FOR INDEX OF SHEETS SEE SHEET 1A THIS PROJECT WAS DEVELOPED UTILIZING AUTOCAD'S DESIGN PACKAGE (CIVIL 3D). PLAN CIVIL 3D Computer Identification No. <u>109480</u> ROUTFO  $\sim$ /01/ 970-3395 MAPPING, 03 STATE LINE . COUNTY LINE . CITY,TOWN OR VILLAGE . RIGHT OF WAY LINE. FENCE LINE . UNFENCED PROPERTY LINE . FENCED PROPERTY LINE . WATER LINE . . . · · · - - 6' W - - -ER\_TIM\_MOTSC ATE\_H&B\_SURV EY-HORN & AS LITY\_BY, DATE SANITARY SEWER LINE. GAS LINE — # G — — — — — TRAVELED WAY. GUARD RAIL RETAINING WALL RAILROADS . . . . . . . . . . BASE OR SURVEY LINE. PROJECT MANAGER SURVEYED BY, DA DESIGN BY <u>KIMLEY</u> SUBSURFACE UTILI<sup>T</sup> LEVEE OR EMBANKMENT. BRIDGES CULVERTS DROP INLET . . . . . . . . . . . . POWER POLES TELEPHONE OR TELEGRAPH POLES TELEPHONE OR TELEGRAPH LINES TREES O O O O HEAVY WOODS GROUND ELEVATION GRADE ELEVATION. . . . . . DATUM LINE 2 THE COMPLETE ELECTRONIC PDF VERSION OF THE PLAN ASSEMBLY AS AWARDED, HAS BEEN<u>SEALED AND SIGN</u>ED USING DIGITAL SIGNATURES AND THE OFFICIAL PLAN ASSEMBLY IN ELECTRONIC FORMAT IS STORED IN THE VDOT CENTRAL OFFICE PLAN LIBRARY, INCLUDING ALL SUBSEQUENT REVISIONS, WILL BE THE OFFICIAL CONSTRUCTION PLANS. FOR INFORMATION RELATIVE TO ELECTRONIC FILES AND LAYERED PLANS, SEE THE GENERAL NOTES. DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT'S 2016 ROAD AND BRIDGE SPECIFICATIONS, 2016 ROAD AND BRIDGE STANDARDS, 2009 MUTCD, 2011 VIRGINIA SUPPLEMENT TO THE MUTCD, 2011 VIRGINIA WORK AREA PROTECTION MANUAL, CITY OF STA CHARLOTTESVILLE DESIGN MANUAL, AND AS AMENDED BY CONTRACT PRO PROVISIONS AND THE COMPLETE ELECTRONIC PDF VERSION OF THE PLAN ASSEMBLY. ALL CURVES ARE TO BE SUPERELEVATED, TRANSITIONED AND WIDENED IN ACCORDANCE WITH STANDARD TC-5.11ULS, EXCEPT WHERE OTHERWISE NOTED. THE <u>ORIGINAL</u> APPROVED TITLE SHEET(S), INCLUDING ORIGINAL SIGNATURES, ARE FILED IN THE OFFICE OF THE CITY OF CHARLOTTESVILLE NEIGHBORHOOD DEVELOPMENT SERVICES DEPARTMENT. ANY MISUSE OF ELECTRONIC FILES, INCLUDING SCANNED SIGNATURES, IS ILLEGAL AND ENFORCED TO THE FULL EXTENT OF THE LAW.

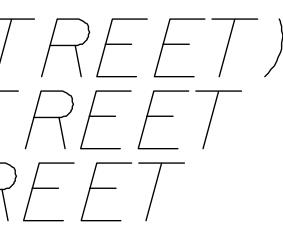
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	0020-104-101 BY			STA.	18+50 <b>.</b> 89 97	TH ST. (ROU WITH WATE					REVISED	CITY OF CHARLOTTESVILLE NAME OF LOCALITY
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Population SECTION	n 46,912 (201 FEDERAL AID PROJECT NO.	16 Cens TYPE CODE	<i>US)</i> UPC NO. –	ST A. IN7 EQUALITIES	18+50.89 97 ERSECTION LENGTH BRIL FEET	WITH WATE	R ST. LENGTH BRII FEET	DGE(S) PI	ROJECT PROJECT	Fr: 0.08 MI. N. OF WATER STREET To: 0.38 MI. N. OF WATER STREET Fr: 0.09 MI. N. OF WATER STREET		NAME OF LOCALITY       (SIGNATURE)       MIKE MURPHY       RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUE       DATE       CITY MANAGER       (SIGNATURE)
Population SECTION	n 46,912 (20) FEDERAL AID PROJECT NO. NHPP-5104(XXX)	IG Cens TYPE CODE PENG	UPC NO. 109480	ST A. IN7 EQUALITIES	18+50.89 97 ERSECTION LENGTH BRII FEET 1566.95	WITH WATE	R ST. LENGTH BRII FEET 1566.95	DGE(S) PI MILES 0.297	ROJECT PROJECT NO. PRELIM. ENG	Fr: 0.08 MI. N. OF WATER STREET To: 0.38 MI. N. OF WATER STREET Fr: 0.09 MI. N. OF WATER STREET To: 0.38 MI. N. OF WATER STREET		NAME OF LOCALITY         (SIGNATURE)         MIKE MURPHY         RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQ         DATE         CITY MANAGER         (SIGNATURE)         NAME OF RESPONSIBLE LOCAL GOVERNMENT OFFICIAL (1)
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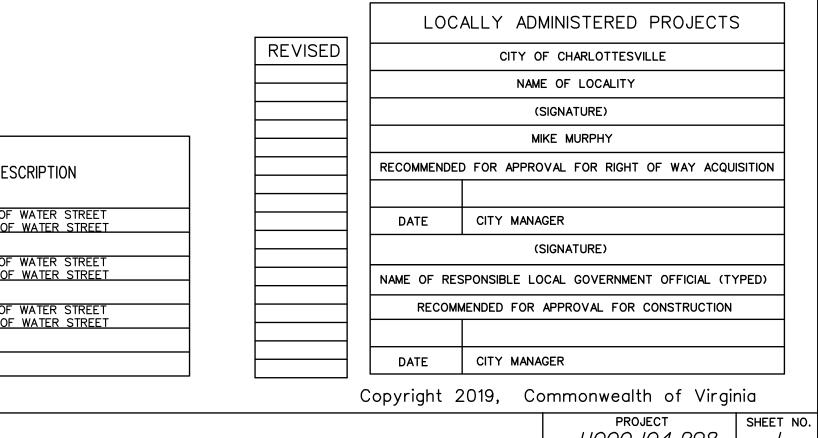
CITY OF CHARLOTTESVILLE NEIGHBORHOOD DEVELOPMENT SERVICES

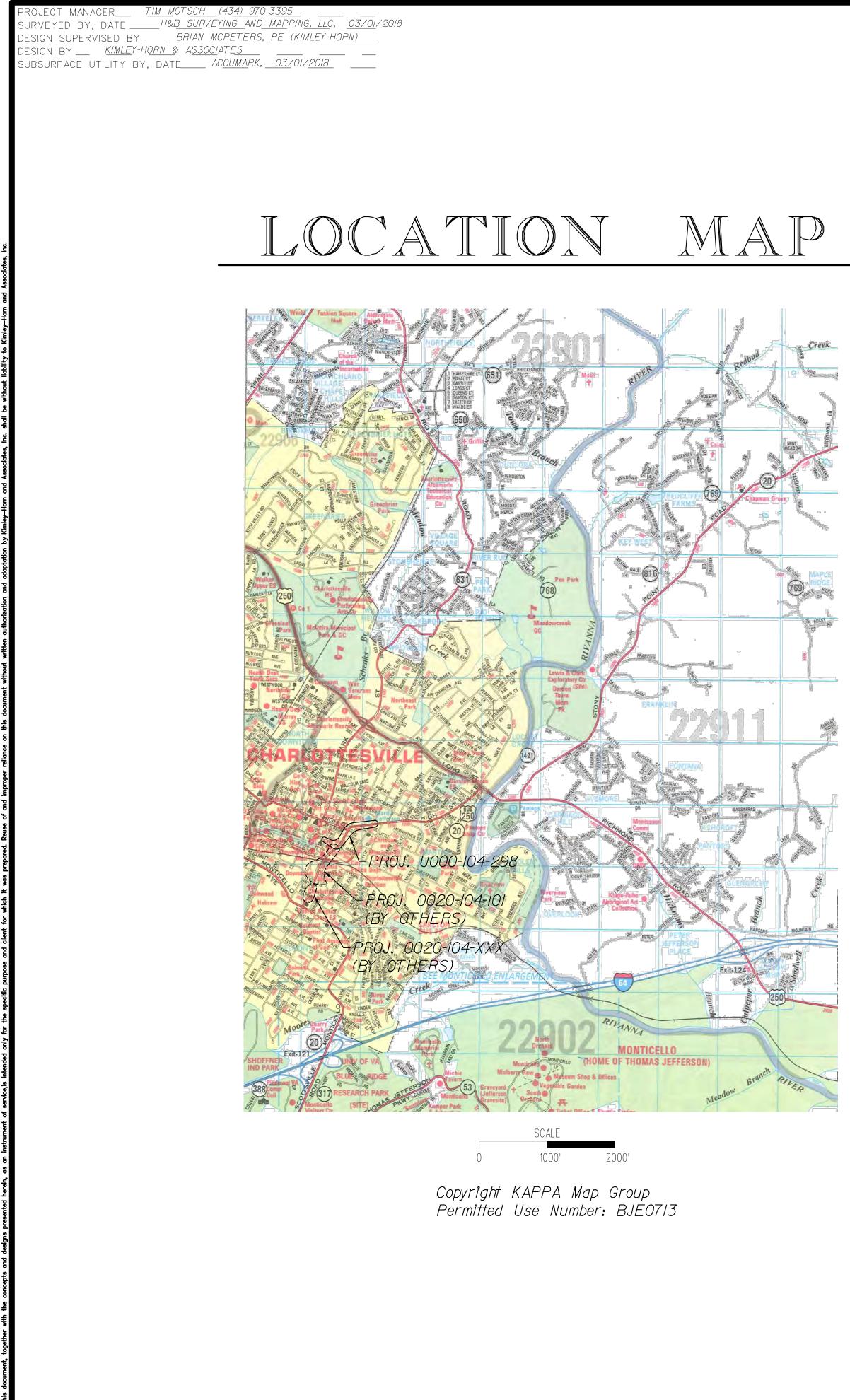


	STATE	FEDERAL AID PROJECT	ROUTE	STATE PROJECT	SHEET NO.
ATTINE - 20	VA.	NHPP-5104(XXX) (SEE TABULATION BELOW FOR SECTION NUMBERS)	20	(NFO) UOOO-104-298 (SEE TABULATION BELOW FOR SECTION NUMBERS)	1









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INDEX OF SHEETS

<u>Sheet no.</u>	<u>DESCRIPTION</u>	STA
  A  B */C  D  E  F */G  H(I)  H(2) THRU  H(X)  J */K *2 2A THRU 2C *2D *2I *2X THRU 2X *2X *2X *2X *2X *2X *2X *2X *	TITLE SHEET LOCATION MAP/INDEX OF SHEETS RIGHT-OF-WAY DATA SHEET REVISION DATA SHEET SURVEY ALIGNMENT DATA EXISTING STORM & SANITARY SEWER DA CONSTRUCTION ALIGNMENT DATA SHEET UNDERGROUND UTILITIES TEST HOLE INF TRAFFIC MANAGEMENT PLAN AND SEQUE MAINTENANCE OF TRAFFIC PLANS WATER QUALITY AND QUANTITY SHEET PARCEL DEMOLITION AND CLEARING SUM GENERAL NOTES SHEET TYPICAL SECTIONS BMP DETAIL SHEET NOT USED SWP3 SHEETS DRAINAGE SUMMARY ROADSIDE DEVELOPMENT & SUMMARY PAVEMENT SUMMARY GRADING DIAGRAM AND SUMMARY INCIDENTAL SUMMARY DETAIL SHEETS	FORMATION SI ENCE OF CON
3 3A 3B 3C 3D 3E 3F 3G 4 4A 4B 4C 4D 5 5A 5B 5C 5D *6(1) THRU 6(X) *6(X) THRU 6(X) *6(X) THRU 6(X) *7(1) THRU 6(X) *7(1) THRU 6(X) *7(1) THRU 6(X) *7(1) THRU 6(X) *7(1) THRU 7(X) *8(1) THRU 7(X) *8(1) THRU 7(X) *8(1) THRU 9(4) *10(1) THRU 9(4) *10(1) THRU 10(X) 11(3) THRU 11(5) 12(1) THRU 13(X)	EAG CONTROL PLANS - PHASE II E&S CONTROL PLANS - PHASE II ENTRANCE PROFILES ROADWAY PROFILE E&S CONTROL PLANS - PHASE I E&S CONTROL PLANS - PHASE II ENTRANCE PROFILES DRAINAGE DESCRIPTIONS STORM SEWER PROFILES SIGNING PLANS LIGHTING PLANS SIGNAL PLANS PAVEMENT MARKING AND MARKER PLANS DUCT BANK PLANS LANDSCAPE PLANS UTILITY PLANS	9TH ST 9TH ST MARKET ST 9TH ST MARKET ST 9TH ST 9TH ST 9TH ST 9TH ST 9TH ST 9TH ST 9TH ST

TOTAL CROSS SECTION SHEETS: 23 (SEE CROSS SECTION SHEET I FOR INDEX OF SHEETS)

\*INDICATES SHEET IS NOT INCLUDED IN THIS SUBMITTAL

	REVISED	STATE		STATE	SHEET NO.
			ROUTE	project U000-104-298	
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	AND SUB DESIGN 1			CHANGE AS PROJE ZED	
				PROJECT SI U000-104-298	HEET NO.

			AREA										
										EASEMENTS	6		
PARCEL NO.	LANDOWNER	SHEET NO.	TOTAL P	ER CITY GIS	FEE TAKING	FEE REMAINDER	PERMANENT EASEMENT		I I I KIK ( ) KII VI	FASEMENT	WATERLINE EASEMENT	TEMPORARY CONSTR. EASEMENT	PROFFERS
			SQ. FEET	ACRES	SQUARE FEET	ACRES (APPROX.)	SQUARE FEET	SQUARE FEET	SQUARE FEET	SQUARE FEET	SQUARE FEET	SQUARE FEET	YES / NO
001	CITY OF CHARLOTTESVILLE		3, 3B	0.05		0.05 +/-	-					2019	NO
002	NOT USED												
003	B S INVESTORS		3	0.046		0.046 +/-				441			NO
004	GEWINN INVESTORS		3	0.591		0.591 +/-	_			382			NO
005	UNIVERSITY OF VIRGINIA COMMUNITY CREDIT UNION		3	0.428	220	0.423 +/-	-					477	NO
006	EAST JEFFERSON STREET, LC		3	0.077		0.077 +/-	-			155		544	NO
007	VICTORIA FENWICK TRUSTEE VALENTINE LANE TRUST		3	0.208		0.2080 +/-						830	NO
008	NOT USED												
009	PIEDMONT COURT APPOINTED SPECIAL ADVOCATES, INC.		4	0.200	292	0.19 +/-	-					367	NO
010	EIGHT TWENTY, LLC		4	0.310	23	0.31 +/-	-			486		393	NO
011	TARLETON OAK, LLC		4	0.424		0.424 +/-	-					660	NO
012	J2B LLC.		4	0.150		0.15 +/-	-					874	NO
013	CVILLE OPERATIONS HUB, LLC		4, 5	4.500	1057	4.48 +/-	_					8880	NO
014	HIGH 908 LLC		4	0.094		0.094 +/-	_					459	NO
015	ALBERT L. & JEANNE HUBER		4, 5	0.246	16	0.25 +/-	-					507	NO
016	NINE TWELVE LAND COMPANY, LLC.		5	0.218		0.218 +/-	-					348	NO
017	NOT USED												
018	MARTHA JEFFERSON HOSPITAL		5	0.445		0.45 +/-	-					627	NO
019	MARTHA JEFFERSON HOSPITAL		5	0.473	410	0.464 +/-	-			429		935	NO
020	TARLETON OAK, LLC		4	0.172	27	0.171 +/-	-					440	NO
021	TARLETON OAK, LLC		4	0.145	28	0.14 +/-	-					459	NO
022	NOT USED												
023	CITY OF CHARLOTTESVILLE, VIRGINIA & COUNTY OF ALBEMARLE, VIRGINIA		3B	0.417		0.417 +/-	-					1456	NO
024	JEFFERSON NATIONAL BANK & TRUST COMPANY		5	0.422	55	0.42 +/-	-					122	NO
025	CHILDREN, YOUTH & FAMILY SERVICES, INC.		5	0.115	36	0.114 +/-	-					135	NO
026	MWPC PROPERTIES, LLC & IRR PROPERTIES LC		5	0.891		0.89 +/-	-					65	NO
027	TARLETON OAK, LLC		4	0.142		0.142 +/-	-						NO
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# PRELIMINARY RIGHT OF WAY DATA SHEET

ROUTE: 20 (9TH ST)	PROJECT:
COUNTY/CITY: CHARLOTTESVILLE	PPMS NO.
COMPILED BY: KIMLEY-HORN & ASSOCIATES, INC.	DATE: 3/1
REVISED BY:	DATE:
REVISED BY:	DATE:

U000-104-29	8

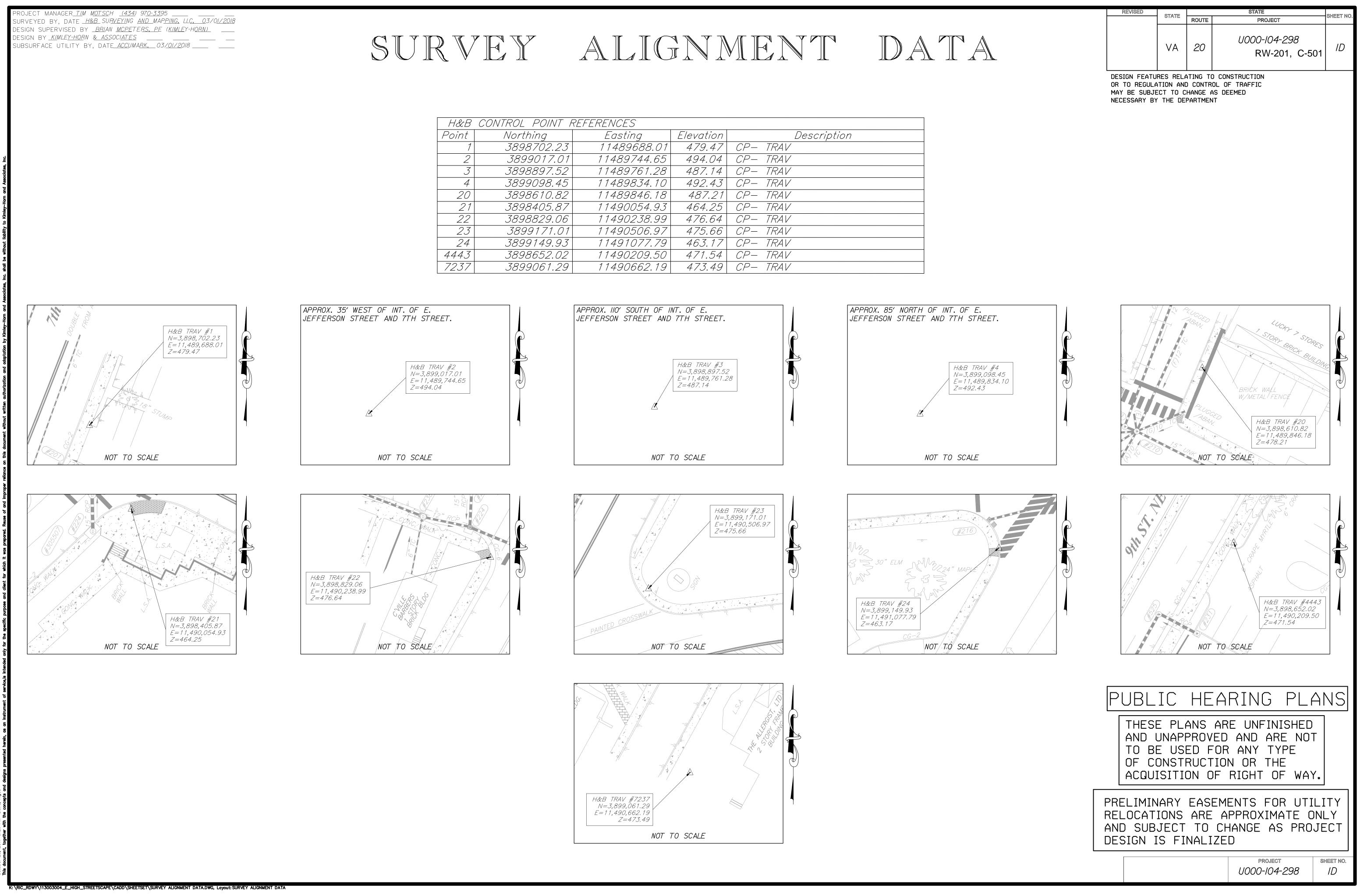
/15/2019

REVISED	STATE		STATE					
	JIAIE	ROUTE	PROJECT	SHEET NO.				
	VA	20	<i>U000-I04-298</i> RW-201,	IB				
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED								

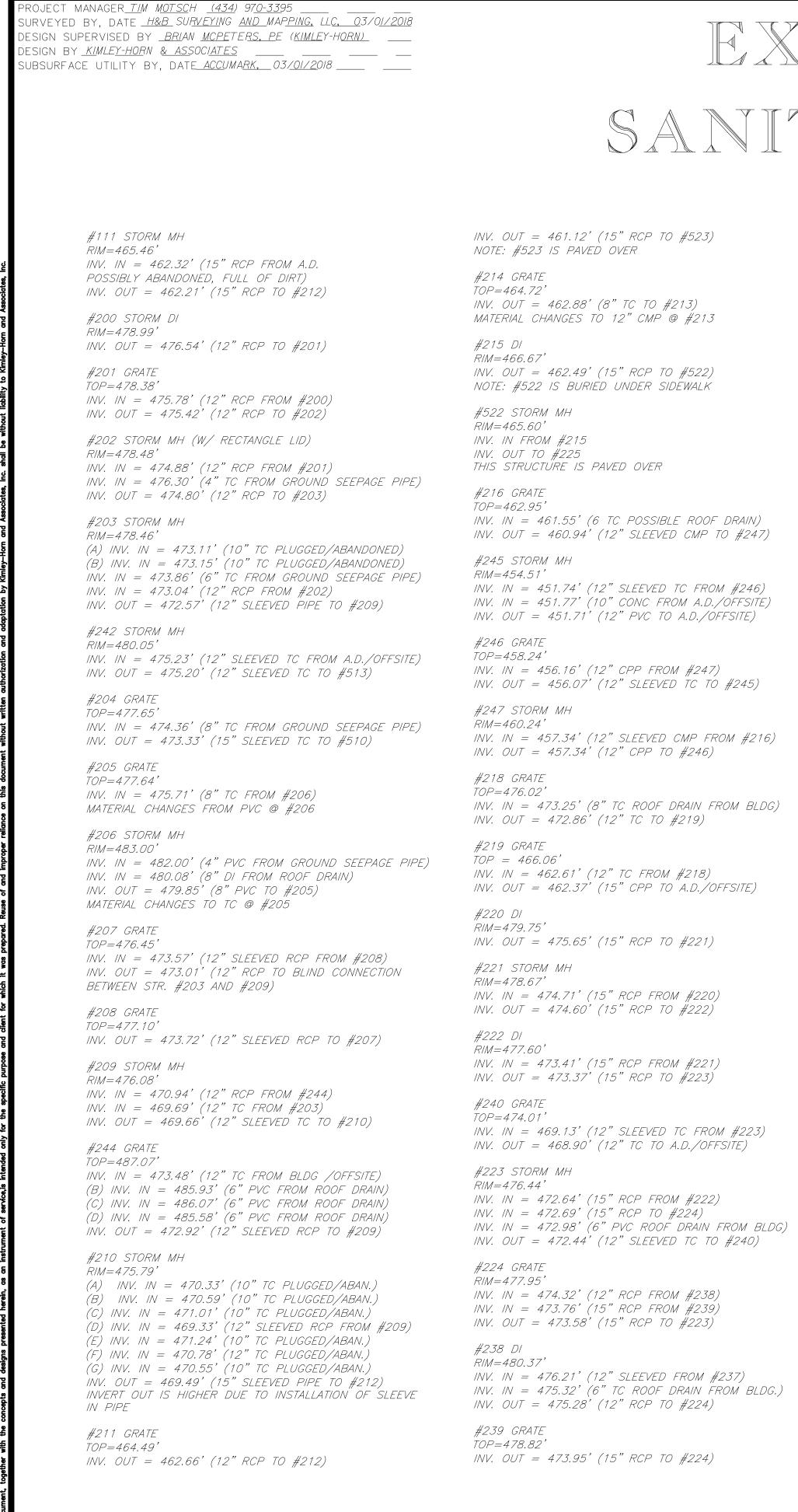
MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

> project U000-104-298

sheet no. *IB* 



H&B	CONTROL POINT P	REFERENCES		
Point	Northing	Easting	Elevation	Description
1	3898702.23	11489688.01	479.47	CP- TRAV
2	3899017.01	11489744.65	494.04	CP- TRAV
3	3898897.52	11489761.28	487.14	CP- TRAV
4	3899098.45	11489834.10	492.43	CP- TRAV
20	3898610.82	11489846.18	487.21	CP- TRAV
21	3898405.87	11490054.93	464.25	CP- TRAV
22	3898829.06	11490238.99	476.64	CP- TRAV
23	3899171.01	11490506.97	475.66	CP- TRAV
24	3899149.93	11491077.79	463.17	CP- TRAV
4443	3898652.02	11490209.50	471.54	CP- TRAV
7237	3899061.29	11490662.19	473.49	CP- TRAV



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# EXISTING STORM SANITARY SEWER DATA

#### #234 STORM MH RIM=464.36'

INV. OUT = 462.12' (15" RCP TO #307609)

## #307597 STORM MH

RIM=466.73' INVERT IN = 455.88' (15" SLEEVED RCP FROM #225) INVERT IN = 455.68' (15" RCP POSSIBLY ABANDONED) INVERT OUT = 455.49' (15'' RCP TO A.D.)

## #226 STORM MH

RIM=464.72' INV. IN = 460.64' (15" RCP FROM #525) NOTE: #525 BURIED IS PAVED OVER INV. OUT = 460.62' (15" RCP TO #227)

#### #227 DI RIM=464.83'

INV. IN = 460.66' (15" RCP FROM #226) INV. OUT = 459.13' (15" RCP TO #228)

## #228 STORM MH

RIM=463.50' INV. IN = 458.84' (15" RCP FROM #227) INV. IN = 458.09' (15" TC FROM #30039) INV. IN = 461.20' (6" TC POSSIBLE GROUND SEEPAGE PIPE) INV. OUT = 458.16' (15" SLEEVED TC TO #230)

#### #230 GRATE TOP=458.74'

INV. IN = 454.17' (15" SLEEVED TC FROM #228) INV. OUT = 454.12' (15" TC TO A.D./OFFSITE)

#231 DI RIM=470.47' INV. OUT = 466.67' (15" RCP TO #525) NOTE: STRUCTURE #525 IS PAVED OVER

#### #232 GRATE TOP=469.80'

INV. IN = 466.27' (8'' PVC POSSIBLE ROOF DRAIN)INV. OUT = 466.25' (15" RCP TO #524)

#### #523 STORM MH RIM = 464.74'INV. IN FROM #213

INV. IN FROM #524 INV. OUT TO #30039 THIS STRUCTURE IS PAVED OVER

#524 STORM MH RIM=468.52' INV. IN FROM #232 INV. OUT TO #523 THIS STRUCTURE IS PAVED OVER

#### #525 STORM MH RIM=469.61' INV. IN FROM #231 INV. OUT TO #226 THIS STRUCTURE IS PAVED OVER

#503 GRATE TOP=477.51' INV. OUT = 473.09' (12" SLEEVED PIPE TO #510)

#504 GRATE TOP=476.96' INV. IN = 473.67' (12" CPP FROM #515)

INV. OUT = 473.37' (12" SLEEVED PIPE TO #510) #509 STORM MH

## RIM = 477.33'

INV. IN = 472.04' (12" SLEEVED PIPE FROM #513) INV. OUT = 471.18' (12" SLEEVED TC TO #510)

#### #510 STORM MH RIM=477.37'

INV. IN = 470.91' (15" SLEEVED TC FROM #204) INV. IN = 470.91' (12" SLEEVED PIPE FROM #503) INV. IN = 470.92' (12" SLEEVED TC FROM #509) INV. IN = 472.63' (12" SLEEVED PIPE FROM #504) INV. OUT = 470.90' (18" SLEEVED PIPE TO #538)

#### #538 GRATE TOP=467.14'

INV. IN = 463.71' (8" PVC FROM A.D./OFFSITE)INV. IN = 457.59 (18" SLEEVED RCP FROM #510) INV. IN = 453.58' (15'' RCP FROM A.D./OFFSITEINV. OUT = 453.53' (18" RCP TO A.D./OFFSITE)

#### #212 STORM MH RIM=464.75' INV. IN = 462.33' (12" RCP FROM #211)

INV. IN = 462.19' (15" SLEEVED PIPE FROM #210) INV. IN = 462.16' (15" RCP FROM #111) INV. OUT = 462.09' (15" SLEEVED RCP TO #213) #30039

#### STORM MH RIM=464.82' INV. IN = 459.72' (18" RCP FROM #523) INV. OUT = 459.60' (15" TC TO #228)

#213 DI RIM=464.86' INV. IN = 462.06' (12" CMP FROM #214) MATERIAL CHANGES TO 8" TC @ #214 INV. IN = 461.23' (15" SLEEVED RCP FROM #212)

## #100 SANITARY MH

*RIM=459.90'* INV. IN = 454.49' (8'' TC FROM A.D.)INV. OUT = 454.21' (8" TC TO #101) NOTE: POSSIBLE PAVED OVER MH AT INTERSECTION OF #546 & #102.

#### #101 SANITARY MH RIM=453.02' INV. IN = 448.13' (6" TC LATERAL)INV. IN = 447.47' (8" TC FROM #100) INV. IN = 448.30' (6" TC LATERAL)INV. OUT = 447.47' (8" TC TO A.D./OFFSITE)

#102 SANITARY MH RIM=468.44' *INV. IN* = 462.97' (8" TC FROM #103) INV. IN = 464.64' (4" TC LATERAL)INV. OUT = 462.66' (8'' TC TO A.D.)SSIBLE PAVED OVER MH AT INTERSECTION OF #100 & #102

#### #103 SANITARY MH RIM=475.05' TOP OF 12" VERTICAL PIPE = 470.59'INV. OUT = 471.54' (6" TC TO #102)

#104 SANITARY MH RIM=478.07' INV. IN = 475.13' (6" PVC PLUGGED)INV. IN = 475.14' (4'' PVC)INV. OUT = 475.03' (6" PVC TO #105)

#### #105 SANITARY MH RIM=476.74

INV. IN = 471.69' (8" TC FROM #104) INV. IN = 471.98' (8" SLEEVED PIPE FROM #106) INV. OUT = 471.37' (8" SLEEVED PIPE TO #107)

## #106 SANITARY MH

*RIM=479.80'* INV. IN = 476.74' (6'' TC LATERAL)INV. IN = 475.03' (8" SLEEVED TC FROM #236) INV. IN = 473.60' (4" TC LATERAL)INV. IN = 475.76' (4'' TC LATERAL)INV. OUT = 473.11' (8" SLEEVED TC TO #105)

#### #236 SANITARY MH *RIM=481.93*'

INV. IN = 476.64' (8'' SLEEVED TC FROMA.D./OFFSITE) INV. IN = 477.22' (6'' TC FROM A.D./OFFSITE)INV. OUT = 476.63' (8" SLEEVED TC TO #106)

#### #107 SANITARY MH

*RIM=474.22*' INV. IN = 468.34' (8" SLEEVED FROM #105) INV. IN = 468.34' (8'' SLEEVED FROMA.D./OFFSET) INV. OUT = 468.29' (8'' SLEEVED TO A.D./OFFSET)#108 SANITARY MH

#### RIM=474.22'

INV. IN = 468.51' (6" TC LATERAL)INV. OUT = 468.34' (8" UNK. TYPE SLEEVED PIPE TO #109)

#### #109 SANITARY MH

RIM=463.88' INV. IN = 455.87' (8" TC FROM #112) INV. IN = 456.00' (8" TC FROM #108) INV. OUT = 455.86' (8" TC TO #110)

#### #110 R/M=4INV. IN INV. IN INV. O /OFFSi

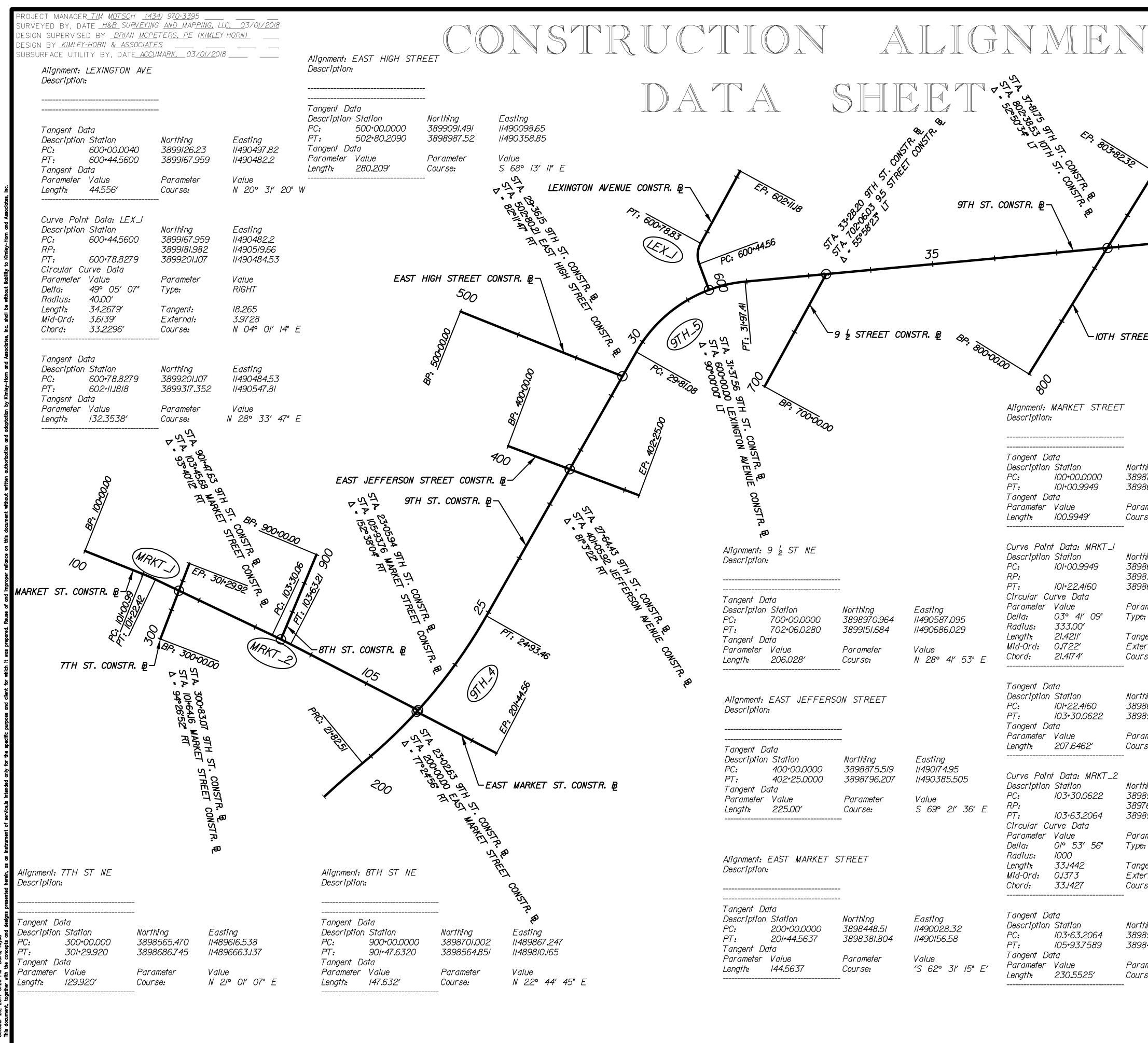
#### #113 R/M=4INV. IN INV. IN INV. IN INV. OU

#### - INV. - IN INV. OU #118 R/M=4INV. IN

#### #118) #243 R/M=4eINV. IN INV. IN

## INV. O #546

	REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
		VA	20	<i>U000-104-298</i> C-50	1 <sup>/E</sup>
		TION AND	) CONTRI HANGE A		
#237 GRATE TOP=490.38' INV. IN = 485.66' (12" TC FROM A.D./OFFS INV. OUT = 485.57' (12" TC TO #238)	ITE)	ТОІ /NI			
#225 STORM MH RIM=464.83' INV. IN = 459.89' (15" RCP FROM #522) NOTE: #522 BURIED UNDER SIDEWALK INV. IN = 460.00' (15" SLEEVED RCP FROM INV. OUT = 460.14' (15" SLEEVED RCP TO INVERT OUT IS HIGHER DUE TO INSTALLATION IN PIPE	<i>#307597)</i>	,, R/M /N l			SITE)
#307609 STORM MH RIM=464.29' INVERT IN = 461.82' (15" RCP FROM #234 INVERT OUT = 460.88' (15" SLEEVED RCP (					
#110 SANITARY MH RIM=458.95' INV. IN = 453.18' (8" SLEEVED PIPE FROM #109) INV. IN = 454.51' (8" PVC FROM A.D. /OFFSITE) INV. OUT = 453.18' (8" SLEEVED PIPE TO A.D. /OFFSITE)					
#112 SANITARY MH RIM=470.39' INV. IN = 462.44' (8" SLEEVED TC FROM #113) INV. OUT = 461.37' (8" SLEEVED TC TO #109)					
#113 SANITARY MH RIM=475.78' INV. IN = 471.14' (8" TC FROM #115) INV. IN = 471.34' (8" SLEEVED TC FROM #116) INV. IN = 471.15' (8" SLEEVED PIPE FROM #117) INV. OUT = 471.08' (8" SLEEVED PIPE TO #112)					
#115 SANITARY MH RIM=478.84' (A) TOP OF PIPE = 473.95' (INVERTED 4" TC) (B) ELBOW = 471.64' (INVERTED 4" TC) INV. OUT = 476.47' (4" TC TO #113)					
#116 SANITARY MH RIM=476.05' INV. IN = 471.89' (8" TC FROM #521) INV. OUT = 471.88' (8" SLEEVED TC TO #113)					
#117 SANITARY MH RIM=488.99' INV. IN = 483.99' (8" PVC FROM A.D./OFFSITE) INV. IN = 484.88' (4" PVC LATERAL) INV. OUT = 483.93' (8" PVC TO #113)					
#118 SANITARY MH RIM=478.11' INV. IN = 471.30' (8" SLEEVED TC FROM #241) INV. IN = 468.74' (8" SLEEVED PIPE FROM #514) INV. OUT = 468.65' (8" SLEEVED PIPE TO #243)					
#241 SANITARY MH RIM=482.99' INV. IN = 477.83' (8" SLEEVED TC FROM FROM A.D./OFFSITE) INV. IN = 477.87' (6" TC LATERAL) INV. OUT = 477.75' (8" SLEEVED TC MATERIAL #118)					
#243 SANITARY MH RIM=468.81' INV. IN = 462.63' (8" TC FROM #118) INV. IN = 463.12' (4" TC LATERAL) INV. OUT = 462.62' (8" TC TO A.D. /OFFSITE)					
#521 SANITARY MH RIM=487.36' INV. IN = 473.21' (6" UNKNOWN LATERAL) INV. OUT = 473.15' (8" TC TO #116)					
#546 SANITARY MH RIM=465.08' INV. IN = 460.74' (8" TC FROM A.D./OFFSITE) INV. OUT = 460.72' (8" TC TO A.D.) NOTE: POSSIBLE PAVED OVER MH AT INTERSECTION OF #100 & #102					
#514 SANITARY MH RIM=481.89' INV. IN = 473.59 (8" UNKNOWN FROM A.D./OFFSITE) INV. IN = 475.53' (8" SLEEVED PVC FROM A.D./OFFSITE)				PROJECT	SHEET NO.
INV. OUT = 473.59' (8" UNKNOWN TO #118)				<i>U000-104-298</i>	ΙE



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		REVISED			STATE		
		KEVISED	STATE	ROUTE		OJECT	SHEET NO.
			VA	20		<i> 04-298</i> N-201, C-501	IF
		OR TO REG MAY BE SU		) Contf Hange			
	Kimley-Horn & Associates, Inc. Richmond, Virginia ROADWAY ENGINEER	Alignment: Description:	IOTH STRE	ΈT			
		Tangent Da Description PC: PT: Tangent Da Parameter Length:	Station 800+00.000 803+82.324 1ta	00 48	Northing 3898991,139 3899315,974 Parameter Course:	Easting 11491011.82 11491213.45 Value N 31° 49′ 42″	E
EP: 39-28.01		Alignment: S Description:	OTH STREE				
REET CONSTR. B		Curve Point	Data: 9TH				
		Description PCC: RP:	Station 21+82 <b>.</b> 5130 24+93 <b>.</b> 4566		Northing 3898365.886 3899022.178 3898602.535	Easting   48994 .27   48940 .10   490 40.29	
		Parameter Delta <b>:</b>			Parameter Type <b>:</b>	Value LEFT	
		Length: Mid-Ord:	310.9436' 14.1789' 309.2127'	L	Tangent: External: Course:	157.2291' 14.4195' N 40° 03' 49"	E
898707 <b>.</b> 018 114	1sting 189495.24 189589.02	Tangent Da			Northing	Casting	
	1/ue 68° /3′ 09"		24+93 <b>.</b> 4566 29+81.0827		Northing 3898602.535 3899026.592	Easting   490 40.29   49038 .03	
•	asting	Parameter			Parameter Course:	Value N 29° 35′ 02"	E
898360.3/6 //4	189589.02 189465.46 189608.65	Curve Point Description PC:			Vorthing 3899026 <b>.</b> 592	Easting 11490381.03	
/pe: RI	ılue GHT	Circular Cu			3898915 <b>.</b> 51 3899139 <b>.</b> 537	490576 <b>.</b> 7   490555 <b>.</b> 8	
xternal: 0.	.7142 1723 66° 22′ 35″ E	Delta: Radius: Length:	Value 55° 05′ 14 225.00′ 216.3271′	" 7 7	Parameter Type: Tangent:	Value RIGHT II7 <b>.</b> 3454'	
8986Õ <b>.</b> 961 114	1sting 189608.65	Chord:	25 <b>.</b> 5017′ 208.0907′ 		External: Course:	28.7616' N 57° 07' 39"	Ε
arameter Va	189796.12 1lue 64° 32′ 01″ E	PT:	Station 31+97.4097 39+28.070		Vorthing 3899/39 <b>.</b> 537 3899207 <b>.</b> 396	Easting   490555 <b>.</b> 80   49 283 <b>.</b> 3	
orthing Ec	asting	Tangent Dat Parameter Length:			Parameter Course:	Value N 84° 40′ 16"	E
898571 <b>.</b> 677   4 897668 <b>.</b> 84   4	189796.12 189366.14 189825.8						
	ilue GHT						112
xternal: 0.1 ourse: S	.5736 1373 63° 35′ 02" E	AND TO OF	UNAPF BE USF CONST	PRON ED F RUC		INISHED ARE NOT TYPE THE OF WAY.	
898556 <b>.</b> 932 II4	asting 189825.8 190030.55					FOR UTIL	J ITY
	1/ue 62° 38′ 04″ E	RELOCA	TIONS BJECT	ARE TO	E APPROX CHANGE	IMATE ON AS PROJI	LY
		0	SCALE 80'			roject s 104-298	SHEET NO. IF
		I					

SURVEYED BY,	GER <u>TIM_MOTSCH (43</u> 4) <u>970-3</u> 395 DATE <u>H&amp;B_SURVEYING_AND_MAPPING</u> , LL		
DESIGN BYKI	ISED BY <u>BRIAN MCPETERS, PE (KIMLEY</u> - ML <u>EY-HORN &amp; A</u> SSOCIATES <u> </u>		
	HIGH STREET STREETS		
THE PROF MARKET S LANDSCAP MAP, APPL WITH IOTH	POSED IMPROVEMENTS TOTAL APPR STREET IN DOWNTOWN CHARLOTTES ING, TRAFFIC SIGNALS, PAVEMENT M ENDIX A, AND THEY CAN GENERALL H AVENUE/LOCUST STREET. RY TRAFFIC CONTROL PLAM	/ILLE. THE STREETSCAPE IMPRO MARKINGS, SIGNS, AND MAINTENANC Y BE IDENTIFIED AS ALONG 9TH	VEMENTS INCLUDE THE DESIG E OF TRAFFIC. THE PROJECT
	L NOTES PROPOSED IMPROVEMENTS FOLLOW	INNER THE THE TYPE & PROJEC	$\Sigma T$
2. THE STREE	PROJECT LOCATION IS FROM 0.150 I ET IN THE CITY OF CHARLOTTESVIL	MILES SOUTH OF ROUTE 250 BUS	
PERSO STAND 2011 V	CONTRACTOR IS RESPONSIBLE FOR ONNEL TO CONTROL TRAFFIC DURING OARDS, GUIDELINES, POLICIES AND O 'A SUPPLEMENT TO THE MUTCD, J FIED EMPLOYEE ON SITE AT ALL 1	G CONSTRUCTION WITHIN CITY MAIN BJECTIVES OF THE 2011 VIRGINIA AND ALL CITY PERMITS. CONTRAC	ITAINED ROW. ALL TRAFFIC A WORK AREA PROTECTION MA TOR SHALL HAVE BOTH INTER
4. THE ( FOR L	CONTRACTOR IS RESPONSIBLE FOR LAYDOWN YARD SHALL BE INCIDENTA		
5. THE V	WORK ZONE SHALL BE MAINTAINED	ACCORDING TO THE TEMPORARY	TRAFFIC CONTROL PLANS AS
TTC-2	FOLLOWING TRAFFIC CONTROL SPECI 3.I, TTC-28.I AND TTC-53.0 AND OTH		DRK AREA PROTECTION MANUA
TRAVE	AL CHANNELIZING DEVICE SPACING S ELWAY SPACING = 40' SITION SPACING = 20'	SHALL BE AS FOLLOWS:	
8. ENTRA MAINT	ANCES ALONG E. MARKET STREET, AINED AT ALL TIMES.	9TH STREET, LEXINGTON AVENUE,	AND E. HIGH STREET WILL E
9. TYPES	S OF TRAFFIC CONSIST OF COMMUT	ERS, SCHOOL BUSES, TRANSIT	BUSES, RESIDENTS, AND TR
AND N	REAS EXCAVATED BELOW THE EXIS DAY, SHALL BE BACK-FILLED TO FO ULAR TRAFFIC. ALL COST OF PLACI NO ADDITIONAL COMPENSATION WILL FIC ENGINEER.	RM AN APPROXIMATE 6:I DESIRABL NG, MAINTAINING, AND REMOVING T	LE WEDGE, AGAINST THE EXIS HE WEDGE SHALL BE INCLUDE
	ABLE WORK HOURS SHALL BE FROM EER AND CITY TRAFFIC ENGINEER.	M 7AM TO 6PM MONDAY THROUGH	FRIDAY EXCEPT HOLIDAYS AN
12. APPRO	DXIMATE WORK DURATION FOR THIS	PROJECT IS X MONTHS.	
I3. THE ( IN TH	CONTRACTOR SHALL BE REQUIRED T E TTC PLANS.	TO STRICTLY ADHERE TO PROVISIO	ON OF ACCESSIBLE PEDESTRIA
THE CONT ACTIVI	RTATION OPERATIONS PLAN RACTOR IS TO COORDINATE WITH T ITY WILL BE GOVERNED BY THE TH JM OF TWO WEEKS IN ADVANCE OF ESDAY BY NOON TO AID IN THE CIT	THE CITY OF CHARLOTTESVILLE TO MES ESTABLISHED BY THE CITY T WORK SO IT CAN BE PUBLISHED	RAFFIC ENGINEER. THE CON . THE CONTRACTOR SHALL SU
I. THE ( A. B.	COMMUNICATIONS PLAN CONTRACTOR SHALL BE RESPONSIBL TRANSPORTATION OPERATIONS, SHI PROJECT INSPECTOR: TO BE DETL CONSTRUCTION PROJECT MANAGER:	FT SUPERVISOR I-866-378-7743. ERMINED.	OSURES EACH DAY BY CALLIN
2. THE I CITY (	FOLLOWING IS A LIST OF LOCAL EM OF CHARLOTTESVILLE POLICE DEPAI		N EMERGENCY)
C. 2. THE I CITY C 3. PROCE A. B. C. D. E.	EDURES TO RESPOND TO TRAFFIC CONTRACTOR TO NOTIFY CITY OF DEPENDING ON THE SEVERITY OF INSPECTOR TO TAKE PICTURES AS UPON ARRIVAL ON SCENE, CITY OF TRAVELING PUBLIC AROUND THE II	CHARLOTTESVILLE INSPECTOR IN O INCIDENT, THE CONTRACTOR MAY S NECESSARY, ESPECIALLY PICTUR F CHARLOTTESVILLE POLICE DEPAF	CHARGE. HAVE TO SHUT DOWN ES OF CONTRACTORS WORK Z
TRAF	c. PROJECT MANAGER (CONSTRU d. THE CITY OF CHARLOTTESVIL NORMAL TRAFFIC OPERATIONS e. THE CITY OF CHARLOTTESVIL DETERMINE IF ANY MODIFICA	RAFFIC COORDINATOR (INSPECTOR) ICTION ENGINEER): TO BE DETERM LE POLICE DEPARTMENT WILL TAI S. LLE POLICE DEPARTMENT REPORT TION OF THE TEMPORARY TRAFFI A MEETING WILL BE CALLED WITH ND THE CITY OF CHARLOTTESVILLE	HNED KE CONTROL OF THE INCIDENT OF THE INCIDENT WILL BE F IC CONTROL PLAN IS NECESSA I THE CONTRACTOR, CITY OF
		Limits Are As Follows:	
	Baselîne/Roadway	Posted Speed Limit	Required Wor
	9th Street E. Market Street	25 MPH 25 MPH	Baseline/Ro
	E. Jefferson Street	25 MPH	All Stree
	E. High Street	25 MPH 25 MPH	
	Lexington Avenue IOth Street	25 MPH 25 MPH	

K:\RIC\_RDWY\113003004\_E\_HIGH\_STREETSCAPE\CADD\SHEETSET\TRAFFIC MANAGEMENT PLAN.DWG, Layout: TMP

## TRANSPORTATION MANAGEMENT PLAN (TMP)

SEQUENCE OF CONSTRUCTION/STAGING NARRAT

TS ALONG 9TH STREET/ EAST HIGH STREET AND EAST GN OF SIDEWALK, CURB AND GUTTER, STORM SEWER, LIGHTING, T LIMITS ARE ILLUSTRATED IN THE ATTACHED SURVEY AREA CCTION WITH EAST MARKET STREET TO THE INTERSECTION

OF ROUTE 250 (LONG STREET) ALONG 9TH STREET/ E. HIGH

IT, PERSONNEL, INCLUDING CERTIFIED TRAFFIC CONTROL C CONTROL SHALL BE IN STRICT ACCORDANCE WITH THE ANUAL, 2009 MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES, RMEDIATE AND A BASIC WORK ZONE TRAFFIC CONTROL DAILY TO REVIEW WORK ZONE.

