



**STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
REGION 3 PROJECT DEVELOPMENT  
6601 CENTENNIAL BLVD.  
NASHVILLE, TN 37243-0360  
(615) 350-4250**

**JOHN C. SCHROER**  
COMMISSIONER

**BILL HASLAM**  
GOVERNOR

**MEMORANDUM**

**TO:** Director, Right-of-Way Division

**FROM:** Aso Hawrami, Civil Engineering Manager 1

**DATE:** December 4, 2017

**SUBJECT:** Project No. HSIP- I-440 - 4(80); 19014-1161-94  
PIN 119735.00  
Davidson County  
I-440 Interchange at Murphy Rd - Exit 1, Eastbound Ramp

The subject project is being submitted for (Utilities Only) plans submittal. The following information is being forwarded for plans distribution:

Plans have been placed on FileNet: PDF Filename: 119735-00-ROW.pdf  
EXE Filename: 119735-00-ROW.zip  
Added On Date: 12-04-2017

Preliminary Estimate Emailed Date: 12-04-2017

Comments: Final ROW (Utilites Only) Submittal

For further information, please contact Aso Hawrami, Phone: (615)350- 4384,  
Email:Aso.Hawrami@tn.gov.

**cc:** Program Development & Scheduling Office  
Program Operations Office  
Environmental Division  
Structures Division  
Region 3 Right-of-Way Office

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# STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION BUREAU OF ENGINEERING

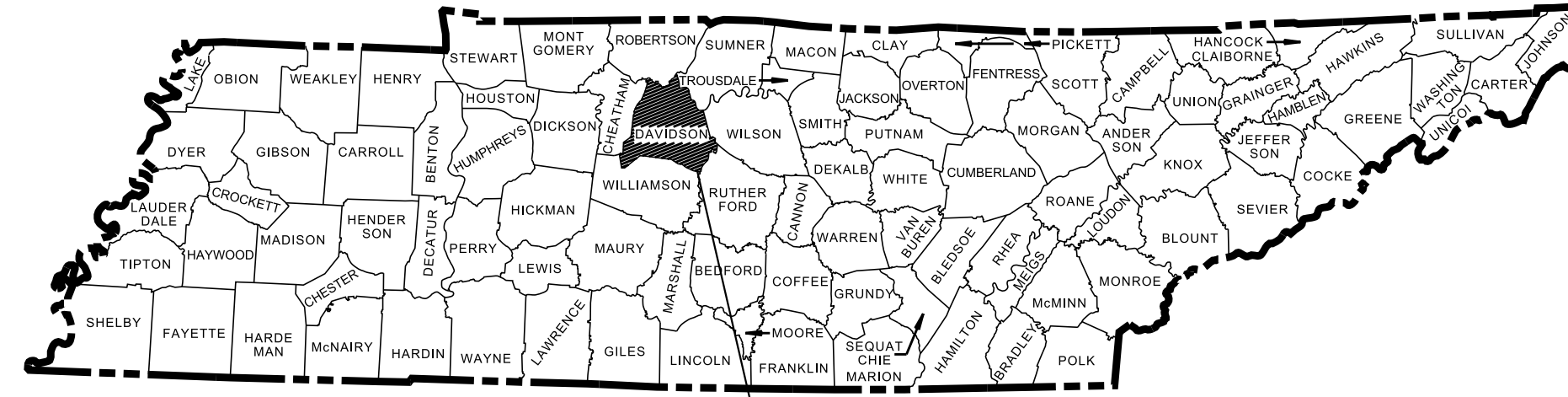
## DAVIDSON COUNTY

I - 440 INTERCHANGE AT MURPHY ROAD  
EXIT 1, EASTBOUND RAMP (RAMP QUEUE PROJECT)

RIGHT-OF-WAY (UTILITIES ONLY)

STATE HIGHWAY NO. I - 440 F.A.H.S. NO. I - 440

TENN.	YEAR	SHEET NO.
	2017	1
FED. AID PROJ. NO.	HSIP - I - 440 - 4(80)	
STATE PROJ. NO.	19014-1161-94	



PROJECT NO, HSIP - I - 440 - 4(80) (R.O.W.)  
DAVIDSON COUNTY

19014-1161-94  
BEGIN PROJECT NO. HSIP - I - 440 - 4(80) (R.O.W.)  
STA. 17+33.84  
N 659052.2025 E 1725485.6113

19014-1161-94  
END PROJECT NO. HSIP - I - 440 - 4(80) (R.O.W.)  
STA. 21+66.27  
N 658622.8594 E 1725435.0298



SCALE: 1"= 1 MILE

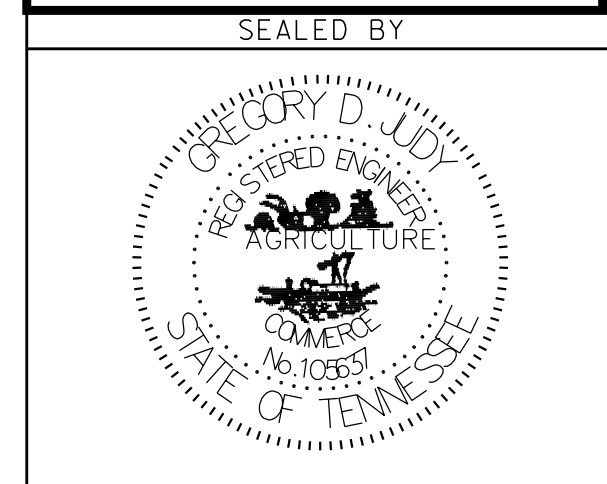
R.O.W. PROJECT LENGTH 0.00 MILES

NO EXCLUSIONS  
NO EQUATIONS

RSAR PROJECT -  
PROJECT OF LIMITED SCOPE

NO R.O.W. ACQUISITION  
REQUIRED ON THIS PROJECT

R.O.W.  
PLANS  
(UTILITIES ONLY)



APPROVED: *Paul D. Deggs*  
PAUL D. DEGGS, CHIEF ENGINEER

DATE: \_\_\_\_\_

APPROVED: *John Schroer*  
JOHN SCHROER, COMMISSIONER

### SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2015 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT C.E. MANAGER 1 : ASO HAWRAMI, P.E.  
DESIGNED BY : NEEL-SCHAFFER, INC.  
DESIGNER : GREGORY JUDY, P.E. CHECKED BY BARRY ALEXANDER, P.E.  
P.E. NO. 19014-1161-94 (DESIGN)  
PIN NO. 119735.00

SURVEY 4-29-2016	TRAFFIC DATA
	ADT (2018) 15,760
	ADT (2038) 19,540
	DHV (2038) 2,124
	D 65 - 35
	T (ADT) 1 %
	T (DHV) 1 %
	V 35 MPH

COORDINATE VALUES ARE NAD/83 (1995), AND ARE DATUM ADJUSTED BY THE FACTOR OF 1.00006, AND ARE TIED TO THE TENNESSEE GEODETIC REFERENCE NETWORK. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
APPROVED: \_\_\_\_\_  
DIVISION ADMINISTRATOR DATE

12/4/2017 6:35:21 PM N:\12862 - TDOT Traffic\007 1440 at Murphy\tdgn\001.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1440-4(80)	1A

**PROJECT COMMITMENTS**

COMMITMENT ID	SOURCE DIVISON	DESCRIPTION	STA. / LOCATION
EDPL001	ENVIRONMENTAL DIVISION, Planning	A portion of the proposed I-440 Greenway will cross Murphy Road just west of the I-440 eastbound exit ramp (Exit 1). If it necessary to close the greenway as part of the ramp queue project, the TDOT Contractor would notify Metropolitan Nashville and Davidson County's Parks and Recreation Department regarding any temporary closures to the I-440 Greenway. If construction of the greenway is complete at the time of construction work on the ramp queue project, the Contractor shall be responsible for installing and removing greenway closure signs at each trail-head and along the greenway. Once any construction activities around the greenway are completed, the TDOT Contractor shall restore the area to pre-construction conditions.	A portion of the proposed I-440 Greenway will cross Murphy Road just west of the I-440 eastbound exit ramp (Exit 1)

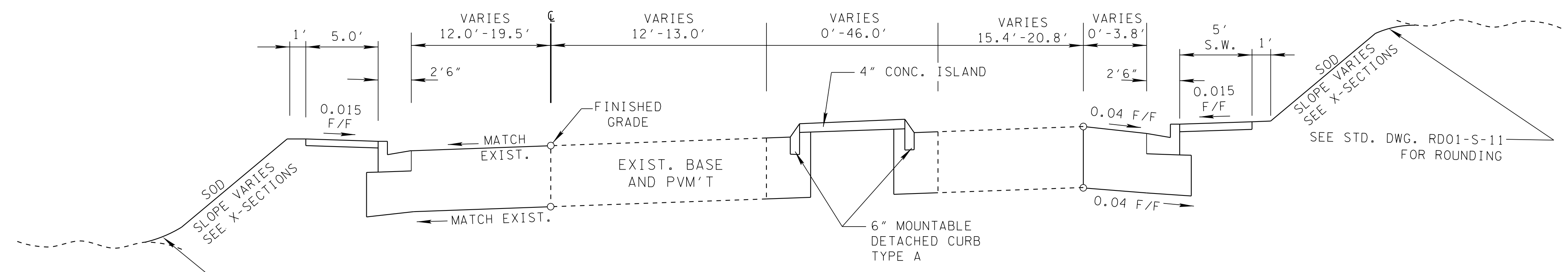
**R.O.W.  
PLANS  
(UTILITIES ONLY)**

SEALED BY

**STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION**

**PROJECT  
COMMITMENTS**

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1440-4(80)	2



**TANGENT SECTION**

(BASED ON STD. DWG. RD01-TS-4 & RD01-TS-6)

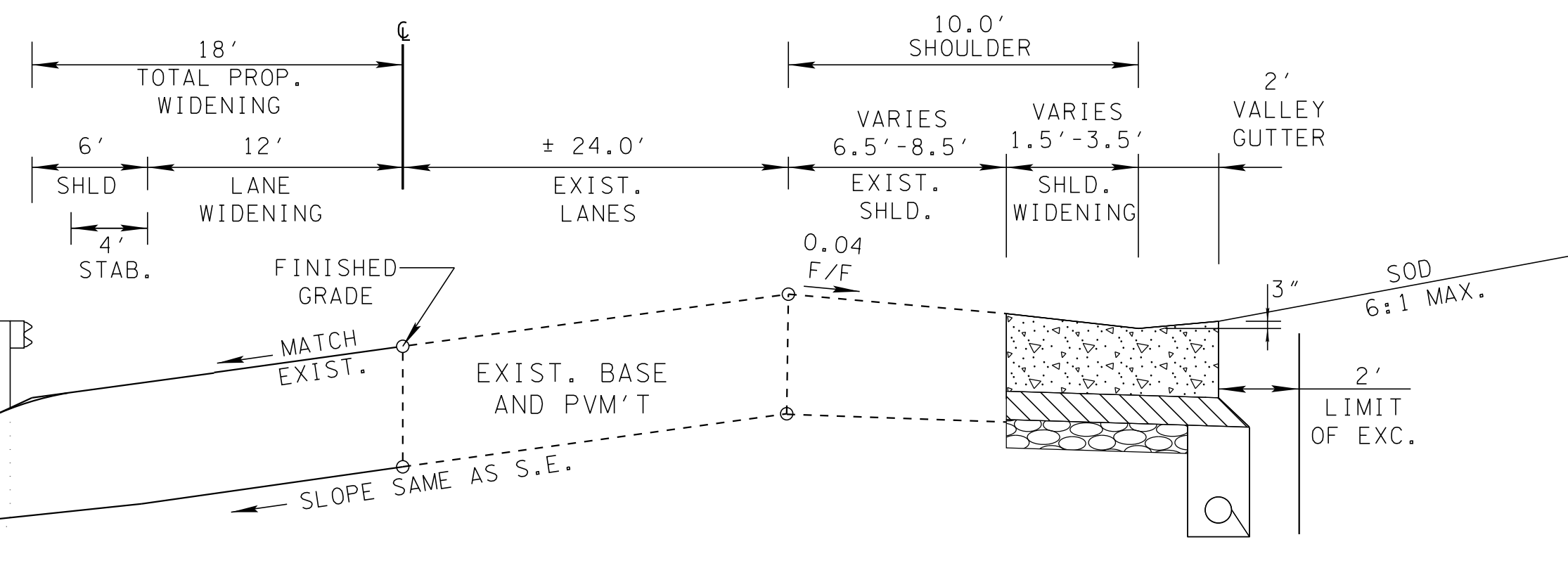
I-440 WB OFF RAMP: STA. 20+86.00 TO END OF PROJECT

\*NOTE: C&G LEFT BEGINS AT STA 20.95.00

SEE STD. DWG. RD01-S-11 FOR ROUNDING

SOD SLOPE VARIES SEE X-SECTIONS

SOD SLOPE VARIES SEE X-SECTIONS  
SEE STD. DWG. RD01-S-11 FOR ROUNDING



**SUPERELEVATED SECTION**

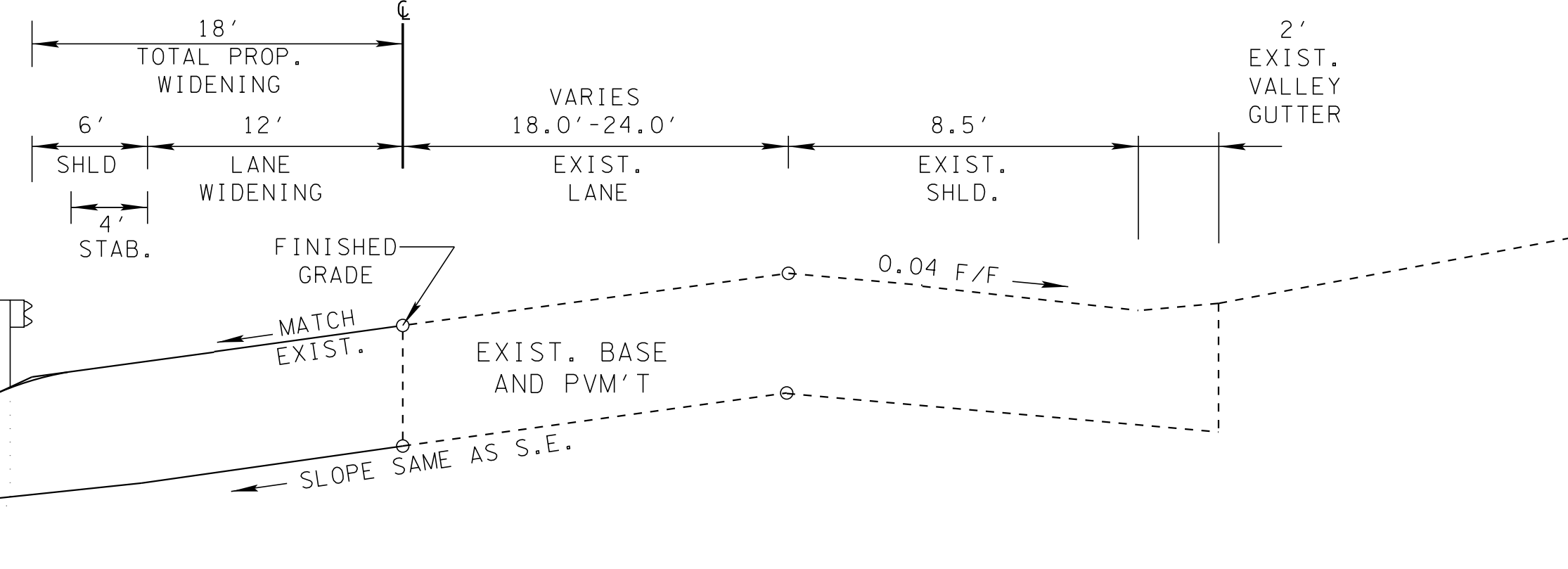
(BASED ON STD. DWG. RD01-TS-4)

