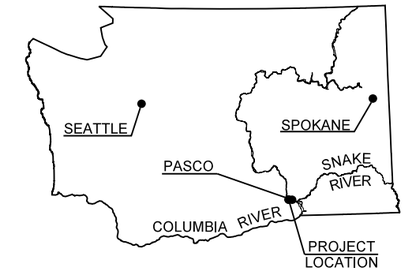
INDEX

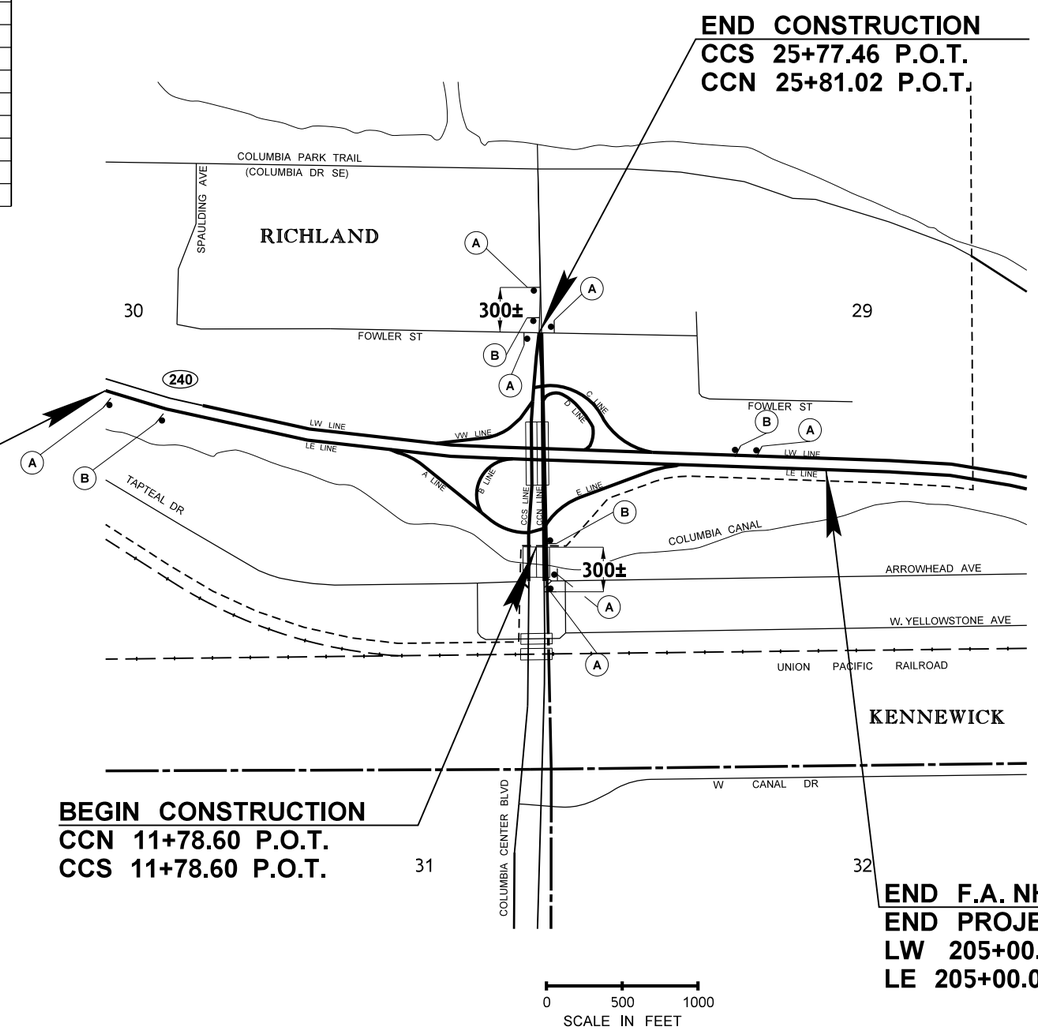
T.9N. R.29E. W.M.



SHEET NO.	PLAN REFERENCE NO.	TITLE
1	IN1	INDEX / VICINITY MAP
2	CT1	CERTIFICATION SHEET
3	SQ1	SUMMARY OF QUANTITIES
4 - 8	SG1 - SG5	SIGNAL PLANS
9 - 18	IL1-IL10	ILLUMINATION AND SIGNING PLANS
19 - 26	TCP1 - TCP7	TRAFFIC CONTROL PLANS

(A) 7 REQUIRED	(B) 4 REQUIRED ✱
ROAD WORK AHEAD 48" 48"	TRAFFIC REVISION AHEAD 48" 48"
W20-1	W20-901

✱ PLACE WHEN DIRECTED BY THE ENGINEER. REMOVE 90 DAYS AFTER INSTALLED.



PLAN REFERENCE NO.
SHEET OF SHEETS

NOTE: ALL SHEET REFERENCES, FIRST NOS. OF STRUCTURE CODE DESIGNATIONS AND MATCH LINE SHEET REFERENCES, ETC., THROUGHOUT THE PLANS, REFER TO THE ENTRY IN THE PLAN REFERENCE NUMBER BOX.

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_VM.dgn
TIME	2:07:48 PM
DATE	12/8/2022
PLOTTED BY	LinnM
DESIGNED BY	M. LINN
ENTERED BY	M. LINN
CHECKED BY	M. LINN
PROJ. ENGR.	J.T. DALEY
REGIONAL ADM.	T. TREPANIER

REVISION | DATE | BY

REGION NO. 10 | STATE WASH | FED.AID PROJ.NO. NHPP-0240(025)

JOB NUMBER 22Y023

CONTRACT NO. | LOCATION NO.

P.E. STAMP BOX DATE

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Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. - UPGRADE SIGNAL & ILLUMINATION

INDEX / VICINITY MAP

Plot 1
PLAN REF. NO. IN1
SHEET 1 OF 26 SHEETS

PROJECT LICENSED PROFESSIONAL CERTIFICATES

LisaRene Schilperoort LisaRene Schilperoort Dec 12, 2022 AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.	AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.	AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.	AS A LICENSED PROFESSIONAL IN DIRECT RESPONSIBLE CHARGE OF DEVELOPING THIS CONTRACT, I CERTIFY THAT ALL PLANS THAT CONTAIN MY STAMP HAVE BEEN DEVELOPED UNDER MY SUPERVISION.
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NOTES:

THIS PLAN SET WAS DEVELOPED ELECTRONICALLY UNDER THE DIRECT SUPERVISION OF THE LICENSED PROFESSIONALS THAT HAVE AFFIXED THEIR SIGNATURE TO THIS PAGE.

THIS SHEET SERVES AS THE CERTIFICATION BY THE ABOVE LICENSED PROFESSIONALS OF ALL SHEETS IN THIS PLAN SET WHERE THEIR STAMPS AND SIGNATURES APPEAR.

SUMMARY OF QUANTITIES

ITEM NO	TOTAL QUANTITY	SUB-TOTAL * SECTION I-07.2(1) OF STANDARD SPECS	SUB-TOTAL ** SECTION I-07.2(2) OF STANDARD SPECS	STD. ITEM NO.	UNIT	ITEM	GROUP 1 SR 240 COLUMBIA CENTER BLVD IC	GROUP 2 THIRD PARTY DAMAGES
						PREPARATION		
1	LUMP SUM		LUMP SUM	0001	L.S.	MOBILIZATION	L.S.	
						TRAFFIC		
2	LUMP SUM		LUMP SUM	6890	L.S.	PERMANENT SIGNING	L.S.	
3	LUMP SUM		LUMP SUM	6904	L.S.	ILLUMINATION SYSTEM	L.S.	
4	LUMP SUM		LUMP SUM	6912	L.S.	TRAFFIC SIGNAL SYSTEM	L.S.	
5	LUMP SUM		LUMP SUM	6914	L.S.	ITS - CCTV	L.S.	
6	800.00		800.00	6917	L.F.	DIRECTIONAL BORING	800.00	
7	25600.00		25600.00	6993	HR	PORTABLE CHANGEABLE MESSAGE SIGN	25,600.00	
8	LUMP SUM		LUMP SUM	6971	L.S.	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	
9	208.00		208.00	6982	S.F.	CONSTRUCTION SIGNS CLASS A	208.00	
10	25000.00		25000.00	7572	DOL	WORK ZONE SAFETY CONTINGENCY	25,000.00	
						OTHER ITEMS		
11	1000.00		1000.00	7480	DOL	ROADSIDE CLEANUP	1,000.00	
12	5.00		5.00	7725	DOL	REIMBURSEMENT FOR THIRD PARTY DAMAGE		5.00
13	-1.00		-1.00	7728	DOL	MINOR CHANGE	-1.00	
14	LUMP SUM		LUMP SUM	7736	L.S.	SPCC PLAN	L.S.	

GROUP LEGEND

GROUP NUMBER	SR	CONTROL SECTION	TAX SCHEDULE	FUND PARTICIPANTS
1	240	030410	**	STATE - MVA,FEDERAL
2	240	030410	**	STATE THIRD PARTY

DATE	REVISION	BY

REGION	STATE	FEDERAL AID PROJECT. NO.
10	WA	NHPP-0240(025)

JOB NUMBER 22Y023/2

CONTRACT NO 000000

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD -
UPGRADE SIGNAL & ILLUMINATION

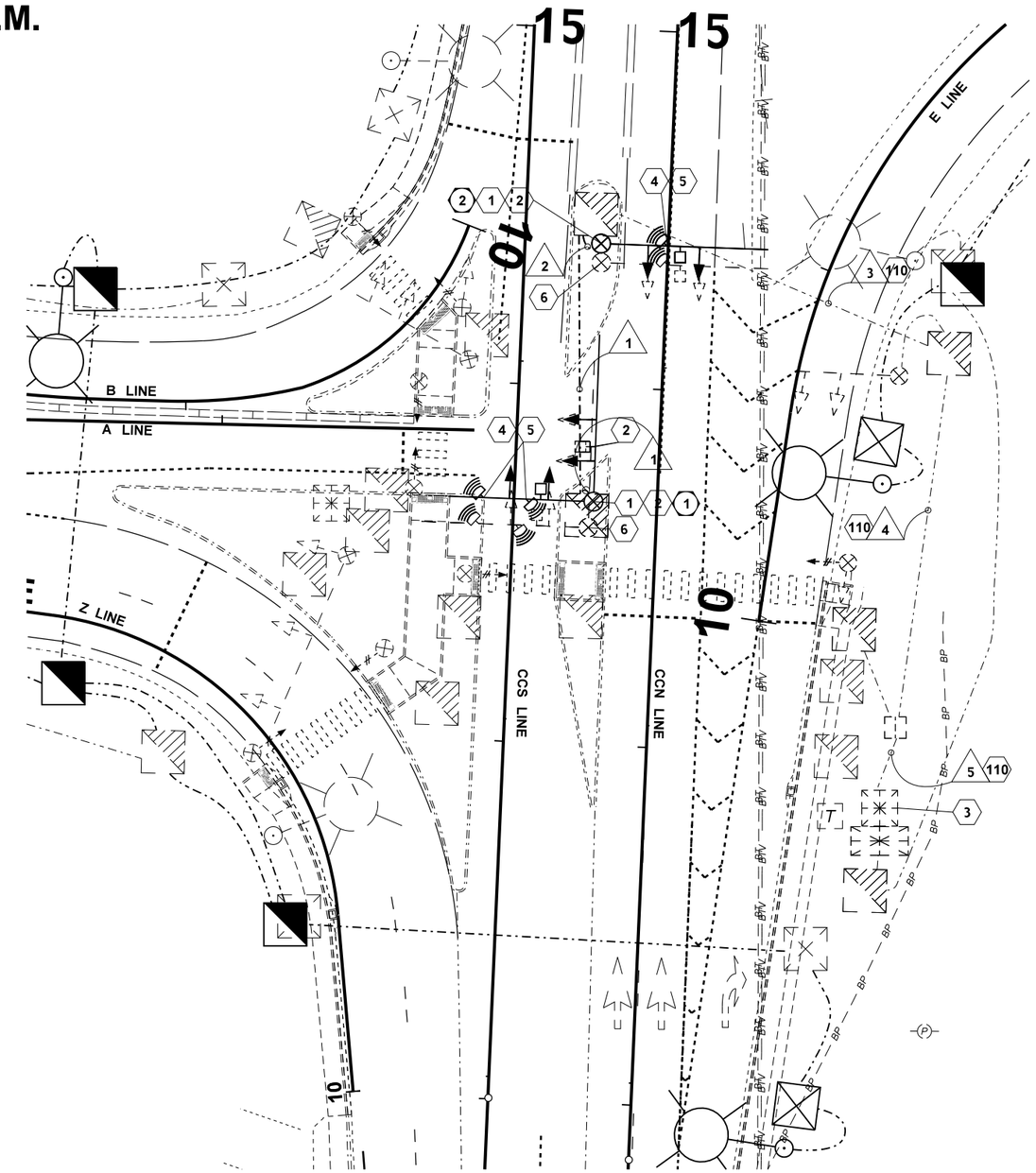
SUMMARY OF QUANTITIES

CONSTRUCTION NOTES

1. CONSTRUCT FOUNDATION AND INSTALL TYPE II SIGNAL STANDARD. SEE SHEET SG3 FOR ADDITIONAL DETAILS. INSTALL NEW SIGNAL HEADS AND NEW TERMINAL CABINET.
2. MOVE EMERGENCY VEHICLE PREEMPT DETECTOR FROM EXISTING SIGNAL STANDARD TO NEW SIGNAL STANDARD.
3. COORDINATE WITH WSDOT SIGNAL MAINTENANCE THROUGH THE ENGINEER FOR HARDWARE CABINET CHANGES.
4. MOVE WAVETRONIX MATRIX RADAR DETECTOR ON EXISTING SIGNAL MAST ARM TO NEW MAST ARM. SEE TABLE FOR MAST ARM OFFSET DISTANCE.
5. FOR EACH MATRIX RADAR DETECTOR ON SIGNAL STANDARD, INSTALL ONE WAVETRONIX SS-710 JUNCTION BOX IN TERMINAL CABINET. ROUTE ONE 6 PAIR SS-704-XX WAVETRONIX SENSOR CABLE BETWEEN EACH MATRIX RADAR DETECTOR AND ITS ASSOCIATED SS-710 JUNCTION BOX. ROUTE ONE 8 PAIR ATP-MATRIX 2 CABLE BETWEEN EACH SS-710 JUNCTION BOX AND THE SIGNAL CONTROLLER CABINET. TERMINATE CABLE FOR WAVETRONIX EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS.
6. REMOVE EXISTING SIGNAL STANDARD AT TIME OF NEW SIGNAL TURN-ON.

110. RUN NEW CONDUCTORS THROUGH EXISTING CONDUIT WITHOUT 1ST REMOVING CONDUCTORS AND MANDRELLING. REMOVE EXISTING CONDUCTORS ONLY AFTER NEW SIGNAL IS RUNNING.

T.9N. R.29E. W.M.



GENERAL NOTES

1. SEE ILLUMINATION PLAN SHEETS FOR ILLUMINATION DETAILS.
2. SEE WIRING SCHEDULE ON SHEET SG2.
3. SEE SHEET SG5 FOR LEGEND.

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TR_SG.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NHPP-0240(025)
TIME	2:04:37 PM						
DATE	12/8/2022						
PLOTTED BY	LinnM				JOB NUMBER 22Y023		
DESIGNED BY	R. HALE						
ENTERED BY	R. HALE						
CHECKED BY	R. HALE				CONTRACT NO.		LOCATION NO.
PROJ. ENGR.	J.T. DALEY						
REGIONAL ADM.	T. TREPANIER	REVISION	DATE	BY			

LISA RENE SCHILPEROORT, 38226, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER

SEE SHEET CT1
DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. - UPGRADE SIGNAL & ILLUMINATION

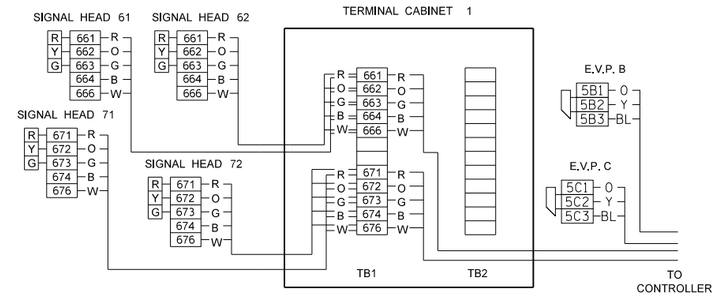
SIGNAL PLAN

Plot 1
PLAN REF NO
SG1
SHEET 4 OF 26 SHEETS

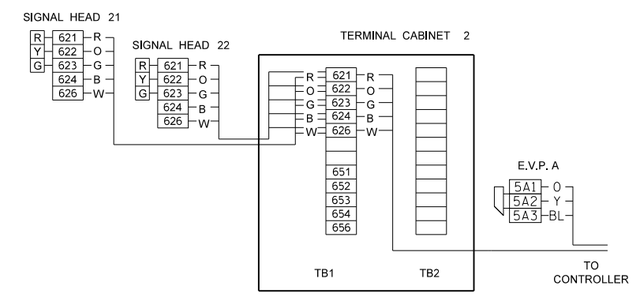
WIRING SCHEDULE

RUN NO.	CONDUIT SIZE	PED HEAD 5C	SIG HEAD 5C	PED BUTTON 2C	EVP 3C	ATP 8 PR MATRIX 2
1	3"		2		2	2
2	3"		1		1	1
3	EX. 2"		1		1	1
4	EX. 2"		2		2	1
5	EX. 3"	4	2	4	1	2
	EX. 3"		2		2	1
	EX. 3"	2	3	2		

FIELD WIRE TERMINATIONS

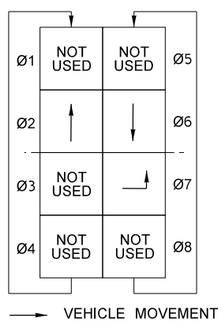


POLE NO. 1



POLE NO. 2

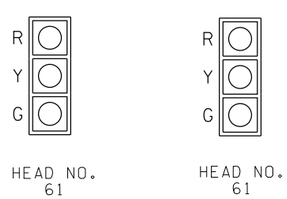
PHASE DIAGRAM



PREEMPTION SCHEDULE

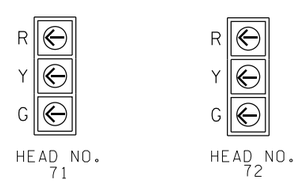
CIRCUIT	PHASE(S)
A	2
B	7
C	6

SR 240 SB SIGNAL SIGNAL DISPLAYS



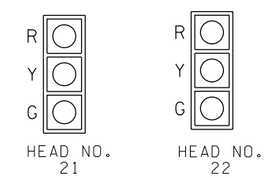
ALL VEHICLE HEADS SHALL HAVE 12" LENS WITH ALUMINUM VISORS. ALL MAST ARM VEHICLE HEADS SHALL BE MOUNTED WITH TYPE N HARDWARE.

