

SUMMER REACH
SITE DEVELOPMENT PLANS
249 SUMMER STREET
PLYMOUTH, MASSACHUSETTS
ISSUED FOR PERMIT: MAY 12, 2017

HIGHPOINT

HIGHPOINT ENGINEERING, INC.

CANTON CORPORATE PLACE

45 DAN ROAD, SUITE 140 | CANTON, MA 02021

t 781.770.0970 | www.highpointeng.com

CLIENT:

THORNDIKE DEVELOPMENT CORP.

8 PLEASANT STREET

NATICK, MA 01760

t 978.310.7070

CONSULTANT:

PROJECT TEAM			
APPLICANT:	THORNDIKE DEVELOPMENT CORP. 8 PLEASANT ST, SUITE A-2 NATICK, MA 01760 TEL: (508) 650-0650 ATTN: David Eastridge	OWNER:	LIGHTHOUSE COVE, LLC 20 NORTH PARK AVENUE, SUITE 4 PLYMOUTH, MA 02330
CIVIL ENGINEER:	HIGHPOINT ENGINEERING, INC. 45 DAN ROAD, SUITE 140 CANTON, MA 02021 TEL: (781) 770-0970 ATTN: Douglas Hartnett www.highpointeng.com	SURVEYOR:	FLAHERTY & STEFANI INC. 67 SAMOSET ST PLYMOUTH, MA 02360 TEL: (508) 747-2425 ATTN: Mark Flaherty
ARCHITECT:	UNION STUDIO 140 UNION ST PROVIDENCE, RI 02903 TEL: (401) 527-2874 ATTN: David Piro	LANDSCAPE ARCHITECT:	RYAN ASSOCIATES 144 MOODY ST WALTHAM, MA 02453 TEL: (781) 314-0401
GENERAL CONTRACTOR:	THORNDIKE CONSTRUCTION 8 PLEASANT ST, SUITE A-2 NATICK, MA 01760 TEL: (508) 650-0650		

INDEX OF DRAWINGS									
ISSUE HISTORY:									
		ISSUED FOR PERMIT MAY 12, 2017	DPW REVIEW REVISIONS JUNE 14, 2017	DPW REVIEW REVISIONS AUGUST 3, 2017					
CIVIL									
T100	TITLE SHEET	•	•	•					
C100	CONTEXT PLAN	•	•	•					
C200	EXISTING CONDITIONS (BY OTHERS)	•	•	•					
C300	SITE PREPARATION & DEMOLITION PLAN			•					
C400	EROSION & SEDIMENTATION CONTROL PLAN	•	•	•					
C500	LAYOUT & MATERIALS PLAN	•	•	•					
C501	LAYOUT & MATERIALS PLAN	•	•	•					
C502	LAYOUT & MATERIALS PLAN	•	•	•					
C503	LAYOUT & MATERIALS PLAN	•	•	•					
C600	GRADING & DRAINAGE PLAN	•	•	•					
C601	GRADING & DRAINAGE PLAN	•	•	•					
C602	GRADING & DRAINAGE PLAN	•	•	•					
C603	GRADING & DRAINAGE PLAN	•	•	•					
C700	UTILITY PLAN	•	•	•					
C701	UTILITY PLAN	•	•	•					
C702	UTILITY PLAN	•	•	•					
C703	UTILITY PLAN	•	•	•					
C800	DETAIL SHEET	•	•	•					
C801	DETAIL SHEET	•	•	•					
C802	DETAIL SHEET	•	•	•					
C803	DETAIL SHEET	•	•	•					
LANDSCAPE									
C900	LANDSCAPE & LIGHTING PLAN	•	•	•					
L-1.0	PHASE 1 LANDSCAPE PLAN	•	•	•					
L-1.1	PHASE 1 LIGHTING PLAN	•	•	•					
L-1.2	DETAIL LANDSCAPE PLAN	•	•	•					
L-1.3	SECTIONS	•	•	•					

SUMMER REACH
PHASE 1-6 - SITE DEVELOPMENT PLAN
249 SUMMER STREET
PLYMOUTH, MASSACHUSETTS
OWNER/APPLICANT: THORNDIKE DEVELOPMENT CORP.

2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS
REV	DATE	DESCRIPTION
ISSUE TYPE: PERMIT SET		
ISSUE DATE: MAY 12, 2017		
PROJECT NUMBER: 16034		
DRAWN BY: MKM		
CHECKED BY: DJH		
Copyright (c) by Highpoint Engineering, Inc. All Rights Reserved.		
SHEET TITLE: TITLE SHEET		
SHEET NUMBER: TS01		

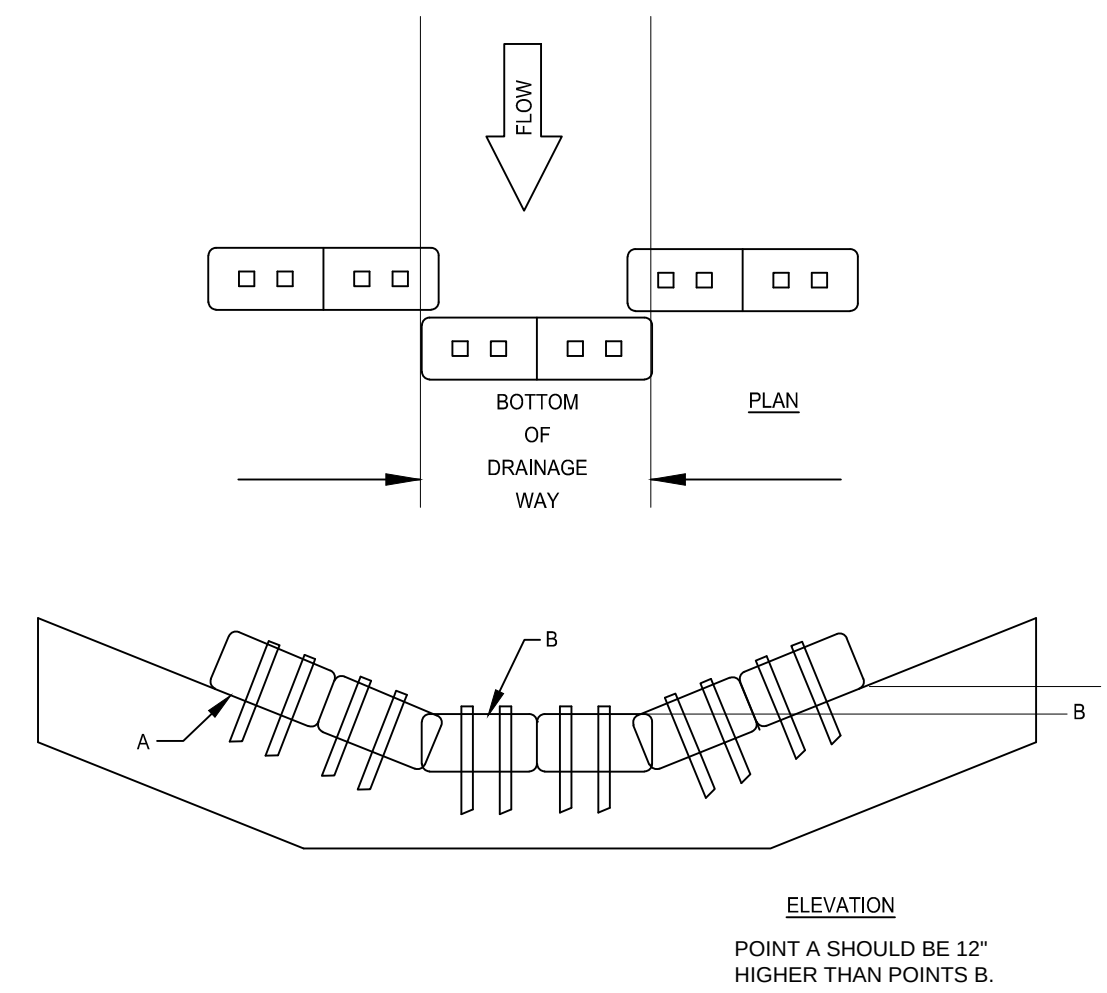


CONSULTANT:

Copyright © 2009 John Wiley & Sons, Ltd.

	CONSTRUCTION FENCE
	STRAW WATTLE EROSION CONTROL BARRIER
	SILTSACK CATCH BASIN INSERT
	STONE ANTI-TRACK PAD
	HAYBALE CHECK DAM

1. THE CONTRACTOR TO INSTALL ORANGE CONSTRUCTION FENCE AT LIMIT OF WORK AFTER TREE CLEARING AND STUMPING.
2. CONTRACTOR TO INSPECT EROSION CONTROLS WEEKLY AND AFTER RAINFALL EXCEEDING $\frac{1}{2}$ " TOTAL RAINFALL.
3. CONTRACTOR TO REMOVE ACCUMULATED SEDIMENT FROM SEDIMENT BASINS UPON STABILIZATION OF CONTRIBUTING WATERSHED AREAS. SCARIFY BOTTOM AND SIDES 6" DEPTH AND LOAM/ SEED SCARIFIED AREAS.
4. CONTRACTOR TO MAINTAIN SUFFICIENT NUMBER OF EROSION CONTROL DEVICES ON SITE TO REPAIR/REPLACE DAMAGED CONTROLS.
5. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF TEMPORARY DIVERSION SWALES TO CONTROL RUNOFF AND CONVEY TO SEDIMENT BASINS DURING CONSTRUCTION COORDINATE WITH PROJECT MANAGER.
6. CONTRACTOR TO PERIODICALLY INSPECT SILTSCANS AND REMOVE SEDIMENT PER MANUFACTURERS RECOMMENDATIONS TO ENSURE PROPER OPERATION.



50' MINIMUM

10'

24' MIN.

EXISTING PAVEMENT

CRUSHED STONE

PLAN VIEW

10'

EXISTING PAVEMENT

6' MIN.

FILTER CLOTH

CROSS SECTION

SEE SCHEDULE FOR NOTES

CROSS SECTION

TRACKING PAD NOTES:

STONE SIZE - USE "2" CRUSHED STONE

FILTER CLOTH - SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.

SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHOULD BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHOULD BE PERMITTED.

MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANING OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

SUMMER REACH
PHASE 1-6 - SITE DEVELOPMENT PLAN

249 SUMMER STREET
 PLYMOUTH, MASSACHUSETTS

OWNER/APPLICANT: THORNDIKE DEVELOPMENT CORP.

ISSUE TYPE:
PERMIT SET

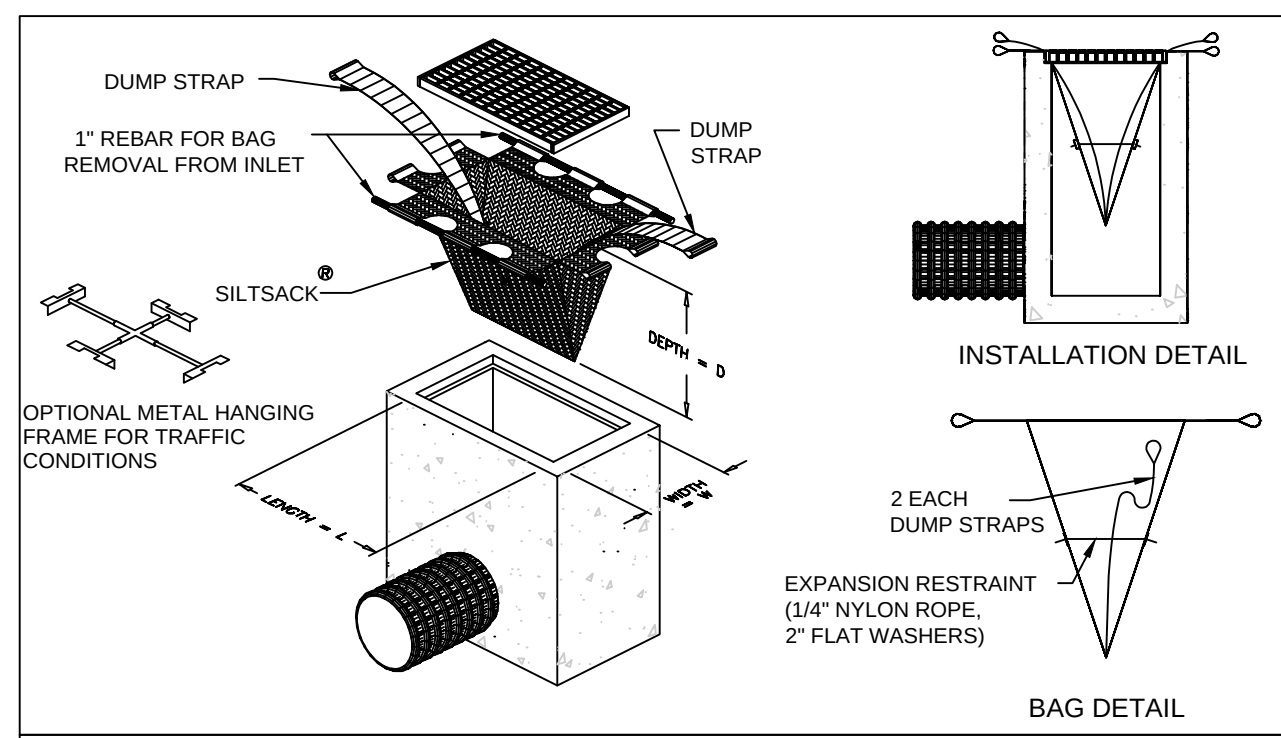
ISSUE DATE:
MAY 12, 2017

PROJECT NUMBER:
16034

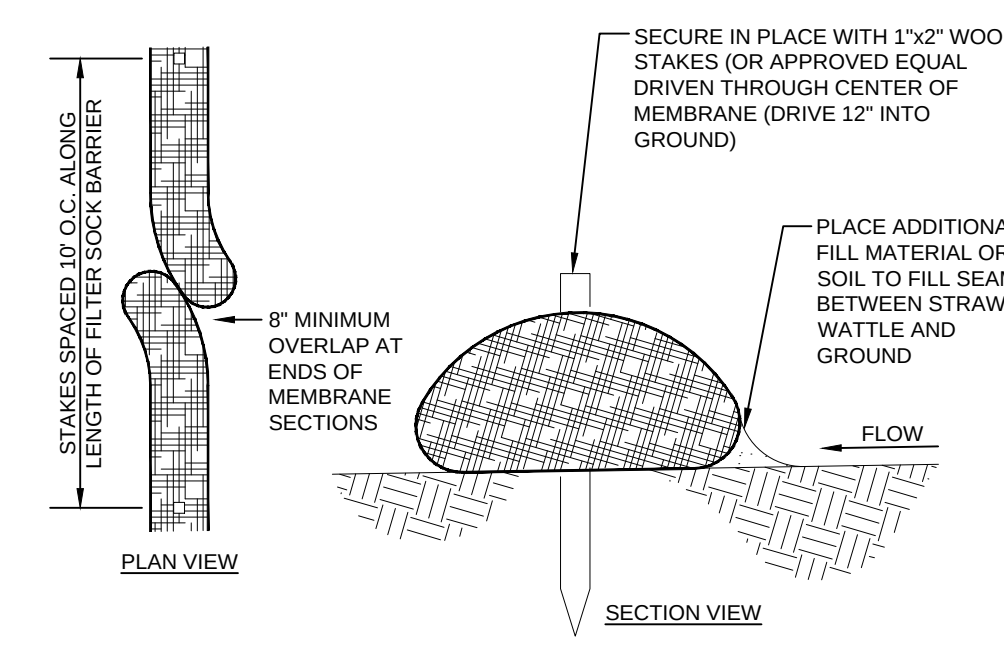
SHEET TITLE:

SHEET NUMBER:

SHEET NUMBER: **C400**



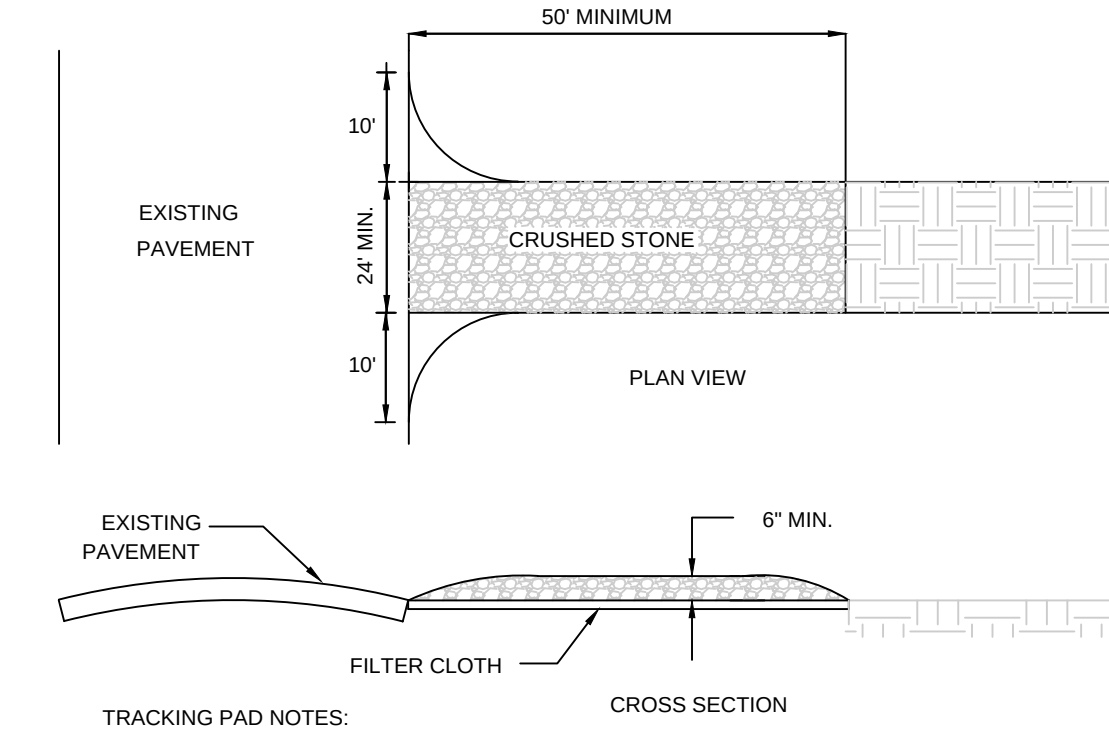
SILTSACK® SPECIFICATIONS		
REGULAR FLOW SILTSACK®		
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PULL TENSION	ASTM D-4833	120 LBS
MUNLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4633	120 LBS
UV RESISTANCE	ASTM D-4395	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4941	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4941	0.5 SEC -1
NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE SPECIFICATIONS PROVIDED.		
DEFENDING ON PARTICULAR APPLICATION, THE SILTSACK CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBANT PILLION INSERT OR, MADE COMPLETELY FROM AN OIL-ABSORBANT SILTSACK®, WITH A WOVEN PILLION INSERT.		



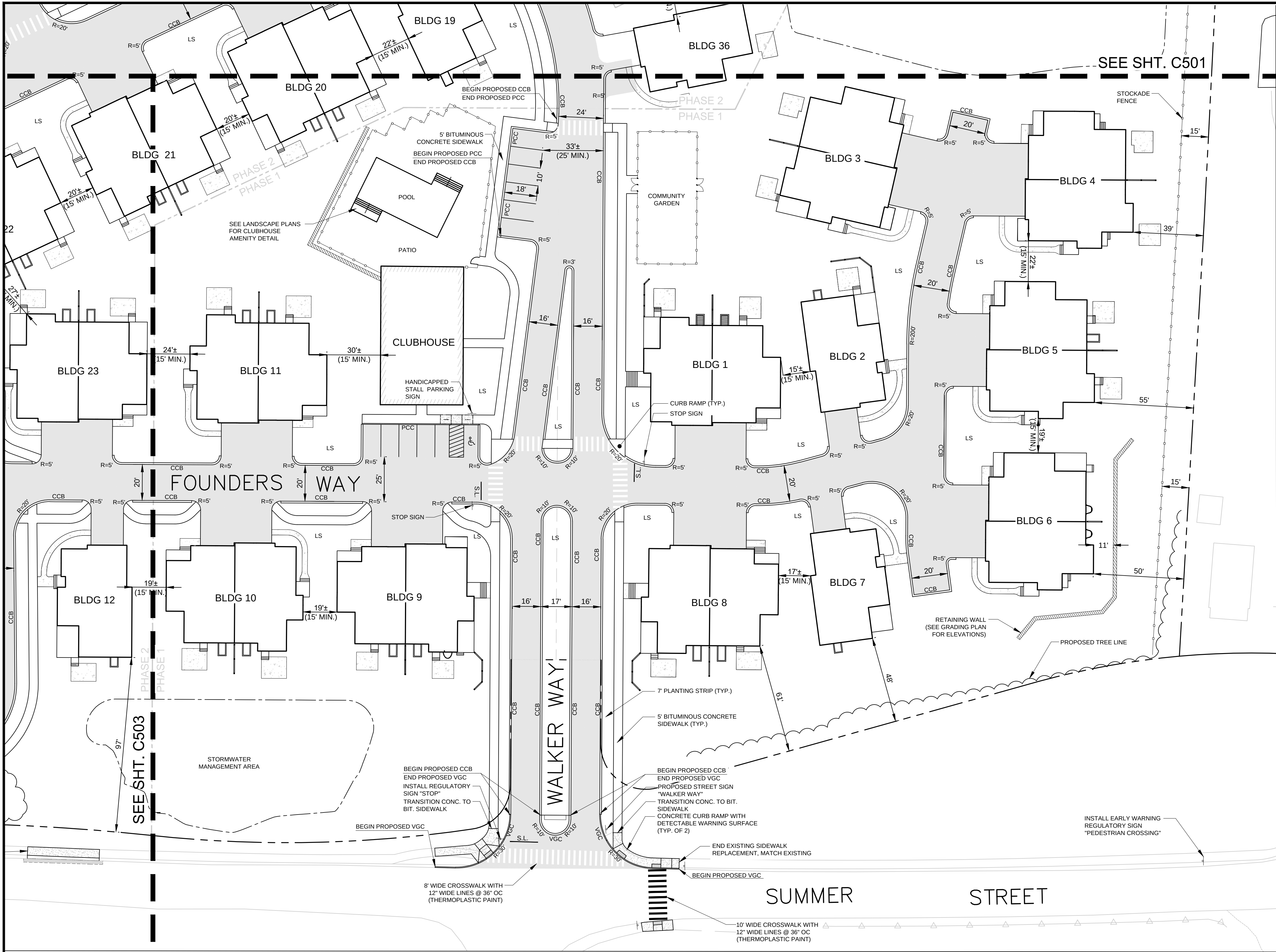
NOTES

1. WATTLES SHALL BE 8" MINIMUM DIAMETER.
2. WATTLES SHALL BE INSTALLED PRIOR TO START OF CONSTRUCTION ACTIVITIES AND LEFT IN PLACE TO BIODEGRADE AFTER FINAL STABILIZATION.

STRAW WATTLE EROSION CONTROL BARRIER



CONSTRUCTION ANTI-TRACKING PAD
NOT TO SCALE



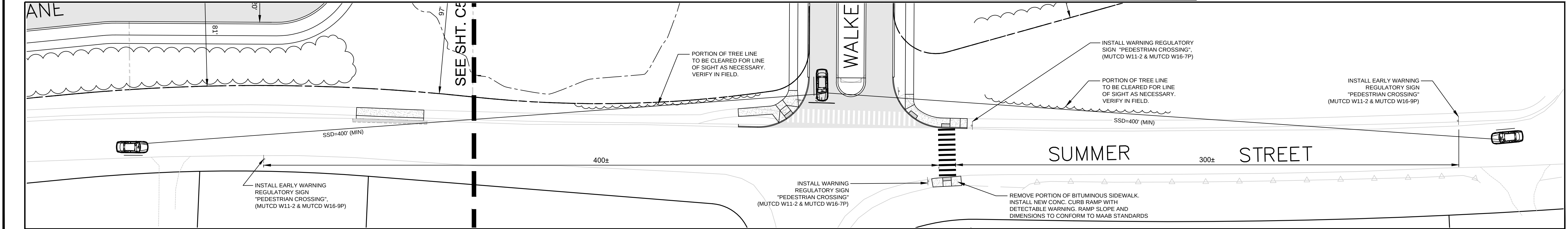
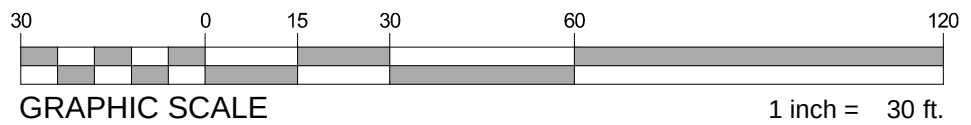
SYMBOL LEGEND	
CCB	CAPE COD BERM
PCC	PRECAST CONCRETE CURB
VGC	VERTICAL GRANITE CURB
R=10'	CURB RADIUS
LS	LANDSCAPE AREA
S.L.	12" STOP LINE (THERMOPLASTIC)
	BITUMINOUS CONCRETE PAVEMENT
	CAST-IN-PLACE CONCRETE PATIO
	PROPERTY LINE
	MATCH LINE
	PHASE LINE

TRAFFIC CONTROL REGULATORY SIGNAGE SCHEDULE	
	MUTCD R1-1 (STOP SIGN)
	MUTCD W11-2 (PEDESTRIAN CROSSING SIGN)
	MUTCD W16-7P (DIAGONAL ARROW POINTING DOWN AND TO THE LEFT)
	MUTCD W16-9P (DIAGONAL ARROW POINTING DOWN AND TO THE LEFT)

ZONING SUMMARY				
ZONING DISTRICT: R-20MD				
USE: MULTIFAMILY				
BUILDING DIMENSIONAL REQUIREMENTS				
CRITERIA	REQUIRED	EXISTING	PROPOSED	ZONING COMPLIANCE
LOT AREA	20,000 sq. ft. MIN	22.53 ac.	22.53 ac.	YES
LOT FRONTAGE	N/A	1398.7'	1398.7'	YES
LOT WIDTH	90.0'	>90.0'	>90.0'	YES
FRONT YARD	30.0'	0'	47.0'	YES
SIDE YARD	15.0'	0'	29.0'	YES
REAR YARD	30.0'	0'	30.0'	YES
BUILDING HEIGHT	35.0'	0'	<35.0'	YES
BUILDING COVERAGE	25%	0'	23%	YES

NOTE: 1. THE SITE IS COMPOSED OF 6 LOTS: LOT 1 - 4, LOT 1 - 5, LOT 1 - 6, LOT 1 - 7, LOT 1 - 8, LOT 1 - 9, TOTALING 22.64 AC.

