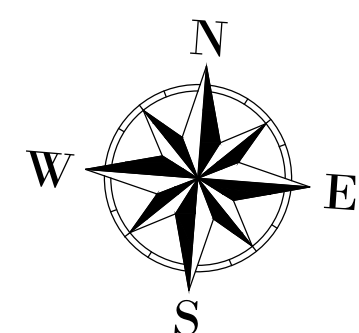


PRELIMINARY/FINAL SUBDIVISION AND LAND DEVELOPMENT PLAN

EAGLE & RADNOR ROADS, WAYNE



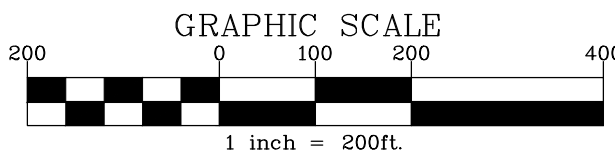
ADJOINING PROPERTIES:

- LANDS N/F:*
1. FOLIO # 36-0201268-00
2 PAUL RD
MARINO REYNOLDS FAMILY TRUST
MAP #36-06-055:000
BOOK 5952 PAGE 0258
 2. FOLIO # 36-02-00979050
4 PAUL RD
VANDEBEEK M LOUIS & DIANE
MAP #36-06-055:004
BOOK 1040 PAGE 2020

* PER BASE PLAN



VICINITY MAP INCLUDING STRUCTURES WITHIN 500' OF SITE
DVRPC 2015 AERIAL IMAGERY, TILE PA-X28-Y082, PASDA WEBSITE



CIVIL ENGINEER:

SITE ENGINEERING CONCEPTS, LLC
ATTN: PATRICK SPELLMAN, P.E.
P.O. BOX 1992 SOUTHEASTERN, PA 19399
P: 610-523-9002
E: PSPELLMAN@SITE-ENGINEERS.COM

LANDSCAPE ARCHITECT:

JONATHAN ALDERSON LANDSCAPE
ARCHITECTS
ATTN: JONATHAN ALDERSON
P.O. BOX 661
WAYNE, PA 19087
P: 610-341-9925
E: JONATHAN@JONATHANALDERSON.COM

ATTORNEY:

SAUL EWING ARNSTEIN & LEHR LLP
ATTN: DAVID J. FALCONE
1200 LIBERTY RIDGE, SUITE 200
WAYNE, PA 19087-5569
P: 610-251-5752
E: DAVID.FALCONE@SAUL.COM

OWNER/APPLICANT:

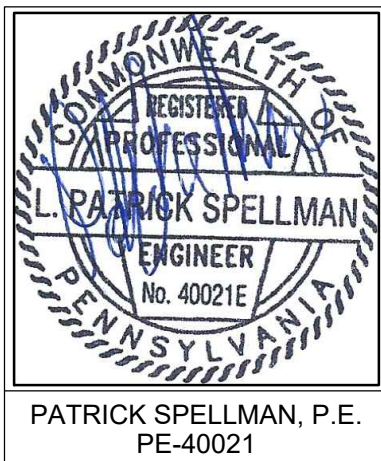
CG WAYNE, LLC
ATTN: DEVIN TUOHEY
161 LEVERINGTON AVENUE, SUITE 101
PHILADELPHIA, PA 19147
P: 347-330-0048
E: DTUOHEY@CONCORDIAGROUP.BIZ

DRAWING SCHEDULE

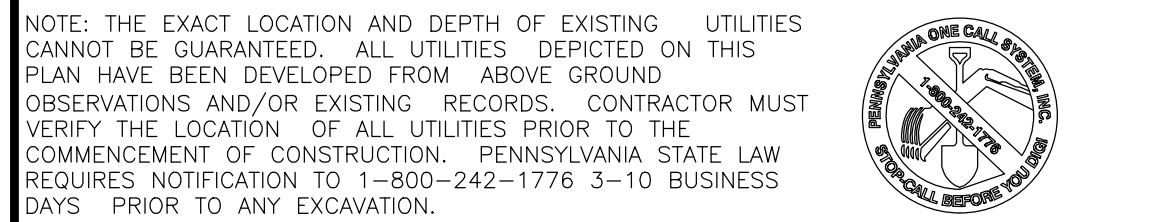
1. COVER SHEET
2. EXISTING FEATURES PLAN
SOIL, VEGETATION & WATER RESOURCES MAP
3. SUBDIVISION PLAN
4. E&SC PLAN & DEMOLITION PLAN
5. E&SC NOTES & DETAILS
6. E&SC DETAILS
7. PRELIMINARY LAND DEVELOPMENT PLAN &
PCSM PLAN
8. PCSM DETAILS & NOTES
9. STORM PROFILES & DETAILS
10. DETAILED GRADING AND DIMENSIONS PLAN
11. UTILITY PLAN
12. SANITARY PROFILES & CONSTRUCTION DETAILS
13. CONSTRUCTION DETAILS
14. DRAINAGE MAPS

PLANS PREPARED BY JONATHAN ALDERSON
LANDSCAPE ARCHITECTS:

15. L001 - TREE REMOVALS AND PRESERVATION
PLAN
16. L101 - PLANTING PLAN



1.	12/7/2020	REVISE PER TOWNSHIP REVIEW LETTERS AND PC INPUT
1.	9/18/2020	RELOCATE LOT 1 DRIVEWAY
NUM.	DATE	REVISION
PLAN PREPARED BY:		
SITE ENGINEERING CONCEPTS, LLC		
P.O. BOX 1992		
SOUTHEASTERN, PA 19399		
P: 610-240-0450	F: 610-240-0451	E: INFO@SITE-ENGINEERS.COM
PRELIMINARY/FINAL SUBDIVISION AND LAND DEVELOPMENT PLAN		
PLAN PREPARED FOR:		
CG WAYNE, LLC		
EAGLE & RADNOR ROAD, WAYNE, PA 19087		
RADNOR TOWNSHIP	DELAWARE COUNTY	PENNSYLVANIA
COVER SHEET		SHEET 1 of 16
		SCALE: 1" = 200'





- (a) SOIL TYPES: SEE BELOW TABLE.
- (b) CONTOUR LINES: SEE EXISTING SURVEY PLAN.
- (c) DATUM: SEE EXISTING SURVEY PLAN.
- (d) FLOODPLAIN AREAS: SEE WATER RESOURCES MAP ON EXISTING SURVEY PLAN.
- (e) BASE FLOOD ELEVATION: SEE WATER RESOURCES MAP EXISTING SURVEY PLAN.
- (f) FLOODPLAIN SOILS: SEE WATER RESOURCES MAP EXISTING SURVEY PLAN.
- (g) STEEP SLOPE AREAS: SEE EXISTING SURVEY PLAN.

(a) FOREST AREAS AND GROVE AREAS: SEE TREE REMOVAL & PREPARATION PLAN PREPARED BY JLA, SHEET 12

(b) LARGE TREES OVER 6" IN CALIPER: SEE TREE REMOVAL & PREPARATION PLAN PREPARED BY JLA, SHEET 12.

(c) OTHER SIGNIFICANT VEGETATION: N/A

(a) STREAMS: SEE EXISTING SURVEY PLAN. UNNAMED TRIBUTARY TO GULPH CREEK. WWF/MF DESIGNATION. IN PROJECT AREA ARE SHOWN ON PLAN..NAME..CLASS

(b) SWALES: NO NATURE DRAINAGE SWALES.

(c) LAKES AND PONDS: NONE

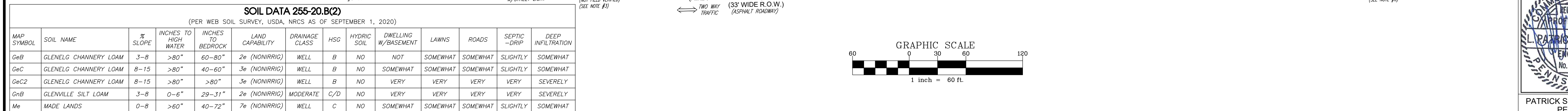
(d) WETLANDS: NONE. SEE 2019 REPORT.

THIS SITE IS FULLY DEVELOPED. THE PROJECT AREA INCLUDES LITTLE WILDLIFE HABITAT.

SEE TREE REMOVAL & PREPARATION PLAN PREPARED BY JLA, SHEET 12

CANOPY	UNDERSTORY	SHRUB LAYER
MAPLE	AILANTHUS	ARBORVITAE
OAK	LOCUST	
	DOGWOOD	

SOIL DATA 255-20.B(2)													
(PER WEB SOIL SURVEY, USDA, NRCS AS OF SEPTEMBER 1, 2020)													
MAP SYMBOL	SOIL NAME	% SLOPE	INCHES TO HIGH WATER	INCHES TO BEDROCK	LAND CAPABILITY	DRAINAGE CLASS	HSG	HYDROL SOIL	DWELLING W/BASEMENT	LAWNS	ROADS	SEPTIC DRAIN	DEEP INFILTRATION
GeB	GLENELG CHANNERY LOAM	3-8	>80"	60-80"	2e (NONIRRIG)	WELL	B	NO	NOT	SOMEWHAT	SOMEWHAT	SLIGHTLY	SOMEWHAT
GeC	GLENELG CHANNERY LOAM	8-15	>80"	40-60"	3e (NONIRRIG)	WELL	B	NO	SOMEWHAT	SOMEWHAT	SOMEWHAT	SLIGHTLY	SOMEWHAT
GeC2	GLENELG CHANNERY LOAM	8-15	>80"	>80"	3e (NONIRRIG)	WELL	B	NO	VERY	VERY	VERY	VERY	SEVERELY
gnB	GLENVILLE SILT LOAM	3-8	0-6"	29-31"	2d (NONIRRIG)	MODERATE	C/D	NO	VERY	VERY	VERY	VERY	SEVERELY
Me	MAGE LANDS	0-8	>80"	40-72"	7e (NONIRRIG)	WELL	C	NO	SOMEWHAT	SOMEWHAT	SOMEWHAT	SLIGHTLY	SOMEWHAT



EXISTING CONDITIONS ZONING SUMMARY					
ORDINANCE ITEM	PI PLANNED INSTITUTIONAL REQUIREMENT	R-1 RESIDENTIAL REQUIREMENT	R-2 RESIDENTIAL REQUIREMENT	PARCEL A	PARCEL B
MIN. LOT AREA	10 AC (435,600 SF)	1 AC (43,560 SF)	20,000 SF	677,097 SF	50,504 SF
LOT WIDTH @ BLDG	100 FT	120 FT	100 FT	500 FT	323 FT
MIN. SETBACKS					
FRONT	**	60 FT	40 FT	60 FT	60 FT
SIDE (MIN/AGG)	***	25/60 FT	20/45 FT	N/A	30/70 FT
REAR	***	40 FT	40 FT	60 FT	N/A
MAX. BUILDING HEIGHT	38 FT	35 FT	35 FT	<35 FT	<35 FT
MAX. BUILDING COVERAGE	30%	15%	18%	2.2%	4.6%
MAX. IMPERV SURFACE	45%	22%	30%	19.9%	11.1%
RIPARIAN BUFFER	35 FT	35 FT	35 FT	25 FT	28 FT
** PI FRONT SETBACK FROM STREET ROW: STRUCTURES - 120 FT; PARKING - 60.					
*** REAR & SIDE YARD:					
CATEGORY 1: RESIDENTIAL ADJOINER- 125 FT; OTHERS- 75 FT					
CATEGORY 2: RESIDENTIAL ADJOINER- OTHERS- 100 FT					
SEE CHAPTER 280, ARTICLE XVI OF THE RADNOR CODE FOR ALL PI DISTRICT REQUIREMENTS.					

**** PI FRONT SETBACK FROM STREET ROW: STRUCTURES - 120 FT; PARKING - 60.**
***** REAR & SIDE YARD:**
 CATEGORY 1: RESIDENTIAL ADJOINER- 125 FT; OTHERS- 75 FT
 CATEGORY 2: RESIDENTIAL ADJOINER- 200 FT; OTHERS- 75 FT
SEE CHAPTER 280, ARTICLE XVI OF THE RADNR CODE FOR ALL PI DISTRICT REQUIREMENTS

"BOUNDARY & TOPOGRAPHIC SURVEY" PREPARED FOR EASTERN UNIVERSITY, PREPARED BY CONTROL POINT ASSOCIATES, INC., DATED MARCH 31, 2010, LAST REVISED DECEMBER 20, 2019.

1. PROPERTY KNOWN AS LOT 36-02-0097810 & LOT 36-02-0097820 AS IDENTIFIED ON THE TAX MAPS OF DELAWARE COUNTY, RADNOR TOWNSHIP, COMMONWEALTH OF PENNSYLVANIA.
2. AREA = 850,552 SQUARE FEET OR 19.526 ACRES.
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AND RECORDS OF THE UTILITY COMPANIES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.
4. THIS PLAN IS BASED ON INFORMATION PROVIDED, BY A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
5. BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) PER REF. #2.
6. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY.
7. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88, BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS)).
8. THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.

1. MAP #8 OF THE OFFICIAL TAX MAPS OF DELAWARE COUNTY, RADNOR TOWNSHIP, COMMONWEALTH OF PENNSYLVANIA.
2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, DELAWARE COUNTY, PENNSYLVANIA (ALL JURISDICTIONS) PANEL 17 OF 250" PREPARED BY FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP REVISED NOVEMBER 18, 2009, MAP NUMBER 42045C0017F.
3. MAP ENTITLED "RECORD PLAN PREPARED FOR MICHAEL C. & JEANNE D. O'NEILL, RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA" PREPARED BY TURNER-PAHUTSKI ASSOCIATES, INC., DATED OCTOBER 4, 1991, LAST REVISED JANUARY 1992, SHEET 1 OF 5. RECORDED AS PLAN VOLUME 17, PAGE 410.
4. MAP ENTITLED "MAIN EXTENSION FOR CHAMOUNIX ROAD, RADNOR, DELAWARE COUNTY" PREPARED BY AQUA PENNSYLVANIA INCORPORATED, DATED 1-11-08, PROJECT #561.07, PLATE F19,G20, SHEET 2 OF 16
5. MAP ENTITLED "WATER MAIN REPLACEMENT FOR: EAGLE ROAD (S.R. 1042) FROM RADNOR ROAD TO KING OF PRUSSIA ROAD, RADNOR TOWNSHIP, DELAWARE CO., PENNSYLVANIA" PREPARED BY AQUA PENNSYLVANIA, INC., DATED 6/1/2007.
6. MAP ENTITLED "GRID MAP NO. 40C3-EH12, DELAWARE COUNTY" DELCO MAP NO. 2018, DATED 10-5-06, SHEET 1 OF 1.
7. MAP ENTITLED "GRID MAP NO. 40C2-CD78, DELCHESTER REGION" DATED 11-30-06, SHEET 1 OF 1.
8. MAP ENTITLED "TREE EVALUATION FOR THE EASTERN DEVELOPMENT", PREPARED BY JONATHAN ANDERSON LANDSCAPE ARCHITECTS, INC. DATED 9/4/2019.
9. UTILITY LOCATION MAPS OBTAINED FROM PECO ENERGY COMPANY.

NET LOT CALCULATION (\$F)					
	PARCEL A		PARCEL B		
GROSS LOT AREA	792,229		58,395		
LESS					
RIGHT OF WAYS (R DISTRICTS)	88,612		6,384		
FLAG LOT ACCESS STRIP	0		0		
75% OF:					
FLOODPLAIN	16782	12,587	2010	1,508	
WETLANDS	0	0	0	0	
SLOPES GREAT THAN 20%	18578	13,934	0	0	
NET LOT AREA	677,097		50,504		

EXISTING IMPERVIOUS COVERAGE SUMMARY (SQ. FT.)		
	PARCEL A	PARCEL B
GROSS LOT AREA	792,229	58,395
BUILDINGS	17,244	2,669
WALKWAYS/SIDEWALKS	18,723	398
PATIOS, DECKS	0	0
DRIVEWAY	122,024	3166
OTHER	0	244
TOTAL IMPERVIOUS COVERAGE	157,991	6,477
TOTAL BUILDING %	2.2%	4.6%
TOTAL IMPERV %	19.9%	11.1%

THE APPLICANT PROPOSES REMOVE THE 14 EXISTING DWELLING AND ALL ASSOCIATED IMPROVEMENTS AND SUBDIVIDE PARCEL A AND B INTO 20 SINGLE FAMILY LOTS.

1.	12/7/2020	REVISE PER TOWNSHIP REVIEW LETTERS AND PC INPUT
1.	9/18/2020	RELOCATE LOT 1 DRIVEWAY
NUM.	DATE	REVISION

PLAN PREPARED BY:

SITE ENGINEERING CONCEPTS, LLC

P.O. BOX 1992
SOUTHEASTERN, PA 19399

P: 610-240-0450 F: 610-240-0451 E:INFO@SITE-ENGINEERS.COM

PRELIMINARY/FINAL SUBDIVISION AND LAND

DEVELOPMENT PLAN

PLAN PREPARED FOR:
CG WAYNE LLC

EAGLE & RADNOR ROAD, WAYNE, PA 19087

RADNOR TOWNSHIP DELAWARE COUNTY PENNSYLVANIA

SEPT. 15, 2020

EXISTING FEATURES PLAN

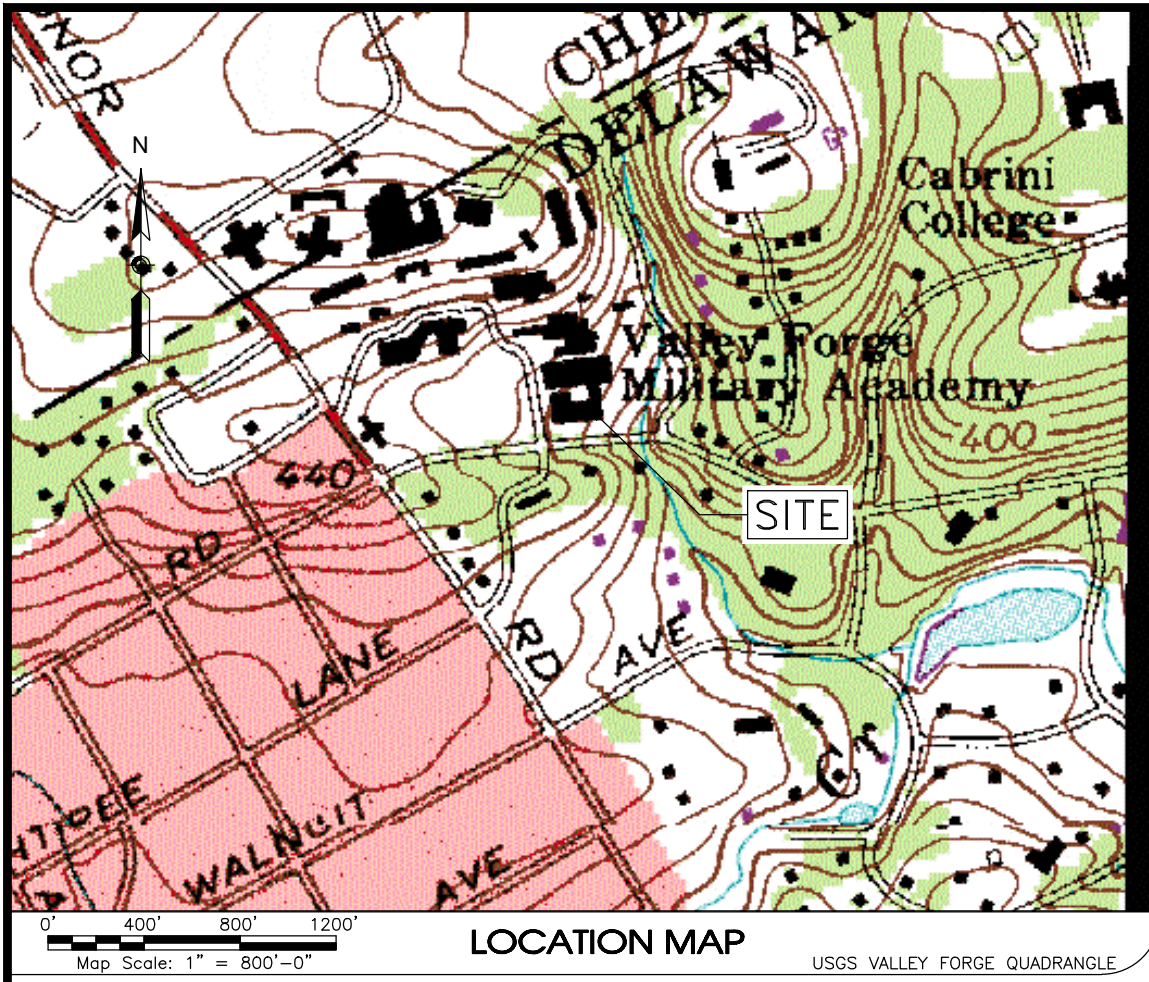
SOILS, VEGETATION, AND SHEET

SOILS, VEGETATION, AND 2 of 16

WATER RESOURCES MAP 2 of 16

WATER RESOURCES MAP
SCALE: 1" = 60'

SCALE: 1 = 00



BASE SURVEY PLAN
"BOUNDARY & TOPOGRAPHIC SURVEY" PREPARED FOR EASTERN UNIVERSITY, PREPARED BY CONTROL POINT ASSOCIATES, INC., DATED MARCH 31, 2010, LAST REVISED DECEMBER 20, 2019. SEE EXISTING FEATURES SHEET FOR COMPLETE LIST OF NOTES AND REFERENCES.

PLAN LEGEND

---	PROPERTY LINE
---	RIGHT-OF-WAY
---	BUILDING SETBACK LINE
---	ACCESSORY SETBACK LINE
---	STREAM
---	100 YR FLOOD BOUNDARY
---	TWP RIPARIAN SETBACK
---	ROW
---	PUBLIC SANITARY EASEMENT
---	PUBLIC SIDEWALK EASEMENT
---	PRIVATE EASEMENT

EASEMENT PLANTING PROHIBITED
PLANTINGS OTHER THEN GRASS ARE PROHIBITED WITHIN THE SANITARY SEWER EASEMENTS

LOT #19 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	CHORD	ARC= 206.90'; RADIUS= 876.96'; CHORD= 205.78'
2	S77°06'30"W	364.74
3	S01°37'19"E	103.43
4	S04°43'35"E	202.08
5	S11°56'17"E	40.37
6	S01°54'50"E	59.96
7	N20°46'07"W	5.98
8	N11°38'56"W	40.31
9	N01°45'37"W	106.77
10	N27°00'4"W	161.80
11	N00°14'60"W	141.32
12	N89°45'00"E	428.76
ERROR OF CLOSURE: 1:1X		

LOT #20 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	S56°59'60"E	325.66
2	S33°00'00"W	305.58
3	CHORD	ARC= 127.51'; RADIUS= 916.89'; CHORD= 127.41'
4	CHORD	ARC= 117.15'; RADIUS= 880.36'; CHORD= 117.06'
5	CHORD	ARC= 206.90'; RADIUS= 876.96'; CHORD= 205.78'
ERROR OF CLOSURE: 1:1X		

LOT #18 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	S00°14'60"E	46.63
2	S27°00'04"E	161.80
3	S82°22'60"W	119.99
4	S04°43'35"E	202.08
5	CHORD	ARC= 20.02'; RADIUS= 255.00'; CHORD= 20.00'
6	S04°44'08"E	199.81
7	S29°26'27"E	177.09
8	S00°14'60"E	149.63
9	S89°45'00"W	152.40
ERROR OF CLOSURE: 1:1X		

LOT #17 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	S00°14'60"E	46.63
2	S29°26'27"E	177.09
3	S04°44'08"E	199.81
4	CHORD	ARC= 20.02'; RADIUS= 255.00'; CHORD= 20.00'
5	S04°44'08"E	200.57
6	N69°49'07"E	159.89
7	S29°31'42"E	152.76
8	S04°48'60"E	216.19
9	S85°11'00"W	80.52
10	S89°33'47"W	86.07
ERROR OF CLOSURE: 1:1X		

LOT #16 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	S04°48'60"E	216.19
2	S29°31'42"E	152.76
3	N61°51'36"E	162.68
4	S28°39'60"E	463.97
5	S85°11'00"W	282.59

LOT #15 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	S29°02'22"E	192.00
2	S64°58'16"W	154.99
3	N26°25'42"W	106.24
4	N28°39'60"W	76.17
5	N61°31'36"E	162.68

LOT #14 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	S04°44'08"E	200.57
2	CHORD	ARC= 70.34'; RADIUS= 255.00'; CHORD= 70.12'
3	N64°58'16"E	20.26
4	N26°02'22"W	193.00
5	N69°49'07"E	159.89

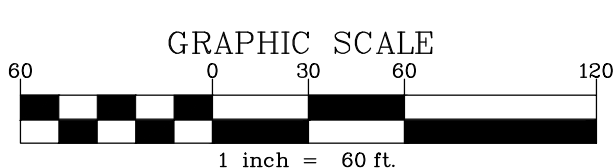
LOT #13 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	S01°45'37"E	106.77
2	S11°38'56"E	40.31
3	S20°46'07"E	59.98
4	S73°11'03"W	57.17
5	N88°54'53"W	80.26
6	N04°43'35"W	202.08
7	N82°22'60"E	119.99

LOT #12 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	CHORD	ARC= 117.15'; RADIUS= 880.36'; CHORD= 117.06'
2	N69°41'02"E	317.25
3	N51°45'52"E	100.00
4	N01°34'50"W	60.00
5	N11°56'17"W	40.37
6	N01°37'19"W	103.43
7	N77°06'30"E	364.74

RADNOR STREET ROAD
(TOWNSHIP ROAD)
(A.K.A. RADNOR ROAD, RADNOR STREET)
750' WIDE (33' WIDE R.O.W.)
(ASPHALT ROADWAY)



LOT #11 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	CHORD	ARC= 127.51'; RADIUS= 916.89'; CHORD= 127.41'
2	S75°39'35"W	148.84
3	S33°23'36"W	126.67
4	N64°26'02"E	132.17
5	N72°47'40"W	100.00
6	N51°45'52"E	100.00
7	N69°41'02"E	317.25

LOT #10 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	N72°47'02"E	100.01
2	N64°26'02"E	132.17
3	N41°47'11"W	133.05
4	S64°54'43"W	81.21
5	N13°25'00"W	226.41

LOT #9 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	S13°25'04"E	226.44
2	S64°54'43"W	33.94
3	S55°36'24"W	80.30
4	N27°06'34"W	99.69
5	N01°08'15"E	175.42
6	S88°51'45"E	31.68
7	N73°12'26"E	57.17

LOT #8 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	N01°08'15"E	175.42
2	S64°54'34"W	88.30
3	N25°05'26"W	202.40
4	N64°58'16"E	20.26
5	CHORD	ARC= 70.34'; RADIUS= 255.00'; CHORD= 70.12'
6	CHORD	ARC= 20.02'; RADIUS= 255.00'; CHORD= 20.00'
7	S88°51'43"E	42.46

OFFER OF SEWER DEDICATION

APPLICANT AND ITS SUCCESSORS AND ASSIGNS IN TITLE TO THE PROPERTY HEREBY MAKES A CONTINUING OFFER OF DEDICATION, AT NO COST, TO RADNOR TOWNSHIP TO DEDICATE THE PUBLIC SANITARY AND STORM SEWER AND ASSOCIATED EASEMENTS AS SHOWN ON THIS PLAN. THIS OFFER OF DEDICATION SHALL BE A RESTRICTIVE COVENANT THAT RUNS WITH THE LAND WHICH MAY BE ENFORCED AND ACCEPTED BY THE TOWNSHIP AGAINST ALL SUCCESSORS AND ASSIGNS IN TITLE.

OFFER OF RIGHT OF WAY DEDICATION

APPLICANT AND ITS SUCCESSORS AND ASSIGNS IN TITLE TO THE PROPERTY HEREBY MAKES A CONTINUING OFFER OF DEDICATION, AT NO COST, TO RADNOR TOWNSHIP TO DEDICATE THE PROPOSED BEECHTREE LANE RIGHT OF WAY AS SHOWN ON THIS PLAN. THIS OFFER OF DEDICATION SHALL BE A RESTRICTIVE COVENANT THAT RUNS WITH THE LAND WHICH MAY BE ENFORCED AND ACCEPTED BY THE TOWNSHIP AGAINST ALL SUCCESSORS AND ASSIGNS IN TITLE.

WAIVERS REQUESTED

THE APPLICANT RESPECTFULLY REQUESTS THE FOLLOWING WAIVERS:
A) SECTION 255-12.A REQUIRING A PRELIMINARY LAND DEVELOPMENT PLAN FOR A MAJOR SUBDIVISION. THE WAIVER IS REQUESTED TO THE EXTENT NECESSARY FOR PERMIT REVIEW AND APPROVAL OF THIS APPLICATION AS A PRELIMINARY/FINAL LAND DEVELOPMENT PLAN.
B) PARTIAL WAIVER OF 255-21.8(1)(n) REQUIRING SIGNIFICANT MAN-MADE FEATURES WITHIN 500 FEET OF THE SITE BE PROVIDED ON THE PLAN. AERIAL IMAGERY IS USED TO PROVIDE DETAIL BEYOND THE SITE BOUNDARIES WHERE SURVEY DATA CAN NOT LEGALLY BE COLLECTED (E.G.: PRIVATE PROPERTY). A PARTIAL WAIVER IS REQUESTED TO THE EXTENT NECESSARY TO NOT PROVIDE THOSE ITEMS WHICH ARE NOT VISIBLE ON AERIAL IMAGERY (E.G.: SEWER LINES, STORM DRAINS, EASEMENTS, ETC.).

EXISTING CONDITIONS ZONING SUMMARY

ORDINANCE ITEM	P1 PLANNED INSTITUTIONAL REQUIREMENT	R-1 RESIDENTIAL REQUIREMENT	R-2 RESIDENTIAL REQUIREMENT
MIN. LOT AREA	10 AC (435,600 SF)	1 AC (43,560 SF)	20,000 SF
LOT WIDTH @ BLDG	100 FT	120 FT	100 FT
MIN. SETBACKS			
FRONT	**	60 FT	40 FT
SIDE (MIN/AGG)	***	25/60 FT	20/45 FT
REAR	***	40 FT	40 FT
MAX. BUILDING HEIGHT	38 FT	35 FT	35 FT
MAX BUILDING COVERAGE	30%	15%	18%
MAX. IMPERV SURFACE	45%	22%	30%
RIPIARIAN BUFFER	35 FT	35 FT	35 FT

* PARENT TRACTS IN P1 & R-1. ZONING MAP CHANGE TO R-2
** PI FROM STREET ROW: STRUCTURES - 120 FT; PARKING - 60.
*** REAR & SIDE YARD:
CATEGORY 1: RESIDENTIAL ADJOINER- 125 FT; OTHERS- 75 FT
CATEGORY 2: RESIDENTIAL ADJOINER- 200 FT; OTHERS- 75 FT
SEE CHAPTER 280, ARTICLE XVI OF THE RADNOR CODE FOR ALL PI DISTRICT REQUIREMENTS.

PROPOSED LOTS

LOT #	PROPOSED GROSS AREA	PROPOSED ROW & <50' WIDTH	FLOODPLAIN, WETLANDS & >20% SLOPES	PROPOSED LOT AREA (20,000 SF MIN)**	ALLOWABLE IMPERVIOUS (30%)	LOT WIDTH @ BLDG LINE (100' MIN)	DEPTH TO STREET LINE	DEPTH/WID H RATIO (2.5:1 MAX***)
1	61,342	173	6,626	56,200	18,403	140	262	1.9
2	28,787	3,015		25,772	8,636	124	217	1.8
3	24,055	2,926		21,129	7,217	111	187	1.7
4	24,982	3,271		21,711	7,495	129	181	1.4
5	33,042	7,373		25,669	9,913	169	171	1.0
6	26,226	2,336		23,890	7,868	121	207	1.7
7	31,963	8,964		22,999	9,589	119	140	1.2
8	25,137	5,020		20,117	7,541	143	145	1.0
9	27,634	3,827		23,807	8,290	106	217	2.0
10	24,453	1,865		22,588	7,336	124	149	1.2
11	48,314	1,741	4,806	42,969	14,494	101	325	2.2
12	55,669	1,679	10,330	46,243	16,701	100	390	2.3
13	25,103	5,003		20,100	7,531	120	177	1.5
14	23,857	2,878		20,979	7,157	119	162	1.4
15	29,553	7,930		21,623	8,866	132	162	1.2
16	82,634	14,175		68,459	24,790	152	145	1.0
17	61,225	7,306		53,919	18,368	162	324	2.0
18	49,002	7,050		41,952	14,701	152	269	1.8
19	109,184	12,072	13,598	86,914	32,755	458	240	0.5
20	58,395	6,384	2,010	50,504	17,519	286	185	0.6

* ASSUMES SLOPES ARE MAN-MADE AND QUALIFY FOR EXEMPTION PER 280-112.I. ASSUME NO WETLANDS ARE PRESENT BEYOND LIMITS OF FLOODPLAIN.
** LOT AREA = TOTAL AREA LESS ROW AND 75% OF EACH OF THE FOLLOWING: FLOODPLAINS, WETLANDS AND 20%+ SLOPES.
*** LOTS 11 & 12 BASED ON AVERAGE WIDTH TO EXTENDED TO INCLUDE TREE PRESERVATION AREA.

