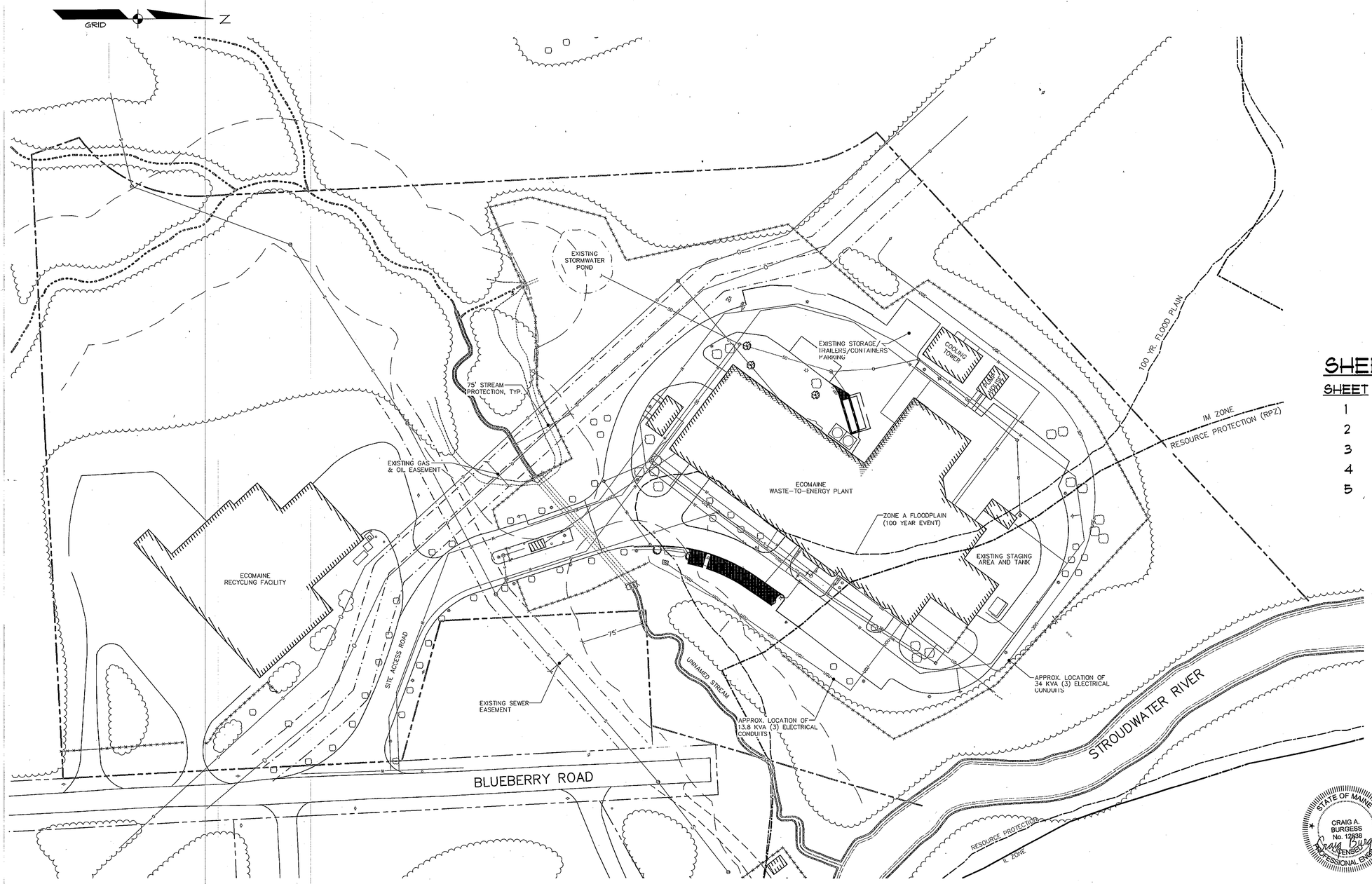
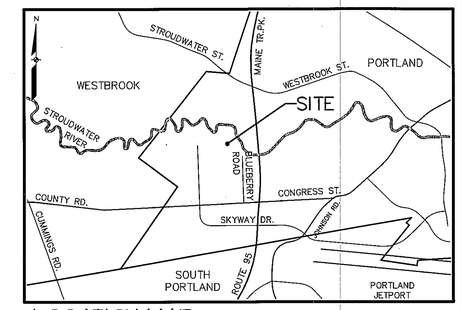
ECOMAINE PARKING EXPANSION

64 BLUEBERRY ROAD
PORTLAND, MAINE 04102





LOCATION MAP N.T.S.

SHEET INDEX:

SHEET	DESCRIPTION
1	COVER SHEET
2	OVERALL SITE PLAN
3	GRADING, UTILITY & EROSION CONTROL PLAN
4	EROSION CONTROL NOTES & DETAILS
5	SITE DETAILS

APPLICANT:

ECOMAINE
64 BLUEBERRY ROAD
PORTLAND, MAINE 04102

ENGINEER/SURVEYOR:

SEBAGO TECHNICS
CIVIL ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 1A
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Tel. 207-783-5656

STATE OF MAINE
CRAIG A. BURGESS
No. 12838
LICENSED
PROFESSIONAL ENGINEER
5-28-13

SCALE: 1" = 60'

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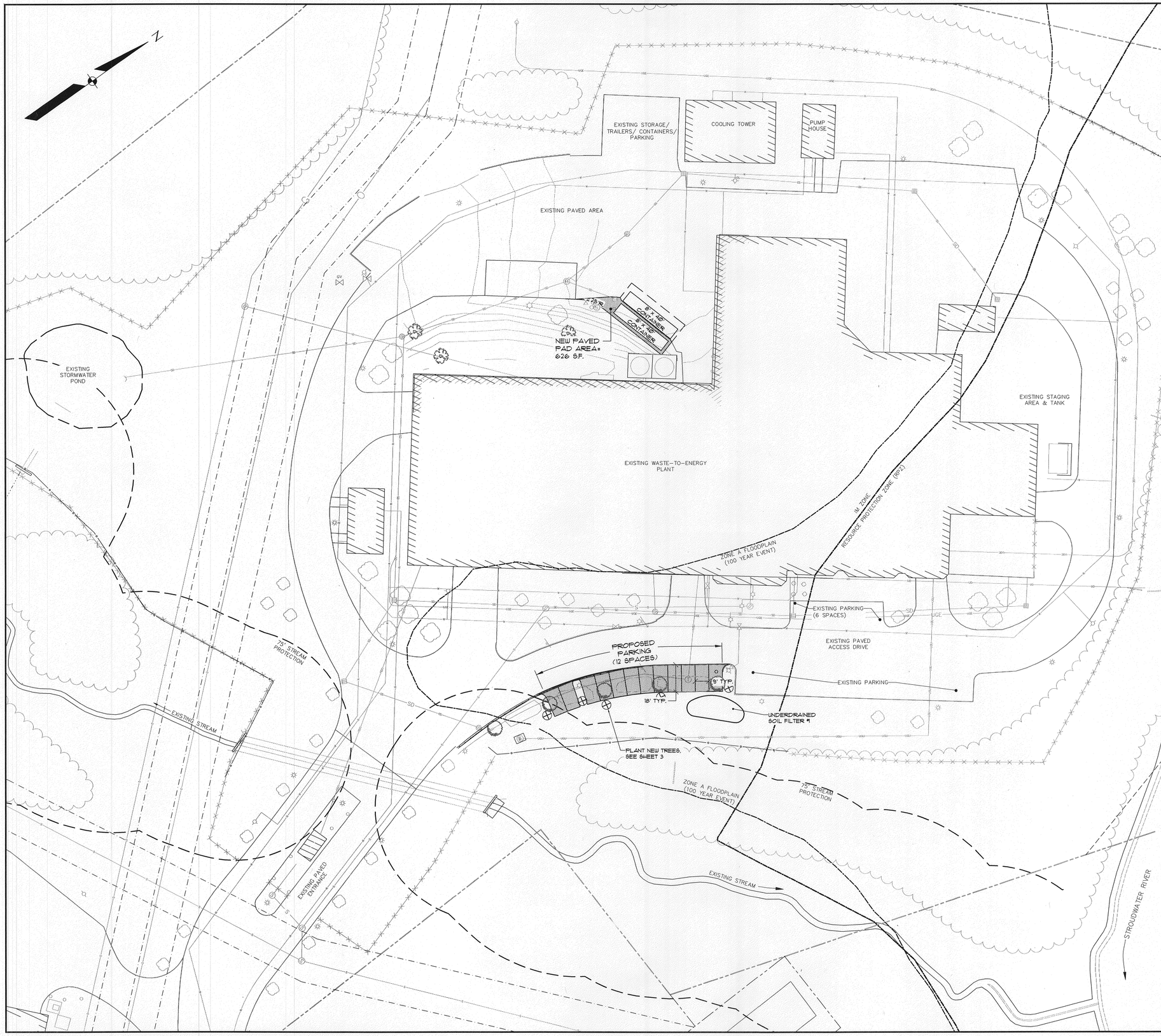

