIGHT TURN ONLY" SIGN
[Symbol]	"HANDICAP PARKING" SIGN



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LEGEND:

- SUBJECT LOT LINE
- ASSESSOR'S LOT LINE
- A.P. 36, LOT 5 — ASSESSOR'S PLAT AND LOT
- BUILDING SETBACK LINE
- I.R.F. IRON ROD FOUND
- EXISTING BUILDING
- EXISTING DRAIN LINE
- EXISTING CATCH BASIN
- EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
- EXISTING WATER LINE
- EXISTING UTILITY POLE
- EXISTING OVERHEAD WIRE
- EXISTING GAS LINE
- EXISTING FENCE
- EXISTING CURB
- EXISTING WALL
- EXISTING CONCRETE SIDEWALK / PAD
- EXISTING CONTOUR
- PROPOSED BUILDING
- PROPOSED CONCRETE CURB
- PROPOSED CONCRETE WALK
- PROPOSED RETAINING WALL
- TW / BW TOP WALL/BOTTOM WALL ELEV.
- PROPOSED SAWCUT PAVEMENT
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE
- X 321.50 TOP CURB/BOTTOM CURB ELEV.
- TC / BC PROPOSED RIP—RAP
- PROPOSED DRAIN LINE
- PROPOSED CATCH BASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED FLARED END SECTION
- PROPOSED CHAIN LINK FENCE
- TEST HOLE LOCATION
- LIMIT OF DISTURBANCE
- PROPOSED SILT SOCK / SILT FENCE
- PROJECT BENCHMARK

TEST HOLE DATA

TEST HOLE	EXISTING GRADE	DEPTH TO SHGWT	SHGWT ELEV.	DEPTH TO LEDGE	LEDGE ELEV.	HOLE DEPTH	BOTTOM ELEV.
D-1	330.9	2.0'	328.9	N/A	N/A	8.0'	322.9
D-2	323.8	2.0'	321.8	N/A	N/A	8.0'	315.8
D-3	320.3	1.8'	318.5	N/A	N/A	8.0'	312.3
D-4	316.9	2.1'	314.8	N/A	N/A	8.0'	308.9
D-5	321.1	5.3'	315.8	N/A	N/A	8.0'	313.1
D-6	326.3	3.5'	322.8	N/A	N/A	8.0'	318.3

DRAINAGE NOTES:

- SITE CONTRACTOR IS RESPONSIBLE FOR BRINGING ROOF LEADERS WITHIN 5 FEET OF THE BUILDING.
- COORDINATE WITH ARCHITECTURAL DRAWINGS FOR LOCATIONS OF DOWNSPOUTS.

UTILITY NOTE:

LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 72-HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG-SAFE (1-888-344-7233) A MINIMUM OF 72 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG-SAFE, IF IT IS DIFFERENT FROM THE CALLER.

APPLICANT:

ELIZABETH PAUL
21 STEPHANIE DRIVE
FOSTER, RI 02825

NO.	DATE	REVISION
1	1/19/23	RIDEM COMMENTS
2	2/16/23	ADD SIDEWALK
3	3/03/23	BUILDING FOOTPRINT
3	3/20/23	QTY COMMENTS

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GRADING AND DRAINAGE PLAN

COMSTOCK CROSSINGS

ASSESSOR'S PLAT 36
LOTS 51, 52 & 53
COMSTOCK PKWY.
CRANSTON, RI

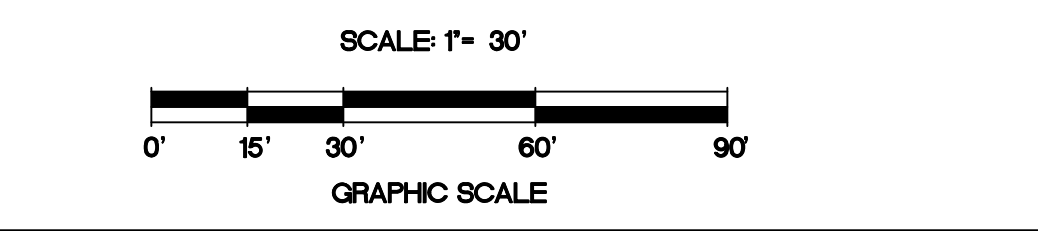
PREPARED FOR:
ELIZABETH PAUL

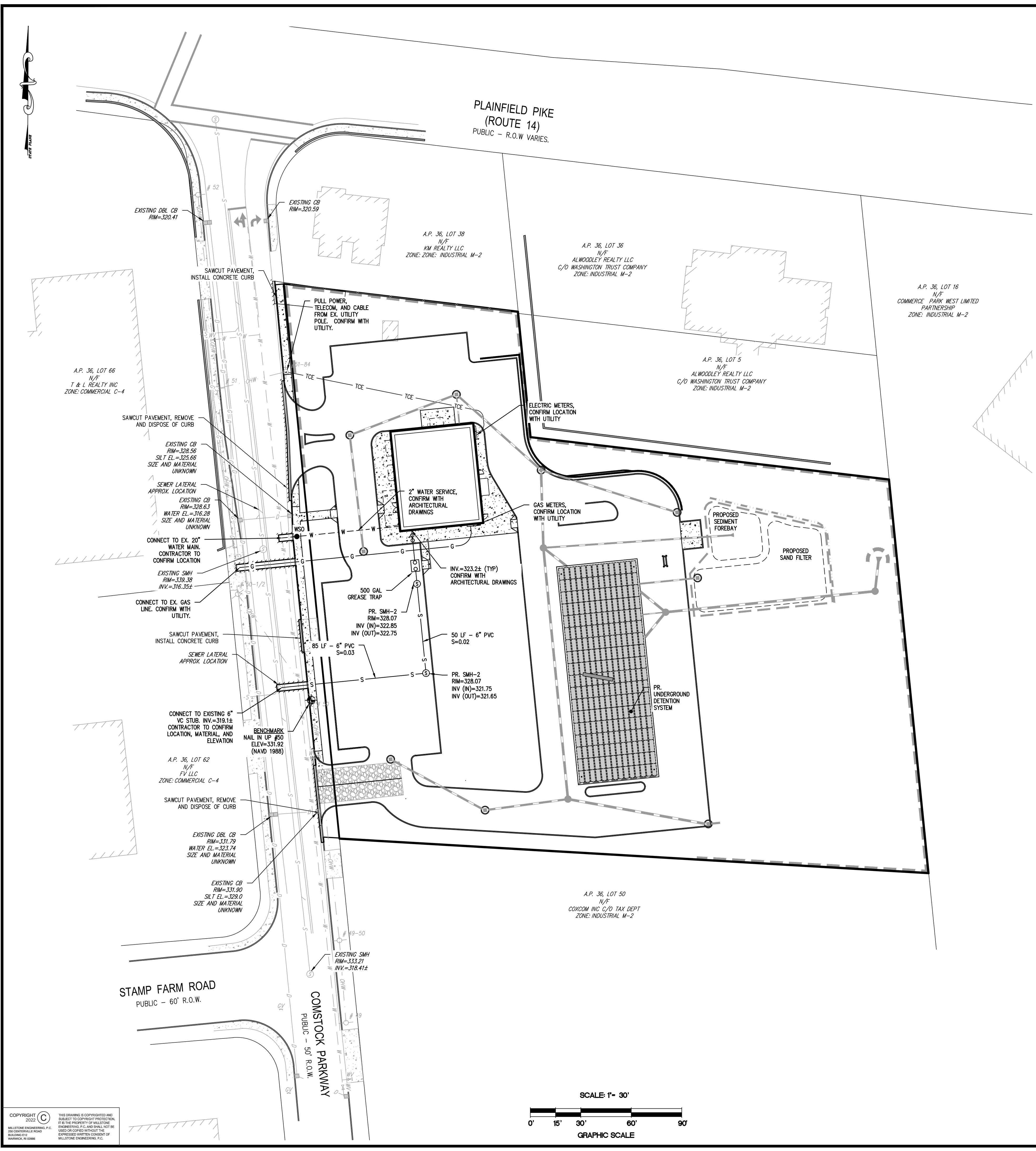
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NOVEMBER 2022

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Checked By: JCH
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LEGEND:

---	SUBJECT LOT LINE
---	ASSESSOR'S LOT LINE
---	A.P. 36, LOT 5 ASSESSOR'S PLAT AND LOT
---	BUILDING SETBACK LINE
○ I.R.F.	IRON ROD FOUND
---	EXISTING BUILDING
---	EXISTING DRAIN LINE
---	EXISTING CATCH BASIN
---	EXISTING SEWER LINE
○	EXISTING SEWER MANHOLE
---	EXISTING WATER LINE
○	EXISTING UTILITY POLE
---	EXISTING OVERHEAD WIRE
---	EXISTING GAS LINE
---	EXISTING FENCE
---	EXISTING CURB
---	EXISTING WALL
---	EXISTING CONCRETE SIDEWALK / PAD
---	PROPOSED BUILDING
---	PROPOSED CONCRETE CURB
---	PROPOSED CONCRETE WALK
---	PROPOSED RETAINING WALL
---	PROPOSED SAWCUT PAVEMENT
---	PROPOSED DRAIN LINE
○	PROPOSED CATCH BASIN
○	PROPOSED DRAIN MANHOLE
---	PROPOSED FLARED END SECTION
---	PROPOSED SEWER LINE
○	PROPOSED SER MANHOLE
○	PROPOSED CLEANOUT / BACKFLOW PREVENTER
---	PROPOSED WATER SERVICE
---	PROPOSED WATER SHUT-OFF
---	PROPOSED CONDUIT (ELEC., CABLE., TELECOM.)
---	PROPOSED GAS SERVICE
---	LIMIT OF DISTURBANCE
---	PROPOSED SILT SOCK / SILT FENCE
+	PROJECT BENCHMARK

APPLICANT:
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 21 STEPHANIE DRIVE
 FOSTER, RI 02825

NO.	DATE	REVISION
1	1/19/23	RIDEM COMMENTS
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UTILITY PLAN

COMSTOCK CROSSINGS

ASSESSOR'S PLAT 36
 LOTS 51, 52 & 53
 COMSTOCK PKWY.
 CRANSTON, RI

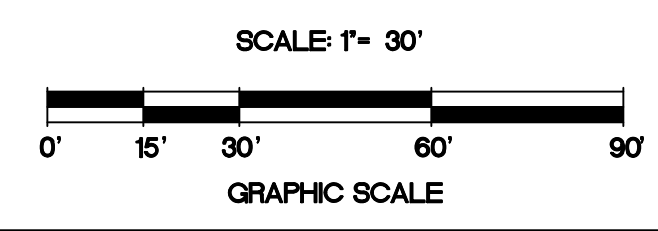
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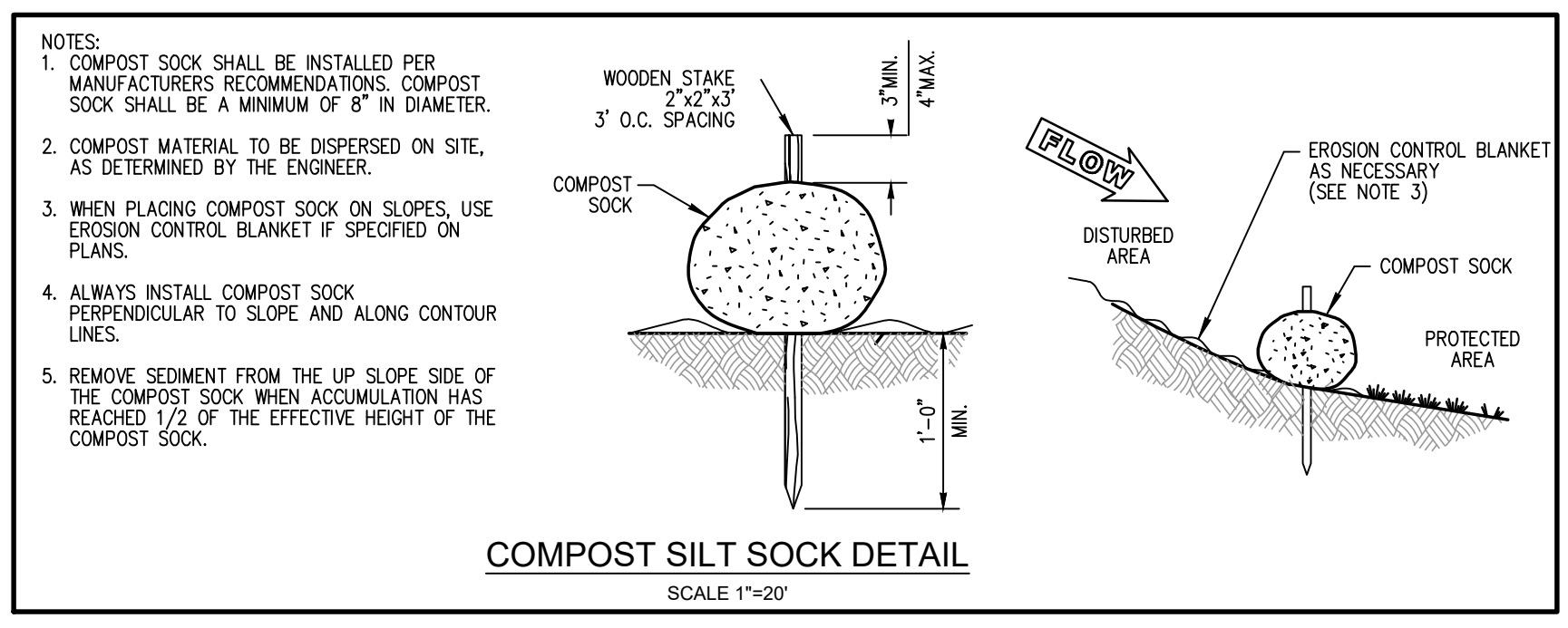
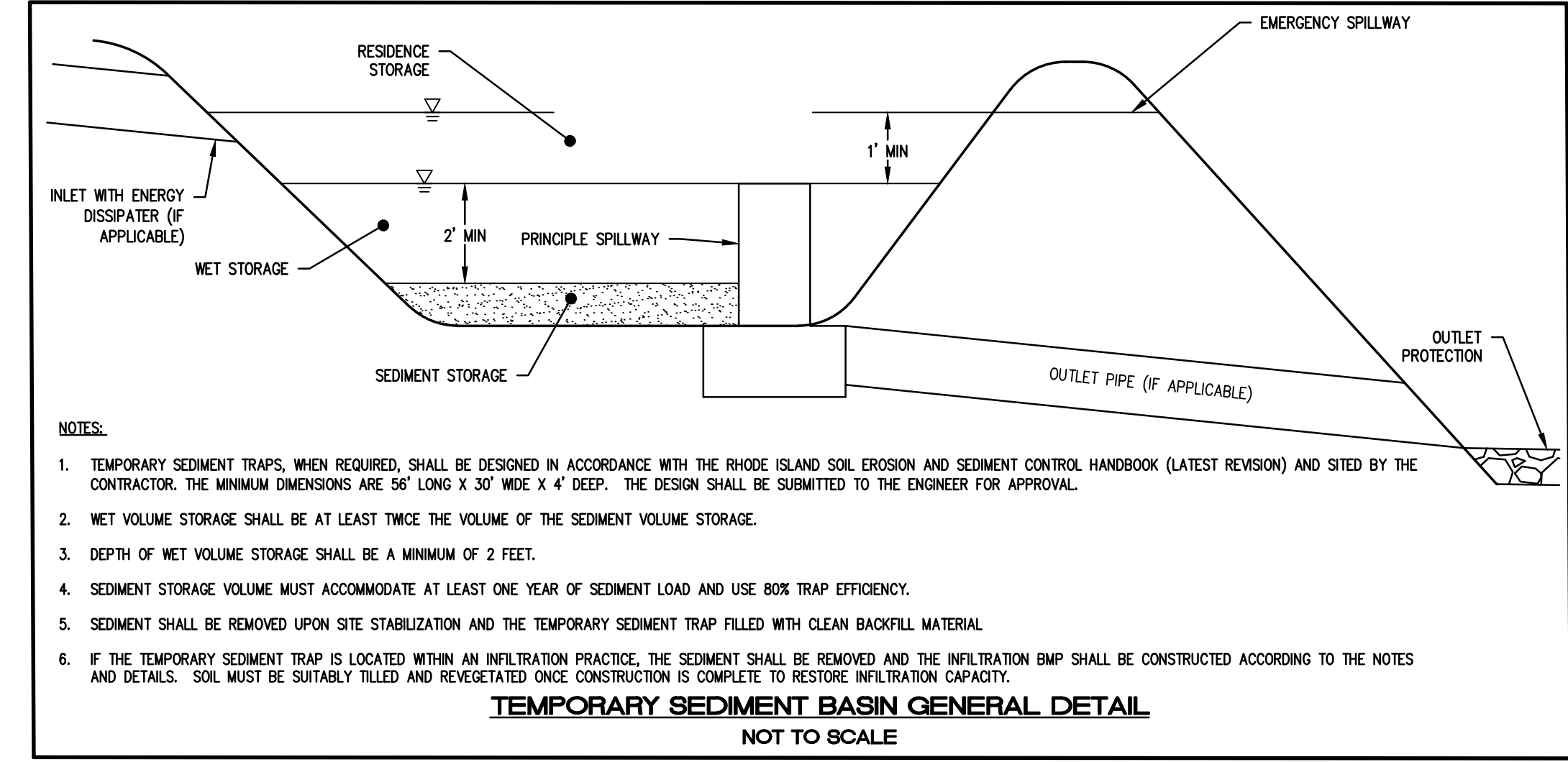
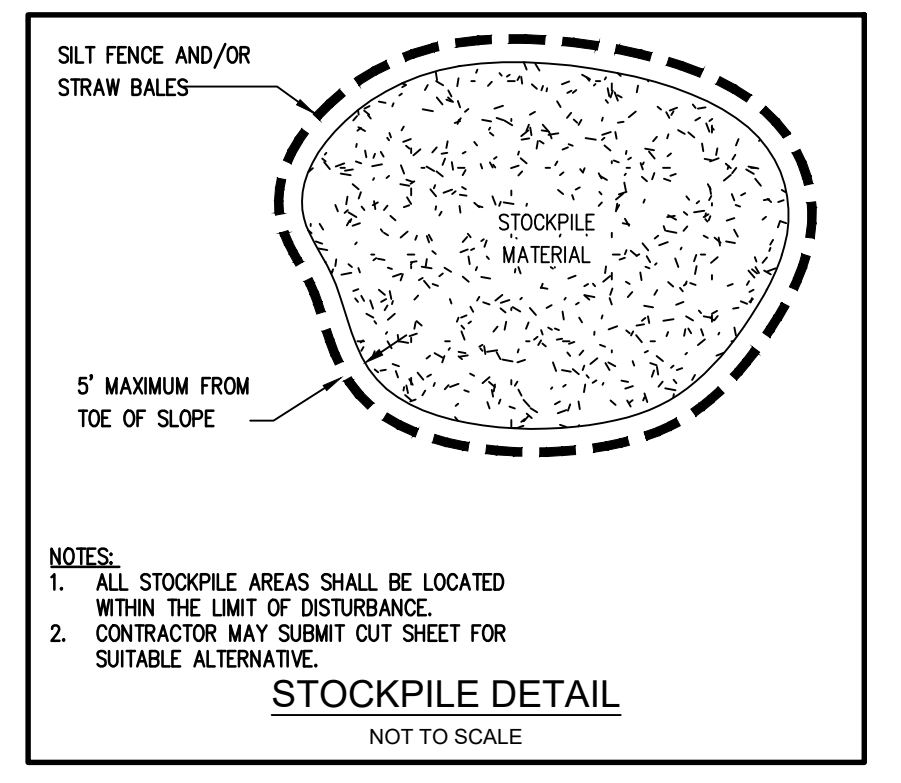
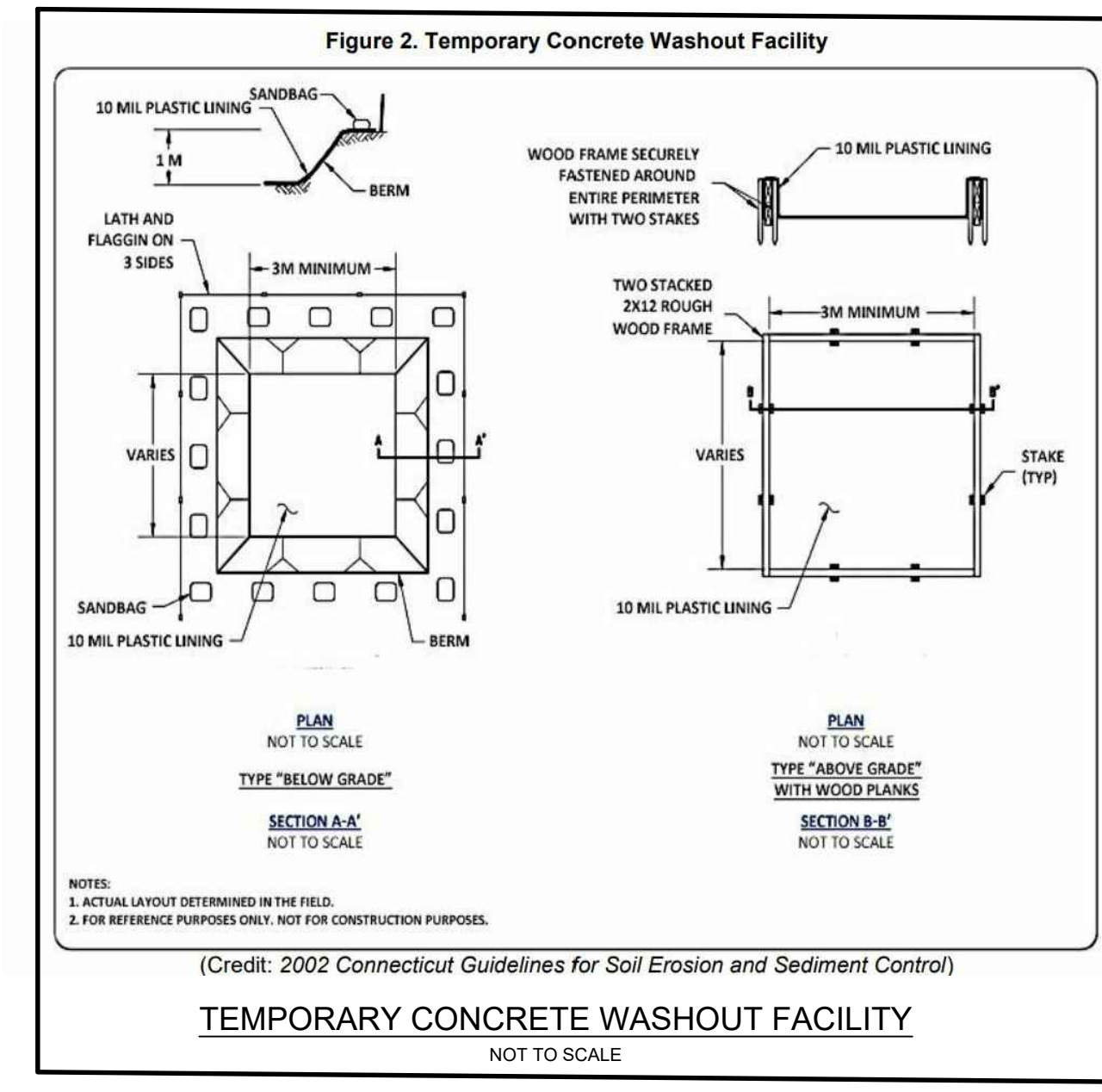
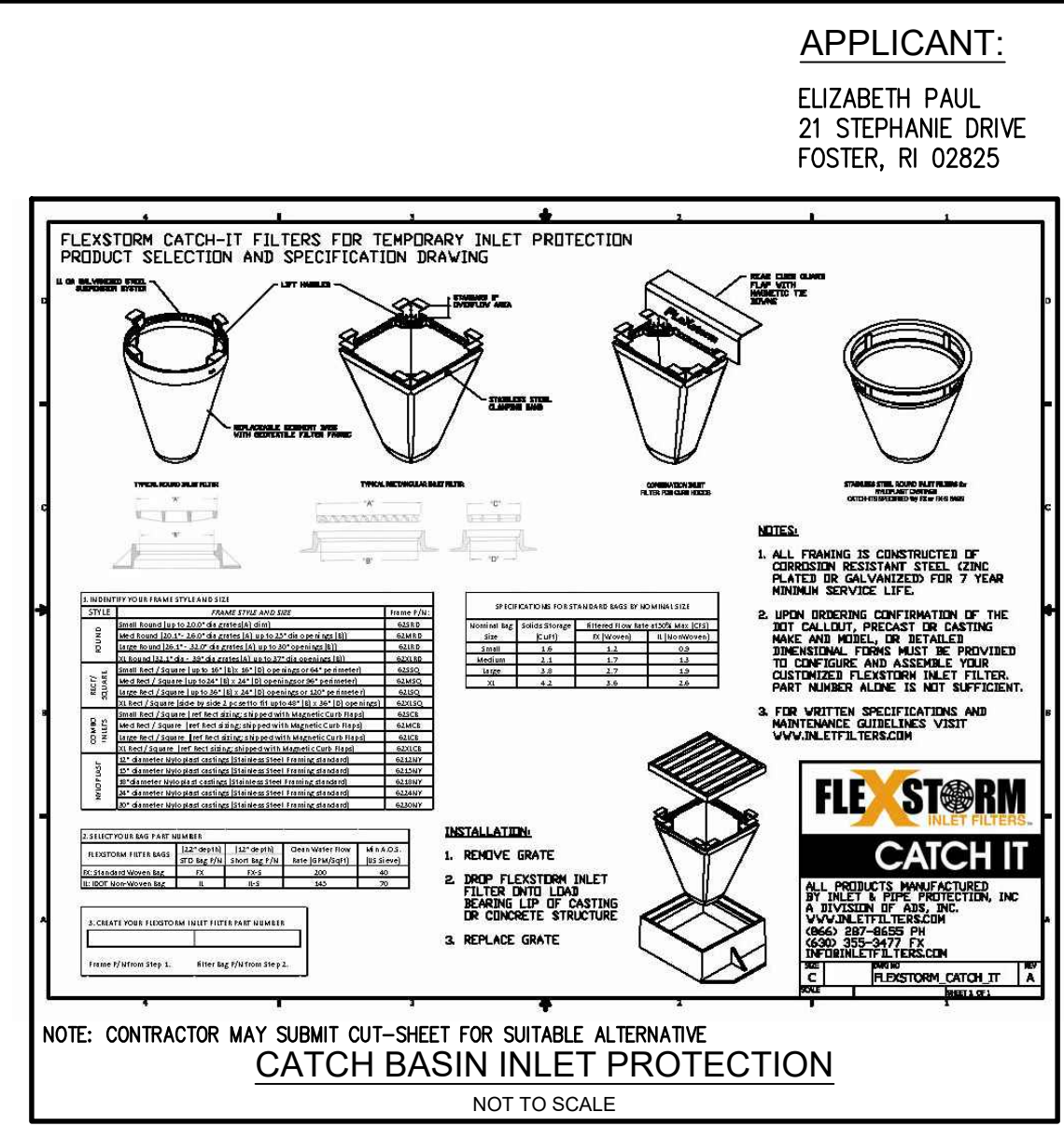
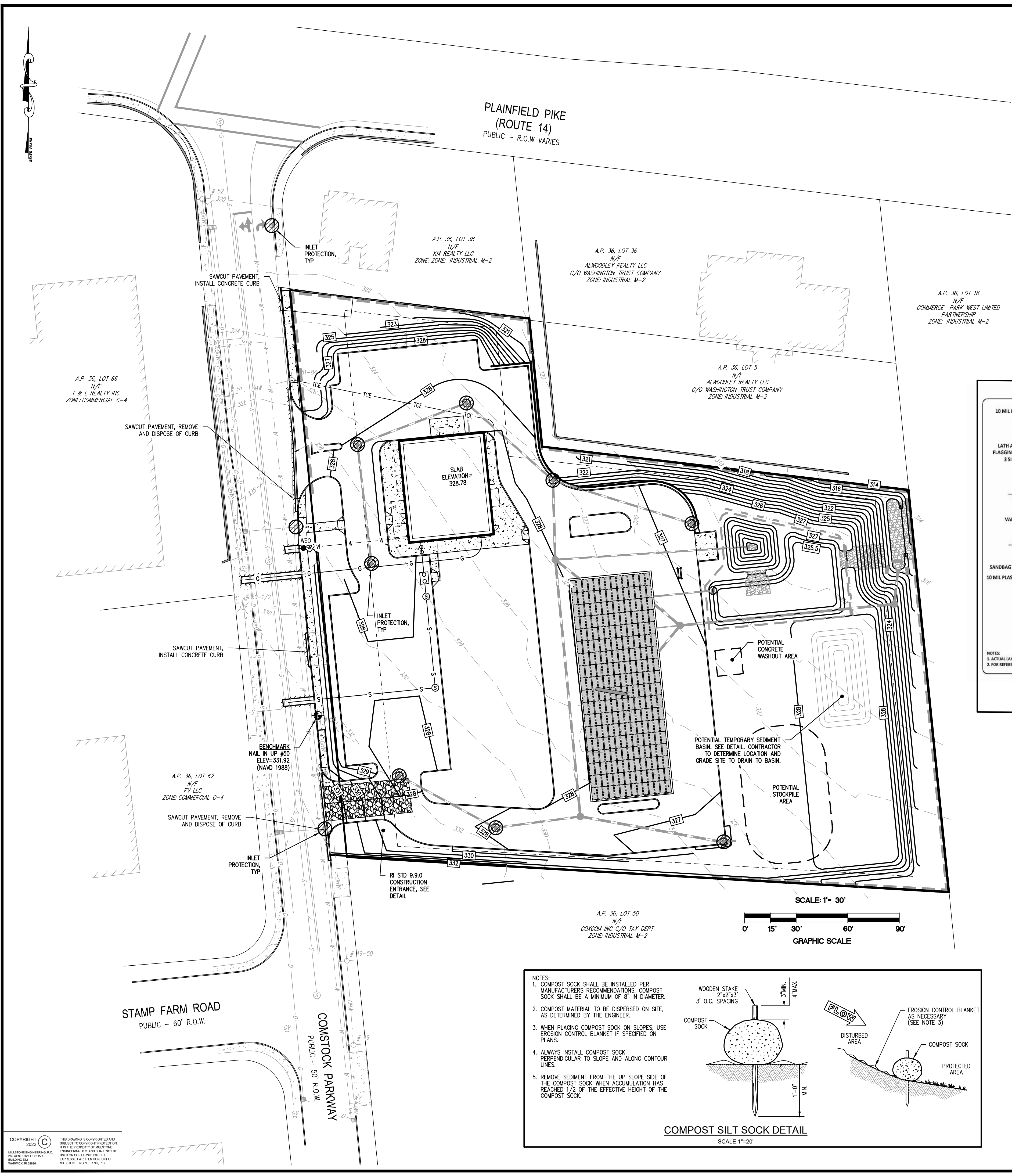
SCALE: 1" = 30'
 NOVEMBER 2022

