DISTRICT	COUNTY	TOWNSHIP	CITY	ROUTE	SECTION	TOTAL SHEETS
6-0	MONTGOMERY	CHELTENHAM			TCB	13

ECMS NO. 108008

CHELTENHAM TOWNSHIP

ALSO INCLUDED:

EROSION AND SEDIMENT POLLUTION CONTROL PLAN	5 SHEETS
STRUCTURE PLANS	
PREFABRICATED PEDESTRIAN BRIDGE	1 SHEET
BRIDGE ABUTMENT	7 SHEETS

DRAWINGS
FOR
CONSTRUCTION
OF
TOOKANY CREEK TRAIL, PHASE III
IN
MONTGOMERY COUNTY
OVER
TOOKANY CREEK

STA. 8+88.76 TO STA. 22+34.75 LENGTH 1,345.99 FT. 0.255 MI.

SCALE

HORIZONTAL 0 25 50 FEET

VERTICAL 0 5 10 FEET

(AND OTHER SCALES AS SHOWN ON PLAN)

DESIGN DESIGNATION

HIGHWAY CLASSIFICATION	- MULTI-USE TRAIL
DESIGN SPEED	- 18 MPH
PAVEMENT WIDTH	- 10 FT
BRIDGE CLEAR WIDTH	- 10 FT

PREPARED BY:

NV5

NV5, INC.
1315 WALNUT STREET, SUITE 900
PHILADELPHIA, PA 19107

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084505

DATE: 3/1/2022

RECOMMENDED

DISTRICT EXECUTIVE DATE

APPROVED

Robert A. Zienkowski

Digitally signed by Robert A. Zienkowski
DN: cn=Robert A. Zienkowski, o=Cheltenham Township, ou=Township Manager, email=rzienkowski@cheltenham-township.org, c=US
Date: 2022.03.01 11:25:50 -05'00'

CHELTENHAM TOWNSHIP MANAGER DATE

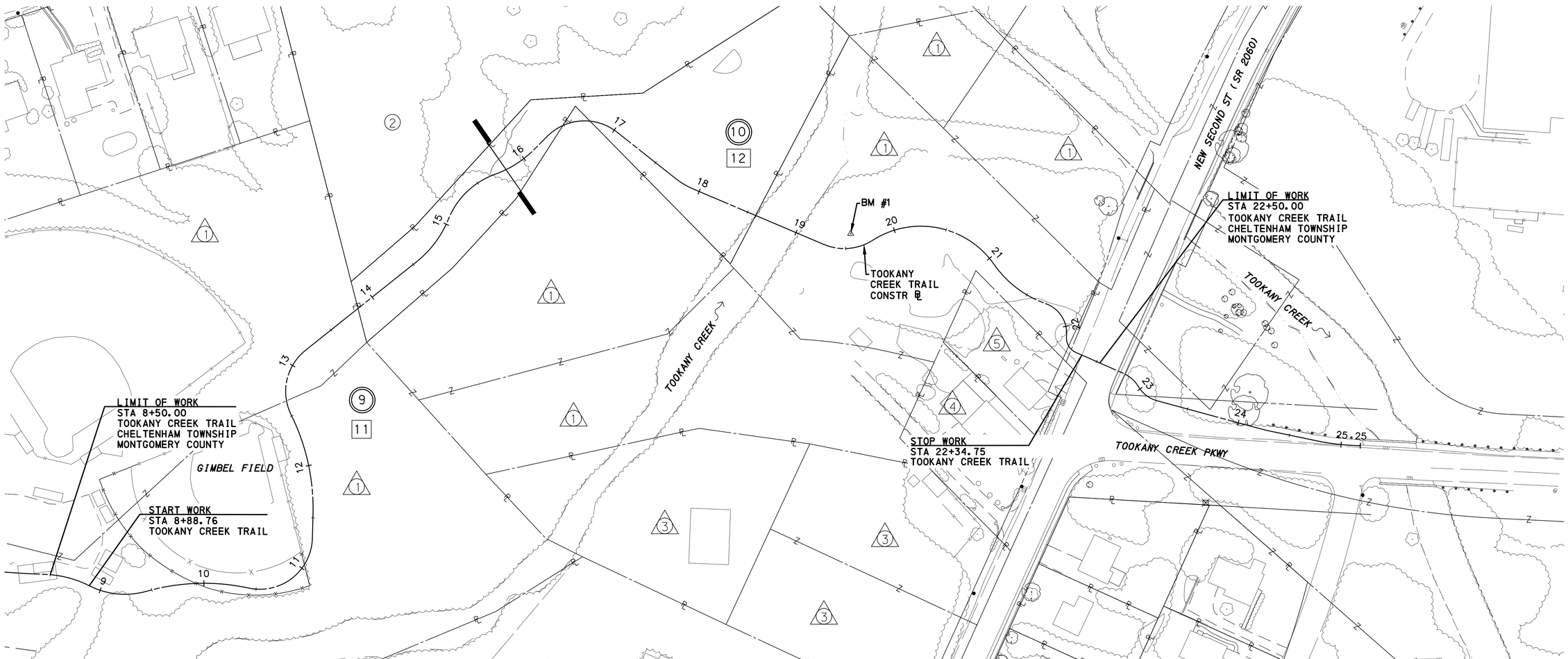
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	TCB	2 OF 13
CHELTENHAM TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SHEET INDEX

LIST OF PROPERTY OWNERS

1	CHELTENHAM TOWNSHIP
2	BERNSTEIN, DAVID C & ANNIKA B
3	KOROSTELEV, MICHAEL & ARSHED MORGAN
4	WALSH, DANIEL J & CAROL A
5	SAKASTIS, LOUIS



LEGEND

- PLAN SHEET
- PROFILE SHEET
- PARCEL IDENTIFICATION NUMBER
- PARCEL IDENTIFICATION NUMBER - NO TAKE
- SHEET BREAK

INDEX MAP

0 50 100

SCALE IN FEET

INDEX SHEET

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084591

DRAWING FILE: K:\3_PROJECTS\84748 Tookany Creek Trail\Technical\01-CADD\4-PlanSheets\TCB_INDEX.dwg
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USER: cloy.sublett

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	TCB	3 OF 13
CHELTENHAM TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY

PUBLIC UTILITIES

SYMBOL	OWNER	ADDRESS	REPRESENTATIVE	TELEPHONE
— S —	TWP OF CHELTENHAM, SANITARY SEWER	8101 OLD YORK ROAD ELKINS PARK, PA 19027	ALYSON E. ELLIOTT	215-887-6200 EXT. 110
— G —	TEXAS EASTERN (ENBRIDGE)	560 POTTSTOWN PIKE CHESTER SPRINGS, PA 19425	SCOTT FRYER	SCOTT.FRYER @ENBRIDGE.COM

EARTHWORK SUMMARY ENTIRE PROJECT

THE INFORMATION ON ESTIMATED AMOUNTS OF EARTHWORK HAS BEEN USED IN THE PRELIMINARY ESTIMATE. DO NOT USE AS A WAIVER OF ANY PROVISIONS OF THE SPECIFICATIONS AND CONTRACTS.

CUBIC YARDS OF EXCAVATION					CUBIC YARDS OF COMPLETED EMBANKMENT ✳	CUBIC YARDS OF BORROW EXCAVATION	CUBIC YARDS OF SELECT BORROW	CUBIC YARDS OF WASTE
CLASS 1	CLASS 1B	CLASS 2	CLASS 3	CLASS 4				
266	-	-	554	-	796	56	220	0

✳ INCLUDES ALL BORROW ITEMS.

GENERAL NOTES

1. DO NOT INTERFERE WITH THE OPERATION OF ANY FIRE HYDRANT, FIRE CALL BOX OR POLICE CALL BOX.
2. THREE WORKING DAYS PRIOR TO EXCAVATION, THE CONTRACTOR MUST CONTACT THE PA ONE CALL SYSTEM, INC., PHONE 1-800-242-1776. UTILITY INFORMATION DEPICTED HEREIN IS BASED ON PLANS PROVIDED THROUGH PENNSYLVANIA ONE CALL SERIAL NOS. 20142181840, 20142181855, 20142181872, 20142181897, 20142181949, 20142181967, 20142182031.
3. THIS IS A FEDERAL-AID PROJECT AND AS SUCH IS SUBJECT TO INSPECTION BY REPRESENTATIVES OF THE FEDERAL HIGHWAY ADMINISTRATION AND THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION. FEDERAL AID NUMBER IS PENDING.
4. THIS SURVEY IS SUBJECT TO CONDITIONS WHICH AN ACCURATE RIGHT-OF-WAY SURVEY MAY DISCLOSE. THIS PLAN IS NOT INTENDED TO BE USED FOR THE CONVEYANCE OF PROPERTY OR TITLE.
5. TOPOGRAPHICAL INFORMATION WAS TAKEN FROM A FIELD SURVEY PERFORMED BY GILMORE AND ASSOCIATES DURING MAY 2015, AND AMENDED MARCH 2019.
6. IN COMPLIANCE WITH PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY ACT 187 OF 1996, UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE A COMPILATION OF ACTUAL FIELD LOCATIONS AND DATA FURNISHED FROM INFORMATION SUPPLIED BY OTHERS. NV5, INC. ASSUMES NO RESPONSIBILITY FOR THE LOCATION OF UNDERGROUND UTILITIES DEPICTED ON THESE DRAWINGS. ANY REQUEST FOR ADDITIONAL UNDERGROUND UTILITY INFORMATION SHOULD BE DIRECTED TO THE RESPECTIVE UTILITY COMPANY.
7. UTILITIES SHOWN ARE TAKEN FROM PUBLIC RECORD. THE CONTRACTOR MUST VERIFY THE EXACT LOCATION AND DEPTH.
8. MONUMENTS OR PROPERTY LINE MARKERS LOCATED WITHIN THE LIMITS OF THIS PROJECT SHALL NOT BE DISTURBED.
9. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
10. HORIZONTAL CONTROL IS BASED ON THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM ZONE, NAD83.
11. WETLAND DELINEATIONS PERFORMED BY CARDNO BCM DURING DECEMBER 2015 AND MARCH 2016.
12. PROJECT IS LOCATED WITHIN A FEMA 100-YEAR FLOODPLAIN, FIRM PANEL 42091C0403

TABULATION OF OVERALL LENGTH

ROUTE	STATIONS	FT	MI	COUNTY
TOOKANY CREEK TRAIL	8+50.00 TO 22+50.00	1400.00	0.265	MONTGOMERY

TABULATION OF CONSTRUCTION LENGTH

ROUTE	STATIONS	FT	MI	COUNTY
TOOKANY CREEK TRAIL	8+88.76 TO 22+34.75	1345.99	0.255	MONTGOMERY

① LIMIT OF WORK

STA 8+50.00
TOOKANY CREEK TRAIL
CHELTENHAM TOWNSHIP
MONTGOMERY COUNTY

② LIMIT OF WORK

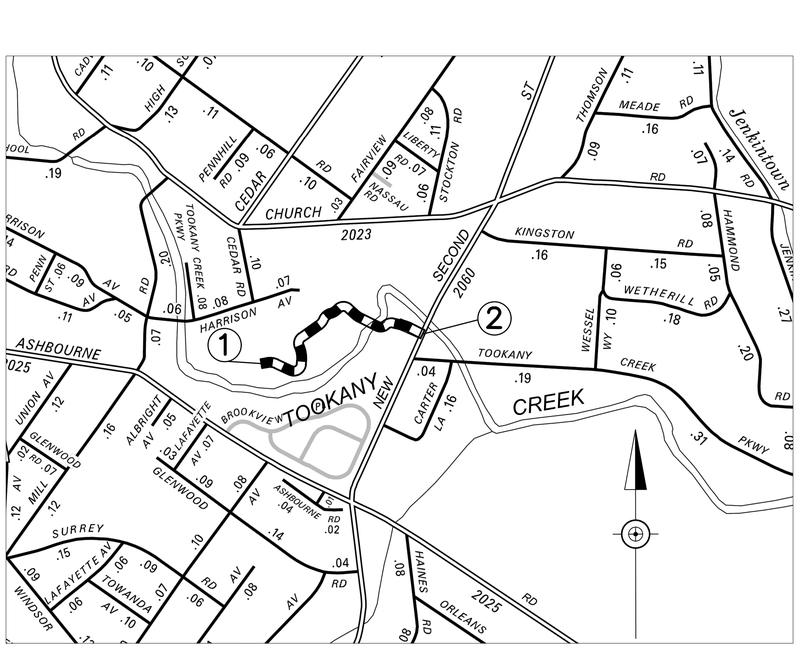
STA 22+50.00
TOOKANY CREEK TRAIL
CHELTENHAM TOWNSHIP
MONTGOMERY COUNTY

PA ONE CALL SYSTEM, INC. (800) 242-1776
ONE CALL SERIAL NOS. 20142181840, 20142181855, 20142181872, 20142181897, 20142181949, 20142181967, 20142182031.

SUMMARY OF TRAVERSE CONTROL POINT COORDINATES

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
POINT #1	278726.2760	2705776.7380	127.11	MAG NAIL
POINT #3	278853.5310	2705655.7530	126.41	NAIL
BM #1	278809.0610	2705495.7740	127.80	PK BO
POINT #44	278754.7307	2705427.3538	125.37	NAIL
POINT #45	278922.7710	2705255.5363	130.23	NAIL
POINT #46	278793.0149	2705093.9204	133.52	NAIL
POINT #47	278700.2247	2704974.3921	135.35	NAIL
POINT #48	278493.3294	2704980.3426	140.62	NAIL
POINT #49	278535.5510	2704616.0780	141.91	MAG NAIL
POINT #50	278763.2000	2704240.6980	138.66	MAG NAIL
POINT #51	278473.1374	2704949.3346	140.22	NAIL
POINT #52	278629.3126	2705233.3536	126.99	NAIL
POINT #54	278710.4421	2705767.7802	126.92	MAG NAIL
POINT #55	278821.8641	2705361.5338	126.78	NAIL
POINT #56	278955.5085	2705462.6200	123.88	NAIL
POINT #61	278521.5165	2705989.2482	121.38	NAIL
POINT #62	278631.9602	2706035.7311	124.48	NAIL
POINT #63	278819.5765	2705867.0881	125.06	NAIL
POINT #64	278797.2652	2705602.6326	127.77	NAIL
POINT #65	278915.6175	2705709.7412	122.35	NAIL

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.



LOCATION MAP

LEGEND

PROJECT
STATE ROAD
TOWNSHIP STREET

0 500 1,000
SCALE IN FEET

SUMMARY OF PROJECT COORDINATES

BASED ON STATE PLANE COORDINATE SYSTEM

TOOKANY CREEK TRAIL CONSTR ℄

STATION	POINT	NORTH	EAST	BEARING
8+45.38	PRC	278485.3647	2704734.6157	S87° 56′ 19"E
8+67.42	PI	278484.5722	2704752.0263	
8+88.76	PRC	278474.6007	2704771.6721	S63° 05′ 21"E
9+18.13	PI	278461.3064	2704797.8645	
9+44.75	PRC	278469.3356	2704826.1189	N74° 08′ 10"E
9+94.84	PI	278483.0285	2704874.3032	
10+42.91	PRC	278472.3931	2704923.2533	S77° 44′ 30"E
11+03.37	PI	278459.5577	2704982.3285	
11+30.89	PT	278519.9919	2704983.8533	N01° 26′ 43"E
11+53.90	PC	278543.0004	2704984.4339	
12+03.49	PI	278592.5682	2704985.6845	
12+51.11	PRC	278636.9798	2704963.6360	N26° 24′ 9"W
12+91.50	PI	278673.1566	2704945.6758	
13+19.06	PT	278698.3220	2704977.2674	N51° 27′ 35"E
14+54.03	PC	278782.4190	2705082.8391	
14+80.28	PI	278798.7757	2705103.3727	
15+05.38	PRC	278823.1092	2705113.2243	N22° 2′ 27"E
15+39.01	PI	278854.2814	2705125.8445	
15+68.61	PRC	278865.5938	2705157.5148	N70° 20′ 38"E
15+91.27	PI	278873.2165	2705178.8558	
16+13.18	PT	278889.2946	2705194.8258	N44° 48′ 25"E
16+30.52	PC	278901.6037	2705207.0523	
16+75.20	PI	278933.2979	2705238.5335	
17+03.44	PT	278905.5716	2705273.5598	S51° 38′ 07"E
17+74.15	PC	278861.6854	2705329.0005	
17+84.28	PI	278855.3996	2705336.9412	
17+94.28	PT	278851.4451	2705346.2648	S67° 00′ 58"E
19+28.71	PC	278798.9562	2705470.0169	
19+55.06	PI	278788.6701	2705494.2825	
19+77.22	PT	278802.8688	2705516.4862	N57° 24′ 07"E
19+77.23	PC	278802.8742	2705516.4946	
20+58.89	PI	278846.8683	2705585.2918	
21+07.34	PRC	278779.8895	2705632.0063	S34° 53′ 38"E
21+39.62	PI	278753.4174	2705650.4694	
21+69.78	PRC	278742.7334	2705680.9245	S70° 40′ 07"E
21+93.34	PI	278734.9339	2705703.1574	
22+09.73	PRC	278711.4858	2705700.8492	S5° 37′ 19"W
22+20.60	PI	278700.6677	2705699.7843	
22+28.54	PT	278696.2878	2705709.7333	S66° 14′ 21"E
22+78.22	PC	278676.2708	2705755.2023	

NOTE: FOUR (4) PLACE COORDINATES ARE USED FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO (2) PLACES.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084599

GENERAL NOTES

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USER: clay.sublett

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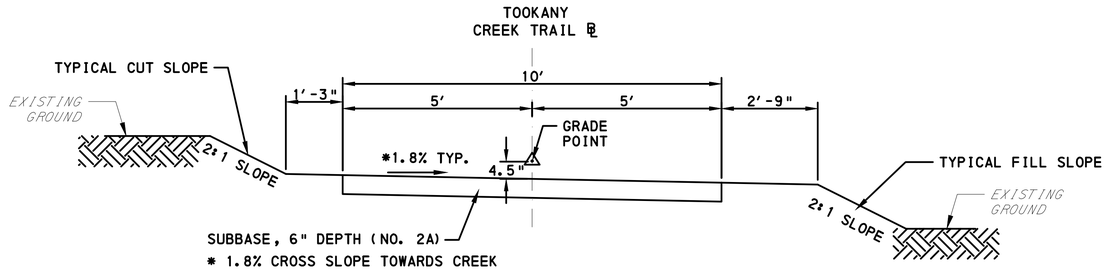
CHELTENHAM TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY

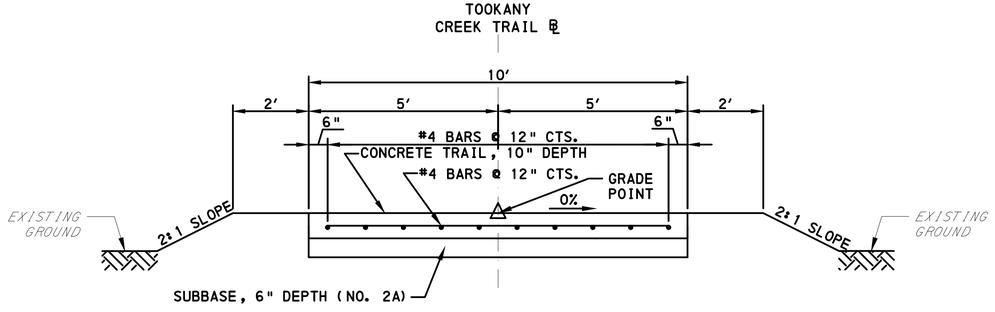


ACCESS PATH SECTION

NOT TO SCALE

STA 8+88.76 TO STA. 17+88.00

STA 19+38.00 TO STA. 22+34.75

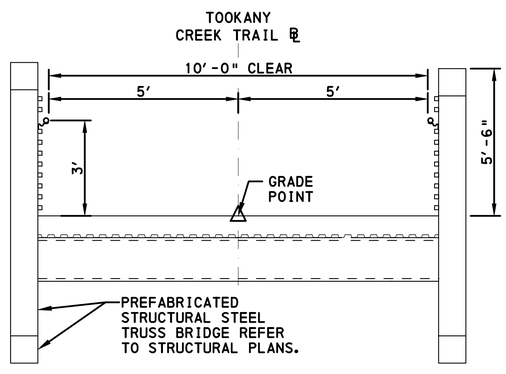


APPROACH SLAB SECTION

NOT TO SCALE

STA 17+88.00 TO STA. 17+98.00

STA 19+28.00 TO STA. 19+38.00



BRIDGE TYPICAL SECTION

NOT TO SCALE

STA 17+98.00 TO STA. 19+28.00

TYPICAL SECTIONS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084593

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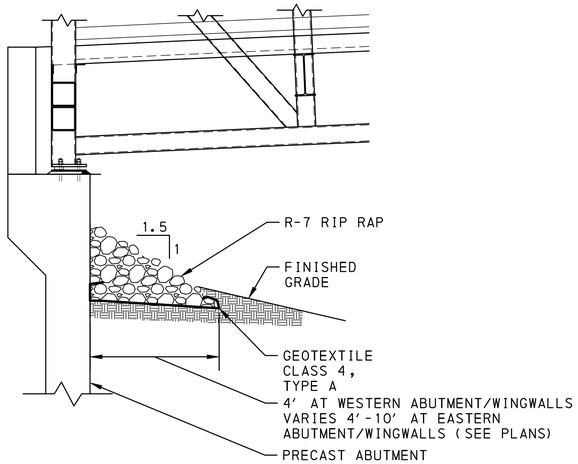
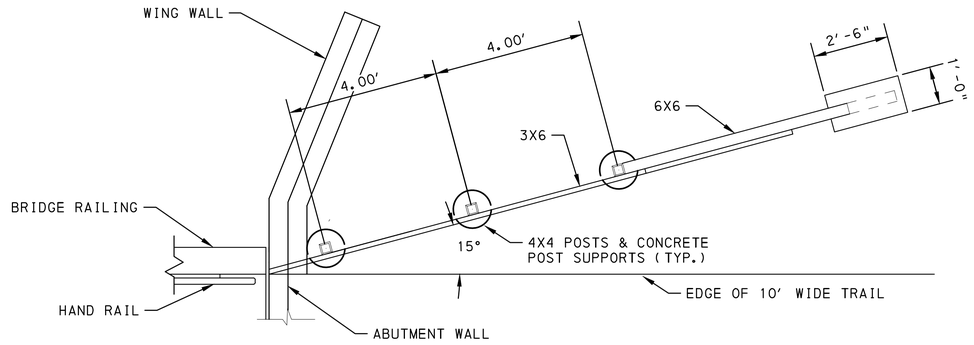
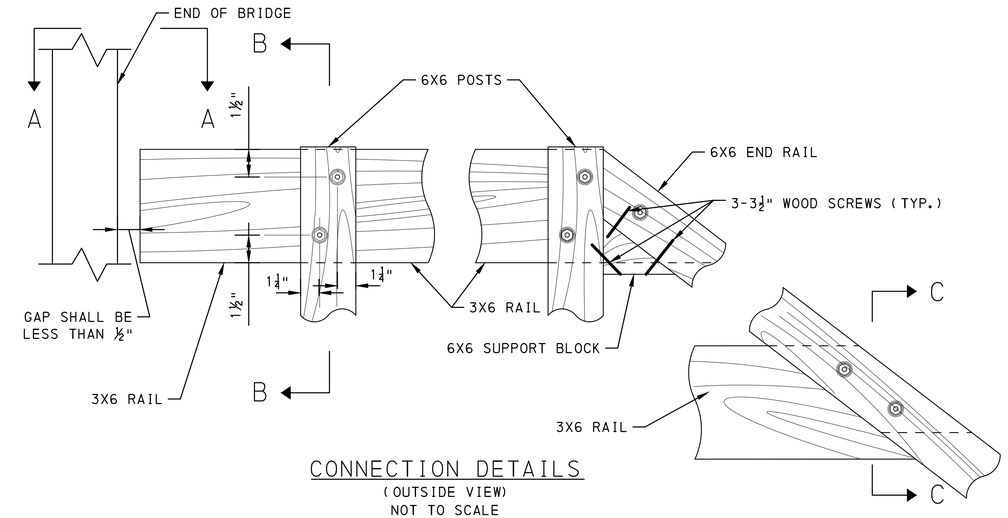
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	TCB	5 OF 13
CHELTENHAM TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY



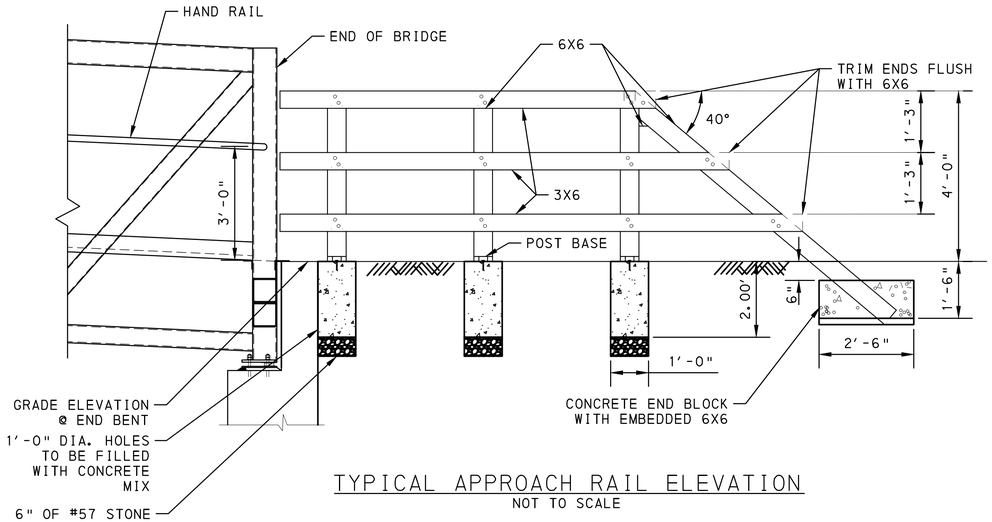
RIP RAP AT BRIDGE ABUTMENTS
NOT TO SCALE



TYPICAL APPROACH RAIL PLAN
NOT TO SCALE



CONNECTION DETAILS
(OUTSIDE VIEW)
NOT TO SCALE



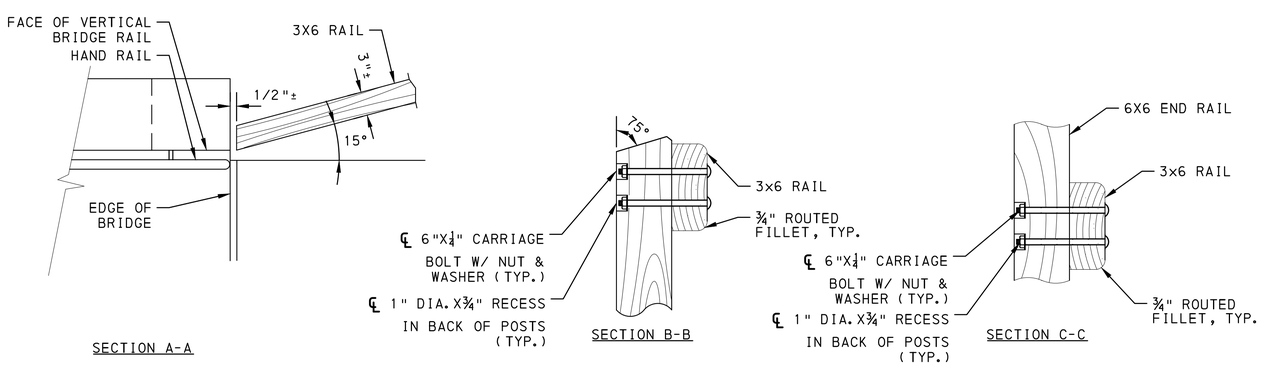
TYPICAL APPROACH RAIL ELEVATION
NOT TO SCALE

NOTES:

ALL APPROACH RAIL & POSTS SHALL BE RED CEDAR AND MEET THE REQUIREMENTS OF THE SPECIFICATIONS.

ALL SCREWS, BOLTS, NUTS, AND WASHERS ARE TO BE HOT DIPPED GALVANIZED.

THE LOCATION OF POST FOOTINGS AND END BLOCKS ARE TO BE FIELD VERIFIED. DEVIATIONS FROM PLAN DIMENSIONS ARE TO BE APPROVED BY THE ENGINEER.



APPROACH RAIL DETAILS
NOT TO SCALE

CONSTRUCTION PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084591

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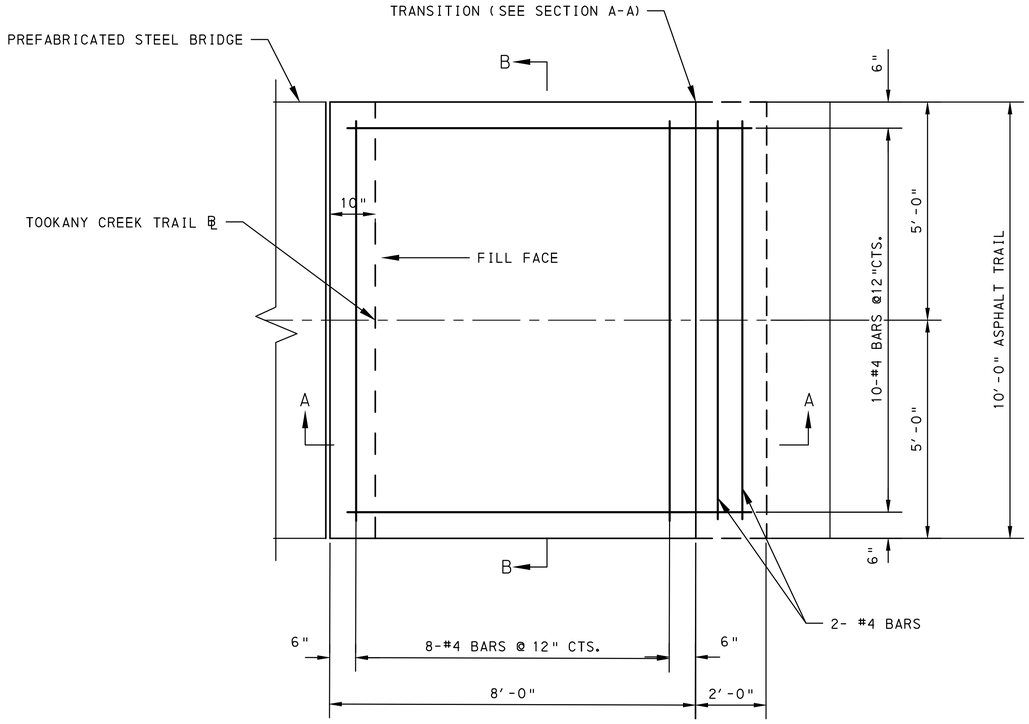
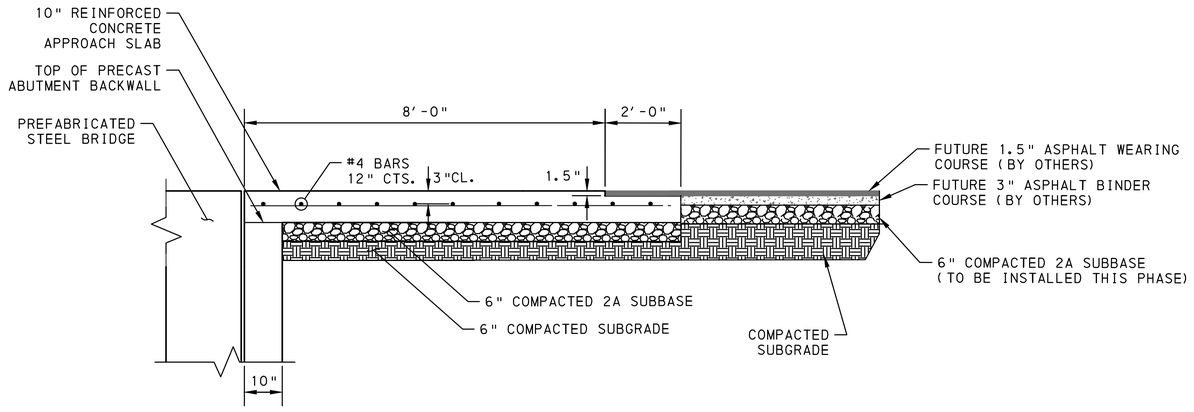
USER: cloy.sublett

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	TCB	6 OF 13
CHELTENHAM TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY



APPROACH SLAB AT ABUTMENT

NOT TO SCALE



SECTION A-A

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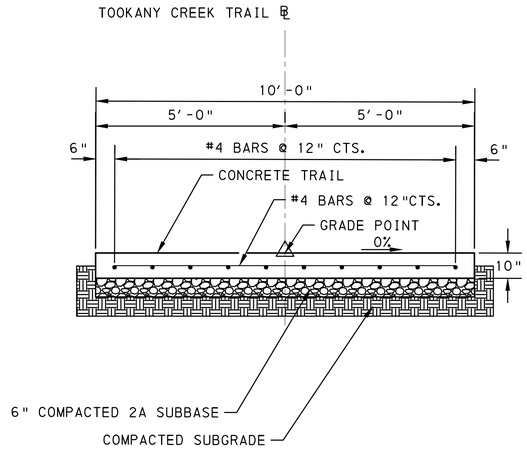

SECTION B-B

NOT TO SCALE

CONSTRUCTION PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084509

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SUMMARY

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				06	MONTGOMERY	0000	TCB	7 OF 12
				CHELTENHAM TOWNSHIP				

♦ - SEE SPECIAL PROVISIONS

QUANTITY	ITEM NO / UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET
	0201 0001 / LS	CLEARING AND GRUBBING		NO TAB
266	0203 0001 / CY	CLASS 1 EXCAVATION		8
554	0204 0100 / CY	CLASS 3 EXCAVATION		8
56	0205 0100 / CY	FOREIGN BORROW EXCAVATION		8
220	0205 0285 / CY	SELECTED BORROW EXCAVATION, COARSE AGGREGATE, NO. 57		8
190	0212 0014 / SY	GEOTEXTILE, CLASS 4, TYPE A		8
1351	0350 0106 / SY	SUBBASE 6" DEPTH (NO. 2A)		8
	0608 0001 / LS	MOBILIZATION		NO TAB
	0609 0004 / LS	INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES, TYPE C		NO TAB
	0609 0009 / LS	EQUIPMENT PACKAGE ♦		NO TAB
	0686 0030 / LS	CONSTRUCTION SURVEYING, TYPE B, MODIFIED		NO TAB
	0688 0020 / LS	MICROCOMPUTER, TYPE C		NO TAB
	0689 0001 / LS	NARRATIVE SCHEDULE		NO TAB
1000	0690 0001 / DOLLA	INTERNAL FACILITATION		NO TAB
296	0802 0001 / CY	TOPSOIL FURNISHED AND PLACED		9
118	0804 0011 / LB	SEEDING AND SOIL SUPPLEMENTS - FORMULA B		9
2	0805 0022 / TON	MULCHING - STRAW		9
572	0806 0113 / SY	TEMPORARY SHORT-TERM, ROLLED EROSION CONTROL PRODUCT, TYPE 2D		9
1452	0811 0003 / LF	TEMPORARY PROTECTIVE FENCE		9
2000	0845 0001 / DOLLA	UNFORESEEN WATER POLLUTION CONTROL		9
2	0849 0010 / EACH	ROCK CONSTRUCTION ENTRANCE		9
25	0850 0035 / CY	ROCK, CLASS R-7		8
2	0855 0003 / EACH	PUMPED WATER FILTER BAG		9
1	0860 0000 / EACH	INLET FILTER BAG FOR TYPE M INLET		9
1480	0867 0012 / LF	COMPOST FILTER SOCK, 12" DIAMETER		9
	0901 0001 / LS	MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION ♦		NO TAB
7	1001 1080 / CY	CLASS AA CEMENT CONCRETE		8
344	1002 0052 / LB	REINFORCEMENT BARS, EPOXY COATED		8
	8000 1001 / LS	PREFABRICATED STEEL BRIDGE ♦		8
	9000 1000 / LS	PRECAST ABUTMENT SYSTEM ♦		8
145	9000 1002 / SY	CONCRETE DECK FOR STEEL BRIDGE ♦		8
	9000 1003 / LS	STEEL BRIDGE INSTALLATION ♦		8
24	9000 1004 / SY	CONCRETE APPROACH SLAB ♦		8
4	9000 1005 / EACH	BRIDGE APPROACH RAIL ♦		8

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — MATTHEW LUDWIG — ENGINEER — No. PE084539

TABULATION OF QUANTITIES

TRAIL

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				06	MONTGOMERY	0000	TCB	8 OF 13
				CHELTENHAM TOWNSHIP				

CLASS 1 EXCAVATION 0203 0001 CY	CLASS 3 EXCAVATION 0204 0100 CY	FOREIGN BORROW EXCAVATION 0205 0100 CY	SELECTED BORROW EXCAVATION, COARSE AGGREGATE, NO. 57 0205 0285 CY	GEOTEXTILE, CLASS 4, TYPE A 0212 0014 SY	SUBBASE 6" DEPTH (NO. 2A) 0350 0106 SY	ROCK, CLASS R-7 0850 0035 CY	CLASS AA CEMENT CONCRETE 1001 1080 CY	REINFORCEMENT BARS, EPOXY COATED 1002 0052 LB	PREFABRICATED STEEL BRIDGE 8000 1001 LS	PRECAST ABUTMENT SYSTEM 9000 1000 LS	CONCRETE DECK FOR STEEL BRIDGE 9000 1002 SY	STEEL BRIDGE INSTALLATION 9000 1003 LS	CONCRETE APPROACH SLAB 9000 1004 SY	BRIDGE APPROACH RAIL 9000 1005 EACH	REMARKS ITEM NUMBER UNIT	SIDE	STATIONS
										X					ENTIRE PROJECT	CL	8+88.76 to 22+34.75
234		32			1010											CL	8+88.76 to 17+98.00
	243		110	78		6	3.5	172					12	2		CL	17+84.31 to 18+04.35
									X		145	X				CL	17+98.00 to 19+28.00
	311		110	112		19	3.5	172					12	2		CL	19+15.24 to 19+39.05
32		24			341											CL	19+28.00 to 22+34.75
266	554	56	220	190	1351	25	7	344	---	---	145	---	24	4	TOTALS		

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
PE084595

PROJECT ID: 3434 MPMS: 108008 ECMS: 108008 3/1/2022 9:49:00 AM

TABULATION OF QUANTITIES

EROSION AND SEDIMENT POLLUTION CONTROL

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				06	MONTGOMERY	0000	TCB	9 OF 13
				CHELTENHAM TOWNSHIP				

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — MATTHEW LUDWIG — ENGINEER — PE084595

TOPSOIL FURNISHED AND PLACED 0802 0001 CY	SEEDING AND SOIL SUPPLEMENTS - FORMULA B 0804 0011 LB	MULCHING - STRAW 0805 0022 TON	TEMPORARY SHORT-TERM, ROLLED EROSION CONTROL PRODUCT, TYPE 2D 0806 0113 SY	TEMPORARY PROTECTIVE FENCE 0811 0003 LF	UNFORESEEN WATER POLLUTION CONTROL 0845 0001 DOLLA	ROCK CONSTRUCTION ENTRANCE 0849 0010 EACH	PUMPED WATER FILTER BAG 0855 0003 EACH	INLET FILTER BAG FOR TYPE M INLET 0860 0000 EACH	COMPOST FILTER SOCK, 12" DIAMETER 0867 0012 LF	REMARKS ITEM NUMBER UNIT	SIDE	STATIONS
		2			2000					ENTIRE PROJECT	CL	8+88.76 to 22+34.75
						1					LT	8+88.76 to 8+88.76
221	88		470	1124					1227		CL	8+88.76 to 17+98.00
											CL	17+98.00 to 19+28.00
75	30		102	328					253		CL	19+28.00 to 22+34.75
						1					LT	22+34.75 to 22+34.75
							1	1			RT	22+34.75 to 22+34.75
							1				RT	23+00.00 to 23+00.00
296	118	2	572	1452	2000	2	2	1	1480	TOTALS		

PROJECT ID: 3434 MPMS: 108008 ECMS: 108008 3/1/2022 9:45:22 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	TCB	10 OF 13
CHELTENHAM TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

BM #1 ELEV 127.80
13.67' LT STA 19+57.15 TCB
PK BO

TOOKANY CREEK TRAIL ℄
90° 0' 0"
105° 59' 57"
22.52'
MANHOLE
GAS MARKER
69.75'
113.03'

POT STA 10+00.00
TOOKANY CREEK TRAIL ℄
NOT TO SCALE

HORIZONTAL 0 25 50 FEET

FUTURE 10' WIDE MULTI-USE TRAIL (BY OTHERS)

GIMBEL FIELD

LIMIT OF WORK
STA 8+50.00
TOOKANY CREEK TRAIL
CHELTENHAM TOWNSHIP
MONTGOMERY COUNTY

START WORK
STA 8+88.76
TOOKANY CREEK TRAIL

EXISTING CHAIN LINK FENCE TO BE RELOCATED BY CHELTENHAM TOWNSHIP

PLACE NO. 2A SUBBASE FOR CONSTRUCTION ACCESS PATH PER TYPICAL SECTIONS. FOLLOW ALIGNMENT FOR FUTURE 10' WIDE MULTI-USE PATH

PROPOSED TRAIL RIGHT-OF-WAY

CONTO HARRISON AVENUE

PRC 8+45.38

PI STA 8+67.42
Δ = 24° 50' 57" RT
T = 22.03'
L = 43.37'
R = 100.00'
E = 2.40'

PRC 8+88.76

PRC 9+44.75

PI STA 9+18.13
Δ = 42° 46' 29" RT
T = 29.37'
L = 55.99'
R = 75.00'
E = 5.55'

DO NOT DISTURB GAS MARKERS (TYP.)