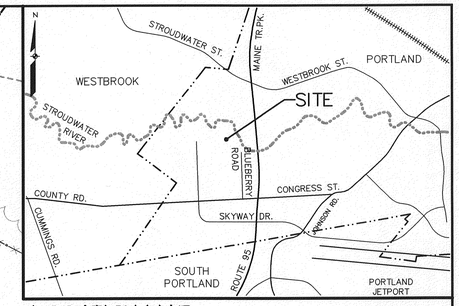

LOCATION MAP

N.T.S.

GENERAL NOTES

1. THE RECORD OWNER OF THE PARCEL IS ECOMAINE, 64 BLUEBERRY ROAD, PORTLAND, MAINE 04102.
2. TOPOGRAPHIC INFORMATION AND SITE FEATURES WITHIN THE GENERAL WORK AREA SHOWN HEREON IS BASED UPON FIELD WORK PERFORMED BY SEBAGO TECHNICS, INC. IN AUGUST 2012. TOPOGRAPHIC INFORMATION OUTSIDE THE GENERAL WORK AREA SHOWN HEREON IS FROM 2-FOOT AERIAL TOPOGRAPHY FOR THE CITY OF PORTLAND. SITE FEATURES, INCLUDING ROADS, BRIDGES AND BUILDINGS OUTSIDE THE GENERAL WORK AREA ARE FROM MAINE GIS (http://www.maine.gov/megis/catalog/).
3. PLAN ORIENTATION IS GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NAD83, ELEVATIONS DEPICTED HEREON ARE NAVD88, BASED ON DUAL FREQUENCY GPS OBSERVATIONS.
4. UTILITY INFORMATION DEPICTED HEREON IS COMPILED USING PHYSICAL EVIDENCE LOCATED DURING FIELD WORK PERFORMED BY SEBAGO TECHNICS, INC. IN AUGUST 2012 AND ORIGINAL DESIGN DRAWINGS EIMP-2200, EIMP-2202, ECE 2200, ECSC 0101, ECSC 0105, BY DRAVO ENGINEERING COMPANIES, INC. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS SHALL CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION AND/OR EXCAVATION.
5. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH "MAINE EROSION AND SEDIMENT CONTROL BMPS" MANUAL PUBLISHED BY BUREAU OF LAND AND WATER QUALITY MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 2003 OR LATEST EDITION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POSSESS A COPY OF THE EROSION CONTROL PLAN AT ALL TIMES.
6. PLAN REFERENCES:
   - EIMP-2200 BY DRAVO ENGINEERING COMPANIES, INC. FOR REGIONAL WASTE SERVICES, INC., GREATER PORTLAND RESOURCE RECOVERY PROJECT, LATEST REVISION 7-21-88
   - EIMP-2202 BY DRAVO ENGINEERING COMPANIES, INC. FOR REGIONAL WASTE SERVICES, INC., GREATER PORTLAND RESOURCE RECOVERY PROJECT, LATEST REVISION 7-14-88
   - ECE-2200 BY DRAVO ENGINEERING COMPANIES, INC. FOR REGIONAL WASTE SERVICES, INC., GREATER PORTLAND RESOURCE RECOVERY PROJECT, LATEST REVISION 7, DATE UNKNOWN
   - ECSC-0101 BY DRAVO ENGINEERING COMPANIES, INC. FOR REGIONAL WASTE SERVICES, INC., GREATER PORTLAND RESOURCE RECOVERY PROJECT, LATEST REVISION 6-24-87
   - ECSC-0105 BY DRAVO ENGINEERING COMPANIES, INC. FOR REGIONAL WASTE SERVICES, INC., GREATER PORTLAND RESOURCE RECOVERY PROJECT, LATEST REVISION 7-22-88
7. ALONG THE PROPERTY FRONTAGE, 1½" STONE SHALL BE ADDED TO THE DEPRESSED AREA ADJACENT TO THE WESTERN EDGE OF BLUEBERRY ROAD TO EQUAL A HEIGHT LEVEL WITH THE EDGE OF PAVEMENT FOR REVIEW AND APPROVAL BY THE CITY'S DEPARTMENT OF PUBLIC SERVICES

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BOUNDARY LINE/R.O.W.	
	ABUTTER LINE/R.O.W.	
	SETBACK	
	EASEMENT	
	FLOODPLAIN	
	ZONE LINE	
	BUILDING	
	EDGE PAVEMENT	
	EDGE CONCRETE	
	PAVEMENT PAINT	
	GRAVEL ROAD	
	EDGE WATER	
	TREELINE	
	GAS	
GV	GAS GATE VALVE	
	WATER	
	HYDRANT	
	WATER GATE VALVE	
	SEWER	
S	SEWER MH	
	STORM DRAIN	
	UNDERDRAIN	
	CATCH BASIN	
D	DRAINAGE MH	
	CULVERT	
	UNDERGROUND ELECTRIC & TELEPHONE	
	UNDERGROUND ELECTRIC	
T	TELECOMUNICATIONS MANHOLE	
	LIGHT POLE/WALL	
	UTILITY POLE	
	DECIDUOUS TREE	

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

REV:	BY:	DATE:	STATUS:
E	CAB	6-18-13	ADDED NOTE 7 PER CITY COMMENTS
D	CAB	5-28-13	ADDED PARKING SPACES, LANDSCAPING & RESIZED UDSF
C	CAB	5-7-13	REVISED PER CITY & DEP COMMENTS
B	CAB	12-13-12	SUBMITTED FOR CITY APPROVAL
A	CAB	11-26-12	SUBMITTED TO DEP

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

STATE OF MAINE
CRAIG A. BURGESS
No. 12638
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PROFESSIONAL ENGINEER
6-18-13

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Tel: 207-783-9580

PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
11187	-	OAM/CAB	OAM	CAB

OVERALL SITE PLAN

OF:
ECOMAINE WASTE-TO-ENERGY PLANT
64 BLUEBERRY ROAD
PORTLAND, MAINE

FOR:
ECOMAINE
64 BLUEBERRY ROAD
PORTLAND, MAINE 04102

DATE	SCALE
11-26-12	1"=30'