I-440 WB OFF RAMP: STA. 18+69.28 TO STA. 20+86.00

SEE STD. DWG. RD01-S-11 FOR ROUNDING

SOD SLOPE VARIES SEE X-SECTIONS

FILTER CLOTH UNDERDRAIN DETAIL "F"  
SEE STD. DWG. RD-UD-3



**SUPERELEVATED SECTION**

(BASED ON STD. DWG. RD01-TS-4)

I-440 WB OFF RAMP: BEGIN OF PROJECT TO STA. 18+69.28

SEE STD. DWG. RD01-S-11 FOR ROUNDING

SOD SLOPE VARIES SEE X-SECTIONS

**R.O.W. PLANS**  
(UTILITIES ONLY)

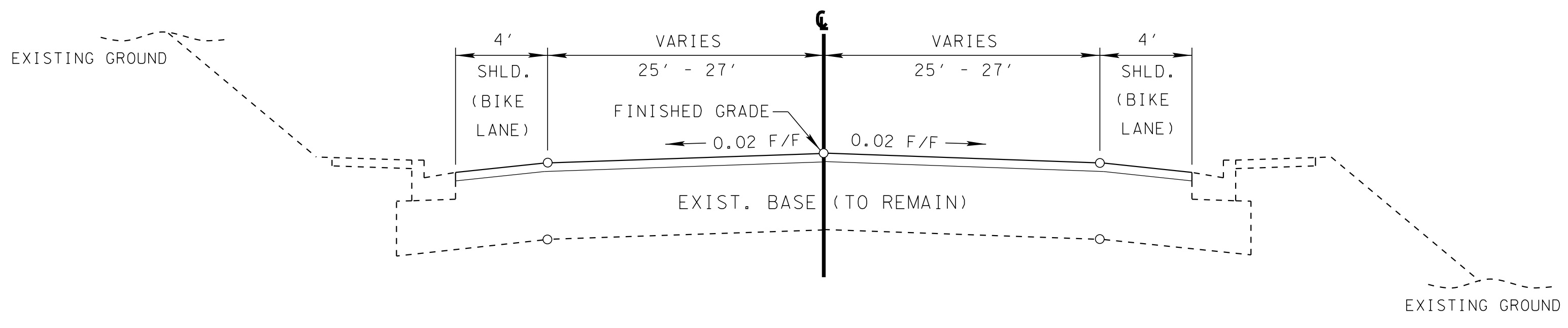
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DEPARTMENT OF  
TRANSPORTATION

TYPICAL  
SECTIONS



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1440-4(80)	2A



**TANGENT SECTION**  
 (MILL & OVERLAY)  
 MURPHY ROAD: STA. 100+99.86 TO STA. 106+06.97

**R.O.W.  
 PLANS**  
 (UTILITIES ONLY)

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**STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION**

**TYPICAL  
 SECTIONS**

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1-440-4(80)	3

**UTILITIES**

- (1) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED.
- (2) UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR IT'S REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT. ON CONTRACTS WHERE CONSTRUCTION STAKES, LINES, AND GRADES ARE CONTRACT ITEMS, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE RIGHT-OF-WAY OR SLOPE STAKES, DITCH OR STREAM BED GRADES, OR OTHER ESSENTIAL SURVEY STAKING TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY, THIS WILL BE REQUIRED AS THE FIRST ITEM OF WORK AND AT ANY LOCATION ON THE PROJECT DIRECTED BY THE ENGINEER.
- (3) THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
- (4) PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS. ADVANCE CLEAR CUTTING MAY BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS CALLED FOR IN THE SPECIFICATIONS AND CLEAR CUTTING IS NECESSARY FOR A UTILITY RELOCATION. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.
- (5) THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY IN ACCORDANCE WITH TCA 65-31-106.

**UTILITY OWNER**

**TELEPHONE:**  
**AT&T**  
 333 Commerce Street, Rm. 23C-142  
 Nashville, TN 37201  
 Kim Bean  
 kb1078@att.com  
 O: 615-214-7318

**CABLE:**  
**COMCAST**  
 2501 McGavock Pike  
 Nashville, TN 37214  
 Larry K. Wilburn  
 larry\_wilburn@cable.comcast.com  
 O: (615) 244-7462X1115140  
 C: (615) 295-9069

**WATER & SEWER:**  
**Metro Water & Sewer**  
 1600 Second Avenue North  
 Nashville, TN 37208  
 Steve Nunley  
 steve.nunley@nashville.gov  
 O: 615-862-4534

**STREET LIGHTS:**  
**Metro Public Works**  
 720 South Fifth Street  
 Nashville, TN 37206  
 Mark Sturtevant  
 mark.sturtevant@nashville.gov  
 O: 615-862-6000

**ELECTRIC:**  
**Nashville Electric Service**  
 1214 Church Street, Room 353  
 Nashville, TN 37246  
 Ron Davidson  
 rdavidson@nespower.com  
 O: 615-747-3530

**GAS:**  
**Piedmont Gas Company**  
 83 Century Boulevard  
 Nashville, TN 37214  
 Bobby Worthington  
 bobby.worthington@piedmontng.com  
 O: 615-872-2332

**FIBER OPTIC:**  
**LEVEL 3 COMMUNICATIONS**  
 1025 Eldorado Blvd., 43C-420  
 Broomfield, CO 80021  
 Patrick Provost  
 patrick.provost@level3.com  
 O: (720) 888-4686

**Google Network**  
 2501 Perimeter Place, Suite # 200  
 Nashville, TN 37214  
 Nicholas Fischer  
 nfischer@google.com  
 312-533-7966

<b>DISTURBED AREA</b>	
IN BETWEEN SLOPE LINES	0.650 (AC)
PROPOSED R.O.W. (OUTSIDE SLOPE LINES)	0.000 (AC)
<b>TOTAL DISTURBED AREA</b>	<b>0.650 (AC)</b>

**R.O.W.  
 PLANS  
 (UTILITIES ONLY)**

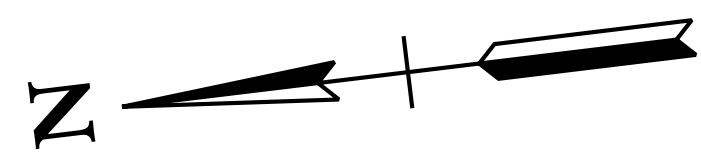
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 TRANSPORTATION**

**RIGHT-OF-WAY  
 NOTES,  
 UTILITY NOTES  
 AND  
 UTILITY OWNERS**

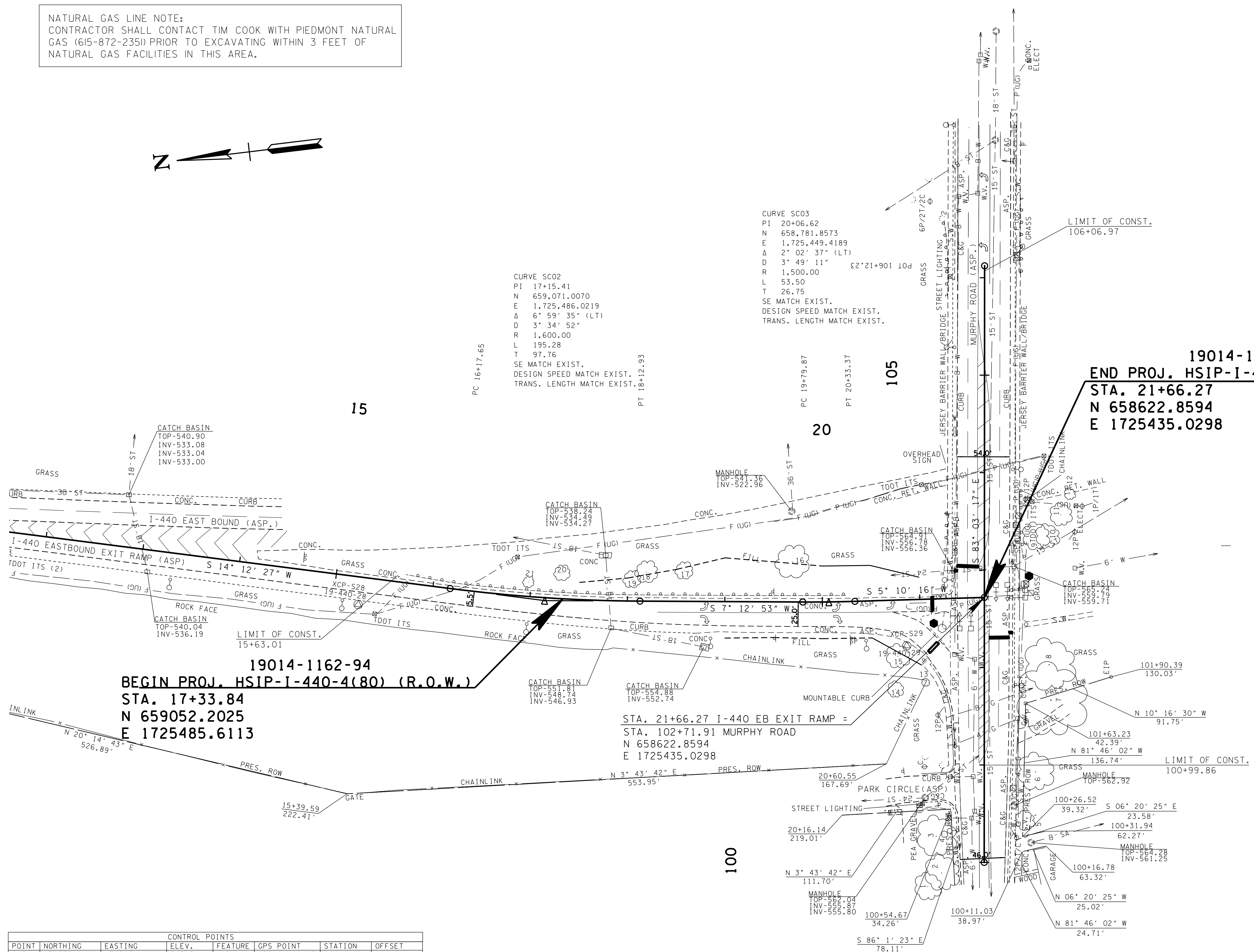
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP1-440-4(80)	4

NATURAL GAS LINE NOTE:  
 CONTRACTOR SHALL CONTACT TIM COOK WITH PIEDMONT NATURAL GAS (615-872-2351) PRIOR TO EXCAVATING WITHIN 3 FEET OF NATURAL GAS FACILITIES IN THIS AREA.



CURVE SC02  
 PI 17+15.41  
 N 659,071.0070  
 E 1,725,486.0219  
 Δ 6° 59' 35" (LT)  
 D 3° 34' 52"  
 R 1,600.00  
 L 195.28  
 T 97.76  
 SE MATCH EXIST.  
 DESIGN SPEED MATCH EXIST.  
 TRANS. LENGTH MATCH EXIST.

CURVE SC03  
 PI 20+06.62  
 N 658,781.8573  
 E 1,725,449.4189  
 Δ 2° 02' 37" (LT)  
 D 3° 49' 11"  
 R 1,500.00  
 L 53.50  
 T 26.75  
 SE MATCH EXIST.  
 DESIGN SPEED MATCH EXIST.  
 TRANS. LENGTH MATCH EXIST.



**19014-1162-94**  
**BEGIN PROJ. HSIP-I-440-4(80) (R.O.W.)**  
**STA. 17+33.84**  
**N 659052.2025**  
**E 1725485.6113**

**STA. 21+66.27 I-440 EB EXIT RAMP =**  
**STA. 102+71.91 MURPHY ROAD**  
**N 658622.8594**  
**E 1725435.0298**

**19014-1162-94**  
**END PROJ. HSIP-I-440-4(80) (R.O.W.)**  
**STA. 21+66.27**  
**N 658622.8594**  
**E 1725435.0298**

POINT	NORTHING	EASTING	ELEV.	FEATURE	GPS POINT	STATION	OFFSET
S27	659777.0164	1725631.6889	547.38	XCP	GPS19-440-27	Off Chain	Off Chain
S28	659261.4414	1725505.0245	543.35	XCP	GPS19-440-28	15+26.14	28.32
S29	658707.8530	1725395.3829	562.63	XCP	GPS19-440-29	20+85.19	47.15