PI STA 9+94.84
Δ = 28° 07' 20" RT
T = 50.09'
L = 98.16'
R = 200.00'
E = 6.18'

PRC 10+42.91

PT 11+30.89

PC 11+53.90

PRC 12+51.71

PI STA 12+03.49
Δ = 27° 50' 52" RT
T = 49.58'
L = 97.21'
R = 200.00'
E = 6.05'

PI STA 11+03.37
Δ = 100° 48' 46" RT
T = 60.45'
L = 87.98'
R = 50.00'
E = 28.45'

PI STA 12+91.50
Δ = 77° 51' 44" RT
T = 40.39'
L = 67.95'
R = 50.00'
E = 14.28'

PT 13+19.06

PI STA 14+80.28
Δ = 29° 25' 08" RT
T = 26.25'
L = 51.35'
R = 100.00'
E = 3.39'

PC 14+54.03

PRC 15+05.38

PI STA 15+91.27
Δ = 25° 32' 13" RT
T = 22.66'
L = 44.57'
R = 100.00'
E = 2.54'

PRC 15+68.61

PT 16+13.18

PI STA 15+39.01
Δ = 48° 18' 11" RT
T = 33.63'
L = 63.23'
R = 75.00'
E = 7.19'

N51° 27' 34.82"E

N01° 26' 43.29"E

LEGAL PROPERTY LINE

LEGAL PROPERTY LINE

TMID #31047A 019
CHELTENHAM TOWNSHIP

TMID #31047 004
N/F CHELTENHAM TOWNSHIP

4' CHAINLINK FENCE

CHAINLINK GATE

CHELTENHAM TOWNSHIP SALT STORAGE PAD

EXISTING SHED

CHIPPING HAMMER

GAS MARKER

36" PVC SEWER

TOOKANY CREEK FLOW

SEE SHEET 11

LEGEND

- 6" NO. 2A SUBBASE
- BRIDGE APPROACH SLAB
- PREFABRICATED STEEL BRIDGE
- DELINEATED WETLAND
- EXISTING SURVEYED TREES

NOTES:
1. SEE EROSION & SEDIMENT POLLUTION CONTROL PLAN FOR TREE REMOVALS AND PROTECTION.

CONSTRUCTION PLAN

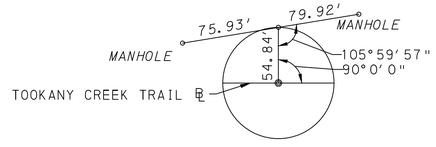
SURVEY BOOK NO. 14-05097

FOR PROFILE SEE SHEET 12

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084599

DRAWING FILE: K:\3_PROJECTS\B4748 Tookany Creek Trail\Technical\01-CADD\4-PlanSheets\TCB_PLAN_PROFILE.dwg
PLOT DATE: 2021-7-01, 10:08
USER: clay.sublett

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	TCB	11 OF 13
CHELTENHAM TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY



POT STA 19+28.71
TOOKANY CREEK TRAIL ℄
NOT TO SCALE

BM #1 ELEV 127.80
13.67' LT STA 19+57.15 TCB
PK BO

HORIZONTAL 0 25 50 FEET

PROPOSED TRAIL RIGHT-OF-WAY

PI STA 17+84.28
Δ = 15°22'57" RT
T = 10.13'
L = 20.14'
R = 75.00'
E = 0.68'

PC 16+30.52
PI 16+50.18
PRC 15+88.61
N44° 48' 24.84"E
PT 17+03.44
S51° 38' 07.17"E
PC 17+74.15
PT 17+94.29
S67° 01' 04.26"E
PRC 19+77.22
PC 19+28.71
PRC 21+07.34
PRC 21+69.78

PLACE NO. 2A SUBBASE FOR CONSTRUCTION ACCESS PATH PER TYPICAL SECTIONS. FOLLOW ALIGNMENT FOR FUTURE 10' WIDE MULTI-USE PATH.

RESET EXISTING DEER FENCE TO TOE OF PROPOSED SLOPE

STA 17+98.00 TO STA 19+28.00
PROPOSED 130' PREFABRICATED STEEL BRIDGE

PI STA 19+55.06
Δ = 55°34'48" RT
T = 26.35'
L = 48.50'
R = 50.00'
E = 6.52'

PI STA 16+75.20
Δ = 83°33'28" RT
T = 44.67'
L = 72.92'
R = 50.00'
E = 17.05'

PI STA 20+58.89
Δ = 87°42'14" RT
T = 81.66'
L = 130.11'
R = 85.00'
E = 32.87'

PI STA 21+39.62
Δ = 35°46'29" RT
T = 32.27'
L = 62.44'
R = 100.00'
E = 5.08'

PI STA 21+93.34
Δ = 76°17'27" RT
T = 23.56'
L = 39.95'
R = 30.00'
E = 8.15'

PI STA 22+20.60
Δ = 71°51'41" RT
T = 10.87'
L = 18.81'
R = 15.00'
E = 3.52'

PT 22+09.73
PT 22+28.54
PRC 22+76.06
S66° 14' 21.38"E
PC 22+97.20
PT 23+20.22

STA 17+88.00

STA 19+38.00
INSTALL APPROACH RAILS
(TWO EACH SIDE, TYP.)

NOTE:
PRIOR TO ORDERING OF WINGWALL SHOP DRAWINGS, CONTRACTOR SHALL EXCAVATE AND SURVEY THE TOP OF 6" SEWER LATERAL FOR PRECAST PUNCHOUT LOCATION (APPROXIMATELY STA. 17+98, 13' RT, 2' BELOW SURFACE). PROVIDE SURVEYED LOCATION AND ELEVATION TO ENGINEER.

R-7 RIPRAP AT BASE OF ABUTMENTS (TYP.)

CONTRACTOR SHALL PLACE TEMPORARY PROTECTIVE FENCE ALONG ROW AT THE COMPLETION OF THIS PROJECT. FENCE IS TO BE REMOVED BY PAVING CONTRACTOR UNDER A SEPARATE CONTRACT.

FUTURE 10' WIDE TRAIL ALIGNMENT

STOP WORK
STA 22+34.75
TOOKANY CREEK TRAIL

LIMIT OF WORK
STA 22+50.00
TOOKANY CREEK TRAIL
CHELTENHAM TOWNSHIP
MONTGOMERY COUNTY

TOOKANY CREEK FLOW

TO: CHURCH ROAD

TO: TOOKANY CREEK PKWY

SR 2060 (NEW SECOND STREET)

TMID #31047 004
CHELTENHAM TOWNSHIP

TMID #31074A 008
N/F CHELTENHAM TOWNSHIP
ALSO KNOWN AS TOOKANY CREEK PARKWAY
(100' R.O.W. UNIMPROVED)

N/F CHELTENHAM TOWNSHIP

SEE SHEET 10

LEGEND

- 6" NO. 2A SUBBASE
- BRIDGE APPROACH SLAB
- PREFABRICATED STEEL BRIDGE
- DELINEATED WETLAND
- EXISTING SURVEYED TREES

EXISTING STRUCTURE DATA:
N/A

PROPOSED STRUCTURE DATA:
STATION 17+98.00 to 19+28.00
PREFABRICATED STEEL TRUSS STRUCTURE
SPAN: 130'
UNDER CONSTRUCTION: N/A
SKEW: 0°
ROADWAY WIDTH BETWEEN CURBS OR CLEAR ROADWAY: 10'
STRUCTURE S-N/A

HYDRAULIC DATA:
DRAINAGE AREA: 9.33 SQ MI
DESIGN FLOOD:
MAGNITUDE: 2,240 CFS, 3,030 CFS
FREQUENCY: 10 YEARS, 50 YEARS
WATER SURFACE: 126.5', 127.6'
100-YR FLOOD:
MAGNITUDE: 3,556 CFS
FREQUENCY: 100 YEAR
WATER SURFACE: 128.0'

SURVEY BOOK NO. 14-05097

CONSTRUCTION PLAN

FOR PROFILE SEE SHEET 13

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084591

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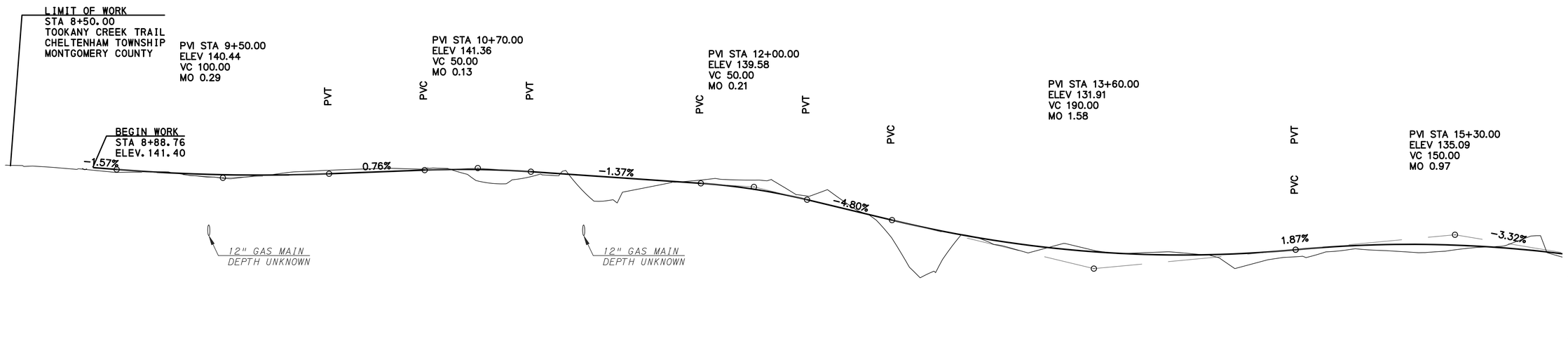
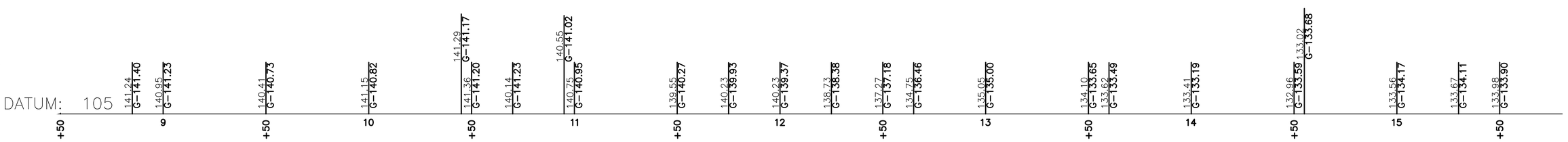
USER: clay.sublett

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	TCB	12 OF 13
CHELTENHAM TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 13



HORIZONTAL 0 25 50 FEET

VERTICAL 0 5 10 FEET

CONSTRUCTION PROFILE

FOR PLAN SEE SHEET 10

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084593

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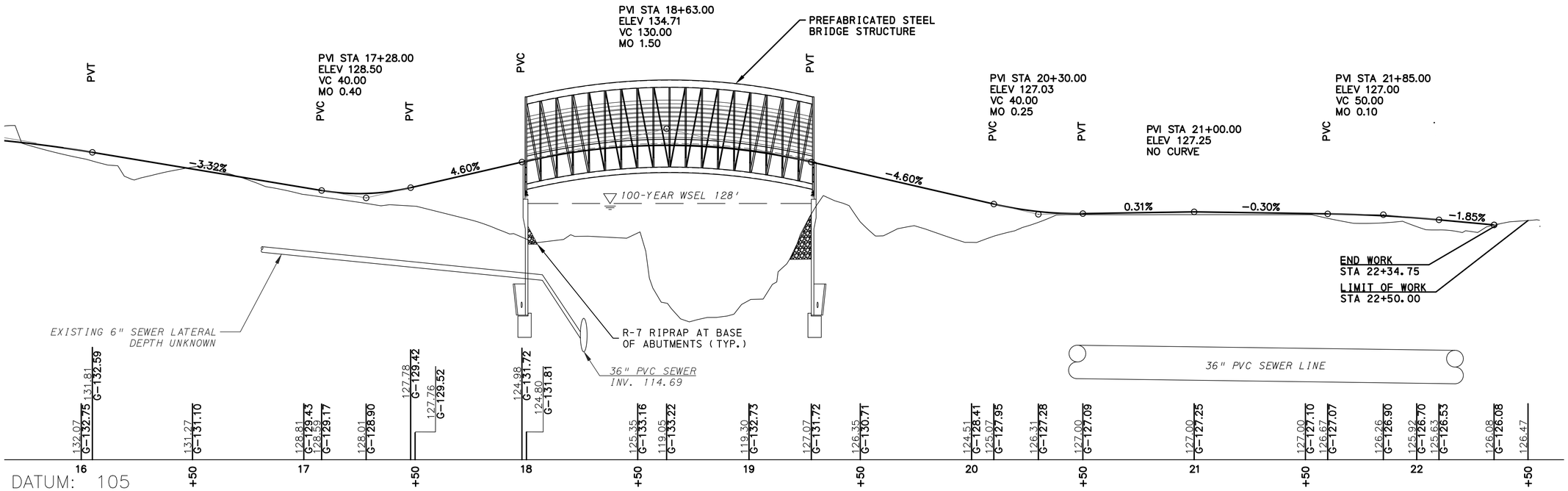
PLOT DATE: 2021-7-01, 10:09
USER: clay.sublett

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	TCB	13 OF 13
CHELTENHAM TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 12



HORIZONTAL 0 25 50 FEET

VERTICAL 0 5 10 FEET

CONSTRUCTION PROFILE

FOR PLAN SEE SHEET 11

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084594

DRAWING FILE: K:\3_PROJECTS\B4748 Tookany Creek Trail\Technical\01-CADD\4-PlanSheets\TCB_PLAN_PROFILE.dwg
PLOT DATE: 2021-7-01, 10:09
USER: clay.sublett

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	TCB	1 OF 5
CHELTENHAM TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY

GENERAL NOTES:

1. AN INDUSTRIAL WASTE PERMIT WILL BE REQUIRED SHOULD PUMPING TO TOWNSHIP-OWNED INFRASTRUCTURE BECOME NECESSARY DURING CONSTRUCTION.
2. INLET PROTECTION SHOULD BE PROVIDED FOR ALL INLETS THAT ARE LOCATED WITHIN ONE BLOCK OF THE PROJECT SITE.
3. CHELTENHAM TOWNSHIP IS NOT RESPONSIBLE FOR ANY CLEANING OR REPAIRS NEEDED ON TOWNSHIP-OWNED INFRASTRUCTURE DUE TO FAILURE OF ANY EROSION AND SEDIMENT CONTROL PRACTICES. THE OWNER'S PROJECT CONTRACTOR SHALL BE RESPONSIBLE.
4. INSPECTION AND MAINTENANCE OF ALL EROSION AND SEDIMENT BEST MANAGEMENT PRACTICES SHALL OCCUR ON A WEEKLY BASIS, BEFORE ANY ANTICIPATED PRECIPITATION EVENTS, AND AFTER ALL PRECIPITATION EVENTS.
5. THE MAXIMUM HEIGHT FOR STOCKPILES AREAS SHALL BE 35 FEET.
6. THE MAXIMUM SIDE SLOPE FOR STOCKPILE AREAS SHALL NOT EXCEED 2:1.
7. THE ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED ON SITE. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE.
8. COMPOST FILTER SOCKS SHOULD BE INSTALLED AT LEVEL GRADE. BOTH ENDS OF EACH SOCK SECTION SHOULD BE EXTENDED AT LEAST 8 FEET UPSLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. SUPPORT STAKES SHALL BE SPACED AT A MAXIMUM OF 8 FEET. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK.
9. ANY SOCK SECTION WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY BE CLEARED OF SEDIMENT. IF FILTER SOCK IS DEEMED CLOGGED BY OWNER, ENGINEER, MONTGOMERY COUNTY CONSERVATION DISTRICT, OR PA DEP INSPECTOR, THE SECTION OF FILTER SOCK SHALL BE REPLACED IN KIND.

CONSTRUCTION SEQUENCE:

THE PURPOSE OF THIS PLAN IS TO DOCUMENT THE E&S MEASURES NECESSARY TO CONTROL THE EARTH DISTURBANCE ACTIVITIES ASSOCIATED WITH THE CONSTRUCTION OF THE PROPOSED TOOKANY CREEK TRAIL.

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED.

AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING BUT NOT LIMITED TO THE LAND OWNER AND ALL APPROPRIATE CITY OFFICIALS TO A SITE MEETING.

THE OPERATOR SHALL CONTACT THE MONTGOMERY COUNTY CONSERVATION DISTRICT AT LEAST SEVEN (7) DAYS PRIOR TO ANY EARTHMOVING ACTIVITY OR INSTALLATION OF ANY BMP.

PRIOR TO ANY EARTHWORK, TOWNSHIP STAFF MUST BE CALLED TO SCHEDULE A PRE-CONSTRUCTION MEETING.

THE FOLLOWING STEPS SHALL BE IMPLEMENTED DURING CONSTRUCTION:

1. INSTALL INLET PROTECTION ON ALL EXISTING INLETS, AS SHOWN ON THE PLANS.
2. INSTALL THE ROCK CONSTRUCTION ENTRANCES AS SHOWN ON THE PLANS.
3. INSTALL PERIMETER CONTROLS (COMPOST FILTER SOCKS) AROUND THE LIMITS OF WORK.
4. INSTALL TREE PROTECTION FENCING PER PLAN.
5. ENSURE THAT ADEQUATE SEDIMENT CONTROL MEASURES (PARTICULARLY ADEQUATELY SIZED AND PROPERLY FUNCTIONING PERIMETER COMPOST FILTER SOCKS) ARE PROVIDED DOWN-SLOPE OF ANY AND ALL EARTH DISTURBANCE ACTIVITIES UNTIL CONTRIBUTORY DRAINAGE AREA IS ADEQUATELY STABILIZED.
6. BEGIN CLEARING AND GRUBBING WITHIN THE LIMITS OF DISTURBANCE. WASTE MATERIALS, SCRAP OR EXCESS CONSTRUCTION MATERIALS SHALL BE COLLECTED, STORED, AND DISPOSED OF IN ACCORDANCE WITH THE SOLID WASTE MANAGEMENT ACT (35 P.S.§§ 6018.101-6018.1003), THE MUNICIPAL WASTE PLANNING, RECYCLING AND WASTE REDUCTION ACT (53 P.S.§§ 4000.101-4000.1904), THE CLEAN STREAMS LAW (35 P.S.§§ 691.1-691.1001) AND RELATED RULES AND REGULATIONS. (TITLE 25, CHAPTER 105, SECTION 46a).
7. PROTECT UTILITY STRUCTURES FROM DAMAGE DURING CONSTRUCTION.
8. BEGIN TRAIL EXCAVATION. CLEAN FILL EXCAVATED FOR CONSTRUCTION OF PROPOSED TRAIL SHALL BE TAKEN OFFSITE. ANY SOIL REMOVED FROM THE SITE MAY ONLY BE TAKEN TO A SITE WITH AN APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN.
9. ROUGH GRADE SITE TO SUBGRADE ELEVATIONS. (REFER TO TRAIL SECTION DETAILS FOR NOTES ON EXCAVATION AND SUBGRADE COMPACTION). RUNOFF FROM THIS PROJECT AREA WILL DISCHARGE TO TOOKANY CREEK, WHICH IS CLASSIFIED AS A WARM WATER FISHERY PER PADEP CHAPTER 93 REGULATIONS ALONG THE AREA OF WORK.
10. BEGIN CONSTRUCTION OF PROPOSED TRAIL. AN INDUSTRIAL WASTE PERMIT WILL BE REQUIRED SHOULD PUMPING TO TOWNSHIP-OWNED INFRASTRUCTURE BECOME NECESSARY DURING CONSTRUCTION.
11. FINAL GRADE THE TRAIL AND INSTALL THE STONE BASE.
12. CONSTRUCT BRIDGE FOUNDATIONS AND WINGWALLS. INSTALL PREFABRICATED BRIDGE AND APPROACH SLABS.
13. WHEN ALL BACKFILL AND ALL EARTHWORK CONSTRUCTION IS COMPLETE, STABILIZE ANY DISTURBED AREAS WITH SEED AND MULCH. THE MAXIMUM HEIGHT FOR STOCKPILES SHALL BE 35 FEET.
14. WHEN ALL AREAS TRIBUTARY TO THE EXISTING AND PROPOSED INLETS AND OVERLAND FLOW HAVE BEEN STABILIZED, THE INLET PROTECTION AND OTHER E&S CONTROLS SHALL BE REMOVED.

