



Ministry of
Transportation
and Infrastructure

ELECTRICAL AND TRAFFIC ENGINEERING MANUAL

Appendix 700.1

Standard Drawing Blocks

luminaire_att**

	LT	(LUMINAIRE POLE)
	LTJB	(LUMINAIRE POLE & J.B.)
	LTDD	(DOUBLE DAVIT LUMINAIRE POLE)
	LTPR	(MUNICIPAL LUMINAIRE POLE OR LEASE LIGHT)

sign_post_att **

	SN	(SIGN POLE)
	SNLT	(SIGN POLE & LUMINAIRE)
	SNLN	(LANE USE SIGN POLE)
	SNLNL	(LANE USE SIGN POLE & LUMINAIRE)

jb_att **

	JB	(JUNCTION BOX)
	CJB	(CONCRETE JUNCTION BOX)

signal_pole_att**

	SIG	(SIGNAL POLE, DIMENSION TO SUIT ARM REACH)
	SIGLUM	(SIGNAL POLE WITH LUM, DIMENSION TO SUIT ARM REACH)
	SIGPOST	(SIGNAL POST)

controller_att **

	TYPE P6
	TYPE S

commands_att **

ADD:
INSTALL:
REMOVE:
REV.A:
REPLACE:

	POLENO	(SIGNAL POLE NUMBER)
	SIGNNO	(SIGN POLE NUMBER)
	A1ARR	(SIGNAL PHASE WITH TURN ARROW INDICATION)
	AR	(TO INDICATE A TURN PHASE)
	AHEAD	(SIGNAL HEAD)
	SNPT	(SIGN ON POST)
	SLD	(SIDEWALK LETDOWN)
	TO XXX	TOL (DESTINATION INDICATORS)
	TOR	

	LTWALL	(WALL MOUNTED LUMINAIRE)
	PPL	(POWER POLE)
	PANEL	(SERVICE PANEL)
	SERDIS	(SERVICE DISCONNECT OR PRE-EMPTION ENCLOSURE)
	OHFB	(FOUR WAY FLASHING BEACON)
	FLASHER	(MEDIAN ISLAND FLASHER)

** DENOTES BLOCK IS DYNAMIC

SITE PLAN SYMBOLS (1:250)

pav_mark_att **



ARS



ARL



ARR



ARSL



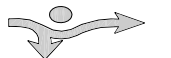
ARSLR



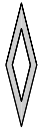
ARSR



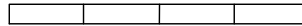
ARLS-RND



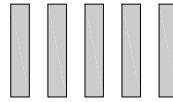
ARRS-RND



BUSLANE



BARRIER
(CONCRETE BARRIER)



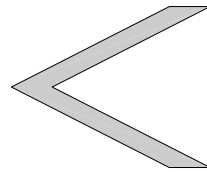
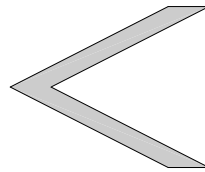
ZEBRA



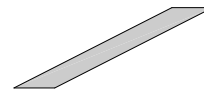
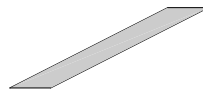
CROSS2



RRTRAC
(RAILWAY TRACKS)



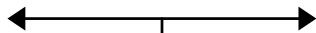
CHEVRONS
(USE TO CREATE PAINT
MARKINGS IN GORE AREAS)



BARS
(USE TO CREATE PAINT
MARKINGS IN MEDIAN AREAS)

SERDIV

(TO INDICATE ELECTRICAL
SERVICE DIVISION)

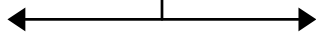


SERVICE
No. X

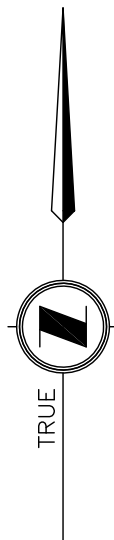
SERVICE
No. X

SERVICE
No. X

SERVICE
No. X



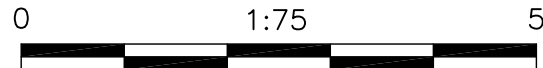
NORTH_ATT



scales_att **

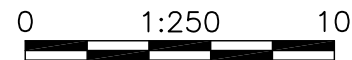
ELEVATIONS

1:75



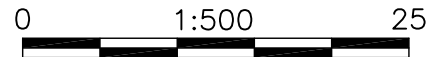
SITE PLAN

1:250



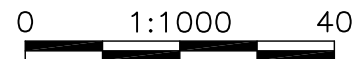
SITE PLAN

1:500



SITE PLAN

1:1000



ELEVATION_DETAIL

TYP. ELEVATION 1:75 B
1 XXXW LED — Xm
LUMINAIRE POLE

** DENOTES BLOCK IS DYNAMIC

PAVEMENT MARKINGS, SCALES & MISC. SITE PLAN BLOCKS



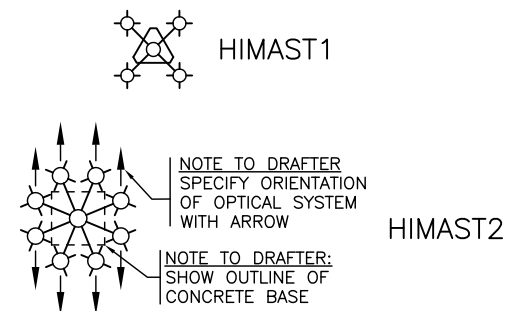
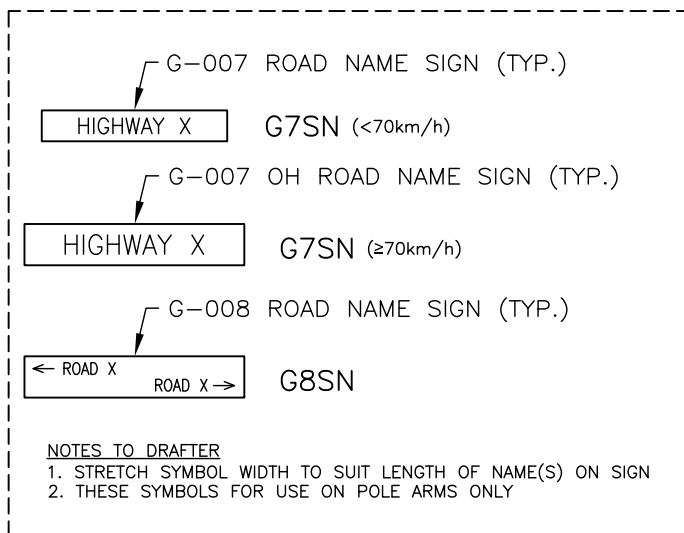
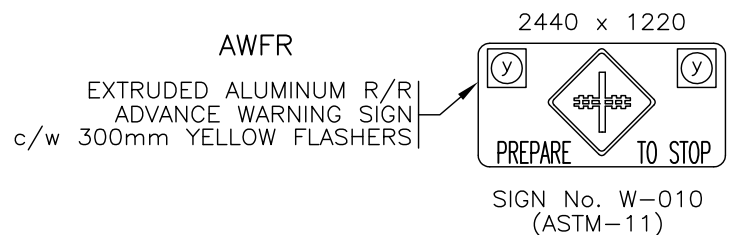
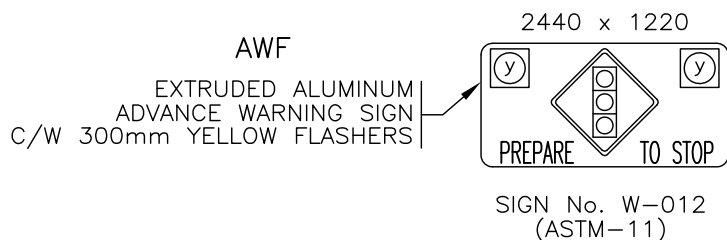
BRITISH COLUMBIA
MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
ELECTRICAL AND ITS ENGINEERING

2018

DRAFTING STANDARD DRAWING NUMBER
700.1-DS-2

conduit_callout_att **

ONE	1-50mm RPVC 2 No. 6 CONT. PWR. 1 No. 8 BOND 2-50mm RPVC (1 EMPTY) XX No.14 SIGNALS 1 No.10 SIG. NEUT. 1 No.12 BOND 2-50mm RPVC (1 EMPTY) X-2C SH. LOOPS 1 No.12 BOND	SIX	1-50mm RPVC 3 No.10 LUM. CCTS. A&B 1 No.12 BOND
TWO	1-50mm RPVC 2 No. 6 CONT. PWR. 3 No.10 LUM. CCTS. A&B 3 No.10 LUM. CCTS. C&D XX No.14 SIGNALS 1 No. 6 GROUND (TO GND. PLATE) 1 No. 8 BOND	SEVEN	1-50mm RPVC 3 No.10 LUM. CCTS. A&B 1 No.12 BOND 1-50mm RPVC (EMPTY)
THREE	1-50mm RPVC XX No.14 SIGNALS 1 No.12 BOND	EIGHT	1-50mm RPVC 2 No.14 IS. FLASH. 1 No.12 BOND
FOUR	1-50mm RPVC 2 No.10 LUM. CCT. X XX No.14 SIGNALS 1 No.12 BOND	NINE	1-50mm RPVC 2 No.10 LUM. CCT. X 3 No.14 ADV. WARN. FLASH. No. AX 1 No.12 BOND
FIVE	1-50mm RPVC 3 No.10 LUM. CCTS. A&B XX No.14 SIGNALS 1 No.10 SIG. NEUT. 1 No.12 BOND 1-50mm RPVC X-2C SH. LOOPS 1 No.12 BOND	TEN	2-50mm RPVC (EMPTY) (FUTURE COMMUNICATION)
		ELEVEN	1-50mm RPVC 3 No. 3 PWR.



** DENOTES BLOCK IS DYNAMIC

CONDUIT CALLOUTS, SIGNS & HIMAST

ALL EQUIPMENT IS NEW
EXCEPT WHERE NOTED

NEW
(USED WHEN REVISION HAS
MOSTLY NEW EQUIPMENT BEING
ADDED. INCLUDED ON ALL
SHEETS, IF APPLICABLE)

ALL EQUIPMENT IS EXISTING
EXCEPT WHERE NOTED

EXIST
(USED WHEN REVISION HAS
MOSTLY EXISTING EQUIPMENT.
INCLUDED ON ALL SHEETS, IF
APPLICABLE)

ALL DIMENSIONS ARE IN MILLIMETERS
EXCEPT WHERE NOTED

DIM
(INCLUDED ON ALL SHEETS)

DO NOT USE THIS DRAWING FOR
PAVEMENT MARKING OR
SIGNING STANDARDS

PAINT
(INCLUDED ON ALL SITE PLAN SHEETS)

POSTED SPEED LIMIT X km/h

POST
(INCLUDED ON ALL SITE PLAN SHEETS)

SEE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION"
FOR APPLICABLE STANDARD DRAWINGS

STAND
(INCLUDED ON ALL SHEETS)

** DENOTES BLOCK IS DYNAMIC

FOR MINISTRY USE ONLY

REFER TO DRAWING SERIES TE-X
FOR CONTINUATION OF LIGHTING

CONTINUE

(USED IF LIGHTING CONTINUES ON ANOTHER MOTI
ELECTRICAL DRAWING)

REFER TO SHEET X
FOR ELEVATIONS

ELEV
(ON ALL SITE PLAN SHEETS)

X SIGNAL DISPLAYS
ARE LED

LED

REFER TO SHEET 1 FOR LEGEND

REF1
(INCLUDED ON ALL SHEETS, EXCEPT SHEET 1)

REFER TO SHEET X FOR NOTES

REF1
(INCLUDED ON ALL SHEETS, EXCEPT THE ONE WITH
THE STANDARD NOTE BLOCK)

FOR MINISTRY USE ONLY

THIS DRAWING SERIES SUPERSEDES
DRAWING SERIES TE-X

SUPERSED

(USED WHEN THE PREVIOUS DRAWING SERIES IS
COMPLETELY SUPERSEDED)

FOR MINISTRY USE ONLY

REFER TO DRAWING SERIES TE-XXX
FOR PREVIOUS REVISION

REFREV

(USED WHEN THE PREVIOUS DRAWING SERIES IS ONLY
PARTIALLY SUPERSEDED)

NOTE:

EQUIPMENT SHOWN:

..... TO BE REMOVED
----- TO BE ADDED

WDNOTES

(USED WHEN WIRING DIAGRAM IS MODIFIED)

** DENOTES BLOCK IS DYNAMIC

INTERSECTION_CRITERIA

INTERSECTION LIGHTING DESIGN CRITERIA		
INTERSECTION LOCATION		
ROAD DESIGNATION		
PEDESTRIAN CONFLICT		
WATTAGE/TYPE/ LUMINAIRE MANUFACTURER/ MODEL NUMBER		
	RECOMMENDED ILLUMINANCE	ACHIEVED ILLUMINANCE
ILLUMINATION LEVEL (AVG.)		
UNIFORMITY RATIO (AVG:MIN)		

NOTE: BASED ON IESNA RP-8-14 (TABLE 9)

ROADWAY_CRITERIA

ROADWAY LIGHTING DESIGN CRITERIA		
LOCATION		
ROAD DESIGNATION		
PEDESTRIAN CONFLICT		
WATTAGE/TYPE/ LUMINAIRE MANUFACTURER/ MODEL NUMBER		
	RECOMMENDED LUMINANCE	ACHIEVED LUMINANCE
ILLUMINATION LEVEL (AVG.)		
UNIFORMITY RATIO (AVG:MIN)		

NOTE: BASED ON IESNA RP-8-14 (TABLE 2)

LED_LIST

LED LUMINAIRE PRODUCT LIST				
MANUFACTURER	MODEL No.	WATTAGE	DISTRIBUTION TYPE	QUANTITY
XXX	XXXX-X-XXX	XXXW	X	X
XXX	XXXX-X-XXX	XXXW	X	X

LED LUMINAIRE LEGEND


 XXX ← LUMINAIRE NUMBERING
 XXXW ← WATTAGE
 LED ← LIGHT SOURCE
 (RX) ← DISTRIBUTION TYPE (OPTICS)

*ALL NEW LUMINAIRES SHALL BE LED

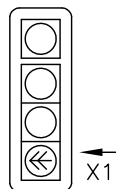
LIGHTING CRITERIA & LED LIST TABLES



MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
ELECTRICAL AND ITS ENGINEERING

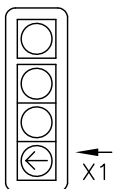
2018

DRAFTING STANDARD DRAWING NUMBER
700.1-DS-6



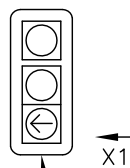
4 x 300mm
WITH LED HEAD
(YELLOW/GREEN ARROW)

PLFO
PLUMBIZER MOUNT



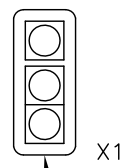
4 x 300mm
GREEN ARROW LENS

PL4A
PLUMBIZER MOUNT



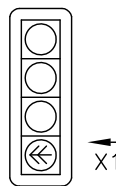
3 x 300mm
GREEN ARROW LENS

PL3A
PLUMBIZER MOUNT



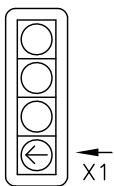
3 x 300mm (TYP.)

PL3
PLUMBIZER MOUNT



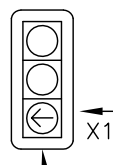
4 x 300mm
WITH LED HEAD
(YELLOW/GREEN ARROW)

SCFO



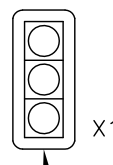
4 x 300mm
GREEN ARROW LENS

SC4A



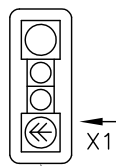
3 x 300mm
GREEN ARROW LENS

SC3A



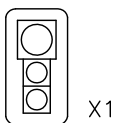
3 x 300mm (TYP.)

