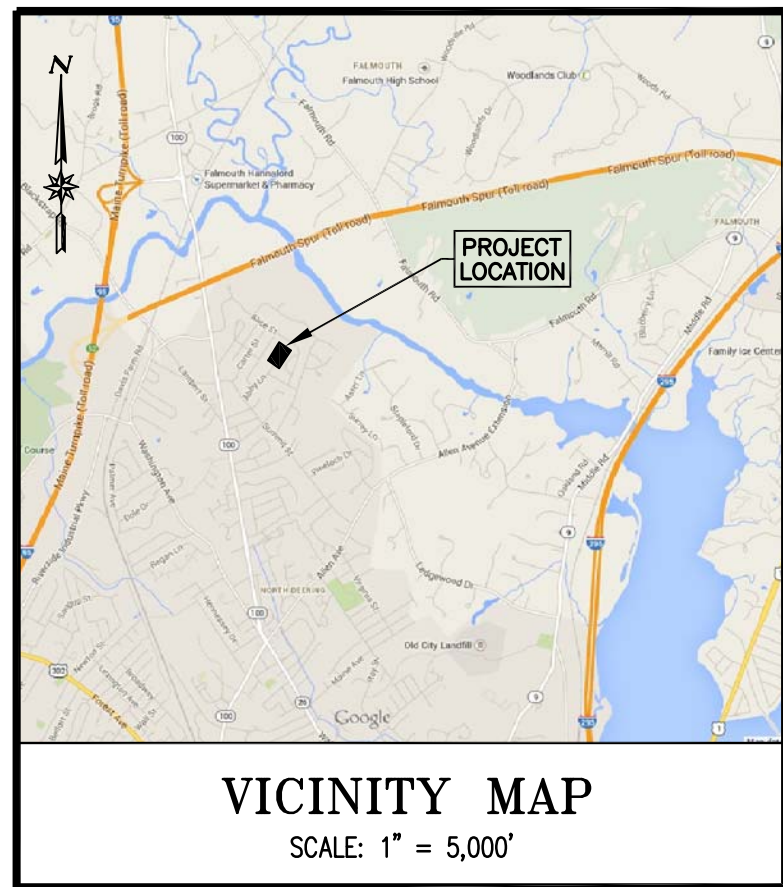
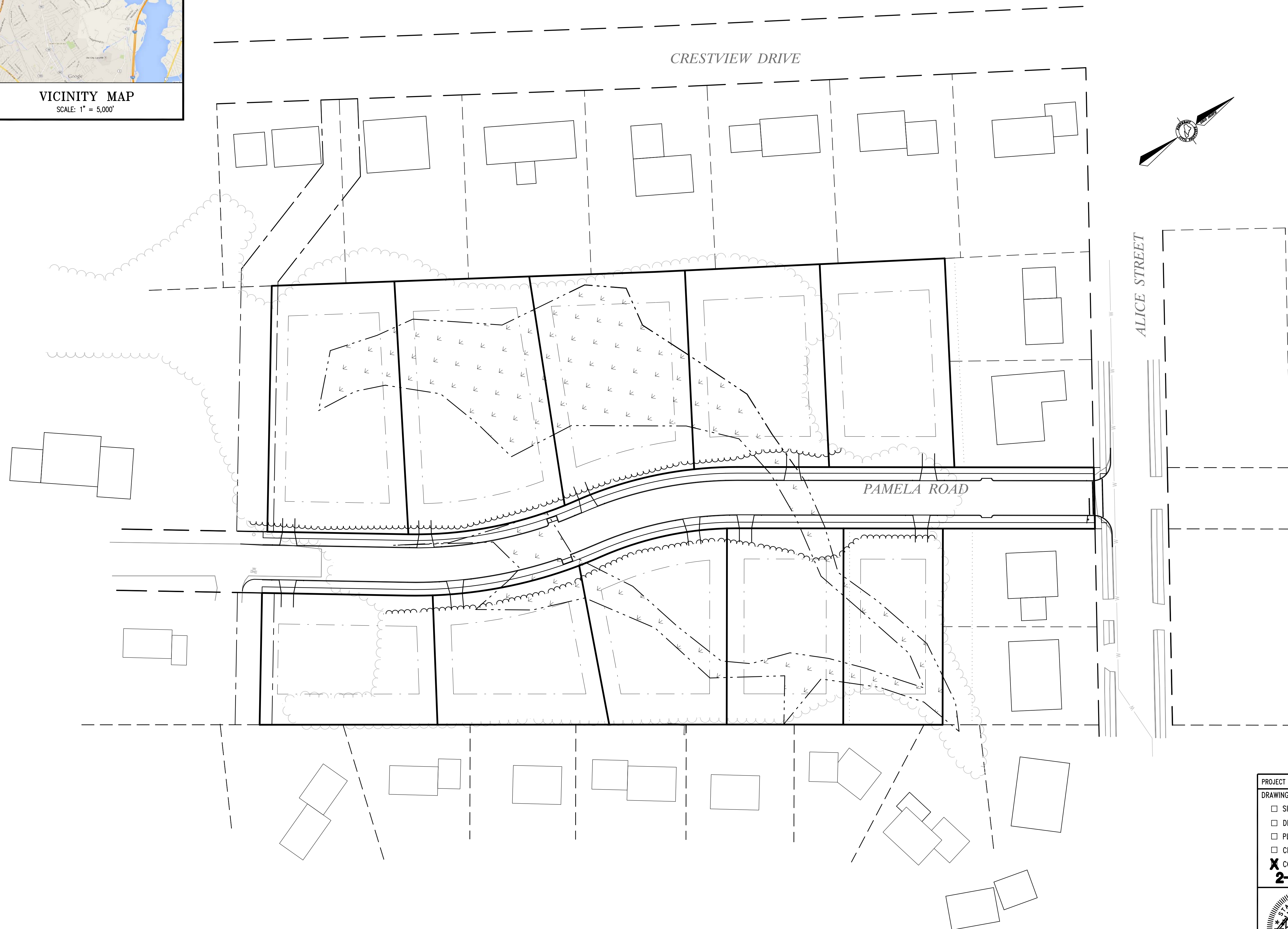


PAMELA ROAD EXTENSION PORTLAND, MAINE



SHEET INDEX

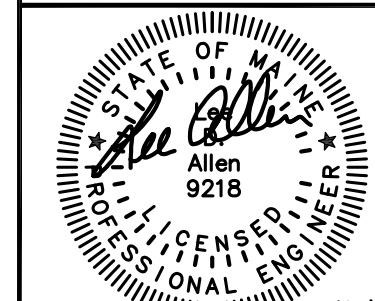
1. COVER/INDEX/VICINITY MAP
2. AMENDED SUBDIVISION PLAN
3. GRADING & DRAINAGE PLAN
4. SITE LAYOUT & UTILITY PLAN
5. PAMELA ROAD EXTENSION PROFILE
6. EROSION AND SEDIMENTATION CONTROL PLAN
7. EROSION & SEDIMENTATION CONTROL NOTES AND DETAILS
8. CONSTRUCTION DETAILS - SHEET 1
9. CONSTRUCTION DETAILS - SHEET 2
10. CONSTRUCTION DETAILS - SHEET 3
11. STORMBASIN DETAILS
12. UNDERGROUND DETENTION SYSTEM DETAILS



Revision	By	Date	Change
5	SMA	2/12/15	REVISED OWNER/APPLICANT
4	TAL	11/19/14	REVISED PER CITY COMMENTS
3	SMA	11/19/14	REVISED PER CITY COMMENTS
2	SMA	11/10/14	REVISED PER PEER REVIEW COMMENTS
1	SMA	10/14/14	REVISED PER TOWN COMMENTS

PROJECT NUMBER: 33229.02 ACAD FILE: 33229-COVER.DWG SCALE: 1" = 40' DATE: AUGUST 4, 2014

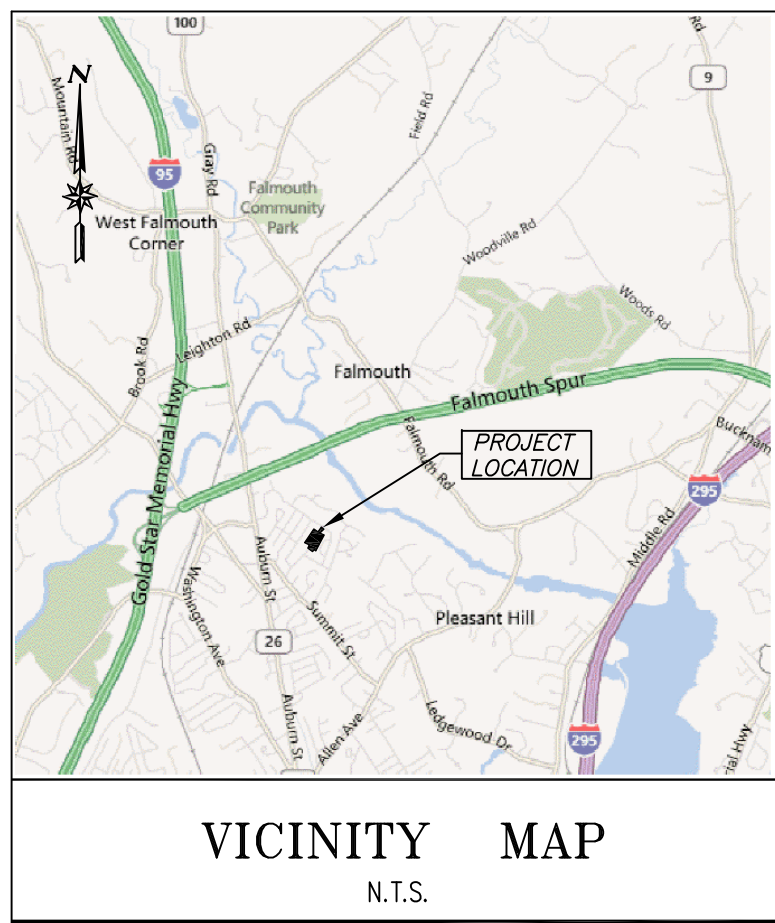
DRAWING STATUS	Drawing Name:
<input type="checkbox"/> SITE PLAN REVIEW <input type="checkbox"/> DEP REVIEW <input type="checkbox"/> PLANNING BOARD <input type="checkbox"/> CLIENT REVIEW <input checked="" type="checkbox"/> CONSTRUCTION 2-12-15	COVER/INDEX/VICINITY MAP
	Project Name:
	PAMELA ROAD EXTENSION PAMELA ROAD, PORTLAND, MAINE 04101
	Owner/Applicant:
	GENEVA VENTURES, LLC 190 US Route 1, PMB 161, FALMOUTH, MAINE 04105



Northeast Civil Solutions
INCORPORATED

153 US ROUTE 1, SCARBOROUGH, MAINE 04074

tel 207.883.1000 fax 207.883.1001 e-mail info@northeastcivilsolutions.com
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NOTES CONTINUED

- 14. A NATURAL RESOURCES PROTECTION ACT (NRPA) PERMIT (#1-26407-TB-A-N) WAS ISSUED ON SEPTEMBER 25, 2014 TO FILL 5,397 S.F. OF WETLAND AREA TO CONSTRUCT THE PROPOSED ROADWAY. THIS PERMIT AND IDENTIFICATION NUMBER SHALL BE REFERENCED ON EACH DEED.
- 15. ADDITIONAL WETLAND IMPACTS ASSOCIATED WITH THE DEVELOPMENT OF INDIVIDUAL LOTS ALONG PAMELA ROAD SHALL BE REVIEWED AND APPROVED BY THE APPLICABLE REGULATORY AGENCIES AND MAY BE CONSIDERED CUMULATIVE TO ALL PREVIOUSLY PERMITTED IMPACTS.
- 16. THE OWNER OF LOT 41 IS RESPONSIBLE FOR DRAINAGE INFRASTRUCTURE LOCATED ON THE LOT, AND IS SUBJECT TO A MAINTENANCE AGREEMENT WITH THE CITY OF PORTLAND. THE MAINTENANCE AGREEMENT SHALL BE RECORDED WITH THE AMENDED PLAN AND BE INCORPORATED INTO THE PROPERTY DEED FOR LOT 41.

LEGEND

- PROPOSED #5 REBAR WITH PLASTIC CAP
- PROPOSED GRANITE MONUMENT WITH CITY OF PORTLAND DISK
- FOUND IRON PIPE (SIZE & TYPE AS NOTED)
- FOUND PINCHED IRON PIPE
- FOUND MONUMENT (SIZE & TYPE AS NOTED)
- FOUND IRON ROD
- FOUND CAPPED IRON ROD (NUMBER AS NOTED)
- BOUNDARY LINE
- EASEMENT LINE
- EDGE OF PAVEMENT
- RIGHT-OF-WAY LINE
- ABUTTER LINE
- (33) LOT NUMBER FROM PLAN REFERENCED IN NOTE 4.a.
- (19) LOT NUMBER FROM PLAN REFERENCED IN NOTE 4.b.
- WETLANDS

NOTES

1. THE BASIS OF BEARING FOR THIS SURVEY IS THE MAINE STATE COORDINATE SYSTEM, WEST ZONE, GRID NORTH.
2. DEED AND PLAN BOOK REFERENCES ARE TO THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
3. RECORD OWNERSHIP OF THE LOTS SHOWN CAN BE FOUND IN THE FOLLOWING DEEDS:
 - a. FROM JAY AND DIANE MENARIO TO JAY AND DIANE MENARIO DATED OCTOBER 24, 2005 AND RECORDED IN DEED BOOK 23313, PAGE 101. (LOTS 40-44)
 - b. FROM JAY AND DIANE MENARIO TO JAY AND DIANE MENARIO DATED OCTOBER 24, 2005 AND RECORDED IN DEED BOOK 23313, PAGE 100. (LOT 33)
 - c. FROM JAY AND DIANE MENARIO TO JAY AND DIANE MENARIO DATED OCTOBER 24, 2005 AND RECORDED IN DEED BOOK 23313, PAGE 97. (LOTS 34-37)
 RECORD OWNERSHIP OF THE LAND UNDER THE PROPOSED PAMELA ROAD CAN BE FOUND IN A DEED FROM SUN FEDERAL SAVINGS AND LOAN ASSOCIATION OF PORTLAND TO JOHN E. MENARIO AND ANTOINETTE M. MENARIO DATED JUNE 30, 1971 AND RECORDED IN DEED BOOK 3178, PAGE 618.
4. REFERENCE IS MADE TO THE FOLLOWING PLANS:
 - a. PLAN OF PROPERTY IN PORTLAND MAINE MADE FOR DONALD R. PETERS "CRESTVIEW ACRES SEC 5" BY H.I. AND E.C. JORDAN, DATED DECEMBER 24, 1969 AND RECORDED IN PLAN BOOK 81, PAGE 23.
 - b. "PRESUMPTSCOT RIVER PLACE", BY LAND USE CONSULTANTS, DATED MAY 10, 1983 AND RECORDED IN PLAN BOOK 141, PAGE 42.
 - c. "RIGHT-OF-WAY PLAN FOR THE VIRGINIA-CARTER STREET INTERCEPTOR SEWER" BY THE CITY OF PORTLAND DEPARTMENT OF PUBLIC WORKS, DATED APRIL 9, 1976 PROVIDED BY THE CITY OF PORTLAND ENGINEERING DEPARTMENT.
5. THE PARCEL SURVEYED IS IDENTIFIED ON THE CITY OF PORTLAND TAX ASSESSOR'S MAP 389, BLOCKS D & E, PARCELS 10 THRU 14 AND 2 THRU 7 RESPECTIVELY.
6. THE PARCELS SHOWN ARE LOCATED IN THE R2 ZONE/DISTRICT. PORTIONS OF BULK AND SPACE REQUIREMENTS ARE AS FOLLOWS:
 - MINIMUM LOT AREA = 10,000 S.F.
 - MINIMUM STREET FRONTAGE = 50'
 - MINIMUM LOT WIDTH = 80'
 - SETBACKS:
 - FRONT YARD.....25'
 - REAR YARD.....25'
 - SIDE YARD.....14'4" (2 STORY)
 - *SIDE YARD DEPENDENT ON HEIGHT OF BUILDING
 - **VERIFY ALL BUILDING SETBACKS PRIOR TO CONSTRUCTION
7. THE WIDTH AND LAYOUT OF ROADS ARE AS FOLLOWS:
 - a. PAMELA STREET (AKA PAMELA ROAD) 50' AND FROM PLAN REFERENCED IN NOTE 4.a. ABOVE
 - b. CRESTVIEW DRIVE 50' AND FROM PLAN REFERENCED IN NOTE 4.a. ABOVE ALICE STREET 60' FROM PLAN REFERENCED IN NOTE 4.a. ABOVE
8. REFERENCE IS MADE TO THE FOLLOWING TAKING OF RECORD:
 - a. TAKING OF PROPERTY BY THE CITY OF PORTLAND FOR THE USE OF A SEWER RIGHT OF WAY AS DESCRIBED IN DEED BOOK 3895, PAGE 85.
9. TOTAL AREA OF DELINEATED WETLANDS ON SITE IS 40,930 S.F.±
10. THE UTILITIES SHOWN ON THIS PLAN WERE FROM FIELD OBSERVATION ONLY. THERE MAY BE OTHER UTILITIES EXISTING THAT ARE NOT SHOWN. CONTACT DIG-SAFE (888)DIG-SAFE PRIOR TO ANY EXCAVATION WORK.
11. SOME LOTS OF THIS SUBDIVISION CONTAIN AREAS OF WETLANDS PROPOSED TO BE FILLED. SEE PLAN FOR LOCATIONS.
12. THIS PLAN AMENDS AND SUPERSEDES AMENDED SUBDIVISION PLAN, CRESTVIEW ACRES, PORTLAND, RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS ON OCTOBER 31, 2014 IN PLAN BOOK 214 PAGE 451. THE PURPOSE OF THIS PLAN IS TO ADD NOTE 16.
13. A SITE PLAN FOR EACH INDIVIDUAL LOT MUST BE SUBMITTED AND APPROVED BY THE CITY OF PORTLAND'S INSPECTION DIVISION.

Revision	By	Date	Change
2	SML	11-25-14	ADD NOTE 16
1	JAP	9-17-14	REVISE TO AN AMENDED SUBDIVISION PLAN

PROJECT: 33229 DRAWING NAME: 33229.DWG
 DATE: MAY 10, 2012 SCALE: 1"=40'
 FIELD BY: ADA, MJB, SB, JAP DRAWN BY: ADA

Drawing Name and Location:
AMENDED SUBDIVISION PLAN
 CRESTVIEW ACRES, PORTLAND, MAINE

Owner:
JAY AND DIANE MENARIO (LOTS ONLY)
 21 PAMELA ROAD, PORTLAND, MAINE

Prepared for:
GENEVA VENTURES, LLC
 190 US Route 1, PMB 161, FALMOUTH, MAINE 04105

SURVEYING ENGINEERING LAND PLANNING
Northeast Civil Solutions
 INCORPORATED
 153 US ROUTE 1, SCARBOROUGH, MAINE 04074

tel 207.883.1000 fax 207.883.1001 e-mail info@northeastcivilsolutions.com
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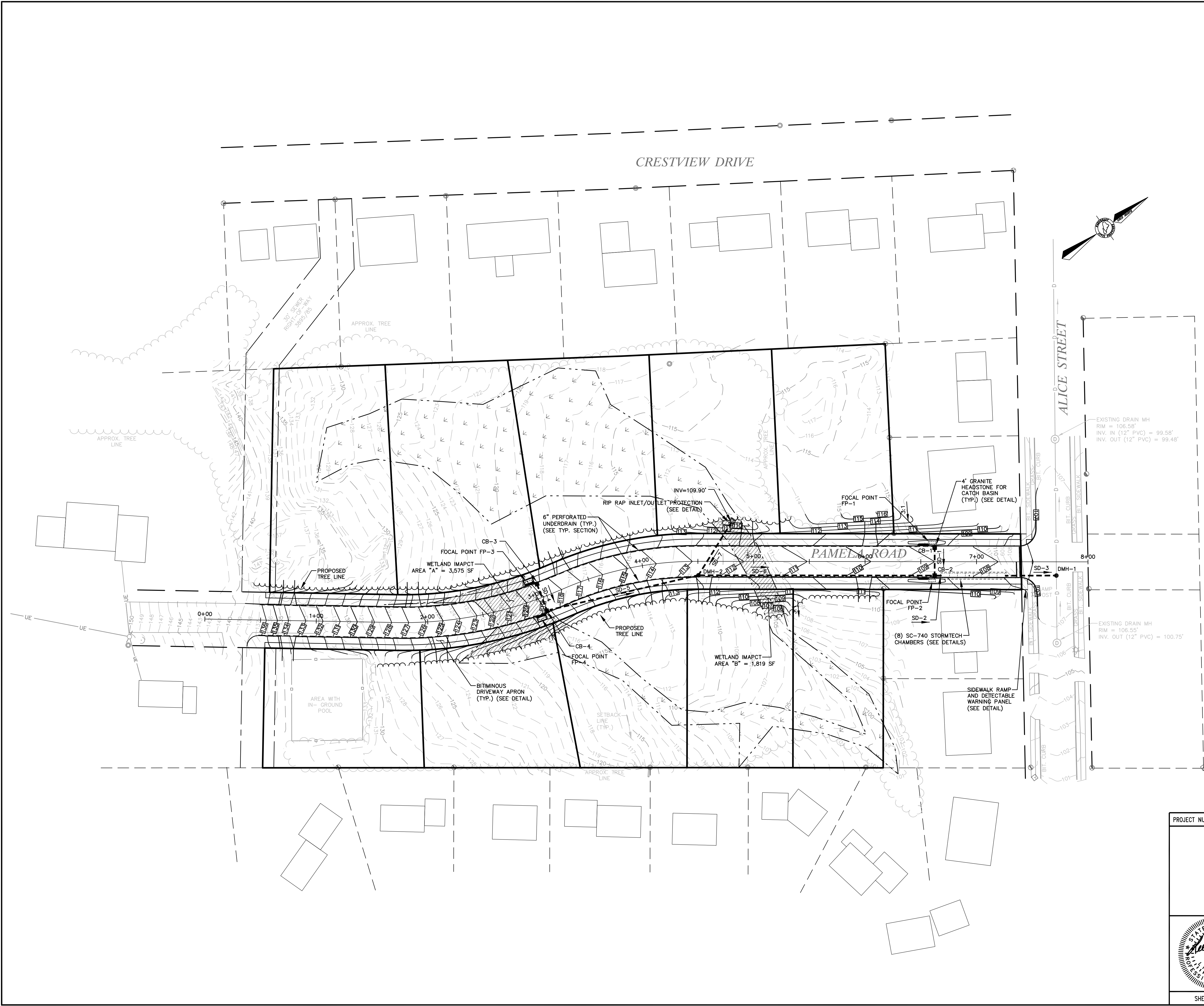
STAMP AND SIGNATURE

11-25-14

CURVE	LENGTH	RADIUS	CHORD BEARING	CHORD
C1	20.73'	375.00	N35°00'10"E	20.73'
C2	18.98'	375.00	N13°16'12"E	18.98'
C3	8.11'	275.00	S34°47'00"W	8.11'
C4	10.01'	325.00	N12°42'06"E	10.01'

APPROVED BY THE CITY OF
 PORTLAND PLANNING DIRECTOR

PLANNING DIRECTOR _____ DATE _____



LEGEND

- BOUNDARY LINE
- EDGE OF PAVEMENT
- RIGHT-OF-WAY LINE
- - - - - ABUTTER
- - - - - EXISTING WETLAND
- - - - - EXISTING WATERLINE EASEMENT
- ⊙ EXISTING DRAIN MANHOLE
- - - - - 116 EXISTING CONTOUR
- - - - - 112 PROPOSED CONTOUR
- - - - - PROPOSED DRAIN LINE
- PROPOSED DRAIN MANHOLE
- PROPOSED CATCH BASIN

NOTES

WETLAND IMPACTS:

AREA "A" = 3,575 SF
 AREA "B" = 1,822 SF
 TOTAL = 5,397 SF

- TOTAL WETLAND IMPACT = 5,397 SF AND REQUIRES A NRPA TIER 1 PERMIT.

STRUCTURE SCHEDULE			
STRUCTURE	RIM	INVERT IN	INVERT OUT
CB-1	108.76	105.30' (FILTER) 105.25' (UNDERDRAIN)	103.75' (SD-1)
CB-2	108.76'	105.30' (FILTER) 105.25' (UNDERDRAIN) 103.35' (SD-1)	102.10' (SD-2)
CB-3	118.86'	115.25' (FILER) 115.35' (UNDERDRAIN)	113.25' (SD-4)
CB-4	108.76'	115.25' (FILER) 115.35' (UNDERDRAIN) 113.00' (SD-1)	112.90' (SD-5)
DMH-1	107.50'	100.29' (12" EXIST.) 102.20' (SD-3)	102.20' (12" EXIST.)
DMH-2	112.63'	109.23' (UNDERDRAIN) 107.00' (SD-5) 108.00' (SD-7)	

PIPE SCHEDULE				
PIPE	PIPE DIAMETER	PIPE LENGTH	PIPE SLOPE (FT/FT)	TYPE
SD-1	12"	20'	0.0200 FT/FT	PVC SDR 35
SD-2	24"	5'	0.0200 FT/FT	PVC SDR 35
SD-3	12"	44'	0.0200 FT/FT	PVC SDR 35
SD-4	12"	20'	0.0100 FT/FT	PVC SDR 35
SD-5	12"	134'	0.0464 FT/FT	PVC SDR 35
SD-6	12"	208'	0.0171 FT/FT	PVC SDR 35
SD-7	12"	55'	0.0360 FT/FT	PVC SDR 35

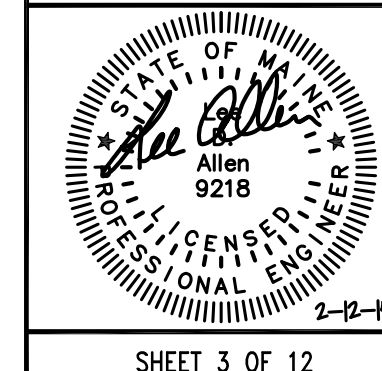
Revision	By	Date	Change
5	SMA	2/12/15	REVISED OWNER/APPLICANT
4	TAL	11/19/14	REVISED PER CITY COMMENTS
3	TAL	11/14/14	REVISED PER CITY COMMENTS
2	SMA	11/10/14	REVISED PER CITY COMMENTS
1	SMA	10/14/14	REVISED PER CITY COMMENTS

PROJECT NUMBER: 33229.02 ACAD FILE: 33229-GRADING.DWG SCALE: 1" = 40' DATE: AUGUST 4, 2014

Drawing Name:
GRADING & DRAINAGE PLAN

Project Name:
PAMELA ROAD EXTENSION
PAMELA ROAD, PORTLAND, MAINE 04101

Owner/Applicant:
GENEVA VENTURES, LLC
190 US Route 1, PMB 161, FALMOUTH, MAINE 04105



Northeast Civil Solutions
INCORPORATED

153 US ROUTE 1, SCARBOROUGH, MAINE 04074

tel 207.883.1000 fax 207.883.1001 e-mail info@northeastcivilsolutions.com
800.882.2227

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LEGEND

	BOUNDARY LINE
	EDGE OF PAVEMENT
	RIGHT-OF-WAY LINE
	ABUTTER
	EXISTING WETLAND
	EXISTING WATERLINE EASEMENT
	EXISTING INTERIOR LOT LINE
	EXISTING BUILDING SETBACK
	EXISTING SEWER MANHOLE
	EXISTING DRAIN MANHOLE
	EXISTING WATER MANHOLE
	EXISTING UTILITY POLE
	EXISTING OVERHEAD UTILITY
	EXISTING WATER VALVE
	PROPOSED SEWER MANHOLE
	PROPOSED SEWER LINE
	PROPOSED WATER LINE
	PROPOSED HYDRANT
	PROPOSED UNDERGROUND ELECTRIC LINE (PRIMARY URD)
	PROPOSED ELECTRIC TRANSFORMER
	PROPOSED UNDERGROUND ELECTRIC LINE (SECONDARY URD)
	PROPOSED OVERHEAD
	PROPOSED RISER
	PROPOSED DRAINAGE
	PROPOSED TREE LINE

STRIPING KEY:
SSW = SINGLE SOLID WHITE REFLECTIVE PAVEMENT MARKING

NOTES

- WETLAND IMPACTS:**
AREA "A" = 3,575 SF
AREA "B" = 1,822 SF
TOTAL = 5,397 SF
- THE SPECIES OF STREET TREES SHALL BE SELECTED FROM THE CITY OF PORTLAND RECOMMENDED STREET TREE LIST (2014). TREES SELECTED FOR PLANTING SHALL VARY, MORE THAN ONE SPECIES SHALL BE PLANTED ALONG PAMELA ROAD.