STANDARD E&S 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 SUBMITTAL 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. EACH STAGE SHALL BE COMPLETED AND IMMEDIATELY STABILIZED BEFORE ANY FOLLOWING STAGE IS INITIATED. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE MONTGOMERY COUNTY 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, ROOTS 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 MAPS(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.
10. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY CHELTENHAM TOWNSHIP OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
11. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
12. 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. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, 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.
13. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING. CLEAN FILL IS DEFINED AS UNCONTAMINATED, NONWATER-SOLUBLE, NONDECOMPOSABLE INERT SOLID MATERIAL. THE TERM INCLUDES OIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND RECOGNIZABLE AS SUCH. (25 PA. CODE §§ 271.101 AND 287.101) THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF OWNERSHIP AND USE HISTORY OF PROPERTY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS.
14. 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.
15. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
16. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
17. 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. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.

STANDARD E&S NOTES (CONTINUED):

18. 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 LOCAL REQUIREMENTS OR CODES.
19. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
20. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
21. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
22. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
23. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
24. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS 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.
25. 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 PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
26. 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.
27. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT.
28. 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 BEING INSTITUTED BY THE DEPARTMENT 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.
29. CONCRETE WASH WATER SHALL BE HANDLED PER CHAPTER 3 OF THE PA DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATER OR GROUNDWATER SYSTEMS.
30. ANY DAMAGE THAT OCCURS IN WHOLE OR PART AS A RESULT OF BASIN OR TRAP DISCHARGE SHALL BE IMMEDIATELY REPAIRED BY THE PERMITTEE IN A PERMANENT MANNER SATISFACTORY TO THE MUNICIPALITY, LOCAL CONSERVATION DISTRICT, AND THE OWNER OF THE DAMAGED PROPERTY.
31. 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.
32. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORM WATER MANAGEMENT BMPS. AREAS 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.
33. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE TOWNSHIP TO SCHEDULE A FINAL INSPECTION.

PREPARED BY:
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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084598

EROSION AND SEDIMENT POLLUTION CONTROL PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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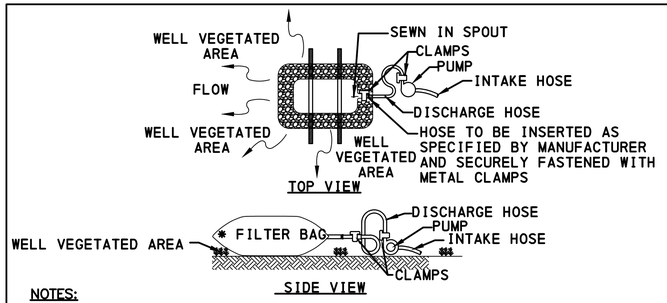
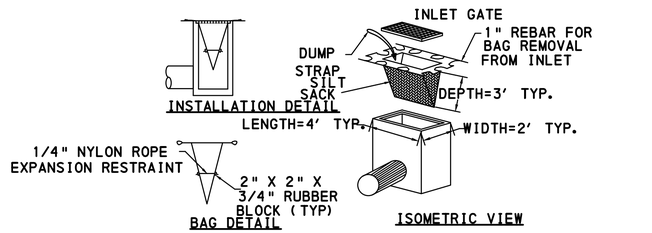
CHELTENHAM TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY

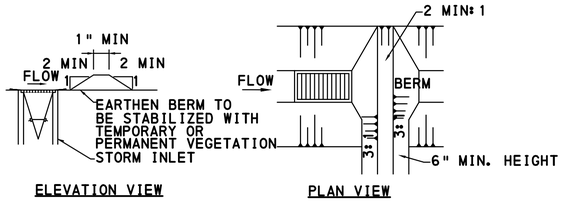


NOTES:
1. LOCATE BAG IN LEVEL AREAS (LESS THAN 5% GRADE). WHEN LEVEL AREAS ARE NOT AVAILABLE, PLACE AASHTO NO. 57 COARSE AGGREGRATE TO LEVEL THE BAG.
2. LOCATE BAG IN A WELL VEGETATED AREA. DISCHARGE ONTO A STABLE, EROSION RESISTANT AREA. WHEN VEGETATED AREA IS NOT AVAILABLE, PROVIDE A GEOTEXTILE (CLASS4, TYPE A) LINED FLOW PATH TO A STABLE EROSION RESISTANT RECEIVING WATER COURSE OR A WELL VEGETATED AREA.
3. LOCATE BAG IN AN AREA ACCESSIBLE BY EQUIPMENT FOR MAINTENANCE AND REMOVAL PURPOSES.
4. DO NOT INSERT MORE THAN ONE HOSE INTO A BAG.
5. REPLACE THE BAG WHEN 50% OF THE SEDIMENT CAPACITY HAS BEEN FILLED AND/OR WHEN THERE IS A DAILURE. THE ADDITIONAL BAGS WILL BE PAID AS EACH.
6. REMOVE AND PROPERLY DISPOSE OF THE PUMPED WATER FILTER BAGS. RESTORE THE AREA IN ACCORDANCE WITH THE SPECIFICATIONS IN PUBLICATION 408. DO NOT CUT FILTER BAG OR DISTRIBUTE AND SEED SEDIMENT.
7. DO NOT PERMIT DISCHARGE FROM THE BEG TO DRAIN BACK INTO WORK OR ACCESS AREAS OF THE PROJECT.

PUMPED WATER FILTER BAG
NOT TO SCALE



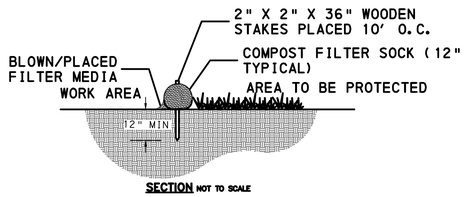
GRATED INLETS ALONG CURBED ROADWAY



INLET FILTER BAG FOR TYPE M INLET
NOT TO SCALE

INLET FILTER BAG NOTES:
1. MAXIMUM DRAINAGE AREA = 1/2 ACRE
2. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
3. 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 TO REMAIN PERMANENTLY.
4. 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.
5. 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.
6. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

NOTES:
1. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN ON FIGURE 4.2 OF PADEP MANUAL. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
2. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
4. 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.
5. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
6. 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.
7. INLET PROTECTION SHOULD NOT BE PLACED DIRECTLY UPSLOPE FROM DRAIN INLETS.

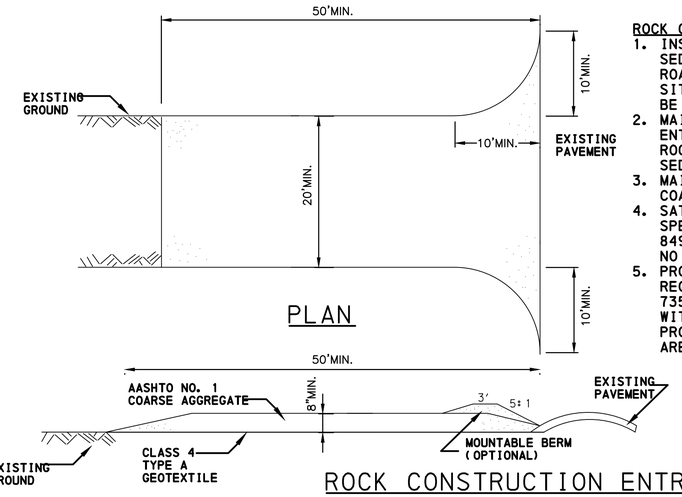


NOTES:
1. FILTER MEDIAFILL TO MEET APPLICATION REQUIREMENTS.
2. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

SOCK NO.	DIA. IN.	SHEET LOCATION	SLOPE %	SLOPE LENGTH ABOVE BARRIER (FT)
1	12	5 OF 6	2	25
2	12	5 OF 6	40	30
3	12	5 OF 6	25	25
4	12	6 OF 6	30	15
5	12	6 OF 6	0	0

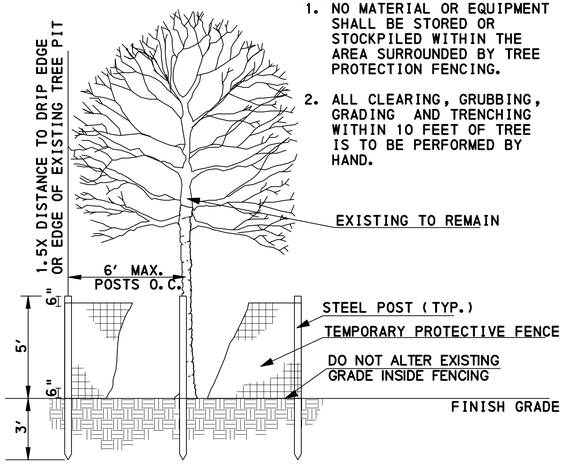
COMPOST FILTER SOCK CHART
NOT TO SCALE

COMPOST FILTER SOCK
NOT TO SCALE



ROCK CONSTRUCTION ENTRANCE NOTES
1. INSPECT THE ENTRANCE DAILY. REMOVE ALL SEDIMENT DEPOSITED ON THE PUBLIC ROADWAYS AND RETURN TO THE CONSTRUCTION SITE. WASHING OF THE ROADWAY WILL NOT BE PERMITTED.
2. MAINTAIN THE SPECIFIED ROCK CONSTRUCTION ENTRANCE THICKNESS. PLACE ADDITIONAL ROCK WHENEVER ROCK BECOMES CLOGGED WITH SEDIMENT.
3. MAINTAIN STOCKPILE OF AASHTO NO. 1 COARSE AGGREGATE.
4. SATISFACTORILY REMOVE MATERIALS AS PER SPECIFICATION IN PUBLICATION 408, SETION 849 WHEN ROCK CONSTRUCTION ENTRANCE IS NO LONGER NEEDED.
5. PROVIDE GEOTEXTILE MATERIAL MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 735. FURNISH AND INSTALL IN ACCORDANCE WITH PUBLICATION 408, SECTION 212. PROVIDE GEOTEXTILE ALONG ALL INTERFACE AREAS WITH GROUND CONTACT.

ROCK CONSTRUCTION ENTRANCE/EXIT



NOTES:
1. NO MATERIAL OR EQUIPMENT SHALL BE STORED OR STOCKPILED WITHIN THE AREA SURROUNDED BY TREE PROTECTION FENCING.
2. ALL CLEARING, GRUBBING, GRADING AND TRENCHING WITHIN 10 FEET OF TREE IS TO BE PERFORMED BY HAND.

TREE PROTECTION
NOT TO SCALE

CUBIC YARDS OF TOPSOIL REQUIRED FOR APPLICATION TO VARIOUS DEPTHS

DEPTH (IN.)	PER 1,000 SQUARE FEET	PER ACRE
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806
7	21.7	940
8	24.8	1,074

TOPSOIL NOTES:
1. GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREAS AND TO PROVIDE A ROUGHENED SURFACE TO PREVENT TOPSOIL FROM SLIDING DOWN SLOPE.
2. TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF 4 TO 8 INCHES MINIMUM -- 2 INCHES ON FILL OUTSLOPES. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS UNLESS SUCH DEPRESSIONS ARE PART OF THE PCSM PLAN.
3. TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION. COMPACTED SOILS SHOULD BE SCARIFIED 6 TO 12 INCHES ALONG CONTOUR WHEREVER POSSIBLE PRIOR TO SEEDING.

TOPSOIL SPECIFICATIONS
NOT TO SCALE

EROSION AND SEDIMENT POLLUTION CONTROL PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084595

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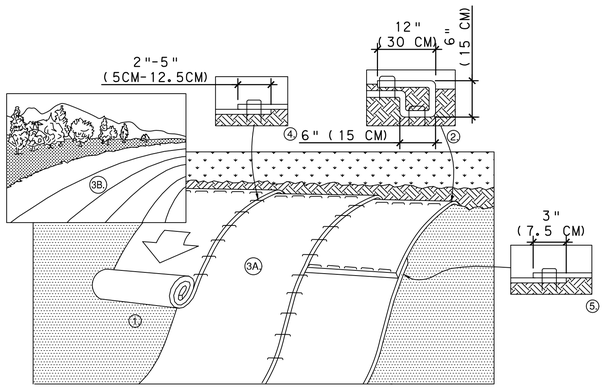
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	TCB	3 OF 5
CHELTENHAM TOWNSHIP				

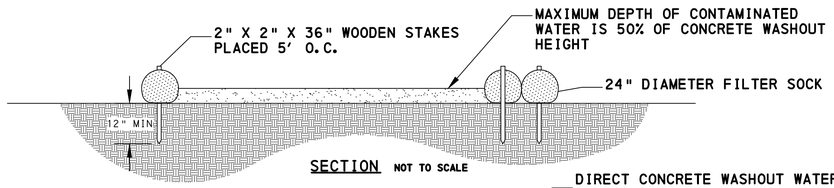
REVISION NUMBER	REVISIONS	DATE	BY



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15CM) DEEP X 6" (15CM) WIDE TRENCH WITH APPROXIMATELY 12" (30CM) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30CM) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5CM-12.5CM) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30CM) APART ACROSS ENTIRE BLANKET WIDTH.

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL BLANKET INSTALLATION DETAIL (SLOPE)
NOT TO SCALE



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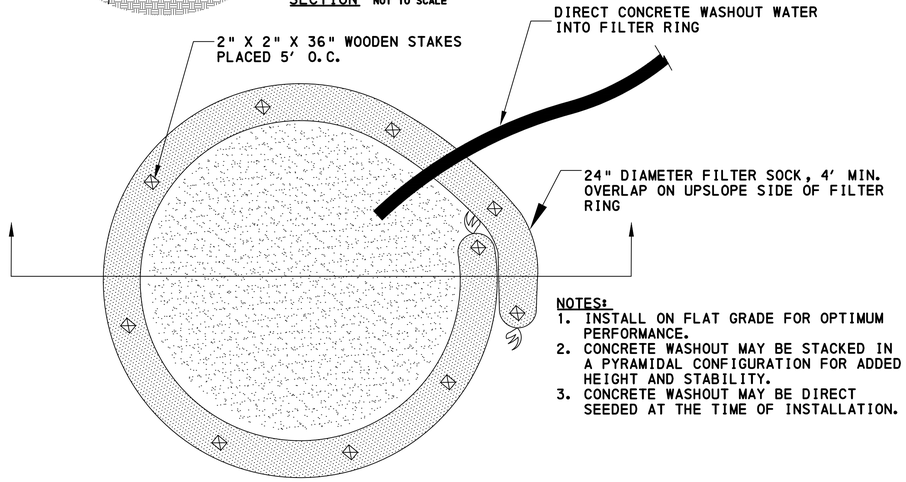


NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
2. CONCRETE WASHOUT MAY BE STACKED IN A PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT AND STABILITY.
3. CONCRETE WASHOUT MAY BE DIRECT SEEDED AT THE TIME OF INSTALLATION.

FILTER SOCK CONCRETE WASHOUT
NOT TO SCALE

ONSITE SOILS DESCRIPTION

HA-HATBORO SILT LOAM
- MEAN ANNUAL PRECIPITATION: 36 TO 50 INCHES
- MEAN ANNUAL AIR TEMPERATURE: 48 TO 57 DEGREES F
- FROST-FREE PERIOD: 140 TO 200 DAYS
- HATBORO: 95 PERCENT
- DOWN-SLOPE SHAPE: CONCAVE, LINEAR
- ACROSS-SLOPE SHAPE: CONCAVE, LINEAR
- PARENT MATERIAL: ALLUVIUM DERIVED FROM METAMORPHIC AND SEDIMENTARY ROCK
- SLOPE: 0 TO 3 PERCENT
- DEPTH TO RESTRICTIVE FEATURE: 60 TO 99 INCHES TO LITHIC BEDROCK
- FARMLAND CLASSIFICATION: NOT PRIME FARMLAND
- LAND CAPABILITY (NON-IRRIGATED): 4W

UDSB-UDORTHENTS, SCHIST AND GNEISS
- MEAN ANNUAL PRECIPITATION: 35 TO 55 INCHES
- MEAN ANNUAL AIR TEMPERATURE: 45 TO 61 DEGREES F
- FROST-FREE PERIOD: 110 TO 235 DAYS
- UDS: 95 PERCENT
- DOWN-SLOPE SHAPE: CONVEX, LINEAR
- ACROSS-SLOPE SHAPE: CONVEX, LINEAR
- PARENT MATERIAL: GRADED AREAS OF SCHIST AND/OR GNEISS
- SLOPE: 0 TO 8 PERCENT
- DEPTH TO RESTRICTIVE FEATURE: 40 TO 72 INCHES TO PARALITHIC BEDROCK
- FARMLAND CLASSIFICATION: NOT PRIME FARMLAND
- LAND CAPABILITY (NON-IRRIGATED): 7S

UUGB-URBAN LAND-UDORTHENTS, SCHIST AND GNEISS
- MEAN ANNUAL PRECIPITATION: 35 TO 55 INCHES
- MEAN ANNUAL AIR TEMPERATURE: 45 TO 61 DEGREES F
- FROST-FREE PERIOD: 110 TO 235 DAYS
- URBAN LAND: 80 PERCENT
- UDS: 15 PERCENT
- DOWN-SLOPE SHAPE: LINEAR, CONVEX
- ACROSS-SLOPE SHAPE: CONVEX, LINEAR
- PARENT MATERIAL: PAVEMENT, BUILDINGS AND OTHER ARTIFICIALLY COVERED AREAS
- SLOPE: 0 TO 8 PERCENT
- DEPTH TO RESTRICTIVE FEATURE: 10 TO 99 INCHES TO LITHIC BEDROCK
- FARMLAND CLASSIFICATION: NOT PRIME FARMLAND
- LAND CAPABILITY (NON-IRRIGATED): 8S

EROSION AND SEDIMENT POLLUTION CONTROL PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084593

DRAWING FILE: K:\3_PROJECTS\B4748 Tookany Creek Trail\Technical\01-CADD\4-PlanSheets\TCB_EROSION_&_SEDIMENT_CONTROL.dwg
PLOT DATE: 2021-7-01, 10:05
USER: oloy.sublett

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	TCB	4 OF 5
CHELTENHAM TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY

SOIL STOCKPILE
(ON EXISTING PAVED PARKING LOT)

GIMBEL FIELD

LIMIT OF WORK
STA 8+50.00
TOOKANY CREEK TRAIL
CHELTENHAM TOWNSHIP
MONTGOMERY COUNTY

ROCK CONSTRUCTION ENTRANCE

TO HARRISON AVENUE

START WORK
STA 8+88.76
TOOKANY CREEK TRAIL

TOOKANY CREEK
FLOW

TOTAL DISTURBANCE AREA
36,065.79 S.F. (0.83 AC)

HORIZONTAL 0 25 50 FEET

PROPOSED LEGEND

- 4" NO. 2A SUBBASE
- DELINEATED WETLAND
- INLET FILTER BAG FOR TYPE M INLET (ITEM NO. 0860-0000)
- LIMIT OF DISTURBANCE
- FS — COMPOST FILTER SOCK
- ① FILTER SOCK NUMBER
- TPF — TEMPORARY PROTECTIVE FENCE (ITEM NO. 0811-0003)
- INDIVIDUAL TREE PROTECTION (ITEM NO. 0811-0003)
- TREE REMOVAL

- —130— EXISTING CONTOUR ELEVATION
- 130 PROPOSED CONTOUR ELEVATION
- Ha SOIL TYPE - HATBORO SILT LOAM
- UdsB SOIL TYPE - UDORTHENTS, SCHIST AND GNEISS COMPLEX (0-8 PERCENT SLOPE)
- EROSION CONTROL BLANKET
- 100-YEAR FLOODPLAIN
- FLOODWAY LIMIT
- ORDINARY HIGH WATER MARK

EROSION AND SEDIMENT POLLUTION CONTROL PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084595

DRAWING FILE: K:\3_PROJECTS\B4748 Tookany Creek Trail\Technical\01-CADD\4-PlanSheets\TCB_EROSION_&_SEDIMENT_CONTROL.dwg
PLOT DATE: 2021-7-01, 10:05
USER: clay.sublett

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	MONTGOMERY	0000	TCB	5 OF 5
CHELTENHAM TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

STA 17+98.00 TO STA 19+28.00
PROPOSED 130' PREFABRICATED
STEEL BRIDGE

STA 17+88.00

STA 19+38.00

LEAVE STUMPS OF THESE
TREES IN PLACE; DO NOT
DISTURB BANK OF CREEK

CRANE PAD LOCATION

ROCK CONSTRUCTION ENTRANCE

SOIL STOCKPILE

TOOKANY CREEK
FLOW

TO: CHURCH ROAD

SR 2060 (NEW SECOND STREET)

STOP WORK
STA 22+34.75
TOOKANY CREEK TRAIL

LIMIT OF WORK
STA 22+50.00
TOOKANY CREEK TRAIL
CHELTENHAM TOWNSHIP
MONTGOMERY COUNTY

INLET FILTER BAG
FOR TYPE M INLET (TYP.)