- NOTES:
- REGULATORY SIGNAGE TO MEET MUTCD STANDARD REQUIREMENTS FOR PANEL AREA, AND SIGN HEIGHT.
 - CURB RAMP WITHIN THE SUMMER STREET RIGHT OF WAY SHALL MEET MASSDOT CONSTRUCTION STANDARDS AND SPECIFICATIONS.
 - ROADWAY MODIFICATIONS WITHIN THE PUBLIC RIGHT OF WAY SHALL COMPLY WITH TOWN OF PLYMOUTH SPECIFICATIONS AND CONSTRUCTION DETAILS.
 - ROADWAY REPAIR WITHIN THE PUBLIC RIGHT OF WAY WILL CONSIST OF HOT MIX ASPHALT LAID IN TWO, 2" COURSES (BINDER AND FINISH COURSE). TRENCHING WITHIN THE RIGHT OF WAY WILL BE BACKFILLED WITH EXCAVATABLE CONTROLLED DENSITY FILL PRIOR TO PAVING.



LINE OF SIGHT - SSD AND RIGHT OF WAY IMPROVEMENTS

SCALE: 1" = 30'



HIGHPOINT ENGINEERING, INC.
CANTON CORPORATE PLACE
45 DAN ROAD, SUITE 140 | CANTON, MA 02021
t 781.770.0970 | www.highpointeng.com

CLIENT:

THORNDIKE DEVELOPMENT CORP.
8 PLEASANT STREET
NATICK, MA 01760
t 978.310.7070

CONSULTANT:

SEAL

SUMMER REACH
PHASE 1-6 - SITE DEVELOPMENT PLAN

249 SUMMER STREET
PLYMOUTH, MASSACHUSETTS

OWNER / APPLICANT: THORNDIKE DEVELOPMENT CORP.

REV	DATE	DESCRIPTION
2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS

ISSUE TYPE:
PERMIT SET
ISSUE DATE:
MAY 12, 2017
PROJECT NUMBER:
16034

DRAWN BY: MKM
CHECKED BY: DJH
Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

SHEET TITLE:

LAYOUT PLAN

SHEET NUMBER:

C500

REV	DATE	DESCRIPTION
2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS

ISSUE TYPE:
PERMIT SET
ISSUE DATE:
MAY 12, 2017
PROJECT NUMBER:
16034

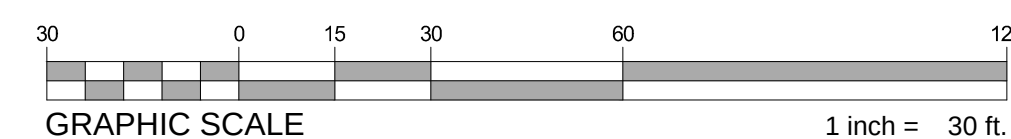
DRAWN BY: MKM
CHECKED BY: DJH
Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

SHEET TITLE:

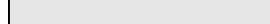
LAYOUT PLAN

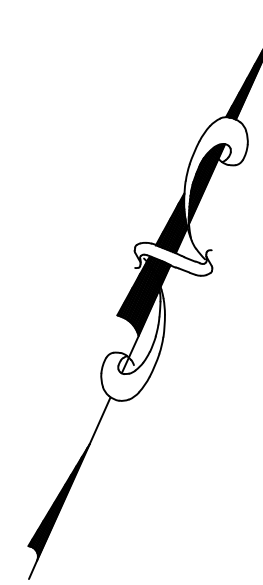
SHEET NUMBER:
C501

SYMBOL LEGEND	
CCB	CAPE COD BERM
PCC	PRECAST CONCRETE CURB
R=10'	CURB RADIUS
LS	LANDSCAPE AREA
	BITUMINOUS CONCRETE PAVEMENT
	CAST-IN-PLACE CONCRETE PATIO
	PROPERTY LINE
	MATCH LINE
	PHASE LINE





CCB	CAPE COD BERM
R=10'	CURB RADIUS
LS	LANDSCAPE AREA
	BITUMINOUS CONCRETE PAVEMENT
	CAST-IN-PLACE CONCRETE PATIO
	PROPERTY LINE
	MATCH LINE
	PHASE LINE



HIGHPOINT ENGINEERING, INC.
CANTON CORPORATE PLACE
45 DAN ROAD, SUITE 140 | CANTON, MA 0202
t 781.770.0970 | www.highpointeng.com

THORNDIKE DEVELOPMENT CORP.
8 PLEASANT STREET
NATICK, MA 01760
t 978.310.7070

SEAL

SUMMER REACH

PHASE 1-6 - SITE DEVELOPMENT PLAN

2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS
REV	DATE	DESCRIPTION

PERMIT SET

MAY 12, 2017

16034

DRAWN BY: MKM

CHECKED BY: DJH

Copyright (c) by Highpoint Engineering, Inc
All Rights Reserved.

SHEET TITLE:

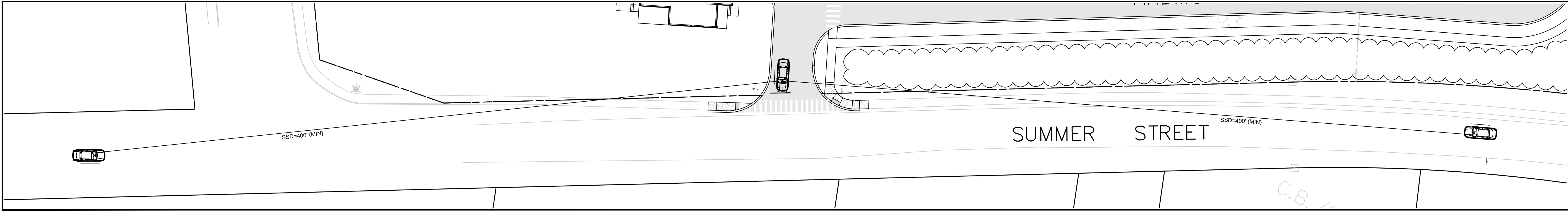
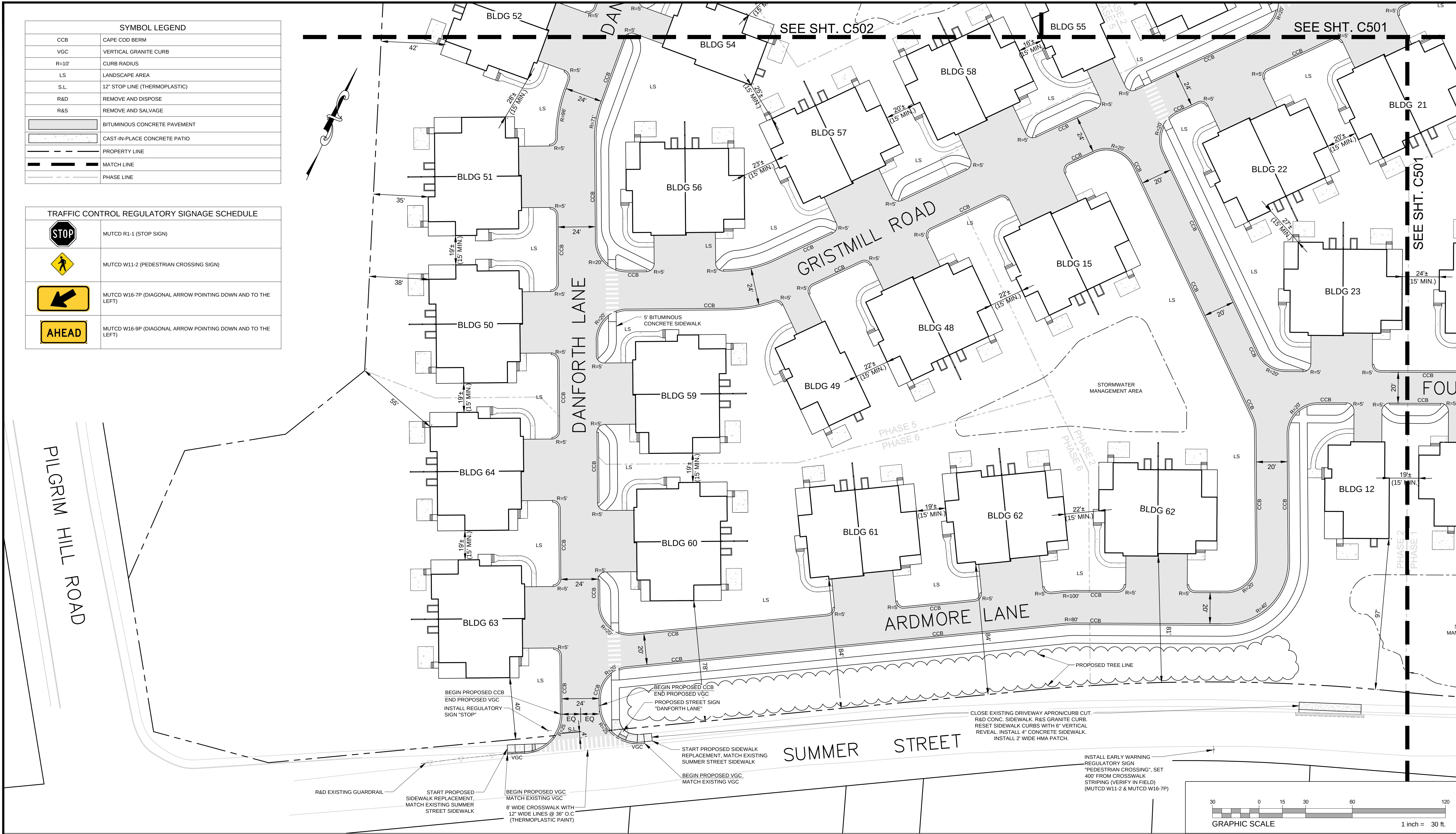
LAYOUT PLAN

SHEET NUMBER:

C502

SYMBOL LEGEND	
CCB	CAPE COD BERM
VGC	VERTICAL GRANITE CURB
R=10'	CURB RADIUS
LS	LANDSCAPE AREA
S.L.	12" STOP LINE (THERMOPLASTIC)
R&D	REMOVE AND DISPOSE
R&S	REMOVE AND SALVAGE
	BITUMINOUS CONCRETE PAVEMENT
	CAST-IN-PLACE CONCRETE PATIO
	PROPERTY LINE
	MATCH LINE
	PHASE LINE

TRAFFIC CONTROL REGULATORY SIGNAGE SCHEDULE	
	MUTCD R3-1 (STOP SIGN)
	MUTCD W11-2 (PEDESTRIAN CROSSING SIGN)
	MUTCD W16-7P (DIAGONAL ARROW POINTING DOWN AND TO THE LEFT)
	MUTCD W16-9P (DIAGONAL ARROW POINTING DOWN AND TO THE LEFT)



LINE OF SIGHT - SSD AND RIGHT OF WAY IMPROVEMENTS

SCALE: 1" = 30'

HIGHPOINT
 HIGHPOINT ENGINEERING, INC.
 CANTON CORPORATE PLACE
 45 DAN ROAD, SUITE 140 | CANTON, MA 02021
 t 781.770.0970 | www.highpointeng.com

CLIENT:

THORNDIKE DEVELOPMENT CORP.
 8 PLEASANT STREET
 NATICK, MA 01760
 t 978.310.7070

CONSULTANT:

SEAL

SUMMER REACH

PHASE 1-6 - SITE DEVELOPMENT PLAN

249 SUMMER STREET
PLYMOUTH, MASSACHUSETTS

OWNER/APPLICANT: THORNDIKE DEVELOPMENT CORP.

REV	DATE	DESCRIPTION
2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS

ISSUE TYPE:

PERMIT SET

ISSUE DATE:

MAY 12, 2017

PROJECT NUMBER:

16034

DRAWN BY: MKM

CHECKED BY: DJH

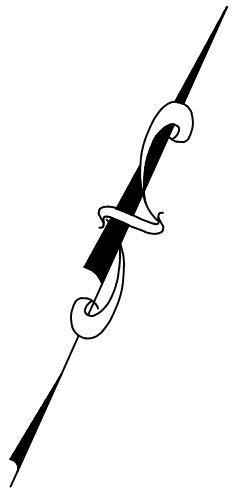
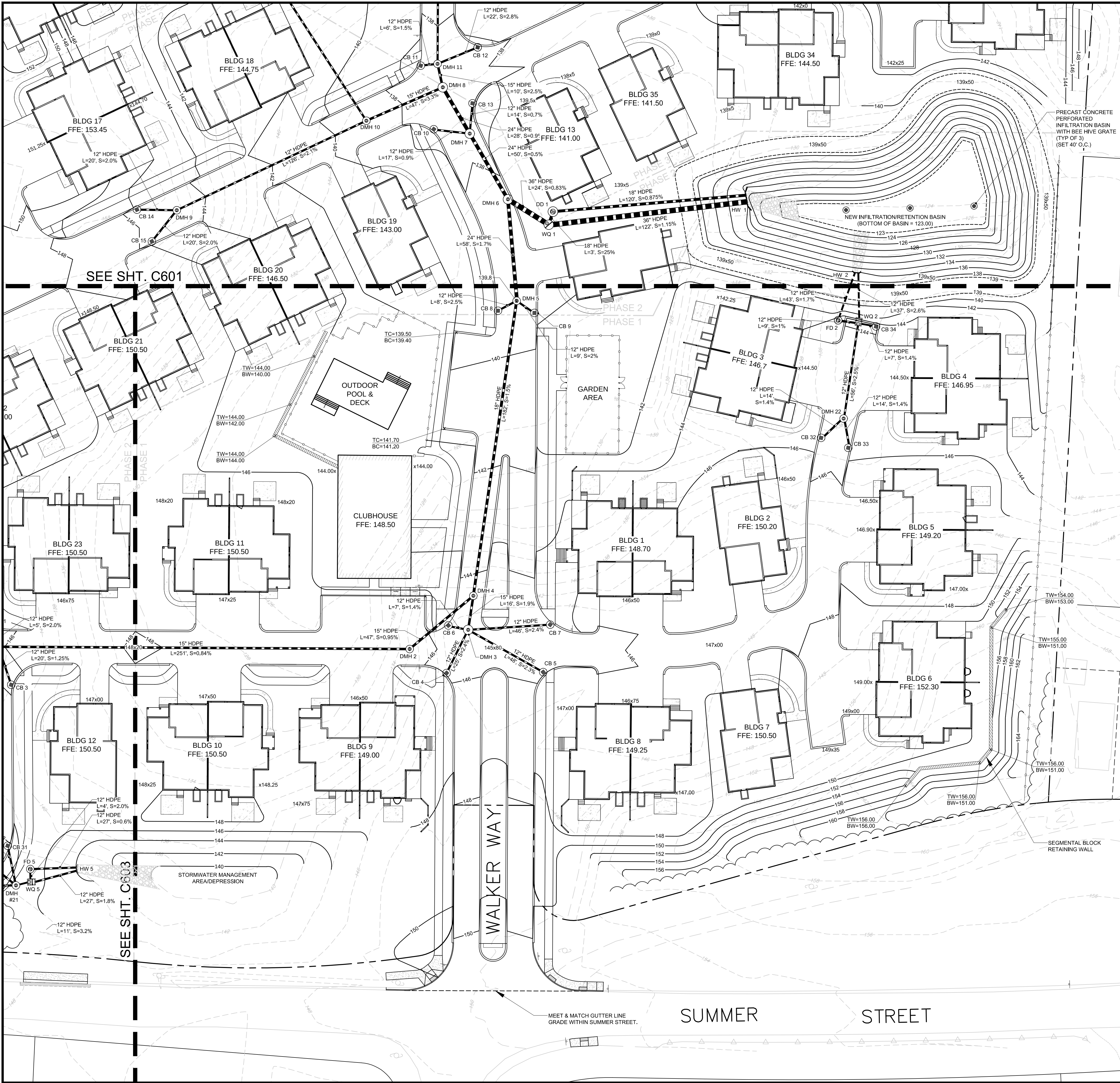
Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

SHEET TITLE:

LAYOUT PLAN

SHEET NUMBER:

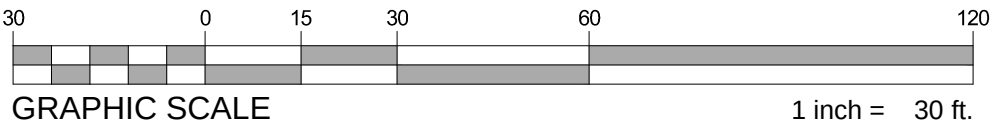
C503



SYMBOL LEGEND	
	PROPOSED STORM DRAIN
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	PROPOSED CATCH BASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED HEAD WALL
	PROPOSED RIP RAP
	PROPOSED WATER QUALITY INLET (FIRST DEFENDER)
	PROPOSED WATER QUALITY INLET (DOWNSTREAM DEFENDER)
	PROPOSED WATER QUALITY VAULT

NOTES

- ROADWAY REPAIR WITHIN THE PUBLIC RIGHT OF WAY WILL CONSIST OF HOT MIX ASPHALT LAID IN TWO, 2" COURSES (BINDER AND FINISH COARSE)
- TRENCHING WITHIN THE RIGHT OF WAY WILL BE BACKFILLED WITH EXCAVATABLE CONTROLLED DENSITY FILL PRIOR TO PAVING.
- SEE SHEET C602 FOR DRAINAGE SCHEDULE.



HIGHPOINT ENGINEERING, INC.
CANTON CORPORATE PLACE
45 DAN ROAD, SUITE 140 | CANTON, MA 02021
t 781.770.0970 | www.highpointeng.com

CLIENT:

THORNDIKE DEVELOPMENT CORP.
8 PLEASANT STREET
NATICK, MA 01760
t 978.310.7070

CONSULTANT:

SEAL

SUMMER REACH
PHASE 1-6 - SITE DEVELOPMENT PLAN

249 SUMMER STREET
PLYMOUTH, MASSACHUSETTS

OWNER/APPLICANT: THORNDIKE DEVELOPMENT CORP.

REV	DATE	DESCRIPTION
2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS

ISSUE TYPE:

PERMIT SET

ISSUE DATE:

MAY 12, 2017

PROJECT NUMBER:

16034

DRAWN BY: MKM

CHECKED BY: DJH

Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

SHEET TITLE:

GRADING &
DRAINAGE PLAN

SHEET NUMBER:

C600



SYMBOL LEGEND	
	PROPOSED STORM DRAIN
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	PROPOSED CATCH BASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED HEAD WALL
	PROPOSED RIP RAP
	PROPOSED WATER QUALITY INLET (FIRST DEFENDER)
	PROPOSED WATER QUALITY INLET (DOWNSTREAM DEFENDER)
	PROPOSED WATER QUALITY VAULT

HIGHPOINT
HIGHPOINT ENGINEERING, INC.
CANTON CORPORATE PLACE
45 DAN ROAD, SUITE 140 | CANTON, MA 02021
t 781.770.0970 | www.highpointeng.com

CLIENT:
THORNDIKE DEVELOPMENT CORP.
8 PLEASANT STREET
NATICK, MA 01760
t 978.310.7070

CONSULTANT:

SEAL

SUMMER REACH
PHASE 1-6 - SITE DEVELOPMENT PLAN
249 SUMMER STREET
PLYMOUTH, MASSACHUSETTS
OWNER/APPLICANT: THORNDIKE DEVELOPMENT CORP.

2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS
REV	DATE	DESCRIPTION

ISSUE TYPE:
PERMIT SET
ISSUE DATE:
MAY 12, 2017
PROJECT NUMBER:
16034

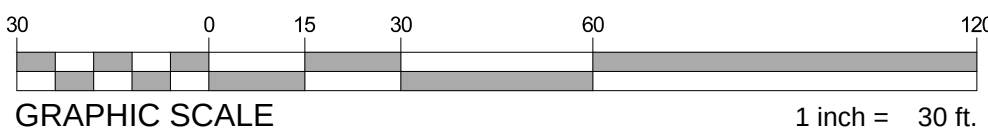
DRAWN BY: MKM
CHECKED BY: DJH
Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

**GRADING &
DRAINAGE
PLAN**

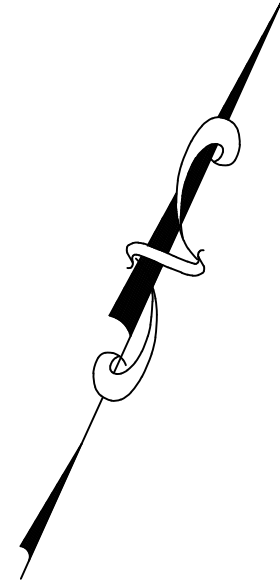
SHEET NUMBER:

C601

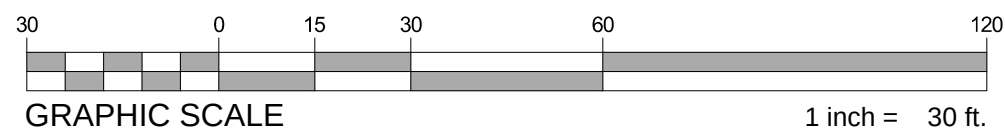
- NOTES**
- SEE SHEET C602 FOR DRAINAGE SCHEDULE.



SYMBOL LEGEND	
	PROPOSED STORM DRAIN
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	PROPOSED CATCH BASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED HEAD WALL
	PROPOSED RIP RAP
	PROPOSED WATER QUALITY INLET (FIRST DEFENDER)
	PROPOSED WATER QUALITY INLET (DOWNSTREAM DEFENDER)
	PROPOSED WATER QUALITY VAULT



UNDERGROUND INFILTRATION / RETENTION SYSTEM #1
100 - STORM TECH ® SC-740 CHAMBERS EMBEDDED IN STONE
INV(I) = 143.50 (12" PVC)
TOP OF STONE = 145.00
TOP OF CHAMBER = 144.50
BOTTOM OF CHAMBER = 142.00
BOTTOM OF STONE = 141.50



DRAINAGE SCHEDULE

CB 1 RIM = 145.70 INV(O) = 140.35 (12" HDPE)	CB 31 RIM = 148.05 INV(O) = 144.20 (12" HDPE)	DMH 4 RIM = 144.40 INV(O) = 136.10 (18" HDPE) INV(I) = 136.35 (15" HDPE) INV(I) = 137.35 (15" HDPE)
CB 2 RIM = 145.70 INV(O) = 140.40 (12" HDPE)	CB 32 RIM = 145.30 INV(O) = 138.30 (12" HDPE)	DMH 5 RIM = 139.80 INV(O) = 133.30 (24" HDPE) INV(I) = 133.90 (12" HDPE) INV(I) = 133.40 (18" HDPE) INV(I) = 133.90 (12" HDPE)
CB 3 RIM = 147.70 INV(O) = 140.50 (12" HDPE)	CB 33 RIM = 145.30 INV(O) = 138.30 (12" HDPE)	DMH 6 (6" DIA) RIM = 138.30 INV(O) = 130.90 (36" HDPE) INV(I) = 132.30 (24" HDPE) INV(I) = 130.20 (24" HDPE)
CB 4 RIM = 145.90 INV(O) = 137.50 (12" HDPE)	CB 34 RIM = 143.70 INV(O) = 136.70 (12" HDPE)	DMH 7 RIM = 137.75 INV(O) = 130.45 (24" HDPE) INV(I) = 133.75 (12" HDPE) INV(I) = 130.55 (24" HDPE) INV(I) = 133.25 (12" HDPE)
CB 5 RIM = 145.90 INV(O) = 138.00 (12" HDPE)	DD 1 (6'-Dia) RIM = 138.80 INV(O) = 129.55 (18" HDPE) INV(I) = 129.80 (18" HDPE)	DMH 8 RIM = 137.90 INV(O) = 130.80 (24" HDPE) INV(I) = 130.95 (15" HDPE) INV(I) = 130.95 (15" HDPE)
CB 6 RIM = 145.30 INV(O) = 137.00 (12" HDPE)	FD 2 (4-Dia) RIM = 144.50 INV(O) = 136.25 (12" HDPE) INV(I) = 136.50 (12" HDPE)	DMH 9 RIM = 144.87 INV(O) = 136.00 (15" HDPE) INV(I) = 137.10 (12" HDPE) INV(I) = 136.25 (12" HDPE)
CB 7 RIM = 144.85 INV(O) = 138.00 (12" HDPE)	FD #3 (4-Dia) RIM = 152.50 INV(O) = 147.25 (12" HDPE) INV(I) = 147.35 (12" HDPE)	DMH 10 RIM = 139.00 INV(O) = 132.50 (15" HDPE) INV(I) = 133.35 (12" HDPE) INV(I) = 133.35 (12" HDPE)
CB 8 RIM = 139.40 INV(O) = 134.10 (12" HDPE)	FD 4 (4-Dia) RIM = 156.30 INV(O) = 152.55 (12" HDPE) INV(I) = 152.80 (12" HDPE)	DMH 11 RIM = 137.90 INV(O) = 131.20 (15" HDPE) INV(I) = 131.30 (12" HDPE) INV(I) = 131.30 (12" HDPE) INV(I) = 131.30 (12" HDPE)
CB 9 RIM = 139.60 INV(O) = 134.10 (12" HDPE)	FD 5 (4-Dia) RIM = 147.00 INV(O) = 143.15 (12" HDPE) INV(I) = 143.40 (12" HDPE)	DMH 12 RIM = 141.20 INV(O) = 135.00 (12" HDPE) INV(I) = 137.55 (12" HDPE) INV(I) = 136.70 (12" HDPE)
CB 10 RIM = 137.35 INV(O) = 133.90 (12" HDPE)	WQ 1 RIM = 138.75 INV(O) = 129.90 (36" HDPE) INV(O) = 129.90 (18" HDPE) INV(I) = 130.0 (36" HDPE) TOP OF WEIR = 131.30	DMH 13 RIM = 149.60 INV(O) = 143.80 (12" HDPE) INV(I) = 143.90 (12" HDPE) INV(I) = 143.90 (12" HDPE) INV(I) = 143.90 (12" HDPE)
CB 11 RIM = 137.35 INV(O) = 131.45 (12" HDPE)	WQ 2 RIM = 143.80 INV(O) = 136.60 (12" HDPE) INV(O) = 136.45 (12" HDPE) INV(I) = 136.60 (12" HDPE) INV(I) = 136.60 (12" HDPE) TOP OF WEIR = 137.20	DMH 14 RIM = 148.90 INV(O) = 140.10 (12" HDPE) INV(I) = 140.20 (12" HDPE) INV(I) = 140.20 (12" HDPE)
CB 12 RIM = 137.35 INV(O) = 131.75 (12" HDPE)	WQ 3 RIM = 153.00 INV(O) = 147.45 (12" HDPE) INV(O) = 147.40 (15" HDPE) INV(I) = 147.50 (15" HDPE) TOP OF WEIR = 148.30	DMH 15 RIM = 157.60 INV(O) = 154.10 (12" HDPE) INV(I) = 154.20 (12" HDPE) INV(I) = 154.20 (12" HDPE)
CB 13 RIM = 137.35 INV(O) = 133.35 (12" HDPE)	WQ 4 RIM = 157.00 INV(O) = 152.90 (12" HDPE) INV(O) = 152.90 (12" HDPE) INV(I) = 153.00 (12" HDPE) TOP OF WEIR = 153.35	DMH 16 RIM = 151.75 INV(O) = 147.75 (15" HDPE) INV(I) = 148.00 (12" HDPE) INV(I) = 150.40 (12" HDPE) INV(I) = 148.00 (12" HDPE)
CB 14 RIM = 145.60 INV(O) = 136.65 (12" HDPE)	WQ 5 RIM=147.00 INV(O) = 143.50 (12" HDPE) INV(O) = 143.50 (12" HDPE) INV(I) = 143.60 (12" HDPE) TOP OF WEIR = 144.20	DMH 17 RIM = 156.70 INV(O) = 153.15 (12" HDPE) INV(I) = 153.25 (12" HDPE) INV(I) = 153.25 (12" HDPE)
CB 15 RIM = 145.60 INV(O) = 137.50 (12" HDPE)	HW 1 RIM = 128.50 (18" HDPE) INV(O) = 128.50 (36" HDPE)	DMH 18 RIM = 159.80 INV(O) = 154.50 (12" HDPE) INV(I) = 154.60 (12" HDPE) INV(I) = 154.60 (12" HDPE)
CB 16 RIM = 141.35 INV(O) = 137.85 (12" HDPE)	HW 2 INV(O) = 135.50 (12" HDPE) INV(O) = 135.50 (12" HDPE)	DMH 19 RIM = 160.20 INV(O) = 153.90 (12" HDPE) INV(I) = 154.00 (12" HDPE)
CB#17 RIM = 141.35 INV(O) = 137.00 (12" HDPE)	HW 3 INV(O) = 146.50 (12" HDPE) INV(O) = 146.50 (15" HDPE)	DMH 20 RIM = 151.40 INV(O) = 146.25 (12" HDPE) INV(I) = 146.35 (12" HDPE) INV(I) = 148.40 (12" HDPE)
CB 18 RIM = 149.30 INV(O) = 144.10 (12" HDPE)	HW 4 INV(O) = 150.50 (12" HDPE) INV(O) = 150.50 (12" HDPE)	DMH 21 RIM = 147.50 INV(O) = 143.85 (12" HDPE) INV(I) = 143.95 (12" HDPE) INV(I) = 143.95 (12" HDPE) INV(I) = 143.95 (12" HDPE)
CB 19 RIM = 149.20 INV(O) = 144.20 (12" HDPE)	HW 5 INV(O) = 143.00 (12" HDPE) INV(O) = 143.00 (12" HDPE)	DMH 22 RIM = 145.60 INV(O) = 138.00 (12" HDPE) INV(I) = 138.10 (12" HDPE) INV(I) = 138.10 (12" HDPE)
CB 20 RIM = 149.20 INV(O) = 144.20 (12" HDPE)	HW 6 INV(O) = 152.00 (12" HDPE)	DMH 23 RIM = 152.00 INV(O) = 149.00 (12" HDPE) INV(I) = 149.10 (12" HDPE)
CB 21 RIM = 148.10 INV(O) = 140.60 (12" HDPE)	HW 7 INV(O) = 152.00 (12" PVC)	DMH 24 RIM = 153.40 INV(O) = 144.30 (12" HDPE) INV(I) = 147.80 (12" HDPE)
CB 22 RIM = 157.70 INV(O) = 154.40 (12" HDPE)	DMH 1 RIM = 145.80 INV(O) = 139.75 (15" HDPE) INV(I) = 140.00 (12" HDPE) INV(I) = 140.00 (12" HDPE) INV(I) = 140.00 (12" HDPE)	
CB 23 RIM = 158.35 INV(O) = 154.35 (12" HDPE)	DMH 2 RIM = 146.20 INV(O) = 137.80 (15" HDPE) INV(I) = 137.90 (15" HDPE)	
CB 24 RIM = 152.20 INV(O) = 148.30 (12" HDPE)	DMH 3 RIM = 145.50 INV(O) = 136.65 (15" HDPE) INV(I) = 136.90 (12" HDPE) INV(I) = 136.90 (12" HDPE) INV(I) = 136.90 (12" HDPE)	
CB 25 RIM = 152.20 INV(O) = 148.30 (12" HDPE)		
CB 26 RIM = 157.70 INV(O) = 153.70 (12" HDPE)		
CB 27 RIM = 157.70 INV(O) = 153.70 (12" HDPE)		
CB 28 RIM = 159.50 INV(O) = 155.00 (12" HDPE)		
CB 29 RIM = 159.50 INV(O) = 155.00 (12" HDPE)		
CB 30 RIM = 148.10 INV(O) = 145.00 (12" HDPE)		