MATERIALS. ALL COSTS FOR TCD AND E&S REQUIREMENTS

SHOWN IN THE CONTRACT DOCUMENTS.

L MAY BE USED: TTC-I.I, TTC-4.I, TTC-6.I, TTC-I6.I, TTC-I7.I,

BE AFFECTED BY THE WORK ZONE AND ACCESS SHALL BE

RUCKS.

PROTECTED BY BARRIER), AT THE CONCLUSION OF EACH STING PAVEMENT SURFACE FOR SAFETY AND PROTECTION OF ED IN THE PRICE BID FOR OTHER ITEMS IN THE CONTRACT THE DISCRETION OF THE PROJECT ENGINEER AND CITY

ND WHEN NIGHT WORK IS APPROVED BY THE PROJECT

IAN ROUTES IN THE WORK ZONE AT ALL TIMES AS INDICATED

REGARDING WORK ACTIVITIES FOR THIS PROJECT. EACH NTRACTOR SHALL PROVIDE LANE CLOSURE INFORMATION A UBMIT TO THE ENGINEER A TWO WEEK LOOK AHEAD EVERY

NG A BELOW AND OTHERS AS REQUIRED:

ZONE TO VERIFY COMPLIANCE WITH STANDARDS. E RESPONSE NECESSARY TO ALLOW

NT AND DIRECT ITS CLEARING AND RESTORATION TO

REVIEWED BY THE CITY AND/OR VDOT TO ARY. IF IT IS DETERMINED THAT IT IS NECESSARY F CHARLOTTESVILLE PROJECT PERSONNEL, VDOT F (IF NECESSARY) TO DISCUSS

<sup>-</sup> k	Zone	Clea	r Zone	Are	As	Follows:
oad	'way		Work	k Zone	Clea	ır Zone

*its* 4'

<u>GENERAL</u>

WORK DURATION IS 18 MONTHS AND IS A LONG-TERM STATIONARY WORD HOWEVER, EXISTING THROUGH LANEAGE IS NOT REDUCED EXCEPT FOR LANE CLOSURES DURING ALLOWABLE LANE CLOSURE HOURS.

THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN ACCESS TO PRIVAT AND DRIVEWAYS. UNLESS OTHERWISE APPROVED OR DIRECTED BY T

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND/OR CONSTRUCTION. CONTRACTOR SHALL MAINTAIN OR OTHERWISE PROVIDE VIRGINIA DEPARTMENT OF TRANSPORTATION WORK ZONE PEDESTRIAN

COORDINATION WITH CITY POLICE IS REQUIRED IN ALL STAGES WHEN

SEQUENCE OF CONSTRUCTION

UNLESS OTHERWISE APPROVED BY THE ENGINEER, THE CONTRACTOR

STAGE I

PRIOR TO COMMENCEMENT OF STAGE I OPERATIONS, INSTALL SIGNS IN CONTROL DEVICES AS SHOWN IN THE TRAFFIC CONTROL PLANS ON SH CONTROL MEASURES AS DEPICTED IN THE PLANS. SHIFT TRAFFIC INT APPROXIMATE STATION 23+00 TO 37+00. CONTRACTOR SHALL SHIFT TH THE 9TH STREET INTERSECTIONS WITH E. HIGH STREET. CONTRACTO TIMES.

CONTRACTOR SHALL CONSTRUCT IMPROVEMENTS (DUCT BANKS) FROM A STREET. ALL DROP OFF AREAS GREATER THAN 2" WITHIN THE CLEAF OF EACH DAY BY A 6:1 WEDGE BEHIND THE GROUP 2 CHANNELIZING

STAGE IA

ONCE STAGE I OPERATIONS ARE COMPLETE INSTALL SIGNS AND TRAFI TTC-52.0 AND AS SHOWN IN THE TRAFFIC CONTROL PLANS ON SHEET NORTHERN MOST 22' OF EXISTING PAVEMENT (2-11' LANES) ALONG MAR PEDESTRIAN ACCESS ALONG NORTH SIDE OF MARKET STREET ON THE

CONTRACTOR SHALL CONSTRUCT IMPROVEMENTS (DUCT BANKS) FROM A WITHIN THE CLEAR ZONE NOT PROTECTED BY TRAFFIC BARRIER SEA CHANNELIZING DEVICES.

STAGE 2

ONCE STAGE IA OPERATIONS ARE COMPLETE INSTALL SIGNS AND TRAD TTC-52.0 AND AS SHOWN IN THE TRAFFIC CONTROL PLANS ON SHEET CONCRETE MEDIAN ALONG 9TH STREET BY CLOSING THE INSIDE LANE AS SHOWN IN THE PLANS. UPON COMPLETION, CONTRACTOR SHALL TEM

STAGE 3

ONCE STAGE 2 OPERATIONS ARE COMPLETE INSTALL SIGNS AND TRAF TTC-52.0 AND AS SHOWN IN THE TRAFFIC CONTROL PLANS ON SHEET CONTROL MEASURES AS DEPICTED IN THE PLANS. SHIFT TRAFFIC INT APPROXIMATE STATION 23+00 TO 37+00. CONTRACTOR SHALL SHIFT TF THE 9TH STREET INTERSECTIONS WITH MARKET STREET, JEFFERSON ACCESS ALONG WEST SIDE OF 9TH STREET ON THE SIDEWALK AT A

CONTRACTOR SHALL CONSTRUCT IMPROVEMENTS (CLEARING, STORM SEV COURSE) ALONG THE EAST SIDE OF 9TH STREET FROM APPROXIMATE PROTECTED BY TRAFFIC BARRIER SERVICE CONCRETE SHALL BE PRO

STAGE 4

ONCE STAGE 3 OPERATIONS ARE COMPLETE INSTALL SIGNS AND TRAF TTC-52.0 AND AS SHOWN IN THE TRAFFIC CONTROL PLANS ON SHEET CONTROL MEASURES AS DEPICTED IN THE PLANS. SHIFT TRAFFIC INT APPROXIMATE STATION 23+00 TO 37+00. CONTRACTOR SHALL USE FLAG ASPHALT UP TO THE INTERMEDIATE COURSE.CONTRACTOR SHALL SHIF THE 9TH STREET INTERSECTIONS WITH MARKET STREET. CONTRACTO TIMES.

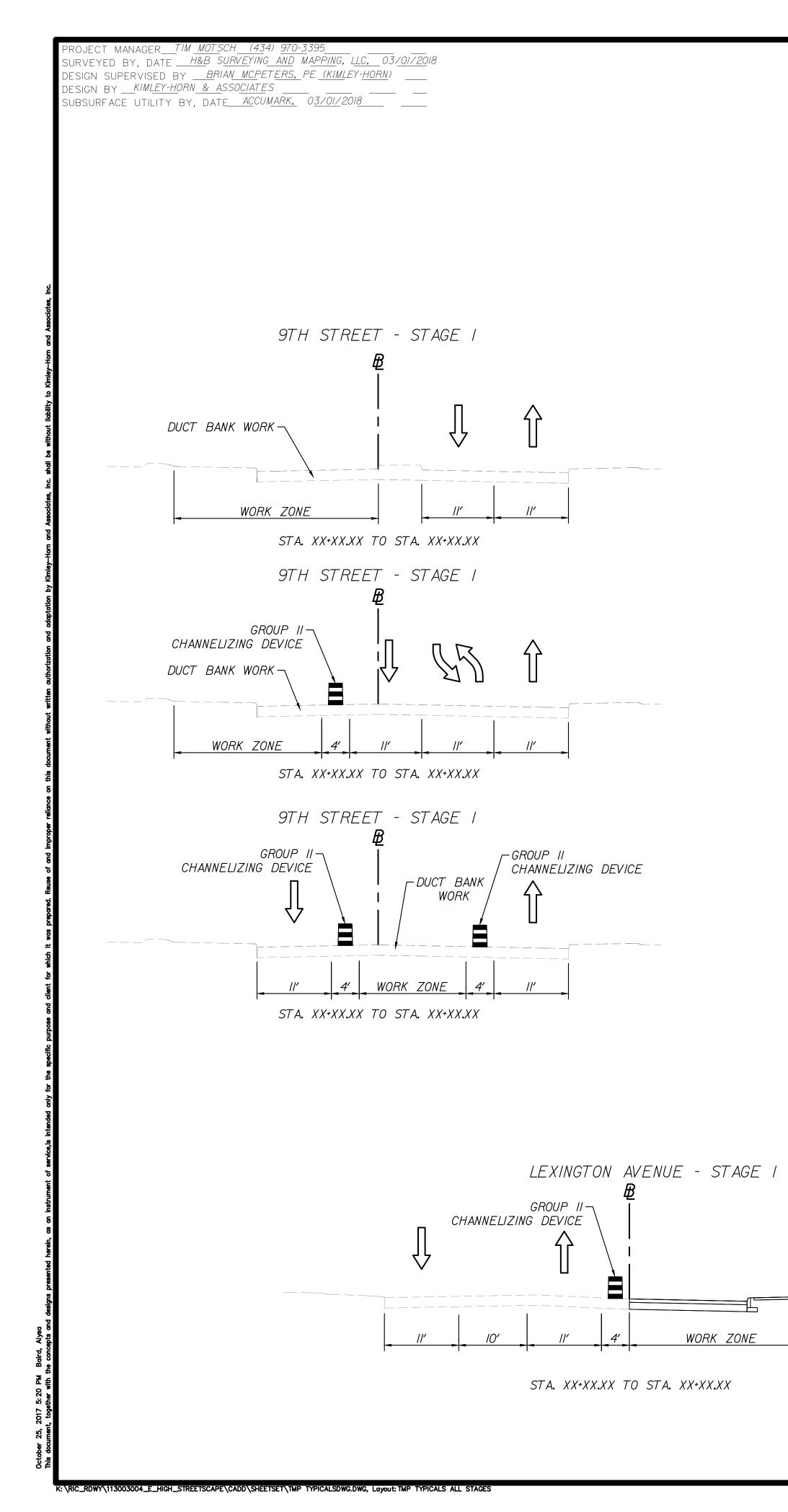
CONTRACTOR SHALL CONSTRUCT IMPROVEMENTS (CLEARING, STORM SEV AND TEMPORARY AND PERMANENT ASPHALT UP TO THE INTERMEDIAT SIDE OF 9TH STREET FROM APPROXIMATE STATION 23+00 TO 38+50.4 THAN 2" WITHIN THE CLEAR ZONE NOT PROTECTED BY TRAFFIC BAR BE PROTECTED AT END OF EACH DAY BY A 6:I WEDGE BEHIND THE

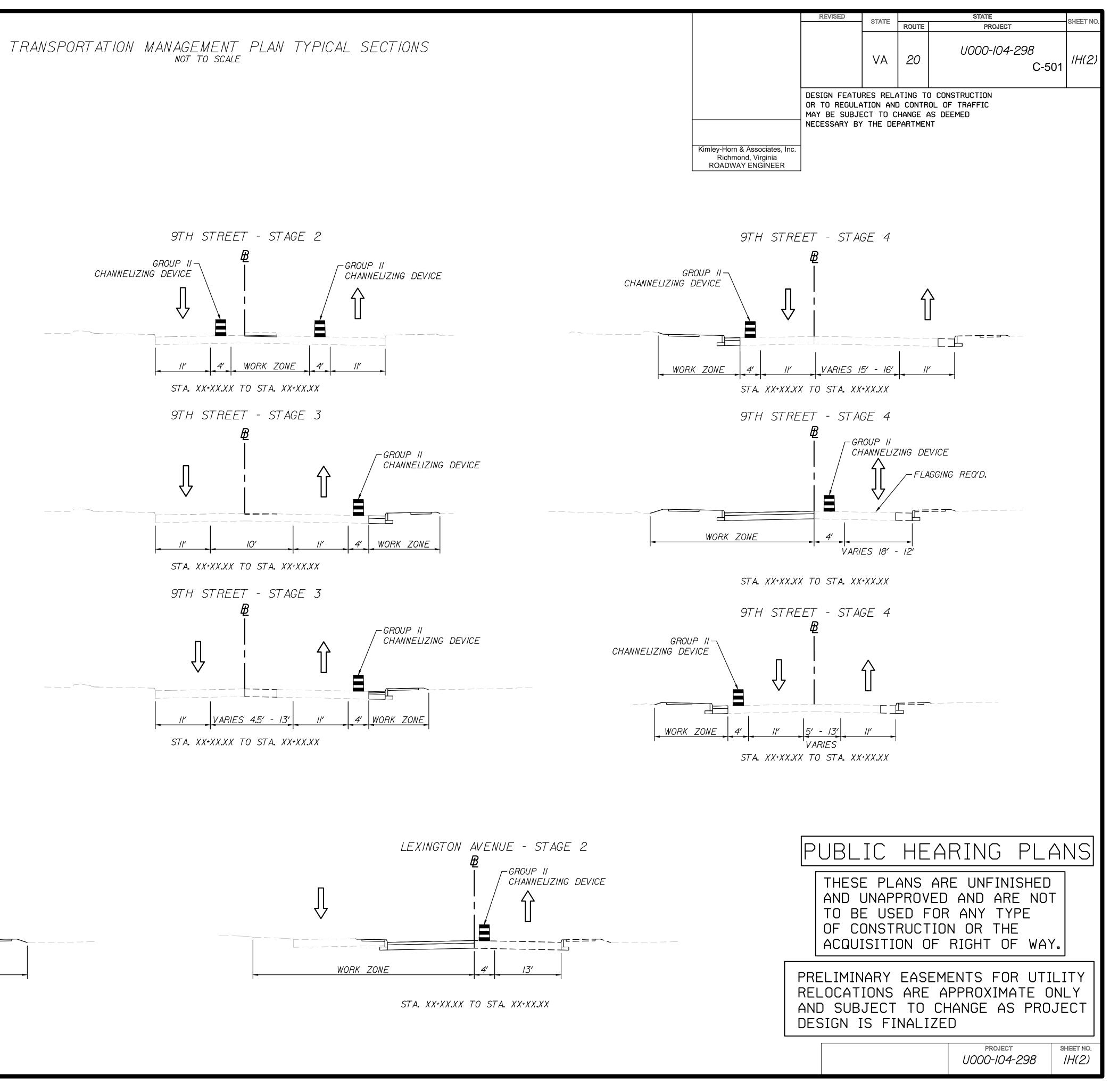
STAGE 5

ONCE STAGE 4 OPERATIONS ARE COMPLETE, THE CONTRACTOR SHALL AND UTILIZE ALTERNATE LANE CLOSURES ALONG 9TH STREET TO CON SURFACE COURSE, FINAL STRIPING AND MARKING, FINAL SIGNING, SEED THROUGHOUT. UPON COMPLETION, CONSTRUCTED IMPROVEMENTS SHALL TRAFFIC.

		REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
			VA	20	<i>U000-104-298</i>	IH(I)
ĪVĒ					C-501	
		DESIGN FEATU		 ATING TI	CONSTRUCTION	
DR ZONE		OR TO REGULA	ATION AN	D CONTR	OL OF TRAFFIC	
DRK ZONE; OR TEMPORARY		MAY BE SUBJE				
TE PROPERTIES	Kimley-Horn & Associates, In Richmond, Virginia	С.				
THE ENGINEER, [						
					R PEDESTRIANS WITHIN AREAS CURRENT MUTCD STANDARDS.	S OF
I AND BICYCLE G	UIDANCE, AND VIRGINIA	A WORK AREA F	PROTECT	ION MAI	NUAL.	
WORKING WITHIN	TRAFFIC SIGNAL CON	ITROLLED INTER	SECTION	'S.		
				·· <del>··</del> ····		
r shall plan an	ND PROSECUTE THE V	WORK IN ACCORL	JANCE N		TE FOLLOWING:	
					APM) TTC-53.0 AND TRAFFIC	
					SHALL INSTALL TEMPORARY SE ALONG 9TH STREET FROM	DIMENT
RAFFIC AS SHO	NN ON THE TRAFFIC	CONTROL PLANS	S TO MA	NT AIN	THE TURN LANES DEPICTED	
UR SHALL MAINT.	AIN PEDESTRIAN ACCE	SS ALONG EAS	i SIDE	UF 9TH	H STREET ON THE SIDEWALK	AT ALL
APPROVINATE O	TATION INZON TO INS	+75 AN NADVET	CTDEE		STATION 23+00 TO 37+00 ON	qтµ
					E SHALL BE PROTECTED AT	
G DEVICES.						
FFIC CONTROL D	EVICES IN ACCORDANC	E WITH VIRGINI	A WORK	AREA	PROTECTION MANUAL (VWAPM)	
T IJ( ) THROUGH	H IJ( ) FOR STAGE IA	ACTIVITIES. CO	NTRACT	OR SHA	LL SHIFT TRAFFIC INTO THE	
THE SIDEWALK AT		ATION IUI+UU T	0 105+0	0. 00/	NTRACTOR SHALL MAINTAIN	
APPROXIMATE S	ΤΔΤΙΩΝ ΙΩΙ+ΩΩ ΤΩ ΙΩ5+	OO ON MARKET	STREET	Γ ΔΙΙ	DROP OFF AREAS GREATER T	-HAN 2"
					A 6:I WEDGE BEHIND THE G	
					PROTECTION MANUAL (VWAPM)	
					SHALL REMOVE THE EXISTIN TREET AND PATCH WITH ASP	-
	PE A DOUBLE YELLOW					
NEEIC CONTROL I		CE WITH VIRCIN	IN WORK	AREA	PROTECTION MANUAL (VWAPM)	
T IJ( ) THROUGH	HIJ() FOR STAGE 3	ACTIVITIES. COI	NTRACTC	OR SHAL	L INSTALL TEMPORARY SEDIM	ENT
					ALONG 9TH STREET FROM THE TURN LANES DEPICTED	AT
ON STREET, E. H					SHALL MAINTAIN PEDESTRIAN	
ALL TIMES.						
					ASPHALT UP TO THE INTERM. 2" WITHIN THE CLEAR ZONE	
					2 WITHIN THE CLEAR ZONE DUP 2 CHANNELIZING DEVICES.	
			IA MOON		DOTECTION MANUAL AMAGEN	
T IJ( ) THROUGH	HIJ() FOR STAGE 4	ACTIVITIES. CON	VTRACTO	R SHAL	PROTECTION MANUAL (VWAPM) L INSTALL TEMPORARY SEDIMI	ENT
					ALONG 9TH STREET FROM 29+00 TO 35+00 TO COMPLETE	-
IFT TRAFFIC AS	SHOWN ON THE TRAN	FIC CONTROL F	PLANS T	O MAINT	AIN THE TURN LANES DEPICT	ED AT
OR SHALL MAINT	AIN PEDESTRIAN ACCL	SS ALONG EAS	I SIDE	UF 9TH	H STREET ON THE SIDEWALK	AT ALL
EWER, GRADING, C	CURB, SIDEWALK					
TE COURSE) ALO	NG THE EAST	וחוום	ТС			
RRIER SERVICE	AREAS GREATER CONCRETE SHALL				ARING PLA	CVI
E GROUP 2 CHAI	NNELIZING DEVICES.	TUEC			ARE UNFINISHED	
					ED AND ARE NOT	
L SET UP STAGE	E 4 ACTIVITIES				OR ANY TYPE	
ONSTRUCT THE F	FINAL PAVEMENT				ION OR THE	
DING AND LANDS L BE FULLY OPE					OF RIGHT OF WAY.	
	-			\		J
		PREI IMIN	ARY	EAS	EMENTS FOR UTIL	[TY ]
		••••			APPROXIMATE ON	- • •
					CHANGE AS PROJE	
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					PROJECT S	HEET NO.

project *U000-104-298*  SHEET NO. *|H(|)* 





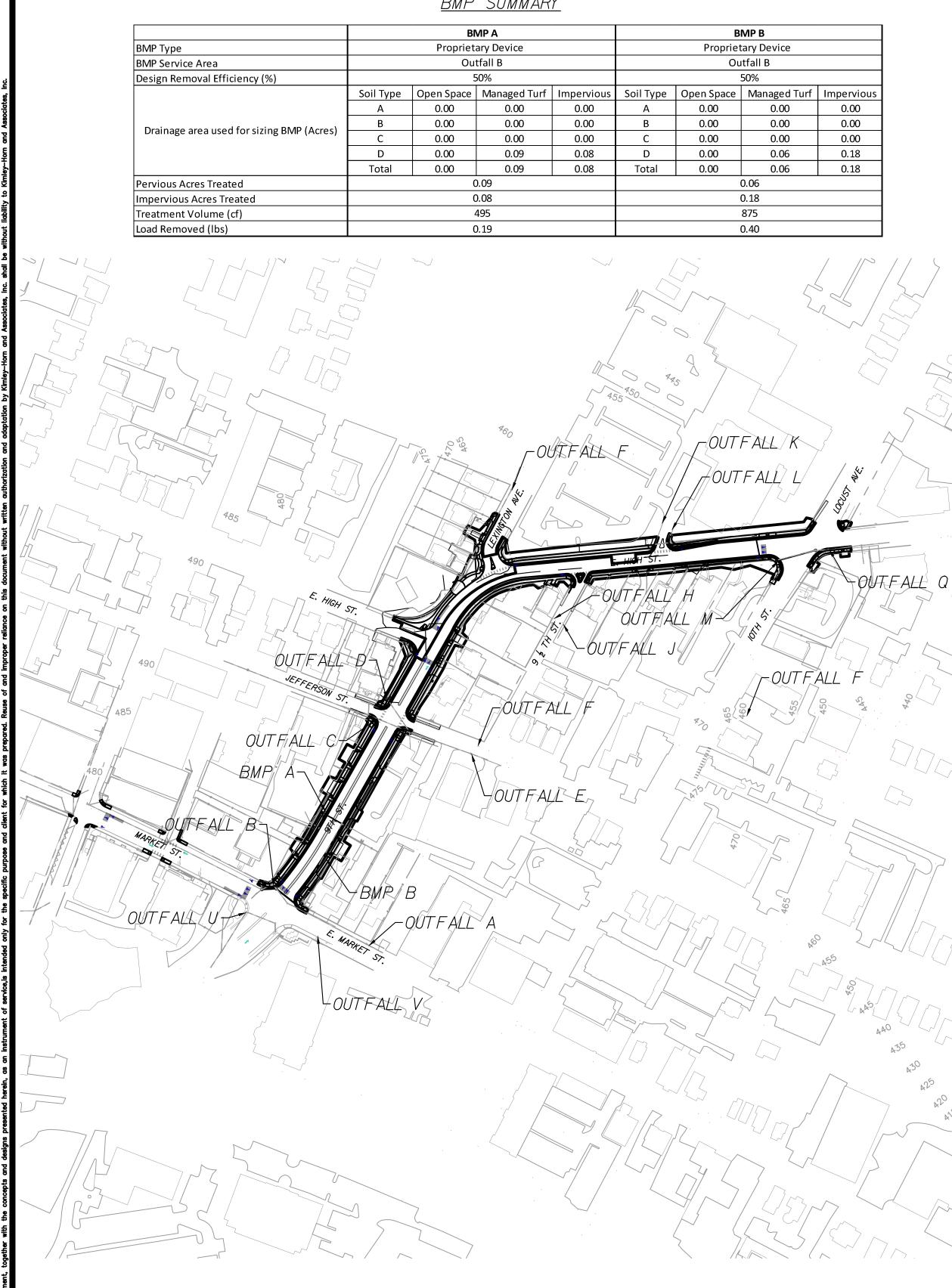
PROJECT MANAGER\_\_\_\_\_\_*T<u>IM\_M</u>OTS<u>CH\_</u>\_(43<u>4)</u>970-3<u>395</u>\_\_\_\_\_ SURVEYED BY, DATE\_\_\_\_\_<i>H&B\_SURVEYING\_AND\_MAPPING, LLC,\_\_03/01/2018* 

DESIGN SUPERVISED BY \_\_\_\_\_ B<u>RIAN\_MCPETERS, PE (KIMLEY-HORN)</u> DESIGN BY \_\_\_\_\_ KIMLEY-HORN & A<u>SSOCIATES</u> \_\_\_\_\_ \_\_\_ SUBSURFACE UTILITY BY, DATE \_\_\_\_\_ AC<u>CUMA</u>RK, <u>03/01/2018</u> \_\_\_\_\_

K: \RIC\_RDWY\113003004\_E\_HIGH\_STREETSCAPE\CADD\SHEETSET\WATER QUALITY SHEET.DWG, Layout: WATER QUALITY SHE

# WATER QUALITY AI DATA SHI

## <u>BMP SUMMARY</u>



<u>LEGEND</u>

PROJECT AREA ("A-

POST-DEVELOPMENT DRAINAGE AREA

POST-DEVELOPMENT IMPERVIOUS LAND (

							REVISED	STATE	ROUTE	STATE PROJEC	ст.	SHEET NO
					-							
								VA	20	U000-104		].]
											C-501	
							DESIGN FEA	TURES RELA	L ATING T	CONSTRUCTION		
							OR TO REG		CONTI	ROL OF TRAFFIC		
								BY THE DE				
				WATEF	r <i>quality</i>	<u>SUMMARY</u>						
DEQ Virginia Runoff R	Reduction Method Re	-Development Co	ompliance s	Spreadsheet - Ver	rsion 3.0							
	n Specifications List: 20					Update Summ	nary Sheet					
Site Summary -		oment Proje	ct***			Print Preview	Print					
Project Title: E. High Str Date: 43539	reetscape	Total Rainfa	ll (in):	43	]							
		Total Disturbed	Acreage:	1.19	]							
Site Land Cover Sur	mmary											
Pre-ReDevelopmer	nt Land Cover (acre	A soils	B Soils	C Soils	D Soils	Totals	% of Total					
Forest/Open (acres)		0.00	0.00	0.00	0.00	0.00	0					
Managed Turf (acres)		0.00	0.06	0.00	0.00	0.06	5					
Impervious Cover (acr	es)	0.00	1.13	0.00	0.00	1.13	95	-				
						1.19	100					
Post-ReDevelopme	ent Land Cover (acr											
Forest /Orace /		A soils	B Soils	C Soils	D Soils	Totals	% of Total					
Forest/Open (acres) Managed Turf (acres)		0.00	0.00	0.00	0.00	0.00	0 24					
Impervious Cover (acr	es)	0.00	0.91	0.00	0.00	0.91	76					
						1.19	100					
Site Tv and Land Co	over Nutrient Loads	÷										-
		Final Post-Deve		Post-	Post-	Adjusted Pre-		Pre- ReDevelopn	nent D	Final Post- evelopment TP Load	Post-ReDevelop	
		(Post-ReDevel & New Imper		ReDevelopment	Development (New Impervious)	ReDevelonment		TP Load per	acre	per acre	TP Load per a (Ib/acre/y	
		0.77		0.77	-	0.91		(Ib/acre/y 2.08	(r)	(lb/acre/yr) 1.76	1.76	
Site Rv		3,331		3,331	-	3,933						
Site Rv Treatment Volume (ft	3)	0,001				2.47						
	<sup>3</sup> )	2.09		2.09		2.47						
Treatment Volume (ft TP Load (lb/yr)				2.09		2.47						
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction				2.09 N/A***	N/A***	2.47				REQUIRED TO		
Treatment Volume (ft TP Load (lb/yr)	on Required	2.09	evelopment	N/A***		2.47	TOTAL	PHOSPH	OROU	s load by x	.XX LB/YE	
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction	on Required	2.09 0.12 *This is a linear de	inal Post-D	N/A*** project evelopment Load	N/A***	Pre-	TOTAL THE US	PHOSPH SE OF 1	OROU WO	S LOAD BY X PROPRIETARY	.XX LB/YE DEVICES	
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction (lb/yr)	on Required	2.09 0.12 *This is a linear de	inal Post-D eDevelopm	N/A*** project evelopment Load tent & New Imperv	N/A***	Pre- ReDevelopment	TOTAL THE US	PHOSPH SE OF 1	OROU WO	s load by x	.XX LB/YE DEVICES	
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction	on Required	2.09 0.12 *This is a linear de	inal Post-D eDevelopm	N/A*** project evelopment Load	N/A***	Pre-	TOTAL THE US	PHOSPH SE OF 1	OROU WO	S LOAD BY X PROPRIETARY	.XX LB/YE DEVICES	
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction (lb/yr)	on Required	2.09 0.12 *This is a linear de	inal Post-D eDevelopm	N/A*** project evelopment Load tent & New Imperv	N/A***	Pre- ReDevelopment	TOTAL THE US	PHOSPH SE OF 1	OROU WO	S LOAD BY X PROPRIETARY	.XX LB/YE DEVICES	
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction (lb/yr)	on Required	2.09 0.12 *This is a linear de	inal Post-D eDevelopm	N/A*** project evelopment Load tent & New Imperv	N/A***	Pre- ReDevelopment	TOTAL THE US	PHOSPH SE OF 1	OROU WO	S LOAD BY X PROPRIETARY	.XX LB/YE DEVICES	
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction (lb/yr)	on Required	2.09 0.12 *This is a linear de	inal Post-D eDevelopm	N/A*** project evelopment Load tent & New Imperv	N/A***	Pre- ReDevelopment	TOTAL THE US	PHOSPH SE OF 1	OROU WO	S LOAD BY X PROPRIETARY	.XX LB/YE DEVICES	
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction (lb/yr)	on Required	2.09 0.12 *This is a linear de F (Post-R	inal Post-D	N/A*** project evelopment Load tent & New Imperv	N/A*** ious)	Pre- ReDevelopment	TOTAL THE US	PHOSPH SE OF 1	OROU WO	S LOAD BY X PROPRIETARY	.XX LB/YE DEVICES	
Treatment Volume (ft <sup>®</sup> TP Load (lb/yr) Total TP Load Reduction (lb/yr)	on Required	2.09 0.12 *This is a linear de F (Post-R	inal Post-Developm	N/A*** project evelopment Load ent & New Imperv 14.97 TITY SUMMA	N/A*** ious)	Pre- ReDevelopment	TOTAL THE US	PHOSPH SE OF 1	OROU WO	S LOAD BY X PROPRIETARY	.XX LB/YE DEVICES	
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction (lb/yr)	on Required	2.09 0.12 *This is a linear de (Post-R <u>WATE</u> P	RE-DEVE	N/A*** project evelopment Load ent & New Imperv 14.97 T/TY SUMMA LOPMENT	N/A*** ious)	Pre- ReDevelopment 17.68	TOTAL THE US	PHOSPH SE OF 1	OROU WO	S LOAD BY X PROPRIETARY	.XX LB/YE DEVICES	
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction (lb/yr)	on Required	2.09 0.12 *This is a linear de F (Post-R	RE-DEVE	N/A*** project evelopment Load ent & New Imperv 14.97 T/TY SUMMA LOPMENT	N/A*** ious)	Pre- ReDevelopment	TOTAL THE US	PHOSPH SE OF 1	OROU WO	S LOAD BY X PROPRIETARY	.XX LB/YE DEVICES	
Treatment Volume (ft <sup>®</sup> TP Load (lb/yr) Total TP Load Reduction (lb/yr)	on Required ** Outfall	2.09 0.12 *This is a linear de (Post-R <u>WATE</u> P Area (acres	RE-DEVEI	N/A*** project evelopment Load ent & New Imperv 14.97 14.97 T/TY SUMMA OPMENT Tc (minutes)	N/A*** ious) <u>ARY</u> 2-yr Q (cfs) 1	Pre- ReDevelopment 17.68	TOT AL THE US REDUCE	PHOSPH SE OF 1 S THAT	0R0U -W0 - T07	S LOAD BY X PROPRIETARY TAL BY X.XX	AX LB/YE DEVICES LB/YEAR.	- <i>AR</i> .
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction (lb/yr)	on Required ** Outfall A B C	2.09 0.12 *This is a linear de (Post-R WATE/ P Area (acres 0.43 25.21 5.38	RE-DEVEI ) CN 96.0 92.1	N/A*** project evelopment Load ent & New Imperv 14.97 TOPMENT Tc (minutes) 5 10 6	N/A*** ious) 2-yr Q (cfs) 1 2.09 104.96 24.15	Pre- ReDevelopment 17.68 .0-yr Q (cfs) 3.21 163.32 38.48	TOT AL THE US REDUCE	PHOSPH SE OF 1 S THAT	0R0U -W0 - T07	S LOAD BY X PROPRIETARY	AX LB/YE DEVICES LB/YEAR.	- <i>AR</i> .
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction (lb/yr)	on Required ** Outfall A B C D	2.09 0.12 *This is a linear de (Post-R WATE/ P Area (acres 0.43 25.21 5.38 3.78	RE-DEVEI ) CN 96.0 92.1 92.8	N/A***  project  evelopment Load ent & New Imperv 14.97  T/TY SUMMA  OPMENT Tc (minutes) 5 10 6 7	N/A*** ious) 2-yr Q (cfs) 1 2.09 104.96 24.15 16.42	Pre- ReDevelopment 17.68 .0-yr Q (cfs) 3.21 163.32 38.48 26.01	TOTAL THE US REDUCE	PHOSPH SE OF 7 S THAT	OROU WO TOT	S LOAD BY X PROPRIETARY TAL BY X.XX	NX LB/YE DEVICES LB/YEAR.	- <i>AR</i> .
Treatment Volume (ft <sup>i</sup> TP Load (lb/yr) Total TP Load Reduction (lb/yr) TN Load (lb/yr)	on Required ** Outfall A B C	2.09 0.12 *This is a linear de (Post-R WATE/ P Area (acres 0.43 25.21 5.38	RE-DEVEI ) CN 96.0 92.1	N/A*** project evelopment Load ent & New Imperv 14.97 TOPMENT Tc (minutes) 5 10 6	N/A*** ious) 2-yr Q (cfs) 1 2.09 104.96 24.15	Pre- ReDevelopment 17.68 .0-yr Q (cfs) 3.21 163.32 38.48	TOTAL THE US REDUCE	PHOSPH SE OF 7 S THAT	OROU WO TOT	S LOAD BY X PROPRIETARY AL BY X.XX EARING ARE UNFIN /ED AND AI	NISHED RE NOT	- <i>AR</i> .
Treatment Volume (ft <sup>i</sup> TP Load (lb/yr) Total TP Load Reduction (lb/yr) TN Load (lb/yr)	on Required ** Outfall A B C D	2.09 0.12 *This is a linear de (Post-R WATE/ P Area (acres 0.43 25.21 5.38 3.78 0.17	Imal Post-Decemperation         Image: Constraint of the second system         RE-DEVEI         CN         96.0         94.7         92.1         92.8         97.4	N/A***  project  evelopment Load ent & New Imperv 14.97  T/TY SUMMA  OPMENT Tc (minutes) 5 10 6 7	N/A*** ious) 2-yr Q (cfs) 1 2.09 104.96 24.15 16.42	Pre- ReDevelopment 17.68 .0-yr Q (cfs) 3.21 163.32 38.48 26.01	TOTAL THE US REDUCE	PHOSPH SE OF 7 S THAT	OROU WO TOT	S LOAD BY X PROPRIETARY AL BY X.XX EARING ARE UNFIN ARE UNFIN FOR AND AND	NISHED RE NOT YPE	- <i>AR</i> .
Treatment Volume (ft <sup>i</sup> TP Load (lb/yr) Total TP Load Reduction (lb/yr) TN Load (lb/yr)	on Required ** Outfall A B C D	2.09 0.12 *This is a linear de (Post-R WATE/ P Area (acres 0.43 25.21 5.38 3.78 0.17	inal Post-Decemponiation         ieDevelopm         ieDevelopm         RE-DEVEI         )       CN         96.0         94.7         92.1         92.8         97.4	N/A***  project  evelopment Load ent & New Imperv 14.97  T/TY SUMMA  OPMENT Tc (minutes) 5 10 6 7 5 10 6 7 5 LOPMENT	N/A*** ious) 2-yr Q (cfs) 1 2.09 104.96 24.15 16.42 0.84	Pre- ReDevelopment 17.68 .0-yr Q (cfs) 3.21 163.32 38.48 26.01	TOTAL THE US REDUCE	PHOSPH SE OF 7 SS THAT LIC SE PLO BE US CONST	OROU WO TOT HE ANS PRO ED I RUC	S LOAD BY X PROPRIETARY "AL BY X.XX EARING ARE UNFIN /ED AND AN FOR ANY T TION OR TH	NISHED RE NOT YPE HE	- <i>AR</i> .
Treatment Volume (ft <sup>i</sup> TP Load (lb/yr) Total TP Load Reduction (lb/yr) TN Load (lb/yr)	on Required *** Outfall A B C D E Outfall A B C D E Outfall A	2.09 0.12 *This is a linear de (Post-R WATEA WATEA P Area (acres 0.43 25.21 5.38 3.78 0.17 P( Area (acres 0.17	inal Post-Developm Developm RE-DEVEL CN 96.0 94.7 92.1 92.8 97.4 OST-DEVE CN 95.9	N/A***  project  evelopment Load ent & New Imperv 14.97  TC (minutes)  5 10 6 7 10 6 7 5 10 6 7 5 10 5 10 5 10 5 10 5 10 5 10 5 10 5	N/A*** ious) 2-yr Q (cfs) 1 2.09 104.96 24.15 16.42 0.84 2-yr Q (cfs) 1 2.09 104.96 24.15 16.42 0.84	Pre- ReDevelopment 17.68 0-yr Q (cfs) 3.21 163.32 38.48 26.01 1.28 0-yr Q (cfs) 3.20	TOTAL THE US REDUCE	PHOSPH SE OF 7 SS THAT LIC SE PLO BE US CONST	OROU WO TOT HE ANS PRO ED I RUC	S LOAD BY X PROPRIETARY AL BY X.XX EARING ARE UNFIN ARE UNFIN FOR AND AND	NISHED RE NOT YPE HE	- <i>AR</i> .
Treatment Volume (ft <sup>i</sup> TP Load (lb/yr) Total TP Load Reduction (lb/yr) TN Load (lb/yr)	on Required *** Outfall A B C D E Outfall A B C D E Outfall A B C D E B C D E B C D E B C D E B C C D E B C C D E B C C D E B C C D E B C C D E B C C E B C C E B	2.09 0.12 *This is a linear de (Post-R WATE/ P Area (acres 0.43 25.21 5.38 3.78 0.17 P( Area (acres 0.43 25.21 5.38	inal Post-Decemponiation         ieDevelopm         ieDevelopm         ieDevelopm         RE-DEVEI         )       CN         96.0         94.7         92.1         92.1         92.8         97.4         OST-DEVE         )       CN         95.9         94.8	N/A*** project evelopment Load ent & New Imperv 14.97 TC (minutes) 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 10 6 7 5 10 10 6 7 5 10 10 6 7 5 10 10 6 7 5 10 10 6 7 5 10 10 6 7 5 10 10 6 7 5 10 10 10 10 10 10 10 10 10 10	N/A*** ious) 2-yr Q (cfs) 1 2.09 104.96 24.15 16.42 0.84 2-yr Q (cfs) 1 2.09 105.26	Pre- ReDevelopment 17.68 0-yr Q (cfs) 3.21 163.32 38.48 26.01 1.28 0-yr Q (cfs) 3.20 163.62	TOTAL THE US REDUCE	PHOSPH SE OF 7 S THAT LIC SE PLA UNAPA BE USA CONSTA	OROU WO TOT TOT HE ANS PROV ED I RUC ON (	S LOAD BY X PROPRIETARY AL BY X.XX EARING ARE UNFIN /ED AND AN FOR ANY T TION OR TH OF RIGHT (	NISHED RE NOT YPE HE DF WAY.	NS
Treatment Volume (ft <sup>i</sup> TP Load (lb/yr) Total TP Load Reduction (lb/yr) TN Load (lb/yr) S/TE") OVERALL	on Required *** Outfall A B C D E Outfall A B C D E Outfall A B C D E C C D E C C C C C C C C C C C C C	2.09 0.12 *This is a linear de (Post-R (Post-R ) <i>WATE</i> / <i>WATE</i> / P Area (acres 0.43 25.21 5.38 3.78 0.43 25.21 5.38 3.78 0.17 P( Area (acres 0.43 25.21	inal Post-Decemponent         inal Post-Decemponent <td< td=""><td>N/A***         project         evelopment Load         ent &amp; New Imperv         14.97         JAPPOPENT         Tc (minutes)         5         10         6         7         5         10         6         7         5         10         6         7         5         10         6         7         5         10         6         7         5         10         6         7         5         10         6         10         6         10         6</td><td>N/A*** ious) 2-yr Q (cfs) 1 2.09 1 104.96 2 104.96 2 24.15 1 16.42 0 24.15 1 16.42 1 105.26 1 23.92 1</td><td>Pre- ReDevelopment 17.68 0-yr Q (cfs) 3.21 163.32 38.48 26.01 1.28 0-yr Q (cfs) 3.20 163.62 38.12</td><td>TOTAL THE US REDUCE PUB THE AND TO OF ACQ PRELIM</td><td>PHOSPH SE OF 7 S THAT LIC SE PLA UNAPA BE USA CONSTA UISITIONISITII TARATININTEENENENENENENENENENENENENENENENENE</td><td>OROU WO TOT TOT HE ANS PROV ED FUC ON C EAS</td><td>S LOAD BY X PROPRIETARY AL BY X.XX EARING ARE UNFIN /ED AND AN FOR ANY T TION OR TH OF RIGHT ( SEMENTS F(</td><td>NISHED RE NOT YPE HE DF WAY.</td><td>TAR.</td></td<>	N/A***         project         evelopment Load         ent & New Imperv         14.97         JAPPOPENT         Tc (minutes)         5         10         6         7         5         10         6         7         5         10         6         7         5         10         6         7         5         10         6         7         5         10         6         7         5         10         6         10         6         10         6	N/A*** ious) 2-yr Q (cfs) 1 2.09 1 104.96 2 104.96 2 24.15 1 16.42 0 24.15 1 16.42 1 105.26 1 23.92 1	Pre- ReDevelopment 17.68 0-yr Q (cfs) 3.21 163.32 38.48 26.01 1.28 0-yr Q (cfs) 3.20 163.62 38.12	TOTAL THE US REDUCE PUB THE AND TO OF ACQ PRELIM	PHOSPH SE OF 7 S THAT LIC SE PLA UNAPA BE USA CONSTA UISITIONISITII TARATININTEENENENENENENENENENENENENENENENENE	OROU WO TOT TOT HE ANS PROV ED FUC ON C EAS	S LOAD BY X PROPRIETARY AL BY X.XX EARING ARE UNFIN /ED AND AN FOR ANY T TION OR TH OF RIGHT ( SEMENTS F(	NISHED RE NOT YPE HE DF WAY.	TAR.
Treatment Volume (ft <sup>i</sup> TP Load (lb/yr) Total TP Load Reduction (lb/yr) TN Load (lb/yr) S/TE") - OVERALL	on Required *** Outfall A B C D E Outfall A B C D E Outfall A B C D E B C D E B C D E B C D E B C C D E B C C D E B C C D E B C C D E B C C D E B C C E B C C E B	2.09 0.12 *This is a linear de (Post-R WATE/ P Area (acres 0.43 25.21 5.38 3.78 0.17 P( Area (acres 0.43 25.21 5.38	inal Post-Decemponiation         ieDevelopm         ieDevelopm         ieDevelopm         RE-DEVEI         )       CN         96.0         94.7         92.1         92.1         92.8         97.4         OST-DEVE         )       CN         95.9         94.8	N/A*** project evelopment Load ent & New Imperv 14.97 TC (minutes) 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 6 7 5 10 10 6 7 5 10 10 6 7 5 10 10 6 7 5 10 10 6 7 5 10 10 6 7 5 10 10 6 7 5 10 10 6 7 5 10 10 10 10 10 10 10 10 10 10	N/A*** ious) 2-yr Q (cfs) 1 2.09 104.96 24.15 16.42 0.84 2-yr Q (cfs) 1 2.09 105.26	Pre- ReDevelopment 17.68 0-yr Q (cfs) 3.21 163.32 38.48 26.01 1.28 0-yr Q (cfs) 3.20 163.62	TOTAL THE US REDUCE PUB THE AND TO OF ACQ PRELIM RELOCA	PHOSPH SE OF 7 S THAT LIC SE PLA UNAPA BE USA CONSTA UISITIONS	HE ANS ED ED EAS ARE	S LOAD BY X PROPRIETARY AL BY X.XX EARING ARE UNFIN /ED AND AN FOR ANY T TION OR TH OF RIGHT ( EMENTS FO E APPROXIM	AX LB/YE DEVICES LB/YEAR. PLA NISHED RE NOT YPE HE DF WAY. DR UTILI ATE ONI	TY YS
Treatment Volume (ft TP Load (lb/yr) Total TP Load Reduction (lb/yr)	on Required *** Outfall A B C D E O	2.09 0.12 *This is a linear de F (Post-R WATE/ WATE/ Area (acres 0.43 25.21 5.38 3.78 0.43 25.21 5.38 3.78 0.17 P( Area (acres 0.43 25.21 5.38 3.78 0.17 P( Area (acres 0.43 25.21 5.38 3.78 0.17	inal Post-De eDevelopm CN PE-DEVEL 0 CN 96.0 94.7 92.1 92.8 97.4 0ST-DEVE 0 CN 95.9 94.8 92.1 92.1 92.2 94.8 92.1 92.7	N/A***           project           evelopment Load           ent & New Imperv           14.97           JUNENT           Tc (minutes)           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7	N/A*** ious) 2-yr Q (cfs) 1 2.09 1 104.96 2 104.96 2 104.96 2 24.15 1 16.42 0 24.15 1 16.42 1 16.42 1 16.42 1 16.42 1 16.99 1	Pre- ReDevelopment 17.68 0-yr Q (cfs) 3.21 163.32 38.48 26.01 1.28 0-yr Q (cfs) 3.20 163.62 38.12 26.94	TOTAL THE US REDUCE PUB THE AND TO OF ACQ PRELIM RELOCA	PHOSPH SE OF 7 S THAT IS THAT SE PLA UNAPA BE US CONST UISITIONS BJECT	HE ANS ED I ED SN EAS ARE TO	S LOAD BY X PROPRIETARY AL BY X.XX EARING ARE UNFIN /ED AND AN FOR ANY T TION OR TH OF RIGHT ( EMENTS FO E APPROXIM CHANGE A	AX LB/YE DEVICES LB/YEAR. PLA NISHED RE NOT YPE HE DF WAY. DR UTILI ATE ONI	TY YS
Treatment Volume (ft <sup>i</sup> TP Load (lb/yr) Total TP Load Reduction (lb/yr) TN Load (lb/yr) S/TE") - OVERALL	on Required *** Outfall A B C D E O	2.09 0.12 *This is a linear de F (Post-R WATE/ WATE/ Area (acres 0.43 25.21 5.38 3.78 0.43 25.21 5.38 3.78 0.17 P( Area (acres 0.43 25.21 5.38 3.78 0.17 P( Area (acres 0.43 25.21 5.38 3.78 0.17	inal Post-De eDevelopm CN PE-DEVEL 0 CN 96.0 94.7 92.1 92.8 97.4 0ST-DEVE 0 CN 95.9 94.8 92.1 92.1 92.2 94.8 92.1 92.7	N/A***           project           evelopment Load           ent & New Imperv           14.97           JUNENT           Tc (minutes)           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7	N/A*** ious) 2-yr Q (cfs) 1 2.09 1 104.96 2 104.96 2 104.96 2 24.15 1 16.42 0 24.15 1 16.42 1 16.42 1 16.42 1 16.42 1 16.99 1	Pre- ReDevelopment 17.68 0-yr Q (cfs) 3.21 163.32 38.48 26.01 1.28 0-yr Q (cfs) 3.20 163.62 38.12 26.94	TOTAL THE US REDUCE PUB THE AND TO OF ACQ PRELIM RELOCA AND SU	PHOSPH SE OF 7 S THAT IS THAT SE PLA UNAPA BE US CONST UISITIONS BJECT IS FI	HE ANS PROV ED I RUC ON ( EAS ARE TO NAL	S LOAD BY X PROPRIETARY "AL BY X.XX EARING ARE UNFIN /ED AND AN FOR ANY T TION OR TH OF RIGHT ( SEMENTS FO E APPROXIM CHANGE A IZED	NISHED RE NOT YPE HE DF WAY. OR UTILI ATE ONI S PROJE	NS TY CT
Treatment Volume (ft <sup>i</sup> TP Load (lb/yr) Total TP Load Reduction (lb/yr) TN Load (lb/yr) S/TE") OVERALL	on Required **  Outfall A B C D E O E O E O E O E O E O E O E O E O E	2.09 0.12 *This is a linear de (Post-R (Post-R ) <i>WATE/</i> <i>WATE/</i> Area (acres 0.43 25.21 5.38 3.78 0.43 25.21 5.38 3.78 0.17 P( Area (acres 0.43 25.21 5.38 3.78 0.17	inal Post-Decemponent         ieDevelopm         ieDevelopm         ieDevelopm         ieDevelopm         RE-DEVEI         )       CN         96.0         94.7         92.1         92.8         97.4         OST-DEVE         )       CN         95.9         94.8         92.1         95.9         94.8         92.1         92.7         97.4	N/A***           project           evelopment Load           ent & New Imperv           14.97           JUNENT           Tc (minutes)           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           6           7           5           10           10           10           10	N/A*** ious) 2-yr Q (cfs) 1 2.09 1 104.96 2 104.96 2 24.15 1 16.42 0 24.15 1 16.42 1 16.42 1 16.42 1 16.99 1 105.26 1 23.92 1 16.99 1 0.79 1	Pre- ReDevelopment 17.68 0-yr Q (cfs) 3.21 163.32 38.48 26.01 1.28 0-yr Q (cfs) 3.20 163.62 38.12 26.94 1.20	TOTAL THE US REDUCE PUB THE AND TO OF ACQ PRELIM RELOCA AND SU	PHOSPH SE OF 7 S THAT IS THAT SE PLA UNAPA BE US CONST UISITIONS BJECT	HE ANS PROV ED I RUC ON ( EAS ARE TO NAL	S LOAD BY X PROPRIETARY AL BY X.XX EARING ARE UNFIN /ED AND AN FOR ANY T TION OR TH OF RIGHT ( EMENTS FO E APPROXIM CHANGE A	CT LA	TY YS

