

**SINGLE LINE DIAGRAM SYMBOL SCHEDULE**

|          |   |
|----------|---|
| [Symbol] | LV CIRCUIT BREAKER  |
| [Symbol] | LV CIRCUIT BREAKER WITH STAB CONNECTORS (DRAWNOUT CONTACTS)   |
| [Symbol] | HV CIRCUIT BREAKER (DRAWNOUT) LETTER DESIGNATION (IF USED) OR OIL CIRCUIT BREAKER (IF NOT USED) VAC VACUUM (IF RECLOSE) |
| [Symbol] | DISCONNECT SWITCH   |
| [Symbol] | LOAD BREAK SWITCH   |
| [Symbol] | FUSED CUTOFF (POLE MOUNTED)   |
| [Symbol] | FUSED SWITCH  |
| [Symbol] | FUSE  |
| [Symbol] | FORMIC CONTROL CONTACT  |
| [Symbol] | N.O. CONTACT (ALTERNATE)  |
| [Symbol] | N.C. CONTACT (ALTERNATE)  |
| [Symbol] | TRANSFER SWITCH   |
| [Symbol] | CAPACITOR   |
| [Symbol] | GROUND  |
| [Symbol] | UTILITY POWER METER   |
| [Symbol] | CONNECTION POINT  |
| [Symbol] | AC GENERATOR SET  |
| [Symbol] | D-Y GROUND / Y-Y GROUND   |
| [Symbol] | TRANSFORMER   |
| [Symbol] | PAD MOUNT TRANSFORMER   |
| [Symbol] | PANEL   |
| [Symbol] | PANEL 'X'   |
| [Symbol] | RESISTOR HEAT   |
| [Symbol] | RAVOUT CELL   |
| [Symbol] | LIGHTNING ARRESTOR  |
| [Symbol] | HV CABLE STRESS CONE TERMINATION  |
| [Symbol] | CABLE SIDE  |
| [Symbol] | INCOMING UTILITY CONNECTION POT HEAD  |
| [Symbol] | FIELD WINDING   |
| [Symbol] | POTENTIAL TRANSFORMER   |
| [Symbol] | CURRENT TRANSFORMER   |
| [Symbol] | ZERO SEQUENCE CURRENT TRANSFORMER   |
| [Symbol] | TEST LINK/SWITCH/LOCK (H-LINE DIAGRAM)  |
| [Symbol] | DOTTED LINE IS OPERATIVE CIRCUIT  |
| [Symbol] | PROTECTIVE RELAY (NUMERICAL INDICATES STANDARD USE) (SEE FUNCTION NUMBER LISTED ABOVE)                                  |
| [Symbol] | IF USED: NO. OF PHASES IF MORE THAN 1.  |
| [Symbol] | SOLID LINE IS 'LOCK' CIRCUIT  |
| [Symbol] | INSTANTANEOUS AND TIME-Delay GROUND AND NEUTRAL OVERCURRENT RELAY   |
| [Symbol] | BREAKER AUX CONTACTS  |
| [Symbol] | BREAKER KEY INTERLOCK (IF INDICATES KEY MATCH)  |
| [Symbol] | BREAKER DESIGNATION (E.g. S1, T1, P1, Q1, R1)   |
| [Symbol] | TRIP  |
| [Symbol] | PROTECTION (OPERATIVE CIRCUIT)  |
| [Symbol] | BREAKER TRIP UNIT RATING (NOTE 2)   |

**SITE SYMBOL SCHEDULE**

|          |  |
|----------|--|
| [Symbol] | BC HYDRO UTILITY POLE  |
| [Symbol] | TELLUR POLE  |
| [Symbol] | PRIVATE POWER POLE   |
| [Symbol] | BC HYDRO/TELLUR POLE   |
| [Symbol] | UTILITY TRANSFORMER ON CONCRETE PAD                                      |
| [Symbol] | CONCRETE ENCASED TRENCH  |
| [Symbol] | CONCRETE PULL BOX  |
| [Symbol] | CONCRETE PULL RT   |
| [Symbol] | EXTERIOR BOLLARD   |
| [Symbol] | PULL BOX (FIBRE GLASS, PVC, ETC.)  |
| [Symbol] | OVERHEAD UTILITY SERVICE MAST  |
| [Symbol] | GUY WIRE   |
| [Symbol] | STAB-OUT FOR CONDUIT, OR INSULATED END FOR SPARE CABLE OR CONTROL WIRING |
| [Symbol] | RECEPTACLE CONNECTION  |
| [Symbol] | DIRECT EQUIPMENT CONNECTION  |
| [Symbol] | SINGLE SURFACE MOUNTED PANELBOARD  |
| [Symbol] | JUNCTION BOX   |
| [Symbol] | STRIP SURFACE MOUNTED LUMINAIRE  |
| [Symbol] | ELECTRIC BASEBOARD HEATER  |

**BUILDING LIST**

| <INVENTORY NUMBER> BUILDING NUMBER | BUILDING OR INVENTORY NAME                     |
|------------------------------------|--|
| <982> BUILDING 12                  | ICE PLANT                                      |
| NEW ICE PLANT BUILDING             | NEW ICE PLANT BUILDING                         |
| <965> BUILDING 15                  | GEAR STORAGE LOCKER                            |
| <967> BUILDING 17                  | SEAFOOD AUCTION                                |
| <974> BUILDING 23                  | SEAFOOD AUCTION/NET REPAIR/CAFE                |
| <975> BUILDING 25                  | GREAT WEST FISHERMANS COOP GEAR STORAGE LOCKER |
| <976> BUILDING 26                  | GEAR STORAGE LOCKER                            |
| <977> BUILDING 27                  | MASTERCRAFT BOAT COVERINGS                     |
| <979> BUILDING 29                  | MAIN STEVESTON HARBOUR AUTHORITY OFFICE        |
| <990> BUILDING 29B                 | WASHROOMS                                      |
| <981> <980> BUILDING 30 AND 31     | SEINE NET STORAGE                              |
| <983> BUILDING 33                  | GEAR STORAGE LOCKER                            |
| <984> BUILDING 34                  | GEAR STORAGE LOCKER                            |
| BUILDING 40                        | WORKSHOP                                       |
| BUILDING 45                        | WORKSHOP                                       |
| BUILDING 46                        | WORKSHOP                                       |
| <413> AREA A                       | ATAGI GANGWAY                                  |
| <415>                              | RCMP GANGWAY                                   |
| <414> AREA B                       | BRITANNIA GANGWAY                              |
| <841>                              | WELDING GANGWAY                                |

**DRAWING LIST**

| DRAWING NUMBER | DRAWING NAME                                  |
|----------------|---|
| E-001          | OVERALL ELECTRICAL SITE PLAN                  |
| E-002          | ELECTRICAL ENLARGED SITE PLAN - NEW           |
| E-003          | ENLARGED SITE PLAN - TRITES WEST              |
| E-004          | DUCT BANK DETAILS AND CABLE SCHEDULES         |
| E-005          | DUCT BANK DETAILS AND CABLE SCHEDULES         |
| E-006          | DUCT BANK DETAILS AND CABLE SCHEDULES         |
| E-007          | PULLBOX DETAILS                               |
| E-008          | PULLBOX DETAILS                               |
| E-100          | OVERALL SINGLE LINE DIAGRAM - EXISTING        |
| E-101          | ELECTRICAL SINGLE LINE DIAGRAM - PHASE 1 NEW  |
| E-102          | ELECTRICAL SINGLE LINE DIAGRAM - PHASE 2 NEW  |
| E-300          | EXISTING ELECTRICAL POLE DETAILS              |
| E-301          | EXISTING ELECTRICAL POLE DETAILS              |
| E-302          | EXISTING SOUTH SUBSTATION AND PAD DETAILS     |
| E-303          | SOUTH SUBSTATION GROUNDING DETAILS            |
| E-304          | SOUTH SUBSTATION GROUNDING DETAILS            |
| E-305          | SOUTH SUBSTATION-MDP-6A ELECTRICAL DETAILS    |
| E-306          | NEW ATAGI MARINA-MDP-6B/2A ELECTRICAL DETAILS |

**OVERALL - SITE PLAN**  
SCALE: 1:500

- GENERAL NOTES:**
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND UNDERSTANDING ALL STANDARDS AND SPECIFICATIONS REFERENCED OR MENTIONED WITHIN THE PROJECT DOCUMENTS.
  - EXISTING INFORMATION WITHIN THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY OTHERS, EXTRACTED FROM HISTORICAL RECORDS, AND SITE OBSERVATION. EXISTING INFORMATION IS PROVIDED TO FACILITATE THE CONTRACTOR IN PROVIDING A FAIR AND ACCURATE TENDER BID BY PROVIDING A GREATER UNDERSTANDING OF THE SCOPE OF WORK. BY NO MEANS SHALL THE CONTRACTOR RELY SOLELY ON THE EXISTING INFORMATION PROVIDED TO DETERMINE A COMPLETE AND FULLY ACCURATE SCOPE OF WORK AS NOT ALL ELECTRICAL EQUIPMENT OR DEVICES THAT REQUIRE TO BE RELOCATED, REMOVED OR REPLACED MAY BE NOTED. CONTRACTOR SHALL PERFORM A SITE VISIT TO DETERMINE THE EXACT SCOPE OF WORK PRIOR TO PROVIDING THEIR TENDER BID.
  - THE CONTRACTOR IS TO SUPPLY ALL NECESSARY TEMPORARY ELECTRICAL EQUIPMENT AND DEVICES DURING CONSTRUCTION AS REQUIRED.
  - CONTRACTOR TO FIELD VERIFY ALL PRIVATE POLES THROUGHOUT THE SITE. ALL POWER POLES WITHIN THIS PROJECT (EXCLUDING BC HYDRO POLES) ARE TO BE REMOVED AFTER UNDERGROUND POWER DISTRIBUTION FOR THIS SITE IS FULLY CONSTRUCTED.
  - ALL POWER AND COMMUNICATION DUCTBANKS ARE EXISTING, UNLESS OTHERWISE SPECIFIED.

**DUCT LEGEND**

|          |     |     |  |
|----------|-----|-----|--|
| [Symbol] | OH  | OH  | EXISTING OVERHEAD POWER LINE (TO REMAIN)   |
| [Symbol] | UG  | UG  | EXISTING UNDERGROUND DUCT BANK (TO REMAIN) |
| [Symbol] | UG  | UG  | NEW UNDERGROUND DUCT BANK                  |
| [Symbol] | COM | COM | EXISTING COMMUNICATION DUCT BANK           |
| [Symbol] | COM | COM | NEW COMMUNICATION DUCT BANK                |
| [Symbol] | W   | W   | EXISTING WATER DUCT BANK                   |



2021/06/24 ISSUED FOR TENDER

ISS DATE DESCRIPTION

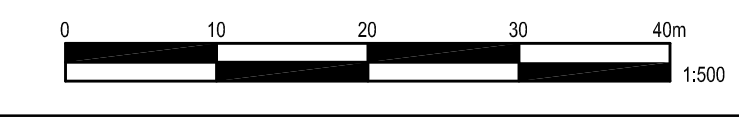
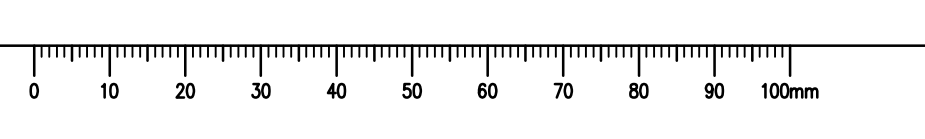
**FISHERIES AND OCEANS CANADA**  
SMALL CRAFT HARBOURS

**WSP**

Project Site/Title de projet: RICHMOND, B.C.  
**SCH STEVESTON PARAMOUNT ELECTRICAL - TRITES WEST**

Drawing Site/Title de dessin: OVERALL ELECTRICAL SITE PLAN

Project No./No. de projet: 191-16093-02  
Sheet/Feuille: E-001  
Scale/Echelle: 1:500







GENERAL NOTES:  
 1. CONTRACTOR TO PROVIDE NEW CONDUITS, CONDUCTORS AND CONNECTIONS FOR ALL EXISTING AND NEW DUCTBANKS AND PULL-BOXES AS PER SINGLE LINE DIAGRAMS AND CABLE SCHEDULES, UNLESS OTHERWISE SPECIFIED. COORDINATE ANY CHANGES WITH THE DEPARTMENTAL REPRESENTATIVE PRIOR TO WORK.  
 2. CONTRACTOR TO PROVIDE MOOREY CONDUCTORS AS PER THE SINGLE LINE DIAGRAM AND CABLE SCHEDULES FOR ALL EXISTING AND NEW DUCTBANKS.

**DUCT LEGEND**

|     |     |  |
|-----|-----|--|
| OH  | OH  | EXISTING OVERHEAD POWER LINE (TO REMAIN)   |
| UG  | UG  | EXISTING UNDERGROUND DUCT BANK (TO REMAIN) |
| UG  | UG  | NEW UNDERGROUND DUCT BANK                  |
| COM | COM | EXISTING COMMUNICATION DUCT BANK           |
| COM | COM | NEW COMMUNICATION DUCT BANK                |
| W   | W   | EXISTING WATER DUCT BANK                   |

**BUILDING LIST**

| <INVENTORY NUMBER><br>BUILDING NUMBER | BUILDING OR INVENTORY NAME                     |
|---------------------------------------|--|
| <962> BUILDING 12                     | ICE PLANT                                      |
| NEW ICE PLANT BUILDING                | NEW ICE PLANT                                  |
| <965> BUILDING 15                     | GEAR STORAGE LOCKER                            |
| <967> BUILDING 17                     | SEAFOOD AUCTION                                |
| <974> BUILDING 23                     | SEAFOOD AUCTION/NET REPAIR/CAFE                |
| <975> BUILDING 25                     | GREAT WEST FISHERMANS COOP GEAR STORAGE LOCKER |
| <976> BUILDING 26                     | GEAR STORAGE LOCKER                            |
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| <979> BUILDING 29                     | MAIN STEVESTON HARBOUR AUTHORITY OFFICE        |
| <980> BUILDING 29B                    | WASHROOMS                                      |
| <981> <980> BUILDING 30 AND 31        | SEINE NET STORAGE                              |
| <983> BUILDING 33                     | GEAR STORAGE LOCKER                            |
| <984> BUILDING 34                     | GEAR STORAGE LOCKER                            |
| BUILDING 40                           | WORKSHOP                                       |
| BUILDING 45                           | WORKSHOP                                       |
| BUILDING 46                           | WORKSHOP                                       |
| <413> AREA A                          | ATAGI GANGWAY                                  |
| <415>                                 | RCMP GANGWAY                                   |
| <414> AREA B                          | BRITANNIA GANGWAY                              |
| <841>                                 | WELDING GANGWAY                                |

1 ELECTRICAL ENLARGED SITE PLAN - NEW  
 E-002 SCALE: 1:100

Professional Engineer Seal: T. A. Gaudin, 2017-08-29

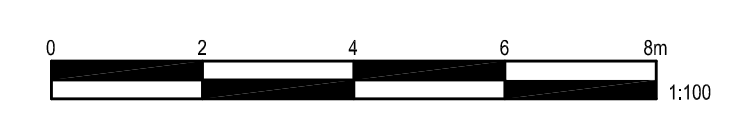
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**FISHERIES AND OCEANS CANADA**  
 SMALL CRAFT HARBOURS

**WSP**

Projet/Title du projet: RICHMOND, B.C.  
**SCH STEVESTON PARAMOUNT ELECTRICAL - TRITES WEST**  
 Dessiné/Title de dessin: ELECTRICAL ENLARGED SITE PLAN - NEW

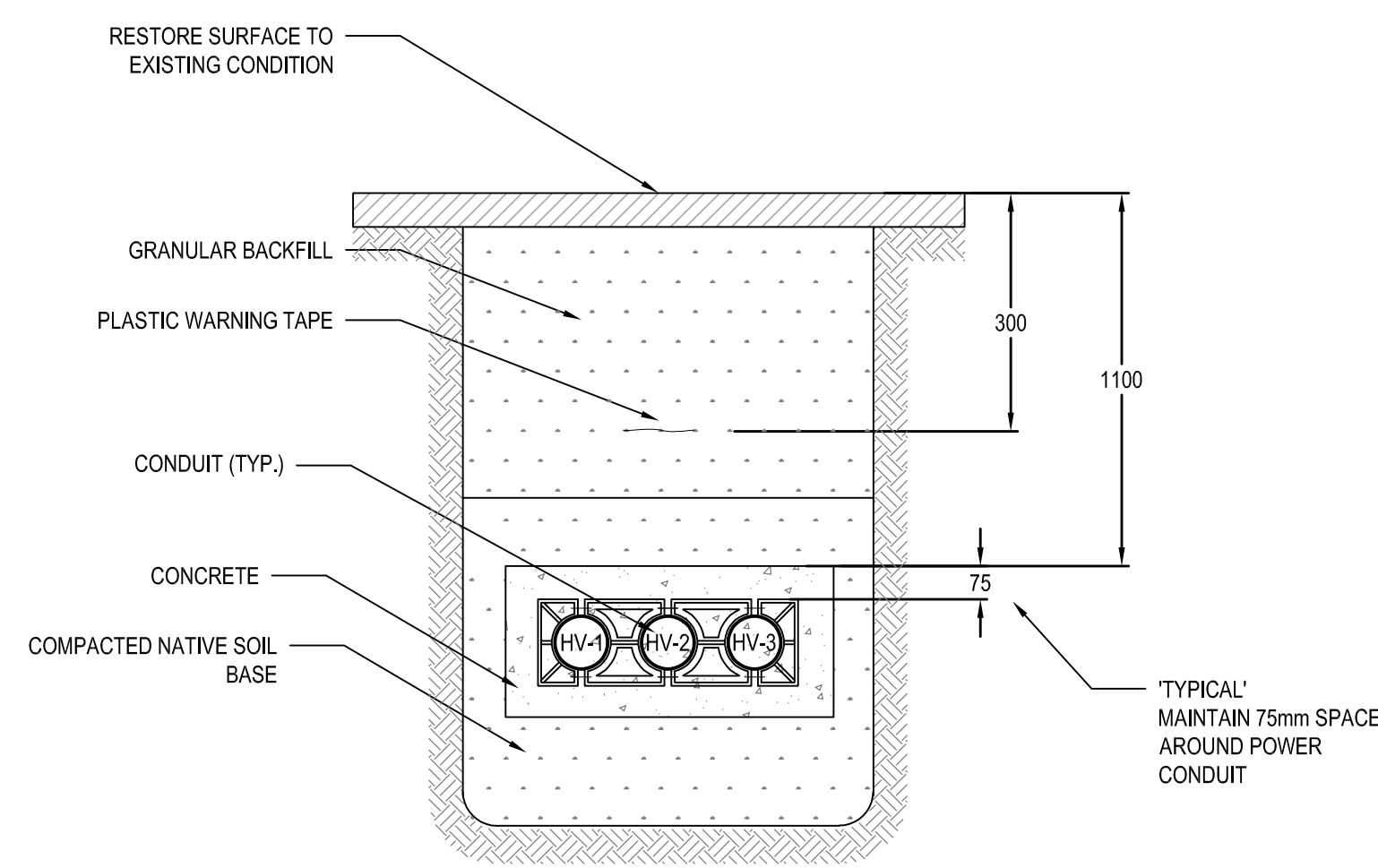
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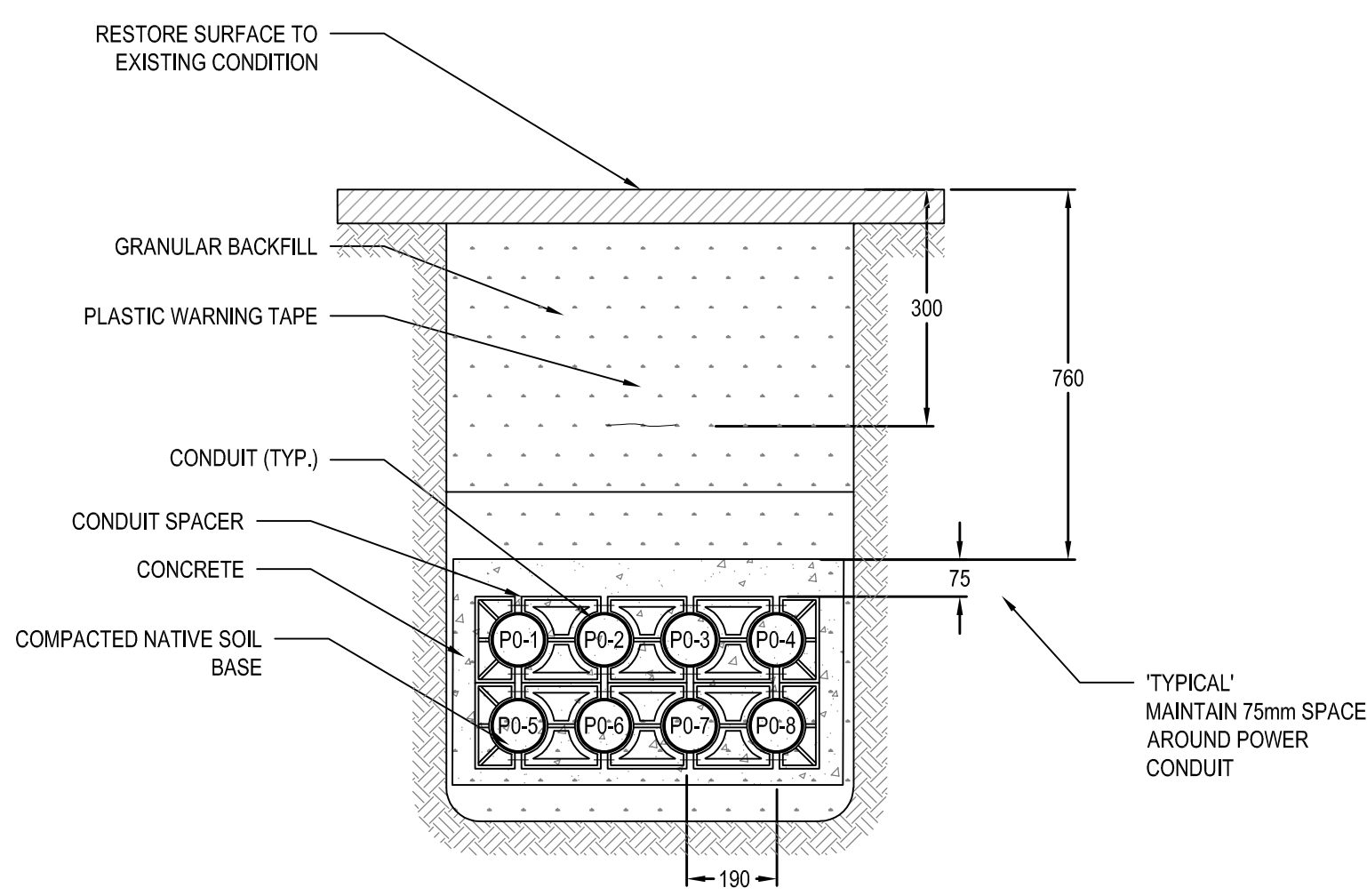




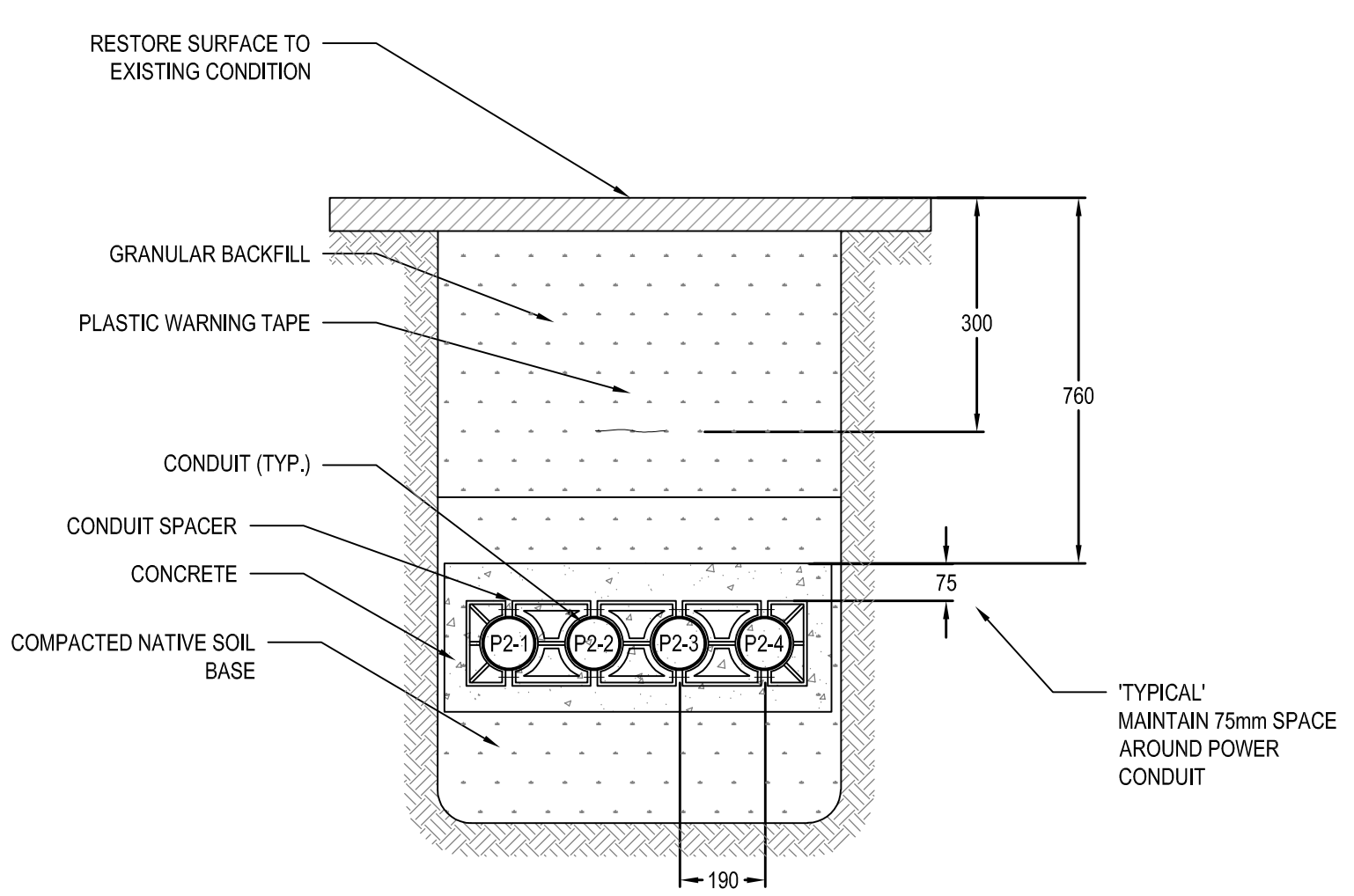




**A** DUCTBANK 'A' CROSS SECTION  
SCALE: N.T.S.



**B** DUCTBANK 'B' CROSS SECTION  
SCALE: N.T.S.

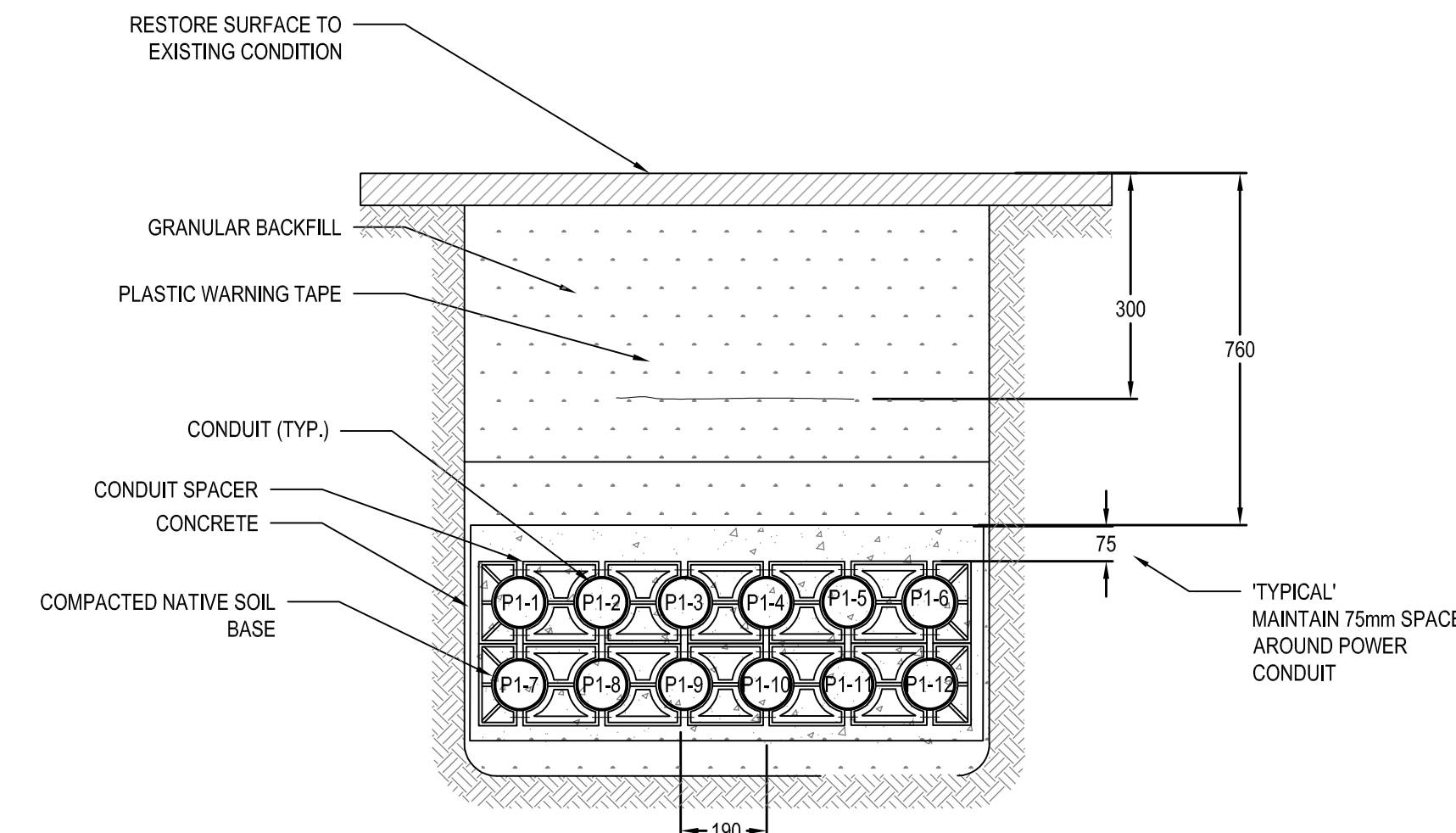


**C** DUCTBANK 'C' CROSS SECTION  
SCALE: N.T.S.

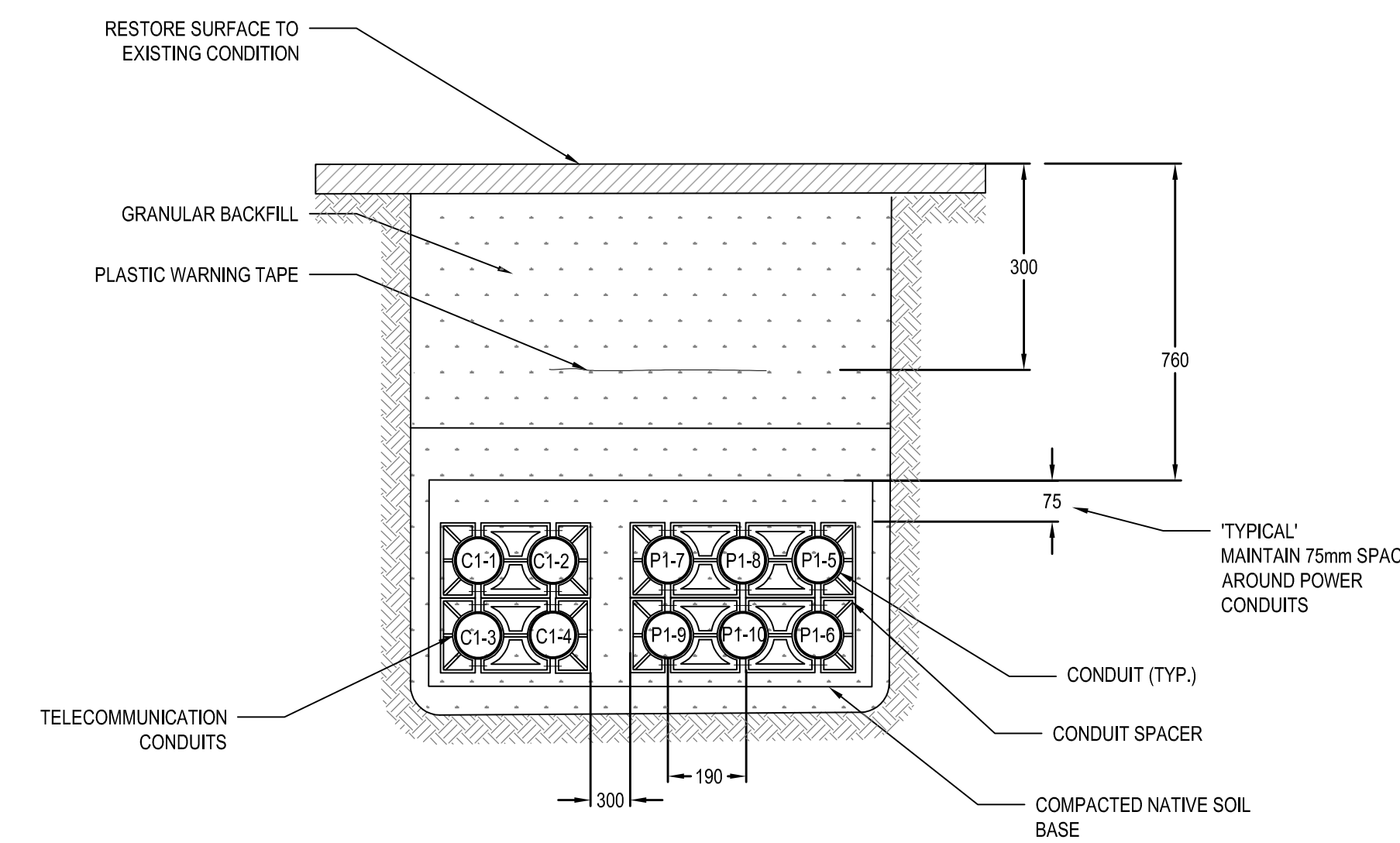
| CONDUIT AND CABLE SCHEDULE (BCH POLE TO SOUTH SUBSTATION) |   |      |         |           |            |              |                              |
|---|---|------|---------|-----------|------------|--------------|------------------------------|
| CUT SECTION   | CONDUIT ROUTE                                     | TYPE | VOLTAGE | SIZE (mm) | CONDUIT ID | CONDUCTORS   | COMMENTS                     |
| A   | FROM PRIVATE POLE TO SOUTH SUBSTATION TRANSFORMER | HV   | 25kV    | 78        | HV-1       | REFER TO SLD | PRIMARY CONDUCTORS - CONDUIT |
|   |   |      | 25kV    | 78        | HV-2       | REFER TO SLD | PRIMARY CONDUCTORS - CONDUIT |
|   |   |      | 25kV    | 78        | HV-3       | REFER TO SLD | PRIMARY CONDUCTORS - CONDUIT |

| CONDUIT AND CABLE SCHEDULE (SOUTH SUBSTATION TRANSFORMER T-SS TO MDP-6A) |  |      |         |           |            |            |                              |
|--|--|------|---------|-----------|------------|------------|------------------------------|
| CUT SECTION  | CONDUIT ROUTE                                      | TYPE | VOLTAGE | SIZE (mm) | CONDUIT ID | CONDUCTORS | COMMENTS                     |
| B  | FROM SOUTH SUBSTATION TRANSFORMER TO MDP-6A WREWAY | LV   | 600V    | 103       | P0-1       | 350 KCML   | PRIMARY CONDUCTORS - CONDUIT |
|  |  |      | 600V    | 103       | P0-2       | 350 KCML   | PRIMARY CONDUCTORS - CONDUIT |
|  |  |      | 600V    | 103       | P0-3       | 350 KCML   | PRIMARY CONDUCTORS - CONDUIT |
|  |  |      | 600V    | 103       | P0-4       | 350 KCML   | PRIMARY CONDUCTORS - CONDUIT |
|  |  |      | 600V    | 103       | P0-5       | 350 KCML   | PRIMARY CONDUCTORS - CONDUIT |
|  |  |      | 600V    | 103       | P0-6       | 350 KCML   | PRIMARY CONDUCTORS - CONDUIT |
|  |  |      | 600V    | 103       | P0-7       | 350 KCML   | PRIMARY CONDUCTORS - CONDUIT |
|  |  |      | 600V    | 103       | P0-8       | 350 KCML   | PRIMARY CONDUCTORS - CONDUIT |

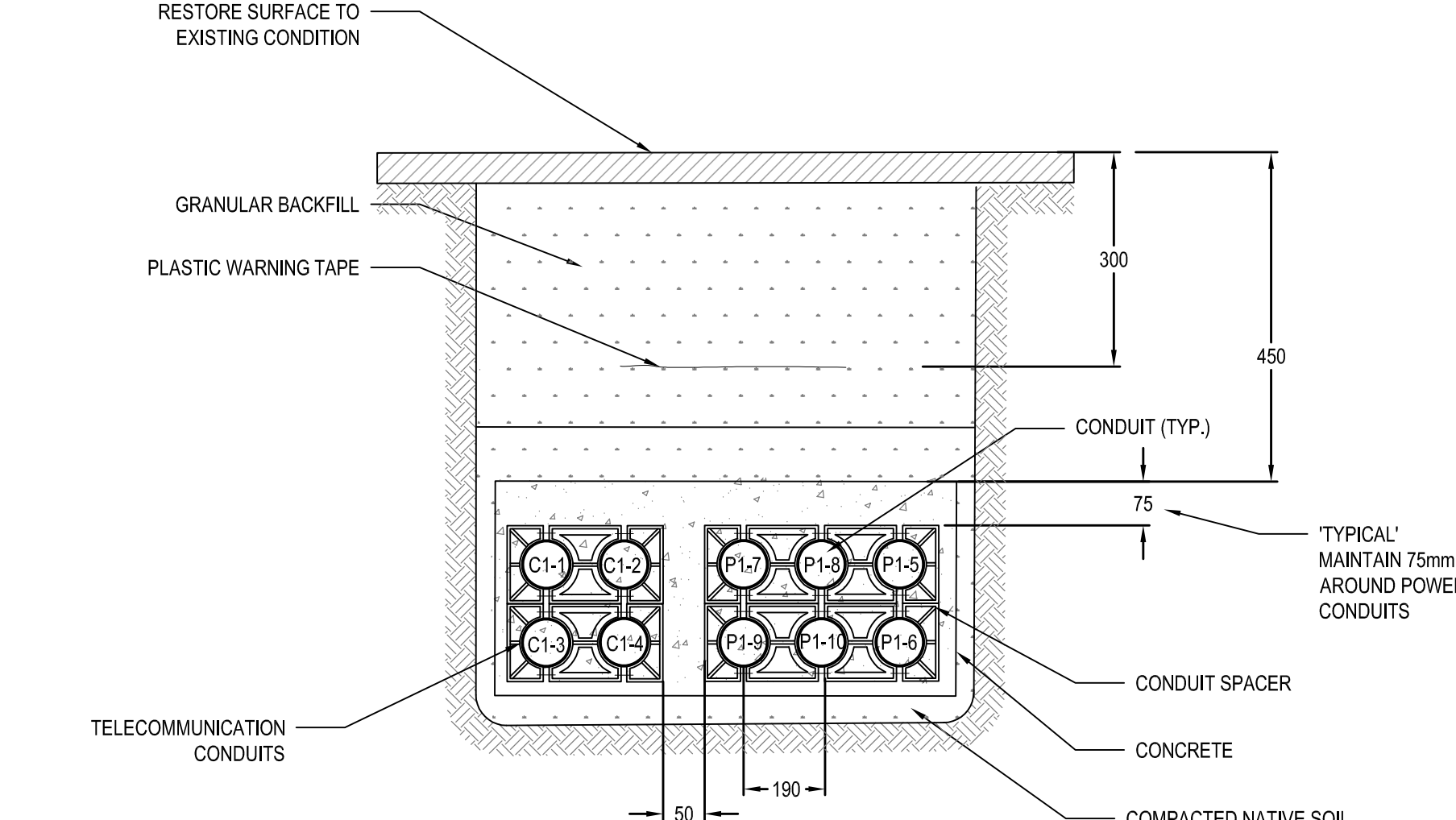
| CONDUIT AND CABLE SCHEDULE (EXISTING, SOUTH SUBSTATION TRANSFORMER TO 'ICE-PLANT' PULL-BOX) |  |      |         |           |            |              |  |
|---|--|------|---------|-----------|------------|--------------|--|
| CUT SECTION   | CONDUIT ROUTE  | TYPE | VOLTAGE | SIZE (mm) | CONDUIT ID | CONDUCTORS   | COMMENTS   |
| C   | FROM SOUTH SUBSTATION TRANSFORMER TO EXISTING 'ICE-PLANT' PULL-BOX | LV   | 600V    | 103       | P0-1       | REFER TO SLD | EXISTING CONDUCTORS - CONDUIT TO BE RE-CONNECTED AT MDP-6A FOR NEW 'ICE-PLANT' BLD |
|   |  |      | 600V    | 103       | P0-2       | REFER TO SLD | EXISTING CONDUCTORS - CONDUIT TO BE RE-CONNECTED TO NEW 'ICE-PLANT' BLD            |
|   |  |      | 600V    | 103       | P0-3       | REFER TO SLD | EXISTING CONDUCTORS - CONDUIT TO BE RE-CONNECTED TO NEW 'ICE-PLANT' BLD            |
|   |  |      | 600V    | 103       | P0-4       | REFER TO SLD | EXISTING CONDUCTORS - CONDUIT TO BE RE-CONNECTED TO NEW 'ICE-PLANT' BLD            |