NOTE: DRAIN MANHOLE & CATCH BASIN SCHEDULE
REFERENCE INVERT OUT FIRST WITH
ADDITIONAL INVERTS LISTED LOCATED
CLOCKWISE AROUND THE STRUCTURE.



HIGHPOINT ENGINEERING, INC.
CANTON CORPORATE PLACE
45 DAN ROAD, SUITE 140 | CANTON, MA 02021
t 781.770.0970 | www.highpointeng.com

CLIENT:

THORNDIKE DEVELOPMENT CORP.
8 PLEASANT STREET
NATICK, MA 01760
t 978.310.7070

CONSULTANT:

SEAL

SUMMER REACH
PHASE 1-6 - SITE DEVELOPMENT PLAN

249 SUMMER STREET
PLYMOUTH, MASSACHUSETTS

OWNER/APPLICANT: THORNDIKE DEVELOPMENT CORP.

ISSUE TYPE:

PERMIT SET

ISSUE DATE:

MAY 12, 2017

PROJECT NUMBER:

16034

DRAWN BY: MKM

CHECKED BY: DJH

Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

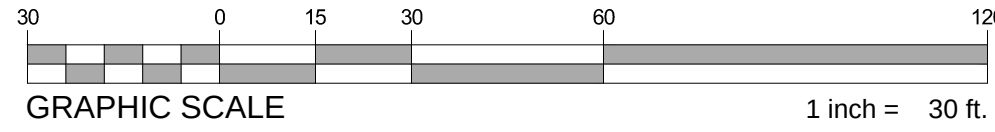
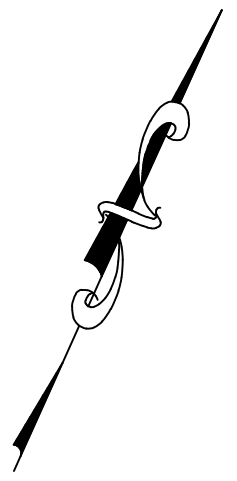
SHEET TITLE:

GRADING &
DRAINAGE
PLAN

SHEET NUMBER:

C602

SYMBOL LEGEND	
	PROPOSED STORM DRAIN
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	PROPOSED CATCH BASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED HEAD WALL
	PROPOSED RIP RAP
	PROPOSED WATER QUALITY INLET (FIRST DEFENDER)
	PROPOSED WATER QUALITY INLET (DOWNSTREAM DEFENDER)
	PROPOSED WATER QUALITY VAULT



- NOTES
- SEE SHEET C602 FOR DRAINAGE SCHEDULE.

HIGHPOINT
ENGINEERING, INC.
CANTON CORPORATE PLACE
45 DAN ROAD, SUITE 140 | CANTON, MA 02021
t 781.770.0970 | www.highpointeng.com

CLIENT:

THORNDIKE DEVELOPMENT CORP.
8 PLEASANT STREET
NATICK, MA 01760
t 978.310.7070

CONSULTANT:

SEAL

SUMMER REACH
PHASE 1-6 - SITE DEVELOPMENT PLAN

249 SUMMER STREET
PLYMOUTH, MASSACHUSETTS

OWNER/APPLICANT: THORNDIKE DEVELOPMENT CORP.

2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS
REV	DATE	DESCRIPTION

ISSUE TYPE:
PERMIT SET

ISSUE DATE:
MAY 12, 2017

PROJECT NUMBER:
16034

DRAWN BY: MKM

CHECKED BY: DJH

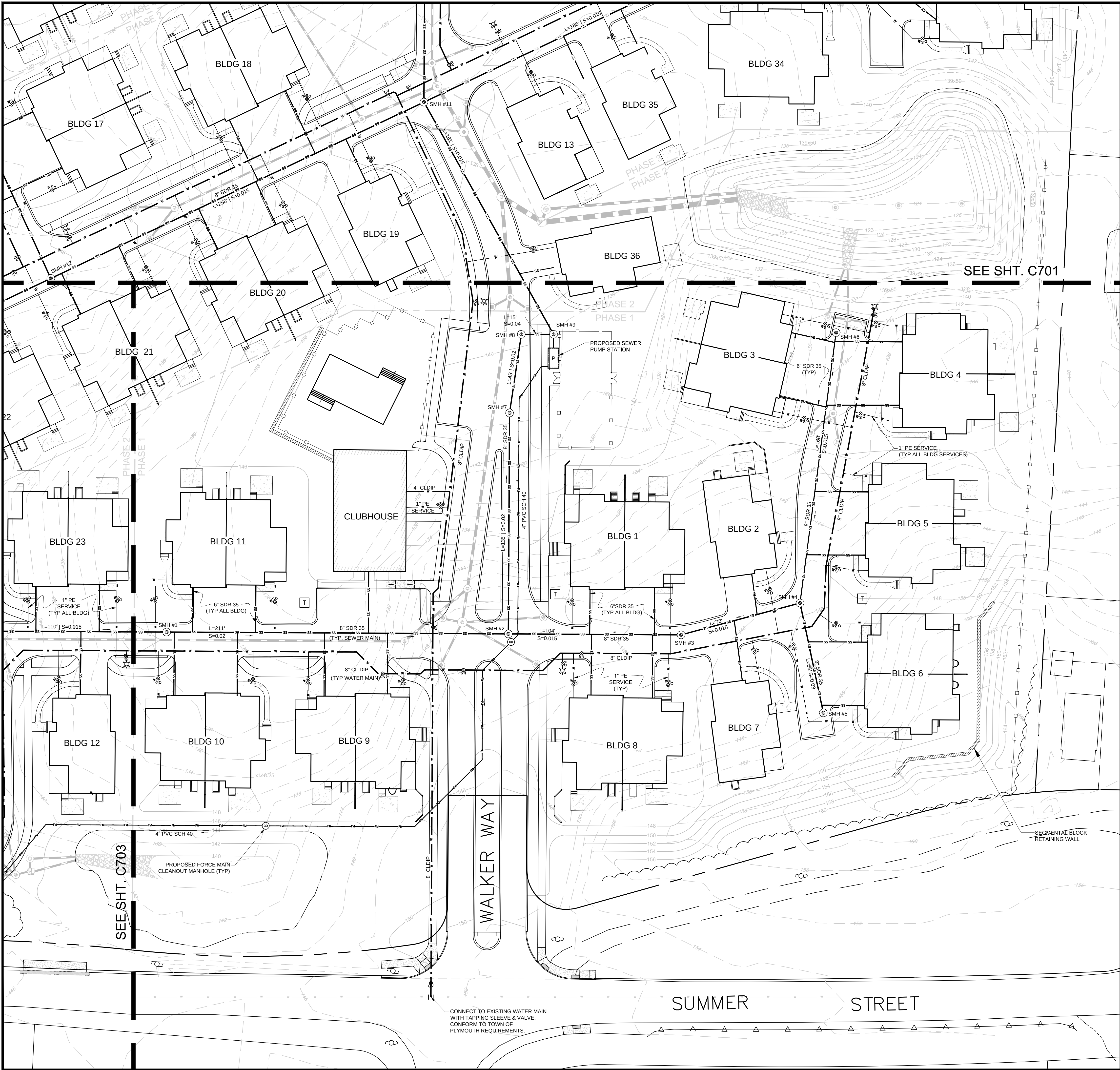
Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

SHEET TITLE:

**GRADING &
DRAINAGE
PLAN**

SHEET NUMBER:

C603

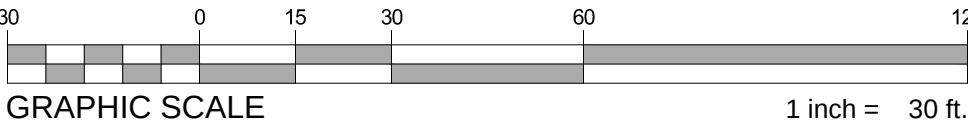


SYMBOL LEGEND	
	PROPOSED FIRE HYDRANT / GATE VALVE / RISER
	PROPOSED WATER SHUT-OFF
	PROPOSED GATE VALVE
	ELECTRIC TRANSFORMER
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED SEWER PUMP STATION
	PROPOSED FORCE MAIN CLEANOUT MANHOLE
	FLOW ARROW
	STUB & CAP & MARK
	CEMENT LINE DUCTILE IRON PIPE
	STANDARD DIMENSION RATIO PIPE
	BACK-FLOW PREVENTER
	POLYVINYL CHLORIDE PIPE
	POLYETHYLENE WATER SERVICE
	PROPOSED WATER SERVICE
	PROPOSED GRAVITY SANITARY SEWER
	PROPOSED SEWER FORCE MAIN
	CONSTRUCTION LIMIT LINE
	PHASE 1 LIMIT LINE

SANITARY SEWER SCHEDULE				
SMH #1 RIM = 147.75 I(O) = 139.00 (8") I(I) = 139.10 (8")	SMH #9 RIM = 140.70 I(O) = 130.34 (8") I(I) = 130.44 (8") I(I) STUB = 130.44 (8")	SMH #16 RIM = 166.30 I(O) = 160.30 (8") I(I) = 160.40 (8")	SMH #25 RIM = 158.50 I(O) = 150.00 (8") I(I) = 150.10 (8")	
SMH #2 RIM = 145.0 I(O) = 134.85 (8") I(I) = 134.95 (8") I(I) = 134.95 (8")	SMH #10 RIM = 169.0 I(O) = 160.25 (8" VIF) I(I) = 160.30 (4" FM)	SMH #17 RIM = 159.9 I(O) = 153.00 (8") I(I) = 153.10 (8")	SMH #26 RIM = 163.50 I(O) = 156.60 (8") I(I) = 156.70 (8")	
SMH #3 RIM = 146.5 I(O) = 136.50 (8") I(I) = 136.60 (8")	PUMP STATION 1 RIM = 140.5 I(O) = AS REQ'D (4" FM) I(I) = 130.10 (8")	SMH #18 RIM = 152.30 I(O) = 145.90 (8") I(I) = 146.00 (8")	SMH #27 RIM = 165.50 I(O) = 159.15 (8") I(I) = 159.15 (8")	
SMH #4 RIM = 147.5 I(O) = 137.70 (8") I(I) = 137.80 (8") I(I) = 141.00 (8")	SMH #11 RIM = 137.7 I(O) = 132.90 (8") I(I) = 133.00 (8") I(I) = 133.00 (8")	SMH #19 RIM = 148.50 I(O) = 143.00 (8") I(I) = 143.70 (8")	SMH #28 RIM = 140.00 I(O) = 135.80 (8") I(I) = 135.90 (8")	
SMH #5 RIM = 149.00 I(O) = 143.00 (6") I(I) = 143.10 (8")	SMH #12 RIM = 148.2 I(O) = 136.85 (8") I(I) = 141.50 (8") I(I) = 136.95 (8")	SMH #20 RIM = 146.00 I(O) = 141.30 (8") I(I) = 141.40 (8") I(I) = 141.40 (8")	SMH #29 RIM = 141.50 I(O) = 137.60 (8") I(I) = 137.70 (8")	
SMH #6 RIM = 144.2 I(O) = 140.50 (8") I(I) = 140.60 (8")	SMH #13 RIM = 151.75 I(O) = 143.25 (8") I(I) = 143.35 (8")	SMH #21 RIM = 150.50 I(O) = 144.55 (8") I(I) = 144.55 (8")	SMH #30 RIM = 142.00 I(O) = 138.25 (8") I(I) = 138.35 (8")	
SMH #7 RIM = 141.0 I(O) = 132.05 (8") I(I) = 132.15 (8")	SMH #14 RIM = 162.00 I(O) = 153.70 (8") I(I) = 153.80 (8")	SMH #22 RIM = 150.90 I(O) = 143.40 (8") I(I) = 143.50 (8")	SMH #31 RIM = 145.25 I(O) = 138.25 (8") I(I) = 138.35 (8")	
SMH #8 RIM = 139.70 I(O) = 131.04 (8") I(I) = 131.14 (8")	SMH #15 RIM = 165.50 I(O) = 157.30 (8") I(I) = 157.30 (8")	SMH #23 RIM = 150.50 I(O) = 140.22 (8") I(I) = 140.32 (8") I(I) = 140.32 (8")		
		SMH #24 RIM = 151.50 I(O) = 141.95 (8") I(I) = 142.05 (8")		

NOTE:
SEWER SCHEDULE STARTS WITH INVERT OUT, AND CONTINUES CLOCKWISE AROUND THE STRUCTURE.

- NOTES**
- ROADWAY REPAIR WITHIN THE PUBLIC RIGHT OF WAY WILL CONSIST OF HOT MIX ASPHALT LAID IN TWO, 2" COURSES (BINDER AND FINISH COARSE)
 - TRENCHING WITHIN THE RIGHT OF WAY WILL BE BACKFILLED WITH EXCAVATABLE CONTROLLED DENSITY FILL PRIOR TO PAVING.
 - SEWER INSTALLATION AND TESTING SHALL CONFORM WITH PLYMOUTH D.P.W. STANDARDS.
 - WATER INSTALLATION AND TESTING SHALL CONFORM WITH PLYMOUTH D.P.W. STANDARDS.
 - CONTRACTOR TO VERIFY BUILDING AND SEWER MAIN COVER EXCEEDS 48". IF COVER IS LESS CONTRACTOR TO INSULATE PIPE WITH 2" RIGID INSULATION PIPE JACKET WITHIN 48" OF FINISHED GRADE.
 - ELECTRIC AND GAS DISTRIBUTION DESIGNS TO BE PREPARED BY PRIVATE UTILITY COMPANIES.
 - WHERE WATER AND SEWER CROSSING OCCUR, INSTALL WATER OVER SEWER WHERE POSSIBLE MAINTAIN 18" VERTICAL SEPARATION AND EARTH COVER REQUIREMENTS. NO PIPE JOINTS ARE ALLOWED WITHIN 10' OF THE CROSSING.
 - ALL SEWER SERVICES AT MAIN SHALL BE PROVIDED WITH A CLEANOUT AT GRADE, SEE "DETAIL SHEET, C800".



HIGHPOINT
ENGINEERING, INC.
CANTON CORPORATE PLACE
45 DAN ROAD, SUITE 140 | CANTON, MA 02021
t 781.770.0970 | www.highpointeng.com

CLIENT:
THORNDIKE DEVELOPMENT CORP.
8 PLEASANT STREET
NATICK, MA 01760
t 978.310.7070

CONSULTANT:

SEAL:

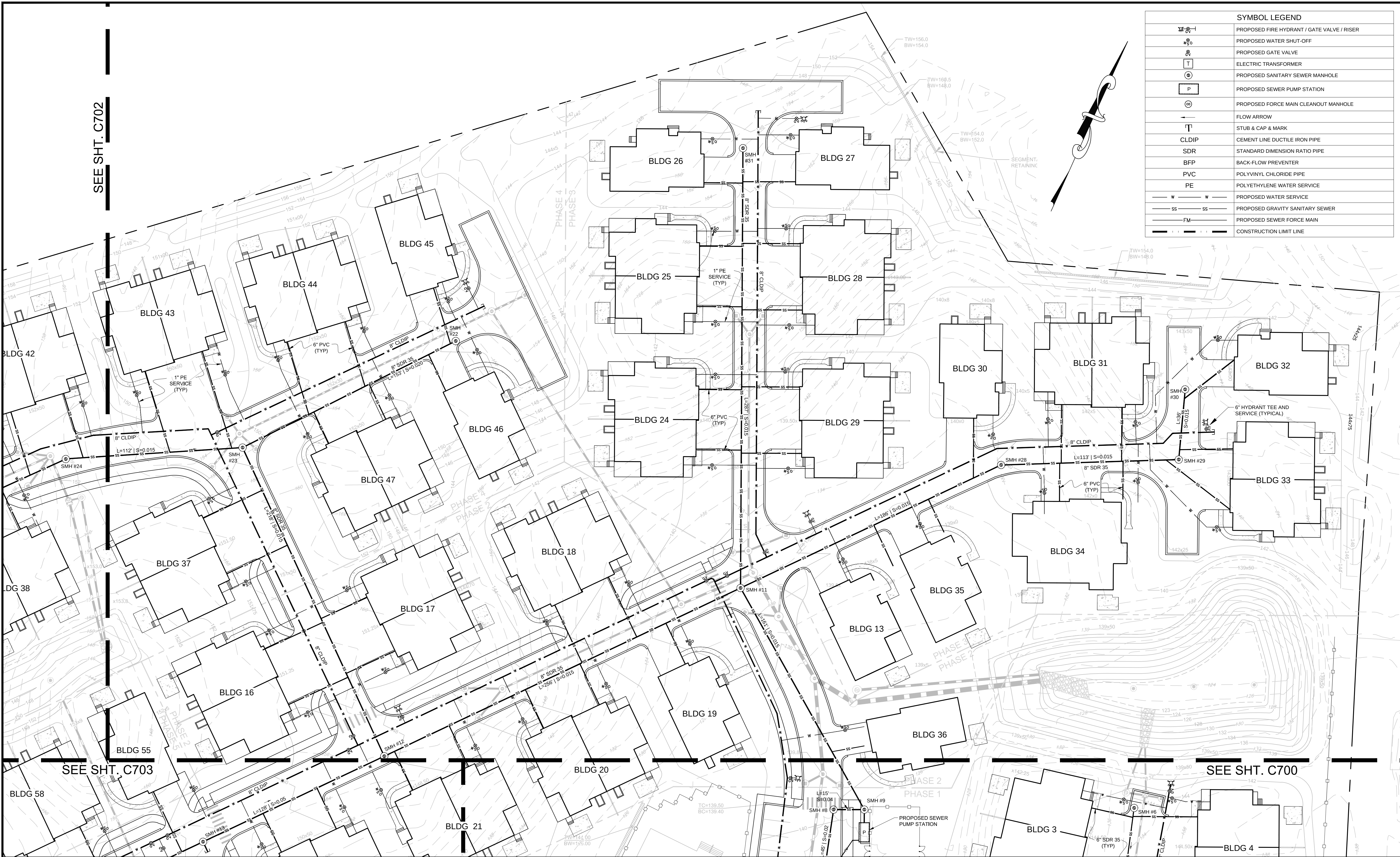
SUMMER REACH
PHASE 1-6 - SITE DEVELOPMENT PLAN
249 SUMMER STREET
PLYMOUTH, MASSACHUSETTS
OWNER/APPLICANT: THORNDIKE DEVELOPMENT CORP.

REV	DATE	DESCRIPTION
2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS

ISSUE TYPE:
PERMIT SET
ISSUE DATE:
MAY 12, 2017
PROJECT NUMBER:
16034

DRAWN BY: **KMK**
CHECKED BY: **DJH**
Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

SHEET TITLE:
UTILITY PLAN
SHEET NUMBER:
C700



SYMBOL LEGEND	
	PROPOSED FIRE HYDRANT / GATE VALVE / RISER
	PROPOSED WATER SHUT-OFF
	PROPOSED GATE VALVE
	ELECTRIC TRANSFORMER
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED SEWER PUMP STATION
	PROPOSED FORCE MAIN CLEANOUT MANHOLE
	FLOW ARROW
	STUB & CAP & MARK
	C/DIP
	SDR
	BFP
	PVC
	PE
	PROPOSED WATER SERVICE
	PROPOSED GRAVITY SANITARY SEWER
	PROPOSED SEWER FORCE MAIN
	CONSTRUCTION LIMIT LINE

HIGHPOINT

ENGINEERING, INC.

CANTON CORPORATE PLACE

45 DAN ROAD, SUITE 140 | CANTON, MA 02021

781.770.0970 | www.highpointeng.com

CLIENT:

THORNDIKE DEVELOPMENT CORP.

8 PLEASANT STREET

NATICK, MA 01760

978.310.7070

CONSULTANT:

SEAL:

SUMMER REACH

PHASE 1-6 - SITE DEVELOPMENT PLAN

249 SUMMER STREET

PLYMOUTH, MASSACHUSETTS

OWNER/APPLICANT: THORNDIKE DEVELOPMENT CORP.