SHEET 2 OF 5

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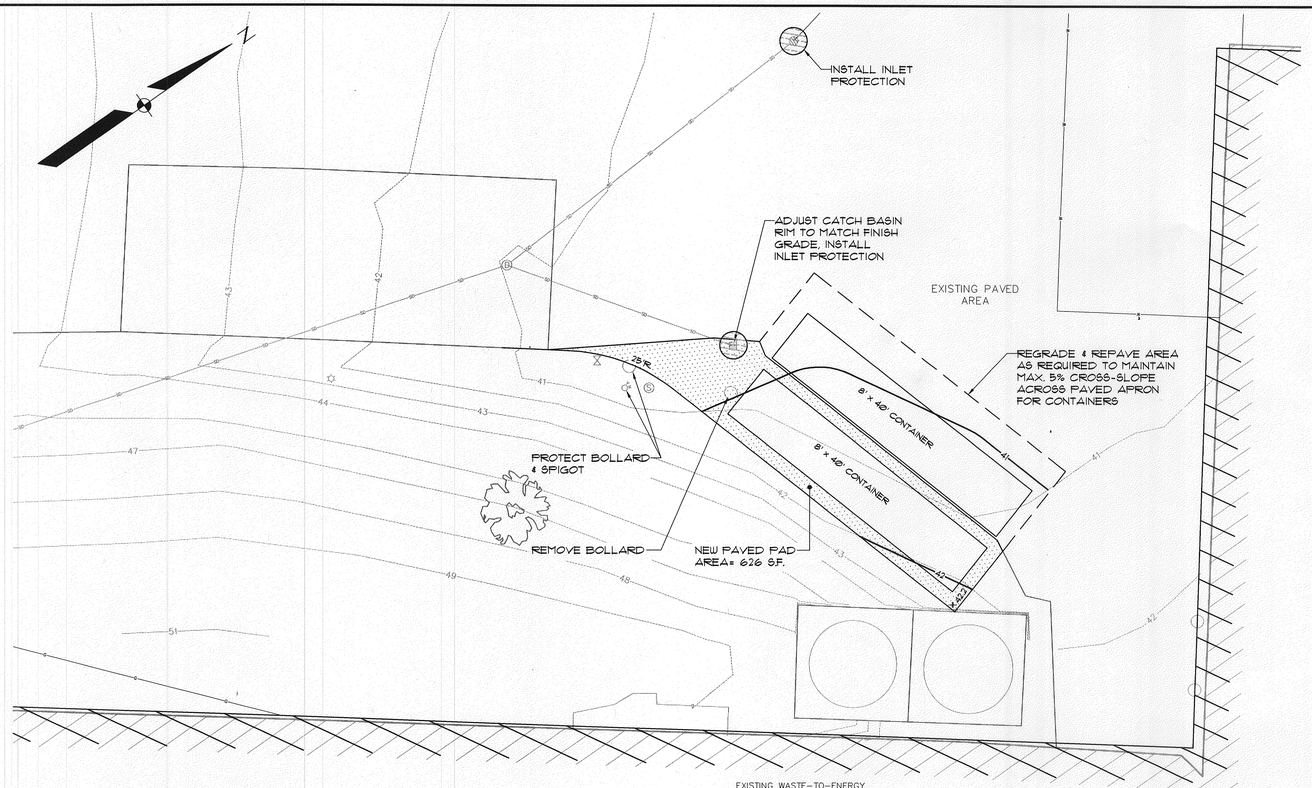
Inspection Division
Date: 08/05/13



WEST SIDE SITE PLAN

SCALE 1"=10'

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BOUNDARY LINE/R.O.W.	
	ABUTTER LINE/R.O.W.	
	SETBACK	
	EASEMENT	
	FLOODPLAIN	
	STREAM SETBACK	
	ZONE LINE	
	BUILDING	
	EDGE PAVEMENT	
	EDGE CONCRETE	
	PAVEMENT PAINT	
	GRAVEL ROAD	
	EDGE WATER	
	TREELINE	
122 120	CONTOURS	124
×30.20	SPOT GRADE	
GV	GAS / GAS GATE VALVE	
	WATER	
	HYDRANT	
	WATER GATE VALVE	
	SEWER	
S	SEWER MH	
	STORM DRAIN	
	UNDERDRAIN	UD
	CATCH BASIN	
D	DRAINAGE MH	
UG UG	UNDERGROUND ELECTRIC & TELEPHONE	
UE UE	UNDERGROUND ELECTRIC	
T	TELECOMMUNICATIONS MANHOLE	
	LIGHT POLE/WALL	
	UTILITY POLE	
	DECIDUOUS TREE	
	DRAINAGE ARROW	
	EC. BLANKET	
	FILTER BARRIER	FB
	RIPRAP	
	TEST PIT	

NOTES:

1. SOILS WITHIN THE GENERAL WORK AREA ARE CLASSIFIED AS SUFFIELD SILT LOAM, HSG C BY A CLASS D, MEDIUM INTENSITY SOIL SURVEY PUBLISHED UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE FOR CUMBERLAND COUNTY AND PART OF OXFORD COUNTY, MAINE, CURRENT EDITION AVAILABLE ONLINE AT http://websoilsurvey.nrcs.usda.gov/app/.
2. EXCEPT FOR 2:1 (H:V) SIDESLOPES ADJACENT TO PROPOSED PARKING SPACES AS SHOWN ON THIS PLAN, SIDESLOPES SHALL NOT EXCEED 3:1 (H: V).
3. A PBR PERMIT APPLICATION HAS BEEN FILED FOR FOR WORK WITHIN THE 75' STREAM PROTECTION ZONE ALONG THE STREAM SHOWN ON SHEET 2. CLEARING LIMITS SHALL NOT ENCROACH BEYOND THE FILTER BARRIER LINE.

UNDERDRAINED SOIL FILTER #1 (UDSF #1) SIZING CALCULATIONS:
THE UNDERDRAINED SOIL FILTER IS DESIGNED IN GENERAL CONFORMANCE WITH CHAPTER 7, VOLUME III BMPS TECHNICAL DESIGN MANUAL, LATEST REVISION. THE TREATMENT VOLUME WAS SIZED TO TREAT A MINIMUM OF 1" OF SURFACE RUNOFF FROM 100% OF NEW IMPERVIOUS SURFACES (PARKING SPACES) AND 0.4" OF SURFACE RUNOFF FROM ASSOCIATED LANDSCAPED AREAS.

Treatment Calculations for Proposed Underdrained Soil Filter #1 (UDSF #1)
Subcatchments tributary to UDSF #1 (1P) include 1S

WQV Calculations
(WQV = Water Quality Volume)

Impervious Area = 2020.0 sf
Landscaped Area= 2164.0 sf

WQV Required= 1" x Impervious + 0.4"x Landscape = 240.5 cf

WQV Provided = 246.0 cf @ 1.0' depth (Between elevations 40.0 & 41.0)

Filterbed Area Calculations
Filterbed Area Required = 0.05 x Impervious + 0.02 x Landscape = 144.3 sf
Filterbed Area Provided= 145.6 sf

