CITY OF PORTLAND
PUBLIC SERVICES DEPARTMENT

CONTRACT DRAWINGS

ROCKLAND AVENUE OUTFALL

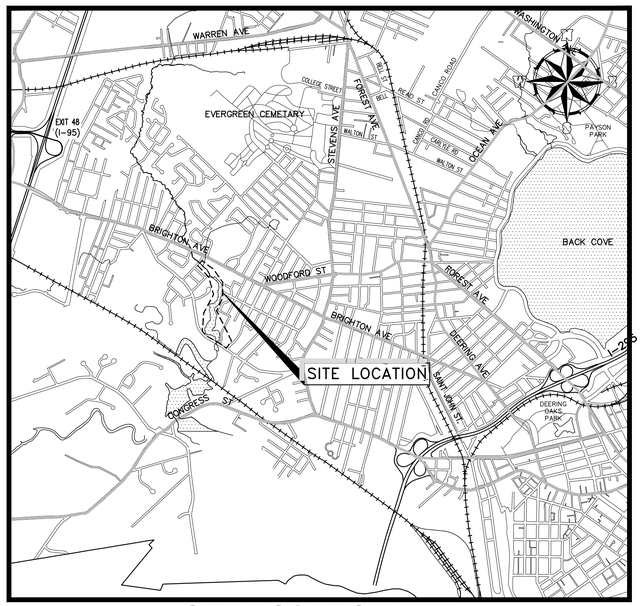
BID NUMBER: #715

JULY 9, 2014

YEAR
APPROVED
2014

KATHERINE A. EARLEY *DATE*
CITY ENGINEER

NATHANIEL SMITH *DATE*
CITY PROJECT MANAGER



SITE LOCATION MAP

2000 0 2000 4000 scale feet

½ 0 ½ 1 scale mile

INDEX OF PLANS

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SHEET 4

LICENSED LANDSCAPE ARCHITECT REGINA L. LEONARD 3125 STATE OF MAINE

SEAL & SIGNATURE

SHEET 1–3 & 5–7

STATE OF MAINE DAVID A. SENUS 10791 PROFESSIONAL ENGINEER

7/9/2014

SEAL & SIGNATURE

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GENERAL NOTES:

1. SITE AND TOPOGRAPHIC DATA COMPILED FROM NUMEROUS SOURCES INCLUDING A BASE PLAN PREPARED BY KAPPA MAPPING, INC., 6 STATE STREET, SUITE 301 BANGOR, MAINE 04401 UTILIZING AERIAL PHOTOGRAPHY FLOWN ON 4/16/2012, BASE PLAN DATA COMPLIED FOR THE WEST SIDE INTERCEPTOR SEWER REPLACEMENT PROJECT (APRIL 19, 2010 BY WOODARD & CURRAN INC), AND "BOUNDARY SURVEY OF CAPISIC POND PARK AT ROCKLAND AVENUE" BY CAMILLE ALDEN, CITY OF PORTLAND, MAINE, PUBLIC SERVICES DEPARTMENT ENGINEERING DIVISION, DATED 3/18/2014. BORING INFORMATION AND SEWER AND DRAINAGE LOCATIONS AT ROCKLAND AND MACHIGONNE INTERSECTION TAKEN FROM ROCKLAND AVENUE SEWER SEPARATION PROJECT PLANS (AUGUST 2000, BY DELUCA–HOFFMAN)
2. MAPPING CONTROL SYSTEMS PROJECTION: MAINE WEST ZONE SPCS HORIZONTAL DATUM, NAD83. VERTICAL DATUM: NGVD29. UNITS: US FEET.
3. CAPISIC PARK PROPERTY LINE DERIVED FROM "PLAN OF CITY PROPERTY AT CAPISIC POND", BY J.M. ROBBINS, P.D.P.W. 947/3
4. THE UTILITY LOCATIONS SHOWN IN PLAN AND PROFILE ARE APPROXIMATE AND REQUIRE FIELD VERIFICATION BY THE CONTRACTOR. CONTACT THE CITY IMMEDIATELY UPON DISCOVERING ANY CONFLICTS WITH EXISTING AND PROPOSED UTILITY LOCATIONS. NOT ALL EXISTING UTILITIES ARE SHOWN ON PLANS.
5. CLEAN AND/OR FLUSH ALL MANHOLES, CATCH BASINS, AND ASSOCIATED PIPING AFTER THE WORK HAS BEEN COMPLETED.
6. COORDINATE CONSTRUCTION ACTIVITY WITH UTILITY COMPANIES, EMERGENCY SERVICES AND CITY. CONTACTS ARE LISTED IN SPECIFICATIONS. NOTIFY UTILITY COMPANIES WITHIN 48 HOURS OF WORK ACTIVITY ADJACENT TO THOSE UTILITIES.
7. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK, ALLOWING SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF BURIED UTILITIES. CONTRACTOR SHALL CONTACT "DIG SAFE", TELEPHONE 811, PRIOR TO EXCAVATION.
8. RESTORE ALL AREAS DISTURBED BY CONTRACTOR'S OPERATIONS TO ORIGINAL FINISH (GRAVEL, PAVEMENT, GRASS, ETC.). RESTORATION OF PAVED SURFACES, GRAVEL SURFACES, DRIVEWAYS, AND LAWNS DAMAGED BY CONSTRUCTION ACTIVITIES OUTSIDE OF LIMITS OF WORK INDICATED ON THE PLANS SHALL BE PERFORMED AT NO ADDITIONAL COST TO OWNER. ANY CURB DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND AND SHALL CONFORM TO CITY OF PORTLAND AND MAINE DOT SPECIFICATIONS AT NO ADDITIONAL COST TO OWNER.
9. PROPERLY PROTECT AND DO NOT DISTURB PROPERTY IRONS AND MONUMENTS. IF DISTURBED, THE PROPERTY MONUMENT SHALL BE RESET AT THE CONTRACTOR'S EXPENSE BY A LICENSED LAND SURVEYOR ACCEPTABLE TO THE CITY.
10. EXISTING FACILITIES (I.E. POLES, LIGHT POSTS, GATES, BOLLARDS, ETC.) SHALL BE REMOVED AND PROTECTED DURING CONSTRUCTION. CITY RETAINS RIGHT TO KEEP ANY AND ALL REMOVED FACILITIES. CONTRACTOR SHALL DISPOSE OF ANY REMOVED FACILITY AT THE REQUEST OF CITY AT CONTRACTOR'S EXPENSE.
11. ALL TREES NOT NOTED TO BE REMOVED OR RELOCATED SHALL BE PROTECTED BY CONTRACTOR DURING CONSTRUCTION.
12. ALL WORK WITHIN THE RIGHT OF WAY OF CITY STREETS AND THE USE OF CITY STREETS FOR CONSTRUCTION TRAFFIC SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY TRAFFIC ENGINEER. THE CONTRACTOR SHALL SUBMIT A PROPOSED TRAFFIC CONTROL PLAN TO THE TRAFFIC ENGINEER AT LEAST 7 DAYS BEFORE BEGINNING CONSTRUCTION. THE PLAN SHALL INCLUDE A DESCRIPTION OF PLANNED CONSTRUCTION TRAFFIC ROUTES. THE PROPOSED TRAFFIC CONTROL PLAN SHALL BE SUBJECT TO APPROVAL BY THE TRAFFIC ENGINEER, WHO MAY ATTACH SPECIAL CONDITIONS TO, OR REQUIRE MODIFICATIONS OF, THE TRAFFIC CONTROL PLAN. WORK SHALL NOT BEGIN UNTIL THE PLAN IS APPROVED BY THE TRAFFIC ENGINEER.
13. DO NOT PARK, IMPEDE ACCESS TO, OR STORE EQUIPMENT ON ADJACENT CITY OR PRIVATELY OWNED LOTS, UNLESS PERMISSION HAS BEEN GRANTED IN WRITING BY CITY AND/OR LAND OWNER.
14. COORDINATE DISRUPTION OF PRIVATE UTILITY SERVICES WITH LANDOWNERS AT LEAST TWO DAYS (48 HOURS) PRIOR TO DISRUPTION. ALL UTILITY COORDINATION IS RESPONSIBILITY OF CONTRACTOR.
15. RESTRICT ACCESS TO SITE THROUGH THE USE OF APPROPRIATE SIGNAGE, BARRIERS, FENCES, ETC. SITE SHALL BE LEFT WITH APPROPRIATE SAFETY MEASURES IN PLACE DURING NON–WORKING HOURS. NO TRENCH SHALL BE LEFT OPEN DURING NON–WORKING HOURS. SITE CONTAINS ACTIVE WALKING TRAIL. TRAIL MAY BE CLOSED TO PUBLIC ACCESS AS NECESSARY TO ALLOW FOR CONSTRUCTION. SITE SAFETY IS THE RESPONSIBILITY OF CONTRACTOR, DURING BOTH WORKING AND NON–WORKING HOURS.
16. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS. PERMIT APPLICATIONS SHALL BE SUBMITTED WITH ADEQUATE TIME SO AS NOT TO DELAY CONSTRUCTION.
17. THE CONTRACTOR SHALL OBTAIN A CITY STREET OPENING PERMIT FOR ALL WORK IN THE CITY RIGHT OF WAY BEFORE BEGINNING CONSTRUCTION. THE FEE FOR THIS PERMIT WILL BE WAIVED BY THE CITY. THE CONTRACTOR WILL ALSO BE REQUIRED TO HAVE A CURRENT EXCAVATOR'S LICENSE IN THE CITY. THE EXCAVATOR'S LICENSE FEE WILL NOT BE WAIVED BY THE CITY.
18. ALL WORK ASSOCIATED WITH THE PROJECT SHALL BE COMPLETED IN ACCORDANCE WITH ARTICLES VI, VII, AND IX OF CHAPTER 25–STREETS, SIDEWALKS, AND OTHER PUBLIC PLACES OF THE CITY OF PORTLAND CODE OF ORDINANCES.
19. ALL SEWER CONSTRUCTION IN THE PUBLIC WAY SHALL BE COMPLETED IN ACCORDANCE WITH ARTICLE II OF CHAPTER 24–SEWERS OF THE CITY OF PORTLAND CODE OF ORDINANCES.
20. PRIOR TO CONSTRUCTION, A PRECONSTRUCTION MEETING SHALL BE HELD AT THE PROJECT SITE WITH THE CONTRACTOR, PLANNING OFFICE DEVELOPMENT REVIEW COORDINATOR, AND CITY OF PORTLAND PUBLIC SERVICES REPRESENTATIVE TO REVIEW THE CONSTRUCTION SCHEDULE AND CRITICAL ASPECTS OF THE SITE WORK. THE CITY ARBORIST (JEFF TARLING 207–874–8801), A REPRESENTATIVE FROM PORTLAND TRAILS (JAIME PARKER 207–775–2411), AND THE MAINE DEP (DAVE WADDELL 207–822–6300) SHALL ALSO BE INVITED TO THE MEETING. AT THE MEETING THE SITE CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF A DETAILED CONSTRUCTION SCHEDULE TO THE ATTENDING CITY REPRESENTATIVE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE A MUTUALLY AGREEABLE TIME FOR THE PRECONSTRUCTION MEETING.
21. THE CITY OF PORTLAND ENGINEERING DIVISION REQUIRES THAT UPON COMPLETION OF CONSTRUCTION, A COMPLETE SET OF "RECORD" DRAWINGS THAT REFLECT ANY AND ALL MODIFICATIONS TO THE SANITARY SEWER SYSTEM, STORM SEWER SYSTEM AND ANY OTHER UTILITY INSTALLATIONS OR ALTERATIONS WITHIN THE PROJECT LIMITS BE SUBMITTED TO THE DIVISION. THESE DRAWINGS SHALL BE SUBMITTED IN BOTH DIGITAL AND HARD COPY FORMAT AS DEFINED IN THE SPECIFICATIONS PRIOR TO PAYMENT OF FINAL RETAINAGE.
22. WORK IS IN CLOSE PROXIMITY TO EXISTING UTILITIES. PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION SHALL BE INCIDENTAL TO THE PAY ITEM UNDER WHICH WORK TO INSTALL SAID UTILITY IS PERFORMED.
23. FOR TEST PIT LOCATIONS SHOWN ON PLANS, FIELD VERIFY UTILITY ELEVATIONS PRIOR TO ORDERING CATCH BASIN & MANHOLE STRUCTURES. NOTIFY ENGINEER OF ANY CONFLICTS.
24. CONTACT CITY OF PORTLAND ARBORIST AND ENGINEER PRIOR TO CUTTING ROOTS, TRIMMING BRANCHES, OR DISTURBING TREES THAT HAVE NOT BEEN NOTED FOR REMOVAL ON THE PLANS.
25. DEMOLITION (REMOVAL AND DISPOSAL) OF EXISTING PIPE WITHIN 4 FEET OF THE HORIZONTAL LIMITS OF EXCAVATION FOR PROPOSED PIPES OR STRUCTURES SHALL BE INCIDENTAL TO THE PAY ITEM FOR WHICH THE PROPOSED PIPE IS INSTALLED. NO ADDITIONAL PAYMENT SHALL BE MADE. REFER TO SUPPLEMENTAL SPECIFICATION SECTION 202.
26. DEMOLITION (REMOVAL AND DISPOSAL) OF EXISTING MANHOLE OR CATCH BASIN IN WHICH THE CENTER OF THE EXISTING STRUCTURE IS WITHIN 8 FEET OF THE CENTER OF THE NEW STRUCTURE SHALL BE INCIDENTAL TO THE PAY ITEM FOR THE NEW STRUCTURE BEING INSTALLED. NO ADDITIONAL PAYMENT SHALL BE MADE, REFER TO SUPPLEMENTAL SPECIFICATION SECTION 202.
27. PROVIDE 4–INCHES OF LOAM AND SEED IN ALL LAWN AREAS DISTURBED BY CONTRACTOR'S OPERATIONS.
28. IF CONTRACTOR PROPOSES TO TEMPORARILY STOCKPILE ANY SURPLUS SOIL AND ROCK IN THE CITY OF PORTLAND, THE CONTRACTOR SHALL OBTAIN APPROVAL FOR EACH STOCKPILE LOCATION FROM THE ENGINEER. IF CONTRACTOR PROPOSES TO PERMANENTLY STOCKPILE ANY SURPLUS SOIL AND ROCK ON PROPERTY IN THE CITY OF PORTLAND, THE CONTRACTOR MUST OBTAIN ANY SITE PLAN PERMITS REQUIRED FROM THE CITY PLANNING AUTHORITY OR ANY FILL PERMITS REQUIRED FROM MDEP OR U.S. ARMY CORPS OF ENGINEERS. BOTH TEMPORARY AND PERMANENT STOCKPILE LOCATIONS SHALL MEET THE APPLICABLE SETBACK REQUIREMENTS IN THE CITY LAND USE CODE AND SHALL RECEIVE PROPER STABILIZATION AND EROSION & SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH APPROVED SOIL EROSION & WATER POLLUTION CONTROL PLAN.
29. PROJECT IS SUBJECT TO THE CONDITIONS SET FORTH IN PERMITS ISSUED BY THE CITY OF PORTLAND, MAINE DEP AND US ARMY CORPS OF ENGINEERS, SPECIFICALLY RELATED TO LIMITS OF IMPACT, EROSION CONTROL MEASURES, RESTORATION ACTIVITIES, AND TIMEFRAME RESTRICTIONS. CONTRACTOR SHALL READ PERMIT DOCUMENTS FULLY AND CARRY OUT WORK IN ACCORDANCE WITH PERMIT DOCUMENTS. COPIES OF PERMIT DOCUMENTS ARE APPENDED TO THE PROJECT SPECIFICATIONS.
30. ALL WORK WITHIN THE PARK (SEE PROPERTY LINE, SHEET G–001) SHALL BE COMPLETED BY OCTOBER 1, 2014. WORK OUTSIDE OF THE PARK MUST BE SUBSTANTIALLY COMPLETE BY NOVEMBER 15, 2014 WITH FINAL COMPLETION BY NOVEMBER 30, 2014. CONSTRUCTION SHALL BE SUBJECT TO THE FOLLOWING TIMING RESTRICTIONS PER THE PERMITS.
   - WORK SHALL NOT BEGIN BEFORE AUGUST 1
   - NO WORK IN THE STREAM CHANNEL WILL BE ALLOWED AFTER OCTOBER 1
31. CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROCKLAND AVENUE AND MACHIGONNE STREET FREE OF SEDIMENT. A STABILIZED CONSTRUCTION EXIT SHALL BE CONSTRUCTED AT THE PROJECT ACCESS POINTS AND ROCKLAND AVENUE AND MACHIGONNE STREET SHALL BE SWEPT ON A DAILY BASIS OR AT A MORE FREQUENT RATE AS NECESSARY AS REQUESTED BY THE CITY.
32. CONSTRUCTION ACCESS WILL BE THROUGH RESIDENTIAL NEIGHBORHOODS, AND WORK WILL BE IN CLOSE PROXIMITY TO PRIVATE RESIDENCES. THE CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT ON PRIVATE OR CITY PROPERTY UNLESS WRITTEN PERMISSION HAS BEEN RECEIVED. CONTRACTOR SHALL TAKE CARE TO NOT IMPACT ADJACENT PRIVATE PROPERTIES, AND WILL REPAIR ANY DAMAGE ON PRIVATE PROPERTIES AT NO ADDITIONAL COST TO THE PROPERTY OWNERS OR THE CITY. CONTRACTOR SHALL MINIMIZE USE OF LOCAL NEIGHBORHOOD ROADS FOR CONSTRUCTION TRAFFIC, AND SHALL INCLUDE PLANNED CONSTRUCTION TRAFFIC ROUTES IN THE TRAFFIC CONTROL PLAN SUBMITTED TO THE CITY TRAFFIC ENGINEER.