SR 240 EB SIGNAL SIGNAL DISPLAYS



ALL VEHICLE HEADS SHALL HAVE 12" LENS WITH ALUMINUM VISORS. ALL MAST ARM VEHICLE HEADS SHALL BE MOUNTED WITH TYPE N HARDWARE.

SR 240 NB SIGNAL SIGNAL DISPLAYS



ALL VEHICLE HEADS SHALL HAVE 12" LENS WITH ALUMINUM VISORS. ALL VEHICLES HEADS SHALL BE MOUNTED WITH TYPE N HARDWARE.

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TIME	2:04:56 PM
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REGIONAL ADM.	T. TREPANIER

REVISION | DATE | BY

REGION NO. 10 | STATE WASH | FED.AID PROJ.NO. NHPP-0240(025)

JOB NUMBER 22Y023

CONTRACT NO. | LOCATION NO.

LISA RENE SCHILPEROORT — STATE OF WASHINGTON — 18226 — REGISTERED PROFESSIONAL ENGINEER

SEE SHEET CT1

DATE

P.E. STAMP BOX

DATE

P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. - UPGRADE SIGNAL & ILLUMINATION

SIGNAL PLAN

Plot 2

PLAN REF NO SG2

SHEET 5 OF 26 SHEETS

LEGEND

a. VEHICLE DISPLAY
b. RADAR DETECTOR
c. STREET NAME SIGN
d. PRE-EMPT DETECTOR
e. POST MTD. SIGN
f. LUMINAIRE
g. PEDESTRIAN DISPLAY
h. TERMINAL CABINET
i. APS PPB-M
j. HANDHOLE

SIGNAL STANDARD IDENTIFICATION TAG DETAIL

STD. NO. XX	SIGNAL STANDARD NO.	STD. NO. 02
SRXXX, MP XXX.XX	STATE ROUTE AND MILE POST NO.	SR97, MP 069.09
MANUFACTURER APPROVED DWG. XXXXXX	APPROVED DRAWING NO.	MANUFACTURER APPROVED DWG. AB12345
FAB. X/XX/XXXX	FABRICATION DATE	FAB. 6/14/2002
		EXAMPLE

TAG NOTES:
CORROSION RESISTANT METAL TAG SECURED WITH (2) 0.125" RIVETS AS FOLLOWS:
- POLE SHAFT - LOCATED WITHIN 6" ABOVE HAND HOLE (TYPE II & III).
- SIGNAL AND LUMINAIRE MAST ARM (TYPE II & III) - LOCATED WITHIN 6" OF THE LUMINAIRE ARM AND THE POLE SHAFT CONNECTION POINT (TYPE III). TEXT SHALL BE A MINIMUM OF 3/16" HIGH, STAMPED OR EMBOSSED.

LUMINAIRE MAST ARM X Y Z (ft^3)	
MAST ARM LENGTH	X Y Z (ft^3)
6'	19.8
8'	26.4
10'	33.0
12'	39.6
14'	46.2
16'	52.8

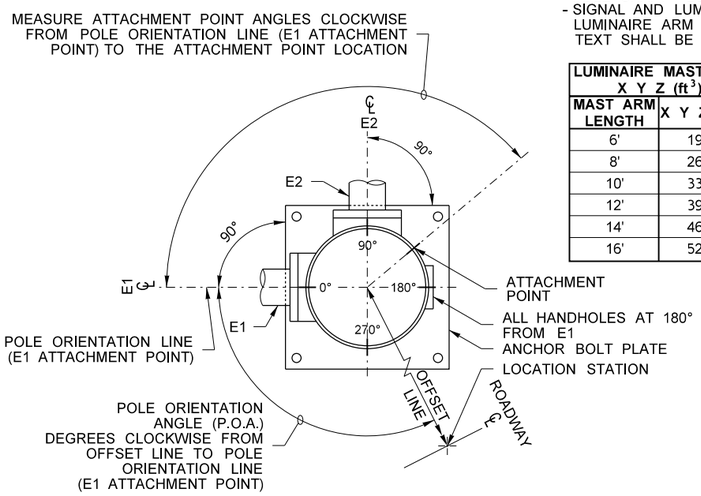
STANDARD TYPE		STANDARD PLAN REFERENCES			
		POLE	FOUNDATION		ELECTRICAL
			STANDARD	CURB	
PPB	FIXED	J-20.10	J-20.10	J-20.11	J-20.10
	BREAKAWAY	J-20.15	J-20.15		J-20.15
PS		J-20.16	J-21.10		J-20.20
I		J-21.15	J-21.10		J-21.20
II, III, SD		N/A	J-26.10, J-26.15	N/A	N/A

NOTES

1. MOUNTING COUPLING INSTALLED AT OFFSET DISTANCE INDICATED IN CHART. FOR TYPE N MOUNTS ONLY, DRILL 1" DIA. HOLE IN MAST ARM AND INSTALL PLASTIC SPLIT BUSHING FOR CABLE ENTRANCE.
2. FIELD INSTALLED. SIGN SIZES SHALL NOT EXCEED THE MAXIMUM VALUES LISTED HERE:

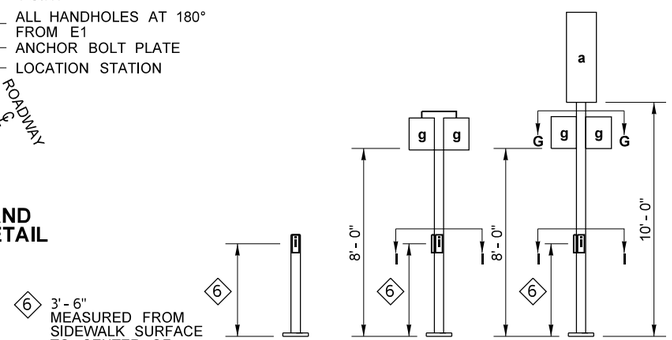
SIGN	HEIGHT	WIDTH	AREA
b	3.0 FT	N/A	7.5 SQ. FT.
c	3.0 FT	N/A	36.0 SQ. FT.
e	N/A	3.0 FT	15.0 SQ. FT.

3. 1'-0" MIN. TO 2'-6" MAX. FROM POLE CENTERLINE TO SIGN EDGE
4. FOR POST MOUNTED SIGNS THERE SHALL BE 2'-0" MIN. FROM THE FACE OF THE CURB OR THE EDGE OF THE SHOULDER TO THE EDGE OF THE SIGN

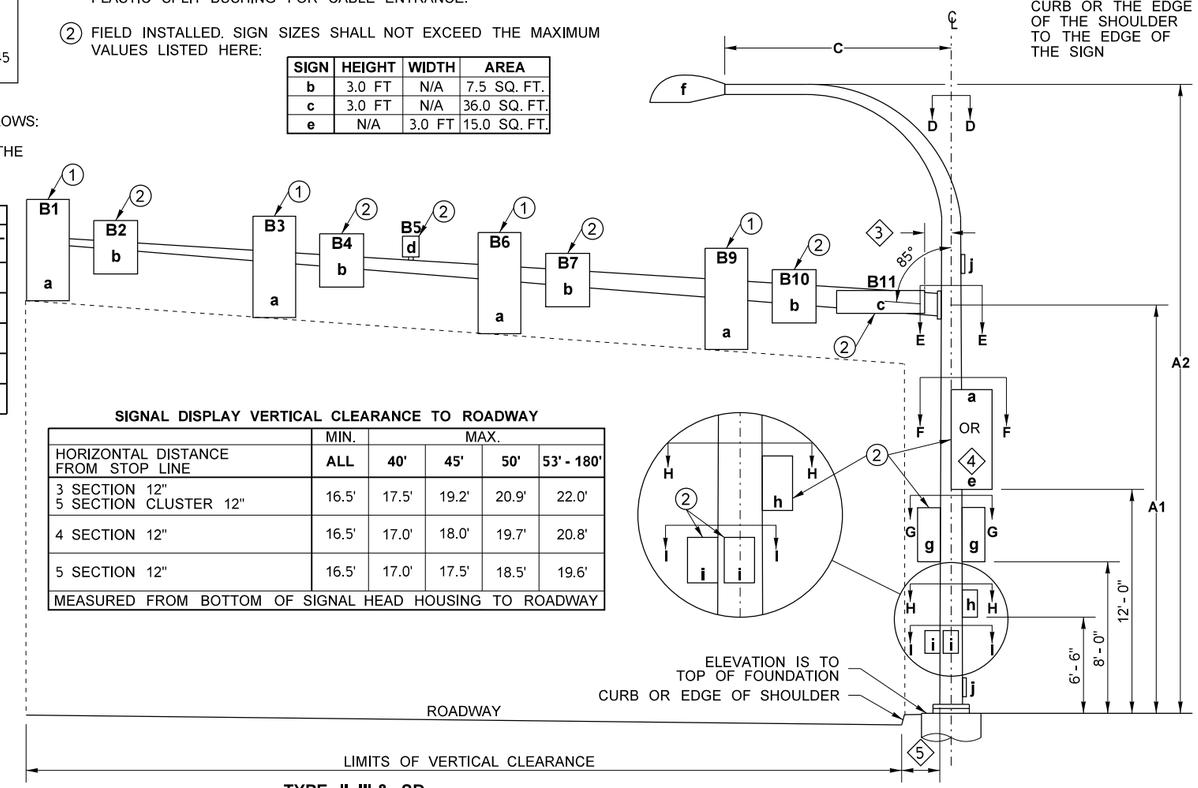


POLE ORIENTATION AND ATTACHMENT POINT DETAIL

NOTE:
TYPE E MOUNTS SHALL BE USED FOR PEDESTRIAN DISPLAYS ON TYPE II OR III SIGNAL STANDARDS, WITH THE FOLLOWING EXCEPTION: PEDESTRIAN DISPLAYS MOUNTED ON OCTAGONAL (8 SIDED) SIGNAL STANDARDS AT AN ANGLE OTHER THAN A 45 DEGREE INCREMENT SHALL USE A TYPE A MOUNT FOR TWO PEDESTRIAN DISPLAYS, OR A TYPE B MOUNT FOR A SINGLE PEDESTRIAN DISPLAY.



TYPE PPB PPB POST | TYPE PS PED. HEAD STANDARD | TYPE I VEHICLE HEAD STANDARD



SIGNAL DISPLAY VERTICAL CLEARANCE TO ROADWAY

HORIZONTAL DISTANCE FROM STOP LINE	MIN. ALL	MAX. 40'	45'	50'	53' - 180'
3 SECTION 12" 5 SECTION CLUSTER 12"	16.5'	17.5'	19.2'	20.9'	22.0'
4 SECTION 12"	16.5'	17.0'	18.0'	19.7'	20.8'
5 SECTION 12"	16.5'	17.0'	17.5'	18.5'	19.6'
MEASURED FROM BOTTOM OF SIGNAL HEAD HOUSING TO ROADWAY					

TYPE II, III & SD SIGNAL STANDARD

7. DMS OR VMS IS NOT ALLOWED ON THESE POLES.

5. PLACEMENT SHALL BE 2'-0" MIN. FROM FACE OF CURB OR EDGE OF SHOULDER; 3'-0" MIN. FROM FACE OF GUARDRAIL; 4'-0" MIN. FROM CONC. BARRIER TYPE 2 (MEASURED FROM A POINT WHERE THE BARRIER BASE MEETS THE SHOULDER SURFACE (TOE). MEASUREMENT TAKEN FROM TRAFFIC SIDE OF BARRIER; TO FACE OF POLE)

SIGNAL STANDARD DETAIL CHART

STD.	SR No.	SR MILE POST	FIELD LOCATION STATION	OFFSET	LT	RT	ELEV. *	P.O.A.	TYPE	MOUNTING HEIGHT (FT) A1	A2	OFFSET DISTANCES (FT) (Z) (POLE Q TO ATTACHMENT POINT) B1	B2	B3	B4	B5	B6	B7	B9	B10	B11	WINDLOAD AREAS (FT^2) (X)(Y) B1	B2	B3	B4	B6	B7	B9	B10	B11	LUMINAIRE ARM (FT) C	CALCULATED POLE XYZ (FT^3) **	POLE ATTACHMENT POINT ANGLES (DEGREES) D	E1	E2	F	G1	G2	H	I1	I2	FOUNDATION DESIGN XYZ (FT^3)	FOUNDATION DEPTHS (FT) ALTERNATE 1 3' RD.	3' SQ.	4' RD.	ALTERNATE 2 3' RD.	4' RD.	SOIL BEARING PRESSURE (PSF)	REMARKS
1	240	38.90	CCN 13+68	18	X			0		19			48	41	36	31	30							9.2		9.2						654		0								700	11	10		11		1500	
										19				23		16	11				11			9.2		9.2						313			90														B11 = COLUMBIA CENTER BLVD
2	240	38.90	CCN 14+40	19	X			0		19				28		22		19	13					9.2				9.2				378		0								700	11	10		11		1500	

*** ELEVATION IS TO TOP OF FOUNDATION. FIELD VERIFY ELEVATION PRIOR TO ORDERING SIGNAL STANDARDS.**

****CALCULATED POLE XYZ (FT) IS THE SUM OF THE TOTAL XYZ (FT) FOR THE SIGNAL ARM AND THE XYZ (FT^3) FOR THE LUMINAIRE ARM (IF PRESENT).**

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TR_SG.dgn
TIME	2:05:21 PM
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PLOTTED BY	LinnM
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REGION NO. 10 | STATE WASH | FED.AID PROJ.NO. NHPP-0240(025)
JOB NUMBER 22Y023
CONTRACT NO. | LOCATION NO.

LISA RENE SCHILDEROOT, STATE OF WASHINGTON, 18227, REGISTERED PROFESSIONAL ENGINEER

SEE SHEET CT1 DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

SIGNAL PLAN

PLAN REF NO SG3

SHEET 6 OF 26 SHEETS

CABINET INPUT WIRE TERMINATIONS

INPUT FILE			TB8			PPBs
			TB8-1			
			TB8-2			
			TB8-3			
Ø2P	I12-U	I12-D	TB8-4	724	B	28, 29
Ø4P	I12-L	I12-J	TB8-5	744	B	48, 49
COM	I12-L	I12-K	TB8-6	725/745	W	28, 29, 48, 49
Ø6P	I13-U	I13-D	TB8-7	764	B	68, 69
Ø8P	I13-L	I13-J	TB8-8	784	B	88, 89
COM	I13-L	I13-K	TB8-9	765/785	W	68, 69, 88, 89
		J11-D	TB8-10			
		J11-J	TB8-11			
		J11-K	TB8-12			

EVPs			TB9	INPUT FILE		
			TB9-1			
A, C	DR	5A3/5C3	TB9-2	J13-K	J13-L	DC-
B, D	DR	5B3/5D3	TB9-3			
A	B	5A2	TB9-4	J12-D	J12-U	EVPA
C	B	5C2	TB9-5	J12-J	J12-L	EVPC
A, C	O	5A1/5C1	TB9-6	J12-E	J12-U	DC+
B	B	5B2	TB9-7	J13-D	J13-U	EVPB
D	B	5D2	TB9-8	J13-J	J13-L	EVPD
B, D	O	5B1/5D1	TB9-9	J13-E	J13-U	DC+
		516	TB9-10	J14-D	J14-U	RR1
		517	TB9-11	J14-J	J14-L	RR2
		518	TB9-12	J14-E	J14-U	COM

DISPLAY OUTPUT TERMINALS

48	R	641	101	Φ4R
49		642	102	Φ4Y
		643	103	Φ4G
	G	741	104	Φ4DW
		5B4	105	EVIB
		742	106	Φ4W
81	R	681	107	Φ8R
82	O	682	108	Φ8Y
	G	683	109	Φ8G
		781	110	Φ8DW
		5D4	111	EVID
		782	112	Φ8W

		721	113	Φ2DW
		5A4	114	EVIA
		722	115	Φ2W
		631	116	Φ3R
		632	117	Φ3Y
		633	118	Φ3G
		761	119	Φ6DW
		5C4	120	EVIC
		762	121	Φ6W
		671	122	Φ7R
		672	123	Φ7Y
		673	124	Φ7G

21	R	611	125	Φ1R
22	O	612	126	Φ1Y
	G	613	127	Φ1G
		621	128	Φ2R
		622	129	Φ2Y
		623	130	Φ2G
		651	131	Φ5R
		652	132	Φ5Y
		653	133	Φ5G
61	R	661	134	Φ6R
62	O	662	135	Φ6Y
63	G	663	136	Φ6G
64				

AUXILIARY OUTPUT FILE

6D1	A101	
6D2	A102	
6D3	A103	
	A104	
	A105	
	A106	

	A111	
	A112	
	A113	
6C1	A114	
6C2	A115	
6C4	A116	

6A1	A121	
6A2	A122	
6A3	A123	
6B1	A124	
6B2	A125	
6B3	A126	

SERVICE PANEL

TBS

B	5O1	1	AC+
GRD		2	CG
W	5O2	3	AC-
		4	
		5	

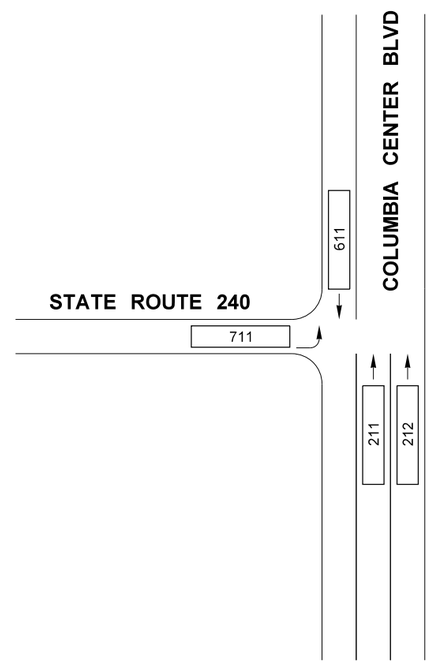
NOTE:

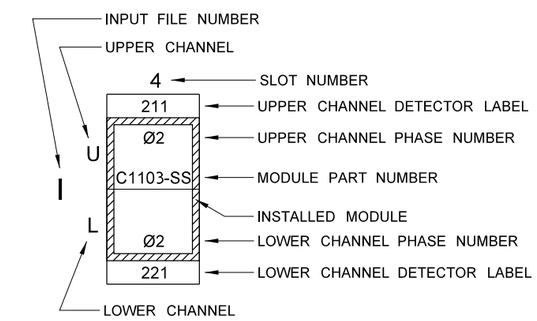
TERMINATE ALL WIRING IDENTIFIED AS AC- (6*6 AND 7*3) AT THE AC-BUSS.

