

PORTLAND TAX ASSESSOR'S MAP & LOT NUMBERS

CHART	BLOCK	LOT
334	A	14
334	A	16
354A	A	1
354A	A	6

OWNER:

MILLIKEN PORTLAND PARTNERS, LLC
40 SOUTH STREET, SUITE 305
MARBLEHEAD, MA 01945

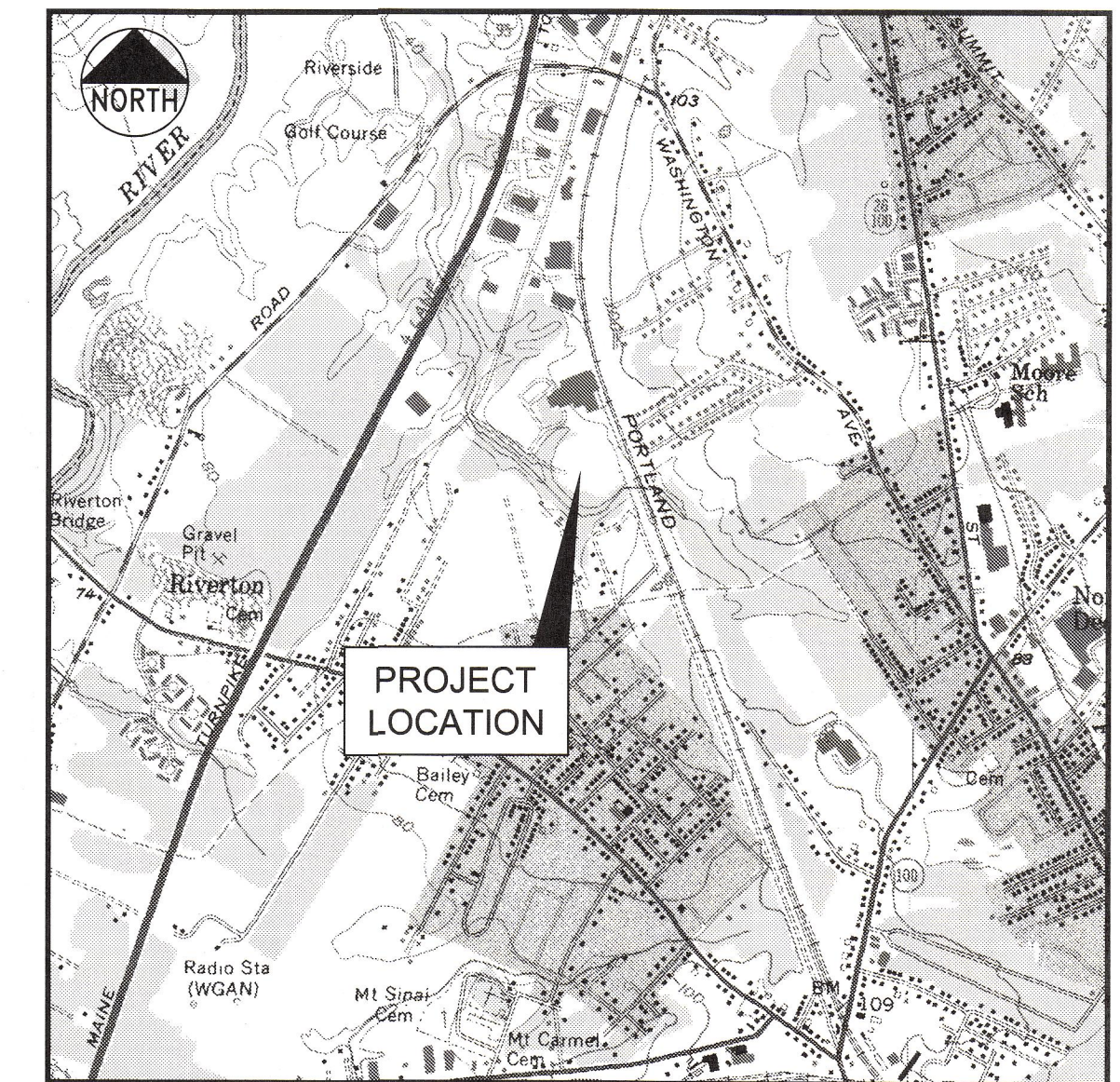
APPLICANT:

JHR DEVELOPMENT OF MAINE, LLC
169 PARK ROW, SUITE 5
BRUNSWICK, ME 04011

SITE DEVELOPMENT PLANS

FOR

PROPOSED LOADING DOCK AND TRUCK MANEUVERING AREA



LOCATION MAP
N.T.S.

56 MILLIKEN STREET
PORTLAND, MAINE
LEVEL II SITE PLAN APPLICATION
JULY 2013

PREPARED BY

CIVIL ENGINEER:

Fay, Spofford & Thorndike, Inc.
778 MAIN STREET, SUITE 8
SOUTH PORTLAND, MAINE 04106
207.775.1121
ATTN: ROB WOODMAN

ARCHITECT:

Archetype Architects, PA
40 UNION WHARF
PORTLAND, MAINE 04101
207.722.6022
ATTN: DAVID MELE

OWNER'S REPRESENTATIVE:

G1 Management
29 DUANE DRIVE
NORTH READING, MA 01864
508.509.1875
ATTN: DAVID RUDLOFF

STRUCTURAL CONSULTANT:

Structural Integrity Consulting Engineers, LLC
77 OAK STREET
PORTLAND, MAINE 04101
207.774.4614
ATTN: AARON JONES

SURVEYOR:

(2003 ALTA SURVEY)
S.G.C. Engineering, LLC
12 WESTBROOK COMMON, 2ND FLOOR
WESTBROOK, MAINE 04092
207.856.0006

PROJECT MANAGER:

Wright Ryan
10 DANFORTH STREET
PORTLAND, MAINE 04101
207.939.5432
ATTN: MIKE BARTON

CITY OF PORTLAND
APPROVED SITE PLAN
Subject to Dept. Conditions
Date of Approval: **APPROVED**

AUG 27 2013

INDEX

C-1.0	COVER SHEET
C-1.1	GENERAL NOTES AND LEGEND
C-1.2	ALTA SURVEY
C-1.3	OVERALL EXISTING CONDITIONS PLAN
C-2.0	SITE LAYOUT AND UTILITY PLAN
C-3.0	GRADINAG, DRAINAGE AND EROSION CONTROL PLAN
C-4.0	PHOTOMETRICS PLAN
C-6.0	EROSION CONTROL DETAILS
C-6.1	SITE DETAILS
C-6.2	UTILITY DETAILS
C-6.3	UNDERDRAINED SOIL FILTER NOTES
A1.01	FIRST FLOOR PLAN
A2.01	ELEVATIONS & SECTIONS
S1.01	ELEVATIONS & SECTIONS

UTILITIES

WATER:
PORTLAND WATER DISTRICT
22 DOUGLAS STREET
P.O. BOX 3553
PORTLAND, MAINE 04104
207.761.8310
CONTACT: RICO SPUGNARDI

SEWER:
CITY OF PORTLAND
PUBLIC SERVICES DIVISION
55 PORTLAND STREET
PORTLAND, MAINE 04102
207.874.8850
CONTACT: DAVID MARGOLIS-PINEO,
DEPUTY CITY ENGINEER

ELECTRIC:
CENTRAL MAINE POWER
162 CANCO ROAD
PORTLAND, MAINE 04103
207.828.2882
CONTACT: PAUL DUPERRÉ

TELEPHONE:
FAIRPOINT COMMUNICATIONS
5 DAVIS HILL FARM ROAD
PORTLAND, MAINE 04103
207.797.1119
CONTACT: SUE SERRETTE

NATURAL GAS:
UNITIL
1075 FOREST AVENUE
PORTLAND, MAINE 04103
207.797.8002, EXT. 6220
CONTACT: MIKE SMITH
OR
BRAD BUZZELL
252.0907 (CELL)

DIG SAFE:
CALL BEFORE YOU DIG
888.344.7233

PERMITS

LEVEL II SITE PLAN REVIEW

GOVERNING BODY
CITY OF PORTLAND PLANNING AUTHORITY
CITY HALL, CONGRESS STREET
PORTLAND, MAINE 04103
207.874.8699
CONTACT: BARBARA BARHYDT

STATUS
FILED 07.16.13

BUILDING PERMIT

CITY OF PORTLAND CODE ENFORCEMENT
OFFICE
CITY HALL, CONGRESS STREET
PORTLAND, MAINE 04103
207.874.8900

TO BE FILED BY CONTRACTOR

MINOR AMENDMENT TO SITE LOCATION OF
DEVELOPMENT PERMIT # L-18722-26-B-D

DELEGATED REVIEW
CITY OF PORTLAND PLANNING AUTHORITY
CITY HALL, CONGRESS STREET
PORTLAND, MAINE 04103
207.874.8699
CONTACT: BARBARA BARHYDT

FILE 07.16.13

I HEREBY ACKNOWLEDGE THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MAINE AND THAT I AM COMPETENT TO PREPARE THIS DOCUMENT.

			PROJECT PROPOSED TRUCK LOADING AREA AT 56 MILLIKEN STREET PORTLAND MAINE	ENGINEERS FST FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS · PLANNERS · SCIENTISTS 778 MAIN ST, SUITE 8, SOUTH PORTLAND, ME 04106
SHEET TITLE COVER SHEET			DRAWN: DED DESIGNED: RJW CHECKED: SRB FILE NAME: 3215-COVER SHEET C-1.0	DATE: JULY 2013 SCALE: AS NOTED JOB NO. 3215
CLIENT JHR DEVELOPMENT OF MAINE, LLC			REVISIONS	
2	08.28.13	RELEASED FOR BIDDING		
1	07.16.13	LEVEL II SITE PLAN APPLICATION		
REV	DATE	DESCRIPTION		
P.E. ROBERT J. WOODMAN LIC. # 12442				

GENERAL NOTES

- THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF ALL REGULATIONS ADMINISTERED BY THE LOCAL UTILITY COMPANIES AND THE CITY OF PORTLAND.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCES, EXITS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE POINTS.
- ALL REQUIRED AND NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL SERVICE CONNECTIONS.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-888-DIGSAFE), IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS, AT NO EXTRA EXPENSE TO THE OWNER.
- MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE OWNER AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTIONS OF THE OWNER OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.
- ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
- ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO PROJECT CONTRACT SPECIFICATIONS, AND THE CITY OF PORTLAND TECHNICAL STANDARDS, WHICHEVER IS MORE STRINGENT.
- TOPOGRAPHIC SURVEY INFORMATION WAS GENERATED BY FAY, SPOFFORD & THORNDIKE, INC. DATED JULY 2013. ALTA SURVEY BY S.G.C. ENGINEERING, LLC DATED 2003.
- THIS DEVELOPMENT AREA IS NOT WITHIN A FEMA FLOOD PLAIN.
- THE PROPERTY SHOWN ON THIS PLAN MAY BE DEVELOPED AND USED ONLY AS DEPICTED IN THIS APPROVED PLAN. NO CHANGE FROM THE CONDITIONS OF APPROVALS IS PERMITTED UNLESS AN AMENDED PLAN IS FIRST SUBMITTED TO AND APPROVED BY THE PLANNING AUTHORITY.
- ALL SIGNAGE SHALL CONFORM TO THE STANDARDS FOR SIZE, HEIGHT, LOCATION AND REFLECTIVITY SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- ALL DIMENSIONING UNLESS OTHERWISE NOTED IS TO THE FACE OF CURB OR FACE OF BUILDING.
- THE FACILITY IS SERVICED BY PUBLIC WATER, SEWER, UNDERGROUND POWER AND NATURAL GAS.
- THE CONTRACTOR IS REQUIRED TO NOTIFY THE CITY OF PORTLAND PUBLIC WORKS INSPECTION SERVICES DIVISION (874-8300 EXT. 8838), CODE ENFORCEMENT OFFICE AND DEVELOPMENT REVIEW COORDINATOR IN WRITING THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. A PRECONSTRUCTION MEETING MAY BE REQUIRED TO INCLUDE THE PUBLIC WORKS AUTHORITY OR DEVELOPMENT REVIEW COORDINATOR.
- AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
- WARNING SIGNS, MARKERS, BARRICADES OR FLAGMEN MUST BE EMPLOYED ON ADJACENT STREETS AS NECESSARY.
- CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED AND DISPOSED OF IN ACCORDANCE WITH THE CITY OF PORTLAND'S SOLID WASTE ORDINANCE CHAPTER 12. ALL DEMOLITION MATERIAL FROM THE PROJECT SITES SHALL BE TAKEN TO THE RIVERSIDE RECYCLING FACILITY OR AS OTHERWISE DIRECTED PENDING THE RESULTS OF A HAZARDOUS BUILDING MATERIALS SURVEY AS AUTHORIZED AND COORDINATED BY THE OWNER.
- ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
- PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO INSURE INTEGRITY. IF DISTURBED THEY SHALL BE REPLACED BY A SURVEYOR REGISTERED IN THE STATE OF MAINE AT THE CONTRACTOR EXPENSE.
- A STREET OPENING PERMIT MUST BE OBTAINED FROM THE CITY OF PORTLAND PUBLIC WORKS DEPARTMENT PRIOR TO BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE COMPLETED IN CONFORMANCE TO THE CITY'S RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN PUBLIC RIGHT OF WAYS.
- CONTRACTOR MUST MAINTAIN THROUGH TRAFFIC ON THE GRAVEL FIRE LANE / ACCESS DRIVE AT ALL TIMES.
- ALL METHODS AND MATERIALS USED IN THE CONSTRUCTION OF THE IMPROVEMENTS IDENTIFIED HEREIN SHALL CONFORM TO THE CITY OF PORTLAND CONSTRUCTION AND TECHNICAL STANDARDS AND SPECIFICATIONS AND/OR CURRENT MDOT STANDARDS AND SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
- RECORD DRAWINGS REQUIRE ALL BURIED UTILITIES INCLUDING, BUT NOT LIMITED TO, BENDS, APPURTENANCES, AND OTHER FEATURES TO BE LOCATED BY COORDINATE INFORMATION TO BE RECORDED BY THE CONTRACTOR AND SUPPLIED TO THE OWNER AT THE END OF THE PROJECT.

EROSION CONTROL NOTES:

- LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE SITE.
- PRIOR TO BEGINNING ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL THE PERIMETER SILT FENCES AND THE STABILIZED CONSTRUCTION ENTRANCES.
- SILT BARRIERS SHALL BE INSPECTED, REPAIRED AND CLEANED AS NOTED IN THE EROSION CONTROL NOTES SHOWN ON THE EROSION CONTROL DETAIL SHEET.
- THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCES AS THEY BECOME SATURATED WITH MUD TO ENSURE THAT THEY WORK AS PLANNED DURING CONSTRUCTION AND SHALL KEEP ADJACENT STREETS CLEAR OF DIRT AND MUD.

- SILT REMOVED FROM AROUND INLETS AND BEHIND THE SILT FENCES SHALL BE PLACED ON A TOPSOIL STOCKPILE AND MIXED INTO IT FOR LATER USE IN LANDSCAPING OPERATIONS.
- CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITIES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST THREE (3) BUT NOT MORE THAN (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION. CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRSA 3360-A.
- IMMEDIATELY UPON COMPLETION OF CUTS/FILLS, THE CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH EROSION CONTROL NOTES AS SPECIFIED ON PLANS.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH "MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES" PUBLISHED BY THE CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 1991 OR LATEST EDITION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POSSESS A COPY OF THE EROSION CONTROL PLAN AT ALL TIMES.
- CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL REQUIREMENTS, IMPACTION AND MAINTENANCE REQUIREMENTS AND GOOD HOUSEKEEPING PRACTICES IN ACCORDANCE WITH APPENDIX A, B & C OF MAINE DEP CHAPTER 500.
- THE UNDERDRAINED SOIL FILTER AND TRENCH DRAIN SHOULD BE PROTECTED FROM SEDIMENT LADEN AND OILY RUNOFF. DIVERT FLOW FROM FILTER DURING CONSTRUCTION AND MEDIA SHOULD NOT BE PLACED UNTIL TRIBUTARY AREA IS STABILIZED. TRENCH DRAIN TO BE PROTECTED WITH POLY SHEETING UNTIL PAVED AREA HAS CURED.

GRADING AND DRAINAGE NOTES:

- ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF n = 0.013 OR LESS, UNLESS A SPECIFIC PIPE MATERIAL IS CALLED FOR ON THE CONTRACT DRAWINGS. PVC PIPING SHALL NOT BE USED IN AREAS OF EXPOSED SUNLIGHT.
- SLOPE PROTECTION IS TO BE PROVIDED PER THE DESIGN PLANS AND MAY INCLUDE RIPRAP, SOD OR MULCH.
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING EARTHWORK OPERATIONS TO INSURE THAT DISTURBANCE TO ANY STEEP SLOPE AREAS ARE MINIMIZED TO THE EXTENT PRACTICABLE.
- THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY OTHERS. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
- NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
- THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
- CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY IN CONSTRUCTION TO PROTECT EXISTING STRUCTURES AND PHYSICAL FEATURES THAT ARE OUTSIDE THE SCOPE OF WORK. THE CONTRACTOR SHALL MAINTAIN SITE STABILITY DURING CONSTRUCTION TO AVOID EROSION AND SEDIMENT TRANSPORT. CONTRACTOR SHALL RESTORE ALL AREAS TO A FINAL STABILIZED CONDITION AS DIRECTED BY DESIGN DRAWINGS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
- EXTERIOR GRADES AROUND PROPOSED STRUCTURE SHALL BE COORDINATED WITH FINAL BUILDING PLANS AND PROVIDE FOR ALL ACCESS OPENINGS.
- SUBGRADE FILL PLACED BENEATH ALL PERMANENT PAVEMENT, SIDEWALK OR CONCRETE SURFACES EXCLUDING ANY BUILDING AREAS, SHALL BE GRANULAR BORROW. SUBGRADE FILL PLACED BENEATH ALL LANDSCAPE AREAS EXCEPT THOSE ADJACENT THE FOUNDATION SYSTEMS MAY BE A COMMON BORROW MATERIAL SUITABLE FOR EMBANKMENT CONSTRUCTION, FREE FROM FROZEN MATERIAL, PERISHABLE RUBBLE, PEAT, ORGANICS, ROCKS LARGER THAN 12" IN DIAMETER, VEGETATION AND OTHER MATERIAL UNSUITABLE FOR ROADWAY AND SUBGRADE CONSTRUCTION. EXCAVATED ON-SITE MATERIALS MAY BE USED FOR FILL PROVIDED THE MATERIAL IS FREE FROM UNSUITABLE MATERIAL DESCRIBED IN THIS NOTE AND UPON APPROVAL OF THE ENGINEER. EXCAVATED ON-SITE MATERIALS MAY NOT BE USED AS COMPACTED STRUCTURAL FILL BENEATH THE BUILDING AREAS OR AS FOUNDATION BACKFILL. GRANULAR BORROW AND COMMON BORROW SHALL COMPLY WITH THE MDOT SPECIFICATIONS.
- ALL FILLS SHALL BE PLACED IN LAYERS NOT MORE THAN 12" LOOSE DEPTH AND COMPACTED BY HEAVY COMPACTION EQUIPMENT. MINIMUM COMPACTION SHALL BE 95% OF MAXIMUM DENSITY ASTM 1557, MODIFIED AND FIELD DENSITY ASTM D2922 (NUCLEAR METHODS).