ABBREVIATIONS

&	AND
A.G.	ABOVE GROUND
BIT	BITUMINOUS
B/W	BETWEEN
CB	CATCH BASIN
CI	CAST IRON
CMP	CENTRAL MAINE POWER
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
DI	DUCTILE IRON
DIA.	DIAMETER
DMH	DRAIN MANHOLE
DTL.	DETAIL
E	UNDERGROUND ELECTRICAL
EL.	ELEVATION
E.O.P.	EDGE OF PAVEMENT
EXIST.	EXISTING
FF	FINISH FLOOR
FT	FOOT/FEET
G	GAS MAIN
GS	GAS SERVICE
GALV.	GALVANIZED
GRAN.	GRANITE
HDPE	HIGH DENSITY POLYETHYLENE
HDPP	HIGH DENSITY POLYPROPYLENE
HYD	HYDRANT
INV.	INVERT
LF	LINEAR FEET
MAX.	MAXIMUM
MDOT	MAINE DEPARTMENT OF TRANSPORTATION
MIN.	MINIMUM
MON	MONUMENT
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
NR	NO REFUSAL
N.T.S.	NOT TO SCALE
OE	OVERHEAD ELECTRIC
OH	OVERHEAD
±	PLUS OR MINUS
LLS	LICENSED LAND SURVEYOR
PROP.	PROPOSED
PT.	POINT
PVC	POLYVINYL CHLORIDE
PWD	PORTLAND WATER DISTRICT
R.O.W.	RIGHT–OF–WAY
RCP	REINFORCED CONCRETE PIPE
REINF.	REINFORCED
REQ'D	REQUIRED
RPP	RIBBED PLASTIC PIPE
S	SLOPE (FT./FT.)
S	SEWER
SD	STORM DRAIN
SMH	SEWER MANHOLE
SCH	SCHEDULE
STA.	STATION
TYP.	TYPICAL
UP	UTILITY POLE
VC	VITRIFIED CLAY
VIT.	VITRIFIED CLAY
W	WEST
W	WATER
W/	WITH
W	WATERMAIN
WS	WATER SERVICE
WSI	WEST SIDE INTERCEPTOR
WV	WATER VALVE

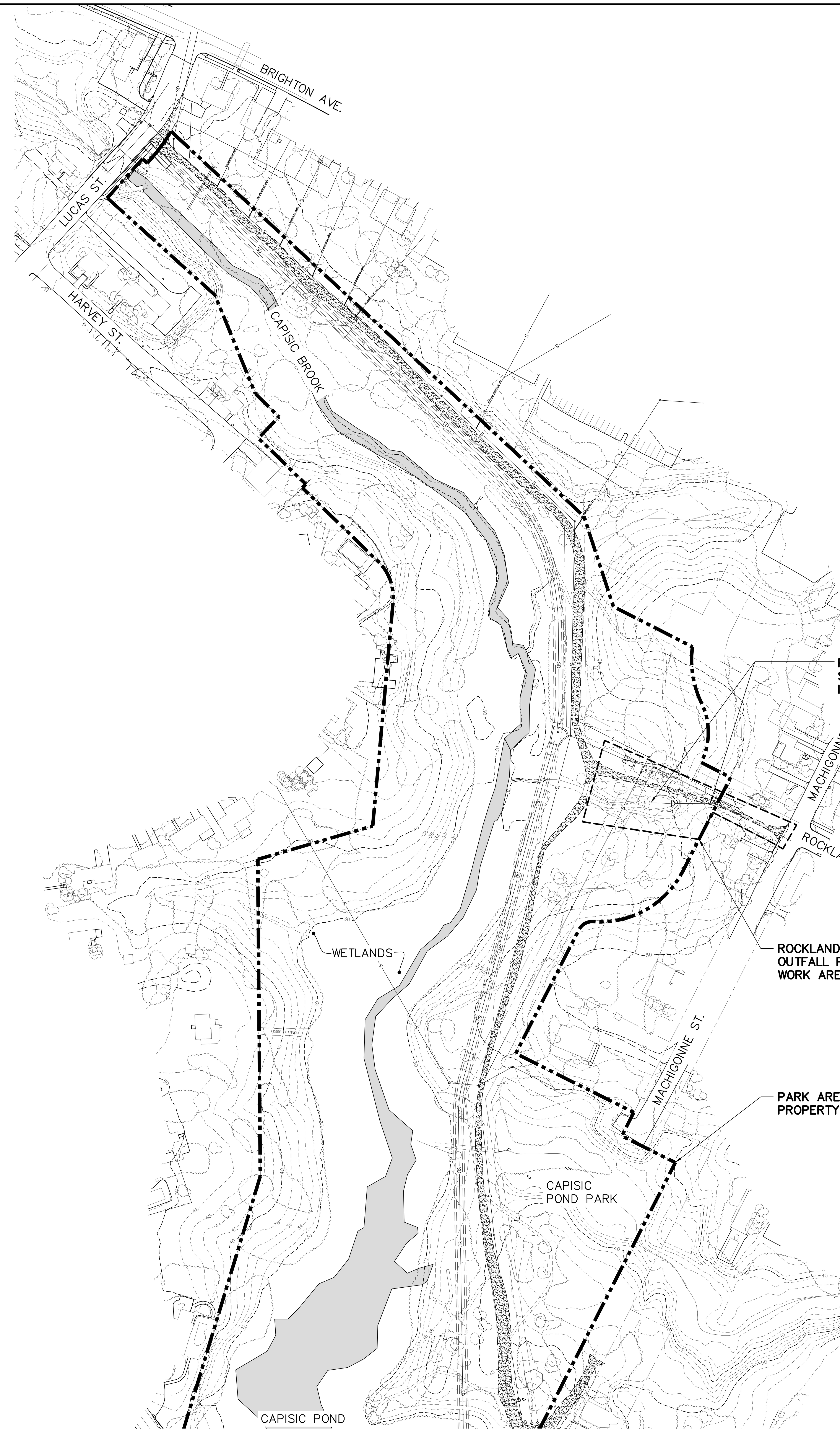
SYMBOLS

DESCRIPTION	EXISTING	PROPOSED
SANITARY SEWER MANHOLE		
STORM DRAIN MANHOLE		
CATCH BASIN W/ HEADSTONE		
CATCH BASIN, FIELD INLET		
DRAIN BASIN		
UTILITY POLE W/GUY		
UTILITY POLE		
WATER GATE		
WATER VALVE	WV	
WATER SHUT OFF	WSO	
HYDRANT		
SIGN		
MAILBOX	MB	
TREE		
IRON PIN (FOUND)	IPF	
MONUMENTS (FOUND)	MF	
BORING	B–X	
STONE CHECK DAM		SCD
GRAVEL		
PLACED STONE		