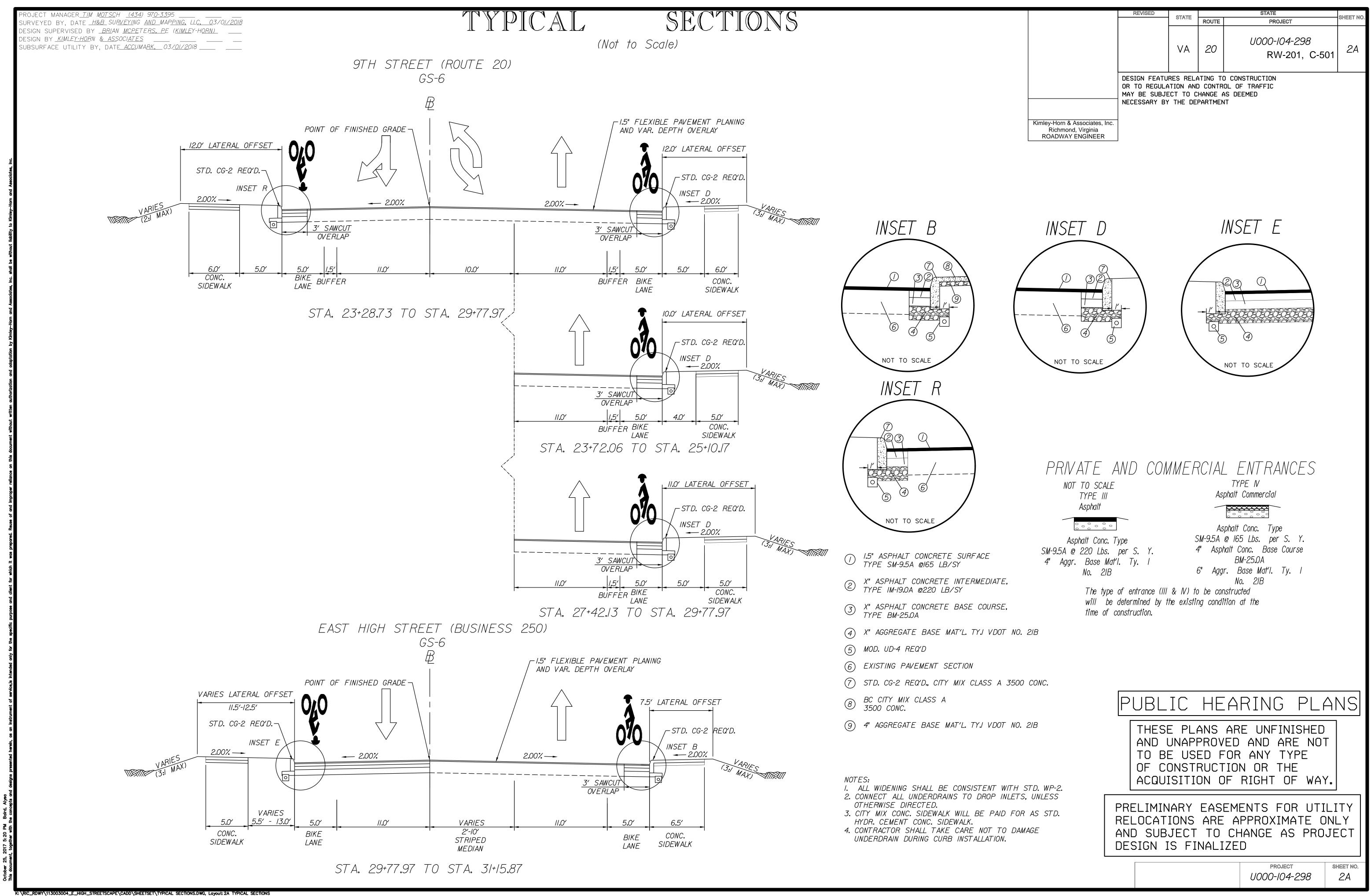
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Site Summary - Linear Development Project****         Project Wites 7         Dimension Provided Accession         Provide Provided Accession         Dimension         Provide Provided Accession         Provide Provide Provided Accession         Provide Provided Accession         Provide Provide Provided Accession         Provide Provide Provided Accession         Provide Provide Provided Provided Accession         Provide Provide Provided P	Virginia Runoff Rec	duction Method Re-	Development C	compliance s	Spreadsheet - Ver	sion 3.0		[						
Project Title C. High Streetscape Date: 43339         Tatel Rainfall [10]: 				and the second second			Update Summ	nary Sheet						
Date: 4333         Total Bainfell (n):         43 1.19           Site Land Cover Summary           Pre-ReDevelopment Land Cover (acres) <u>A soils B Soils C Soils D Soils Totals % of Total</u> <u>A soils B Soils C Soils D Soils Totals % of Total</u> <u>Receivelopment Land Cover (acres)</u> <u>A soils B Soils C Soils D Soils Totals % of Total</u> <u>Banaged Tur (acres)</u> <u>Bools 0.00 0.000 0.000 0.000 0.005 5</u> <u>Banaged Tur (acres)</u> <u>Bools 0.0000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0</u>			ment Proje	ect***			Print Preview	Print						
Site Land Cover Summary           Pre-ReDevelopment Land Cover (acres)           forent/Open (acres)         A soils         D soils         Totals         % of Total           forent/Open (acres)         0.00 <th co<="" td=""><td></td><td></td><td>Total Rainfa</td><td>all (in):</td><td>43</td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td></th>	<td></td> <td></td> <td>Total Rainfa</td> <td>all (in):</td> <td>43</td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td>			Total Rainfa	all (in):	43			1					
Pre-ReDevelopment Land Cover (acres)         A solis         B Solis         C Solis         D Solis         Totals         % of Total           Managed Tur (acres)         0.00         0			Total Disturbed	Acreage:	1.19									
Pre-typen (scres)         0.00 <td>Land Cover Sumr</td> <td>mary</td> <td></td>	Land Cover Sumr	mary												
Pre-typen (scres)         0.00 <td>ReDevelopment</td> <td>Land Cover Jacre</td> <td>s)</td> <td></td>	ReDevelopment	Land Cover Jacre	s)											
Managed Turt (acres)         0.00         0.06         0.00         0.00         0.00         1.13         95           Impervious Cover (acres)         0.00         1.13         0.00         1.13         95           Post-ReDevelopment Land Cover (acres)         1.19         100           Forest/Open (acres)         0.00         0.00         0.00         0.00         0.00         0.00         0.00           Managed Turf (acres)         0.00				B Soils	C Soils	D Soils	Totals	% of Total						
Impervious Cover (acres)         0.00         1.13         0.00         0.00         1.13         95           Post-ReDevelopment Land Cover (acres)           Forest/Open (acres)         0.00														
Post-ReDevelopment Land Cover (acres)           Forest/Open (acres)         A soils         B Soils         C Soils         D Soils         Totals         % of Total           forest/Open (acres)         0.00         0.00         0.00         0.00         0           Managed Turf facres)         0.00         0.28         0.00         0.00         0.28           Impervious Cover (acres)         0.00         0.28         0.00         0.02         2.4           Impervious Cover (acres)         0.00         0.91         76         1.19         100           Site Tv and Land Cover Nutrient Loads         Final Post-Development (Post-ReDevelopment (Pervious)         Post-ReDevelopment (Pervious)         Post-ReDevelopment (Pervious)         Post-ReDevelopment (Placers/vr)         Ub/acres/vr)         Prot-ReDevelopment (B/acre/vr)           Site Rv         0.77         0.77         -         0.91         .         2.08         1.76         1.76           Treatment Volume (ft <sup>*</sup> )         3.331         3.331         -         3.933         .         .         7.76         1.76         1.76         1.76         1.76         1.76         1.76         1.76         1.76         1.76         1.76         1.76         1.76         1.76         1.76	-													
A solis         B Solis         C Solis         D Solis         Totals         % of Total           Forext/Open (acres)         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.01         0.00         0.00         0.01         0.00         0.028         2.4         Impervious Cover (acres)         0.00         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.00         0.028         2.4         Impervious Cover (acres)         0.00         0.00         0.01         0.01         0.00         0.00         0.01         0.00         0.00         0.01         0.00         0.00         0.01         1.19         100         0.00	(20,00)				1									
A solis         B Solis         C Solis         D Solis         Totals         % of Total           Forext/Open (acres)         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.01         0.00         0.00         0.01         0.00         0.028         2.4         Impervious Cover (acres)         0.00         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.00         0.028         2.4         Impervious Cover (acres)         0.00         0.00         0.01         0.01         0.00         0.00         0.01         0.00         0.00         0.01         0.00         0.00         0.01         1.19         100         0.00	-ReDevelonmen	t Land Cover (acr	es)											
Managed Turf (acres)         0.00         0.28         0.00         0.028         24           Impervious Cover (acres)         0.00         0.91         76         1.19         100           Site Tv and Land Cover Nutrient Loads           Final Post-Development (Post-ReDevelopment)         Post- ReDevelopment (New Impervious)         Post- Development (New Impervious)         Post- ReDevelopment (New Impervious)         Post- ReDevelopment (B/acre/yr)         Pre- (Ib/acre/yr)         Final Post- (Ib/acre/yr)         Post- (Ib/acre/yr)           Site Rv         0.77         0.77         -         0.91         3.933         1.76         1.76           Treatment Volume (ft <sup>3</sup> )         3.331         3.331         -         3.933         1.76         1.76           Total TP Load (Ib/yr)         2.09         -         2.47         THIS< PROJECT IS REQUIRED TO REDUCE T TOTAL PHOSPHOROUS LOAD BY XXX LB/YE TOTAL PHOSPHOROUS LOAD BY XXX LB/YE REDUCES THAT TOTAL BY X.XX LB/YEAR.           TN Load (Ib/yr)         14.97         17.68         THIS PROJECT IS REQUIRED TO AL BY X.XX LB/YEAR.				B Soils	C Soils	D Soils	Totals	% of Total						
Impervious Cover (acres)       0.00       0.91       0.00       0.91       76         Site Tv and Land Cover Nutrient Loads         Final Post-Development (Post-ReDevelopment ReDevelopment 8. New Impervious)       Post- ReDevelopment New Impervious)       Adjusted Pre- ReDevelopment New Impervious)       Final Post- ReDevelopment ReDevelopment (b/scre/yr)       Pre- TP Load per acre (b/scre/yr)       Final Post- ReDevelopment (b/scre/yr)       Post- ReDevelopment (b/scre/yr)         Treatment Volume (ft <sup>3</sup> )       3.331       3.331 3.933       3.933 2.47       3.933         Total TP Load Reduction Required (b/yr)       0.12       N/A***       N/A***       THIS       PROJECT IS       REQUIRED TO       REDUCE T         The Load Reduction Required (b/yr)       0.12       N/A***       N/A***       THIS       PROJECT IS       REQUIRED TO       REDUCE T         The Load Reduction Required (b/yr)       0.12       N/A***       N/A***       THIS       PROJECT IS       REQUIRED TO REDUCE T         The Load (ib/yr)       14.97       17.68       N/A***       N/A***       N/A***       N/A***														
Site Tv and Land Cover Nutrient Loads       1.19       100         Site Tv and Land Cover Nutrient Loads       Final Post-Development (Post-ReDevelopment & New Impervious)       Post- ReDevelopment (New Impervious)       Post- Development (New Impervious)       Post- ReDevelopment (New Impervious)       Pre- (B/Jacre/yr)       Final Post- Development ID Load per are (Ib/acre/yr)       Post- ReDevelopment (Ib/acre/yr)       Post- ReDevelopment 2.08       Post- ReDevelopment ID Load per are (Ib/acre/yr)       Post- ReDevelopment ID Load per are (Ib/acre/yr)       Final Post- ID Load Reduction Required (Ib/acre/yr)       Post- ReDuce T       Post- ReDuc														
Final Post-Development (Post-ReDevelopment & New Impervious)         Post- ReDevelopment New Impervious)         Post- ReDevelopment (New Impervious)         Adjusted Pre- ReDevelopment ReDevelopment (B/acre/yr)         Final Post- Development TP Load per acre (B/acre/yr)         Post- ReDevelopment (B/acre/yr)           Site Rv         0.77         0.77         -         0.91           Treatment Volume (ft <sup>3</sup> )         3,331         3331         -         3,933           TP Load (lb/yr)         2.09         2.09         -         2.47           Total TP Load Reduction Required (lb/yr)         0.12         N/A***         N/A***           ib/yr)         2.09         -         2.47														
Final Post-Development (Post-ReDevelopment & New Impervious)     Post- ReDevelopment (New Impervious)     Adjusted Pre- ReDevelopment ReDevelopment (New Impervious)     Development ReDevelopment (Ib/acre/yr)     Development per acre (Ib/acre/yr)       Site Rv     0.77     0.77      0.91       Treatment Volume (ft <sup>3</sup> )     3,331     3.331      3,933       TP Load (Ib/yr)     2.09      2.47	Tv and Land Cove	er Nutrient Loads												
Image: Construction of the sector product of the					Post-		Adjusted Pre-			nent D				
Site Rv         0.77         0.77         -         0.91           Treatment Volume (ft <sup>3</sup> )         3,331         3,331         -         3,933           TP Load (lb/yr)         2.09         2.09         -         2.47           Total TP Load Reduction Required (lb/yr)         0.12         N/A***         N/A***         THIS PROJECT IS REQUIRED TO REDUCE T TOTAL PHOSPHOROUS LOAD BY X.XX LB/YEAR.           This is a linear development project         Final Post-Development Load (Post-ReDevelopment & New Impervious)         Pre- ReDevelopment TN Load (lb/yr)         Pre- 14.97         Pre- 17.68							ReDevelopment		TP Load per	acre	per acre			
TP Load (lb/yr)       2.09       2.09       -       2.47         Total TP Load (lb/yr)       0.12       N/A***       N/A***       THIS PROJECT IS REQUIRED TO REDUCE T         Total TP Load Reduction Required       0.12       N/A***       N/A***       TOTAL PHOSPHOROUS LOAD BY X.XX LB/YE.         Image: the state of the	Rv		0.77		0.77		0.91		1.000	<u>r)</u>		1.76		
Total TP Load Reduction Required       0.12       N/A***       N/A***         This is a linear development project         THIS PROJECT IS REQUIRED TO REDUCE T         TOTAL PHOSPHOROUS LOAD BY X.XX LB/YE.         THE USE OF TWO PROPRIETARY DEVICES         REDevelopment & New Impervious)         TOTAL PHOSPHOROUS LOAD BY X.XX LB/YE.         THE USE OF TWO PROPRIETARY DEVICES         REDevelopment & New Impervious)         TN Load (Ib/yr)         14.97				U										
Image: Constraint of the state of the st	ad (lb/yr)		2.09	5	2.09		2.47							
Image: Constraint of the state of the st	TP Load Reduction	Required			1									
Final Post-Development Load (Post-ReDevelopment & New Impervious)         Pre- ReDevelopment         The USE OF TWO PROPRIETARY DEVICES           TN Load (Ib/yr)         14.97         17.68						N/A***								
(Post-ReDevelopment & New Impervious)     ReDevelopment       TN Load (Ib/yr)     14.97		**												
						ious)		REDUCE	ES THAT	ТОТ	AL BY X.XX	LB/YEAR.		
WATER OUANTITY SUMMARY	oad (lb/yr)				14.97		17.68							
WATER OUANTITY SUMMARY			5.65											
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			WATE	<u>R_</u> QUAN	<u>TITY</u> SUMMA	<u>NRY</u>								
PRE-DEVELOPMENT	Г					_								
Outfall     Area (acres)     CN     Tc (minutes)     2-yr Q (cfs)     10-yr Q (cfs)		Outfall		T 1	I	2-yr Q (cfs) 1	l0-yrQ(cfs)							
A 0.43 96.0 5 2.09 3.21			0.43	96.0	5	2.09	3.21	<b></b>					]	
B 25.21 94.7 10 104.96 163.32 PUBLIC HEARING PLAN								<b>I</b> PUBI	LIC	ΗE	EARING	PLA	VS	
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-S/TE''	E")													
Outfall Area (acres) CN Tc (minutes) 2-vr O (cfs) 10-vr O (cfs) OF CONSTRUCTION OR THE		Outfall				$\frac{1}{2-vr} \cap lefe$	D-vr O (cfs)							
T OVERALLOutlandArea (acres)CNIC (minutes)2-yr Q (crs)ID-yr Q (crs)ACQUISITION OF RIGHT OF WAY.A0.4395.952.093.20ACQUISITION OF RIGHT OF WAY.	/ERALL –			·				ACQ	UISITI	DN (	OF RIGHT (	DF WAY.		
B 25.23 94.8 10 105.26 163.62									<b>-</b>					
T "A-S/TE" C 5.33 92.1 6 23.92 38.12 PRELIMINARY EASEMENTS FOR UTILI		C												
COVERD3.9292.7716.9926.94RELOCATIONS ARE APPROXIMATE ONLE0.1697.450.791.20AND SUBJECT TO CHANGE AS PROJE														
DESIGN IS FINALIZED		F	0.10	57.4		0.79	1.20							
B (Bypass) 0.03 98.0 5 0.15 0.23		E						DESTON	15 FI	NAL	IZED			
			0.03	98.0	5	0.15	0.23	DESIGN		NAL				
SCALE PROJECT SH UDOD-104-298			0.03	98.0	5	0.15	0.23		SCALE				HEET NO.	

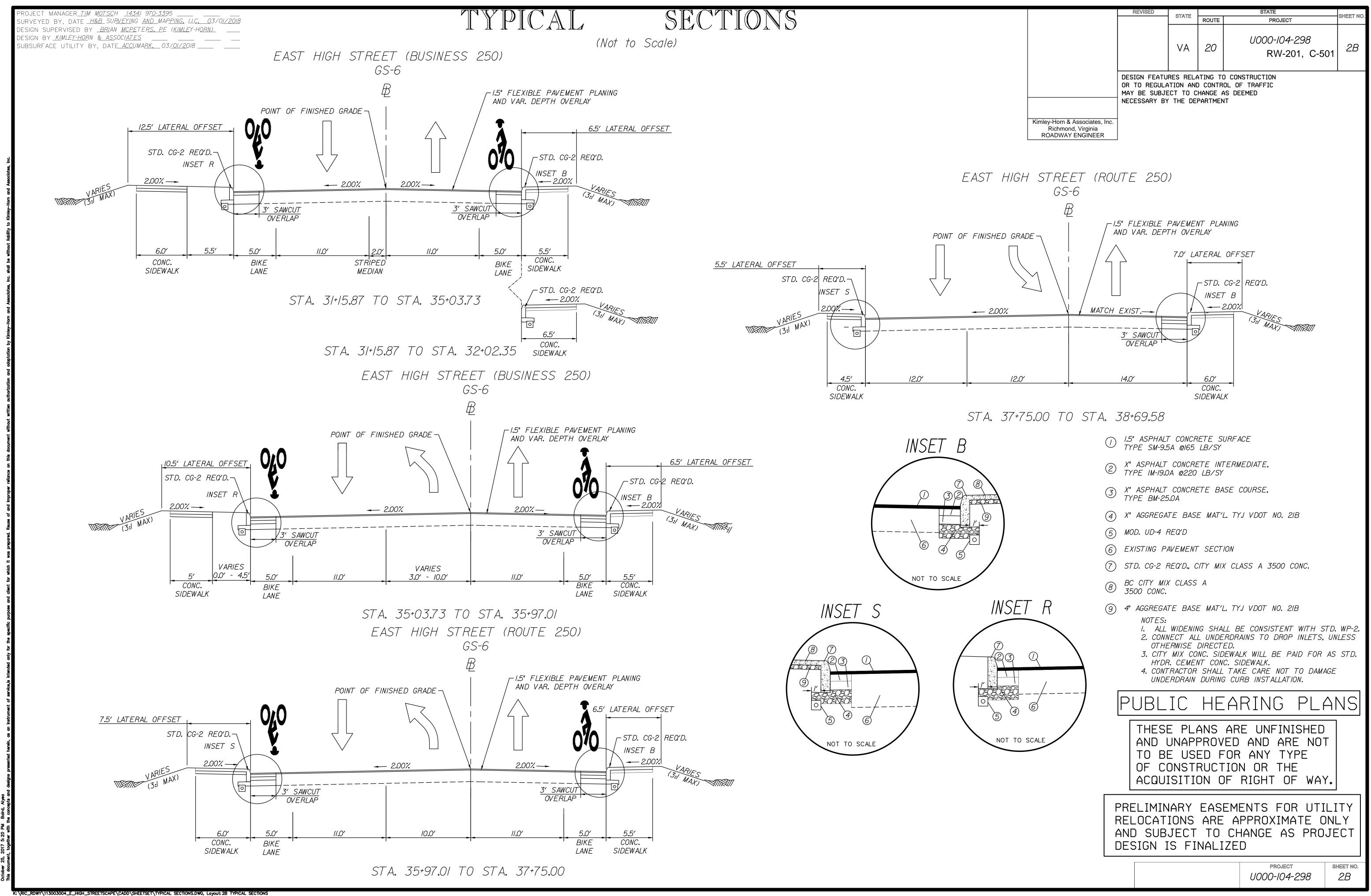
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							MAY BE SU	ВЈЕСТ ТО С	HANGE	AS DEEMED		
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				WATER	r <i>quality</i>	<u>SUMMARY</u>						
DEQ Virginia Runoff F	Reduction Method Re-	-Development C	ompliance S	Spreadsheet - Ve	rsion 3.0		1					
BMP Design	n Specifications List: 20	13 Draft Stds & S	pecs			Update Summ	nary Sheet					
Site Summary -	- Linear Develop	ment Proje	ct***									
Project Title: E. High St	treetscape			1	1	Print Preview	Print					
Date: 43539	-	Total Rainfa Total Disturbed		43								
		Total Distarbed	Acreages	1.13	1							
Site Land Cover Sur	mmary											
Pre-ReDevelopme	nt Land Cover (acre	s)										
- Te-Nebevelopmer		A soils	B Soils	C Soils	D Soils	Totals	% of Total					
Forest/Open (acres)		0.00	0.00	0.00	0.00	0.00	0					
Managed Turf (acres)		0.00	0.06	0.00	0.00	0.06	5					
Impervious Cover (acr	res)	0.00	1.13	0.00	0.00	1.13	95					
						1.19	100					
Post-ReDevelopm	ent Land Cover (acr	es)										
		A soils	B Soils	C Soils	D Soils	Totals	% of Total					
Forest/Open (acres)		0.00	0.00	0.00	0.00	0.00	0					
Managed Turf (acres)	r	0.00	0.28	0.00	0.00	0.28	24					
Impervious Cover (acr	res)	0.00	0.91	0.00	0.00	0.91	76					
						1.19	100	5				
Site Tv and Land Co	over Nutrient Loads	Se		1	1							
		Final Post-Deve		Post-	Post-	Adjusted Pre-		Pre- ReDevelopn	nent D	Final Post- evelopment TP Load	Post-ReDevelop	
		(Post-ReDevel & New Imper		ReDevelopment	Development (New Impervious)	ReDevelonment		TP Load per	acre	per acre	TP Load per a (lb/acre/yr	
City D				0.77				(Ib/acre/y	rr)	(lb/acre/yr)		/
Site Rv	31	0.77 3,331		0.77 3,331		0.91 3,933		2.08		1.76	1.76	
Treatment Volume (ft TP Load (lb/yr)		2.09		2.09		2.47						
			_				ר אונ	RAIEAT				-µ_
Total TP Load Reduction	ion Required			N/A***	N/A***					REQUIRED TO 'S LOAD BY X		
Total TP Load Reducti (Ib/yr)		0.12								PROPRIETARY		$\Delta R$
Total TP Load Reducti (lb/yr)		0.12 *This is a linear d	evelopment	project							DEVICES	AR.
a state of the second state of		*This is a linear d	Final Post-De	evelopment Load		Pre-				TAL BY X.XX		AR.
(lb/yr)		*This is a linear d	Final Post-De ReDevelopm	evelopment Load ent & New Imperv	rious)	ReDevelopment						AR.
a service of the serv		*This is a linear d	Final Post-De ReDevelopm	evelopment Load	vious)							AR.
(lb/yr)		*This is a linear d	Final Post-De ReDevelopm	evelopment Load ent & New Imperv	rious)	ReDevelopment						AR.
(lb/yr)		*This is a linear d I (Post-F	Final Post-De ReDevelopm	evelopment Load ent & New Imperv 14.97		ReDevelopment						AR.
(lb/yr)		*This is a linear d I (Post-F	Final Post-De ReDevelopm	evelopment Load ent & New Imperv		ReDevelopment						AR.
(lb/yr)		*This is a linear d I (Post-F	Final Post-De ReDevelopm	evelopment Load ent & New Imperv 14.97	<u>A<i>RY</i></u>	ReDevelopment 17.68						AR.
(lb/yr)		*This is a linear d (Post-F <u>WATE</u> F Area (acres	Final Post-De ReDevelopm	evelopment Load ent & New Imperv 14.97 OPMENT Tc (minutes)	<u>4<i>RY</i></u> 2-yr Q (cfs)	ReDevelopment 17.68						AR.
(lb/yr)	Outfall	*This is a linear d (Post-F <u>WATE</u> F Area (acres 0.43	Final Post-De ReDevelopm	evelopment Load ent & New Imperv 14.97 OPMENT Tc (minutes) 5	<u>4<i>RY</i></u> 2-yr Q (cfs) 2.09	ReDevelopment 17.68 LO-yr Q (cfs) 3.21	REDUCE	S THAT	T 07	FAL BY X.XX	LB/YEAR.	
(lb/yr)	erection of the second	*This is a linear d (Post-F <i>WATE</i> Area (acres 0.43 25.21	Final Post-De ReDevelopm RE-DEVEL ) CN 96.0 94.7	evelopment Load ent & New Imperv 14.97	<u>ARY</u> 2-yr Q (cfs) 2 2.09 104.96	ReDevelopment           17.68           IO-yr Q (cfs)           3.21           163.32	REDUCE	S THAT	T 07	FAL BY X.XX	LB/YEAR.	
(lb/yr)	Outfall A B C	*This is a linear d (Post-F <i>WATE</i> ) Area (acres 0.43 25.21 5.38	Final Post-De ReDevelopm RE-DEVEL ) CN 96.0 94.7 92.1	evelopment Load ent & New Imperv 14.97	<u>4</u> <i>R</i> <u>Υ</u> 2-yr Q (cfs) 2.09 104.96 24.15	ReDevelopment           17.68           IO-yr Q (cfs)           3.21           163.32           38.48	REDUCE	S THAT	T 07		LB/YEAR.	
(lb/yr)	Outfall A B C D	*This is a linear d (Post-F WATE) Area (acres 0.43 25.21 5.38 3.78	Final Post-De ReDevelopm RE-DEVEL ) CN 96.0 94.7 92.1 92.8	evelopment Load ent & New Imperv 14.97	<u>ARY</u> 2-yr Q (cfs) 2 2.09 104.96 24.15 16.42	ReDevelopment           17.68           IO-yr Q (cfs)           3.21           163.32           38.48           26.01	PUB	ES THAT	HE	FAL BY X.XX	PLA	
(lb/yr)	Outfall A B C	*This is a linear d (Post-F <i>WATE</i> ) Area (acres 0.43 25.21 5.38	Final Post-De ReDevelopm RE-DEVEL ) CN 96.0 94.7 92.1	evelopment Load ent & New Imperv 14.97	<u>4</u> <i>R</i> <u>Υ</u> 2-yr Q (cfs) 2.09 104.96 24.15	ReDevelopment           17.68           IO-yr Q (cfs)           3.21           163.32           38.48	PUB The AND	IC SE PLA	HE ANS PROV	FAL BY X.XX EARING ARE UNFIN VED AND A	LB/YEAR. PLA NISHED RE NOT	
(lb/yr) TN Load (lb/yr)	Outfall A B C D	*This is a linear d (Post-F <i>WATE</i> / Area (acres 0.43 25.21 5.38 3.78 0.17	Final Post-De ReDevelopm ReDevelopm RE-DEVEL ) CN 96.0 94.7 92.1 92.8 97.4	evelopment Load ent & New Imperv 14.97	<u>ARY</u> 2-yr Q (cfs) 2 2.09 104.96 24.15 16.42	ReDevelopment           17.68           IO-yr Q (cfs)           3.21           163.32           38.48           26.01	PUB THE AND TO	ES THAT	TOT HE ANS PROV ED F	FAL BY X.XX EARING ARE UNFIN VED AND AI FOR ANY T	LB/YEAR. PLA NISHED RE NOT YPE	
(lb/yr) TN Load (lb/yr)	Utfall A B C D E	*This is a linear d (Post-F (Post-F <i>WATE</i> / Area (acres 0.43 25.21 5.38 3.78 0.17	Final Post-De         ReDevelopm         ReDevelopm         PRE-DEVEL         PRE-DEVEL         96.0         94.7         92.1         92.8         97.4	evelopment Load ent & New Imperv 14.97	A <u>RY</u> 2-yr Q (cfs) 2.09 104.96 24.15 16.42 0.84	ReDevelopment         17.68         IO-yr Q (cfs)         3.21         163.32         38.48         26.01         1.28	PUB THE AND TO OF	ES THAT	TOT HE ANS PROV ED F RUC	FAL BY X.XX EARING ARE UNFIN VED AND AI FOR ANY T TION OR TH	LB/YEAR. PLA NISHED RE NOT YPE HE	
(lb/yr) TN Load (lb/yr)	Outfall A B C D	*This is a linear d (Post-F <i>WATE</i> / Area (acres 0.43 25.21 5.38 3.78 0.17	Final Post-De         ReDevelopm         ReDevelopm         PRE-DEVEL         PRE-DEVEL         96.0         94.7         92.1         92.8         97.4	evelopment Load ent & New Imperv 14.97	A <u>RY</u> 2-yr Q (cfs) 2.09 104.96 24.15 16.42 0.84	ReDevelopment           17.68           IO-yr Q (cfs)           3.21           163.32           38.48           26.01	PUB THE AND TO OF	ES THAT	TOT HE ANS PROV ED F RUC	FAL BY X.XX EARING ARE UNFIN VED AND AI FOR ANY T	LB/YEAR. PLA NISHED RE NOT YPE HE	
(Ib/yr) TN Load (Ib/yr)	Uutfall Outfall A B C D E Outfall	*This is a linear d (Post-F (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F) (	Final Post-De ReDevelopm ReDevelopm RE-DEVEL ) CN 96.0 94.7 92.1 92.8 97.4 OST-DEVE ) CN	evelopment Load ent & New Imperv 14.97	<u>4</u> <i>R</i> <u>Y</u> 2-yr Q (cfs) 2.09 104.96 24.15 16.42 0.84 2-yr Q (cfs) 2-yr Q (cfs) 2-yr Q (cfs) 2-yr Q (cfs) 2-yr Q (cfs)	ReDevelopment         17.68         IO-yr Q (cfs)         3.21         163.32         38.48         26.01         1.28         IO-yr Q (cfs)	PUB THE AND TO OF	ES THAT	TOT HE ANS PROV ED F RUC	FAL BY X.XX EARING ARE UNFIN VED AND AI FOR ANY T TION OR TH	LB/YEAR. PLA NISHED RE NOT YPE HE	
(Ib/yr) TN Load (Ib/yr)	<pre>**  **  Outfall A B C D E Outfall A B C D E Outfall A </pre>	*This is a linear d (Post-F (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F) (	Final Post-De ReDevelopm ReDevelopm RE-DEVEL ) CN 96.0 94.7 92.1 92.8 97.4 0ST-DEVE ) CN 95.9	evelopment Load ent & New Imperv 14.97	A <u>RY</u> 2-yr Q (cfs) 2.09 104.96 24.15 16.42 0.84 2-yr Q (cfs) 2.09 2-yr Q (cfs) 2.09	ReDevelopment         17.68         IO-yr Q (cfs)         3.21         163.32         38.48         26.01         1.28         IO-yr Q (cfs)         3.20	PUB THE AND TO OF ACQ	IC SE PLA UNAPA BE USA CONSTA	HE ANS PROV ED F RUC	FAL BY X.XX EARING ARE UNFIN VED AND AI FOR ANY T TION OR TH	LB/YEAR. PLA NISHED RE NOT YPE HE DF WAY.	٧S
(Ib/yr) TN Load (Ib/yr) SITE") OVERALL "A-SITE"	<pre>**  **  Outfall A B C D E Outfall A B C D E Outfall A B B C B C B C B C B C C B C C B C C C B C C C C B C C C C B C</pre>	*This is a linear d (Post-F (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F) (P	Final Post-De ReDevelopm ReDevelopm RE-DEVEL ) CN 96.0 94.7 92.1 92.8 97.4 92.8 97.4 0ST-DEVE ) CN 95.9 94.8	evelopment Load ent & New Imperv 14.97	<u>4/</u> 2-yr Q (cfs) 2.09 104.96 24.15 16.42 0.84 2-yr Q (cfs) 2.09 105.26 105.26	ReDevelopment         17.68         IO-yr Q (cfs)         3.21         163.32         38.48         26.01         1.28         IO-yr Q (cfs)         3.20         163.62	PUB THE AND TO OF ACQ PRELIM	INARY	TOT TOT HE ANS PROV ED F RUC DN ( EAS	ARE UNFIN ARE UNFIN VED AND AND FOR ANY T TION OR TH DF RIGHT (	LB/YEAR. PLA NISHED RE NOT YPE HE DF WAY. DR UTILI	VS
(Ib/yr) TN Load (Ib/yr) SITE") OVERALL "A-SITE"	<pre>**  **  Outfall A B C D E Outfall A B C D E Outfall A B C C D E Outfall C C C C C C C C C C C C C C C C C C</pre>	*This is a linear d (Post-F (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F) (P	Final Post-De ReDevelopm ReDevelopm RE-DEVEL ) CN 96.0 94.7 92.1 92.8 97.4 92.8 97.4 0ST-DEVE ) CN 95.9 94.8 92.1	evelopment Load ent & New Imperv 14.97	<u>A</u> <i>R</i> <u>Υ</u> 2-yr Q (cfs) 2.09 104.96 24.15 16.42 0.84 2-yr Q (cfs) 2.09 105.26 23.92 4	ReDevelopment         17.68         IO-yr Q (cfs)         3.21         163.32         38.48         26.01         1.28         IO-yr Q (cfs)         3.20         163.62         38.12	PUB THE AND TO OF ACQ PRELIM RELOCA	INARY	TOT TOT HE ANS PROV ED F RUC DN ( EAS ARE	ARE UNFIN ARE UNFIN VED AND AND FOR ANY T TION OR TH DF RIGHT ( SEMENTS F(	LB/YEAR. PLA NISHED RE NOT YPE HE DF WAY. DR UTILI ATE ONI	NS TY Y
(lb/yr)	<pre>**  **  Outfall A B C D E Outfall A B C D E Outfall A B C D E Outfall A B C D D D D D D D D D D D D D D D D D D</pre>	*This is a linear d (Post-F (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F) (	Final Post-De ReDevelopm ReDevelopm RE-DEVEL ) CN 96.0 94.7 92.1 92.8 97.4 92.8 97.4 0ST-DEVE ) CN 95.9 94.8 92.1 92.1 92.1 92.7	evelopment Load ent & New Imperv 14.97	<u>A</u> <i>R</i> Υ 2-yr Q (cfs) 209 104.96 24.15 16.42 0.84 2-yr Q (cfs) 2.09 105.26 23.92 16.99	ReDevelopment         17.68         IO-yr Q (cfs)         3.21         163.32         38.48         26.01         1.28         IO-yr Q (cfs)         3.20         163.62         38.12         26.94	PUB THE AND TO OF ACQ PRELIM RELOCA	INARY INARY	TOT TOT HE ANS PROV ED F RUC DN ( EAS ARE TO	ARE UNFIN ARE UNFIN VED AND AND FOR ANY T TION OR TH OF RIGHT ( SEMENTS FO E APPROXIM CHANGE A	LB/YEAR. PLA NISHED RE NOT YPE HE DF WAY. DR UTILI ATE ONI	NS TY Y
(Ib/yr) TN Load (Ib/yr) -SITE") OVERALL "A-SITE"	<pre>**  **  Outfall A B C D E Outfall A B C D E Outfall A B C D E Outfall A B C D D D D D D D D D D D D D D D D D D</pre>	*This is a linear d (Post-F (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F) (	Final Post-De ReDevelopm ReDevelopm RE-DEVEL ) CN 96.0 94.7 92.1 92.8 97.4 92.8 97.4 0ST-DEVE ) CN 95.9 94.8 92.1 92.1 92.1 92.7	evelopment Load ent & New Imperv 14.97	<u>A</u> <i>R</i> Υ 2-yr Q (cfs) 209 104.96 24.15 16.42 0.84 2-yr Q (cfs) 2.09 105.26 23.92 16.99	ReDevelopment         17.68         IO-yr Q (cfs)         3.21         163.32         38.48         26.01         1.28         IO-yr Q (cfs)         3.20         163.62         38.12         26.94	PUB THE AND TO OF ACQ PRELIM RELOCA AND SU	INARY IS FI	TOT TOT HE ANS PROV ED F RUC DN ( EAS ARE TO	ARE UNFIN ARE UNFIN VED AND AND FOR ANY T TION OR TH OF RIGHT ( SEMENTS FO E APPROXIM CHANGE A IZED	LB/YEAR. PLA NISHED RE NOT YPE HE DF WAY. DR UTILI ATE ONL S PROJE	NS TY Y CT
(Ib/yr) TN Load (Ib/yr) SITE") OVERALL "A-SITE"	<pre>**  **  Outfall A B C D E O E O E O E O E O E O E O E O E O E</pre>	*This is a linear d (Post-F (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F ) (Post-F)	Final Post-De ReDevelopm ReDevelopm RE-DEVEL ) CN 96.0 94.7 92.1 92.8 97.4 92.8 97.4 0ST-DEVE ) CN 95.9 94.8 92.1 92.7 92.7 92.7	evelopment Load ent & New Imperv 14.97	A/RY 2-yr Q (cfs) 2 2.09 2 104.96 2 104.96 2 24.15 2 16.42 2 0.84 2 2-yr Q (cfs) 2 2.09 2 105.26 2 23.92 1 16.99 2 16.99 2 0.79 2	ReDevelopment         17.68         IO-yr Q (cfs)         3.21         163.32         38.48         26.01         1.28         IO-yr Q (cfs)         3.20         163.62         38.12         26.94         1.20	PUB THE AND TO OF ACQ PRELIM RELOCA AND SU	INARY INARY	TOT TOT HE ANS PROV ED F RUC DN ( EAS ARE TO	ARE UNFIN ARE UNFIN VED AND AND FOR ANY T TION OR TH OF RIGHT ( SEMENTS FO E APPROXIM CHANGE A	LB/YEAR. PLA PLA NISHED RE NOT YPE HE DF WAY. DR UTILI ATE ONL S PROJE	NS TY Y

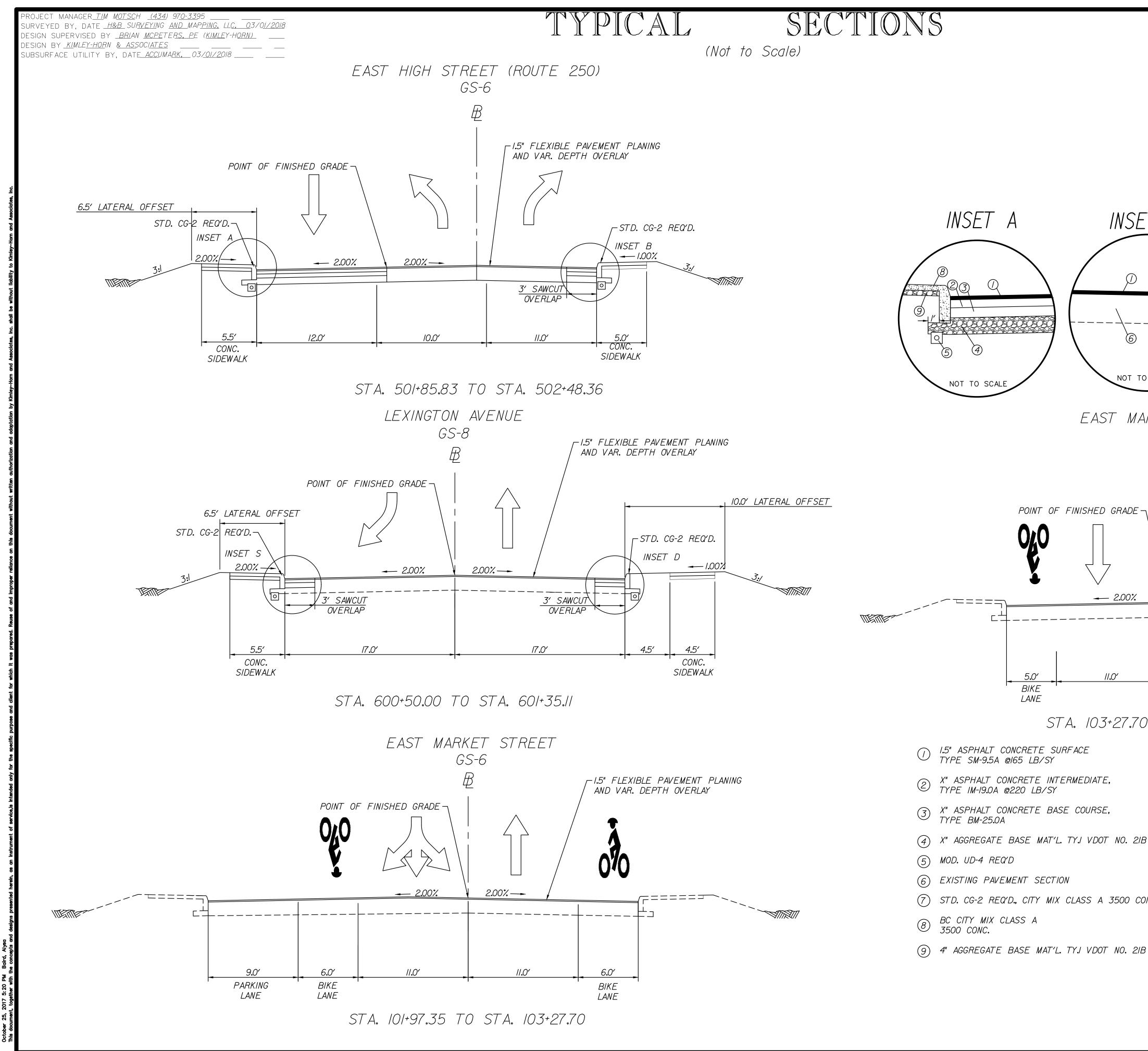
							REVISED	STATE	ROUTE	STATE	¢Т	SHEET NO
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										O CONSTRUCTION		
							MAY BE SU	BJECT TO (	CHANGE	AS DEEMED		
							NECESSART	BY THE DE	PARIME			
				<u>WATEF</u>	r <i>quality</i>	<u>SUMMARY</u>						
	f Reduction Method Re			opreadsneet - vei	rsion 3.0							
	gn Specifications List: 20		and the second second			Update Sumn	nary Sheet					
	- Linear Develo	oment Proje	ect***			Print Preview	Print					
Project Title: E. High S Date: 43539	Streetscape	Total Rainfa	all (in):	43	1							
		Total Disturbed		1.19	]							
Cite Land Course C												
Site Land Cover So	ummary											
Pre-ReDevelopme	ent Land Cover (acre	es)										
		A soils	B Soils	C Soils	D Soils	Totals	% of Total					
Forest/Open (acres)		0.00	0.00	0.00	0.00	0.00	0					
Managed Turf (acres		0.00	0.06	0.00	0.00	0.06	5 95					
impervious cover (a		0.00	1.13	0.00	0.00	1.13	95 100					
Post-ReDevelopm	nent Land Cover (ac							1				
[		A soils	B Soils	C Soils	D Soils	Totals	% of Total					
Forest/Open (acres) Managed Turf (acres	-	0.00	0.00	0.00	0.00	0.00	0 24					
Impervious Cover (ad		0.00	0.91	0.00	0.00	0.91	76	•				
						1.19	100					
Site Tv and Land C	Cover Nutrient Loads											
		Final Post-Deve	elopment		Post-	1 = 7 - 1		Pre-	10.1	Final Post-	Post-ReDevelop	oment
		(Post-ReDevel	lopment	Post- ReDevelopment	Development	Adjusted Pre- ReDevelopment	- S	ReDevelop		evelopment TP Load per acre	TP Load per a	acre
		& New Impe	rvious)		(New Impervious)			(lb/acre/		(lb/acre/yr)	(lb/acre/y	r)
Site Rv		0.77		0.77		0.91		2.08		1.76	1.76	
Treatment Volume (1	ft°)	3,331		3,331	-	3,933						
TP Load (lb/yr)		2.09		2.05		2.47	1					
Total TD Land Do L	tion Possilized					1	<del>-</del>		10 -			<del>,</del> ,, <u>,</u>
Total TP Load Reduc (Ib/yr)	aton required	0.12		N/A***	N/A***					REQUIRED TO		
	*:	**This is a linear d	levelopment	project						S LOAD BY X PROPRIETARY		_ АЛ.
				evelopment Load		Pre-				AL BY X.XX		
TALLACIONICA		(Post-I		ent & New Imperv	rious)	ReDevelopment			- •			
TN Load (lb/yr)				14.97		17.68						
		–										
		WATE	k quan	tity summe	<u>4<i>RY</i></u>							
		F	PRE-DEVEL	.OPMENT								
	Outfall	Area (acres	5) CN	Tc (minutes)	2-yr Q (cfs)	10-yr Q (cfs)						
	Α	0.43	96.0	5	2.09	3.21	[					
	В	25.21	94.7	10	104.96	163.32	<b>IPUR</b>		HF	EARING	PI A	NS
	С	5.38	92.1	6	24.15	38.48		_ <b>.</b>	• • •			· · · ·
	D	3.78	92.8	7	16.42	26.01	THE	SE PL	ANS	ARE UNFI	NISHED	
	E	0.17	97.4	5	0.84	1.28				/ED AND A		
SITE")		Р	OST-DEVF	LOPMENT						FOR ANY T		
	Outfall	Area (acres	1		2-yr Q (cfs)	10-yr Q (cfs)				TION OR TI		
OVERALL	A	0.43	95.9	5	2.09	3.20		UISITI	UN (	DF RIGHT (	JF WAY.	
	В	25.23	94.8	10	105.26	163.62						-
"A-SITE"	С	5.33	92.1	6	23.92	38.12				EMENTS FU		
COVER	D	3.92	92.7	7	16.99	26.94				E APPROXIN		
	E	0.16	97.4	5	0.79	1.20				CHANGE A	AS PROJE	-CT
	D / Decres 1	0.00			0.15	0.22	DESIGN	15 FI	NAL.			
	B (Bypass)	0.03	98.0	5	0.15	0.23		SCALE		PROJE	ECT S	HEET NO.
												IJ
							Ó	150'		300'	,	

