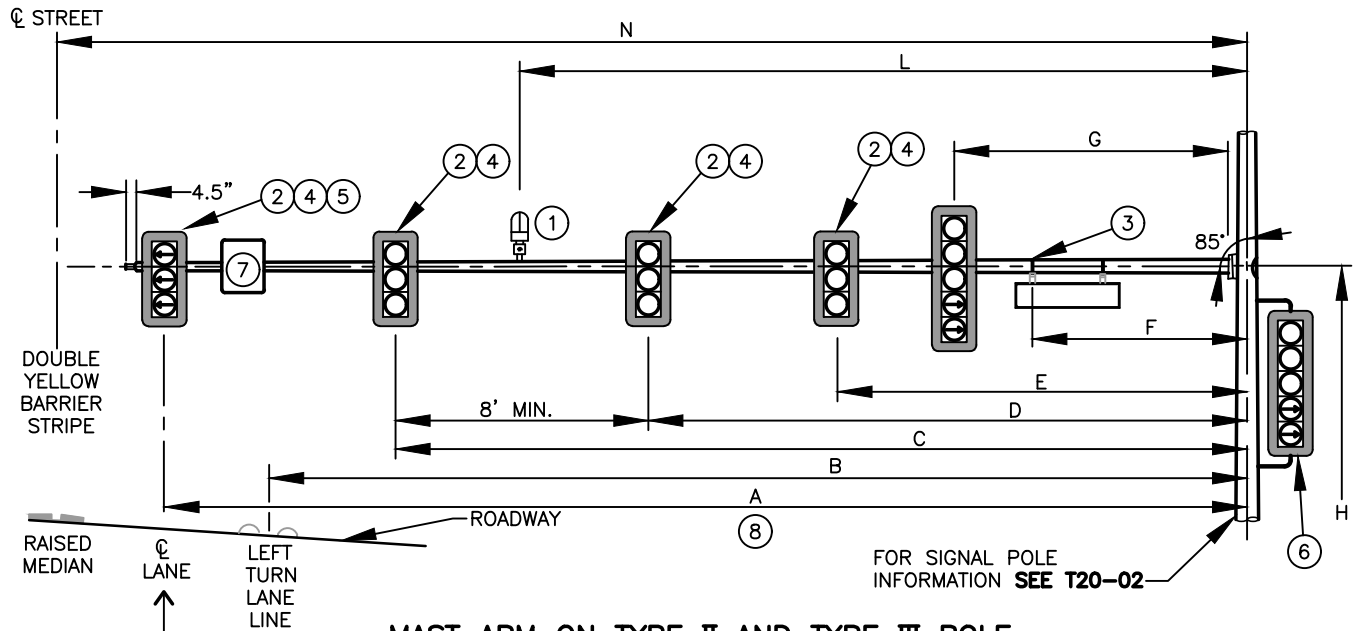
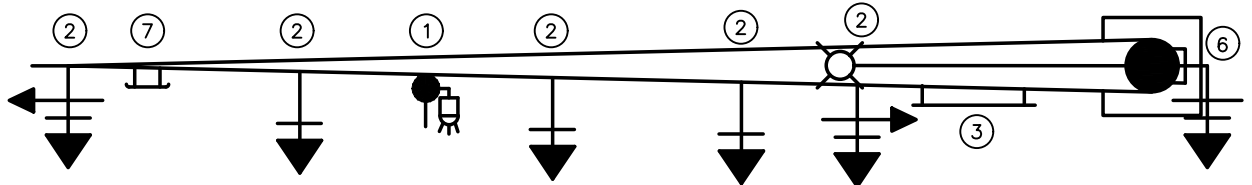




MAST ARM ON TYPE II AND TYPE III POLE

OPTIONAL 4-SECTION LEFT TURN FLASHING YELLOW ARROW SIGNAL HEAD PER CITY OF VANCOUVER TRAFFIC ENGINEERING MANAGER'S APPROVAL



NOTES:

- ① INSTALL COMBINATION PRE-EMPTION DETECTOR/INDICATOR LIGHT PER THE POLE SCHEDULE, LOCATION L (SEE T20-11A). SHALL BE FIELD DRILLED AND TAPPED.
- ② TENONS SHALL BE LOCATED AT POSITIONS INDICATED ON THE POLE SCHEDULE. TENONS SHALL BE WELDED DURING ARM FABRICATION PRIOR TO GALVANIZING (SEE T20-13).
- ③ INSTALL STREET NAME SIGN ON MOUNTING BRACKET LOCATED ON BOTTOM OF ARM AT DISTANCE F AND DISTANCE F MINUS 6'. DISTANCE F SHALL ALWAYS BE LESS THAN DISTANCE E, (SEE T20-07).
- ④ ALL TRAFFIC SIGNAL INDICATIONS SHALL BE 12" DIAMETER, ALUMINUM HOUSING, TUNNEL VISORS, AND BACKPLATES SHALL BE PAINTED BLACK UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- ⑤ 3-SECTION OR 4-SECTION ARROW HEAD AT END OF ARM.
- ⑥ SEE T20-02 FOR SIGNAL ON SIDE OF POLE.
- ⑦ INSTALL SIGN PER T20-08.
- ⑧ SEE POLE SCHEDULE FOR LETTER DIMENSIONS.

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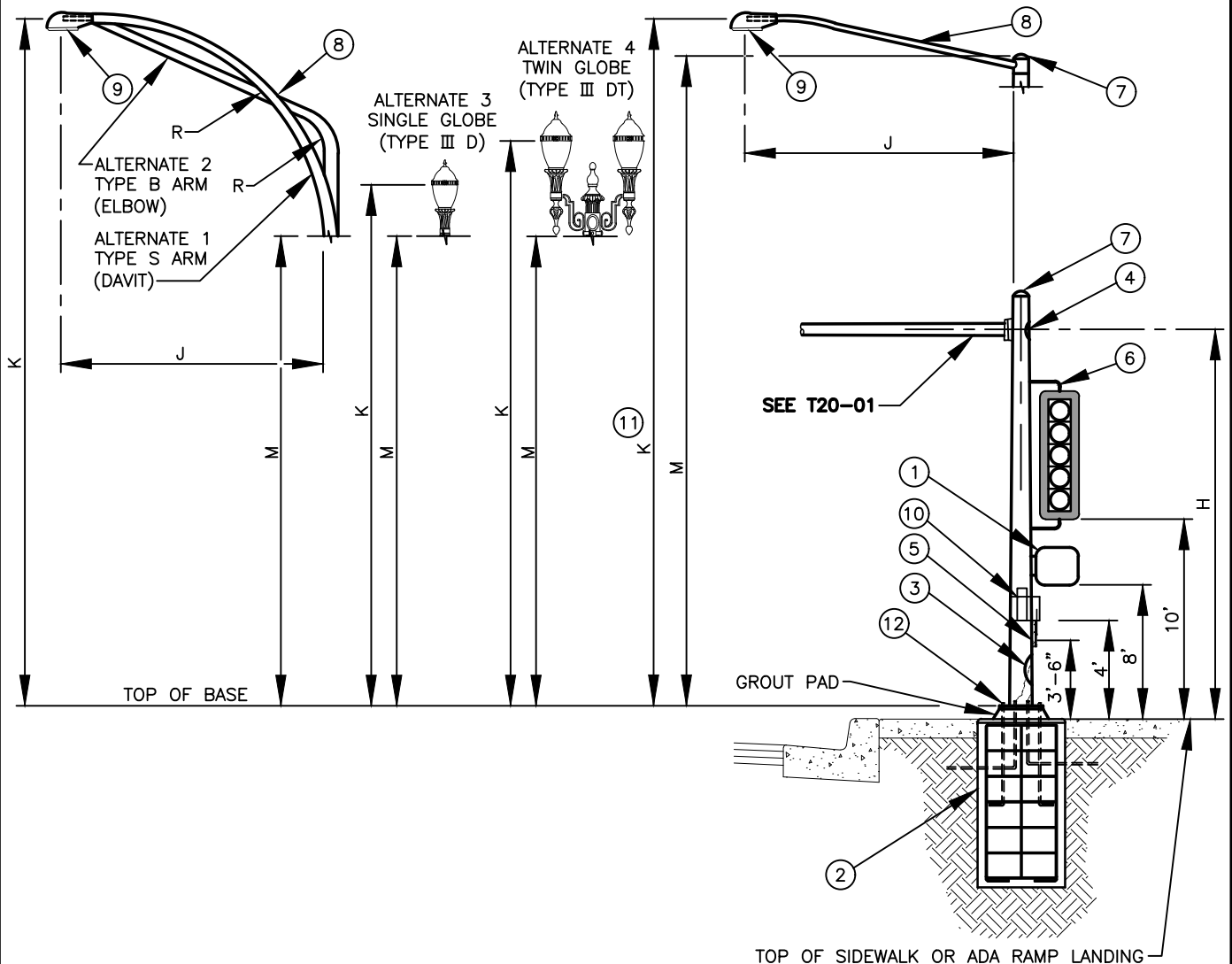
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2	1/15	RAW	CJC	
3	4/18	RAW	CJC	
4	7/18	RAW	CJC	
5	7/19	RAW	CJC	
6	9/21	RAW	CJC	

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021



MAST ARM CONFIGURATION FOR
TYPE II AND TYPE III
TRAFFIC SIGNAL STANDARDS

STANDARD PLAN
NUMBER
T20-01



NOTES:

- ① INSTALL PEDESTRIAN SIGNAL AT ORIENTATION PER PLANS WITH TYPE E MOUNT ON SIDE OF POLE. SEE T20-09D AND WSDOT STANDARD PLAN J-75.10-xx.
- ② SEE **TYPE II AND TYPE III TRAFFIC SIGNAL POLE FOUNDATION DETAIL T20-15** AND SPECIFICATIONS.
- ③ PROVIDE COVERED 5" X 7" HAND HOLE AT 180° FROM MAST ARM (TYP.).
- ④ PROVIDE COVERED 5" X 7" HAND HOLE AT 180° FROM ARM.
- ⑤ INSTALL **ADA PEDESTRIAN AUDIBLE PUSH BUTTON ASSEMBLY** SEE **DETAIL T20-09B** (UNLESS SPECIFIED OTHERWISE) WITH ARROW POINTING TOWARDS CROSSWALK. SEE PLANS FOR ORIENTATION.
- ⑥ INSTALL SIGNAL ON SIDE OF POLE WITH TYPE K MOUNTING, SEE WSDOT STANDARD PLAN J-75.10-xx.
- ⑦ TOP OF POLE SHALL BE COVERED.
- ⑧ STANDARD SAFETY LIGHT MAST ARM. ALTERNATE ARMS 1 AND 2 ARE WSDOT STANDARDS TO BE USED ONLY IN SPECIAL CASES. LOCATE ARM AT 0° ABOVE MAST ARM, EXCEPT AS INDICATED ON POLE SCHEDULE AND SIGNAL PLANS.
- ⑨ INSTALL LUMINAIRE. (SEE **POLE SCHEDULE** FOR FIXTURE DETAILS).
- ⑩ INSTALL RECESSED TERMINAL COMPARTMENT (SEE **DETAIL T20-03**) 225" FROM ARM UNLESS OTHERWISE SPECIFIED. **ALL WIRING TO POLE FROM CONTROLLER CABINET SHALL TERMINATE IN THE COMPARTMENT.**
- ⑪ FIXTURE MOUNTING HEIGHT K SHALL BE 30' OR AS SPECIFIED IN POLE SCHEDULE.
- ⑫ CLAM SHELL BASE DECORATIVE COVER REQUIRED ON TYPE II D, TYPE III D, TYPE II DT AND TYPE III DT STANDARDS.

REV NO.	DATE	BY	APPR	PUBLIC WORKS – STREETS AND TRANSPORTATION
1	8/08	RAW	CJC	
2	7/14	RAW	CJC	
3	1/15	RAW	CJC	
4	7/18	RAW	CJC	
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6	9/21	RAW	CJC	

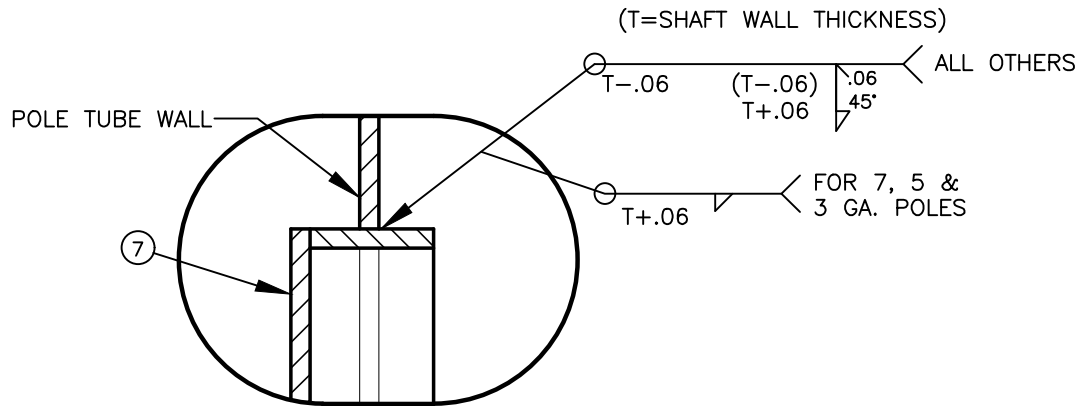
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APPROVED DATE: 9/1/2021

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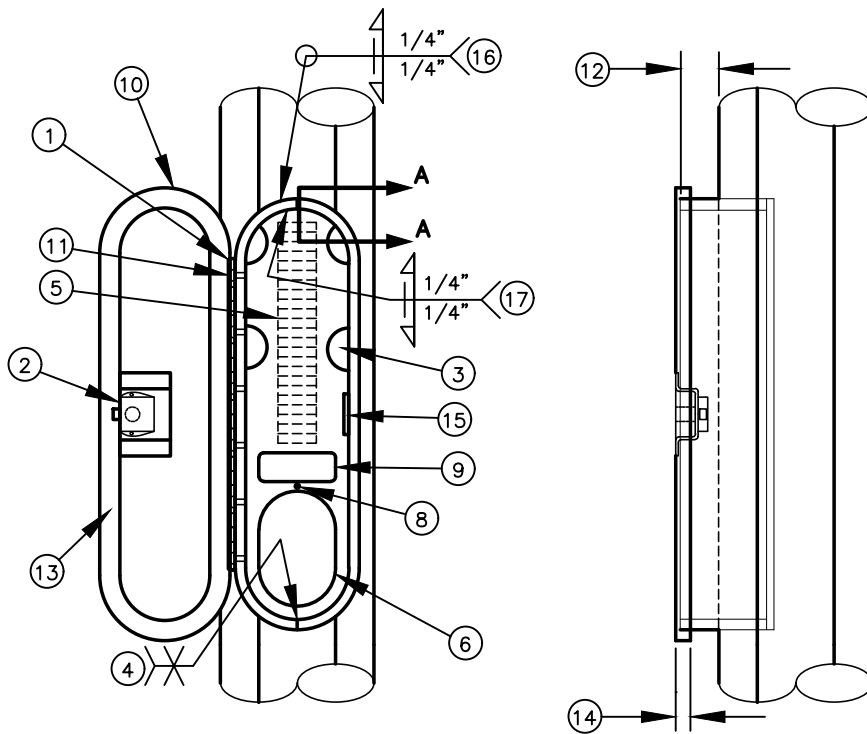
POLE CONFIGURATION FOR
TYPE II, TYPE III, TYPE B AND TYPE S
TRAFFIC SIGNAL STANDARDS

STANDARD PLAN
NUMBER

T20-02



SECTION AA



RECESSED TERMINAL COMPARTMENT DETAIL

NOTES:

- | | |
|--|---|
| ① 22" LONG STAINLESS STEEL HINGE | ⑩ STAINLESS STEEL COVER
30-1/2" X 7-3/4" X 1/16" THK. |
| ② "BEST" BRAND SLAM-LOCK | ⑪ (6) 1" X 3/16" STAINLESS STEEL SCREWS
(W/BOLT & WASHER) |
| ③ 1 - R1/2" - 4 PLACES. | ⑫ 1/2" MAX. PROJECTION AT C.L. OF HANDHOLE
(TOP AND BOTTOM). |
| ④ B-U3-GF BOTH SEAMS. | ⑬ 1" X 1/2" FOAM GASKET |
| ⑤ (2) 20 SECTION TERMINAL BLOCK | ⑭ 1" WIDE FLANGE ON COVER |
| ⑥ 4" x 6" HANDHOLD | ⑮ 1/4" X 5/8" FLAT BAR |
| ⑦ 6" x 29" (I.D.) TERMINAL COMPARTMENT,
1/2" x 4" STEEL FRAME, 3/8" THICK BACK PLATE. | ⑯ TC-L1-GF IN AND OUT OF TUBE. |
| ⑧ 5/16" - 18 TAPPED HOLE IN PLATE W/
5/16" x 1" GROUNDING BOLT. | ⑰ TC-L1-GF BOTH SIDES OF PLATE. |
| ⑨ 2" x 4" WIRE HOLE (OTHER HOLES AS NEEDED
FOR WIRING). | |

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1	3/06	RAW		AGE
2	2/07	RAW		AGE
3	8/08	RAW		AGE
4	7/14	RAW		AGE
5	2/21	OIS	CJC	
6	9/21	RAW	CJC	

PUBLIC WORKS - STREETS
AND TRANSPORTATION

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TRAFFIC ENGINEER MANAGER

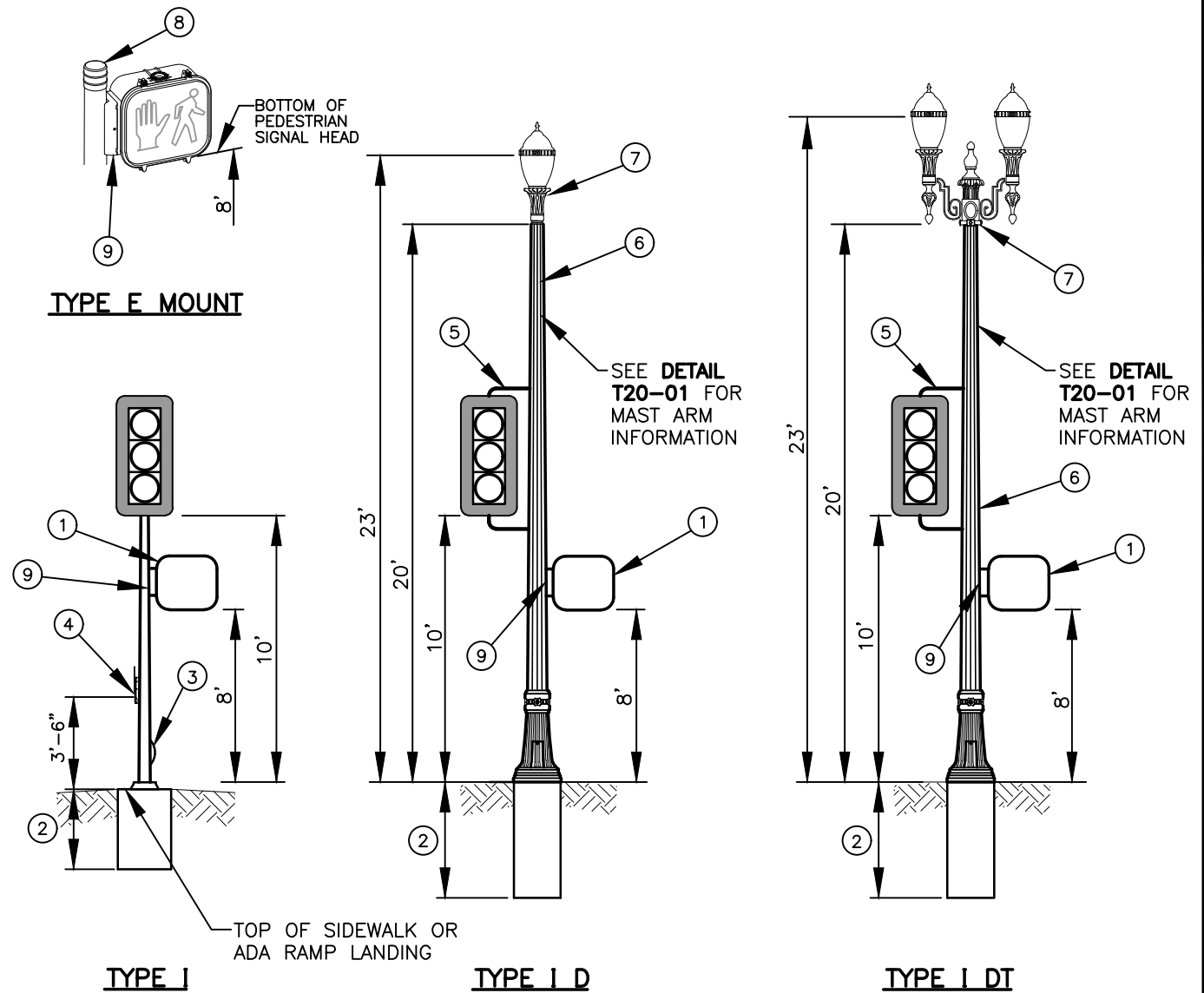
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RECESSED TERMINAL COMPARTMENT
TYPE II, TYPE III, TYPE B AND TYPE S
TRAFFIC SIGNAL STANDARDS

STANDARD PLAN
NUMBER

T20-03



NOTES:

- ① INSTALL PEDESTRIAN SIGNAL AT ORIENTATION PER PLANS WITH TYPE E MOUNTING ON SIDE OF POLE (SEE T20-09D).
- ② SEE TYPE PPB, TYPE PS AND TYPE I TRAFFIC SIGNAL POLE FOUNDATION DETAIL T20-16 AND SPECIFICATIONS FOR FOUNDATION INFORMATION.
- ③ PROVIDE COVERED HAND HOLE.
- ④ INSTALL **ADA PEDESTRIAN AUDIBLE PUSH BUTTON ASSEMBLY** WITH ARROW POINTING TOWARDS CROSSWALK. SEE STANDARD PLANS T20-09B AND T20-09E. SEE PLANS FOR ORIENTATION.
- ⑤ INSTALL SIGNAL ON SIDE OF POLE WITH TYPE K MOUNT (SEE WSDOT STANDARD PLAN J-75.10-xx).
- ⑥ USE TYPE DT LIGHT STANDARD FOR TYPE I D AND TYPE I DT TRAFFIC SIGNAL STANDARDS.
- ⑦ PROVIDE 110 V AC RECEPTACLE.
- ⑧ SLIPFITTER AT TOP OF POLE.
- ⑨ SEE WSDOT STANDARD PLAN J-75.10-xx FOR TYPE E MOUNT.

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REV NO.	DATE	BY	APPR	AGE
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2	7/14	RAW	CJC	
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6		RAW	CJC	

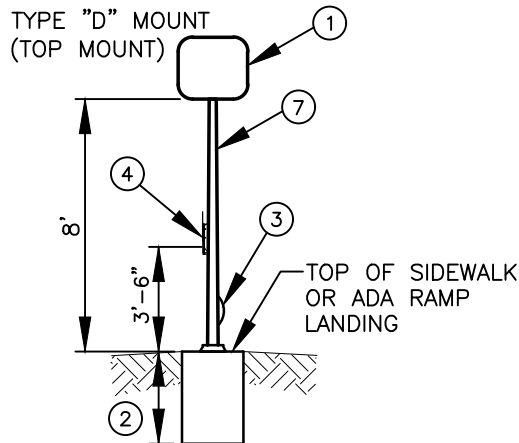
PUBLIC WORKS – STREETS AND TRANSPORTATION

APPROVED BY: *TRAFFIC ENGINEER MANAGER*

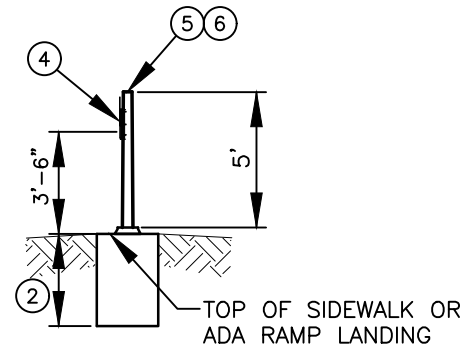
APPROVED DATE:

CITY OF
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WASHINGTON

TYPE I, TYPE I-D AND TYPE I-DT TRAFFIC SIGNAL STANDARD	STANDARD PLAN NUMBER T20-04
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TYPE PS



TYPE PPB

NOTES:

- ① INSTALL PEDESTRIAN SIGNAL FACING TOWARD CENTER OF THE CROSSWALK. SEE **PEDESTRIAN SIGNAL HEAD OPTIONS DETAIL T20-09D** AND WSDOT STANDARD PLANS J-20.16-xx AND J-20.20-xx. WHEN MOUNTING TWO (2) PEDESTRIAN SIGNALS USE TYPE 1 POLE (STD. PLAN T20-04).
- ② SEE **TYPE PPB, TYPE PS AND TYPE I TRAFFIC SIGNAL POLE FOUNDATION DETAIL T20-16** AND SPECIFICATIONS FOR FOUNDATION INFORMATION.
- ③ PROVIDE COVERED HAND HOLE.
- ④ INSTALL **ADA PEDESTRIAN AUDIBLE PUSH BUTTON ASSEMBLY** WITH ARROW POINTING TOWARD THE CROSSWALK. SEE **STANDARD PLANS T20-09B AND T20-09E**. SEE PLANS FOR ORIENTATION.
- ⑤ TOP OF POLE SHALL BE COVERED WITH POLE CAP.
- ⑥ TYPE PPB STANDARD POLE. SEE WSDOT STANDARD PLANS J-20.10 AND J-20.11.
- ⑦ TYPE PS STANDARD POLE. SEE WSDOT STANDARD PLANS J-20.11, J-20.16 AND J-21.10.

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REV NO.	DATE	BY	APPR	PUBLIC WORKS – STREETS AND TRANSPORTATION
1	7/14	RAW	AGE	
2	8/14	RAW	CJC	
3	7/19	RAW	CJC	
4	2/21	RAW	CJC	
5	9/21	RAW	CJC	
6	3/22	RAW	CJC	

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APPROVED DATE: 3/22/2022

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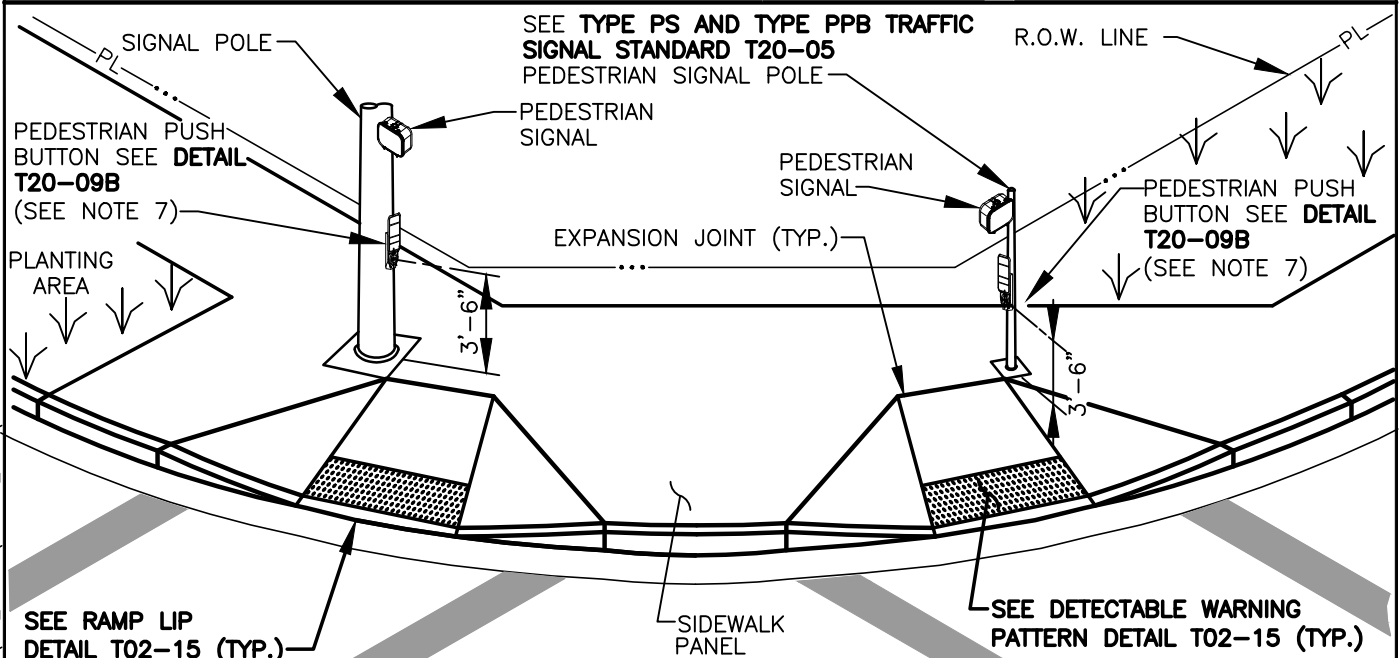
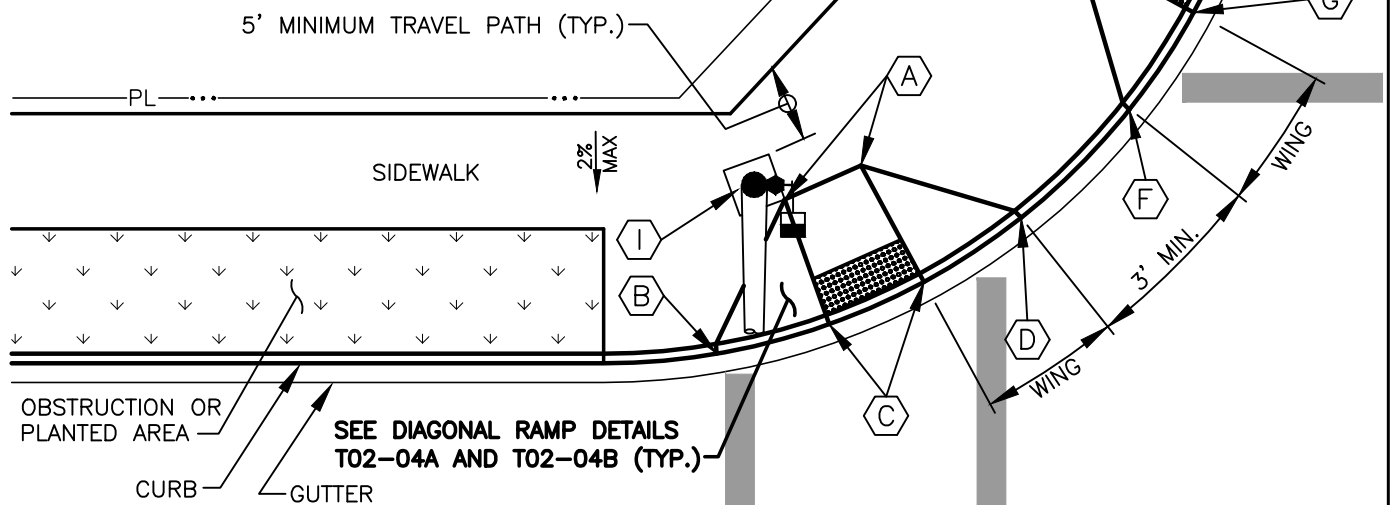
TYPE PS AND TYPE PPB
TRAFFIC SIGNAL STANDARD

STANDARD PLAN
NUMBER

T20-05

NOTES:

1. RAMPS TO BE CENTERED IN CROSSWALKS.
2. RAMPS TO BE CONSTRUCTED SEPARATELY AND ISOLATED BY EXPANSION JOINT MATERIAL.
3. RAMP WING MAY BE REPLACED WITH TYPE E-1 CURB SIMILAR TO **CURB RAMP** DETAIL IF OBSTRUCTION OR PLANTER PREVENTS PEDESTRIAN TRAFFIC IN WING AREA.
4. SURROUNDING SIDEWALK CROSS SLOPE TO BE 2% MAX. RADIALLY AROUND CORNER SECTION.
5. FOR SPOT ELEVATION CALL OUTS (⬡), SEE **CIVIL PLANS** OR **ADA RAMP INFORMATION PLAN** FOR SPOT ELEVATION TABLE FOR THESE ELEVATIONS.
6. PEDESTRIAN SIGNAL HEADS SHALL LINE UP WITHIN THE CROSSWALK.
7. THE PUSHBUTTON SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE CROSSWALK LINE FURTHEST FROM THE CENTER OF THE INTERSECTION AND AS CLOSE AS POSSIBLE TO THE CURB RAMP. SEE **2009 MUTCD SECTION 4E.08** FOR ADDITIONAL INFORMATION, IN REGARDS TO PUSHBUTTON PLACEMENT.