TMID #31074A 008
N/F CHELTENHAM TOWNSHIP
ALSO KNOWN AS TOOKANY CREEK PARKWAY
(100' R.O.W. UNIMPROVED)

HORIZONTAL 0 25 50 FEET

PROPOSED LEGEND

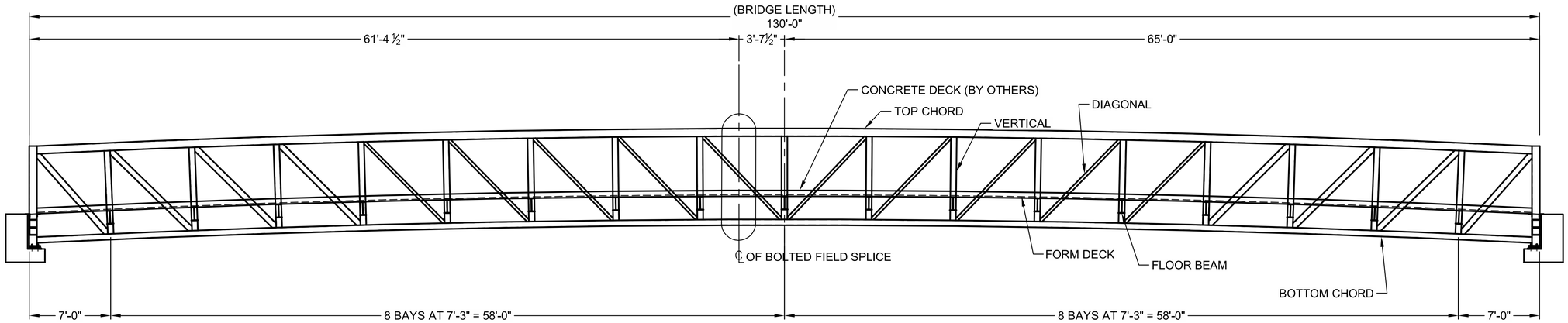
- 4" NO. 2A SUBBASE
- BRIDGE APPROACH SLAB
- PREFABRICATED STEEL BRIDGE
- DELINEATED WETLAND
- INLET FILTER BAG FOR TYPE M INLET (ITEM NO. 0860-0000)
- LIMIT OF DISTURBANCE
- FS — COMPOST FILTER SOCK
- ① FILTER SOCK NUMBER
- TPF — TEMPORARY PROTECTIVE FENCE (ITEM NO. 0811-0003)
- INDIVIDUAL TREE PROTECTION (ITEM NO. 0811-0003)
- TREE REMOVAL

- 130 EXISTING CONTOUR ELEVATION
- 130 PROPOSED CONTOUR ELEVATION
- Ha SOIL TYPE - HATBORO SILT LOAM
- UugB SOIL TYPE - URBAN LAND-UDORTHENTS, SCHIST AND GNEISS COMPLEX (0-8 PERCENT SLOPE)
- EROSION CONTROL BLANKET
- 100-YEAR FLOODPLAIN
- FLOODWAY LIMIT
- ORDINARY HIGH WATER MARK

EROSION AND SEDIMENT POLLUTION CONTROL PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MATTHEW LUDWIG
ENGINEER
No. PE084594

DRAWING FILE: K:_3_PROJECTS\B4748 Tookany Creek Trail\Technical\01-CADD\4-PlanSheets\TCB_EROSION_&_SEDIMENT_CONTROL.dwg
PLOT DATE: 2021-7-01, 10:05
USER: clay.sublett



GENERAL NOTES

1. DESIGN PROCEDURE IS IN ACCORDANCE WITH "LRFD BRIDGE DESIGN SPECIFICATIONS" 6TH EDITION & "GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES" BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) 2009.

2. BRIDGE MEMBERS ARE FABRICATED FROM HIGH STRENGTH, LOW ALLOY, ENHANCED ATMOSPHERIC CORROSION RESISTANT ASTM A847 COLD-FORMED WELDED SQUARE AND RECTANGULAR TUBING, AND ASTM A588, ASTM A606, OR ASTM A709-50W PLATE AND STRUCTURAL SHAPES (Fy=50,000 PSI).

3. CONCRETE DECK: GALVANIZED FORM DECK SUPPLIED BY CONTECH. CONCRETE, REINFORCING AND EXPANSION MATERIAL SUPPLIED BY OTHERS. See Section 2/1 this sheet

4. THE GAS METAL ARC WELDING PROCESS OR FLUX CORED ARC WELDING PROCESS WILL BE USED. WELDING TO BE IN ACCORDANCE WITH AWS D1.1.

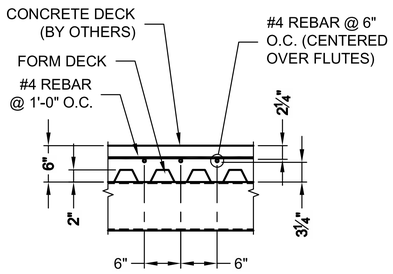
5. ALL TOP AND BOTTOM CHORD SHOP SPLICES TO BE COMPLETE PENETRATION TYPE WELDS. WELD BETWEEN TOP CHORD AND END VERTICAL SHALL BE AS DETAILED.

6. UNLESS OTHERWISE NOTED, WELDED CONNECTIONS SHALL BE FILLET WELDS (OR HAVE THE EFFECTIVE THROAT OF A FILLET WELD) OF A SIZE EQUAL TO THE THICKNESS OF THE LIGHTEST GAGE MEMBER IN THE CONNECTION. WELDS SHALL BE APPLIED AS FOLLOWS:
   - A. BOTH ENDS OF VERTICALS, DIAGONALS, AND FLOOR BEAMS SHALL BE WELDED ALL AROUND.
   - B. BRACE DIAGONALS WILL BE WELDED ALL AROUND.
   - C. MISCELLANEOUS NON-STRUCTURAL MEMBERS WILL BE STITCH WELDED TO THEIR SUPPORTING MEMBERS.

7. AASHTO LRFD BRIDGE DESIGN WAS ONLY BASED ON COMBINATIONS OF THE FOLLOWING LOADS WHICH WILL PRODUCE MAXIMUM CRITICAL MEMBER STRESSES.
   - A. 90 PSF UNIFORM LIVE LOADING ON THE FULL DECK AREA OR ONE 10,000 LB VEHICLE LOAD. THE LOAD SHALL BE DISTRIBUTED AS A FOUR-WHEEL VEHICLE WITH 80% OF THE LOAD ON THE REAR WHEELS. THE WHEEL TRACK WIDTH OF THE VEHICLE SHALL BE 6'-0" AND THE WHEEL BASE SHALL BE 10'-0". THE VEHICLE SHALL BE POSITIONED SO AS TO PRODUCE THE MAXIMUM STRESSES IN EACH MEMBER, INCLUDING DECKING.
   - B. 35 PSF WIND LOAD ON THE FULL HEIGHT OF THE BRIDGE, AS IF ENCLOSED.
   - C. 20 PSF UPWARD FORCE APPLIED AT THE WINDWARD QUARTER POINT OF THE TRANSVERSE BRIDGE WIDTH (AASHTO 3.8.2).

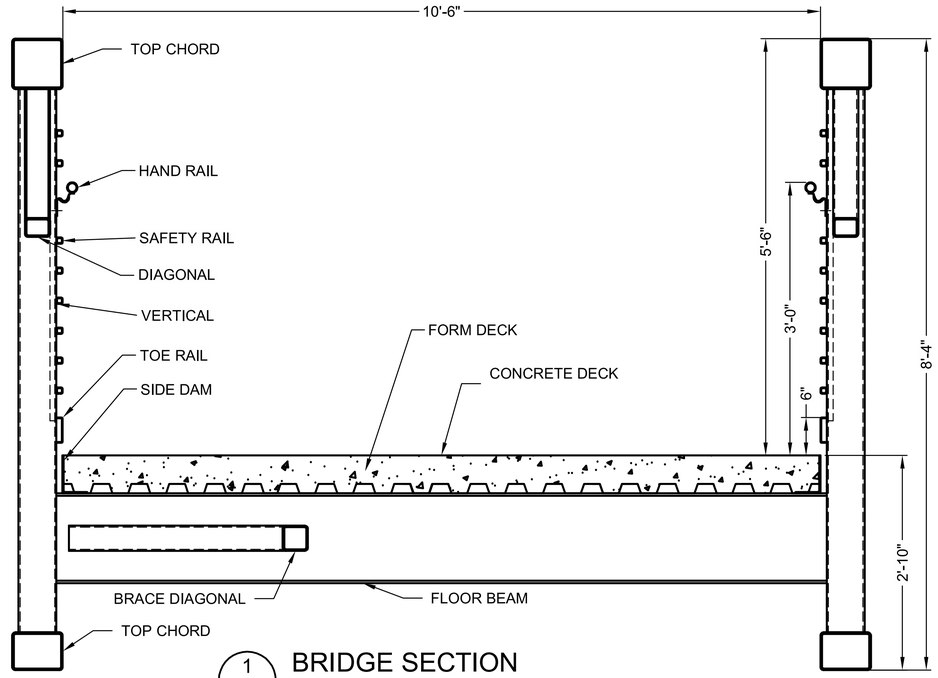
8. CLEANING: ALL EXPOSED SURFACES OF STEEL SHALL BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACES PREPARATION SPECIFICATIONS NO. 7 BRUSH-OFF BLAST CLEANING. SSPC-SP7-LATEST EDITION.

9. MINIMUM MATERIAL THICKNESS OF 1/4" ON ALL STRUCTURAL MEMBERS.



2/1 TYP SLAB REINFORCEMENT DETAIL

f'c = 3,500 PSI (MINIMUM 28 DAY STRENGTH)
GRADE 60 REINFORCING (fy = 60,000 PSI)



1/1 BRIDGE SECTION

MARK	DATE	REVISION DESCRIPTION	BY

130'-0" X 10'-6"
TOOKANY CREEK TRAIL PHASE III
PEDESTRIAN BRIDGE
MONTGOMERY COUNTY, PA

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
8301 State Highway 29 North, Alexandria, MN 56308
800-338-2047 320-852-7600 320-852-7067 FAX

pexpress-logo.jpg

DATE: 1/17/20

DESIGNED:	DRAWN:
XXX	XXX
CHECKED:	APPROVED:
XXX	XXX
PROJECT No.:	SEQUENCE No.:
508708	XX

SHEET: 1 OF 1

AISC CERTIFIED FABRICATOR

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TOOKANY CREEK TRAIL BRIDGE
ABUTMENT
CHELTENHAM TOWNSHIP, PENNSYLVANIA

NOTES
GENERAL NOTES:

1. THIS ABUTMENT HAS BEEN DESIGNED FOR GENERAL SITE CONDITIONS. THE PROJECT ENGINEER, NV5 INC, SHALL BE RESPONSIBLE FOR THE STRUCTURE'S SUITABILITY TO THE EXISTING SITE CONDITIONS AND FOR THE HYDRAULIC EVALUATION – INCLUDING SCOUR AND CONFIRMATION OF SOIL CONDITIONS.

2. PRIOR TO CONSTRUCTION, CONTRACTOR MUST VERIFY ALL ELEVATIONS SHOWN THROUGH THE ENGINEER.

3. ONLY CONTECH ENGINEERED SOLUTIONS, INC. MAY PROVIDE THE ABUTMENT STRUCTURE DESIGNED IN ACCORDANCE WITH THESE PLANS.

4. THE USE OF ANOTHER FOUNDATION WITH THE DESIGN ASSUMPTIONS USED FOR THE CONTINENTAL STRUCTURE MAY LEAD TO SERIOUS DESIGN ERRORS. USE OF ANY OTHER FOUNDATION WITH THIS DESIGN AND DRAWINGS VOIDS ANY CERTIFICATION OF THIS DESIGN AND WARRANTY. CONTECH BRIDGE SOLUTIONS INC. ASSUMES NO LIABILITY FOR DESIGN OF ANY ALTERNATE OR SIMILAR TYPE STRUCTURES.

DESIGN DATA

DESIGN LOADING:
TRUSS BRIDGE: SEE ESTIMATED REACTIONS TABLE ON THIS SHEET
BRIDGE DESIGN BY OTHERS
ABUTMENT DESIGN LOAD: EARTH PRESSURE + LIVE LOAD SURCHARGE
FACTORED BEARING RESISTANCE - STRENGTH LIMIT STATE: 14900 PSF *
ALL FOUNDATION TO BEAR ON RESIDUUM OR BEDROCK.

*FOUNDATION EXCAVATION AND SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT FOR THIS PROJECT PREPARED BY GILMORE & ASSOCIATES DATED 1/2/2020. PER THE GEOTECHNICAL REPORT THE ANTICIPATED GROUNDWATER ELEVATION IS 119±.

MATERIALS

PRECAST UNITS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH SPECFICATIONS FOR MANUFACTURE AND INSTALLATION OF PRECAST ABUTMENT SYSTEM. CONCRETE FOR BACKWALL AND CLOSURE POUR SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. REINFORCING STEEL FOR BACKWALL AND CLOSURE POUR SHALL CONFORM TO ASTM A615-GRADE 60.

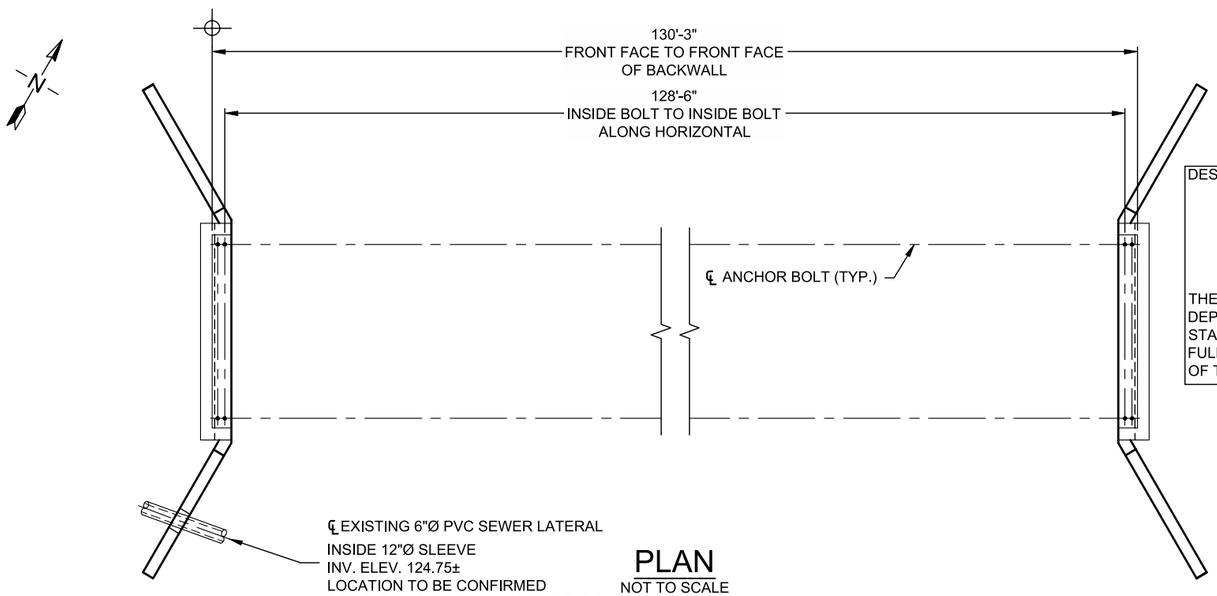
BRIDGE REACTIONS

+ DOWNWARD LOAD
- UPWARD LOAD

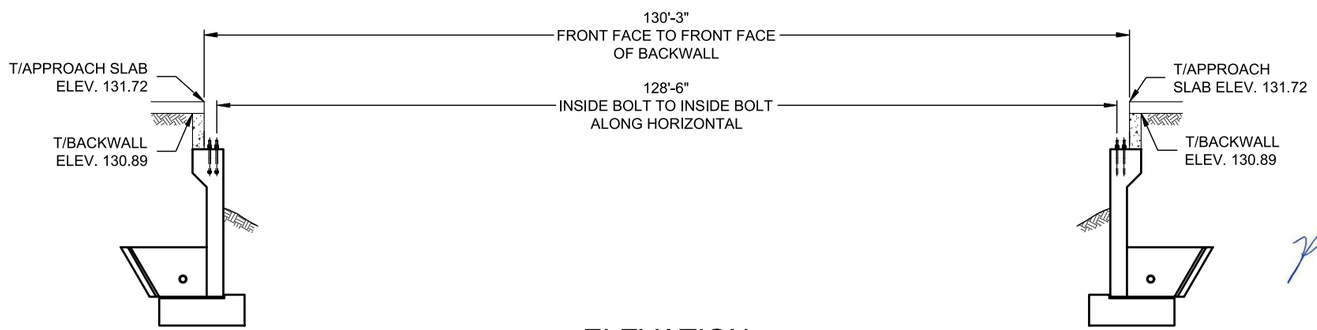
	P (LBS)	H (LBS)	L (LBS)
DEAD LOAD	37,650		
UNIFORM LIVE LOAD	30,715		
VEHICLE LOAD	5,000		
WIND UPLIFT 20 PSF	- 11,540		
WIND	±8890	19,150	
THERMAL			5,650

"P" - VERTICAL LOAD EACH BASE PLATE (4 PER BRIDGE)
"H" - HORIZONTAL LOAD EACH FOOTING (2 PER BRIDGE)
"L" - LONGITUDINAL LOAD EACH BASE PLATE (4 PER BRIDGE)

NOTE: ABUTMENT DESIGN SHALL BE VERIFIED WITH FINAL BRIDGE LOADS.



PLAN
NOT TO SCALE



ELEVATION
NOT TO SCALE

DESIGN REVIEWED BY:

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL KEVIN ELYNN ENGINEER NO. 33260-E 2/14/22

THE DESIGN REVIEW IS FOR GENERAL CONFORMANCE WITH THE DEPARTMENT'S DESIGN AND CONSTRUCTION CRITERIA AND STANDARDS AND IS NOT INTENDED TO RELIEVE THE DESIGNER OF FULL RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS OF THE PLANS.

NOTE: ALL ABUTMENT DETAILS SHALL BE VERIFIED WITH FINAL BRIDGE DETAILS.