LINE TYPES

DESCRIPTION	EXISTING
CONTOUR (1' INTERVAL)	122
CONTOUR (INDEX)	120
SANITARY SEWER	S
STORM DRAIN	SD
UNDERDRAIN	UD
WATER MAIN	W
UNDERGROUND ELECTRIC	E
GAS LINE	G
OVERHEAD ELECTRIC	OE
PROPERTY LINE	
PROJECT AREA PROPERTY LINE	
RIGHT OF WAY	
EASEMENT	
EDGE OF VEGETATION	
FENCE	
CENTERLINE	
RETAINING WALL	
STONEWALL	
CURB	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	

DESCRIPTION	PROPOSED
CONTOUR (1' INTERVAL)	122
CONTOUR (INDEX)	120
EDGE OF GRAVEL	
CONSTRUCTION FENCE	



OVERALL PARK PLAN
SCALE: 1"=100'

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LDD PROJECT NAME: N/A
DRAWING NAME: 225672.77 C10X.DWG
FIELD BOOK USED: N/A

REFERENCES:
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DESIGNED BY:	BCM/LJS
DRAWN BY:	BCM
CHECKED BY:	DAS
SCALE:	1"=20'
DATE:	JULY 9, 2014

STATE OF MAINE · DAVID A. SENUS 10791 · LICENSED · PROFESSIONAL ENGINEER
7/9/2014

ROCKLAND AVENUE OUTFALL

GENERAL NOTES, LEGEND & ABBREVIATIONS

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION

RESURGAM · CITY OF PORTLAND, MAINE

SHEET # 1 OF 8

PLAN NUMBER G–001

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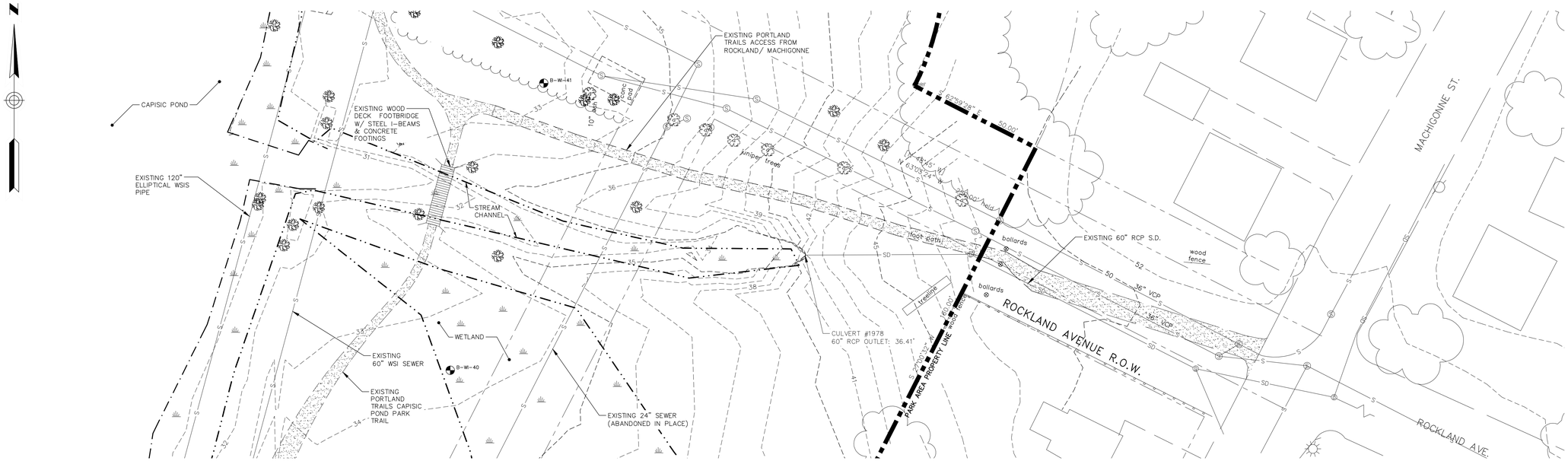

EXISTING CONDITIONS PLAN

SCALE: 1" = 20'

20' 0 20' 40'

BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

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LDD PROJECT NAME: N/A

DRAWING NAME: 225672.77 C20X 24X36.DWG

FIELD BOOK USED: N/A

REFERENCES:
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DESIGNED BY: BCM/JLS
DRAWN BY: BCM
CHECKED BY: DAS
SCALE: 1"=20'
DATE: JULY 9, 2014

STATE OF MAINE DAVID A. SENUS 10791 LICENSED PROFESSIONAL ENGINEER
7/9/2014

ROCKLAND AVENUE OUTFALL

EXISTING CONDITIONS

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION

SHEET # 2 OF 8

PLAN NUMBER C-200

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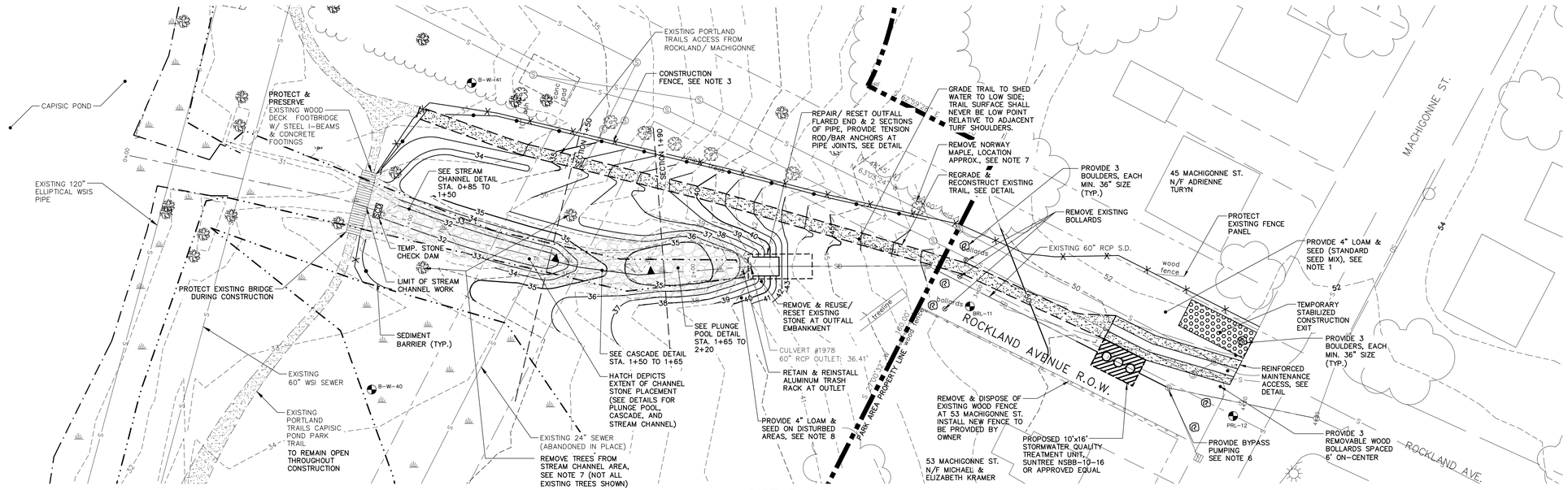


SITE PLAN

SCALE: 1" = 20'

NOTES:

1. THE ENTRANCE TO THE ROCKLAND AVENUE OUTFALL AREA AT THE INTERSECTION OF ROCKLAND AVENUE AND MACHIGONNE STREET SHALL BE REVEGETATED WITH 4' LOAM AND SEED, EXCEPT IN AREAS IDENTIFIED FOR GRAVEL SURFACE PER THE DETAIL FOR REINFORCED MAINTENANCE ACCESS AND TRAIL.

2. ADDITIONAL LANDSCAPING MAY BE INSTALLED IN THE VICINITY OF THE MAINTENANCE ACCESS WAY. QUANTITIES AND LOCATIONS OF PLANTINGS SHALL BE DETERMINED BY THE CITY, AND COST SHALL BE WITHIN ADDITIONAL LANDSCAPING ALLOWANCE AS IDENTIFIED IN THE CONTRACT DOCUMENTS. UPON COMPLETION OF CONSTRUCTION THE STORMWATER TREATMENT UNIT AND MAINTENANCE ACCESS WAY, CONTRACTOR SHALL CONTACT CITY OF PORTLAND ARBORIST JEFF TARLING (207-874-8801) TO COORDINATE TYPE AND LOCATION OF ADDITIONAL LANDSCAPING.

3. THE CONTRACTOR MAY MODIFY THE LOCATION OF THE CONSTRUCTION FENCE, AND MAY MOVE THE FENCE DURING CONSTRUCTION TO PROVIDE FOR A SAFE CONSTRUCTION SITE.

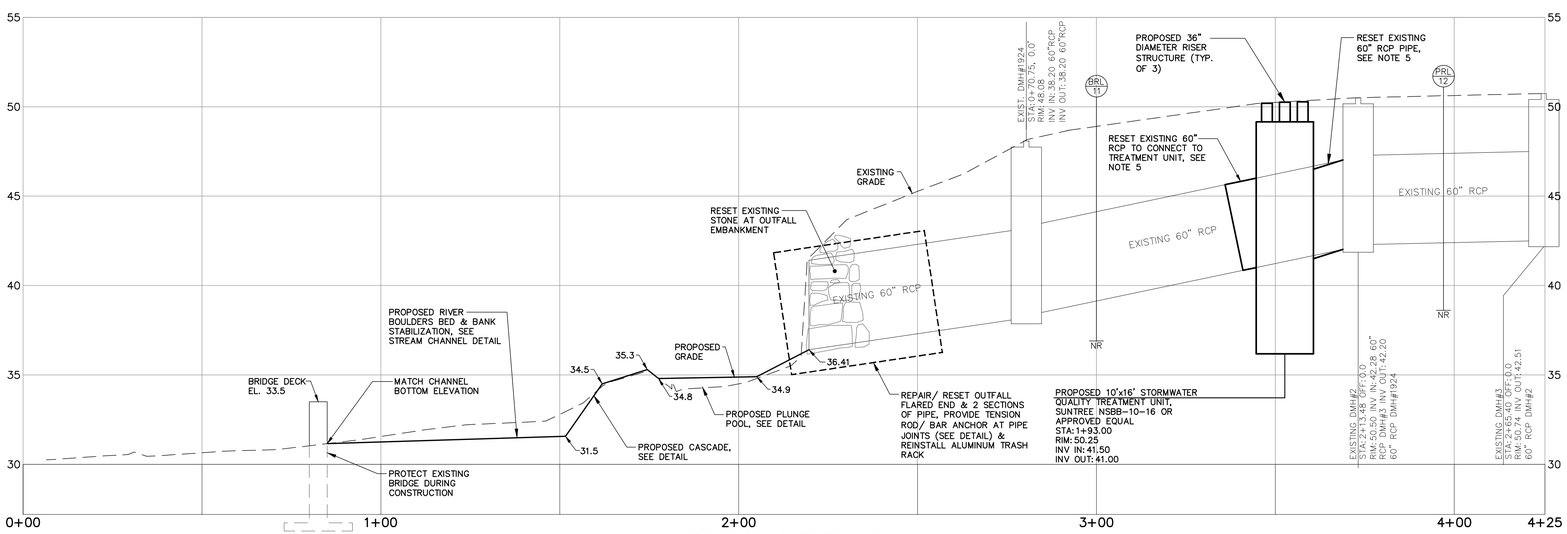
4. THE CONSTRUCTION SITE CONTAINS AN ACTIVE PEDESTRIAN TRAIL THAT MAY BE CLOSED DURING CONSTRUCTION AS NECESSARY. THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF PORTLAND AND WITH PORTLAND TRAILS (JAIME PARKER 207-775-2411) PRIOR TO THE START OF CONSTRUCTION ON THE TIMING OF TRAIL CLOSURE SO THAT ADEQUATE NOTICE MAY BE PROVIDED TO THE PUBLIC. CONTRACTOR SHALL ALSO COORDINATE WITH JAIME PARKER FOR INSPECTION OF NEW TRAIL CONSTRUCTION.