						REVISED	STATE	ROUTE	STATE PROJEC	<u>م</u>	SHEET NO.
				-							
							VA	20	U000-104	4-298	:]
							V/X			C-501	10
						OR TO REGUL	_ATION AND	D CONT	ROL OF TRAFFIC		
						MAY BE SUB NECESSARY E					
			WATEE	R QUALITY	SUMMARY						
ff Reduction Method Re	-Development Co	mpliance S	preadsheet - Ver	sion 3.0							
ign Specifications List: 20	13 Draft Stds & Sp	ecs			Update Summ	ary Sheet					
/ - Linear Develop	oment Projec	t***			1						
Streetscape		· / · · · · · ·			Print Preview	Print					
	Total Rainfal Total Disturbed		43								
	Total Disturbed	Acreage.	1.15	1							
Summary											
ent Land Cover (acre	s)										
	A soils	B Soils	C Soils	D Soils	Totals	% of Total					
12	0.00	0.00	0.00	0.00	0.00	0					
s)	0.00	0.06	0.00	0.00	0.06	5					
acres)	0.00	1.13	0.00	0.00	1.13	95					
					1.19	100					
ment Land Cover (acr	es)										
	A soils	<b>B</b> Soils	C Soils	D Soils	Totals	% of Total					
	0.00	0.00	0.00	0.00	0.00	0					
acres)	0.00	0.28	0.00	0.00	0.28	24 76					
	0.00	0.01	0.00	0.00	1.19	100					
Cover Nutrient Loads											
	Final Post-Devel	opment	1.000	Post-	1.000	Γ	Pre-		Final Post-	Post-ReDevelop	oment
	(Post-ReDevelo	pment	Post- ReDevelopment	Development	Adjusted Pre- ReDevelopment		ReDevelopn P Load per		Development TP Load per acre	TP Load per a	acre
	& New Imperv	nous)		(New Impervious)			(lb/acre/y		(lb/acre/yr)	(lb/acre/y	r)
(43)	0.77 3,331		0.77 3,331		0.91 3,933		2.08		1.76	1.76	
(ft <sup>3</sup> )	2.09		2.09		2.47						
ction Required											тис
	0.12		N/A***	N/A***					REQUIRED TO IS LOAD BY X		
**	*This is a linear de								PROPRIETARY		_, 1, 10
			evelopment Load ent & New Imperv	ious)	Pre- ReDevelopment				TAL BY X.XX		
	(POSI-N		L4.97	iousj	17.68						
	WATFF	R QUAN	TITY SUMMA	ARY							
Г			.OPMENT		]						
Outfall	Area (acres)	тт	Т	2-yr Q (cfs) 1	LO-yr Q (cfs)						
A	0.43	96.0	5	2.09	3.21						
В	25.21	94.7	10	104.96	163.32		TC		EARING		
С	5.38	92.1	6	24.15	38.48						
D	3.78	92.8	7	16.42	26.01	THES	SE PL	ANS	ARE UNFIN	ISHFD	
E	0.17	97.4	5	0.84	1.28					RE NOT	
	DC		Lopment						FOR ANY T		
Outfall	Area (acres)	<u>т т</u>	1	2-yr Q (cfs) 1	LO-yr Q (cfs)	OF C	CONST	RUC	TION OR TH	IE	
A	0.43	95.9	5	2.09	3.20	ACQL	JISITI	ON	OF RIGHT (	DF WAY.	
В	25.23	94.8	10	105.26	163.62						]
С	5.33	92.1	6	23.92	38.12				SEMENTS FO		
D	3.92	92.7	7	16.99	26.94				E APPROXIM		
E	0.16	97.4	5	0.79	1.20				CHANGE A	S PROJE	
B (Bypass)	0.03	98.0	5	0.15	0.23	DESIGN	12 Fl	INAL	IZEU		
Γυζυγμαροί	0.03	1 0.0	ر	0.10	0.20		SCALE		PROJE		
							JUALL				HEET NO.
						0	150'		300' UOOO-IO		IJ

						REVISED	STATE	ROUTI	STATE E PROJEC	27	SHEET NO.
				-							
							VA	20	U000-104		:J
										C-501	, .
						DESIGN FEAT			TO CONSTRUCTION		
						OR TO REGU	LATION AND	D CONT	ROL OF TRAFFIC		
						MAY BE SUB NECESSARY I					
			WATER	R QUALITY	<u>SUMMARY</u>						
ff Reduction Method Re	e-Development C	ompliance S	preadsheet - Ver	sion 3.0		1					
sign Specifications List: 20	013 Draft Stds & S	pecs			Update Summ	mary Sheet					
y - Linear Develop	oment Proje	ct***			Print Preview	Print					
Streetscape	Total Rainfa	II (in):	43	1	THITTIEVIEW	TIUN					
	Total Disturbed		1.19		- CA.						
·····											
Summary											
nent Land Cover (acre											
	A soils	B Soils	C Soils	D Soils	Totals	% of Total					
) es)	0.00	0.00	0.00	0.00	0.00	0					
acres)	0.00	1.13	0.00	0.00	1.13	95					
					1.19	100					
ment Land Cover (acr	resl										
	A soils	B Soils	C Soils	D Soils	Totals	% of Total					
)	0.00	0.00	0.00	0.00	0.00	0					
es)	0.00	0.28	0.00	0.00	0.28	24					
acres)	0.00	0.91	0.00	0.00	0.91	76 100					
Cover Nutrient Loads					1.15	100					
Serei Hathent Loads		lane in t				ј Г	Pre-		Final Post-	Deat D.D.	mart
	Final Post-Deve (Post-ReDevel		Post-	Post- Development	Adjusted Pre-		ReDevelopn		Development TP Load	Post-ReDevelop TP Load per a	
	& New Imper	vious)	ReDevelopment	(New Impervious)	ReDevelopment		TP Load per (Ib/acre/y		per acre (lb/acre/yr)	(lb/acre/y	r)
	0.77		0.77		0.91		2.08		1.76	1.76	
(ft <sup>3</sup> )	3,331		3,331	-	3,933						
	2.09		2.05	-	2.47	1					
iction Required			1								
iction Required	0.12	<u> </u>	N/A***	N/A***					REQUIRED TO JS LOAD BY X		
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	(Post-H		ent & New Impervi	ious)	ReDevelopment 17.68						
					17.00	]					
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	D	RE-DEVEL									
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С	5.38	92.1	6	24.15	38.48						
D E	<u>3.78</u> 0.17	92.8	<u>7</u> 5	16.42	26.01				ARE UNFIN		
	0.17	57.4	J	0.84	1.28					RE_NOT	
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B (Bypass)	0.03	98.0	5	0.15	0.23				1		
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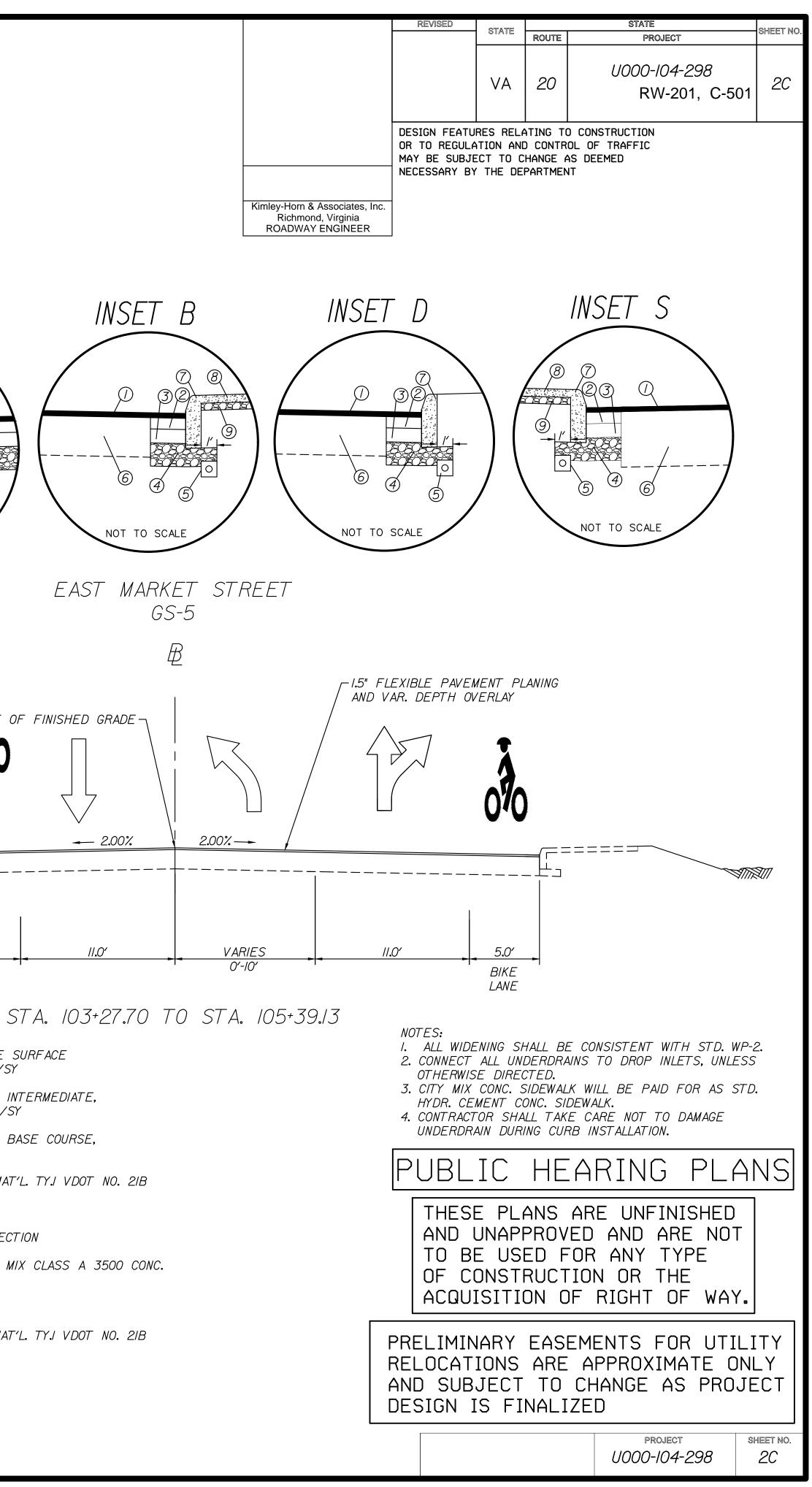


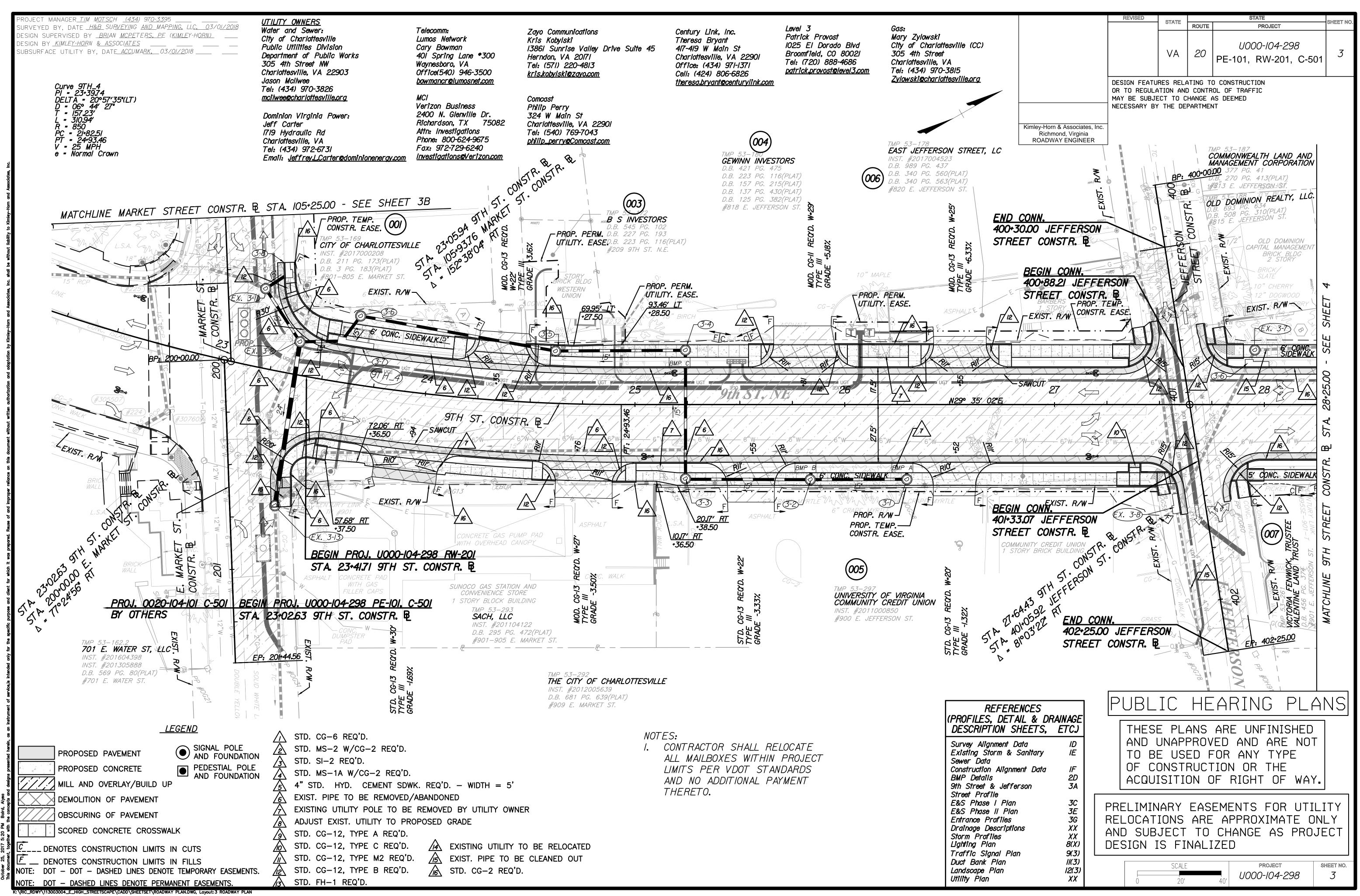


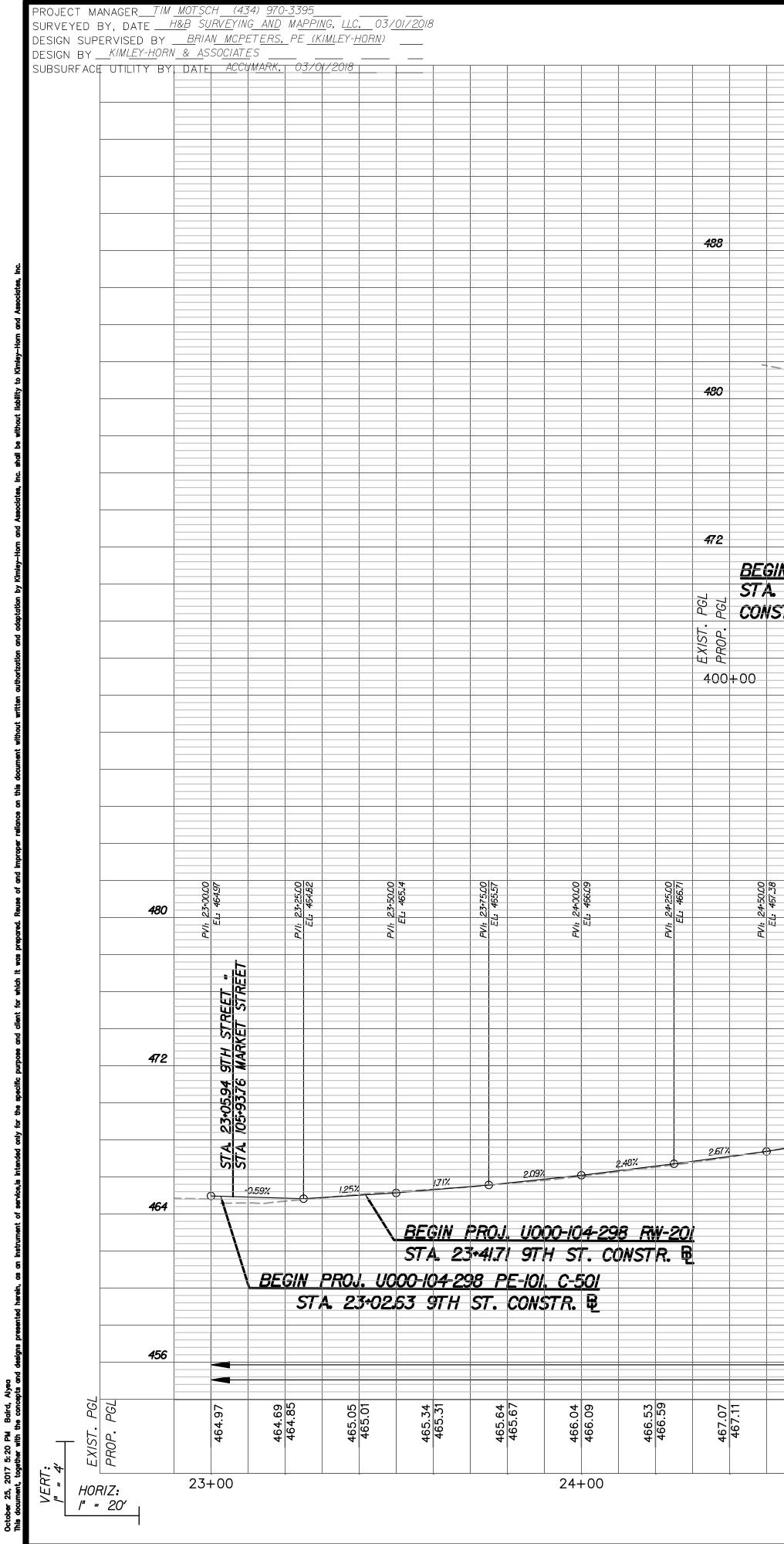
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- (4) X" AGGREGATE BASE MAT'L. TY.I VDOT NO. 21B

- (7) STD. CG-2 REQ'D., CITY MIX CLASS A 3500 CONC.
- (9) 4" AGGREGATE BASE MAT'L. TY.I VDOT NO. 21B

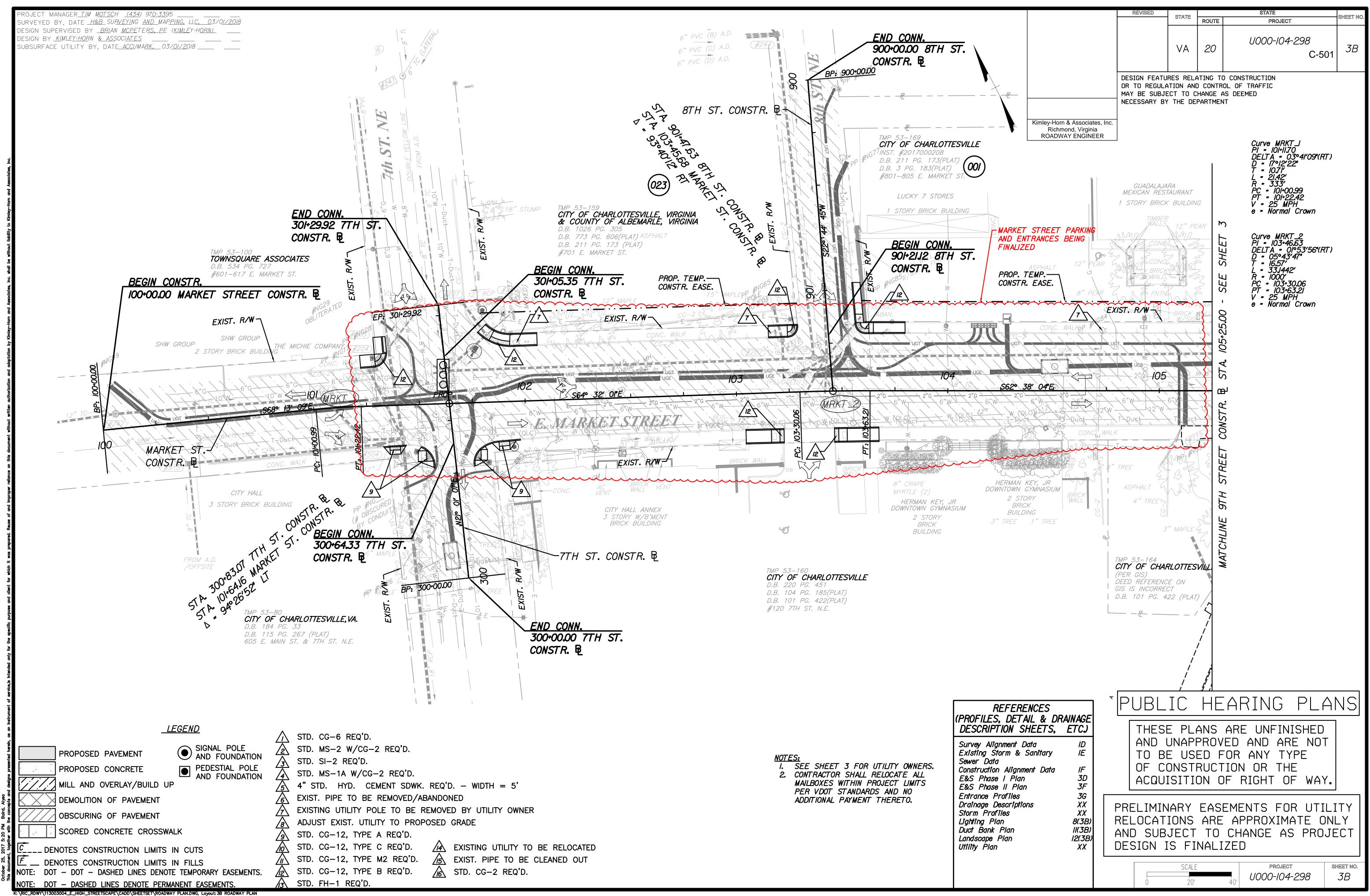


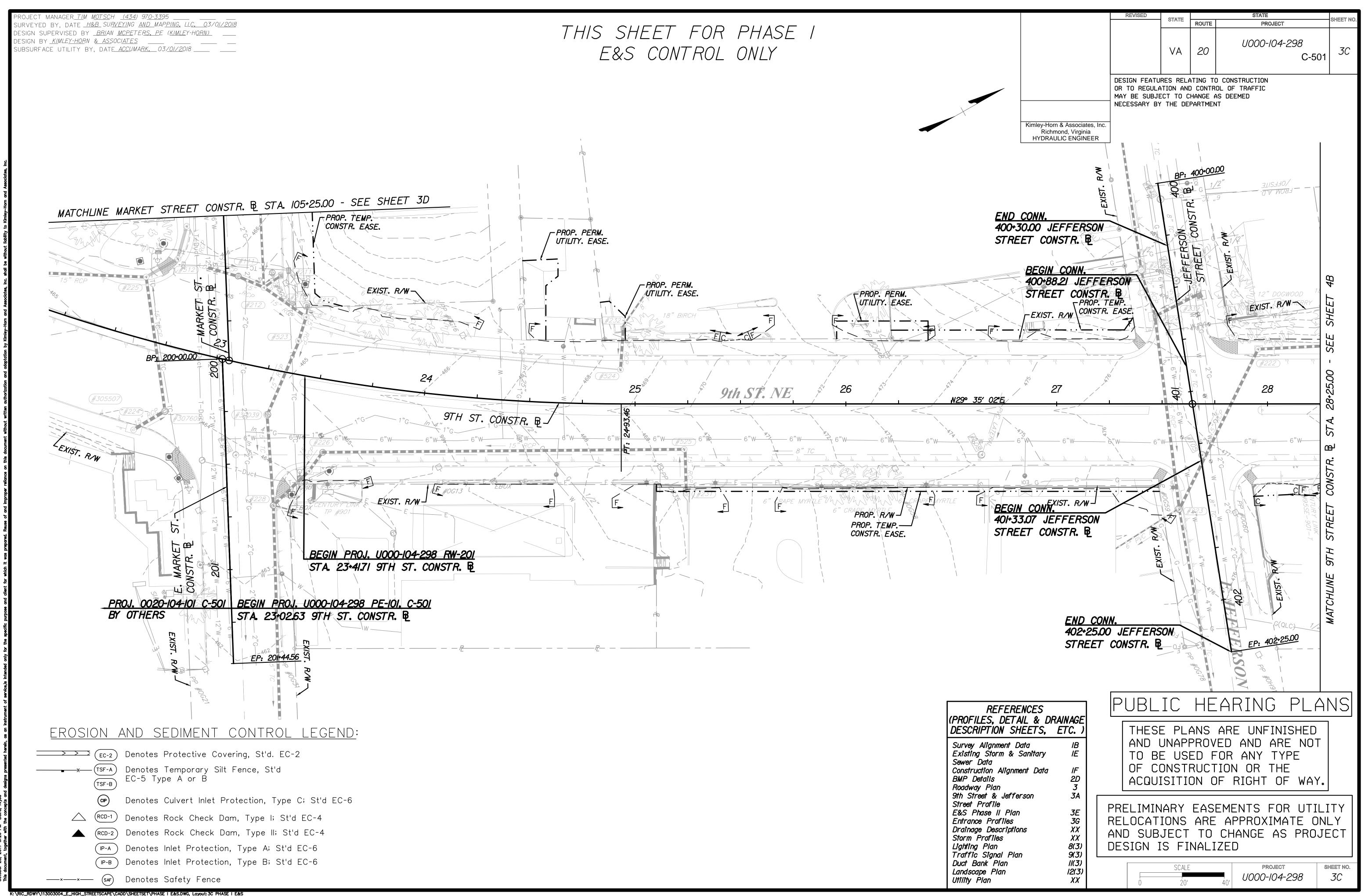


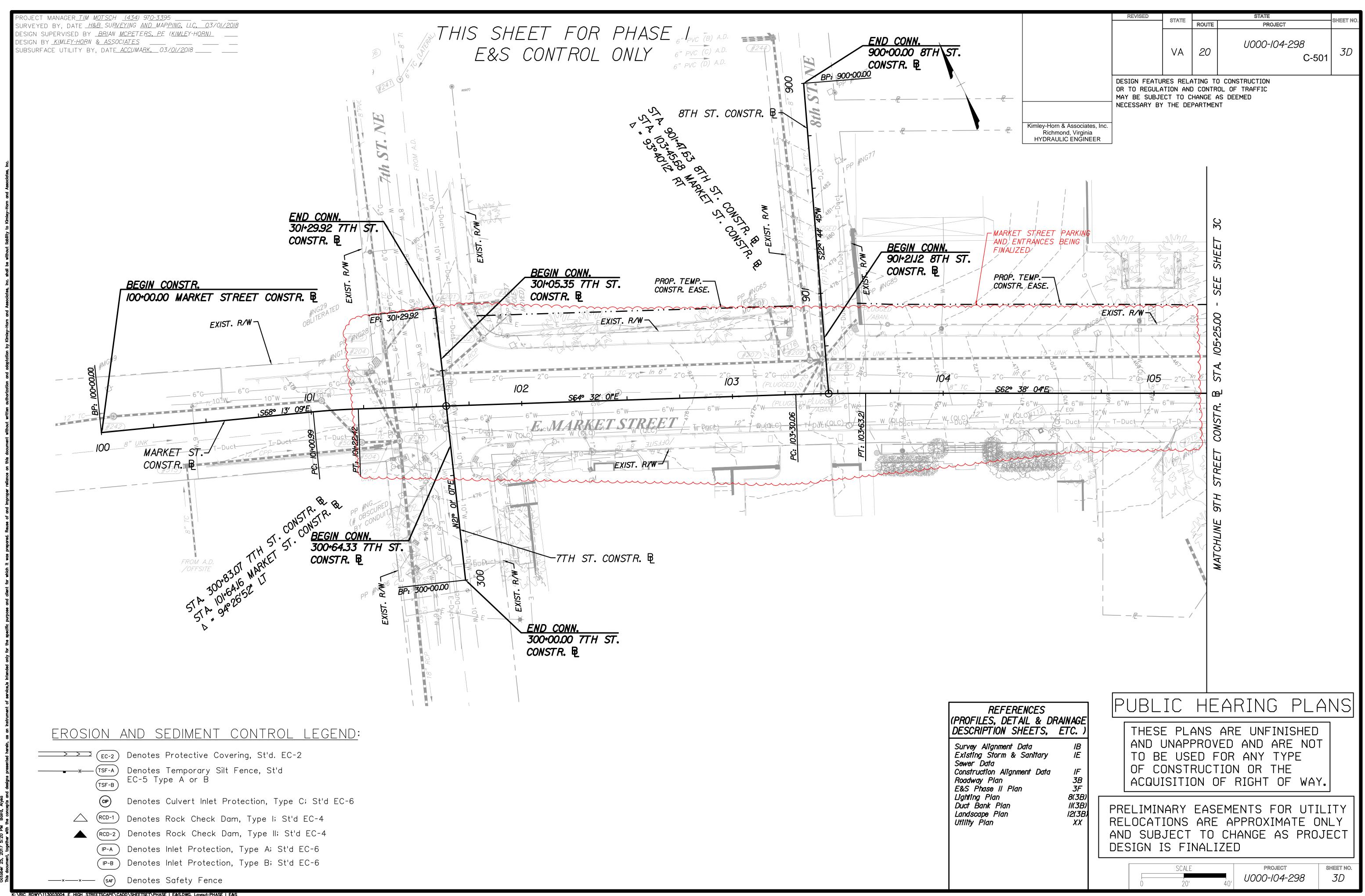


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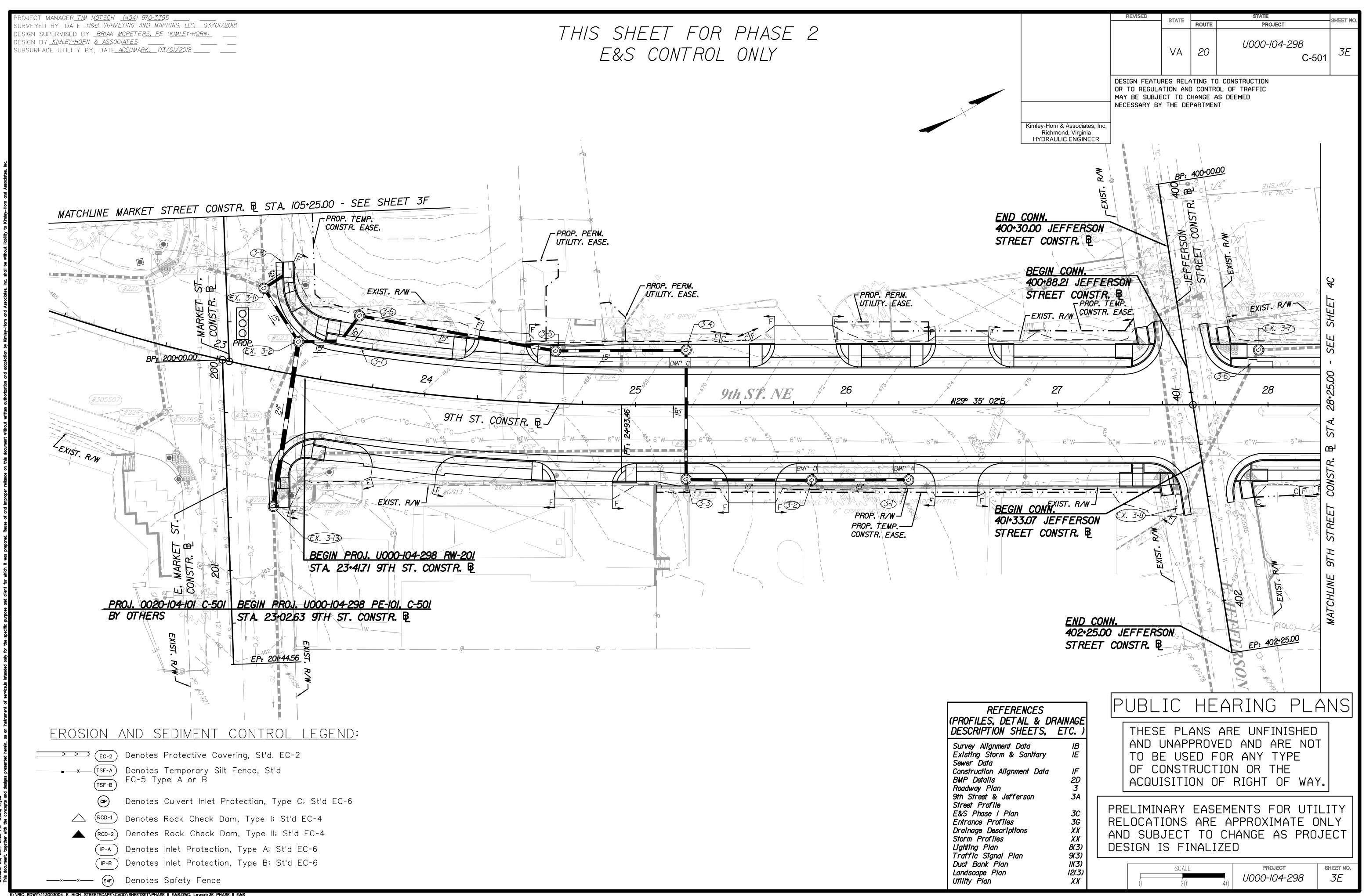
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		JE		FE	ERSC	)N S	TR	E													OR TO RE	EGULAT	ION AND	D CONTRO	D CONSTRUCTION OL OF TRAFFIC AS DEEMED	
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						ELS BASED	ON N/	AVD8	8																	
																			+50.00	+54. <u>38</u> 477.41	77.56		16.77		4/8/08	
	<u></u>	469.09		5+25.00 A60 08		470.85	<u>25+75.00</u> <u>EL: 471.71</u>		00.00	<u>26+25,00</u> 1: 473,42		50.00 174.24		1: 25+75.00 EL: 475.00	++00000 475.62		<u>25.00</u> 76.39		PVI: 27-5 EL: 47	EL: 4	FVI: 27+75.00 EL: 477.56					
	EL: 4	PVI: 25		P/1:25	5 E		PVI: 25-		FVI: 26	PVI: 26-		PVI: 26		EL: 25	FVI: 274 EU: 274		PVI: 27+25.00 EU: 476.39								480 V V V V	
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						3,46%		3.54%		3.31%				PROPOSED GF						- STREE					H S 472	
			3.57%		3.44%	\$.40×														TREET RSOW						
3.42%	3.44%				EXISTI	ING GROUND														9TH STREET JEFFERSON					28+25	
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467.69 467.72	468.37 468.40	469.06 469.09		469.75 469.81	470.45 470.50	471.15 471.19	471.87 471.80	60.174	472.58 472.60	473.29 473.26	473.96 473.92		474.56 474.55	475.14 475.12	475.69 475.62	476 18	476.24	476.64 476.81	477.00	477.31	477.36 477.61		477.81	477.93 478.02		
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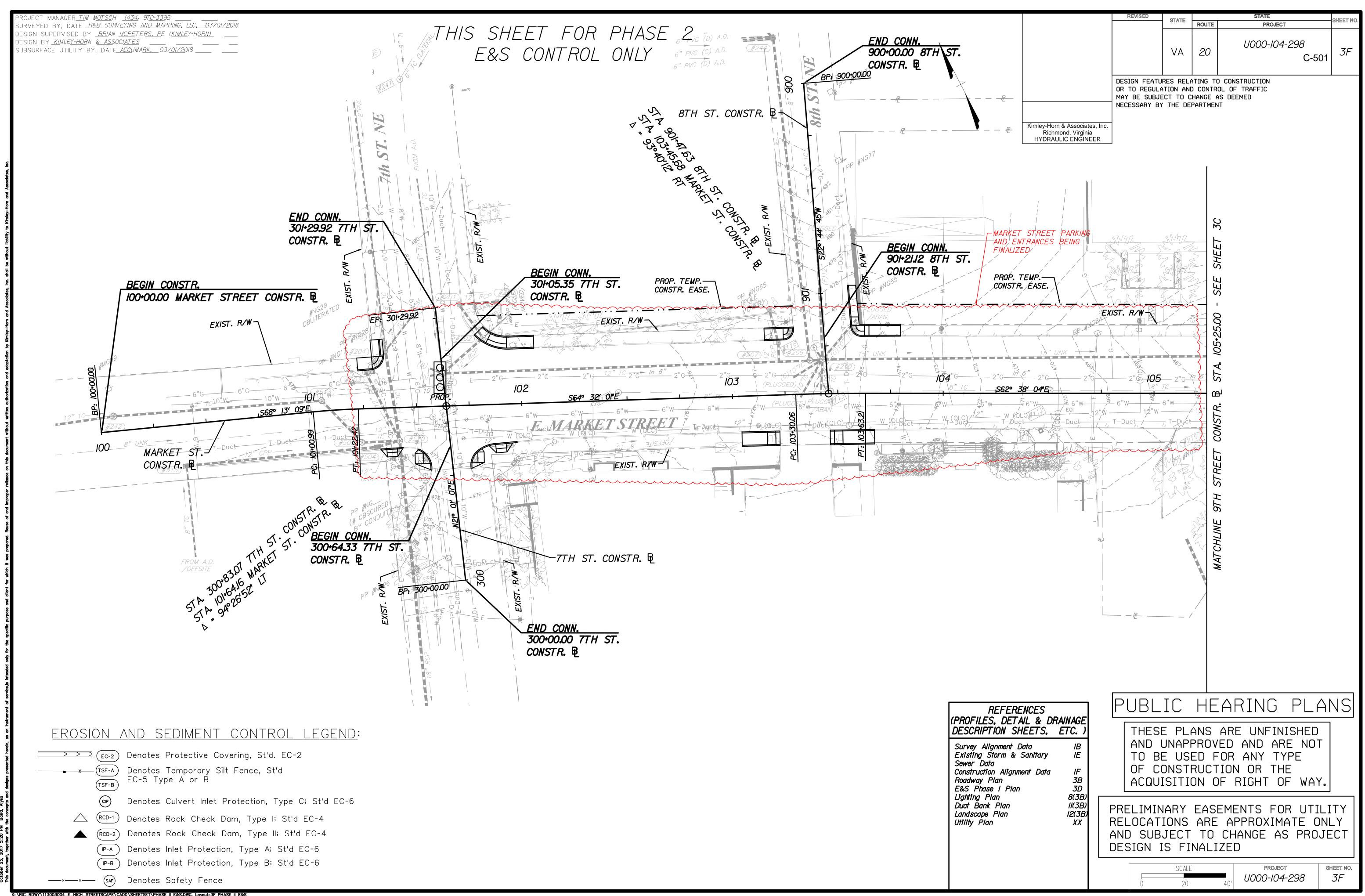




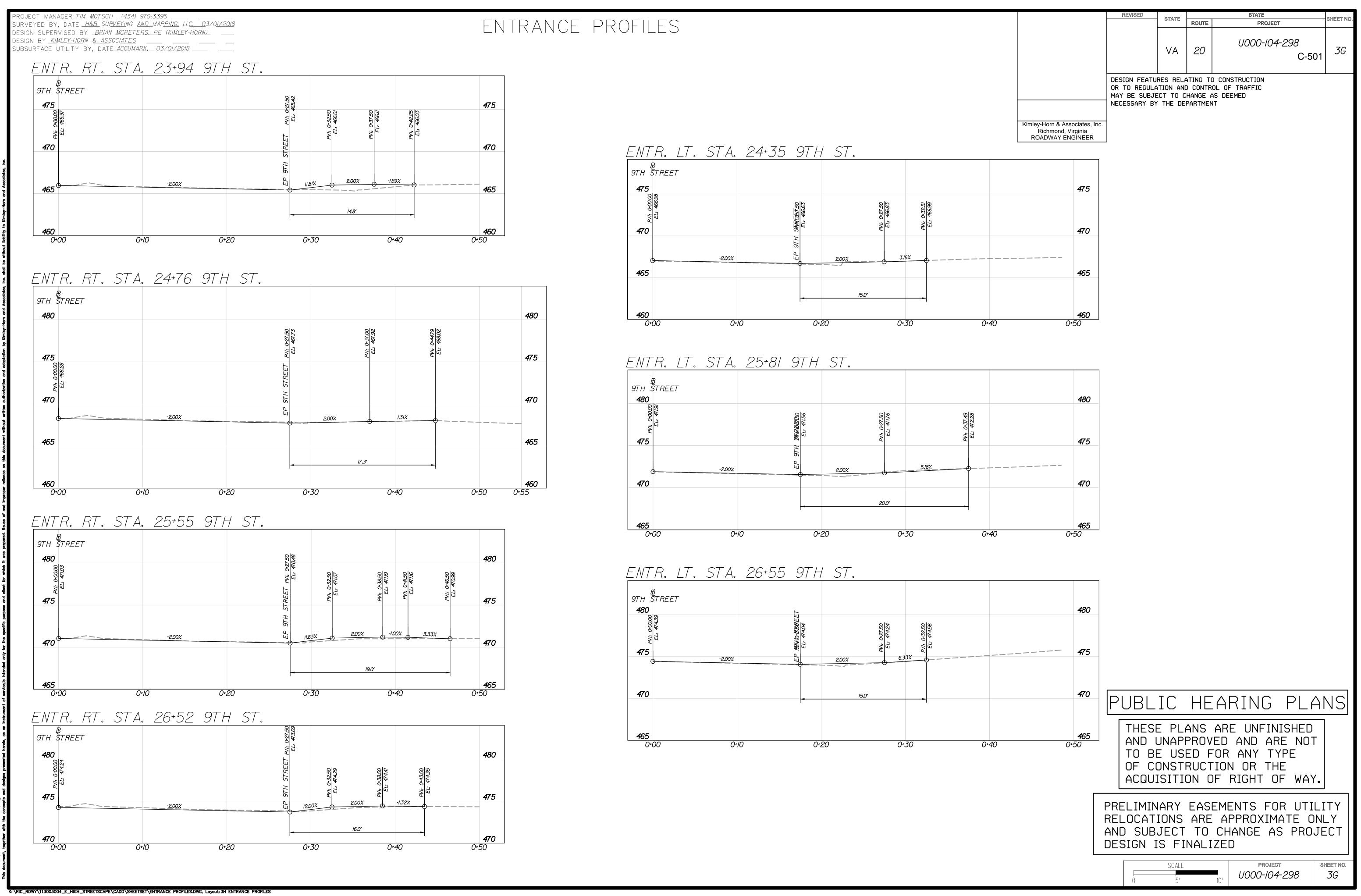
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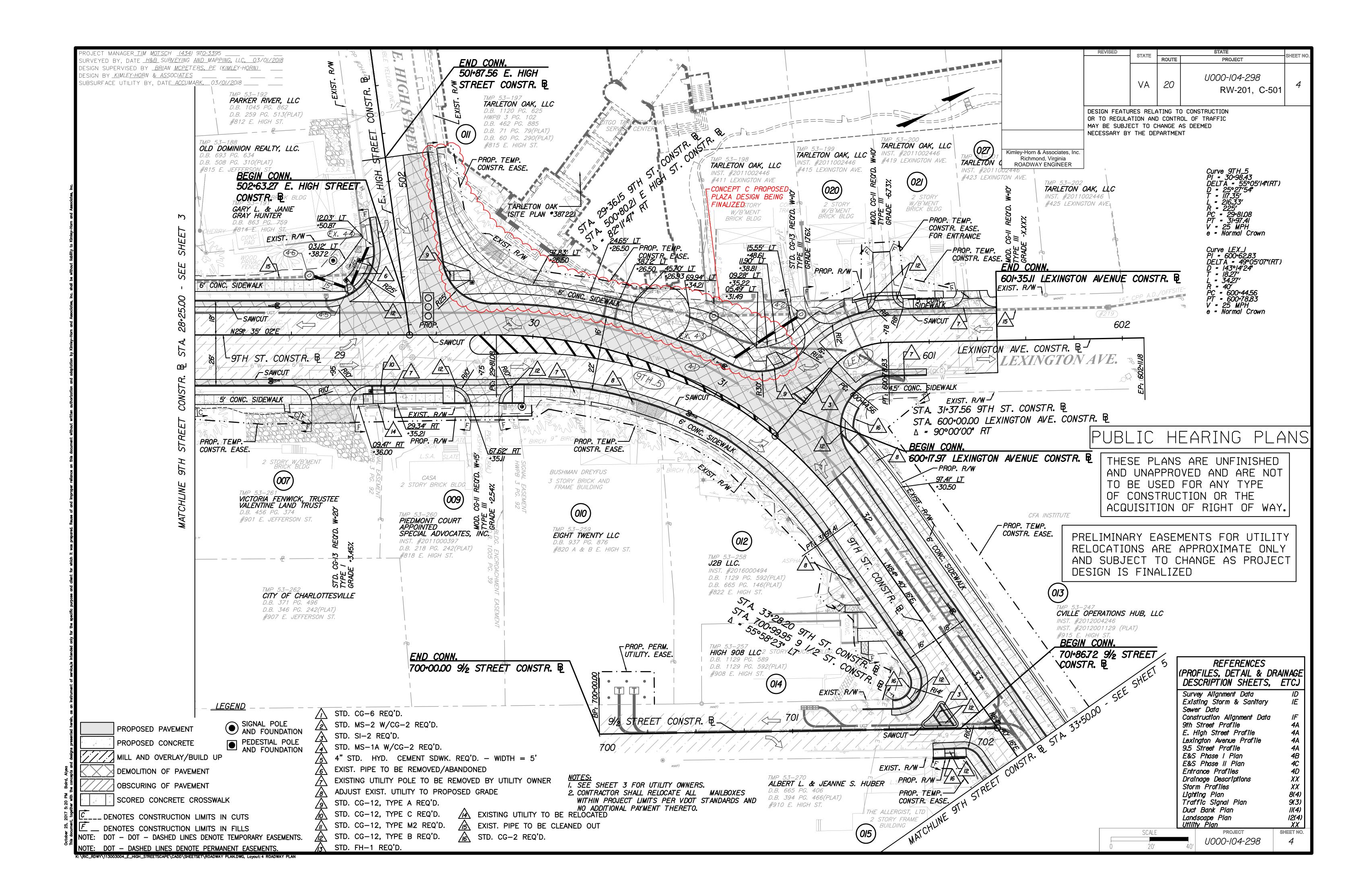