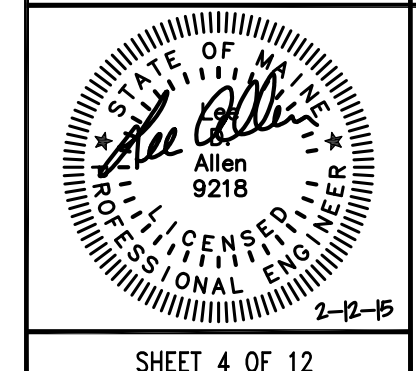
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1	SMA	10/14/14	REVISED PER CITY COMMENTS

PROJECT NUMBER: 33229.02 ACAD FILE: 33229-SITE.DWG SCALE: 1" = 40' DATE: AUGUST 4, 2014

Drawing Name:
SITE, LAYOUT & UTILITY PLAN

Project Name:
PAMELA ROAD EXTENSION
PAMELA ROAD, PORTLAND, MAINE 04101

Owner/Applicant:
GENEVA VENTURES, LLC
190 US Route 1, PMB 161, FALMOUTH, MAINE 04105

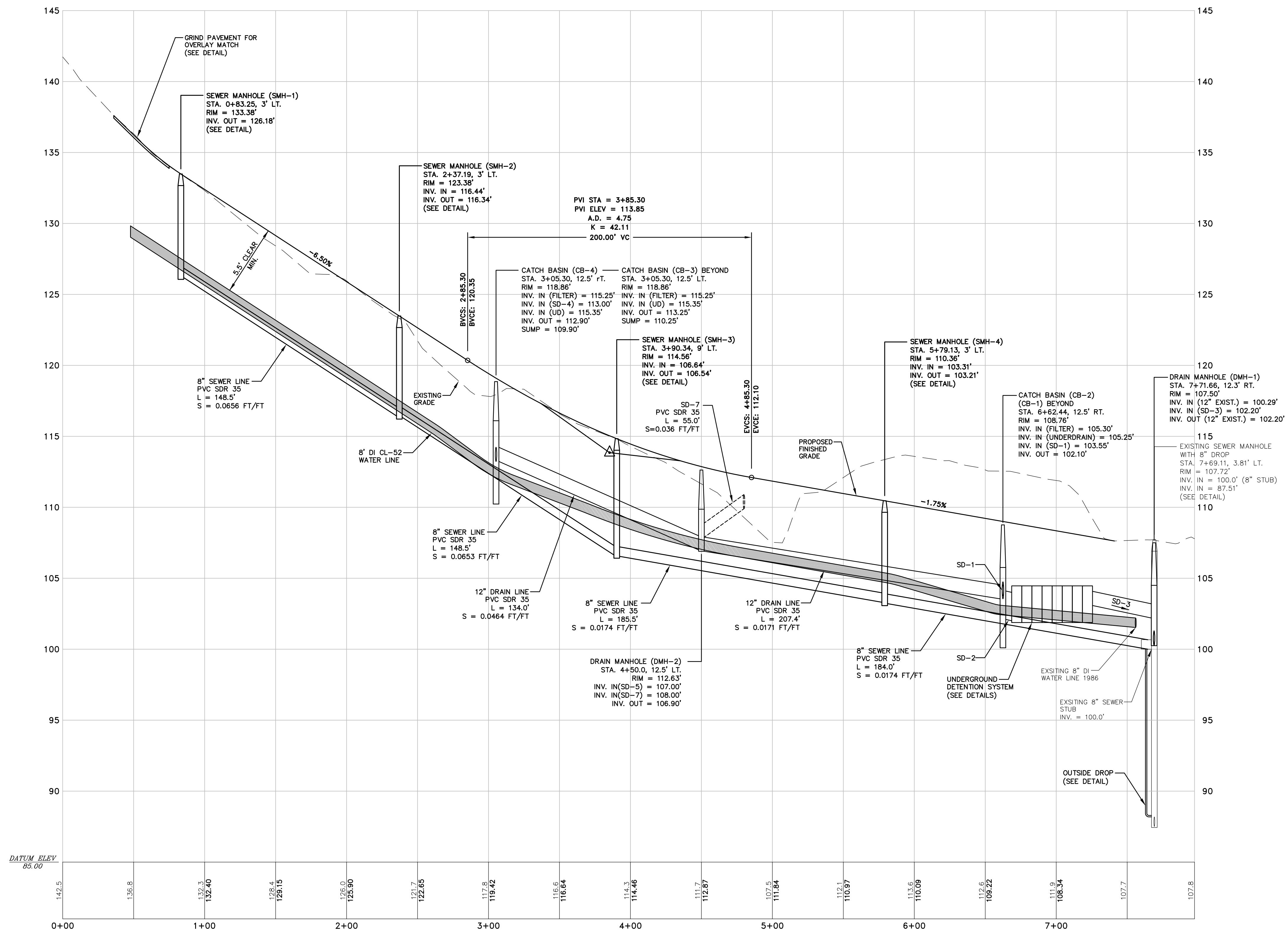


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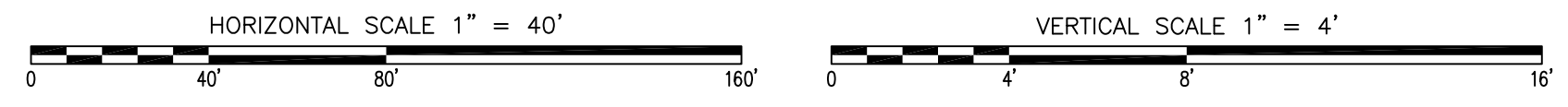
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tel 207.883.1000 fax 207.883.1001 e-mail info@northeastcivilsolutions.com
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PAMELA ROAD EXTENSION PROFILE



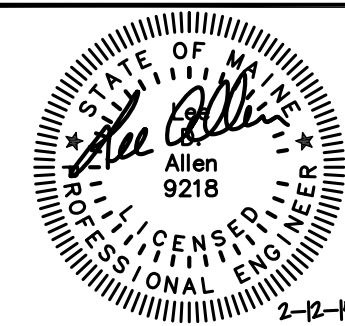
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PROJECT NUMBER: 33229.02 ACAD FILE: 33229-PROFILE.DWG SCALE: 1" = 40' DATE: AUGUST 4, 2014

Drawing Name:
PAMELA ROAD EXTENSION PROFILE

Project Name:
PAMELA ROAD EXTENSION
PAMELA ROAD, PORTLAND, MAINE 04101

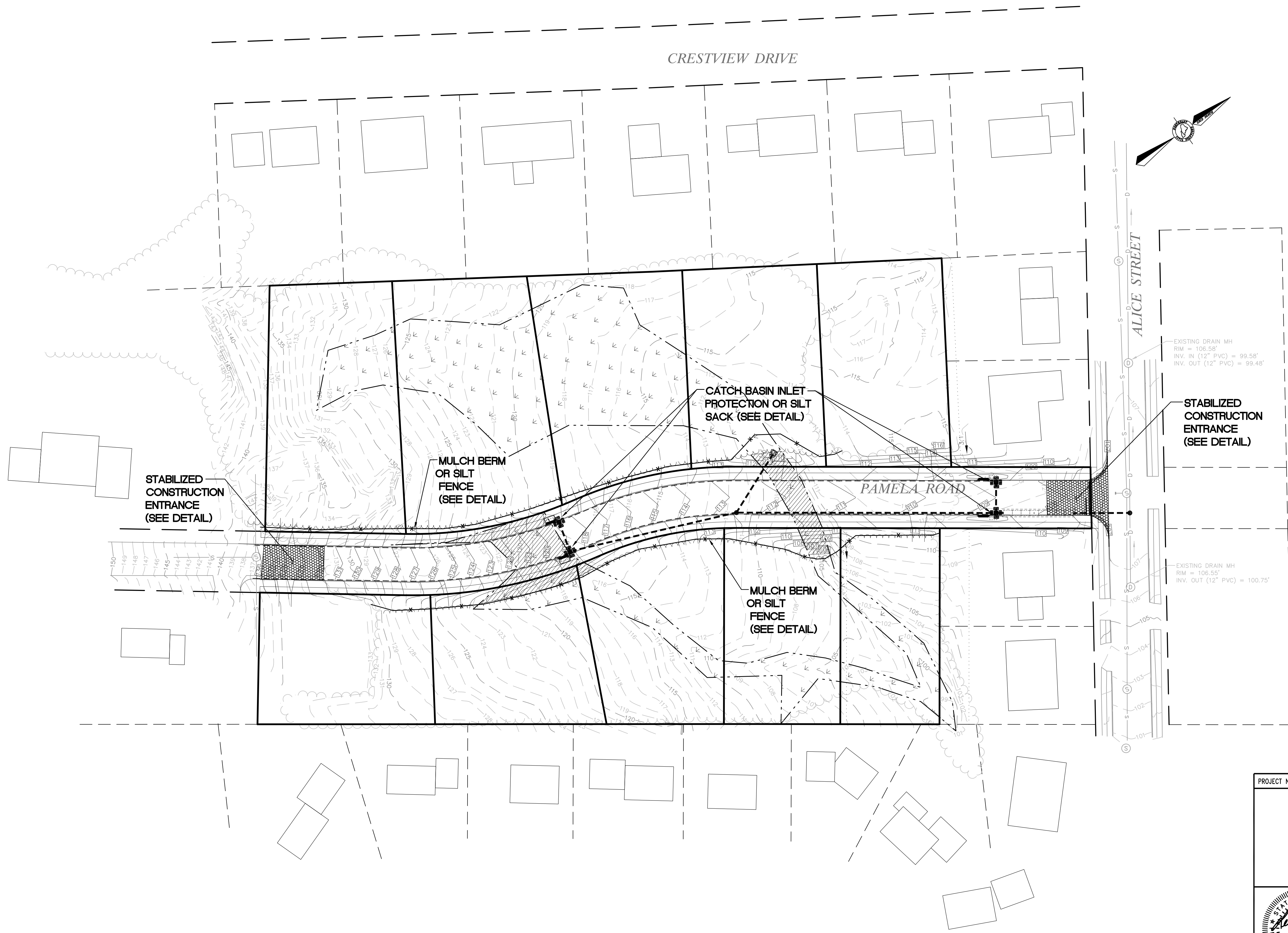
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LEGEND

- MULCH BERM/EROSION CONTROL MIX OR SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- CATCH BASIN INLET PROTECTION

NOTES

CONSTRUCTION MANAGEMENT PLAN:

CONSTRUCTION SEQUENCE FOR PAMELA ROAD FROM STATION 0+00 TO 8+00

1. MOBILIZE AND SET UP NECESSARY CONSTRUCTION SIGNS, CONES AND FLAGGERS FOR TRAFFIC CONTROL.
2. INSTALL EROSION CONTROL MEASURES PER MAINE EROSION AND SEDIMENT CONTROL BMP'S MANUAL PROVIDED BY THE BUREAU OF LAND AND WATER QUALITY AT THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION TO STA 7+50±.
3. CUT VEGETATION TO ALLOW PASSAGE FOR EQUIPMENT AND MATERIALS.
4. INSPECT ALL EROSION CONTROL MEASURES FOR DAMAGE FROM FALLEN VEGETATION AND REPAIR AS NECESSARY.
5. INSTALL CONSTRUCTION ENTRANCE PRIOR TO ANY HAUL ACTIVITY.
6. COMMENCE EXCAVATION. STUMP/GRUB AND REMOVE TOPSOIL. STOCKPILE LOAM ON LOT #40 IN STABILIZED AREA.
7. TRENCH AND INSTALL UTILITIES, INSTALL FOCALPOINT BIOFILTRATION SYSTEM AND ISOLATOR ROW
8. CONSTRUCT ROAD IN 12-INCH LIFTS.
9. FINE GRADE ROADWAY, SIDEWALK AND ESPLANADE.
10. INSTALL CURB AND PAVE ROADWAY AND SIDEWALK.
11. LOAM, SEED AND STABILIZE ROAD SIDE-SLOPES.

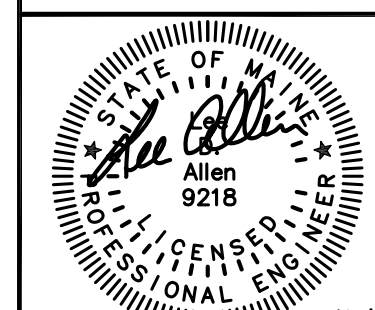
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2	TAL	11/19/14	REVISED PER CITY COMMENTS
1	SMA	10/14/14	REVISED PER CITY COMMENTS

PROJECT NUMBER: 33229.02 ACAD FILE: 33229-EROSION.DWG SCALE: 1" = 40' DATE: AUGUST 4, 2014

Drawing Name:
EROSION & SEDIMENTATION CONTROL PLAN

Project Name:
PAMELA ROAD EXTENSION
PAMELA ROAD, PORTLAND, MAINE 04101

Owner/Applicant:
GENEVA VENTURES, LLC
190 US Route 1, PMB 161, FALMOUTH, MAINE 04105



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EROSION AND SEDIMENTATION CONTROL PLAN

INTRODUCTION

THE FOLLOWING PLAN FOR CONTROLLING SEDIMENTATION AND EROSION FROM THIS PROJECT IS BASED UPON SOUND CONSERVATION PRACTICES, AND ADHERES TO THE STANDARDS DETAILED IN THE MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION; BEST MANAGEMENT PRACTICES BY THE CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION DATED MARCH 2003. THE CONTRACTOR SHALL MAKE HIMSELF FAMILIAR WITH THE AFORESAID PUBLICATION AND COMPLY WITH THE PRACTICES PRESENTED THEREIN.

THIS REPORT ADDRESSES THE EROSION CONTROL MEASURES TO BE APPLIED TO THE PROPOSED SITE WORK FOR THE PROJECT. REFERENCE IS MADE TO THE EROSION CONTROL EXHIBITS, SHOWING THE LOCATIONS OF PROPOSED MEASURES, INCLUDED IN THIS REPORT.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES

1. EROSION/SEDIMENT CONTROL DEVICES

THE FOLLOWING EROSION SEDIMENTATION CONTROL DEVICES ARE PROPOSED FOR CONSTRUCTION ON THIS PROJECT. INSTALL THESE DEVICES AS INDICATED ON THE PLANS.

1.1 SILT FENCE: SILT FENCE WILL BE INSTALLED ALONG THE DOWNGRADIENT EDGES OF DISTURBED AREAS TO TRAP RUNOFF BORN SEDIMENTS UNTIL THE SITE IS STABILIZED. IN AREAS WHERE STORMWATER DISCHARGES THE SILT FENCE WILL BE REINFORCED WITH HAY BALES TO HELP MAINTAIN THE INTEGRITY OF THE SILT FENCE AND TO PROVIDE ADDITIONAL TREATMENT.

1.2 HAY BALES: PLACE IN DRAINAGE SWALES AND PATHS TO TRAP SEDIMENTS AND REDUCE RUNOFF VELOCITIES.

1.3 RIPRAP: PROVIDE RIPRAP IN AREAS WHERE SLOPES ARE STEEPER THAN 2:1 AND AS SHOWN ON THE PLANS.

1.4 LOAM, SEED, & MULCH: ALL DISTURBED AREAS, WHICH ARE NOT OTHERWISE TREATED, SHALL RECEIVE PERMANENT SEEDING AND MULCH TO STABILIZE THE DISTURBED AREAS WITHIN 5 DAYS OF FINAL GRADING. SEEDING REQUIREMENTS ARE PROVIDED AT THE END OF THIS SPECIFICATION.

1.5 JUTE MESH: STRAW AND HAY MULCH; USED TO COVER DENUDED AREAS UNTIL PERMANENT SEED OR EROSION CONTROL MEASURES ARE IN PLACE. MULCH CAN BE USED ON SLOPES LESS THAN 3:1. USE JUTE MESH ON SLOPES IN EXCESS OF 3:1.

1.6 INLET PROTECTION: STRAW BALE DROP INLET STRUCTURE

1.6.1 BALES SHALL BE EITHER WIRE-BOUND OR STRING TIED WITH THE BINDINGS ORIENTATED AROUND THE SIDES RATHER THAN OVER AND UNDER THE BALES.

1.6.2 BALES SHALL BE PLACED LENGTHWISE IN A SINGLE ROW SURROUNDING THE INLET, WITH THE ENDS OF ADJACENT BALES PRESSED TOGETHER.

1.6.3 THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED AROUND THE INLET THE WIDTH OF A BALE TO A MINIMUM DEPTH OF 4 INCHES. AFTER THE BALES ARE STAKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED AGAINST THE FILTER BARRIER.

1.6.4 EACH BALE SHALL BE SECURELY ANCHORED AND HELD IN PLACE BY AT LEAST TWO STAKES OR REBARS DRIVEN THROUGH THE BALE.

1.6.5 LOOSE STRAW SHALL BE WEDGED BETWEEN BALES TO PREVENT WATER FROM ENTERING BETWEEN BALES.

1.7 MAINTENANCE

1.7.1 THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

2. TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES

PROVIDE THE FOLLOWING TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION OF THE DEVELOPMENT:

2.1 STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO ANY HAUL TO OR FROM THE SITE.

2.2 SILTATION FENCE ALONG THE DOWNGRADIENT SIDE OF THE PARKING AREAS AND OF ALL FILTRATION FENCE WILL REMAIN IN PLACE UNTIL THE SITE IS REVEGETATED.

2.3 HAY BALES AT KEY LOCATIONS TO SUPPLEMENT THE SILT FENCE.

2.4 PROTECT TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR CORNER EXCAVATION AS FOLLOWS:

- A. SOIL STOCKPILE SIDE SLOPES SHALL NOT EXCEED 2:1.
- B. AVOID PLACING TEMPORARY STOCKPILES IN AREAS WITH SLOPES OVER 10 PERCENT, OR NEAR DRAINAGE SWALES.
- C. STABILIZE STOCKPILES WITHIN 15 DAYS BY TEMPORARILY SEEDING WITH A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TAGGIER OR BY COVERING THE STOCKPILE WITH MULCH.
- D. SURROUND STOCKPILE SOIL WITH SILTATION FENCE.

2.5 ALL DENUDED AREAS WHICH HAVE BEEN ROUGH GRADED AND ARE NOT LOCATED WITHIN THE BUILDING PAD, OR PARKING AND DRIVEWAY SUBBASE AREA SHALL RECEIVE MULCH WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL OR WITHIN 15 DAYS AFTER COMPLETING THE ROUGH GRADING OPERATIONS. IN THE EVENT THE CONTRACTOR COMPLETES FINAL GRADING AND INSTALLATION OF LOAM AND SOO WITHIN THE TIME PERIODS PRESENTED ABOVE, INSTALLATION OF MULCH AND NETTING, WHEN APPLICABLE IS NOT REQUIRED.

2.6 IF WORK IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15, ALL DENUDED AREAS ARE TO BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE, AND ANCHORED WITH FABRIC NETTING. THE PERIOD BETWEEN FINAL GRADING AND MULCHING SHALL BE REDUCED TO A 15 DAY MAXIMUM.

2.7 TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE HAS BEEN STABILIZED OR IN AREAS WHERE PERMANENT EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

3. PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT CONTROL MEASURES ARE REQUIRED BY THIS EROSION/SEDIMENTATION CONTROL PLAN:

3.1 STORMWATER RUNOFF GENERATED BY THE DEVELOPMENT OF THIS SITE WILL BE COLLECTED IN A OPEN DRAINAGE SYSTEM.

3.2 ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.), WILL BE LOAMED, LIMED, FERTILIZED AND SOODED. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.

3.3 SLOPES GREATER THAN 2:1 WILL BE TREATED WITH RIPRAP. THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION

4. CONSTRUCTION PRACTICE

DURING CONSTRUCTION OF THIS PROJECT.

4.1 ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. FINAL GRADING, LOAMING AND SEEDING WILL NOT OCCUR WITHIN 15 DAYS. SEE ITEM NO. 4.4

4.2 PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SILT FENCING AND/OR HAY BALES WILL BE INSTALLED AT THE TOE OF SLOPE AND IN AREAS AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION. IMMEDIATELY FOLLOWING CONSTRUCTION OF CULVERTS AND SWALES, RIP RAP APRONS SHALL BE INSTALLED, AS SHOWN ON THE PLANS.

4.3 TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM THE EXISTING DRAINAGE COURSE. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 15 DAYS SHALL BE:

- A. TREATED WITH ANCHORED MULCH (WITHIN 5 DAYS OF THE LAST DEPOSIT OF STOCKPILED SOIL).
- B. SEEDDED WITH CONSERVATION MIX AND MULCHED IMMEDIATELY.

STOCKPILES EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE ENCIRCLED WITH HAY BALES OR SILT FENCE AT THE TOE OF THE PILE.

4.4 ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE EITHER:

- A. TREATED WITH ANCHORED MULCH IMMEDIATELY, OR
- B. SEEDDED WITH CONSERVATION MIX OF ANNUAL RYE GRASS (0.9 LBS/1000 SQ. FT) AND MULCHED IMMEDIATELY.

4.5 ALL GRADING WILL BE HELD TO A MAXIMUM 2:1 SLOPE WHERE PRACTICAL. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING, OR WITH STONE, WITHIN 5 DAYS AFTER FINAL GRADING IS COMPLETE. (SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION.)

4.6 CONSTRUCTION TRAFFIC WILL BE DIRECTED OVER THE PROPOSED ROADWAY SYSTEM. ANY AREAS SUBJECT TO RUTTING WILL BE STABILIZED IMMEDIATELY. THE ENTRANCE WILL BE SWEEP WEEKLY, SHOULD MUD BE TRACKED ONTO IT.

5. POST-CONSTRUCTION REVEGETATION

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING.

5.1 A MINIMUM OF 4" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE, OR STONE WILL BE PLACED ON SLOPES TO STABILIZE SURFACES.

5.2 IF FINAL GRADING IS REACHED DURING THE NORMAL GROWING SEASON (4/15 TO 9/15), PERMANENT SEEDING WILL BE DONE AS SPECIFIED BELOW. PRIOR TO SEEDING, LIMESTONE SHALL BE APPLIED AT A RATE OF 1.38 LBS/1000 SQ. FT. AND 10:20:20 FERTILIZER AT A RATE OF 18.4 LBS/1000 SQ.FT WILL BE APPLIED. BROADCAST SEEDING AT THE FOLLOWING RATES:

LAWNS	SWALES
KENTUCKY BLUEGRASS 0.46 LBS/1000 SF.	CREeping RED FESCUE 0.46 LBS/1000 SF
CREeping RED FESCUE 0.46 LBS/1000 SF.	RED TOP 0.05 LBS/1000 SF. TALL PERENNIAL RYEGRASS 0.11 LB/1000 SF.
	FESCUE 0.46 LBS/1000 SF.

5.3 AN AREA SHALL BE MULCHED IMMEDIATELY AFTER IT HAS BEEN SEEDDED. MULCHING SHALL CONSIST OF HAY MULCH, HYDRO-MULCH OR ANY SUITABLE SUBSTITUTE DEEMED ACCEPTABLE BY THE DESIGNER.

A. HAY MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. HAY MULCH SHALL BE SECURED BY EITHER:

- I. BEING DRIVEN OVER BY TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
- II. BLANKETTED BY TACKED PHOTODEGRADABLE/BIOODEGRADABLE NETTING, OR WITH SPRAY, ON GRADES GREATER THAN 5%.

B. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF EITHER WOOD FIBER OR PAPER FIBER AND WATER SPRAYED OVER A SEEDDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 9/15 AND 4/15.

5.5 CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN SEPTEMBER 15 AND APRIL 15. SHOULD SEEDING BE NECESSARY BETWEEN SEPTEMBER 15 AND APRIL 15, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED.

A. ONLY UNFROZEN LOAM SHALL BE USED.

B. LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED.

C. WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1000 SQ.FT) SHALL BE ADDED TO THE PREVIOUSLY NOTED AREAS.

D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.6 LBS/1000 SQ. FT.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.

E. FERTILIZING, SEEDING AND MULCHING SHALL BE DONE ON LOAM THE DAY THE LOAM IS TRACKING BY MACHINERY ALONE WILL NOT SUFFICE.

F. HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIOODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE.

5.6 FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 80% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE ENGINEER THAT THE EXISTING CATCH IS INADEQUATE.

6. MONITORING SCHEDULE

THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO. MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

6.1 HAY BALE BARRIERS AND SILT FENCE SHALL BE INSPECTED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING. SHOULD THE HAY BALE BARRIERS PROVE TO BE INEFFECTIVE, THE CONTRACTOR SHALL INSTALL SILT FENCE BEHIND THE HAY BALES.

6.2 VISUALLY INSPECT RIP RAP ONCE A WEEK OR AFTER EACH SIGNIFICANT RAINFALL AND REPAIR AS NEEDED. REMOVED SEDIMENT TRAPPED BEHIND THESE DEVICES ONCE IT ATTAINS A DEPTH EQUAL TO 1/2 THE HEIGHT OF THE DAM OR RISER. DISTRIBUTE REMOVED SEDIMENT OFF-SITE OR TO AN AREA UNDERGOING FINAL GRADING.

6.3 REVEGETATION OF DISTURBED AREAS WITHIN 25' OF DRAINAGE-COURSES/STREAMS WILL BE SEEDDED WITH THE "MEADOW AREA MIX" AND INSPECTED ON A WEEKLY BASIS FOR 30 DAYS AFTER EACH SIGNIFICANT RAINFALL AND RESEEDED AS NEEDED. EXPOSED AREAS WILL BE RESEEDED AS NEEDED UNTIL THE AREA HAS OBTAINED 100% GROWTH RATE. PROVIDE PERMANENT RIPRAP FOR SLOPES IN EXCESS OF 3:1 AND WITHIN 25' OF DRAINAGE COURSE.

7. EROSION CONTROL REMOVAL

AN AREA IS CONSIDERED STABLE IF IT IS PAVED, GRAVEL, OR IF 80% GROWTH OF PLANTED SEEDS IS ESTABLISHED. ONCE AN AREA IS CONSIDERED STABLE, THE EROSION CONTROL MEASURES CAN BE REMOVED AS FOLLOWS:

7.1 HAY BALES AND SILT FENCE: THE HAY BALES AND SILT FENCE SHALL BE DISPOSED OF LEGALLY AND PROPERLY OFF-SITE. ALL SEDIMENT TRAPPED BEHIND THESE CONTROLS SHALL BE:

- A. DISTRIBUTED TO AN AREA UNDERGOING FINAL GRADING.
- B. GRADED IN AN AESTHETIC MANNER TO CONFORM TO THE TOPOGRAPHY, FERTILIZED, SEEDDED AND MULCHED IN ACCORDANCE WITH THE RATES PREVIOUSLY STATED.

7.2 MISCELLANEOUS: ONCE ALL THE TRAPPED SEDIMENTS HAVE BEEN REMOVED FROM THE EROSION CONTROL DEVICES, THE DISTURBED AREAS MUST BE REGRADED IN AN AESTHETIC MANNER TO CONFORM TO THE SURROUNDING TOPOGRAPHY. ONCE GRADED, THESE DISTURBED AREAS MUST BE LOAMED (IF NECESSARY) FERTILIZED, SEEDDED AND MULCHED IN ACCORDANCE WITH THE RATES PREVIOUSLY STATED.

8. WINTER CONSTRUCTION

8.1 WINTER CONSTRUCTION: CONSTRUCTION PERFORMED ANY TIME BETWEEN NOVEMBER 1 AND APRIL 15 OF ANY YEAR SHALL BE CONSIDERED "WINTER CONSTRUCTION," AND SHALL CONFORM TO THE FOLLOWING CRITERIA.

8.2 MAXIMUM AREAS WITHOUT STABILIZATION: WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. EXPOSED AREAS SHALL BE LIMITED TO THE AREA THAT CAN BE MULCHED IN ONE DAY. PRIOR TO ANY SNOW EVENT, CONTINUITY OF EARTHWORK OPERATIONS IN ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED WITH EROSION CONTROL PROTECTION.

9. STABILIZATION

9.1 AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 100 LB PER 1,000 SF. (WITH OR WITHOUT SEEDING), OR DORMANT SEEDED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE. IN ALL CASES, MULCH SHALL BE APPLIED SUCH THAT THE SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH.

9.2 LOAM OR SEED WILL NOT BE REQUIRED BETWEEN THE DATES OF OCTOBER 15, AND APRIL 15. DURING PERIODS WHEN TEMPERATURES ARE ABOVE FREEZING, EXPOSED SOILS SHALL BE FINE-GRADED AND PROTECTED WITH MULCH, OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. AFTER NOVEMBER 1, ANY LOAMED, SMOOTH, FINAL GRADED AREAS MAY BE DORMANT SEEDDED AT A RATE OF 200% HIGHER THAN SPECIFIED FOR PERMANENT SEED, AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING TEMPERATURES, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING. THE SURFACE SHALL BE PROTECTED TEMPORARILY FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT EXPOSED DURING THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH PERMANENT SURFACING, A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COURSE AGGREGATES 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SOIL FILTER MEDIA MIXTURE MUST HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.

9.3 MULCH ANCHORING: MULCH ANCHORING SHALL BE INSTALLED ACCORDING TO THE FOLLOWING CRITERIA:

A. BETWEEN NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY PEG, LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, OR TRACK OR WOOD CELLULOSE FIBER.

B. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE "V" AREAS WITH SLOPES GREATER THAN 3% FOR SLOPES GREATER THAN 5% AND DIRECT WINDS, AND FOR ALL OTHER SLOPES GREATER THAN 5%.

C. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 5%.

9.4 DAILY PROTECTION: DURING THE PERIOD OF OCTOBER 1 TO APRIL 15, ALL BARE AND EXPOSED EARTH SHALL BE TREATED WITH A DORMANT SEEDING, MULCHED AND ANCHORED AT THE END OF EACH WORKING DAY.

9.5 SNOW REMOVAL: SNOW SHALL BE REMOVED PRIOR TO THE APPLICATION OF SEED AND MULCH.

10. LIMITS OF CONSTRUCTION

10.1 LIMIT OF CONSTRUCTION: THE LIMIT OF CONSTRUCTION FOR THE SITE SHALL BE AS INDICATED ON THE PLANS. NO DISTURBANCE OF SOILS, VEGETATION, OR WETLANDS WILL BE PERMITTED BEYOND THE LIMIT OF DISTURBANCE. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND DISCHARGE POINTS.

10.2 CONSTRUCTION STAGING AREAS: THE CONSTRUCTION AND STAGING AREAS FOR THE SITE SHALL BE LOCATED IN WITHIN THE LIMIT OF DISTURBANCE. SILT FENCING SHALL BE PLACED ALL AROUND THE PERIMETER OF THE STAGING/STORAGE AREA.

10.3 SCHEDULE: THE ANTICIPATED CONSTRUCTION SCHEDULE IS DURING THE YEAR OF 2014 AND WILL BEGIN WITH THE INSTALLATION OF EROSION CONTROL SYSTEMS TO PROTECT DRAINAGE WAYS AND AREAS OUTSIDE THE CONSTRUCTION LIMITS. SILT FENCING AND DITCH PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE IN THE CONTRIBUTING DRAINAGE AREAS AS SOON AS CONTROL MEASURES ARE IN PLACE, AND PRIOR TO COMMENCING SOIL DISTURBANCE ACTIVITIES. THE CONSTRUCTION ROAD SHALL BE INSTALLED. IT IS IMPERATIVE THAT DISTURBANCES TO VEGETATION BE LIMITED ONLY TO THOSE AREAS, WHICH ARE NECESSARY TO ACCOMPLISH THE WORK.

10.4 THE FINE AND VERY FINE SANDY LOAMS THAT WILL BE EXPOSED DURING SITE PREPARATION MAY BE SUSCEPTIBLE TO EROSION, AND CAN UNDERGO STRENGTH LOSS WHEN SUBJECTED TO CONSTRUCTION TRAFFIC AND EXCAVATION ACTIVITIES, PARTICULARLY DURING PERIODS OF PRECIPITATION AND HIGH GROUND WATER LEVELS. THEREFORE, CARE WILL BE EXERCISED DURING CONSTRUCTION TO MINIMIZE DISTURBANCE OF THE BEARING SOILS. ALL TOPSOIL, ORGANIC AND LOOSE SURFACE SOIL WILL BE STRIPPED AND STORED FOR REUSE LATER. SHOULD THE SUBGRADE BECOME SOFT OR DIFFICULT TO WORK AND/OR WHEREVER SUBSURFACE DRAINAGE CAVITIES ARE ENCOUNTERED, THE SUBGRADE WILL BE OVER EXCAVATED AS REQUIRED, AND BACKFILLED WITH GRANULAR FILL OR CRUSHED STONE.

11. HOUSEKEEPING

11.1 SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS 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. DYES, BLENDS, AND OTHER FORMS OF SECONDARY CONTAMINANT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.

11.2 GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MUST 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. DYES, BLENDS, AND OTHER FORMS OF SECONDARY CONTAMINANT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.

11.3 FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE 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.

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

11.5 TRENCH OR FOUNDATION DE-WATERING: TRENCH DE-WATERING IS THE REMOVAL OF EXCESS WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, 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 BY THE DEPARTMENT.

11.6 NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES.

11.7 STREET SWEEPING: ANY SOIL MATERIAL TRACKED ONTO THE PUBLIC ROADWAY SHALL BE SWEEPED ON A DAILY BASIS.

11.8 ADDITIONAL REQUIREMENTS: ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

BASIC STANDARDS - EROSION CONTROL MEASURES:

MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE APPLICANT WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL, INSPECTIONS AND MAINTENANCE.

GENERAL NOTE:

ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET MDOT ITEM 656.

DEP NOTES

CONSTRUCTION OVERSIGHT

(DETAILS AND NOTES FOR PLANS)
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.

UNDERDRAINED FILTER BASINS

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 COMPLETE.

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.

CONSTRUCTION OVERSIGHT: INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:
- AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
- AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA.
- ENVIRONMENT FILTER MEDIA HAS BEEN INSTALLED AND SEEDED. 90-RETENTION CELLS MUST BE STABILIZED PER THE PROVIDED PLANTING SCHEME AND DENSITY FOR THE CANOPY COVERAGE OF 30 AND 50%.

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

PERFORM A PERMEABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90-92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.

LOT GRADING AND DRIVEWAY LOCATION

INSPECTIONS A PROFESSIONAL ENGINEER WILL CONSIST OF A VISIT TO THE SITE PRIOR TO CONSTRUCTION TO CONSULT WITH THE EARTHWORK CONTRACTOR AND A POST CONSTRUCTION MEETING TO CONFIRM GRADING ON LOTS AND FOR ALL DRIVEWAYS TO ENSURE RUNOFF IS DIRECTED ACCORDING TO PLANS AND TO OVERSEE THE RE-STABILIZATION OF THE LOT INTO A VEGETATED COVER.

DEWATERING

A DEWATERING PLAN IS NEEDED TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. THE COLLECTED WATER NEEDS TREATMENT AND A DISCHARGE POINT THAT WILL NOT CAUSE DOWNGRADIENT EROSION AND OFFSITE SEDIMENTATION OR WITHIN A RESOURCE. PLEASE FOLLOW THE DETAILS OF SUCH A PLAN.

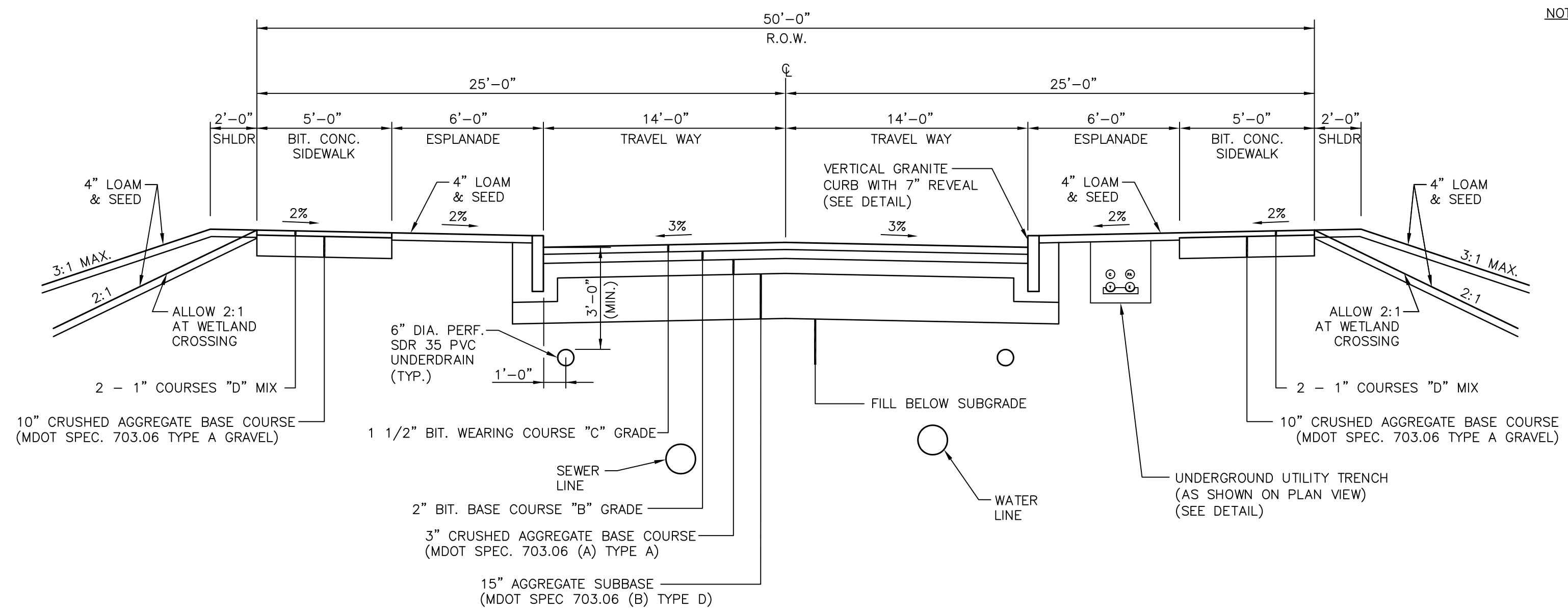
BASIC STANDARDS - EROSION CONTROL MEASURES:

MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE APPLICANT WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL, INSPECTIONS AND MAINTENANCE.

ROOF DRIP EDGE FILTERS

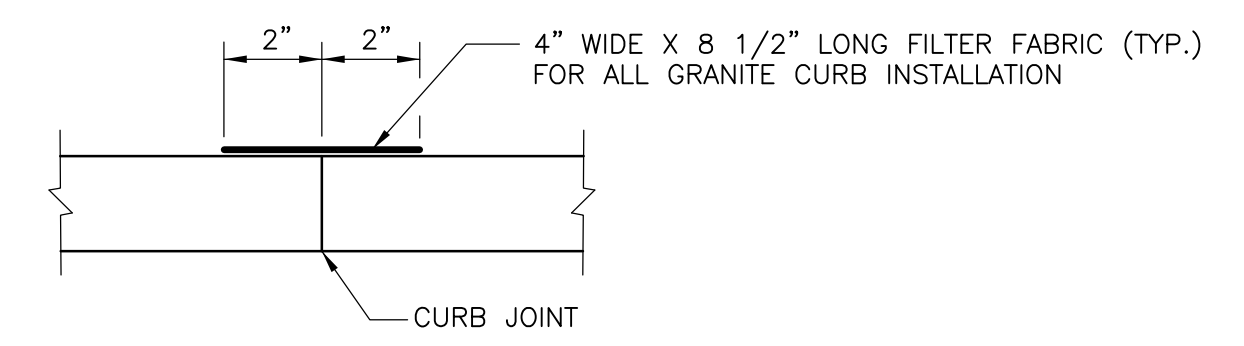
INSPECTIONS BY A PROFESSIONAL ENGINEER SHALL CONSIST OF WEEKLY VISITS TO THE SITE TO INSPECT EACH THE ROOF DRIP EDGE FILTER'S UNDERDRAIN CONSTRUCTION, FILTER MATERIAL PLACEMENT, AND OVERFLOW FROM INITIAL GROUND DISTURBANCE TO FINAL STABILIZATION OF THE FILTER.

THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION; BEST MANAGEMENT PRACTICES AS PUBLISHED IN 1991 BY THE CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND EROSION CONTROL MEASURES FOR CONSTRUCTION CONTROL BMP'S PUBLISHED BY THE MAINE DEP IN 2003. ALL REFERENCES SHOULD BE CHANGED TO THE NEW MANUAL.

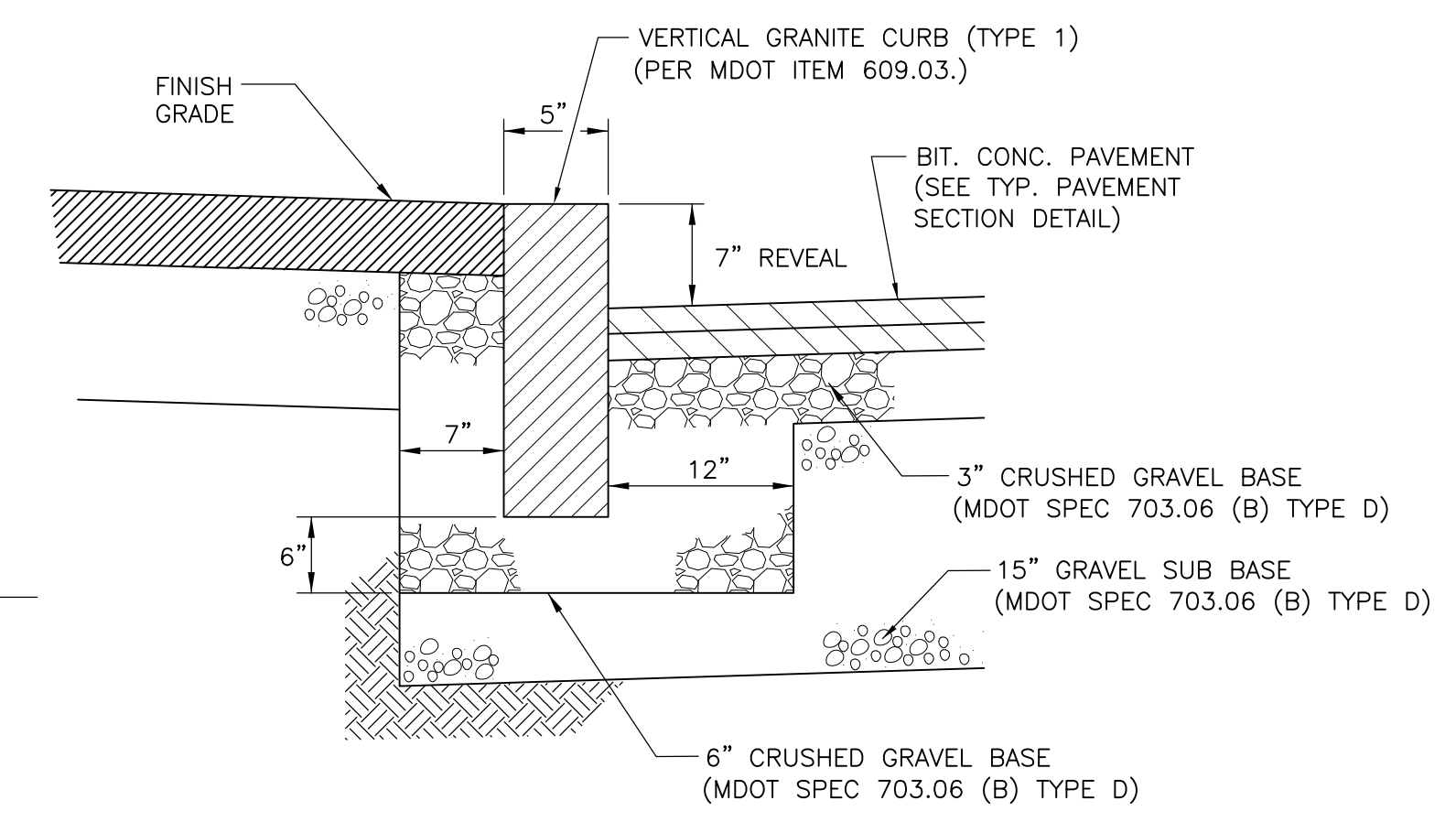


TYPICAL ROAD CROSS SECTION
NOT TO SCALE

- NOTES:**
- 1) LOAM AND SEED SHALL BE IN ACCORDANCE WITH MDT SPECIFICATIONS 615 AND 618, METHOD #1.
 - 2) AGGREGATE SUBBASE SHALL BE IN ACCORDANCE WITH MDT SPECIFICATIONS, SECTION 403 AND SHALL NOT CONTAIN PARTICLES OF ROCK EXCEEDING 6" IN ANY DIMENSION. MATERIAL FOR ROAD EMBANKMENT SHALL BE SUITABLE EXCAVATED MATERIAL APPROVED BY TOWN INSPECTOR AND MUST MEET MDT SPECIFICATION 703.19 GRANULAR BORROW. SUITABLE GRANULAR FILL MATERIAL SHALL CONSIST OF HARD DURABLE MINERALS LESS VERY FINE SANDS, SILT, CLAY OR ORGANIC MATERIALS. MATERIAL IS TO BE PLACED IN LIFTS NOT TO EXCEED 12 INCHES. COMPACTION SHALL BE ACHIEVED BY MECHANICAL MEANS OF A "DYNAPAC", RIDING ROLLER, OR TRACKING WITH HEAVY EQUIPMENT.
 - 3) ENTIRE WIDTH OF ROAD AND SHOULDERS IS TO BE STRIPPED AND GRUBBED OF TOP SOIL, ORGANICS AND ALL DELETERIOUS MATERIAL. ALL STUMPS AND UNSUITABLE MATERIAL (IF ANY) SHALL BE REMOVED IF WITHIN 5 FEET OF FINISHED GRADE UNDER PAVED AREAS.
 - 4) SEE GRADING PLAN & PROFILE FOR GRADING INTENT.
 - 5) ALL PROPOSED INFRASTRUCTURE LOCATED WITHIN THE ROAD RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.

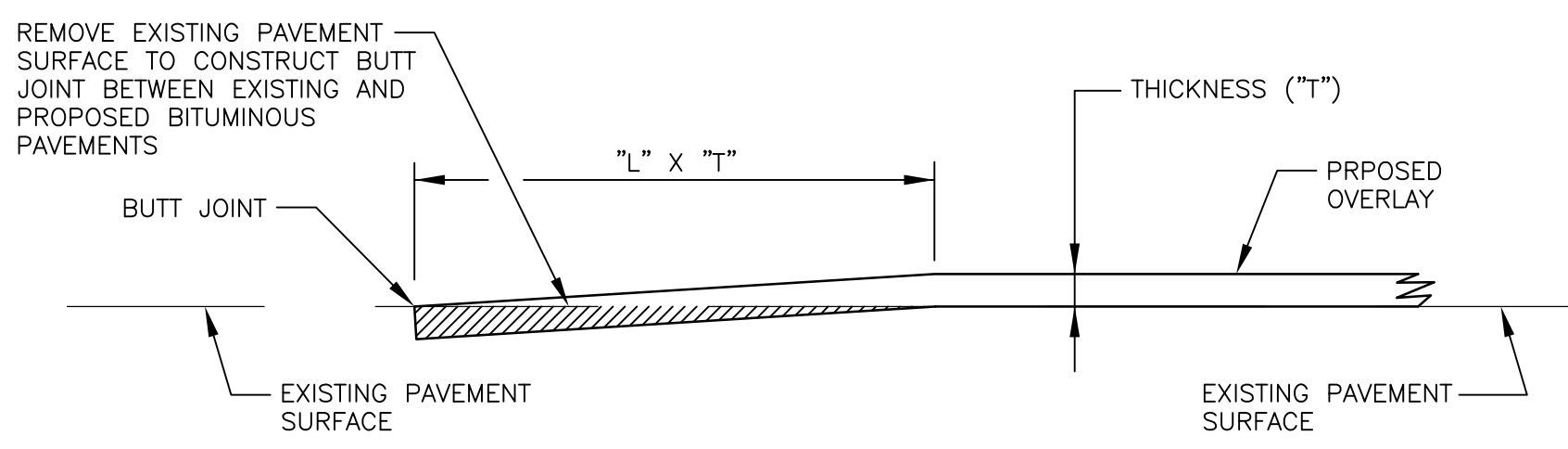


PLAN VIEW



VERTICAL GRANITE CURB DETAIL
N.T.S.

NOTE: PER MDT ITEM 703.06 (B) TYPE D



DESIGN OR POST SPEED (MPH)	65	60	55	50	45	40	35	30	25
"L" IN FEET/INCH OF THICKNESS	65	60	55	50	45	40	35	30	25

NOTES:

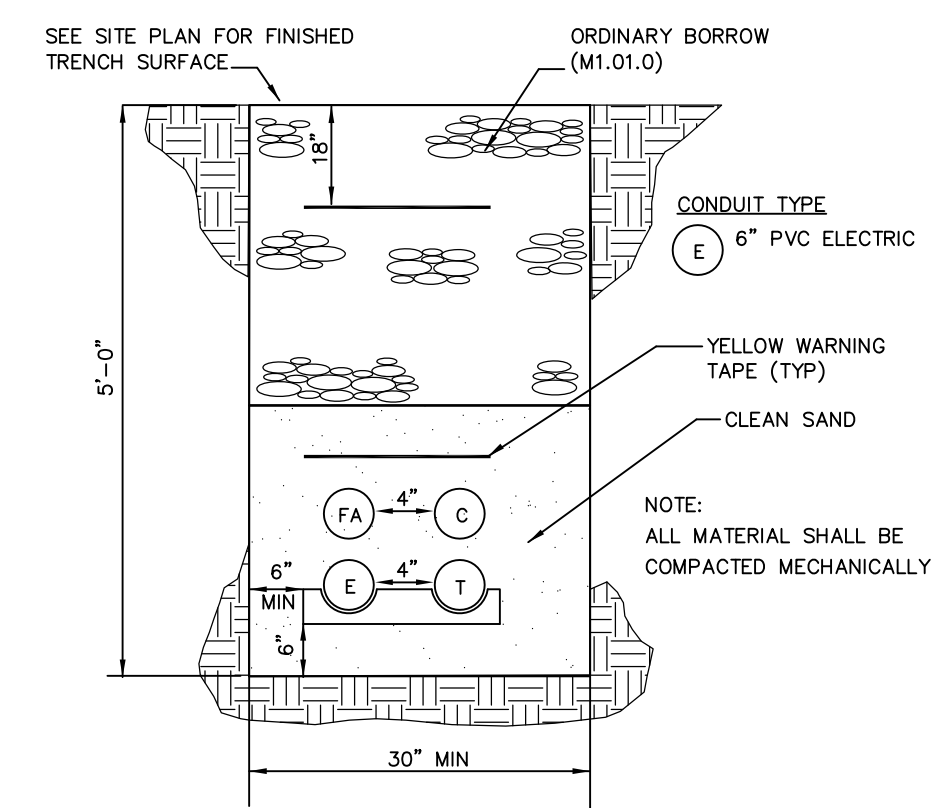
1. THE ABOVE LENGTHS ARE INTENDED FOR PROFILE GRADES OF 2% OR LESS. WHEN PROFILE GRADES ARE GREATER THAN 2%, "L" MAY BE ADJUSTED TO SUIT FIELD CONDITIONS WHEN DIRECTED BY THE RESIDENT.
2. WHEN CONSTRUCTING BUTT JOINTS AT INTERSECTIONS OR RAMP, "L" SHALL BE 16 FT/INCH OF THICKNESS UNLESS OTHERWISE DIRECTED BY THE RESIDENT.
3. SPECIAL ATTENTION SHALL BE PAID TO CURB SECTIONS TO ASSURE PROPER DRAINAGE AND THAT THERE ARE NO FLAT AREAS. "L" MAY BE ADJUSTED TO SUIT FIELD CONDITIONS WHEN DIRECTED BY THE RESIDENT.

PAVEMENT OVERLAY BUTT JOINT DETAIL (ROADWAYS)
NOT TO SCALE

TRAFFIC SIGNS

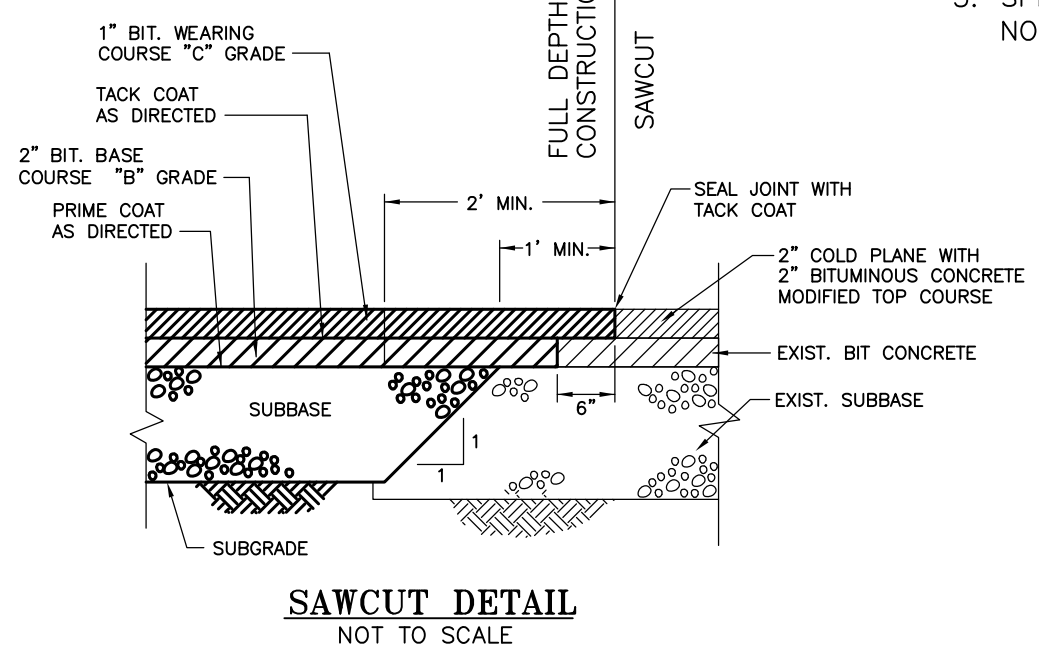
IDENTIFICATION NUMBER	SIGN HEIGHT	SIGN WIDTH	POST PER SIGN	TEXT	NUMBER OF SIGNS REQ'D.	SIGN AREA SQ. FT.		REMARKS
						NOM. AREA	TOTAL AREA	
R1-1	24"	24"	1	STOP	1	4.0	4.0	PER MUTCD

