

# FINAL PLAN SUBMISSION

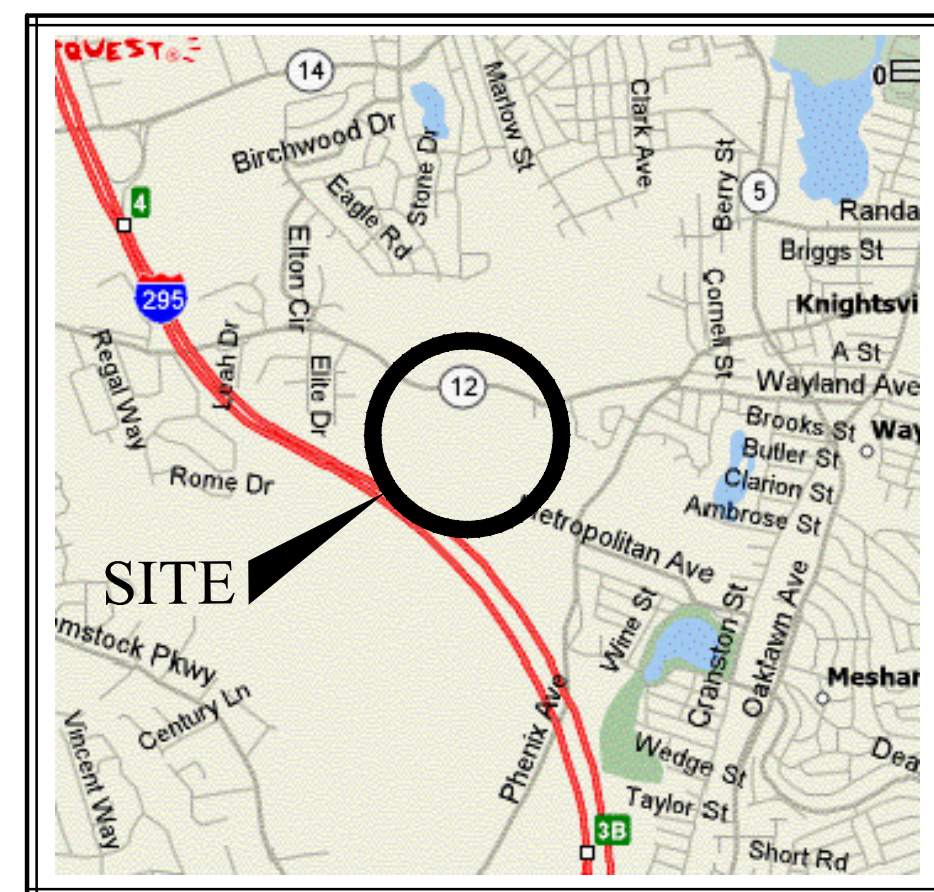
FOR:

# CHAMPLIN HILLS

A.P. 20/4, LOT 2117  
SCITUATE AVENUE  
CRANSTON, R.I.

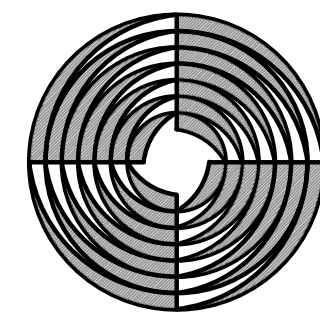
PREPARED FOR:

**WEST BAY LLC.**  
1414 ATWOOD AVE  
JOHNSTON, R.I.



LOCUS MAP  
NOT TO SCALE

PREPARED BY:



**GAROFALO**  
GAROFALO & ASSOCIATES, INC.  
CIVIL & STRUCTURAL ENGINEERS \ SURVEYORS  
LAND PLANNERS \ ENVIRONMENTAL SCIENTISTS  
85 CORLISS STREET  
P.O. BOX 6145  
PROVIDENCE, RI 02940  
(PH) 401-273-6000 (FX) 401-273-1000

DATED:

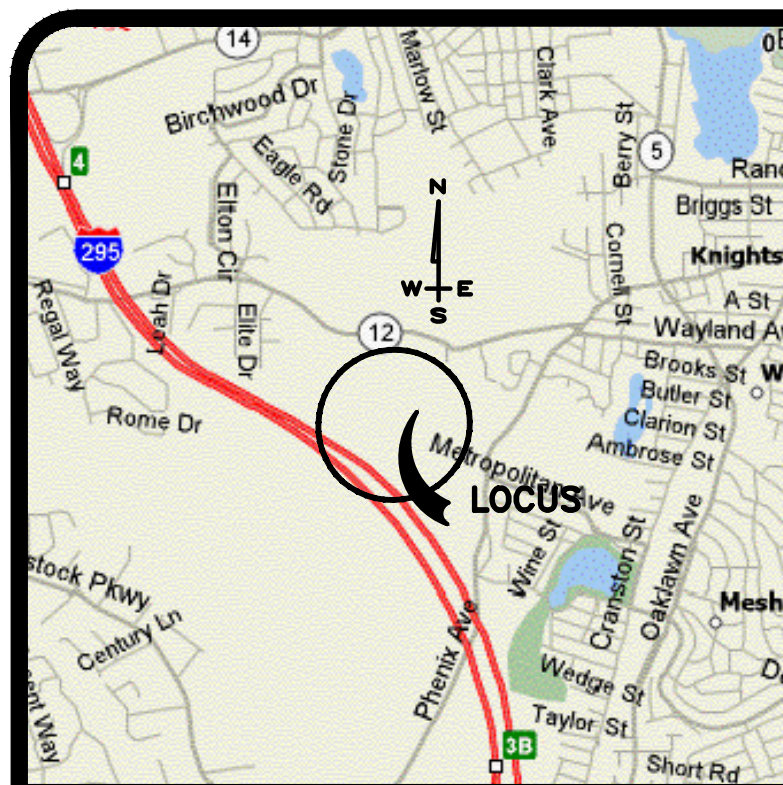
**MAY, 2014**

(REVISED 03/24/2023)



## PLAN SHEET LEGEND

SHEET	PLAN TITLE	LATEST REVISION
C1	COVER SHEET	2/16/2017
ECS-1	EXISTING CONDITIONS PLAN	3/24/2023
C3	GENERAL NOTES AND LEGEND	10/7/2016
C4	SITE LAYOUT PLAN	3/24/2023
C5	GRADING AND DRAINAGE PLAN	3/24/2023
C6	UTILITIES PLAN	3/24/2023
C7	ROAD PLAN AND PROFILE	3/24/2023
C8	SOIL EROSION AND SEDIMENT CONTROL PLAN	10/7/2016
C9	CONSTRUCTION DETAILS 1	10/7/2016
C10	CONSTRUCTION DETAILS 2	10/7/2016
C11	CONSTRUCTION DETAILS 3	10/7/2016
C12	CONSTRUCTION DETAILS 4	10/7/2016
C13	CONSTRUCTION DETAILS 5	10/7/2016
L1	LANDSCAPE PLAN	3/24/2023
L2	LANDSCAPE DETAILS	3/24/2023



**LOCUS MAP**  
N.T.S.

**GENERAL LEGEND & ABBREVIATIONS**

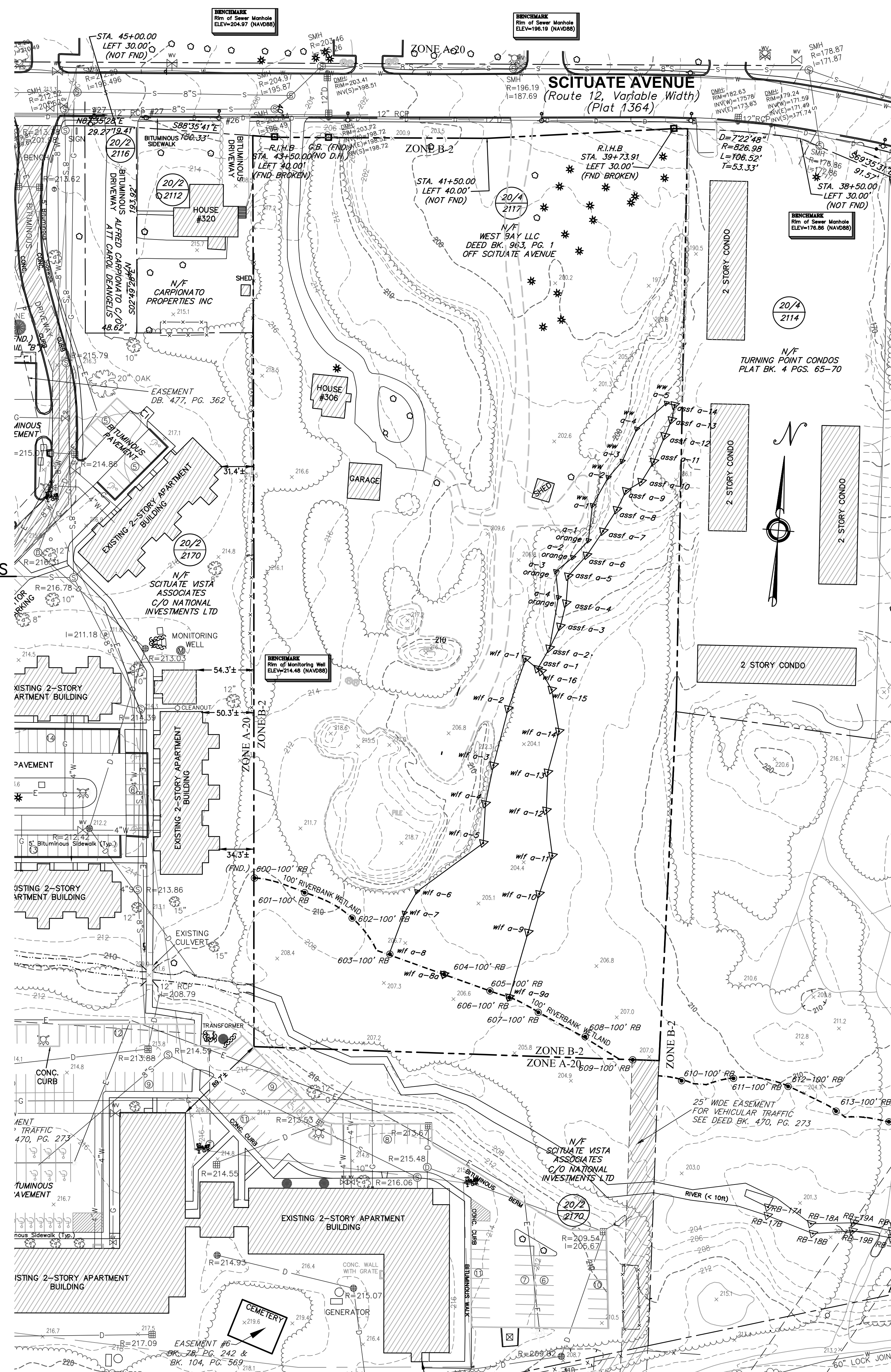
- N/F NOW OR FORMERLY
- S.F. SQUARE FEET
- AC. ACRES
- CONC. CONCRETE
- RHODE ISLAND HIGHWAY BOUND
- ⊙ DRAIN MANHOLE
- ⊕ GAS SHUTOFF
- ⊖ WATER SHUTOFF
- ⊕ WATER VALVE
- ⊕ MONITORING WELL
- ⊕ UTILITY POLE
- BOLLARD
- LOCUS PROPERTY LINE
- ASSESSORS LINE
- CONTOUR (5')
- CONTOUR (1')
- SPOT GRADE
- CONCRETE WALL
- DRAIN LINE
- WATER LINE
- GAS LINE
- ABANDONED GAS LINE
- OHW --- OVERHEAD WIRES

**WETLANDS NOTES**

100 FT RIVERBANK LINE STAKED APPROX. EVERY 50 FT AND LABELED AS 600-630 100 FT RIVERBANK.

**RIVER BANK FLAGS**

FLAG NUMBERS	DISTANCE
17A-17B	8.0'
18A-18B	9.5'
19A-19B	6.7'
20A-20B	6.7'
21A-21B	6.5'
22A-22B	7.2'
23A-23B	11.5'
24A-24B	5.9'
25A-25B	6.0'
26A-26B	6.0'
AVERAGE WIDTH = 7.4'	



**REFERENCES**

- CITY OF PROVIDENCE - WATER SUPPLY BOARD AQUEDUCT RESERVOIR GENERAL SITE PLAN NO. 1 BY CHARLES A MAGUIRE & ASSOCIATES, SCALE 1"=60', DATED NOVEMBER 2, 1959 ON FILE AT THE WATER SUPPLY BOARD OFFICE.
- STATE HIGHWAY PLAT 1364 SHEET 7 OF 26 ON FILE WITH RIDOT PLAN ROOM.
- A CONDOMINIUM PLAT OF TIME SQUARE CONDOMINIUMS PHASE 2 CRANSTON, RI, SCALE 1"=30' DATED AUGUST 4, 1997 PREPARED FOR F. PAOLINO HOMES, INC. BY OCEAN STATE PLANNERS, INC. ON FILE IN THE CITY OF CRANSTON CONDO BOOK 4, PAGES 75-76.

**ZONING DATA**

B20 - (LOCUS)  
SETBACKS:  
FRONT - 25'  
SIDE - 8'  
REAR - 20'  
MIN. LOT AREA - (1)  
MIN. LOT WIDTH - (1)  
MIN. LOT FRONTAGE - (1)  
MAX. LOT COVERAGE - 50%  
MAX. BLDG. HEIGHT - 35'

(1) REFER TO CITY OF CRANSTON ZONING ORDINANCE FOR FURTHER INFORMATION.

**PARCEL DATA**

A.P. 20-4, LOT 2117  
N/F  
WEST BAY LLC  
DEED BK. 963, PG. 1  
#280 SCITUATE AVENUE  
CRANSTON, RI  
LOT AREA: 345,430.80 S.F.±  
OR 7.93 ACRES ±

**NOTES:**

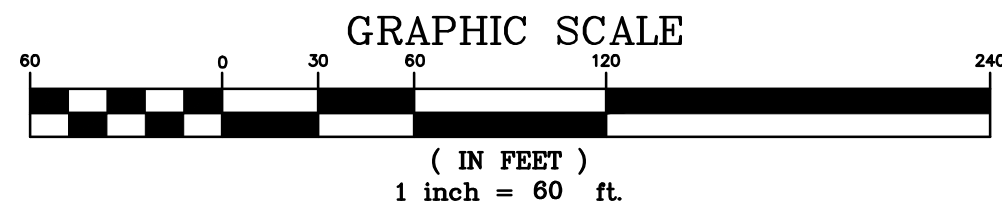
- THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. (PLEASE CONTACT DIGSAFE PRIOR TO CONSTRUCTION @ 1-888-344-7233).
- PROJECT IS LOCATED WITHIN ZONE "AE" WITH ELEVATIONS OF 117-111 ALONG THE MESHANTICUT BROOK AND ZONE X (AREA OF MINIMAL FLOODING), AS SHOWN ON F.E.M.A. FLOOD INSURANCE RATE MAP FOR THE CITY OF CRANSTON, PROVIDENCE COUNTY, RHODE ISLAND, COMMUNITY PANEL NO. 44007C0313 G, HAVING AN EFFECTIVE DATE OF MARCH 2, 2009.
- EXISTING CEMETERY IS LOCATED ON PROPERTY AS SHOWN HEREON. EASEMENT FOR ACCESS TO CEMETERY WAS FOUND ON RECORD IN DEED BOOK 137, PAGE 159 AND DEED BOOK 370, PAGE 54.

**CERTIFICATION:**

THIS SURVEY AND PLAN CONFORMS TO THE FOLLOWING CLASS STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS.

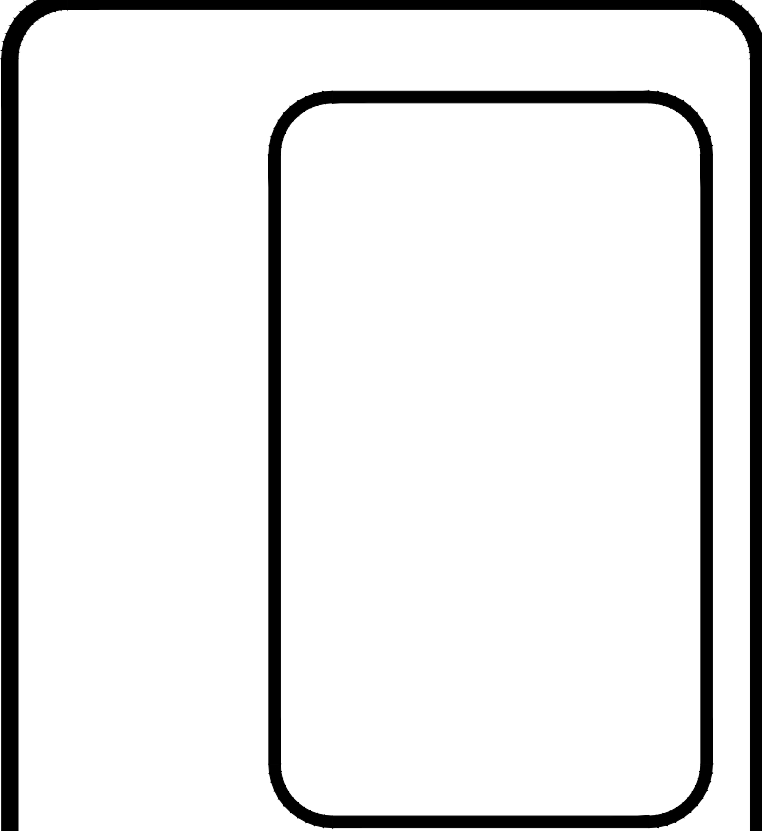
BOUNDARY SURVEY - CLASS I  
TOPOGRAPHIC SURVEY - CLASS III

By *Samuel A. White, Jr.* 1781 1-7-15  
PROFESSIONAL LAND SURVEYOR REG. NO. DATE



EXISTING CONDITIONS  
AND PROPERTY PLAN  
FOR  
A.P. 20/4 LOT 2117  
SITUATED ON  
SCITUATE AVENUE  
CRANSTON, RHODE ISLAND  
PREPARED FOR  
WEST BAY LLC.

NO.	REVISION	BY	DATE
2	PER RIDOT REQUIREMENT	RJB	1/6/15
4	REVISE WETLAND FLAGS	RJB	4/26/15
14	UPDATED PARCEL INFORM	KYY	3/23/23



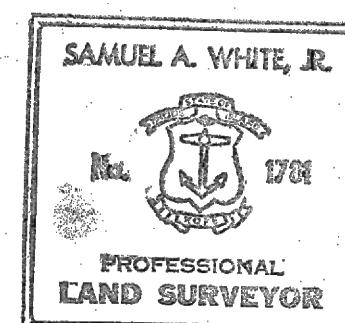
**GAROFALO**  
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85 CORLISS STREET  
P.O. BOX 6145  
PROVIDENCE, R.I. 02940  
TEL. 401-273-6000

JOB NO. 6856	DRAWN BY O.L.
DWG. NO. 6856-ECS.DWG	CHECKED S.A.W.
SCALE: 1"=60'	APPROVED S.A.W.
	DATE: MAY 10, 2013

SHEET

**ECS1**



## MAINTENANCE SCHEDULE FOR DRAINAGE STRUCTURES

### GENERAL:

LONG-TERM MAINTENANCE OF THE DRAINAGE STRUCTURES WILL BE COMPLETED BY THE OWNER. THE CONTRACTOR SHALL MAINTAIN ALL DRAINAGE COMPONENTS DURING AND DIRECTLY AFTER CONSTRUCTION. ALL OPERATIONAL MAINTENANCE REQUIREMENTS WILL BE RECORDED ON THE TITLE.

### CATCH BASINS & PAVED WATERWAY:

- 1) MAINTENANCE OF ALL CATCH BASINS AND OIL/WATER SEPARATOR CATCH BASINS ON-SITE WILL OCCUR AS SEDIMENT AND DEBRIS REACHES A DEPTH OF TWO (2) FT. WITHIN THE SUMP. CHECK FOR STRUCTURAL INTEGRITY & REPAIR IMMEDIATELY AS REQUIRED.
- 2) ALL DEBRIS, SEDIMENT, AND/OR GREASE SHALL BE REMOVED FROM THE OIL/WATER SEPARATOR CATCH BASINS AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH STATE AND FEDERAL GUIDELINES.
- 3) CHECK PAVED WATERWAY FOR AND REMOVE ANY SEDIMENT BUILD-UP UPSTREAM OR DOWNSTREAM.

### WATER QUALITY BASIN (SAND FILTER) MAINTENANCE:

- 1) A PERMANENT COVER SHALL BE ESTABLISHED IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK. SEEDING SHALL EXTEND AT A MINIMUM TO THE TOP WIDTH OF THE BASINS AND INCLUDE ALL OTHER DISTURBED AREAS DURING CONSTRUCTION ACTIVITIES. ACTIVITIES SHALL BE CONFINED TO WITHIN THE LIMITS OF DISTURBANCE PER PLAN.
- 2) VIGOROUS VEGETATION SHALL BE MAINTAINED WITHIN THE BASINS BY APPLYING LIME AND FERTILIZER. BARE OR ERODED AREAS SHALL BE IMMEDIATELY REPAIRED AND RESEED BY THE CONTRACTOR. POST-CONSTRUCTION SEEDING WILL BE THE RESPONSIBILITY OF THE TOWN.
- 3) THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF THE WATER QUALITY BASIN (SAND FILTER) DURING CONSTRUCTION. MAINTENANCE SHALL INCLUDE RESEEDING ANY UNDEVELOPED AREAS AFTER A FULL GROWING SEASON AT NO ADDITIONAL COST, REMOVAL TO OFF-SITE LOCATION OF ALL ACCUMULATED SILT/SEDIMENT IN THE BASIN, AND MAINTAINING A GRASS HEIGHT BETWEEN 2"-10". REMOVAL OF SILT/SEDIMENT IS TO BE ACCOMPLISHED USING WHEELBARROWS AND SHOVELS.
- 4) LONG-TERM MAINTENANCE OF THE BASIN (SAND FILTER) IS THE RESPONSIBILITY OF THE OWNER. MAINTENANCE SHALL BE PERFORMED AT A MINIMUM YEARLY BASIS. MAINTENANCE SHALL INCLUDE MOWING OF THE BASIN ONCE PER GROWING SEASON (PREFERABLY AFTER AUGUST 15TH), AND/OR MAINTAINING A GRASS HEIGHT OF 2"-10", WHICHEVER COMES FIRST; REMOVING ACCUMULATED SEDIMENT FROM THE BOTTOM OF THE BASIN USING SHOVELS AND WHEELBARROWS (AT A MAXIMUM INTERVAL OF 10 YEARS).
- 5) SEDIMENT SHALL BE CLEANED OUT OF THE SEDIMENT FOREBAY WHEN IT ACCUMULATES TO A DEPTH OF MORE THAN 1/2 THE DESIGN DEPTH. VEGETATION WITHIN THE SEDIMENT FOREBAY SHALL BE LIMITED TO A HEIGHT 10 INCHES. THE SEDIMENT CHAMBER OUTLET DEVICES SHALL BE CLEANED/REPAIRED WHEN DRAWDOWN TIMES EXCEED 36 HOURS. TRASH AND DEBRIS SHALL BE REMOVED AS NECESSARY.
- 6) SILT/SEDIMENT SHALL BE REMOVED FROM THE FILTER BED WHEN THE ACCUMULATION EXCEEDS ONE INCH. WHEN THE FILTERING CAPACITY OF THE FILTER DIMINISHED SUBSTANTIALLY (I.E., WHEN WATER PONDING ON THE SURFACE OF THE FILTER BED FOR MORE THAN 48 HOURS), THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REMOVED AND SHALL BE REPLACED WITH FRESH MATERIAL. THE REMOVED SEDIMENTS SHALL BE DISPOSED IN AN ACCEPTABLE MANNER AT AN APPROVED AND PERMITTED LOCATION.

### ADS PIPE INSTALLATION NOTES:

- 1) **FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A STABLE DEPTH AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321, "STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS," LATEST EDITION; AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
- 2) **BEDDING:** SUITABLE MATERIAL SHALL BE CLASS I, II, OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" FOR 4" TO 24" DIA. & 6" FOR 30" TO 60" DIA.
- 3) **HAUNCHING AND INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I, II, OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
- 4) UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS:

NOMINAL DIA. (IN)	MIN. TRENCH WIDTH (IN)
6"	23"
8"	25"
10"	28"
12"	31"
15"	34"
18"	39"
- 5) **MINIMUM COVER:** RECOMMENDED DEPTHS OF COVER FOR VARIOUS LIVE LOADING CONDITIONS ARE SUMMARIZED IN THE FOLLOWING TABLE. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TAKEN FROM THE TOP OF PIPE TO THE GROUND SURFACE.

SURFACE LIVE LOADING CONDITION	MINIMUM RECOMMENDED COVER (IN)
H25 (FLEXIBLE PAVEMENT)	12"
H25 (RIGID PAVEMENT)	12"
HEAVY CONSTRUCTION	48"

### WATER QUALITY BASIN (DETENTION/INFILTRATION BASIN) MAINTENANCE:

- 1) A PERMANENT COVER SHALL BE ESTABLISHED IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK. SEEDING SHALL EXTEND AT A MINIMUM TO THE TOP WIDTH OF THE BASINS AND INCLUDE ALL OTHER DISTURBED AREAS DURING CONSTRUCTION ACTIVITIES. ACTIVITIES SHALL BE CONFINED TO WITHIN THE LIMITS OF DISTURBANCE PER PLAN.
- 2) VIGOROUS VEGETATION SHALL BE MAINTAINED WITHIN THE BASINS BY APPLYING LIME AND FERTILIZER. BARE OR ERODED AREAS SHALL BE IMMEDIATELY REPAIRED AND RESEED BY THE CONTRACTOR. POST-CONSTRUCTION SEEDING WILL BE THE RESPONSIBILITY OF THE TOWN.
- 3) THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF THE WATER QUALITY BASINS DURING CONSTRUCTION. MAINTENANCE SHALL INCLUDE RESEEDING ANY UNDEVELOPED AREAS AFTER A FULL GROWING SEASON AT NO ADDITIONAL COST, REMOVAL TO OFF-SITE LOCATION OF ALL ACCUMULATED SILT/SEDIMENT IN THE BASIN, AND MAINTAINING A GRASS HEIGHT BETWEEN 2"-10". REMOVAL OF SILT/SEDIMENT IS TO BE ACCOMPLISHED USING WHEELBARROWS AND SHOVELS.
- 4) LONG-TERM MAINTENANCE OF THE BASIN IS THE RESPONSIBILITY OF THE OWNER. MAINTENANCE SHALL BE PERFORMED AT A MINIMUM YEARLY BASIS. MAINTENANCE SHALL INCLUDE MOWING OF THE POND ONCE PER GROWING SEASON (PREFERABLY AFTER AUGUST 15TH), AND/OR MAINTAINING A GRASS HEIGHT OF 2"-10", WHICHEVER COMES FIRST; REMOVING ACCUMULATED SEDIMENT FROM THE BOTTOM OF THE BASIN USING SHOVELS AND WHEELBARROWS (AT A MAXIMUM INTERVAL OF 10 YEARS), OR A DEPTH OF 0.17 INCHES.
- 5) CHECK LOW-FLOW PIPE FOR CLOGGING AND FLUSH AS NECESSARY BY REMOVING THE SCREW-ON PVC CAP.

### UNDERGROUND DETENTION SYSTEMS:

- 1) MAINTENANCE OF STORMTECH INFILTRATION SYSTEM SHALL OCCUR ON A YEARLY BASIS AND IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS (STORMTECH 1-888-892-2694).
- 2) SEDIMENTS SHALL BE REMOVED WITH USE OF VACUUM TRUCK BY WAY OF INSPECTION PORTS. SEDIMENTS SHALL BE REMOVED AND DISPOSED OF OFF-SITE.
- 3) MAINTENANCE OF INFILTRATION SYSTEM IS RESPONSIBILITY OF THE OWNER.
- 4) NOTES 1 THROUGH 3 SHALL BE INCLUDED ON THE PROPERTY DEED.

## SEWER CONSTRUCTION NOTES:

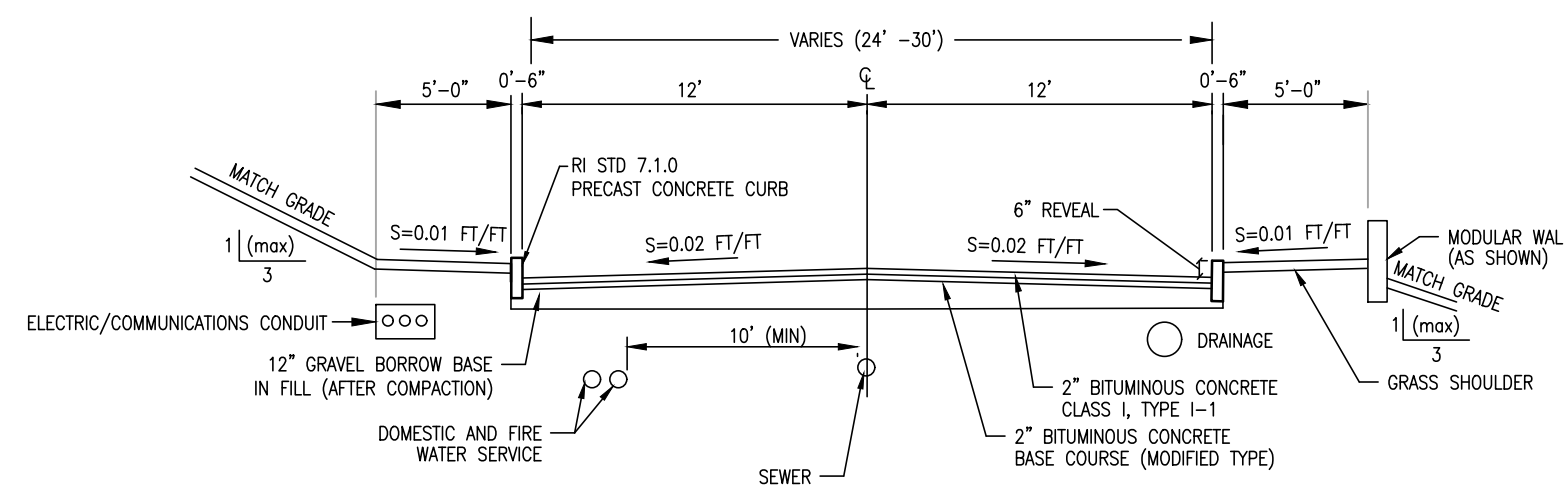
1. FOR GENERAL SPECIFICATIONS REGARDING ALL CONSTRUCTION AS WELL AS THE SANITARY SEWERS THE CONTRACTOR SHALL REFERENCE THE CITY OF CRANSTON CITY CODE, CHAPTER 26, SEWERS, SPECIFICATIONS FOR HIGHWAYS COVERING RESIDENTIAL AND INDUSTRIAL PLAT DEVELOPMENTS, AND OTHER CITY OF CRANSTON DEPARTMENT OF PUBLIC WORKS GUIDELINES, RULES, REGULATIONS AND OTHER APPLICABLE LAWS, INCLUDING ANNEX A-DESIGN OF SEWERS (PROMULGATED 8/15/02), REGARDING SANITARY SEWER CONSTRUCTION, THE CONTRACTOR SHALL SPECIFICALLY REFERENCE THE TECHNICAL RELEASE #16 GUIDE FOR THE DESIGN OF WASTEWATER TREATMENT WORKS (PUBLISHED BY THE N.E. INTERSTATE WATER POLLUTION CONTROL COMMISSION).
2. WHENEVER POSSIBLE, SEWERS SHALL BE SEPARATED AT LEAST 10 FEET HORIZONTALLY FROM ALL WATER LINES OR 18 INCHES VERTICALLY BETWEEN THE CROWN OF THE SEWER PIPE AND THE INVERT OF THE WATER LINE. WHENEVER THE SEWER PIPES MUST CROSS WATER LINES, THE CROWN OF THE SEWER PIPE SHALL BE LAID AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER LINE. IN CASES WHERE THIS IS NOT POSSIBLE THE FOLLOWING ALTERNATIVES MAY BE COMPLETED AT THE DISCRETION OF THE ENGINEER, THE OWNER, AND THE KENT COUNTY WATER AUTHORITY:
  - A. ENCASEMENT OF THE SEWER PIPELINE IN CONCRETE (MIN. 6 INCH THICKNESS) OR A CARRIER PIPE FOR AT LEAST 10 FEET EITHER SIDE OF THE CROSSING OR AREA NOT COMPLYING WITH THE MINIMUM HORIZONTAL AND VERTICAL SEPARATION, OR
  - B. THE DESIGN AND CONSTRUCTION OF THE SEWER MUST MEET THE REQUIREMENTS APPLICABLE TO WATER LINES (ANY AWWA-APPROVED MATERIAL FOR POTABLE WATER CONVEYANCE) FOR AT LEAST 10 FEET EITHER SIDE OF THE CROSSING OR AREA NOT COMPLYING WITH THE MINIMUM HORIZONTAL AND VERTICAL SEPARATION, AND PRESSURE TESTED IN ACCORDANCE WITH AWWA SPECIFICATIONS, OR
  - C. THE ENGINEER MAY DIRECT THE CONTRACTOR TO RELOCATE THE SEWER AND/OR THE WATER LINE.
3. 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.
5. ALL SANITARY SEWER CONSTRUCTION SHALL BE INSPECTED BY THE VEOLIA WATER NORTH AMERICA COLLECTIONS SYSTEM DEPARTMENT. (VEOLIA-CRANSTON WPCE).
6. NO PERSON SHALL MAKE A CONNECTION OF ROOF DOWNSPOUTS, FLOOR DRAINS, SUMP PUMPS, EXTERIOR FOUNDATION DRAINS, AREAWAY DRAINS, OR OTHER SOURCES OF SURFACE RUNOFF OR GROUNDWATER TO ANY COMPONENT OF THE SANITARY SEWER SYSTEM.
7. NO GRAVITY SEWER MAIN SHALL BE LESS THAN EIGHT (8) INCHES (20.3 CM) DIAMETER.
8. GRAVITY SEWER PIPE SHALL BE ASTM RIGID SCHEDULE 35 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 C150/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.
9. MAIN GRAVITY SEWER PIPE SHALL BE INSTALLED BY USING A LASER INVERT MACHINE 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.
10. ALL SANITARY SEWER CONNECTIONS SHALL BE MADE GAS TIGHT.
11. 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 FREEZING UPON THE APPROVAL OF THE PUBLIC WORKS DIRECTOR.
12. SEWER LATERALS SHALL BE 6" PVC SCHEDULE 35 AND BE INSTALLED AT THE MINIMUM SLOPE OF AT LEAST ONE-QUARTER INCH PER FOOT (2.1 CM/M). ALL PIPES SHALL HAVE COMPRESSION JOINTS.
13. 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 WATERTIGHT GASKET SHALL BE USED TO CONNECT THE STRUCTURE TO THE PIPE OR AN APPROVED WATERTIGHT FLEXIBLE SLEEVE. THE PIPE SHALL BE CEMENTED ON THE INSIDE OF THE MANHOLE TO MAKE THE INVERT CLEAN.
14. WHERE SEWER LATERALS CONNECT TO A SEWER MAIN A 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.
15. NO LATERAL MAY SERVICE MORE THAN ONE BUILDING OR PRIVATELY OWNED BUILDING UNITS.
16. 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.
17. BEDDING MATERIAL SHALL BE COMPACTED EVENLY UNDER AND ON BOTH SIDES OF THE PIPE SO THAT THE PIPE REMAINS ALIGNED AND TRUE.
18. 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.
19. BACKFILL MATERIAL SHALL NOT CONTAIN FROZEN MATERIAL, LARGE DIRT CLOUDS, STONES, ORGANIC MATTER, OR UNSUITABLE MATERIALS. ADDITIONAL BACKFILL DETAILS, FOR CITY STANDARDS CR-10/S-1, WHICH ARE AVAILABLE IN THE DIVISION OF ENGINEERING.
20. 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 TWELVE-INCH (12") 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 PURGED 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 WATERTIGHT CONNECTION OR WITH ANOTHER WATERTIGHT 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 (MAX OF 12" HIGH) THE BRICKS SHALL BE WELL CEMENTED BUT NO CEMENT IS ALLOW ON THE FACE OF THE BRICKS.
21. 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.
22. CONTRACTOR AGREES THAT HE 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.

## SITE LEGEND

EXISTING	NEW	DESCRIPTION
S.H.L.		PROPERTY LINE
		STATE HIGHWAY LINE
		SOILS TYPE
		WETLAND EDGE
		WETLAND FLAG
		TREE LINE
		STONE WALL
		RETAINING WALL
		BUILDING
		CONTOUR
		SPOT GRADE
		TC - TOP OF CURB
		BC - BOTTOM OF CURB
		TW - TOP OF WALL
		BW - BOTTOM OF WALL
		EDGE OF PAVEMENT
		ROADWAY CENTERLINE
		CHAINLINK FENCE (CLF)
		STOCKADE FENCE (STKF)
		TESTHOLE
		STORM DRAIN
		CATCH BASIN
		DOUBLE GRATE CATCH BASIN
		CONCRETE THRUST BLOCK
		DRAIN MANHOLE
		FLARED END STRUCTURE
		UNDERGROUND INJECTION CONTROL
		SANITARY SEWER
		SEWER MANHOLE
		WATER SERVICE
		UTILITY POLE
		OVERHEAD WIRE
		WATER
		FIRE SERVICE
		FIRE HYDRANT
		HANDICAP SYMBOL (PRKG. SPACE)
		GATE VALVE AND CURB BOX
		GAS
		SIGN
		ELECTRIC (UNDERGROUND)
		WETLAND
		SITE LIGHTING SERVICE
		TELEPHONE
		EROSION CONTROL
		LIMIT OF DISTURBANCE

## SITE PLAN LEGEND (RIDOT):

BCP	BITUMINOUS CONCRETE PAVEMENT
CC	2" BITUMINOUS CONCRETE SURFACE COURSE (TYPE I-1)
CM	2" BITUMINOUS CONCRETE BASE COURSE
CG	12" GRAVEL BORROW SUBBASE
CM	CLEAR AND GRUB
CM	CUT AND MATCH PAVEMENT
MH	DRAIN MANHOLE "DOGHOUSE" INSTALLATION (DETAIL SHEET C11)
PR	PAVEMENT RESURFACE
RDB	REMOVE AND DISPOSE BITUMINOUS PAVEMENT
RDC	REMOVE AND DISPOSE CONCRETE CURB
SM	SEWER MANHOLE (DETAIL SHEET C12)
6.2.1	HEAVY-DUTY ROUND FRAME AND COVER
7.1.0	PRECAST CONCRETE CURB
7.2.0	PRECAST CONCRETE CURB
9.1.0	BALED HAY/ SILT SOCK EROSION CHECK
9.9.0	CONSTRUCTION ENTRANCE
10.1.0	WET STONE MASONRY RETAINING WALL
43.1.0	CEMENT CONCRETE SIDEWALK
43.2.0	BITUMINOUS CONCRETE SIDEWALK
43.3.0	WHEELCHAIL RAMP
47.1.1	TRANSVERSE PAVEMENT - CUT AND MATCH
48.1.0	DETECTABLE WARNING SYSTEM
LS	4" LOAM AND SEEDING, TYPE 2
LOD	LIMIT OF DISTURBANCE



TYPICAL ROADWAY SECTION  
N.T.S.

GENERAL NOTES AND LEGEND  
PROPOSED MULTI-FAMILY  
DEVELOPMENT  
FOR  
CHAMPLIN HILLS  
SITUATED ON  
SCITUATE AVENUE  
CRANSTON, RI  
PREPARED FOR  
WEST BAY LLC.