UTILITY NOTES:

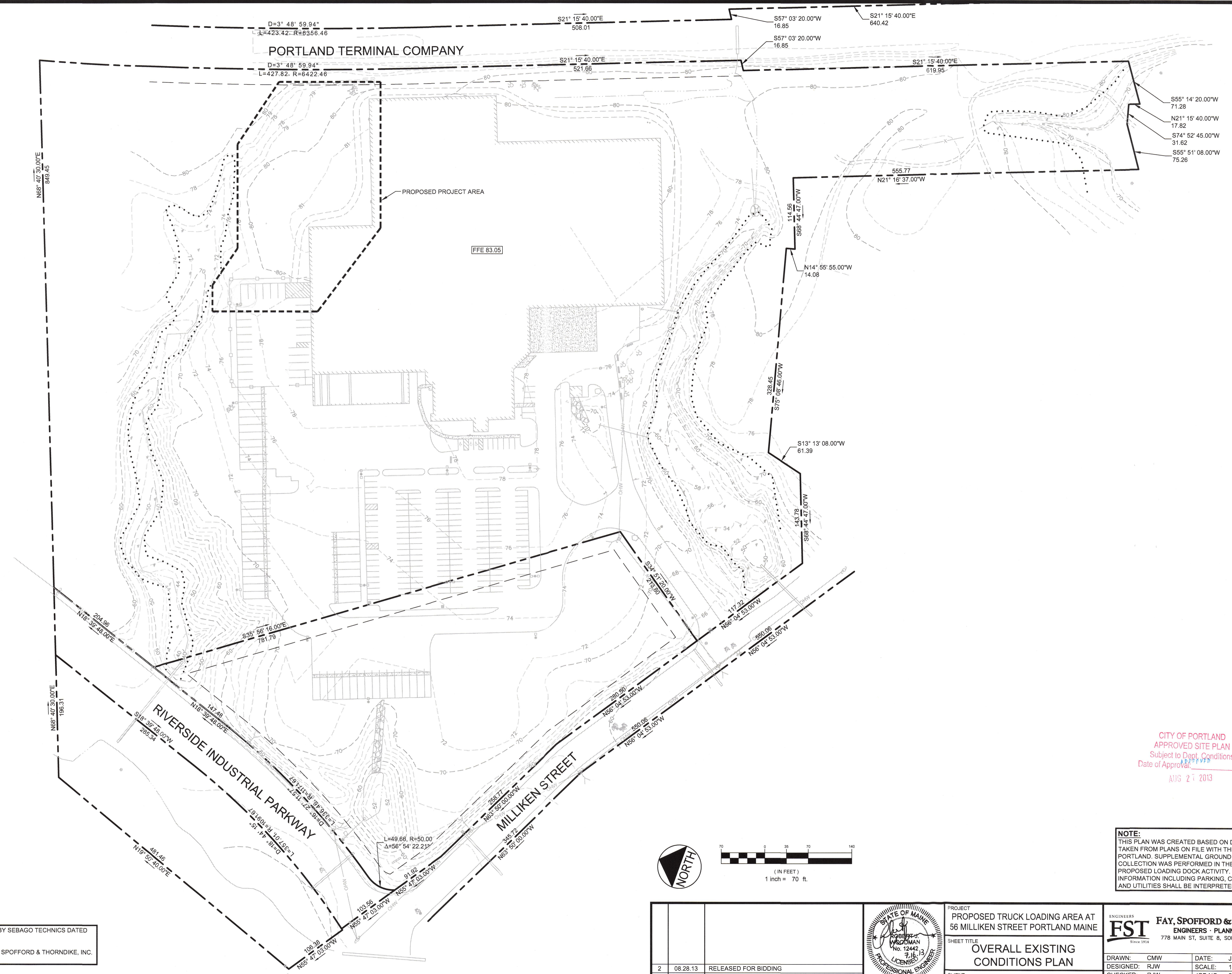
- ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE AT NO ADDITIONAL EXPENSE TO THE OWNER.
- THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL, AT NO EXTRA EXPENSE TO THE OWNER.
- A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18 INCH OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER AND SANITARY SEWER CROSSINGS.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO THE JOBSITE. TEMPORARY SERVICES SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. COORDINATE ALL TEMPORARY SERVICES WITH UTILITY COMPANY, OWNER AND AFFECTED BUSINESSES.

EXISTING	DESCRIPTION	PROPOSED
	BUILDING	
	PROPERTY LINE	
	SETBACK	
	EASEMENT	
	RETAINING WALL	
	CURBING (SEE DRAWING FOR TYPES)	
	EDGE OF PAVEMENT	
	EDGE OF GRAVEL DRIVE	
	GRADING CONTOUR LINE	
	SPOT ELEVATION	
	GUARD POST/BOLLARD	
	POLE WITH LIGHT FIXTURE(S)	
	UTILITY POLE	
	FREESTANDING SIGN	
	BARRIER FREE PARKING SYMBOL	
	PEDESTRIAN CROSSWALK	
	PAINTED DIRECTIONAL TRAFFIC ARROW	
	OVERHEAD ELECTRIC/TELEPHONE	
	UNDERGROUND ELECTRIC/TELEPHONE	
	OVERHEAD ELECTRIC/COMMUNICATION	
	WATER LINE	
	SEWER LINE	
	GAS LINE	
	STORM DRAIN LINE	
	CULVERT	
	HYDRANT	
	WATER GATE VALVE	
	WATER SHUT OFF VALVE	
	MANHOLE	
	CATCH BASIN	
	STONE WALL	
	TREELINE	
	TREES/LANDSCAPING	
	RIPRAP	
	SILT FENCE	
	CHAIN LINK FENCE	
	WOOD FENCE	
	GUIDE RAIL	
	STONE SEDIMENT BARRIER	
	TRANSFORMER PAD	
	CENTER LINE	
	TEST PIT	
	IRON ROD (FOUND)	

CITY OF PORTLAND
 APPROVED SITE PLAN
 Subject to Dept. Conditions
 Date of Approval: APPROVED
 AUG 27 2013

ZONING: IM ZONE		
DESCRIPTION	REQUIRED / ALLOWED	PROPOSED
MIN LOT SIZE	10,000 SF	1,359,510 SF
MIN FRONTAGE	60 FT	1,580 FT
SETBACKS		
- FRONT	25 FT	460 FT
- SIDE	25 FT	188 FT
- REAR	25 FT	48 FT
MAX IMPERVIOUS SURFACE RATIO	100%	37%
PARKING SPACE SIZE	9' X 18'	NONE PROPOSED

	PROJECT PROPOSED TRUCK LOADING AREA AT 56 MILLIKEN STREET PORTLAND MAINE	ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS - PLANNERS - SCIENTISTS 778 MAIN ST, SUITE 8, SOUTH PORTLAND, ME 04106
	SHEET TITLE GENERAL NOTES AND LEGEND	DRAWN: CMW DATE: JULY 2013 DESIGNED: RJW SCALE: AS NOTED CHECKED: RJW JOB NO. 3215 FILE NAME: 3215-GEN SHEET
CLIENT JHR DEVELOPMENT OF MAINE, LLC	REVISIONS 2 08.28.13 RELEASED FOR BIDDING 1 07.16.13 LEVEL II SITE PLAN APPLICATION	SHEET C-1.1



PORTLAND TERMINAL COMPANY

PROPOSED PROJECT AREA

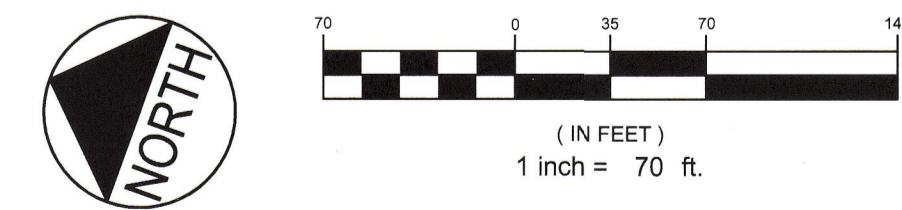
FFE 83.05

RIVERSIDE INDUSTRIAL PARKWAY

MILLIKEN STREET

CITY OF PORTLAND
 APPROVED SITE PLAN
 Subject to Dept. Conditions
 Date of Approval: AUG 27 2013

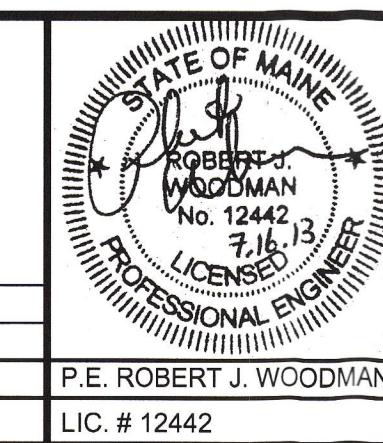
NOTE:
 THIS PLAN WAS CREATED BASED ON DIGITIZED DATA TAKEN FROM PLANS ON FILE WITH THE CITY OF PORTLAND. SUPPLEMENTAL GROUND TOPOGRAPHY DATA COLLECTION WAS PERFORMED IN THE AREA OF THE PROPOSED LOADING DOCK ACTIVITY. OTHER INFORMATION INCLUDING PARKING, CIRCULATION DRIVES AND UTILITIES SHALL BE INTERPRETED AS APPROXIMATE.



TOPOGRAPHIC SURVEY BASED ON "SITE PLAN" BY SEBAGO TECHNICS DATED 04.24.95.
 SUPPLEMENTAL TOPOGRAPHIC SURVEY BY FAY, SPOFFORD & THORNDIKE, INC. PERFORMED ON JULY 2013.

REV	DATE	DESCRIPTION
2	08.28.13	RELEASED FOR BIDDING
1	07.16.13	LEVEL II SITE PLAN APPLICATION

REVISIONS



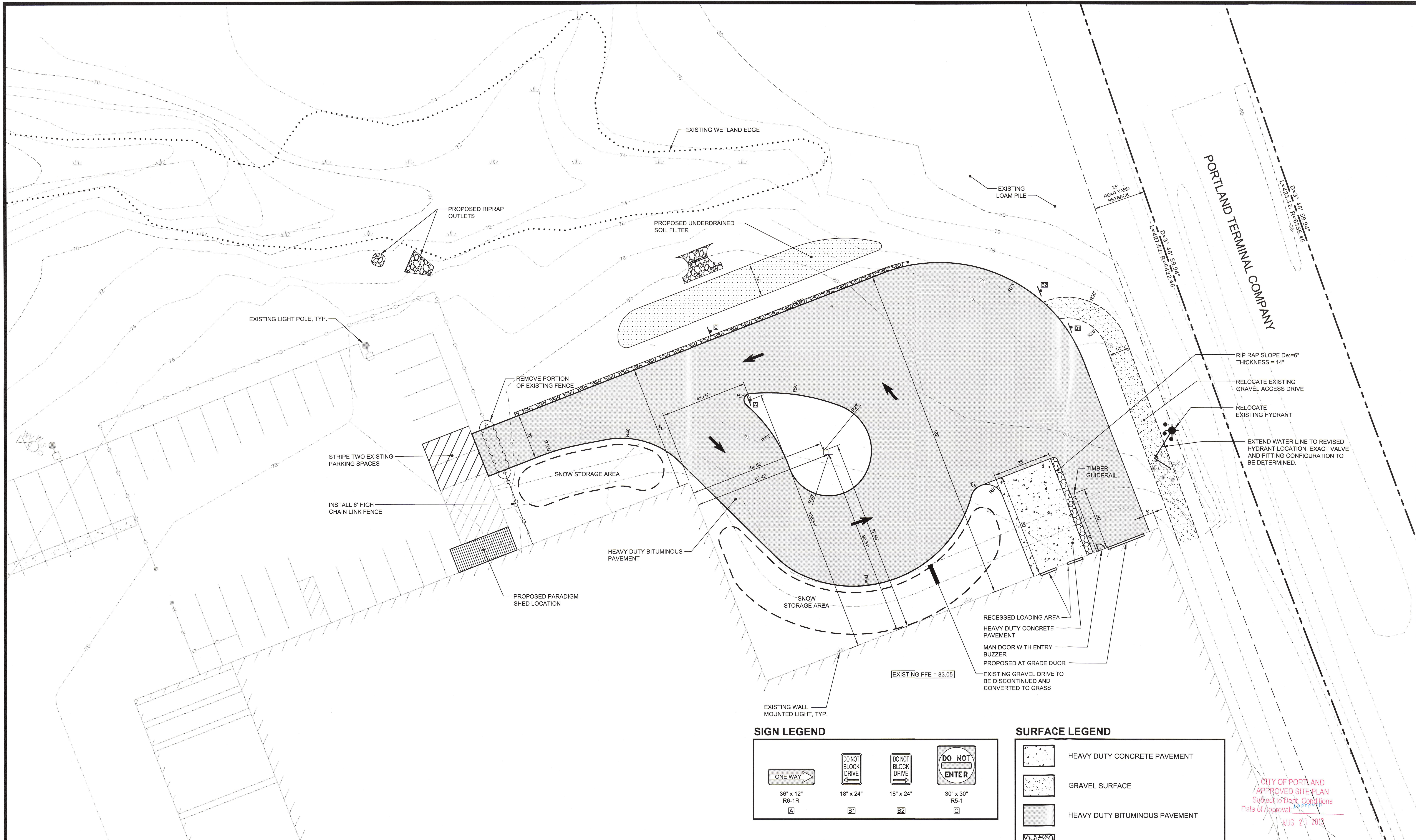
PROJECT
 PROPOSED TRUCK LOADING AREA AT
 56 MILLIKEN STREET PORTLAND MAINE

SHEET TITLE
**OVERALL EXISTING
 CONDITIONS PLAN**

CLIENT
 JHR DEVELOPMENT
 OF MAINE, LLC

ENGINEERS
FST
 FAY, SPOFFORD & THORNDIKE, INC.
 ENGINEERS - PLANNERS - SCIENTISTS
 778 MAIN ST, SUITE 6, SOUTH PORTLAND, ME 04106

DRAWN: CMW DATE: JULY 2013
 DESIGNED: RJW SCALE: 1" = 70'
 CHECKED: RJW JOB NO. 3215
 FILE NAME: 3215-SP
 SHEET: C-1.3



ZONING: IM ZONE

DESCRIPTION	REQUIRED / ALLOWED	PROPOSED
MIN LOT SIZE	10,000 SF	1,359,510 SF
MIN FRONTAGE	60 FT	1,580 FT
SETBACKS		
- FRONT	25 FT	460 FT
- SIDE	25 FT	188 FT
- REAR	25 FT	48 FT
MAX IMPERVIOUS SURFACE RATIO	75%	37%
PARKING SPACE SIZE	9' X 18'	NONE PROPOSED



SIGN LEGEND

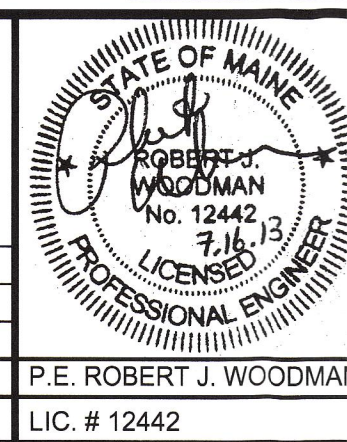
36" x 12" R6-1R A	18" x 24" B1	18" x 24" B2	30" x 30" R5-1 C

SURFACE LEGEND

	HEAVY DUTY CONCRETE PAVEMENT
	GRAVEL SURFACE
	HEAVY DUTY BITUMINOUS PAVEMENT
	PRETREATMENT SURFACE

REV	DATE	DESCRIPTION
3	08.28.13	RELEASED FOR BIDDING
2	08.09.13	REVISED PER CITY REVIEW COMMENTS
1	07.16.13	LEVEL II SITE PLAN APPLICATION

REVISIONS



PROJECT
PROPOSED TRUCK LOADING AREA AT
56 MILLIKEN STREET PORTLAND MAINE

SHEET TITLE
**SITE LAYOUT AND
UTILITY PLAN**

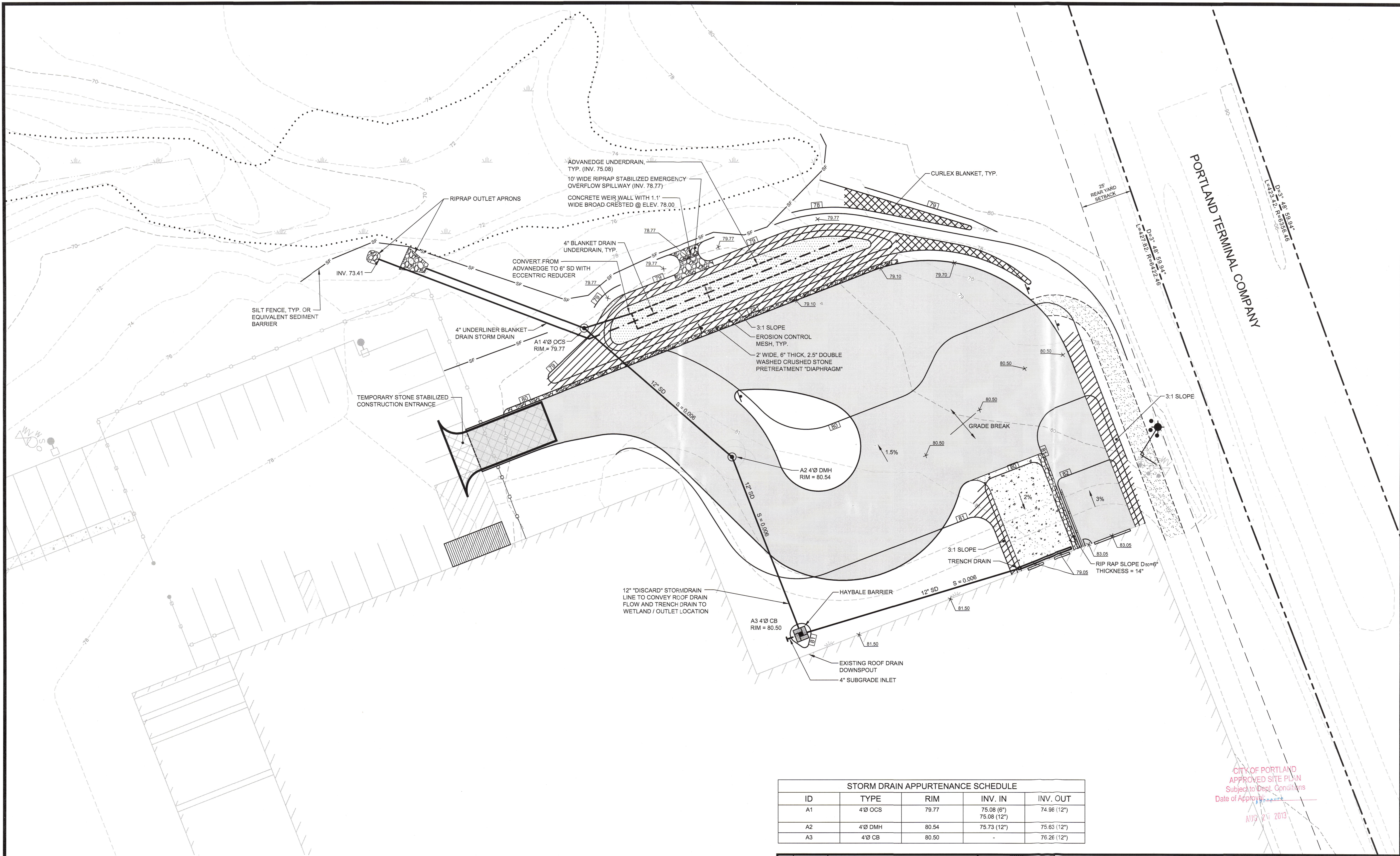
CLIENT
**JHR DEVELOPMENT
OF MAINE, LLC**