**D** DUCTBANK 'D' CROSS SECTION - 'TYPICAL'  
SCALE: N.T.S.



**E** DUCTBANK 'E' CROSS SECTION  
SCALE: N.T.S.

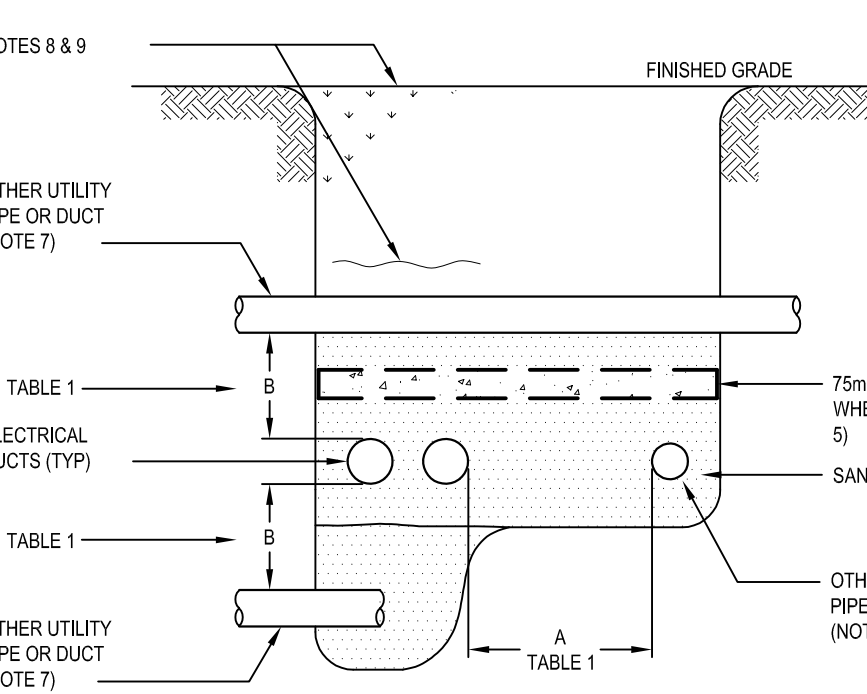


**F** DUCTBANK 'F' CROSS SECTION - CONCRETE ENCASED  
SCALE: N.T.S.

| CONDUIT AND CABLE SCHEDULE (FROM 'MDP-6A' TO EXISTING 'ICE-PLANT' PULL-BOX) |  |      |         |           |            |                   |  |
|---|--|------|---------|-----------|------------|-------------------|--|
| CUT SECTION   | CONDUIT ROUTE                                  | TYPE | VOLTAGE | SIZE (mm) | CONDUIT ID | CONDUCTORS        | COMMENTS   |
| D   | FROM 'MDP-6A' TO EXISTING 'ICE-PLANT' PULL-BOX | LV   | 600V    | 103       | P1-1       | 750 KCML          | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-6A 1800A CB TO NEW 'ICE-PLANT' BLD VIA EXISTING 'ICE-PLANT' PULL-BOX |
|   |  |      | 600V    | 103       | P1-2       | 750 KCML          | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-6A 1800A CB TO NEW 'ICE-PLANT' BLD VIA EXISTING 'ICE-PLANT' PULL-BOX |
|   |  |      | 600V    | 103       | P1-3       | 750 KCML          | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-6A 1800A CB TO NEW 'ICE-PLANT' BLD VIA EXISTING 'ICE-PLANT' PULL-BOX |
|   |  |      | 600V    | 103       | P1-4       | 750 KCML          | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-6A 1800A CB TO NEW 'ICE-PLANT' BLD VIA EXISTING 'ICE-PLANT' PULL-BOX |
|   |  |      | 600V    | 103       | P1-5       | 500 KCML          | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-6A 400A CB TO BLD 15 VIA EXISTING 'ICE-PLANT' PULL-BOX               |
|   |  |      | 600V    | 103       | P1-6       | EMPTY CW PULLCORD | SPARE CONDUIT TO EXISTING 'ICE-PLANT' PULL-BOX   |
|   |  |      | 600V    | 103       | P1-7       | 600 KCML          | SPARE CONDUIT TO EXISTING 'ICE-PLANT' PULL-BOX   |
|   |  |      | 600V    | 103       | P1-8       | EMPTY CW PULLCORD | SPARE CONDUIT TO TRITES WEST VIA EXISTING 'ICE-PLANT' PULL-BOX FOR FUTURE CONNECTION                         |
|   |  |      | 600V    | 103       | P1-9       | EMPTY CW PULLCORD | SPARE CONDUIT TO TRITES WEST VIA EXISTING 'ICE-PLANT' PULL-BOX FOR FUTURE CONNECTION                         |
|   |  |      | 600V    | 103       | P1-10      | EMPTY CW PULLCORD | SPARE CONDUIT TO TRITES WEST VIA EXISTING 'ICE-PLANT' PULL-BOX FOR FUTURE CONNECTION                         |
|   |  |      | 600V    | 103       | P1-11      | 250 KCML          | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-6A 600A CB TO OLD 'ICE-PLANT' BLD VIA EXISTING 'ICE-PLANT' PULL-BOX  |
|   |  |      | 600V    | 103       | P1-12      | 250 KCML          | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-6A 600A CB TO OLD 'ICE-PLANT' BLD VIA EXISTING 'ICE-PLANT' PULL-BOX  |

| CONDUIT AND CABLE SCHEDULE (TRANSITIONS TO CONCRETE ENCASED 'G004') |   |      |          |           |            |                           |                                     |                |    |     |      |                   |                                     |
|---|---|------|----------|-----------|------------|---------------------------|-------------------------------------|----------------|----|-----|------|-------------------|-------------------------------------|
| CUT SECTION   | CONDUIT ROUTE                           | TYPE | VOLTAGE  | SIZE (mm) | CONDUIT ID | CONDUCTORS                | COMMENTS                            |                |    |     |      |                   |                                     |
| E   | FROM 'ICE-PLANT' PULLBOX TO PULLBOX 'P' | LV   | 347/600V | 103       | P1-7       | 4C 600 KCML CU RW/ISO LPE | POWER TO MDP-48/2A KIOSK (347/600V) |                |    |     |      |                   |                                     |
|   |   |      |          |           |            | P1-8                      | EMPTY CW PULLCORD                   | SPARE          |    |     |      |                   |                                     |
|   |   |      |          |           |            | P1-9                      | EMPTY CW PULLCORD                   | SPARE          |    |     |      |                   |                                     |
|   |   |      |          |           |            | P1-10                     | EMPTY CW PULLCORD                   | SPARE          |    |     |      |                   |                                     |
|   |   |      |          |           |            | P1-5                      | 4C 500 KCML CU RW/ISO IN RPVC       | TO BUILDING 15 |    |     |      |                   |                                     |
|   |   |      |          |           |            | P1-6                      | EMPTY CW PULLCORD                   | SPARE          |    |     |      |                   |                                     |
|   |   |      |          |           |            | F                         | FROM PULLBOX 'C' TO PULLBOX 'D'     | COMMS          | NA | 103 | C1-1 | EMPTY CW PULLCORD | CONDUIT - FUTURE TELECOMMUNICATIONS |
|   |   |      |          |           |            |                           |                                     |                |    |     | C1-2 | EMPTY CW PULLCORD | CONDUIT - FUTURE TELECOMMUNICATIONS |
|   |   |      |          |           |            |                           |                                     |                |    |     | C1-3 | EMPTY CW PULLCORD | CONDUIT - FUTURE TELECOMMUNICATIONS |
|   |   |      |          |           |            |                           |                                     |                |    |     | C1-4 | EMPTY CW PULLCORD | CONDUIT - FUTURE TELECOMMUNICATIONS |

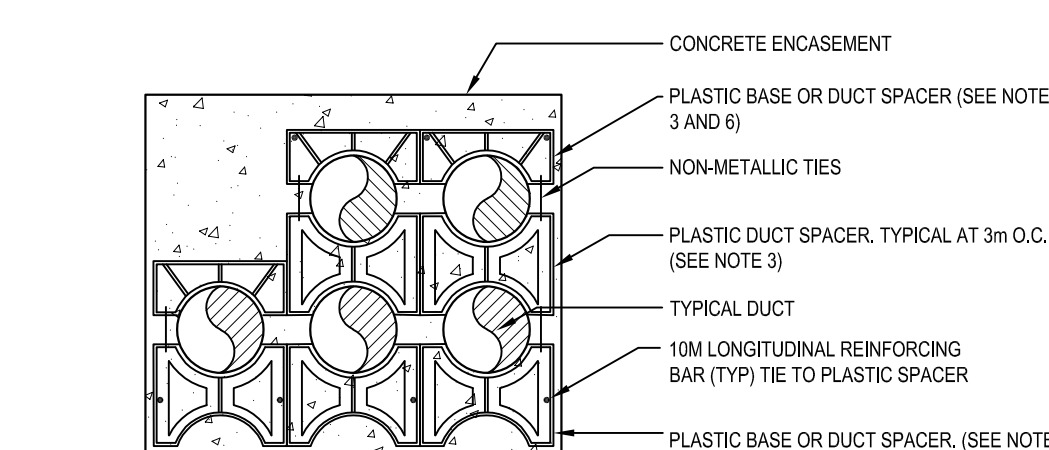
| CONDUIT AND CABLE SCHEDULE |   |      |          |           |            |                           |                                     |                |    |     |      |                   |                                     |
|----------------------------|---|------|----------|-----------|------------|---------------------------|-------------------------------------|----------------|----|-----|------|-------------------|-------------------------------------|
| CUT SECTION                | CONDUIT ROUTE                           | TYPE | VOLTAGE  | SIZE (mm) | CONDUIT ID | CONDUCTORS                | COMMENTS                            |                |    |     |      |                   |                                     |
| F                          | FROM 'ICE-PLANT' PULLBOX TO PULLBOX 'P' | LV   | 347/600V | 103       | P1-7       | 4C 600 KCML CU RW/ISO LPE | POWER TO MDP-48/2A KIOSK (347/600V) |                |    |     |      |                   |                                     |
|                            |   |      |          |           |            | P1-8                      | EMPTY CW PULLCORD                   | SPARE          |    |     |      |                   |                                     |
|                            |   |      |          |           |            | P1-9                      | EMPTY CW PULLCORD                   | SPARE          |    |     |      |                   |                                     |
|                            |   |      |          |           |            | P1-10                     | EMPTY CW PULLCORD                   | SPARE          |    |     |      |                   |                                     |
|                            |   |      |          |           |            | P1-5                      | 4C 500 KCML CU RW/ISO IN RPVC       | TO BUILDING 15 |    |     |      |                   |                                     |
|                            |   |      |          |           |            | P1-6                      | EMPTY CW PULLCORD                   | SPARE          |    |     |      |                   |                                     |
|                            |   |      |          |           |            | F                         | FROM PULLBOX 'C' TO PULLBOX 'D'     | COMMS          | NA | 103 | C1-1 | EMPTY CW PULLCORD | CONDUIT - FUTURE TELECOMMUNICATIONS |
|                            |   |      |          |           |            |                           |                                     |                |    |     | C1-2 | EMPTY CW PULLCORD | CONDUIT - FUTURE TELECOMMUNICATIONS |
|                            |   |      |          |           |            |                           |                                     |                |    |     | C1-3 | EMPTY CW PULLCORD | CONDUIT - FUTURE TELECOMMUNICATIONS |
|                            |   |      |          |           |            |                           |                                     |                |    |     | C1-4 | EMPTY CW PULLCORD | CONDUIT - FUTURE TELECOMMUNICATIONS |



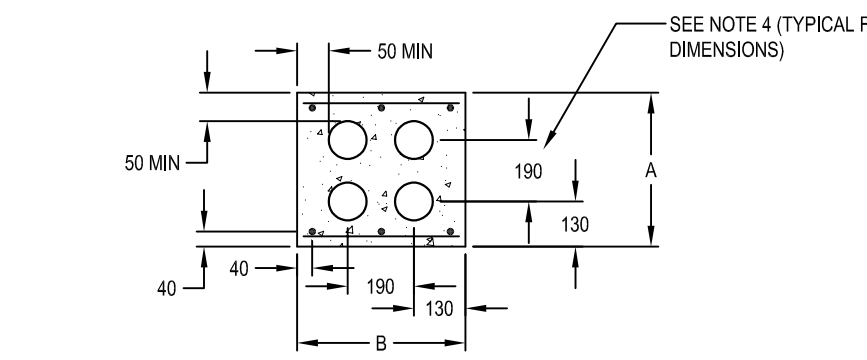
| TYPE OF UTILITY PIPE OR DUCT  | PER B.C. HYDRO (ESA 44-1) (NOTE 2) |     |                       |     | MIN. PER CEC PART 9 (CAN-C22.3 NO. 7) (NOTE 3) |
|---|------------------------------------|-----|-----------------------|-----|--|
|   | 1                                  | 2   | 3                     | 4   |  |
| COLUMN NO.  | A                                  | B   | A                     | B   |  |
| DIMENSION   | A                                  | B   | A                     | B   |  |
| TELEPHONE OR CABLEVISION  | 300                                | 150 | 300                   |     | NOTE 11  |
| STREET LIGHTING FROM BOPH DUCTS   | 900                                | 300 | 300                   | 150 |  |
| GAZ MANSION STORM SEWERS SANITARY SEWERS WATER CL. PIPES LINES JET FILL LINES | 900                                | 300 | 300 MIN 150 PREFERRED | 300 |  |

**1** TYPICAL DUCTBANK CLEARANCES  
SCALE: N.T.S.

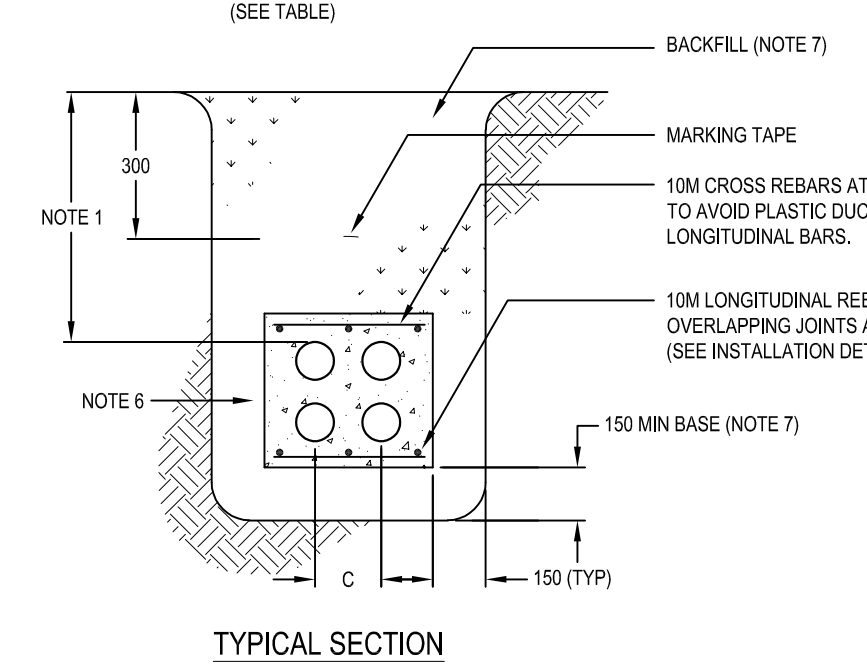
- TYPICAL DUCTBANK CLEARANCES NOTES:**
- THIS DRAWING IS BASED ON B.C. HYDRO STANDARD ESA 44-1, REV. 2, DATED AUG 2016 AND CSA STANDARD CAN-C22.3 NO. 7, PART 9, DATED 2012. PRIOR TO PROCEEDING WITH THE WORK, CONFIRM THAT THE FOREGOING STANDARDS ARE CURRENT AND VALID FOR THE APPLICATION. COMPLY WITH ADDITIONAL REQUIREMENTS OF CAN-C22.3 NO. 7 FOR CABLES OPERATING AT VOLTAGES UP TO 20KV.
  - FIGURES IN COLUMNS 1 AND 2 ARE APPLICABLE FOR PRIMARY AND SECONDARY B.C. HYDRO DUCTS ON PUBLIC PROPERTY. FIGURES IN COLUMNS 3 AND 4 ARE APPLICABLE FOR ALL ELECTRICAL DUCTS LOCATED ON PRIVATE PROPERTY.
  - WHEN PRIMARY B.C. HYDRO DUCTS ARE BEING INSTALLED ON PRIVATE PROPERTY, OBTAIN WRITTEN APPROVAL FROM B.C. HYDRO. THAT CLEARANCES OF COLUMNS 3 AND 4 ARE ACCEPTABLE. IN THE ABSENCE OF SUCH AN APPROVAL, CLEARANCES OF COLUMNS 1 AND 2 SHALL BE APPLICABLE.
  - CLEARANCE MAY BE REDUCED TO 300mm (ABSOLUTE MINIMUM) BY OBTAINING WRITTEN APPROVAL FROM B.C. HYDRO.
  - UNLESS CONCRETE ENCASEMENT IS SPECIFIED, INSTALL CONCRETE PAVEMENT SLABS ALONG THE ELECTRICAL DUCT ROUTE IN ACCORDANCE WITH REF. 1 FOR THE FOLLOWING APPLICATIONS:
    - B.C. HYDRO PRIMARY AND SECONDARY SERVICE DUCTS, REGARDLESS OF VOLTAGE.
    - DUCTS CARRYING CABLES OPERATING AT SYSTEM VOLTAGES ABOVE 600V.
  - WHERE CLEARANCES OF TABLE 1 CANNOT BE OBTAINED DUE TO SITE CONDITIONS, USE REDUCED CLEARANCES OF DRAWING REF. 4 BY CONCRETE ENCASEMENT OF THE AFFECTED PORTIONS OF DUCTS.
  - FOR CLEARANCES OF DUCTS TO STEAM PIPES, SEE REF. 5.
  - FOR INSTALLATION DETAILS OF DIRECT BURIED DUCTS IN GENERAL, SEE REF. 3.
  - FOR INSTALLATION DETAILS OF DIRECT BURIED DUCTS RUNNING UNDER SLAB OR UNDER PAVED SURFACES, SEE REF. 2.
  - FOR RAILWAY CROSSINGS, SEE CSA STANDARD CAN-C22.3 NO. 7.
  - FOR SYSTEM VOLTAGES ABOVE 600V, PROVIDE 300mm OF CLEARANCE AT TOP AND BOTTOM. THE TOP CLEARANCE MAY BE REDUCED TO 150mm WHEN CONCRETE PAVEMENT SLABS ARE USED.



TYPICAL DUCT INSTALLATION WITH PLASTIC SPACERS



TYPICAL SECTION



**2** TYPICAL CONCRETE ENCASED DUCT CONSTRUCTION DETAIL  
SCALE: N.T.S.

| DUCT BANK CONFIGURATION | DUCT QUANTITY | DIMENSIONS (NOTE 3) |     | COMMENTS |
|-------------------------|---------------|---------------------|-----|----------|
|                         |               | A                   | B   |          |
|                         | 4             | 450                 | 450 |          |
|                         | 6             | 450                 | 640 | NOTE 5   |
|                         | 9             | 450                 | 830 | NOTE 5   |
|                         | 12            | 640                 | 830 | NOTE 5   |

- TYPICAL CONCRETE ENCASED DUCT CONSTRUCTION DETAIL NOTES:**
- UNLESS INDICATED OTHERWISE, ALL OUTDOOR DUCTS BEARING CABLES OPERATING AT SYSTEM VOLTAGES ABOVE 600V SHALL BE AT MINIMUM DEPTH OF 1000mm AND SHALL BE CONCRETE ENCASED.
  - FOR OTHER DUCT TYPES REQUIRING CONCRETE ENCASEMENT, IN ADDITION TO THOSE DESCRIBED IN NOTE 1, REFER TO SPECIFIC PROJECT DOCUMENTATION.
  - ALL DUCT BANK DIMENSIONS ARE TYPICAL FOR 100mm DIAMETER DUCTS. FOR OTHER DUCT SIZES AND TYPES ADJUST DIMENSIONS AND SELECT PLASTIC SPACERS TO OBTAIN A MINIMUM OF 50mm SEPARATION, OR AS INDICATED OTHERWISE AND 50mm CONCRETE COVER, WHERE REINFORCED BOPH DUCTBANKS ARE REQUIRED, INCREASE CONCRETE COVER IN ACCORDANCE WITH BOPH STANDARDS.
  - GRADUALLY INCREASE VERTICAL SEPARATION FROM 50mm TO 150mm AT END OF DUCT IN BOTH DIRECTIONS CONCRETE SIDES, ROOMS, WALLS OR TRENCHES, STARTING 50mm FROM THE OUTSIDE FACE OF CONCRETE WALL.
  - DUCTBANKS MAY BE ORIENTED HORIZONTALLY AS SHOWN OR VERTICALLY WHERE INDICATED ON SPECIFIC PROJECT DRAWINGS.
  - SELECT TOP AND BOTTOM PLASTIC SPACERS TO ACCURATELY POSITION THE REBAR IN ACCORDANCE WITH THE TYPICAL DIMENSIONS DETAIL ON THIS DRAWING.
  - FOR GENERAL DESIGN GUIDELINES, DUCT TYPES, COMPACTON AND FILL, SEE REF. 1.

2021-06-24 ISSUED FOR TENDER

ISS DATE DESCRIPTION

FISHERIES AND OCEANS CANADA  
SMALL CRAFT HARBOURS

**WSP**

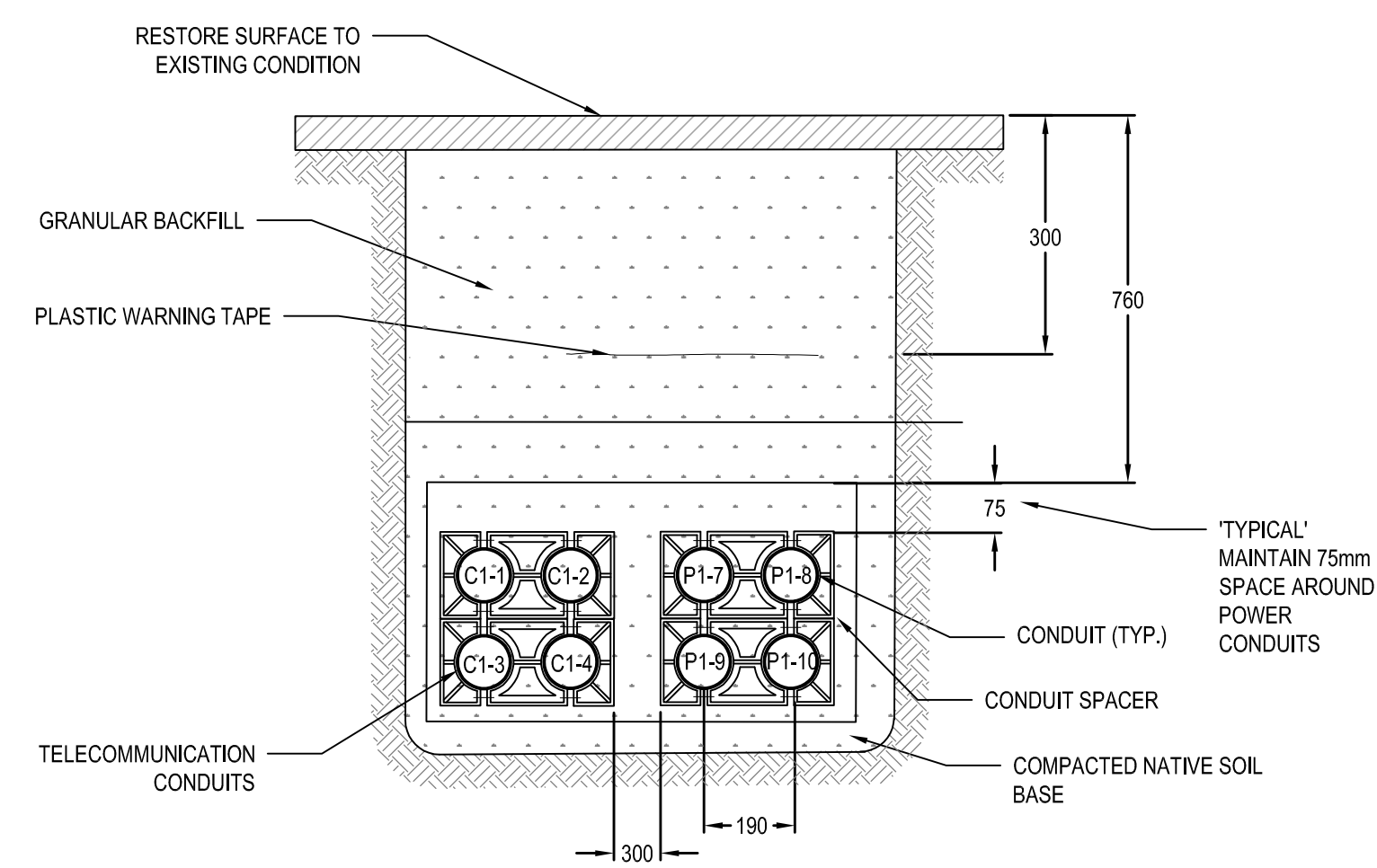
Projet /Projet de projet  
RICHMOND, B.C.

**SCH STEVESTON PARAMOUNT ELECTRICAL - TRITES WEST**

Drawing /Dessin de détails  
DUCT BANK DETAILS AND CABLE SCHEDULES

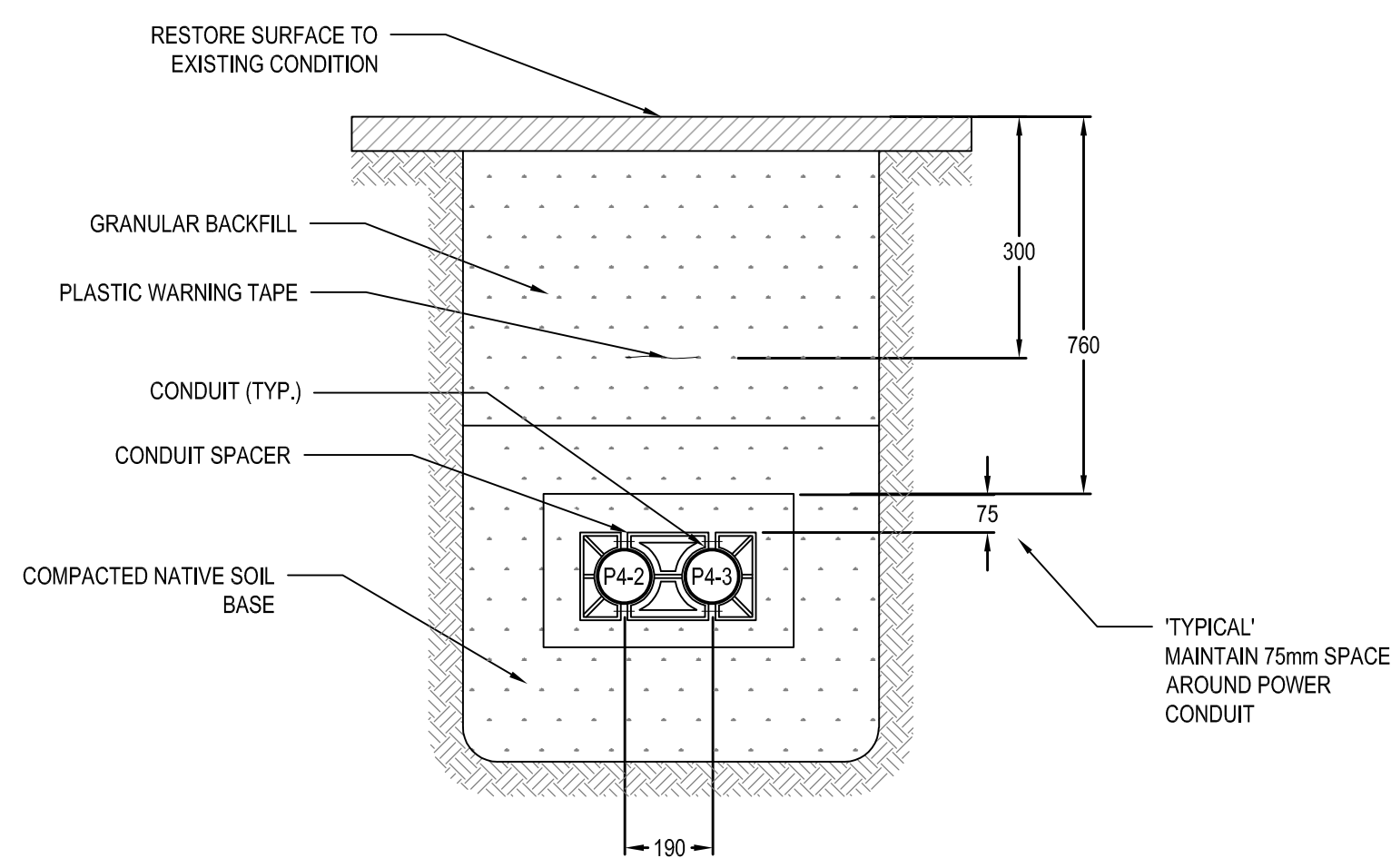
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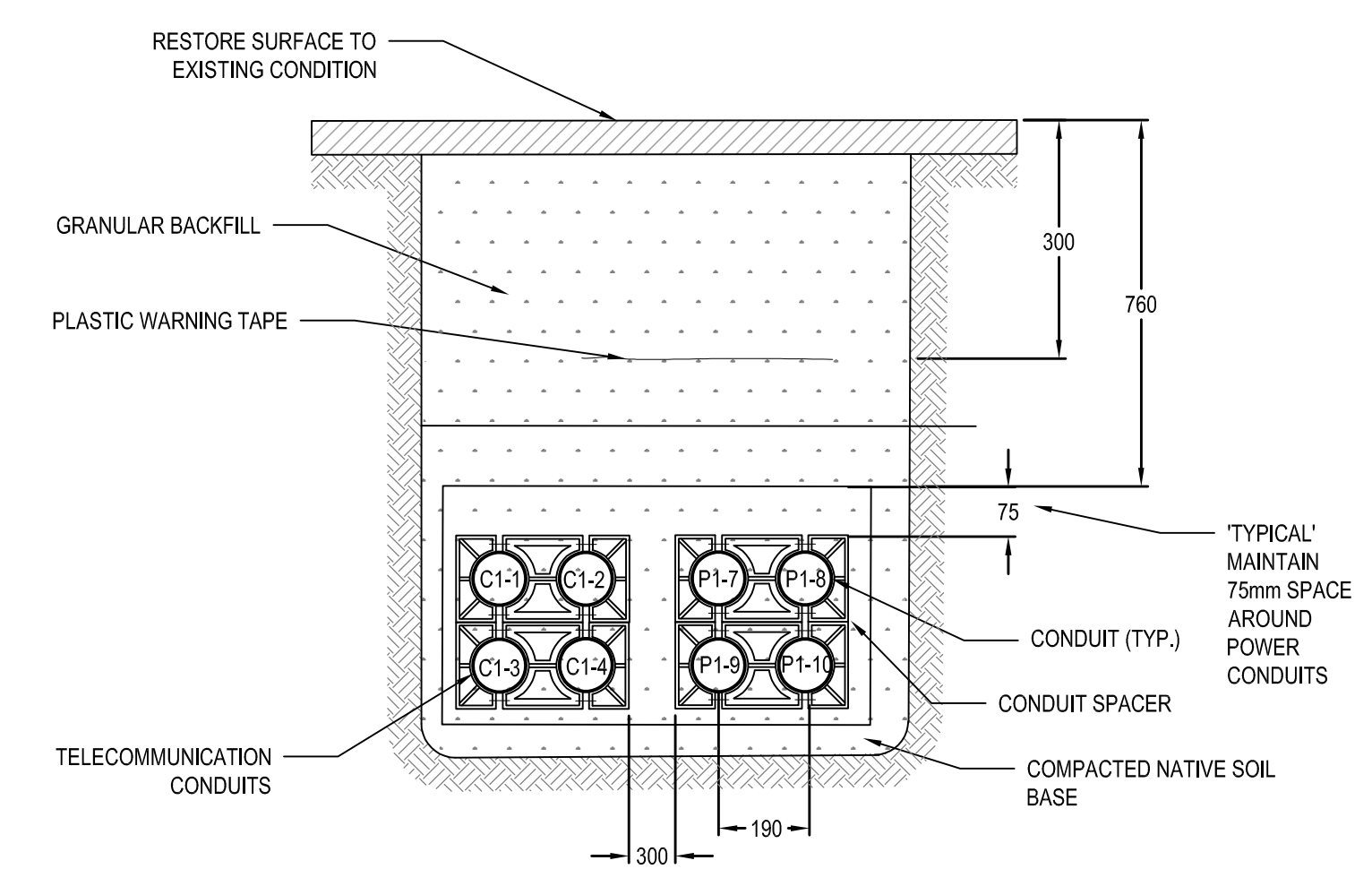
**G** DUCTBANK 'G' CROSS SECTION  
SCALE: N.T.S.

| CONDUIT AND CABLE SCHEDULE (TRITES WEST) |                                   |       |         |           |            |                           |                                     |
|--|-----------------------------------|-------|---------|-----------|------------|---------------------------|-------------------------------------|
| CUT SECTION                              | CONDUIT ROUTE                     | TYPE  | VOLTAGE | SIZE (mm) | CONDUIT ID | CONDUCTORS                | COMMENTS                            |
| G  | FROM: PULLBOX 'P' TO: PULLBOX 'P' | LV    | 347800V | 103       | P1-7       | 4C 500 KCMIL CU RW90 XLPE | POWER TO MDP-8B/2A KIOSK (347800V)  |
|  |                                   |       |         |           | P1-8       | EMPTY CW PULLCORD         | SPARE                               |
|  |                                   |       |         |           | P1-9       | EMPTY CW PULLCORD         | SPARE                               |
|  |                                   |       |         |           | P1-10      | EMPTY CW PULLCORD         | SPARE                               |
|  | FROM: PULLBOX 'C' TO: PULLBOX 'C' | COMMS | N/A     | 103       | C1-1       | EMPTY CW PULLCORD         | CONDUIT - FUTURE TELECOMMUNICATIONS |
|  |                                   |       |         |           | C1-2       | EMPTY CW PULLCORD         | CONDUIT - FUTURE TELECOMMUNICATIONS |
|  |                                   |       |         |           | C1-3       | EMPTY CW PULLCORD         | CONDUIT - FUTURE TELECOMMUNICATIONS |
|  |                                   |       |         |           | C1-4       | EMPTY CW PULLCORD         | CONDUIT - FUTURE TELECOMMUNICATIONS |



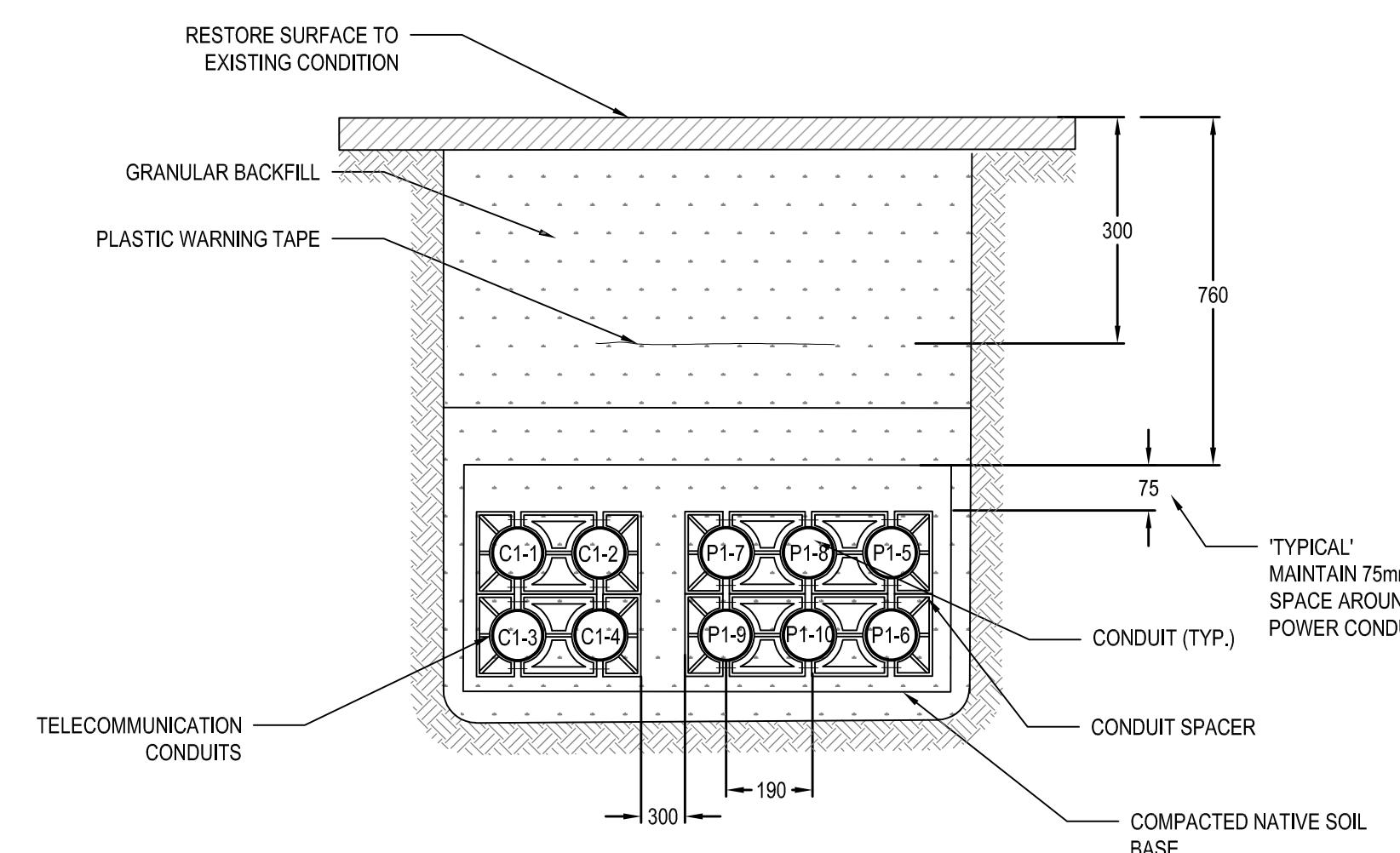
**K** DUCTBANK 'K' CROSS SECTION  
SCALE: N.T.S.

