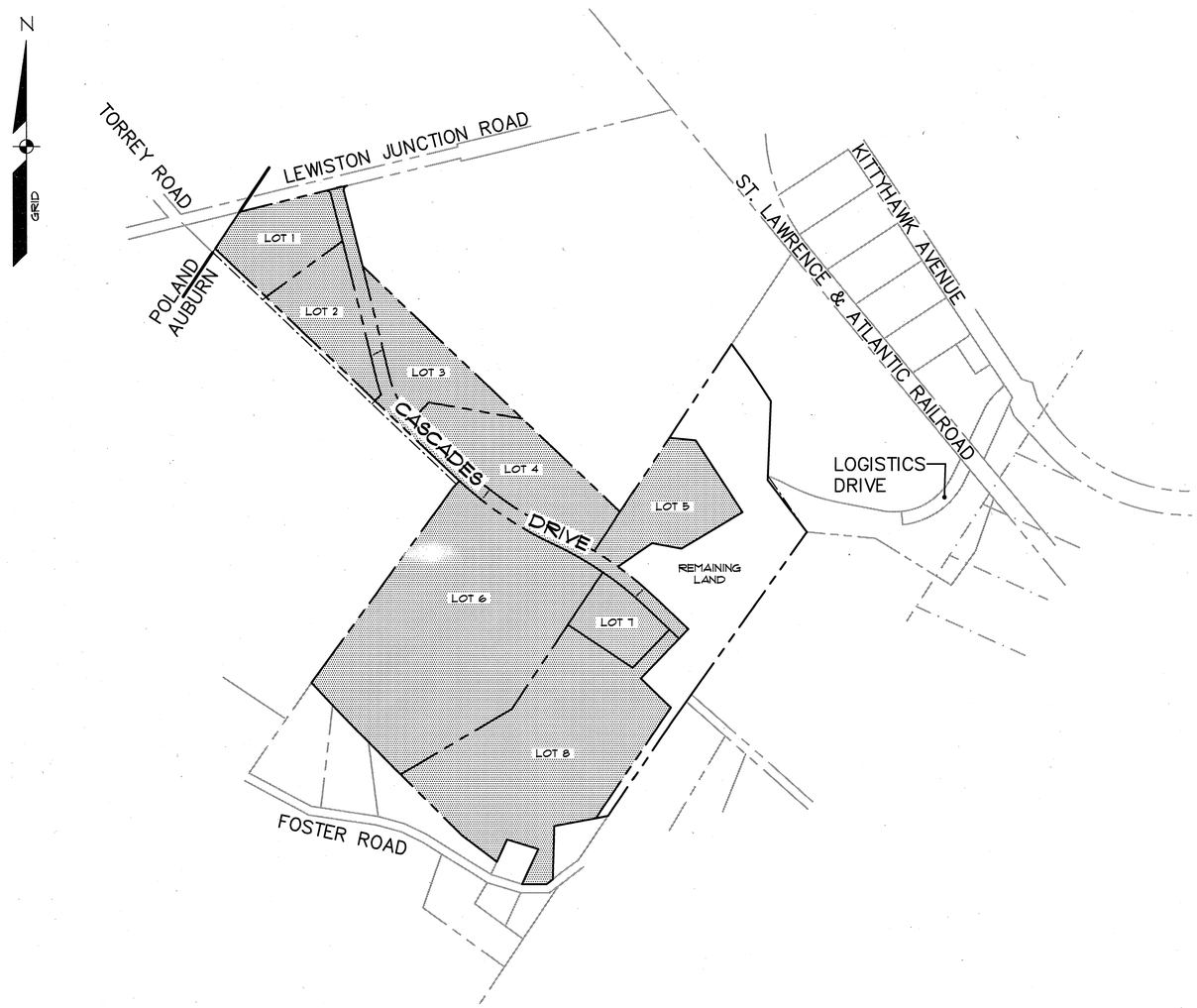
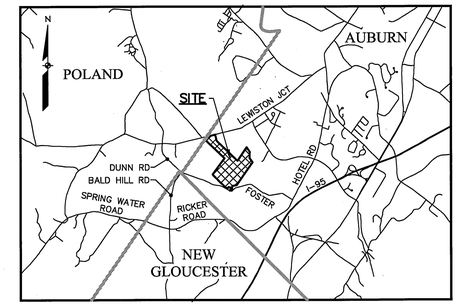
AUBURN INDUSTRIAL PARK

LEWISTON JUNCTION ROAD
AUBURN, MAINE

ECONOMIC DEVELOPMENT ADMINISTRATION (EDA)
AWARD NUMBER 01-01-14171



SCALE: 1" = 400'



LOCATION MAP N.T.S.

OWNER:
CITY OF AUBURN
60 COURT STREET
AUBURN, MAINE 04210

ENGINEER / SURVEYOR:

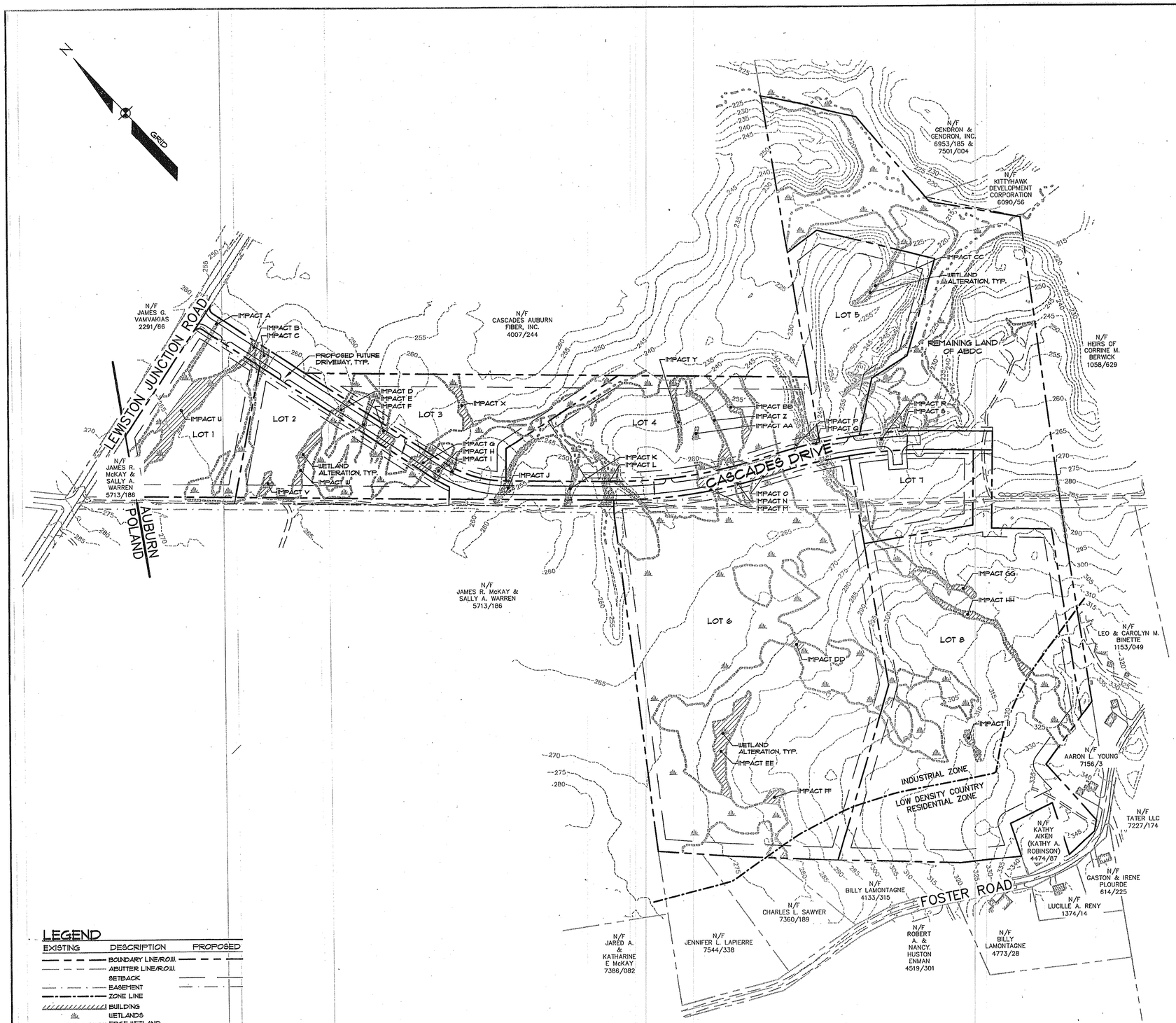
SEBAGO TECHNICS
CIVIL ENGINEERING ■ SURVEYING ■ LANDSCAPE ARCHITECTURE
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 1A
South Portland, ME 04106
Tel. 207-200-2100
250 Goddard Rd. - Suite B
Lewiston, ME 04240
Tel. 207-783-5656

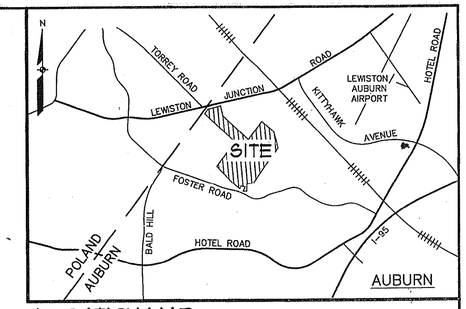
WETLAND SURVEY:
JONES ASSOCIATES
63 TUCKER LANE
POLAND SPRING, ME 04274

SHEET INDEX:

SHEET	DESCRIPTION
1	COVER SHEET
2	OVERALL SITE PLAN
3	WETLANDS PLAN
4	WETLANDS PLAN
5	WETLANDS PLAN
6	PLAN & PROFILE -CASCADES DRIVE STA. -50+00 TO STA. 10+50
7	PLAN & PROFILE -CASCADES DRIVE STA. 10+50 TO STA. 22+50
8	PLAN & PROFILE -CASCADES DRIVE STA. 22+50 TO STA. 33+61.48
9	EROSION CONTROL MEASURES
10	DETAILS
11	DETAILS
12	DETAILS

07075C.dwg, TAB:C





LOCATION MAP N.T.S.

GENERAL NOTES:

1. SEE SHEET 3 FOR GENERAL NOTES.
2. TOTAL DEVELOPMENT ACERAGE IS 98.85 Ac.±.
   LOTS = 4,040,765 S.F. (92.81 Ac.±)
   ROW = 255,997 S.F. (5.88 Ac.±)
   TOTAL = 4,305,762 S.F. (98.85 Ac.±)
3. WETLAND IMPACTS 'A' THROUGH 'II' SHALL BE FILLED WITH SUITABLE SOILS TO AN ELEVATION AT LEAST 1 FT. ABOVE ADJACENT WETLANDS AND IN A MANNER TO FACILITATE SHEET FLOW OFF THE FILL AREA AND TO PREVENT POOLING OF WATER IN THE FILL AREA.

WETLAND IMPACT TABLE

IMPACT	AREA
A	486 S.F.±
B	2,281 S.F.±
C	1,941 S.F.±
D	1,074 S.F.±
E	1,092 S.F.±
F	3,886 S.F.±
G	4,475 S.F.±
H	1,188 S.F.±
I	132 S.F.±
J	2,769 S.F.±
K	1,030 S.F.±
L	4,210 S.F.±
M	4,283 S.F.±
N	1,488 S.F.±
O	9,066 S.F.±
P	124 S.F.±
Q	2,470 S.F.±
R	580 S.F.±
S	321 S.F.±
T	50 S.F.±
U	20,494 S.F.±
V	3,012 S.F.±
W	7,246 S.F.±
X	5,457 S.F.±
Y	3,629 S.F.±
Z	5,492 S.F.±
AA	549 S.F.±
BB	4,355 S.F.±
CC	3,391 S.F.±
DD	1,483 S.F.±
EE	20,143 S.F.±
FF	3,074 S.F.±
GG	4,153 S.F.±
HH	9,880 S.F.±
II	2,581 S.F.±
TOTAL	148,297 S.F.±

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BOUNDARY LINE/R.O.W.	
	ABUTTER LINE/R.O.W.	
	SETBACK	
	EASEMENT	
	ZONE LINE	
	BUILDING	
	WETLANDS	
	EDGE WETLAND	
	STREAM	
	EDGE PAVEMENT	
	GRAVEL ROAD	
--122--	CONTOURS	--120--
	CHAIN LINK FENCE	
	WIRE FENCE	
	STONE WALL	
	CONIFEROUS TREE	
	RAILROAD	

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

REV.	DATE:	STATUS:
A	04-09-10	RELEASED FOR PRELIMINARY APPROVAL
B	06-20-13	ISSUED FOR REVIEW
C	06-26-13	REVISED FOR BID DOCUMENTS

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STATE OF MAINE CHRISTOPHER C. BOLTON LICENSED PROFESSIONAL ENGINEER
June 27, 2013

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd., Suite 1A, South Portland, ME 04106
Tel. 207-200-2100
250 Goddard Rd., Suite B, Lewiston, ME 04240
Tel. 207-783-5655

PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
07075	-	CCB	CCB/OAM	BRF

07075OAS.dwg, TAB:OAS

OVERALL SITE PLAN
OF:
AUBURN INDUSTRIAL PARK
LEWISTON JUNCTION ROAD
AUBURN, MAINE
FOR:
CITY OF AUBURN
60 COURT STREET
AUBURN, MAINE 04210

DATE	SCALE
03-22-10	1" = 200'

SHEET 2 OF12

CENTER LINE CURVE DATA

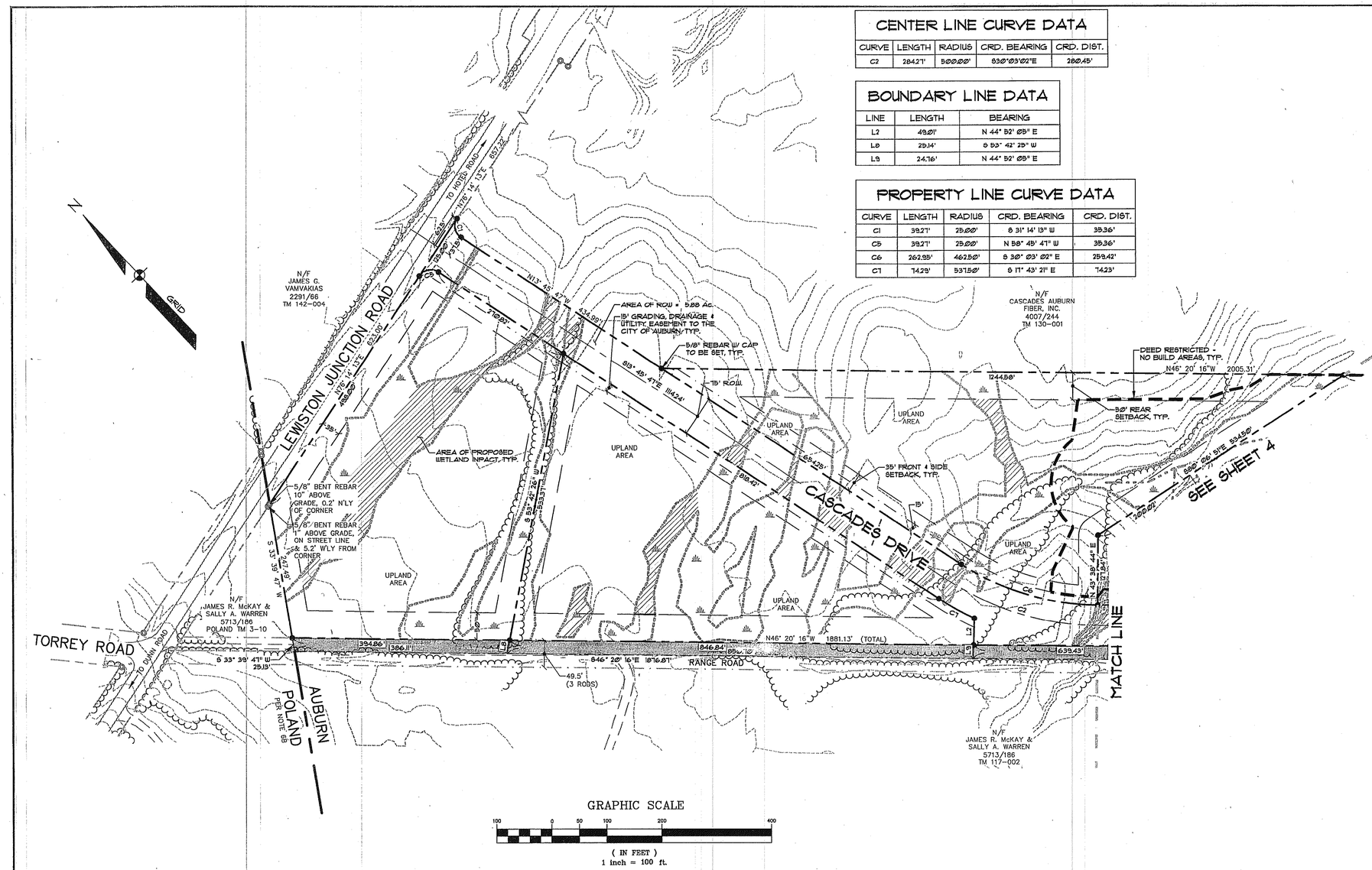
CURVE	LENGTH	RADIUS	CRD. BEARING	CRD. DIST.
C2	284.27'	500.00'	S30°03'02"E	280.45'

BOUNDARY LINE DATA

LINE	LENGTH	BEARING
L2	49.01'	N 44° 52' 05" E
L8	25.14'	S 53° 42' 25" W
L9	24.76'	N 44° 52' 05" E

PROPERTY LINE CURVE DATA

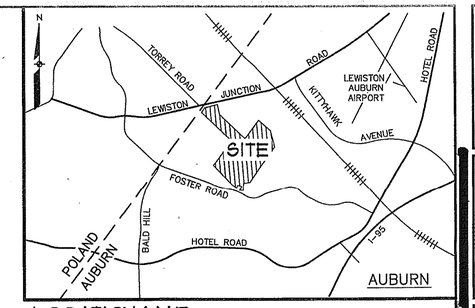
CURVE	LENGTH	RADIUS	CRD. BEARING	CRD. DIST.
C1	39.27'	25.00'	S 31° 14' 13" W	35.36'
C5	39.27'	25.00'	N 58° 45' 47" W	35.36'
C6	262.95'	462.50'	S 30° 03' 02" E	259.42'
C7	74.29'	537.50'	S 17° 43' 21" E	74.23'



GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.



LOCATION MAP N.T.S.

GENERAL NOTES:

1. WETLAND IMPACTS 'A' THROUGH 'I' SHALL BE FILLED WITH SUITABLE SOILS TO AN ELEVATION AT LEAST 1 FT. ABOVE ADJACENT WETLANDS AND IN A MANNER TO FACILITATE SHEET FLOW OFF THE FILL AREA AND TO PREVENT POOLING OF WATER IN THE FILL AREA.

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BOUNDARY LINE/R.O.W.	
	ABUTTER LINE/R.O.W.	
	SETBACK	
	EASEMENT	
	CENTERLINE	
	MONUMENT	
	IRON PIPE/ROD	●
C1/L1	CURVE/LINE NO.	C1 / L1
	ZONE LINE	
	BUILDING	
	WETLANDS	
	EDGE WETLAND	
	STREAM	
	EDGE PAVEMENT	
	GRAVEL ROAD	
	TREELINE	
	CHAIN LINK FENCE	
	WIRE FENCE	
	STONE WALL	
	CONIFEROUS TREE	
TM 117-002	TAX MAP & LOT	
	WETLAND IMPACT AREA	
	DEED RESTRICTION NO BUILD AREA	

June 27, 2013

REV:	BY:	DATE:	STATUS:
C	CCB	06-26-13	REVISED FOR BID DOCUMENTS
B	CCB	06-20-13	ISSUED FOR REVIEW
A	CCB	12-06-12	ISSUED FOR APPROVAL

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SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 1A
South Portland, ME 04106
Tel. 207-200-2100
250 Goddard Rd. - Suite B
Lewiston, ME 04240
Tel. 207-783-9699

PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
07075	-	OAM	CCB	BRF

WETLAND PLAN
OF:
AUBURN INDUSTRIAL PARK
LEWISTON JUNCTION ROAD
AUBURN, MAINE
FOR RECORD OWNER:
CITY OF AUBURN
60 COURT STREET
AUBURN, MAINE 04210

DATE	SCALE
12-05-12	1" = 100'

SHEET 3 OF12

07075SB.dwg, TAB:SB-1

GENERAL NOTES:

1. WETLAND IMPACTS 'A' THROUGH 'II' SHALL BE FILLED WITH SUITABLE SOILS TO AN ELEVATION AT LEAST 1 FT. ABOVE ADJACENT WETLANDS AND IN A MANNER TO FACILITATE SHEET FLOW OFF THE FILL AREA AND TO PREVENT POOLING OF WATER IN THE FILL AREA.