ENGINEERS
FST
FAY, SPOFFORD & THORNDIKE, INC.
ENGINEERS · PLANNERS · SCIENTISTS
778 MAIN ST., SUITE 8, SOUTH PORTLAND, ME 04106

DRAWN: CMW DATE: JULY 2013
DESIGNED: RJW SCALE: 1" = 20'
CHECKED: RJW JOB NO. 3215
FILE NAME: 3215-SP
SHEET C-2.0

CITY OF PORTLAND
APPROVED SITE PLAN
Subject to Dept. Conditions
Date of Approval:
AUG 27 2013

R:\3215-56 Milliken Street-Leading Exp/Cadd/Permit Set/dwg/3215-SP.dwg davis_j 8/28/2013 1:50 PM



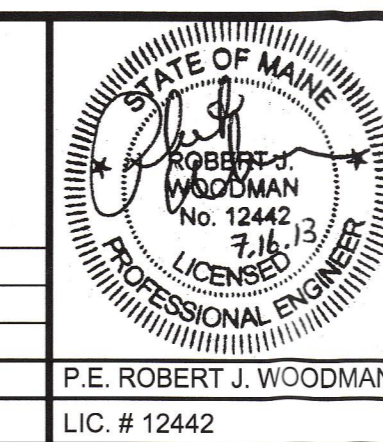
STORM DRAIN APPURTENANCE SCHEDULE				
ID	TYPE	RIM	INV. IN	INV. OUT
A1	4" OCS	79.77	75.08 (6") 75.08 (12")	74.98 (12")
A2	4" DMH	80.54	75.73 (12")	75.63 (12")
A3	4" CB	80.50	-	76.26 (12")

CITY OF PORTLAND
 APPROVED SITE PLAN
 Subject to Dept. Conditions
 Date of Approval:
 AUG 21 2013

TOPOGRAPHIC SURVEY BASED ON "SITE PLAN" BY SEBAGO TECHNICS DATED 04.24.95.
 SUPPLEMENTAL TOPOGRAPHIC SURVEY BY FAY, SPOFFORD & THORNDIKE, INC. PERFORMED ON JULY 2013.



REV	DATE	DESCRIPTION	REVISIONS
3	08.28.13	RELEASED FOR BIDDING	
2	08.09.13	REVISED PER CITY REVIEW COMMENTS	
1	07.16.13	LEVEL II SITE PLAN APPLICATION	



PROJECT
 PROPOSED TRUCK LOADING AREA AT
 56 MILLIKEN STREET PORTLAND MAINE

SHEET TITLE
**GRADING, DRAINAGE AND
 EROSION CONTROL PLAN**

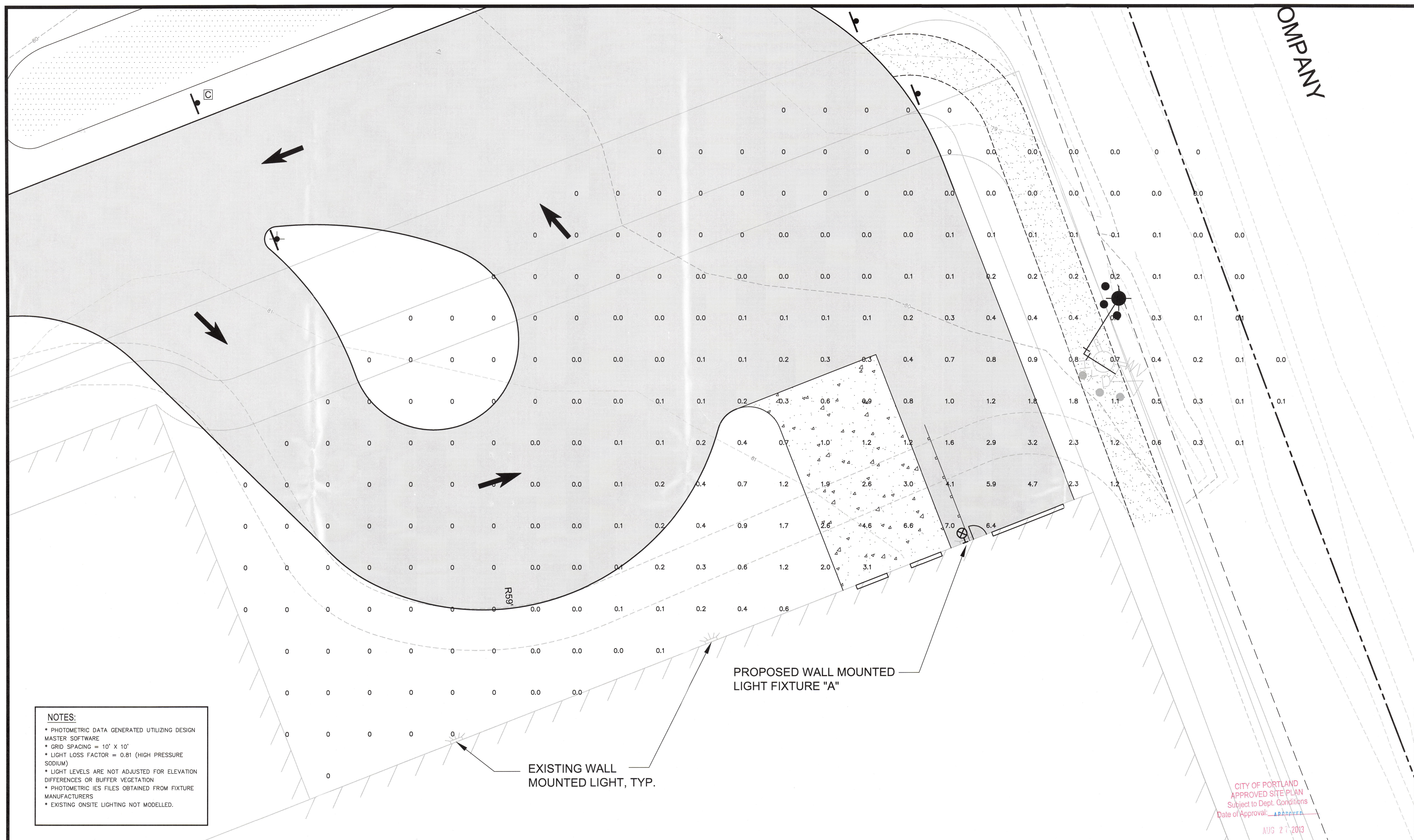
CLIENT
**JHR DEVELOPMENT
 OF MAINE, LLC**

ENGINEERS
FST
 Since 1914

FAY, SPOFFORD & THORNDIKE, INC.
 ENGINEERS - PLANNERS - SCIENTISTS
 778 MAIN ST, SUITE 6, SOUTH PORTLAND, ME 04106

DRAWN: CMW DATE: JULY 2013
 DESIGNED: RJW SCALE: 1" = 20'
 CHECKED: RJW JOB NO. 3215
 FILE NAME: 3215-SP
 SHEET **C-3.0**

COMPANY



NOTES:

- * PHOTOMETRIC DATA GENERATED UTILIZING DESIGN MASTER SOFTWARE
- * GRID SPACING = 10' X 10'
- * LIGHT LOSS FACTOR = 0.81 (HIGH PRESSURE SODIUM)
- * LIGHT LEVELS ARE NOT ADJUSTED FOR ELEVATION DIFFERENCES OR BUFFER VEGETATION
- * PHOTOMETRIC IES FILES OBTAINED FROM FIXTURE MANUFACTURERS
- * EXISTING ONSITE LIGHTING NOT MODELLED.

LIGHT FIXTURE LEGEND

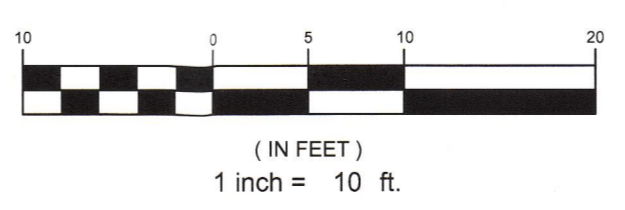
LIGHT FIXTURE A

KIM LIGHTING - WD18D3-250HPS OR EQUAL
250 WATT, HIGH PRESSURE SODIUM
WALL MOUNTED - MOUNTING HEIGHT = 18FT

EXISTING WALL MOUNTED LIGHT, TYP.

PROPOSED WALL MOUNTED LIGHT FIXTURE "A"

CITY OF PORTLAND
APPROVED SITE PLAN
Subject to Dept. Conditions
Date of Approval: August 21, 2013
AUG 21 2013



REV	DATE	DESCRIPTION
2	08.28.13	RELEASED FOR BIDDING
1	07.16.13	LEVEL II SITE PLAN APPLICATION

REVISIONS

P.E. ROBERT J. WOODMAN
LIC. # 12442

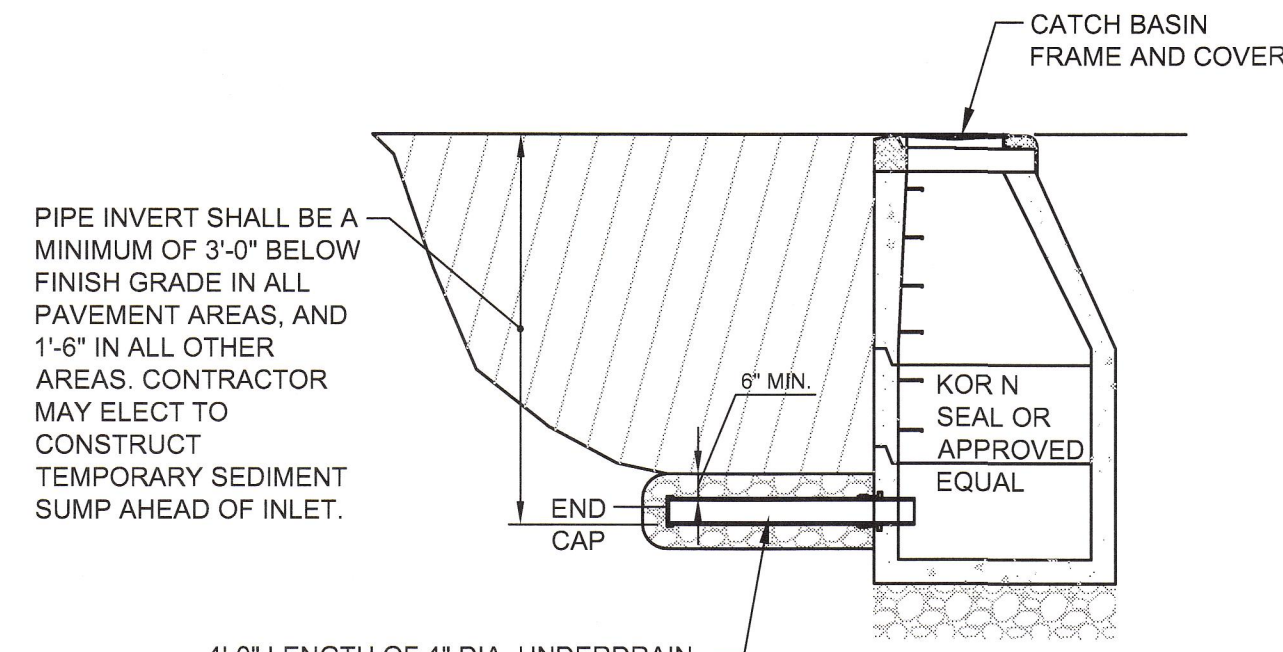
PROJECT
PROPOSED TRUCK LOADING AREA AT
56 MILLIKEN STREET PORTLAND MAINE

SHEET TITLE
PHOTOMETRIC PLAN

CLIENT
JHR DEVELOPMENT
OF MAINE, LLC

ENGINEERS
FST
FAY, SPOFFORD & THORNDIKE, INC.
ENGINEERS - PLANNERS - SCIENTISTS
778 MAIN ST., SUITE 8, SOUTH PORTLAND, ME 04106

DRAWN: CMW DATE: JULY 2013
DESIGNED: RJW SCALE: 1" = 10'
CHECKED: RJW JOB NO. 3215
FILE NAME: 3215-PHOTO
SHEET C-4.0

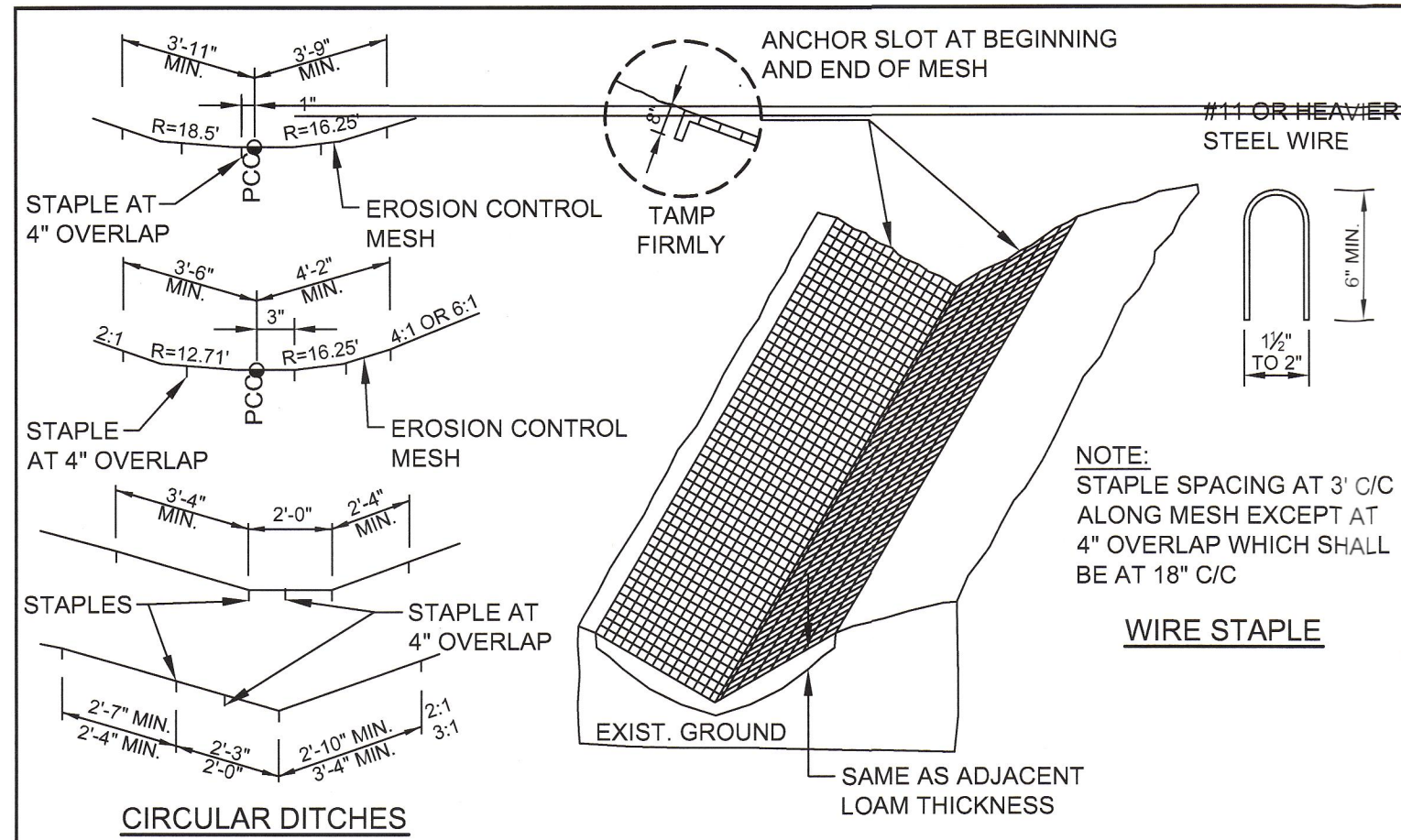


PIPE INVERT SHALL BE A MINIMUM OF 3'-0" BELOW FINISH GRADE IN ALL PAVEMENT AREAS, AND 1'-6" IN ALL OTHER AREAS. CONTRACTOR MAY ELECT TO CONSTRUCT TEMPORARY SEDIMENT SUMP AHEAD OF INLET.

4'-0" LENGTH OF 4" DIA. UNDERDRAIN WRAPPED IN STONE AND FABRIC

NOTE:
 1. THE SUBGRADE DRAINAGE INLET SHALL BE USED TO PROVIDE SITE DRAINAGE UNTIL SUBBASE GRAVEL OR LOAM IS PLACED AND TO RELIEVE GROUND WATER LEVEL AFTER CONSTRUCTION.
 2. THIS INLET DRAIN IS REQUIRED FOR ALL CATCH BASINS AND INLETS ON THE PROJECT UNLESS CONNECTED TO PERFORATED STORM DRAIN.

(A) INLET SUBGRADE DRAINAGE DETAIL
N.T.S.