LOT #1 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	CHORD	ARC= 442.11'; RADIUS= 300.00'; CHORD= 403.18'
2	N22°40'17"W	265.29
3	N33°23'39"E	126.67
4	N75°39'35"E	148.84

LOT #2 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	CHORD	ARC= 47.75'; RADIUS= 300.56'; CHORD= 47.70'
2	S67°25'00"W	72.49
3	S22°40'17"E	211.53
4	N41°47'11"E	133.05
5	S22°40'17"E	265.29

LOT #3 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	S67°25'01"W	115.06
2	S22°40'17"E	206.49
3	S64°54'43"W	115.16
4	S22°40'17"E	211.53

LOT #4 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	S67°24'59"W	129.57
2	S22°38'15"E	179.45
3	S55°36'24"W	51.82
4	S55°36'24"W	80.30
5	S22°40'17"E	206.49

LOT #5 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	S67°25'00"W	182.88
2	N26°20'07"W	171.33
3	N64°54'34"E	194.21
4	S22°38'15"E	179.45

LOT #6 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	N26°20'07"W	106.02
2	N64°54'34"E	244.18
3	S27°06'34"E	99.69
4	S55°36'24"W	51.82
5	S64°54'34"W	194.21

LOT #7 METES & BOUNDS

COURSE	BEARING	DISTANCE
1	S25°05'26"E	202.40
2	S64°54'34"W	155.72
3	N28°18'01"W	202.62
4	N64°58'16"E	154.99

EASEMENT #6 PRIVATE STORM

COURSE	BEARING	DISTANCE
1	S11°03'23"E	20.03
2	S75°39'35"W	65.92
3	S33°23'39"W	120.40
4	S41°47'11"W	138.61
5	S64°54'43"W	117.62
6	S55°36'24"W	101.39
7	N27°06'34"W	133.34
8	N64°54'34"E	19.93
9	S27°09'04"E	109.92
10	N55°36'24"E	80.30
11	N64°54'43"E	115.16
12	N41°47'11"E	133.05
13	N33°23'39"E	126.66
14	N75°39'35"E	74.79

EASEMENT #7 PRIVATE ACCESS AND UTILITY

COURSE	BEARING	DISTANCE
1	S04°43'35"E	192.01
2	S89°15'34"W	40.00
3	N04°44'08"W	190.50
4	N83°06'21"E	40.06

EASEMENT #8 PUBLIC SANITARY

COURSE	BEARING	DISTANCE
1	S72°47'40"E	40.00
2	S64°26'02"E	15.01
3	S64°26'02"E	232.17
4	S22°41'42"E	232.17
5	S67°19'43"W	20.00
6	N22°41'45"W	224.54
7	N64°26'02"W	159.55
8	N75°05'41"W	40.52
CHORD	ARC= 20.39'; RADIUS= 60.00'; CHORD= 20.29'	

EASEMENT #9 PUBLIC STORM

COURSE	BEARING	DISTANCE
1	N20°18'58"W	20.00
2	N69°41'02"E	253.14
3	N51°45'52"E	40.00
4	CHORD	ARC= 40.38'; RADIUS= 60.00'; CHORD= 20.29'
5	S51°45'52"W	40.00
6	S69°41'02"W	256.29

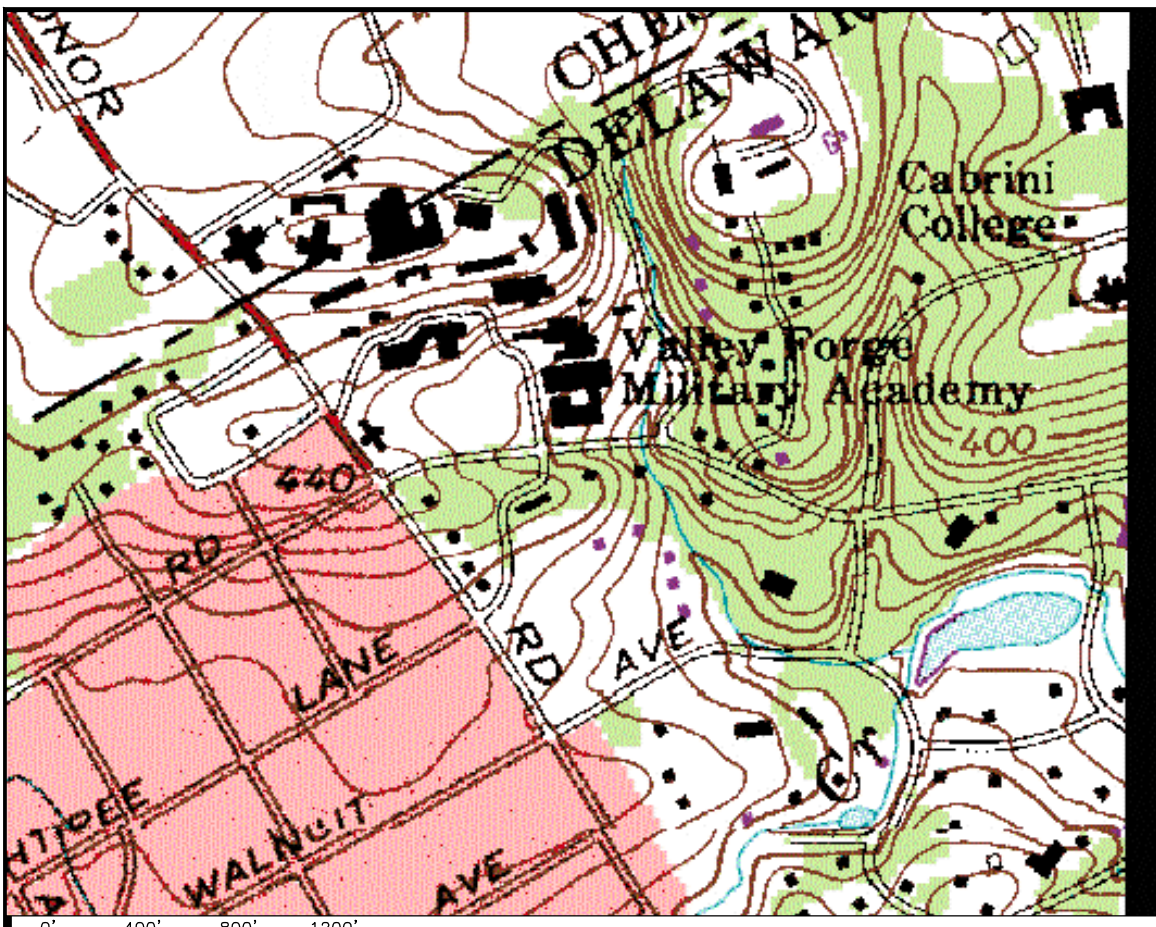
EASEMENT #10 PRIVATE SANITARY

COURSE	BEARING	DISTANCE
1	N22°35'35"W	156.39
2	N67°19'43"E	9.97
3	S22°36'15"E	154.31
4	S55°36'24"W	10.22

EASEMENT #11 PRIVATE STORM

COURSE	BEARING	DISTANCE
1	S25°05'11"E	14.11
2	S65°06'43"W	26.59
3	S25°02'22"W	14.01
4	N64°54'49"E	26.58

4	CHORD N85°15'52"E	40.0 RADIUS 255.0 CHORD 40.0
5	S88°54'53"E	80.2
6	S73°12'34"E	57.1



LOCATION MAP

NOTE: THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES CANNOT BE GUARANTEED. ALL UTILITIES DEPICTED ON THIS PLAN HAVE BEEN DEVELOPED FROM ABOVE GROUND OBSERVATIONS AND/OR EXISTING RECORDS. CONTRACTOR MUST VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. PENNSYLVANIA STATE LAW REQUIRES NOTIFICATION TO 1-800-242-1776 3-10 BUSINESS DAYS PRIOR TO ANY EXCAVATION. BASE PLAN S/N: 20192664614

PLAN LEGEND

RED LINES: T&R
BOLD LINES: E&S PROPOSED
DASHED LINES: EXISTING

ST- 5' INTERVAL CONTOUR
SW- STORM SEWER PIPING
S- SANITARY SEWER PIPING
G- GAS MAIN
W- WATER MAIN / SERVICE
E- UNDERGROUND ELECTRIC
OH- OVERHEAD WIRE
T- COMMUNICATIONS
X- EDGE OF LANDSCAPING
- RIGHT-OF-WAY
- BUILDING SETBACK LINE
- LIMIT OF DISTURBANCE LINE
- STREAM
- 100 YR FLOOD BOUNDARY
- TWP RIPARIAN SETBACK

EXISTING BUILDINGS
EXISTING ASPHALT
EXISTING WALKS & PADS
EXISTING WALLS

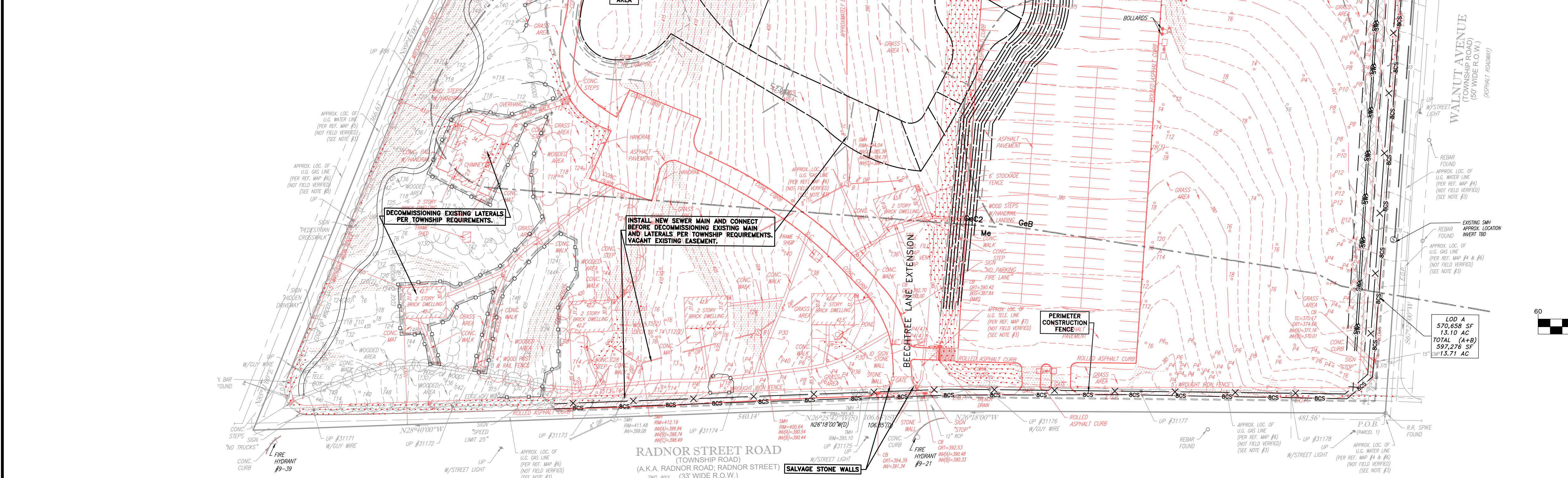
XXXXXX SPOT ELEVATION
DSXXXX GARAGE SILL
OSXXXX HYDRANT
WV WATER VALVE
WM WATER METER
SV SANITARY VENT
SC SANITARY CLEAN OUT
SM SANITARY MANHOLE
GM GAS METER
GV GAS VALVE
MONU MONUMENT OR PIN
(F&H) FOUND AND HELD
STM MH STORMWATER MANHOLE
SNI STORMWATER INLET
SND STORMWATER CLEAN OUT
DOWNSPOUT

14-20% SLOPES
NATURAL, MAN-MADE
>20% SLOPES
NATURAL, MAN-MADE
Soil Boundary & Map Symbol

MoD

CONSTRUCTION ENTRANCE NOTES

CONSTRUCTION ENTRANCE LOCATION CONTINGENT ON OBTAINING A HIGHWAY OCCUPANCY PERMIT FOR PennDOT.



LEGEND - E & S CONTROL FEATURES

8" COMPOST SOCK
12" COMPOST SOCK
CONSTRUCTION FENCING
TREE PROTECTION FENCING
ROCK CONSTRUCTION ENTRANCE
SOIL BOUNDARY
& MAP SYMBOL
SLOPE LENGTH CALCULATION
Tc CALCULATION
INLET PROTECTION
TREES TO BE REMOVED

W/ COMPOST ON
UPSTREAM FACE

ROCK FILTER

SOIL DATA 102.4(b)(5)(D)

(PER WEB SOIL SURVEY, USDA, NRCS AS OF APRIL 27, 2018)

MAP SYMBOL	SOIL NAME	% SLOPE	INCHES TO HIGH WATER	INCHES TO BEDROCK	LAND CAPABILITY	DRAINAGE CLASS	HSG	DWELLING W/BASEMENT	LAWNS	ROADS	SEPTIC -DRIP	DEEP INFILTRATION
GdB	GLADSTONE GRAVELLY LOAM	3-8	>80"	60"-80"	2e (NONIRRIG)	WELL	B	NOT	SOMEWHAT	SOMEWHAT	SLIGHTLY	SOMEWHAT
GdC	GLADSTONE GRAVELLY LOAM	8-15	>80"	65"-67"	3e (NONIRRIG)	WELL	B	SOMEWHAT	SOMEWHAT	SOMEWHAT	SLIGHTLY	SOMEWHAT
Ha	HATBORO SILT LOAM	0-3	0-6"	60"-99"	4w (NONIRRIG)	POORLY	D	VERY	VERY	VERY	VERY	SEVERELY
ToA	TOWHEE SILT LOAM	0-3	0-6"	48-96"	4w (NONIRRIG)	POORLY	D	VERY	VERY	VERY	VERY	SEVERELY

\$102.8(b)(5)(D) RECYCLING AND DISPOSAL

CONSTRUCTION WASTE TO CONSIST OF TYPICAL BUILDING MATERIALS. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS ACT 25 PA CODE 260.1, ET SEQ 271.1 ET SEQ, AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP OR DISCHARGE ANY BUILDING MATERIAL OR WASTE AT THE SITE.

REPORTING AND RECORD KEEPING

THE E&S PLAN, INSPECTION REPORTS AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT OR THE CONSERVATION DISTRICT.

E&S CONTROL NOTES

- E&S CONTROL FOR TRENCH CONSTRUCTION WILL CONSIST OF PLACING EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH AND BACKFILLING AND STABILIZING WITHIN THE SAME WORK DAY.
- EROSION AND SEDIMENT BMPs MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPs.
- AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPs MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMPs MUST BE STABILIZED IMMEDIATELY.
- CONTRACTOR MUST CLEAN DRIVEWAY AND ROAD OF ANY SEDIMENT AT THE END OF EACH WORK DAY.
- STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.

EROSION CONTROL MAINTENANCE REQUIREMENTS

- SILT BARRIER, TREE PROTECTION FENCING, AND THE ROCK CONSTRUCTION ENTRANCE MUST BE CHECKED ON A DAILY BASIS AND AFTER ALL STORM EVENTS TO ENSURE THAT THEY ARE STILL FUNCTIONING PROPERLY. IF NOT, THEY SHALL BE REPLACED OR CLEANED OF SEDIMENT.
- SEDIMENT MUST BE REMOVED FROM SILT BARRIER WHEN ACCUMULATIONS REACH 1/2 OF THE ABOVE GROUND HEIGHT OF THE FENCE OR AS RECOMMENDED BY MANUFACTURER.
- ANY SECTION OF SILT BARRIER WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET.
- DIVERSION BERMS, STONED CONSTRUCTION STAGING AREAS, AND INLETS/PIPING SHALL BE PROVIDED AS REQUIRED OR AS DIRECTED BY THE TOWNSHIP SO AS TO ENSURE ACCEPTABLE CONDITIONS DURING THE CONSTRUCTION PHASE

NOTICE OF TERMINATION

UPON PERMANENT STABILIZATION OF THE EARTH DISTURBANCE ACTIVITY UNDER CH. 102.22(A)(2) (RELATING TO PERMANENT STABILIZATION), AND INSTALLATION OF BMPs IN ACCORDANCE WITH AN APPROVED PLAN PREPARED AND MAINTAINED IN ACCORDANCE WITH CH. 102.4 AND 102.8 (RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS; AND PCSM REQUIREMENTS), THE PERMITEE OR CO-PERMITEE SHALL SUBMIT A NOTICE OF TERMINATION TO THE DEPARTMENT OR CONSERVATION DISTRICT. THE NOTICE OF TERMINATION MUST INCLUDE:
(1) THE FACILITY NAME, ADDRESS AND LOCATION.
(2) THE OPERATOR NAME AND ADDRESS.
(3) THE PERMIT NUMBER.
(4) THE REASON FOR PERMIT TERMINATION.
(5) IDENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs IN ACCORDANCE WITH §102.8(M) AND PROOF OF COMPLIANCE WITH §102.8(M)(2).

FINAL CERTIFICATION

THE PERMITEE SHALL INCLUDE WITH THE NOTICE OF TERMINATION "RECORD DRAWINGS" WITH A FINAL CERTIFICATION STATEMENT FROM A LICENSED PROFESSIONAL, WHICH READS AS FOLLOWS: "I (NAME) DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 PA. C.S.A. CHAPTER 4804 TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS, ARE TRUE AND CORRECT, AND ARE IN CONFORMANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED CONSTRUCTION PRACTICES." (1) THE PERMITEE SHALL RETAIN A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN. (2) THE PERMITEE SHALL PROVIDE A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN TO THE PERSON IDENTIFIED IN THIS SECTION AS BEING RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs.

BASE SURVEY PLAN

"BOUNDARY & TOPOGRAPHIC SURVEY" PREPARED FOR EASTERN UNIVERSITY, PREPARED BY CONTROL POINT ASSOCIATES, INC., DATED MARCH 31, 2010, LAST REVISED DECEMBER 20, 2019. SEE EXISTING FEATURES SHEET FOR COMPLETE LIST OF NOTES AND REFERENCES.

1.	12/7/2020	REVISE PER TOWNSHIP REVIEW LETTERS AND PC INPUT
1.	9/18/2020	RELOCATE LOT 1 DRIVEWAY
NUM.	DATE	REVISION

PLAN PREPARED BY:

SITE ENGINEERING CONCEPTS, LLC

P.O. BOX 1992

SOUTHEASTERN, PA 19399

P: 610-240-0450

F: 610-240-0451

E: INFO@SITE-ENGINEERS.COM

PRELIMINARY/FINAL SUBDIVISION AND LAND DEVELOPMENT PLAN

PLAN PREPARED FOR:

CG WAYNE, LLC

EAGLE & RADNOR ROAD, WAYNE, PA 19087

RADNOR TOWNSHIP

DELAWARE COUNTY

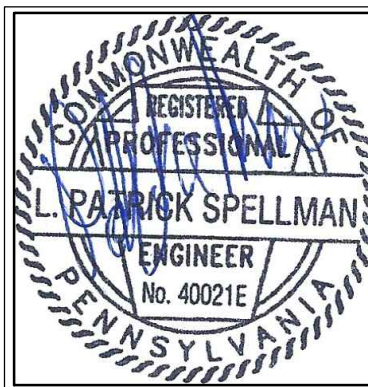
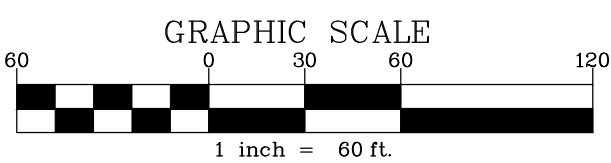
PENNSYLVANIA

SEPT. 15, 2020

EROSION & SEDIMENT CONTROL PLAN
DEMOLITION PLAN

SHEET
4 of 16

SCALE: 1" = 60'



PATRICK SPELLMAN, P.E.
PE-40021

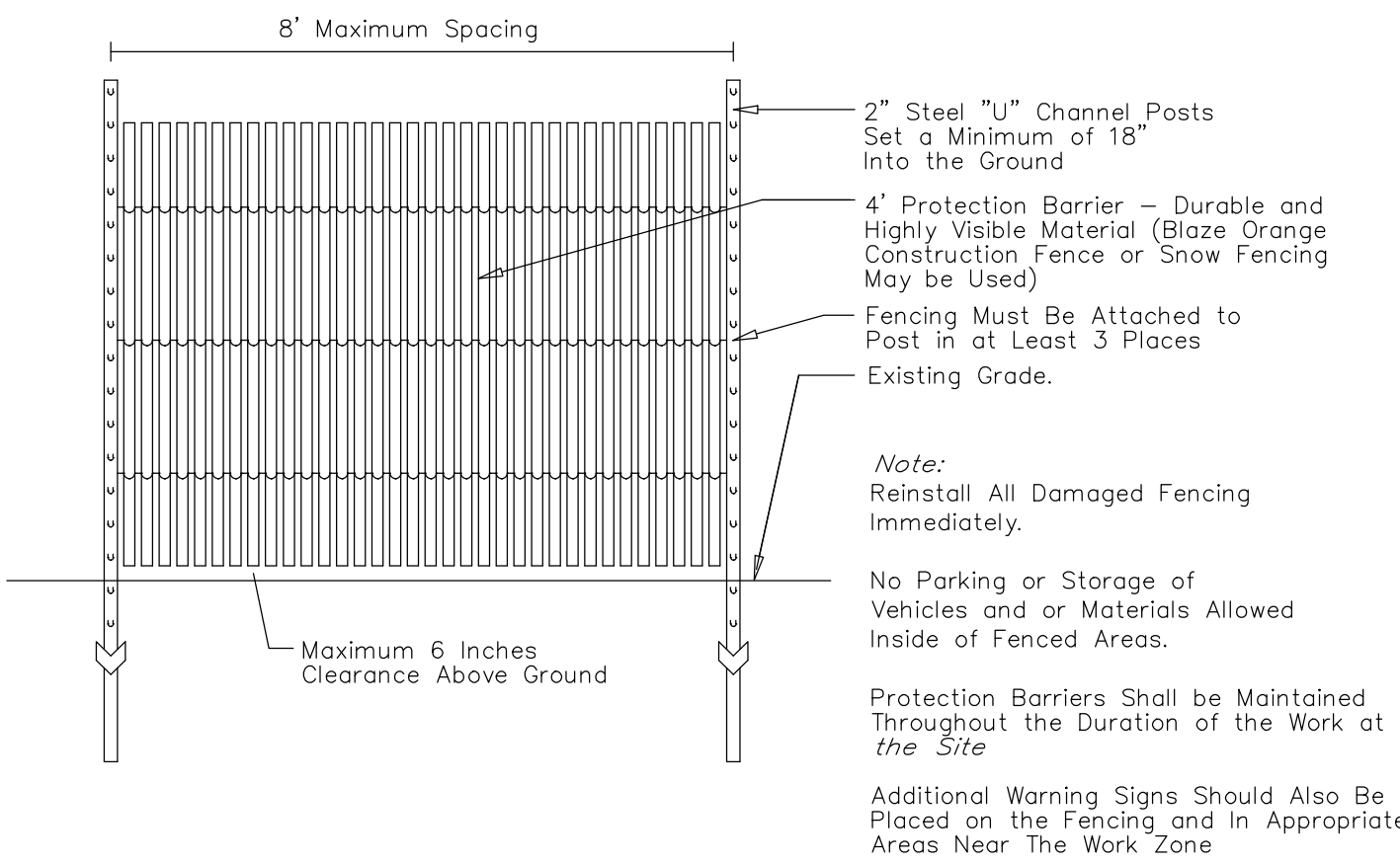
EROSION AND SEDIMENTATION CONTROL NOTES

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.
5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROCKS AND OTHER OBJECTIONABLE MATERIAL.
6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPs SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
11. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR FILL MATERIAL AFFECTED BY EARTH DISTURBANCE, OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL, DUE TO ANALYTICAL TESTING. IF THE SITE WILL HAVE ACCESS FILL WILL NEED TO BE EXPORTED TO AN OFF-SITE LOCATION. THE RESPONSIBILITY OF CLEAN FILL DETERMINATION AND ENVIRONMENTAL DUE DILIGENCE RESTS ON THE APPLICANT.
13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN. OVER UNDISTURBED VEGETATED AREAS.
14. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. MAINTENANCE AND REPAIRS SHALL BE DONE IMMEDIATELY. REPAIRS, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
15. A LOG SHOWING DATES THAT E&S BMPs WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
16. SEDIMENT TRACKED ON ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEEP INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
17. ALL SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.

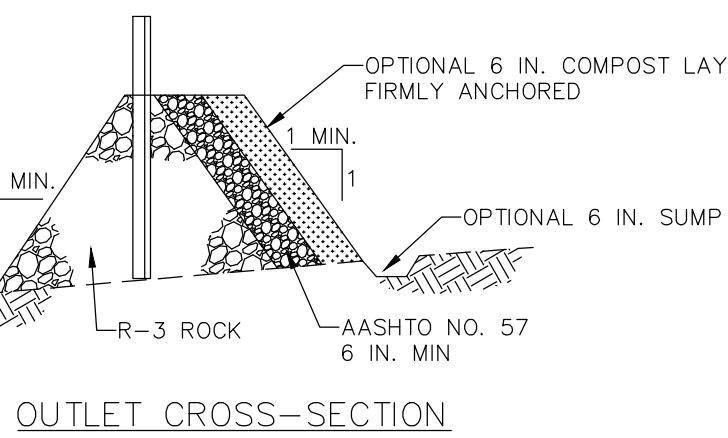
18. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES (6 TO 12 INCHES ON COMPACTED SOILS) PRIOR TO PLACEMENT OF TOPSOIL. PLACEMENT OF TOPSOIL SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTCROPS SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
19. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH US CODES.
20. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
21. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROCKS, SOIL, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
22. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
23. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
24. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
25. UPON TEMPORARY CESSATION OF AN EARTH DISTURBANCE OR ANY STAGE OR PHASE OF AN ACTIVITY WHERE A CESSATION OF EARTH DISTURBANCE ACTIVITIES EXCEEDS 4 DAYS, THE SITE SHALL BE IMMEDIATELY RESEED, MULCHED OR OTHERWISE PROTECTED FROM ACCELERATED EROSION AND SEDIMENTATION PENDING FUTURE EARTH DISTURBANCE ACTIVITIES.
26. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDS ARE WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
27. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.
28. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
29. E&S BMPs SHALL REMAIN FUNCTIONAL AS ARE REPLACED UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
30. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPs.
31. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPs MUST BE REMOVED OR CONVERTED TO PERMANENT STABILIZATION. TEMPORARY EROSION AND SEDIMENT BMPs ARE DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPs SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
32. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
33. FAILURE TO CORRECTLY INSTALL E&S BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPs MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES UNDER THE CLEAN STREAMS ACT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.

34. CLEAN FILL NOTES
IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE PERMITTEES.
CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM USED ASPHALT DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE).
CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE AS CLEAN FILL PROVIDES AS CLEAN FILL. IF ANALYTICAL TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY MANAGEMENT OF FILL.
ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.
35. ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL.
ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANITARY MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSDUCER SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MATERIAL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF A REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH THE DEPARTMENT'S POLICY MANAGEMENT OF FILL.
FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MAINTAINED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287. RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE. THESE REGULATIONS ARE AVAILABLE ON-LINE AT WWW.PACODE.COM.

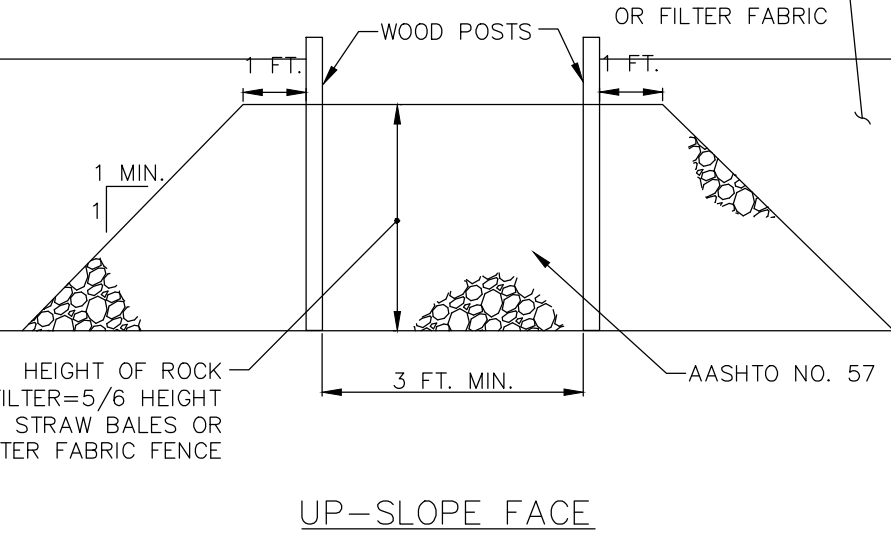
36. UTILITY LINE TRENCH EXCAVATION NOTES
A. LIMIT INSTALLATION OF CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF THE TRENCH.
B. WORK SHALL BE COMPLETED IN ONE DAY.
C. WORK SHALL BE COMPLETED PRIOR TO PLACEMENT OF PIPE, PLUG CONSTRUCTION, AND BACKFILLING.
D. THE TRENCH SHALL BE BACKFILLED WITH CLEAN FILL MATERIAL, PLUG INSTALLATION AND STABILIZATION OPERATIONS.
E. SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
F. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING.
G. WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING BEFORE PIPE PLACEMENT AND/OR BACKFILLING. WATER REMOVED FROM THE TRENCH SHALL BE PUMPED TO A FILTRATION DEVICE.
H. ON THE DAY OF BACKFILLING, PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND IMMEDIATELY STABILIZED.
37. EROSION CONTROL MAINTENANCE REQUIREMENTS
1. SILT BARRIER, TREE PROTECTION FENCING, AND THE ROCK CONSTRUCTION ENTRANCE MUST BE CHECKED ON A DAILY BASIS AFTER ALL STORM EVENTS TO ENSURE THAT THEY ARE STILL FUNCTIONING PROPERLY. IF NOT, THEY SHALL BE REPLACED OR CLEANED OF SEDIMENT.
2. SEDIMENT MUST BE REMOVED FROM SILT BARRIER WHEN ACCUMULATIONS REACH 1/2 OF THE ABOVE GROUND HEIGHT OF THE FENCE OR AS RECOMMENDED BY MANUFACTURER.
3. ANY SECTION OF SILT BARRIER WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITHOUT DELAY.
4. DIVERSION BERMS, STONED CONSTRUCTION STAGING AREAS, AND INLETS/PUMPS SHALL BE PROVIDED AS REQUIRED OR AS DIRECTED BY THE TOWNSHIP SO AS TO ENSURE ACCEPTABLE CONDITIONS DURING THE CONSTRUCTION PHASE.



CONSTRUCTION FENCING



OUTLET CROSS-SECTION



NOTES:

1. A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.
2. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

STANDARD CONSTRUCTION DETAIL #4-6
ROCK FILTER OUTLET

NOT TO SCALE

SEEDING & MULCHING NOTES

1. ANY DISTURBED AREA ON WHICH CONSTRUCTION ACTIVITY HAS CEASED MUST BE IMMEDIATELY SEEDED AND MULCHED. DURING NON-GERMINATION PERIODS, MULCH MUST BE APPLIED AT THE RECOMMENDED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE (1) YEAR SHALL BE IMMEDIATELY MULCHED AND SEEDED WITH A QUICK-GROWING TEMPORARY SEED MIXTURE. DISTURBED AREAS WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN ONE YEAR SHALL BE IMMEDIATELY MULCHED AND SEEDED WITH THE PERMANENT SEED MIXTURE.
2. DIVERSIONS, CHANNELS, SWALES, SEDIMENT BASINS, SEDIMENT TRAPS AND SOIL STOCKPILES SHALL BE SEEDED AND MULCHED IMMEDIATELY.
3. MULCH SHALL BE APPLIED AT A RATE OF AT LEAST 1 LB PER 100 SQ. FT.
4. AREAS UTILIZING VEGETATIVE STABILIZATION MUST BE SEEDED AND MULCHED WITHIN THE APRIL 15th TO OCTOBER 15th GERMINATION WINDOW. SEEDING WILL BE ACCOMPLISHED THROUGH HYDROSEEDING OR CONVENTIONAL SEEDING METHODS.
5. GEOTEXTILE EROSION CONTROL CHANNEL LINING AND SLOPE PROTECTION SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS IMMEDIATELY UPON THE COMPLETION OF GRADING ACTIVITIES.

PERMANENT SEED MIXTURE

NAME	PARTS BY PERCENT	WEIGHT	PURITY	GERMINATION
KENTUCKY BLUE GRASS VARIETIES	33%	95%	85%	
PENNSTAR OR PENNFINE				
PERENNIAL RYEGRASS	33%	95%	85%	
ANNUAL RYEGRASS	33%	95%	85%	

1. MULCH: SHALL BE HAY WHICH IS FREE OF WEEDS AND SEEDS, NOT MOLDY OR ROTTEN, AND SHALL BE APPLIED TO ALL AREAS AT A RATE OF 3 TONS PER ACRE, ON STEEP SLOPE AREAS (GREATER THAN 3:1), COVER SEEDS WITH A 1/2 INCH DEEP LAYER OF AN ACCEPTABLE GEOTEXTILE EROSION CONTROL BLANKET.
2. SOD: KENTUCKY BLUEGRASS SOD (IF CALLED FOR).
SOD SHALL BE GROWN UNDER THE SUPERVISION OF THE PENNSYLVANIA DEPARTMENT OF AGRICULTURE BUREAU OF PLANT INDUSTRY OR SHALL BE COMPOSED OF ONLY BLUE TAC CERTIFIED SEED.
3. SEED: ALL SEED SHALL BE FRESH, ALL NEW CROP SEED SHALL BE LABELED IN ACCORDANCE WITH THE U.S. DEPARTMENT OF AGRICULTURE RULES AND REGULATIONS UNDER THE FEDERAL SEED ACT IN EFFECT ON THE DATE OF INVITATION FOR BIDS. ALL SEED SHALL BE FURNISHED IN SCALE STANDARD TO KIND, PERCENT BY WEIGHT, PURITY AND GERMINATION. THE GRASS SEED SHALL CONTAIN THE PERCENTAGES OF PURITY AND GERMINATION INDICATED ON THE LIST FURNISHED WITH THE APPLICABLE PLAN. SEED MIX SHALL BE AS SPECIFIED, SPREAD AT THE RATE OF 5 POUNDS PER 1,000 SQUARE FEET (MINIMUM). FOR SLOPE 3:1 OR GREATER, USE 7.5 POUNDS OF SEED PER 1,000 SQUARE FEET.

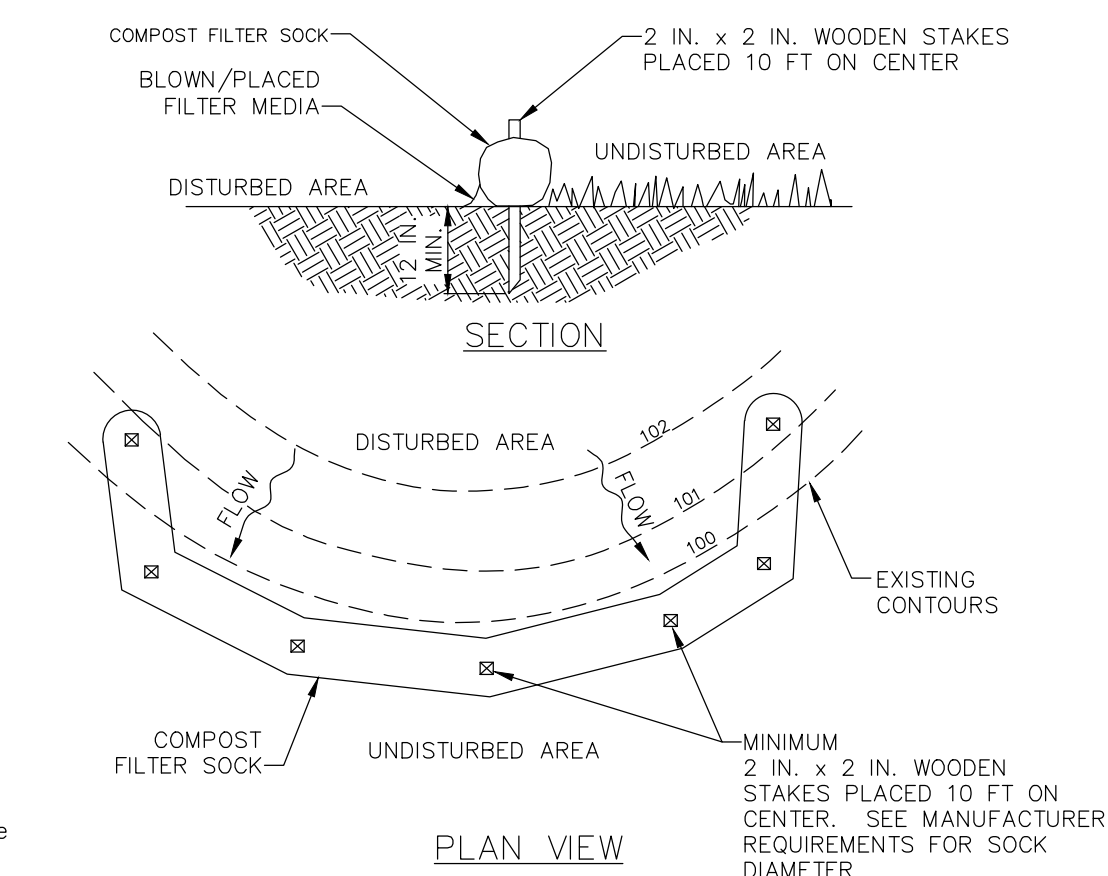
TEMPORARY SEED MIXTURE

1. PREPARATION: 1 TON OF AGRICULTURAL-GRADE LIMESTONE PER ACRE PLUS FERTILIZER AT THE RATE OF 50-50-50 PER ACRE, WORK INTO THE SOIL WHERE POSSIBLE. SECURE A SOIL TEST BEFORE APPLICATION OF PERMANENT SEEDING. AFTER SEEDING, MULCH WITH HAY OR STRAW AT A RATE OF 3 TONS PER ACRE.

SPECIES:	LBS/ACRE:
FOR SPRING SEEDING (UP TO JUNE 15)	
ANNUAL RYEGRASS	40
OR SPRING OATS	96 (3 BU)
OR SPRING OATS PLUS RYEGRASS	64 LBS OATS (2 BU) + 96 LBS ANNUAL RYEGRASS
OR WINTER WHEAT	180 (3 BU)
OR WINTER RYE	168 (3 BU)
FOR LATE SPRING & SUMMER SEEDING (JUNE 16 TO AUGUST 15)	
ANNUAL RYEGRASS	40
OR JAPANESE OR FOXTAIL MILLET	35
OR SUDANGRASS	40
OR SPRING OATS	96 (3 BU)
OR WINTER WHEAT	180 (3 BU)
OR WINTER RYE	168 (3 BU)
FOR LATE SUMMER & FALL SEEDING (AUGUST 16 AND LATER)	
ANNUAL RYEGRASS	40
OR WINTER RYE	168 (3 BU)
OR WINTER WHEAT	180 (3 BU)
OR SUDANGRASS	96

\$102.40(b)(5)(x) MAINTENANCE, INSPECTION AND REPLACEMENT REQUIREMENTS

1. CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.
2. ACCUMULATED MATERIALS SHOULD BE REMOVED WHEN THEY REACH 75% CAPACITY.
3. PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.