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BOUNDARY LINE/R.O.W.	
	ABUTTER LINE/R.O.W.	
	SETBACK	
	EASEMENT	
	CENTERLINE	
	MONUMENT	
	IRON PIPE/ROD	
C1/L1	CURVE/LINE NO.	C1 / L1
	ZONE LINE	
	BUILDING	
	WETLANDS	
	EDGE WETLAND	
	STREAM	
	EDGE PAVEMENT	
	GRAVEL ROAD	
	TREELINE	
	CHAIN LINK FENCE	
	WIRE FENCE	
	STONE WALL	
	CONIFEROUS TREE	
TM 117-002	TAX MAP & LOT	
	WETLAND IMPACT AREA	
	DEED RESTRICTION NO BUILD AREA	

STATE OF MAINE
CHRISTOPHER C. BEAUDOIN
LICENSED
PROFESSIONAL ENGINEER
June 27, 2013

REV:	BY:	DATE:	STATUS:
C	CCB	06-26-13	REVISED FOR BID DOCUMENTS
B	CCB	06-20-13	ISSUED FOR REVIEW
A	CCB	12-06-12	ISSUED FOR APPROVAL

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SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 1A
South Portland, ME 04106
250 Goddard Rd. - Suite B
Lewiston, ME 04240
(207) 797-7421

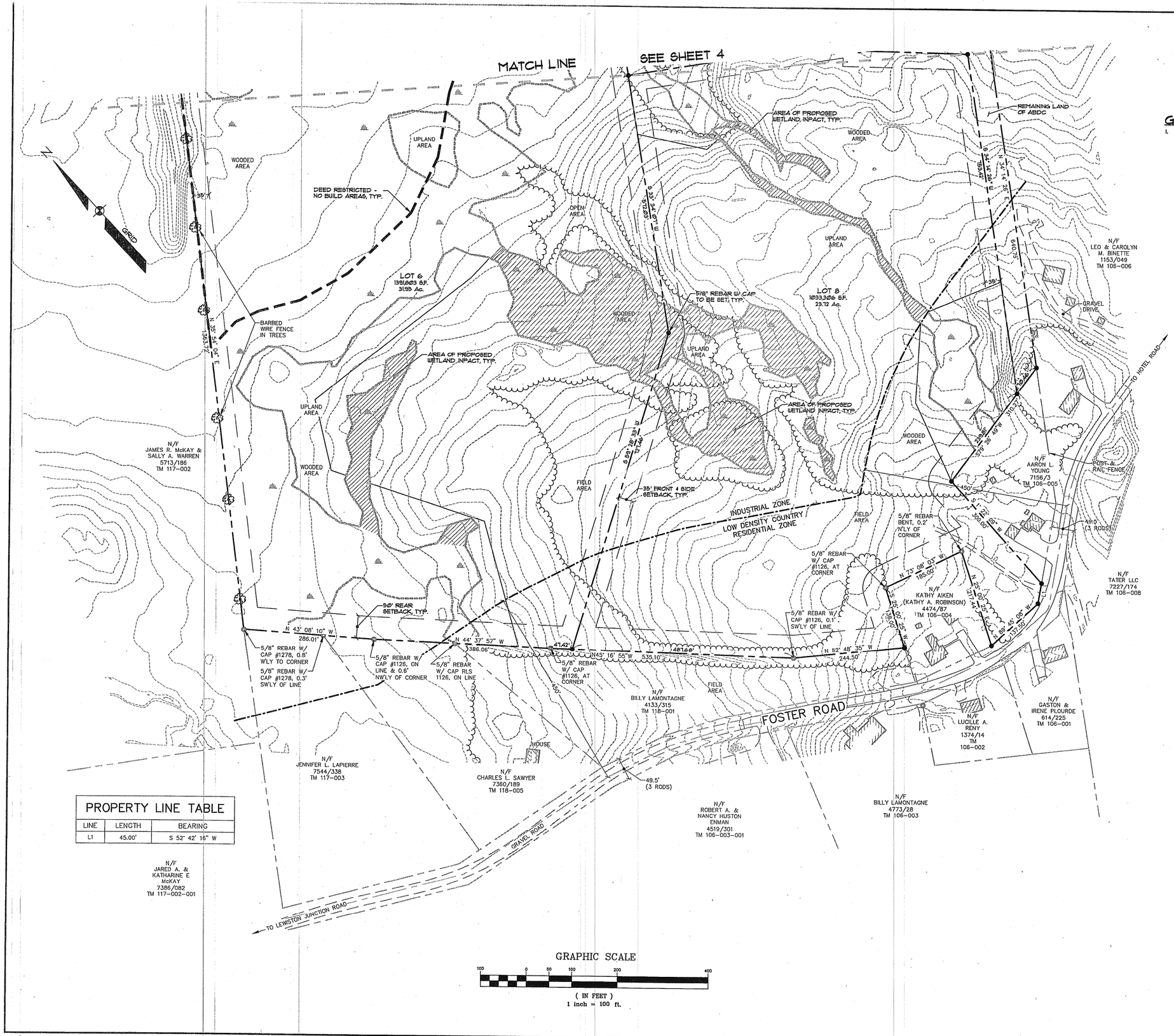
PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
07075	-	OAM	CCB	BRF

07075SB.dwg, TAB: SB-2

WETLAND PLAN
OF:
AUBURN INDUSTRIAL PARK
LEWISTON JUNCTION ROAD
AUBURN, MAINE
FOR RECORD OWNER:
CITY OF AUBURN
60 COURT STREET
AUBURN, MAINE 04210

DATE	SCALE
12-05-12	1" = 100'

SHEET 4 OF12



GENERAL NOTES:

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LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BOUNDARY LINE/R.O.W.	
	ABUTTER LINE/R.O.W.	
	SETBACK	
	EASEMENT	
	CENTERLINE	
	MONUMENT	
	IRON PIPE/ROD	
C1/L1	CURVE/LINE NO.	C1 / L1
	ZONE LINE	
	BUILDING	
	WETLANDS	
	EDGE WETLAND	
	STREAM	
	EDGE PAVEMENT	
	GRAVEL ROAD	
	TREELINE	
	CHAIN LINK FENCE	
	WIRE FENCE	
	STONE WALL	
	CONIFEROUS TREE	
TM 117-002	TAX MAP & LOT	
	WETLAND IMPACT AREA	
	DEED RESTRICTION NO BUILD AREA	

PROPERTY LINE TABLE

LINE	LENGTH	BEARING
L1	45.00'	S 52° 42' 16" W

STATE OF MAINE
BRIAN R. FOSTER
No. 4224
LICENSED
PROFESSIONAL ENGINEER
June 27, 2013

REV:	BY:	DATE:	STATUS:
C	CCB	06-26-13	REVISED FOR BID DOCUMENTS
B	CCB	06-20-13	ISSUED FOR REVIEW
A	CCB	12-06-12	ISSUED FOR APPROVAL

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SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd., Suite A
South Portland, ME 04106
Tel. 207-200-2100
250 Goddard Rd., Suite B
Lewiston, ME 04240
Tel. 207-783-5555

PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
07075	-	OAM	CCB	BRF

WETLAND PLAN

OF:

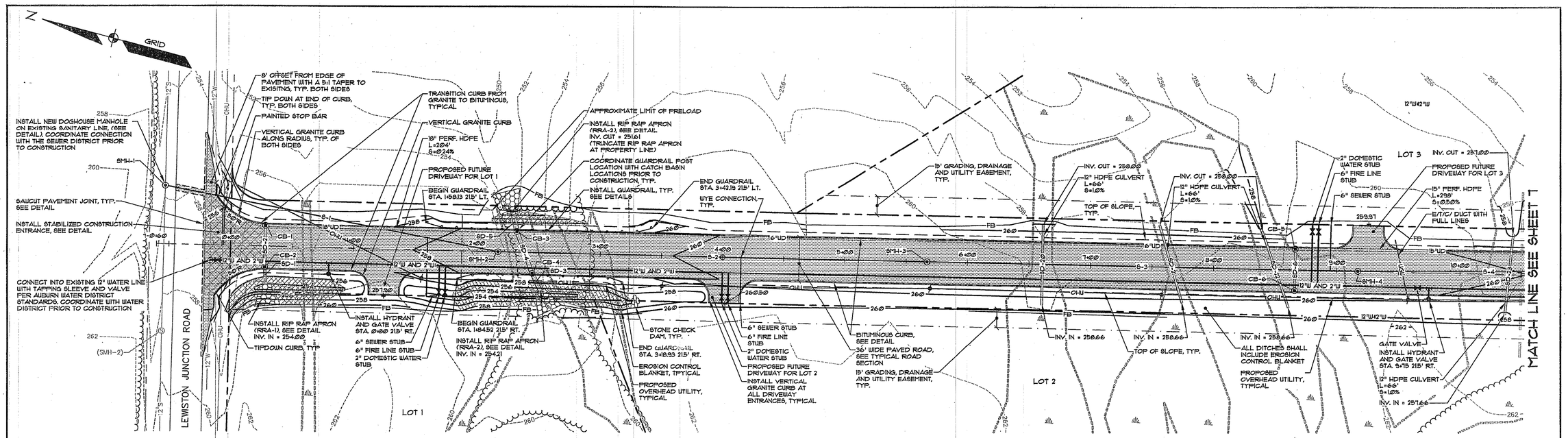
AUBURN INDUSTRIAL PARK

LEWISTON JUNCTION ROAD
AUBURN, MAINE
FOR RECORD OWNER:
CITY OF AUBURN
60 COURT STREET
AUBURN, MAINE 04210

DATE	SCALE
12-05-12	1" = 100'

07075SB.dwg, TAB: SB-3

SHEET 5 OF12



GENERAL NOTES:

1. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON A FIELD SURVEY PERFORMED BY SEBAGO TECHNICS IN THE WINTER OF 2009 IN SNOW CONDITIONS.
2. WETLAND INFORMATION PROVIDED BY JONES ASSOCIATES, 63 TUCKER LANE POLAND SPRING, ME 04274
3. THE PROPOSED PROJECT WILL BE SERVICED BY OVERHEAD ELECTRIC AND TELECOMMUNICATIONS. COORDINATE ALL ELECTRICAL SERVICES WITH CENTRAL MAINE POWER.
4. ROADWAY AND DITCH SIDE SLOPES THAT ARE STEEPER THAN 3H:1V SHALL BE STABILIZED WITH PERMANENT EROSION CONTROL BLANKETS.
5. DITCH BOTTOMS SHALL BE STABILIZED WITH EROSION CONTROL BLANKETS.
6. REFER TO PLAN SHEET 2 OF 12 FOR LIMITS OF WETLAND IMPACTS ASSOCIATED WITH ROADWAY CONSTRUCTION. CONTRACTOR SHALL NOT EXCEED WETLAND IMPACT LIMITS AND SHALL FIELD STAKE LIMITS PRIOR TO CONSTRUCTION.
7. SEE GEOTECHNICAL REPORT FOR INFORMATION ON THE INSTALLATION OF SANITARY SEWER, WATER LINES, STORM DRAINS, CROSS CULVERTS, EMBANKMENT DESIGN, EMBANKMENT SETTLEMENT/PRELOAD, TRENCH BACKFILL AND ROADWAY.
8. FOR HORIZONTAL CURVE INFORMATION SEE SHEETS 3 AND 4.

LEGEND

SEE SHEET 8 OF 12.

PLAN: CASCADES DRIVE

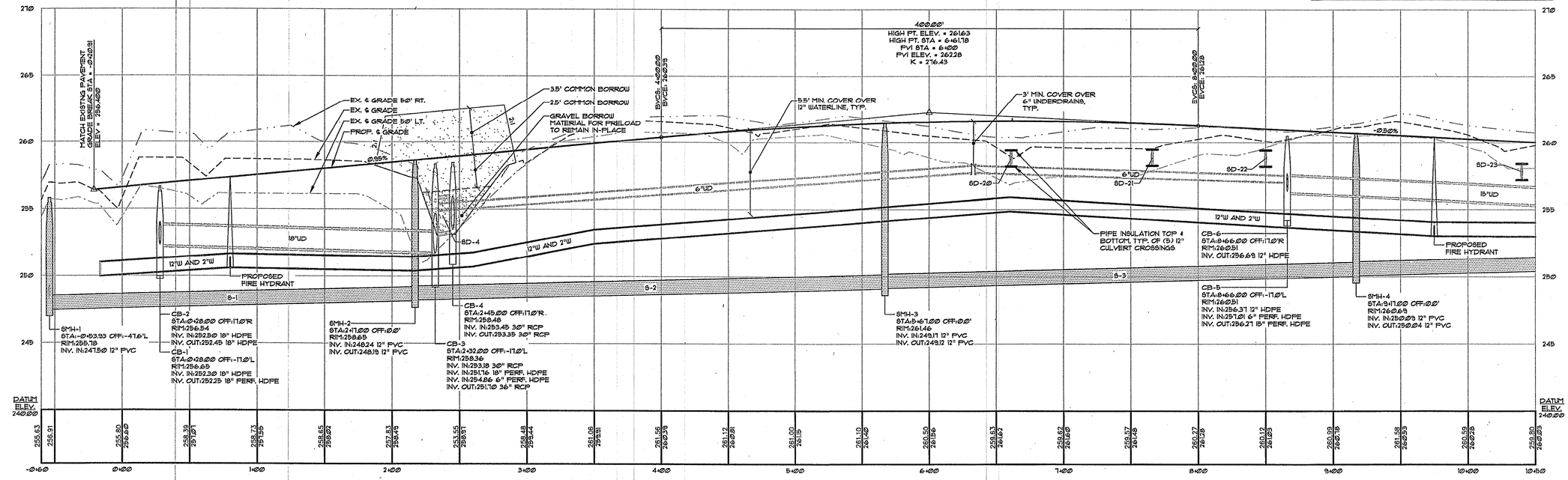
SCALE: 1" = 40'

SANITARY SEWER PIPE DATA

NAME	SIZE	LENGTH	SLOPE	MATERIAL
S-1	12"	271'	0.25%	PVC
S-2	12"	346'	0.25%	PVC
S-3	12"	346'	0.25%	PVC
S-4	12"	265'	0.25%	PVC

STORM DRAIN PIPE DATA

NAME	SIZE	LENGTH	SLOPE	MATERIAL
SD-1	18"	12'	12.16%	HDPE
SD-2	18"	30'	0.50%	HDPE
SD-3	30"	14'	5.59%	RCP
SD-4	30"	32'	0.52%	RCP
SD-5	36"	15'	0.61%	RCP
SD-6	12"	30'	1.07%	HDPE
SD-20	12"	66'	1.00%	HDPE
SD-21	12"	66'	1.00%	HDPE
SD-22	12"	66'	1.00%	HDPE
SD-23	12"	66'	1.00%	HDPE



PROFILE: CASCADES DRIVE

SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

DATE	SCALE
3/2/10	1" = 40'

SHEET 6 OF 12

REV.	BY:	DATE:	STATUS:
D	CCB	06-26-13	REVISED FOR BID DOCUMENTS
C	CCB	06-20-13	ISSUED FOR REVIEW
B	CCB	6/11/10	ADDED DRIVEWAYS & HYDRANTS REVISED
A	CCB	4/9/10	RELEASED FOR PRELIMINARY APPROVAL

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STATE OF MAINE — CHRISTOPHER C. BOWER — No. 9586 — LICENSED PROFESSIONAL ENGINEER

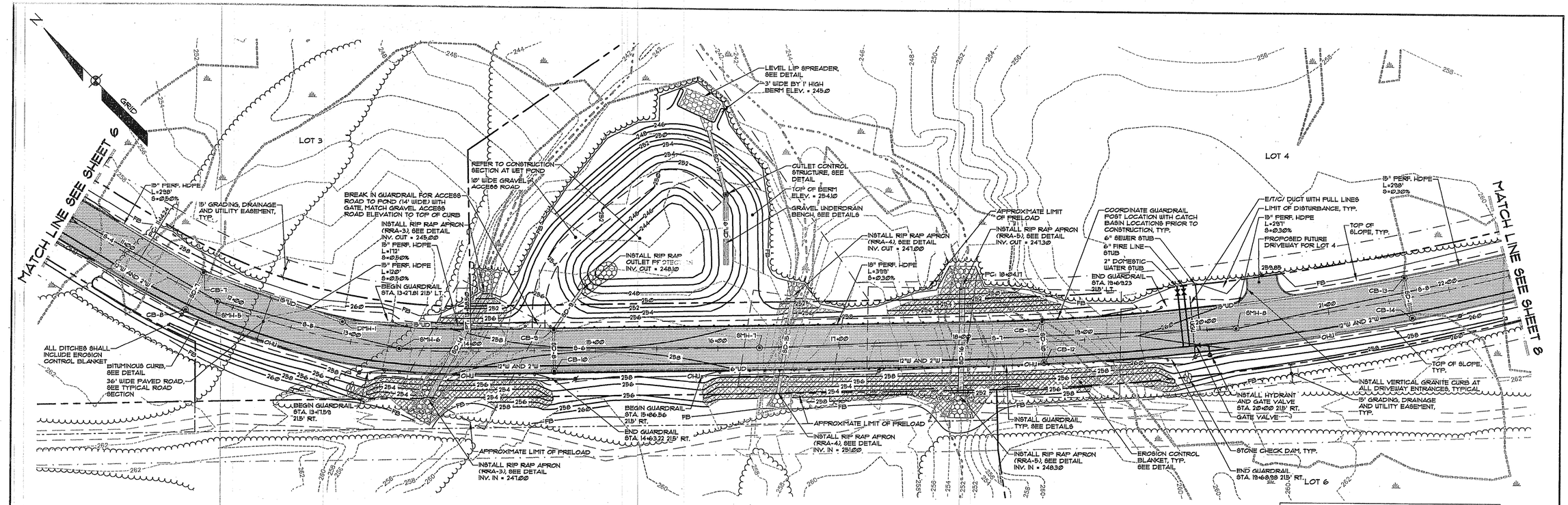
June 27, 2013

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 1A, South Portland, ME 04106, Tel: 207-200-2100
220 Goddard Rd. - Suite B, Lewiston, ME 04240, Tel: 207-782-5515

PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
07075	-	CCB	CCB/OAM	JKS

07075PP.dwg, TAB: PP-1

PLAN & PROFILE - CASCADES DRIVE
STA. -50+00 TO STA. 10+50
OF:
AUBURN INDUSTRIAL PARK
LEWISTON JUNCTION ROAD
AUBURN, MAINE
FOR:
CITY OF AUBURN
60 COURT STREET
AUBURN, MAINE 04210



NOTE:

SEE SHEET 6 OF 12 FOR GENERAL NOTES.