5. CONTRACTOR MAY UTILIZE PLASTIC PIPE (SANITITE HP, BY ADS, OR EQUAL) TO CONNECT STORMWATER QUALITY UNIT TO EXISTING RCP PIPE. CONNECTION BETWEEN RCP AND HDPE PIPE MUST BE MAR-MAC POLYSEAL PIPE COUPLER, OR EQUAL, SEE DETAIL.

6. CONTRACTOR SHALL BYPASS PUMP BASE FLOW FROM EXISTING DMH #3, LOCATED UPSTREAM OF PROJECT AREA TO CAPISIC POND. A PUMPED DISCHARGE SEDIMENT CONTROL DEVICE SHALL BE UTILIZED (SEE DETAIL) AND MAY BE MOVED TO ACCOMMODATE CONSTRUCTION. WORK SHALL NOT OCCUR DURING STORM EVENTS THAT EXCEED CAPACITY OF THE BYPASS SYSTEM.

7. NORWAY MAPLE LOCATED ADJACENT TO THE GRAVEL PATH SHALL BE REMOVED PER THE DIRECTION OF THE CITY OF PORTLAND. PROTECT ALL OTHER EXISTING TREES LOCATED NORTH OF THE GRAVEL PATH. EXISTING TREES ALONG STREAM CHANNEL SHALL BE REMOVED, AND SHALL BE REPLACED WITH VEGETATION IN ACCORDANCE WITH THE LANDSCAPE PLAN ON SHEET C-202. CONTRACTOR SHALL CONTACT THE CITY ARBORIST PRIOR TO ANY TREE REMOVAL AND CITY ARBORIST SHALL IDENTIFY SPECIFIC TREES FOR REMOVAL.

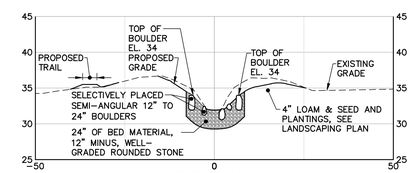
8. ALL AREAS DISTURBED BY CONSTRUCTION AND NOT IDENTIFIED FOR OTHER SURFACE TREATMENT SHALL RECEIVE 4" LOAM AND SEED. ALL AREAS INSIDE PARK PROPERTY SHALL USE NEW ENGLAND CONSERVATION/ WILDLIFE SEED MIX AND ALL AREAS OUTSIDE OF PARK SHALL USE STANDARD SEE MIX, PER SPECIFICATIONS.



PROFILE STA. 0+00 TO 4+25

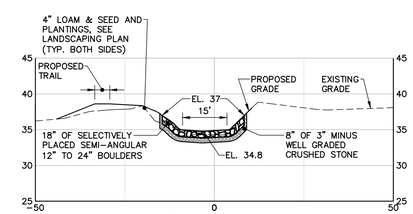
HORIZONTAL SCALE: 1" = 20'

VERTICAL SCALE: 1" = 4'



SECTION 1+50

SCALE:
HORZ. 1"=20' & VERT. 1"=10'



SECTION 1+90

SCALE:
HORZ. 1"=20' & VERT. 1"=10'

BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

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LDD PROJECT NAME: N/A

DRAWING NAME: 225672.77 C20X 24X36.DWG

FIELD BOOK USED: N/A

REFERENCES:
DeeringST_2012.dwg

DESIGNED BY: BCM/LJS
DRAWN BY: BCM
CHECKED BY: DJS
SCALE: AS NOTED
DATE: JULY 9, 2014

STATE OF MAINE DAVID A. SENUS 10751 LICENSED PROFESSIONAL ENGINEER
7/9/2014

ROCKLAND AVENUE OUTFALL

SITE PLAN & PROFILE, SECTIONS

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION

SHEET # 3 OF 8

PLAN NUMBER C-201

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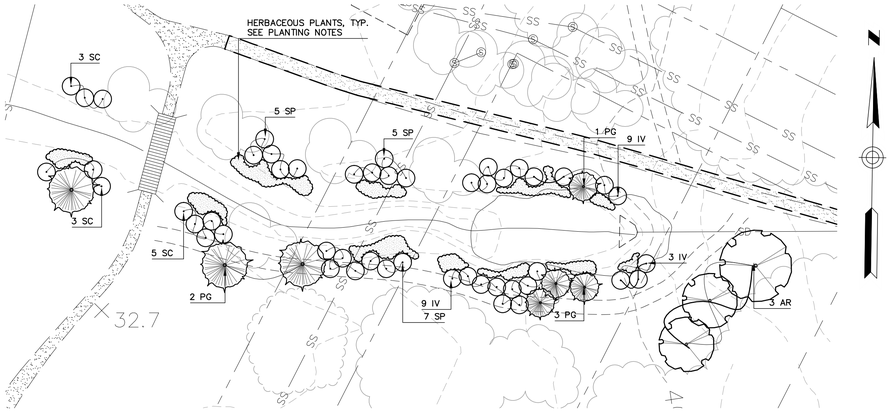


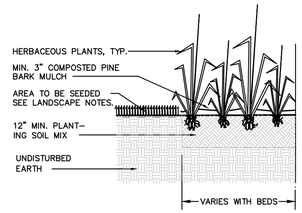
BAR SCALE
1" =20'
CHECK GRAPHIC SCALE BEFORE USING

ROCKLAND AVENUE OUTFALL PLANTINGS

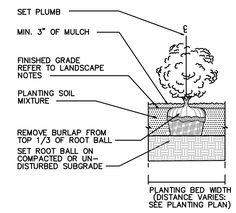
PLANTING KEY – ROCKLAND OUTFALL

TREES:				
AR	2	ACER RUBRUM	RED MAPLE	6–8' HT.
	1	ACER RUBRUM	RED MAPLE	2" CAL.
PG	2	PICEA GLAUCA	WHITE SPRUCE	8–10' HT
	4	PICEA GLAUCA	WHITE SPRUCE	5–6' HT.
SHRUBS:				
IV	10	ILEX V. 'WINTER RED'	WINTERBERRY, FEMALE	3–4' HT.
	2	ILEX V. 'SO. GENTLEMAN'	WINTERBERRY, MALE	3–4' HT.
SP	41	SALIX PETIOLARIS	SLENDER WILLOW	15–18" HT.
SC	15	SAMBUCUS CANADENSIS	ELDERBERRY	15–18" HT.
HERBACEOUS MATERIAL:				
	12	CHELONE GLABRA	TURTLEHEAD	BRP, 24" OC
	120	JUNCUS EFFUSUS	SOFT RUSH	PLUG, 18" OC
	35	LOBELIA CARDINALIS	CARDINAL FLOWER	PLUG, 24" OC

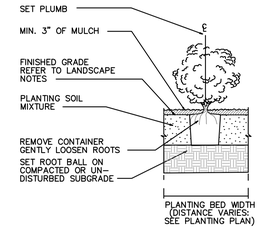
SEED IN PARK:
NEW ENGLAND CONSERVATION / WILDLIFE MIX – OR EQUAL;
APPLICATION RATE: 25 LBS/ACRE (X2) – SPRING SEEDING (FALL)
SUPPLIER: NEW ENGLAND WETLAND PLANTS, INC. – 820 WEST STREET, AMHERST, MA 01002; TEL. 413–548–8000



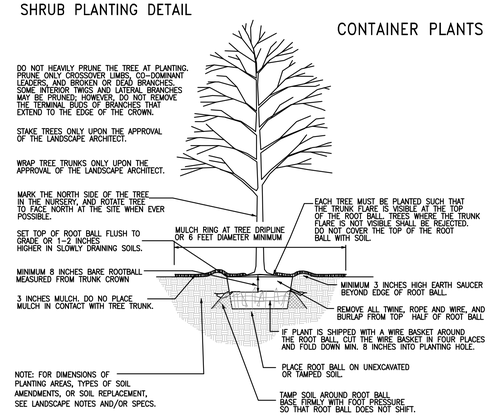
HERBACEOUS PLANTS - INSTALLATION DETAILS



SHRUB PLANTING DETAIL



CONTAINER PLANTS (TREES & SHRUBS)



TREE PLANTING DETAIL – B&B TREES IN ALL SOIL TYPES

GENERAL PLANTING NOTES - ROCKLAND OUTFALL

1. All materials shall conform to the guidelines established by the American Association of Nurserymen or as specified herein.
2. In the case of any discrepancies between species and quantities called out in the planting key and those shown on the plan, quantities and species shown on the plan shall over–ride.
3. All planting shall be done in accordance with acceptable horticultural practices.
4. All plants subject to approval by the City's Engineer and/or Wetland Professional. All substitutions must be submitted for approval prior to ordering or delivery of plant material on site. City reserves the right to reject any plantings that do not conform to the drawings or specifications outlined herein.
5. Planting locations shown on the plan are approximate and will need to be adjusted to respond to as–built conditions that provide growing conditions necessary for plant establishment. City's Engineer and/or Wetland Professional shall layout and/or approve final placement of all plant materials.
6. Plants in the Rockland Outfall plan shall planted per the technical specifications and relevant details herein. All herbaceous material shall be field–located to ensure that the as–built conditions provide optimal growing conditions for the species. The Contractor shall correct any deficiencies in the built condition to ensure that the soil and physical site conditions meet the growing requirements of the specified species.
7. Excavated native soils shall be amended with Superhumus (New England Organics, Portland, ME) at a 25 percent ratio.
8. All disturbed areas designated shall be seeded as noted in the Site Plantings Key.
9. Contractor shall provide a watering plan for approval by the City. All plants and newly grassed areas shall be watered as required thereafter to ensure survival and growth through the first two years.
10. Plant material shall be guaranteed by the contractor for a period of two years from the date of installation. During the two year guarantee, the contractor shall replace, in kind, any dead, diseased, or substandard plant material at no cost to the owner. The contractor shall receive final acceptance from the owner following the two year guarantee, provided the provisions of the plant guarantee have been satisfactorily met.
11. The Contractor shall assume responsibility to ensure that all work is performed in compliance with all State and Local requirements.

