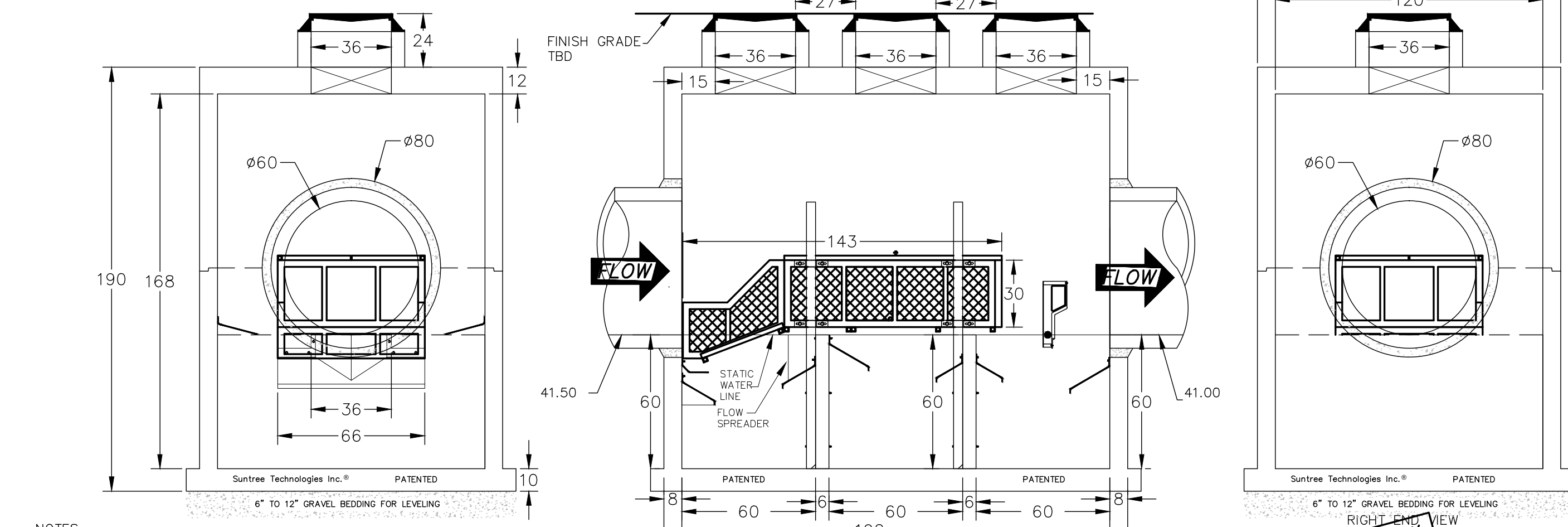
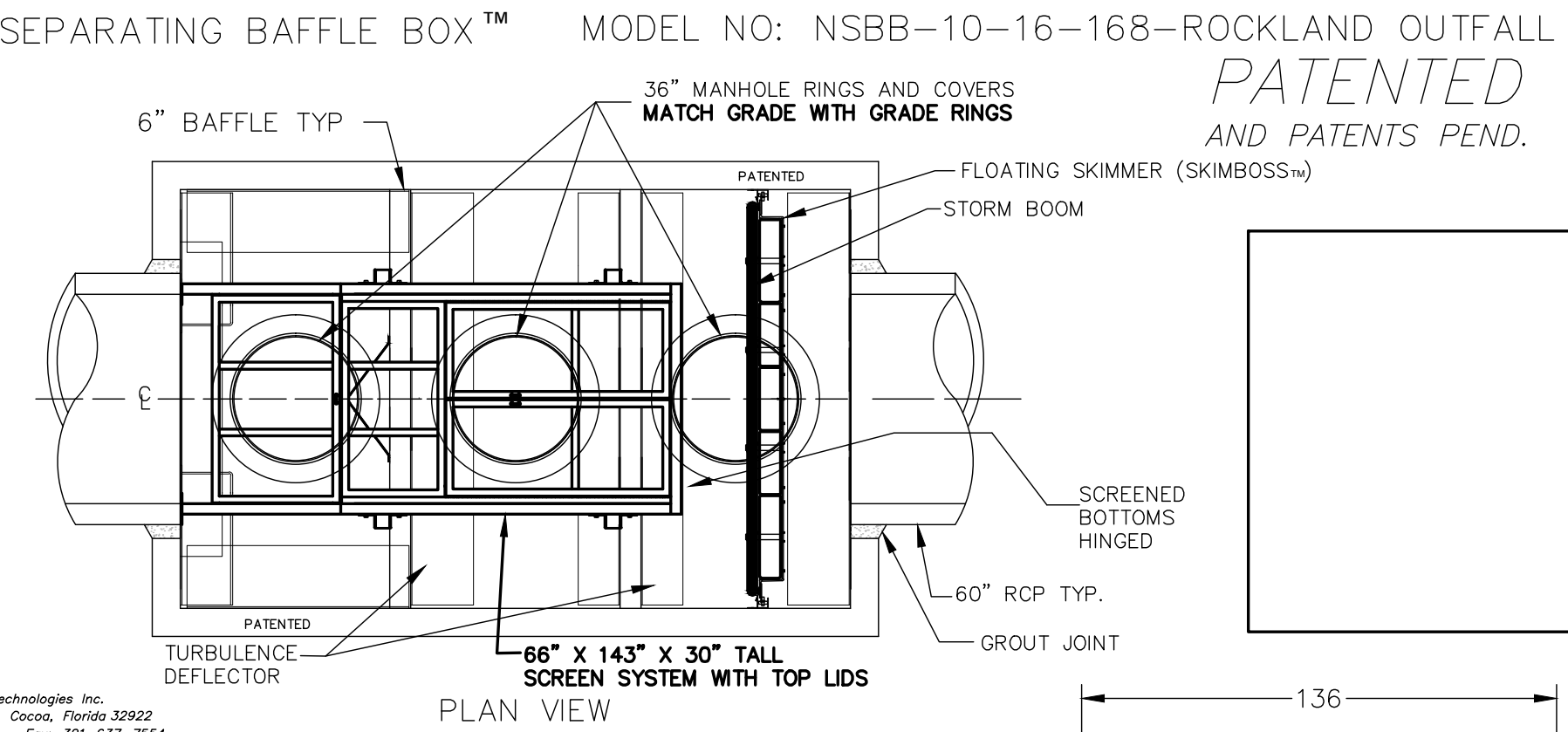


