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Revision/Description	Description/Description	Date/Date
Client/client		

CANADA BORDER SERVICES AGENCY (CBSA)

Project title/Titre du projet

CBSA IPIL-RFID Douglas & Pacific Highway Port of Entry

Consultant Signature Only

Designed by/Concept par
AES/NNA

Drawn by/Dessiné par
AES/EH

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PREETIPAL PAUL

Drawing title/Titre du dessin

PACIFIC HIGHWAY ELECTRICAL LAYOUT

Project No./No. du projet
R.081242.001

Sheet/Feuille
E201
06 OF 09

Revision no./La Révision no.
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KEYED NOTES:

- Ⓐ REMOVE EXISTING 304mmx304mmx152mm VERTICALLY MOUNTED SURFACE PVC BOX C/W SIX (6) CONDUITS ENTERING FROM BOTTOM. TWO (2) REDUNDANT CONDUITS TO BE CUT 50mm ABOVE FINISHED GRADE AND CAPPED OFF. RETAIN FOUR (4) REMAINING CONDUITS AND REUSE TWO (2) FOR POWER AND TWO (2) FOR SIGNALS. INSTALL NEW 152mmx152mmx103mm PVC BOX TO TERMINATE THE REMAINING TWO POWER CONDUITS. EXISTING UNISTRUT FIXING TO THE POST TO BE REMOVED AND REPLACED WITH NEW SUITABLE FOR SMALLER JB.
- Ⓑ EXISTING METAL BOX TO BE REPLACED WITH NEW 152mmx152mmx103mm PVC JUNCTION BOX TO RECEIVE THE POWER CONDUCTORS (#12 AWG) FROM P13. INSIDE THE JUNCTION BOX, PROVIDE DIN RAIL TO MOUNT A 15A, 120V MANUAL BREAKER TO ACT AS A SWITCH.
- Ⓒ REPLACE TWO (2) EXISTING SINGLE GANG JB'S WITH ONE NEW 152mmx152mmx103mm PVC BOX AND TERMINATE ALL FOUR EXISTING CONDUITS IN NEW JB.
- Ⓓ PULL EXISTING CONDUCTORS BACK TO JB ON P14. REMOVE EXISTING JB ON P15 AND INSTALL NEW 152mmx152mmx103mm PVC JB AT LOWER LEVEL ON P15 TO ACCEPT THE TWO EXISTING CONDUITS FROM P14 AND NEW CONDUIT TO EMITTERS.

KEYED NOTES:

- ① PROCEDURE FOR THE REMOVAL OF THE EXISTING SINGLE GANG JB'S AND REPLACING THEM WITH TWO 152mmx152mm JB'S (ONE FOR POWER AND ONE FOR SIGNAL):
 1. CUT EXISTING CONDUIT AT FOOT OF POST
 2. REMOVE JB'S AND BACKPLATE. GRIND SURFACE TO MAKE SMOOTH, PAINT TO MATCH.
 3. INSTALL NEW 152mmx152mm JB'S
 4. EXTEND NEW CONDUIT UP THE POST. PROVIDE STRAPPING.
 5. RE-CONNECT TO NEW JB VIA LIQUIDTITE FLEXIBLE CONNECTORS AND PROVIDE CONTINUITY.
 6. PAINT AND MAKE GOOD.
- ② EACH BOOTH IS FED WITH TWO (2) 120V, 15A DEDICATED CIRCUITS THAT ORIGINATE FROM PANEL 'T-2E' LOCATED IN THE ADJACENT BUILDING. ALLOW FOR TIME IN THE TENDER TO WORK INSIDE EACH BOOTH TO TRACE AND IDENTIFY ALL 120V CIRCUITS IN EACH BOOTH. ALLOW FOR TIME AND MATERIALS TO MAKE ADJUSTMENTS TO FREE UP ONLY ONE (1) 120V-15A CIRCUIT. THIS FREED-UP CIRCUIT TO BE THEN USED EXCLUSIVELY FOR THE NEW IPIL/RFID EQUIPMENT IN EACH LANE. WHERE CIRCUITS ARE REARRANGED IN THE BOOTH IN ORDER TO FREE UP THE ONE CIRCUIT, PROVIDE UPDATED PANEL DIRECTORY IN THE BOOTH PANEL AFTER CONSTRUCTION. INCLUDE CIRCUIT NUMBER INFORMATION IN THE LAMMOID LABEL FOR THE FIRST POWER JB IN EACH LANE.