⊕ DENOTES KEY DIMENSION

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL PHILIP ALAN CREAMER ENGINEER NO. PE-070301

Digitally signed by Philip A. Creamer
Date: 2022.02.14 14:30:57 -05'00'

MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTINENTAL BRIDGE

CONTRACT DRAWING

TOOKANY CREEK TRAIL BRIDGE
ABUTMENT
CHELTENHAM TOWNSHIP, PENNSYLVANIA

PROJECT No.:	SEQ. No.:	DATE:
508708	020	2/14/2022
DESIGNED: PAC	DRAWN: TEK	
CHECKED:	APPROVED: PAC	
SHEET NO.: CT1 OF CT7		

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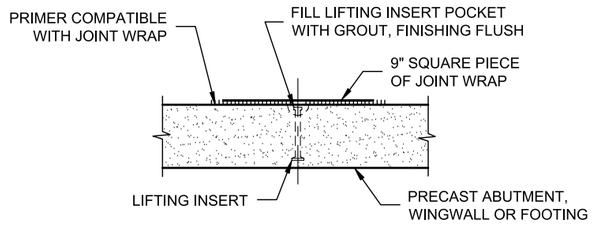
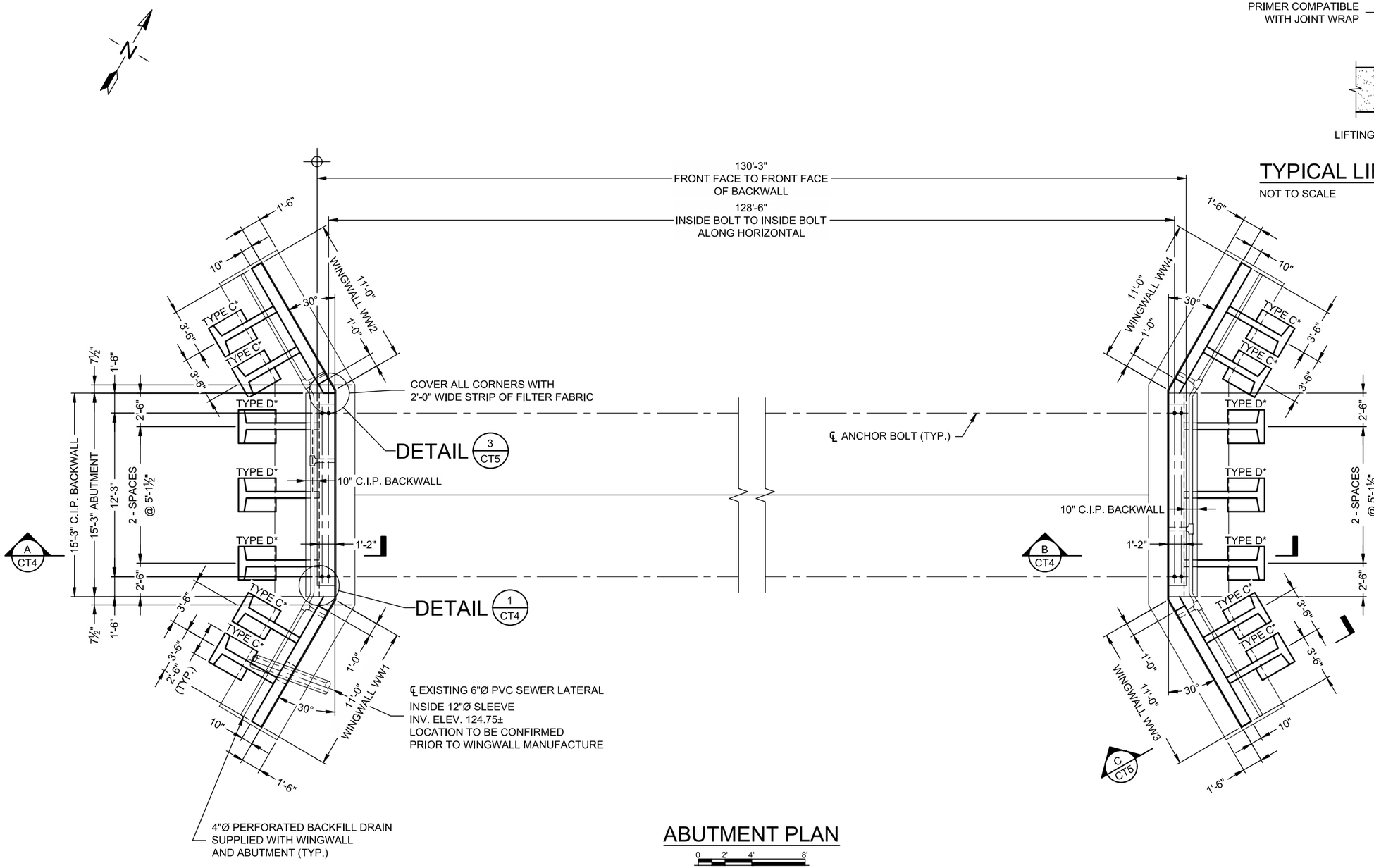


TYPICAL LIFT INSERT SEALING DETAIL

NOT TO SCALE



ABUTMENT PLAN

0 2' 4' 8'

PHILIP ALAN CREAMER
ENGINEER
NO. PE-078091

Digitally signed by Philip A. Creamer
Date: 2022.02.14 14:31:12 05'00'

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MARK	DATE	REVISION DESCRIPTION	BY

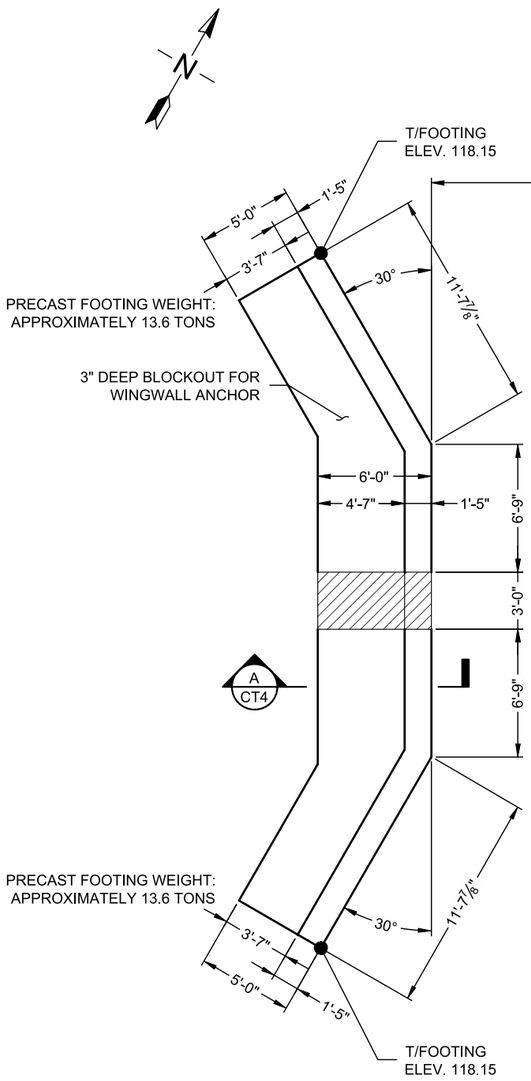
CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTINENTAL BRIDGE

CONTRACT DRAWING

TOOKANY CREEK TRAIL BRIDGE
ABUTMENT
CHELTENHAM TOWNSHIP, PENNSYLVANIA

PROJECT No.:	SEQ. No.:	DATE:
508708	020	2/14/2022
DESIGNED: PAC	DRAWN: TEK	
CHECKED:	APPROVED: PAC	
SHEET NO.: CT2 OF CT7		



ABUTMENT FOUNDATION PLAN

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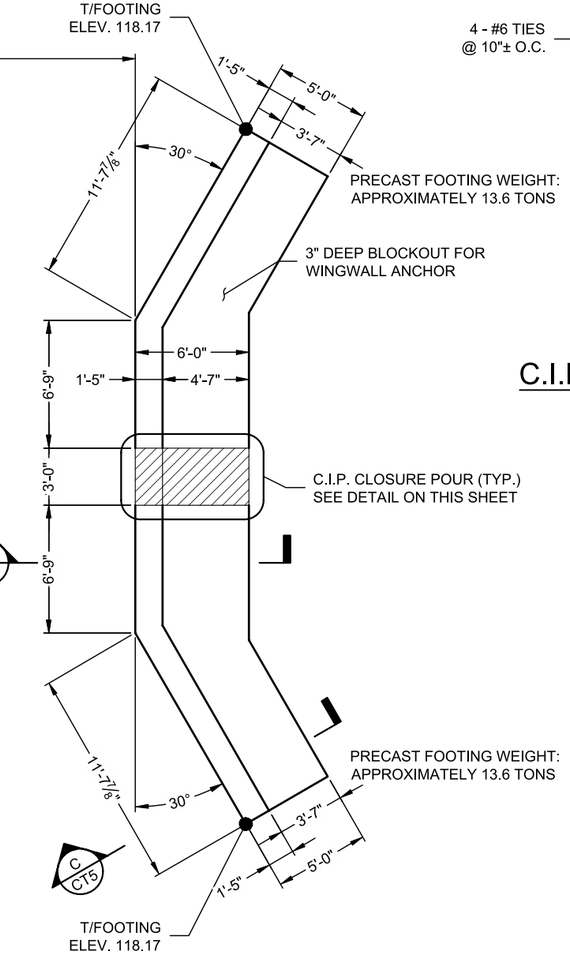

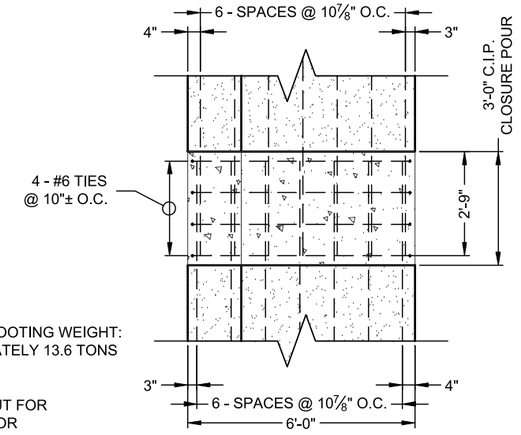

C.I.P. CLOSURE POUR DETAIL

0 1' 2' 4'

Digitally signed by Philip A. Creamer
Date: 2022.02.14 14:31:34 -05'00'

MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTINENTAL BRIDGE

CONTRACT DRAWING

TOOKANY CREEK TRAIL BRIDGE
ABUTMENT
CHELTENHAM TOWNSHIP, PENNSYLVANIA

PROJECT No.:	SEQ. No.:	DATE:
508708	020	2/14/2022
DESIGNED: PAC	DRAWN: TEK	
CHECKED:	APPROVED: PAC	
SHEET NO.: CT3 OF CT7		

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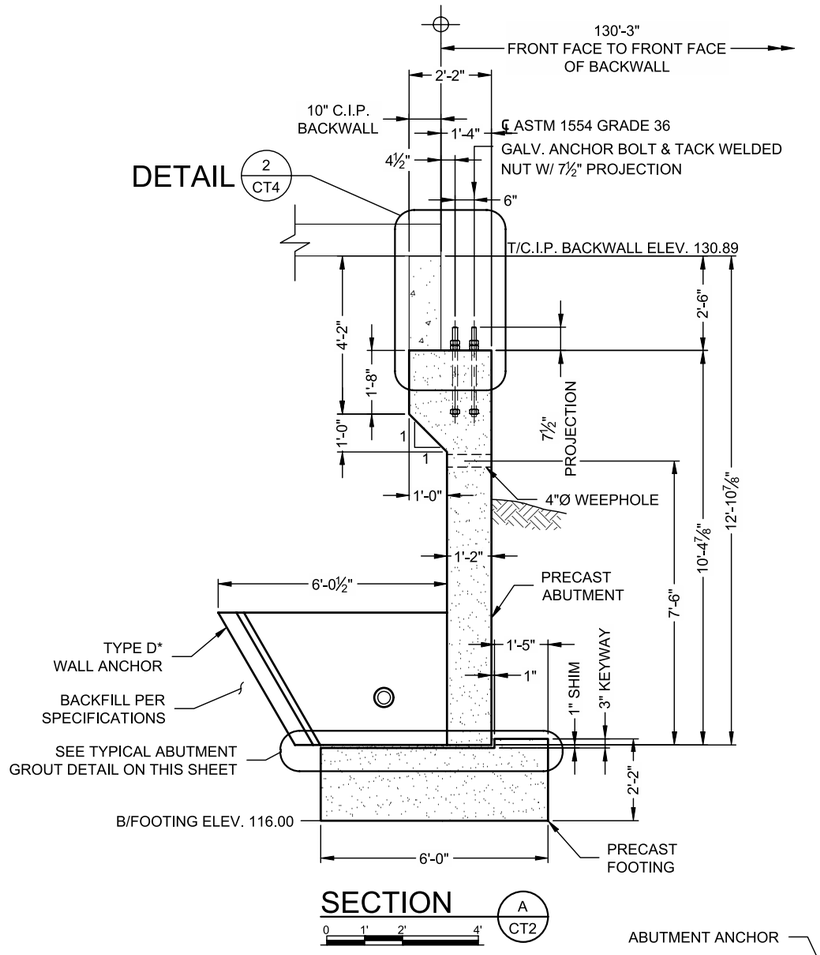
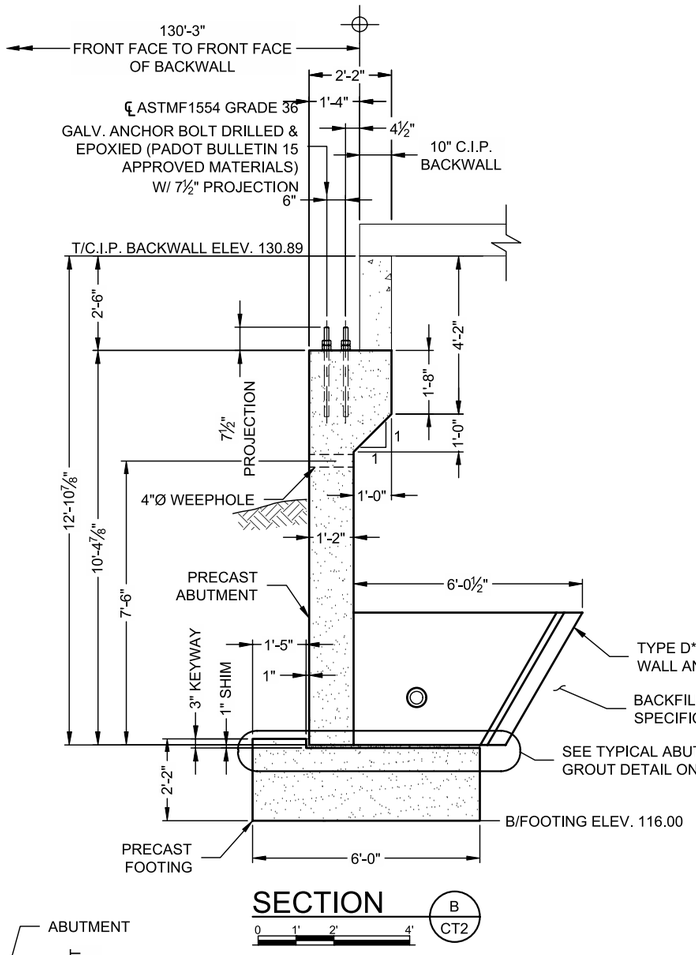
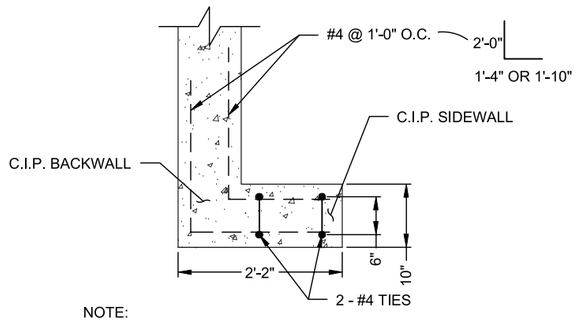
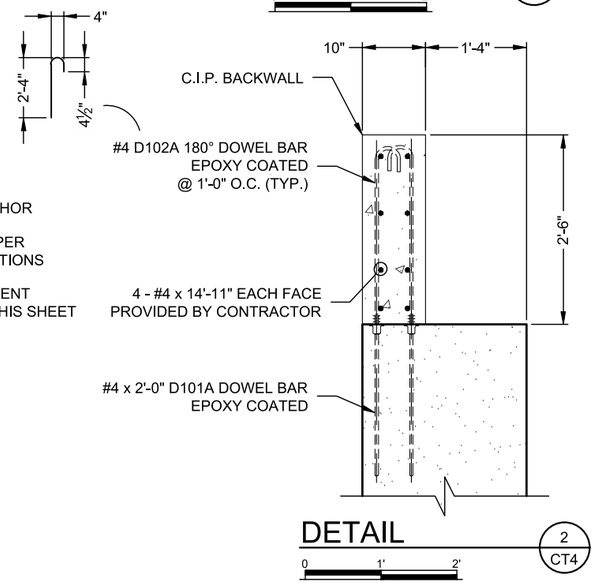






NOTE:
- OTHER REINFORCING NOT SHOWN FOR CLARITY

DETAIL 1 CT2
0 1' 2'



DETAIL 2 CT4
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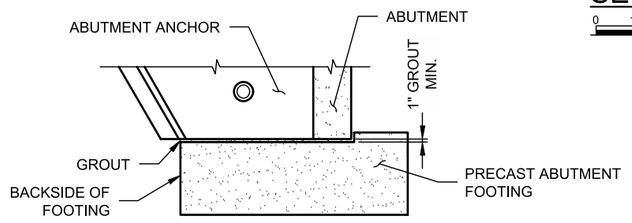

NOTES:
- MINIMUM 1" GROUT UNDER ABUTMENT & ANCHOR STEM.
- AREA BETWEEN ABUTMENT FOOTING AND ABUTMENT ANCHOR SHALL BE GROUTED SOLID BEFORE BACKFILL.
- FORM BACKSIDE OF FOOTING TO DIMENSIONS SHOWN ON FOUNDATION PLAN.

TYPICAL ABUTMENT GROUT DETAIL

NOT TO SCALE

Digitally signed by
Philip A. Creamer
Date: 2022.02.14
14:31:48 -05'00'

MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTINENTAL BRIDGE

CONTRACT DRAWING

TOOKANY CREEK TRAIL BRIDGE
ABUTMENT
CHELTENHAM TOWNSHIP, PENNSYLVANIA

PROJECT No.:	SEQ. No.:	DATE:
508708	020	2/14/2022
DESIGNED: PAC		DRAWN: TEK
CHECKED:		APPROVED: PAC
SHEET NO.: CT4 OF CT7		

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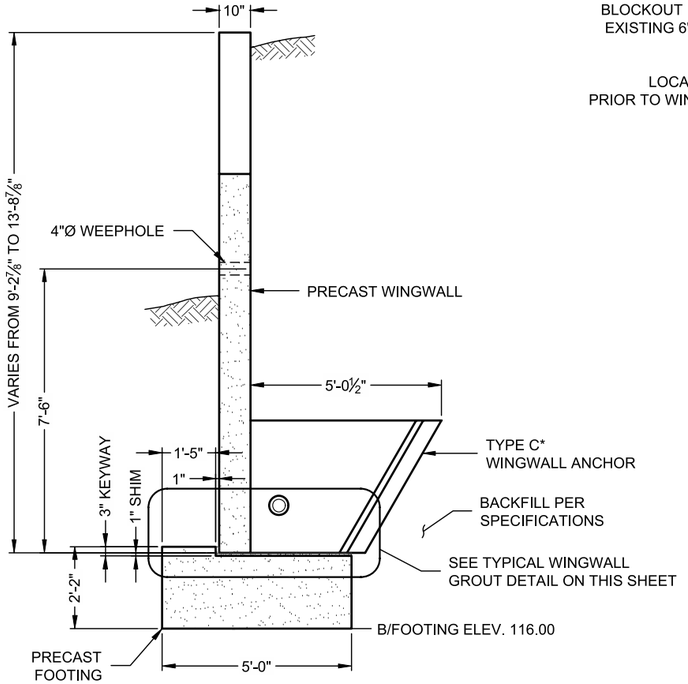
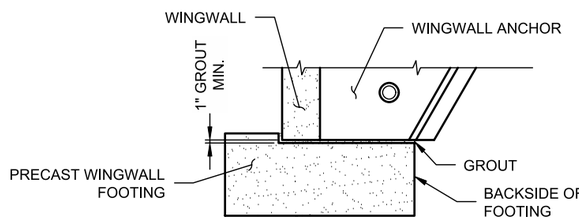


SECTION C / CT2

0 1' 2' 4'

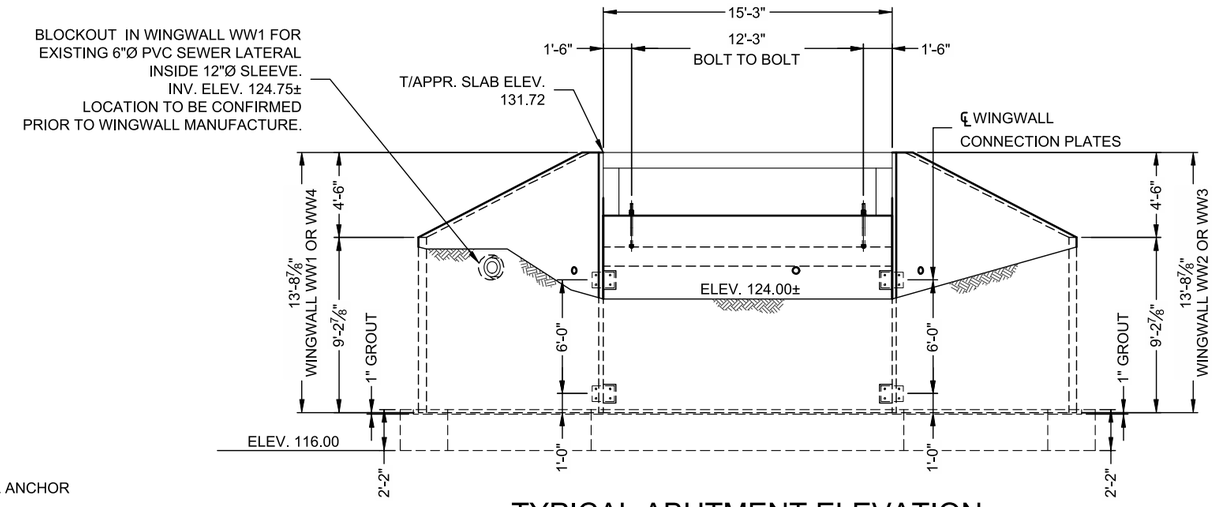


NOTES:

- MINIMUM 1" GROUT UNDER WINGWALL & ANCHOR STEM.
- AREA BETWEEN WINGWALL FOOTING AND WINGWALL ANCHOR SHALL BE GROUTED SOLID BEFORE BACKFILL.
- FORM BACKSIDE OF FOOTING TO DIMENSIONS SHOWN ON FOUNDATION PLAN.