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REV NO.	DATE	BY	APPR	AGE
1	2/07	RAW	AGE	
2	8/08	RAW	AGE	
3	7/14	RAW	CJC	
4	1/15	RAW	CJC	
5	9/21	RAW	CJC	

PUBLIC WORKS - STREETS AND TRANSPORTATION

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TRAFFIC ENGINEER MANAGER

APPROVED DATE: 9/1/2021

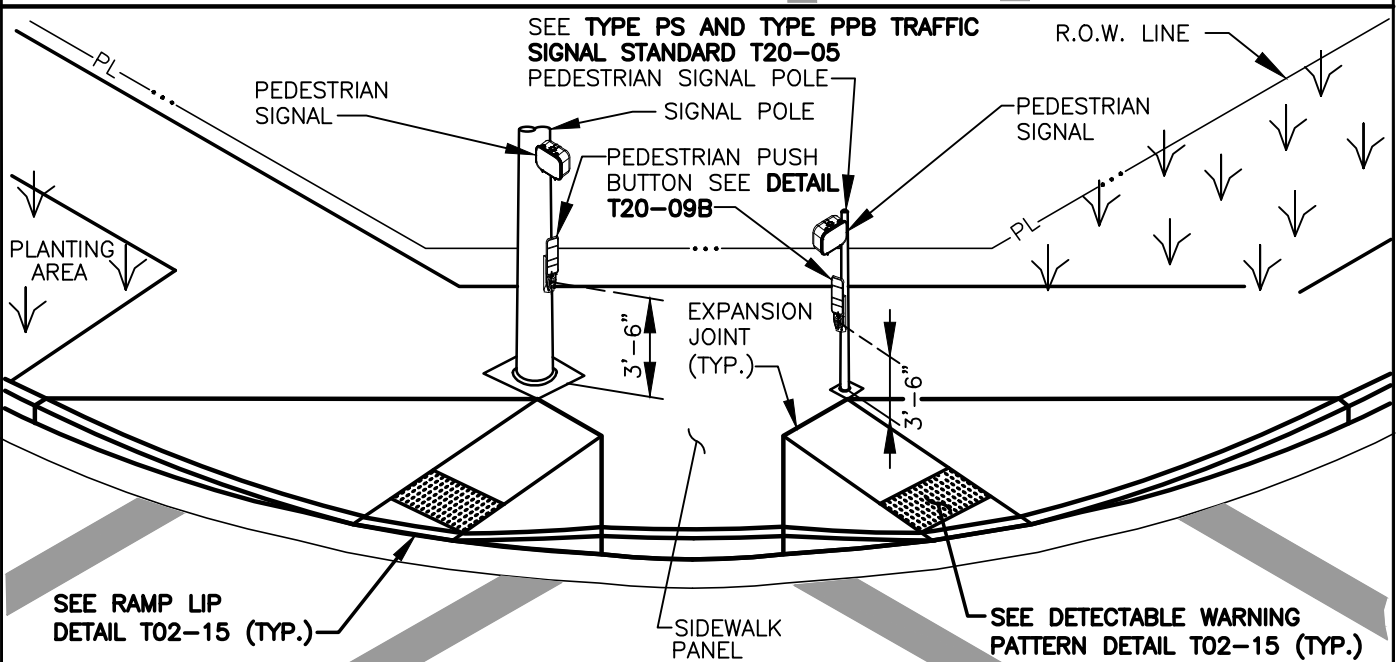
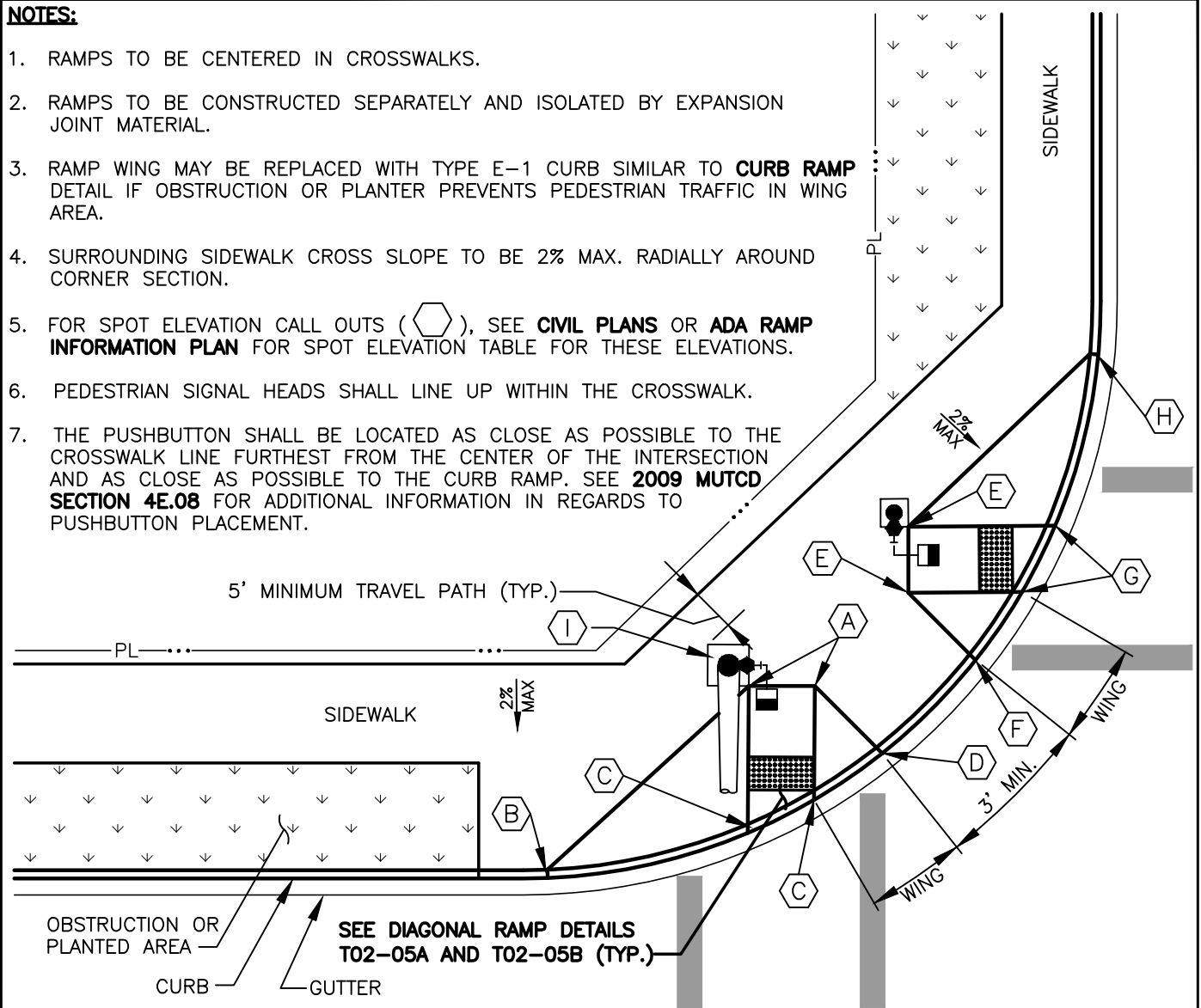
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DOUBLE DIAGONAL RAMP
PLACEMENT FOR
TRAFFIC SIGNAL STANDARD

STANDARD PLAN
NUMBER
T20-06A

NOTES:

1. RAMPS TO BE CENTERED IN CROSSWALKS.
2. RAMPS TO BE CONSTRUCTED SEPARATELY AND ISOLATED BY EXPANSION JOINT MATERIAL.
3. RAMP WING MAY BE REPLACED WITH TYPE E-1 CURB SIMILAR TO **CURB RAMP** DETAIL IF OBSTRUCTION OR PLANTER PREVENTS PEDESTRIAN TRAFFIC IN WING AREA.
4. SURROUNDING SIDEWALK CROSS SLOPE TO BE 2% MAX. RADIALY AROUND CORNER SECTION.
5. FOR SPOT ELEVATION CALL OUTS (), SEE **CIVIL PLANS** OR **ADA RAMP INFORMATION PLAN** FOR SPOT ELEVATION TABLE FOR THESE ELEVATIONS.
6. PEDESTRIAN SIGNAL HEADS SHALL LINE UP WITHIN THE CROSSWALK.
7. THE PUSHBUTTON SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE CROSSWALK LINE FURTHEST FROM THE CENTER OF THE INTERSECTION AND AS CLOSE AS POSSIBLE TO THE CURB RAMP. SEE **2009 MUTCD SECTION 4E.08** FOR ADDITIONAL INFORMATION IN REGARDS TO PUSHBUTTON PLACEMENT.



REV NO.	DATE	BY	APPR	AGE
1	2/07	RAW	AGE	
2	8/08	RAW	AGE	
3	7/14	RAW	CJC	
4	1/15	RAW	CJC	
5	9/21	RAW	CJC	

PUBLIC WORKS - STREETS
AND TRANSPORTATION

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TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021

CITY OF
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DOUBLE DIRECTIONAL RAMP
PLACEMENT FOR
TRAFFIC SIGNAL STANDARD

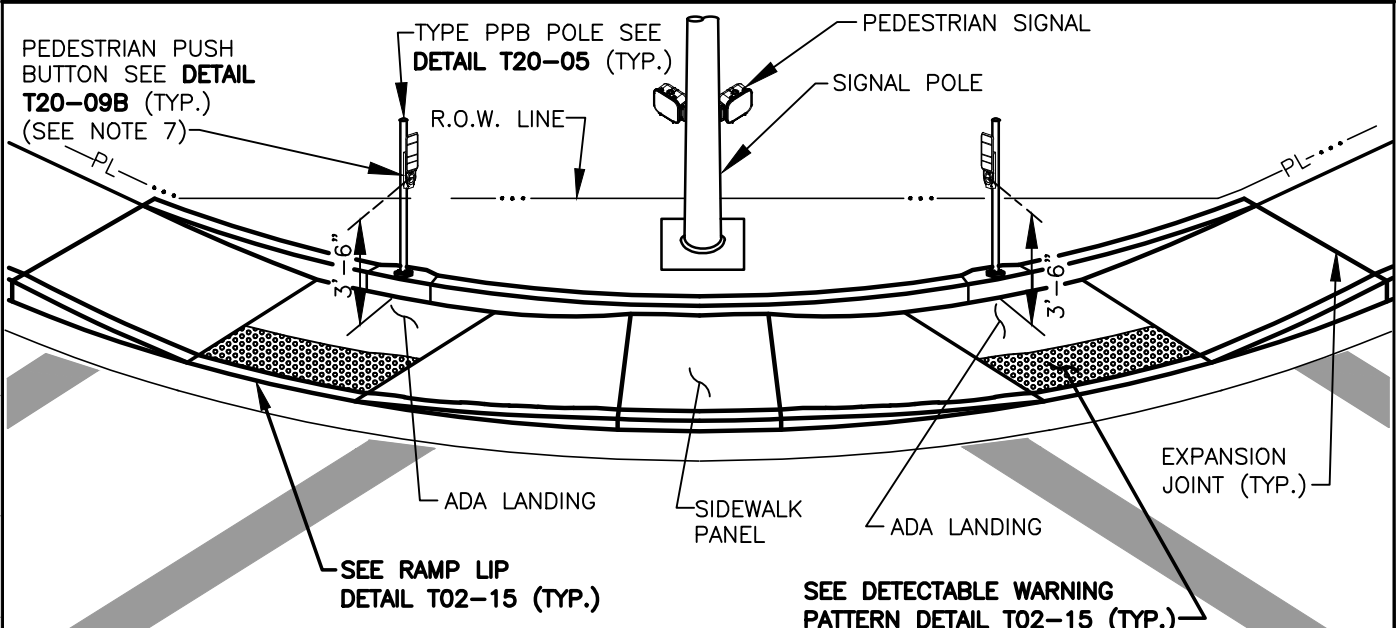
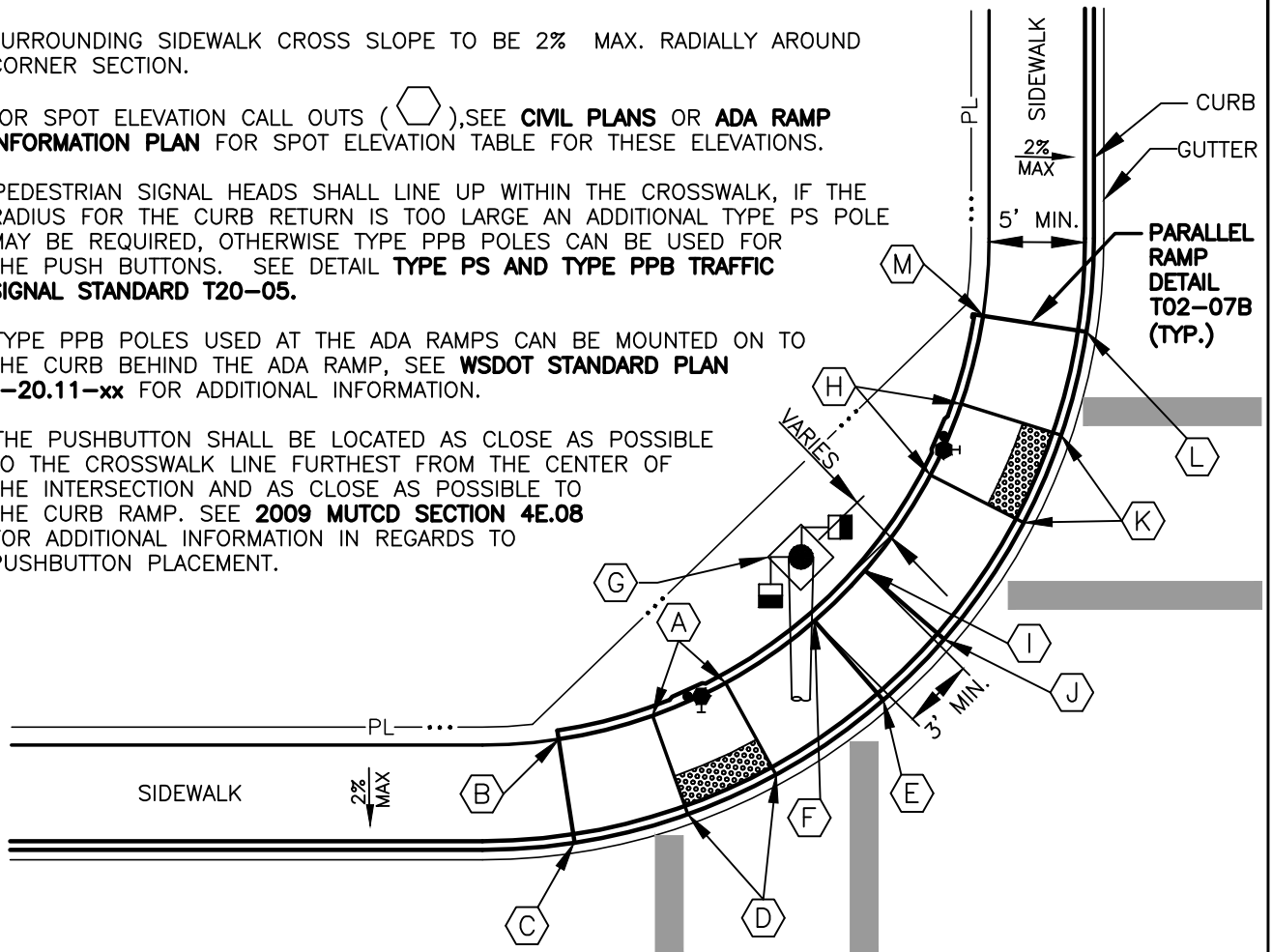
STANDARD PLAN
NUMBER

T20-06B

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NOTES:

1. RAMPS TO BE CENTERED IN CROSSWALKS.
2. RAMPS TO BE CONSTRUCTED SEPARATELY AND ISOLATED BY EXPANSION JOINT MATERIAL.
3. RAMP WING MAY BE REPLACED WITH TYPE E-1 CURB SIMILAR TO **CURB RAMP** DETAIL IF OBSTRUCTION OR PLANTER PREVENTS PEDESTRIAN TRAFFIC IN WING AREA.
4. SURROUNDING SIDEWALK CROSS SLOPE TO BE 2% MAX. RADIALLY AROUND CORNER SECTION.
5. FOR SPOT ELEVATION CALL OUTS (), SEE **CIVIL PLANS** OR **ADA RAMP INFORMATION PLAN** FOR SPOT ELEVATION TABLE FOR THESE ELEVATIONS.
6. PEDESTRIAN SIGNAL HEADS SHALL LINE UP WITHIN THE CROSSWALK, IF THE RADIUS FOR THE CURB RETURN IS TOO LARGE AN ADDITIONAL TYPE PS POLE MAY BE REQUIRED, OTHERWISE TYPE PPB POLES CAN BE USED FOR THE PUSH BUTTONS. SEE DETAIL **TYPE PS AND TYPE PPB TRAFFIC SIGNAL STANDARD T20-05**.
7. TYPE PPB POLES USED AT THE ADA RAMPS CAN BE MOUNTED ON TO THE CURB BEHIND THE ADA RAMP, SEE **WSDOT STANDARD PLAN J-20.11-xx** FOR ADDITIONAL INFORMATION.
8. THE PUSHBUTTON SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE CROSSWALK LINE FURTHEST FROM THE CENTER OF THE INTERSECTION AND AS CLOSE AS POSSIBLE TO THE CURB RAMP. SEE **2009 MUTCD SECTION 4E.08** FOR ADDITIONAL INFORMATION IN REGARDS TO PUSHBUTTON PLACEMENT.



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REV NO.	DATE	BY	APPR	AGE
1	2/07	RAW	AGE	
2	8/08	RAW	AGE	
3	7/14	RAW	CJC	
4	1/15	RAW	CJC	
5	9/21	RAW	CJC	

PUBLIC WORKS - STREETS AND TRANSPORTATION

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DOUBLE PARALLEL RAMP
PLACEMENT FOR
TRAFFIC SIGNAL STANDARD

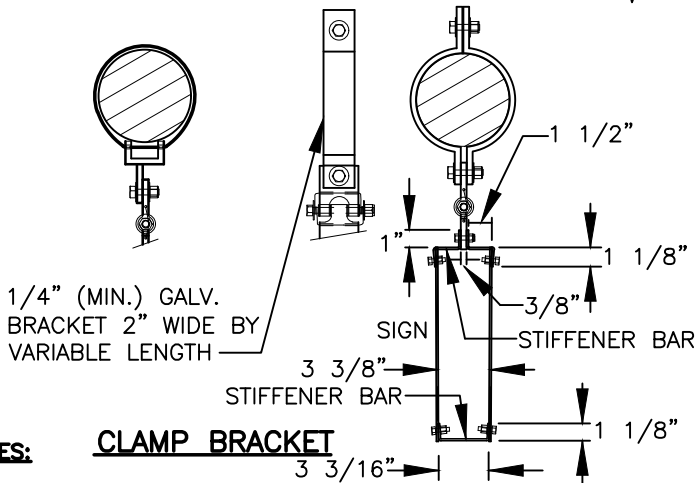
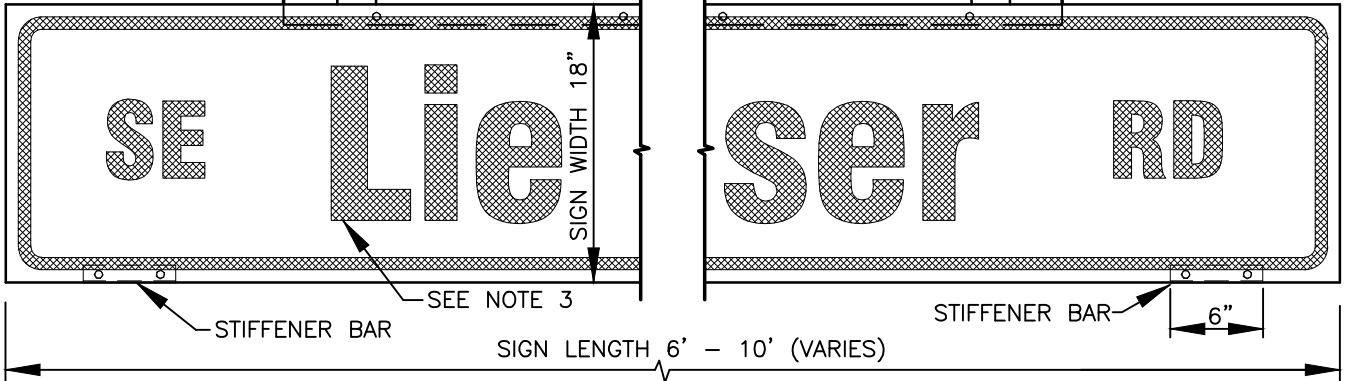
STANDARD PLAN
NUMBER
T20-06C

ADJUSTABLE
OVERHEAD MAST ARM
SWING SIGN BRACKET
MIOJ-OCB250

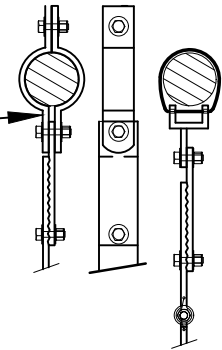
2-6' LONG SHAPED
ALUM. STIFFENER
BARS (SAME LENGTH
ALL SIGNS)

STRAP (2) 3/4" STAINLESS .030 BANDING
STRAPS (2000 LBS STRENGTH EACH
STRAP) HD C 206 13206 USE BANDING
CLIPS HD13256 (2 STRAPS)

OVERHEAD MAST ARM
SWING SIGN BRACKET
MIOJ-OCB250



1/4" (MIN.) GALV.
BRACKET 2" WIDE
BY VARIABLE
LENGTH



CLAMP BRACKET STRAP

NOTES:

CLAMP BRACKET

1. STREET NAME SIGN SHALL BE MADE OF .125 ALUMINUM SHEETING, FLAT STOCK, 18" WIDE BY 6' TO 10' IN LENGTH, (IN 6" INCREMENTS).
2. SIGN FACE SHALL BE FABRICATED FROM CUBED CORNERED LENS (VIP, TYPE A) REFLECTIVE MATERIAL. FACE LEGEND AND BORDER SHALL BE WHITE ON A GREEN BACKGROUND, EXCEPT IN THE DOWNTOWN AREA OR ON TYPE II DT AND TYPE III DT TRAFFIC SIGNAL STANDARDS, WHICH SHALL HAVE A BROWN BACKGROUND.
3. LETTERING SHALL BE A COMBINATION OF UPPER AND LOWER CASE LETTERS PER FHWA STANDARDS. THE PREFIX SHALL BE ABBREVIATED UPPER CASE LETTERS. THE STREET NAME SHALL BE LOWER CASE LETTERS WITH THE FIRST LETTER UPPER CASE. THE SUFFIX AND PREFIX SHALL BE ABBREVIATED UPPER CASE AND 6" HIGH, EXCEPT WHEN TWO LINES OF COPY ARE REQUIRED, THEN THE HEIGHT SHALL BE 5". THE CAPITAL LETTERS OF THE COPY SHALL BE 12" HIGH, EXCEPT WHEN TWO LINES OF COPY ARE REQUIRED THE COPY SHALL BE 10" HIGH.
4. STIFFENER BARS SHALL BE .125 ALUMINUM SHAPED TO DIMENSIONS ABOVE.
5. COMPLETE READY-TO-MOUNT STREET NAME SIGN ASSEMBLY NOT TO EXCEED 65 POUNDS IN WEIGHT.
6. ALL SIGN MATERIALS AND ATTACHMENT HARDWARE SHALL CONFORM TO MUTCD AND WSDOT STANDARD SPECIFICATIONS.
7. WHEN SIGN REQUIRES TWO MESSAGE LINES, WIDTH SHALL BE INCREASED TO 30" AND AN ARROW SHALL BE ADDED TO BOTH MESSAGE LINES (LEFT ARROW LEFT OF THE DIRECTION AND RIGHT ARROW ON THE RIGHT).
8. ENGINEER SHALL APPROVE FACE COPY PRIOR TO FABRICATION.
9. SEE OVERHEAD MOUNTED STREET NAME SIGNS (SNS) SECTION OF THE CITY OF VANCOUVER AMENDMENTS TO THE STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL DEVICES AND LIGHTING FOR ADDITIONAL INFORMATION.

REV NO.	DATE	BY	APPR	AGE
1	3/06	RAW	AGE	
2	2/07	RAW	AGE	
3	8/08	RAW	AGE	
4	7/14	RAW	CJC	
5	4/18	RAW	CJC	
6	9/21	RAW	CJC	

PUBLIC WORKS - STREETS
AND TRANSPORTATION

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TRAFFIC ENGINEER MANAGER

APPROVED DATE: 9/1/2021

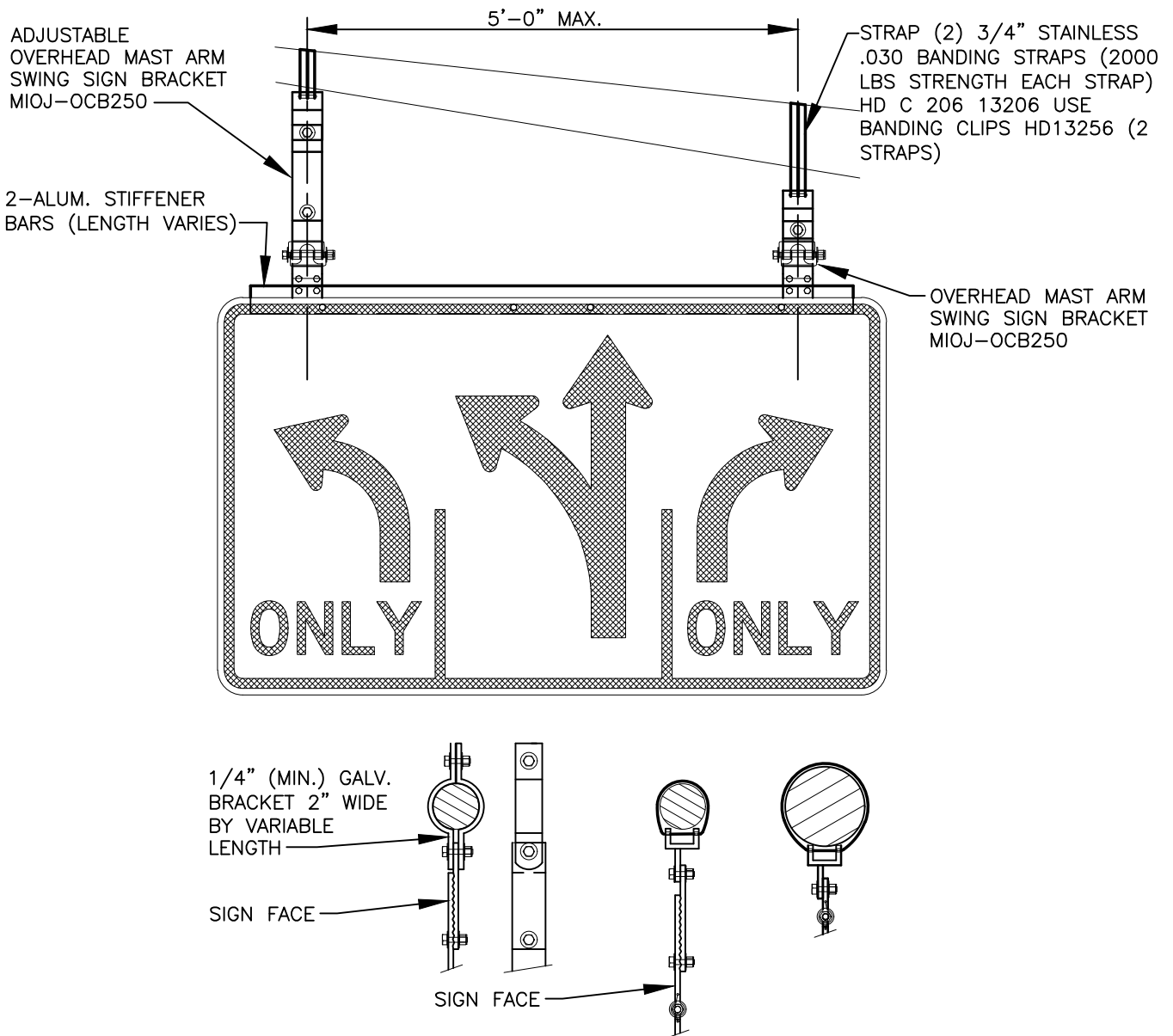
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OVERHEAD STREET NAME
SIGN MOUNTING AND
FABRICATION DETAILS

STANDARD PLAN
NUMBER

T20-07

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NOTES:

CLAMP BRACKET STRAP

- SIGN SHALL BE OF .125 ALUMINUM SHEETING, FLAT STOCK, 18" WIDE BY 6' TO 10' IN LENGTH, (IN 6" INCREMENTS).
- SIGN FACE SHALL BE FABRICATED FROM CUBED CORNERED LENS (VIP, TYPE A) REFLECTIVE MATERIAL. FACE LEGEND AND BORDER SHALL MATCH MUTCD AND WSDOT STANDARD SPECIFICATIONS.
- STIFFENER BARS SHALL BE .125 ALUMINUM SHAPED.
- COMPLETE READY-TO-MOUNT SIGN ASSEMBLY NOT TO EXCEED 65 POUNDS IN WEIGHT.
- ALL SIGN MATERIALS AND ATTACHMENT HARDWARE SHALL CONFORM TO MUTCD AND WSDOT STANDARD SPECIFICATIONS.
- ENGINEER SHALL APPROVE FACE COPY PRIOR TO FABRICATION.
- THE SIZE OF THE SIGN WILL DETERMINE IF ONE OR TWO BRACKETS ARE NECESSARY. HAVE ENGINEERS APPROVAL PRIOR TO INSTALLATION.
- FOR ALTERNATE OVERHEAD SIGN MOUNTING OPTION, SEE WSDOT STANDARD PLAN G-30.10-xx. HAVE ENGINEERS APPROVAL PRIOR TO USING ALTERNATE OPTION.

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REV NO.	DATE	BY	APPR	
1	8/04	RAW	AGE	
2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
5	1/15	RAW	CJC	
6	9/21	RAW	CJC	

PUBLIC WORKS - STREETS
AND TRANSPORTATION

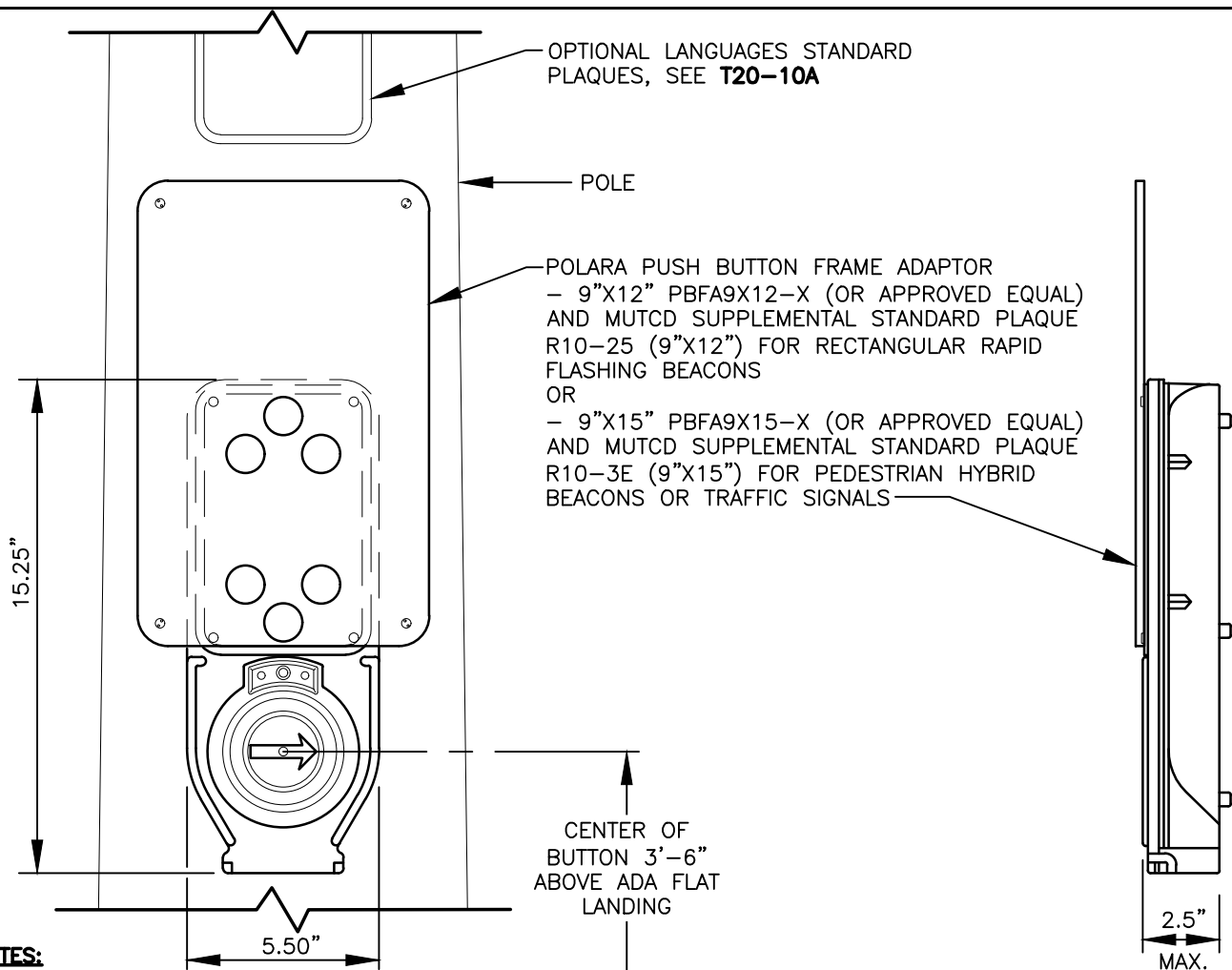
APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021

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OVERHEAD SIGN
MOUNTING DETAILS

STANDARD PLAN
NUMBER

T20-08



NOTES:

- AUDIBLE – TACTILE PEDESTRIAN SIGNAL SYSTEM FOR ADA PEDESTRIAN PUSH BUTTON;
- SHALL CONSIST OF 2–12 PUSH BUTTON STATIONS (MAXIMUM OF 3 PER PHASE) CONTROLLED BY A SINGLE BASE UNIT AT/IN THE TRAFFIC CONTROL CABINET.
 - SYSTEM MUST BE ABLE TO PROVIDE THE FOLLOWING AUDIBLE FEATURES:
A LOCATING TONE
5 WALK SOUND CHOICES (FIELD SELECTABLE)
3 PED–CLEARANCE SOUND CHOICES (FIELD SELECTABLE)
DIRECTION OF TRAVEL (AS STANDARD FEATURE WITH EXTENDED PUSH)
INFORMATION MESSAGE (CUSTOM FEATURE WITH EXTENDED PUSH)
 - ALL AUDIBLE SOUNDS MUST EMANATE FROM PUSH BUTTON STATION.
 - EACH AUDIBLE FEATURE MUST HAVE INDEPENDENTLY SETTABLE MINIMUM AND MAXIMUM VOLUME LIMITS.
 - ALL SOUNDS MUST AUTOMATICALLY ADJUST TO AMBIENT NOISE LEVELS OVER A 60 dB RANGE.
 - ALL SOUNDS FOR ALL PUSH BUTTON STATIONS MUST BE SYNCHRONIZED.
 - SYSTEM MUST BE ABLE TO PROVIDE AUDIBLE COUNTDOWN DURING PED CLEARANCE PHASE.
 - PUSH BUTTON STATIONS MUST REQUIRE ONLY TWO WIRES COMING FROM THE TRAFFIC CONTROL CABINET FOR EACH PHASE / CROSSWALK.
 - EACH PUSH BUTTON STATION MUST HAVE A 2" BUTTON WITH A TACTILE RAISED DIRECTIONAL ARROW ON THE BUTTON.
 - THE ARROW MUST BE ABLE TO BE CHANGED TO ONE OF FOUR DIRECTIONS.
 - THE ARROW/BUTTON MUST VIBRATE DURING THE WALK PERIOD, FOLLOWING A BUTTON PUSH.
 - PUSH BUTTON STATION FRAME SHALL BE MADE OF CAST ALUMINUM WITH MOUNTING HOLES TO HOLD A 9"x12" OR LARGER PEDESTRIAN SIGN.
 - ALL VOLUMES AND OPTIONAL FEATURES ARE TO BE SETTABLE USING A HAND HELD WIRELESS DEVICE WITH PASSWORD SECURITY.
 - WIRELESS DEVICE SHALL BE CAPABLE OF SETTING/UPDATING ALL PUSH BUTTON STATIONS ON THE INTERSECTION FROM A SINGLE PUSH BUTTON STATION (GLOBAL UPDATING).
 - SYSTEM MUST BE ABLE TO MUTE SOUNDS ON ALL CROSSWALKS EXCEPT ACTIVATED CROSSWALK (SELECTABLE FEATURE).
 - SYSTEM MUST BE ABLE TO HAVE MULTIPLE LANGUAGE CAPABILITY, SELECTABLE USER.
 - SYSTEM SHALL BE ABLE TO PLAY EMERGENCY PREEMPTION MESSAGE.
 - SYSTEM SHALL BE ABLE TO SELF TEST BUTTONS AND REPORT ANY FAULTS TO TRAFFIC CONTROLLER.
 - PEDESTRIAN BUTTON CASTING(S) SHALL BE YELLOW.