PLAN: CASCADES DRIVE

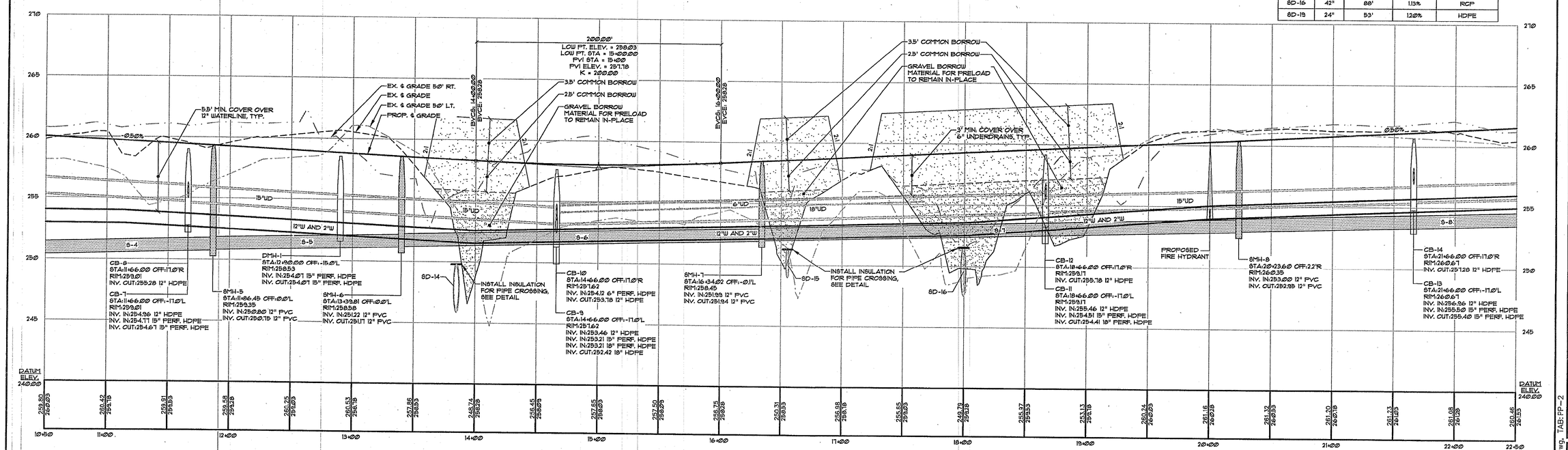
SCALE: 1" = 40'

SANITARY SEWER PIPE DATA

NAME	SIZE	LENGTH	SLOPE	MATERIAL
S-4	12"	265'	0.25%	PVC
S-5	12"	149'	0.25%	PVC
S-6	12"	290'	0.25%	PVC
S-7	12"	386'	0.25%	PVC
S-8	12"	288'	0.25%	PVC

STORM DRAIN PIPE DATA

NAME	SIZE	LENGTH	SLOPE	MATERIAL
SD-7	12"	30'	1.0%	HDPE
SD-8	12"	30'	1.0%	HDPE
SD-9	18"	38'	11.48%	HDPE
SD-10	12"	30'	1.0%	HDPE
SD-11	12"	30'	1.0%	HDPE
SD-14	42"	100'	2.00%	RCP
SD-15	24"	80'	5.01%	RCP
SD-16	42"	88'	1.13%	RCP
SD-18	24"	53'	1.20%	HDPE



PROFILE: CASCADES DRIVE

SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

REV:	BY:	DATE:	STATUS:
D	CCB	06-26-13	REVISED FOR BID DOCUMENTS
C	CCB	06-20-13	ISSUED FOR REVIEW
B	CCB	6/11/10	ADDED DRIVEWAYS & HYDRANTS REVISED
A	CCB	4/9/10	RELEASED FOR PRELIMINARY APPROVAL

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STATE OF MAINE — CHRISTOPHER C. BONACI — LICENSED PROFESSIONAL ENGINEER — 13-8568 — June 27, 2013

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd., Suite 1A, South Portland, ME 04106 Tel: 207-200-2100
230 Goddard Rd., Suite B, Lewiston, ME 04240 Tel: 207-783-9595

PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
07075	-	CCB	CCB/DAM	JKS

PLAN & PROFILE -CASCADES DRIVE
STA. 10+00 TO STA. 22+50
OF:
AUBURN INDUSTRIAL PARK
LEWISTON JUNCTION ROAD
AUBURN, MAINE
FOR:
CITY OF AUBURN
60 COURT STREET
AUBURN, MAINE 04210

DATE	SCALE
3/2/10	1" = 40'

SHEET 7 OF 12

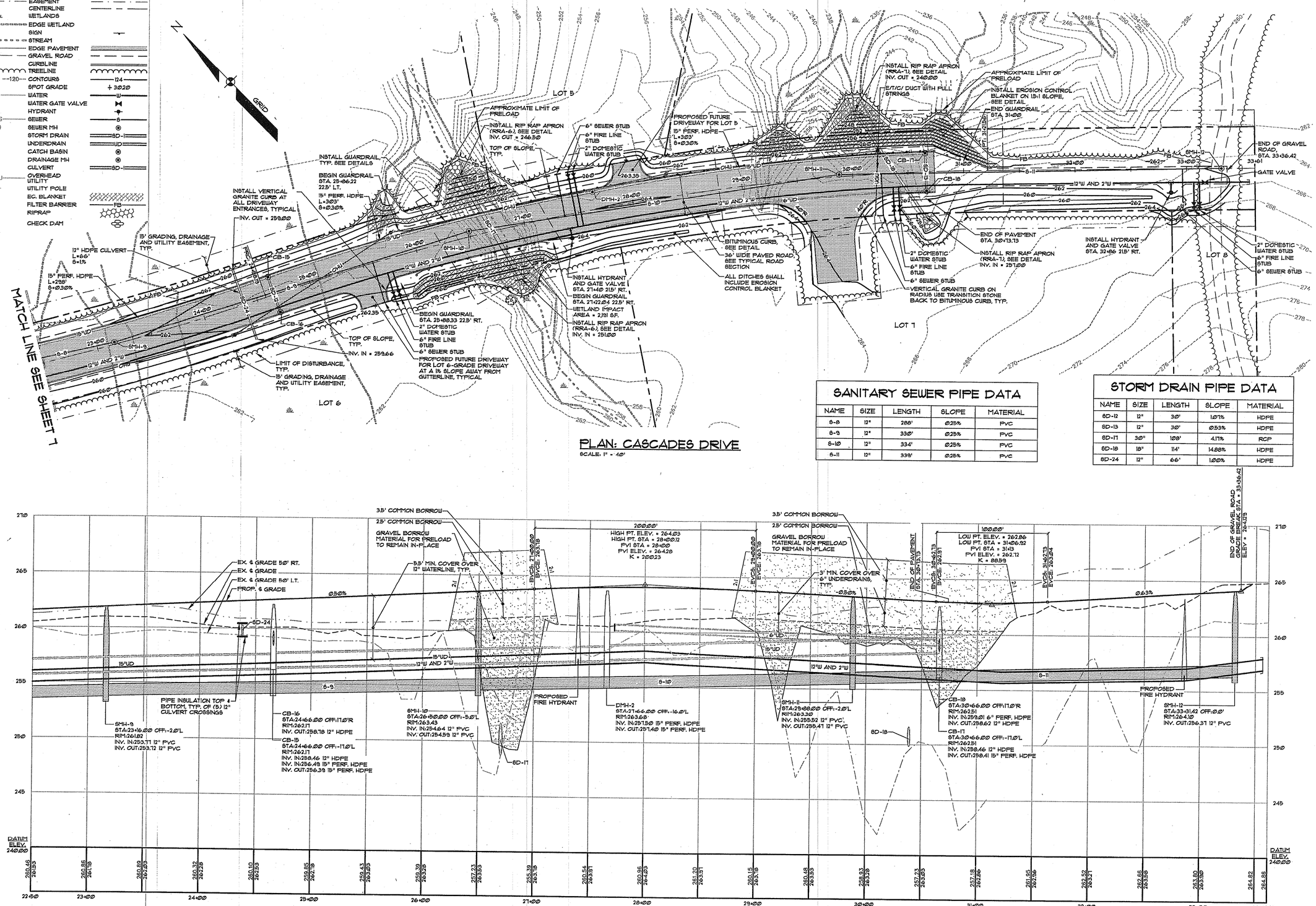
07075PP.dwg, TAB: PP-2

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BOUNDARY LINE/ROW.	
	ABUTTER LINE/ROW.	
	EASEMENT	
	CENTERLINE	
	WETLANDS	
	EDGE WETLAND	
	SIGN	
	STREAM	
	EDGE PAVEMENT	
	GRAVEL ROAD	
	CURBLINE	
	TREELINE	
122 / 120	CONTOURS	124
	SPOT GRADE	+ 30.00
W	WATER	W
	WATER GATE VALVE	
	HYDRANT	
6"S	SEWER	S
S	SEWER MH	
	STORM DRAIN	SD
	UNDERDRAIN	UD
	CATCH BASIN	
	DRAINAGE MH	
	CULVERT	SD
OHU	OVERHEAD UTILITY	
	UTILITY POLE	
	EC. BLANKET	
	FILTER BARRIER	FB
	RIPRAP	
	CHECK DAM	

NOTE:

SEE SHEET 6 OF 12 FOR GENERAL NOTES.



PLAN: CASCADES DRIVE

SCALE: 1" = 40'

SANITARY SEWER PIPE DATA

NAME	SIZE	LENGTH	SLOPE	MATERIAL
S-8	12"	288'	0.25%	PVC
S-9	12"	330'	0.25%	PVC
S-10	12"	334'	0.25%	PVC
S-11	12"	339'	0.25%	PVC

STORM DRAIN PIPE DATA

NAME	SIZE	LENGTH	SLOPE	MATERIAL
SD-12	12"	30'	1.07%	HDPE
SD-13	12"	30'	0.53%	HDPE
SD-17	30"	109'	4.17%	RCP
SD-18	18"	114'	14.88%	HDPE
SD-24	12"	66'	1.00%	HDPE

PROFILE: CASCADES DRIVE

SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

REV:	DATE:	STATUS:
D	06-26-13	REVISED FOR BID DOCUMENTS
C	06-20-13	ISSUED FOR REVIEW
B	6/11/10	ADDED DRIVEWAYS & HYDRANTS REVISED
A	4/9/10	RELEASED FOR PRELIMINARY APPROVAL
BY:		

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STATE OF MAINE — DAVID C. BOUCHARD — LICENSED PROFESSIONAL ENGINEER — No. 6556 — June 27, 2013

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PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
07075	-	CCB	CCB/OAM	JKS

PLAN & PROFILE -CASCADES DRIVE

STA. 22+50 TO STA. 33+61.48

OF:

AUBURN INDUSTRIAL PARK

LEWISTON JUNCTION ROAD
AUBURN, MAINE

FOR:

CITY OF AUBURN

60 COURT STREET
AUBURN, MAINE 04210

DATE	SCALE
3/2/10	1" = 40'

SHEET 8 OF12

07075PP.dwg, TAB: PP-3

EROSION AND SEDIMENTATION CONTROL PLAN

INTRODUCTION

THIS EROSION AND SEDIMENTATION CONTROL PLAN (HEREAFTER REFERRED TO AS "THIS PLAN") HAS BEEN DEVELOPED TO PROVIDE A STRATEGY TO PREVENT UNREASONABLE EROSION OF SOIL AND SEDIMENT TRANSPORT BEYOND THE PROJECT SITE OR INTO A PROTECTED NATURAL RESOURCE. THESE STRATEGIES APPLY TO THE PROPOSED DEVELOPMENT IMMEDIATELY PRIOR TO SOIL DISTURBING ACTIVITIES ON THE SITE AND SHALL REMAIN IN PLACE UNTIL THE SITE IS PERMANENTLY STABILIZED.

THE INFORMATION PRESENTED IN THIS PLAN IS PROVIDED AS AN OVERVIEW OF THE ANTICIPATED MEASURES TO BE USED ON THIS SITE. IN SOME INSTANCES, ADDITIONAL MEASURES MAY BE REQUIRED DUE TO UNEXPECTED CONDITIONS THAT ARISE DURING CONSTRUCTION. ALSO, SPECIFIC DETAIL ON THE APPLICATION OF A RECOMMENDED PRACTICE FOR AN UNEXPECTED INSTANCE MAY NOT BE COVERED IN THIS PLAN. FOR ADDITIONAL DETAIL ON ANY OF THE EROSION AND SEDIMENTATION CONTROL MEASURES DISCUSSED IN THIS PLAN OR FOR FURTHER RECOMMENDATIONS OF APPLICABLE PRACTICES, REFER TO THE "MAINE EROSION AND SEDIMENTATION CONTROL BMP" MANUAL PUBLISHED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION (MDEP) DATED MARCH 2003, AS REVISED.

PLAN IMPLEMENTATION PHASES

GENERALLY, THE IMPLEMENTATION OF THIS PLAN OCCURS IN THREE DISTINCT PHASES AS DESCRIBED BELOW.

1. PRE-CONSTRUCTION PHASE
PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, PERIMETER SEDIMENT BARRIERS (I.E. SILT FENCE, EROSION CONTROL MIX BERM, ETC...) SHALL BE INSTALLED AT, OR JUST BELOW, THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE OR PROTECTED NATURAL RESOURCE. PRIOR TO ANY CLEARING OR GRUBBING, A CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT THE INTERSECTION WITH THE PROPOSED ACCESS DRIVE AND THE EXISTING ROADWAY TO AVOID TRACKING OF MUD, DUST AND DEBRIS FROM THE SITE.

2. CONSTRUCTION PHASE
AREAS UNDERGOING ACTUAL CONSTRUCTION SHALL ONLY EXPOSE THAT AMOUNT OF MINERAL SOIL NECESSARY FOR PROGRESSIVE AND EFFICIENT SITE CONSTRUCTION. ANY AREA THAT HAS BEEN DISTURBED AND IS NOT "PERMANENTLY STABILIZED" (AS DESCRIBED BY THIS PLAN) SHALL BE CONSIDERED "OPEN." OPEN AREAS SHALL BE PROTECTED AND STABILIZED WITH TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS SHOWN ON THE DEVELOPMENT PLANS AND AS DESCRIBED WITHIN THIS PLAN.
PREPARATION FOR WINTER STABILIZATION APPLIES TO SOME DISTURBED AREAS THAT ARE OPEN ON OR AFTER SEPTEMBER 15 OF THE CONSTRUCTION SEASON (REFER TO THE WINTER CONSTRUCTION SECTION OF THIS PLAN, PARAGRAPH B - OVERWINTER STABILIZATION TIMEFRAME). ANY AREAS THAT REMAIN OPEN AFTER NOVEMBER 1 OR NEW SOIL DISTURBANCE THAT OCCURS AFTER NOVEMBER 1, BUT BEFORE APRIL 15, MUST BE PROTECTED BY ADDITIONAL MEASURES AS DESCRIBED IN THE WINTER CONSTRUCTION SECTION OF THIS PLAN. THE RECOMMENDATIONS OUTLINED IN THE WINTER CONSTRUCTION SECTION OF THIS PLAN SHALL SUPERSEDE OTHER CONFLICTING RECOMMENDATIONS.

3. POST-CONSTRUCTION PHASE
ONCE THE SITE HAS REACHED PERMANENT STABILIZATION, REMOVE ANY TEMPORARY SEDIMENT CONTROL MEASURES, SUCH AS SILT FENCE, WITHIN 30 DAYS. ALL ACCUMULATED SEDIMENT/DEBRIS IN THE PERMANENT STORMWATER MANAGEMENT SYSTEM, DITCHES, SWALES, PAVED SURFACES, AND/OR ANY OTHER LOCATION THAT HAS ACCUMULATED SEDIMENT/DEBRIS DURING CONSTRUCTION SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

PERMANENT STABILIZATION

THE STRATEGIES OUTLINED IN THIS PLAN SHALL BE IN EFFECT UNTIL THE SITE REACHES PERMANENT STABILIZATION. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL ESTABLISHED. IF NECESSARY, AREAS MUST BE SEEDED AND MULCHED AGAIN IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT. THE FOLLOWING LIST DEFINES PERMANENT STABILIZATION FOR APPLICABLE SITUATIONS.

1. SEEDED AREAS: FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS A 90% COVER OF VIGOROUS PERENNIAL GROWTH WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.
2. SODDED AREAS: FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.
3. PERMANENT MULCH: FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO APPROVED APPLICATION RATES AND LIMITATIONS.
4. RIPRAP: FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIPRAP.
5. PAVED AREAS: FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF COMPACTED GRAVEL SUBBASE IS COMPLETED.
6. DITCHES, CHANNELS, AND SWALES: FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH A 90% COVER OF VIGOROUS PERENNIAL GROWTH, A WELL-GRADED RIPRAP LINING, OR WITH ANOTHER NON-EROSIVE LINING SUCH AS SPECIFIED. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE CHANNEL LINING, UNDERCUTTING OF THE CHANNEL BANKS, OR DOWN-CUTTING OF THE CHANNEL.

TEMPORARY EROSION AND SEDIMENTATION CONTROL BMPS

THE PLACEMENT/USE OF THE FOLLOWING EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENTATION CONTROL BMP" MANUAL PUBLISHED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION (MDEP) DATED MARCH 2003, AS REVISED.

1. SEDIMENT BARRIERS
PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, SEDIMENT BARRIERS (I.E. SILT FENCE, EROSION CONTROL MIX BERMS, ETC...) SHALL BE 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. SEDIMENT BARRIERS SHALL BE MAINTAINED UNTIL ALL TRIBUTARY OPEN AREAS HAVE BEEN PERMANENTLY STABILIZED. THE FOLLOWING ARE RECOMMENDED PERIMETER SEDIMENT BARRIERS:
- 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.
- STAKED HAY BALES: SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. BALES SHALL BE WIRE-BOUND OR STRING-TIED AND THESE BINDINGS MUST REMAIN PARALLEL WITH THE GROUND SURFACE DURING INSTALLATION TO PREVENT DETERIORATION OF THE BINDINGS. BALES SHALL BE INSTALLED WITHIN A MINIMUM FOUR (4) INCH DEEP TRENCH LINE WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ANOTHER.
- EROSION CONTROL MIX BERM: SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THE MIX SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL AND CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES. THE MIX MUST MEET THE MOST RECENT COMPOSITION SPECIFICATIONS PUBLISHED BY THE MDEP. NO TRENCHING IS REQUIRED FOR INSTALLATION OF THIS BARRIER.

2. SURFACE STABILIZATION
ALL DISTURBED AREAS THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS SHALL BE PROTECTED AND STABILIZED WITH MULCH OR OTHER NON-ERODABLE COVER. AREAS LOCATED WITHIN 75 FEET OF A WETLAND OR WATERBODY MUST BE PROTECTED AND STABILIZED WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST. AREAS THAT HAVE BEEN SEEDED (TEMPORARY OR PERMANENT) SHALL BE STABILIZED IMMEDIATELY. THE FOLLOWING ARE RECOMMENDED PRACTICES FOR SURFACE STABILIZATION:
- HAY OR STRAW MULCH: ORGANIC MULCHES INCLUDING HAY AND STRAW NEED TO BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS. APPLICATION RATE SHALL BE 2 BALES (70-90 LBS) PER 1000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE. THIS TYPE OF MULCH MUST BE ANCHORED WITH A TACKIFIER AMENDMENT AND/OR VIA PHYSICAL MEANS (I.E. VEHICLE TRACKING, JUTE NETTING, ETC...) TO AVOID DISPLACEMENT BY WIND OR WATER.
- EROSION CONTROL MIX: EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE SITE. IT IS COMPOSED PRIMARILY OF SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR OTHER ACCEPTABLE PRODUCTS BASED ON A SIMILAR RAW SOURCE. THE MIX MUST MEET THE MOST RECENT COMPOSITION SPECIFICATIONS PUBLISHED BY THE MDEP. THE 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 20 FEET OF SLOPE UP TO 100 FEET. THE THICKNESS ON SLOPES BETWEEN 3:1 AND 2:1 IS 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 BLANKETS: EROSION CONTROL BLANKETS ARE USED ON STEEP SLOPES (GREATER THAN 3H:1V) AND ALSO AREAS THAT WILL RECEIVE CONCENTRATED STORMWATER FLOWS. BLANKETS AID IN CONTROLLING EROSION ON DISTURBED SOILS AND CRITICAL AREAS DURING THE ESTABLISHMENT PERIOD OF VEGETATION. VARIOUS FORMS OF EROSION CONTROL BLANKETS ARE COMMERCIALLY AVAILABLE, EACH WITH DIFFERENT ADVANTAGES FOR DIFFERENT APPLICATIONS. THE TYPE OF BLANKET TO BE USED FOR INDIVIDUAL APPLICATIONS SHALL BE AS INDICATED ON THE DEVELOPMENT PLAN SET OR VIA THE USE OF AN APPROVED EQUIVALENT BLANKET. IN ALL APPLICATIONS, THE BLANKET MANUFACTURER'S SPECIFICATIONS AND INSTALLATION METHODS SHALL BE REFERENCED AND ADHERED TO.

3. SOIL STOCKPILES
ALL TOPSOIL SHALL BE STOCKPILED FOR FUTURE USE ON THE PROJECT AT A STABLE LOCATION ON-SITE. STRUCTURAL MEASURES, SUCH AS SEDIMENT BARRIERS, MAY BE WARRANTED FOR ADDITIONAL SEDIMENT CONTROL OF THE STOCKPILE AREAS. STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED WITH HAY OR STRAW OR WITH EROSION CONTROL MIX. THIS MUST BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 75 FEET FROM ANY PROTECTED NATURAL RESOURCES.