SUNTREE TECHNOLOGIES INC.®
 FLOW & BY-PASS SPECIFICATIONS FOR BIOMASS SEPARATING
 SCREEN SYSTEM, SEDIMENT COLLECTION CHAMBERS, AND
 SKIMMER SPECIFICATIONS

- Pipe inflow area (Drawn as 60" RCP) — 19.63 sq.ft.
- SCREEN SPECIFICATIONS:
- Open orifice area in screen system — 62.53 sq.ft.
- Open orifice area in screen system with 50% blockage — 31.27 sq.ft.
- Open orifice area in screen system with 75% blockage — 15.63 sq.ft.
- Minimum by-pass through screen system below the top surface of the pipe — 28.44 sq.ft.
- Minimum by-pass around screen system below the top surface of the pipe — 21.65 sq.ft.
- Screen system storage volume — 141.46 cu.ft.
- SEDIMENT STORAGE:
- Volume of first sediment chamber — 250 cu.ft.
- Volume of second sediment chamber — 250 cu.ft.
- Volume of third sediment chamber — 250 cu.ft.
- Total sediment volume — 750 cu.ft.
- SKIMMER SPECIFICATIONS:
- Flow area under skimmer — 19.58 sq.ft.
- Area of pipe in line with skimmer — 11.95 sq.ft.
- Area between the skimmer and the outfall pipe parallel with the surface of the pipe — 34.01 sq.ft.