| CONDUIT AND CABLE SCHEDULE (BUILDING 34) |                                   |      |          |           |            |                        |                      |
|--|-----------------------------------|------|----------|-----------|------------|------------------------|----------------------|
| CUT SECTION                              | CONDUIT ROUTE                     | TYPE | VOLTAGE  | SIZE (mm) | CONDUIT ID | CONDUCTORS             | COMMENTS             |
| K  | FROM: BUILDING 33 TO: BUILDING 34 | LV   | 120/208V | 103       | P4-2       | 4C #4 AWG CU RW90 XLPE | POWER TO BUILDING 34 |
|  |                                   |      |          |           | P4-3       | EMPTY CW PULLCORD      | SPARE                |



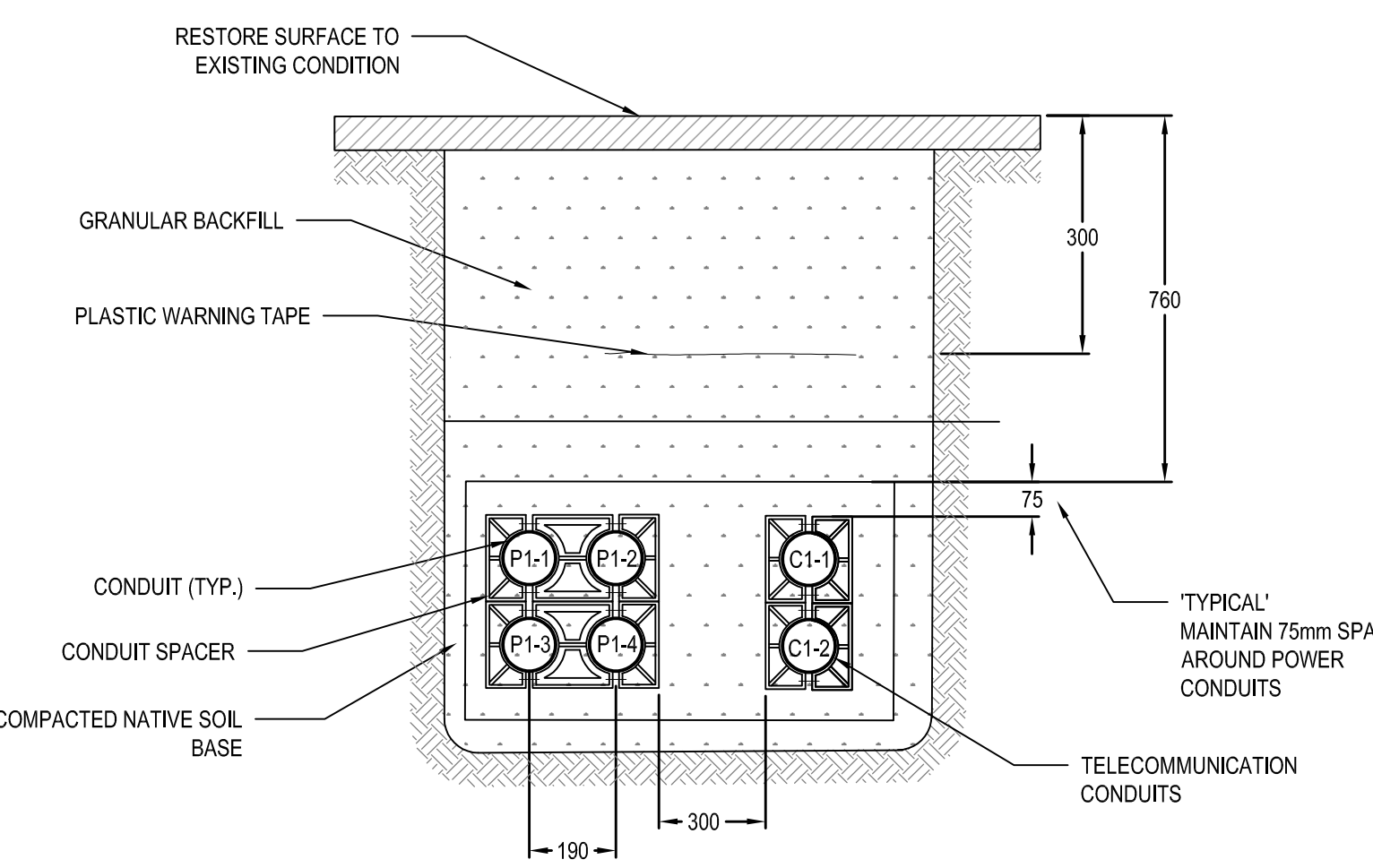
**H** DUCTBANK 'H' CROSS SECTION  
SCALE: N.T.S.

| CONDUIT AND CABLE SCHEDULE (EXISTING) |                                   |       |         |           |            |                           |                                     |
|---------------------------------------|-----------------------------------|-------|---------|-----------|------------|---------------------------|-------------------------------------|
| CUT SECTION                           | CONDUIT ROUTE                     | TYPE  | VOLTAGE | SIZE (mm) | CONDUIT ID | CONDUCTORS                | COMMENTS                            |
| H                                     | FROM: PULLBOX 'P' TO: PULLBOX 'P' | LV    | 347800V | 103       | P1-7       | 4C 500 KCMIL CU RW90 XLPE | POWER TO MDP-8B/2A KIOSK (347800V)  |
|                                       |                                   |       |         |           | P1-8       | EMPTY CW PULLCORD         | SPARE                               |
|                                       |                                   |       |         |           | P1-9       | EMPTY CW PULLCORD         | SPARE                               |
|                                       |                                   |       |         |           | P1-10      | EMPTY CW PULLCORD         | SPARE                               |
|                                       | FROM: PULLBOX 'C' TO: PULLBOX 'C' | COMMS | N/A     | 103       | C1-1       | EMPTY CW PULLCORD         | CONDUIT - FUTURE TELECOMMUNICATIONS |
|                                       |                                   |       |         |           | C1-2       | EMPTY CW PULLCORD         | CONDUIT - FUTURE TELECOMMUNICATIONS |
|                                       |                                   |       |         |           | C1-3       | EMPTY CW PULLCORD         | CONDUIT - FUTURE TELECOMMUNICATIONS |
|                                       |                                   |       |         |           | C1-4       | EMPTY CW PULLCORD         | CONDUIT - FUTURE TELECOMMUNICATIONS |



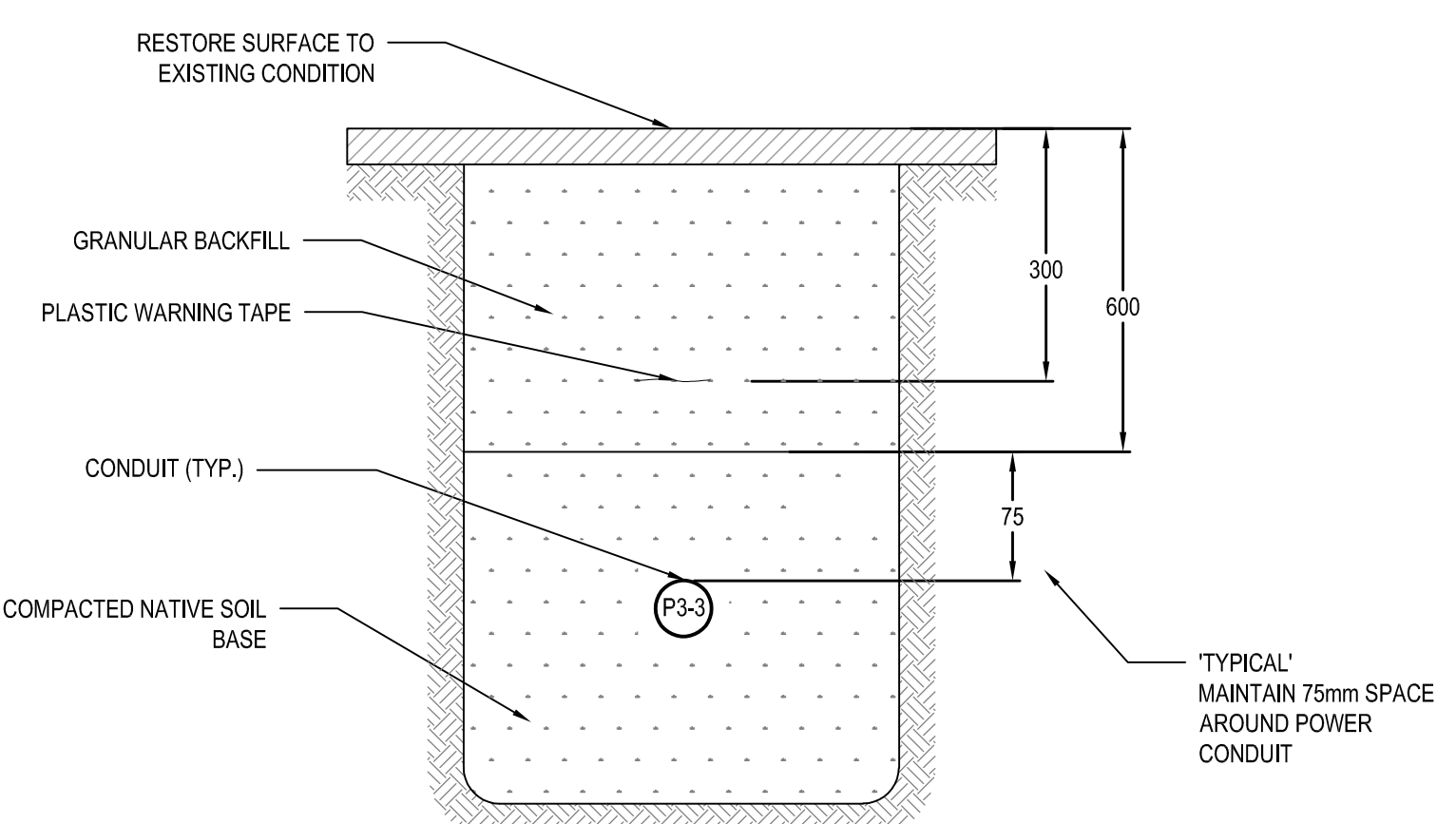
**L** DUCTBANK 'L' CROSS SECTION  
SCALE: N.T.S.

| CONDUIT AND CABLE SCHEDULE (MDP-8B/2A) |   |       |         |           |            |                           |                                     |
|--|---|-------|---------|-----------|------------|---------------------------|-------------------------------------|
| CUT SECTION                            | CONDUIT ROUTE   | TYPE  | VOLTAGE | SIZE (mm) | CONDUIT ID | CONDUCTORS                | COMMENTS                            |
| L                                      | FROM: PULLBOX 'P' TO: NEW MDP-8B/2A KIOSK & FROM: NEW MDP-8B/2A KIOSK TO: PULLBOX 'P' | LV    | 347800V | 103       | P1-7       | 4C 500 KCMIL CU RW90 XLPE | POWER TO MDP-8B/2A KIOSK (347800V)  |
|  |   |       |         |           | P1-8       | EMPTY CW PULLCORD         | SPARE                               |
|  |   |       |         |           | P1-9       | EMPTY CW PULLCORD         | SPARE                               |
|  |   |       |         |           | P1-10      | EMPTY CW PULLCORD         | SPARE                               |
|  | FROM: PULLBOX 'C' TO: NEW MDP-8B/2A KIOSK   | COMMS | N/A     | 103       | P3-1       | 4C #2 AWG CU RW90 XLPE    | POWER TO BUILDING 33                |
|  |   |       |         |           | P3-2       | 4C 30 AWG CU RW90 XLPE    | POWER TO BRITANNIA MARINA ENCLOSURE |
|  | FROM: PULLBOX 'C' TO: PULLBOX 'C'   | COMMS | N/A     | 103       | C1-1       | EMPTY CW PULLCORD         | CONDUIT - FUTURE TELECOMMUNICATIONS |
|  |   |       |         |           | C1-2       | EMPTY CW PULLCORD         | CONDUIT - FUTURE TELECOMMUNICATIONS |



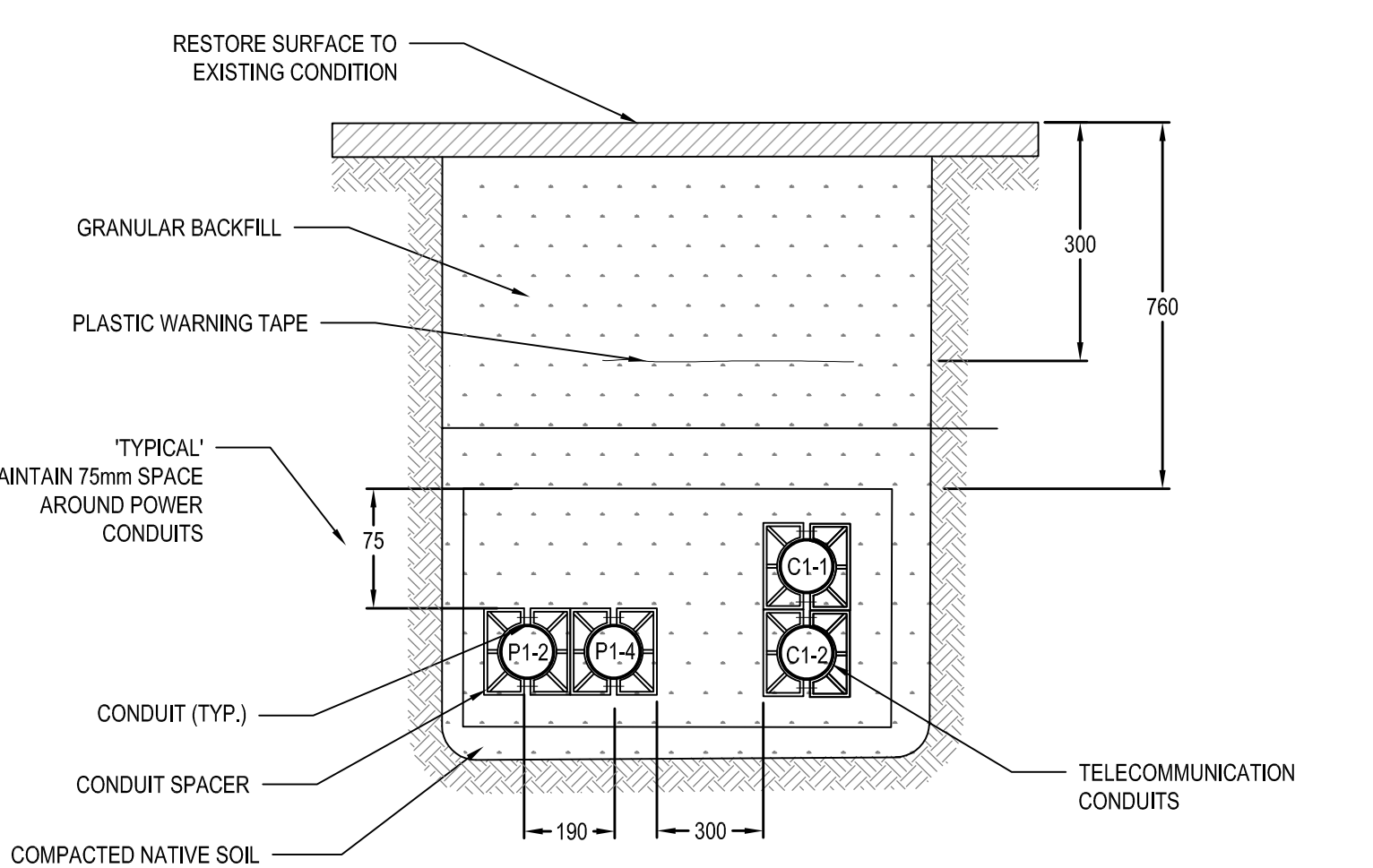
**I** DUCTBANK 'I' CROSS SECTION  
SCALE: N.T.S.

| CONDUIT AND CABLE SCHEDULE (NEW ICE-PLANT BLD) |  |       |         |           |            |                   |  |
|--|--|-------|---------|-----------|------------|-------------------|--|
| CUT SECTION                                    | CONDUIT ROUTE                                      | TYPE  | VOLTAGE | SIZE (mm) | CONDUIT ID | CONDUCTORS        | COMMENTS   |
| I  | FROM: ICE-PLANT PULLBOX TO: NEW ICE-PLANT BUILDING | LV    | 347800V | 103       | P1-1       | 750 KCMIL         | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-6A 1600A CB TO NEW ICE-PLANT BLD VIA EXISTING ICE-PLANT PULL-BOX |
|  |  |       |         |           | P1-2       | 750 KCMIL         | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-6A 1600A CB TO NEW ICE-PLANT BLD VIA EXISTING ICE-PLANT PULL-BOX |
|  |  |       |         |           | P1-3       | 750 KCMIL         | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-6A 1600A CB TO NEW ICE-PLANT BLD VIA EXISTING ICE-PLANT PULL-BOX |
|  |  |       |         |           | P1-4       | 750 KCMIL         | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-6A 1600A CB TO NEW ICE-PLANT BLD VIA EXISTING ICE-PLANT PULL-BOX |
|  | FROM: PULLBOX 'C' TO: NEW ICE-PLANT BUILDING       | COMMS | N/A     | 103       | C1-1       | EMPTY CW PULLCORD | CONDUIT - FUTURE FIRE ALARM CABLES   |
|  |  |       |         |           | C1-2       | EMPTY CW PULLCORD | CONDUIT - FUTURE TELECOMMUNICATIONS  |



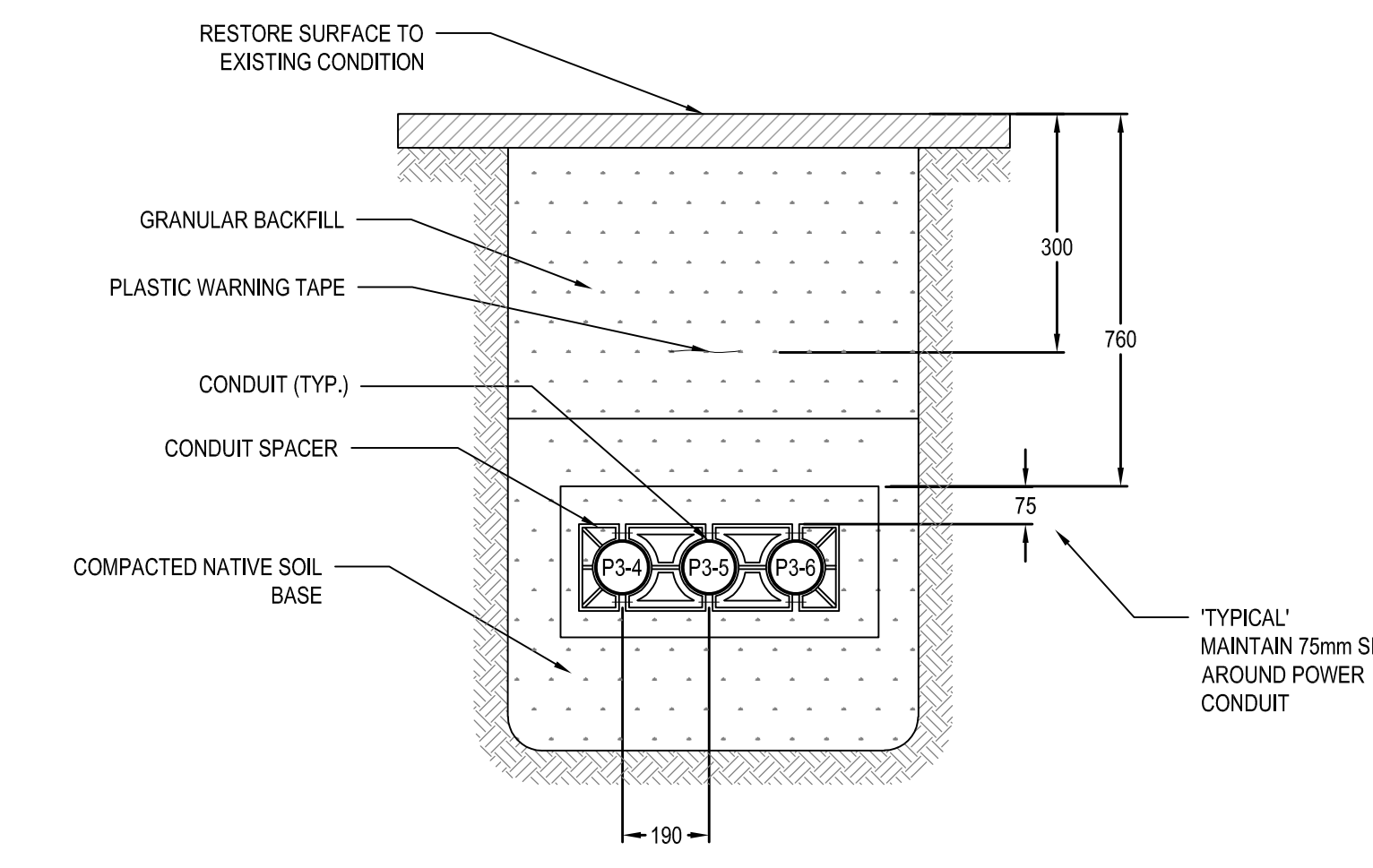
**M** DIRECT BURIED 'M' CROSS SECTION  
SCALE: N.T.S.

| CONDUIT AND CABLE SCHEDULE (EXISTING RCMP FLOAT TECK CABLE, RE-CONNECT) |                                      |      |          |           |            |                     |   |
|---|--------------------------------------|------|----------|-----------|------------|---------------------|---|
| CUT SECTION   | TECK CABLE ROUTE                     | TYPE | VOLTAGE  | SIZE (mm) | CONDUIT ID | CONDUCTORS          | COMMENTS                                  |
| M   | FROM: MDP-8B/2A KIOSK TO: RCMP FLOAT | LV   | 120/208V | 103       | P3-6       | 4C 10 AWG CU TECK90 | EXISTING POWER TO RCMP FLOAT - RE-CONNECT |



**J** DUCTBANK 'J' CROSS SECTION  
SCALE: N.T.S.

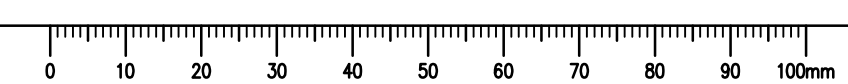
| CONDUIT AND CABLE SCHEDULE (BUILDING 33) |                                   |       |          |           |            |                        |                                     |
|--|-----------------------------------|-------|----------|-----------|------------|------------------------|-------------------------------------|
| CUT SECTION                              | CONDUIT ROUTE                     | TYPE  | VOLTAGE  | SIZE (mm) | CONDUIT ID | CONDUCTORS             | COMMENTS                            |
| J  | FROM: PULLBOX 'P' TO: BUILDING 33 | LV    | 120/208V | 103       | P3-1       | 4C #2 AWG CU RW90 XLPE | POWER TO BUILDING 33                |
|  |                                   |       |          |           | P4-1       | EMPTY CW PULLCORD      | SPARE                               |
|  | FROM: PULLBOX 'C' TO: BUILDING 33 | COMMS | N/A      | 103       | C1-1       | EMPTY CW PULLCORD      | CONDUIT - FUTURE TELECOMMUNICATIONS |
|  |                                   |       |          |           | C1-2       | EMPTY CW PULLCORD      | CONDUIT - FUTURE TELECOMMUNICATIONS |



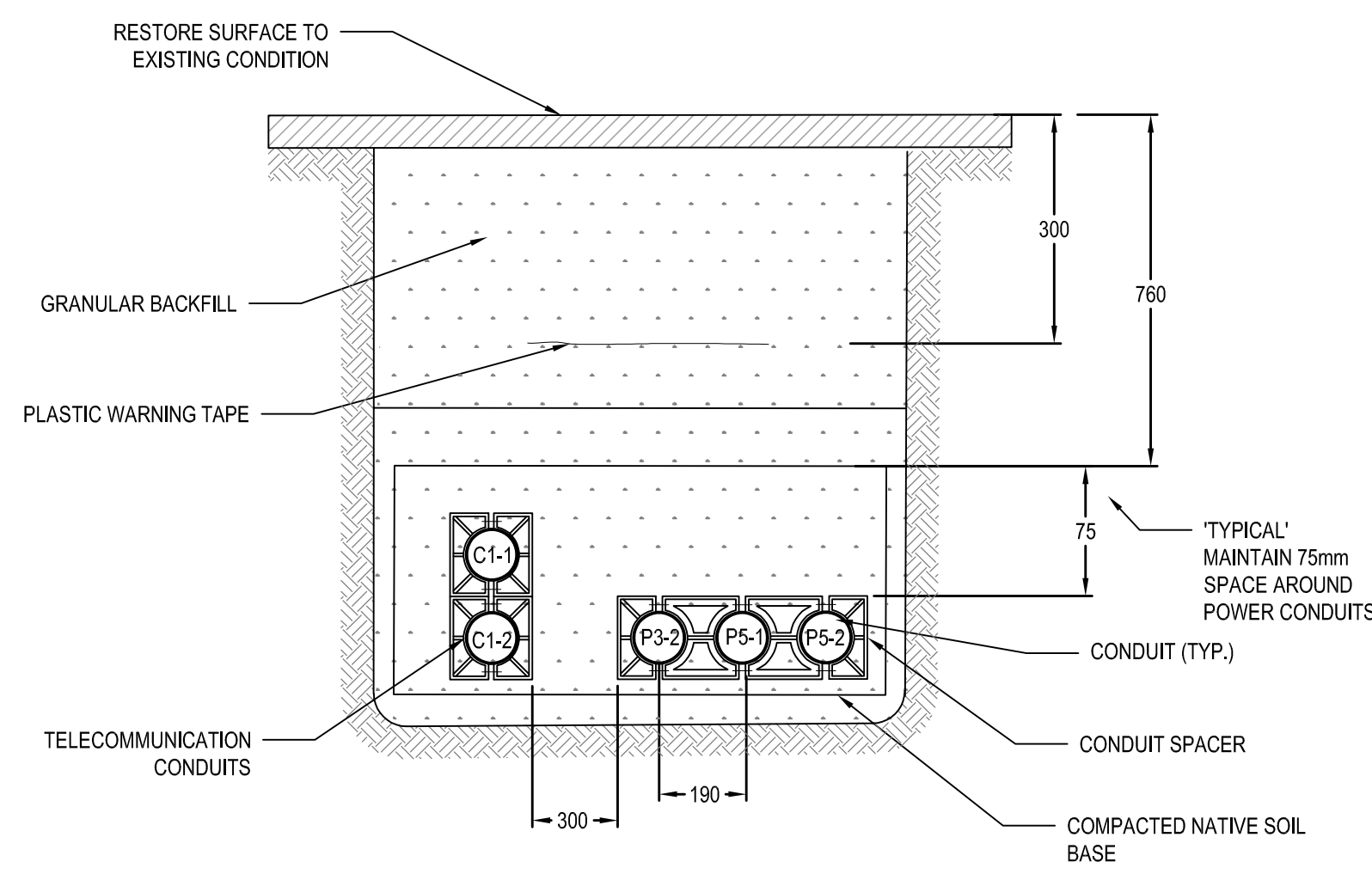
**N** DIRECT BURIED 'N' CROSS SECTION  
SCALE: N.T.S.

| CONDUIT AND CABLE SCHEDULE (ATAGI MARINA) |   |      |          |           |            |                   |  |
|---|---|------|----------|-----------|------------|-------------------|--|
| CUT SECTION                               | TECK CABLE ROUTE                                    | TYPE | VOLTAGE  | SIZE (mm) | CONDUIT ID | CONDUCTORS        | COMMENTS   |
| N   | FROM: MDP-8B/2A KIOSK TO: EXISTING ATAGI MARINA MDP | LV   | 120/208V | 103       | P3-4       | REFER TO NEW SLD  | 4C 30 AWG CU TECK90 DIRECT BURIED THEN TRANSITION TO CABLE TRAY. |
|   |   |      |          |           | P3-5       | EMPTY CW PULLCORD | SPARE  |
|   |   |      |          |           | P3-6       | REFER TO NEW SLD  | 4C 30 AWG CU TECK90 DIRECT BURIED THEN TRANSITION TO CABLE TRAY. |

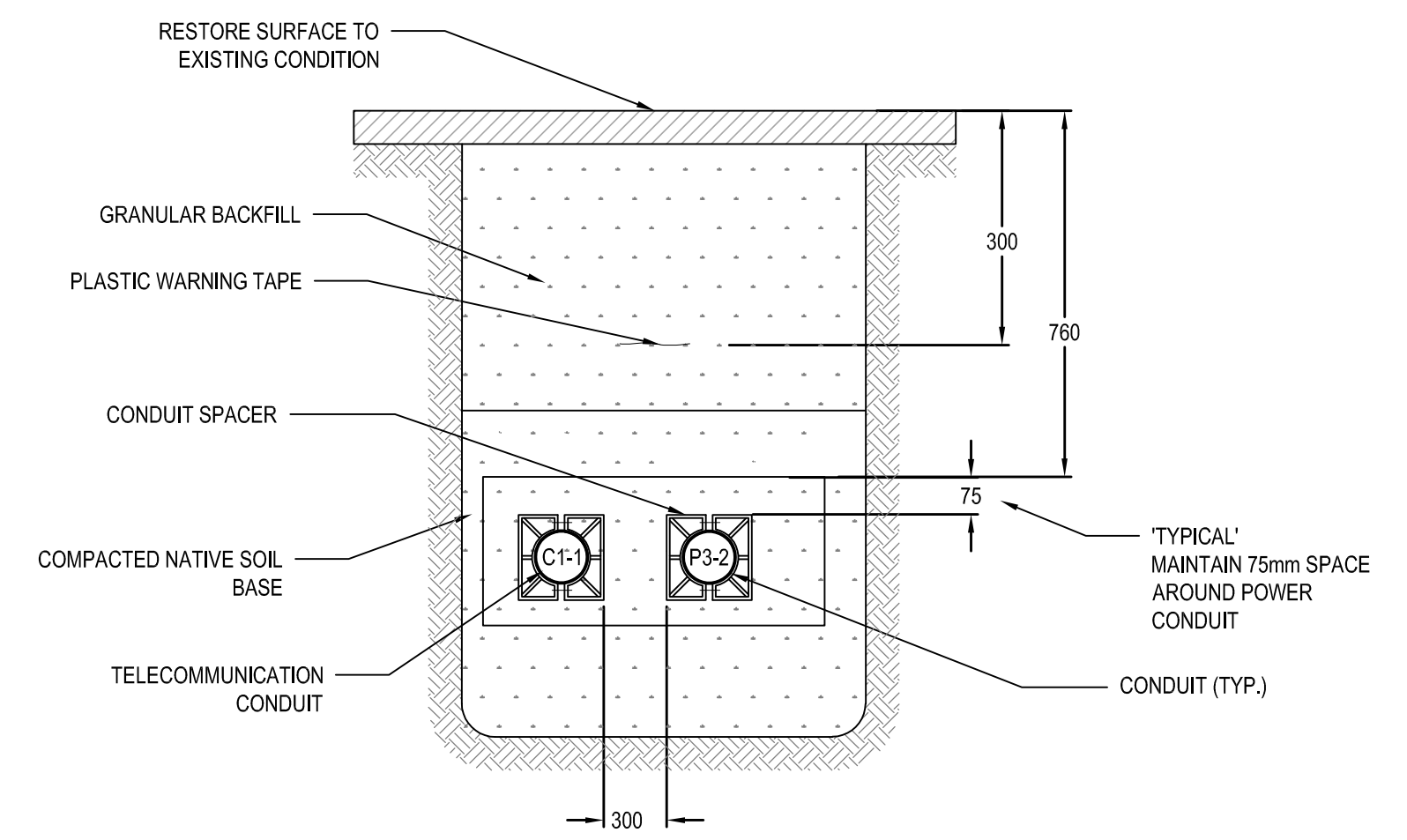
|   |                      |                               |                    |
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| 00  | 2021/06/24           | ISSUED FOR TENDER             |                    |
| ISS   | DATE                 | DESCRIPTION                   |                    |
| <br><b>FISHERIES AND OCEANS CANADA</b><br>SMALL CRAFT HARBOURS  |                      |                               |                    |
|   |                      |                               |                    |
| Project Site/Title de projet: RICHMOND, B.C.<br><b>SCH STEVESTON PARAMOUNT ELECTRICAL - TRITES WEST</b> |                      |                               |                    |
| Drawing Site/Title de dessin: DUCT BANK DETAILS AND CABLE SCHEDULES                                     |                      |                               |                    |
| Project No./No. de projet: 191-16093-02   | Sheet/Feuille: E-005 | Project Date/Date: 2021-06-24 | Revision/Revisé: 0 |



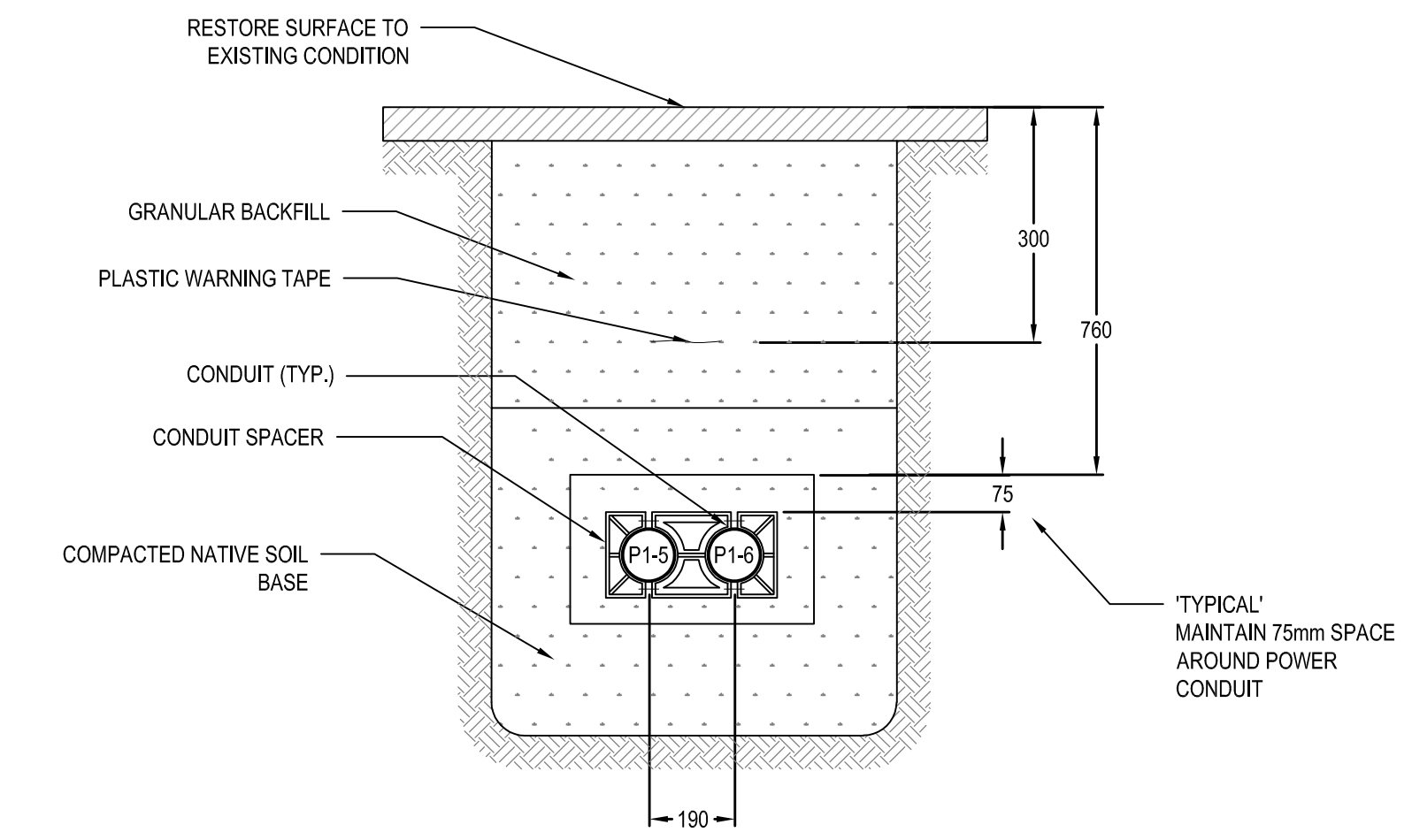




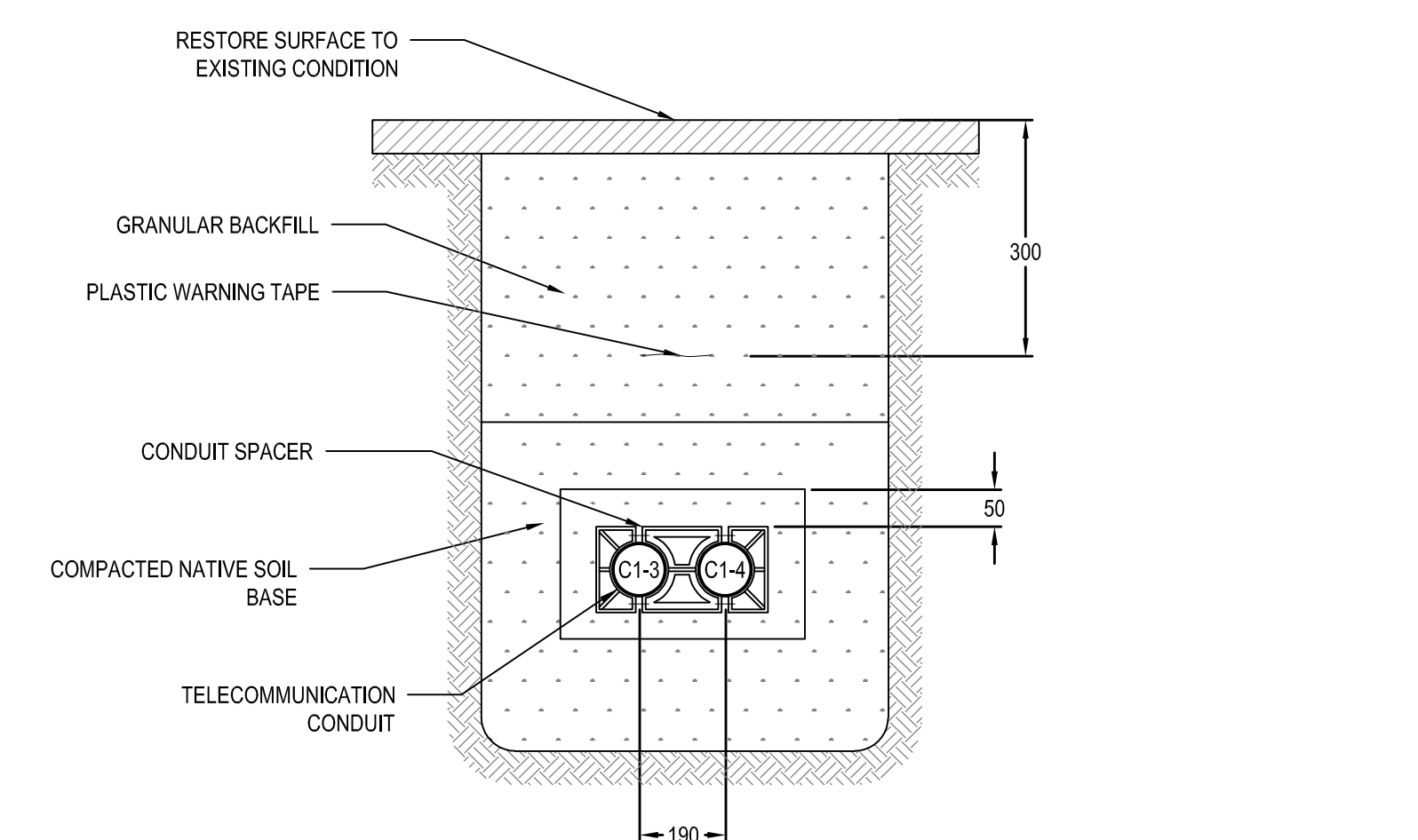
**O** DUCTBANK 'O' CROSS SECTION  
SCALE: N.T.S.