- UTILITY NOTES:**
- SITE CONTRACTOR IS RESPONSIBLE FOR BRINGING UTILITIES WITHIN 5 FEET OF THE BUILDING.
 - COORDINATE WITH ARCHITECTURAL DRAWINGS FOR LOCATIONS OF UTILITY CONNECTIONS.
 - LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 72-HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG-SAFE (1-888-344-7233) A MINIMUM OF 72 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG-SAFE, IF IT IS DIFFERENT FROM THE CALLER.

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NO.	DATE	REVISION
1	1/19/23	RIDEM COMMENTS
2	2/16/23	ADD SIDEWALK
3	3/03/23	BUILDING FOOTPRINT
4	3/20/23	QTY COMMENTS

ISSUED FOR BIDDING

3/20/2023

MILLSTONE ENGINEERING, P.C.
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SOIL EROSION AND SEDIMENT CONTROL PLAN - 1

COMSTOCK CROSSINGS

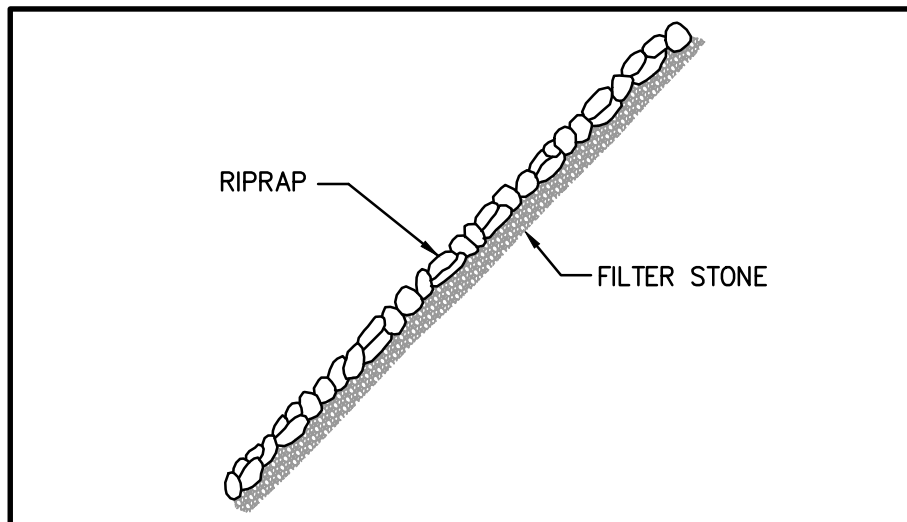
ASSESSOR'S PLAT 36
LOTS 51, 52 & 53
COMSTOCK PKWY.
CRANSTON, RI

PREPARED FOR:
ELIZABETH PAUL

SCALE: 1" = 30'
NOVEMBER 2022

Drawn By: BJC/JSC
Checked By: JCH
Sheet
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of 11
FILE NO.: 21.448.668

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SLOPE CROSS-SECTION

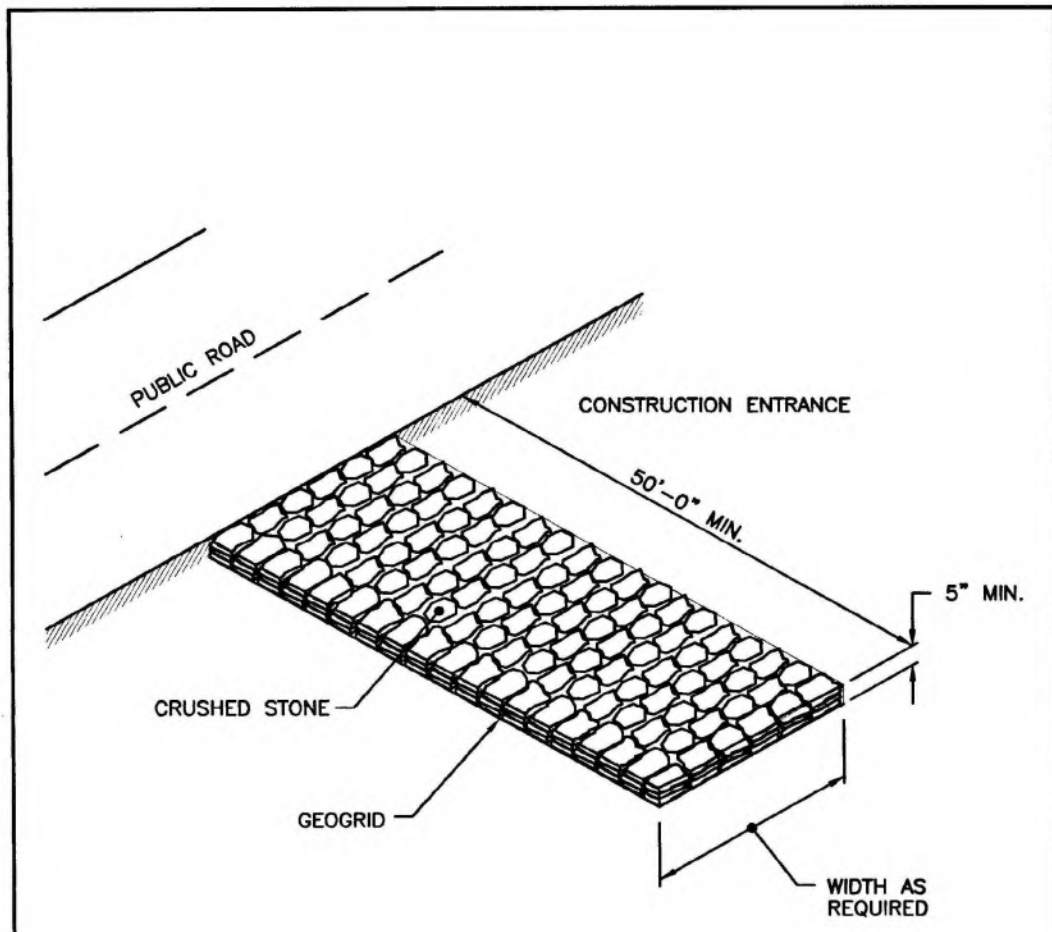
NOTES:

- SEE SITE PLAN FOR CLASS OF RIP-RAP TO BE USED
- SEE FILTER STONE CHART FOR APPROPRIATE FILTER STONE TYPE AND DEPTH
- DIMENSIONS MAY BE MODIFIED BY ENGINEER TO MEET FIELD CONDITIONS.
- UNLESS OTHERWISE SPECIFIED, DUMPED RIP-RAP SHALL BE USED.

ROCKFILL RIP-RAP
NOT TO SCALE

RIPRAP	FILTER STONE	DEPTH
R-1	FS-1	6"
R-2	FS-2	6"
R-3	FS-2	6"
R-4	FS-3	7.5"
R-5	FS-3	7.5"
R-6	FS-2 and R-2	6"/ 6"
R-7	FS-3 and R-4	7.5"/ 21"
R-8	FS-3 and R-4	7.5"/ 21"

FILTER STONE CHART



NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 211 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

NO.	BY	DATE	CONSTRUCTION ACCESS	R.I. STANDARD
				9.9.0

SEDIMENTATION CONTROL PROGRAM:

- EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING DOWNSTREAM WATERCOURSES AND STORMWATER DRAINAGE SYSTEMS.
- DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUN-OFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
- SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
- CARE SHALL BE TAKEN SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING, NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECTED TO STORMWATER FLOW.
- SEDIMENTATION TRAPS SHALL BE PROVIDED AT ALL DRAINAGE STRUCTURES DURING CONSTRUCTION.
- EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AT THE SITE PRIOR TO THE START OF CONSTRUCTION AND BE PROPERLY MAINTAINED UNTIL ALL DISTURBED AREAS ARE STABILIZED INCLUDING:
 - THE INSTALLATION OF A CONTINUOUS LINE OF STAKED STRAWBALES, SILT FENCE, OR SIMILAR IN ALL LOCATIONS SHOWN ON THE APPROVED SITE PLANS AND WHERE OTHERWISE NECESSARY TO PREVENT SEDIMENTS FROM ENTERING DOWNSTREAM WATERCOURSES AND STORMWATER DRAINAGE SYSTEMS.
 - ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITH APPROVED GROUND COVER PRIOR TO THE COMPLETION OF THE PROJECT. AREAS EXPOSED FOR EXTENDED PERIODS ARE TO BE COMPLETELY COVERED WITH SPREAD HAY MULCH.
 - CATCH BASINS SHALL BE PROTECTED WITH STRAWBALE OR SILT SACK FILTERS THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED. SUMPS ARE TO BE CLEANED IMMEDIATELY FOLLOWING INSTALLATION OF PERMANENT PAVEMENT.
 - OUTFALLS SHALL BE PROTECTED BY STRAWBALE FILTERS UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED WITH APPROVED GROUND COVER.
 - ALL CONTROL MEASURES SHALL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
- THE LIMITS OF ALL CLEARING, GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE SHALL REMAIN TOTALLY UNDISTURBED.
- IF AREAS OF 1-5 ACRES ARE TO BE DISTURBED AT ONE TIME, A TEMPORARY SEDIMENT TRAP SHALL BE DESIGNED AND SITED IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, SECTION 6 AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO LAND DISTURBANCE. SEE DETAIL ON SHEET 6.

POLLUTION PREVENTION PLAN:

GENERAL:
LONG-TERM MANAGEMENT OF THE POLLUTION PREVENTION PLAN SHALL BE THE RESPONSIBILITY OF THE OWNER / OPERATOR.
APPLICANT: ELIZABETH PAUL
21 STEPHANIE DRIVE
FOSTER, RI 02825

THE CONTRACTOR SHALL MANAGE THE POLLUTION PREVENTION PLAN DURING THE CONSTRUCTION PERIOD.

CONTRACTOR: TBD

SOLID WASTE CONTAINMENT:

- TRASH RACKS WHERE PRACTICAL SHALL BE INSTALLED AND MAINTAINED ON ALL INLET STRUCTURES WITHIN THE DRAINAGE SYSTEM. INSPECTIONS FOR TRASH SHOULD BE ON A WEEKLY BASIS.
- TRASH RECEPTACLES SHALL BE PROVIDED WHERE APPROPRIATE.
- STREET SWEEPING SHALL BE PERFORMED ON AN ANNUAL BASIS.
- PET WASTE DISPOSAL STATIONS SHALL BE PROVIDED WHERE APPLICABLE.

SNOW DISPOSAL AND DECING:

- NO SAND AND DECING MATERIALS SHALL BE STORED ON THE SITE
- SNOW REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH RIDEM'S SNOW DISPOSAL POLICY.

DRIVEWAY AND PARKING LOT SEALANTS:

- ON STANDARD ASPHALT AREAS, ONLY ASPHALT BASED SEALANTS ARE ALLOWED, NO COAL-TAR BASED SEALANTS SHALL BE USED ON THIS SITE.

HAZARDOUS MATERIALS CONTAINMENT:

- NO HAZARDOUS MATERIALS SHALL BE STORED OUTSIDE TO AVOID EXPOSURE TO STORMWATER.

LANDSCAPE MANAGEMENT:

- GRASS CLIPPINGS FROM LAWN CARE PROCEDURES IN AND AROUND THE STORMWATER FACILITY MUST BE COLLECTED AND DISPOSED OF OFF SITE.
- LAWN HEIGHTS WITHIN THE BMP'S SHALL BE KEPT AT A 4-6" HEIGHT.
- FERTILIZER AND WATERING DEMANDS SHOULD BE HAVE PROFESSIONAL OVERSIGHT AND BOTH USES MINIMIZED TO THE MAXIMUM EXTENT PRACTICAL.

BMP CONSTRUCTION SEQUENCES:

GENERAL:

GREAT CARE SHALL BE GIVEN TO THE AREAS WHERE STRUCTURES WHICH REQUIRE INFILTRATION AS A MECHANISM FOR STORMWATER TREATMENT AND/OR DISPOSAL ARE PROPOSED PRIOR TO THEIR CONSTRUCTION. NO INFILTRATION STRUCTURE SHALL BE CONSTRUCTED NOR ACCEPT RUNOFF UNTIL ALL UP-GRADE AREAS OF THE WATERSHED HAVE BEEN BUILT AND FULLY STABILIZED SO AS TO HAVE NO POTENTIAL FOR SEDIMENT OR SILT DEPOSITION. ALSO, ONCE THE ENTIRE SITE IS STABILIZED ALL SEED MEASURES SHALL BE REMOVED.

THE DESIGN SEED MIX FOR ALL PERMANENT STORMWATER BASINS SHALL BE COMPRISED OF THE FOLLOWING AND PLANTED IN A MINIMUM OF A 6" DEPTH OF SANDY LOAM FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS:

TYPE	% BY WEIGHT
CREeping RED FESCUE	70
KENTUCKY BLUEGRASS	15
TALL FESCUE	15

APPLICATION RATE 100 LBS/ACRE
LIMING AND FERTILIZING AS REQUIRED TO COMPLEMENT OR UPGRADE EXISTING CONDITIONS.

SAND FILTERS:

- EXCAVATE TO THE LINES AND GRADES OF THE DESIGN
- INSTALL 6" OF SAND AND ROTOTILL TO MIX INTO THE SUBSOIL INTERFACE
- SAND FILTER SAND SHALL BE ASTM C33 CONCRETE SAND
- INSTALL REMAINDER OF SAND
- INSTALL NON-WOVEN GEOTEXTILE
- INSTALL 6"WASHED CRUSHED STONE & PERFORATED DISBURSAL PIPING
- INSTALL NON-WOVEN GEOTEXTILE
- LOAM AND SEED PER DETAILS WITH PERMANENT SEED MIXTURE & DRAINS

UNDERGROUND DETENTION / CHAMBERS:

- EXCAVATE TO THE LINES AND GRADES OF THE DESIGN
- INSTALL CHAMBERS PER PRODUCE SPECIFICATIONS

LEVEL SPREADER:

- EXCAVATE TO THE LINES AND GRADES OF THE DESIGN
- INSTALL CURBING SET LEVEL
- LOAM AND SEED PER DETAILS WITH PERMANENT SEED MIXTURE

EROSION CONTROL AND SOIL STABILIZATION PROGRAM:

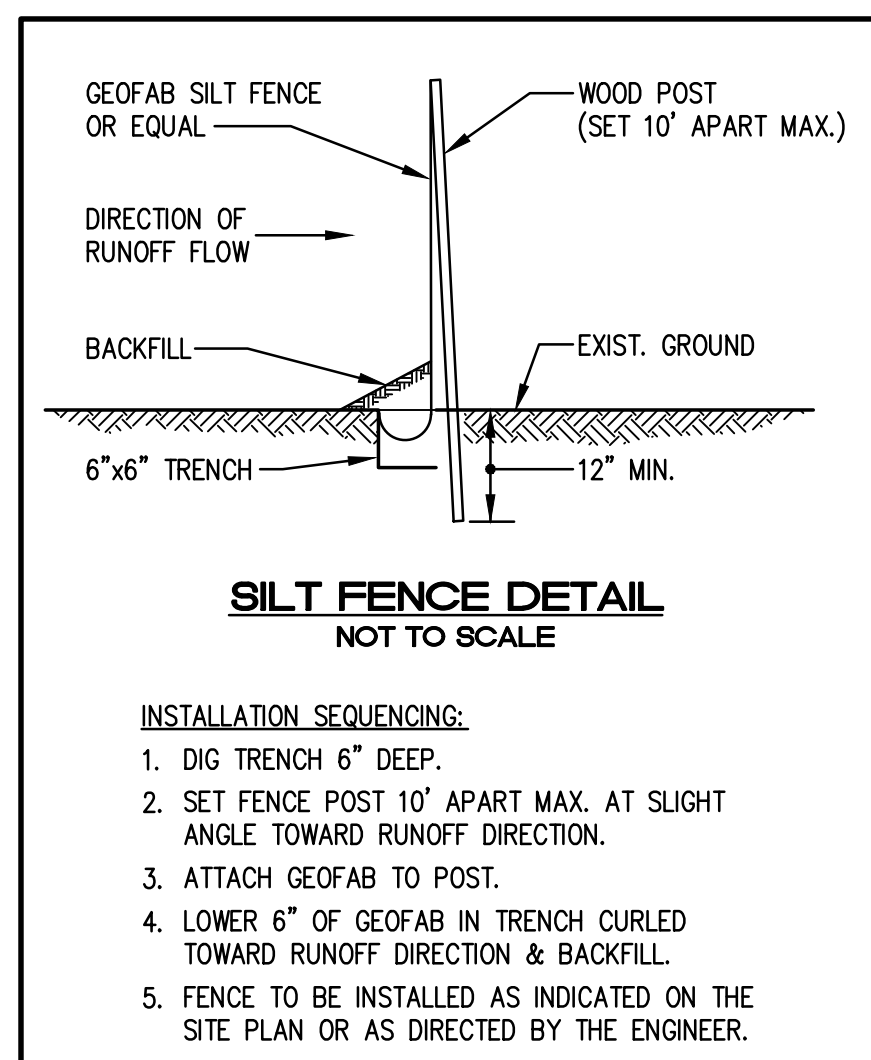
- DENUDED SLOPES SHALL NOT BE LEFT EXPOSED FOR EXCESSIVE PERIODS OF TIME, SUCH AS THE INACTIVE WINTER SEASONS.
- TEMPORARY TREATMENTS SHALL CONSIST OF STRAW, FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
- STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 2000 LBS/ACRE.
- ALL STRAWBALES OR TEMPORARY PROTECTION SHALL REMAIN IN-PLACE UNTIL AN ACCEPTABLE STAND OF GRASS, RIP-RAP OR APPROVED GROUND COVER IS ESTABLISHED.
- 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 STANDARD SPECIFICATION M.18.02.
- THE DESIGN MIX UTILIZED IN ALL DISTURBED AREAS TO BE SEEDED SHALL BE COMPRISED OF THE FOLLOWING:

TYPE	% BY WEIGHT
CREeping RED FESCUE	70
ASTORIA BENTGRASS	5
BIRFOOT TREFOIL	15
PERENNIAL RYEGRASS	10
APPLICATION RATE	100 LBS/ACRE
- 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.
- THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST THROUGH OCTOBER 15TH.
- STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN FOURTEEN (14) DAYS OF FINAL GRADING.
- STOCKPILES OF TOPSOIL AND EARTH MATERIALS SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SLOE SLOPES NO GREATER THAN THIRTY PERCENT (30%). SHALL ALSO BE SEEDED AND/OR STABILIZED AND SHALL BE COMPLETELY ENCLOSED WITH STAKED HAY BALES AND/OR SILT FENCE. (SEE DETAIL)
- ON BOTH STEEP AND LONG SLOPES, CONSIDERATION SHOULD BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.
- TREES TO BE RETAINED SHALL BE FENCED OR ROPED OFF TO PROTECT THEM FROM CONSTRUCTION EQUIPMENT.
- ALL PROPOSED PLANTINGS AND PLACEMENT OF RIP-RAP MUST BE ACCOMPLISHED AS EARLY AS POSSIBLE UPON COMPLETION OF GRADING AND CONSTRUCTION, AND AT LEAST PRIOR TO ANY ON-SITE OCCUPANCY.
- ALL DISTURBED AREAS MUST BE SEEDED, PLANTED OR RIP-RAPPED WITHIN THE CONSTRUCTION SEASON.
- TEMPORARY SEEDING MUST BE COMPLETED WITHIN ONE (1) MONTH AFTER DISTURBANCE.
- ALL DISTURBED AREAS MUST BE PERMANENTLY SEEDED, PLANTED OR RIP-RAPPED BEFORE OCTOBER 1ST, IF NOT THEY MUST BE TEMPORARILY SEEDED.

CONSTRUCTION MAINTENANCE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, MAINTENANCE AND REPAIR TO ALL DRAINAGE STRUCTURES AND RELATED APPURTENANCES ON THE SITE DURING CONSTRUCTION AND FOR A MAXIMUM OF ONE (1) YEAR FOLLOWING COMPLETION OF CONSTRUCTION, AT WHICH TIME THE DRAINAGE STRUCTURES AND APPURTENANCES ARE TO BE ACCEPTED BY THE ENGINEER AND THE OWNER, AS FOLLOWS:

- ALL CATCH BASINS AND STORM DRAIN PIPES SHALL BE CLEANED OF SEDIMENT. STORMWATER BASINS SHALL BE CLEANED OF SEDIMENT TO THE DESIGN GRADES INDICATED ON THE CONSTRUCTION DRAWINGS.
- INSPECTION OF THE BASINS AND ALL INLET AND OUTLET STRUCTURES SHALL BE PERFORMED ON A WEEKLY BASIS, PREFERABLY DURING A STORM EVENT TO INSPECT FOR PROPER FUNCTIONALITY OF THE FACILITY.
- GRASSES MUST BE PLANTED AROUND AND WITHIN THE STORMWATER BASIN IMMEDIATELY FOLLOWING CONSTRUCTION TO STABILIZE THE SLOPES AND PREVENT EROSION.
- SEDIMENTS SHALL BE REMOVED FROM DRAINAGE STRUCTURES AND THE STORMWATER BASINS IMMEDIATELY FOLLOWING SITE STABILIZATION AND DURING THE FIRST (INITIAL) YEAR OF OPERATION.
- ALL COSTS INCURRED FOR MAINTENANCE, CLEANING, AND INSPECTION ARE THE RESPONSIBILITY OF THE CONTRACTOR DURING CONSTRUCTION AND THE PROPERTY OWNER UPON ACCEPTANCE.
- ANY INADVERTENT OR DELIBERATE DISCHARGE OF WASTE OIL OR ANY OTHER POLLUTANT TO THE STORMWATER DISPOSAL SYSTEM REQUIRES IMMEDIATE NOTIFICATION OF THE RIDEM.
- ALL TRASH AND LITTER AND OTHER DEBRIS SHALL BE REMOVED FROM ANY STORMWATER FACILITY DAILY, INCLUDING INLET AND OUTLET STRUCTURES.
- REPAIRS OR REPLACEMENT OF INLET/OUTLET STRUCTURES, RIP-RAP CHANNELS, FENCES, OR OTHER ELEMENTS OF THE FACILITY DURING CONSTRUCTION SHALL BE DONE WITHIN 30 DAYS OF DEFICIENCY REPORTS.
- PAVEMENT SWEEPING SHALL BE PERFORMED UPON COMPLETION OF THE PROJECT.
- WATER SHALL BE USED TO MOISTEN EXPOSED SOIL SURFACES PERIODICALLY. AN ADEQUATE AMOUNT SHOULD BE USED TO CONTROL DUST.



SILT FENCE DETAIL
NOT TO SCALE

INSTALLATION SEQUENCING:

- DIG TRENCH 6" DEEP.
- SET FENCE POST 10' APART MAX. AT SLIGHT ANGLE TOWARD RUNOFF DIRECTION.
- ATTACH GEOFAB TO POST.
- LOWER 6" OF GEOFAB IN TRENCH CURLED TOWARD RUNOFF DIRECTION & BACKFILL.
- FENCE TO BE INSTALLED AS INDICATED ON THE SITE PLAN OR AS DIRECTED BY THE ENGINEER.

LONG-TERM MAINTENANCE SCHEDULE (O&M):

LONG-TERM MAINTENANCE OF THE DRAINAGE SYSTEM SHALL BE COMPLETED BY THE APPLICANT/OPERATOR UNDER A LEGALLY BINDING AND ENFORCEABLE MAINTENANCE AGREEMENT. THE CITY OF CRANSTON IS NOT RESPONSIBLE FOR MAINTENANCE OF THE BMP'S.