SC3

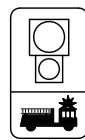


300mm LED HEAD
(YELLOW/GREEN ARROW)

SCFO2

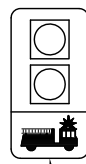


SCHWY



300mm - 200mm
FIRE SIGNAL HEAD

FIRESN



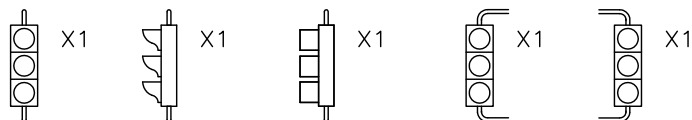
2 x 300mm FIRE
SIGNAL HEAD

PLFIRESN

** DENOTES BLOCK IS DYNAMIC

SIGNAL HEADS

222_signal_head_att **



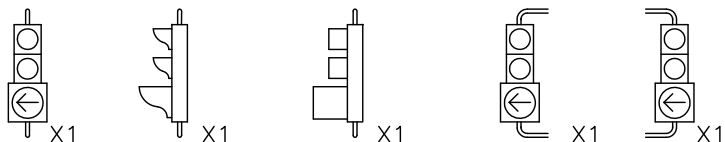
222F 222L 222LTN ADJUST BRACKETS ACCORDINGLY

connecting_arm_att **



FRONT SIDE
(SINGLE ARM BRACKETS)

223_signal_head_att **



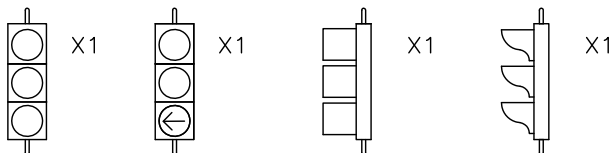
223F 223L 223LTN ADJUST BRACKETS ACCORDINGLY

ped_signal_head_att **



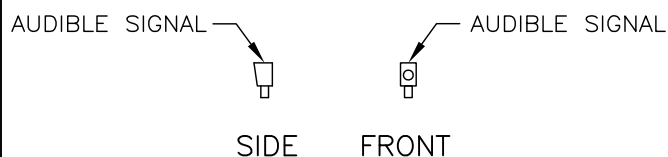
FRONT SIDE

333_signal_head_att **



333F 333FN 333LT 333LN

audible_att **

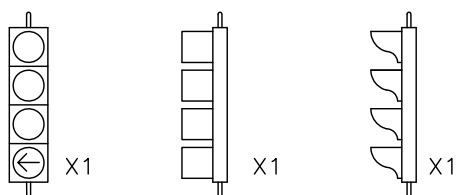


flasher_att **



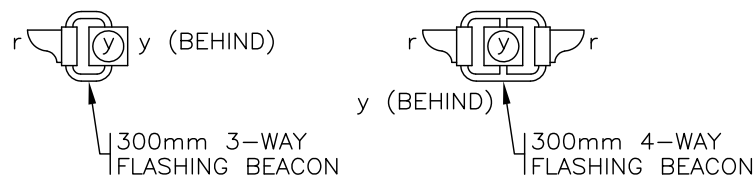
SIDE* FRONT*

3333_signal_head_att **



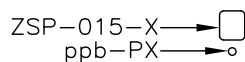
3333F 3333LTN 3333LN

wohfb_att **

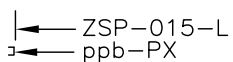


3WOHFB

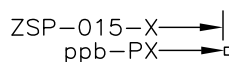
4WOHFB



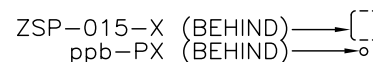
SP10F*



SP10L*



SP10R*



SP10B*

NOTE TO DRAFTER:

* INSERTION POINT = BASE OF POLE

** DENOTES BLOCK IS DYNAMIC

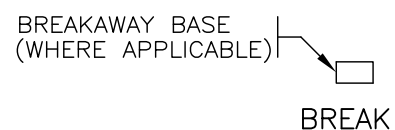
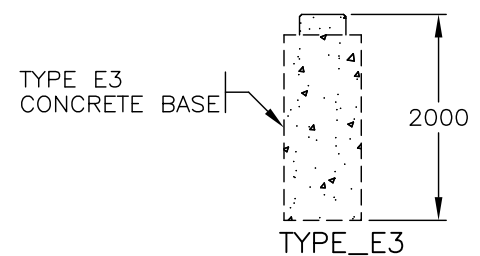
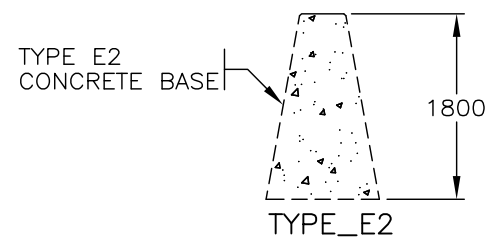
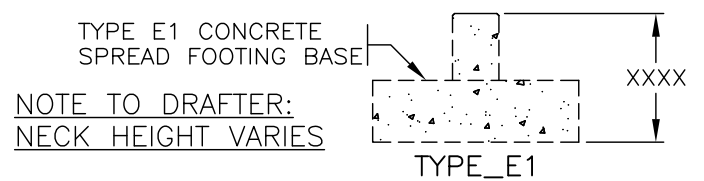
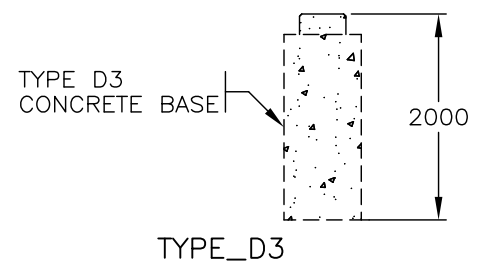
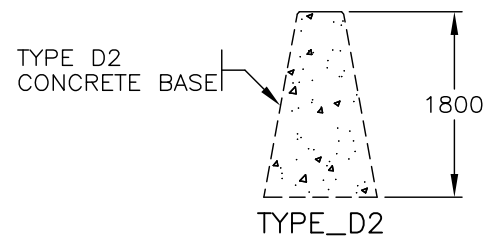
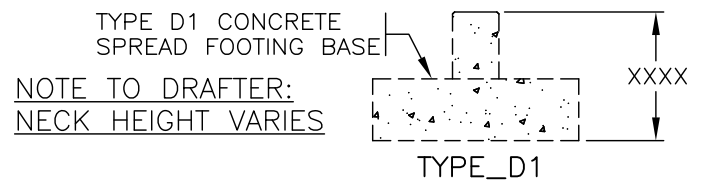
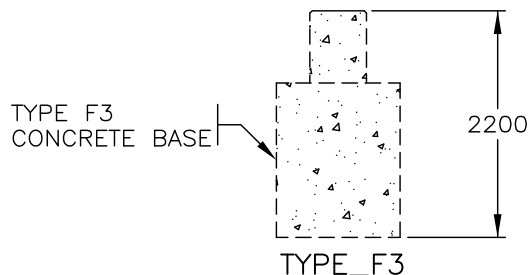
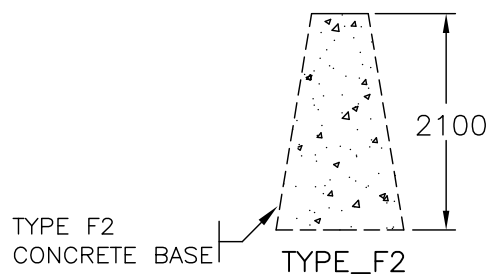
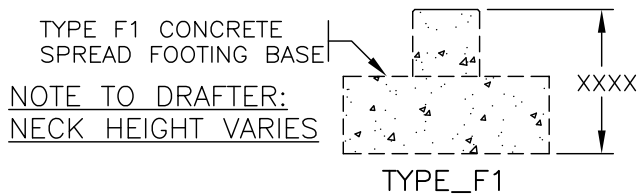
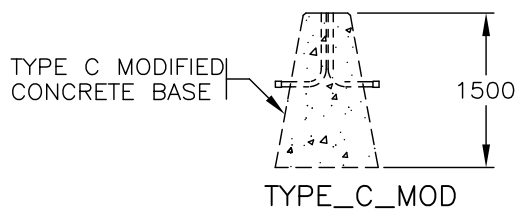
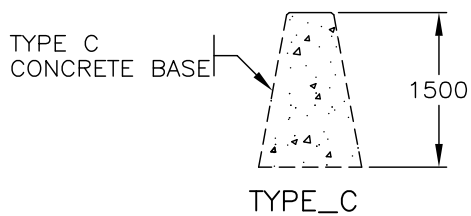
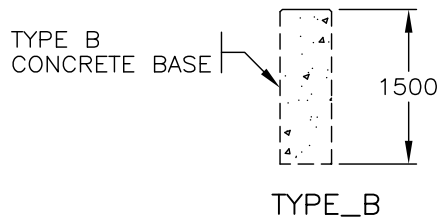
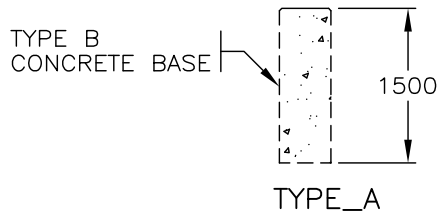
SIGNAL HEADS & PED DISPLAYS



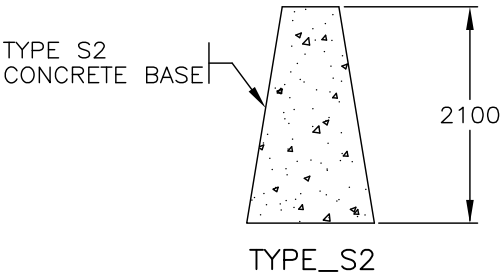
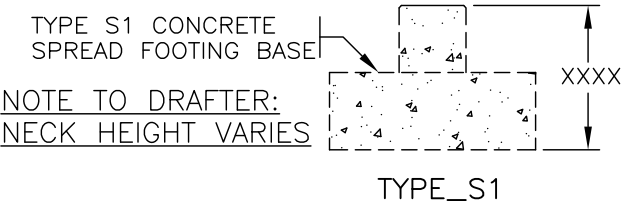
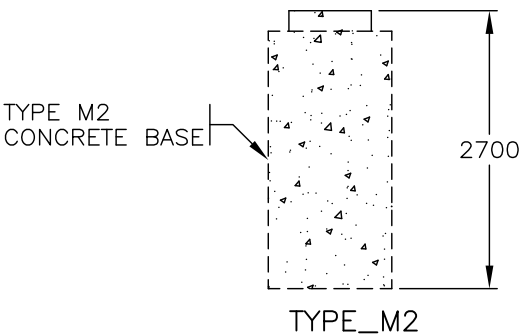
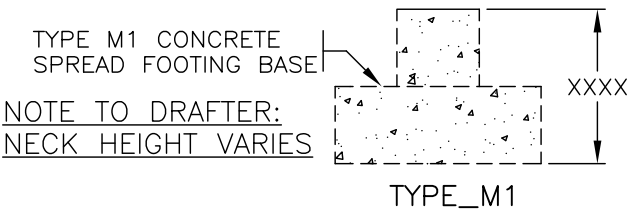
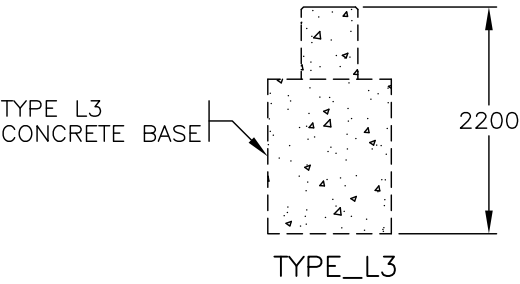
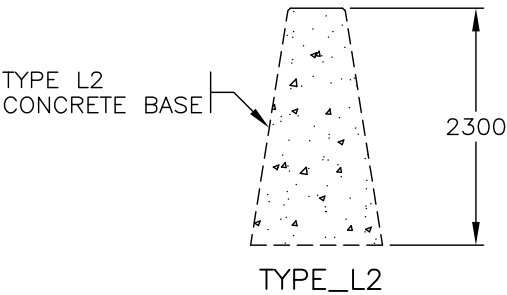
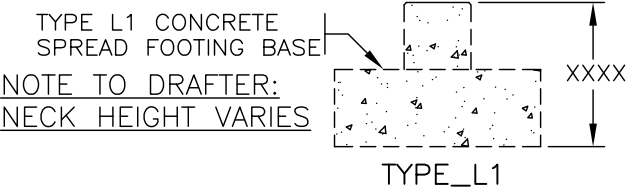
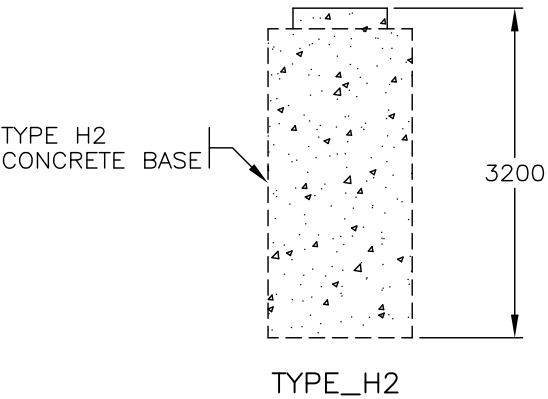
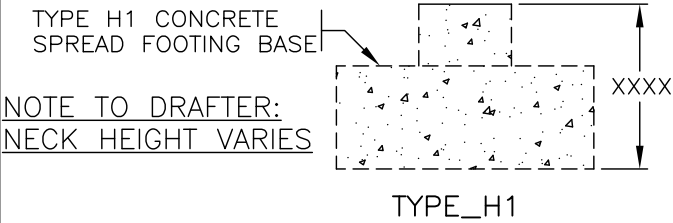
MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
ELECTRICAL AND ETO ENGINEERING

2018

DRAFTING STANDARD DRAWING NUMBER
700.1-DS-8



** DENOTES BLOCK IS DYNAMIC



** DENOTES BLOCK IS DYNAMIC

CONDUCTOR COLOR CODE	
ITEM	CONDUCTOR COLOR
LUMINAIRE CCT. A LUMINAIRE CCT. B	RED BLACK
ISLAND FLASHER	ORANGE
FLASHING BEACON	BLACK/RED/YELLOW
NEUTRAL	WHITE
GROUND/BOND	GREEN

CC1

CONDUCTOR COLOUR CODE		
ITEM	SIGNAL SECTION	CONDUCTOR COLOUR
A	RED YELLOW GREEN	RED YELLOW BLUE
PB	DON'T WALK WALK PUSH BUTTON	BROWN BLUE PURPLE/PURPLE (BROWN T.T.)
CONTROLLER POWER		BLACK
LUMINAIRE CCT. A LUMINAIRE CCT. B		RED BLACK
ISLAND FLASHER		ORANGE
NEUTRAL		WHITE
GROUND/BOND		GREEN
ADVANCE WARNING FLASHER No. A1		YELLOW BROWN
ADVANCE WARNING FLASHER No. A2		YELLOW(RED T.T.) BROWN

NOTE: T.T. DENOTES TAPE TRACER.

CC2

CONDUCTOR COLOUR CODE		
ITEM	SIGNAL SECTION	CONDUCTOR COLOUR
A1	RED YELLOW GREEN	RED YELLOW BLUE
A2	RED YELLOW GREEN	RED YELLOW (RED T.T.) BLUE
B1	RED YELLOW GREEN	RED BROWN BLUE
B2	RED YELLOW GREEN	RED BROWN (ORANGE T.T.) BLUE
Ax	RED YELLOW GREEN ARROW	RED (BLUE T.T.) YELLOW BLUE (WHITE T.T.)
Ay	RED YELLOW GREEN ARROW	RED (BLUE T.T.) YELLOW (RED T.T.) BLUE (WHITE T.T.)
Bx	RED YELLOW GREEN ARROW	RED (BLUE T.T.) BROWN BLUE (WHITE T.T.)
By	RED YELLOW GREEN ARROW	RED (BLUE T.T.) BROWN (ORANGE T.T.) BLUE (WHITE T.T.)
PA1	DON'T WALK WALK PUSH BUTTON	YELLOW BLUE PURPLE/PURPLE (YELLOW T.T.)
PA2	DON'T WALK WALK PUSH BUTTON	YELLOW (RED T.T.) BLUE PURPLE/PURPLE (RED T.T.)
PB1	DON'T WALK WALK PUSH BUTTON	BROWN BLUE PURPLE/PURPLE (BROWN T.T.)
PB2	DON'T WALK WALK PUSH BUTTON	BROWN (ORANGE T.T.) BLUE PURPLE/PURPLE (ORANGE T.T.)
CONTROLLER POWER		BLACK
LUMINAIRE CCTS. A&B LUMINAIRE CCTS. B&D		RED BLACK
NEUTRAL		WHITE
GROUND/BOND		GREEN

NOTE: T.T. DENOTES TAPE TRACER.