NO.	REVISION	BY	DATE
1	PER STATE PERMITTING	RJB	9/17/14
2	DRAINAGE MODIFICATION	RJB	1/6/15
3	DRAINAGE MODIFICATION	RJB	2/23/15
4	MODIFY WETLAND DELINEATION	RJB	4/26/15
5	BUILDING SIZE MOD.	RJB	5/7/15
6	ADD LANDSCAPE PLAN	RJB	6/10/15
7	INCLUDE ABUTTING PARCEL	RJB	11/6/15
10	PER TOWN REQUIREMENT	RJB	5/23/16
11	FINAL PLAN SUBMISSION	RJB	9/29/16
12	ISSUED FOR CONSTRUCTION	RJB	10/7/16

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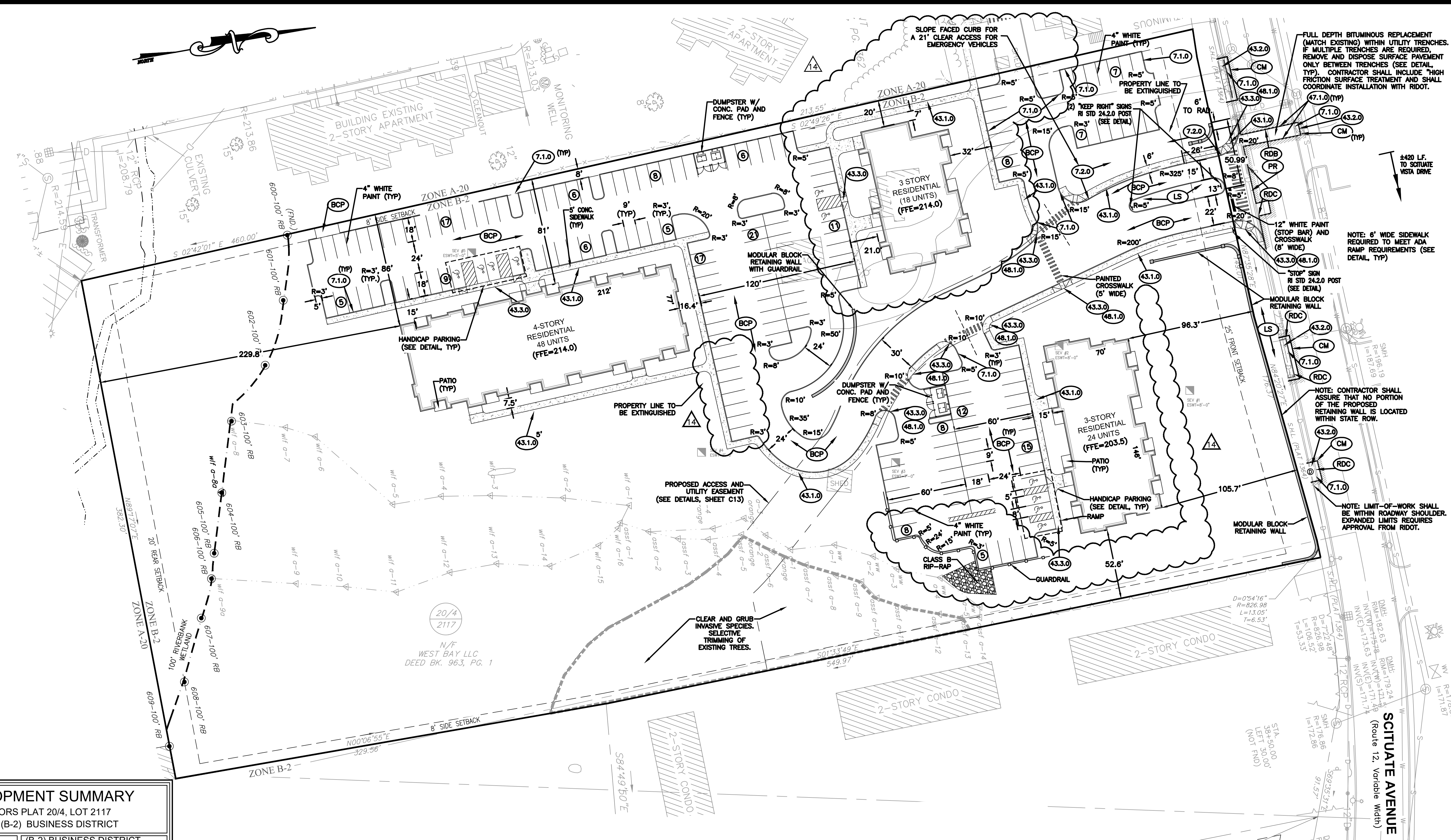
JOB NO. 6856-00	DRAWN BY R.J.B.
DWG. NO. 6856-BASE-PRELIM	CHECKED S.B.G.
SCALE: AS SHOWN	APPROVED S.B.G.
	DATE: MAY, 2014

SHEET

C3

OF 15 SHEETS

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**SITE LAYOUT PLAN**  
**MULTI-FAMILY DEVELOPMENT**  
 FOR  
**CHAMPLIN HILLS**  
 SITUATED ON  
 A.P. 20/4, LOT 2117  
**SCITUATE AVENUE**  
 CRANSTON, RI  
 PREPARED FOR  
**WEST BAY LLC.**

NO.	REVISION	BY	DATE
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10	PER TOWN REQUIREMENT	RJB	5/23/16
11	FINAL PLAN SUBMISSION	RJB	8/9/16
12	ISSUED FOR CONSTRUCTION	RJB	10/7/16
14	BUILDING MOD.	KYY	3/23/23

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DEVELOPMENT SUMMARY		
ASSESSORS PLAT 20/4, LOT 2117		
ZONING: (B-2) BUSINESS DISTRICT		
DESCRIPTION	REQUIRED	PROPOSED
<b>SITE DATA</b>		
TOTAL LOT AREA	SEE UNIT DENSITY REQUIREMENTS	345,449 S.F. (EXISTING)
LAND USE	---	RESIDENTIAL MULTIFAMILY
MAX. BUILDING HEIGHT	35'	63' *
LOT COVERAGE	50%	±11.4%
<b>DIMENSIONAL REQUIREMENTS</b>		
FRONTAGE	---	338.43'
FRONT YARD	25'	96.3'
SIDE YARD	8'	20'
REAR YARD	20'	229.8'
<b>PARKING REQUIREMENTS</b>		
RESIDENTIAL	180	181
2 SPACES/ DWELL. UNIT		

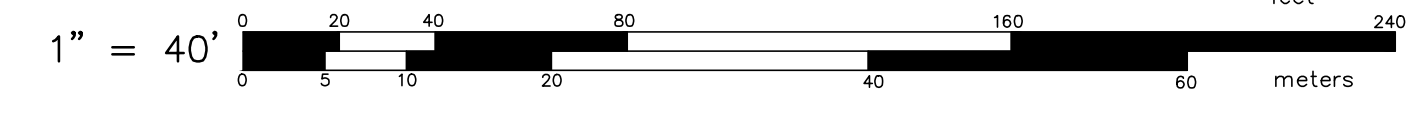
UNIT DENSITY REQUIREMENTS			
LAND AREA	AVAILABLE	REQUIRED	
	328,447 S.F. (1) (7.54 AC.)	259,000 (2) (5.95 AC.)	
No. DWELLING UNITS	ALLOWED	PROPOSED	
	91.8 (3)	90	

NOTES:  
 1. TOTAL SUITABLE LAND AREA = 345,449 S.F. (LOT AREA) - 17,002 S.F. (WETLAND) = 328,447 S.F.  
 2. PER CITY OF CRANSTON, ZONING ORDINANCE, SECTION 17.20.030, IN REFERENCE TO TOTAL NUMBER OF PROPOSED DWELLING UNITS.  
 UNIT 1: 1 UNIT x 6,000 S.F./UNIT = 6,000 S.F.  
 UNIT 2-10: 9 UNITS x 4,000 S.F./UNIT = 36,000 S.F.  
 UNIT 11-72: 62 UNITS x 3,500 S.F./UNIT = 217,000 S.F.  
 TOTAL REQUIRED LOT AREA (72 UNITS) = 259,000 S.F.  
 3. BASED ON TOTAL (AVAILABLE) SUITABLE LAND AREA (REFER TO NOTE 1).

**SITE LAYOUT PLAN**  
 SCALE 1"=40'

**GENERAL SITE PLAN NOTES:**

- THE CONTRACTOR IS REQUIRED TO CONTACT DIG-SAFE PRIOR TO COMMENCING ANY SITE CONSTRUCTION. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
  - ALL WORK WITHIN THE STATE'S ROW SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION (RIDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2013, WITH ALL REVISIONS. STANDARD DETAILS FOR WORK WITHIN THE STATE'S ROW ARE THE RHODE ISLAND STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.
  - ALL TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES, WITH ALL REVISIONS.
  - NO BASEMENTS ARE PROPOSED FOR THE DESIGNED STRUCTURES.
- REFER TO DETAILS SHEETS FOR ADDITIONAL NOTES.



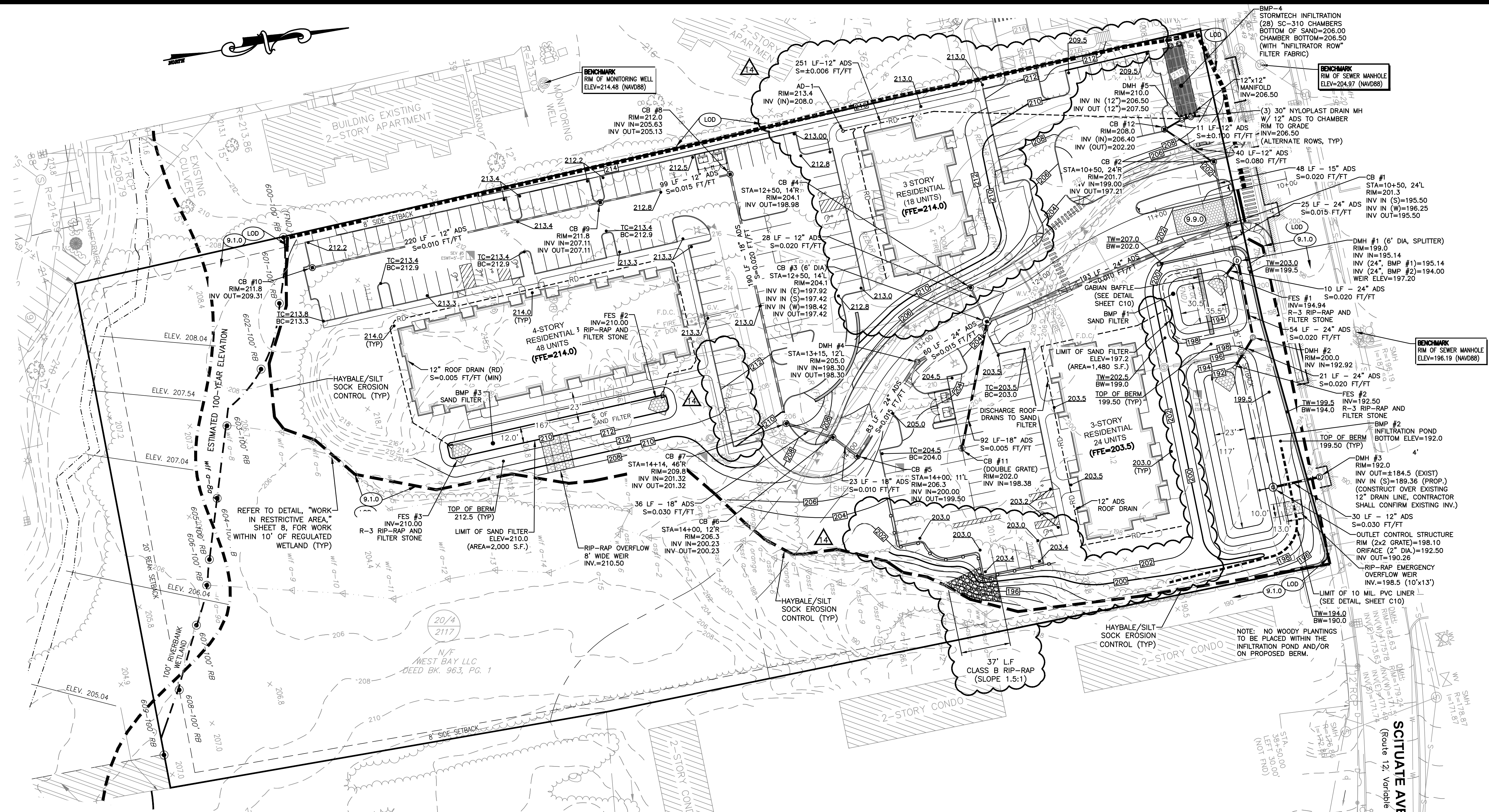
NOTE:  
 \* HEIGHT VARIANCE APPROVED APRIL 13, 2016.

**OWNER/APPLICANT:**  
 A.P. 20/4, LOT 2117  
 WEST BAY LLC  
 1414 ATWOOD AVE  
 JOHNSTON, RI 02919

JOB NO. 6856-00	DRAWN BY R.J.B.
DWG. NO. 6856-BASE-PRELIM	CHECKED S.B.G.
SCALE: 1" = 40'	APPROVED S.B.G.
	DATE: MAY, 2014

SHEET  
**C4**  
 OF 15 SHEETS

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**GRADING AND DRAINAGE NOTES:**

1. THE CONTRACTOR IS REQUIRED TO CONTACT DIG-SAFE PRIOR TO COMMENCING ANY SITE CONSTRUCTION. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR IS REQUIRED TO DEVELOP AND IMPLEMENT A PLAN FOR THE TEMPORARY CONTROL OF VEHICULAR AND PEDESTRIAN TRAFFIC FOR WORK WITHIN PUBLIC STREET RIGHT-OF-WAY AT THE SITE EGRESS. CONTRACTOR SHALL OBTAIN APPROVAL OF SAID PLAN FROM APPROPRIATE STATE AND COMMUNITY PUBLIC SAFETY OFFICIALS.
3. WHEN IT IS NECESSARY TO CLOSE OFF A STREET, THE FIRE DEPARTMENT AND POLICE DEPARTMENT SHALL BE NOTIFIED BY THE CONTRACTOR.
4. ALL WORK WITHIN THE STATE'S ROW SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION (RIDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION, WITH ALL REVISIONS. STANDARD DETAILS FOR WORK WITHIN THE STATE'S ROW ARE THE RHODE ISLAND STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.
5. PRECAST STRUCTURES MAY BE USED AT CONTRACTOR'S OPTION. SHOP DRAWINGS OF PRECAST STRUCTURES SHALL BE REVIEWED BY THE ENGINEER AND APPROVED BEFORE USE.
6. STORM PIPE SHALL ADS N-12.
7. GRADE CONTOURS SHOWN AT 2 FOOT INTERVALS.
8. IF ANY EXISTING STRUCTURES AND/OR UTILITIES TO REMAIN ARE DAMAGED DURING CONSTRUCTION, EITHER ON THE PROJECT SITE, ADJACENT PROPERTIES, OR WITHIN STATE RIGHT-OF-WAY, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
9. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
10. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".
11. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
12. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
13. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL GRASS DISTURBED AREAS IN ACCORDANCE WITH CITY SPECIFICATIONS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
14. ALL ROOF STORMWATER RUNOFF WILL BE DISCHARGED TO THE BIORETENTION AREA NOTED ON THE INDIVIDUAL LOTS. CONTRACTOR SHALL PITCH DRIVEWAYS TOWARD THE ROADWAY UNLESS OTHERWISE NOTED.
15. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
16. REFER TO THE SOIL EROSION AND SEDIMENT CONTROL PLAN (SHEET 7 OF 11) FOR EXISTING SOIL TYPES.
17. ALL WATERLINES SHALL BE LAID 10-FT (MINIMUM) DISTANCE FROM SANITARY LINES. A CARRIER PIPE SHALL BE PROVIDED WHEN WATERLINE CROSSES WITHIN 1.5-FT VERTICAL DISTANCE FROM SEWER LINES. CARRIER PIPES SHALL EXTEND 10-FEET PERPENDICULAR FROM THE CROSSING. ALL SEWER/WATER LAYOUT AND INSTALLATION SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF THE PROVIDENCE WATER SUPPLY BOARD AND RIDEM SEWER/WATER LINE SEPARATION POLICY.

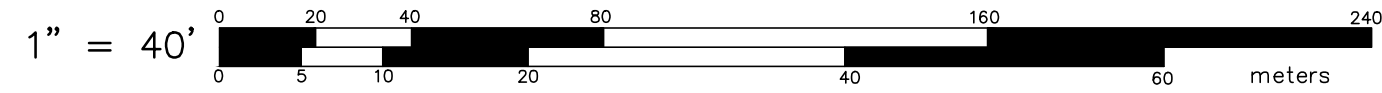
REFER TO DETAILS SHEETS FOR ADDITIONAL NOTES.

**GRADING AND DRAINAGE PLAN**

SCALE 1"=40'

**TEST HOLE TABULATION:**

TEST HOLE	HOLE DEPTH	WATERTABLE	LEDGE
1	11'	8'-0"	none
2	11'	8'-0"	none
3	10'	7'-0"	none
4	10'	2'-0"	none
5	10'	5'-0"	none



**GRADING AND DRAINAGE PLAN**  
**MULTI-FAMILY DEVELOPMENT FOR CHAMPLIN HILLS**  
 SITUATED ON  
 A.P. 20/4, LOT 2117  
 SCITUATE AVENUE  
 CRANSTON, RI  
 PREPARED FOR  
**WEST BAY LLC.**

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13	WATER CONNECTION MOD	RJB	2/16/17
14	BUILDING MOD.	KYY	3/23/23

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	DATE: MAY, 2014

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**C5**  
 OF 15 SHEETS

**OWNER/APPLICANT:**  
 A.P. 20/4, LOT 2117  
 WEST BAY LLC  
 1414 ATWOOD AVE  
 JOHNSTON, RI 02919

UTILITIES PLAN  
 MULTI-FAMILY DEVELOPMENT  
 FOR  
 CHAMPLIN HILLS  
 SITUATED ON  
 A.P. 20/4, LOT 2117  
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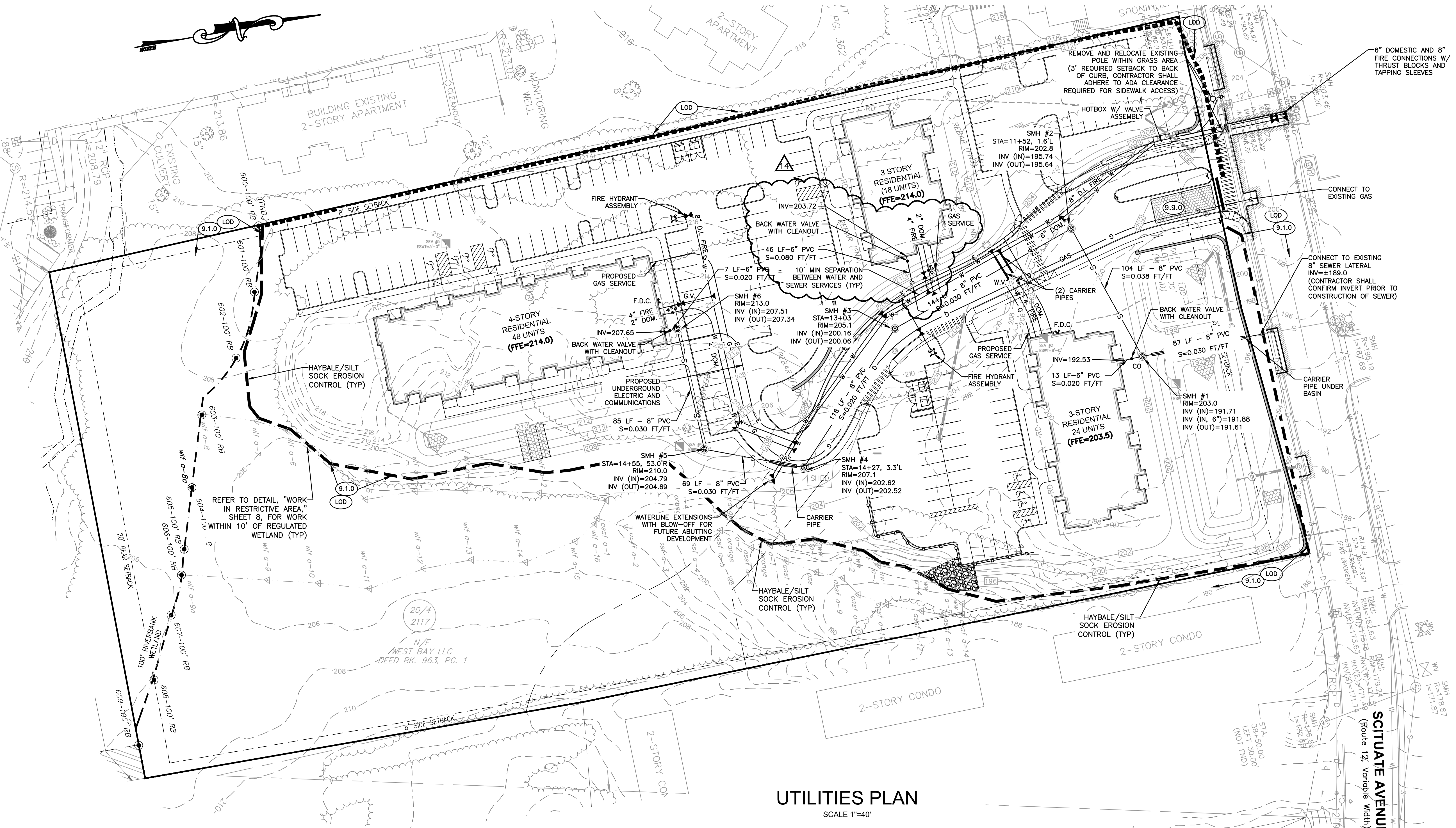
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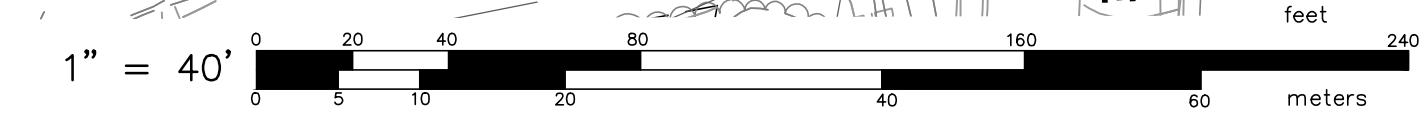
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SHEET  
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 OF 15 SHEETS

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UTILITIES PLAN  
 SCALE 1"=40'



SEWER MAIN CONSTRUCTION NOTES:

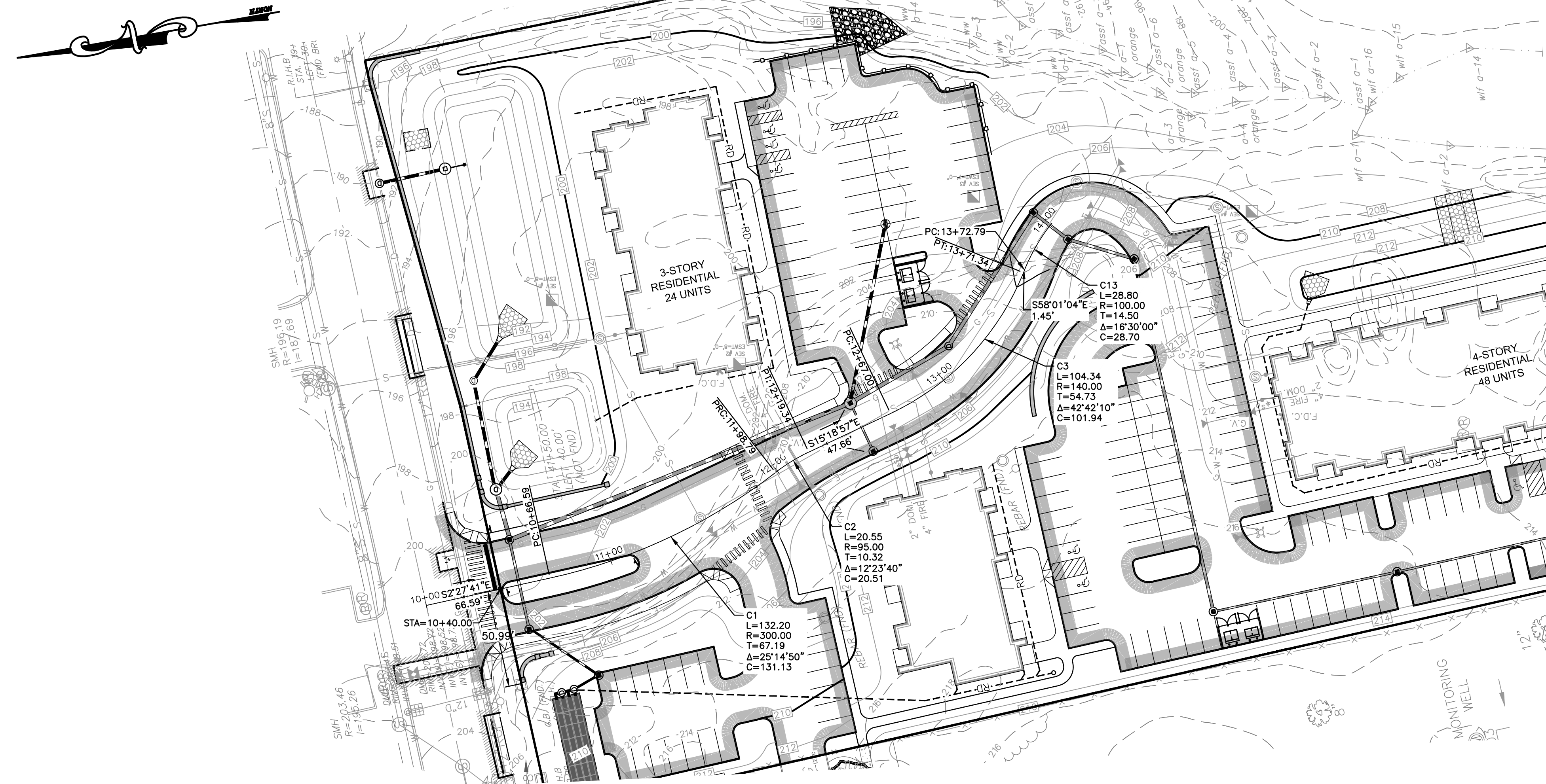
- FOR GENERAL SPECIFICATIONS REGARDING ALL CONSTRUCTION AS WELL AS THE SANITARY SEWERS THE CONTRACTOR SHALL REFERENCE THE CITY OF CRANSTON CITY CODE, CHAPTER 26, SEWERS, SPECIFICATIONS FOR HIGHWAYS COVERING RESIDENTIAL AND INDUSTRIAL PLAT DEVELOPMENTS, AND OTHER CITY OF CRANSTON DEPARTMENT OF PUBLIC WORKS GUIDELINES, RULES, REGULATIONS AND OTHER APPLICABLE LAWS, INCLUDING ANNEX A-DESIGN OF SEWERS (PROMULGATED 8/15/02), REGARDING SANITARY SEWER CONSTRUCTION, THE CONTRACTOR SHALL SPECIFICALLY REFERENCE THE TECHNICAL RELEASE #16 GUIDE FOR THE DESIGN OF WASTEWATER TREATMENT WORKS (PUBLISHED BY THE N.E. INTERSTATE WATER POLLUTION CONTROL COMMISSION).
- 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 GRAVITY SEWER MAIN SHALL BE LESS THEN EIGHT (8) INCHES (20.3 CM) DIAMETER
- GRAVITY SEWER PIPE SHALL BE ASTM RIGID SCHEDULE 35 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 C150/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.
- GRAVITY SEWER PIPE SHALL BE INSTALLED BY USING A LASER INVERT MACHINE 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 MADE GAS 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 FREEZING UPON THE APPROVAL OF THE PUBLIC WORKS DIRECTOR.
- SEWER LATERALS SHALL BE 6" PVC SCHEDULE 35 AND BE INSTALLED AT THE MINIMUM SLOPE OF AT LEAST ONE-QUARTER INCH PER FOOT (2.1 CM/M). ALL PIPES SHALL HAVE COMPRESSION JOINTS.
- 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 WATERTIGHT GASKET SHALL BE USED TO CONNECT THE STRUCTURE TO THE PIPE OR AN APPROVED WATERTIGHT FLEXIBLE SLEEVE. THE PIPE SHALL BE CEMENTED ON THE INSIDE OF THE MANHOLE TO MAKE THE INVERT CLEAN.
- WHERE SEWER LATERALS CONNECT TO A SEWER MAIN A 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 UNITS.
- 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 COMPACTED AND SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D1557.
- 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 TWELVE-INCH (12") 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 PURGED 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 WATERTIGHT CONNECTION OR WITH ANOTHER WATERTIGHT 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 (MAX OF 12" HIGH) THE BRICKS SHALL BE WELL CEMENTED BUT NO CEMENT IS ALLOW 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 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.

SEWER MAIN ORDER OF PROCEDURE:

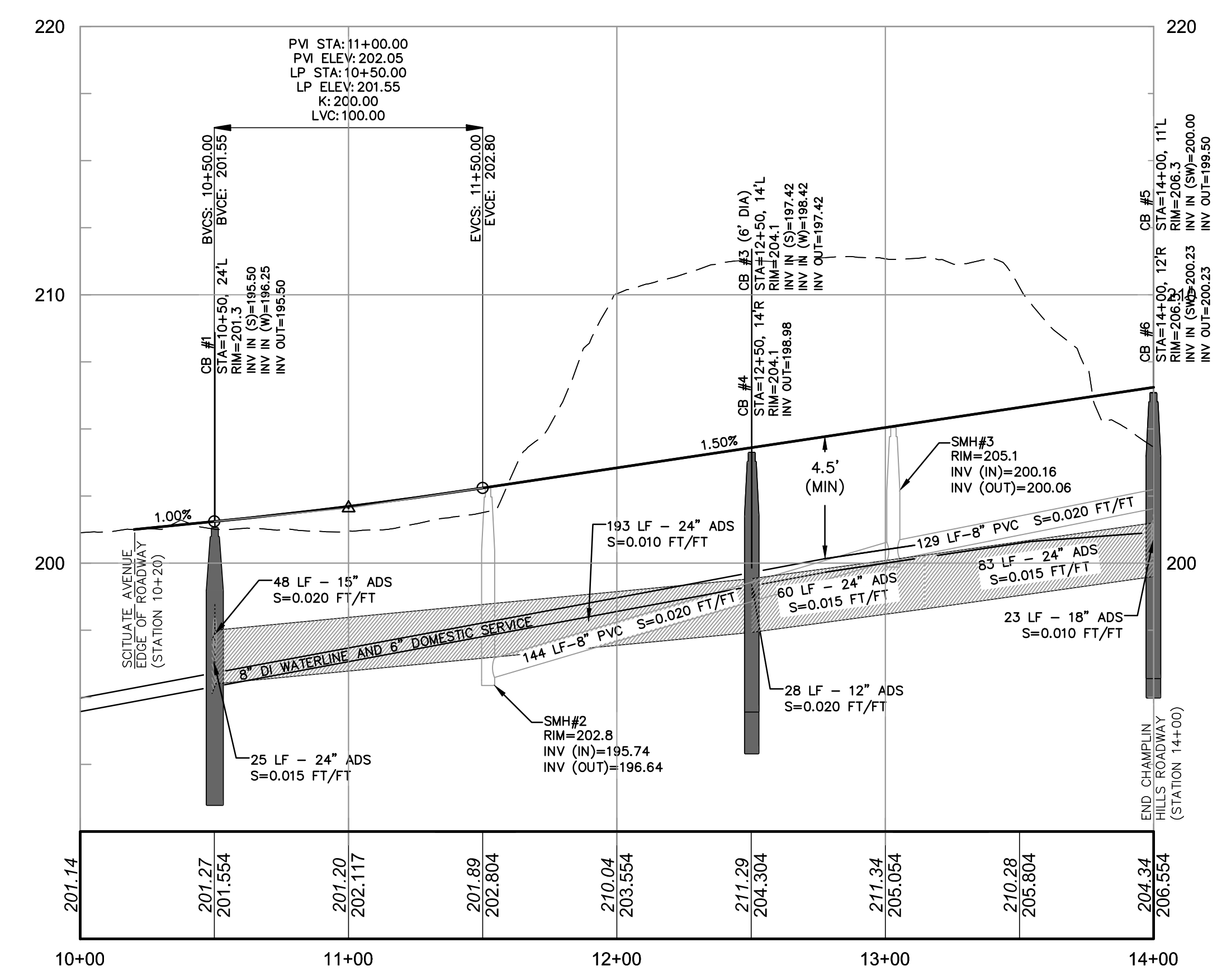
- THE OWNER OR THE DEVELOPER SHALL SUBMIT TO THE CITY OF CRANSTON'S DIRECTOR OF PUBLIC WORKS THE NAME OF THE QUALIFIED SEWER CONTRACTOR THAT WILL BE RESPONSIBLE FOR THE INSTALLATION OF THE SANITARY SEWER SYSTEM, TOGETHER WITH A BREAKDOWN OF ITEMS, QUANTITIES AND UNIT PRICES FOR THE PROJECT.
- NO WORK CAN COMMENCE OF ANY SEWER INSTALLATION WITHOUT THE DIRECTOR'S APPROVAL OF THE PLANS AND CONTRACTOR.
- THE CONTRACTOR THAT WAS APPROVED SHALL NOTIFY VEOLIA WATER OF NORTH AMERICA COLLECTIONS SYSTEM DEPARTMENT AND THE DIRECTOR OF PUBLIC WORKS FIVE (5) WORKING DAYS PRIOR TO COMMENCING ANY SEWER RELATED EXCAVATION. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION: COMPANY NAME, PHONE NUMBER AND ADDRESS OF BOTH THE DEVELOPER AND CONTRACTOR ALONG WITH THE NAME AND PHONE NUMBER OF THE SEWER CONTRACTOR'S FOREMAN. THE CONTRACTOR SHALL PROVIDE TO VEOLIA WATER AND THE CITY A SPECIFIC BY-PASS PUMPING PLAN FOR APPROVAL PRIOR TO CONSTRUCTION.
- VEOLIA WATER SHALL INSPECT THE NEW PLAT CONSTRUCTION CONSISTING OF EXCAVATION, LING OF SEWER MAINS AND STREET LATERALS, INSTALLATION OF MANHOLES, AND BACKFILLING TO THE ELEVATION OF THE EXISTING GROUND, CAMERA INSPECTION, AND PRESSURE TESTING; AND SHALL PERFORM THE FLOW TEST. THE CONTRACTOR AT HIS CHOICE AND EXPENSE HAS THE OPTION OF USING A PRIVATE CONTRACTOR OR HIRING VEOLIA WATER TO CAMERA AND VIDEO TAPE THE SEWER IF THE CONTRACTOR CHOOSES TO USE A PRIVATE CAMERA CONTRACTOR TO VIDEO TAPE THE SEWER SYSTEM AN INSPECTOR FROM VEOLIA WATER SHALL BE PRESENT FOR THE VIDEO TAPING.
- AFTER THE SEWER SYSTEM HAS BEEN INSTALLED THE CONTRACTOR SHALL HAVE THE ENTIRE MANHOLES VACUUM TESTED: (TEN (10) INCHES OF VACUUM FOR SIXTY (60) SECONDS, AND THEN THE GRAVITY SEWER PIPES SHALL BE TESTED FOR: FIVE (5) LBS OF PRESSURE FOR TEN (10) MINUTES. VEOLIA'S INSPECTOR SHALL BE PRESENT FOR ALL TESTING OF MANHOLES AND PIPES.
- AFTER THE TESTING OF THE MANHOLES AND PIPES THE CONTRACTOR SHALL HAVE THE ENTIRE SEWER SYSTEM FLUSHED AND CLEANED.
- NEXT THE SYSTEM SHALL BE CAMERA INSPECTED AND VIDEO TAPED.
- VEOLIA WATER SHALL REVIEW THE VIDEOTAPES AND WRITE A PUNCH LIST OF ALL OR ANY ITEMS THAT REQUIRE ATTENTION.
- AS A CONDITION OF THE FINAL ACCEPTANCE OF THE SANITARY SEWER SYSTEM, THE CONTRACTOR SHALL FORMALLY REQUEST, THROUGH THE CITY ENGINEERING DIVISION, A FINAL INSPECTION BY VEOLIA.
- BEFORE FINAL APPROVAL OF THE SEWER SYSTEM CAN BE GRANTED AND CERTIFICATES OF OCCUPANCY ARE ISSUED, THE CONTRACTOR SHALL SUBMIT TO VEOLIA TWO (2) SETS OF SEWER AS-BUILT PLANS WITH GIS COORDINATES FOR EACH MANHOLE. THE AS-BUILTS SHALL BE ON "COPY-TUFF" MEDIA AND IN COMPUTER .DWG OR AUTOCAD R14 OR AUTOCAD LT 2002 VERSION FILE FORMAT AND MEET THE FOLLOWING CRITERIA.
  - ALL RECORD PLANS ARE REQUIRED TO BE THE UNIFORM SIZE OF 20" X 40".
  - SCALE FOR THE PLANS: HORIZONTAL 1" = 40' AND VERTICAL 1" = 10'.
  - STATION FIGURES ARE TO BE SHOWN ON ALL MANHOLES.
  - DISTANCES OF LATERALS ARE TO BE SHOWN WITH DEPTHS OF THE END OF THE PIPE AT THE STREET LINE.
  - TIES TO THE "Ys", MANHOLES, AND ENDS OF LATERALS ARE TO BE SHOWN FROM PERMANENT STRUCTURES.
  - LEDGE AND SELECT MATERIALS ARE TO BE SHOWN ON THE PROFILE. g. SLOPE, SIZE, LENGTH, AND TYPE OF PIPE ARE TO BE SHOWN ON THE PROFILE.
  - ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION ARE TO BE SHOWN ON THE PROFILE.
  - SEWER RECORD AND STORM DRAIN PLANS ARE TO BE DRAWN SEPARATELY.
  - THE RECORD PLAN SHALL BE DRAWN SO THAT THE NORTH DESIGNATION IS POINTING IN THE UPPER QUADRANT. AN ID TABLE NEEDS TO BE PROVIDED ON THE PLANS.
  - THE X AND Y COORDINATE SHALL BE THE NAD 83 RI STATE PLANE FEET COORDINATES.
  - ELEVATIONS SHALL BE BASED ON THE CITY OF CRANSTON'S MEAN HIGH WATER (MHW) DATA FOR THE VERTICAL COORDINATES.
- FINAL APPROVAL AND ISSUANCE OF THE CERTIFICATES OF OCCUPANCY ARE CONTINGENT UPON THE OWNER/DEVELOPER'S SUBMISSION OF AN ACCEPTABLE, PERPETUAL OPERATION AND MAINTENANCE PLAN TO THE CITY AND VEOLIA FOR THE PRIVATE SEWAGE SYSTEM.

L:\6856-00\_Proposed Multi-Family Development - Scituate Avenue - Cranston, RI\dwg\01-Current\_Civil\Final.dwg 03/24/2023 10:49:53 09-52

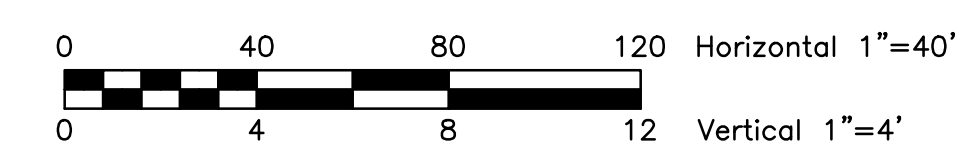
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**HORIZONTAL ALIGNMENT**  
STATION 10+00 - 15+87  
SCALE 1"=40'



**ROAD PROFILE**  
STATION 10+00 - 15+87



**ROAD PLAN AND PROFILE**  
MULTI-FAMILY DEVELOPMENT  
FOR  
CHAMPLIN HILLS  
SITUATED ON  
A.P. 20/4, LOT 2117  
SCITUATE AVENUE  
CRANSTON, RI  
PREPARED FOR  
WEST BAY LLC.

NO.	REVISION	BY	DATE
2	DRAINAGE MODIFICATION	RJB	1/6/15
3	DRAINAGE MODIFICATION	RJB	2/23/15
4	MODIFY WETLAND DELINEATION	RJB	4/26/15
5	MODIFY BUILDING SIZE	RJB	5/7/15
6	ADD LANDSCAPE PLAN	RJB	6/10/15
7	INCLUDE ABUTTING PARCEL	RJB	11/6/15
8	BUILDING MODIFICATION	RJB	1/26/16
9	BUILDING MOD/RIDEM	RJB	3/1/16
10	PER TOWN REQUIREMENT	RJB	5/23/16
11	FINAL PLAN SUBMISSION	RJB	9/29/16
12	ISSUED FOR CONSTRUCTION	RJB	10/7/16
13	WATER CONNECTION MOD	RJB	2/16/17
14	BUILDING MOD.	KYY	3/23/23

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CIVIL & STRUCTURAL ENGINEERS/SURVEYORS  
LAND PLANNERS/ENVIRONMENTAL SCIENTISTS

85 CORLISS STREET  
P.O. BOX 6145  
PROVIDENCE, RI 02940  
TEL. 401-273-6000

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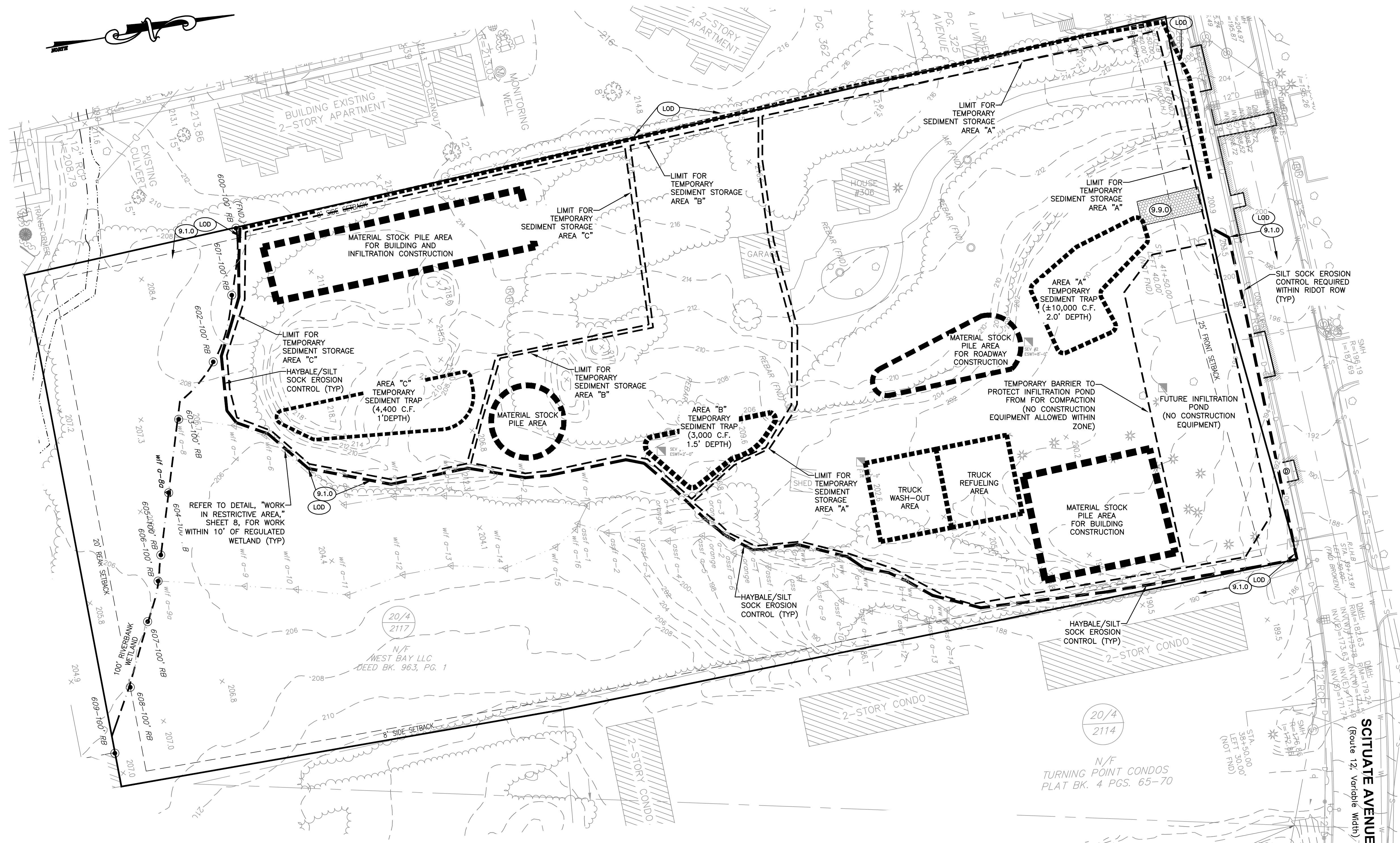
JOB NO. 6856-00	DRAWN BY R.J.B.
DWG. NO. 6856-BASE-PRELIM	CHECKED S.B.G.
SCALE: AS SHOWN	APPROVED S.B.G.
	DATE: MAY, 2014

SHEET

**C7**

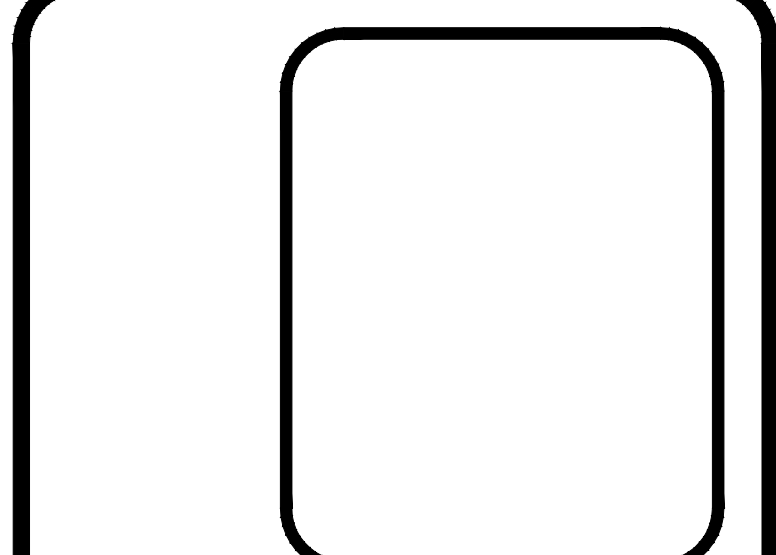
OF 15 SHEETS

**OWNER/APPLICANT:**  
A.P. 20/4, LOT 2117  
WEST BAY LLC  
1414 ATWOOD AVE  
JOHNSTON, RI 02919



**SOIL EROSION AND  
SEDIMENT CONTROL PLAN**  
FOR  
**MULTI-FAMILY DEVELOPMENT**  
FOR  
**CHAMPLIN HILLS**  
SITUATED ON  
A.P. 20/4, LOT 2117  
SCITUATE AVENUE  
CRANSTON, RI  
PREPARED FOR  
**WEST BAY LLC.**

NO.	REVISION	BY	DATE
1	PER STATE PERMITTING	RJB	9/17/14
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3	DRAINAGE MODIFICATION	RJB	2/23/15
4	MODIFY WETLAND DELINEATION	RJB	4/26/15
5	MODIFY BUILDING SIZE	RJB	5/7/15
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7	INCLUDE ABUTTING PARCEL	RJB	11/6/15
10	PER TOWN REQUIREMENT	RJB	5/23/16
11	FINAL PLAN SUBMISSION	RJB	9/29/16
12	ISSUED FOR CONSTRUCTION	RJB	10/7/16



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## SOIL EROSION AND SEDIMENT CONTROL PLAN

SCALE 1"=40'

### EROSION CONTROL and SOIL STABILIZATION PROGRAM:

- DENUDED SLOPES SHALL NOT BE LEFT EXPOSED FOR EXCESSIVE PERIODS OF TIME.
- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDED OR PROTECTED BY THAT DATE FOR ANY WORK COMPLETED DURING EACH CONSTRUCTION YEAR.
- TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
- HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 2000 LBS/ACRE.
- ALL HAYBALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS 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.
- THE SEED MIX SHALL BE INOCULATED WITHIN TWENTY FOUR (24) HOURS, BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
- THE DESIGN MIX FOR TEMPORARY EROSION CONTROL AND SOIL STABILIZATION SHALL BE COMPRISED OF THE FOLLOWING:

TYPE	% BY WEIGHT
CREeping RED FESCUE	70
ASTORIA BENTGRASS	5
BIRD'SFOOT TREEFOIL	15
PERENNIAL RYEGRASS	10

APPLICATION RATE 100 LBS/ACRE

LIMING AND FERTILIZING AS REQUIRED TO COMPLIMENT OR UPGRADE EXISTING CONDITIONS.