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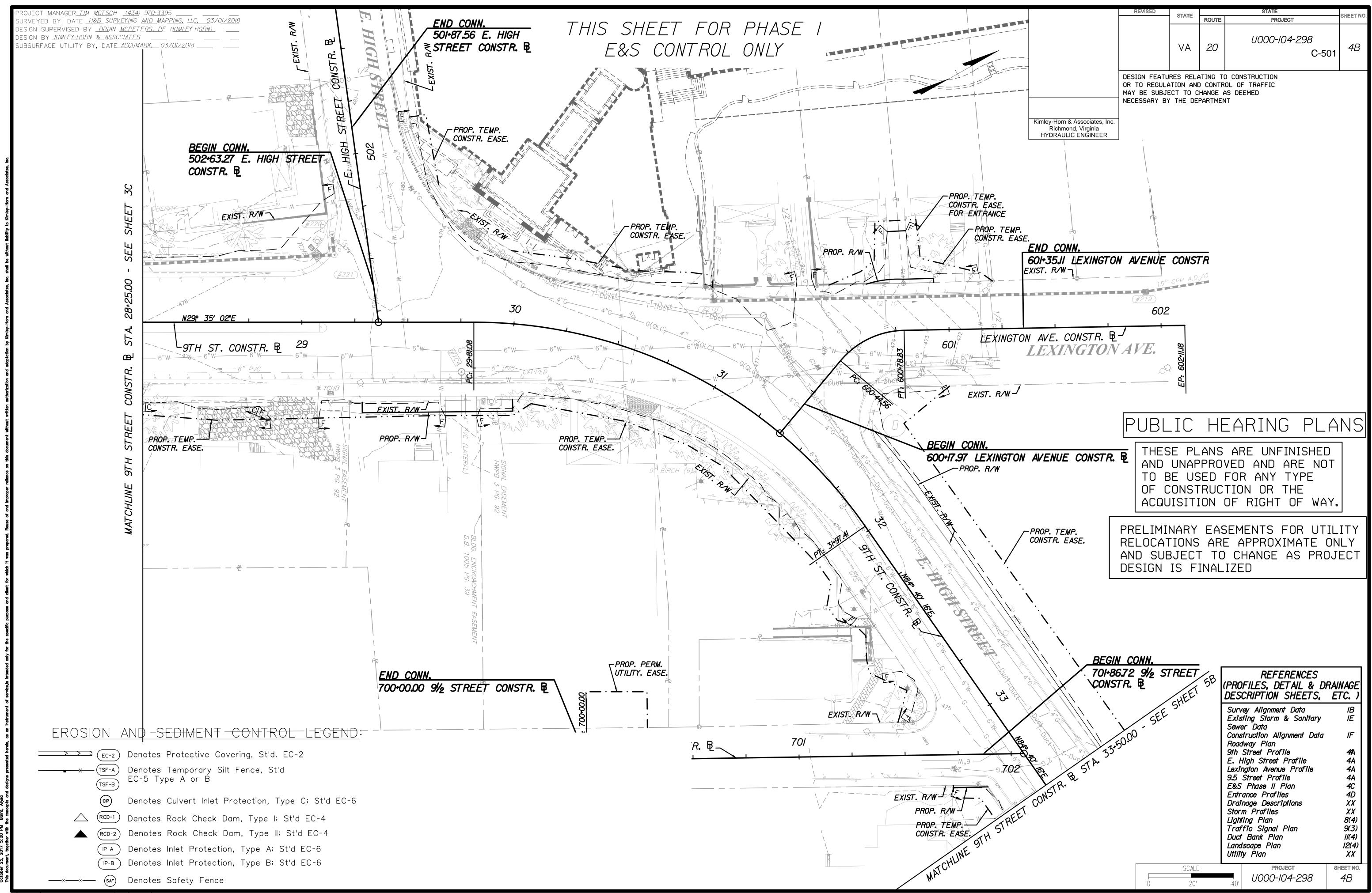
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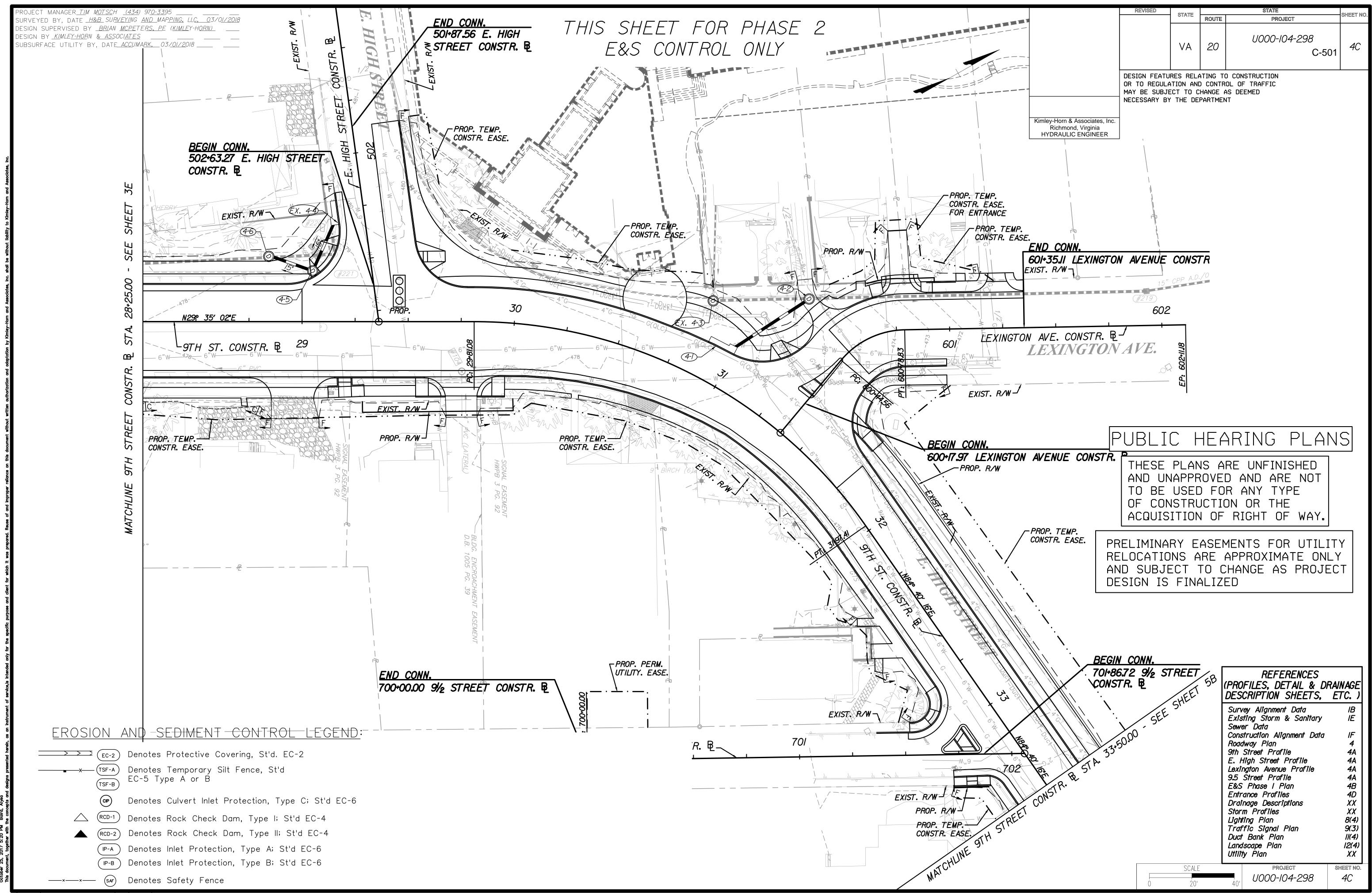


DESIGN SUPERVISED BY <u>BRIAN MCPETERS</u>, PE (KIMLEY-HORN) DESIGN BY <u>KIMLEY-HORN & ASSOCIATES</u> \_\_\_\_\_\_ SUBSURFACE UTILITY BY DATE ACCUMARK, 03/01/2018 EAST HIGH STREET LEVELS BASED ON NAVD88 END CONNECTION STA. 501+87.56 E. HIGH ST. <u>STREET</u> HIGH STI CONSTR. 🔁 202 480 488 **488** STA = 502+25,15 EL = 480.44 L = 33,88' <u>97</u> <u>F</u>. K = 12 V = 25 MPH SSD =252' 29-36.15 500-80.21 <u>STA</u> -1,18% - -----\_\_\_\_ 472 480 *480* 4.00% 2,00% - EXISTING GROUND PROPOSED GRADE BEGIN CONNECTION STA. 502+63.27 E. HIGH ST. CONSTR. B -0.02 NORMAL CROWN 472 464 472 478.82 479.29 480.39 479.73 479.42 479.11 479.00 480.74 480.73 PGL PGL EXIST. PROP. 502+00 PGL PGL EXIST. PROP. <u>29-25.00</u> : 479.24 <u>29-36./5</u> : 479.29 +50.00 479.2:4 1-75.00 478.51 +00.00 \*50.00 478.33 8 **48**0 20% 0.50% 0.40% 34 -1.51% 1.30% 1.13% 1.00% EXISTING GROUND -ΪĒ S7 SE <u>STREET</u> HIGH STR 472 8 STA 29-36/5 9TH STA 500-80.21 E. 52 28+ **|** 5 **46**4 CHLINE ₹ 2 456 ber 25, 2017 5:20 PM Baird, Alya document, together with the concepts 478.52 478.68 478.66 478.94 478.79 479.18 478.86 479.28 478.77 479.08 PGL PGL 478.15 478.23 478.35 478.44 EXIST. PROP. R " 29+00 HORIZ: |" = 20' νE //

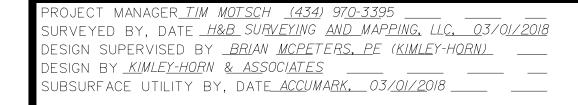
LEX	LEVE	STONA IS BASED ON NAV STA - 600-50.64		UE								OR TO REGUL	ATION AN	20 0000	roject -/ <i>04-298</i> W-201, C-501	- SHEET 1 4,
AVENUE R. 47616 R. 47616		- EXISTING GROUND	PVT: 600-7870	EL: 47172	480 11014 1155-103 11A			Image: section of the section of t	<u> </u>		Kimley-Horn & Associates, Inc. Richmond, Virginia ROADWAY ENGINEER STREET S BASED ON NAVD88	NECESSARY E				
NOTONIX	STA. 6 CONSTI	END C	<u>СОNNECT ((</u> 50/+35.// Ц Г. ЦТ 5.0078	ON ON	<ul> <li>472</li> <li>474</li> <li>454</li> <li>454</li> </ul>			END CONNECT ST A. 700-00.00 CONST R. B		Image: Constraint of the sector of	BEGIN CONNE           STA. 701+86.7.           CONSTR.           807+14           00002+02.           1184           1184           1184	CTION 2 9 2 ST 577-00 2 9 2 ST 577-00 104-00 100 100 100 100 100 100 100 100 100		P: 97H STREET PVI: 701-6672 EL: 47493 TA 33-28.20 STH STREET •	STIA. 700-99.95 9 1/2 STREET 084 084	
+00 +12 +00 +12 +00 +00	475.74	TRANS. RT ROM -0.0078 TO -0.020	473.66 <u>1</u> 473.69 <u>57 A.</u> 600+78.83	4472.37 4472.33 472.33 472.33	471.09 57 A. 601 57 A. 601	472					0.64% 0.74	APPROX.	EXISTING	G CROUND - C CROUND -	<b>472</b> <b>472</b>	
EL: 478.43		EET (BL LEVELS BASED ON BASED ON BASEDO			250) 	<i>FVI:</i> 3 <i>r</i> 50.04 <i>FVI:</i> 3 <i>r</i> 50.04 <i>EL:</i> 476.52 <i>FL:</i> 476.52	<u>VI: 31+75.03</u> EL: 476.41	A/I: 32:-CODO ELL: 476.22	//: 32-25.00 EL: 476.04	V: 32-50.00	VI: 32-75.00 EL: 475.83 EL: 475.8	Vi: 33-00.00 EL: 475.64 47	47 P/I: 33-25.00 EL: 475.36	702+0 702+0 90000000000000000000000000000000000	0 480	
				-2.29	STREET *						-0.50% -0.74%			1/2 STREET 33+50.00 - SEE SHEET 5	472	
					STA. 31-556 9TH	V00-009			-         -           -         -				STA. 33-28.20 9TH	700-99.95 9 1/ INE STA. 3	464	
4/8.// 478.36 478.43	478.27	478.29	477.93	-0.02 N	SPLINE GRADE ORMAL CROWN 91.774 976.50 974 776.50 974 776.50	476.60	476 38	476.37 476.22 476.22 476.22	475.07 475.07	475.99	475.92 475.90 475.80 475.80 475.79	475.67 475.64	475.49 475.41	475.25	456	

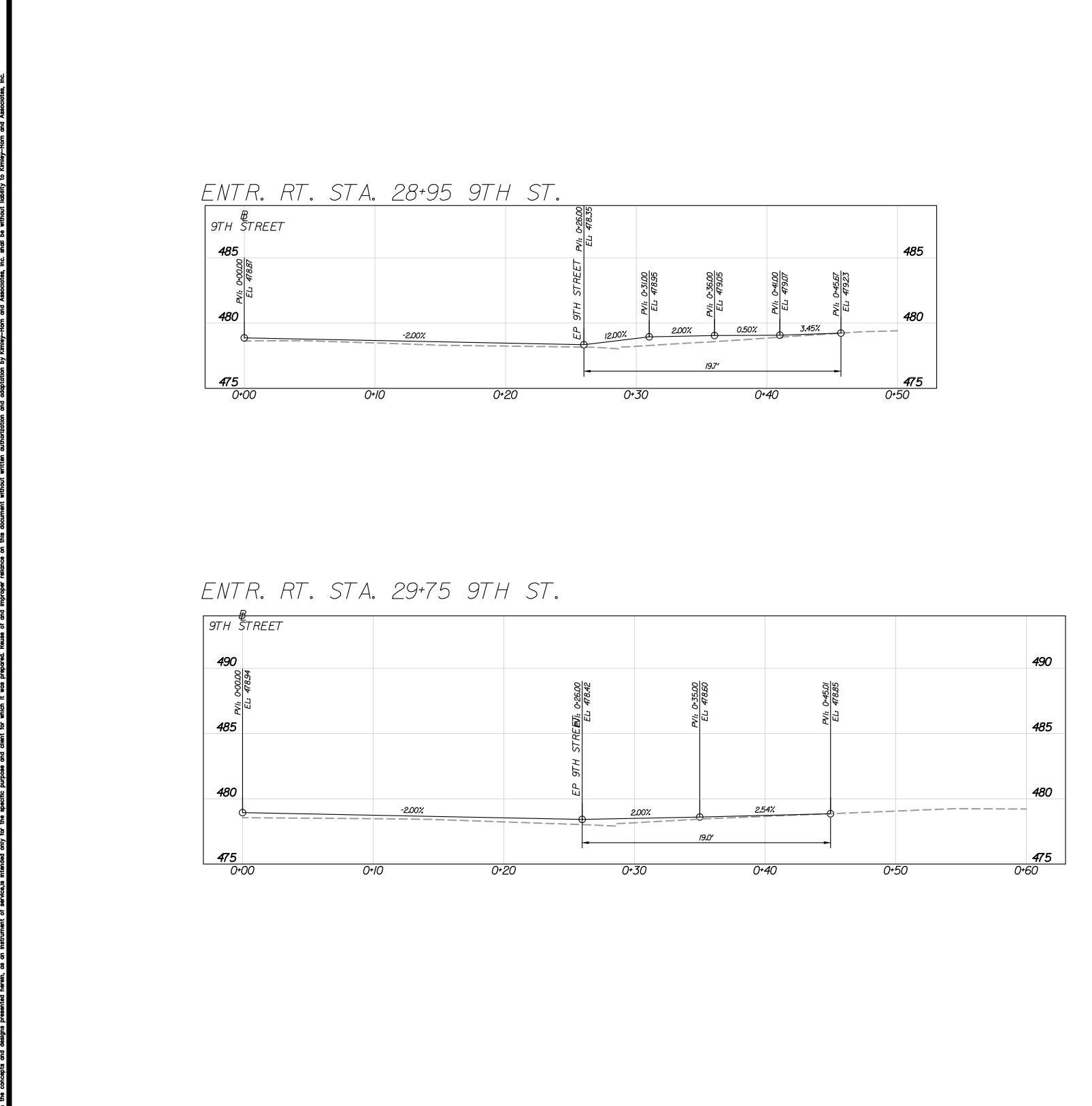


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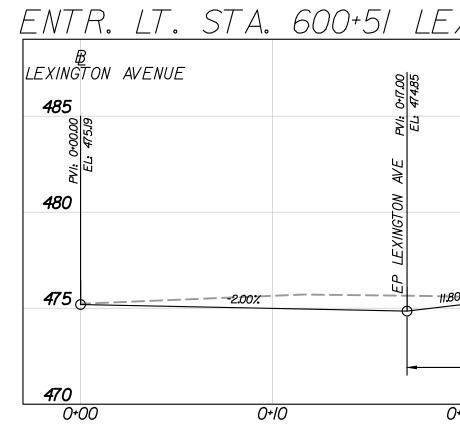


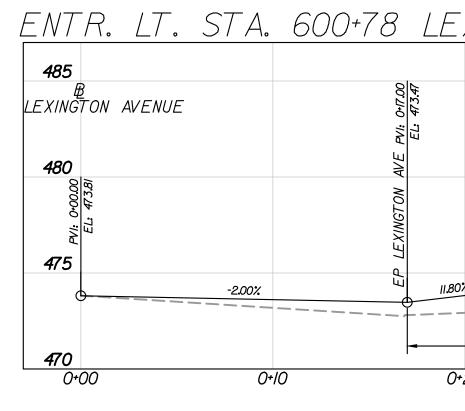
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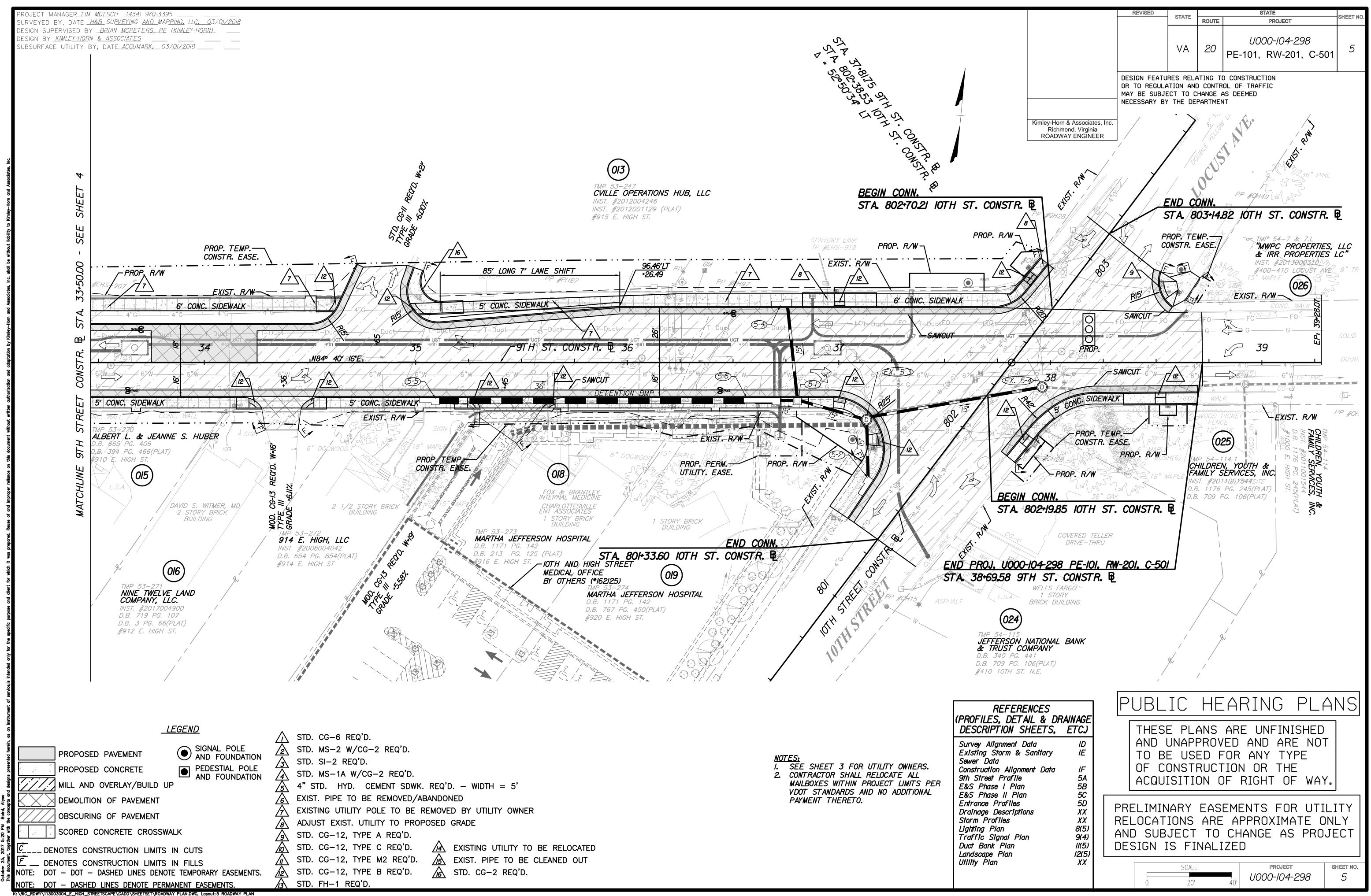


# ENTRANCE PROFILES

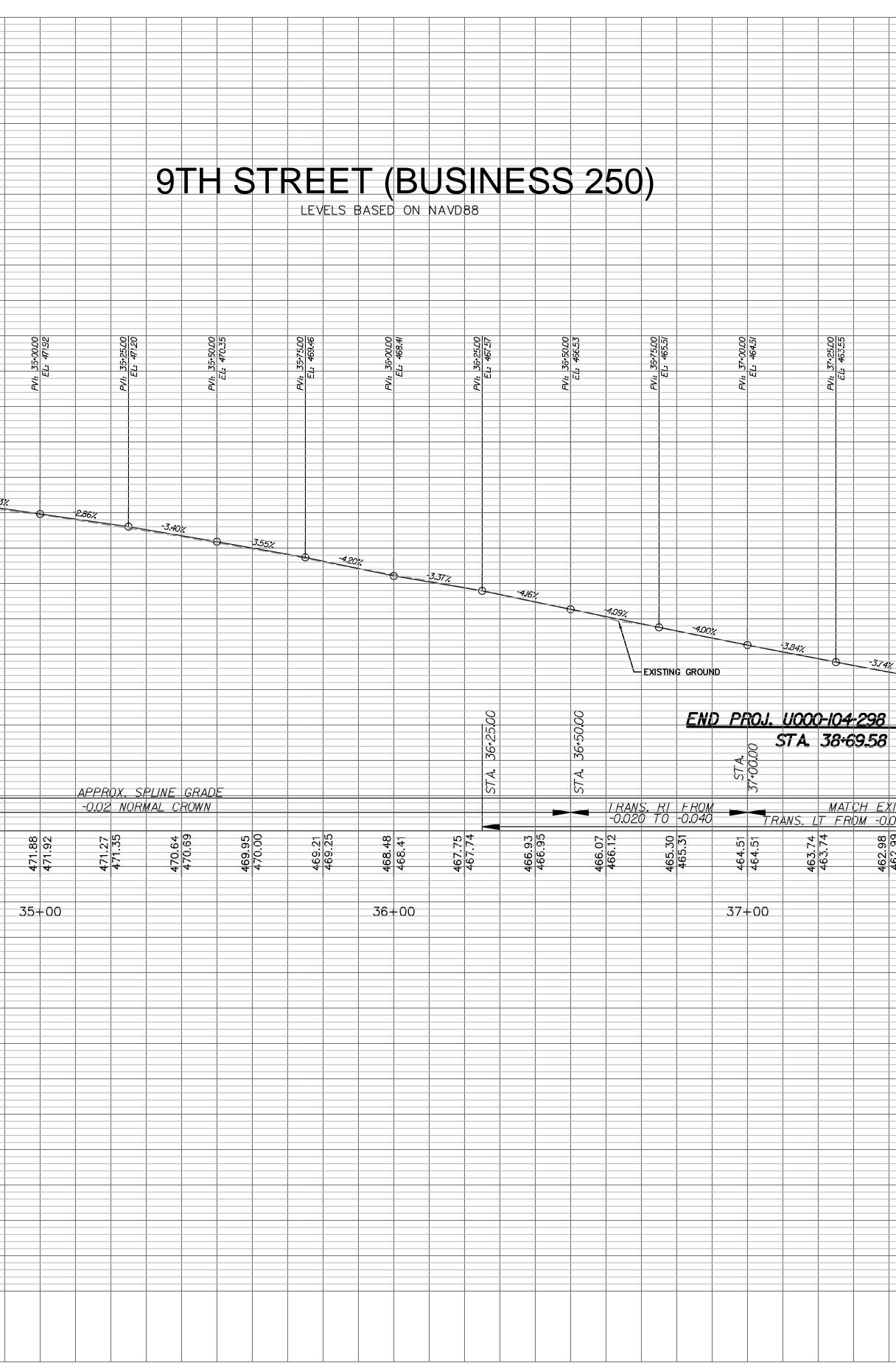




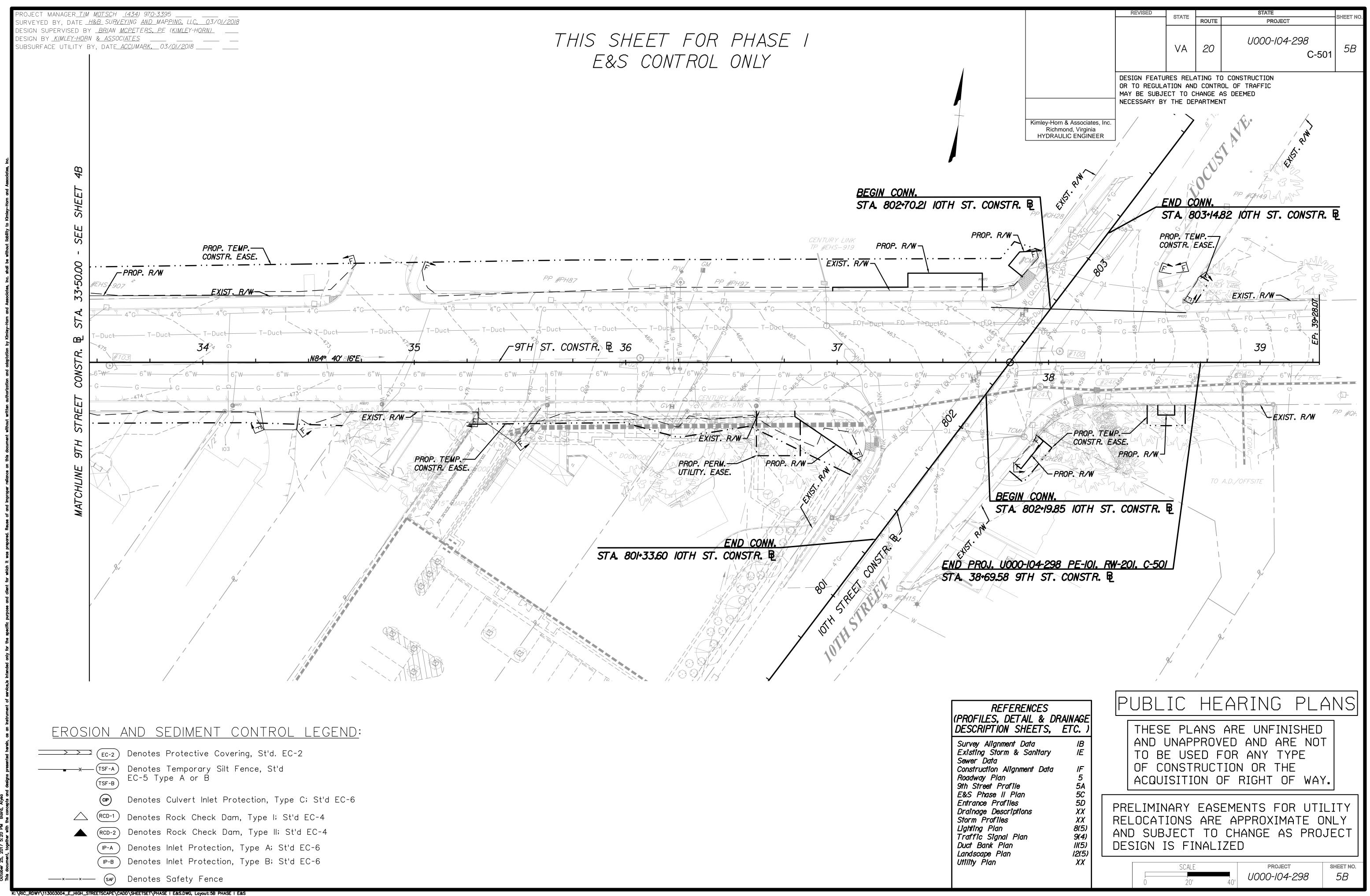
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			ULATION AN BJECT TO (	ID CONTRI CHANGE A			
	Kimley-Horn & Ass Richmond, V ROADWAY EN	ociates, Inc. /irginia					
NGT	on avenu	JE					
<u>200</u> 244	<u>554</u>	<u>001</u>			<b>48</b> 5		
PVI: 0+22.00 EL: 475.44	PVI: 0+27.00 EL: 475.54	PVI: 0-4 EL: 47			480		
2	23.0	1.76%			475		
					<b>470</b> 0+50		
)	0+30	0+40					
' <i>ING</i> 7	<u>ON AVEN</u>	UE				485	
				PV/: 0+47.00 EL: 473.39		485	
EL: 474.06	<u>-ON AVEN</u>	UE Er 474.06	<u>673%</u>	<u>0+47.00</u> 473.39			
EL: 474.06	ON AVEN	UE 90-31.00 Er 474.06 Er 474.06	6.7 <i>3%</i>	EL: 473.39	0+50	480	
EL: 474.06	ON AVEN	UE 0-2000 0-2000 0-2000 0-40		EL: 473.39	0+50	480 475 	NS
EL: 474.06	ON AVEN	UE OUE OUE OUE OUE OUE OUE OUE OUE OUE O	_IC SE PL UNAP BE US CONST		O+50	480 475  470 0+60 € ₽∟А	NS
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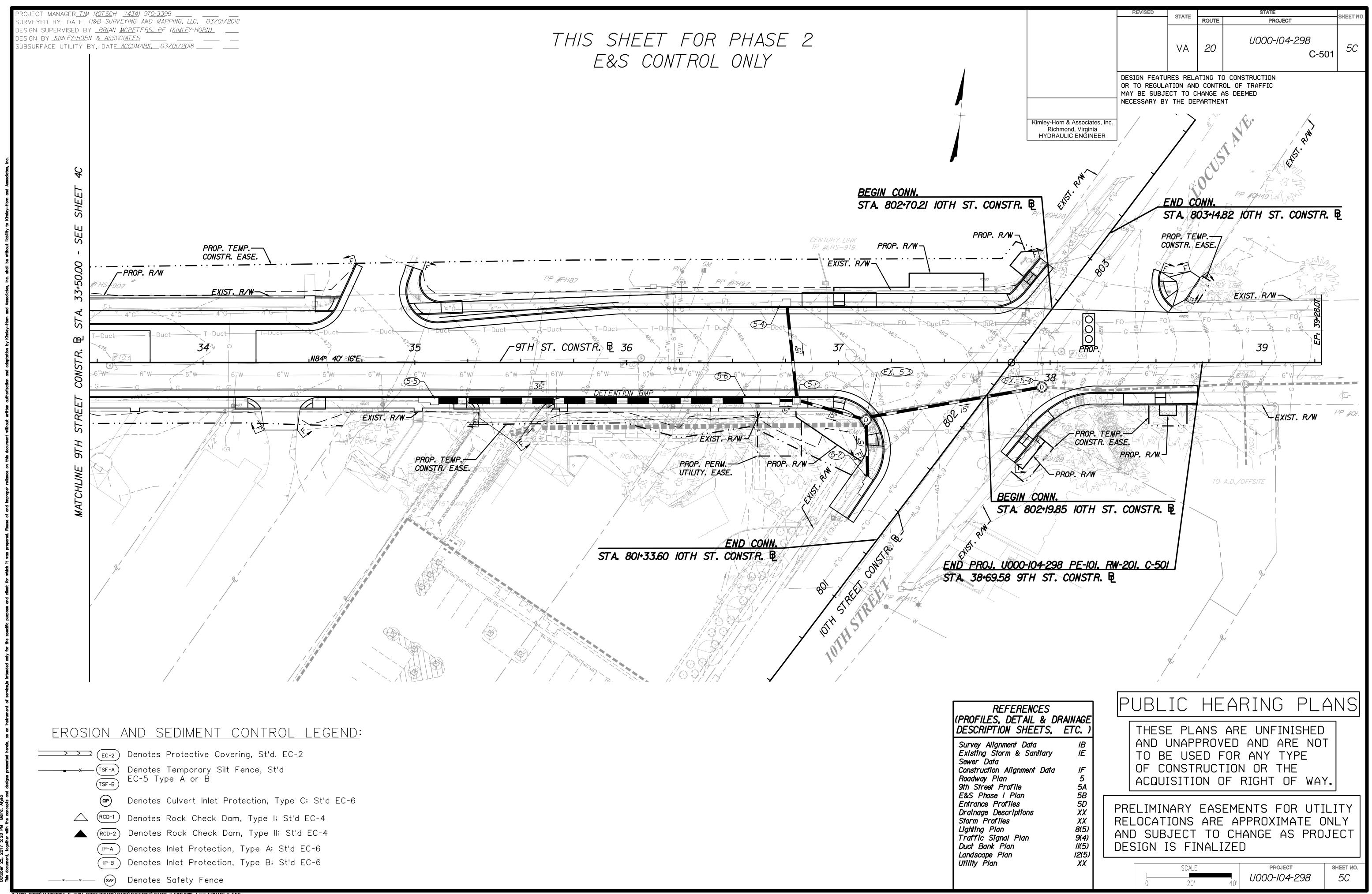


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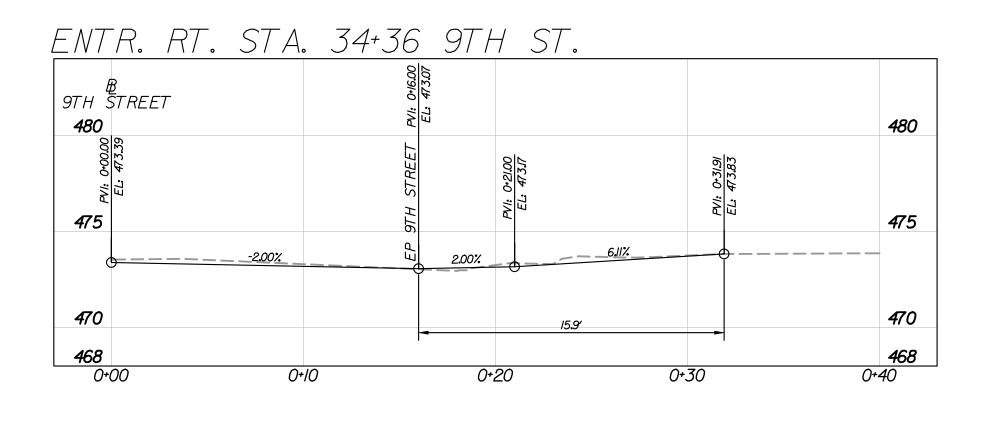
								F	REVISED		STATE	ROUTE			STATE PROJ	ECT	SHEET NO.
											VA	20		UC		0 <i>4-298</i> 7 <b>-201</b> , C-501	5A
								OR <sup>-</sup> May	to re( Be si	GULATI UBJECI	on ani f to c	ATING 1 D CONT HANGE PARTME	rol o As de	F TRAF			
				R	lichmon	Associa d, Virgir ENGIN	ites, Inc. iia EER										
						C			0100								
FVI: 37+50.00	EL: 462.6		FVI: 37+75.00	/+		PVI; 33+20.00	ĒL: 450.20		PVI: 38+25.00 EU: 458.86		PVI: 38+50.00	EL: 457.47	FVI: 38+69.58	lig –		480	
				r Reet -	STREET											472	
				1,75 97H S	802+38.53 10TH STREET												
		4567		1	STA 802											464	
<u>PE-</u> 9TH	101.   ST	<del>RW-2</del> . CO	01. NS	C	∟- <u>5,⁄0</u> -50/ ₹.₿			5.33%		-5.56	*						
ST. 5 20 T	<u>5.E.</u> R 0 -0.(	T 065					MATCH	ı								<b>4</b> 56	
	462.21	462.16		461.23	461.22	460.20		459.13	459.13	458.05	458.03	456.87	456.87				
						38-	-00										
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														UC		04-298	5 <sup>.</sup> A

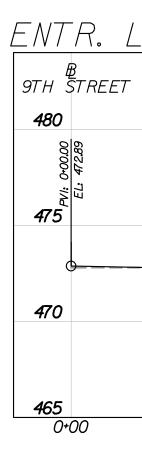


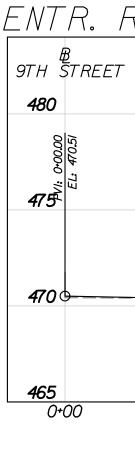


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PROJECT MANAGER<u>TIM MOTSCH (434)</u>97<u>0-33</u>95 \_\_\_\_\_\_ Surveyed by, date <u>H&B</u> Surveying <u>And Mapping, LLC, 0</u>3/0<u>1/2018</u> DESIGN SUPERVISED BY <u>BRIAN MCPETERS, PE (KIMLEY-HORN)</u> DESIGN BY <u>KIMLEY-HORN & ASSOCIATES</u> SUBSURFACE UTILITY BY, DATE <u>ACCUMARK, 03/01/2</u>018



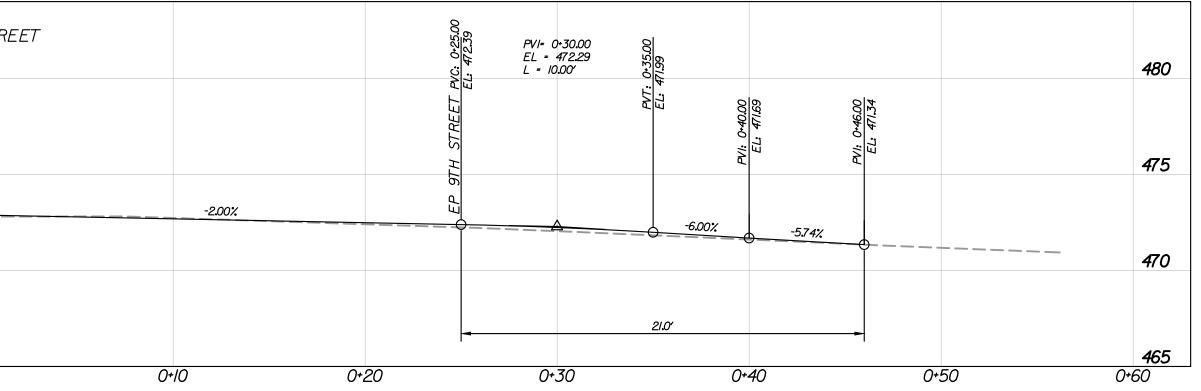




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# ENTRANCE PROFILES

<u>ENTR. LT. STA. 34+65 9TH ST.</u>



ENTR. RT. STA. 35+45 9TH ST. **48**0 <u>70.29</u> <u>+30.00</u> 0+33.85 470.99 **4**75 5.05% ----**4**70 5.58% -2.00% 2.01% 17.8′ **465** 0+40 0+20 0+30 0+10

		REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
			VA	20	<i>U000-104-298</i> C-501	5D
	OR MAY	TO REGULA	ATION AND ECT TO C	) CONTR HANGE A	D CONSTRUCTION OL OF TRAFFIC AS DEEMED IT	
Kimley-Horn & Asso Richmond, Vir ROADWAY ENG	ciates, Inc. ginia					
	PI Г				ARING PLA	NS
		AND TO BI OF C	UNAPI E USI ONSTI	PROV ED F RUCT	TED AND ARE NOT TOR ANY TYPE TION OR THE OF RIGHT OF WAY.	
	REL ANE	ELIMIN _OCAT	IARY IONS JECT	EAS ARE TO	EMENTS FOR UTIL APPROXIMATE ON CHANGE AS PROJE	LY
			SCALE			SHEET NO. 5D

	FACE UTILITY BY, DATE <u>ACCUMARK.</u> 0 <u>3/01/2018</u>
	CITY OF CHARLOTTESVILLE GENERAL NOTES
/.	This project is to be constructed in accordance with the current edition of the following standards, specifications, and guidelines and as amended by these plans and provisions: City of Charlottesville Standards and Design Manual Manual on Uniform Traffic Control Devices (MUTCD) Manual on Uniform for control Devices (MUTCD)
	• Proposed Guideline for Pedestrian Facilities in the Public Riant-ot-Way (PRUWAG)
	<ul> <li>VDOT Road and Bridge Specifications</li> <li>VDOT Road and Bridge Standards</li> <li>Virginia Work Area Protection Manual Latest Edition</li> </ul>
2.	All underground and overhead utilities shown on these plans are approximate only and may not be complete. Contractor sho contact "Miss Utility" (I-800-552-700I) at least 72 hours before construction and receive clearance prior to beginning any construction.
3.	All catalog cuts and shop drawings for equipment and materials shall be submitted to Brennan Duncan 434-970-3993 and Mark Harlow 434-98I-8736 for review process.
4.	No work shall commence with the exception of soil survey/foundations until all submittals required are received, reviewed and accepted by the City Traffic Engineering Section.
5.	Contractor shall contact Mark Harlow 434-98I-8736 at least I week (7 days) prior to the commencement of construction.
6.	All equipment is to be installed within the existing or proposed R/W or easement.
7.	The electric service connection and service line locations may be field adjusted as necessary provided all equipment remains within the right of way or proposed easement, does not conflict with utilities and remains outside the pavement sections.
8.	Controller cabinet foundation shall be in accordance with VDOT Std. CF-I.
	Controller cabinet to be SAFETRAN #333SD with latest SAFETRAN 2070E controller and Wapiti controller software.
10.	Contractor shall refer to the Latest Edition of the Road and Bridge Specifications Sec 700.04 (E) for placement of signa pole foundations.
//.	Locations of signals from plan shall be reviewed in the field by a representative of the City of Charlottesville.
12.	Pole foundation locations shall be staked in the field. Soil borings at these locations shall be analyzed to determine the appropriate foundation design. Contractor to design pole foundation to meet PF-8 specifications modified with 6 bolts and wings, and if applicable, flush with the adjacent sidewalk surface.
	Mast arm pole shall be in accordance with VDOT Std. MP-I and Charlottesville mast arm pole specifications. All traffic signal poles, pedestal poles, auxiliary poles, cabinet, etc. shall be primed and powder coated black, per City design manual.
4.	Traffic signal foundation depths and above ground foundation projection/reveal (if needed) shall be determined by the Contractor in accordance with PF-8 standards after the signal pole soil test bores are completed. There shall be no projection or reveal if the foundation is within or adjacent to a pedestrian path or if there is proposed APS equipment the pole. Signal poles and foundations shall be in accordance with Special Provisions including maximum loading conditions The pole supplier shall provide foundations designs and shop drawings that are signed and sealed by a Professional Engineer licensed in the state of Virginia.
/5.	All auxiliary pushbuttons will meet ADA requirements for location and reach, and shall be field adjusted with the City of Charlottesville ADA coordinator.
16.	Conduit location shall be marked on all foundations and junction box collars per the specifications for each conduit Installed.
	Location of junction boxes are approximate and to be field reviewed by the City Engineer for final placement. All unused wires in the signal heads shall be capped individually with crimp type caps.
19.	Mast arm signal head mounting shall be in accordance with VDOT Std. SM-3.
20.	Emergency preemption detectors shall be located as shown on the plans, however, may be field adjusted as necessary to provide optimal detection capabilities. Wiring shall be adjusted as necessary if the detector is modified
21.	Wireless spread spectrum radio requires two antennas per intersection and shall be configured as directed by the City Traffic Engineer.
22.	Signal pole ground rods shall be installed in the JB adjacent to the signal poles. 8/IC bond wire shall be used to connect the ground rods to the signal poles.
23.	The Engineer will develop the final timing plan. The City of Charlottesville will distribute the plan for implementation and fine-tuning by the Contractor. Contractor shall request the final timings in accordance with Section 703.02 of the VDOT Re and Bridge Specifications. Contact the City Traffic Engineer, Brennan Duncan 434-970-3993, at least 4 weeks in advance for requesting these timing.
24.	Final inspection by the City of Charlottesville personnel of the traffic signal will not be conducted until all traffic signal work is completed. The City of Charlottesville Traffic Engineering Office shall be notified directly when the contractor is ready for the traffic signal inspection.
	Contractor shall provide list of regular and after hours personnel and their phone numbers prior to the commencement of construction.
	GENERAL NOTES
/.	The following items and operations shall conform to the standard listed below unless noted on the plans.
	Pedestrian Pushbuttons
	Signal Head Hangers
	Electrical Service
2.	
	All traffic signal equipment including, mast arm poles, mast arms, and luminaire arms shall be powder coated black unless otherwise specified or required by the MUTCD, VDOT Road and Bridge Specifications, or VDOT Road and Bridge Standard All existing equipment shall be removed unless otherwise noted on the plans. Contractor shall contact the Engineer for a la
- •	All existing equipment shall be removed unless otherwise noted on the plans. Contractor shall contact the Engineer for a l of items to be salvaged, and the remaining items shall be disposed according to the VDOT Road and Bridge Specification Existing conduit and cables may be abandoned with prior approval by the City Traffic Engineer.
4.	Existing signalized intersections shall remain signalized at all times unless otherwise approved by the City Traffic Engine

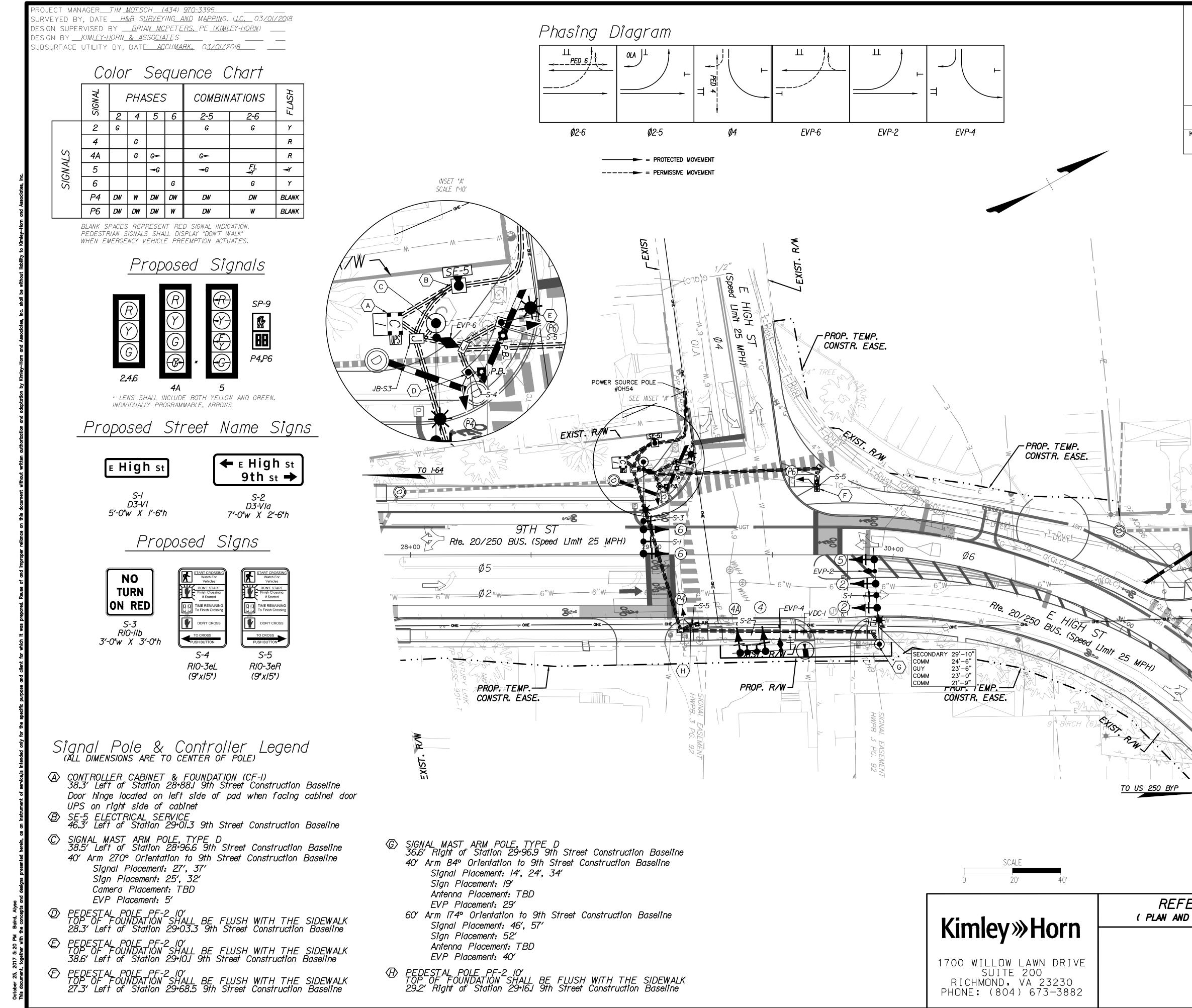
	SIGNAL NOTES
pecifications, and	A. POLES AND FOUNDATIONS I. Mast arm are to be cut and capped per field instruction and all mast arms are to be field drilled only.
	2. Mast arm pole foundations shall be in accordance with VDOT Std. PF-8 specifications modified with 6 bolts and n and if applicable, flush with the adjacent sidewalk surface. Final foundation depth shall be determined by soil sam
alata Cantrastar aball	3. All signal poles shall be in accordance with project specifications. All shop drawings and calculations for the sig mast arms, and foundations shall include professional engineer's seal and show the maximum regional loading for 1 structure or what is shown on the signal plans, whichever has a greater requirement.
plete. Contractor shall to beginning any	4. All mast arm pole foundations shall have one additional 2" conduit that shall run continuous to the nearest junctior control cabinet as indicated on the plans.
434-970-3993 and	5.The contractor shall verify mast arm length for adequate lane coverage and any underground/overhead utilities prio Installation of foundation.
received, reviewed	6. Dimensions used for locating equipment (such as signal head assemblies, signs, preemptor, etc.) on mast arms are i the center of the symbols used to indicate that equipment.
of construction.	B. CONTROLLER AND FOUNDATION
	I. The controller cabinet foundation shall be VDOT ST'D. CF-I and conform to 2016 VDOT Road and Bridge Standards and the conduit and cable legend on this sheet.
all equipment remains pavement sections.	2. The Controller Cabinet & CF-I foundation, with approval from the City Traffic Engineer, may be relocated within the designated corner provided if it remains within the right of way, outside of the clear zone and pavement sections, does not conflict with utilities, does not limit sight distance, and is in accordance with the Electrical Service Standard detail referenced to the installation
ller software.	the Electrical Service Standard detail referenced to the installation.
placement of signal	C. TRAFFIC SIGNAL HEADS
ottesville.	I. All traffic signal head sections (vehicle and pedestrian) shall be cast aluminum.
to determine the 1 with 6 bolts and no	2. Contractor shall coordinate the use of high-visibility fluorescent yellow retroreflective backplates on vehicle signal hea Brennan Duncan 434-970-3993. Backplate hardware shall be stainless steel.
tions. All traffic City design manual.	3.Traffic signal heads and mast arm signs may be field adjusted no more than 2' in either direction on the mast provided they remain within the designated travel lane assignments. If further adjustment is needed, the City of C and the Engineer shall be notified.
termined by the e shall be no	4. All traffic signal head sections shall be LED per VDOT specifications.
sed APS equipment on m loading conditions. a Professional	5. Pedestrian signals mounted on pedestal poles shall be in accordance with VDOT Std. SMB-2 and pedestrian signals on signal poles shall be in accordance with VDOT Std. SMB-3. All pedestrian signals shall be indicated in accord VDOT Std. SP-9. Pedestrian signals shall be actuated in accordance with VDOT Std. PA-2. Pedestrian signals sha oriented to face the crosswalk to which it applies and be visible to a pedestrian standing at the beginning of the
ed with the City of	on each corner. All pedestrian equipment shall be in accordance with the latest PROWAG requirements.
each conduit	D. DETECTORS I. The location of video detection equipment and zones shown on the plans are approximate. Contractor shall coordina
acement.	location of video detection equipment with the City of Charlottesville prior to final placement of video detection came
	2. Vehicle detection shall be maintained during all phases of construction.
1 as necessary to	3. Pedestrian pushbuttons shall be a Polara brand APS pushbutton station approved by the City and the Engineer with programmable custom messages which shall be programmed by the contractor.
	E. CONDUIT, CONDUCTORS AND ELECTRICAL
ected by the City	I. For installation of conduit, no open cut will be allowed in roadway surface.