REV	DATE	DESCRIPTION
2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS

ISSUE TYPE:
PERMIT SET
ISSUE DATE:
MAY 12, 2017
PROJECT NUMBER:
16034

DRAWN BY: MKM
CHECKED BY: DJH

Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

SHEET TITLE:

UTILITY PLAN

SHEET NUMBER:

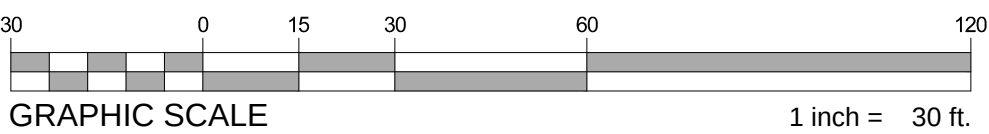
C701

SANITARY SEWER SCHEDULE											
SMH #1 RIM = 147.75 I(O) = 139.00 (8") I(I) = 139.10 (8")	SMH #4 RIM = 147.5 I(O) = 137.70 (8") I(I) = 137.80 (8") I(I) = 141.00 (8")	SMH #8 RIM = 139.70 I(O) = 131.04 (8") I(I) = 131.14 (8")	PUMP STATION 1 RIM = 140.5 I(O) = AS REQ'D (4" FM) I(I) = 130.10 (8")	SMH #13 RIM = 151.75 I(O) = 143.25 (8") I(I) = 143.25 (8")	SMH #16 RIM = 166.30 I(O) = 160.30 (8")	SMH #17 RIM = 159.9 I(O) = 153.00 (8") I(I) = 153.80 (8")	SMH #19 RIM = 148.50 I(O) = 143.70 (8")	SMH #22 RIM = 150.90 I(O) = 143.40 (8")	SMH #25 RIM = 158.50 I(O) = 150.00 (8") I(I) = 150.10 (8")	SMH #28 RIM = 140.00 I(O) = 135.80 (8") I(I) = 135.90 (8")	SMH #29 RIM = 141.50 I(O) = 137.60 (8") I(I) = 137.70 (8")
SMH #2 RIM = 145.0 I(O) = 134.95 (8") I(I) = 134.95 (8")	SMH #5 RIM = 149.00 I(O) = 143.00 (6") I(I) STUB = 130.44 (8")	SMH #9 RIM = 140.70 I(O) = 130.34 (8") I(I) STUB = 130.44 (8")	SMH #11 RIM = 137.7 I(O) = 132.90 (8") I(I) = 133.00 (8") I(I) = 133.00 (8")	SMH #14 RIM = 162.00 I(O) = 153.70 (8") I(I) = 153.80 (8")	SMH #15 RIM = 165.50 I(O) = 157.30 (8")	SMH #18 RIM = 152.30 I(O) = 145.90 (8") I(I) = 146.00 (8")	SMH #20 RIM = 146.00 I(O) = 140.30 (8") I(I) = 141.40 (8") I(I) = 141.40 (8")	SMH #23 RIM = 150.50 I(O) = 140.22 (8") I(I) = 140.32 (8") I(I) = 140.32 (8")	SMH #26 RIM = 163.50 I(O) = 156.60 (8") I(I) = 156.70 (8")	SMH #27 RIM = 165.50 I(O) = 159.15 (8")	SMH #30 RIM = 142.00 I(O) = 138.25 (8") I(I) = 138.35 (8")
SMH #3 RIM = 146.5 I(O) = 136.50 (8") I(I) = 136.60 (8")	SMH #6 RIM = 144.2 I(O) = 140.50 (8")	SMH #10 RIM = 169.0 I(O) = 160.25 (8" VIF) I(I) = 160.30 (4" FM)	SMH #12 RIM = 148.2 I(O) = 136.85 (8") I(I) = 141.50 (8") I(I) = 136.95 (8")	SMH #13 RIM = 151.75 I(O) = 143.25 (8") I(I) = 143.25 (8")	SMH #16 RIM = 166.30 I(O) = 160.30 (8")	SMH #17 RIM = 159.9 I(O) = 153.00 (8") I(I) = 153.80 (8")	SMH #19 RIM = 148.50 I(O) = 143.70 (8")	SMH #22 RIM = 150.90 I(O) = 143.40 (8")	SMH #25 RIM = 158.50 I(O) = 150.00 (8") I(I) = 150.10 (8")	SMH #28 RIM = 140.00 I(O) = 135.80 (8") I(I) = 135.90 (8")	SMH #29 RIM = 141.50 I(O) = 137.60 (8") I(I) = 137.70 (8")

NOTE:
SEWER SCHEDULE STARTS WITH INVERT OUT, AND CONTINUES CLOCKWISE AROUND THE STRUCTURE.

NOTES

- ROADWAY REPAIR WITHIN THE PUBLIC RIGHT OF WAY WILL CONSIST OF HOT MIX ASPHALT LAID IN TWO, 2" COURSES (BINDER AND FINISH COARSE)
- TRENCHING WITHIN THE RIGHT OF WAY WILL BE BACKFILLED WITH EXCAVATABLE CONTROLLED DENSITY FILL PRIOR TO PAVING.
- SEWER INSTALLATION AND TESTING SHALL CONFORM WITH PLYMOUTH D.P.W STANDARDS.
- WATER INSTALLATION AND TESTING SHALL CONFORM WITH PLYMOUTH D.P.W STANDARDS.
- CONTRACTOR TO VERIFY BUILDING AND SEWER MAIN COVER EXCEEDS 48". IF COVER IS LESS CONTRACTOR TO INSULATE PIPE WITH 2" RIGID INSULATION PIPE JACKET WITHIN 48" OF FINISHED GRADE.
- ELECTRIC AND GAS DISTRIBUTION DESIGNS TO BE PREPARED BY PRIVATE UTILITY COMPANIES.
- WHERE WATER AND SEWER CROSSING OCCUR, INSTALL WATER OVER SEWER WHERE POSSIBLE MAINTAIN 18" VERTICAL SEPARATION AND EARTH COVER REQUIREMENTS. NO PIPE JOINTS ARE ALLOWED WITHIN 10' OF THE CROSSING.
- ALL SEWER SERVICES AT MAIN SHALL BE PROVIDED WITH A CLEANOUT AT GRADE - SEE 'DETAIL SHEET, C800'.





SYMBOL LEGEND	
	PROPOSED FIRE HYDRANT / GATE VALVE / RISER
	PROPOSED WATER SHUT-OFF
	PROPOSED GATE VALVE
	ELECTRIC TRANSFORMER
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED SEWER PUMP STATION
	PROPOSED FORCE MAIN CLEANOUT MANHOLE
	FLOW ARROW
	STUB & CAP & MARK
	CEMENT LINE DUCTILE IRON PIPE
	STANDARD DIMENSION RATIO PIPE
	BACK-FLOW PREVENTER
	POLYVINYL CHLORIDE PIPE
	POLYETHYLENE WATER SERVICE
	PROPOSED WATER SERVICE
	PROPOSED GRAVITY SANITARY SEWER
	PROPOSED SEWER FORCE MAIN
	CONSTRUCTION LIMIT LINE

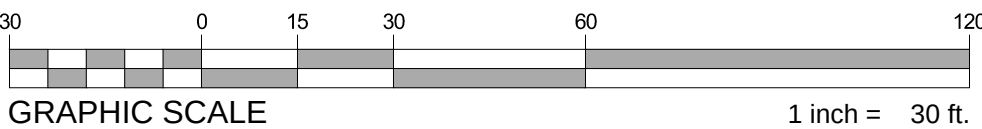
SANITARY SEWER SCHEDULE

SMH #1 RIM = 147.75 I(O) = 139.00 (8") I(O) = 139.10 (8")	SMH #9 RIM = 140.70 I(O) = 130.34 (8") I(O) STUB = 130.44 (8")	SMH #16 RIM = 166.30 I(O) = 160.30 (8")	SMH #25 RIM = 158.50 I(O) = 150.00 (8") I(O) = 150.10 (8")
SMH #2 RIM = 145.0 I(O) = 134.85 (8") I(O) = 134.95 (8") I(O) = 134.95 (8")	SMH #10 RIM = 169.0 I(O) = 160.25 (8" VIF) I(O) = 160.30 (4" FM)	SMH #17 RIM = 159.9 I(O) = 153.00 (8") I(O) = 153.10 (8")	SMH #26 RIM = 163.50 I(O) = 156.60 (8") I(O) = 156.70 (8")
SMH #3 RIM = 146.5 I(O) = 136.50 (8") I(O) = 136.60 (8")	PUMP STATION 1 RIM = 140.5 I(O) = AS REQ'D (4" FM) I(O) = 130.10 (8")	SMH #18 RIM = 152.30 I(O) = 145.90 (8") I(O) = 146.00 (8")	SMH #27 RIM = 165.50 I(O) = 159.15 (8")
SMH #4 RIM = 147.5 I(O) = 137.70 (8") I(O) = 137.80 (8") I(O) = 141.00 (8")	SMH #11 RIM = 137.7 I(O) = 132.90 (8") I(O) = 133.00 (8") I(O) = 133.00 (8")	SMH #19 RIM = 148.50 I(O) = 143.60 (8") I(O) = 143.70 (8")	SMH #28 RIM = 140.00 I(O) = 135.80 (8") I(O) = 135.90 (8")
SMH #5 RIM = 149.00 I(O) = 143.00 (8")	SMH #12 RIM = 148.00 I(O) = 136.85 (8") I(O) = 141.50 (8") I(O) = 136.95 (8")	SMH #20 RIM = 146.00 I(O) = 141.30 (8") I(O) = 141.40 (8") I(O) = 141.40 (8")	SMH #29 RIM = 141.50 I(O) = 137.60 (8") I(O) = 137.70 (8")
SMH #6 RIM = 144.2 I(O) = 140.50 (8")	SMH #13 RIM = 151.75 I(O) = 143.25 (8") I(O) = 143.35 (8")	SMH #22 RIM = 150.90 I(O) = 143.40 (8")	SMH #30 RIM = 142.00 I(O) = 138.25 (8") I(O) = 138.35 (8")
SMH #7 RIM = 141.0 I(O) = 132.05 (8") I(O) = 132.15 (8")	SMH #14 RIM = 162.00 I(O) = 153.70 (8") I(O) = 153.80 (8")	SMH #23 RIM = 150.50 I(O) = 140.22 (8") I(O) = 140.32 (8") I(O) = 140.32 (8")	SMH #31 RIM = 145.25 I(O) = 138.25 (8")
SMH #8 RIM = 139.70 I(O) = 131.04 (8") I(O) = 131.14 (8")	SMH #15 RIM = 165.50 I(O) = 157.30 (8")	SMH #24 RIM = 151.50 I(O) = 141.95 (8") I(O) = 142.05 (8")	

NOTE:
SEWER SCHEDULE STARTS WITH INVERT OUT, AND CONTINUES CLOCKWISE AROUND THE STRUCTURE.

NOTES

- ROADWAY REPAIR WITHIN THE PUBLIC RIGHT OF WAY WILL CONSIST OF HOT MIX ASPHALT LAID IN TWO, 2" COURSES (BINDER AND FINISH COARSE)
- TRENCHING WITHIN THE RIGHT OF WAY WILL BE BACKFILLED WITH EXCAVATABLE CONTROLLED DENSITY FILL PRIOR TO PAVING.
- SEWER INSTALLATION AND TESTING SHALL CONFORM WITH PLYMOUTH D.P.W. STANDARDS.
- WATER INSTALLATION AND TESTING SHALL CONFORM WITH PLYMOUTH D.P.W. STANDARDS.
- CONTRACTOR TO VERIFY BUILDING AND SEWER MAIN COVER EXCEEDS 48", IF COVER IS LESS CONTRACTOR TO INSULATE PIPE WITH 2" RIGID INSULATION PIPE JACKET WITHIN 48" OF FINISHED GRADE.
- ELECTRIC AND GAS DISTRIBUTION DESIGNS TO BE PREPARED BY PRIVATE UTILITY COMPANIES.
- WHERE WATER AND SEWER CROSSING OCCUR, INSTALL WATER OVER SEWER WHERE POSSIBLE MAINTAIN 18" VERTICAL SEPARATION AND EARTH COVER REQUIREMENTS. NO PIPE JOINTS ARE ALLOWED WITHIN 10' OF THE CROSSING.
- ALL SEWER SERVICES AT MAIN SHALL BE PROVIDED WITH A CLEANOUT AT GRADE, SEE "DETAIL SHEET, C800".



CLIENT:

THORNDIKE DEVELOPMENT CORP.
8 PLEASANT STREET
NATICK, MA 01760
t 978.310.7070

CONSULTANT:

SEAL

SUMMER REACH
PHASE 1-6 - SITE DEVELOPMENT PLAN

249 SUMMER STREET
PLYMOUTH, MASSACHUSETTS

OWNER/APPLICANT: THORNDIKE DEVELOPMENT CORP.

2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS

REV DATE DESCRIPTION

ISSUE TYPE:

PERMIT SET

ISSUE DATE:

MAY 12, 2017

PROJECT NUMBER:

16034

DRAWN BY: MKM

CHECKED BY: DJH

Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

SHEET TITLE:

UTILITY PLAN

SHEET NUMBER:

C702

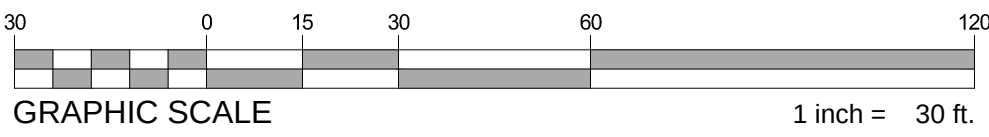
SYMBOL LEGEND	
	PROPOSED FIRE HYDRANT / GATE VALVE / RISER
	PROPOSED WATER SHUT-OFF
	PROPOSED GATE VALVE
	ELECTRIC TRANSFORMER
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED SEWER PUMP STATION
	PROPOSED FORCE MAIN CLEANOUT MANHOLE
	FLOW ARROW
	STUB & CAP & MARK
	CEMENT LINE DUCTILE IRON PIPE
	STANDARD DIMENSION RATIO PIPE
	BACK-FLOW PREVENTER
	POLYVINYL CHLORIDE PIPE
	POLYETHYLENE WATER SERVICE
	PROPOSED WATER SERVICE
	PROPOSED GRAVITY SANITARY SEWER
	PROPOSED SEWER FORCE MAIN
	CONSTRUCTION LIMIT LINE



SANITARY SEWER SCHEDULE											
SMH #1 RIM = 147.75 I(O) = 139.00 (8") I(I) = 139.10 (8")	SMH #4 RIM = 147.5 I(O) = 137.70 (8") I(I) = 141.00 (8")	SMH #8 RIM = 139.70 I(O) = 131.04 (8") I(I) = 131.14 (8")	PUMP STATION 1 RIM = 140.5 I(O) = AS REQ'D (4" FM) I(I) = 130.10 (8")	SMH #13 RIM = 151.75 I(O) = 143.25 (8") I(I) = 143.25 (8")	SMH #16 RIM = 166.30 I(O) = 160.30 (8")	SMH #19 RIM = 149.50 I(O) = 143.60 (8") I(I) = 143.70 (8")	SMH #22 RIM = 150.90 I(O) = 143.40 (8")	SMH #25 RIM = 158.50 I(O) = 150.00 (8") I(I) = 150.10 (8")	SMH #28 RIM = 140.00 I(O) = 135.80 (8") I(I) = 135.90 (8")	SMH #31 RIM = 145.25 I(O) = 138.25 (8") I(I) = 138.35 (8")	SMH #34 RIM = 142.00 I(O) = 137.60 (8") I(I) = 137.70 (8")
SMH #2 RIM = 145.0 I(O) = 134.85 (8") I(I) = 134.95 (8")	SMH #5 RIM = 149.00 I(O) = 143.00 (6") I(I) = 143.10 (6")	SMH #9 RIM = 140.70 I(O) = 130.34 (8") I(I) = 130.44 (8")	SMH #11 RIM = 137.70 I(O) = 132.90 (8") I(I) = 133.00 (8")	SMH #14 RIM = 162.00 I(O) = 153.70 (8") I(I) = 153.80 (8")	SMH #17 RIM = 159.9 I(O) = 153.00 (8") I(I) = 153.10 (8")	SMH #20 RIM = 146.00 I(O) = 141.30 (8") I(I) = 141.40 (8")	SMH #23 RIM = 150.50 I(O) = 140.22 (8") I(I) = 140.32 (8")	SMH #26 RIM = 163.50 I(O) = 156.60 (8") I(I) = 156.70 (8")	SMH #29 RIM = 141.50 I(O) = 137.60 (8") I(I) = 137.70 (8")	SMH #32 RIM = 142.00 I(O) = 138.25 (8") I(I) = 138.35 (8")	SMH #35 RIM = 142.00 I(O) = 138.25 (8") I(I) = 138.35 (8")
SMH #3 RIM = 146.5 I(O) = 136.50 (8") I(I) = 136.60 (8")	SMH #6 RIM = 144.2 I(O) = 140.50 (8") I(I) = 140.60 (8")	SMH #10 RIM = 160.0 I(O) = 160.25 (8" VF) I(I) = 160.30 (4" FM)	SMH #12 RIM = 148.2 I(O) = 136.85 (8") I(I) = 141.50 (8")	SMH #15 RIM = 165.50 I(O) = 157.30 (8")	SMH #18 RIM = 152.30 I(O) = 145.90 (8") I(I) = 146.00 (8")	SMH #21 RIM = 156.50 I(O) = 141.05 (8") I(I) = 141.15 (8")	SMH #24 RIM = 151.50 I(O) = 141.05 (8") I(I) = 141.15 (8")	SMH #27 RIM = 165.50 I(O) = 159.15 (8")	SMH #30 RIM = 142.00 I(O) = 138.25 (8") I(I) = 138.35 (8")	SMH #33 RIM = 145.25 I(O) = 138.25 (8") I(I) = 138.35 (8")	SMH #36 RIM = 145.25 I(O) = 138.25 (8") I(I) = 138.35 (8")

- NOTES
- ROADWAY REPAIR WITHIN THE PUBLIC RIGHT OF WAY WILL CONSIST OF HOT MIX ASPHALT LAID IN TWO, 2" COURSES (BINDER AND FINISH COARSE)
 - TRENCHING WITHIN THE RIGHT OF WAY WILL BE BACKFILLED WITH EXCAVATABLE CONTROLLED DENSITY FILL PRIOR TO PAVING.
 - SEWER INSTALLATION AND TESTING SHALL CONFORM WITH PLYMOUTH D.P.W. STANDARDS.
 - WATER INSTALLATION AND TESTING SHALL CONFORM WITH PLYMOUTH D.P.W. STANDARDS.
 - CONTRACTOR TO VERIFY BUILDING AND SEWER MAIN COVER EXCEEDS 48". IF COVER IS LESS CONTRACTOR TO INSULATE PIPE WITH 2" RIGID INSULATION PIPE JACKET WITHIN 48" OF FINISHED GRADE.
 - ELECTRIC AND GAS DISTRIBUTION DESIGNS TO BE PREPARED BY PRIVATE UTILITY COMPANIES.
 - WHERE WATER AND SEWER CROSSING OCCUR, INSTALL WATER OVER SEWER WHERE POSSIBLE MAINTAIN 18" VERTICAL SEPARATION AND EARTH COVER REQUIREMENTS, NO PIPE JOINTS ARE ALLOWED WITHIN 10' OF THE CROSSING.
 - ALL SEWER SERVICES AT MAIN SHALL BE PROVIDED WITH A CLEANOUT AT GRADE, SEE "DETAIL SHEET, C800".

NOTE:
SEWER SCHEDULE STARTS WITH INVERT OUT, AND CONTINUES CLOCKWISE AROUND THE STRUCTURE.



HIGHPOINT
HIGHPOINT ENGINEERING, INC.
CANTON CORPORATE PLACE
45 DAN ROAD, SUITE 140 | CANTON, MA 02021
t 781.770.0970 | www.highpointeng.com

CLIENT:
THORNDIKE DEVELOPMENT CORP.
8 PLEASANT STREET
NATICK, MA 01760
t 978.310.7070

CONSULTANT:

SEAL

SUMMER REACH
PHASE 1-6 - SITE DEVELOPMENT PLAN

249 SUMMER STREET
PLYMOUTH, MASSACHUSETTS

OWNER/APPLICANT: THORNDIKE DEVELOPMENT CORP.

REV	DATE	DESCRIPTION
2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS

ISSUE TYPE:
PERMIT SET

ISSUE DATE:
MAY 12, 2017

PROJECT NUMBER:
16034

DRAWN BY: MKM
CHECKED BY: DJH

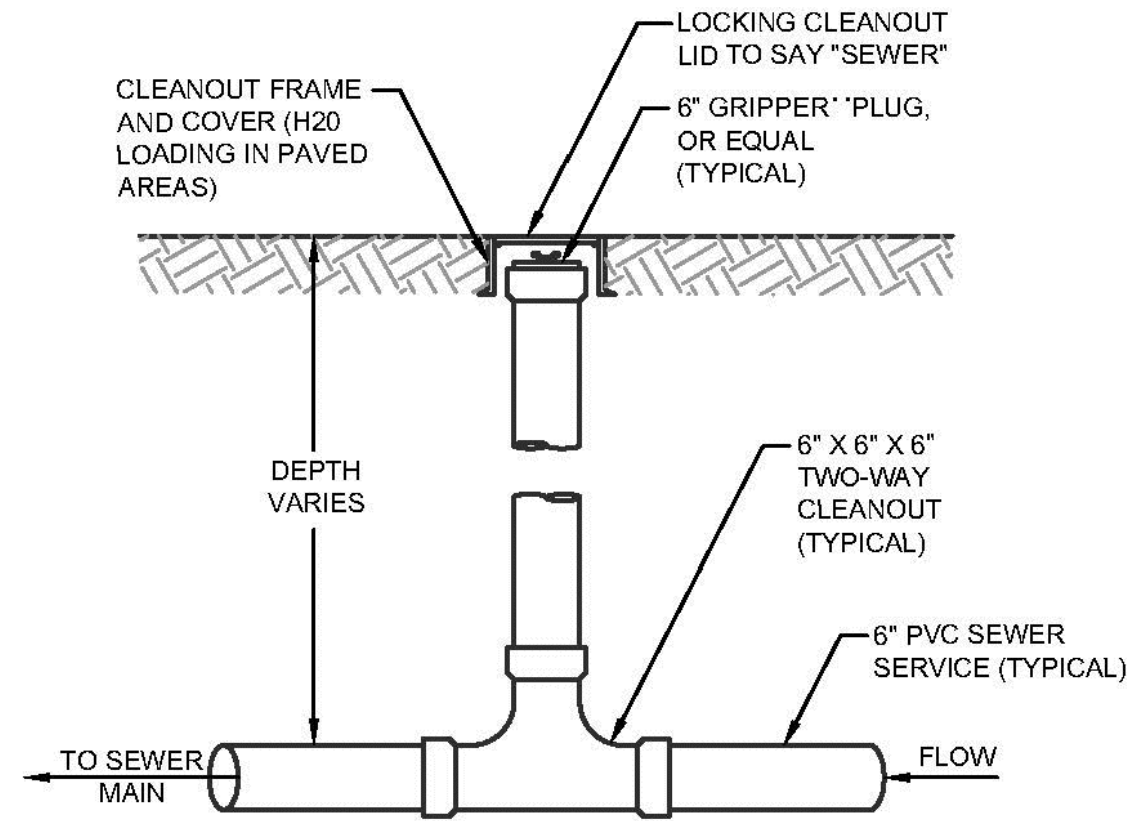
Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

SHEET TITLE:

UTILITY PLAN

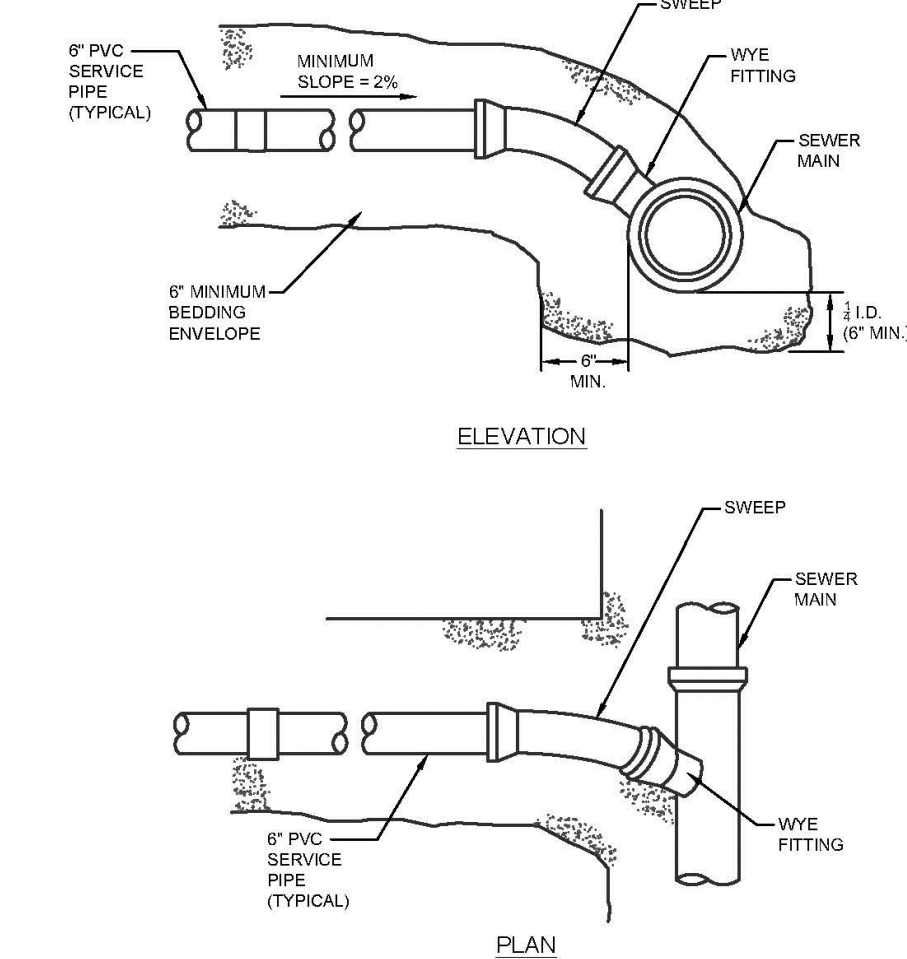
SHEET NUMBER:

C703



TWO-WAY SEWER
LATERAL CLEANOUT

NOT TO SCALE



SEWER LATERAL
CONNECTION

NOT TO SCALE

SEWER CLEANOUT DETAIL

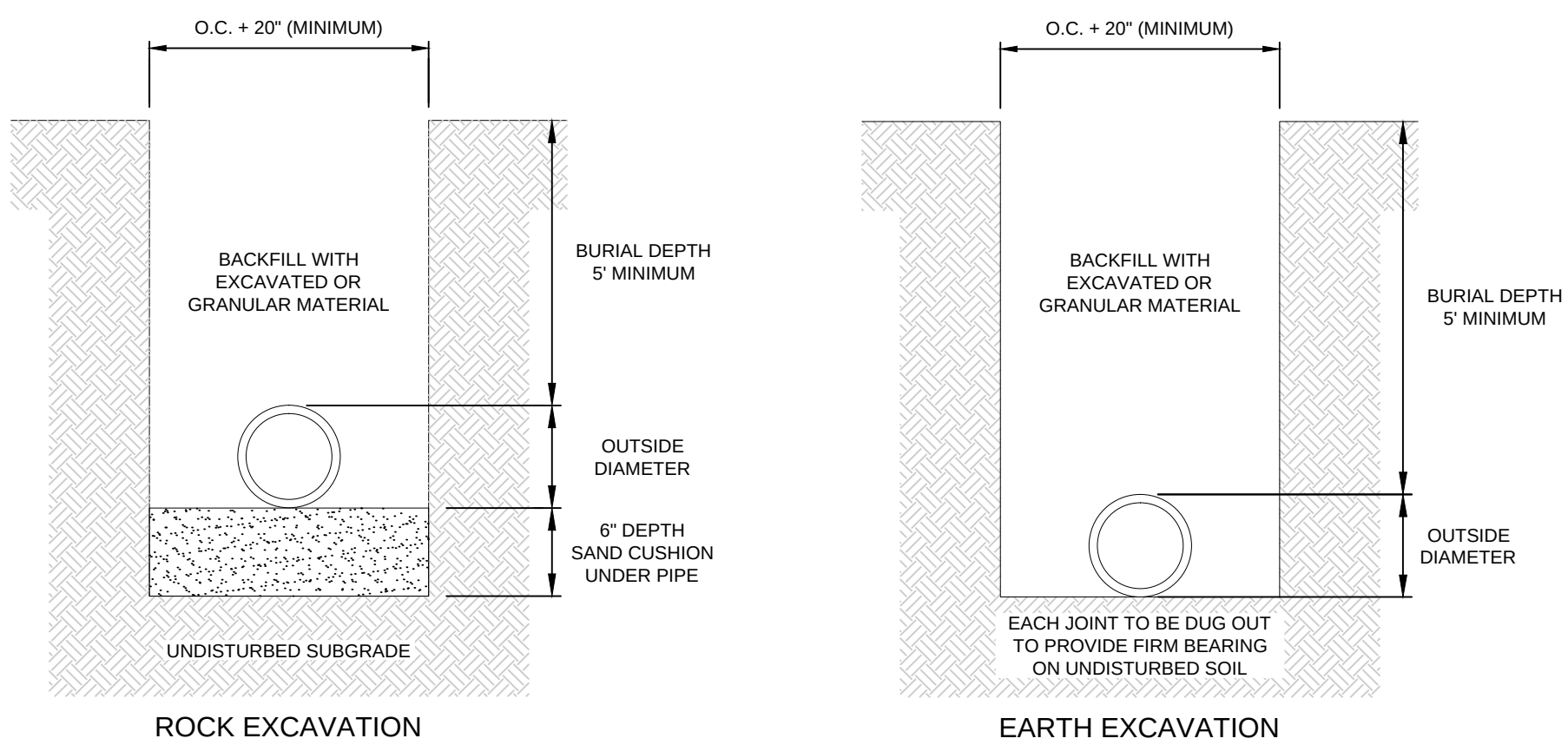
NOT TO SCALE

C5

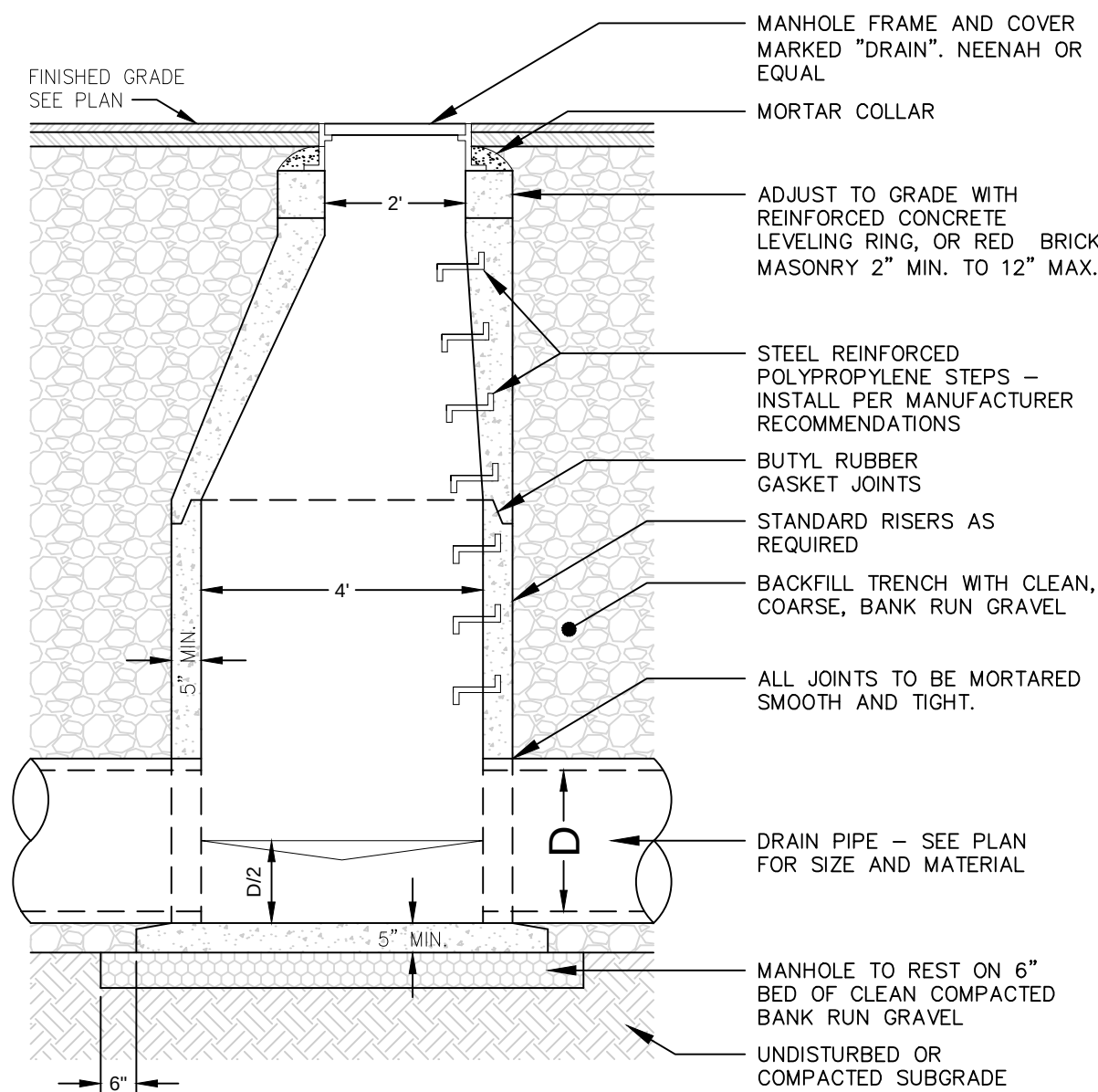
SEWER CONNECTION DETAIL

NOT TO SCALE

C4



NOTE: TRENCHING, BACKFILLING, COMPACTION, AND GRANULAR FILL MATERIALS SHALL CONFORM TO PLYMOUTH DPW STANDARD SPECIFICATIONS FOR EXCAVATION WITHIN PUBLIC RIGHT OF WAY BACKFILL TRENCH WITH EXCAVATEABLE CONTROLLED DENSITY FILL.



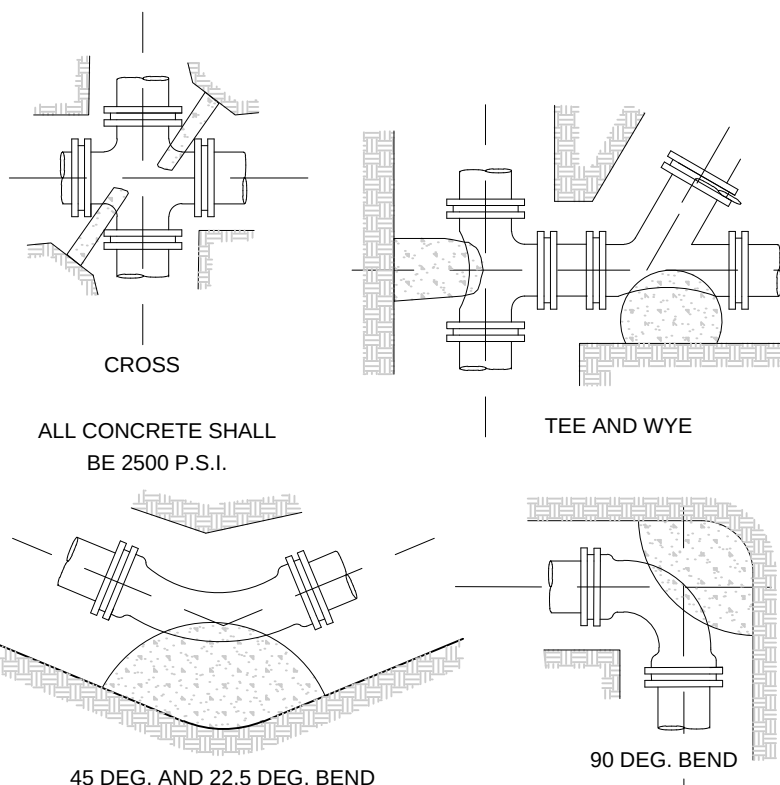
PRECAST CONCRETE DRAIN MANHOLE

NOT TO SCALE

B1

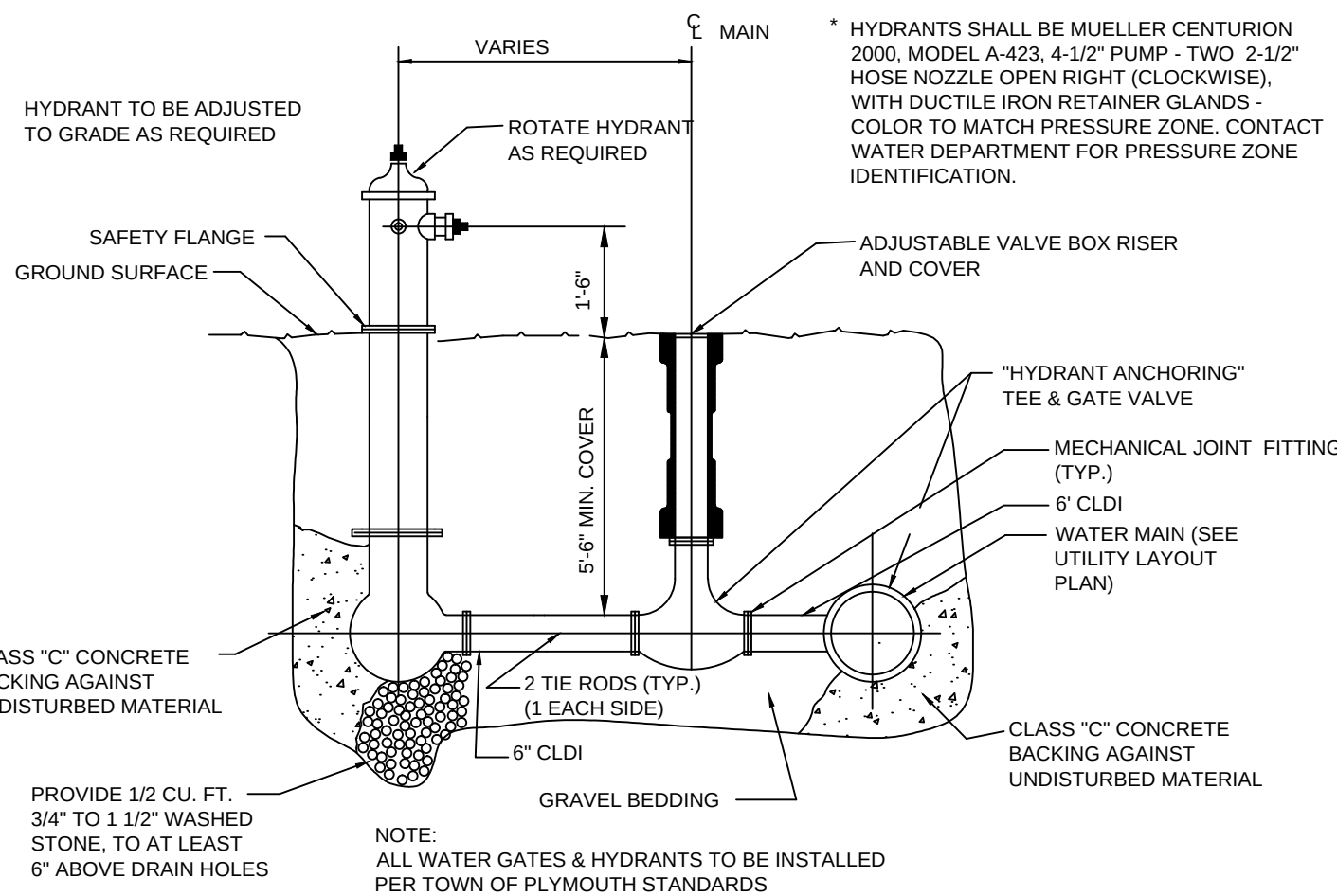
TABLE OF MINIMUM BEARING AREA IN SQ. IN. AGAINST UNDISTURBED SOIL FOR 8 IN. DIA. PIPE			
SOIL BEARING CAPACITY (PSF)	90 DEGREE BEND	TEE	45 DEGREE BEND
1000	945	674	516
1500	630	450	344
2000	473	337	258
3000	315	225	172

NOTE: FOR FITTINGS W/LESS THAN 45 DEGREES DEFLECTION USE BEARING AREA FOR 45 DEGREE BEND BASED ON INTERNAL PRESSURE OF 80 PSI



THRUST BLOCKS

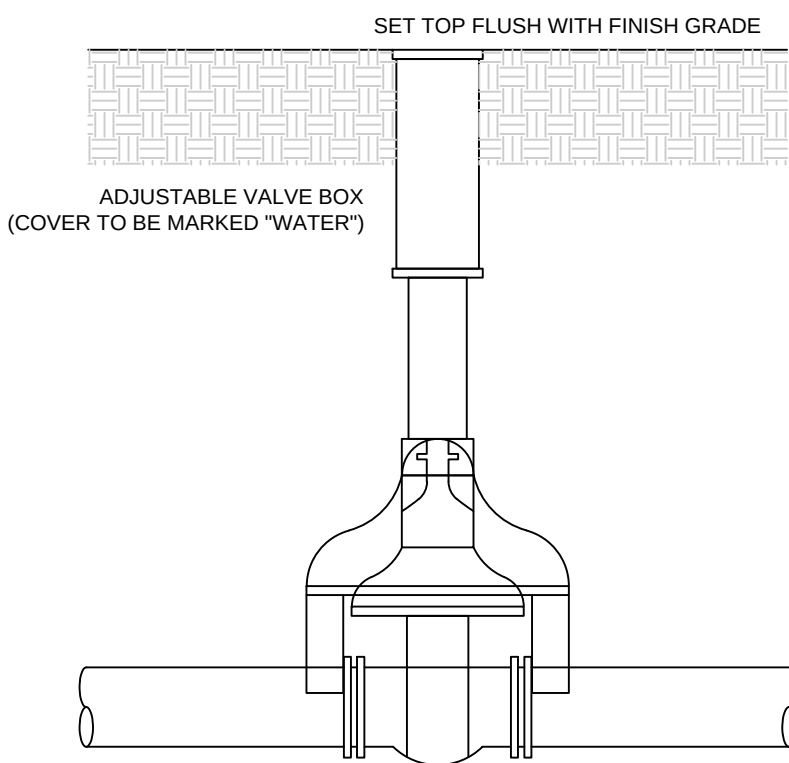
A4



FIRE HYDRANT AND GATE VALVE

NOT TO SCALE

A3



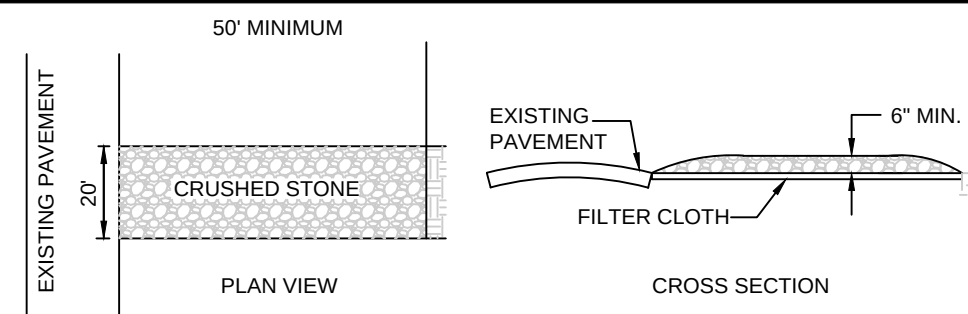
NOTES:

1. VALVE BOXES SHALL BE PROVIDED FOR EACH GATE VALVE AND TAPPING SLEEVE AND VALVE.
2. VALVE BOXES SHALL BE CAST IRON AND OF THE TELESCOPIC DESIGN WITH TWO PIECE CONSTRUCTION, TOP WITH A COVER AND A BOTTOM. THE TOP SECTION SHALL HAVE A TOP FLANGE TO INCREASE THE STABILITY OF THE BOX TO REMAIN AT PRESENT HEIGHT. THE LOWER SECTION OF THE BOX SHALL HAVE A BELL SHAPED BOTTOM DESIGNED TO ENCLOSE THE OPERATING NUT AND STUFFING BOX OF THE VALVE WITHOUT SETTLING.
3. THE GATE BOX SHALL COME COMPLETE WITH COVER ON WHICH THE WORD "WATER" SHALL BE CAST. THE COVER OF THE GATE BOX SHALL BE CLOSE FITTING AND SUBSTANTIALLY DIRT TIGHT AND FLUSH WITH THE TOP OF THE BOX RIM.
4. GATE BOXES SHALL BE INSTALLED FOR EACH BURIED VALVE.
5. VALVE BOXES SHALL BE CP TEST SERVICES, INC. OR EQUAL.
6. CAST IRON BOXES SHALL BE GENERAL FOUNDRY BUFFALO BOXES OR EQUAL. VALVE SHALL OPEN RIGHT.

WATER GATE BOX

NOT TO SCALE

A2



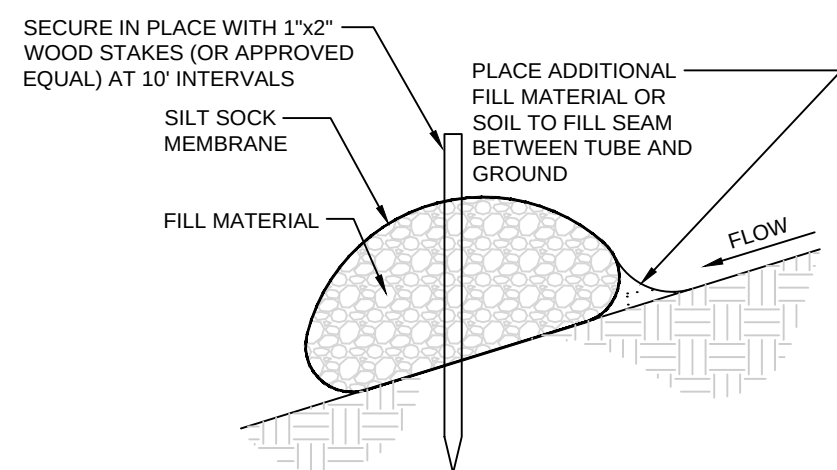
TRACKING PAD NOTES

1. STONE SIZE - USE 6" ANGULAR CRUSHED STONE
2. FILTER CLOTH - SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
3. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHOULD BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHOULD BE PERMITTED.
4. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANING OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

CRUSHED STONE TRACKING PAD

NOT TO SCALE

C3



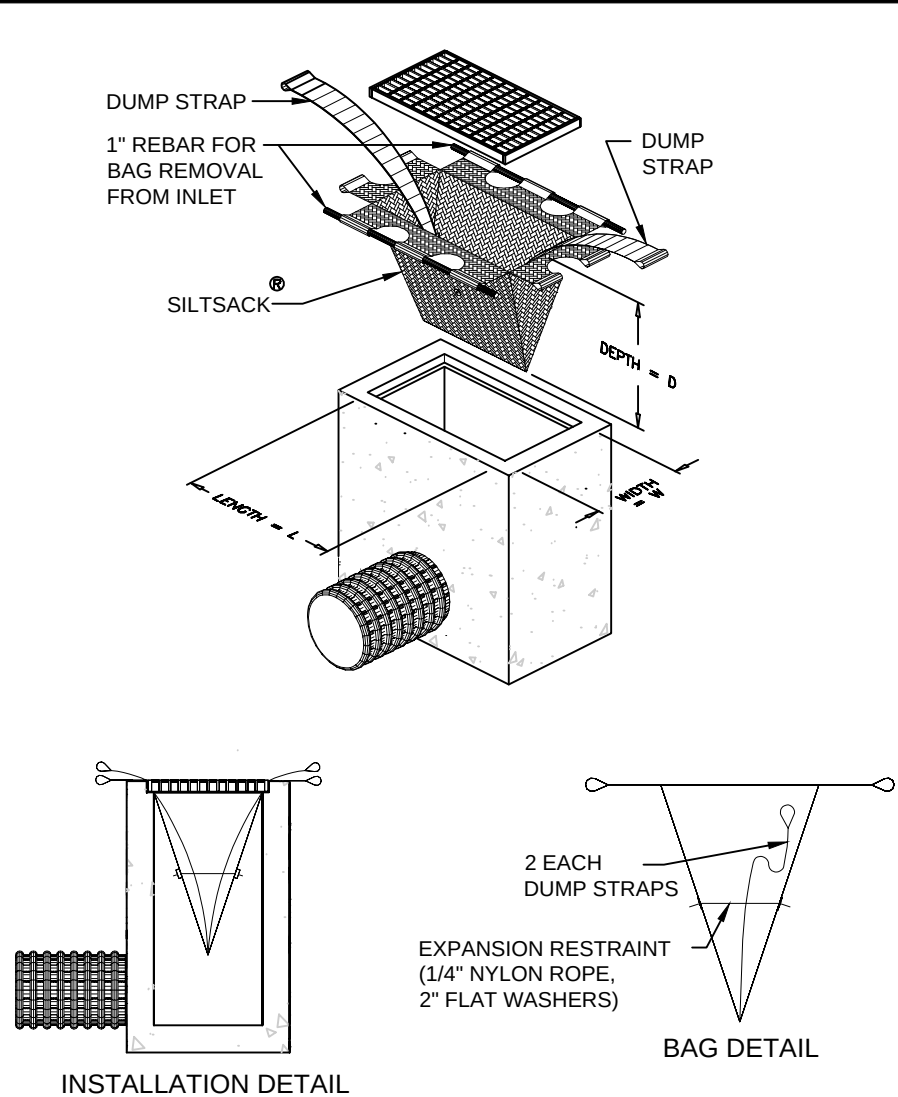
NOTES

1. SOCK MEMBRANE SHALL BE 12" DIAMETER OVAL-TO-ROUND MESH TUBE.
2. FILL MATERIAL SHALL BE WOOD CHIPS, MULCH OR A COMBINATION THEREOF, AND SCREENED TO REMOVE FINES.
3. IN AREAS WHERE STAKING IS INFEASIBLE, I.E. ON PAVED SURFACES, FILTER MEDIA SHALL CONSIST OF CLEAN BANK-RUN GRAVEL.
4. THE SOCK SHALL BE FILLED USING A PNEUMATIC BLOWER OR SIMILAR DEVICE. HAND FILLING IS NOT ACCEPTABLE.

FILTER SOCK EROSION CONTROL BARRIER

NOT TO SCALE

C2



SILTSACK® SPECIFICATIONS

NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE SPECIFICATIONS PROVIDED.

REGULAR FLOW SILTSACK®

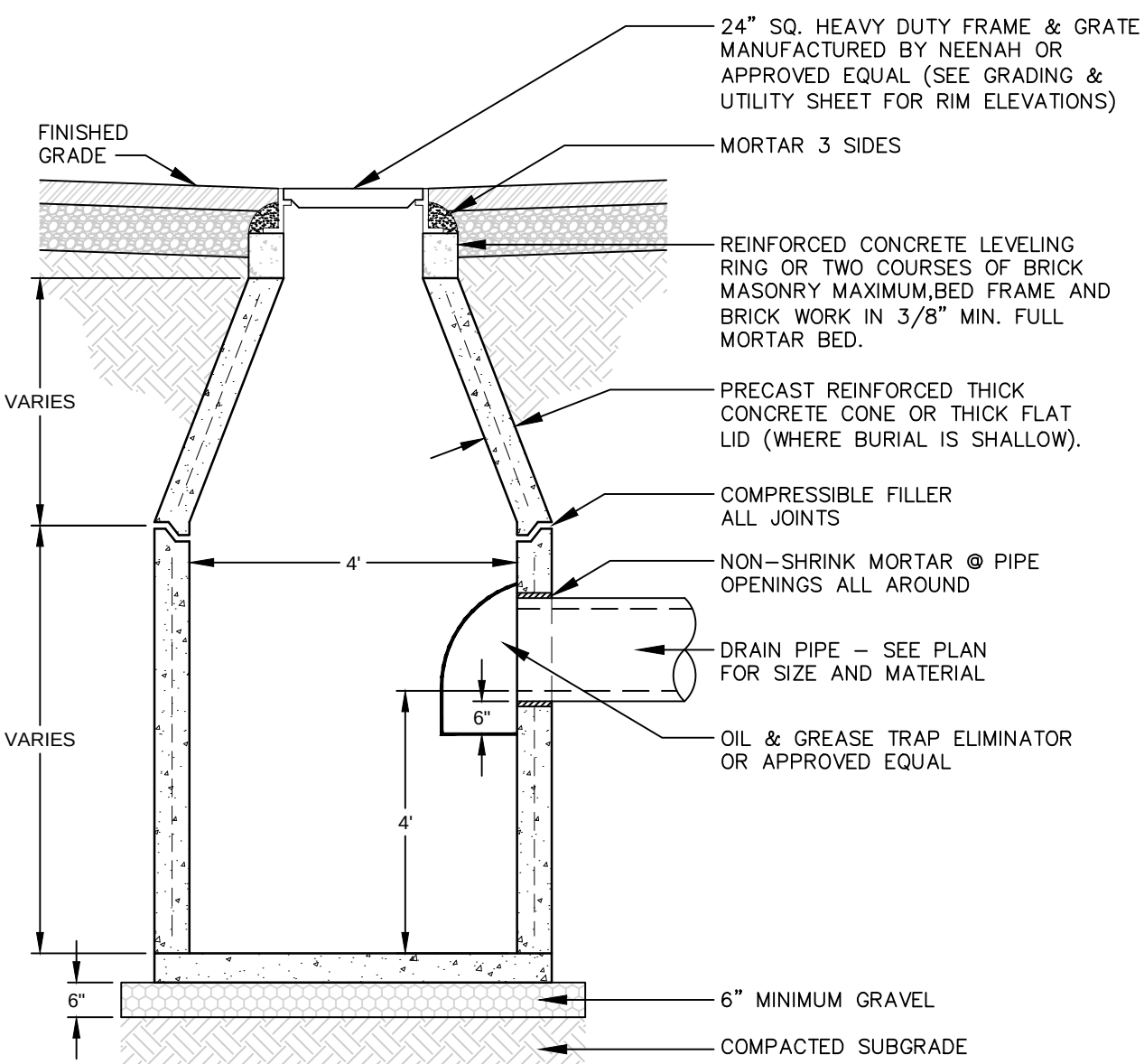
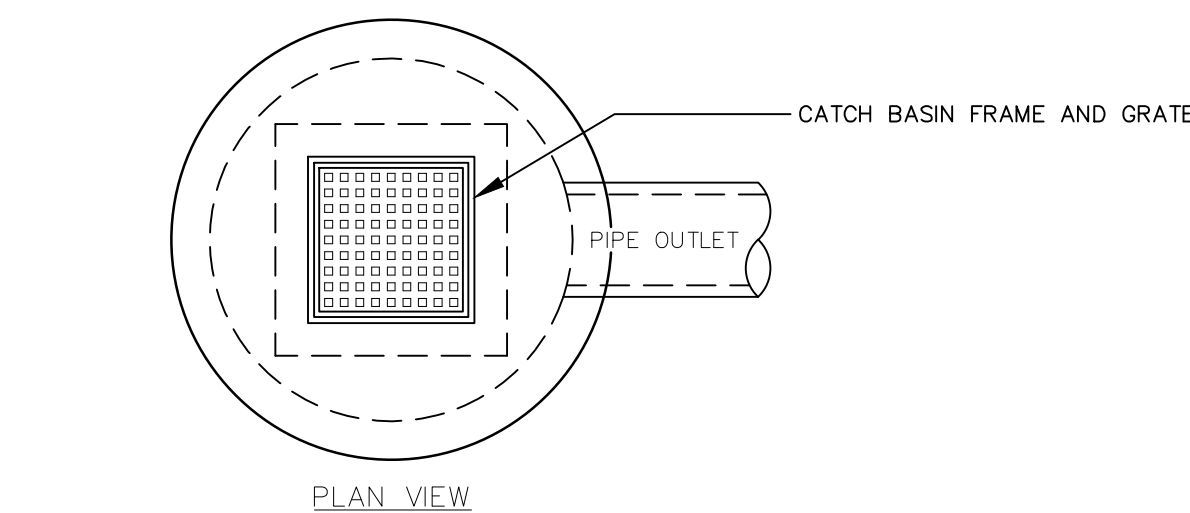
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4833	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

SILTSACK® INLET PROTECTION DEVICE

NOT TO SCALE

C1



NOTES:

1. ALL STRUCTURES SHALL BE SUITABLE FOR H-20 LOADING AND SHALL MEET THE REQUIREMENTS OF ASTM C478.
2. ALL BLOCKS TO BE LAID IN A FULL BED OF MORTAR.
3. OUTSIDE OF BASIN TO BE COATED WITH 2" OF MORTAR CEMENT PARGING.