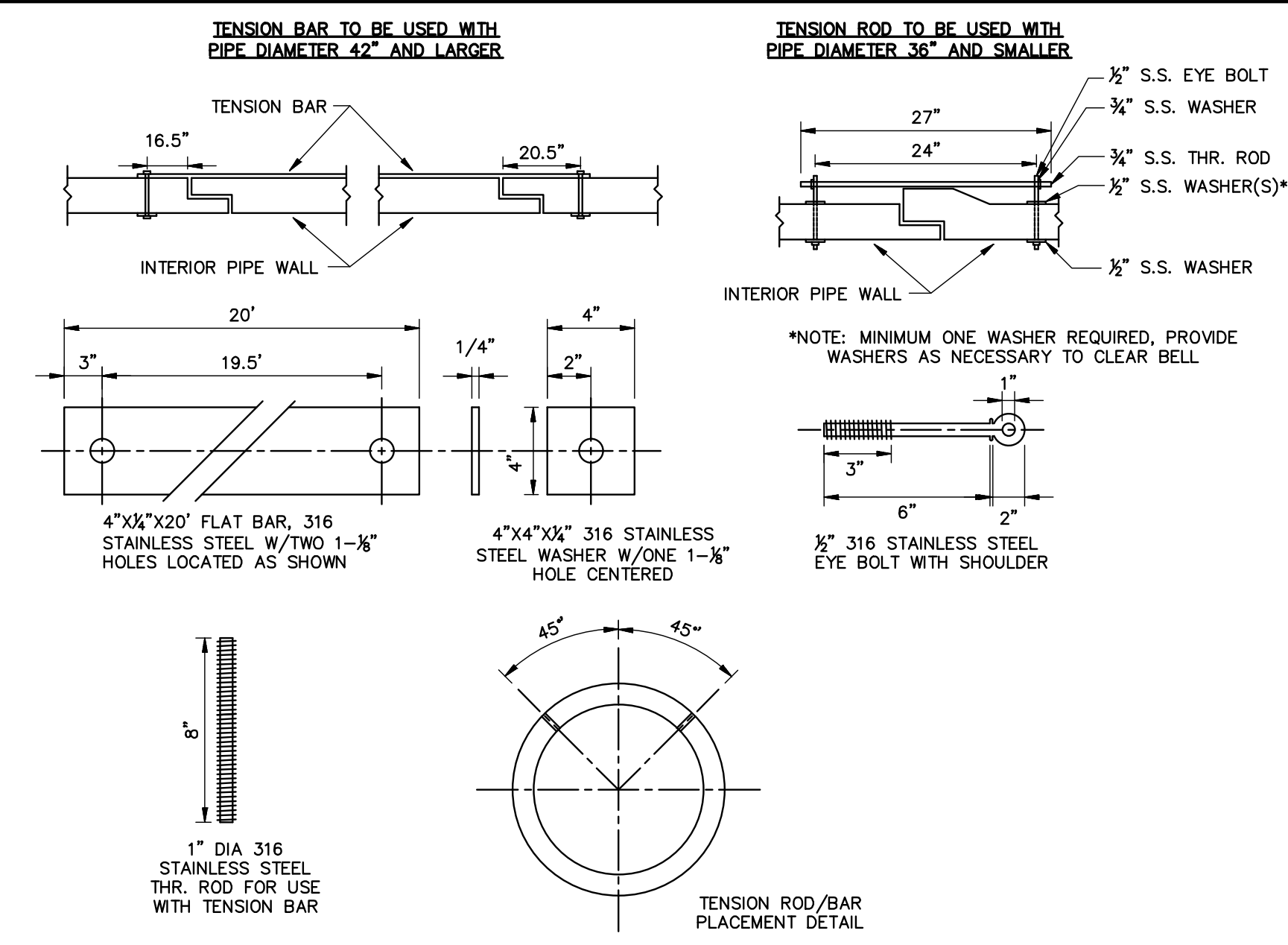
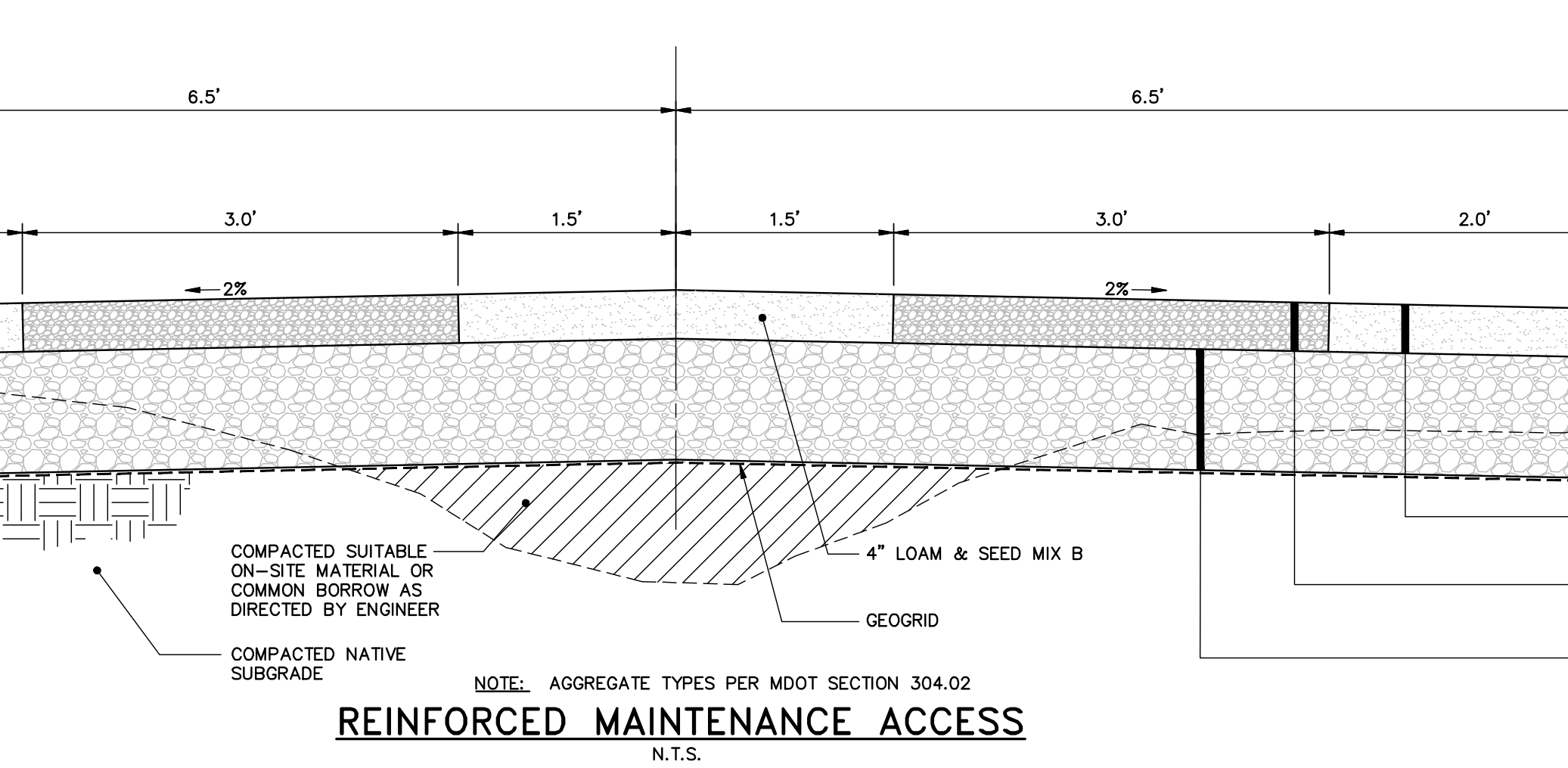
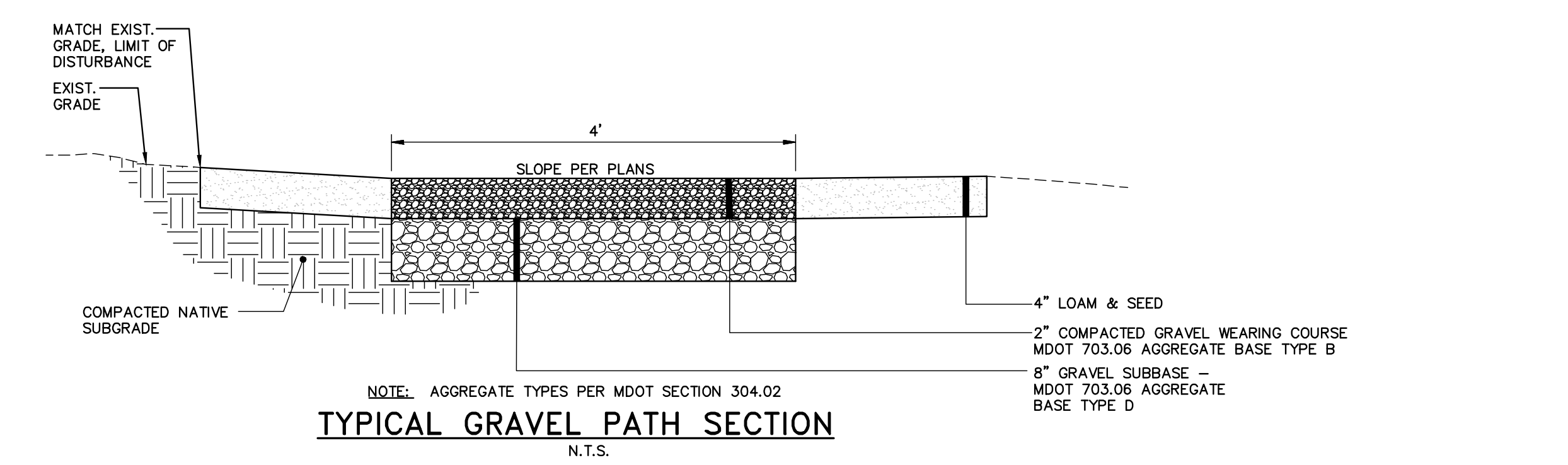
- NOTES:
- CONCRETE 28 DAY COMPRESSIVE STRENGTH FC=5000 PSI
 - REINFORCING: ASTM A-615 GRADE 60
 - SUPPORTS AN H2O LOADING AS INDICATED BY AASHTO.
 - JOINT SEALANT: BUTYL RUBBER SS-S-00210
 - ALL WALLS TO BE 8" THICK, BOTTOM TO BE 10" THICK, AND TOP TO BE 12" THICK.
 - TREATMENT DESIGN FLOW FOR 90% REMOVAL EFFICIENCY OF TSS IS 45 CFS.
 - INFLOW AND OUTFLOW PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE. (CAN NOT INTRUDE BEYOND FLUSH)
 - BAFFLES ARE TO BE SEALED WITH GROUT TO FORM 3 WATER TIGHT CHAMBERS.