- I. For Installation of condult, no open cut will be allowed in roadway surface.
- 2. Junction box covers shall have the letters "TRAF" cast in the top surface depression for all traffic signal related junction boxes containing cable with less than 50 volts. All other junction box covers shall have the letters "ELEC" in the top depression.
- 3. No JB-SI, S2 or S3 junction boxes shall be installed in paved shoulder, sidewalk or multi-use trail.
- 4. All junction boxes shall be VDOT St'd. JB-S2 unless otherwise indicated on the signal plans.
- 5. (S) denotes cable to be shielded, (M) denotes metal conduit, (EGC) denotes equipment grounding conductor.
- 6. Underground conduit and conductor cable shall conform to VDOT Std. ECI-I.
- 7. Conduits shall extend in to the junction boxes 2" (min.) to 3" (max.) and shall be fitted with bell-ends or bushings F. SIGNS
- I. Mast arm sign installation shall conform to VDOT ST'd. SMD-2. Span wire installation shall conform to VDOT St'd
- 2. The square footage of sign per SMD-2 hanger shall not exceed 90% of the manufacturer's recommended maximum footage per hanger.

## G. RADIO COMMUNICATION

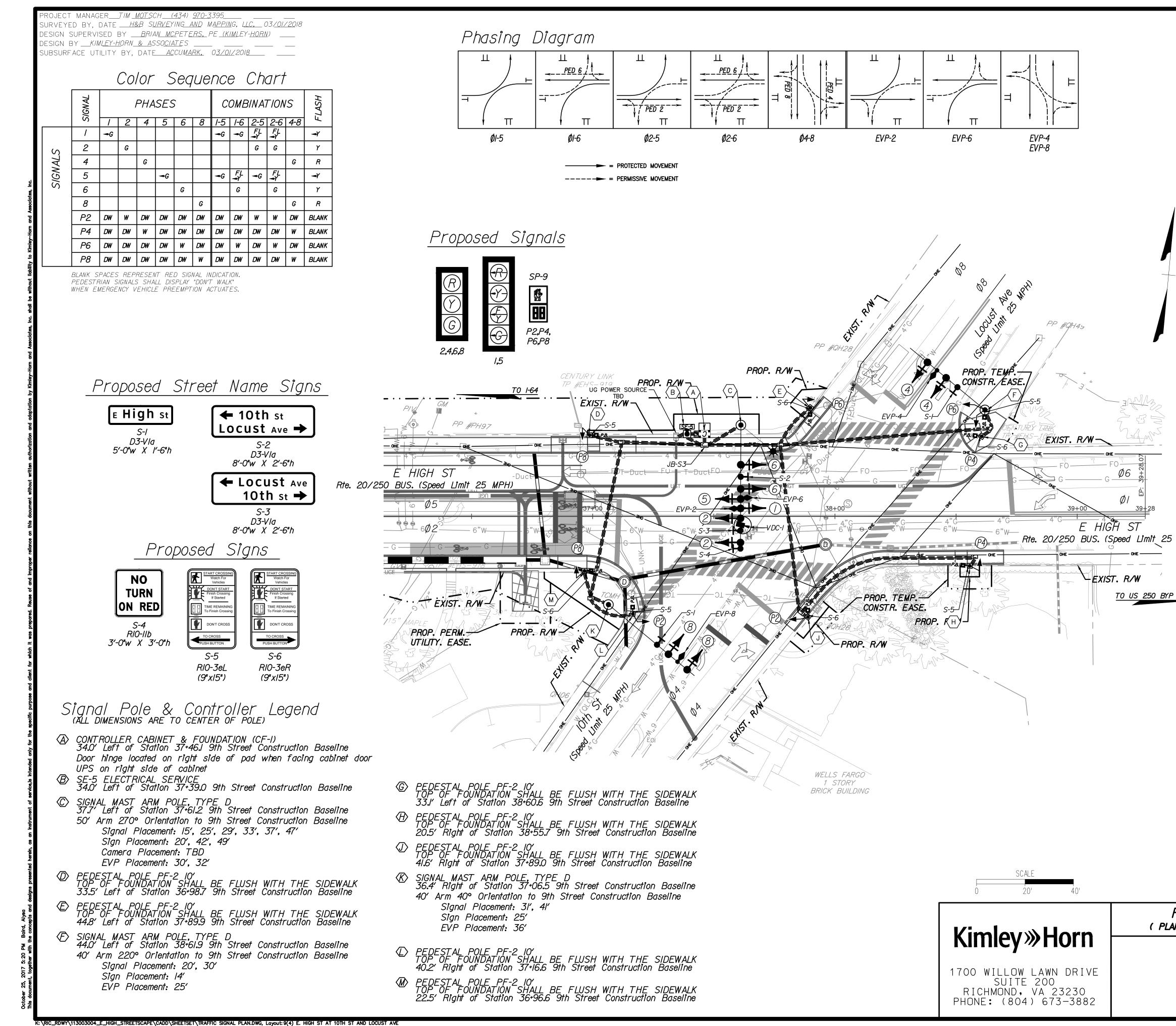
I. The contractor shall contact Mark Harlow with the City of Charlottesville Department of Public Works at 434-981-87 prior to the placement of radio communication equipment, 2 week advance notice required.

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ject specifications. All shop drawings and calculations for the signal po sional engineer's seal and show the maximum regional loading for that whichever has a greater requirement.							
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all be in accordance with VDOT Std. SMB-2 and pedestrian signals mount T Std. SMB-3. All pedestrian signals shall be indicated in apportance.							
T St'd. SMB-3. All pedestrian signals shall be indicated in accordance v tuated in accordance with VDOT St'd. PA-2. Pedestrian signals shall be	Uninterruntible Power	Supply Cahine	et.				
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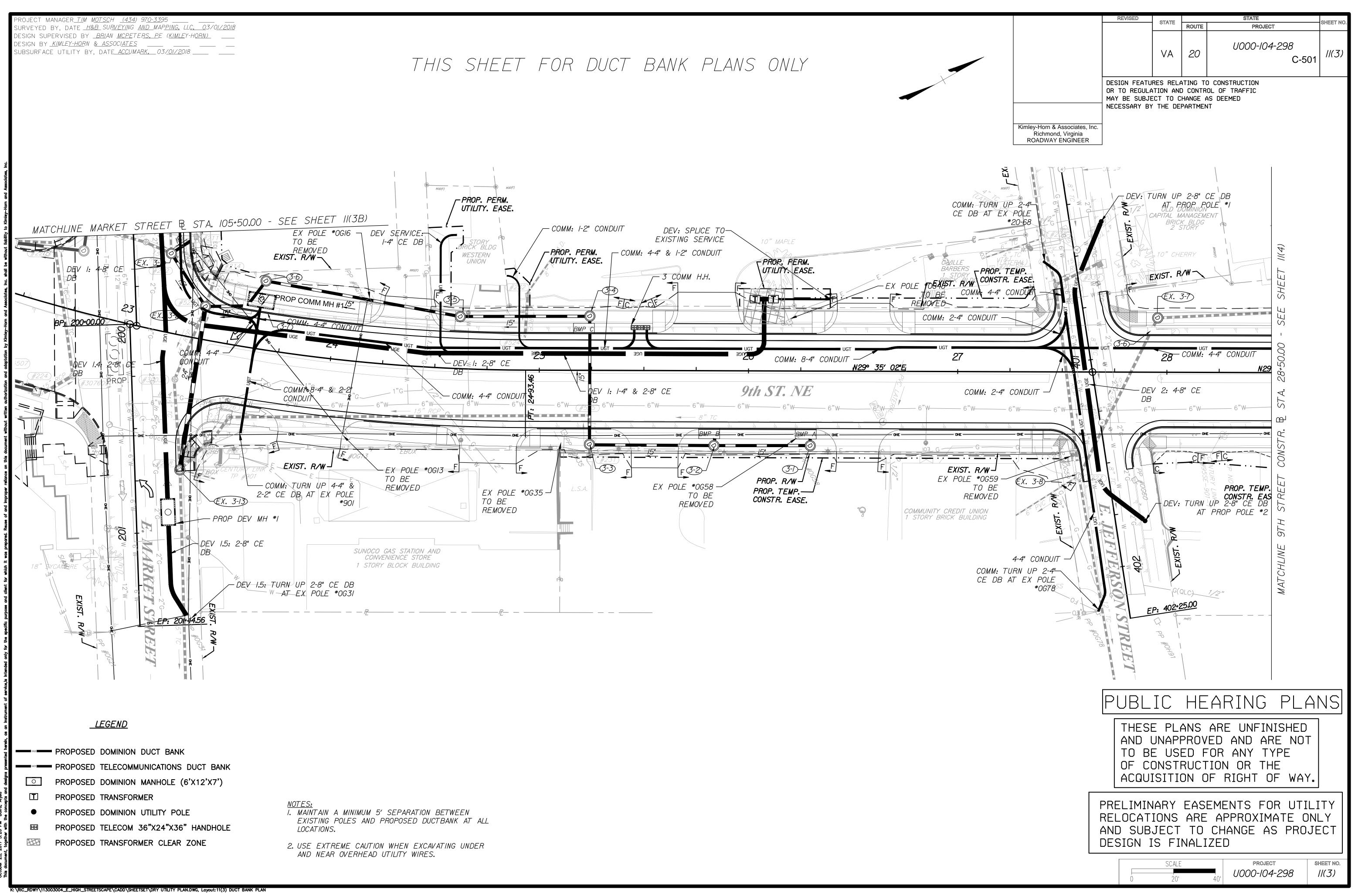
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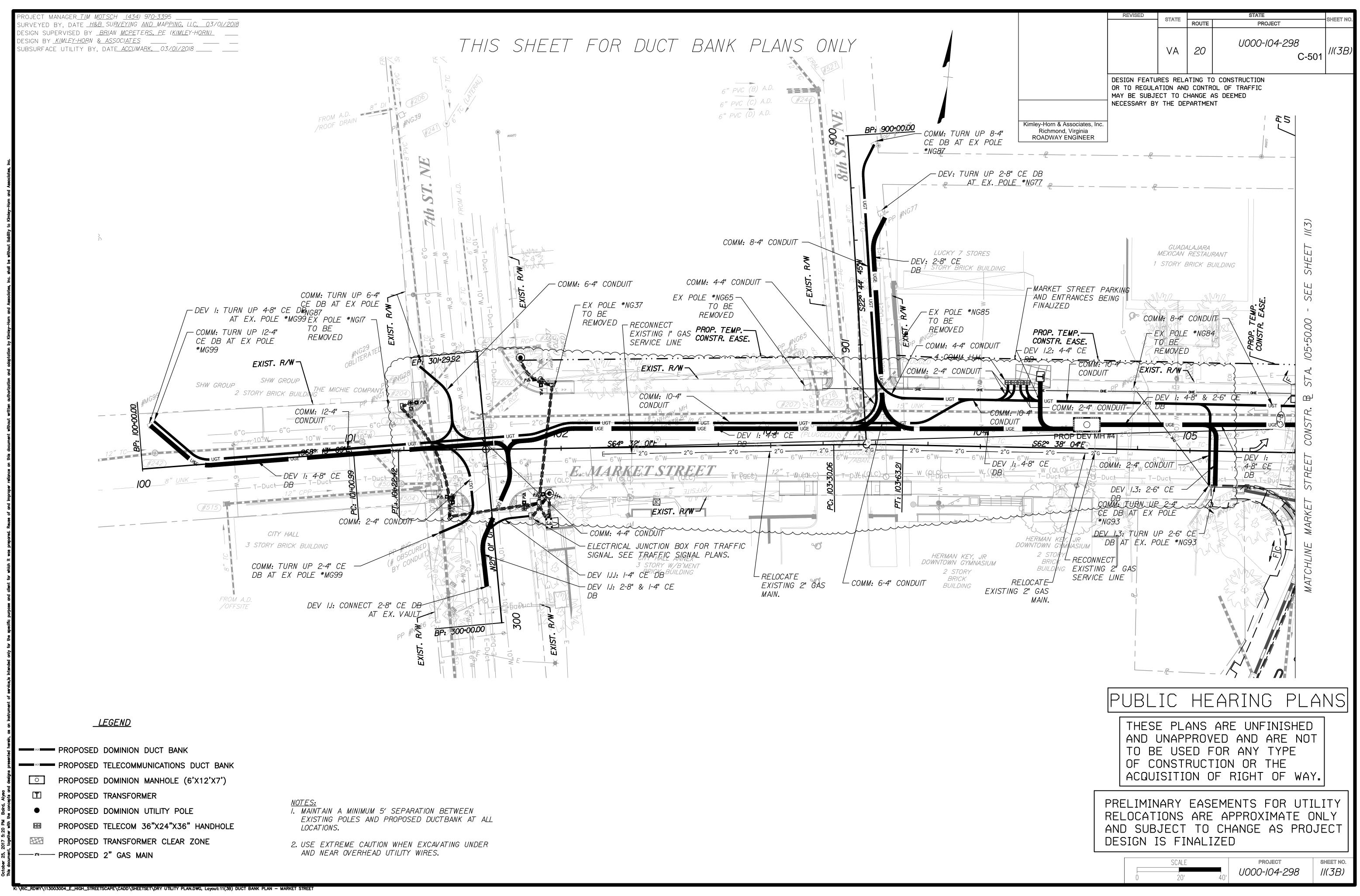
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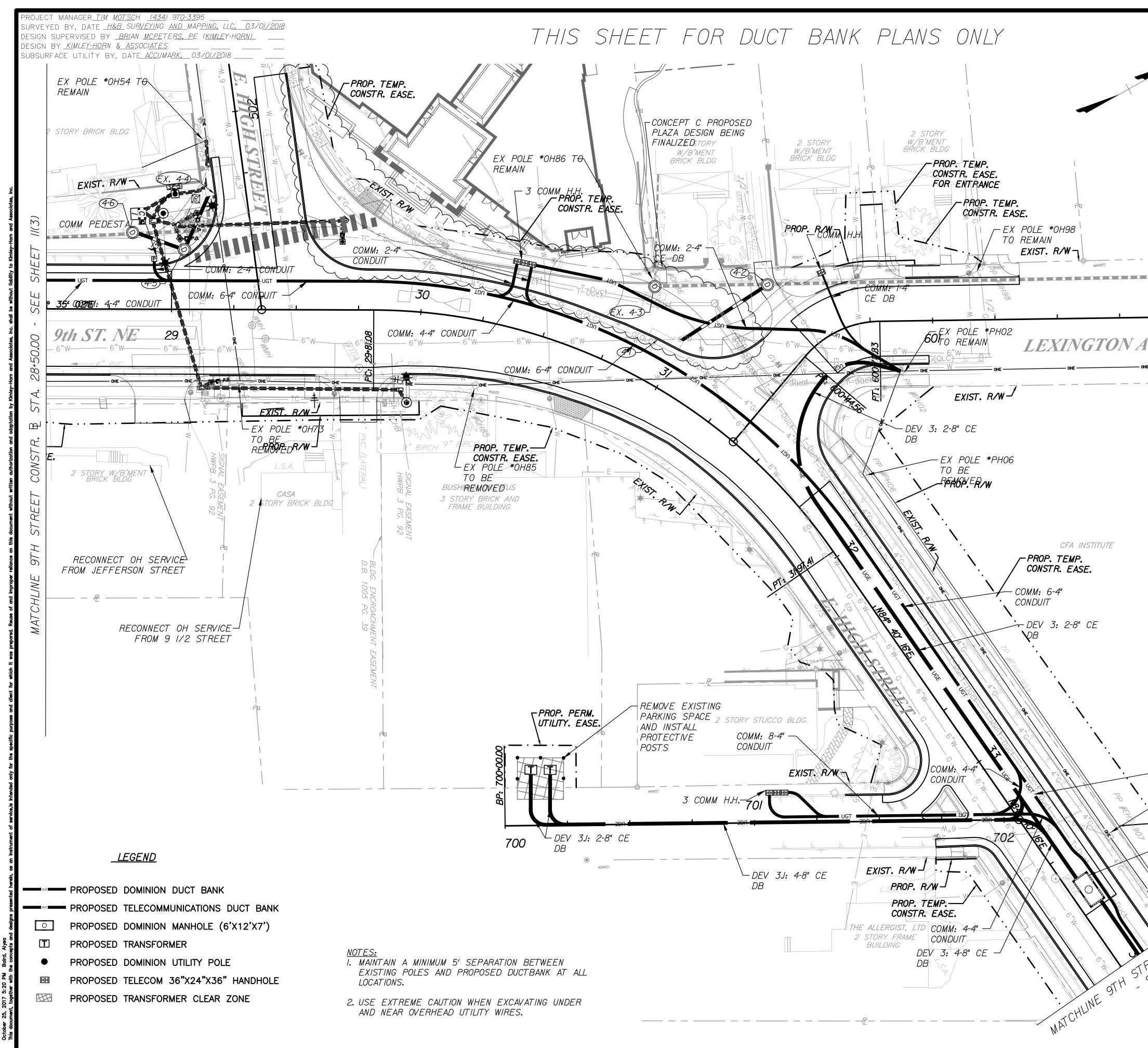


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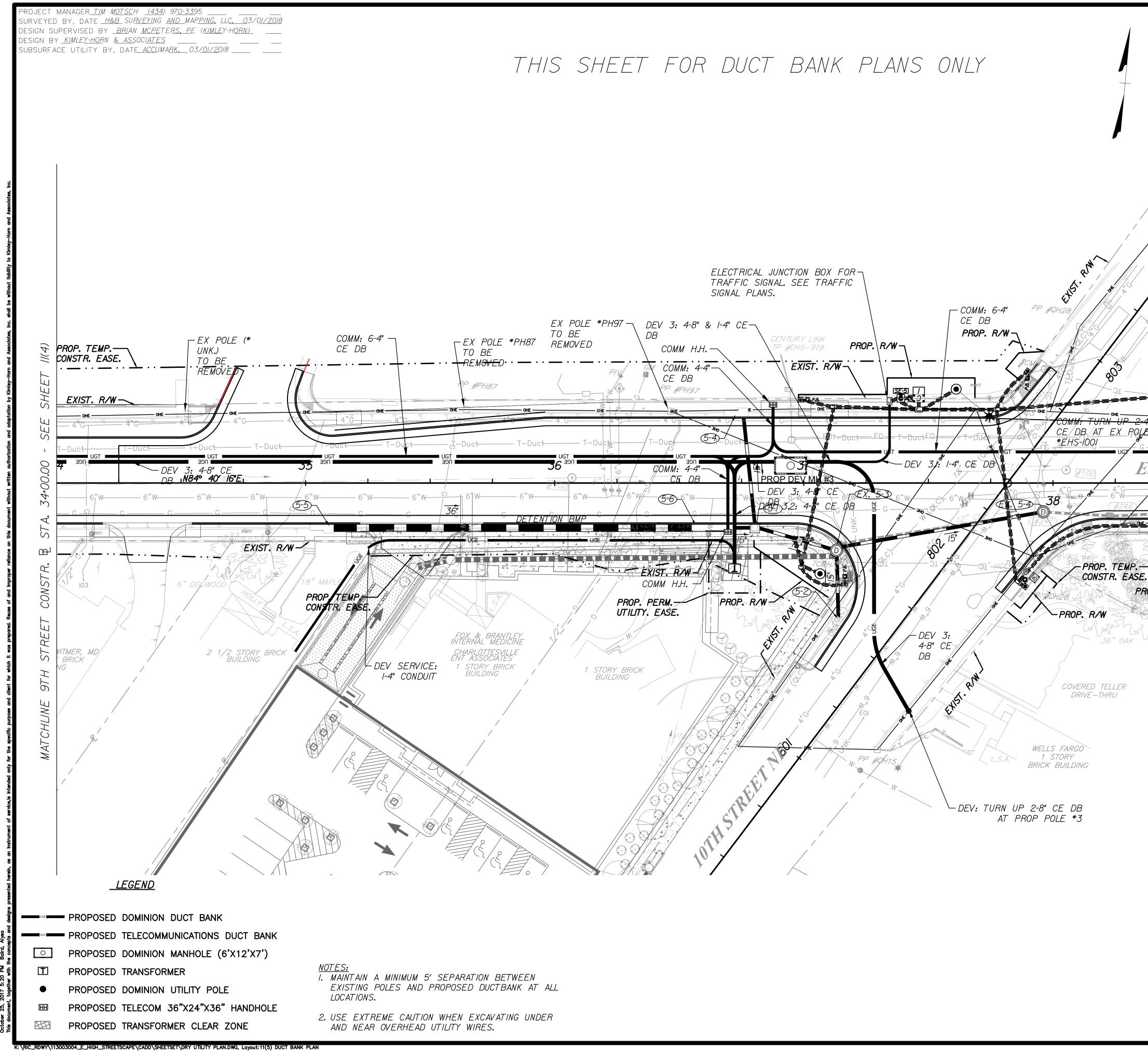
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## GENERAL LANDSCAPE NOTES:

- 1. The Landscape Contractor shall be responsible for all materials, testing and labor required to fully install the plant material per the plans including: soil testing, soil amendments (as necessary), bed preparation, plant installation, fertilizing, mulching, watering, maintenance and warranty.
- 2. The Landscape Contractor shall be responsible for coordination of his work with that of all other contractors. This plan does not guarantee the existence or non-existence of any utilities. Prior to commencement of any work, the Landscape Contractor shall verify the locations of all above ground and underground utilities.
- 3. The quality and size of all plant material shall conform to the most current standards as set forth in ANSI Z60.180 American Standard for Nursery Stock.
- 4. In the case of a quantity discrepancy between the plans and the plant schedule, the plans shall take precedence.
- 5. No plant substitutions shall be made without the written consent of the Project Landscape Architect.
- 6. Where plant material is proposed in areas adjacent to any property line, the Landscape Contractor shall verify the exact location of the property line. All new plant material shall be installed such that the entire root ball of the plant lies on the subject property. Under no circumstances shall any portion of the root ball extend beyond the limits of the subject property.
- 7. Shredded hardwood mulch shall be applied to all plant material immediately after installation. See details for mulch depth. 8. All areas not otherwise covered by buildings, pavement, sidewalks and planting beds shall receive either seed or sod. See
- plans for seeding and sod areas.
- 9. The Landscape Contractor shall be responsible for maintaining his work for a period of two years after final acceptance by the Owner. Maintenance shall include: mowing, weeding, watering, mulch replacement, removal and replacement of dead material, resetting of plants to proper grades or upright positions, fertilizing, debris removal and any required chemical applications to ensure the health of the plants.
- 10. All plant material that fails to exhibit new growth after the first dormant period following installation shall be replaced by the Landscape Contractor at his expense. All replacements shall conform to the original specifications as to size and type.
- 11. All trees located within sight triangles shall be limbed up to a height of 6 feet above grade.
- 12. All topsoil placed on the site shall be tested and fertilizer applied based on the noted nutrient
- 13. All trees located within MSE wall reinforcement must have soil suitable for planting 3 feet in depth above MSE wall fill.
- 14. Herbicides are to be used as a last resort. Any use of herbicides or pesticides must be approved by the City's landscape manager, prior to application.
- 15. Gator bags, or similar watering device, are to be installed on all trees.
- 15. All landscape planting shall conform to the planting details set forth in section 1200 of the 2016 VDOT road and bridge standards.

## MASTER CONCEPT PLANT SCHEDULE

LARGE CANOPY TREE Gleditsia triacanthos inermis `Shademaster` TM / Shademaster Locust Liquidambar styraciflua `Rotundiloba` TM / Round-Lobed Sweet Gum Platanus x acerifolia `Bloodgood` / London Plane Tree Quercus coccinea / Scarlet Oak Quercus phellos / Willow Oak Ulmus americana `Princeton` / American Elm	4
SMALL DECIDUOUS OR ORNAMENTAL TREE Amelanchier x grandiflora `Autumn Brilliance` / `Autumn Brilliance` Serviceberry Carpinus caroliniana / American Hornbeam Cercis canadensis `Hearts of Gold` / Forest Pansy Redbud Cornus florida `Appalachian Snow` / Dogwood Appalachian Snow Cornus kousa / Kousa Dogwood Pistacia chinensis / Chinese Pistache	25
BIOFILTER Carex stricta / Tussock Sedge Clethra alnifolia `Hummingbird` / Summersweet Cornus sericea `Artic Fire` / Artic Fire Dogwood Eupatorium dubium `Little Joe` / Joe-Pye Weed Ilex verticillata `Red Sprite` / Red Sprite Winterberry Iris versicolor / Blue Flag Itea virginica `Little Henry` TM / Virginia Sweetspire Panicum virgatum `Heavy Metal` / Blue Switch Grass Rudbeckia fulgida `Goldstrum` / Coneflower	301 sf
SHRUBS & GRASSES Aronia arbutifolia `Brilliantissima` / Brilliant Red Chokeberry/Red Chokeberry Cornus sericea `Artic Fire` / Artic Fire Dogwood Geranium x `Rozanne` TM / Hybrid Cranesbill Hemerocallis x `Happy Returns` / Happy Returns Daylily Hydrangea quercifolia `Pee Wee` / Oakleaf Hydrangea Hypericum calycinum `Brigadoon` / Brigadoon Aarons Beard Ilex glabra `Shamrock` / Inkberry Juniperus conferta `Blue Pacific` / Blue Pacific Juniper Myrica cerifera `Little Bull` / Little Bull Wax Myrtle Nepeta racemosa `Walker`s Low` / Catmint Panicum virgatum `Hamelin` / Dwarf Fountain Grass Prunus laurocerasus `Otto Luyken` / Luykens Laurel Solidago canadensis `Baby Gold` / Goldenrod Viburnum dentatum `Arrowwood` / Arrowwood Viburnum	6,174 sf
SOD -	6,425 sf

## PLANTING SPECIFICATIONS

### QUALITY ASSURANCE:

- 1.1. Landscape planting and related work shall be performed by a firm with a minimum of five years experience specializing in this type and scale of work.
- 1.2. Applicable Specifications and Standards: 1.2.1. Current Edition of VDOT Road and Bridge Specifications
- 1.2.2. American Joint Committee on Horticultural Nomenclature 1.2.3. American Standard for Nursery Stock, latest edition
- 2. <u>SUBMITTALS</u>: Submit the following to the Engineer prior to
- beginning work: 2.1. Copies of manufacturer's data for all materials required.
- 2.2. Samples of required mulch material.
- 2.3. Chemical and mechanical analysis and samples of all existing soil, topsoil, organic matter and soil mix to be used.
- 2.4. Planting schedule showing the dates (earliest and latest) proposed for each type of plant specified, schedule each type of planting within the normal planting seasons for such work. Include requests for any proposed changes in the approved planting season and a list of proposed sources for all plant materials 2.5. List of proposed sources for all plant material.
- 3. DELIVERY, HANDLING, AND STORAGE 3.1. Deliver packaged materials in manufacturer's unopened containers or bundles, fully identified with name, brand, type, weight, and analysis. Store packaged materials in such a manner as to prevent damage or intrusion of foreign matter.
- 4. <u>DRAINAGE</u>: Before planting / seeding, determine that areas to
- receive plant material / seed have adequate subdrainage. 4.1. The landscape contractor is responsible for drainage tests as 7.1. necessary to identify any problems prior to beginning planting operations. Upon commencement of planting operations the landscape contractor assumes responsibility for soil conditions.
- 5. <u>SEEDING</u>: Seeding procedures shall conform with section 603 of the current VDOT Road and Bridge Specifications shall be done only within the following dates except as approved by the Engineer. 7.2.

## 6. MATERIALS FOR PLANTING:

- 6.1. Topsoil: Excerpt taken from 2016 VDOT Road and Bridge naturally occurring or may be manufactured and shall be free of foreign objects such as refuse, woody vegetation, stumps, roots, brush, stone larger than 3/4 inches, and other material deleterious to plant growth. Maximum size of other 9. INSPECTION: foreign objects shall be 2 inches. Topsoil shall conform to the following:
- 6.1.1. Topsoil shall have a pH range of 5.5 to 7.0.
- 6.1.2. Topsoil shall contain 2-10% organic matter by dry weight 6.1.2. Topson snan contain 2 1070 organic marked 6.1.3. USDA Soil Texture: sandy loam, Loamy Sand, Sandy Clay 9.2. Loam, Loam, Silt Loam
- 6.1.4. Minimum Phosphorus fertility rating of "Medium (M)" 6.1.5. Topsoil shall be of the following classifications:
- 6.1.5.1. Class A topsoil: Class A topsoil shall be stockpiled topsoil that has been salvaged from within the project limits in accordance with Section 303.04(a). It shall be the original layer of the soil profile formed under natural conditions, technically defined as the "A" horizon or as defined by the United States Department of Agriculture–Natural Resources Conservation Service (USDA–NRCS) Soil Survey Division.
- 6.1.5.2. Class B topsoil: Class B topsoil shall be topsoil furnished from sources outside the project limits and shall be the original top layer of a soil profile formed

- under natural conditions, technically defined as the "A" horizon or as defined by USDA–NRCS Soil Survey Division, or manufactured top soil. The Contractor shall provide to the Engineer a source of the borrow materials for topsoil planned for use on the project prior to use.
- 6.1.6. Manufactured topsoil shall consist of a mineral component and amendments to meet the specified organic content, PH and other requirements as detailed in the VDOT Road & Bridge Specifications. Organic material used in conjunction with amending or manufacturing of topsoil shall meet all regulatory requirements of the Virginia Department of Environmental Quality or the equivalent state regulatory agency from the state of origin and the United States Environmental Protection Agency Electronic Code of Federal Regulations (e-CFR, current edition) Title 40, Part 03—Standards For The Use Or
- Disposal Of Sewage Sludge, as applicable. 6.1.7. Testing and documentation: The Contractor shall submit the following test reports to he Engineer for Class A and Class B topsoil prior to use. Testing shall be completed by a DCR-approved soils testing laboratory. Soil analysis of topsoil, including pH factor, mechanical analysis (composition), salinity (soluble salts), percentage of organic content, and soil classification based thereon. Recommendations on the types and quantities of additives required to establish a satis-factory pH and bring the supply of nutrients to a level satisfactory for establishing

and sustaining turf and/or for use as a soil mix for planting,

## 7. SOIL MIXING PROCEDURES:

if applicable.

	Topsoil used in sand/soil mix	es shall be screened or shredded				
prior to mixing in sands. Maximum clod inclusion for soil						
	mixes shall not exceed:					
	Clod size (largest dimension	)% of the soil mix volume				
	Less than 1"	Unlimited				
	1 to 3 inches	20%				
	3 to 6 inches	5%				
	>6 inches	Less than 2%				

- Less than 2% Source material and soil mix stockpiles shall be protected from rain by covering with filter cloth.
- 8. INSTALLATION OF TOPSOIL FOR SEEDED AREAS: Specifications Sections 244.02(B) and 602. Topsoil may be 8.1. Topsoil Class A shall be installed in all seeding areas in accordance with Section 602 of the current VDOT Road and Bridges Specifications Manual.

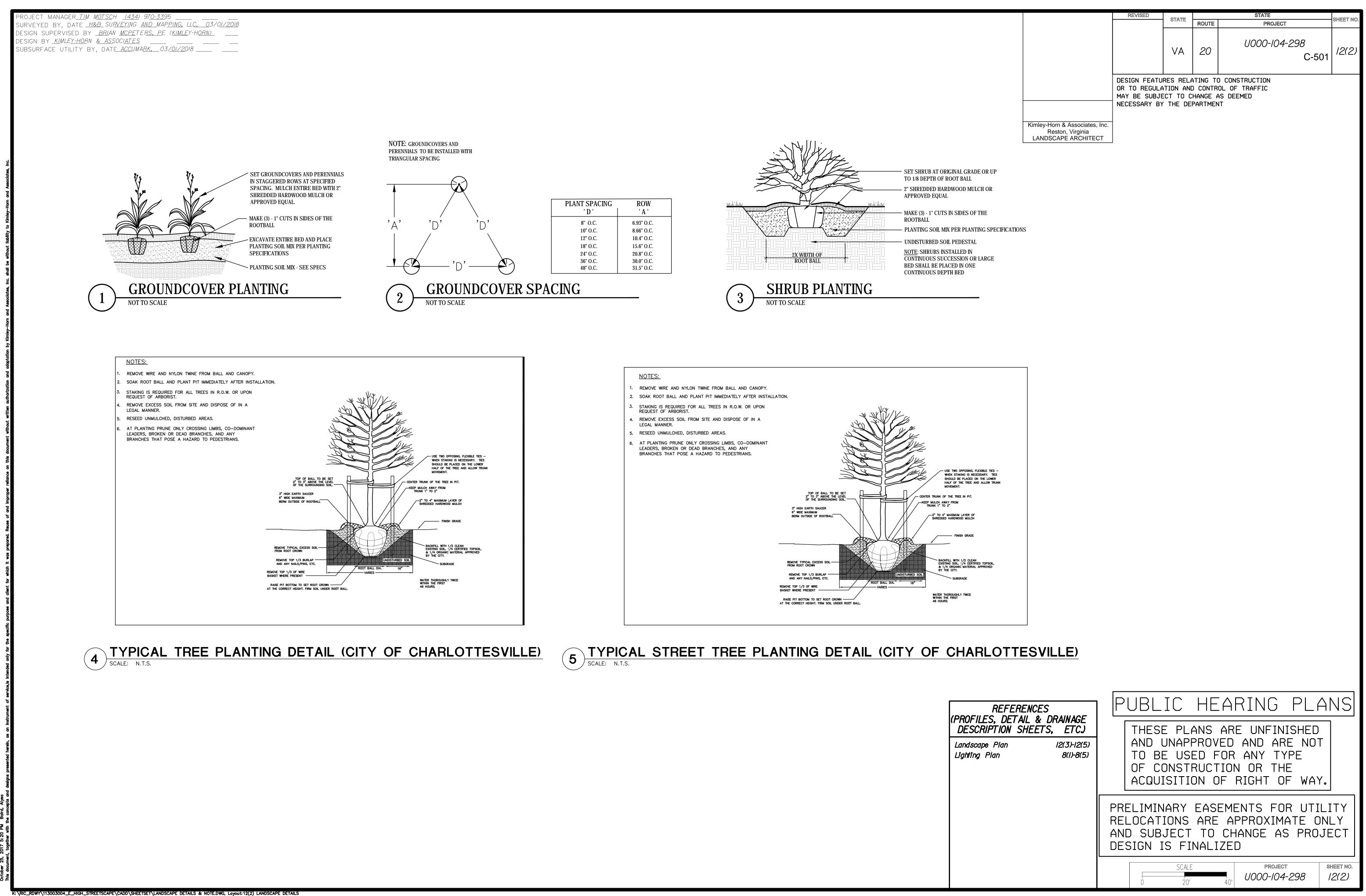
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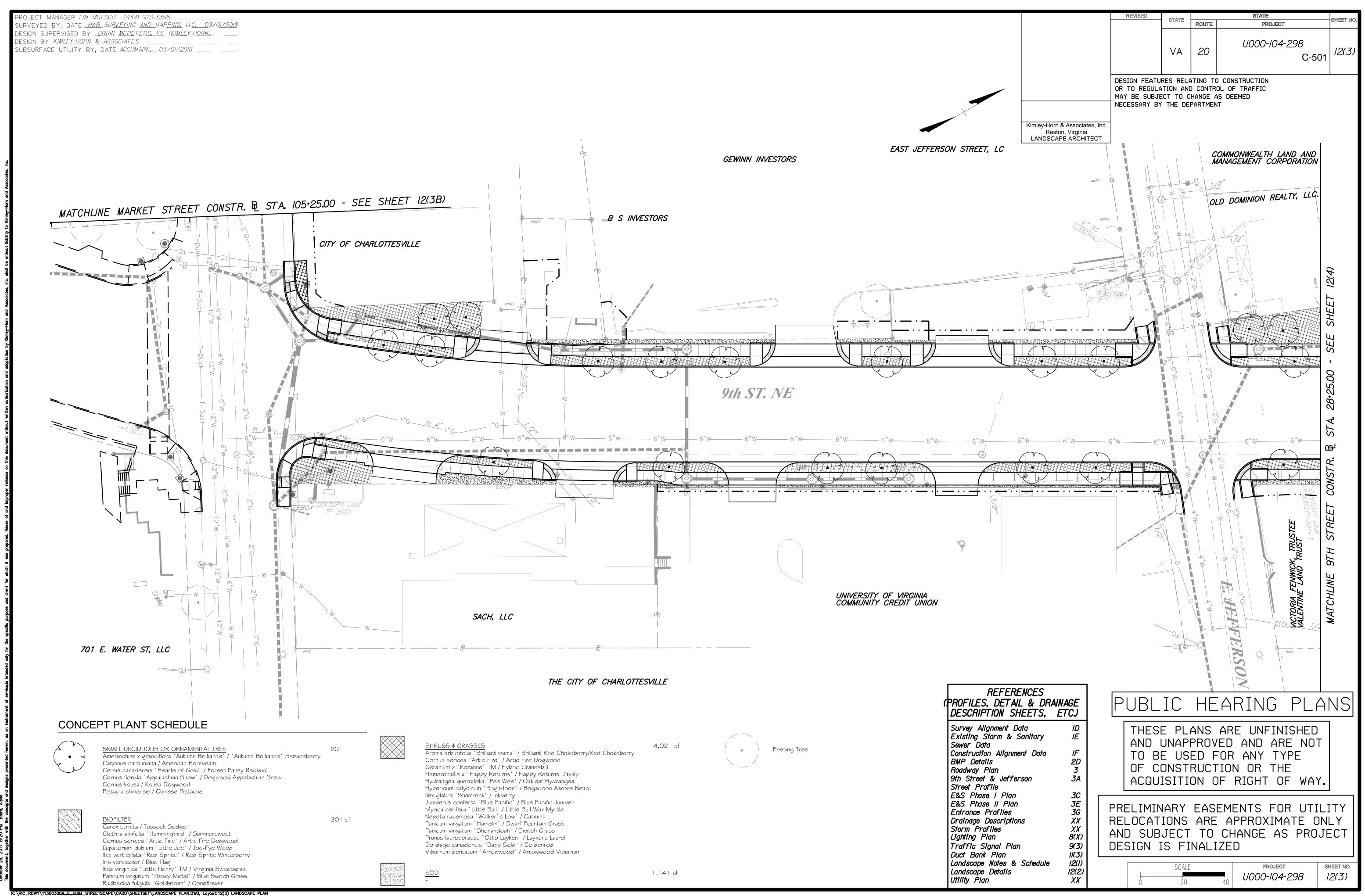
- Examine the areas and conditions where topsoil is to be installed and notify VDOT of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work. Cooperate with other Contractors and trades working in and
- adjacent to other work areas. Examine drawings which show development of entire project and become familiar with scope of other work required.

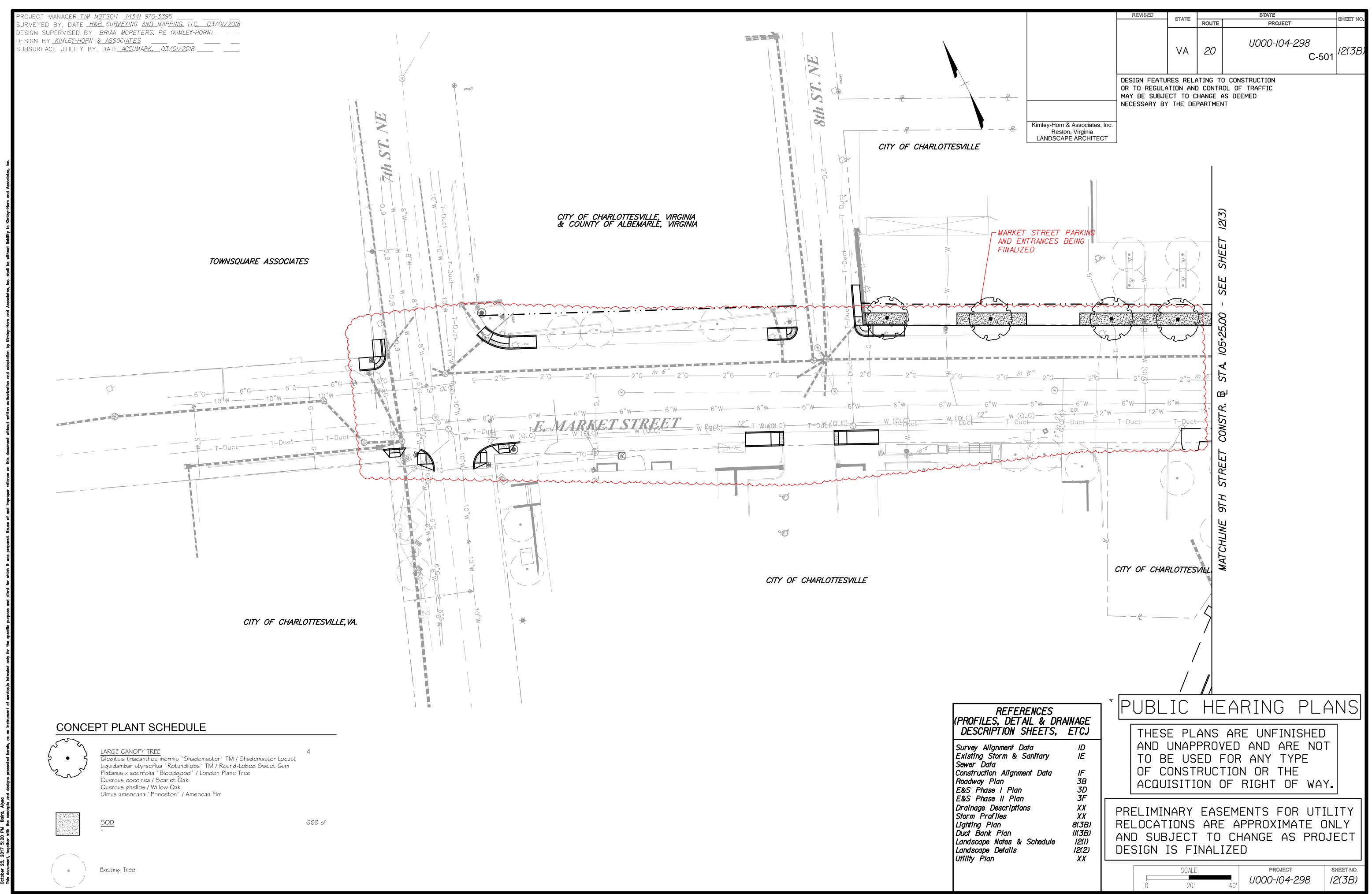
### 10. SOIL INSTALLATION - GENERAL PROCEDURES:

- 10.1. Prepare the subgrade by roughening the top 4" of the subsoil by dragging the teeth of a backhoe bucket across the surface. Remove any debris from the 4" of subsoil. 10.2. Begin soil installation as soon as subsoil is prepared. Use low impact equipment with track belts, large tires, or low tire
- pressure to lower compaction and soil damage during installation. 10.3. Monitor compaction during installation and loosen soils as
  - needed if compaction exceeds 80%.