CC3

CONDUCTOR COLOR CODE		
ITEM	SIGNAL SECTION	CONDUCTOR COLOR
A1	RED YELLOW YELLOW ARROW GREEN ARROW	RED YELLOW BLUE ORANGE (WHITE T.T.) BLUE (WHITE T.T.)
A2	RED YELLOW GREEN	RED YELLOW(RED T.T.) BLUE
B1	RED YELLOW YELLOW ARROW GREEN ARROW	RED BROWN BLUE ORANGE (WHITE T.T.) BLUE (WHITE T.T.)
B2	RED YELLOW GREEN	RED BROWN (ORANGE T.T.) BLUE
PA1	DON'T WALK WALK PUSH BUTTON	YELLOW BLUE PURPLE/PURPLE(YELLOW T.T.)
PA2	DON'T WALK WALK PUSH BUTTON	YELLOW(RED T.T.) BLUE PURPLE/PURPLE(RED T.T.)
PB1	DON'T WALK WALK PUSH BUTTON	BROWN BLUE PURPLE/PURPLE (BROWN T.T.)
PB2	DON'T WALK WALK PUSH BUTTON	BROWN (ORANGE T.T.) BLUE PURPLE/PURPLE (ORANGE T.T.)
CONTROLLER POWER		BLACK
LUMINAIRE CCTS. A&G LUMINAIRE CCTS. B&D		RED BLACK
EMERG. PRE-EMPT. CABINET PWR.		BLACK/WHITE
EMERG. INDICATION LIGHT: WHITE EMERG. INDICATION LIGHT: BLUE		RED RED (WHITE T.T.)
NEUTRAL		WHITE
GROUND/BOND		GREEN

NOTE: T.T. DENOTES TAPE TRACER

CC4

** DENOTES BLOCK IS DYNAMIC

CONDUCTOR COLOUR CODE (1 of 2)


 MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
ELECTRICAL AND ITS ENGINEERING

2018

 DRAFTING STANDARD DRAWING NUMBER
700.1-DS-11

CONDUCTOR COLOR CODE		
ITEM	SIGNAL SECTION	CONDUCTOR COLOR
A1	RED YELLOW GREEN	RED YELLOW BLUE
A2	RED YELLOW GREEN	RED YELLOW(RED T.T.) BLUE
B	RED YELLOW GREEN GREEN ARROW	RED BROWN BLUE BLUE (WHITE T.T.)
C	RED YELLOW GREEN GREEN ARROW	RED ORANGE BLUE BLUE (WHITE T.T.)
PA1	DON'T WALK WALK PUSH BUTTON	YELLOW BLUE PURPLE/PURPLE(YELLOW T.T.)
PA2	DON'T WALK WALK PUSH BUTTON	YELLOW(RED T.T.) BLUE PURPLE/PURPLE(RED T.T.)
PB	DON'T WALK WALK PUSH BUTTON	BROWN BLUE PURPLE/PURPLE (BROWN T.T.)
PC	DON'T WALK WALK PUSH BUTTON	BROWN (ORANGE T.T.) BLUE PURPLE/PURPLE (ORANGE T.T.)
CONTROLLER POWER		BLACK
LUMINAIRE CCTS. A&G LUMINAIRE CCTS. B&D		RED BLACK
NEUTRAL		WHITE
GROUND/BOND		GREEN

NOTE: T.T. DENOTES TAPE TRACER

CC5

CONDUCTOR COLOR CODE		
ITEM	SIGNAL SECTION	CONDUCTOR COLOR
A1	RED YELLOW GREEN	RED YELLOW BLUE
A2	RED YELLOW GREEN	RED YELLOW(RED T.T.) BLUE
B1	RED YELLOW GREEN	RED BROWN BLUE
B2	RED YELLOW GREEN	RED BROWN(ORANGE T.T.) BLUE
PA1(a) (CHIRP)	DON'T WALK WALK PUSH BUTTON	YELLOW BLUE PURPLE/PURPLE(YELLOW T.T.)
PA2(a) (CHIRP)	DON'T WALK WALK PUSH BUTTON	YELLOW(RED T.T.) BLUE PURPLE/PURPLE(RED T.T.)
PB1(a) (CUCKOO)	DON'T WALK WALK PUSH BUTTON	BROWN BLUE PURPLE/PURPLE (BROWN T.T.)
PB2(a) (CUCKOO)	DON'T WALK WALK PUSH BUTTON	BROWN (ORANGE T.T.) BLUE PURPLE/PURPLE (ORANGE T.T.)
CONTROLLER POWER		BLACK
LUMINAIRE CCTS. A&G LUMINAIRE CCTS. B&D		RED BLACK
NEUTRAL		WHITE
GROUND/BOND		GREEN

NOTE: T.T. DENOTES TAPE TRACER
(a) DENOTES AUDIBLE SIGNAL

CC6

EMERGENCY PRE-EMPTION CONDUCTOR LABELLING			
ITEM	LABEL	COLOUR	CONDUCTOR TYPE
EMERG. PRE-EMPT. ENCLOSURE PWR.	N/A	BLACK/WHITE	RW90
EMERG. PRE-EMPT. SENSOR ØA1	S1	N/A	BELDEN 8770
EMERG. PRE-EMPT. SENSOR ØA2	S2	N/A	BELDEN 8770
EMERG. PRE-EMPT. SENSOR ØB1	S3	N/A	BELDEN 8770
EMERG. PRE-EMPT. SENSOR ØB2	S4	N/A	BELDEN 8770
WHITE EMERG. INDICATION LIGHT ØA1 BLUE EMERG. INDICATION LIGHT ØA1	PE-A1-WH PE-A1-BL	RED RED (WHITE T.T.)	RW90 RW90
WHITE EMERG. INDICATION LIGHT ØA2 BLUE EMERG. INDICATION LIGHT ØA2	PE-A2-WH PE-A2-BL	RED RED (WHITE T.T.)	RW90 RW90
WHITE EMERG. INDICATION LIGHT ØB1 BLUE EMERG. INDICATION LIGHT ØB1	PE-B1-WH PE-B1-BL	RED RED (WHITE T.T.)	RW90 RW90
WHITE EMERG. INDICATION LIGHT ØB2 BLUE EMERG. INDICATION LIGHT ØB2	PE-B2-WH PE-B2-BL	RED RED (WHITE T.T.)	RW90 RW90
EMERG. PRE-EMPT. INTERTIE ØA1	PE-A1=INT	N/A	BELDEN 9388
EMERG. PRE-EMPT. INTERTIE ØA2	PE-A2=INT	N/A	
EMERG. PRE-EMPT. INTERTIE ØB1	PE-B1=INT	N/A	
EMERG. PRE-EMPT. INTERTIE ØB2	PE-B2=INT	N/A	

NOTE: T.T. DENOTES TAPE TRACER.

REFER TO SP635-2.5.7 FOR NOTES ON CONDUCTOR LABELLING.

CC7

** DENOTES BLOCK IS DYNAMIC

CONDUCTOR COLOUR CODE (2 of 2)

MINISTRY OF TRANSPORTATION
AND INFRASTRUCTURE
ELECTRICAL AND ITS ENGINEERING

2018

DRAFTING STANDARD DRAWING NUMBER
700.1-DS-12



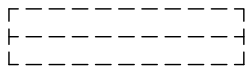
RNDLOOP (ROUND DETECTOR LOOP)



DLOOP (DIAMOND DETECTOR LOOP)



PLOOP (PRE-FORMED DETECTOR LOOP)



QUADLOOP (QUADRAPOLE DETECTOR LOOP; OBSOLETE)



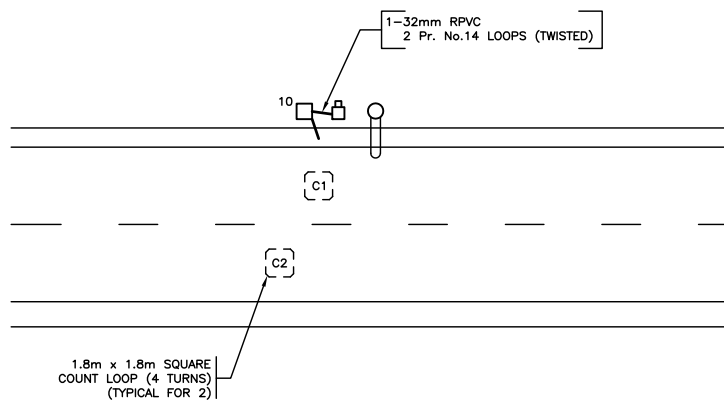
RECLOOP (RECTANGULAR DETECTOR LOOP; STRETCH TO SUIT LANE)



DLL (DETECTOR LOOP LEAD)

NOTE TO DRAFTER:

INSERT SYMBOLS AT HALF SCALE FOR 1:500 SITE PLANS



CNTPOST (COUNT STATION POST)



CNTLOOP (COUNT LOOP)

DETECTOR LOOP TABLE						
LOOP			INDUCTANCE			PHASE
LOOP No.	SIZE	TURN	LOOP (μ h)	LEAD (μ h)	TOTAL (μ h)	
L1	1.8 x 1.8	4	120	X	X	X
L2	1.8 x 1.8	4	120	X	X	X
L3	1.8 x 1.8	4	120	X	X	X
L4	1.8 x 1.8	4	120	X	X	X
L5	1.8 x 1.8	4	120	X	X	X
L6	1.8 x 1.8	4	120	X	X	X
L7	1.8 x 1.8	4	120	X	X	X
L8	1.8 x 1.8	4	120	X	X	X
L9	1.8 x 1.8	4	120	X	X	X
L10	1.8 x 1.8	4	120	X	X	X
L11	1.8 x 1.8	4	120	X	X	X
L12	1.8 x 1.8	4	120	X	X	X
L13	1.8 x 1.8	4	120	X	X	X
L14	1.8 x 1.8	4	120	X	X	X
L15	1.8 x 1.8	4	120	X	X	X
L16	1.8 x 1.8	4	120	X	X	X
L17	1.8 x 1.8	4	120	X	X	X
L18	1.8 x 1.8	4	120	X	X	X
L19	1.8 x 1.8	4	120	X	X	X
L20	1.8 x 1.8	4	120	X	X	X
L21	1.8 x 1.8	4	120	X	X	X
L22	1.8 x 1.8	4	120	X	X	X
L23	1.8 x 1.8	4	120	X	X	X
L24	1.8 x 1.8	4	120	X	X	X
PL X	1.8 x 1.8	4	120	X	X	X
L X	1.8 DIA.	4	95	X	X	X
FL X						FUTURE
L X	1.8 x 1.8	4	120	X	X	COUNT
L X	1.8 x 1.8	4	120			
L X	1.8 x 7.6	2	207	X	un	X
L X	1.8 x X	X	X	X	X	COUNT

NOTE: – ROUND LOOPS MAY BE USED IN PLACE OF DIAMOND LOOPS
 AT THE DISCRETION OF THE CONTRACTOR
 – PL DENOTES PREFORMED LOOP
 – FL DENOTES FUTURE INSTALLATION

NOTE TO DRAFTER:

THE FIRST 24 LOOPS ARE FOR A TYPICAL INSTALLATION
 OF DIAMOND LOOPS FOR AN ACTUATED SIGNAL.
 THE REMAINING ARE EXAMPLES OF SITUATIONS THAT MAY
 ALSO BE ENCOUNTERED.

DETECTOR LOOP TABLE			
		 BRITISH COLUMBIA MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE ELECTRICAL AND ITS ENGINEERING	DRAFTING STANDARD DRAWING NUMBER 2018 700.1-DS-14

NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE ELECTRICAL SPECIAL PROVISIONS ISSUED WITH THIS CONTRACT.
2. CONDUCTORS FROM JUNCTION BOX TO LUMINAIRE POLE SHALL BE:
 2 No.10 RW90 50mm RPVC (UNLESS OTHERWISE NOTED)
 1 No.12 RW90
3. ALL CONDUITS FROM JUNCTION BOXES TO BASES ARE TO BE 50mm RPVC.
4. JUNCTION BOXES SHALL BE POSITIONED BEHIND OR, AS AN ALTERNATIVE, TO THE SIDE, BUT NOT IN FRONT OF POLES.
5. EACH SHIELDED CABLE SHALL RUN CONTINUOUS WITH NO SPLICES, FROM THE CONTROLLER TO THE RESPECTIVE LOOP.
6. ALL SIGNAL HEAD SECTIONS SHALL BE WIRED SEPARATELY FROM THE HANDHOLE OF THE POLE TO EACH HEAD INCLUDING A SEPARATE NEUTRAL AND BONDING CONDUCTOR FOR EACH HEAD.
7. LUMINAIRE NUMBERING EXAMPLE: 1A2
 SERVICE No. – 1 CCT. LETTER – A LUM. No. – 2
8. WHERE POSSIBLE, POLES SHALL BE POSITIONED WITH THE HANDHOLE IN THE BACK OR IF NOT POSSIBLE, ON THE DOWNSTREAM TRAFFIC SIDE.
9. ALL CONCRETE BASES AND JUNCTION BOX SYMBOLS ARE NOT TO SCALE.
10. THE CONTRACTOR SHALL NOT PRE-DRILL HOLES IN A SIGNAL POLE UNTIL AFTER THE BASE FOR THAT POLE HAS BEEN INSTALLED. THE CONTRACTOR SHALL ADVISE THE MINISTRY REPRESENTATIVE OF ANY ADJUSTMENTS MADE TO THE BASE LOCATION WHICH WILL AFFECT THE LOCATIONS OF HARDWARE TO BE MOUNTED ON THAT POLE PRIOR TO DRILLING.
11. WHERE THREE OR MORE SECONDARY/PEDESTRIAN HEADS ARE BEING MOUNTED ON THE POLE SHAFT, ORIENT THE PEDESTRIAN HEAD MOUNTING BRACKETS WITH THE WIREWAY ON TOP.
12. WHERE TWO OR MORE SECONDARY HEADS ARE BEING MOUNTED IN THE SAME SHAFT, ALL SECONDARY HEADS SHALL HAVE TUNNELS.
13. ALL NEW JUNCTION BOXES SHALL HAVE STEEL LIDS.
14. ALL CONDUCTORS SHALL BE RW90 STRANDED COPPER UNLESS SHOWN OTHERWISE.

NOTES1 (FOR SIGNAL & LIGHTING INSTALLATIONS)

** DENOTES BLOCK IS DYNAMIC

NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE ELECTRICAL SPECIAL PROVISIONS ISSUED WITH THIS CONTRACT.
2. CONDUCTORS FROM JUNCTION BOX TO LUMINAIRE POLE SHALL BE:
 2 No.10 RW90  50mm RPVC (UNLESS OTHERWISE NOTED)
 1 No.12 RW90 
3. ALL CONDUITS FROM JUNCTION BOXES TO BASES ARE TO BE 50mm RPVC.
4. JUNCTION BOXES SHALL BE POSITIONED BEHIND OR, AS AN ALTERNATIVE, TO THE SIDE, BUT NOT IN FRONT OF POLES.
5. LUMINAIRE NUMBERING EXAMPLE: 1A2
 SERVICE No. – 1 CCT. LETTER – A LUM. No. – 2
6. WHERE POSSIBLE, POLES SHALL BE POSITIONED WITH THE HANDHOLE IN THE BACK OR IF NOT POSSIBLE, ON THE DOWNSTREAM TRAFFIC SIDE.
7. ALL CONCRETE BASES AND JUNCTION BOX SYMBOLS ARE NOT TO SCALE.
8. ALL NEW JUNCTION BOXES SHALL HAVE STEEL LIDS.
9. ALL CONDUCTORS SHALL BE RW90 STRANDED COPPER UNLESS SHOWN OTHERWISE.