SUNTREE TECHNOLOGIES INC.®
 798 CLEARLAKE RD., SUITE #2
 COCOA, FL. 32922

ROCKLAND OUTFALL-PORTLAND, MAINE
 DRAWING #
 FILE NAME:
 REVISIONS: DATE:
 REVISIONS: DATE:

SUNTREE TECHNOLOGIES INC.® NUTRIENT SEPARATING BAFFLE BOX™
 MODEL NO: NSBB-10-16-168-ROCKLAND OUTFALL
 DATE: 03/20/13 SCALE: SF = 72
 DRAFTER: T.H.2. UNITS = INCHES

SUNTREE STORMWATER QUALITY TREATMENT UNIT
 SCALE AS INDICATED



- NOTES:
- 316 S.S. RODS, BARS, BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM F593 AND ASTM F594.
 - BOLT LENGTH PROTRUDING MORE THAN 1 INCH BEYOND TIGHTENED NUT SHALL BE CUT OFF FLUSH WITH NUT.

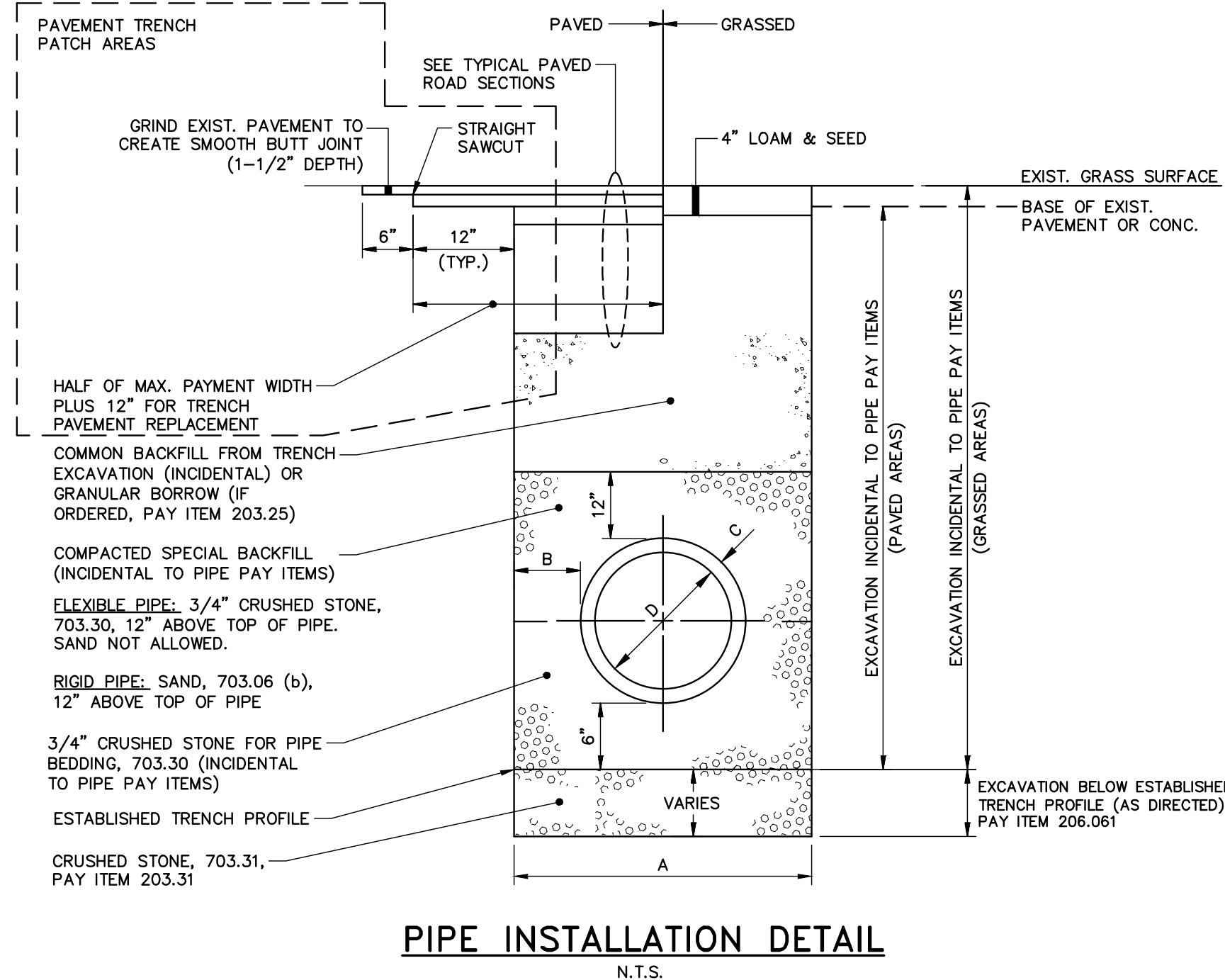
TENSION ROD/BAR ASSEMBLY
 N.T.S.