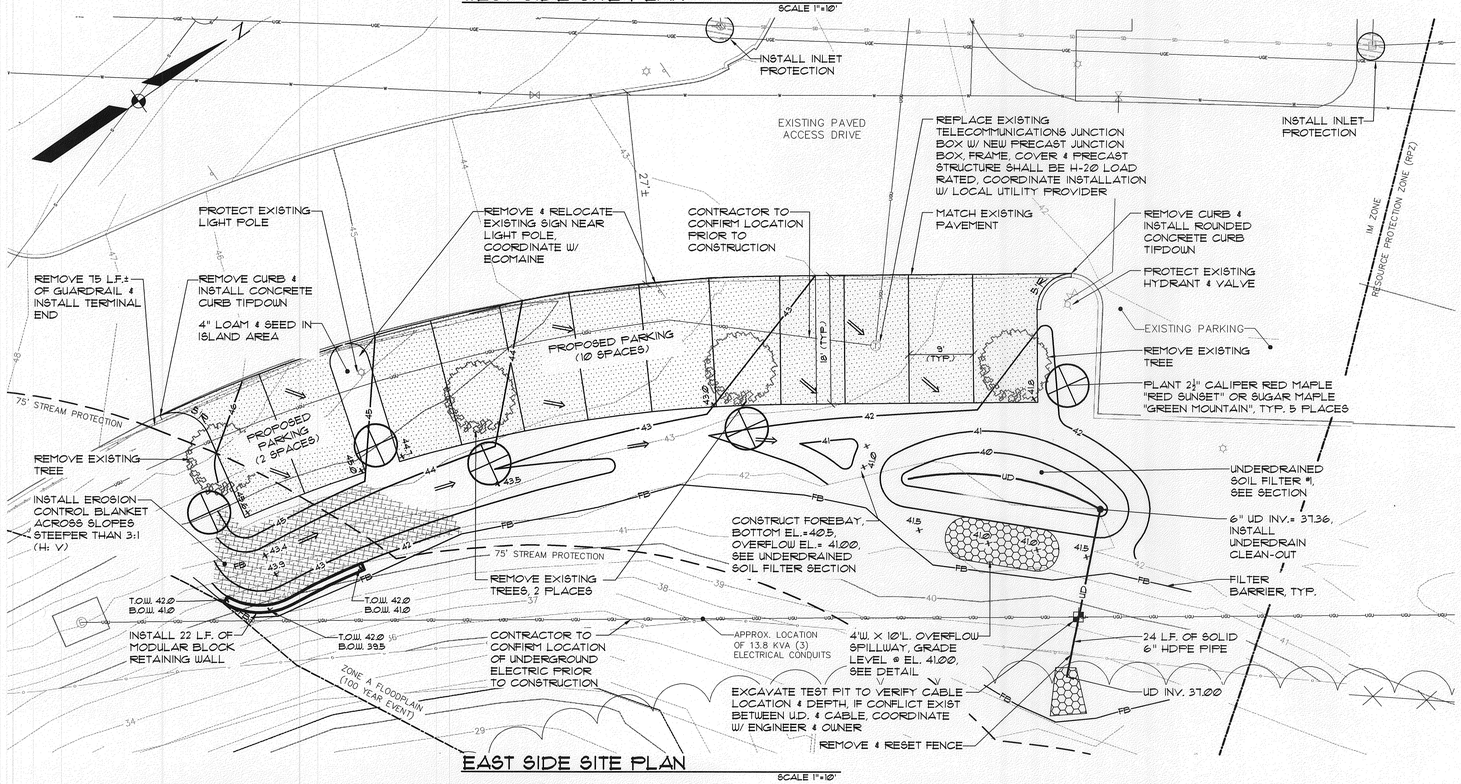
Pre-treatment Sediment Forebay Volume

Sand Application Rate= 50.0 cf/acre/year

Total Impervious Area 2020.0 sf
Tributary to UDSF #1

Required Pre-treatment Volume= 2.3 cf

Provided Pre-treatment Volume= 5.0 cf



EAST SIDE SITE PLAN

SCALE 1"=10'

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

REV:	BY:	DATE:	STATUS:
E	CAB	6-18-13	REVISED PER CITY COMMENTS
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PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
11187	-	CAM/CAB	CAM	CAB

GRADING, UTILITY & EROSION CONTROL PLAN
OF:
ECOMAINE WASTE-TO-ENERGY PLANT
64 BLUEBERRY ROAD
PORTLAND, MAINE
FOR:
ECOMAINE
64 BLUEBERRY ROAD
PORTLAND, MAINE 04102

DATE	SCALE
11-26-12	1"=10'

SHEET 3 OF 5

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EROSION CONTROL MEASURES

PRE-CONSTRUCTION PHASE

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, SEDIMENT BARRIERS (SILT FENCE) WILL BE STAKED/INSTALLED ACROSS THE SLOPE(S), ON THE CONTOUR AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE OR WATERCOURSE TO PROTECT AGAINST CONSTRUCTION RELATED EROSION. THE PLACEMENT OF SEDIMENT BARRIERS SHALL BE COMPLETED IN ACCORDANCE WITH GUIDELINES ESTABLISHED IN BEST MANAGEMENT PRACTICES AND IN ACCORDANCE WITH THE EROSION CONTROL PLAN AND DETAILS IN THIS PLAN SET. THIS NETWORK IS TO BE MAINTAINED BY THE CONTRACTOR UNTIL ALL EXPOSED SLOPES HAVE AT LEAST 85%-90% VIGOROUS PERENNIAL VEGETATIVE COVER TO PREVENT EROSION. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.

PRIOR TO ANY CLEARING OR GRUBBING, A CONSTRUCTION ENTRANCE/EXIT SHALL BE CONSTRUCTED AT THE INTERSECTION OF THE PROPOSED ENTRANCES AND EXISTING ROADWAY TO AVOID TRACKING OF MUD, DUST AND DEBRIS FROM THE SITE.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PREPARE A DETAILED SCHEDULE AND MARKED UP PLAN INDICATING AREAS AND COMPONENTS OF THE WORK AND KEY DATES SHOWING DATE OF DISTURBANCE AND COMPLETION OF THE WORK. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE MUNICIPAL STAFF. THREE COPIES OF THE SCHEDULE AND MARKED UP PLAN SHALL BE PROVIDED TO THE MUNICIPALITY THREE DAYS PRIOR TO THE SCHEDULED PRE-CONSTRUCTION MEETING. SPECIAL ATTENTION SHALL BE GIVEN TO THE 14 DAY LIMIT OF DISTURBANCE IN THE SCHEDULE ADDRESSING TEMPORARY AND PERMANENT VEGETATION MEASURES.

CONSTRUCTION AND POST-CONSTRUCTION PHASE

AREAS UNDERGOING ACTUAL CONSTRUCTION SHALL ONLY EXPOSE THAT AMOUNT OF MINERAL SOIL NECESSARY FOR PROGRESSIVE AND EFFICIENT CONSTRUCTION . AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRRAP OR GRAVEL BASE ON A ROAD . OPEN AREAS SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL AS SHOWN ON THE DESIGN PLANS AND AS DESCRIBED WITHIN THIS EROSION CONTROL PLAN WITHIN 14-DAYS OF DISTURBANCE. AREAS LOCATED WITHIN 100' OF STREAMS SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL WITHIN SEVEN (7) DAYS. REFER TO WINTER EROSION CONTROL NOTES FOR THE TREATMENT OF OPEN AREAS AFTER OCTOBER 15T OF THE CONSTRUCTION YEAR.

THE CONTRACTOR MUST INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

EROSION CONTROL APPLICATIONS & MEASURES
THE PLACEMENT OF EROSION CONTROL MEASURES SHALL BE COMPLETED IN ACCORDANCE WITH GUIDELINES ESTABLISHED IN BEST MANAGEMENT PRACTICES AND IN ACCORDANCE WITH THE EROSION CONTROL PLAN AND DETAILS IN THE PLAN SET.

1. TEMPORARY MULCHING:

ALL DISTURBED AREAS SHALL BE MULCHED WITH MATERIALS SPECIFIED BELOW PRIOR TO ANY STORM EVENT. ALL DISTURBED AREAS SHALL BE FINAL GRADED WITHIN 14 DAYS SHALL BE MULCHED. ALSO, AREAS, WHICH HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED, SHALL BE MULCHED IMMEDIATELY FOLLOWING SEEDING. EROSION CONTROL BLANKETS ARE RECOMMENDED TO BE USED AT THE BASE OF GRADED MATERIAL'S AND ON SLOPES GREATER THAN 15%. MULCH ANCHORING SHOULD BE USED ON SLOPES GREATER THAN 5% AFTER SEPTEMBER 15TH OF THE CONSTRUCTION YEAR (SEE WINTER EROSION CONTROL NOTES).
TYPES OF MULCH:
HAY OR STRAW: SHALL BE APPLIED AT A RATE OF 75 LBS/1000 SF. (1.5 TONS PER ACRE).
EROSION CONTROL MIX: SHALL BE PLACED EVENLY AND MUST PROVIDE 100% SOIL COVERAGE.
EROSION CONTROL MIX SHALL BE APPLIED SUCH THAT THE THICKNESS ON SLOPES 3:1 OR LESS IS 2 INCHES PLUS 1/2 INCH PER 100 FEET OF SLOPE UP TO 100 FEET. THE THICKNESS ON SLOPES BETWEEN 3:1 AND 2:1 SHALL BE 4 INCHES PLUS 1/2 INCH PER 20 FEET OF SLOPE UP TO 100 FEET. THIS SHALL NOT BE USED ON SLOPES GREATER THAN 2:1.
EROSION CONTROL BLANKET: SHALL BE INSTALLED SUCH THAT CONTINUOUS CONTACT BETWEEN THE MAT AND THE SOIL IS OBTAINED. INSTALL BLANKETS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

2. SOIL STOCKPILES:

STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED WITH HAY OR STRAW AT A RATE OF 75 LBS/1000 SF. (1.5 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF WOOD WASTE EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND REESTABLISHED PRIOR TO ANY RAINFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 100 FEET FROM ANY NATURAL RESOURCES.