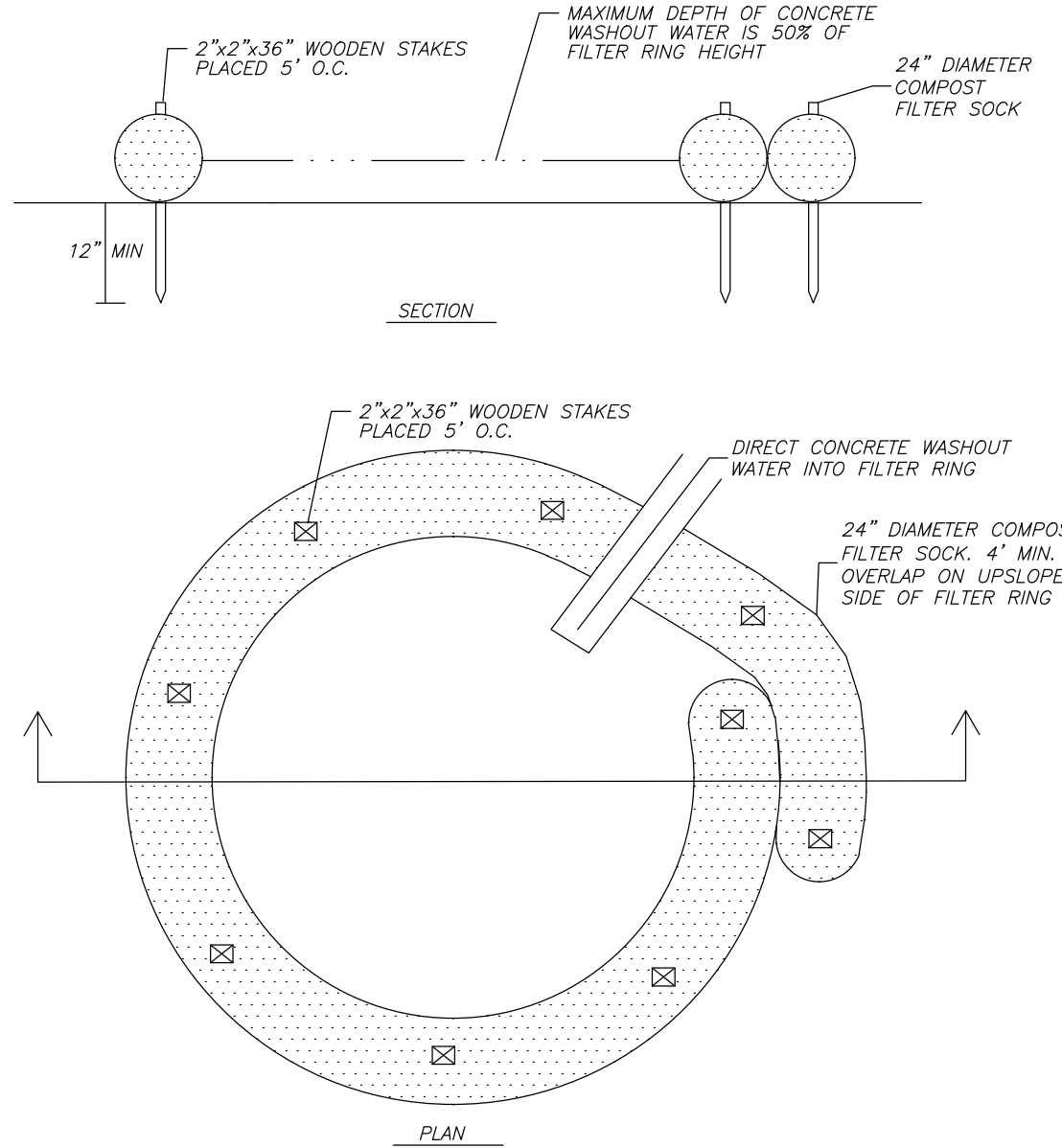
NOTES:

1. SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
5. COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
6. BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

SOCK ID	DIAMETER
STOCK FILES	8"
ALL OTHERS	12"

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK

NOT TO SCALE



1. INSTALLATION NOTES:
A. A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS. CARE SHOULD BE TAKEN TO ENSURE CONTINUOUS CONTACT OF THE SOCK WITH THE GEOMEMBRANE AT ALL LOCATIONS.
2. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
3. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.
4. FOR MORE INFORMATION CONTACT: WEBSITE <http://www.filtertrex.com>

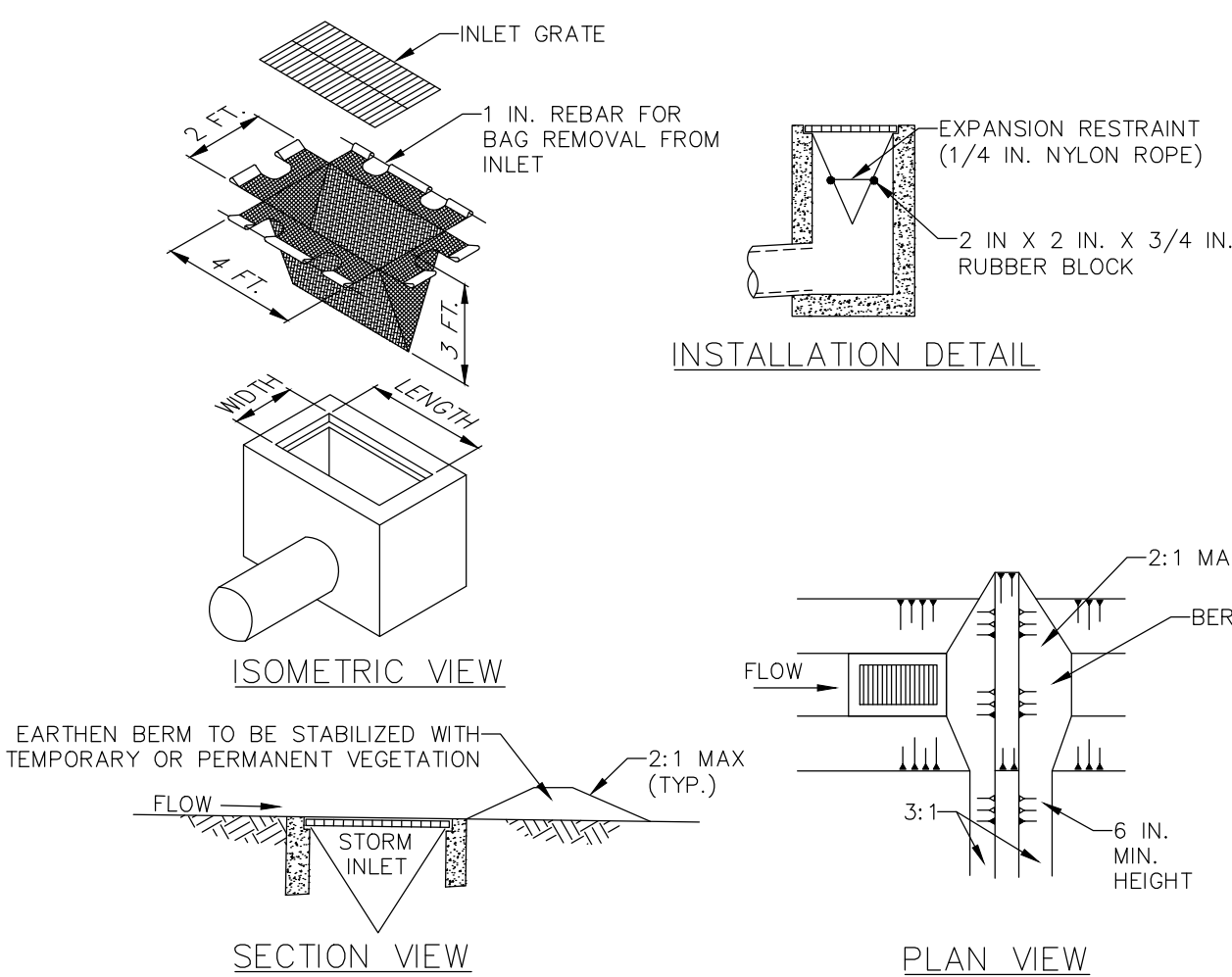
1. GENERAL NOTES:
A. FOR ANY PROJECT ON WHICH CONCRETE WILL BE POURED OR OTHERWISE FORMED ON SITE, A SUITABLE WASHOUT FACILITY MUST BE PROVIDED FOR CLEANING OF CHUTES, FORMS, AND HOPPERS FOR THE DELIVERY VEHICLES UNLESS ALL DELIVERY VEHICLES WILL BE CLEANED OFF-SITE.
2. UNDER NO CIRCUMSTANCES MAY WASH WATER BE ALLOWED TO ENTER ANY SURFACE WATERS, OR UNDERGROUND WATERS.
3. MAINTENANCE MUST BE PROVIDED TO DRIVERS SO THEY ARE AWARE OF THE WASHOUT FACILITIES.
4. MAINTENANCE NOTES:
A. CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED IMMEDIATELY.
5. ACCUMULATED MATERIALS SHOULD BE REMOVED WHEN THEY REACH 75% CAPACITY.
6. PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.

CONCRETE WASHOUT DETAIL (USING COMPOST SOCK)

(TAKEN FROM 2012 PA DEP E&SPC PROGRAM MANUAL PG 08)

E&S CONTROL NOTES

1. E&S CONTROL FOR TRENCH CONSTRUCTION WILL CONSIST OF PLACING EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH AND BACKFILLING AND STABILIZING WITHIN THE SAME WORK DAY.
2. EROSION AND SEDIMENT BMPs MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPs.
3. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPs MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMPs MUST BE STABILIZED IMMEDIATELY.
4. CONTRACTOR MUST WASH VEHICLE TIRES PRIOR TO LEAVING SITE. SHOULD WASHING TIRES PROVE INEFFECTIVE, CONTRACTOR MUST INSTALL ROCK CONSTRUCTION ENTRANCE.
5. CONTRACTOR MUST CLEAN DRIVEWAY AND ROAD OF ANY SEDIMENT AT THE END OF EACH WORK DAY.
6. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
7. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN UP, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONCENTRATIONS EXCEED 100 PPM, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.



NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

1. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

2. ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

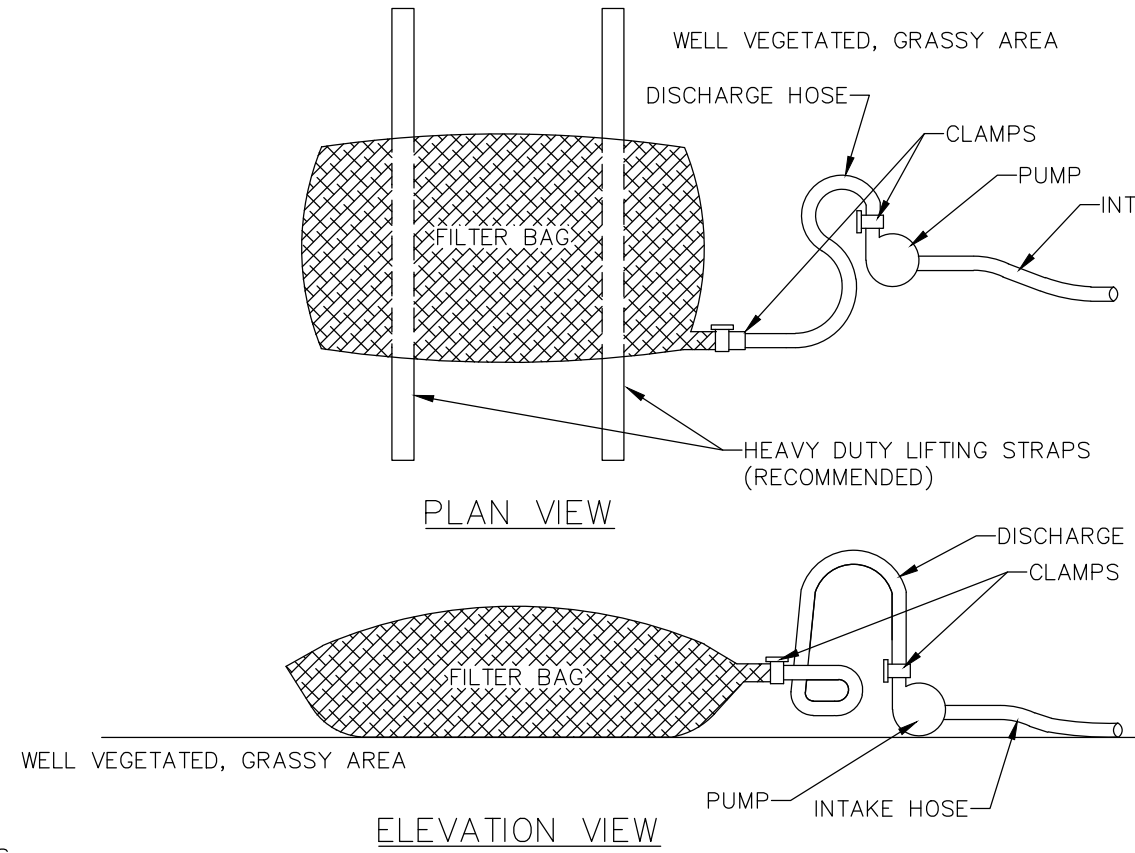
3. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

4. INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-16
FILTER BAG INLET PROTECTION - TYPE M INLET

NOT TO SCALE



NOTES:

1. LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4933	110 LB
MULLEN BURST	ASTM D-5786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRIPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

3. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 3% FOR SLOPES EXCEEDING 5% CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

4. NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

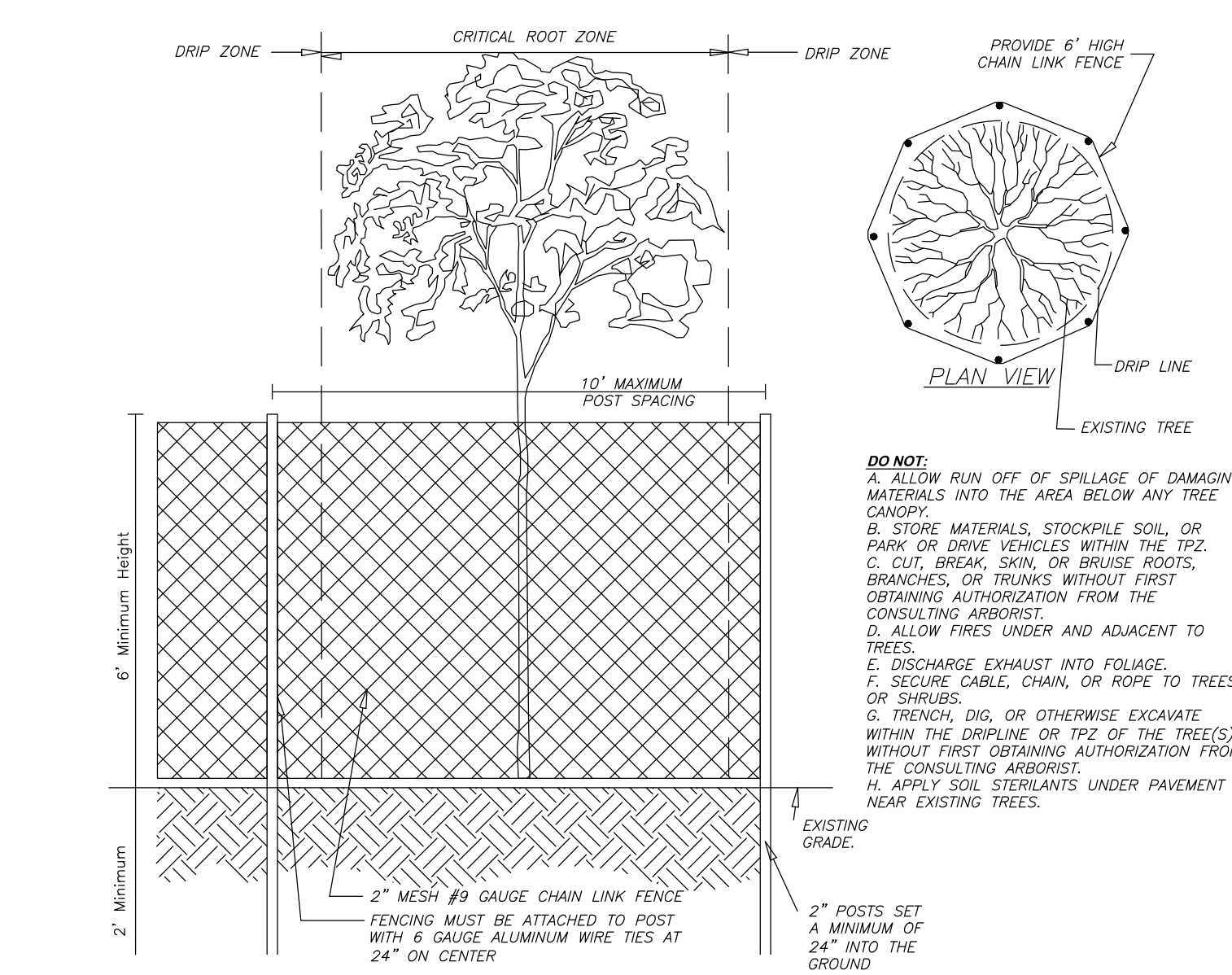
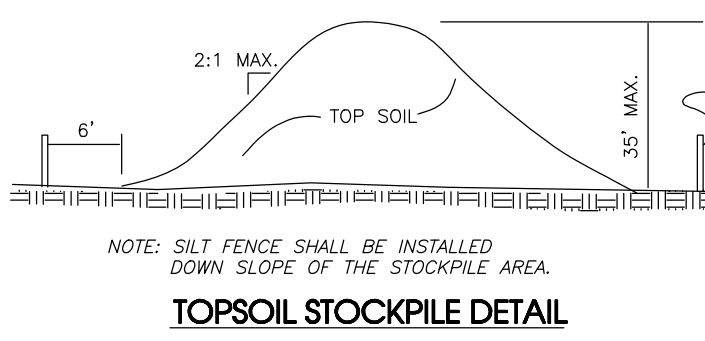
5. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

6. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

7. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3-16
PUMPED WATER FILTER BAG

NOT TO SCALE



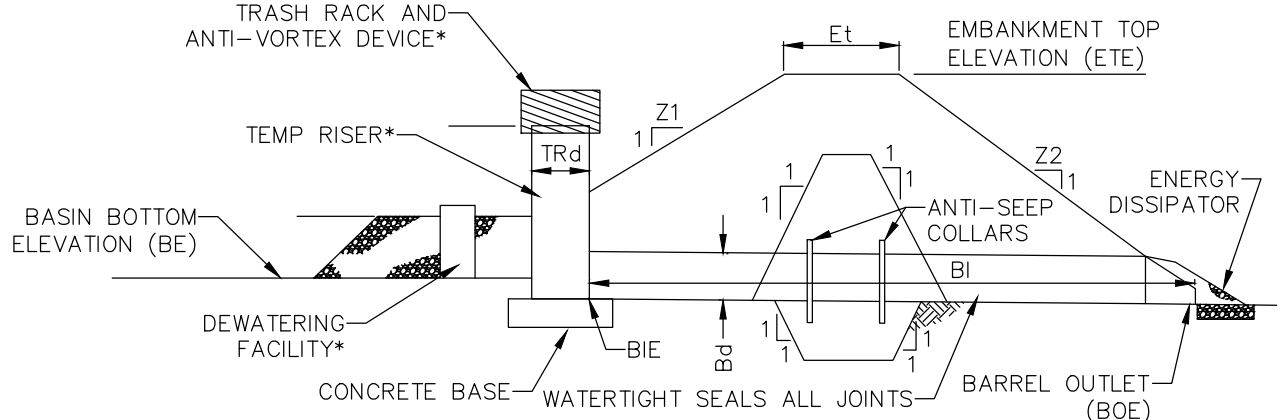
1. TREE PROTECTION SPECIFICATIONS:
A. A LAYER OF COARSE MULCH OR WOODCHIPS IS TO BE PLACED BENEATH THE DRIPLINE OF THE PROTECTED TREES. MULCH IS TO BE KEPT 12" FROM THE TRUNK.

2. A PROTECTIVE BARRIER OF 6' CHAIN LINK FENCING SHALL BE INSTALLED AROUND THE DRIPLINE OF PROTECTED TREES. THE FENCING CAN BE MOVED WITHIN THE DRIPLINE IF AUTHORIZED BY THE CONSULTING ARBORIST BUT NOT CLOSER THAN 2' FROM THE TRUNK OF ANY TREE. FENCE POSTS SHALL BE 2" IN DIAMETER AND ARE TO BE DRIVEN INTO THE GROUND. THE DISTANCE BETWEEN POSTS SHALL NOT BE MORE THAN 10'. THIS ENCLOSED AREA IS THE TREE PROTECTION ZONE (TPZ).

3. MOVABLE BARRIERS OF CHAIN LINK FENCING SECURED TO CEMENT BLOCKS CAN BE SUBSTITUTED FOR "TIED" FENCING IF THE CONSULTING ARBORIST AGREES THAT THE FENCING WILL HAVE TO BE MOVED TO ACCOMMODATE CERTAIN PHASES OF CONSTRUCTION. THE BARrier MAY NOT MOVE THE FENCE WITHOUT AUTHORIZATION FROM THE CONSULTING ARBORIST.

4. WHERE THE CONSULTING ARBORIST HAS DETERMINED THAT TREE PROTECTION WILL INTERFERE WITH THE SAFETY OF WORK CREWS, THE BARRIER MAY BE USED AS AN ALTERNATIVE FORM OF TREE PROTECTION. WOODEN SLATS AT LEAST ONE INCH THICK, SECURELY EDGE TO EDGE AROUND THE TRUNK, A SINGLE LAYER OR MORE OF ORANGE PLASTIC CONSTRUCTION FENCING IS TO BE COMPACTED AND SECURED AROUND THE OUTSIDE OF THE WOODEN SLATS. STRAW WADDES MAY BE USED AS A TRUNK WRAP BY COILING THE WADDE AROUND THE TRUNK UP TO A MINIMUM HEIGHT OF SIX FEET FROM GRADE. A SINGLE LAYER OR MORE OF ORANGE PLASTIC CONSTRUCTION FENCING IS TO BE UNWRAPPED AND SECURED AROUND THE STRAW WADDE.

TREE PROTECTION FENCING



* ALSO REFER TO SEDIMENT BASIN TEMPORARY RISER, EMERGENCY SPILLWAY, ENERGY DISSIPATER, TRASH RACK AND ANTI-VORTEX DEVICE, AND SEDIMENT STORAGE DEWATERING FACILITY DETAILS.

BASIN NO.	TEMPORARY RISER			BARREL			
	Z1 (FT)	Z2 (FT)	DIA TRd (IN)	CREST ELEV TRCE (FT)	MAT'L	DIA Bd (IN)	INLEY ELEV BIE (FT)
1	2	3	15	355.25	HDPE	8	353.5

EMBANKMENT				CLEANOUT	
TOP ELEV ETE (FT)	TOP WIDTH ETw (FT)	KEY TRENCH DEPTH (FT)	KEY TRENCH WIDTH (FT)	ELEV COE (FT)	BOTTOM ELEV BE (FT)
359	5	2	2	353	353.5

NOTES:

SEDIMENT BASINS, INCLUDING ALL APPURTENANT WORKS, SHALL BE CONSTRUCTED TO THE DETAIL AND DIMENSIONS SHOWN ON THE E&S PLAN DRAWINGS.

AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO A DEPTH OF TWO FEET PRIOR TO ANY PLACEMENT AND COMPACTION OF EARTHEN FILL. FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 6" TO 9" IN. THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE LIFT THICKNESS. UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS. TREES SHALL NOT BE PLANTED ON THE EMBANKMENT.

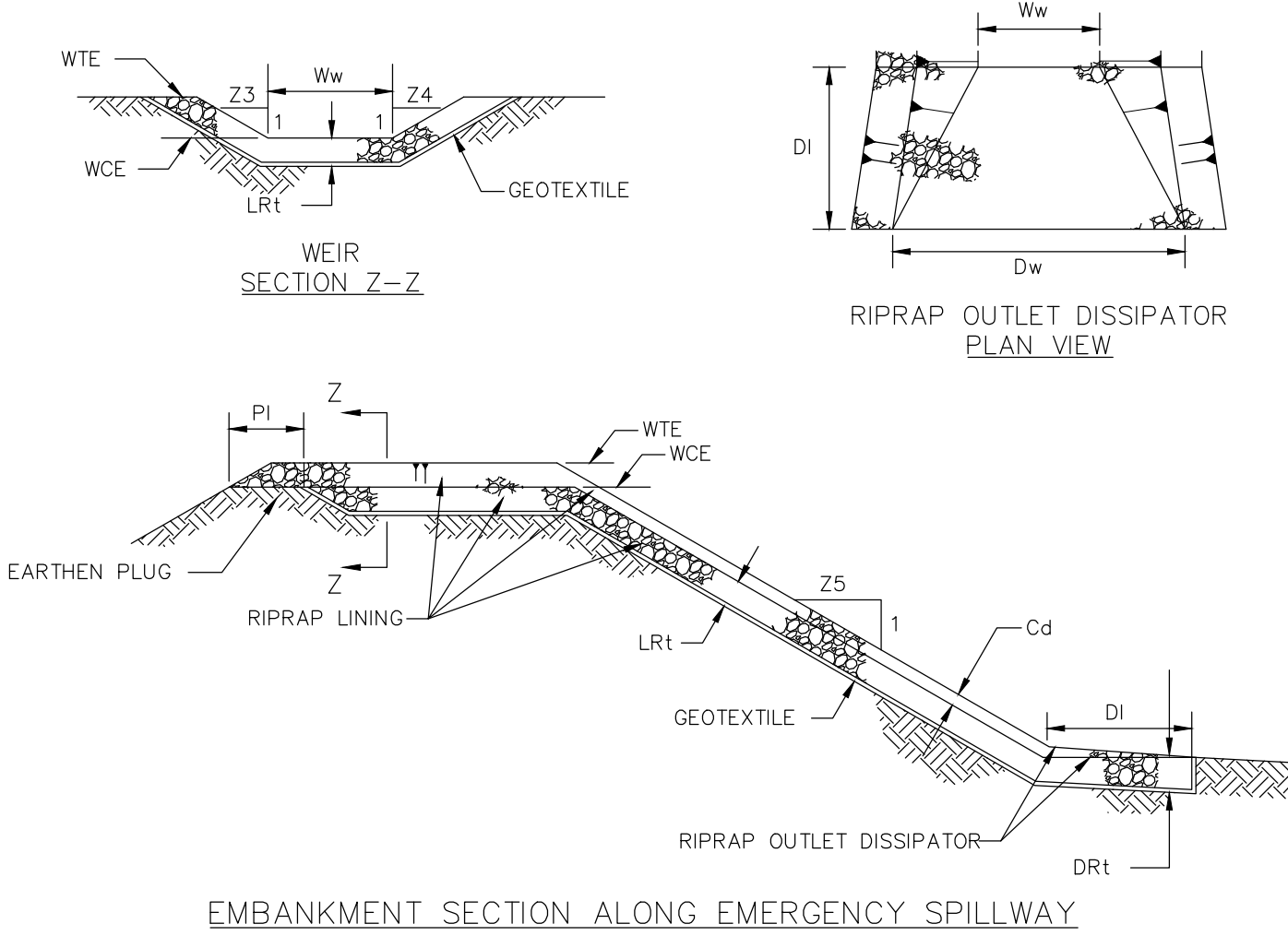
ACCESS SHALL BE PROVIDED FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES.

A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH BASIN. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE BASIN IN THE MANNER DESCRIBED IN THE E&S PLAN.

INSPECT ALL SEDIMENT BASINS ON AT LEAST A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. CHECK BASIN EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY. DISPLACED RIPRAP WITHIN THE OUTLET ENERGY DISSIPATER SHALL BE REPLACED IMMEDIATELY. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS SHALL BE STABILIZED INSIDE THE BASIN BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. THE DEVICE SHOWN IN STANDARD CONSTRUCTION DETAIL #7-16 MAY BE USED TO DEWATER SATURATED SEDIMENT PRIOR TO ITS REMOVAL. ROCK FILTERS SHALL BE ADDED AS NECESSARY.

STANDARD CONSTRUCTION DETAIL #7-6
SEDIMENT BASIN EMBANKMENT AND SPILLWAY DETAILS
PERFORATED RISER

NOT TO SCALE



EMBANKMENT SECTION ALONG EMERGENCY SPILLWAY

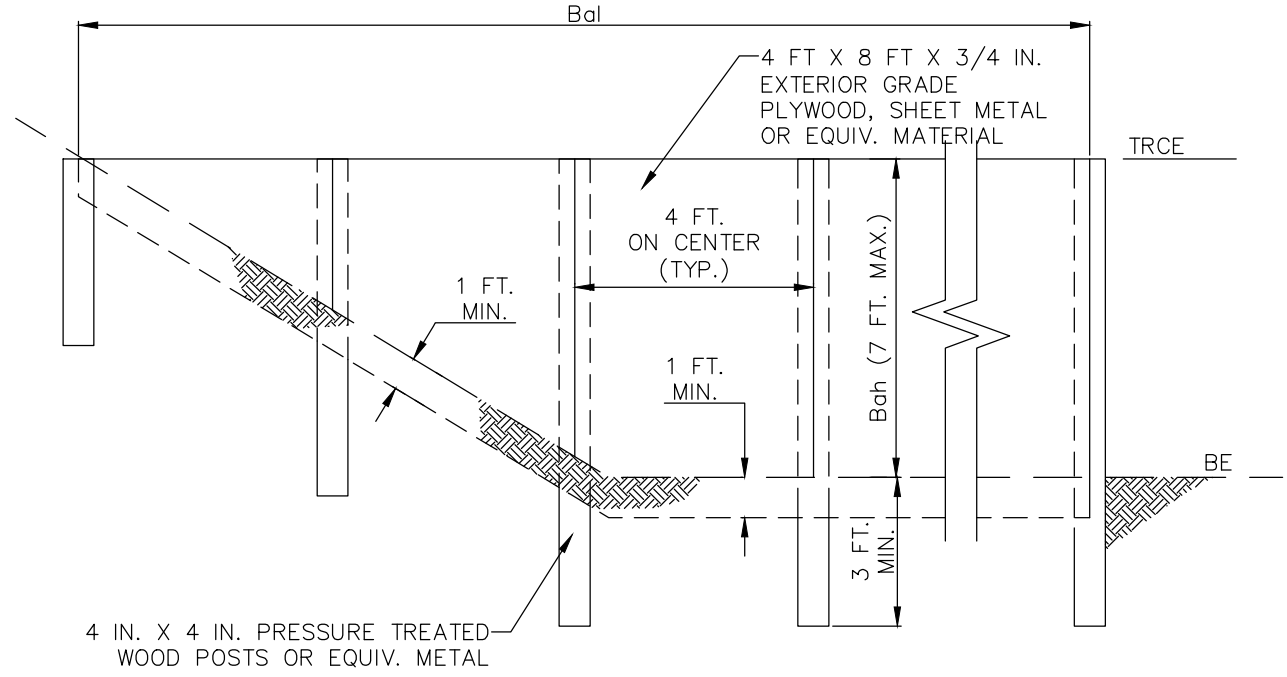
BASIN NO.	WEIR			LINING		CHANNEL		DISSIPATOR			
	Z3 (FT)	Z4 (FT)	TOP ELEV WTE (FT)	CREST ELEV WCE (FT)	WIDTH Ww (FT)	RIPRAP SIZE (R-)	RIPRAP THICK. LRt (IN)	Z5 (FT)	DEPTH Cd (FT)	LENGTH DI (FT)	WIDTH Dw (FT)
1	3	3	359	358	20	5	15	5	.5	10	5

NOTES:

DIMENSION P1 SHALL BE 5' MINIMUM.
DISPLACED RIPRAP WITHIN THE SPILLWAY AND/OR OUTLET CHANNEL SHALL BE REPLACED IMMEDIATELY.

STANDARD CONSTRUCTION DETAIL #7-12
SEDIMENT BASIN EMERGENCY SPILLWAY
WITH RIPRAP LINING

NOT TO SCALE



BASIN OR TRAP NO.	BAFFLE		TEMPORARY RISER	
	LENGTH Bal (FT)	HEIGHT Bah (FT)	CREST ELEV. TRCE (FT)	BOTTOM ELEV BE (FT)
1	188	4	357.3	353.5

NOTES:

SEE APPROPRIATE BASIN DETAIL FOR PROPER LOCATION AND ORIENTATION.

AN ACCEPTABLE ALTERNATIVE IS TO INSTALL A SUPER SILT FENCE AT THE BAFFLE LOCATION

IN POOLS WITH DEPTHS EXCEEDING 7', THE TOP OF THE PLYWOOD BAFFLE DOES NOT NEED TO EXTEND TO THE TEMPORARY RISER CREST. SUPER SILT FENCE BAFFLES NEED NOT EXTEND TO TRCE ELEVATION.

BAFFLES SHALL BE TIED INTO ONE SIDE OF THE BASIN UNLESS OTHERWISE SHOWN ON THE PLAN DRAWINGS.

SUBSTITUTION OF MATERIALS NOT SPECIFIED IN THIS DETAIL SHALL BE APPROVED BY THE DEPARTMENT OR THE LOCAL CONSERVATION DISTRICT BEFORE INSTALLATION.

DAMAGED OR WARPED BAFFLES SHALL BE REPLACED WITHIN 7 DAYS OF INSPECTION.

BAFFLES REQUIRING SUPPORT POSTS SHALL NOT BE INSTALLED IN BASINS REQUIRING IMPERVIOUS LINERS.