SEAL AND COIL ALL SPARE CONDUCTORS AND STORE NEATLY ON THE CABINET FLOOR.

INPUT FILE LAYOUT AND MARKING DETAIL

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
I		111	CLICK 112	213	211	311	412	413	411	113	000	ADV	PED2	PED6	FLSH
I	U		Ø2 NBSTB										Ø2 67	Ø6 68	
I	L		RZ1										Ø4 69	Ø8 70	
I		112	222	223	221	312	422	423	421	313	000	000	PED4	PED8	ST
J		511	CLICK 112	613	611	CLICK 112	812	813	811	513	000	000	EVPA	EVPC	RR1
J	U		Ø6 SBSTB			Ø7 EBSTB							Ø7 CH. A		
J	L		RZ1			RZ1							Ø2 CH. B	Ø6 CH. B	
J		512	622	623	612		822	823	821	713	000	000	EVPB	EVPD	RR2





INPUT FILE SLOT LEGEND

NOTE:
SLOTS LABELED WITH "000" SHALL REMAIN UNLABELED.

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TIME	2:05:39 PM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NHPP-0240(025)
DATE	12/8/2022						
PLOTTED BY	LinnM				JOB NUMBER 22Y023		
DESIGNED BY	R. HALE						
ENTERED BY	R. HALE						
CHECKED BY	R. HALE				CONTRACT NO.		LOCATION NO.
PROJ. ENGR.	J.T. DALEY						
REGIONAL ADM.	T. TREPANIER	REVISION	DATE	BY			

LISA RENE SCHILPEROORT, STATE OF WASHINGTON, 18226, REGISTERED PROFESSIONAL ENGINEER

SEE SHEET CT1
DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

SIGNAL PLAN

Plot 4
PLAN REF NO
SG4
SHEET 7 OF 26 SHEETS

LEGEND

NEW

- LIGHT STANDARD
- TYPE 1 JUNCTION BOX
- TYPE 2 JUNCTION BOX
- TYPE 7 JUNCTION BOX
- TYPE 2 SIGNAL POLE
- TYPE PS SIGNAL POLE
- TYPE I SIGNAL POLE
- EMERGENCY VEHICLE PREEMPT DETECTOR
- VEHICLE SIGNAL HEAD DISPLAY
- CONDUIT
- CONSTRUCTION NOTE
- WIRE NOTE
- SIGNAL STANDARD NUMBER
- RADAR DETECTOR

EXIST

- LIGHT STANDARD
- CONTROLLER CABINET
- TYPE 1 JUNCTION BOX
- TYPE 2 JUNCTION BOX
- VEHICLE SIGNAL HEAD DISPLAY
- TYPE 2 SIGNAL POLE
- BURIED TELEVISION (BTV)
- CONDUIT
- UNDER GROUND POWER LINE (BP)
- DRAIN LINE (D)
- FENCE
- BARRIER
- GUARDRAIL
- CATCH BASIN
- POST METAL
- GRATE INLET
- POWER BOX
- DRAINAGE MANHOLE
- MONUMENT CASE AND COVER
- SIGN
- EMERGENCY VEHICLE PREEMPTION
- PED PUSH BUTTON
- RADAR DETECTION
- CROSSWALK

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TR_SG.dgn					
TIME	2:06:21 PM					
DATE	12/8/2022					
PLOTTED BY	LinnM					
DESIGNED BY	R. HALE					
ENTERED BY	R. HALE					
CHECKED BY	R. HALE					
PROJ. ENGR.	J.T. DALEY					
REGIONAL ADM.	T. TREPANIER	REVISION	DATE	BY		

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	NHPP-0240(025)
JOB NUMBER 22Y023		
CONTRACT NO.		LOCATION NO.

USA RENE SCHILPEROORT STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER 18276

SEE SHEET CT1

DATE

P.E. STAMP BOX

DATE

P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. - UPGRADE SIGNAL & ILLUMINATION

SIGNAL PLAN

Plot 5

PLAN REF NO SG5

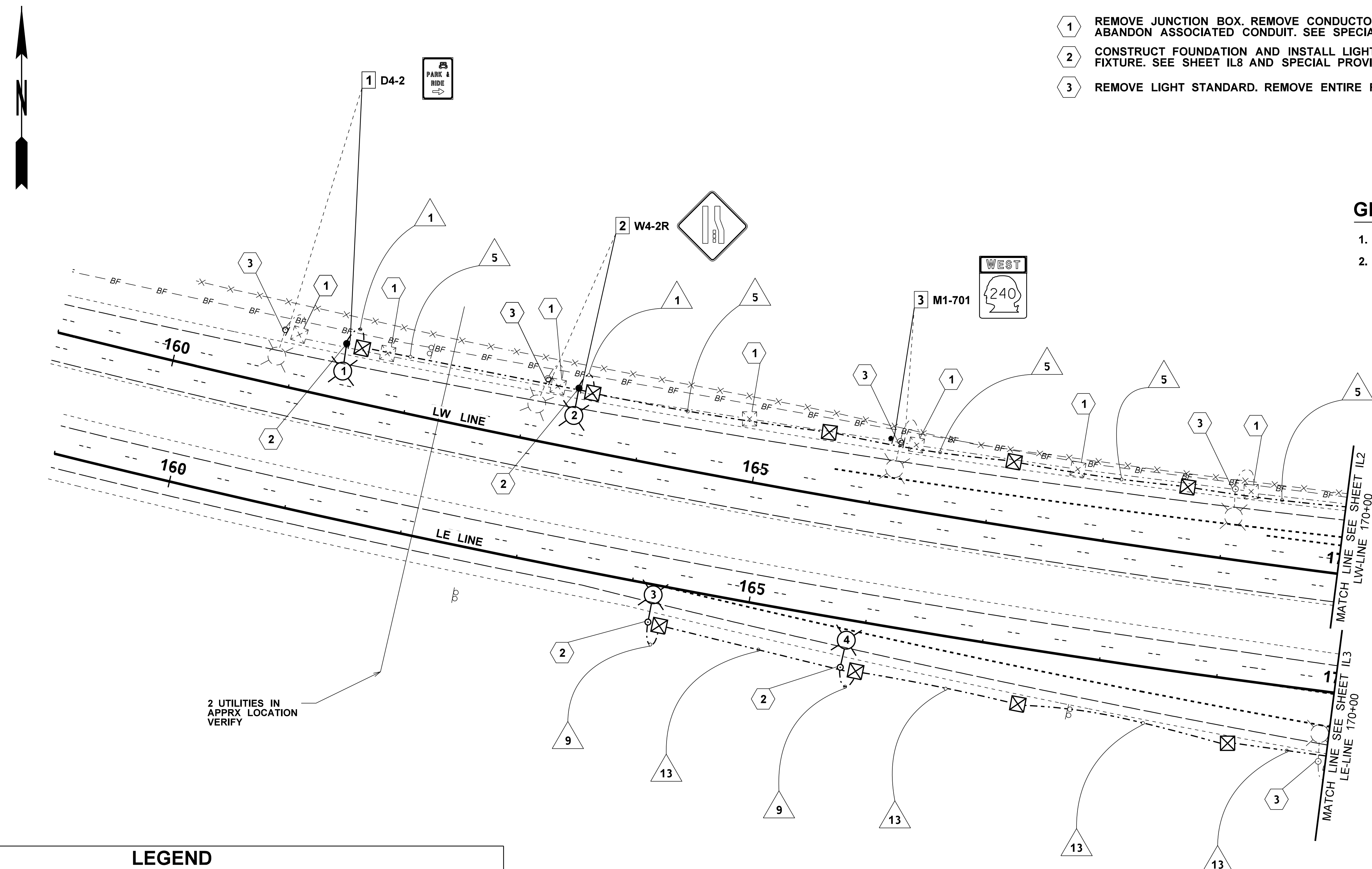
SHEET 8 OF 26 SHEETS

CONSTRUCTION NOTES

1. REMOVE JUNCTION BOX. REMOVE CONDUCTORS. REMOVE CONDUIT TO 18" BELOW GRADE. ABANDON ASSOCIATED CONDUIT. SEE SPECIAL PROVISIONS.
2. CONSTRUCT FOUNDATION AND INSTALL LIGHT STANDARD. INSTALL LIGHT FIXTURE. SEE SHEET IL8 AND SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
3. REMOVE LIGHT STANDARD. REMOVE ENTIRE FOUNDATION. BACKFILL.

GENERAL NOTES

1. FOR ILLUMINATION SCHEDULE SEE SHEET IL8.
2. FOR SIGNING RELOCATION, SEE SHEET IL8.



LEGEND

Symbol	Description	Symbol	Description
-x- -x- -x	EXISTING FENCE	- BF — — BF -	EXISTING UNDER GROUND FIBER
	TYPE 1 JUNCTION BOX		CONDUIT
	EXISTING TYPE 1 JUNCTION BOX		EXISTING CONDUIT
#	LUMINAIRE		EXISTING SINGLE POST SIGN
	EXISTING LUMINAIRE		EXISTING DOUBLE POST SIGN
		?	SIGN RELOCATION SPECIFICATION NO.

0 50 100
SCALE IN FEET

WIRING SCHEDULE			
RUN #	CONDUIT SIZE	CONDUCTORS NEW	DESCRIPTION
1	1"	2 - #8	LTN1
5	2"	2 - #8	LTN1
9	1"	2 - #8	LTS1
13	2"	2 - #8	LTS1

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TR_IL.dgn
TIME	7:47:34 AM
DATE	12/8/2022
PLOTTED BY	LinnM
DESIGNED BY	M. LINN
ENTERED BY	M. LINN
CHECKED BY	M. LINN
PROJ. ENGR.	J.T. DALEY
REGIONAL ADM.	T. TREPANIER

REVISION | DATE | BY

REGION NO. 10 | STATE WASH | FED.AID PROJ.NO. NHPP-0240(025)

JOB NUMBER 22Y023

CONTRACT NO. | LOCATION NO.

LISA RENE SCHILPEROORT — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

SEE SHEET CT1
DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. - UPGRADE SIGNAL & ILLUMINATION

ILLUMINATION AND SIGNING PLAN

PLAN REF NO IL1

SHEET 9 OF 26 SHEETS

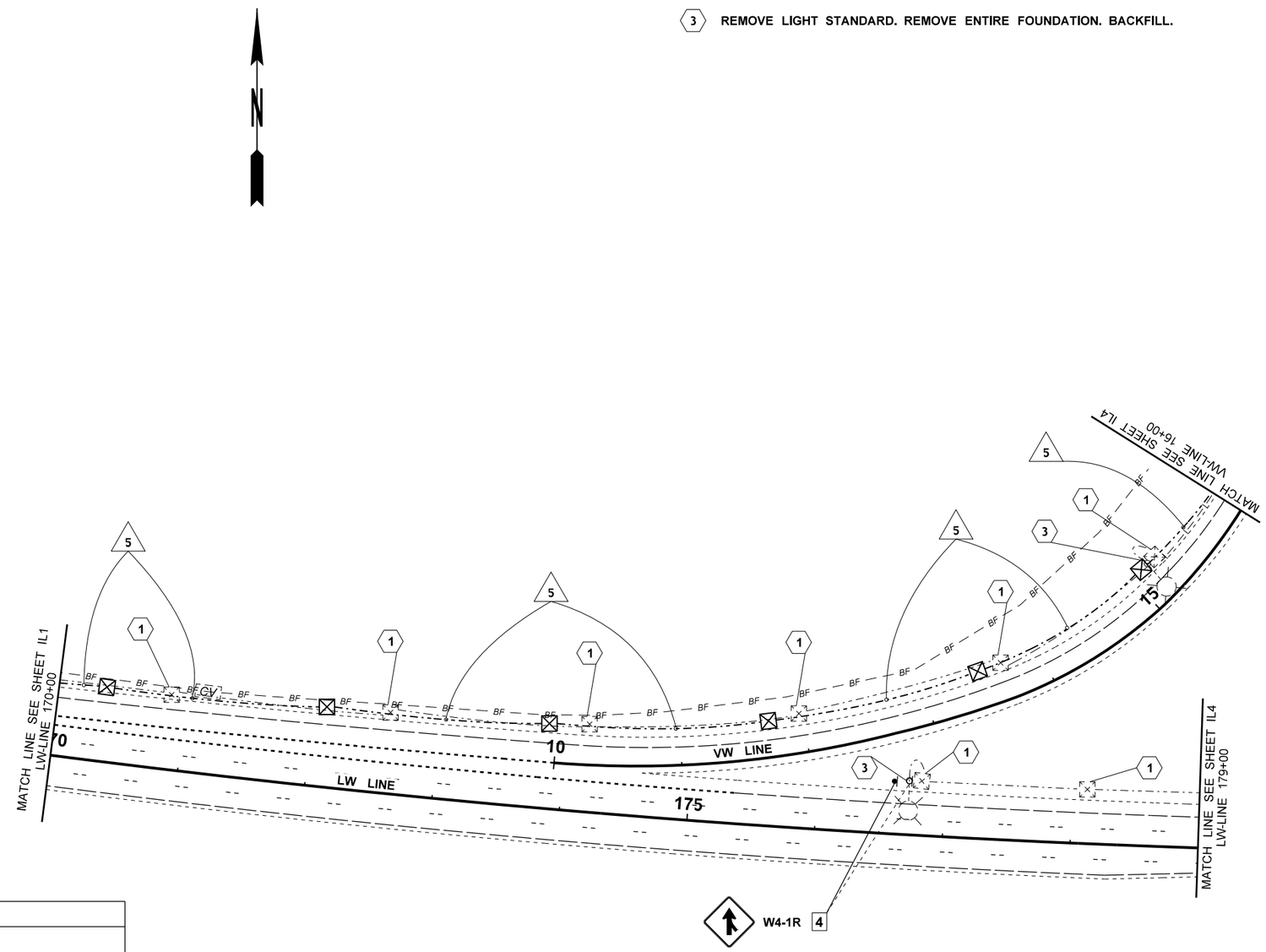
GENERAL NOTES

1. FOR ILLUMINATION SCHEDULE SEE SHEET IL8.
2. FOR SIGNING RELOCATION, SEE SHEET IL8.

CONSTRUCTION NOTES

(1) REMOVE JUNCTION BOX. REMOVE CONDUCTORS. REMOVE CONDUIT TO 18" BELOW GRADE. ABANDON ASSOCIATED CONDUIT. SEE SPECIAL PROVISIONS.

(3) REMOVE LIGHT STANDARD. REMOVE ENTIRE FOUNDATION. BACKFILL.



LEGEND

			CONDUIT
BF	EXISTING UNDER GROUND FIBER		EXISTING CONDUIT
	TYPE 1 JUNCTION BOX		EXISTING SINGLE POST SIGN
	EXISTING TYPE 1 JUNCTION BOX	CV	EXISTING CABLE VAULT
	EXISTING LUMINAIRE	?	SIGN RELOCATION SPECIFICATION NO.

0 50 100
SCALE IN FEET

WIRING SCHEDULE

RUN #	CONDUIT SIZE	CONDUCTORS NEW	DESCRIPTION
5	2"	2 - #8	LTN1

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TIME	7:47:47 AM
DATE	12/8/2022
PLOTTED BY	LinnM
DESIGNED BY	M. LINN
ENTERED BY	M. LINN
CHECKED BY	M. LINN
PROJ. ENGR.	J.T. DALEY
REGIONAL ADM.	T. TREPANIER

REVISION | DATE | BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	NHPP-0240(025)
JOB NUMBER 22Y023		
CONTRACT NO.		LOCATION NO.

LISA RENE SCHILPEROORT
STATE OF WASHINGTON
48226
REGISTERED PROFESSIONAL ENGINEER
SEE SHEET CT1
DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

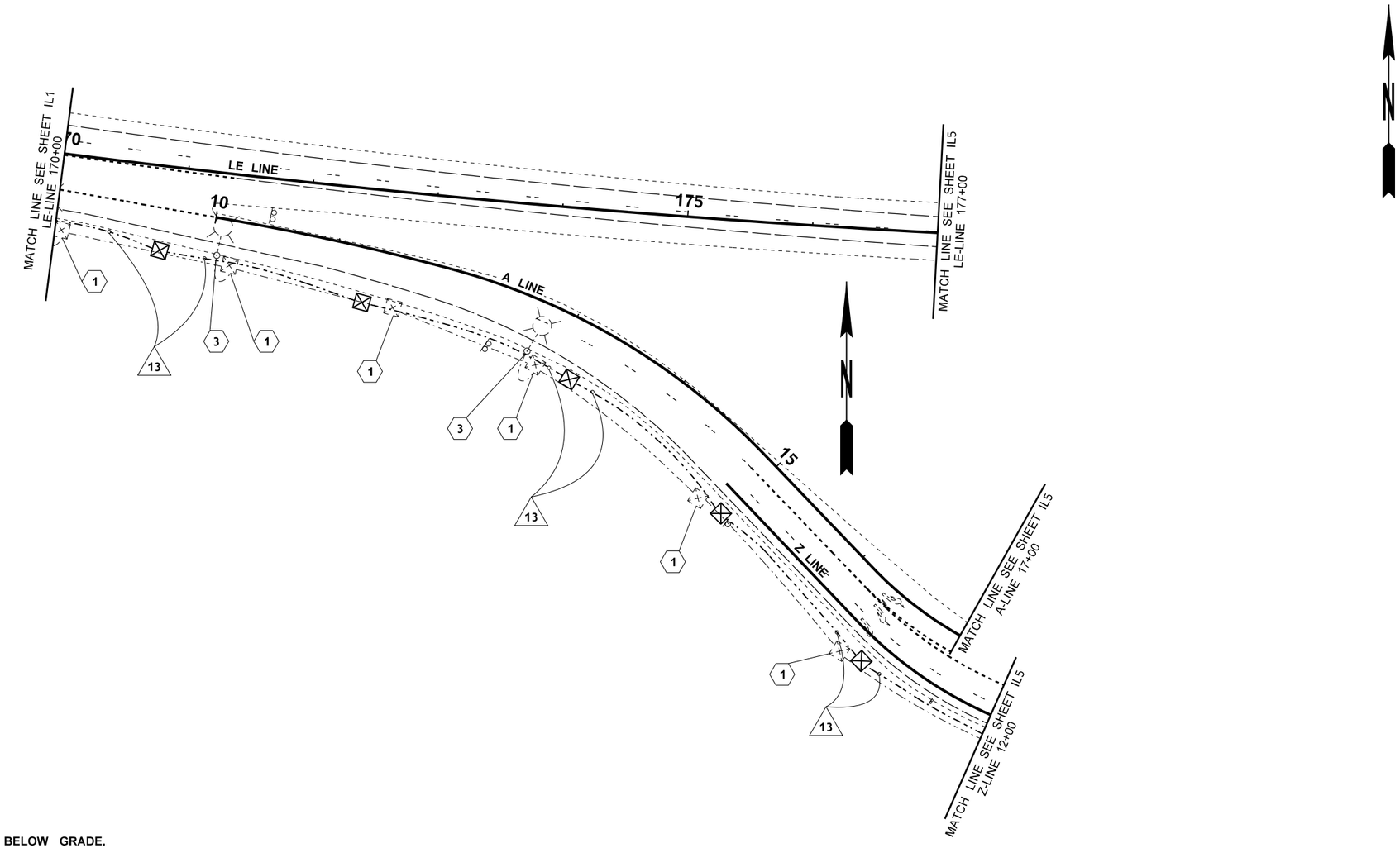
Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

ILLUMINATION AND SIGNING PLAN

PLAN REF NO
IL2

SHEET 10 OF 26 SHEETS



CONSTRUCTION NOTES

1. REMOVE JUNCTION BOX. REMOVE CONDUCTORS. REMOVE CONDUIT TO 18" BELOW GRADE. ABANDON ASSOCIATED CONDUIT. SEE SPECIAL PROVISIONS.
3. REMOVE LIGHT STANDARD. REMOVE ENTIRE FOUNDATION. BACKFILL.