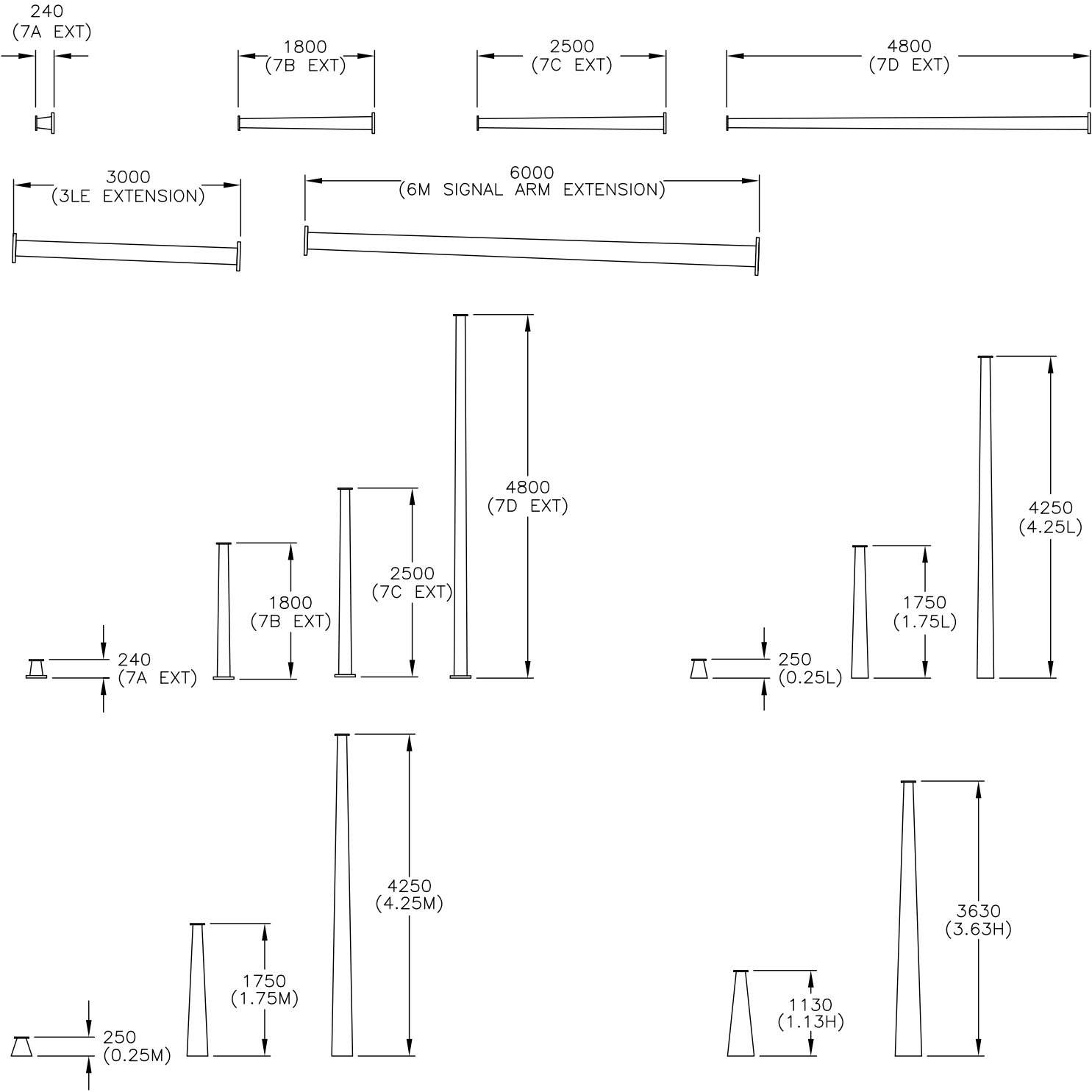
NOTES 2 (FOR LIGHTING INSTALLATIONS)

NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE ELECTRICAL SPECIAL PROVISIONS ISSUED WITH THIS CONTRACT.
2. ALL CONDUITS FROM JUNCTION BOXES TO BASES ARE TO BE 50mm RPVC.
3. JUNCTION BOXES SHALL BE POSITIONED BEHIND OR, AS AN ALTERNATIVE, TO THE SIDE, BUT NOT IN FRONT OF POLES.
4. ALL CONCRETE BASES AND JUNCTION BOX SYMBOLS ARE NOT TO SCALE.
5. ALL NEW JUNCTION BOXES SHALL HAVE STEEL LIDS.

NOTES 3 (FOR PRE-DUCTING INSTALLATIONS)

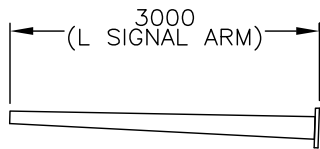
** DENOTES BLOCK IS DYNAMIC



** DENOTES BLOCK IS DYNAMIC

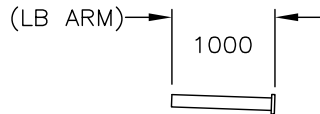
EXTENSIONS

l_arm_att **



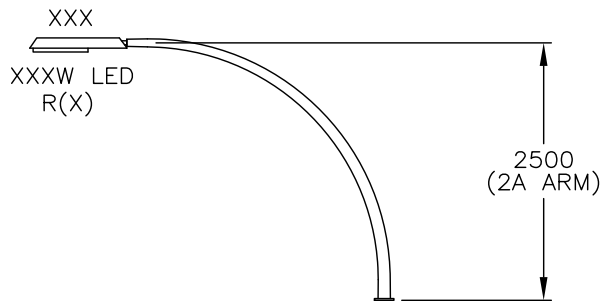
L ARM CAN VARY FROM 3000 TO 11000 IN 1000 INCREMENTS

lb_arm_att**

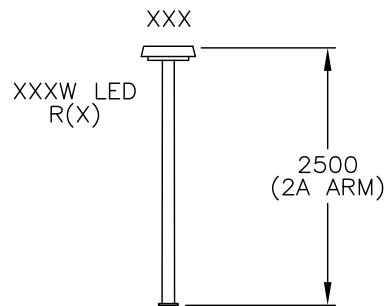


LB ARM CAN VARY FROM 1000, 2000 TO 2200

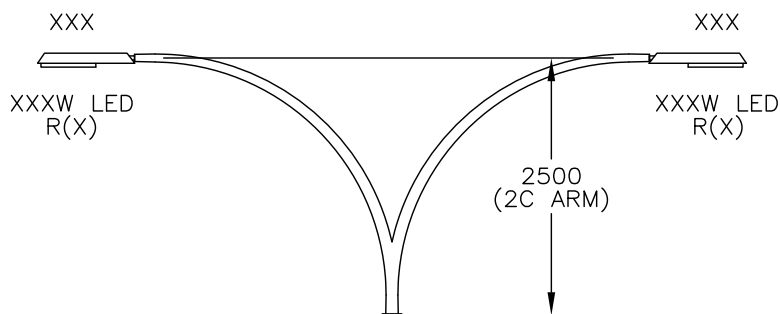
type2_arm_att **



2A_ARM_SIDE_LED

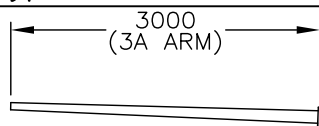


2A_ARM_FRONT_LED

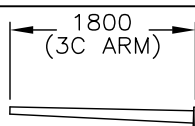


2C_ARM_FRONT_LED

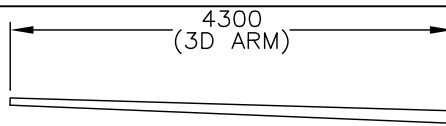
type3_arm_att



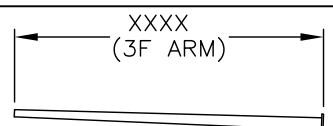
3A_ARM



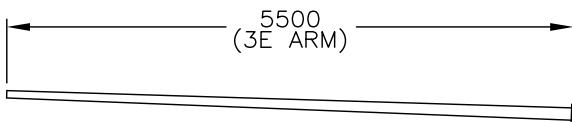
3C_ARM



3D_ARM



3F_ARM
(LENGTH VARIES FROM 0.3m TO 3.0m)



3E_ARM



3LS_ARM

** DENOTES BLOCK IS DYNAMIC

ARMS

hx_arm_att **



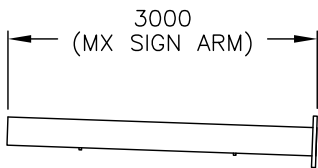
HX ARM CAN VARY FROM 3000 TO 11000
IN 1000 INCREMENTS
HX ARM CAN BE EITHER H1 OR H2

lx_arm_att **



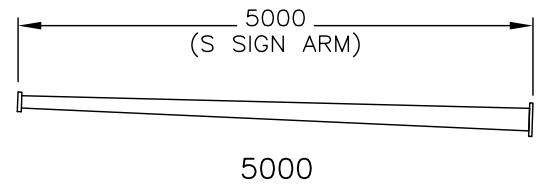
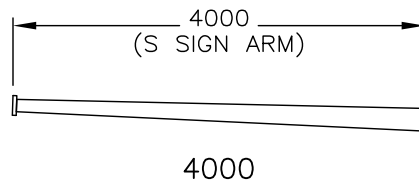
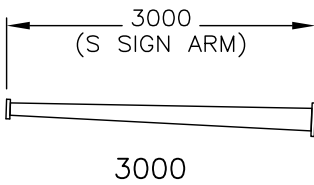
LX ARM CAN VARY FROM 3000 TO 11000
IN 1000 INCREMENTS

mx_arm_att **



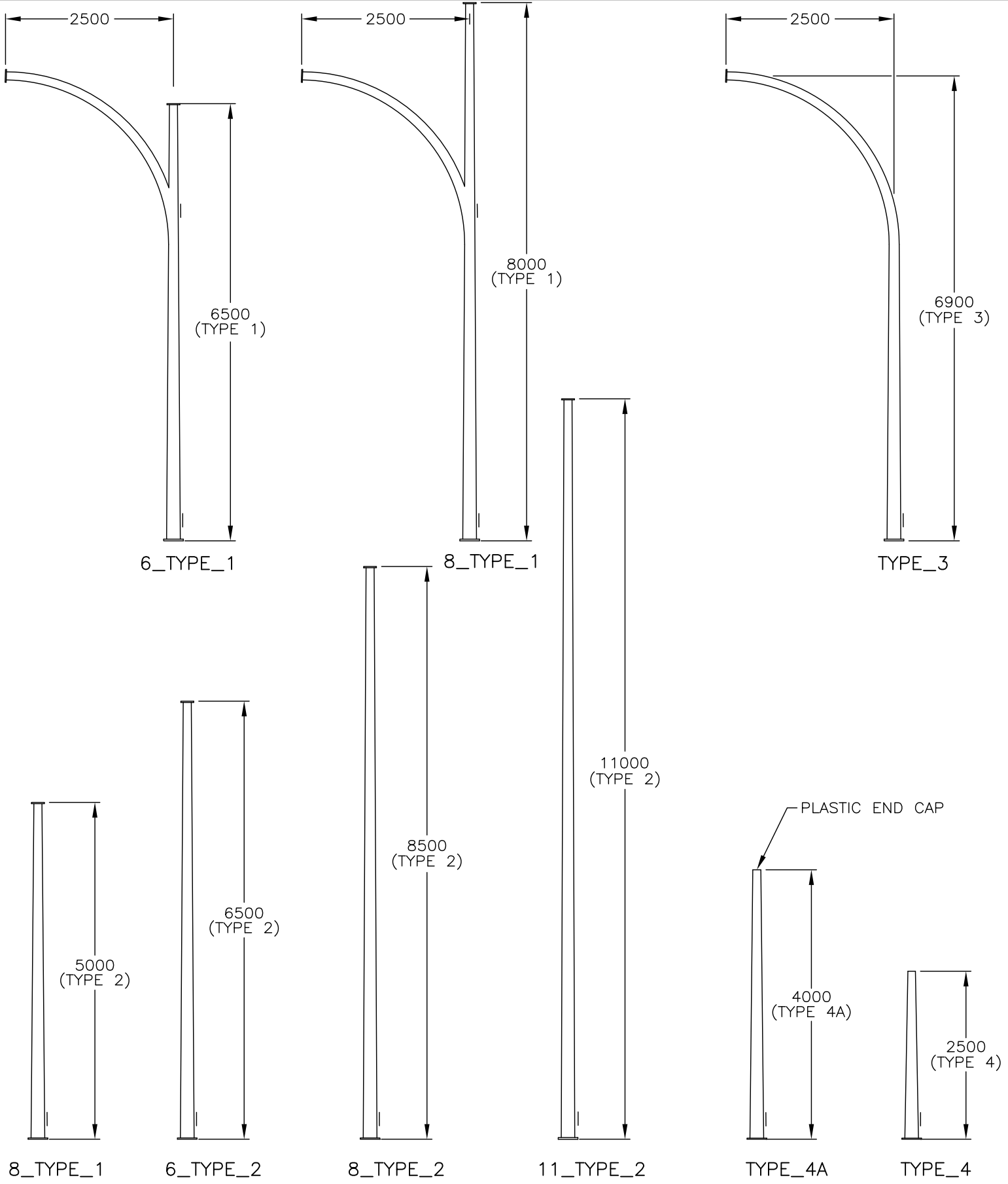
MX ARM CAN VARY FROM 3000 TO 11000
IN 1000 INCREMENTS
MX ARM CAN BE EITHER M1 OR M2