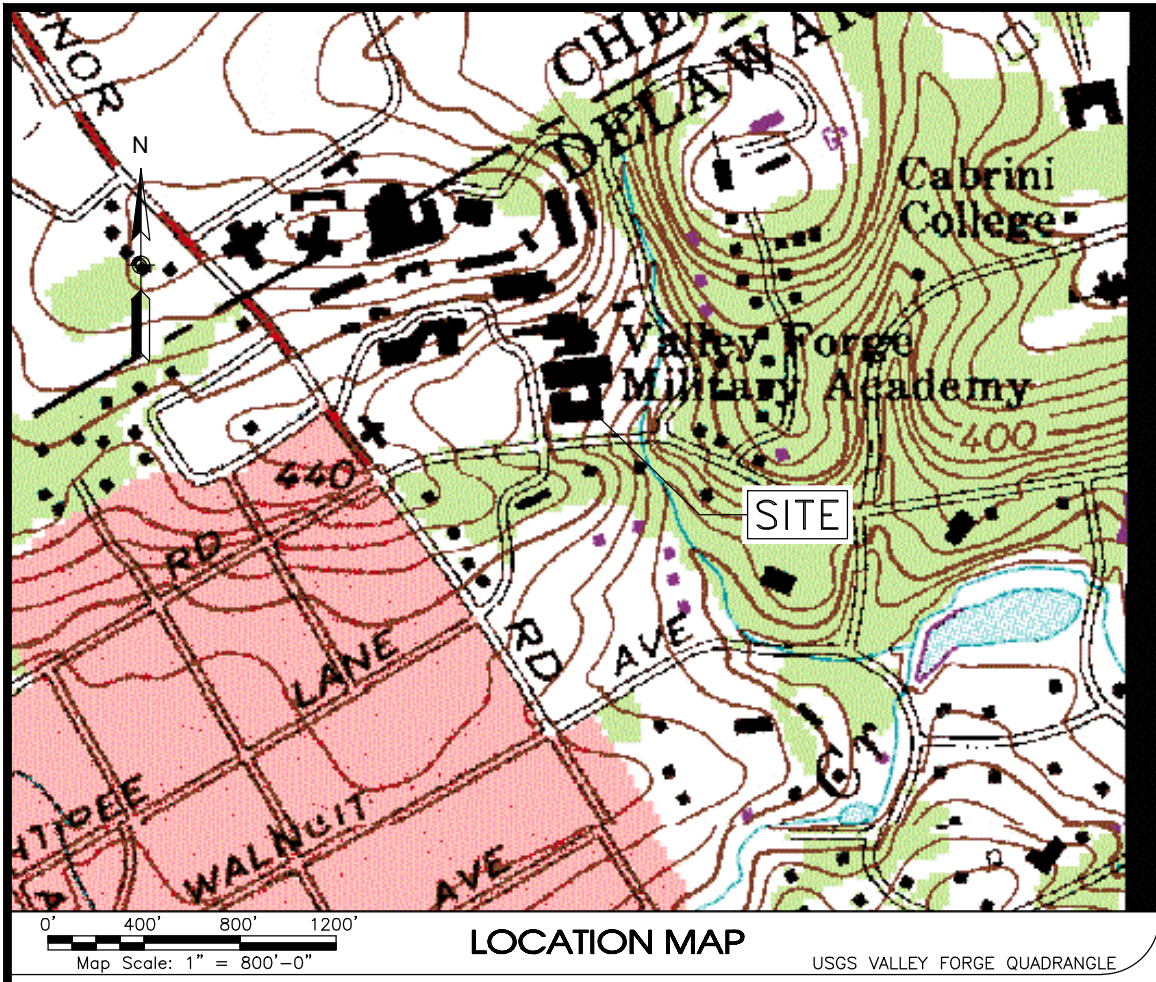
STANDARD CONSTRUCTION DETAIL #7-14
BAFFLE

NOT TO SCALE



PATRICK SPELLMAN, P.E.
PE-40021

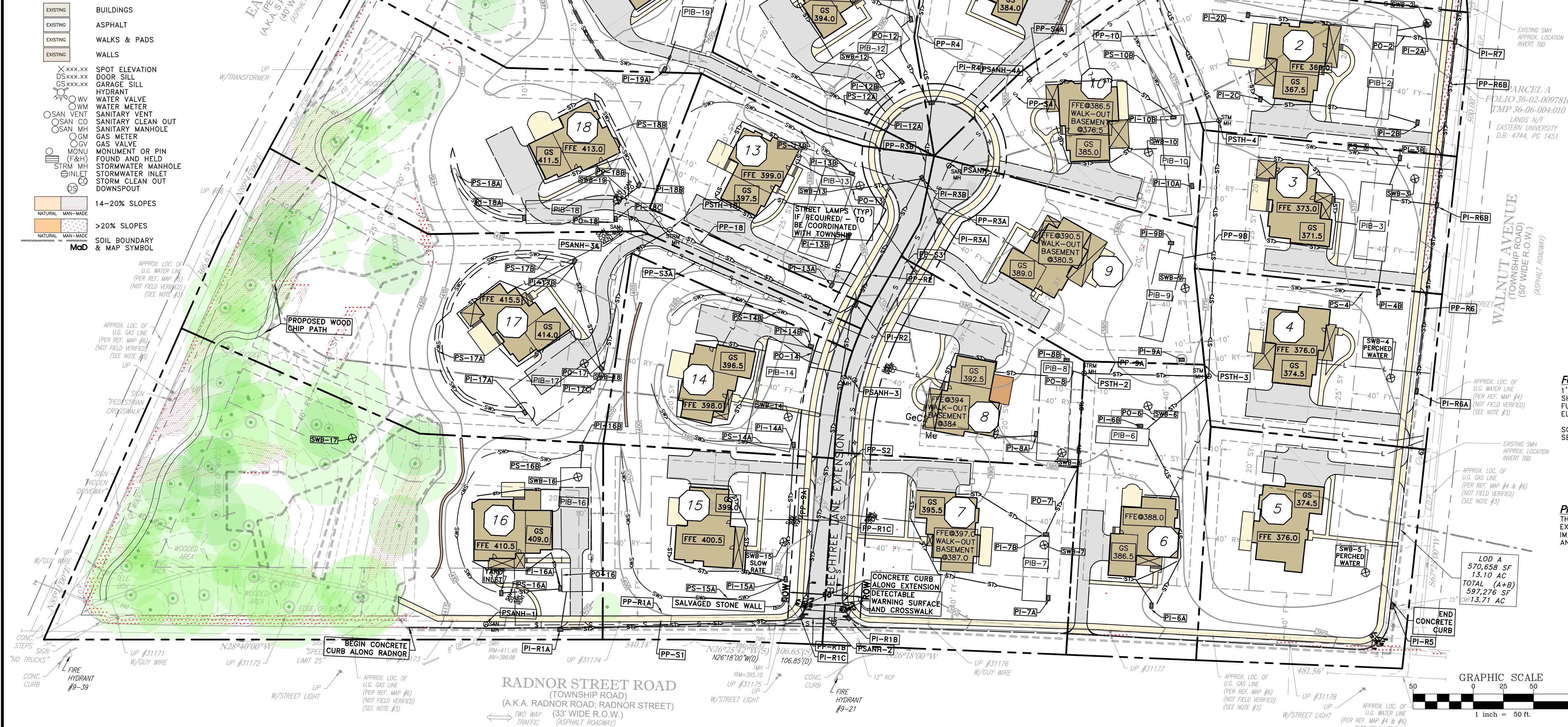
1.	12/7/2020	REVISE PER TOWNSHIP REVIEW LETTERS AND PC INPUT
1.	9/18/2020	RELOCATE LOT 1 DRIVEWAY
NUM.	DATE	REVISION
PLAN PREPARED BY:		
SITE ENGINEERING CONCEPTS, LLC		
P.O. BOX 1992		
SOUTHEASTERN, PA 19399		
P: 610-240-0450 F: 610-240-0451 E: INFO@SITE-ENGINEERS.COM		
PRELIMINARY/FINAL SUBDIVISION AND LAND DEVELOPMENT PLAN		
PLAN PREPARED FOR:		
CG WAYNE, LLC		
EAGLE & RADNOR ROAD, WAYNE, PA 19087		
RADNOR TOWNSHIP DELAWARE COUNTY PENNSYLVANIA		SEPT. 15, 2020
E&S DETAILS		SHEET 6 of 16
		SCALE: 1" = NTS



NOTE: THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES CANNOT BE GUARANTEED. ALL UTILITIES DEPICTED ON THIS PLAN HAVE BEEN DEVELOPED FROM ABOVE GROUND OBSERVATIONS AND/OR EXISTING RECORDS. CONTRACTOR MUST VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. PENNSYLVANIA STATE LAW REQUIRES NOTIFICATION TO 1-800-242-1776 3-10 BUSINESS DAYS PRIOR TO ANY EXCAVATION. BASE PLAN S/N: 20192664614

BASE SURVEY PLAN
"BOUNDARY & TOPOGRAPHIC SURVEY" PREPARED FOR EASTERN UNIVERSITY, PREPARED BY CONTROL POINT ASSOCIATES, INC., DATED MARCH 31, 2010, LAST REVISED DECEMBER 20, 2019. SEE EXISTING FEATURES SHEET FOR COMPLETE LIST OF NOTES AND REFERENCES.

PLAN LEGEND	
BOLD LINES: PROPOSED	
FADED LINES: EXISTING	
ST- S	5' INTERVAL CONTOUR
W- L	STORM SEWER PIPING
W- L	SANITARY SEWER MAIN
W- L	SANITARY LATERAL
W- L	GAS MAIN
W- L	WATER MAIN / SERVICE
W- L	UNDERGROUND ELECTRIC
W- L	OVERHEAD WIRES
W- L	COMMUNICATIONS
W- L	EDGE OF LANDSCAPING
W- L	EDGE OF PAVEMENT
W- L	GUIDE RAIL
W- L	FENCE LINE
W- L	PROPERTY LINE
W- L	RIGHT-OF-WAY
W- L	BUILDING SETBACK LINE
W- L	ACCESSORY SETBACK LINE
W- L	STREAM
W- L	100 YR FLOOD BOUNDARY
W- L	TWP RIPARIAN SETBACK
EXISTING	BUILDINGS
EXISTING	ASPHALT
EXISTING	WALKS & PADS
EXISTING	WALLS
XXXXXX	SPOT ELEVATION
XXXXXX	DOOR SILL
XXXXXX	GARAGE SILL
XXXXXX	HYDRANT
XXXXXX	WATER VALVE
XXXXXX	WATER METER
XXXXXX	SANITARY VENT
XXXXXX	SANITARY CLEAN OUT
XXXXXX	SANITARY MANHOLE
XXXXXX	GAS METER
XXXXXX	GAS VALVE
XXXXXX	GAS VALVE
XXXXXX	MONUMENT OR PIN
XXXXXX	FOUND AND HELD
XXXXXX	STORMWATER MANHOLE
XXXXXX	STORMWATER INLET
XXXXXX	STORM CLEAN OUT
XXXXXX	DOWNSPOUT
XXXXXX	14-20% SLOPES
XXXXXX	>20% SLOPES
XXXXXX	SOIL BOUNDARY & MAP SYMBOL



PROJECT NOTES

1. EROSION AND SEDIMENT BMPs MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPs.
2. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPs MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMPs MUST BE STABILIZED IMMEDIATELY.
3. VEHICLES AND EQUIPMENT MAY NEVER ENTER DIRECTLY NOR EXIT DIRECTLY WITHOUT TRAVERSING A ROCK CONSTRUCTION ENTRANCE SHOULD THE CLEANING OF TIRES PROVE INEFFECTIVE.
4. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
5. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPs AFTER EACH RUNOFF EVENT AND ON A DAILY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENOVATING MUST BE PERFORMED IMMEDIATELY IF EROSION AND SEDIMENT CONTROL BMPs FAIL TO PERFORM AS EXPECTED. MODIFICATIONS OR REPLACEMENT BMPs WILL BE REQUIRED.
6. THE MAXIMUM TIME OF EXPOSURE FOR BARE SOIL AREAS SHALL BE TWENTY (20) DAYS BEFORE STABILIZATION MEASURES ARE IMPLEMENTED.
7. NEWLY CREATED SLOPES GREATER THAN 4:1 (25%) SHALL BE STABILIZED WITH SOD AND/OR JUTE NETTING AND SEED.
8. ALL WOODY VEGETATION TO BE RETAINED WITHIN 25' FEET OF A BUILDING SITE OR DISTURBED AREA SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING PLACED AT THE DRIP LINES. SINCE THE TREE PROTECTION FENCE HAS NOT BEEN SHOWN AT THE DRIP LINES OF ALL TREES TO REMAIN, THE TOWNSHIP ARBORIST MUST APPROVE THE LOCATION OF THE TREE PROTECTION FENCE.
9. NO IMPROVED COVER SHALL BE PERMITTED WITHIN THE DRIP LINES OF TREES TO REMAIN WITHOUT APPROVAL FROM THE TOWNSHIP ARBORIST. THE TOWNSHIP ARBORIST MUST APPROVE THE LOCATION AND EXTENT OF THE PAVING IF THE IMPACTED TREES ARE SCHEDULED TO REMAIN.
10. GRADE CHANGES AROUND THE DRIP LINES OF TREES TO BE RETAINED SHALL BE MINIMIZED. IMPACTED TREES SHALL BE CLEARLY IDENTIFIED ON THE PLAN. TREATMENT OF THE IMPACTED TREES PRIOR TO CONSTRUCTION TO PROTECT THE ROOT SYSTEM SHALL BE PERFORMED IF/AS DIRECTED BY THE TOWNSHIP ARBORIST. THE TOWNSHIP ARBORIST MUST ALSO APPROVE THE PROCEDURE.
11. CONTRACTOR TO DEEP ROOT FERTILIZER TREES IMPACTED BY CONSTRUCTION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE TOWNSHIP ARBORIST MUST APPROVE THE PROCEDURE.
12. SHOULD ANY TREES NOT SCHEDULED OR PERMITTED TO BE REMOVED BE IRREPARABLY DAMAGED DURING CONSTRUCTION AND DIE WITHIN EIGHTEEN (18) MONTHS OF THE CONCLUSION OF CONSTRUCTION ACTIVITIES, THESE TREES WILL BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE PROVISION OF TOWNSHIP ORDINANCE SECTION 101-9(2). ESCROW SHALL BE POSTED TO GUARANTEE THE SURVIVAL OF THE IMPACTED TREES UNTIL THE ALLOTTED TIME HAS EXPIRED.
13. IF TRENCES FOR UTILITIES OR STORM SEWERS ARE PROPOSED WITHIN THE DRIP LINES OF TREES, ALL DISTURBED TREES MUST BE CUT AS CLEANLY AS POSSIBLE. THE TRENCES MUST BE BACKFILLED AS QUICKLY AS POSSIBLE, AVOIDING COMPACTION.
14. MINIMAL GRADING AND DISTURBANCE IS NECESSARY WITHIN DRIP LINES OF SOME OF THE TREES ON THIS PROPERTY. CONTRACTOR SHALL MAKE EVERY EFFORT TO SAVE TREES, HOWEVER SOME OF THE TREES MAY BE DAMAGED AND HAVE TO BE REMOVED DUE TO PROXIMITY OF GRADING/DISTURBANCE.
15. THE ARCHITECTURAL PLANS MUST BE COORDINATED WITH BUILDING HEIGHT CALCULATION AND MUST COMPLY WITH THE GRADING PROPOSED BY THIS PERMIT PLAN.
16. STORMWATER COLLECTION PIPING SHALL BE "X" SMOOTH WALL HIGH DENSITY POLYETHYLENE (SHWDP) @ 0.02 FT/FT MIN. CLEANOUTS SHALL BE PROVIDED AT ALL CHANGES IN GRADE AND/OR DIRECTION.
17. GAS, ELECTRIC, WATER OR ANY OTHER UTILITIES TO BE ABANDONED SHALL BE PROPERLY SEALED/REMOVED.
18. THE EXISTING SERVICE UTILITIES TO REMAIN WITHIN THE LIMITS OF DISTURBANCE SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION.
19. PROPOSED WATER, STORM SEWER, AND ELECTRIC SERVICE SHALL HAVE A MINIMUM OF 4' FEET OF COVER.

ZONING REQUIREMENTS			
ORDINANCE ITEM	PI PLANNED INSTITUTIONAL REQUIREMENT	R-1 RESIDENTIAL REQUIREMENT	R-2 RESIDENTIAL REQUIREMENT
MIN. LOT AREA	10 AC (435,600 SF)	1 AC (43,560 SF)	20,000 SF
LOT WIDTH @ BLDG	100 FT	120 FT	100 FT
MIN. SETBACKS			
FRONT	(1)	60 FT	40 FT
SIDE (MIN/AGG)	(2)	25/60 FT	20/45 FT
REAR	(3)	40 FT	40 FT
MAX. BUILDING HEIGHT	38 FT	35 FT	35 FT
MAX BUILDING COVERAGE	30%	15%	18%
MAX. IMPERV SURFACE	45%	22%	30%
RIPARIAN BUFFER	35 FT	35 FT	35 FT
(1) PI FRONT SETBACK FROM STREET ROW: STRUCTURES - 120 FT; PARKING - 60.			
(2) REAR & SIDE YARD: CATEGORY 1: RESIDENTIAL ADJOINER- 125 FT; OTHERS- 75 FT			
CATEGORY 2: RESIDENTIAL ADJOINER- 200 FT; OTHERS- 75 FT			

PROPOSED ZONING SUMMARY												
LOT #	GROSS LOT AREA SF	LOT AREA SF (1)	LOT WIDTH @ BLDG LINE FT	FRONT YARD FT (2)	MINIMUM SIDE YARD FT (2)	AGGREGATE SIDE YARD FT (2)	REAR YARD FT (2)	BUILDING COVERAGE SF (2)	% BLDG COVR (3)	IMPERVIOUS COVERAGE SF (2)	% IMP COVR (3)	BUILDING HEIGHT FT (2)
1	61,342	56,199	140	165	77	155	79	3,227	5.3%	7,601	12.4%	<35'
2	28,787	25,772	124	91	20	49	69	3,321	11.5%	6,612	23.0%	<35'
3	24,055	21,129	111	72	20	49	58	3,125	13.0%	5,729	23.8%	<35'
4	24,982	21,711	129	66	22	52	52	3,252	13.0%	6,098	24.4%	<35'
5	33,042	25,669	169	55	40	97	40	3,022	9.1%	6,510	19.9%	<35'
6	26,226	22,890	108	55	21	52	111	2,638	10.1%	5,210	19.9%	<35'
7	31,963	22,999	128	40	27	-	77	2,720	8.5%	5,380	16.8%	<35'
8	25,137	20,117	143	52	20	57	68	2,980	11.9%	5,627	22.4%	<35'
9	27,634	23,807	106	40	21	51	87	3,402	12.3%	5,750	20.8%	<35'
10	24,453	22,588	117	47	25	51	56	3,268	13.4%	6,086	24.9%	<35'
11	48,314	42,969	101	67	26	60	78	3,399	7.0%	6,490	13.4%	<35'
12	55,669	46,246	100	40	40	96	256	3,572	6.4%	6,629	11.9%	<35'
13	25,103	20,100	120	86	30	60	46	2,642	10.5%	5,806	23.1%	<35'
14	23,857	20,979	119	46	23	56	56	2,790	11.7%	5,831	24.4%	<35'
15	29,553	21,923	132	41	31	-	59	2,927	9.9%	5,850	19.8%	<35'
16	82,634	68,459	265	46	42	-	50	3,348	4.1%	6,564	7.9%	<35'
17	61,225	53,919	162	190	42	106	41	2,899	4.7%	7,268	11.9%	<35'
18	49,002	41,952	152	167	26	68	40	2,655	5.4%	7,355	15.0%	<35'
19	109,184	86,914	458	149	51	319	4	3,054	2.8%	7,746	7.1%	<35'
20	58,395	50,504	286	96	25	46	46	3,421	5.9%	120,142	205.7%	<35'

(1) LOT AREA - TOTAL AREA LESS ROW AND 75% OF EACH OF THE FOLLOWING: FLOODPLAINS, WETLANDS AND 20%+ SLOPES.
(2) YARD SETBACKS AND COVERAGE ESTIMATES BASED ON PRELIMINARY SKETCH. ACTUAL COVERAGE TO BE DETERMINED WITH GRADING PERMIT APPLICATIONS, AND NOT TO EXCEED AMOUNTS PERMITTED BY APPLICABLE CODE REQUIREMENTS.
(3) IMPERVIOUS AND BUILDING COVERAGE PERCENTAGE BASED ON GROSS LOT AREA.

FULL GRADING AND UTILITY PLANS
1" CONTOURS AND SPOT ELEVATIONS NOT SHOWN FOR CLARITY. SEE SHEET 10 FOR FULL GRADING PLAN WITH SPOT ELEVATIONS AND DIMENSIONS.

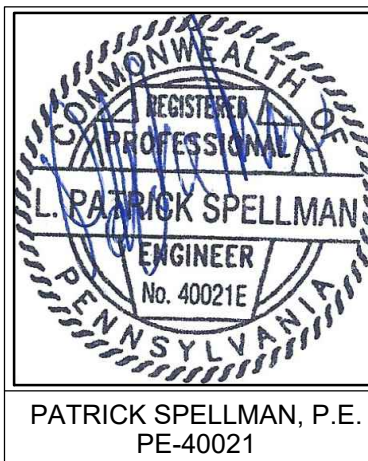
SOME UTILITIES NOT SHOWN FOR CLARITY. SEE SHEET 11 FOR FULL UTILITY PLAN.

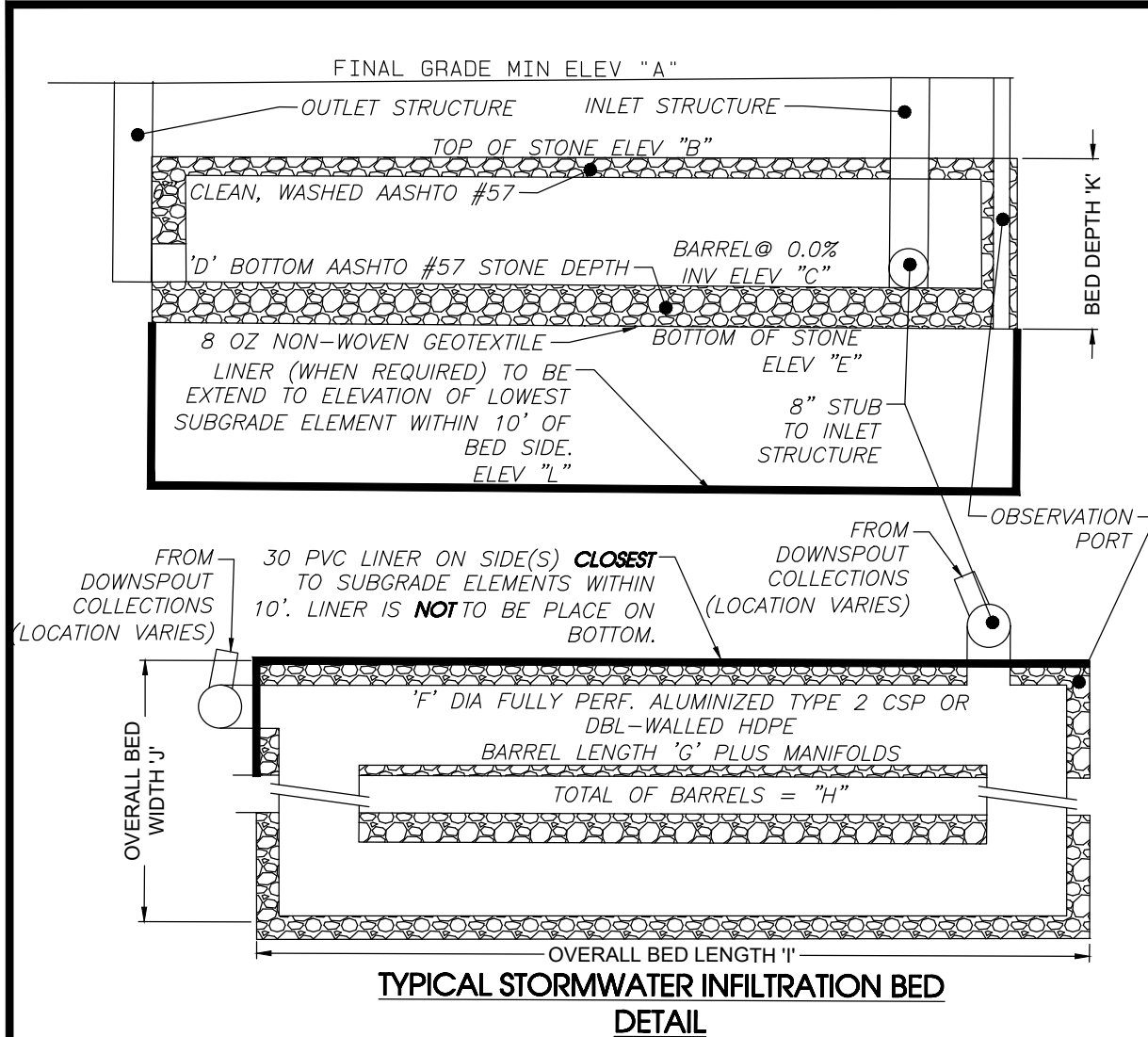
PROJECT NARRATIVE
THE APPLICANT PROPOSES REMOVE THE 14 EXISTING DWELLING AND ALL ASSOCIATED IMPROVEMENTS AND SUBDIVIDE PARCEL A AND B INTO 20 SINGLE FAMILY LOTS.

1.	12/7/2020	REVISE PER TOWNSHIP REVIEW LETTERS AND PC INPUT
1.	9/18/2020	RELOCATE LOT 1 DRIVEWAY
NUM.	DATE	REVISION

PLAN PREPARED BY:
SITE ENGINEERING CONCEPTS, LLC
P.O. BOX 1992
SOUTHEASTERN, PA 19399
P: 610-240-0450 F: 610-240-0451 E: INFO@SITE-ENGINEERS.COM

PRELIMINARY/FINAL SUBDIVISION AND LAND DEVELOPMENT PLAN
PLAN PREPARED FOR:
CG WAYNE, LLC
EAGLE & RADNOR ROAD, WAYNE, PA 19087
RADNOR TOWNSHIP DELAWARE COUNTY PENNSYLVANIA
PRELIMINARY LAND DEVELOPMENT & PCSM PLAN
SHEET 7 of 16
SCALE: 1" = 50'





- ### STORMWATER INFILTRATION BED NOTES
- BED BOTTOM DEPTH REQUIRED PER STORMWATER SOIL EVALUATION REPORT.
 - A 30 MIL PVC LINER, OR TOWNSHIP-APPROVED EQUIVALENT, IS TO BE PLACED ALONG ALL BED SIDE(S) WITHIN 10' OF A SUBGRADE ELEMENT IF THE ELEMENT ELEVATION IS BELOW BOTTOM BED ELEVATION. THE BOTTOM OF THE LINER IS TO EXTEND FROM THE BED TOP ELEVATION TO THE LOWEST SUBGRADE ELEMENT ELEVATION. LINERS ARE NOT TO BE PLACED ON BED BOTTOMS.
 - THE EXCAVATION FOR THE INFILTRATION BED SHOULD BE PERFORMED WITH EQUIPMENT THAT WILL NOT COMPACT THE BOTTOM OF THE FACILITY.
 - SCARIFY BOTTOM OF BED, TAKING CARE NOT TO COMPACT SOIL.
 - PERFORATIONS SHALL MEET AASHTO CLASS II PATTERN FOR PIPE DIAMETER.
 - ENTIRE BED, SIDES TOP AND BOTTOM, SHALL BE WRAPPED IN SYNTHETIC INDUSTRIES NON-WOVEN #801 OR ENGINEER APPROVED EQUAL, PROVIDE A MINIMUM 1' OVERLAP AT ALL SEAMS AND JOINTS. WHERE PROTRUSIONS OR PENETRATIONS OCCUR, GEOTEXTILE SHALL BE PERMANENTLY AFFIXED TO OBJECT.
 - CARE SHOULD BE TAKEN IN THE PLACING OF STONE, ATOP THE GEOTEXTILE SO AS TO AVOID TEARING OR RIPPING OF THE FABRIC. STONE SHOULD NOT BE DUMPED UNTIL A 6" LAYER OF STONE IS IN PLACE.
 - THERE ARE NO PROVISIONS FOR THE CONNECTIONS OF SUMP PUMPS AND FOUNDATION DRAINS TO THE INFILTRATION BED AND ANY PROVISIONS FOR FUTURE CONNECTIONS OF SUMP PUMPS, THE INFILTRATION BED WILL REQUIRE A RE-DESIGN IF THESE OR OTHER CONNECTIONS NOT INCLUDED IN THE DESIGN ARE INSTALLED.
 - GUTTER LEAF GUARDS OR OTHER DEBRIS COLLECTORS SHOULD BE PROVIDED FOR THE RUNOFF ENTERING THE INFILTRATION BED. INVISIFLOW SELF-CLEANING DOWNSPOUT FILTERS OR EQUIVALENT WOULD BE AN ACCEPTABLE ALTERNATIVE.
 - ALL INLETS AND DRAIN BEDS THAT DRAIN DIRECTLY TO INFILTRATION BEDS SHALL SUMPED AND CLEANED PER O&M REQUIREMENTS.

- ### BED CONSTRUCTION SEQUENCE
- INSTALL ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS.
 - THE AREA IMMEDIATELY ADJACENT TO THE BED MUST BE STABILIZED IN ACCORDANCE WITH THE PADEP'S EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL (2000 OR LATEST EDITION) PRIOR TO BED CONSTRUCTION.
 - PREPARE SITE FOR EXCAVATION AND/OR EMBANKMENT CONSTRUCTION.
 - ALL EXISTING VEGETATION SHOULD REMAIN IF FEASIBLE AND SHOULD ONLY BE REMOVED IF NECESSARY FOR CONSTRUCTION.
 - CARE SHOULD BE TAKEN TO PREVENT COMPACTION OF THE BED BOTTOM.
 - IF EXCAVATION IS REQUIRED, CLEAR THE AREA TO BE EXCAVATED OF ALL VEGETATION. REMOVE ALL TREE ROOTS, ROCKS, AND BOULDERS ONLY IN EXCAVATION AREA.
 - EXCAVATE BOTTOM OF BED TO DESIRED ELEVATION (IF NECESSARY).
 - INSTALL SURROUNDING EMBANKMENTS AND INLET AND OUTLET CONTROL STRUCTURES.
 - GRADE SUBSOIL IN BOTTOM OF BED, TAKING CARE TO PREVENT COMPACTION. COMPACT SURROUNDING EMBANKMENT AREAS AND AROUND INLET AND OUTLET STRUCTURES.
 - APPLY AND GRADE PLANTING SOIL.
 - APPLY GEO-TEXTILES AND OTHER EROSION-CONTROL MEASURES.
 - SEED, PLANT AND MULCH ACCORDING TO PLANTING PLAN.
 - INSTALL ANY ANTI-GRAZING MEASURES, IF NECESSARY.

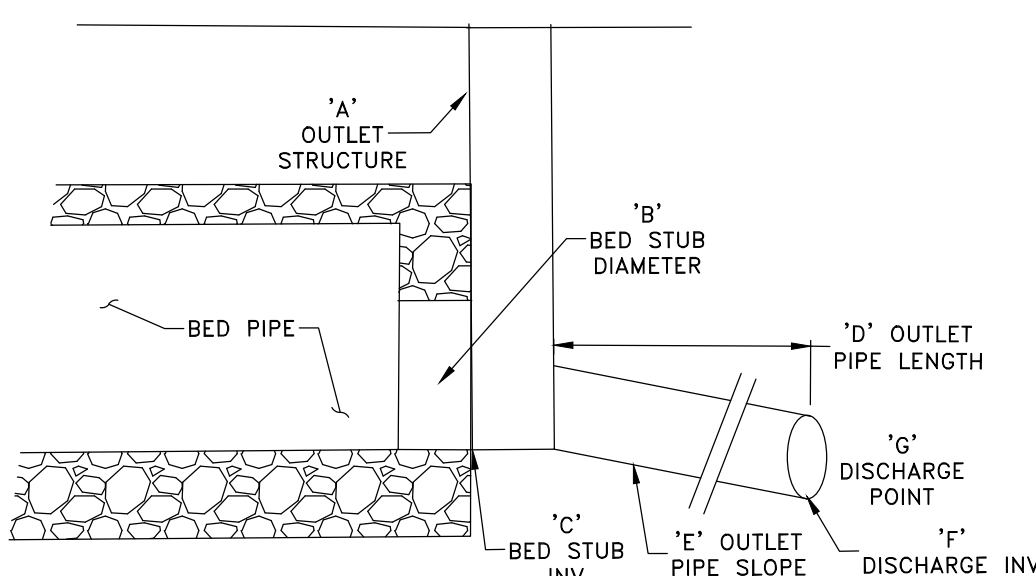
MAINTENANCE, INSPECTION AND REPLACEMENT REQUIREMENTS

- #### MAINTENANCE ISSUES
- MAINTENANCE IS NECESSARY TO ENSURE PROPER FUNCTIONALITY OF THE EXTENDED DETENTION BED AND SHOULD TAKE PLACE ON A QUARTERLY BASIS. A BED MAINTENANCE PLAN SHOULD BE DEVELOPED WHICH INCLUDES THE FOLLOWING MEASURES:
- ALL BED STRUCTURES EXPECTED TO RECEIVE AND/OR TRAP DEBRIS AND SEDIMENT SHOULD BE INSPECTED FOR CLOGGING AND EXCESSIVE DEBRIS AND SEDIMENT ACCUMULATION AT LEAST FOUR TIMES PER YEAR, AS WELL AS AFTER EVERY STORM GREATER THAN 1 INCH.
 - STRUCTURES INCLUDE BED BOTTOMS, TRASH RACKS, OUTLETS STRUCTURES, RIPRAP OR GABION STRUCTURES, AND INLETS.
 - SEDIMENT REMOVAL SHOULD BE CONDUCTED WHEN THE BED IS COMPLETELY DRY. SEDIMENT SHOULD BE DISPOSED OF PROPERLY AND ONCE SEDIMENT IS REMOVED, DISTURBED AREAS NEED TO BE IMMEDIATELY STABILIZED AND REVEGETATED.
 - MOWING AND/OR TRIMMING OF VEGETATION SHOULD BE PERFORMED AS NECESSARY TO SUSTAIN THE SYSTEM, BUT ALL DETRITUS SHOULD BE REMOVED FROM THE BED.
 - VEGETATED AREAS SHOULD BE INSPECTED ANNUALLY FOR EROSION.
 - VEGETATED AREAS SHOULD BE INSPECTED ANNUALLY FOR UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES.
 - VEGETATIVE COVER SHOULD BE MAINTAINED AT A MINIMUM OF 95 PERCENT. IF VEGETATIVE COVER HAS BEEN REDUCED BY 10%, VEGETATION SHOULD BE REESTABLISHED.

PROPOSED INFILTRATION BED DIMENSIONS												
LOT #	IMPERVIOUS USED IN STORM DESIGN (SF)*	'A' MIN FINAL GRADE	'B' TOP OF STONE ELEV	'C' BARREL INVERT ELEV	'D' BOTTOM STONE DEPTH (FT)	'E' BED BOTTOM ELEV	'F' BARREL DIA (IN)	'G' BARREL LENGTH (FT)	'H' # OF BARRELS	'I' 'J' 'K' OVERALL BED DIM (FT)	TEST PIT ID**	TEST
1	9,101	357	355.5	351	0.5	350.5	48	65	3	78x19x5	SWB-1B	
2	8,112	359	357.5	353	0.5	352.5	48	65	3	78x19x5	SWB-2	
3	7,217	363	361.5	357	0.5	356.5	48	50	4	63x26x5	SWB-3	
4	7,495				N/A - DID NOT PASS INFILTRATION TESTING PROTOCOLS***							
5	8,010				N/A - DID NOT PASS INFILTRATION TESTING PROTOCOLS***							
6	6,710	383	381.5	377	0.5	376.5	48	30	2	43x14x5	SWB-6	
7	6,880	385	383.5	379	0.5	378.5	48	40	3	53x19x5	SWB-7	
8	7,127	382	380.5	376	0.5	375.5	48	70	4	83x26x5	SWB-8	
9	7,250	376	374.5	370	0.5	369.5	48	60	3	73x19x5	SWB-9	
10	7,336	373	371.5	367	0.5	366.5	48	70	3	83x19x5	SWB-10	
11	7,990	367	365.5	361	0.5	360.5	48	60	4	73x26x5	SWB-11A	
12	8,129	384	382.5	378	0.5	377.5	48	70	4	83x26x5	SWB-12	
13	7,306	388	386.5	382	0.5	381.5	48	60	4	73x26x5	SWB-13	
14	7,157	392	390.5	386	0.5	385.5	48	75	6	88x38x5	SWB-14	
15	7,350				N/A - DID NOT PASS INFILTRATION TESTING PROTOCOLS***							
16	8,064	406	404.5	400	0.5	399.5	48	90	4	103x26x5	SWB-16	
17	8,768	410	408.5	404	0.5	403.5	48	50	6	63x38x5	SWB-18	
18	8,855	406	404.5	400	0.5	399.5	48	60	3	73x19x5	SWB-19	
19	9,246	397.5	396	391.5	0.5	391	48	60	4	73x26x5	SWB-20	
20	9,707	373	371.5	367	0.5	366.5	48	60	2	74x14x5	SWB-21	

- * COVERAGE ESTIMATES BASED ON PRELIMINARY SKETCH PLUS ALLOWANCE FOR FUTURE IMPERVIOUS. ACTUAL COVERAGE TO BE DETERMINED WITH GRADING PERMIT APPLICATIONS AND NOT TO EXCEED AMOUNTS PERMITTED BY APPLICABLE CODE REQUIREMENTS.
- ** LINER REQUIRED ALONG ANY SIDE OF BED WITHIN 10' OF HOUSE SUBSTRUCTURE (FOUNDATION, BASEMENT). LINER TO EXTEND TO BOTTOM ELEVATION OF SUBSTRUCTURE. DO NOT PUT LINER UNDER BED OR ON ANY SIDE GREATER THAN 10' FROM STRUCTURE.
- *** SEE 'INFILTRATION TESTING REPORT, RADNOR STREET & EAGLE ROADS DEVELOPMENT - PROPOSED STORMWATER MANAGEMENT FACILITIES', PREPARED BY GEOSTRUCTURES, DATED MAY 22, 2020. FOR DETAILS.