NOTE: ALL SIGNS SHALL CONFORM TO MUTCD STANDARDS AND MDT ITEM 645

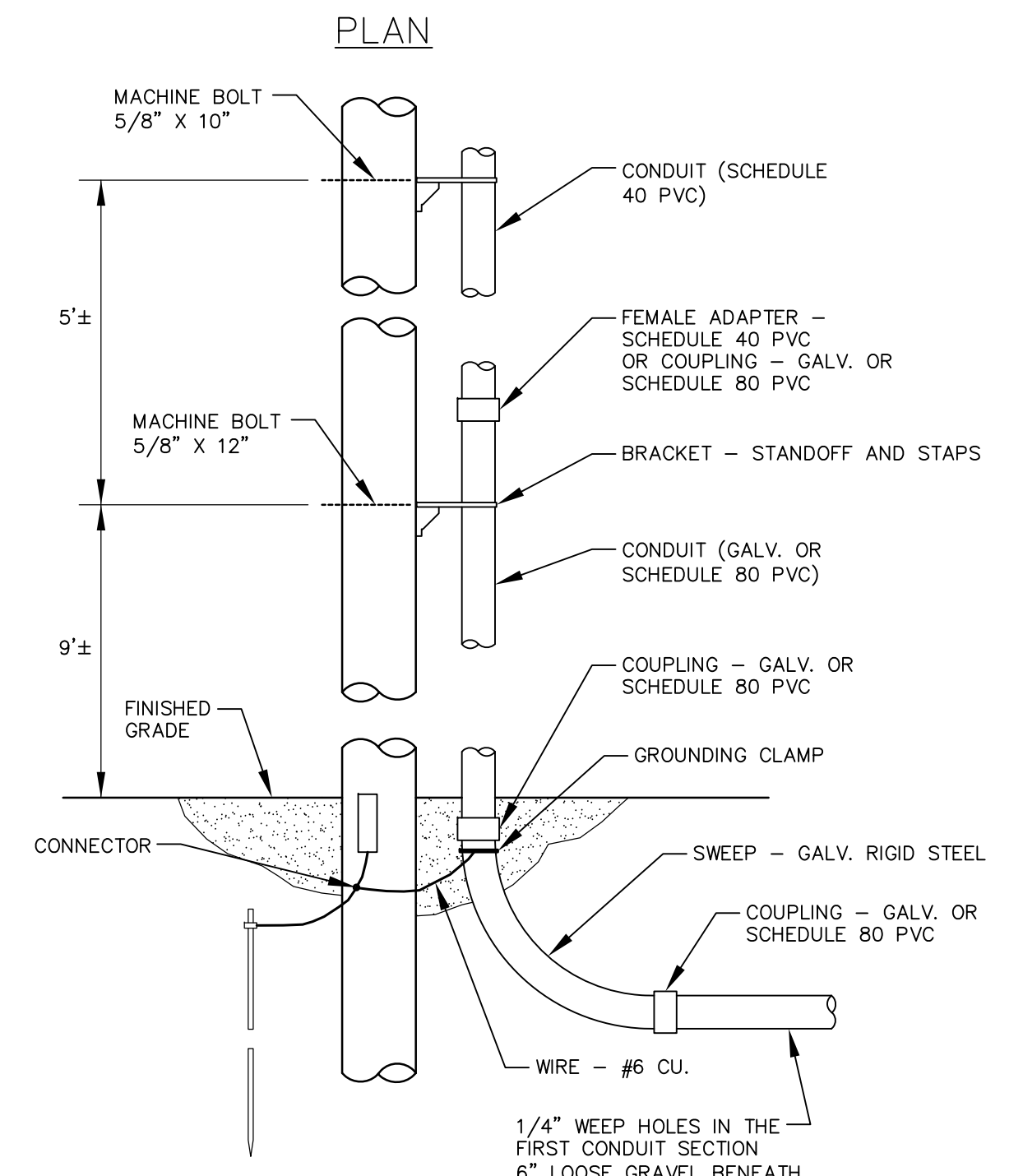


* ALL ROAD CROSSINGS AND DRIVEWAY CROSSINGS SHALL BE IN CONDUIT AS APPROVED BY PROVIDER

COMMON TRENCH DETAIL ELECTRIC/TELEPHONE/FIRE ALARM/CABLE
NOT TO SCALE

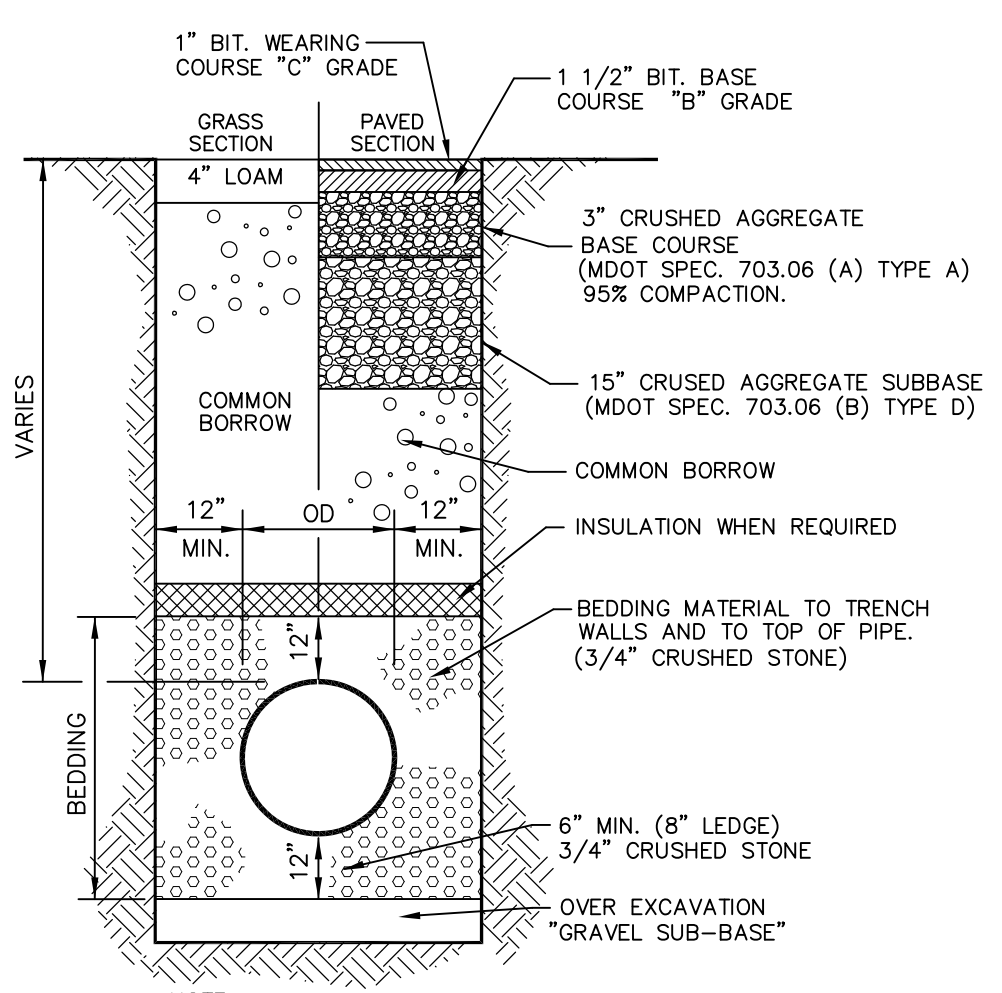


SAWCUT DETAIL
NOT TO SCALE



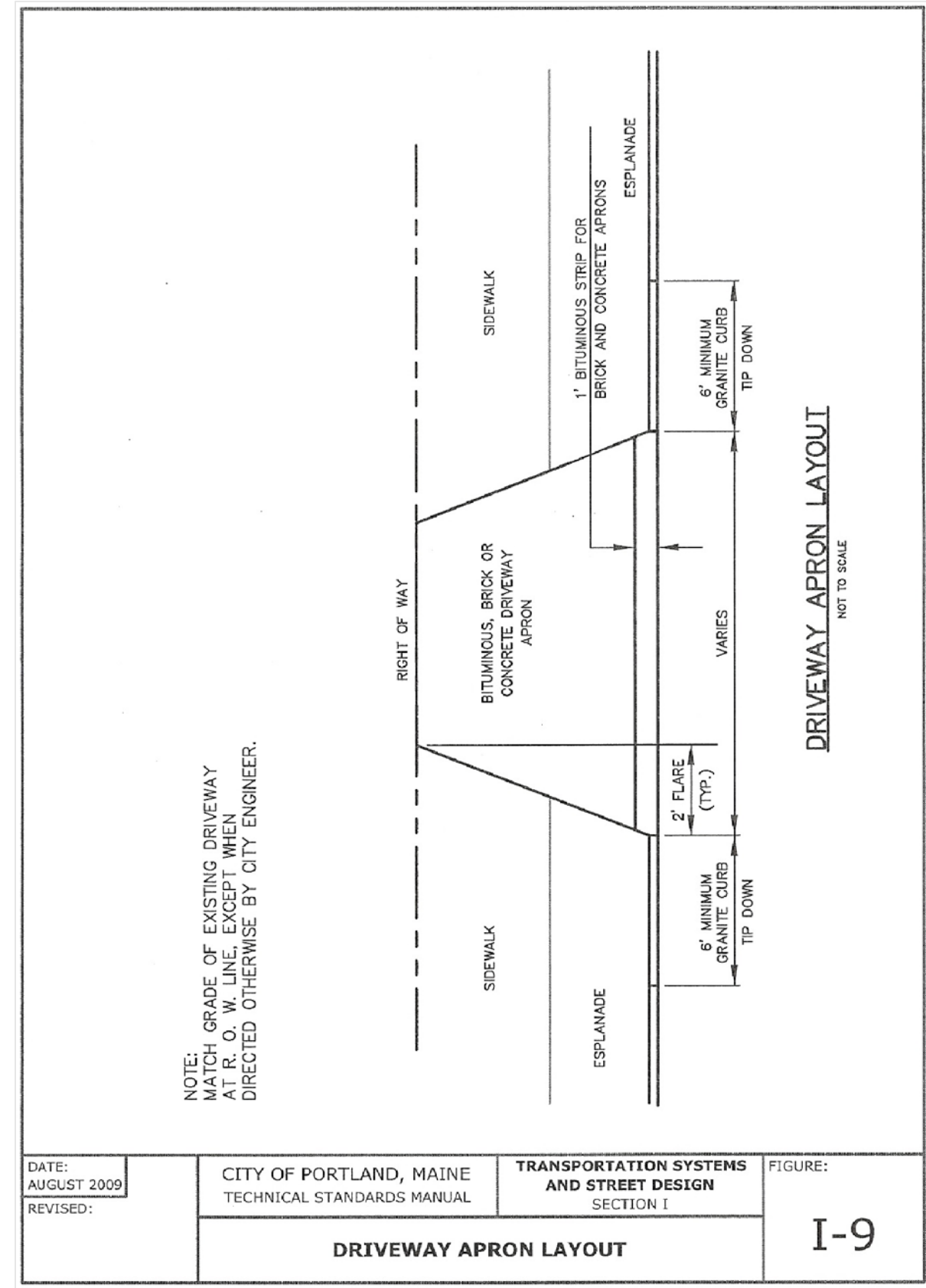
- NOTES:**
1. LOCATE RISER ON POLE AWAY FROM TRAFFIC.
 2. BOND GALVANIZED CONDUIT TO GROUND.
 3. LEAVE TOP OF CONDUIT OPEN.
 4. FIRST SECTION OF RISER SHALL BE GALVANIZED RIGID STEEL OR SCHEDULE 80 PVC.
 5. SWEEP SHALL BE GALVANIZED RIGID STEEL.

TYPICAL RISER DETAIL
NOT TO SCALE



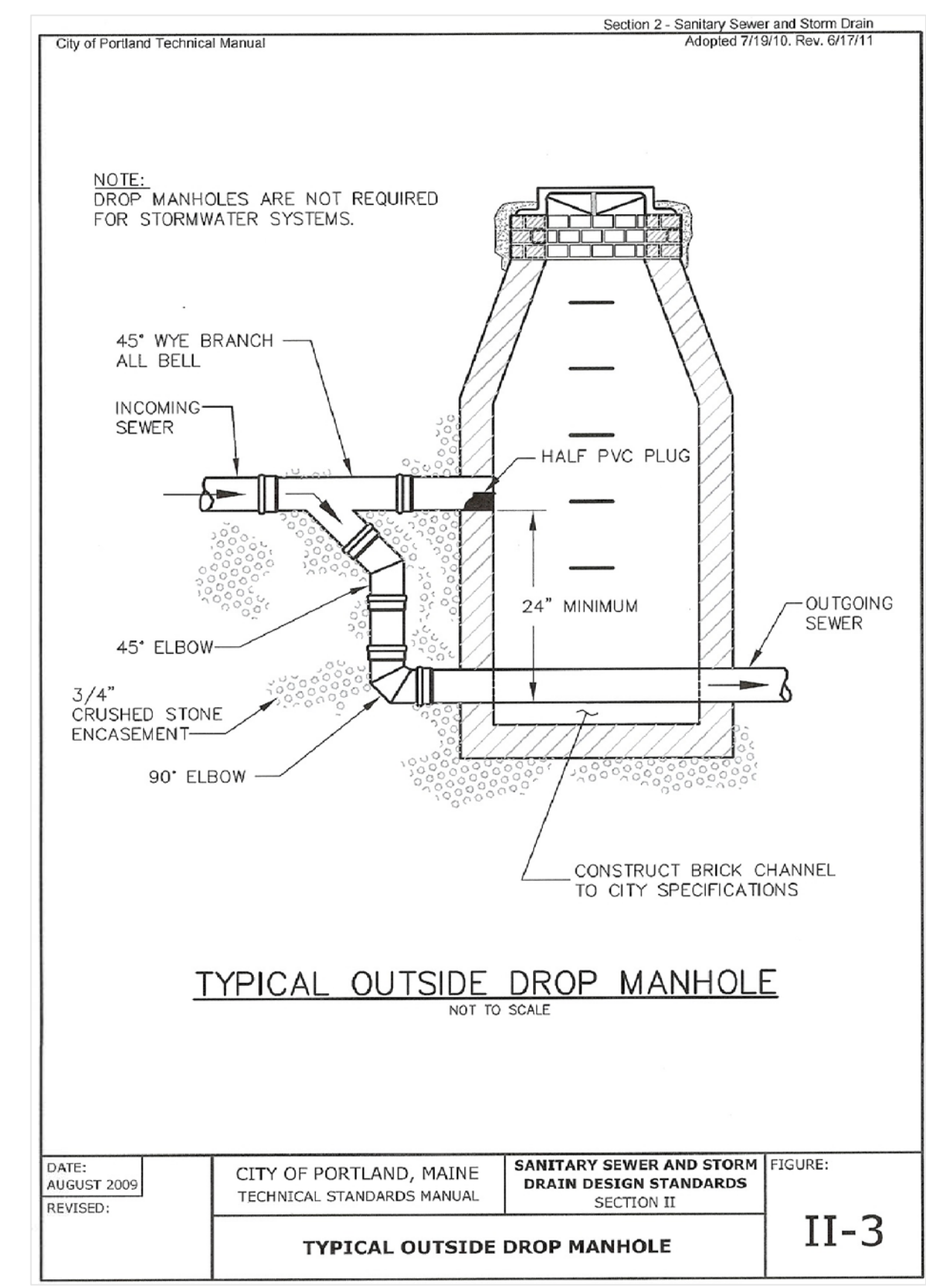
- NOTES:**
1. ALL MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM PROCTOR DENSITY (MODIFIED)
 2. WHEN WATER IS PRESENT IN THE TRENCH, PIPE SHALL BE BEDDED IN CRUSHED STONE

TYPICAL TRENCH SECTION DETAIL
NOT TO SCALE



NOTE: MATCH GRADE OF EXISTING DRIVEWAY AT R. O. W. LINE, EXCEPT WHEN DIRECTED OTHERWISE BY CITY ENGINEER.

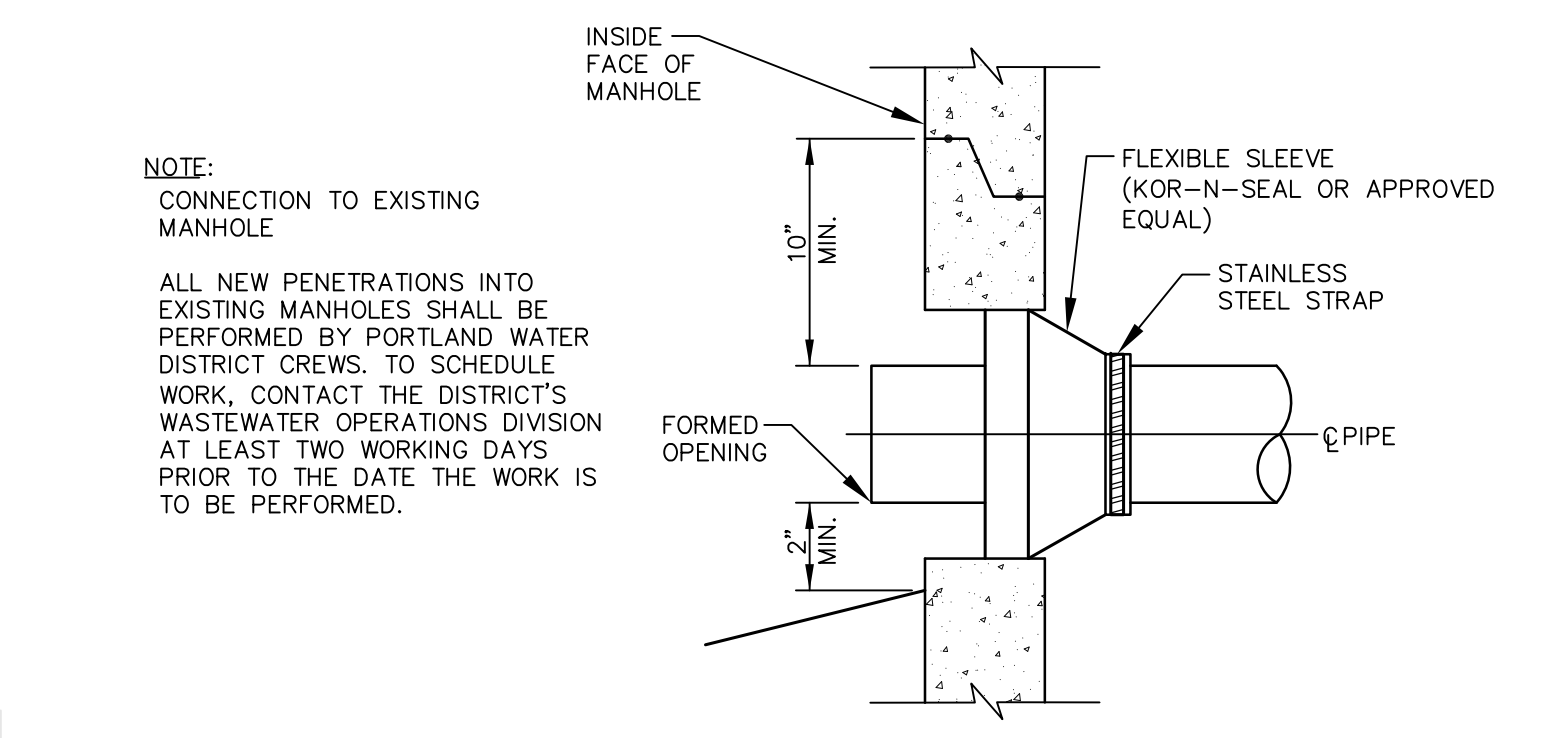
DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION SYSTEMS AND STREET DESIGN SECTION I	FIGURE: I-9
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NOTE: DROP MANHOLES ARE NOT REQUIRED FOR STORMWATER SYSTEMS.

TYPICAL OUTSIDE DROP MANHOLE
NOT TO SCALE

DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE: II-3
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NOTE: CONNECTION TO EXISTING MANHOLE
ALL NEW PENETRATIONS INTO EXISTING MANHOLES SHALL BE PERFORMED BY PORTLAND WATER DISTRICT CREWS. TO SCHEDULE WORK, CONTACT THE DISTRICT'S WASTEWATER OPERATIONS DIVISION AT LEAST TWO WORKING DAYS PRIOR TO THE DATE THE WORK IS TO BE PERFORMED.