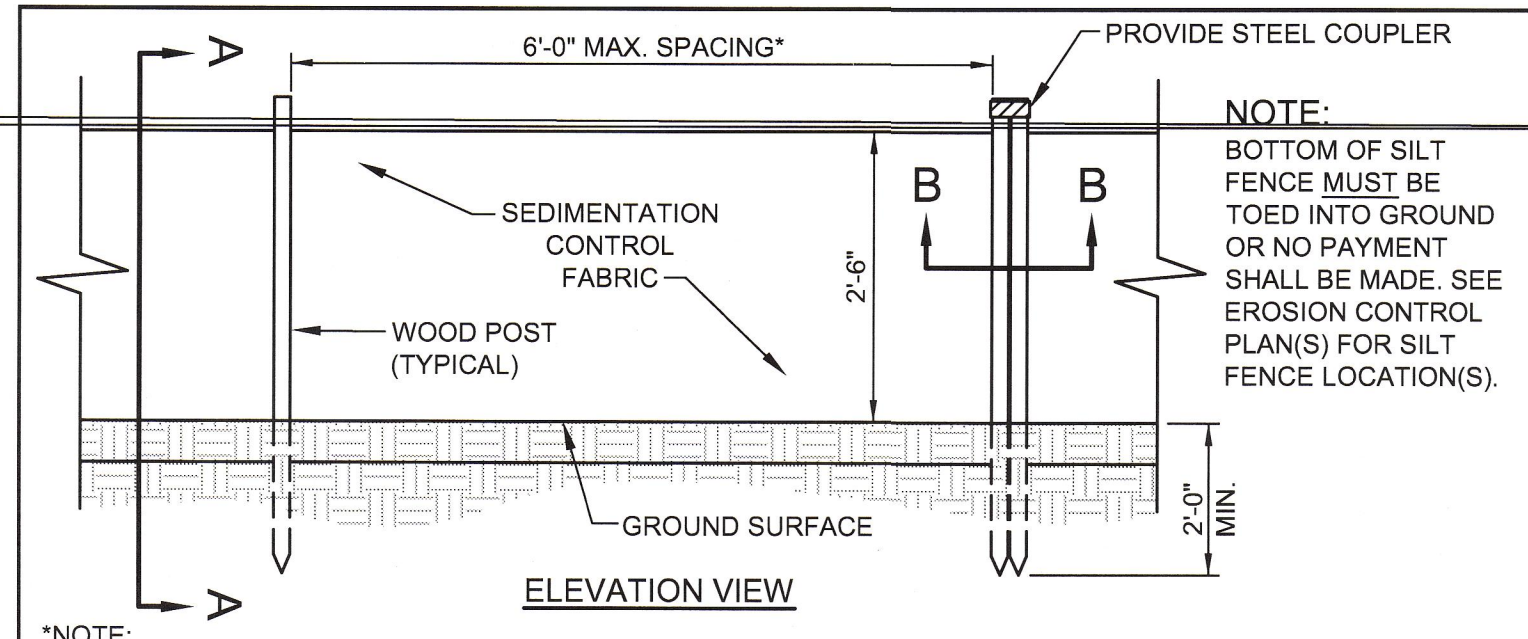


EROSION CONTROL MESH SCHEDULE

TYPE	PRODUCT
1	NORTH AMERICAN GRASS C-125
2	NORTH AMERICAN GRASS C-350
3	NORTH AMERICAN GRASS P-300

NOTE:
 1. EROSION CONTROL TYPE IS BASED UPON DESIGN VELOCITY & HYDRAULIC FORCE.
 2. STAPLE AT EDGES, AT QUARTER POINTS, AND AT 4" OVERLAP.

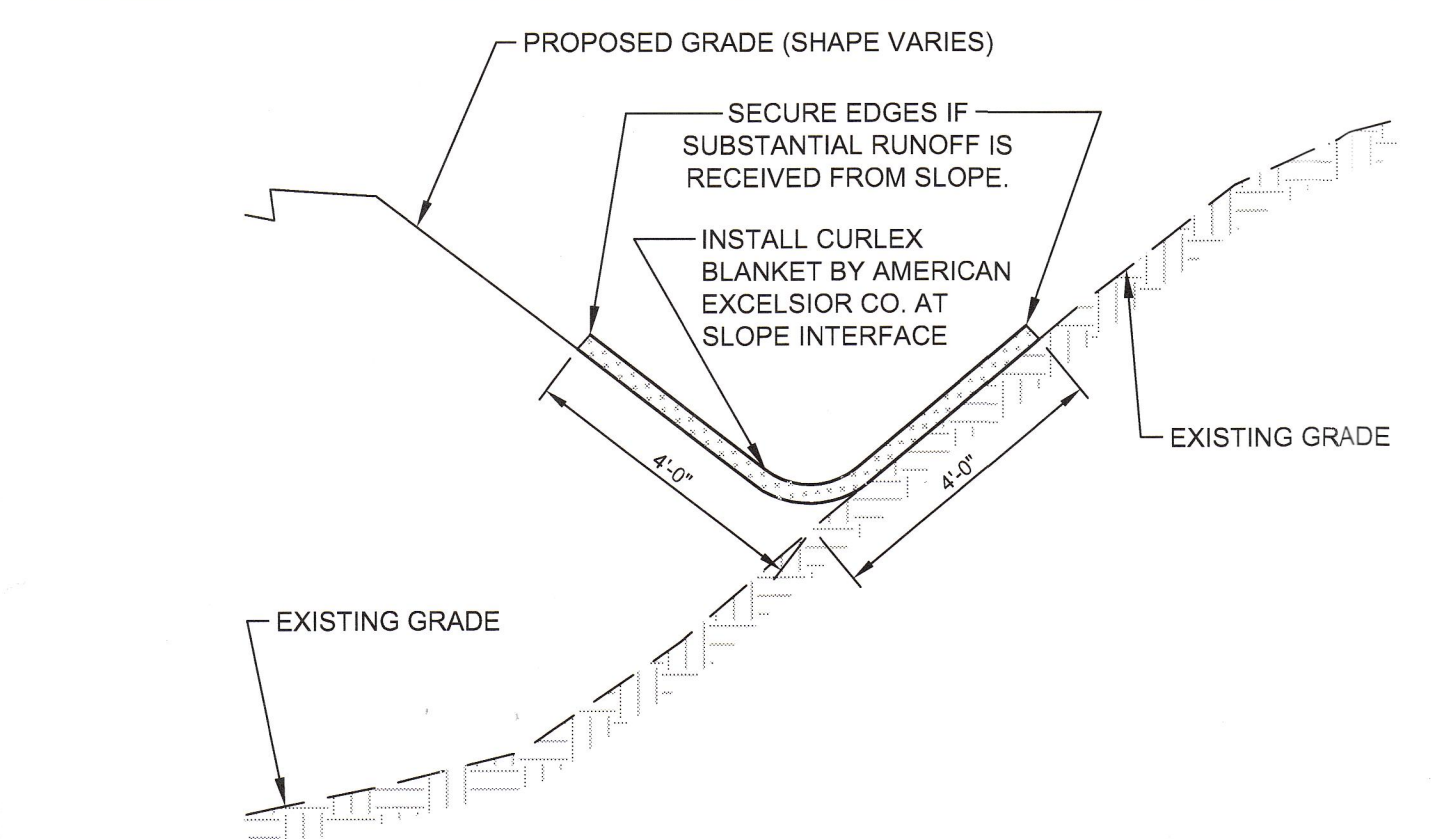
(D) EROSION CONTROL MESH DETAIL
N.T.S. MAY NOT BE SUBSTITUTED FOR REINFORCED TURF.



NOTE:
 THE SILT FENCE SHOULD HAVE A MAXIMUM STAKING DISTANCE OF 6', UNLESS THE FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT, A MAXIMUM 14 GAUGE AND WITH A MINIMUM MESH SPACING OF 6".

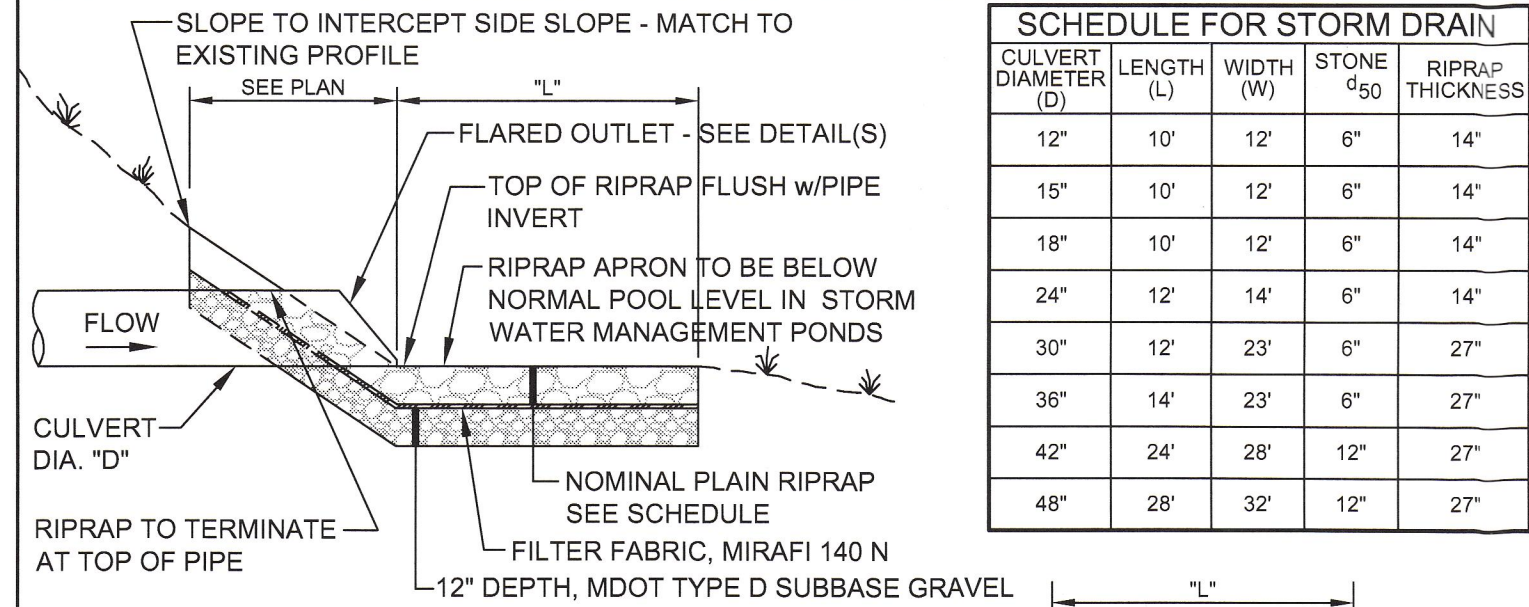
NOTE:
 BOTTOM OF SILT FENCE MUST BE TOED INTO GROUND OR NO PAYMENT SHALL BE MADE. SEE EROSION CONTROL PLAN(S) FOR SILT FENCE LOCATION(S).

(G) SILTATION FENCE DETAIL
N.T.S.



NOTE:
 1. CURLEX BLANKET IS REQUIRED IN ALL AREAS WHERE PROPOSED GRADING INTERCEPTS EXISTING SLOPES AND FORMS A "V" CHANNEL WHERE DRAINAGE MAY CONCENTRATE AND WHERE NOTED ON THE DRAWINGS.
 2. STAPLE SIZE AND DISTRIBUTION PER MANUFACTURER'S SPECIFICATION. IF INSTALLED BETWEEN SEPTEMBER 1ST AND APRIL 1ST DOUBLE THE STAPLES.

(B) CURLEX BLANKET DETAIL
N.T.S.



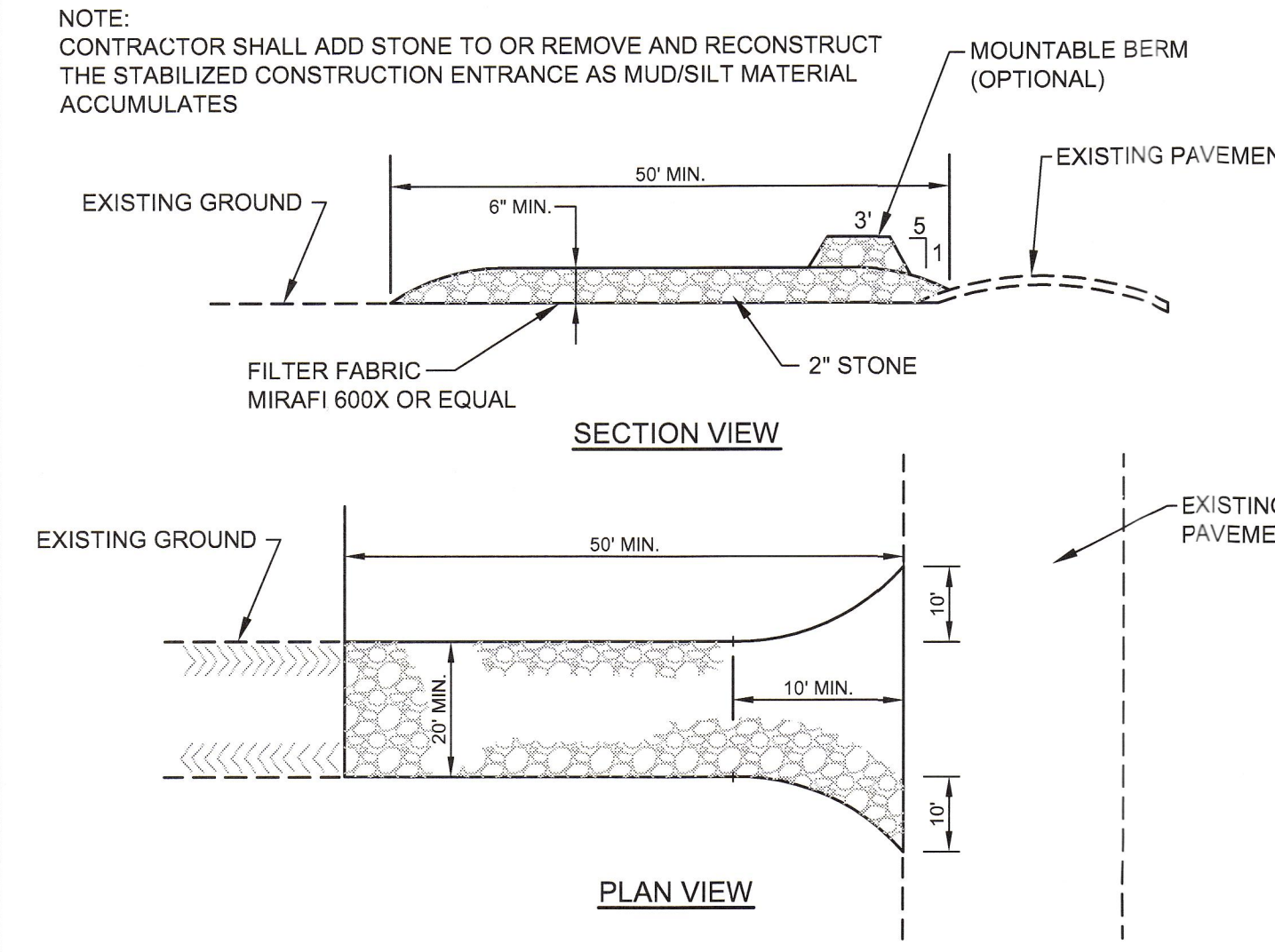
SCHEDULE FOR STORM DRAIN

CULVERT DIAMETER (D)	LENGTH (L)	WIDTH (W)	STONE #50	RIPRAP THICKNESS
12"	10'	12'	6"	14"
15"	10'	12'	6"	14"
18"	10'	12'	6"	14"
24"	12'	14'	6"	14"
30"	12'	23'	6"	27"
36"	14'	23'	6"	27"
42"	24'	28'	12"	27"
48"	28'	32'	12"	27"

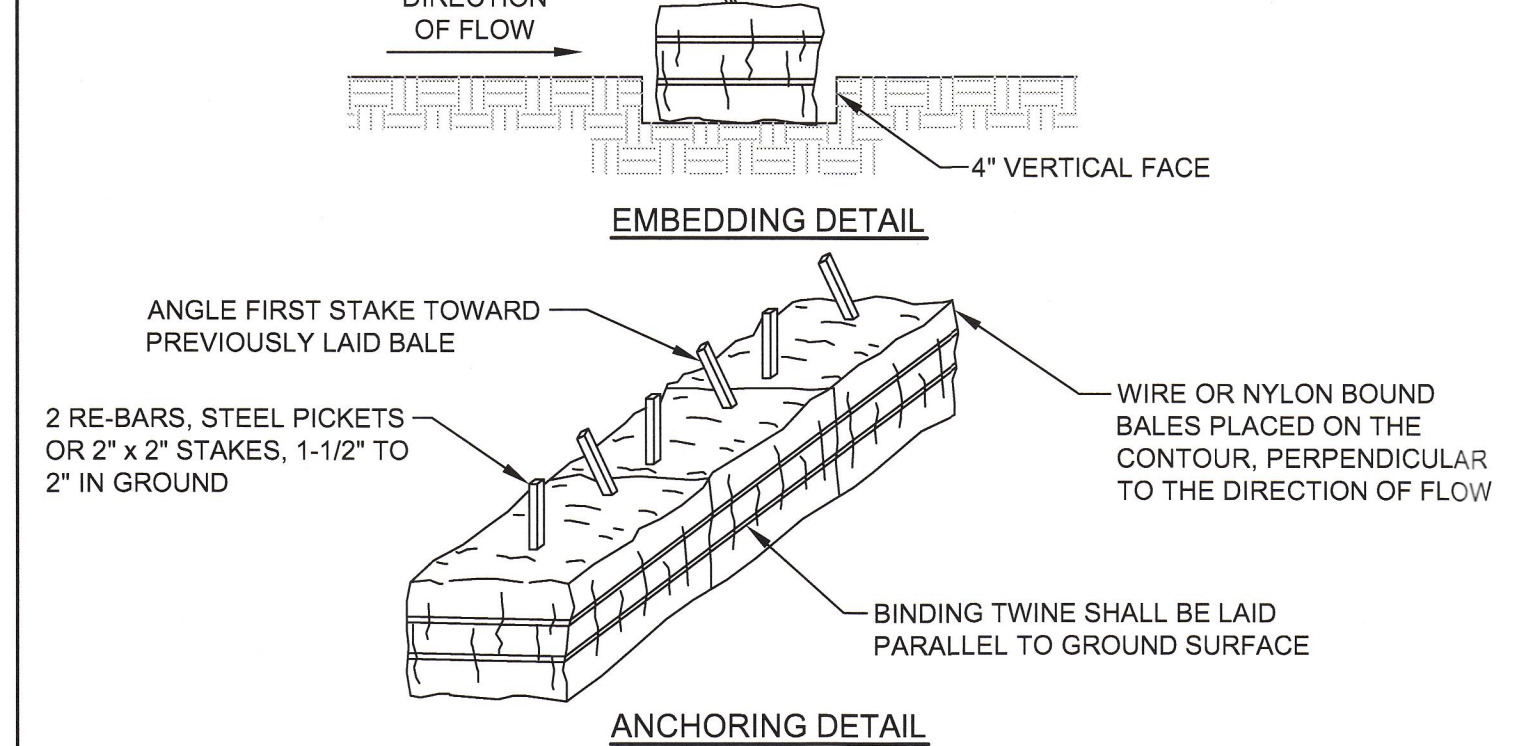
NOTE:
 RIPRAP GRADATION AND PLACEMENT - THE RIPRAP GRADATION SHALL BE A WELL-GRADED MIX FROM ABOUT 1.5 TIMES THE D SIZE TO ABOUT 25 PERCENT OF THE D SIZE. THE RIPRAP STONES SHALL BE CAREFULLY PLACED WORKING FROM THE TOE OF THE SLOPE UPWARD. THE STONES SHOULD BE LOWERED TO THE SLOPE AND NOT BE ALLOWED TO DROP MORE THAN 12 INCHES ONTO THE GEOTEXTILE. THE FINISHED SURFACE SHALL BE A RELATIVELY SMOOTH UNIFORM SLOPED SURFACE.

IN LAWN AREAS, THE RIPRAP APRON SHALL BE SURROUNDED BY A LANDSCAPE TIMBER TO PROVIDE AN ATTRACTIVE APRON. LANDSCAPE TIMBER TO BE 3/4" TREX SECURED WITH 4'-0" LONG METAL U CHANNEL SPACED @ 4'-0" O.C. OR APPROVED EQUAL.