**R.O.W. PLANS**  
**(UTILITIES ONLY)**

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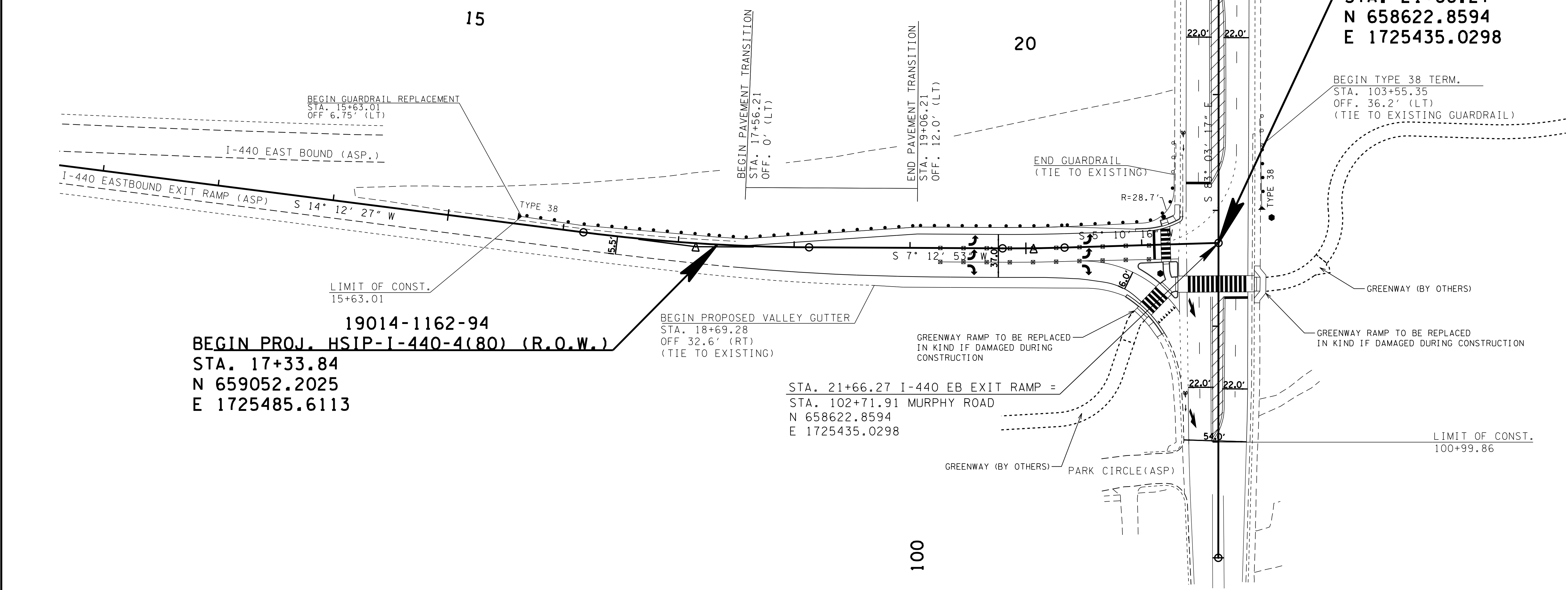
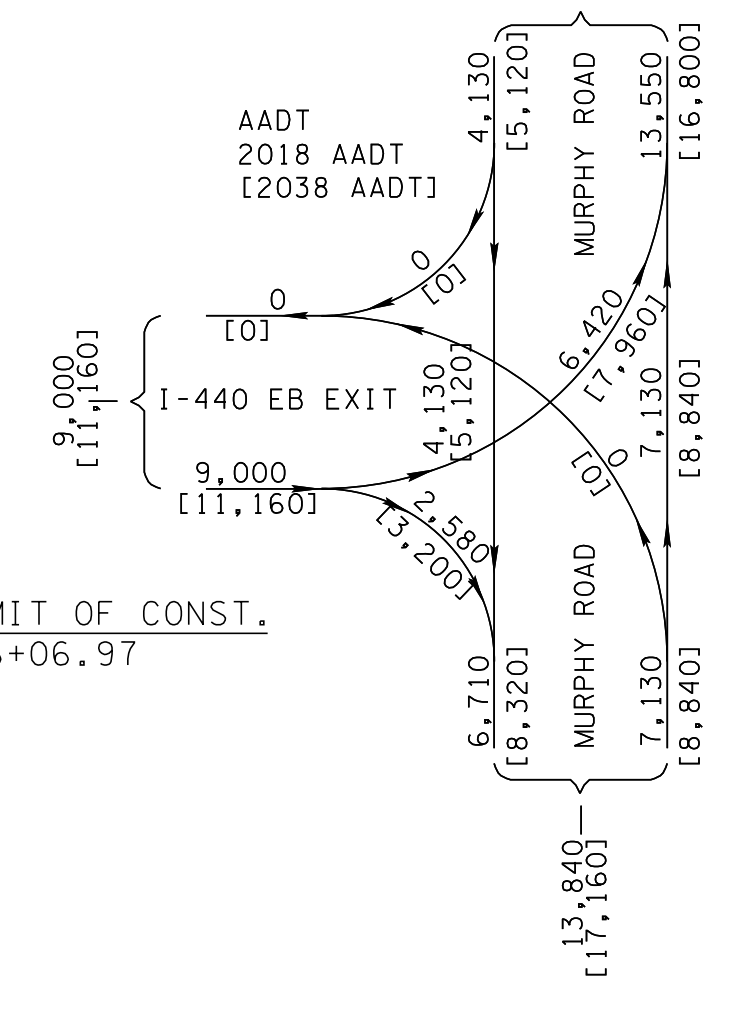
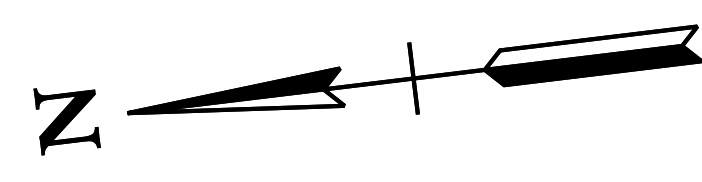
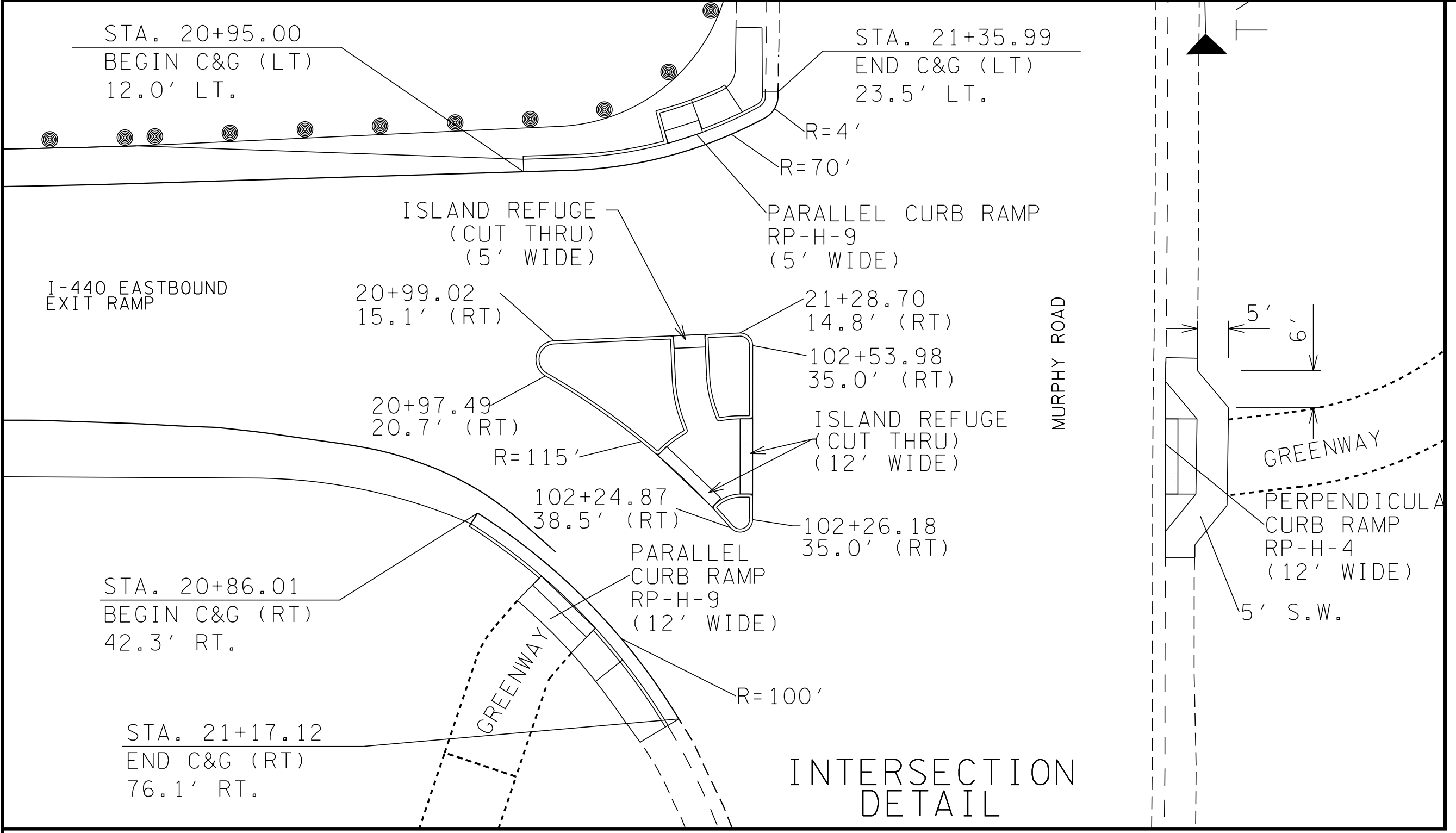
COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00006 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

**STATE OF TENNESSEE**  
**DEPARTMENT OF**  
**TRANSPORTATION**

**PRESENT LAYOUT**

SCALE: 1"=50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSIP-I-440-4(80)	4A



19014-1162-94  
 END PROJ. HSIP-I-440-4(80) (R.O.W.)  
 STA. 21+66.27  
 N 658622.8594  
 E 1725435.0298

19014-1162-94  
 BEGIN PROJ. HSIP-I-440-4(80) (R.O.W.)  
 STA. 17+33.84  
 N 659052.2025  
 E 1725485.6113

**R.O.W.  
 PLANS  
 (UTILITIES ONLY)**

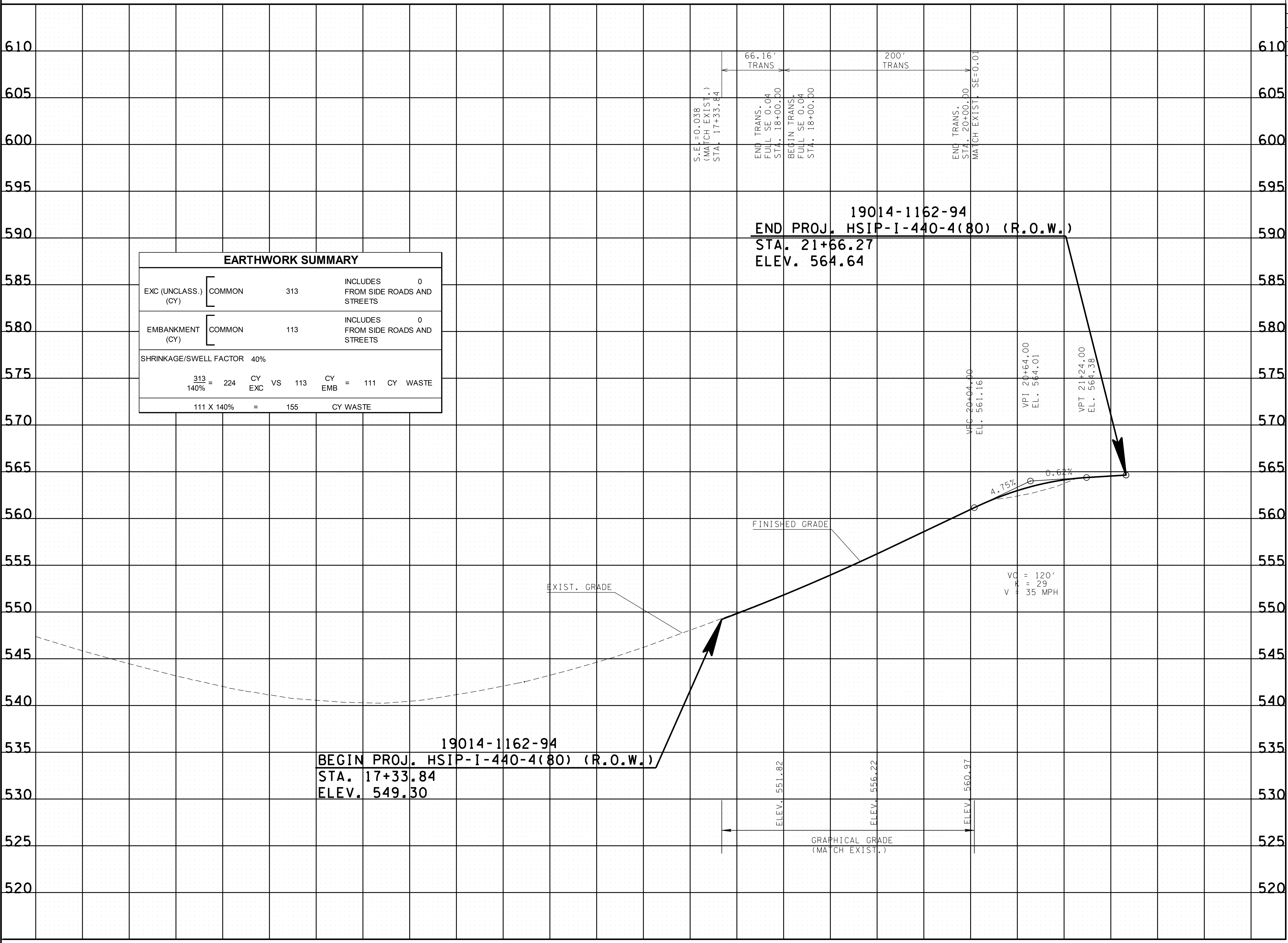
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STATE OF TENNESSEE  
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**PROPOSED  
 LAYOUT**

SCALE: 1"=50'



EARTHWORK SUMMARY					
EXC (UNCLASS.) (CY)	COMMON	313		INCLUDES FROM SIDE ROADS AND STREETS	0
EMBANKMENT (CY)	COMMON	113		INCLUDES FROM SIDE ROADS AND STREETS	0
SHRINKAGE/SWELL FACTOR 40%					
$\frac{313}{140\%} = 224$		CY EXC	VS	113	CY EMB
$111 \times 140\% = 155$					CY WASTE

19014-1162-94  
**END PROJ. HSIP-I-440-4(80) (R.O.W.)**  
 STA. 21+66.27  
 ELEV. 564.64

19014-1162-94  
**BEGIN PROJ. HSIP-I-440-4(80) (R.O.W.)**  
 STA. 17+33.84  
 ELEV. 549.30

**R.O.W. PLANS**  
 (UTILITIES ONLY)

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**STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION**

**PROFILE**

SCALE: 1"=50' HORIZ.  
 1"=5' VERT.

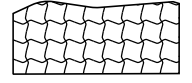
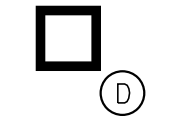
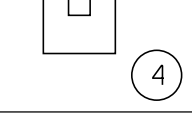
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1440-4(80)	5

# EPSC NOTES

## ENVIRONMENTAL

- (1) EXCEPT AS OTHERWISE SPECIFIED, THERE ARE NO KNOWN SPECIAL ENVIRONMENTAL FACTORS PRESENT ON THIS PROJECT THAT INDICATE A NEED FOR SEASONAL LIMITATIONS ON THE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OPERATIONS OR ON THE TOTAL AREA OF EXPOSED SOIL.