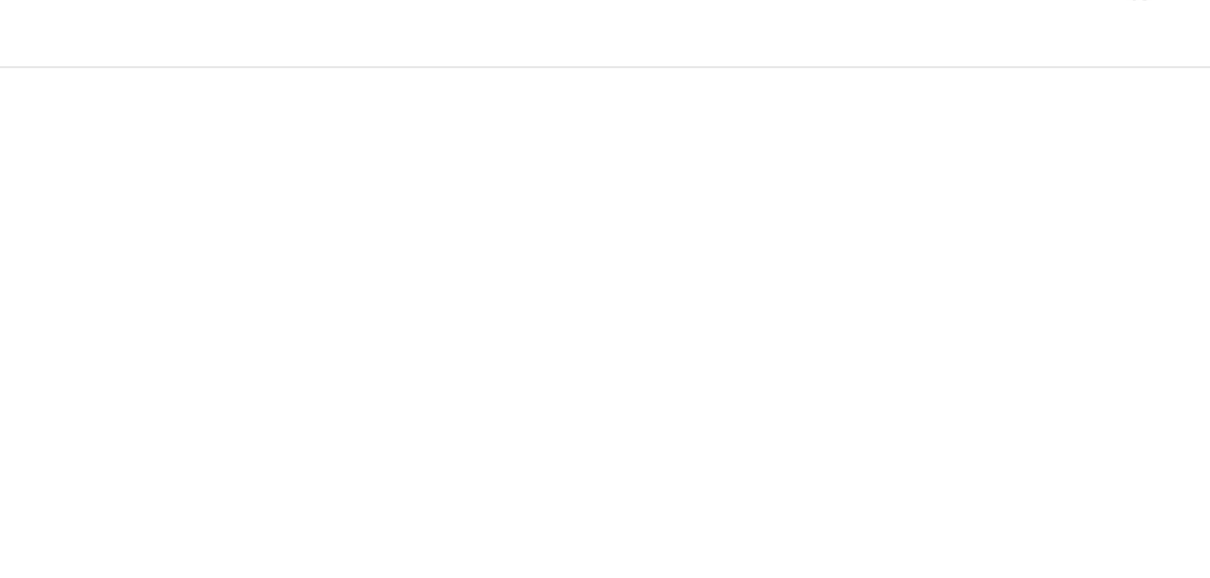
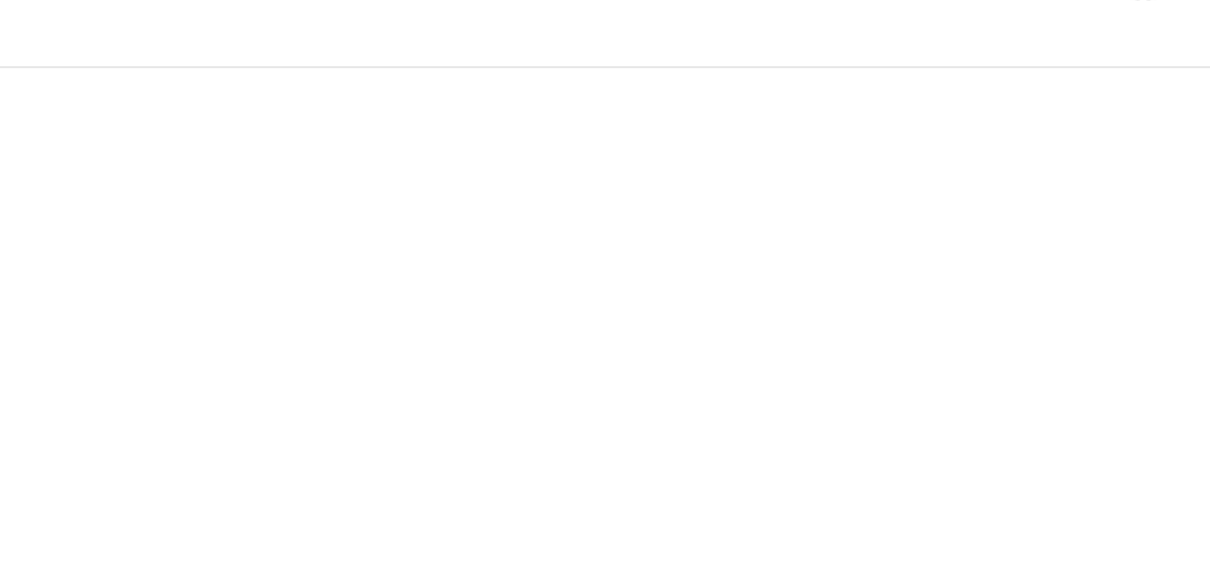
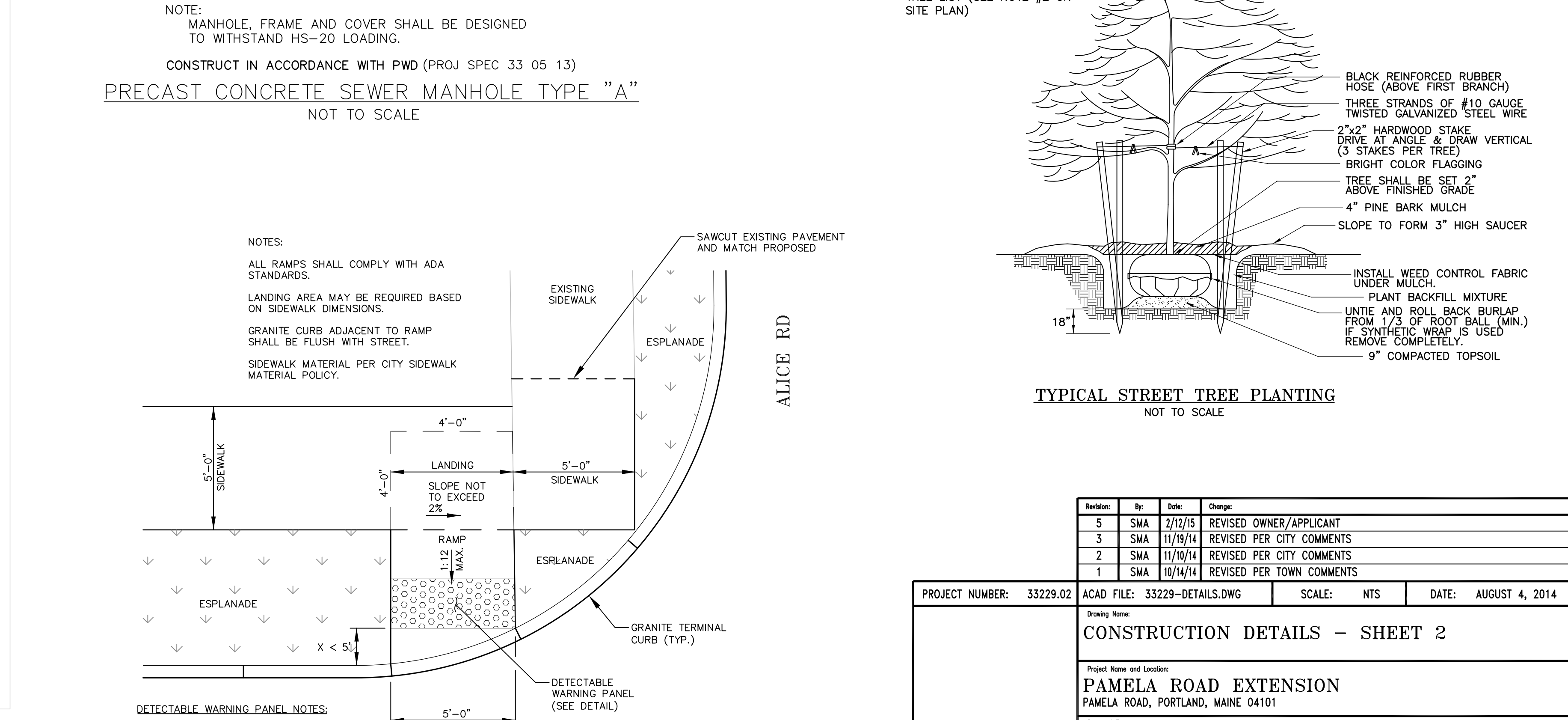
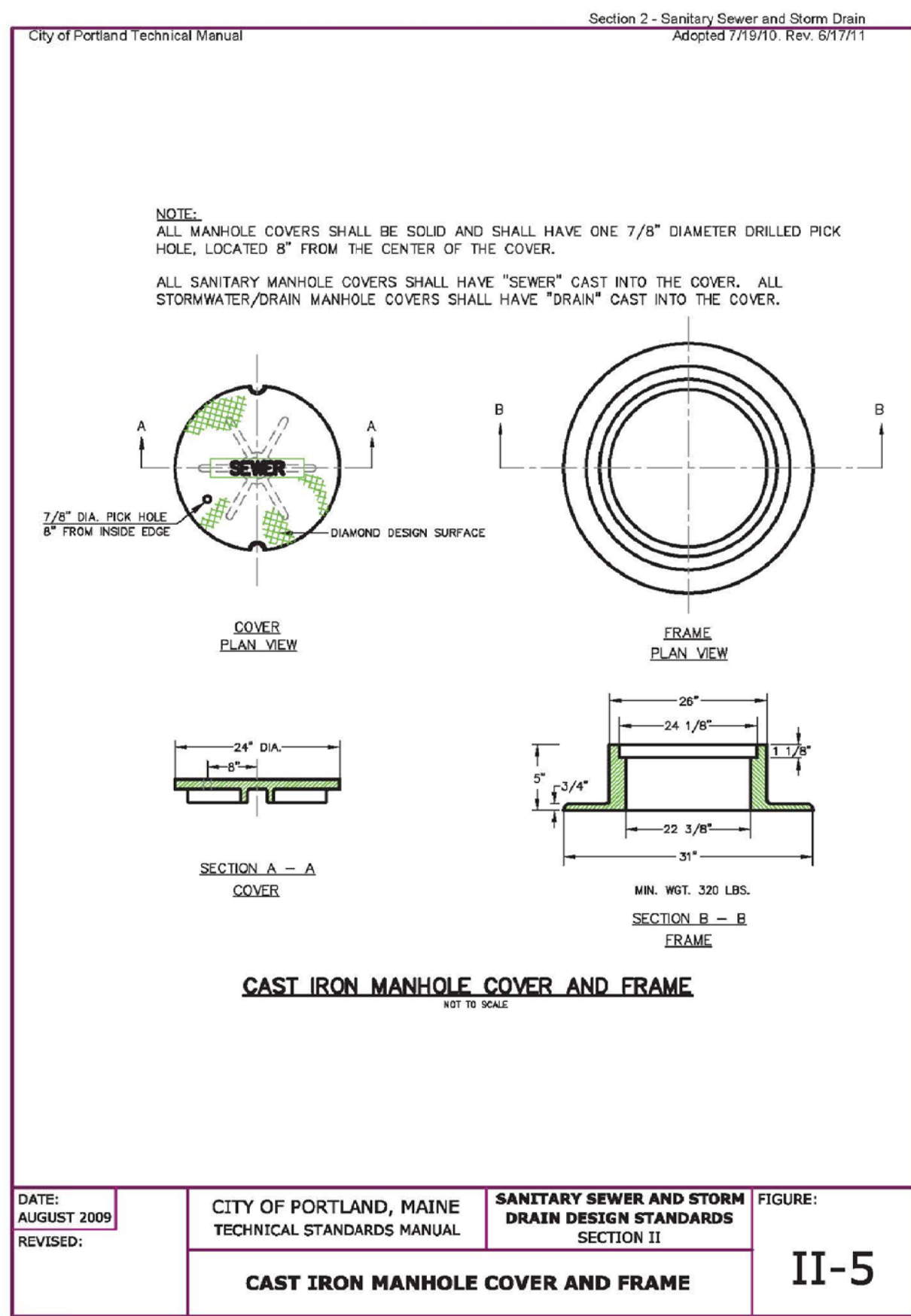
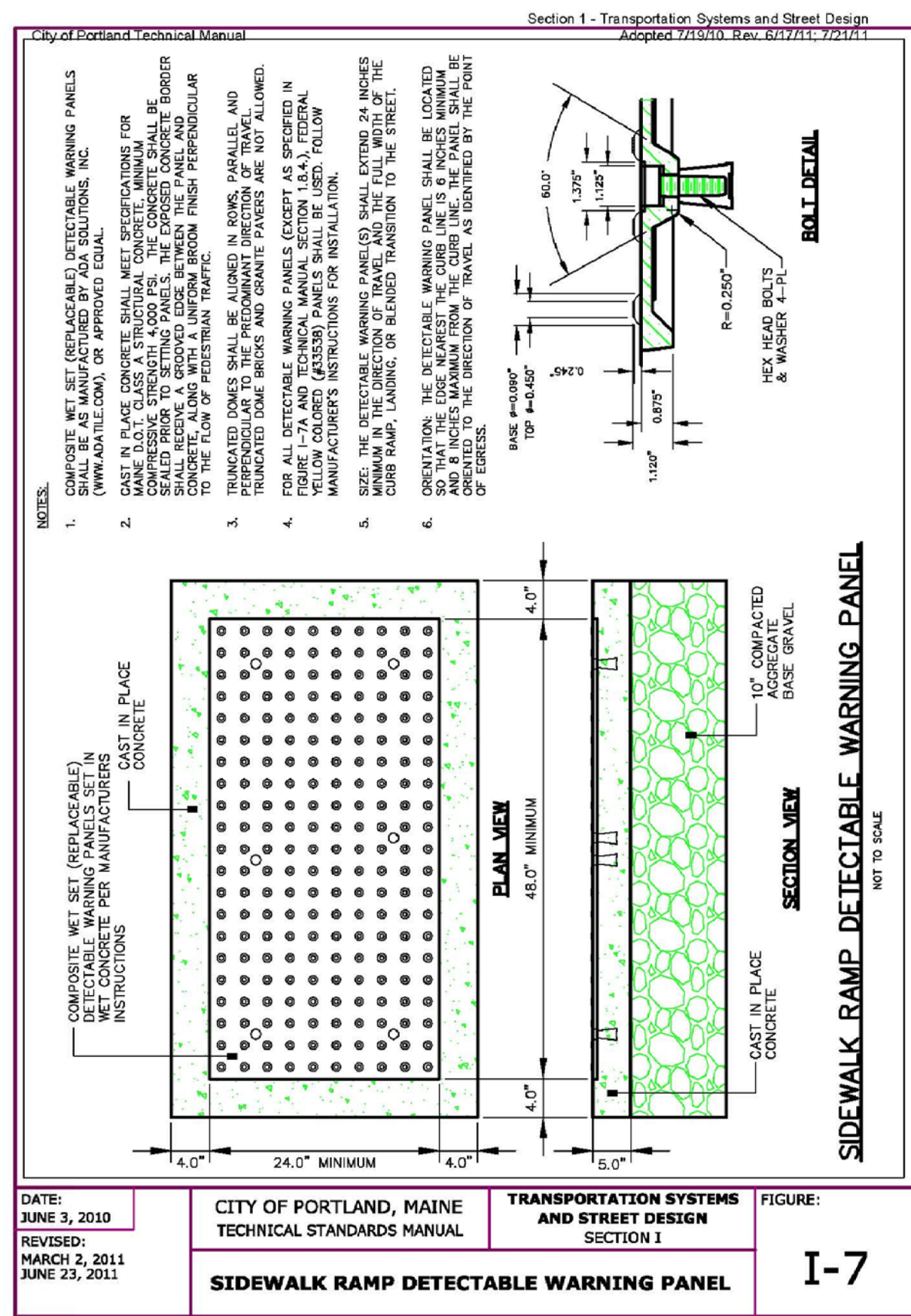
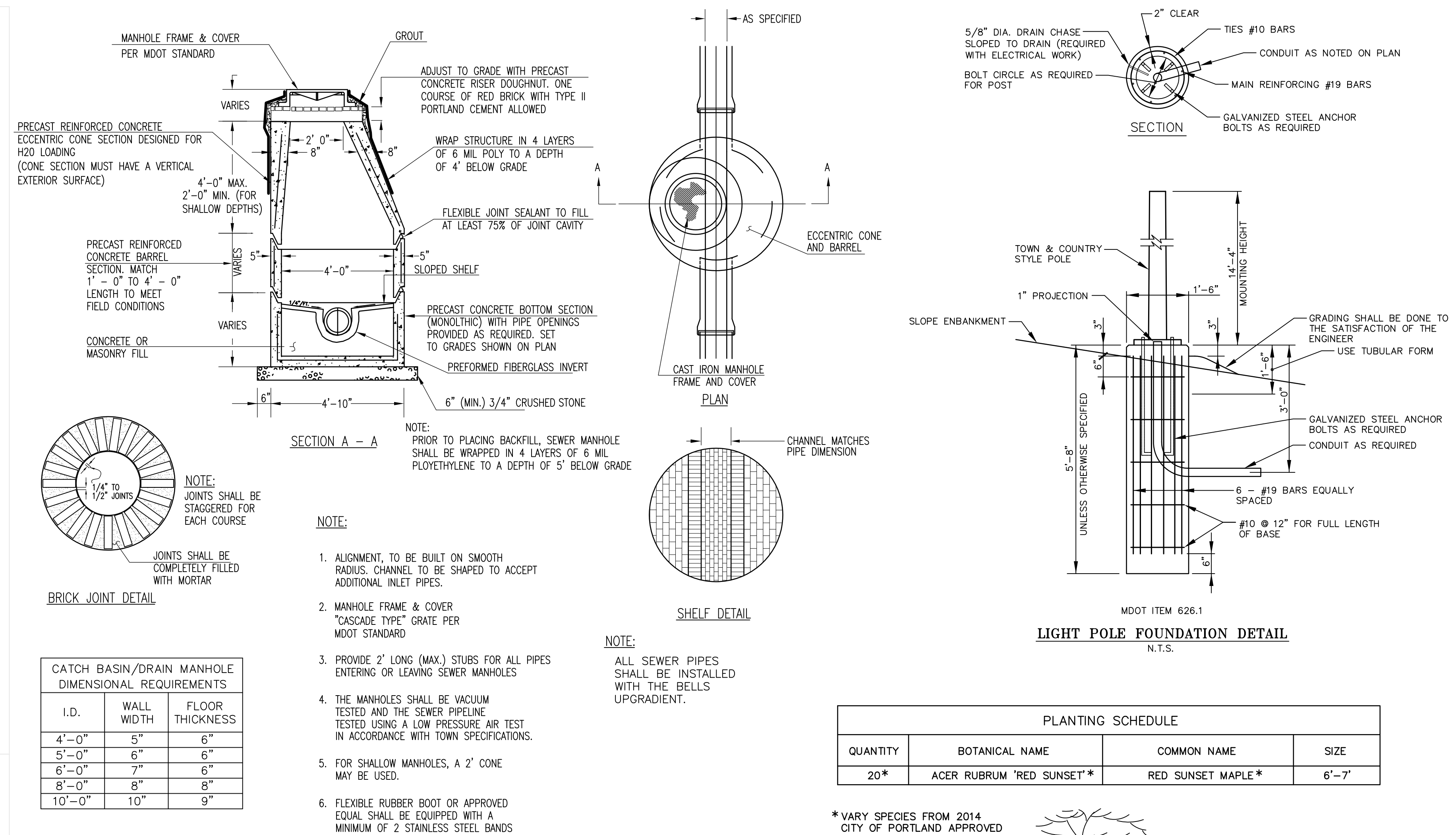
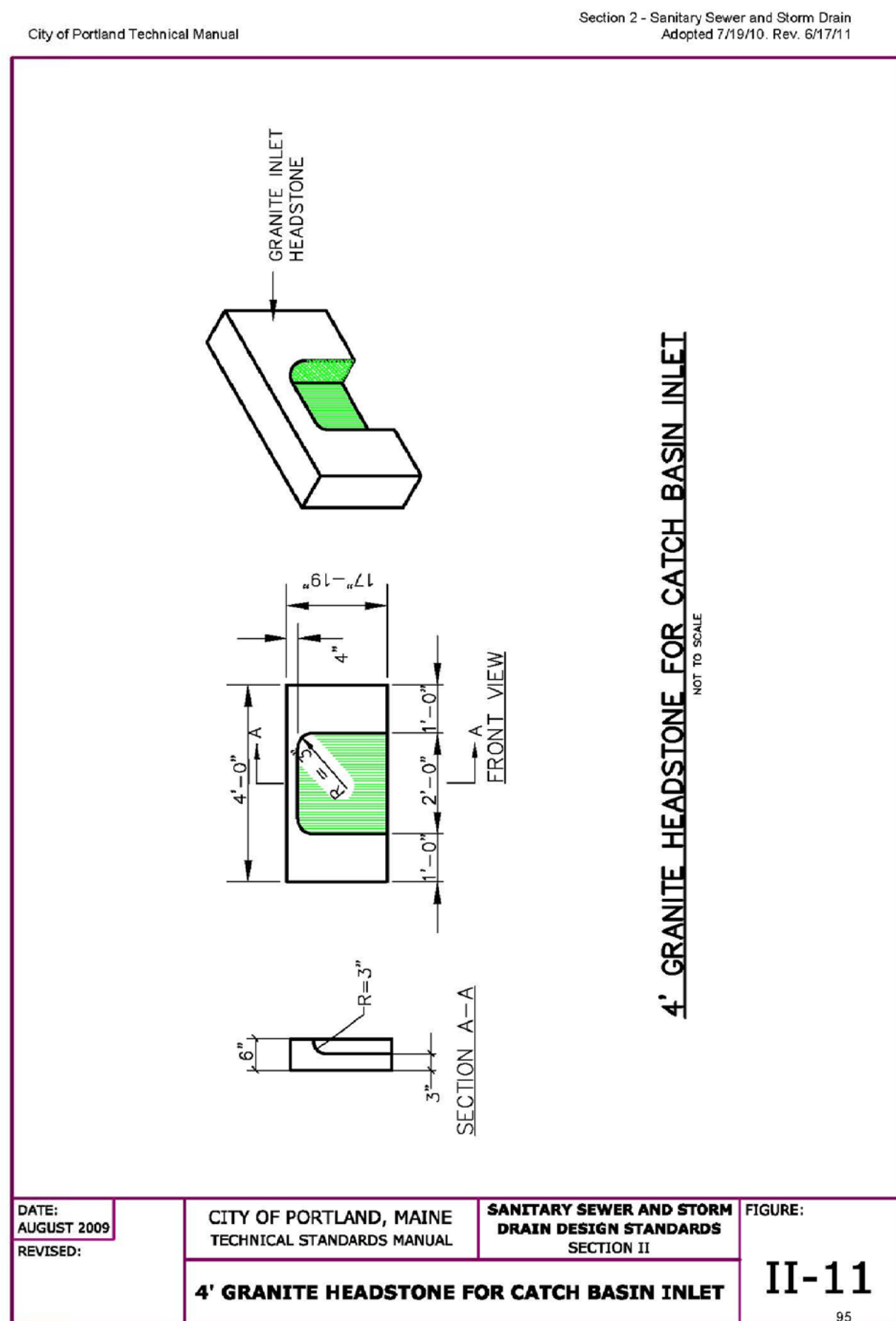
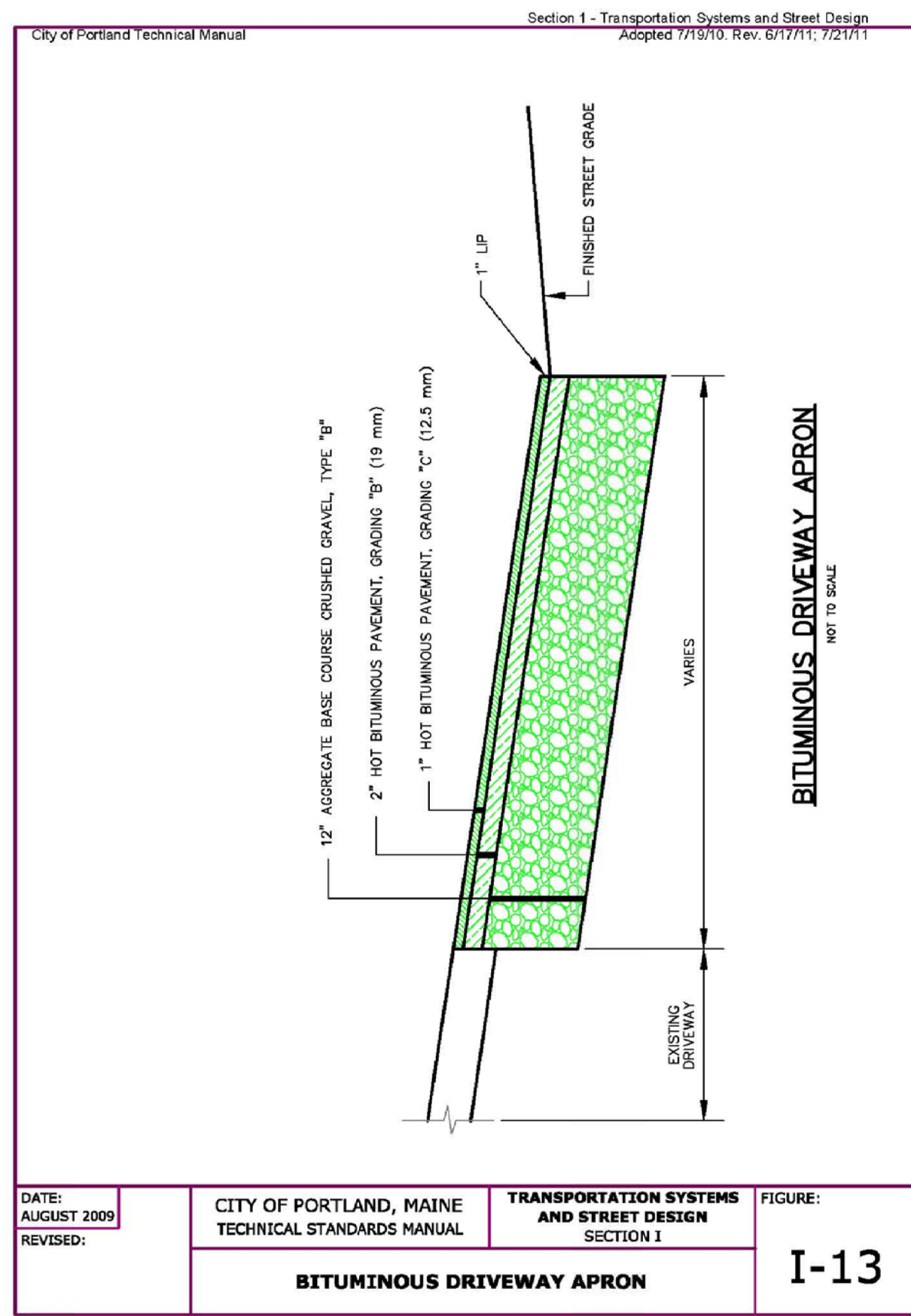
NEW PIPE TO EXISTING MANHOLE CONNECTION DETAIL - 4" TO 24"
NOT TO SCALE

Revision	By	Date	Change
5	SMA	2/12/15	REVISED OWNER/APPLICANT
2	SMA	11/10/14	REVISED PER PEER REVIEW COMMENTS
1	SMA	10/14/14	REVISED PER TOWN COMMENTS

PROJECT NUMBER: 33229.02 ACAD FILE: 33229-DETAILS.DWG SCALE: NTS DATE: AUGUST 4, 2014

CONSTRUCTION DETAILS - SHEET 1
Project Name and Location:
PAMELA ROAD EXTENSION
PAMELA ROAD, PORTLAND, MAINE 04101
Prepared For:
GENEVA VENTURES, LLC
190 US Route 1, PMB 161, FALMOUTH, MAINE 04105

Surveying Engineering Land Planning
Northeast Civil Solutions
INCORPORATED
153 US ROUTE 1, SCARBOROUGH, MAINE 04074
tel 207.883.1000 fax 207.883.1001 e-mail info@northeastcivilsolutions.com
800.882.2227



PANEL ORIENTED AS SHOWN IF X < 5' (IF > 5', THEN PANEL IS PARALLEL TO CURB)

DATE: AUGUST 2009
REVISED:

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

TRANSPORTATION SYSTEMS
AND STREET DESIGN
SECTION I

FIGURE:
I-7

PLANTING SCHEDULE

QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
20*	ACER RUBRUM 'RED SUNSET'*	RED SUNSET MAPLE*	6'-7'

* VARY SPECIES FROM 2014 CITY OF PORTLAND APPROVED TREE LIST (SEE NOTE #2 ON SITE PLAN)

BLACK REINFORCED RUBBER HOSE (ABOVE FIRST BRANCH)
THREE STRANDS OF #10 GAUGE TWISTED GALVANIZED STEEL WIRE
2"x2" HARDWOOD STAKE DRIVE AT ANGLE & DRAW VERTICAL (3 STAKES PER TREE)
BRIGHT COLOR FLAGGING
TREE SHALL BE SET 2" ABOVE FINISHED GRADE
4" PINE BARK MULCH
SLOPE TO FORM 3" HIGH SAUCER

INSTALL WEED CONTROL FABRIC UNDER MULCH.
PLANT BACKFILL MIXTURE
UNTIE AND ROLL BACK BURLAP FROM 1/3 OF ROOT BALL (MIN.) IF SYNTHETIC WRAP IS USED REMOVE COMPLETELY.
9" COMPACTED TOPSOIL

Revision	By	Date	Change
5	SMA	2/12/15	REVISED OWNER/APPLICANT
3	SMA	11/19/14	REVISED PER CITY COMMENTS
2	SMA	11/10/14	REVISED PER CITY COMMENTS
1	SMA	10/14/14	REVISED PER TOWN COMMENTS

PROJECT NUMBER: 33229.02 ACAD FILE: 33229-DETAILS.DWG SCALE: NTS DATE: AUGUST 4, 2014

Drawing Name:
CONSTRUCTION DETAILS - SHEET 2

Project Name and Location:
PAMELA ROAD EXTENSION
PAMELA ROAD, PORTLAND, MAINE 04101

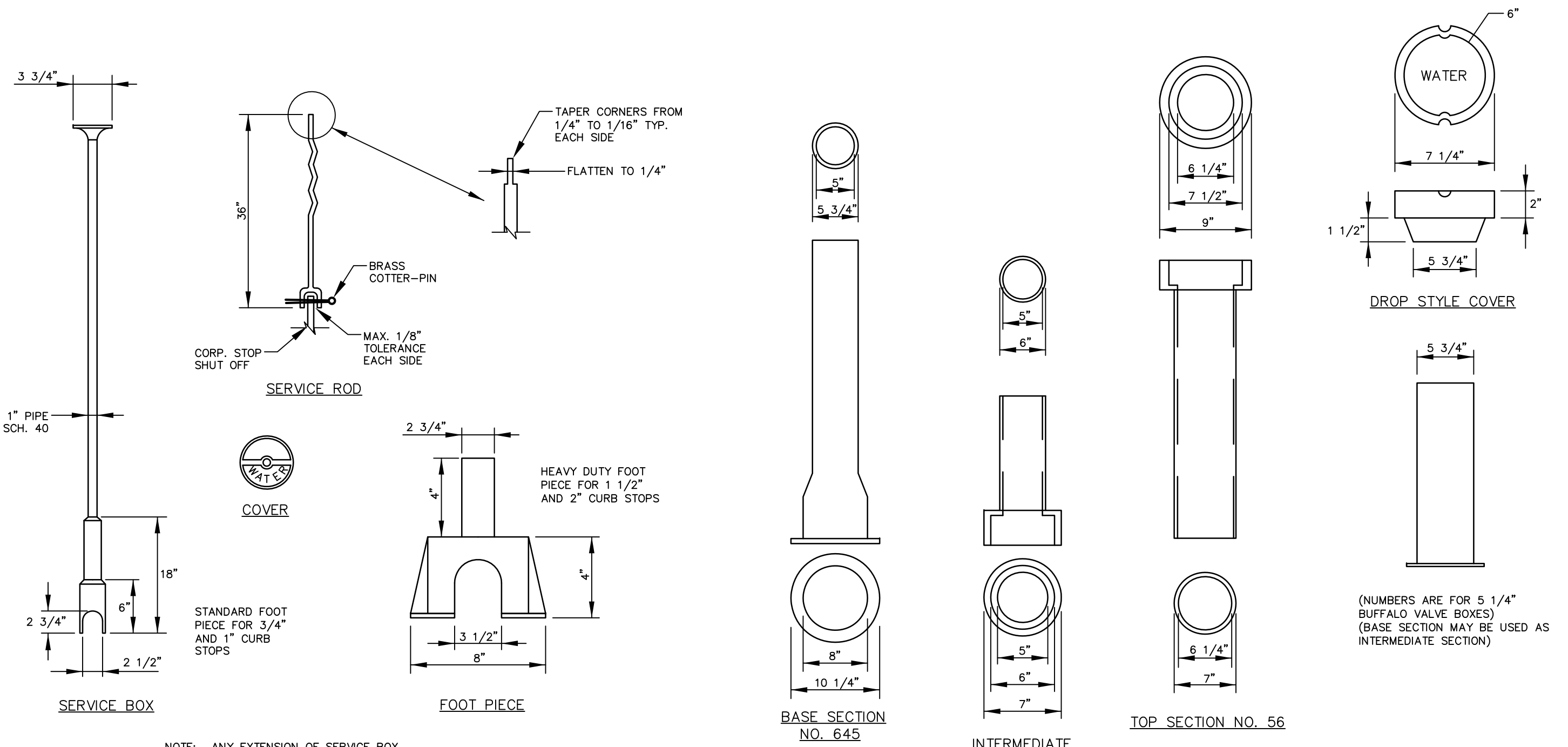
Prepared For:
GENEVA VENTURES, LLC
190 US Route 1, PMB 161, FALMOUTH, MAINE 04105

SURVEYING ENGINEERING LAND PLANNING
Northeast Civil Solutions
INCORPORATED

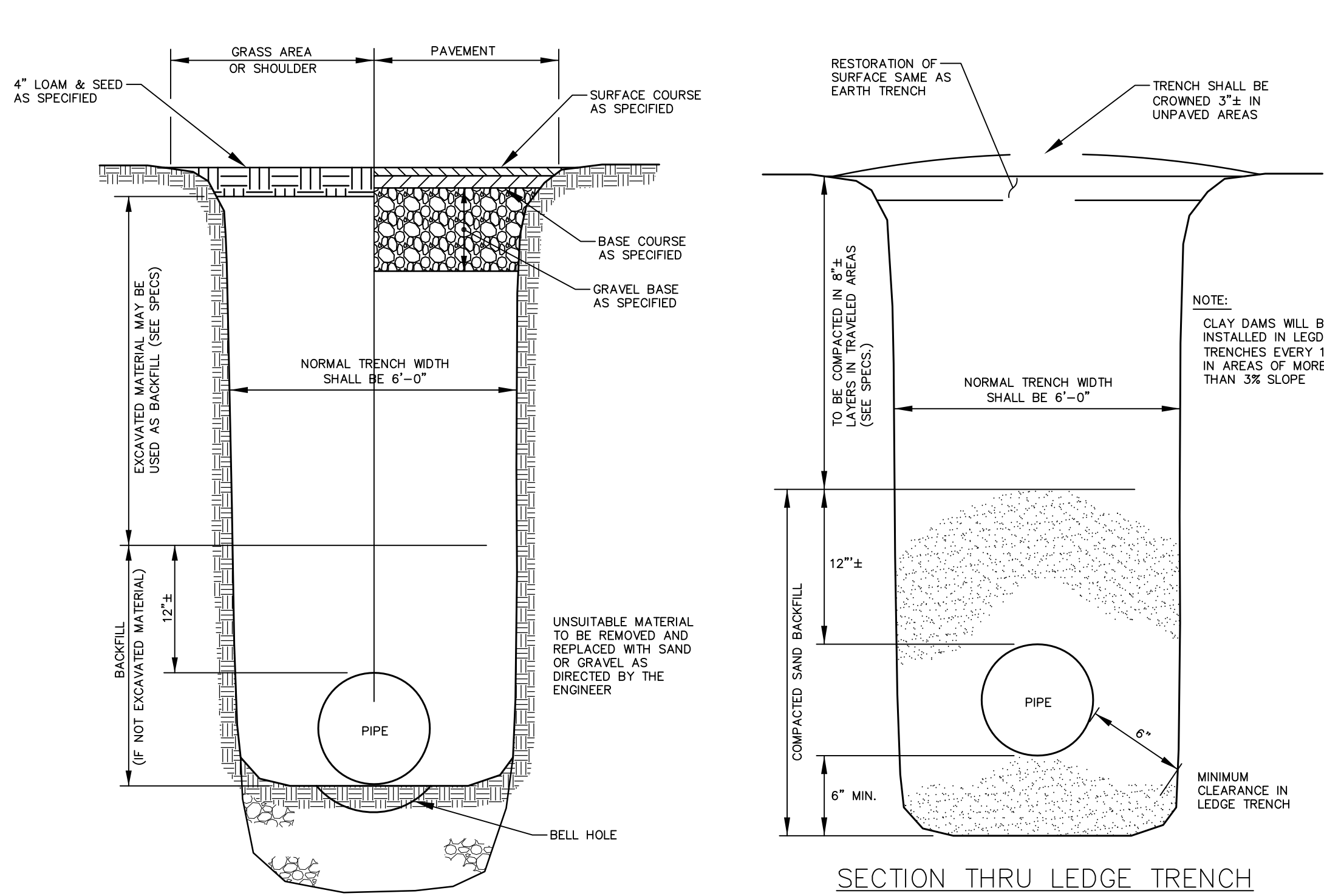
153 US ROUTE 1, SCARBOROUGH, MAINE 04074

tel 207.883.1000 fax 207.883.1001 e-mail info@northeastcivilsolutions.com
800.882.2227

SHEET 9 OF 12

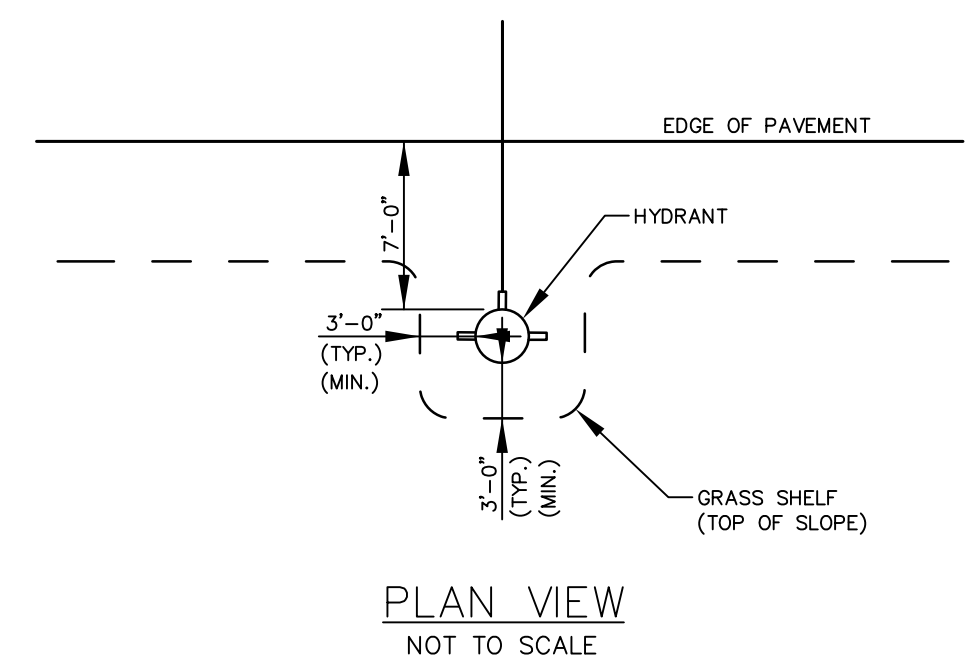
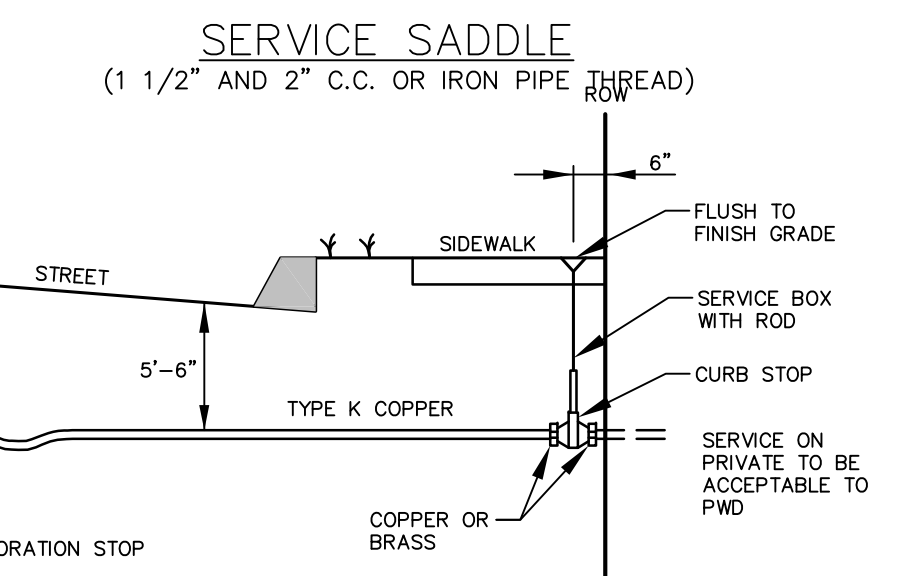
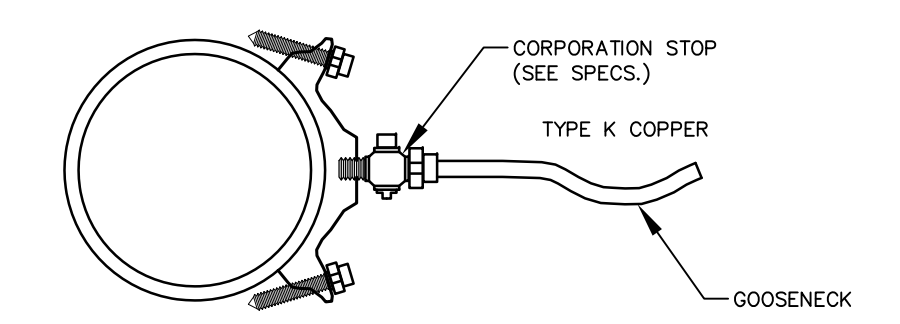
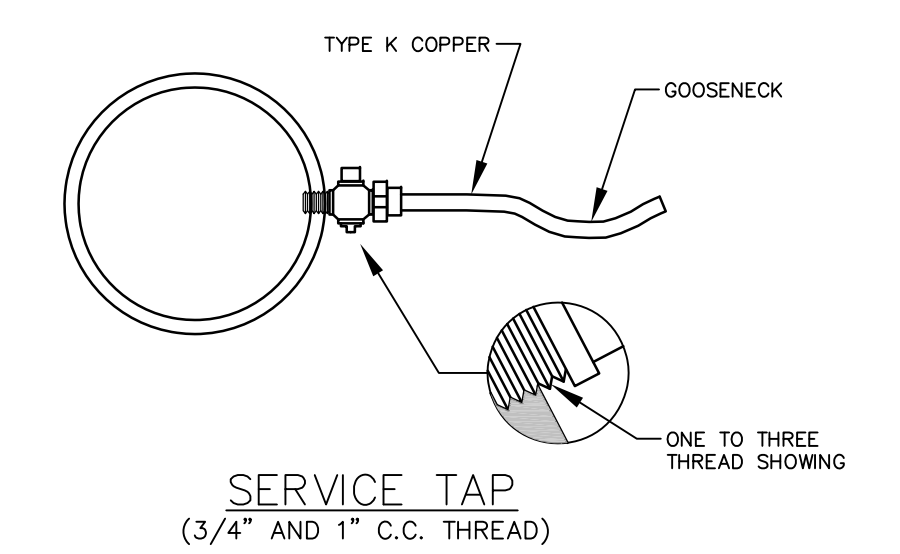