4. STABILIZED CONSTRUCTION ENTRANCE/EXIT
PRIOR TO ANY CLEARING OR GRUBBING, A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE CONSTRUCTED WHEREVER TRAFFIC WILL EXIT THE CONSTRUCTION SITE ONTO A PAVED ROADWAY IN ORDER TO MINIMIZE THE TRACKING OF SEDIMENT AND DEBRIS FROM THE CONSTRUCTION SITE ONTO PUBLIC ROADWAYS. THE ENTRANCES AND ADJACENT ROADWAY AREAS SHALL BE PERIODICALLY SWEPT OR WASHED TO FURTHER MINIMIZE THE TRACKING OF MUD, DUST OR DEBRIS FROM THE CONSTRUCTION AREA. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. STABILIZED CONSTRUCTION EXITS SHALL BE CONSTRUCTED IN AREAS AS SPECIFIED AND DETAILED ON THE PLANS.

5. STONE CHECK DAMS
STONE CHECK DAMS ARE GENERALLY TEMPORARY DEVICES, WHICH ARE CONSTRUCTED ACROSS A SWALE OR DRAINAGE DITCH. THEIR PURPOSE IS TO REDUCE THE VELOCITY OF CONCENTRATED STORMWATER FLOWS, THEREBY REDUCING EROSION OF THE SWALE OR DITCH. THESE DEVICES WILL ALSO TRAP SMALL AMOUNTS OF SEDIMENT GENERATED IN THE DITCH ITSELF, HOWEVER, THEY ARE NOT AN EFFECTIVE SEDIMENT TRAPPING DEVICE AND SHOULD NOT BE USED AS SUCH. STONE CHECK DAMS ARE TYPICALLY CONSTRUCTED OF 2"-3" CRUSHED STONE AND STAND 24 INCHES IN HEIGHT.

6. STORMDRAIN INLET PROTECTION
STORM DRAINS ARE TYPICALLY OPERATIONAL PRIOR TO PERMANENT STABILIZATION OF TRIBUTARY AREAS. IN THESE INSTANCES HAY BALES, CRUSHED STONE BARRIERS, AND/OR SILT SACKS SHALL BE USED AT A CATCH BASIN OR PRIOR TO A PIPE ENTRANCE. THIS TEMPORARY PROTECTION WILL ASSIST IN THE REMOVAL OF SEDIMENT PRIOR TO ENTRANCE INTO A STORM DRAINAGE SYSTEM AND THE PREVENTION OF CLOGGING AND/OR LOSS OF CAPACITY. THESE DEVICES ALONE WILL NOT PREVENT ALL SEDIMENT FROM ENTERING THE STORMWATER SYSTEM AND SHOULD BE USED IN CONJUNCTION WITH OTHER DEVICES AND PRACTICES TO ACHIEVE DESIRED SEDIMENT REMOVAL LEVELS.

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.

8. 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.

VEGETATIVE MEASURES

1. TEMPORARY VEGETATION

IF ANY DISTURBED AREA OF SOIL WILL BE LEFT BARE FOR MORE THAN 7 DAYS, OR IF CONSTRUCTION IS TO BE COMPLETED IN PHASES OVER AN EXTENDED DURATION, TEMPORARY SEEDING AND MULCHING SHALL COMMENCE IMMEDIATELY FOLLOWING INITIAL FINE GRADING OF THE SITE. IN SENSITIVE AREAS (WITHIN 75 FEET OF PROTECTED NATURAL RESOURCES) TEMPORARY MULCH MUST BE APPLIED WITHIN 48 HOURS OR PRIOR TO ANY STORM EVENT ON ALL DISTURBED SURFACES. IT SHALL BE MAINTAINED AND RESEEDED, AS NECESSARY, TO ENSURE GOOD VEGETATIVE COVER FOR THE ENTIRE DURATION OF CONSTRUCTION. SEED WILL BE SELECTED FROM THE FOLLOWING TABLE (TABLE 1 - TEMPORARY SEED MIXTURE) ACCORDING TO THE TIME OF YEAR OR VIA AN APPROVED EQUIVALENT METHOD.

TABLE 1 – TEMPORARY SEED MIXTURE

SEED	LBS/ACRE	LBS/1000 S.F.	RECOMMENDED SEEDING DATE
WINTER RYE	112	2.6	8/15 THRU 10/1
OATS	80	1.8	4/1 THRU 7/1 8/15 THRU 9/15
ANNUAL RYEGRASS	40	0.9	4/1 THRU 7/1
SUDANGRASS	40	0.9	5/15 THRU 8/15
PERENNIAL	40	0.9	8/15 THRU 9/15

NOTE:
1) SOME TREE AND SHRUB SPECIES MAY BE DESIRABLE FOR SITES PRIMARILY COVERED WITH SAND AND GRAVEL. THESE METHODS SHALL BE APPROVED BY THE APPROPRIATE REGULATORY AUTHORITY PRIOR TO USE.

2. PERMANENT VEGETATION
REVEGETATION MEASURES SHALL COMMENCE IMMEDIATELY UPON COMPLETION OF FINAL GRADING OF AREAS TO BE LOAMED AND SEEDED. REVEGETATION MEASURES SHALL CONSIST OF THE FOLLOWING:

A. SEEDBED PREPARATION
- FOUR (4) INCHES OF LOAM WILL 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" IN ANY DIMENSION, AND WITHOUT WEEDS, ROOTS OR OTHER OBJECTIONABLE MATERIAL.
- SOIL TESTS SHALL BE TAKEN AT THE TIME OF SOIL STRIPPING TO DETERMINE FERTILIZATION REQUIREMENTS. SOIL TESTS SHALL BE TAKEN PROMPTLY AS TO NOT INTERFERE WITH THE 7-DAY LIMIT ON SOIL EXPOSURE (48-HOURS ADJACENT TO A PROTECTED NATURAL RESOURCE). 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 SHOWN BELOW IN TABLE 2:

TABLE 2 – RECOMMENDED SOIL AMENDMENTS

ITEM	APPLICATION RATE
10–20–20 FERTILIZER (N–P205–K20 OR EQUAL)	18.4 LBS/1,000 S.F.
GROUND LIMESTONE (50% CALCIUM AND MAGNESIUM OXIDE)	138 LBS/1,000 S.F.

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

B. APPLICATION OF SEED

- SEEDING: THE SEED MIXTURE SHOWN BELOW IN TABLE 3 SHALL BE UTILIZED FOR PERMANENT SEEDING APPLICATIONS. ALTERNATE SEED MIXTURES MAY BE UTILIZED AS APPROVED. REFER TO APPENDIX A OF THE MDEP EROSION AND SEDIMENTATION CONTROL BMP MANUAL FOR ADDITIONAL SEED MIXTURE OPTIONS.

TABLE 3 – PERMANENT SEED MIXTURE

SEED TYPE	APPLICATION RATE
CREEPING RED FESCUE	0.46 LBS/1,000 S.F. (20 LBS/ACRE)
RED TOP	0.05 LBS/1,000 S.F. (2 LBS/ACRE)
TALL FESCUE	0.46 LBS/1,000 S.F. (20 LBS/ACRE)
TOTAL:	0.97 LBS/1,000 S.F. (42 LBS/ACRE)

- HYDROSEEDING: SHALL BE CONDUCTED ON PREPARED AREAS AS DESCRIBED ABOVE. HYDROSEEDING SHALL NOT BE DONE ON SLOPES STEEPER THAN 2H:1V. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. RECOMMENDED SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.

- SURFACE STABILIZATION: MULCHING OR OTHER APPROVED SURFACE STABILIZATION METHODS SHALL COMMENCE IMMEDIATELY AFTER SEED IS APPLIED. REFER TO THE SURFACE STABILIZATION SECTION OF THIS PLAN FOR MORE INFORMATION.

C. 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 SHOULD 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 BEST ESTABLISHED BETWEEN APRIL 1 AND NOVEMBER 15 OF THE CONSTRUCTION YEAR.

WINTER CONSTRUCTION

THE WINTER CONSTRUCTION PERIOD IS FROM NOVEMBER 1 THROUGH APRIL 15. IF THE CONSTRUCTION SITE IS NOT PERMANENTLY STABILIZED BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION.
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.
ANY ADDED MEASURES, WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS, MUST BE INSTALLED. 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.

A. WINTER CONSTRUCTION BMP ADJUSTMENTS

1. SEDIMENTS BARRIERS:
DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF EROSION CONTROL MIX BERMS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES AND SILT FENCES.
2. MULCHING:
BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, ASPHALT EMULSION CHEMICAL, TRACK OR WEED CELLULOSE FIBER. WHEN THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH THEN COVER IS SUFFICIENT. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.
- OPEN SURFACES (FLATTER THAN 8%): HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75-LBS./1,000 SQUARE FEET OR 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 ONE-INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERLY STABILIZED WITH 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 LB. PER 1,000 SQUARE FEET (3 TONS/ACRE) AND ADEQUATELY ANCHORED THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH.

- OPEN SLOPES (8% OR STEEPER) AND DRAINAGE WAYS: SLOPES SHALL NOT BE LEFT EXPOSED FOR ANY EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY MULCHED AND ANCHORED WITH NETTING OR EROSION CONTROL BLANKETS. MULCHING SHALL BE APPLIED AT A RATE OF 230-LBS/1,000 SQUARE FEET ON ALL SLOPES STEEPER THAN 8%. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE STEEPER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES STEEPER THAN 8%. EROSION CONTROL BLANKETS SHALL BE USED IN LIEU OF MULCH IN ALL DRAINAGE WAYS. EROSION CONTROL MIX CAN BE USED TO SUBSTITUTE EROSION CONTROL BLANKETS ON SLOPES THAT DO NOT EXCEED 2H:1V. IN THIS CASE, THE EROSION CONTROL MIX SHALL BE SPREAD OUT, NOT PLACED IN A BERM AS IT IS INSTALLED AS A SEDIMENTATION BARRIER.
3. SOIL STOCKPILES:
STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR AT 150-LBS/1,000 SQUARE FEET (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 RE-ESTABLISHED 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.
4. NATURAL RESOURCES PROTECTION:
ANY AREAS WITHIN 100 FEET FROM ANY PROTECTED NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 90% MATURE VEGETATION CATCH, SHALL BE MULCHED BY 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. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.
5. SEEDING:
BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, 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. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOAMED, 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 SQUARE FEET. ALL AREAS SEEDED DURING THE WINTER WILL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 90% 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.

B. OVERWINTER STABILIZATION TIMEFRAME

1. DITCHES AND CHANNELS:
ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED ON THE SITE BY NOVEMBER 15. ALL GRASS-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 15. IF A DITCH OR CHANNEL IS NOT GRASS-LINED BY SEPTEMBER 15, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.
INSTALL A SOD LINING IN THE DITCH: A DITCH MUST BE LINED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR 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: A DITCH MUST BE LINED WITH STONE RIPRAP BY NOVEMBER 15. A REGISTERED PROFESSIONAL ENGINEER MUST DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE DITCH MUST BE REGRADED PRIOR TO PLACING THE STONE LINING TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.
2. DISTURBED SLOPES
ALL STONE-COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL SLOPES TO BE VEGETATED MUST BE SEEDED BY SEPTEMBER 15. THE MDEP WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% TO BE A SLOPE. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.
- STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL BLANKETS: BY OCTOBER 1 THE DISTURBED SLOPE MUST BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND APPLY EROSION CONTROL BLANKETS OVER THE MULCHED SLOPE. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 90% OF THE DISTURBED SLOPE BY NOVEMBER 1, THE SLOPE WILL BE COVERED WITH A LAYER OF EROSION CONTROL MIX OR STONE RIPRAP AS DESCRIBED IN THE FOLLOWING STANDARDS.
- STABILIZE THE SLOPE WITH SOD: THE DISTURBED SLOPE MUST BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SLOPE 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. SLOPES STEEPER THAN 33% (3H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE, MAY NOT USE LATE-SEASON SOD INSTALLATION FOR STABILIZATION.
- STABILIZE THE SLOPE WITH EROSION CONTROL MIX: A SIX-INCH LAYER OF EROSION CONTROL MIX MUST BE SPREAD OVER THE SLOPE BY NOVEMBER 15. PRIOR TO PLACING THE EROSION CONTROL MIX, ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE MUST BE REMOVED. SLOPES STEEPER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE CANNOT USE EROSION CONTROL MIX TO STABILIZE SLOPES.
- STABILIZE THE SLOPE WITH STONE RIPRAP: A LAYER OF STONE RIPRAP CAN BE PLACED ON THE SLOPE BY NOVEMBER 15. A REGISTERED PROFESSIONAL ENGINEER MUST DETERMINE THE STONE SIZE NEEDED FOR STABILITY AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.
3. OTHER DISTURBED SOILS:
BY SEPTEMBER 15, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE FLATTER THAN 15% MUST RECEIVE SEED AND MULCH. IF DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
- STABILIZE THE SOIL WITH TEMPORARY VEGETATION: BY OCTOBER 1, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1,000 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. MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 90% OF THE DISTURBED SOIL BEFORE NOVEMBER 1, THEN MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN THE FOLLOWING "STABILIZE THE SOIL WITH MULCH" STANDARD.
- STABILIZE THE SOIL WITH SOD: STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES 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.
- STABILIZE THE SOIL WITH MULCH: BY NOVEMBER 15, 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, ANY SNOW ACCUMULATION ON THE DISTURBED AREA MUST BE REMOVED. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

INSPECTION, MAINTENANCE AND HOUSEKEEPING PLAN

INTRODUCTION

THE FOLLOWING PLAN OUTLINES THE ANTICIPATED INSPECTION AND MAINTENANCE PROCEDURES FOR THE EROSION AND SEDIMENTATION CONTROLS AS WELL AS STORMWATER MANAGEMENT DEVICES FOR THE PROJECT SITE. ALSO, THIS PLAN OUTLINES SEVERAL HOUSEKEEPING REQUIREMENTS THAT SHALL BE FOLLOWED DURING AND AFTER CONSTRUCTION. THESE PROCEDURES SHOULD BE FOLLOWED IN ORDER TO ENSURE THE INTENDED FUNCTION OF THE DESIGNED MEASURES AND TO PREVENT UNREASONABLE ADVERSE IMPACTS TO THE SURROUNDING ENVIRONMENT.

THE PROCEDURES OUTLINED IN THIS INSPECTION AND MAINTENANCE PLAN ARE PROVIDED AS AN OVERVIEW OF THE ANTICIPATED PRACTICES TO BE USED ON THIS SITE. IN SOME INSTANCES, ADDITIONAL MEASURES MAY BE REQUIRED DUE TO UNEXPECTED CONDITIONS. FOR ADDITIONAL DETAIL ON ANY OF THE EROSION AND SEDIMENTATION CONTROL MEASURES OR STORMWATER MANAGEMENT DEVICES TO BE UTILIZED ON THIS PROJECT, REFER TO THE MOST RECENTLY REVISED EDITION OF THE "MAINE EROSION AND SEDIMENTATION CONTROL BMP" MANUAL AND/OR THE "STORMWATER MANAGEMENT FOR MAINE: BEST MANAGEMENT PRACTICES" MANUAL AS PUBLISHED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION (MDEP).

DURING CONSTRUCTION

1. INSPECTION: DURING THE CONSTRUCTION PROCESS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE INSPECTION AND MAINTENANCE PROCEDURES OUTLINED IN THIS SECTION. THESE RESPONSIBILITIES INCLUDE INSPECTING DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, MATERIAL STORAGE AREAS THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. THESE AREAS SHALL BE INSPECTED AT LEAST ONCE A WEEK AS WELL AS BEFORE AND AFTER A STORM EVENT, AND PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN ANY APPLICABLE PERMITS, SHALL CONDUCT THE INSPECTIONS.

2. MAINTENANCE: ALL MEASURES SHALL BE MAINTAINED IN AN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE MAINTAINED OR MODIFIED, ADDITIONAL BMPS ARE NECESSARY, OR OTHER CORRECTIVE ACTION IS NEEDED, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL).

3. DOCUMENTATION: A LOG SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN MUST BE MAINTAINED ON-SITE. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS, THE DATE(S) OF THE INSPECTIONS, AND MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, MATERIAL STORAGE AREAS, AND VEHICLE ACCESS POINTS TO THE SITE. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATIONS WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO THE APPROPRIATE REGULATORY AGENCY UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.

4. SPECIFIC INSPECTION AND MAINTENANCE TASKS: THE FOLLOWING IS A LIST OF EROSION CONTROL AND STORMWATER MANAGEMENT MEASURES AND THE SPECIFIC INSPECTION AND MAINTENANCE TASKS TO BE PERFORMED DURING CONSTRUCTION.

A. SEDIMENT BARRIERS:

- HAY BALE BARRIERS, SILT FENCES, AND FILTER BERMS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
- IF THE FABRIC ON A SILT FENCE OR FILTER BARRIER SHOULD DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, IT SHALL BE REPLACED.
- SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED BEFORE DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- FILTER BERMS SHALL BE RESHAPED AS NEEDED.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED, AND SEEDED.

B. RIPRAP MATERIALS:

- ONCE A RIPRAP INSTALLATION HAS BEEN COMPLETED, IT SHOULD REQUIRE VERY LITTLE MAINTENANCE. IT SHALL, HOWEVER, BE INSPECTED PERIODICALLY TO DETERMINE IF HIGH FLOWS HAVE CAUSED SCOUR BENEATH THE RIPRAP OR DISLODGED ANY OF THE STONE.

C. EROSION CONTROL BLANKETS:

- INSPECT THESE REINFORCED AREAS SEMI-ANNUALLY AND AFTER SIGNIFICANT RAINFALL EVENTS FOR SLUMPING, SLIDING, SEEPAGE, AND SCOUR. PAY CLOSE ATTENTION TO UNREINFORCED AREAS ADJACENT TO THE EROSION CONTROL BLANKETS, WHICH MAY EXPERIENCE ACCELERATED EROSION.
- REVIEW ALL APPLICABLE INSPECTION AND MAINTENANCE PROCEDURES RECOMMENDED BY THE SPECIFIC BLANKET MANUFACTURER. THESE TASKS SHALL BE INCLUDED IN ADDITION TO THE REQUIREMENTS OF THIS PLAN.

D. STONE CHECK DAMS:

- INSPECT THE CENTER OF THE DAM TO MAKE SURE IT IS LOWER THAN THE EDGES. EROSION CAUSED BY HIGH FLOWS AROUND THE EDGES OF THE DAM MUST BE CORRECTED.
- SEDIMENT ACCUMULATION SHALL BE REMOVED PRIOR TO REACHING HALF OF THE ORIGINAL DESIGN HEIGHT.
- AREAS BENEATH STONE CHECK DAMS MUST BE SEEDED AND MULCHED UPON REMOVAL.

E. TEMPORARY STORM DRAIN INLET PROTECTION:

- THE INLET PROTECTION STRUCTURE SHALL BE INSPECTED BEFORE EACH RAIN EVENT AND REPAIRED AS NECESSARY.
- SEDIMENT SHALL BE REMOVED AND THE STORM DRAIN SEDIMENT BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO HALF OF THE DESIGN DEPTH OF THE TRAP.
- STRUCTURES SHALL BE REMOVED UPON PERMANENT STABILIZATION OF THE TRIBUTARY AREA.
- UPON REMOVAL OF THE STRUCTURE, ALL ACCUMULATED SEDIMENTS DOWNSTREAM OF THE STRUCTURE SHALL BE CLEANED FROM THE STORM DRAIN SYSTEM.

F. STABILIZED CONSTRUCTION ENTRANCES/EXITS:

- THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY.
- WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL. THE ENTRANCE SHOULD THEN BE RECONSTRUCTED.
- AREAS THAT HAVE RECEIVED MUD-TRACKING OR SEDIMENT DEPOSITS SHALL BE SWEPT OR WASHED. WASHING SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT-TRAPPING DEVICE (NOT INTO STORM DRAINS, DITCHES, OR WATERWAYS).

G. TEMPORARY SEED AND MULCH:

- MULCHED AREAS SHOULD BE INSPECTED AFTER RAIN EVENTS TO CHECK FOR RILL EROSION.
- IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE APPLIED IN BARE AREAS.
- IN APPLICATIONS WHERE SEEDING AND MULCH HAVE BEEN APPLIED IN CONJUNCTION WITH EROSION CONTROL BLANKETS, THE BLANKETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR UNDERCUTTING.
- MULCH SHALL CONTINUE TO BE REAPPLIED UNTIL 95% OF THE SOIL SURFACE HAS ESTABLISHED TEMPORARY VEGETATIVE COVER.