GENERAL NOTES

1. FOR ILLUMINATION SCHEDULE SEE SHEET IL8.
2. FOR SIGNING RELOCATION, SEE SHEET IL8.

LEGEND

⊠	TYPE 1 JUNCTION BOX		CONDUIT
	EXISTING TYPE 1 JUNCTION BOX		EXISTING CONDUIT
	EXISTING LUMINAIRE		EXISTING SINGLE POST SIGN
			EXISTING DOUBLE POST SIGN

0 50 100
SCALE IN FEET

WIRING SCHEDULE

RUN #	CONDUIT SIZE	CONDUCTORS NEW	DESCRIPTION
13	2"	2 - #8	LTS1

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TR_IL.dgn
TIME	7:48:03 AM
DATE	12/8/2022
PLOTTED BY	LinnM
DESIGNED BY	M. LINN
ENTERED BY	M. LINN
CHECKED BY	M. LINN
PROJ. ENGR.	J.T. DALEY
REGIONAL ADM.	T. TREPANIER

REVISION | DATE | BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	NHPP-0240(025)
JOB NUMBER 22Y023		
CONTRACT NO.		LOCATION NO.

JISA RENE SCHILPEROORT, STATE OF WASHINGTON, 48236, REGISTERED PROFESSIONAL ENGINEER

SEE SHEET CT1
DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

ILLUMINATION AND SIGNING PLAN

PLAN REF NO
IL3

SHEET 11 OF 26 SHEETS

NORTH TERMINAL

WIRING SCHEDULE

RUN #	CONDUIT SIZE	CONDUCTORS NEW	DESCRIPTION
2	1"	2 - #8	LTN2
3	1"	2 - #8	LTN3
5	2"	2 - #8	LTN1
6	2"	2 - #8	LTN2
7	2"	2 - #8	LTN3
8	2"	2 - #8	LTN4
21	2"	2 - #8	LTN2
		2 - #8	LTN3
		2 - #8	LTN4
22	2"	2 - #8	LTN3
		2 - #8	LTN4
31	2"	2 - #8	LTN1
		2 - #8	LTN2
		2 - #8	LTN3
		2 - #8	LTN4
		2 - #8	CCTV
32	2"	2 - #8	LTN1
		2 - #8	LTN2
		2 - #8	LTN3
		2 - #8	LTN4
33	2"	2 - #8	CCTV
E1	2"	2 - #8	LTN1
		2 - #8	CCTV
		SM 12CT	SIGNAL COM
E2	2"	2 - #8	CCTV
		SM 12CT	SIGNAL COM
E3	2"	2 - #8	CCTV
	2"	2 - SM 12CT	SIGNAL COM
E4	2"	2 - #8	LTN1
		2 - #8	CCTV
		2 - SM 12CT	SIGNAL COM
F1	2"	SM 12CT	SIGNAL COM
F2	2"	SM 12CT	SIGNAL COM
		SM 12CT	SIGNAL COM
F4	2"	SM 12CT	SIGNAL COM
	2"	---	SPARE
S1	2"	---	SPARE
X1	3"	---	XFMR POWER

BREAKER SCHEDULE SUA ***
TYPE E SERVICE 240/480V

CIRCUIT	DESCRIPTION	BREAKER RATING	CONTACTOR RATING	VOLTAGE	LOAD (KVA)
---	MAIN	200 AMP	---	---	---
A	ILLUMINATION N1	20 AMP	30 AMP	480	X
B	ILLUMINATION N2	20 AMP	30 AMP	480	X
C	EXTERNAL TRANSFORMER	50 AMP	---	480	X
D	ILLUMINATION N3	20 AMP	30 AMP	480	X
E	ILLUMINATION N4	20 AMP	30 AMP	480	X
F	SPARE	20 AMP	N/A	480	X
G	INTERNAL TRANSFORMER	15 AMP	---	480	0.0
II	TRANSFORMER SECONDARY	35 AMP	N/A	120	---
I-1	GFCI	20 AMP	N/A	120	1.8
I-2	HEAT STRIP	15 AMP	N/A	120	0.1
I-3	PHOTOCELL	15 AMP	N/A	120	0.001
BUSSWORK SHALL BE RATED AT 250 AMP MINIMUM			PEAK		X
			CONTINUOUS		X

BREAKER SCHEDULE
25KVA TRANSFORMER 480V - 120V

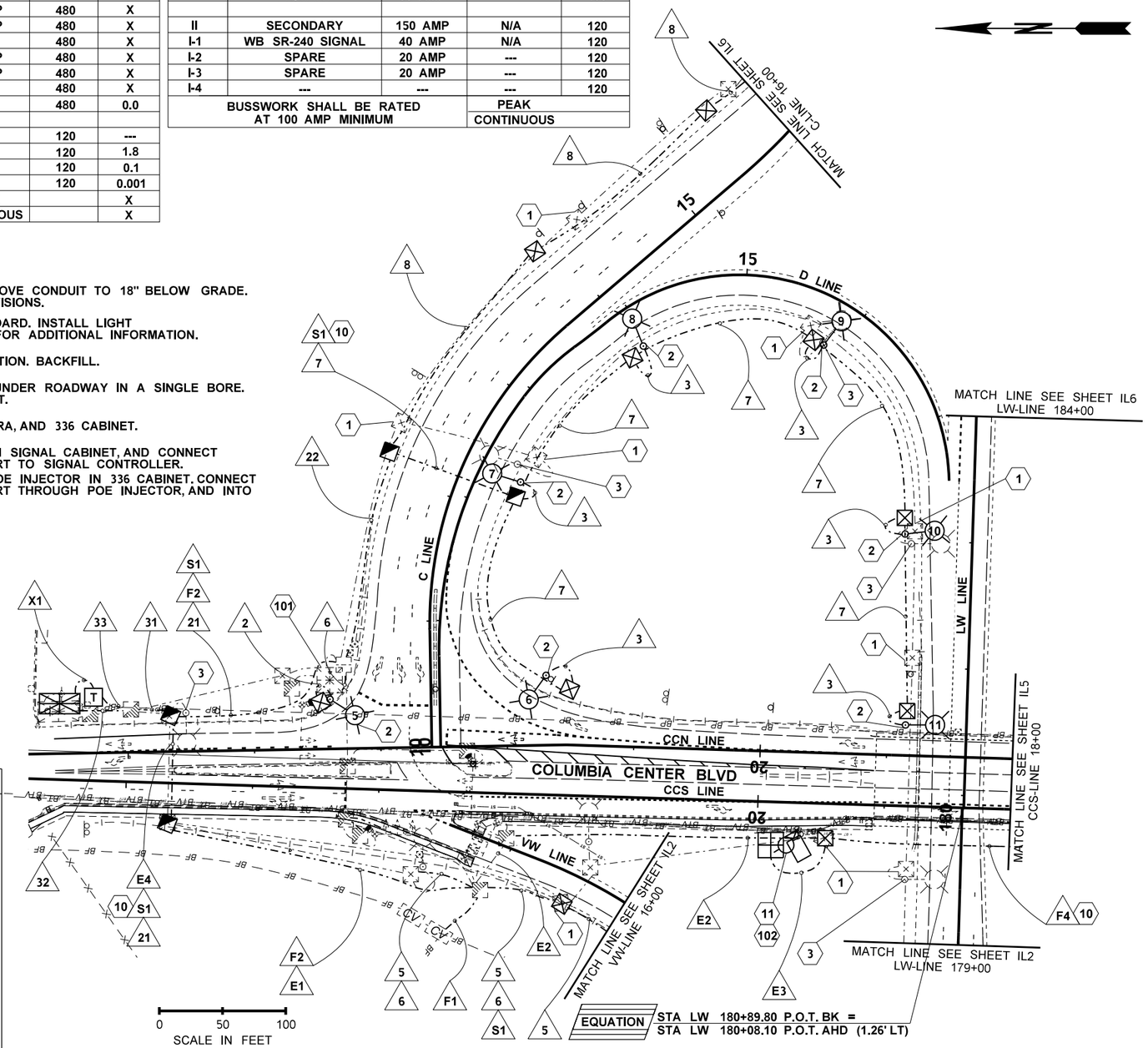
CIRCUIT	DESCRIPTION	BREAKER RATING	CONTACTOR RATING	VOLTAGE
---	PRIMARY	50 AMP	---	480
II	SECONDARY	150 AMP	N/A	120
I-1	WB SR-240 SIGNAL	40 AMP	N/A	120
I-2	SPARE	20 AMP	---	120
I-3	SPARE	20 AMP	---	120
I-4	---	---	---	120
BUSSWORK SHALL BE RATED AT 100 AMP MINIMUM			PEAK	
			CONTINUOUS	

CONSTRUCTION NOTES

1. REMOVE JUNCTION BOX. REMOVE CONDUCTORS. REMOVE CONDUIT TO 18" BELOW GRADE. ABANDON ASSOCIATED CONDUIT. SEE SPECIAL PROVISIONS.
2. CONSTRUCT FOUNDATION AND INSTALL LIGHT STANDARD. INSTALL LIGHT FIXTURE. SEE SHEET IL8 AND SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
3. REMOVE LIGHT STANDARD. REMOVE ENTIRE FOUNDATION. BACKFILL.
10. ALL CONDUITS AT THIS LOCATION TO BE PLACED UNDER ROADWAY IN A SINGLE BORE. PAY LIMITS ARE 3' OUTSIDE THE EDGE OF PAVEMENT.
11. CONSTRUCT FOUNDATION, INSTALL CCTV POLE, CAMERA, AND 336 CABINET.
101. INSTALL ETHERWAN SWITCH AND POWER SUPPLY IN SIGNAL CABINET, AND CONNECT FIBER PORTS TO PATCH PANEL, AND ETHERNET PORT TO SIGNAL CONTROLLER.
102. INSTALL ETHERWAN SWITCH, POWER SUPPLY, AND POE INJECTOR IN 336 CABINET. CONNECT FIBER PORTS TO PATCH PANEL, AND ETHERNET PORT THROUGH POE INJECTOR, AND INTO CCTV CAMERA.

GENERAL NOTES

1. FOR ILLUMINATION SCHEDULE SEE SHEET IL8.
2. FOR SIGNING RELOCATION, SEE SHEET IL8.



LEGEND

	EXISTING CONTROLLER CABINET		50' CCTV POLE		EXISTING BARRIER
STA LW 179+00	EXISTING SERVICE CABINET		EXISTING SINGLE POST SIGN		CONDUIT
	SERVICE CABINET		EXISTING DOUBLE POST SIGN		EXISTING CONDUIT
T	TRANSFORMER CABINET	P	EXISTING POWER BOX	BP BP	EXISTING UNDER GROUND POWER
	TYPE 1 JUNCTION BOX		336 CABINET	BF BF	EXISTING UNDER GROUND FIBER
	EXISTING TYPE 1 JUNCTION BOX		CCTV	BT BT	EXISTING UNDER GROUND TELEPHONE
	TYPE 2 JUNCTION BOX	CV	EXISTING CABLE VAULT	BTV BTV	EXISTING UNDER GROUND TELEVISION
	EXISTING TYPE 2 JUNCTION BOX	#	LUMINAIRE		
			EXISTING LUMINAIRE		

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TIME	7:48:20 AM				JOB NUMBER 22Y023		
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PLOTTED BY	LinnM						
DESIGNED BY	M. LINN						
ENTERED BY	M. LINN						
CHECKED BY	M. LINN						
PROJ. ENGR.	J.T. DALEY						
REGIONAL ADM.	T. TREPANIER	REVISION	DATE	BY			

LISA RENE SCHILPEROORT, STATE OF WASHINGTON, 49276, REGISTERED PROFESSIONAL ENGINEER
SEE SHEET CT1
DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. - UPGRADE SIGNAL & ILLUMINATION

ILLUMINATION AND SIGNING PLAN

PLAN REF NO IL4

SHEET 12 OF 26 SHEETS

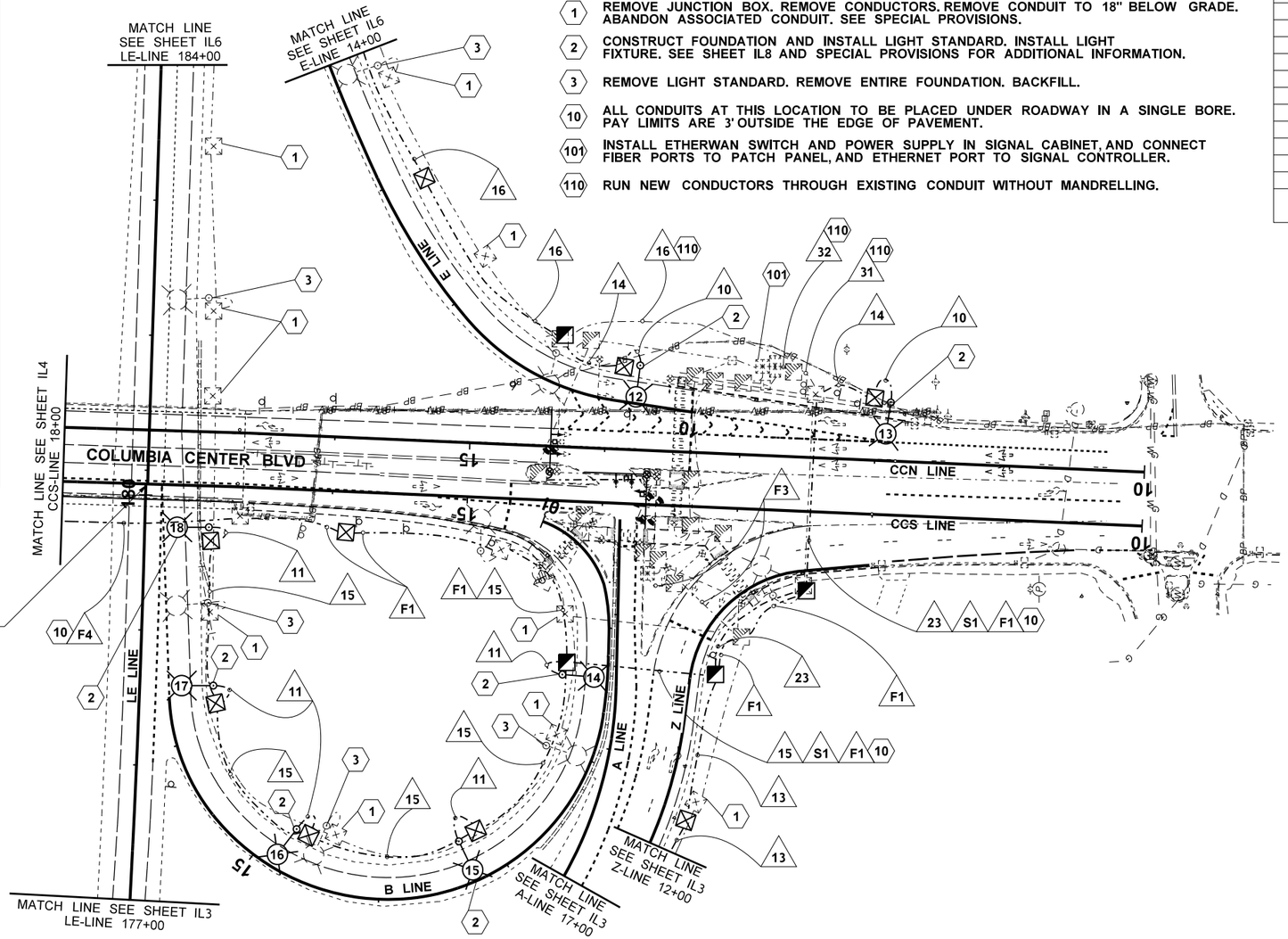
SOUTH TERMINAL

LEGEND

- EXISTING CONTROLLER CABINET
- EXISTING SERVICE CABINET
- TYPE 1 JUNCTION BOX
- EXISTING TYPE 1 JUNCTION BOX
- TYPE 2 JUNCTION BOX
- EXISTING TYPE 2 JUNCTION BOX
- LUMINAIRE
- EXISTING LUMINAIRE
- CONDUIT
- EXISTING CONDUIT
- EXISTING UNDER GROUND POWER
- EXISTING UNDER GROUND GAS
- EXISTING UNDER GROUND WATER LINE
- EXISTING UNDER GROUND TELEPHONE
- EXISTING UNDER GROUND TELEVISION
- EXISTING SINGLE POST SIGN
- EXISTING DOUBLE POST SIGN
- EXISTING BARRIER
- EXISTING POWER BOX
- EXISTING POWER POLE

CONSTRUCTION NOTES

1. REMOVE JUNCTION BOX. REMOVE CONDUCTORS. REMOVE CONDUIT TO 18" BELOW GRADE. ABANDON ASSOCIATED CONDUIT. SEE SPECIAL PROVISIONS.
2. CONSTRUCT FOUNDATION AND INSTALL LIGHT STANDARD. INSTALL LIGHT FIXTURE. SEE SHEET IL8 AND SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
3. REMOVE LIGHT STANDARD. REMOVE ENTIRE FOUNDATION. BACKFILL.
10. ALL CONDUITS AT THIS LOCATION TO BE PLACED UNDER ROADWAY IN A SINGLE BORE. PAY LIMITS ARE 3' OUTSIDE THE EDGE OF PAVEMENT.
101. INSTALL ETHERWAN SWITCH AND POWER SUPPLY IN SIGNAL CABINET, AND CONNECT FIBER PORTS TO PATCH PANEL, AND ETHERNET PORT TO SIGNAL CONTROLLER.
110. RUN NEW CONDUCTORS THROUGH EXISTING CONDUIT WITHOUT MANDRELLING.