**P** DUCTBANK 'P' CROSS SECTION  
SCALE: N.T.S.

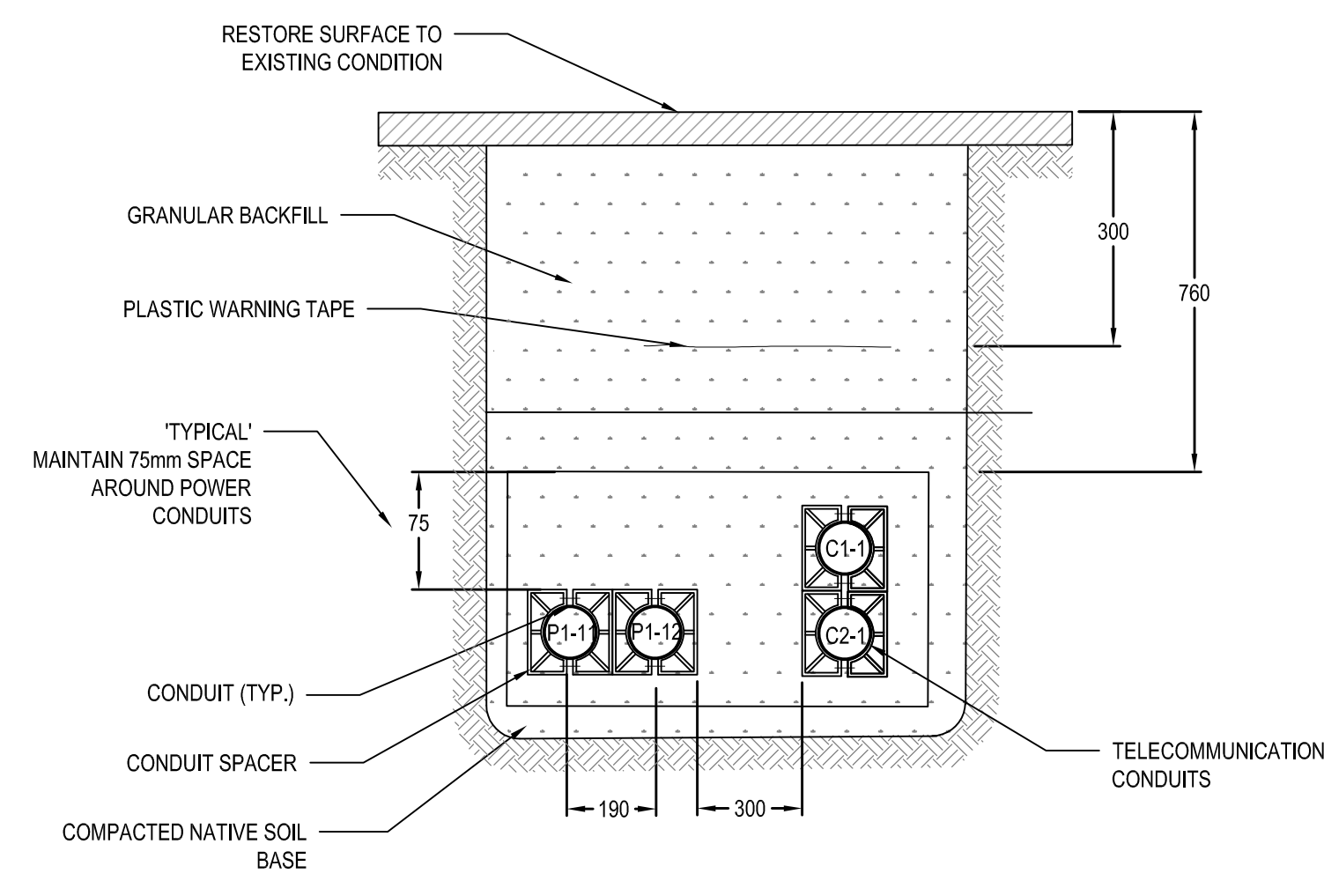


**Q** DUCTBANK 'Q' CROSS SECTION  
SCALE: N.T.S.



**R** DUCTBANK 'R' CROSS SECTION  
SCALE: N.T.S.

| CONDUIT AND CABLE SCHEDULE (BRITTANA) |                                       |       |          |           |            |                           |                                     |
|---------------------------------------|---------------------------------------|-------|----------|-----------|------------|---------------------------|-------------------------------------|
| CUT SECTION                           | CONDUIT ROUTE                         | TYPE  | VOLTAGE  | SIZE (mm) | CONDUIT ID | CONDUCTORS                | COMMENTS                            |
| O                                     | FROM: PULLBOX 'P'<br>TO: PULLBOX 'P1' | LV    | 120/208V | 103       | P3-2       | 4C 3/0 KCMIL CU RW90 XLPE | POWER TO BRITTANA MARINA ENCLOSURE  |
|                                       |                                       |       |          |           | P5-1       | EMPTY CW PULLCORD         | SPARE                               |
|                                       | FROM: PULLBOX 'C'<br>TO: PULLBOX 'C1' | COMMS | N/A      | 103       | C1-1       | EMPTY CW PULLCORD         | CONDUIT - FUTURE FIRE ALARM CABLES  |
|                                       |                                       |       |          |           | C2-1       | EMPTY CW PULLCORD         | CONDUIT - FUTURE TELECOMMUNICATIONS |



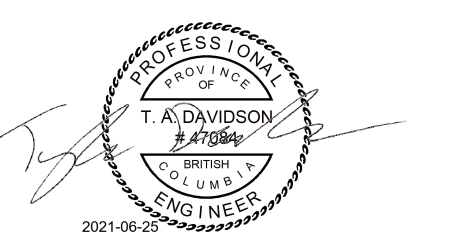
**S** DUCTBANK 'S' CROSS SECTION  
SCALE: N.T.S.


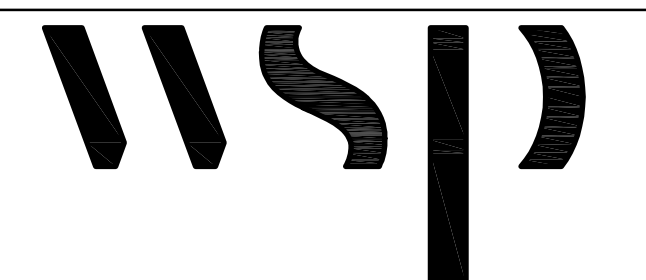
| CONDUIT AND CABLE SCHEDULE (BRITTANA EXISTING) |  |      |          |           |            |                         |  |
|--|--|------|----------|-----------|------------|-------------------------|--|
| CUT SECTION                                    | CONDUIT ROUTE                            | TYPE | VOLTAGE  | SIZE (mm) | CONDUIT ID | CONDUCTORS              | COMMENTS                               |
| P  | FROM: PULLBOX 'P1'<br>TO: BRITTANA FLOAT | LV   | 120/208V | 103       | P3-2       | 4C 3/0 AWG CU RW90 XLPE | POWER TO BRITTANA MARINA ENCLOSURE     |
|  |  |      |          |           | C1-1       | EMPTY CW PULLCORD       | CONDUIT - FUTURE COMMUNICATIONS CABLES |

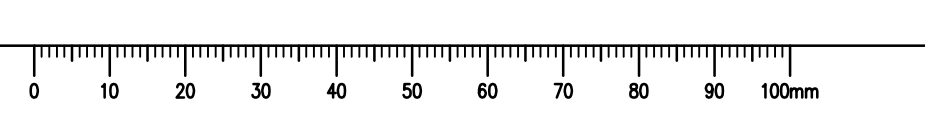
| CONDUIT AND CABLE SCHEDULE (BUILDING 15) |  |      |          |           |            |                              |   |
|--|--|------|----------|-----------|------------|------------------------------|---|
| CUT SECTION                              | CONDUIT ROUTE  | TYPE | VOLTAGE  | SIZE (mm) | CONDUIT ID | CONDUCTORS                   | COMMENTS  |
| Q  | FROM: PULLBOX 'P'<br>TO: BUILDING 15 (ELECTRICAL ROOM) | LV   | 347/600V | 103       | P1-5       | 4C 500 KCMIL CU RW90 IN RPVC | TO BUILDING 15 ELECTRICAL ROOM, STUB-OUT VIA JUNCTION BOX |
|  |  |      |          |           | P1-6       | EMPTY CW PULLCORD            | SPARE, STUB-OUT   |

| CONDUIT AND CABLE SCHEDULE |  |       |         |           |            |                   |  |
|----------------------------|--|-------|---------|-----------|------------|-------------------|--|
| CUT SECTION                | CONDUIT ROUTE                                      | TYPE  | VOLTAGE | SIZE (mm) | CONDUIT ID | CONDUCTORS        | COMMENTS   |
| R                          | FROM: PULLBOX 'C'<br>TO: NORTH OF SOUTH SUBSTATION | COMMS | N/A     | 103       | C1-3       | EMPTY CW PULLCORD | CONDUIT - FUTURE FIRE ALARM CABLES - NEW STUB-OUT  |
|                            |  |       |         |           | C1-4       | EMPTY CW PULLCORD | CONDUIT - FUTURE TELECOMMUNICATIONS - NEW STUB-OUT |

| CONDUIT AND CABLE SCHEDULE (BUILDING 12 - OLD ICE-PLANT BLD) |   |       |          |           |            |                   |   |
|--|---|-------|----------|-----------|------------|-------------------|---|
| CUT SECTION  | CONDUIT ROUTE   | TYPE  | VOLTAGE  | SIZE (mm) | CONDUIT ID | CONDUCTORS        | COMMENTS  |
| S  | FROM: EXISTING PULLBOX 'ICE-PLANT POWER'<br>TO: BUILDING 12 | LV    | 347/600V | 103       | P1-11      | 250 KCMIL         | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-4A 600A CB TO OLD ICE-PLANT BLD VIA EXISTING ICE-PLANT PULL-BOX |
|  |   |       |          |           | P1-12      | 250 KCMIL         | PRIMARY CONDUCTORS - CONDUIT - FROM MDP-4A 600A CB TO OLD ICE-PLANT BLD VIA EXISTING ICE-PLANT PULL-BOX |
|  | FROM: PULLBOX 'C'<br>TO: BUILDING 12                        | COMMS | N/A      | 103       | C1-1       | EMPTY CW PULLCORD | CONDUIT - FUTURE FIRE ALARM CABLES  |
|  |   |       |          |           | C2-1       | EMPTY CW PULLCORD | CONDUIT - FUTURE TELECOMMUNICATIONS   |



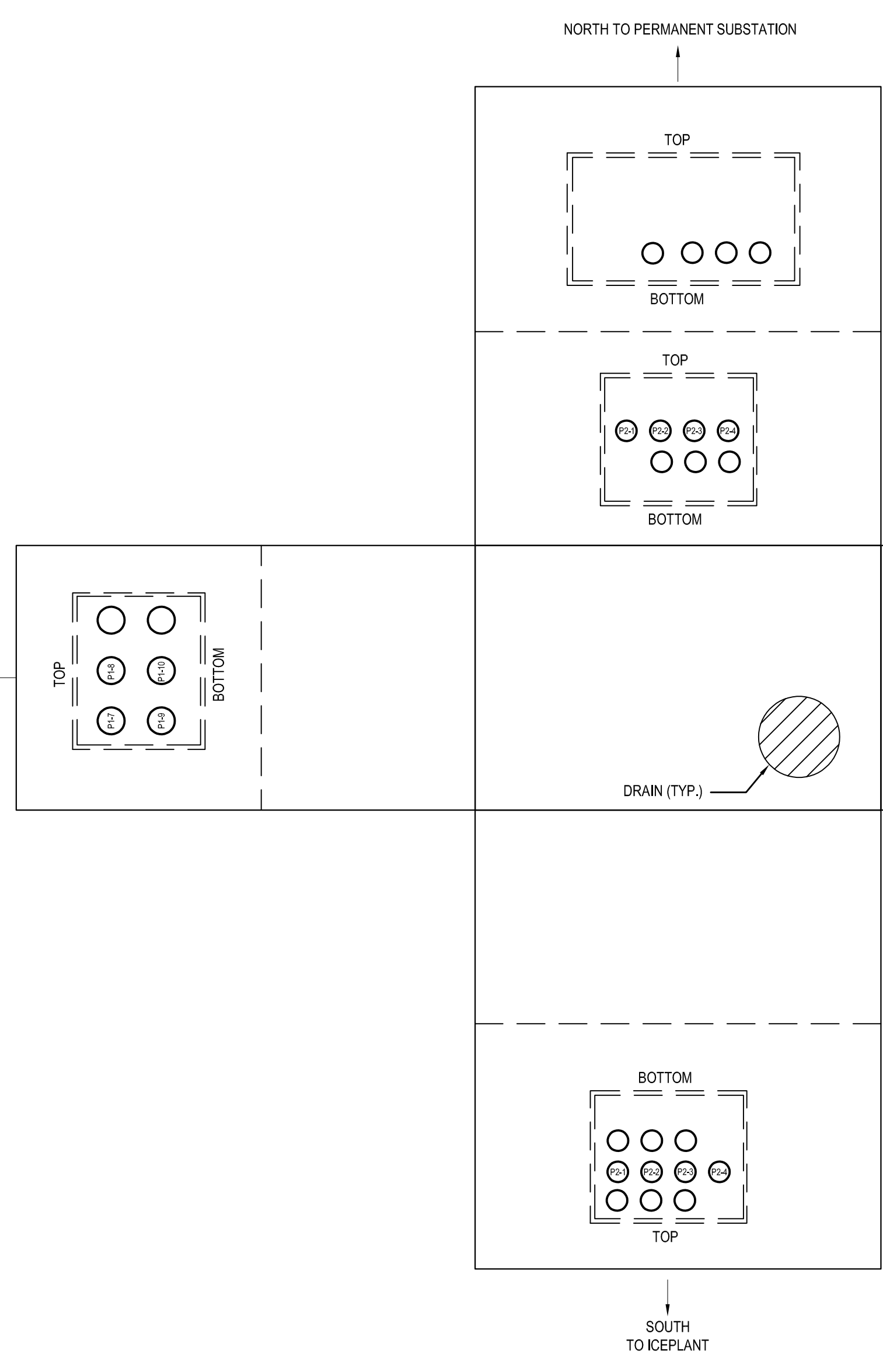
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|   | 2021/06/24     | ISSUED FOR TENDER          |  |                            |  |  |  |
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|    |                |                            |  |                            |  |  |  |
| Project Site/Type de projet: RICHMOND, B.C.<br><b>SCH STEVESTON PARAMOUNT ELECTRICAL - TRITES WEST</b><br>DUCT BANK DETAILS AND CABLE SCHEDULES |                |                            |  |                            |  |  |  |
| Project No./No. de projet:  | Sheet/Feuille: | Drawing No./No. de dessin: |  | Project No./No. de projet: |  |  |  |
| 191-16093-02  | E-006          |                            |  | 191-16093-02               |  |  |  |



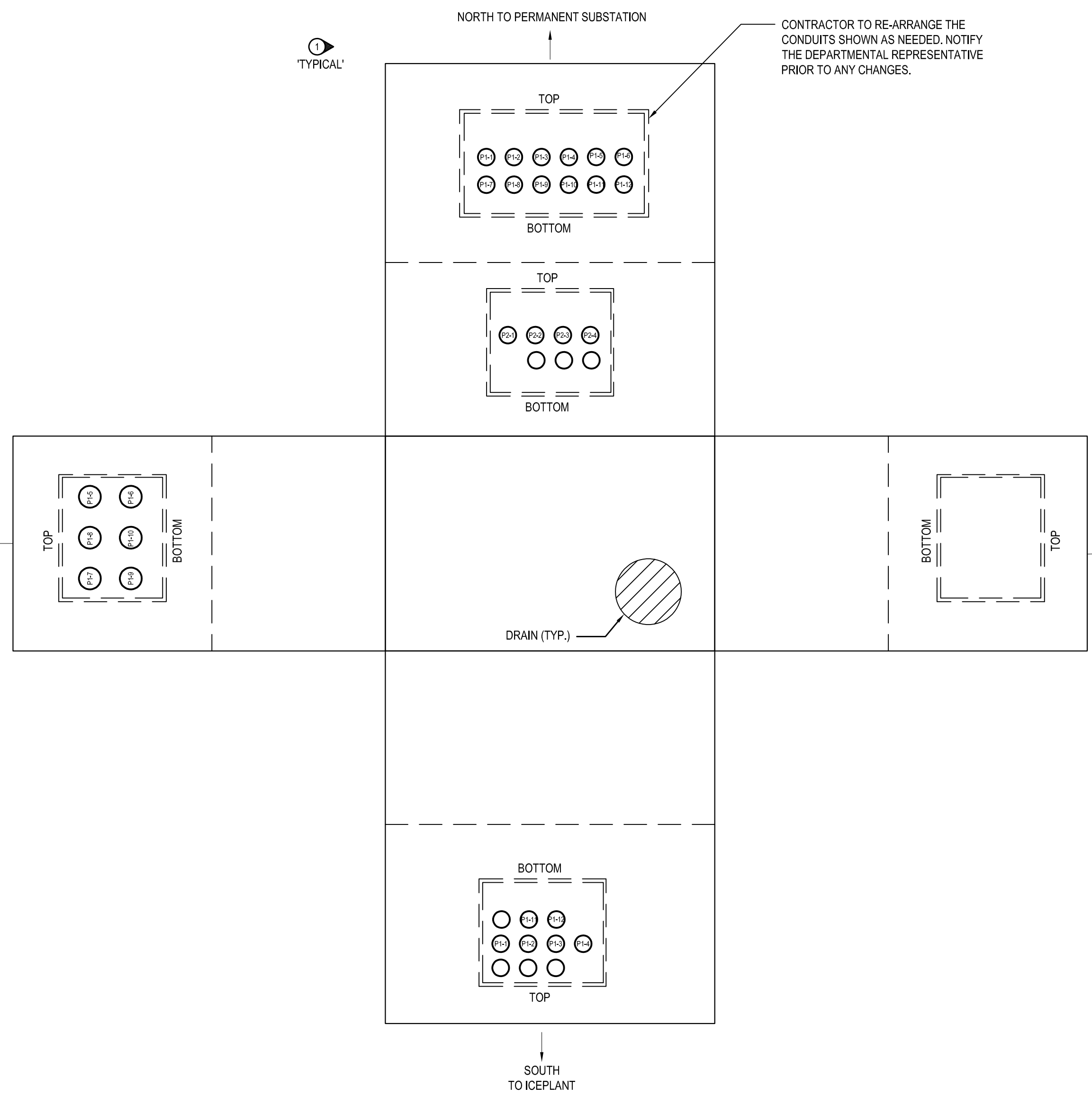


- GENERAL NOTES:**
1. ALL LOW VOLTAGE VAULTS WITH TOP SQUARE HATCH ACCESS.
  2. VAULT TOP AND ACCESS LID TO BE H20 FULL TRAFFIC RATED.
  3. DETAILS OF VAULTS ON DRAWING E008.
  4. KNOCKOUT LOCATIONS ARE APPROXIMATE. CONFIRM WITH SHOP DRAWINGS FOR LOCATION AND POSITION OF KNOCKOUTS.
  5. ALL VAULT COVERS SHALL HAVE ASSIGNED NUMBER WELDED ONTO LID.
  6. ALL VAULTS SHALL HAVE ENGRAVED LAMACOID CONDUIT DIRECTORIES. REFER TO PROJECT SPECIFICATIONS.
  7. INSTALL MANHOLE TO DEPTH INDICATED ON CIVIL DRAWINGS.
  8. PROVIDE STIFFNESS COLLAR ON VAULTS WHERE NOTED.
  9. BUILD MANHOLE NECK TO REQUIRED HEIGHT USING PRECAST CONCRETE RISER RINGS. USE ONE LAYER OF MORTAR BETWEEN RINGS. BOND THE MANHOLE COVER FRAME TO THE MANHOLE GROUNDING CONDUCTOR. PARSE THE INSIDE OF THE NECK AND ENGRAVE THE MANHOLE NUMBER NEAR THE UPPER END OF THE NECK PER PROJECT SPECIFICATIONS.
  10. MAKE DUCT ENTRANCES AS SHOWN ON DRAWINGS.
  11. BACKFILL THE EXCAVATION AND COMPACT THE BACKFILL MATERIAL AS OUTLINED IN THE PROJECT SPECIFICATIONS.
  12. MANHOLES SHALL BE RATED FOR BCL-425 LIVE LOADING.
  13. CONTRACTOR TO FIELD VERIFY THE EXISTING POWER ICE PLANT PULL BOX AND MODIFY THE PULL BOX CONDUIT CONNECTIONS AS PER DRAWINGS E-002 AND E-102.

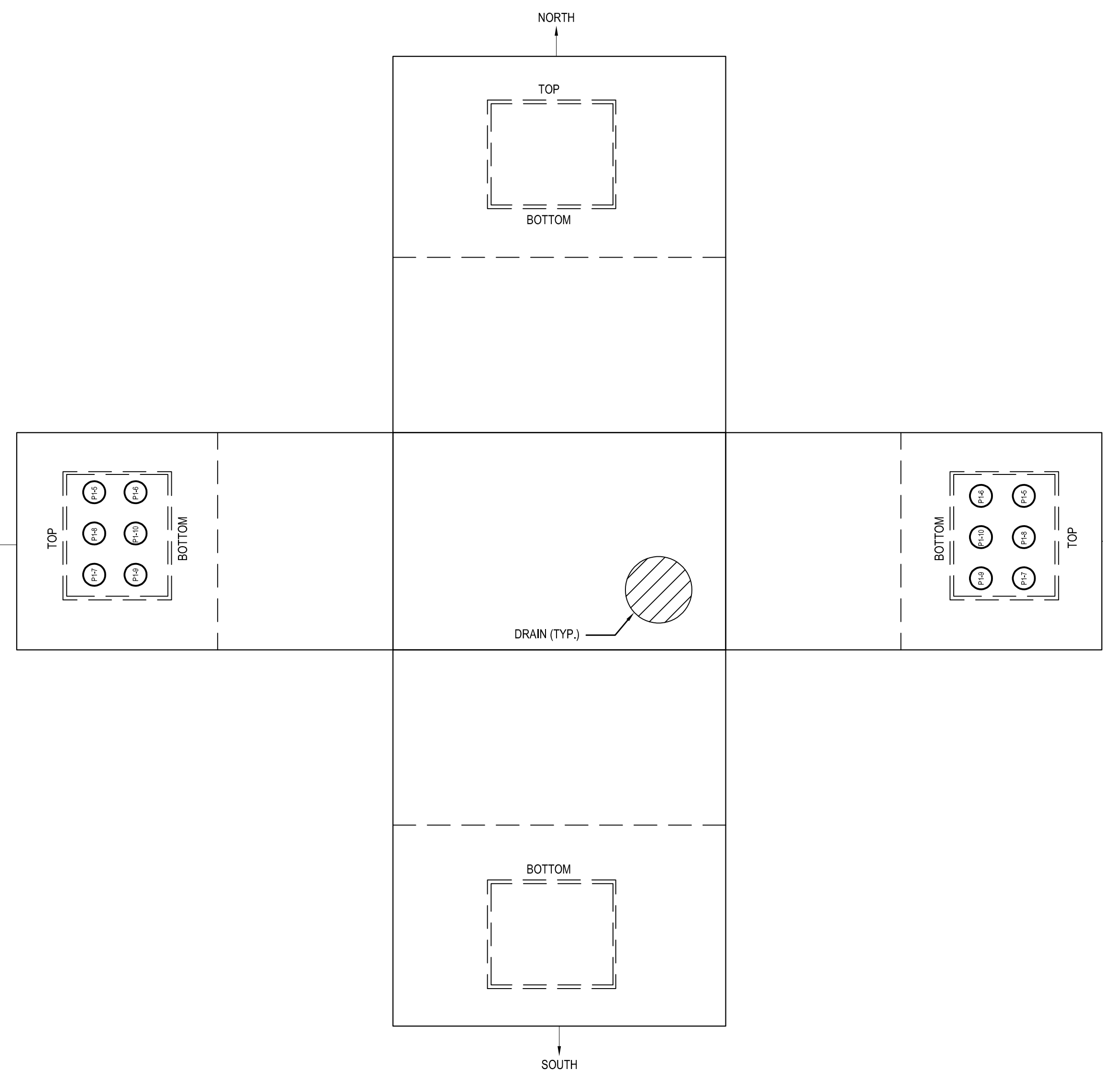
- KEYNOTES:**
1. CONTRACTOR TO FIELD VERIFY THE EXISTING PULLBOX AND MODIFY ALL NEW CONNECTIONS AS PER PULLBOX DETAILS, CABLE SCHEDULES, AND SINGLE LINE DIAGRAMS. NOTIFY THE DEPARTMENTAL REPRESENTATIVE OF ANY CHANGES PRIOR TO WORK.



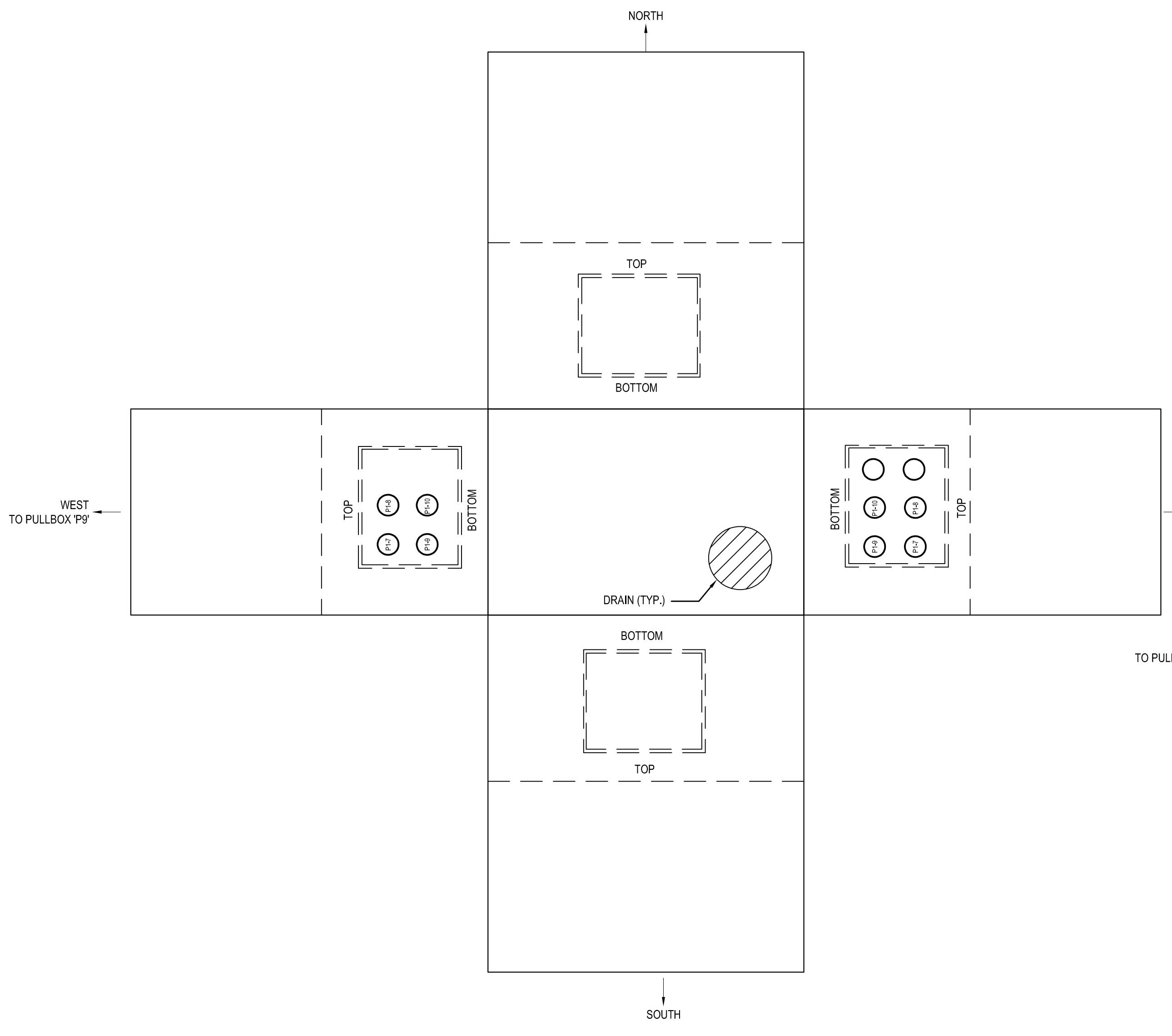
1 PULLBOX 'POWER ICE-PLANT' - EXISTING  
SCALE: N.T.S.



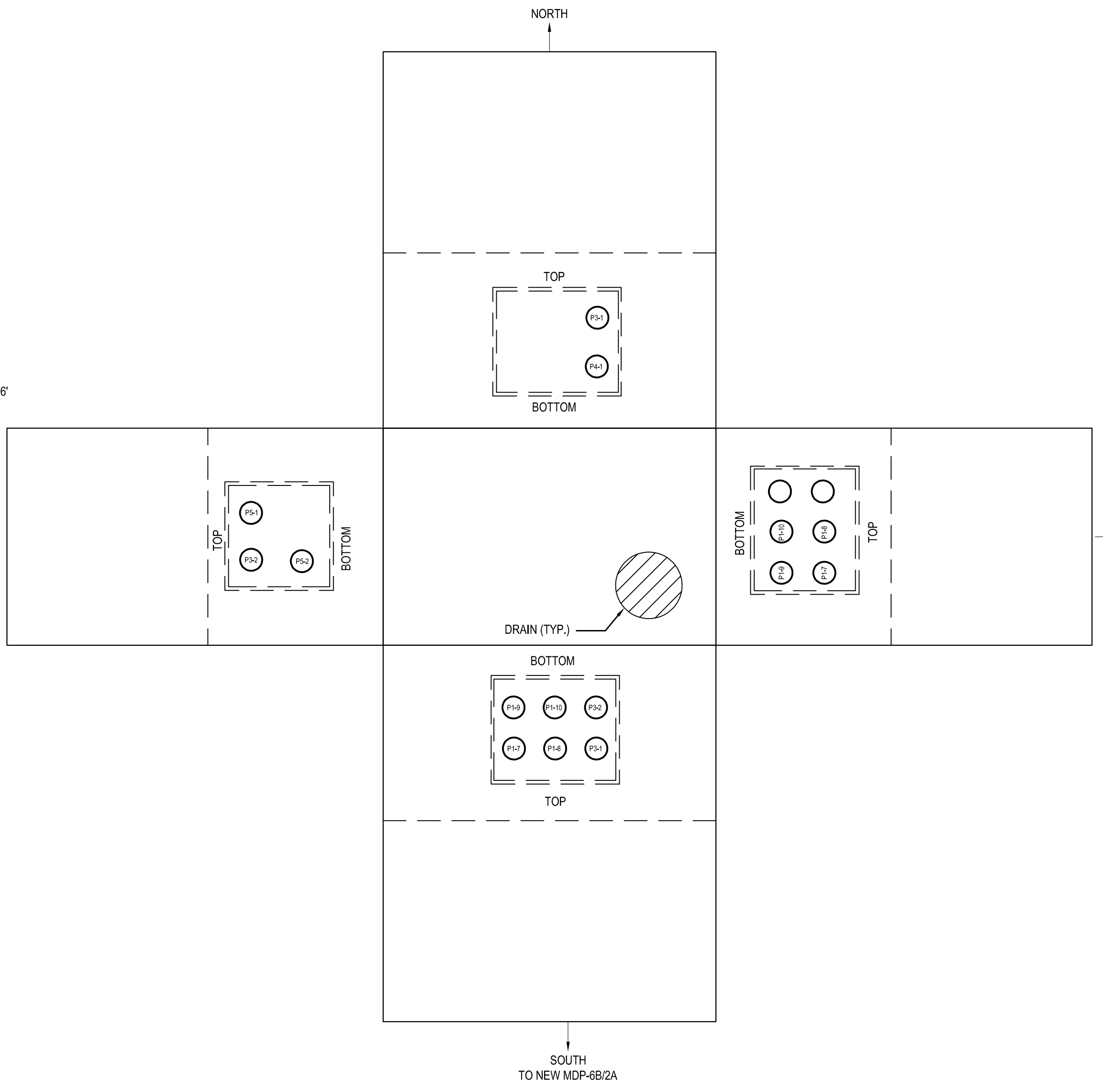
2 PULLBOX 'POWER ICE-PLANT' - NEW  
SCALE: N.T.S.



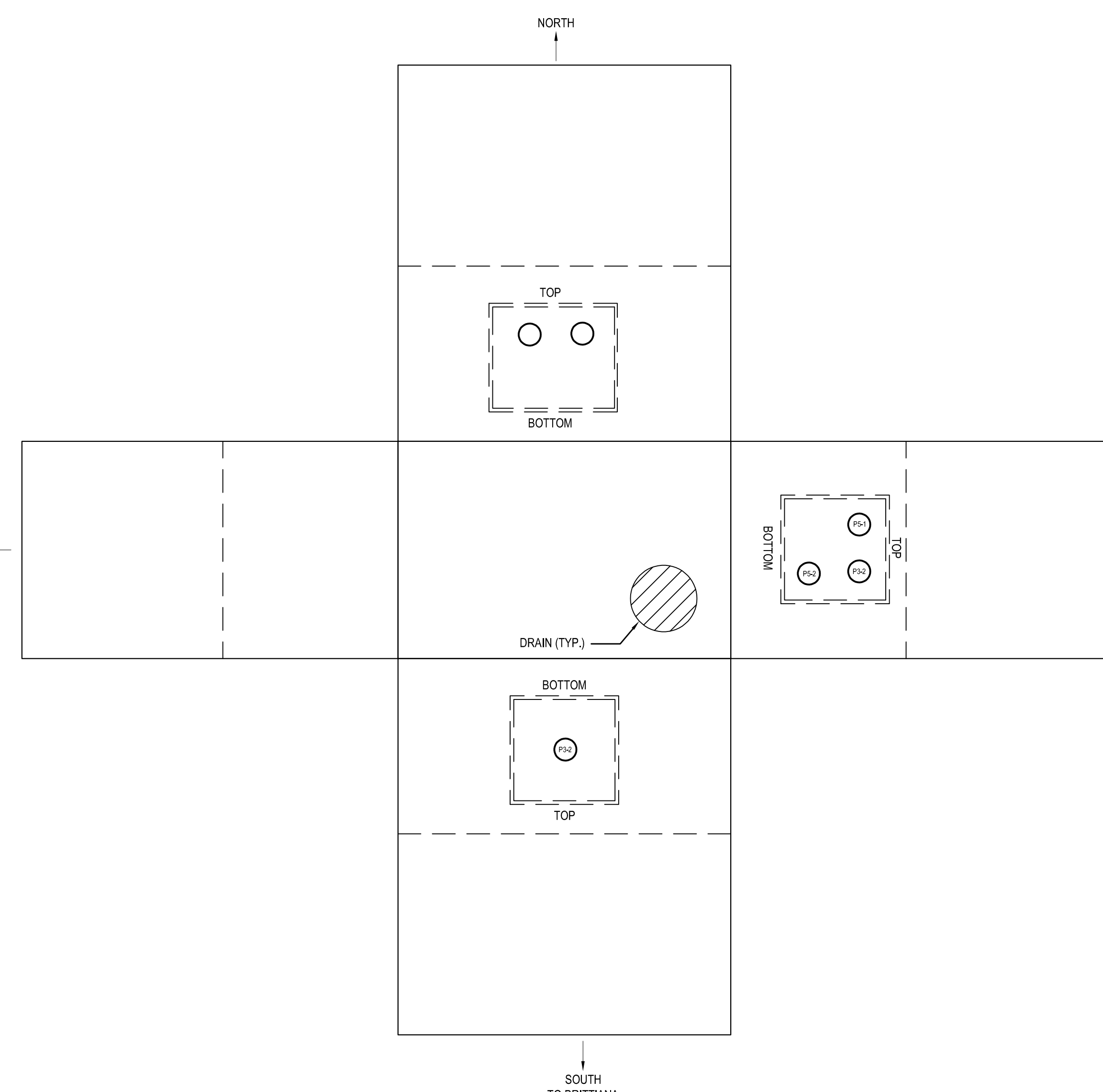
3 PULLBOX 'P6'  
SCALE: N.T.S.