H. STABILIZED TEMPORARY DRAINAGE SWALES:

- SEDIMENT ACCUMULATION IN THE SWALE SHALL BE REMOVED ONCE THE CROSS SECTION OF THE SWALE IS REDUCED BY 25%.
- THE SWALES SHALL BE INSPECTED AFTER RAINFALL EVENTS. ANY EVIDENCE OF SLOUGHING OF THE SIDE SLOPES OR CHANNEL EROSION SHALL BE REPAIRED AND CORRECTIVE ACTION SHOULD BE TAKEN TO PREVENT REOCCURRENCE OF THE PROBLEM.
- IN ADDITION TO THE STABILIZED LINING OF THE CHANNEL (I.E. EROSION CONTROL BLANKETS), STONE CHECK DAMS MAY BE NEEDED TO FURTHER REDUCE CHANNEL VELOCITY.

HOUSEKEEPING

THE FOLLOWING GENERAL PERFORMANCE STANDARDS APPLY TO THE PROPOSED PROJECT BOTH DURING AND AFTER CONSTRUCTION.

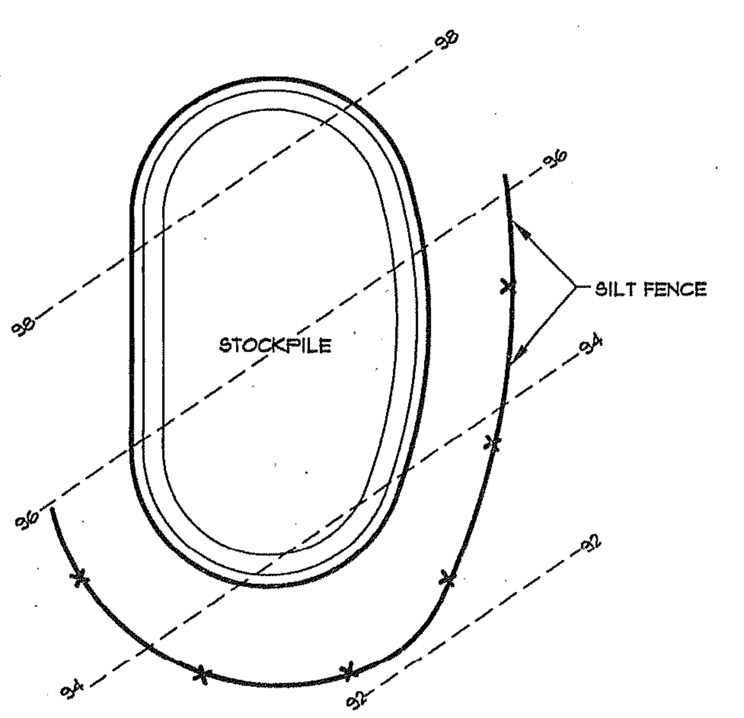
A. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS AND EQUIPMENT ON-SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.

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

C. FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO INSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL.

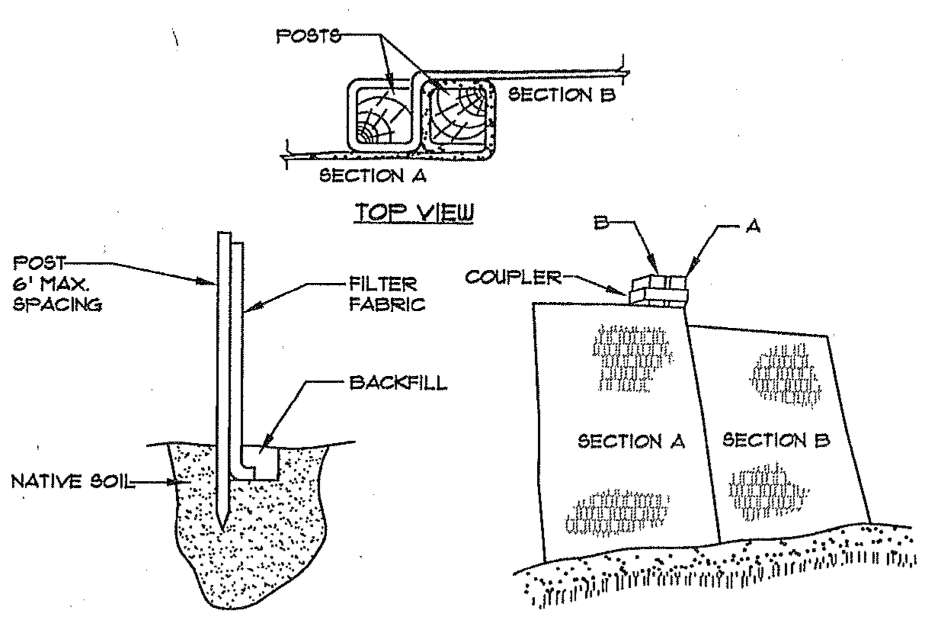
D. DEBRIS AND OTHER MATERIALS: LITTER, CONSTRUCTION DEBRIS, AND CHEMICALS EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

E. TRENCH OR FOUNDATION DEWATERING: TRENCH DEWATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFERDAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES, THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER MUST BE REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, AND MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED.



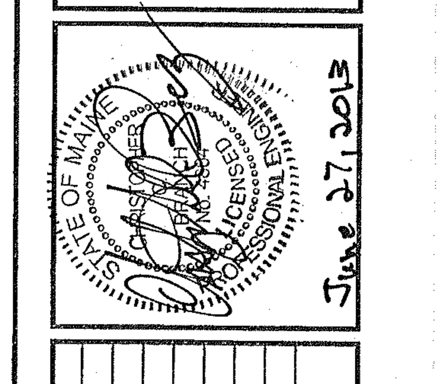
1. SEED TOPSOIL STOCKPILE WITH WINTER RYE AT THE RATE OF 3lbs PER 1000 sq.ft. BY OCTOBER 1st OF CONSTRUCTION SEASON. APPLY HAY MULCH AT THE RATE OF 100lbs PER 1000 sq.ft. OR APPLY A TACKIFIER BY HYDRO SEEDING METHODS AFTER SEEDING. MULCH SHALL BE REAPPLIED ON THE STOCKPILE IF GRASS GROWTH DOES NOT COVER AT LEAST 75% OF THE STOCKPILE SURFACE WITH SEEDLINGS AT LEAST 3" HIGH BY NOVEMBER 1st. THE USE OF RYE FOR STABILIZING STOCKPILES IS LIMITED TO TEMPORARY PILES STANDING NO LONGER THAN 1 YEAR OR CONSERVATION MIX FOR TIMES LONGER.
2. SILT FENCE TO BE INSTALLED PER THE SILT FENCE DETAIL.
3. ACCUMULATED SEDIMENTS WILL BE REMIXED INTO THE TOPSOIL.

MATERIAL STOCKPILE EROSION PREVENTION DETAIL
NOT TO SCALE



INSTALLATION:
1. EXCAVATE A 6"x 6" TRENCH ALONG THE LINE OF PLACEMENT FOR THE FILTER BARRIER.
2. UNROLL A SECTION AT A TIME AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH.
3. DRIVE POSTS INTO THE GROUND UNTIL APPROXIMATELY 2" OF FABRIC IS LYING ON THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL THE TRENCH AND TAMP THE SOIL. TOE-IN CAN ALSO BE ACCOMPLISHED BY LAYING THE FABRIC FLAP ON UNDISTURBED GROUND AND PILING AND TAMPING FILL AT THE BASE, BUT MUST BE ACCOMPANIED BY AN INTERCEPTION DITCH.
5. JOIN SECTION AS SHOWN ABOVE.
6. BARRIER SHALL BE MIRAFI SILT FENCE OR EQUAL.

FILTER BARRIER
NOT TO SCALE



REV:	BY:	DATE:	STATUS:
C	CCB	06-26-13	REVISED FOR BID DOCUMENTS
B	CCB	06-26-13	ISSUED FOR REVIEW
A	CCB	04-09-10	RELEASED FOR PRELIMINARY APPROVAL

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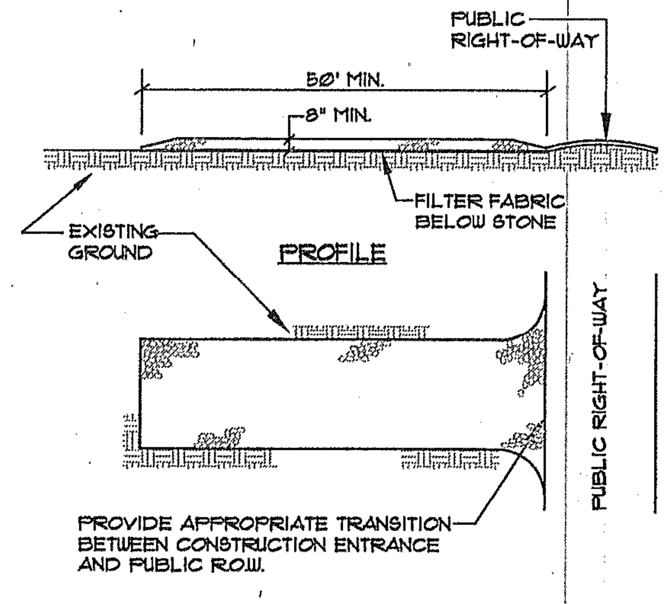
PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
07075		OAM	CCB	BRF

EROSION CONTROL MEASURES
OF: AUBURN INDUSTRIAL PARK
LEWISTON JUNCTION ROAD
AUBURN, MAINE
FOR: CITY OF AUBURN
60 COURT STREET
AUBURN, MAINE 04210

070750.dwg, TAB: D-1

DATE	SCALE
03-25-10	AS SHOWN

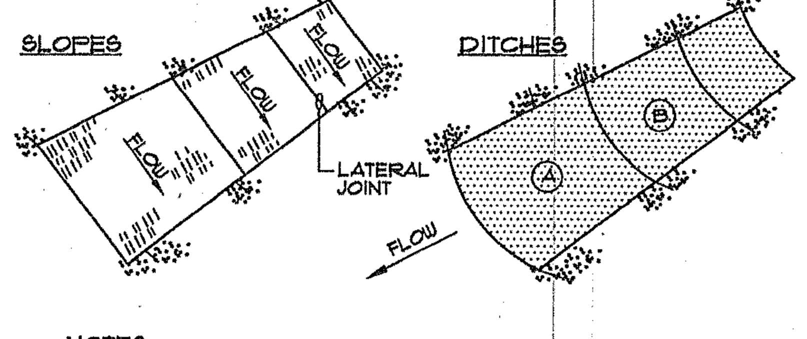


NOTES:

1. STONE SIZE- AASHTO DESIGNATION M43, SIZE NO. 2 (2 1/2" TO 1 1/2"). USE CRUSHED STONE.
2. LENGTH- AS SHOWN ON PLANS, MIN. 50 FEET.
3. THICKNESS- NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH- NOT LESS THAN FULL WIDTH OF ALL POINT OF INGRESS OR EGRESS.
5. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



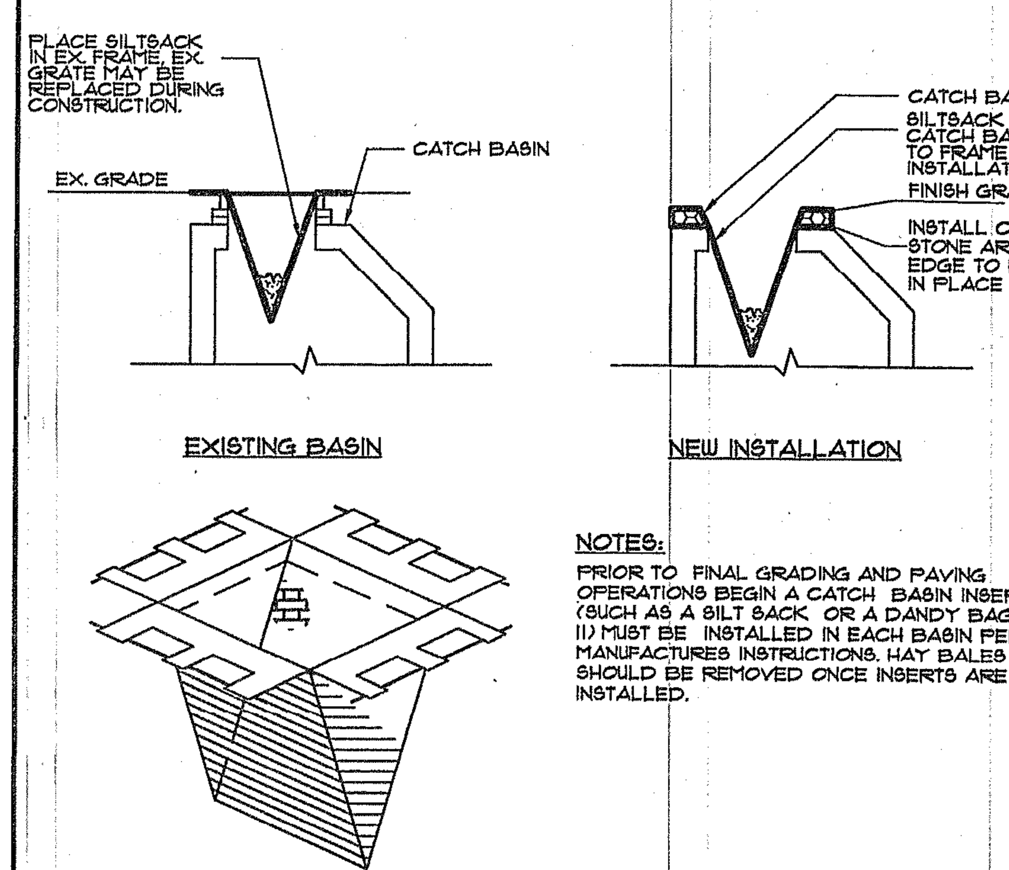
NOTES:

1. BURY THE TOP END OF THE MESH MATERIAL IN A 6" TRENCH AND BACKFILL AND TAMP TRENCHING SECURE END WITH STAPLES AT 6" SPACING, 4" DOWN FROM EXPOSED END.
2. FLOW DIRECTION JOINTS TO HAVE UPPER END OF LOWER STRIP BURIED WITH UPPER LAYERS OVERLAPPED 4" AND STAPLED. OVERLAP B OVER A.
3. LATERAL JOINTS TO HAVE 4" OVERLAP OF STRIPS. STAPLE 18" ON CENTER.
4. STAPLE OUTSIDE LATERAL EDGE 2' ON CENTER.
5. WIRE STAPLES TO BE MIN. OF # 11 WIRE 6" LONG AND 1-1/2" WIDE.

SLOPES	EROSION CONTROL BLANKET
3:1 OR SHALLOWER	NORTH AMERICAN GREEN DS 150
3:1 TO 2:1	NORTH AMERICAN GREEN SC150
STEEPER THAN 2:1	SEE RIPRAP SIDE SLOPE DETAIL OR APPROVED EQUAL

EROSION CONTROL BLANKET

NOT TO SCALE

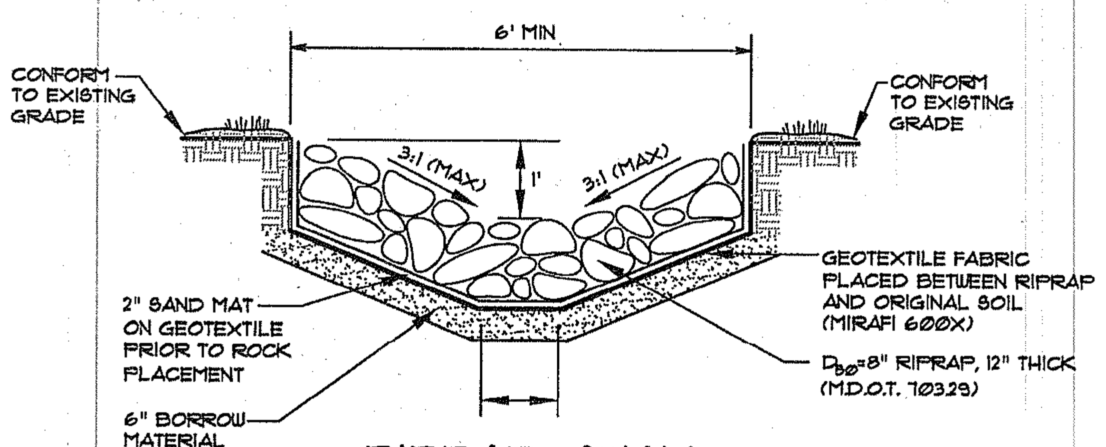


NOTES:

PRIOR TO FINAL GRADING AND PAVING OPERATIONS BEGIN A CATCH BASIN INSERT (SUCH AS A SILT SACK OR A DANDY BAG II) MUST BE INSTALLED IN EACH BASIN PER MANUFACTURES INSTRUCTIONS. HAY BALES SHOULD BE REMOVED ONCE INSERTS ARE INSTALLED.

CATCH BASIN PROTECTION DETAIL (FOR PAVED AREAS)

NOT TO SCALE



RIPRAP SWALE

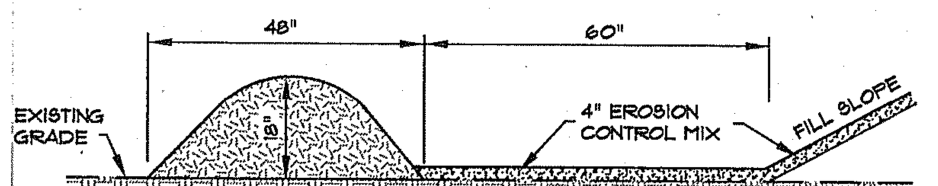
NOT TO SCALE

THE FILTER BERM SHALL CONSIST OF A WOOD WASTE COMPOST/BARK MULCH MIX OR RECYCLED COMPOSTED BARK FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER FLUME LOG HANDLING SYSTEMS. COMPARABLE COMPOSTED MIXES CAN BE USED UPON WRITTEN APPROVAL OF THE ENGINEER.

THE MIX SHALL CONFORM TO THE FOLLOWING: pH BETWEEN 5.0-8.0, PARTICLE SIZE - 100% PASSING THROUGH A 6" SCREEN AND 80% RETAINED ON A 3/4" SCREEN, SOLUBLE SALTS CONTENT SHALL BE LESS THAN 4.0 mmhos/cm.

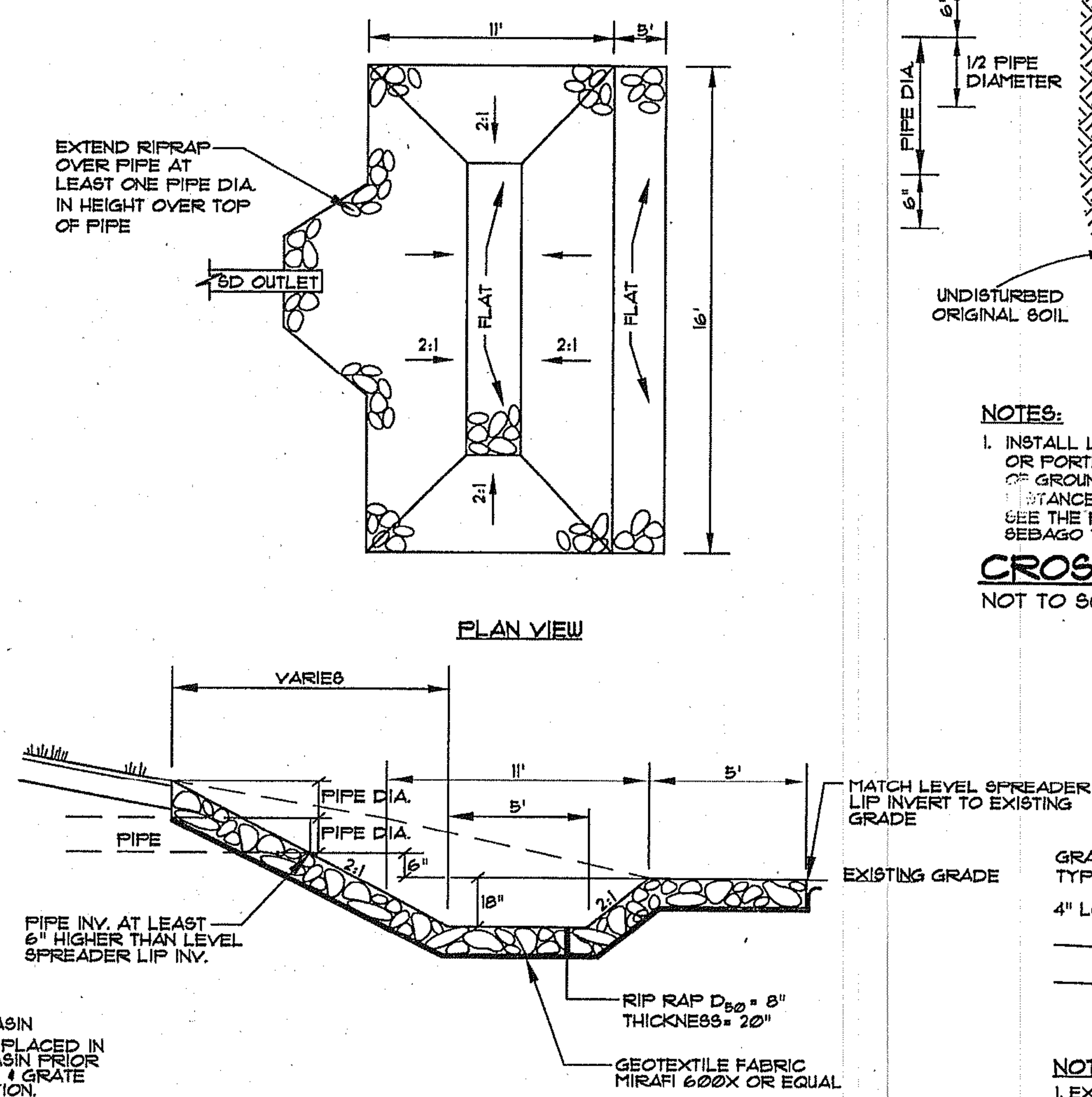
THE COMPOSTED BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.