(E) RIPRAP OUTLET APRON DETAIL
N.T.S.



(C) STABILIZED CONSTRUCTION ENTRANCE DETAIL
N.T.S.



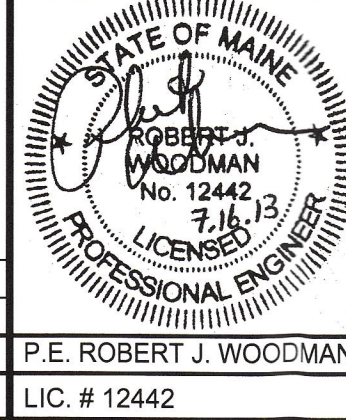
CONSTRUCTION SPECIFICATIONS

- BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
- EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE WAS ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
- INSPECTION WILL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MAKE PROMPTLY AS NEEDED.
- BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

(F) STRAW OR HAY BALE BARRIER
N.T.S.

CITY OF PORTLAND
 APPROVED SITE PLAN
 Subject to Dept. Conditions
 Date of Approval: AUG 27 2013

REV	DATE	DESCRIPTION
2	08.28.13	RELEASED FOR BIDDING
1	07.16.13	LEVEL II SITE PLAN APPLICATION
		REVISIONS



PROJECT
 PROPOSED TRUCK LOADING AREA AT
 56 MILLIKEN STREET PORTLAND MAINE

SHEET TITLE
**EROSION CONTROL
 DETAILS**

CLIENT
**JHR DEVELOPMENT
 OF MAINE, LLC**

ENGINEERS
FST
 Since 1914

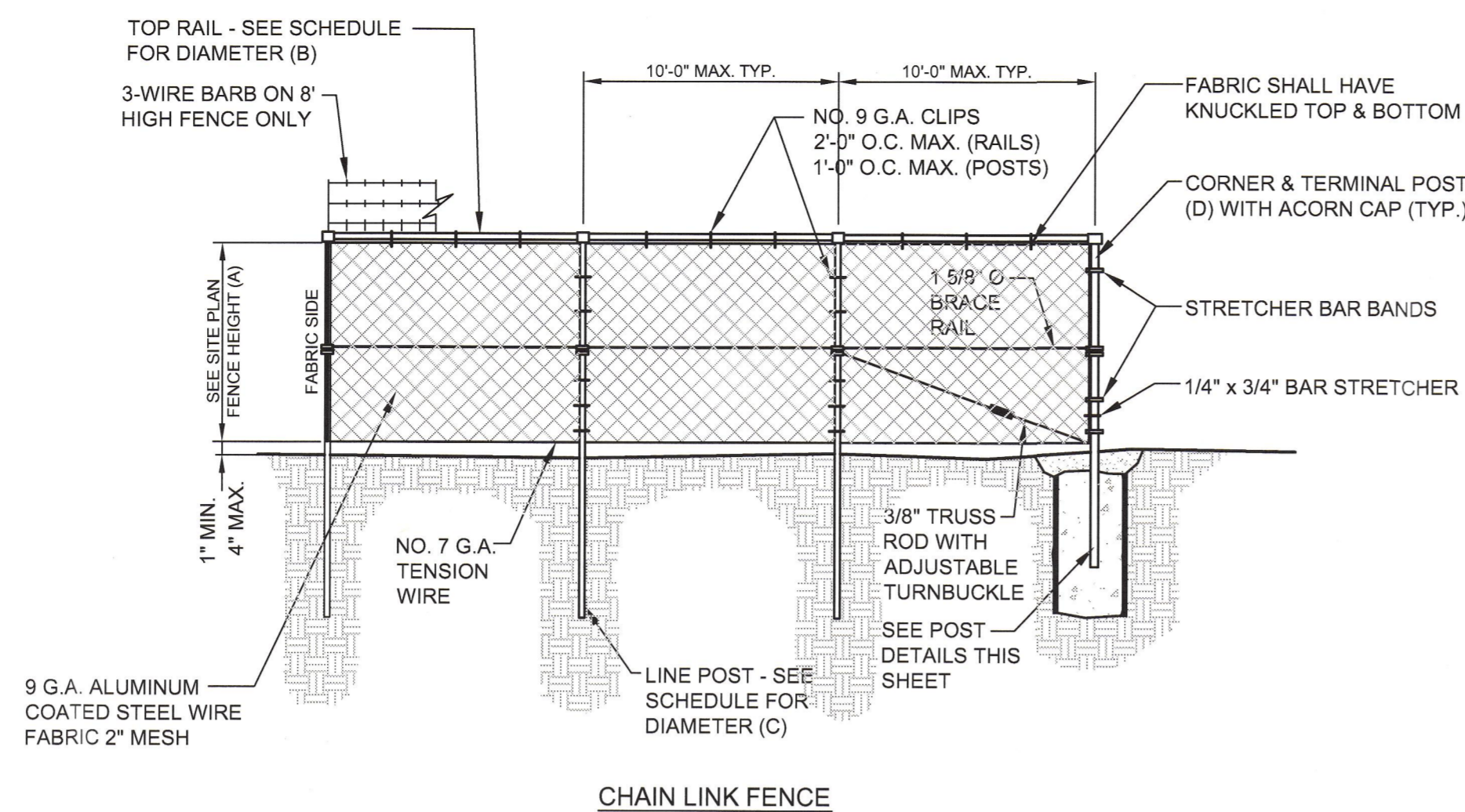
FAY, SPOFFORD & THORNDIKE, INC.
 ENGINEERS - PLANNERS - SCIENTISTS
 778 MAIN ST, SUITE 8, SOUTH PORTLAND, ME 04106

DRAWN: CMW DATE: JULY 2013
 DESIGNED: RJW SCALE: AS NOTED
 CHECKED: RJW JOB NO. 3215
 FILE NAME: 3215-DET
 SHEET C-6.0

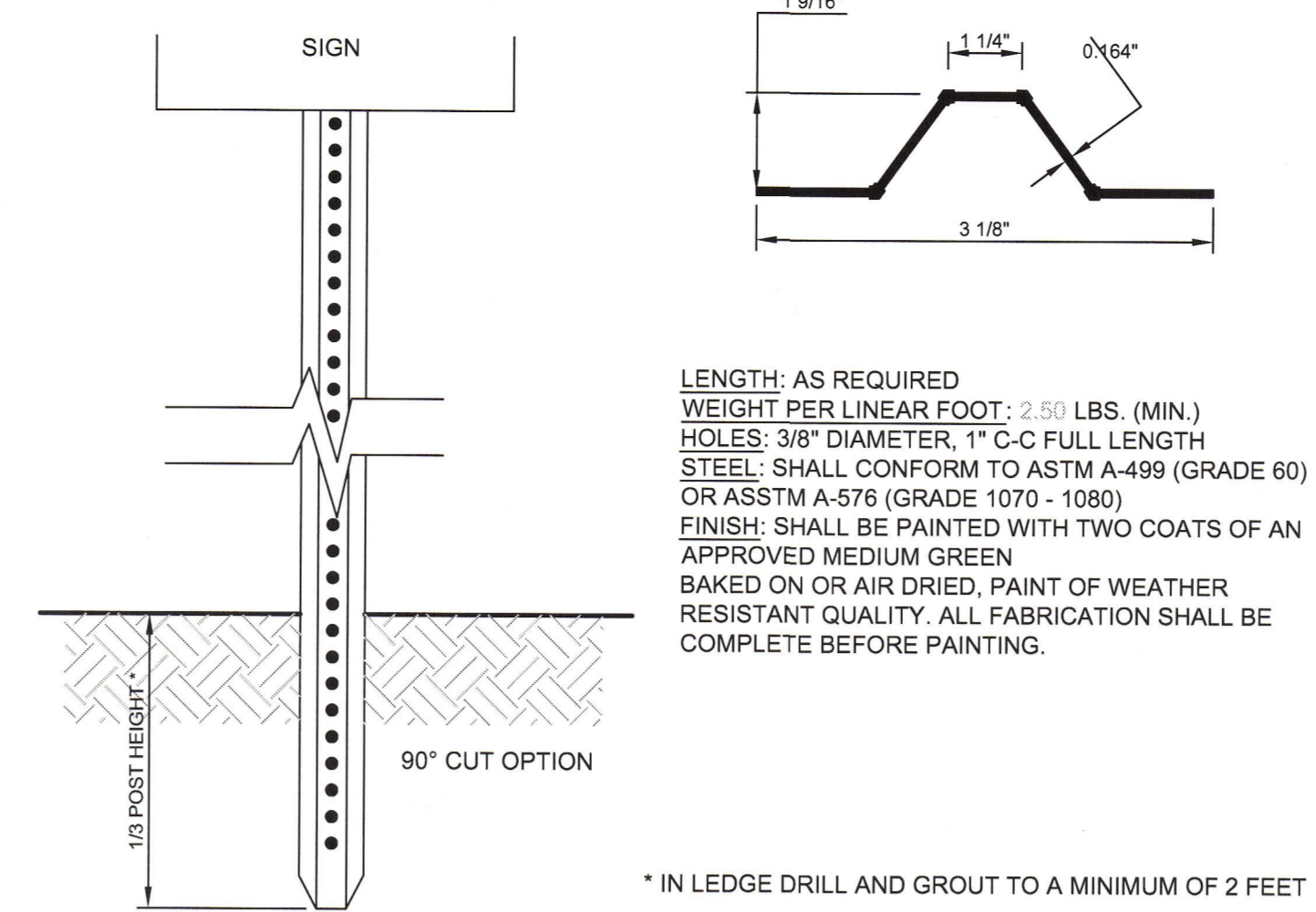
POST DIAMETER SCHEDULE	
GATE SIZE	PIPE DIAMETER
6' AND LESS	3" O.D., 5.79 LBS/FT
6' TO 10'	4" O.D., 9.10 LBS/FT

CHAIN LINK FENCE INSTALLATION SCHEDULE			
FENCE HEIGHT (A)	TOP RAIL PIPE DIA. (B)	LINE POST PIPE DIA. (C)	CORNER, TERMINAL & GATE POST PIPE DIA. (D)
4'	1.66"	1.90"	2.375"
6'	1.66"	1.90"	2.375"
8'	1.66"	2.375"	2.875"
10'	1.66"	2.875"	2.875"

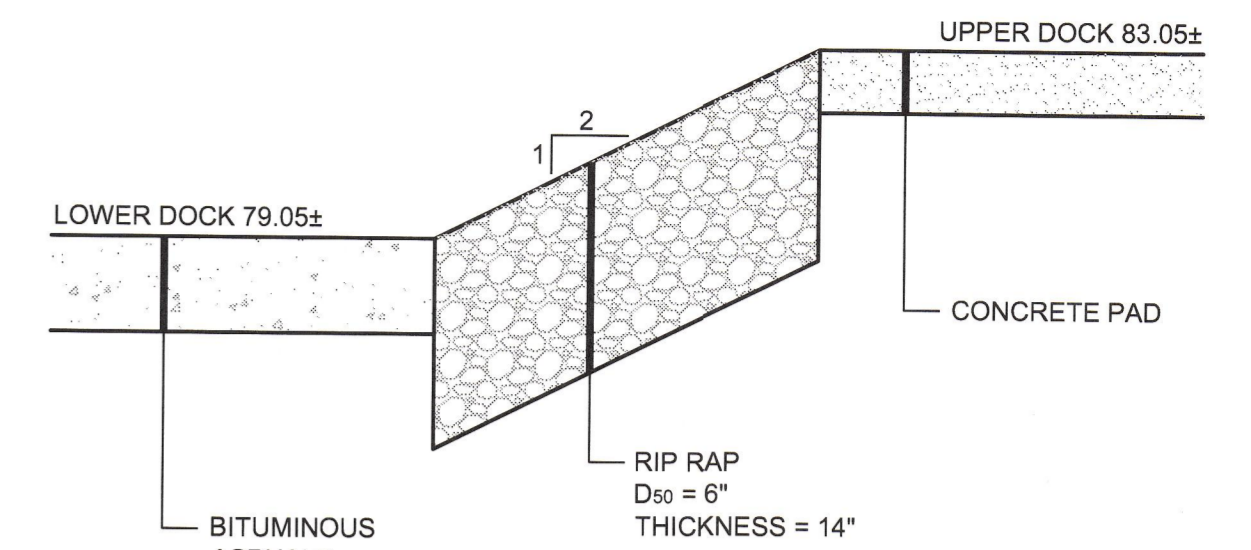
- NOTES:
- DIMENSIONS FOR PIPE DIAMETERS ARE NOMINAL OUTSIDE DIAMETERS.
 - REFER TO PLANS FOR LOCATION & HEIGHT OF FENCES TO BE INSTALLED.
 - REFER TO PLANS FOR GATE WIDTH AT EACH INSTALLATION.
 - ALL FENCE FABRIC, POSTS AND HARDWARE SHALL BE BLACK VINYL COATED.



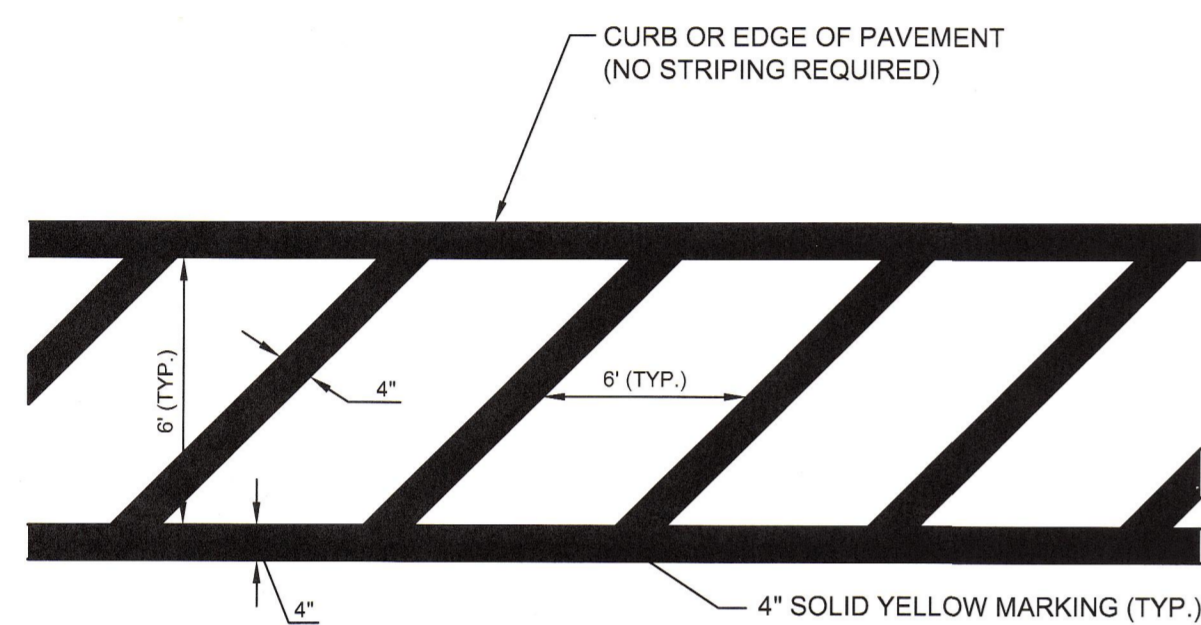
A CHAIN LINK FENCE
N.T.S.



F U-CHANNEL METAL SIGN POST
N.T.S.

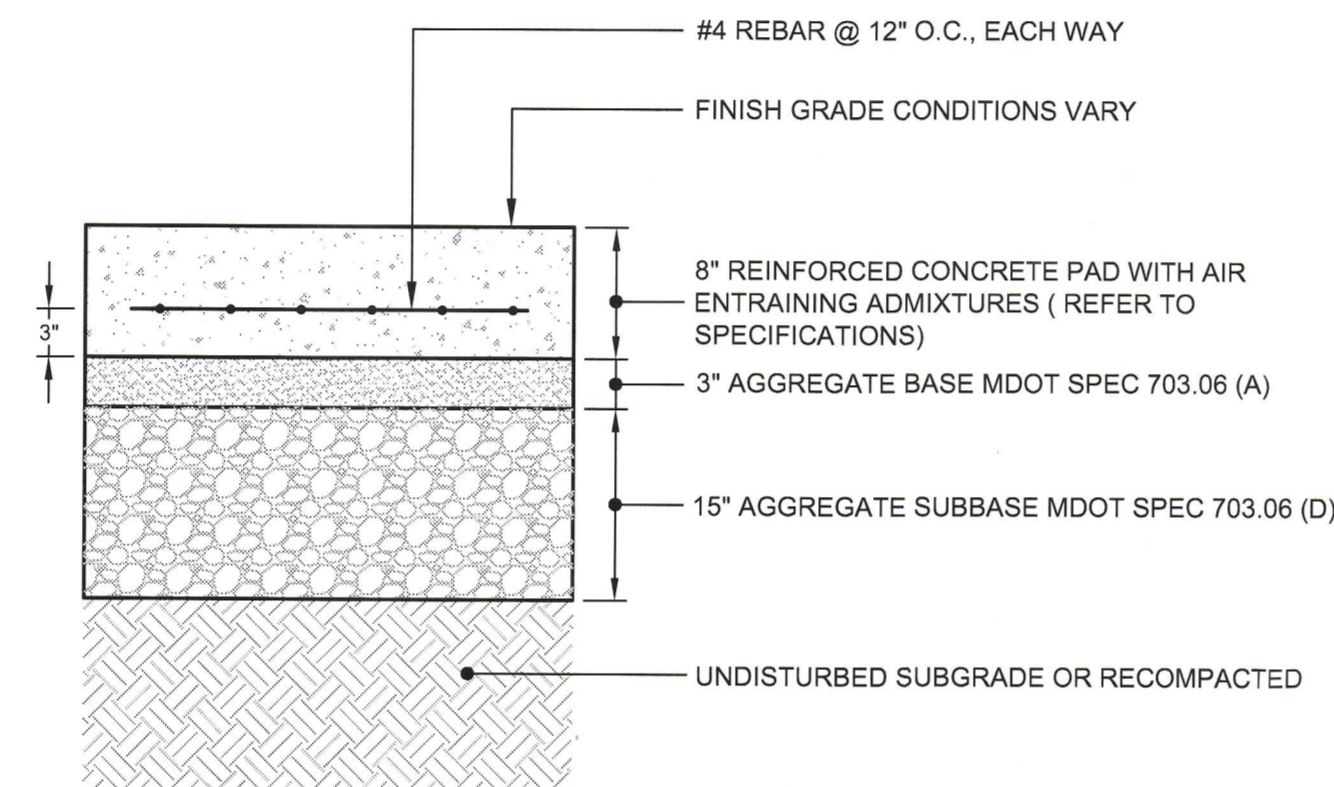


I RIP RAP SLOPE AT LOADING DOCK
N.T.S.