EROSION PREVENTION AND SEDIMENT CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	750
209-09.43	CURB INLET PROTECTION (TYPE 4)	EACH	2
209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	2
740-11.04	TEMPORARY SEDIMENT TUBE (20 INCH)	L.F.	50
805-12.02	EROSION CONTROL BLANKET (TYPE II)	S.Y.	215

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
* SF * SF * SF *	SILT FENCE	EC-STR-3B
	EROSION CONTROL BLANKET	EC-STR-34
	CATCH BASIN PROTECTION (TYPE D)	EC-STR-19
	CURB INLET PROTECTION (TYPE 4)	EC-STR-39A
** TUBE ** TUBE **	SEDIMENT TUBE	EC-STR-37

**R.O.W.  
PLANS  
(UTILITIES ONLY)**

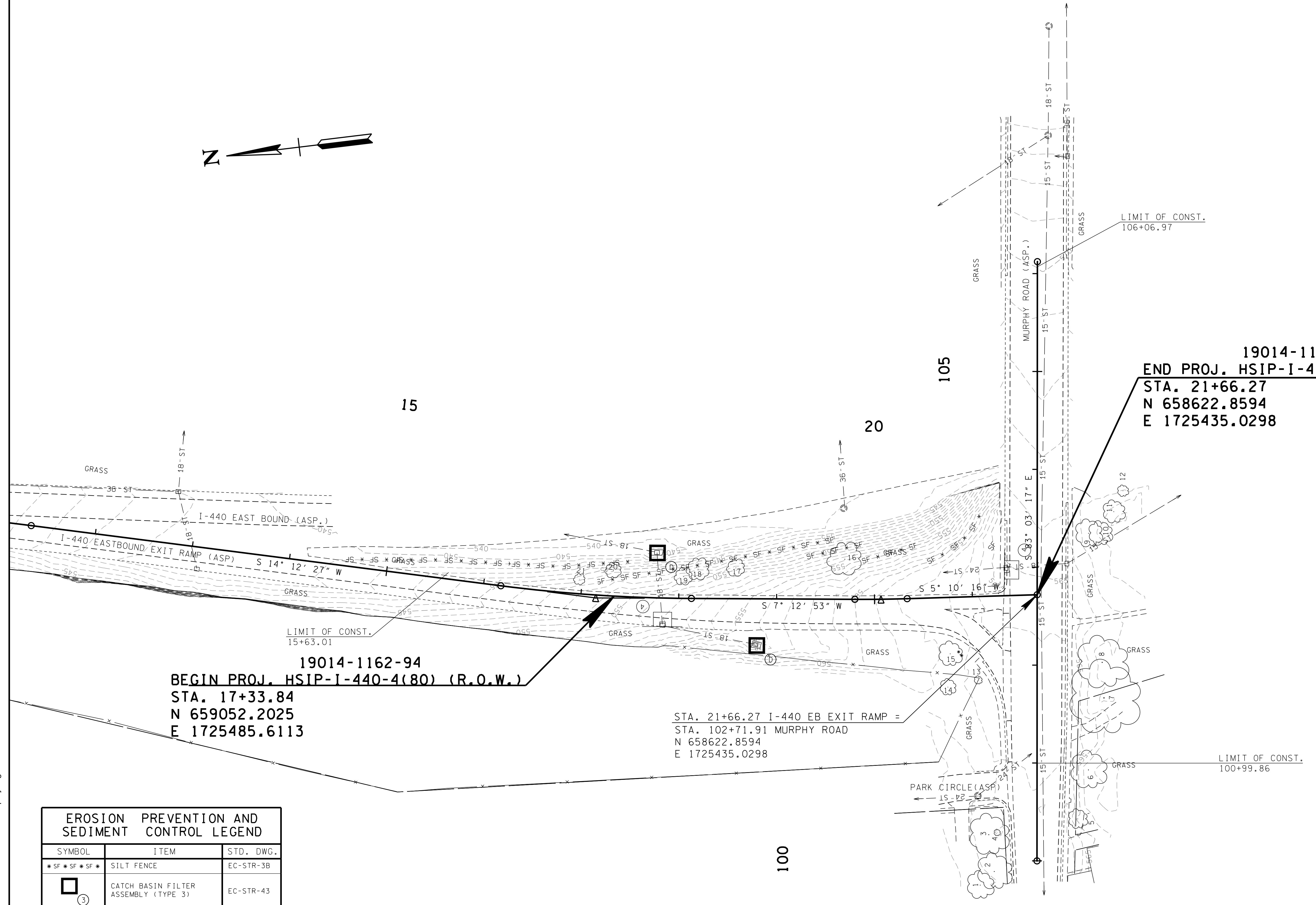
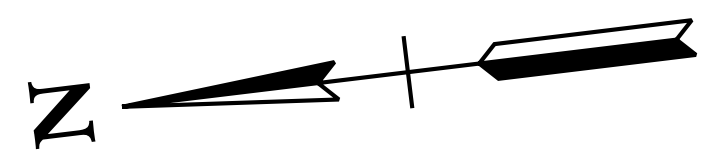
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DEPARTMENT OF  
TRANSPORTATION**

**EROSION  
PREVENTION &  
SEDIMENT CONTROL  
(EPSC) NOTES**



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1-440-4(80)	6



19014-1162-94  
 BEGIN PROJ. HSIP-1-440-4(80) (R.O.W.)  
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 N 659052.2025  
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 END PROJ. HSIP-1-440-4(80) (R.O.W.)  
 STA. 21+66.27  
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STA. 21+66.27 I-440 EB EXIT RAMP =  
 STA. 102+71.91 MURPHY ROAD  
 N 658622.8594  
 E 1725435.0298

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
*SF*SF*SF*	SILT FENCE	EC-STR-3B
③	CATCH BASIN FILTER ASSEMBLY (TYPE 3)	EC-STR-43
④	CURB INLET PROTECTION (TYPE 4)	EC-STR-39A
**TUBE**TUBE**	SEDIMENT TUBE	EC-STR-37

**R.O.W. PLANS**  
 (UTILITIES ONLY)

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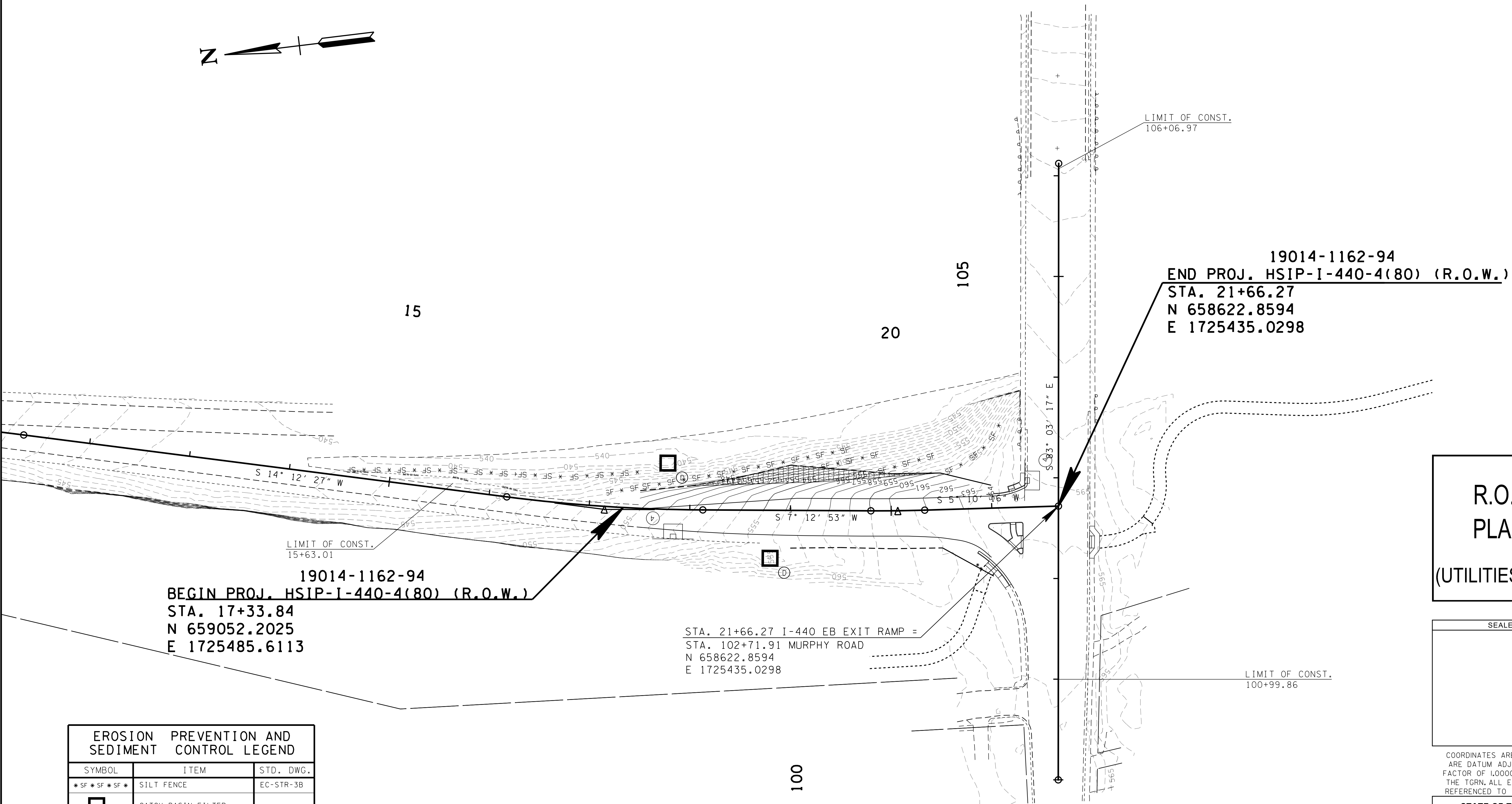
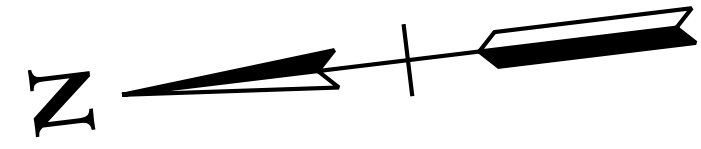
EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS  
 SCALE: 1"=50'

EXISTING CONTOURS SHOWN

STAGE 1

8/2/2017 11:51:16 AM  
 N:\12862 - TDOT Traffic\007 I440 at Murphy\dgn\006.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1-440-4(80)	7



**R.O.W. PLANS**  
(UTILITIES ONLY)

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**TRANSPORTATION**

**EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS**  
SCALE: 1"=50'

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
*SF *SF *SF *	SILT FENCE	EC-STR-3B
③	CATCH BASIN FILTER ASSEMBLY (TYPE 3)	EC-STR-43
④	CURB INLET PROTECTION (TYPE 4)	EC-STR-39A
** TUBE ** TUBE **	SEDIMENT TUBE	EC-STR-37
[Grid Pattern]	EROSION CONTROL BLANKET	EC-STR-34

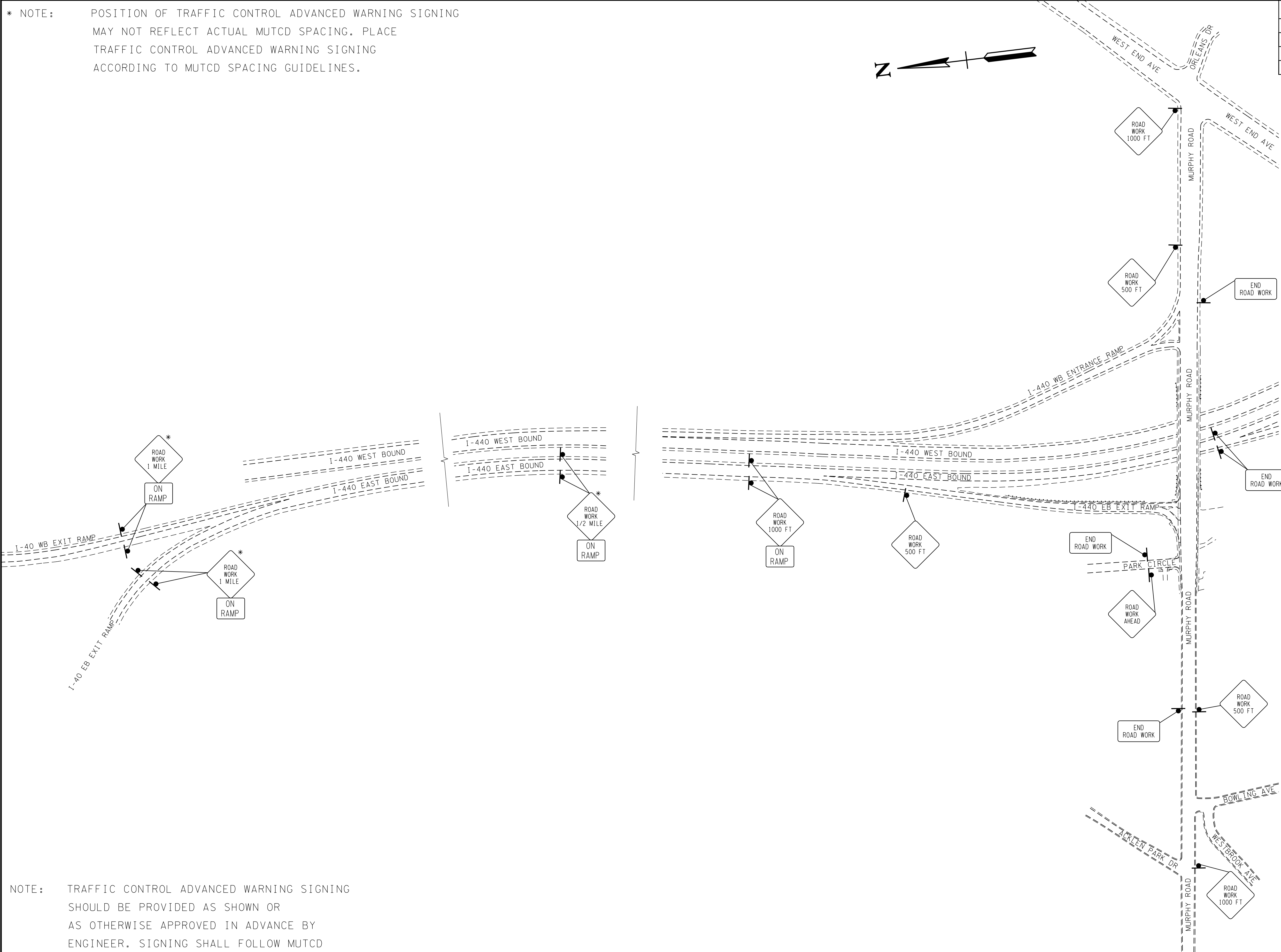
PROPOSED CONTOURS SHOWN

STAGE 2

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1440-4(80)	8

\* NOTE: POSITION OF TRAFFIC CONTROL ADVANCED WARNING SIGNING MAY NOT REFLECT ACTUAL MUTCD SPACING. PLACE TRAFFIC CONTROL ADVANCED WARNING SIGNING ACCORDING TO MUTCD SPACING GUIDELINES.



NOTE: TRAFFIC CONTROL ADVANCED WARNING SIGNING SHOULD BE PROVIDED AS SHOWN OR AS OTHERWISE APPROVED IN ADVANCE BY ENGINEER. SIGNING SHALL FOLLOW MUTCD GUIDELINES (CURRENT EDITION).