ss_arm_att **

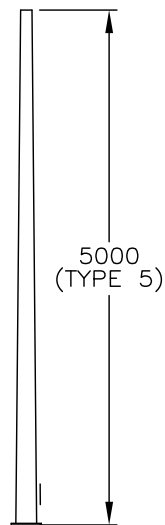


** DENOTES BLOCK IS DYNAMIC

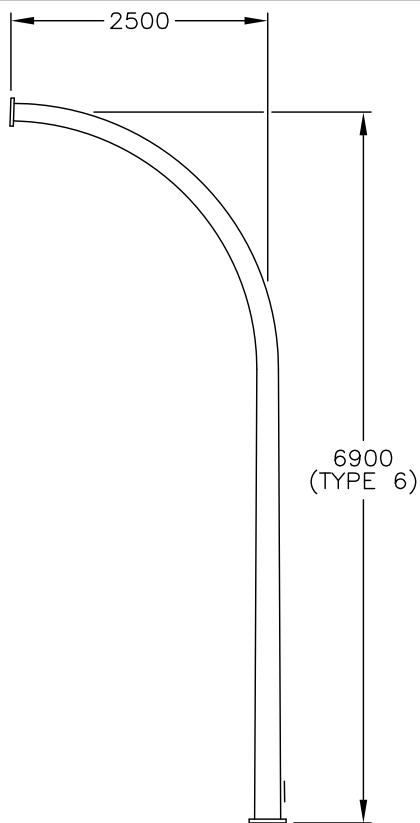
ARMS



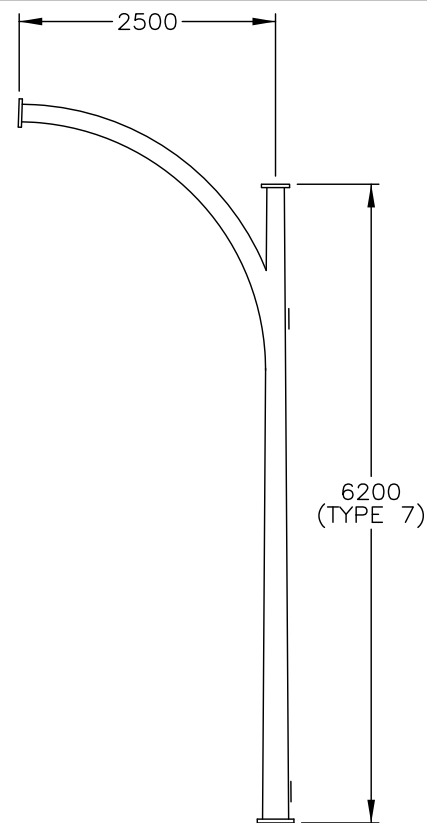
** DENOTES BLOCK IS DYNAMIC



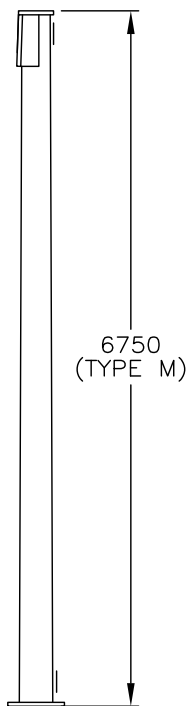
TYPE_5



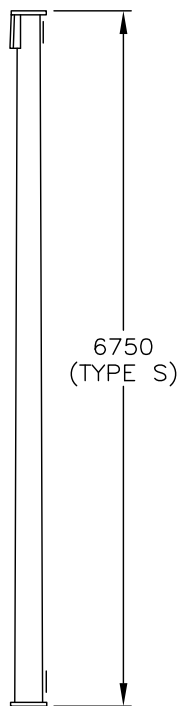
TYPE_6



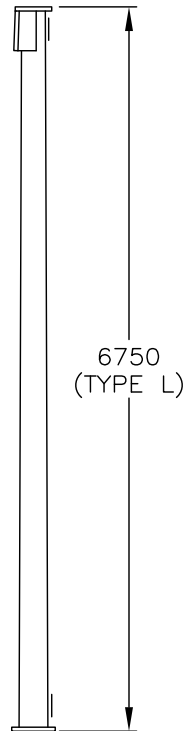
TYPE_7



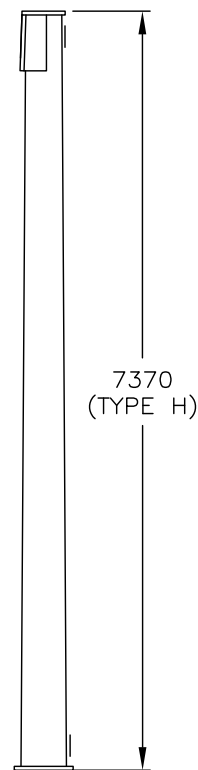
M_SHAFT



S_SHAFT



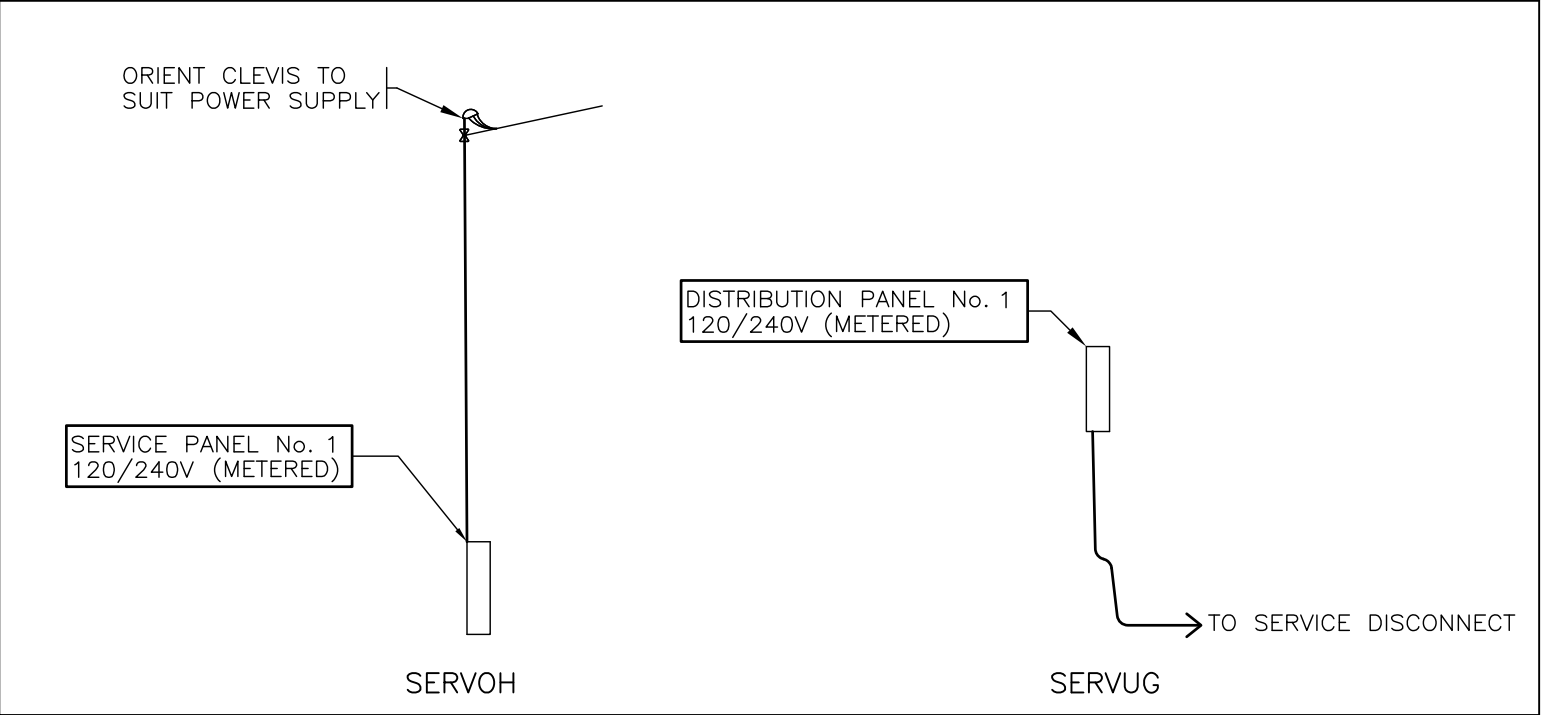
L_SHAFT



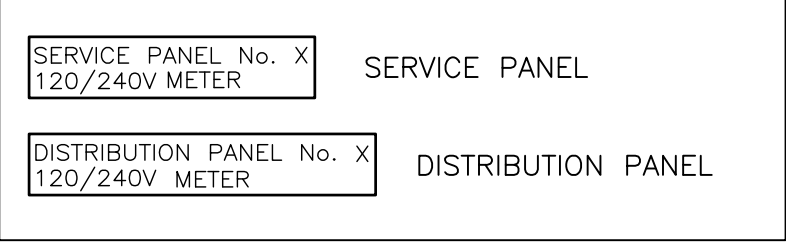
H_SHAFT

** DENOTES BLOCK IS DYNAMIC

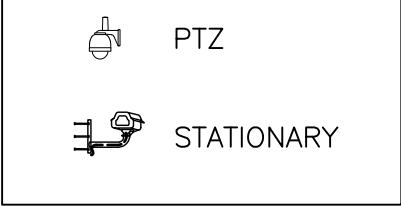
service_panels_att **



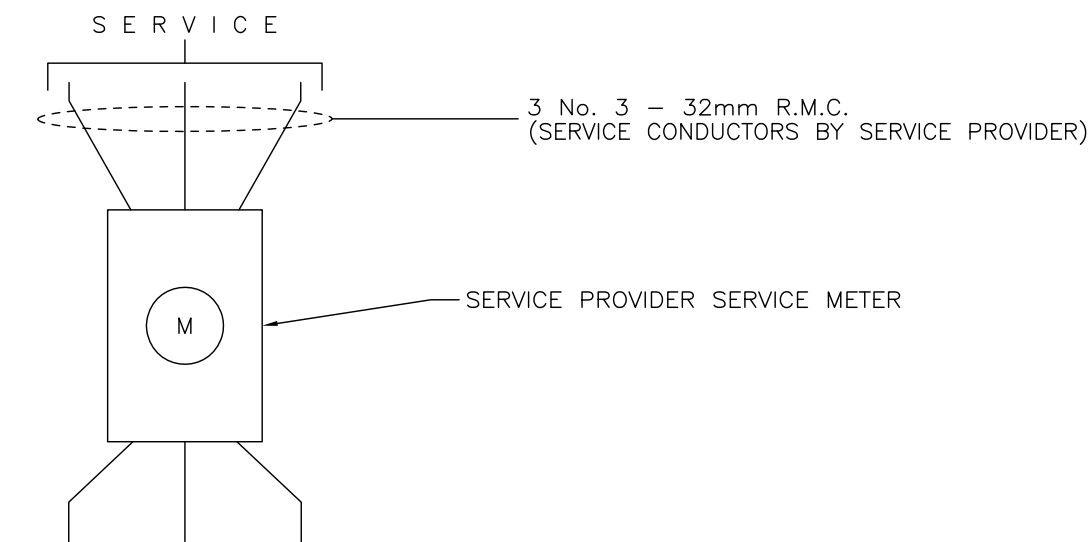
service_panels_label **



webcam_ele_att**

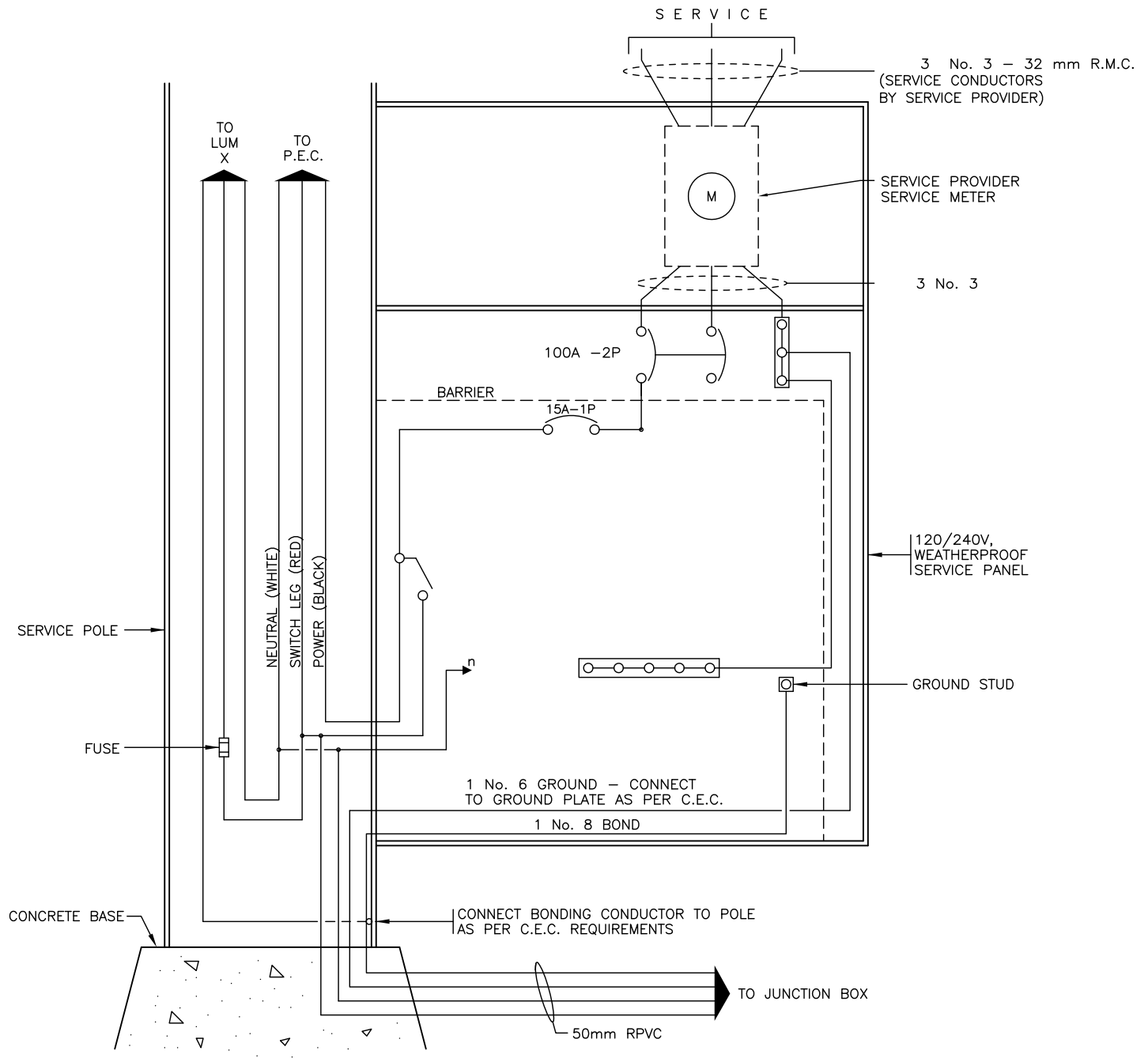


SERVICE_METER_ATT



** DENOTES BLOCK IS DYNAMIC

SERVICE PANELS & CAMERAS

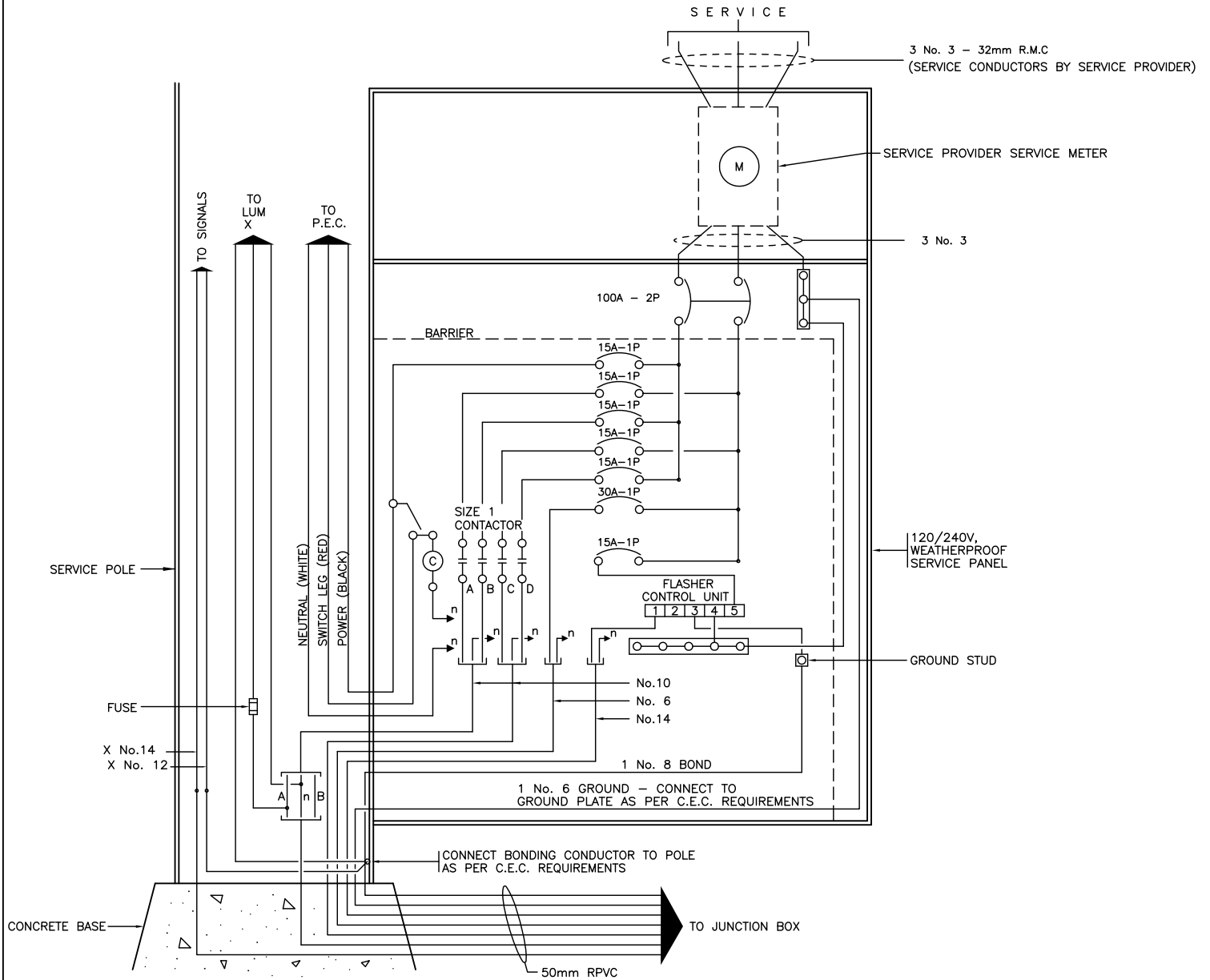


WIRING DIAGRAM - SERVICE PANEL No.1

N.T.S.

WD1

** DENOTES BLOCK IS DYNAMIC

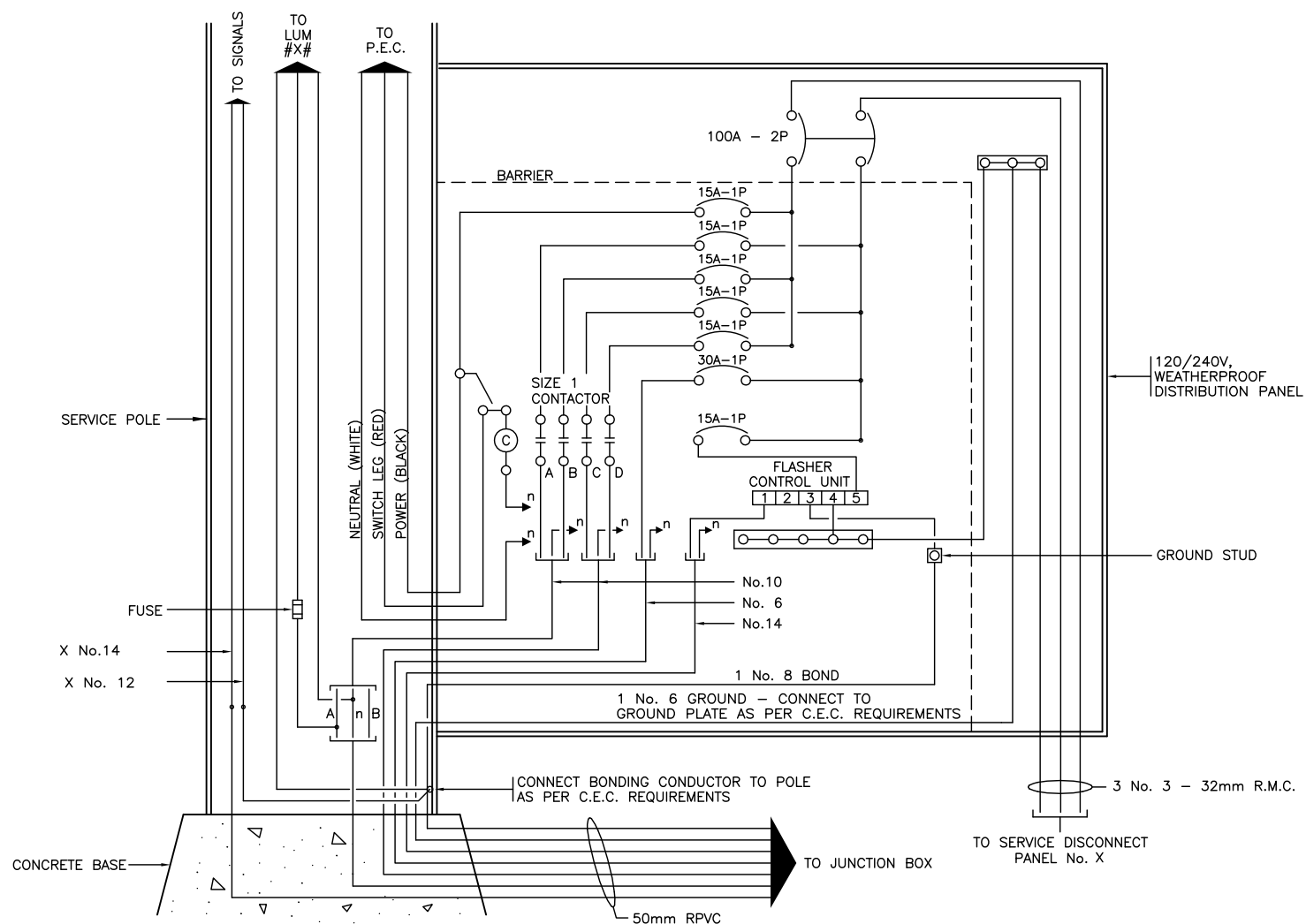


WIRING DIAGRAM - SERVICE PANEL No. 1

N.T.S.