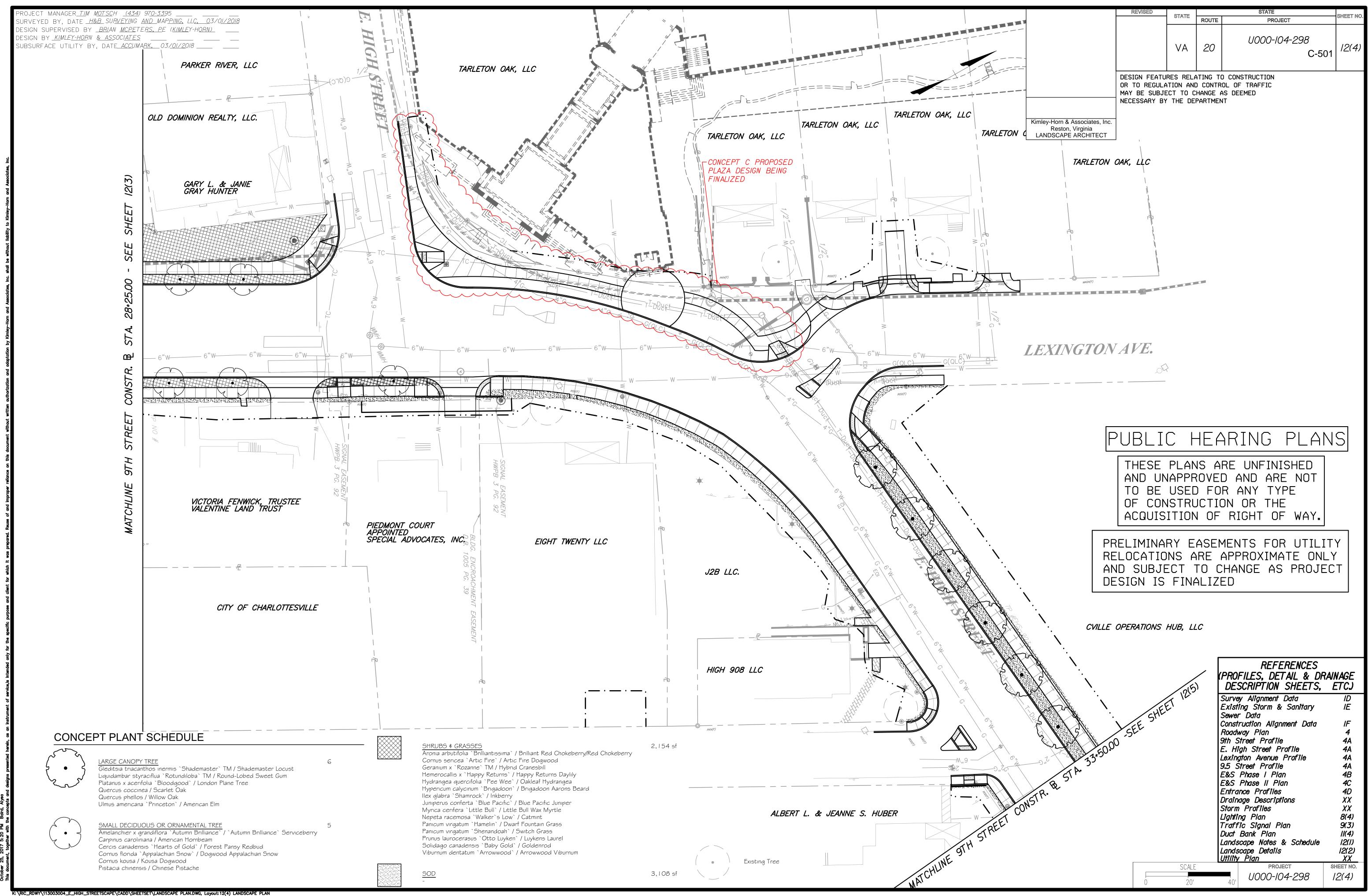
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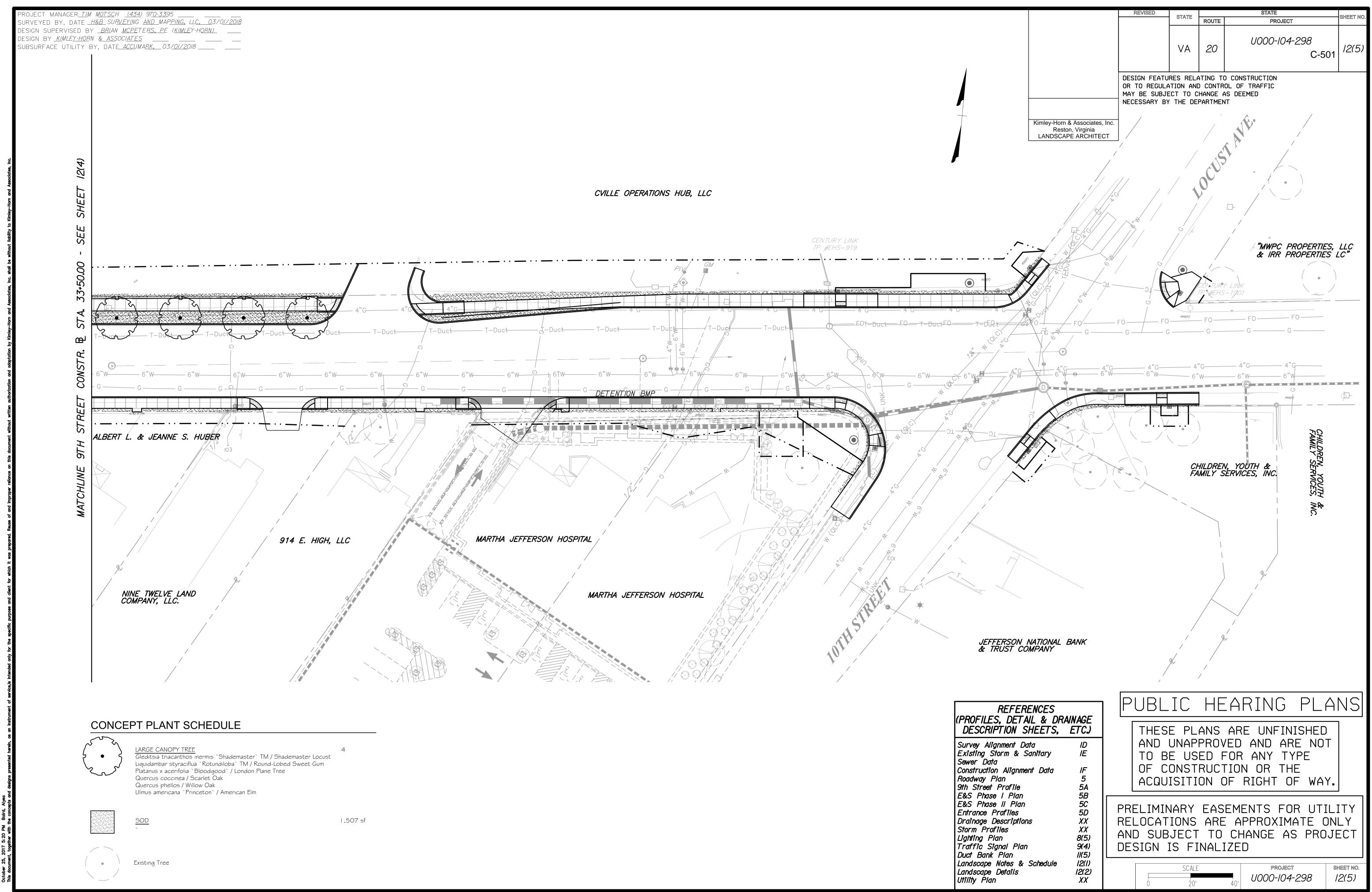






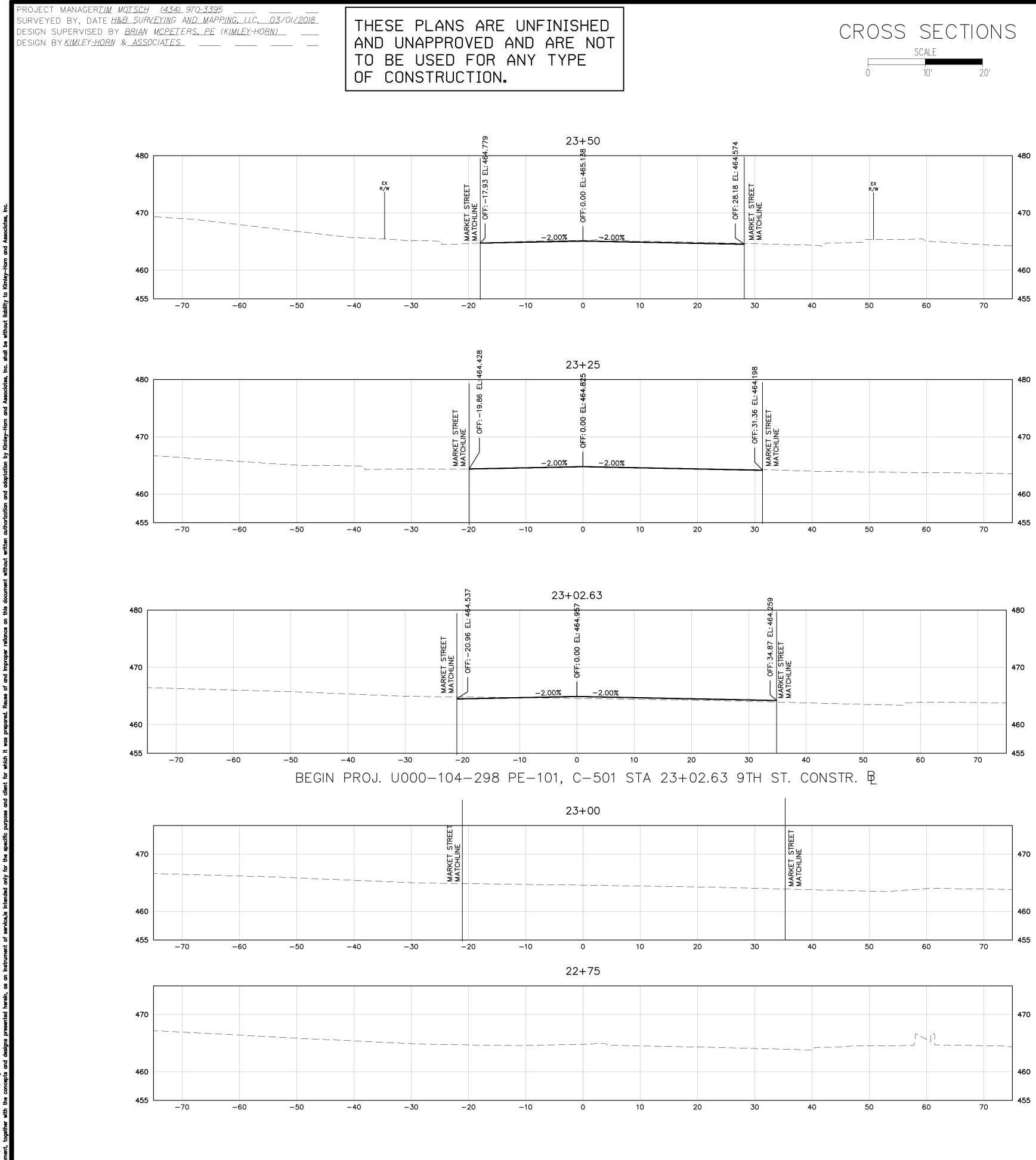
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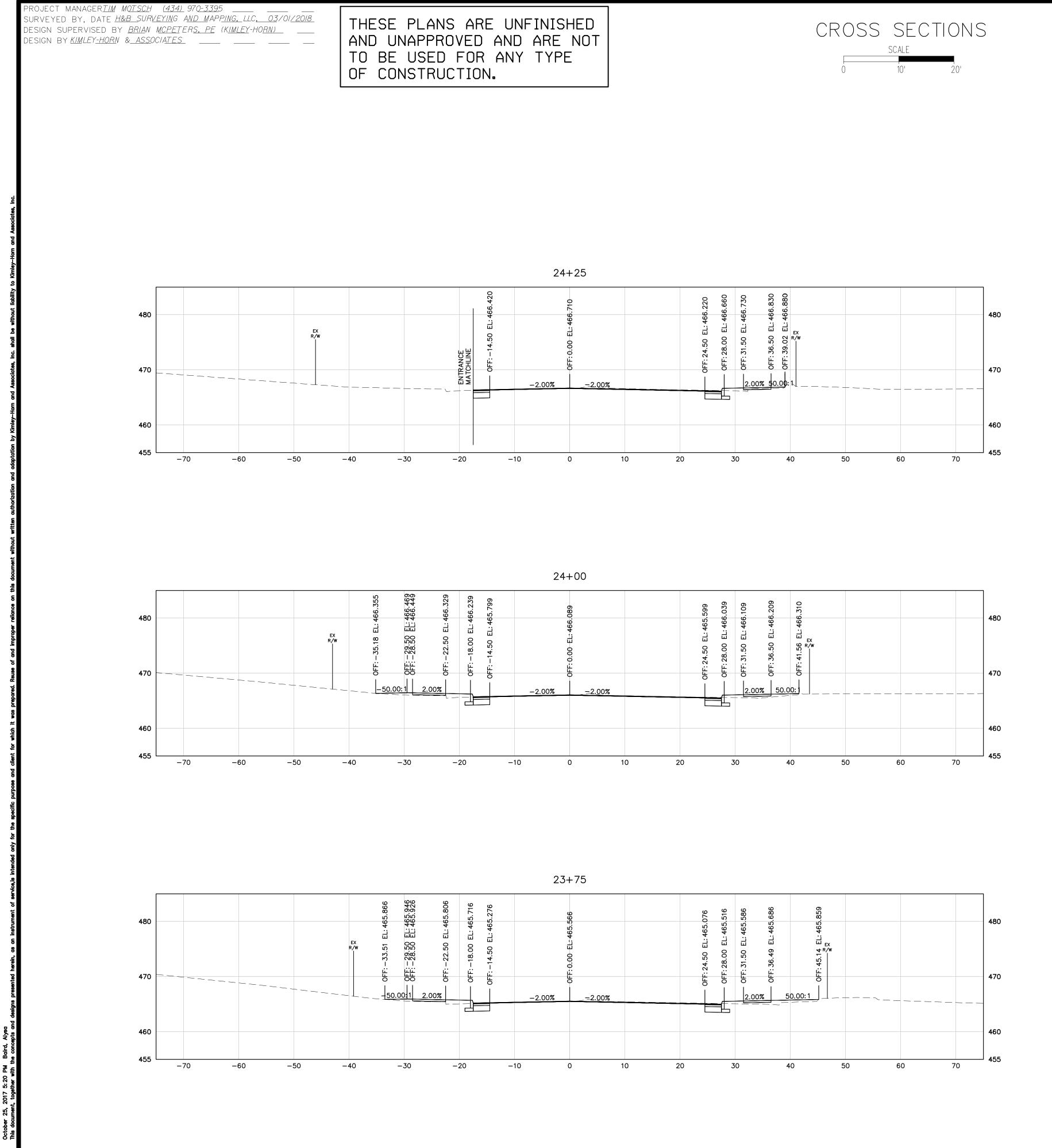
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## CROSS-SECTION INDEX

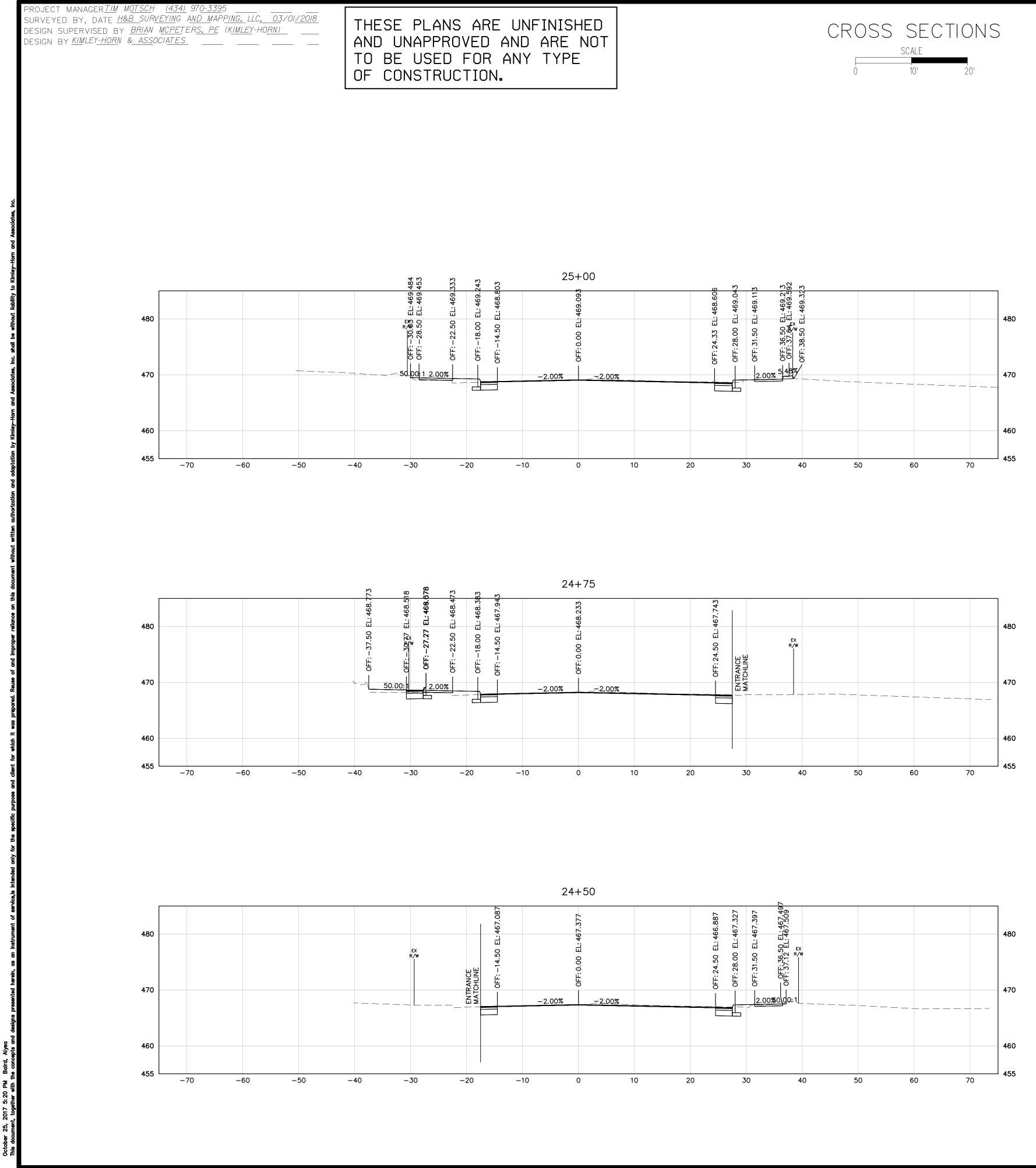
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9TH STREET E HIGH STREET LEXINGTON AVENUE

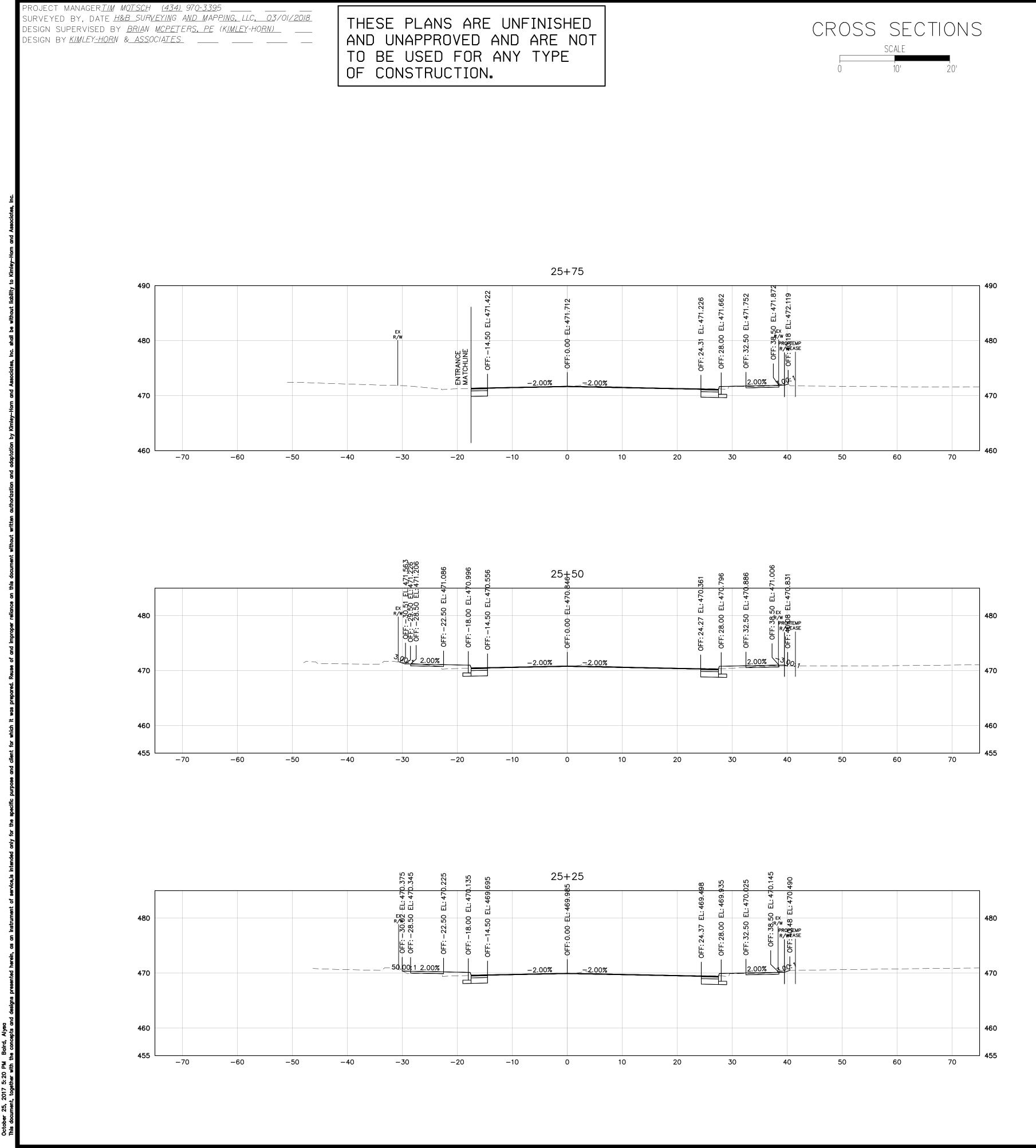
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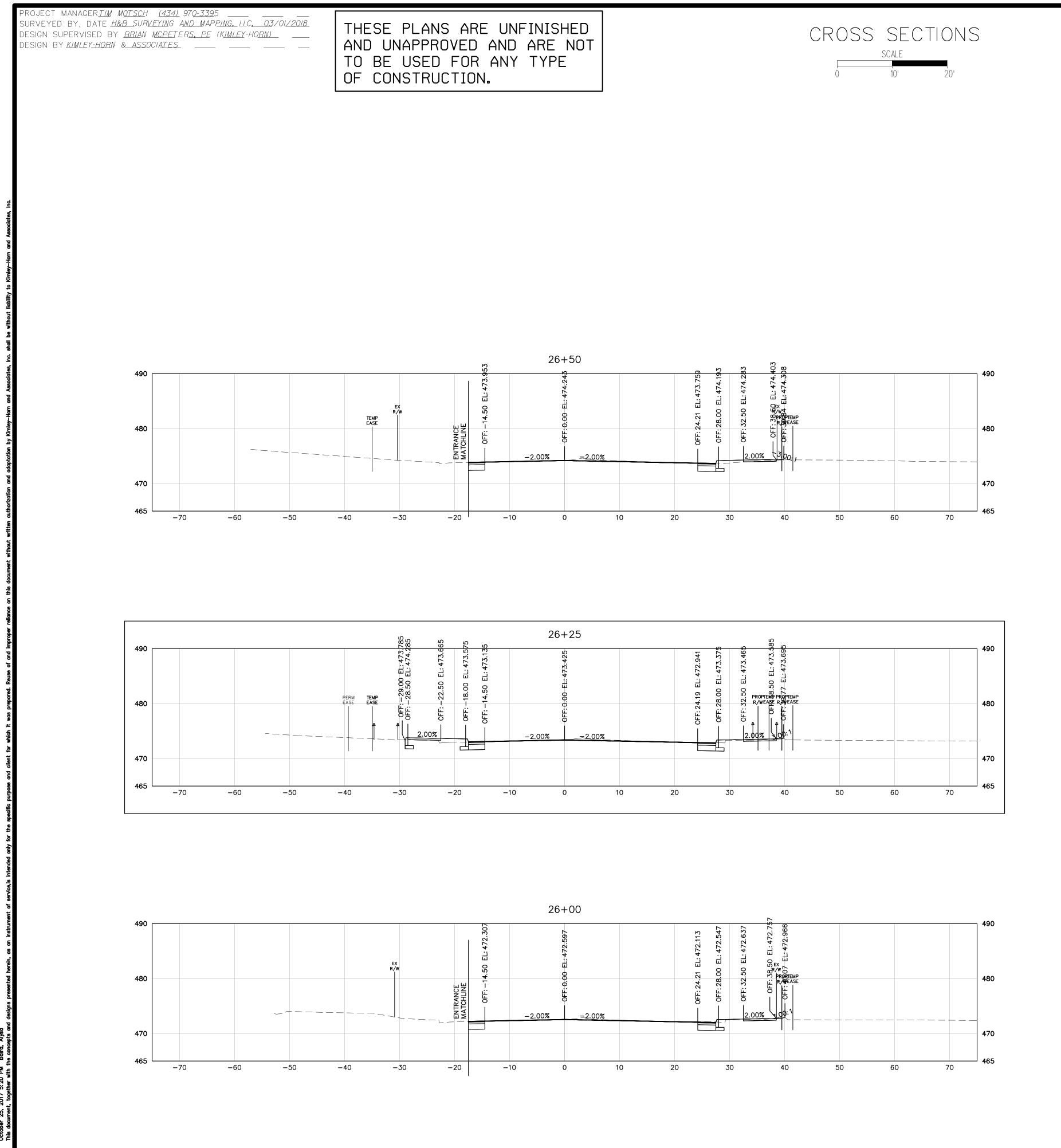
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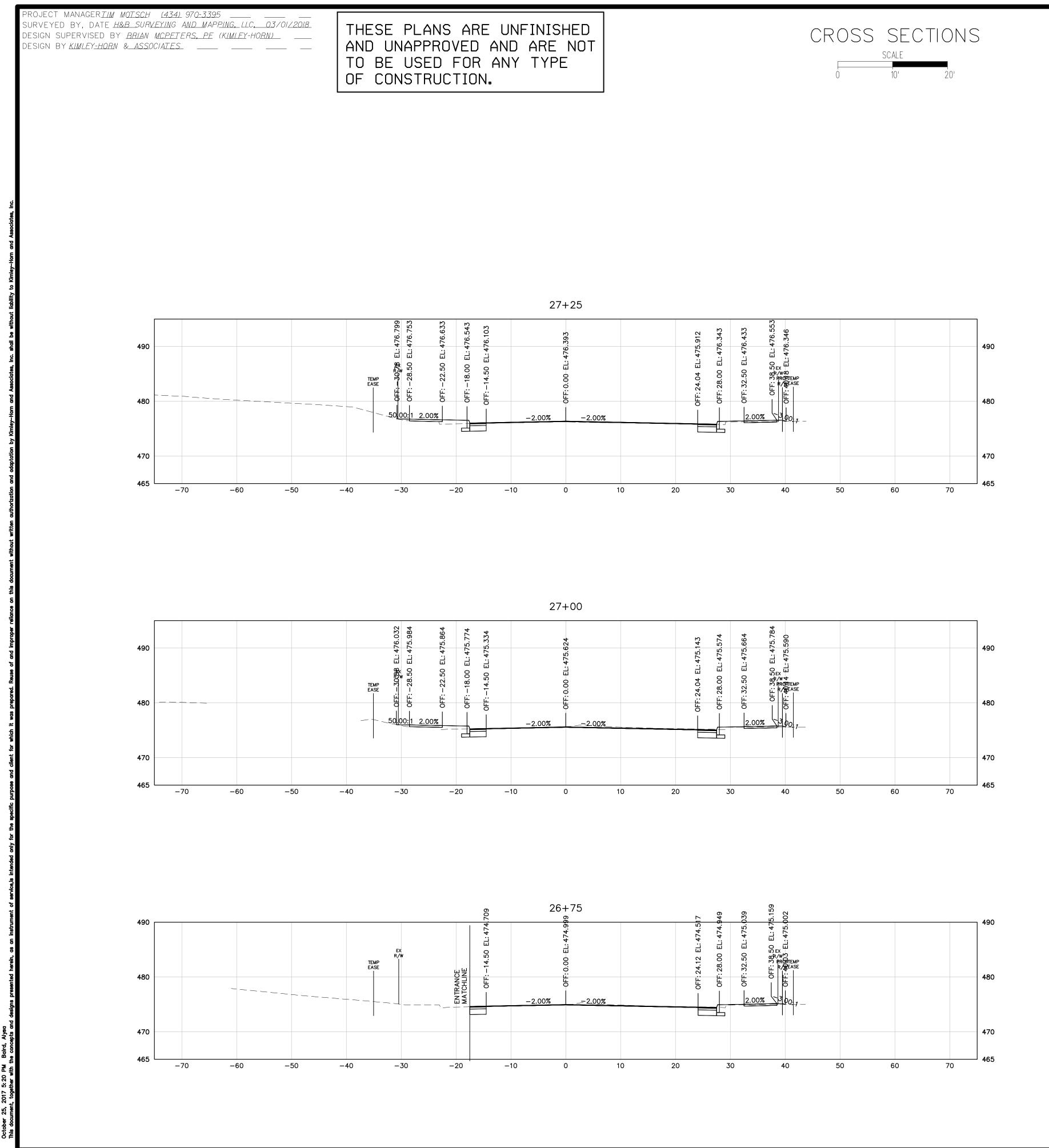
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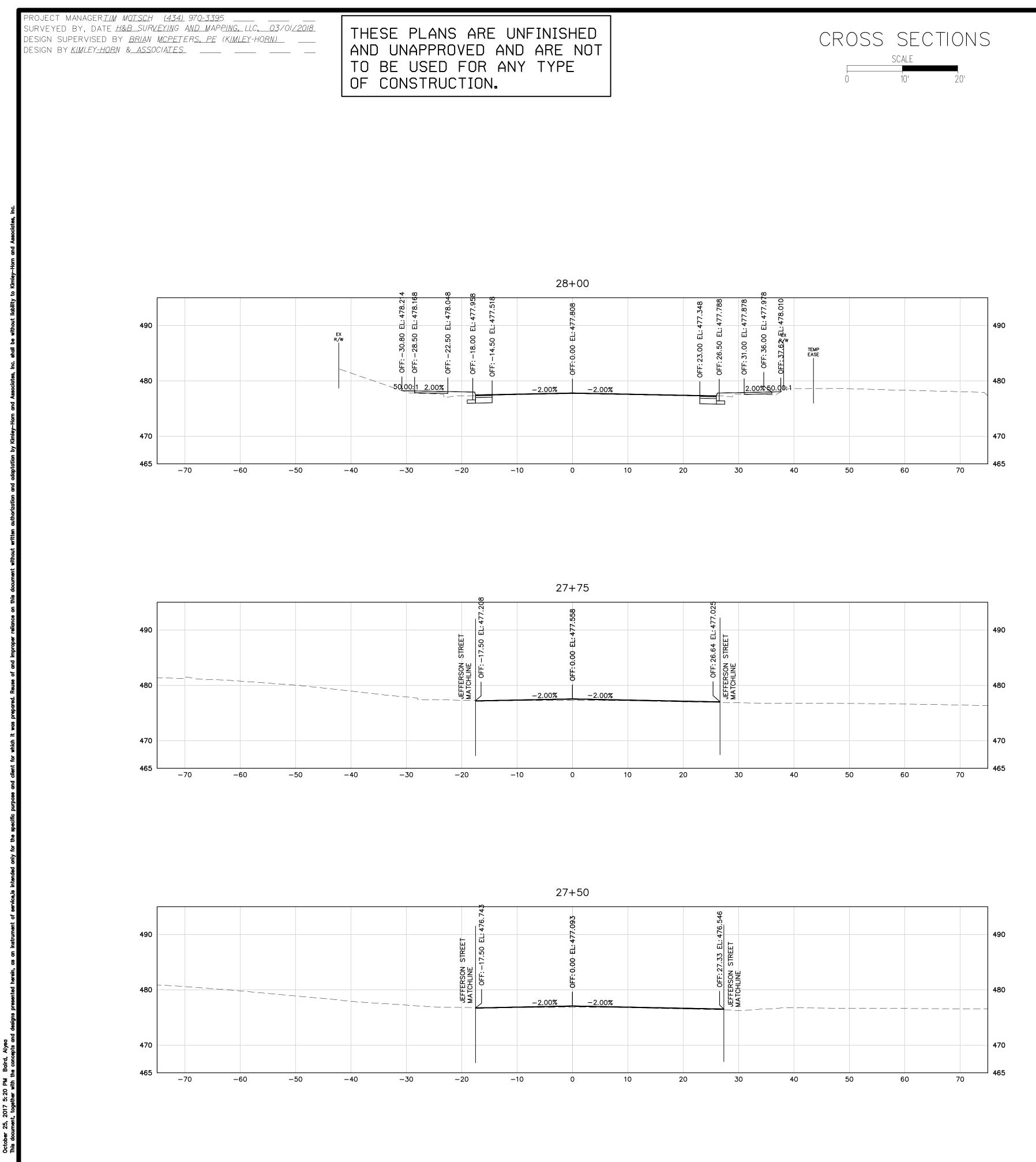
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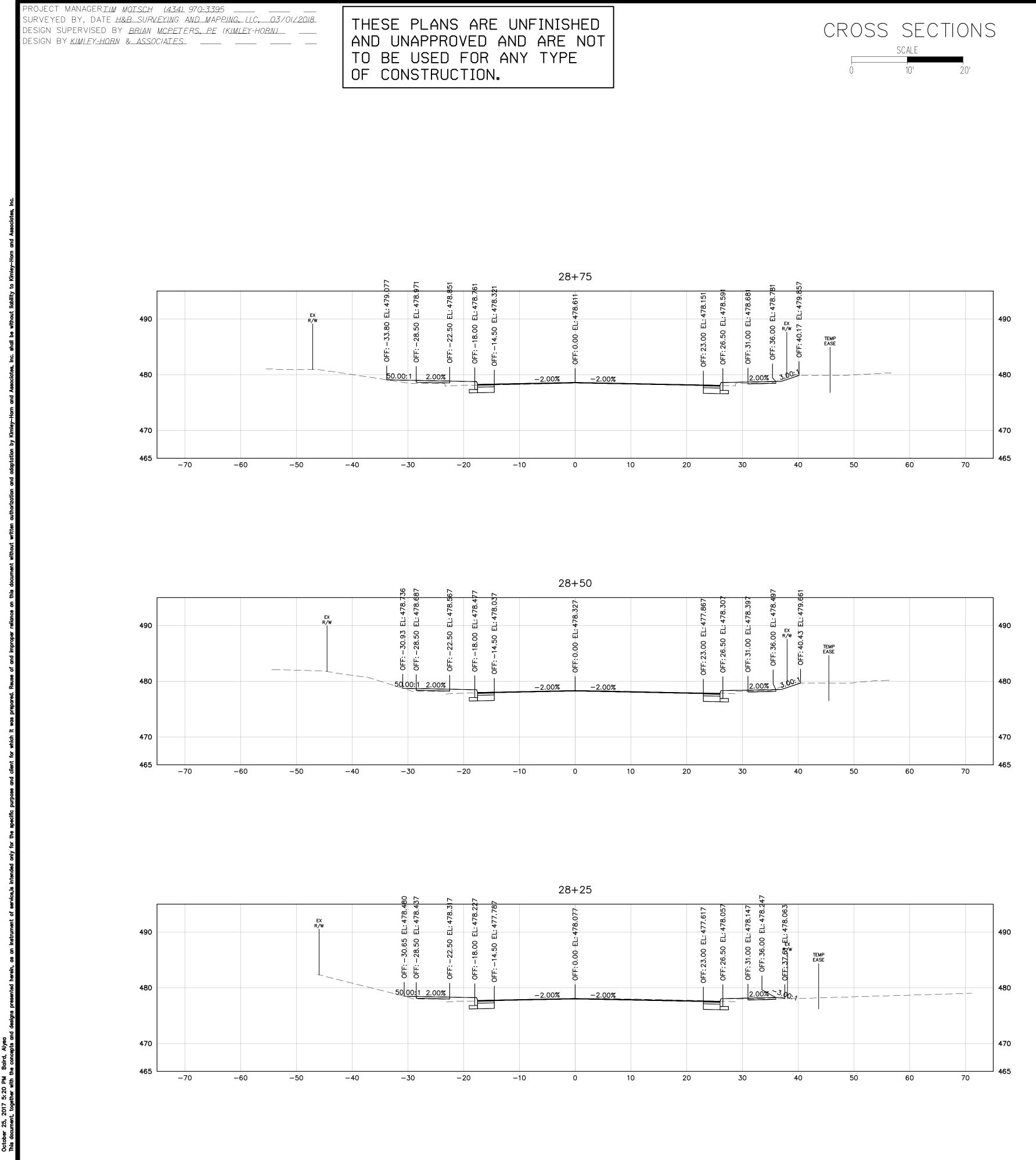
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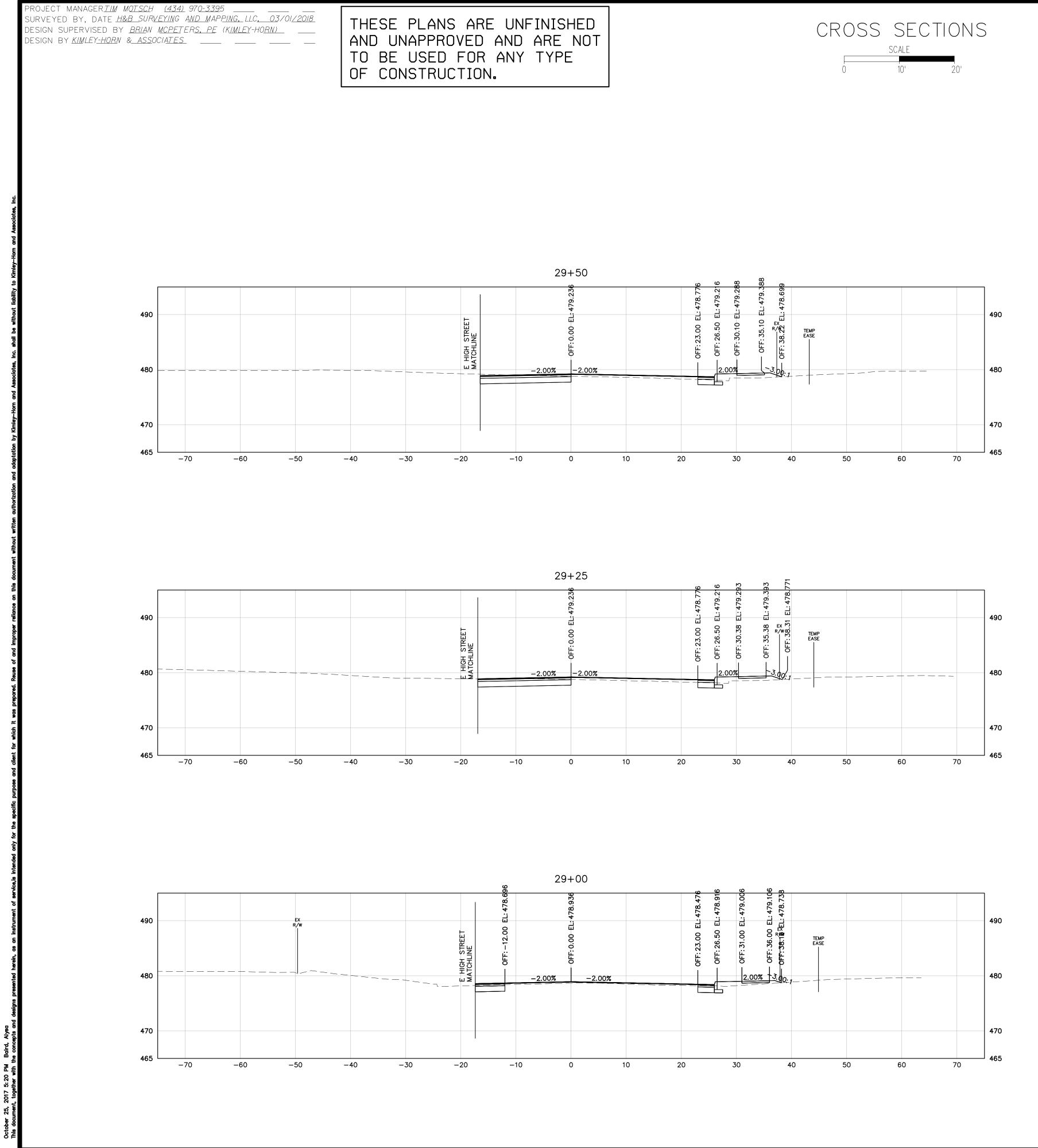
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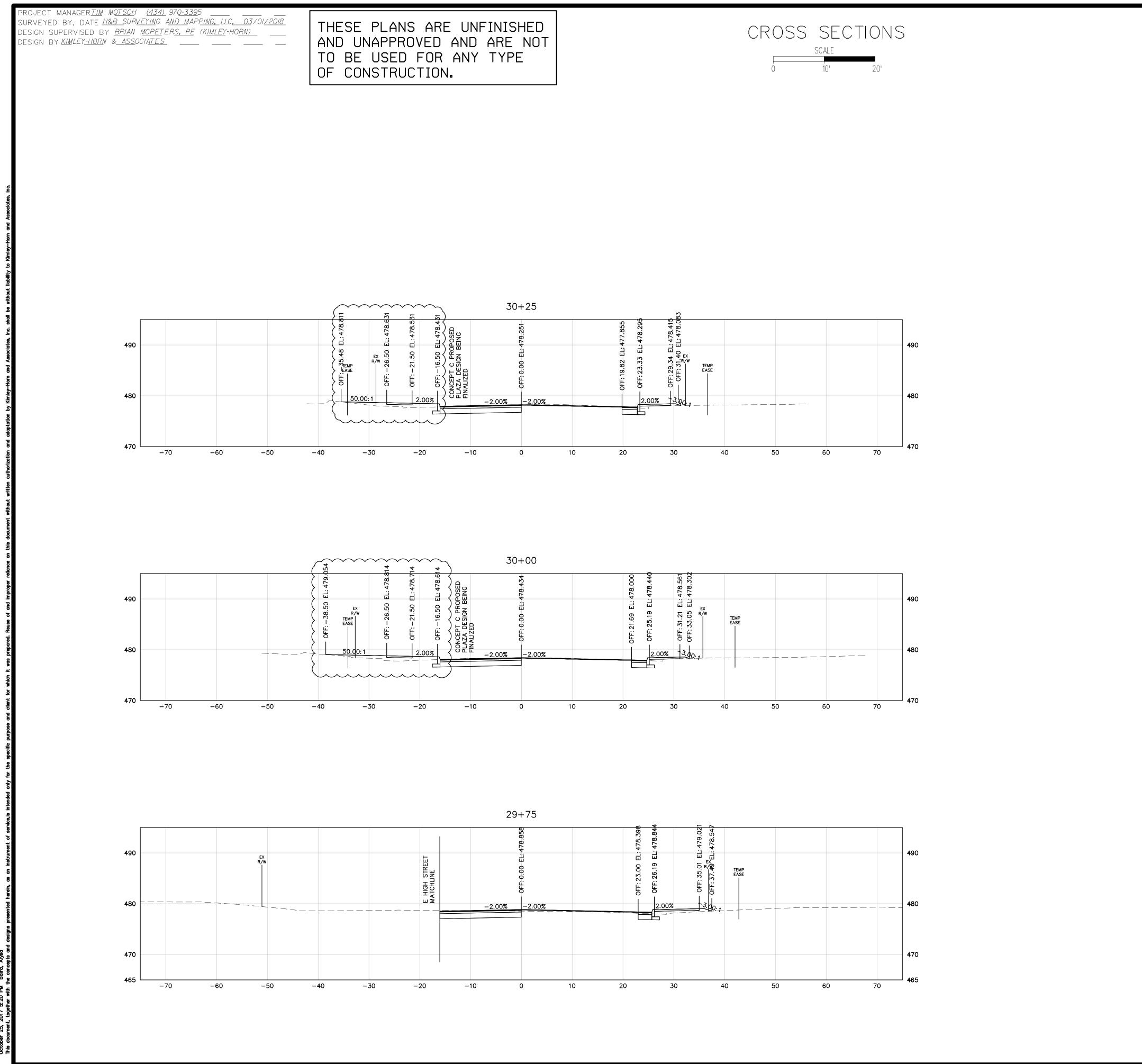
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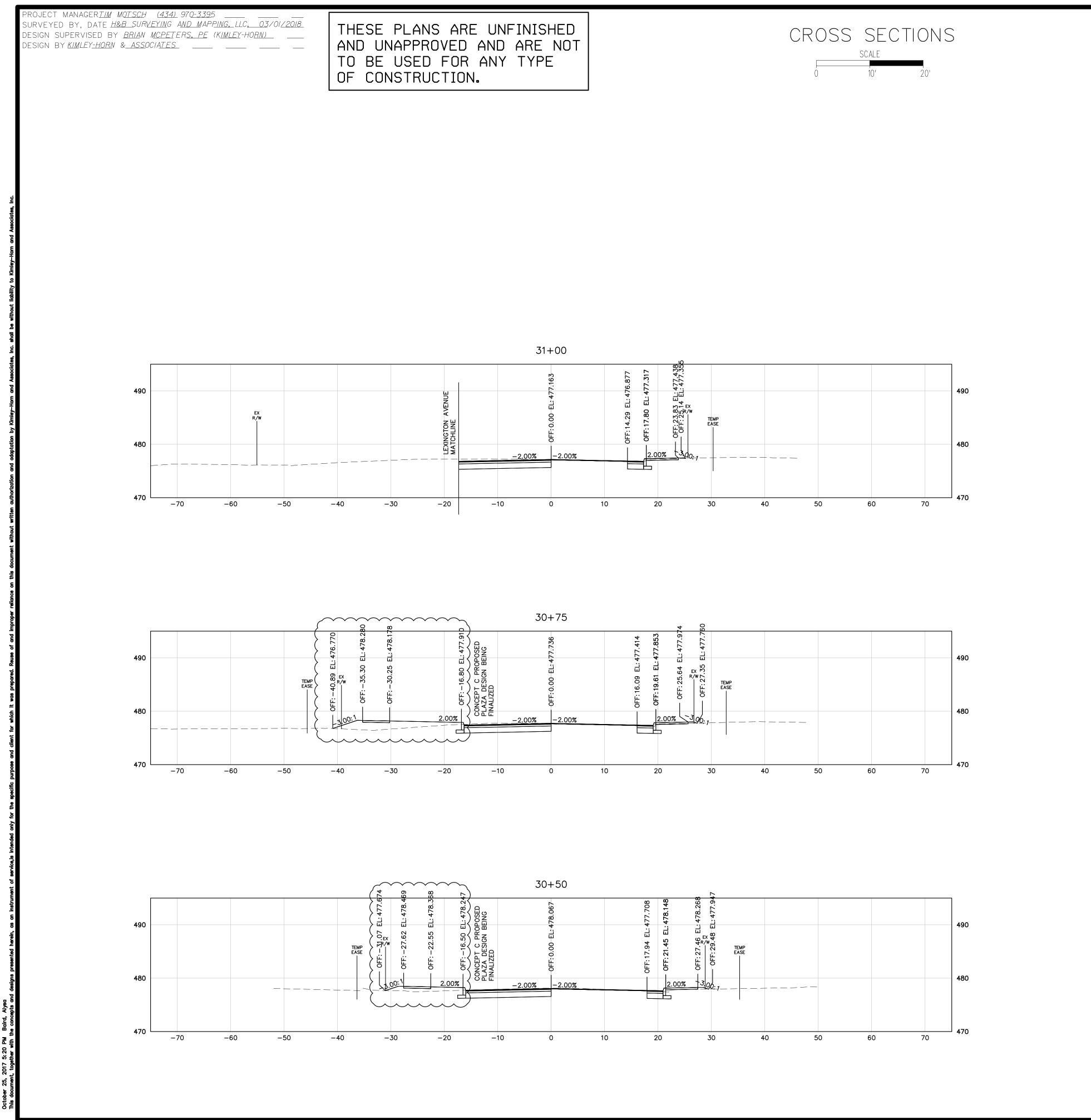
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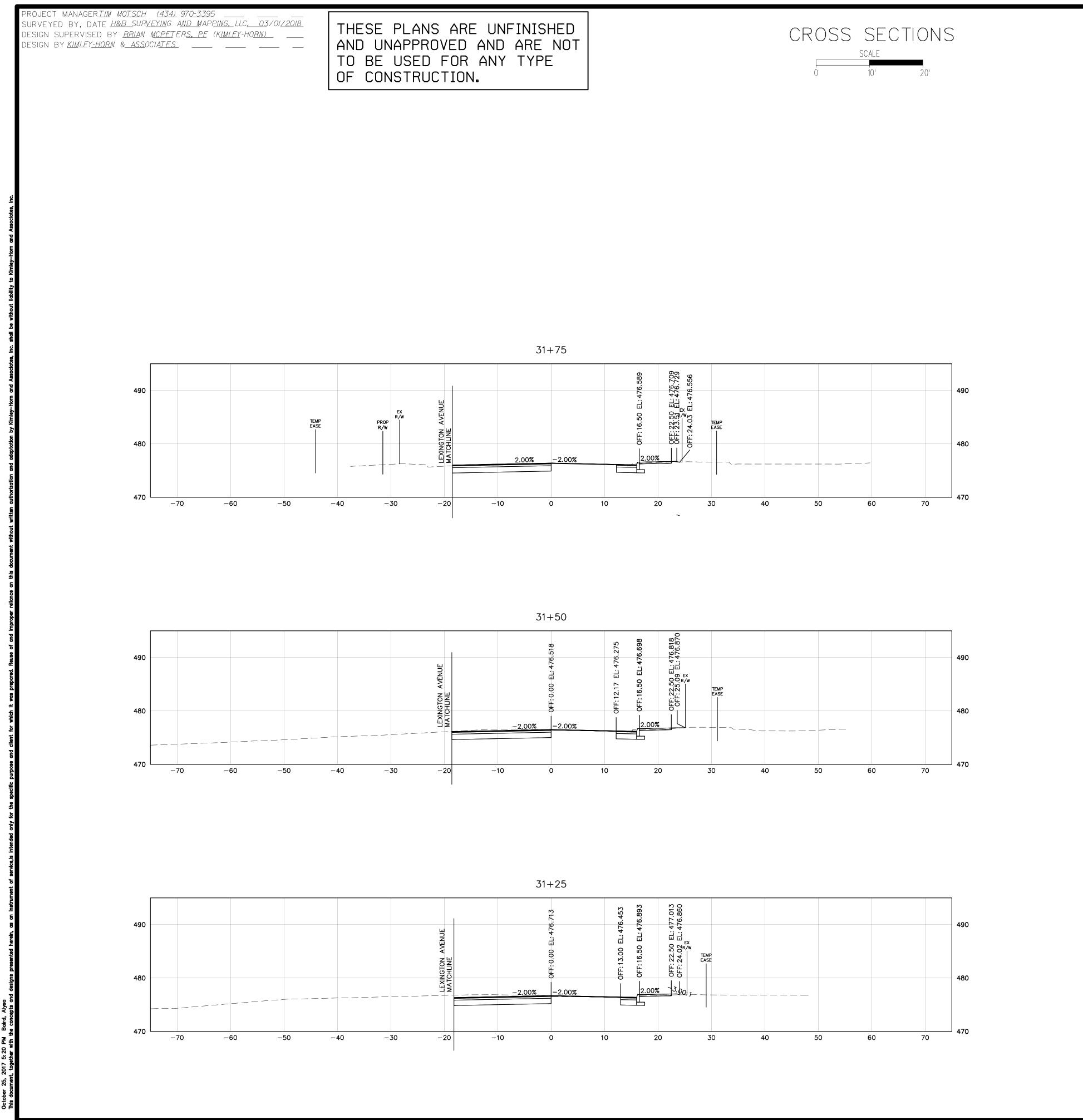
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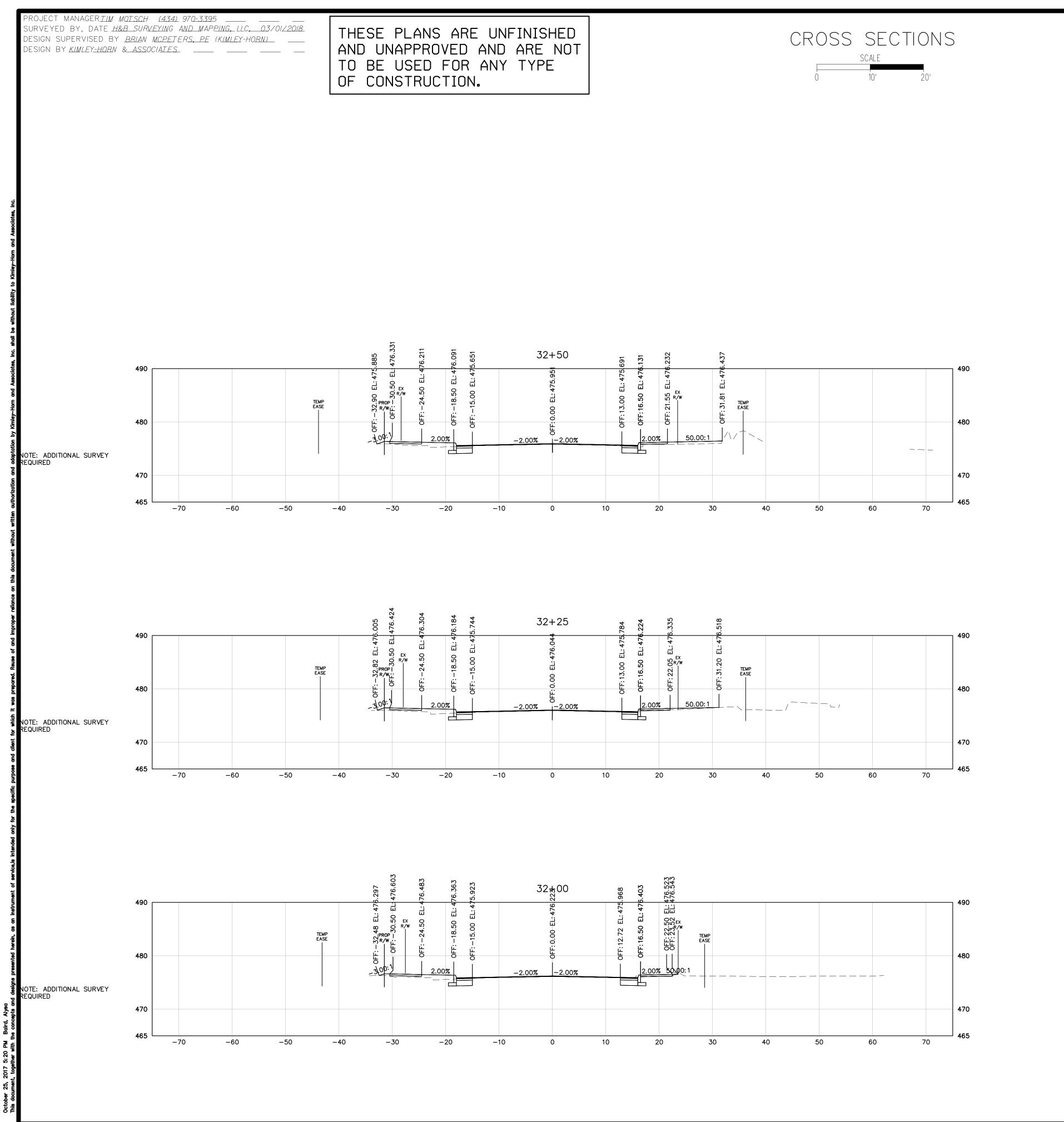
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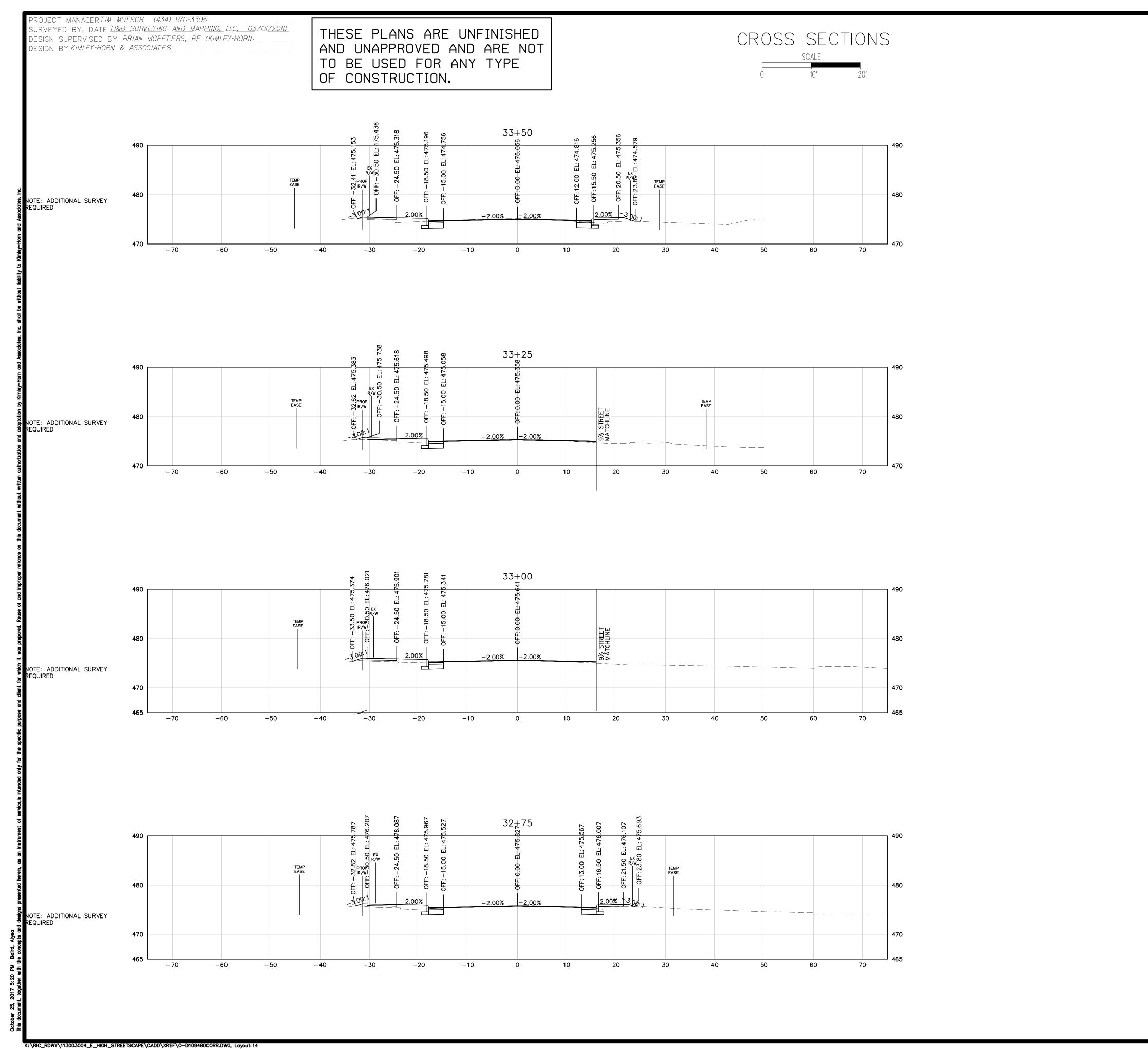