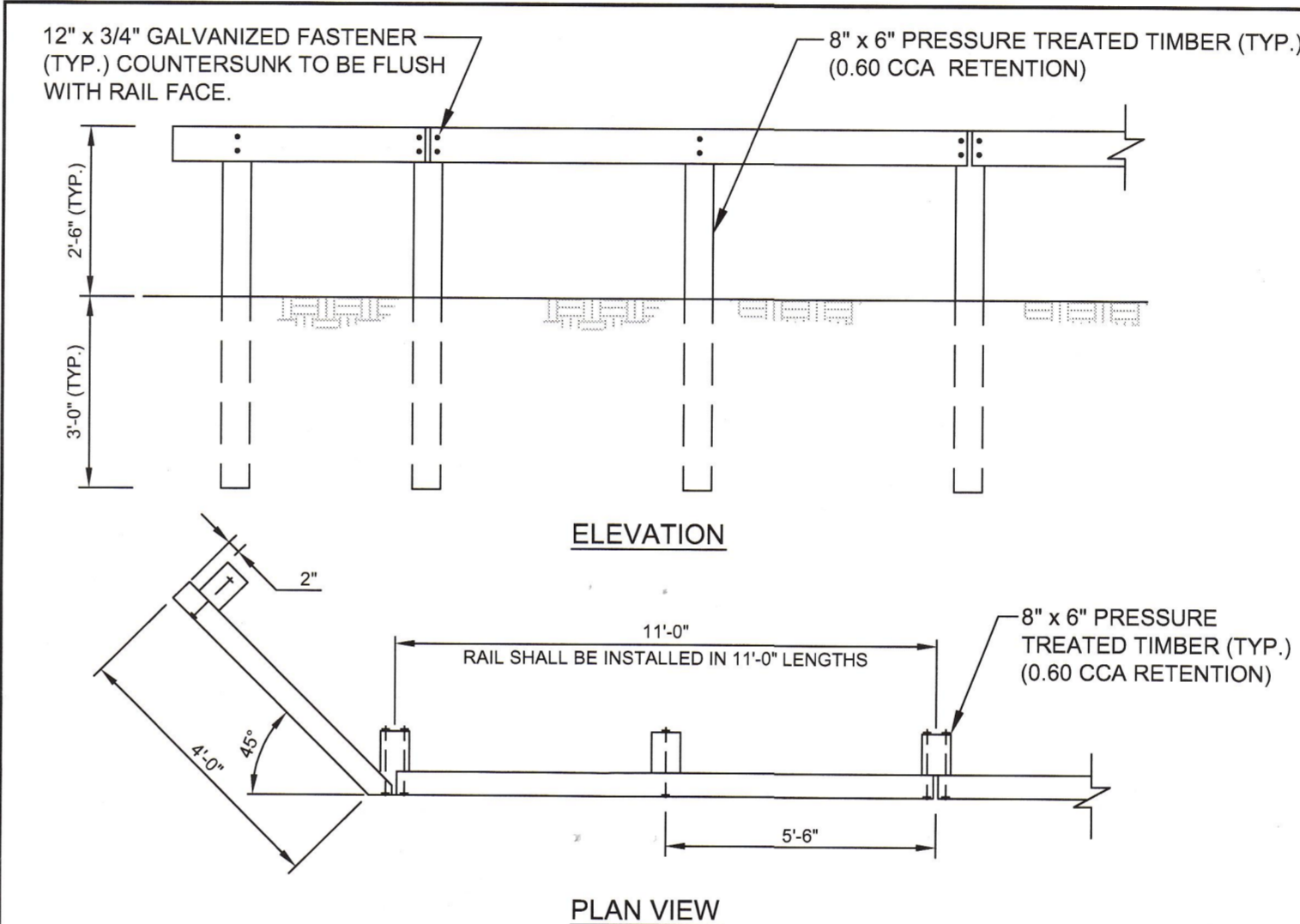


NOTE:
USE CHEVRONS 3'-0" OUT FROM CURB W/ DIAGONALS AT 4'-0" SPACING TO DESIGNATE FIRE LANE IN BUS DROP-OFF AREA.

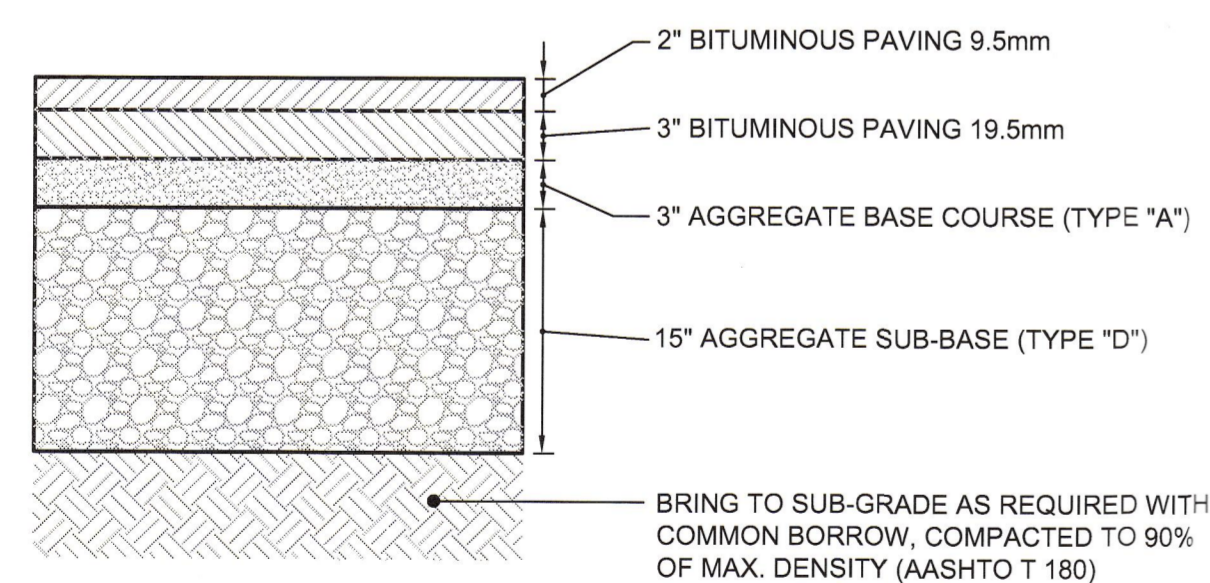
B CHEVRON STRIPING DETAIL
N.T.S.



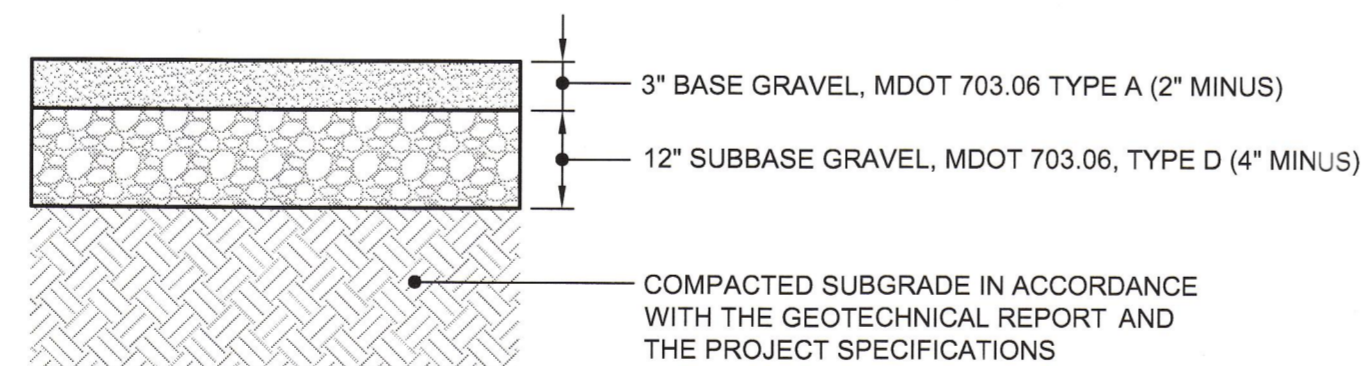
D REINFORCED CONCRETE SECTION
N.T.S.



G TIMBER GUIDERAIL DETAIL
N.T.S.

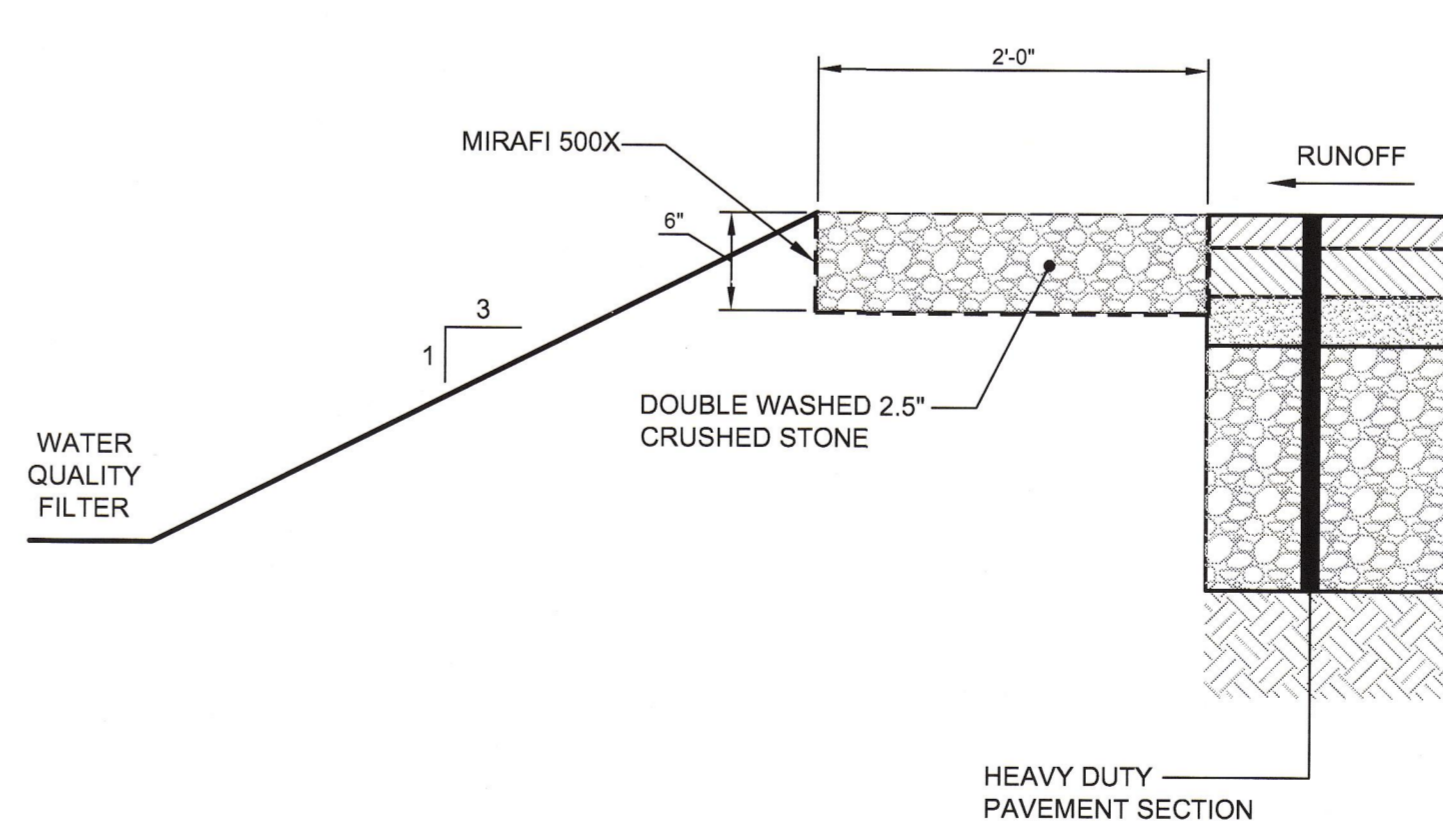


C HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT SECTION
N.T.S.



NOTES:
ALL MATERIALS SHALL CONFORM TO MDOT SPECIFICATIONS, LATEST REVISION. COMPACTION OF ALL MATERIALS TO BE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE GEOTECHNICAL REPORT.

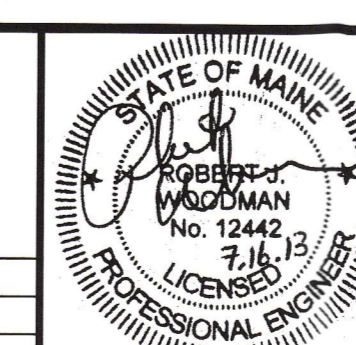
E GRAVEL SECTION
N.T.S.



H PRETREATMENT STONE DIAPHRAGM
N.T.S.

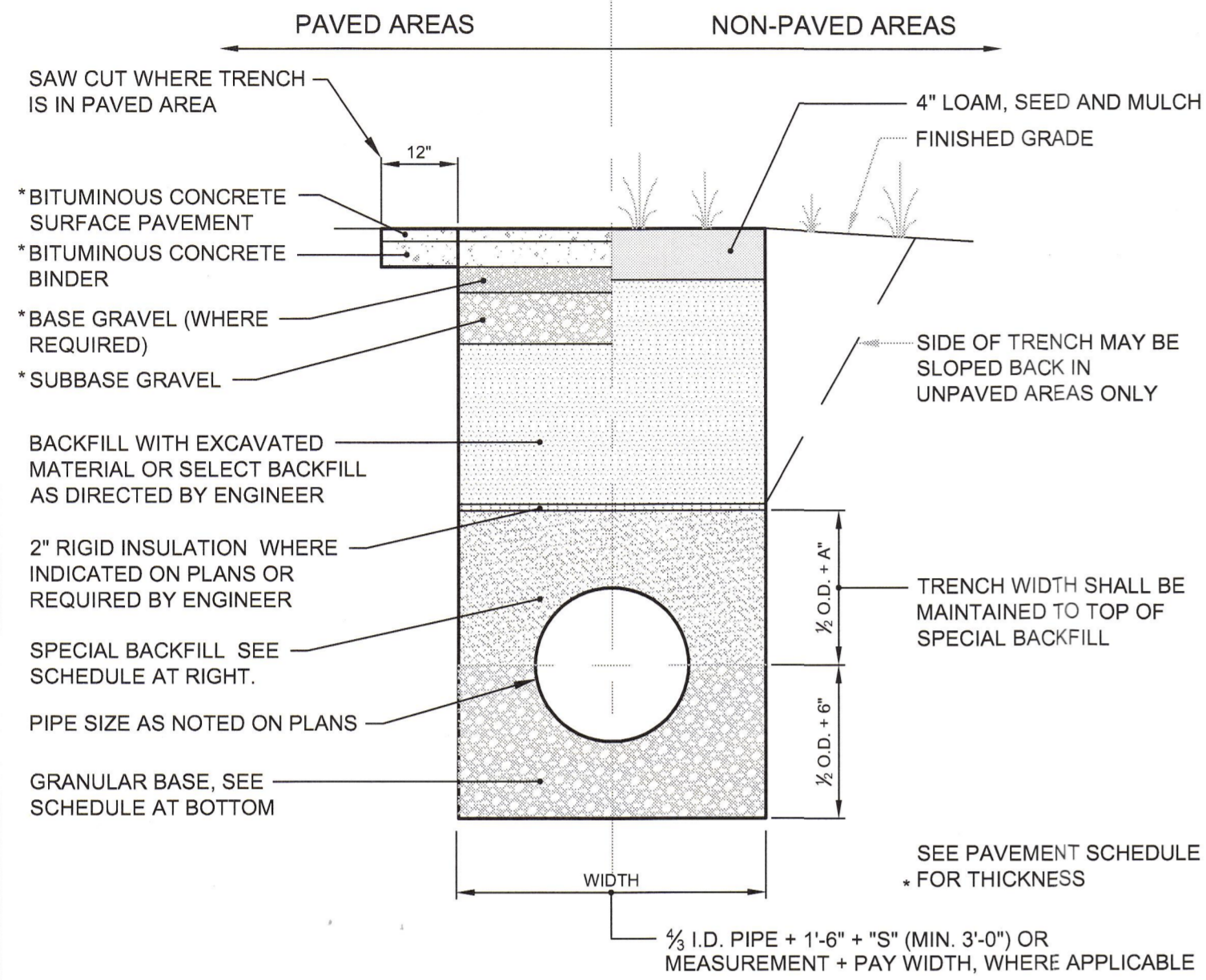
CITY OF PORTLAND
APPROVED SITE PLAN
Subject to Dept. Conditions
Date of Approval: 7/11/13
NJS 27 2013

REV	DATE	DESCRIPTION	P.E. ROBERT J. WOODMAN LIC. # 12442
3	08.28.13	RELEASED FOR BIDDING	
2	08.09.13	REVISED PER CITY REVIEW COMMENTS	
1	07.16.13	LEVEL II SITE PLAN APPLICATION	
REVISIONS			



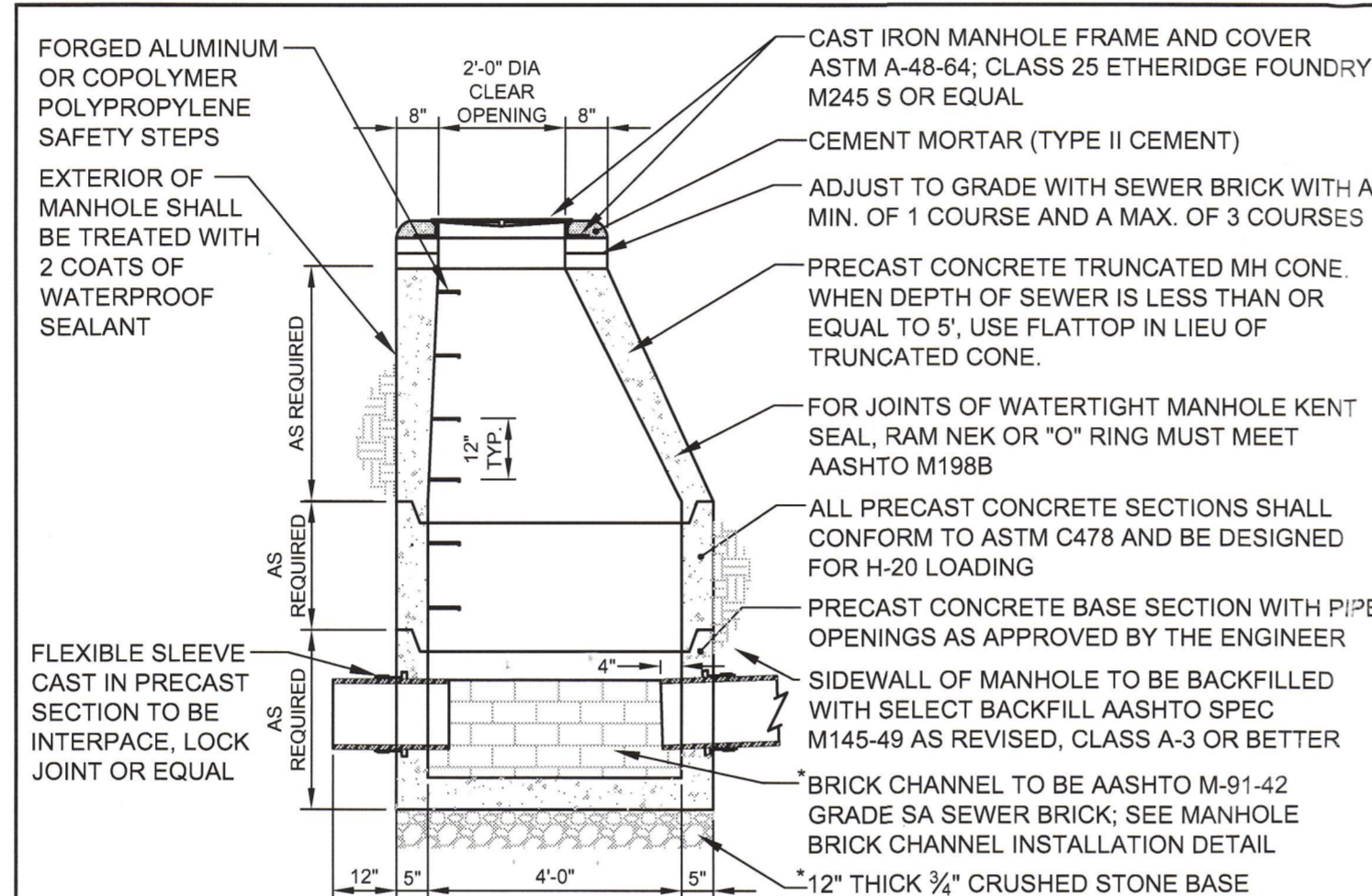
PROJECT PROPOSED TRUCK LOADING AREA AT 56 MILLIKEN STREET PORTLAND MAINE	ENGINEERS FST FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS - PLANNERS - SCIENTISTS 778 MAIN ST, SUITE 8, SOUTH PORTLAND, ME 04106
SHEET TITLE SITE DETAILS	DRAWN: CMW DATE: JULY 2013
CLIENT JHR DEVELOPMENT OF MAINE, LLC	DESIGNED: RJW SCALE: AS NOTED
	CHECKED: RJW JOB NO. 3215
	FILE NAME: 3215-DET
	SHEET C-6.1