WD2

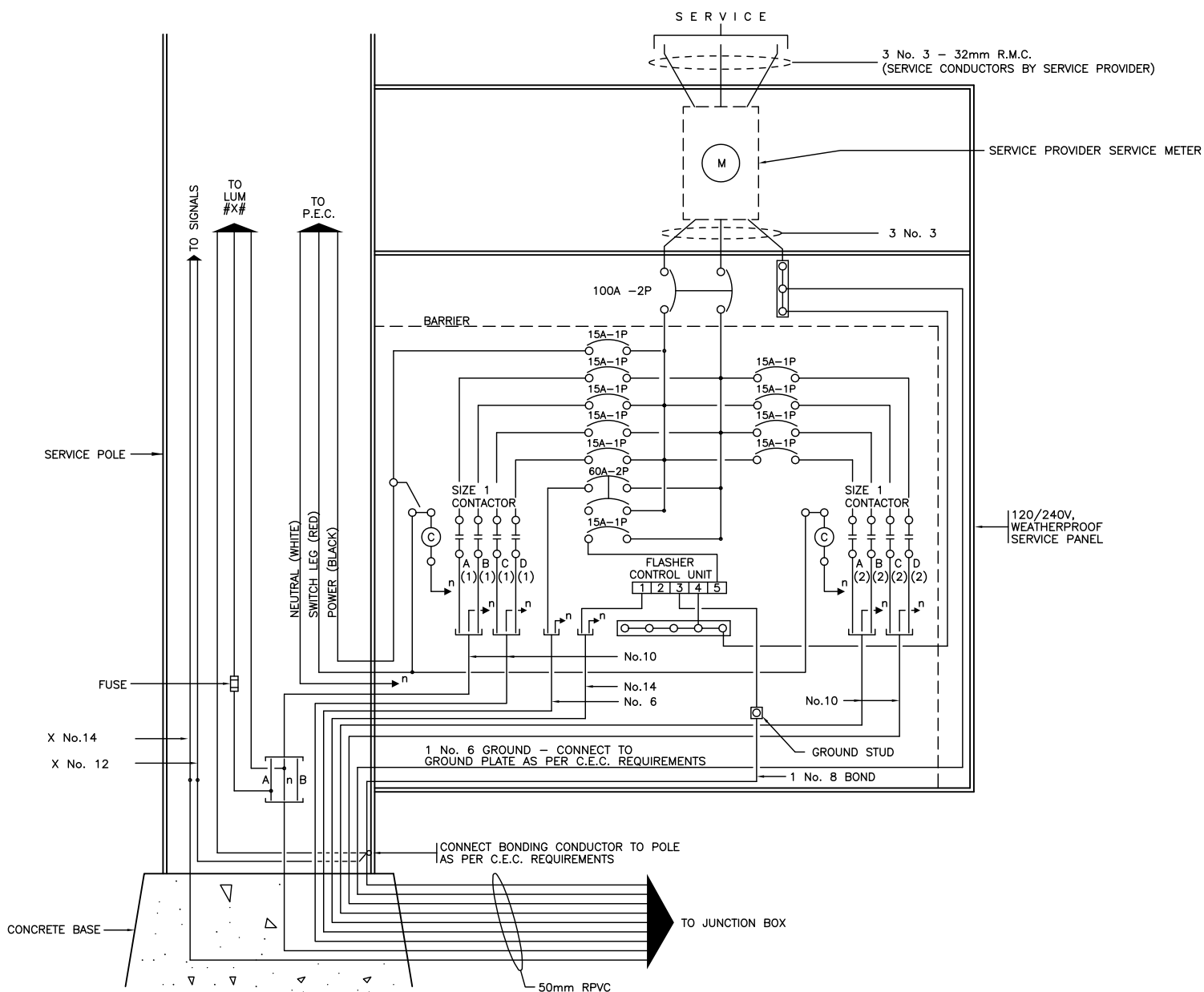
** DENOTES BLOCK IS DYNAMIC



WIRING DIAGRAM - DISTRIBUTION PANEL No. X
N.T.S.

WD3

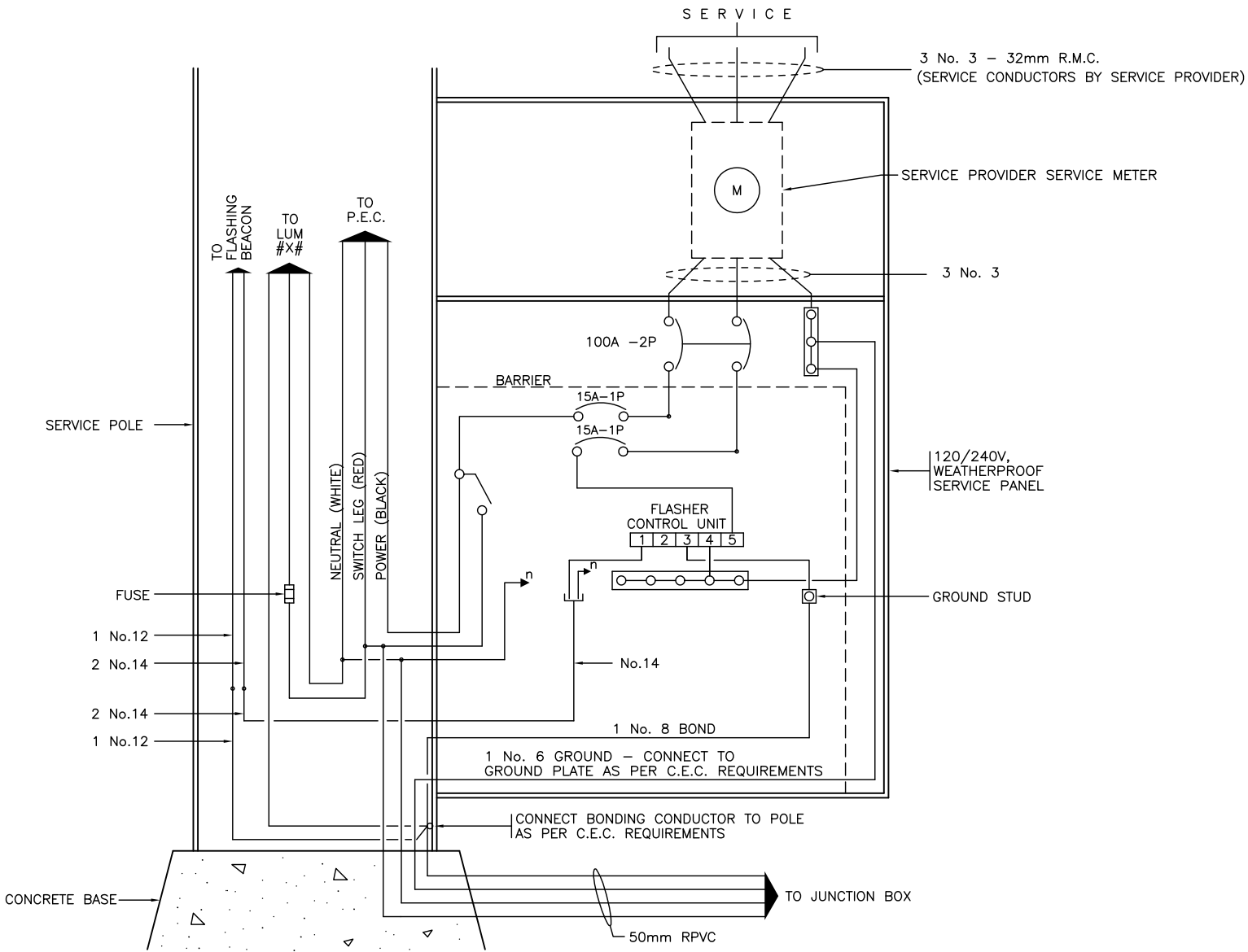
** DENOTES BLOCK IS DYNAMIC



WIRING DIAGRAM – SERVICE PANEL No. 1
N.T.S.

WD4

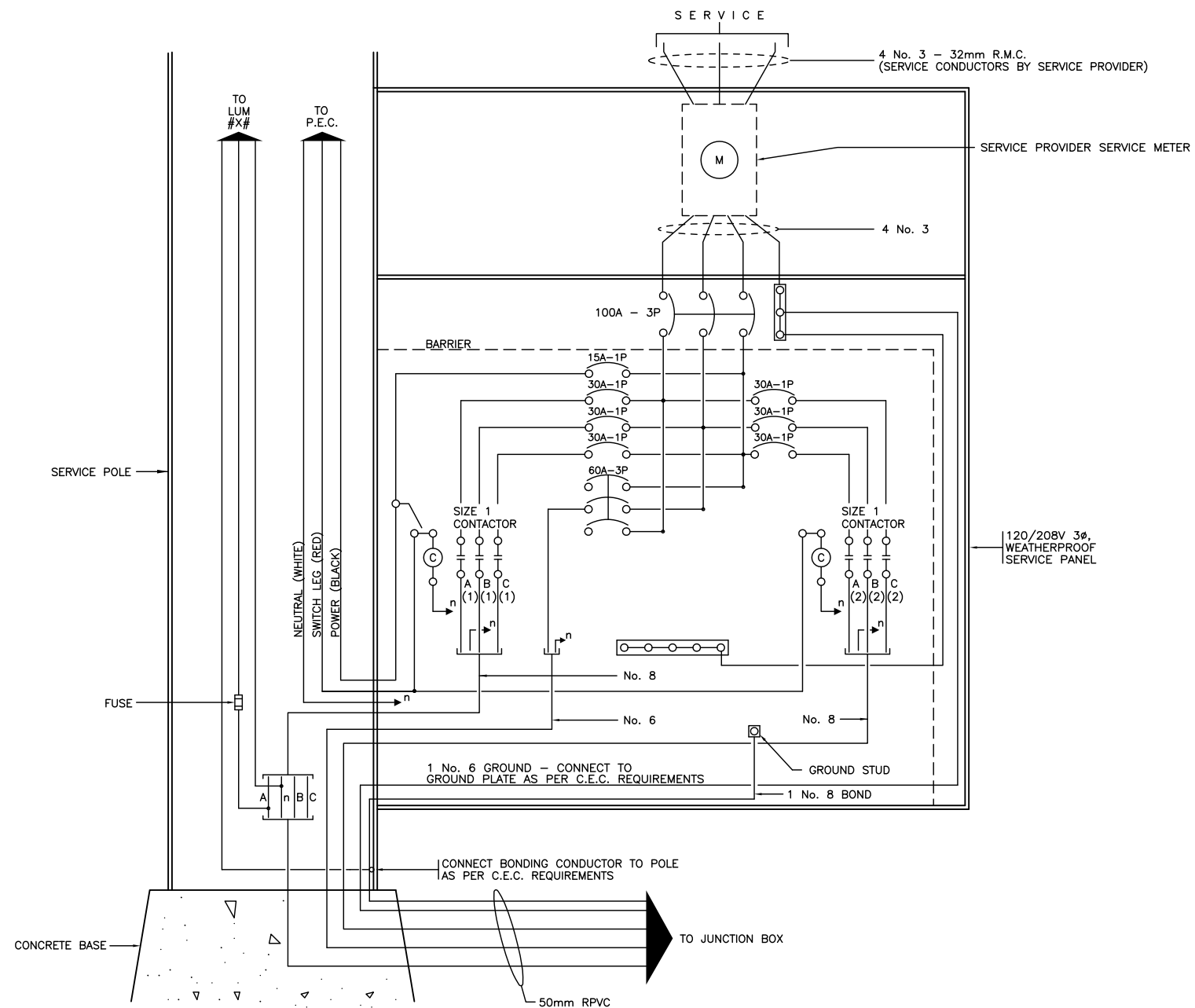
** DENOTES BLOCK IS DYNAMIC



WIRING DIAGRAM - SERVICE PANEL No. #
N.T.S.

WD5

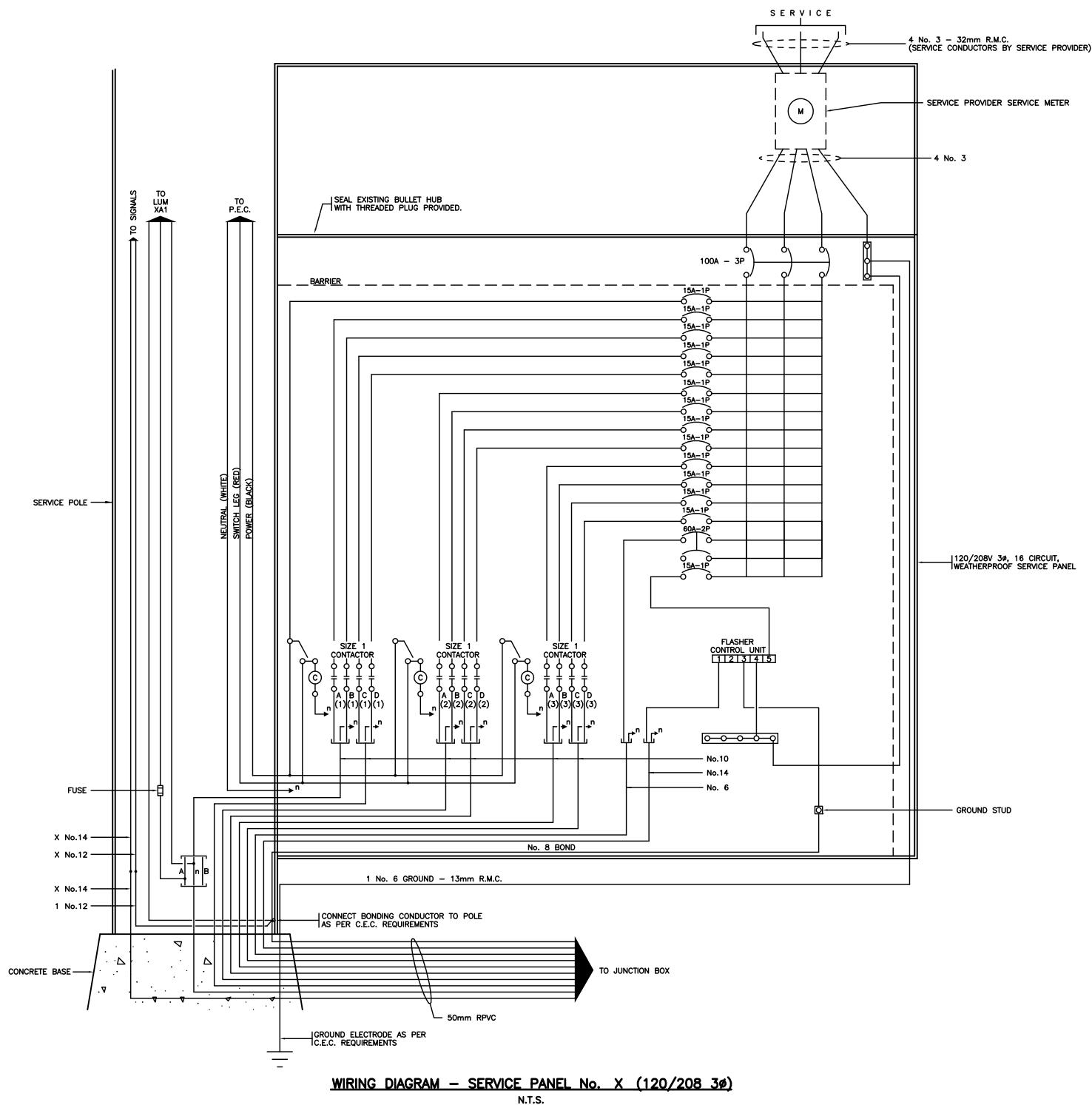
** DENOTES BLOCK IS DYNAMIC



WIRING DIAGRAM - SERVICE PANEL No. # (120/208V 3Ø)
N.T.S.