41 HUTCHINS DRIVE
PORTLAND, MAINE 04102
800.426.4262 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS
WOODARD & CURRAN

Regina S. Leonard
landscape architecture & design
29 Bridge Street
Topsham, Me 04086
Tel. 207.450.9700
Regina@rsldesign.com

LDD PROJECT NAME: N/A
DRAWING NAME: 225672.77 L10X 24X36.DWG
FIELD BOOK USED: N/A

REFERENCES:
DeeringST_2012.dwg

DESIGNED BY: RSL
DRAWN BY: RSL
CHECKED BY: DAS
SCALE: AS NOTED
DATE: JULY 9, 2014

LANDSCAPE ARCHITECT REGISTERED STATE OF MAINE
7/9/2014

ROCKLAND AVENUE OUTFALL
LANDSCAPING PLAN & DETAILS

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION

CITY OF PORTLAND MAINE RESURGAM

SHEET # 4 OF 8
PLAN NUMBER C–202

\\PORTLAND\Projects\225672 Portland–Gen. Eng Svcs\wbj\77 Capisic Pond Ph III\Drawings\Design Drawings\225672.77 L10X 24x36.dwg, Jul 09, 2014 – 3:15pm

EROSION AND SEDIMENTATION CONTROL NOTES

TEMPORARY EROSION CONTROL MEASURES MAY INCLUDE THE USE OF STABILIZED CONSTRUCTION ENTRANCES, HYDRAULIC MULCH, HAY AND STRAW MULCH, EROSION CONTROL BLANKET, TURF REINFORCED MATTING, RIPRAP AND TEMPORARY SEEDING. TEMPORARY SEDIMENT CONTROL MEASURES INCLUDE THE USE OF SILT FENCE, EROSION CONTROL MIX BERMS, PLUNGE POOLS, CHECK DAMS, SEDIMENT TRAPS, CATCHBASIN SEDIMENT COLLECTION BAGS AND GEOTEXTILE FILTER BAGS. PERMANENT MEASURES INCLUDE THE USE OF RIPRAP AT EXPOSED STORMDRAIN AND CULVERT INLETS AND OUTLETS, ARMORED SWALES AND SLOPES AND PERMANENT VEGETATION.

GENERAL

A. THE PROJECT SHALL CONFORM WITH THE STANDARDS OF THE MAINE CONSTRUCTION GENERAL PERMIT, IF APPLICABLE.

B. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPS HANDBOOK PUBLISHED BY THE MAINE DEP UNLESS OTHERWISE NOTED IN THESE PLANS. HTTP://WWW.MAINE.GOV/DEP/BLWQ/DOCSTAND/ESCBMPS/

C. ANY ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE, DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND/OR MUNICIPAL OFFICIALS SHALL BE INSTALLED BY THE CONTRACTOR.

D. THE CONTRACTOR IS RESPONSIBLE FOR ALL FINES RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES, WATER BODIES, OR WETLANDS AS A RESULT OF THIS PROJECT.

E. THE CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE SITE WHENEVER POSSIBLE WHILE ALLOWING PROPER SITE DEVELOPMENT.

F. CONSTRUCTION STAGING SHALL BE CONDUCTED IN A WAY TO MINIMIZE THE POTENTIAL FOR STORMWATER RUN-ON TO DISTURBED AREAS.

G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT/MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE ABOVE PERSONNEL. DESCRIPTIONS OF PERMANENT STABILIZATION FOR VARIOUS COVER TYPES FOLLOWS:

i. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS THAT 90% OF THE DISTURBED AREA IS COVERED WITH REASONABLY THICK UNIFORM STAND OF PERMANENT GRASS SPECIES, FREE FROM SIZABLE THIN OR BARE SPOTS.
ii. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THAT COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE OFF.
iii. FOR MULCHED AREAS, PERMANENT STABILIZATION MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL.
iv. FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE. STONE MUST BE SIZED APPROPRIATELY AND IN ACCORDANCE WITH SECTION E-6 OF THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL.
v. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE ASPHALT BINDER COURSE.
vi. FOR OPEN CHANNELS, LEVEL SPREADERS, ENGINEERED BUFFERS OR OTHER DESIGNED STORMWATER CONVEYANCE STRUCTURE, PERMANENT STABILIZATION MEANS THE CHANNELIZED AREA(S) IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH APPROVED RIPRAP, OR WITH OTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE SHALL BE NO EVIDENCE OF SLUMPING, UNDERCUTTING OR DOWNCUTTING OF THE DESIGNED CHANNEL.

H. IF THE AREA WILL REMAIN UNWORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, AND WILL NOT BE BUILT ON, THEN IMMEDIATELY PROVIDE PERMANENT STABILIZATION USING VEGETATION THROUGH PLANTING, SEEDING, SOD OR THROUGH THE USE OF PERMANENT MULCH OR RIPRAP. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS. AMEND AREAS OF DISTURBED, OVERLY-COMPACTED SUBSOIL WITH TOPSOIL OR COMPOST AND LIGHTLY TILL 2-3" OF SOIL AMENDMENTS INTO THE TOP 8" OF SOIL.

I. PERMANENT SEEDING SPECIFICATION: UNLESS OTHERWISE NOTED ON LANDSCAPE PLAN, IT IS RECOMMENDED THAT PERMANENT SEEDING BE COMPLETED BETWEEN APRIL 1 AND AUGUST 15 OF EACH YEAR. LATE SEASON SEEDING MAY BE DONE BETWEEN AUGUST 15 AND SEPTEMBER 15. AREAS NOT SEEDED OR WHICH DO NOT OBTAIN A SATISFACTORY GROWTH BY OCTOBER 1 SHALL BE SEEDED WITH AROOSTOOK WINTER RYE OR MULCHED AT SPECIFIED RATES. SEE WINTER SEEDING AND MULCHING SPECIFICATIONS FOR STABILIZATION AFTER NOVEMBER 1.

i. APPLY TOPSOIL TO A DEPTH OF 4 INCHES. IN COMPACTED AREAS TILL 2-3" OF COMPOST INTO UPPER 8" OF DISTURBED SOIL AND THEN APPLY 4 INCHES OF TOPSOIL.
ii. APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS. IN LIEU OF SOIL TESTS, APPLY GROUND LIMESTONE AT A RATE OF 33 LBS PER 1000 SQUARE FEET AND GRANULAR, COMMERCIAL-GRADE FERTILIZER 10-10-10 AT A RATE OF 18 LBS PER 1000 SQUARE FEET.
iii. UNIFORMLY APPLY SEED MIXTURE AT THE RECOMMENDED SEEDING RATES AND DATES, APPLY HAY OR STRAW MULCH AT A RATE OF 2.5 BALES PER 1000 SQUARE FEET AND ANCHOR AS NECESSARY.
iv. THE SEED MIXTURE FOR LAWN AREAS SHALL CONSIST OF SEEDS PROPORTIONED BY WEIGHT AS FOLLOWS:
   1. 10% CREEPING RED FESCUE
   2. 25% KENTUCKY BLUEGRASS
   3. 60% PERENNIAL RYE GRASS
   4. 5% ANNUAL RYEGRASS
v. THE SEED MIXTURE FOR NON-LAWN AREAS WITH LOW-MAINTENANCE SHALL CONSIST OF SEEDS PROPORTIONED BY WEIGHT AS FOLLOWS:
   1. 50% CREEPING RED FESCUE
   2. 25% TALL FESCUE
   3. 10% ANNUAL RYEGRASS
   4. 10% WHITE CLOVER
   5. 5% RED TOP

J. PROTECT ALL SEEDED AREAS WITH MULCH OR EROSION CONTROL BLANKET IN AREAS OF SHEET OR CONCENTRATED FLOWS. MULCH ALL AREAS SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH REGARDLESS OF THE APPLICATION RATE. SCHEDULE SEEDING OR SODDING TO AVOID FAILURE DUE TO SUMMER DROUGHT AND FALL FROST. NEWLY SEEDED AREAS SHOULD BE PROTECTED FROM VEHICLE TRAFFIC, PEDESTRIAN TRAFFIC AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL ESTABLISHED. AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE OR SURFACE EROSION IS EVIDENT.

K. DITCH LININGS AND RIPRAP INLET AND OUTLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OF COMPLETING THE GRADING OF THAT SECTION OF DITCH OR INSTALLATION OF THE CULVERT.

L. EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES STEEPER THAN 3:1, IN THE BASE OF DITCHES AND ANY DISTURBED AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE (WETLANDS AND WATER RESOURCES). EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN S150BN OR APPROVED EQUAL. EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

M. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURE UPON STABILIZATION OF PROJECT AREA & COST SHALL BE INCIDENTAL TO CONTRACT.

WINTER CONDITIONS

A. WINTER CONSTRUCTION IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 1. IF AREAS WITHIN THE CONSTRUCTION AREA ARE NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES OUTLINED ABOVE BY NOVEMBER 15 THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES THAT ARE SPECIFIC TO WINTER CONDITIONS.

GOOD HOUSEKEEPING AND POLLUTION PREVENTION

A. SPILL PREVENTION CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER RUNOFF AND APPROPRIATE SPILL PREVENTION, CONTAINMENT AND RESPONSE PLANNING AND IMPLEMENTATION.

B. DURING CONSTRUCTION, PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUND OR SURFACE WATERS MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO INFILTRATION AREAS. AN "INFILTRATION AREA" IS ANY ARE OF THE SITE THAT BY DESIGN, OR AS A RESULTS OF SOIL AND TOPOGRAPHY, ACCUMULATES RUNOFF THAT INFILTRATES IN THE SOIL. DIKES, BERMS, SUMPS AND OTHER FORMS OF TEMPORARY SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.

C. LOCATE ALL MATERIAL STOCKPILES WITH CONSIDERATION FOR STORMWATER DRAINAGE PATTERNS AND INFRASTRUCTURE.

D. TAKE ALL REASONABLE MEASURES TO MINIMIZE DUST RESULTING FROM THE PROJECT. OIL MAY NOT BE USED FOR DUST CONTROL.

E. LOCATE ALL LITTER, CONSTRUCTION DEBRIS AND CONSTRUCTION CHEMICALS WITH CONSIDERATION FOR STORMWATER DRAINAGE PATTERNS AND INFRASTRUCTURE.

F. TRENCH OR FOUNDATION DE-WATERING MUST BE SPREAD THROUGH SUFFICIENT NATURAL BUFFERS THAT HAVE CAPACITY TO INFILTRATE THE PUMPED WATER OR SHOULD BE PUMPED TO DESIGNED CONSTRUCTION DEWATERING DEVICES AS DESCRIBED IN THE MAINE EROSION AND SEDIMENT CONTROL BMPS HANDBOOK.

G. SEDIMENTS AND SOIL MATERIALS SHOULD BE SWEPT FROM PAVED SURFACES AT THE END OF EACH WORKDAY OR PRIOR TO RAIN EVENTS, WHENEVER POSSIBLE.

INSPECTION AND MAINTENANCE

A. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROLS, INCLUDING THE STANDARDS IN THE MAINE CONSTRUCTION GENERAL PERMIT, THE MAINE EROSION AND SEDIMENT CONTROL BMPS HANDBOOK AND ANY MUNICIPAL REQUIREMENTS MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF ADDITIONAL BMPS OR MODIFICATIONS TO BMPS ARE NECESSARY, THE MODIFICATIONS MUST BE IMPLEMENTED WITH 7 CALENDAR DAYS OR PRIOR TO ANY PRECIPITATION EVENT. ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.

B. AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT BY THE CONTRACTOR, SUMMARIZING THE SCOPE OF THE INSPECTION, DATE, AND MAJOR OBSERVATIONS RELATING TO THE OPERATION OF EROSION AND SEDIMENT CONTROL BMPS, MATERIAL STORAGE AREAS, AND VEHICLE ACCESS POINTS TO THE CONSTRUCTION AREA. THE INSPECTION LOG SHOULD BE DELIVERED TO THE PROPERTY OWNER OR RESPONSIBLE CONTRACTING ENTITY UPON COMPLETION OF THE PROJECT.

EROSION AND SEDIMENT CONTROL NOTES

Temporary Erosion Control

Contractor shall prepare and submit a soil erosion and water pollution control plan to engineer in accordance with Section 656.