**R.O.W. PLANS**  
(UTILITIES ONLY)

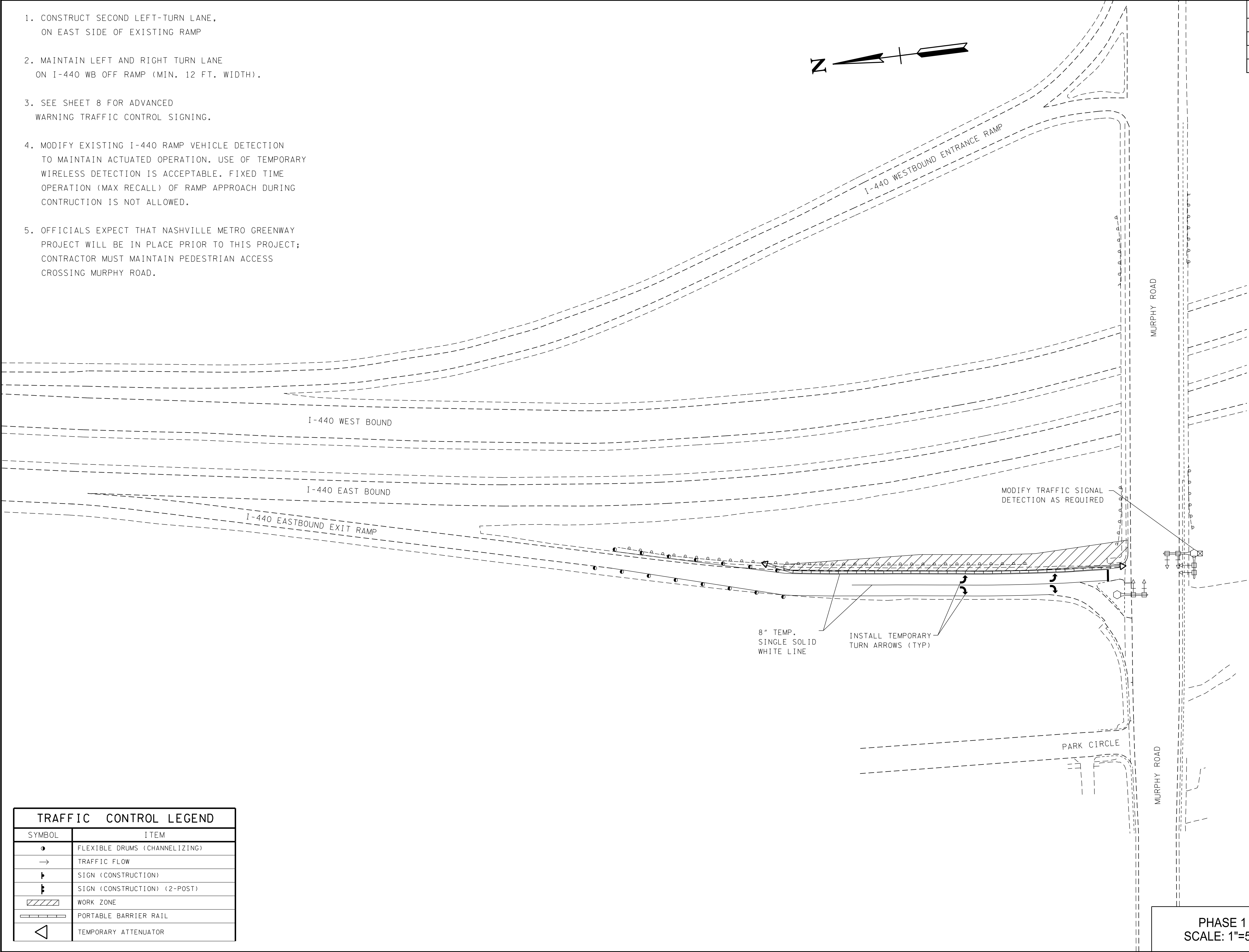
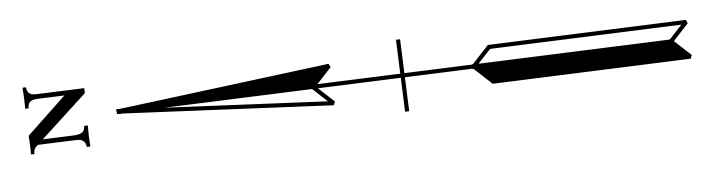
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TRAFFIC CONTROL PLANS

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1440-4(80)	9

1. CONSTRUCT SECOND LEFT-TURN LANE, ON EAST SIDE OF EXISTING RAMP
2. MAINTAIN LEFT AND RIGHT TURN LANE ON I-440 WB OFF RAMP (MIN. 12 FT. WIDTH).
3. SEE SHEET 8 FOR ADVANCED WARNING TRAFFIC CONTROL SIGNING.
4. MODIFY EXISTING I-440 RAMP VEHICLE DETECTION TO MAINTAIN ACTUATED OPERATION. USE OF TEMPORARY WIRELESS DETECTION IS ACCEPTABLE. FIXED TIME OPERATION (MAX RECALL) OF RAMP APPROACH DURING CONSTRUCTION IS NOT ALLOWED.
5. OFFICIALS EXPECT THAT NASHVILLE METRO GREENWAY PROJECT WILL BE IN PLACE PRIOR TO THIS PROJECT; CONTRACTOR MUST MAINTAIN PEDESTRIAN ACCESS CROSSING MURPHY ROAD.



**R.O.W.  
PLANS  
(UTILITIES ONLY)**

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**TRAFFIC  
CONTROL  
PLANS**

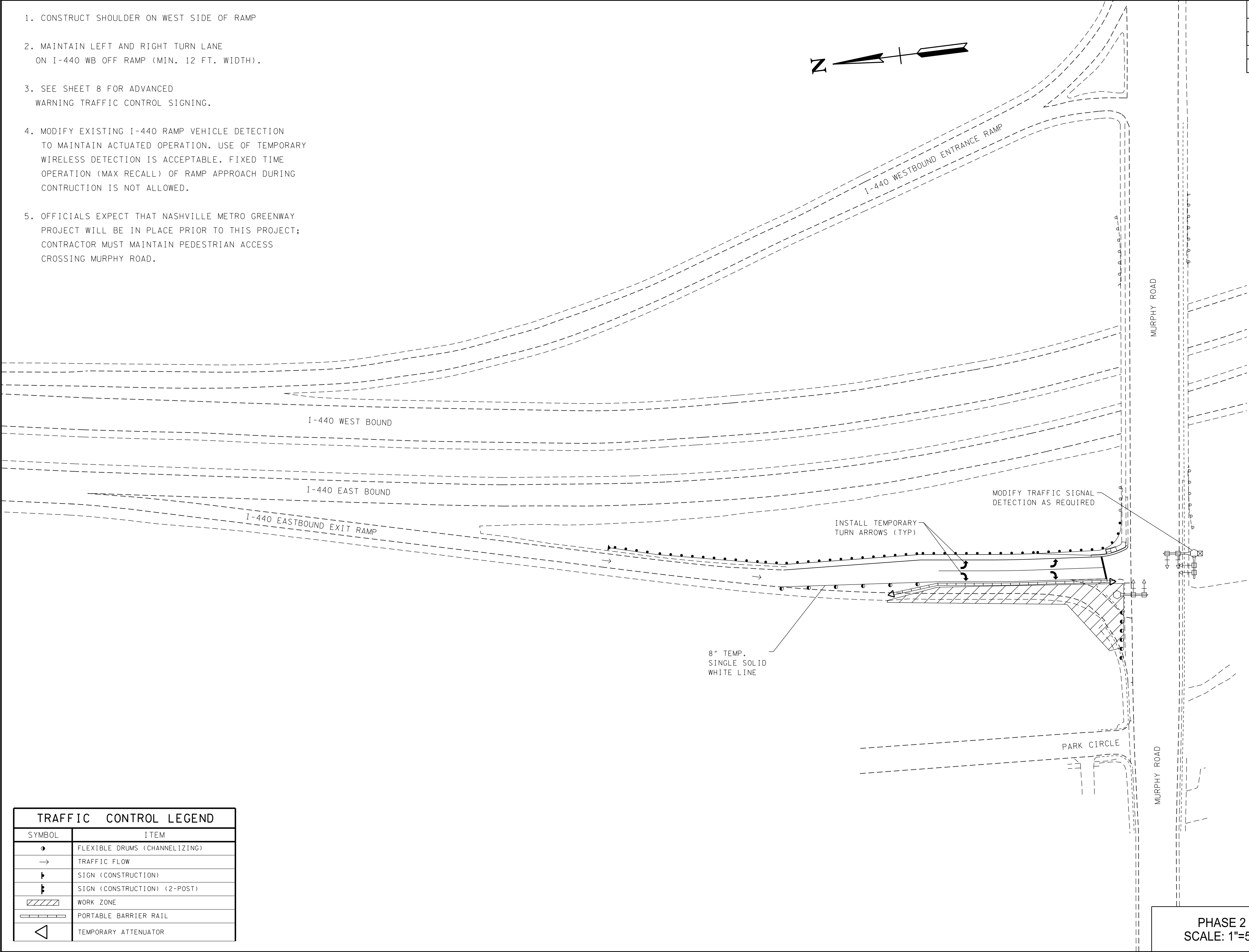
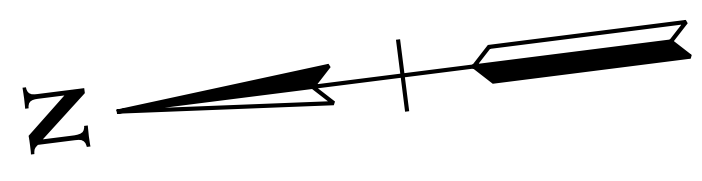
**PHASE 1  
SCALE: 1"=50'**

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
●	FLEXIBLE DRUMS (CHANNELIZING)
→	TRAFFIC FLOW
⊢	SIGN (CONSTRUCTION)
⊢⊢	SIGN (CONSTRUCTION) (2-POST)
▨	WORK ZONE
▬	PORTABLE BARRIER RAIL
◁	TEMPORARY ATTENUATOR

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1440-4(80)	10

1. CONSTRUCT SHOULDER ON WEST SIDE OF RAMP
2. MAINTAIN LEFT AND RIGHT TURN LANE ON I-440 WB OFF RAMP (MIN. 12 FT. WIDTH).
3. SEE SHEET 8 FOR ADVANCED WARNING TRAFFIC CONTROL SIGNING.
4. MODIFY EXISTING I-440 RAMP VEHICLE DETECTION TO MAINTAIN ACTUATED OPERATION. USE OF TEMPORARY WIRELESS DETECTION IS ACCEPTABLE. FIXED TIME OPERATION (MAX RECALL) OF RAMP APPROACH DURING CONSTRUCTION IS NOT ALLOWED.
5. OFFICIALS EXPECT THAT NASHVILLE METRO GREENWAY PROJECT WILL BE IN PLACE PRIOR TO THIS PROJECT; CONTRACTOR MUST MAINTAIN PEDESTRIAN ACCESS CROSSING MURPHY ROAD.



**R.O.W. PLANS**  
(UTILITIES ONLY)

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TRANSPORTATION

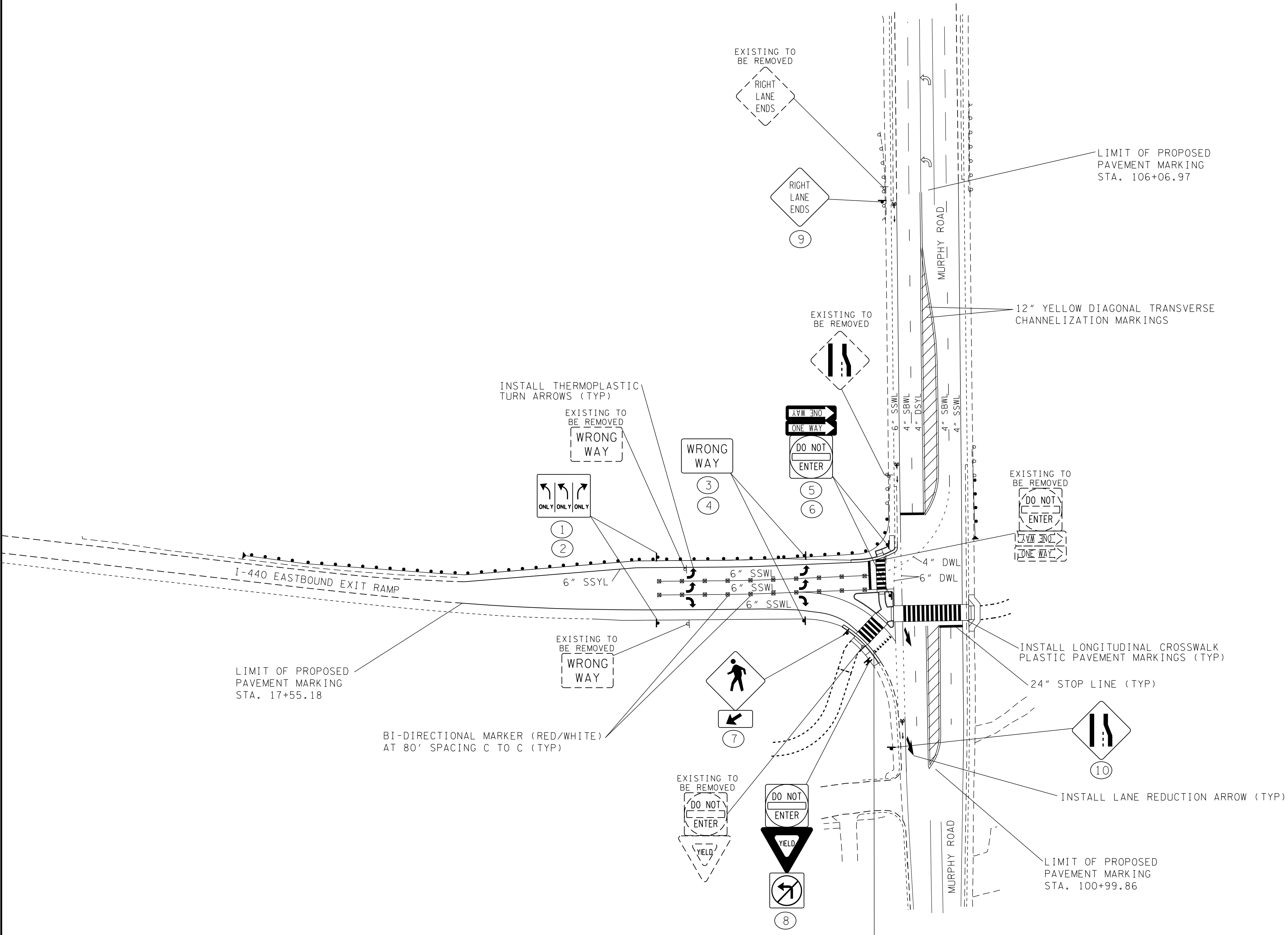
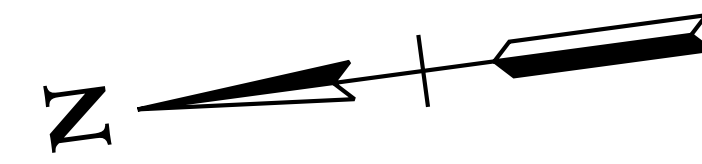
TRAFFIC CONTROL PLANS

PHASE 2  
SCALE: 1"=50'

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
●	FLEXIBLE DRUMS (CHANNELIZING)
→	TRAFFIC FLOW
⊢	SIGN (CONSTRUCTION)
⊢⊢	SIGN (CONSTRUCTION) (2-POST)
▨	WORK ZONE
▬▬▬	PORTABLE BARRIER RAIL
◁	TEMPORARY ATTENUATOR

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1-440-4(80)	11



**R.O.W.  
PLANS  
(UTILITIES ONLY)**

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**SIGNING AND  
PAVEMENT  
MARKING  
PLANS**

SCALE: 1"=50'

PAVEMENT MARKING LEGEND:

SSWL:	SINGLE SOLID WHITE
SSYL:	SINGLE SOLID YELLOW EDGELINE
SBWL:	SINGLE BROKEN WHITE LINE
SSWL:	SINGLE SOLID WHITE LANE LINE
DWL:	DOTTED WHITE LINE (2' LINE 4' SPACE)
DSYL:	DOUBLE SOLID YELLOW LINE

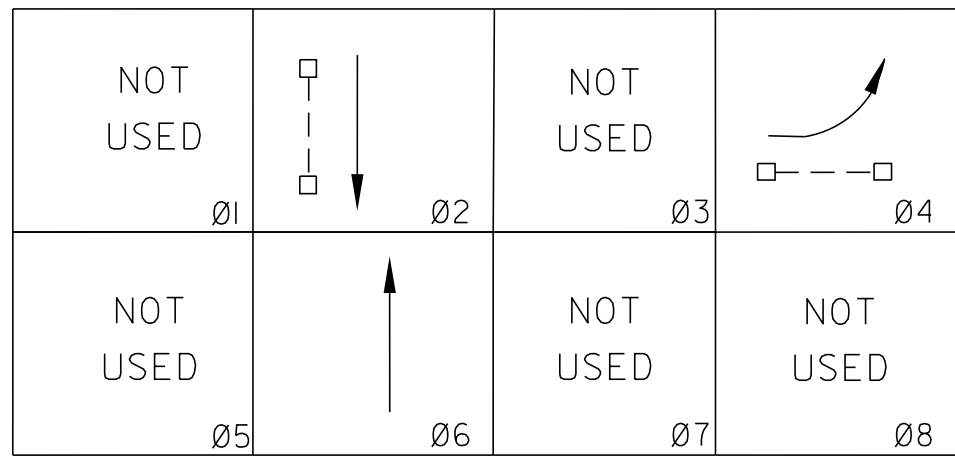
- NOTE:
- "WRONG WAY," "DO NOT ENTER," AND "YIELD" SIGN ASSEMBLIES SHALL INCLUDE RED REFLECTIVE STRIP ON SIGN POSTS.
  - NEW SKIP LANE LINE MARKINGS ON BRIDGE SHALL INCLUDE SILHOUTTE, BLACK OUTLINE.
  - PROPOSED GUARDRAIL ON RAMP SHALL INCLUDE BI-DIRECTIONAL YELLOW-RED DELINEATORS AT APPROPRIATE SPACING.
  - PROPOSED PEDESTRIAN WARNING SIGN AND SUPPLEMENTAL PLAQUE SHALL HAVE FLOURESCENT YELLOW-GREEN SHEETING.