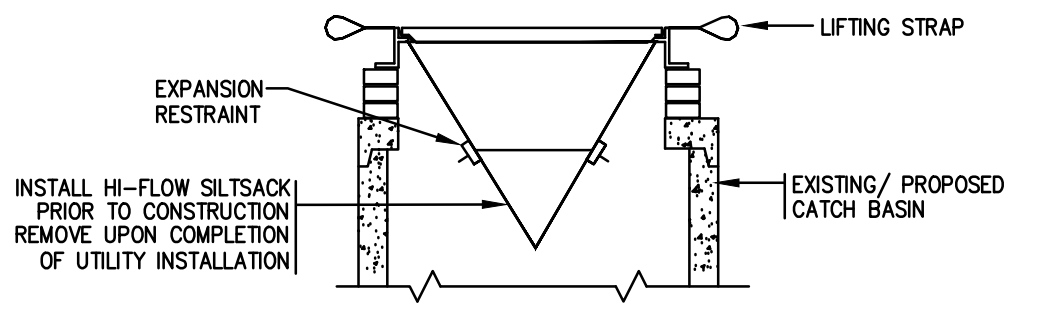
- THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE (1) YEAR, AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE.
- THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST THROUGH OCTOBER 15TH.
- STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN FIFTEEN (15) DAYS OF FINAL GRADING.
- STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS OR FLOOD PLAINS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN THIRTY PERCENT (30%) AND STOCKPILES SHALL ALSO BE SEEDED AND/OR STABILIZED AND COMPLETELY ENCLOSED WITH A CONTINUOUS LINE OF STAKED HAYBALES AND/OR SILTFENCE. (SEE DETAIL)
- ON BOTH STEEP AND LONG SLOPES, CONSIDERATION SHOULD BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.

### SEQUENCE AND STAGING OF LAND DISTURBING ACTIVITIES:

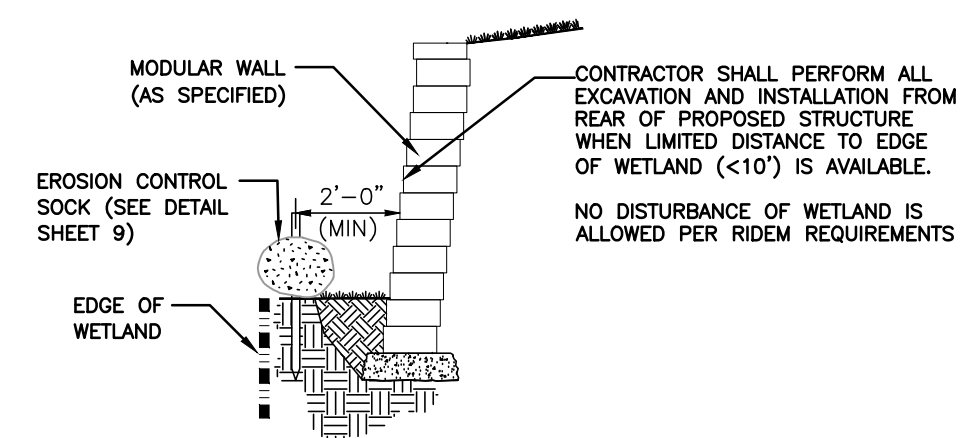
- SURVEY AND STAKE THE DRAINAGE STRUCTURES, LIMIT OF WORK AND SEDIMENTATION BARRIERS.
- PLACE SEDIMENTATION BARRIERS (HAY BALES OR SILT FENCE) AS SHOWN ON THE PLANS AND STAKED OUT IN THE FIELD. IN NO CASE IS THE LIMIT OF WORK TO EXTEND BEYOND THE SEDIMENTATION BARRIERS.
- BEGIN ROADWAY AND DRAINAGE WORK (CLEARING AND GRUBBING, EXCAVATING AND GRADING, ETC.). TOP SOIL TO BE STRIPPED AND STOCKPILED IN APPROVED AREAS. THE STOCKPILES ARE TO BE PROTECTED BY A ROW OF SEDIMENTATION BARRIER AND COVERED OR TEMPORARILY SEEDED. NO RUNOFF IS TO BE DISCHARGED TO THE DETENTION STRUCTURES UNTIL THE BINDER COURSE OF PAVEMENT IS INSTALLED AND DISTURBED AREAS ARE STABILIZED WITH VEGETATION.
- BEGIN CLEARING WITHIN AREAS OF THE PROPOSED STRUCTURES FOLLOWING CONSTRUCTION OF ROADWAY.
- LANDSCAPING AND PERMANENT STABILIZATION. SWEEP THE ROADWAY AREAS TO REMOVE ALL SEDIMENTS.
- FLUSH AND/OR REPAIR DRAINAGE AREAS AS NEEDED.
- REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING VEGETATIVE ESTABLISHMENT OF ALL DISTURBED AREAS.

### SEDIMENTATION CONTROL PROGRAM:

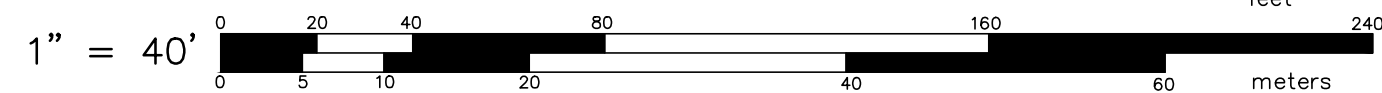
- EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY SEDIMENTS FROM ENTERING THE STATE HIGHWAY OR ADJOINING PROPERTIES.
- BANKS OR SLOPES OVER 5% SHALL BE SEEDED AS SOON AS POSSIBLE AND SHALL BE PROTECTED WITH A HAY, STRAW OR FIBER MULCH.
- DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
- SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
- CARE SHALL BE TAKEN SO 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 STORM WATER FLOW.
- ADDITIONAL HAYBALES, SILT FENCE OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.



SILTSACK® AT CATCH BASIN DETAIL  
NOT TO SCALE



WORK IN RESTRICTIVE AREA  
NOT TO SCALE



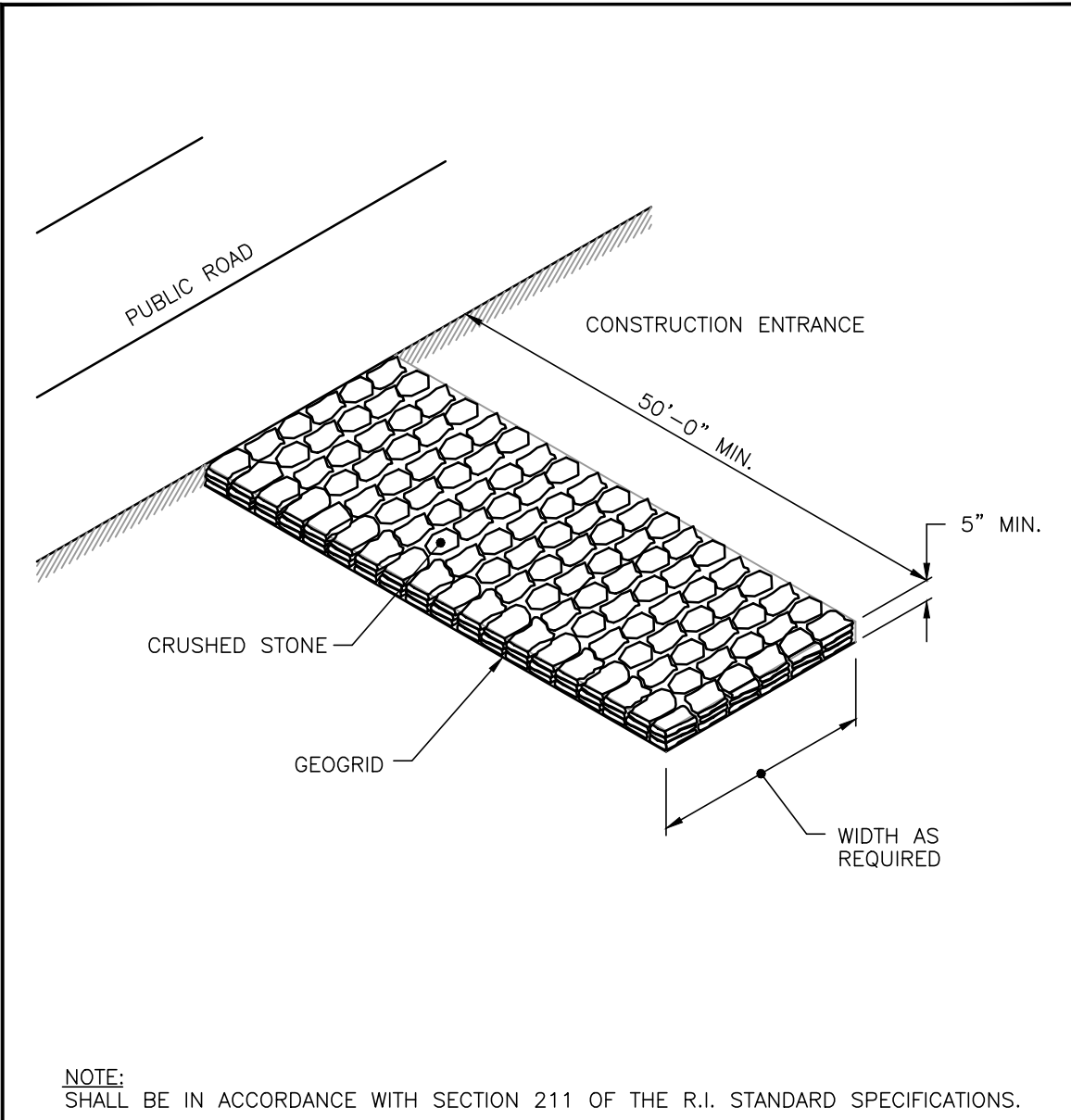
**OWNER/APPLICANT:**  
A.P. 20/4, LOT 2117  
WEST BAY LLC  
1414 ATWOOD AVE  
JOHNSTON, RI 02919

<b>JOB NO.</b> 6856-00	<b>DRAWN BY</b> M.S.G.
<b>DWG. NO.</b> 6856-BASE-PRELIM	<b>CHECKED</b> S.B.G.
<b>SCALE:</b> 1" = 40'	<b>APPROVED</b> S.B.G.
<b>SHEET</b>	<b>DATE:</b> MAY, 2014

# C8

OF 15 SHEETS

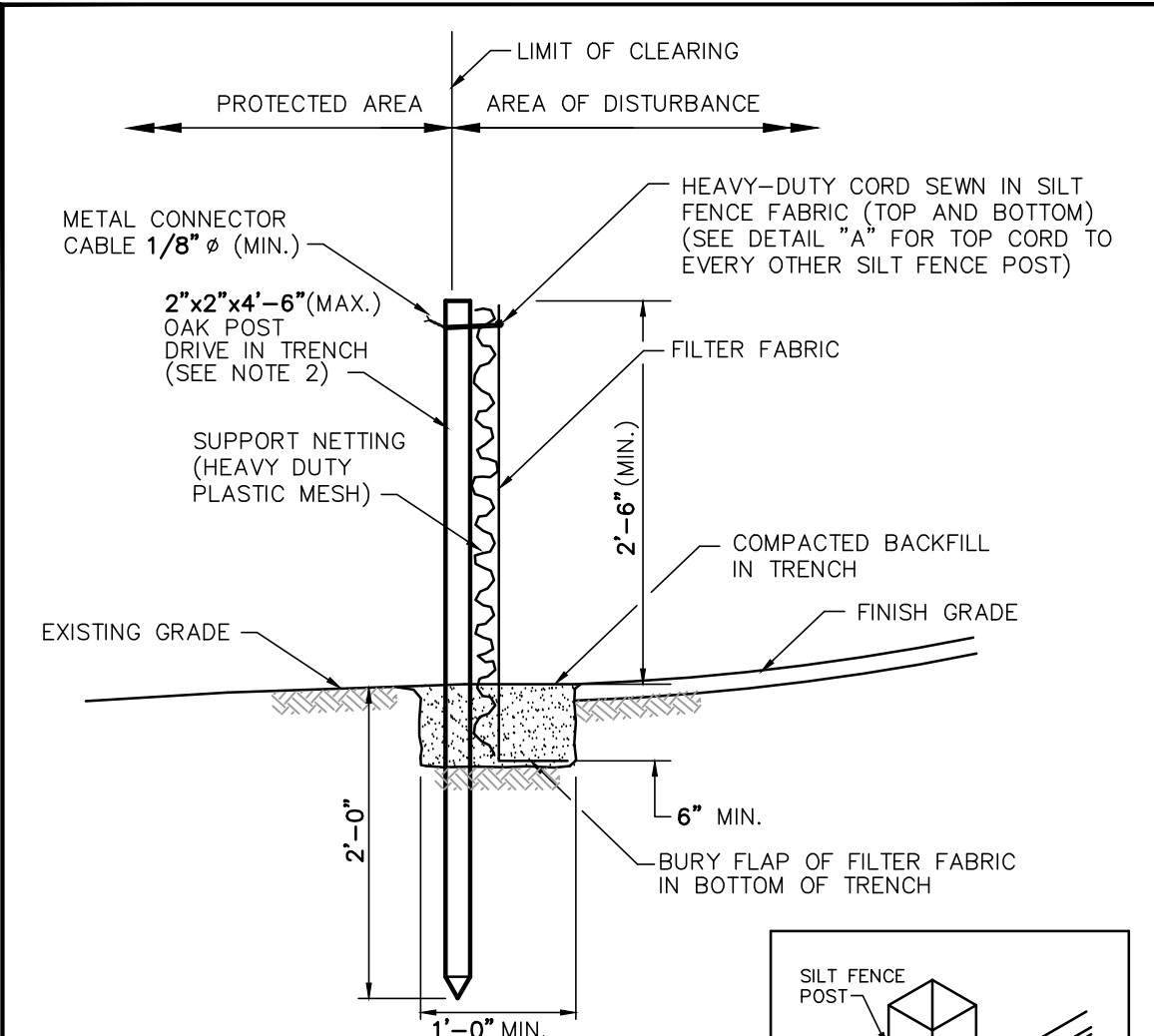




NOTE: SHALL BE IN ACCORDANCE WITH SECTION 211 OF THE R.I. STANDARD SPECIFICATIONS.

REVISIONS		
NO.	BY	DATE

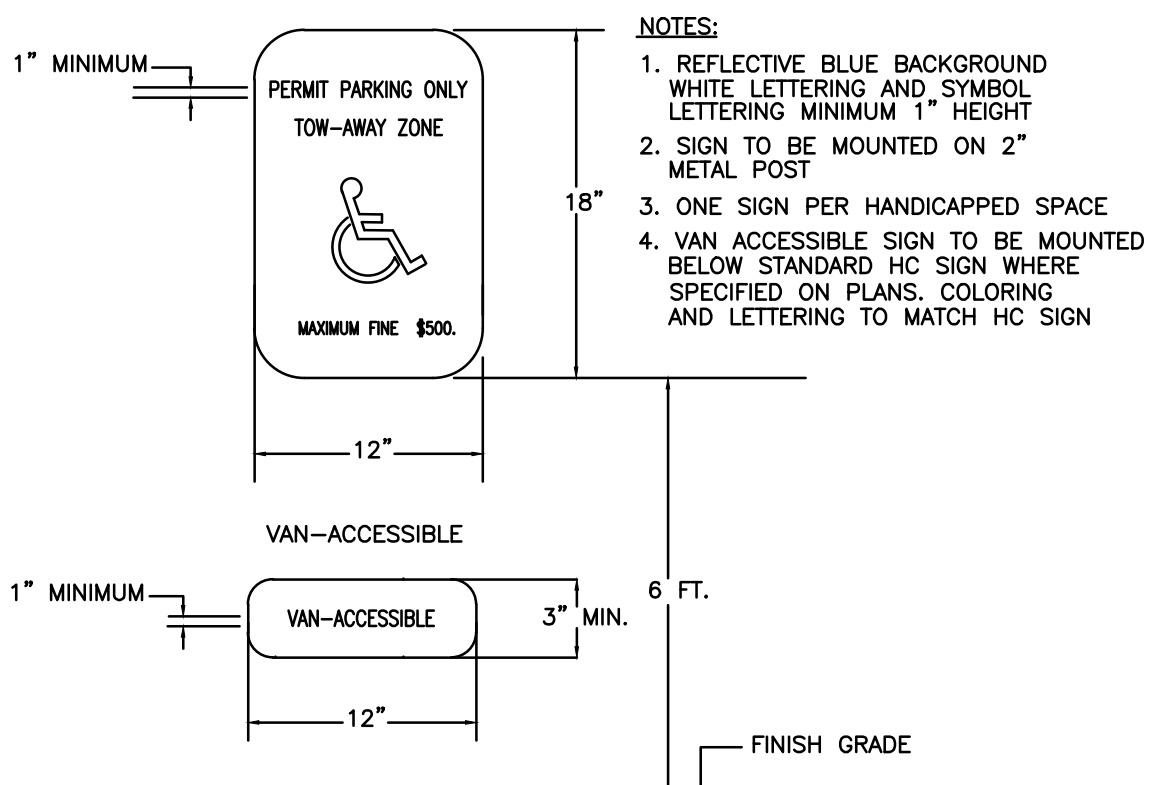
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**CONSTRUCTION ACCESS**  
 JUNE 15, 1998  
 R.I. STANDARD 9.9.0



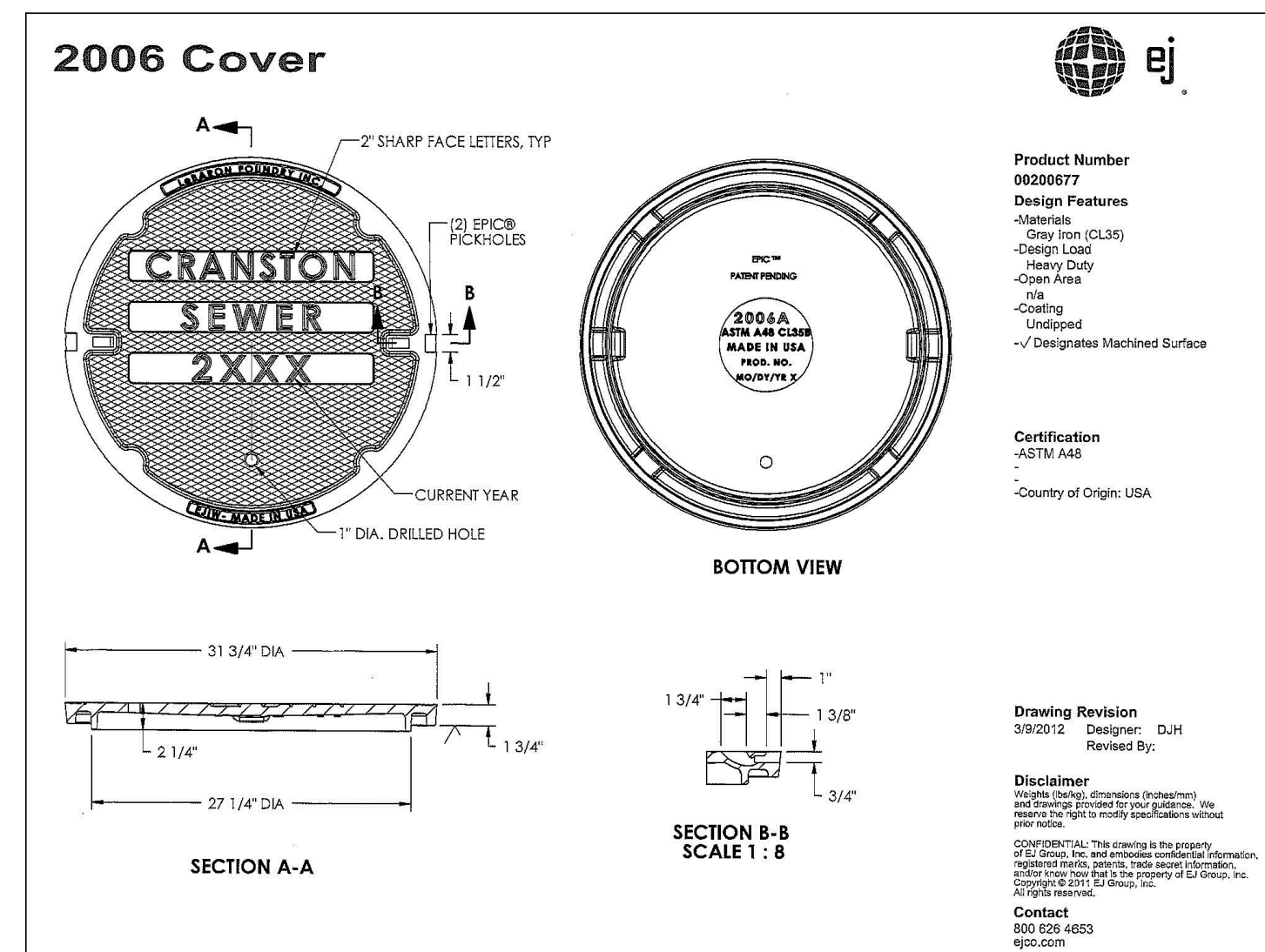
NOTES:  
 1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.  
 2. 2" x 2" x 4'-6" (MAX.) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAVIDE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.  
 3. 1" x 1" x 4'-6" (MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.  
 4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

REVISIONS		
NO.	BY	DATE

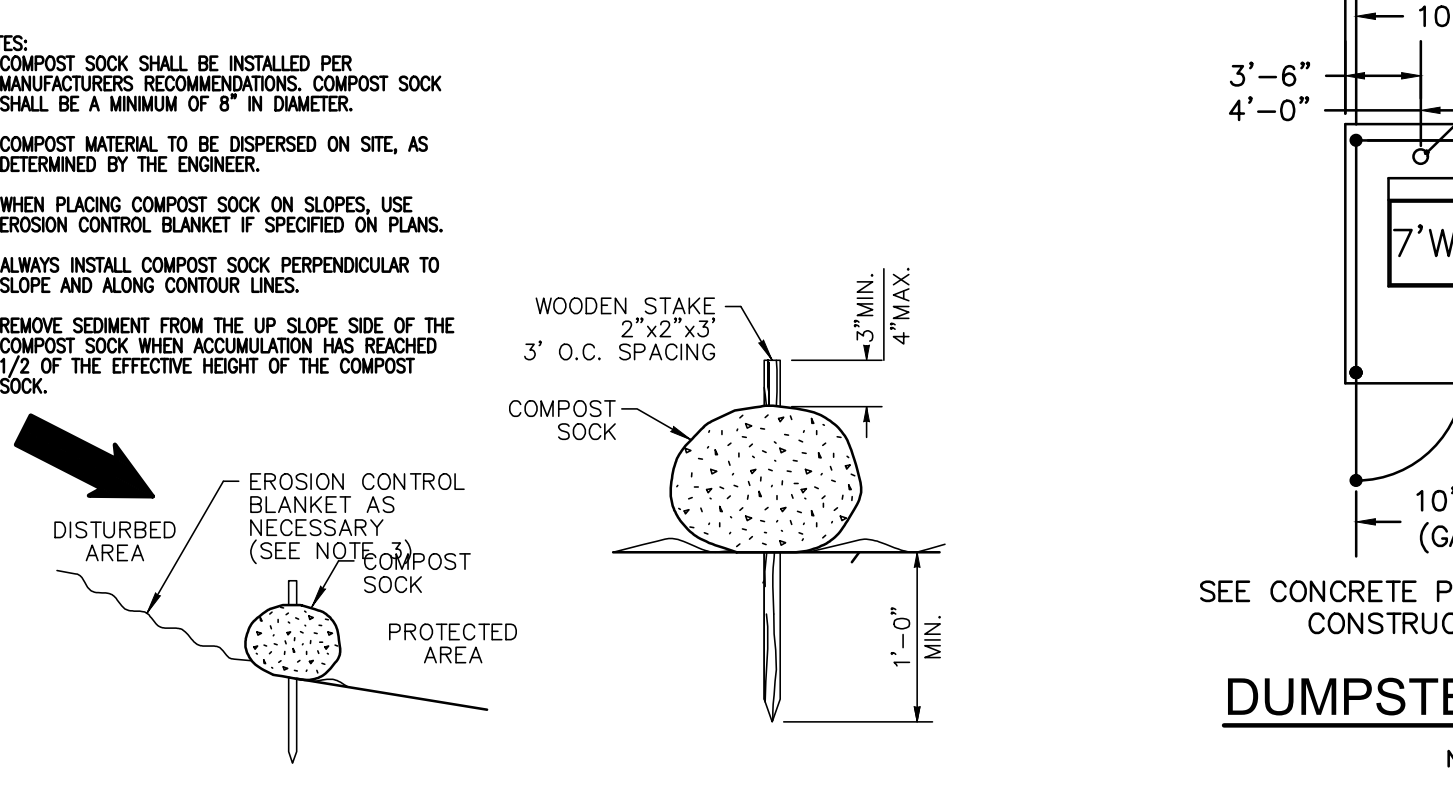
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**SILT FENCE DETAIL**  
 JUNE 15, 1998  
 R.I. STANDARD 9.2.0