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REV NO.	DATE	BY	APPR	DESCRIPTION
1	2/07	RAW	AGE	
2	8/08	RAW	AGE	
3	7/14	RAW	CJC	
4	1/15	RAW	CJC	
5	2/21	OIS	CJC	
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TRAFFIC ENGINEER MANAGER

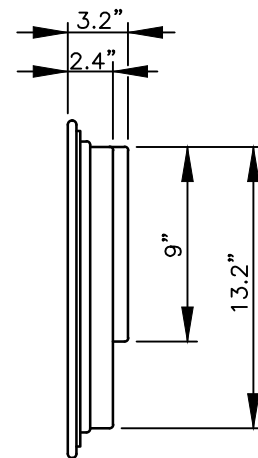
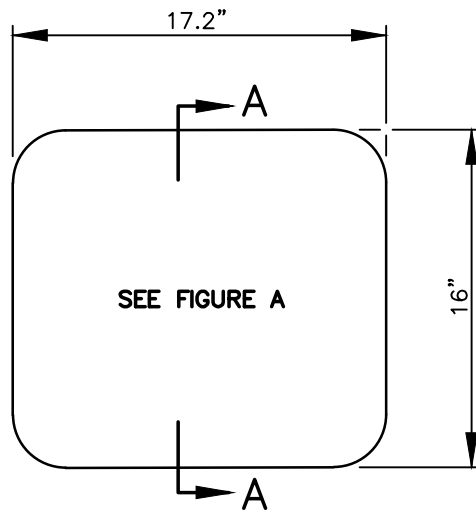
APPROVED DATE: 9/1/2021



ADA PEDESTRIAN
AUDIBLE PUSH
BUTTON ASSEMBLY

STANDARD PLAN
NUMBER
T20-09B

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SECTION A-A

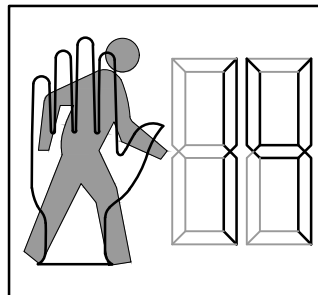


FIGURE A

16"x18" LED ARRAY PEDESTRIAN COUNTDOWN SIGNAL

(APPROVED MATERIAL: GE PART NO. PS7-CFC1-01A-18 OR APPROVED EQUAL)

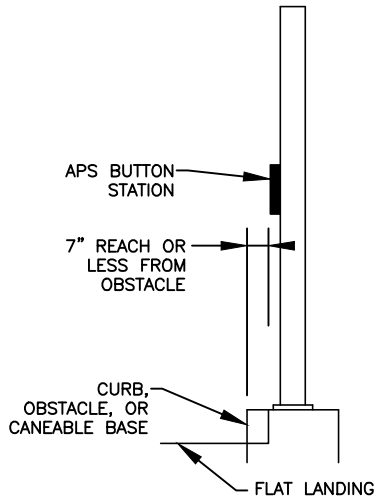
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3	9/21	RAW	CJC	



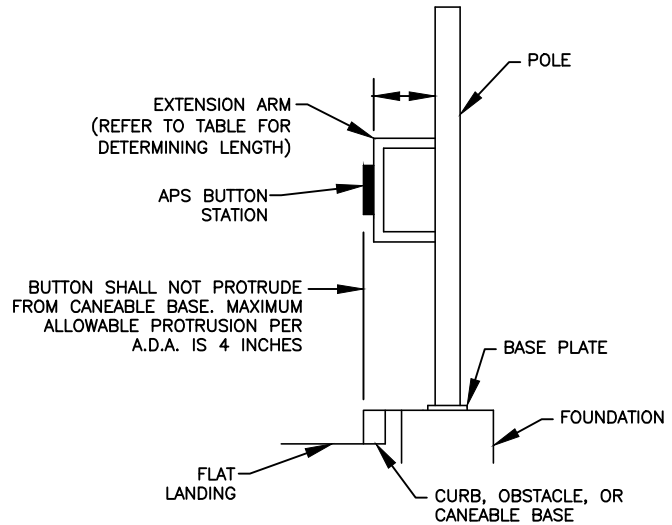
PEDESTRIAN COUNTDOWN
SIGNAL HEAD OPTIONS

STANDARD PLAN
NUMBER

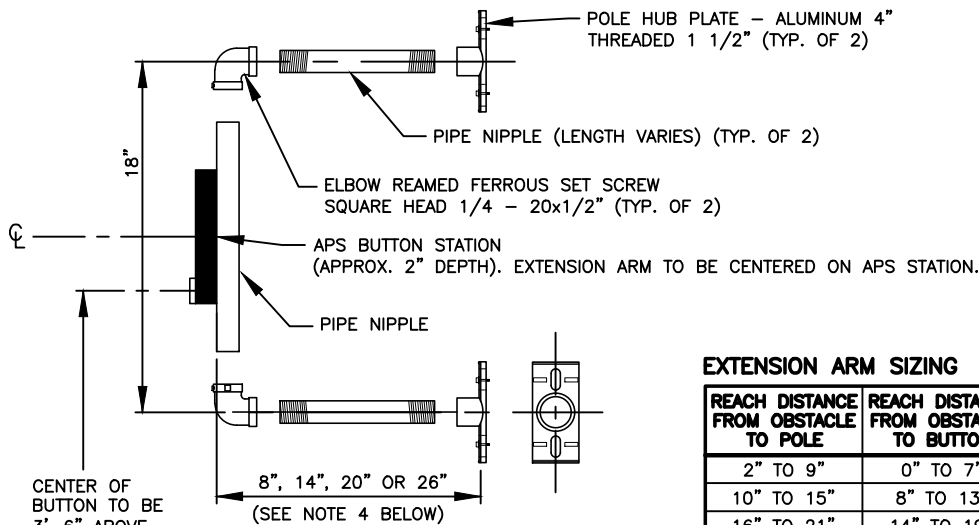
T20-09D



CASE 1: NO EXTENSION ARM
REQUIRED WHEN REACH DISTANCE
TO BUTTON 7" OR LESS.



CASE 2: EXTENSION ARM REQUIRED
WHEN REACH DISTANCE TO BUTTON
IS 8" OR GREATER. SEE TABLE.



PUSH BUTTON EXTENSION

EXTENSION ARM SIZING

REACH DISTANCE FROM OBSTACLE TO POLE	REACH DISTANCE FROM OBSTACLE TO BUTTON	EXTENSION ARM LENGTH	RESULTING MAXIMUM REACH
2" TO 9"	0" TO 7"	NONE	7"
10" TO 15"	8" TO 13"	8"	5"
16" TO 21"	14" TO 19"	14"	5"
22" TO 27"	20" TO 25"	20"	5"
28" TO 33"	26" TO 31"	26"	5"

NOTES:

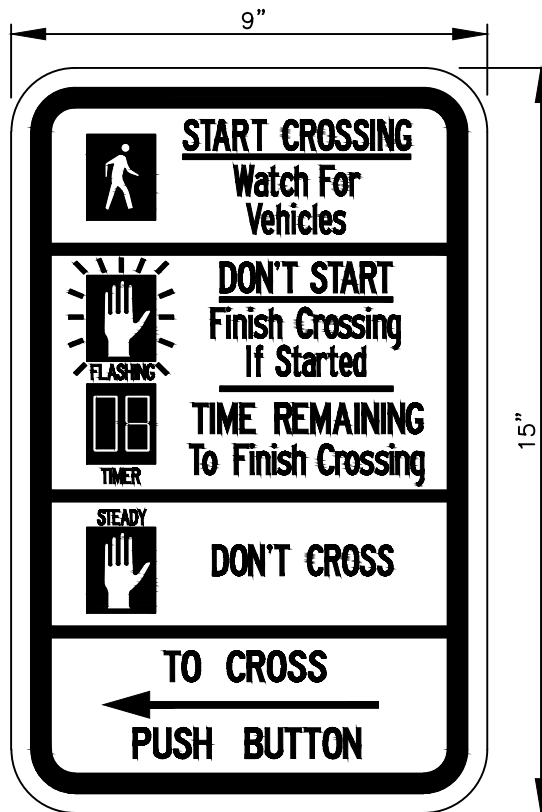
- IT IS CONTRACTOR RESPONSIBILITY TO INSTALL THE APPROPRIATE EXTENSION ARM LENGTH. EXTENSION ARM LENGTH WILL VARY BASED ON FIELD CONDITIONS RELATED TO POLE, FOUNDATION, CURB LOCATION, AND LANDING GEOMETRY.
- MAX. REACH DISTANCE FROM OBSTACLE TO BUTTON SHOULD BE 7" OR LESS.
- BUTTON SHALL NOT PROTRUDE FROM CANEABLE BASE. (MAX. ALLOWABLE PROTRUSION PER A.D.A. IS 4".)
- ALL HARDWARE SHALL BE STAINLESS STEEL.
- EXTENSION ARM MANUFACTURED BY ADVANCED TRAFFIC PRODUCTS, INC. OR APPROVED EQUAL.
- PAINT COLOR TO BE YELLOW.

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1	3/17	RAW	CJC	
2	2/21	RAW	CJC	
3	9/21	RAW	CJC	
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PEDESTRIAN PUSHBUTTON
MOUNTING EXTENSION

STANDARD PLAN
NUMBER
T20-09E



STANDARD EDUCATIONAL PLAQUE

(MUTCD R10-3e FOR USE WITH COUNTDOWN PEDESTRIAN SIGNALS)



SPANISH



RUSSIAN

OPTIONAL LANGUAGE STANDARD PLAQUES*

*OTHER LANGUAGES AVAILABLE.

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TRAFFIC ENGINEER MANAGER

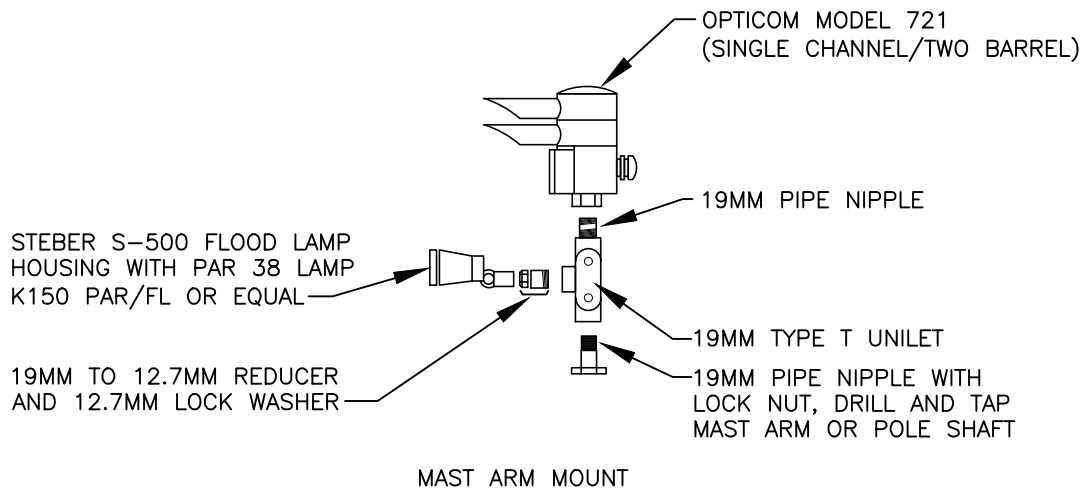
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PUSH BUTTON
PLAQUE OPTIONS

STANDARD PLAN
NUMBER

T20-10A



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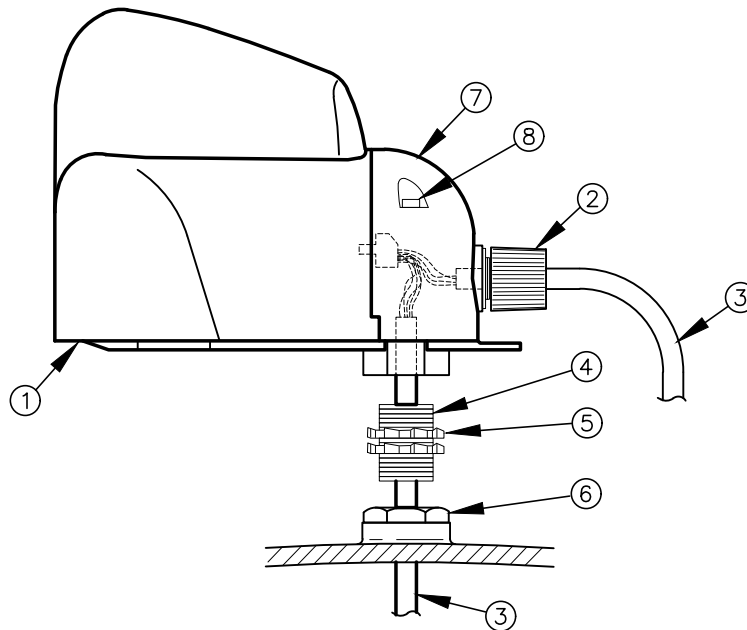
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4	2/21	OIS	CJC	
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APPROVED DATE: 9/1/2021				



COMBINATION PREEMPTION
DETECTOR/INDICATOR
MOUNTING DETAIL

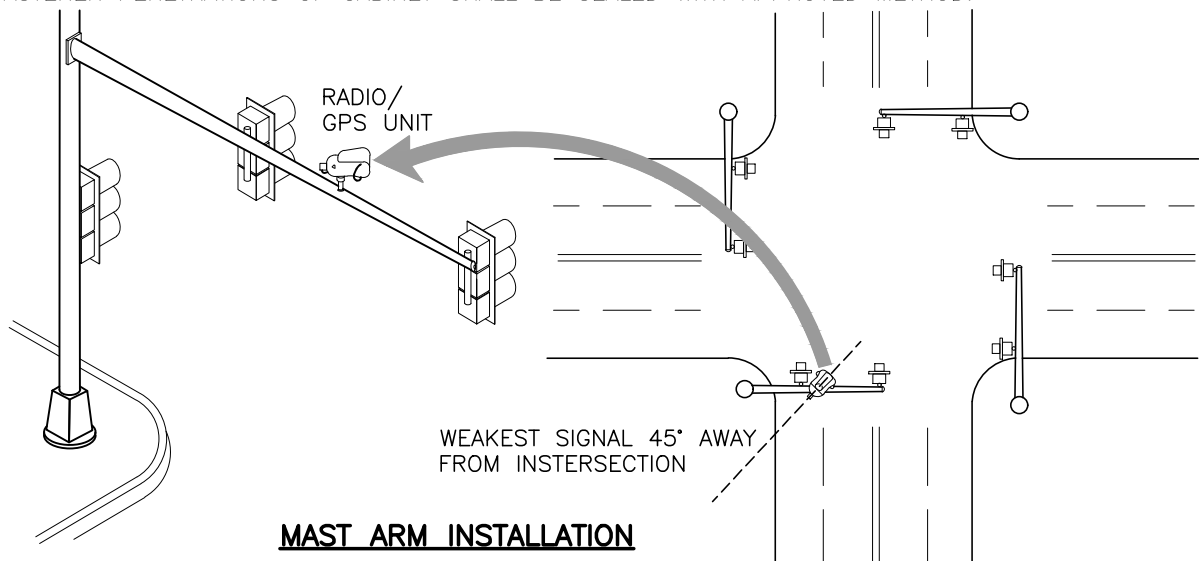
STANDARD PLAN
NUMBER
T20-11A

- ① INTERSECTION RADIO/GPS UNIT (MODEL 3100)
- ② CABLE RETAINER
- ③ RADIO/GPS CABLE (MODEL 1070)
- ④ NIPPLE/PIPE
- ⑤ LOCKNUT (2)
- ⑥ 3/4 INCH NPT MOUNT
- ⑦ WIRING COVER
- ⑧ COVER SCREWS (2)



NOTE:

1. THE RADIO/GPS UNIT SHALL BE MOUNTED IN A LOCATION THAT HAS AN UNOBSTRUCTED VIEW OF ALL APPROACHES OUT TO A DISTANCE OF 2,500 FEET.
2. BLOCKAGE OF APPROACHES BY THINGS SUCH AS BRIDGES, BUILDINGS, WALKWAYS AND TREES SHOULD BE AVOIDED.
3. THE RADIO/GPS UNIT IS USUALLY MOUNTED TO THE MAST ARM OR SPAN WIRE POLE NEAREST THE TRAFFIC CONTROLLER CABINET. IF AN APPROPRIATE MOUNTING LOCATION ON A MAST ARM OR SPAN WIRE POLE IS NOT AVAILABLE, YOU CAN MOUNT THE UNIT ON TO A SPAN WIRE. TRY TO USE A SIGNAL HEAD OR SIGN MOUNT TO MINIMIZE SWAY.
4. THE RADIO/GPS UNIT SHALL BE MOUNTED LEVEL AND AS HIGH AS POSSIBLE. DO NOT MOUNT UNIT UPSIDE DOWN.
5. THE RADIO/GPS UNIT SHALL HAVE UNOBSTRUCTED VIEW OF AT LEAST 50% OF THE SKY.
6. THE MOUNTING LOCATION SHALL BE SUCH THAT THE CABLE RUN FROM THE RADIO/GPS UNIT TO THE PHASE SELECTOR (LOCATED IN THE TRAFFIC CONTROLLER CABINET) IS NO MORE THAN 250 FEET.
7. THE RADIO/GPS CABLE MAY BE RUN THROUGH CONDUIT OR ATTACHED TO A MESSENGER WIRE. THE CABLE SHALL NOT BE SUSPENDED UNSUPPORTED.
8. THE RADIO/GPS UNIT SHALL BE ORIENTED SUCH THAT THE CABLE RETAINER IS FACING AN AREA FROM WHICH VEHICLES WILL NOT BE APPROACHING.
9. DRIP LOOP SHALL BE 6 TO 8 INCHES.
10. ALL HARDWARE FASTENERS SHALL BE STAINLESS STEEL, TORQUED TO MANUFACTURER'S RECOMMENDATIONS WITH LOCKNUTS.
11. POWER LEADS SHALL BE INSTALLED WITH SUITABLE COPPER OPEN SPADES.
12. CONTRACTOR SHALL UTILIZE TOOLS AS RECOMMENDED BY RADIO/GPS VENDOR.
13. ALL FASTENER PENETRATIONS OF CABINET SHALL BE SEALED WITH APPROVED METHOD.



MAST ARM INSTALLATION

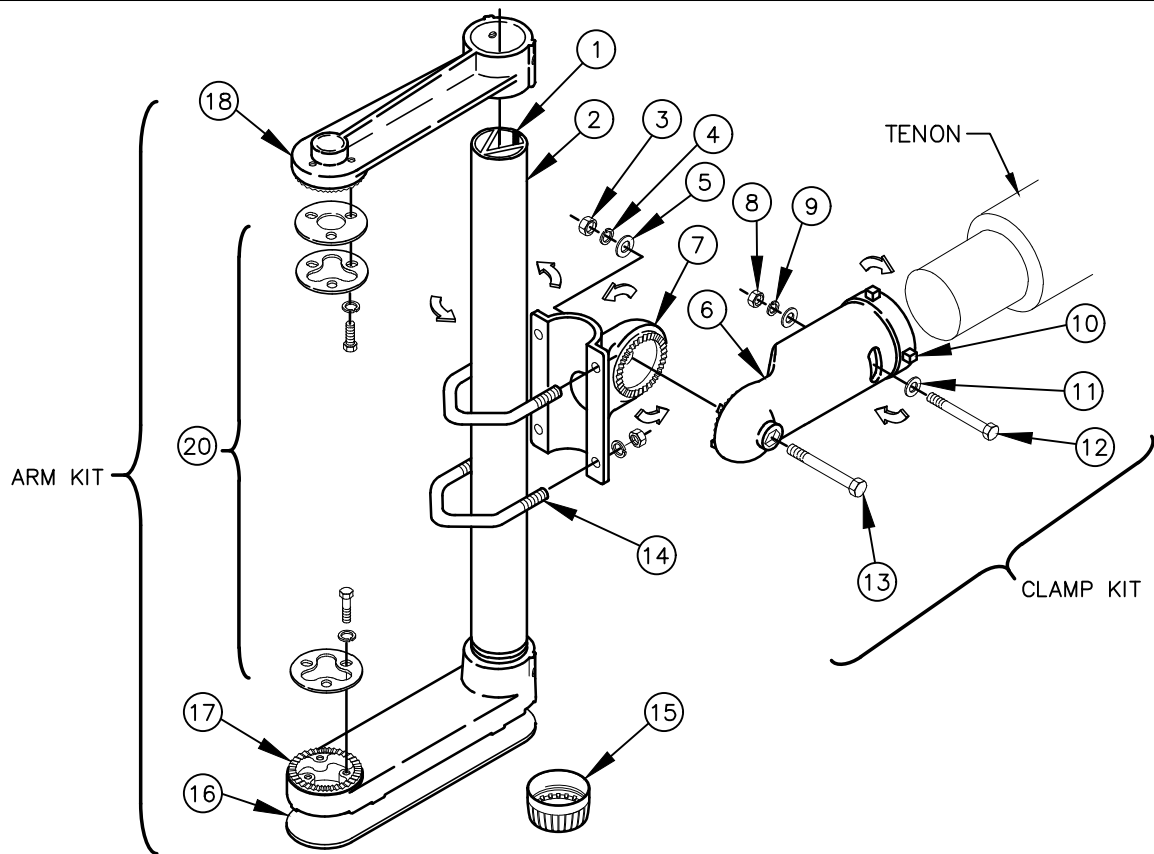
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3	9/21	RAW	CJC	
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GPS OPTICOM
INSTALLATION

STANDARD PLAN
NUMBER

T20-11B



ITEM	DESCRIPTION	QTY
①	INSERT, VINYL	1
②	GUSSETED TUBE, 1 1/2"–11 1/2 NPS, TOE, ALUMINUM	1
③	NUT, HEX 1/2"–13, STAINLESS	1
④	WASHER, LOCK SPLIT 1/2", STAINLESS	1
⑤	WASHER, FLAT 1/2", STAINLESS	1
⑥	ARM, ARTICULATED SERRATED 2–3/8" OD TENON MOUNT, ALUMINUM	1
⑦	SADDLE, ARTICULATING SERRATED, 713 ALUMINUM	1
⑧	NUT, HEX 3/8"–16, STAINLESS	1
⑨	WASHER, LOCK SPLIT 3/8", STAINLESS	1
⑩	SCREW, SET HEX HD 3/8"–16x3/4", STAINLESS	3
⑪	WASHER, FLAT 3/8", STAINLESS	2
⑫	BOLT, HEX HD 3/8"–16x4"	1
⑬	BOLT, HEX HD 1/2"–13x4 1/2", STAINLESS	1
⑭	V-BOLT KIT, 5/16"–18, STAINLESS	1
⑮	THREAD PROTECTOR, PLASTIC	1
⑯	COVER, LOWER ARM, ABS PLASTIC	1
⑰	LOWER ARM, ASTRO-BRAC 1-WAY, 8 1/2"	1
⑱	UPPER ARM, ASTRO-BRAC 1-WAY, 8 1/2"	1
⑲	BAG, 0.004x6 1/2"x14", POLY W/"AB-4000 ARM KIT"	2
⑳	HARDWARE KIT, 1-WAY ARM KIT W/ZINC 2 WASHER AND SS HDWR	2

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2	3/06	RAW	AGE	
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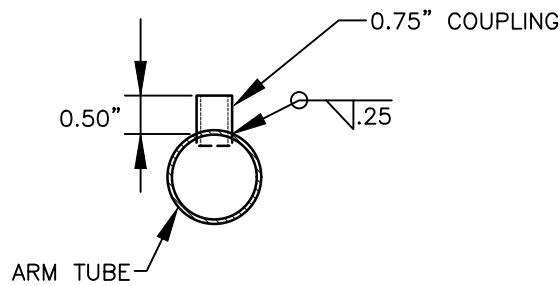
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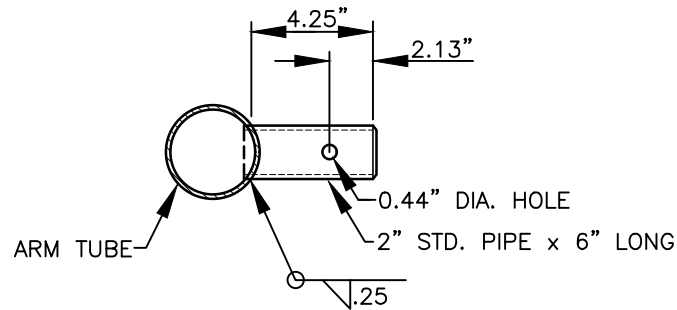
MOUNTING BRACKET
ASSEMBLY WITH
TENON CLAMP

STANDARD PLAN
NUMBER

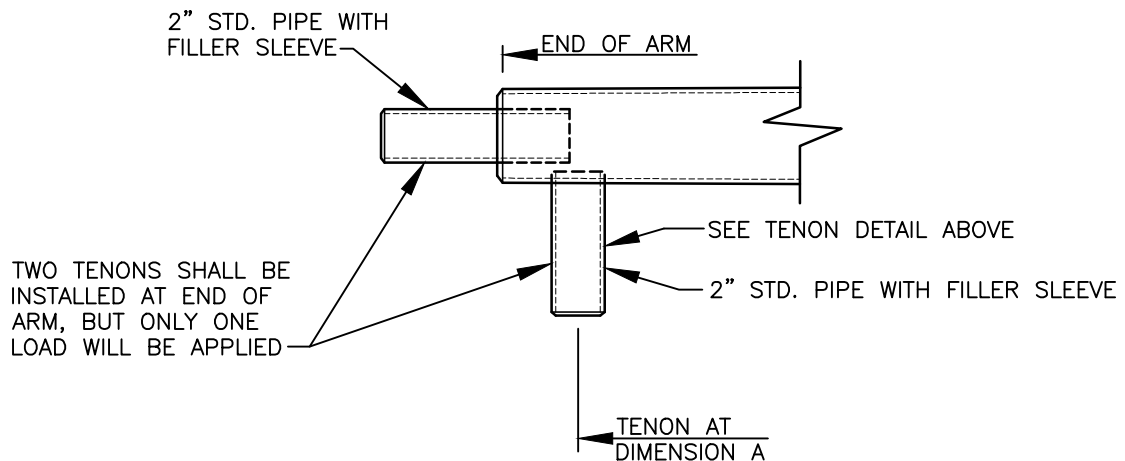
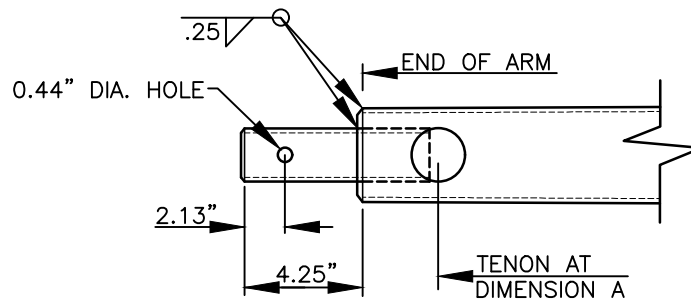
T20-12



COUPLING DETAIL



TENON DETAIL



NOTE:

ALL UNUSED TENONS SHALL BE COVERED WITH UV RESISTANT CAPS.

END OF ARM TENONS DETAIL

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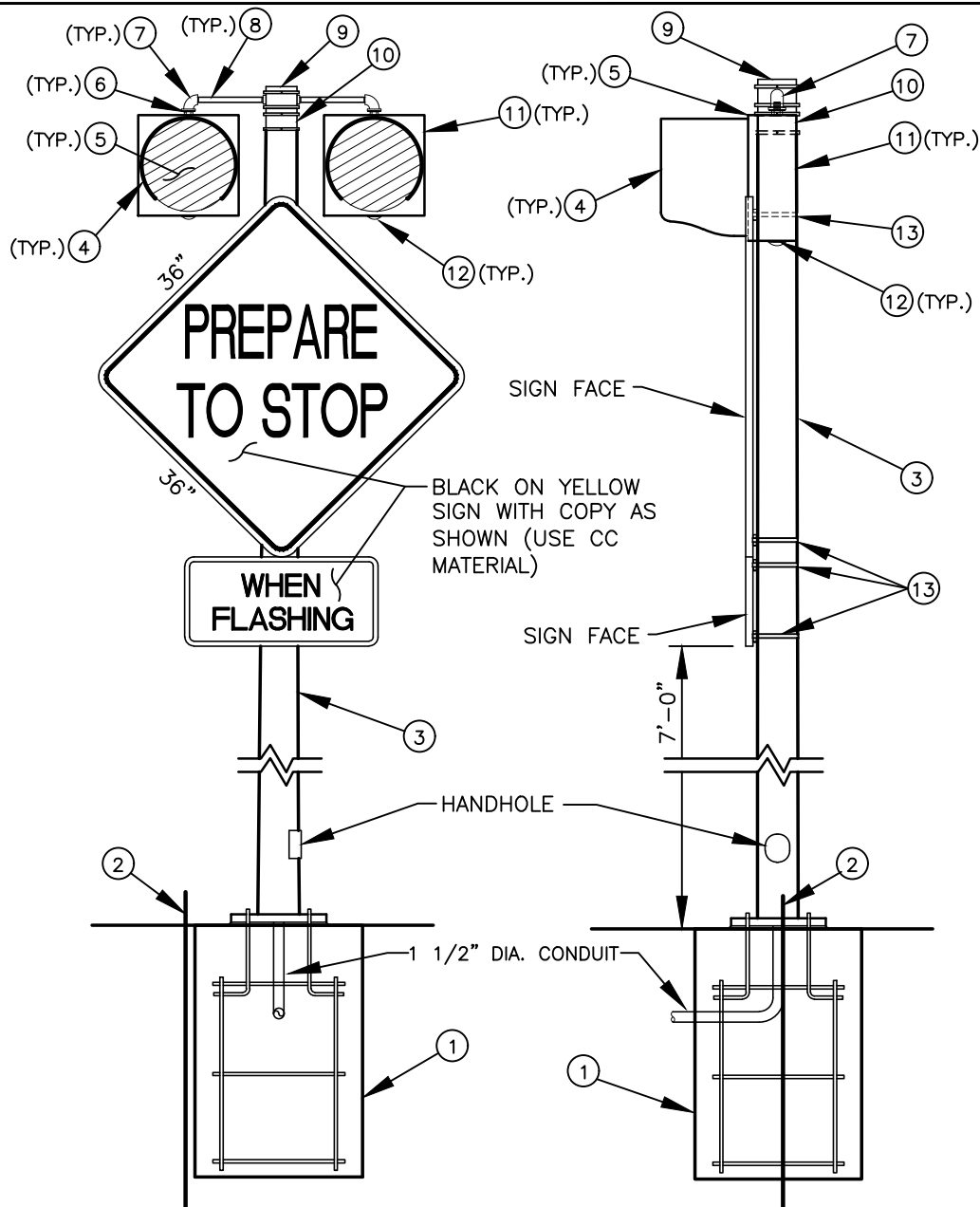
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5	7/19	RAW	CJC	
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END OF ARM
TENON AND
COUPLING CONNECTION

STANDARD PLAN
NUMBER
T20-13



NOTES:

- ① SEE TYPE PS, TYPE I AND TYPE PPB TRAFFIC SIGNAL POLE FOUNDATION DETAIL T20-16 AND SPECIFICATIONS FOR FOUNDATION INFORMATION.
- ② 8' GROUND ROD - CONNECT TO BASE.
- ③ CITY OF VANCOUVER TYPE I STANDARD (12'-6" IN LENGTH) OR EXISTING LIGHT STANDARD.
- ④ 1-WAY, 1-SECTION, 12" YELLOW LED MOUNTED ABOVE SIGN..
- ⑤ TUNNEL VISOR.
- ⑥ LOCKNIPPLE, 1 1/2" DIA. WITH GASKET, WASHER AND CONDUIT LOCKNUT.
- ⑦ SERRATED OR FLANGED ELBOW.
- ⑧ CONDUIT NIPPLE, 1 1/2" DIA.
- ⑨ TOP MOUNT SEE WSDOT DETAIL J-21.16.xx AND J-21.17.xx. IF SIGN IS MOUNTED ON LIGHT POLE USE MODIFIED TYPE K MOUNT.
- ⑩ SLIPFITTER.
- ⑪ ALUMINUM CASING.
- ⑫ END CAP.
- ⑬ MOUNTING BRACKET.

REFERENCES TO WSDOT STANDARD PLANS, USE THE MOST CURRENT VERSION OF THESE STANDARD PLANS.

REV NO.	DATE	BY	APPR	AGE
1	8/04	RAW		AGE
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6	9/21	RAW	CJC	

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AND TRANSPORTATION

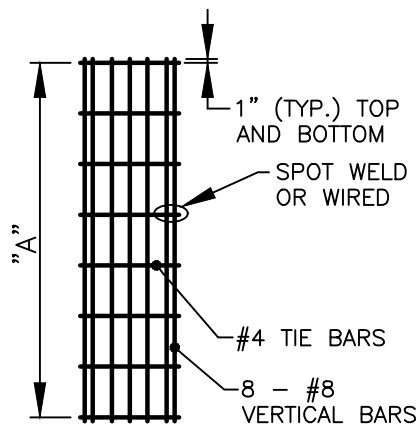
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SIGN AND
FLASHER ASSEMBLY

STANDARD PLAN
NUMBER

T20-14

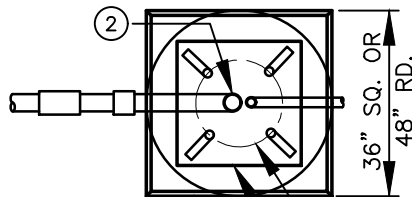


REBAR CAGE DETAIL

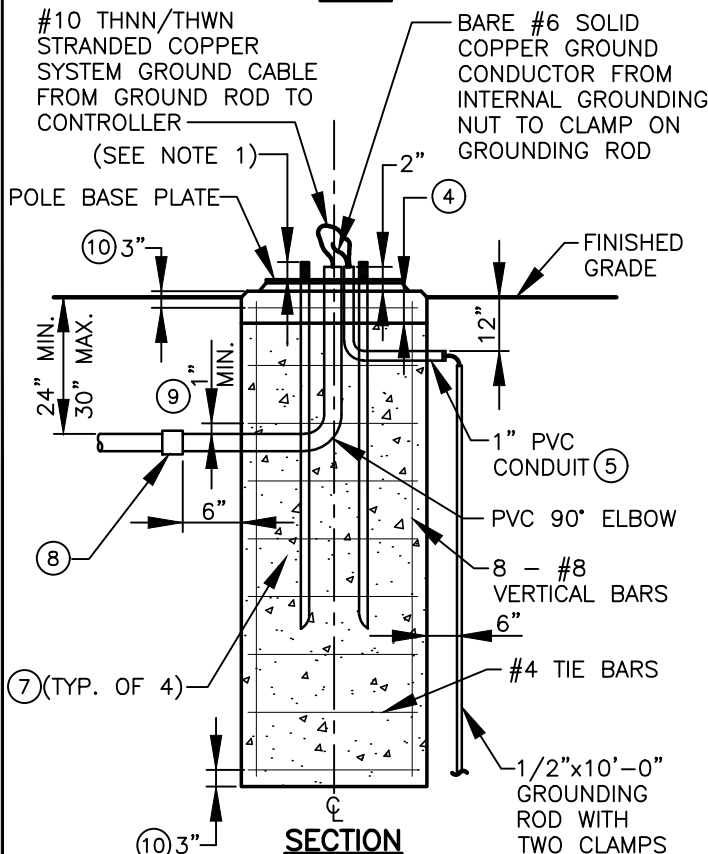
HORIZONTAL TIE BAR SHALL HAVE 15" MIN. LAP



VERTICAL REBAR	
POLE FOUNDATION DEPTH	LENGTH "A"
8'-0"	7'-8"
10'-0"	9'-8"
12'-0"	11'-8"
15'-0"	14'-8"



PLAN

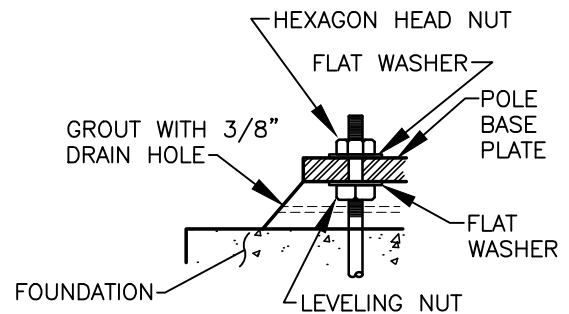


SECTION

TRAFFIC SIGNAL POLE BASE

REFERENCES TO WSDOT STANDARD PLANS, USE THE MOST CURRENT VERSION OF THESE STANDARD PLANS.