VALVE BOX & COVER
 NOT TO SCALE



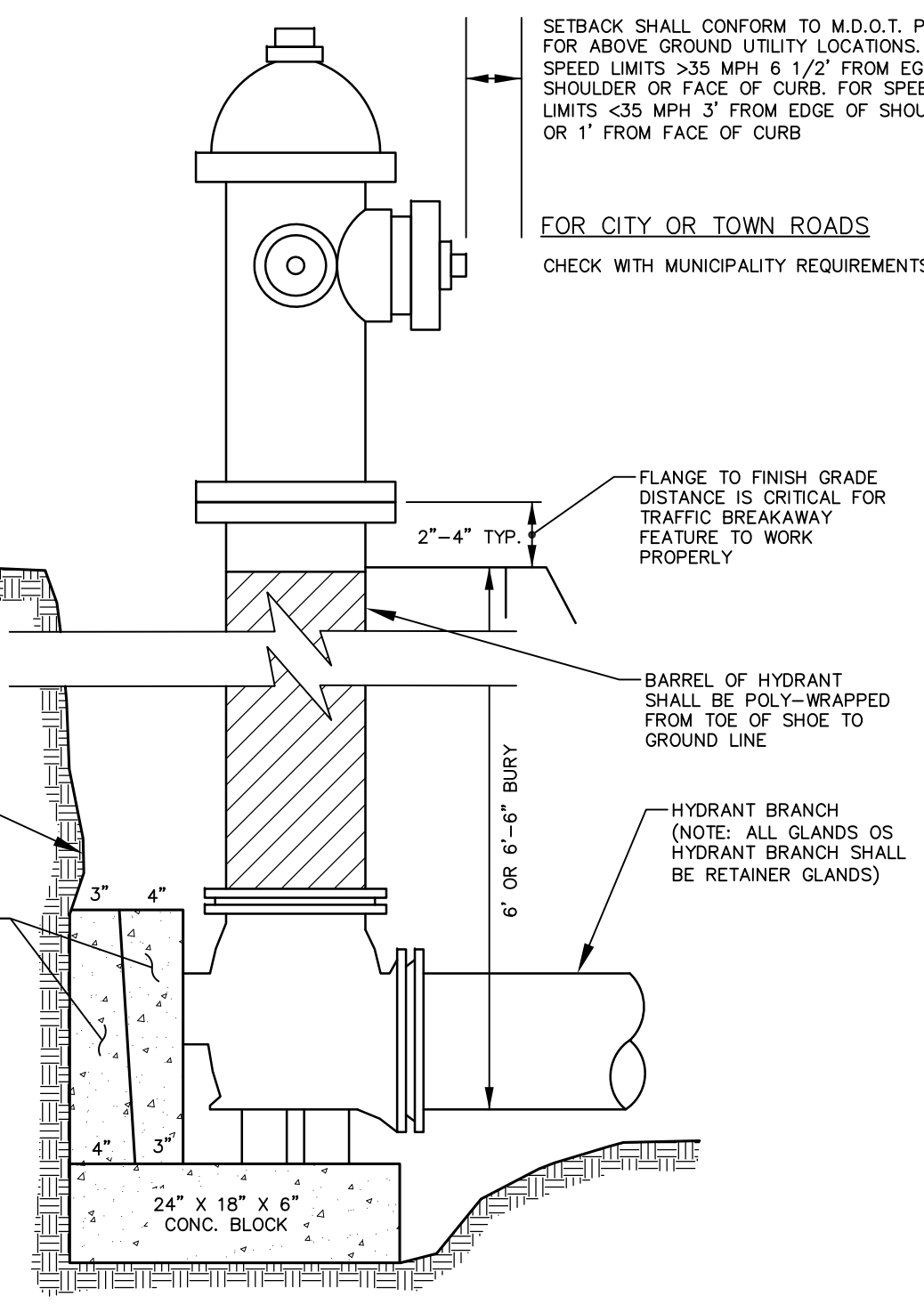
SECTION THRU EARTH TRENCH
 NOT TO SCALE

SECTION THRU LEDGE TRENCH
 NOT TO SCALE



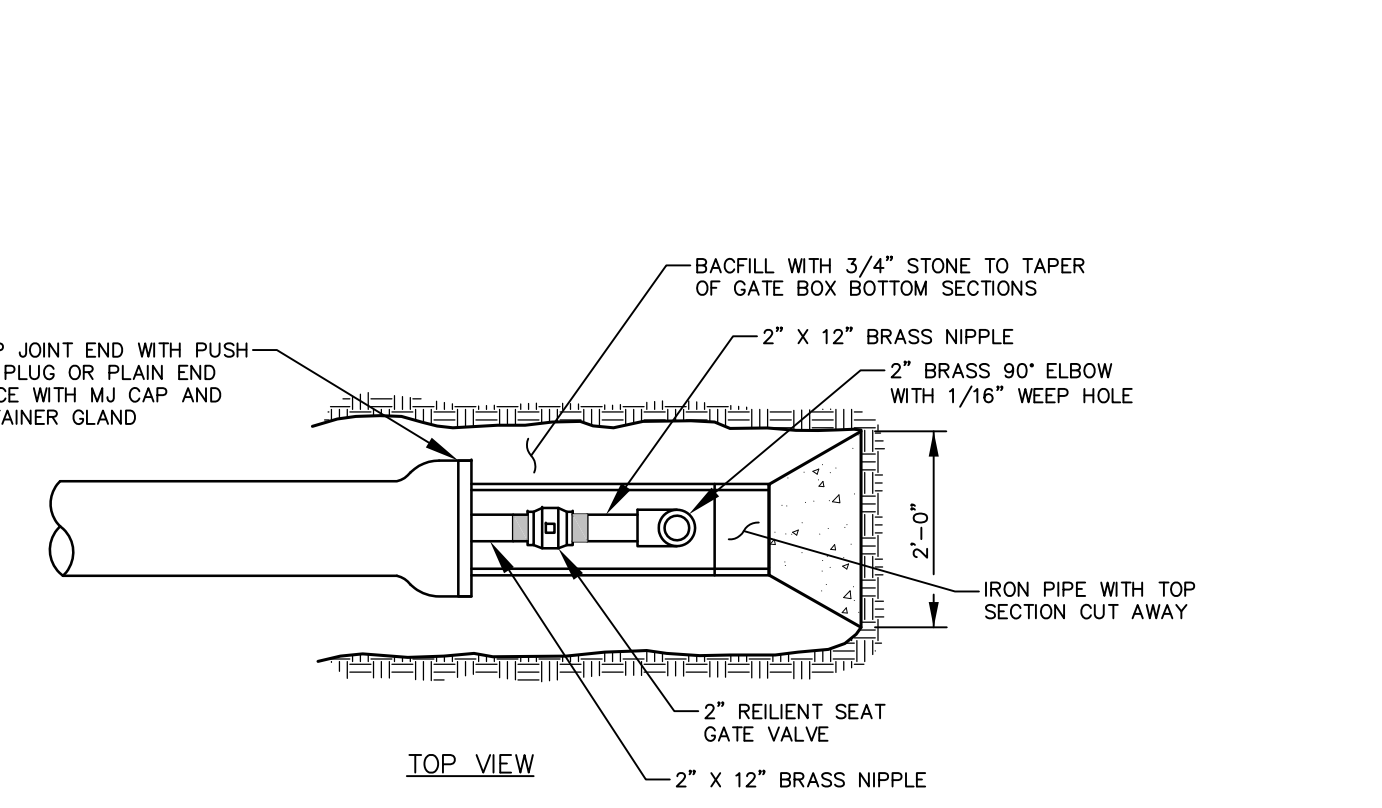
FOR STATE ROADS
 SETBACK SHALL CONFORM TO M.D.O.T. POLICY FOR ABOVE GROUND UTILITY LOCATIONS. FOR SPEED LIMITS >35 MPH 6 1/2' FROM EDGE OF SHOULDER OR FACE OF CURB. FOR SPEED LIMITS <35 MPH 3' FROM EDGE OF SHOULDER OR 1' FROM FACE OF CURB

FOR CITY OR TOWN ROADS
 CHECK WITH MUNICIPALITY REQUIREMENTS

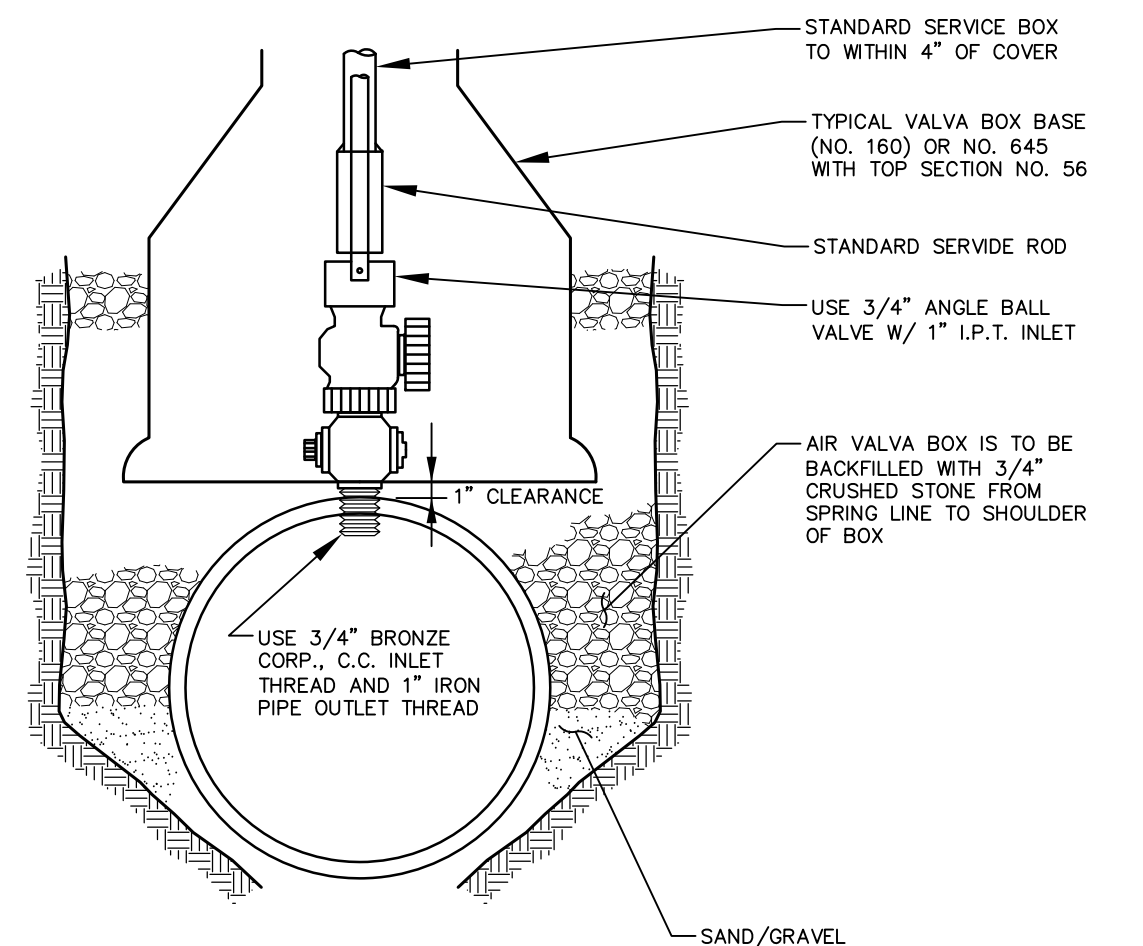


TYPICAL HYDRANT INSTALLATION DETAIL
 NOT TO SCALE

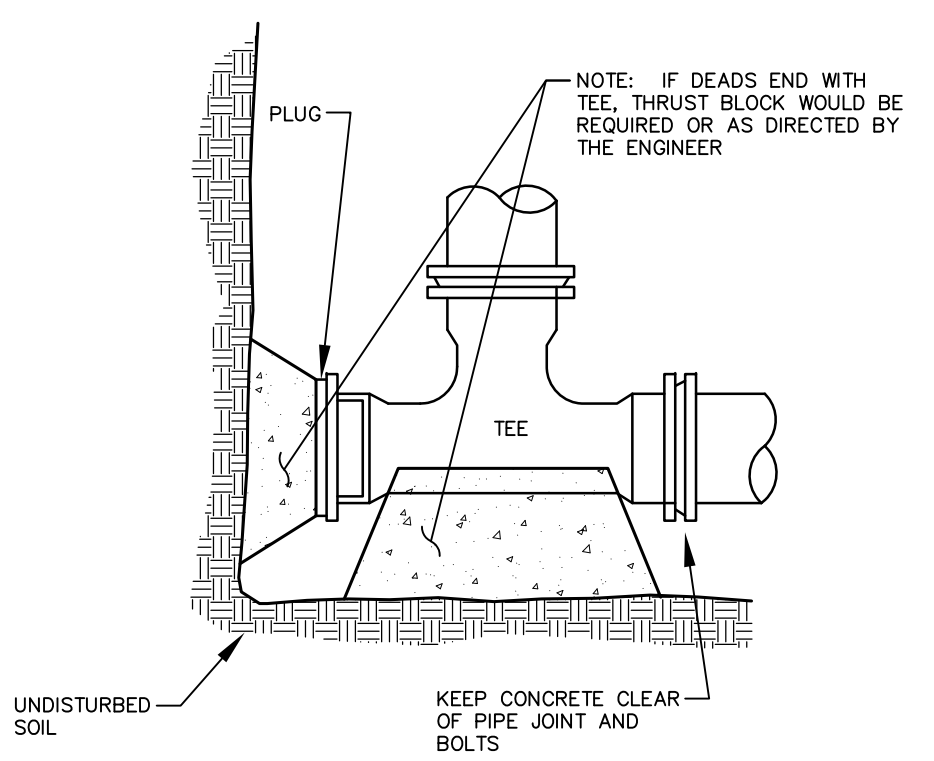
*** NOTE: ***
 ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYWRAPPED



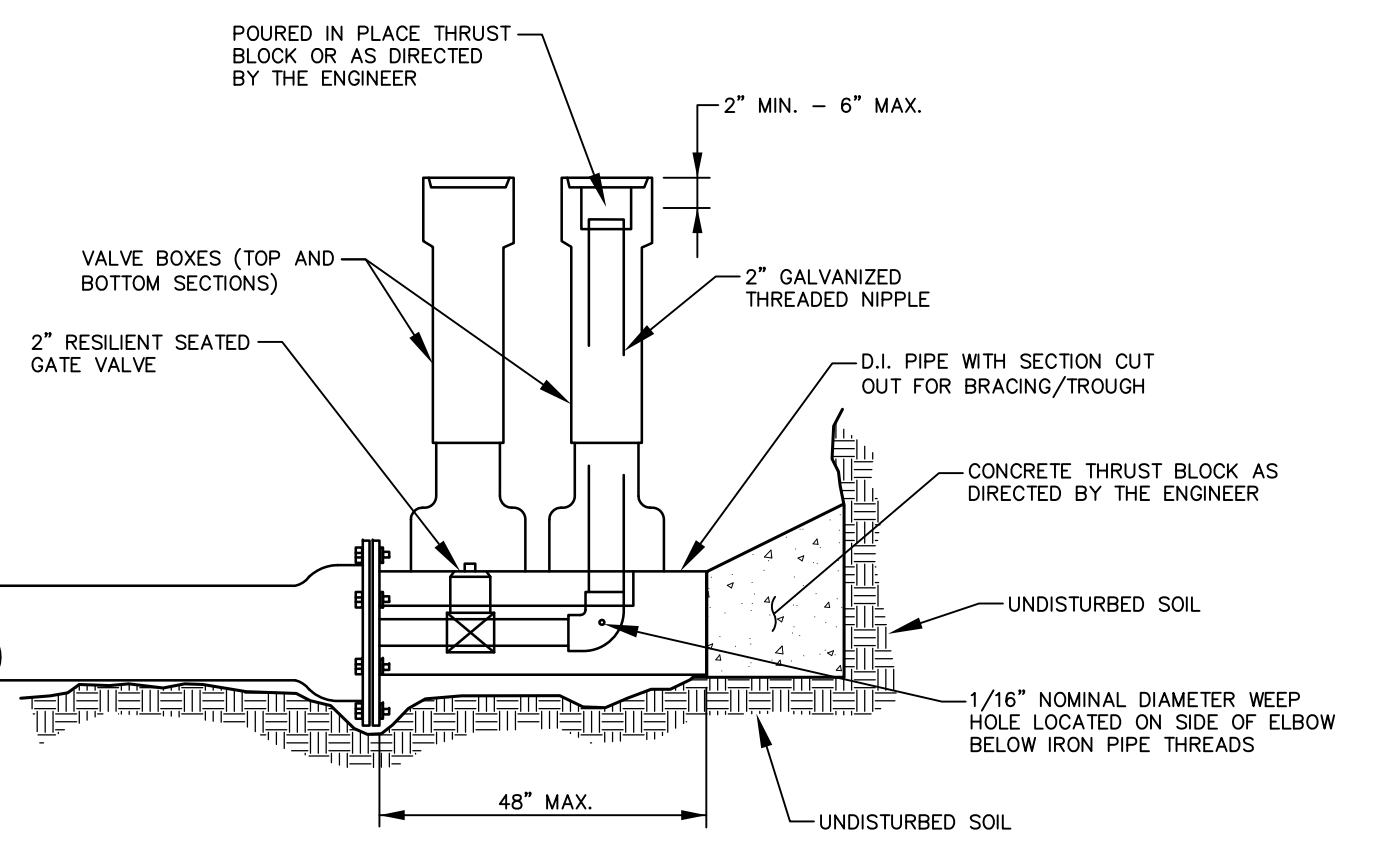
STANDARD 2" BLOW OFF
 NOT TO SCALE



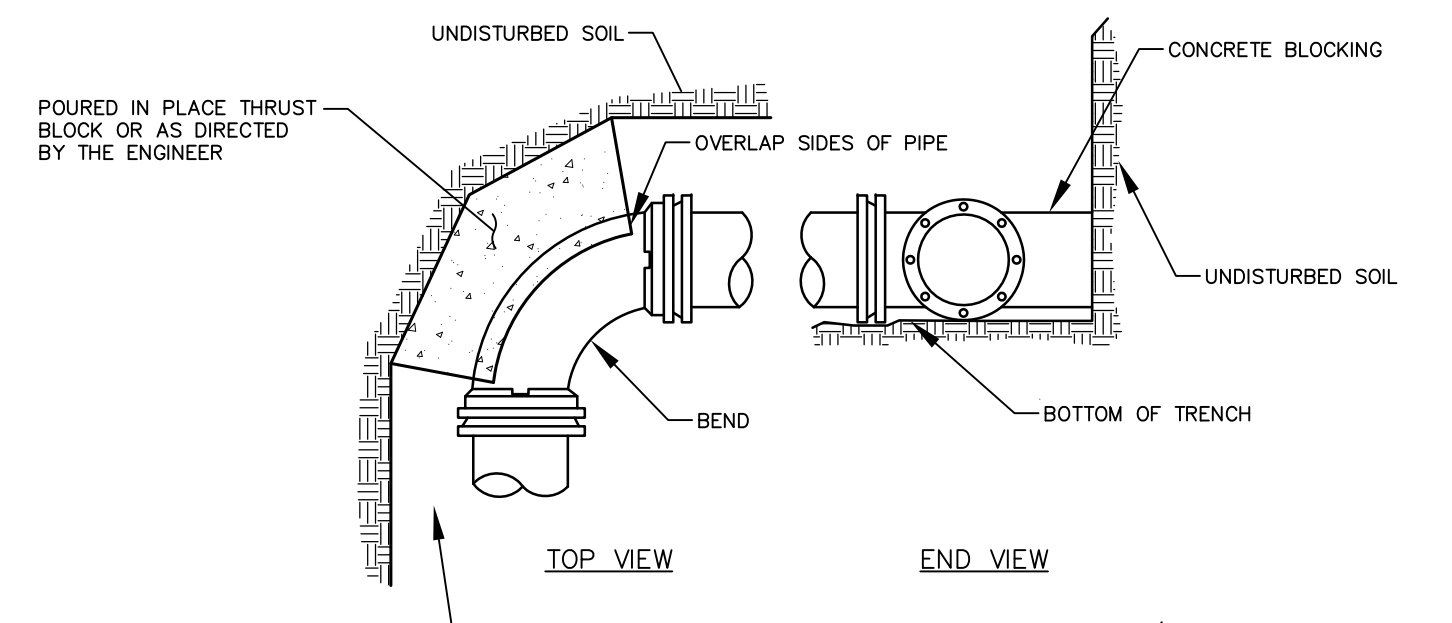
TYPICAL AIR VALVE (1")
 NOT TO SCALE



STANDARD TEE BLOCKING
 NOT TO SCALE



STANDARD BEND BLOCKING
 NOT TO SCALE



NOTE: SEE THRUST/RETAINER GLAND SCHEDULE FOR TYPE OF BLOCKING TO BE USED ON BENDS

Revision	By	Date	Change
5	SMA	2/12/15	REVISED OWNER/APPLICANT
1	SMA	10/14/14	REVISED PER TOWN COMMENTS

PROJECT NUMBER: 33229.02 ACAD FILE: 33229-DETAILS.DWG SCALE: NTS DATE: AUGUST 4, 2014

Drawing Name:
CONSTRUCTION DETAILS - SHEET 3

Project Name and Location:
PAMELA ROAD EXTENSION
 PAMELA ROAD, PORTLAND, MAINE 04101

Prepared For:
GENEVA VENTURES, LLC
 190 US Route 1, PMB 161, FALMOUTH, MAINE 04105