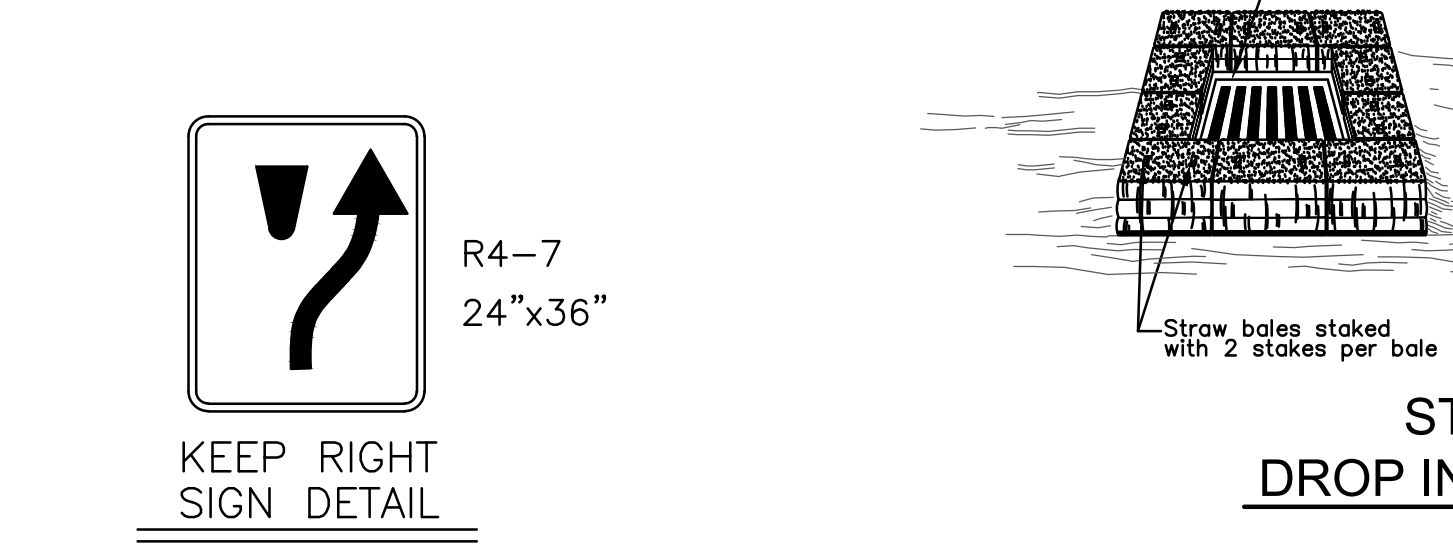
**HANDICAPPED SIGN DETAILS**  
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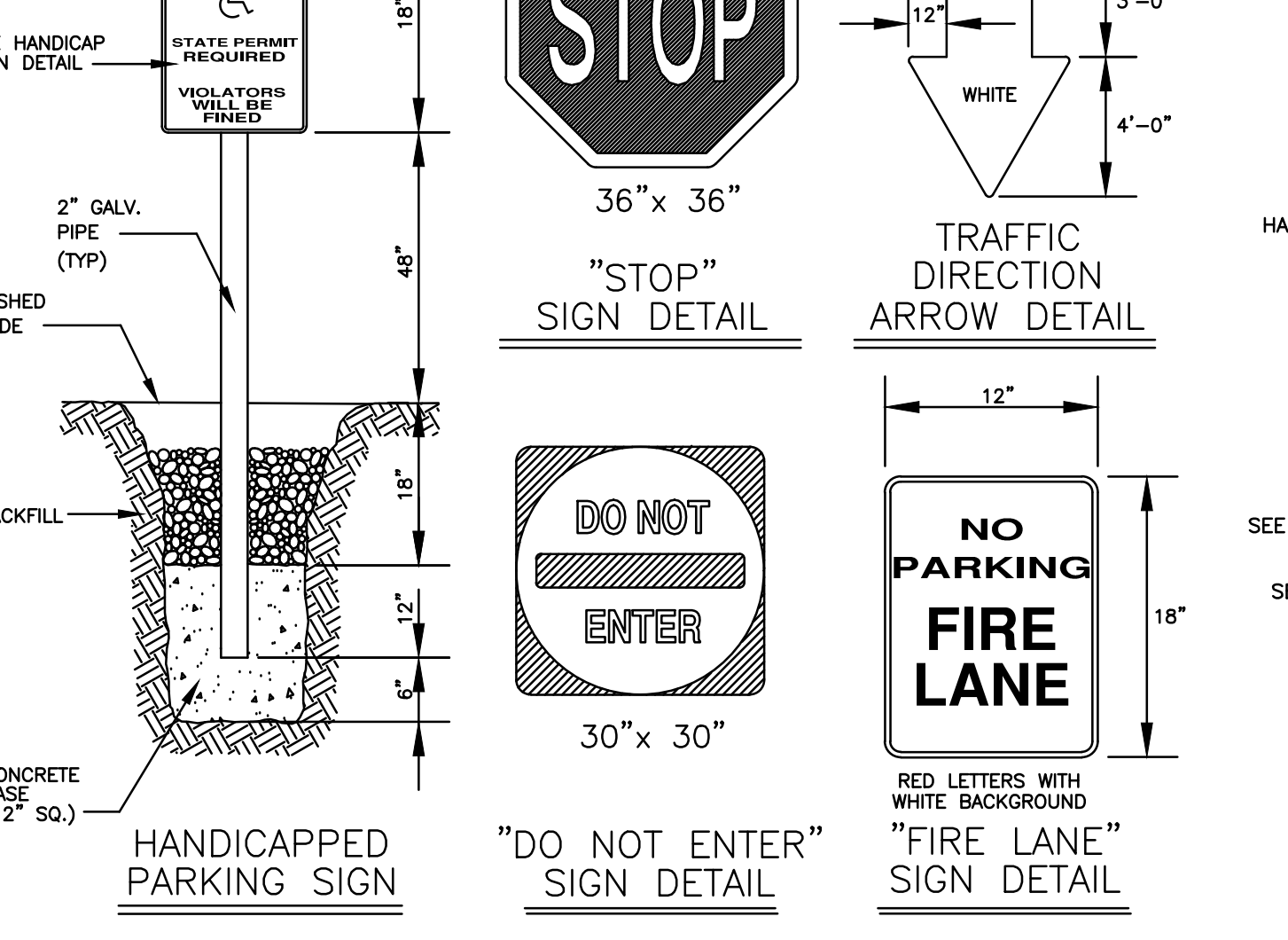
**SEWER COVER DETAIL**  
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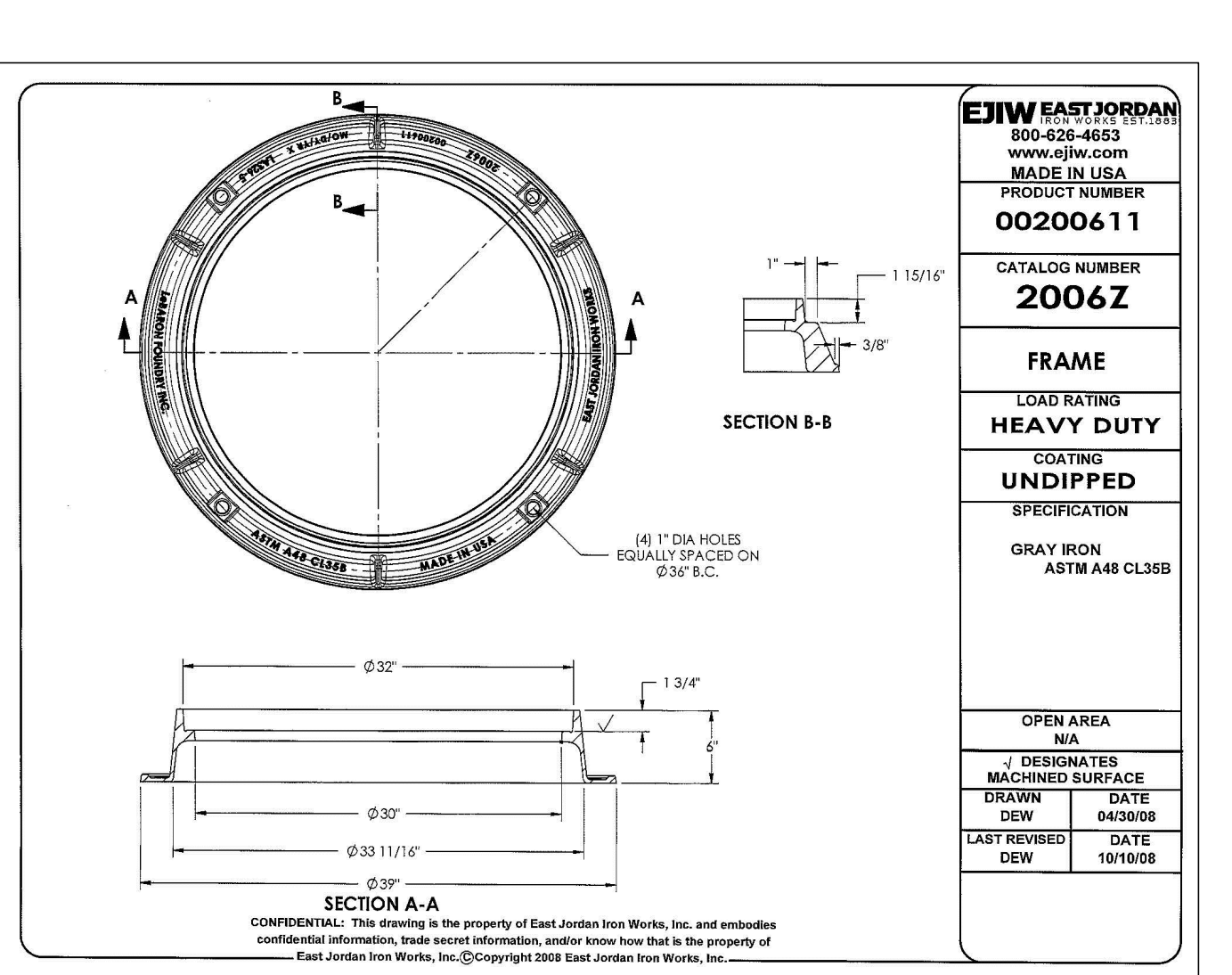
**COMPOST SILT SOCK DETAIL**  
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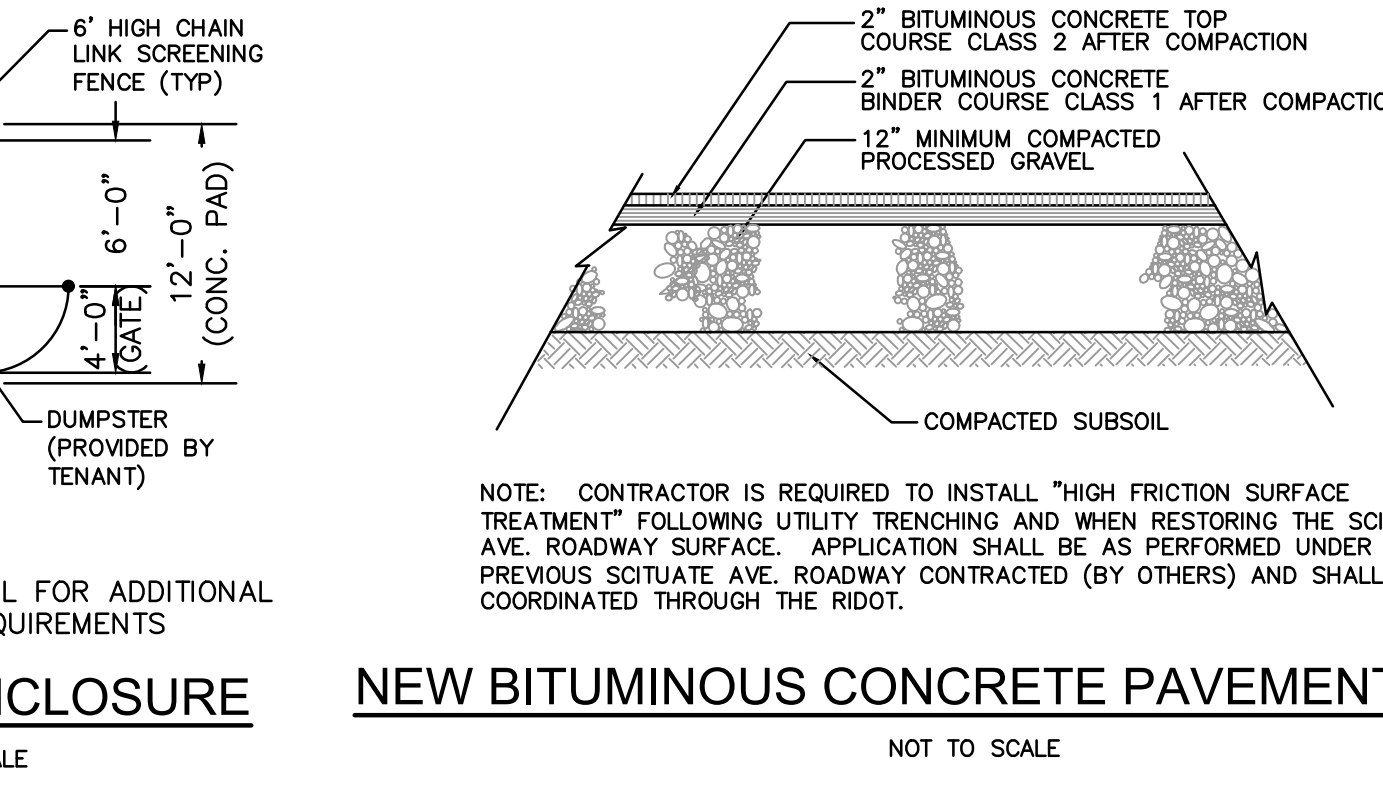
**STRAW BALE DROP INLET PROTECTION**  
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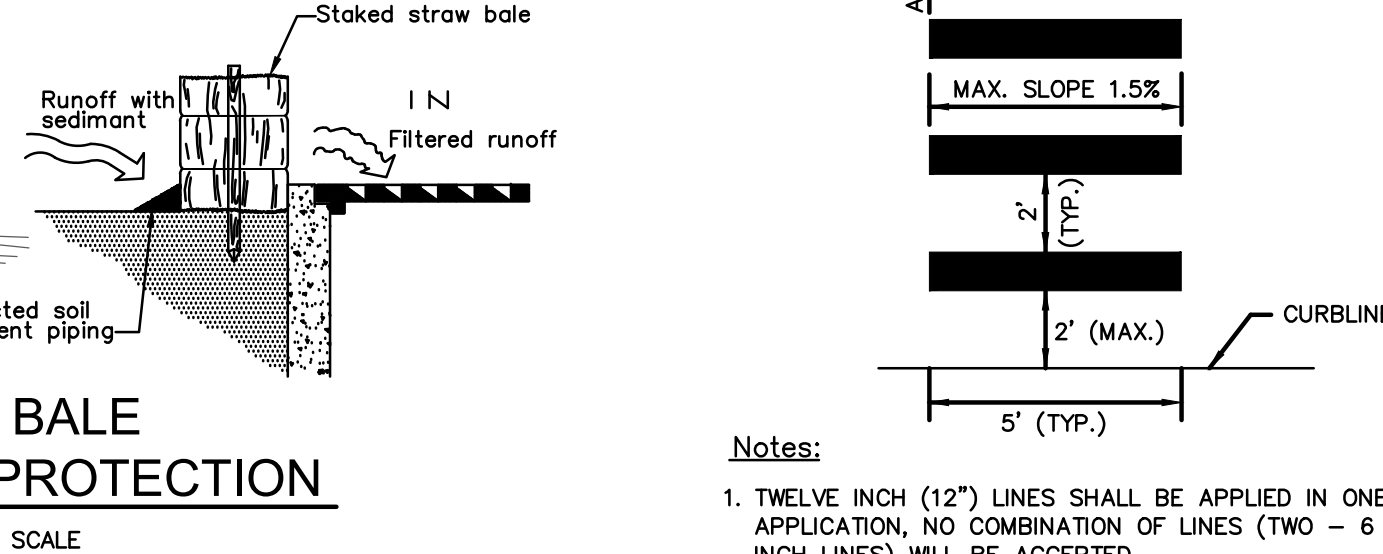
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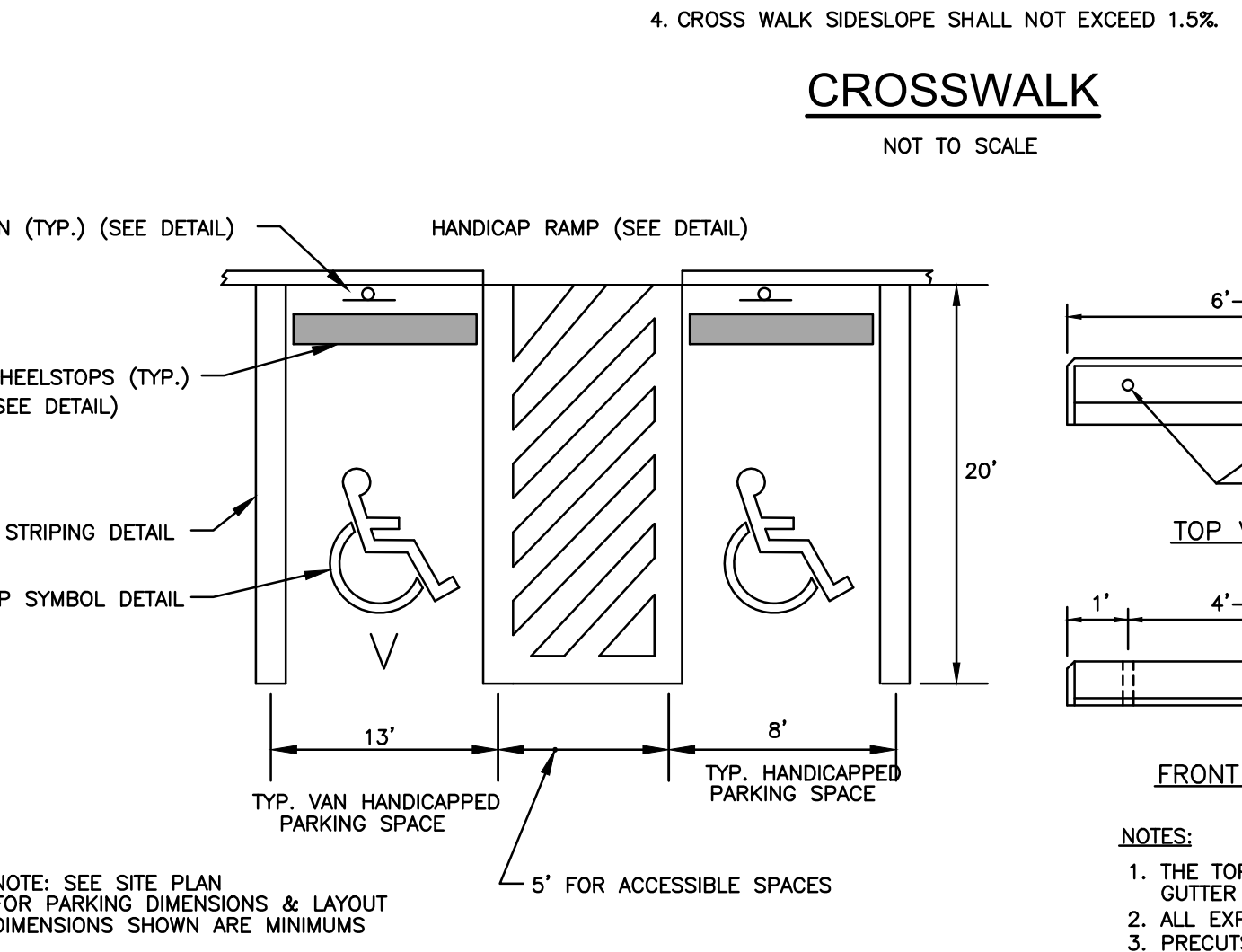
**SEWER FRAME DETAIL**  
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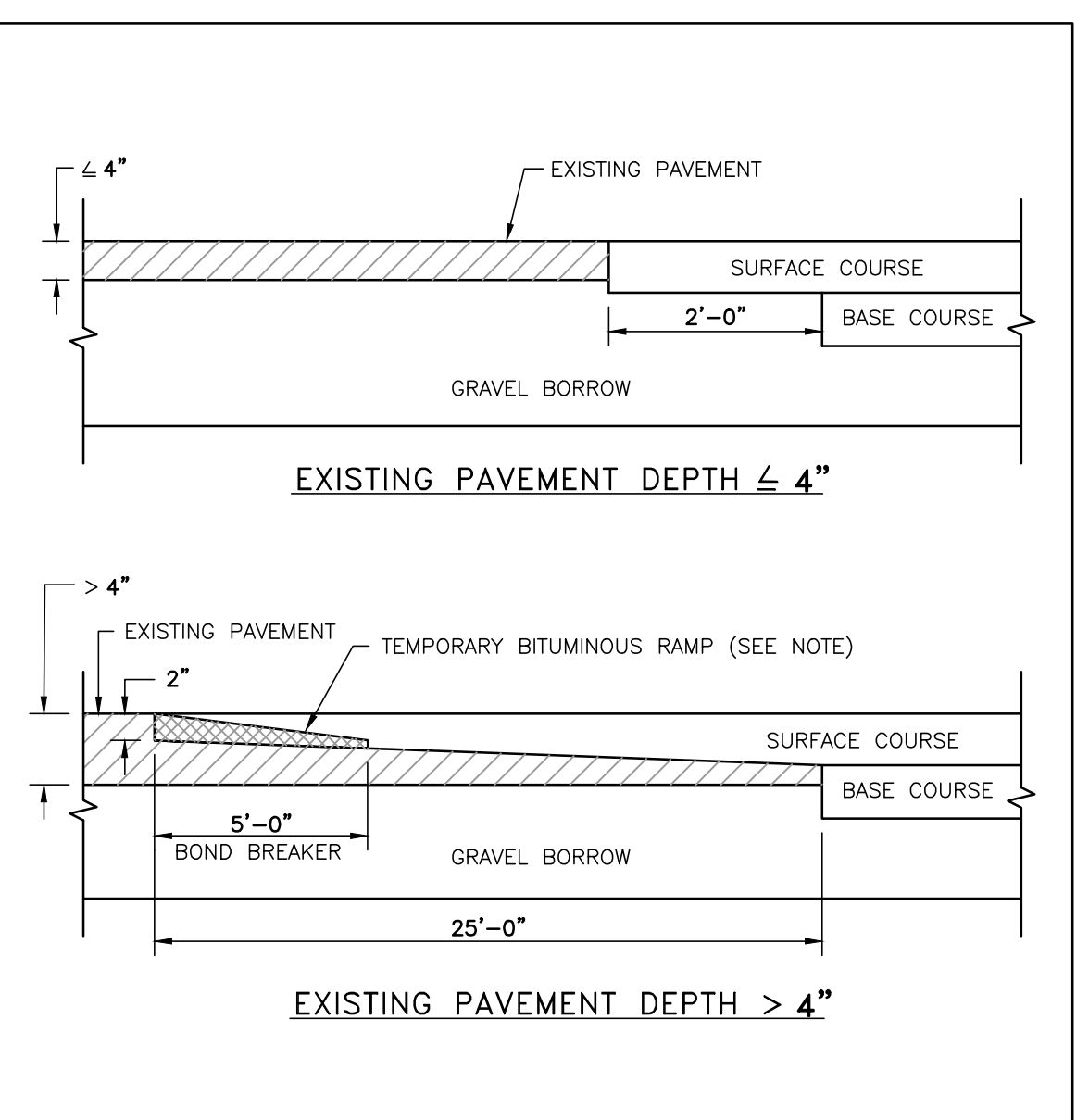
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**CROSSWALK**  
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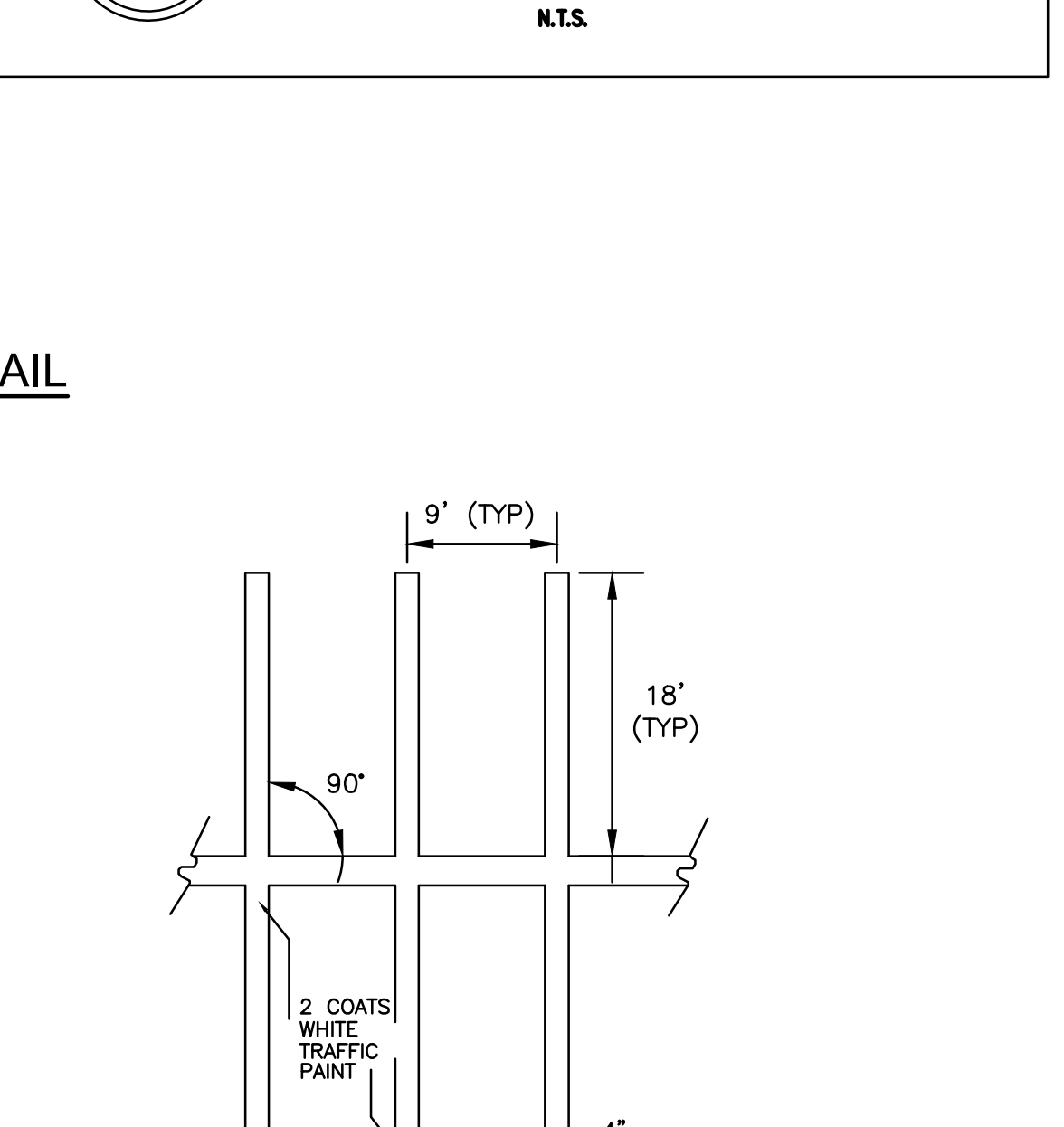


**HANDICAPPED PAVEMENT STRIPING DETAIL**  
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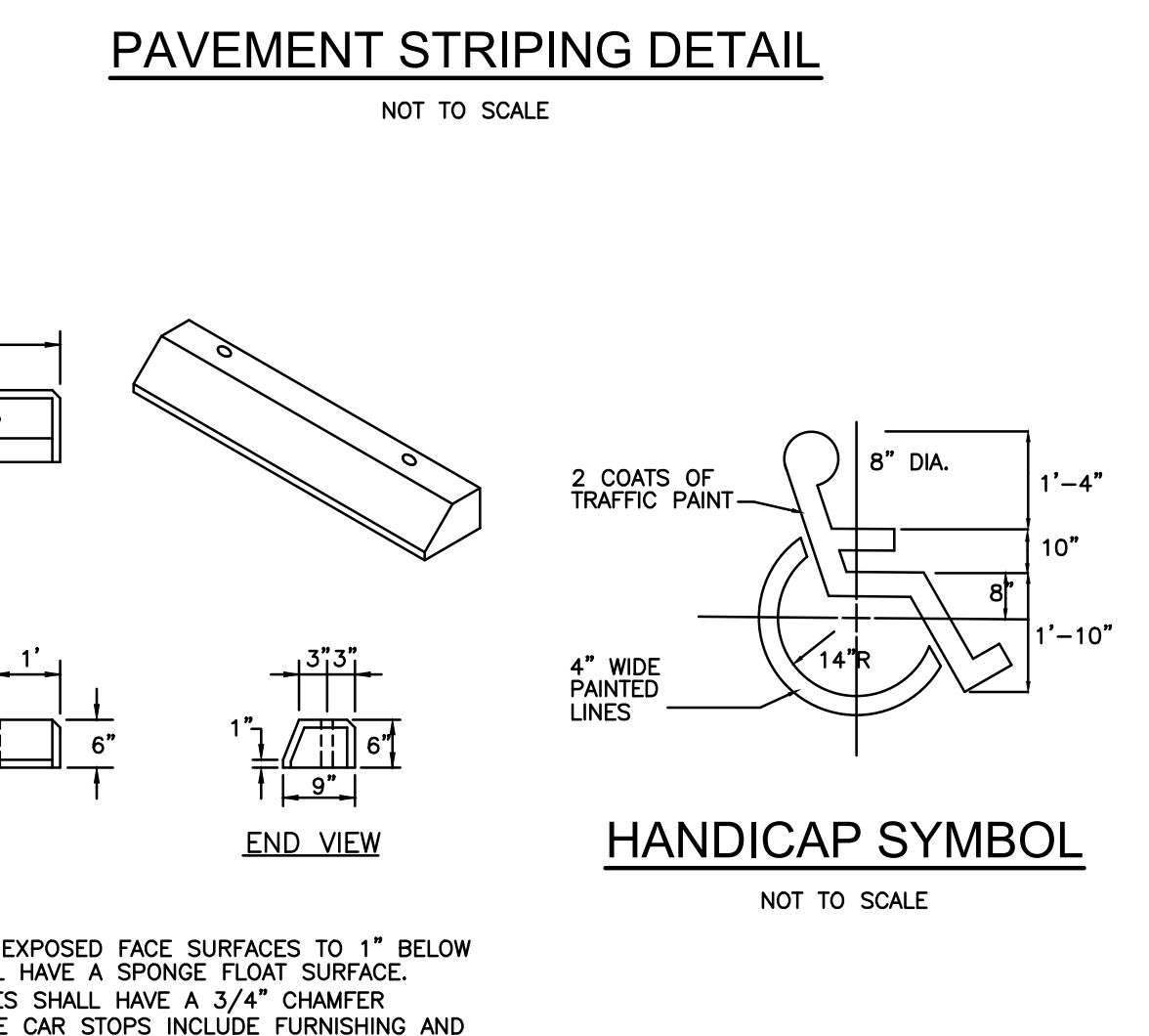


NOTE: A BOND BREAKER (TAPERED OR EQUIVALENT) WILL BE PLACED 5'-0" FROM THE JOINT AND COVERED WITH THE BINDER COURSE AS THE TEMPORARY RAMP. PRIOR TO PLACING THE SURFACE COURSE, THE BINDER COURSE AND BOND BREAKER WILL BE REMOVED.

**TRANSVERSE PAVEMENT CUT AND MATCH**  
N.T.S.



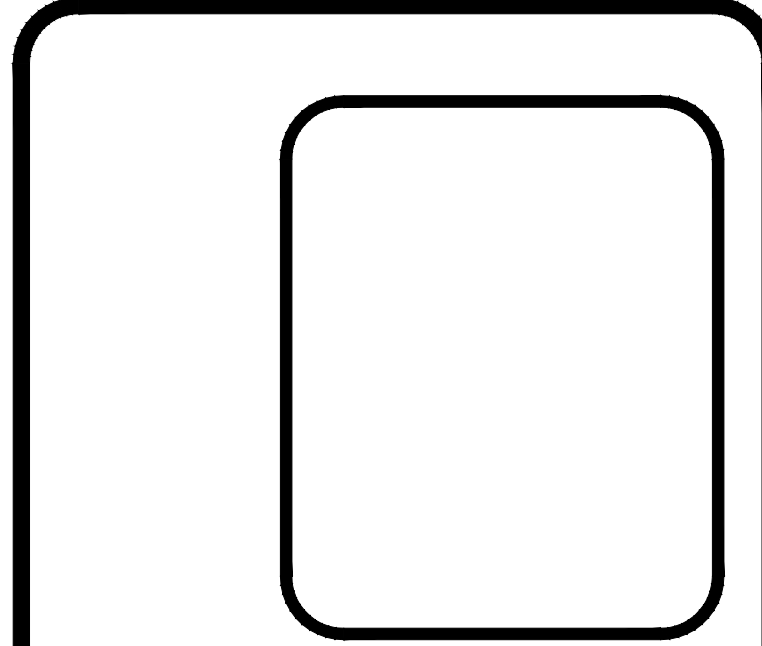
**PAVEMENT STRIPING DETAIL**  
NOT TO SCALE



**PRECAST CONCRETE WHEEL STOPS**  
NOT TO SCALE

**CONSTRUCTION DETAILS 1**  
**MULTI-FAMILY DEVELOPMENT**  
 FOR  
**CHAMPLIN HILLS**  
 SITUATED ON  
 A.P. 20/4, LOT 2117  
 SCITUATE AVENUE  
 CRANSTON, RI  
 PREPARED FOR  
**WEST BAY LLC.**

NO.	REVISION	BY	DATE
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7	INCLUDE ABUTTING PARCEL	RJB	11/6/15
10	PER TOWN REQUIREMENT	RJB	5/23/16
11	FINAL PLAN SUBMISSION	RJB	9/29/16
12	ISSUED FOR CONSTRUCTION	RJB	10/7/16

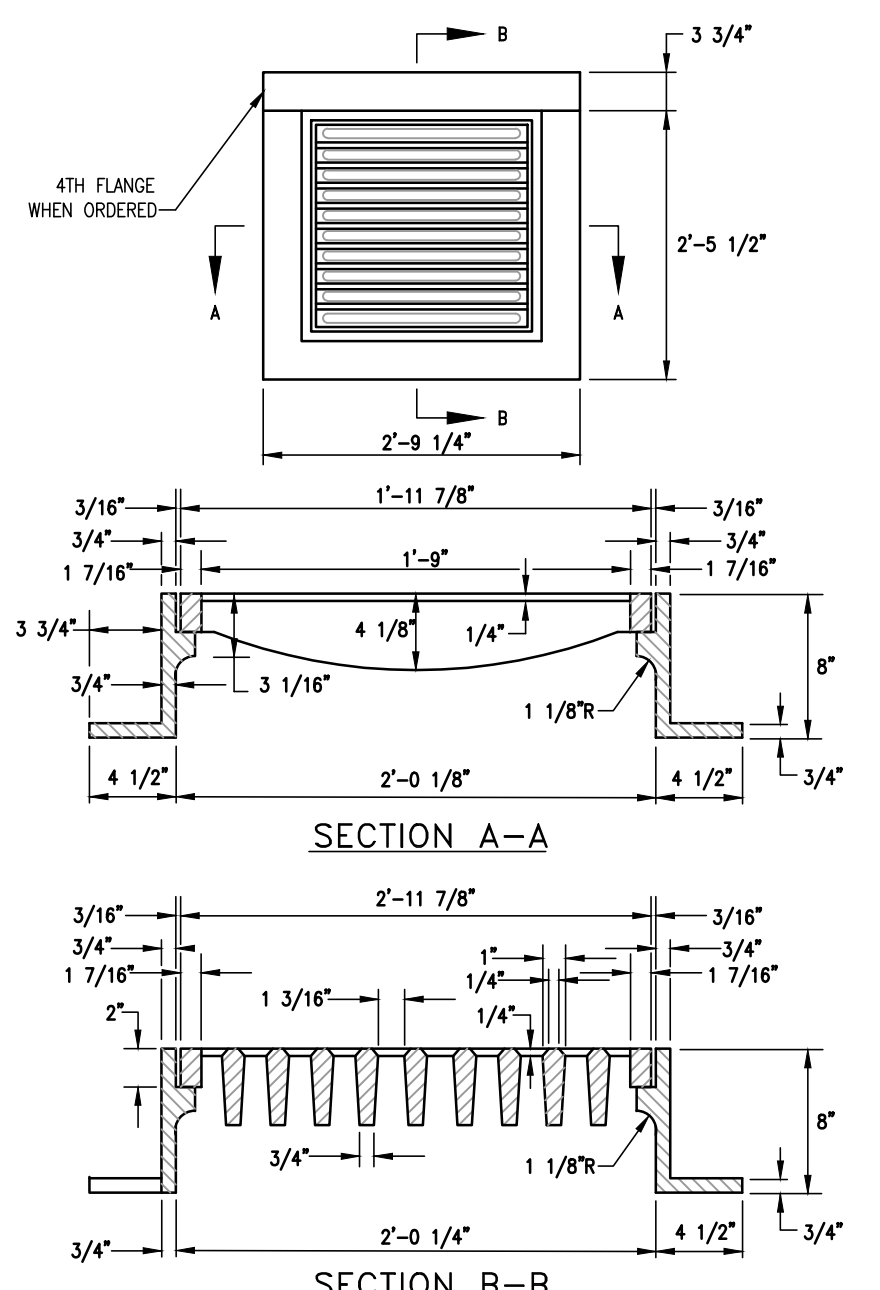


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JOB NO. 6856-00	DRAWN BY R.J.B.
DWG. NO. 6856-BASE-PRELIM	CHECKED S.B.G.
SCALE: AS SHOWN	APPROVED S.B.G.
DATE: MAY, 2014	

**SHEET**  
**C9**  
 OF 15 SHEETS

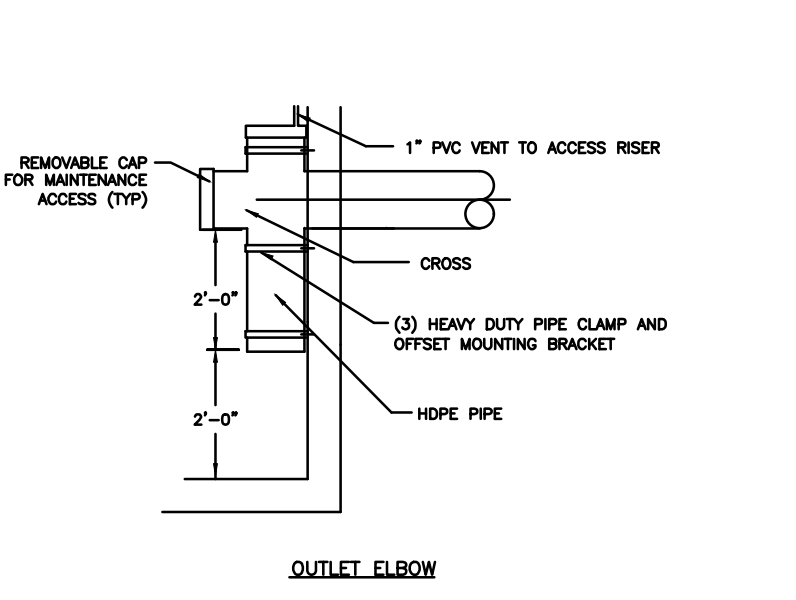
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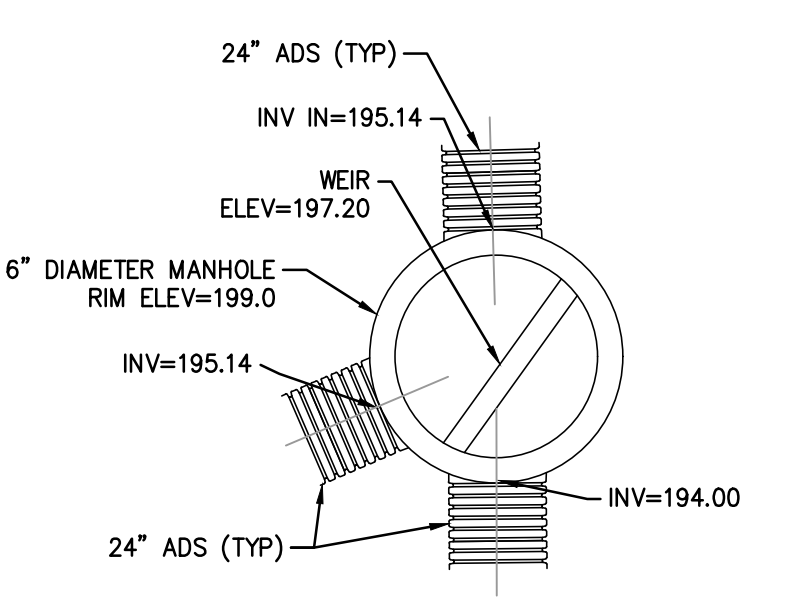
**SQUARE FRAME AND GRATE**  
NOT TO SCALE

NOTE: FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.

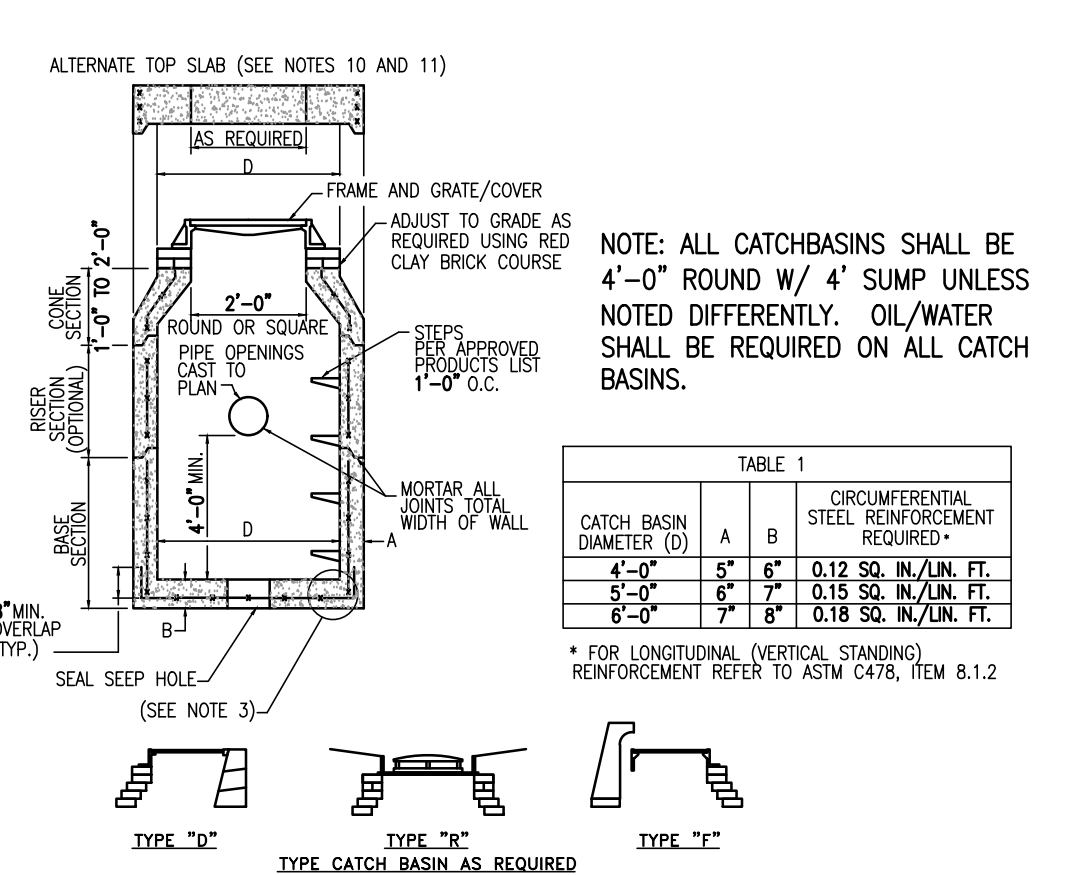
AL. STANDARD 6.3.1



**OILWATER SEPARATOR ELBOW**  
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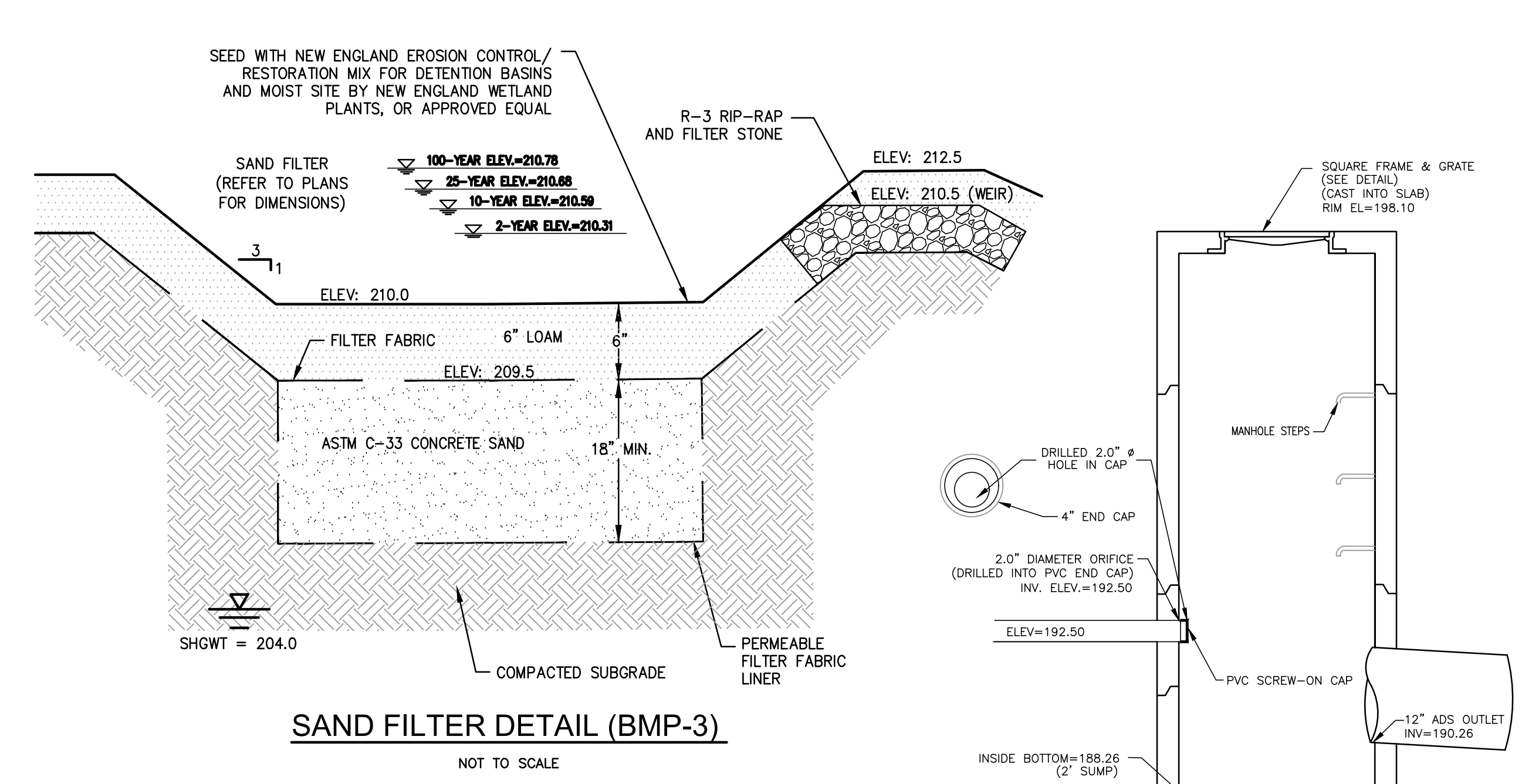
**DIVERSION STRUCTURE (SPLITTER)**  
NOT TO SCALE



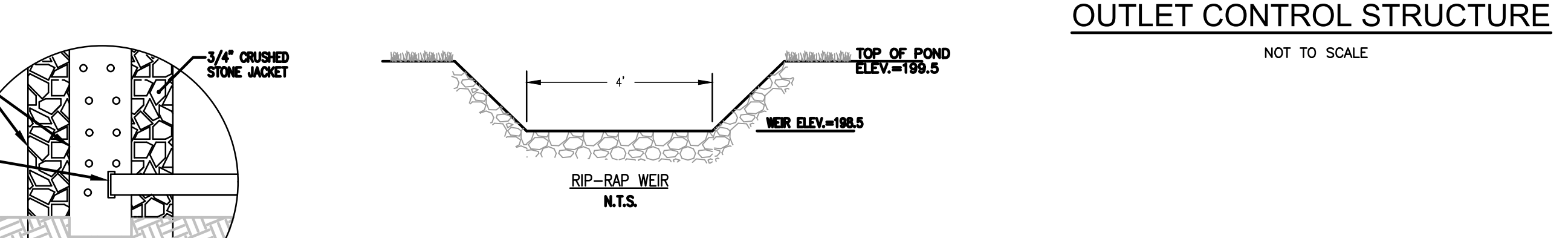
**PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN**  
NOT TO SCALE

NOTE: ALL CATCHBASINS SHALL BE 4'-0" ROUND W/ 4" SUMP UNLESS NOTED DIFFERENTLY. OIL/WATER SHALL BE REQUIRED ON ALL CATCH BASINS.