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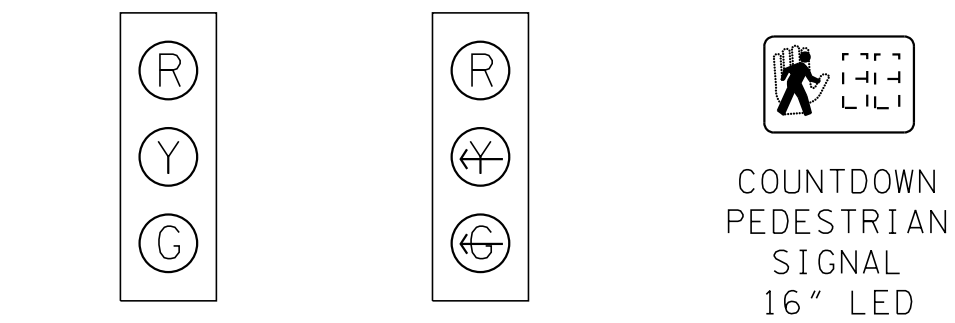
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1440-4(80)	12

**SIGNAL PHASING DIAGRAM**



-MIN RECALL: Ø2,Ø6  
-FLASHING OPERATION: YELLOW - Ø2,Ø6; RED - Ø4

**SIGNAL HEADS**



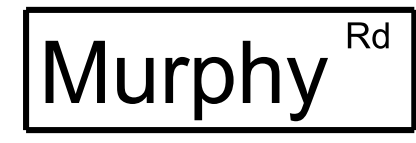
TYPE 130 W/ BACKPLATE 12" L.E.D. 2,6  
TYPE 130A2 W/ BACKPLATE 12" L.E.D. 4  
COUNTDOWN PEDESTRIAN SIGNAL 16" LED 2P, 4P

NOTE: ALL SIGNAL HEAD BACKPLATES SHALL INCLUDE RETROREFLECTIVE BORDER

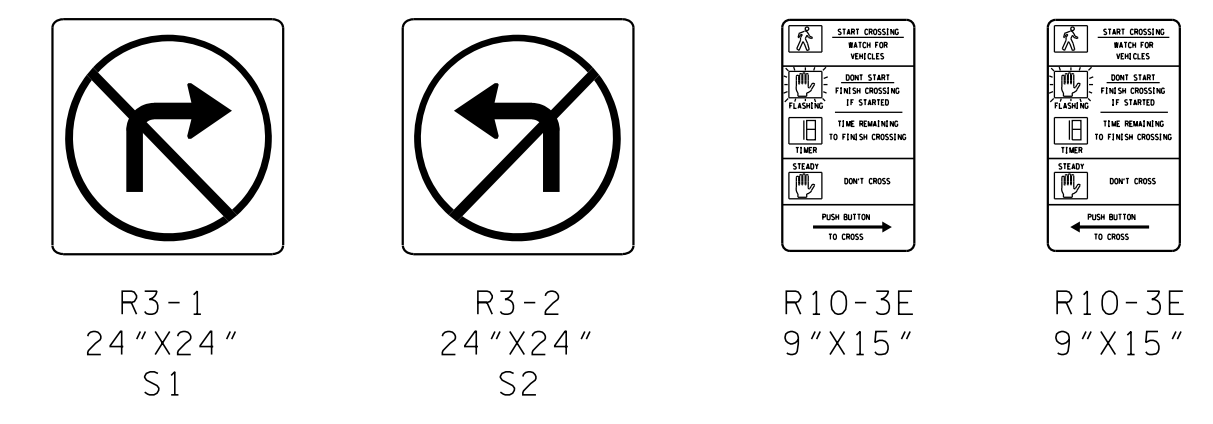
**OVERHEAD STREET NAME SIGN**

COLOR: WHITE ON GREEN BACKGROUND  
SHEETING: RETRO-REFLECTIVE  
BORDER WIDTH: 1/2"  
CORNER RADIUS: 2.5"  
FONT: SERIES "D" LETTERING STYLE  
(8" UPPER CASE, 6" LOWER CASE)  
SUPPLEMENTARY LETTERING:  
(6" UPPER CASE, 4" LOWER CASE)

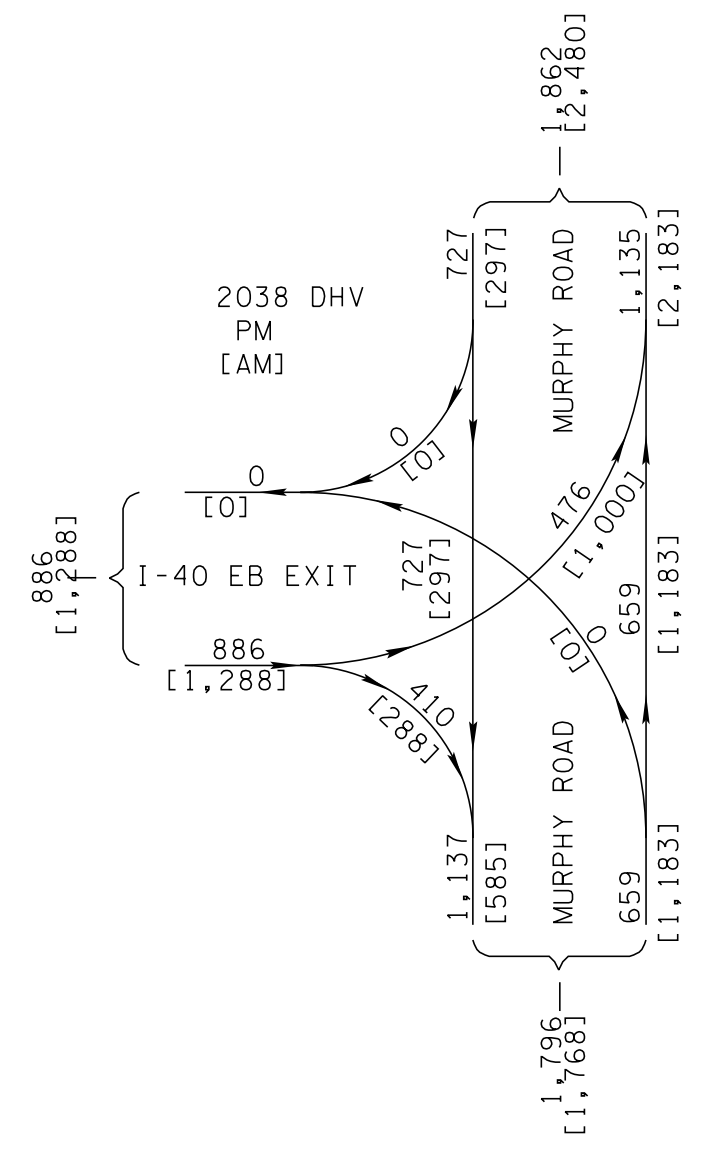
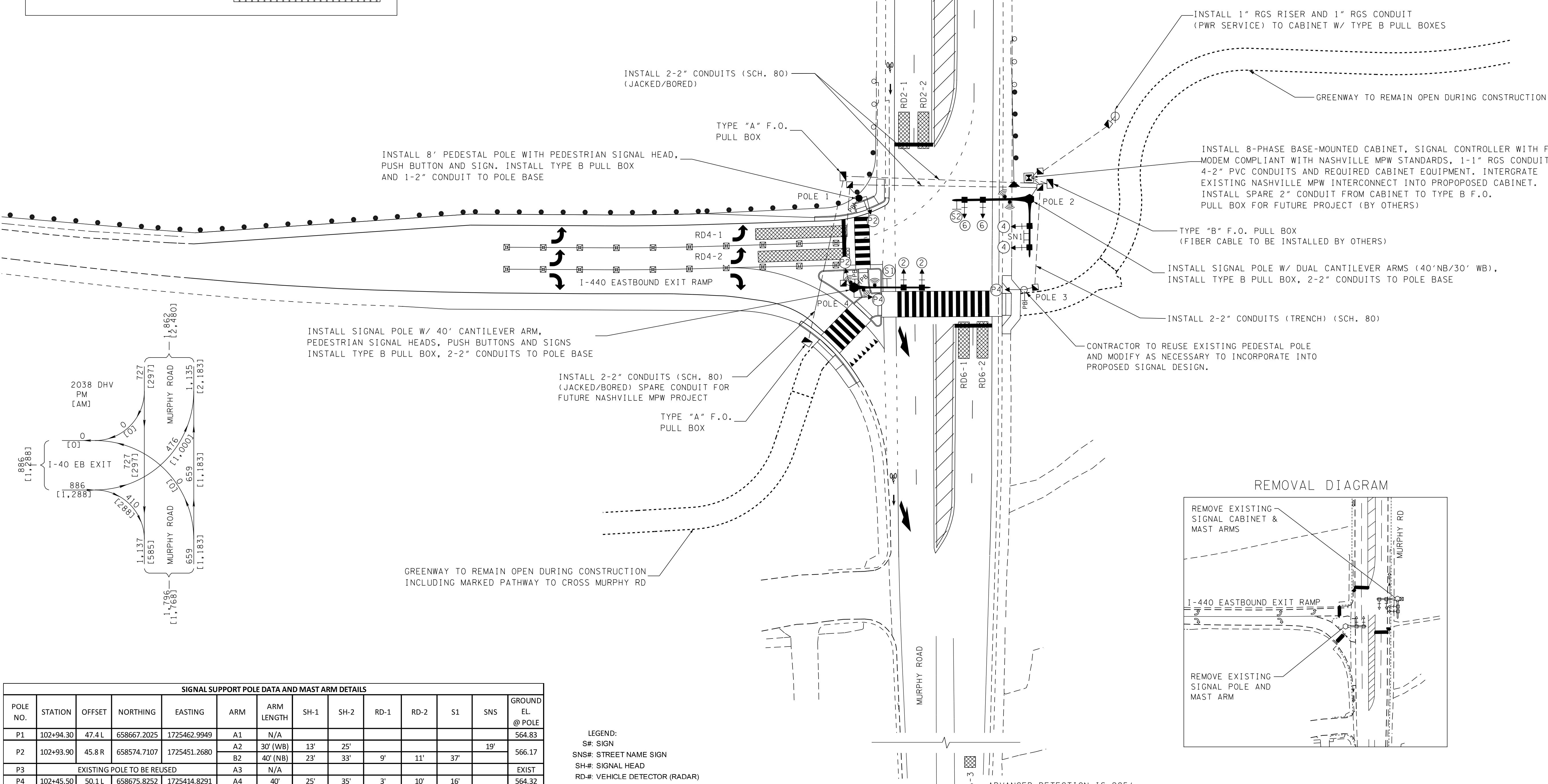
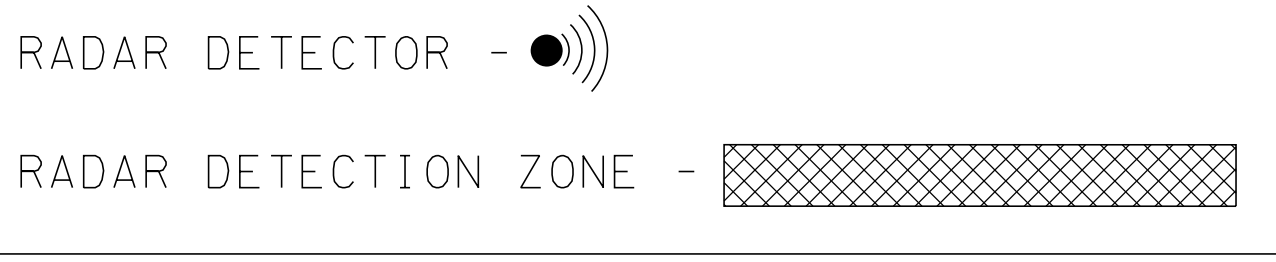
SIGN DIMENSIONS  
-HEIGHT: 18"  
-WIDTH: 72"



**SIGNS**



**LEGEND:**



**R.O.W. PLANS**  
(UTILITIES ONLY)

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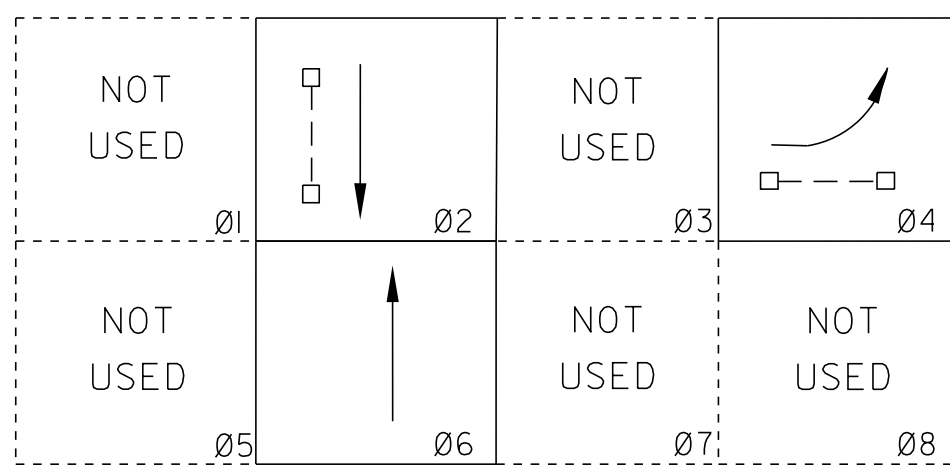
**SIGNAL LAYOUT**  
SCALE: 1"=30'

POLE NO.	STATION	OFFSET	NORTHING	EASTING	ARM	ARM LENGTH	SH-1	SH-2	RD-1	RD-2	S1	SNS	GROUND EL. @ POLE
P1	102+94.30	47.4 L	658667.2025	1725462.9949	A1	N/A							564.83
P2	102+93.90	45.8 R	658574.7107	1725451.2680	A2	30' (WB)	13'	25'				19'	566.17
P3	EXISTING POLE TO BE REUSED				A3	N/A							EXIST
P4	102+45.50	50.1 L	658675.8252	1725414.8291	A4	40'	25'	35'	3'	10'	16'		564.32

LEGEND:  
SF: SIGN  
SNS#: STREET NAME SIGN  
SH#: SIGNAL HEAD  
RD#: VEHICLE DETECTOR (RADAR)  
PRE: PRE-EMPTION

\*FINAL POLE POSITIONS SHALL BE STAKED AND FIELD APPROVED BY ENGINEER PRIOR TO CONSTRUCTION.