4 PULLBOX 'P7'  
SCALE: N.T.S.



5 PULLBOX 'P9'  
SCALE: N.T.S.



6 PULLBOX 'P10'  
SCALE: N.T.S.



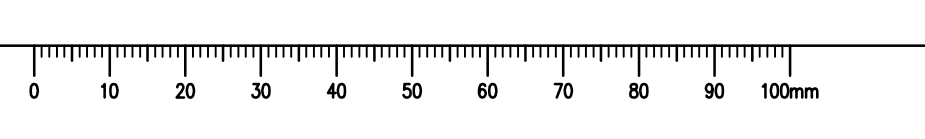
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FISHERIES AND OCEANS  
CANADA  
SMALL CRAFT HARBOURS



Project Site/Title de projet: RICHMOND, B.C.  
SCH STEVESTON PARAMOUNT  
ELECTRICAL - TRITES WEST

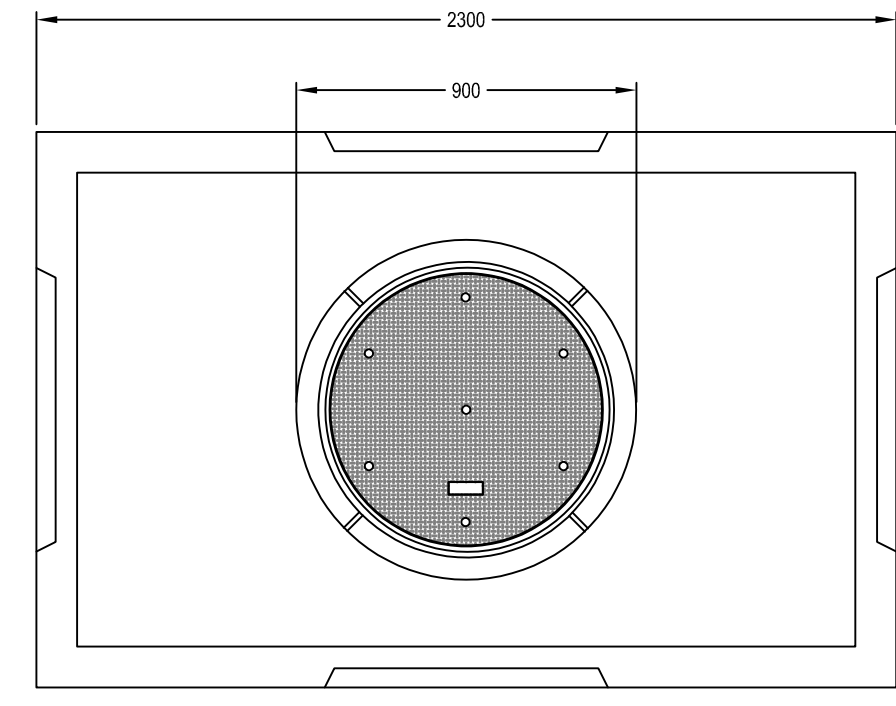
| Project No./No. de projet | Sheet/Feuille | Project No./No. de projet | Sheet/Feuille |
|---------------------------|---------------|---------------------------|---------------|
| 191-16093-02              | E-007         | 191-16093-02              | E-007         |



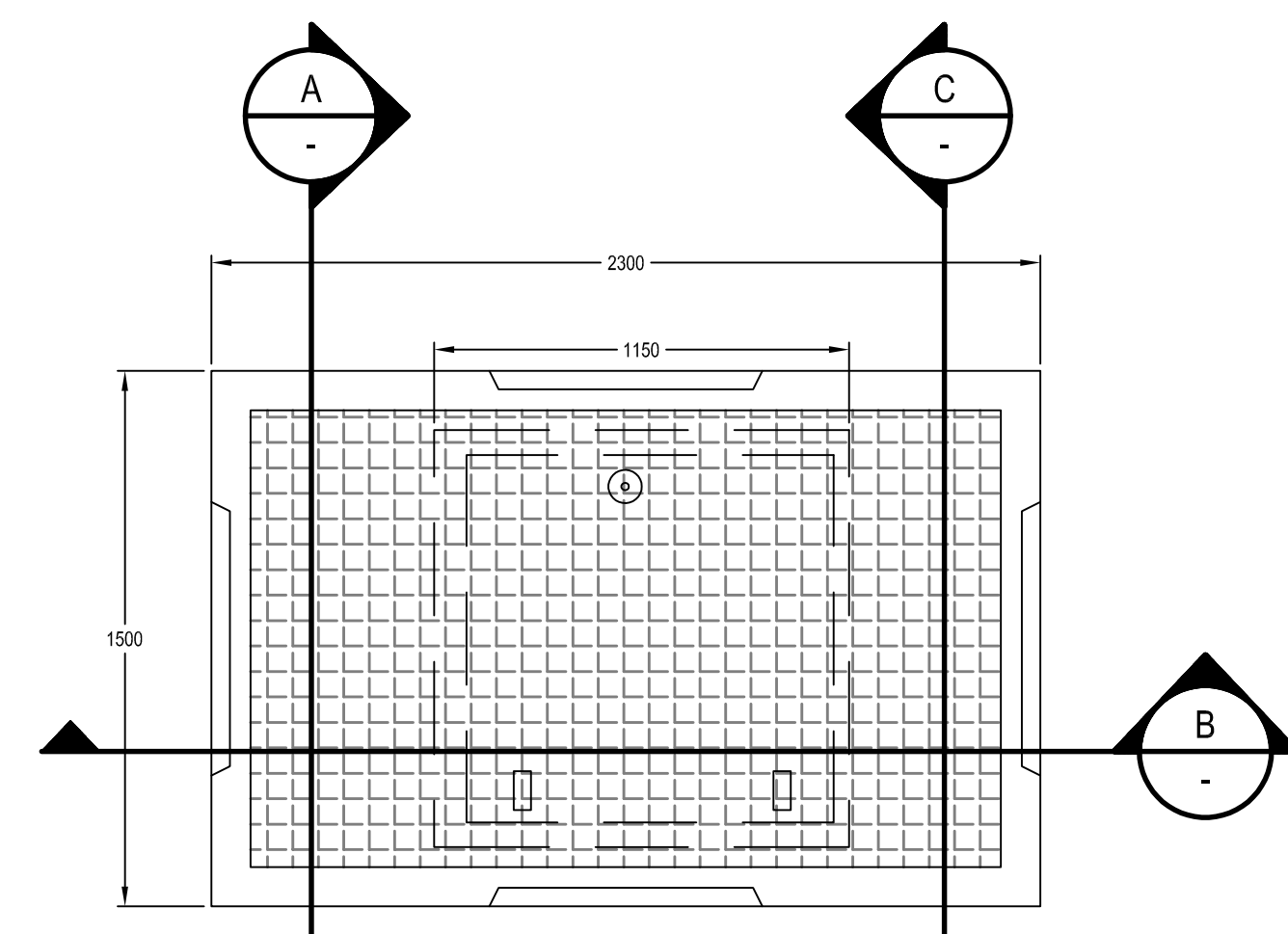


- GENERAL NOTES:**
1. ALL LOW VOLTAGE VAULTS WITH TOP SQUARE HATCH ACCESS.
  2. VAULT TOP AND ACCESS LID TO BE H20 FULL TRAFFIC RATED.
  3. DETAILS OF VAULTS ON DRAWING E-008.
  4. KNOCKOUT LOCATIONS ARE APPROXIMATE. CONFIRM WITH SHOP DRAWINGS FOR LOCATION AND POSITION OF KNOCKOUTS.
  5. ALL VAULT COVERS SHALL HAVE ASSIGNED NUMBER WELDED ONTO LID.
  6. ALL VAULTS SHALL HAVE ENGRAVED LAMACOID CONDUIT DIRECTORIES. REFER TO PROJECT SPECIFICATIONS.
  7. INSTALL MANHOLE TO DEPTH INDICATED ON CIVIL DRAWINGS.
  8. PROVIDE BUOYANCY COLLAR ON VAULTS WHERE NOTED.
  9. BUILD MANHOLE NECK TO REQUIRED HEIGHT USING PRECAST CONCRETE RISER RINGS. USE ONE LAYER OF MORTAR BETWEEN RINGS. BOND THE MANHOLE COVER FRAME TO THE MANHOLE CIRCUMFERENCE CONDUIT. PAUSE THE RISE OF THE NECK AND ENGRAVE THE MANHOLE NUMBER NEAR THE UPPER END OF THE NECK PER PROJECT SPECIFICATIONS.
  10. MAKE DUCT ENTRANCES AS SHOWN ON DRAWINGS.
  11. BACKFILL THE EXCAVATION AND COMPACT THE BACKFILL MATERIAL AS OUTLINED IN THE PROJECT SPECIFICATIONS.
  12. MANHOLES SHALL BE RATED FOR BCL-625 LIVE LOADING.
  13. CONTRACTOR TO FIELD VERIFY THE EXISTING PULL BOXES AND MODIFY THE CONDUIT CONNECTIONS AS PER THE SINGLE LINE DIAGRAM AND CABLE SCHEDULES.

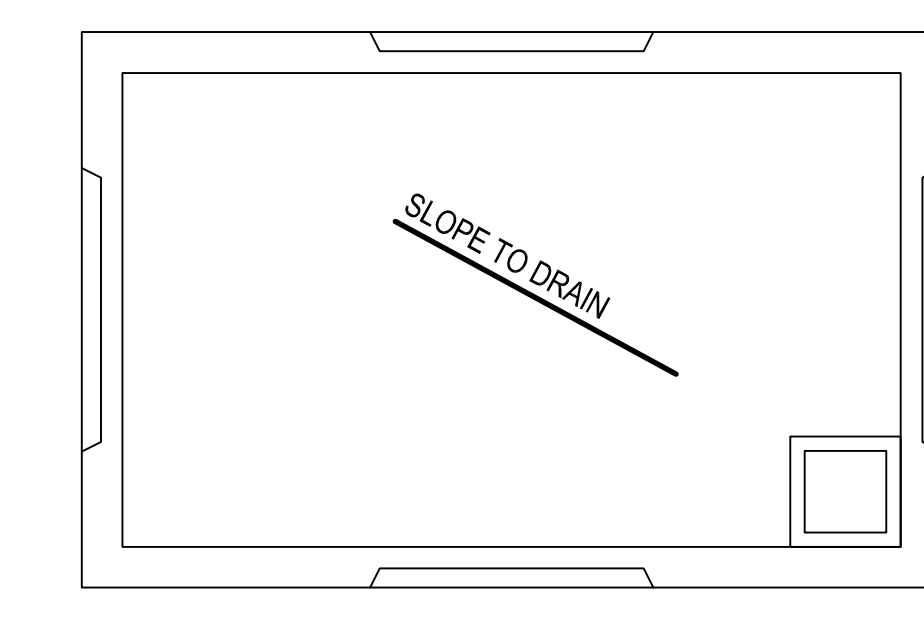
**NOTES:**  
1. STUB-OUT CONDUIT UNDERGROUND AT ALL FUTURE DUCTBANK RUNS.



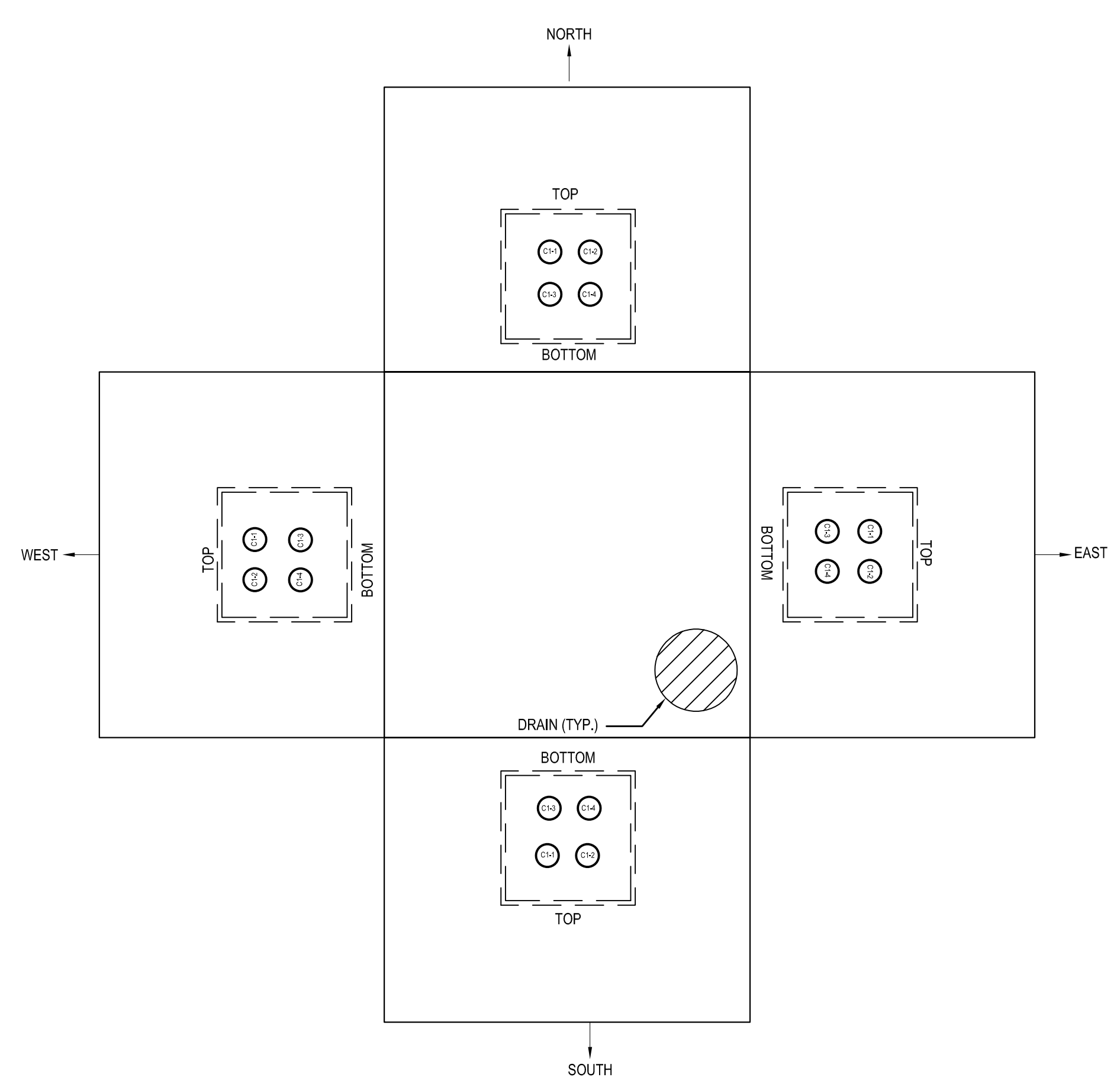
**VAULT TOP VIEW  
- MANHOLE  
ACCESS**  
NTS



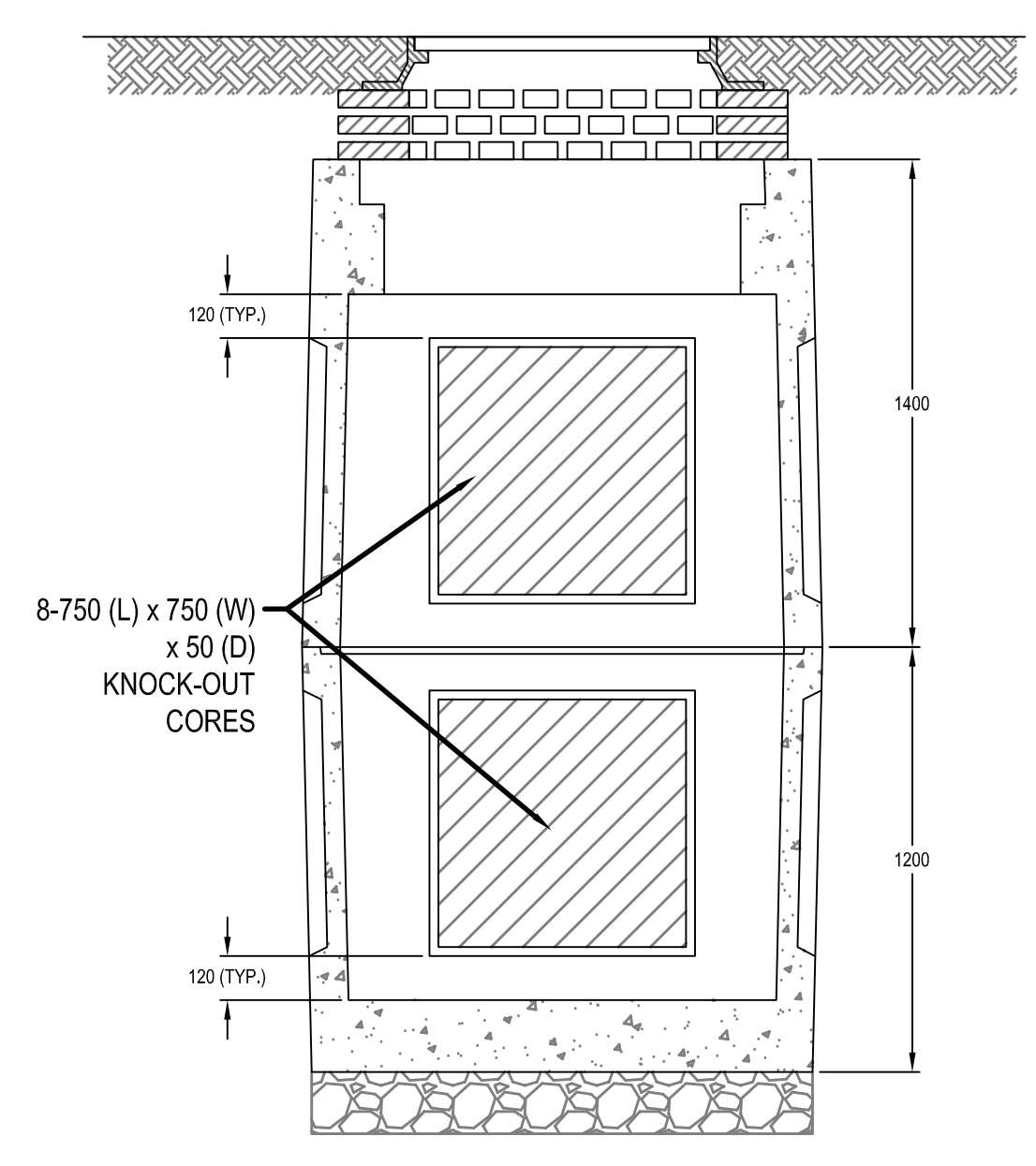
**VAULT TOP VIEW  
- SQUARE HATCH**  
NTS



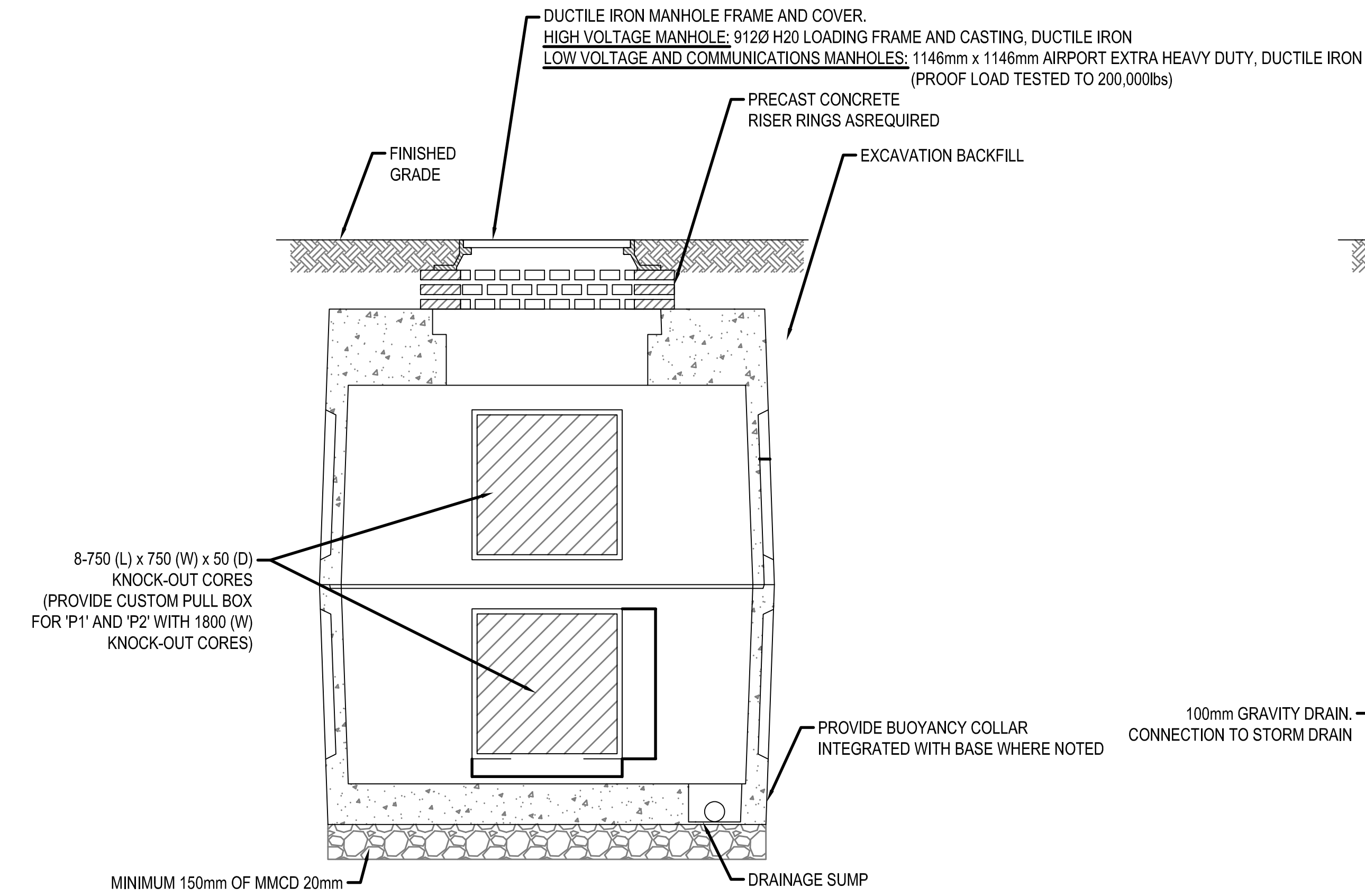
**VAULT BOTTOM  
VIEW**  
NTS



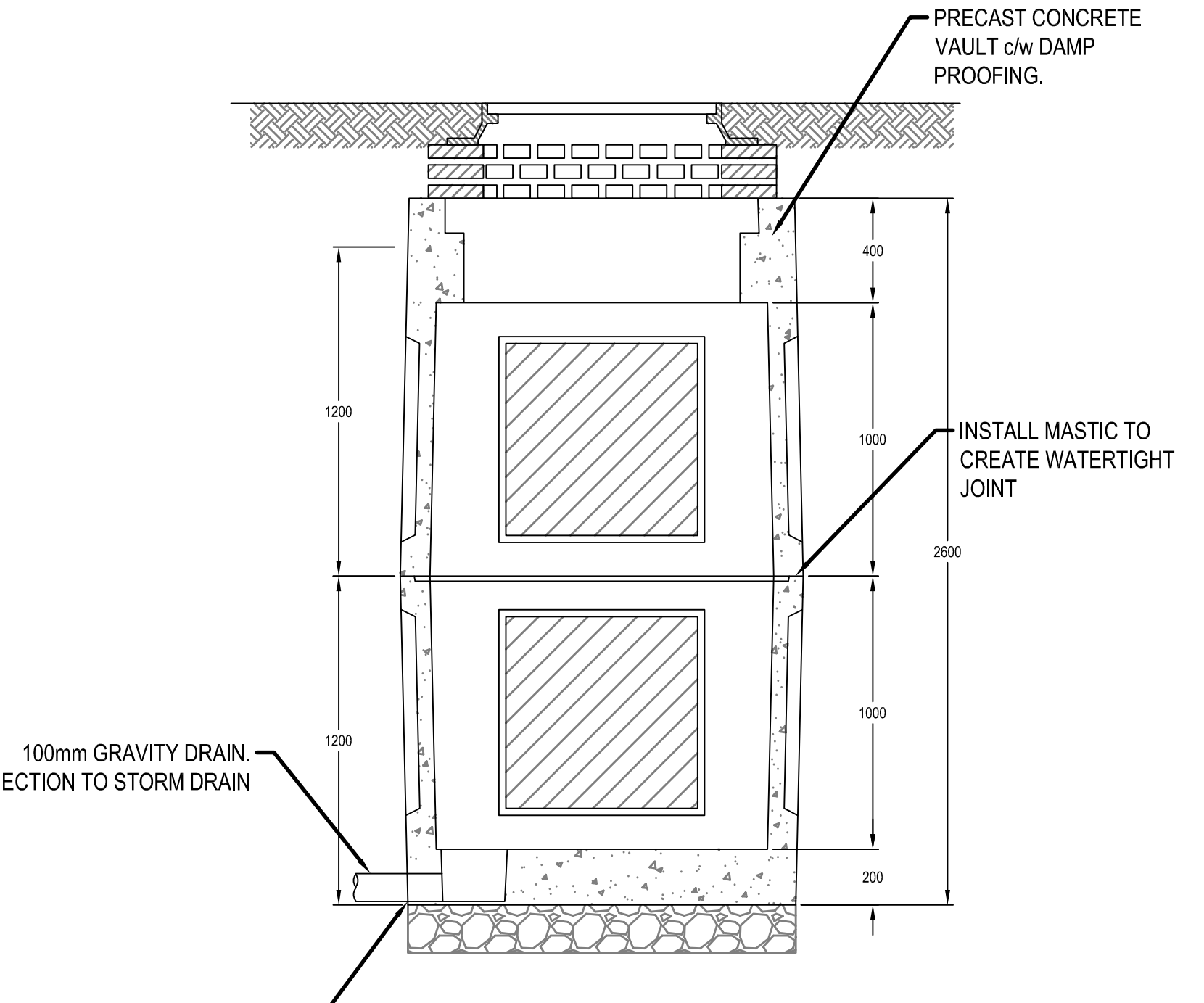
**1 TYPICAL COMMUNICATIONS PULLBOX (C1 THROUGH C10)**  
SCALE: N.T.S.  
E-008



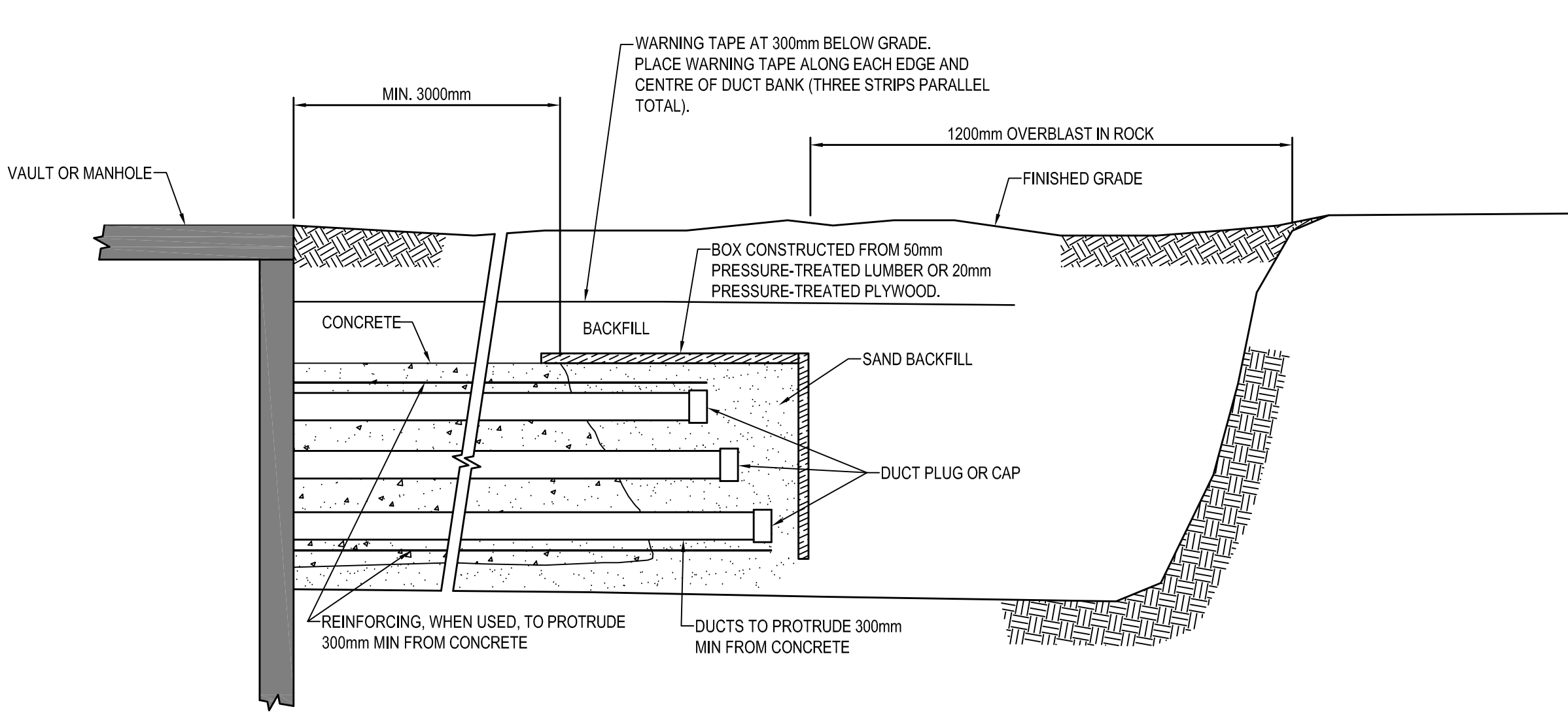
**VAULT  
CROSS-SECTION  
A**  
NTS



**VAULT  
ELEVATION  
B**  
NTS

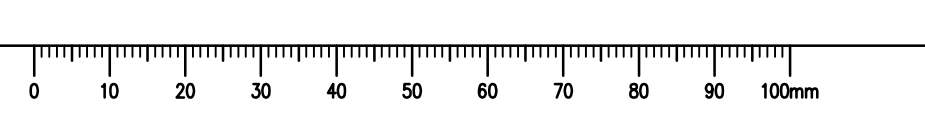


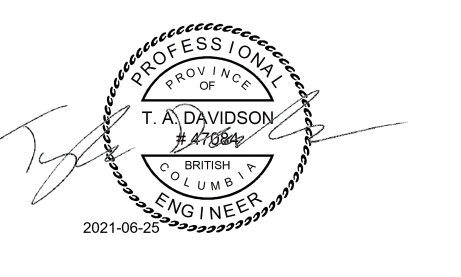

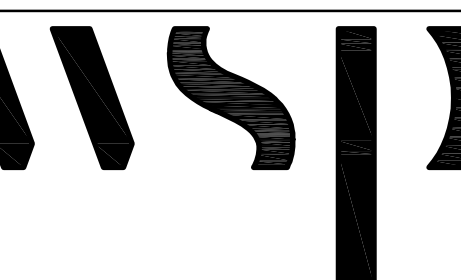
**VAULT  
CROSS-SECTION  
C**  
NTS



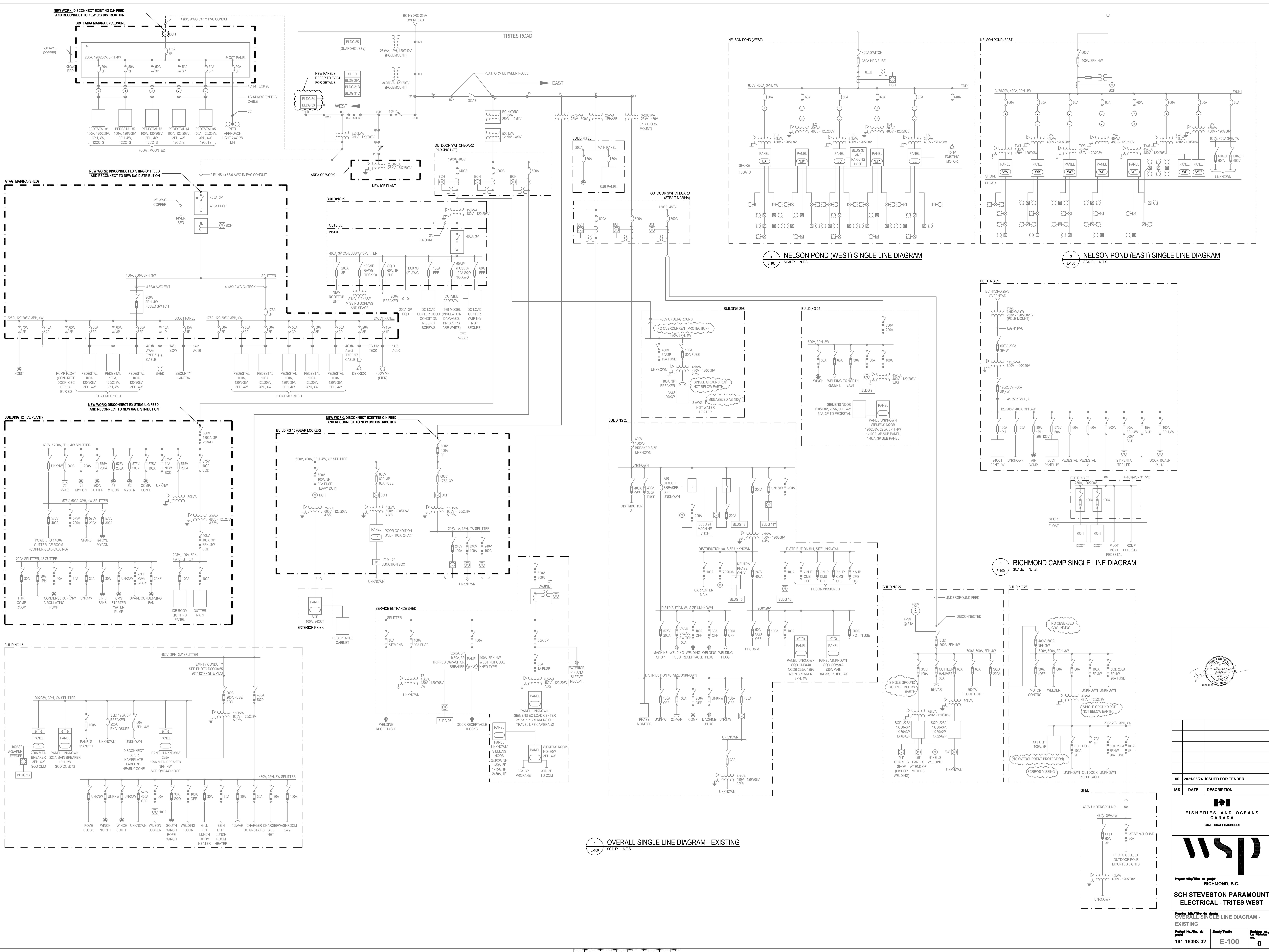
**3 TYPICAL STUB-OUT DETAIL**  
SCALE: N.T.S.  
E-008

**2 TYPICAL POWER PULLBOX DETAIL**  
SCALE: N.T.S.  
E-008



  
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 FISHERIES AND OCEANS  
 CANADA  
 SMALL CRAFT HARBOURS  
  
 Projet / Titre de projet  
 RICHMOND, B.C.  
**SCH STEVESTON PARAMOUNT  
 ELECTRICAL - TRITES WEST**  
 Drawing / Titre de dessin  
 PULL BOX DETAILS  
 Project No./No. de projet  
 191-16093-02  
 Sheet/Feuille  
 E-008  
 Page No./No. de page  
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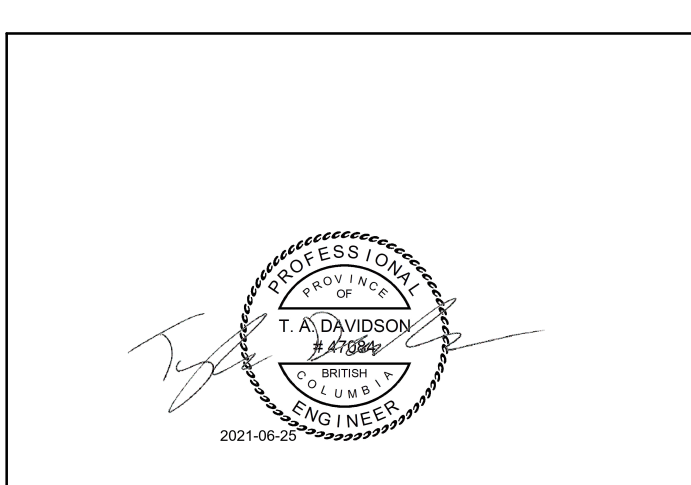


1 OVERALL SINGLE LINE DIAGRAM - EXISTING  
E-100 SCALE: N.T.S.

2 NELSON POND (WEST) SINGLE LINE DIAGRAM  
E-100 SCALE: N.T.S.

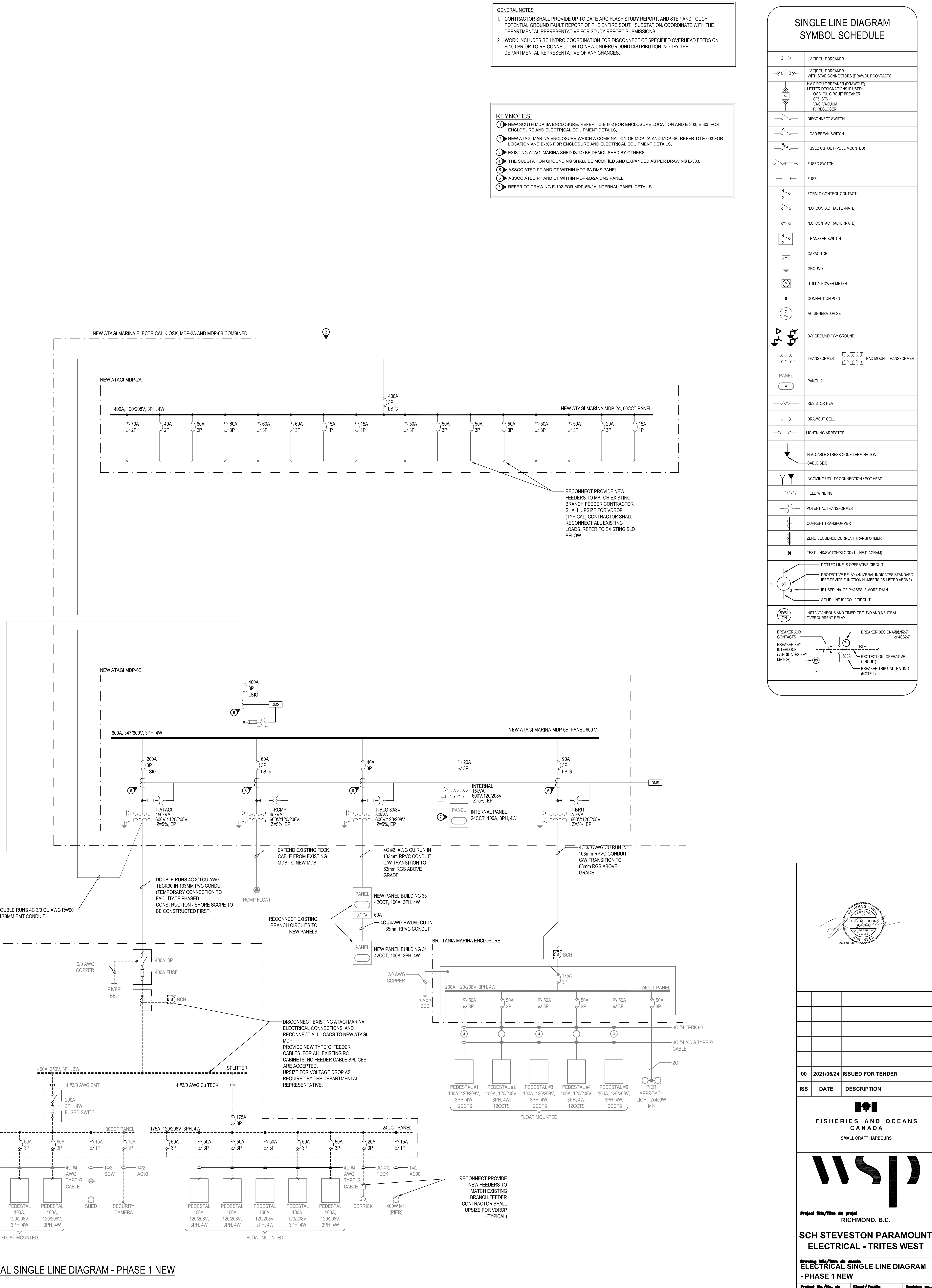
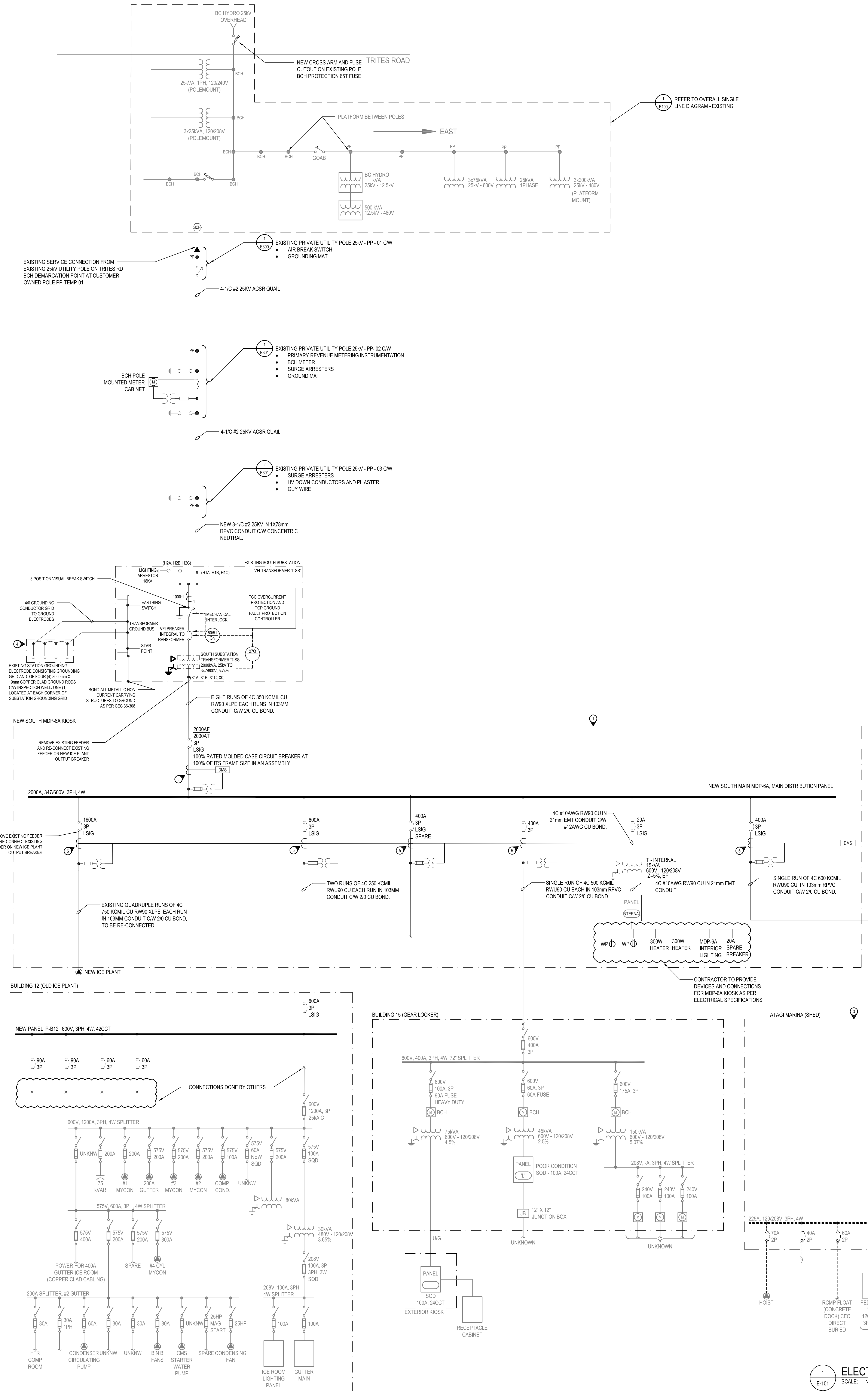
3 NELSON POND (EAST) SINGLE LINE DIAGRAM  
E-100 SCALE: N.T.S.