HORIZONTAL REBAR		
POLE FOUNDATION DIAMETER	REBAR CIR. "D"	SPACING
36"	30"	12" MAX. EXCEPT FOR 12'-0" AND 15'-0" BASE WHICH SHALL BE 9" MAX.
48"	40"	12" MAX. EXCEPT FOR 12'-0" AND 15'-0" BASE WHICH SHALL BE 9" MAX.



ANCHOR BOLT DETAIL

POLE BASE NOTES:

- 1 FINAL POLE ANCHOR, BOLT SIZE, ANCHOR BOLT FOUNDATION, AND BOLT CIRCLE SHALL BE AS PER MANUFACTURER'S RECOMMENDED PRACTICES.
- 2 ALL CONDUITS AND ANCHOR BOLTS SHALL BE RIGIDLY INSTALLED BEFORE CONCRETE IS PLACED. ANCHORS SHALL BE SPACED BY MEANS OF A FACTORY CERTIFIED TEMPLATE OR DRAWING. THE CENTER OF WHICH SHALL COINCIDE WITH THE CENTER OF THE BASE.
- 3 ALL CONCRETE POLE BASES SHALL BE CONSOLIDATED BY AN INTERNAL TYPE VIBRATOR.
- 4 FINAL 6" OF CONCRETE FOUNDATION (POLE CAP) SHALL BE FORMED SQUARE. FINAL TOP ELEVATION SHALL MATCH SIDEWALK.
- 5 PVC CONDUIT ELBOWS IN CONCRETE FOUNDATIONS SHALL BE CONNECTED TO PVC CONDUIT WITH PVC PIPE NIPPLE. ALL PVC CONDUIT AND ELBOWS PRIOR TO PVC PIPE NIPPLE SHALL BE CONSIDERED SUBSIDIARY TO THE TRAFFIC SIGNAL POLE BASE.
- 6 POLE BASE PLATE THICKNESS VARIES PER SIGNAL POLE SIZE.
- 7 ANCHOR BOLTS AND PLATE PER POLE MANUFACTURER. ANCHOR BOLT SHALL BE ACCURATELY LOCATED AND SECURED IN PLACE PRIOR TO POURING CONCRETE.
- 8 PVC COUPLING SHALL BE 4" MINIMUM OF THE 6" OUTSIDE FOUNDATION.
- 9 CONDUIT SHALL HAVE MINIMUM 1" CLEARANCE FROM REBAR AND ANCHOR BOLTS.
- 10 REBAR SHALL HAVE MINIMUM 3" COVER.
- 11 SEE WSDOT STANDARD PLAN J-26.10-XX FOR ADDITIONAL INFORMATION.

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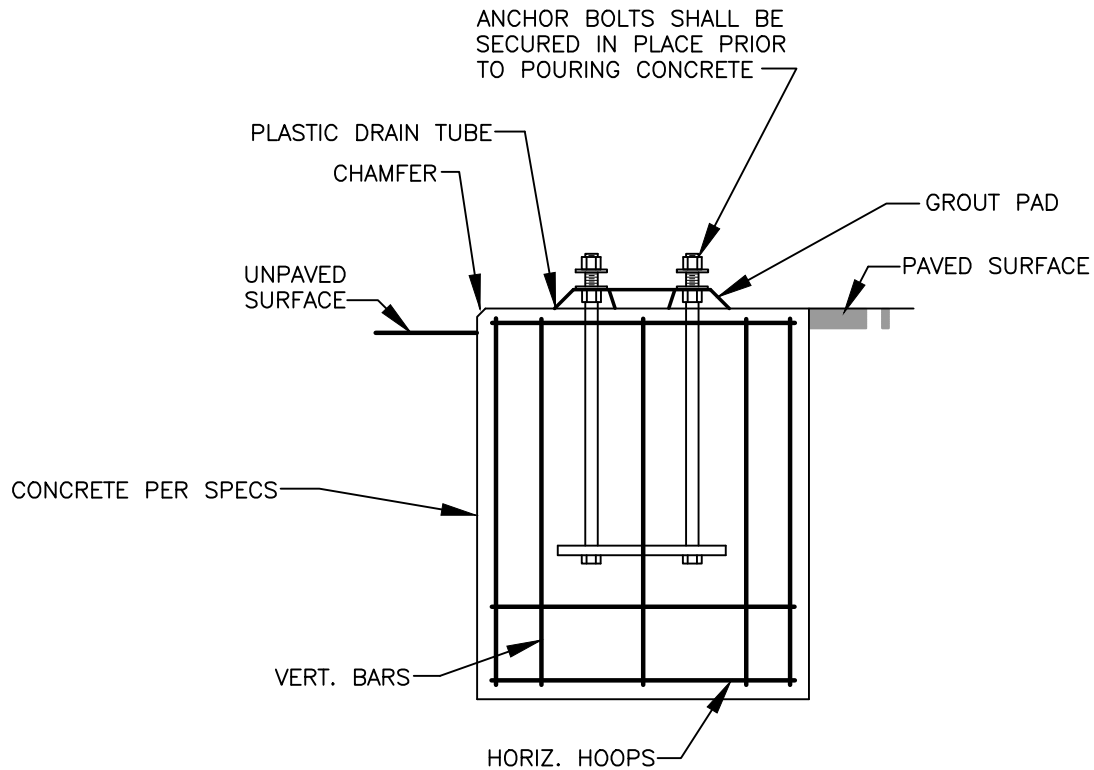
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TYPE II, TYPE III, TYPE B AND TYPE S TRAFFIC SIGNAL POLE FOUNDATION DETAIL

STANDARD PLAN NUMBER

T20-15



FOR TYPE PS AND TYPE I

REFER TO WSDOT STANDARD PLANS J-20.11 (SHEET 2), J-20.16 AND J-21.10 (SHEET 1).

FOR TYPE PPB:

REFER TO COV STANDARD PLAN T20-05 AND WSDOT STANDARD PLANS J-20.10 AND J-20.11 (SHEET 1).

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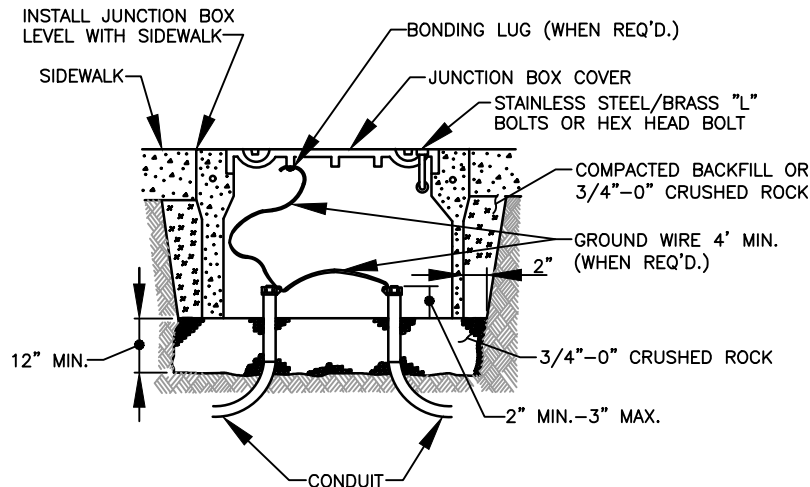
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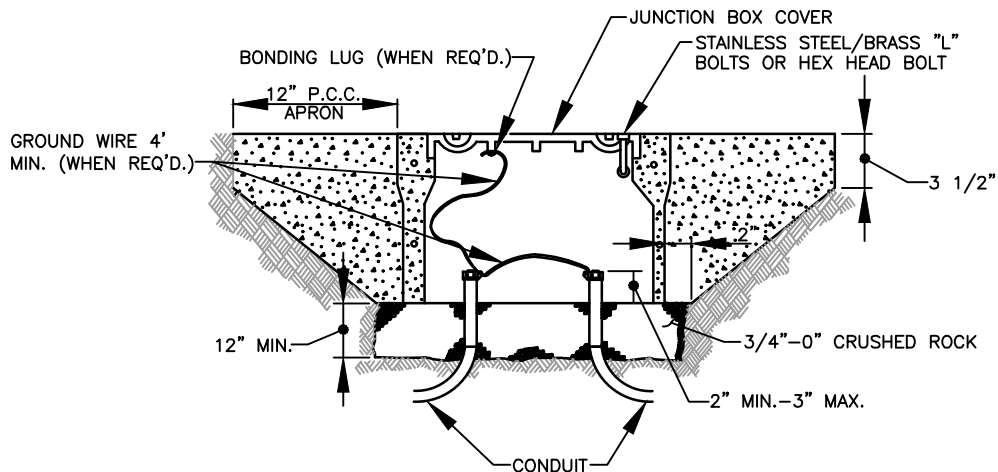
APPROVED DATE: 3/22/2022



TYPE PPB, TYPE PS AND TYPE I TRAFFIC SIGNAL POLE FOUNDATION	STANDARD PLAN NUMBER T20-16
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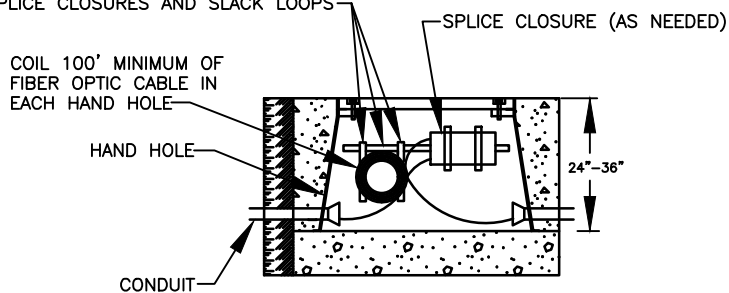


INSTALLATION IN SIDEWALK OR AT BACK OF CURB



**INSTALLATION WITH PORTLAND CEMENT CONCRETE APRON
(FOR INCIDENTAL TRAVEL AREAS ONLY; GRAVEL SHOULDERS, BEHIND GUARDRAIL, ETC.)**

FRAMING CHANNEL SHALL BE GALVANIZED STEEL UNISTRUT P1000 OR EQUIVALENT. FRAMING CHANNEL IS FOR MOUNTING OF SPLICE CLOSURES AND SLACK LOOPS



INSTALLATION OF HAND HOLE

TYPE	L	W	D	TYPE	L	W	D
JB1	17"	10"	12"	HH-1	24"	30"	24"
JB2	22"	12"	12"	HH-2	30"	48"	24"
JB3	30"	17"	12"	HH-3	30"	48"	36"

JUNCTION BOX/HAND HOLE DIMENSION TABLE

NOTES:

USE STAINLESS STEEL/BRASS BOLTS OR HEX HEAD BOLTS TO SECURE LID.

ALL CONCRETE TO HAVE A FINISHED PROFESSIONAL APPEARANCE IN ACCORDANCE WITH WSDOT SPECIFICATION 8-14 CEMENT CONCRETE SIDEWALKS.

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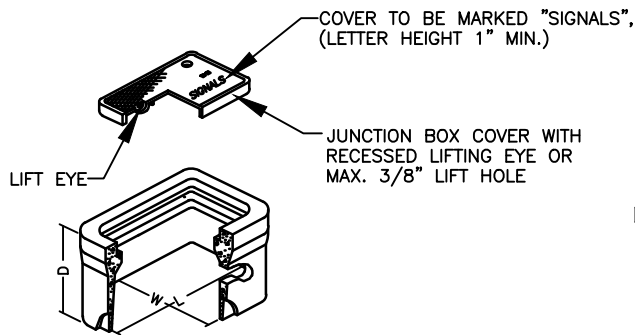
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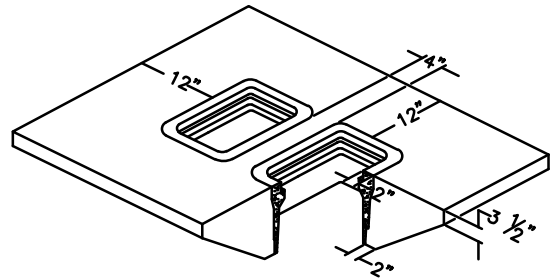
**JUNCTION BOX
AND HAND
HOLE BOX**

**STANDARD PLAN
NUMBER**

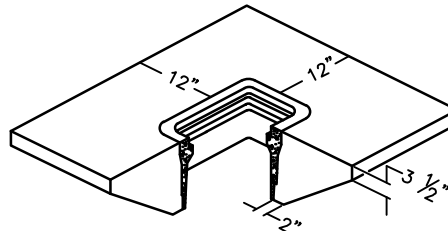
T20-17A



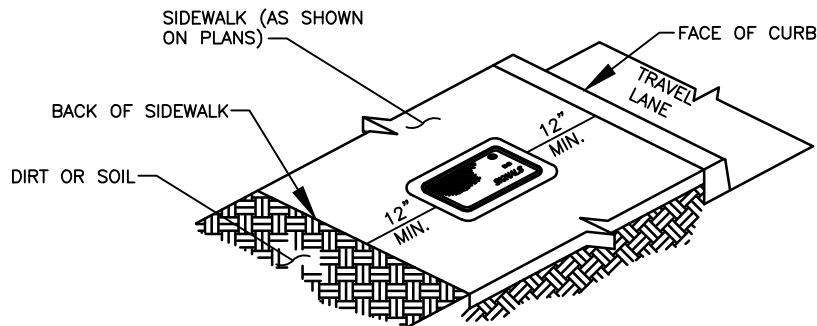
JUNCTION BOX OR PULL BOX
NOT TO BE USED IN TRAVEL LANES, SHOULDERS OR AREAS EXPOSED TO TRAFFIC. FOR LOCATION AND JUNCTION BOX DIMENSIONS (T20-17A), SEE PLANS.



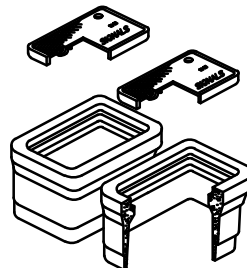
**PORTLAND CEMENT CONCRETE APRON
FOR TANDEM JUNCTION BOXES (NO CONDUIT BETWEEN)**
(APPROX. 10FT³ CONCRETE IN NEAT SECTION)



PORTLAND CEMENT CONCRETE APRON
(APPROX. 7FT³ CONCRETE IN NEAT SECTION)



JUNCTION BOX AND PULL BOX PLACEMENT WITHIN SIDEWALKS
(JUNCTION BOXES TO BE LOCATED ONLY IN FLAT AREAS OF SIDEWALKS, CONCRETE JUNCTION BOXES ARE NOT TO BE INSTALLED IN SLOPES OF RAMPS OR DRIVEWAYS)



TANDEM JB/3 JUNCTION BOXES
NOT TO BE USED IN TRAVEL LANES, SHOULDERS OR AREAS EXPOSED TO TRAFFIC. FOR LOCATION, SEE PLANS.

I:\CITYAPPS\AUTOCAD\STD_DETAILS\DRAWING_FILES\T20-17B

REV NO.	DATE	BY	APPR	PUBLIC WORKS – STREETS AND TRANSPORTATION
1	2/21	OIS	CJC	
2	9/21	RAW	CJC	

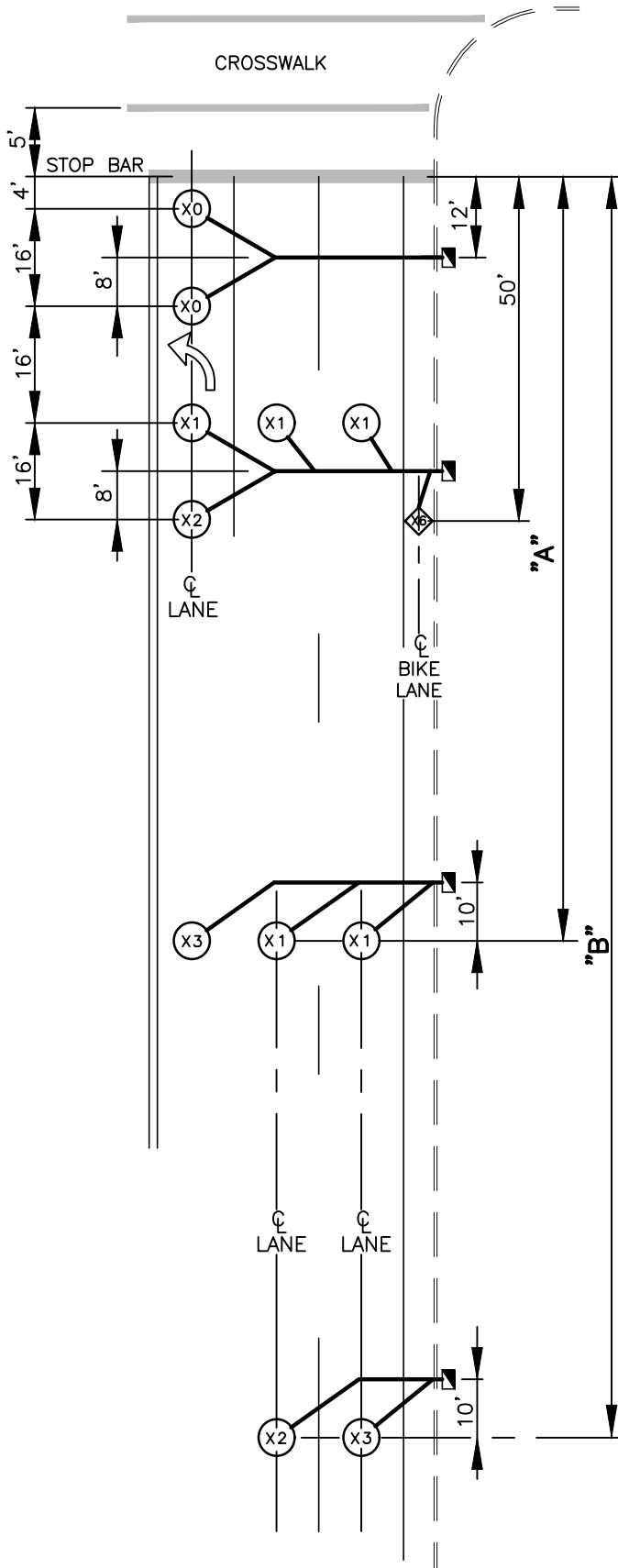
APPROVED BY: 
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021



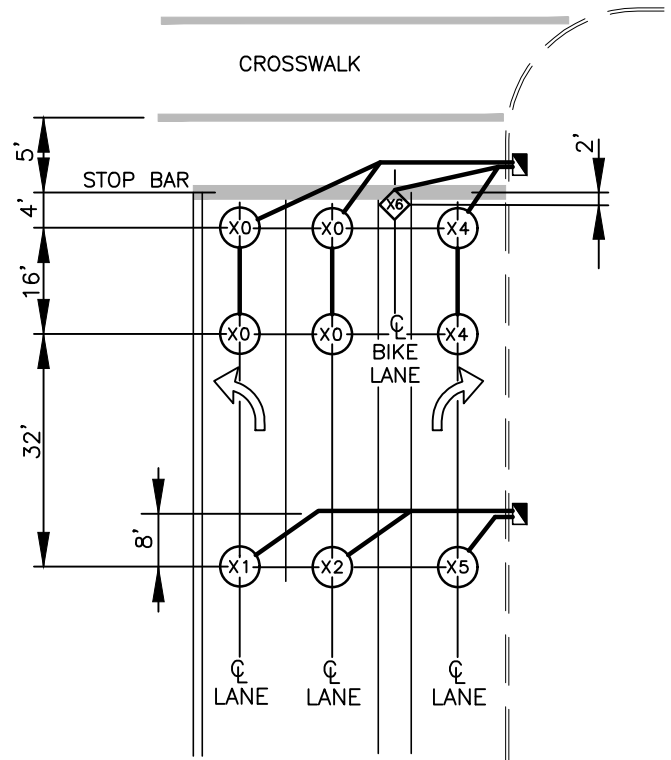
JUNCTION BOX/
HAND HOLE
BOX APRON

STANDARD PLAN
NUMBER
T20-17B

MAJOR STREET



MINOR STREET



SPEED (MPH)	LOOP DETECTOR SPACING (FT.) DIMENSION	
	"A"	"B"
25	110	180
30	180	280
35	200	310
40	220	350
45	270	420
≥50	300	460

NOTES:

- SEE LOOP INSTALLATION PLAN FOR EXACT DIMENSION AND LOCATIONS.
- "X" REPRESENTS PHASE NUMBER.
- NO MORE THAN 3 SAWCUTS INTO A STUB OUT. MAXIMUM 4 WIRES IN EACH SAWCUT.
- PHASES 2 AND 5 ALWAYS EASTBOUND.
- LEFT TURN "X3" DETECTOR ONLY NECESSARY IF LEFT TURN LANE STORAGE LENGTH MEETS THE SPACING REQUIREMENTS.

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REV NO.	DATE	BY	APPR	AGE
1	3/08	RAW	AGE	
2	2/07	RAW	AGE	
3	8/08	RAW	AGE	
4	7/14	RAW	CJC	
5	4/18	RAW	CJC	
6	9/21	RAW	AGE	

PUBLIC WORKS – STREETS
AND TRANSPORTATION

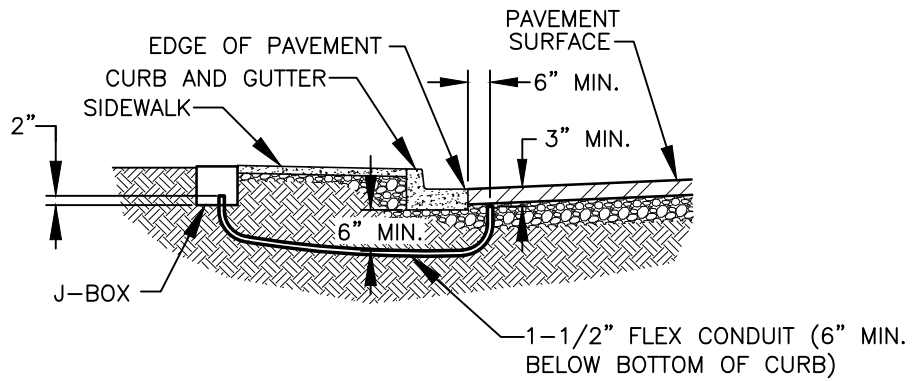
APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021

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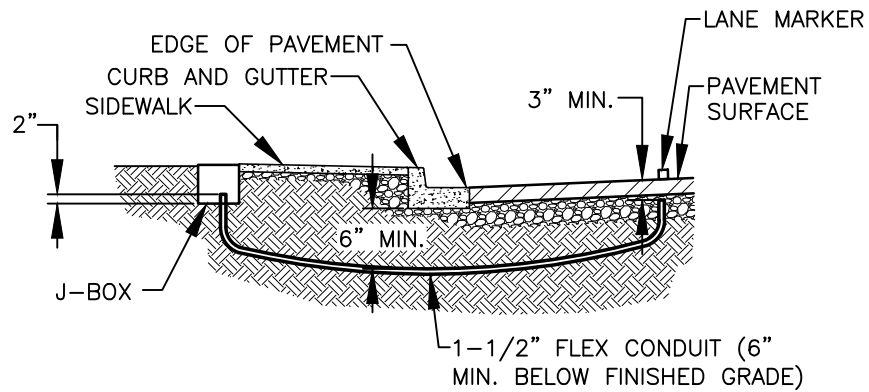
TYPICAL DETECTOR
LAYOUT

STANDARD PLAN
NUMBER

T20-30



LOOP STUB-OUT DETAIL



LANE LOOP STUB-OUT DETAIL

I:\CITYAPPS\AUTOCAD\STD_DETAILS\DRAWING_FILES\T20-31

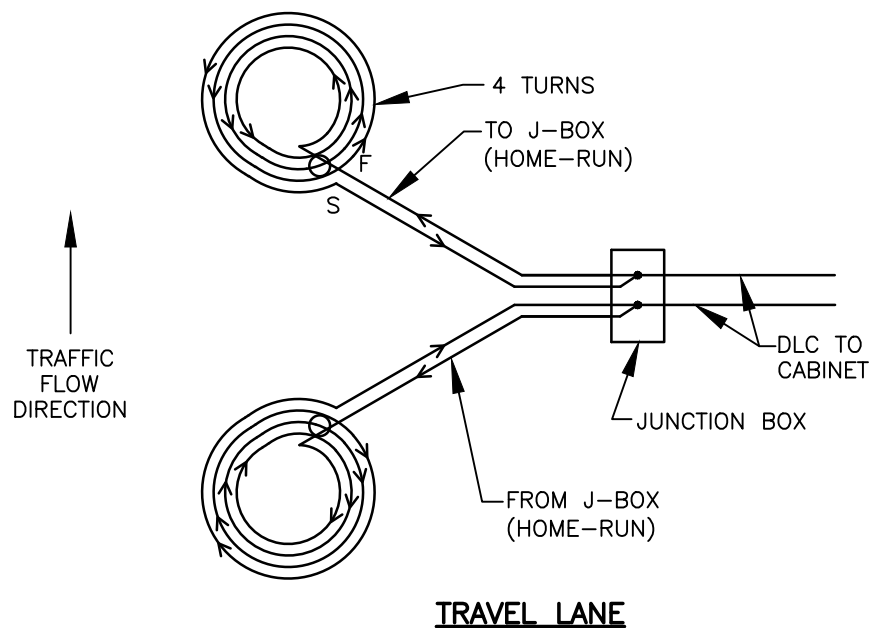
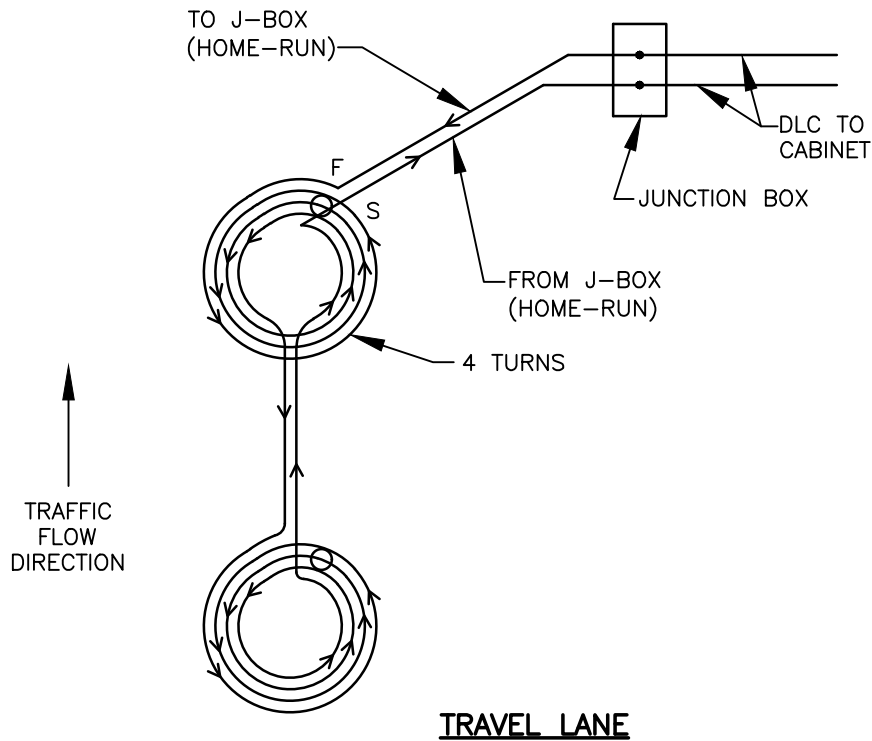
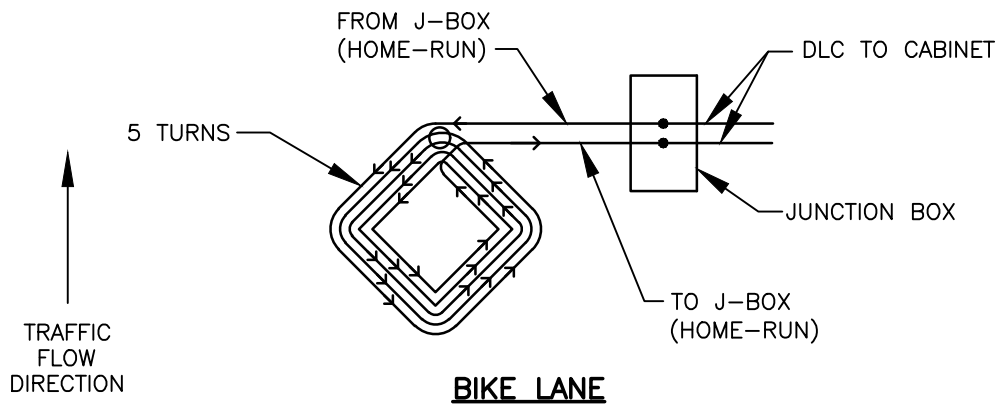
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3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
5	1/15	RAW	CJC	
6	9/21	RAW	AGE	

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021



LOOP CONSTRUCTION
DETAILS

STANDARD PLAN
NUMBER
T20-31



I:\CITYAPPS\AUTOCAD\STD_DETAILS\DRAWING_FILES\T20-32

REV NO.	DATE	BY	APPR	AGE
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2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
5	1/15	RAW	CJC	
6	9/21	RAW	CJC	

PUBLIC WORKS - STREETS AND TRANSPORTATION

APPROVED BY: *[Signature]*

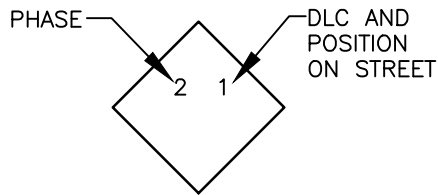
TRAFFIC ENGINEER MANAGER

APPROVED DATE: 9/1/2021

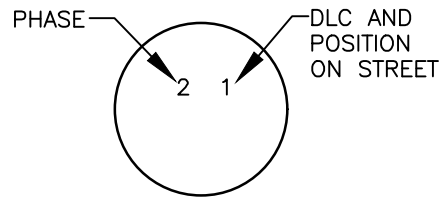
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DETECTOR LOOP
WINDING DETAILS

STANDARD PLAN
NUMBER
T20-32

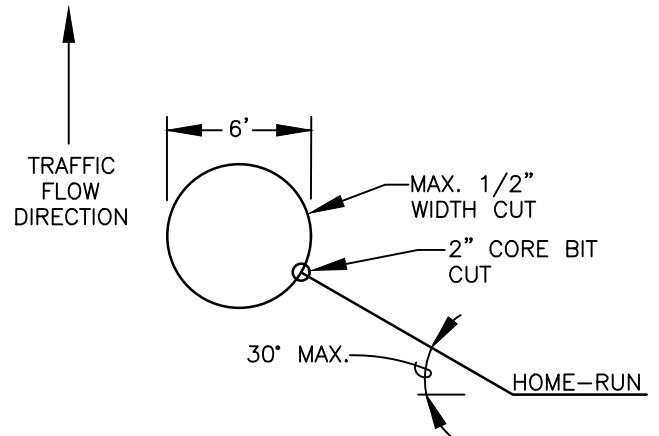
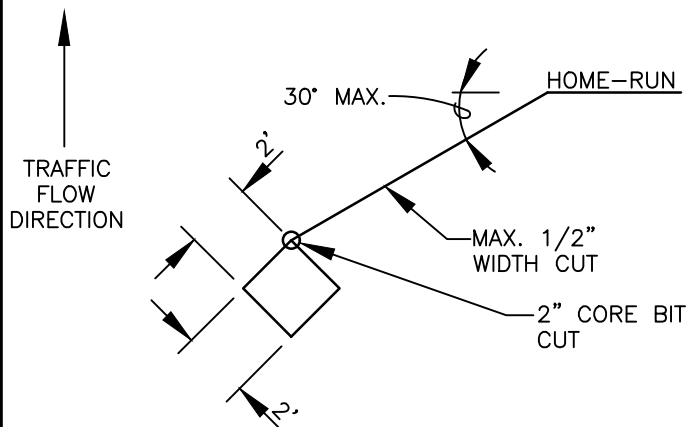


BIKE LANE

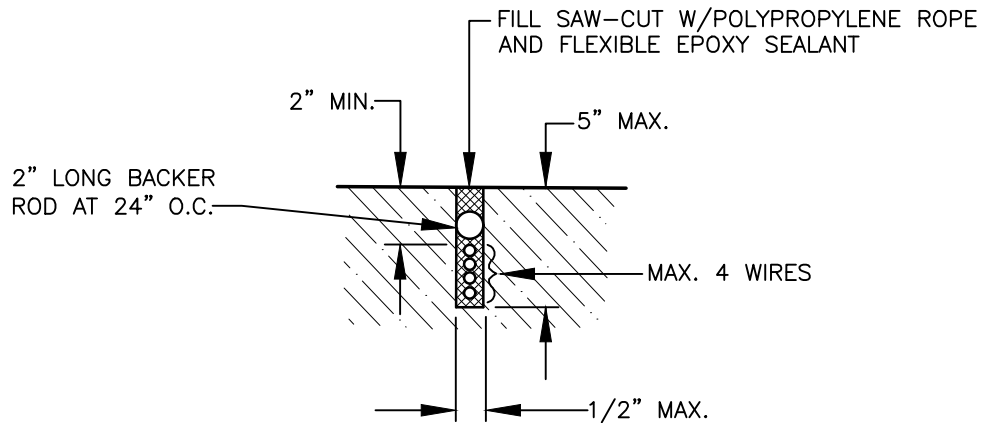


TRAVEL LANE

LOOP NUMBERING



LOOP DETECTOR CONFIGURATION



SAWCUT DETAIL

I:\CITYAPPS\AUTOCAD\STD_DETAILS\DRAWING_FILES\T20-33

REV NO.	DATE	BY	APPR	AGE
1	8/04	RAW	AGE	
2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
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6	9/21	RAW	CJC	