TRENCH SECTION BACKFILL SCHEDULE				
TYPE OF PIPE	GRANULAR BASE MATERIAL	SPECIAL BACKFILL	SPECIAL BACKFILL COVER "A" (IN)	SELECT BACKFILL
CONCRETE	GRANULAR AASHTO M145-49 A-3 OR BETTER	GRANULAR AASHTO M145-49 A-3 OR BETTER	12"	GRANULAR AASHTO M145-49 A-3 OR BETTER
PVC	3/4" CRUSHED STONE	GRANULAR AASHTO M145-49 A-3 OR BETTER	6"	GRANULAR AASHTO M145-49 A-3 OR BETTER
DUCTILE IRON	GRANULAR AASHTO M145-49 A-3 OR BETTER	GRANULAR AASHTO M145-49 A-3 OR BETTER	6"	GRANULAR AASHTO M145-49 A-3 OR BETTER
UNDER-DRAINS	3/4" CRUSHED STONE	3/4" CRUSHED STONE	6"	GRANULAR AASHTO M145-49 A-3 OR BETTER



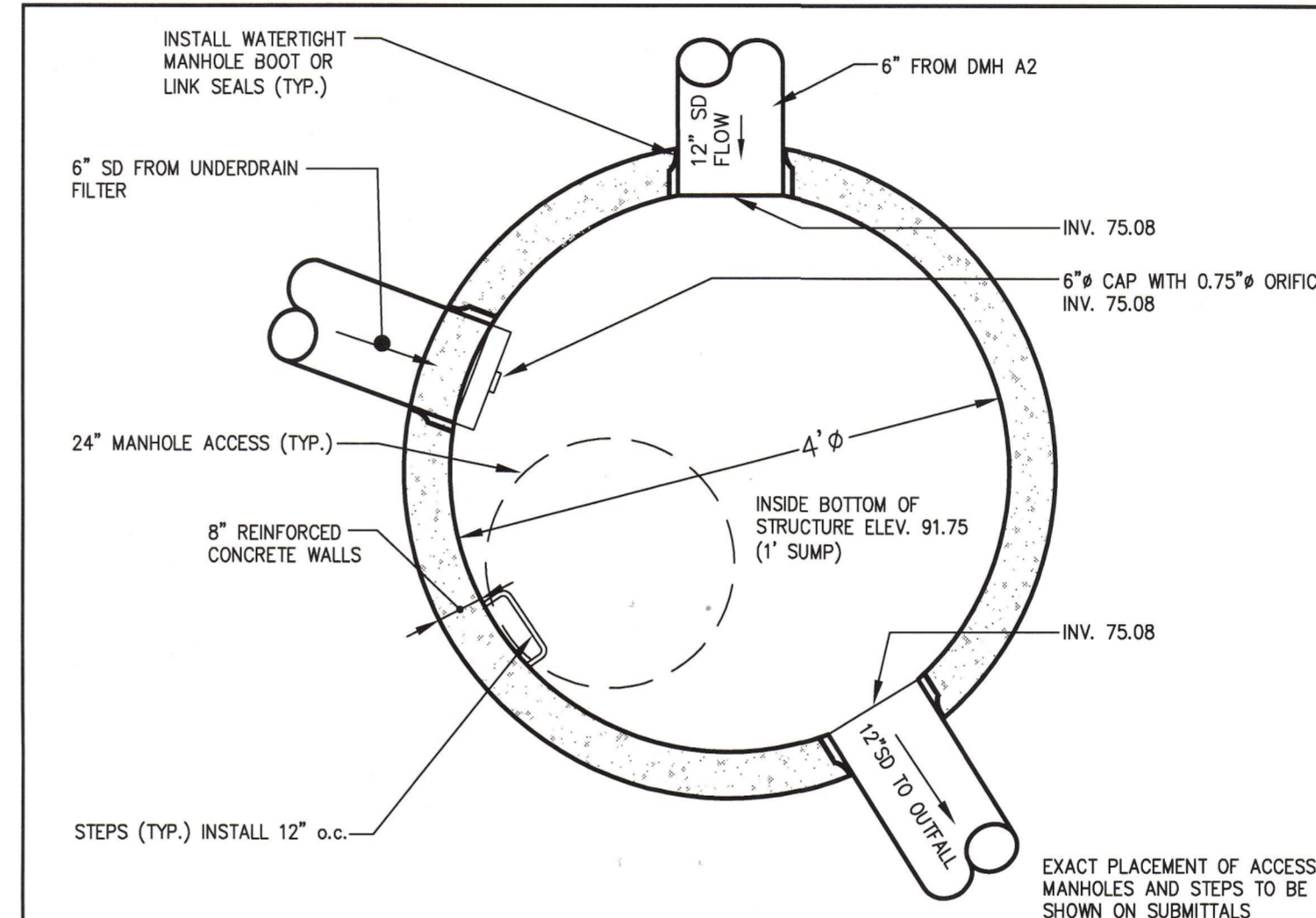
(B) TYPICAL UTILITY PIPE TRENCH SECTION DETAIL
N.T.S.

(D) PIPE CONNECTION TO PRECAST CONCRETE SANITARY SEWER & STORM DRAIN STRUCTURES
N.T.S.



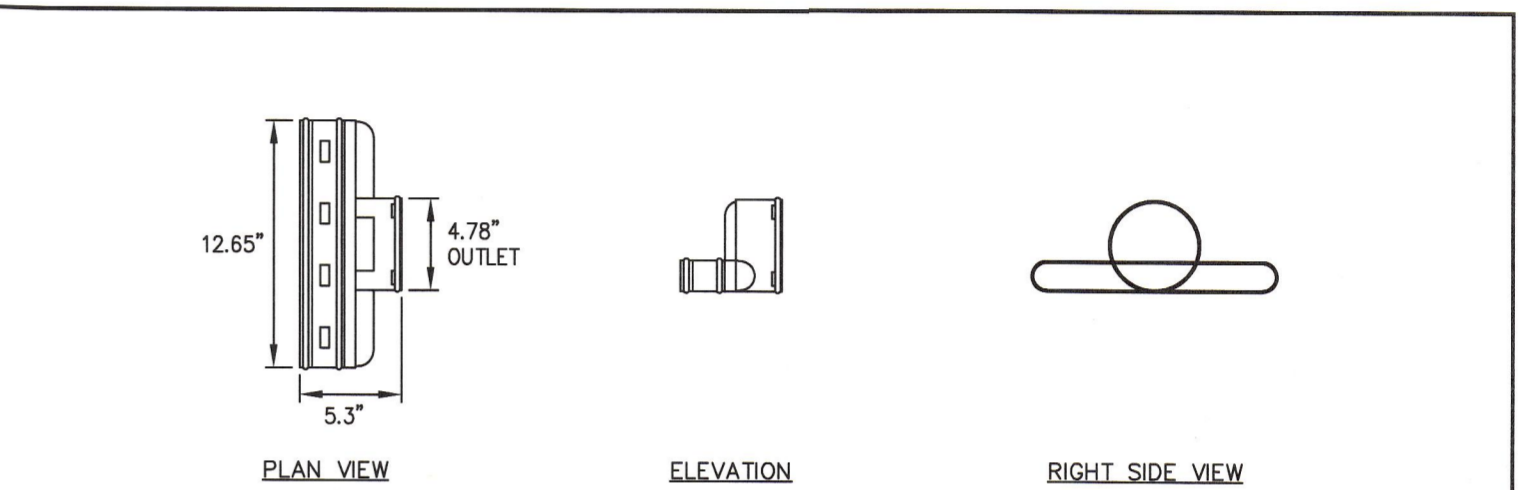
(E) 4'-0\"/>

(G) OVERFLOW SPILLWAY
N.T.S.

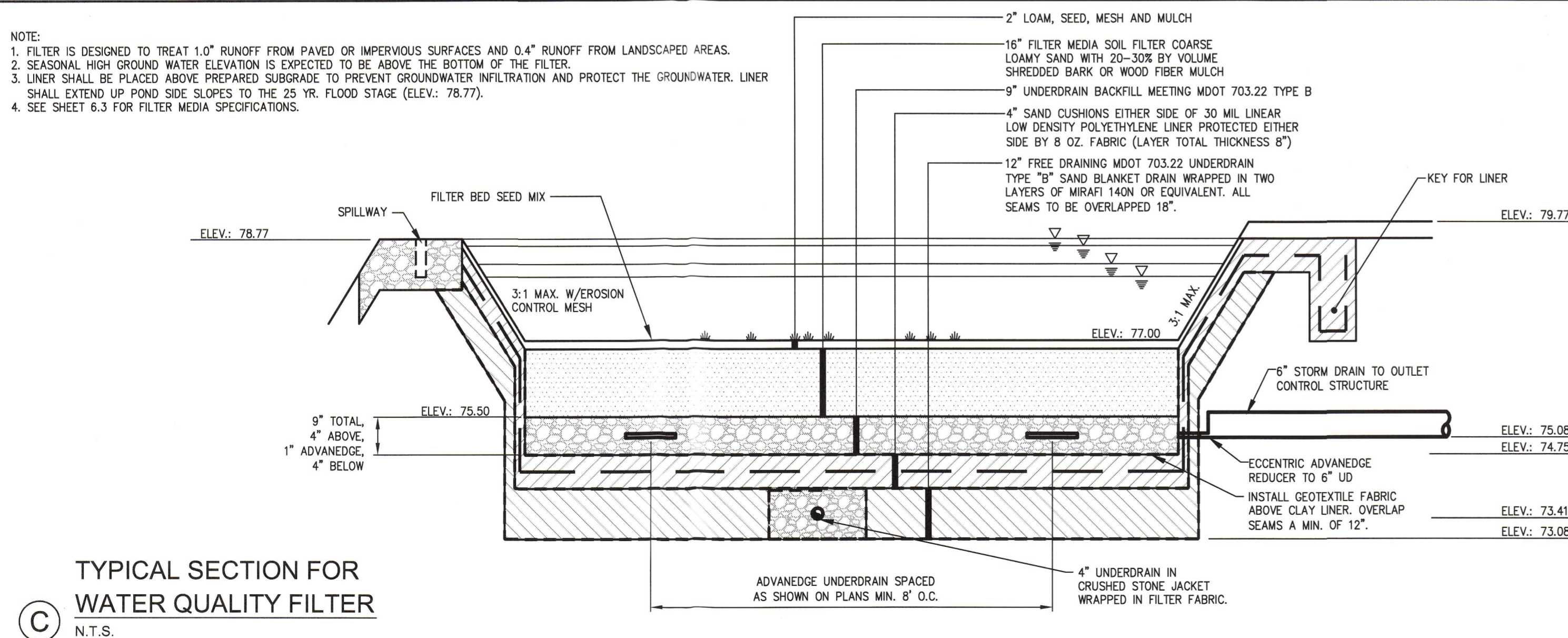


(H) 4' DIA. PRECAST OUTLET CONTROL STRUCTURE
N.T.S.

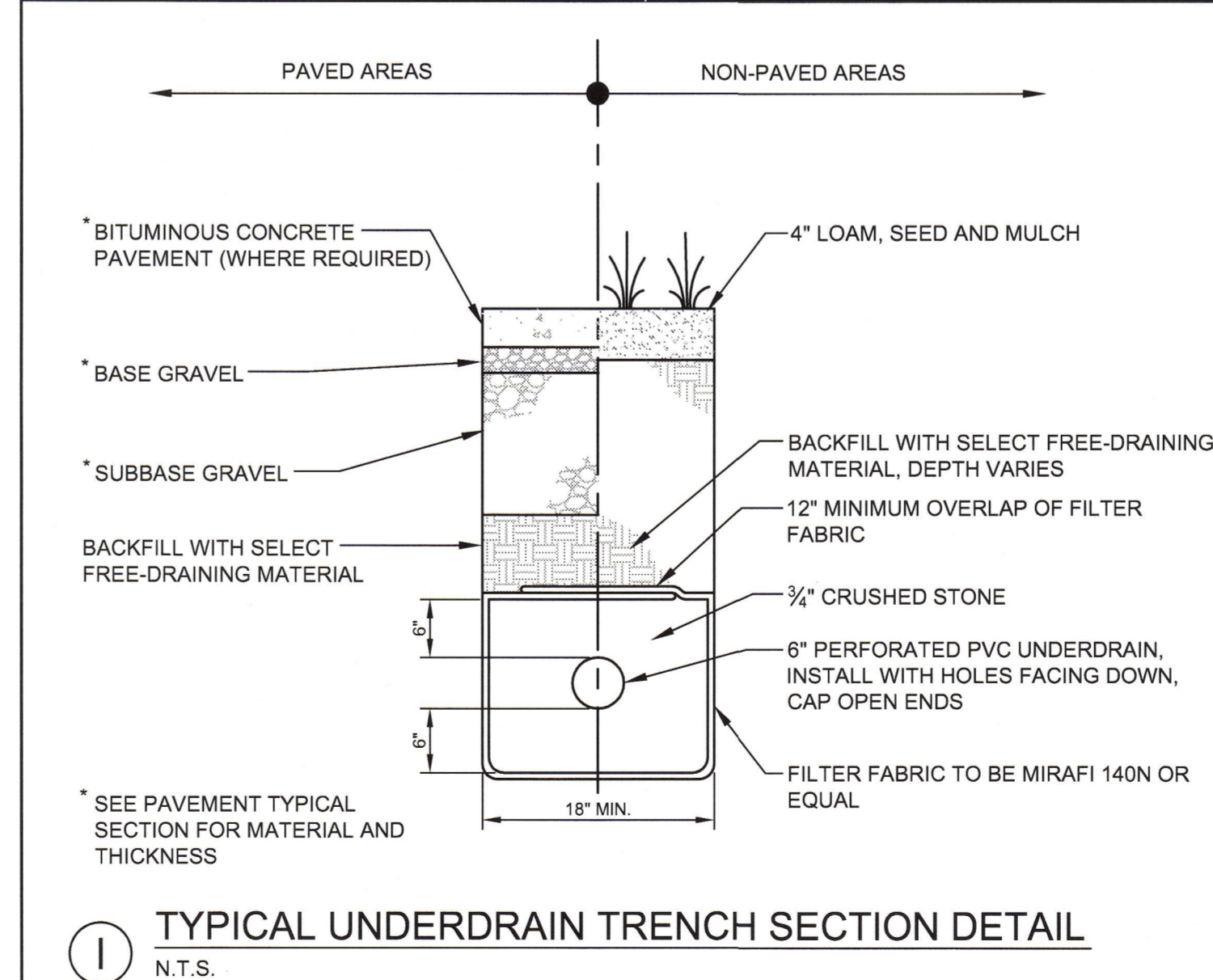
(J) TYPICAL WEIR SECTION
N.T.S.



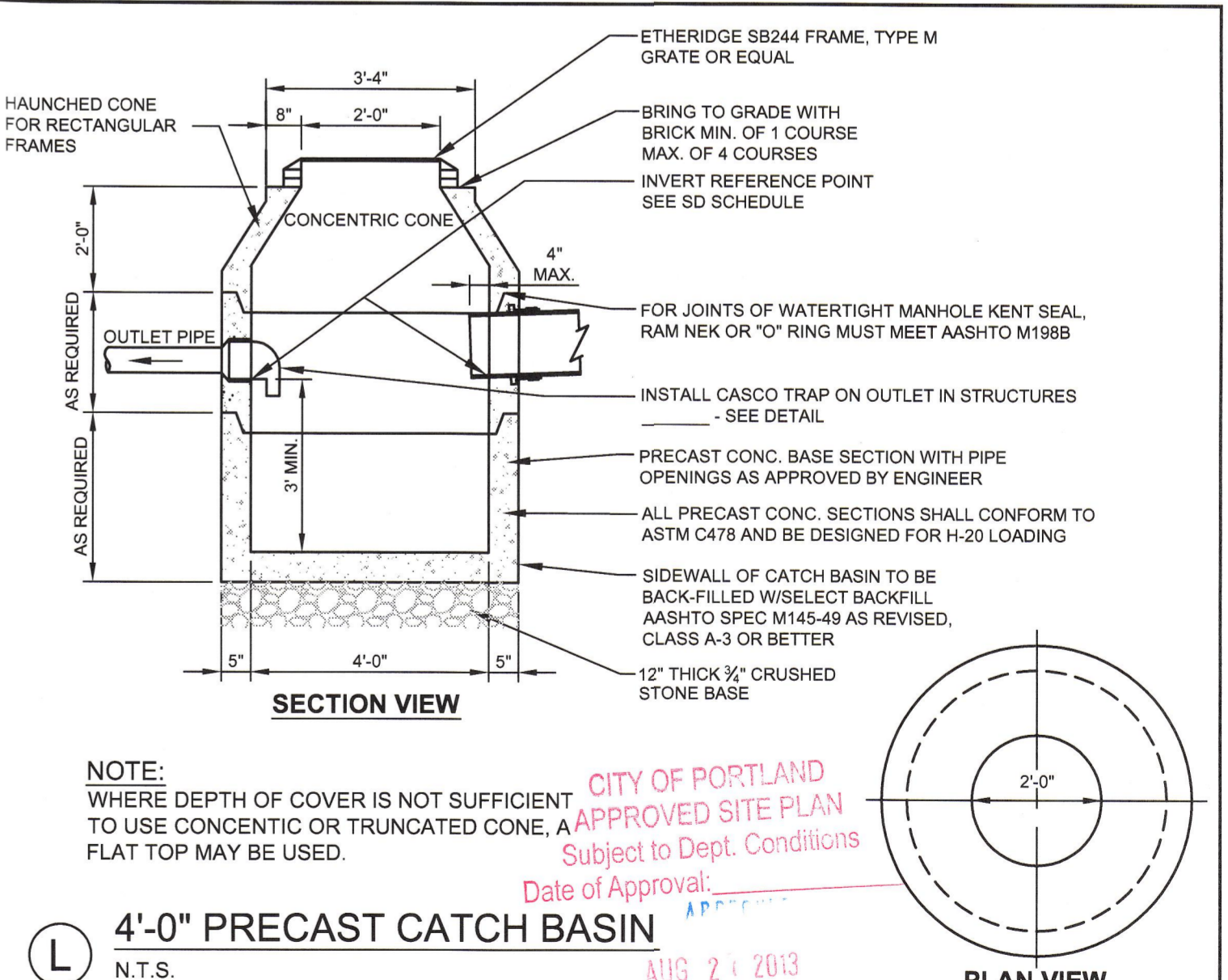
(K) 12\"/>



(C) TYPICAL SECTION FOR WATER QUALITY FILTER
N.T.S.