4 RICHMOND CAMP SINGLE LINE DIAGRAM  
E-100 SCALE: N.T.S.



|  |            |                   |
|--|------------|-------------------|
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| <br><b>FISHERIES AND OCEANS CANADA</b><br>SMALL CRAFT HARBOURS   |            |                   |
|  |            |                   |
| Project No./Titre de projet: RICHMOND, B.C.<br><b>SCH ESTEVON PARAMOUNT ELECTRICAL - TRITES WEST</b>   |            |                   |
| Drawing No./Titre de dessin: OVERALL SINGLE LINE DIAGRAM - EXISTING<br>Project No./Titre de projet: RICHMOND, B.C.<br>Sheet/Feuille: E-100<br>Project No./Titre de projet: 191-16093-02<br>Scale: E-100<br>Date: 0 |            |                   |





- GENERAL NOTES:**
- CONTRACTOR SHALL PROVIDE UP TO DATE ARC FLASH STUDY REPORT, AND STEP AND TOUCH POTENTIAL GROUND FAULT REPORT OF THE ENTIRE SOUTH SUBSTATION, COORDINATE WITH THE DEPARTMENTAL REPRESENTATIVE FOR STUDY REPORT SUBMISSIONS.
  - WORK INCLUDES BC HYDRO COORDINATION FOR DISCONNECT OF SPECIFIED OVERHEAD FEEDS ON E-101 PRIOR TO RE-CONNECTION TO NEW UNDERGROUND DISTRIBUTION, NOTIFY THE DEPARTMENTAL REPRESENTATIVE OF ANY CHANGES.
- KEYNOTES:**
- NEW SOUTH MDP-6A ENCLOSURE, REFER TO E-102 FOR ENCLOSURE LOCATION AND E-303, E-305 FOR ENCLOSURE AND ELECTRICAL EQUIPMENT DETAILS.
  - NEW ATAGI MARINA ENCLOSURE WHICH A COMBINATION OF MDP-2A AND MDP-4B, REFER TO E-103 FOR LOCATION AND E-306 FOR ENCLOSURE AND ELECTRICAL EQUIPMENT DETAILS.
  - EXISTING ATAGI MARINA SHED IS TO BE DEMOLISHED BY OTHERS.
  - THE SUBSTATION GROUNDING SHALL BE ADAPTED AND EXPANDED AS PER DRAWING E-303.
  - ASSOCIATED PT AND CT WITHIN MDP-6A DMS PANEL.
  - ASSOCIATED PT AND CT WITHIN MDP-4B/2A DMS PANEL.
  - REFER TO DRAWING E-102 FOR MDP-4B/2A INTERNAL PANEL DETAILS.

| SINGLE LINE DIAGRAM SYMBOL SCHEDULE |  |
|-------------------------------------|--|
|                                     | LV CIRCUIT BREAKER   |
|                                     | HV CIRCUIT BREAKER WITH BUS CONNECTIONS (DRAWOUT CONTACTS)   |
|                                     | HV CIRCUIT BREAKER (DRAWOUT) LETTER DESIGNATION: B, B2, C, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100, C101, C102, C103, C104, C105, C106, C107, C108, C109, C110, C111, C112, C113, C114, C115, C116, C117, C118, C119, C120, C121, C122, C123, C124, C125, C126, C127, C128, C129, C130, C131, C132, C133, C134, C135, C136, C137, C138, C139, C140, C141, C142, C143, C144, C145, C146, C147, C148, C149, C150, C151, C152, C153, C154, C155, C156, C157, C158, C159, C160, C161, C162, C163, C164, C165, C166, C167, C168, C169, 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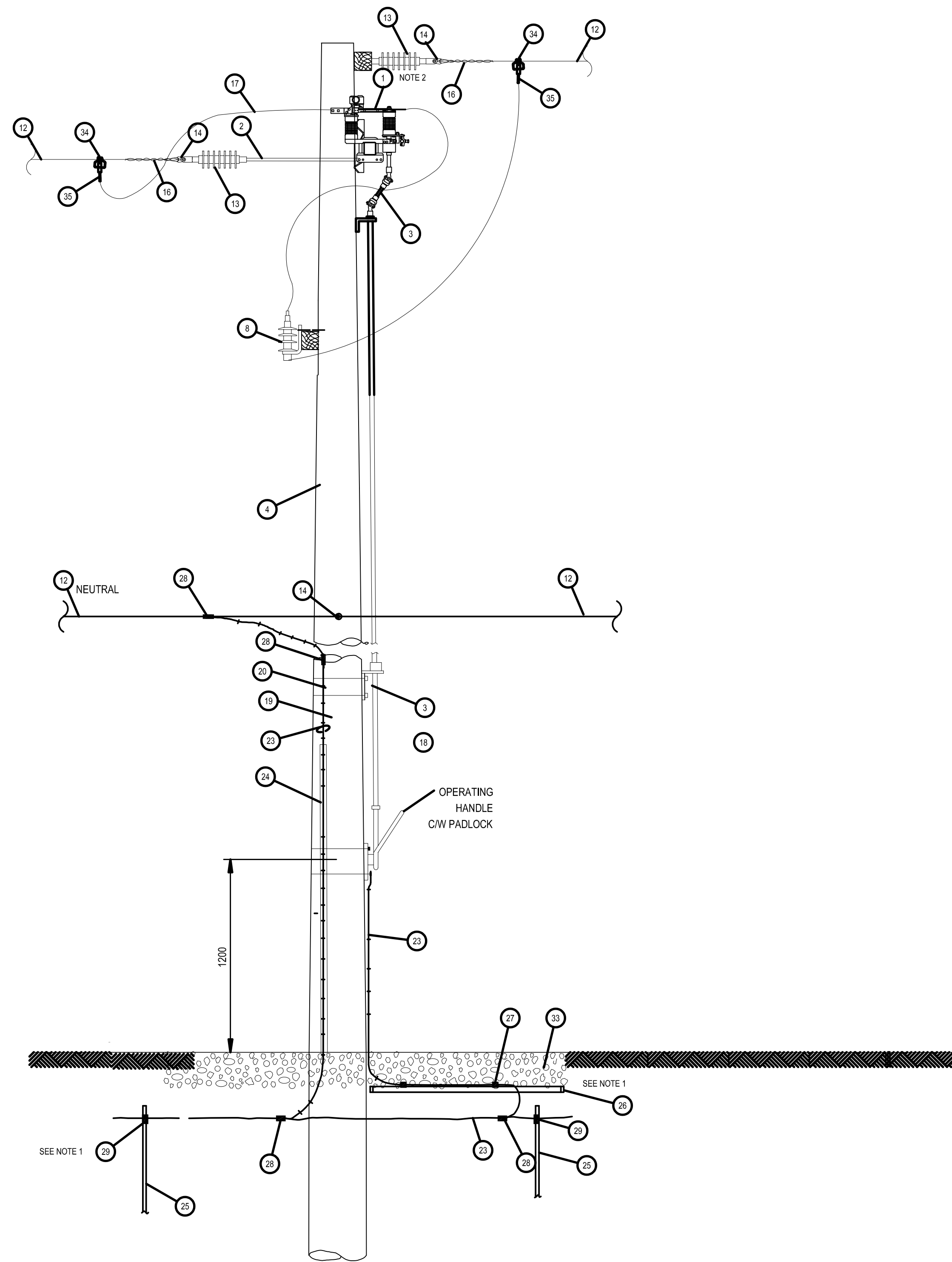
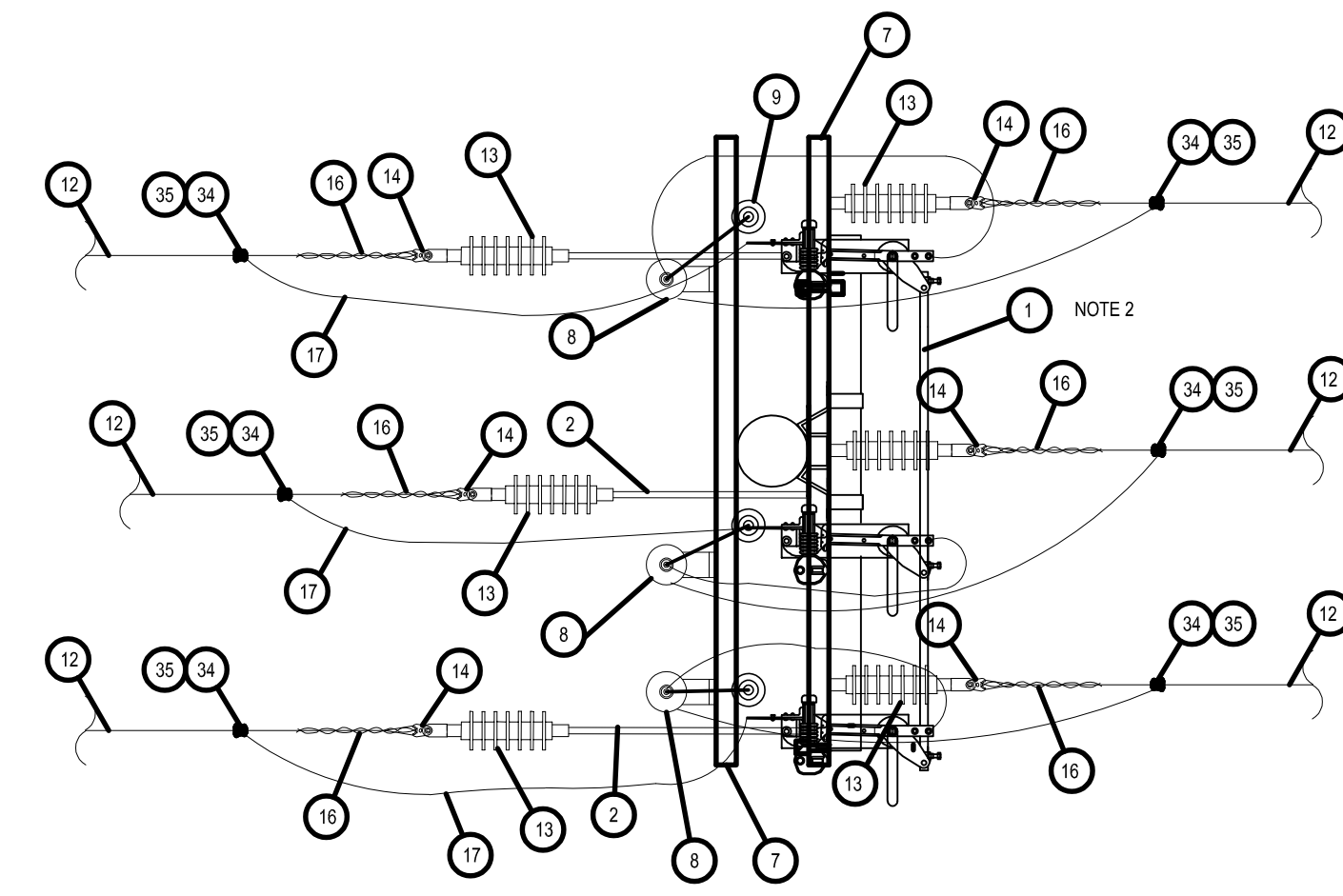




- NOTES:
1. INSTALL 4 DRIVEN GROUND RODS INTERCONNECTED IN A LOOP.
  2. INSTALL SWITCH SO THAT THE BLADES WILL BE DE-ENERGIZED IN THE OPEN POSITION. IN THE VIEW SHOWN, THE SUPPLY IS COMING FROM THE OVERHEAD CONDUCTORS.

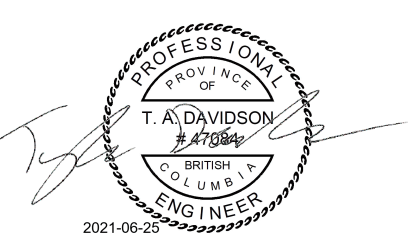
**BILL OF MATERIAL**

1. GROUP OPERATED LOAD INTERRUPTER SWITCH 3 POLE UPRIGHT MOUNTING SIDE BREAK INTEGERS STYLE 25KV, 600A S & C CAT. No. 147413R2-S2-S6-CF.
2. EXTENSION LINK ASSEMBLIES, S & C.
3. OPERATING MECHANISM FOR SWITCH.
4. WOOD POLE, CLASS 2, 13.7m LONG.
5. GUY HOOK AND STRAIN PLATE GRAFTON GFC34 AND 1448P.
6. GUY STRAIN INSULATOR, POLYMER TYPE ROLLER/ROLLER 100X4MLINE No. KL-24-RR.
7. WOOD CROSSARM 95x120mm LENGTH TO SUIT, WITH FLAT IRON BRACES.
8. CABLE TERMINATOR, 25KV SILICONE RUBBER COLD SHRINK TYPE 3M QT-48 KIT No. 782-S-4.
9. SURGE ARRESTER, 18KV, DISTRIBUTION CLASS, SILICONE RUBBER HOUSING CHD BRASS TYPE PDV-100 OPTIMA CAT No. 21375-344.
10. SCREW ANCHOR, 10 INCH HELIX, 800LB, CHANCE TYPE PSA #E1020250.
11. POWER FUSE C/W POLE TOP MOUNTING, 25KV, 150KV BL, SIZED AS PER COORDINATION STUDY.
12. OVER HEAD CONDUCTORS 4-1C ACSR #2 QUAL.
13. SUSPENSION INSULATOR, POLYMER TYPE SILICONE, 28KV, K-LINE No. KL-28SCT.
14. THIMBLE CLEVIS DEAD END GRAFTON No. TC-1.
15. SHOULDER EYE BOLT 19mm DIA., CURVED WASHER GRAFTON No. SE3414.
16. GRIP CONDUCTOR PREFORMED DEAD END GRAFTON TYPE AON TO SUIT CONDUCTOR.
17. WEATHERPROOF COVERED DROP WIRE 4-1C ACSR #20 PECAN CONDUIT SEAL.
18. #2 25KV, CONCENTRIC NEUTRAL POWER CABLE, JACKETED, KELLAM CABLE GRIPS.
19. HOT DIP GALVANIZED STEEL CABLE GUARD 100mm DIA, 2400mm LENGTH.
20. GUY DEAD END CLAMP CARBON STEEL 3 BOLT No. GC312.
21. GROUND CONDUCTOR, #10 BARE STRANDED COPPER.
22. GROUND WIRE GUARD PLASTIC 2400mm LONG GRAFTON GM12P.
23. GROUND ROD 20mm DIA COPPERWELD, 3000mm LENGTH.
24. PERSONNEL SAFETY MAT, 1200x1800mm, COPPERWELD, WIRE TO WIRE PRESSURE CONNECTOR.
25. GROUND WIRE TO WIRE CONNECTOR C AND WEDGE TYPE IMPACT KIT No. 1-275187-S.
26. WIRE TO GROUND ROD PRESSURE CONNECTOR IMPACT KIT No. 4-275337-S.
27. FLEXIBLE COPPER BRAID, BURNDY TYPE BD-24.
28. GUY WIRE, 9mm DIA, GRADE 190 CRUCIBLE STEEL.
29. GUY GUARD, 2700mm LONG, YELLOW PLASTIC.
30. CRUSHED STONE, 200mm DEPTH TO COVER ENTIRE SAFETY MAT.
31. STERILUP CONNECTION, WEDGE TYPE C/W TIN PLATED COPPER BAIL, IMPACT No. 27545-1.
32. HOT LINE CLAMP, PLATED BRONZE GENERAL PURPOSE HD SUPPLY No. CP9C-420.
33. BCH METERING KIT 25KV CLASS 3PH, 4 WIRE, VT-14400-120 CT:10:5.
34. METER CABINET.
35. 11C TECK CABLE.
36. CABLE FITTING 11C.
37. IMPACT CONNECTORS #2 ACSR.
38. COMPRESSION SPACER CONNECTORS #3 CU.
39. #4 AWG PE COVERED CU CONDUCTOR.
40. DROP LEAD INSULATOR PIN WITH PIN INSULATOR 14-428KV.




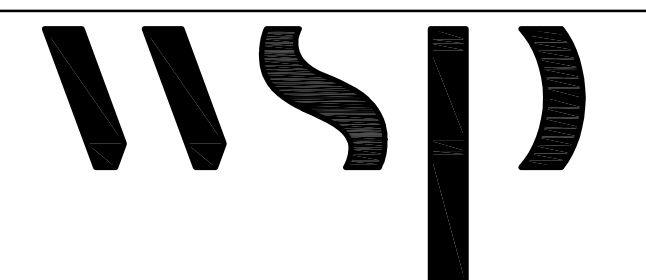
1 EXISTING UTILITY POLE 25KV - POWER POLE (PP)- 01  
ELEVATION  
SCALE: N.T.S.



  
 T. A. Gaudin  
 P. Eng.  
 No. 10000  
 B.C. 2017-08-29

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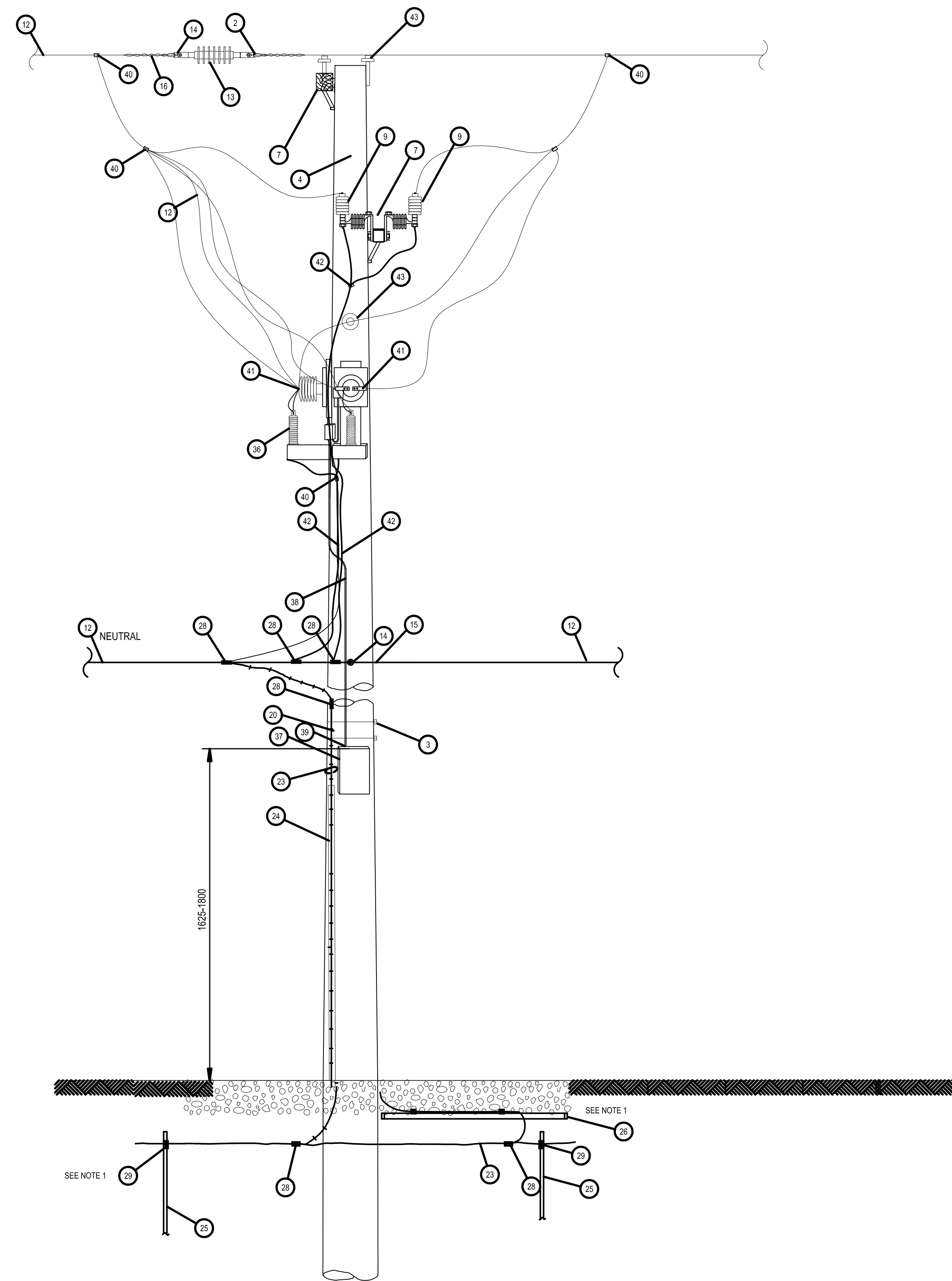
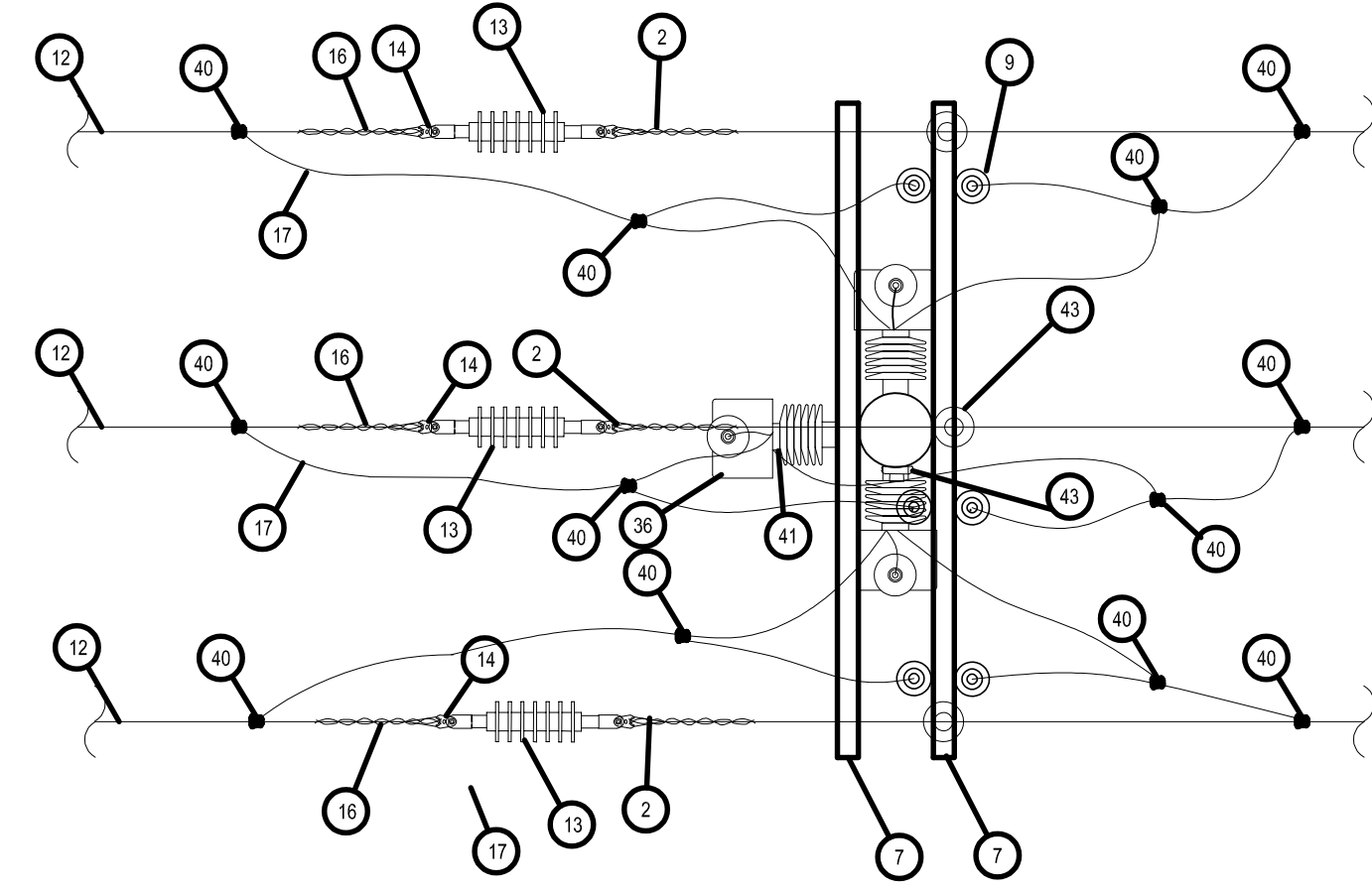
  
**FISHERIES AND OCEANS CANADA**  
 SMALL CRAFT HARBOURS

  
**WSP**

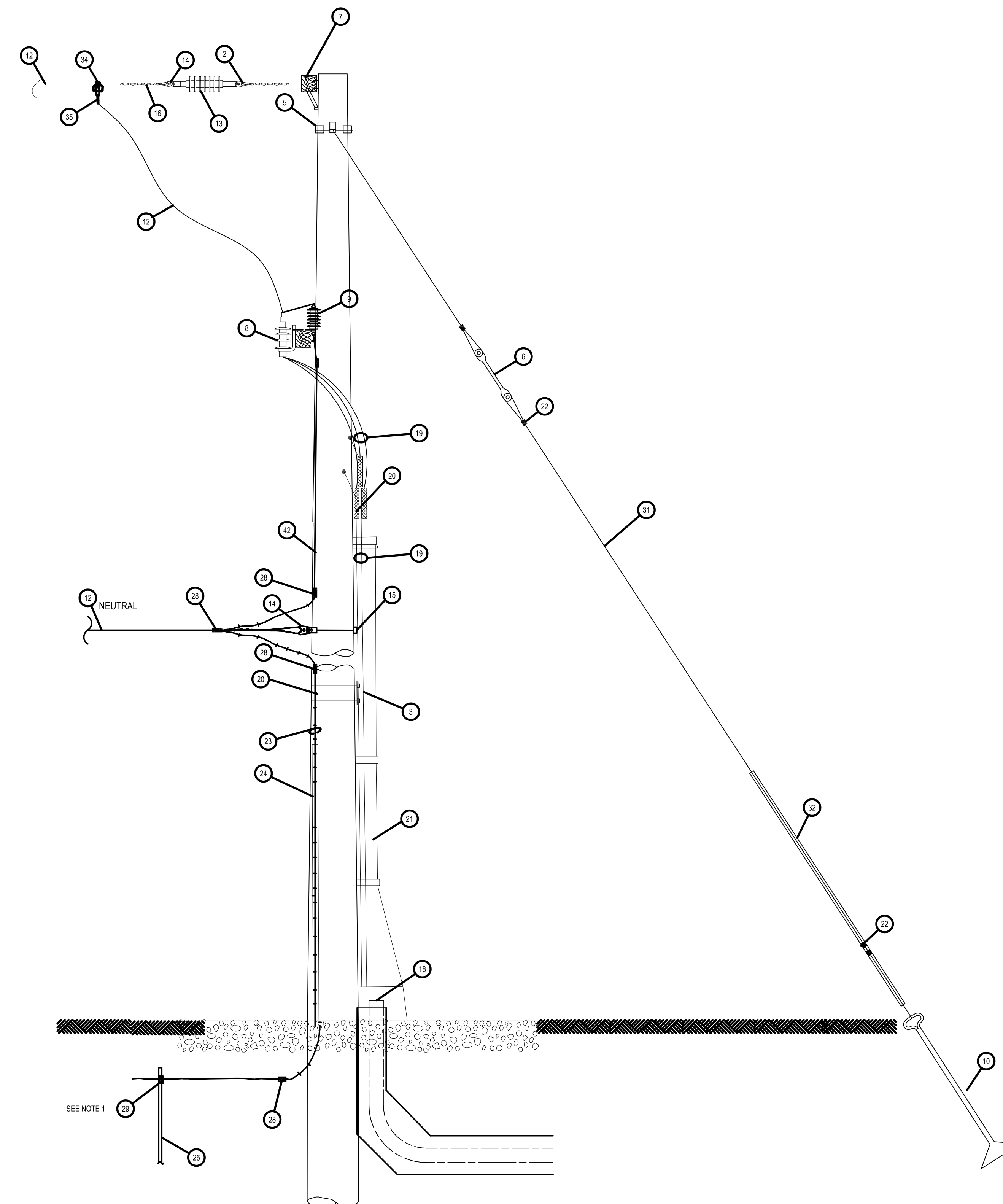
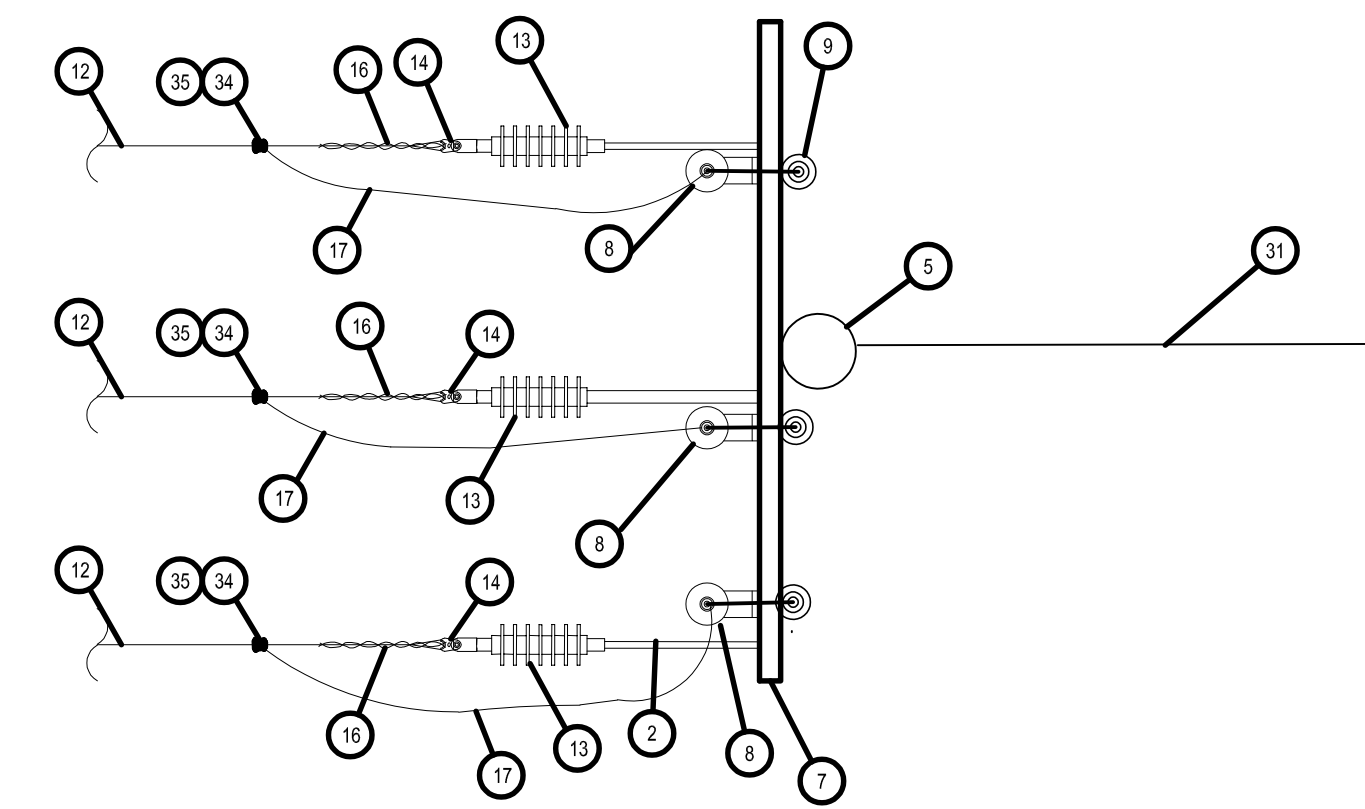
Project title/Titre de projet: RICHMOND, B.C.  
**SCH STEVESTON PARAMOUNT ELECTRICAL - TRITES WEST**  
 Drawing title/Titre de dessin: EXISTING ELECTRICAL POLE DETAILS

| Project No./No. de projet | Sheet/Feuille | Total Sheets/Total Feuilles |
|---------------------------|---------------|-----------------------------|
| 191-16093-02              | E-300         | 0                           |





1 EXISTING UTILITY POLE 25kV - POWER POLE (PP)-02  
ELEVATION  
SCALE: N.T.S.



2 EXISTING UTILITY POLE 25kV - POWER POLE (PP)-03  
ELEVATION  
SCALE: N.T.S.

- NOTES:
- INSTALL 4 DRIVEN GROUND RODS INTERCONNECTED IN A LOOP.
  - INSTALL SWITCH SO THAT THE BLADES WILL BE DE-ENERGIZED IN THE OPEN POSITION. IN THE VIEW SHOWN, THE SUPPLY IS COMING FROM THE OVERHEAD CONDUCTORS.

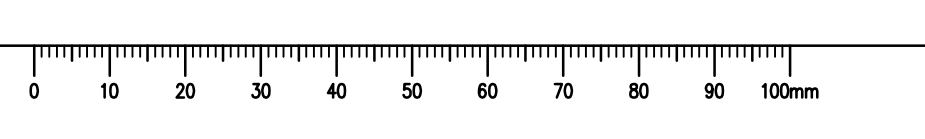
**BILL OF MATERIAL**

- GROUP OPERATED LOAD INTERRUPTER SWITCH 3-POLE, UPRIGHT MOUNTING SIDE BREAK INTEGER STYLE, 25KV, 600A S & C CAT. No. 147413R2-S2-S6-D-F.
- EXTENSION LINK ASSEMBLIES, S & C.
- OPERATING MECHANISM FOR SWITCH.
- WOOD POLE, CLASS 2, 13.7m LONG.
- GLY HOOK AND STRAIN PLATE GRAFTON GFCM AND 1448SP.
- GLY STRAIN INSULATOR, POLYMER TYPE ROLLER/ROLLER 100XN-KLINE No. KL-26-RR.
- WOOD CROSSARM 95x120mm, LENGTH TO SUIT, WITH FLAT ARM BRACES.
- CABLE TERMINATOR, 25KV SILICONE RUBBER COLD SHRINK TYPE 3M DT-8 KIT No. 1853-3-4.
- SURGE ARRESTER, 18KV, DISTRIBUTION CLASS, SILICONE RUBBER HOUSING OHIO BRASS TYPE PDV-100 OPTIMA CAT No. 2137157-84.
- SCREW ANCHOR, 10 INCH HELIX, 8000LB, CHANCE TYPE PISA #E102050.
- POWER FUSE CW POLE TOP MOUNTING, 25KV, 150KV BIL, SIZED AS PER COORDINATION STUDY.
- OVER HEAD CONDUCTORS 4-1C ACSR #2 QUAIL.
- SUSPENSION INSULATOR, POLYMER TYPE SILICONE, 25KV, K-LINE No. KL-28SCT.
- THIMBLE CLEVIS DEAD END GRAFTON No. TC-1.
- SHOULDER EYE BOLT 19mm DIA, CURVED WASHER GRAFTON No. SE3414.
- GRP CONDUCTOR PREFORMED DEAD END GRAFTON TYPE 80N TO SUIT CONDUCTOR.
- WEATHERPROOF COVERED DROP WIRE 4-1C ACSR #20 PECAN CONDUIT SEAL.
- #2 25KV, CONCENTRIC NEUTRAL POWER CABLE, JACKETED, KELLAM CABLE GRIPS.
- HOT DIP GALVANIZED STEEL CABLE GUARD 100mm DIA, 3400mm LENGTH.
- GLY DEAD END CLAMP CARBON STEEL 3 BOLT No. GC12.
- GROUND CONDUCTOR, #20 BARE STRANDED COPPER.
- GROUND WIRE GUARD PLASTIC 240mm LONG GRAFTON GM12P.
- GROUND ROD 20mm DIA COPPERWELD, 3000mm LENGTH.
- PERSONNEL SAFETY MAT, 1200x1800mm, COPPERWELD.
- WIRE TO WIRE PRESSURE CONNECTOR.
- GROUND WIRE TO WIRE CONNECTOR C AND WEDGE TYPE IMPACT KIT No. 1-275187-6.
- WIRE TO GROUND ROD PRESSURE CONNECTOR IMPACT KIT No. 4-276337-6.
- FLEXIBLE COPPER BRAD, BURNDY TYPE 80-24.
- GLY WIRE, 9mm DIA, GRADE 160 CRUCIBLE STEEL.
- GLY GUARD, 2700mm LONG, YELLOW PLASTIC.
- CRUSHED STONE, 200mm DEPTH TO COVER ENTIRE SAFETY MAT STRIP CONNECTION, WEDGE TYPE CW TIN PLATED COPPER SIAL IMPACT No. 27640-1.
- HOT LINE CLAMP, PLATED BRONZE GENERAL PURPOSE HD SUPPLY No. CP8C-820.
- BCH METERING KIT 25KV CLASS 3PH, 4 WIRE, VT:14400-120 CT:105.
- METER CABINET.
- 11C TECK CABLE.
- CABLE FITTING 11C.
- IMPACT CONNECTORS #2 ACSR.
- COMPRESSION SPADE CONNECTORS #2 CU.
- #4 AWG PE COVERED CU CONDUCTOR.
- DROP LEAD INSULATOR PIN WITH PIN INSULATOR 144252KV.