APPLICANT: ELIZABETH PAUL
21 STEPHANIE DRIVE
FOSTER, RI 02825

THE CONTRACTOR / OPERATOR SHALL MAINTAIN ALL DRAINAGE COMPONENTS DURING AND DIRECTLY AFTER CONSTRUCTION. ALL OPERATIONAL MAINTENANCE REQUIREMENTS WILL BE RECORDED ON THE TITLE.

OPERATOR / CONTRACTOR: DEFAULTS TO APPLICANT

THE ENTIRE STORMWATER SYSTEM SHALL BE INSPECTED THROUGHOUT THE CONSTRUCTION PROCESS AND REPORTED ON THE ATTACHED CONSTRUCTION INSPECTION REPORTING FORMS.

THE ENTIRE STORMWATER MANAGEMENT SYSTEM SHALL BE INSPECTED ON A BI-ANNUAL BASIS FOR GENERAL PROBLEMS AND TO ENSURE PROPER FUNCTION AND AFTER STORM EVENTS GREATER THAN OR EQUAL TO THE 1-INR, 24-HR TYPE II PRECIPITATION EVENT (2.7"). THESE INSPECTIONS SHALL BE REPORTED ON THE ATTACHED O&M INSPECTION REPORTING FORMS.

ALL INSPECTIONS REPORTS SHALL BE KEPT ON FILE WITH THE STORMWATER MANAGEMENT OPERATION AND MAINTENANCE PLAN.

SEDIMENT FOREBAY:

- THE SLOPES SHOULD BE INSPECTED FOR EROSION AND GULLING
- RIPRAP SHOULD BE REINFORCED IF EROSION IS PRESENT AT OUTFALLS OR IF IT HAS BEEN COMPROMISED
- INSPECT ALL STRUCTURAL COMPONENTS SUCH AS TRASH RACKS, ACCESS GATES, VALVES, PIPES, WEIRS, WALLS, ORIFICE STRUCTURES AND SPILLWAY STRUCTURES FOR DEFECTS AND ANY MUST BE REPAIRED IMMEDIATELY
- INSPECT FOR SEDIMENT ACCUMULATION AND IT SHOULD BE REMOVED IF IT REACHES 9" OR 25% OF THE STORAGE VOLUME
- MOW GRASSES TO MAINTAIN A 4-6" STRONG STAND OF TURF AND MOW IMMEDIATELY SHOULD IT REACH 10". ALL CLIPPINGS SHALL BE COLLECTED AND DISPOSED OF PROPERLY
- NO WOODY GROWTH SHOULD EVER BE ALLOWED TO REMAIN IN AND AROUND THE FOREBAY
- AREAS OF EROSION OR DISTURBANCE SHALL BE RE-ESTABLISHED IMMEDIATELY INLETS AND OUTLETS SHALL BE CLEARED OF DEBRIS AS NEEDED

SAND FILTER:

- THE FACILITY SHOULD BE INSPECTED ANNUALLY TO ENSURE INFILTRATION RATES ARE BEING MET. IF STANDING WATER IS OBSERVED FOR MORE THAN 48 HRS AFTER A RAIN EVENT, THE TOP 6" SHOULD BE ROTOTILLED AND ANY COMPACTED REMOVED. IF THIS DOESN'T SOLVE THE PROBLEM, THE TOP 6" OF THE SAND FILTER SHALL BE REMOVED AND REPLACED.
- RIPRAP SHOULD BE REINFORCED IF EROSION IS PRESENT AT OUTFALLS OR IF IT HAS BEEN COMPROMISED
- MOW GRASSES TO MAINTAIN A 4-6" STRONG STAND OF TURF, ALL CLIPPINGS SHALL BE COLLECTED AND DISPOSED OF PROPERLY
- NO WOODY GROWTH SHOULD EVER BE ALLOWED TO REMAIN IN AND AROUND THE FOREBAYS
- AREAS OF EROSION OR DISTURBANCE SHALL BE RE-ESTABLISHED IMMEDIATELY
- INLETS AND OUTLETS SHALL BE CLEARED OF DEBRIS AS NEEDED

UNDERGROUND DETENTION:

- THE SYSTEM SHOULD BE INSPECTED AT A MINIMUM OF ONE TIME A YEAR OR AFTER MAJOR RAIN EVENTS IF NECESSARY.
- LOCATE THE RISER SECTION OF THE SYSTEM AND REMOVE THE LD FROM THE RISER.
- MEASURE THE SEDIMENT BUILDUP AT EACH RISER AND CLEANOUT LOCATION. ONLY CERTIFIED CONFINED SPACE ENTRY PERSONNEL HAVING APPROPRIATE EQUIPMENT SHOULD BE PERMITTED TO ENTER THE SYSTEM.
- INSPECT EACH MANIFOLD, ALL LATERALS, AND OUTLET PIPES FOR SEDIMENT BUILD UP, OBSTRUCTIONS OR OTHER PROBLEMS.
- IF MEASURED SEDIMENT BUILD UP IS BETWEEN 5%-20% OF THE PIPE DIAMETER, CLEANING SHOULD BE CONSIDERED; IF SEDIMENT BUILD UP EXCEEDS 20%, CLEANING SHOULD BE PERFORMED AT THE EARLIEST OPPORTUNITY. A THOROUGH CLEANING OF THE SYSTEM (MANIFOLDS AND LATERALS) SHALL BE PERFORMED BY EITHER MANUAL METHODS OR BY A VACUUM TRUCK.

CATCH BASINS AND DRAINAGE SYSTEM:

- ALL CATCH BASINS AND STORM DRAIN PIPES SHALL BE ANNUALLY CHECKED FOR SEDIMENT AND DEBRIS AND CLEANED / JETTED AS NECESSARY.
- ALL COSTS INCURRED FOR MAINTENANCE, CLEANING, AND INSPECTION ARE THE RESPONSIBILITY OF THE PROPERTY OWNER UPON ACCEPTANCE.
- PAVEMENT SWEEPING SHALL BE PERFORMED ANNUALLY, PREFERABLY IN THE SPRING, AFTER ROADWAY SANDING IS COMPLETED FOR THE SEASON.

ESTIMATED O&M BUDGET & FUNDING SOURCE:

- THE PROJECT OPERATOR WILL BE THE OWNER, WHO SHALL BE RESPONSIBLE FOR FUNDING THE O&M BUDGET.

ESTIMATE OF O&M BUDGET:

BI-ANNUAL INSPECTIONS:	\$1000 EA x 2	\$2,000
BI-WEEKLY MOWING:	\$200 EA x 13	\$2,600
MISC. REPAIRS:	\$1,000	\$1,000
PAVEMENT SWEEPING:	\$1,000	\$1,000
ADDITIONAL INSPECTIONS:	\$1,000 EA x 2	\$2,000
TOTAL ESTIMATE:		\$8,600 / YR

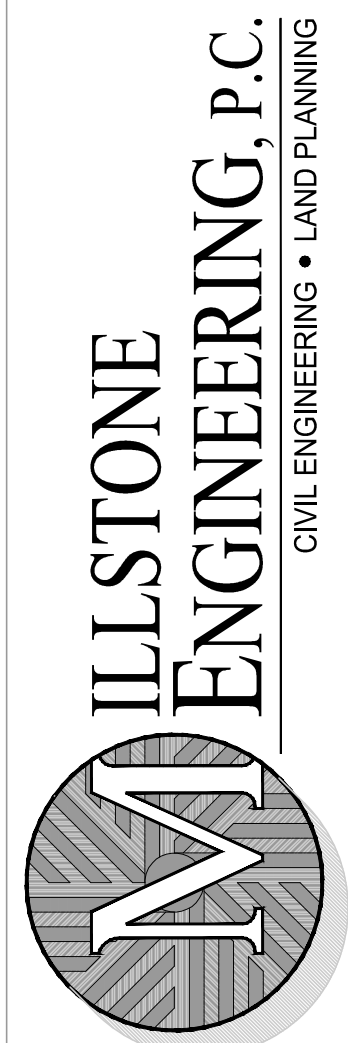
APPLICANT:

ELIZABETH PAUL
21 STEPHANIE DRIVE
FOSTER, RI 02825

NO.	DATE	REVISION
1	1/19/23	RIDEM COMMENTS

ISSUED FOR
BIDDING

3/13/2023



SOIL EROSION AND
SEDIMENT CONTROL
PLAN - 2

COMSTOCK
CROSSINGS

ASSESSOR'S PLAT 36
LOTS 51, 52 & 53
COMSTOCK PKWY.
CRANSTON, RI

PREPARED FOR:
ELIZABETH PAUL

SCALE AS NOTED
NOVEMBER 2022

Drawn By: BJC

Checked By: JCH

Sheet

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of 11

FILE NO.: 21.448.668

SEWER MAIN CONSTRUCTION NOTES:

(PROVIDED BY VEOLIA WATER NORTH AMERICA, 140 PETTAQUONSET AVENUE, CRANSTON, RHODE ISLAND 02920; TELEPHONE: 401-467-7210)

- FOR GENERAL SPECIFICATIONS REGARDING SANITARY SEWERS, THE CONTRACTOR SHALL REFERENCE THE CITY OF CRANSTON'S BOOK, "THE CODE OF THE CITY OF CRANSTON RHODE ISLAND", CHAPTER 26, SEWERS, SPECIFICATIONS, AND THE DEPARTMENT OF PUBLIC WORKS ANNEX A-DESIGN OF SEWERS (PROMULGATED 8/15/02) FOR HIGHWAYS COVERING RESIDENTIAL AND INDUSTRIAL PLAT DEVELOPMENTS, CHAPTER 27.
- PRIVATE SEWERS AND SEWER EXTENSION INTO ADJACENT COMMUNITIES, WHICH CONNECT TO THE CITY SEWER SYSTEM, SHALL BE INSTALLED IN CONFORMANCE WITH THE CITY SEWER USE ORDINANCE AND THESE REGULATIONS UNLESS OTHERWISE APPROVED BY THE CITY PUBLIC WORKS DIRECTOR.
- ALL SANITARY SEWER CONSTRUCTION SHALL BE INSPECTED BY THE VEOLIA WATER NORTH AMERICA COLLECTIONS SYSTEM DEPARTMENT (VEOLIA-CRANSTON WPCF).
- NO PERSON SHALL MAKE A CONNECTION OF ROOF DOWNSPOUTS, FLOOR DRAINS, SUMP PUMPS, EXTERIOR FOUNDATION DRAINS, AREA WAY DRAINS, OR OTHER SOURCES OF SURFACE RUNOFF OR GROUNDWATER TO ANY COMPONENT OF THE SANITARY SEWER SYSTEM.
- NO GRAVITY SEWER MAIN SHALL BE LESS THAN EIGHT (8) INCHES (203.2 CM) DIAMETER.
- GRAVITY SEWER PIPE SHALL BE ASTM RIGID SDR-35 PVC OR HEAVIER PVC PIPE FOR SEWER USE CONFORMING TO ASTM SPECIFICATIONS D-3034 OR CEMENT LINED DUCTILE IRON MANUFACTURED IN ACCORDANCE WITH ANSI / AWWA C151/A21.51, C111/A21.11, AND C550/A21.50, OR AS APPROVED BY THE CITY PUBLIC WORKS DIRECTOR. ALL PIPES SHALL HAVE COMPRESSION JOINTS WITH AN ELASTOMERIC GASKET TYPE CONFORMING TO ASTM D-3212 OR AS APPROVED BY THE CITY PUBLIC WORKS DIRECTOR.
- MAIN GRAVITY SEWER PIPE SHALL BE INSTALLED BY USING A LASER INVERT THAT SETS UP IN AN INVERT IN THE DOWNSTREAM MANHOLE. A TARGET WILL BE PLACED AT THE END OF EACH PIPE THAT IS INSTALLED TO ENSURE PROPER ALIGNMENT AND SLOPE.
- ALL SANITARY SEWER CONNECTIONS SHALL BE GASKETED TIGHT.
- THE MINIMUM COVER SHALL BE FOUR (4) FEET OVER THE CROWN OF THE PIPE FOR ALL MAINS AND LATERALS EXCEPT THAT INSULATION MAY BE PROVIDED FOR SEWERS THAT CANNOT BE PLACED AT A DEPTH SUFFICIENT TO PREVENT FREEZE UPON THE APPROVAL OF THE PUBLIC WORKS DIRECTOR.
- SEWER LATERALS SHALL BE 6" SDR-35 PVC AND BE INSTALLED AT THE MINIMUM SLOPE OF AT LEAST ONE-QUARTER INCH PER FOOT (2.1 CM/M).
- WHERE PRACTICAL, SEWER LATERALS SHALL BE TIED INTO A MANHOLE. A BORING MACHINE SHALL BE USED TO MAKE A HOLE THROUGH ANY MANHOLE STRUCTURE. A FLEXIBLE WATER TIGHT GASKET SHALL BE USED TO CONNECT THE STRUCTURE TO THE PIPE OR AN APPROVED WATER TIGHT FLEXIBLE SLEEVE. THE PIPE SHALL BE PARALLEL TO THE INSIDE OF THE MANHOLE TO MAKE THE INVERT CLEAN.
- WHERE SEWER LATERALS CONNECT TO A SEWER MAIN, AN 8"x8"x6" WYE SHALL BE INSTALLED IN THE MAIN TO MAKE THE CONNECTION. A 6" SDR-35 ANGLE, NOT GREATER THAN 45°, IS TO BE USED TO PROVIDE THE PROPER FLOW ALIGNMENT.
- NO LATERAL MAY SERVICE MORE THAN ONE BUILDING OR PRIVATELY OWNED BUILDING UNIT.
- MINIMUM BEDDING MATERIAL REQUIREMENTS FOR SEWER PIPE INSTALLATION SHALL BE CLASS "B" AS DESCRIBED IN ASTM C-12 WITH A MINIMUM DEPTH OF SIX (6) INCHES.
- BEDDING MATERIAL SHALL BE COMPACTED EVENLY UNDER AND ON BOTH SIDES OF THE PIPE SO THAT THE PIPE REMAINS ALIGNED AND TRUE.
- BACKFILL SHALL BE INSTALLED IN LAYERS NO MORE THAN 8" THICK AFTER COMPACTION AND SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DRY DENSITY ACCORDING TO AASHTO T180.
- BACKFILL MATERIAL SHALL NOT CONTAIN FROZEN MATERIAL, LARGE DIRT CLODS, STONES, ORGANIC MATTER, OR UNSUITABLE MATERIALS. ADDITIONAL BACKFILL DETAILS, FOR CITY STANDARDS CR-10/S-1, WHICH ARE AVAILABLE IN THE DIVISION OF ENGINEERING.
- MANHOLES SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, ASTM DESIGNATION C-478, LATEST EDITION OR AS APPROVED BY THE DIRECTOR, AND SHALL HAVE O-RINGS OR BITUMINOUS BASED GASKETED JOINTS. A THREE-INCH (3") BEDDING OF COMPACTED 3/4" WASHED STONE SHALL BE PLACED UNDERNEATH ALL MANHOLE STRUCTURES. THE MINIMUM INTERNAL DIAMETER SHALL BE FORTY-EIGHT INCHES (48") (1.2M). ALL MANHOLE JOINTS AND PINHOLES SHALL BE PARGED FROM THE OUTSIDE AND INSIDE TO PREVENT INFILTRATION. FOLLOWING WHICH, A BITUMINOUS COATING SHALL BE INSTALLED ON THE ENTIRE EXTERIOR. INLET AND OUTLET PIPES SHALL BE JOINED TO THE MANHOLE WITH A GASKETED, FLEXIBLE WATER TIGHT CONNECTION OR WITH ANOTHER WATER TIGHT CONNECTION ARRANGEMENT THAT ALLOWS FOR DIFFERENTIAL SETTLEMENT OF THE PIPE AND THE MANHOLE. ALL INVERTS AND TABLES SHALL BE CONSTRUCTED WITH SMOOTH RED SEWER BRICKS. AT LEAST ONE ROW OF RED SEWER BRICKS SHALL BE INSTALLED BETWEEN THE MANHOLE STRUCTURE AND THE SEWER COVERS FRAME, BUT NOT TO EXCEED A MAXIMUM OF 12" HIGH. THE BRICKS SHALL BE WELL CEMENTED BUT NO CEMENT IS ALLOWED ON THE FACE OF THE BRICKS.
- AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE. DEVIATIONS OR CHANGES WILL NOT BE ALLOWED UNLESS APPROVED BY THE CITY PUBLIC WORKS DIRECTOR.
- CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

GENERAL NOTES:

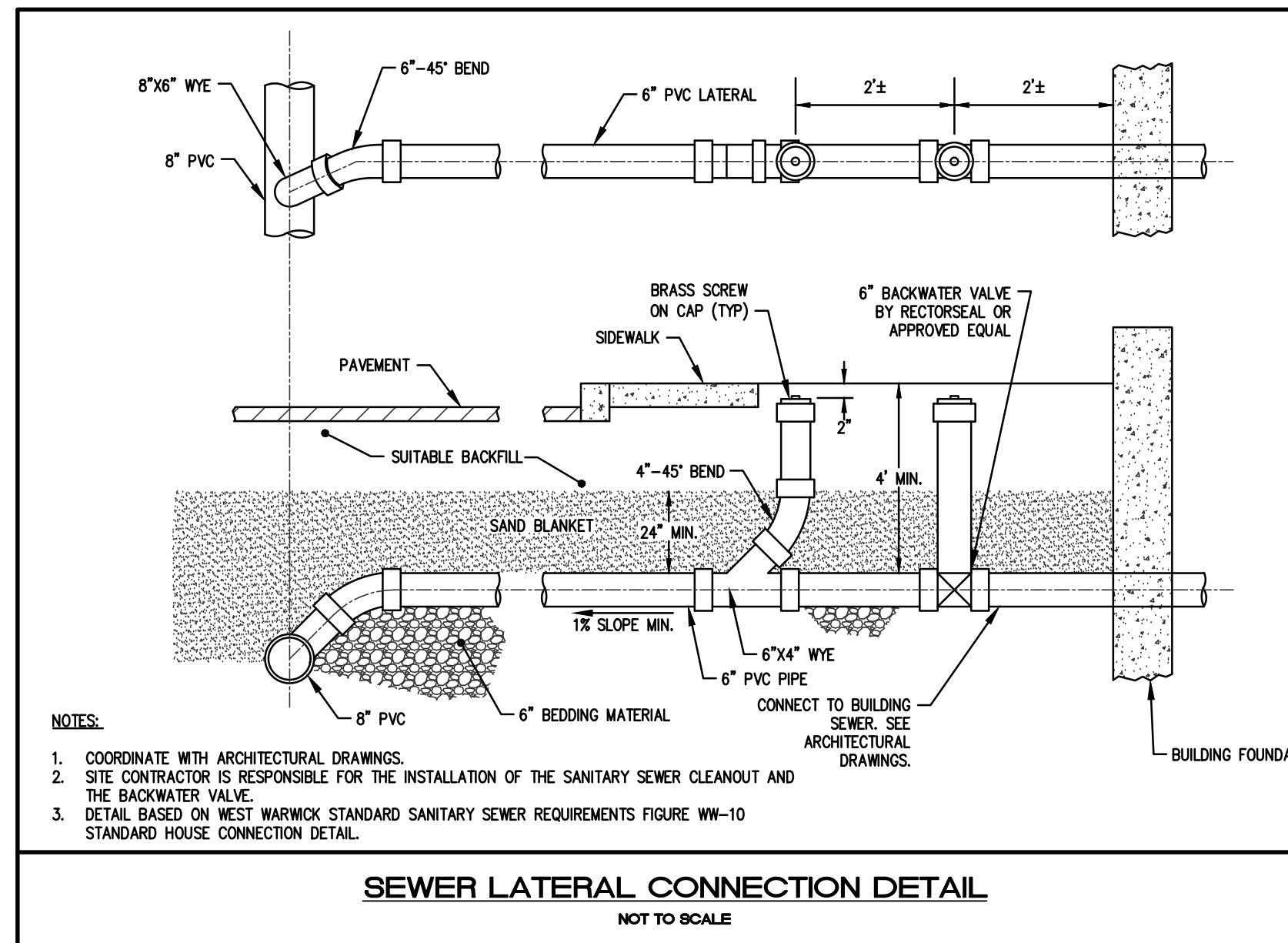
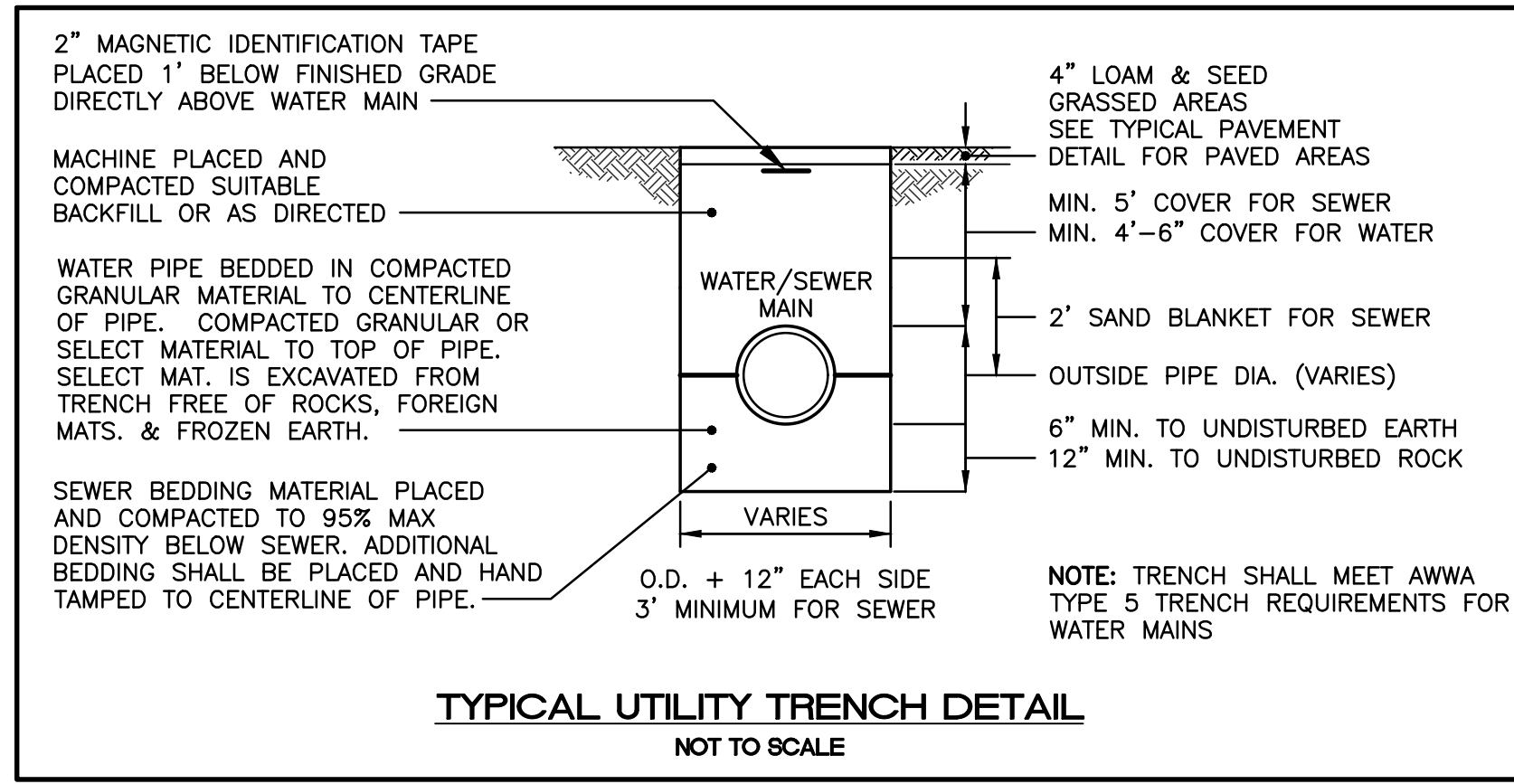
- THE MOST CURRENT EDITION OF THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE RHODE ISLAND STANDARD DETAILS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO. THE CURRENT VERSION OF THE STANDARD SPECIFICATIONS MAY BE OBTAINED AT THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION, DIVISION OF PUBLIC WORKS. IN ADDITION, THE CITY OF CRANSTON STANDARD SPECIFICATIONS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO.
- ALL REQUIRED SITE IMPROVEMENTS SHALL BE INSPECTED BY THE TOWN ENGINEER TO ENSURE SATISFACTORY COMPLETION. IN NO CASE SHALL THE INSTALLATION OF ANY IMPROVEMENTS BE STARTED UNTIL PRIOR NOTIFICATION IS GIVEN TO THE CITY ENGINEER. AT LEAST A 48-HOUR NOTICE SHALL BE GIVEN TO THE TOWN ENGINEER PRIOR TO ANY SUCH START OF CONSTRUCTION. A FINAL INSPECTION OF ALL SITE IMPROVEMENTS, UTILITIES AND GRADING WILL BE MADE TO DETERMINE WHETHER THE WORK IS SATISFACTORY AND IN SUBSTANTIAL AGREEMENT WITH THE APPROVED FINAL CONSTRUCTION DRAWING AND THE TOWN SPECIFICATIONS.
- LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 72-HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG-SAFE (1-888-344-7233) A MINIMUM OF 72 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG-SAFE, IF IT IS DIFFERENT FROM THE CALLER.
- IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY THE STATE OF RHODE ISLAND, FEDERAL GOVERNMENT, AND THE CITY OF CRANSTON PRIOR TO COMMENCING ANY WORK.
- CONTRACTOR TO EXCAVATE TEST PITS TO CONFIRM LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND EROSION CONTROLS.
- STOCKPILES OF EARTH MATERIALS SHALL NOT BE LOCATED NEAR WATERWAYS, WETLANDS, OR ADJACENT TO DRAINAGE STRUCTURES.
- ALL MATERIAL FOR FILL SHALL BE CLEAN AND FREE OF MATTER WHICH COULD POLLUTE ANY DOWN STREAM WATERCOURSE.
- FILL MATERIAL SHALL BE COMPACTED IN ONE FOOT (MAXIMUM) LIFTS TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-1557 (MODIFIED PROCTOR TEST).
- THERE ARE NO SPECIAL FLOOD HAZARD AREAS LOCATED ON THE SITE. THIS SITE LIES ENTIRELY WITHIN ZONE "X" - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON THE NATIONAL FLOOD INSURANCE RATE MAPS (FIRM), PROVIDENCE COUNTY, RHODE ISLAND MAP NUMBER 4400702029H, REVISED OCTOBER 2, 2015.
- VERTICAL DATUM: NAVD 1983.
- WORK SHOWN ON THE PLANS FOR WHICH THERE ARE NO PARTICULAR DETAILS OR SPECIFICATIONS DOES NOT RELIEVE THE CONTRACTOR FROM FINISHING AND INSTALLING THE WORK. THE CONTRACTOR SHALL THOROUGHLY EXAMINE THE CONTRACT DOCUMENTS AND PLANS AND INSPECT THE SITE, AND THE BID PRICE SHALL INCLUDE ALL SERVICES AND MATERIALS AS NECESSARY TO COMPLETE THE PROJECT. ANY CHANGES TO THE PROJECT OR THE INSTALLATION OF AN ITEM FOR WHICH NO PARTICULAR DETAIL OR SPECIFICATION WAS PROVIDED MUST BE REVIEWED BY AND ACCEPTABLE TO THE ENGINEER.
- CONTRACTOR SHALL RECORD AND PROVIDE AS-BUILT DRAWINGS IN ACCORDANCE WITH LOCAL UTILITY REQUIREMENTS FOR ALL NEW INFRASTRUCTURE AND PROVIDE THE CITY OF CRANSTON WITH AS-BUILTS OF THE STORMWATER MANAGEMENT SYSTEM, SEWER SYSTEM, AND WATER SYSTEM.