LEGEND

- POWER CONDUCTOR (ROUTED IN EXISTING CONDUIT)
- POWER CONDUCTOR (PROVIDE NEW CONDUIT)
- - - EXISTING SIGNAL CONDUIT
- NEW SIGNAL CONDUIT C/W POLY PULLSTRING
- ▨ DENOTES NEW CONCRETE WORK BY CIVIL CONTRACTOR
- ↑ CONDUIT RUN OUT THROUGH CONCRETE PLANTER

POWER CABLE SPECIFICATIONS:
(LEAVE 1.8m AT TERMINATION POINT)

POWER CONDUCTORS
12 AWG STRANDED THHN, 600 VAC.

BRANCH CIRCUIT CONDUCTOR INSULATION COLOUR:
NEUTRAL WHITE (WH)
LINE BLACK (BK)
GROUND GREEN (GR)

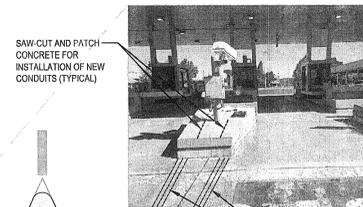
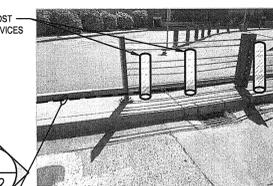
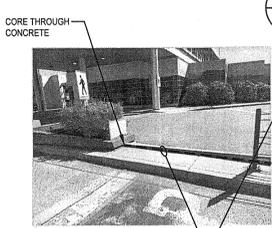
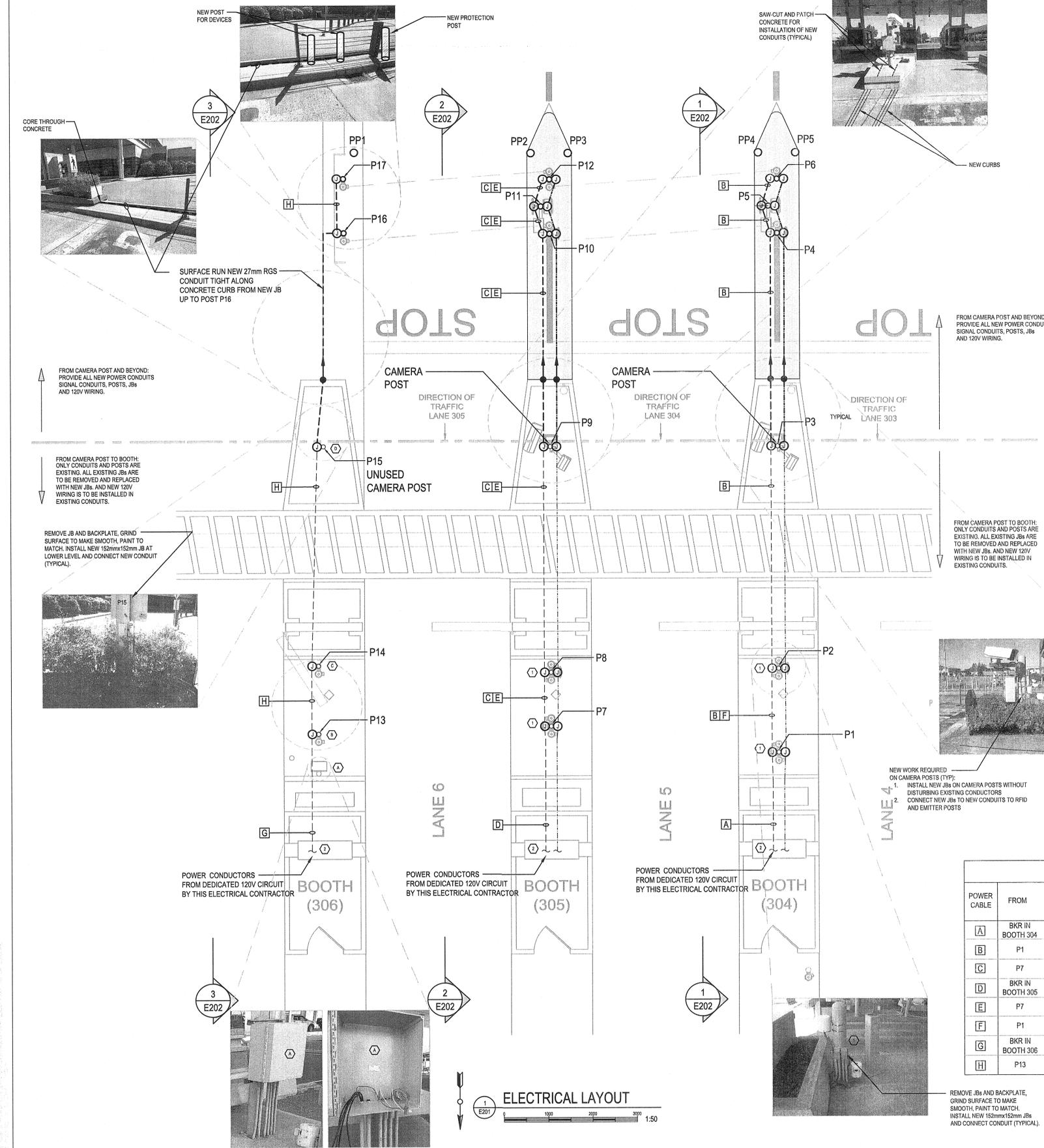
SYSTEM POWER CONDUCTOR INSULATION COLOUR:
NEUTRAL WHITE (WH)
LINE RED (RD)
GROUND GREEN (GR)