THE BERM MAY BE USED IN COMBINATION WITH SILT FENCE TO IMPROVE SEDIMENT REMOVAL AND PREVENT CLOGGING OF THE BERM BY LARGER SEDIMENT PARTICLES (SILT FENCE PLACED ON THE UPHILL SIDE OF BERM).



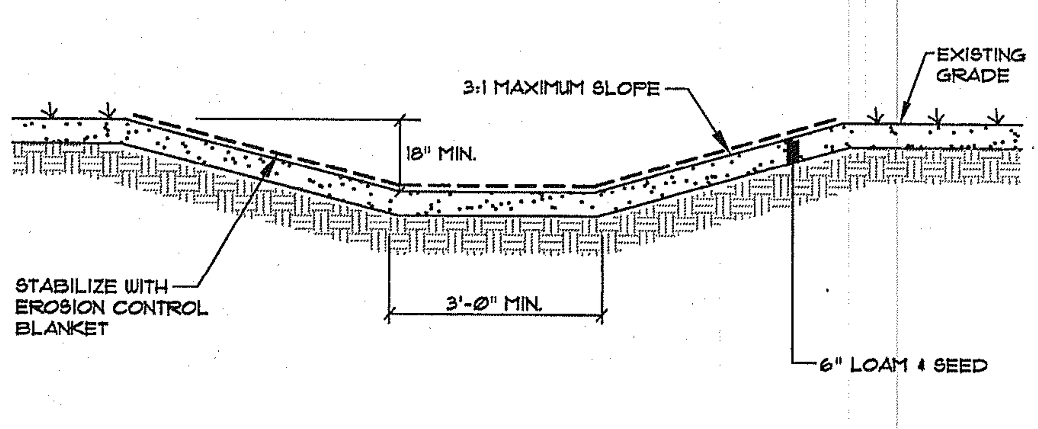
WOOD WASTE BARK/COMPOST FILTER BERM

NOT TO SCALE



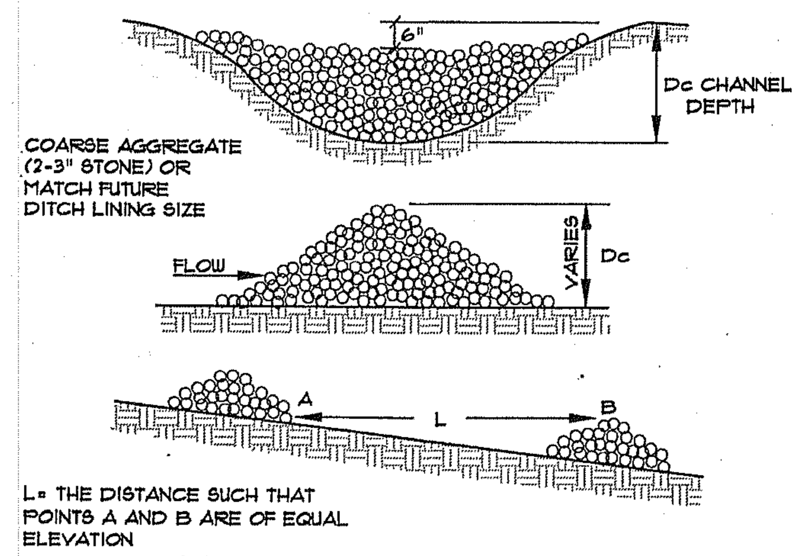
WET POND RIPRAP LEVEL SPREADER OUTLET

NOT TO SCALE



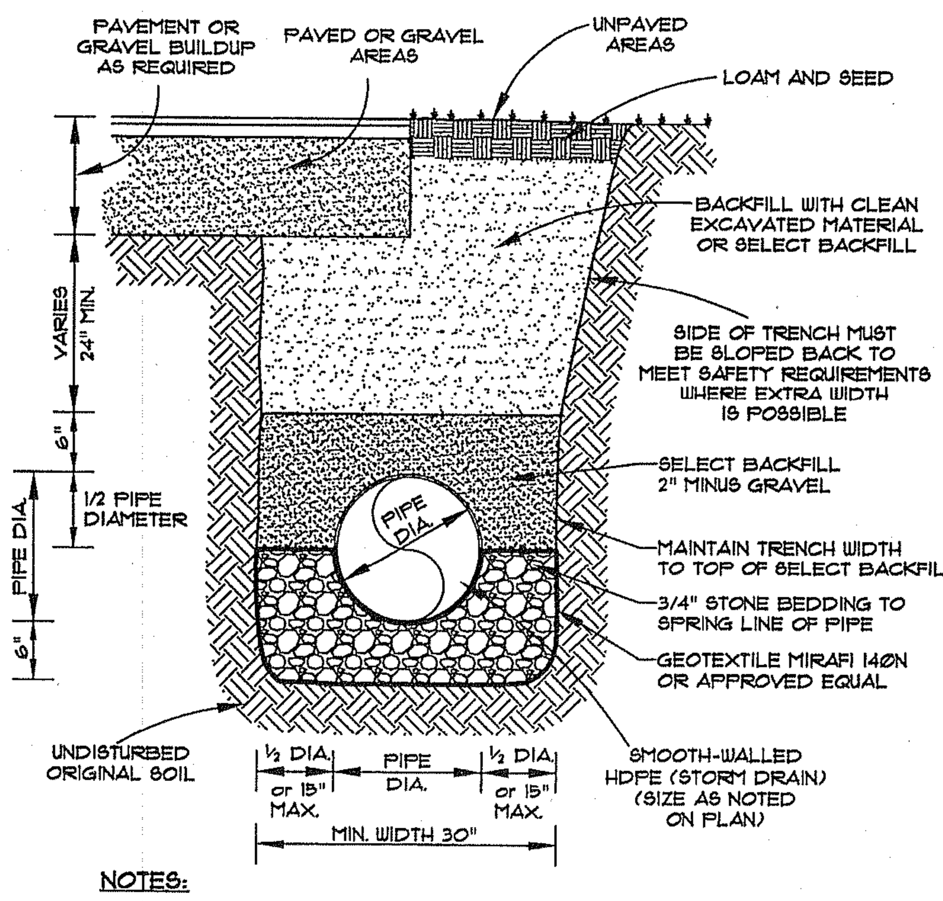
GRASSED SWALE

NOT TO SCALE



STONE CHECK DAM

NOT TO SCALE

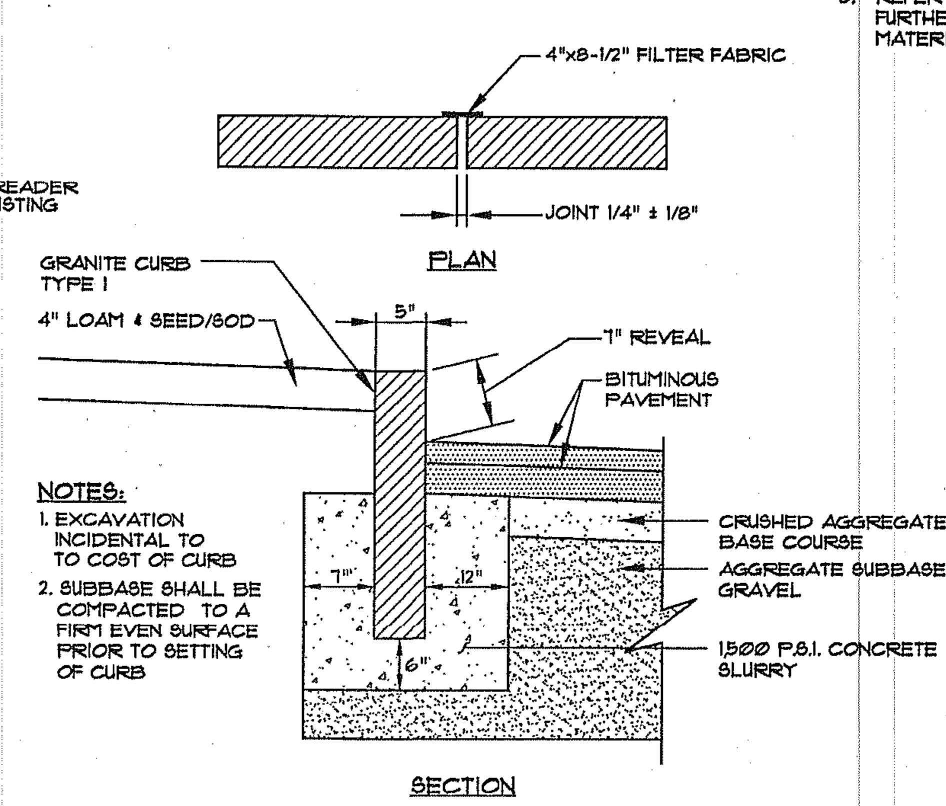


NOTES:

1. INSTALL LOW PERMEABILITY DAMS OF NATURAL CLAY, BENTONITE OR PORTLAND CEMENT IN THE BEDDING, TO PREVENT THE FLOW OF GROUNDWATER THROUGH THE BEDDING MATERIAL. THE MAXIMUM DISTANCE BETWEEN DAMS SHOULD NOT EXCEED 300 FEET. SEE THE PROJECT GEOTECHNICAL REPORT PREPARED BY SEBAGO TECHNICS, INC. DATED MARCH 11, 2010

CROSS CULVERT DETAIL

NOT TO SCALE

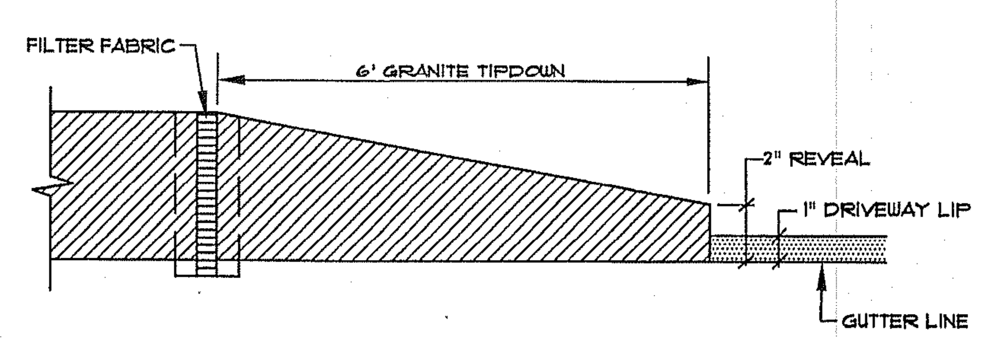


NOTES:

1. EXCAVATION INCIDENTAL TO TO COST OF CURB
2. SUBBASE SHALL BE COMPACTED TO A FIRM EVEN SURFACE PRIOR TO SETTING OF CURB

VERTICAL GRANITE CURB

NOT TO SCALE



TYPICAL TIPDOWN CURB INSTALLATION

NOT TO SCALE

UTILITY CONSTRUCTION NOTES

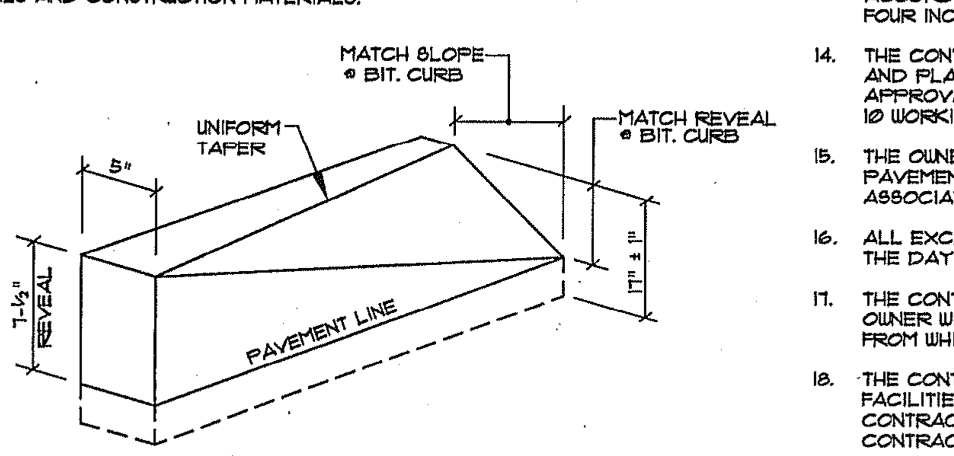
1. UTILITY CONNECTION DESIGN AS REFLECTED ON THESE PLANS MAY CHANGE SUBJECT TO UTILITY COMPANY AND CITY STAFF REVIEWS.
2. PROPER COORDINATION WITH THE RESPECTIVE UTILITY COMPANY SHALL BE PERFORMED BY THE CONTRACTOR TO ENSURE THAT ALL UTILITY COMPANY (AND CITY) STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET.
3. ALL UTILITY CONSTRUCTION IS SUBJECT TO INSPECTION BY UTILITY COMPANY PRIOR TO BACKFILL OF TRENCHES.
4. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER OWNER/DESIGNER APPROVED ACCURATE METHOD UNLESS SHOWN OTHERWISE ON THE PLANS.
5. SANITARY SERVICES SHALL MAINTAIN A TEN FOOT (10') MINIMUM HORIZONTAL AND EIGHTEEN INCH (18") VERTICAL SEPARATION DISTANCE FROM WATER LINES.
6. UTILITY COMPANY FACILITIES (SUCH AS POLES) SHALL BE RELOCATED WITH THE AGREEMENT OF OWNER (OR CITY) AND UTILITY COMPANY.
7. ALL WATER LINES ARE TO HAVE 5.5' OF EARTH COVER OVER PIPE WHERE POSSIBLE. THE WATER LINES ARE TO BE CONSTRUCTED, BACKFILLED AND COMPACTED TO WATER DISTRICT STANDARDS. WATER MATERIALS INCLUDING PIPE, FITTINGS, VALVES, HYDRANTS, SERVICES, ETC. WILL BE PROVIDED BY THE AUBURN WATER DISTRICT, 268 COURT STREET, AUBURN, MAINE. THE COST FOR THE MATERIALS WILL BE BILLED DIRECTLY TO THE CITY OF AUBURN BY THE DISTRICT.
8. SEE POWER COMPANY AND COMMUNICATION SERVICES DESIGN BY OTHERS.
9. UTILITY CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE APPROPRIATE UTILITY'S STANDARDS AND SPECIFICATIONS.

GRADING NOTES

1. THE CONTRACTOR SHALL PRESERVE EXISTING TREES WHERE POSSIBLE.
2. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING.
3. EMBANKMENT LAYERS SHALL START AT THE DEEPEST PORTION OF THE FILL AND AS PLACEMENT PROGRESSES, LAYERS SHALL BE PLACED APPROXIMATELY HORIZONTAL IN EIGHT INCH (8") LIFTS. AT THE CLOSE OF EACH DAY'S WORK, THE EMBANKMENT SURFACE SHALL BE GRADED, CROWNED, SMOOTHED, ROLLED AND SEALED AGAINST INFILTRATION OF WATER. EXCESS EXCAVATION, IF ANY, SHALL BE REMOVED OFF-SITE UNLESS CONTRACTOR OBTAINS WRITTEN APPROVAL FROM OWNER FOR STOCKPILING MATERIALS ON-SITE.
4. THE CONTRACTOR SHALL COMPACT FILL UNDER ALL PARKING, BUILDING, ROAD, AND DRIVE AREAS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 (MODIFIED PROCTOR TEST), OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER. (SEE GEOTECHNICAL REPORT)
5. AGGREGATE FOR GRAVEL SURFACE COURSE SHALL MEET TYPE "A" MDOT GRAVELS SECTION 703.06. AGGREGATE FOR GRAVEL BASE COURSE SHALL MEET TYPE "D" MDOT GRAVELS SECTION 703.06. THE COMPLETED SURFACE OF EACH LAYER OF GRAVEL SHALL BE SHAPED AND MAINTAINED TO A TOLERANCE, ABOVE OR BELOW THE REQUIRED GRADE, OF ONE HALF INCH.
6. ALL AREAS WHERE LOAM IS REQUIRED SHALL BE TRIMMED AND SHAPED TO THE REQUIRED GRADE. ALL DEBRIS/STONES SHALL BE REMOVED FROM THE LOAM. LOAM SHALL BE SPREAD UNIFORMLY ON THE PREPARED AREAS TO A UNIFORM DEPTH OF FOUR INCHES (4"). ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. IT IS NECESSARY TO COMPACT THE TOPSOIL ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL, HOWEVER, UNDUE COMPACTION IS TO BE AVOIDED AS IT PREVENTS SEED GERMINATION.

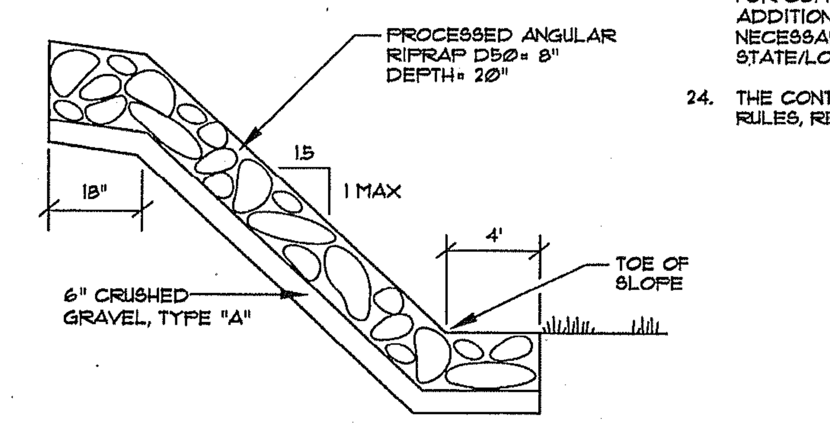
POND CONSTRUCTION NOTES

1. THE FOUNDATION AREA SHALL BE CLEARED OF ALL TREES, STUMPS, ROOTS, BRUSH, BOULDERS, SOD AND OTHER DEBRIS. REMOVE ALL MUCK, PEAT, AND ANY SOIL WITH A HIGH ORGANIC CONTENT FROM THE FOUNDATION AREA. THE SURFACE OF THE FOUNDATION AREA WILL BE THOROUGHLY SCARIFIED BEFORE PLACEMENT OF THE EMBANKMENT FILL MATERIAL.
2. ALL EXCAVATIONS AND EMBANKMENTS SHALL CONFORM TO THE LINES, GRADES, WIDTHS, SIDESLOPES, AND ELEVATIONS AS SHOWN ON THE PLANS AS NEARLY AS SKILLFUL OPERATIONS OF THE EXCAVATION EQUIPMENT WILL PERMIT.
3. A PERMANENT LOG OF ALL ACTIVITIES SHALL BE KEPT OF ANY PROBLEMS/REPAIRS TO THE POND AS PART OF THE LONG TERM MAINTENANCE RESPONSIBILITIES OF THE OWNER. THE LOG SHALL IDENTIFY THE INSPECTOR, DATE OF INSPECTION, PROBLEM AREAS, LOCATION, AND DATE OF REPAIR ACTIVITY.
4. WHEN POSSIBLE, CONSTRUCT POND TO TAKE ADVANTAGE OF SEASONS WITH LOW OR NO RAINFALL CONDITIONS (GENERALLY LATE SUMMER MONTHS) TO MINIMIZE DOWNSTREAM IMPACTS FROM EROSION. WATER SHALL NOT BE CHANNELED TO POND UNTIL POND IS STABILIZED WITH VEGETATIVE AND STRUCTURAL MEASURES.
5. REFER TO THE GEOTECHNICAL REPORT PREPARED BY SEBAGO TECHNICS, INC. FOR FURTHER RECOMMENDATIONS OF POND CONSTRUCTION INCLUDING EMBANKMENT MATERIALS AND CONSTRUCTION MATERIALS.