3. NATURAL RESOURCES PROTECTION:

ANY AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 75% MATURE VEGETATION CATCH, SHALL BE FILLED AND USING TEMPORARY MULCHING (AS DESCRIBED IN PART 1. OF THIS SECTION) WITHIN 7 DAYS OF EXPOSURE OR PRIOR TO ANY STORM EVENT. SEDIMENT BARRIERS (AS DESCRIBED IN PART 4. OF THIS SECTION) SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA.
PROJECTS CROSSING THE NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE.

4. SEDIMENT BARRIERS:

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, SEDIMENT BARRIERS SHALL BE STAKED ACROSS THE SLOPE(S), ON THE CONTOUR AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE OR WATERCOURSE TO PROTECT AGAINST CONSTRUCTION RELATED EROSION. SEDIMENT BARRIERS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL ALL EXPOSED SLOPES HAVE AT LEAST 85%-90% VIGOROUS PERENNIAL VEGETATIVE COVER TO PREVENT EROSION.

SILT FENCE: SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THE EFFECTIVE HEIGHT OF THE FENCE SHALL NOT EXCEED 36 INCHES. IT IS RECOMMENDED THAT SILT FENCE BE REMOVED BY CUTTING THE FENCE MATERIALS AT GROUND LEVEL SO AS TO AVOID ADDITIONAL SOIL DISTURBANCE.

5. STORMDRAIN INLET PROTECTION:

INLET PROTECTION SHALL BE PLACED AROUND A STORMDRAIN DROP INLETOR CURB INLET PRIOR TO PERMANENT STABILIZATION OF THE IMMEDIATE AND UPSTREAM DISTURBED AREAS. THEY SHALL BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN-OUT AND DISPOSAL OF TRAPPED SEDIMENTS AND MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES. ANY RESULTANT PONDING OF WATER FROM THE PROTECTION METHOD MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.

MANUFACTURED SEDIMENT BARRIERS AND FILTER (DROP OR CURB INLET): MANUFACTURED FILTERS, AS SPECIFIED IN THE DETAIL ON THE PLANS, MAY BE USED IF INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

6. PREVENTION OF SEDIMENT AND DEBRIS TRACKING ONTO PAVED SURFACES:

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MINIMIZE THE TRACKING OF SEDIMENT AND DEBRIS FROM THE CONSTRUCTION SITE ONTO PAVED SURFACES. PRIOR TO DRIVING ON PAVEMENT, TIRES AND UNDERCARRIAGES OF MACHINERY OPERATING IN DISTURBED AREAS SHALL BE WASHED IN A STABILIZED AREA THAT DRAINS TO A FILTER BERM OR CATCH BASIN WITH STORMDRAIN INLET PROTECTION. PAVED AREAS ADJACENT TO THE PROJECT SITE SHALL ALSO BE PERIODICALLY SWEPT OR WASHED TO FURTHER MINIMIZE THE TRACKING OF MUD, DUST OR DEBRIS FROM THE CONSTRUCTION AREA.

7. DUST CONTROL:

DUST CONTROL DURING CONSTRUCTION SHALL BE ACHIEVED BY THE USE OF A WATERING TRUCK TO PERIODICALLY SPRINKLE THE EXPOSED ROADWAY AREAS AS NECESSARY TO REDUCE DUST DURING THE DRY MONTHS. APPLYING OTHER DUST CONTROL PRODUCTS SUCH AS CALCIUM CHLORIDE OR OTHER MANUFACTURED PRODUCTS ARE ALLOWED IF AUTHORIZED BY THE PROPER LOCAL, STATE AND/OR FEDERAL REGULATING AGENCIES. HOWEVER, IT IS THE CONTRACTOR'S ULTIMATE RESPONSIBILITY TO MITIGATE DUST AND SOIL LOSS FROM THE SITE.

8. TEMPORARY VEGETATION:

TEMPORARY VEGETATION SHALL BE APPLIED TO DISTURBED AREAS THAT WILL NOT RECEIVE FINAL GRADING FOR PERIODS UP TO 12 MONTHS. THIS PROCEDURE SHOULD BE USED EXTENSIVELY IN AREAS ADJACENT TO NATURAL RESOURCES. SEEDBED PREPARATION AND APPLICATION OF SEED SHALL BE CONDUCTED AS INDICATED IN THE PERMANENT VEGETATION SECTION OF THIS NARRATIVE. SPECIFIC SEEDS (FAST GROWING AND SHORT LIVING) SHALL BE SELECTED FROM THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL DATED 3/2003 OR LATER. ALTERNATIVE EROSION CONTROL MEASURES SHOULD BE USED IF SEEDING CAN NOT BE DONE BEFORE SEPTEMBER 15TH OF THE CONSTRUCTION YEAR.

9. PERMANENT VEGETATION:

REVEGETATION MEASURES SHALL COMMENCE IMMEDIATELY UPON COMPLETION OF FINAL GRADING OF AREAS TO BE LOAMED AND SEEDED. THE APPLICATION OF SEED SHALL BE CONDUCTED BETWEEN APRIL 1ST AND OCTOBER 15T OF THE CONSTRUCTION YEAR. PLEASE REFER TO THE WINTER EROSION CONTROL NOTES FOR MORE DETAIL. REVEGETATION MEASURES SHALL CONSIST OF THE FOLLOWING:

SEEDBED PREPARATION:

A. FOUR (4) INCHES OF LOAM SHALL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE. LOAM SHALL BE FREE OF SUBSOIL, CLAY LUMPS, STONES AND OTHER OBJECTS OVER 2 INCHES OR LARGER IN ANY DIMENSION, AND WITHOUT WEEDS, ROOTS OR OTHER OBJECTIONABLE MATERIAL.

B. SOILS TESTS SHALL BE TAKEN AT THE TIME OF SOIL STRIPPING TO DETERMINE FERTILIZATION REQUIREMENTS. SOILS TESTS SHALL BE TAKEN PROMPTLY AS TO NOT INTERFERE WITH THE 14-DAY LIMIT ON SOIL EXPOSURE. BASED UPON TEST RESULTS, SOIL AMENDMENTS SHALL BE INCORPORATED INTO THE SOIL PRIOR TO FINAL SEEDING. IN LIEU OF SOIL TESTS, SOIL AMENDMENTS MAY BE APPLIED AS FOLLOWS:

ITEM	APPLICATION RATE
10-20-20 FERTILIZER (N-P2O5-K2O OR EQUAL)	18.4 LBS/1000 SF.
GROUND LIMESTONE (50% CALCIUM & MAGNESIUM OXIDE)	138 LBS/1000 SF.

C. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH PROPER EQUIPMENT. ROLL THE AREA TO FIRM THE SEEDBED EXCEPT ON CLAY OR SILTY SOILS OR COARSE SAND.