BREAKER SCHEDULE TYPE E SERVICE			SUA *** 240/480V		
CIRCUIT	DESCRIPTION	BREAKER RATING	CONTACTOR RATING	VOLTAGE	LOAD (KVA)
---	MAIN	200 AMP	---	---	---
A	ILLUMINATION S1	20 AMP	30 AMP	480	X
B	ILLUMINATION S2	20 AMP	30 AMP	480	X
C	EXTERNAL TRANSFORMER	50 AMP	---	480	X
D	ILLUMINATION S3	20 AMP	30 AMP	480	X
E	ILLUMINATION S4	20 AMP	30 AMP	480	X
F	SPARE	20 AMP	N/A	480	X
G	INTERNAL TRANSFORMER	15 AMP	---	480	0.0
H	---	---	---	---	---
I	---	---	---	---	---
II	TRANSFORMER SECONDARY	35 AMP	N/A	120	---
I-1	GFCI	20 AMP	N/A	120	1.8
I-2	HEAT STRIP	15 AMP	N/A	120	0.1
I-3	PHOTOCELL	15 AMP	N/A	120	0.001
BUSSWORK SHALL BE RATED AT 250 AMP MINIMUM			PEAK		X
			CONTINUOUS		X

WIRING SCHEDULE			
RUN #	CONDUIT SIZE	CONDUCTORS NEW	DESCRIPTION
10	1"	2 - #8	LTS2
11	1"	2 - #8	LTS3
12	1"	2 - #8	LTS4
13	2"	2 - #8	LTS1
14	2"	2 - #8	LTS2
15	2"	2 - #8	LTS3
16	2"	2 - #8	LTS4
23	2"	2 - #8	LTS1
		2 - #8	LTS3
31	EXISTING	2 - #8	LTS1
		2 - #8	LTS2
		SM 12CT	SIGNAL COM
32	EXISTING	2 - #8	LTS1
		2 - #8	LTS2
		2 - #8	LTS4
		SM 12CT	SIGNAL COM
F1	2"	SM 12CT	SIGNAL COM
F3	EXIST 2"	SM 12CT	SIGNAL COM
		SM 12CT	SIGNAL COM
F4	2"	SM 12CT	SIGNAL COM
		---	SPARE
F5	EXIST 2"	SM 12CT	SIGNAL COM
S1	2"	---	SPARE

GENERAL NOTES

1. FOR ILLUMINATION SCHEDULE SEE SHEET IL8.
2. FOR SIGNING RELOCATION, SEE SHEET IL8.

0 50 100
SCALE IN FEET

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TR_IL.dgn
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CHECKED BY	M. LINN
PROJ. ENGR.	J.T. DALEY
REGIONAL ADM.	T. TREPANIER

REVISION | DATE | BY

REGION NO. 10 | STATE WASH | FED.AID PROJ.NO. NHPP-0240(025)

JOB NUMBER 22Y023

CONTRACT NO. | LOCATION NO.

LISA RENE SCHILPEROORT, STATE OF WASHINGTON, 18226, REGISTERED PROFESSIONAL ENGINEER

SEE SHEET CT1 DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. - UPGRADE SIGNAL & ILLUMINATION

ILLUMINATION AND SIGNING PLAN

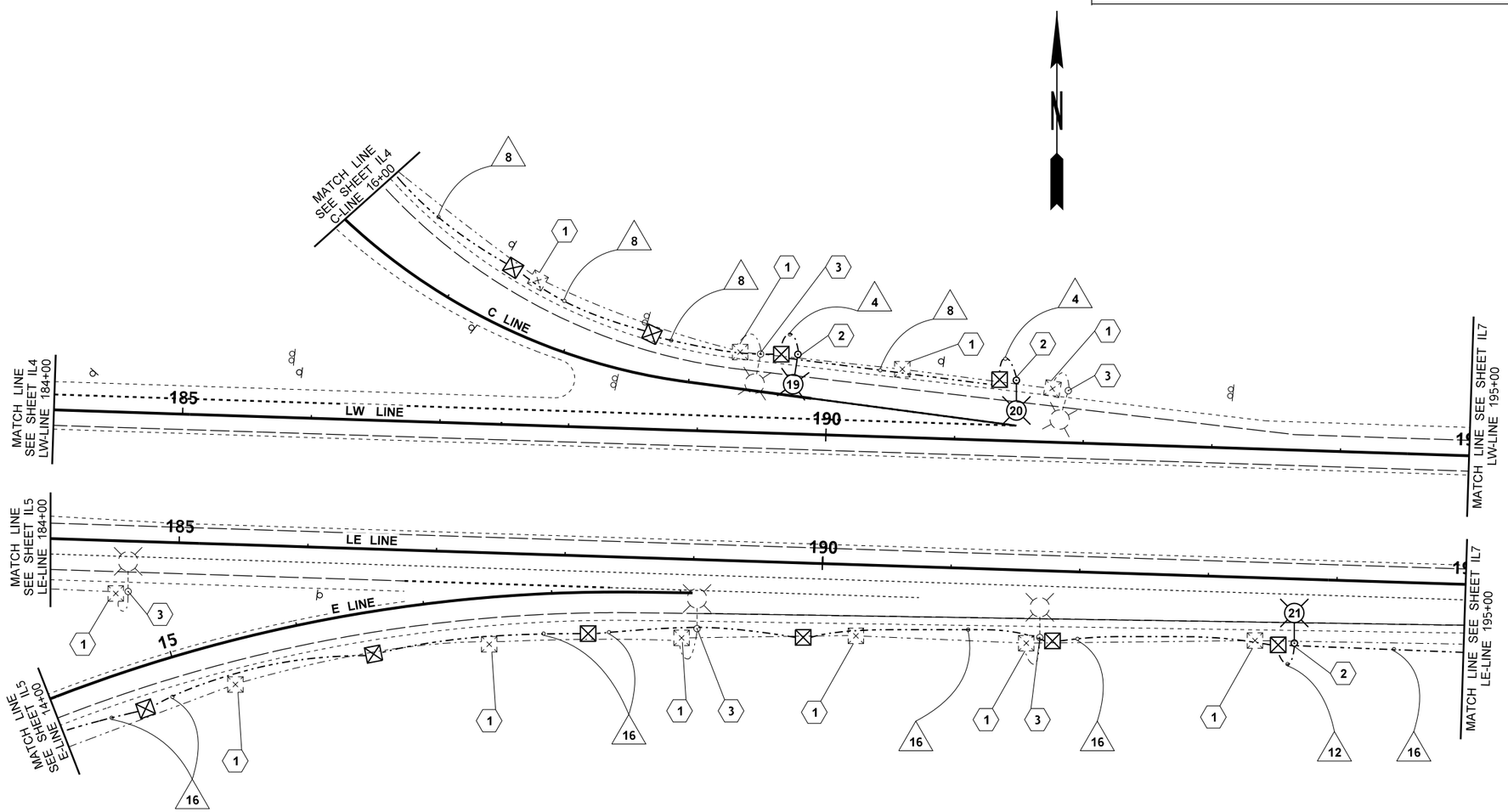
Plot 5
PLAN REF NO IL5
SHEET 13 OF 26 SHEETS

WIRING SCHEDULE

RUN #	CONDUIT SIZE	CONDUCTORS NEW	DESCRIPTION
4	1"	2 - #8	LTN4
8	2"	2 - #8	LTN4
12	1"	2 - #8	LTS4
16	2"	2 - #8	LTS4

LEGEND

	TYPE 1 JUNCTION BOX		CONDUIT
	EXISTING TYPE 1 JUNCTION BOX		EXISTING CONDUIT
#	LUMINAIRE		EXISTING SINGLE POST SIGN
	EXISTING LUMINAIRE		EXISTING DOUBLE POST SIGN



CONSTRUCTION NOTES

1. REMOVE JUNCTION BOX. REMOVE CONDUCTORS. REMOVE CONDUIT TO 18" BELOW GRADE. ABANDON ASSOCIATED CONDUIT. SEE SPECIAL PROVISIONS.
2. CONSTRUCT FOUNDATION AND INSTALL LIGHT STANDARD. INSTALL LIGHT FIXTURE. SEE SHEET IL8 AND SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
3. REMOVE LIGHT STANDARD. REMOVE ENTIRE FOUNDATION. BACKFILL.

0 50 100
SCALE IN FEET

GENERAL NOTES

1. FOR ILLUMINATION SCHEDULE SEE SHEET IL8.
2. FOR SIGNING RELOCATION, SEE SHEET IL8.

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TR_IL.dgn						
TIME	7:48:48 AM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NHPP-0240(025)
DATE	12/8/2022						
PLOTTED BY	LinnM				JOB NUMBER 22Y023		
DESIGNED BY	M. LINN						
ENTERED BY	M. LINN						
CHECKED BY	M. LINN				CONTRACT NO.		LOCATION NO.
PROJ. ENGR.	J.T. DALEY						
REGIONAL ADM.	T. TREPANIER	REVISION	DATE	BY			

LISA RENE SCHILPEROORT, STATE OF WASHINGTON, 18226, REGISTERED PROFESSIONAL ENGINEER

SEE SHEET CT1
DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

ILLUMINATION AND SIGNING PLAN

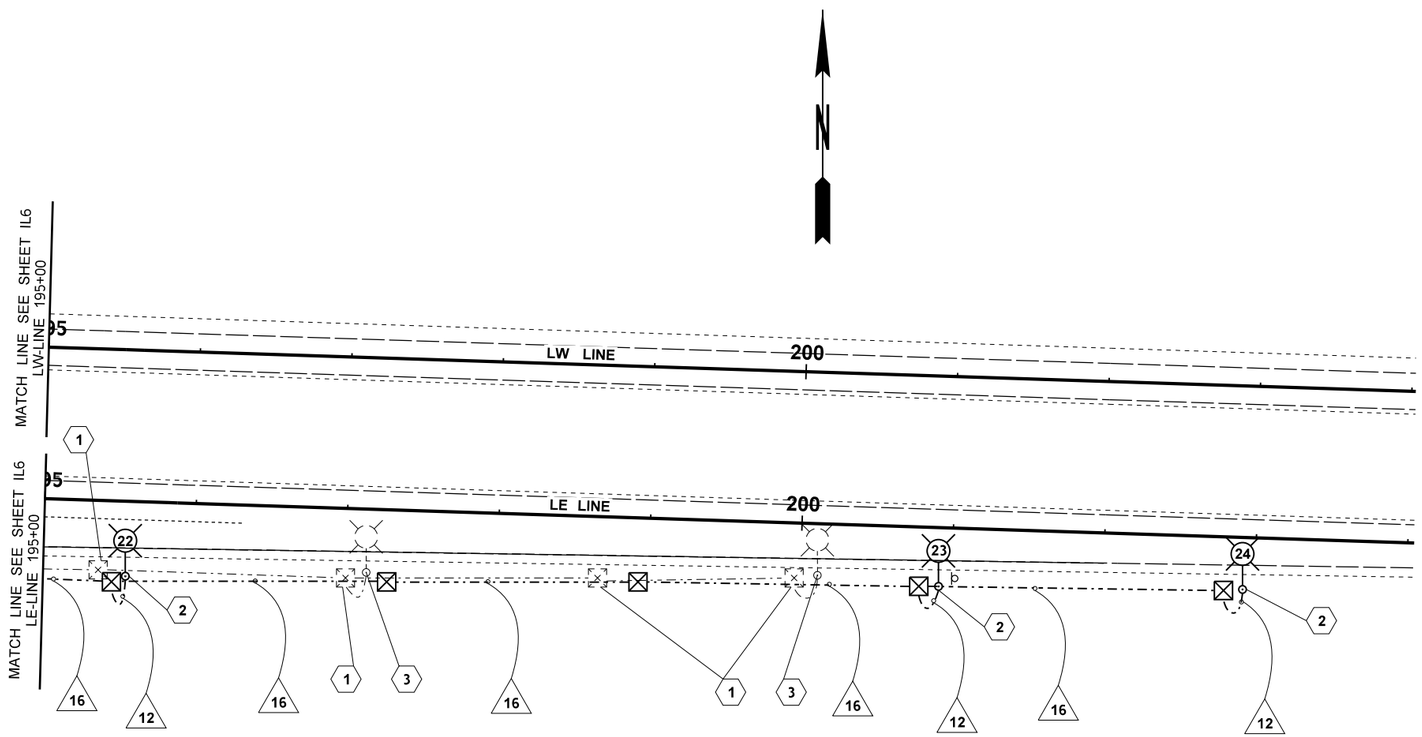
Plot 6
PLAN REF NO IL6
SHEET 14 OF 26 SHEETS

CONSTRUCTION NOTES

1. REMOVE JUNCTION BOX. REMOVE CONDUCTORS. REMOVE CONDUIT TO 18" BELOW GRADE. ABANDON ASSOCIATED CONDUIT. SEE SPECIAL PROVISIONS.
2. CONSTRUCT FOUNDATION AND INSTALL LIGHT STANDARD. INSTALL LIGHT FIXTURE. SEE SHEET IL8 AND SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
3. REMOVE LIGHT STANDARD. REMOVE ENTIRE FOUNDATION. BACKFILL.

LEGEND

⊠	TYPE 1 JUNCTION BOX	—·—·—	CONDUIT
⊠	EXISTING TYPE 1 JUNCTION BOX	—·—·—	EXISTING CONDUIT
#, ⊙—	LUMINAIRE	♀	EXISTING SINGLE POST SIGN
⊙--	EXISTING LUMINAIRE		



GENERAL NOTES

1. FOR ILLUMINATION SCHEDULE SEE SHEET IL8.
2. FOR SIGNING RELOCATION, SEE SHEET IL8.

0 50 100
SCALE IN FEET

WIRING SCHEDULE

RUN #	CONDUIT SIZE	CONDUCTORS NEW	DESCRIPTION
12	1"	2 - #8	LTS4
16	2"	2 - #8	LTS4

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TR_IL.dgn
TIME	7:48:59 AM
DATE	12/8/2022
PLOTTED BY	LinnM
DESIGNED BY	M. LINN
ENTERED BY	M. LINN
CHECKED BY	M. LINN
PROJ. ENGR.	J.T. DALEY
REGIONAL ADM.	T. TREPANIER

REVISION | DATE | BY

REGION NO. 10 | STATE WASH | FED.AID PROJ.NO. NHPP-0240(025)

JOB NUMBER 22Y023

CONTRACT NO. | LOCATION NO.

LISA RENE SCHILDEROOT, STATE OF WASHINGTON, 49220, REGISTERED PROFESSIONAL ENGINEER

SEE SHEET CT1
DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

ILLUMINATION AND SIGNING PLAN

Plot 7
PLAN REF NO IL7
SHEET 15 OF 26 SHEETS

LUMINAIRE SCHEDULE - SR240 & COLUMBIA CENTER BLVD

LUM. NO.	STATION	OFFSET	CIRCUIT	MAST ARM LENGTH	H1	BASE TYPE	FOUNDATION TYPE	LUMINAIRE
1	LW 161+40	47' LT	LTN1	16'	40'	SLIP	B	*
2	LW 163+41	51' LT	LTN1	16'	40'	SLIP	B	*
3	LE 164+19	32' RT	LTS1	16'	40'	SLIP	B	*
4	LE 165+85	41' RT	LTS1	16'	40'	SLIP	B	*
5	CCN 23+40	39' RT	LTN2	16'	40'	SLIP	B	*
6	CCN 21+68.5	55' RT	LTN3	16'	40'	SLIP	B	*
7	D 12+30	34' RT	LTN3	16'	40'	SLIP	B	*
8	D 13+93	33' RT	LTN3	16'	40'	SLIP	B	*
9	D 15+84	37' RT	LTN3	16'	40'	SLIP	B	*
10	LW 183+05	53' LT	LTN3	16'	40'	SLIP	B	*
11	LW 181+54	48' LT	LTN3	16'	40'	SLIP	B	*
12	CCN 13+76	63' RT	LTS2	16'	40'	SLIP	B	*
13	CCN 11+90	43' RT	LTS2	16'	40'	SLIP	B	*
14	B 11+37	33' RT	LTS3	16'	40'	SLIP	B	*
15	B 13+26	32' RT	LTS3	16'	40'	SLIP	B	*
16	B 14+82	33' RT	LTS3	16'	40'	SLIP	B	*
17	LE 178+61	54' RT	LTS3	16'	40'	SLIP	B	*
18	LE 179+77	47' RT	LTS3	16'	40'	SLIP	B	*
19	C 19+81	33' LT	LTN4	16'	40'	SLIP	B	*
20	LW 191+47	47' LT	LTN4	16'	40'	SLIP	B	*
21	LE 193+68	50' RT	LTS4	16'	40'	SLIP	B	*
22	LE 195+55	49' RT	LTS4	16'	40'	SLIP	B	*
23	LE 200+91	39' RT	LTS4	16'	40'	SLIP	B	*
24	LE 202+92	34' RT	LTS4	16'	40'	SLIP	B	*

* SEE 310W CLASS 480V FIXTURES AT: HTTP://WWW.WSDOT.WA.GOV/DESIGN/TRAFFIC/LEDLUMINAIRES.HTM

SIGN RELOCATION SPECIFICATIONS

#	OLD STATION LOCATION	NEW STATION LOCATION	SIGN CODE	SIGN DESCRIPTION	SIGN SIZE X	SIGN SIZE Y	NEW POST MATERIAL	NEW POST SIZE	POST LENGTH H1	POST LENGTH H2	CLEARANCE (FEET) V	CLEARANCE (FEET) W
1	LW 160+87 (47' LT)	LW 161+40 (47' LT)	D4-2	PARK - RIDE -->	36"	48"	LUMINAIRE POLE	---	–	–	7'	–
2	LW 163+14 (53' LT)	LW 163+41 (51' LT)	W4-2R	RIGHT LANE ENDS	48"	48"	LUMINAIRE POLE	---	–	–	7'	–
3	LW 166+18 (55' LT)	LW 166+09 (57' LT)	M1-701	WEST | 240	36"	48"	PSST	2.5"	16'	–	7'	–
4	LW 176+72 (42' LT)	LW 176+60 (41' LT)	W4-1R	RIGHT MERGE	48"	48"	PSST	2.5"	16'	–	7'	–

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TIME	7:49:09 AM
DATE	12/8/2022
PLOTTED BY	LinnM
DESIGNED BY	M. LINN
ENTERED BY	M. LINN
CHECKED BY	M. LINN
PROJ. ENGR.	J.T. DALEY
REGIONAL ADM.	T. TREPANIER

REVISION | DATE | BY

REGION NO. 10 | STATE WASH | FED.AID PROJ.NO. NHPP-0240(025)

JOB NUMBER 22Y023

CONTRACT NO. | LOCATION NO.