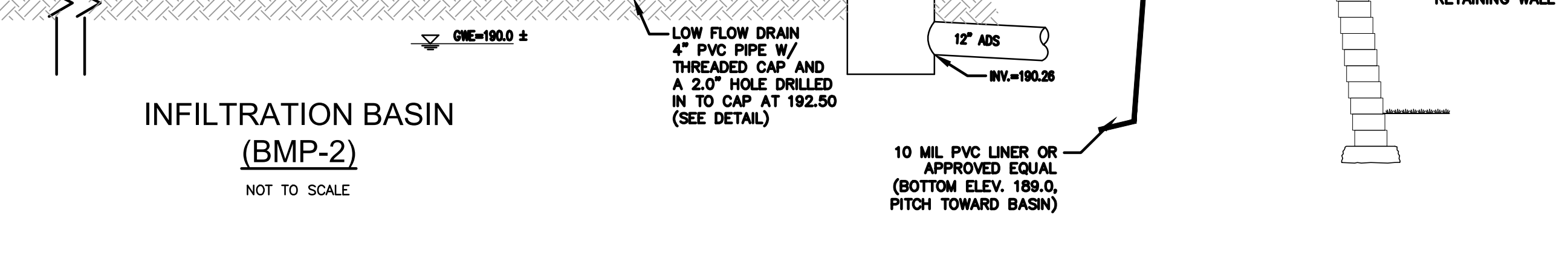
AL. STANDARD 4.4.0



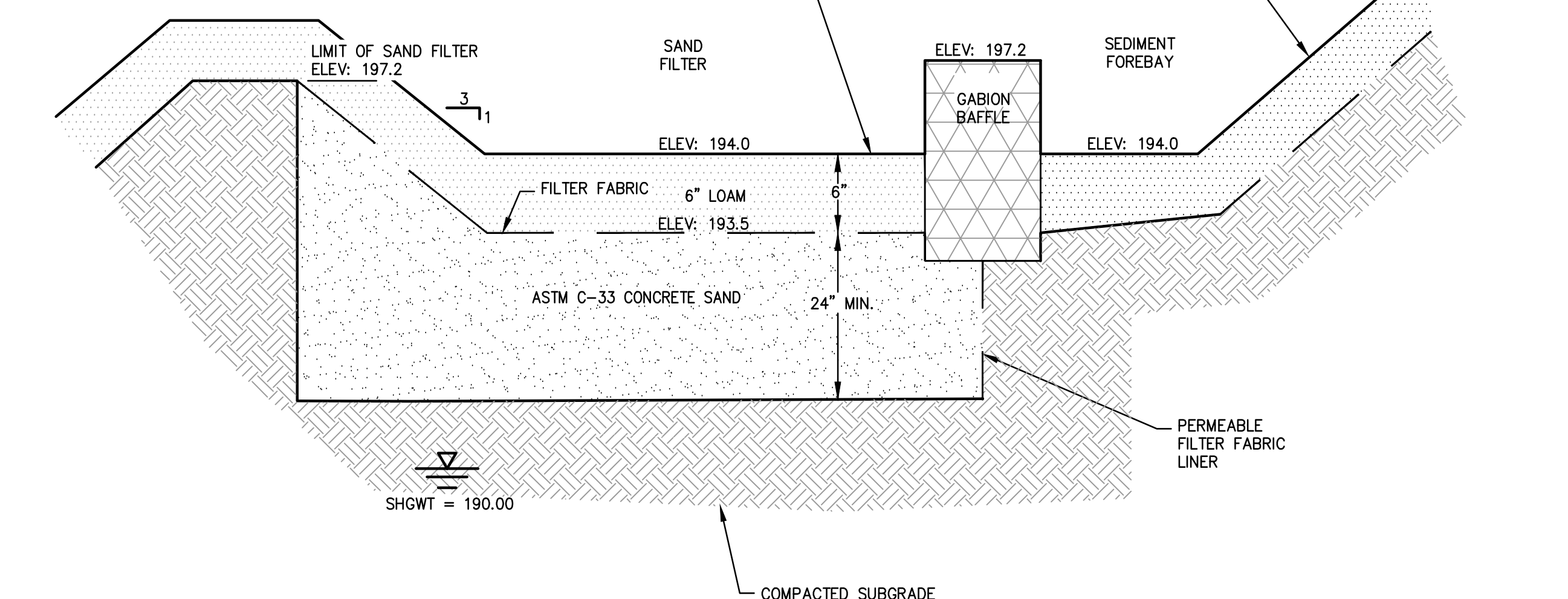
**SAND FILTER DETAIL (BMP-3)**  
NOT TO SCALE



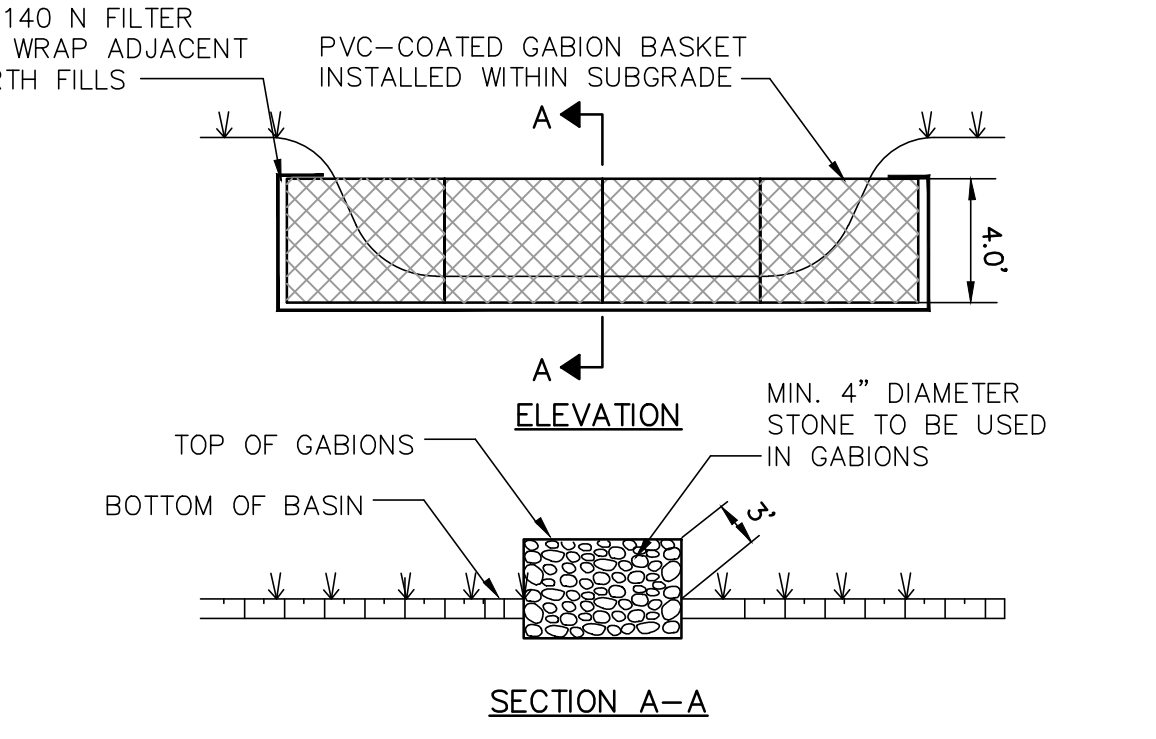
**GABION BAFFLE DETAIL**  
NOT TO SCALE



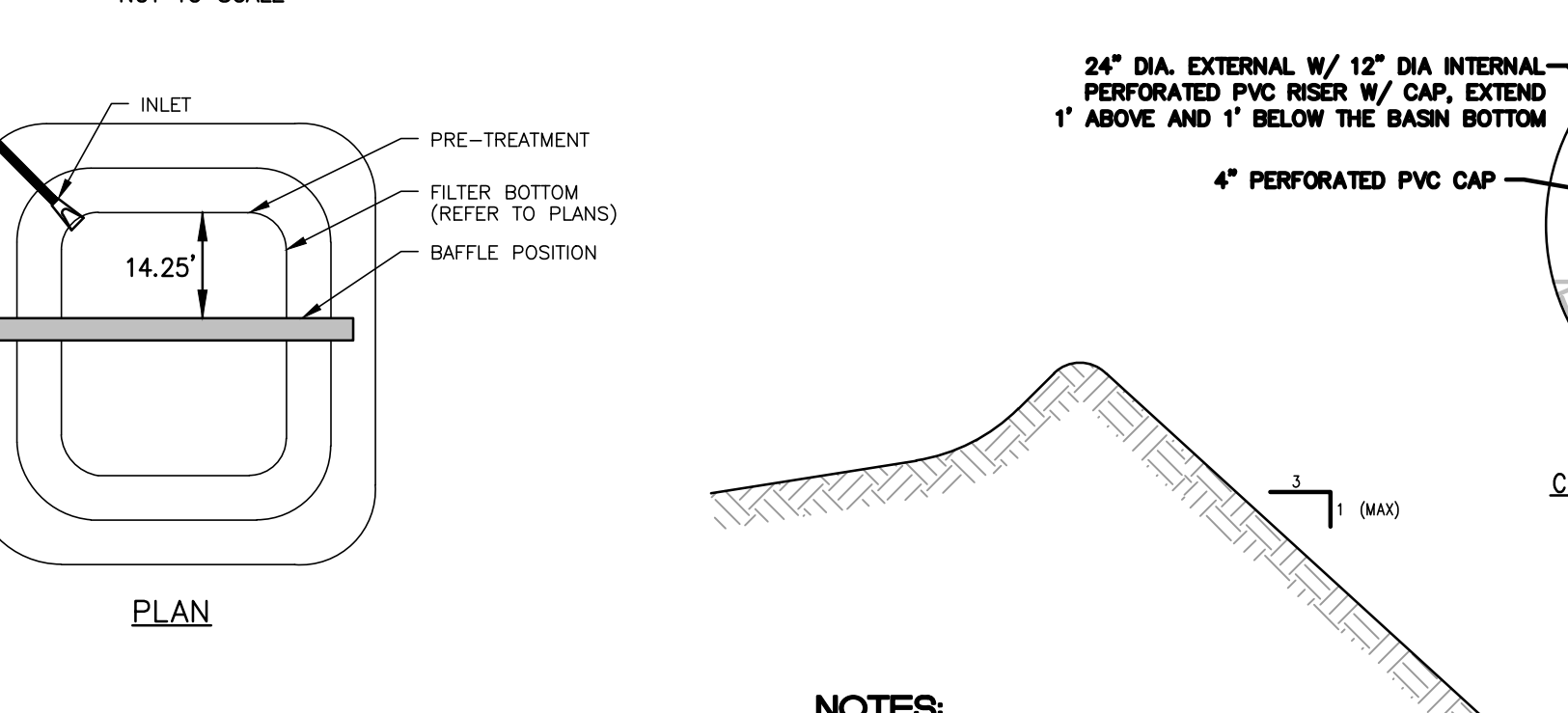
**INFILTRATION BASIN (BMP-2)**  
NOT TO SCALE



**SAND FILTER DETAIL (BMP-1)**  
NOT TO SCALE

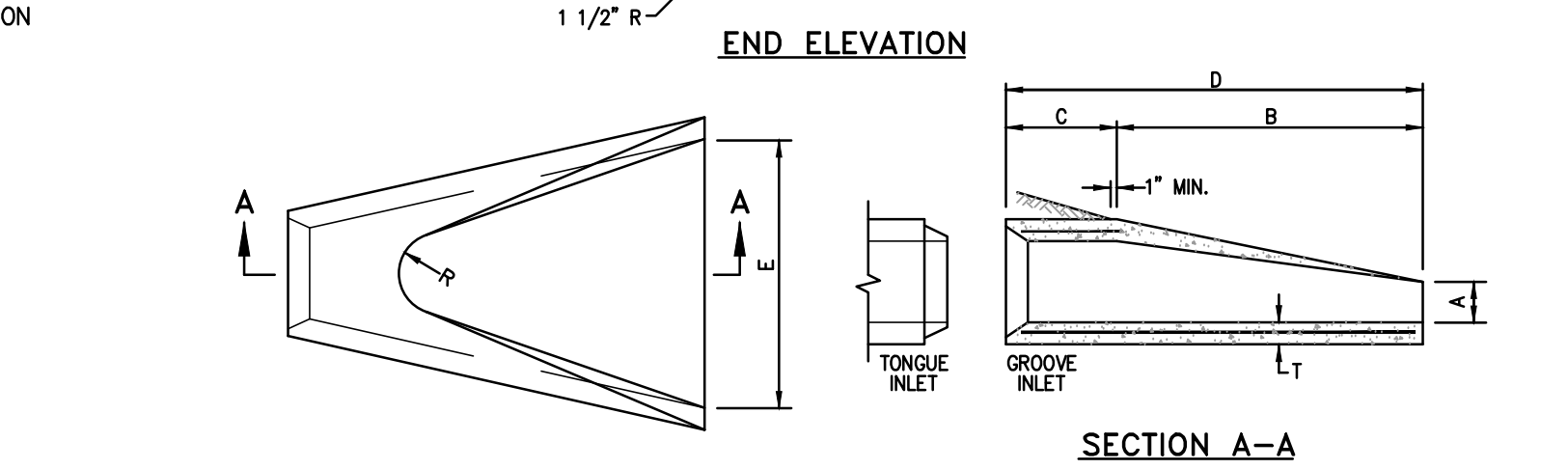


**RIP RAP AT FLARED END SECTION**  
NOT TO SCALE



**PRECAST CONCRETE FLARED END SECTION**  
NOT TO SCALE (RIDOT STD. 2.3.0)

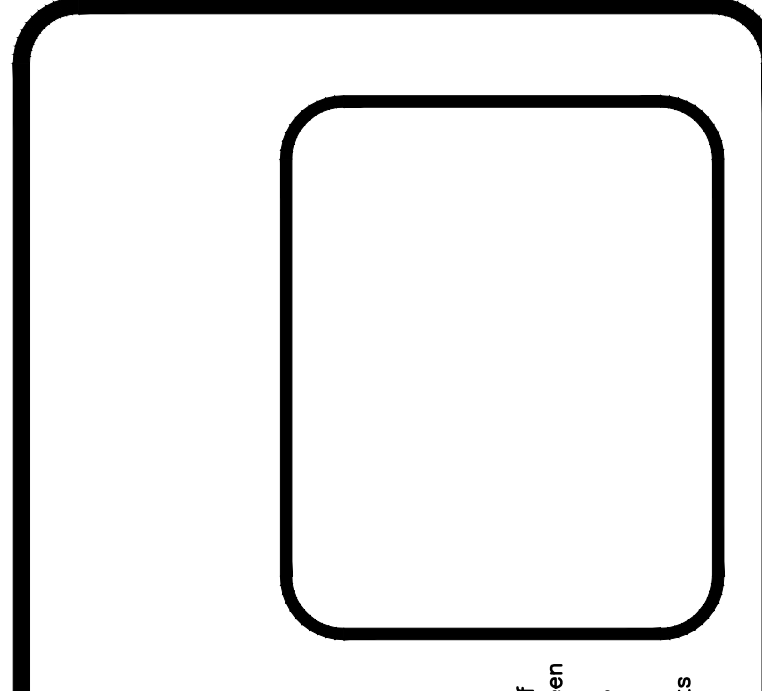
DIMENSIONS								REINFORCEMENT
DIA.	A	B	C	D	E	R	T	ONE LAYER REINFORCEMENT IN CENTER OF WALL MIN. AREA OF EACH WAY (SQ. IN./FT.)
1'-0"	4"	2'-0"	4'-0 7/8"	6'-0 7/8"	2'-0"	9"	2"	0.048
1'-3"	6"	2'-3"	3'-10"	6'-1"	2'-6"	11"	2 1/4"	0.054
1'-6"	9"	2'-3"	3'-10"	6'-1"	3'-0"	12"	2 1/2"	0.060
2'-0"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	1'-2"	3"	0.072
2'-6"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	1'-3"	3 1/2"	0.084
3'-0"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	1'-8"	4"	0.096
3'-6"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	1'-10"	4 1/2"	0.108
4'-0"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	1'-10"	5"	0.120
4'-6"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	2'-0"	5 1/2"	0.132
5'-0"	2'-6"	5'-0"	3'-3"	8'-3"	8'-0"	2'-0"	6"	0.144



NOTE: SHALL BE IN ACCORDANCE WITH SECTION 701 OF THE R.I. STANDARD SPECIFICATIONS.

**CONSTRUCTION DETAILS 2**  
MULTI-FAMILY DEVELOPMENT  
FOR  
**CHAMPLIN HILLS**  
SITUATED ON  
A.P. 20/4, LOT 2117  
SCITUATE AVENUE  
CRANSTON, RI  
PREPARED FOR  
**WEST BAY LLC.**

NO.	REVISION	BY	DATE
1	PER STATE PERMITTING	RJB	9/17/14
2	DRAINAGE MODIFICATION	RJB	1/6/15
3	DRAINAGE MODIFICATION	RJB	2/23/15
4	MODIFY WETLAND DELINEATION	RJB	4/26/15
6	ADD LANDSCAPE PLAN	RJB	6/10/15
7	INCLUDE ADJUTING PARCEL	RJB	11/6/15
10	PER TOWN REQUIREMENT	RJB	5/23/16
11	FINAL PLAN SUBMISSION	RJB	9/29/16
12	ISSUED FOR CONSTRUCTION	RJB	10/7/16



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LAND PLANNERS/ENVIRONMENTAL SCIENTISTS

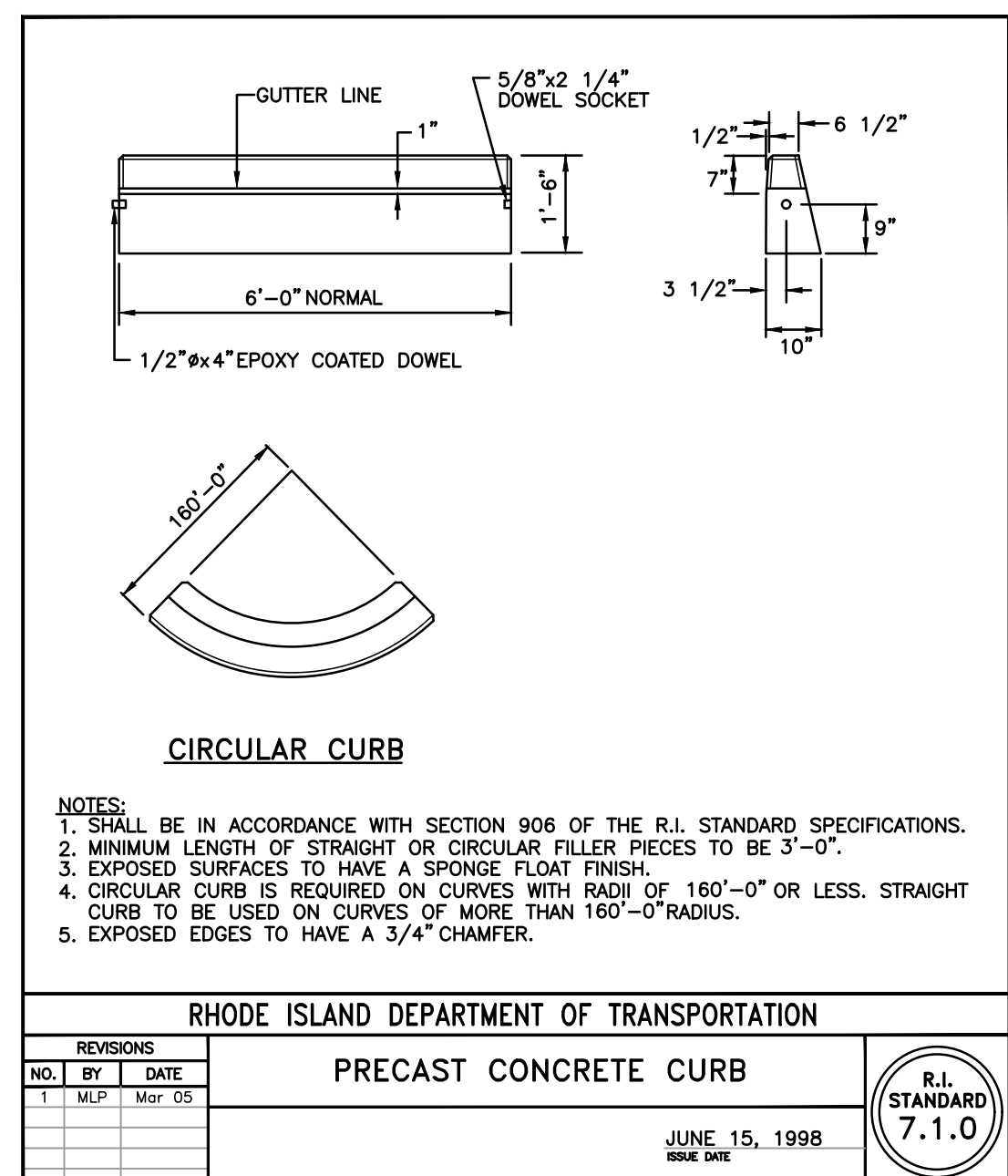
85 CORLISS STREET  
P.O. BOX 6145  
PROVIDENCE, R.I. 02940  
TEL. 401-273-6000

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JOB NO. 6856-00	DRAWN BY R.J.B.
DWG. NO. 6856-BASE-PRELIM	CHECKED S.B.G.
SCALE: AS SHOWN	APPROVED S.B.G.
	DATE: MAY, 2014

SHEET  
**C10**  
OF 15 SHEETS

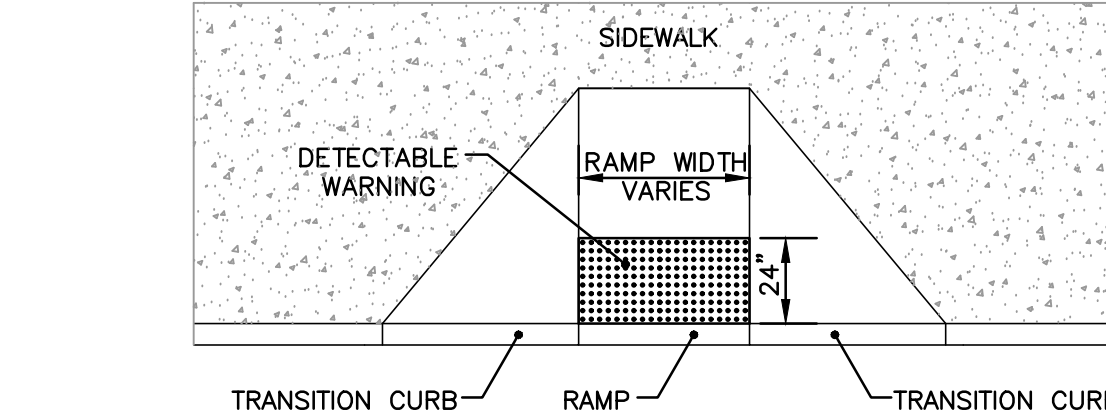
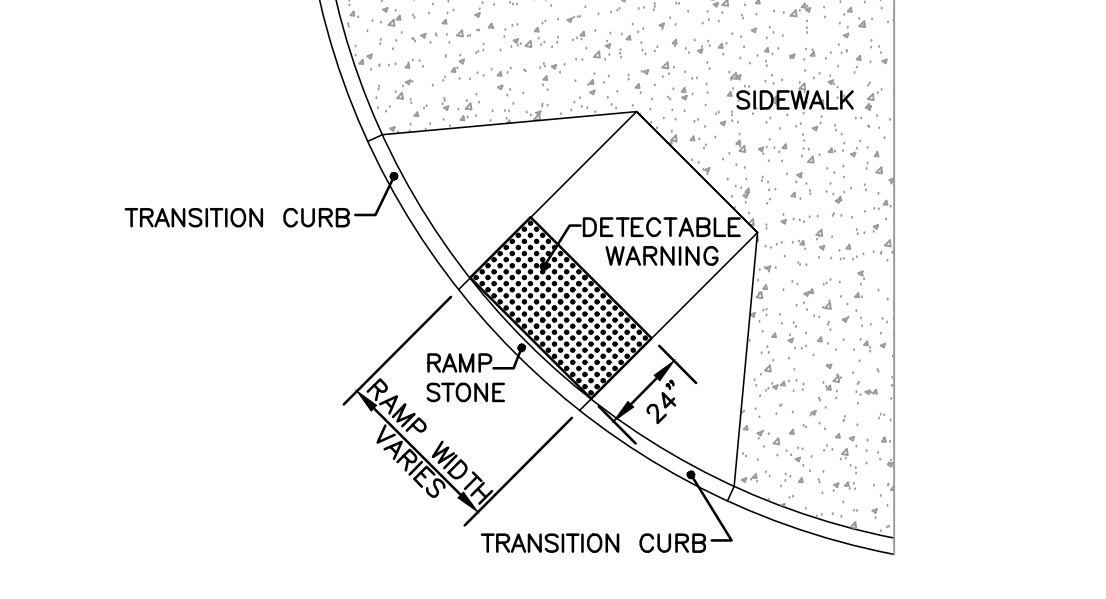
L:\6856-00\_Proposed Multi-Family Development - Scituate Avenue - Civil\Drawings - Final\Drawings - Final.dwg 03/23/2023 12:11



RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		PRECAST CONCRETE CURB		R.I. STANDARD 7.1.0
NO.	BY	DATE	ISSUE DATE	
1	M.P.	Mar. 05		

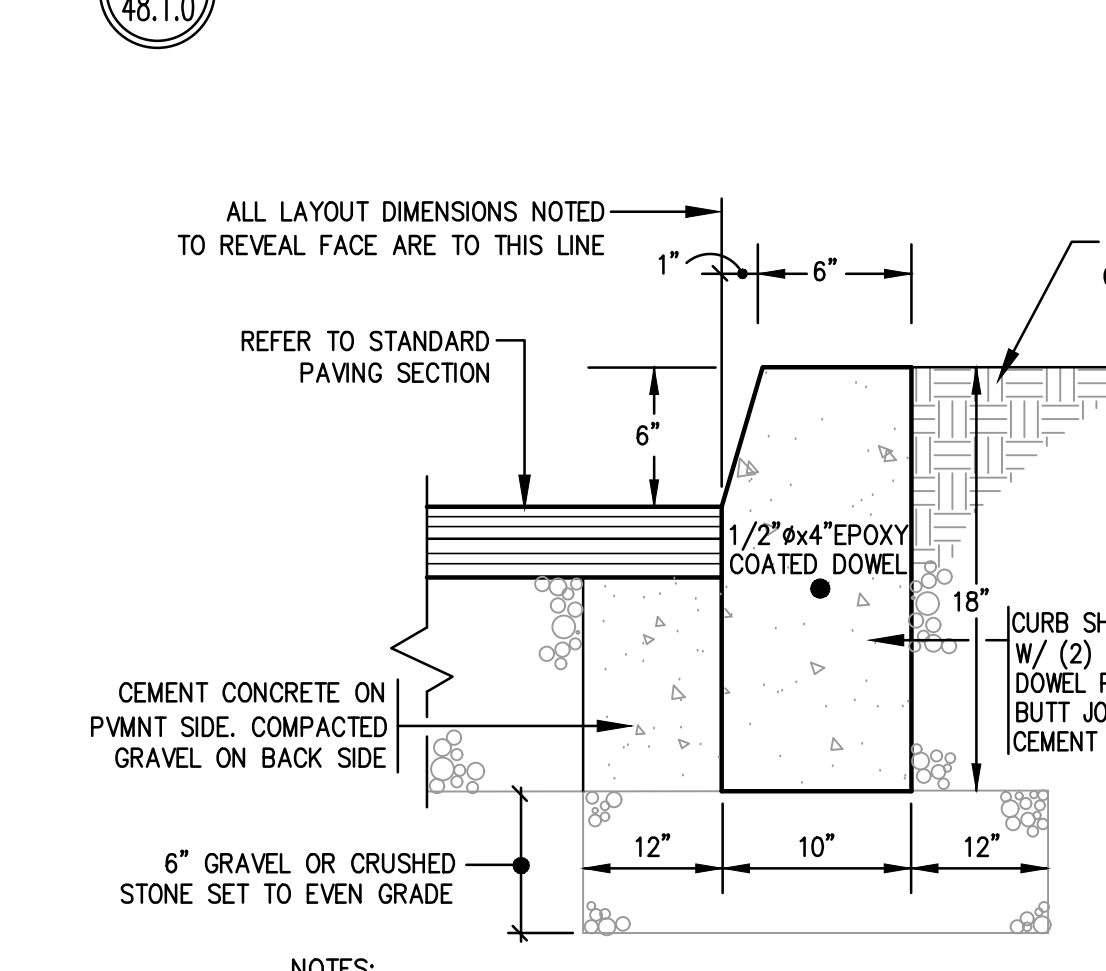
JUNE 15, 1998



RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		DETECTABLE WARNING SYSTEM		R.I. STANDARD 48.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998



RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		BITUMINOUS CONCRETE SIDEWALK		R.I. STANDARD 4.3.2.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

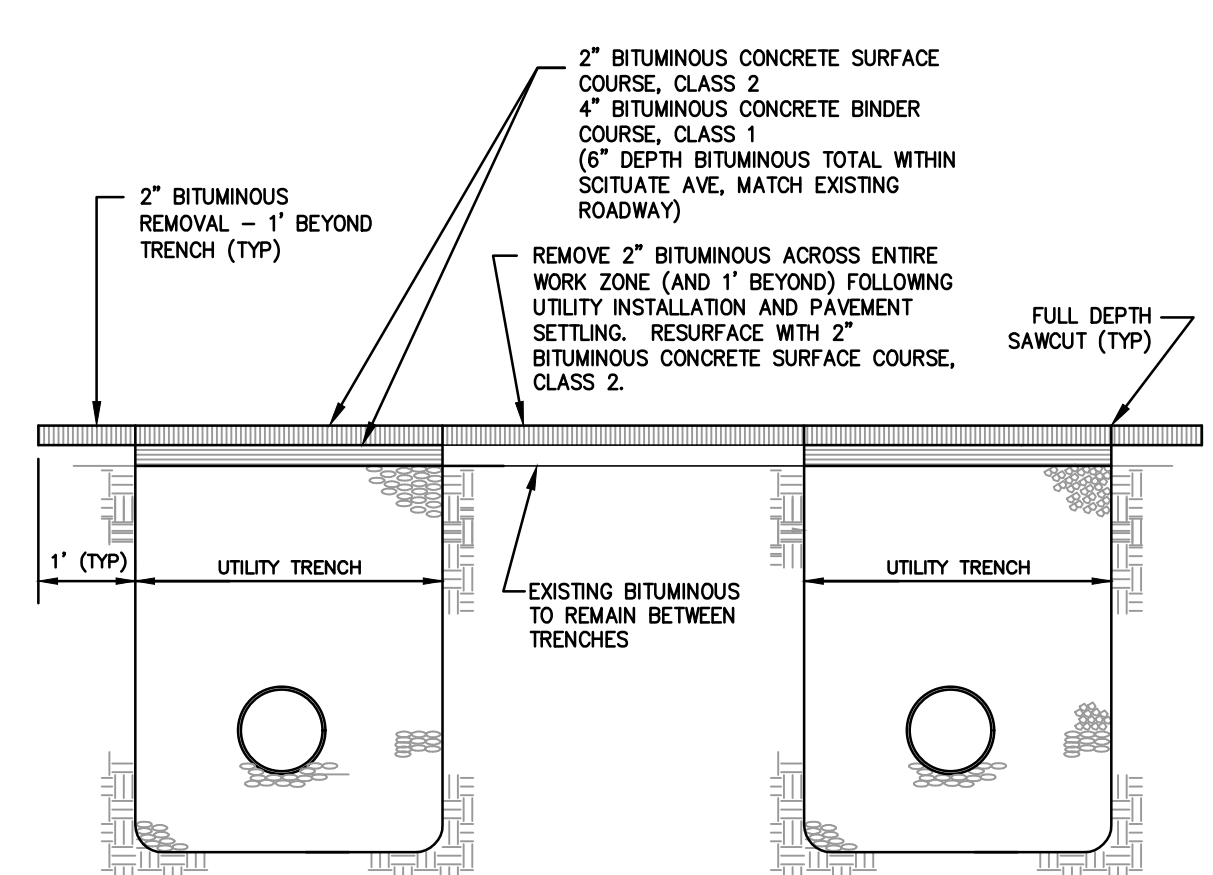
NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		CEMENT CONCRETE SIDEWALK		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE



RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		NEW BITUMINOUS CONCRETE PAVEMENT DETAIL (NEW ROADWAY ONLY)		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		DUMPSTER ENCLOSURE		R.I. STANDARD 6.2.1
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		HEAVY-DUTY ROUND FRAME AND COVER		R.I. STANDARD 6.2.1
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		DRAIN MANHOLE "DOG HOUSE" INSTALLATION		R.I. STANDARD 4.2.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		WHEELCHAIR RAMP		R.I. STANDARD 43.3.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		CONCRETE WALK		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		COMPACTOR & DUMPSTER PAD DETAIL		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		CONCRETE PADS AND WALKS		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		PRECISE 4'-0" ROUND MANHOLE		R.I. STANDARD 4.2.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		CONCRETE WALK		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

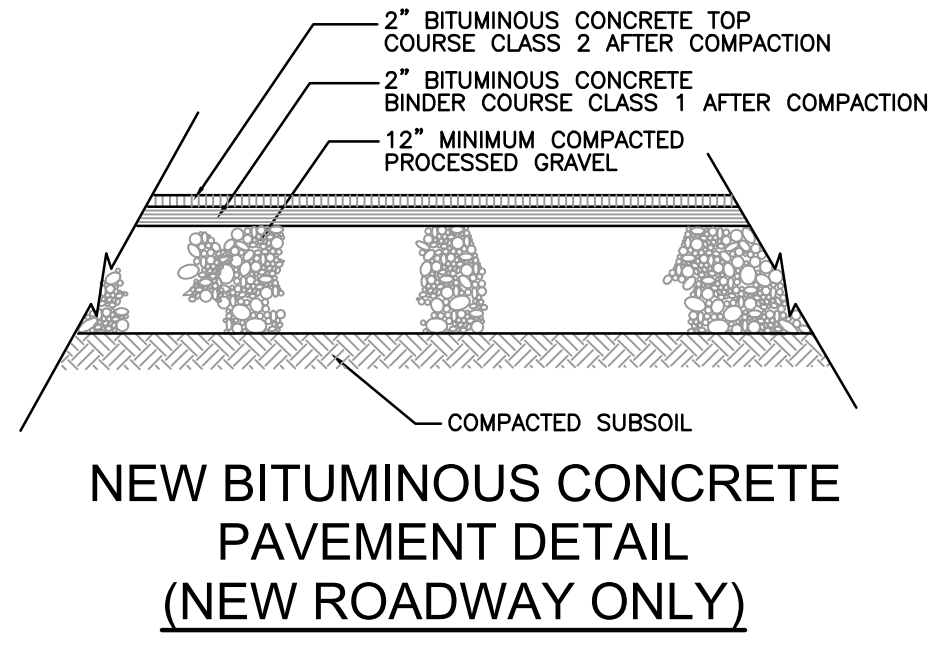
NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		CONCRETE WALK		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE



RHODE ISLAND DEPARTMENT OF TRANSPORTATION

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NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		COMPACTOR & DUMPSTER PAD DETAIL		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		CONCRETE PADS AND WALKS		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		PRECISE 4'-0" ROUND MANHOLE		R.I. STANDARD 4.2.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

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NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

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RHODE ISLAND DEPARTMENT OF TRANSPORTATION

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NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

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NO.	BY	DATE	ISSUE DATE	

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RHODE ISLAND DEPARTMENT OF TRANSPORTATION

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NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

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RHODE ISLAND DEPARTMENT OF TRANSPORTATION

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NO.	BY	DATE	ISSUE DATE	

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RHODE ISLAND DEPARTMENT OF TRANSPORTATION

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NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

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RHODE ISLAND DEPARTMENT OF TRANSPORTATION

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NO.	BY	DATE	ISSUE DATE	

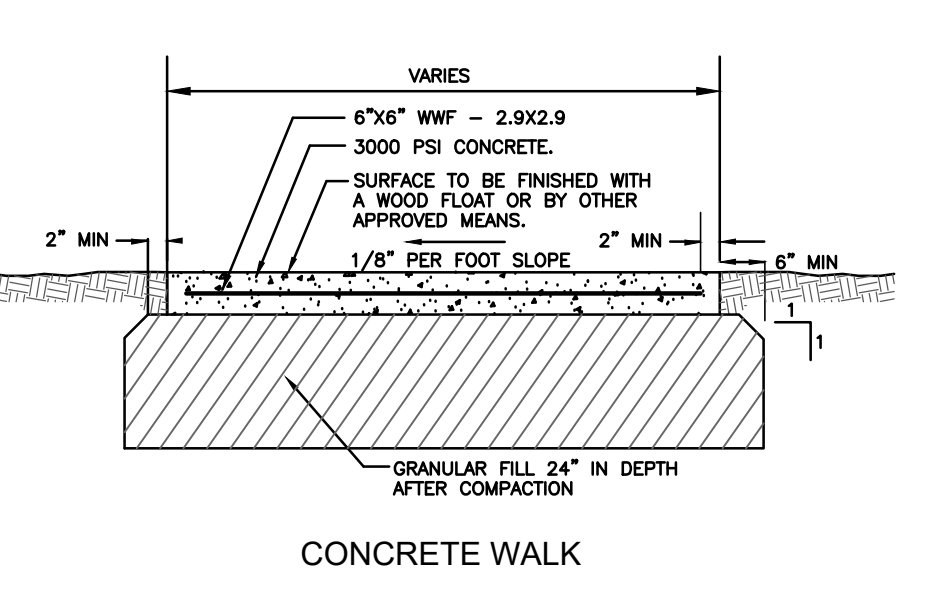
JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		CONCRETE WALK		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998



RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		COMPACTOR & DUMPSTER PAD DETAIL		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		CONCRETE PADS AND WALKS		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		PRECISE 4'-0" ROUND MANHOLE		R.I. STANDARD 4.2.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		CONCRETE WALK		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

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RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		CONCRETE WALK		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		CONCRETE WALK		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		CONCRETE WALK		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

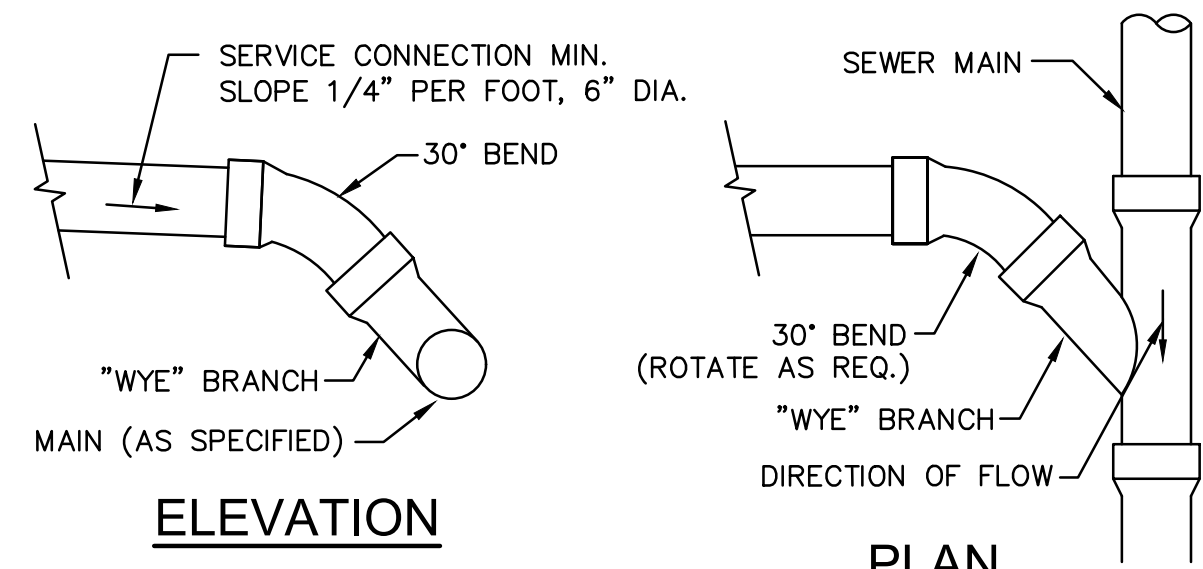
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NO.	BY	DATE	ISSUE DATE	

JUNE 15, 1998

NOT TO SCALE

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

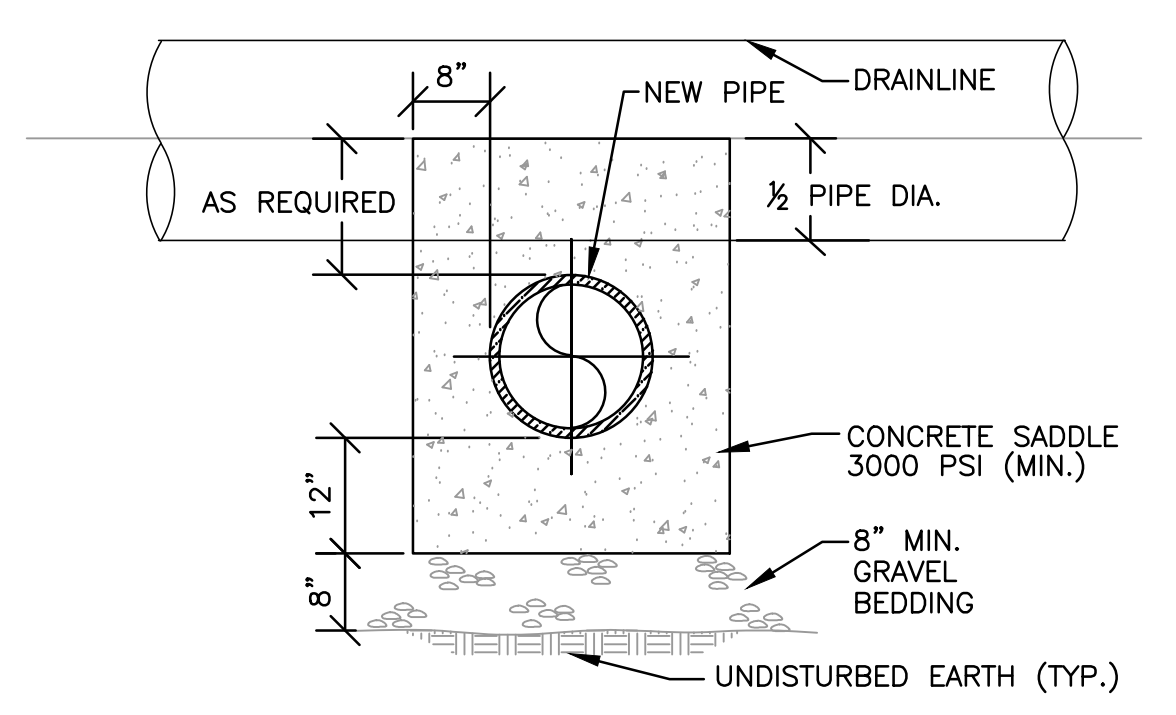
REVISIONS		CONCRETE WALK		R.I. STANDARD 4.3.1.0
NO.	BY	DATE	ISSUE	



- NOTES:
- PIPE AND FITTING MATERIALS TO BE PVC SDR35, MEETING ASTM 3034 FOR USE WITH SANITARY SEWER SYSTEMS.
  - REFER TO "TRENCH SECTION (SEWER)" FOR TRENCHING REQUIREMENTS.