PUBLIC WORKS – STREETS AND TRANSPORTATION

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER

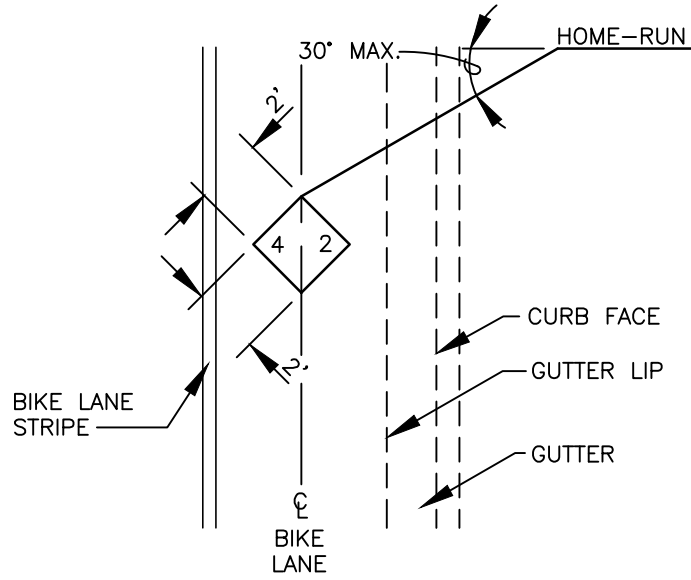
APPROVED DATE: 9/1/2021

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WASHINGTON

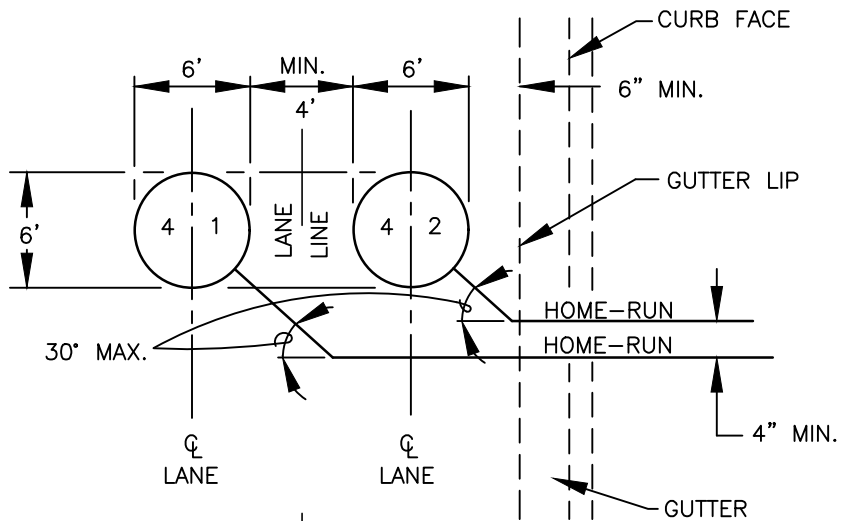
LOOP NUMBERING
LOOP DETECTOR CONFIGURATION
AND SAWCUT DETAILS

STANDARD PLAN
NUMBER
T20-33

I:\CITYAPPS\AUTOCAD\STD_DETAILS\DRAWING_FILES\T20-34



BIKE LANE



TRAVEL LANE

REV NO.	DATE	BY	APPR	PUBLIC WORKS - STREETS AND TRANSPORTATION
1	8/04	RAW	AGE	
2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
5	1/15	RAW	CJC	
6	9/21	RAW	CJC	

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021

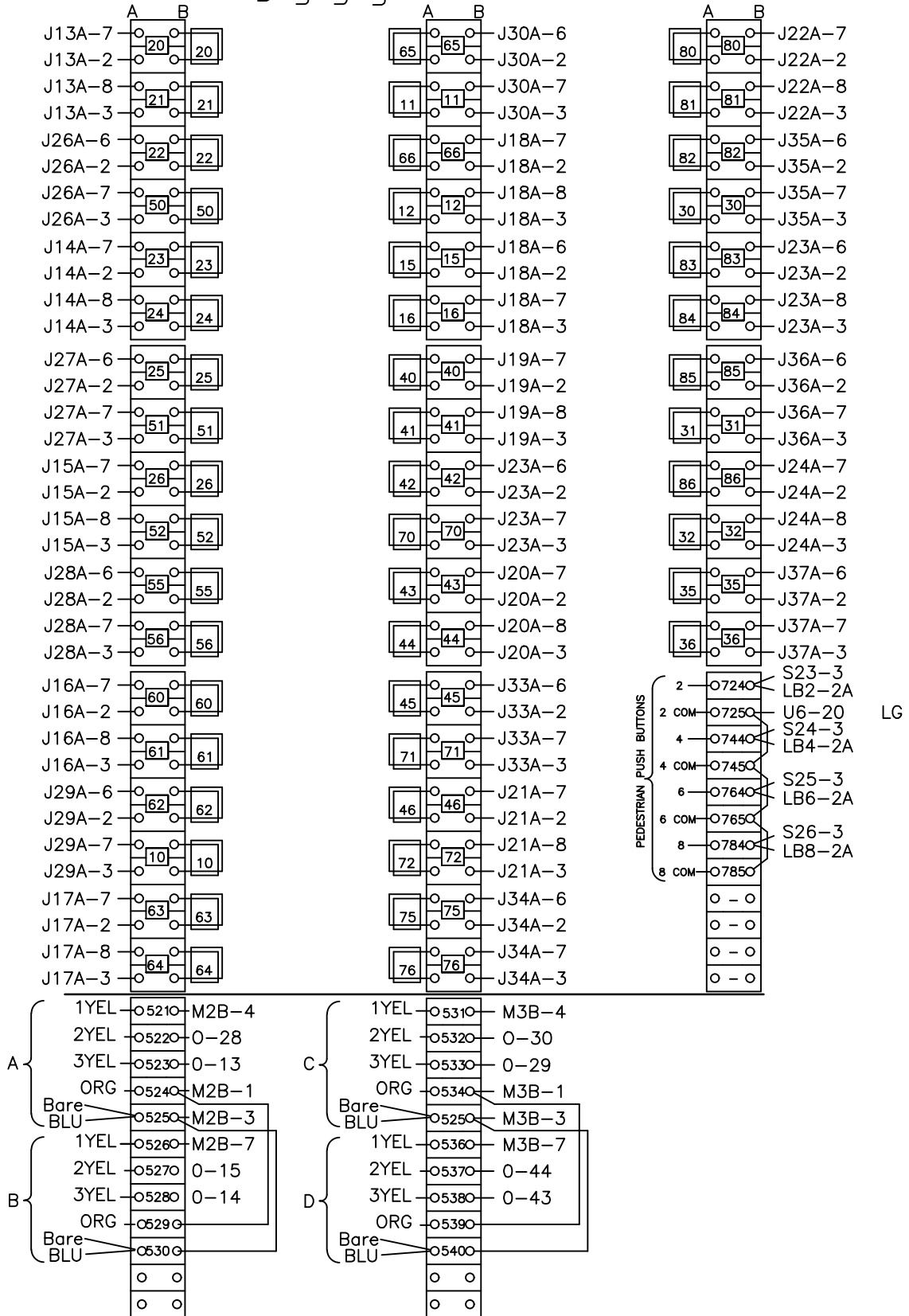


DETECTOR LOOP
POSITION DETAILS

STANDARD PLAN
NUMBER
T20-34

A	B	C	D	EVP CCB	
24-4	24-5	37-4	37-5	CALL	CCB J#-#
1	2	3	4	5	6
1	2	3	4	A25	Terminal #
A=U12; B=U13					

U8-1
U8-2
U8-3
U8-4



AC- GB1 ISOLATED DFTF

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REV NO.	DATE	BY	APPR	AGE
1	1/05	RAW	AGE	
2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
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6	9/21	RAW	CJC	

PUBLIC WORKS - STREETS AND TRANSPORTATION

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER

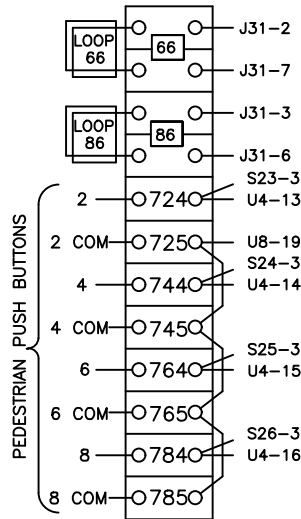
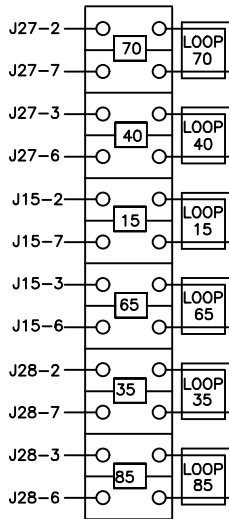
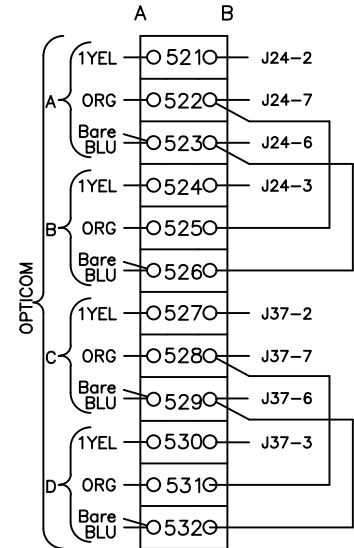
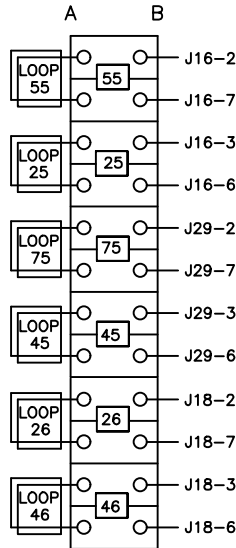
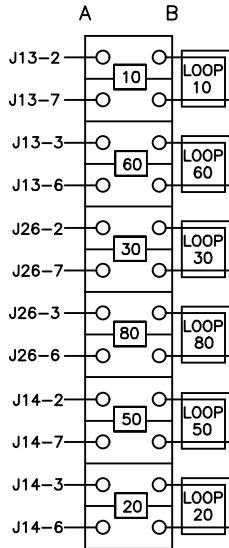
APPROVED DATE: 9/1/2021



INPUT TERMINAL FOR
"P" CABINET DETECTION
PANEL ASSEMBLY

STANDARD PLAN
NUMBER
T20-35A

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AC-

REV NO.	DATE	BY	APPR	AGE
1	1/05	RAW	AGE	
2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
5	1/15	RAW	CJC	
6	9/21	RAW	CJC	

PUBLIC WORKS - STREETS AND TRANSPORTATION

APPROVED BY: *[Signature]*

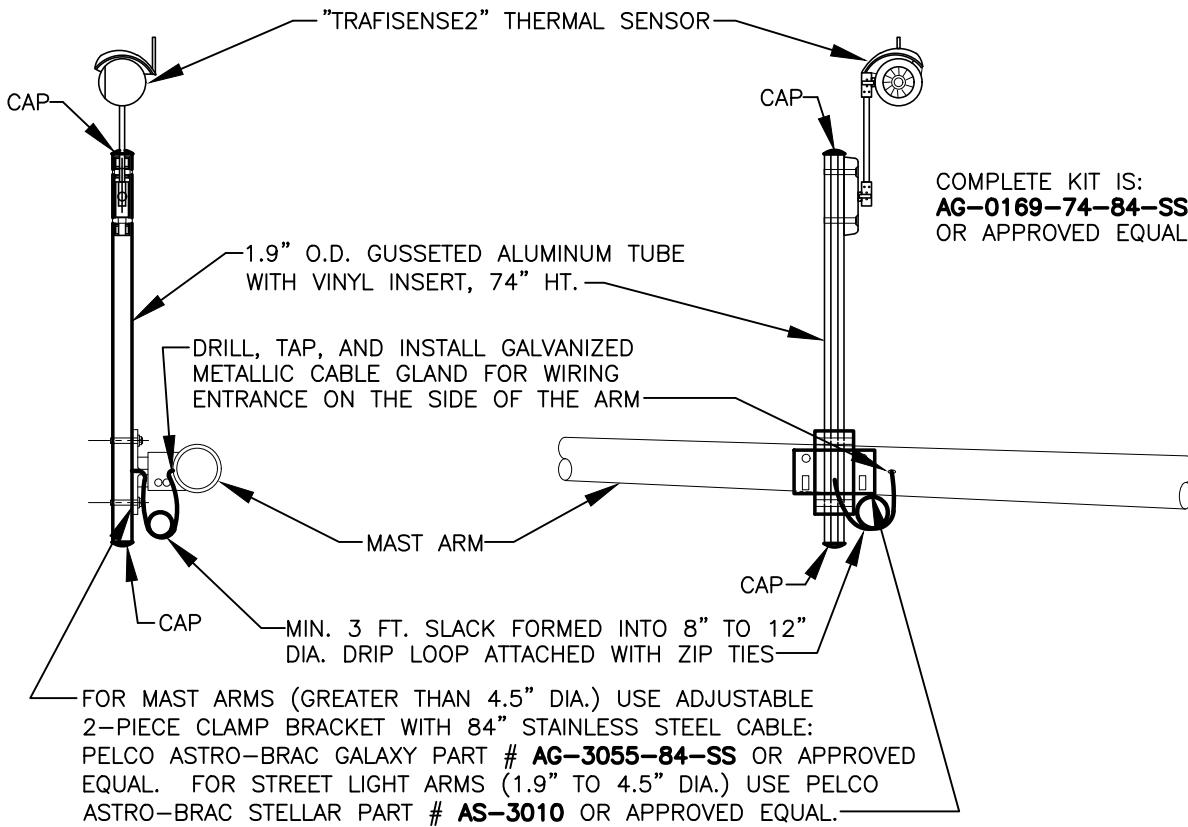
TRAFFIC ENGINEER MANAGER

APPROVED DATE: 9/1/2021

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INPUT TERMINAL FOR
"MSX" CABINET DETECTION
PANEL ASSEMBLY

STANDARD PLAN
NUMBER
T20-35B



SIDE VIEW

FRONT VIEW

NOTES:

1. ALL HARDWARE FASTENERS SHALL BE STAINLESS STEEL UNLESS OTHERWISE APPROVED.
2. THE INSTALLATION OF THE SENSOR AND THE BRACKET MOUNT SHALL BE PER THE MANUFACTURER RECOMMENDATIONS.
3. THE LOCATION ON THE ARM SHALL BE PER THE PLANS.
4. SENSOR SHOULD NOT BE MOUNTED WITHIN 12 INCHES OF STREET LIGHT FIXTURE.

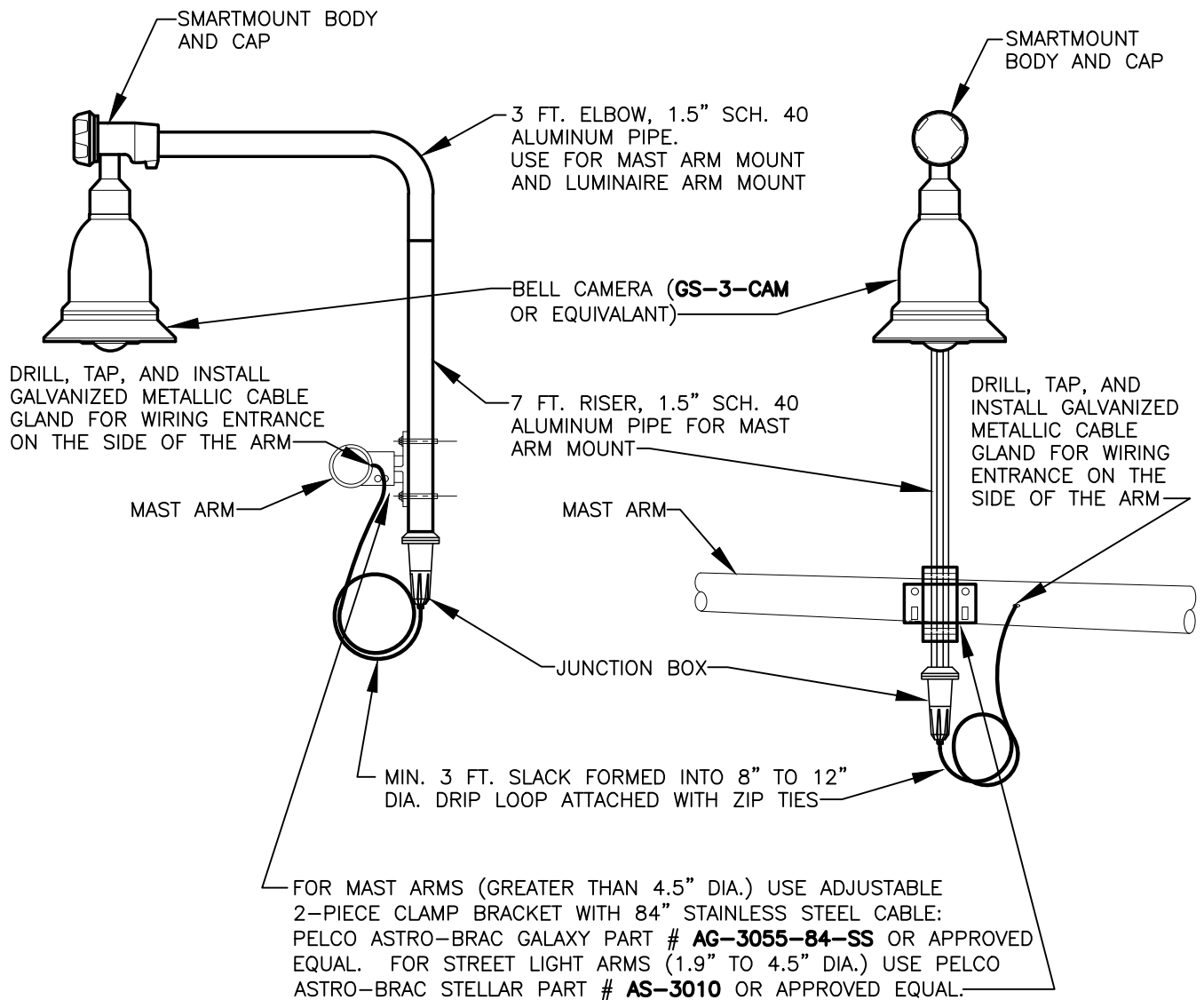
REV NO.	DATE	BY	APPR	PUBLIC WORKS – STREETS AND TRANSPORTATION
1		RAW	CJC	

APPROVED BY: _____
 TRAFFIC ENGINEER MANAGER
 APPROVED DATE: _____



THERMAL SENSOR FLIR
 INSTALLATION
 ON MAST ARM

STANDARD PLAN
 NUMBER
 T20-37B



SIDE VIEW

FRONT VIEW

NOTES:

1. MOUNT LOCATION PER PLANS.
2. MAST ARM MOUNT: SMARTMOUNT PART # **GS-3-SMK**.
3. LUMINAIRE ARM MOUNT: SMARTMOUNT PART # **GS-3-SMK-L**.

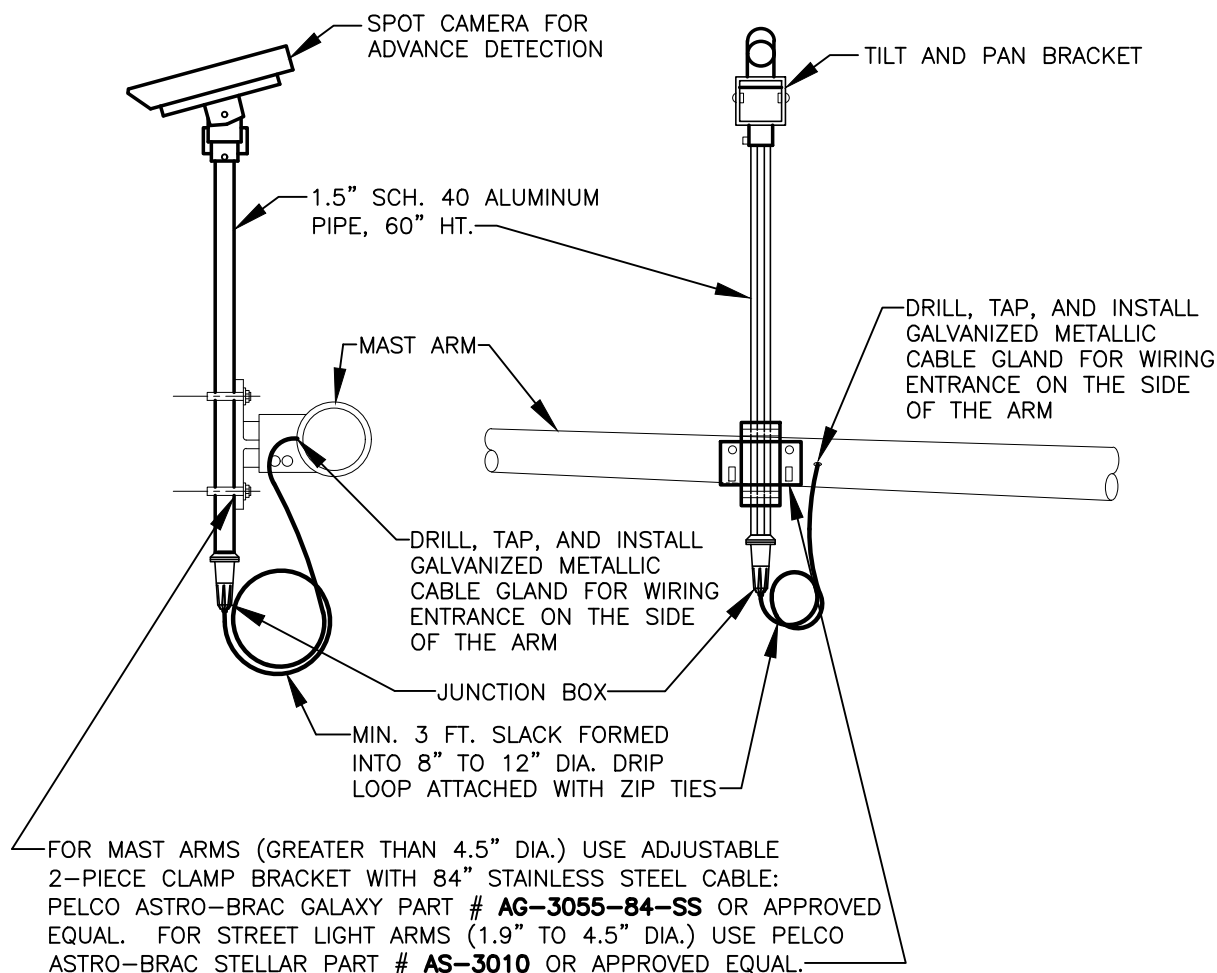
REV NO.	DATE	BY	APPR	PUBLIC WORKS – STREETS AND TRANSPORTATION
1	4/18	RAW	CJC	
2	9/21	RAW	CJC	
3		RAW	CJC	

APPROVED BY: _____
TRAFFIC ENGINEER MANAGER
APPROVED DATE: _____



GRIDSMART BELL CAMERA
INSTALLATION

STANDARD PLAN
NUMBER
T20-37D



SIDE VIEW

FRONT VIEW

NOTES:

1. PART # GS-3-SMA (OR APPROVED EQUAL). INCLUDES CAMERA, POLE AND JUNCTION BOX.
2. THE INSTALLATION OF THE SENSOR AND THE BRACKET MOUNT SHALL BE PER THE MANUFACTURER RECOMMENDATIONS.
3. THE LOCATION ON THE ARM SHALL BE PER THE PLANS.
4. CAMERA SHOULD NOT BE MOUNTED WITHIN 1 FT. OF STREET LIGHT FIXTURE.
5. ALL HARDWARE SHALL BE STAINLESS STEEL UNLESS OTHERWISE APPROVED.

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REV NO.	DATE	BY	APPR
1		RAW	CJC

PUBLIC WORKS – STREETS
AND TRANSPORTATION

APPROVED BY: _____
TRAFFIC ENGINEER MANAGER

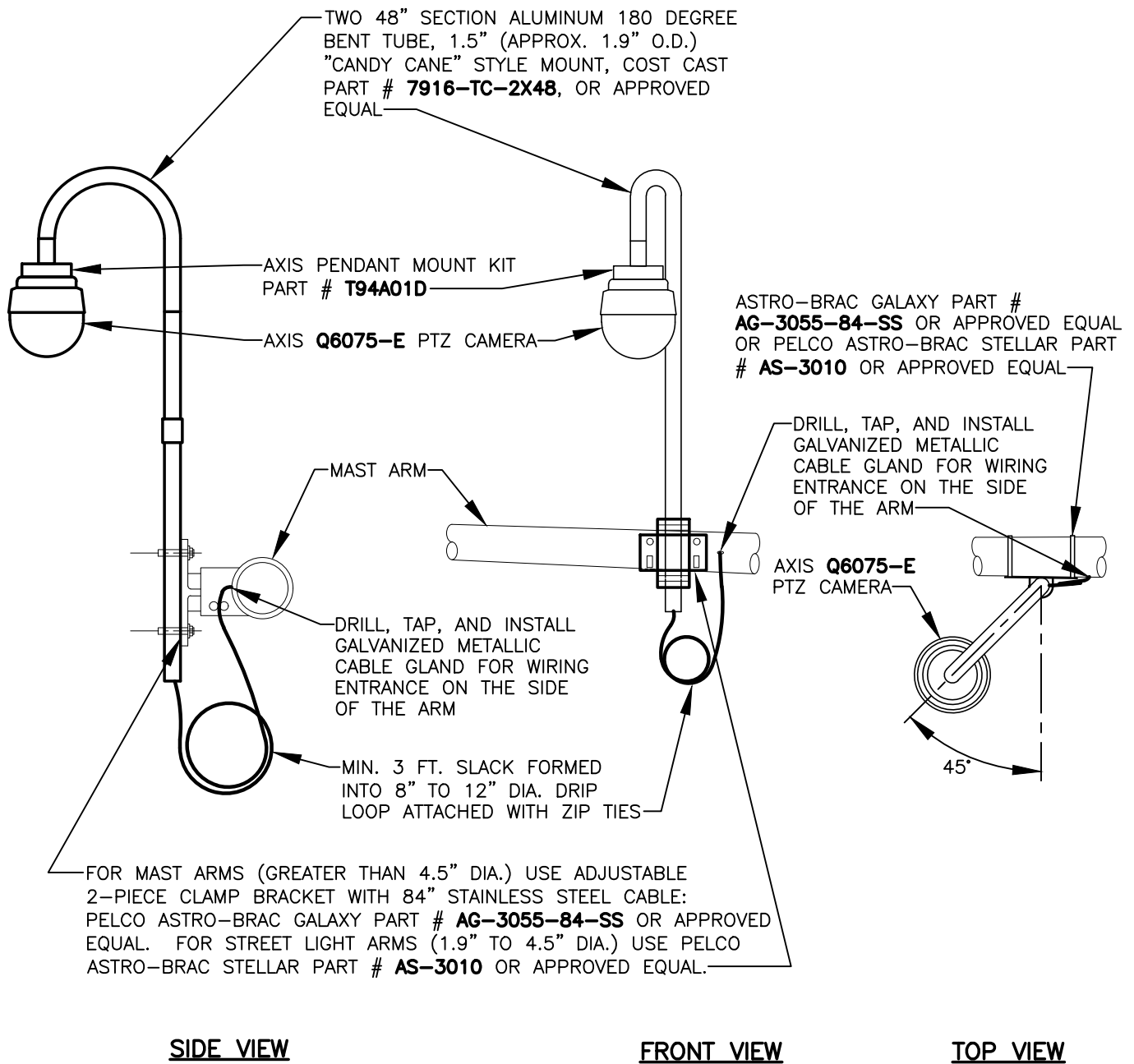
APPROVED DATE: _____



GRIDSMART
ADVANCE CAMERA
INSTALLATION

STANDARD PLAN
NUMBER

T20-37E



NOTES:

1. MOUNT LOCATION PER PLANS.

REV NO.	DATE	BY	APPR
1		RAW	CJC

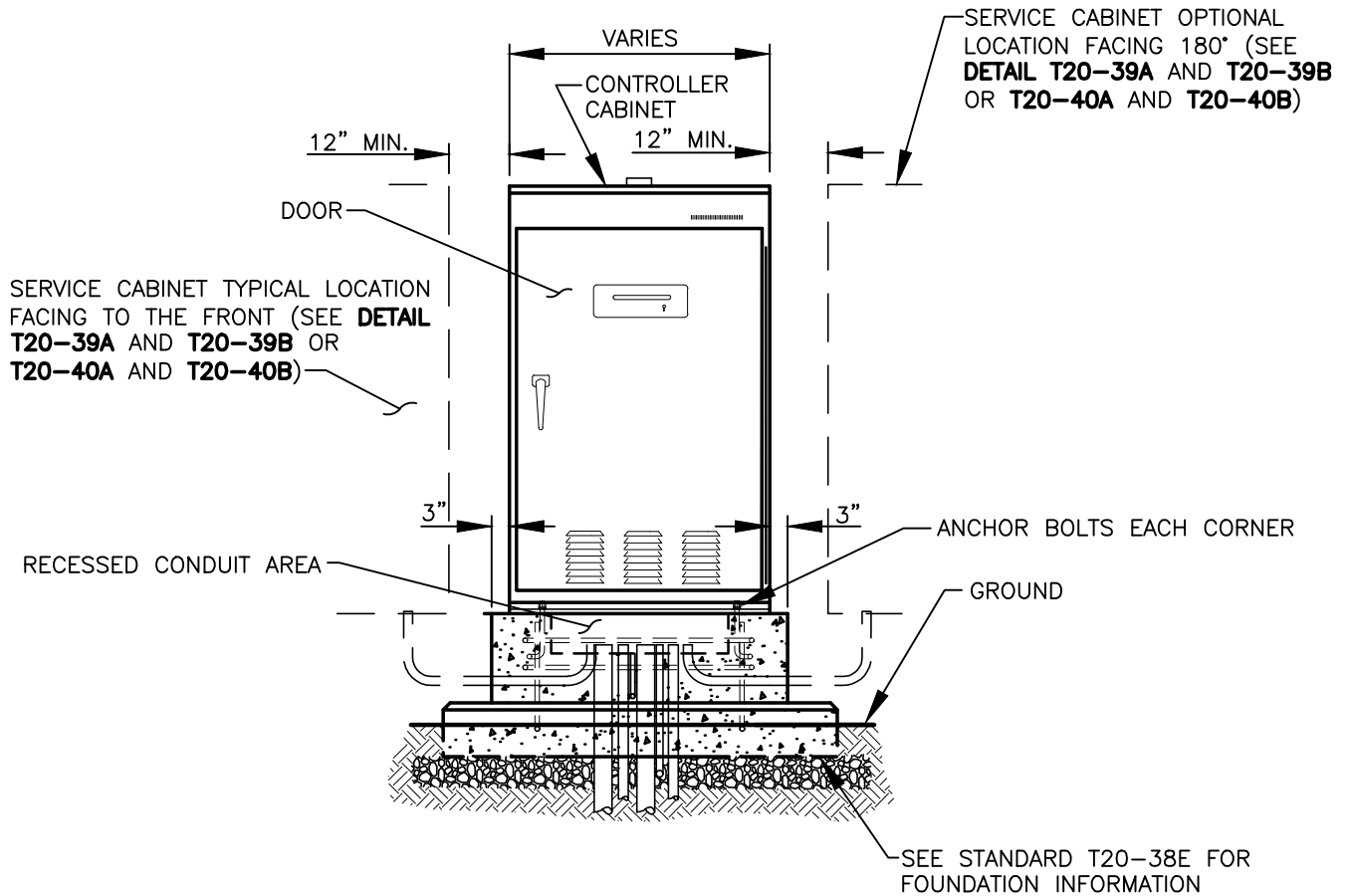
PUBLIC WORKS – STREETS AND TRANSPORTATION

APPROVED BY: TRAFFIC ENGINEER MANAGER

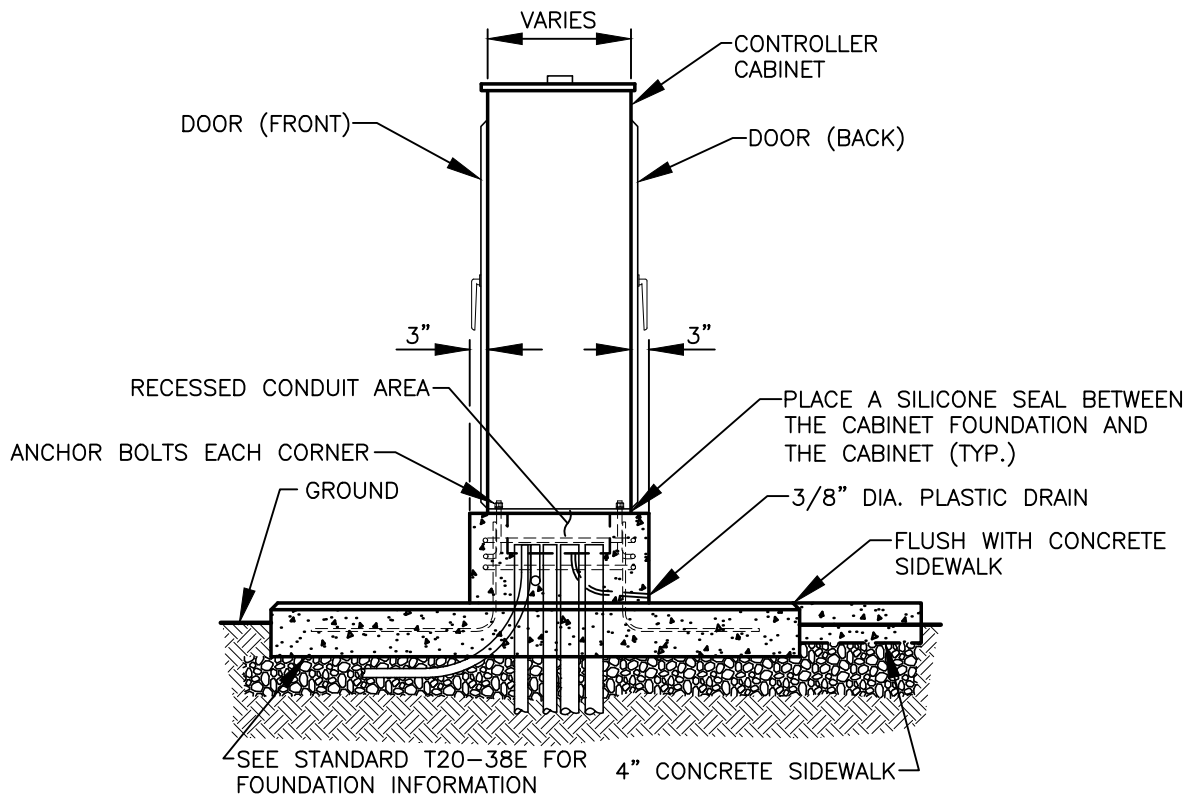
APPROVED DATE: _____



PTZ CAMERA INSTALLATION	STANDARD PLAN NUMBER T20-37F
-------------------------	---------------------------------



FRONT AND BACK VIEW (SECTION A-A)