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| ISS | DATE       | DESCRIPTION       |

**FISHERIES AND OCEANS CANADA**  
 SMALL CRAFT HARBOURS

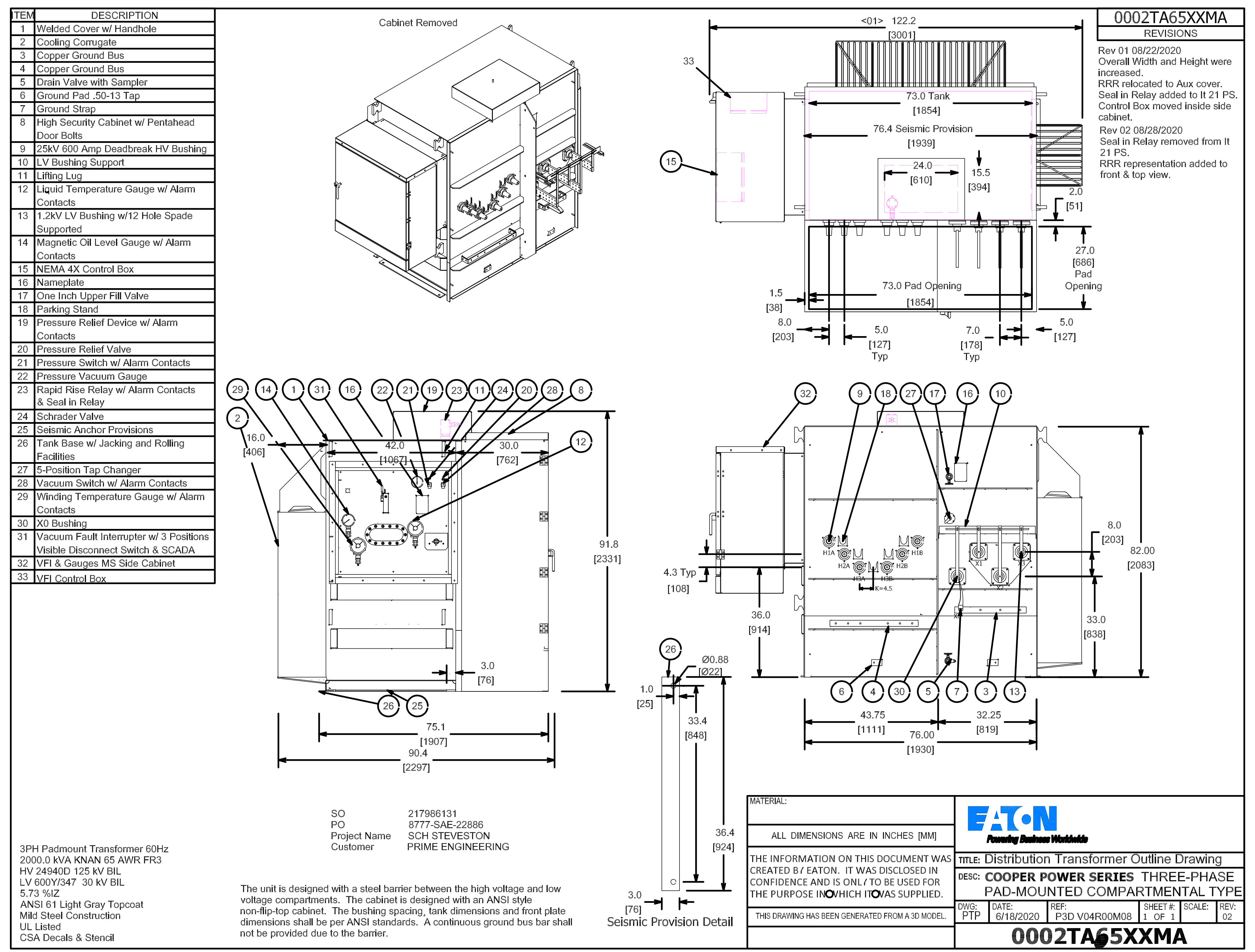
Project Site/Title de projet: RICHMOND, B.C.  
**SCH STEVESTON PARAMOUNT ELECTRICAL - TRITES WEST**  
 Drawing Site/Title de dessin: EXISTING ELECTRICAL POLE DETAILS  
 Project No./No. de projet: 191-16093-02      Sheet/Feuille: E-301      Page/Total: 0





**GENERAL NOTE:**

- ELECTRICAL CONTRACTOR WILL INCLUDE COORDINATION WITH CIVIL CONTRACTOR FOR SITE PREPARATION IN THEIR CONTRACTUAL BID.
- PROVIDE SIGNAGE AS PER SECTION 35 OF CEC FOR EQUIPMENT AND HV BURNED DUCTS. CONTRACTOR TO PROVIDE TWO (2) PERMANENT WEATHERPROOF, LEGIBLE WARNING NOTICES CARRYING THE WORDING "DANGER-HIGH VOLTAGE" BESIDES BOTH FENCE ENTRANCES.
- CONTRACTOR SHALL PROVIDE UP TO DATE ARC FLASH STUDY REPORT, AND STEP AND TOUCH POTENTIAL GROUND FAULT STUDY REPORT OF THE ENTIRE SUBSTATION. COORDINATE WITH DEPARTMENTAL REPRESENTATIVE FOR STUDY REPORTS SUBMISSIONS.



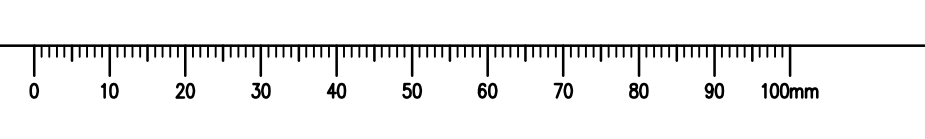
1 EXISTING SOUTH ELECTRICAL SUBSTATION - SUPPLIED BY PRIME ENGINEERING  
E-302 SCALE: 1:25

|     |            |                   |
|-----|------------|-------------------|
| 00  | 2021/06/24 | ISSUED FOR TENDER |
| ISS | DATE       | DESCRIPTION       |

**FISHERIES AND OCEANS CANADA**  
 SMALL CRAFT HARBOURS

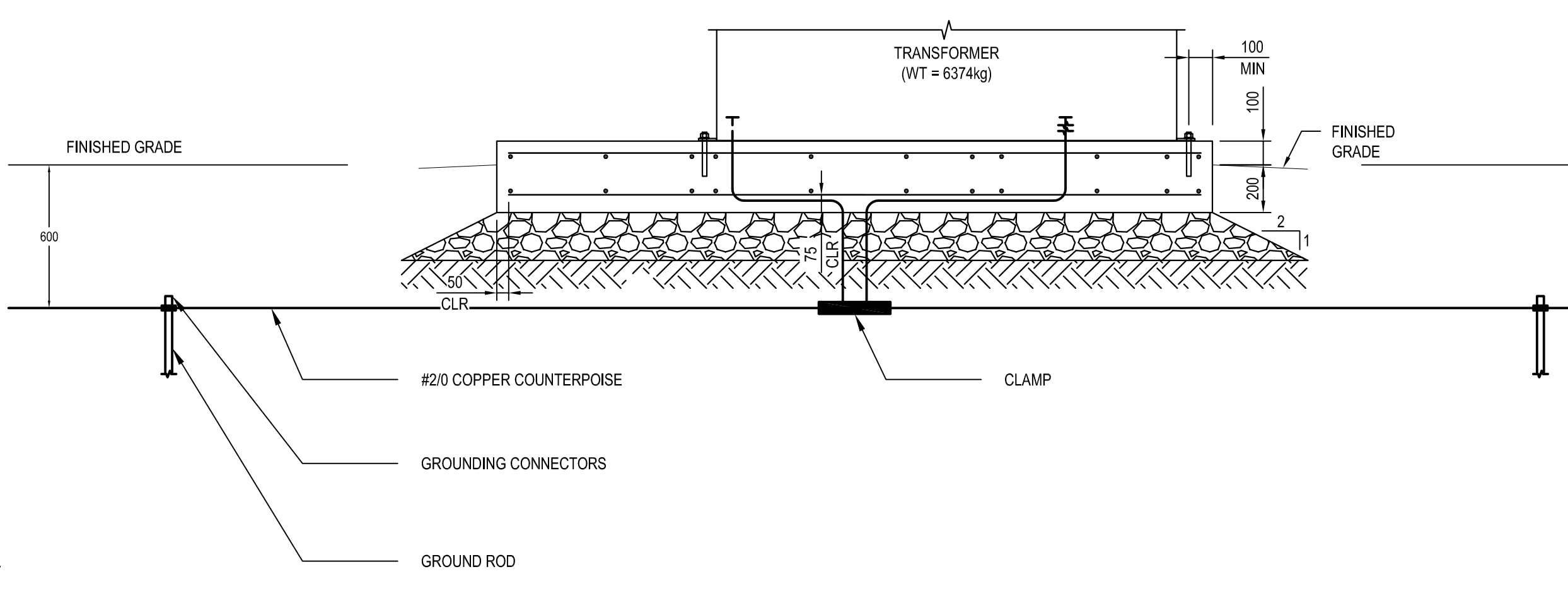
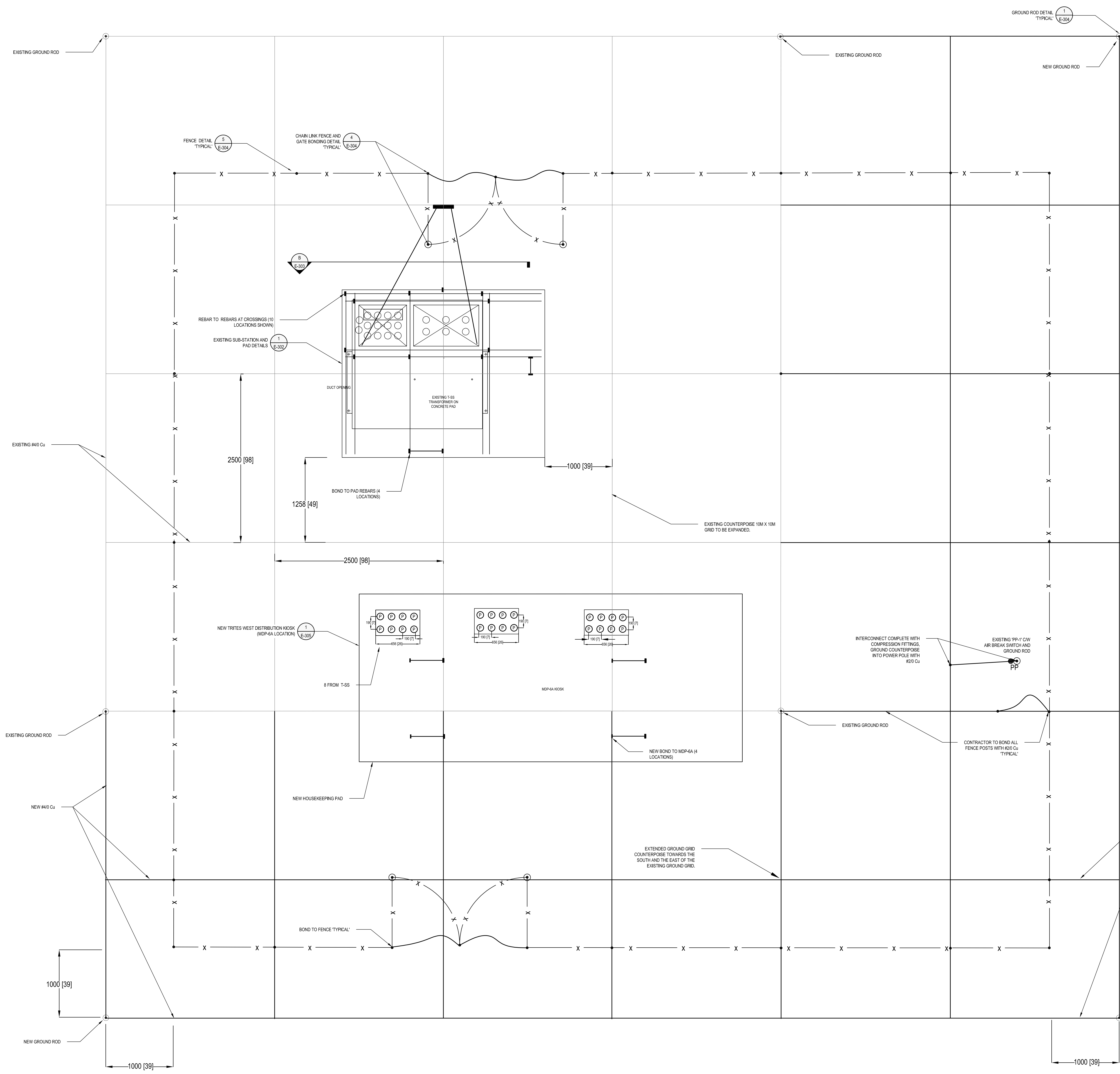
**WSP**

Project title/Titre de projet: RICHMOND, B.C.  
**SCH STEVESTON PARAMOUNT ELECTRICAL - TRITES WEST**  
 Drawing title/Titre de dessin: EXISTING SOUTH SUBSTATION AND PAD DETAILS  
 Project No./No. de projet: 191-16093-02  
 Sheet/Feuille: E-302  
 Page/Total: 0





- GENERAL NOTE:**
1. ELECTRICAL CONTRACTOR WILL INCLUDE COORDINATION WITH CIVIL CONTRACTOR FOR SITE PREPARATION, REBAR, HOUSEKEEPING PADS, AND CONCRETE REQUIREMENTS IN THEIR CONTRACTUAL BID.
  2. PROVIDE SIGNAGE AS PER SECTION 36 OF CEC FOR EQUIPMENT AND HV BURIED DUCTS.
  3. CONTRACTOR TO EXTEND THE EXISTING GROUND GRID TO THE SOUTH AND TO THE EAST OF THE EXISTING GROUND GRID.
  4. CONTRACTOR SHALL PROVIDE UP TO DATE ARC FLASH STUDY REPORT, AND STEP AND TOUCH POTENTIAL GROUND FAULT STUDY REPORT OF THE ENTIRE SUBSTATION, COORDINATE WITH DEPARTMENTAL REPRESENTATIVE FOR STUDY REPORTS SUBMISSIONS.
  5. REFER TO DRAWING E-304 FOR ALL GROUNDING AND BONDING DETAILS.
  6. REFER TO DRAWING E-305 FOR MOP-6A AND CRUSHED ROCK DETAILS.
  7. FENCE DONE BY OTHERS. COORDINATE GROUNDING AND BONDING CONNECTIONS TO THE FENCE WITH THE DEPARTMENTAL REPRESENTATIVE.



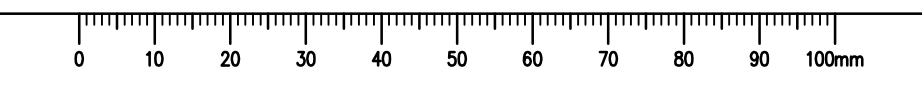
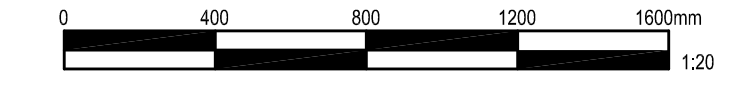
**B SOUTH ELECTRICAL SUBSTATION - GROUNDING LAYOUT- SECTIONAL VIEW**  
SCALE: 1:20

**A SOUTH ELECTRICAL SUBSTATION - GROUNDING LAYOUT- PLAN VIEW**  
SCALE: 1:20

| ISS | DATE       | DESCRIPTION       |
|-----|------------|-------------------|
| 00  | 2021/06/24 | ISSUED FOR TENDER |

**FISHERIES AND OCEANS CANADA**  
 SMALL CRAFT HARBOURS

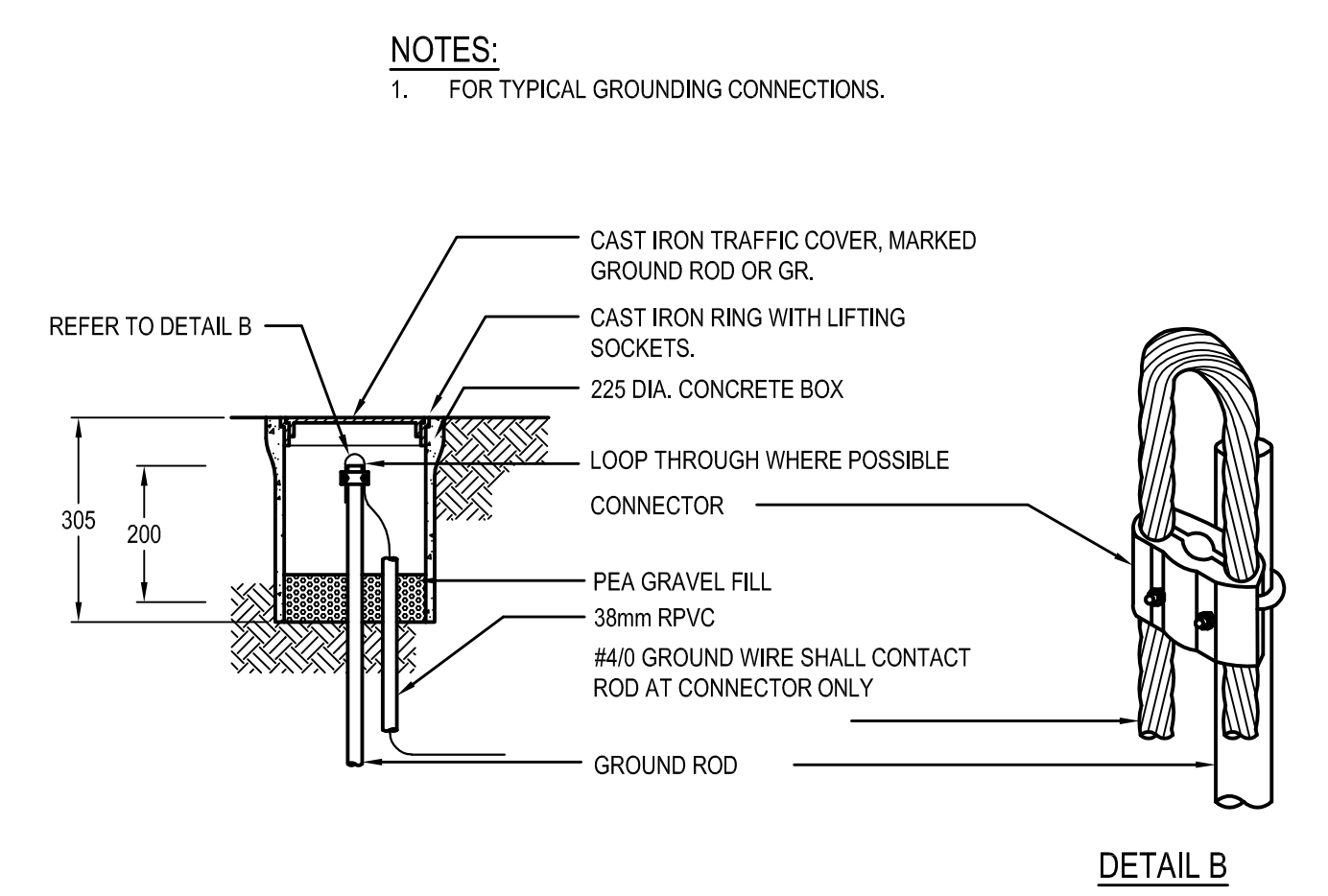
Project Site/Type de projet: RICHMOND, B.C.  
**SCH STEVESTON PARAMOUNT ELECTRICAL - TRITES WEST**  
 Drawing Site/Type de document: SOUTH SUBSTATION GROUNDING DETAILS  
 Project No./No. de projet: 191-16093-02  
 Sheet/Feuille: E-303  
 of 0



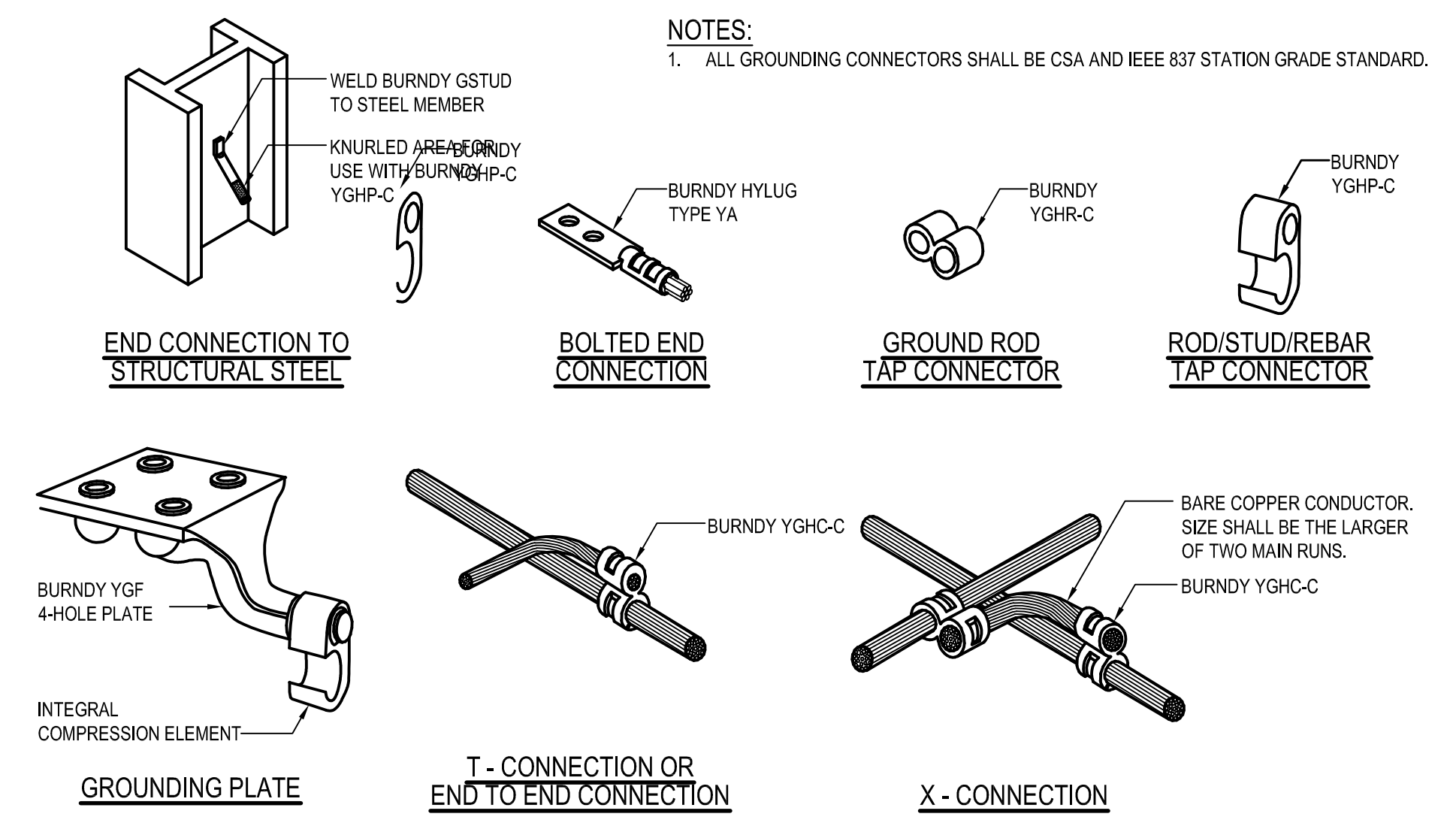


**GENERAL NOTE:**

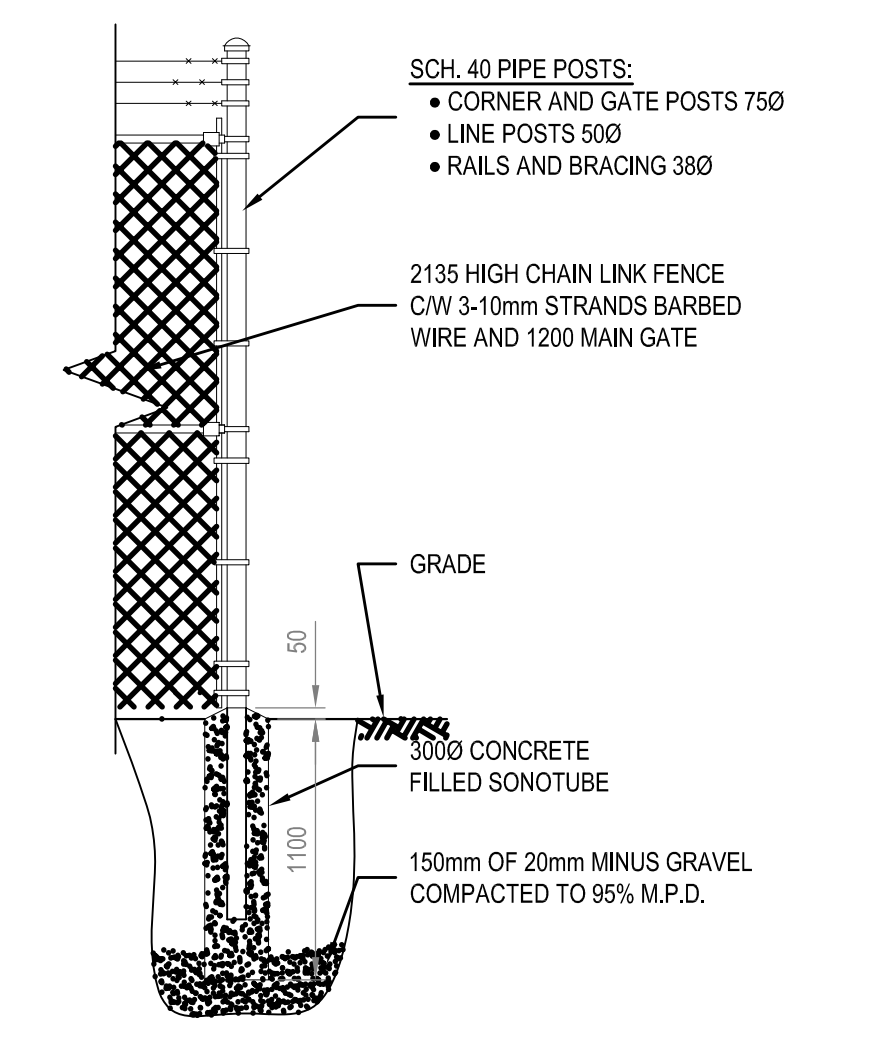
- ELECTRICAL CONTRACTOR WILL INCLUDE COORDINATION WITH CIVIL CONTRACTOR FOR SITE PREPARATION, REBAR, HOUSEKEEPING PADS, AND CONCRETE REQUIREMENTS IN THEIR CONTRACTUAL BID.
- PROVIDE SIGNAGE AS PER SECTION 36 OF CEC FOR EQUIPMENT AND ANY BURIED DUCTS.
- CONTRACTOR TO EXTEND THE EXISTING GROUND GRID TO THE SOUTH AND TO THE EAST OF THE EXISTING GROUND GRID.
- CONTRACTOR SHALL PROVIDE UP TO DATE ARC FLASH STUDY REPORT, AND STEP AND TOUCH POTENTIAL GROUND FAULT STUDY REPORT OF THE ENTIRE SUBSTATION. COORDINATE WITH DEPARTMENTAL REPRESENTATIVE FOR STUDY REPORTS SUBMISSIONS.
- REFER TO DRAWING E-303 FOR GROUND GRID DETAILS.



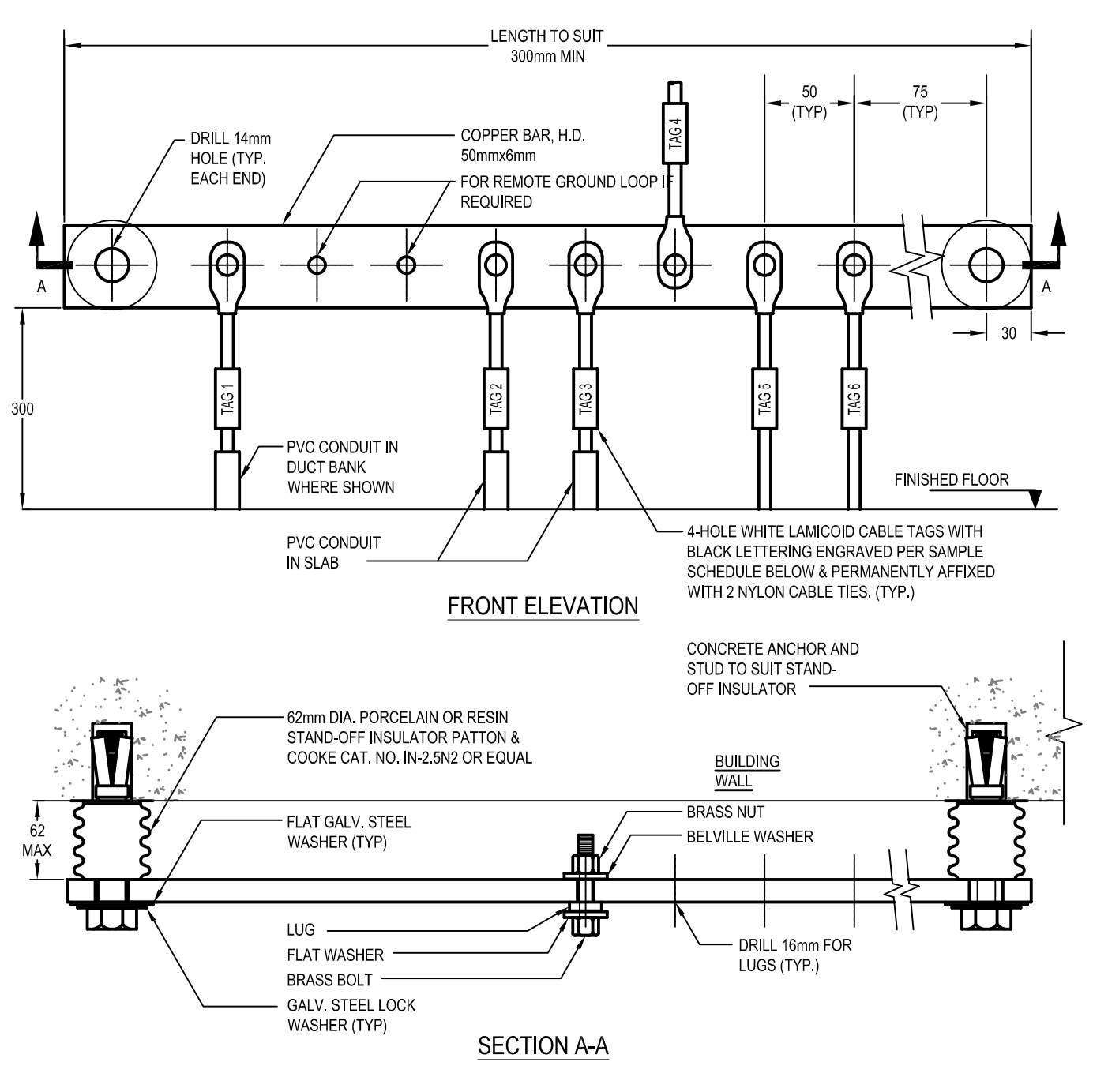
**1 GROUNDING ROD INSPECTION WELL**  
SCALE: N.T.S.



**3 WIRING DETAILS CRIMP-ON CONNECTIONS**  
SCALE: N.T.S.

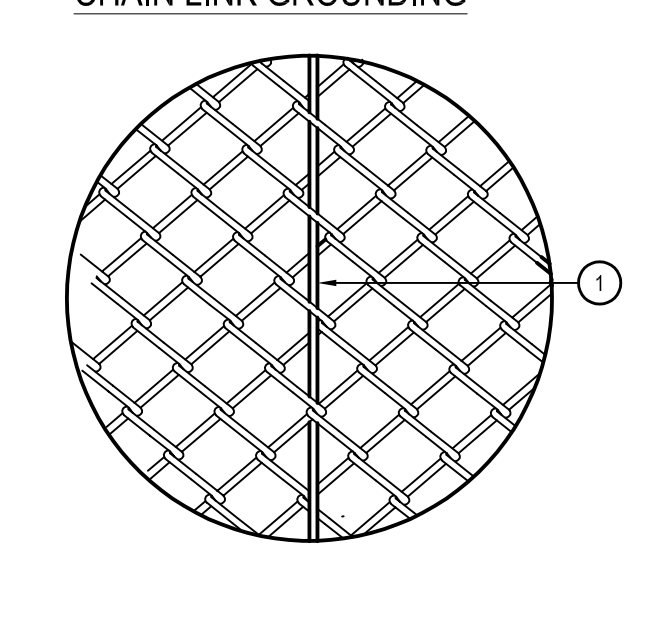
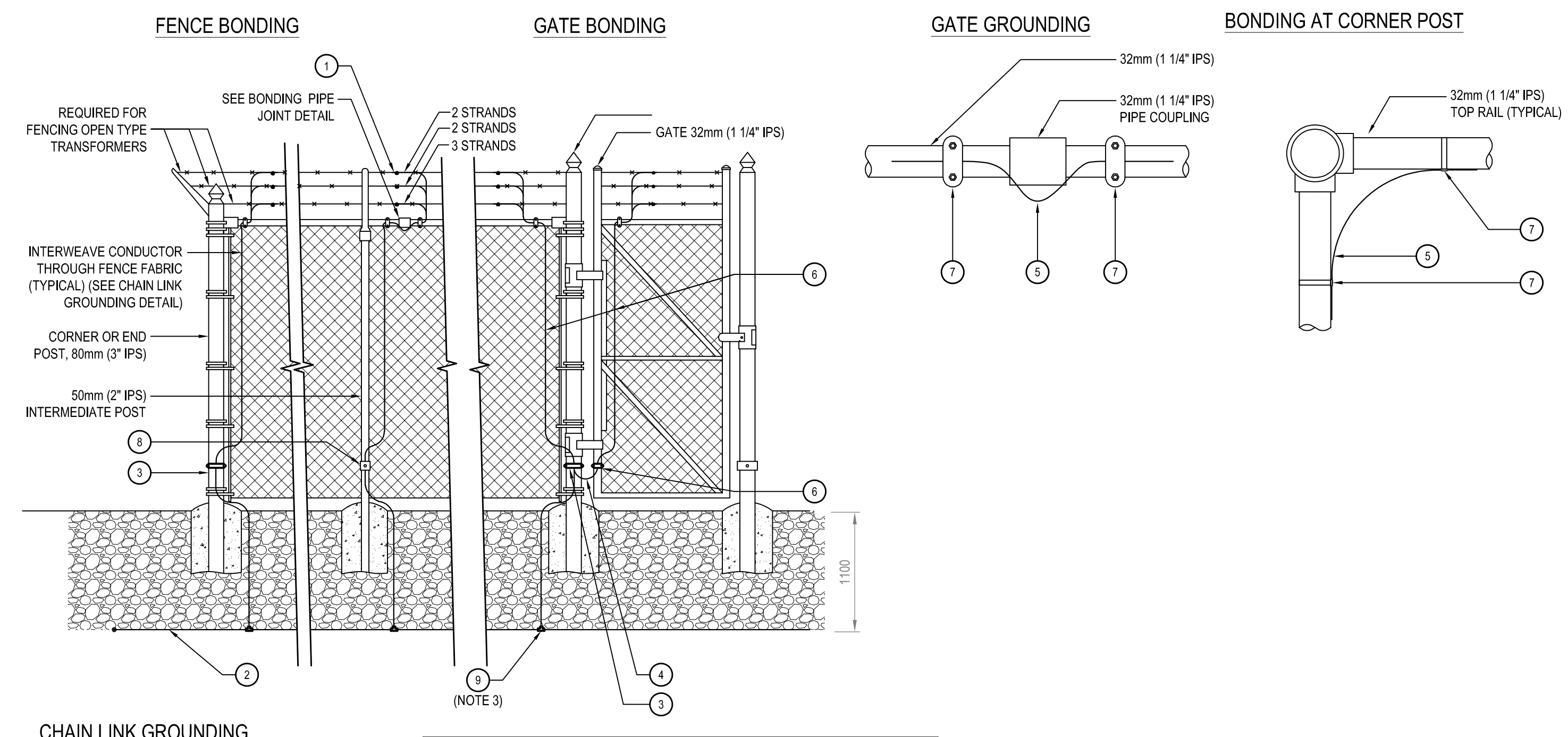


**5 FENCE DETAIL ENLARGED (TYP.)**  
SCALE: N.T.S.



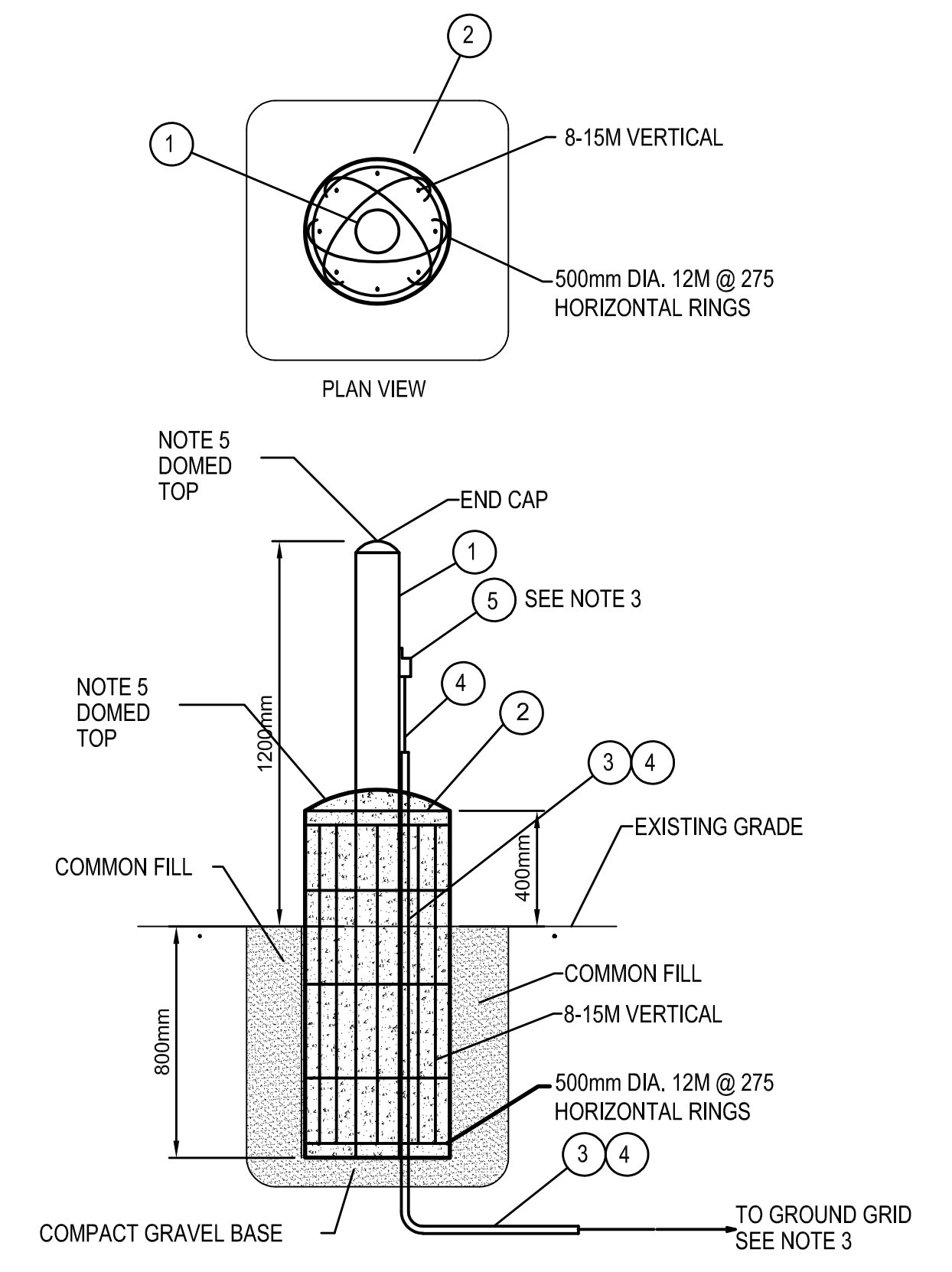
**2 GROUND BUS BAR DETAIL**  
SCALE: N.T.S.

| TAG NO. | ENGRAVING TEXT  |
|---------|---|
| 1       | INCOMING SERVICE GROUND   |
| 2       | INCOMING SERVICE SWITCHGEAR GROUND BUS LOOP                                 |
| 3       | INCOMING SERVICE SWITCHGEAR GROUND BUS LOOP FOR REMOTE GROUND LOOP REQUIRED |
| 4       | ROOM PERIMETER GROUND   |
| 5       | STATION GROUND ELECTRODE (GROUND ROD LOOP)                                  |
| 6       | STATION GROUND ELECTRODE (GROUND ROD LOOP)                                  |



| ITEM # | DESCRIPTION                                     |
|--------|---|
| 1      | CONNECTOR SERVIT, BURNDY KSU 17 OR EQUAL        |
| 2      | CONDUCTOR, #40, STRANDED, MHD COPPER            |
| 3      | CONNECTOR, BURNDY GD 2028 OR EQUAL              |
| 4      | #30 EXTRA FLEXIBLE CU BRAD, BURNDY B20 OR EQUAL |
| 5      | CONDUCTOR, #20, 7-STRAND SOFT ANNEALED COPPER   |
| 6      | CONNECTOR, BURNDY GD 1628 OR EQUAL              |
| 7      | CONNECTOR, BURNDY GAR 1629 OR EQUAL             |
| 8      | CONNECTOR, BURNDY GAR 1529 OR EQUAL             |
| 9      | T-CONNECTION, BURNDY YGHC-C OR EQUAL            |

**4 CHAIN LINK FENCE AND GATE BONDING DETAIL**  
SCALE: N.T.S.



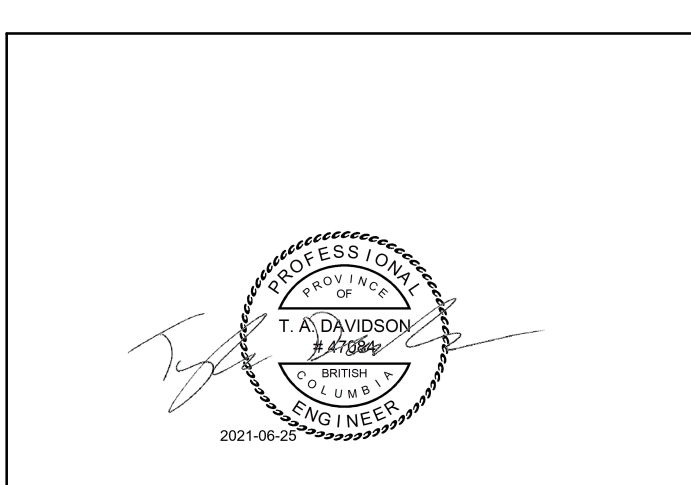
**6 CONCRETE BOLLARD DETAIL**  
SCALE: N.T.S.