VERTICAL TO SLOPED CURB TRANSITION STONES

NOT TO SCALE



SIDE SLOPE RIPRAP

NOT TO SCALE

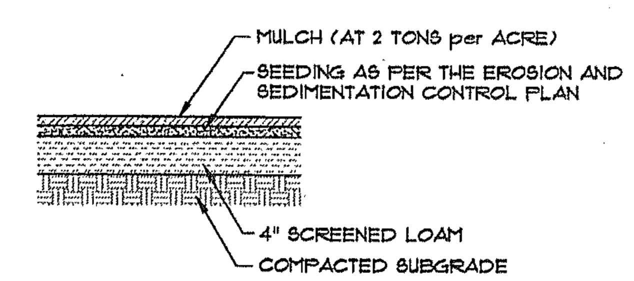
GENERAL NOTES

1. TEMPORARY BENCHMARKS - SEE TOPOGRAPHIC SITE PLAN NOTES.
2. THE CONTRACT WORK TO BE PERFORMED ON THIS PROJECT CONSISTS OF FURNISHING ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, IMPLEMENTS, PARTS AND SUPPLIES NECESSARY FOR, OR APPURTENANT TO, THE INSTALLATION OF CONSTRUCTION IMPROVEMENTS IN ACCORDANCE WITH THESE DRAWINGS AND AS FURTHER ELABORATED IN ANY ACCOMPANYING SPECIFICATIONS.
3. THE WORK SHALL BE PERFORMED IN A THOROUGH WORKMANLIKE MANNER. ALL CONTRACTORS ARE TO CONFORM TO ALL APPLICABLE OSHA STANDARDS. ANY REFERENCE TO A SPECIFICATION OR DESIGNATION OF THE AMERICAN SOCIETY FOR TESTING MATERIALS, FEDERAL SPECIFICATIONS, OR OTHER STANDARDS, CODES OR ORDERS, REFERS TO THE MOST RECENT OR LATEST SPECIFICATION OR DESIGNATION.
4. ALL CONSTRUCTION WITHIN THE CITY OF AUBURN RIGHT OF WAY SHALL COMPLY WITH CITY PUBLIC WORKS STANDARDS. ALL CONSTRUCTION WITHIN A STATE RIGHT OF WAY SHALL COMPLY WITH MAINE DOT STANDARDS. ALL UTILITY CONSTRUCTION SHALL CONFORM TO RESPECTIVE UTILITY STANDARDS.
5. THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF AUBURN REQUIRED TO PERFORM ALL THE WORK (STREET OPENINGS, BUILDING PERMIT, ETC.). THE CONTRACTOR SHALL POST ALL BONDS AS REQUIRED, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
6. PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR IS TO INFORM ALL AREA UTILITY COMPANIES AND GOVERNMENTAL AGENCIES OF PLANNED CONSTRUCTION. THE SITE CONTRACTOR IS REQUIRED TO CONTACT DIG-SAFE 1-800-225-4977 AT LEAST 3 BUSINESS DAYS PRIOR TO ANY EXCAVATION TO VERIFY ALL UNDERGROUND AND OVERHEAD UTILITY LOCATIONS.

   ADDITIONAL CONTACTS INCLUDE (BUT ARE NOT LIMITED TO):

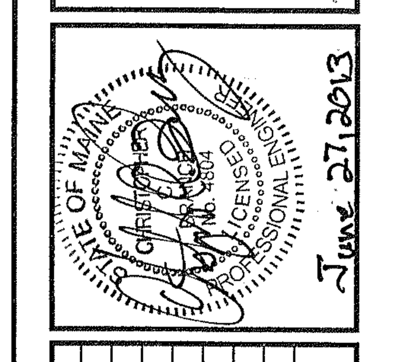
CITY OF AUBURN:	CONSTRUCTION INSPECTOR 45 SPRING ST., AUBURN, ME 04210, TEL. 786-2421
WATER & SEWER:	AUBURN WATER & SEWERAGE DISTRICT, 268 COURT ST., TEL. 784-6469
TELEPHONE:	VERIZON
CABLE T.V.:	TIME WARNER
ELECTRIC:	CENTRAL MAINE POWER CO.
GAS:	UNITIL, TEL. 1-800-924-8002 EX. 6286
FIBER OPTICS:	OXFORD NETWORKS - MICHAEL ELLINGWOOD, PLANT / INSTALLATION MANAGER, 491 LISBON ST., LEWISTON, ME 04243, TEL. 333-3471

7. THE PROJECT DRAWINGS INDICATE THE POSSIBLE LOCATION OF EXISTING UNDERGROUND UTILITIES. INFORMATION ON EXISTING UTILITIES HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY COMPANY MAPS, MUNICIPAL RECORD MAPS, AND FIELD SURVEY. IT IS NOT GUARANTEED TO BE CORRECT OR COMPLETE. UTILITIES ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SERVICES, WHEN THE SERVICES ARE TO BE LEFT IN PLACE. THE CONTRACTOR IS TO PROVIDE ADEQUATE MEANS OF SUPPORT AND PROTECTION DURING THE EXCAVATING AND BACKFILLING OPERATIONS. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED UTILITIES BE FOUND, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH THE WORK IN THIS AREA.
8. DO NOT INTERRUPT EXISTING UTILITIES SERVICING THE PREMISES USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER AND CITY. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.
9. OSHA REGULATIONS MAKE IT UNLAWFUL TO OPERATE CRANES, BOOMS, HOISTS, ETC., WITHIN TEN FEET (10') OF ANY ELECTRIC LINE UNDER 50KV. IF THE CONTRACTOR MUST OPERATE CLOSER THAN 10', THE CONTRACTOR MUST CONTACT THE POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS BEFORE ENCROACHING ON THIS REQUIREMENT.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLANS, APPROVALS, AND DETAILS FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL VERIFY ALL THE SITE CONDITIONS IN THE FIELD AND CONTACT THE DESIGN ENGINEER IF THERE ARE ANY DISCREPANCIES REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT AN APPROPRIATE REVISION CAN BE MADE PRIOR TO BIDDING.
11. ALTERNATE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED IN WRITING BY THE OWNER, DESIGN ENGINEER, AND APPROPRIATE GOVERNMENTAL AGENCY PRIOR TO INSTALLATION.
12. THE CONTRACTOR SHALL RESTORE ALL UTILITY STRUCTURES, PIPE, UTILITIES, PAVEMENT, CURBS, SIDEWALKS, AND LANDSCAPED AREAS DISTURBED BY CONSTRUCTION TO AS GOOD AS BEFORE BEING DISTURBED AS DETERMINED BY CITY OF AUBURN CODE ENFORCEMENT OFFICIALS. ANY DAMAGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
13. TRAFFIC CONTROL MEASURES SHALL BE UTILIZED IN ACCORDANCE WITH THE LATEST REVISION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE CONTRACTOR SHALL PROVIDE, MAINTAIN AND PROTECT TRAFFIC CONTROL DEVICES TO THE EXTENT REQUIRED BY LAW FOR THE PROTECTION OF THE PUBLIC CONSISTING OF DRUMS, BARRIERS, SIGNS, LIGHTS, FENCES, AND UNIFORMED TRAFFIC CONTROL PERSONNEL AS REQUIRED OR ORDERED BY THE DESIGN ENGINEER OR CODE ENFORCEMENT PERSONNEL. THE CONTRACTOR SHALL MAINTAIN ALL TRAFFIC LANES AND PEDESTRIAN WALKWAYS AT ALL TIMES UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE CITY OF AUBURN. PAVEMENT MARKINGS SHALL BE FAST DRYING TYPE IN ACCORDANCE WITH MDOT SPECIFICATIONS. TWELVE INCH (12") WIDE STOP BAR AND FOUR INCH (4") WIDE STRIPES SHALL BE LOCATED AS SHOWN ON THE PLANS.
14. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL PRODUCT, MATERIALS AND PLANT SPECIFICATIONS TO THE OWNER AND DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY TO THE SITE. ALLOW A MINIMUM OF 10 WORKING DAYS FOR REVIEW.
15. THE OWNER MAY RETAIN AN INDEPENDENT TESTING LABORATORY FOR SOIL AND PAVEMENT TESTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS ASSOCIATED WITH ANY RECONSTRUCTION AND RE-TESTING OF UNSATISFACTORY SOILS.
16. ALL EXCAVATION SHALL BE BACKFILLED TO EXISTING GRADE BEFORE THE END OF THE DAY OR ADEQUATELY PROTECTED FROM DANGER TO HUMANS AND ANIMALS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE OWNER WILL PROVIDE COORDINATES AND BENCHMARK AT THE CONSTRUCTION SITE FROM WHICH TO BEGIN LAYOUT.
18. THE CONTRACTOR SHALL FURNISH ELECTRICAL POWER, WATER, AND SANITARY FACILITIES FOR HIS EXCLUSIVE USE AT THE CONSTRUCTION SITE SHOULD THE CONTRACTOR DEEM THIS ESSENTIAL FOR THE PROPER PERFORMANCE OF THE CONTRACT.
19. WORK MAY PROGRESS MONDAY THROUGH SATURDAY 7:00 AM TO 6:00 PM. WORK AT OTHER TIMES MAY PROCEED UPON WRITTEN APPROVAL BY THE OWNER AND CITY.
20. THE CONTRACTOR SHALL GUARANTEE THE FAITHFUL REMEDY OF ANY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP AND GUARANTEES PAYMENT FOR ANY RESULTING DAMAGE WHICH SHALL APPEAR WITHIN A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT.
21. THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER AT THE END OF CONSTRUCTION.
22. A PRE-CONSTRUCTION CONFERENCE WITH THE OWNER, DESIGNERS, AND CONTRACTOR SHALL BE REQUIRED BEFORE ANY CONSTRUCTION OCCURS ON THE PROJECT. DURING CONSTRUCTION, THERE SHALL BE WEEKLY PROGRESS MEETINGS WITH THE OWNER (ON-SITE OR TELECONFERENCE) UNTIL PROJECT COMPLETION.
23. PROPER IMPLEMENTATION AND MAINTENANCE OF EROSION CONTROL MEASURES ARE OF PARAMOUNT IMPORTANCE FOR THIS PROJECT. 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 ON-SITE INSPECTIONS OF THE OWNER, THEIR REPRESENTATIVES, OR STATE/LOCAL/FEDERAL INSPECTORS AT NO ADDITIONAL COST TO THE OWNER.
24. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL RULES, REGULATIONS AND LAWS.



LOAM AND SEED

NOT TO SCALE



REV:	BY:	DATE:	STATUS:
C	CCB	06-26-13	REVISED FOR BID DOCUMENTS
B	CCB	06-20-13	ISSUED FOR REVIEW
A	CCB	04-09-10	RELEASED FOR PRELIMINARY APPROVAL

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.

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 1A, South Portland, ME 04106, Tel. 207-200-2100
250 Goddard Rd. - Suite B, Lewiston, ME 04240, Tel. 207-783-5656

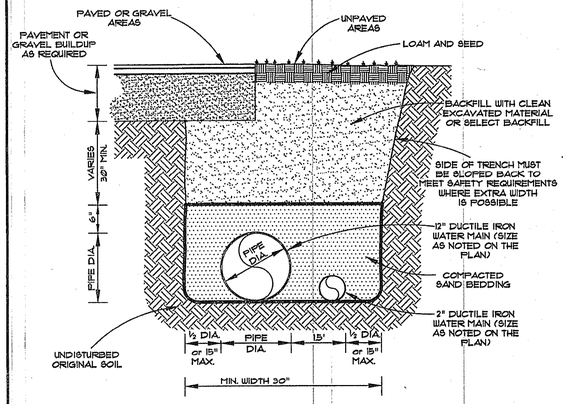
PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
07075	.	OAM	CCB	BRF

DETAILS

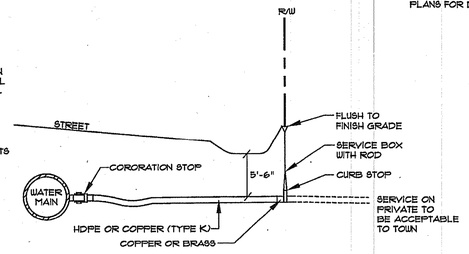
OF: AUBURN INDUSTRIAL PARK
LEWISTON JUNCTION ROAD
AUBURN, MAINE
FOR: CITY OF AUBURN
60 COURT STREET
AUBURN, MAINE 04210

DATE	SCALE
03-25-10	AS SHOWN

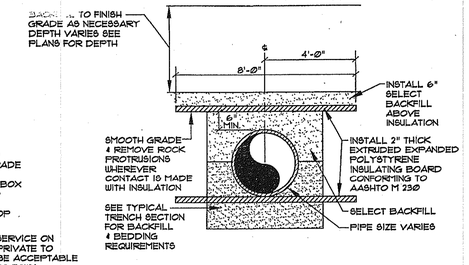
07075D.dwg, TAB: D-2



WATER MAIN TRENCH DETAIL
NOT TO SCALE

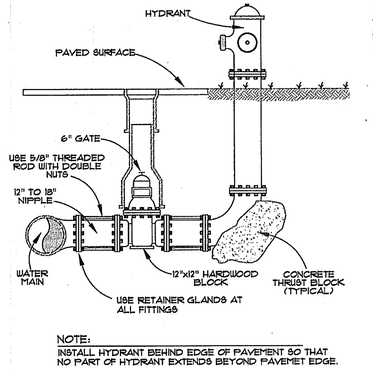


TYPICAL WATER SERVICE CONNECTION
NOT TO SCALE



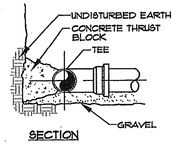
PIPE INSULATION DETAIL
NOT TO SCALE

NOTES:
1. EXTEND INSULATION FOR FULL LENGTH OF PIPE OR AS INDICATED ON THE PLANS.



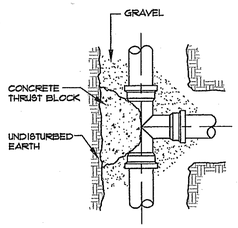
NOTE:
INSTALL HYDRANT BEHIND EDGE OF PAVEMENT SO THAT NO PART OF HYDRANT EXTENDS BEYOND PAVEMENT EDGE.

HYDRANT DETAIL
NOT TO SCALE

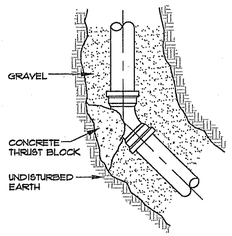


SECTION

CONCRETE THRUST BLOCK SIZE REQUIREMENTS				
		SQ. FT. OF BEARING ON UNDISTURBED SOIL		
FITTINGS		90° BENDS	45° BENDS	TEES AND PLUGS
PIPE SIZE	6"	4.0	2.0	3.0
	8"	8.0	4.0	6.0
	12"	15	10	10

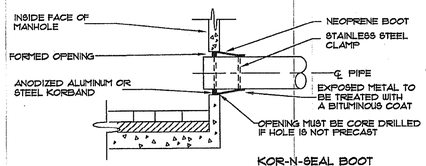


PLAN

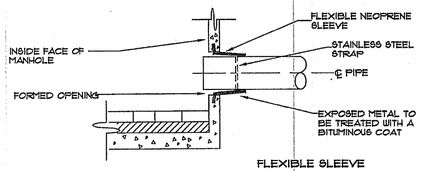


45° BEND

TEE & BEND DETAIL
NOT TO SCALE



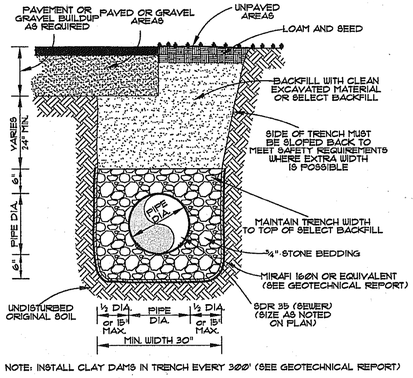
KOR-N-SEAL BOOT



FLEXIBLE SLEEVE

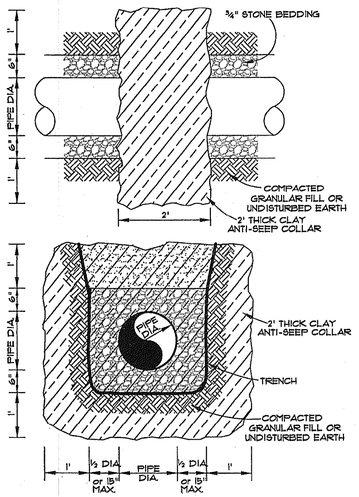
MH OR CB STRUCTURE

PIPE CONNECTION DETAIL
NOT TO SCALE

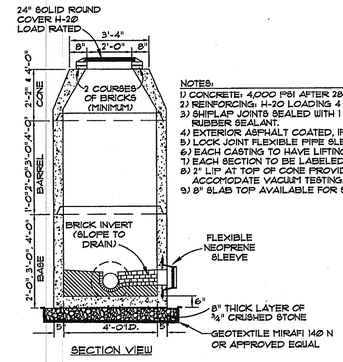


NOTE: INSTALL CLAY DAMS IN TRENCH EVERY 300' (SEE GEOTECHNICAL REPORT)

SEWER TRENCH DETAIL
NOT TO SCALE



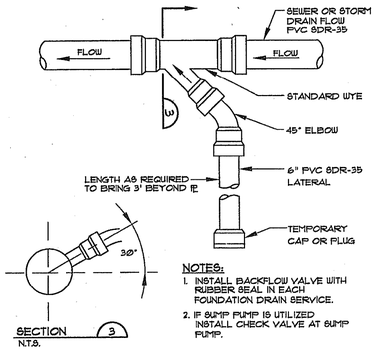
CLAY ANTI-SEEP COLLAR DETAIL
NOT TO SCALE



NOTES:
1) CONCRETE: 4,000 PSI AFTER 28 DAYS.
2) REINFORCING: H-20 LOADING 4 X 4/4 X 4 WWM.
3) SHIPLAP JOINTS SEALED WITH 1 STRIP OF BUTYL RUBBER SEALANT.
4) EXTERIOR ASPHALT COATED, IF REQUIRED.
5) LOCK JOINT FLEXIBLE PIPE SLEEVES, CAST IN.
6) EACH CASTING TO HAVE LIFTING PINS CAST IN.
7) EACH SECTION TO BE LABELED AS NOTED.
8) 2" LIP AT TOP OF CONE PROVIDED TO ACCOMODATE VACUUM TESTING.
9) 8" SLAB TOP AVAILABLE FOR SHALLOW DEPTHS.

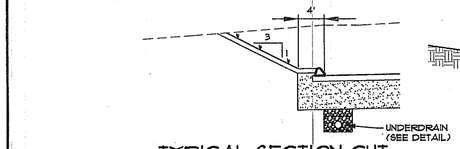
SECTION VIEW

PRECAST CONCRETE SANITARY MANHOLE
NOT TO SCALE

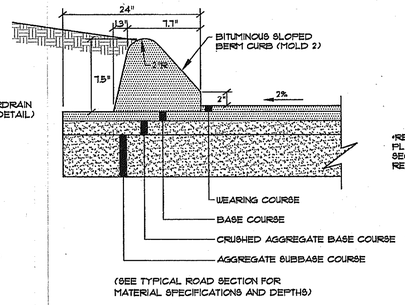


NOTES:
1. INSTALL BACKFLOW VALVE WITH RUBBER SEAL IN EACH FOUNDATION DRAIN SERVICE.
2. IF SUMP PUMP IS UTILIZED INSTALL CHECK VALVE AT SUMP PUMP.