Measure	Dates For Use	Timing, Activity, and Location
Sedimentation Barrier	ALL	Before soil disturbance, install downhill of areas to be disturbed and around material stockpiles.
Up-slope Diversion	ALL	Before soil disturbance, install uphill of areas to be disturbed and material stockpiles.
Catch Basin Protection	ALL	Before soil or pavement disturbance, install ACF Environmental, Inc. High Flow Siltsack, Siltsaver Inlet Filter. or equal, installed per manufacturer's requirements.
Dust Control	ALL	During dry weather, apply water and calcium chloride to control dust.
Temporary Seeding	April 15 to Oct. 1	Soil stockpiles that are not covered and disturbed areas that will not be disturbed again within 14 days. If grass growth provides less than 95% soil coverage by Nov. 1, apply mulch and anchor with erosion control blanket.
Mulch	April 15 to Sept. 15	On all areas of exposed soil prior to rain events apply 100-150 lbs (2.5 bales) per 1,000 sq ft. by mechanical blower.
Winter Mulch	Sept. 16 to Oct. 31	On all areas of exposed soil prior to precipitation apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. by mechanical blower. Erosion control blanket may be used as a substitute for winter mulch.
	Nov. 1 to April 14	On all areas of exposed soil, apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. and anchor with netting <u>at the end of each working day</u>. Erosion control blanket may be used as a substitute for winter mulch.
Inspections	Until site is permanently stabilized	Inspect the erosion and sedimentation control measures daily, and maintain and repair as necessary.

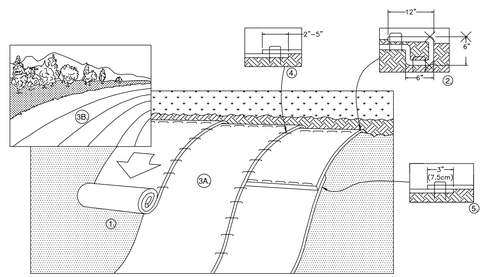
Permanent Erosion Control:

Measure	Dates For Use	Timing, Activity, and Location
Pavement - Base Course - Final Course	When no frost is in ground	Install only in areas shown on the plan, shortly after pavement base is brought to final grade. Install near completion of project.
Permanent Seeding	April 15 to Sept. 15	On final grade areas, within 7 days of grade preparation, prepare topsoil, followed by seed and mulch application.
Dormant Seeding	Sept. 16 to April 15	On final grade areas, with prepared topsoil. Apply seed at double the specified rate on bare soil, and follow with an application of winter mulch.
Ground Cover, Trees, Shrubs	April 15 to Nov. 1	Install with final landscaping.
Permanent Mulch	ALL	Install with final landscaping.

Inspections:

Regular inspections of all erosion and sedimentation controls shall be made at least weekly and prior to and following storm events. Minimum inspections shall be made as listed in the table below.

Inspected Item	Look For
Mulched Surfaces	Thin mulch or inadequate application. Wind movement.
Seeded Surfaces	Poor seed germination. Loss of mulch. Development of rivulets.
Sediment Barrier	Sediment build-up to one half the height of the barrier. Undermining of the barrier. Supporting stakes loose, toppled, or unmarked. Breaks in barrier.
Perimeter Diversion	Discharge is to stabilized area. Erosion or breaks in barrier. Supporting stakes loose, toppled or unmarked.
Catch Basin Protection	Sediment build-up and structure blockages. Slow flow/Ponding water. Breaks in fabric or voids in barrier.
Dewatering Filter	Breaks in fabric or supporting structure. Slow flow, indicating high sediment build-up.
Construction Entrance	Sedimentation of roadways. Off-site dust complaints.



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED AS WELL AS REMOVING ANY PROTRUDING ROCKS, STUMPS OR ROOTS. DURING THE GROWING SEASON (APRIL 15- SEPTEMBER 15) USE RECP'S ON THE BASE OF GRASSED WATERWAYS, SOIL SLOPES HAVING A GRADE GREATER THAT 15%, OR ANYWHERE WHERE HAY MULCH HAS PROVEN TO BE INEFFECTIVE AT CONTROLLING SHEET EROSION. RECP'S ARE A MANUFACTURED COMBINATION OF MULCH AND NETTING DESIGNED TO PREVENT EROSION AND RETAIN SOIL MOISTURE. FOR OVER WINTER PROTECTION, APPLY RECP'S ON THE BASE AND SIDE SLOPES OF GRASSED WATERWAYS AND ON SLOPES STEEPER THAN AN 8% GRADE.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" - 5" OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP's WIDTH. NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.
6. UNTIL GRASS IS ABUNDANT, INSPECT PERIODICALLY AND AFTER EACH RAINSTORM TO CHECK FOR EROSION. IMMEDIATELY REPAIR AND ADD MORE MULCH UNTIL GRASSES ARE FIRMLY ESTABLISHED. DO NOT MOW THE FIRST YEAR.

ROLLED EROSION CONTROL MATTING

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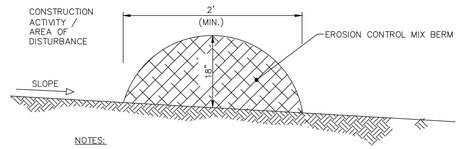


NOTES:

<u>Erosion Control Mix Berms</u>

Erosion control mix can be manufactured on or off the project site. It must consist primarily of organic material and may include: shredded bark, stump grindings, composted bark, or acceptable manufactured products. Wood and bark chips, ground construction debris or reprocessed wood products will not be acceptable as the organic component of the mix.

<u>Composition</u>

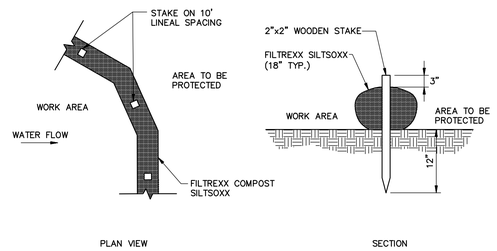
Erosion control mix shall contain a well-graded mixture of particle sizes and may contain rocks less than 4" in diameter. Erosion control mix must be free of refuse, physical contaminants, and material toxic to plant growth. The mix composition shall meet the following standards:

- The organic matter content shall be between 80 and 100%, dry weight basis.
- Particle size by weight shall be 100 % passing a 6" screen and a minimum of 70%, maximum of 85%, passing a 0.75" screen.
- The organic portion needs to be fibrous and elongated.
- Large portions of silts, clays or fine sands are not acceptable in the mix.
- Soluble salts content shall be < 4.0 mmhos/cm.
- The pH should fall between 5.0 and 8.0.

SEDIMENT BARRIER - EROSION CONTROL MIX BERM

N.T.S.

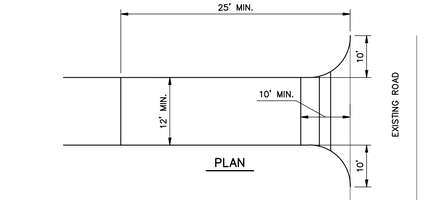
(FOR USE AROUND STAGING/ ACCESS AREAS)

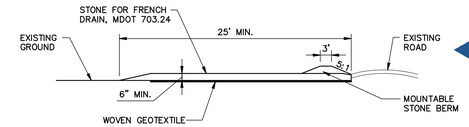


SEDIMENT BARRIER - SILTSOXX

N.T.S.

(FOR USE AROUND STAGING/ ACCESS AREAS)





PROFILE

NOTES:

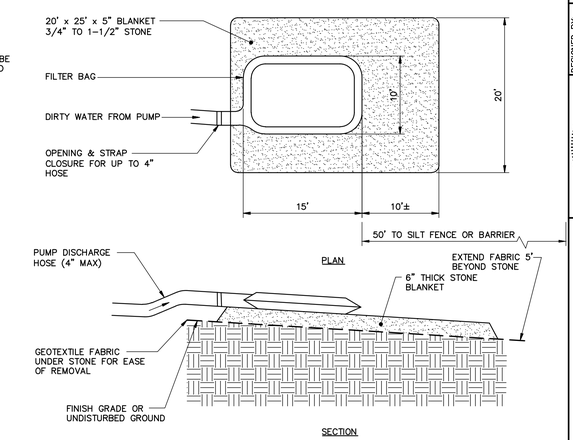
- CONSTRUCTION ENTRANCES MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
- WHEEL WASH PITS MAY ALSO BE USED, IF APPROVED.

<u>MAINTENANCE:</u> INSPECT FOR EFFECTIVE REMOVAL OF SOIL FROM VEHICLES PRIOR TO LEAVING THE SITE. SWEEP ANY SOIL FROM ADJACENT ROADWAYS.

<u>REMOVAL:</u> AT LEAST ONE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED UNTIL ALL AREAS OF THE SITE ARE STABILIZED.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S.



PUMPED DISCHARGE SEDIMENT CONTROL DEVICE

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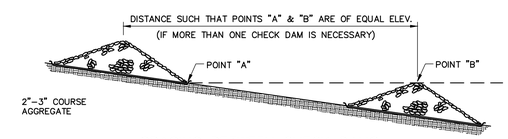
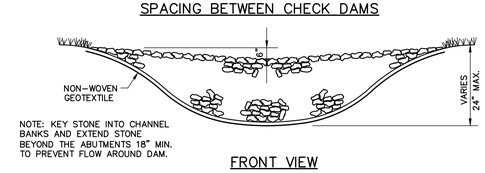
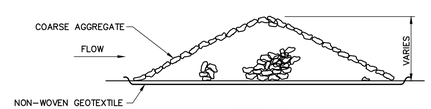


SPACING BETWEEN CHECK DAMS



FRONT VIEW



SIDE VIEW

STONE CHECK DAM

N.T.S.

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LDD PROJECT NAME: N/A

DRAWING NAME: 225672.77 C20X 24X36.DWG

FIELD BOOK USED: N/A

REFERENCES: DeeringST_2012.dwg

DESIGNED BY:	BCM/JLS
DRAWN BY:	BCM
CHECKED BY:	DAS
SCALE:	AS NOTED
DATE:	JULY 9, 2014

STATE OF MAINE DAVID A. SENUS 10791 LICENSED PROFESSIONAL ENGINEER
7/9/2014

ROCKLAND AVENUE OUTFALL

SITE DETAILS - 1

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION

CITY OF PORTLAND, MAINE — RESURGAM

SHEET # 5 OF 8

PLAN NUMBER C-300

\\PORTLAND\Projects\225672 Portland-Gen Eng Svcs\wip\77 Capitol Pond Ph III\Drawings\Design Drawings\225672.77 C20X 24x36.dwg, Jul 09, 2014 - 3:15pm

SUNTREE TECHNOLOGIES INC.® NUTRIENT SEPARATING BAFFLE BOX™ MODEL NO: NSBB-10-16-168-ROCKLAND OUTFALL

PATENTED
AND PATENTS PEND.

FLOW & BY-PASS SPECIFICATIONS FOR BIOMASS SEPARATING SCREEN SYSTEM, SEDIMENT COLLECTION CHAMBERS, AND SKIMMER SPECIFICATIONS

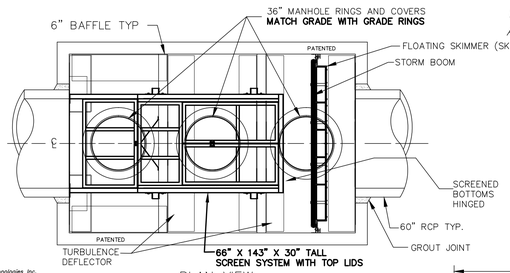
1. Pipe inflow area (Drawn as 60" RCP) — 19.63 sq.ft.

SCREEN SPECIFICATIONS:
2. Open orifice area in screen system — 62.53 sq.ft.
3. Open orifice area in screen system with 50% blockage — 31.27 sq.ft.
4. Open orifice area in screen system with 75% blockage — 15.63 sq.ft.
5. Minimum by-pass through screen system below the top surface of the pipe — 28.44 sq.ft.
6. Minimum by-pass around screen system below the top surface of the pipe — 21.65 sq.ft.
7. Screen system storage volume — 141.46 cu.ft.

SEDIMENT STORAGE:
8. Volume of first sediment chamber — 250 cu.ft.
9. Volume of second sediment chamber — 250 cu.ft.
10. Volume of third sediment chamber — 250 cu.ft.
11. Total sediment volume — 750 cu.ft.