LISA RENE SCHILPEROOT, STATE OF WASHINGTON, 38224, REGISTERED PROFESSIONAL ENGINEER

SEE SHEET CT1

DATE

P.E. STAMP BOX

DATE

P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

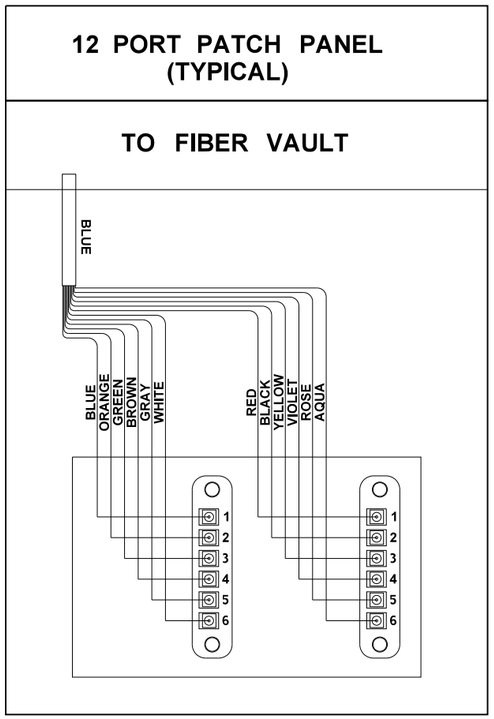
ILLUMINATION AND SIGNING PLAN

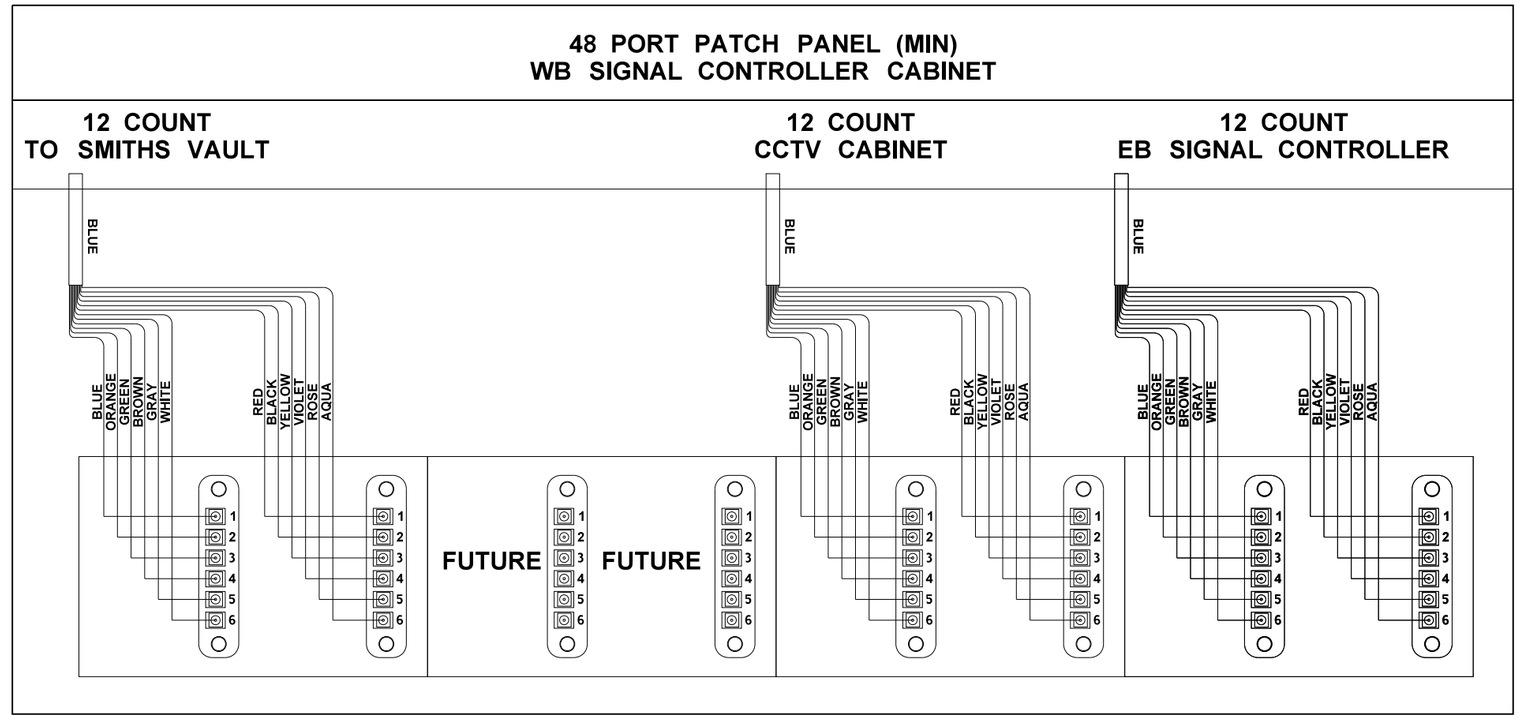
Plot 8

PLAN REF NO IL8

SHEET 16 OF 26 SHEETS

CABINET PATCH PANELS





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TIME	1:09:50 PM						
DATE	12/2/2022						
PLOTTED BY	LinnM						
DESIGNED BY	M. LINN						
ENTERED BY	M. LINN						
CHECKED BY	M. LINN						
PROJ. ENGR.	J.T. DALEY						
REGIONAL ADM.	T. TREPANIER	REVISION	DATE	BY			

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	NHPP-0240(025)
JOB NUMBER 22Y023		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX — SEE SHEET CT1 — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

ILLUMINATION AND SIGNING PLAN

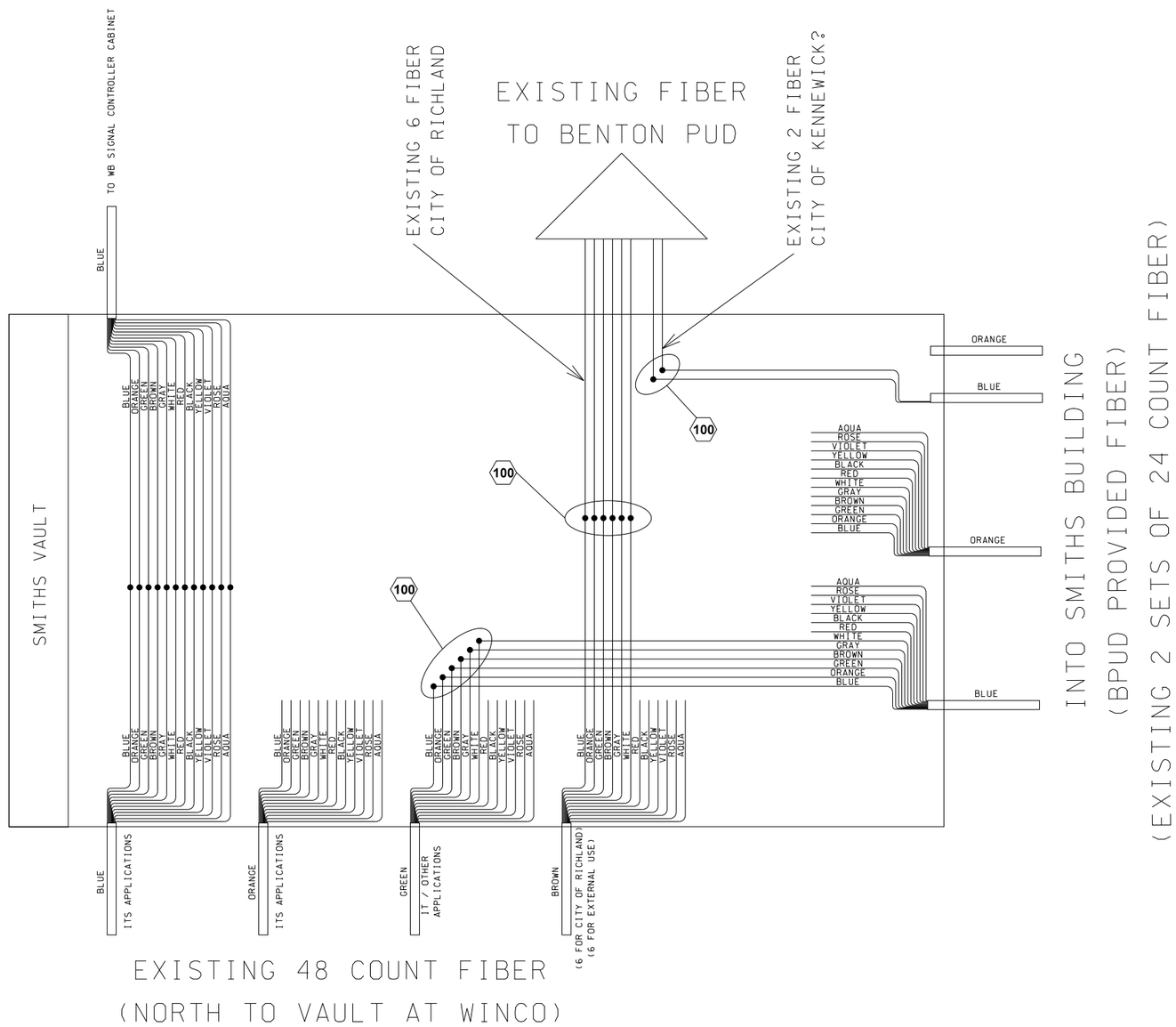
Plot 9

PLAN REF NO IL9

SHEET 17 OF 26 SHEETS

CONSTRUCTION NOTES

(100) EXISTING FIBER SPLICES.



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DATE	12/2/2022						
PLOTTED BY	LinnM						
DESIGNED BY	M. LINN				JOB NUMBER 22Y023		
ENTERED BY	M. LINN						
CHECKED BY	M. LINN				CONTRACT NO.		LOCATION NO.
PROJ. ENGR.	J.T. DALEY						
REGIONAL ADM.	T. TREPANIER	REVISION	DATE	BY			

USA RENE SCHILPEROORT STATE OF WASHINGTON 18226 REGISTERED PROFESSIONAL ENGINEER

SEE SHEET CT1

DATE

P.E. STAMP BOX

DATE

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Washington State
Department of Transportation

SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

ILLUMINATION AND SIGNING PLAN

Plot 10

PLAN REF NO
IL10

SHEET 18 OF 26 SHEETS

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240

USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.

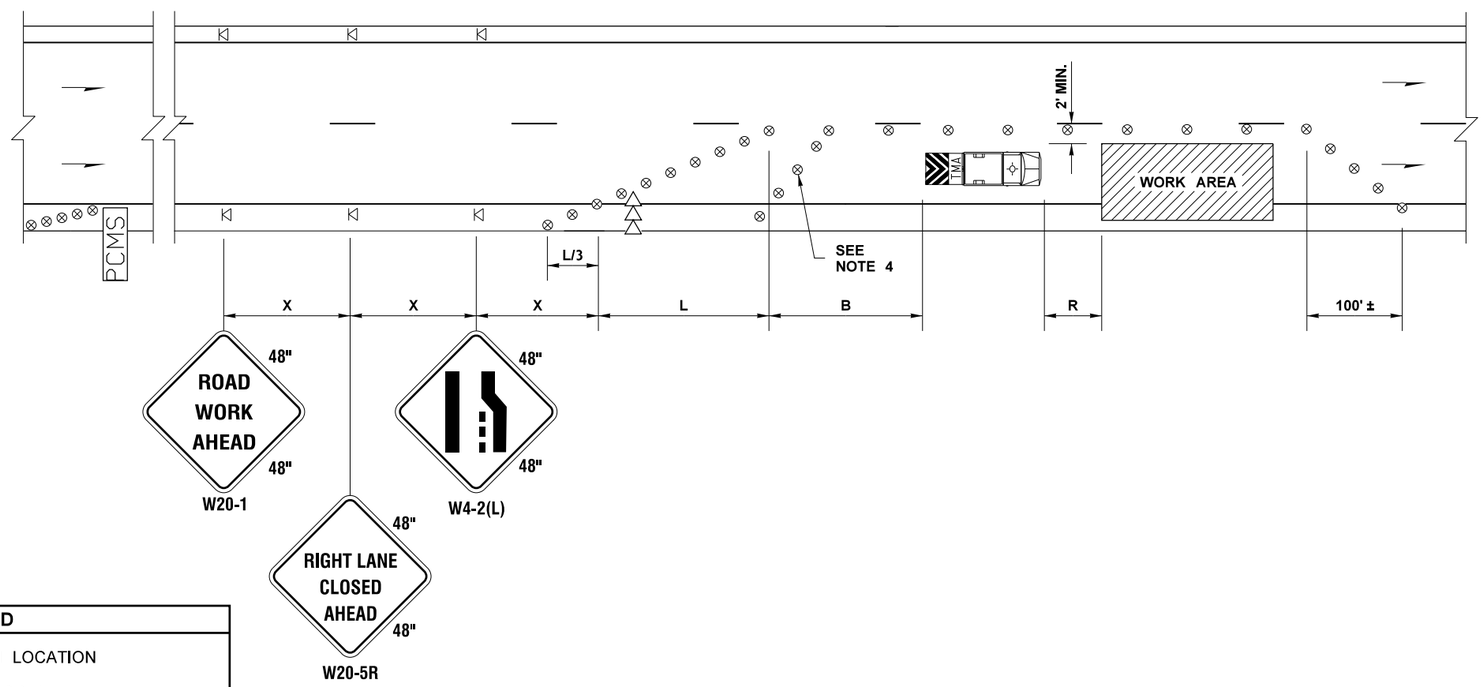
SIGN SPACING = X (1)		
FREEWAYS & EXPRESSWAYS	55 / 70 MPH	1500' ±
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50/70	40	80
35/45	30	60
25/30	20	40

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R					
HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'



PCMS	
1	2
RIGHT LANE CLOSURE	1 MILE AHEAD
2.0 SEC	2.0 SEC

FIELD LOCATE 1 MILE ± IN ADVANCE OF LANE CLOSURE SIGNING.

LEGEND	
▷	TEMPORARY SIGN LOCATION
⊗	TRAFFIC SAFETY DRUM
▷▷▷	SEQUENTIAL ARROW SIGN
	TRANSPORTABLE ATTENUATOR
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN

NOTES

1. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
2. EXTEND DEVICE TAPER AT L/3 ACROSS SHOULDER.
3. DEVICES SHALL NOT ENCROACH INTO THE ADJACENT LANE.
4. USE TRANSVERSE DEVICES IN CLOSED LANE EVERY 1000' (FT) (RECOMMENDED).
5. DEVICE SPACING FOR THE DOWNSTREAM TAPER SHALL BE 20' (FT).
6. ALL SIGNS ARE BLACK ON ORANGE.

SINGLE-LANE CLOSURE FOR MULTI-LANE ROADWAYS

NOT TO SCALE

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TC.dgn						
TIME	1:56:19 PM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NHPP-0240(025)
DATE	12/8/2022						
PLOTTED BY	LinnM						
DESIGNED BY	C. Hill				JOB NUMBER 22Y023		
ENTERED BY	C. Burns						
CHECKED BY	B. Hausenbuiller				CONTRACT NO.		LOCATION NO.
PROJ. ENGR.	A. Sanguino						
REGIONAL ADM.	T. Trepanier	REVISION	DATE	BY			

DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. - UPGRADE SIGNAL & ILLUMINATION

TRAFFIC CONTROL PLAN

Plot 1
PLAN REF NO TCP1
SHEET 19 OF 26 SHEETS

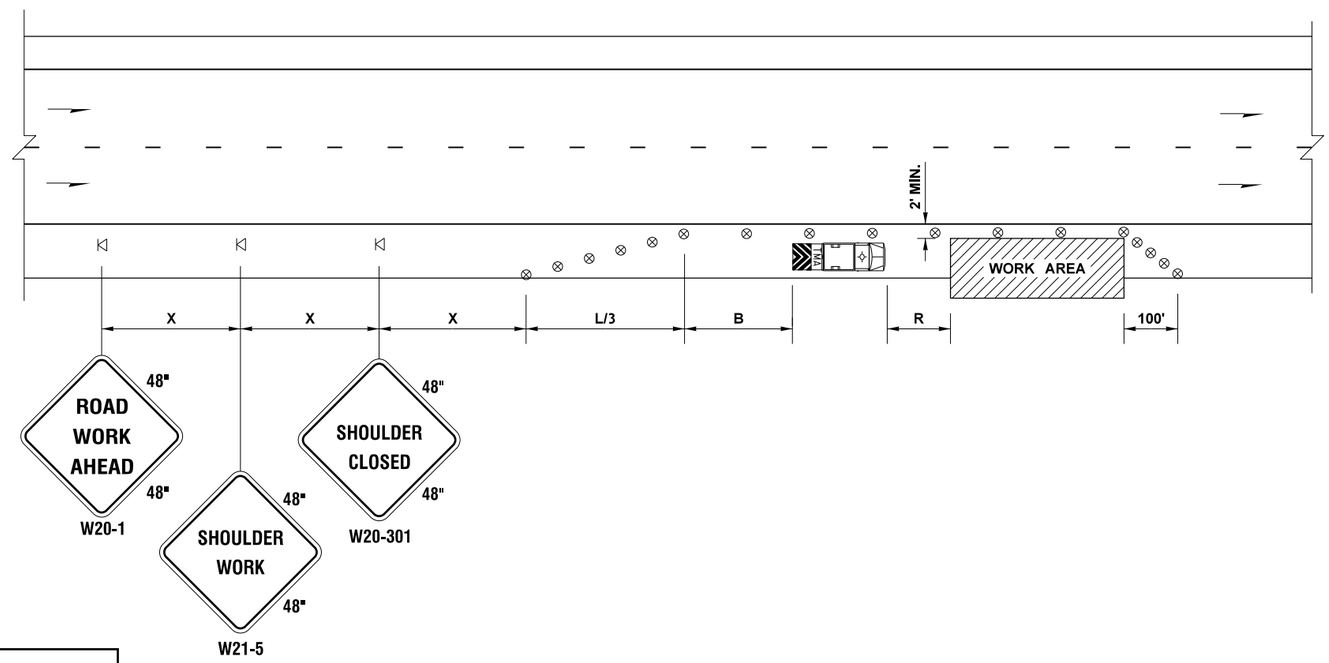
MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	-	-	-	-	120	130	150	160	170	190
10'	-	-	-	-	150	170	190	200	220	240
USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.										

SIGN SPACING = X (1)		
FREEWAYS & EXPRESSWAYS	55 / 70 MPH	1500' ±
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.		

CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50/70	40	80
35/45	30	60

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R					
HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'



LEGEND	
	TEMPORARY SIGN LOCATION
	TRAFFIC SAFETY DRUM
	TRANSPORTABLE ATTENUATOR

SHOULDER CLOSURE - HIGH SPEED

NOT TO SCALE

NOTES

1. NO ENCROACHMENT IN TRAVELED LANE. IF ENCROACHMENT IS NECESSARY, LANE SHALL BE CLOSED.
2. DEVICE SPACING FOR THE DOWNSTREAM TAPER SHALL BE 20' (FT) O.C.
3. ALL SIGNS ARE BLACK ON ORANGE.

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TIME	1:56:36 PM					
DATE	12/8/2022					
PLOTTED BY	LinnM					
DESIGNED BY	C. Hill					
ENTERED BY	C. Burns					
CHECKED BY	B. Hausenbuiller					
PROJ. ENGR.	A. Sanguino					
REGIONAL ADM.	T. Trepanier	REVISION	DATE	BY		

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	NHPP-0240(025)
JOB NUMBER 22Y023		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

TRAFFIC CONTROL PLAN

Plot 2

PLAN REF NO TCP2

SHEET 20 OF 26 SHEETS

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	-	-	-	-	450	500	550	-	-	-
11	-	-	-	-	495	550	605	660	-	-
12	-	-	-	-	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	-	-	-	-	120	130	150	160	170	190
10'	-	-	-	-	150	170	190	200	220	240
USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.										

SIGN SPACING = X (1)		
FREEWAYS & EXPRESSWAYS	55 / 70 MPH	1500' ±
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.

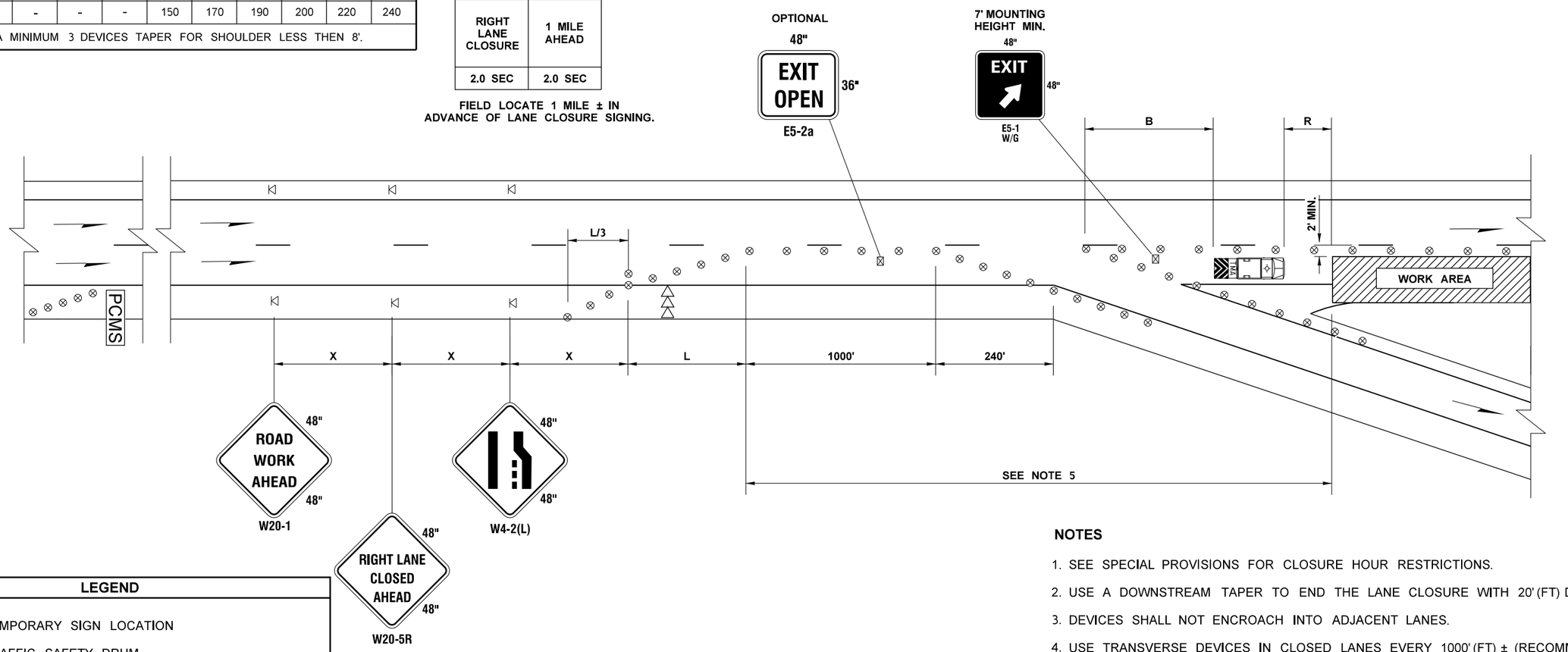
CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50/70	40	80
40/45	30	60

PCMS	
1	2
RIGHT LANE CLOSURE	1 MILE AHEAD
2.0 SEC	2.0 SEC

FIELD LOCATE 1 MILE ± IN ADVANCE OF LANE CLOSURE SIGNING.

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R					
HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'



LEGEND

- TEMPORARY SIGN LOCATION
- TRAFFIC SAFETY DRUM
- SEQUENTIAL ARROW SIGN
- TRANSPORTABLE ATTENUATOR
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN
- TEMPORARY SIGN LOCATION (5' MOUNTING HEIGHT)

NOTES

1. SEE SPECIAL PROVISIONS FOR CLOSURE HOUR RESTRICTIONS.
2. USE A DOWNSTREAM TAPER TO END THE LANE CLOSURE WITH 20' (FT) DEVICE SPACING.
3. DEVICES SHALL NOT ENCROACH INTO ADJACENT LANES.
4. USE TRANSVERSE DEVICES IN CLOSED LANES EVERY 1000' (FT) ± (RECOMMENDED).
5. ALL SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.

TEMPORARY OFF-RAMP FOR MULTI-LANE ROADWAYS

NOT TO SCALE

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TC.dgn			
TIME	1:57:05 PM			
DATE	12/8/2022			
PLOTTED BY	LinnM			
DESIGNED BY	C. Hill			
ENTERED BY	C. Burns			
CHECKED BY	B. Hausenbuiller			
PROJ. ENGR.	A. Sanguino			
REGIONAL ADM.	T. Trepanier	REVISION	DATE	BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	NHPP-0240(025)
JOB NUMBER 22Y023		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

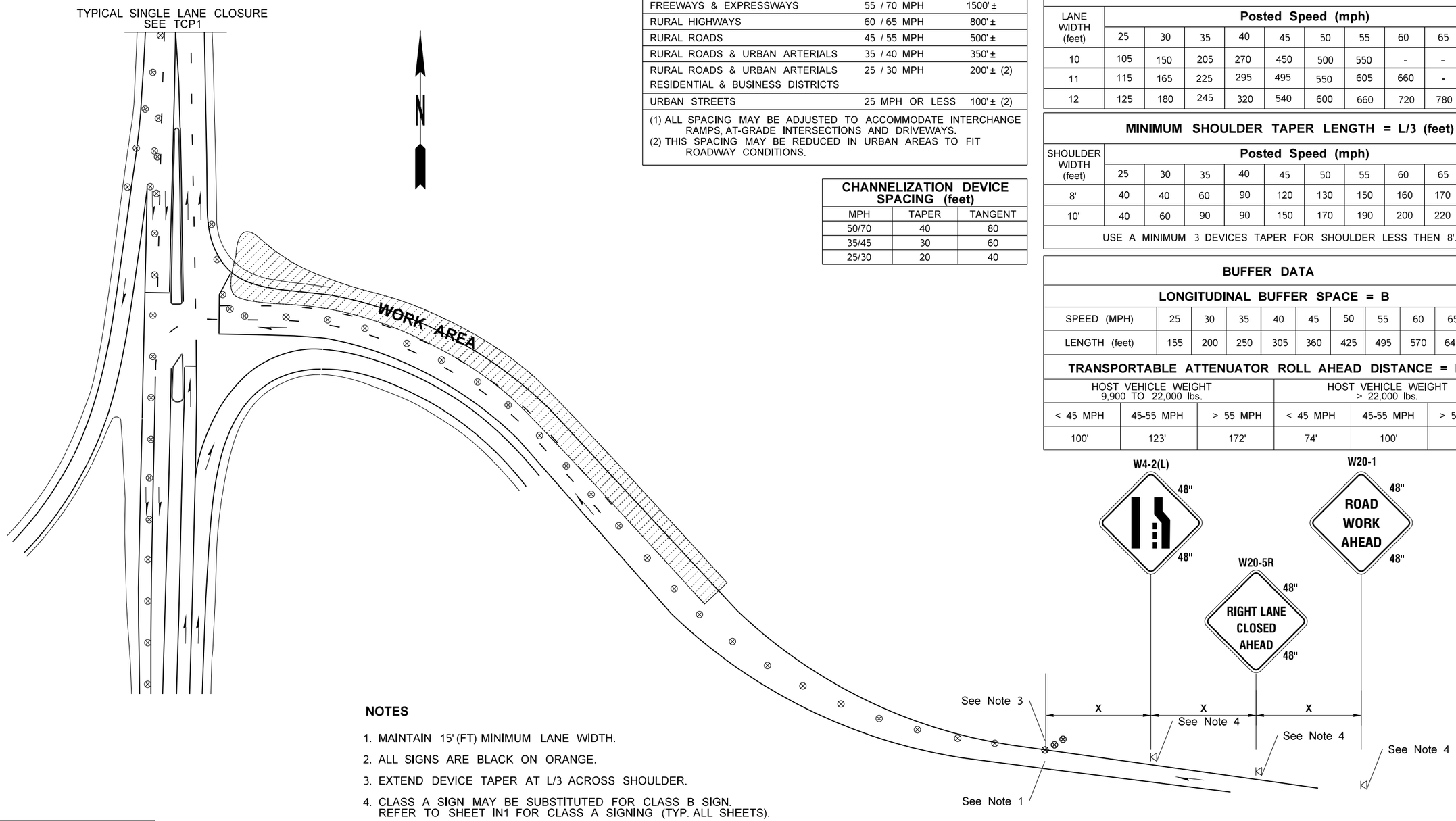
P.E. STAMP BOX DATE

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. - UPGRADE SIGNAL & ILLUMINATION

TRAFFIC CONTROL PLAN

Plot 3
PLAN REF NO TCP3
SHEET 21 OF 26 SHEETS



SIGN SPACING = X (1)		
FREEWAYS & EXPRESSWAYS	55 / 70 MPH	1500' ±
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50/70	40	80
35/45	30	60
25/30	20	40

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240
USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.										

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R					
HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

NOTES

1. MAINTAIN 15' (FT) MINIMUM LANE WIDTH.
2. ALL SIGNS ARE BLACK ON ORANGE.
3. EXTEND DEVICE TAPER AT L/3 ACROSS SHOULDER.
4. CLASS A SIGN MAY BE SUBSTITUTED FOR CLASS B SIGN. REFER TO SHEET IN1 FOR CLASS A SIGNING (TYP. ALL SHEETS).

LEGEND	
⊲	TEMPORARY SIGN LOCATION
⊗	TRAFFIC SAFETY DRUM

WESTBOUND OFF-RAMP TRAFFIC CONTROL PLAN

NOT TO SCALE

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TC.dgn						
TIME	1:57:28 PM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NHPP-0240(025)
DATE	12/8/2022						
PLOTTED BY	LinnM						
DESIGNED BY	C. Hill				JOB NUMBER 22Y023		
ENTERED BY	C. Burns						
CHECKED BY	B. Hausenbuiller				CONTRACT NO.		LOCATION NO.
PROJ. ENGR.	A. Sanguino						
REGIONAL ADM.	T. Trepanier	REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

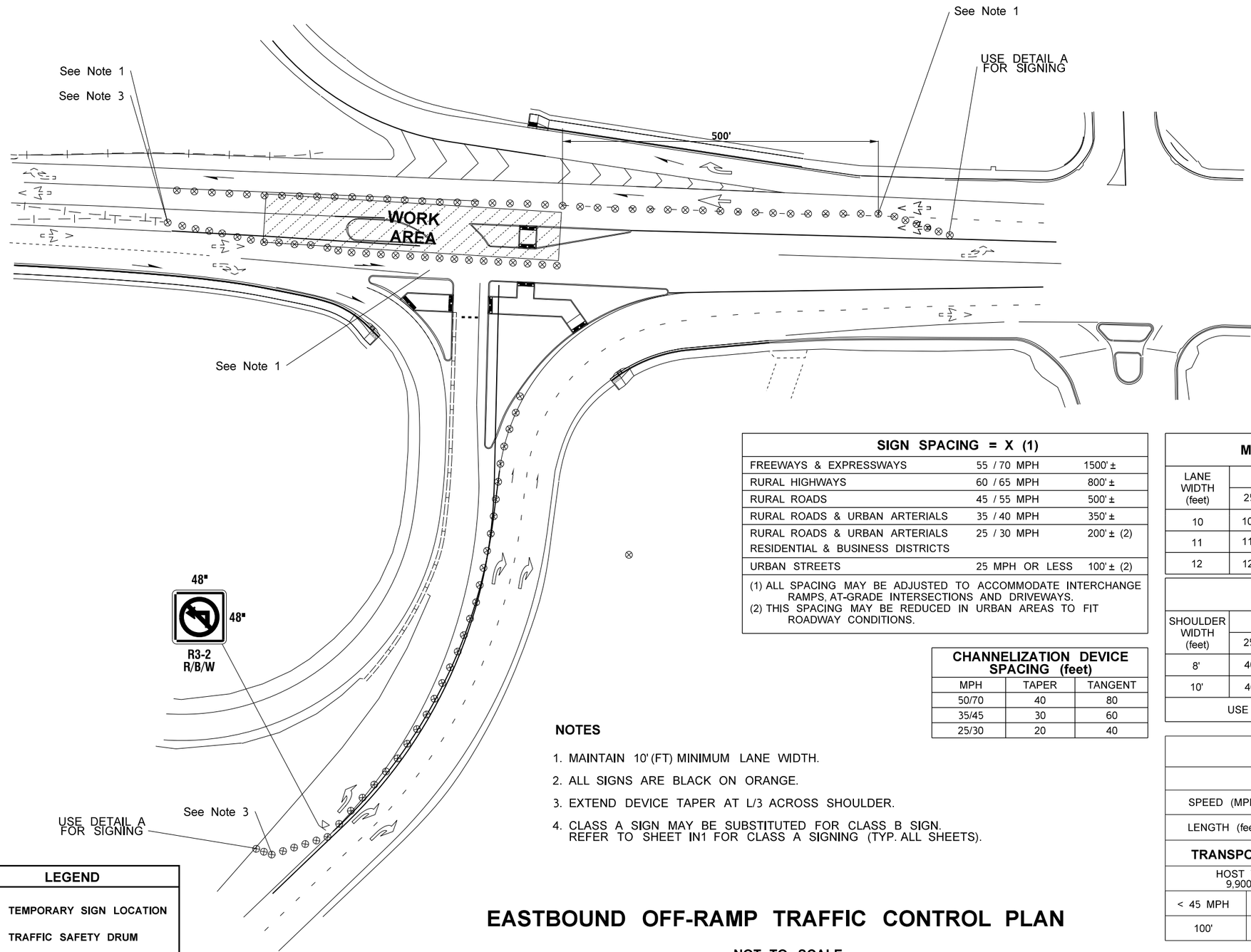
SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

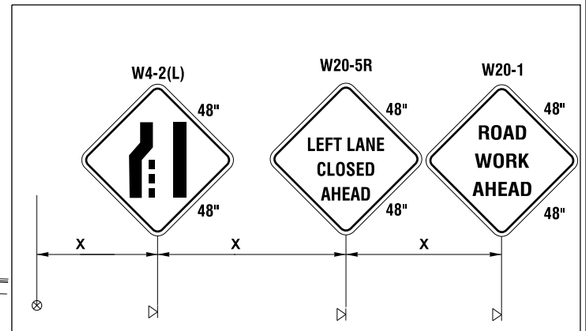
TRAFFIC CONTROL PLAN

Plot 4

PLAN REF NO TCP4

SHEET 22 OF 26 SHEETS





DETAIL A
(3 PLACES)

SIGN SPACING = X (1)		
FREEWAYS & EXPRESSWAYS	55 / 70 MPH	1500' ±
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50/70	40	80
35/45	30	60
25/30	20	40

NOTES

1. MAINTAIN 10' (FT) MINIMUM LANE WIDTH.
2. ALL SIGNS ARE BLACK ON ORANGE.
3. EXTEND DEVICE TAPER AT L/3 ACROSS SHOULDER.
4. CLASS A SIGN MAY BE SUBSTITUTED FOR CLASS B SIGN. REFER TO SHEET IN1 FOR CLASS A SIGNING (TYP. ALL SHEETS).

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240
USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.										