SIGNAL PHASING DIAGRAM



EIGHT PHASE SEQUENCING

□ ACTIVE PHASE □ INACTIVE PHASE (NOT USED)

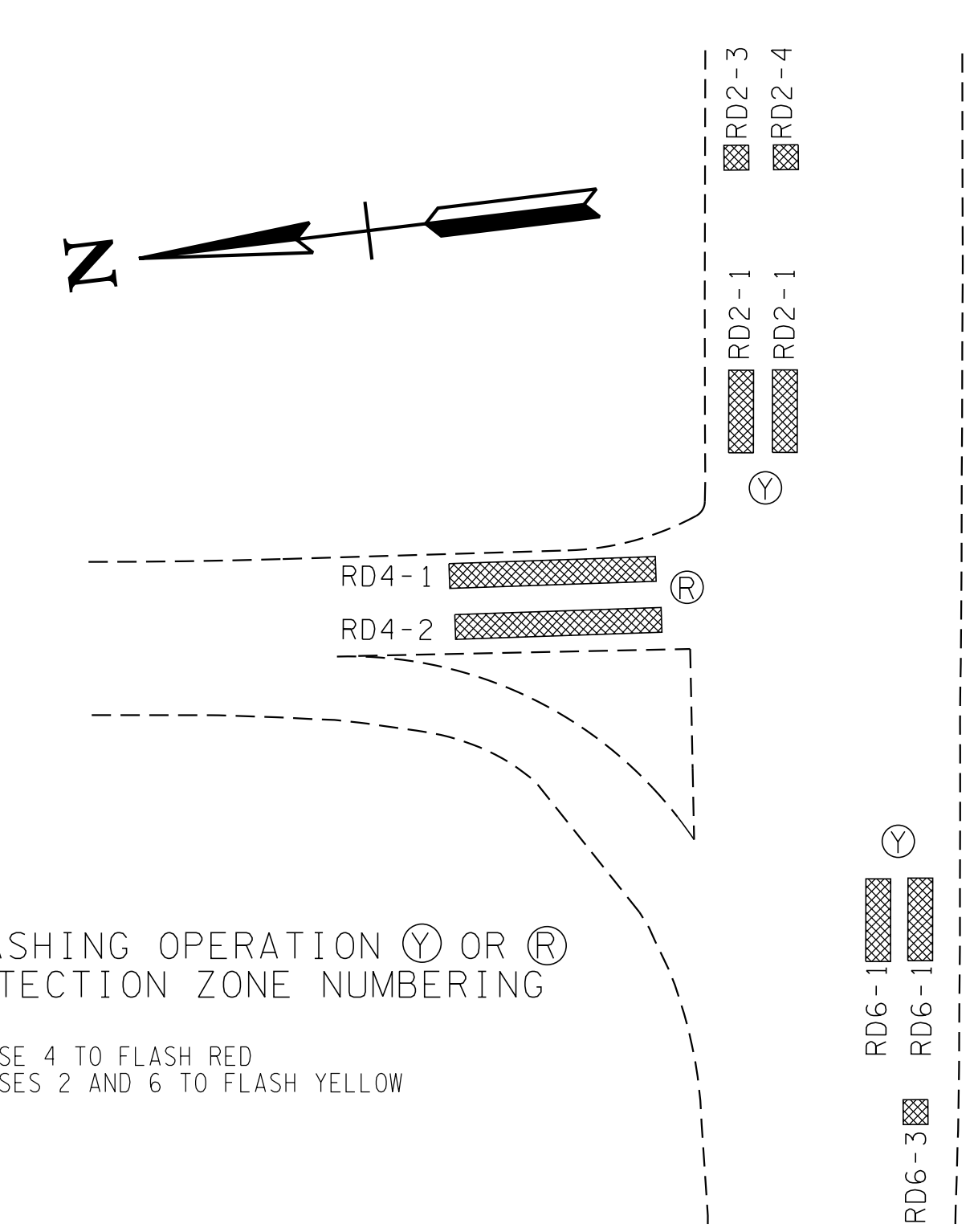
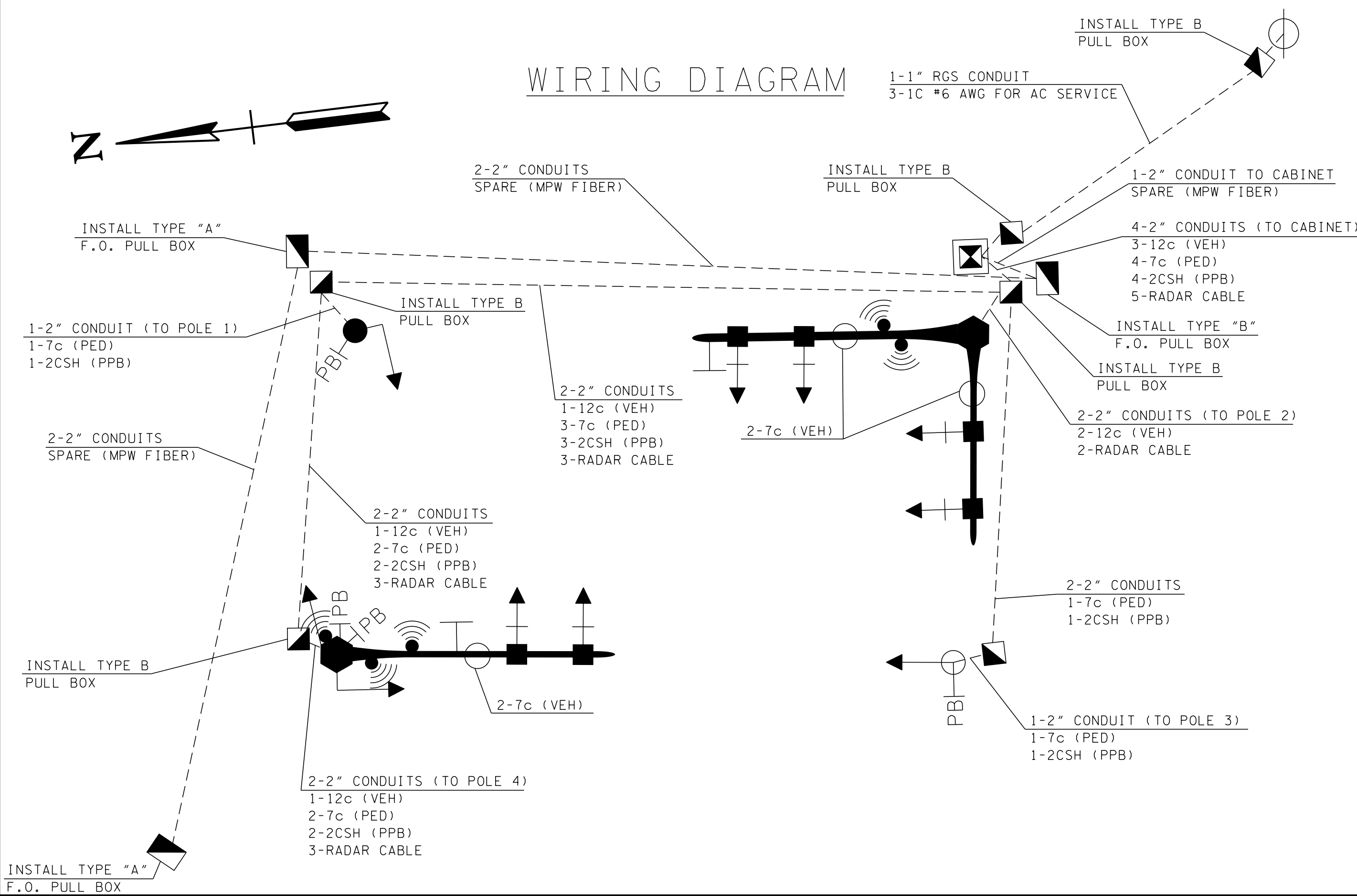
-MIN RECALL: Ø2,Ø6  
-FLASHING OPERATION: YELLOW - Ø2,Ø6; RED - Ø4

DETECTOR ZONE ASSIGNMENTS								
DETECTOR CHANNEL	ASSOCIATED PHASE	MODE	TIMING		DELAY INHIBIT ON GREEN	ZONE NO.	SIZE	COMMENTS
			EXTEND	DELAY				
1	2	PRES				RD2-1	6' x 20'	
1	2	PRES				RD2-2	6' x 20'	
2	2	PULSE				RD2-3	6' x 6'	
2	2	PULSE				RD2-4	6' x 6'	
3	4	PRES				RD4-1	6' x 50'	
3	4	PRES				RD4-2	6' x 50'	
4	6	PRES				RD6-1	6' x 20'	
4	6	PRES				RD6-2	6' x 20'	
5	6	PULSE				RD6-3	6' x 6'	

CONTROLLER PHASE RING SEQUENCE												
PHASE												
RING 1	1	2	3	4	9	10	13	14				
RING 2	5	6	7	8	11	12	15	16				
PHASE IN USE & EXCLUSIVE PEDS												
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
PH. IN USE		X		X		X						
EXCL. PED												
CONTROLLER TIMING PLANS												
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
MIN GREEN		15		7		15						
BK MIN GRN												
CS MGRN												
DELAY GRN												
WALK		7		8								
WALK 2												
WALK MAX												
PED CLR		7		16								
PED CLR 2												
PED CLR MX												
PED CO												
VEH EXT		5.0		2.0		5.0						
VEH EXT2												
MAX 1		45		35		45						
MAX 2												
MAX 3												
DYM MAX												
DYM STP												
YELLOW		4.0		3.5		4.0						
RED CLR		2.0		2.5		2.0						

START UP / FLASH DATA												
START UP - PHASE	1	2	3	4	5	6	7	8	9	10	11	12
START UP		W				G						
OVERLAPS												
FLASH>MON	Y						7					0
PWR START SEQ	1						MUTCD	N			MUTCD Y→G	N
FLASH - PHASE	1	2	3	4	5	6	7	8	9	10	11	12
FLASH - ENTRY				X								
FLASH - EXIT		X				X						
OVERLAP EXIT												
FLASH>MON	Y						EXIT FLASH	W			MIN FLASH	8
MINIMUM RECALL	N										CYCLE THRU PHASES	N
CONTROLLER OPTIONS												
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
FLASHING GRN PH												
GUAR PASSAGE												
NON-ACT I												
NON-ACT II												
DUAL ENTRY												
COND. SERVICE												
COND. RESERVICE												
PED RESERVICE												
REST IN WALK		X										
FLASH WALK												
PED CLR > YEL.												
PED CLR > RED												
IGRN + VEH EXT												
PHASE DETECTOR OPTIONS												
PHASE	1	2	3	4	5	6	7	8	9	10	11	12
LOCK DET												
VE RCALL		X				X						
PD RCALL												
MX RCALL												
SF RCALL												
NO REST												
AI CALC												

WIRING DIAGRAM



FLASHING OPERATION (Y) OR (R)  
DETECTION ZONE NUMBERING  
NOTE:  
- PHASE 4 TO FLASH RED  
- PHASES 2 AND 6 TO FLASH YELLOW

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1440-4(80)	12A

R.O.W. PLANS  
(UTILITIES ONLY)

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TRAFFIC SIGNAL  
DETAILS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1440-4(80)	13

The lighting design is based on the following RP-8-14 criteria:

**Design Criteria for I-440 Exit Ramp**

**Roadway Lighting Luminance  
(Straight Section of Roadway)**

Table 2, Freeway Class A  
 LAverage 0.6 cd/m2  
 LAvg/Min 3.5  
 LMax/Min 6.0  
 MaxLvRatio 0.3

**Roadway Lighting Illuminance  
(Curved Section of Roadway)**

**Conversion Factor for R2/R3 Pavement**  
 = 1 cd/m2 = 15 lux x 0.093 fc/lux = 1.4 fc  
 LAverage 0.8 fc (0.6 x 15 x 0.093 = 0.8 fc)  
 Avg/Min 3.5  
 Max/Min 6.0

**Design Criteria for Murphy Road**

**Intersection Illuminance**

Table 8, Major/Local: Low Pedestrian  
 Average 1.3 fc  
 Avg/Min 3:1

**Sidewalk Illuminance**

Table 6, Low Pedestrian, Medium Density  
 Residential (2.1 to 6.0 dwelling units per acre)  
 Horizontal AvgH 0.4 fc  
 Avg/Min 4:1  
 Vertical Vmin 0.1 fc (5 ft elev.)

Photometric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
01_Exit Ramp (Curved Rdwy)	Illuminance	Fc	0.82	1.71	0.43	1.91	3.98
02_Intersection	Illuminance	Fc	1.52	2.02	0.93	1.63	N.A.
03A_Sidewalk Horizontal	Illuminance	Fc	0.70	1.37	0.39	1.79	N.A.
03B_Sidewalk Vertical	Illuminance	Fc	N.A.	N.A.	0.34	N.A.	N.A.

**R.O.W.  
PLANS  
(UTILITIES ONLY)**

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RELOCATED ROADWAY LIGHT POLE SCHEDULE								
POLE NO.	CONTROL CENTER NO.	CIRCUIT NO.	BASELINE	STATION	OFFSET (FT)	SIDE	NORTHING	EASTING
(1,2) LP1	EXIST.	NA	MURPHY RD	102+97	37.9	LT	658657.4184	1725464.7780

- (1) FRONT FACE OF LIGHT STANDARD SHALL BE LOCATED AT BACK FACE OF SIDEWALK.
- (2) SEE NOTE 8 ON SHEET 13A.