**SEWER SERVICE CONNECTION DETAIL**

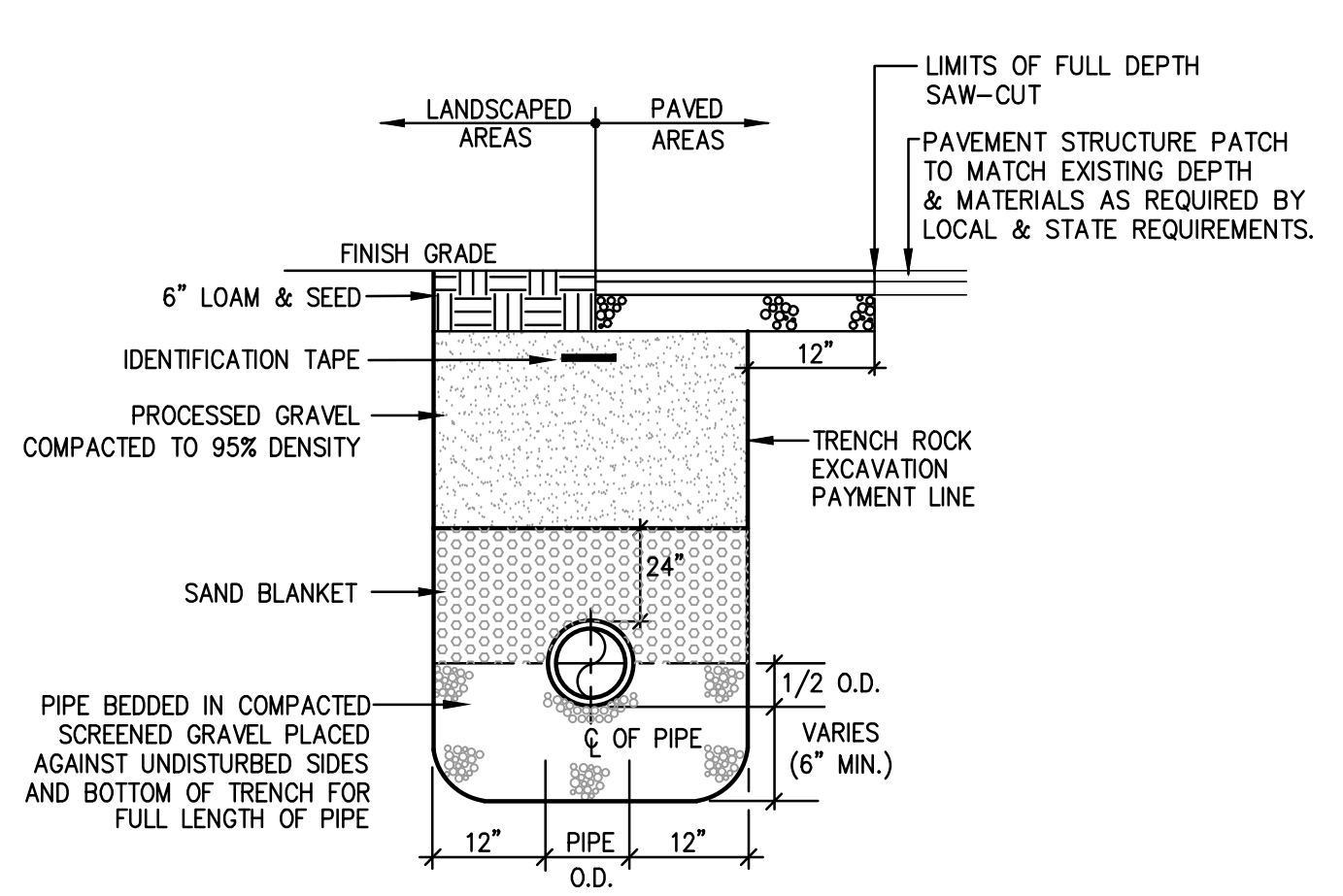
NOT TO SCALE



NOTE: ENCASUREMENT TO EXTEND 2' EITHER SIDE OF CROSSING

**CONCRETE SADDLE**

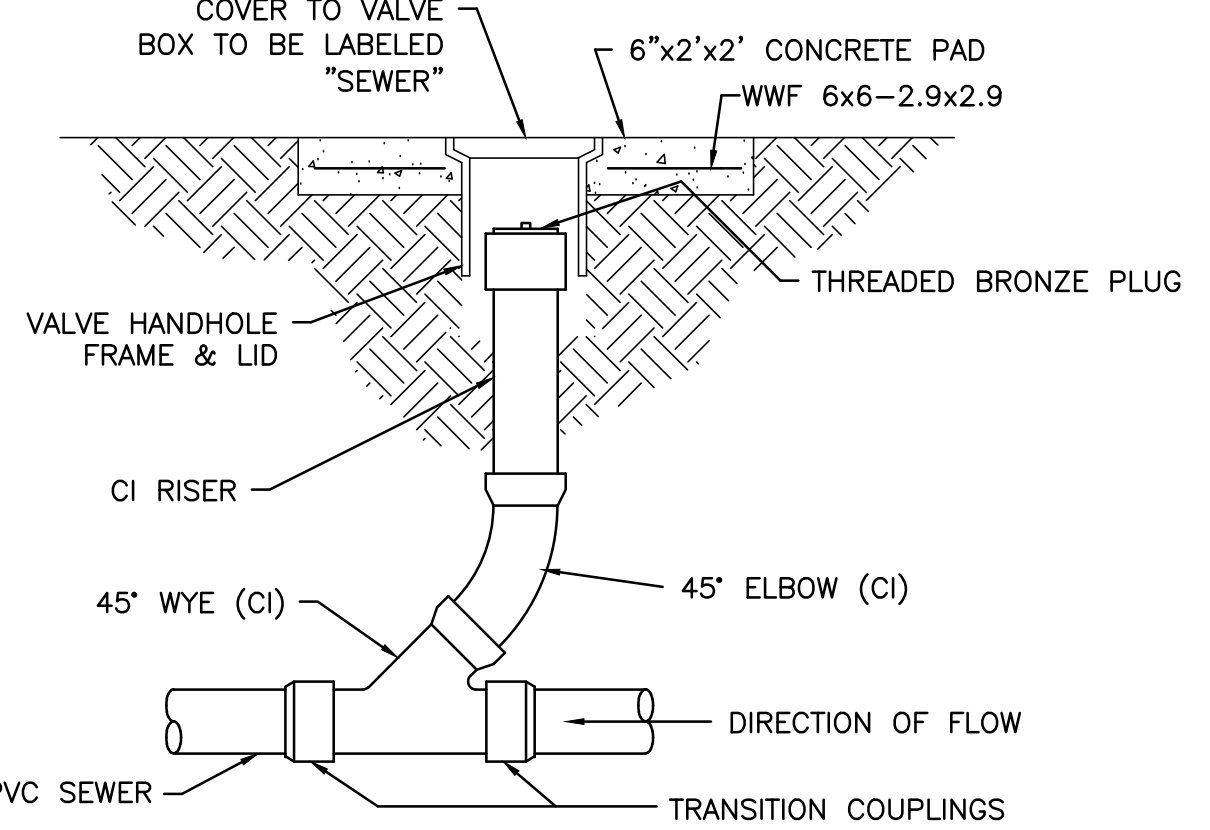
NOT TO SCALE



- NOTES:
- METALIZED 2" WIDE DETECTABLE IDENTIFICATION TAPE SHALL BE INSTALLED OVER SEWER LINES 12" BELOW FINISH GRADE.
  - MINIMUM DEPTH OF COVER SHALL BE 5'-0"

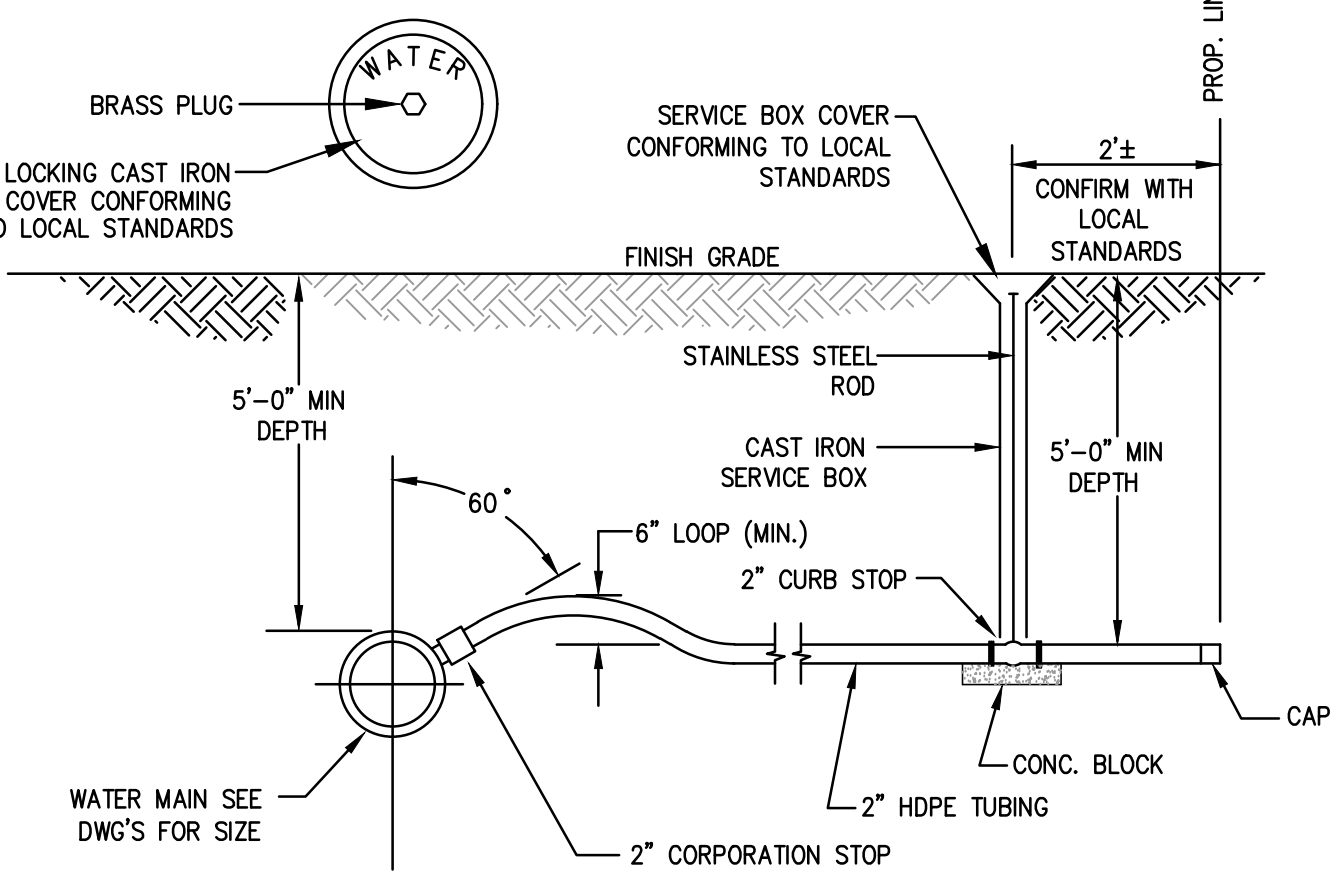
**TRENCH SECTION (SEWER)**

NOT TO SCALE



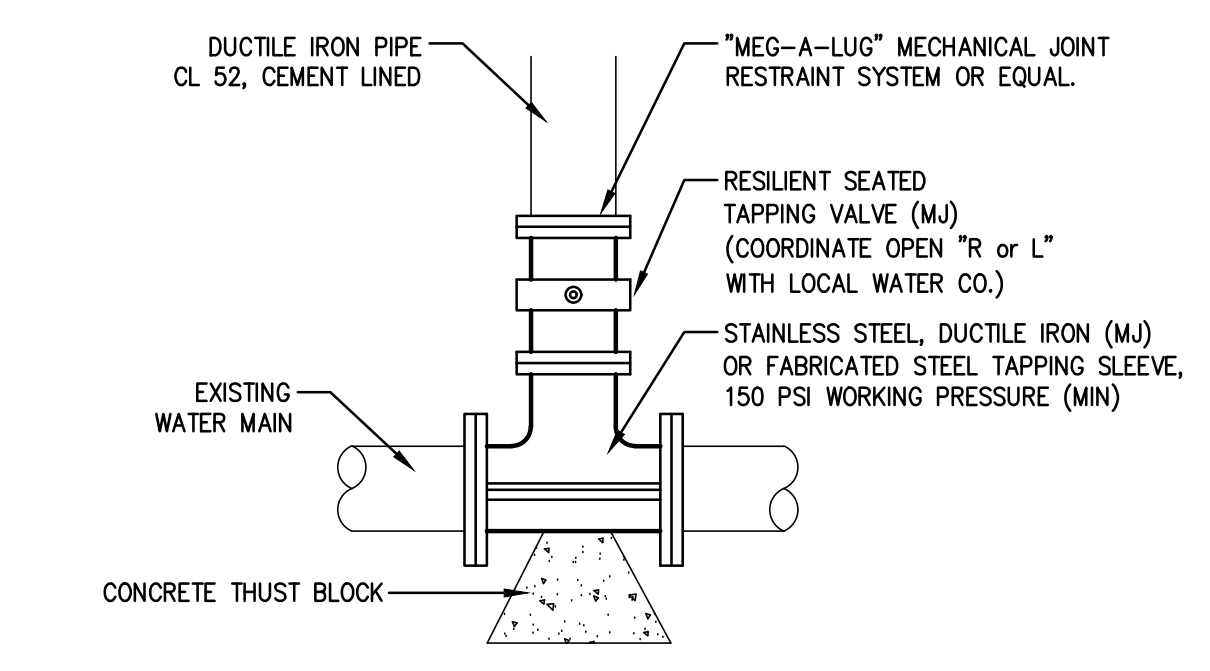
NOT TO SCALE

**CLEANOUT DETAIL**



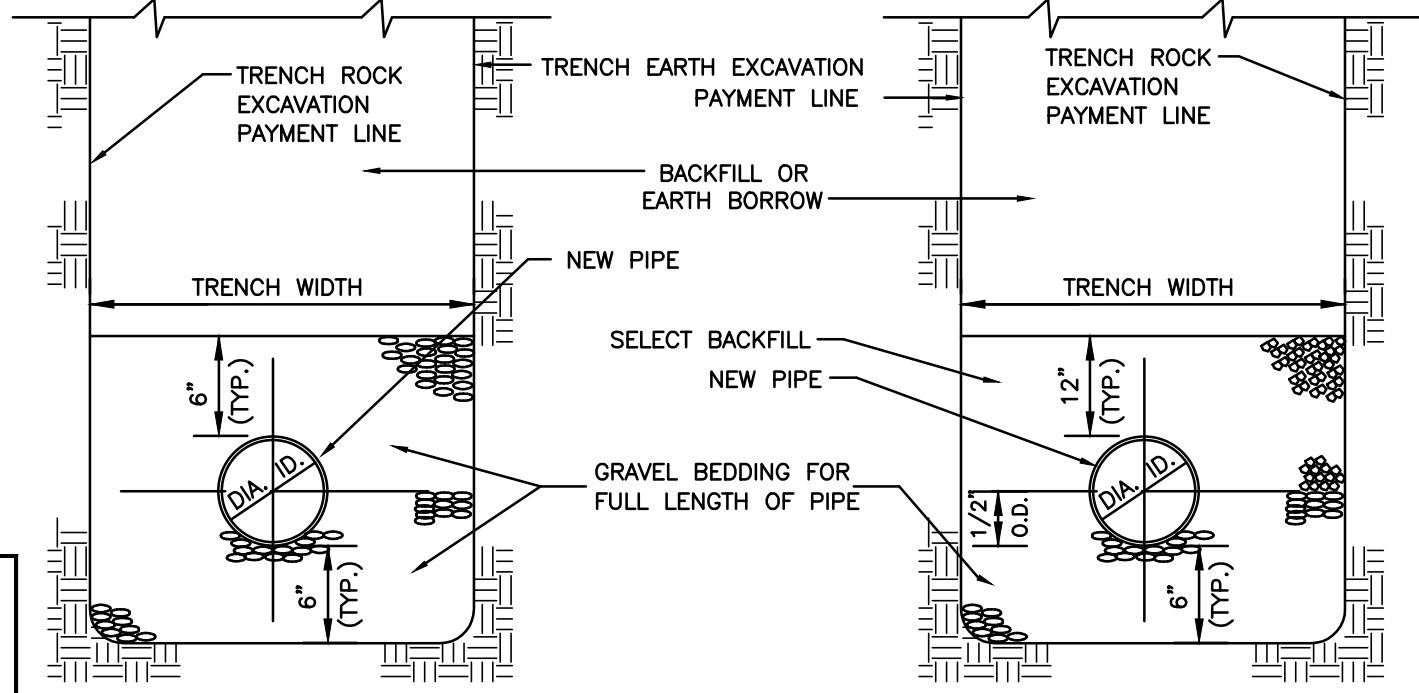
NOT TO SCALE

**WATER SERVICE DETAIL**



NOT TO SCALE

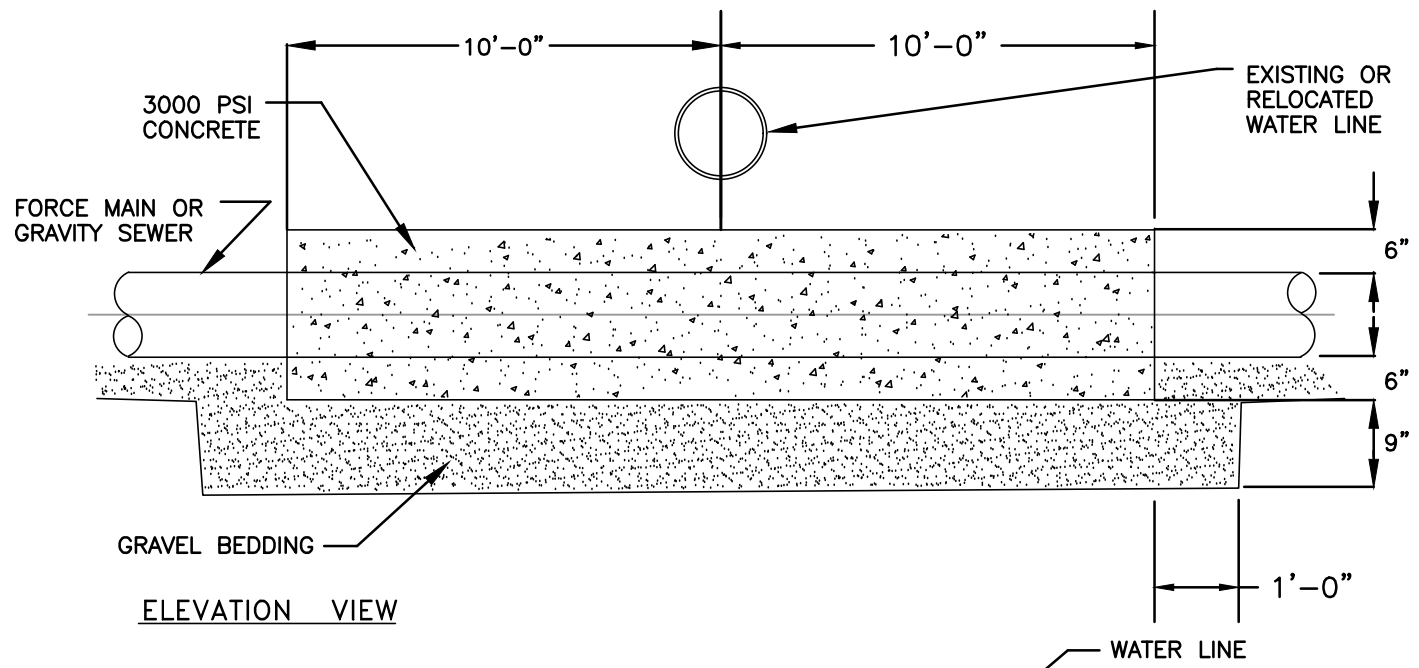
**TYPICAL TAPPING SLEEVE & VALVE DETAIL**



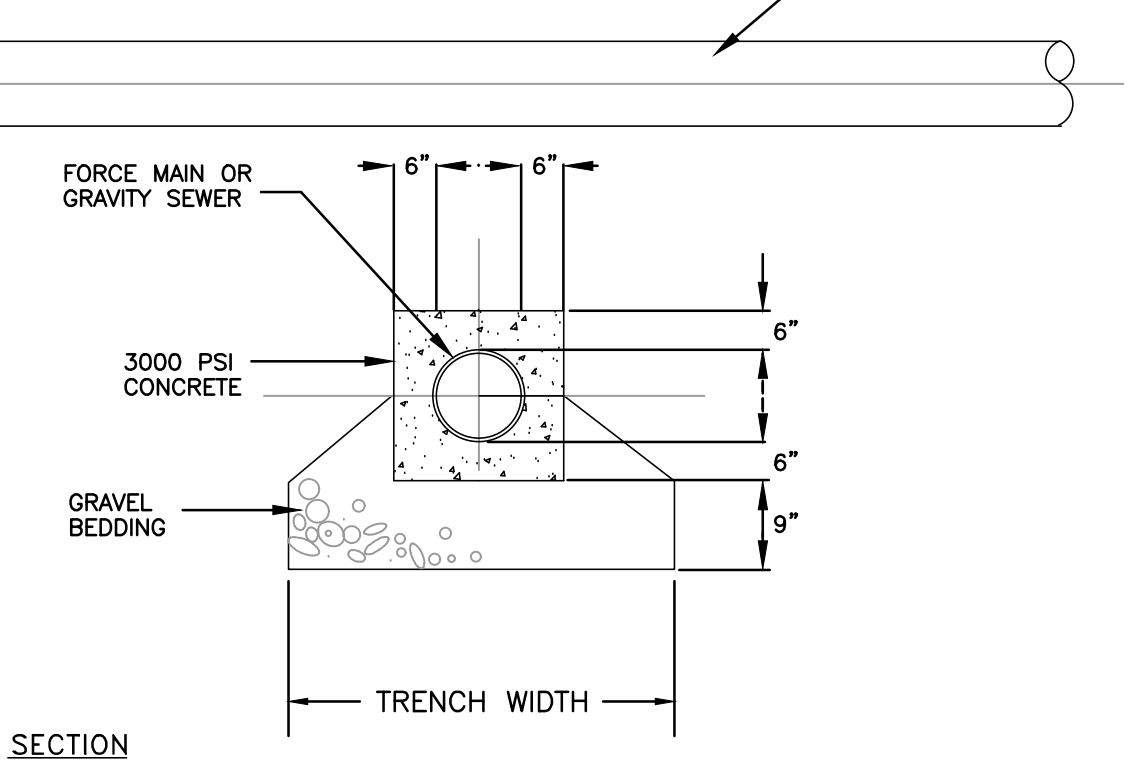
- NOTES:
- METALIZED 2" WIDE DETECTABLE IDENTIFICATION TAPE SHALL BE INSTALLED OVER WATER AND SEWER LINES 1' BELOW FINISH GRADE.
  - EXISTING FOUNDATION SHALL BE REMOVED TO 2' MINIMUM BELOW PROPOSED UTILITIES AND BACKFILLED WITH SELECT BACKFILL TO 95% DENSITY.
  - ELECTRIC/TELEPHONE/CABLE MAINS AND SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH UTILITY COMPANY STANDARDS AND ALL APPLICABLE CODES.
  - REFER TO "TRENCH SECTION (SEWER)" FOR ADDITIONAL SEWER TRENCH REQUIREMENTS.

**EARTH-ROCK TRENCH**

NOT TO SCALE

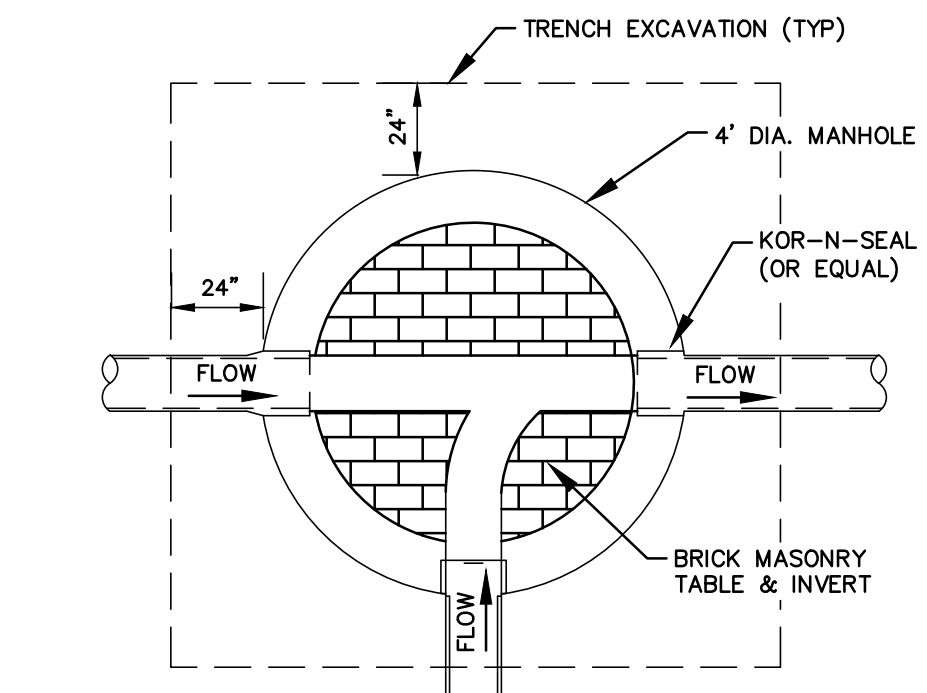


ELEVATION VIEW



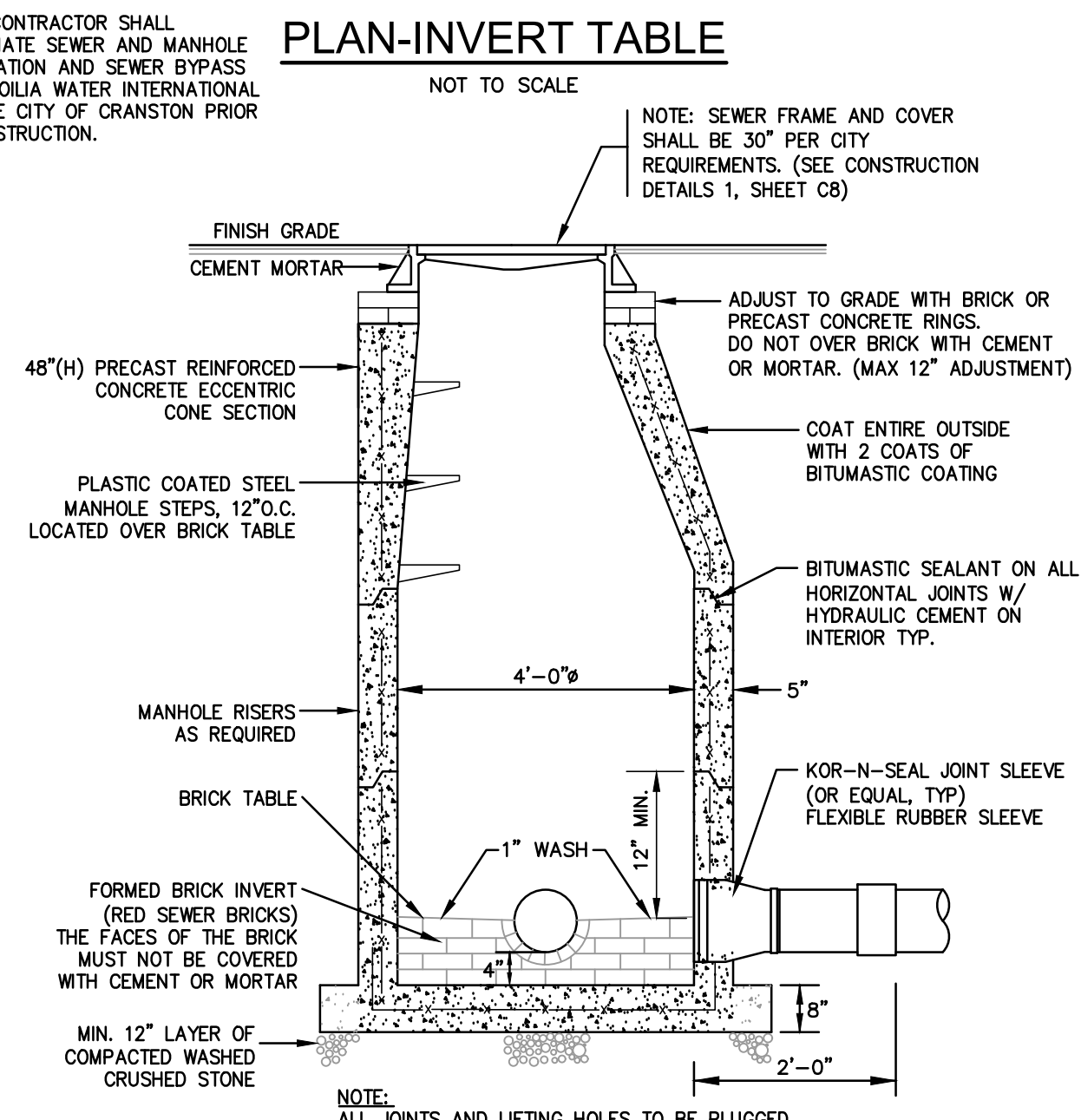
**CONCRETE SLEEVE**

NOT TO SCALE



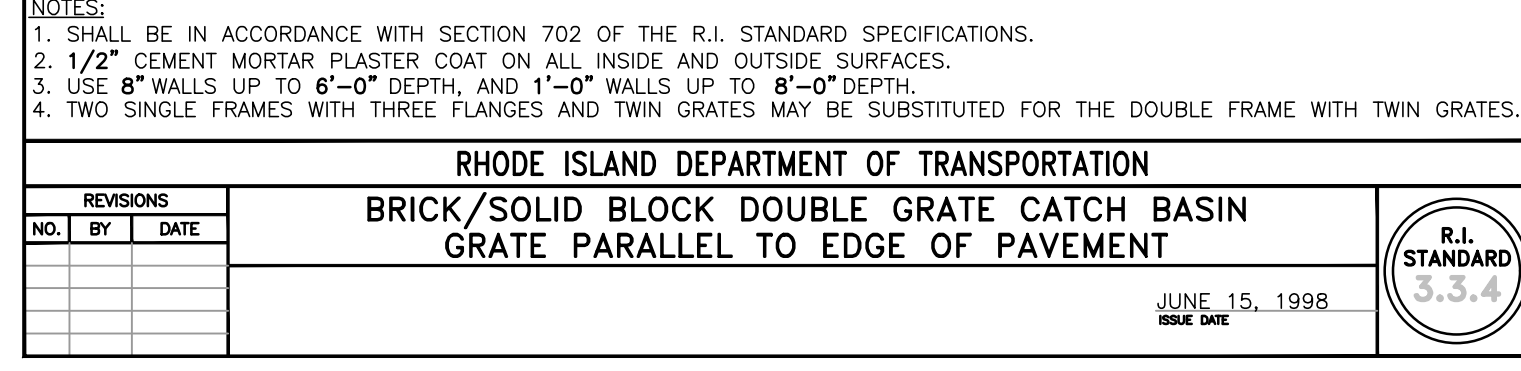
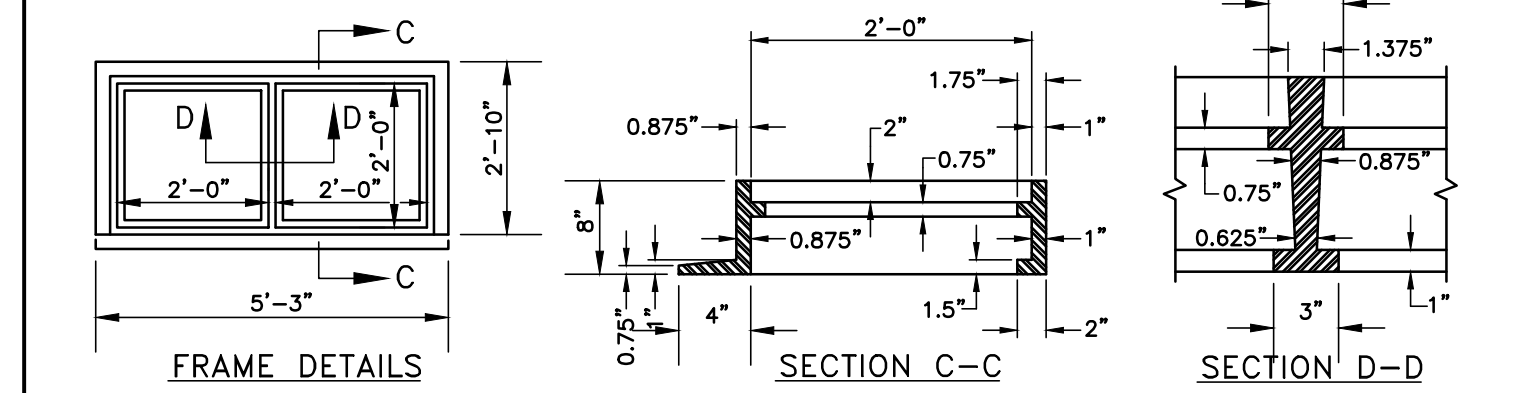
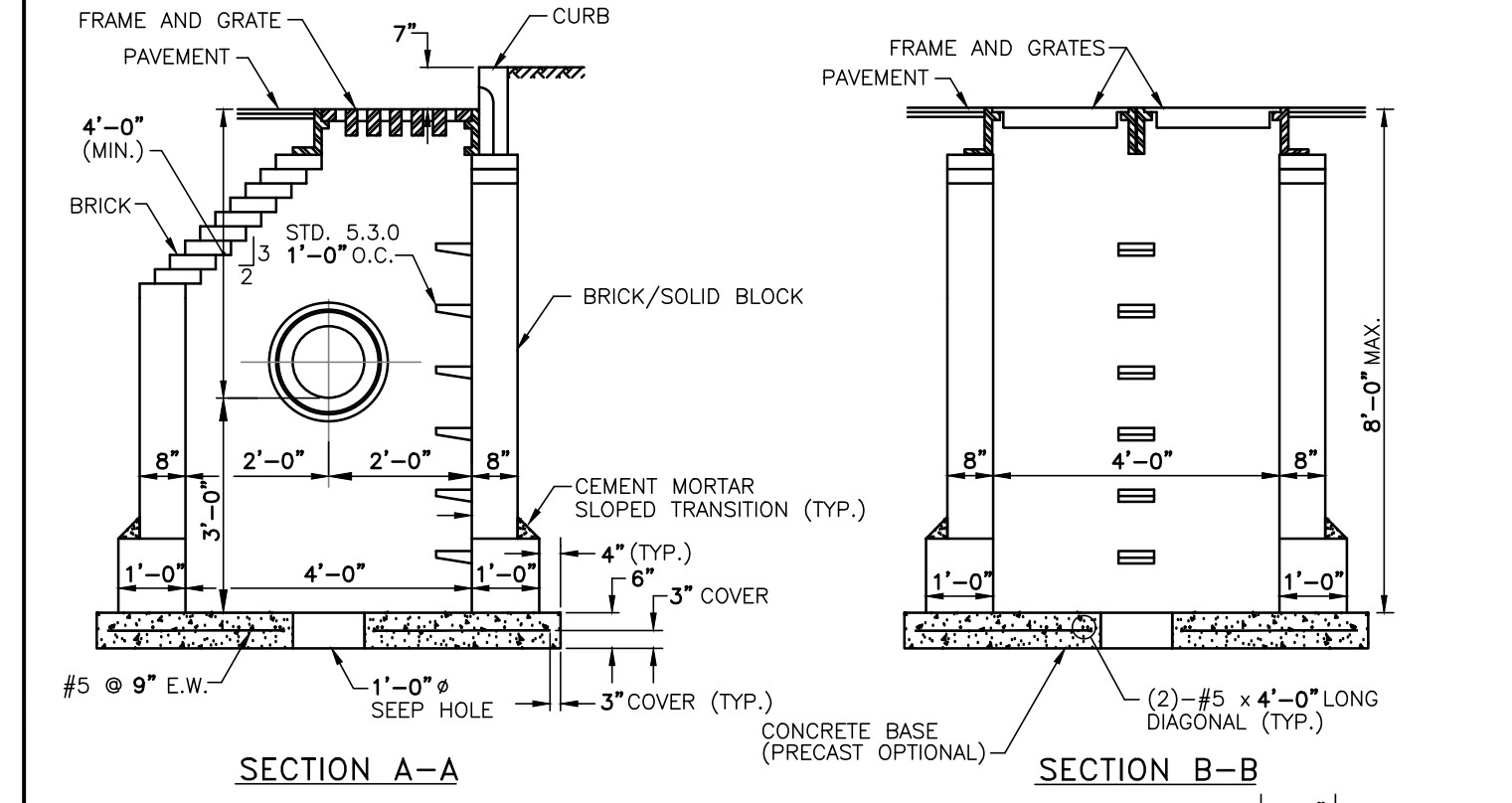
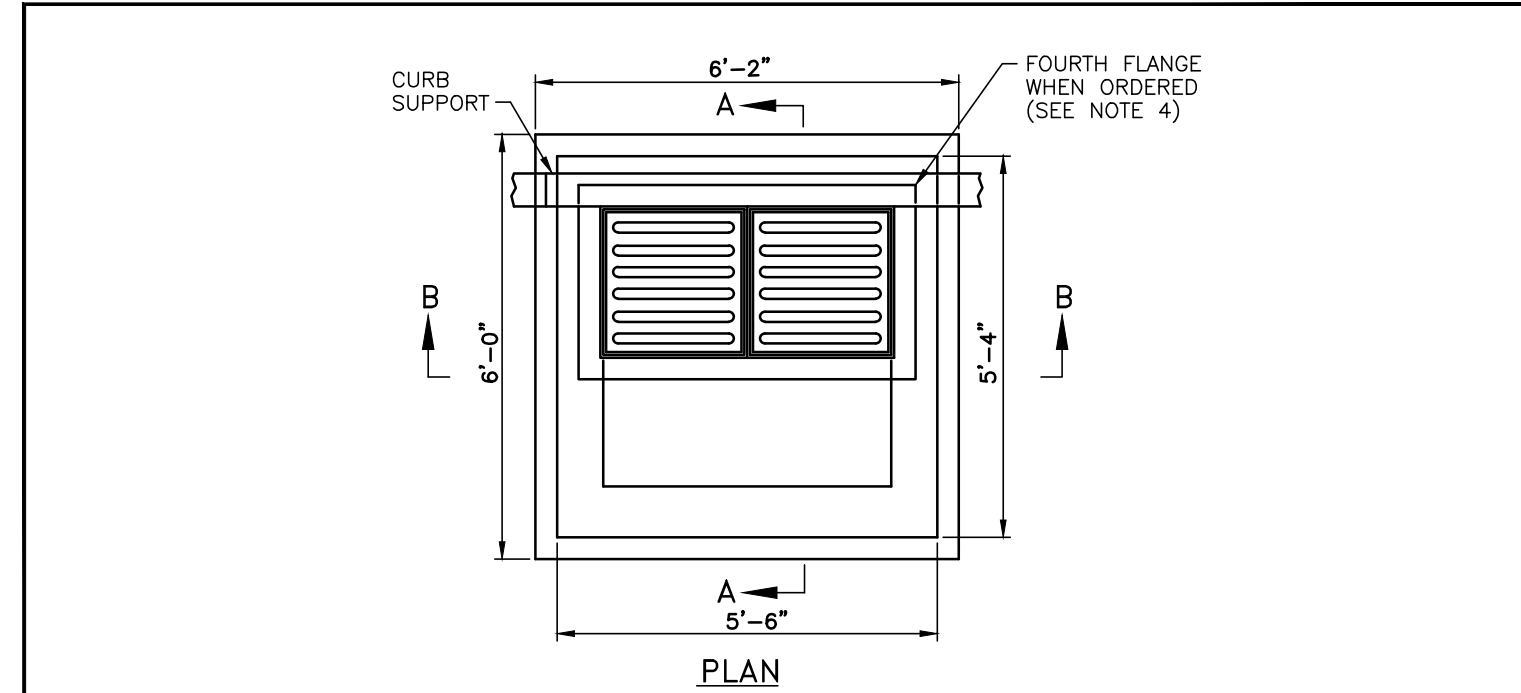
NOT TO SCALE

**PLAN-INVERT TABLE**

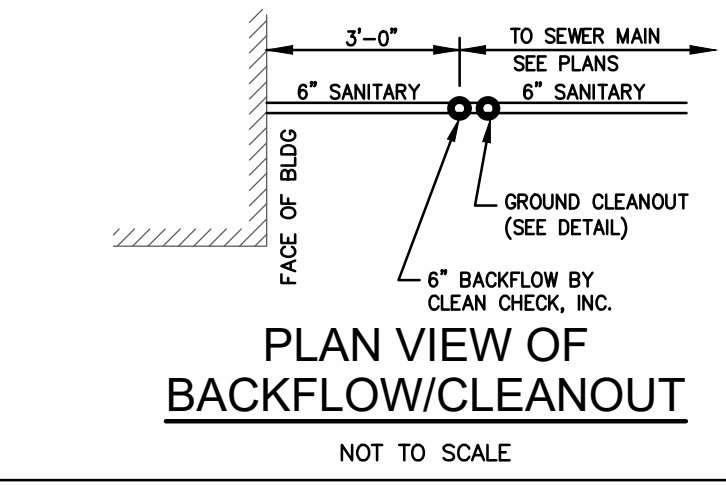


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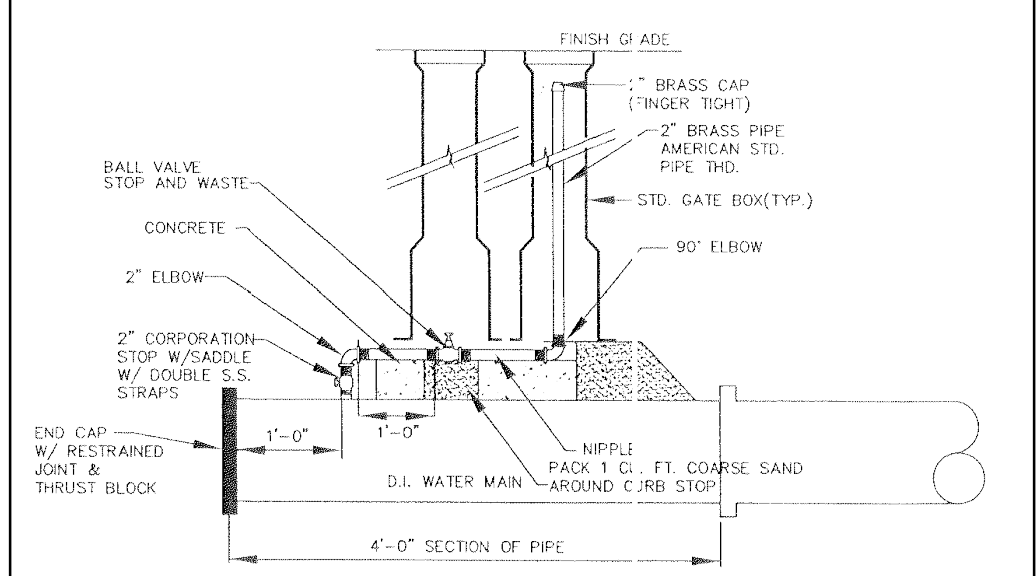
**SEWER MANHOLE DETAIL**



NO.	BY	DATE
1	MLP	MSP-05

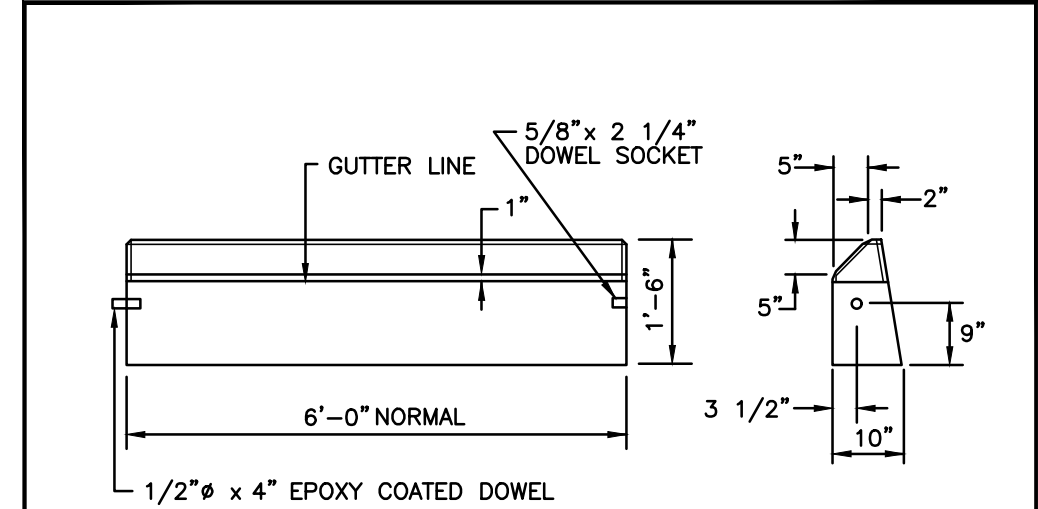


NOT TO SCALE



NOT TO SCALE

**TYPICAL BLOW OFF VALVE**



**CIRCULAR CURB**

- NOTES:
- SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
  - MINIMUM LENGTH OF STRAIGHT OR CIRCULAR PIECES TO BE 3'-0". EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
  - EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
  - CIRCULAR CURB IS REQUIRED ON CURVES WITH RADI OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.