APPLICATION OF SEED:

A. SEEDING: SHALL BE CONDUCTED BETWEEN APRIL 1ST AND OCTOBER 15T OF THE CONSTRUCTION YEAR. GENERALLY A SEED MIXTURE MAY BE APPLIED AS FOLLOWS: (MDEP SEED MIX 2 IS DISPLAYED)

SEED TYPE	APPLICATION RATE
CREEPING RED FESCUE	0.46 LBS/1000 SF. (10 LBS/ACRE)
REDTOP	0.05 LBS/1000 SF. (2 LBS/ACRE)
TALL FESCUE	0.46 LBS/1000 SF. (10 LBS/ACRE)
TOTAL:	0.97 LBS./1000 SF. (42 LBS/ACRE)

NOTE: A SPECIFIC SEED MIXTURE SHOULD BE CHOSEN TO MATCH THE SOILS CONDITION OF THE SITE. VARIOUS AGENCIES CAN RECOMMEND SEED MIXTURES. THEIR RECOMMENDED SEED MIXTURES ARE THE EROSION AND SEDIMENT CONTROL BMP MANUAL DATED 3/2003 OR LATER.

B. HYDROSEEDING: SHALL BE CONDUCTED ON PREPARED AREAS WITH SLOPES LESS THAN 2:1. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. RECOMMENDED SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.

C. MULCHING: SHALL COMMENCE IMMEDIATELY AFTER SEED IS APPLIED. REFER TO THE TEMPORARY MULCHING SECTION OF THIS NARRATIVE FOR DETAILS.

SODDING:

FOLLOWING SEEDBED PREPARATION, SOD CAN BE APPLIED IN LIEU OF SEEDING IN AREAS WHERE IMMEDIATE VEGETATION IS MOST BENEFICIAL SUCH AS DITCHES, AROUND STORMWATER DROP INLETS AND AREAS OF AESTHETIC VALUE. SOD SHOULD BE LAID AT RIGHT ANGLES TO THE DIRECTION OF FLOW, STARTING AT THE LOWEST ELEVATION. SOD SHALL BE ROLLED OR TAMPED DOWN TO EVEN OUT THE JOINTS ONCE LAID DOWN. WHERE FLOW IS PREVALENT THE SOD MUST BE PROPERLY ANCHORED DOWN. IRRIGATE THE SOD IMMEDIATELY AFTER INSTALLATION. IN MOST CASES, SOD CAN BE ESTABLISHED BETWEEN APRIL 1ST AND NOVEMBER 15TH OF THE CONSTRUCTION YEAR. HOWEVER, REFER TO THE WINTER EROSION CONTROL NOTES FOR ANY ACTIVITIES AFTER OCTOBER 1ST.

10. TRENCH DEWATERING:

WATER FROM CONSTRUCTION TRENCH DEWATERING WILL PASS FIRST THROUGH A FILTER BAG OR SECONDARY CONTAINMENT STRUCTURE (E.G. HAY BALE LINED POOL) PRIOR TO DISCHARGE. THE DISCHARGE SITE SHALL BE SELECTED TO AVOID FLOODING AND SEDIMENT DISCHARGES TO A PROTECTED NATURAL RESOURCE. IN NO CASE SHALL THE FILTER BAG OR CONTAINMENT STRUCTURE BE LOCATED WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE.

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS -- BY SEPTEMBER 15 THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15%. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION -- BY OCTOBER 1 THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE APPLICANT WILL MONITOR GROUTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 15, THEN THE APPLICANT WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM 3(C.) OF THIS STANDARD.
B. STABILIZE THE SOIL WITH SOD -- THE APPLICANT WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
C. STABILIZE THE SOIL WITH MULCH -- BY NOVEMBER 15 THE APPLICANT WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. PRIOR TO APPLYING THE MULCH, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED AREA. IMMEDIATELY AFTER APPLYING THE MULCH, THE APPLICANT WILL ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

CONSTRUCTION SCHEDULE
SITE IMPROVEMENTS WILL MOST LIKELY BEGIN IN SPRING, 2013 DEPENDING UPON FINAL PROJECT APPROVAL. THE ENTIRE PROJECT SHOULD TAKE LESS THAN 1 MONTH TO COMPLETE.

INSPECTIONS/MONITORING:

1. MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, OR AT LEAST EVERY SEVEN (7) DAYS, THE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES. THE CONTRACTOR SHALL PERFORM REPAIRS AS NEEDED TO ALLOW CONTINUED PROPER FUNCTIONING OF THE EROSION CONTROL MEASURE. THE CONTRACTOR SHALL PROVIDE THE NECESSARY REGULATING AGENCIES WITH WRITTEN DOCUMENTATION DESCRIBING DATES OF INSPECTIONS AND NECESSARY FOLLOW-UP WORK TO MAINTAIN EROSION CONTROL MEASURES MEETING THE REQUIREMENTS OF THIS PLAN.

2. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDINGS, THE CONTRACTOR S[illegible] THE WORK AREA SEMIMONTHLY UNTIL THE SEEDINGS HAVE BEEN ESTABLISHED. ESTABLISHED MEANS A MINIMUM OF 85%-90% OF AREAS VEGETATED WITH VIGOROUS GROWTH. RESEEDING SHALL BE CARRIED OUT BY THE CONTRACTOR WITH FOLLOW-UP INSPECTIONS IN THE EVENT OF ANY FAILURES UNTIL VEGETATION IS ADEQUATELY ESTABLISHED.

WINTER EROSION CONTROL MEASURES

THE WINTER CONSTRUCTION PERIOD IS FROM OCTOBER 1 THROUGH APRIL 15. IF THE CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRRAP OR GRAVEL BASE ON A ROAD.
WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDER TAKEN DURING THE PROCEEDING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.
ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. HAY AND STRAW MULCH RATE SHALL BE A MINIMUM OF 150 LBS/1000 SF. (3 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED.
THE CONTRACTOR MUST INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

1. SOIL STOCKPILES

STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT THE NORMAL RATE OF AT LEAST 75 LBS/1000 SF. (3 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF WOOD WASTE EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND REESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL.
ANY SOIL STOCKPILE WILL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 100 FEET FROM ANY NATURAL RESOURCES.

2. NATURAL RESOURCES PROTECTION

ANY AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 75% MATURE VEGETATION CATCH, SHALL BE MULCHED BEFORE DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH EROSION CONTROL MATS.
DURING WINTER CONSTRUCTION, A DOUBLE LINE OF SEDIMENT BARRIERS (I.E. SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) WILL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA.
PROJECTS CROSSING THE NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE. EXPOSED AREAS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

3. SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF WOOD WASTE FILTER BERMS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES AND SEDIMENT SILT FENCES.

4. MULCHING

ALL AREA SHALL BE CONSIDERED TO BE DENUDED UNTIL AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LBS. PER 1000 SQUARE FEET (3 TONS PER ACRE) TO ENSURE THE NORMAL ACCEPTED RATE OF 75-LBS/1000 SF. (1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED.
MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW WILL BE REMOVED DOWN TO A ONE-INCH DEPTH OR LESS PRIOR TO APPLICATION.
AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERLY STABILIZED WITHIN ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING.
AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LBS. PER 1000 SQUARE FEET (3 TONS/ACRE) AND ADEQUATELY ANCHORED THAT GROUND SURFACE IS NOT VISIBLE THOUGH THE MULCH.

BETWEEN THE DATES OF SEPTEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, TRACK OR WOOD CELLULOSE FIBER. WHEN GROUND SURFACE IS NOT VISIBLE THOUGH THE MULCH THEN COVER IS SUFFICIENT.
AFTER NOVEMBER 15T, MULCH AND ANCHORING OF ALL BARE SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORK DAY.

5. MULCHING ON SLOPES AND DITCHES

SLOPES SHALL NOT BE LEFT EXPOSED FOR ANY EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY MULCHED AND ANCHORED WITH PEG AND NETTING OR WITH EROSION CONTROL BLANKETS.
MULCHING SHALL BE APPLIED AT A RATE OF 230 LBS/1000 SF. ON ALL SLOPES GREATER THAN 8%. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 8%. MULCH NETTING SHALL BE EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%. EROSION CONTROL BLANKETS SHALL BE USED IN LIEU OF MULCH IN ALL DRAINAGE WAYS WITH SLOPES 8%.

EROSION CONTROL MIX CAN BE USED TO SUBSTITUTE EROSION CONTROL BLANKETS ON ALL SLOPES EXCEPT DITCHES.