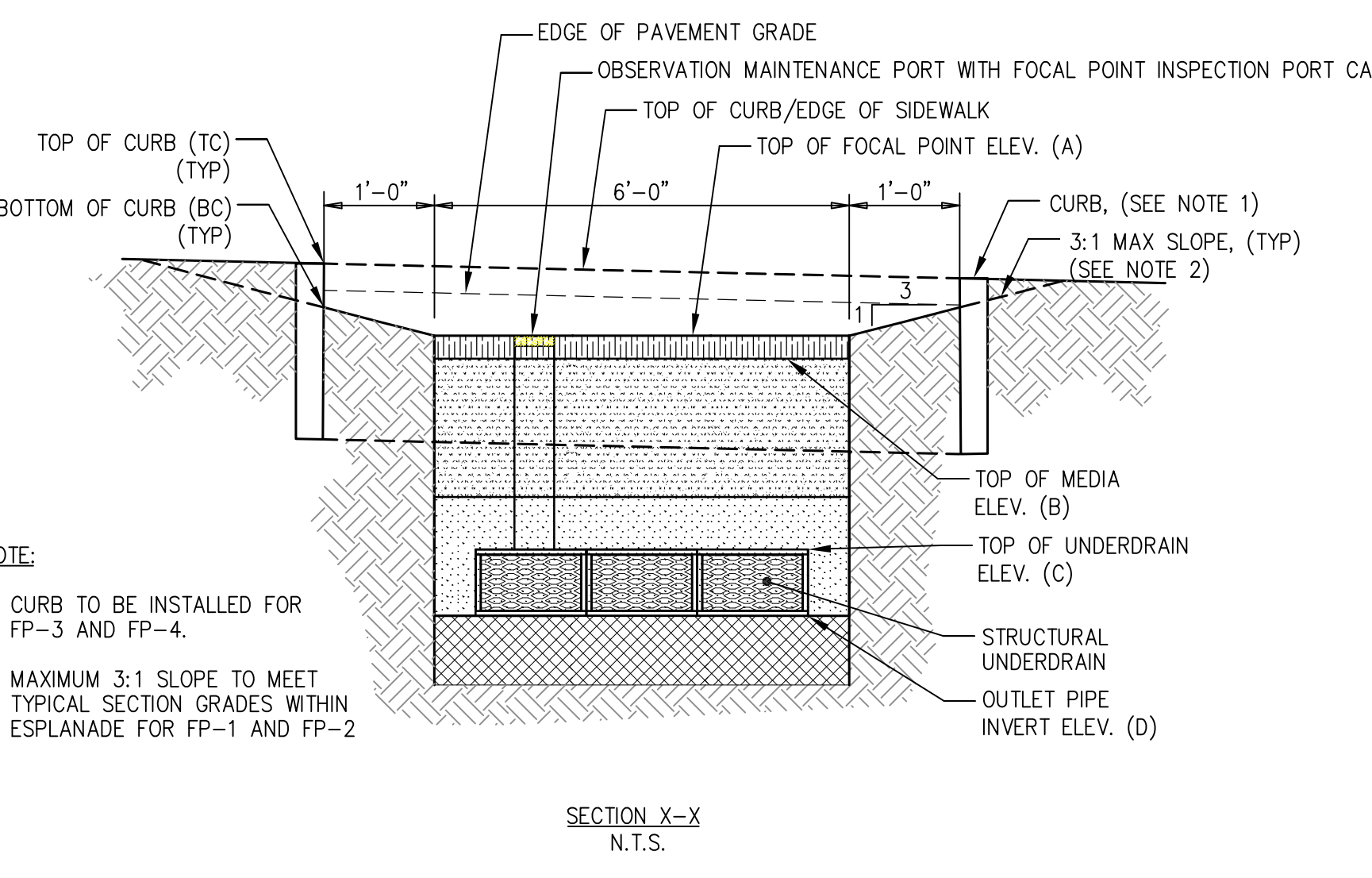
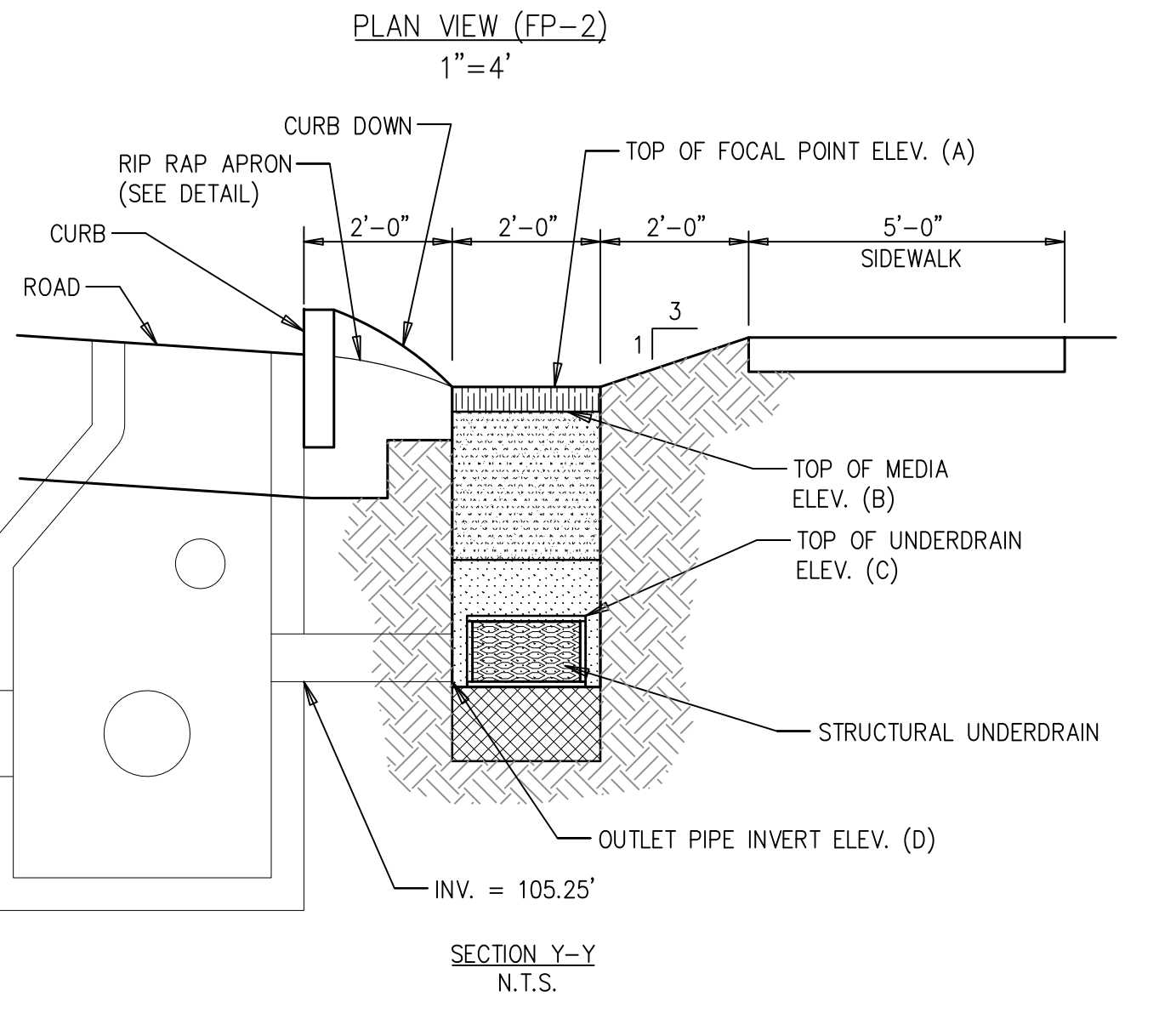
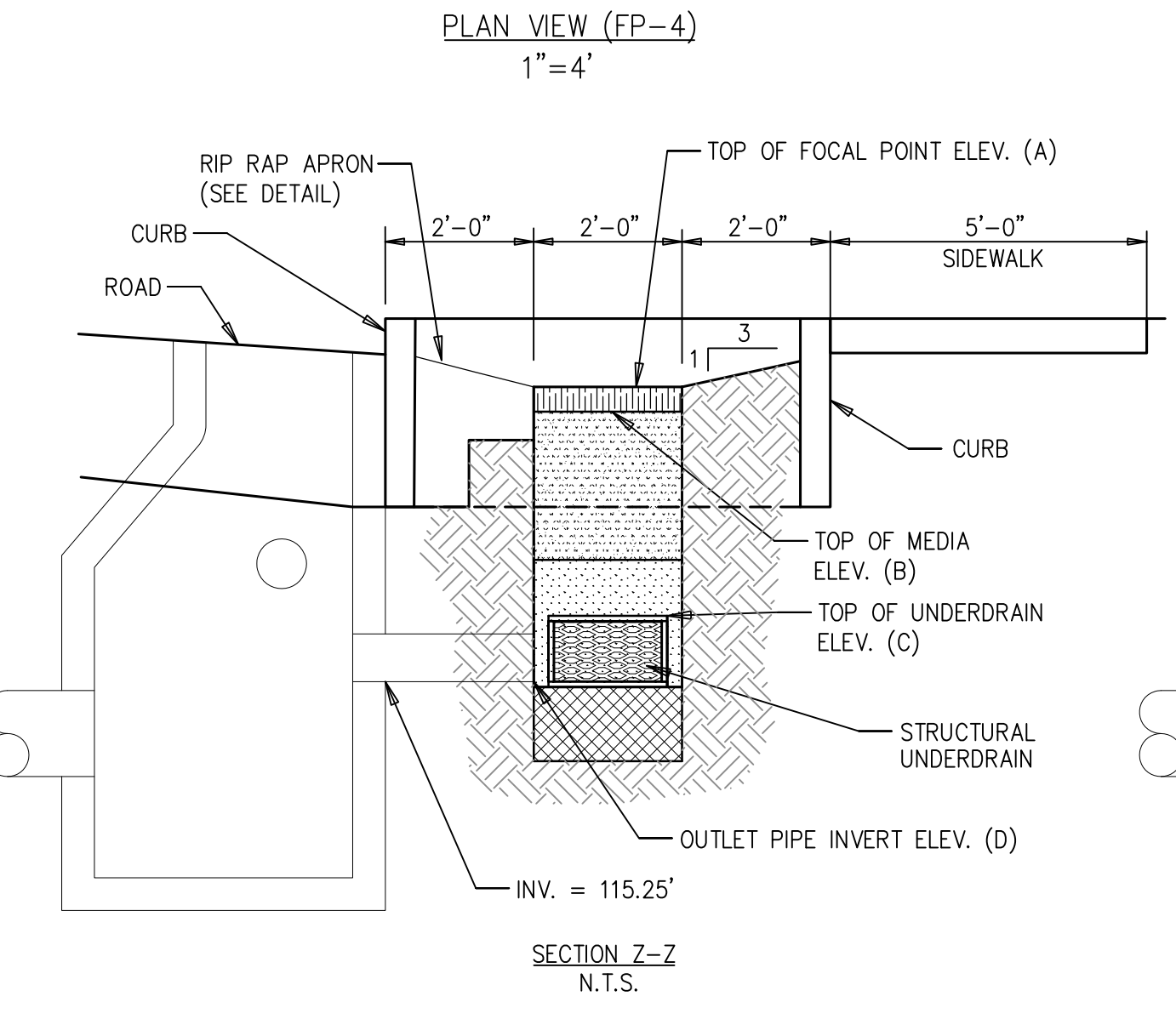
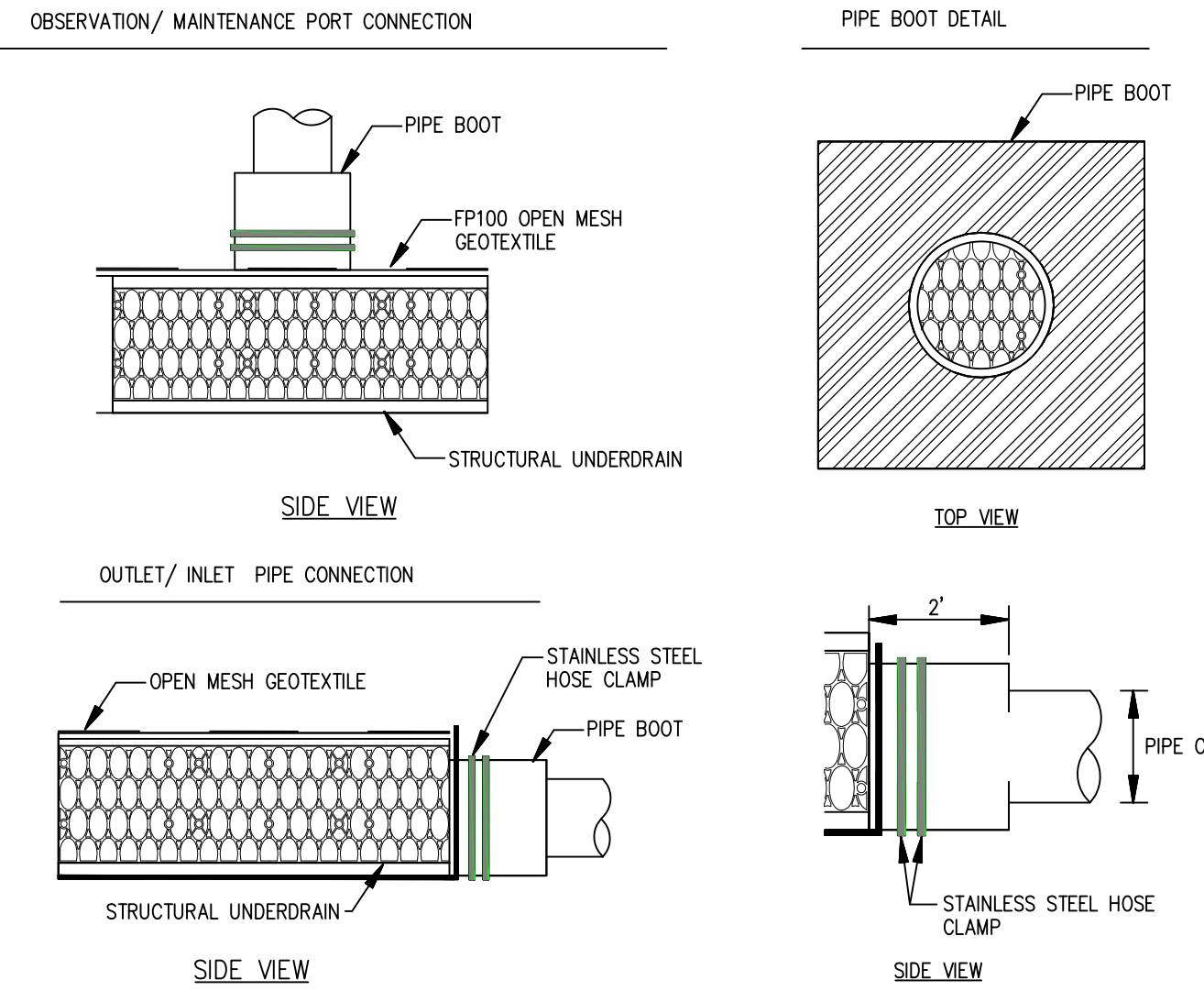
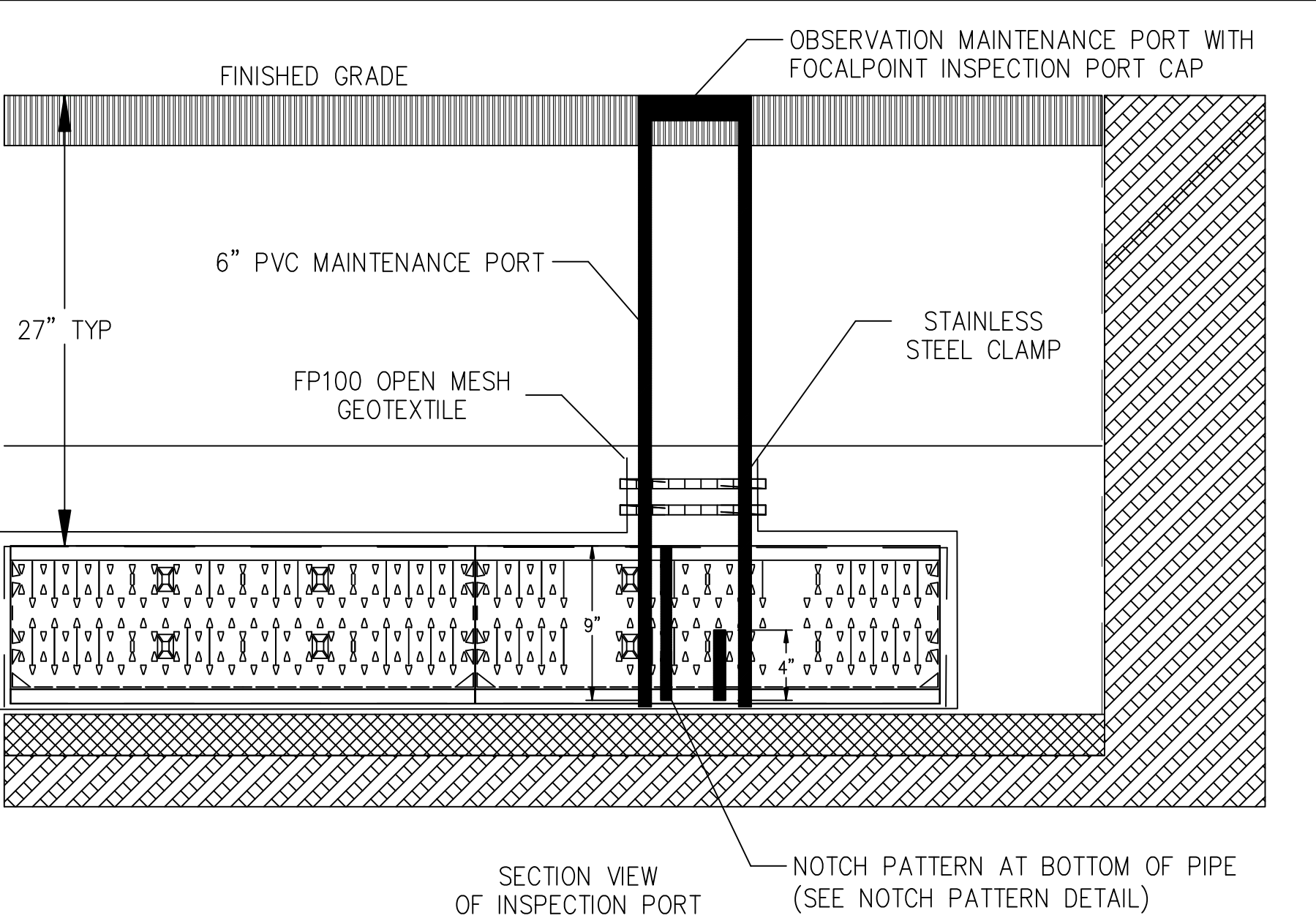
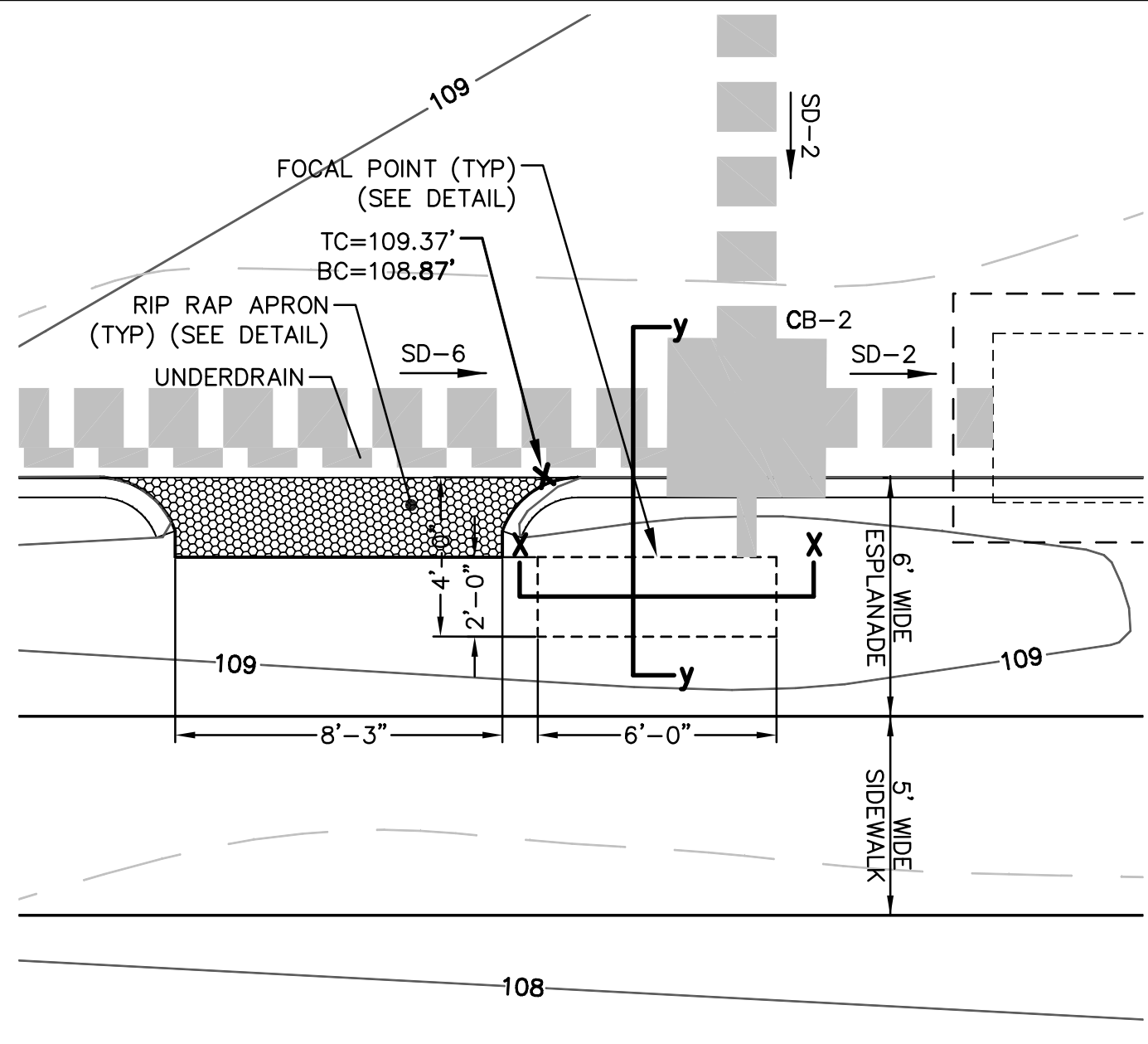
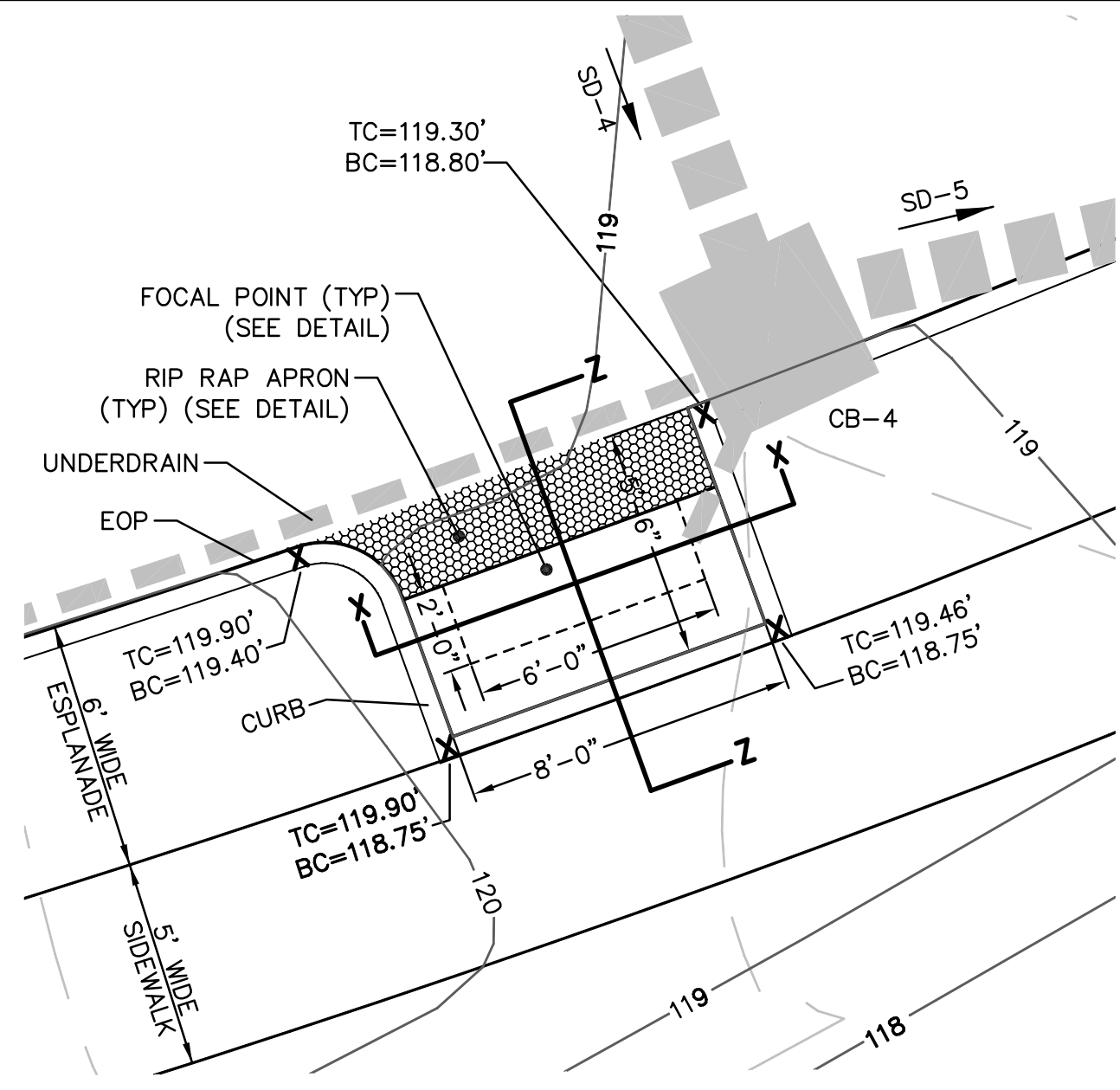
STATE OF MAINE
 PROFESSIONAL LAND PLANNING ENGINEER
 Allen
 9218
 2-12-15

Northeast Civil Solutions
 INCORPORATED
 153 US ROUTE 1, SCARBOROUGH, MAINE 04074
 tel 207.883.1000 fax 207.883.1001 e-mail info@northeastcivilsolutions.com
 800.882.2227

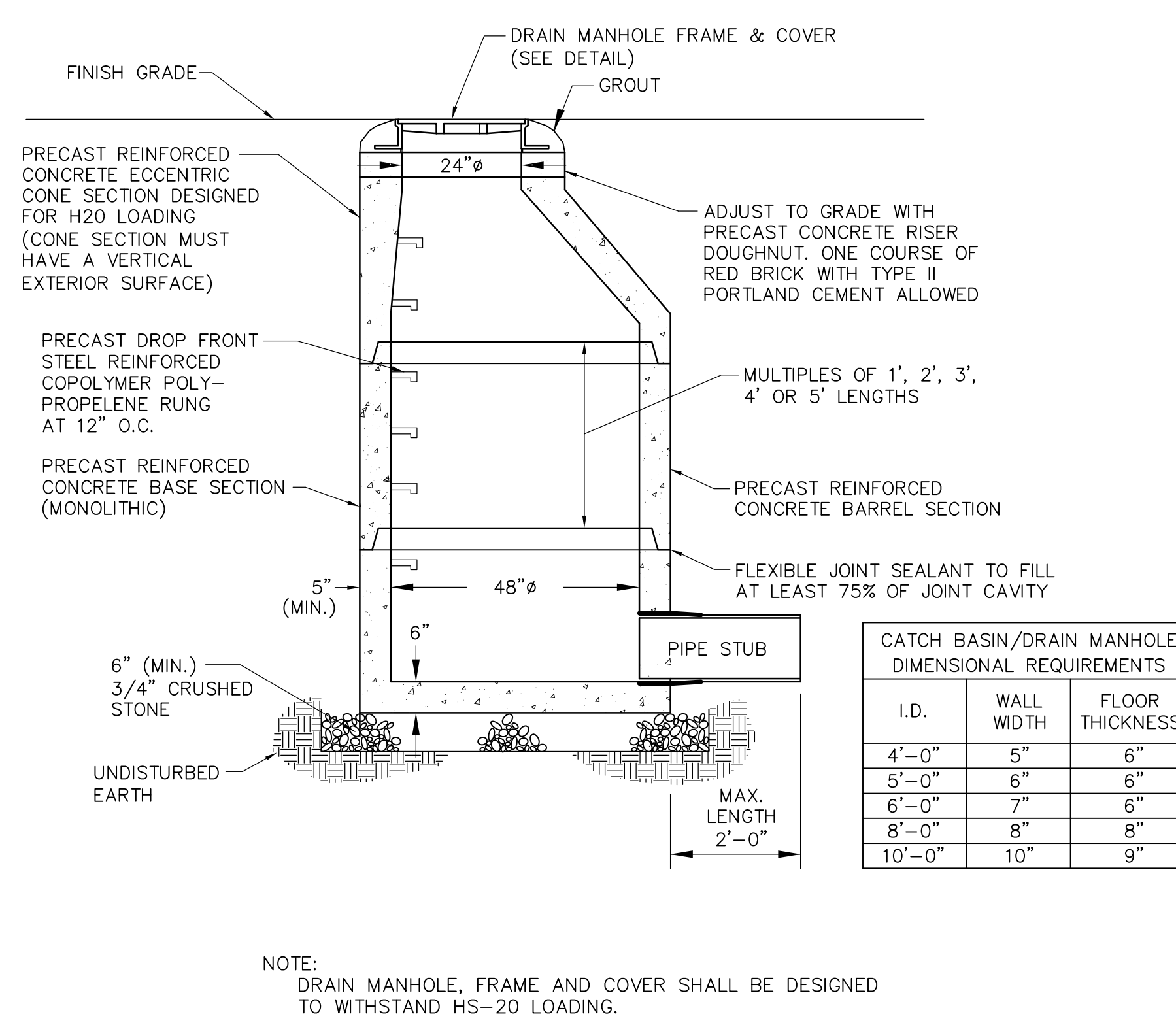
SHEET 10 OF 12

E:\LAND PROJECT\33000\33229\33229-DETAILS.DWG

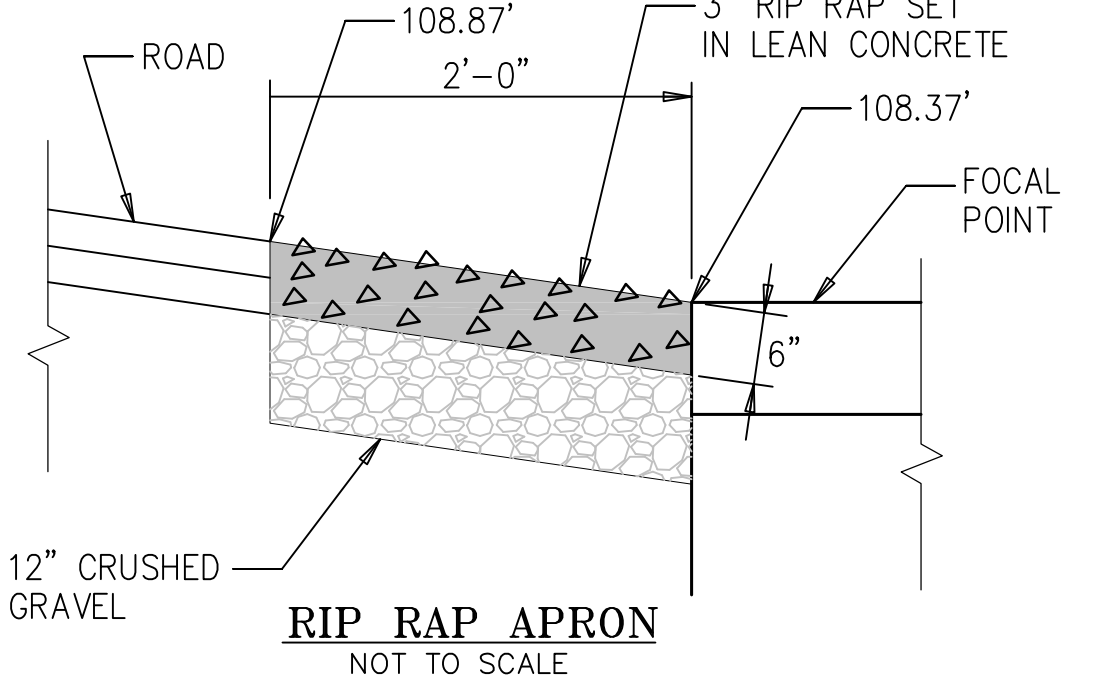
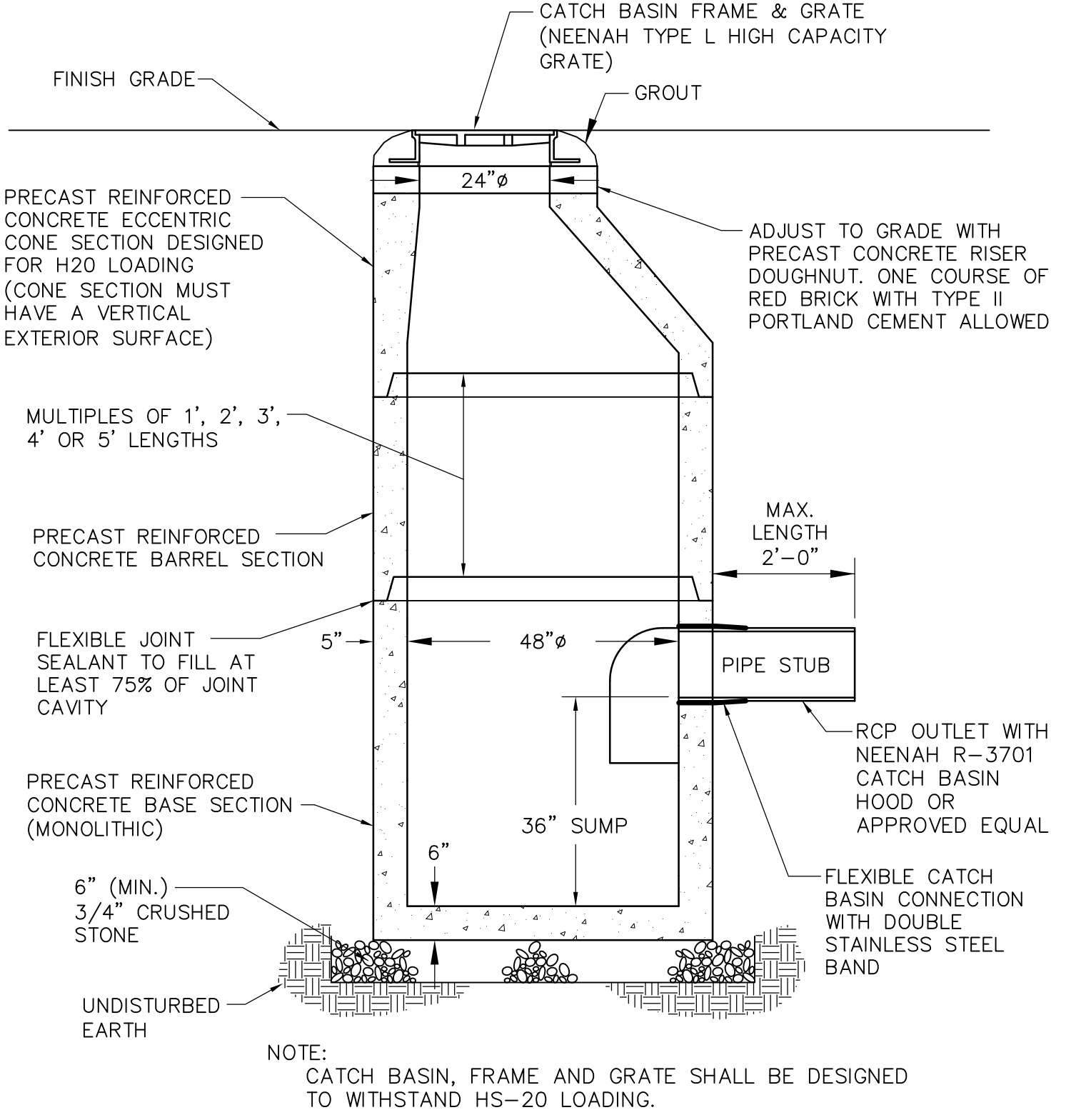
FOCALPOINT ELEVATION AND DIMENSIONAL DATA					
ID	DESCRIPTION	FP-1	FP-2	FP-3	FP-4
A	TOP OF FOCALPOINT	108.37'	108.37'	118.25'	118.25'
B	TOP OF MEDIA	108.12'	108.12'	118.00'	118.00'
C	TOP OF UNDERDRAIN	106.12'	106.12'	116.00'	116.00'
D	OUTLET PIPE INVERT	105.37'	105.37'	115.25'	115.25'
E	FOCALPOINT WIDTH	2.00'	2.00'	2.00'	2.00'
F	FOCALPOINT LENGTH	6.00'	6.00'	6.00'	6.00'
G	WIDTH OF R-TANK	2.00'	2.00'	2.00'	2.00'
H	LENGTH OF R-TANK	6.00'	6.00'	6.00'	6.00'



- NOTE:
- CURB TO BE INSTALLED FOR FP-3 AND FP-4.
 - MAXIMUM 3:1 SLOPE TO MEET TYPICAL SECTION GRADES WITHIN ESPLANADE FOR FP-1 AND FP-2.