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R					
HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

LEGEND

- TEMPORARY SIGN LOCATION
- TRAFFIC SAFETY DRUM

EASTBOUND OFF-RAMP TRAFFIC CONTROL PLAN

NOT TO SCALE

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TC.dgn
TIME	1:57:55 PM
DATE	12/8/2022
PLOTTED BY	LinnM
DESIGNED BY	C. Hill
ENTERED BY	C. Burns
CHECKED BY	B. Hausenbuiller
PROJ. ENGR.	A. Sanguino
REGIONAL ADM.	T. Trepanier

REVISION | DATE | BY

REGION NO. 10 | STATE WASH | FED.AID PROJ.NO. NHPP-0240(025)

JOB NUMBER 22Y023

CONTRACT NO. | LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

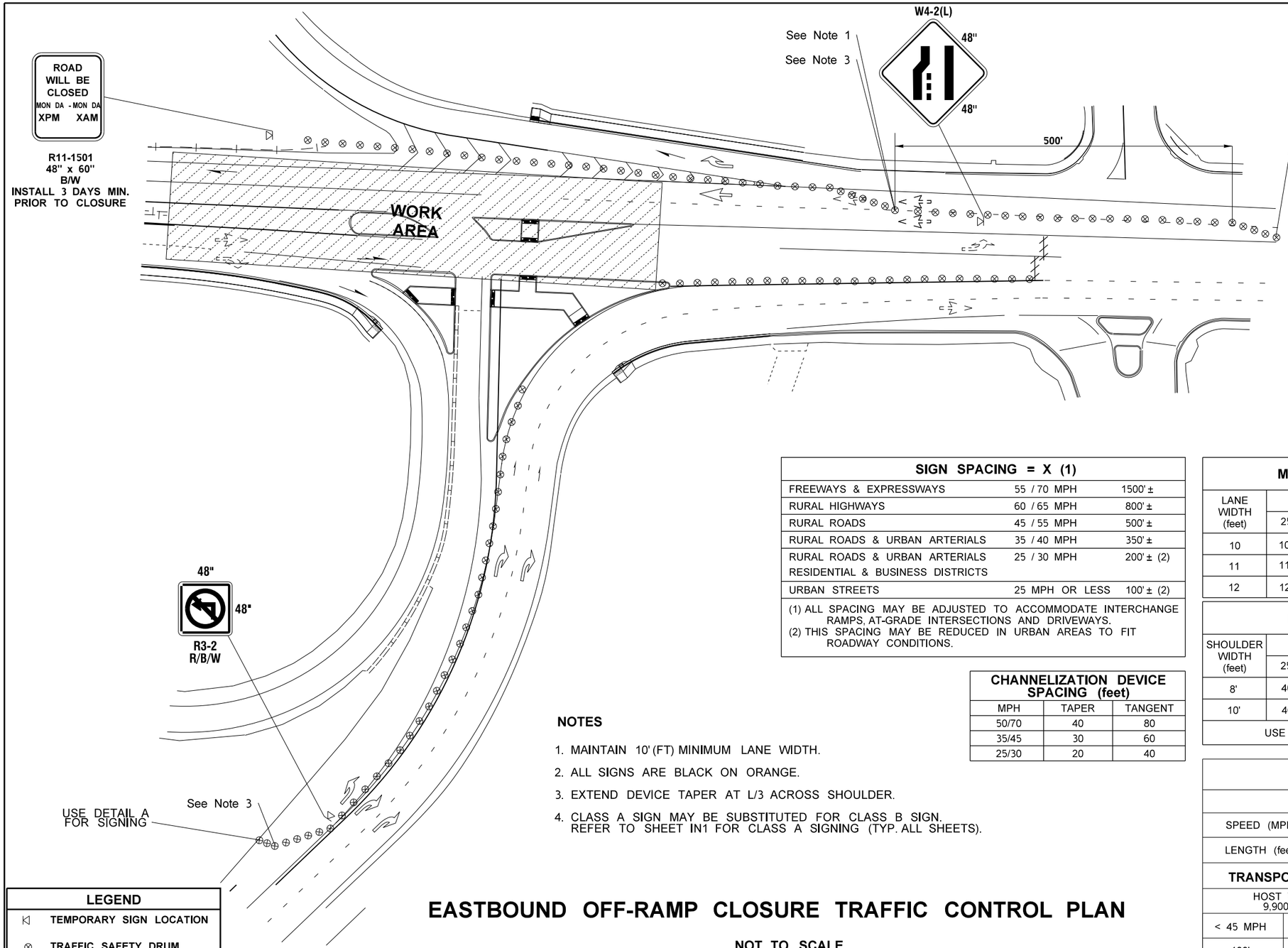
SR 240
COLUMBIA CENTER BLVD. - UPGRADE SIGNAL & ILLUMINATION

TRAFFIC CONTROL PLAN

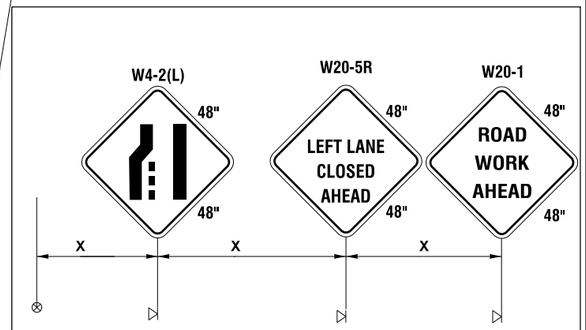
Plot 5

PLAN REF NO TCP5

SHEET 23 OF 26 SHEETS



USE DETAIL A
FOR SIGNING



DETAIL A
(3 PLACES)

SIGN SPACING = X (1)		
FREEWAYS & EXPRESSWAYS	55 / 70 MPH	1500' ±
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240
USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.										

CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50/70	40	80
35/45	30	60
25/30	20	40

NOTES

1. MAINTAIN 10' (FT) MINIMUM LANE WIDTH.
2. ALL SIGNS ARE BLACK ON ORANGE.
3. EXTEND DEVICE TAPER AT L/3 ACROSS SHOULDER.
4. CLASS A SIGN MAY BE SUBSTITUTED FOR CLASS B SIGN. REFER TO SHEET IN1 FOR CLASS A SIGNING (TYP. ALL SHEETS).

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R					
HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

LEGEND

- TEMPORARY SIGN LOCATION
- TRAFFIC SAFETY DRUM
- TYPE 3 BARRICADE

EASTBOUND OFF-RAMP CLOSURE TRAFFIC CONTROL PLAN

NOT TO SCALE

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TC.dgn
TIME	1:58:10 PM
DATE	12/8/2022
PLOTTED BY	LinnM
DESIGNED BY	C. Hill
ENTERED BY	C. Burns
CHECKED BY	B. Hausenbuiller
PROJ. ENGR.	A. Sanguino
REGIONAL ADM.	T. Trepanier

REVISION | DATE | BY

REGION NO. 10 | STATE WASH | FED.AID PROJ.NO. NHPP-0240(025)

JOB NUMBER 22Y023

CONTRACT NO. | LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

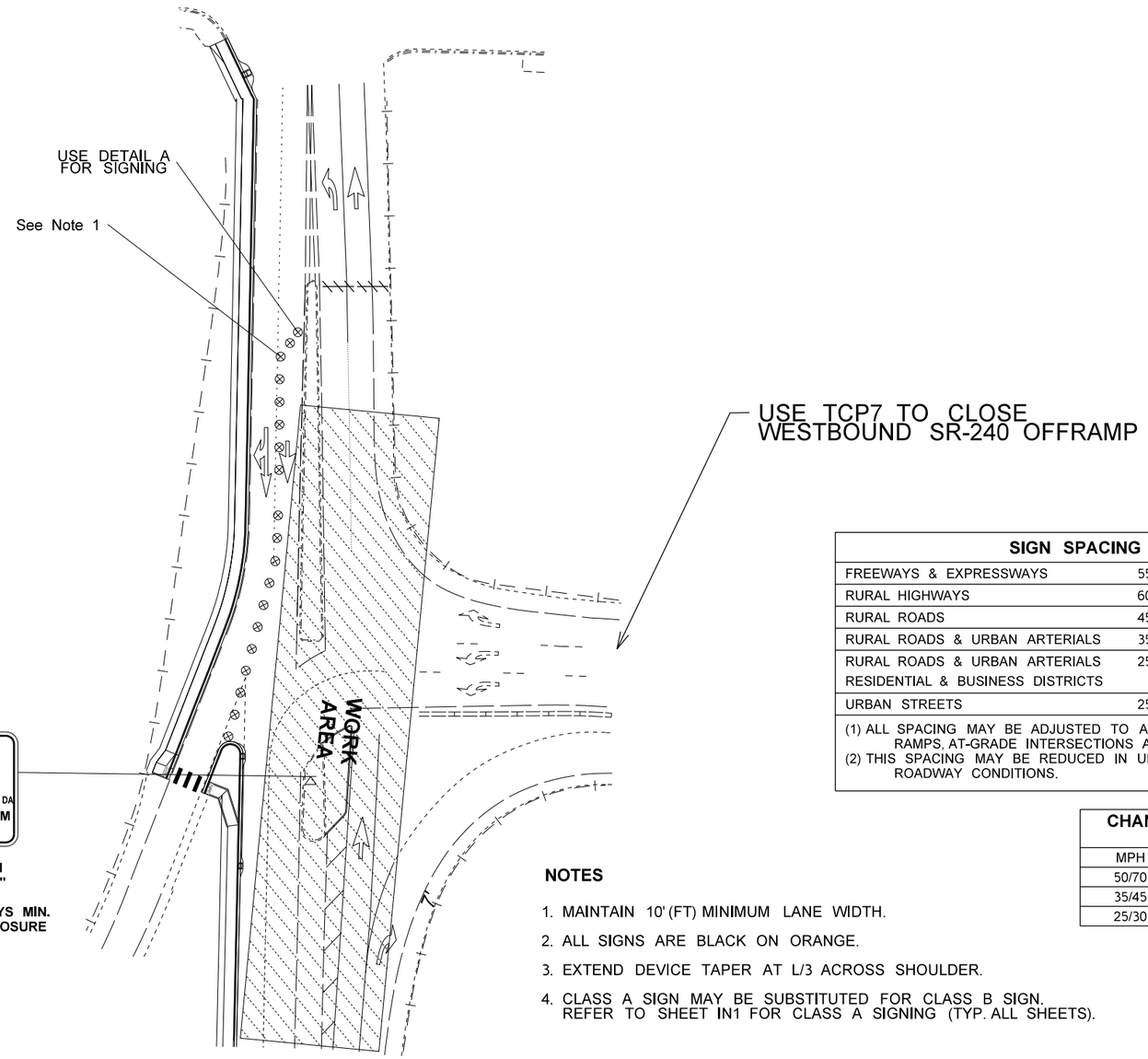
SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

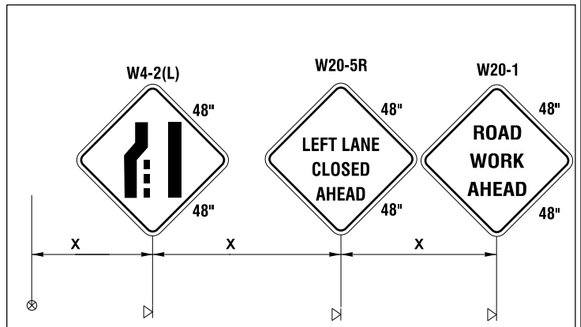
TRAFFIC CONTROL PLAN

Plot 6

PLAN REF NO TCP6A

SHEET 24 OF 26 SHEETS





DETAIL A
(3 PLACES)

SIGN SPACING = X (1)		
FREEWAYS & EXPRESSWAYS	55 / 70 MPH	1500' ±
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50/70	40	80
35/45	30	60
25/30	20	40

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)

LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)

SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240

USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.

BUFFER DATA

LONGITUDINAL BUFFER SPACE = B

SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R

HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

NOTES

1. MAINTAIN 10' (FT) MINIMUM LANE WIDTH.
2. ALL SIGNS ARE BLACK ON ORANGE.
3. EXTEND DEVICE TAPER AT L/3 ACROSS SHOULDER.
4. CLASS A SIGN MAY BE SUBSTITUTED FOR CLASS B SIGN. REFER TO SHEET IN1 FOR CLASS A SIGNING (TYP. ALL SHEETS).

LEGEND

- TEMPORARY SIGN LOCATION
- TRAFFIC SAFETY DRUM

WESTBOUND OFF-RAMP CLOSURE TRAFFIC CONTROL PLAN

NOT TO SCALE

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TC.dgn			
TIME	1:58:24 PM			
DATE	12/8/2022			
PLOTTED BY	LinnM			
DESIGNED BY	C. Hill			
ENTERED BY	C. Burns			
CHECKED BY	B. Hausenbuiller			
PROJ. ENGR.	A. Sanguino			
REGIONAL ADM.	T. Trepanier	REVISION	DATE	BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	NHPP-0240(025)
JOB NUMBER 22Y023		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. -
UPGRADE SIGNAL & ILLUMINATION

TRAFFIC CONTROL PLAN

Plot 7
PLAN REF NO TCP6B
SHEET 25 OF 26 SHEETS

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)

SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240

USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.

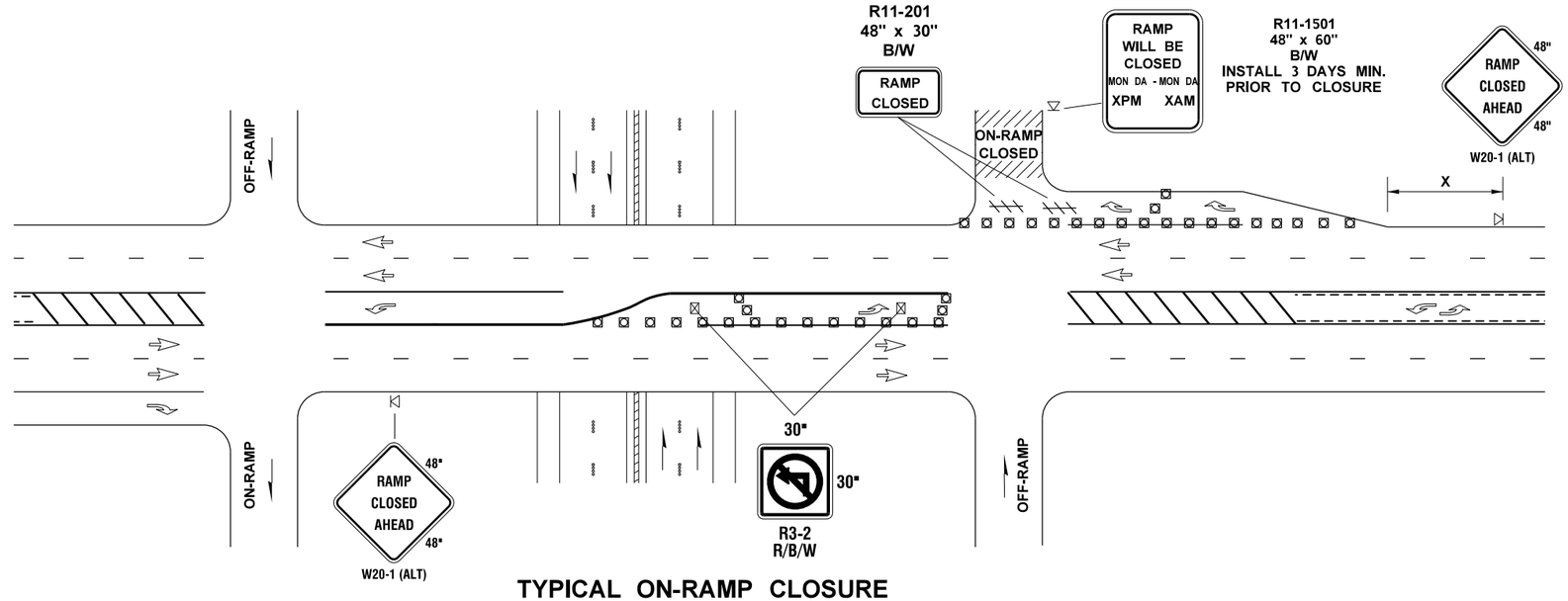
SIGN SPACING = X (1)

FREEWAYS & EXPRESSWAYS	55 / 70 MPH	1500' ±
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS & URBAN ARTERIALS RESIDENTAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CHANNELIZATION DEVICE SPACING (feet)

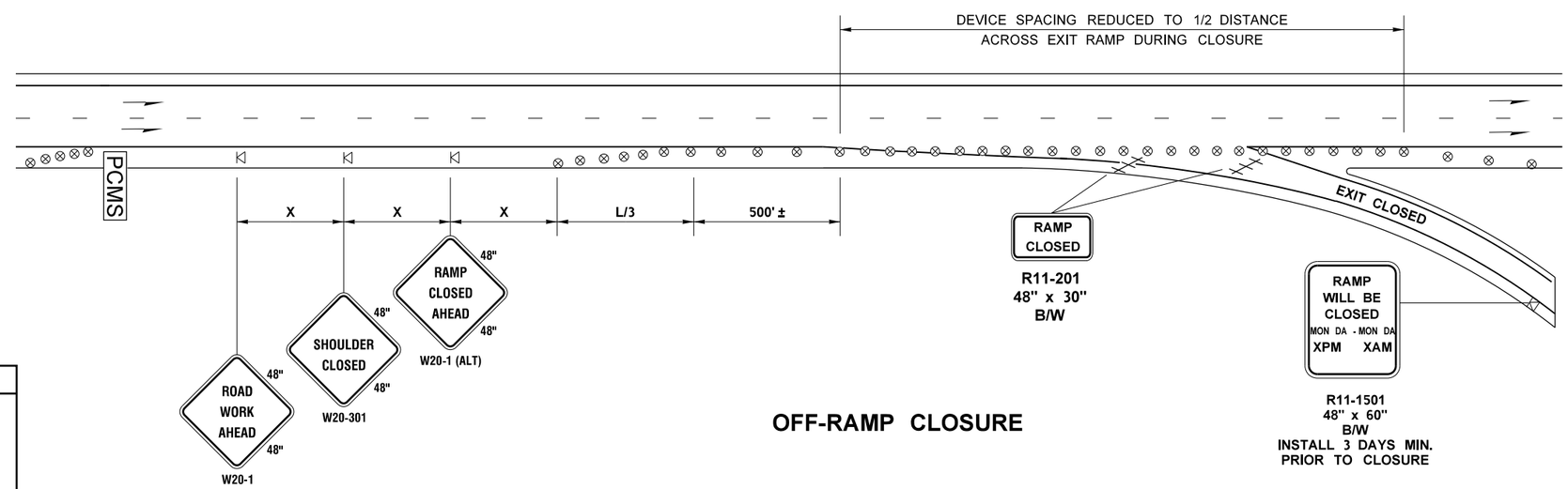
MPH	TAPER	TANGENT
50/70	40	80
35/45	30	60
25/30	20	40



TYPICAL ON-RAMP CLOSURE

PCMS	
1	2
EXIT XXX CLOSED	USE EXIT XXX
2.0 SEC	2.0 SEC

FIELD LOCATE



OFF-RAMP CLOSURE

LEGEND

- TYPE 3 BARRICADE
- TEMPORARY SIGN LOCATION
- CHANNELIZING DEVICES
- TRAFFIC SAFETY DRUM
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN
- TEMPORARY SIGN LOCATION (5' MOUNTING HEIGHT)

SHORT TERM RAMP CLOSURES

NOT TO SCALE

NOTES

1. SEE SPECIAL PROVISIONS FOR CLOSURE HOUR RESTRICTIONS.
2. TYPICAL APPLICATION SHOWN. ADJUST FOR SITE CONDITIONS.
3. ALL SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.

FILE NAME	T:\Projects\XL6485 - SR 240, Columbia Center Blvd - Upgrade Signal & Illumination\CAD\XL6485_PS_TC.dgn
TIME	1:58:37 PM
DATE	12/8/2022
PLOTTED BY	LinnM
DESIGNED BY	C. Hill
ENTERED BY	C. Burns
CHECKED BY	B. Hausenbuiller
PROJ. ENGR.	A. Sanguino
REGIONAL ADM.	T. Trepanier

REVISION | DATE | BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	NHPP-0240(025)
JOB NUMBER 22Y023		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

SR 240
COLUMBIA CENTER BLVD. - UPGRADE SIGNAL & ILLUMINATION

TRAFFIC CONTROL PLAN

Plot 8

PLAN REF NO TCP7

SHEET 26 OF 26 SHEETS