6. SEEDING

BETWEEN THE DATES OF OCTOBER 15 AND APRIL 15T, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IN NO CASE SHALL 1ST AND IF THE EXPOSED AREA HAS BEEN LOOMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED.
DORMANT SEEDING MAY BE SELECTED TO BE PLACED PRIOR TO THE PLACEMENT OF MULCH AND FABRIC NETTING ANCHORED WITH STAPLES.

IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4' OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS/1000 SF. ALL AREAS SEEDED DURING THE WINTER WILL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS SUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED BY REPLACING LOAM, SEED AND MULCH.
IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING.

7. TRENCH DEWATERING AND TEMPORARY STREAM DIVERSION

WATER FROM CONSTRUCTION TRENCH DEWATERING OR TEMPORARY STREAM DIVERSION WILL PASS FIRST THROUGH A FILTER BAG OR SECONDARY CONTAINMENT STRUCTURE (E.G. HAY BALE LINED POOL) PRIOR TO DISCHARGE. THE DISCHARGE SITE SHALL BE SELECTED TO AVOID FLOODING, ICING, AND SEDIMENT DISCHARGES TO A PROTECTED NATURAL RESOURCE. IN NO CASE SHALL THE FILTER BAG OR CONTAINMENT STRUCTURE BE LOCATED WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE.

8. INSPECTION AND MONITORING

MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION.
FOLLOWING THE TEMPORARY AND OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL IN THE SPRING INSPECT AND REPAIR ANY DAMAGES AND/ OR UNESTABLISHED SPOTS. ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 85 TO 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.

STANDARDS FOR TIMELY STABILIZATION OF CONSTRUCTION SITES DURING WINTER

1. STANDARD FOR THE TIMELY STABILIZATION OF DITCHES AND CHANNELS -- THE APPLICANT WILL CONSTRUCT AND STABILIZE ALL STONE-LINED DITCHES AND CHANNELS ON THE SITE BY NOVEMBER 15. THE APPLICANT WILL CONSTRUCT AND STABILIZE ALL GRASS-LINED DITCHES AND CHANNELS ON THE SITE BY SEPTEMBER 15. IF THE APPLICANT FAILS TO STABILIZE A DITCH OR CHANNEL TO BE GRASS-LINED BY SEPTEMBER 15, THEN THE APPLICANT WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.
INSTALL A SOD LINING IN THE DITCH -- THE APPLICANT WILL LINE THE DITCH WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING THE SOD WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD STRIPS FROM SLOUGHING DURING FLOW CONDITIONS.
INSTALL A STONE LINING IN THE DITCH --THE APPLICANT WILL LINE THE DITCH WITH STONE RIPRAP BY NOVEMBER 15. THE APPLICANT WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE APPLICANT WILL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.

2. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES -- THE APPLICANT WILL CONSTRUCT AND STABILIZE STONE-COVERED SLOPES BY NOVEMBER 15. THE APPLICANT WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15. THE DEPARTMENT WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15 (3H:1V) TO BE A SLOPE. IF THE APPLICANT FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15, THEN THE APPLICANT WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.
STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS -- BY OCTOBER 1 THE APPLICANT WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND APPLY EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE APPLICANT WILL MONITOR GROUTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 15, THEN THE APPLICANT WILL MONITOR GROUTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 15, THEN THE APPLICANT

UNDERDRAINED SOIL FILTER CONSTRUCTION OVERSIGHT

THE APPLICANT WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION OF ALL STORMWATER MANAGEMENT STRUCTURES. IF NECESSARY, THE INSPECTING ENGINEER WILL INTERPRET THE POND'S CONSTRUCTION PLAN FOR THE CONTRACTOR. ONCE ALL STORMWATER MANAGEMENT STRUCTURES ARE CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER WILL NOTIFY THE DEPARTMENT IN WRITING WITHIN 30 DAYS TO STATE THAT THE POND HAS BEEN COMPLETED. ACCOMPANYING THE ENGINEER'S NOTIFICATION MUST BE A LOG OF THE ENGINEER'S INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT, AND INCLUDE ANY TESTING DATA OR SIEVE ANALYSIS DATA OF EVERY MINERAL SOIL AND SOIL MEDIA SPECIFIED IN THE PLANS AND USED ON SITE.

1. CONSTRUCTION SEQUENCE: 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 UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.
2. 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.
3. CONSTRUCTION OVERSIGHT: INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:
   - A. AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
   - B. AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE SOIL FILTER MEDIA.
   - C. AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED.
   - D. AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS.
   - E. ALL THE MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.

TESTING AND SUBMITTALS

1. THE SOIL FILTER MEDIA SHALL CONSIST OF THE TOP THREE LAYERS IDENTIFIED AS 6" NON-CLAYEY LOAMY TOPSOIL, 2" TRANSITION AND 12" LOAMY COARSE SAND. THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE FOR EACH COMPONENT OF THE SOIL FILTER MEDIA AND SUBMIT GRADATIONS FOR THE SOIL FILTER MEDIA TO THE ENGINEER. 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.

UNDERDRAINED SOIL FILTER INSPECTION & MAINTENANCE

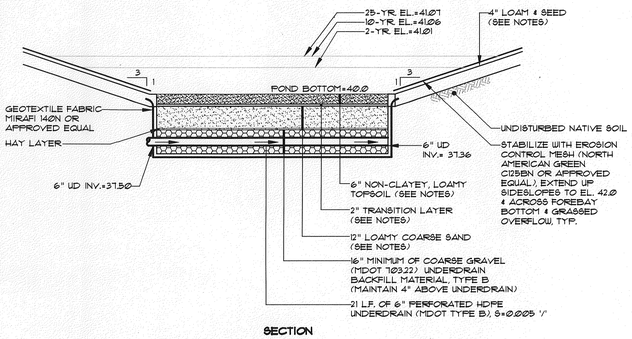
1. ECOMAINE SHALL BE RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE OF THE UNDERDRAINED SOIL FILTER.
2. DURING THE FIRST YEAR, THE BASIN SHALL BE INSPECTED SEMI-ANNUALLY AND FOLLOWING MAJOR STORM EVENTS.
3. DEBRIS AND SEDIMENT BUILDUP SHALL BE REMOVED FROM THE FOREBAY AND BASIN AS NEEDED. MOWING OF A 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.
4. 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. FOLLOWING STORMS THAT FILL THE SYSTEM AND OVERFLOW IS OBSERVED, THE SOIL FILTER SHOULD DRAIN 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.
5. 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.
6. SEDIMENT REMOVAL: SEDIMENT AND PLANT DEBRIS SHOULD BE REMOVED FROM THE PRETREATMENT STRUCTURE AT LEAST ANNUALLY.
7. 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.
8. FERTILIZATION: FERTILIZATION OF THE UNDERDRAINED FILTER AREA SHOULD BE AVOIDED UNLESS ABSOLUTELY NECESSARY TO ESTABLISH VEGETATION.
9. 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. .

UNDERDRAINED SOIL FILTER MATERIAL NOTES:

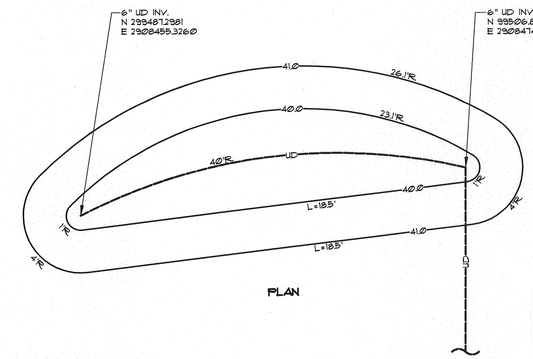
1. USE THE FOLLOWING SEED MIX TOLERANT OF FREQUENT INUNDATION AND WELL-DRAINED SOILS ACROSS THE ENTIRE FILTER AREA AND SIDESLOPES OF THE UNDERDRAINED SOIL FILTER. AN EQUIVALENT SEED MIX SHALL BE APPROVED BY THE ENGINEER.