PRECAST CONCRETE CATCH BASIN

NOT TO SCALE

A1



HIGHPOINT ENGINEERING, INC.
CANTON CORPORATE PLACE
45 DAN ROAD, SUITE 140 | CANTON, MA 02021
t 781.770.0970 | www.highpointeng.com

CLIENT:

THORNDIKE DEVELOPMENT CORP.
8 PLEASANT STREET
NATICK, MA 01760
t 978.310.7070

CONSULTANT:

SEAL

SUMMER REACH
PHASE 1-6 - SITE DEVELOPMENT PLAN

249 SUMMER STREET
PLYMOUTH, MASSACHUSETTS

OWNER/APPLICANT: THORNDIKE DEVELOPMENT CORP.

REV	DATE	DESCRIPTION
2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS

ISSUE TYPE:

PERMIT SET

ISSUE DATE:

MAY 12, 2017

PROJECT NUMBER:

16034

DRAWN BY: MKM

CHECKED BY: DJH

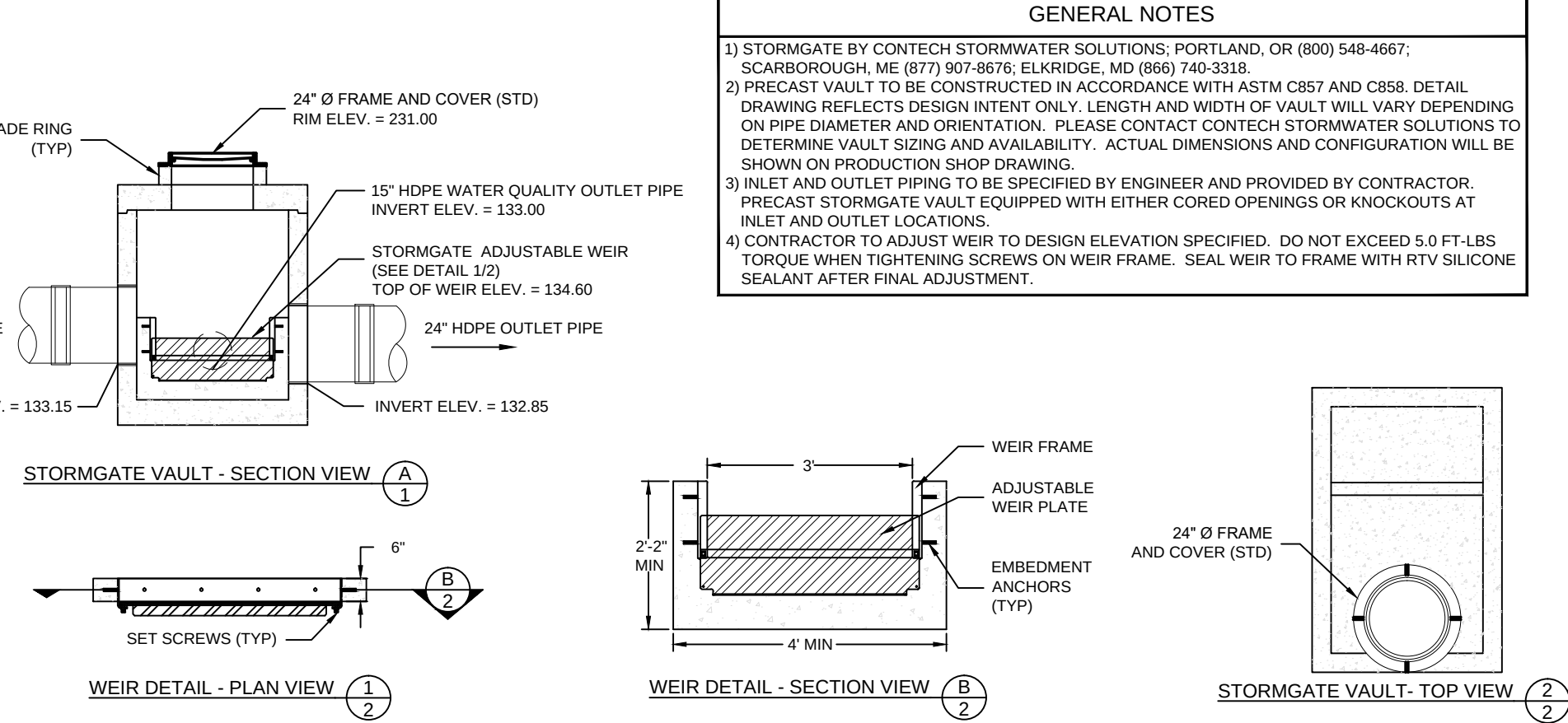
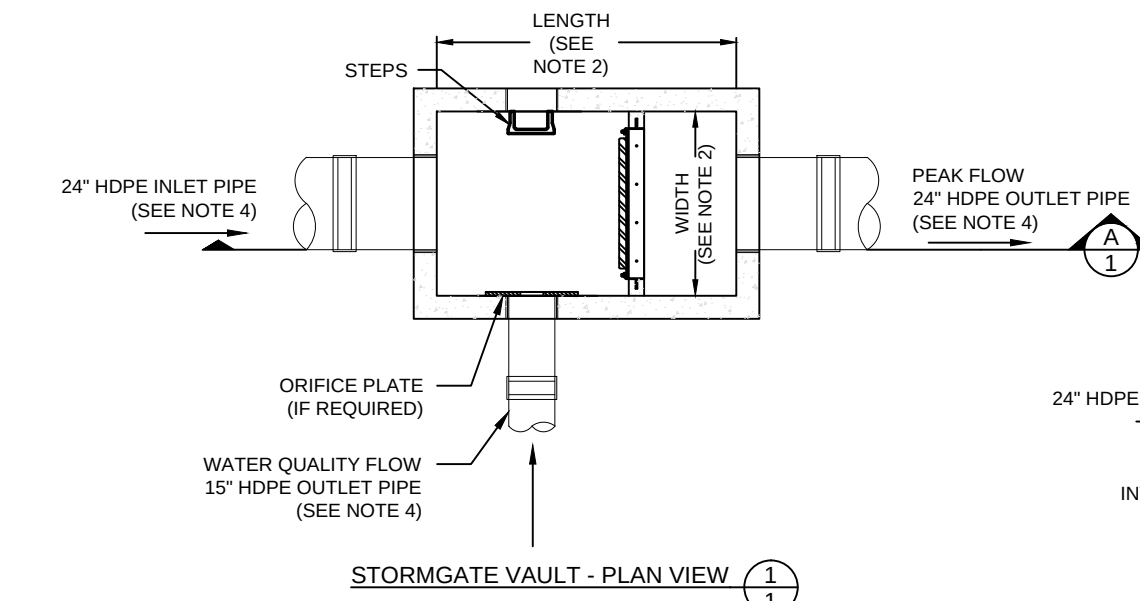
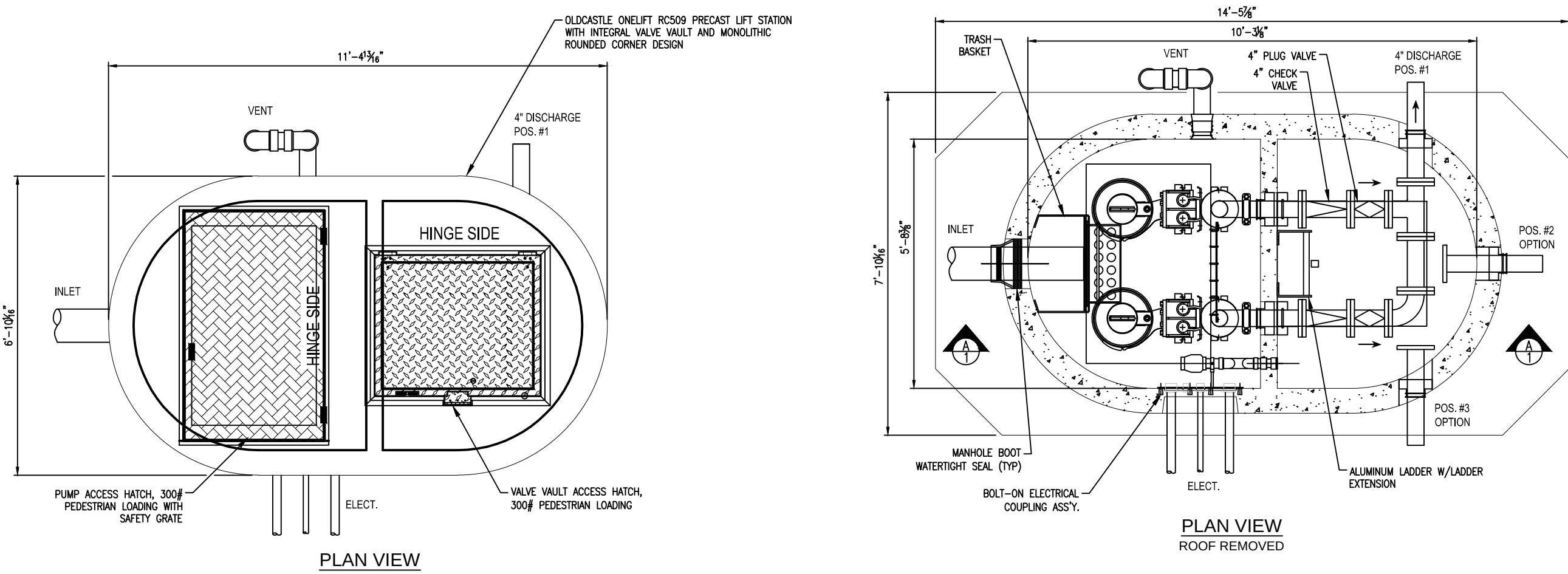
Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

SHEET TITLE:

DETAIL SHEET

SHEET NUMBER:

C800



1. THE CONTRACTOR SHALL REPORT TO THE OWNER AND ENGINEER ANY SIGNIFICANT VARIATIONS IN EXISTING SITE CONDITIONS FROM THOSE SHOWN ON THESE PLANS. ANY PROPOSED REVISIONS TO THE WORK, IF REQUIRED BY THESE SITE CONDITIONS, SHALL NOT BE UNDERTAKEN UNTIL REVIEWED AND APPROVED BY THE OWNER AND THE ENGINEER.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, PLYMOUTH DPW AND/OR CONSERVATION COMMISSION AT LEAST 48 HOURS IN ADVANCE OF ANY REQUIRED INSPECTIONS.
3. IN ORDER TO PROTECT THE PUBLIC SAFETY DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING AT ALL TIMES ALL NECESSARY SAFETY DEVICES AND PERSONNEL, WARNING LIGHTS, BARRICADES, AND POLICE OFFICERS FOR ALL WORK IN AND NEAR SUMMER STREET OR PILGRIM ROAD.
4. THE CONTRACTOR SHALL REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEAN UP AND REMOVE LOOSE CONSTRUCTION DEBRIS BEFORE IT LEAVES THE SITE.
5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTITUTE EROSION CONTROL MEASURES ON AN AS NECESSARY BASIS, SUCH THAT EXCESSIVE SOIL EROSION DOES NOT OCCUR. MEASURES SHALL INCLUDE FILTER SOCK MEMBRANE BARRIERS ALONG THE PERIMETER OF CUTS AND FILLS, MULCHING, AND PLANTING OF DISTURBED AREAS. EROSION CONTROL FEATURES SHALL BE REGULARLY INSPECTED AND ADJUSTED IF NECESSARY.
6. AT THE END OF CONSTRUCTION, AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE CONTRACTOR SHALL CLEAN THE SUMPS OF ALL CATCH BASINS AND THE INVERTS OF ALL DRAIN MANHOLES, CATCH BASIN, WATER QUALITY VAULTS AND BYPASS MANHOLES.
7. THE LOCATION OF UNDERGROUND UTILITIES AS REPRESENTED ON THESE PLANS IS BASED UPON PLANS AND INFORMATION PROVIDED BY THE RESPECTIVE UTILITY COMPANIES OR MUNICIPAL DEPARTMENTS SUPPLEMENTED BY FIELD IDENTIFICATION WHEREVER POSSIBLE, OR BY WAY OF DESIGN AND/OR AS-BUILT PLANS OF RECORD. NO WARRANTY IS MADE AS TO THE ACCURACY OF THESE LOCATIONS OR THAT ALL UNDERGROUND UTILITIES ARE SHOWN. THE CONTRACTOR IS TO CONTACT DIG SAFE AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION. DIG SAFE TELEPHONE NUMBER IS 1-800-322-4844.
8. THE CONTRACTOR SHALL VERIFY THE LOCATION, SIZE AND DEPTH OF EXISTING UTILITIES PRIOR TO TAPPING INTO, CROSSING OR EXTENDING THEM. IF THE NEW WORK POSES A CONFLICT WITH EXISTING UTILITIES, THE ENGINEER IS TO BE NOTIFIED PRIOR TO THE CONTRACTOR CONTINUING.
9. HDPE (HIGH DENSITY POLYETHYLENE) PIPE SHALL BE ADS N-12 OR APPROVED EQUIVALENT. SEWER PIPE SHALL SDR 35 WITH RUBBER RING JOINTS.
10. NO LEDGE, BOULDERS, OR OTHER UNYIELDING MATERIALS SHALL BE LEFT WITHIN 6" OF THE WATER AND SEWER IN THE TRENCH, NOR ARE THEY TO BE USED FOR BACKFILL FOR THE FIRST 12" ABOVE THE PIPES.
11. HYDRANTS AND MINIMUM SIZING OF WATER PIPES SHALL BE SUBJECT TO THE APPROVAL OF THE PLYMOUTH FIRE CHIEF.
12. MATERIAL FOR BACKFILL SHALL NOT INCLUDE UNSUITABLE MATERIAL SUCH AS PEAT, TRASH, STUMPS, DEBRIS OR HAZARDOUS WASTE.
13. ALL MATERIALS FOR INSTALLATION OF WATER, SEWER, DRAIN, GAS, DATATELECOM, AND ELECTRICITY SHALL BE IN ACCORDANCE WITH LOCAL STATE AND UTILITY COMPANY STANDARDS AND REGULATIONS AS THEY APPLY.
14. TOWN OF PLYMOUTH WATER AND FIRE DEPARTMENTS SHALL BE NOTIFIED PRIOR TO THE START OF ANY WORK ON THE WATER SYSTEM.
15. TOWN OF PLYMOUTH DEPARTMENT OF PUBLIC WORKS SHALL BE NOTIFIED PRIOR TO THE START OF ANY WORK ON THE SANITARY SEWER SYSTEM.
16. ALL STUMPS, PEAT, CONSTRUCTION DEBRIS AND OTHER DELETERIOUS MATERIALS ON THE SITE AT THE TIME OF CONSTRUCTION ARE TO BE REMOVED FROM THE SITE TO AN APPROVED LANDFILL. NO SUCH MATERIALS ARE TO BE BURIED OR OTHERWISE DISPOSED OF ON THE SITE.
17. THE PROPOSED WATER MAIN IS TO BE CL 52 CLDI. ALL FITTINGS, HYDRANTS, VALVES, ETC., USED ON THE SITE ARE TO BE IN ACCORDANCE WITH THE TOWN OF PLYMOUTH WATER DEPARTMENT SPECIFICATIONS.
18. BUILDING WATER SERVICES TO BE 1" DIA POLYETHYLENE PIPE.

PACKAGE LIFT STATION NOTES:

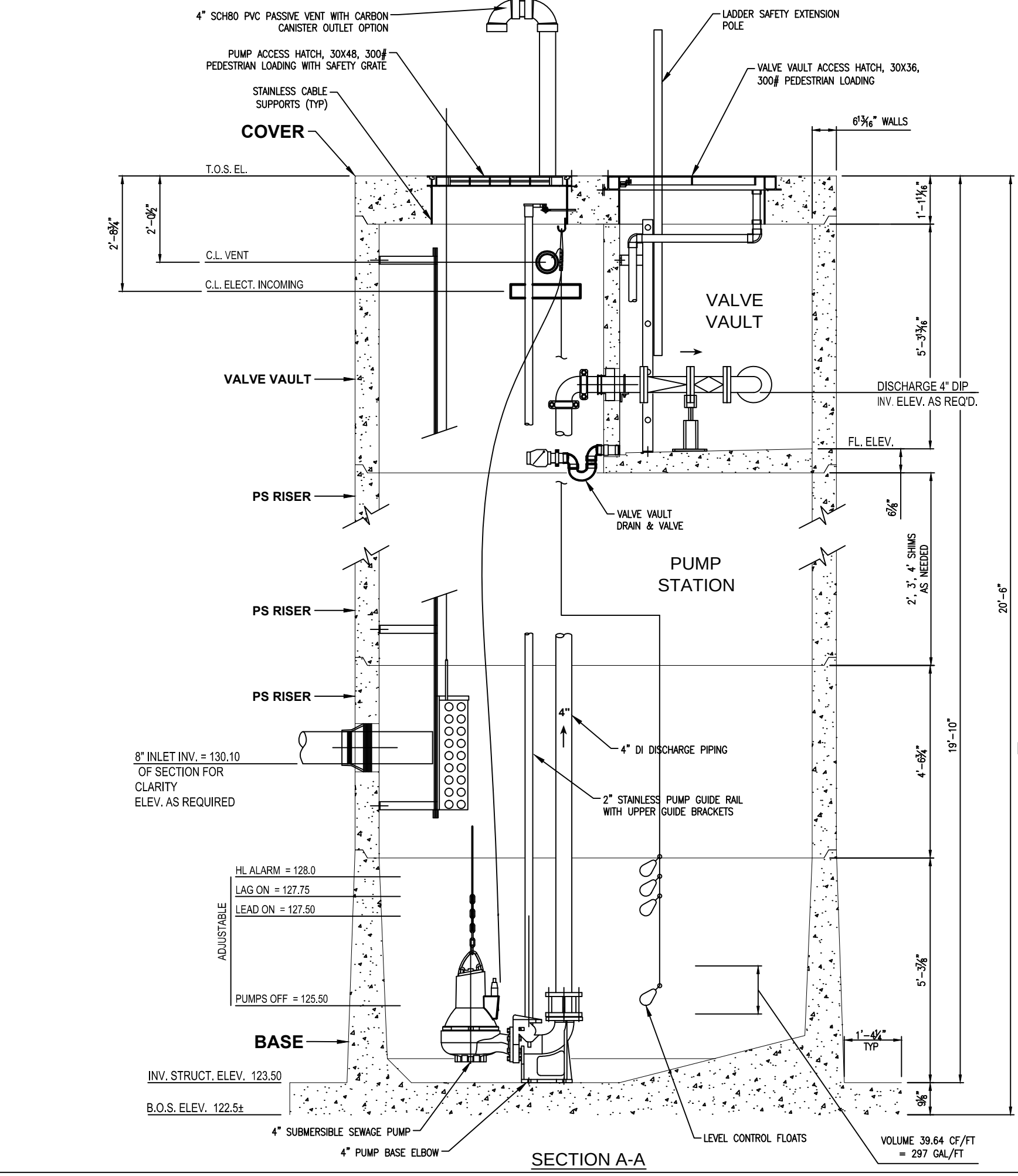
- THE LIFT STATION SHALL BE SUPPLIED AS A TURN-KEY PACKAGE WITH FULL MANUFACTURER'S RESPONSIBILITY FOR STRUCTURE, PUMPS, PIPING, VALVES, SUPPORTS, ACCESS EQUIPMENT, DUPLEX PUMP CONTROLS, AND ALL RELATED ITEMS AS SHOWN HEREIN.
- THE LIFT STATION STRUCTURE SHALL BE ROUNDED CORNER, MONOLITHICALLY CAST TO REDUCE RESIDUAL BUILDUP.
- THE STRUCTURE SHALL INCLUDE AN INTEGRAL VALVE VAULT AS SHOWN TO ELIMINATE DIFFERENTIAL SETTLEMENT AND REDUCE PACKAGE FOOTPRINT SIZE ON SITE.
- THE PACKAGE LIFT STATION SHALL BE FACTORY STACKED AND ASSEMBLED IN ITS ENTIRETY, AND FACTORY INSPECTED BY OWNER'S REPRESENTATION PRIOR TO LOADING FOR SITE DELIVERY.
- THE PACKAGE LIFT STATION SUPPLIER SHALL BE AVAILABLE FOR PRODUCT COORDINATION MEETINGS PRIOR TO PRODUCT PRODUCTION, AND ON SITE FOR PRODUCT INSTALLATION OVERSIGHT.
- THE PACKAGE LIFT STATION SUPPLIER SHALL BE ON SITE DURING STATION TESTING AND STATION START-UP & TRAINING FOR THE PURPOSES OF PRODUCT ADJUSTMENT, DEMONSTRATION, AND PRODUCT Q&A.
- COMPLETE PACKAGE DOCUMENTATION (SUBMITTALS, DRAWINGS AND O&M MANUALS) SHALL BE SUPPLIED UNDER ONE BOUND FOLDER EACH BY THE PACKAGE LIFT STATION MANUFACTURER OR THEIR DISTRIBUTOR.
- THE PACKAGE LIFT STATION SUPPLIER SHALL BE RESPONSIBLE FOR COMPLETE PACKAGE WARRANTIES THROUGH THE TIME PERIOD AS SPECIFIED.
- OWNER'S REPRESENTATIVES SHALL COORDINATE AND VERIFY ALL PUMP STATION INLET SIZES AND LOCATIONS, AS WELL AS ALL CRITICAL ELEVATIONS PRIOR TO COMMENCEMENT OF PRODUCT SUBMITTALS.

PUMP SPECIFICATIONS:
INSTALL DUAL ALTERNATING SUBMERSIBLE SEWAGE PUMPS GORMAN RUPP MODEL SPV 4B, 7.5 HP, SINGLE PHASE, 8.25" IMPELLER, 4" DISCHARGE, OPERATING AT 125 GPM AT TDH=80.2'. INSTALL AUDIO, VISUAL ALARMS ON SEPARATE BREAKER FROM PUMP.