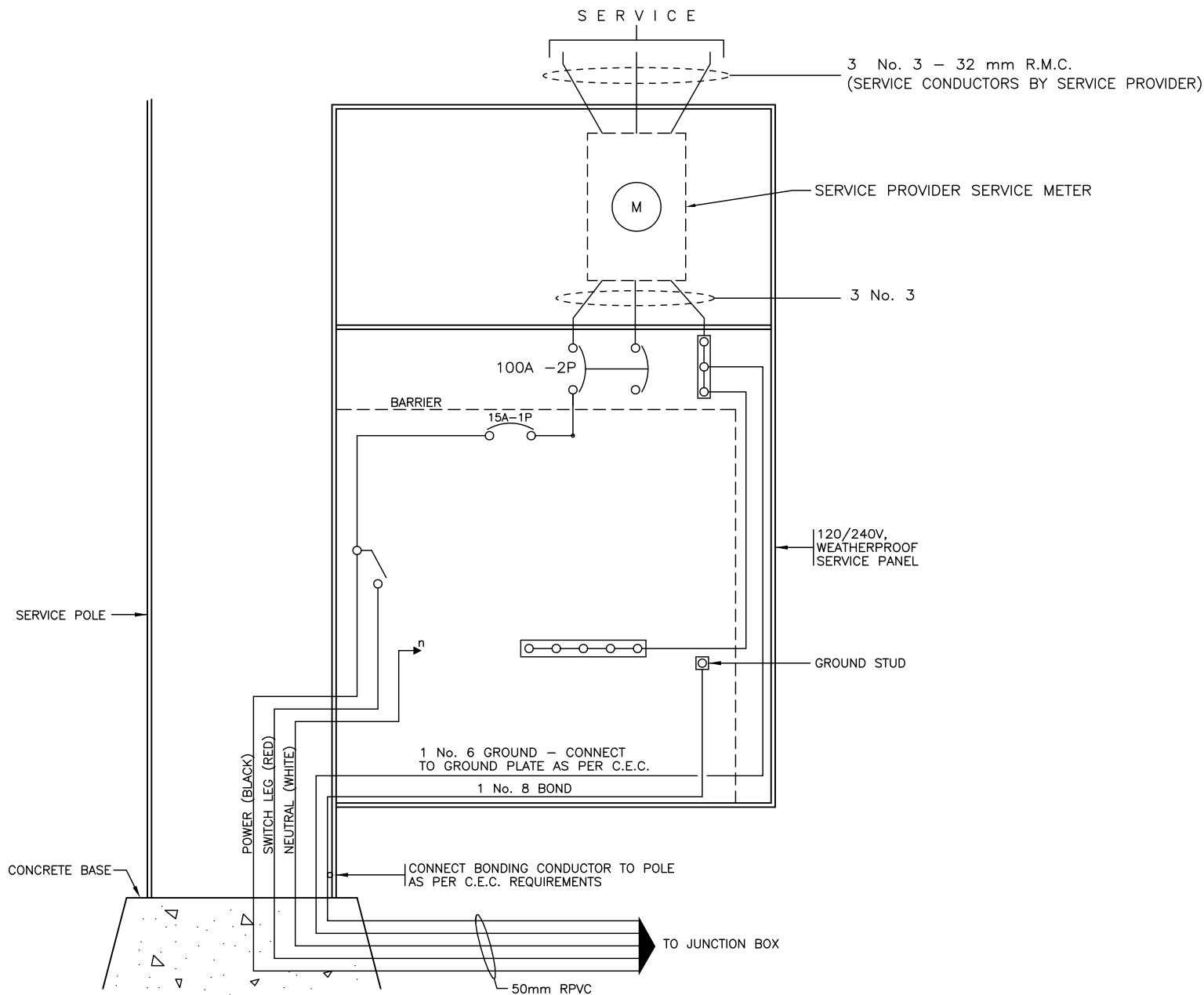
WD6

** DENOTES BLOCK IS DYNAMIC



WD7

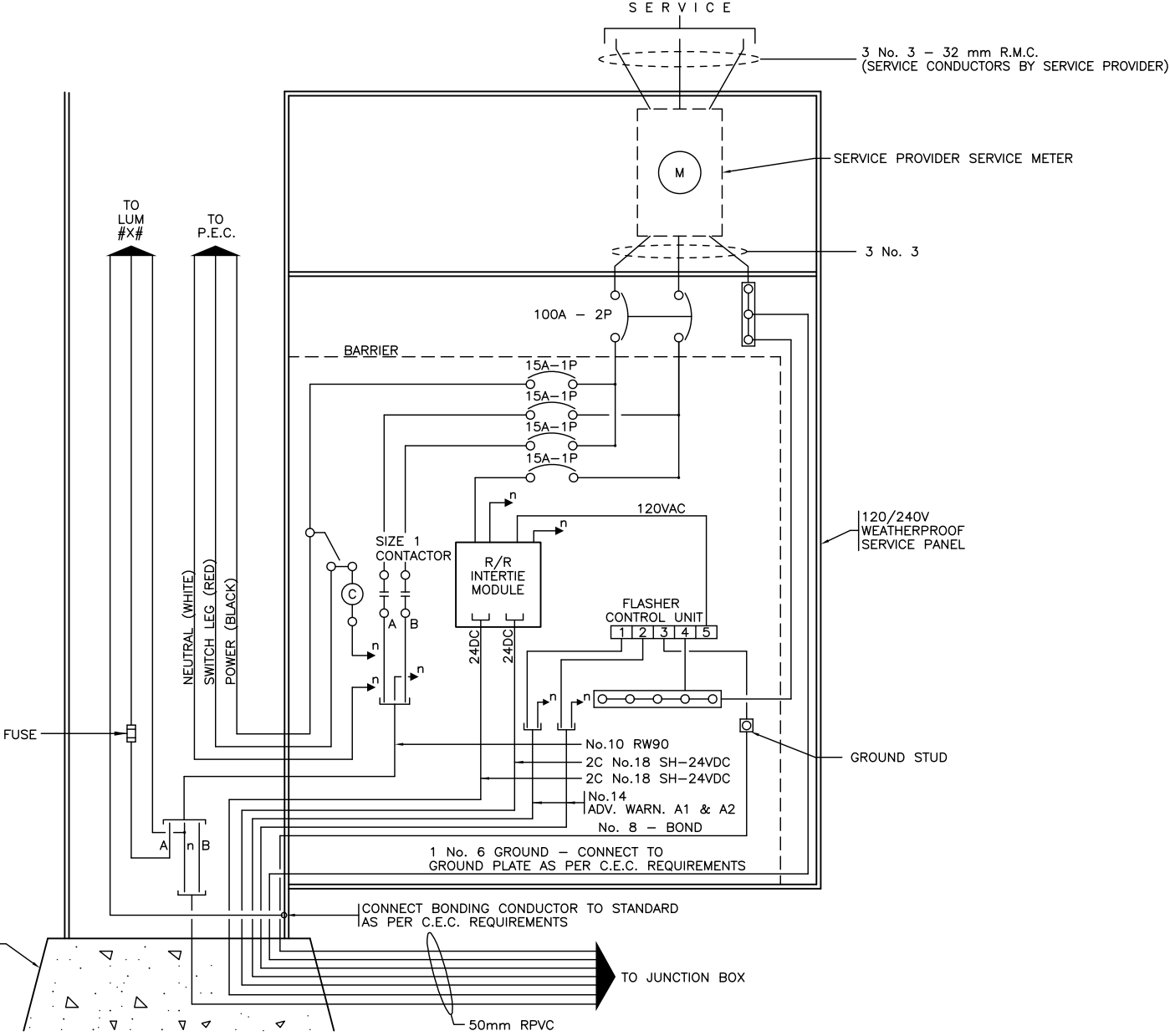
** DENOTES BLOCK IS DYNAMIC



WIRING DIAGRAM – SERVICE PANEL No. X
N.T.S.

WD8

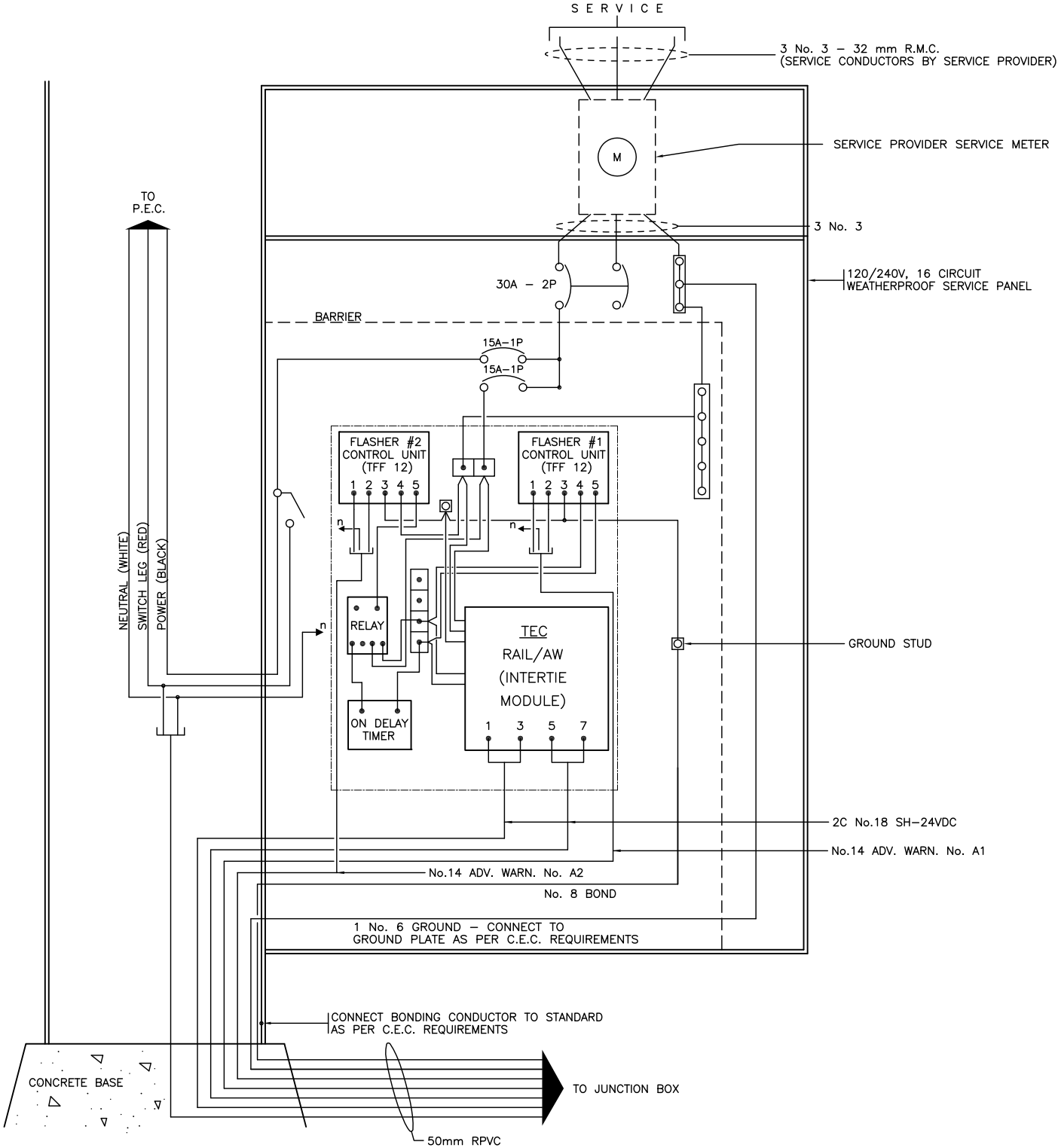
** DENOTES BLOCK IS DYNAMIC



WIRING DIAGRAM - SERVICE PANEL No. X
N.T.S.

WD9

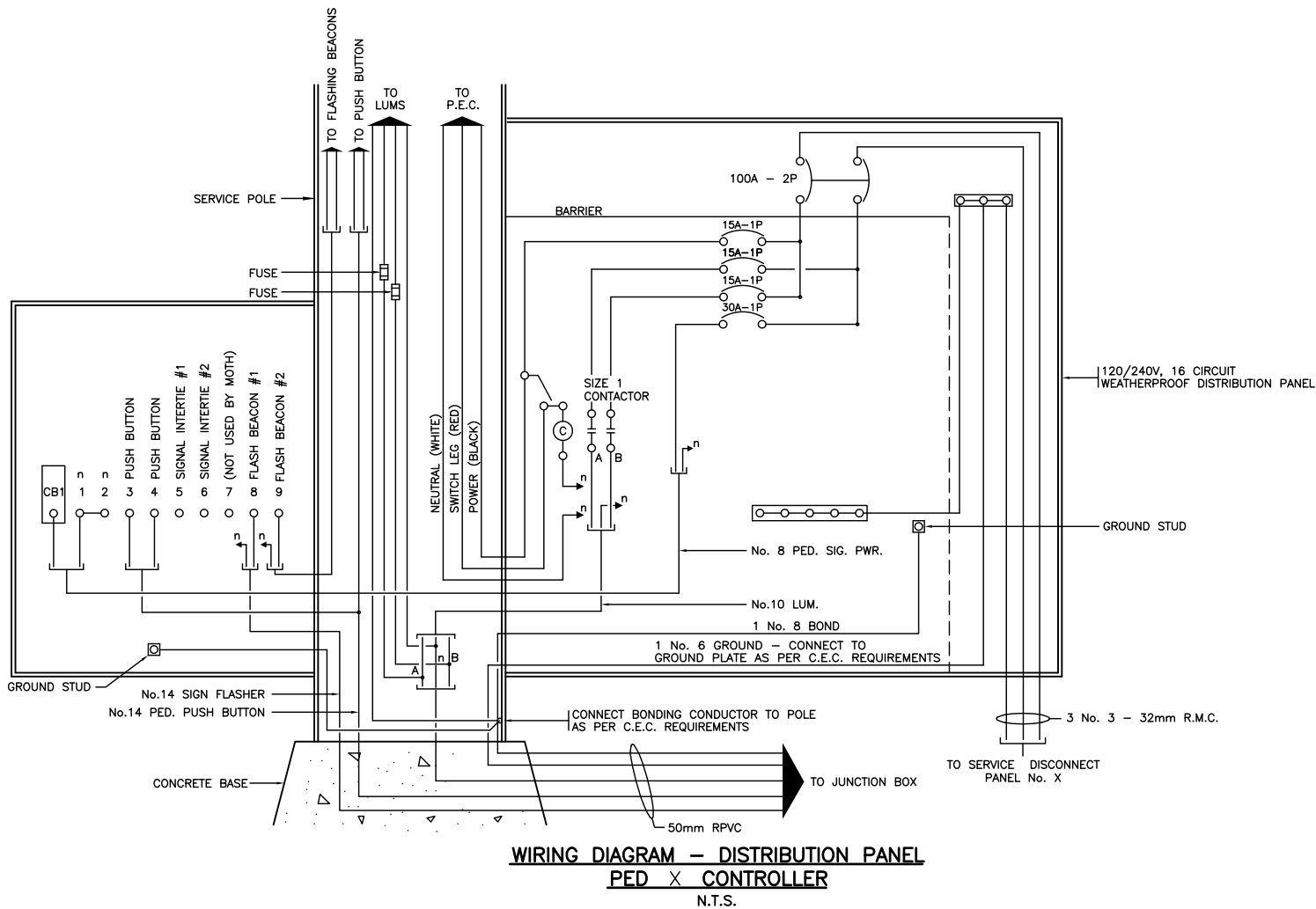
** DENOTES BLOCK IS DYNAMIC



WIRING DIAGRAM - SERVICE PANEL No. X
CASCADED R/R ADVANCE WARNING SIGNS
N.T.S.