PROPOSED BED OUTLET DIMENSIONS						
PO-#	'A' OUTLET STRUCTURE	'B' BED STUB DIA (IN)	'C' BED STUB INV	'D' PIPE LENGTH (FT)	'E' SLOPE (%)	'F' DISCHARGE INV
1	CLEAN OUT	8	354	43.6	0.0%	354
2	CLEAN OUT	8	355.75	47.2	1.2%	355.20
3	CLEAN OUT	8	359.5	36.2	0.6%	359.30
4			N/A - NO BED			
5			N/A - NO BED			
6	CLEAN OUT	8	380	67	10.8%	372.78
7	CLEAN OUT	8	381.5	138	2.5%	378.08
8	CLEAN OUT	8	379	5	5.0%	378.75
9	CLEAN OUT	8	371.5	48	2.0%	370.55
10	CLEAN OUT	8	370	26.7	4.1%	368.90
11	CLEAN OUT	8	363.25	71	4.6%	360
12	CLEAN OUT	8	381	52.4	1.7%	380.13
13	CLEAN OUT	8	384.5	58.5	5.4%	381.36
14	CLEAN OUT	8	387	27.7	7.6%	384.91
15			N/A - NO BED			
16	CLEAN OUT	8	402.25	29.8	0.8%	402.00
17	CLEAN OUT	8	406.5	135.7	4.6%	400.21
18	CLEAN OUT	8	402.5	47	4.9%	400.21
19	CLEAN OUT	8	393.75	276	12.2%	360
20	CLEAN OUT	8	369.5	45.9	1.1%	369



STORMWATER MANAGEMENT FACILITY OWNERSHIP AND MAINTENANCE NOTES:

THE RESPONSIBILITY FOR THE CONTINUED MAINTENANCE AND OPERATION OF THE DETENTION BED AND OTHER FACILITIES SHALL BE THE OBLIGATION OF THE PERMITTEE OR CURRENT PROPERTY OWNER.

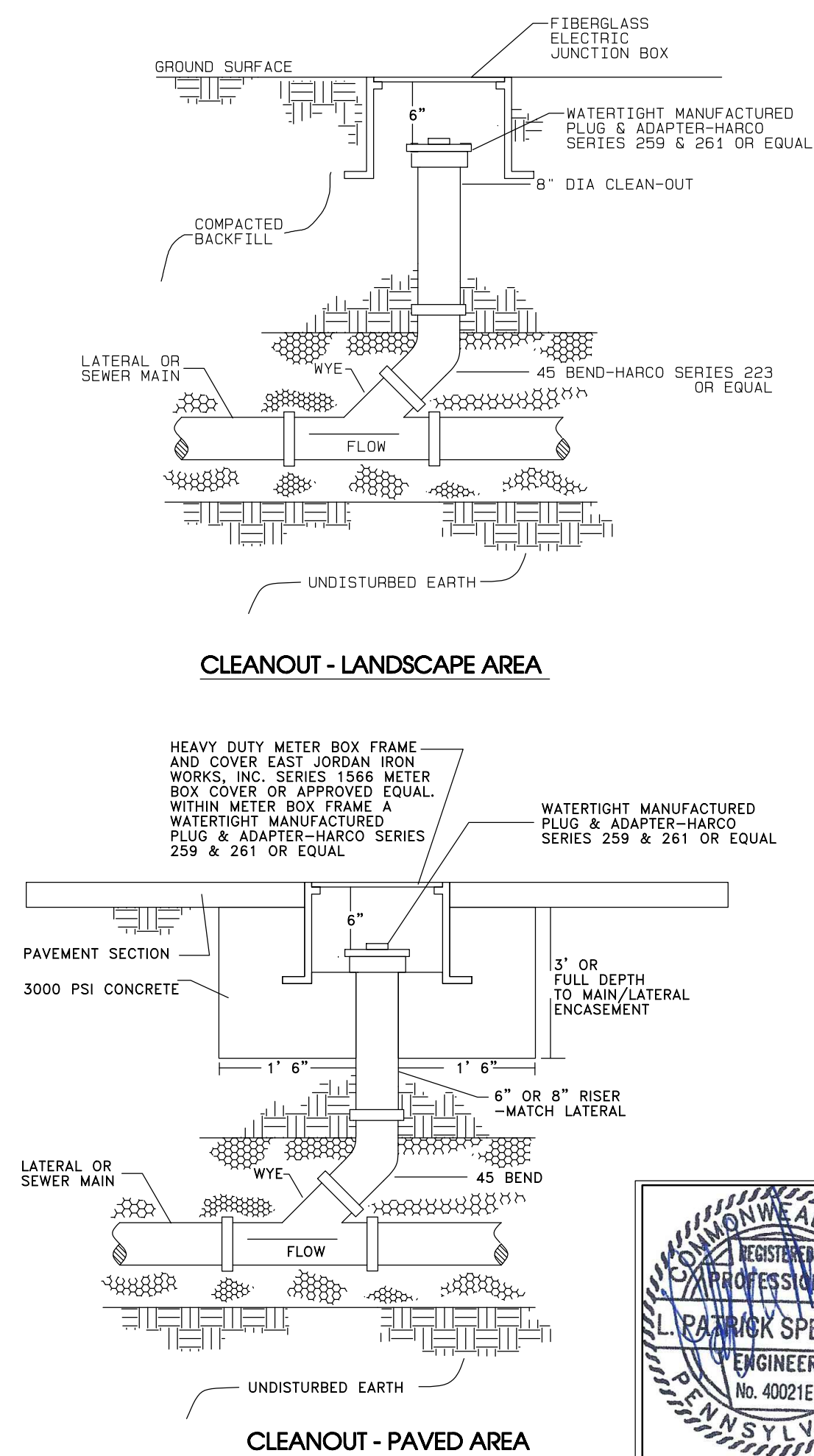
- THE INFILTRATION BED MUST BE INSPECTED FOR ROUTINE MAINTENANCE A MINIMUM OF TWO TIMES A YEAR, ONCE IN THE EARLY SPRING AND ONCE IN THE FALL AFTER THE MAJORITY OF THE LEAVES HAVE FALLEN.
- VISUAL OBSERVATION OF THE GROUND SURFACE TO DETECT PONDING OF WATER OR GROUND SETTLEMENTS THAT WOULD PREVENT ALL RUNOFF FROM ENTERING INLETS AS DESIGNED MUST BE MADE. THE DRAINAGE AREAS DESIGNED FOR THE SYSTEM MUST BE MAINTAINED. ADJUSTMENTS TO THE GRADING OR INLETS MUST BE MADE TO ENSURE THAT THE SYSTEM IS FUNCTIONING AS DESIGNED. SMALL SINKHOLES CAN BE REPAIRED EASILY BY FILLING WITH TOPSOIL AND MAY BE THE RESULT OF SETTLEMENT OF THE SOILS. LARGER SINKHOLES OR SINKHOLES THAT REAPPEAR IN THE SAME LOCATION MAY INDICATE A BREACH IN THE GEOTEXTILE LINER, INLET BOX STRUCTURE, PIPE CONNECTION, OR BREAK IN A STORM CONVEYANCE LINE. THESE TYPES OF SINKHOLES MUST BE EXCAVATED AND THE FAILURE IDENTIFIED AND REPAIRED IMMEDIATELY IN ORDER TO PREVENT SOIL FROM ENTERING THE INFILTRATION BED AND CLOGGING IT OR REDUCING THE CAPACITY OF THE BED FOR RECHARGE OF RUNOFF.
- ALL SEDIMENT TRAPS AND INLETS MUST BE VISUALLY INSPECTED SEVERAL TIMES A YEAR FOR ACCUMULATED SOIL AND DEBRIS. INLET GRATES MUST BE KEPT FREE OF LEAVES, STICKS, MULCH, AND OTHER LAWN DEBRIS OR TRASH THAT WOULD PREVENT INFLOW OF RUNOFF. SUMPS IN SEDIMENT TRAPS OR INLET BOTTOMS MUST HAVE ACCUMULATED SEDIMENT REMOVED TO ENSURE DESIGN CAPACITY SUFFICIENT TO TRAP SEDIMENT AND DEBRIS FROM ENTERING ANY INFILTRATION BED.
- ONCE A YEAR, THE INFILTRATION BED MUST BE INSPECTED TO DETERMINE IF IT IS DRAINING WITHIN THE REQUIRED TIME PERIOD (USUALLY TWENTY-FOUR HOURS). THE INSPECTION PORT SHALL BE OPENED AT LEAST TWENTY-FOUR HOURS FOLLOWING A STORM AND THE LEVEL OF WATER IN THE BED NOTED. IF IT IS DETERMINED THAT THE SYSTEM WILL NOT RECHARGE THE STORMWATER RUNOFF AS DESIGNED, THE SYSTEM WILL NEED TO BE MODIFIED OR REPLACED. THE TOWNSHIP SHALL BE CONTACTED FOR APPROVAL OF ANY MODIFICATION OR REPLACEMENT OF THE SYSTEM.
- ANY CLEAN-OUT OR INLET THAT HAS BEEN DAMAGED BY LAWN EQUIPMENT MUST BE REPLACED OR REPAIRED. CLEAN-OUTS THAT BECOME BURIED SHOULD BE RAISED TO GRADE. THE CONFIGURATION MUST NOT ALLOW SOIL OR OTHER DEBRIS TO CLOG THE COLLECTION PIPE. ALL COLLECTION PIPES MUST BE CHECKED ANNUALLY TO ENSURE THEY ARE FLOWING FREELY. IF THE COLLECTION PIPES BECOME CLOGGED, JET CLEANING MUST BE PERFORMED AT THE CLEAN-OUTS. ADDITIONAL PROTECTION MUST BE MADE AT THE SEDIMENT TRAP DURING JET CLEANING TO ENSURE THAT DEBRIS IS NOT TRANSMITTED TO THE INFILTRATION BED.
- THE OUTLET PIPE, OR CONNECTION OF THE OUTLET OF THE INFILTRATION BED MUST BE CHECKED TO ENSURE THAT IT IS PERMITTING FREE FLOW OF WATER OUT OF THE BED. LEVEL SPREADER AT THE TERMINATION OF THE BED MUST BE CHECKED. STONE SHALL BE REPLACED WITH EQUAL OR LARGER SIZE STONE IF THE DISSIPATER IS OBSERVED TO BE INEFFECTIVE. PERFORATED PIPE AND GEOTEXTILE SHALL BE INSPECTED AND REPAIRED AS REQUIRED.
- SMALL TREES THAT BEGIN TO GROW IN THE VICINITY OF INFILTRATION BEDS OR STRUCTURES MUST BE REMOVED TO ENSURE THAT THE ROOTS DO NOT PUNCTURE THE FILTER FABRIC OF THE SEEPAGE BED OR DAMAGE ANY STORMWATER COLLECTION/CONVEYANCE STRUCTURE.
- GUTTER OR GUTTER SYSTEMS THAT ARE INTEGRAL WITH THE INFILTRATION BED MUST BE FUNCTIONAL. REPAIRS TO GUTTERS THAT BECOME SEPARATED, SAG, OR OTHERWISE DO NOT FUNCTION AS DESIGNED MUST BE MADE.
- PREVENTATIVE MAINTENANCE WOULD INCLUDE REMOVAL OF LEAVES FROM GUTTER SYSTEMS AND LAWN AREAS AS SOON AS POSSIBLE TO AVOID CONTAMINATION OR CLOGGING OF THE SYSTEM. LOCATING LANDSCAPE-MULCHED AREAS AWAY FROM CONCENTRATED RUNOFF AREAS OR SWALES THAT COULD WASH MULCH INTO INLETS IS RECOMMENDED.

PCSM LONG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS

UNTIL THE PERMITTEE OR CO-PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMPs ON THE PROJECT SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE. THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs. FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY THE PCSM BMP, PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE, AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEE, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER PA CODE CHAPTER 102.7(b)(5) (RELATING TO PERMIT TERMINATION). THE PERSON RESPONSIBLE FOR PERFORMING LONG-TERM OPERATION AND MAINTENANCE MAY ENTER INTO AN AGREEMENT WITH ANOTHER PERSON INCLUDING A CONSERVATION DISTRICT, NONPROFIT ORGANIZATION, MUNICIPALITY, AUTHORITY, PRIVATE CORPORATION OR OTHER PERSON, TO TRANSFER THE RESPONSIBILITY FOR PCSM BMPs OR TO PERFORM LONG-TERM OPERATION AND MAINTENANCE AND PROVIDE NOTICE THEREOF TO THE DEPARTMENT. A PERMITTEE OR CO-PERMITTEE THAT FAILS TO TRANSFER LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP OR OTHERWISE FAILS TO COMPLY WITH THIS REQUIREMENT SHALL REMAIN JOINTLY AND SEVERALLY RESPONSIBLE WITH THE LANDOWNER FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs LOCATED ON THE PROPERTY.

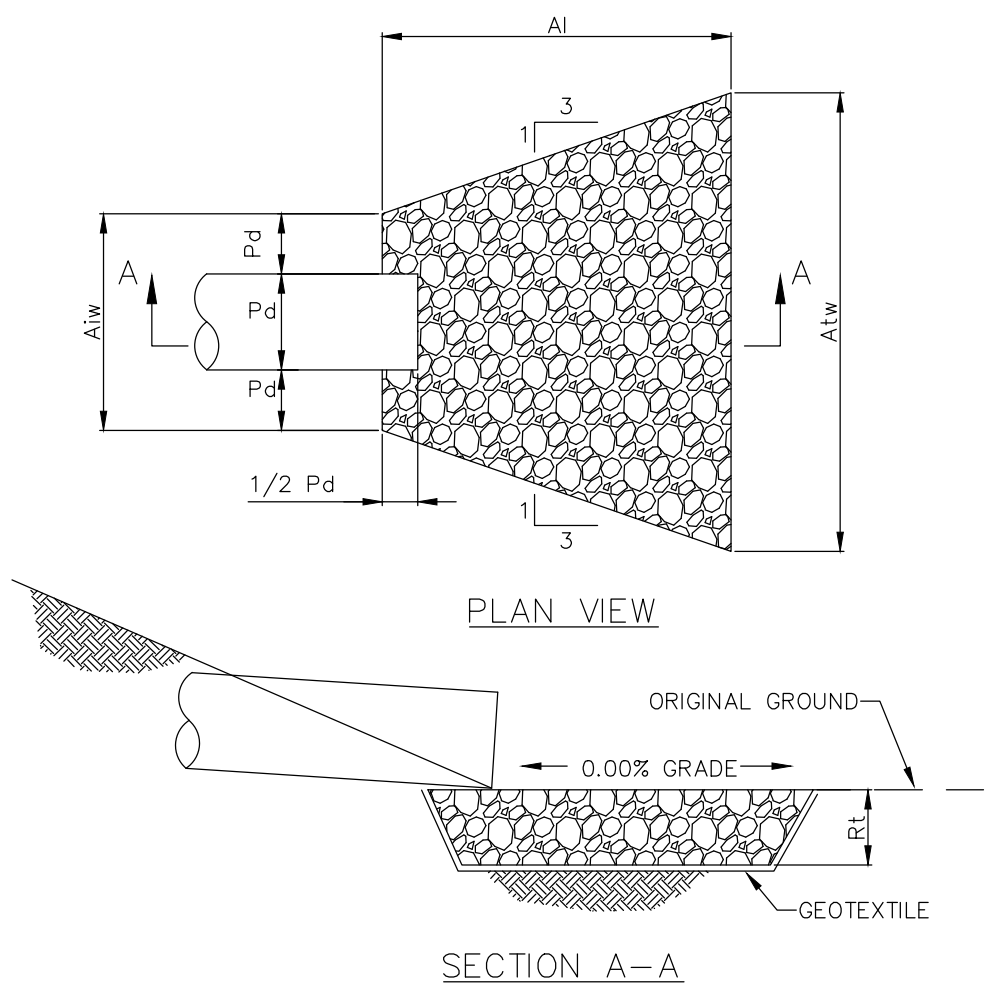
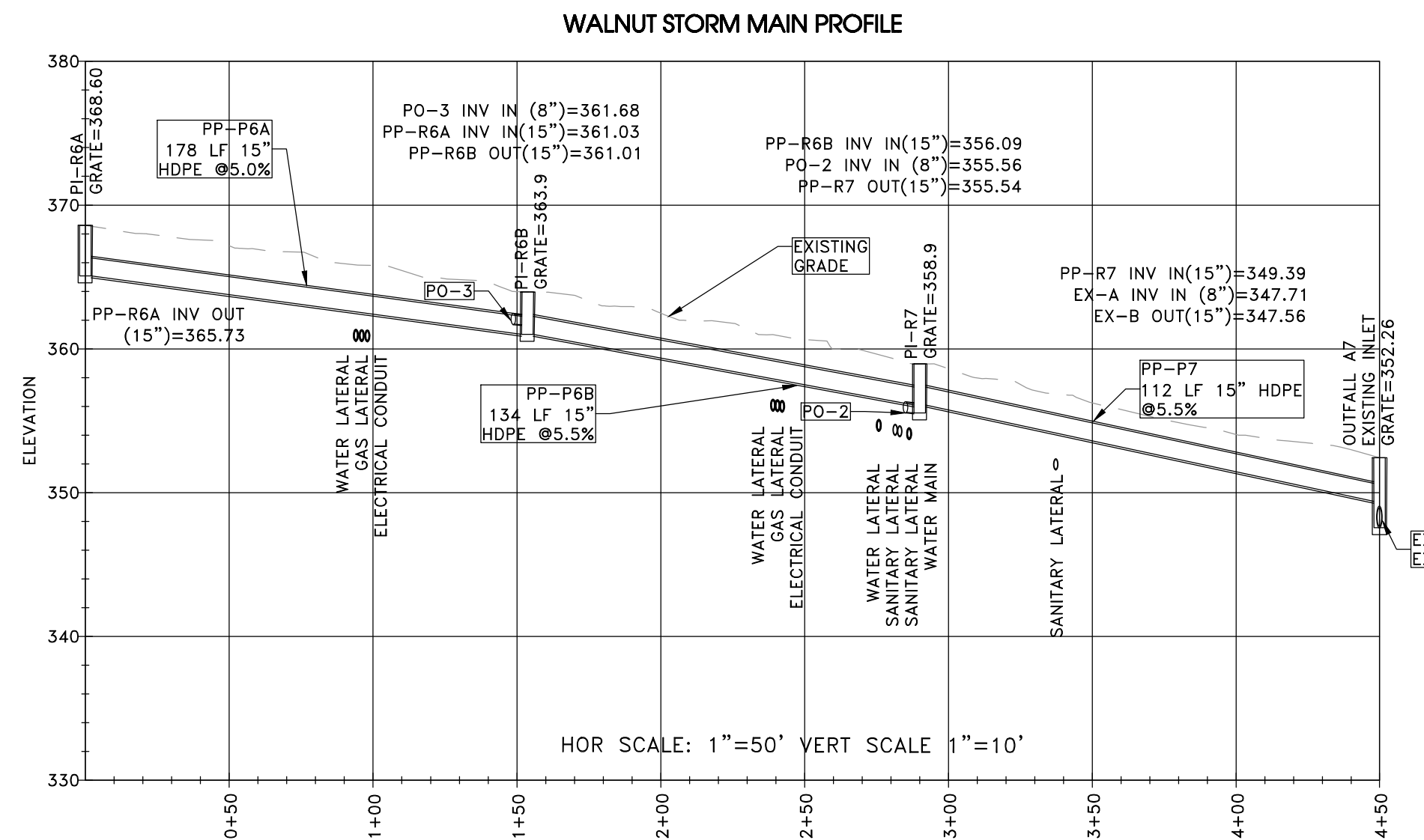
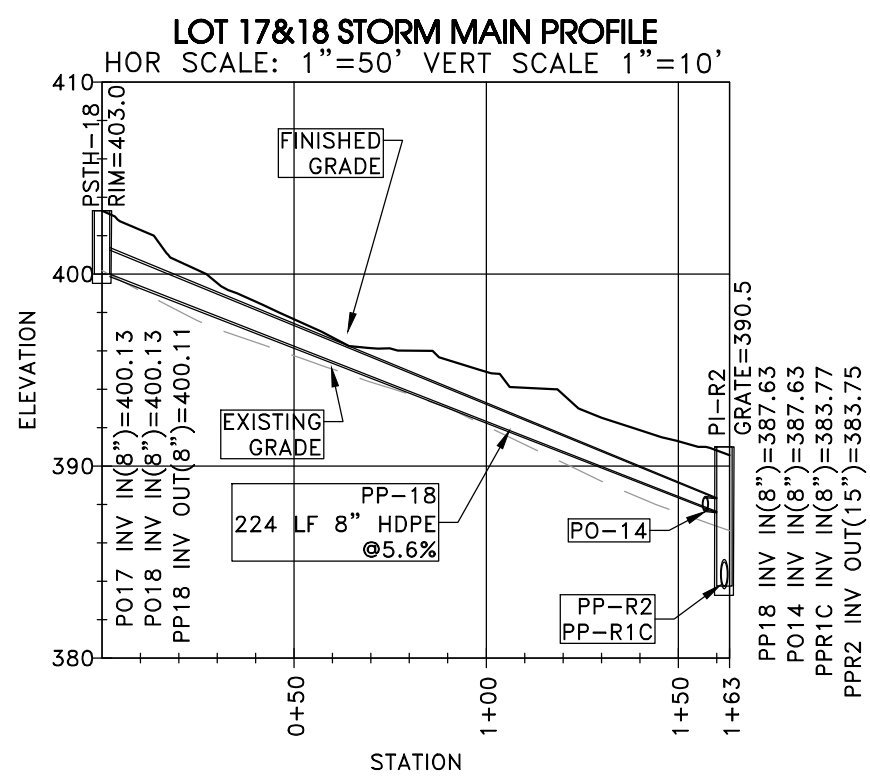
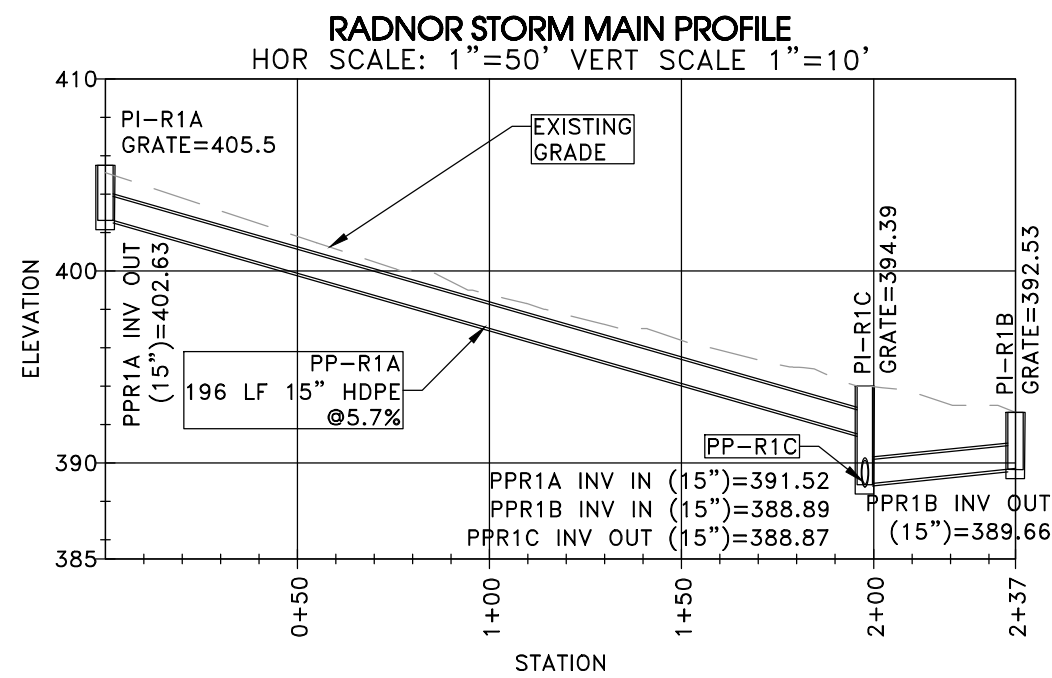
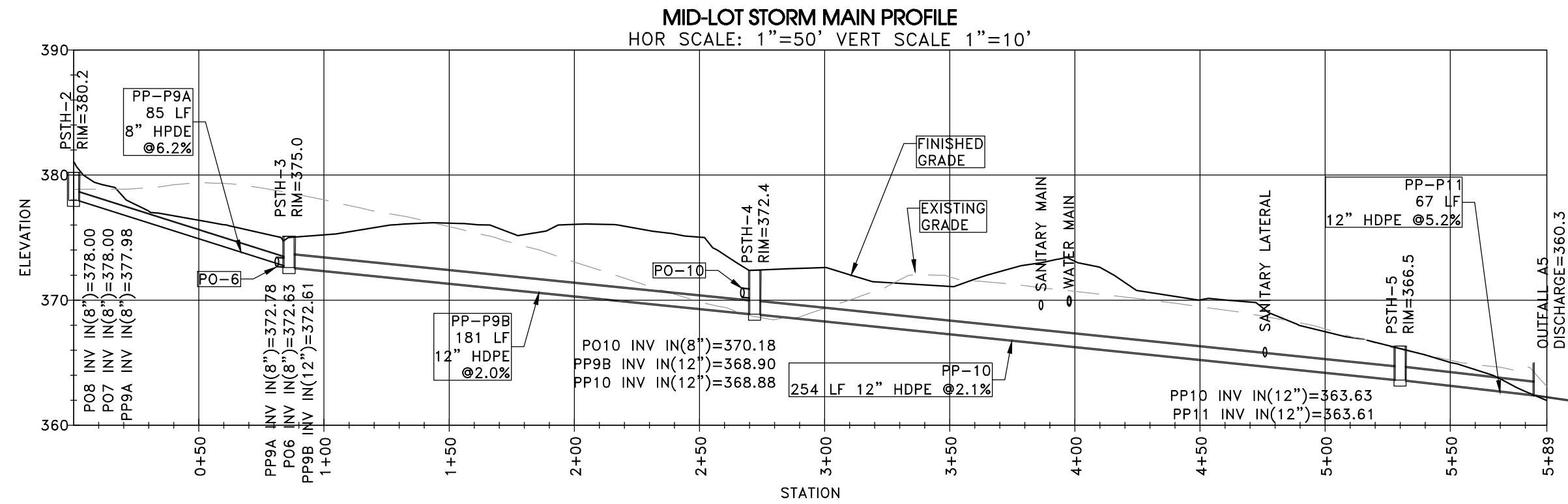
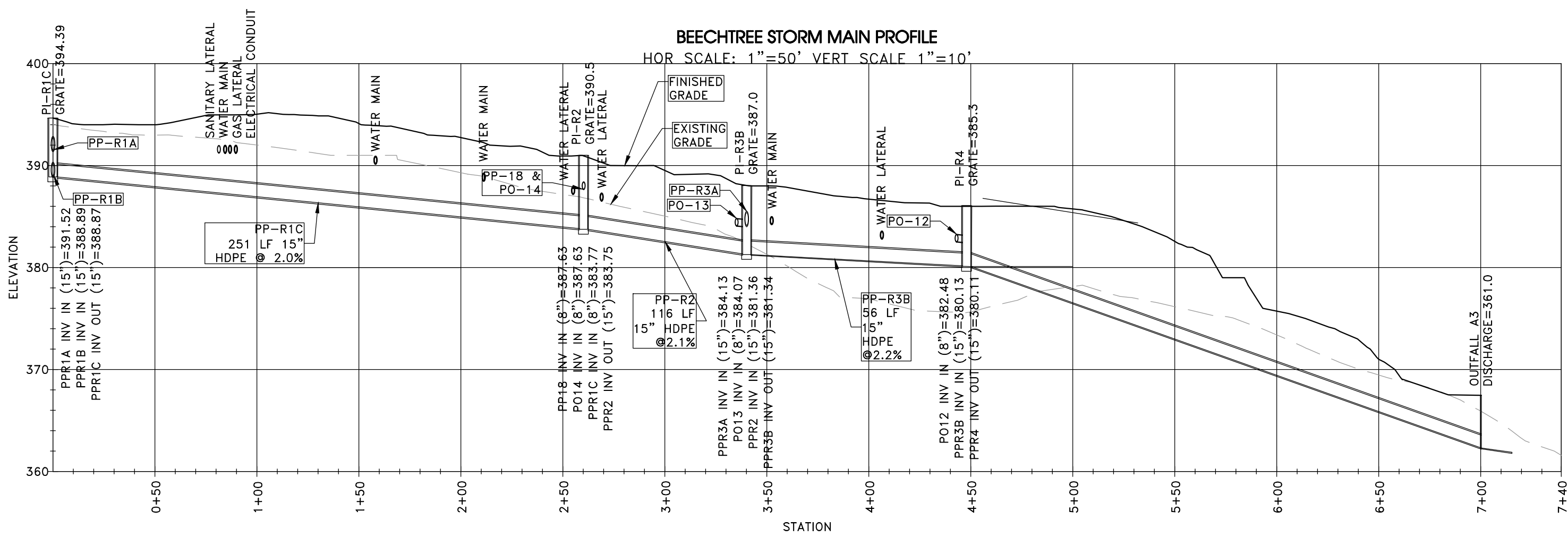
Table 1. Summary of Stormwater Infiltration Testing Results Radnor Street & Eagle Roads Development												
Test Location	Description of Tested Stratum	Exist. Grade-El. (ft)	Test El. (ft)	Test Depth (ft)	SHWT El. (ft)	Limiting Zone	Field Rate (in/hr)	Adjusted Infiltr. Rate (in/hr)	FS	Factored Rate ² (in/hr)	Remarks	
1A	Medium dense, light yellowish brown (2.5 YR 5/4), silty sand with gravel (SM), moist (RESIDUAL)	357.50	350.00	7.50	None	No water or rock to 12" (El. 345.5)	0.24	0.16		0.08	Slow rate and infiltration is not feasible.	
1B	Loose, dark brown (7.5YR 3/4), silty sand with gravel (SM), moist to very moist (RESIDUAL)	365.50	358.00	7.50	None	No water or rock to 12" (El. 353.5)	4.80	3.20		1.60		
2	Medium dense, light olive brown (2.5Y 5/4), silty sand with gravel (SM), moist to damp (RESIDUAL)	359.80	352.30	7.50	None	No water or rock to 12" (El. 347.8)	7.92	5.28		2.64	Favorable rate in sandy soils and infiltration is feasible.	
3	Medium dense, light olive brown (2.5YR 5/4), silty sand (SM), moist to damp (RESIDUAL)	365.50	357.50	8.00	None	No water or rock to 12" (El. 353.5)	5.04	3.36		1.68		
4	Stiff to very stiff, yellowish brown (10YR 5/6) sandy silt (ML), moist (RESIDUAL)	369.00	362.00	7.00	Mottles @8.5'	Perched water @6.5' (El. 362.5)	-	-		-	Perched water seeped into the test hole prior the testing and test was terminated.	
5	Medium dense, olive yellow (2.5Y 6/4), silty fine sand (SM), damp (RESIDUAL)	373.00	365.50	7.50	None	Perched water @4.8' (El. 368.4)	-	-		-	Perched water seeped into the test hole prior the testing and test was terminated.	
6	Medium dense, light olive brown (2.5YR 5/4), silty sand with gravel (SM), damp (RESIDUAL)	380.00	368.00	12.00	None	No water or rock to 16" (El. 364.0)	7.92	5.28		2.64	The mottles at SWB-17 is well below the testing level. Favorable rate in sandy soils and feasible.	
7	Med. dense to dense, light olive brown (2.5 YR 5/4), silty fine sand (SM), occasional rock fragments, damp to moist (RESIDUAL)	383.30	376.30	7.00	Mottles @11.3'	No water or rock to 12" (El. 371.3)	4.32	2.88		1.44		
8	Medium dense to dense, light olive brown (2.0YR 5/4), silty fine sand (SM), damp (RESIDUAL)	381.30	375.30	6.00	None	No water or rock to 12" (El. 369.3)	5.76	3.84		1.92	Favorable rate in sandy soils and infiltration is feasible.	
9	Medium dense, light olive brown (2.5YR 5/4), silty fine sand (SM), damp (RESIDUAL)	378.50	367.50	9.00	None	No water or rock to 14" (El. 362.5)	7.44	4.96		2.48		
10	Loose to medium dense, yellowish brown (10YR 5/6), silty fine sand (SM), moist (RESIDUAL)	374.50	368.00	6.50	None	No water or rock to 12" (El. 362.5)	2.16	1.44	2.00	0.72	Relatively marginal rates but rates are still above 0.1 in./hr. after applying a safety factor of 2, infiltration is still considered feasible.	
11A	Medium dense, light yellowish brown (10YR 6/4), silty sand (SM), moist (RESIDUAL)	370.00	364.00	6.00	None	No water or rock to 10" (El. 360.0)	0.72	0.48		0.24		
11B	Soft, dark yellowish brown (10YR 5/8), sandy lean clay (CL), very moist, micaceous (RESIDUAL)	365.00	361.00	4.00	None	Perched water @6.4' (El. 358.6)	1.92	0.77		0.39	Perched water is more than 2 ft below the testing level. The marginal rate is above 0.1 in./hr. and infiltration is still feasible.	
12	Loose, dark yellowish brown (10 YR 4/6), silty sand (SM), damp (RESIDUAL)	383.50	375.50	4.00	None	No water or rock to 10" (El. 373.5)	1.68	1.12		0.56		
13	Loose, light olive brown (2.5Y, 5/4) silty fine sand (SM), damp to moist (RESIDUAL)	385.50	381.50	4.00	None	No water or rock to 10" (El. 384.0)	0.96	0.64		0.32	Relatively marginal rates but rates are still above 0.1 in./hr. after applying a safety factor of 2, infiltration is still considered feasible.	
14	Loose, brownish yellow (10YR 6/8), silty sand (SM), damp (RESIDUAL)	382.00	387.00	5.00	None	No water or rock to 10" (El. 382.0)	1.44	0.96		0.48		
15	Medium to stiff, brownish yellow (10YR 6/6), silty lean clay with sand (CL), moist	394.50	387.75	6.75	None	No water or rock to 12" (El. 382.5)	0.24	0.16		0.08	Slow rate and infiltration is not feasible.	
16	Medium dense, dark yellowish brown (10YR 4/6), silty sand (SM), trace friable rock fragments, moist to damp (RESIDUAL)	407.50	400.50	7.00	None	No water or rock to 12" (El. 395.5)	7.92	5.28		2.64	Favorable rate in sandy soils and infiltration is feasible.	
17	Medium dense, yellowish red (5YR 5/6), silty sand with rock fragments (SM), micaceous, moist to damp (RESIDUAL)	427.50	417.50	10.00	None	Auger Refusal @ 12" (El. 415.5)	15.60	7.88		3.94		
18	Loose, yellowish brown (10YR 5/6), silty sand (SM), micaceous, damp (RESIDUAL)	407.00	400.70	6.30	None	No water or rock to 12" (El. 395.0)	2.16	1.44		0.72		
19	Medium dense, strong brown (7.5YR 5/6), silty sand with rock fragments (SM), micaceous, damp	406.50	396.00	10.50	None	No water or rock to 16" (El. 390.5)	4.32	2.88	2.00	1.44	Favorable rate in sandy soils and infiltration is feasible.	
20	Medium dense, reddish yellow (7.5YR 6/6), silty sand (SM), micaceous, trace to little rock fragments, moist to damp	394.00	387.50	6.50	None	No water or rock to 12" (El. 382.0)	5.76	3.84		1.92		
21	Loose to medium dense, reddish yellow (7.5YR 6/8), silty sand (SM), micaceous, trace rock fragments, moist to damp	377.50	370.00	7.50	None	No water or rock to 12" (El. 365.5)	13.20	8.80		4.40		

¹ Existing grade elevations and testing depths are provided by Site Engineering Concepts.
² Reduction factors were applied to adjust the field measured infiltration rates for the cased borehole method per PADEP BMP Manual Appendix E.
³ Also, for design purposes a recommended safety factor of 2 was applied on the adjusted infiltration rates.



STORMWATER BLANKET EASEMENT

A BLANKET EASEMENT OF THE PROJECT AREA AS SHOWN ON THE PLANS IS HEREBY GRANTED GIVING THE TOWNSHIP THE



NOTES:

- ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.
- ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.
- EXTEND RIPRAP ON BACK SIDE OF APRON TO AT LEAST 1/2 DEPTH OF PIPE ON BOTH SIDES TO PREVENT SCOUR AROUND THE PIPE.

RIPRAP APRON AT PIPE OUTLET
NO FLARED ENDWALL

ADS FLARED END SECTION SPECIFICATION

Scope

This specification describes 12- through 36-inch (300 to 900mm) ADS Flared End Sections for use in culvert and drainage outlet applications.