SEWER SERVICE CONNECTION
NOT TO SCALE

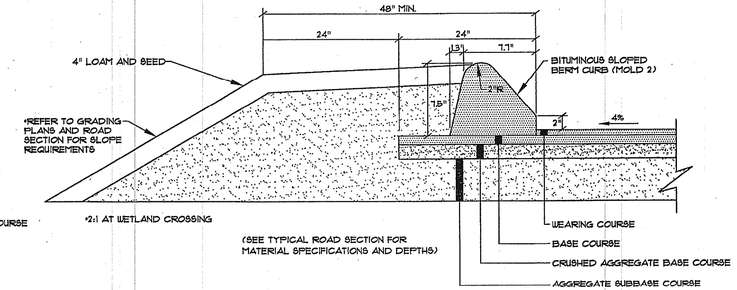


TYPICAL SECTION CUT
NOT TO SCALE
OTHERWISE SAME AS TYPICAL ROAD SECTION



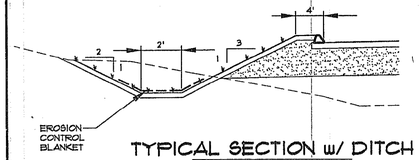
(SEE TYPICAL ROAD SECTION FOR MATERIAL SPECIFICATIONS AND DEPTHS)

BITUMINOUS CURB SECTION
NOT TO SCALE

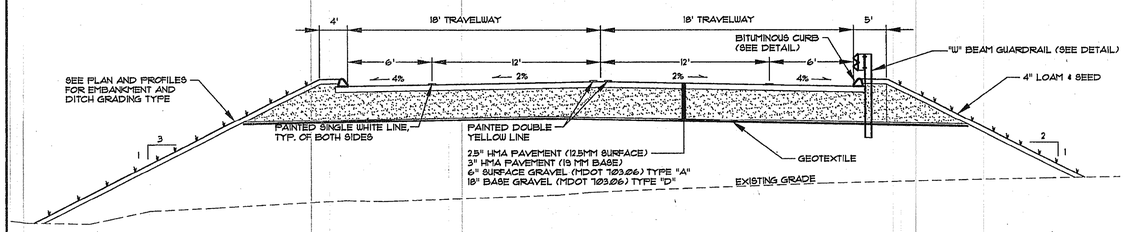


(SEE TYPICAL ROAD SECTION FOR MATERIAL SPECIFICATIONS AND DEPTHS)

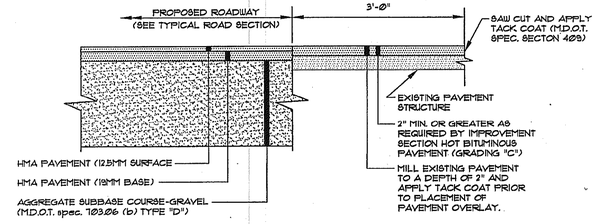
BITUMINOUS CURB SECTION
NOT TO SCALE



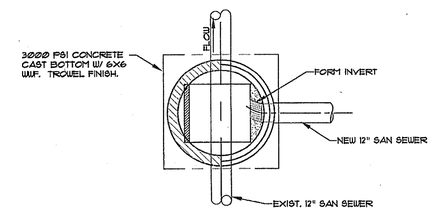
TYPICAL SECTION w/ DITCH
NOT TO SCALE
OTHERWISE SAME AS TYPICAL ROAD SECTION



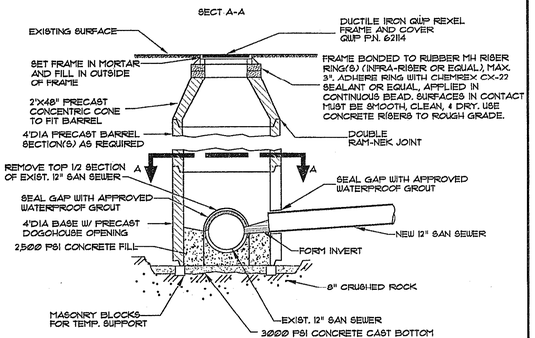
TYPICAL ROAD SECTION
NOT TO SCALE



TYPICAL PAVEMENT JOINT
NOT TO SCALE



SECT A-A



NOTE:
THE CONTRACTOR MAY SUBSTITUTE WITH PRECAST STRUCTURE WITH APPROVED INSTALLATION PLAN BY THE DESIGN ENGINEER AND THE AUBURN SEWER DISTRICT.

MANHOLE W/ DOGHOUSE BASE
NOT TO SCALE

STATE OF MAINE
CHRISTOPHER C. BEAUDOIN
No. 9580
LICENSED
PROFESSIONAL ENGINEER
June 27, 2013

REV.	BY:	DATE:	STATUS:
C	CCB	06-26-13	REVISED FOR BID DOCUMENTS
B	CCB	06-20-13	ISSUED FOR REVIEW
A	CCB	04-09-10	RELEASED FOR PRELIMINARY APPROVAL

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SEBAGO TECHNICS
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75 John Roberts Road, Suite A
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75 John Roberts Road, Suite B
Lewiston, ME 04240
Tel: 207-783-9699

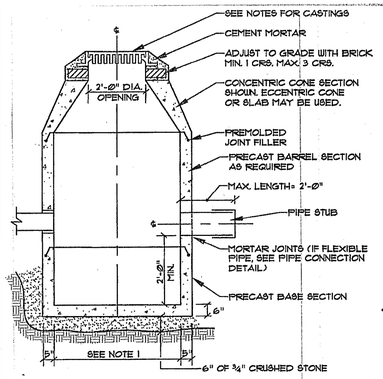
PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
07075		OAM	CCB	BRF

DETAILS
OF:
AUBURN INDUSTRIAL PARK
LEWISTON JUNCTION ROAD
AUBURN, MAINE
FOR:
CITY OF AUBURN
60 COURT STREET
AUBURN, MAINE 04210

07075D.dwg, TAB: D-3

DATE	SCALE
03-25-10	AS SHOWN

SHEET 11 OF 12

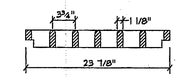


NOTES:

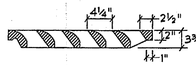
1. 4'-0" I.D. TYPICAL. SOME STRUCTURES MAY REQUIRE LARGER I.D. PROVIDE SHOP DRAWINGS.
2. DRAINAGE STRUCTURES TO BE DESIGNED FOR H-20 LOADING.
3. PIPE SIZES AND INVERTS AS NOTED ON PLANS.
4. CATCH BASIN FRAME AND GRATE TO BE CASCADE GRATE
5. DRAINAGE MANHOLE FRAME AND COVER TO BE EAST JORDAN IRON WORK 1111 FRAME AND COVER OR APPROVED EQUAL. COVER SHALL BE MARKED "DRAIN".

TYPICAL DRAINAGE STRUCTURE

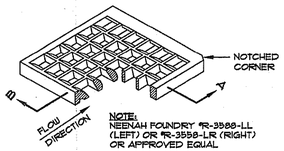
NOT TO SCALE



SECTION A-A



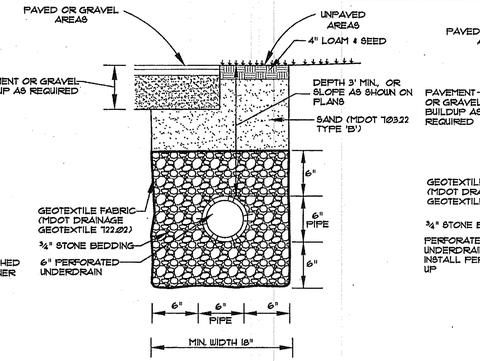
SECTION B-B



NOTE:
NEENAH FOUNDRY #R-3588-LL (LEFT) OR #R-3558-LR (RIGHT) OR APPROVED EQUAL

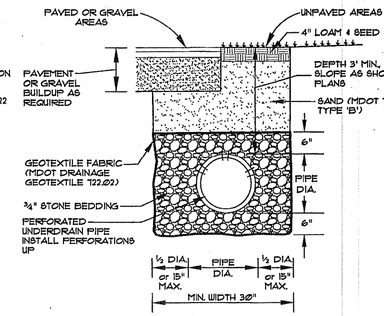
CASCADE GRATE

NOT TO SCALE



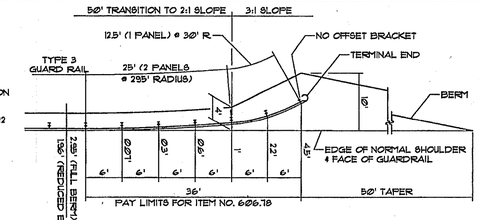
6" UNDERDRAIN DETAIL

NOT TO SCALE



15"-18" UNDERDRAIN DETAIL

NOT TO SCALE

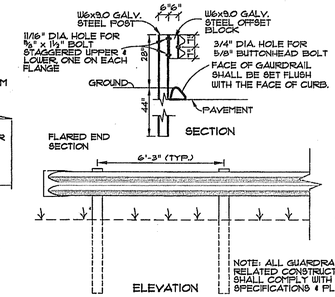


NOTES:

1. LAYOUT DIMENSIONS ARE MEASURED TO THE FACE OF THE GUARDRAIL BEAM.
2. PROVIDE PLATE WASHERS #U203 FOR THE BEAM - TO - POST CONNECTIONS AT THE LAST SEVEN (7) POSTS.

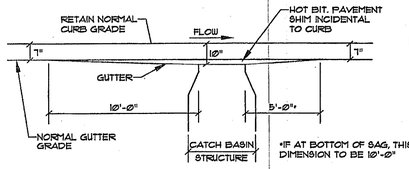
LOW VOLUME GUARDRAIL END

NOT TO SCALE



"W" BEAM GUARDRAIL DETAIL

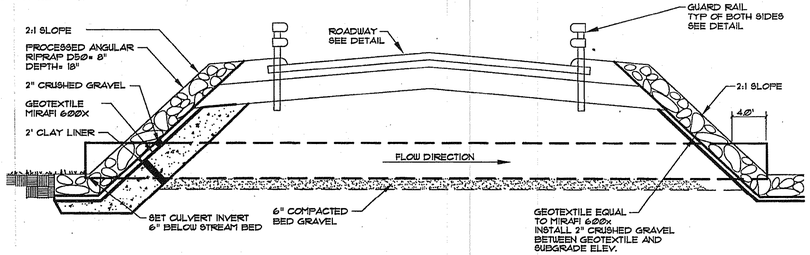
NOT TO SCALE



NOTE:
CATCH BASIN GRATES SHALL BE DEPRESSED 2" BELOW THE NORMAL GUTTER GRADE UNLESS THIS DEPRESSION INTERFERES WITH TRAFFIC. PARALLEL BAR GRATES SHALL BE INSTALLED ON A LEVEL GRADIENT. DIMENSIONS ARE INTENDED TO BE NOMINAL.

GUTTER GRADE TRANSITION AT CATCH BASIN

NOT TO SCALE



NOTES:

1.) THE CONTRACTOR SHALL HAVE A SEBAGO TECHNICS, INC. REPRESENTATIVE ON SITE TO OBSERVE THE INSTALLATION OF THE CULVERTS.

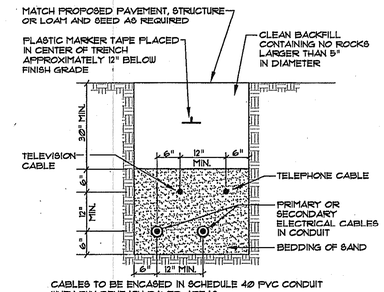
2.) UPON COMPLETION OF THE PROJECT AND/OR PRIOR TO THE OWNER'S REQUEST TO THE CITY FOR ACCEPTANCE OF THE PROPOSED STREET, THE DESIGN ENGINEER OF RECORD SHALL CERTIFY IN WRITING THAT THE STREAM CROSSING HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED STREAM CROSSING DETAIL.

3.) CONTRACTOR SHALL SET CULVERT 6" BELOW THE EXISTING STREAM BED ELEVATION AND SHALL COMPLY WITH REQUIREMENTS OF THE MAINE DEPT. OF ENVIRONMENTAL PROTECTION, NRPA ACT REQUIREMENTS FOR CULVERT INSTALLATION.

4.) THE STREAM CROSSING MUST BE INSTALLED DURING LOW FLOWS WITHIN THE SPECIFIC WORK WINDOW (JULY 15 TO OCT. 1).

SECTION AT STREAM CULVERT CROSSING

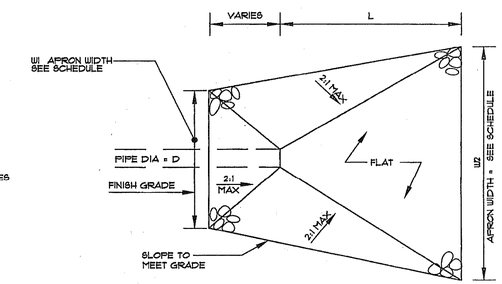
NOT TO SCALE



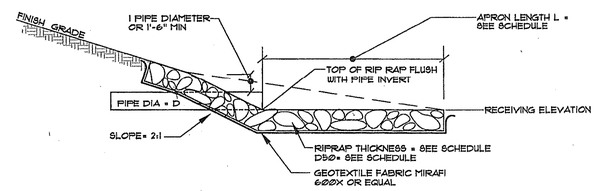
CABLES TO BE ENCASED IN SCHEDULE 40 PVC CONDUIT WHEN RUN BENEATH PAVED AREAS.

TYPICAL UNDERGROUND CABLE INSTALLATION

NOT TO SCALE



PLAN VIEW



SECTION VIEW

NOTES

1. RIPRAP TO BE PROCESSED ANGULAR ROCK
2. RIPRAP GRADIATION SHALL BE A WELL GRADED MIX FROM ABOUT 15 TIMES D SIZE TO 25 PERCENT OF THE D SIZE
3. THE RIPRAP STONES SHALL BE CAREFULLY PLACED FROM THE TOE OF THE SLOPE UPWARD
4. STONES SHALL BE LOWERED TO THE SLOPE AND NOT BE ALLOWED TO DROP MORE THAN 12" ONTO THE GEOTEXTILE
5. THE FINISHED SURFACE SHALL BE A RELATIVELY SMOOTH, UNIFORMLY SLOPED SURFACE

TYPICAL RIPRAP APRON SCHEDULE

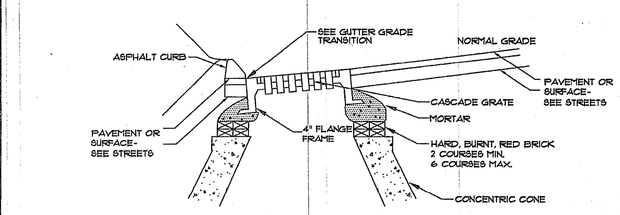
APRON NO.	CULVERT DIAMETER - D (IN)	APRON LENGTH - L (FT)	WIDTH -W1 (FT)	WIDTH -W2 (FT)	RIPRAP D50 (IN)	RIPRAP THICKNESS (IN)
RRA-1	18	10	5	12	6	14
RRA-2	30	18	8	21	8	18
RRA-3	36	18	9	21	8	18
RRA-4	18	12	5	14	6	14
RRA-5	36	18	9	21	8	18
RRA-6	24	13	6	19	6	14
RRA-7	18	12	5	14	6	14

SIZING NOTES:

1. APRON LENGTHS AND RIPRAP D50 SIZES DETERMINED FROM THE OUTLET PROTECTION SIZING CHART IN THE MARCH 2003 MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL.
2. APRON WIDTHS W1 & W2 WERE BASED ON THE STANDARDS SET FORTH IN THE MARCH 2003 MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL SECTION E-3-2.

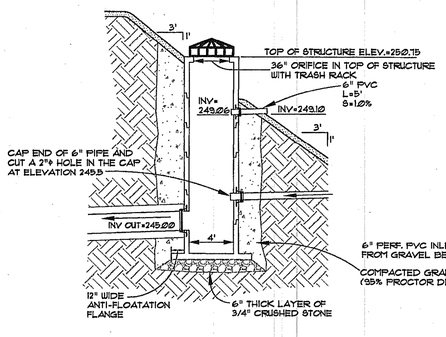
RIPRAP APRON

NOT TO SCALE



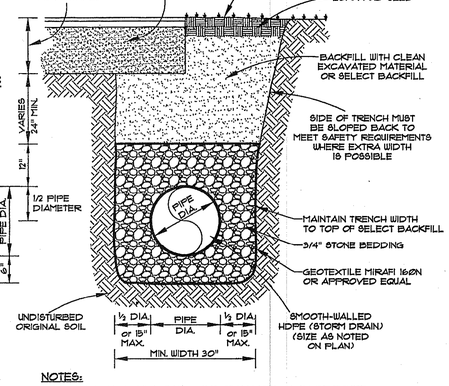
FRAME & COVER INSTALLATION WITH BITUMINOUS CURB

NOT TO SCALE



POND SECTION AT OUTLET CONTROL STRUCTURE

NOT TO SCALE

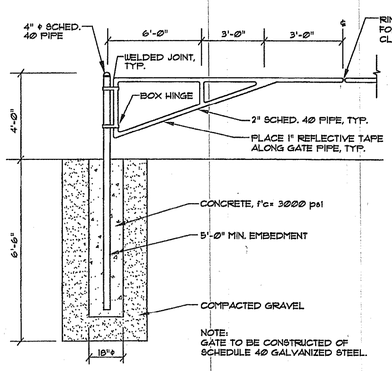


NOTES:

1. INSTALL LOW PERMEABILITY DAMS OF NATURAL CLAY, BENTONITE OR PORTLAND CEMENT IN THE BEDDING, TO PREVENT THE FLOW OF GROUNDWATER THROUGH THE BEDDING MATERIAL. THE MAXIMUM DISTANCE BETWEEN DAMS SHOULD NOT EXCEED 300 FEET SEE THE PROJECT GEOTECHNICAL REPORT PREPARED BY SEBAGO TECHNICS, INC. DATED MARCH 11, 2010

STORM DRAIN TRENCH DETAIL

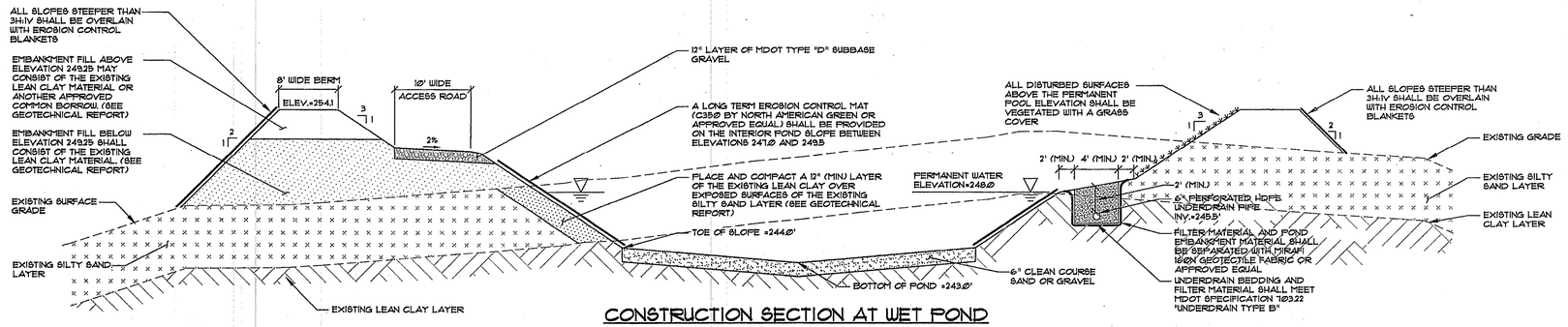
NOT TO SCALE



NOTE:
GATE TO BE CONSTRUCTED OF SCHEDULE 40 GALVANIZED STEEL.

TYPICAL GATE DETAIL

NOT TO SCALE



CONSTRUCTION SECTION AT WET POND

NOT TO SCALE

REV.	BY:	DATE:	STATUS:
C	CCB	06-26-13	REVISED FOR BID DOCUMENTS
B	CCB	06-20-13	ISSUED FOR REVIEW
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June 27, 2013

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Tel. 207-200-2100
2 Main St., Suite 1A
Lewiston, ME 04240
Tel. 207-783-9595

PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
07075		OAM	CCB	BRF

DETAILS
OF:
AUBURN INDUSTRIAL PARK
LEWISTON JUNCTION ROAD
AUBURN, MAINE
FOR:
CITY OF AUBURN
60 COURT STREET
AUBURN, MAINE 04210

DATE	SCALE
03-25-10	AS SHOWN

07075D.dwg, TAB: D-4

SHEET 12 OF 12