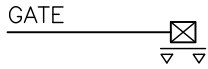
WD10

** DENOTES BLOCK IS DYNAMIC

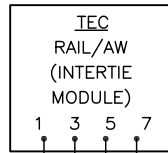


WD11

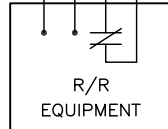
** DENOTES BLOCK IS DYNAMIC



RRGATE



5 & 7 PRE-EMPTION REQUEST CCT.
1 & 3 R/R/ INDICATION CCT.
* IF R/R INDICATION CCT DOES NOT WORK,
REVERSE WIRES AT TERMINALS 1 & 3

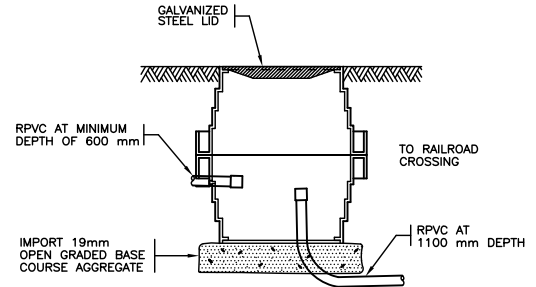


NORMALLY CLOSED (ENERGIZED)
(OPENED FOR REQUEST)

R/R INTERTIE DETAIL

N.T.S.

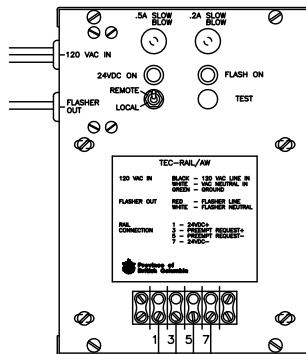
RRDET1



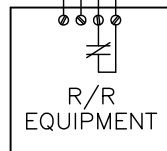
R/R JUNCTION BOX DETAIL

1:20

RRJB



5 & 7 PRE-EMPTION REQUEST CCT.
1 & 3 R/R/ INDICATION CCT.
* IF R/R INDICATION CCT DOES NOT WORK,
REVERSE WIRES AT TERMINALS 1 & 3

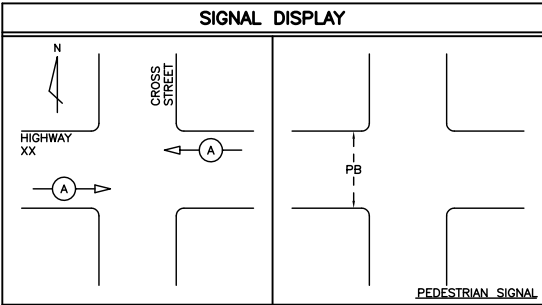


NORMALLY CLOSED (ENERGIZED)
(OPENED FOR REQUEST)

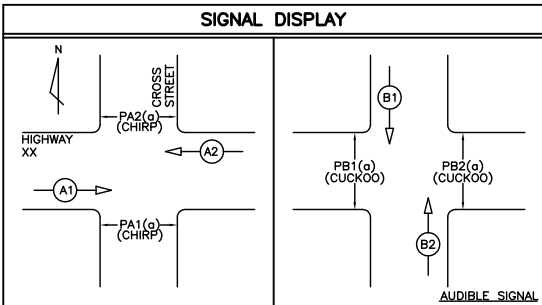
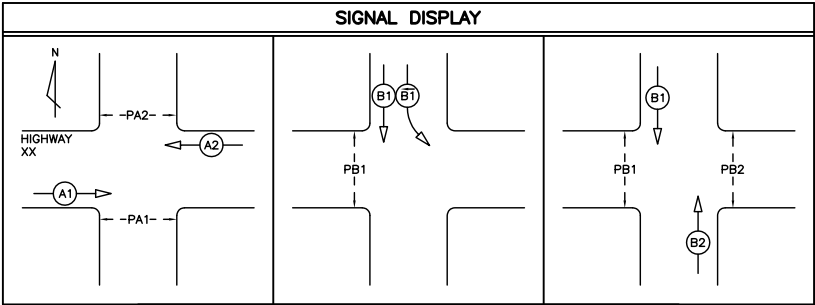
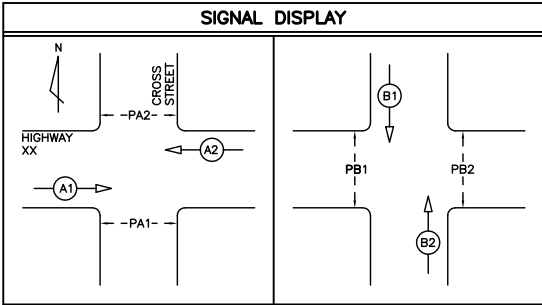
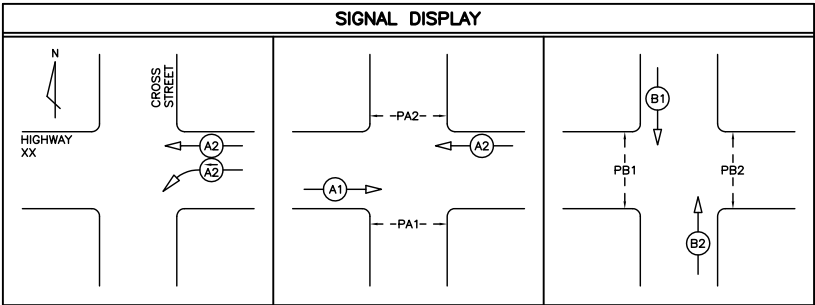
R/R INTERTIE DETAIL

N.T.S.

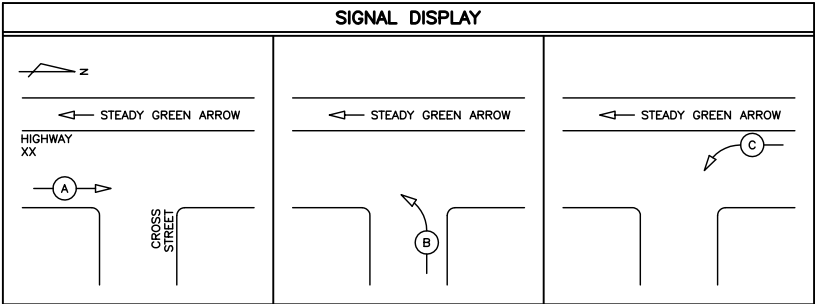
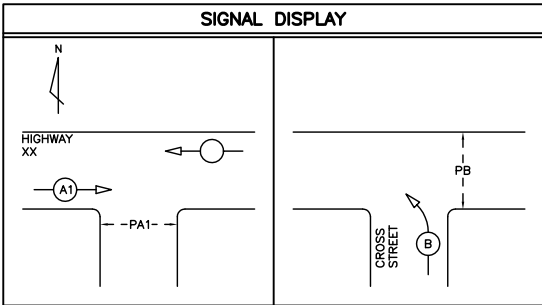
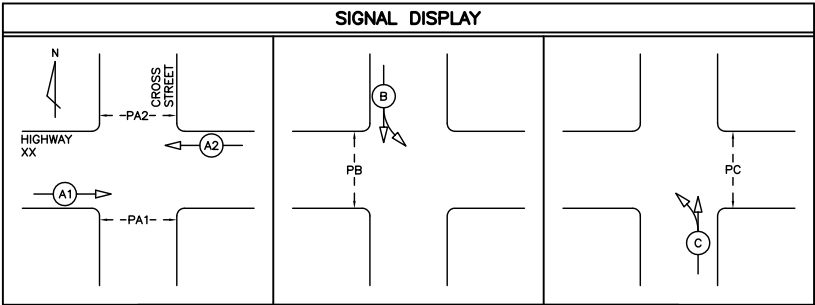
RRDET2



SD1

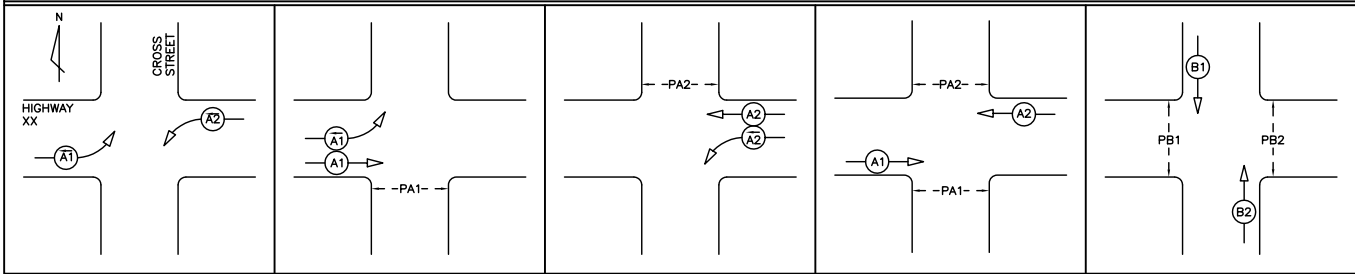


SD3
(2 PHASE WITH AUDIBLES)



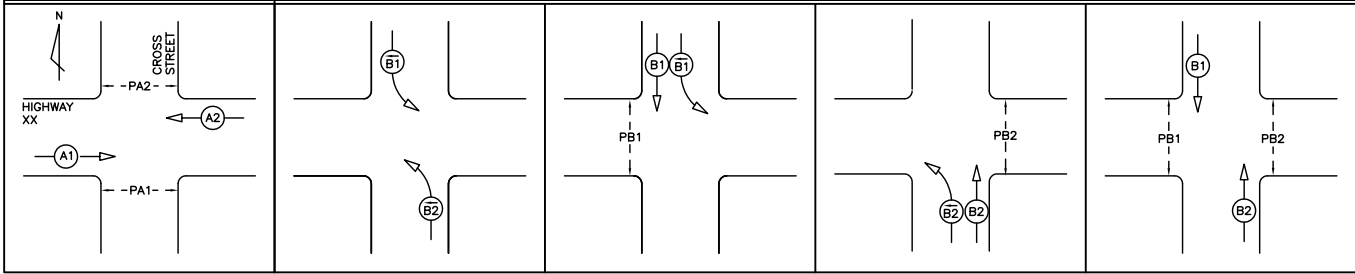
** DENOTES BLOCK IS DYNAMIC

SIGNAL DISPLAY



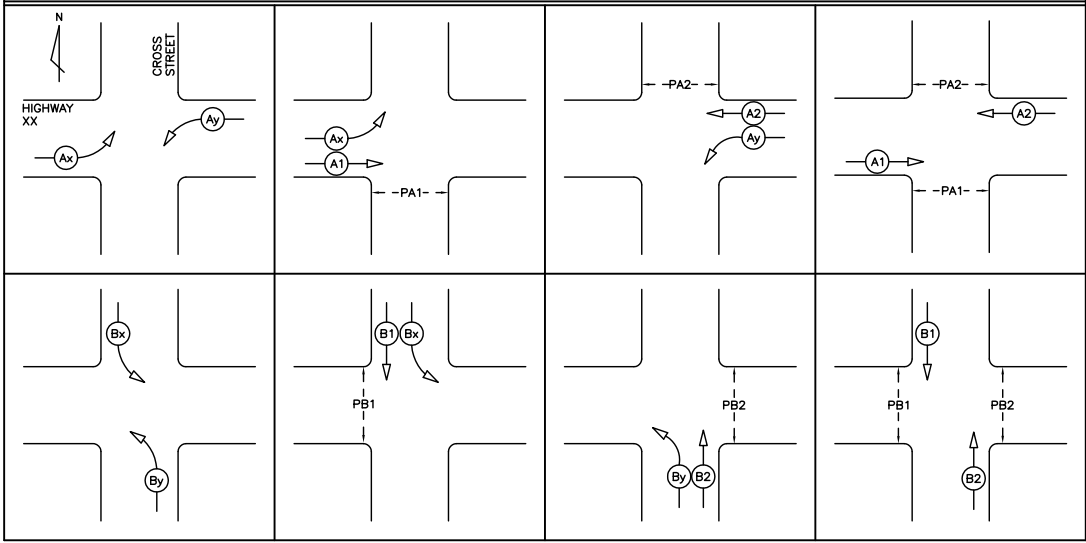
SD9

SIGNAL DISPLAY



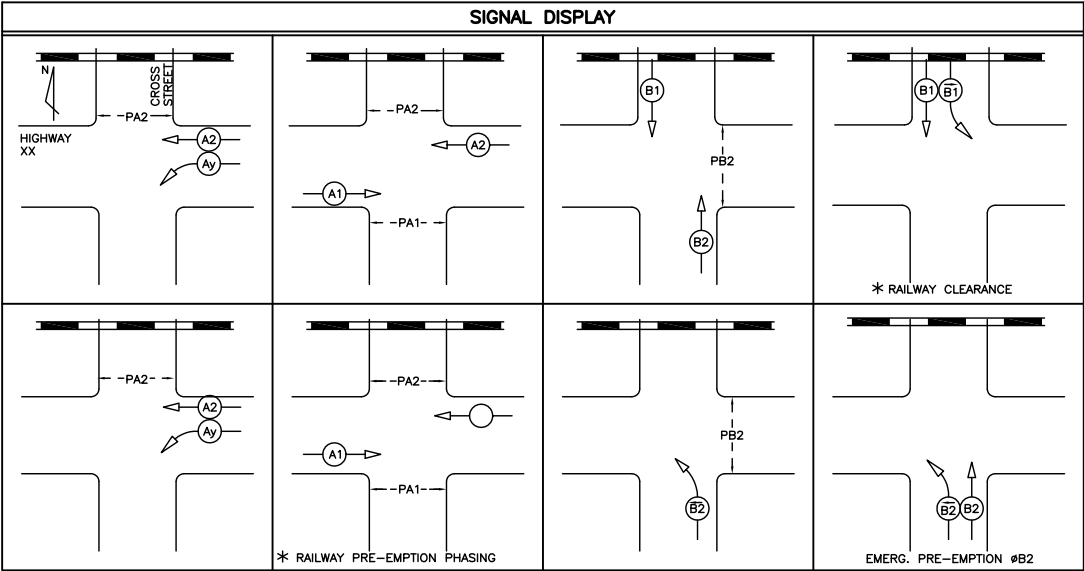
SD10

SIGNAL DISPLAY

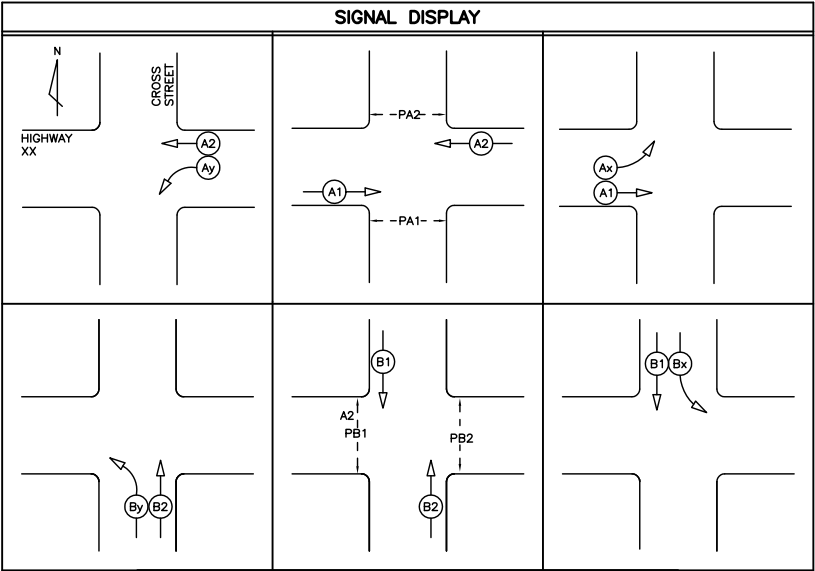


SD11

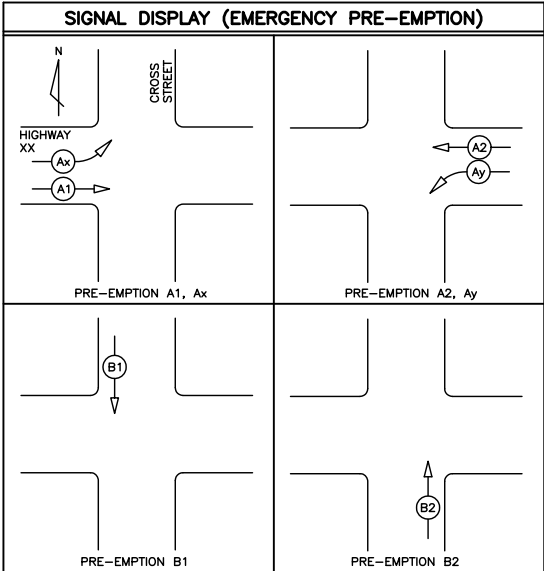
** DENOTES BLOCK IS DYNAMIC



SD12



SD13



SD14

** DENOTES BLOCK IS DYNAMIC


**BRITISH
COLUMBIA**

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700.1-DS-38