PIPE INSTALLATION DETAIL - NOTES

- ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
- IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
- DIMENSION "B" SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE; BUT IN ALL CASES "B" SHALL BE AT LEAST 9".
- DIMENSION "A" IS THE MAXIMUM WIDTH ALLOWED FOR CALCULATING PAY QUANTITIES UNDER ITEMS 203.25 GRANULAR BORROW, 203.29 CRUSHED STONE, 206.06 STRUCTURAL EARTH EXCAVATION, BELOW GRADE AND 206.17 STRUCTURAL ROCK EXCAVATION. DIMENSION "A" SHALL BE BASED ON PIPE DIAMETER, AS SET FORTH IN THE FOLLOWING TABLE.

PIPE DIAMETER, "D" (INCHES)	MAX. TRENCH WIDTH, "A" (FEET)
6	4.0
8	4.0
10	4.0
12	4.0
15	4.0
18	5.0
21	5.0
24	5.5
27	6.0
30	6.0
36	7.0
42	7.0
48	8.0
54	8.5
60	9.0

- NOTES:
- ANY ALTERNATE TRENCHING OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY OF PORTLAND, DEPARTMENT OF PUBLIC SERVICES.



PIPE INSTALLATION DETAIL
 N.T.S.

41 HUTCHINS DRIVE
 PORTLAND, MAINE 04102
 800.426.4262 | www.woodardcurran.com

WOODARD & CURRAN

COMMITMENT & INTEGRITY DRIVE RESULTS

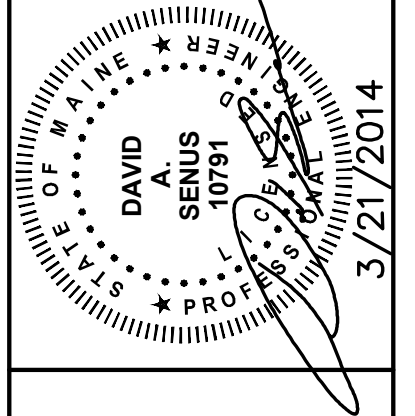
LDD PROJECT NAME:
 N/A

DRAWING NAME:
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FIELD BOOK USED:
 N/A

REFERENCES:
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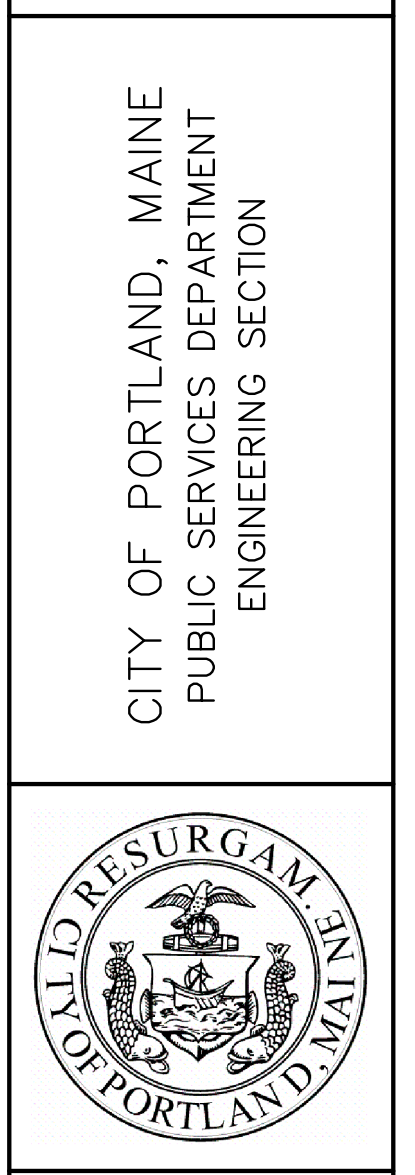
DESIGNED BY:	BCM/LJS	DATE:	MARCH 2014
DRAWN BY:	BCM	SCALE:	
CHECKED BY:	BCM	AS NOTED	
DAS	10791		



ROCKLAND AVENUE OUTFALL

CITY OF PORTLAND, MAINE
 PUBLIC SERVICES DEPARTMENT
 ENGINEERING SECTION

SITE DETAILS - 2



SHEET #
 6 OF 7

PLAN NUMBER
 C-301