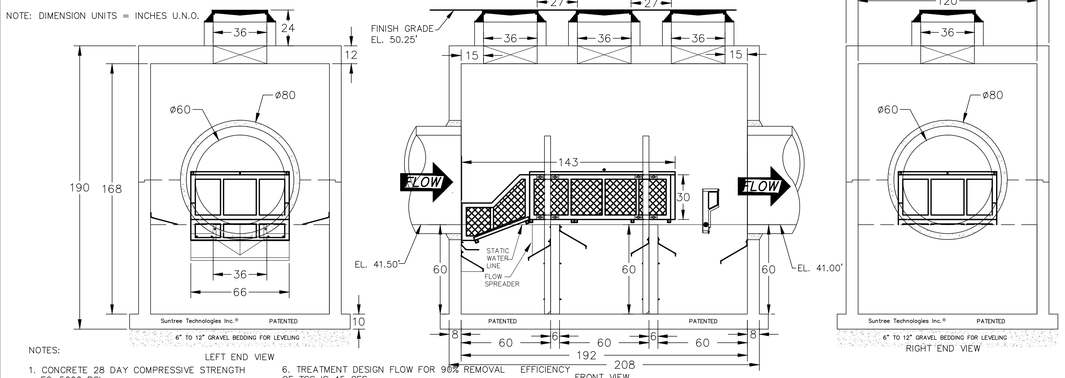
SKIMMER SPECIFICATIONS:
12. Flow area under skimmer — 19.58 sq.ft.
13. Area of pipe in line with skimmer — 11.95 sq.ft.
14. Area between the skimmer and the outflow pipe parallel with the surface of the pipe — 34.01 sq.ft.

Suntree Technologies Inc.
798 Clearlake Road, Cocoa, Florida 32922
PH: 321-637-7552 Fax: 321-637-7554



PLAN VIEW

NOTE: DIMENSION UNITS = INCHES U.N.O.



LEFT END VIEW — FRONT VIEW — RIGHT END VIEW

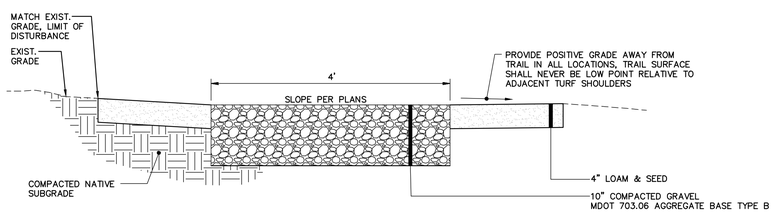
NOTES:

1. CONCRETE 28 DAY COMPRESSIVE STRENGTH FC=5000 PSI
2. REINFORCING: ASTM A-615 GRADE 60
3. SUPPORTS AN H20 LOADING AS INDICATED BY AASHTO.
4. JOINT SEALANT: BUTYL RUBBER SS-S-00210
5. ALL WALLS TO BE 8" THICK, BOTTOM TO BE 10" THICK, AND TOP TO BE 12" THICK.
6. TREATMENT DESIGN FLOW FOR 96% REMOVAL EFFICIENCY OF TSS IS 45 CFS.
7. INFLOW AND OUTFLOW PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE. (CAN NOT INTRUDE BEYOND FLUSH)
8. BAFFLES ARE TO BE SEALED WITH GROUT TO FORM 3 WATER TIGHT CHAMBERS.
9. STRUCTURAL ROCK EXCAVATION (PAY ITEM 206.07) OR EARTH EXCAVATION (OVER DEPTH) (PAY ITEM 206.061) BELOW ESTABLISHED TRENCH PROFILE AS REQUIRED.

SUNTREE TECHNOLOGIES INC.® 798 CLEARLAKE RD. SUITE #2 COCOA, FL. 32922	PROJECT: ROCKLAND OUTFALL–PORTLAND, MAINE
SUNTREE TECHNOLOGIES INC.® NUTRIENT SEPARATING BAFFLE BOX™ MODEL NO: NSBB-10-16-168-ROCKLAND OUTFALL	DRAWING #: / FILE NAME:
DATE: 03/20/13 — SCALE: SF = 72	REVISION(S): DATE / REVISION(S): DATE
DRAFTER: T.H.2. — UNITS =INCHES	

SUNTREE STORMWATER QUALITY TREATMENT UNIT

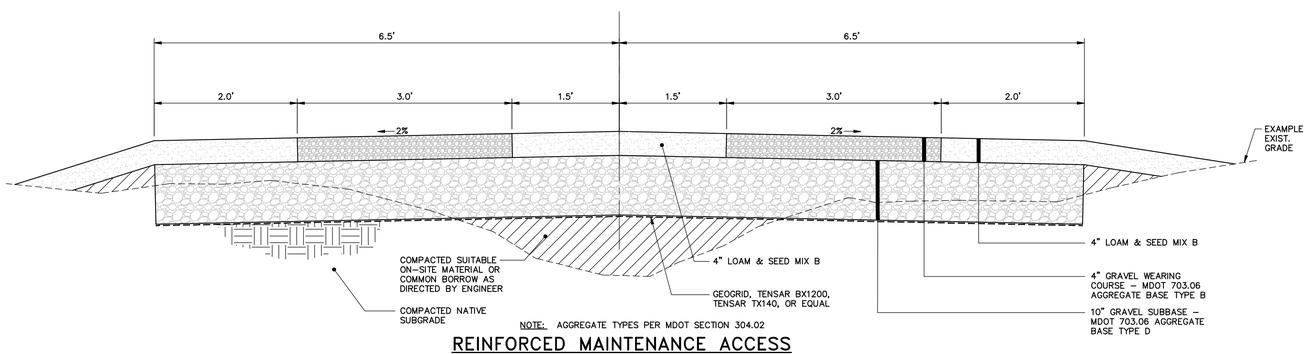
SCALE AS INDICATED



NOTE: AGGREGATE TYPES PER MDOT SECTION 304.02

TYPICAL GRAVEL TRAIL SECTION

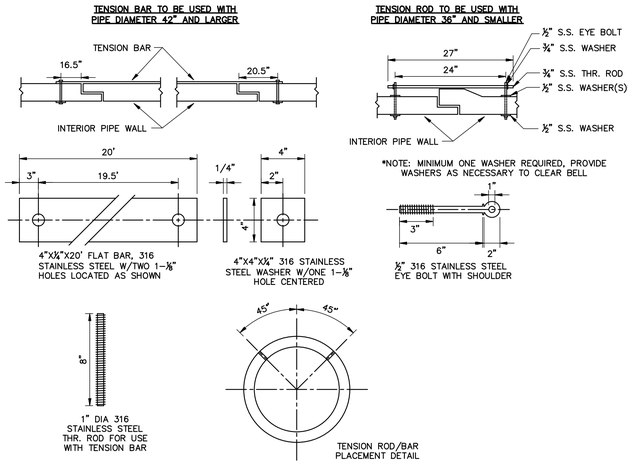
N.T.S.



NOTE: AGGREGATE TYPES PER MDOT SECTION 304.02

REINFORCED MAINTENANCE ACCESS

N.T.S.



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

TENSION ROD/BAR ASSEMBLY

N.T.S.

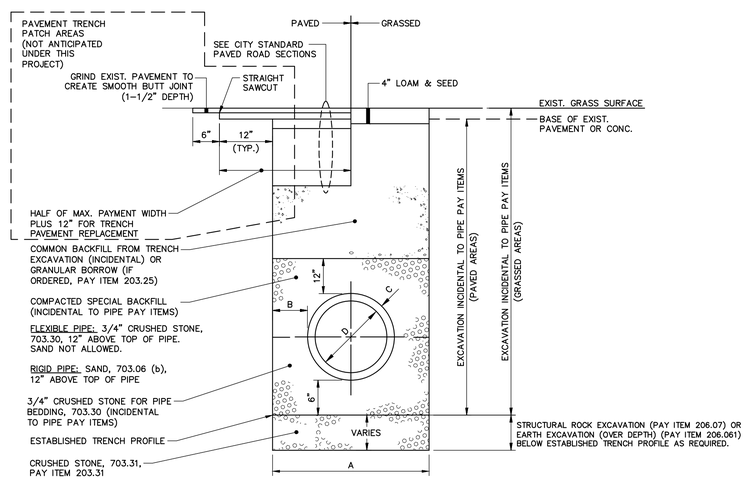
PIPE INSTALLATION DETAIL – NOTES

1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. 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.
3. 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".
4. DIMENSION "A" IS THE MAXIMUM WIDTH ALLOWED FOR CALCULATING PAY QUANTITIES UNDER ITEMS 206.07 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	8.0
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

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PORTLAND, MAINE 04102
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COMMITMENT & INTEGRITY DRIVE RESULTS

LDD PROJECT NAME: N/A

DRAWING NAME: 225672.77 C20X 24X36.DWG

FIELD BOOK USED: N/A

REFERENCES: DeeringST_2012.dwg

DESIGNED BY: BCM/JLS
DRAWN BY: BCM
CHECKED BY: DAS
SCALE: AS NOTED
DATE: JULY 9, 2014

STATE OF MAINE — DAVID A. SENUS 10791 — LICENSED PROFESSIONAL ENGINEER — 7/9/2014

ROCKLAND AVENUE OUTFALL

SITE DETAILS – 2

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION

SHEET # 6 OF 8

PLAN NUMBER C-301

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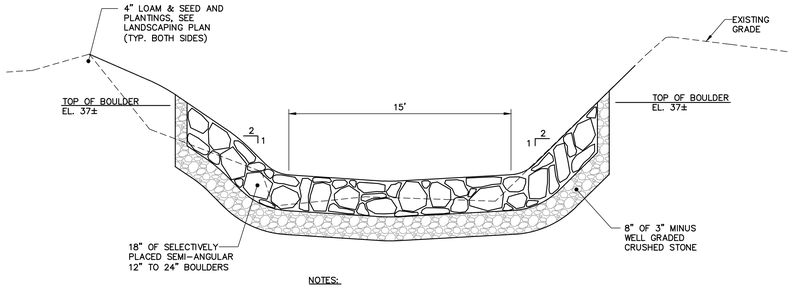


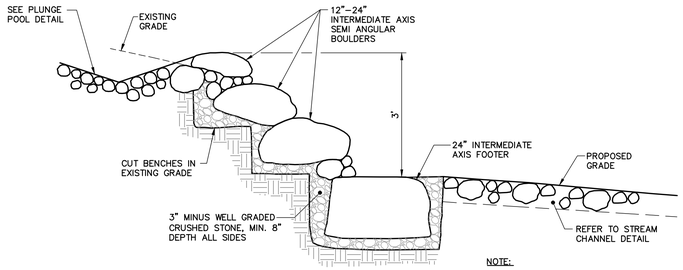
NOTES:

- INSTALL TEMPORARY EROSION CONTROL MATTING ON ALL SLOPES 2:1 OR GREATER OUTSIDE OF CHANNEL.

ROCKLAND AVE. OUTFALL PLUNGE POOL DETAIL*

*CROSS SECTION DETAIL ACROSS CHANNEL; APPLICABLE STA. 1+65 TO 2+20

N.T.S.



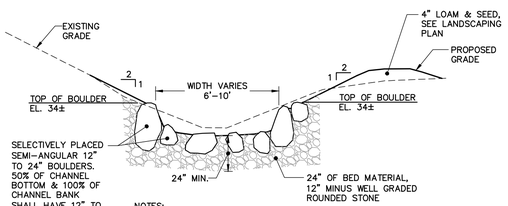
NOTE:

- INSTALL TEMPORARY EROSION CONTROL MATTING AN ALL SLOPES 2:1 OR GREATER OUTSIDE OF CHANNEL.
- INSTALL 12"-24" SEMI-ANGULAR BOULDERS OVER 8" OF 3" MINUS WELL GRADED CRUSHED STONE ON CHANNEL BANKS TO EL. 36 AT CASCADE

ROCKLAND AVE. OUTFALL CASCADE DETAIL*

*CROSS SECTION DETAIL PATH OF CHANNEL; APPLICABLE STA. 1+50 TO 1+65

N.T.S.