	LBS/ ACRE	LBS/ 1000 FT.
CREEPING RED FESCUE	20	0.46
BIRDSFOOT TREFOIL	8	0.18
TALL FESCUE	20	0.46
TOTAL	48	1.10

2. THE TOP 6" SHALL BE NON-CLAYEY, LOAMY TOPSOIL SUCH AS A USDA SANDY LOAM TOPSOIL WITH 5-8% HUMIFIED ORGANIC MATTER. SCREENED TOPSOIL FROM THE DEVELOPMENT MAY BE APPROPRIATE BUT SHALL BE TESTED FOR ORGANIC MATTER AND IN ACCORDANCE WITH THE TESTING AND SUBMITTALS NOTES.
3. A 2" TRANSITION LAYER OF THE NON-CLAYEY, LOAMY TOPSOIL SHALL BE ROTOTILLED INTO THE LOAMY COARSE SAND LAYER BELOW.
4. THE 12" LOAMY COARSE SAND LAYER SHALL BE TESTED IN ACCORDANCE WITH THE TESTING AND SUBMITTALS NOTES.
5. A LAYER OF HAY SHALL BE PLACED BETWEEN 12" LOAMY COARSE LAYER AND UNDERDRAIN STONE BEDDING TO PREVENT SUBSIDENCE OR PLUGGING OF THE SAND/GRAVEL/STONE LAYER AND/OR PIPE.
6. UNDERDRAIN STONE BEDDING MATERIAL MUST CONSIST OF CRUSHED STONE MEETING THE MEDOT SPECIFICATION 703.22 UNDERDRAIN TYPE B FOR UNDERDRAIN BACKFILL MATERIAL. THE STONE BEDDING MATERIAL MUST HAVE NO MORE THAN 5% PASSING THE 200 SIEVE.
7. MATERIAL LAYERS ABOVE THE UNDERDRAIN BACKFILL LAYER 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. DURING CONSTRUCTION, CARE SHOULD BE TAKEN TO AVOID COMPACTION OF BOTH THE GRAVEL AND SOIL FILTER.
8. COMPACTION OF THE SOIL BED MATERIAL SHALL BE AVOIDED. IF COMPACTION OCCURS, ROTOTILL AGAIN PRIOR TO SEEDING OR SODDING.



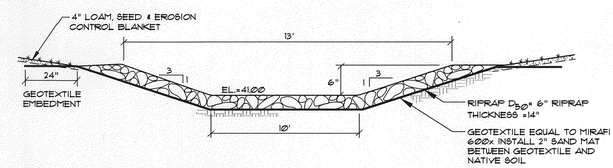
SECTION



PLAN

UNDERDRAINED SOIL FILTER DETAIL

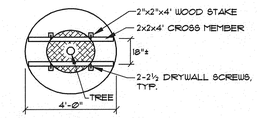
NOT TO SCALE



NOTE:
1. SPILLWAY WIDTH SHALL BE MINIMUM 4 FEET WIDE.

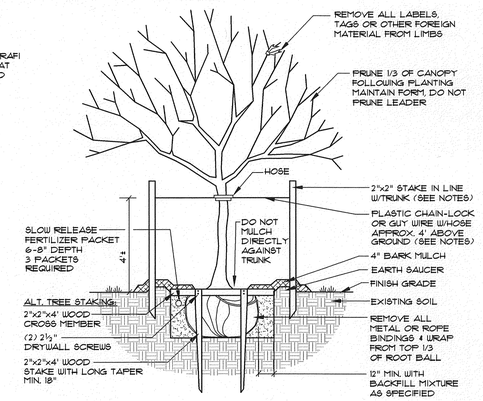
UDSF OVERFLOW SPILLWAY CROSS-SECTION

NOT TO SCALE



ALT. TREE STAKING PLAN

NOT TO SCALE

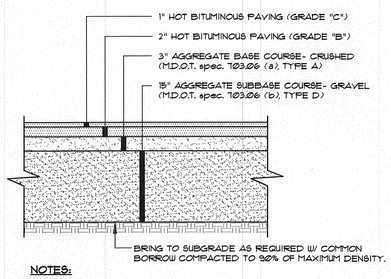


NOTES:

INSTALL STAKES AND GUYS TO TREES IF THE FOLLOWING APPLY:
1. THE TREE IS OF SUBSTANTIAL SIZE.
2. THE PLANTING LOCATION IS EXTREMELY WINDY, AS ON OPEN UNDEVELOPED SITES.
3. THE PLANTING LOCATION IS COMPRISED OF SAND OR OTHER LOOSE TEXTURED SOILS.
4. IF STAKES AND GUYS ARE REQUIRED, REMOVE AFTER ONE YEAR TIME.

DECIDUOUS TREES

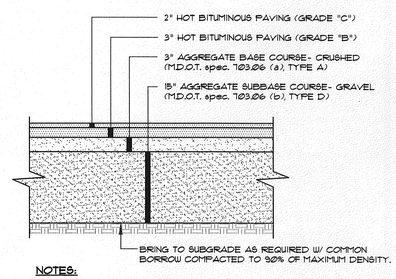
NOT TO SCALE



NOTES:
1. COMPACT GRAVEL SUBBASE, BASE COURSE TO 92% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

TYP. PAVED PARKING LOT SECTION

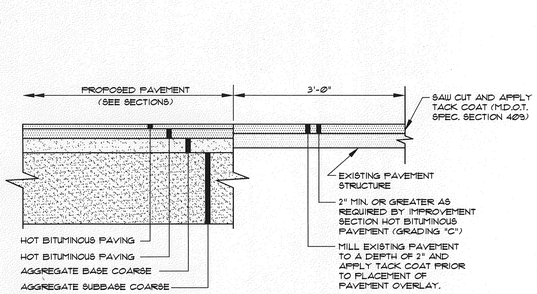
NOT TO SCALE



NOTES:
1. COMPACT GRAVEL SUBBASE, BASE COURSE TO 92% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

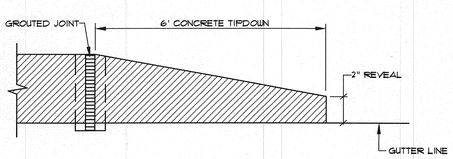
TYP. PAVED PAD

NOT TO SCALE



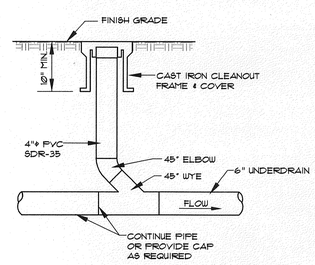
TYPICAL PAVEMENT JOINT DETAIL

NOT TO SCALE



TYPICAL TIPDOWN CURB INSTALLATION

NOT TO SCALE



UNDERDRAIN CLEANOUT

NOT TO SCALE

STATE OF MAINE
CRAIG A. BURGESS
No. 12638
PROFESSIONAL ENGINEER
6-18-13

REV:	BY:	DATE:	STATUS:
E	CAB	6-18-13	REVISED TREE PLANTING DETAIL
D	CAB	5-28-13	ADDED PARKING SPACES, LANDSCAPING & RESIZED UDSF
C	CAB	5-7-13	REVISED PER CITY & DEP COMMENTS
B	CAB	12-13-12	SUBMITTED FOR CITY APPROVAL
A	CAB	11-26-12	SUBMITTED TO DEP

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

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Lewiston, ME 04240
Tel: 207-783-9595

PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
11187	-	OAM/CAB	OAM	CAB

SITE DETAILS
OF:
ECOMAINE WASTE-TO-ENERGY PLANT
64 BLUEBERRY ROAD
PORTLAND, MAINE
FOR:
ECOMAINE
64 BLUEBERRY ROAD
PORTLAND, MAINE 04102

DATE	SCALE
11-26-12	NTS

SHEET 5 OF 5

11187D2.dwg, TAB: D2