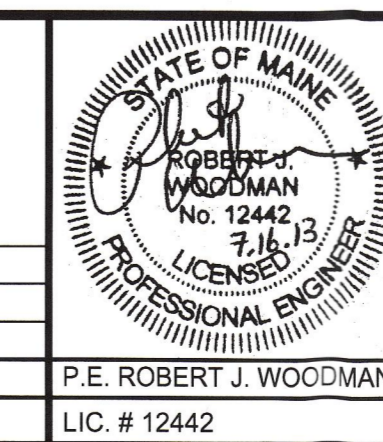


(I) TYPICAL UNDERDRAIN TRENCH SECTION DETAIL
N.T.S.



(L) 4'-0\"/>

REV	DATE	DESCRIPTION
3	08.28.13	RELEASED FOR BIDDING
2	08.09.13	REVISED PER CITY REVIEW COMMENTS
1	07.16.13	LEVEL II SITE PLAN APPLICATION
REVISIONS		



PROJECT
PROPOSED TRUCK LOADING AREA AT
56 MILLIKEN STREET PORTLAND MAINE

SHEET TITLE
UTILITY DETAILS

CLIENT
JHR DEVELOPMENT OF MAINE, LLC

ENGINEERS
FST
FAY, SPOFFORD & THORNDIKE, INC.
ENGINEERS · PLANNERS · SCIENTISTS
778 MAIN ST, SUITE 8, SOUTH PORTLAND, ME 04106

DRAWN: CMW DATE: JULY 2013
DESIGNED: RJW SCALE: AS NOTED
CHECKED: RJW JOB NO. 3215
FILE NAME: 3215-DET
SHEET **C-6.2**

UNDERDRAINED SOIL FILTER NOTES

1. SPECIFIC DESIGN CRITERIA

A. UNDERDRAIN PIPE: PROPER LAYOUT OF THE PIPE UNDERDRAIN SYSTEM IS NECESSARY TO EFFECTIVELY DRAIN THE ENTIRE FILTER AREA. THERE MUST BE AT LEAST ONE LINE OF UNDERDRAIN PIPE FOR EVERY EIGHT FEET OF FILTER AREA'S WIDTH. THE SLOPE OF THE INSTALLED UNDERDRAIN PIPE MUST BE POSITIVE. THE UNDERDRAIN PIPING SHOULD BE 4" TO 6" SLOTTED, RIGID SCHEDULE 40 PVC OR SDR35. STRUCTURE JOINTS SHALL BE SEALED SO THAT THEY ARE WATERTIGHT.

B. PIPE BEDDING AND TRANSITION ZONE: THE 4 TO 6 INCH DIAMETER PERFORATED UNDERDRAIN PIPE(S) MUST BE BEDDED IN 12 TO 14 INCHES OF UNDERDRAIN MATERIAL WITH AT LEAST 4 INCHES OF MATERIAL BENEATH THE PIPE AND 4 INCHES ABOVE. TWO OPTIONS FOR PIPE BEDDING ARE PROVIDED BELOW; HOWEVER OPTION 1 IS PREFERRED.

THE UNDERDRAIN MATERIAL CONSISTS OF WELL GRADED, CLEAN, COARSE GRAVEL MEETING THE MEDOT SPECIFICATION 703.22 UNDERDRAIN TYPE B FOR UNDERDRAIN BACKFILL. THE MATERIAL MUST CONTAIN LESS THAN 5% FINES PASSING THE #200 SIEVE. NO TRANSITION ZONE IS NECESSARY SINCE THE DRAINAGE PIPE IS BEDDED IN LESS PERVIOUS GRAVEL AND THIS DESIGN IS ACCEPTABLE FOR AREAS WHERE THE HEAD OR DEPTH TO SEASONAL HIGH GROUNDWATER IS CLOSE TO THE BOTTOM OF THE DRAINAGE LAYER. UNDERDRAIN PIPES MUST BE PLACED NO FURTHER THAN 8 FEET APART.

C. SOIL FILTER BED: THE SOIL FILTER MUST BE AT LEAST 18 INCHES DEEP ON TOP OF THE GRAVEL UNDERDRAIN PIPE BEDDING AND MUST EXTEND ACROSS THE BOTTOM OF THE ENTIRE FILTER AREA. THIS SOIL MIXTURE SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS CAN BE MIXED WITHIN THE FILTER.

D. SOIL FILTER MEDIA: SOIL MEDIA MUST CONSIST OF A SILTY SAND SOIL OR SOIL MIXTURE COMBINED WITH 20% TO 25% BY VOLUME (NO LESS THAN 10% BY DRY WEIGHT) OF A MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH. OTHER ORGANIC SOURCES MUST BE APPROVED BY THE DEPARTMENT; HOWEVER AN AGRICULTURAL SOURCE IS NOT ACCEPTABLE FOR THE ORGANIC COMPONENT OF THE MEDIA.

THE RESULTING MIXTURE MUST HAVE NO LESS THAN 8% PASSING THE 200 SIEVE AND SHALL HAVE A CLAY CONTENT OF LESS THAN 2%. THE SYSTEM MUST BE DESIGNED TO DRAIN THE SURFACE STORAGE VOLUME IN NO LESS THAN 24 HOURS AND NO MORE THAN 48 HOURS.

AS AN EXAMPLE, THE MIXTURE MAY CONTAIN BY VOLUME THE FOLLOWING:
 50% OF SANDY (MEDOT #703.01 CONTAINS INSUFFICIENT FINE FOR THE MEDIA)
 20% OF LOAMY TOPSOIL
 30 % OF COMPOSTED WOODY FIBERS AND FINE SHREDDED BARK, SUPERHUMUS OR EQUIVALENT

E. CLAY CONTENT: USE OF SOILS WITH MORE THAN 2 % CLAY CONTENT COULD CAUSE FAILURE OF THE SYSTEM AND CARE SHOULD BE TAKEN, ESPECIALLY IN AREAS WHERE THE PREDOMINANT SOIL CONTAINS MARINE CLAY, THAT THE SAND AND TOPSOIL USED IN THE MIXTURE HAVE VERY LITTLE OR NO CLAY CONTENT.

F. FILTER PERMEABILITY: THE FILTER MUST BE PERMEABLE ENOUGH TO INSURE DRAINAGE WITHIN 48 HOURS MAXIMUM. YET HAVE SUFFICIENT FINES TO INSURE FILTRATION OF FINE PARTICLES AND REMOVAL OF DISSOLVED POLLUTANTS. THE DESIGN MAY EITHER RELY ON THE SOIL PERMEABILITY, IF KNOWN, TO PROVIDE THE SLOW RELEASE OF THE WATER TREATMENT VOLUME OVER A MINIMUM OF 24 HOURS. OR MAY INSURE THIS RATE BY INSTALLING A CONSTRICTIVE ORIFICE OR VALVE ON THE UNDERDRAIN OUTLET. IN DETERMINING THE PERMEABILITY OF THE MEDIA, THE PERCENT FINES OF THE MIXTURE AND THE LEVEL OF COMPACTION SHOULD BE CONSIDERED. GENERALLY, THE SOIL MEDIA SHOULD BE ONLY LIGHTLY COMPACTED BETWEEN 90 AND 92% STANDARD PROCTOR (ASTM D698) AND SHALL HAVE A PERMEABILITY OF 2.4 INHR TO 4 IN/HR.

G. GRADATION TESTING: GRADATION TESTS, INCLUDING HYDROMETER TESTING FOR CLAY CONTENT, AND PERMEABILITY TESTING OF THE SOIL FILTER MATERIAL, SHALL BE PERFORMED BY A QUALIFIED SOIL TESTING LABORATORY AND SUBMITTED TO THE PROJECT ENGINEER FOR REVIEW BEFORE PLACEMENT AND COMPACTION.

H. GEOTEXTILE FABRIC: A GEOTEXTILE FABRIC WITH SUITABLE CHARACTERISTICS MAY BE PLACED BETWEEN THE SIDES OF THE FILTER LAYER AND ADJACENT SOIL. THE FABRIC WILL PREVENT THE SURROUNDING SOIL FROM MIGRATING INTO AND CLOGGING THE FILTER AND CLOGGING THE OUTLET. OVERLAP SEAMS MUST BE A MINIMUM OF 12 INCHES. DO NOT WRAP FABRIC OVER THE TOP OF THE PIPE BEDDING AS IT WILL CAUSE CLOGGING AND WILL PREVENT FLOWS OUT OF THE FILTER. THE GEOTEXTILE FABRIC SHALL BE MIRAFI 170N OR EQUIVALENT.

I. VEGETATION: THE SOIL FILTER SURFACE MUST BE PLANTED WITH A GRASS SPECIES THAT IS TOLERANT OF FREQUENT INUNDATION AND WELL DRAINED SOILS. UPON SEEDING, THE SOIL FILTER SHALL BE MULCHED WITH HAY OR AN EROSION CONTROL BLANKET BUT MUST NOT BE FERTILIZED. ANNUAL RYE HAS BEEN ADDED TO RAPIDLY ESTABLISH VEGETATION. AN APPROPRIATE SEED MIXTURE SHOULD CONTAIN THE FOLLOWING OR BE AN APPROVED EQUIVALENT CONSERVATION TYPE MIXTURE:

ANNUAL RYE	4.0	LBS/M. SQ. FT.
TALL FESCUE	1.6	LBS/M. SQ. FT.
TALL RED FESCUE	1.6	LBS/M. SQ. FT.
BIRDSFOOT TREFOIL	0.8	LBS/M. SQ. FT.
TOTAL	8.0	LBS/M. SQ. FT.

J. ROCK FOREBAY: A ROCK FOREBAY IS RECOMMENDED TO REDUCE FLOW VELOCITY INTO THE VOLUME III; BMPS TECHNICAL DESIGN MANUAL CHAPTER 7.1, FILTRATION BMP: GRASSED FILTER BASIN BASIN. IT SHALL REMAIN CLEAR OF SEDIMENT UNTIL THE UPGRADIENT TRIBUTARY AREA IS FULLY VEGETATED.

2. CONSTRUCTION CRITERIA

A. BASIN EXCAVATION: THE AREA OF THE BASIN MAY BE EXCAVATED IN PREPARATION OF THE INSTALLATION OF THE UNDERDRAIN AND CAN BE USED FOR A SEDIMENT TRAP FROM THE SITE DURING CONSTRUCTION. AFTER EXCAVATION OF THE BASIN, THE OUTLET STRUCTURE AND PIPING SYSTEM MUST BE INSTALLED AT THE APPROPRIATE ELEVATION AND PROTECTED WITH A SEDIMENT BARRIER. IF THE BASIN IS TO BE USED AS A SEDIMENT TRAP, THE SIDES OF THE EMBANKMENTS MUST BE MULCHED AND MAINTAINED TO PREVENT EROSION.

B. COMPACTION OF SOIL FILTER: FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90 AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST 2 LIFTS OF 9 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.

C. OUTLET DISCHARGE: OUTFLOW OF THE FILTER BASIN UNDERDRAIN WILL BE CONTROLLED BY A CONSTRICTIVE ORIFICE.

D. CONSTRUCTION SEQUENCE: EROSION AND SEDIMENTATION FROM UNSTABLE SUBCATCHMENTS IS THE MOST COMMON REASON FOR FILTER FAILURE. NOT HEEDING THE CONSTRUCTION SEQUENCING CRITERIA IS LIKELY TO RESULT IN THE NEED TO REPLACE THE SOIL FILTER. THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION. OTHERWISE, THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA MUST BE DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED UNLESS THE DEPARTMENT HAS DETERMINED, ON A CASE-BY-CASE BASIS, THAT SUFFICIENT MEASURES ARE BEING TAKEN TO PREVENT EROSION OF MATERIAL FROM THE UNSTABLE CATCHMENT AREA AND DEPOSITION ON THE FILTER.

E. REMEDIAL LOAM COVER: TO RAPIDLY ESTABLISH VEGETATION IN THE FILTER AREA, THE CONTRACTOR WILL INSTALL A 2.3 INCH LAYER OF SANDY LOAM TOPSOIL (WITH LESS THAN 2% CLAY AS TESTED VIA HYDROMETER TEST) ABOVE THE GRASS FILTER PRIOR TO SEEDING, MULCHING AND ANCHORING EROSION CONTROL MESH.

F. CONSTRUCTION OVERSIGHT: INSPECTION OF THE FILTER BASIN SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER WITH REQUIRED REPORTING TO THE CCSWCD. AT A MINIMUM, INSPECTIONS WILL OCCUR:
 -AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED;
 -AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA;
 -AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED;
 -PRIOR TO SUBSTANTIAL COMPLETION, LABOR DAY AND COLUMBUS DAY THE HEALTH OF THE VEGETATION SHALL BE INSPECTED AND THE CONTRACTOR SHALL DEVELOP A PLAN TO ESTABLISH TURF IN THE FILTER; AND
 -ALL MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN WILL BE APPROVED BY THE DESIGN ENGINEER AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.

G. TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:
 SUBMIT SAMPLES OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY. PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES; 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SOIL FILTER MEDIA MIXTURE MUST HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.
 PERFORM A PERMEABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE

COMPACTED TO 90-92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.

3. MAINTENANCE CRITERIA

DURING THE FIRST YEAR, THE BASIN WILL BE INSPECTED SEMI-ANNUALLY AND FOLLOWING MAJOR STORM EVENTS.

DEBRIS AND SEDIMENT BUILDUP SHALL BE REMOVED FROM THE FOREBAY AND BASIN AS NEEDED.

MOWING OF A GRASSED BASIN CAN OCCUR SEMIANNUALLY TO A HEIGHT NO LESS THAN 6 INCHES.

ANY BARE AREA OR EROSION RILLS SHALL BE REPAIRED WITH NEW FILTER MEDIA OR SANDY LOAM THEN SEEDED AND MULCHED.

MAINTAINING GOOD GRASS COVER WILL MINIMIZE CLOGGING WITH FINE SEDIMENTS AND IF PONDING EXCEEDS 48 HOURS, THE TOP OF THE FILTER BED MUST BE ROTOTILLED TO REESTABLISH THE SOIL'S FILTRATION CAPACITY IF EXTENDED PONDING IS OBSERVED.

A. MAINTENANCE AGREEMENT: THE AUBURN SCHOOL DEPT IS RESPONSIBLE FOR INSPECTING AND MAINTAINING ANY UNDERDRAINED FILTER. OTHER STORMWATER O&M REQUIREMENTS ARE INCLUDED WITH PERMIT APPLICATION.

B. SOIL FILTER INSPECTION: THE SOIL FILTER SHOULD BE INSPECTED AFTER EVERY MAJOR STORM IN THE FIRST YEAR TO BE SURE IT IS FUNCTIONING PROPERLY. THEREAFTER, THE FILTER SHOULD BE INSPECTED AT LEAST ONCE EVERY SIX MONTHS TO ENSURE THAT IT IS DRAINING WITHIN 48 HOURS FOLLOWING A ONE INCH STORM OR GREATER, AND THAT FOLLOWING A STORMS THAT FILL THE SYSTEM TO OVERFLOW, IT DRAINS IN NO LESS THAN 36 TO 60 HOURS. IF THE SYSTEM DRAINS TOO FAST, AN ORIFICE MAY NEED TO BE ADDED ON THE UNDERDRAIN OUTLET OR, IF ALREADY PRESENT, MAY NEED TO BE MODIFIED.

C. SOIL FILTER REPLACEMENT: THE TOP SEVERAL INCHES OF THE FILTER SHALL BE REPLACED WITH FRESH MATERIAL WHEN WATER PONDS ON THE SURFACE OF THE BED FOR MORE THAN 72 HOURS. THE REMOVED SEDIMENTS SHOULD BE DISPOSED OF IN AN ACCEPTABLE MANNER.

D. SEDIMENT REMOVAL: SEDIMENT AND PLANT DEBRIS SHOULD BE REMOVED FROM THE PRETREATMENT STRUCTURE AT LEAST ANNUALLY.

E. MOWING: IF MOWING IS DESIRED, ONLY HANDHELD STRING TRIMMERS OR PUSH-MOWERS ARE ALLOWED ON THE FILTER (NO TRACTOR) AND THE GRASS BED SHOULD BE MOWED NO MORE THAN 2 TIMES PER GROWING SEASON TO MAINTAIN GRASS HEIGHTS OF NO LESS THAN 6 INCHES.

F. FERTILIZATION: FERTILIZATION OF THE UNDERDRAINED FILTER AREA SHOULD BE AVOIDED UNLESS ABSOLUTELY NECESSARY TO ESTABLISH VEGETATION.

G. HARVESTING AND WEEDING: HARVESTING AND PRUNING OF EXCESSIVE GROWTH WILL NEED TO BE DONE OCCASIONALLY. WEEDING TO CONTROL UNWANTED OR INVASIVE PLANTS MAY ALSO BE NECESSARY. ADD NEW MULCH ONLY AS NECESSARY FOR BIORETENTION CELL.

A DETAILED O & M SCHEDULE ACCOMPANIES THIS APPLICATION. THE O & M IS TO BE COMPLETED BY CCSWCD AND IS SUBJECT TO PERIODIC REVISIONS.

CITY OF PORTLAND
 APPROVED SITE PLAN
 Subject to Dept. Conditions
 Date of Approval:
 APPROVED
 AUG 27 2013

			PROJECT PROPOSED TRUCK LOADING AREA AT 56 MILLIKEN STREET PORTLAND MAINE		ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS - PLANNERS - SCIENTISTS 778 MAIN ST, SUITE 6, SOUTH PORTLAND, ME 04106	
SHEET TITLE UNDERDRAINED SOIL FILTER NOTES			DRAWN: CMW DATE: JULY 2013		DESIGNED: RJW SCALE: AS NOTED	
CLIENT JHR DEVELOPMENT OF MAINE, LLC			CHECKED: RJW JOB NO. 3215		FILE NAME: 3215-DET SHEET C-6.3	
REVISIONS			P.E. ROBERT J. WOODMAN LIC. # 12442			