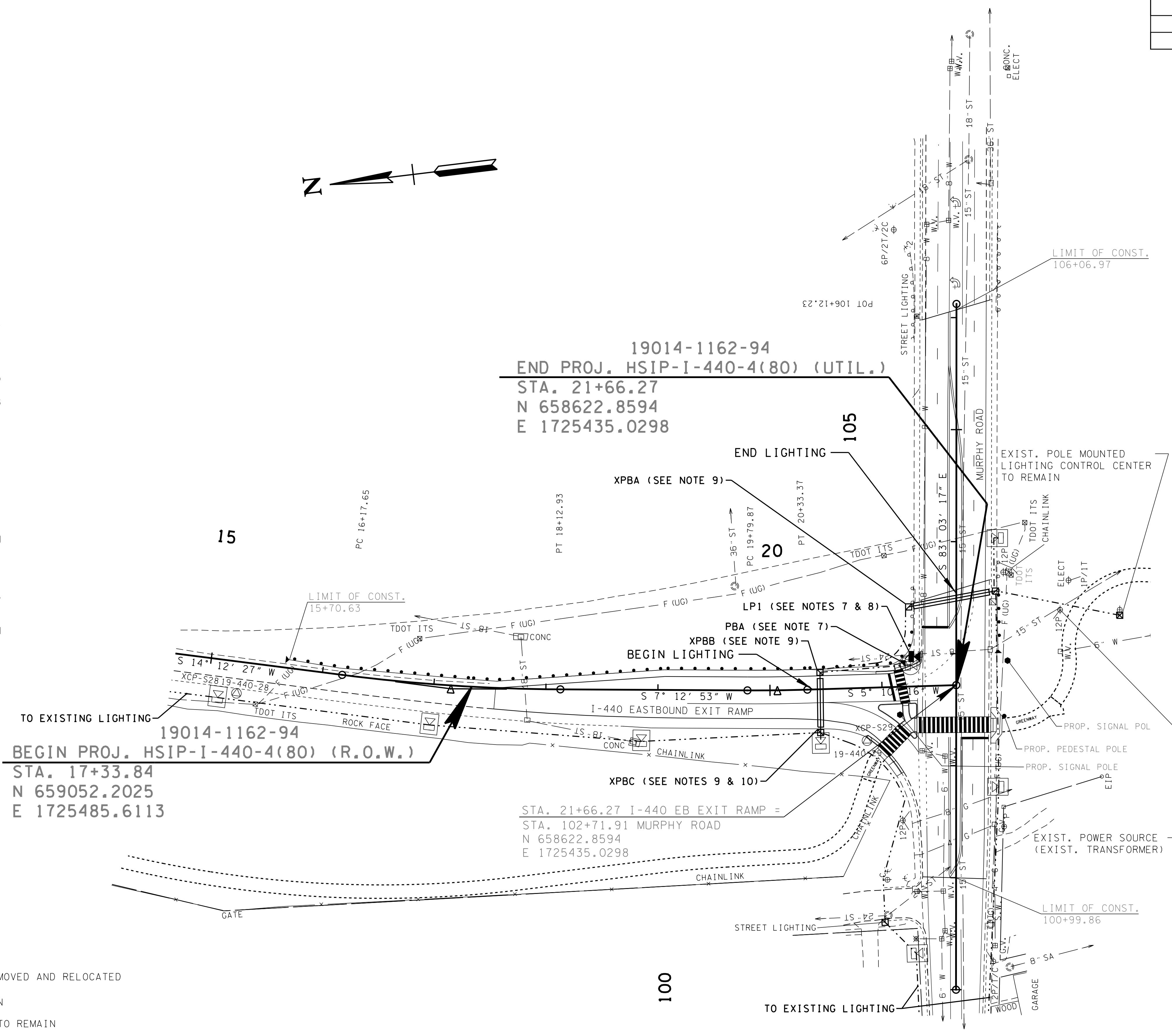
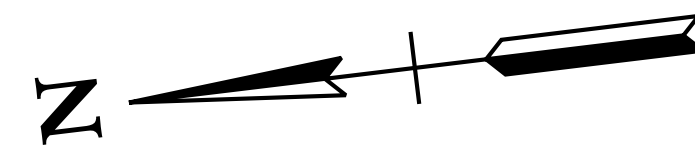
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**LIGHTING  
DETAILS**  
  
(PHOTOMETRIC AND POLE DATA)

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSP-1-440-4(80)	13A

LIGHTING NOTES:

- FOR CURVE DATA REFER TO EXISTING LAYOUT SHEET 4.
- INFORMATION FOR THE EXISTING CONDUIT ROUTING AND ROADWAY CROSSINGS SHOWN IN THE LIGHTING PLAN WAS OBTAINED FROM AS BUILT DRAWINGS PROVIDED BY NASHVILLE ELECTRIC SERVICES (NES) OBTAINED FROM TDOT PAVING PROJECT NO. I-440-4(59)206.
- PRIOR TO COMMENCEMENT OF WORK ON THE LIGHTING SYSTEM, CONTRACTOR SHALL FIELD VERIFY THE EXISTING ELECTRICAL CIRCUITRY FROM THE EXISTING CONTROL CENTER.
- THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN AREAS WHERE POLE AND CONDUIT INSTALLATION IS NEAR OR CROSSES OVERHEAD OR UNDERGROUND UTILITIES. CONTRACTOR SHALL HAND DIG THE CONDUIT NEAR THE EXISTING UNDERGROUND UTILITIES.
- CONTACT NES, BRAD MCKELVEY, (615) 747-3542, FOR APPROVAL AND INSPECTION OF ELECTRICAL MODIFICATIONS.
- CONTRACTOR SHALL OBTAIN APPROVAL FROM NES AND THE ENGINEER PRIOR TO ANY CHANGE IN ELECTRICAL CONNECTIONS DIFFERENT FROM THOSE SHOWN IN THE LIGHTING PLAN.
- PROPOSED PULL BOX PBA (TYPE B) SHALL BE INSTALLED ADJACENT TO THE EXISTING LIGHT STANDARD TO BE REMOVED. RECONNECT RELOCATED LP1 TO THE EXISTING CIRCUITRY AT PROPOSED PULL BOX PBA (TYPE B).
- RELOCATED LP1 SHALL BE INSTALLED 3'-6" FROM THE OVERHEAD POWER LINE AND 4' FROM THE FACE OF THE CURB. CONTRACTOR SHALL ADJUST POLE LOCATION TO MEET THESE REQUIREMENTS AS DIRECTED BY NES AND THE ENGINEER.
- EXISTING PULL BOXES XPBA, XPBB AND XPBC ARE INCLUDED IN THE AS BUILT PLANS PROVIDED BY NES; HOWEVER, NONE OF THESE COULD BE FIELD LOCATED. CONTRACTOR SHALL VERIFY THE ELECTRICAL CONNECTION FOR LP1 BETWEEN THESE PULL BOXES. THIS WORK SHALL BE PAID FOR UNDER PAY ITEM 714-25.
- ALL EXISTING LIGHT STANDARDS HAVE TRANSFORMER BASES. TYPICALLY, THE TRANSFORMER BASES SERVE AS PULL BOXES.
- THE EXISTING CIRCUITRY FOR THE LIGHT STANDARDS ON THE RAMP AND MURPHY ROAD SHALL REMAIN CONNECTED TO THEIR RESPECTIVE CIRCUITS.
- THE CONTRACTOR SHALL ENSURE THAT ALL LIGHTS CURRENTLY ENERGIZED REMAIN ENERGIZED.



LEGEND

- RELOCATED LIGHT STANDARD AND LUMINAIRE
- EXISTING LIGHT STANDARD AND LUMINAIRE TO BE REMOVED AND RELOCATED
- EXISTING LIGHT STANDARD AND LUMINAIRE TO REMAIN
- EXISTING POLE MOUNTED LIGHTING CONTROL CENTER TO REMAIN
- EXISTING LIGHTING PULL BOX
- PROPOSED LIGHTING PULL BOX
- EXISTING LIGHTING CONDUIT
- PROPOSED LIGHTING CONDUIT (2" PVC, SCHEDULE 40)

**R.O.W. PLANS**  
(UTILITIES ONLY)

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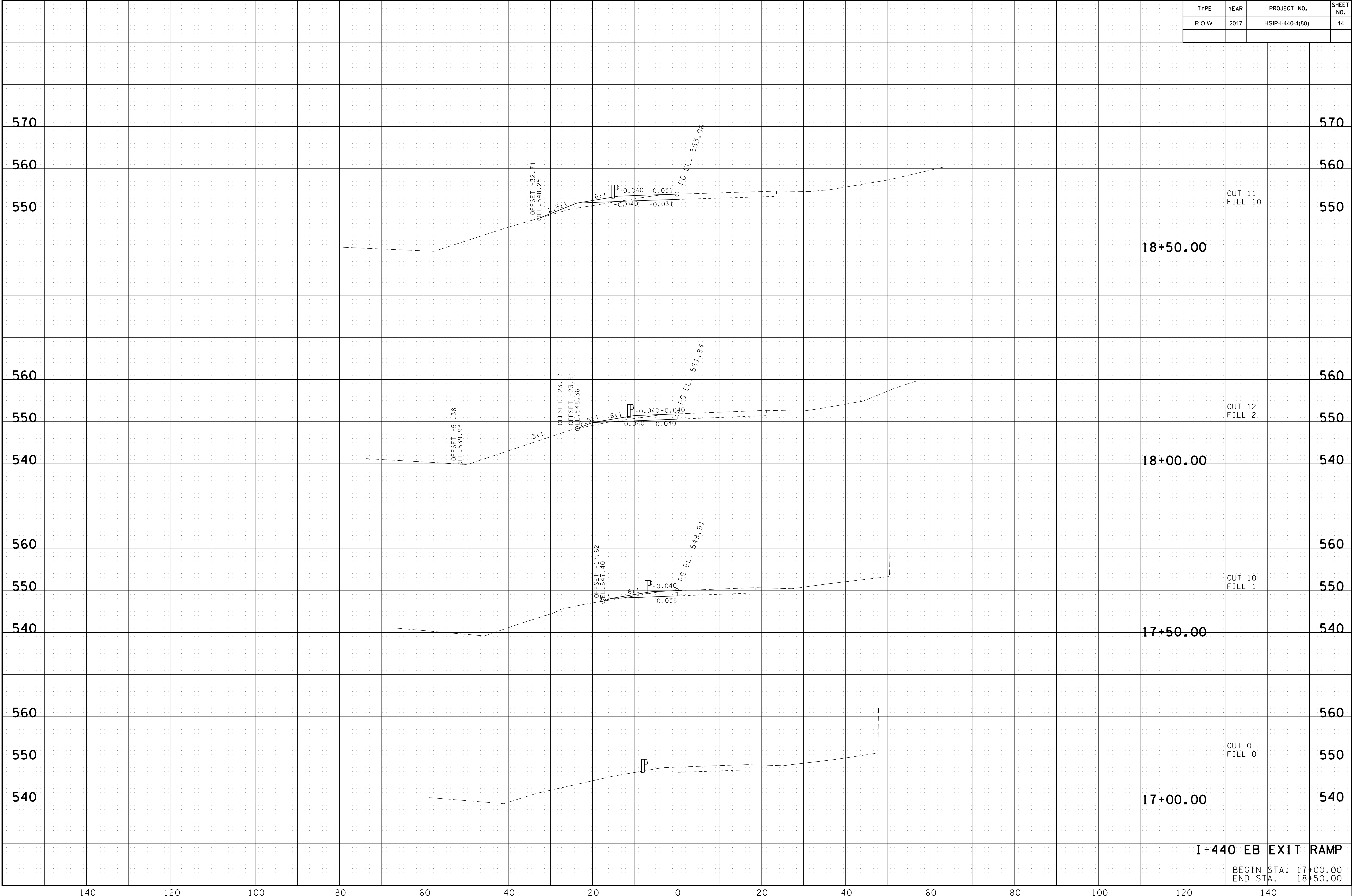
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LIGHTING LAYOUTS

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSIP-1440-4(80)	14

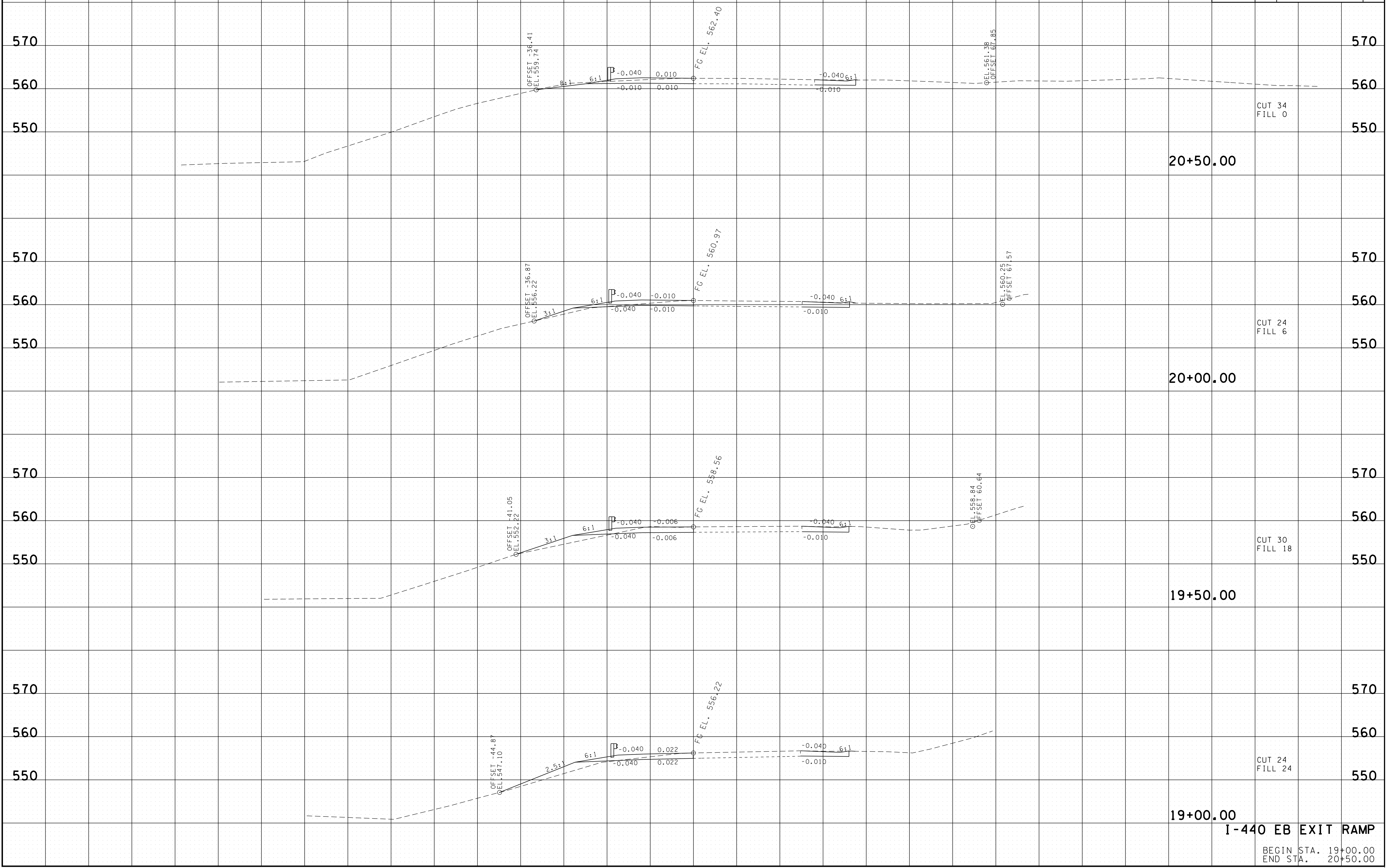


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**I-440 EB EXIT RAMP**

BEGIN STA. 17+00.00  
END STA. 18+50.00





8/2/2017 11:54:33 AM N:\2862 - TDOT Traffic\007 1440 at Murphy\ dgn\04-016.sht

**I-440 EB EXIT RAMP**  
 BEGIN STA. 19+00.00  
 END STA. 20+50.00

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2017	HSIP-1440-4(80)	16

8/2/2017 11:54:33 AM N:\2862 - TDOT Traffic\007 1440 of Murphy\ dgn\04-016.sht