SIDE VIEW (SECTION B-B)

SEE STANDARD T20-38E
FOR PLAN VIEW

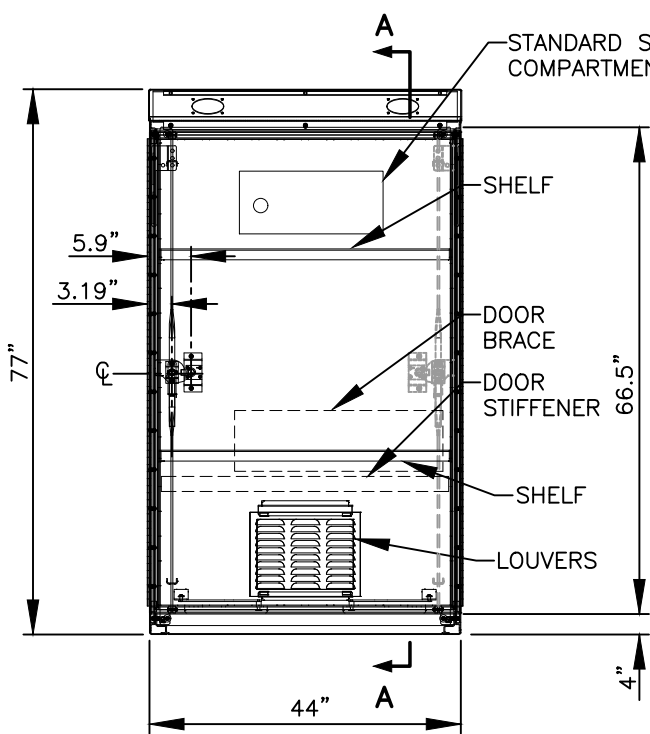
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REV NO.	DATE	BY	APPR	PUBLIC WORKS - STREETS AND TRANSPORTATION
1	3/17	RAW	CJC	
2	4/18	RAW	CJC	
3	9/21	RAW	CJC	
APPROVED BY: <i>[Signature]</i>				TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021				

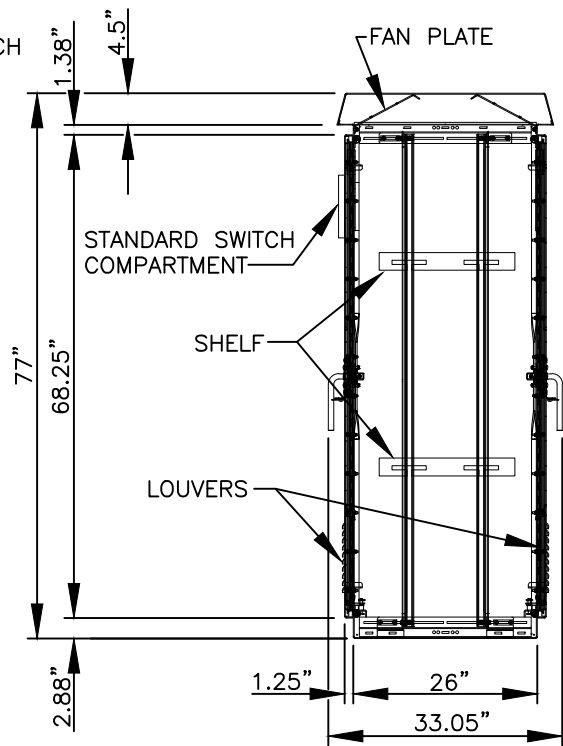
CITY OF
Vancouver
WASHINGTON

TYPICAL FRONT AND
BACK DOOR CABINET
PAD INSTALLATION DETAILS

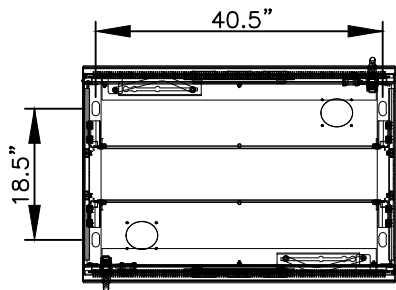
STANDARD PLAN
NUMBER
T20-38B



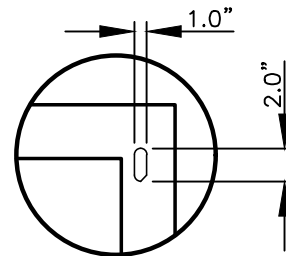
FRONT



SECTION A-A

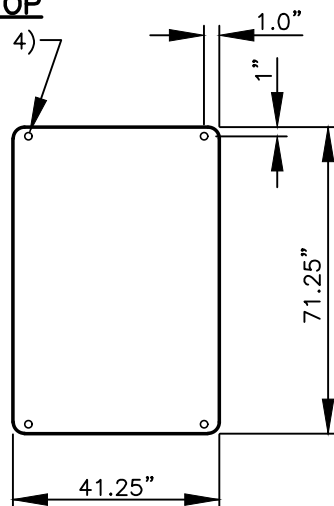


TOP

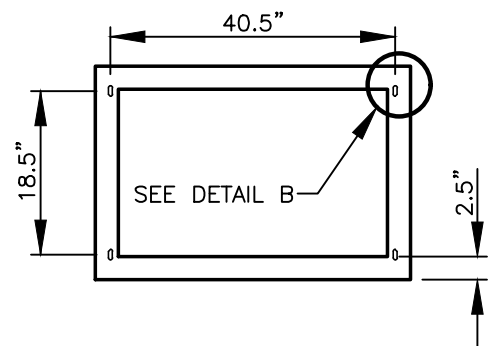


DETAIL B

0.312" DIA. HOLE (TYP. 4)



ALUMINUM CENTER PANELS



PAD MOUNTING PATTERN

NOTE:

1. FRONT AND BACK DOOR "P" CABINET PART NO. FR443624, CITY OF VANCOUVER SPECIFICATIONS, MANUFACTURED BY APX ENCLOSURE, INC. OR APPROVED EQUAL.

REV NO.	DATE	BY	APPR
1	3/17	RAW	CJC
2	9/21	RAW	CJC

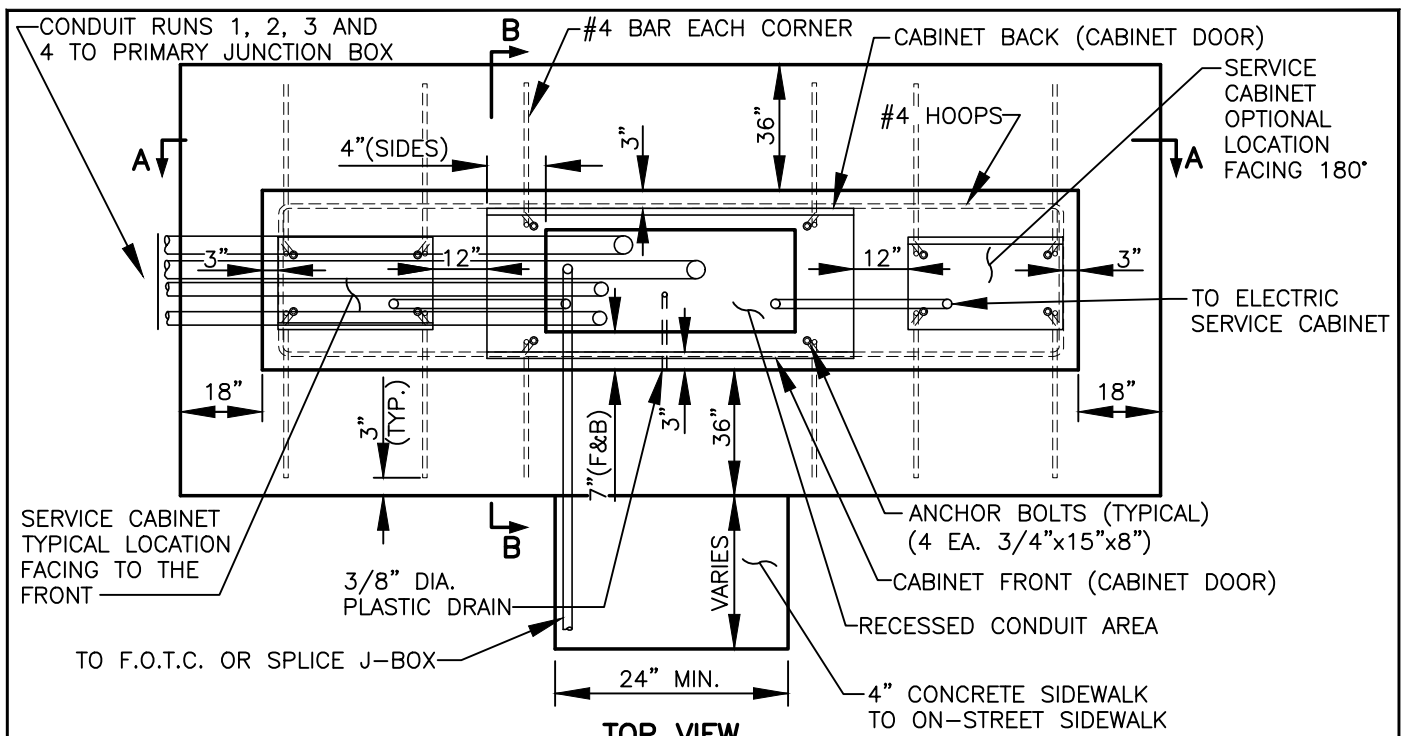
PUBLIC WORKS – STREETS AND TRANSPORTATION

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021

CITY OF
Vancouver
WASHINGTON

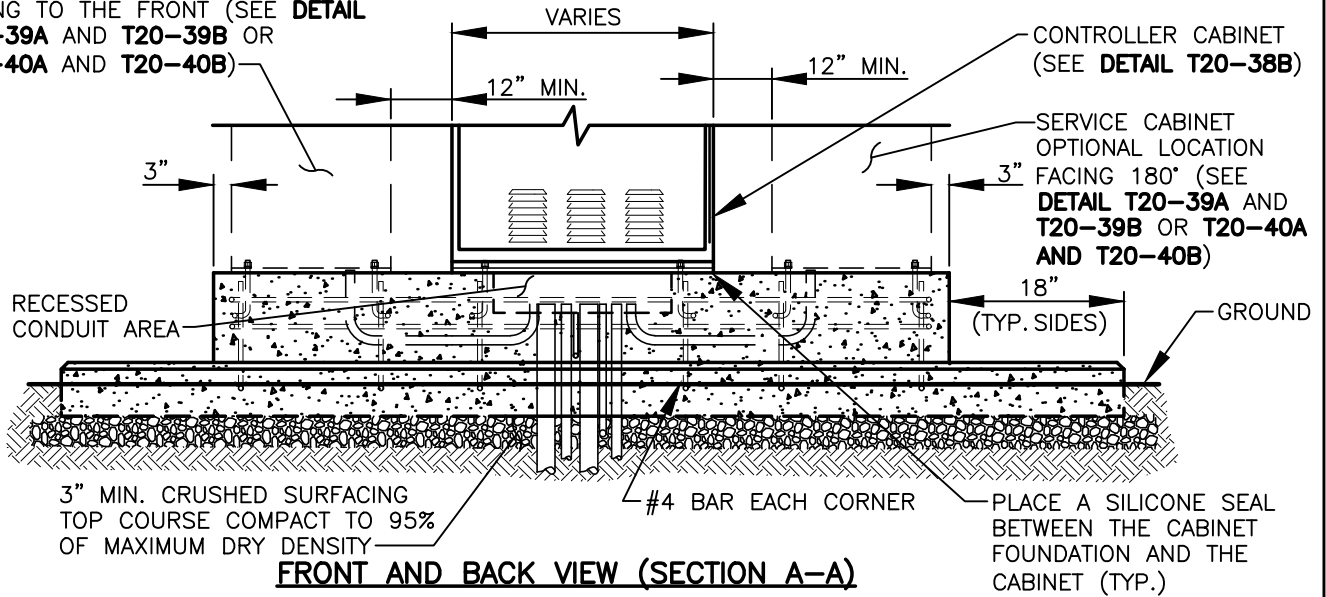
TYPICAL FRONT AND
BACK DOOR
"P" CABINET DETAILS

STANDARD PLAN
NUMBER
T20-38D

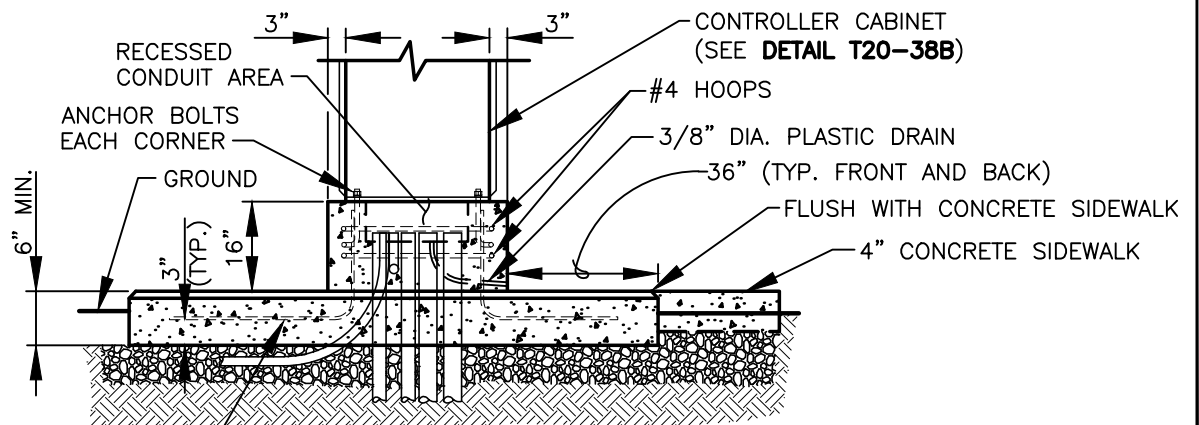


TOP VIEW

SERVICE CABINET TYPICAL LOCATION
FACING TO THE FRONT (SEE **DETAIL
T20-39A** AND **T20-39B** OR
T20-40A AND **T20-40B**)



FRONT AND BACK VIEW (SECTION A-A)



SIDE VIEW (SECTION B-B)

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REV NO.	DATE	BY	APPR
1	4/18	RAW	CJC
2	9/21	RAW	CJC

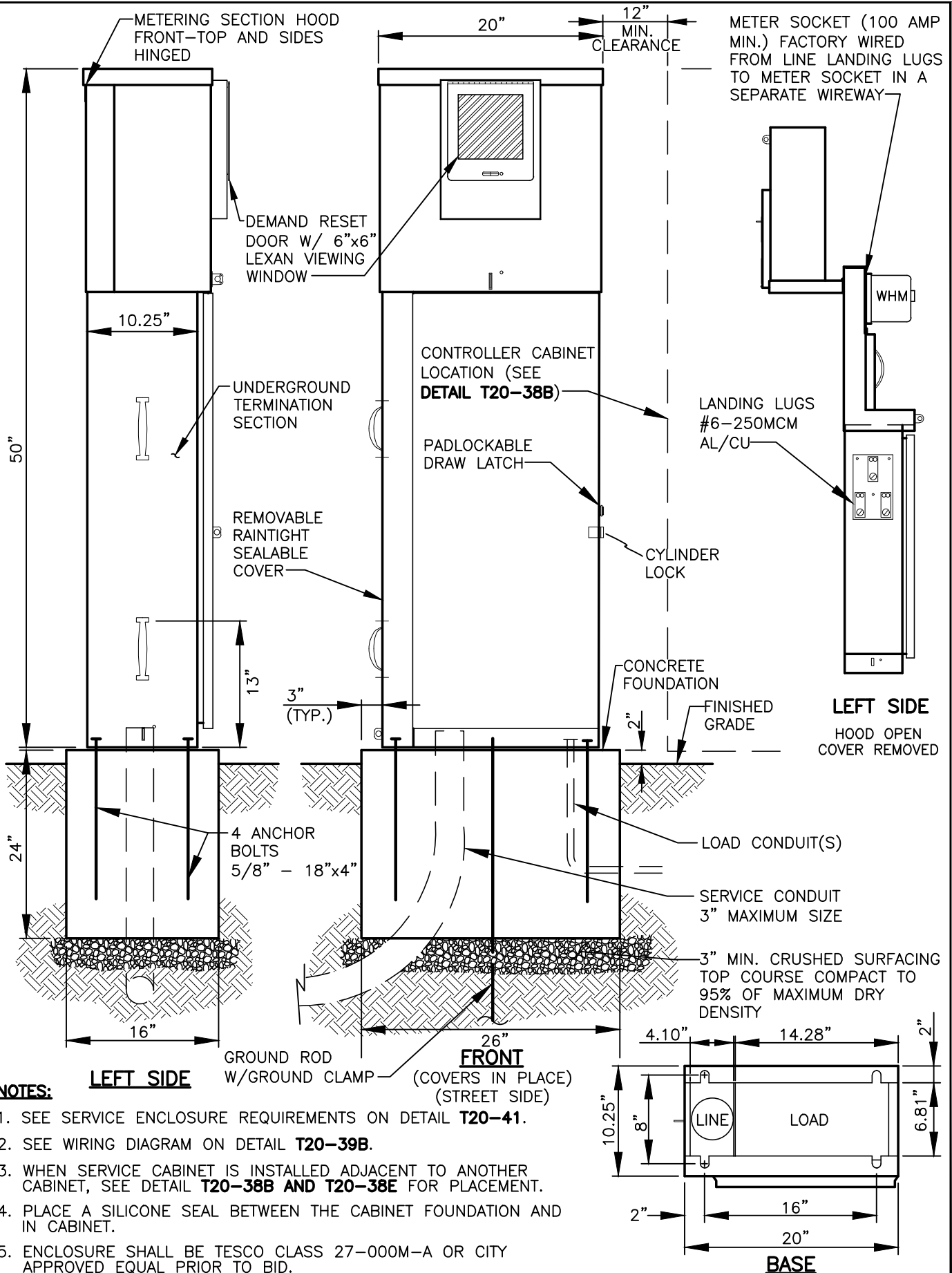
**PUBLIC WORKS – STREETS
AND TRANSPORTATION**

APPROVED BY: 
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021

CITY OF
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WASHINGTON

CONTROLLER CABINET
FOUNDATION

STANDARD PLAN
NUMBER
T20-38E



NOTES:

1. SEE SERVICE ENCLOSURE REQUIREMENTS ON DETAIL T20-41.
2. SEE WIRING DIAGRAM ON DETAIL T20-39B.
3. WHEN SERVICE CABINET IS INSTALLED ADJACENT TO ANOTHER CABINET, SEE DETAIL T20-38B AND T20-38E FOR PLACEMENT.
4. PLACE A SILICONE SEAL BETWEEN THE CABINET FOUNDATION AND IN CABINET.
5. ENCLOSURE SHALL BE TESCO CLASS 27-000M-A OR CITY APPROVED EQUAL PRIOR TO BID.

REV NO.	DATE	BY	APPR	AGE
1	8/08	RAW		
2	3/15	RAW	CJC	
3	4/18	RAW	CJC	
4	7/19	RAW	CJC	
5	9/21	RAW	CJC	
6	3/22	RAW	CJC	

PUBLIC WORKS - STREETS
AND TRANSPORTATION

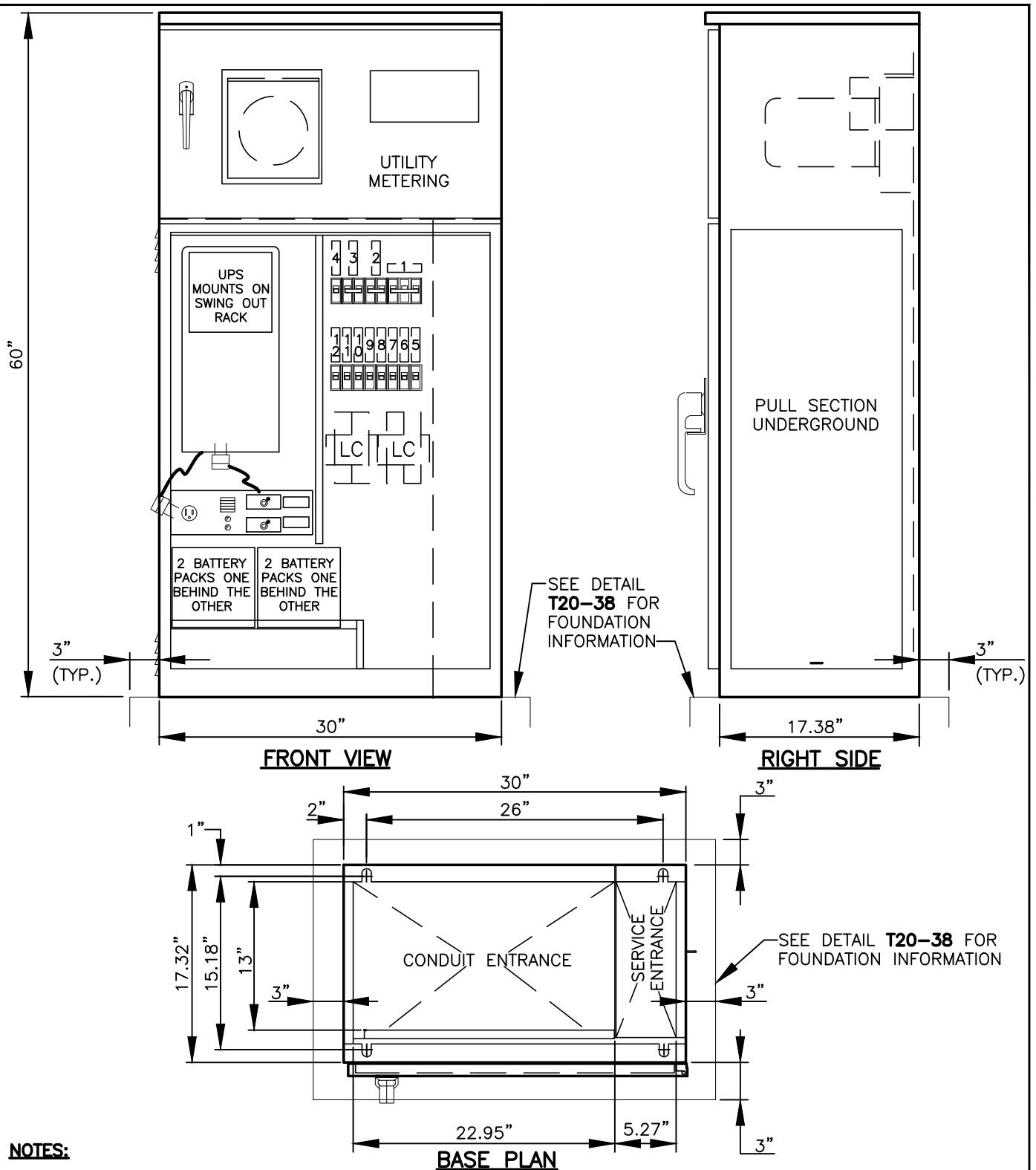
APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 3/22/2022

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WASHINGTON

TRAFFIC SIGNAL
SERVICE CABINET DETAILS

STANDARD PLAN
NUMBER

T20-39A



NOTES:

1. SEE SERVICE ENCLOSURE REQUIREMENTS ON DETAIL T20-41.
2. SEE WIRING DIAGRAM ON DETAIL T20-40B.
3. SERVICE CABINET TO BE INSTALLED ON SEPARATE FOUNDATION 10 TO 20 FEET FROM CONTROLLER CABINET. SEE DETAIL T20-38 FOR FOUNDATION INFORMATION.
4. ENCLOSURE SHALL BE TESCO CLASS 24-000M-A OR CITY APPROVED EQUAL PRIOR TO BID.
5. FACE CABINET TOWARDS MAJOR STREET.

REV NO.	DATE	BY	APPR
1	8/04	RAW	AGE
2	8/08	RAW	AGE
3	7/14	RAW	CJC
4	7/19	RAW	CJC
5	9/21	RAW	CJC

PUBLIC WORKS – STREETS
AND TRANSPORTATION

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER

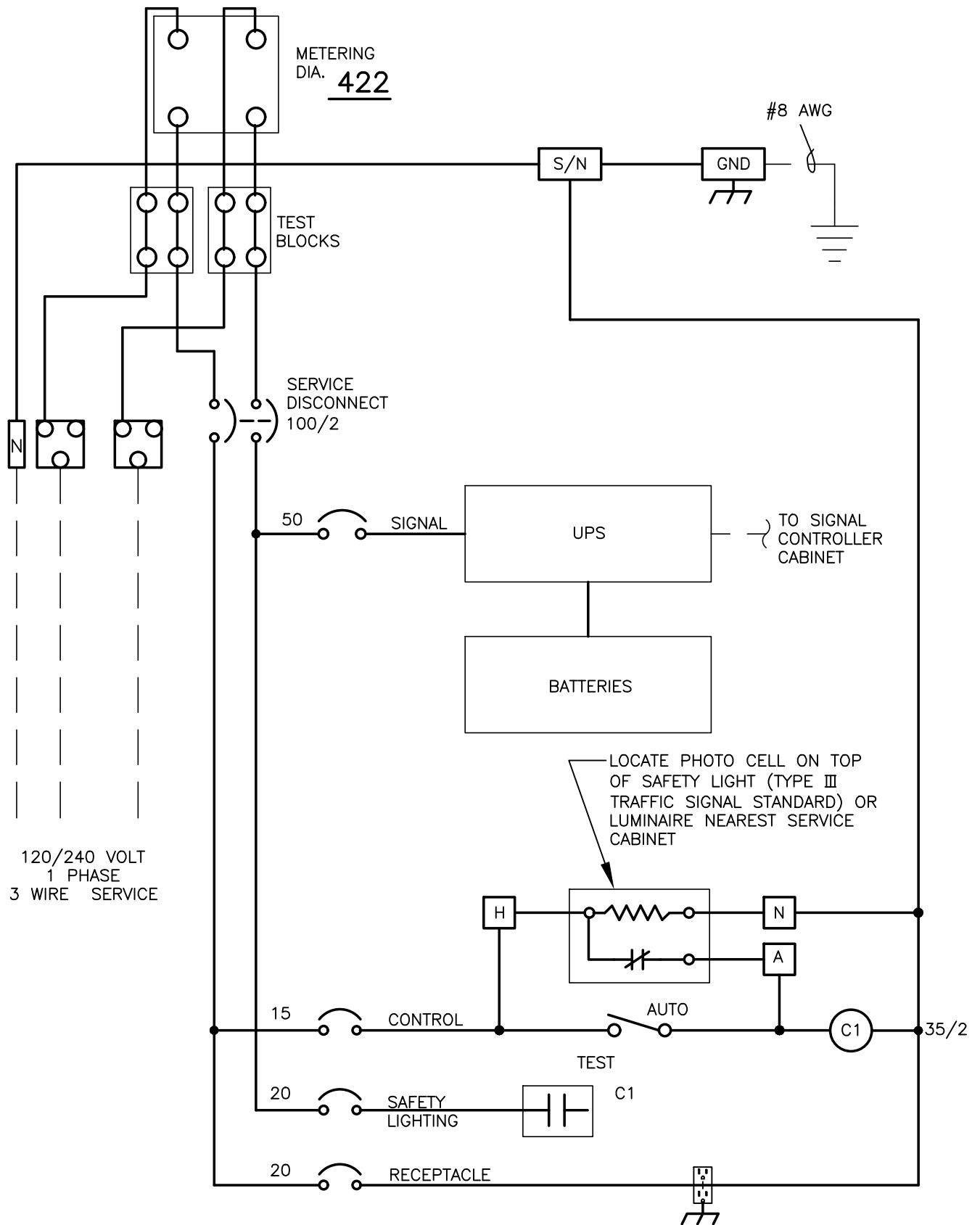
APPROVED DATE: 9/1/2021



TRAFFIC SIGNAL SERVICE WITH
BATTERY BACKUP
ELECTRICAL CABINET DETAIL

STANDARD PLAN
NUMBER

T20-40A



NOTE:

SEE DETAIL **T20-40A** FOR SERVICE AND BATTERY BACKUP ELECTRICAL CABINET LAYOUT.

REV NO.	DATE	BY	APPR	AGE
1	2/07	RAW		
2	8/08	RAW		
3	1/15	RAW	CJC	
4	4/18	RAW	CJC	
5	7/19	RAW	CJC	
6	9/21	RAW	CJC	

PUBLIC WORKS - STREETS AND TRANSPORTATION

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER

APPROVED DATE: 9/1/2021



TRAFFIC SIGNAL SERVICE WITH
BATTERY BACKUP
WIRING DIAGRAM

STANDARD PLAN
NUMBER
T20-40B

NOTES:

- ENCLOSURE SHALL MEET EUSERC REQUIREMENTS.
- FABRICATED FROM 5052 1/8" ALUMINUM.
- INTERIOR SHALL BE FABRICATED FROM 14 GAUGE COLD ROLLED STEEL AND PAINTED WHITE.
- ENCLOSURE SHALL BE ANODIZED AFTER FABRICATION.
- ENCLOSURE SHALL HAVE CONTINUOUS WELDED SEAMS.
- FULL LENGTH DEAD FRONT WITH STAINLESS STEEL HINGE.
- FABRICATED BY A MANUFACTURER CARRYING A UL 508 LISTING.
- ENCLOSURE SHALL HAVE PULL SECTION WITH REMOVABLE STEP.
- FULLY FRAMED SIDE HINGED OUTER DOOR WITH SWAGED CLOSE TOLERANCE SIDES FOR FLUSH FIT WITH TOP DRIP LIP AND CLOSED CELL NEOPRENE FLANGE COMPRESSED GASKETS.
- HINGED DEAD FRONT WITH 1/4 TURN LATCH AND KNURLED KNOBS.
- DEAD FRONT DOOR SHALL BE HINGED ON THE SAME SIDE AS EXTERIOR DOOR AND OPEN A MINIMUM OF 100°.
- REMOVABLE BACK PAN SHALL BE MOUNTED ON 4 WELDED 1/4" STUDS.
- ALL CIRCUIT BREAKERS SHALL BE MOUNTED IN A VERTICAL POSITION, HANDLE UP FOR "ON" HANDLE DOWN FOR "OFF".
- ENCLOSURE SHALL CONSIST OF ABSOLUTELY NO "BOLT-ON" OR "PLUG-IN" CIRCUIT BREAKERS.
- ENCLOSURE SHALL BE COMPLETELY PRE-WIRED IN FACTORY. WIRING WILL BE TO NEMA IIB STANDARDS SHOWING EXTERNAL CONNECTIONS AND EXTERNAL EQUIPMENT.
- ALL BUSSING SHALL BE UL APPROVED COPPER THHN CABLE BUSSING, FULLY RATED.
- THE FUNCTION OF ALL CIRCUIT BREAKERS, SWITCHES & OTHER COMPONENTS AS REQUIRED SHALL BE IDENTIFIED BY LAMINATED ENGRAVED PLASTIC NAMEPLATES WITH MINIMUM 1/4" LETTERS FASTENED WITH MINIMUM OF TWO #4-40 STAINLESS STEEL MACHINE SCREWS.
- WIRING SCHEMATICS WILL BE COMPUTER AIDED DRAFTING AND INCLUDE ALL EXTERNAL EQUIPMENT AND CONNECTIONS PER NEMA IIB.
- AS BUILT FACTORY DRAWINGS SHALL BE ENCLOSED IN CLEAR PLASTIC AND HELD INSIDE THE OUTER DOOR BY WELDED HOOKS.
- MANUFACTURERS WILL BE REQUIRED TO FURNISH INDEPENDENT LABORATORY CERTIFICATION OF METAL PREPARATION AND FINISH AND TO CONFIRM THAT THE OVERALL PRODUCT MEETS THESE SPECIFICATIONS. IF THIS AGENCY WISHES TO WITNESS THIS TESTING, ALL COSTS TO BE PAID BY CONTRACTOR.
- EXTERIOR, 1/8" ALUMINUM, AND INTERIOR 14 GA COLD ROLLED STEEL ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
- CONSTRUCTION WILL BE NEMA 3R, RAIN TIGHT.
- ALL NUTS, BOLTS AND SCREWS WILL BE STAINLESS STEEL.
- NUTS, BOLTS AND SCREWS WILL NOT BE VISIBLE FROM OUTSIDE OF ENCLOSURE.
- NAMEPLATES WILL BE PROVIDED AS REQUIRED.
- CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
- A PLASTIC COVERED WIRING DIAGRAM WILL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
- ENCLOSURE WILL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA STANDARDS.
- ANODIZE AFTER FABRICATION.