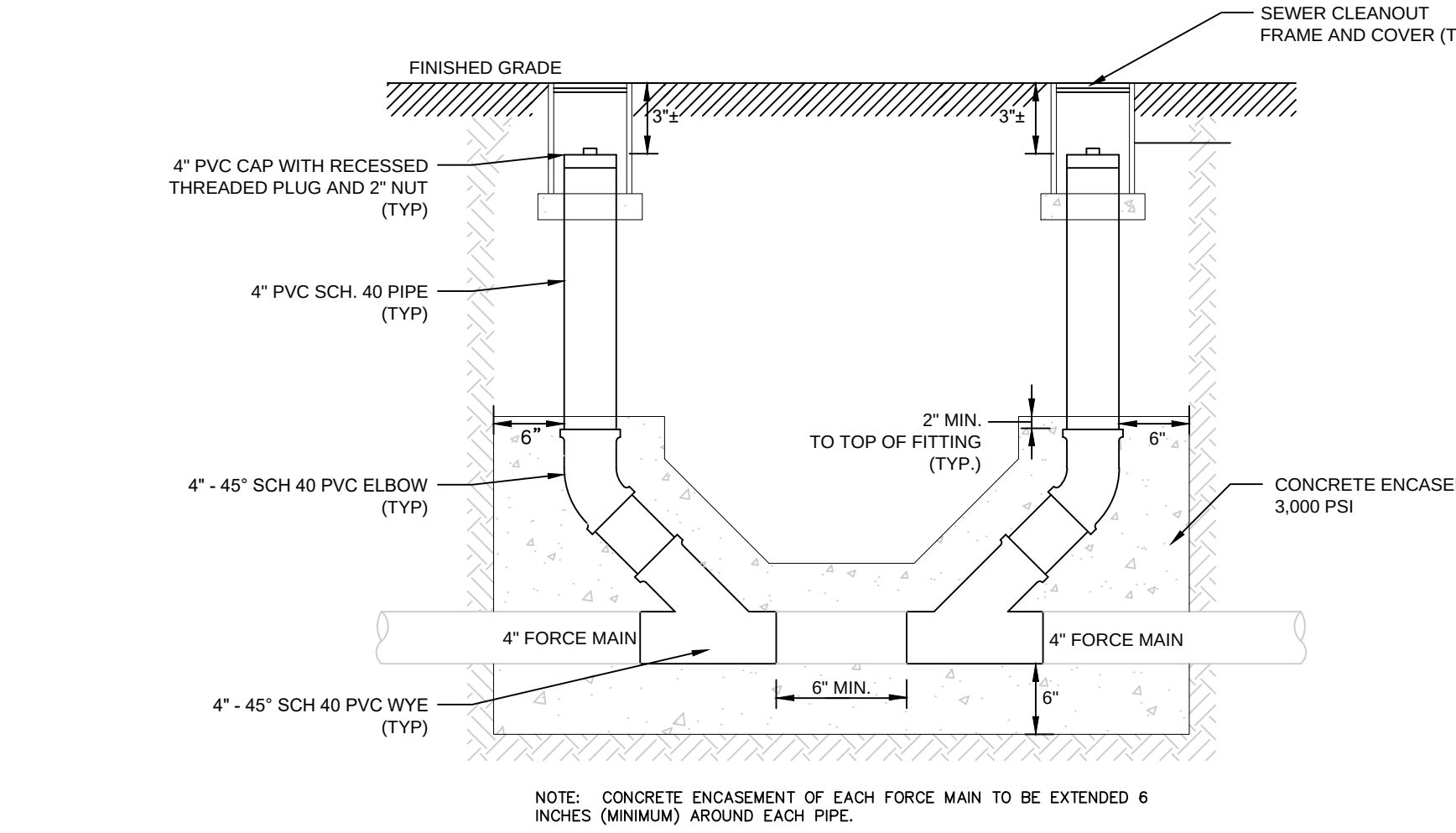
STATION OPTION LIST
LADDER EXTENSION POLE
INTERIOR JUNCTION BOXES FOR PUMPS & FLOATS
ALUMINUM TRASH BASKET AND RAILS SYSTEM

NOTE: 1) EACH JOINT SHALL HAVE (2) ROWS OF CONSEAL CS102 CONTINUOUS AROUND ENTIRE PERIMETER.
2) CONTRACTOR TO VERIFY ALL HOLES & LOCATIONS

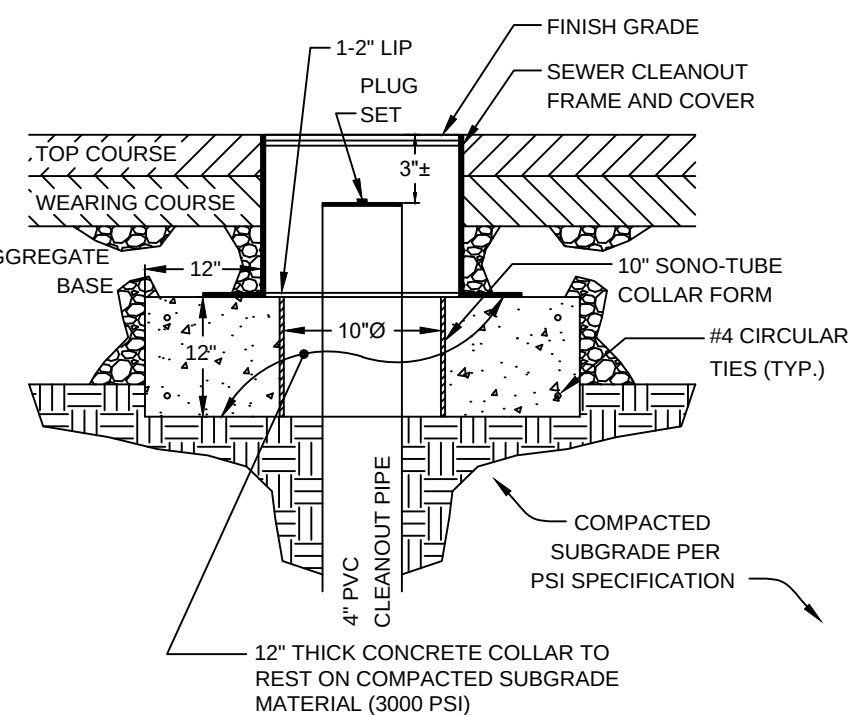
APPROX. WEIGHTS
BASE SECTION - 11 TONS
4" PS RISER SECTION - 4 TONS
3" PS RISER SECTION - 3 TONS
2" PS RISER SECTION - 2 TONS
VAULT SECTION - 8.5 TONS
4" VV RISER SECTION - 4.5 TONS
2" VV RISER SECTION - 2.5 TONS
TOP SLAB - 3 TONS



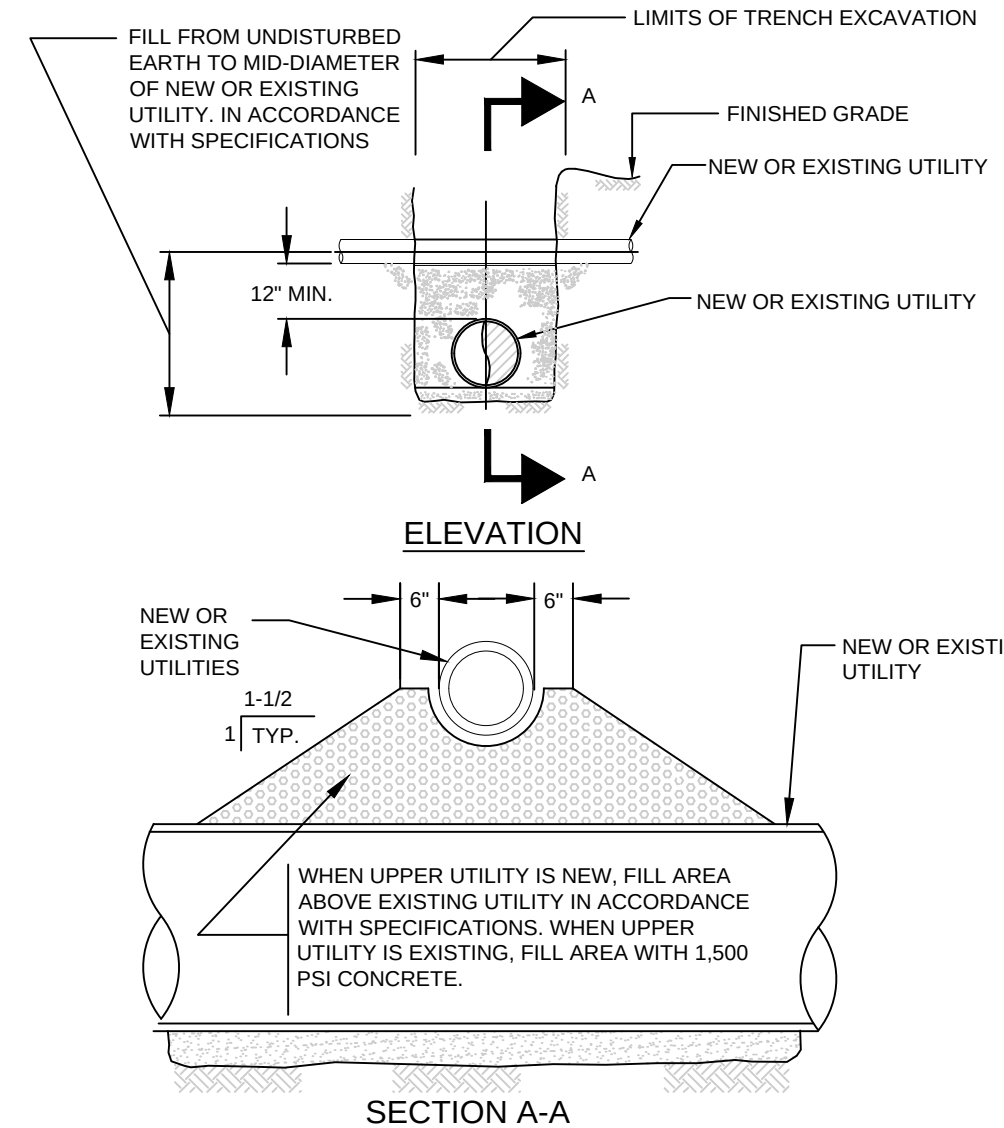
SEWER PUMP STATION
NOT TO SCALE



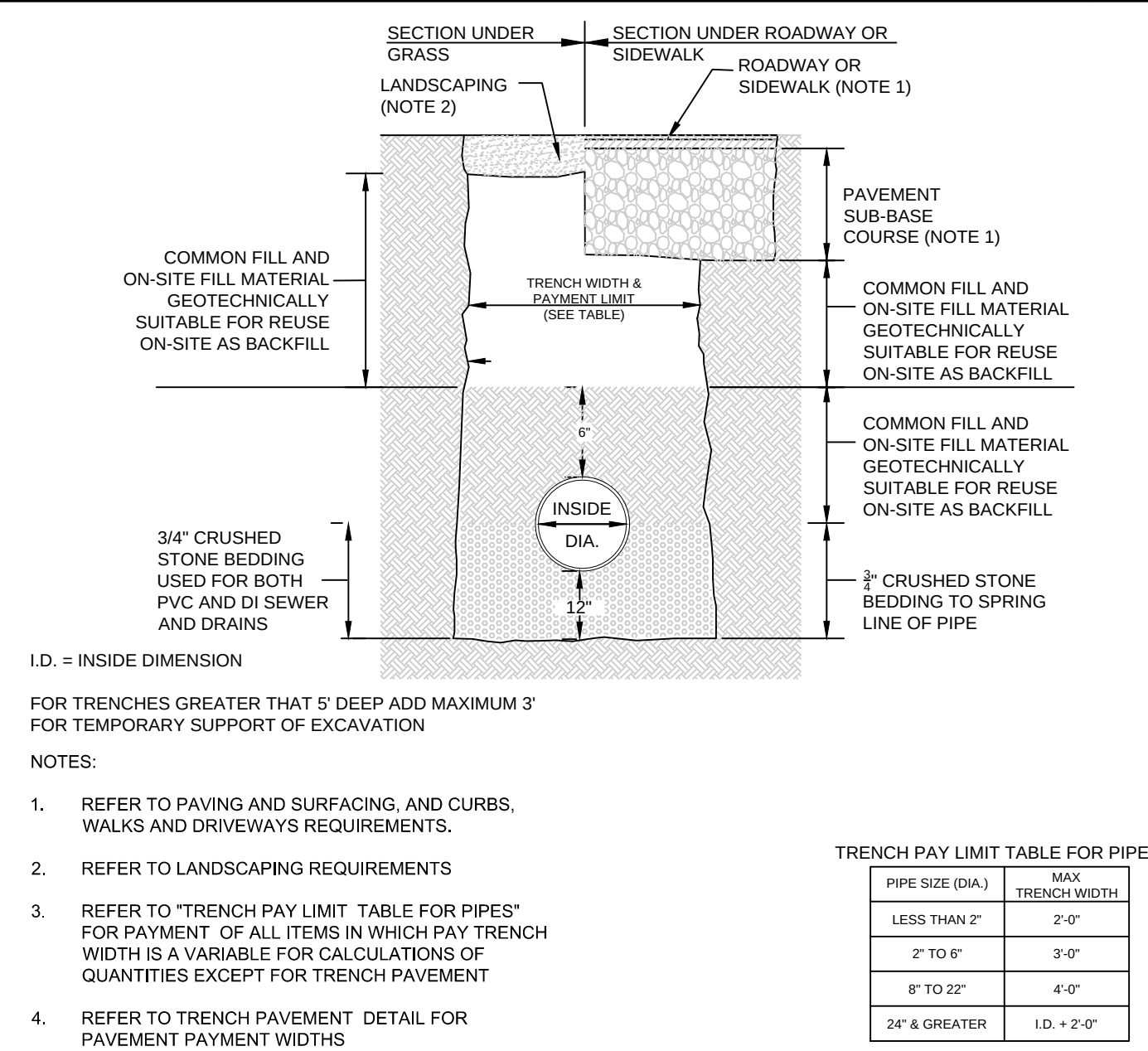
IN-LINE FORCE MAIN CLEANOUT
NOT TO SCALE



SEWER CLEANOUT COVER IN ROADWAY
NOT TO SCALE



UTILITY CROSSING
NOT TO SCALE

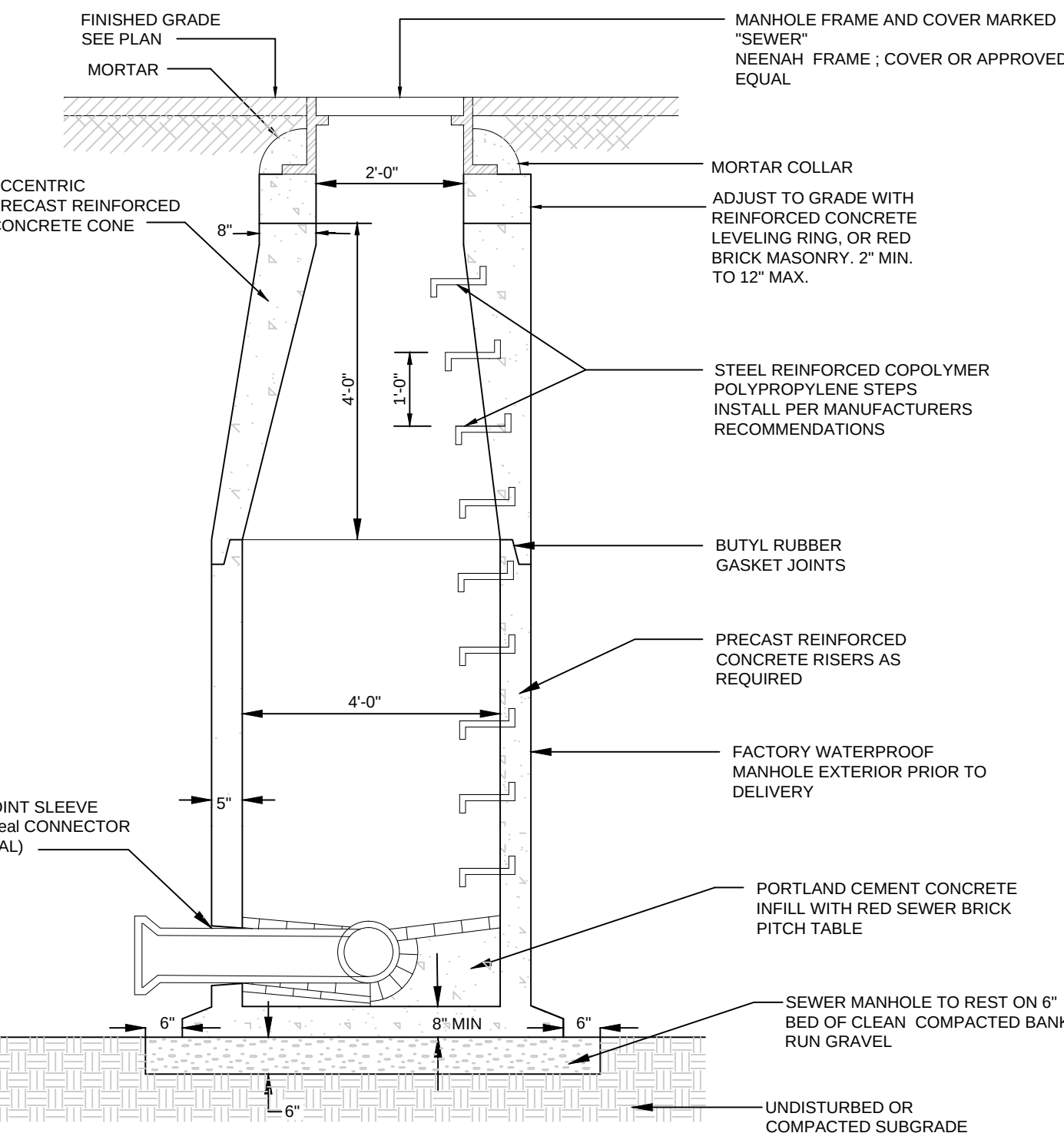


DRAINAGE AND SEWER TRENCH
NOT TO SCALE

GENERAL NOTES

- 1) STORMGATE BY CONTECH STORMWATER SOLUTIONS, PORTLAND, OR (800) 548-4667; SCARBOROUGH, ME (207) 807-8876; ELK RIDGE, MD (866) 740-5318.
- 2) PRECAST VAULT TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C857 AND C858. DETAIL DRAWING REFLECTS DESIGN INTENT ONLY. LENGTH AND WIDTH OF VAULT WILL VARY DEPENDING ON PIPE DIAMETER AND ORIENTATION. PLEASE CONTACT CONTECH STORMWATER SOLUTIONS TO DETERMINE VAULT SIZING AND AVAILABILITY. ACTUAL DIMENSIONS AND CONFIGURATION WILL BE SHOWN ON PRODUCTION SHOP DRAWINGS.
- 3) INLET AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR. PRECAST STORMGATE VAULT EQUIPPED WITH EITHER CORED OPENINGS OR KNOCKOUTS AT INLET AND OUTLET LOCATIONS.
- 4) CONTRACTOR TO ADJUST WEIR TO DESIGN ELEVATION SPECIFIED. DO NOT EXCEED 5.0 FT-LBS TORQUE WHEN TIGHTENING SCREWS ON WEIR FRAME. SEAL WEIR TO FRAME WITH RTV SILICONE SEALANT AFTER FINAL ADJUSTMENT.

STORMGATE WATER QUALITY BYPASS STRUCTURE
NOT TO SCALE



SANITARY SEWER MANHOLE
NOT TO SCALE

REV	DATE	DESCRIPTION
2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS

ISSUE TYPE:
PERMIT SET
ISSUE DATE:
MAY 12, 2017
PROJECT NUMBER:
16034

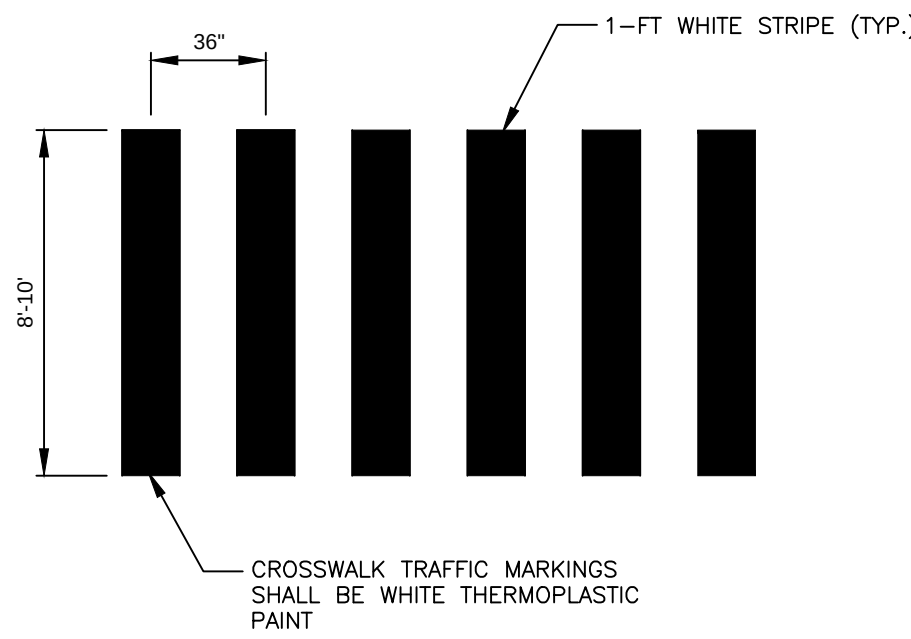
DRAWN BY: MKM
CHECKED BY: DJH

SHEET TITLE:

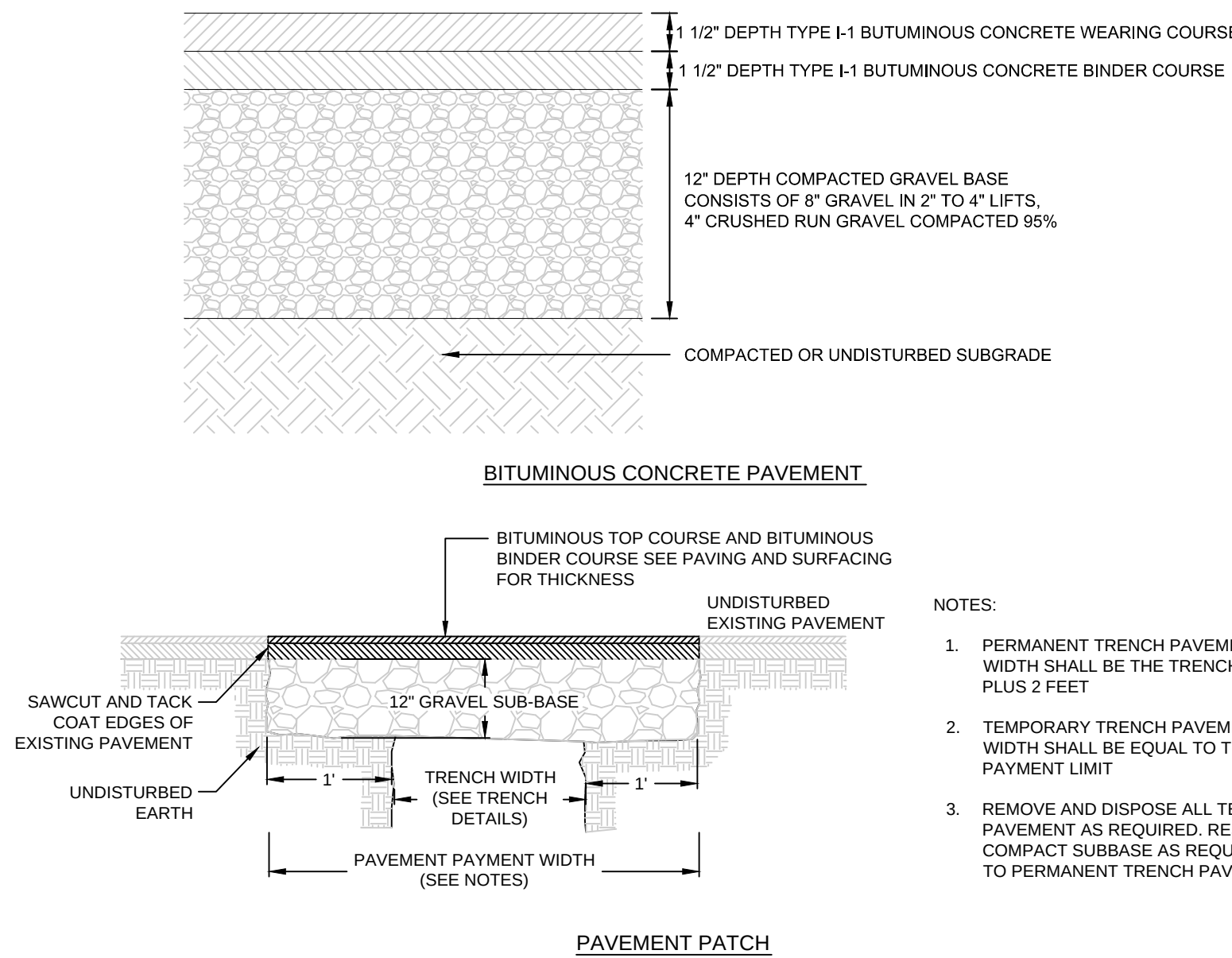
DETAIL SHEET

SHEET NUMBER:

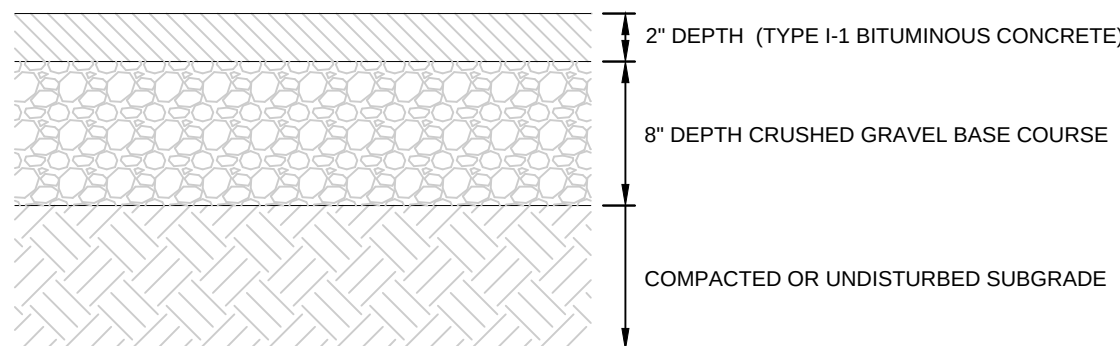
C801



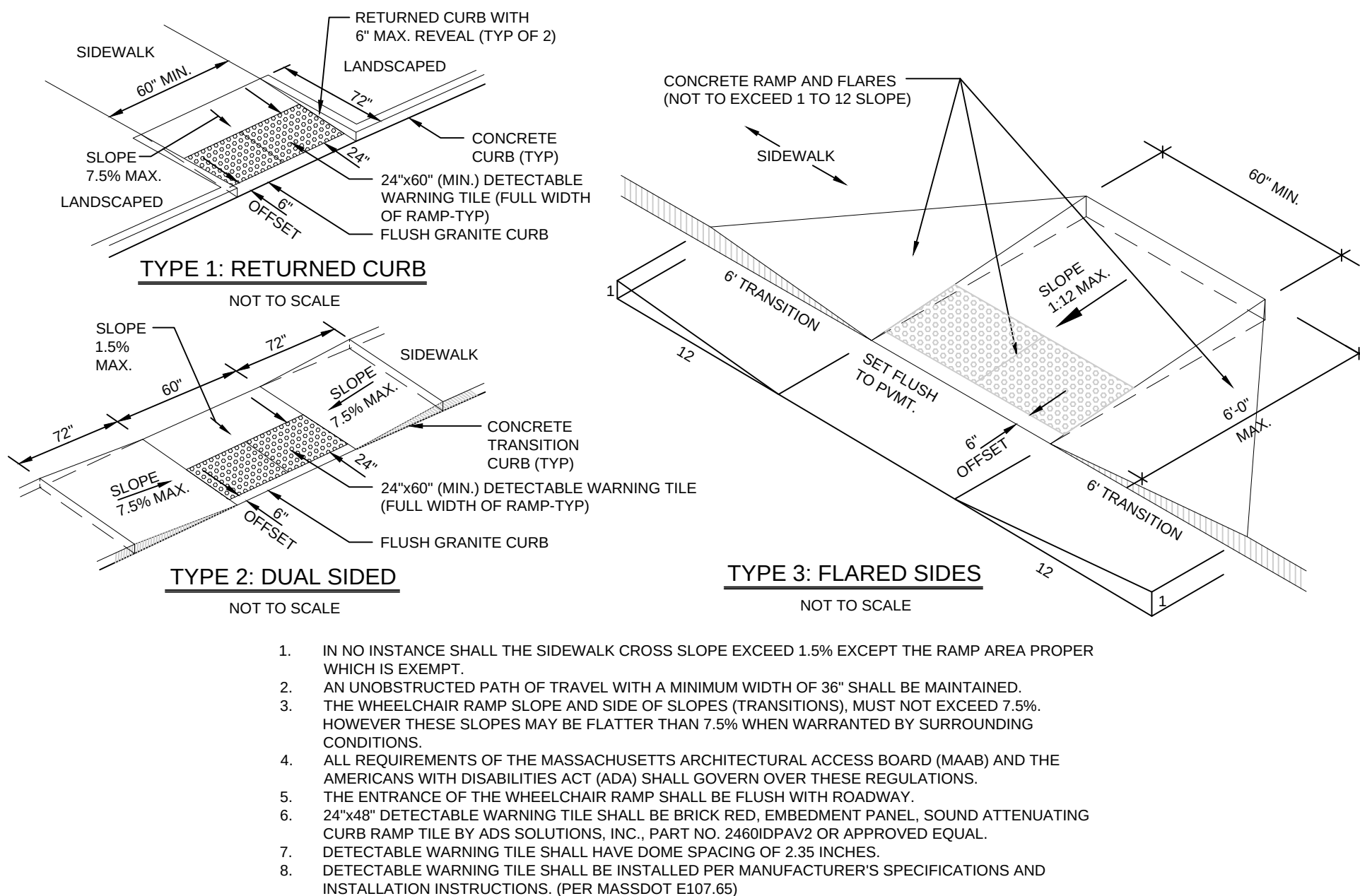
THERMOPLASTIC CROSSWALK
NOT TO SCALE C3



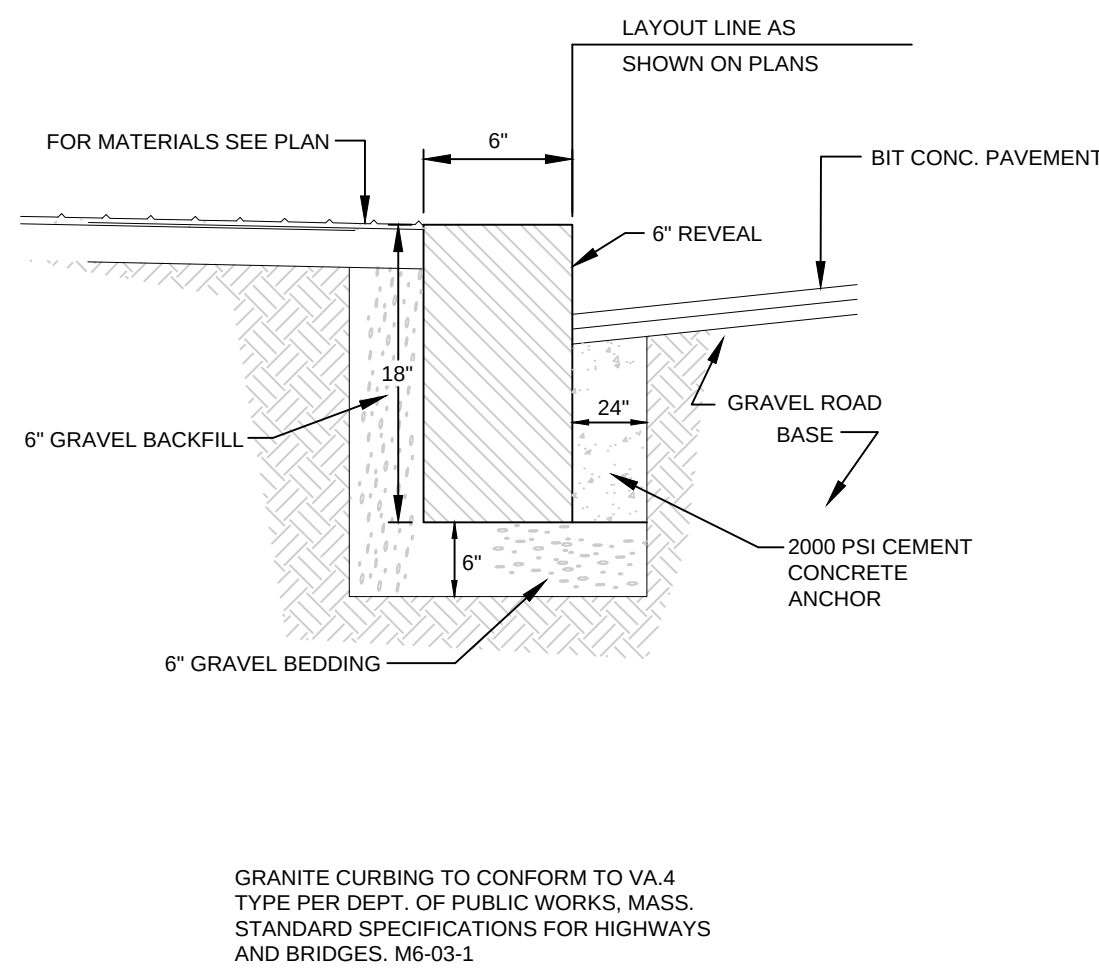
BITUMINOUS CONCRETE PAVEMENT AND PAVEMENT PATCH
NOT TO SCALE B3



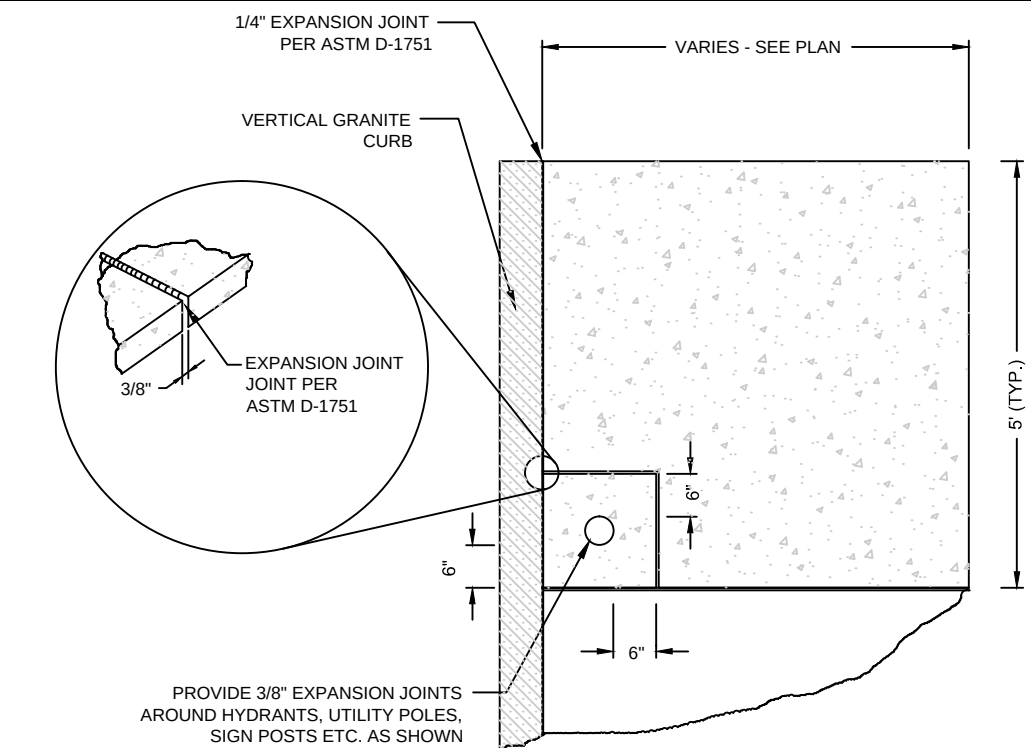
STANDARD BITUMINOUS CONCRETE SIDEWALK
NOT TO SCALE A3



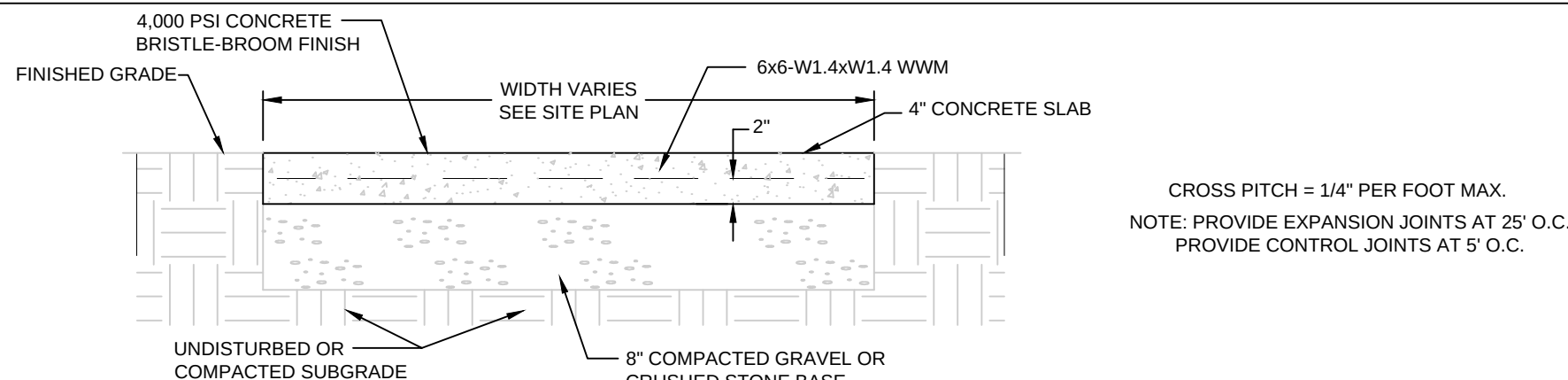
SUMMER ST. - HANDICAP RAMP AND DETECTABLE WARNING SURFACE
NOT TO SCALE C2



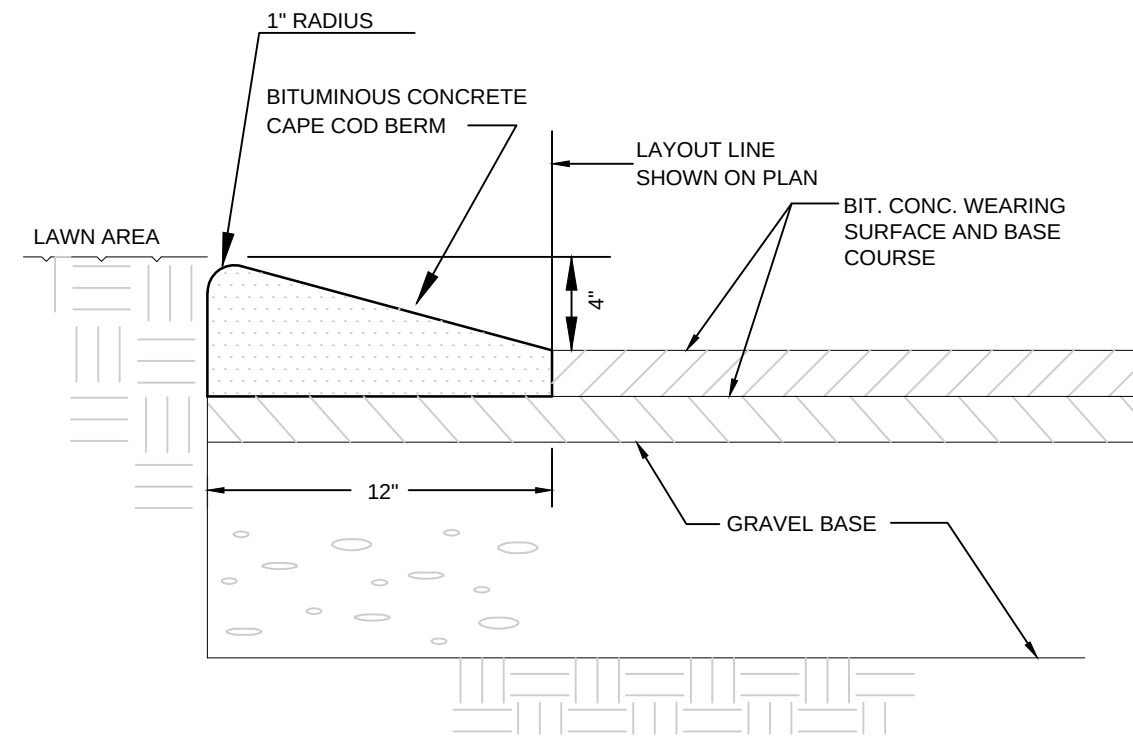
GRANITE CURB
NOT TO SCALE B2



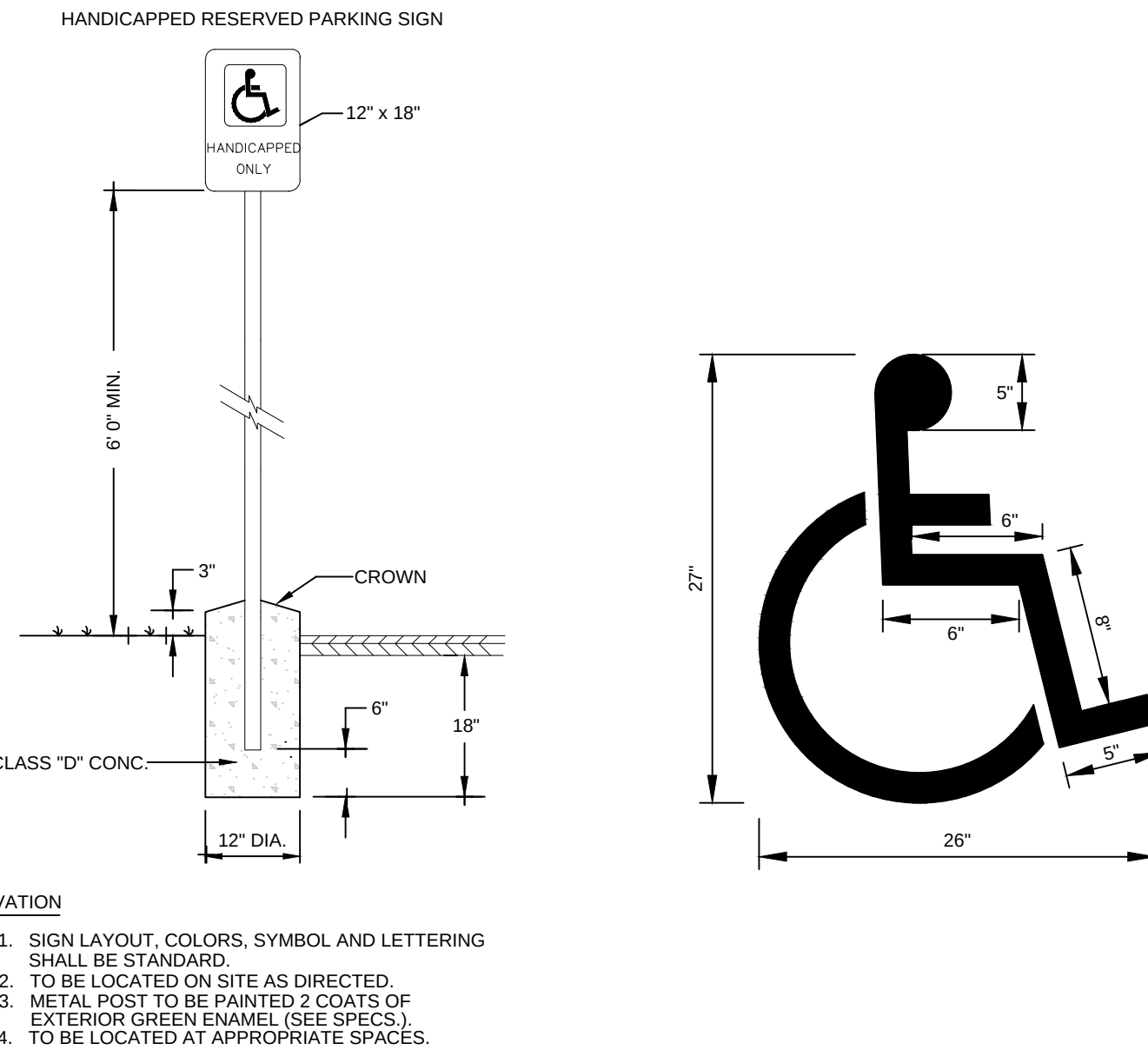
SIDEWALK EXPANSION JOINT
NOT TO SCALE A2b



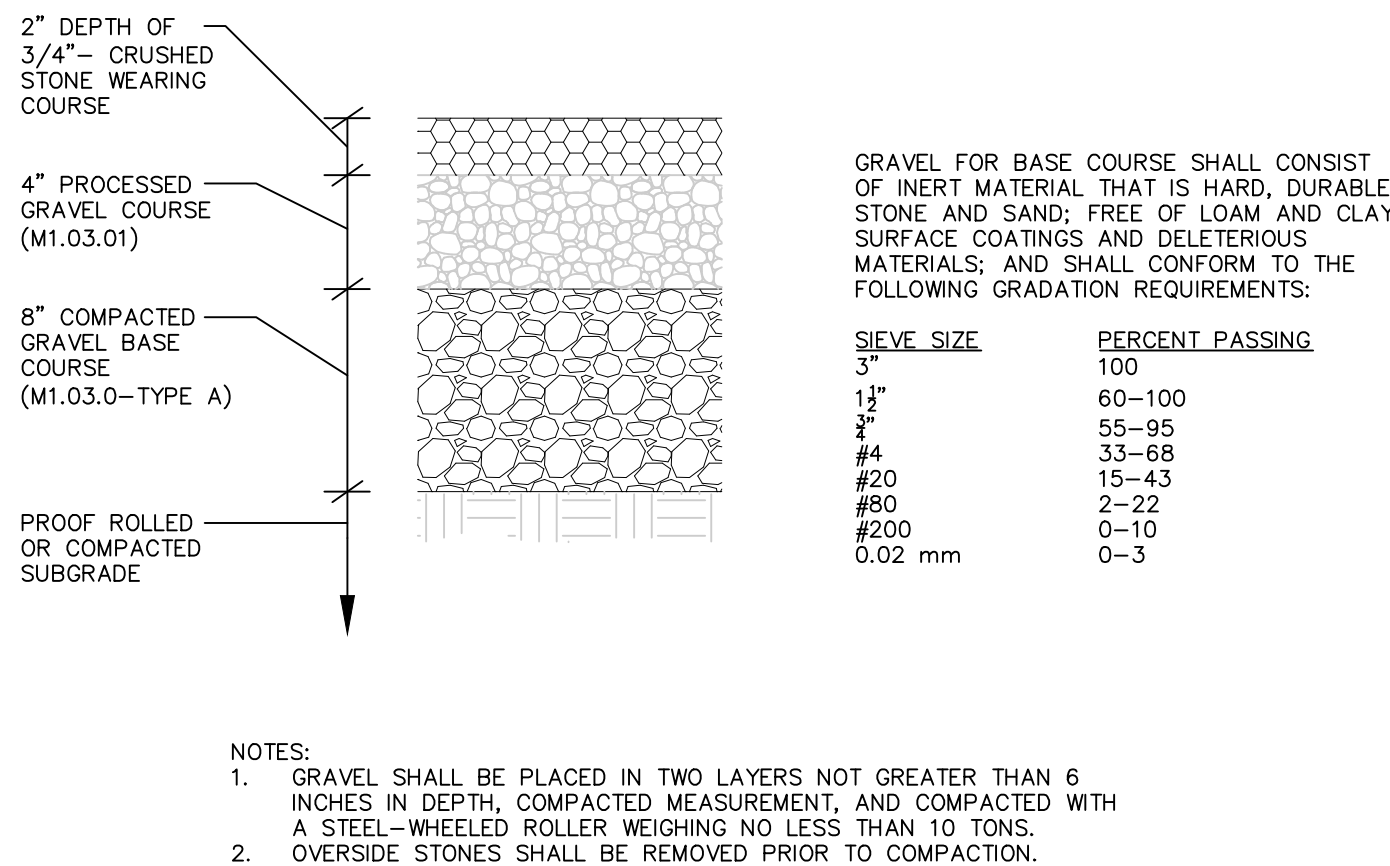
REINFORCED CONCRETE SIDEWALK
NOT TO SCALE A2a



CAPE COD BERM
NOT TO SCALE C1



HANDICAP PARKING SIGN AND PAVEMENT MARKING
NOT TO SCALE B1



NOTES:
1. GRAVEL SHALL BE PLACED IN TWO LAYERS NOT GREATER THAN 6 INCHES IN DEPTH, COMPACTED MEASUREMENT, AND COMPACTED WITH A STEEL-WHEELED ROLLER WEIGHING NO LESS THAN 10 TONS.
2. OVERSIDE STONES SHALL BE REMOVED PRIOR TO COMPACTION.

TEMPORARY GRAVEL TURN AROUND - SURFACE TREATMENT
NOT TO SCALE A1

CONSULTANT:

SEAL

REV	DATE	DESCRIPTION
2	08/03/2017	DPW REVIEW REVISIONS
1	06/14/2017	DPW REVIEW REVISIONS

ISSUE TYPE:
PERMIT SET
ISSUE DATE:
MAY 12, 2017
PROJECT NUMBER:
16034

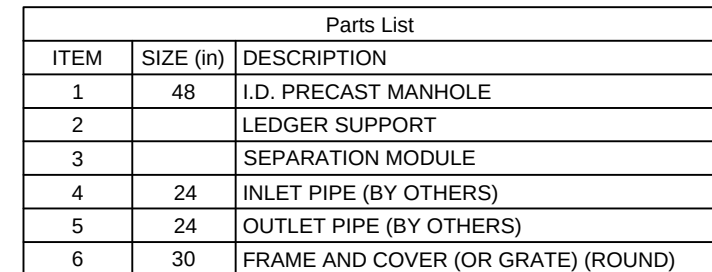
DRAWN BY: MKM
CHECKED BY: DJH
Copyright (c) by Highpoint Engineering, Inc.
All Rights Reserved.

SHEET TITLE:

DETAIL SHEET

SHEET NUMBER:

C802

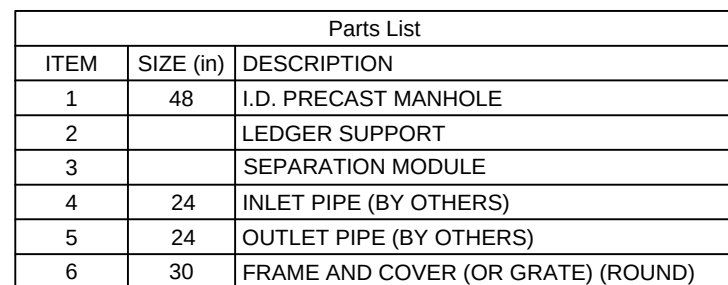


GENERAL NOTES:

1. General Arrangement drawings only. Contact Hydro International for site specific fabrication drawings.
2. The diameter of the ring & outlet pipes may be no more than 24".
3. Multiple inlet pipes possible (refer to project plans).
4. Inlet/outlet pipe angle can vary to align with drainage network (refer to project plans).
5. Peak flow rate and minimum height limited by available cover and pipe diameter.
6. Larger sediment storage capacity may be provided with a deeper drum design.

PRODUCT SPECIFICATIONS:

1. The treatment system shall use an induced vortex to separate pollutants from stormwater runoff.
2. The treatment system shall fit within the limits of excavation (area and depth) as shown in the project plans and shall not exceed the maximum allowable depth of excavation specified herein.
3. The treatment system shall convey the Peak 10-Year Flow Rates of up to 18 cfs without causing upstream surcharge conditions. Full-scale independent vortex testing shall demonstrate sufficient control of less than 100 microns of sediment, but not less than 10 microns of sediment.
4. The treatment system shall be capable of capturing and retaining the sand and silt sized particles. Analysis of captured sediment from full-scale field installations shall demonstrate particle sizes predominantly in the 20-100 microns range.

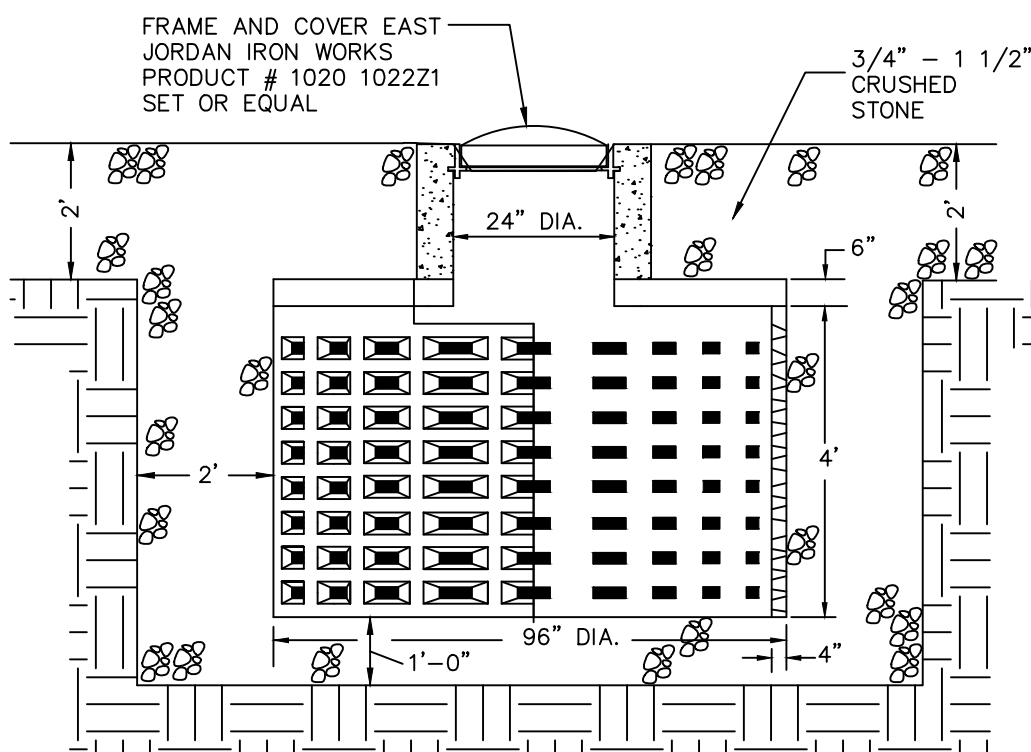


CAPACITIES:

1. Peak treatment flow: 8.0 cfs (227 l/s)
2. Sediment storage capacity: 2.10 Cu. yd. (1.61 cu. m.)
3. Oil storage capacity: 216 Gal. (818 liters)

ADDITIONAL DESIGN INFORMATION:

1. The outlet pipe stub (not shown) is a roto-molded product with an I.D. of 18 in. that cannot be modified. To avoid the use of a reducer or expander on the outlet an 18 in. outlet pipe should be used if possible. The orientation of the outlet pipe can be adjusted to suit site conditions.
2. Only smaller inlet pipes may be used. The inlet pipe invert should be placed one inlet pipe diameter below the outlet pipe invert. The inlet pipe should be placed to the I.D. of the manhole.
3. The orientation of the inlet pipe can be adjusted to suit site conditions. Headloss at 8.0 cfs with an 18 in. I.D. 12 in. (305 mm). Headloss will increase with smaller inlet pipes.
4. Sediment shall be stored in a zone that is isolated from the main flow path and protected from re-entrainment by the benching skirt.
5. Dimensions are general and intended for guidance only.



PRECAST CONCRETE PERFORATED INFILTRATION BASIN w/BEEHIVE GRATE
NOT TO SCALE

6-FT DOWNSTREAM DEFENDER
NOT TO SCALE

NOT TO SCALE	B 1
--------------	-----

--- A3
NOT TO SCALE

--- A2
NOT TO SCALE

--- A1
NOT TO SCALE