Requirements

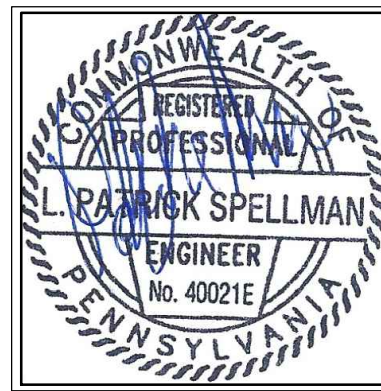
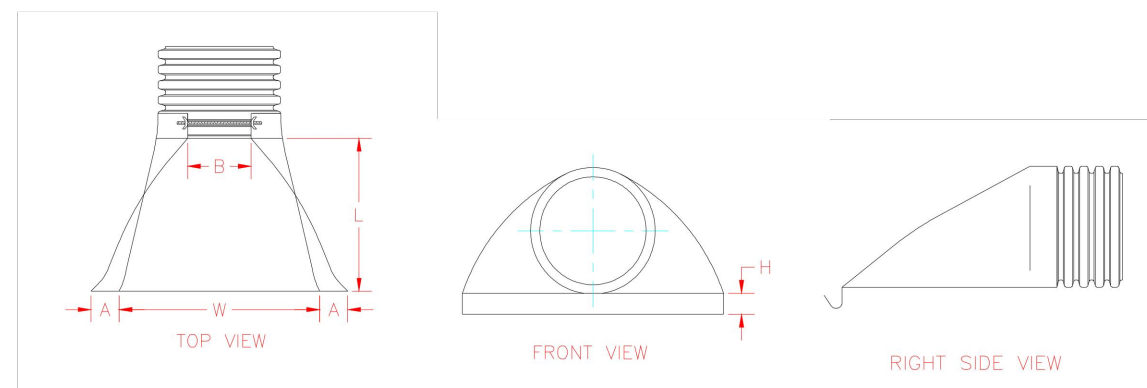
The ADS Flared End Section shall be high density polyethylene meeting ASTM D3350 minimum cell classification 213320C; contact manufacturer for additional cell classification information. When provided, the metal threaded fastening rod shall be stainless steel.

Installation

Installation shall be in accordance with ADS installation instructions and with those issued by state or local authorities. Contact your local ADS representative or visit www.ads-pipe.com for the latest installation instructions.

	PIPE DIAMETER, in (mm)					
Diameter	12	15	18	24	30	36
in (mm)	(300)	(375)	(450)	(600)	(750)	(900)
A	6.5	6.5	7.5	7.5	7.5	7.5
in (mm)	(165)	(165)	(191)	(191)	(191)	(191)
B (max)	10.0	10.0	15.0	18.0	22.0	25.0
in (mm)	(254)	(254)	(381)	(475)	(559)	(635)
H	6.5	6.5	6.5	6.5	6.6	6.6
in (mm)	(165)	(165)	(165)	(165)	(168)	(168)
L	25.0	25.0	32.0	36.0	58.0	58.0
in (mm)	(635)	(635)	(813)	(914)	(1473)	(1473)
W	29.0	29.0	35.0	45.0	63.0	63.0
in (mm)	(737)	(737)	(889)	(1143)	(1600)	(1600)

*Product detail may differ slightly from actual product appearance

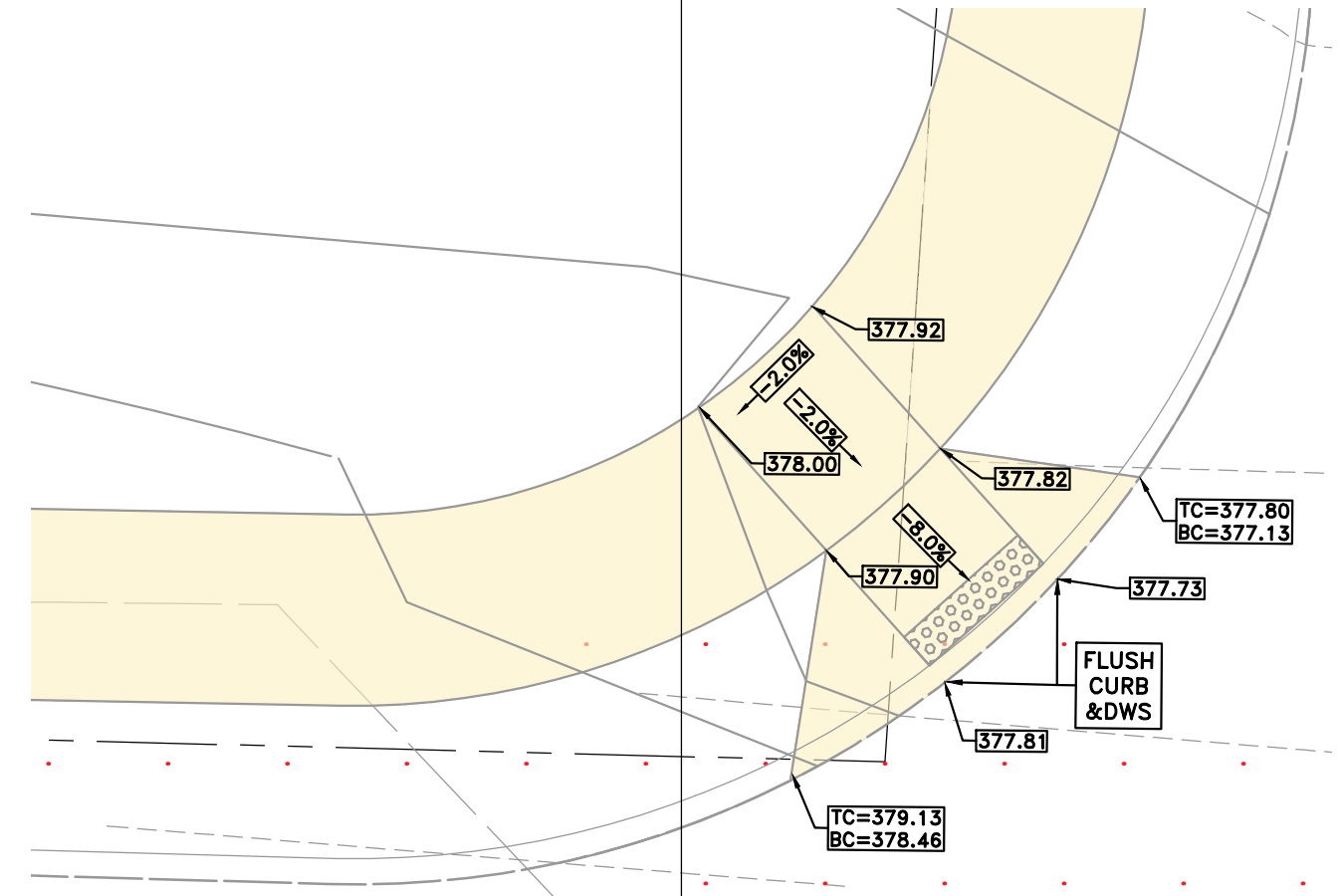
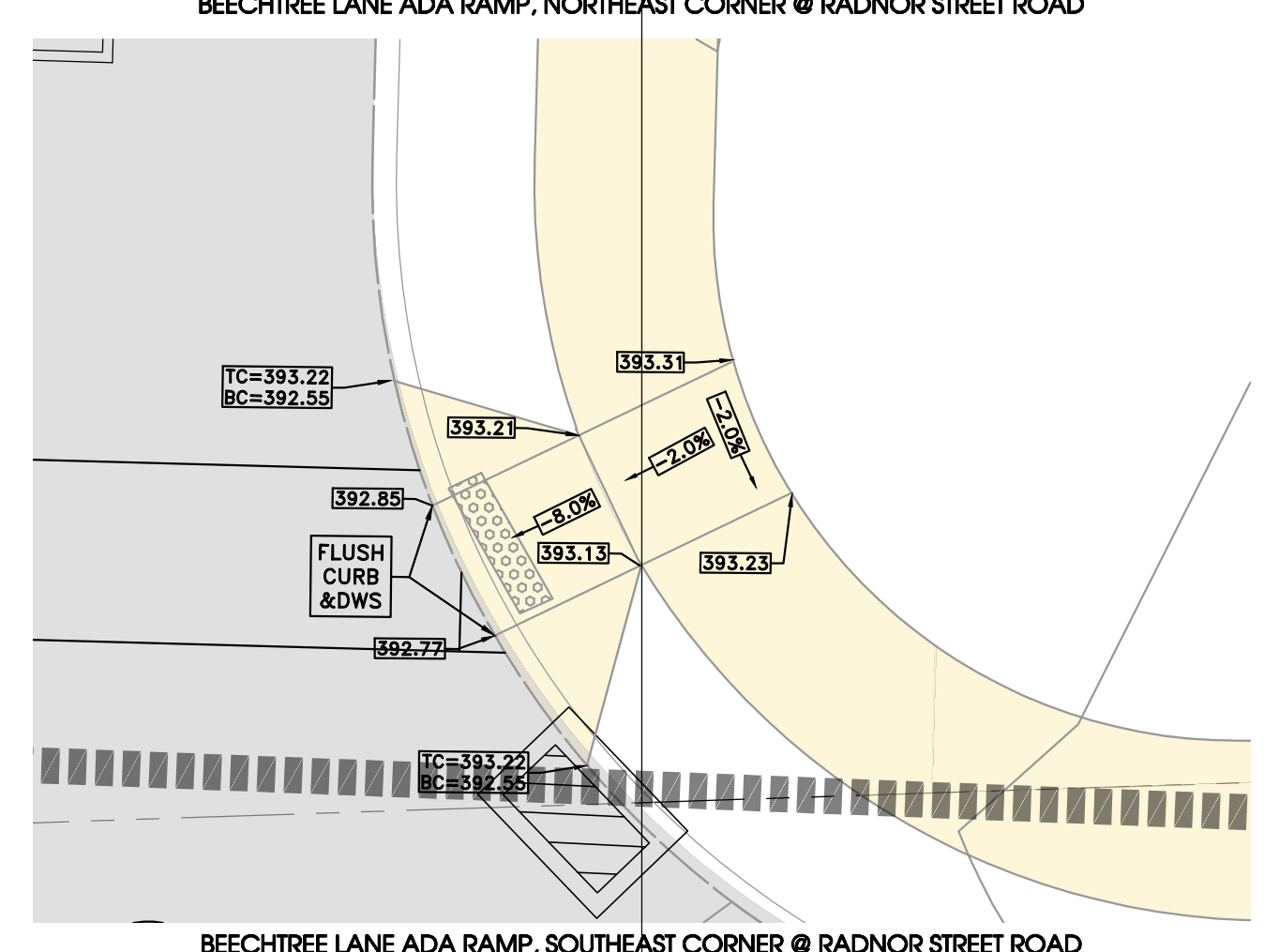
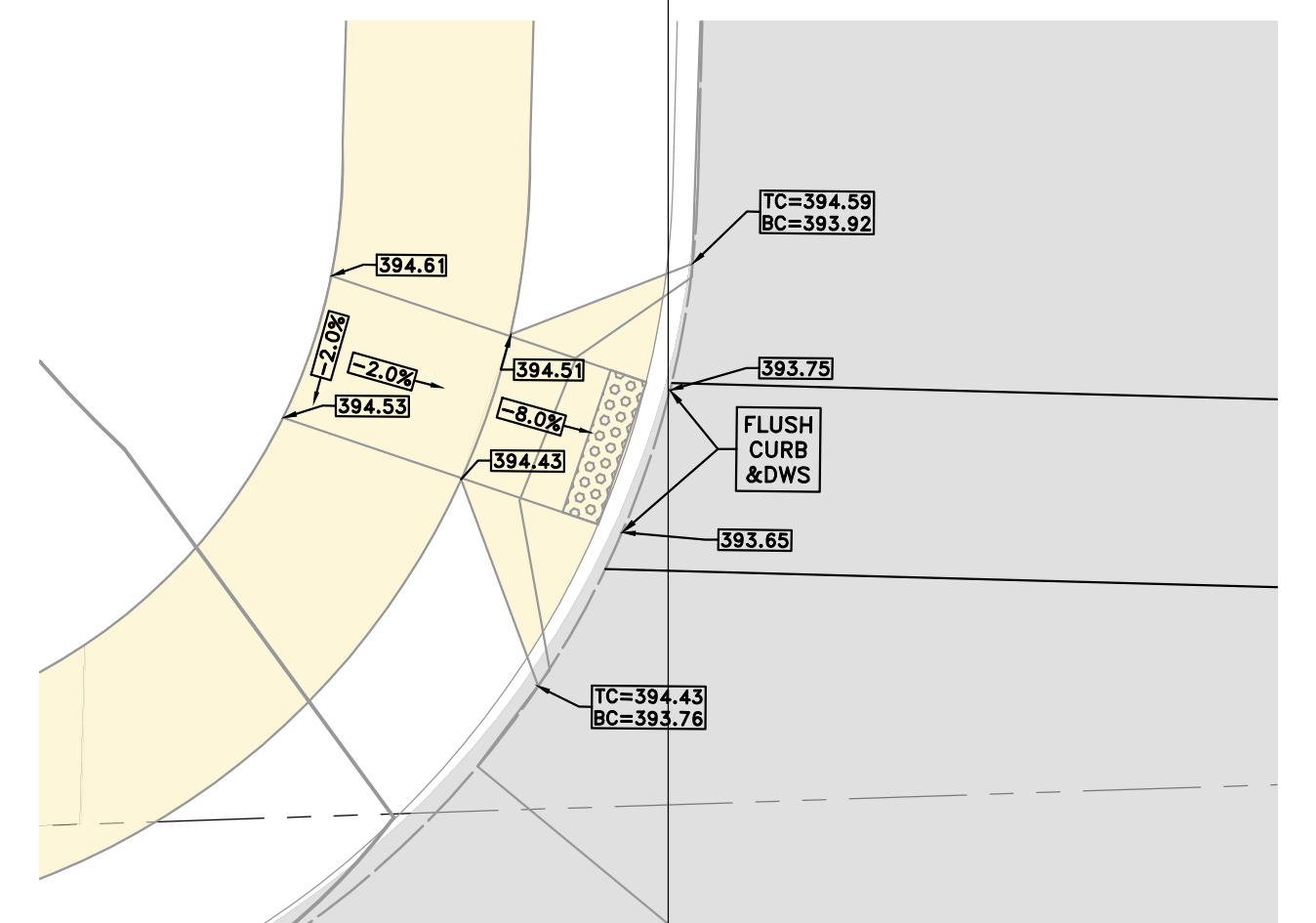
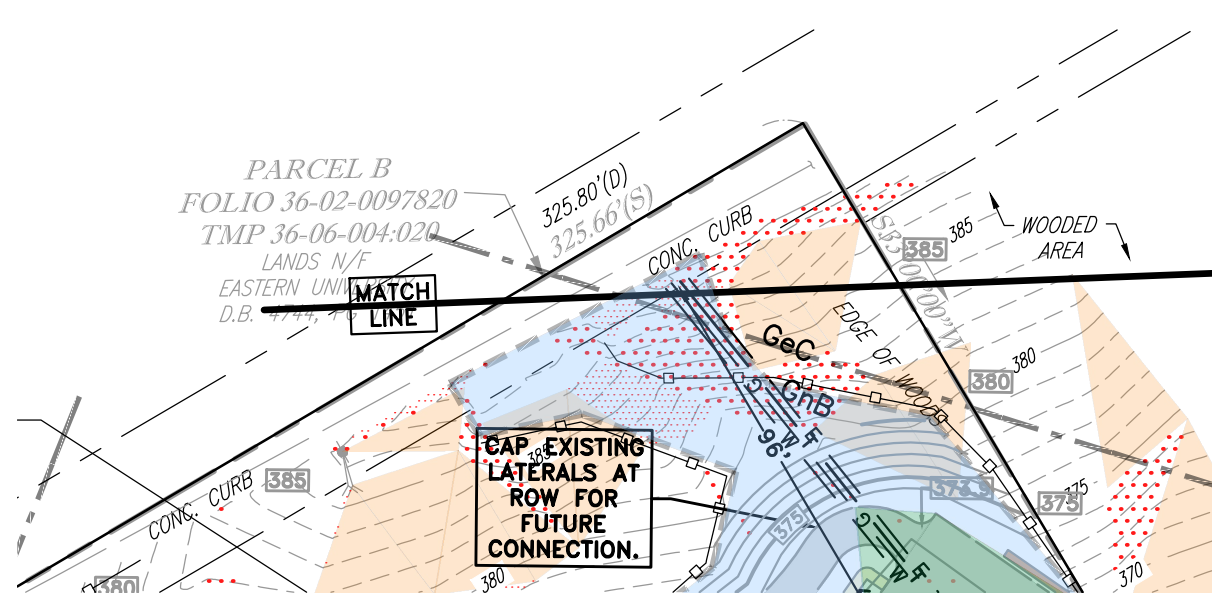
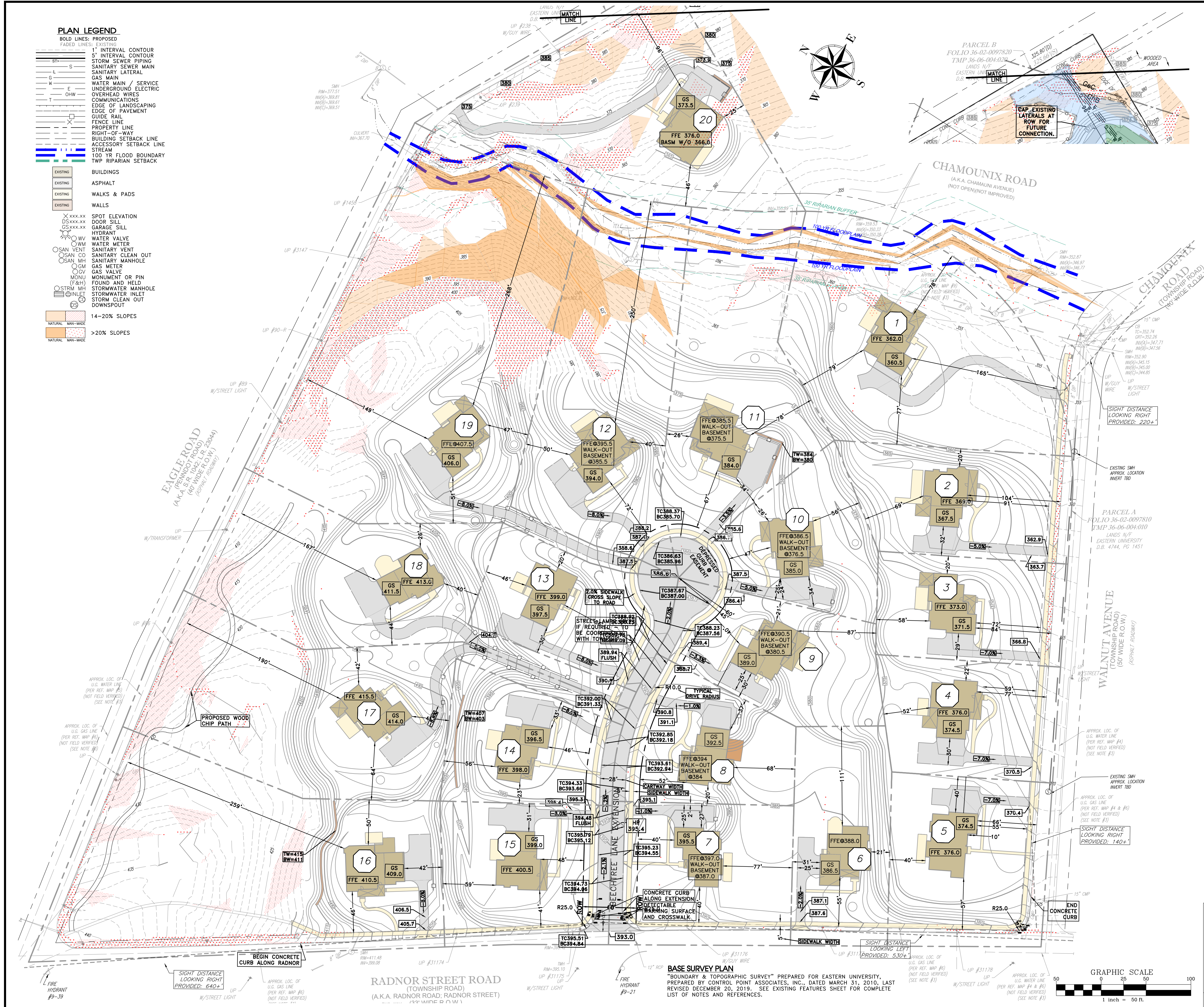


PATRICK SPELLMAN, P.E.
PE-40021

1.	12/7/2020	REVISE PER TOWNSHIP REVIEW LETTERS AND PC INPUT
1.	9/18/2020	RELOCATE LOT 1 DRIVEWAY
NUM.	DATE	REVISION
PLAN PREPARED BY:		
SITE ENGINEERING CONCEPTS, LLC		
P.O. BOX 1992		
SOUTHEASTERN, PA 19399		
P: 610-240-0450	F: 610-240-0451	E: INFO@SITE-ENGINEERS.COM
PRELIMINARY/FINAL SUBDIVISION AND LAND DEVELOPMENT PLAN		
PLAN PREPARED FOR:		
CG WAYNE, LLC		
EAGLE & RADNOR ROAD, WAYNE, PA 19087		
RADNOR TOWNSHIP	DELAWARE COUNTY	PENNSYLVANIA
		SEPT. 15, 2020
STORM PROFILES AND DETAILS		SHEET 9 of 16
		AS NOTED

PLAN LEGEND

BOLD LINES: PROPOSED	1" INTERVAL CONTOUR
FADED LINES: EXISTING	5' INTERVAL CONTOUR
ST- S	STORM SEWER PIPING
L- L	SANITARY SEWER MAIN
W- W	SANITARY LATERAL
E- E	GAS MAIN
OHW- OHW	WATER MAIN / SERVICE
	UNDERGROUND ELECTRIC
	OVERHEAD WIRES
	EDGE OF LANDSCAPING
	EDGE OF PAVEMENT
	GUIDE RAIL
	FENCE LINE
	PROPERTY LINE
	RIGHT-OF-WAY
	BUILDING SETBACK LINE
	ACCESSORY SETBACK LINE
	STREAM
	100 YR FLOOD BOUNDARY
	TWP RIPARIAN SETBACK
EXISTING	BUILDINGS
EXISTING	ASPHALT
EXISTING	WALKS & PADS
EXISTING	WALLS
XXXX.XX	SPOT ELEVATION
DSXXXX.XX	DOOR SILL
GSXXXX.XX	GARAGE SILL
OW	HYDRANT
WM	WATER VALVE
OV	WATER METER
OV	SANITARY VENT
OV	SANITARY CLEAN OUT
OV	SANITARY MANHOLE
OV	GAS METER
OV	GAS VALVE
OV	MONUMENT OR PIN
OV	FOUND AND HELD
OV	STORMWATER MANHOLE
OV	STORMWATER INLET
OV	STORM CLEAN OUT
OV	DOWNSPOUT
	14-20% SLOPES
	NATURAL, MAN-MADE
	>20% SLOPES
	NATURAL, MAN-MADE



**WALNUT AVENUE ADA RAMP
ADA DETAILED GRADING PLANS**

0 5 10 Feet

1.	12/7/2020	REVISE PER TOWNSHIP REVIEW LETTERS AND PC INPUT
1.	9/18/2020	RELOCATE LOT 1 DRIVEWAY
NUM.	DATE	REVISION

PLAN PREPARED BY:
SITE ENGINEERING CONCEPTS, LLC
P.O. BOX 1992
SOUTHEASTERN, PA 19399
P: 610-240-0450 F: 610-240-0451 E: INFO@SITE-ENGINEERS.COM

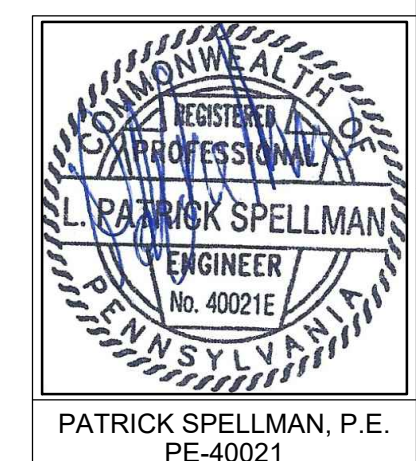
**PRELIMINARY/FINAL SUBDIVISION AND LAND
DEVELOPMENT PLAN**
PLAN PREPARED FOR:
CG WAYNE, LLC
EAGLE & RADNOR ROAD, WAYNE, PA 19087

RADNOR TOWNSHIP DELAWARE COUNTY PENNSYLVANIA
SEPT. 15, 2020

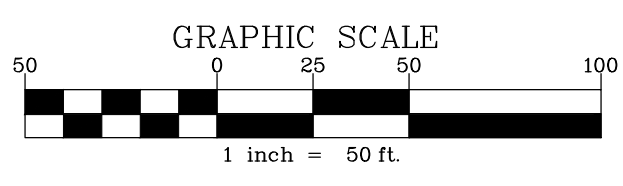
**DETAILED GRADING AND
DIMENSIONS PLAN**

**SHEET
10 of 16**

SCALE: 1" = 50'



BASE SURVEY PLAN
"BOUNDARY & TOPOGRAPHIC SURVEY" PREPARED FOR EASTERN UNIVERSITY,
PREPARED BY CONTROL POINT ASSOCIATES, INC., DATED MARCH 31, 2010, LAST
REVISED DECEMBER 20, 2019. SEE EXISTING FEATURES SHEET FOR COMPLETE
LIST OF NOTES AND REFERENCES.



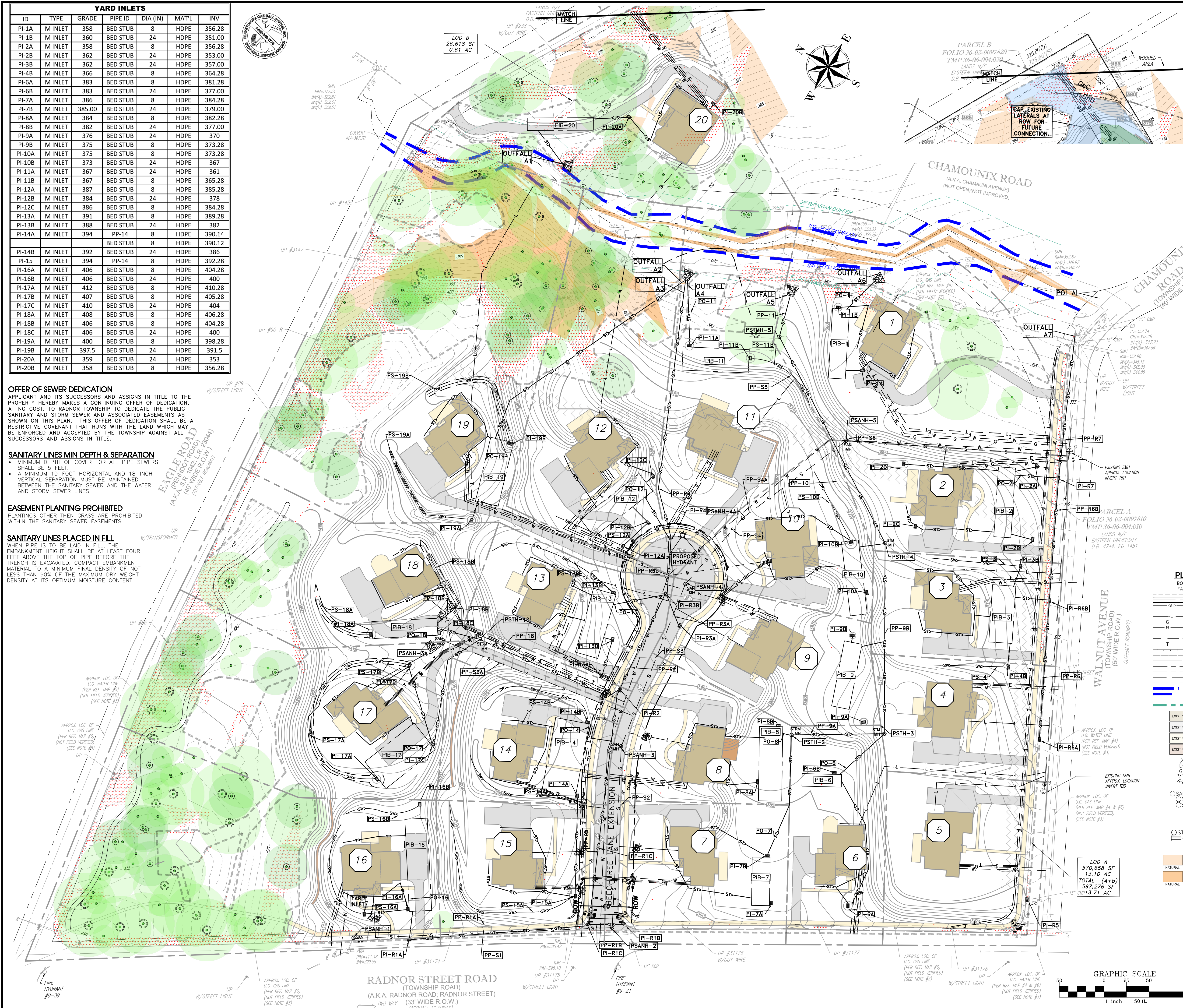
YARD INLETS						
ID	TYPE	GRADE	PIPE ID	DIA (IN)	MAT'L	INV
PI-1A	MINLET	358	BED STUB	8	HDPE	356.28
PI-1B	MINLET	360	BED STUB	24	HDPE	351.00
PI-2A	MINLET	358	BED STUB	8	HDPE	356.28
PI-2B	MINLET	362	BED STUB	24	HDPE	353.00
PI-3B	MINLET	362	BED STUB	24	HDPE	357.00
PI-4B	MINLET	366	BED STUB	8	HDPE	364.28
PI-6A	MINLET	383	BED STUB	8	HDPE	381.28
PI-6B	MINLET	383	BED STUB	24	HDPE	377.00
PI-7A	MINLET	386	BED STUB	8	HDPE	384.28
PI-7B	MINLET	385.00	BED STUB	24	HDPE	379.00
PI-8A	MINLET	384	BED STUB	8	HDPE	382.28
PI-8B	MINLET	382	BED STUB	24	HDPE	377.00
PI-9A	MINLET	376	BED STUB	24	HDPE	370
PI-9B	MINLET	375	BED STUB	8	HDPE	373.28
PI-10A	MINLET	375	BED STUB	8	HDPE	373.28
PI-10B	MINLET	373	BED STUB	24	HDPE	367
PI-11A	MINLET	367	BED STUB	24	HDPE	361
PI-11B	MINLET	367	BED STUB	8	HDPE	365.28
PI-12A	MINLET	387	BED STUB	8	HDPE	385.28
PI-12B	MINLET	384	BED STUB	24	HDPE	378
PI-12C	MINLET	386	BED STUB	8	HDPE	384.28
PI-13A	MINLET	391	BED STUB	8	HDPE	389.28
PI-13B	MINLET	388	BED STUB	24	HDPE	382
PI-14A	MINLET	394	PP-14	8	HDPE	390.14
			BED STUB	8	HDPE	390.12
PI-14B	MINLET	392	BED STUB	24	HDPE	386
PI-15	MINLET	394	PP-14	8	HDPE	392.28
PI-16A	MINLET	406	BED STUB	8	HDPE	404.28
PI-16B	MINLET	406	BED STUB	24	HDPE	400
PI-17A	MINLET	412	BED STUB	8	HDPE	410.28
PI-17B	MINLET	407	BED STUB	8	HDPE	405.28
PI-17C	MINLET	410	BED STUB	24	HDPE	404
PI-18A	MINLET	408	BED STUB	8	HDPE	406.28
PI-18B	MINLET	406	BED STUB	8	HDPE	404.28
PI-18C	MINLET	406	BED STUB	24	HDPE	400
PI-19A	MINLET	400	BED STUB	8	HDPE	398.28
PI-19B	MINLET	397.5	BED STUB	24	HDPE	391.5
PI-20A	MINLET	359	BED STUB	24	HDPE	353
PI-20B	MINLET	358	BED STUB	8	HDPE	356.28

OFFER OF SEWER DEDICATION
APPLICANT AND ITS SUCCESSORS AND ASSIGNS IN TITLE TO THE PROPERTY HEREBY MAKES A CONTINUING OFFER OF DEDICATION, AT NO COST, TO RADNOR TOWNSHIP TO DEDICATE THE PUBLIC SANITARY AND STORM SEWER AND ASSOCIATED EASEMENTS AS SHOWN ON THIS PLAN. THIS OFFER OF DEDICATION SHALL BE A RESTRICTIVE COVENANT THAT RUNS WITH THE LAND WHICH MAY BE ENFORCED AND ACCEPTED BY THE TOWNSHIP AGAINST ALL SUCCESSORS AND ASSIGNS IN TITLE.

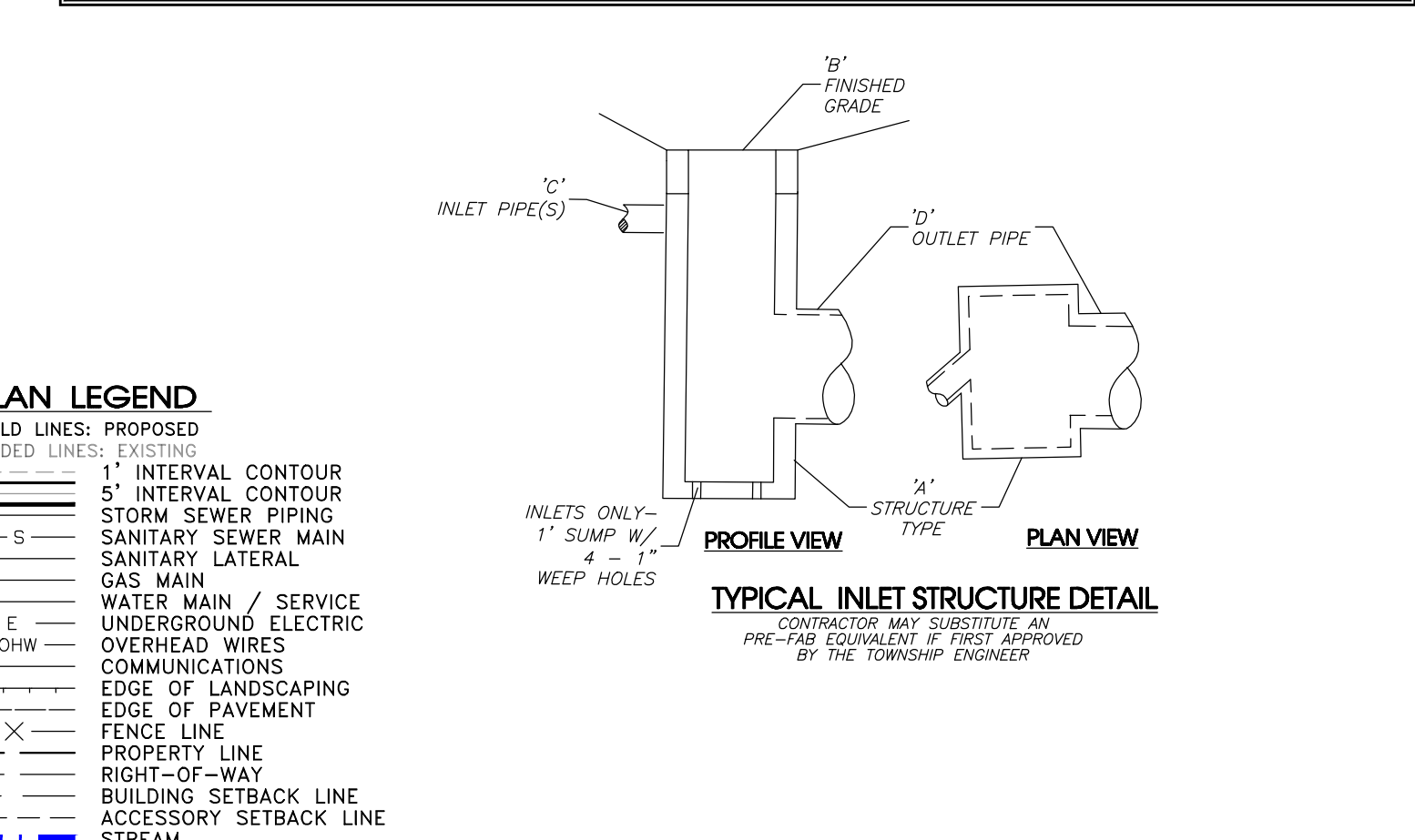
SANITARY LINES MIN DEPTH & SEPARATION
• MINIMUM DEPTH OF COVER FOR ALL PIPE SEWERS SHALL BE 5 FEET.
• A MINIMUM 10-FOOT HORIZONTAL AND 18-INCH VERTICAL SEPARATION MUST BE MAINTAINED BETWEEN THE SANITARY SEWER AND THE WATER AND STORM SEWER LINES.