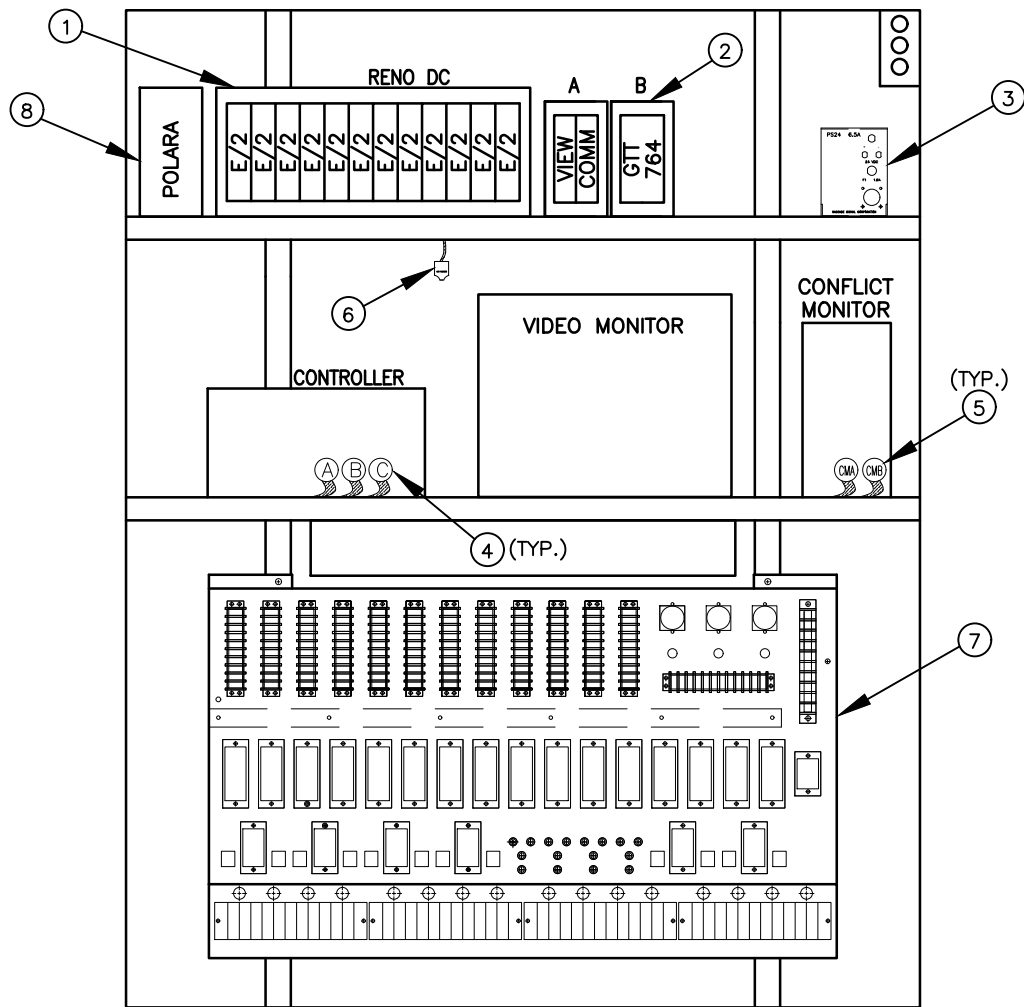
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REV NO.	DATE	BY	APPR	PUBLIC WORKS – STREETS AND TRANSPORTATION	
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2	2/07	RAW	AGE	 APPROVED BY: TRAFFIC ENGINEER MANAGER APPROVED DATE: 9/1/2021	
3	8/08	RAW	AGE		
4	1/15	RAW	CJC		
5	7/18	RAW	CJC		
6	9/21	RAW	CJC		



SERVICE ENCLOSURE
REQUIREMENTS

STANDARD PLAN
NUMBER
T20-41



CABINET BACK NOTES:

- ① CARD CAGE 1 SHALL BE WIRED FOR 48 CHANNELS OF LOOPS AND 4 CHANNELS OF OPTICOM HALF SIZE (E/2) 4 CHANNEL DETECTORS SHALL BE UTILIZED. ASSIGNMENT AND LAYOUT SHALL BE CONSISTENT WITH EXISTING COV STANDARDS. CC1 SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1077 OR PRE-APPROVED EQUAL. FOR ADDITIONAL INFORMATION, SEE **DETECTION ASSIGNMENT FOR CARD CAGE, DETAIL T20-42E**.
- ② CARD CAGE 2 SHALL BE WIRED FOR (2) TRAFFICON VIEWCOM/E MAX S VIDEO ENCODER. LABELING AND LAYOUT SHALL BE CONSISTENT WITH EXISTING COV STANDARDS. CC2 SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1194 OR PRE-APPROVED EQUAL. FOR ADDITIONAL INFORMATION, SEE **DETECTION ASSIGNMENT FOR CARD CAGE, DETAIL T20-42E**.
- ③ SHELF MOUNT POWER SUPPLY SHALL BE PROVIDED RATED FOR A MINIMUM OF 150 WATTS. PIN ASSIGNMENT SHALL BE CONSISTENT WITH EXISTING COV STANDARDS. BANANA JACKS SHALL BE PROVIDED ON FRONT TO MEASURE VOLTAGE. POWER SUPPLY SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1435 OR PRE-APPROVED EQUAL.
- ④ TS1, "A,B,C" CABLES.
- ⑤ MONITOR "A,B" CABLES.
- ⑥ 3-M MODEL #138 OPTICOM HARNESS.
- ⑦ THE LOAD BAY WIDTH SHALL NOT EXCEED 34" TO FACILITATE A NO INTERFERENCE SWING DOWN. ALL WIRING, WIRE COLORS AND TERMINAL BLOCK LAYOUT SHALL BE CONSISTENT WITH EXISTING COV STANDARDS. LOAD BAY SHALL INCLUDE THE WIRING TO MODIFY THE MMU/DOOR OPEN INTERLOCK, AND THE POLICE FLASH RESET. A RELAY SHALL BE PROVIDED WITH A LS 24VDC DISCONNECT TO PREVENT A CONTROLLER/FLASH SIMULTANEOUS DISPLAY. LOAD BAY SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1000 OR PRE-APPROVED EQUAL.
- ⑧ POLARA APS NAVIGATOR CONTROL UNIT, PART# ICCU-S2 (OR APPROVED EQUAL).

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REV NO.	DATE	BY	APPR	PUBLIC WORKS - STREETS AND TRANSPORTATION
1	8/08	RAW	AGE	
2	7/14	RAW	CJC	
3	1/15	RAW	CJC	
4	4/18	RAW	CJC	
5	2/21	OIS	CJC	
6	9/21	RAW	CJC	

APPROVED BY:

TRAFFIC ENGINEER MANAGER

APPROVED DATE:

9/1/2021

CITY OF
Vancouver
WASHINGTON

TYPE "P" CABINET
INTERIOR LAYOUT (BACK)

STANDARD PLAN
NUMBER

T20-42A

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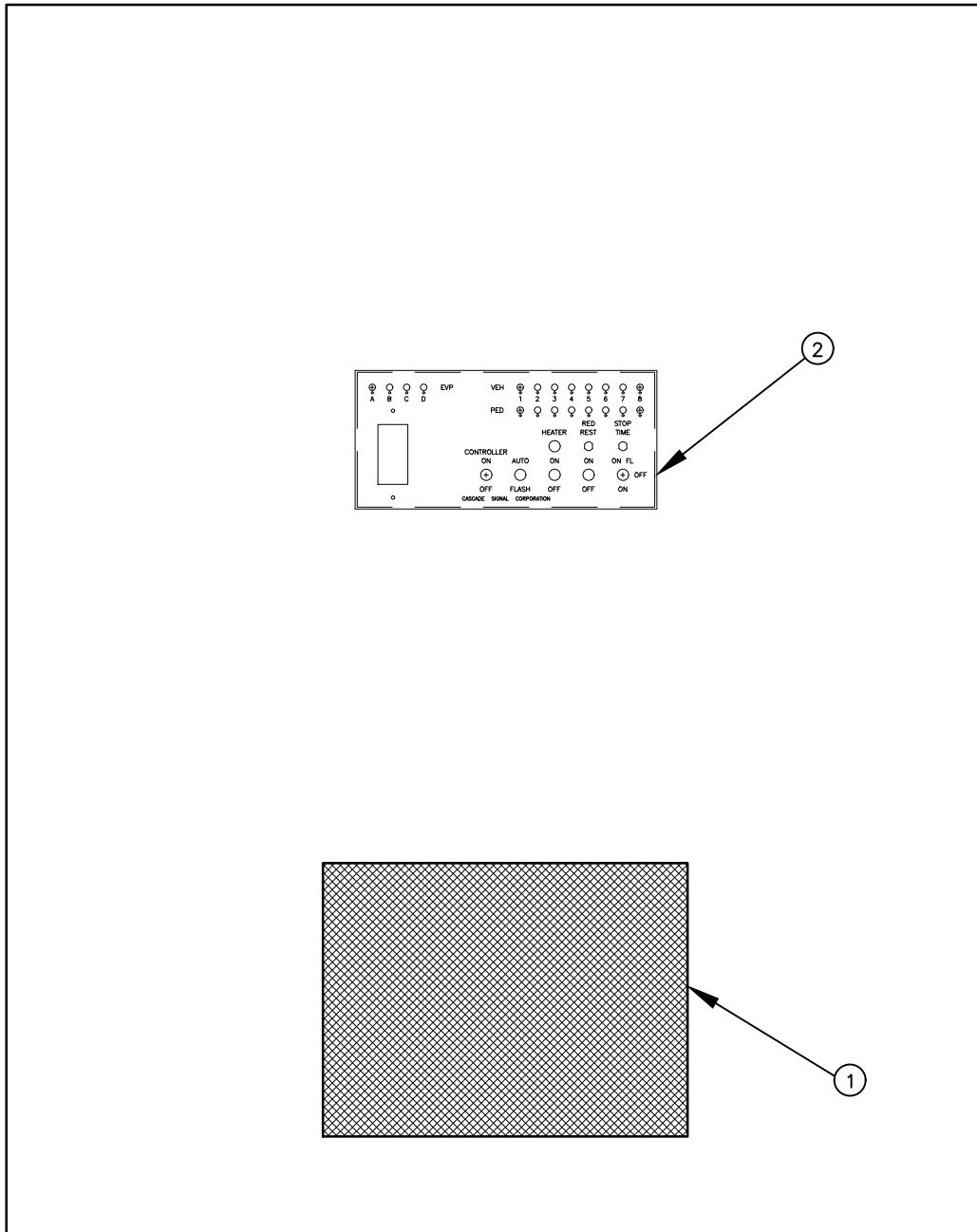
CABINET DOOR NOTES:

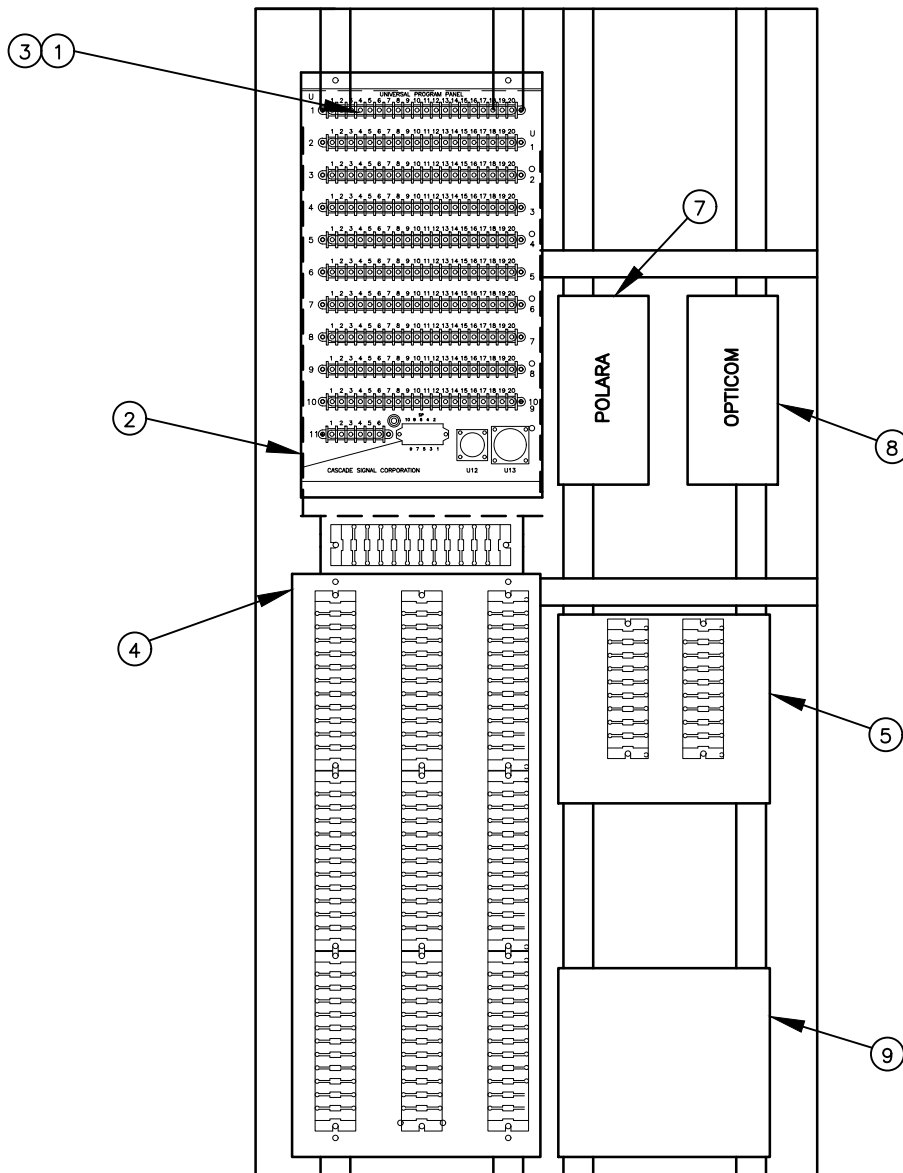
- ① A 12" X 16" DOOR FILTER SHALL BE PROVIDED.
- ② A CONTROL PANEL WITH THE FEATURES AS SHOWN SHALL BE PROVIDED. IT SHALL INCLUDE A FULL PLASTIC COVER THAT CAN BE HINGED UP. THE POLICE PANEL SHALL CONTAIN 1 PB SWITCH TO PUT THE CABINET IN FLASH. THIS ASSEMBLY SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 433 OR PRE-APPROVED EQUAL.

REV NO.	DATE	BY	APPR	PUBLIC WORKS – STREETS AND TRANSPORTATION
1	8/04	RAW	AGE	
2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
5	1/15	RAW	CJC	APPROVED BY: <i>[Signature]</i> TRAFFIC ENGINEER MANAGER
6	9/21	RAW	CJC	APPROVED DATE: 9/1/2021



TYPE "P" CABINET INTERIOR LAYOUT (DOOR)	STANDARD PLAN NUMBER T20-42B
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CABINET LEFT SIDE NOTES:

- ① U PANEL TERMINAL ASSIGNMENT AND LAYOUT SHALL BE CONSISTENT WITH COV EXISTING STANDARDS. IT SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1100 OR PRE-APPROVED EQUAL.
- ② EDCO PC-642 SERIES SURGE SUPPRESSER SHALL BE AN INTEGRAL PART OF THE U PANEL.
- ③ THE U PANEL SHALL BE WIRED TO FUNCTION WITH ANY TYPE TS1 CONTROLLER.
- ④ DETECTOR FIELD TERMINATION PANEL SHALL HAVE 9 MARATHON 1600 SERIES TERMINAL BLOCKS, LAYOUT AND LABELED CONSISTENT WITH EXISTING COV STANDARDS. SEE **INPUT TERMINAL FOR "P" CABINET DETECTION PANEL ASSEMBLY, DETAIL T20-35A.**
- ⑤ OPTICOM FIELD TERMINATION PANEL SHALL HAVE 2 MARATHON 1600 SERIES TERMINAL BLOCKS, LAYOUT AND LABELED CONSISTANT WITH EXISTING COV STANDARDS. SEE **INPUT TERMINAL FOR "P" CABINET DETECTION PANEL ASSEMBLY, DETAIL T20-35A.**
- ⑥ NO PANELS ON THE SIDE SHALL INTERFERE WITH THE DROPPING DOWN OF THE LOAD BAY.
- ⑦ POLARA NAVIGATOR INTERCONNECT BOARD.
- ⑧ OPTICOM 768 AUXILIARY INTERFACE PANEL.
- ⑨ SPACE RESERVED FOR VIDEO DETECTION SURGE SUPPRESSORS.

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REV NO.	DATE	BY	APPR	PUBLIC WORKS – STREETS AND TRANSPORTATION
1	8/04	RAW	AGE	
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6	9/21	RAW	CJC	

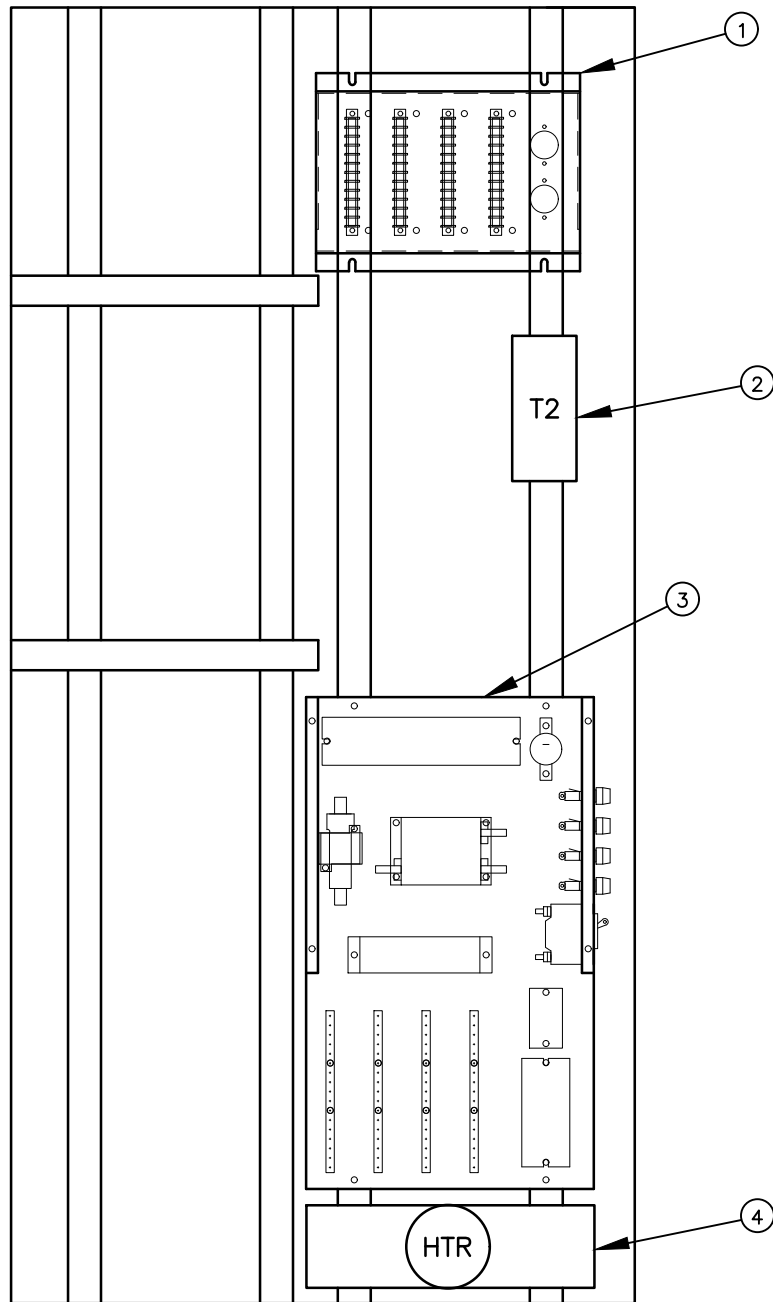
APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021



TYPE "P" CABINET
INTERIOR LAYOUT
(LEFT SIDE)

STANDARD PLAN
NUMBER

T20-42C



CABINET RIGHT SIDE NOTES:

- ① A POWER SUPPLY PANEL SHALL BE PROVIDED FOR DISTRIBUTION TERMINATION OF THE POWER SUPPLY CABLE. IT SHALL ALSO CONTAIN PROVISIONS FOR ADDITION OF 2 – 8 PIN OCTAL OR 11 PIN RELAYS FOR FUTURE FUNCTIONS. IT SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 553 OR PRE-APPROVED EQUAL.
- ② A THERMOSTAT TO CONTROL THE HEATER SHALL BE PROVIDED.
- ③ A POWER PANEL SHALL BE PROVIDED AND LAID OUT CONSISTENT WITH COV STANDARDS. CASCADE SIGNAL CORP. PART NO. CSC# 1602 OR PRE-APPROVED EQUAL.
- ④ A CABINET HEATER SHALL BE PROVIDED WITH A SCREW IN BASE.

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REV NO.	DATE	BY	APPR	PUBLIC WORKS – STREETS AND TRANSPORTATION
1	8/04	RAW	AGE	
2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
5	1/15	RAW	CJC	
6	9/21	RAW	CJC	

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021



TYPE "P" CABINET
INTERIOR LAYOUT
(RIGHT SIDE)

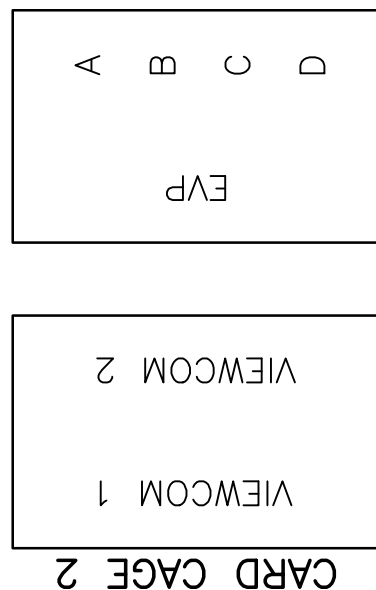
STANDARD PLAN
NUMBER

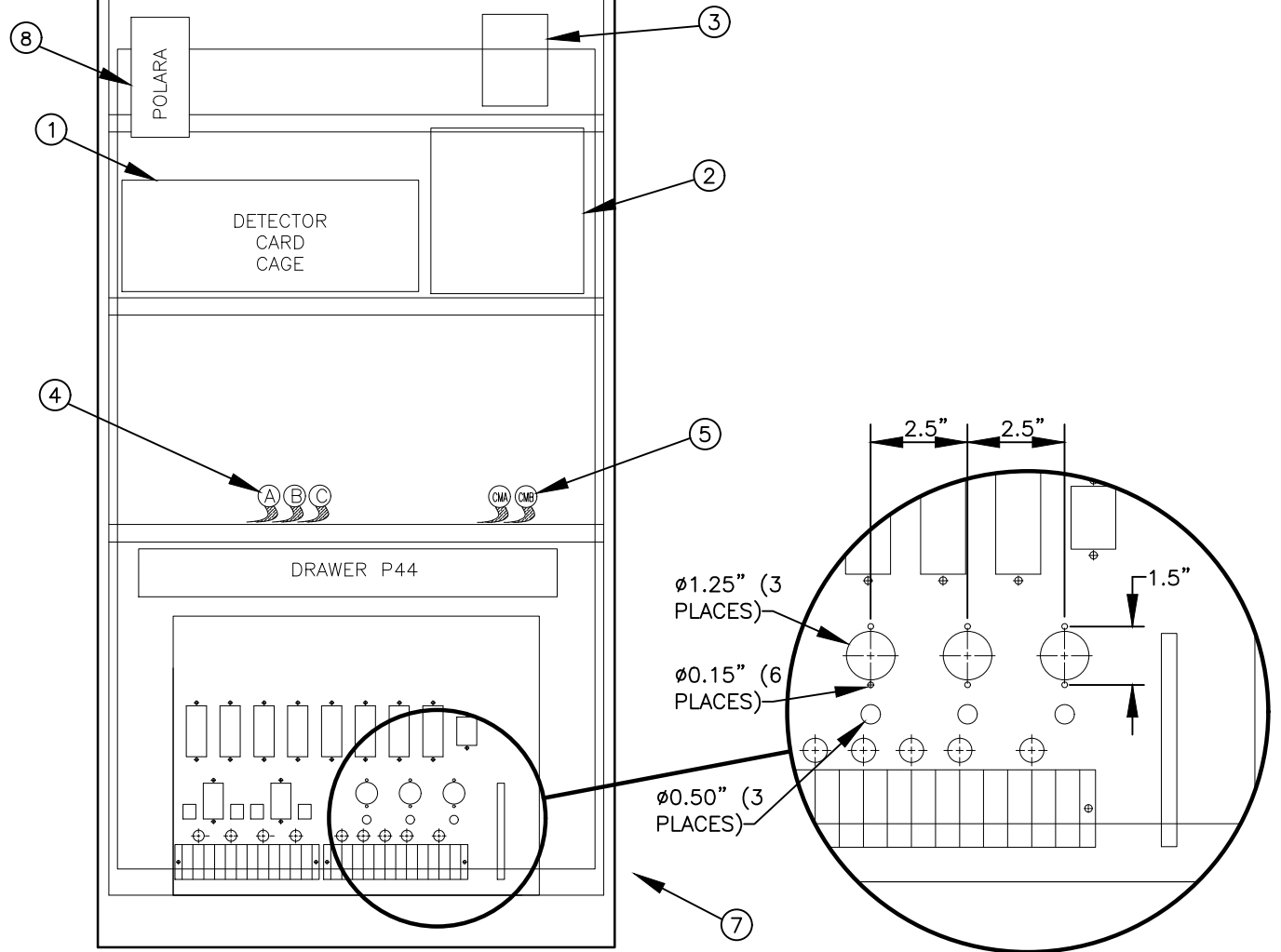
T20-42D

CARD CAGE 1											
20	23	26	60	63	66	40	43	46	80	83	86
21	24	52	61	64	12	41	44	72	81	84	32
22	25	55	62	65	15	42	45	75	82	85	35
50	51	*56	10	11	*16	70	71	*76	30	31	*36

NOTE:

CARD CAGE 1 USES 4-CHANNEL, SINGLE SLOT DETECTOR UNITS.
CARD CAGE 2 USES 4-CHANNEL, TWO SLOT VIDEO UNITS.
* UNASSIGNED ON U-PANEL.





CABINET BACK NOTES:

- ① THE CARD CAGE SHALL BE WIRED FOR 20 CHANNELS OF LOOPS, 8 CHANNELS OF VIDEO AND, 4 CHANNELS OF OPTICOM. HALF SIZE (E/2) 4 CHANNEL DETECTORS SHALL BE UTILIZED. ASSIGNMENT AND LAYOUT SHALL BE CONSISTENT WITH EXISTING COV STANDARDS. CC1 SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1078 OR PRE-APPROVED EQUAL. FOR ADDITIONAL INFORMATION, SEE **TYPE "MSX" CABINET DETECTION ASSIGNMENTS FOR CARD CAGE, DETAIL T20-43E.**
- ② SPACE FOR VIDEO MONITOR (OPTIONAL).
- ③ SHELF MOUNT POWER SUPPLY SHALL BE PROVIDED RATED FOR A MINIMUM OF 150 WATTS. PIN ASSIGNMENT SHALL BE CONSISTENT WITH EXISTING COV STANDARDS. BANANA JACKS SHALL BE PROVIDED ON FRONT TO MEASURE VOLTAGE. POWER SUPPLY SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1435 OR PRE-APPROVED EQUAL.
- ④ TS1, "A,B,C" CABLES.
- ⑤ MONITOR "CMA, CMB" CABLES.
- ⑥ 3-M MODEL #138 OPTICOM HARNESS.
- ⑦ THE LOAD BAY WIDTH SHALL NOT EXCEED 21" TO FACILITATE A NO INTERFERENCE SWING DOWN. ALL WIRING, WIRE COLORS AND TERMINAL BLOCK LAYOUT SHALL BE CONSISTENT WITH EXISTING COV STANDARDS. LOAD BAY SHALL INCLUDE THE WIRING TO MODIFY THE MMU/DOOR OPEN INTERLOCK, AND THE POLICE FLASH RESET. A RELAY SHALL BE PROVIDED WITH A LS 24VDC DISCONNECT TO PREVENT A CONTROLLER/FLASH SIMULTANEOUS DISPLAY. LOAD BAY SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1321 OR PRE-APPROVED EQUAL.
- ⑧ POLARA APS NAVIGATOR CONTROL UNIT, PART# ICCU-S2 (OR APPROVED EQUAL).

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REV NO.	DATE	BY	APPR	AGE
1	3/08	RAW		AGE
2	2/07	RAW		AGE
3	8/08	RAW		AGE
4	1/15	RAW	CJC	
5	2/21	OIS	CJC	
6	9/21	RAW	CJC	

PUBLIC WORKS – STREETS AND TRANSPORTATION

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER

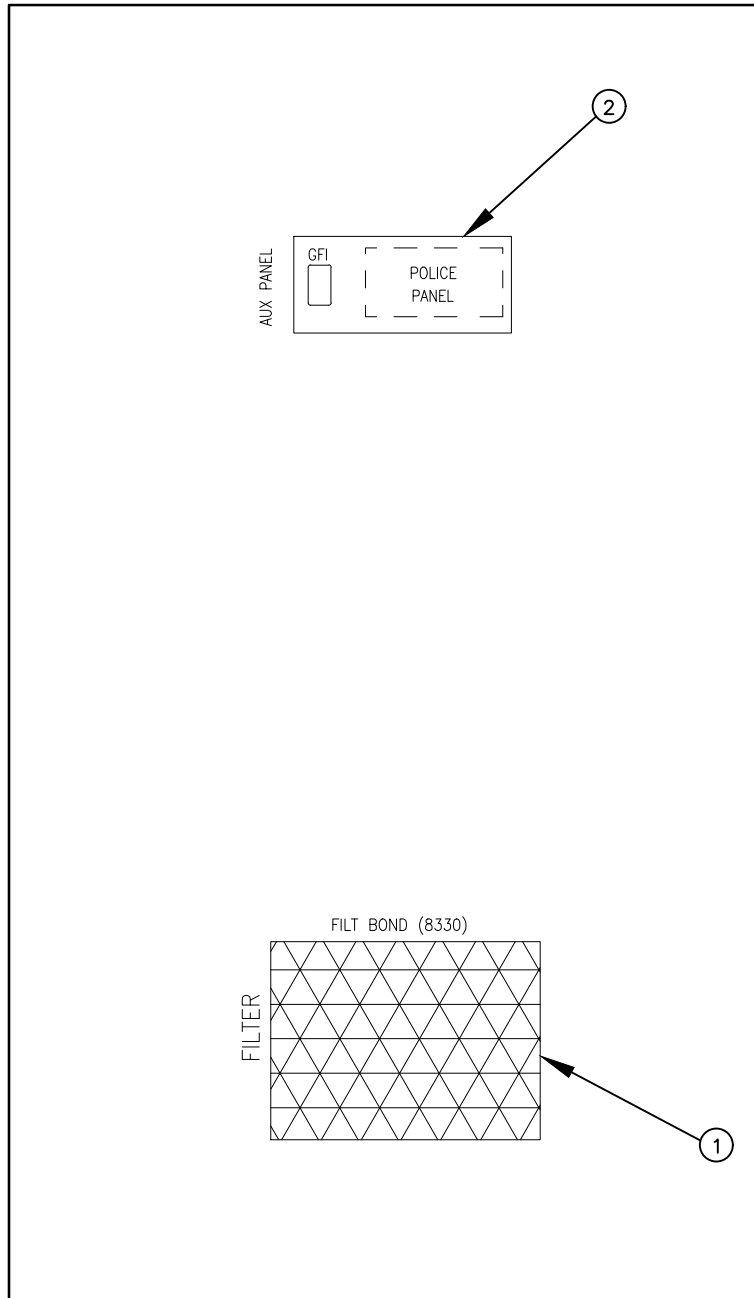
APPROVED DATE: 9/1/2021



TYPE "MSX" CABINET
INTERIOR LAYOUT
(BACK)

STANDARD PLAN
NUMBER
T20-43A

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CABINET DOOR NOTES:

- ① A 12" X 16" DOOR FILTER SHALL BE PROVIDED.
- ② A CONTROL PANEL WITH THE FEATURES AS SHOWN SHALL BE PROVIDED. IT SHALL INCLUDE A FULL PLASTIC COVER THAT CAN BE HINGED UP. THE POLICE PANEL SHALL CONTAIN 1 PB SWITCH TO PUT THE CABINET IN FLASH. THIS ASSEMBLY SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 2094 OR PRE-APPROVED EQUAL.

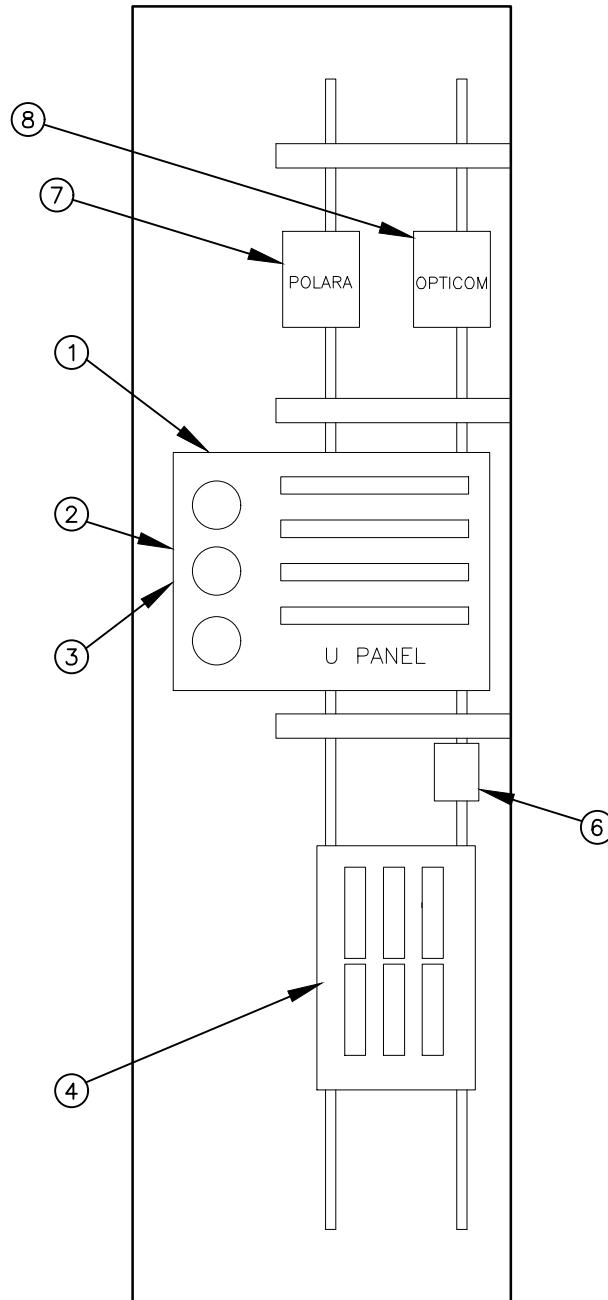
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1	8/04	RAW	AGE	
2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
5	1/15	RAW	CJC	
6	9/21	RAW	CJC	

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021



TYPE "MSX" CABINET
INTERIOR LAYOUT
(DOOR)

STANDARD PLAN
NUMBER
T20-43B



CABINET LEFT SIDE NOTES:

- ① U PANEL TERMINAL ASSIGNMENT AND LAYOUT SHALL BE CONSISTENT WITH COV EXISTING STANDARDS. IT SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1323 OR PRE-APPROVED EQUAL.
- ② EDCO PC-642 SERIES SURGE SUPPRESSER SHALL BE AN INTEGRAL PART OF THE U PANEL.
- ③ THE U PANEL SHALL BE WIRED TO FUNCTION WITH ANY TYPE TS1 CONTROLLER.
- ④ DETECTOR FIELD TERMINATION PANEL SHALL HAVE 6 MARATHON 1600 SERIES TERMINAL BLOCKS, LAYOUT AND LABELED CONSISTENT WITH EXISTING COV STANDARDS. IT SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1532. FOR ADDITIONAL INFORMATION, SEE **INPUT TERMINAL FOR "MSX" CABINET DETECTION PANEL ASSEMBLY, DETAIL T20-35B.**
- ⑤ NO PANELS ON THE SIDE SHALL INTERFERE WITH THE DROPPING DOWN OF THE LOAD BAY.
- ⑥ PROVISIONS SHALL BE PROVIDED TO MOUNT EDCO CX SERIES PROTECTORS FOR UP TO 6 VIDEO CAMERAS.
- ⑦ POLARA NAVIGATOR APS INTERCONNECT BOARD.
- ⑧ OPTICOM 768 AUXILIARY INTERFACE PANEL.