SEWER / WATER NOTES:

- REFER TO THE GENERAL NOTES AND THE SEWER LINE/ WATER MAIN SEPARATION POLICY FOR DESIGN OF SANITARY SEWERS, LISTED ON THIS SHEET.
- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF CRANSTON SEWER ORDINANCE AND THE PROVIDENCE WATER COMMISSION GENERAL STANDARDS FOR INSTALLATION OF WATER MAINS AND APPURTENANCES IN PLATS, DEVELOPMENTS AND FOR WATER MAIN EXTENSIONS.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ANY EXISTING SANITARY SEWER SERVICES / WATER SERVICES WITHIN THE PROPOSED WORK AREA FROM THE APPROPRIATE AUTHORITY PRIOR TO THE START OF CONSTRUCTION.
- SEWER LATERALS SHALL BE AT LEAST 10' HORIZONTAL AND 1.5' VERTICAL AWAY FROM ANY WATER SERVICE.
- WHEREVER SEWERS CROSS ABOVE WATER MAINS THE SEWER LINE SHALL BE ENCASED IN A DUCTILE IRON SLEEVE CENTERED OVER THE CROSSING AND EXTENDING 10' BEYOND THE WATER MAIN LINE IN BOTH DIRECTIONS.
- WHEREVER SEWERS CROSS BENEATH WATER MAINS THE SEWER LINE SHALL BE EITHER ENCASED IN CONCRETE OR THE SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE. IN EITHER CASE THE CONTINUOUS ENCASEMENT ON CROSSING SHALL BE CENTERED OVER THE WATER MAIN AND EXTEND 10' BEYOND THE WATER LINE IN BOTH DIRECTIONS.

CONSTRUCTION SEQUENCE / NARRATIVE

- OBTAIN APPLICABLE PERMITS.
- NOTIFY ALL APPROPRIATE STATE AND CITY DEPARTMENTS PRIOR TO THE START OF CONSTRUCTION.
- BEGIN CONSTRUCTION.
- CONSTRUCT RI STD 9.9.0 CONSTRUCTION ACCESS (ES).
- INSTALL SILT FENCE / SILT SOCK / STAKED STRAWBALE LINE.
- CLEAN, GRUB, AND STOCKPILE TOPSOIL (IF REQUIRED).
- EXCAVATE / PLACE COMPACTED FILL IN ACCORDANCE WITH THE GRADING PLAN.
- INSTALL PROPOSED STORM DRAINAGE SYSTEM, WORK DOWNSTREAM TO UPSTREAM. PLACE INLET PROTECTION WHERE REQUIRED.
- BEGIN ROADWAY CONSTRUCTION.
- INSTALL UTILITIES IN ACCORDANCE WITH THE UTILITY PLAN.
- INSTALL CURBING AND PAVEMENT.
- FINE GRADE, SPREAD TOPSOIL, SEED AND STABILIZE EXPOSED EARTH.
- CLEAN / FLUSH STORM DRAINAGE SYSTEM.
- ONCE SEEDS GERMINATE AND EARTH IS STABILIZED, REMOVE SILT FENCE / STRAW BALE LINE AND INLET PROTECTION.
- END CONSTRUCTION.



- NOTES:
- COORDINATE WITH ARCHITECTURAL DRAWINGS.
 - SITE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE SANITARY SEWER CLEANOUT AND THE BACKWATER VALVE.
 - DETAIL BASED ON WEST WARWICK STANDARD SANITARY SEWER REQUIREMENTS FIGURE WW-10 STANDARD HOUSE CONNECTION DETAIL.

Department of Environmental Management
Division of Water Resources (OWR)

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

A. Lateral placement of sewers and water lines

Sewers shall be laid at least 10 feet horizontally from any existing or proposed water line. The distance shall be measured edge-to-edge. There is no minimum vertical separation required provided the 10 foot horizontal separation is maintained. Structures, other than pipelines or conduits, through which sanitary wastewater flows such as, but not limited to, manholes, valve vaults, meter 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 foot horizontal separation, the OWR 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 pipelines and/or structures closer to a water line, provided that:

- The sewer pipeline and/or structures and water line are laid in separate trenches, or
- The sewer pipeline and/or structures and water line may be installed in the same trench with the water line placed on a bench of undisturbed earth, and
- In either case, the crown of the sewer pipeline shall be at least 18 inches below the invert of the water line.

In situations where it is impossible to obtain proper horizontal and vertical separation as stipulated above, the following protection shall be provided:

- Encasement of the sewer pipeline in concrete (min. 6 inch thickness) or a carrier pipe for at least 10 feet either side of the area not complying with the minimum horizontal and vertical separation, or
- The design and construction of the sewer pipeline must meet the requirements applicable to water lines (any AWWA-approved material for potable water conveyance), and pressure tested in accordance with AWWA specifications, or
- 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.

B. Sewers crossing water lines

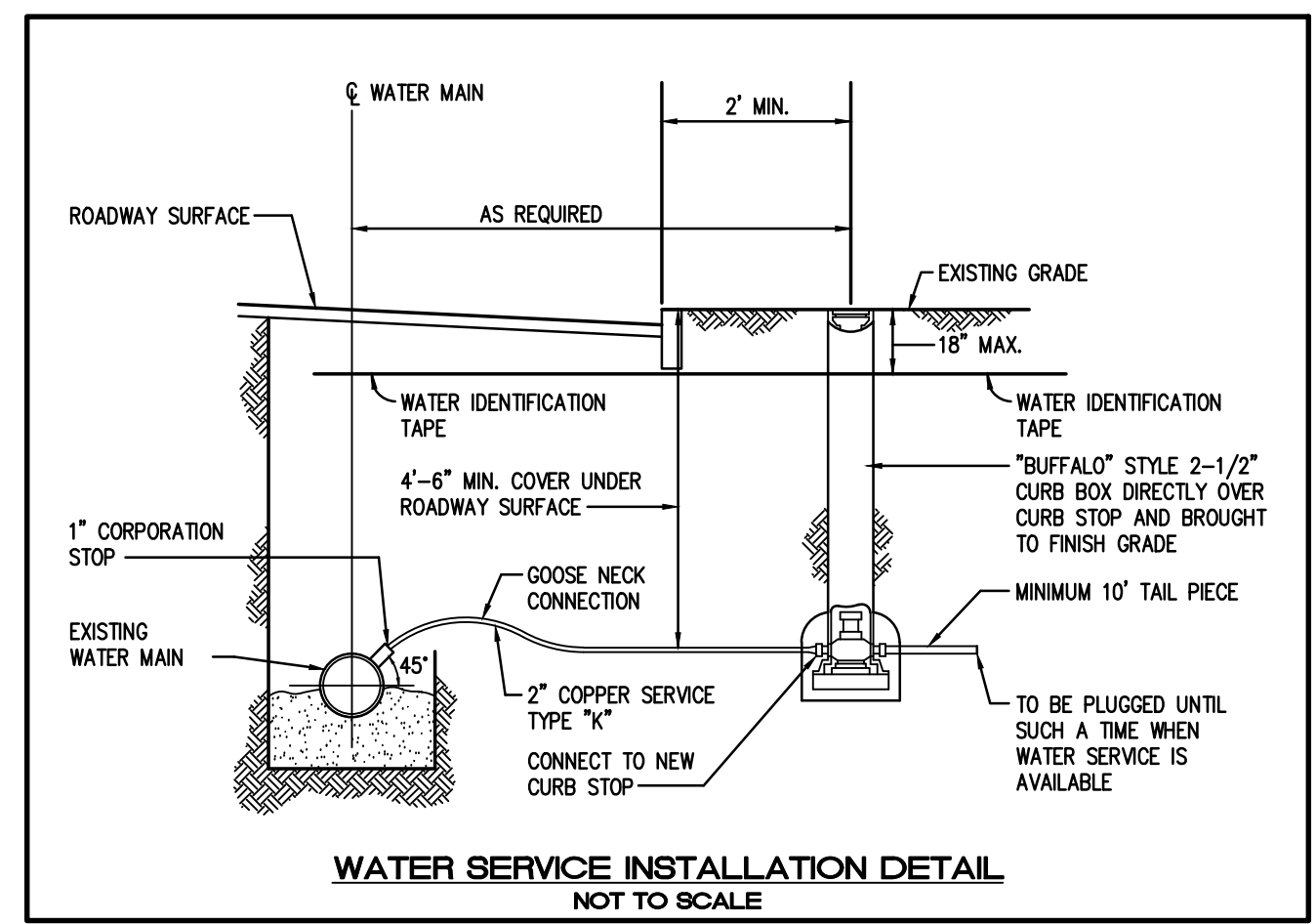
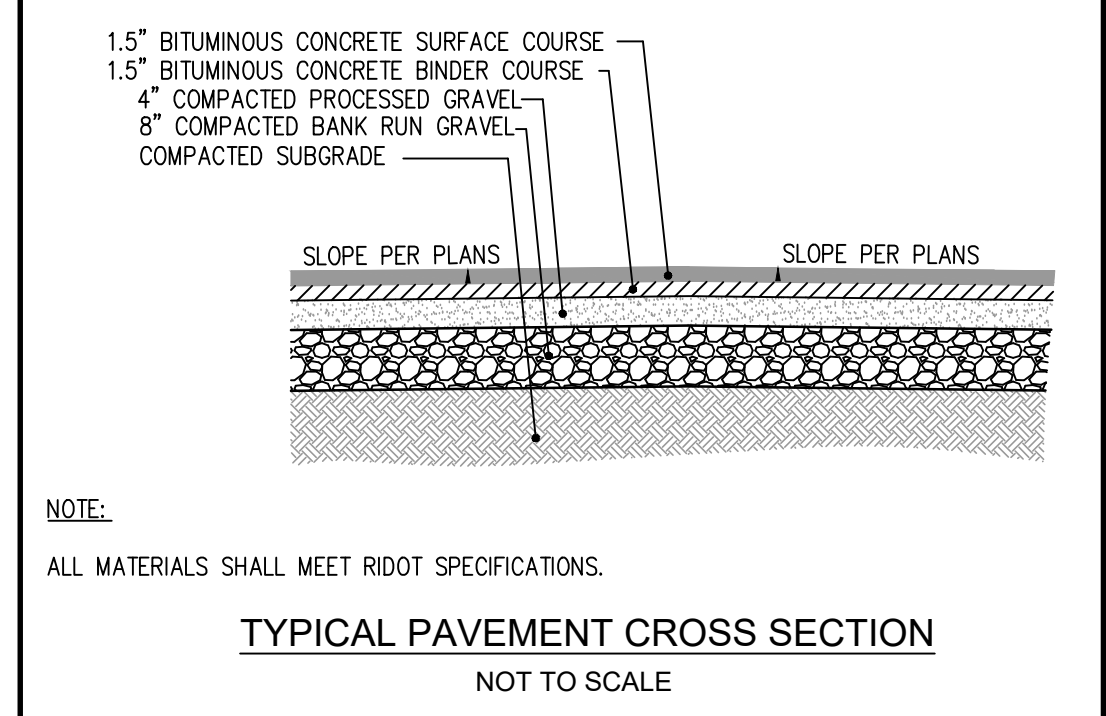
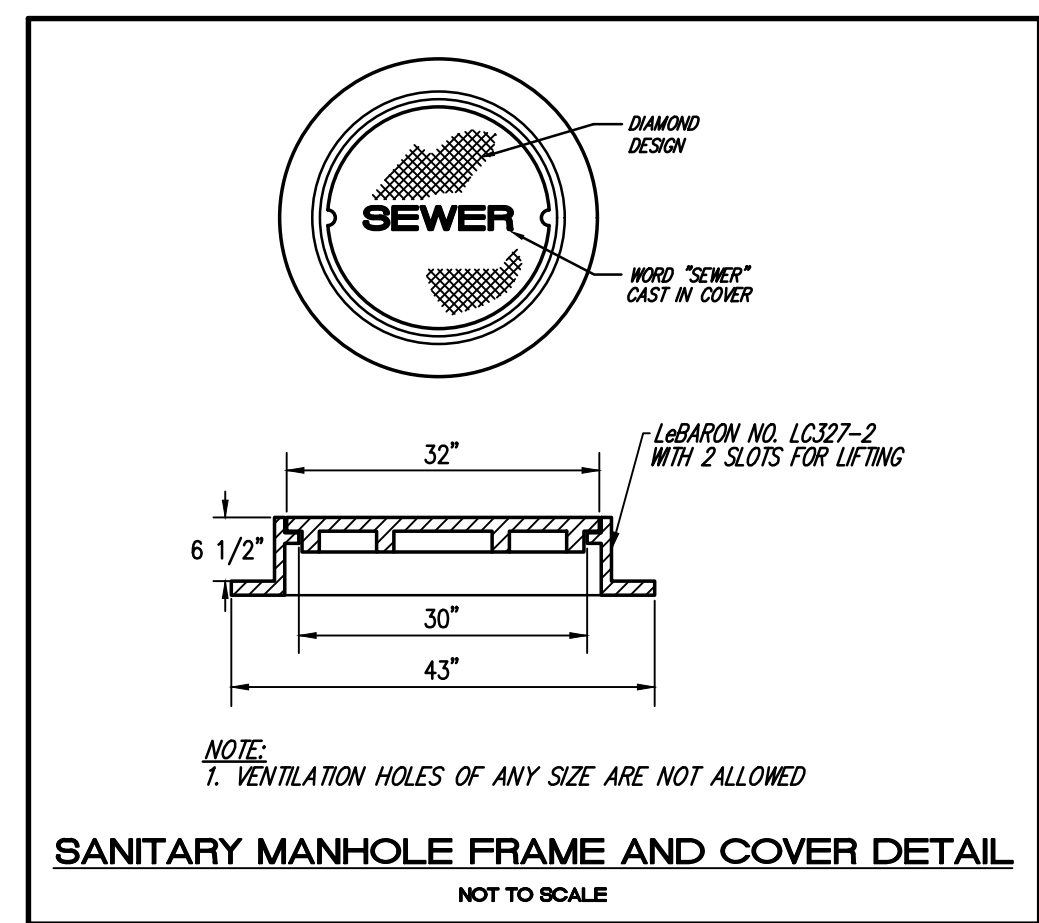
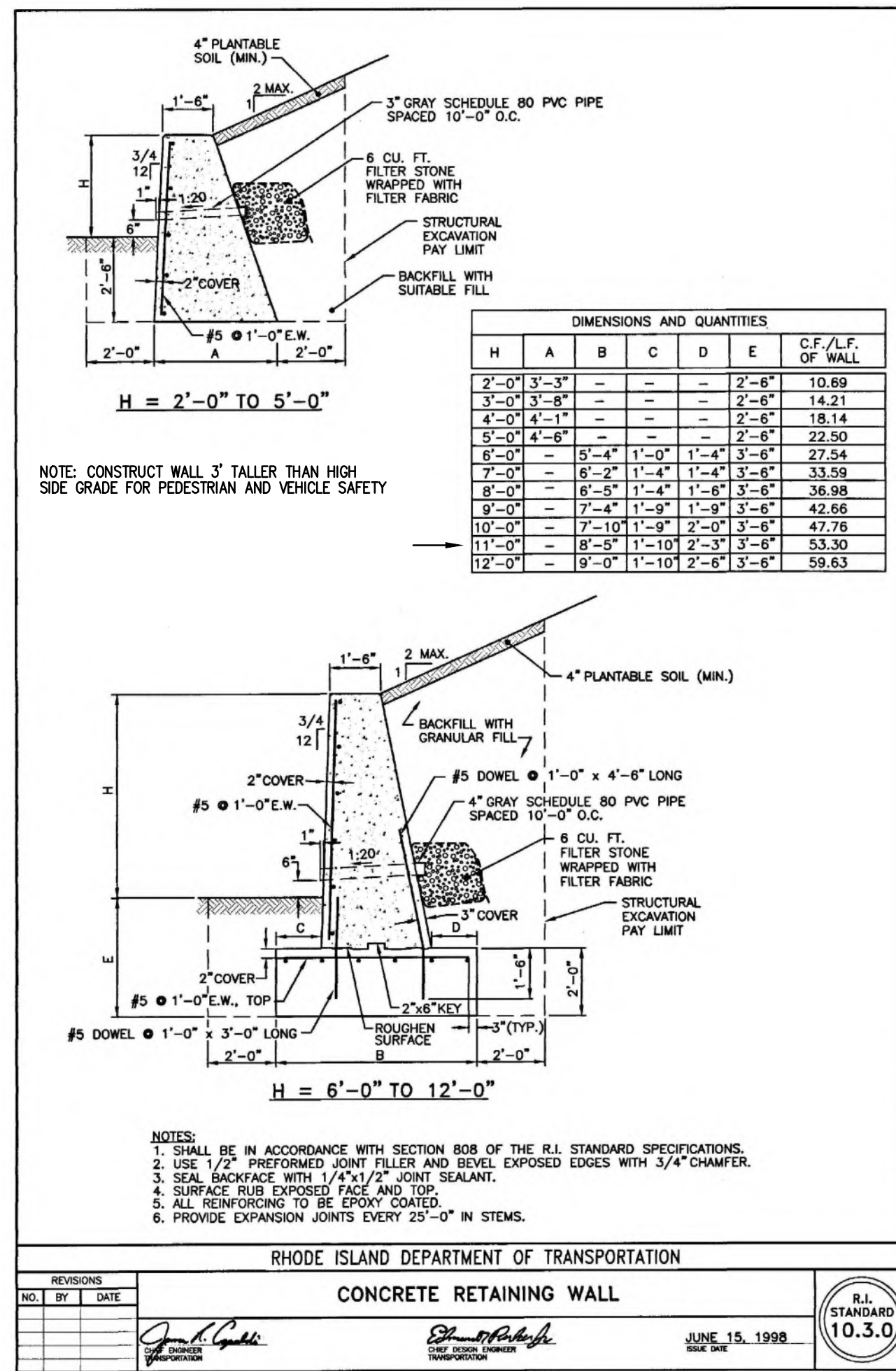
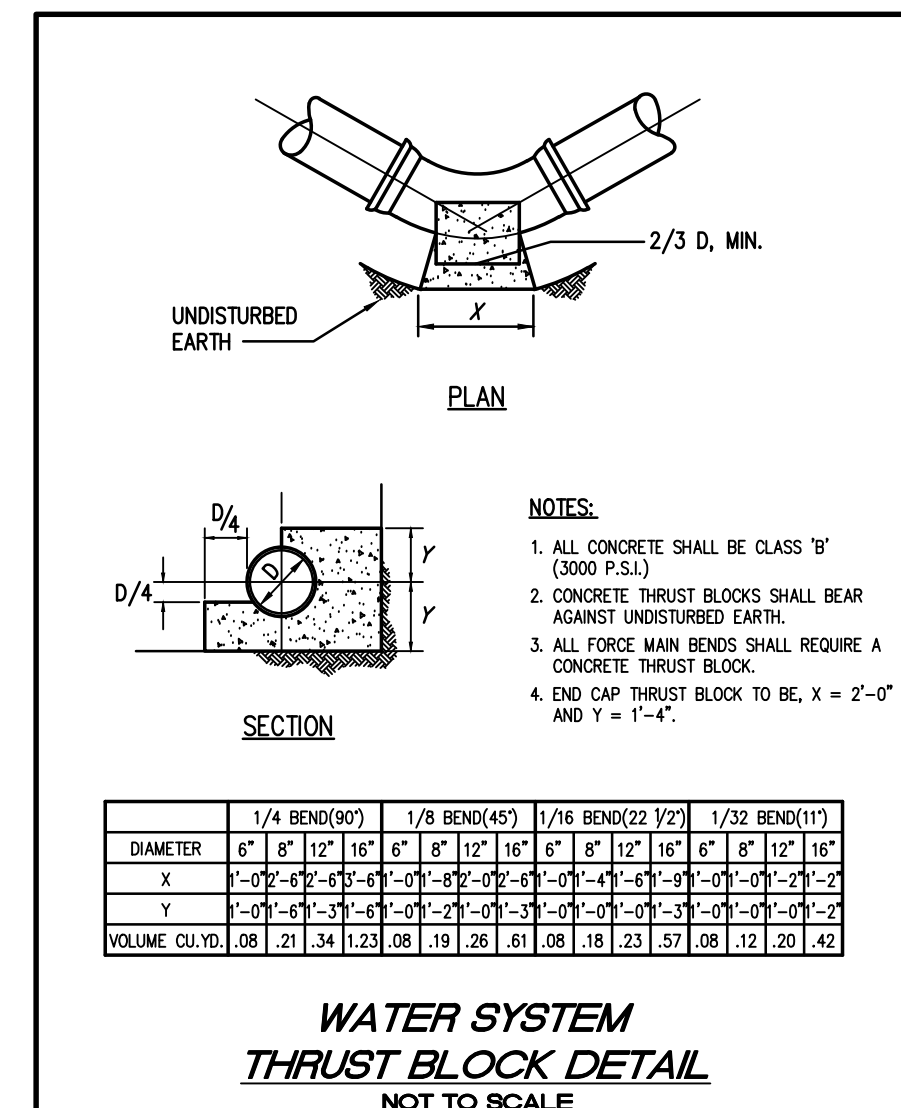
Sewers crossing over water lines should be avoided, but if conditions warrant this situation, then adequate structural support shall be provided for the sewer to maintain line and grade. Sewers crossing under water lines shall be laid to provide a minimum vertical separation of 18 inches between the invert of the water line and the crown of the sewer. Relocation of an existing water line may be necessary to achieve this vertical separation. Relocated water lines shall be constructed of an AWWA-approved material for potable water conveyance and designed 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 the sewer joints will be equidistant and as far as possible from the water line joints.

Where conditions prevent an 18 inch vertical separation from being maintained, the following methods shall be specified:

- The design and construction of the sewer must meet the requirements applicable to water lines (any AWWA-approved material for potable water conveyance) for a distance of 10 feet on each side of the crossing, measured perpendicular to the water line and pressure tested in accordance with AWWA specifications, or
- Either the water line or the sewer may be encased in concrete (min. 6 inch thickness) or a carrier pipe for a distance of 10 feet on each side of the crossing, measured perpendicular to the water line. The carrier pipe shall be designed and constructed of materials which are satisfactory to the OWR, or
- Any other methods, if supported by data from the design engineer, which ensure adequate watertightness and are satisfactory to the OWR.

Water lines shall be defined as any conduits or pipelines that convey potable water.

10/96 (rev. 5/01)