EASEMENT PLANTING PROHIBITED
PLANTINGS OTHER THAN GRASS ARE PROHIBITED WITHIN THE SANITARY SEWER EASEMENTS.

SANITARY LINES PLACED IN FILL
WHEN PIPE IS TO BE LAID IN FILL, THE EMBANKMENT HEIGHT SHALL BE AT LEAST FOUR FEET ABOVE THE TOP OF PIPE BEFORE THE TRENCH IS EXCAVATED. COMPACT EMBANKMENT MATERIAL TO A MINIMUM FINAL DENSITY OF NOT LESS THAN 90% OF THE MAXIMUM DRY WEIGHT DENSITY AT ITS OPTIMUM MOISTURE CONTENT.



IN PIPES												OUT PIPE		
ID	'A' TYPE	'B' GRADE	'C' PIPE ID	'C' DIA (IN)	'C' MAT'L	'C' INV	'D' PIPE ID	'D' DIA (IN)	'D' MAT'L	'D' INV				
BEECHTREE SANITARY MAIN														
PSANH-1	4" ECC	411.30	-	-	-	-	PP-S1	8	SDR35 PVC	387.64	PP-S2	8	SDR35 PVC	400.99
PSANH-2	4" ECC	393.60	PP-S1	8	SDR35 PVC	387.64	PP-S2	8	SDR35 PVC	387.62	PP-S3A	8	SDR35 PVC	403.28
PSANH-3A	4" ECC	407.00	-	-	-	-	PP-S3A	8	SDR35 PVC	403.28	-	-	-	-
PSANH-3	4" ECC	391.20	PP-S3A	8	SDR35 PVC	383.04	PP-S4	8	SDR35 PVC	383.00	-	-	-	-
PSANH-4	4" ECC	386.72	PP-S3	8	SDR35 PVC	380.74	PP-S4	8	SDR35 PVC	380.72	-	-	-	-
PSANH-4A	4" ECC	370.00	PP-S4A	8	SDR35 PVC	356.64	PP-S5	8	SDR35 PVC	356.62	-	-	-	-
EX MHOLE	EXISTING	360.00	PP-S6	8	SDR35 PVC	351.37	-	-	-	-	-	-	-	-
			EX A	8	DIP	350.33	EX B	8	DIP	350.28	-	-	-	-
MID-LOT SANITARY MAIN														
PSANH-7	4" ECC	373.50	-	-	-	-	PP-S7	8	SDR35 PVC	369.78	-	-	-	-
PSANH-8	4" ECC	369.76	PP-S7	8	SDR35 PVC	366.04	PP-S8	8	SDR35 PVC	366.02	-	-	-	-
RADNOR BEECHTREE STORM MAIN														
PI-R1A	C INLET	405.50	-	-	-	-	PP-R1A	15	HDPE	402.63	-	-	-	-
PI-R1B	C INLET	392.53	-	-	-	-	PP-R1B	15	HDPE	388.87	-	-	-	-
PI-R1C	C INLET	394.39	PP-R1A	15	HDPE	391.52	PP-R1B	15	HDPE	388.87	-	-	-	-
PSTH-18	4" ECC	403.00	PO-17	8	HDPE	400.13	PP-18	8	HDPE	400.11	-	-	-	-
PI-R2	C INLET	390.50	PO-18	8	HDPE	387.63	-	-	-	-	-	-	-	-
			PO-14	8	HDPE	387.63	-	-	-	-	-	-	-	-
PI-R3A	C INLET	387.90	PP-R1C	15	HDPE	383.77	PP-R2	15	HDPE	383.75	-	-	-	-
PI-R3B	C INLET	387.00	PP-R3A	15	HDPE	384.13	PP-R3B	15	HDPE	385.03	-	-	-	-
			PO-13	8	HDPE	#REF!	-	-	-	-	-	-	-	-
			PP-R2	15	HDPE	381.36	PP-R3B	15	HDPE	381.34	-	-	-	-
PI-R4	C INLET	385.30	PO-12	8	HDPE	#REF!	-	-	-	-	-	-	-	-
			PP-R3B	15	HDPE	380.13	PP-R4	15	HDPE	380.13	-	-	-	-
OUTFALL A3	ENDWALL	365.00	-	-	-	-	PP-R4	15	HDPE	361.00	-	-	-	-
MID-LOT STORM MAIN														
PSTMH-2	MANHOLE	380.22	PO-8	8	HDPE	378	PP-9A	8	HDPE	377.98	-	-	-	-
PSTMH-3	MANHOLE	375.00	PP-9A	8	HDPE	372.78	-	-	-	-	-	-	-	-
PSTMH-4	MANHOLE	372.40	PO-6	8	HDPE	372.78	PP-9B	12	HDPE	372.61	-	-	-	-
PSTMH-5	MANHOLE	366.50	PP-10	12	HDPE	363.63	PP-11	12	HDPE	360.13	-	-	-	-
OUTFALL A5	ENDWALL	364.00	-	-	-	-	-	-	-	-	-	-	-	-
WEST WALNUT STORM MAIN														
PI-R5	C INLET	374.66	EX A	15	CMP	371.16	EX B	15	CMP	370.01	-	-	-	-
PI-R6A	C INLET	368.60	-	-	-	-	PP-R6A	15	HDPE	365.73	-	-	-	-
PI-R6B	C INLET	363.90	PO-3	8	HDPE	359.30	-	-	-	-	-	-	-	-
			PP-R6A	8	HDPE	361.03	PP-R6B	15	HDPE	359.28	-	-	-	-
PI-R7	C INLET	358.96	PP-R6B	15	HDPE	356.09	-	-	-	-	-	-	-	-
			PO-2	8	HDPE	355.20	PP-R7	15	HDPE	355.18	-	-	-	-
OUTFALL A7	EX INLET	352.26	EX A	15	CMP	347.71	-	-	-	-	-	-	-	-
			PP-R7	15	HDPE	349.39	EX B	15	CMP	347.56	-	-	-	-



BASE SURVEY PLAN
"BOUNDARY & TOPOGRAPHIC SURVEY" PREPARED FOR EASTERN UNIVERSITY, PREPARED BY CONTROL POINT ASSOCIATES, INC., DATED MARCH 31, 2010, LAST REVISED DECEMBER 20, 2019. SEE EXISTING FEATURES SHEET FOR COMPLETE LIST OF NOTES AND REFERENCES.

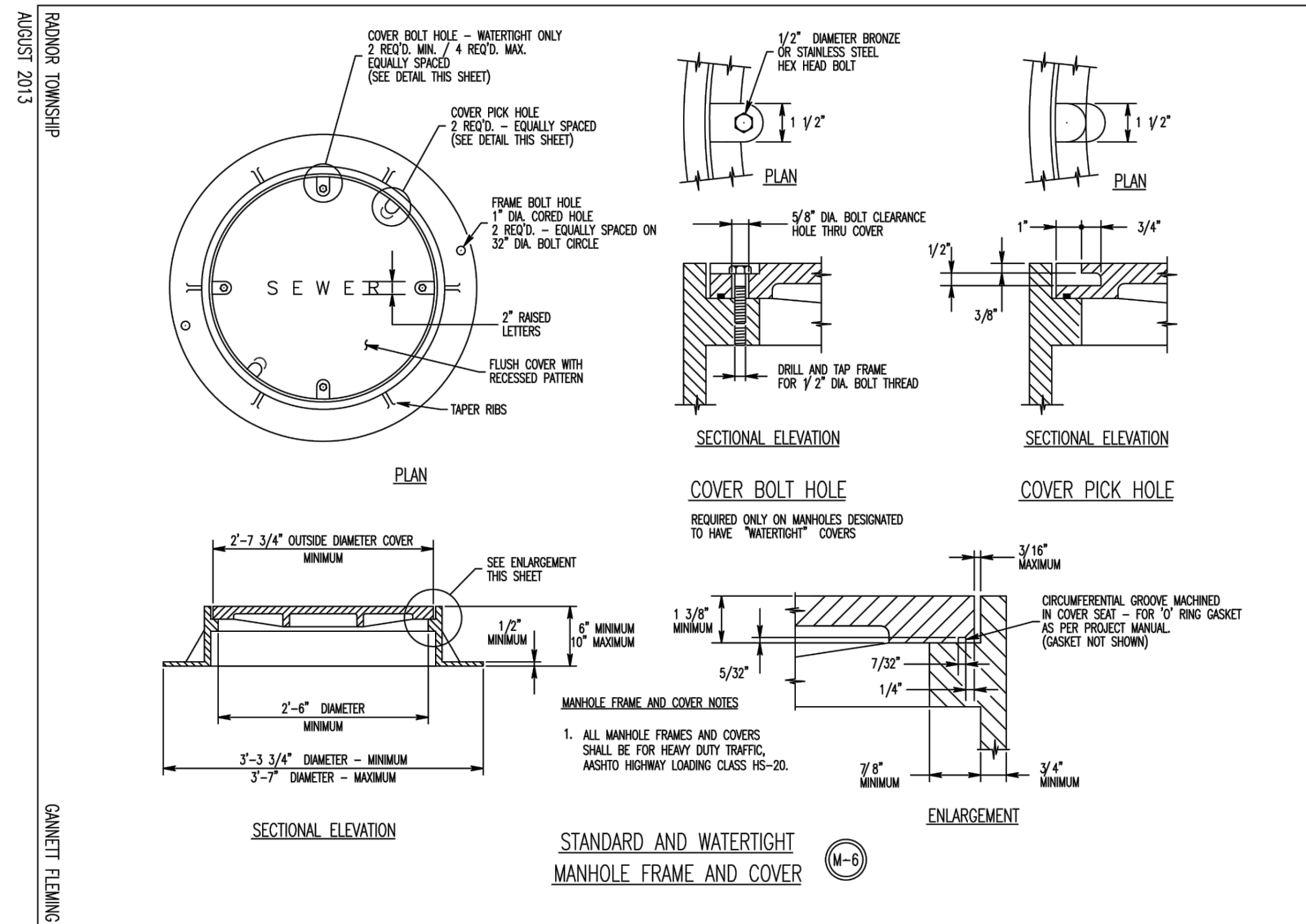
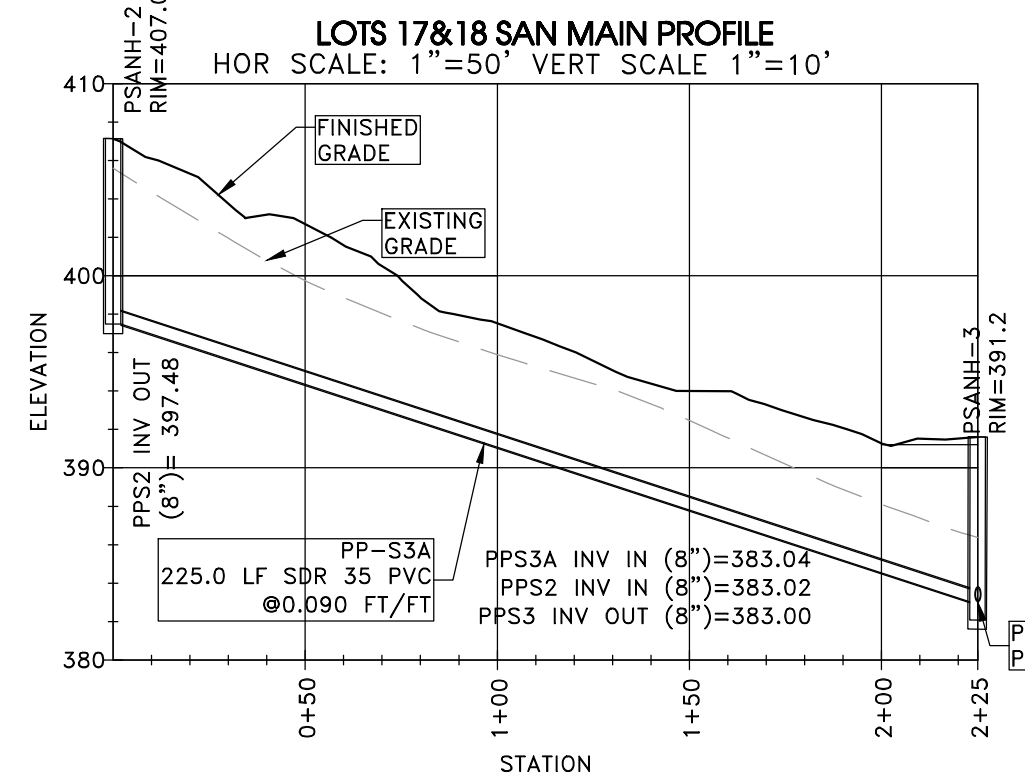
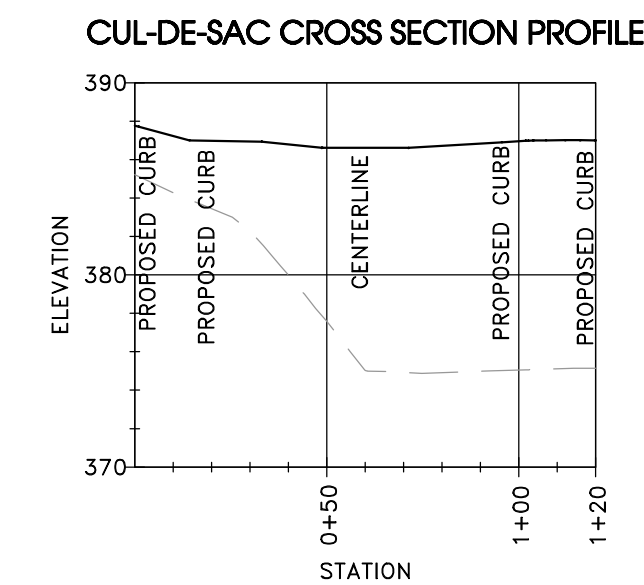
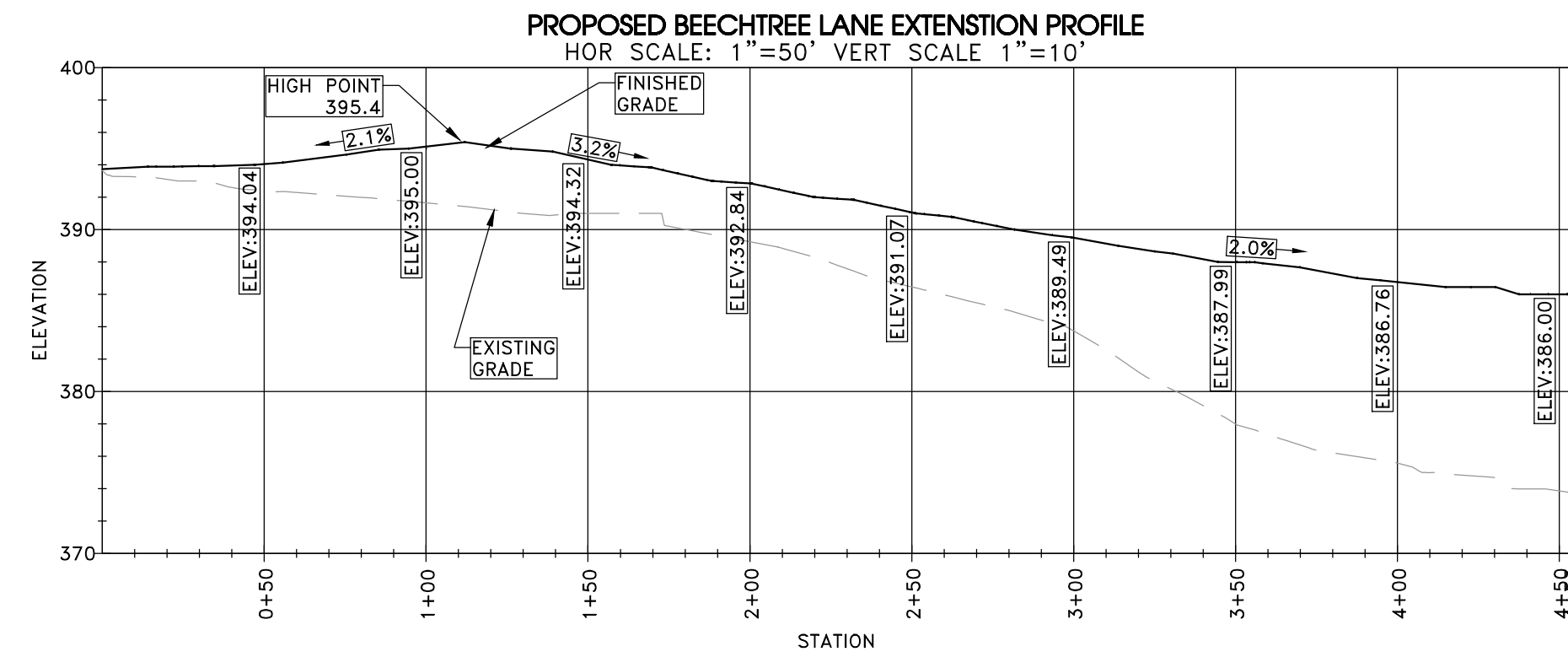
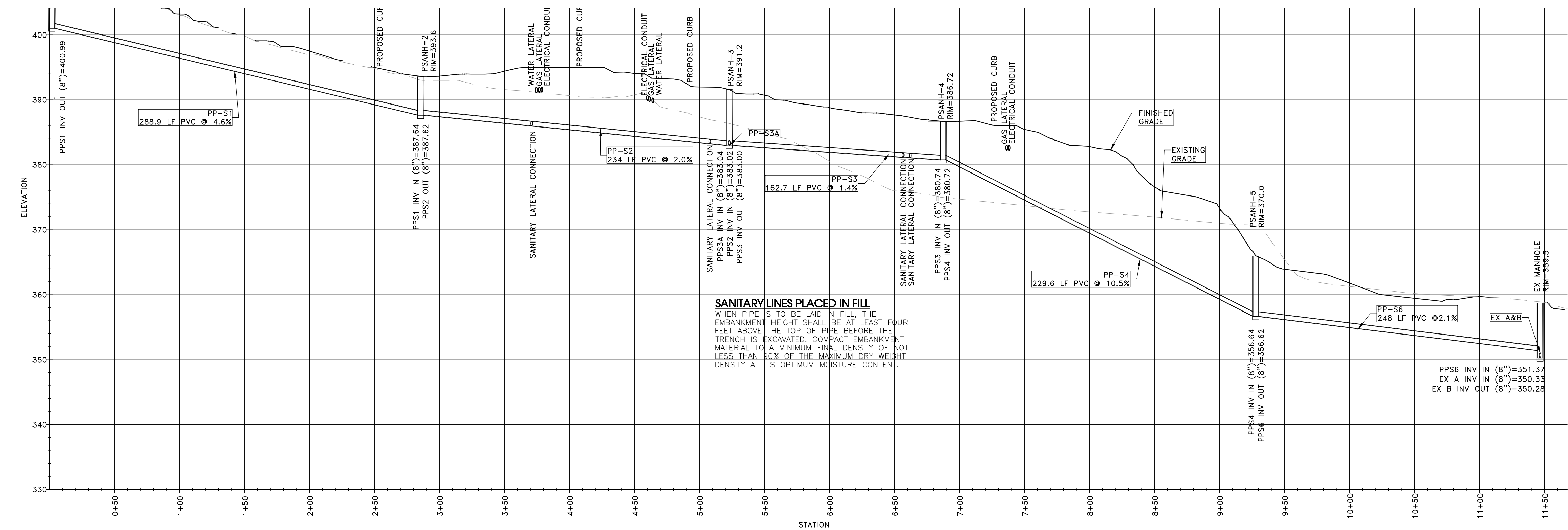
NUM.	DATE	REVISION
1.	12/7/2020	REVISE PER TOWNSHIP REVIEW LETTERS AND PC INPUT
1.	9/18/2020	RELOCATE LOT 1 DRIVEWAY
		REVISION

PLAN PREPARED BY:
SITE ENGINEERING CONCEPTS, LLC
P.O. BOX 1992
SOUTHEASTERN, PA 19399
P: 610-240-0450 F: 610-240-0451 E: INFO@SITE-ENGINEERS.COM

PRELIMINARY/FINAL SUBDIVISION AND LAND DEVELOPMENT PLAN
PLAN PREPARED FOR:
CG WAYNE, LLC
EAGLE & RADNOR ROAD, WAYNE, PA 19087

RADNOR TOWNSHIP DELAWARE COUNTY PENNSYLVANIA
SEPT. 15, 2020

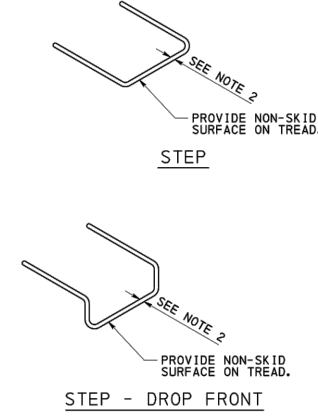
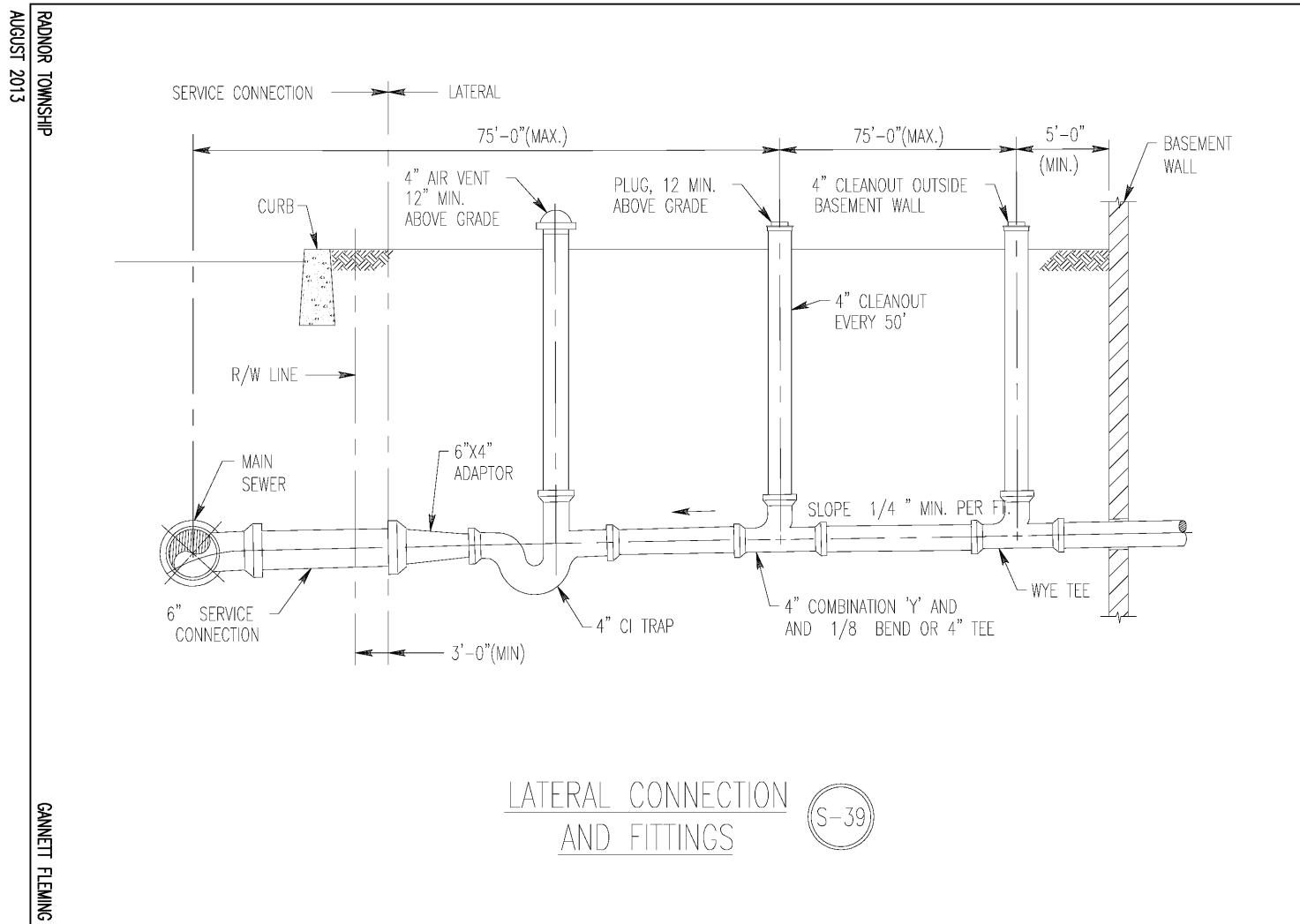
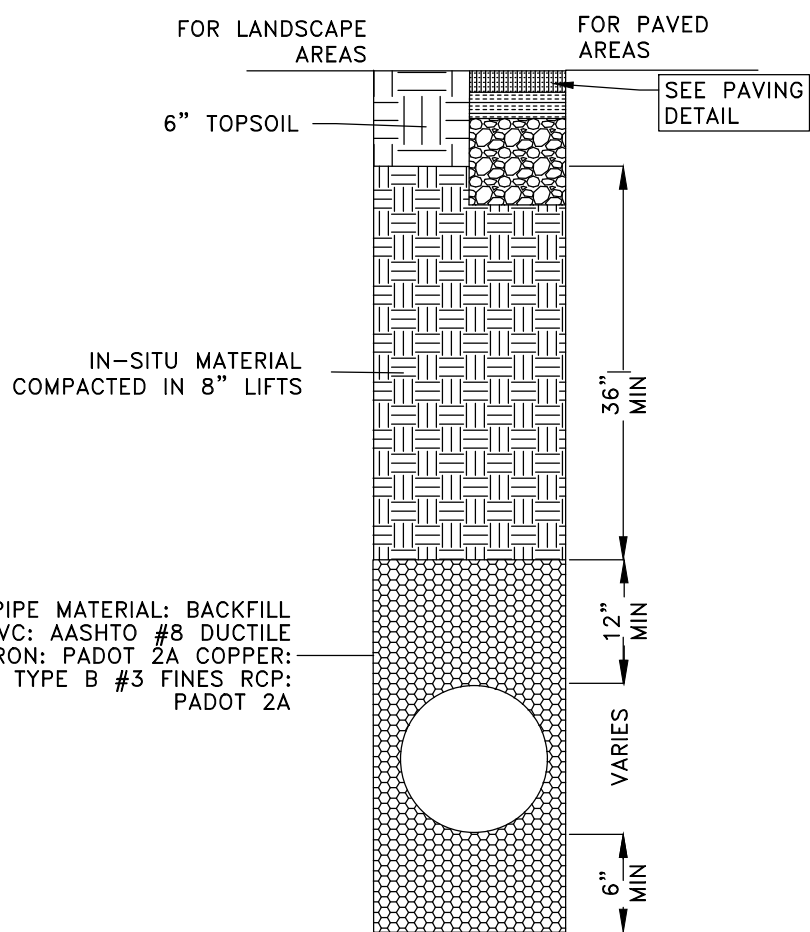
UTILITY PLAN
SHEET 11 of 16
SCALE: 1" = 50'



SANITARY MANHOLE LID ELEVATIONS

- ALL MANHOLES NOT LOCATED IN THE PAVED AREAS MUST BE EQUIPPED WITH WATERTIGHT FRAMES AND COVERS.
- MANHOLES IN NON-IMPROVED AREAS MUST BE EXTENDED 18 INCHES ABOVE GRADE

Line ID	Node		Length (feet)	Invert		Slope (ft/ft)	Pipe Size (inch)	Pipe Material	Pipe Capacity	Ground Elevation		Cover	
	U/S	D/S		U/S	D/S					U/S	D/S	U/S	D/S
PIPE RUN TABLE - BEECHTREE LANE SANITARY MAIN													
PP-S1	PSANH-1	PSANH-2	288.90	400.99	387.64	0.046	8	PVC	3.75	411.30	393.60	9.64	5.29
PP-S2	PSANH-2	PSANH-3	234.00	387.62	383.04	0.020	8	PVC	2.44	393.60	391.20	5.31	7.49
PP-S3A	PSANH-3A	PSANH-3	225.00	403.28	383.04	0.090	8	PVC	5.24	407.00	391.20	3.05	7.49
PP-S3	PSANH-3	PSANH-4	162.70	383.00	380.74	0.014	8	PVC	2.06	391.20	386.72	7.53	5.31
PP-S4	PSANH-4	PSANH-5	229.60	380.72	356.64	0.105	8	PVC	5.65	386.72	370.00	5.33	12.69
PP-S5	PSANH-5	EXISTING	139.90	356.62	351.37	0.038	8	PVC	3.38	370.00	360.00	12.71	7.96
PIPE RUN TABLE - BEECHTREE LANE STORM MAIN													
PP-R1A	PI-R1A	PI-R1C	195.50	402.63	391.52	0.057	15	PVC	22.24	405.50	392.53	1.62	-0.24
PP-R1B	PP-R1B	PI-R1C	37.00	389.66	388.89	0.021	15	PVC	13.46	392.53	392.53	1.62	2.39
PP-R1C	PI-R1C	PI-R2	250.90	388.87	383.77	0.020	15	PVC	13.30	392.53	390.50	2.41	5.48
PP-R18	PSTH-18	PI-R2	224.00	400.11	387.63	0.056	8	PVC	4.12	403.00	390.50	2.22	2.20
PP-R2	PI-R2	PI-R3B	116.50	383.75	381.36	0.021	15	PVC	13.36	390.50	387.00	5.50	4.39
PP-R3A	PI-R3A	PI-R3B	37.00	385.03	384.13	0.024	15	PVC	14.55	387.00	387.00	1.62	1.62
PP-R3B	PI-R3B	PI-R4	56.10	381.34	380.13	0.022	15	PVC	13.70	387.00	385.30	4.41	3.92
PP-R4	PI-R4	OUTFALL A3	287.80	380.13	361.00	0.066	15	PVC	24.06	385.30	365.00	3.92	2.75
PIPE RUN TABLE - MID-LOT STORM MAIN													
PP-9A	PSTH-2	PSTH-3	84.50	377.98	372.78	0.062	8	PVC	4.33	380.22	375.00	1.57	1.55
PP-9B	PSTH-3	PSTH-4	181.40	372.61	368.90	0.020	12	PVC	7.36	375.00	372.40	1.39	2.50
PP-10	PSTH-4	PSTH-5	253.90	368.88	363.63	0.021	12	PVC	7.40	372.40	366.50	2.52	1.87
PP-11	PSTH-5	OUTFALL A5	67.10	363.61	360.13	0.052	12	PVC	11.72	366.50	364.00	1.89	2.87
PIPE RUN TABLE - WALNUT LANE STORM MAIN													
PP-R6A	PI-R6A	PI-R6B	151.00	365.73	361.03	0.031	15	PVC	16.46	368.60	363.90	1.62	1.62
PP-R6B	PI-R6B	PI-R7	131.00	359.28	356.09	0.024	15	PVC	14.56	363.90	358.96	3.37	1.62
PP-R7	PI-R7	OUTFALL A7	157.10	355.18	349.39	0.037	15	PVC	17.91	358.96	352.26	2.53	1.62

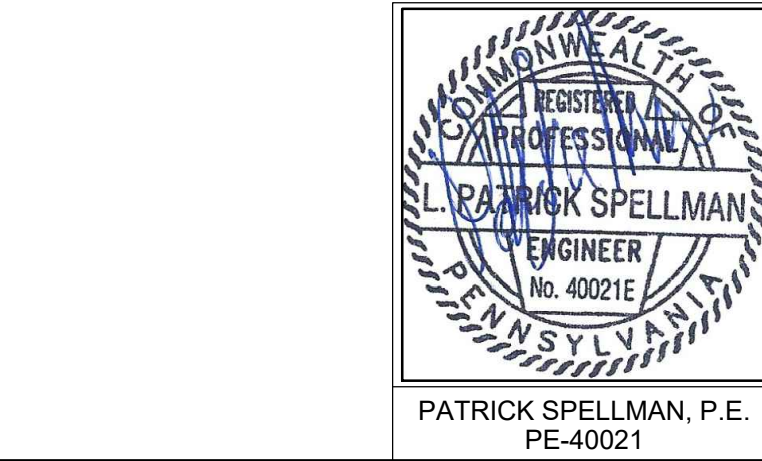


TYPICAL STEP CONFIGURATION MANHOLE STEPS

MANHOLE STEP NOTES:

1. PROVIDE MANHOLE STEPS SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
2. PROVIDE WITH MIN. 1" SECTION DIMENSION ON FOR METAL STEPS, PROVIDE 2" SECTION DIMENSION FOR NON-DETERIORATING MATERIAL STEPS.
3. SECURELY EMBED MANHOLE STEPS INTO INSERTS CAST INTO THE WALLS OR PREFORMED HOLES.
4. PROVIDE UNIFORM SPACING OF MANHOLE STEPS WITHIN A MANHOLE/INLET ASSEMBLY.
5. SEE GENERAL NOTE 12 ON SHEET 1.