REVISIONS		
NO.	BY	DATE
1	MLP	MSP-05

**RHODE ISLAND DEPARTMENT OF TRANSPORTATION**

**PRECAST CONCRETE SLOPED FACE CURB**

JUNE 15, 1998

R.I. STANDARD 7.2.0

**OWNER/APPLICANT:**

A.P. 20/4, LOT 2117  
WEST BAY LLC  
1414 ATWOOD AVE  
JOHNSTON, RI 02919

**CONSTRUCTION DETAILS 4**

**MULTI-FAMILY DEVELOPMENT**

FOR  
**CHAMPLIN HILLS**

SITUATED ON  
A.P. 20/4, LOT 2117  
**SCITUATE AVENUE**  
**CRANSTON, RI**  
PREPARED FOR  
**WEST BAY LLC.**

NO.	REVISION	BY	DATE
2	DRAINAGE MODIFICATION	RJB	1/6/15
3	DRAINAGE MODIFICATION	RJB	2/23/15
4	MODIFY WETLAND DELINEATION	RJB	4/26/15
5	MODIFY BUILDING SIZE	RJB	5/7/15
6	ADD LANDSCAPE PLAN	RJB	6/10/15
7	INCLUDE ADJUTING PARCEL	RJB	11/6/15
8	BUILDING MODIFICATION	RJB	1/26/16
9	BUILDING MOD/RIDEM	RJB	3/1/16
10	PER TOWN REQUIREMENT	RJB	5/23/16
11	FINAL PLAN SUBMISSION	RJB	9/29/16
12	ISSUED FOR CONSTRUCTION	RJB	10/7/16
13	WATER CONNECTION MOD	RJB	2/16/17

**GAROFALO**

**GAROFALO & ASSOCIATES, INC.**

**CIVIL & STRUCTURAL ENGINEERS/SURVEYORS**

**LAND PLANNERS/ENVIRONMENTAL SCIENTISTS**

85 CORLISS STREET  
P.O. BOX 6145  
PROVIDENCE, RI 02940  
TEL. 401-273-6000

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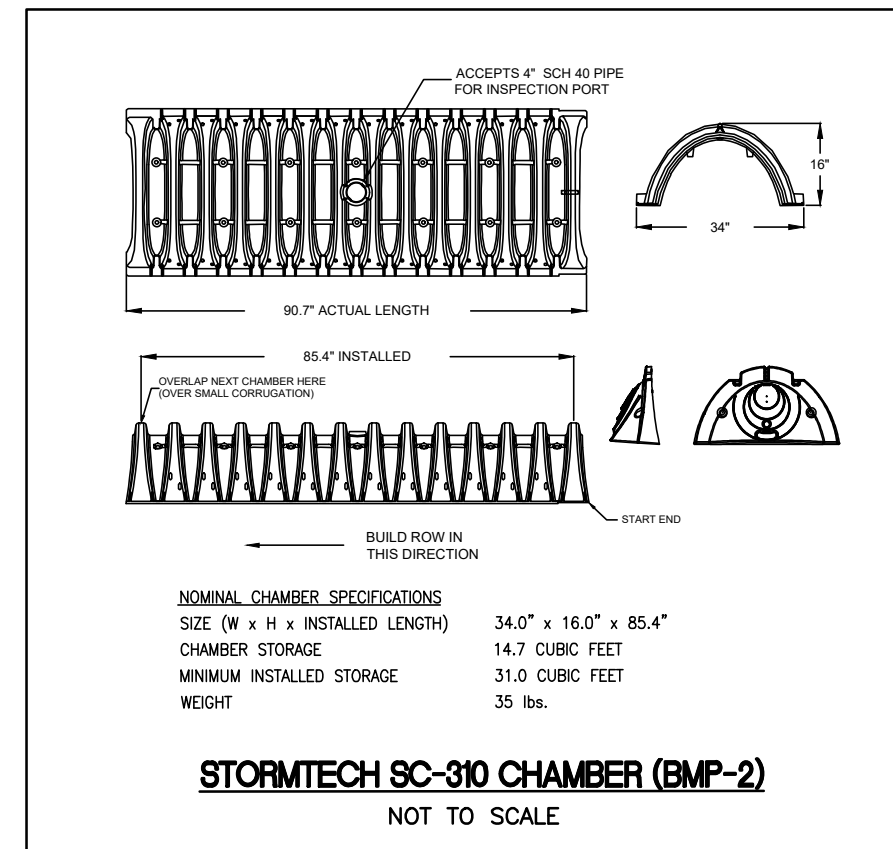
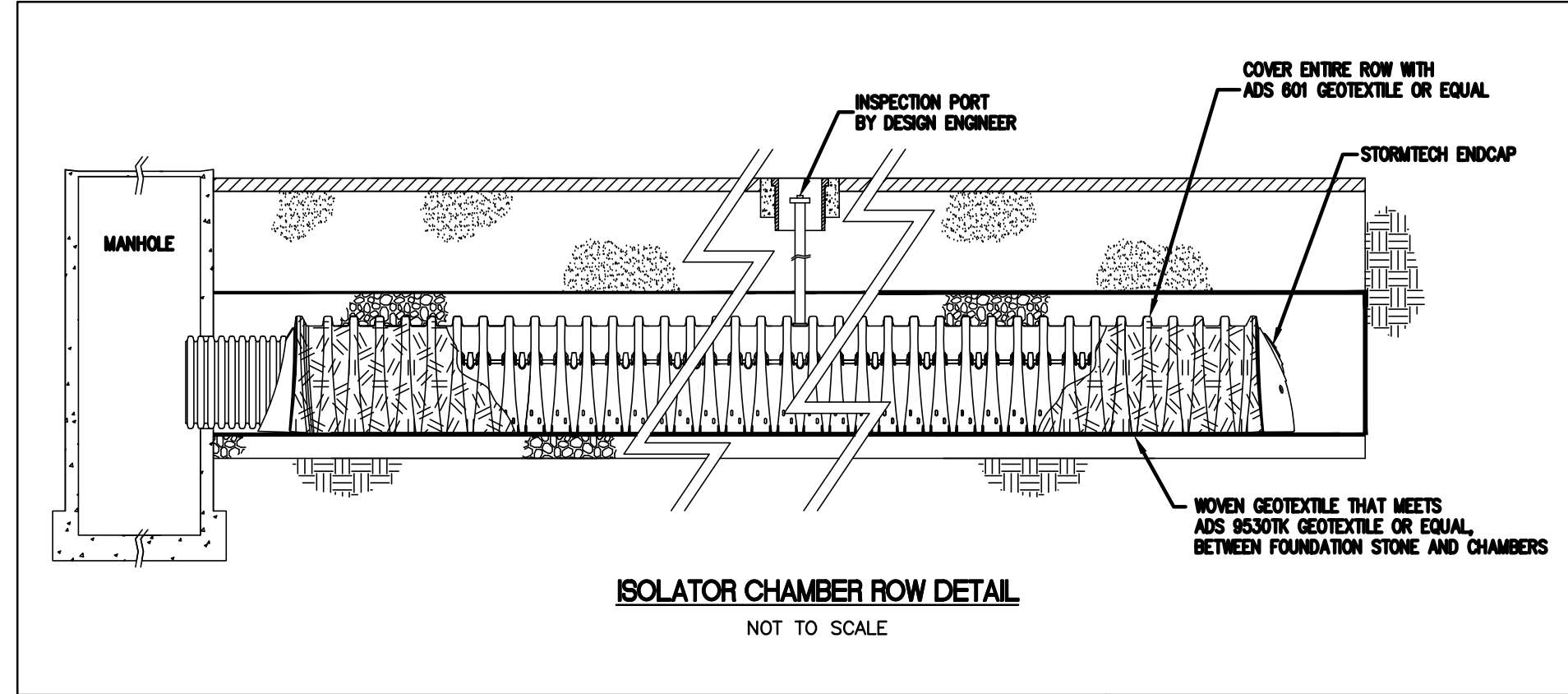
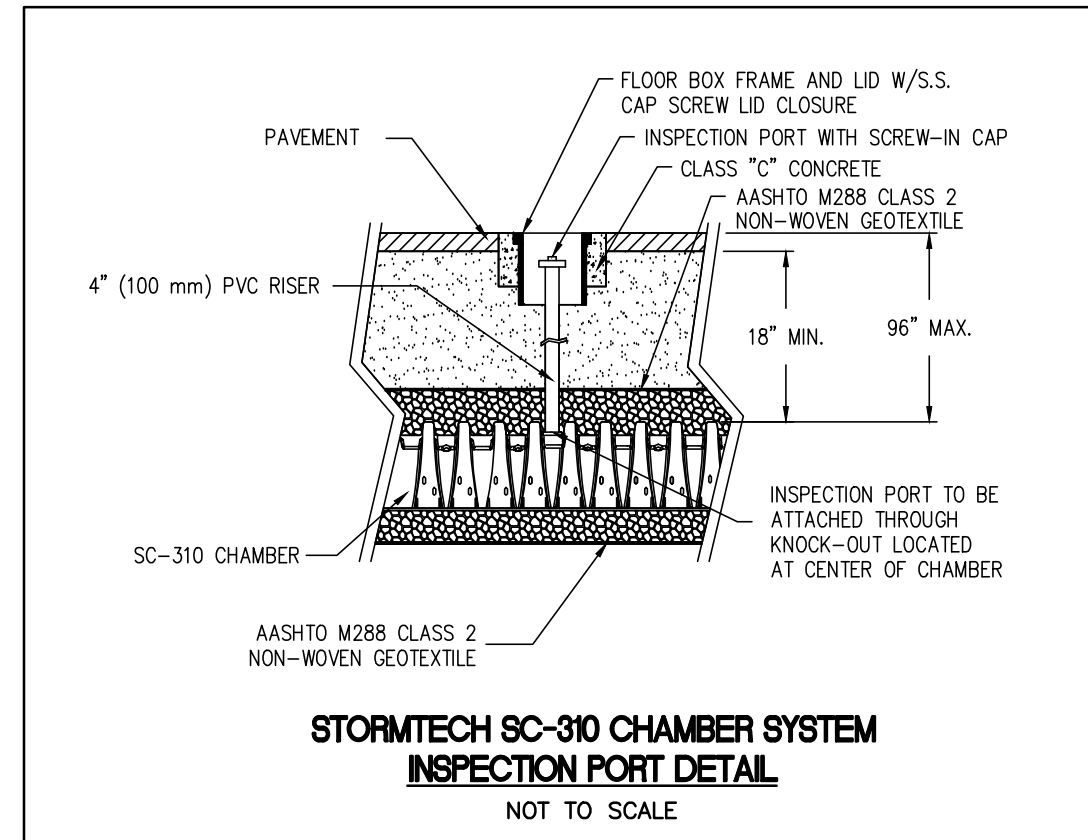
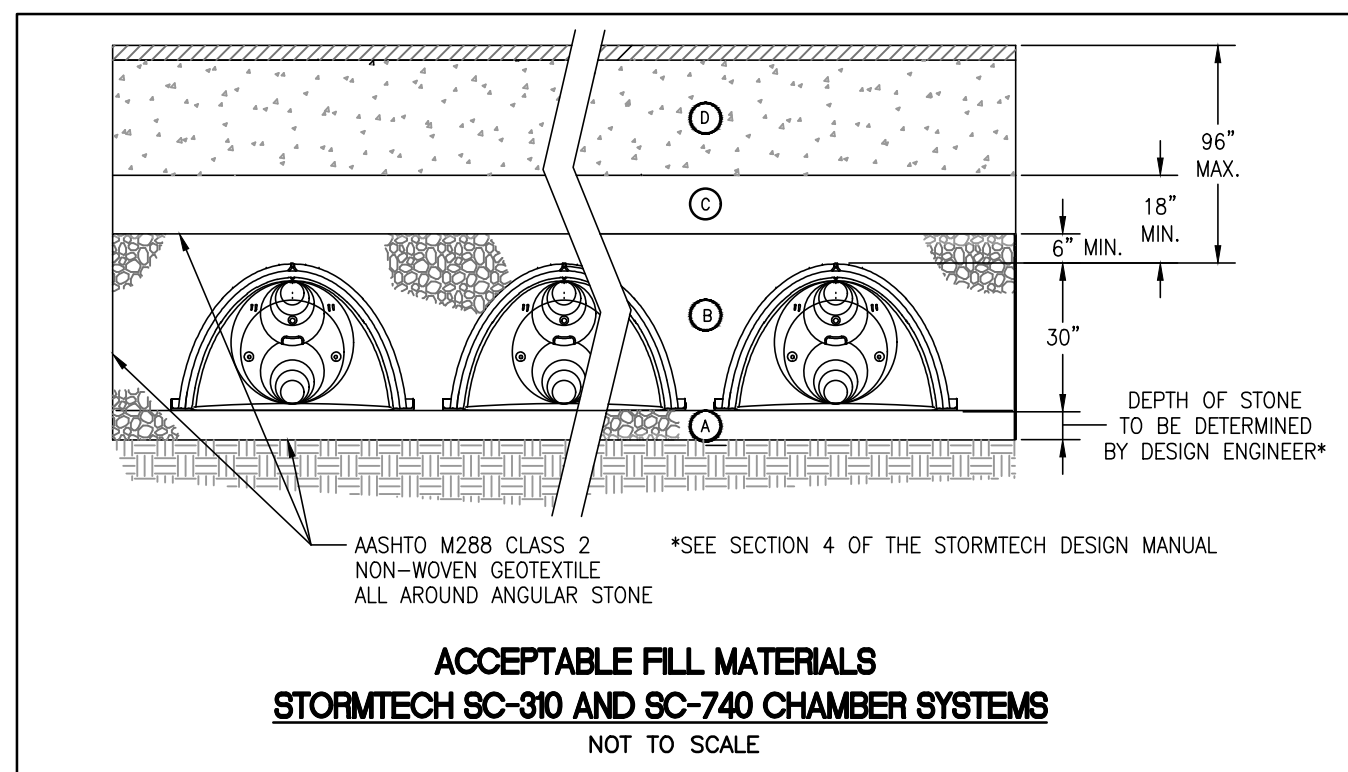
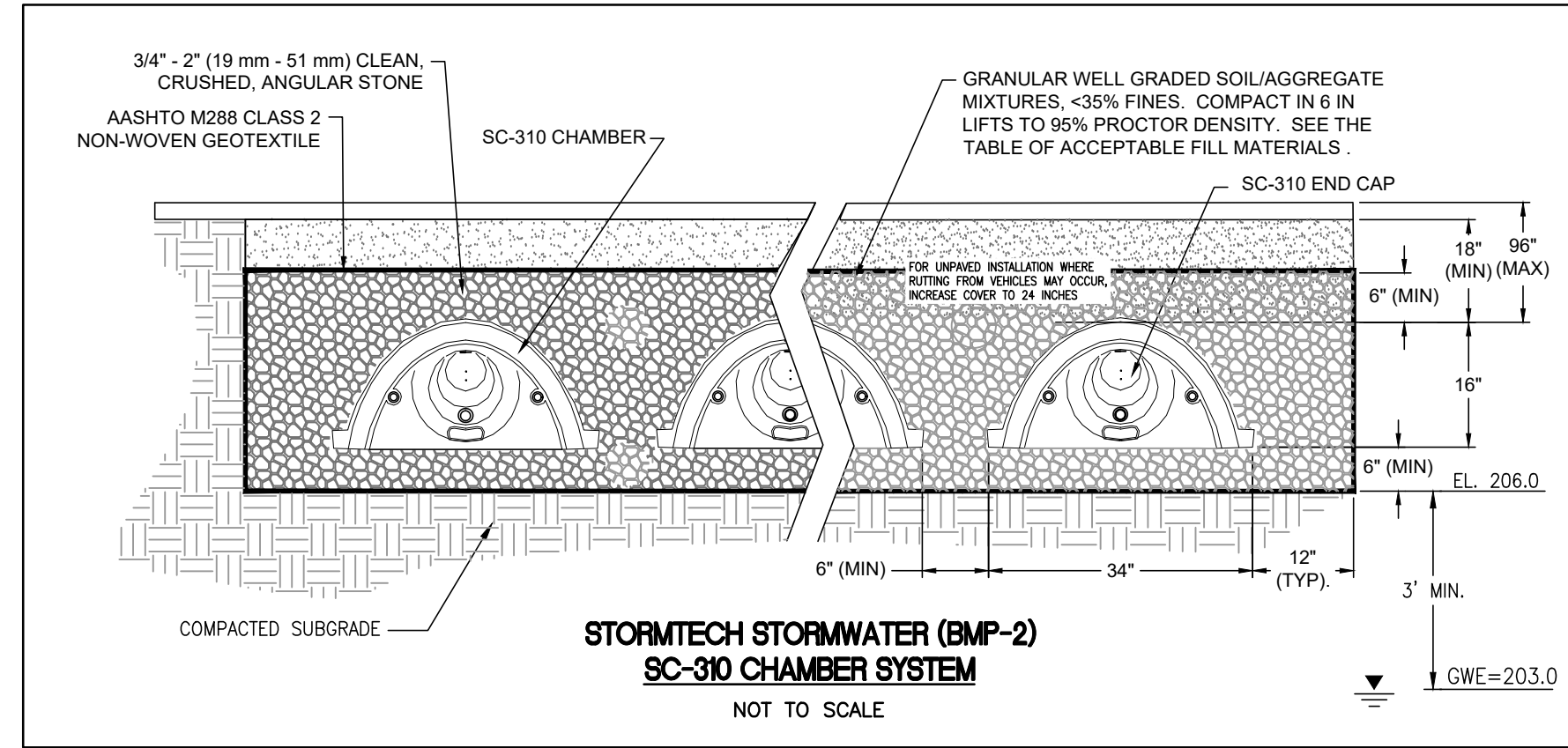
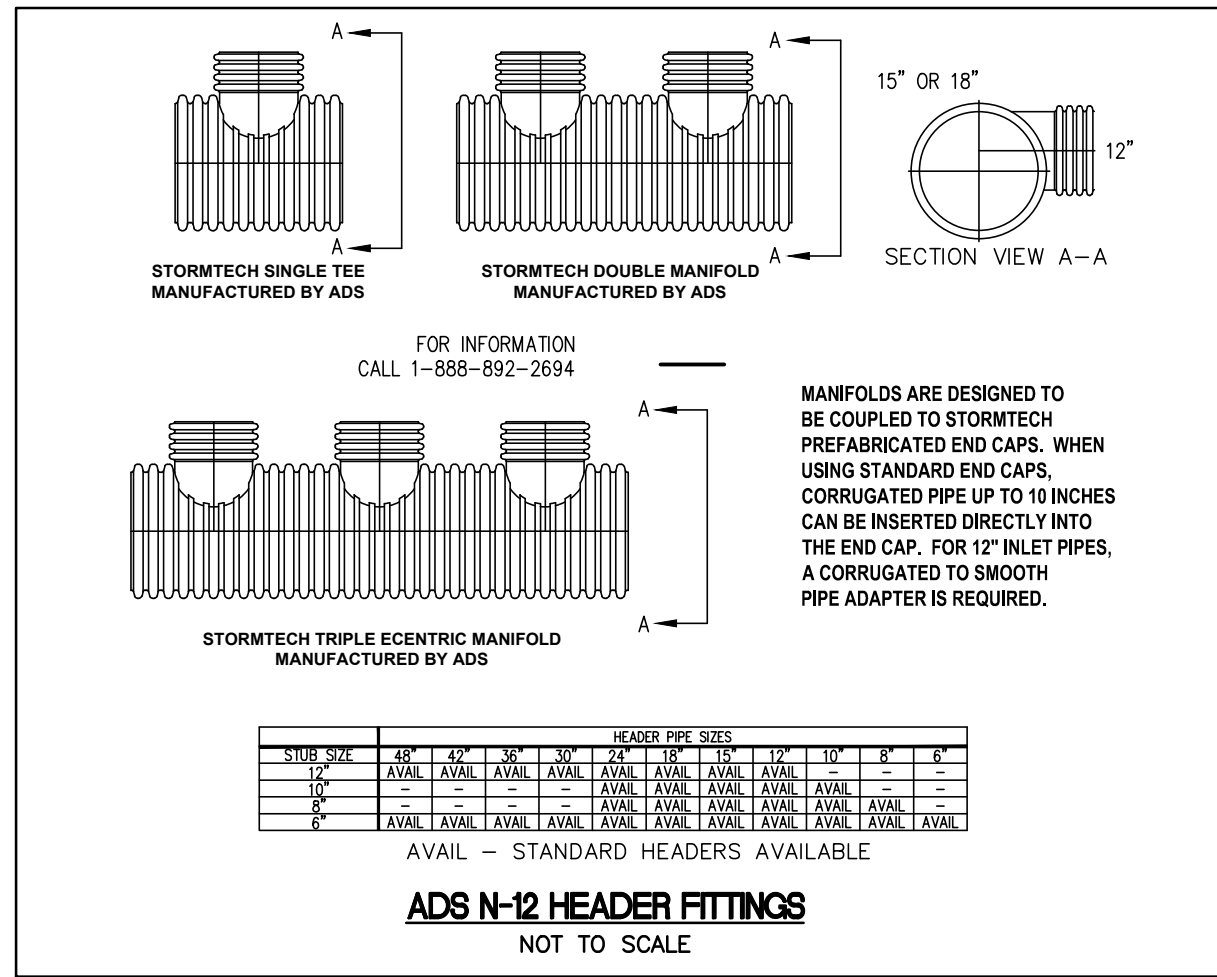
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<b>DWG. NO.</b> 6856-BASE-PRELIM	<b>CHECKED</b> S.B.G.
<b>SCALE:</b> AS SHOWN	<b>APPROVED</b> S.B.G.
	<b>DATE:</b> MAY, 2014

**SHEET**

**C12**

OF 15 SHEETS

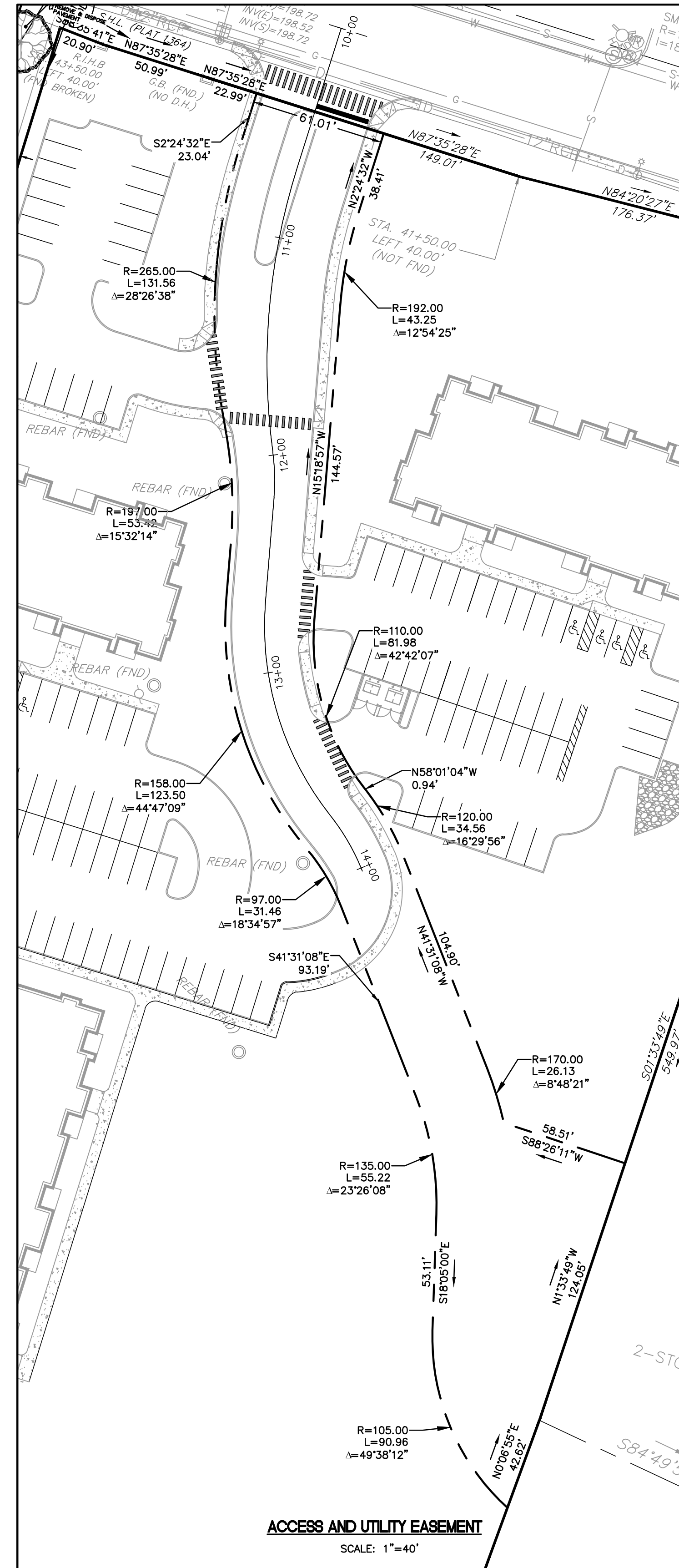
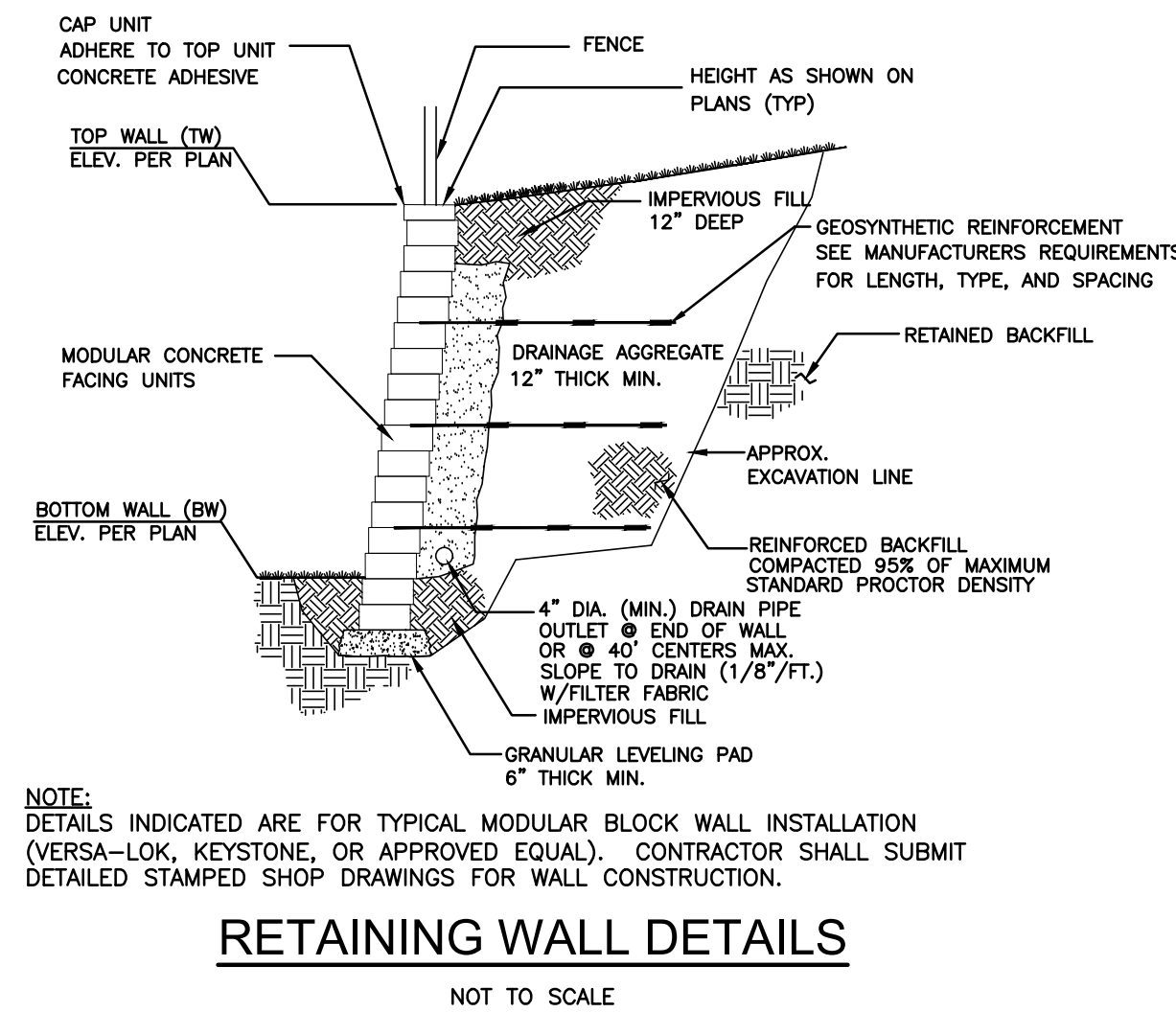
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ACCEPTABLE FILL MATERIALS: SC-310 and SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION <sup>1</sup>	COMPACTION/DENSITY REQUIREMENT
① FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISH GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THIS LAYER.	ANY SOIL/ROCK MATERIALS. NATIVE SOILS OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBBASE REQUIREMENTS.	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
② FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (B LAYER) TO 18" (457 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THIS LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES <35% FINES. MOST PAVEMENT SUB-BASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN CHAMBER AFTER 12" (305 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (152 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).
③ EMBEDMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE. NOMINAL SIZE DISTRIBUTION BETWEEN 3/4" - 2" INCH (19 - 51 mm)	3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
④ FOUNDATION STONE BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE. NOMINAL SIZE DISTRIBUTION BETWEEN 3/4" - 2" INCH (19 - 51 mm)	3, 35, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY <sup>2</sup> .

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 9" (229 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH AN APPROPRIATE COMPACTOR.



CONSTRUCTION DETAILS 5  
MULTI-FAMILY DEVELOPMENT  
FOR  
CHAMPLIN HILLS  
SITUATED ON  
A.P. 20/4, LOT 2117  
SCITUATE AVENUE  
CRANSTON, RI  
PREPARED FOR  
WEST BAY LLC.

NO.	REVISION	BY	DATE
7	INCLUDE ABUTTING PARCEL	RJB	11/6/15
9	BUILDING MOD/RIDEM	RJB	3/1/16
10	PER TOWN REQUIREMENT	RJB	5/23/16
11	FINAL PLAN SUBMISSION	RJB	9/29/16
12	ISSUED FOR CONSTRUCTION	RJB	10/7/16

**GAROFALO**  
GAROFALO & ASSOCIATES, INC.  
CIVIL & STRUCTURAL ENGINEERS/SURVEYORS  
LAND PLANNERS/ENVIRONMENTAL SCIENTISTS

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85 CORLISS STREET  
P.O. BOX 6145  
PROVIDENCE, R.I. 02940  
TEL. 401-273-6000

JOB NO. 6856-00	DRAWN BY R.J.B.
DWG. NO. 6856-BASE-PRELIM	CHECKED S.B.G.
SCALE: AS SHOWN	APPROVED S.B.G.
	DATE: MAY, 2014

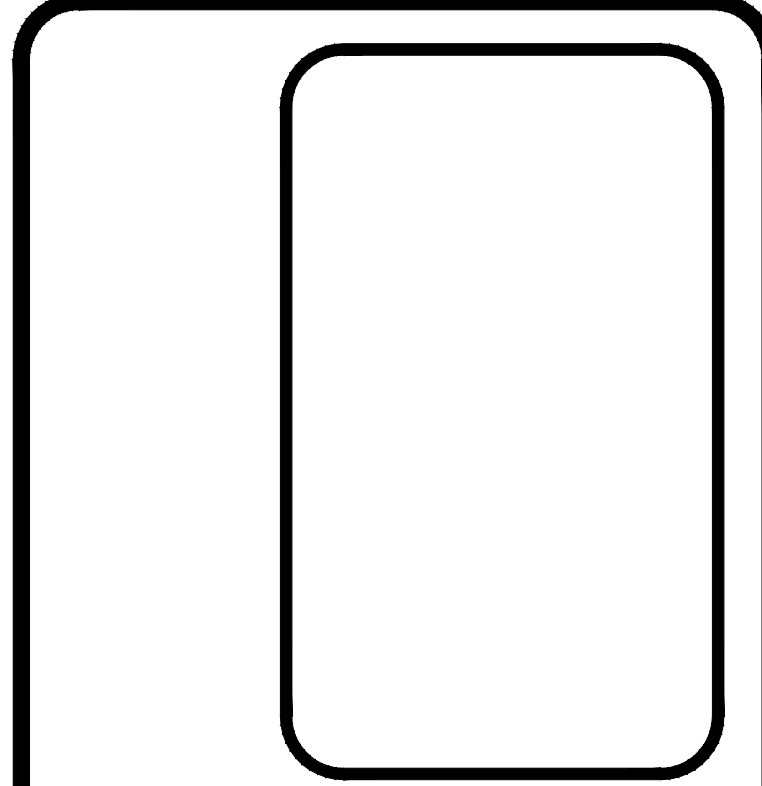
SHEET  
**C13**  
OF 15 SHEETS

OWNER/APPLICANT:  
A.P. 20/4, LOT 2117  
WEST BAY LLC  
1414 ATWOOD AVE  
JOHNSTON, RI 02919

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**LANDSCAPE PLAN**  
**MULTI-FAMILY DEVELOPMENT**  
 FOR  
**CHAMPLIN HILLS**  
 SITUATED ON  
 A.P. 20/4, LOT 2117  
 SCITUATE AVENUE  
 CRANSTON, RI  
 PREPARED FOR  
**WEST BAY LLC.**

NO.	REVISION	BY	DATE
8	BUILDING MODIFICATION	RJB	1/26/16
9	BUILDING MOD/RIDEM	RJB	3/1/16
10	PER TOWN REQUIREMENT	RJB	5/23/16
11	GENERAL REVISIONS	RJB	9/29/16
12	ISSUED FOR CONSTRUCTION	RJB	4/4/18
14	BUILDING MOD.	KYY	3/23/23



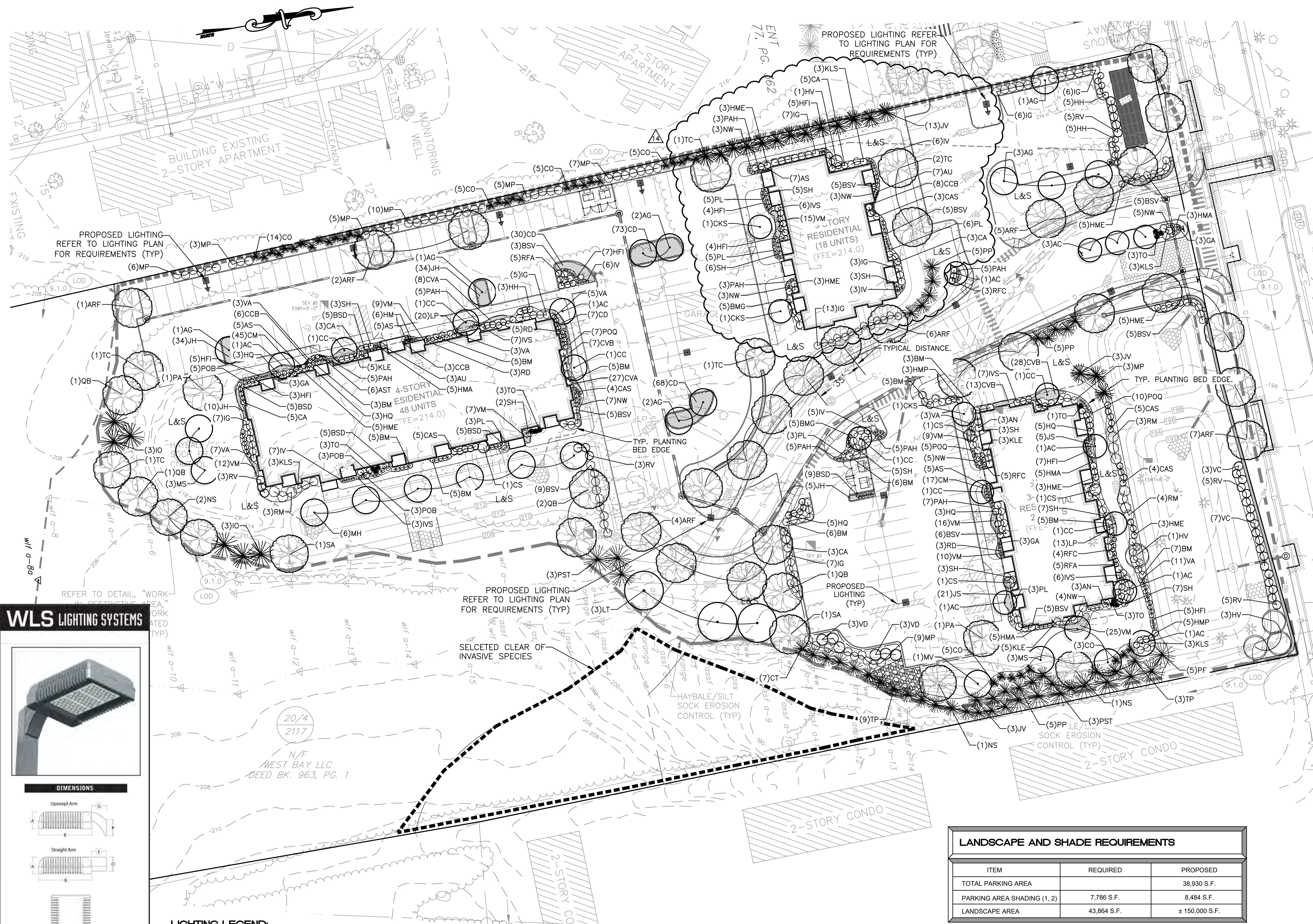
Garofalo & Associates  
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85 CORLISS STREET  
 P.O. BOX 6145  
 PROVIDENCE, RI 02940  
 TEL. 401-273-6000

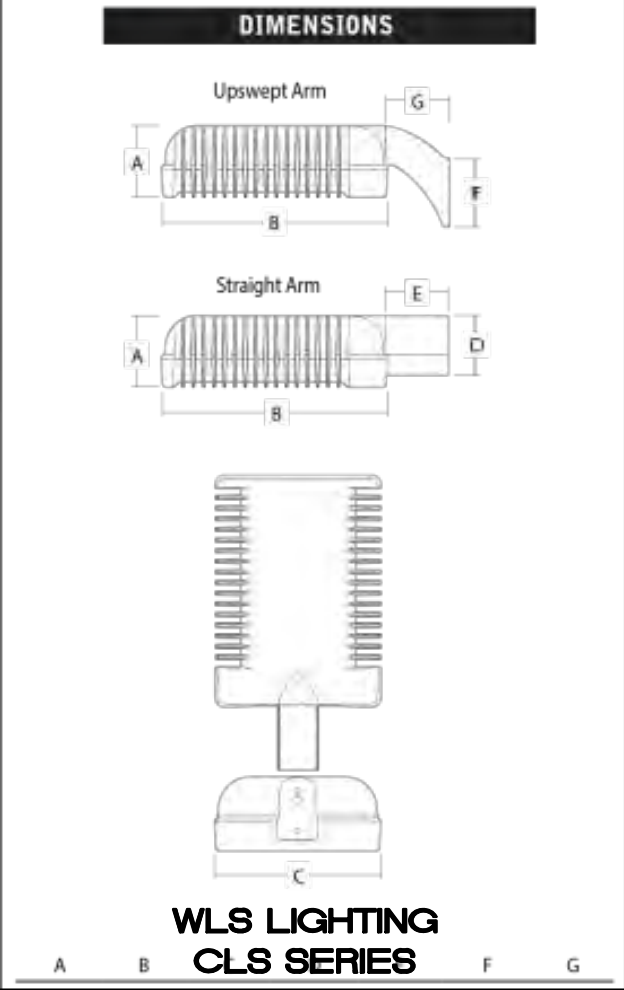
**GAROFALO**  
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 LAND PLANNERS/ENVIRONMENTAL SCIENTISTS

JOB NO. 6856-00	DRAWN BY K.Y.Y.
DWG. NO. 6856-BASE-PRELIM	CHECKED R.J.B.
SCALE: 1" = 30'	APPROVED S.B.G.
	DATE: AUGUST, 2016

SHEET  
**L1**  
 OF 15 SHEETS



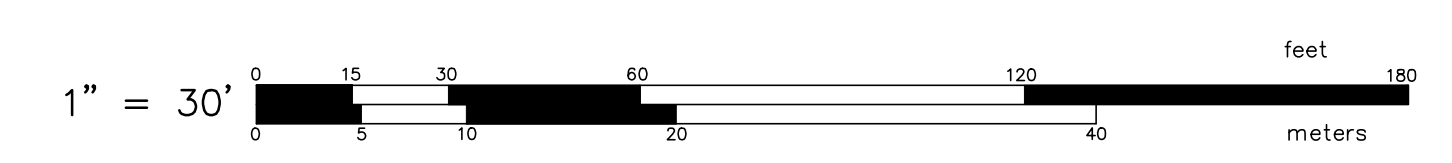
**WLS LIGHTING SYSTEMS**



**LIGHTING LEGEND:**

SYMBOL	DESCRIPTION
	WLS-CLS-30L-1-4K-5M 25' MOUNTING HEIGHT
	WLS-CLS-30L-1-4K-4-BC 25' MOUNTING HEIGHT

**FINAL LANDSCAPE PLAN**  
 SCALE 1" = 30'



**LANDSCAPE AND SHADE REQUIREMENTS**

ITEM	REQUIRED	PROPOSED
TOTAL PARKING AREA		38,930 S.F.
PARKING AREA SHADING (1, 2)	7,786 S.F.	8,484 S.F.
LANDSCAPE AREA	43,864 S.F.	± 150,000 S.F.

NOTES:  
 1. REQUIRED PARKING AREA SHADING (20% TOTAL PARKING AREA, SECTION 17.84.140)  
 PROPOSED PARKING AREA x 20% = 38,930 S.F. x 0.20 = 7,786 S.F.  
 2. REQUIRED NUMBER OF SHADE TREES:  
 30 DIAMETER TREE CANOPY = 707 S.F. SHADING / TREE  
 7,786 S.F. / (707 S.F./TREE) = 11 TREES (REQUIRED)  
 PROPOSED SHADING:  
 12 TREES x (707 S.F./TREE) = 8,484 S.F. (SHADING PROVIDED)  
 (ADDITIONAL SHADE PROVIDED WITH FLOWERING TREES AND EVERGREENS)  
 3. REQUIRED LANDSCAPING (15% DEVELOPMENTS PARCE)  
 LOT AREA x 15% = 292,425 S.F. x 0.15 = 43,864 S.F.  
 PROVIDED LANDSCAPE AREA = ±150,000 S.F.