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NOTES AND DETAILS

COMSTOCK CROSSINGS

ASSESSOR'S PLAT 36
LOTS 51, 52 & 53
COMSTOCK PKWY.
CRANSTON, RI

PREPARED FOR:
ELIZABETH PAUL

SCALE AS NOTED
NOVEMBER 2022

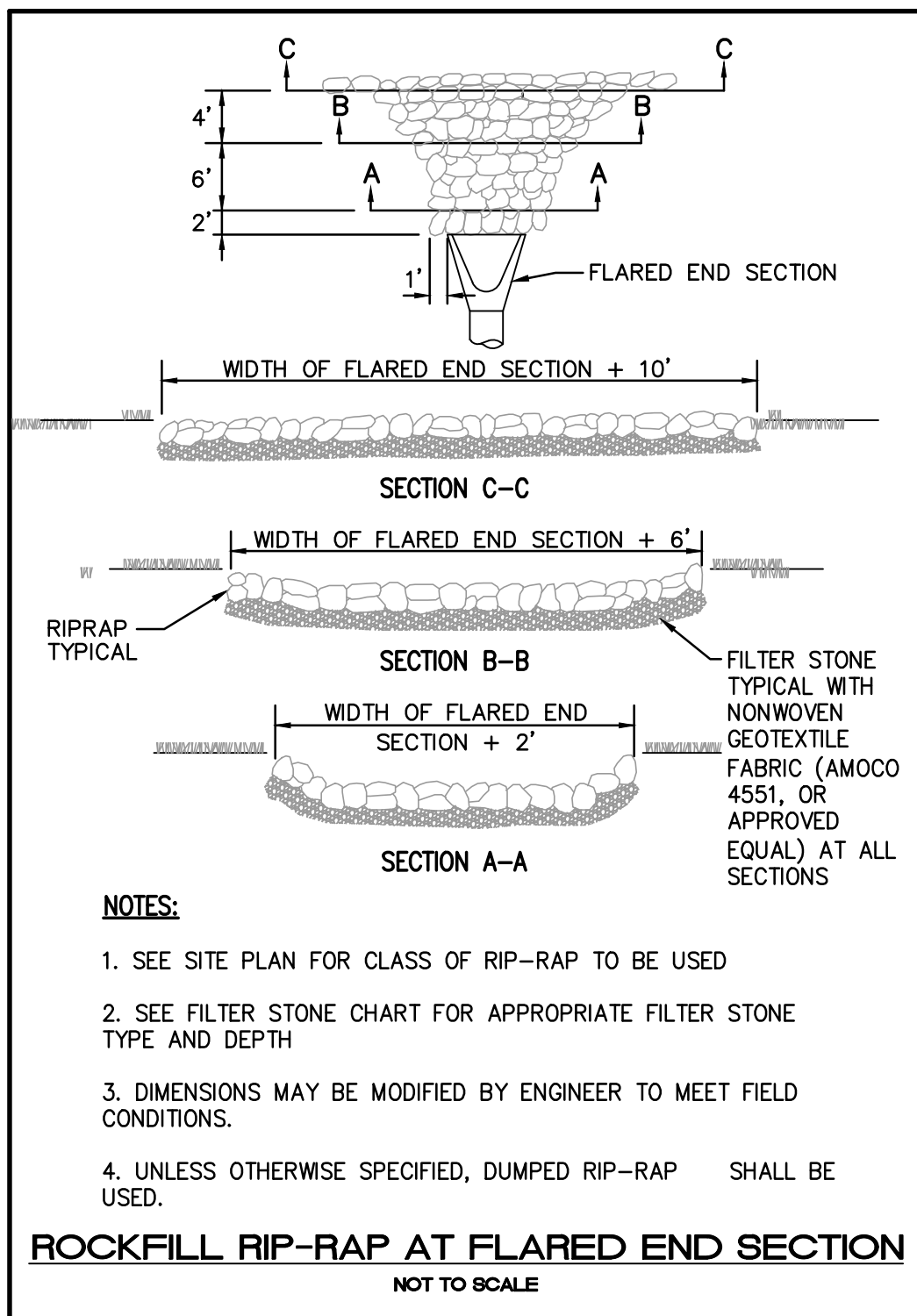
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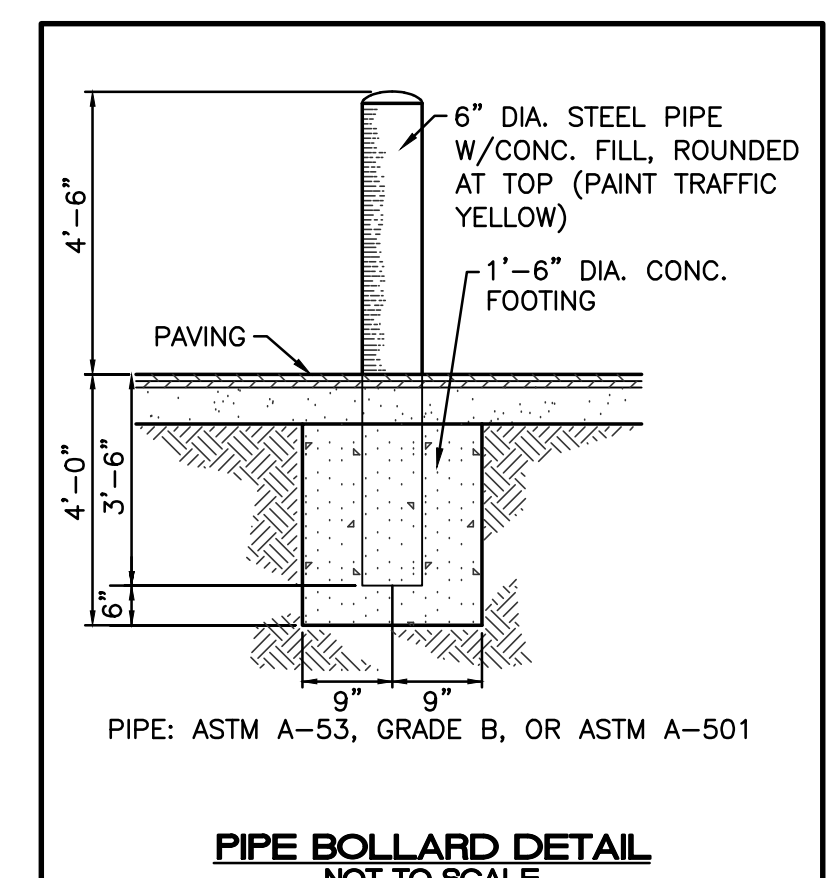
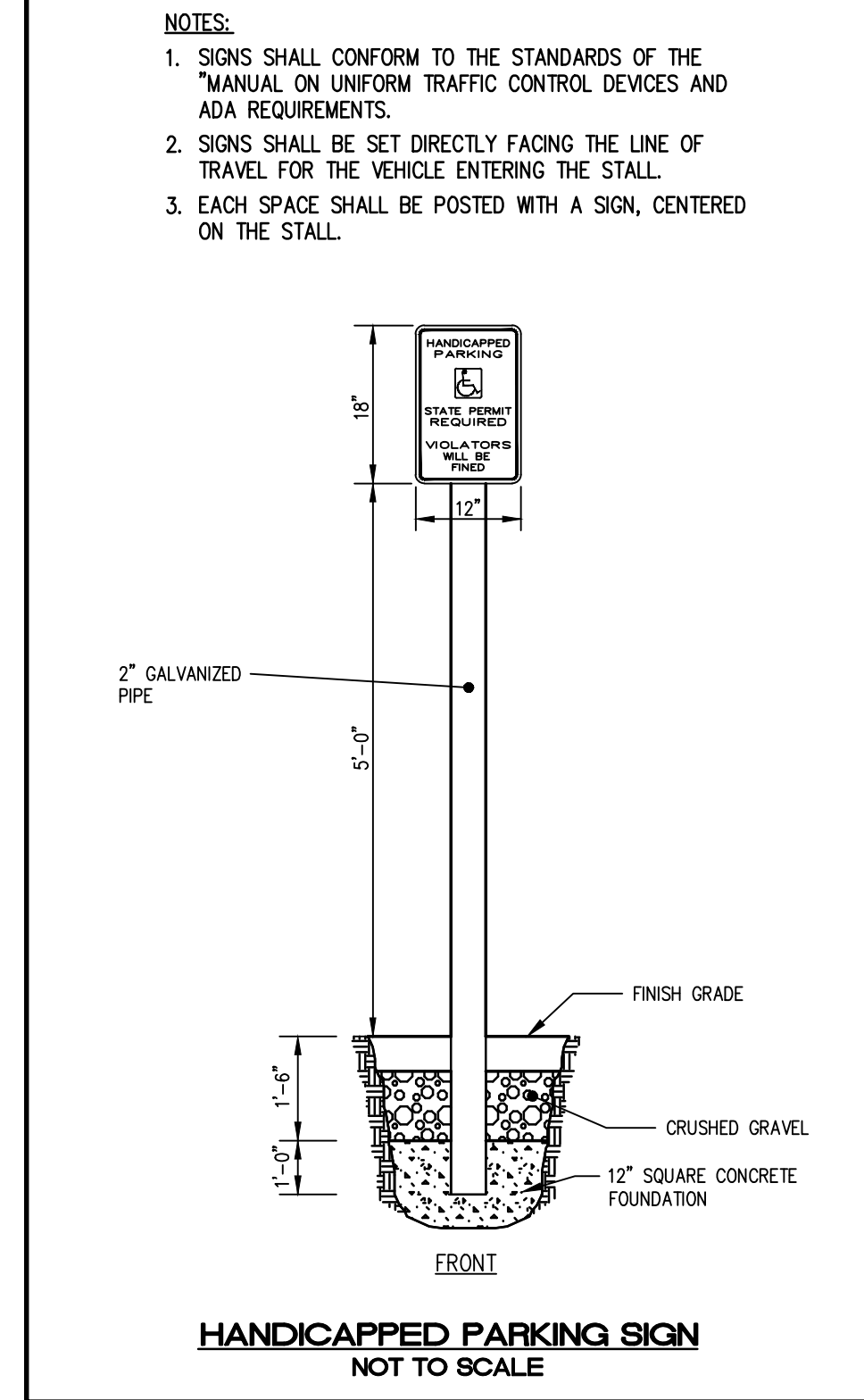
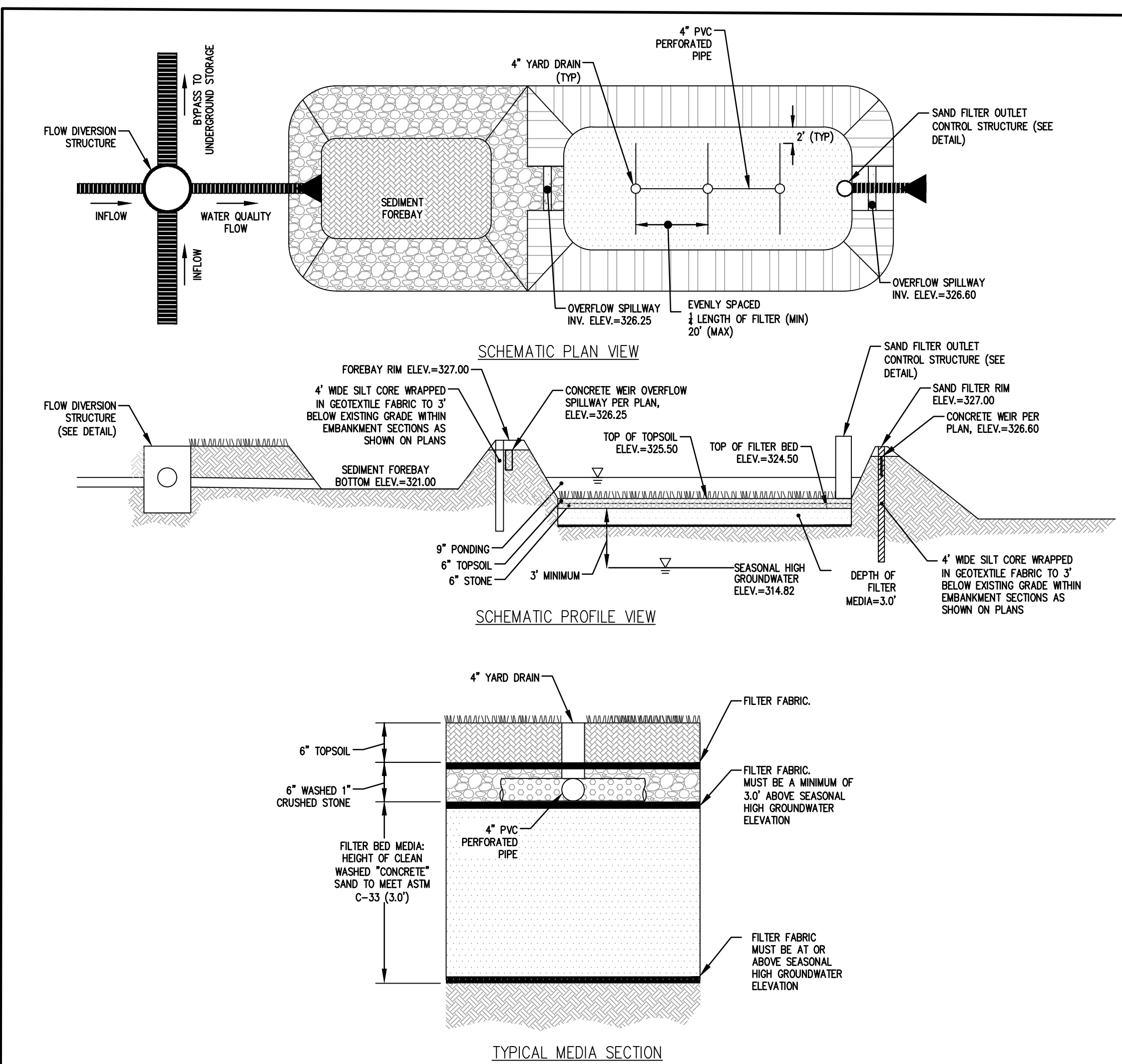
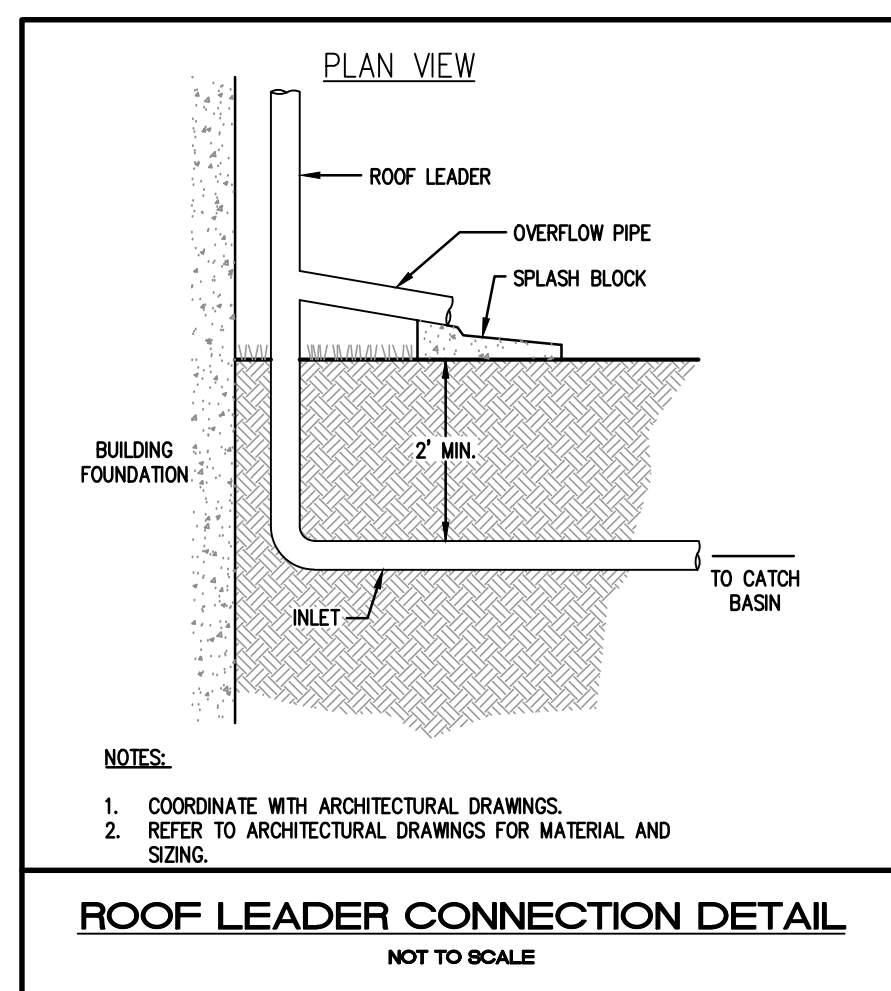
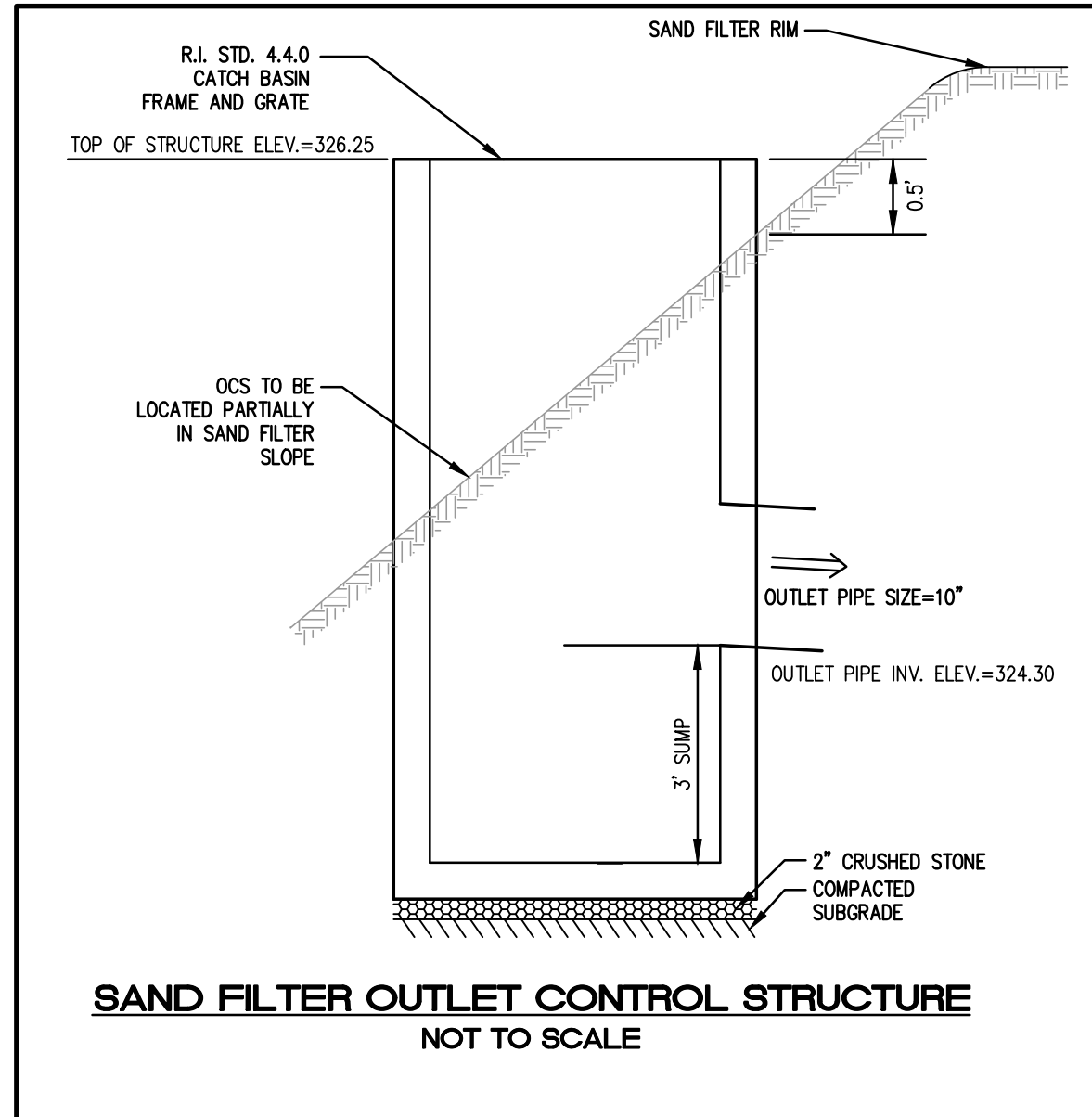
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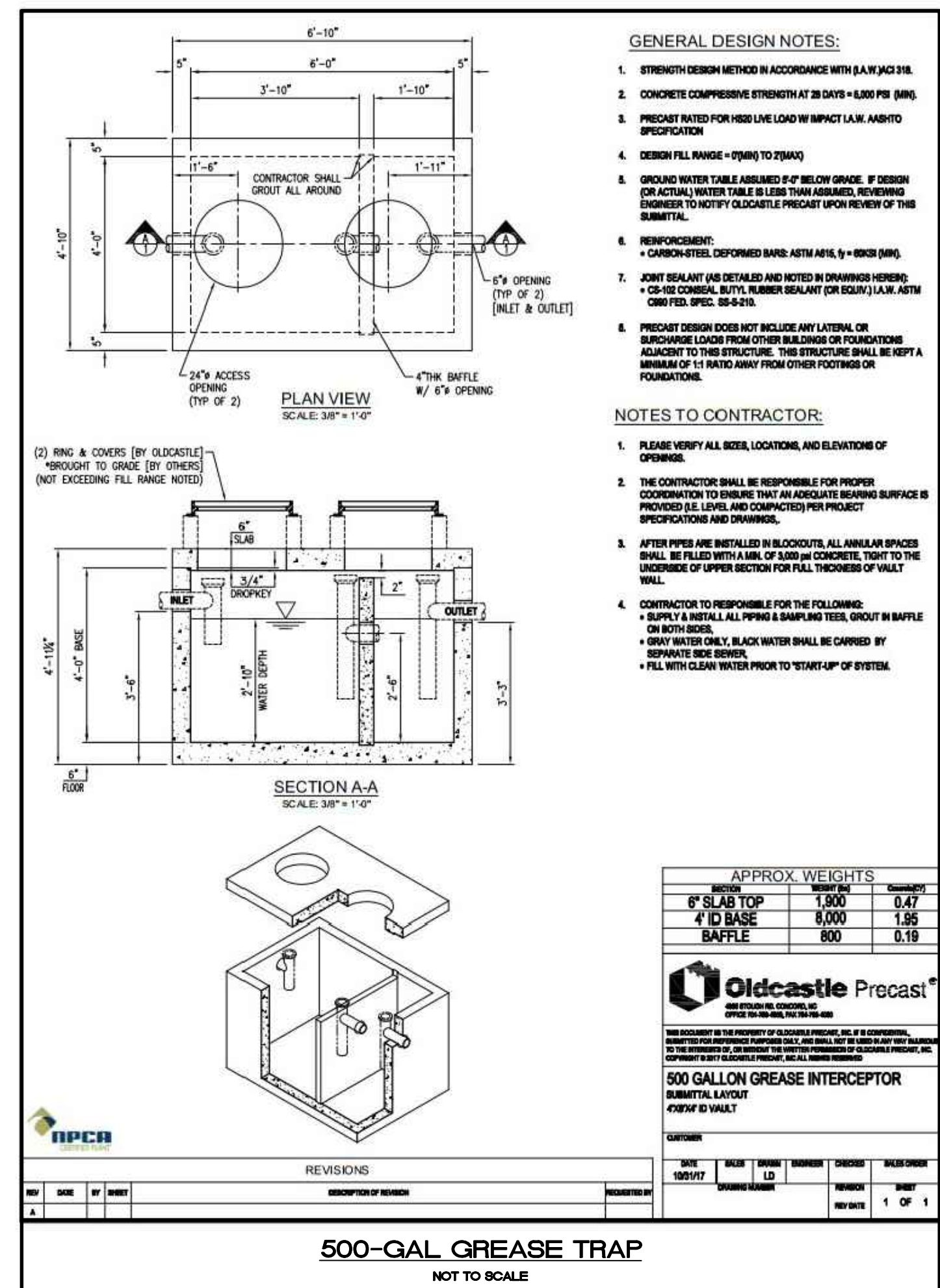


RIPRAP	FILTER STONE	DEPTH
R-1	FS-1	6"
R-2	FS-2	6"
R-3	FS-2	6"
R-4	FS-3	7.5"
R-5	FS-3	7.5"
R-6	FS-2 and R-2	6" / 6"
R-7	FS-3 and R-4	7.5" / 21"
R-8	FS-3 and R-4	7.5" / 21"

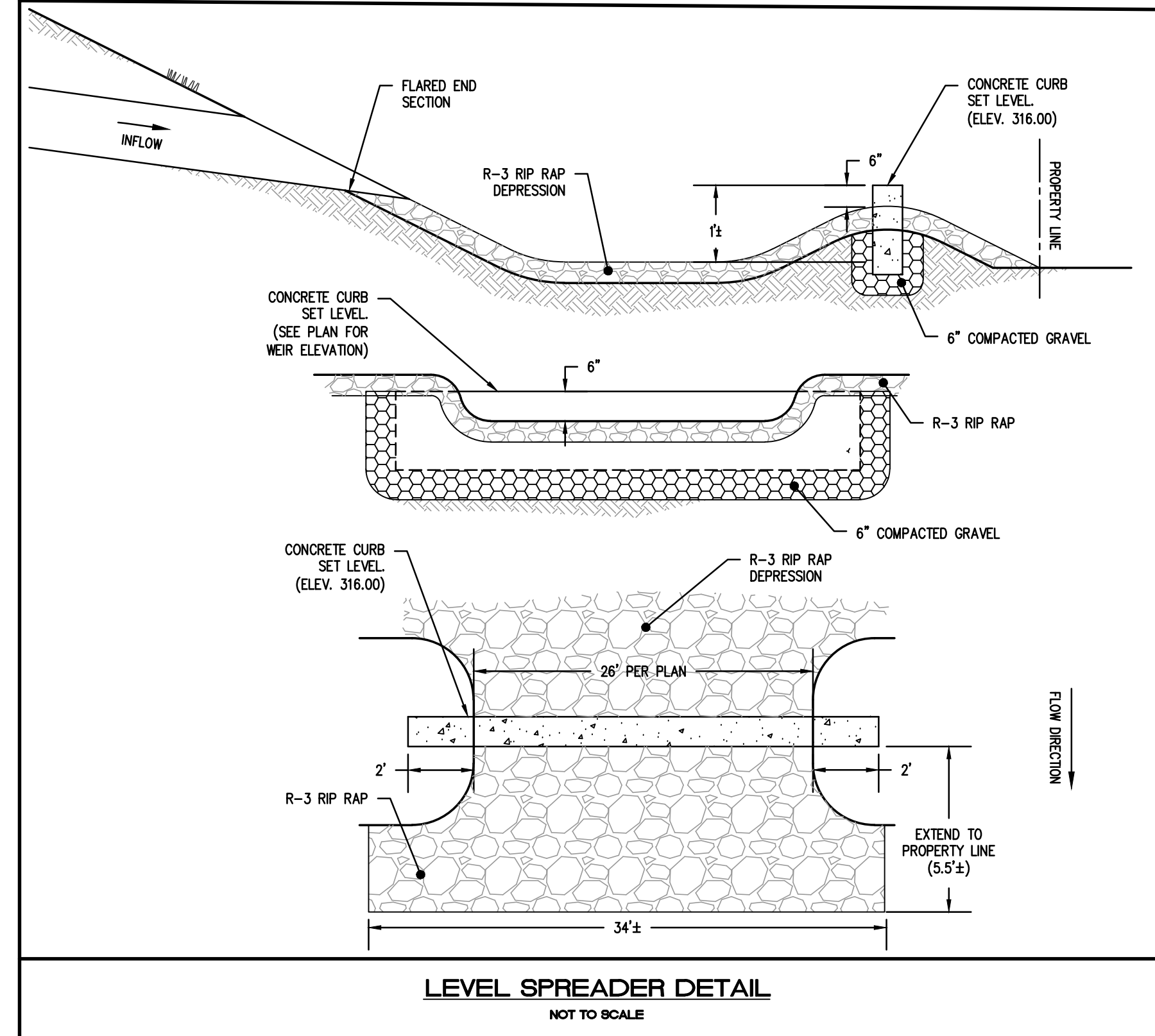
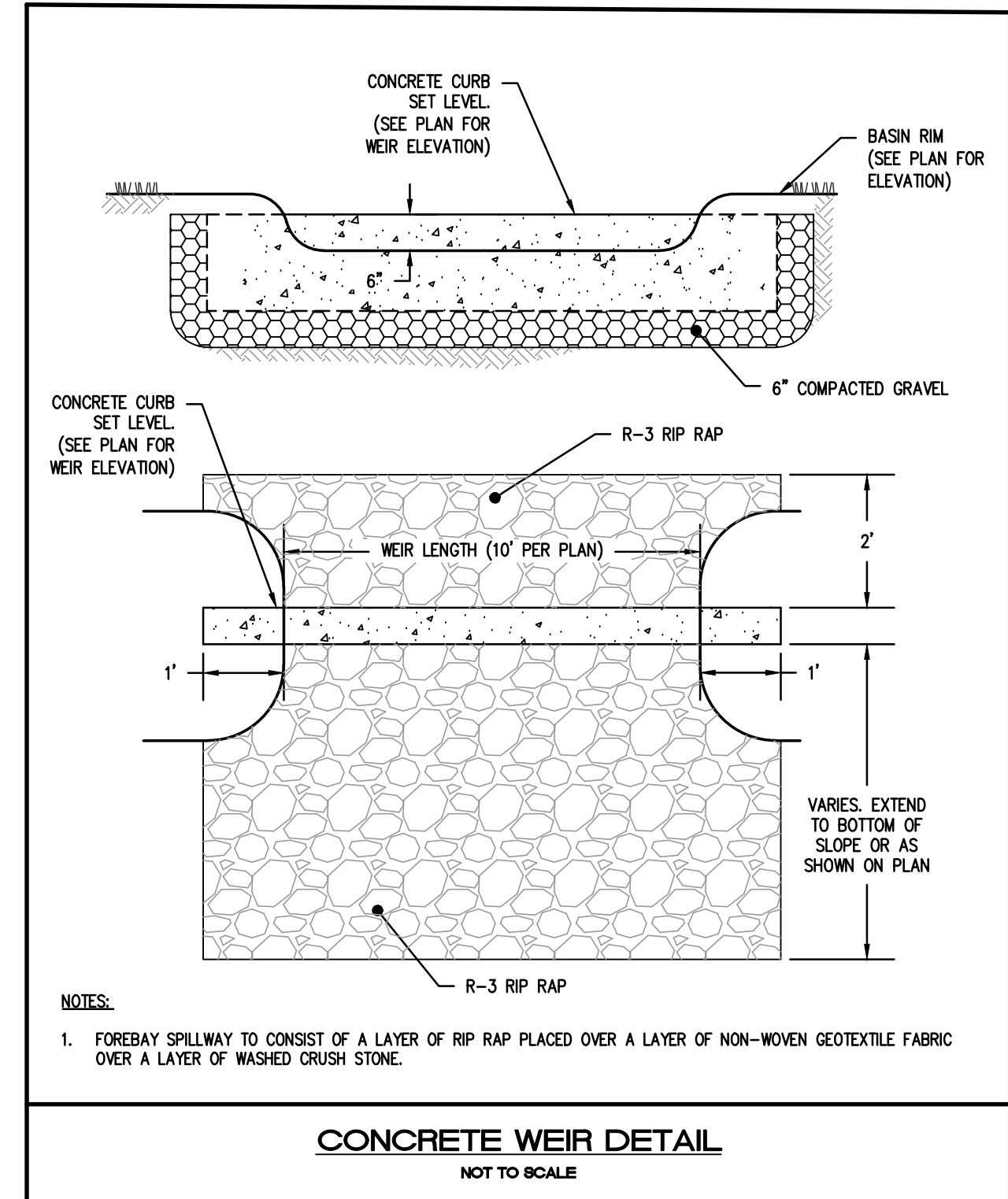
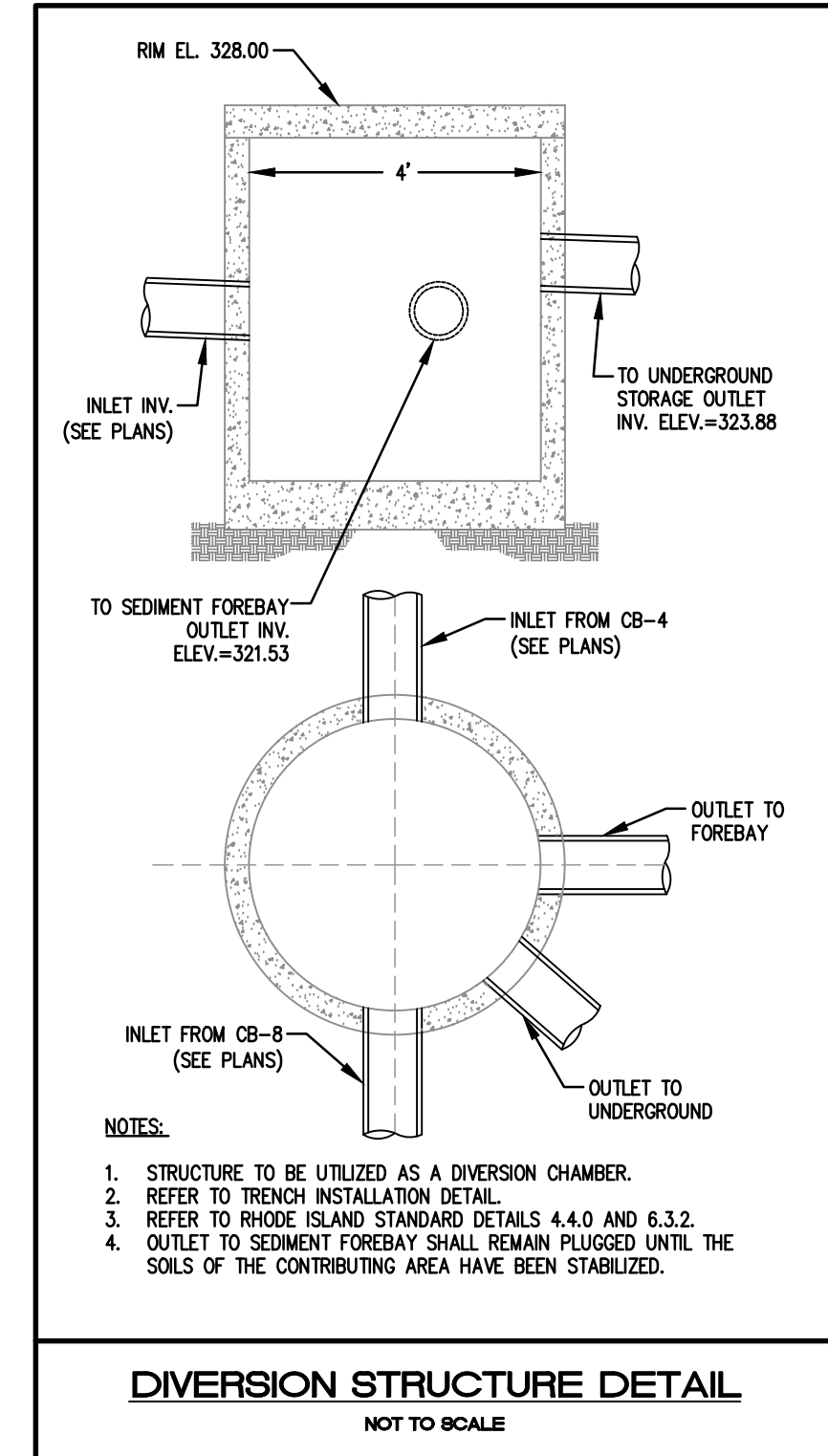
FILTER STONE CHART