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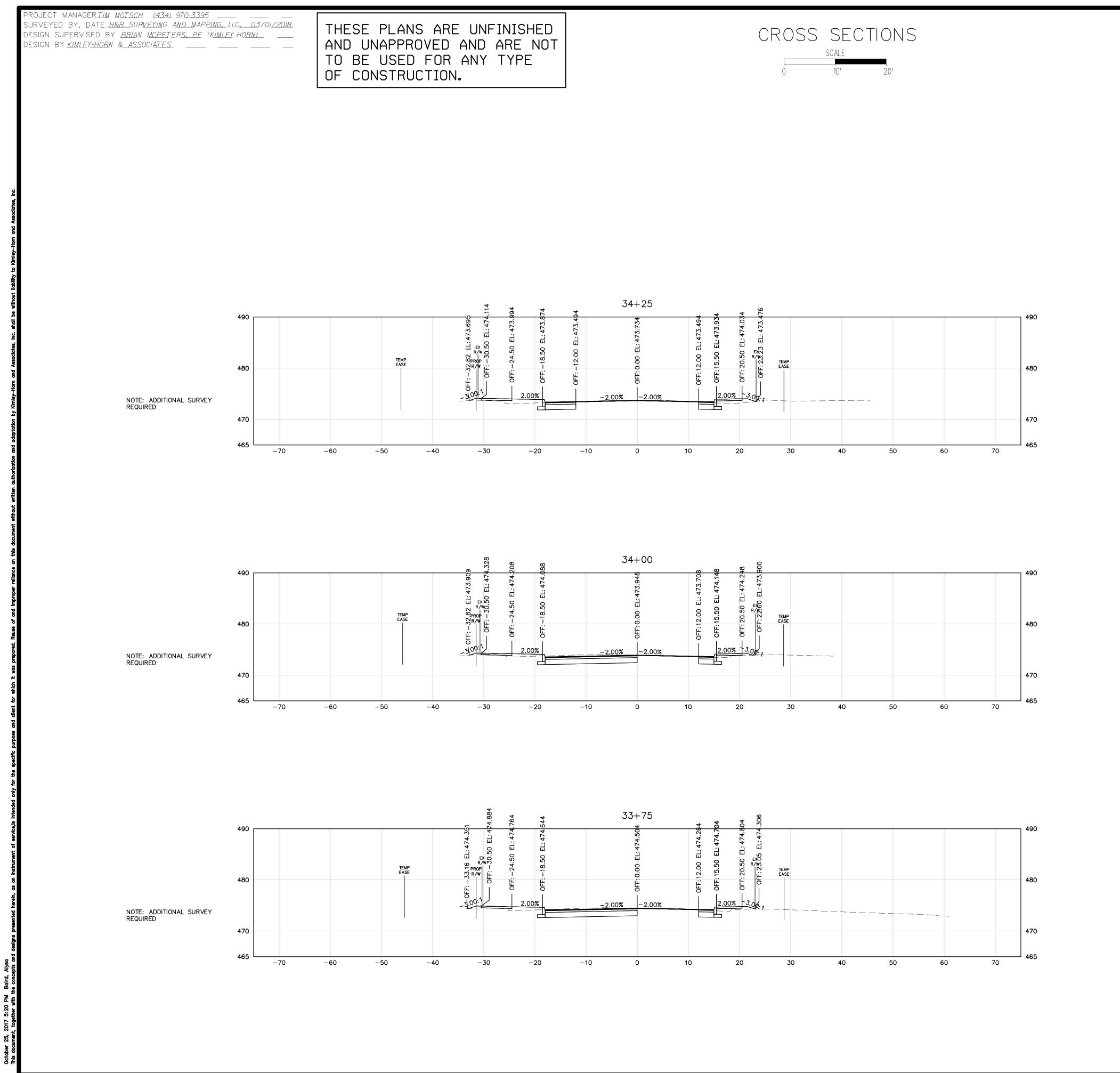


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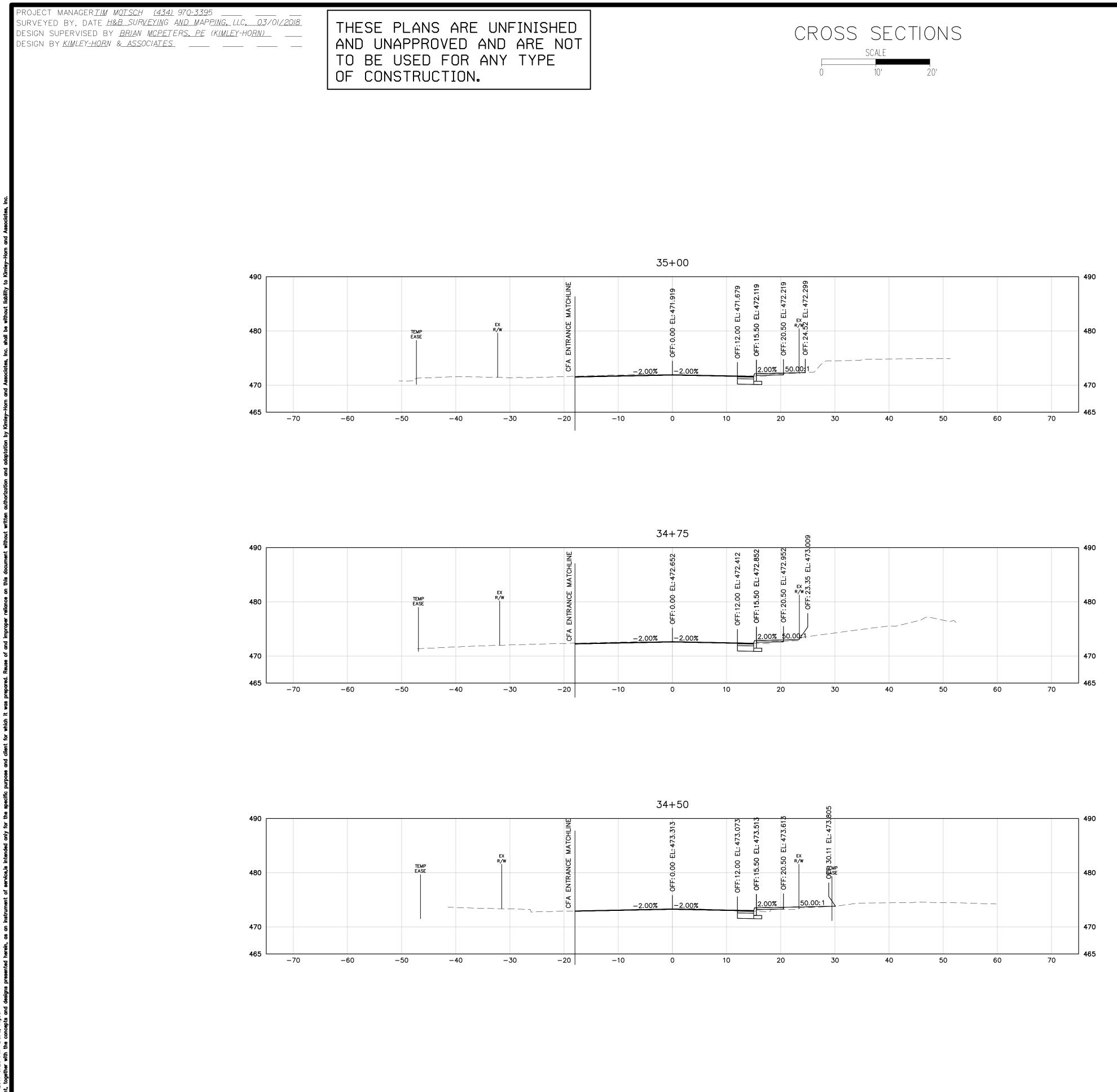
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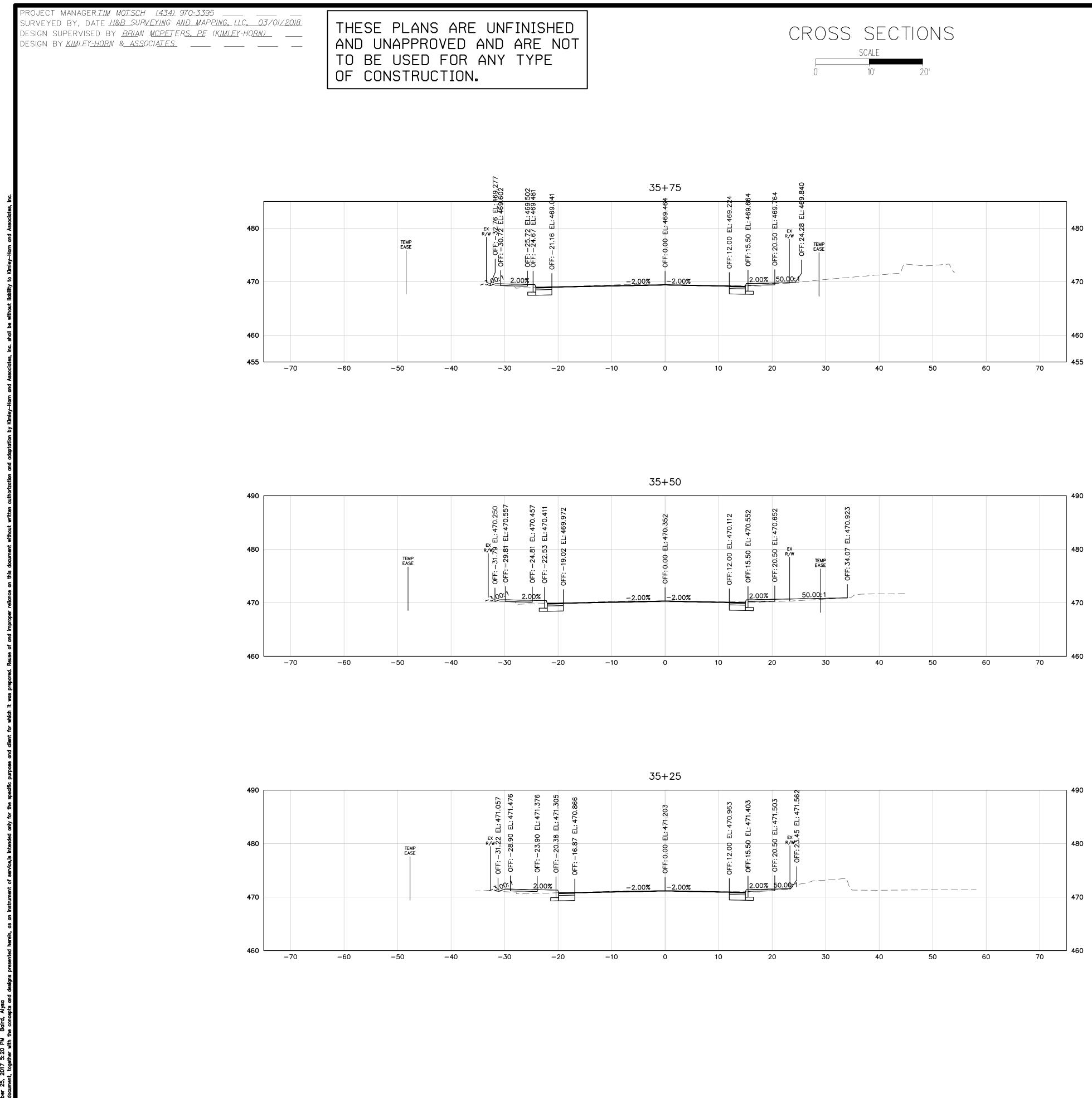
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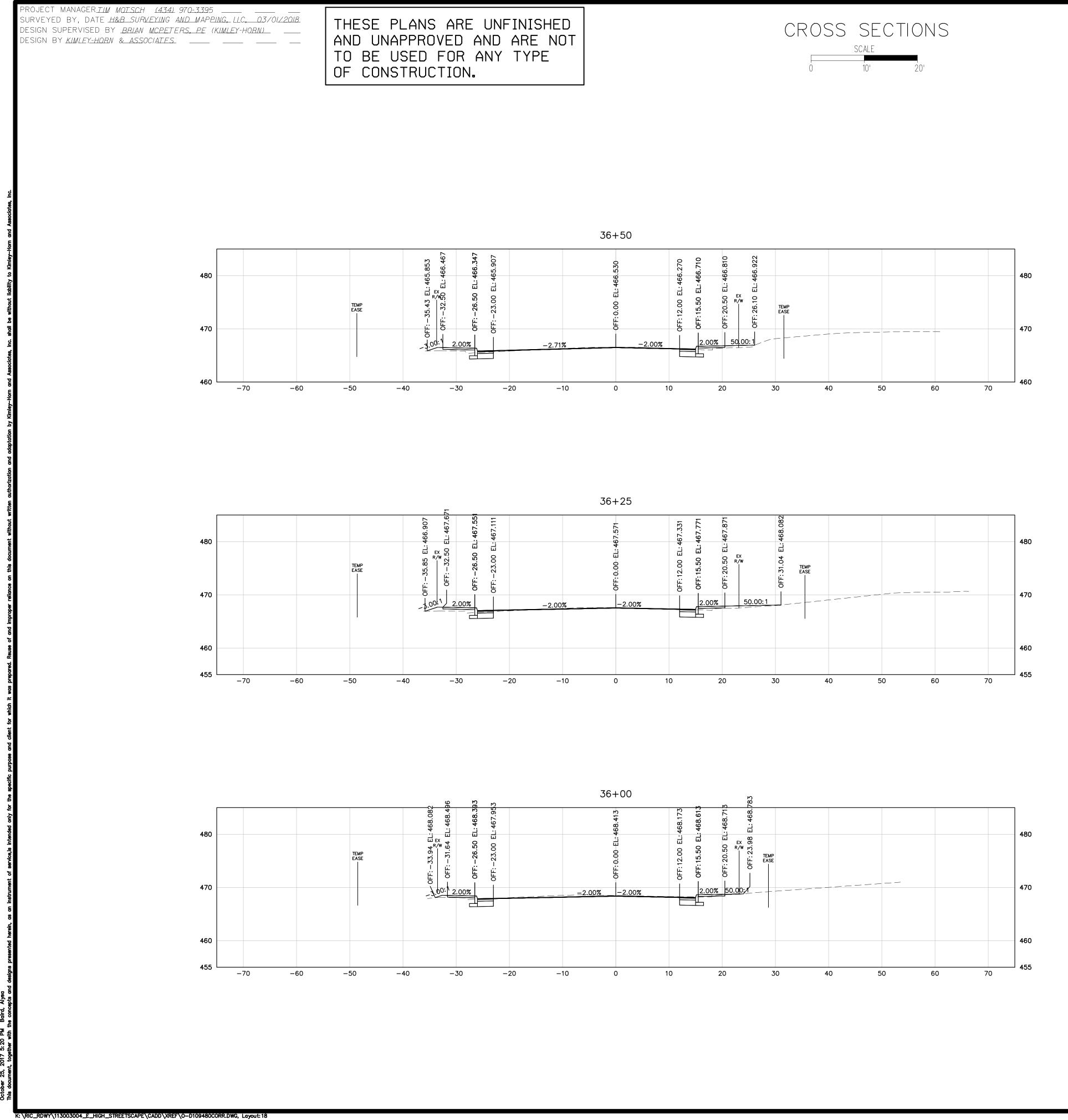


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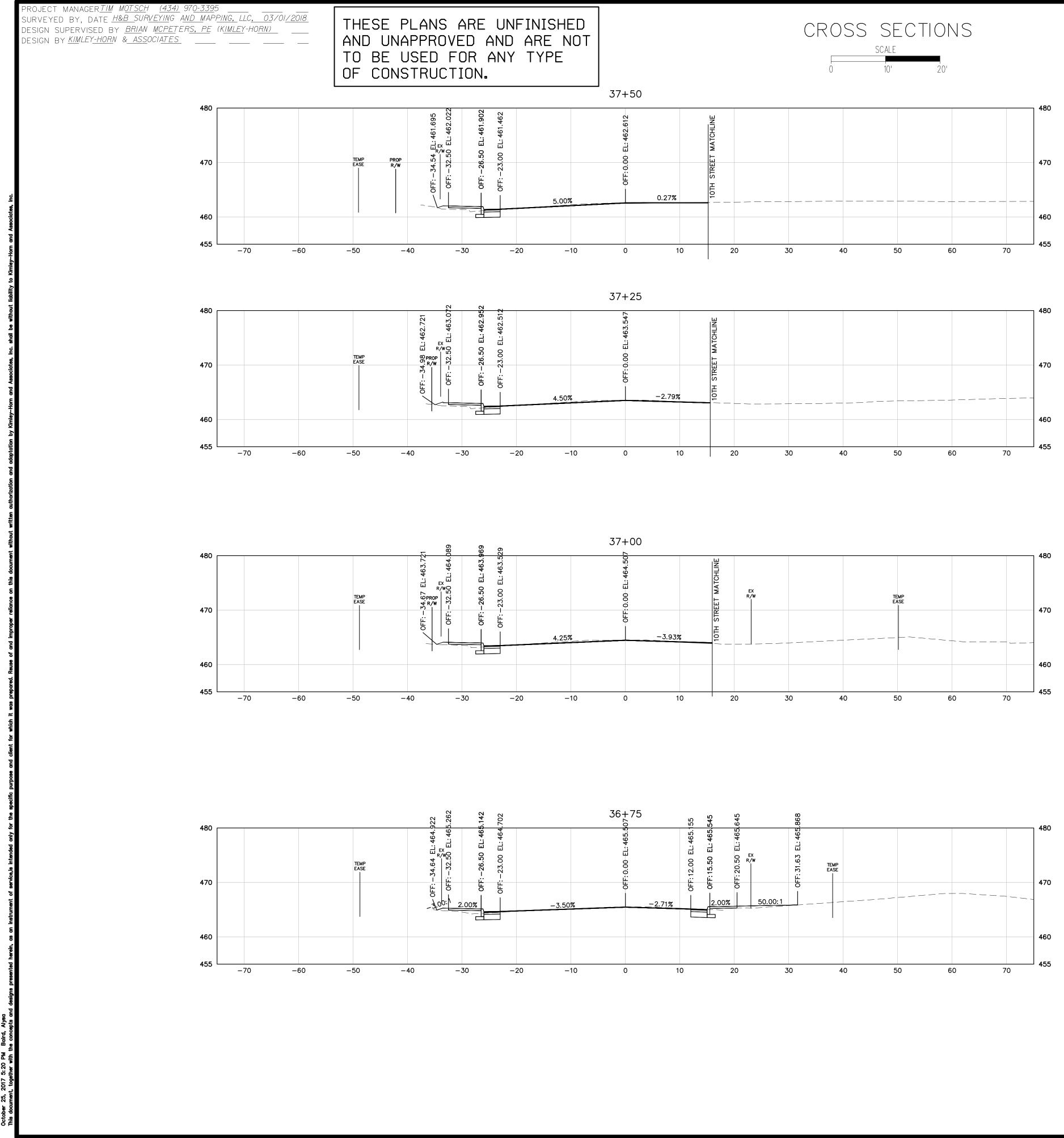


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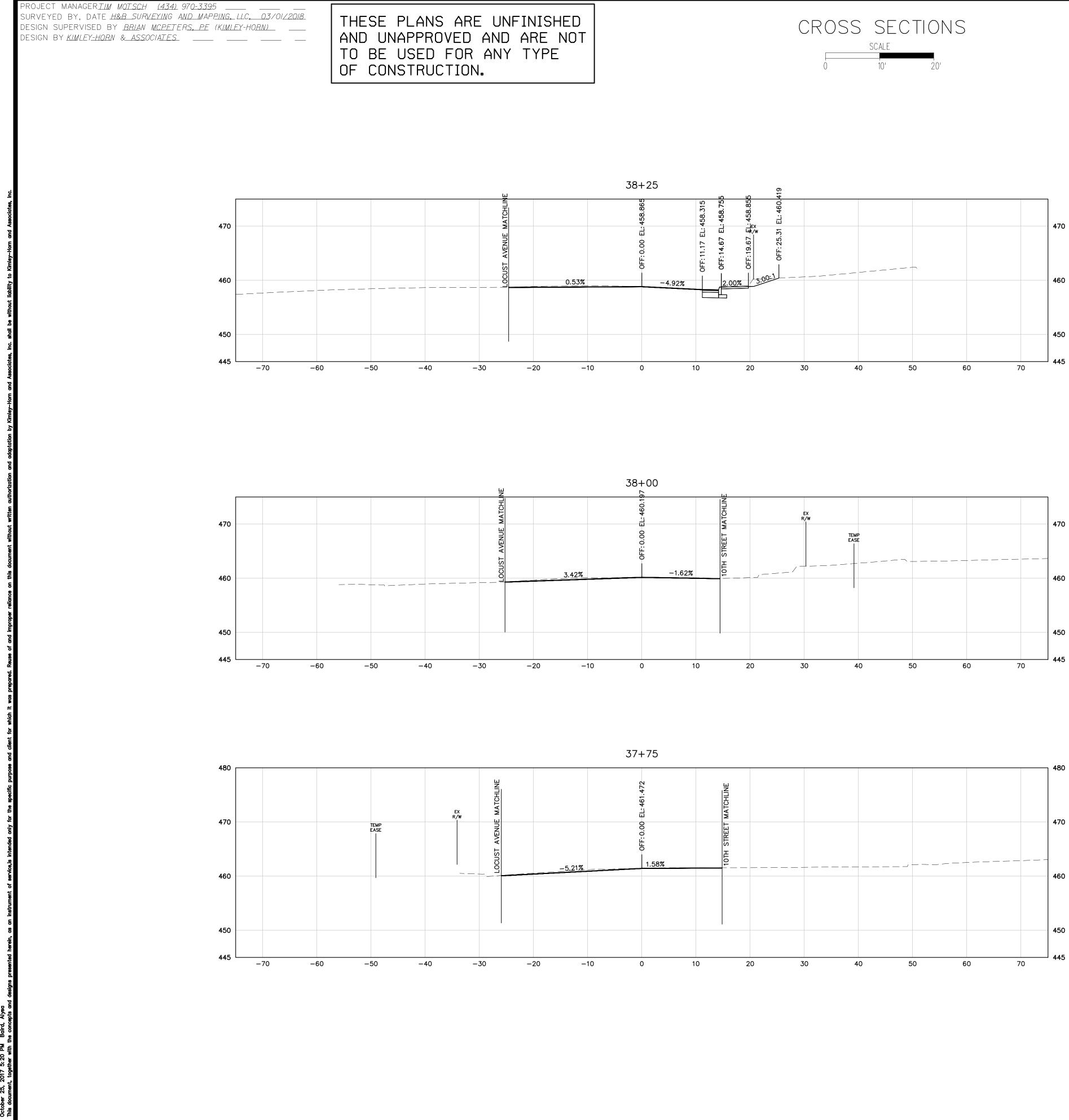
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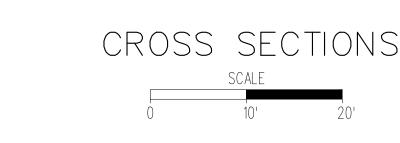


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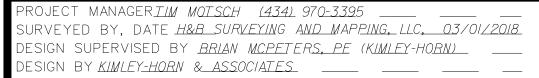


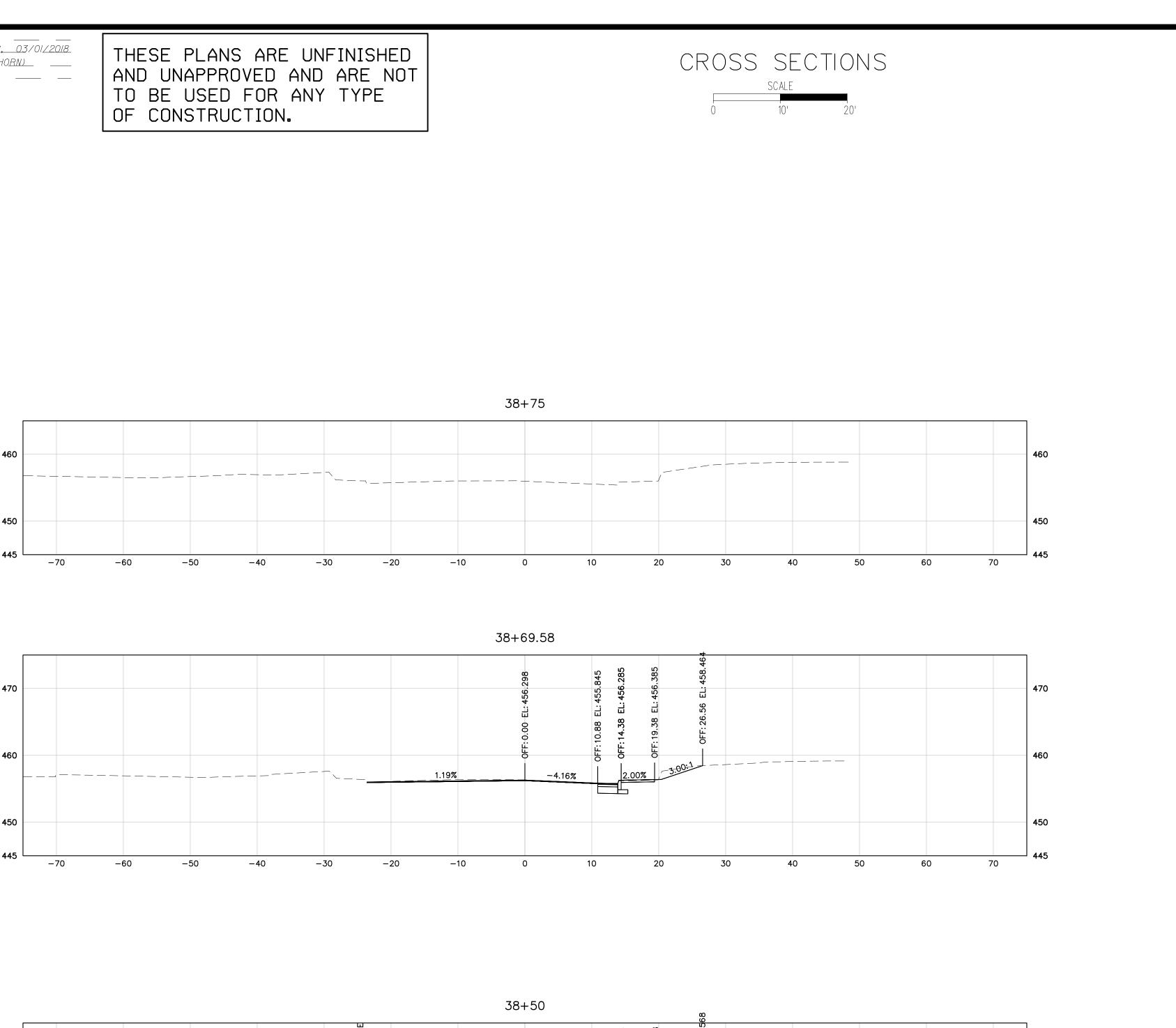
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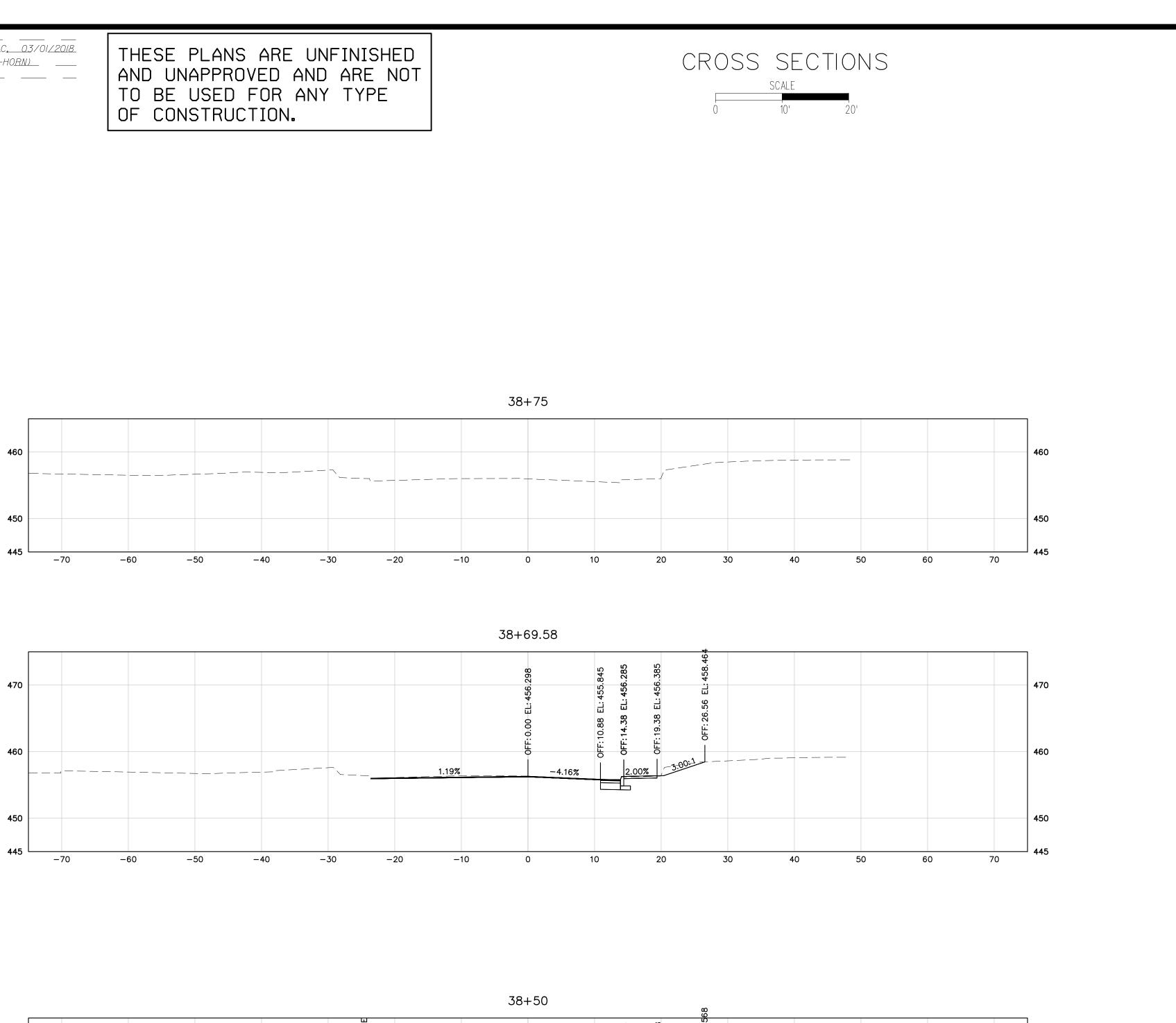


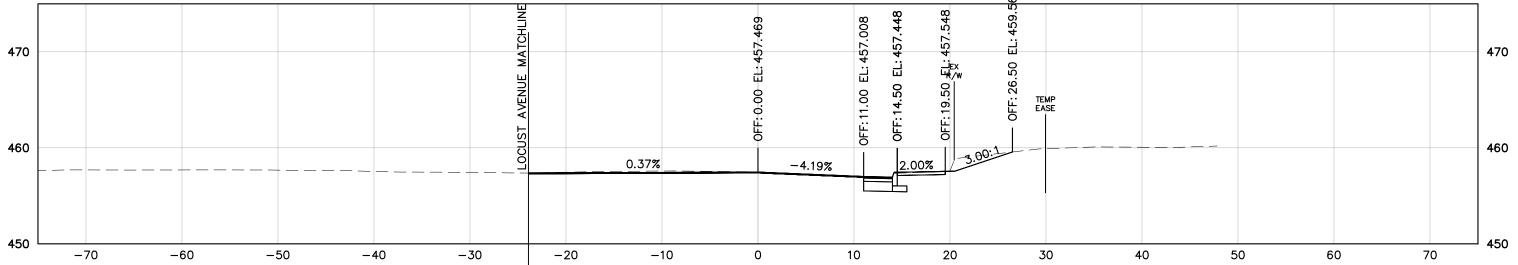


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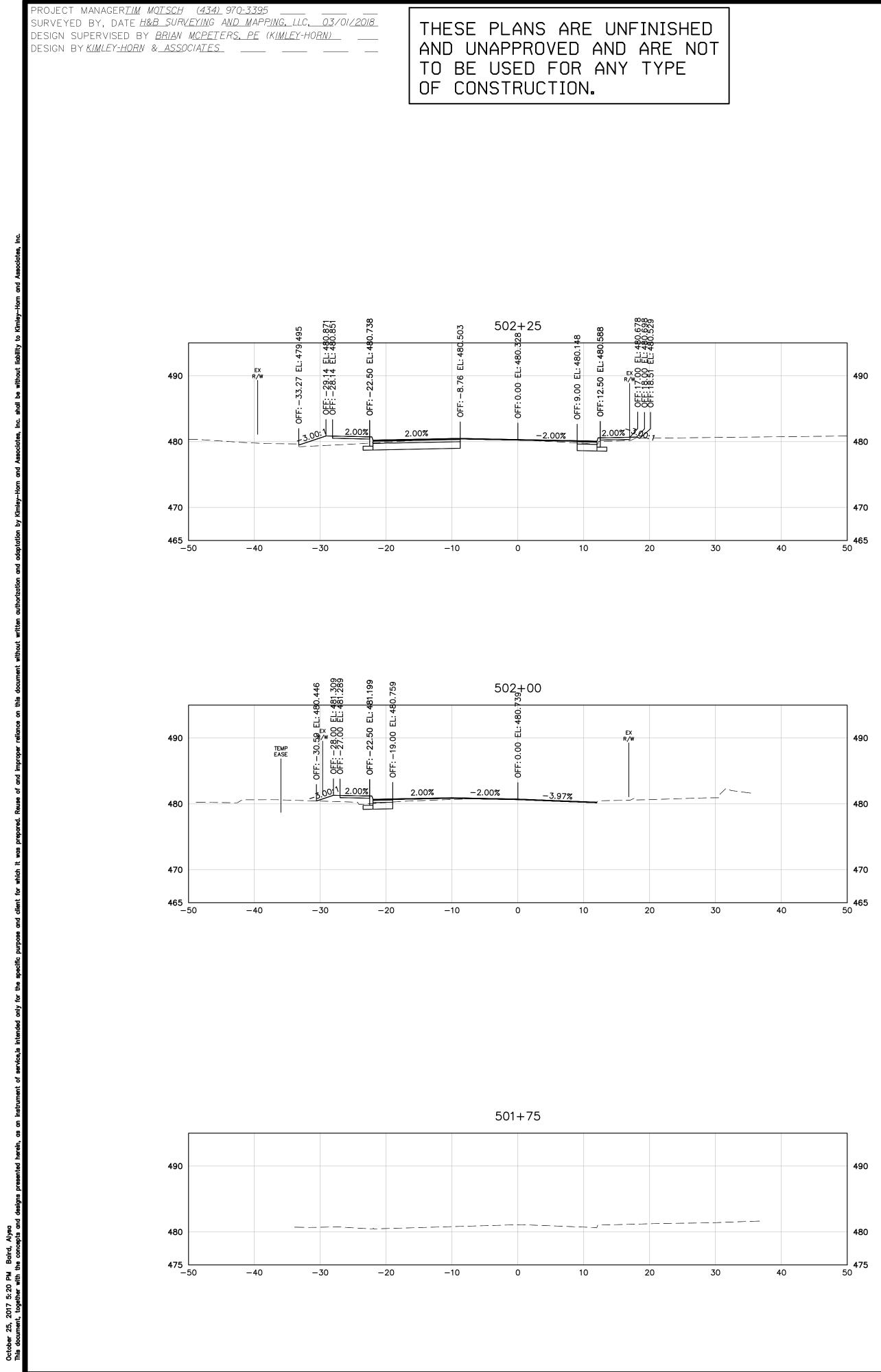




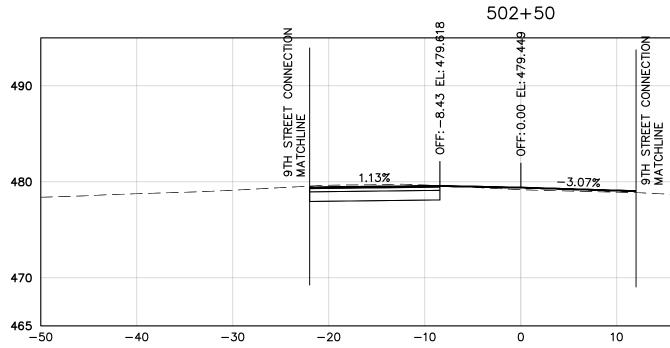




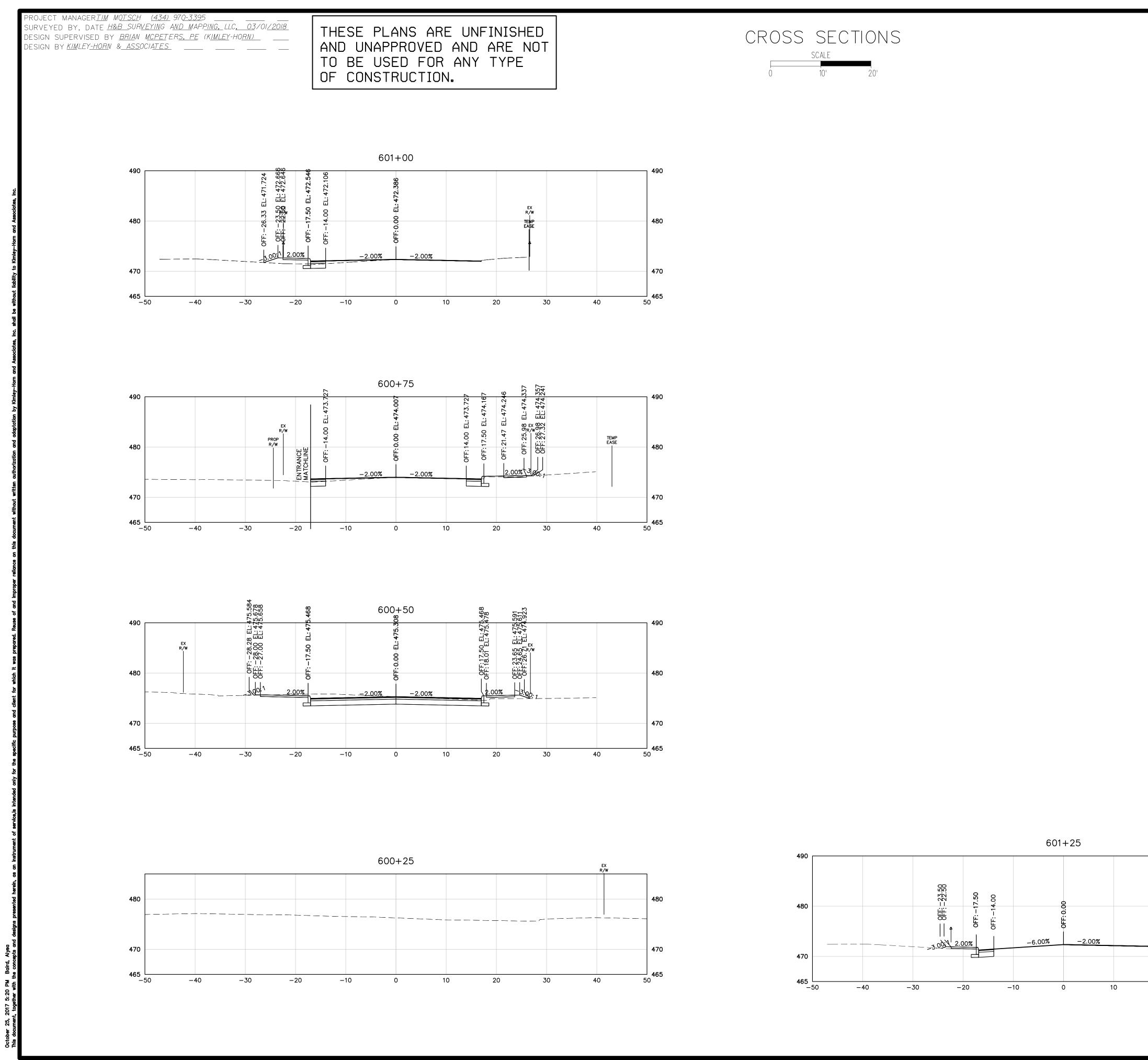
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# CROSS SECTIONS SCALE



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