NOTES:

- INSTALL TEMPORARY EROSION CONTROL MATTING ON ALL SLOPES 2:1 OR GREATER OUTSIDE OF CHANNEL.

ROCKLAND AVE. OUTFALL STREAM CHANNEL DETAIL*

*CROSS SECTION DETAIL ACROSS CHANNEL; APPLICABLE STA. 0+85 TO 1+50

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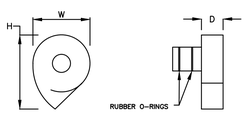


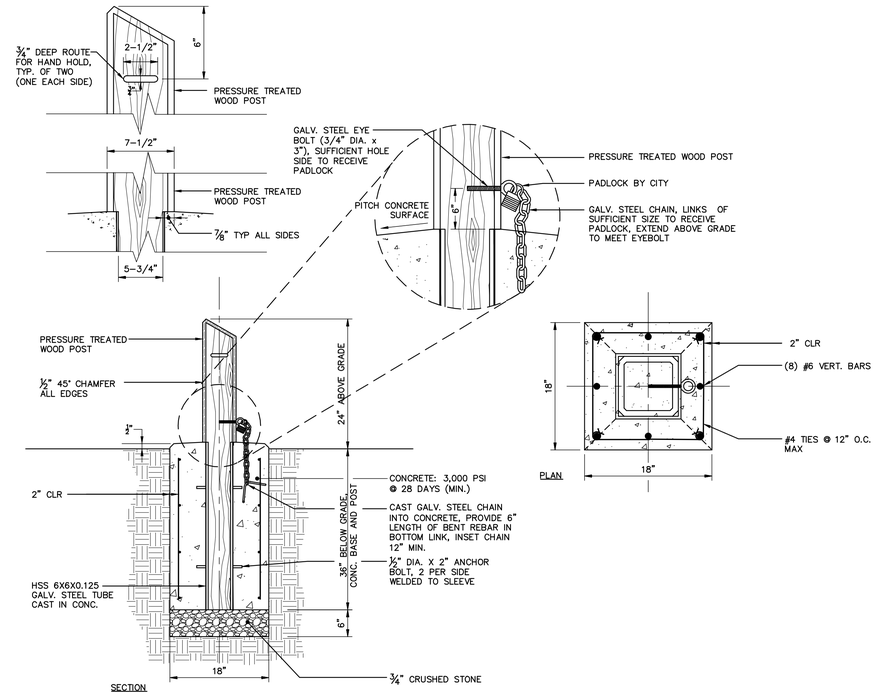
	FLUIDIC AMPS			
SIZE	17"x14"	14"x16"	17"x19"	20"x23"
WIDTH (W)	1'-3 3/4"	1'-4 3/4"	1'-7 1/2"	1'-11 1/2"
HEIGHT (H)	1'-0"	1'-2 1/4"	1'-4 3/4"	1'-8 1/4"
DEPTH (D)	4"	4 1/2"	5 1/2"	6 1/2"

*Box inlets involve some individual custom sizing.
Overall dimensions are always slightly smaller than the outlet diameter specified.
Sleeve dimensions are as follows : sleeve length = sleeve diameter = outlet pipe I.D. minus 1 inch.

PROVIDED BY CITY OF PORTLAND FOR REFERENCE IN HYDROBRAKE REMOVAL.

HYDROBRAKE DETAIL

N.T.S.



REMOVABLE WOOD BOLLARD

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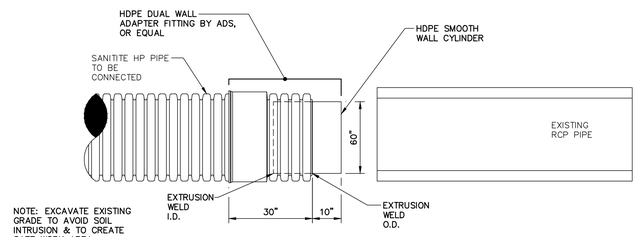
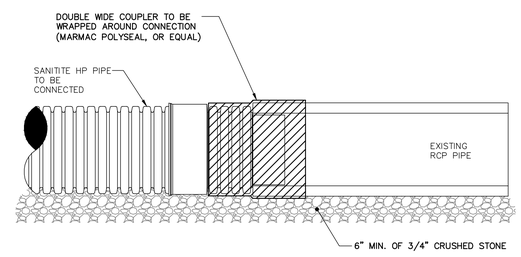


CONNECTION PREPARATION



FINAL CONNECTION

NOTES:

1. PIPE SHALL BE BACKFILLED PER PIPE INSTALLATION DETAIL.
2. COUPLER TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. CONTRACTOR CAN ELECT TO PROPOSE ALTERNATE CONNECTION METHODS BETWEEN TREATMENT UNIT AND EXISTING RCP PIPE IN LIEU OF SANITITE HP PIPE.

RCP TO SANITITE PIPE CONNECTION

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LDD PROJECT NAME: N/A

DRAWING NAME: 225672.77 C20X 24X36.DWG

FIELD BOOK USED: N/A

REFERENCES: DeeringST_2012.dwg

DESIGNED BY: BCM/LJS
DRAWN BY: BCM
CHECKED BY: DAS
SCALE: AS NOTED
DATE: JULY 9, 2014

STATE OF MAINE DAVID A. SENUS 10751 LICENSED PROFESSIONAL ENGINEER 7/9/2014

ROCKLAND AVENUE OUTFALL

SITE DETAILS – 3

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION

SHEET # 7 OF 8

PLAN NUMBER C-302

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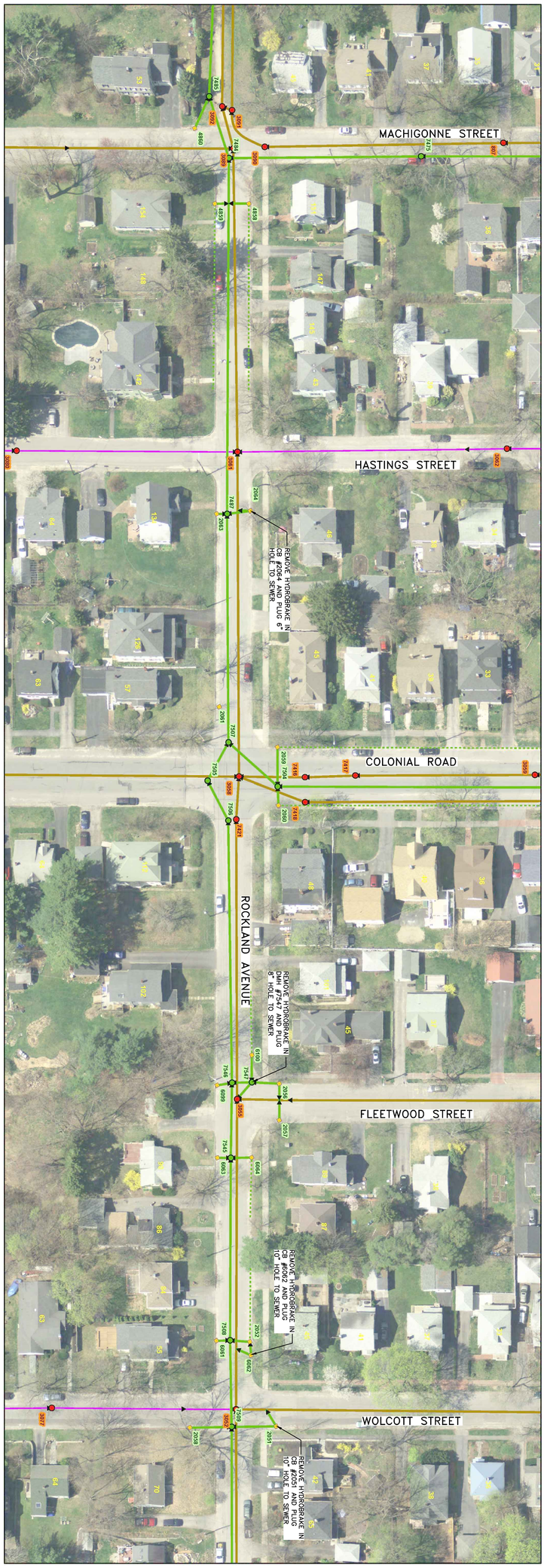

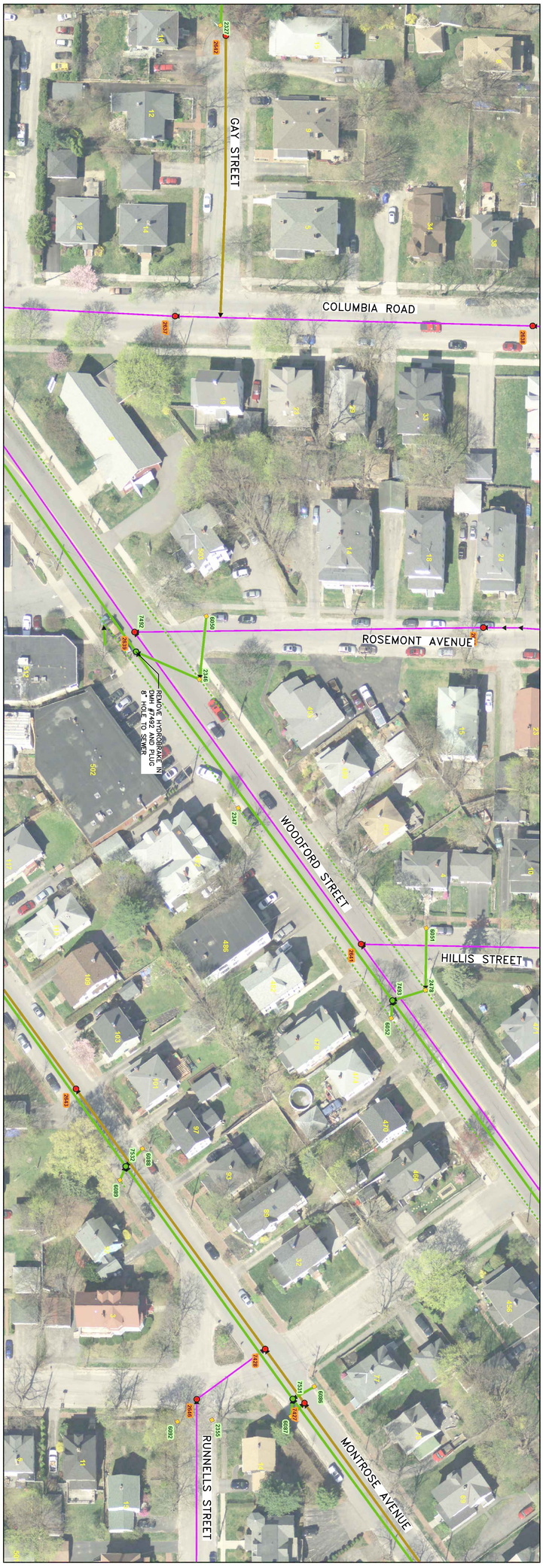

NOTE: PROVIDED BY CITY OF PORTLAND

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COMMITMENT & INTEGRITY DRIVE RESULTS

PLAN NUMBER FIG. 1	SHEET # 8 OF 8	CITY OF PORTLAND, MAINE PUBLIC SERVICES DEPARTMENT ENGINEERING SECTION	ROCKLAND AVENUE OUTFALL HYDROBRAKE REMOVAL LOCATION PLAN	DESIGNED BY: BCM/LJS DRAWN BY: BCM CHECKED BY: DAS SCALE: N.T.S. DATE: JULY 9, 2014	REFERENCES: DeeringST_2012.dwg

LDD PROJECT NAME: N/A
DRAWING NAME: 225672.77 C20X 24X36.DWG
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