**BOLLARD NOTES:**

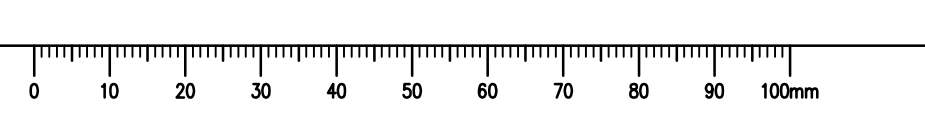
- FILL PIPE WITH CONCRETE.
- PRIME PAINT PIPE AND FINISH PAINT WITH HIGH GLOSS YELLOW METAL PAINT.
- INSTALL GROUND WIRE FROM EACH BOLLARD TO LOAD BREAK JUNCTION OR SWITCHGEAR UNIT GROUND GRID. INSTALL GROUND LOG ON PIPE PRIOR TO INSTALLING IN CONCRETE.
- FOR CONFIGURATION OF BOLLARDS SEE DRAWING E303. PROVIDE DOMED FINISH TO CONCRETE TOP OF DRAINAGE.
- FOR BOLLARD SPACING LAYOUT AND GROUND SEE DRAWING E303.

**KEYNOTES:**

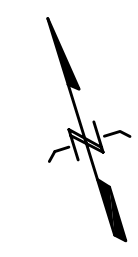
- 150mm SCHEDULE 40 STEEL PIPE
- REINFORCED CONCRETE BASE - 500mm DIA x 1200mm
- 25mm RIGID PVC CONDUIT
- #20 BARE STRANDED COPPER GROUND
- STRUCTURE GROUND CLAMP C/W TOP, BASE AND HARDWARE AMP No. B14163



|  |                |                            |
|--|----------------|----------------------------|
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| ISS  | DATE           | DESCRIPTION                |
| <br><b>FISHERIES AND OCEANS CANADA</b><br>SMALL CRAFT HARBOURS           |                |                            |
|  |                |                            |
| Project title/Titre de projet: <b>RICHMOND, B.C.</b>                     |                |                            |
| <b>SCH STEVESTON PARAMOUNT ELECTRICAL - TRITES WEST</b>                  |                |                            |
| Drawing title/Titre de dessin: <b>SOUTH SUBSTATION GROUNDING DETAILS</b> |                |                            |
| Project No./No. de projet:   | Sheet/Feuille: | Project No./No. de projet: |
| 191-16093-02   | E-304          | 0                          |

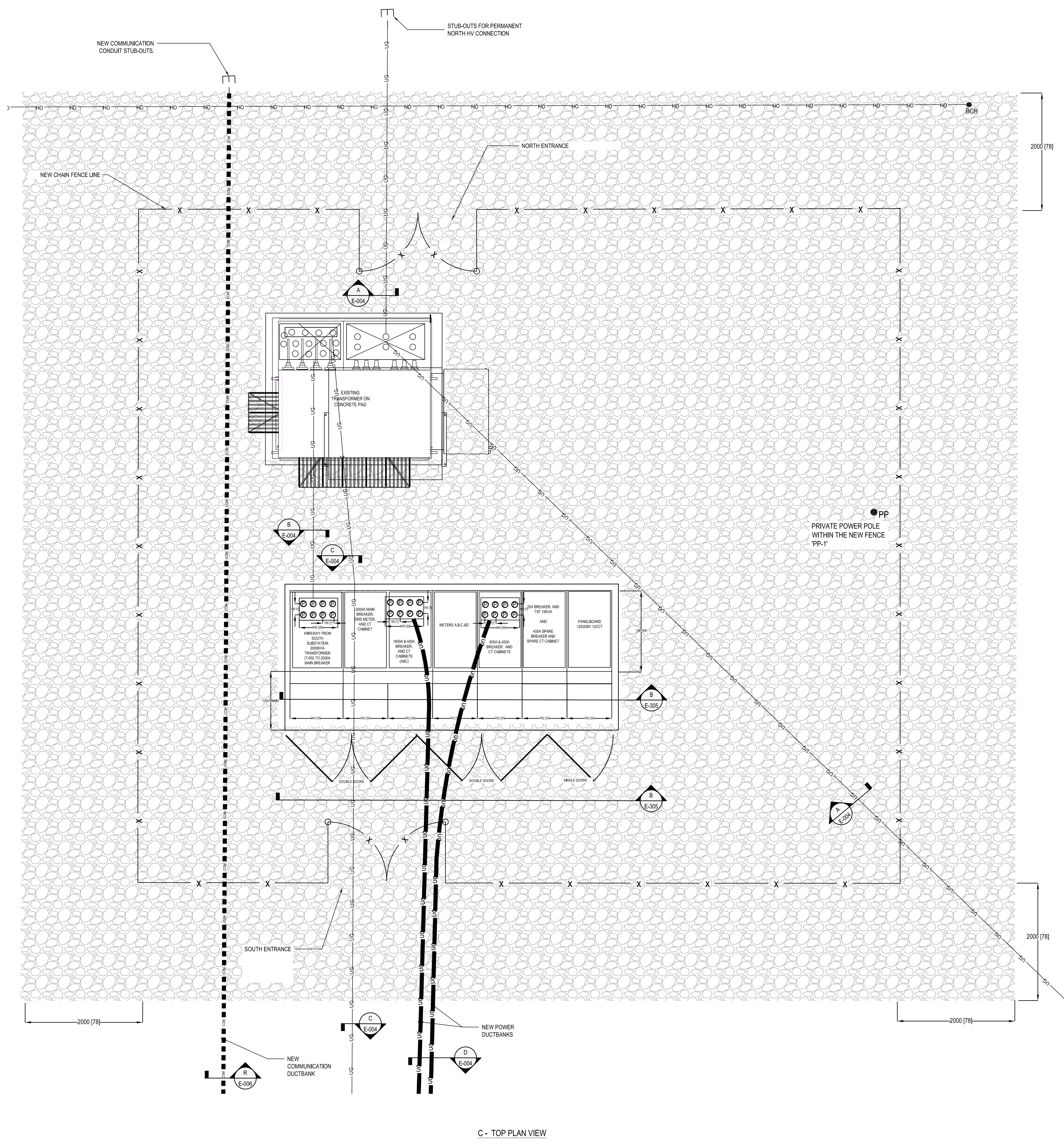




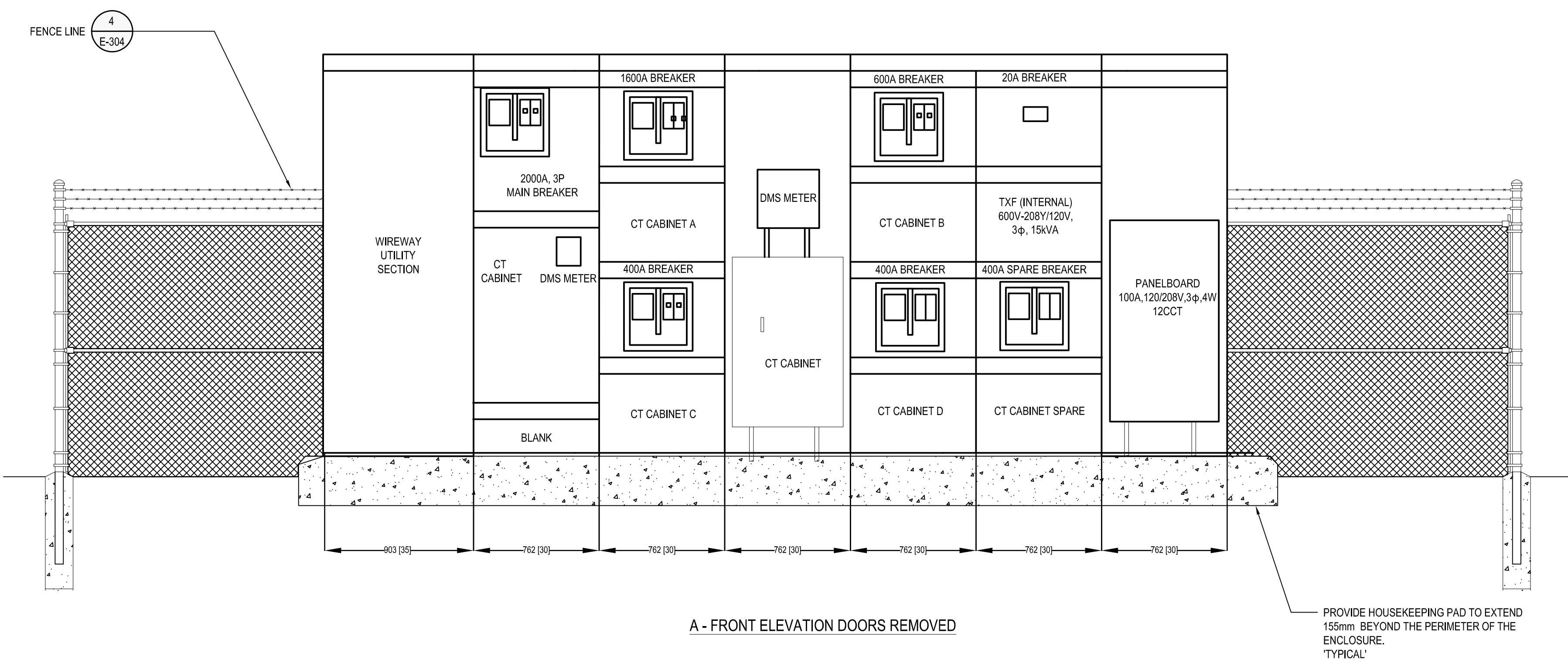


| DUCT LEGEND   |  |
|---------------|--|
| — OH — OH —   | EXISTING OVERHEAD POWER LINE (TO REMAIN)   |
| — UG — UG —   | EXISTING UNDERGROUND DUCT BANK (TO REMAIN) |
| — UG — UG —   | NEW UNDERGROUND DUCT BANK                  |
| — COM — COM — | EXISTING COMMUNICATION DUCT BANK           |
| — COM — COM — | NEW COMMUNICATION DUCT BANK                |
| — W — W —     | EXISTING WATER DUCT BANK                   |

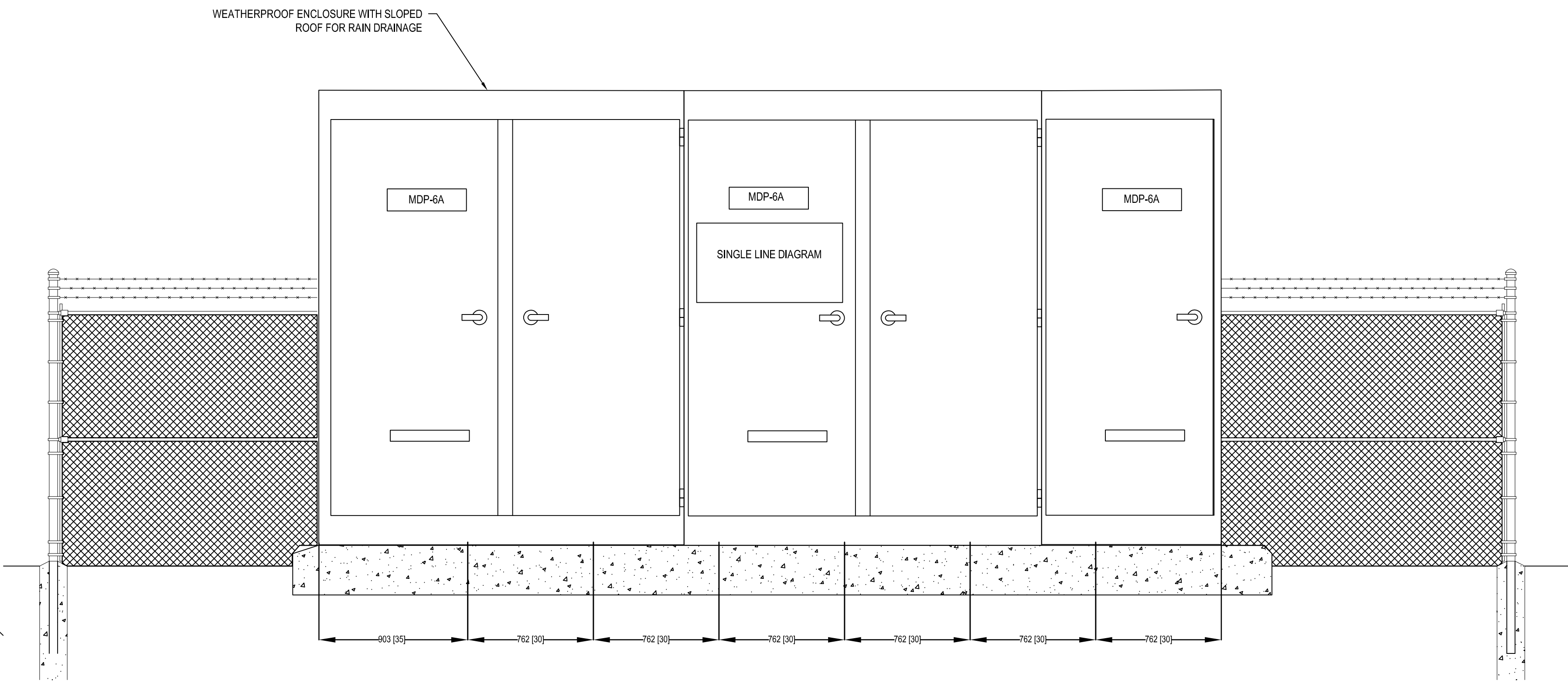
- GENERAL NOTE:**
- SCOPE OF CONTRACT INCLUDES SUPPLY OF ELECTRICAL EQUIPMENT INSIDE OF THE MAIN DISTRIBUTION CABINET.
  - ELECTRICAL CONTRACTOR TO PROVIDE HOUSEKEEPING PAD.
  - PROVIDE SIGNAGE AS PER SECTION 36 OF CEC FOR EQUIPMENT AND HV BURIED DUCTS. CONTRACTOR TO PROVIDE TWO (2) PERMANENT WEATHERPROOF, LEGIBLE WARNING NOTICES CARRYING THE WORDING "DANGER-HIGH VOLTAGE" BESIDES BOTH FENCE ENTRANCES.
  - CONTRACTOR SHALL PROVIDE UP TO DATE ARC FLASH STUDY REPORT AND STEP AND TOUCH POTENTIAL GROUND FAULT STUDY REPORT OF THE ENTIRE SUBSTATION. COORDINATE WITH DEPARTMENTAL REPRESENTATIVE FOR STUDY REPORTS SUBMISSIONS.
  - CONTRACTOR TO PROVIDE TWO (2) WATERPROOF COVER RECEPTACLES, BASEBOARD HEATERS, THREE (3) 174" DIA. 2000K 4000 LUMENS LED STRIP FIXTURES, SWITCHES, AND OCCUPANCY SENSOR(S) WITHIN THE MDP-6A KIOSK AS PER ELECTRICAL SPECIFICATIONS. COORDINATE WITH THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PURCHASE OF THE EQUIPMENT.
  - CONTRACTOR TO PARTIALLY DEMOLISH THE EXISTING FENCE ON THE EAST SIDE OF THE SUBSTATION, AND PROVIDE NEW CHAIN-LINK FENCE LINE WITHIN THE PERIMETER OF THE MDP-6A KIOSK, THE MAIN SOUTH TRANSFORMER, AND THE EXISTING POWER POLE. PROVIDE CRUSHED ROCK MINIMUM TWO (2) METERS BEYOND THE FENCE LINE PERIMETER. REFER TO DRAWINGS E-303 AND E-304 FOR CHAIN FENCE DETAILS AND BONDINGS. PROVIDE ALL REQUIRED TESTS AS PER THE CONTRACT SPECIFICATIONS.
  - PROVIDE A PERMANENT, LEGIBLE SINGLE LINE DIAGRAM OF THE SWITCHGEAR ON THE CENTER DOOR OF THE MDP-6A IN WEATHERPROOF CASING AS PER SECTION 36-002.5 OF THE CEC.
  - CONTRACTOR TO PROVIDE HEATER ELEMENTS FOR ENCLOSURE LIGHTING FIXTURES TO PREVENT CONDENSATION.
  - PROVIDE APPROPRIATE VENTILATION ON ALL ENCLOSURE DOORS WITH BUG SCREENS.



C - TOP PLAN VIEW



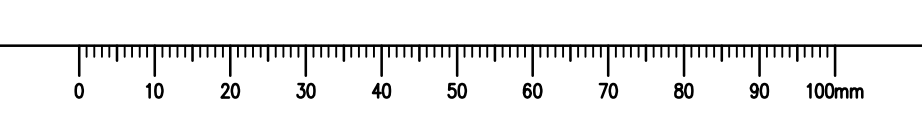
A - FRONT ELEVATION DOORS REMOVED



B - FRONT ELEVATION DOORS CLOSED

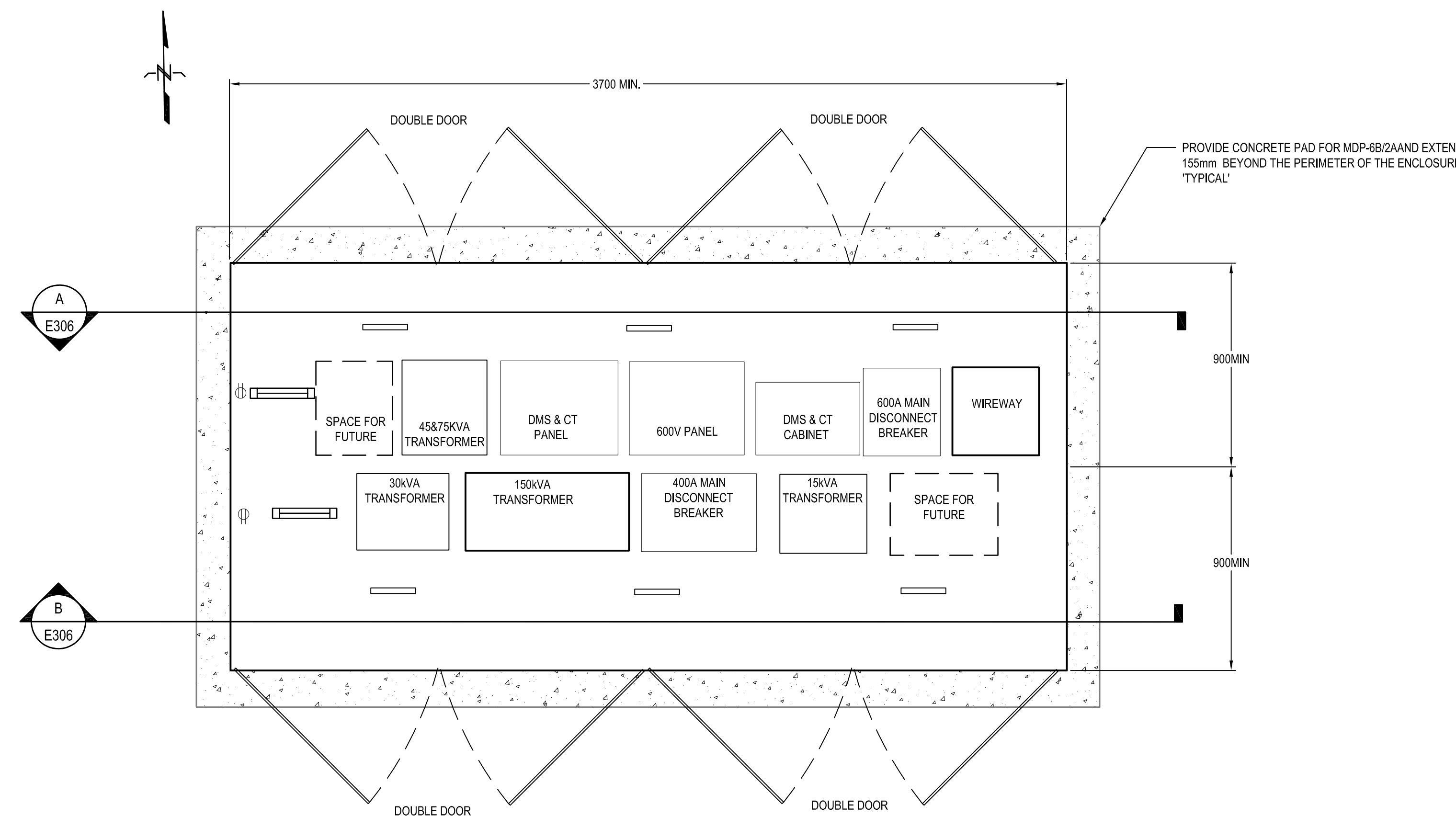
1 SOUTH SUBSTATION - MDP-6A - ELEVATION AND DETAILS  
E-305 SCALE: 1:30

| 00  | 2021/06/24 ISSUED FOR TENDER |                    |
|---|------------------------------|--------------------|
| ISS   | DATE                         | DESCRIPTION        |
| <br>FISHERIES AND OCEANS CANADA<br>SMALL CRAFT HARBOURS   |                              |                    |
|   |                              |                    |
| Project Site/Titre de projet: RICHMOND, B.C.<br><b>SCH STEVESTON PARAMOUNT ELECTRICAL - TRITES WEST</b> |                              |                    |
| Drawing Site/Titre de dessin: SOUTH SUBSTATION - MDP-6A ELECTRICAL<br><b>DETAILS</b>                    |                              |                    |
| Project No./No. de  | Sheet/Feuille                | Project No./No. de |
| 191-16093-02  | E-305                        | 0                  |

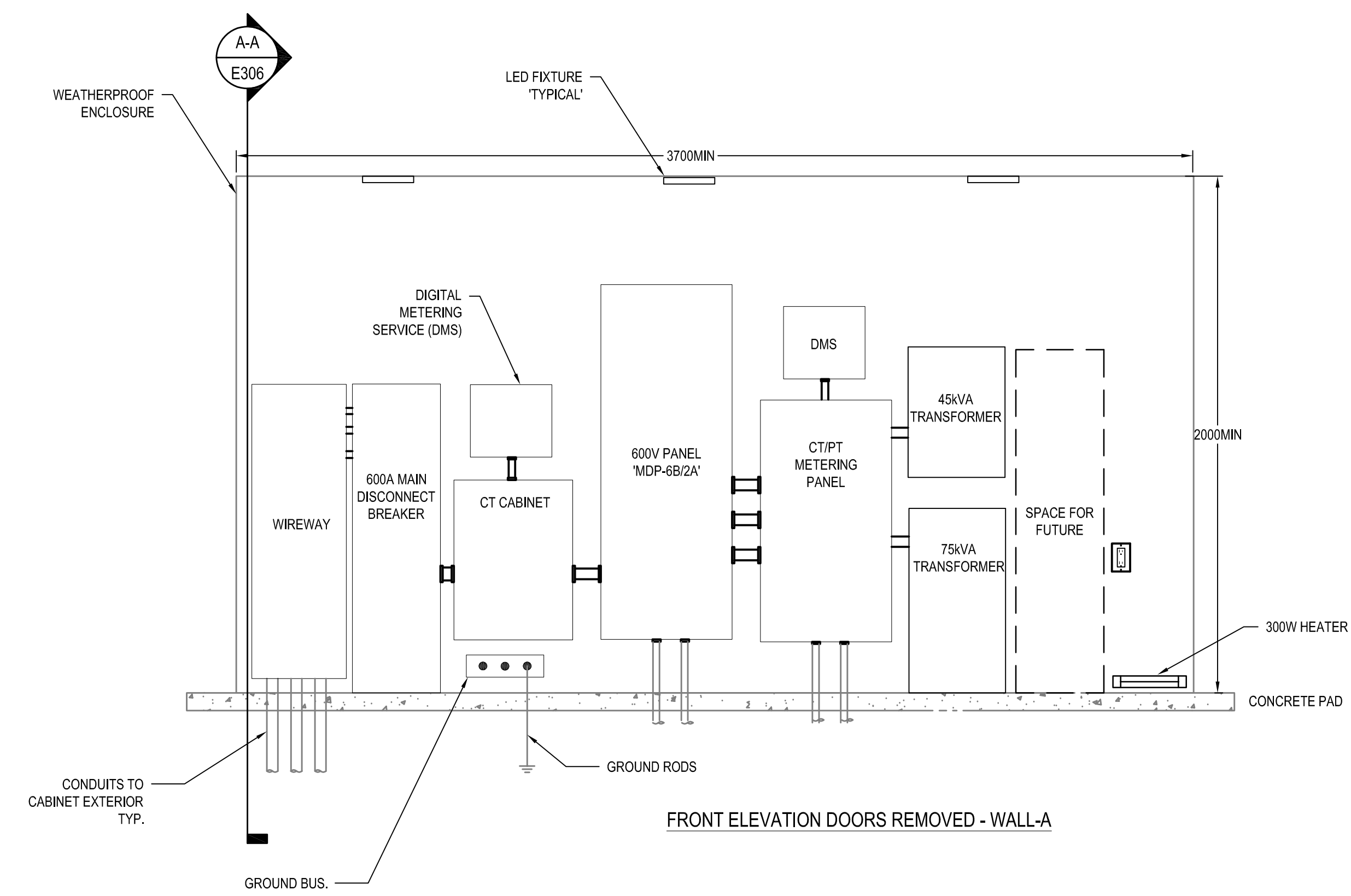




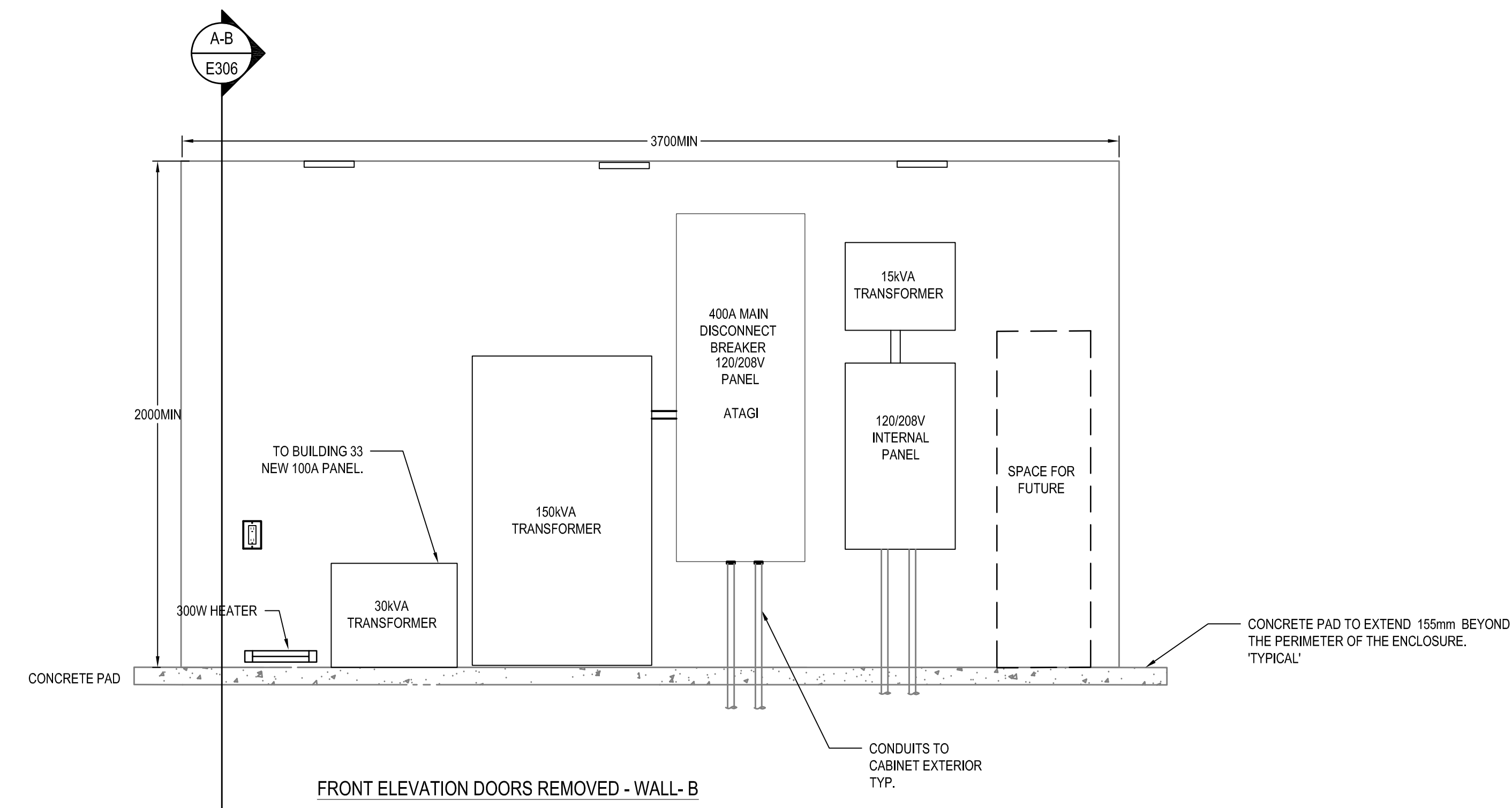
- GENERAL NOTE:**
- SCOPE OF CONTRACT INCLUDES SUPPLY OF ELECTRICAL EQUIPMENT AND ALL CONNECTIONS INSIDE OF THE MAIN DISTRIBUTION CABINET.
  - ELECTRICAL CONTRACTOR TO PROVIDE HOUSEKEEPING PAD.
  - PROVIDE SIGNAGE AS PER SECTION 34 OF CEC FOR EQUIPMENT AND AS-BUILT SINGLE LINE DIAGRAM ON ONE OF THE DOUBLE DOORS AS PER ELECTRICAL SPECIFICATIONS.
  - CONTRACTOR TO PROVIDE TWO (2) WATERPROOF COVER RECEPTACLES, TWO (2) BASEBOARD HEATERS, THREE (3) 1'x4' 150' (ON EACH SIDE OF KIOSK), 3500K, 400 LUMENS LED STRIP FIXTURES, SWITCHES, AND OCCUPANCY SENSOR(S) WITHIN THE MDP-6B/2A KIOSK AS PER ELECTRICAL SPECIFICATIONS. COORDINATE WITH THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PURCHASE OF THE EQUIPMENT.
  - CONTRACTOR TO PROVIDE HEATER ELEMENTS FOR ENCLOSURE LIGHTING FIXTURES TO PREVENT CONDENSATION.
  - PROVIDE APPROPRIATE VENTILATION ON ALL ENCLOSURE DOORS WITH BUG SCREENS.



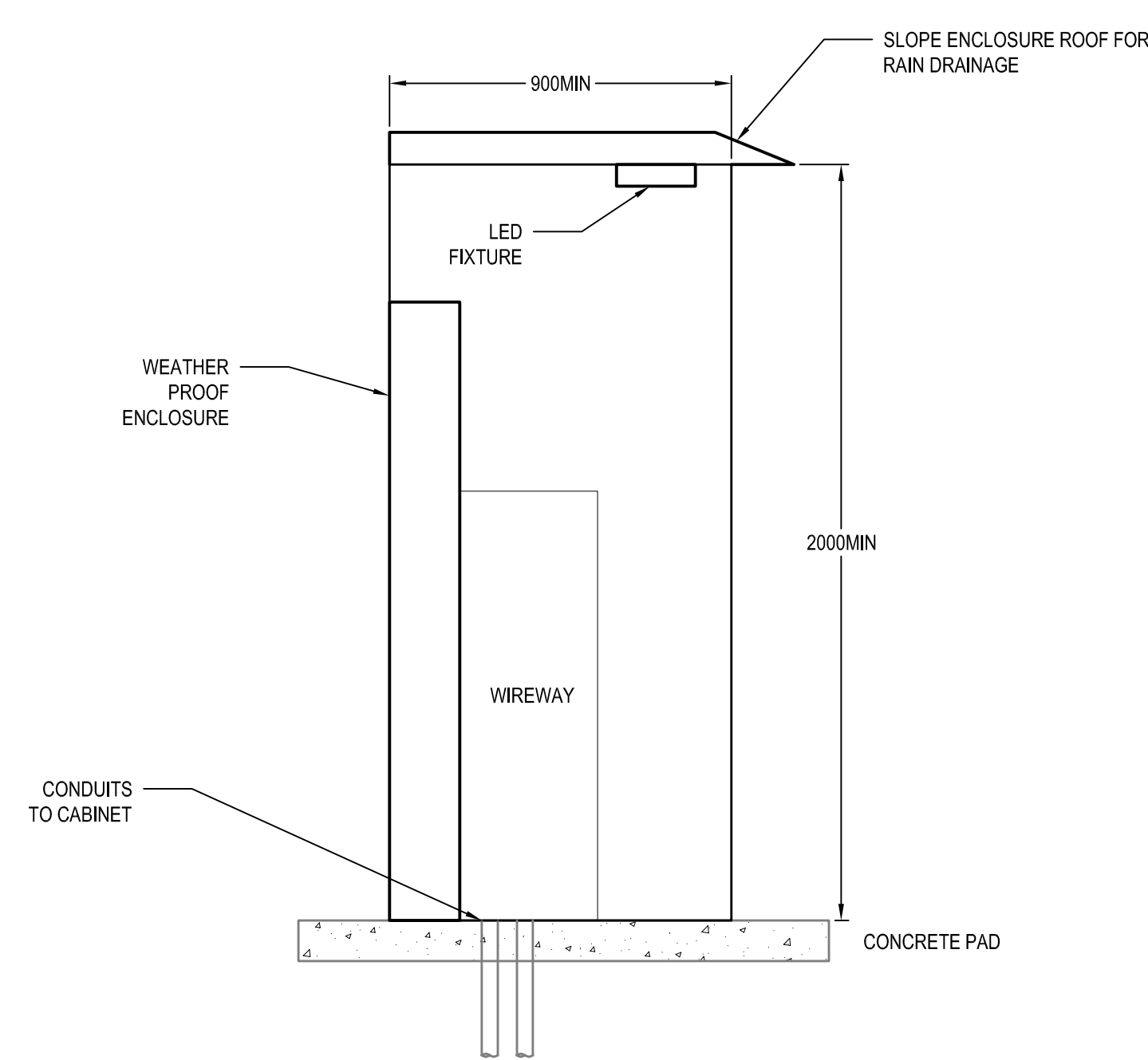
EQUIPMENT LAYOUT - NON-WALK-IN MDP-6B/2A



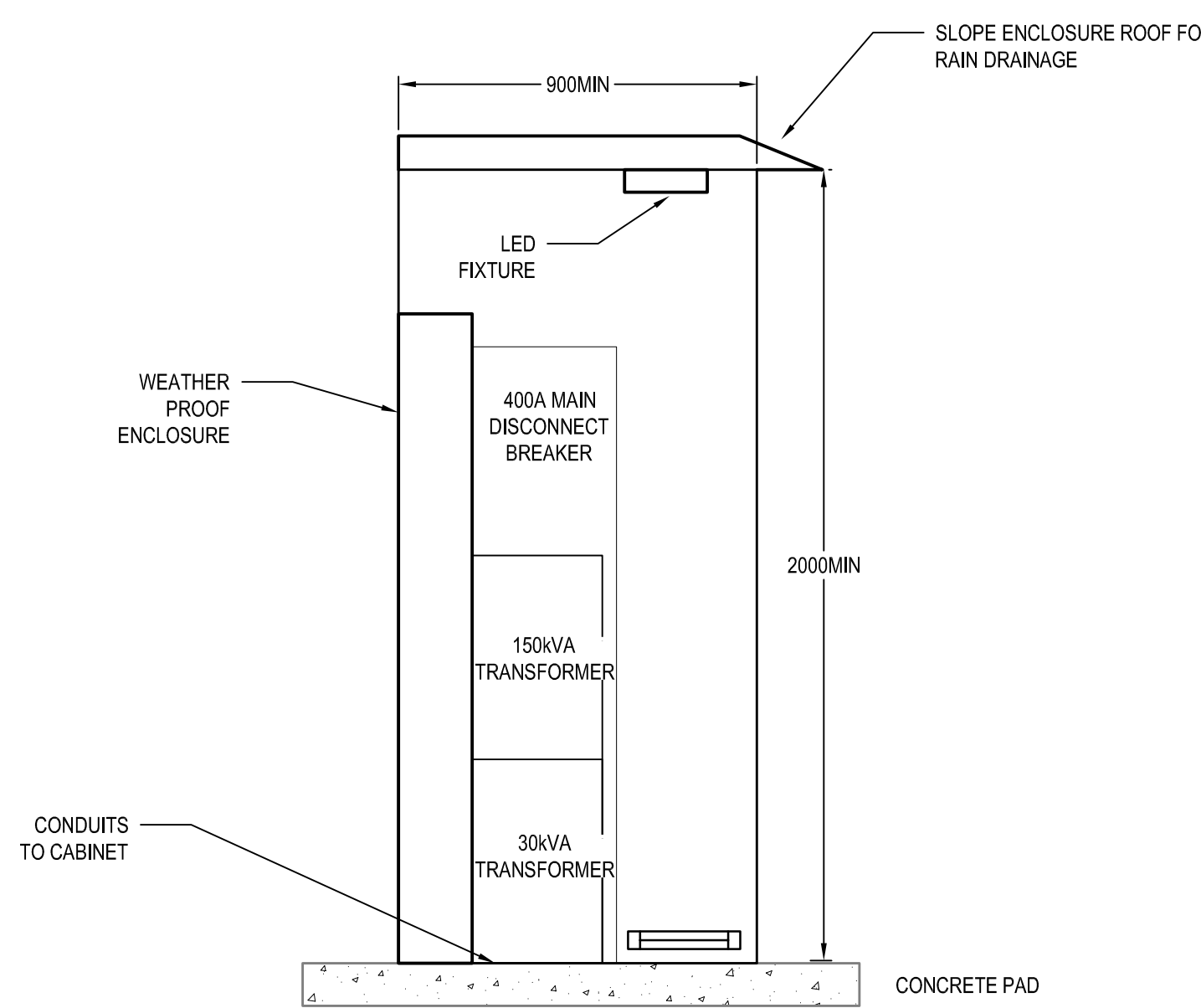
FRONT ELEVATION DOORS REMOVED - WALL-A



FRONT ELEVATION DOORS REMOVED - WALL-B



SECTION A-A



SECTION A-B

1 NEW ATAGI MARINA ENCLOSURE (MDP-6B & MDP-2A) - ELEVATION AND DETAILS  
E-306 SCALE: 1:15



Professional Engineer Seal: T. A. Gaudin, License No. 12345, 2017-08-28

| ISS DATE   | DESCRIPTION       |
|------------|-------------------|
| 2021/06/24 | ISSUED FOR TENDER |

**FISHERIES AND OCEANS CANADA**  
SMALL CRAFT HARBOURS

**wsp**

Projet / Titre de projet: RICHMOND, B.C.  
Sch Steveston Paramount Electrical - Trites West

Drawing / Titre de dessin: NEW ATAGI MARINA-MDP-6B/2A ELECTRICAL DETAILS

| Project No./No. de projet | Sheet/Feuille | Total Sheets/Total Feuilles |
|---------------------------|---------------|-----------------------------|
| 191-16093-02              | E-306         | 0                           |