CATCH BASIN/DRAIN MANHOLE DIMENSIONAL REQUIREMENTS		
I.D.	WALL WIDTH	FLOOR THICKNESS
4'-0"	5"	6"
5'-0"	6"	6"
6'-0"	7"	6"
8'-0"	8"	8"
10'-0"	10"	9"



MEDIA SPEC TABLE	
AGGREGATE CHARACTERISTICS (TYPICAL)	
COMBINED SILT & CLAY	< 5%
SAND - FINE	< 5%
SAND - MEDIUM	2% - 20%
SAND - COURSE	5% - 35%
SAND - VERY COARSE	10% - 55%
GRAVEL	10% - 70%
INFILTRATION RATE	> 100 INCHES PER HOUR
ORGANIC *	5% - 30%
* ORGANIC SPECIFICATION	
LISTED BY ORGANIC MATERIALS REVIEW INSTITUTE	
100% NATURAL PEAT (NO COMPOSTED, SLUDGE, YARD OR LEAF WASTE)	
% PASSING 2.0 MM SIEVE	95% - 100%
% PASSING 1.0 MM SIEVE	> 80%
TOTAL CARBON	> 85%
CARBON TO NITROGEN RATIO	15:1 - 23:1
LIGNIN CONTENT	49% - 52%
HUMIC ACID	> 18%
PH	6.0 - 7.0
MOISTURE CONTENT	30% - 50%

- BIOFILTRATION MEDIA
- BIOLOGICALLY ACTIVE BIOFILTRATION MEDIA SHALL BE VISUALLY INSPECTED TO ENSURE APPROPRIATE VOLUME, TEXTURE AND CONSISTENCY WITH THE APPROVED DRAWINGS, AND MUST BEAR A BATCH NUMBER MARKING FROM THE MANUFACTURER WHICH CERTIFIES PERFORMANCE TESTING OF THE BATCH TO MEET OR EXCEED THE REQUIRED INFILTRATION RATE.
 - MEDIA SHALL BE HOMOGENEOUSLY BLENDED TO PROVIDE FULL FUNCTIONALITY BY A HIGHLY CONTROLLED AND ACCURATE BLENDING PROCESS.
 - MANUFACTURER SHALL HAVE A MINIMUM OF 3 YEARS' EXPERIENCE AND A MINIMUM OF 500 INSTALLED AND OPERATIONAL HIGH PERFORMANCE, HIGH FLOW RATE BIORETENTION SYSTEM UNITS.
 - WITHIN 90 DAYS AFTER PROJECT COMPLETION, THE INFILTRATION RATE SHALL BE CONFIRMED AT THE MANUFACTURER OR VENDOR'S EXPENSE, BY A WETTED CONDITION HYDRAULIC CONDUCTIVITY TEST.
 - FAILURE TO PASS THIS TEST WILL RESULT IN REMOVAL AND REPLACEMENT OF ALL MEDIA IN THE SYSTEM AT NO COST TO THE PROJECT OWNER/OPERATOR.
 - TEST MUST UTILIZE THE EQUIPMENT AND FOLLOW THE STANDARD OPERATING PROCEDURES FOUND IN THE HARRIS COUNTY TEXAS MANUAL ENTITLED, LOW IMPACT DEVELOPMENT & GREEN INFRASTRUCTURE DESIGN CRITERIA FOR STORMWATER MANAGEMENT (2011).
 - REPLACEMENT MEDIA, IF REQUIRED, MUST BE PROVIDED FROM A DIFFERENT BATCH THAN THE ORIGINAL MATERIAL.
 - VENDOR SHALL PROVIDE, AT NO ADDITIONAL COST TO THE PROJECT OWNER/OPERATOR, MAINTENANCE OF THE BIOFILTRATION SYSTEM FOR A PERIOD OF ONE YEAR. VENDOR SHALL MAKE AVAILABLE AN EXTENDED MAINTENANCE CONTRACT IF DESIRED BY PROJECT OWNER/OPERATOR.
 - COMPOSITION AND CHARACTERISTICS OF THE BIOFILTRATION MEDIA MUST MEET OR EXCEED THE FOLLOWING MINIMUM STANDARDS AS DEMONSTRATED BY TESTING ACCEPTABLE TO THE PROJECT ENGINEER

PER MDOT ITEM 604.15
PRECAST CONCRETE DRAIN MANHOLE
 N.T.S.

PER MDOT ITEM 604.
PRECAST CONCRETE CATCH BASIN DETAIL
 N.T.S.

Revision	By	Date	Change
5	SMA	2/12/15	REVISED OWNER/APPLICANT
2	SMA	11/10/14	REVISED PER PEER REVIEW COMMENTS
1	SMA	10/10/14	REVISED PER TOWN COMMENTS

PROJECT NUMBER: 33229.02 ACAD FILE: 33229-DETAILS.DWG SCALE: NTS DATE: AUGUST 4, 2014

Drawing Name:
STORMBASIN DETAILS

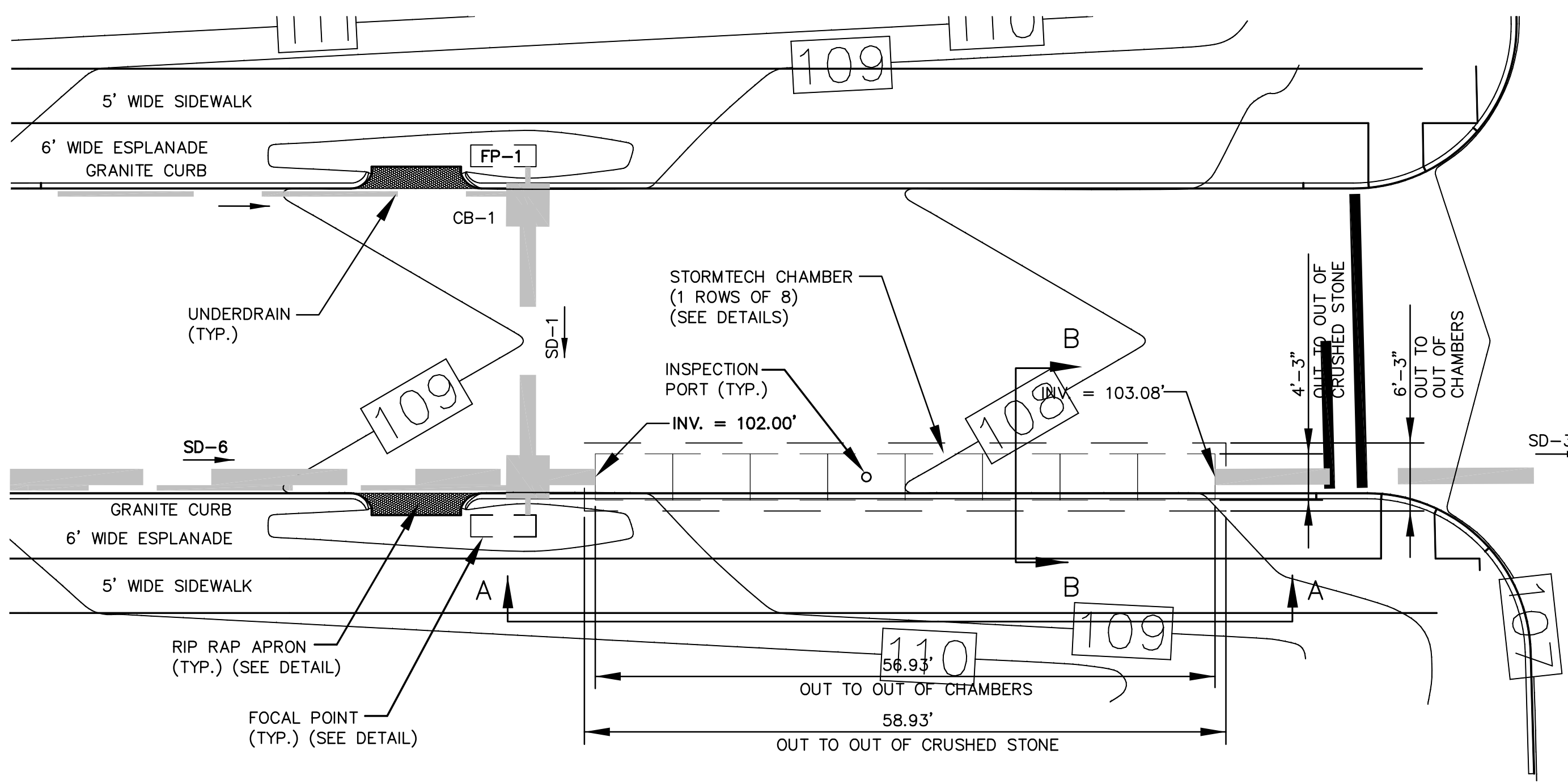
Project Name and Location:
PAMELA ROAD EXTENSION
 PAMELA ROAD, PORTLAND, MAINE 04101

Prepared For:
GENEVA VENTURES, LLC
 190 US Route 1, PMB 161, FALMOUTH, MAINE 04105

153 US ROUTE 1, SCARBOROUGH, MAINE 04074
 tel 207.883.1000 fax 207.883.1001 e-mail info@northeastcivilsolutions.com
 800.882.2227

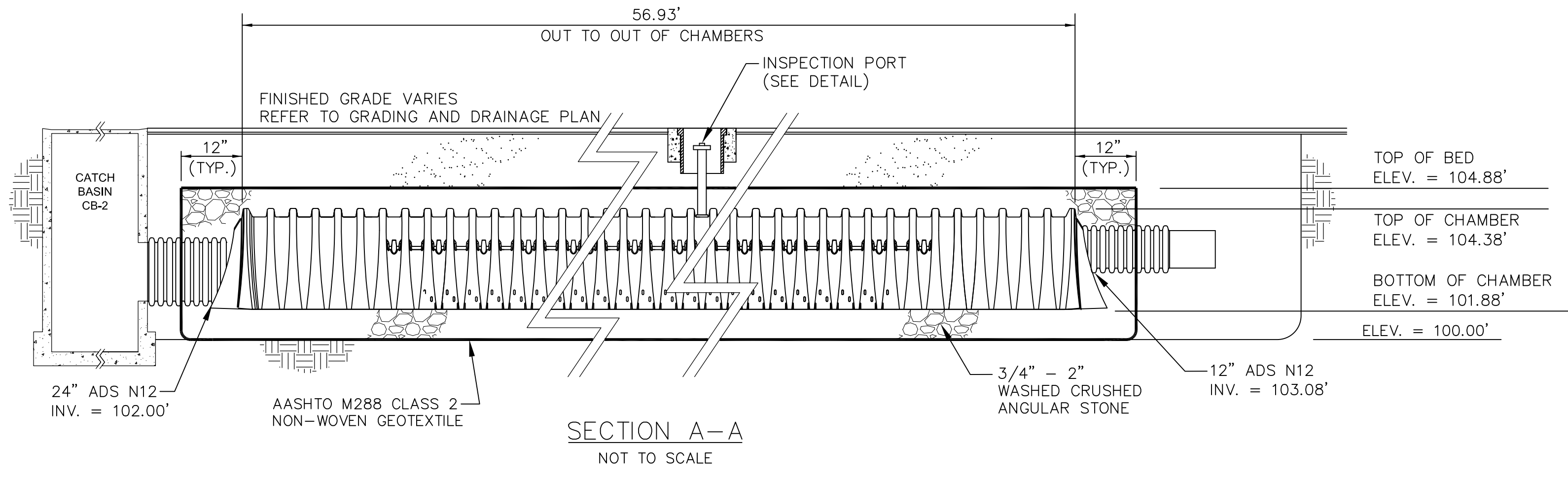
2-12-15

SHEET 11 OF 12

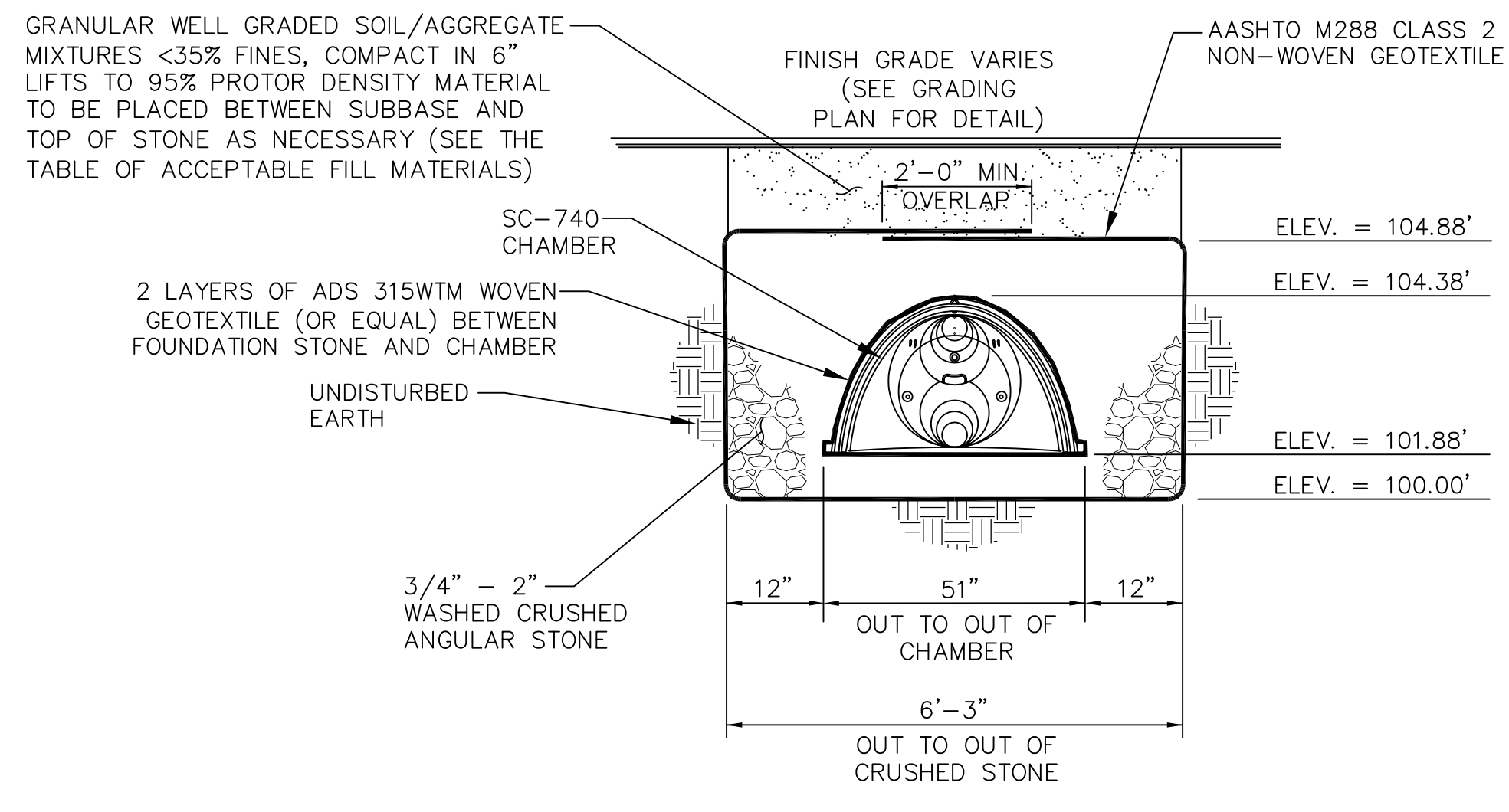


- NOTES:
1. MANHOLE FRAME AND GRATE SHALL BE DESIGNED TO WITHSTAND H-20 LOADING.
 2. ACCESS LADDER WITH PRECAST DROP FRONT STEEL REINFORCED COPOLYMER RUNGS AT 12" O.C.
 3. LeBARON STANDARD FRAME AND COVER SET IN MORTAR. CAT NO LK 110 SET ON TOP OF BRICK MASONRY AND SEALED WITH MORTAR. COVER TO BE SUPPLIED WITH 3" LETTERING TO READ "DRAIN".

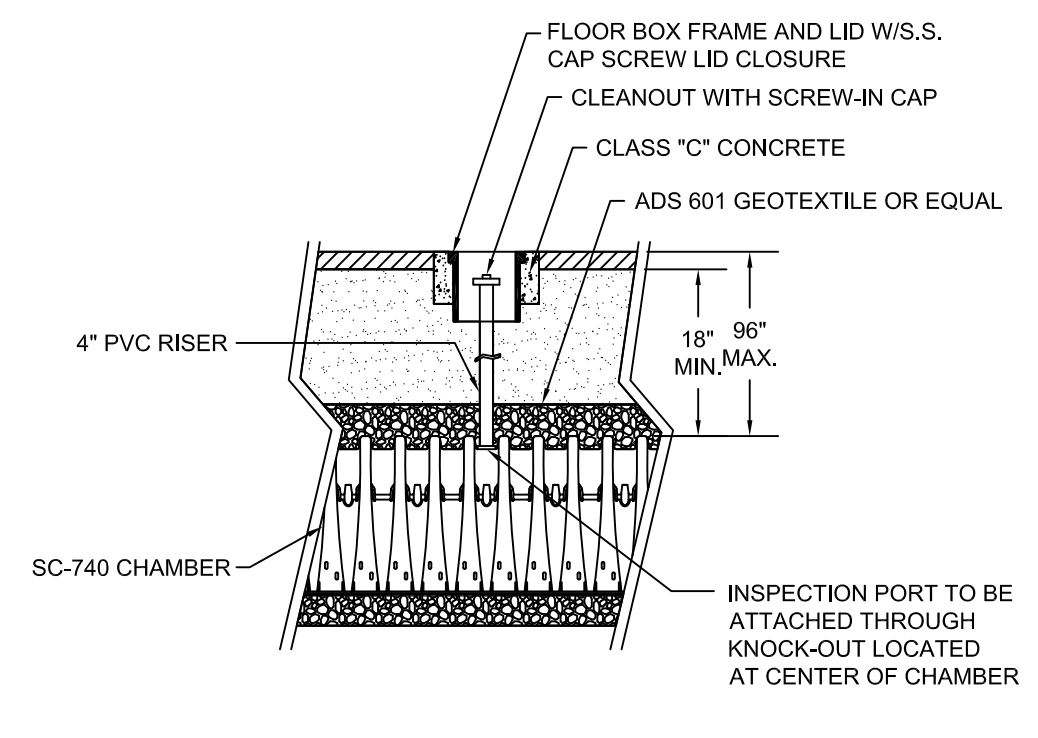
INFILTRATION SYSTEM #1
SCALE: 1" = 10'



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

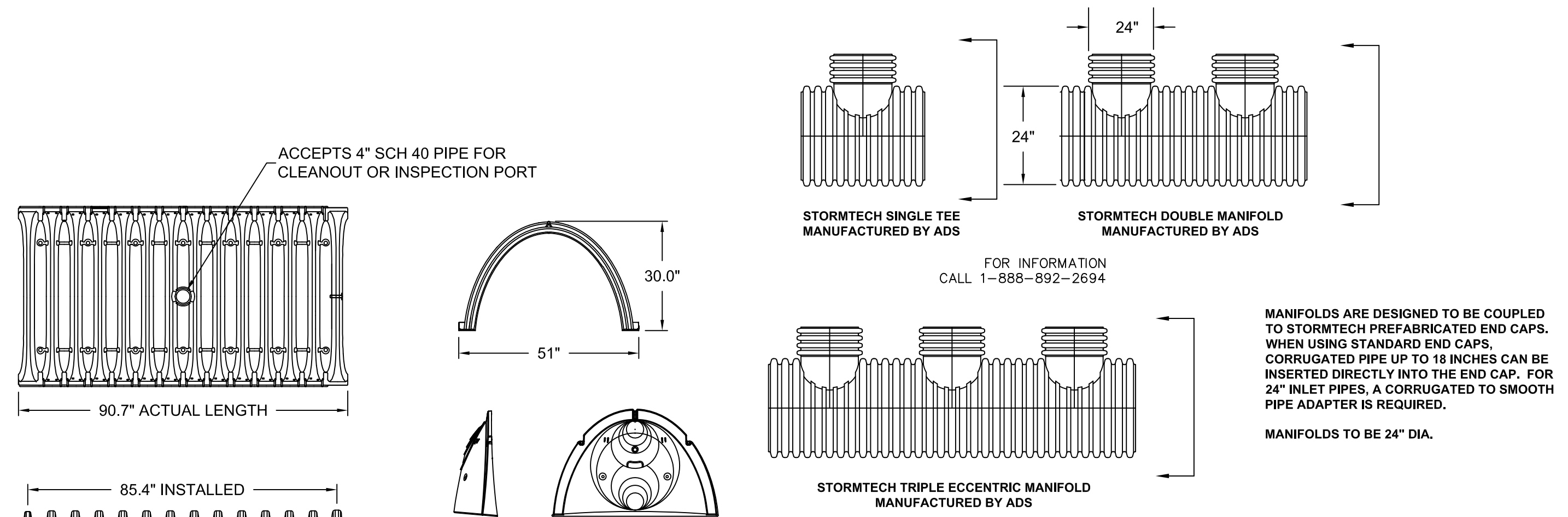


STORMTECH INSPECTION PORT DETAIL
NOT TO SCALE

ACCEPTABLE FILL MATERIALS
STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION	AASHTO M145 DESIGNATION	COMPACTION/DENSITY REQUIREMENT
FILL MATERIAL FROM 18" TO GRADE ABOVE CHAMBERS	ANY SOIL/ROCK MATERIALS, NATIVE SOILS OR PER ENGINEER'S PLANS. (SEE TYPICAL STORMWATER TRENCH SECTION ON SHEET C-10)	N/A	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
FILL MATERIAL FOR 6" TO 18" ELEVATION ABOVE CHAMBERS (24" FOR UNPAVED INSTALLATIONS)	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	A-1, A-2, A-3	COMPACT IN 6" LIFTS TO A MINIMUM 95% STANDARD PROCTOR DENSITY. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 LBS. DYNAMIC FORCE NOT TO EXCEED 20,000 LBS.
EMBEDMENT STONE SURROUNDING TO AN ELEVATION 12" ABOVE & 6" BELOW CHAMBERS	WASHED ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4 - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	NO COMPACTION REQUIRED
FOUNDATION BELOW CHAMBERS	WASHED ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4 - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY
SUBSURFACE SOIL FILTER	SEE CROSS SECTION	N/A	N/A	

STORMTECH ACCEPTABLE FILL MATERIALS



ADS MANIFOLDS
NOT TO SCALE

NOMINAL CHAMBER SPECIFICATIONS
SIZE (W x H x INSTALLED LENGTH)
CHAMBER STORAGE
MINIMUM INSTALLED STORAGE
WEIGHT

51.0" x 30.0" x 85.4"
45.9 CUBIC FEET
74.9 CUBIC FEET
75 LBS.

PART #	CHAMBER	PIPE SIZE	A	B	C	D
SC740EP12B	SC 740	12 in (300 mm)	14.70 in (373 mm)	7.70 in (196 mm)	N/A	1.20 in (30 mm)
SC740EP24B	SC 740	24 in (600 mm)	18.50 in (470 mm)	9.15 in (232 mm)	N/A	0.10 in (3 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL
ALL STUBS, EXCEPT FOR THE SC740EP24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.
* FOR THE SC740EP24B THE 24" STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75". BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SETS LEVEL.

SC-740 TECHNICAL DETAILS
NOT TO SCALE

- NOTES:
1. ALL DESIGN SPECIFICATIONS FOR STORMTECH CHAMBERS SHALL BE IN ACCORDANCE WITH THE STORMTECH DESIGN MANUAL.
 2. THE INSTALLATION OF STORMTECH CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST STORMTECH INSTALLATION INSTRUCTIONS.
 3. THE CONTRACTOR IS ADVISED TO REVIEW AND UNDERSTAND THE INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION. CALL 1-888-892-2694 OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF THE LATEST STORMTECH INSTALLATION INSTRUCTIONS.

Revision	By	Date	Change
5	SMA	2/12/15	REVISED OWNER/APPLICANT
2	SMA	11/10/14	REVISED PER PEER REVIEW COMMENTS
1	SMA	10/14/14	REVISED PER TOWN COMMENTS

PROJECT NUMBER: 33229.02 ACAD FILE: 33229-DETAILS.DWG SCALE: NTS DATE: AUGUST 4, 2014

Drawing Name:
UNDERGROUND DETENTION SYSTEM DETAILS

Project Name and Location:
PAMELA ROAD EXTENSION
PAMELA ROAD, PORTLAND, MAINE 04101

Prepared For:
GENEVA VENTURES, LLC
190 US Route 1, PMB 161, FALMOUTH, MAINE 04105

STATE OF MAINE
Professional Engineer
Allen
9218
2-12-15

SURVEYING ENGINEERING LAND PLANNING
Northeast Civil Solutions
INCORPORATED
153 US ROUTE 1, SCARBOROUGH, MAINE 04074
tel 207.883.1000 fax 207.883.1001 e-mail info@northeastcivilsolutions.com
800.882.2227

SHEET 12 OF 12

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