TYPICAL WINGWALL GROUT DETAIL

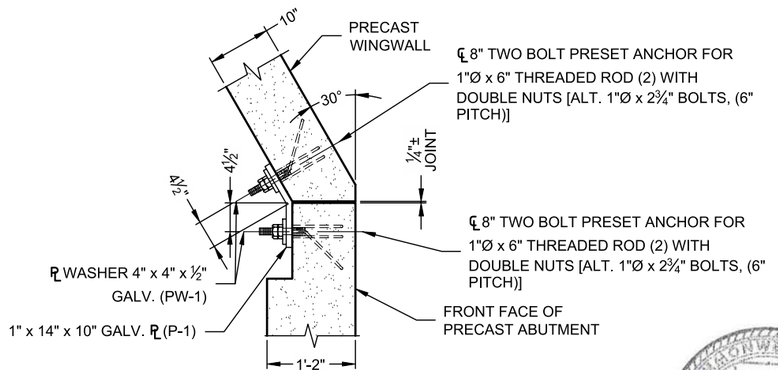
NOT TO SCALE



TYPICAL ABUTMENT ELEVATION

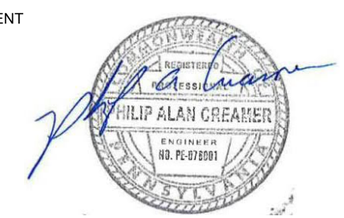
0 2' 4' 8'

NOTE:
CONNECTION ℄'S (P-1) MUST BE POSITIONED WITH SMALL Ø HOLES TOWARD PRECAST ABUTMENT



DETAIL @ ABUTMENT 3 / CT2

0 1' 2'



Digitally signed by Philip A. Creamer
Date: 2022.02.14 14:32:06 -05'00'

MARK	DATE	REVISION DESCRIPTION	BY

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www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTINENTAL BRIDGE

CONTRACT DRAWING

TOOKANY CREEK TRAIL BRIDGE
ABUTMENT
CHELTENHAM TOWNSHIP, PENNSYLVANIA

PROJECT No.:	SEQ. No.:	DATE:
508708	020	2/14/2022
DESIGNED: PAC	DRAWN: TEK	
CHECKED:	APPROVED: PAC	
SHEET NO.: CT5 OF CT7		

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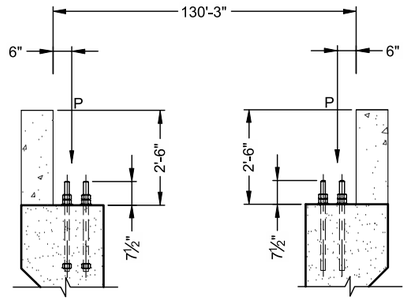

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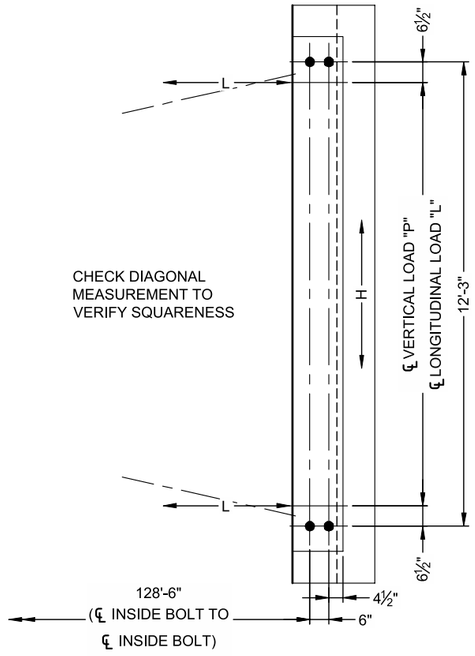

ANCHOR BOLT PLAN

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CONSTRUCTION CONSIDERATIONS

FROM STRUCTURE FOUNDATION REPORT BY GILMORE & ASSOC. FOR TOOKANY CREEK TRAIL PHASE III, DATED 1/02/20

- THE FOUNDATION EXCAVATIONS SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL PROFESSIONAL AND/OR THE DISTRICT GEOTECHNICAL ENGINEER, IF REQUIRED. ANY SOFT, LOOSE, OR UNSUITABLE SOIL SHALL BE OVER EXCAVATED AND REPLACE WITH A COMPACTED 2A OR APPROVED EQUAL.
- PROVIDE R-7 OR LARGER RIPRAP IN ALL STREAM SIZE EXCAVATED AREAS IN ACCORDANCE WITH PENNDOT PUBLICATION 15M DM-4, SECTION 7.2.5.
- PROVIDE ADEQUATE DEWATERING METHODS DURING EXCAVATION AND FOUNDATION CONSTRUCTION SUCH THAT THE EXCAVATION IS DRY ENOUGH FOR INSPECTION AND CONCRETE PLACEMENT.
- EXCAVATE ACCORDING TO CURRENT OSHA OR OTHER APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS. PROVIDE TEMPORARY SHORING OF EXCAVATED AREAS AS NECESSARY. DIRECT SURFACE RUNOFF AWAY FROM THE EXCAVATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE STABILITY OF THE EXCAVATIONS.

ABUTMENT BACKILL REQUIREMENTS

1.0. BACKFILL
1.1. DO NOT PERFORM BACKFILLING DURING WET OR FREEZING WEATHER.
1.2. NO BACKFILL SHALL BE PLACED AGAINST ANY STRUCTURAL ELEMENTS UNTIL THEY HAVE BEEN APPROVED BY THE ENGINEER.
1.3. BACKFILL SHALL BE CONSIDERED AS ALL REPLACED EXCAVATION AND NEW EMBANKMENT ADJACENT TO THE PRECAST CONCRETE ELEMENTS. THE PROJECT CONSTRUCTION AND MATERIAL SPECIFICATIONS, WHICH INCLUDE THE SPECIFICATIONS FOR EXCAVATION FOR STRUCTURES AND ROADWAY EXCAVATION AND EMBANKMENT CONSTRUCTION, SHALL APPLY EXCEPT AS MODIFIED IN THIS SECTION.
1.4. BACKFILL ZONES:
IN-SITU SOIL
- ZONE A: CONSTRUCTED EMBANKMENT OR OVERFILL.
- ZONE B: FILL THAT IS DIRECTLY ASSOCIATED WITH ABUTMENT/WALL INSTALLATION.
- ZONE C: ROAD/PATH STRUCTURE.

1.5. REQUIRED BACKFILL PROPERTIES
1.5.1. IN-SITU SOIL - NATURAL GROUND IS TO BE SUFFICIENTLY STABLE TO ALLOW EFFECTIVE SUPPORT TO THE PRECAST CONCRETE BRIDGE UNITS. AS A GUIDE, THE EXISTING NATURAL GROUND SHOULD BE OF SIMILAR QUALITY AND DENSITY TO ZONE B MATERIAL FOR MINIMUM LATERAL DIMENSION OF ONE BRIDGE SPAN OUTSIDE OF THE BRIDGE FOOTING.
1.5.2. ZONE A - ZONE A REQUIRES FILL MATERIAL WITH SPECIFICATIONS AND COMPACTING PROCEDURES EQUAL TO THAT FOR NORMAL ROAD EMBANKMENTS.
1.5.3. ZONE B - SHALL BE AASHTO #57 AND, NEAR CONCRETE SURFACES, FREE OF STONES LARGER THAN 3" IN DIAMETER.
1.5.4. ZONE C - ZONE C IS THE ROAD/PATH SECTION OF GRAVEL, ASPHALT OR CONCRETE BUILT IN COMPLIANCE WITH LOCAL ENGINEERING PRACTICES.
1.5.5. GEOTECHNICAL ENGINEER SHALL REVIEW GRADATIONS OF ALL INTERFACING MATERIALS AND, IF NECESSARY, RECOMMEND GEOTEXTILE FILTER FABRIC (PROVIDED BY CONTRACTOR)

1.6. THE FILL MUST BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE BACKFILL SHALL BE PLACED TO WITHIN 1'-0" OF BRIDGE SEAT PRIOR TO TRUSS BRIDGE INSTALLATION.

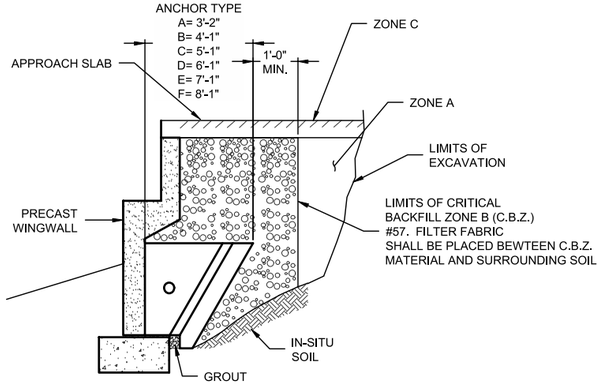
THE BACKFILL OF ZONE B SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% OF THE STANDARD PROCTOR, AS REQUIRED BY AASHTO T-99.

SOIL WITHIN 1'-0" OF CONCRETE SURFACES SHOULD BE HAND-COMPACTED. ELSEWHERE, USE OF ROLLERS IS ACCEPTABLE. IF VIBRATING ROLLER-COMPACTORS ARE USED, THEY SHOULD NOT BE STARTED OR STOPPED WITHIN ZONE B AND THE VIBRATION FREQUENCY SHOULD BE AT LEAST 30 REVOLUTIONS PER SECOND.

BACKFILL AGAINST A WATERPROOFED SURFACE SHALL BE PLACED CAREFULLY TO AVOID DAMAGE TO THE WATERPROOFING MATERIAL.
1.7. WINGWALLS/ABUTMENTS
BACKFILL IN FRONT OF WINGWALLS AND/OR ABUTMENTS SHALL BE CARRIED TO GROUND LINES SHOWN IN THE PLANS.
1.8. MONITORING
THE CONTRACTOR SHALL CHECK SETTLEMENTS AND HORIZONTAL DISPLACEMENT OF FOUNDATION TO ENSURE THAT THEY ARE WITHIN THE ALLOWABLE LIMIT PROVIDED BY THE ENGINEER. THESE MEASUREMENTS SHOULD GIVE AN INDICATION OF THE SETTLEMENTS AND DEFORMATIONS ALONG THE LENGTH OF THE FOUNDATIONS.

THE FIRST MEASUREMENT ROW SHOULD TAKE PLACE AFTER THE ERECTION OF ALL ABUTMENT ELEMENTS, A SECOND AFTER COMPLETION OF BACKFILLING, AND A THIRD AFTER PLACEMENT OF THE BRIDGE. FURTHER MEASUREMENTS MAY BE MADE ACCORDING TO LOCAL CONDITIONS.

THE MAXIMUM DIFFERENCE IN VERTICAL DISPLACEMENTS 'Y' SHOULD NOT EXCEED 1" FROM ONE ABUTMENT TO THE OTHER.



ABUTMENT BACKFILL REQUIREMENTS

NOT TO SCALE

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MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTINENTAL BRIDGE

CONTRACT DRAWING

TOOKANY CREEK TRAIL BRIDGE
ABUTMENT
CHELTENHAM TOWNSHIP, PENNSYLVANIA

PROJECT No.:	SEQ. No.:	DATE:
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SPECIFICATIONS FOR MANUFACTURE AND INSTALLATION OF PRECAST ABUTMENT SYSTEM

1. DESCRIPTION
   1.1. TYPE - THIS WORK SHALL CONSIST OF FURNISHING AND CONSTRUCTING A CON/SPAN® PRECAST ABUTMENT IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN AND DIMENSIONS SHOWN ON THE PLANS OR AS ESTABLISHED BY THE ENGINEER. IN SITUATIONS WHERE TWO OR MORE SPECIFICATIONS APPLY TO THIS WORK, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.
   1.2. DESIGNATION - PRECAST REINFORCED CONCRETE CON/SPAN® ABUTMENT WALLS MANUFACTURED IN ACCORDANCE WITH THIS SPECIFICATION SHALL BE DESIGNATED BY LENGTH, HEIGHT, AND ANGLE.

2. DESIGN
   2.1. SPECIFICATION - THE PRECAST ELEMENTS ARE DESIGNED IN ACCORDANCE WITH THE "AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS " 8TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017.

3. MATERIALS
   3.1. CONCRETE - THE CONCRETE FOR THE PRECAST ELEMENTS SHALL BE AIR-ENTRAINED WHEN INSTALLED IN AREAS SUBJECT TO FREEZE-THAW CONDITIONS, COMPOSED OF PORTLAND CEMENT, FINE AND COARSE AGGREGATES, ADMIXTURES AND WATER. AIR-ENTRAINED CONCRETE SHALL CONTAIN 6 ± 2 PERCENT AIR. THE AIR-ENTRAINING ADMIXTURE SHALL CONFORM TO AASHT0 M154. THE MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI.
      3.1.1. PORTLAND CEMENT - SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATIONS C150-TYPE I, TYPE II, OR TYPE I,II CEMENT.
      3.1.2. COARSE AGGREGATE - SHALL CONSIST OF STONE HAVING A MAXIMUM SIZE OF 1". AGGREGATE SHALL MEET REQUIREMENTS FOR ASTM C33.
      3.1.3. WATER REDUCING ADMIXTURE - THE MANUFACTURER MAY SUBMIT, FOR APPROVAL BY THE ENGINEER, A WATER-REDUCING ADMIXTURE FOR THE PURPOSE OF INCREASING WORKABILITY AND REDUCING THE WATER REQUIREMENT FOR THE CONCRETE.
      3.1.4. CALCIUM CHLORIDE - THE ADDITION TO THE MIX OF CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE WILL NOT BE PERMITTED.
      3.1.5. MIXTURE - THE AGGREGATES, CEMENT AND WATER SHALL BE PROPORTIONED AND MIXED IN A BATCH MIXER TO PRODUCE A HOMOGENEOUS CONCRETE MEETING THE STRENGTH REQUIREMENTS OF THIS SPECIFICATION. THE PROPORTION OF PORTLAND CEMENT IN THE MIXTURE SHALL NOT BE LESS THAN 564 POUNDS (6 SACKS) PER CUBIC YARD OF CONCRETE.
   3.2. STEEL REINFORCEMENT
      3.2.1. THE MINIMUM STEEL YIELD STRENGTH SHALL BE 60,000 PSI, UNLESS OTHERWISE NOTED ON THE SHOP DRAWINGS.
      3.2.2. ALL REINFORCING STEEL FOR THE PRECAST ELEMENTS SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH THE DETAILED SHOP DRAWINGS SUBMITTED BY THE MANUFACTURER.
      3.2.3. REINFORCEMENT SHALL CONSIST OF WELDED WIRE FABRIC CONFORMING TO ASTM SPECIFICATION A 185 OR A 497, OR DEFORMED BILLET STEEL BARS CONFORMING TO ASTM SPECIFICATION A 615, GRADE 60. LONGITUDINAL DISTRIBUTION REINFORCEMENT MAY CONSIST OF WELDED WIRE FABRIC OR DEFORMED BILLET-STEEL BARS.
   3.3. STEEL HARDWARE
      3.3.1. BOLTS AND THREADED RODS FOR WALL CONNECTIONS SHALL CONFORM TO ASTM A 307. NUTS SHALL CONFORM TO AASHTO M292 (ASTM A194) GRADE 2H. ALL BOLTS, THREADED RODS AND NUTS USED IN WALL CONNECTIONS SHALL BE MECHANICALLY ZINC COATED IN ACCORDANCE WITH ASTM B695 CLASS 50.
      3.3.2. STRUCTURAL STEEL FOR WALL CONNECTION PLATES AND PLATE WASHERS SHALL CONFORM TO AASHTO M 270 (ASTM A 709) GRADE 36 AND SHALL BE HOT DIP GALVANIZED AS PER AASHTO M111 (ASTM A123).
      3.3.3. INSERTS FOR WINGWALLS SHALL BE 1" DIAMETER TWO-BOLT PRESET WINGWALL ANCHORS.
      3.3.4. FERRULE LOOP INSERTS SHALL BE PADOT BULLETIN 15 APPROVED
      3.3.5. REINFORCING BAR SPLICES SHALL BE PADOT BULLETIN 15 APPROVED.

4. MANUFACTURE OF PRECAST ELEMENTS
   SUBJECT TO THE PROVISIONS OF SECTION 5, BELOW, THE PRECAST ELEMENT DIMENSION AND REINFORCEMENT DETAILS SHALL BE AS PRESCRIBED IN THE PLAN AND SHOP DRAWINGS PROVIDED BY THE MANUFACTURER.
   4.1. FORMS - THE FORMS USED IN MANUFACTURE SHALL BE SUFFICIENTLY RIGID AND ACCURATE TO MAINTAIN THE REQUIRED PRECAST ELEMENT DIMENSIONS WITHIN THE PERMISSIBLE VARIATIONS GIVEN IN SECTION 5 OF THESE SPECIFICATIONS. ALL CASTING SURFACES SHALL BE OF A SMOOTH MATERIAL.
   4.2. PLACEMENT OF REINFORCEMENT
      4.2.1. PLACEMENT OF REINFORCEMENT FOR PRECAST WALLS - THE COVER OF CONCRETE OVER THE LONGITUDINAL AND TRANSVERSE REINFORCEMENT SHALL BE 2" MINIMUM. THE CLEAR DISTANCE FROM THE END OF EACH PRECAST ELEMENT TO THE END OF REINFORCING STEEL SHALL NOT BE LESS THAN 1½" NOR MORE THAN 3". REINFORCEMENT SHALL BE ASSEMBLED UTILIZING A SINGLE LAYER OF WELDED WIRE FABRIC, OR A SINGLE LAYER OF DEFORMED BILLET-STEEL BARS. WELDED WIRE FABRIC SHALL BE COMPOSED OF TRANSVERSE AND LONGITUDINAL WIRES MEETING THE SPACING REQUIREMENTS OF 4.3, BELOW, AND SHALL CONTAIN SUFFICIENT LONGITUDINAL WIRES EXTENDING THROUGH THE ELEMENT TO MAINTAIN THE SHAPE AND POSITION OF THE REINFORCEMENT. LONGITUDINAL REINFORCEMENT MAY BE WELDED WIRE FABRIC OR DEFORMED BILLET-STEEL BARS AND SHALL MEET THE SPACING REQUIREMENTS OF 4.3, BELOW.
   4.3. LAPS, WELDS, SPACING
      4.3.1. LAPS, WELDS, AND SPACING FOR PRECAST WALLS - SPLICES IN THE REINFORCEMENT SHALL BE MADE BY LAPPING. LAPS MAY BE TACK WELDED TOGETHER FOR ASSEMBLY PURPOSES, FOR SMOOTH WELDED WIRE FABRIC, THE OVERLAP SHALL MEET THE REQUIREMENTS OF AASHTO 8.30.2 AND 8.32.6. FOR DEFORMED WELDED WIRE FABRIC, THE OVERLAP SHALL MEET THE REQUIREMENTS OF AASHTO 8.30.1 AND 8.32.5. FOR DEFORMED BILLET-STEEL BARS, THE OVERLAP SHALL MEET THE REQUIREMENTS OF AASHTO 8.25. THE SPACING CENTER-TO-CENTER OF THE WIRES IN A WIRE FABRIC SHEET SHALL BE NOT LESS THAN 2" NOR MORE THAN 8".
   4.4. CURING - THE PRECAST CONCRETE ELEMENTS SHALL BE CURED FOR A SUFFICIENT LENGTH OF TIME SO THAT THE CONCRETE WILL DEVELOP THE SPECIFIED COMPRESSIVE STRENGTH IN 28 DAYS OR LESS. ANY ONE OF THE FOLLOWING METHODS OF CURING OR COMBINATIONS THERE OF SHALL BE USED:
      4.4.1. STEAM CURING - THE PRECAST ELEMENTS MAY BE LOW-PRESSURE STEAM CURED BY A SYSTEM THAT WILL MAINTAIN A MOIST ATMOSPHERE.
      4.4.2. WATER CURING - THE PRECAST ELEMENTS MAY BE WATER CURED BY ANY METHOD THAT WILL KEEP THE SECTIONS MOIST.
      4.4.3. MEMBRANE CURING - A SEALING MEMBRANE CONFORMING TO THE REQUIREMENTS OF ASTM SPECIFICATION C309 MAY BE APPLIED AND SHALL BE LEFT INTACT UNTIL THE REQUIRED CONCRETE COMPRESSIVE STRENGTH IS ATTAINED. THE CONCRETE TEMPERATURE AT THE TIME OF APPLICATION SHALL BE WITHIN 10°F± OF THE ATMOSPHERIC TEMPERATURE. ALL SURFACES SHALL BE KEPT MOIST PRIOR TO THE APPLICATION OF THE COMPOUNDS AND SHALL BE DAMP WHEN THE COMPOUND IS APPLIED.
   4.5. STORAGE, HANDLING & DELIVERY
      4.5.1. STORAGE - PRECAST CONCRETE WALL UNITS ARE CAST, STORED AND SHIPPED IN A FLAT POSITION, THE PRECAST ELEMENTS SHALL BE STORED IN SUCH A MANNER TO PREVENT CRACKING OR DAMAGE. STORE ELEMENTS USING TIMBER SUPPORTS AS APPROPRIATE, THE UNITS SHALL NOT BE MOVED UNTIL THE CONCRETE COMPRESSIVE STRENGTH HAS REACHED A MINIMUM OF 2500 PSI, AND THEY SHALL NOT BE STORED IN AN UPRIGHT POSITION.
      4.5.2. HANDLING - HANDLING DEVICES SHALL BE PERMITTED IN EACH PRECAST ELEMENT FOR THE PURPOSE OF HANDLING AND SETTING.
      4.5.3. DELIVERY - PRECAST CONCRETE ELEMENTS MUST NOT BE SHIPPED UNTIL THE CONCRETE HAS ATTAINED THE SPECIFIED DESIGN COMPRESSIVE STRENGTH, OR AS DIRECTED BY THE DESIGN ENGINEER. PRECAST CONCRETE ELEMENTS MAY BE UNLOADED AND PLACED ON THE GROUND AT THE SITE UNTIL INSTALLED. STORE ELEMENTS USING TIMBER SUPPORTS AS APPROPRIATE.
   4.6. QUALITY ASSURANCE - THE PRECASTER SHALL DEMONSTRATE ADHERENCE TO THE STANDARDS SET FORTH IN THE NPCA QUALITY CONTROL MANUAL. THE PRECASTER SHALL MEET EITHER SECTION 4.7.1 OR 4.7.2.
      4.6.1. CERTIFICATION - THE PRECASTER SHALL BE CERTIFIED BY THE PRECAST/PRESTRESSED CONCRETE INSTITUTE PLANT CERTIFICATION PROGRAM OR THE NATIONAL PRECAST CONCRETE ASSOCIATION'S PLANT CERTIFICATION PROGRAM PRIOR TO AND DURING PRODUCTION OF THE PRODUCTS COVERED BY THIS SPECIFICATION.
      4.6.2. QUALIFICATIONS, TESTING AND INSPECTION
         4.6.2.1. THE PRECASTER SHALL HAVE BEEN IN THE BUSINESS OF PRODUCING PRECAST CONCRETE PRODUCTS SIMILAR TO THOSE SPECIFIED FOR A MINIMUM OF 3 YEARS. HE SHALL MAINTAIN A PERMANENT QUALITY CONTROL DEPARTMENT OR RETAIN AN INDEPENDENT TESTING AGENCY ON A CONTINUING BASIS. THE AGENCY SHALL ISSUE A REPORT, CERTIFIED BY A LICENSED ENGINEER, DETAILING THE ABILITY OF THE PRECASTER TO PRODUCE QUALITY PRODUCTS CONSISTENT WITH INDUSTRY STANDARDS.
         4.6.2.2. THE PRECASTER SHALL SHOW THAT THE FOLLOWING TESTS ARE PERFORMED IN ACCORDANCE WITH THE ASTM STANDARDS INDICATED. TESTS SHALL BE PERFORMED AS INDICATED IN SECTION 6 OF THESE SPECIFICATIONS.
            4.6.2.2.1. AIR CONTENT: C231 OR C173
            4.6.2.2.2. COMPRESSIVE STRENGTH - C31, C39, C497
         4.6.2.3. THE PRECASTER SHALL PROVIDE DOCUMENTATION DEMONSTRATING COMPLIANCE WITH THIS SECTION TO CONTECH® BRIDGE SOLUTIONS AT REGULAR INTERVALS OR UPON REQUEST.
         4.6.2.4. THE OWNER MAY PLACE AN INSPECTOR IN THE PLANT WHEN THE PRODUCTS COVERED BY THIS SPECIFICATION ARE BEING MANUFACTURED.
      4.6.3. DOCUMENTATION - THE PRECASTER SHALL SUBMIT PRECAST PRODUCTION REPORTS TO CONTECH® BRIDGE SOLUTIONS AS REQUIRED.