EMITTER POWER CONDUCTOR INSULATION COLOUR:
NEUTRAL BLUE (BL)
LINE BROWN (BR)
GROUND GREEN (GR)

POWER REQUIREMENTS:
PROVIDE DEDICATED 20AMP SINGLE POLE NON-GFI TYPE BREAKER (BKR) PER LANE AND LABEL LPR-LANE#, WHERE 'X' IS THE LANE NUMBER.

POWER CABLE SCHEDULE

POWER CABLE	FROM	TO	VIA	CONDUIT 27mmC (N) NEW (E) EXISTING	VOLTAGE (V)	POWER CABLE REQUIREMENT BREAKER (A)	WIRE SIZE (AWG)	REMARKS	CONDUCTOR INSULATION COLOUR
A	BKR IN BOOTH 304	P1	-	E	120	20	#12	120 VAC POWER CONDUCTORS	WH BK + GR
B	P1	P6	JBs ON P2, P3, P4 & P5	E&N	120	-	#12	SYSTEM POWER CONDUCTORS	WH RD + GR
C	P7	P12	JBs ON P8, P9, P10 & P11	E&N	120	-	#12	LANE #6 SYSTEM POWER CONDUCTORS	WH RD + GR
D	BKR IN BOOTH 305	P7	-	E	120	20	#12	LANE #6 120 VAC POWER CONDUCTORS	WH BK + GR
E	P7	P12	JBs ON P8, P9, P10 & P11	E&N	120	-	#12	LANE #5 EMITTER POWER CONDUCTORS	BL BR + GR
F	P1	P2	-	E	120	-	#12	LANE #4 EMITTER POWER CONDUCTORS	BL BR + GR
G	BKR IN BOOTH 306	P13	-	E	120	-	#12	120 VAC POWER CONDUCTORS	WH BK + GR
H	P13	P17	JBs ON P14, P15 & P16	E&N	120	-	#12	LANE #6 EMITTER POWER CONDUCTORS	BL BR + GR



FROM CAMERA POST AND BEYOND: PROVIDE ALL NEW POWER CONDUITS SIGNAL CONDUITS, POSTS, JB'S AND 120V WIRING.

FROM CAMERA POST TO BOOTH: ONLY CONDUITS AND POSTS ARE EXISTING. ALL EXISTING JB'S ARE TO BE REMOVED AND REPLACED WITH NEW JB'S. NEW 120V WIRING IS TO BE INSTALLED IN EXISTING CONDUITS.

REMOVE JB AND BACKPLATE. GRIND SURFACE TO MAKE SMOOTH, PAINT TO MATCH. INSTALL NEW 152mmx152mm JB AT LOWER LEVEL AND CONNECT NEW CONDUIT (TYPICAL).

FROM CAMERA POST TO BOOTH: ONLY CONDUITS AND POSTS ARE EXISTING. ALL EXISTING JB'S ARE TO BE REMOVED AND REPLACED WITH NEW JB'S. NEW 120V WIRING IS TO BE INSTALLED IN EXISTING CONDUITS.

NEW WORK REQUIRED ON CAMERA POSTS (TYP):
1. INSTALL NEW JB'S ON CAMERA POSTS WITHOUT DISTURBING EXISTING CONDUCTORS
2. CONNECT NEW JB'S TO NEW CONDUITS TO RFID AND EMITTER POSTS

REMOVE JB AND BACKPLATE. GRIND SURFACE TO MAKE SMOOTH, PAINT TO MATCH. INSTALL NEW 152mmx152mm JB'S AND CONNECT CONDUIT (TYPICAL).

ELECTRICAL LAYOUT