**OWNER/APPLICANT:**  
 A.P. 20/4, LOT 2117  
 WEST BAY LLC  
 1414 ATWOOD AVE  
 JOHNSTON, RI 02919

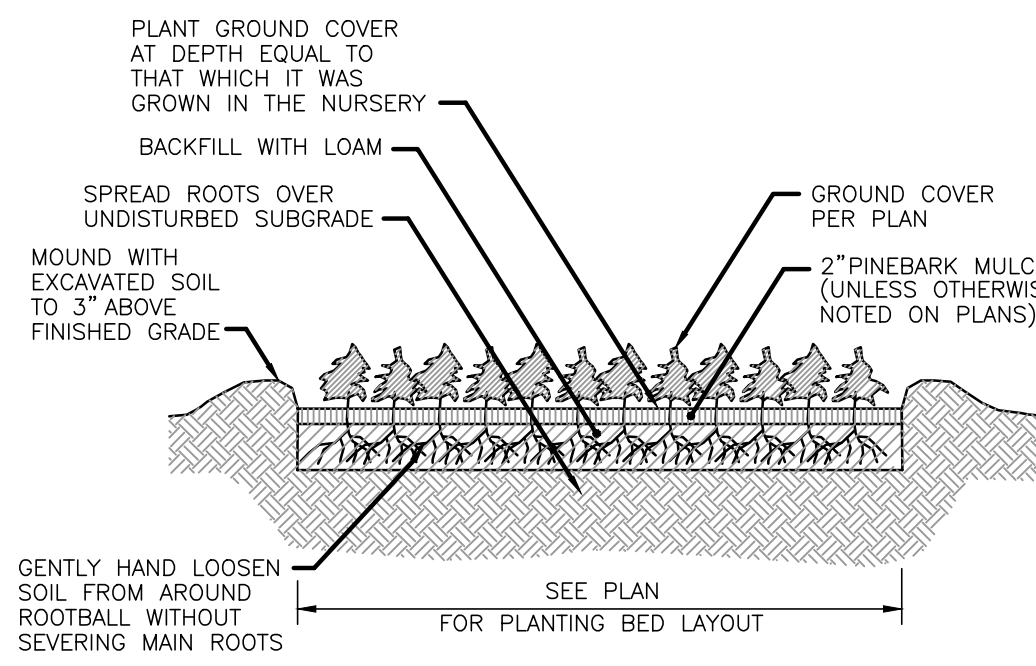
**GENERAL LANDSCAPE NOTES:**

- THE CONTRACTOR SHALL INSTALL ALL PLANT MATERIAL IN CONFORMANCE WITH THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
- ALL PLANT MATERIAL SHALL MEET THE AMERICAN OF NURSERYMAN STANDARDS FOR NURSERY STOCK, LATEST EDITION, AND ITS AMENDMENTS. PLANT ONLY DURING SEASONS NORMAL TO THE PARTICULAR VARIETY. NO SUBSTITUTIONS SHALL BE ACCEPTED WITHOUT PRIOR APPROVAL BY THE LANDSCAPE ARCHITECT.
- ALL PLANT MATERIAL FURNISHED BY THE CONTRACTOR SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR. IF THE FIRST YEAR ENDS DURING THE DORMANT PERIOD, THE GUARANTEE SHALL EXTEND TO THE START OF THE NEXT LEAFING. DURING THE ONE-YEAR GUARANTEE PERIOD THE CONTRACTOR SHALL EMPLOY ACCEPTED HORTICULTURAL PRACTICES TO KEEP THE PLANTS INSTALLED IN LIVING, HEALTHY CONDITION. FOLLOWING THE ONE-YEAR GUARANTEE PERIOD THE OWNER/OWNERS SHALL INSPECT ALL PLANT MATERIAL FOR HEALTHY ORNAMENTAL QUALITY. AT THAT TIME SHOULD ANY PLANT MATERIAL BE FOUND IN INADEQUATE HEALTH THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE THE PLANT IN KIND AND PROVIDE A ONE-YEAR GUARANTEE FOR THE REPLACEMENT PLANT.
- INSTALL ALL PLANT MATERIAL AS SHOWN IN DETAILS.
- STAKE ALL TREES OVER 5' AS SHOWN ON DETAILS. REMOVE STAKES AT THE END OF THE GUARANTEE PERIOD.
- THE CONTRACTOR IS RESPONSIBLE FOR KEEPING THE SITE CLEAN OF MISCELLANEOUS DEBRIS THROUGHOUT THE CONSTRUCTION PERIOD. ALL WASTE MATERIAL IS TO BE DISPOSED OF IMMEDIATELY TO AN OFFSET LOCATION, UNLESS OTHERWISE INDICATED ON THE PLANS.
- THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS, AND SHALL OBTAIN ALL NECESSARY PERMITS FOR THE PROJECT.
- LAYOUT: ALL NOTES AND DIMENSIONS ARE TYPICAL UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE SQUARE (PARALLEL OR PERPENDICULAR) UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL NOTIFY THE OWNER/OWNER'S REPRESENTATIVE IMMEDIATELY IN THE EVENT OF ANY DISCREPANCIES FOUND IN THE CONTRACT DOCUMENTS AND/OR IN THE FIELD, OR ON CONDITIONS UNCOVERED IN THE WORK WHICH ARE NOT REFLECTED IN THE PLANS.
- PROTECTION OF EXISTING PLANTINGS: MAXIMUM EFFORT SHOULD BE MADE TO SAVE TREES OF OTHER PLANTS WHICH ARE LARGE FOR THEIR SPECIES, RARE TO THE AREA, OR OF SPECIAL HORTICULTURAL OR LANDSCAPE VALUE. CONTACT OWNER/LANDSCAPE ARCHITECT BEFORE REMOVING ANY SPECIMEN OF THIS TYPE UNLESS OTHERWISE NOTED ON THE PLANS. NO MATERIAL OR TEMPORARY SOIL DEPOSITS SHALL BE PLACED WITHIN THE DRIP LINE OF SHRUBS OR TREES DESIGNATED ON THE LANDSCAPE PLAN TO BE RETAINED. PROTECTIVE BARRIERS ARE TO BE INSTALLED AROUND EACH PLANT AND/OR GROUP OF PLANTS THAT ARE TO REMAIN ON THE SITE. BARRIERS SHALL NOT BE SUPPORTED BY THE PLANTS THEY ARE PROTECTING, BUT SHALL BE SELF SUPPORTING. THEY SHALL BE OF MINIMUM OF FOUR FEET (4') HIGH AND CONSTRUCTED OF A DURABLE MATERIAL, SUCH AS SNOW OR SILT FENCE, THAT WILL LAST UNTIL CONSTRUCTION IS COMPLETED.
- PRUNING: THE CONTRACTOR SHALL CAREFULLY PRUNE BRANCHES IN THE WAY OF CONSTRUCTION BY USING ONLY APPROVED METHODS AND TOOLS. THE USE OF AXES FOR TRIMMING OR SPURS FOR CLIMBING WILL NOT BE PERMITTED.
- UTILITIES: THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY AND ALL UTILITY DAMAGE INCLUDING DAMAGE THAT MAY OCCUR TO NEW UTILITIES. THE CONTRACTOR IS REQUIRED TO CONTACT DIG-SAFE PRIOR TO COMMENCING ANY SITE CONSTRUCTION. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- DISTURBED AREAS: ALL AREAS DISTURBED DURING THE COURSE OF CONSTRUCTION ARE TO BE RESTORED TO ORIGINAL (OR BETTER) CONDITION BY THE CONTRACTOR BEFORE COMPLETION OF THE PROJECT, AND ARE SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT AND OWNER. ALL GRASS AREAS DISTURBED DURING CONSTRUCTION SHALL BE FINE RAKED TO REMOVE STONES AND LOAMED AND SEEDED AS PER SPECIFICATIONS.
- DRAINAGE SYSTEMS: CONTRACTOR IS RESPONSIBLE FOR GENERAL CLEAN-OUT OF ALL CATCH BASINS, MANHOLES, AND/OR OTHER DRAINAGE FEATURES ON THE SITE WHICH HAVE ACCUMULATED SEDIMENT AS A RESULT OF CONSTRUCTION ACTIVITIES.

**LOAM AND SEEDING**

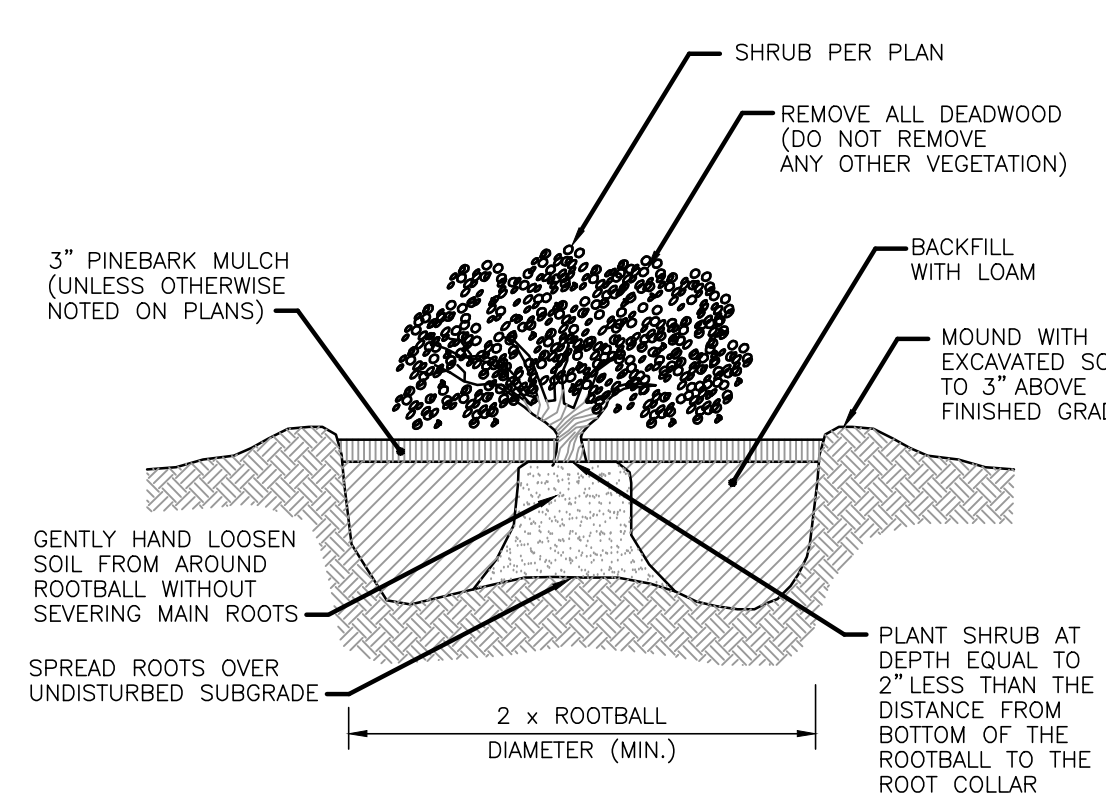
APPLICATION OF LOAM AND SEED SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

- LOAM MATERIAL TO BE FURNISHED SHALL CONSIST OF SCREENED LOOSE, FRIABLE, FINE SANDY LOAM OR SANDY LOAM, AS DEFINED BY THE USDA'S SOIL CONSERVATION SERVICE IN THE SOIL SURVEY MANUAL ISSUED IN 1983. FREE OF SUBSOIL, REFUSE, STUMPS, ROOTS, ROCKS, COBBLES, STONES, BRUSH, NOXIOUS WEEDS, LITTER AND OTHER MATERIALS WHICH ARE LARGER THAN 1/2-INCH IN ANY DIMENSION AND WHICH WILL PREVENT THE FORMATION OF A SUITABLE SEED BED. ORGANIC MATTER SHALL CONSTITUTE NOT LESS THAN 5 PERCENT NOR MORE THAN 20 PERCENT OF THE LOAM AS DETERMINED BY LOSS-ON-IGNITION OF OVEN DRIED SAMPLES THAT HAVE BEEN DRAWN BY THE ENGINEER, UNLESS OTHERWISE SPECIFIED OR DIRECTED. THE LOAM SHALL HAVE AN ACIDITY RANGE OF 5.5 PH TO 7.6 PH.
- LOAM MOVED DURING THE COURSE OF CONSTRUCTION SHALL BE RETAINED AND DISTRIBUTED WITHIN THE SITE IN ACCORDANCE WITH THE LANDSCAPE PLAN. STOCKPILED LOAM SHALL NOT BE MIXED WITH ANY SUBSOIL OR UNSUITABLE MATERIAL. ALL EXISTING LOAM REMAINS THE PROPERTY OF THE OWNER.
- LOAM SHALL BE SPREAD TO A DEPTH OF 4" IN SEEDING AREAS AND PLACED TRUE TO LINES AND GRADES SHOWN ON THE PLANS.
- THE LOAMED SURFACE SHALL BE GRADED, AND ALL ROOTS, SODS, WEEDS, COBBLES OR STONES WITH ANY DIMENSION GREATER THAN 1 INCH SHALL BE REMOVED AND LEGALLY DISPOSED OF. AFTER SHAPING AND GRADING, ALL TRUCKS AND OTHER EQUIPMENT NOT REQUIRED TO PERFORM SEEDING, MULCHING OR MOWING OPERATIONS SHALL BE EXCLUDED FROM THE LOAMED AREAS.
- LIME (GROUND OR PELLETIZED) SHALL BE APPLIED DRY AND SPREAD EVENLY OVER THE ENTIRE SURFACE TO BE SEEDING. UNLESS OTHERWISE SPECIFIED, THE APPLICATION RATE SHALL BE 1 TON PER ACRE. RAKING SHALL BE COMPLETED AFTER THE FERTILIZER HAS BEEN APPLIED.
- ALL SEED DELIVERED TO THE JOB SHALL BE IN CONTAINERS LABELED IN ACCORDANCE WITH PROVISIONS OF THE RHODE ISLAND SEED ACT OF 1956 (VOLUME 8, TITLE 2, CHAPTER 6) AND ITS AMENDMENTS AS PROVIDED FOR AGRICULTURAL SEED OFFERED FOR SALE. ONLY THE CURRENT YEARS SEED SHALL BE ACCEPTED.
- SEED SHALL BE APPLIED ONLY DURING THE FOLLOWING DATES:  
 SPRING SEEDING: MARCH 15 TO MAY 31.  
 FALL SEEDING: AUGUST 15 TO OCTOBER 15.
- THE CONTRACTOR SHALL WATER ALL SEEDED AREAS AND RESEED AS NECESSARY FOR A PERIOD OF 2-MONTHS OR UNTIL A HEALTH STAND OF GRASS IS ESTABLISHED AND APPROVAL HAS BEEN MADE BY THE OWNER/LANDSCAPE ARCHITECT.



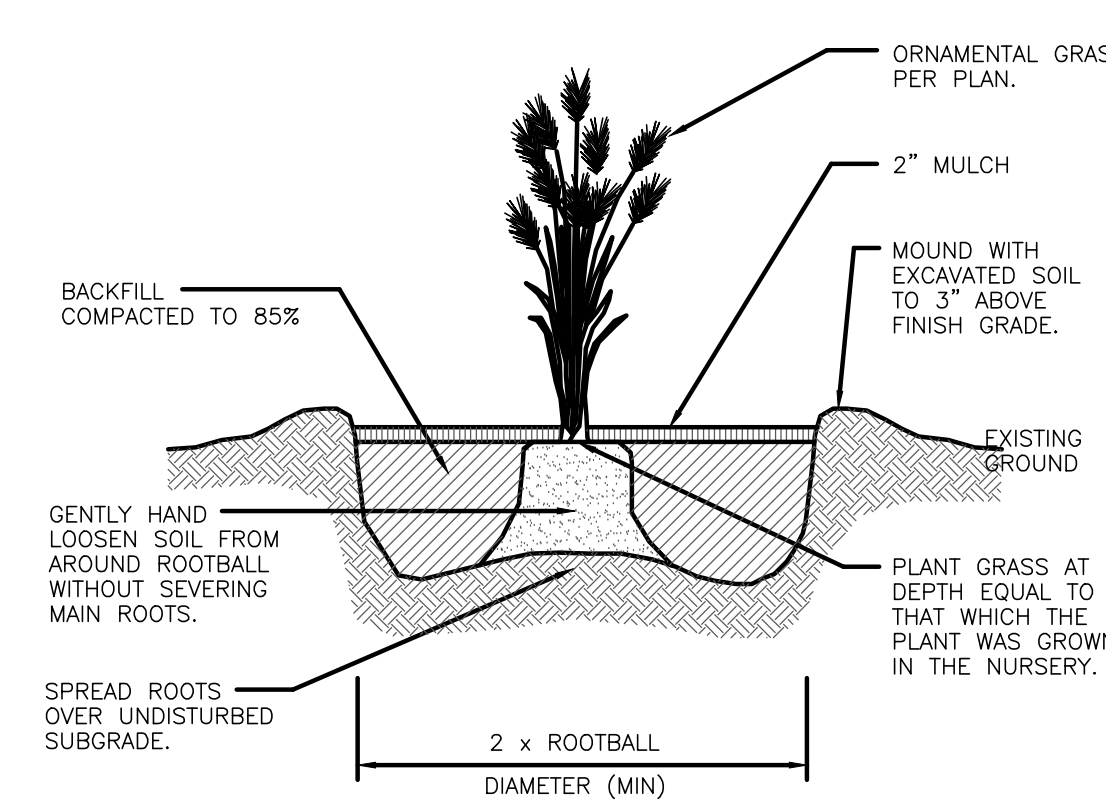
**Ground Cover Planting Detail**

NOT TO SCALE



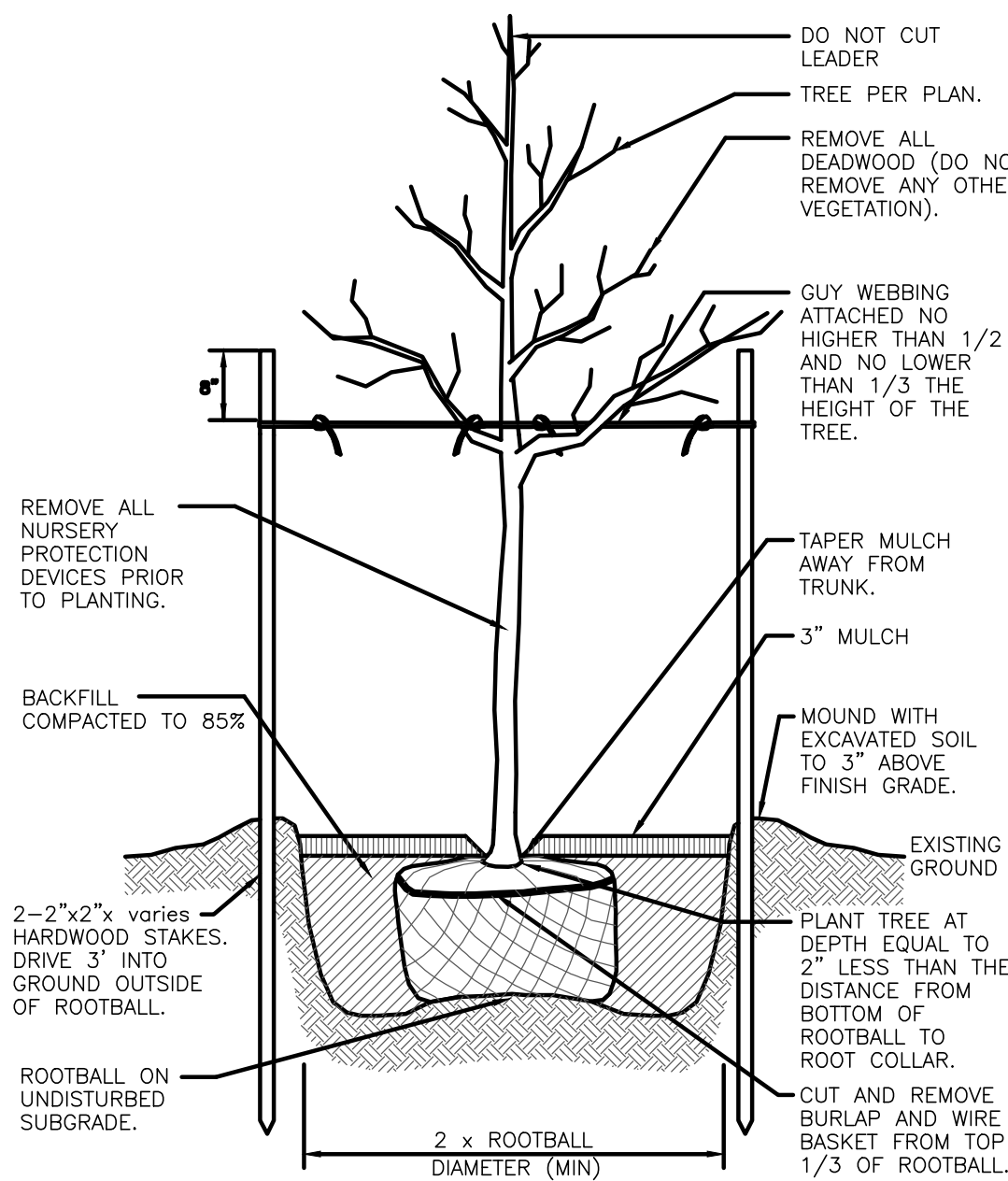
**Container Grown Shrub and Perennial Planting Detail**

NOT TO SCALE



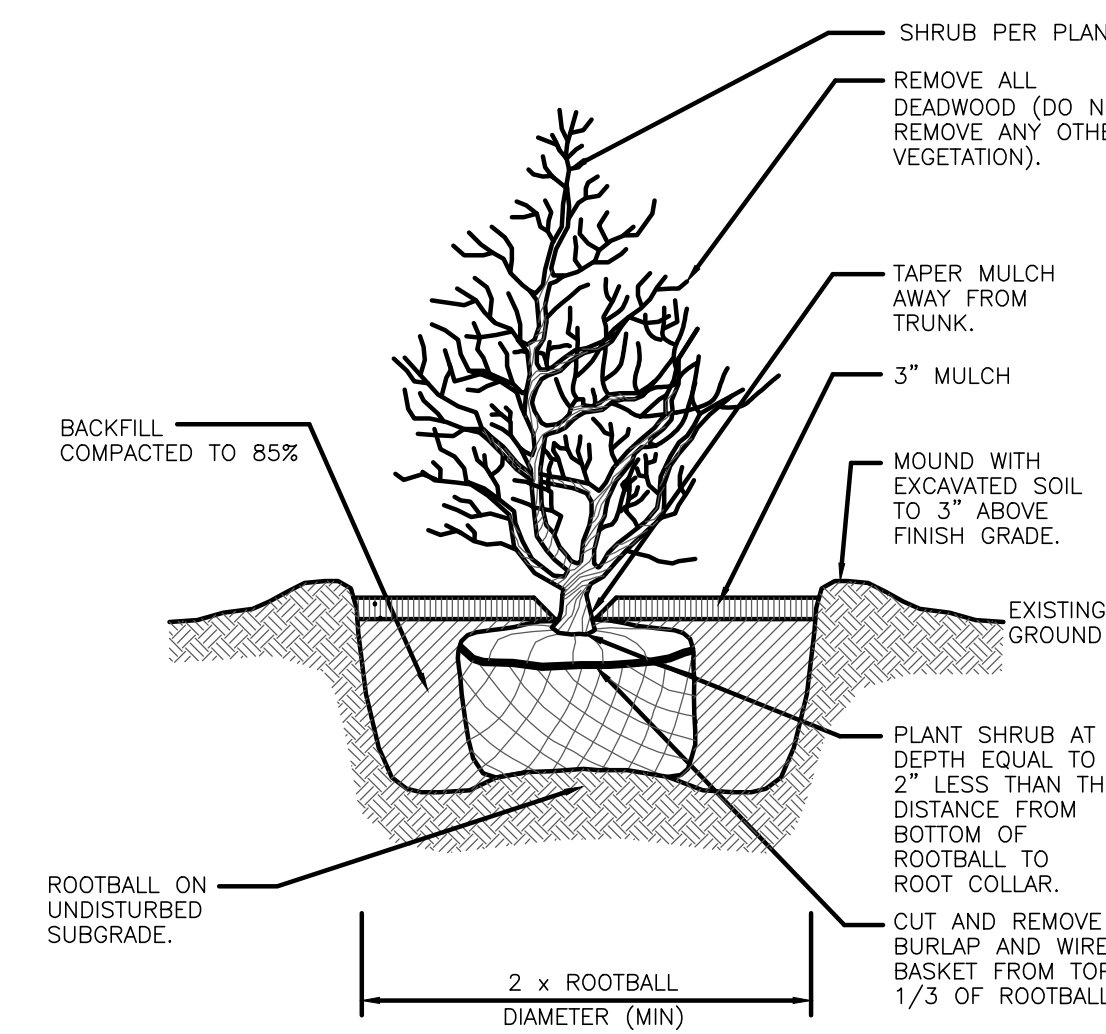
**Perennial Planting Detail**

NOT TO SCALE



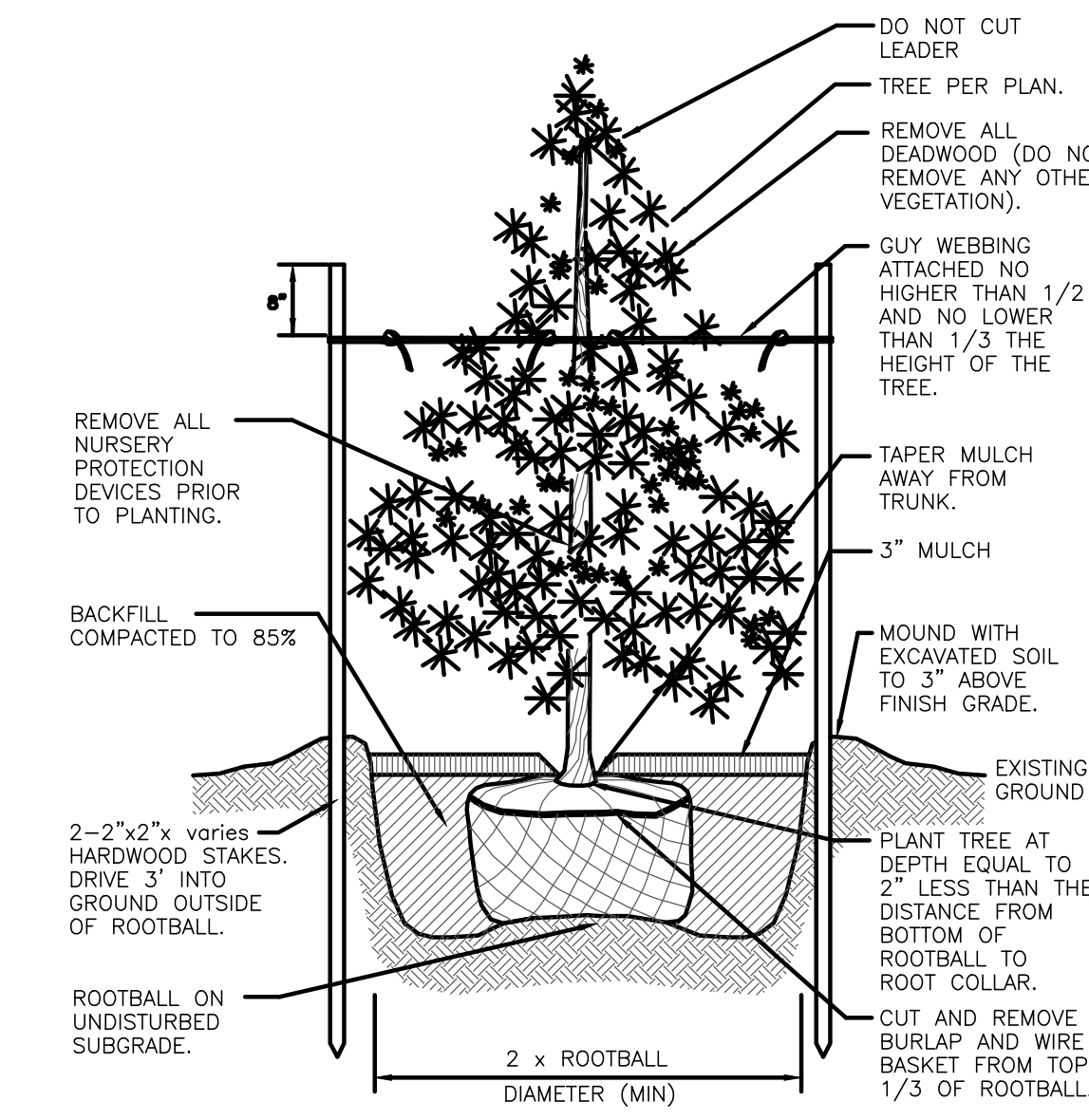
**Canopy Tree Planting Detail**

NOT TO SCALE



**B & B Shrub Planting Detail**

NOT TO SCALE



**Evergreen Tree Planting Detail**

NOT TO SCALE

**PLANT LIST:**

CANOPY TREES				
KEY	BOTANICAL NAME COMMON NAME	QTY.	SIZE	NOTE
ARF	ACER RUBRUM 'FRANKSRED' RED SUNSET SWAMP MAPLE	25	2'-2.5' CAL	
LT	LIRIODENDRON TULIPIFERA TULIP TREE	3	2'-2.5' CAL	
NS	NYSSA SERRATA SOUR GUM	4	2'-2.5' CAL	
PA	PLATANUS ACERIFOLIA 'BLOODGOOD' BLOODGOOD LONDON PLANETREE	2	2'-2.5' CAL	
QB	QUERCUS BICOLOR WHITE SWAMP OAK	5	2'-2.5' CAL	
SA	SALIX ALBA 'TRISTIS' GOLDEN WEeping WILLOW	2	2'-2.5' CAL	
TC	TILIA CORDATA 'GREENSPIRE' GREENSPIRE LITTLELEAF LINDEN	6	2'-2.5' CAL	

FLOWERING TREES				
KEY	BOTANICAL NAME COMMON NAME	QTY.	SIZE	NOTE
AC	AMELANCHIER CANADENSIS SHADBLOW SERVICEBERRY	10	7'-8' CLUMP	
AG	ACER GRISEUM PAPERBARK MAPLE	10	7'-8' CLUMP	
CC	CERCIS CANADENSIS EASTERN REDBUD	7	7'-8' CLUMP	
CKS	CORNUS KOUSSA 'SATOMI' STAGHORN DOGWOOD	3	7'-8' CLUMP	
MH	MAGNOLIA HYBRID 'YELLOW' YELLOW BIRD MAGNOLIA	6	7'-8' CLUMP	
MV	MAGNOLIA VIRGINIANA SWEETBAY MAGNOLIA	1	7'-8' CLUMP	
MS	MAGNOLIA SOULANGIANA 'ALEXANDRINA' ALEXANDRINA SAUCER MAGNOLIA	6	7'-8' CLUMP	

EVERGREEN TREES				
KEY	BOTANICAL NAME COMMON NAME	QTY.	SIZE	NOTE
CO	CHAMAECYPARIS LEYLANDII LEYLAND CYPRESS	37	5'-6' B&B	
CT	CHAMAECYPARIS THYOIDES ATLANTIC WHITE CEDAR	7	8'-10' B&B	
IO	ILEX OPACA AMERICAN HOLLY	6	6'-7' B&B	
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	19	7'-8' B&B	
PF	FINUS FLEXILIS 'VANDERWOLF'S PYRAMID' LIMBER PINE	5	5'-6' B&B	
PP	PICEA MARMIANA COLORADO BLUE SPRUCE	15	5'-6' B&B	
PST	FINUS STROBUS EASTERN WHITE PINE	6	7'-8' B&B	
TO	TUJIA OCCIDENTALIS 'YELLOW RIBBON' YELLOW RIBBON AMERICAN ARBORVITAE	13	6'-7' B&B	
TP	TUJIA PLICATA 'GREEN GIANT' GREEN GIANT WESTERN ARBORVITAE	12	8'-10' B&B	

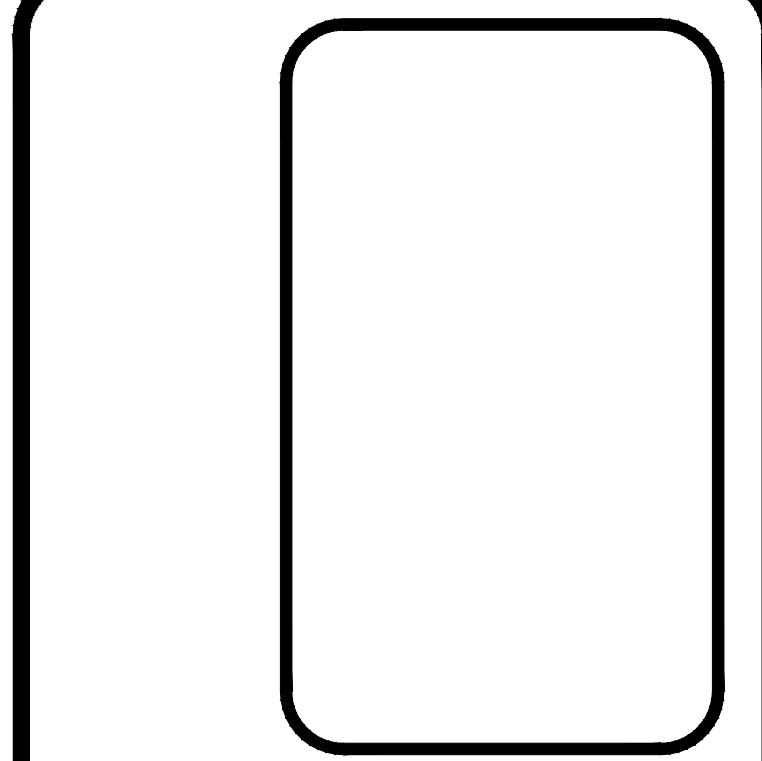
EVERGREEN/DECIDUOUS SHRUBS				
KEY	BOTANICAL NAME COMMON NAME	QTY.	SIZE	NOTE
AN	AZALEA 'NANCY OF ROBIN HILL' EVERGREEN AZALEA PALE PINK	6	#3 CONTAINER	
BM	BUXUS MICRO 'WINTER GEM' WINTER GEM BOXWOOD	55	#3 CONTAINER	
BMG	BUXUS MICROPHYLLO 'GREEN GEM' GREEN GEM BOXWOOD	10	#3 CONTAINER	
BSD	BUXUS SEMPERVIRENS 'DEE RUNK' UPRIGHT DEE RUNK BOXWOOD	29	#3 CONTAINER	
BSV	BUXUS SEMPERVIRENS 'VARDAR VALLEY' VARDAR VALLEY BOXWOOD	48	#5 CONTAINER	
CA	CORNUS ALBA 'VIVID HALO' VIVID HALO VARIATED DOGWOOD	19	CONTAINER	
CAS	CLETHRA ALNIFOLIA 'SIXTEEN CANDLES' SIXTEEN CANDLES SUMMERSWEET	19	#3 CONTAINER	
CS	CHAENOMELES SPECIOSA 'TOYO-NISHIKI' TOYO-NISHIKI FLOWERING QUINCE	4	#3 CONTAINER	
HH	HYPERICUM 'MIDCOTE' ST. JOHNSWORT	13	#3 CONTAINER	
HME	HYDRANGEA MACRO 'ENDLESS SUMMER' ENDLESS SUMMER HYDRANGEA	27	#3 CONTAINER	
HMP	HYDRANGEA MACRO 'PURPLE MAJESTY' PURPLE MAJESTY HYDRANGEA	8	#3 CONTAINER	
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	5	4'-5' B&B	
HQ	HYDRANGEA QUERCIFOLIA OAKLEAF HYDRANGEA	19	#3 CONTAINER	
IG	ILEX GLABRA 'COMPACTA' COMPACT HOLEBERRY	54	#3 CONTAINER	
IVS	ILEX VERTICILLATA 'SPARKLEBERRY' SPARKLEBERRY WINTERBERRY	29	#3 CONTAINER	
KLE	KALMIA LATIFOLIA 'ELF' ELF DWARF MOUNTAIN LAUREL	13	#5 CONTAINER	
KLS	KALMIA LATIFOLIA 'SNOWDRIFT' SNOWDRIFT MOUNTAIN LAUREL	12	#3 CONTAINER	
MP	MYRICA PENNSYLVANICA BAYBERRY	48	#5 CONTAINER	
RD	ROSA DRIFT POPCORN POPCORN DRIFT ROSE YELLOW TO WHITE	11	CONTAINER	
RFA	ROSA FLOWER CARPET APPLIBLOSSOM FLOWER CARPET APPLIBLOSSOM ROSE	10	#2 CONTAINER	
RFC	ROSA FLOWER CARPET CORAL FLOWER CARPET CORAL ROSE	12	#2 CONTAINER	
RM	RHOODENDRON MAXIMUM ROSEBAY RHOODENDRON	10	18" - 24" B&B	
RV	RHOODENDRON VISCOSUM SWAMP AZALEA	21	CONTAINER	
SH	SARCOCOCOA HOOKERIANA 'HUMILIS' SWEETBOX	44	#3 CONTAINER	
VA	VACCINIUM ANGIUSTIFOLIUM LOWBUSH BLUEBERRY	32	#3 CONTAINER	
VC	VACCINIUM CORMBOSUM HIGHBUSH BLUEBERRY	10	#3 CONTAINER	
VD	VIBURNUM DENTATUM ARROWWOOD VIBURNUM	6	#5 CONTAINER	

PERENNIALS/GROUNDCOVERS/ VEINS				
KEY	BOTANICAL NAME COMMON NAME	QTY.	SIZE	NOTE
AS	ANEMONE SYLVESTRIS SNOWDROP ANEMONE	22	#2 CONTAINER	12" O.C.
AST	ASTILBE 'SISTER THERESA' FALSE SPIRSEA SALMON PINK	6	#2 CONTAINER	12" O.C.
AU	ARCTOSTAPHYLOS UVA-URSI SARABERRY	10	CONTAINER	12" O.C.
CCB	CAMPANULA CARPATICA 'BLUE CLIPS' BLUE BELLFLOWER	17	#1 CONTAINER	18" O.C.
CD	COTONEASTER DAMMERI 'CORAL BEAUTY' CORAL BEAUTY COTONEASTER	178	1 OF 100 BARE ROOT	36" O.C.
CM	CONVALARIA MAJALIS LILY OF THE VALLEY	62	1 OF 100 BARE ROOT	12" O.C.
CVA	CALLUNA VULGARIS 'ALBA ERRECTA' ALBA ERRECTA WHITE HEATHER	35	#1 CONTAINER	24" O.C.
CVB	CALLUNA VULGARIS 'BARNETT ANLEY' BARNETT ANLEY HEATHER	48	#1 CONTAINER	24" O.C.
GA	GALLIARIA ARIZONIA RED SHADES' BLANKET FLOWER	9	CONTAINER	18" O.C.
HFI	HOSTA 'FRIE AND ICE' PLANTAIN LILY	40	#1 CONTAINER	18" O.C.
HM	HEUCHERA 'MELTING FIRE' CORAL BELL BURGUNDY WHITE	6	#1 CONTAINER	12" O.C.
HMA	HAKONECHLOA MACRA 'ALL GOLD' ALL GOLD FOREST GRASS	18	#2 CONTAINER	18" O.C.
IV	IRISI VERCOLOR BLUE FLAG IRIS	27	#1 CONTAINER	12" O.C.
JH	JUNIPERUS HORIZ 'BAR HARBOR' BAR HARBOR CREEPING JUNIPER	83	#1 CONTAINER	24" O.C.
JS	JUNIPERUS SOJAMATA 'BLUE STAR' BLUE STAR JUNIPER	26	#1 CONTAINER	24" O.C.
LP	LAMIUM 'PURPLE DRAGON' PFI 5890 PURPLE DRAGON DEAD NETTLE	33	1 OF 100 BARE ROOT	18" O.C.
NW	NETPETA 'WALKERS' LOW' CAT MINT BLUE	30	CONTAINER	24" O.C.
PAH	PENNISTETUM ALOPECUROIDES 'HAMELY' HAMELY FOUNTAIN GRASS-DWARF	38	#2 CONTAINER	18" O.C.
PL	PAEONIA L. 'DUCHESS DENEMOURS' DUCHESS DENEMOURS PEONY	25	#2 CONTAINER	36" O.C.
POB	PAPAVER ORIENTALE 'BEAUTY OF LIVERMORE' ORIENTAL POPPY DEEP RED	11	#2 CONTAINER	24" O.C.
POQ	PAPAVER ORIENTALE 'QUEEN ALEXANDER' ORIENTAL POPPY SALMON	22	#2 CONTAINER	24" O.C.
VM	VINCA MINOR 'BOWLES' BOWLES MYRTLE	103	1 OF 100 BARE ROOT	24" O.C.

\* QUANTITY SHOWN IS FOR NUMBER OF INDIVIDUAL PLANT REQUIRED. CONTRACTOR SHALL USE FLATS WHEN AVAILABLE.

**LANDSCAPE DETAILS**  
 MULTI-FAMILY DEVELOPMENT  
 FOR  
**CHAMPLIN HILLS**  
 SITUATED ON  
 A.P. 20/4, LOT 2117  
 SCITUATE AVENUE  
 CRANSTON, RI  
 PREPARED FOR  
**WEST BAY LLC.**

NO.	REVISION	BY	DATE
7	INCLUDE ABUTTING PARCEL	RJB	11/6/15
11	GENERAL REVISIONS	RJB	9/29/16
12	ISSUED FOR CONSTRUCTION	RJB	4/4/18
14	BUILDING MOD.	KYY	3/23/23



**GAROFALO**  
 GAROFALO & ASSOCIATES, INC.  
 CIVIL & STRUCTURAL ENGINEERS/SURVEYORS  
 LAND PLANNERS/ENVIRONMENTAL SCIENTISTS

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 These drawings are the property of the engineer/surveyor and have been prepared for the specific project indicated on this drawing and are not to be used for any other purpose, location or owner without written consent of this owner or one of its directors.

JOB NO. 6856-00	DRAWN BY K.Y.Y.
DWG. NO. 6856-00-BASE-PRELIM	CHECKED R.J.B.
SCALE: AS SHOWN	APPROVED S.B.G.
	DATE: AUGUST, 2016

SHEET

**L2**

OF 15 SHEETS

**OWNER/APPLICANT:**  
 A.P. 20/4, LOT 2117  
 WEST BAY LLC  
 1414 ATWOOD AVE  
 JOHNSTON, RI 02919

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