REFERENCE: PADOT RC-39M, SHT 10, 9/15/2016

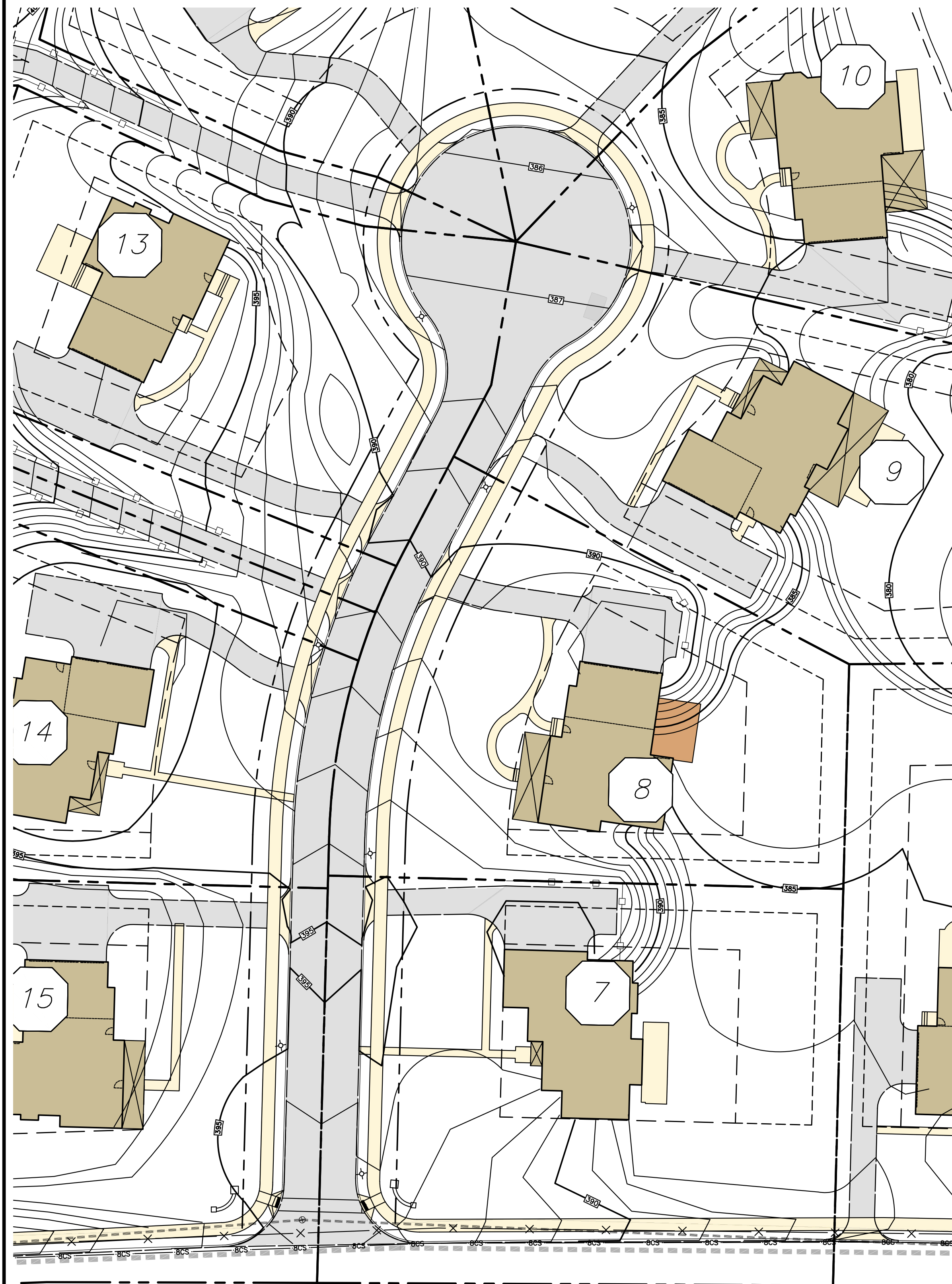


1. 12/7/2020 REVISE PER TOWNSHIP REVIEW LETTERS AND PC INPUT

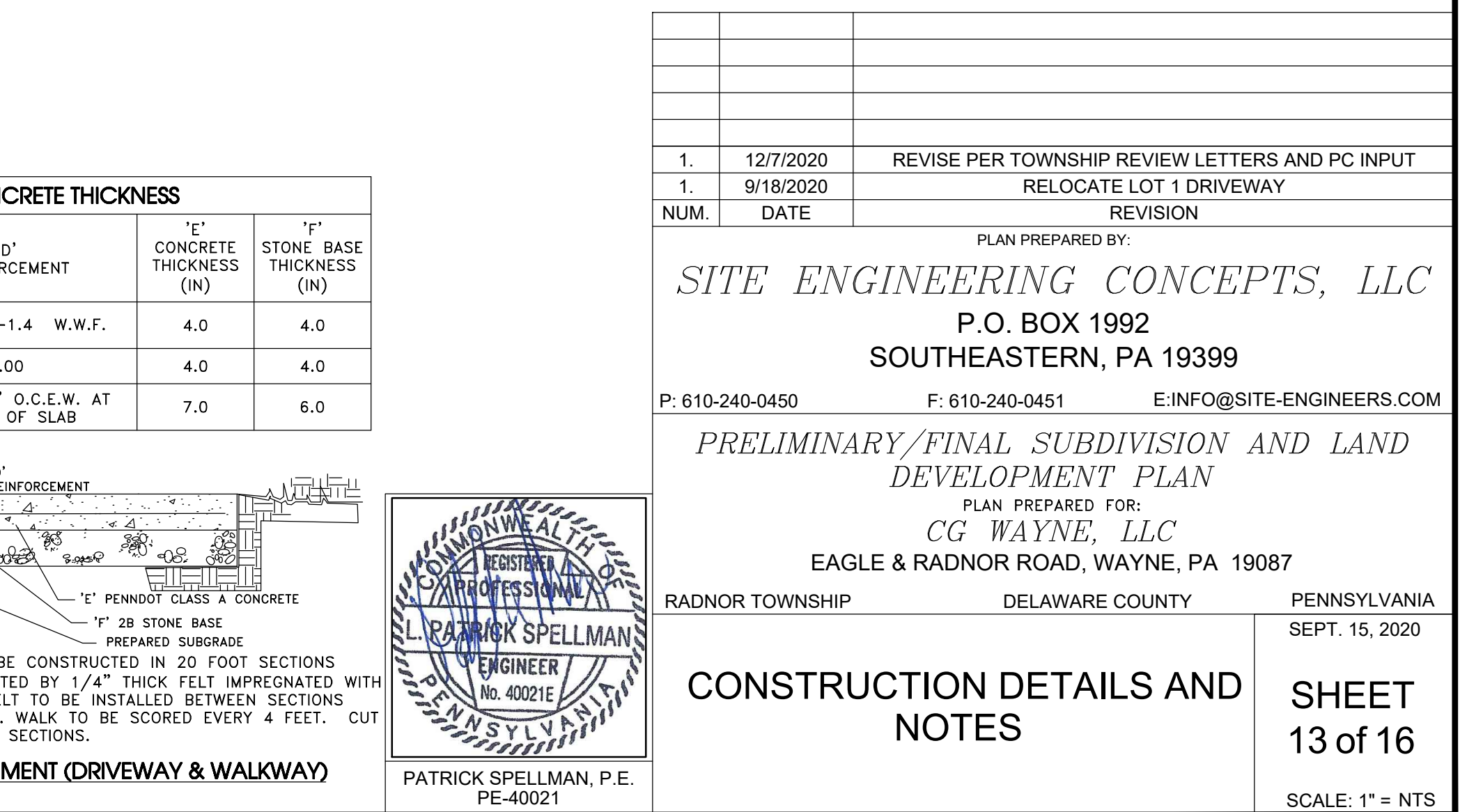
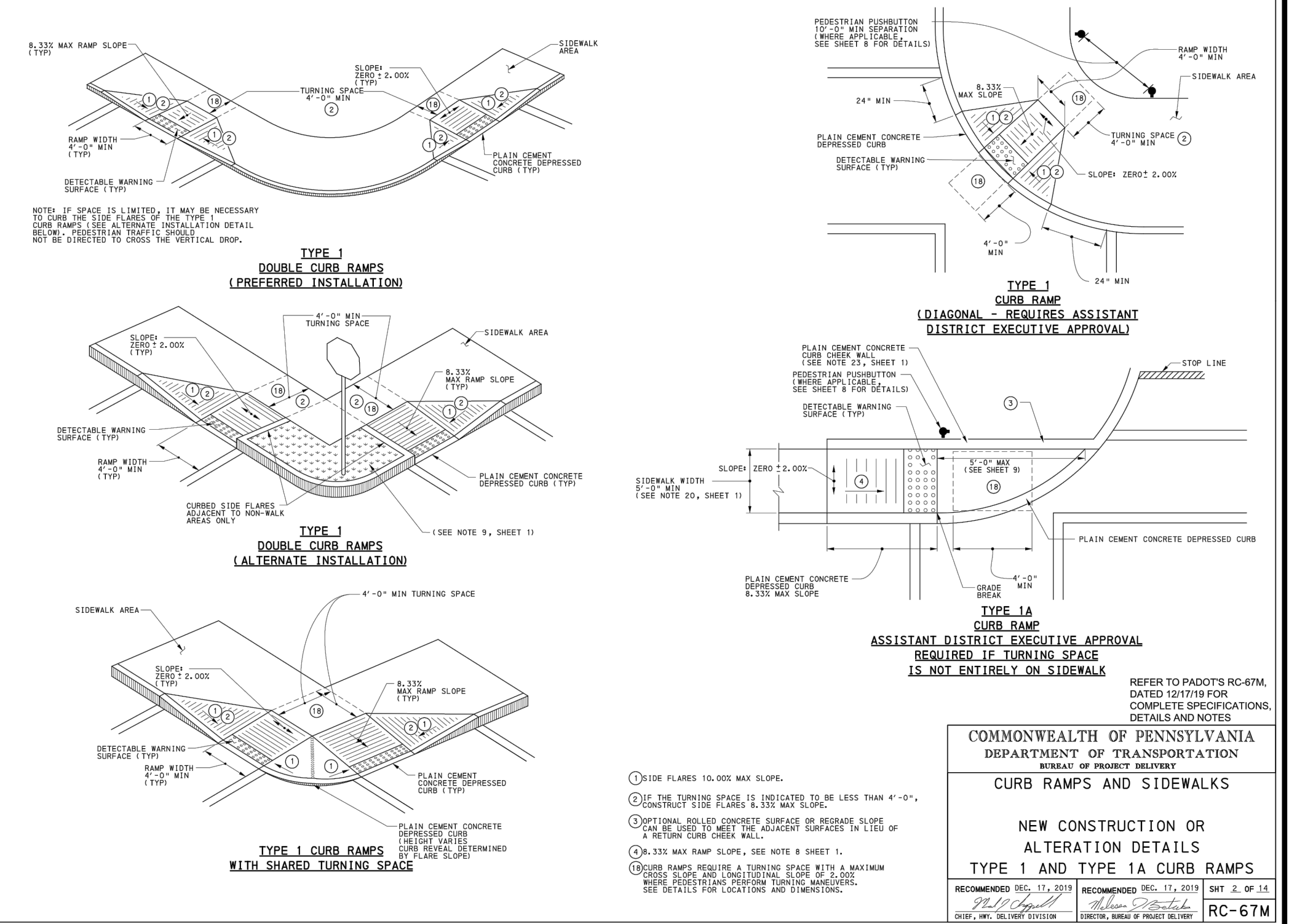
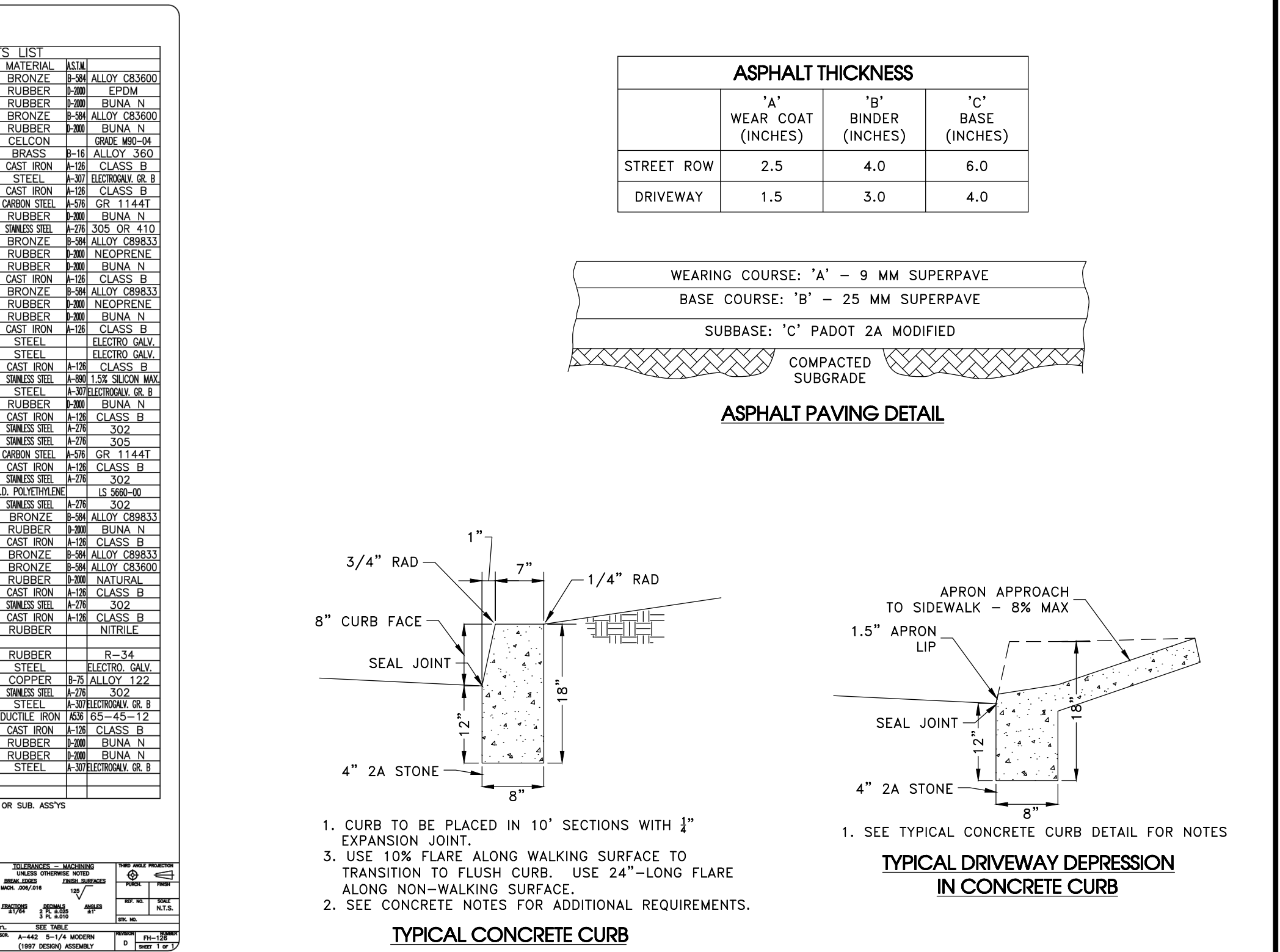
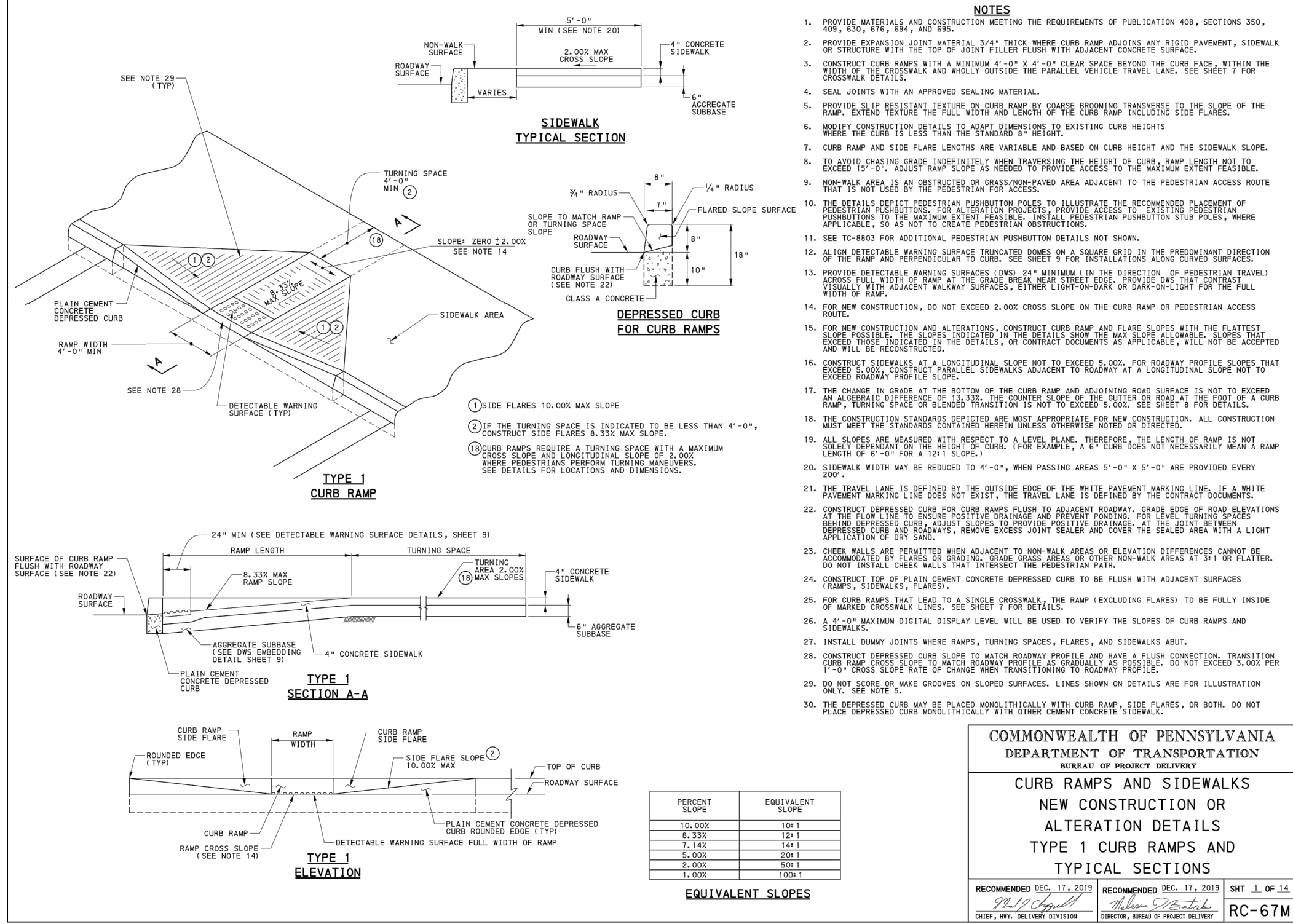
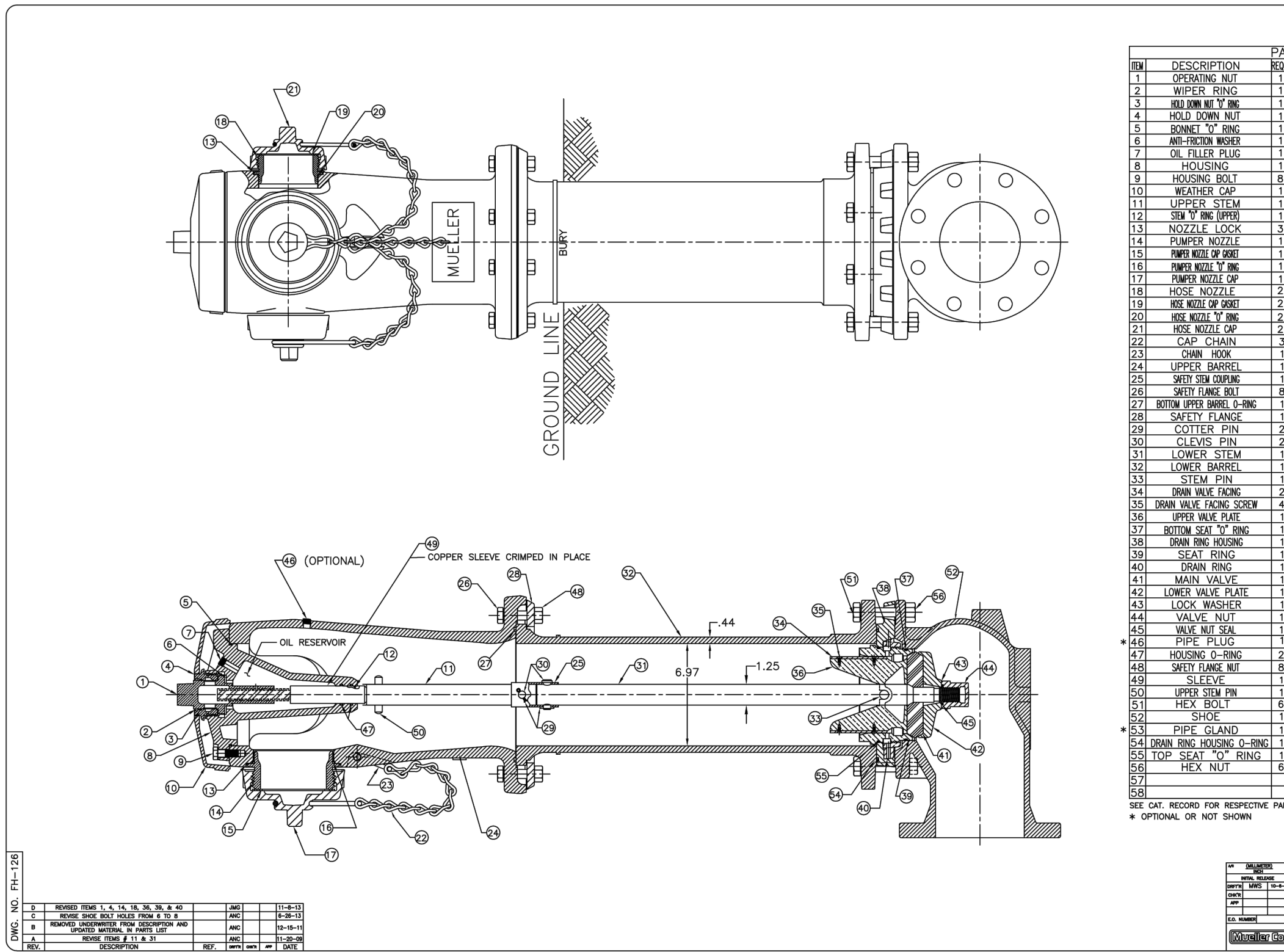
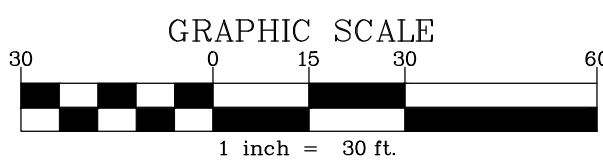
1. 9/18/2020 RELOCATE LOT 1 DRIVEWAY

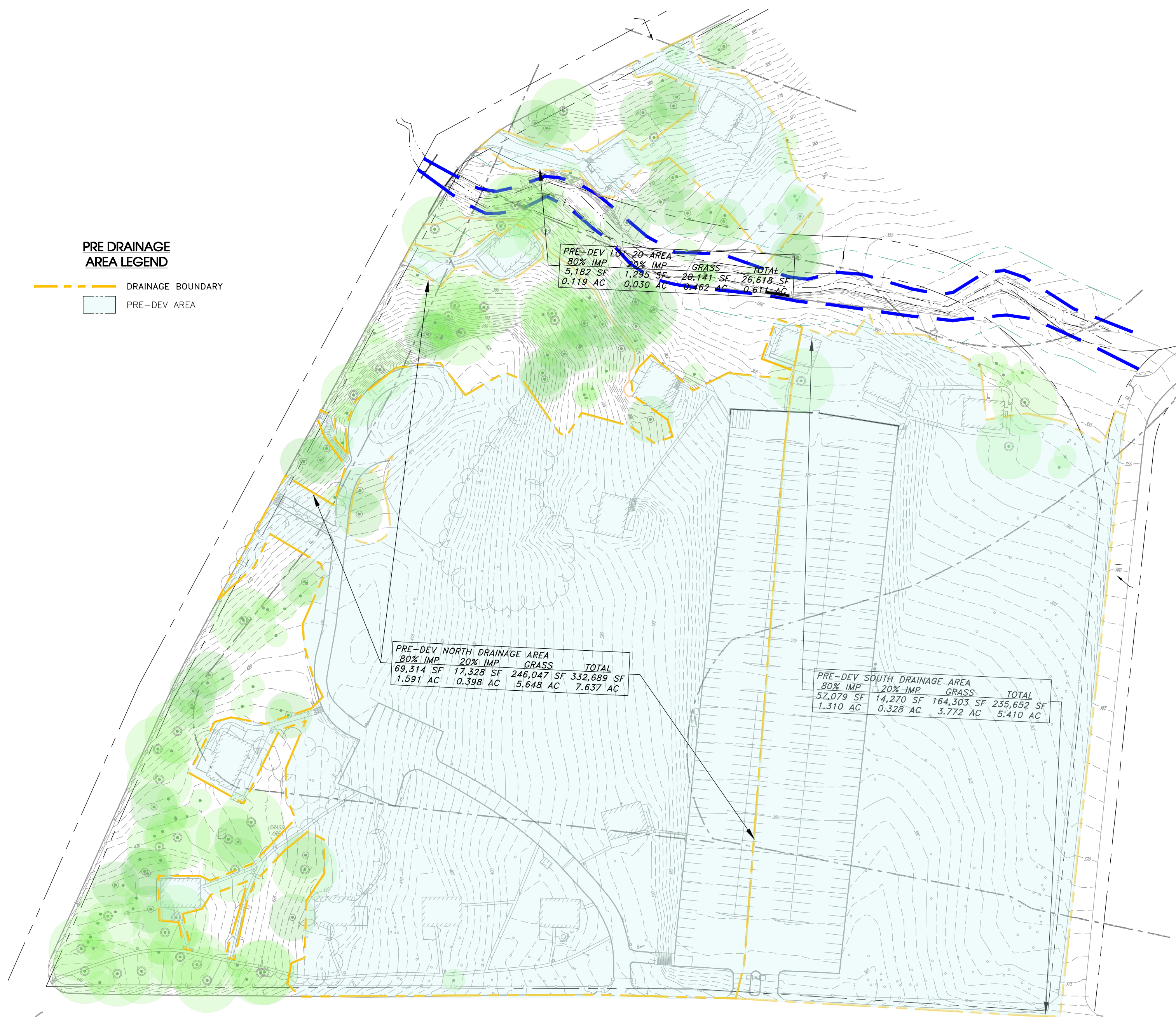
NUM. DATE REVISION

PLAN PREPARED BY:
SITE ENGINEERING CONCEPTS, LLC
P.O. BOX 1992
SOUTHEASTERN, PA 19399
P: 610-240-0450 F: 610-240-0451 E: INFO@SITE-ENGINEERS.COM
PRELIMINARY/FINAL SUBDIVISION AND LAND DEVELOPMENT PLAN
PLAN PREPARED FOR:
CG WAYNE, LLC
EAGLE & RADNOR ROAD, WAYNE, PA 19087
RADNOR TOWNSHIP DELAWARE COUNTY PENNSYLVANIA
SEPT. 15, 2020
SANITARY PROFILES AND CONSTRUCTION DETAILS
SHEET 12 of 16
AS NOTED

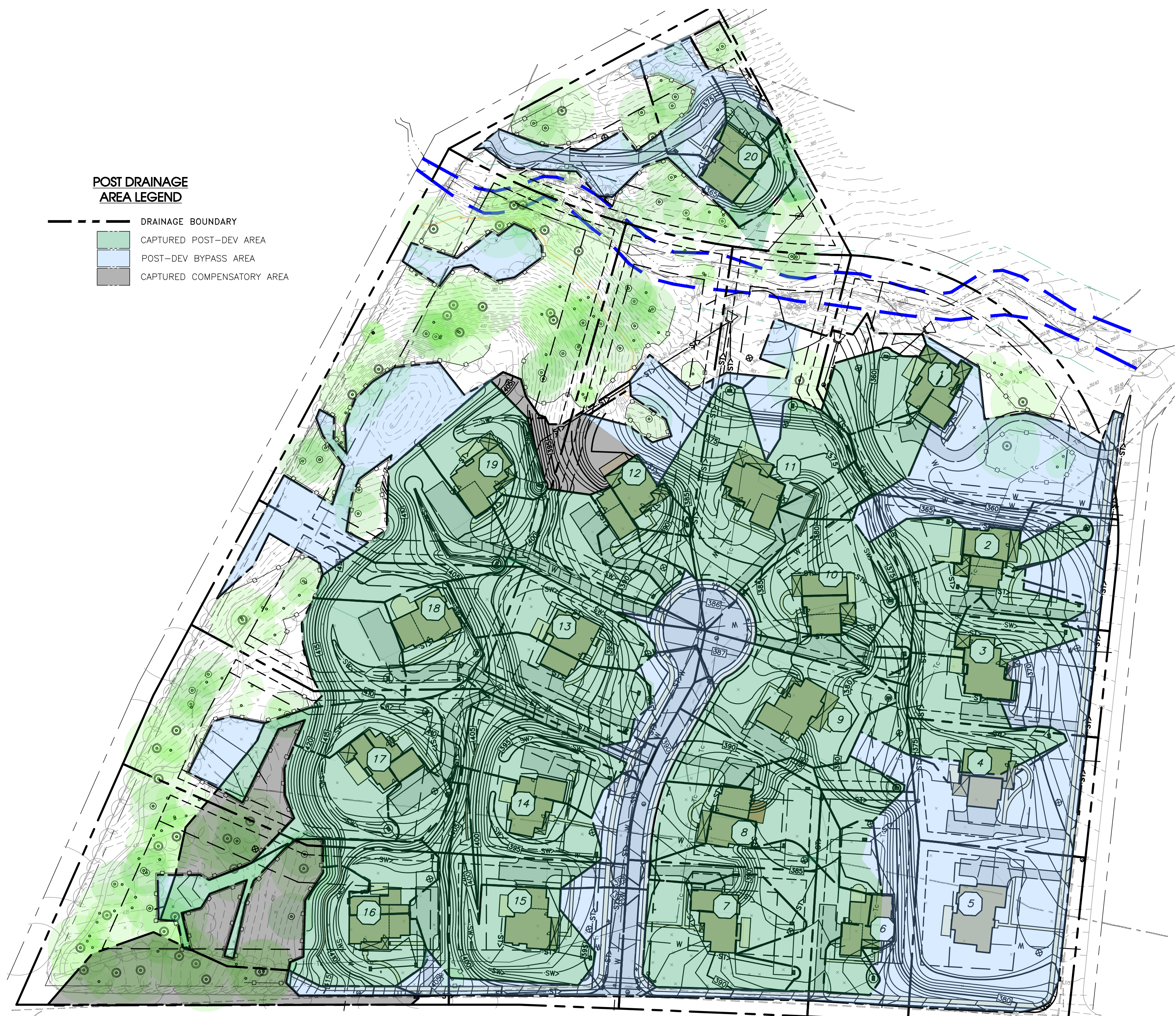
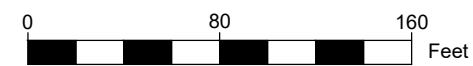


EMERGENCY VEHICLE TURNING TEMPLATE

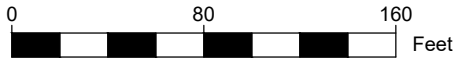




PRE DRAINAGE AREAS



POST DRAINAGE AREAS



PATRICK SPELLMAN, P.E.
PE-40021

1. 12/7/2020 REVISE PER TOWNSHIP REVIEW LETTERS AND PC INPUT		
1. 9/18/2020 RELOCATE LOT 1 DRIVEWAY		
NUM.	DATE	REVISION
PLAN PREPARED BY:		
SITE ENGINEERING CONCEPTS, LLC		
P.O. BOX 1992		
SOUTHEASTERN, PA 19399		
P: 610-240-0450 F: 610-240-0451 E: INFO@SITE-ENGINEERS.COM		
PRELIMINARY/FINAL SUBDIVISION AND LAND DEVELOPMENT PLAN		
PLAN PREPARED FOR:		
CG WAYNE, LLC		
EAGLE & RADNOR ROAD, WAYNE, PA 19087		
RADNOR TOWNSHIP	DELAWARE COUNTY	PENNSYLVANIA
DRAINAGE MAPS		SHEET 14 of 16
		AS NOTED

RADNOR TOWNSHIP TREE REPLACEMENT FORMULA:
For every tree greater than 30" DBH, 6 Trees will be planted, 4 of which will be Canopy Trees

For every tree between 19 and 29" DBH, 3 Trees will be planted, 2 of which will be Canopy Trees

For every tree between 6 and 18" DBH, 1 Tree will be planted.

TREES TO BE REMOVED

Symbol	Count	Size/Quality	Replacement Requirement: total trees	number of which must be canopy trees
	17	Heritage Tree (30"+)	102	68
	21	19-29" DBH	63	42
	65	6-18" DBH	65	0
	73	<5" DBH	0	0
	41	Hazards/>30% Dead	0	0
		Total Required	230	110

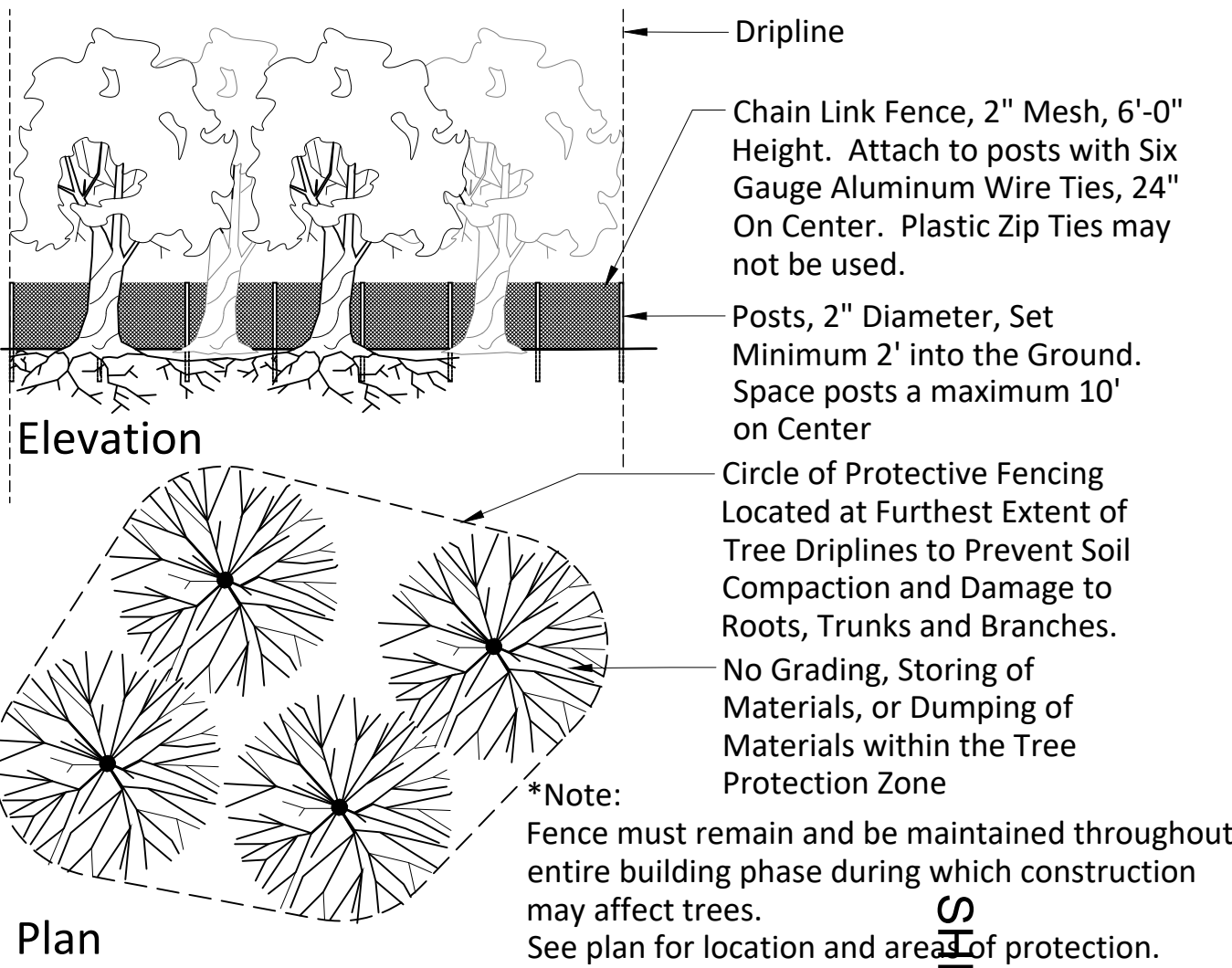
TREES PRESERVED
(Shaded Area Indicates Approx. Root Zone)

	41	Heritage Tree (30"+)
	46	19-29" DBH
	90	6-18" DBH
	15	<5" DBH
	41	Transplant

----- Proposed Limit of Disturbance
----- Proposed Tree Fence Location
DBH, Type Inventory Key* Information for Trees to be Removed
*Hazard Trees Will be Inventoried for Shade Tree Review

NOTE:
ALL TRANSPLANTS WILL BE PLANTED IN AREAS OUTSIDE OF THE LIMIT OF DISTURBANCE TO ALLOW FOR A SINGLE MOVE. SEE SHEET L101 FOR LOCATION OF TRANSPLANTS.

ALL TRANSPLANTS TO INCLUDE ONGOING WATERING THROUGH THE FIRST GROWING SEASON AND SUPPLEMENTAL WATERING DURING PERIODS OF DROUGHT THROUGH THE SECOND AND THIRD GROWING SEASONS.



NOTES:
THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE
THE LANDSCAPE ARCHITECT IS NOT RESPONSIBLE FOR
THE DESIGN OF THE STRUCTURE OR THE FOUNDATION
ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS
DRAWING SHALL BE USED TO CONSTRUCT OR FOR ANY
OTHER PURPOSE. THE CONTRACTOR SHALL BE RESPONSIBLE
FOR KNOWING HOW THEY AFFECT THE WORK. THE
LANDSCAPE ARCHITECT SHALL NOT BE RESPONSIBLE FOR
ACKNOWLEDGMENT OF THESE RESPONSIBILITIES, AND
THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING
THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR
CHARGES DUE TO THESE CONDITIONS WILL BE
FORTHCOMING.

JONATHAN LANDSCAPE
ALDERSON ARCHITECTS, LLC
Post Office Box 661 Wayne, Pennsylvania 19087-0661
(610) 341-9925 Fax (610) 341-9926
e-mail: Information@jonathanalderson.com

EASTERN DEVELOPMENT
WAYNE
PENNSYLVANIA

ISSUED:
Land Development 08/28/2020
Draft 12/08/2020
Revision
DATE: 2020-12-08
CHECKED: JF
DRAWN BY: JF
PROJECT #: 00650
SHEET: 15 OF 16

L001
Tree Removals
and
Preservation
Plan
SCALE: 1" = 50'