5. PERMISSIBLE VARIATIONS
   5.1. WALLS
      5.1.1. WALL THICKNESS - THE WALL THICKNESS SHALL NOT VARY FROM THAT SHOWN IN THE DESIGN BY MORE THAN ½"INCH.
      5.1.2. LENGTH/HEIGHT OF WALL SECTIONS - THE LENGTH AND HEIGHT OF THE WALL SHALL NOT VARY FROM THAT SHOWN IN THE DESIGN BY MORE THAN ½".
      5.1.3. POSITION OF REINFORCEMENT - THE MAXIMUM VARIATION IN THE POSITION OF THE REINFORCEMENT SHALL BE ½"±. IN NO CASE SHALL THE COVER OVER THE REINFORCEMENT BE LESS THAN 1½" INCHES.
      5.1.4. SIZE OF REINFORCEMENT - THE PERMISSIBLE VARIATION IN DIAMETER OF ANY REINFORCING SHALL CONFORM TO THE TOLERANCES PRESCRIBED IN THE ASTM SPECIFICATION FOR THAT TYPE OF REINFORCING. STEEL AREA GREATER THAN THAT REQUIRED SHALL NOT BE CAUSE FOR REJECTION.

6. TESTING/ INSPECTION
   6.1. TESTING
      6.1.1. TYPE OF TEST SPECIMEN - CONCRETE COMPRESSIVE STRENGTH SHALL BE DETERMINED FROM COMPRESSION TESTS MADE ON CYLINDERS OR CORES. FOR CYLINDER TESTING, A MINIMUM OF 4 CYLINDERS SHALL BE TAKEN FOR EACH PRECAST ELEMENT. EACH ELEMENT SHALL BE CONSIDERED SEPARATELY FOR THE PURPOSE OF TESTING AND ACCEPTANCE.
      6.1.2. COMPRESSION TESTING - CYLINDERS SHALL BE MADE AND TESTED AS PRESCRIBED BY THE ASTM C39 SPECIFICATION. CYLINDERS SHALL BE CURED IN THE SAME ENVIRONMENT AS THE PRECAST ELEMENTS. CORES SHALL BE OBTAINED AND TESTED FOR COMPRESSIVE STRENGTH IN ACCORDANCE WITH THE PROVISIONS OF THE ASTM C42 SPECIFICATION.
      6.1.3. ACCEPTABILITY OF CYLINDER TESTS - WHEN THE AVERAGE COMPRESSIVE STRENGTH OF ALL CYLINDERS TESTED IS EQUAL TO OR GREATER THAN THE DESIGN COMPRESSIVE STRENGTH, AND NOT MORE THAN 10% OF THE CYLINDERS TESTED HAVE A COMPRESSIVE STRENGTH LESS THAN THE DESIGN CONCRETE STRENGTH, AND NO CYLINDER TESTED HAS A COMPRESSIVE STRENGTH LESS THAN 80% OF THE DESIGN COMPRESSIVE STRENGTH, THEN THE ELEMENT SHALL BE ACCEPTED. WHEN THE COMPRESSIVE STRENGTH OF THE CYLINDERS TESTED DOES NOT CONFORM TO THESE ACCEPTANCE CRITERIA, THE ACCEPTABILITY OF THE ELEMENT MAY BE DETERMINED AS DESCRIBED IN SECTION 6.1.4, BELOW.
      6.1.4. ACCEPTABILITY OF CORE TESTS - THE COMPRESSIVE STRENGTH OF THE CONCRETE IN A BRIDGE ELEMENT IS ACCEPTABLE WHEN THE AVERAGE CORE TEST STRENGTH IS EQUAL TO OR GREATER THAN THE DESIGN CONCRETE STRENGTH, WHEN THE COMPRESSIVE STRENGTH OF A CORE TESTED IS LESS THAN THE DESIGN CONCRETE STRENGTH, THE PRECAST ELEMENT FROM WHICH THAT CORE WAS TAKEN MAY BE RE-CORED. WHEN THE COMPRESSIVE STRENGTH OF THE RE-CORE IS EQUAL TO OR GREATER THAN THE DESIGN CONCRETE STRENGTH, THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THAT BRIDGE ELEMENT IS ACCEPTABLE.
         6.1.4.1. WHEN THE COMPRESSIVE STRENGTH OF ANY RECORE IS LESS THAN THE DESIGN CONCRETE STRENGTH, THE PRECAST ELEMENT FROM WHICH THAT CORE WAS TAKEN SHALL BE REJECTED.
         6.1.4.2. PLUGGING CORE HOLES - THE CORE HOLES SHALL BE PLUGGED AND SEALED BY THE MANUFACTURER IN A MANNER SUCH THAT THE ELEMENTS WILL MEET ALL OF THE TEST REQUIREMENTS OF THIS SPECIFICATION. PRECAST ELEMENTS SO SEALED SHALL BE CONSIDERED SATISFACTORY FOR USE.
         6.1.4.3. TEST EQUIPMENT - EVERY MANUFACTURER FURNISHING PRECAST ELEMENTS UNDER THIS SPECIFICATION SHALL FURNISH ALL FACILITIES AND PERSONNEL NECESSARY TO CARRY OUT THE TEST REQUIRED.
      6.1.5. ALL CONCRETE COMPRESSION TEST RESULTS SHALL BE SUBMITTED TO THE OWNER FOR VERIFICATION OF COMPLIANCE WITH THE CONTRACT DOCUMENTS.
   6.2. INSPECTION- THE QUALITY OF MATERIALS, THE PROCESS OF MANUFACTURE, AND THE FINISHED PRECAST ELEMENTS SHALL BE SUBJECT TO INSPECTION BY THE PURCHASER.

7. JOINTS
   7.1. THE WALL UNITS SHALL BE PRODUCED WITH FLAT BUTT ENDS. THE ENDS OF THE UNITS SHALL BE SUCH THAT WHEN THE SECTIONS ARE LAID TOGETHER THEY WILL MAKE A CONTINUOUS LINE WITH A SMOOTH FACE FREE OF APPRECIABLE IRREGULARITIES, ALL COMPATIBLE WITH THE PERMISSIBLE VARIATIONS IN SECTION 5, ABOVE. THE JOINT WIDTH BETWEEN ADJACENT PRECAST UNITS SHALL NOT EXCEED ¾".

8. WORKMANSHIP/ FINISH
   8.1. THE WALLS SHALL BE SUBSTANTIALLY FREE OF FRACTURES. THE FACES OF THE WALLS SHALL BE PARALLEL TO EACH OTHER, WITHIN THE LIMITS OF VARIATIONS GIVEN IN SECTION 5, ABOVE. THE SURFACE OF THE PRECAST ELEMENTS SHALL BE A SMOOTH STEEL-FORM OR TROWELED SURFACE. TRAPPED AIR POCKETS CAUSING SURFACE DEFECTS SHALL BE CONSIDERED AS PART OF A SMOOTH, STEEL FORM FINISH.

9. REPAIRS
   9.1. PRECAST ELEMENTS MAY BE REPAIRED, IF NECESSARY, BECAUSE OF IMPERFECTIONS IN MANUFACTURE OR HANDLING DAMAGE AND WILL BE ACCEPTABLE IF, IN THE OPINION OF THE PURCHASER, THE REPAIRS ARE SOUND, PROPERLY FINISHED AND CURED, AND THE REPAIRED SECTION CONFORMS TO THE REQUIREMENTS OF THIS SPECIFICATION.

10. REJECTION
    THE PRECAST ELEMENTS SHALL BE SUBJECT TO REJECTION ON ACCOUNT OF ANY OF THE SPECIFICATION REQUIREMENTS. INDIVIDUAL PRECAST ELEMENTS MAY BE REJECTED BECAUSE OF ANY OF THE FOLLOWING:
    10.1. FRACTURES OR CRACKS PASSING THROUGH THE WALL, EXCEPT FOR A SINGLE END CRACK THAT DOES NOT EXCEED ONE HALF THE THICKNESS OF THE WALL.
    10.2. DEFECTS THAT INDICATE PROPORTIONING, MIXING, AND MOLDING NOT IN COMPLIANCE WITH SECTION 4 OF THESE SPECIFICATIONS.
    10.3. HONEYCOMBED OR OPEN TEXTURE.
    10.4. DAMAGED ENDS, WHERE SUCH DAMAGE WOULD PREVENT MAKING A SATISFACTORY JOINT.

11. MARKING
    11.1. EACH WALL UNIT SHALL BE CLEARLY MARKED BY WATERPROOF PAINT. THE FOLLOWING SHALL BE SHOWN ON THE BACK FACE OF THE WALL UNIT:
       11.1.1. WALL HEIGHT X WALL LENGTH
       11.1.2. DATE OF MANUFACTURE
       11.1.3. NAME OR TRADEMARK OF THE MANUFACTURER

12. INSTALLATION PREPARATION
    TO ENSURE CORRECT INSTALLATION OF THE PRECAST CONCRETE ABUTMENT SYSTEM, CARE AND CAUTION MUST BE EXERCISED IN FORMING THE SUPPORT AREAS FOR WALL UNITS. EXERCISING SPECIAL CARE WILL FACILITATE THE RAPID INSTALLATION OF THE PRECAST COMPONENTS.
    12.1. FOOTINGS
       12.1.1. DO NOT OVER-EXCAVATE FOUNDATIONS UNLESS DIRECTED BY SITE SOIL ENGINEER TO REMOVE UNSUITABLE SOIL.
       12.1.2. THE SITE SOILS ENGINEER SHALL CERTIFY THAT THE BEARING CAPACITY MEETS OR EXCEEDS THE FOOTING DESIGN REQUIREMENTS, PRIOR TO THE CONTRACTOR POURING OF THE FOOTINGS.
       12.1.3. THE WALL UNITS SHALL BE INSTALLED ON EITHER PRECAST OR CAST-IN-PLACE CONCRETE FOOTINGS. THE SIZE AND ELEVATION OF THE FOOTINGS SHALL BE AS DESIGNED BY THE ENGINEER. A CURB OR KEYWAY SHALL BE FORMED IN THE TOP SURFACE OF THE FOOTING AS SPECIFIED ON THE PLANS.
       12.1.4. THE FOOTINGS SHALL BE GIVEN A SMOOTH FLOAT FINISH AND SHALL REACH A COMPRESSIVE STRENGTH OF 2,000 PSI BEFORE PLACEMENT OF THE ABUTMENT AND WINGWALL ELEMENTS. BACKFILLING SHALL NOT BEGIN UNTIL THE FOOTING HAS REACHED THE FULL DESIGN COMPRESSIVE STRENGTH WITHOUT WRITTEN APPROVAL FROM CONTECH® BRIDGE SOLUTIONS.
       12.1.5. THE FOOTING SURFACE SHALL BE CONSTRUCTED IN ACCORDANCE WITH GRADES SHOWN ON THE PLANS. WHEN TESTED WITH A 10'-0" STRAIGHT EDGE, THE SURFACE SHALL NOT VARY MORE THAN ¼" IN 10'-0".
       12.1.6. IF A PRECAST CONCRETE FOOTING IS USED, THE CONTRACTOR SHALL PREPARE A 4" THICK BASE LAYER OF COMPACTED GRANULAR MATERIAL THE FULL WIDTH OF THE FOOTING PRIOR TO PLACING THE PRECAST FOOTING.
       12.1.7. THE FOUNDATIONS FOR PRECAST CONCRETE ABUTMENT WALL AND WINGWALL ELEMENTS MUST BE CONNECTED BY REINFORCEMENT TO FORM ONE MONOLITHIC BODY. EXPANSION JOINTS SHALL NOT BE USED.
       12.1.8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE FOUNDATIONS PER THE PLANS AND SPECIFICATIONS.

13. INSTALLATION
    13.1. GENERAL - THE INSTALLATION OF THE PRECAST CONCRETE ELEMENTS SHALL BE AS EXPLAINED IN APPLICABLE SECTIONS OF THE PUBLICATION CON/SPAN BRIDGE SYSTEMS INSTALLATION HANDBOOK.
       13.1.1. LIFTING - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT A CRANE OF THE CORRECT LIFTING CAPACITY IS AVAILABLE TO HANDLE THE PRECAST CONCRETE UNITS. THIS CAN BE ACCOMPLISHED BY USING THE WEIGHTS GIVEN FOR THE PRECAST CONCRETE COMPONENTS AND BY DETERMINING THE LIFTING REACH FOR EACH CRANE UNIT. SITE CONDITIONS MUST BE CHECKED WELL IN ADVANCE OF SHIPPING TO ENSURE PROPER CRANE LOCATION AND TO AVOID ANY LIFTING RESTRICTIONS. THE LIFT ANCHORS OR HOLES PROVIDED IN EACH UNIT ARE THE ONLY MEANS TO BE USED TO LIFT THE ELEMENTS. THE PRECAST CONCRETE ELEMENTS MUST NOT BE SUPPORTED OR RAISED BY OTHER MEANS THAN THOSE GIVEN IN THE MANUALS AND DRAWINGS WITHOUT WRITTEN APPROVAL FROM CONTECH® ENGINEERED SOLUTIONS.
       13.1.2. CONSTRUCTION EQUIPMENT WEIGHT RESTRICTIONS - IN NO CASE SHALL EQUIPMENT OPERATING IN EXCESS OF THE DESIGN LOAD BE PERMITTED OVER THE BRIDGE, UNLESS APPROVED BY CONTECH® ENGINEERED SOLUTIONS.
       13.1.3. LEVELING PAD/ SHIMS - THE WALL UNITS SHALL BE SET ON MASONITE OR STEEL SHIMS MEASURING 5" x 5". MINIMUM, UNLESS SHOWN OTHERWISE ON THE PLANS. A MINIMUM GAP OF ½" SHALL BE PROVIDED BETWEEN THE FOOTING AND THE BOTTOM OF THE WALL.
    13.3. PLACEMENT OF WINGWALLS
       13.3.1. THE ABUTMENT WALLS AND WINGWALLS SHALL BE PLACED AS SHOWN ON THE PLAN DRAWINGS. SPECIAL CARE SHALL BE TAKEN IN SETTING THE ELEMENTS TO THE TRUE LINE AND GRADE. BRACING MAY BE REQUIRED TO ENSURE THAT THE WALL ELEMENTS REMAIN PLUMB DURING BACKFILL AND ERECTION OF THE TRUSS STRUCTURE.
    13.4. WATERPROOFING/ JOINT PROTECTION AND SUBSURFACE DRAINAGE
       13.4.1. EXTERNAL PROTECTION OF JOINTS - THE BUTT JOINT MADE BY TWO ADJOINING WALL UNITS SHALL BE COVERED WITH A 2'-0" STRIP OF FILTER FABRIC.
       13.4.2. DURING THE BACKFILLING OPERATION, CARE SHALL BE TAKEN TO KEEP THE FILTER FABRIC IN ITS PROPER LOCATION OVER THE JOINT.
       13.4.3. SUBSOIL DRAINAGE SHALL BE AS DIRECTED BY THE ENGINEER.
    13.5. GROUTING
       13.5.1. GROUTING SHALL NOT BE PERFORMED WHEN TEMPERATURES ARE EXPECTED TO GO BELOW 35° FOR A PERIOD OF 72 HOURS.
       13.5.2. FILL THE ABUTMENT-FOUNDATION KEYWAY WITH CEMENT GROUT (PORTLAND CEMENT AND WATER OR CEMENT MORTAR COMPOSED OF PORTLAND CEMENT, SAND AND WATER) WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI. VIBRATE AS REQUIRED TO ENSURE THAT THE ENTIRE KEY AROUND THE WALL ELEMENT IS COMPLETELY FILLED.
       13.5.3. ALL GROUT SHALL HAVE A MAXIMUM AGGREGATE SIZE OF ¼".
       13.5.4. LIFTING AND ERECTION ANCHOR RECESSES SHALL BE FILLED WITH GROUT.

Digitally signed by Philip A. Creamer
Date: 2022.02.14 14:32:32 -05'00'

MARK	DATE	REVISION DESCRIPTION	BY

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800-338-1122 513-645-7000 513-645-7993 FAX

CONTINENTAL BRIDGE

CONTRACT DRAWING

TOOKANY CREEK TRAIL BRIDGE
ABUTMENT
CHELTENHAM TOWNSHIP, PENNSYLVANIA

PROJECT No.:	SEQ. No.:	DATE:
508708	020	2/14/2022
DESIGNED: PAC	DRAWN: TEK	
CHECKED:	APPROVED: PAC	
SHEET NO.: CT7 OF CT7		

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