PERMIT SET
NOT FOR CONSTRUCTION



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NO.	DATE	REVISION
1	1/19/23	RIDEM COMMENTS

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DETAILS - 1

COMSTOCK CROSSINGS
ASSESSOR'S PLAT 36
LOTS 51, 52 & 53
COMSTOCK PKWY.
CRANSTON, RI

PREPARED FOR:
ELIZABETH PAUL
SCALE AS NOTED
NOVEMBER 2022

Drawn By: BJC
Checked By: JCH
Sheet

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of 11

FILE NO.: 21.448.668

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DETAILS - 2

COMSTOCK CROSSINGS

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 CRANSTON, RI

PREPARED FOR:
 ELIZABETH PAUL

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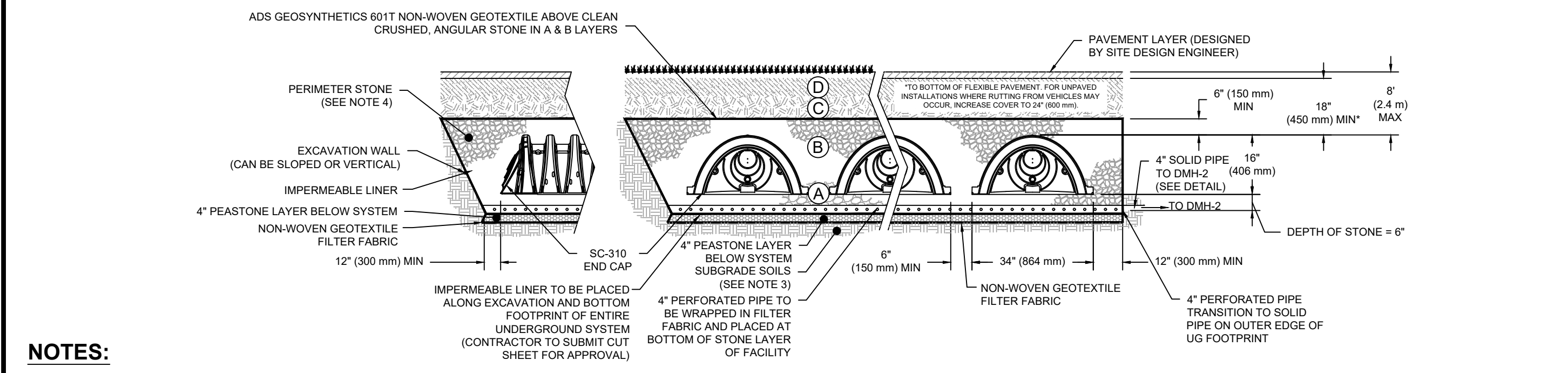
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FILE NO.: 21.448.668

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145' A-1, A-2.4, A-3 OR AASHTO M43' 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43' 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43' 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

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

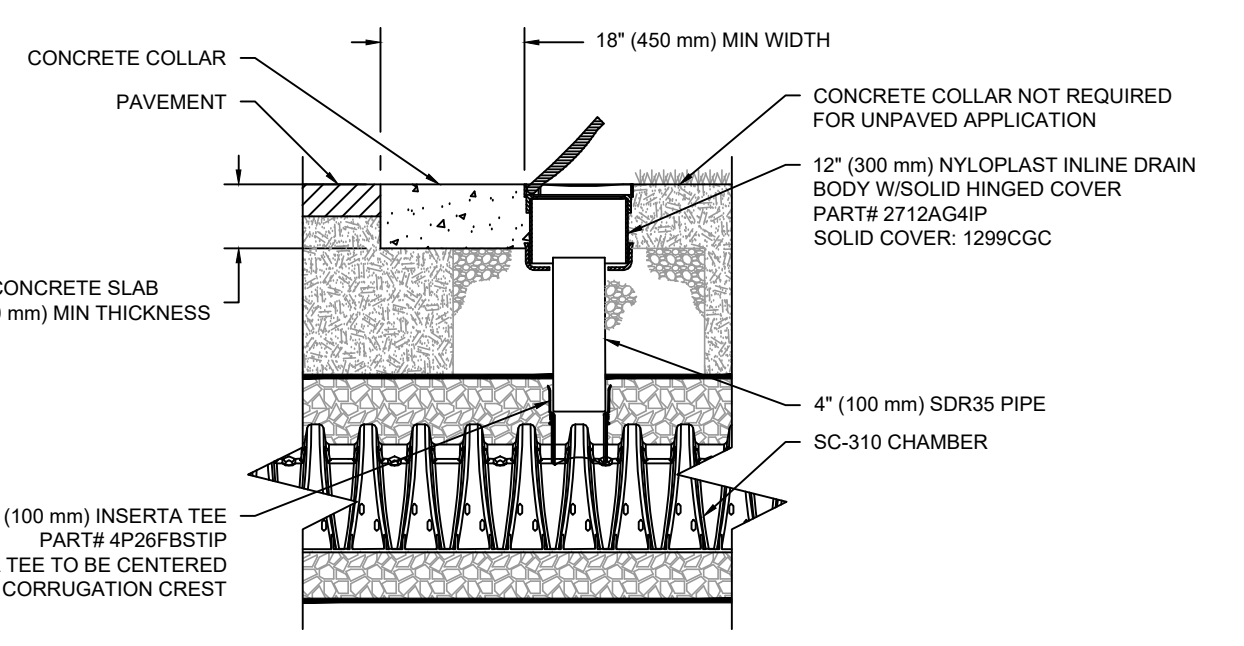


NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT². AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

- ADDITIONAL NOTES:
- BASED ON DETAIL PROVIDED BY STORMTECH.
 - REFER TO APPENDIX F OF THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, MARCH 2015; GUIDANCE ON BMP CONSTRUCTION SPECIFICATIONS FOR SPECIFICATIONS OF MATERIALS TO BE USED IN CONSTRUCTING THE BMP'S.
 - CONSTRUCTION VEHICLES SHALL NOT BE ALLOWED TO DRIVE OVER THE BMP'S DURING CONSTRUCTION. IF THE AREA BECOMES COMPACTED, SOIL MUST BE SUITABLY AMENDED, TILLED, AND REVEGETATED ONCE CONSTRUCTION IS COMPLETE TO RESTORE INFILTRATION CAPACITY.
 - INSTALLATION TO CONFORM TO MANUFACTURER'S RECOMMENDATIONS.

DESCRIPTION: STORMTECH SC-310 CHAMBER SYSTEMS
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 CHECKED: []
 DATE: []
 PROJECT #: []
 SHEET OF



SC-310 4" (100 mm) INSPECTION PORT DETAIL
 NTS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION ¹	COMPACTION/DENSITY REQUIREMENT
D	FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THIS LAYER.	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THIS LAYER.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) LIFTS TO A MIN. 95% STANDARD PROCTOR DENSITY. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY ^{2,3} .

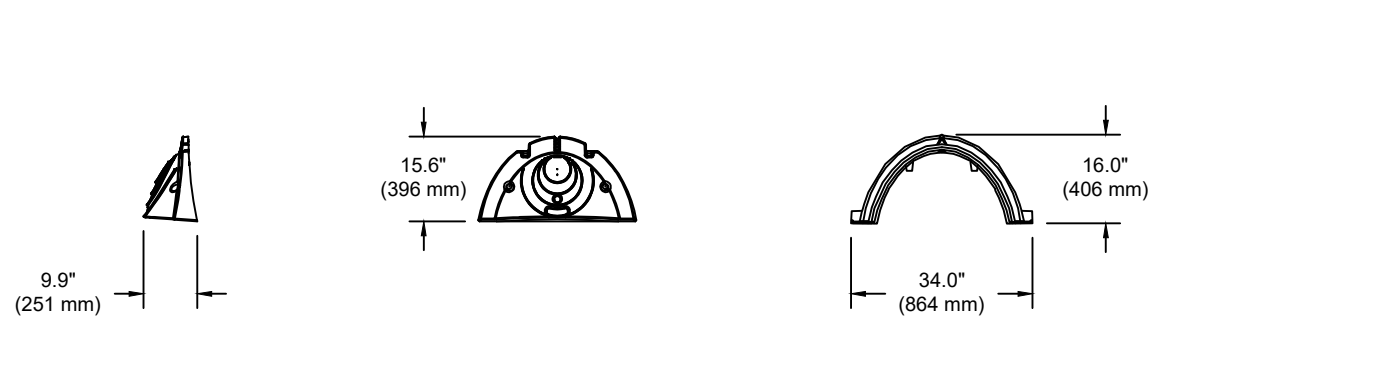
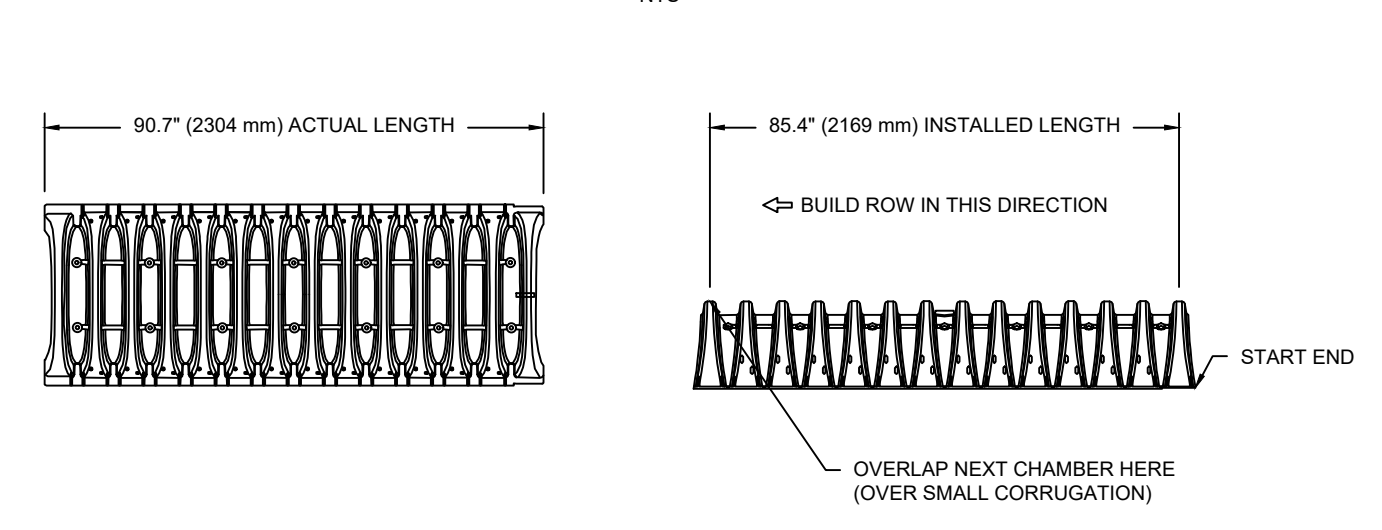
PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 2. AS AN ALTERNATE TO PROCTOR TESTING AND FIELD DENSITY MEASUREMENTS ON OPEN GRADED STONE, STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH AN APPROPRIATE COMPACTOR.

STORMTECH ACCEPTABLE FILL MATERIALS

- ALL DESIGN SPECIFICATIONS FOR STORMTECH CHAMBERS SHALL BE IN ACCORDANCE WITH THE STORMTECH DESIGN MANUAL.
- THE INSTALLATION OF STORMTECH CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST STORMTECH INSTALLATION INSTRUCTIONS.
- THE CONTRACTOR IS ADVISED TO REVIEW AND UNDERSTAND THE INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION. CALL 1-888-892-2694 OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF THE LATEST STORMTECH INSTALLATION INSTRUCTIONS.
- CHAMBERS SHALL MEET THE DESIGN REQUIREMENTS AND LOAD FACTORS SPECIFIED IN SECTION 12.12 OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

STORMTECH CHAMBER NOTES

SC-310 TECHNICAL SPECIFICATION
 NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4" (0.42 m)	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET (0.42 m ³)	---
MINIMUM INSTALLED STORAGE*	31.0 CUBIC FEET (0.88 m ³)	---
WEIGHT	35.0 lbs. (16.8 kg)	---

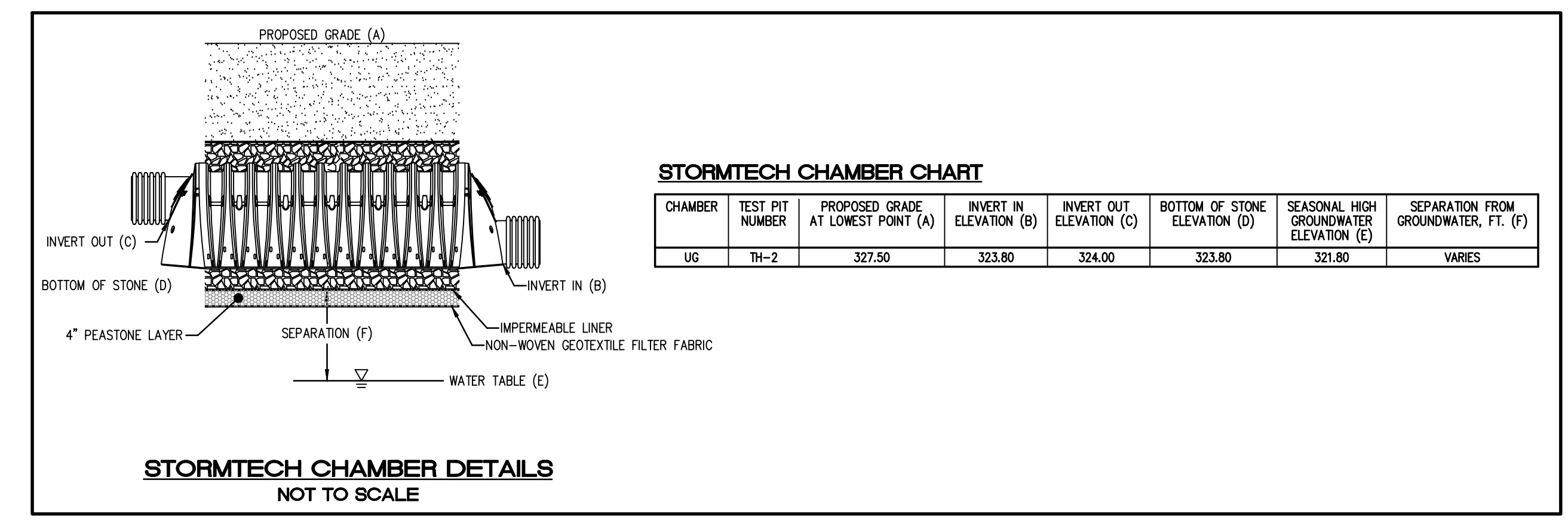
*ASSUMES 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
 PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
 PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC310EPE06T / SC310EPE06TPC	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	---
SC310EPE06B / SC310EPE06BPC	---	---	---	0.5" (13 mm)
SC310EPE08T / SC310EPE08TPC	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	---
SC310EPE08B / SC310EPE08BPC	---	---	---	0.6" (15 mm)
SC310EPE10T / SC310EPE10TPC	10" (250 mm)	12.7" (323 mm)	1.4" (36 mm)	---
SC310EPE10B / SC310EPE10BPC	---	---	---	0.7" (18 mm)
SC310EPE12B	12" (300 mm)	13.5" (343 mm)	---	0.9" (23 mm)

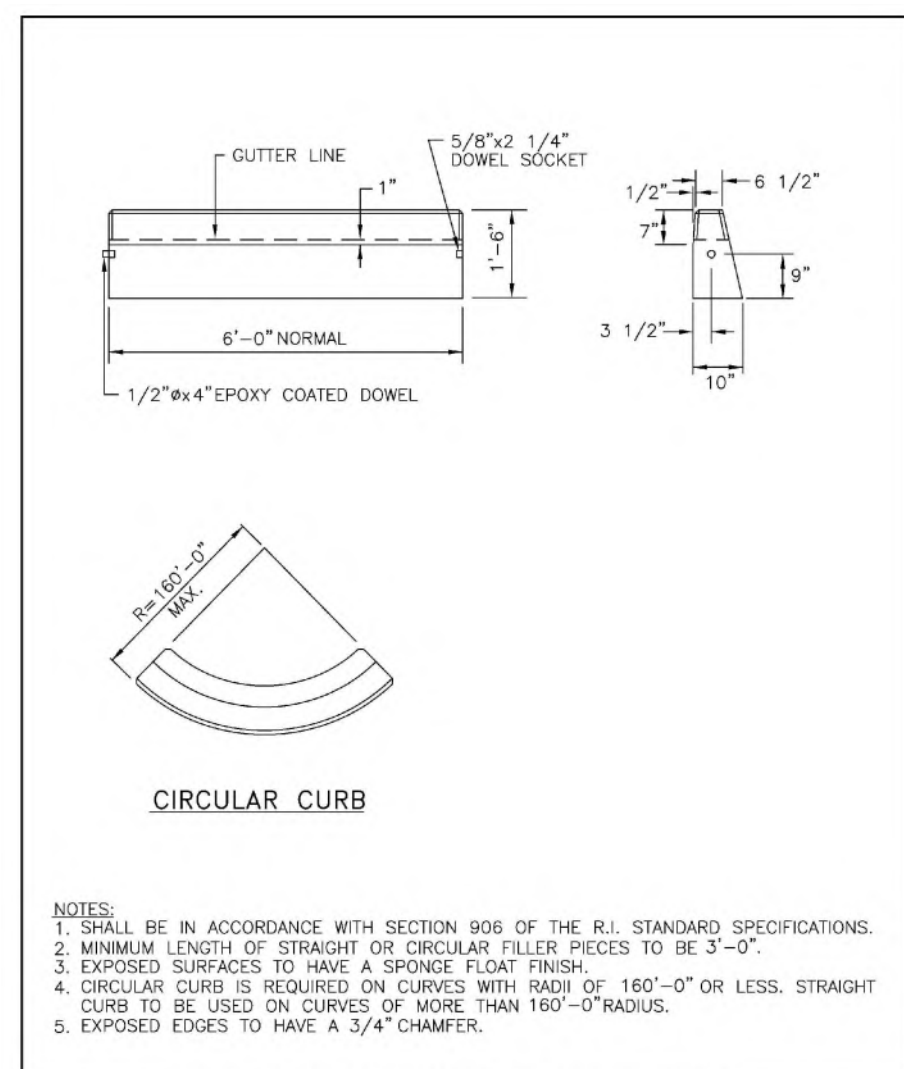
ALL STUBS, EXCEPT FOR THE SC310EPE12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.
 * FOR THE SC310EPE12B THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.
 NOTE: ALL DIMENSIONS ARE NOMINAL.



STORMTECH CHAMBER DETAILS
 NOT TO SCALE

APPLICANT:

ELIZABETH PAUL
 21 STEPHANIE DRIVE
 FOSTER, RI 02825

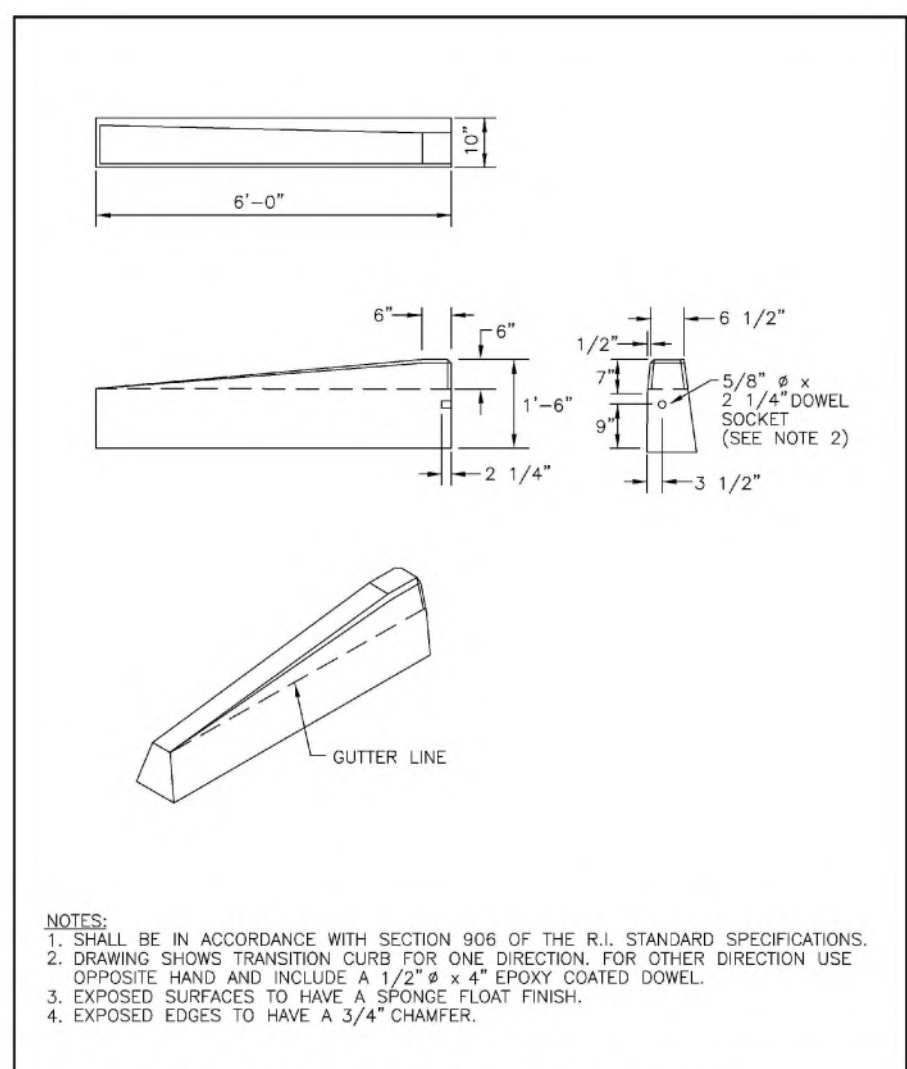


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE CURB

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 7.1.0

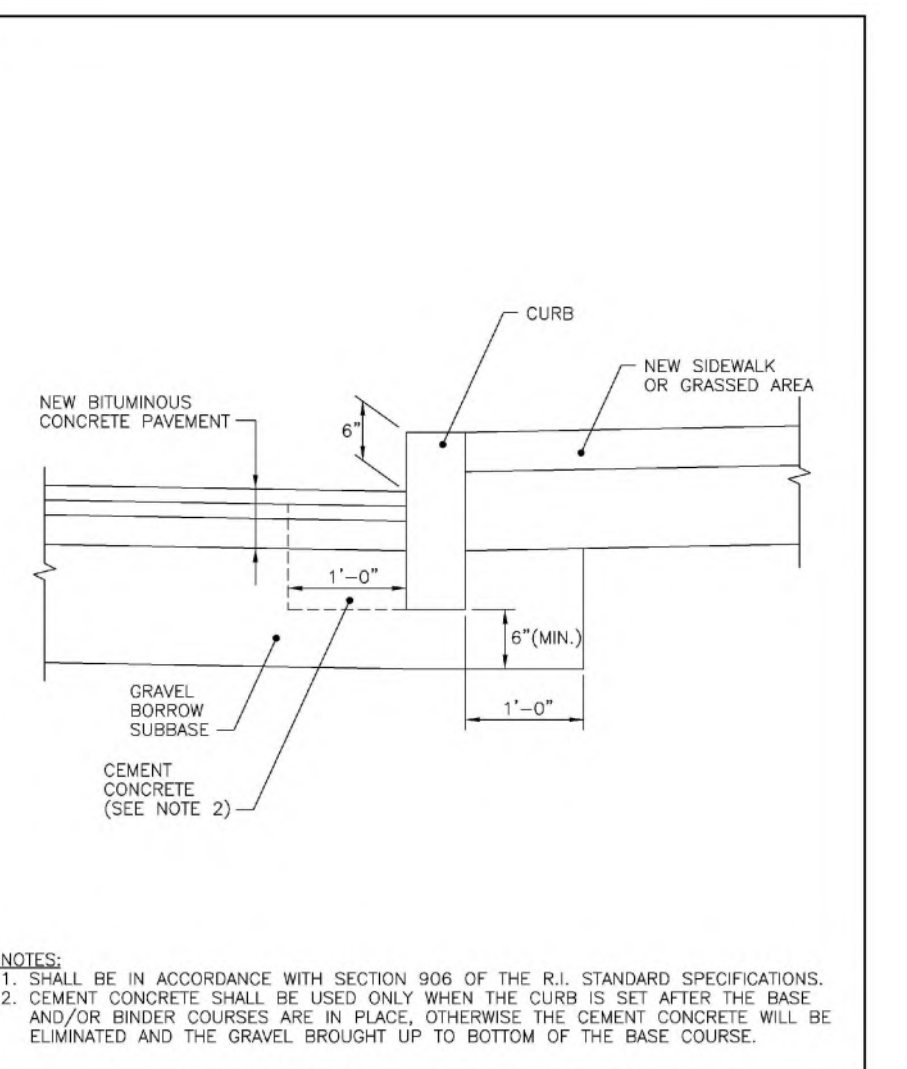


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

6'-0" PRECAST CONCRETE TRANSITION CURB

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 7.1.2

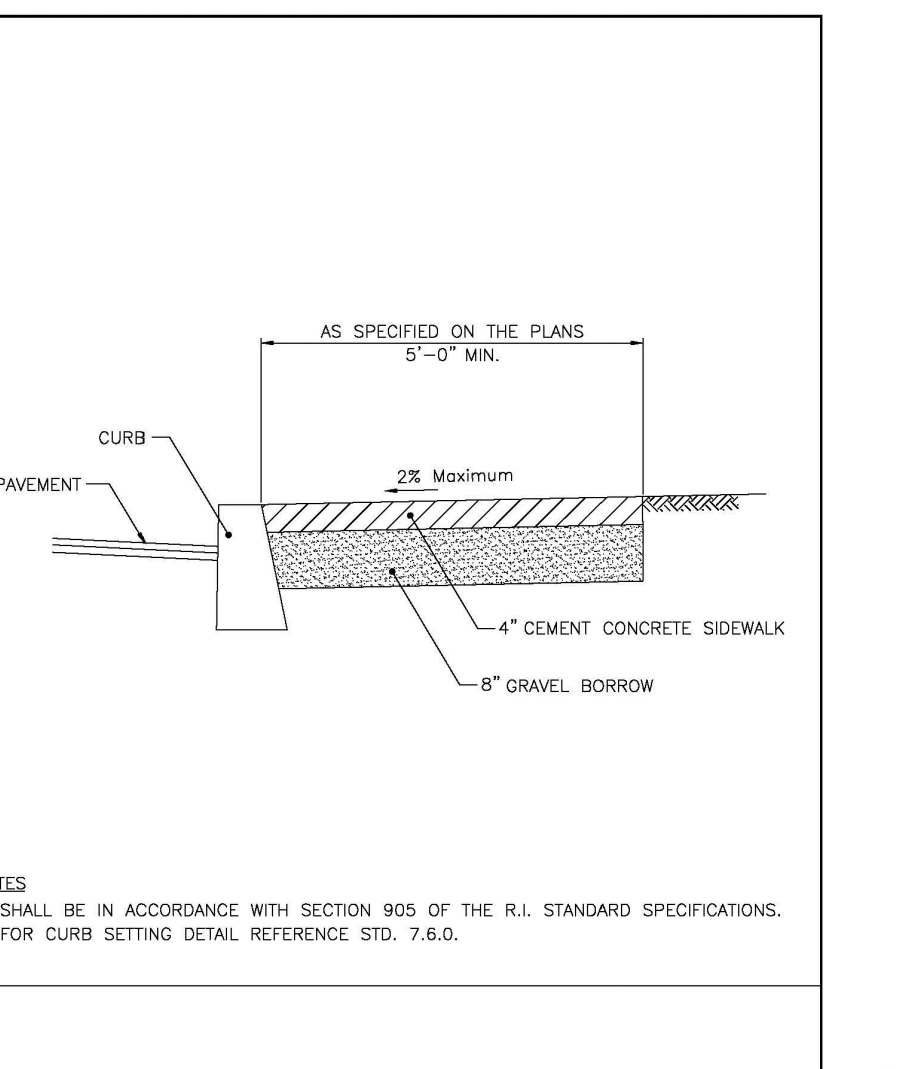


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

CURB SETTING DETAIL

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 7.6.0

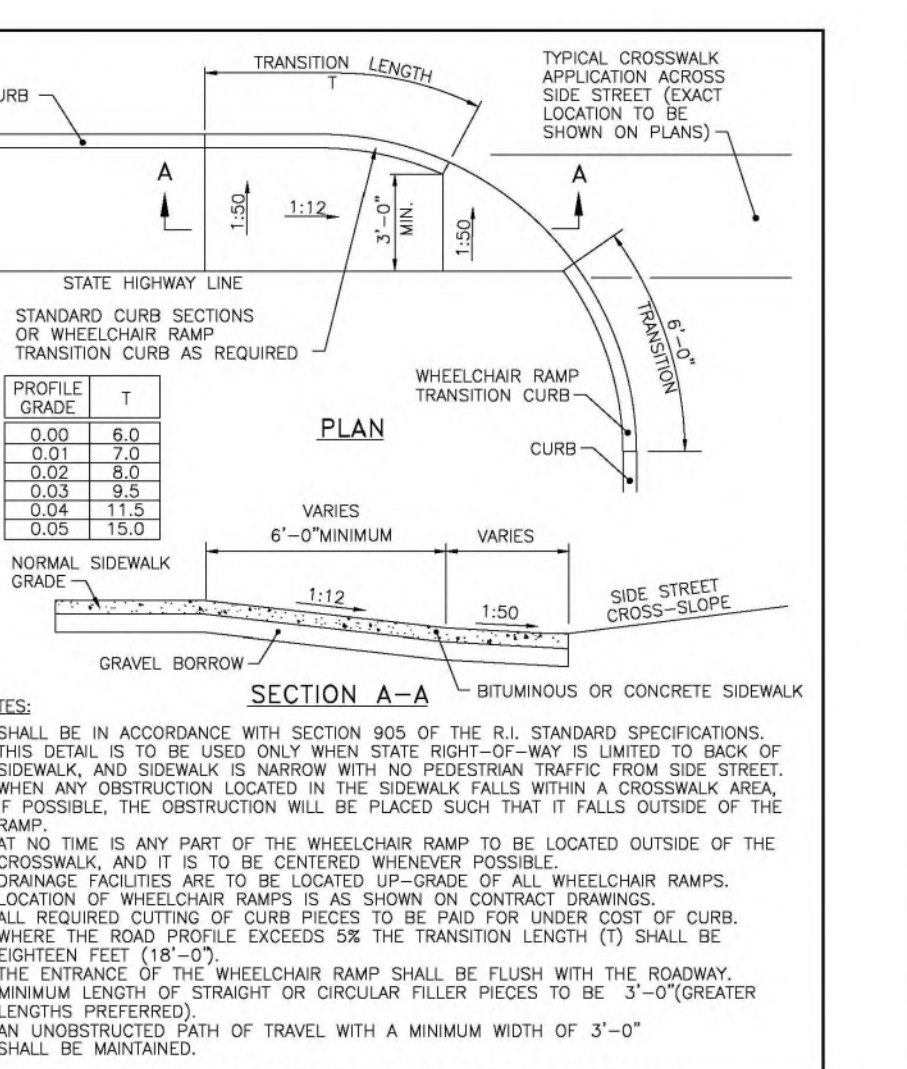


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

CEMENT CONCRETE SIDEWALK

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 43.1.0

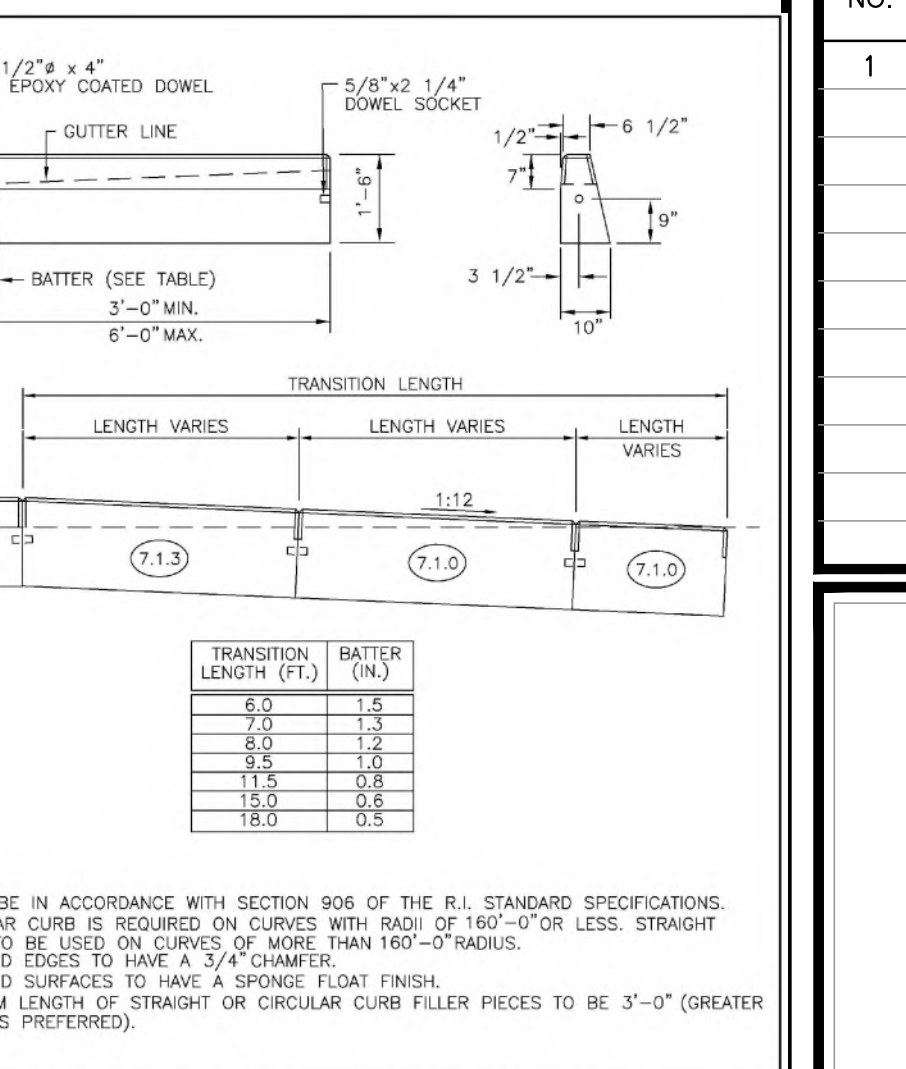


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 43.3.1

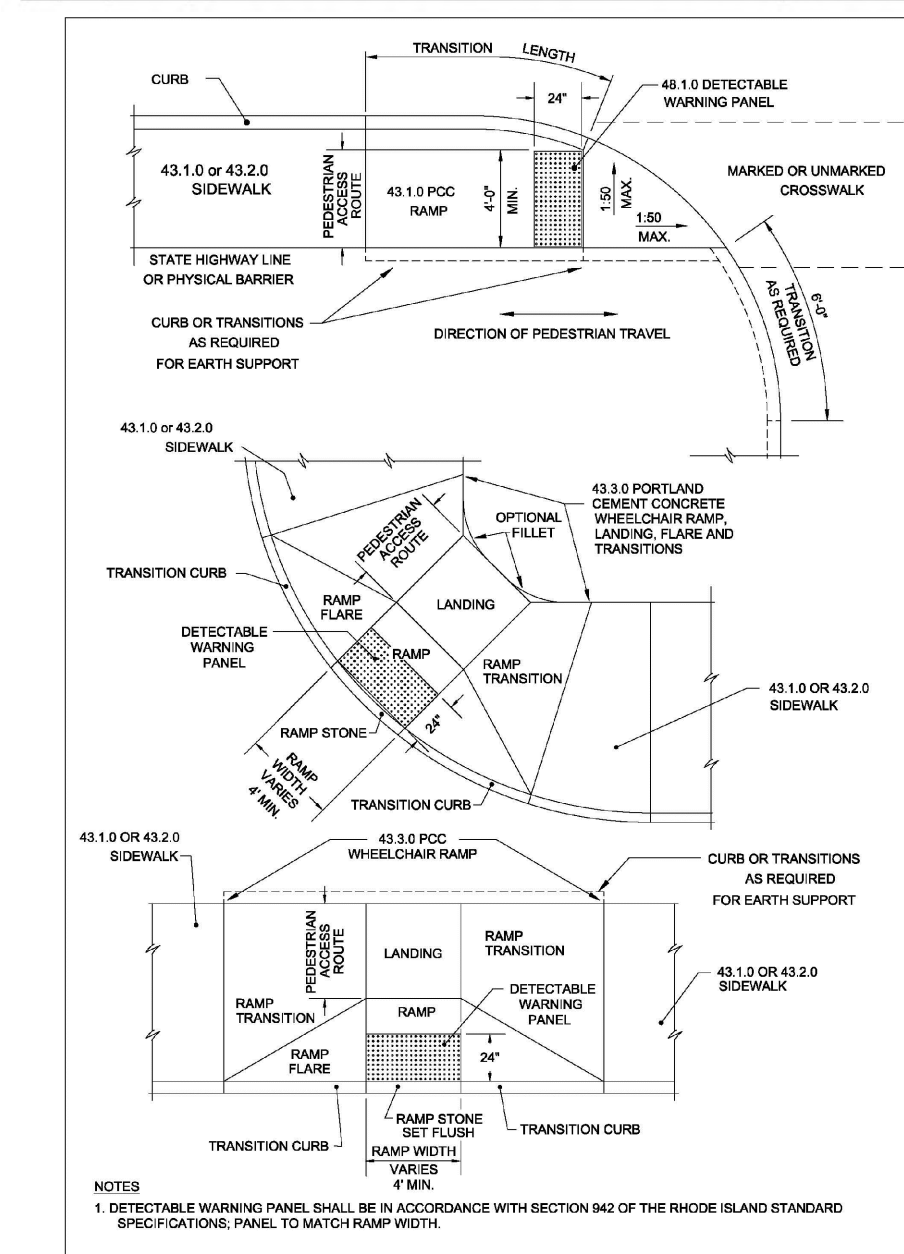


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE WHEELCHAIR RAMP TRANSITION CURB