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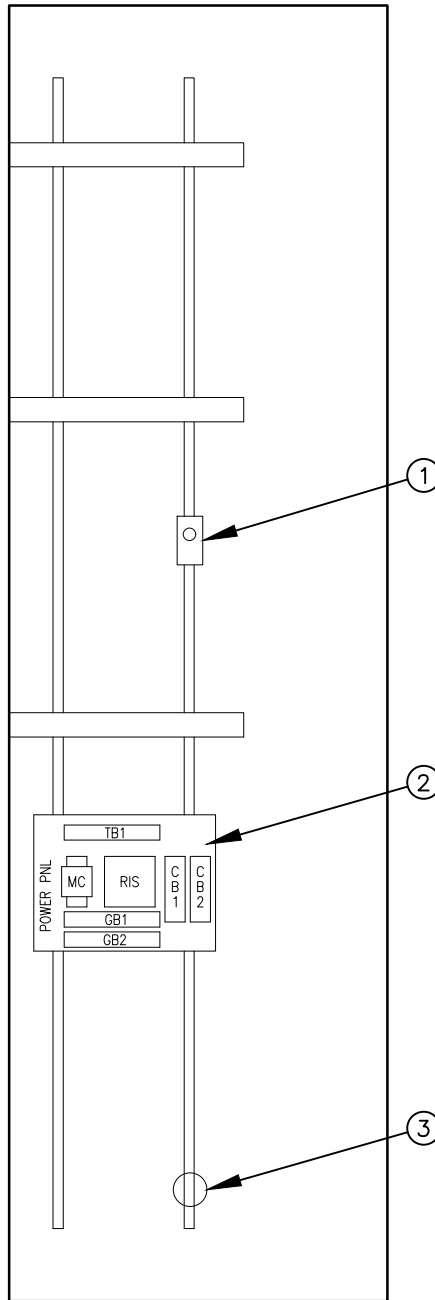
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2	2/07	RAW	AGE	
3	8/08	RAW	AGE	
4	1/15	RAW	CJC	
5	2/21	OIS	CJC	
6	9/21	RAW	CJC	



TYPE "MSX" CABINET
INTERIOR LAYOUT
(LEFT SIDE)

STANDARD PLAN
NUMBER
T20-43C

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CABINET RIGHT SIDE NOTES:

- ① A THERMOSTAT TO CONTROL THE HEATER SHALL BE PROVIDED.
- ② A POWER PANEL SHALL BE PROVIDED AND LAID OUT CONSISTENT WITH COV STANDARDS. CASCADE SIGNAL CORP. PART NO. CSC# 2067 OR PRE-APPROVED EQUAL.
- ③ A CABINET HEATER SHALL BE PROVIDED WITH A SCREW IN BASE.

REV NO.	DATE	BY	APPR	PUBLIC WORKS – STREETS AND TRANSPORTATION
1	8/04	RAW	AGE	
2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
5	1/15	RAW	CJC	
6	9/21	RAW	CJC	

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021



TYPE "MSX" CABINET
INTERIOR LAYOUT
(RIGHT SIDE)

STANDARD PLAN
NUMBER
T20-43D

REV NO.	DATE	BY	APPR
1	1/05	RAW	AGE
2	3/06	RAW	AGE
3	2/07	RAW	AGE
4	8/08	RAW	AGE
5	1/15	RAW	CJC
6	9/21	RAW	CJC

PUBLIC WORKS – STREETS
AND TRANSPORTATION

APPROVED BY: 
TRAFFIC ENGINEER MANAGER

APPROVED DATE: 9/1/2021



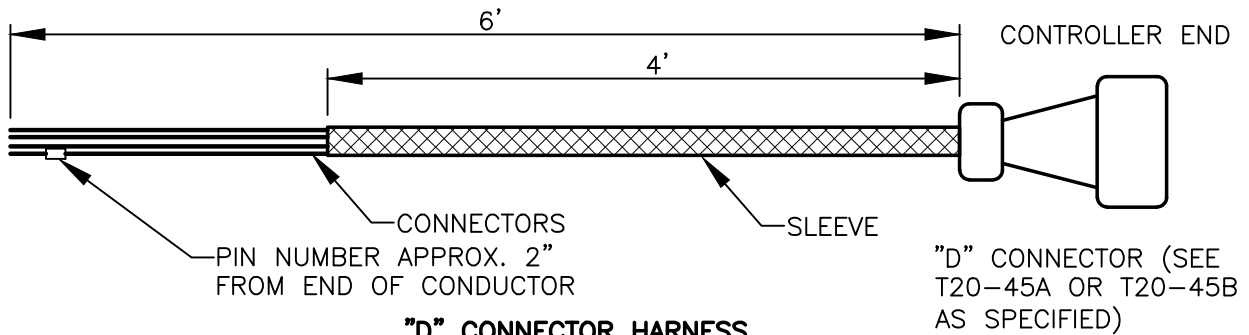
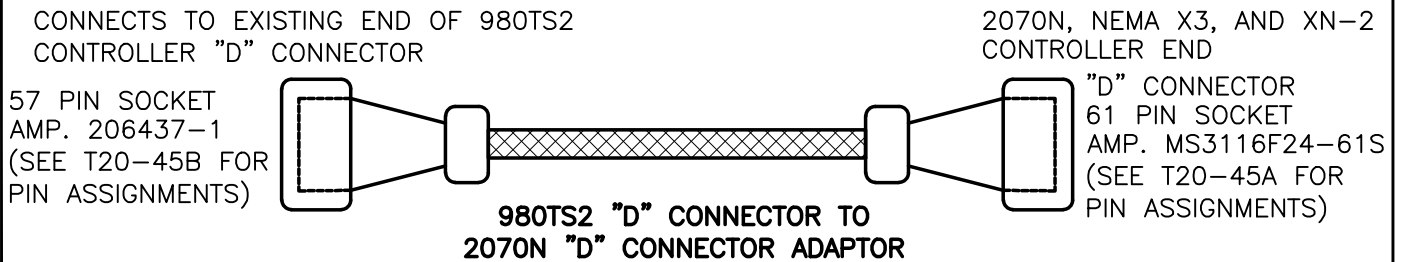
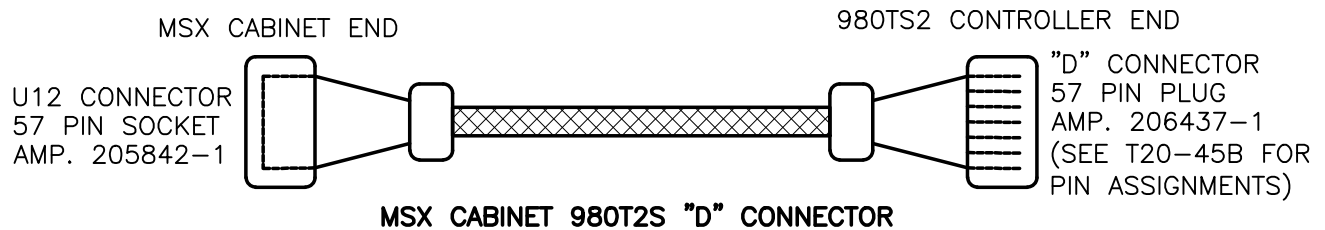
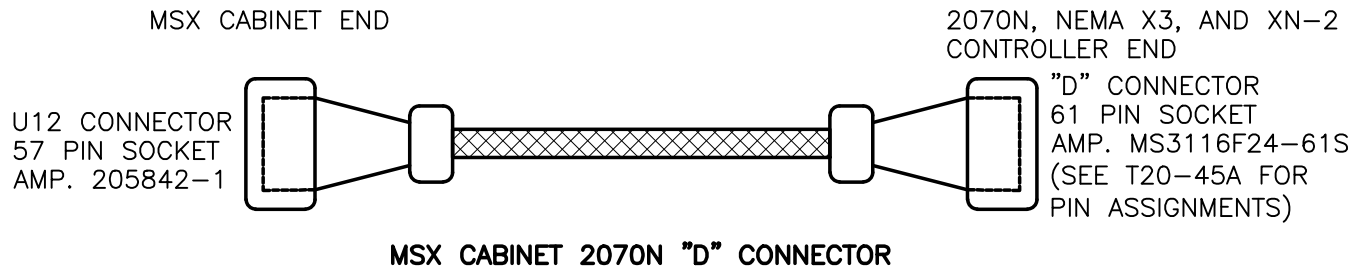
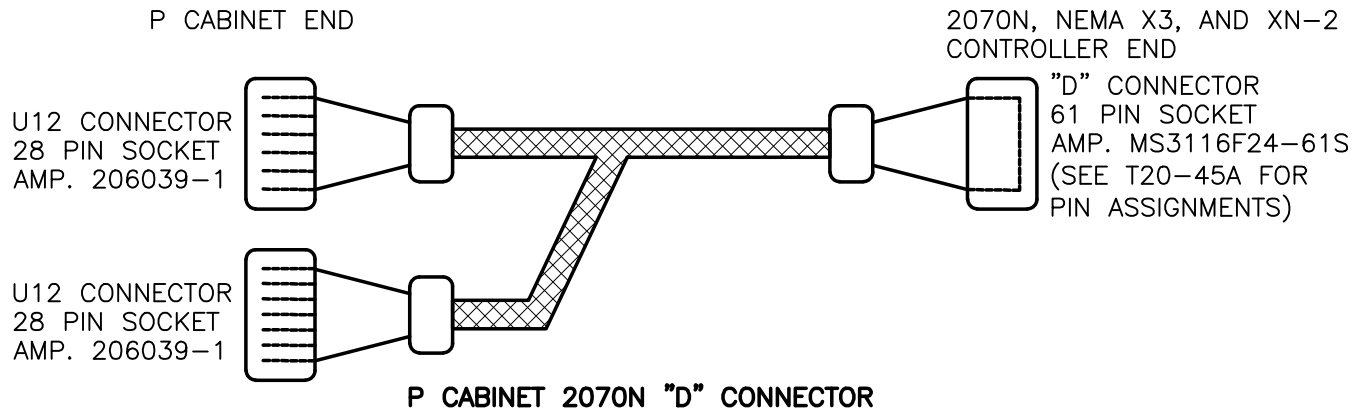
TYPE "MSX" CABINET
DETECTION ASSIGNMENTS
FOR CARD CAGE

STANDARD PLAN
NUMBER
T20-43E

CARD CAGE 1

20	40	60	80	15	55	1-2 CAMERA	* * *	4 CH VIDEO	3-4 CAMERA	* * *	4 CH VIDEO	EVP	A B C D
21	41	61	81	25	65								
22	42	62	82	35	75								
23	43	63	83	45	85								

* UNASSIGNED ON U-PANEL.



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REV NO.	DATE	BY	APPR	AGE
1	1/05	RAW	AGE	
2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
5	1/15	RAW	CJC	
6	9/21	RAW	CJC	

PUBLIC WORKS - STREETS
AND TRANSPORTATION

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER

APPROVED DATE: 9/1/2021

CITY OF
Vancouver
WASHINGTON

P CABINET AND
MSX CABINET
"D" CONNECTORS

STANDARD PLAN
NUMBER
T20-44

INPUTS			
CABINET FUNCTION	PIN	FUNCTION SOFTWARE	CABINET
DETECTOR #15	A	VEHICLE CALL #9	P, MSX
DETECTOR #25	B	VEHICLE CALL #10	P, MSX
DETECTOR #35	C	VEHICLE CALL #11	P, MSX
DETECTOR #45	D	VEHICLE CALL #12	P, MSX
DETECTOR #55	E	VEHICLE CALL #13	P, MSX
DETECTOR #65	F	VEHICLE CALL #14	P, MSX
DETECTOR #75	G	VEHICLE CALL #15	P, MSX
DETECTOR #85	H	VEHICLE CALL #16	P, MSX
DETECTOR #11	J	VEHICLE CALL #17	P
DETECTOR #21	K	VEHICLE CALL #18	P, MSX
DETECTOR #31	L	VEHICLE CALL #19	P
DETECTOR #41	M	VEHICLE CALL #20	P, MSX
DETECTOR #51	N	VEHICLE CALL #21	P
DETECTOR #61	P	VEHICLE CALL #22	P, MSX
DETECTOR #71	R	VEHICLE CALL #23	P, MSX
DETECTOR #81	S	VEHICLE CALL #24	P, MSX
DETECTOR #12	T	VEHICLE CALL #25	P
DETECTOR #22	U	VEHICLE CALL #26	P, MSX
DETECTOR #32	V	VEHICLE CALL #27	P
DETECTOR #42	W	VEHICLE CALL #28	P, MSX
DETECTOR #52	X	VEHICLE CALL #29	P
MANUAL FREE	Y	FREE	P, MSX
DETECTOR #62	Z	VEHICLE CALL #30	P, MSX
DETECTOR #72	a	VEHICLE CALL #31	P
MMU FLASH	b	ALARM 2 **	P, MSX
DOOR AJAR	c	ALARM 3 **	P
DETECTOR #82	d	VEHICLE CALL #32	P, MSX
DETECTOR #23	e	VEHICLE CALL #33	P, MSX
DETECTOR #43	f	VEHICLE CALL #34	P, MSX
DETECTOR #63	g	VEHICLE CALL #35	P, MSX
DETECTOR #83	h	VEHICLE CALL #36	P, MSX
DETECTOR #24	i	VEHICLE CALL #37	P
DETECTOR #44	j	VEHICLE CALL #38	P
DETECTOR #64	k	VEHICLE CALL #39	P
DETECTOR #84	m	VEHICLE CALL #40	P
DETECTOR #26	n	VEHICLE CALL #41	P
DETECTOR #46	p	VEHICLE CALL #42	P
DETECTOR #66	q	VEHICLE CALL #43	P
BATTERY BACK-UP FLASH	r	ALARM 4 **	P
DETECTOR #86	s	VEHICLE CALL #44	P
R/R PRE-EMPT	t	PRE-EMPT 1 IN	P, MSX
POLICE FLASH	u	ALARM 1 **	P, MSX
PRE-EMPT A INPUT	v	PRE-EMPT 3 IN	P, MSX
PRE-EMPT B INPUT	w	PRE-EMPT 4 IN	P, MSX
PRE-EMPT C INPUT	x	PRE-EMPT 5 IN	P, MSX
PRE-EMPT D INPUT	y	PRE-EMPT 6 IN	P, MSX

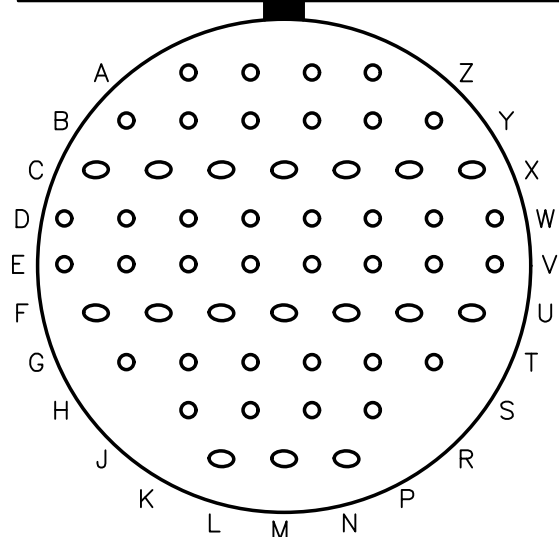
OUTPUTS			
CABINET FUNCTION	PIN	FUNCTION SOFTWARE	CABINET
PRE-EMPT C INDICATOR	z	PRE-EMPT STATUS 5	P, MSX
PRE-EMPT D INDICATOR	AA	PRE-EMPT STATUS 6	P, MSX
FUTURE USE	BB	**	P, MSX
FUTURE USE	CC	**	P, MSX
FUTURE USE	DD	**	P, MSX
FUTURE USE	EE	**	P, MSX
FUTURE USE	FF	**	P, MSX
FUTURE USE	GG	**	P
FUTURE USE	HH	**	P
PRE-EMPT A INDICATOR	JJ	PRE-EMPT STATUS 3	P, MSX
PRE-EMPT B INDICATOR	LL	PRE-EMPT STATUS 4	P, MSX
NOT USED	KK	NOT USED	
NOT USED	MM	NOT USED	
NOT USED	NN	NOT USED	
NOT USED	PP	NOT USED	

NOTES:

1. THE WIRING HARNESS AND CONNECTOR SHALL BE FULLY POPULATED.
2. CABINET FUNCTIONS DESIGNATED FOR FUTURE USE SHALL BE ASSIGNED AND IDENTIFIED ON THE PROJECT PLANS AND/OR IN THE SPECIAL PROVISIONS.

** TO BE DETERMINED.

**"D" CONNECTOR
61 PIN SOCKET
AMP# MS3116F24-61S**



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REV NO.	DATE	BY	APPR	AGE
1	1/05	RAW	AGE	
2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
5	1/15	RAW	CJC	
6	9/21	RAW	CJC	

PUBLIC WORKS – STREETS
AND TRANSPORTATION

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021

CITY OF
Vancouver
WASHINGTON

2070N, NEMA X3, AND XN-2 "D"
CONNECTOR AND PIN
ASSIGNMENTS

STANDARD PLAN
NUMBER

T20-45A

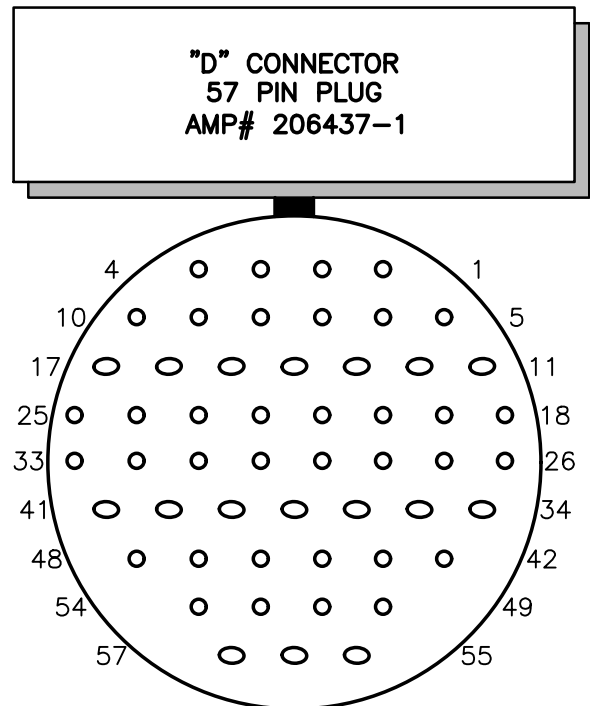
INPUTS			
CABINET FUNCTION	PIN	SOFTWARE FUNCTION	CABINET
DETECTOR #15	57	VEHICLE CALL #9	P, MSX
DETECTOR #25	31	VEHICLE CALL #10	P, MSX
DETECTOR #35	32	VEHICLE CALL #11	P, MSX
DETECTOR #45	33	VEHICLE CALL #12	P, MSX
DETECTOR #55	30	VEHICLE CALL #13	P, MSX
DETECTOR #65	25	VEHICLE CALL #14	P, MSX
DETECTOR #75	21	VEHICLE CALL #15	P, MSX
DETECTOR #85	17	VEHICLE CALL #16	P, MSX
DETECTOR #11	13	VEHICLE CALL #17	P
DETECTOR #21	1	VEHICLE CALL #18	P, MSX
DETECTOR #31	6	VEHICLE CALL #19	P
DETECTOR #41	20	VEHICLE CALL #20	P, MSX
DETECTOR #51	5	VEHICLE CALL #21	P
DETECTOR #61	12	VEHICLE CALL #22	P, MSX
DETECTOR #71	11	VEHICLE CALL #23	P
DETECTOR #81	19	VEHICLE CALL #24	P, MSX
DETECTOR #12	26	VEHICLE CALL #25	P
DETECTOR #22	27	VEHICLE CALL #26	P, MSX
DETECTOR #32	28	VEHICLE CALL #27	P
DETECTOR #42	24	VEHICLE CALL #28	P, MSX
DETECTOR #52	23	VEHICLE CALL #29	P
MANUAL FREE	2	FREE	P, MSX
DETECTOR #62	15	VEHICLE CALL #30	P, MSX
DETECTOR #72	3	VEHICLE CALL #31	P
MMU FLASH	29	ALARM 2 **	P, MSX
DETECTOR #82	7	VEHICLE CALL #32	P, MSX
DETECTOR #23	36	VEHICLE CALL #33	P, MSX
DETECTOR #43	37	VEHICLE CALL #34	P, MSX
DETECTOR #63	38	VEHICLE CALL #35	P, MSX
DETECTOR #83	39	VEHICLE CALL #36	P, MSX
DETECTOR #24	40	VEHICLE CALL #37	P
DETECTOR #44	41	VEHICLE CALL #38	P
DETECTOR #64	14	VEHICLE CALL #39	P
DETECTOR #84	22	VEHICLE CALL #40	P
R/R PRE-EMPT	16	PRE-EMPT 1 IN	P, MSX
POLICE FLASH	18	ALARM 1 **	P, MSX
PRE-EMPT A INPUT	9	PRE-EMPT 3 IN	P, MSX
PRE-EMPT B INPUT	4	PRE-EMPT 4 IN	P, MSX
PRE-EMPT C INPUT	8	PRE-EMPT 5 IN	P, MSX
PRE-EMPT D INPUT	34	PRE-EMPT 6 IN	P, MSX

OUTPUTS			
CABINET FUNCTION	PIN	SOFTWARE FUNCTION	CABINET
PRE-EMPT C INDICATOR	49	PRE-EMPT STATUS 5	P, MSX
PRE-EMPT D INDICATOR	43	PRE-EMPT STATUS 6	P, MSX
FUTURE USE	45	**	P, MSX
FUTURE USE	52	**	P, MSX
FUTURE USE	46	**	P, MSX
FUTURE USE	47	**	P, MSX
FUTURE USE	50	PRE-EMPT STATUS 1	P, MSX
PRE-EMPT A INDICATOR	56	PRE-EMPT STATUS 3	P, MSX
PRE-EMPT B INDICATOR	51	PRE-EMPT STATUS 4	P, MSX
NOT USED	10		
NOT USED	35		
NOT USED	42		
NOT USED	44		
AUX 1	48		
+24VDC	53		
LOGIC GBD	54		
CHASSIS GND	55		

NOTES:

- THE WIRING HARNESS AND CONNECTOR SHALL BE FULLY POPULATED.
- CABINET FUNCTIONS DESIGNATED FOR FUTURE USE SHALL BE ASSIGNED AND IDENTIFIED ON THE PROJECT PLANS AND/OR IN THE SPECIAL PROVISIONS.

** TO BE DETERMINED.



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REV NO.	DATE	BY	APPR	DESCRIPTION
1	1/05	RAW	AGE	
2	3/06	RAW	AGE	
3	2/07	RAW	AGE	
4	8/08	RAW	AGE	
5	1/15	RAW	CJC	
6	9/21	RAW	CJC	

PUBLIC WORKS - STREETS AND TRANSPORTATION

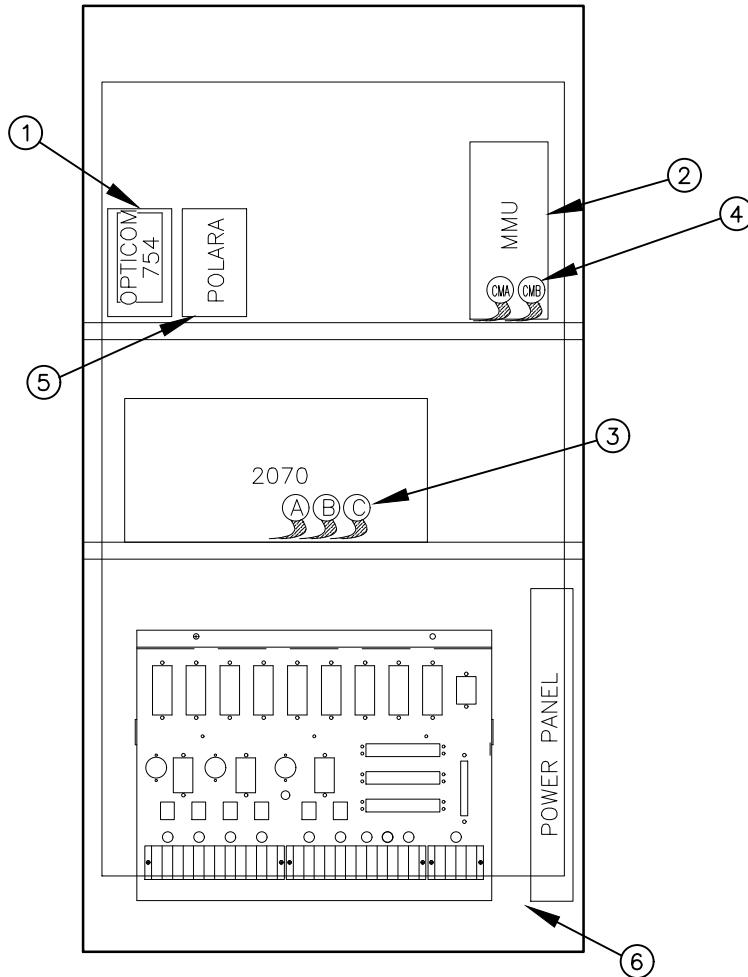
APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER

APPROVED DATE: 9/1/2021

CITY OF
Vancouver
WASHINGTON

980ATC T2 "D"
CONNECTOR AND
PIN ASSIGNMENTS

STANDARD PLAN
NUMBER
T20-45B



CABINET BACK NOTES:

- ① THE CARD CAGE SHALL BE WIRED FOR 4 CHANNELS OF OPTICOM. ASSIGNMENT AND LAYOUT SHALL BE CONSISTENT WITH EXISTING COV STANDARDS. CC1 SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1078 OR PRE-APPROVED EQUAL. FOR ADDITIONAL INFORMATION, SEE **TYPE "M" CABINET HAWK SIGNAL DETECTION ASSIGNMENTS FOR CARD CAGE, DETAIL T20-46E.**
- ② SPACE FOR MALFUNCTION MONITOR UNIT.
- ③ TS1, "A,B,C" CABLES.
- ④ MONITOR "CMA, CMB" CABLES.
- ⑤ POLARA APS NAVIGATOR CONTROL UNIT, PART# ICCU-S2 (OR APPROVED EQUAL).
- ⑥ THE LOAD BAY WIDTH SHALL NOT EXCEED 21" TO FACILITATE A NO INTERFERENCE SWING DOWN. ALL WIRING, WIRE COLORS AND TERMINAL BLOCK LAYOUT SHALL BE CONSISTENT WITH EXISTING COV HAWK STANDARDS. LOAD BAY SHALL INCLUDE THE WIRING TO MODIFY THE MMU/DOOR OPEN INTERLOCK, AND THE POLICE FLASH RESET. A RELAY SHALL BE PROVIDED WITH A LS 24VDC DISCONNECT TO PREVENT A CONTROLLER/FLASH SIMULTANEOUS DISPLAY. LOAD BAY SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1321 OR PRE-APPROVED EQUAL.

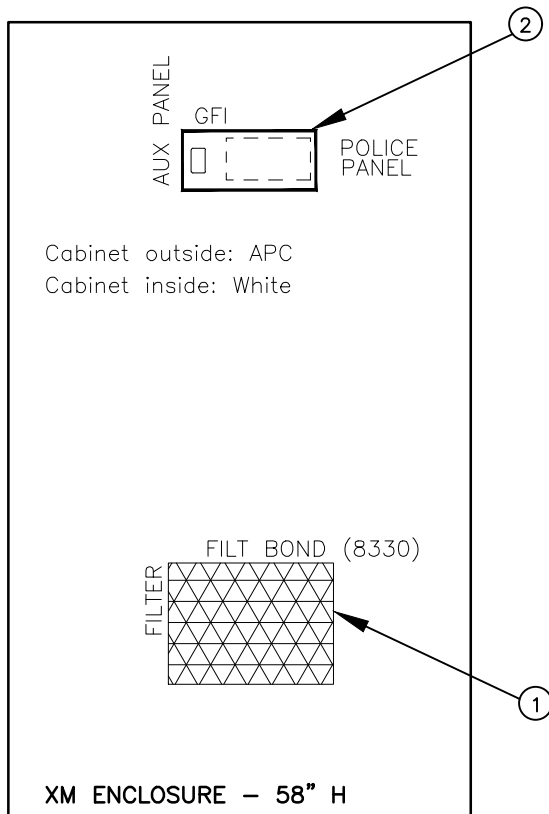
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REV NO.	DATE	BY	APPR	PUBLIC WORKS - STREETS AND TRANSPORTATION
1	7/14	RAW	CJC	
2	2/21	OIS	AGE	
3	9/21	RAW	CJC	
APPROVED BY: <i>[Signature]</i>				
APPROVED DATE: 9/1/2021				

CITY OF
Vancouver
WASHINGTON

TYPE "M" HAWK SIGNAL
CABINET INTERIOR LAYOUT
(BACK)

STANDARD PLAN
NUMBER
T20-46A



CABINET DOOR NOTES:

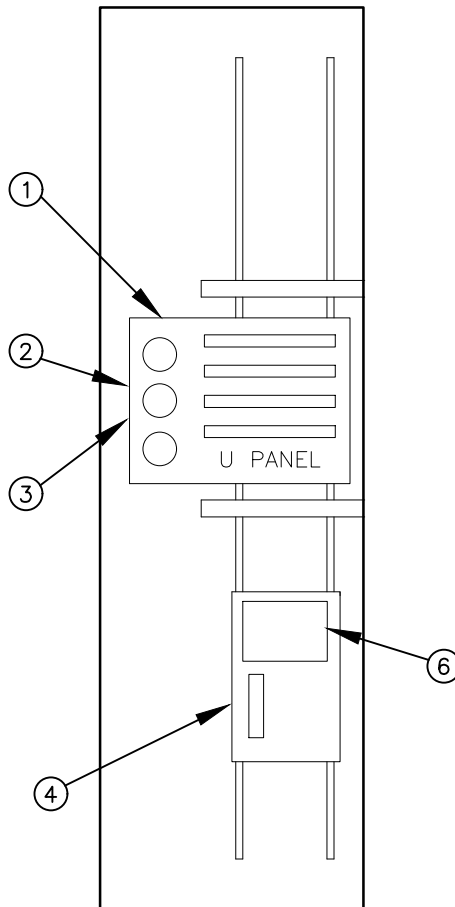
- ① A 12" X 16" DOOR FILTER SHALL BE PROVIDED.
- ② A CONTROL PANEL WITH THE FEATURES AS SHOWN SHALL BE PROVIDED. IT SHALL INCLUDE A FULL PLASTIC COVER THAT CAN BE HINGED UP. THE POLICE PANEL SHALL CONTAIN 1 PB SWITCH TO PUT THE CABINET IN FLASH. THIS ASSEMBLY SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 2094 OR PRE-APPROVED EQUAL.

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REV NO.	DATE	BY	APPR	PUBLIC WORKS - STREETS AND TRANSPORTATION
1	7/14	RAW	CJC	
2	2/21	OIS	AGE	
3	9/21	RAW	CJC	
APPROVED BY: 				
APPROVED DATE: 9/1/2021				



TYPE "M" HAWK SIGNAL CABINET INTERIOR LAYOUT (DOOR)	STANDARD PLAN NUMBER T20-46B
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CABINET LEFT SIDE NOTES:

- ① U PANEL TERMINAL ASSIGNMENT AND LAYOUT SHALL BE CONSISTENT WITH COV EXISTING STANDARDS. IT SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1323 OR PRE-APPROVED EQUAL.
- ② EDCO PC-642 SERIES SURGE SUPPRESSER SHALL BE AN INTEGRAL PART OF THE U PANEL.
- ③ THE U PANEL SHALL BE WIRED TO FUNCTION WITH ANY TYPE TS1 CONTROLLER.
- ④ DETECTOR FIELD TERMINATION PANEL SHALL HAVE 2 MARATHON 1600 SERIES TERMINAL BLOCKS, LAYOUT AND LABELED CONSISTENT WITH EXISTING COV HAWK STANDARDS. IT SHALL BE CASCADE SIGNAL CORP. PART NO. CSC# 1532. FOR ADDITIONAL INFORMATION, SEE **INPUT TERMINAL FOR "M" CABINET HAWK DETECTION PANEL ASSEMBLY, DETAIL T20-46E.**
- ⑤ NO PANELS ON THE SIDE SHALL INTERFERE WITH THE DROPPING DOWN OF THE LOAD BAY.
- ⑥ POLARA NAVIGATOR APS INTERCONNECT BOARD.

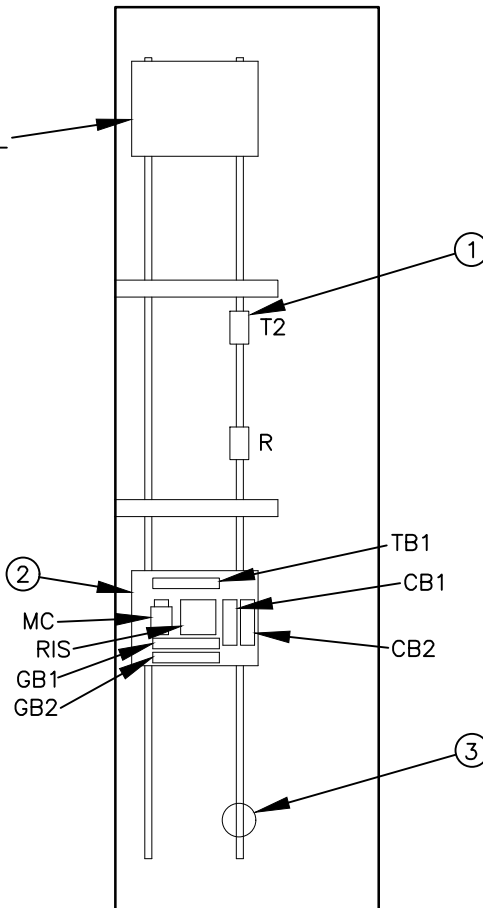
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REV NO.	DATE	BY	APPR	PUBLIC WORKS – STREETS AND TRANSPORTATION
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2	2/21	OIS	AGE	
3	9/21	RAW	CJC	
APPROVED BY: 				
APPROVED DATE: 9/1/2021				



TYPE "M" HAWK SIGNAL CABINET INTERIOR LAYOUT (LEFT SIDE)	STANDARD PLAN NUMBER T20-46C
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POWER SUP PNL



CABINET RIGHT SIDE NOTES:

- ① A THERMOSTAT TO CONTROL THE HEATER SHALL BE PROVIDED.
- ② A POWER PANEL SHALL BE PROVIDED AND LAID OUT CONSISTENT WITH COV STANDARDS. CASCADE SIGNAL CORP. PART NO. CSC# 2067 OR PRE-APPROVED EQUAL.
- ③ A CABINET HEATER SHALL BE PROVIDED WITH A SCREW IN BASE.

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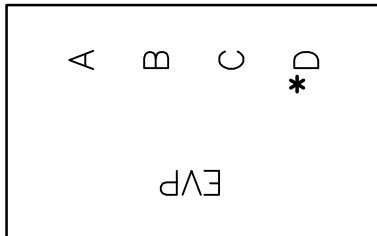
REV NO.	DATE	BY	APPR	PUBLIC WORKS – STREETS AND TRANSPORTATION
1	7/14	RAW	CJC	
2	9/21	RAW	AGE	

APPROVED BY: *[Signature]*
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021



TYPE "M" HAWK SIGNAL CABINET INTERIOR LAYOUT (RIGHT SIDE)	STANDARD PLAN NUMBER T20-46D
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CARD CAGE 1

* UNASSIGNED ON U-PANEL.

REV NO.	DATE	BY	APPR
1	7/14	RAW	CJC
2	9/21	RAW	AGE

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APPROVED BY: 
TRAFFIC ENGINEER MANAGER
APPROVED DATE: 9/1/2021



TYPE "M" HAWK SIGNAL
CABINET DETECTION
ASSIGNMENTS FOR CARD CAGE

STANDARD PLAN
NUMBER
T20-46E