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 7.1.3

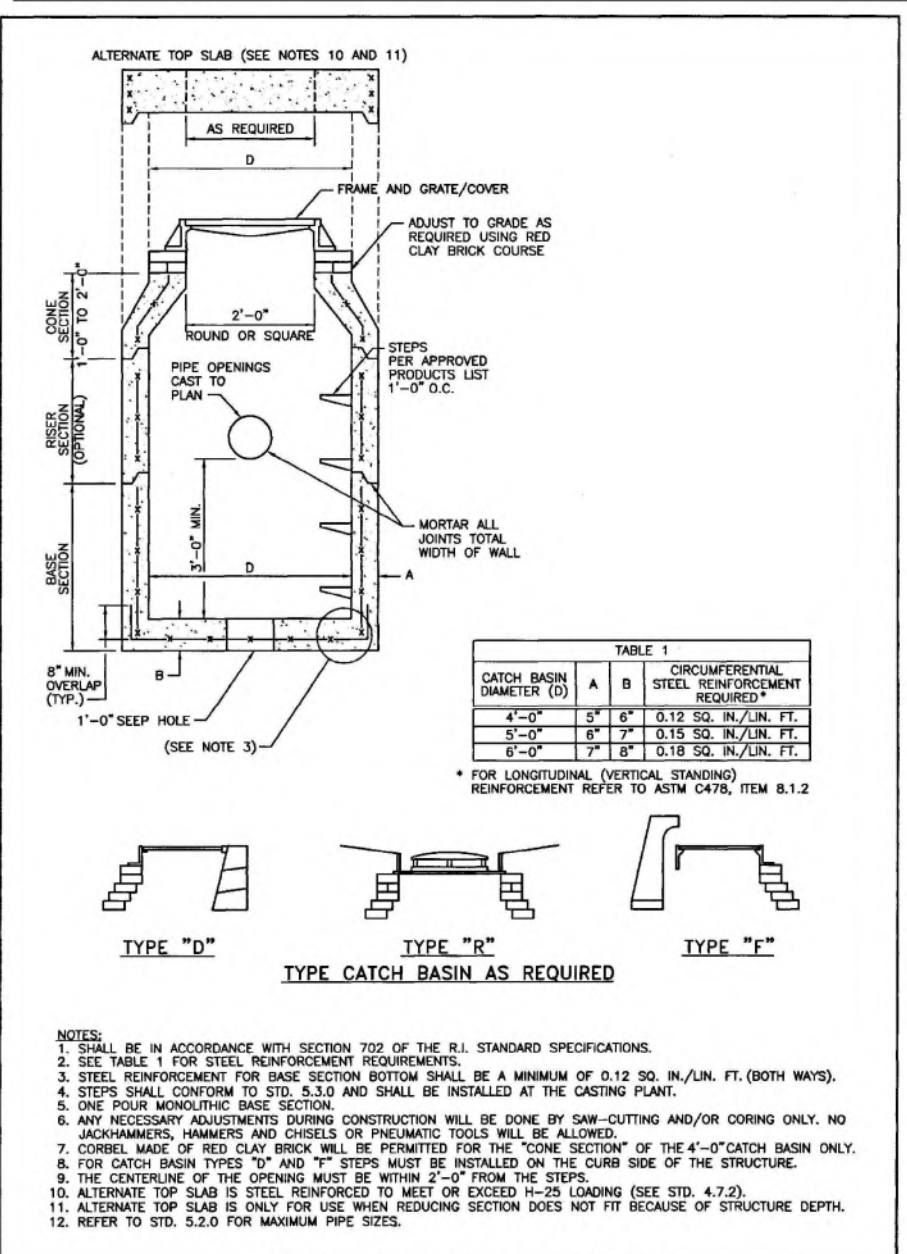


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

DETECTABLE WARNING PANEL PLACEMENT

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 48.1.0

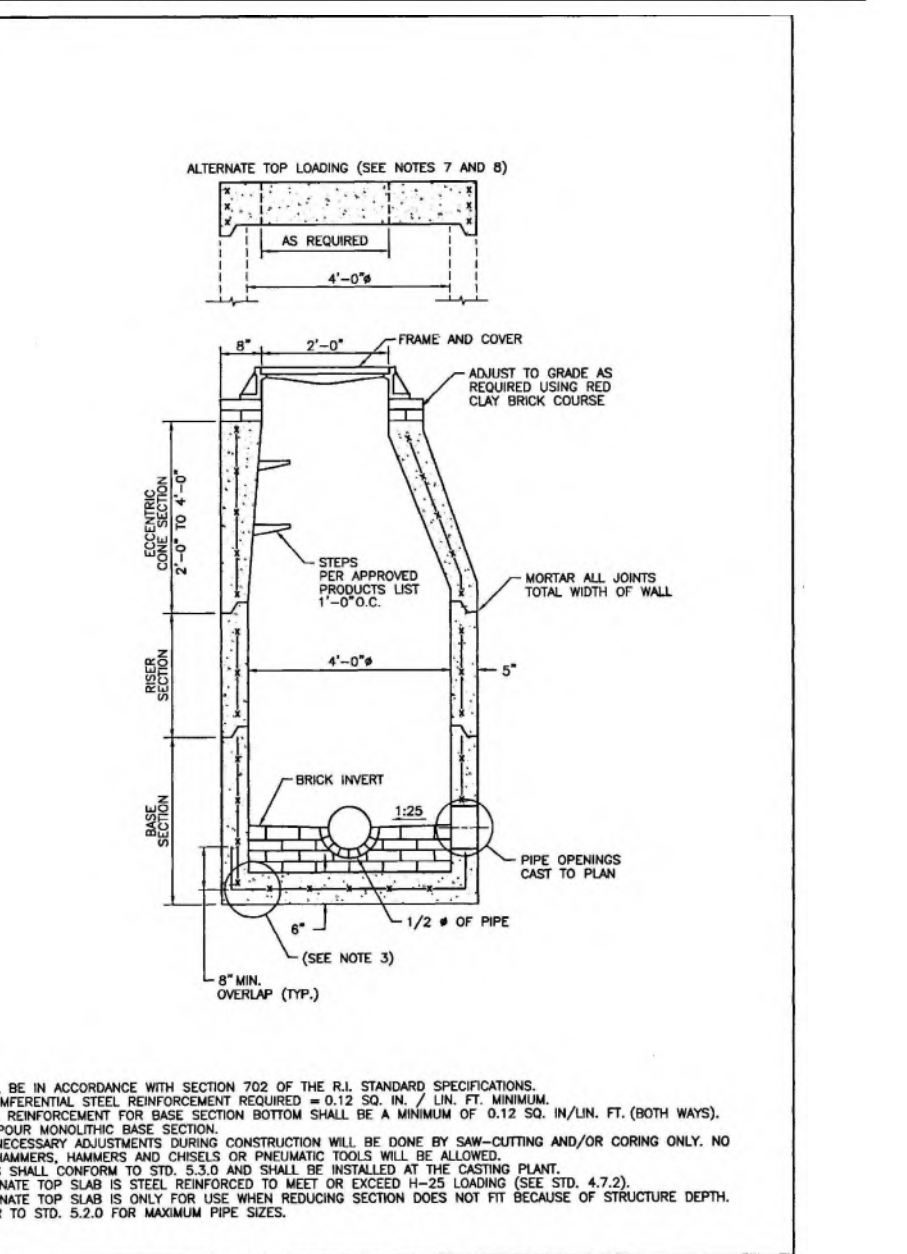


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 4.4.0

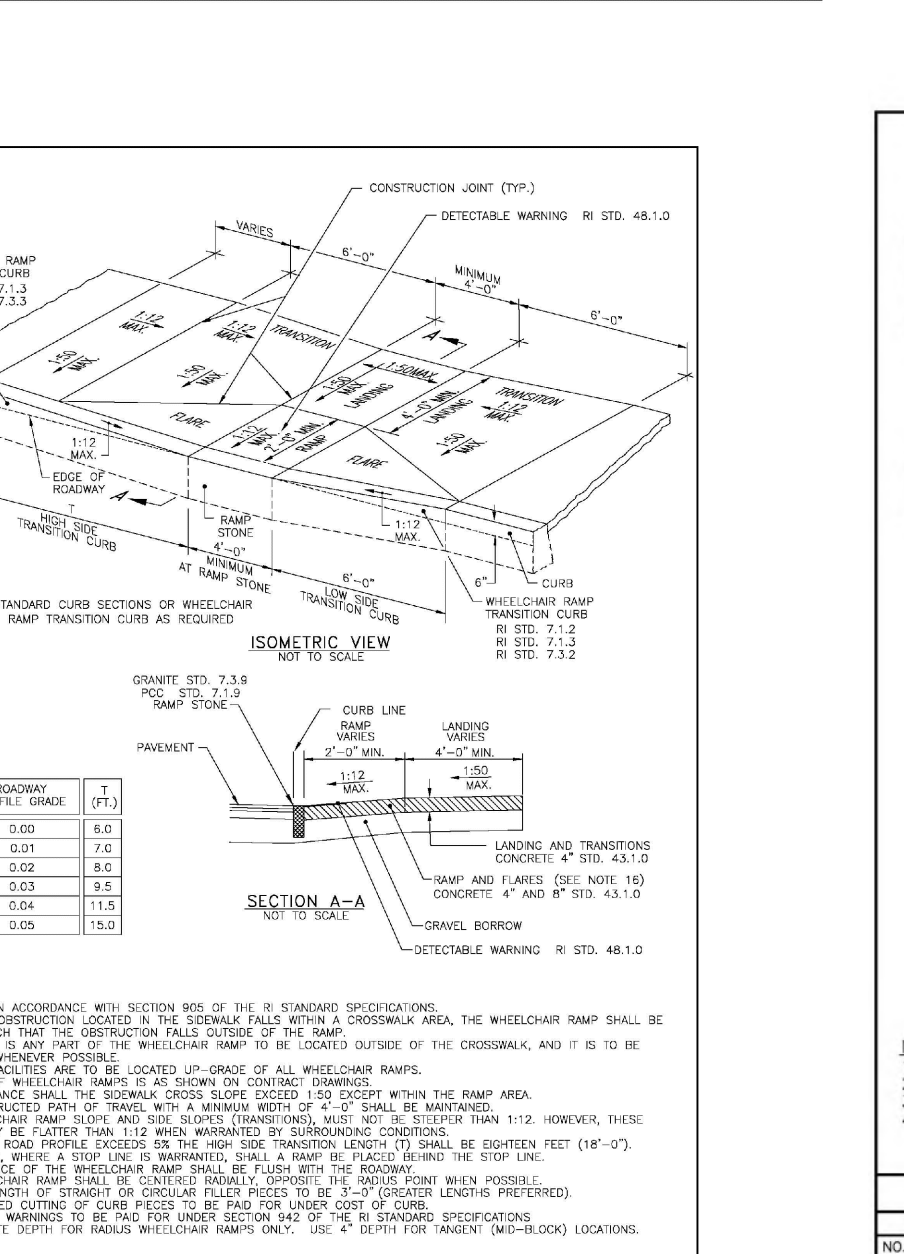


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

PRECAST 4'-0" ROUND MANHOLE

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 4.2.0

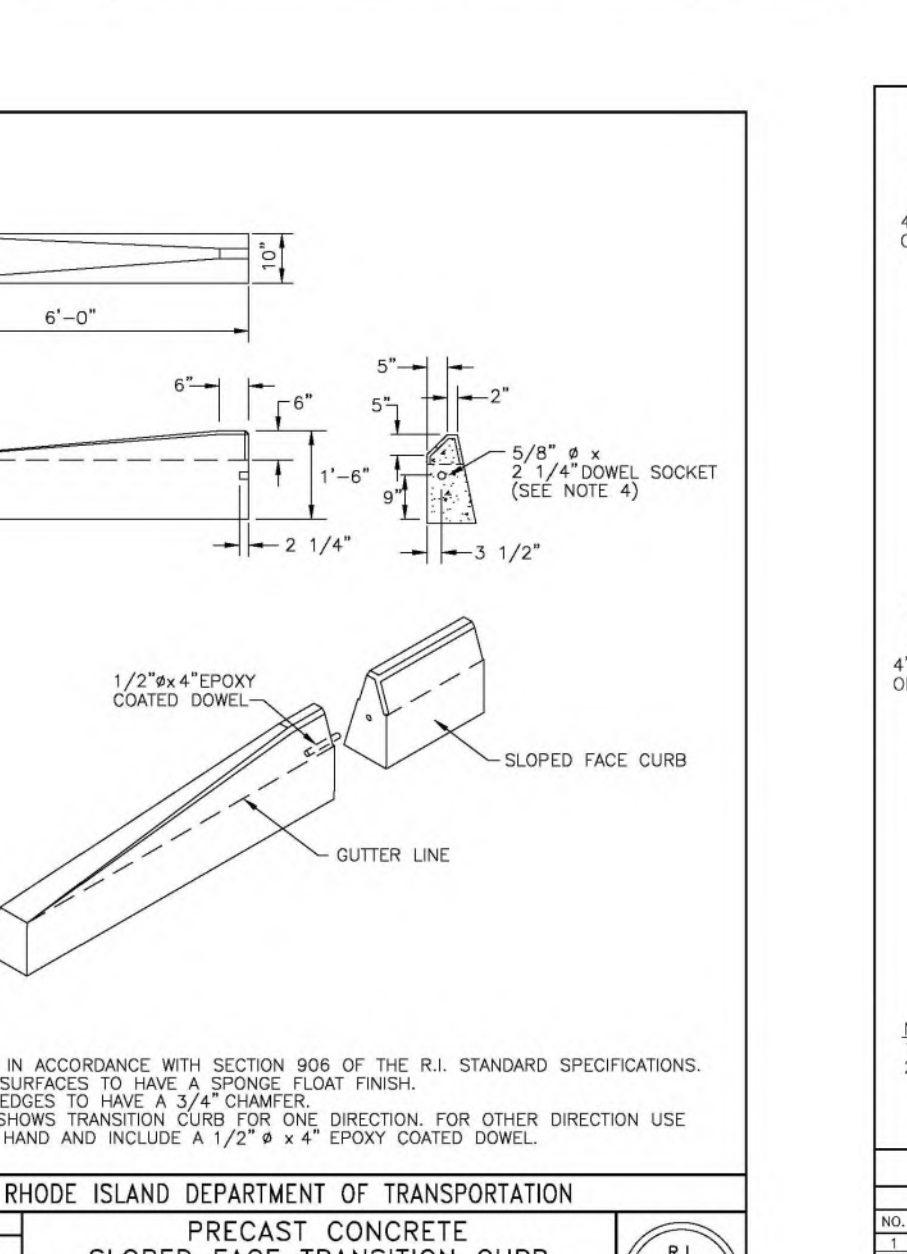


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

WHEELCHAIR RAMP

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 43.3.0

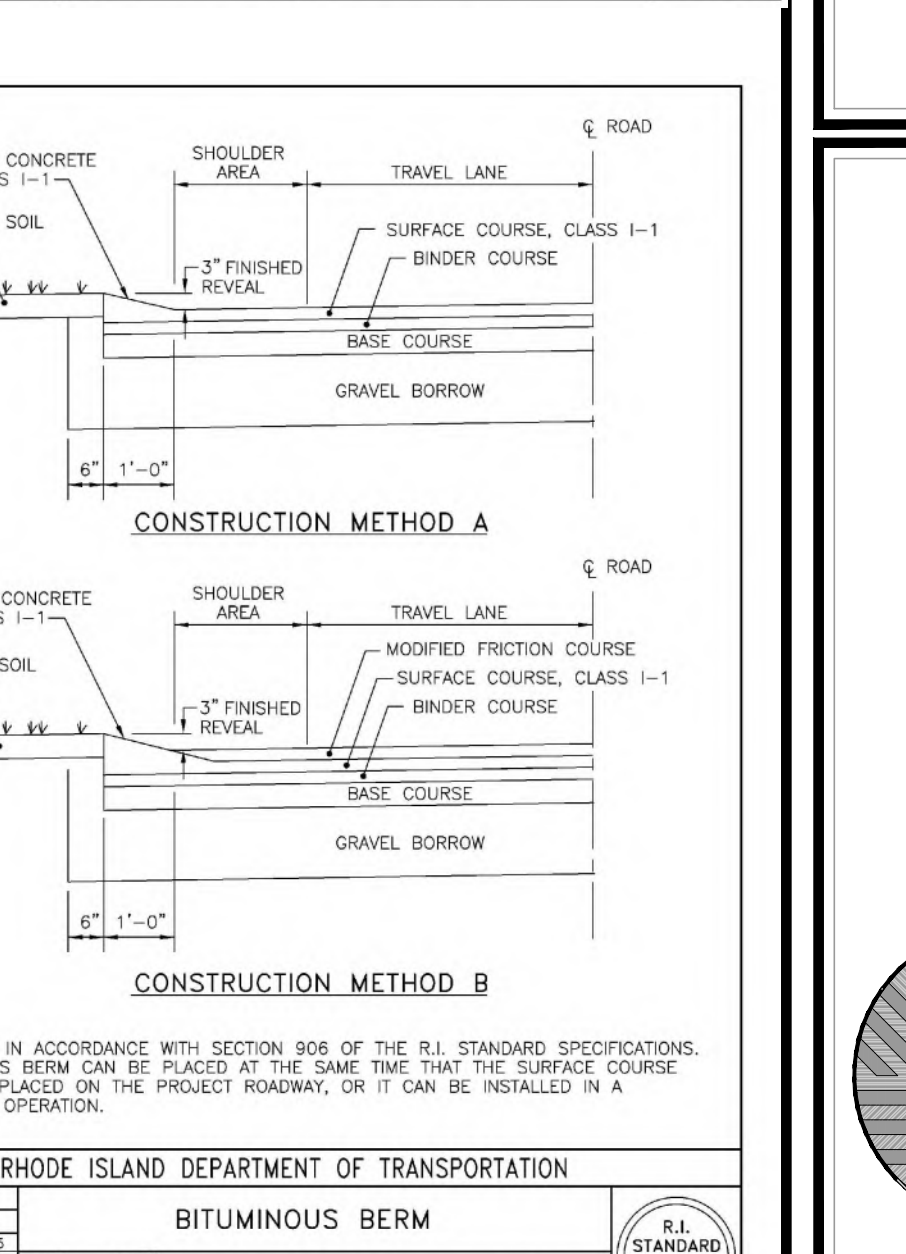


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE SLOPED FACE TRANSITION CURB

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 7.2.1

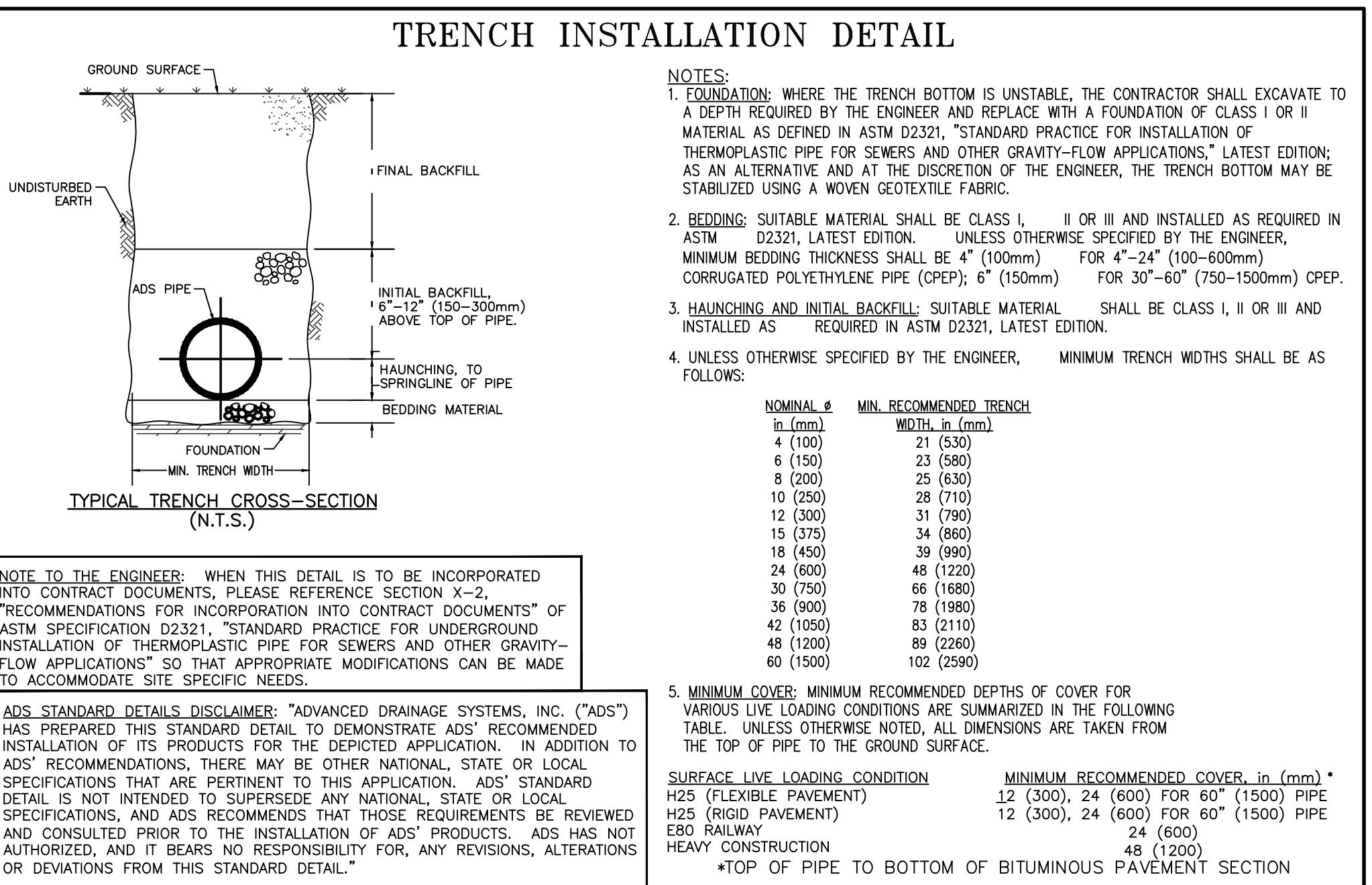


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

BITUMINOUS BERM

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 7.5.1

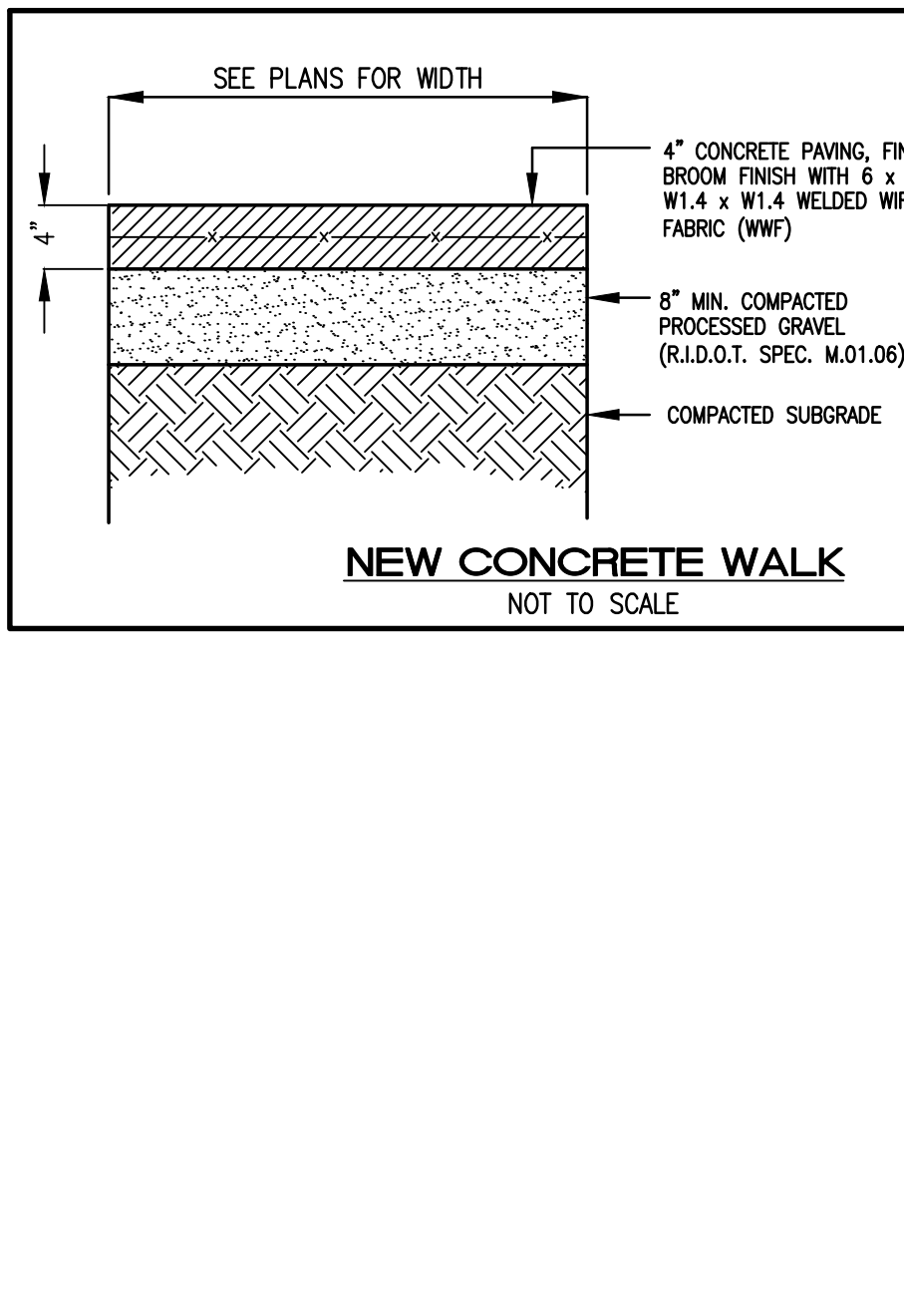


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

TRENCH INSTALLATION DETAIL

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 48.1.0

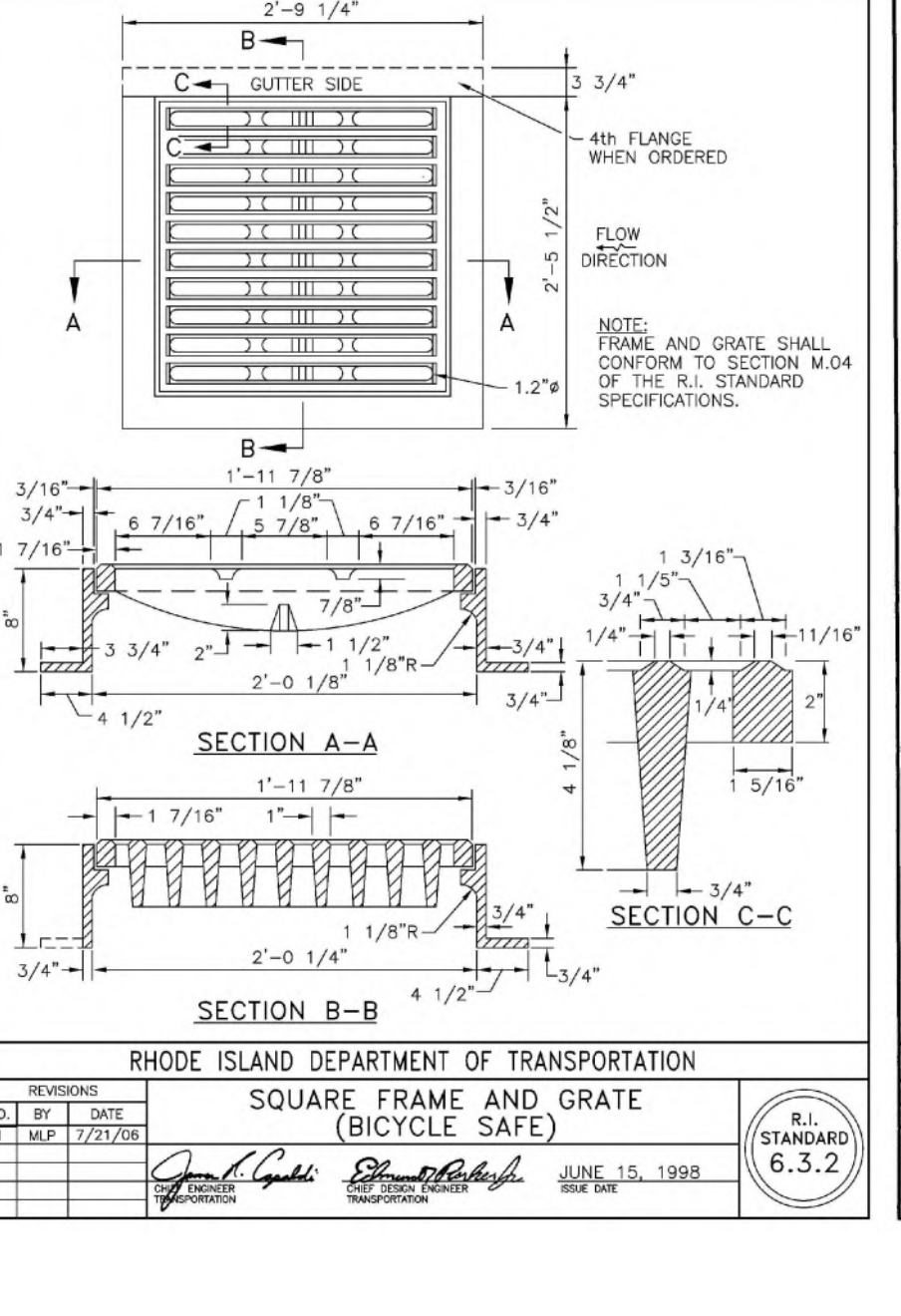


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

NEW CONCRETE WALK

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 6.3.2

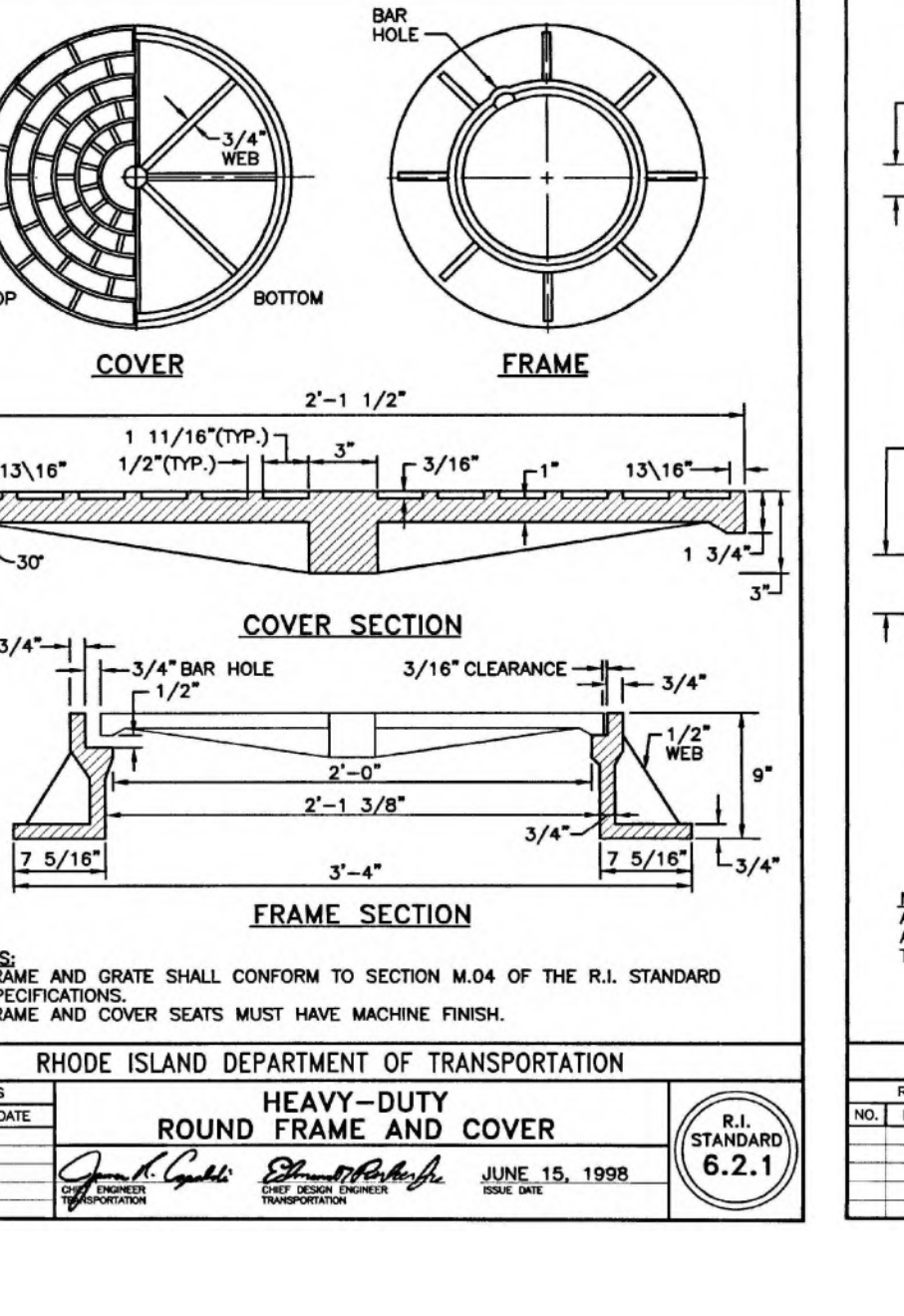


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

SQUARE FRAME AND GRATE (BICYCLE SAFE)

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 6.3.2

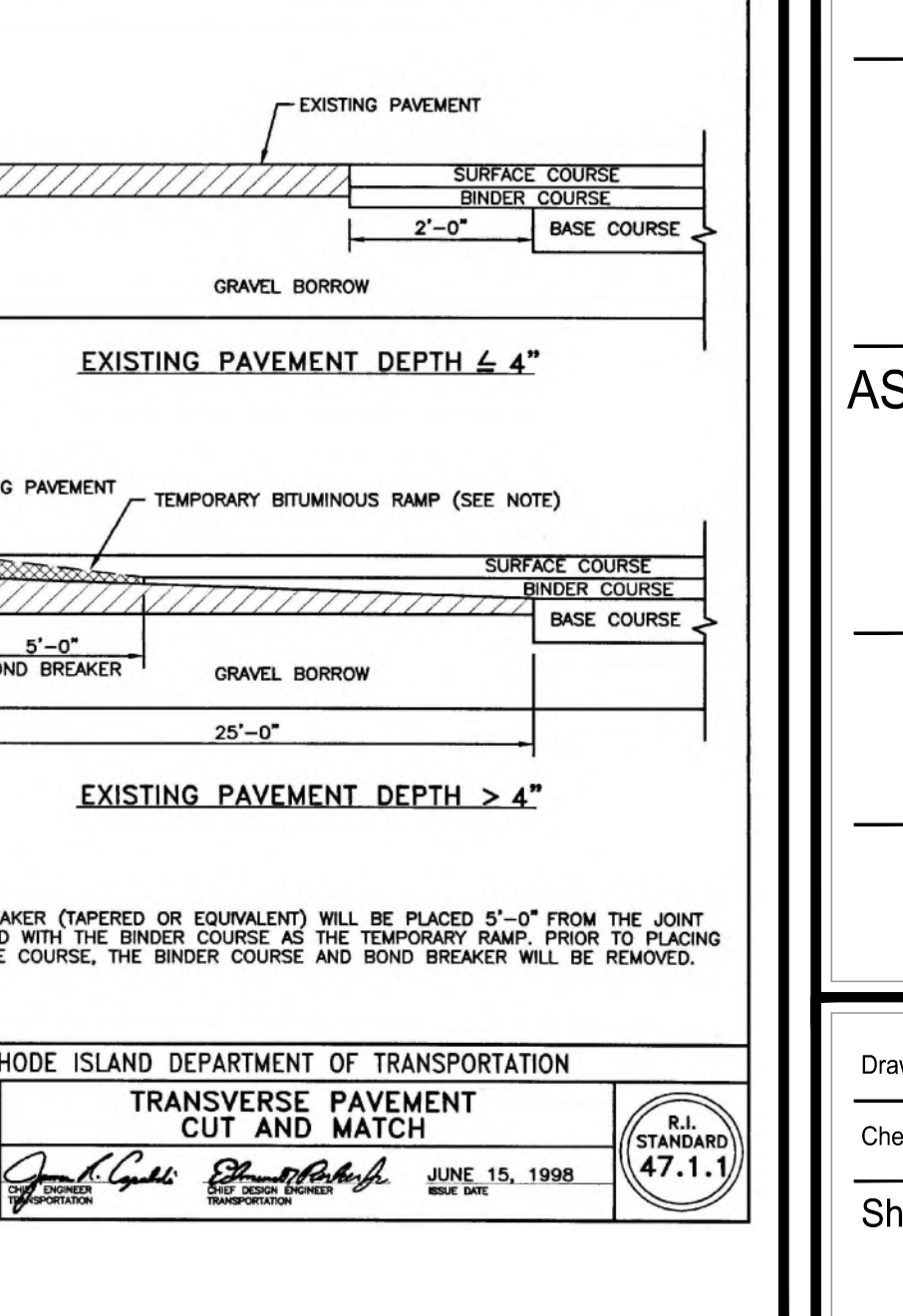


RHODE ISLAND DEPARTMENT OF TRANSPORTATION

HEAVY-DUTY ROUND FRAME AND COVER

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 6.2.1



RHODE ISLAND DEPARTMENT OF TRANSPORTATION

TRANSVERSE PAVEMENT CUT AND MATCH

NO. 1 BY DATE: JUNE 15, 1998
 1. M.P. MAR. 05

R.I. STANDARD 47.1.1

NO.	DATE	REVISION
1	2/16/23	ADD DETAILS

ISSUED FOR BIDDING

3/13/2023

MILLSTONE ENGINEERING, P.C.

CIVIL ENGINEERING • LAND PLANNING

250 Centerline Road, Building E-12
 Warwick, Rhode Island 02886

www.MillstoneEng.com
 P. (401) 921-3344 F. (401) 921-3303

DETAILS - 3

COMSTOCK CROSSINGS

ASSESSOR'S PLAT 36
 LOTS 51, 52 & 53
 COMSTOCK PKWY.
 CRANSTON, RI

PREPARED FOR:
ELIZABETH PAUL

SCALE AS NOTED
NOVEMBER 2022

Drawn By: BJC
 Checked By: JCH
 Sheet

APPLICANT:
ELIZABETH PAUL
 21 STEPHANIE DRIVE
 FOSTER, RI 02825

11
 of 11

FILE NO.: 21.448.668