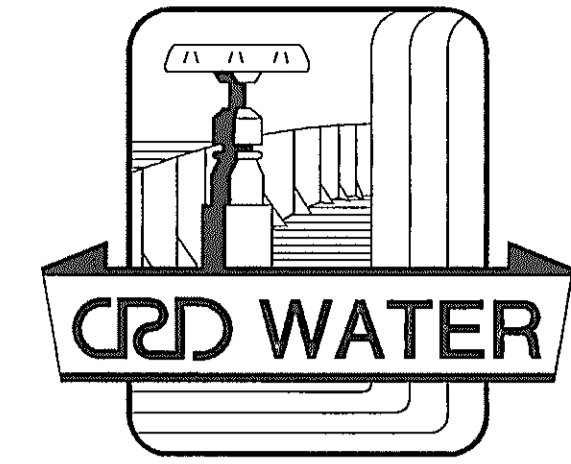
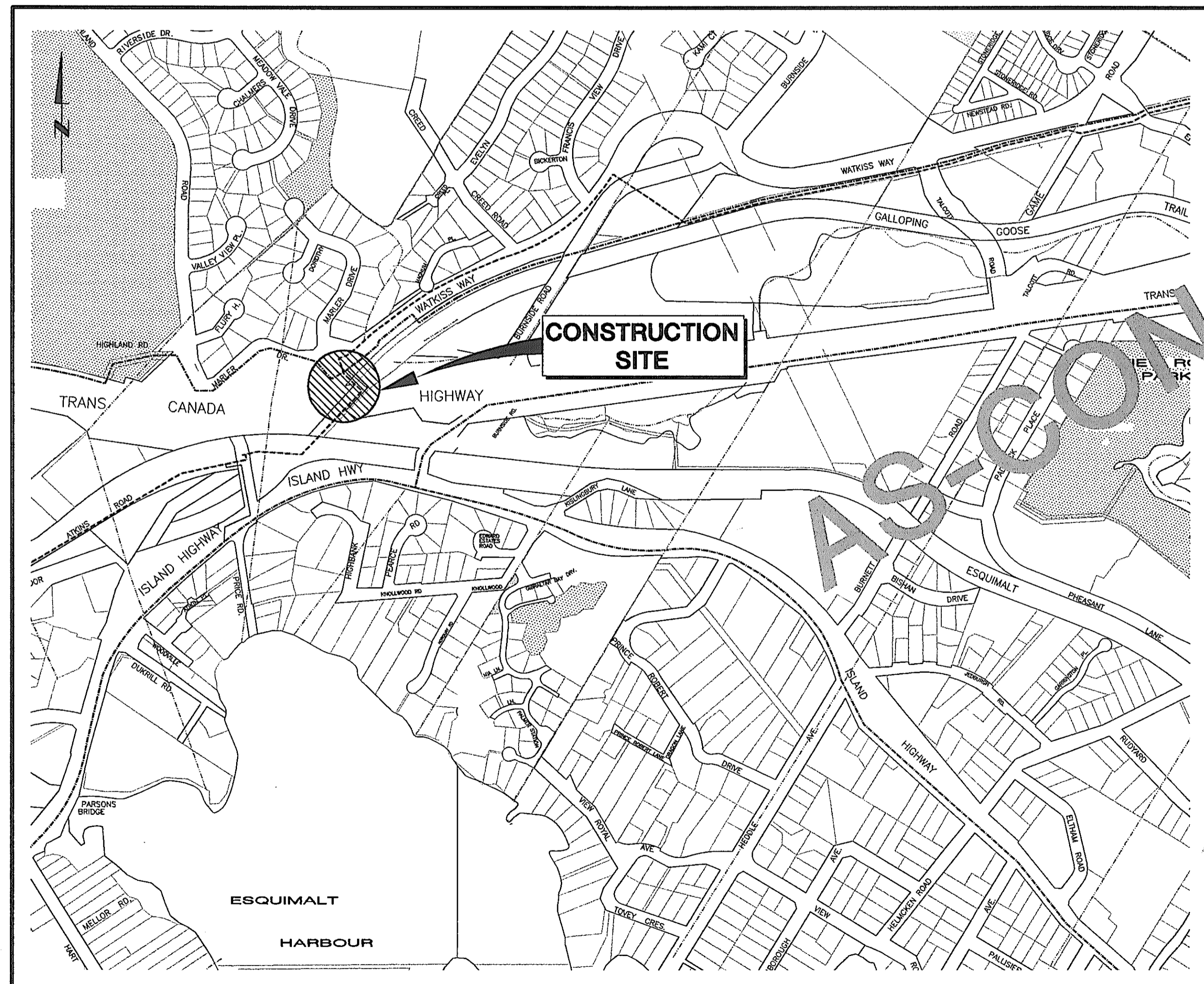


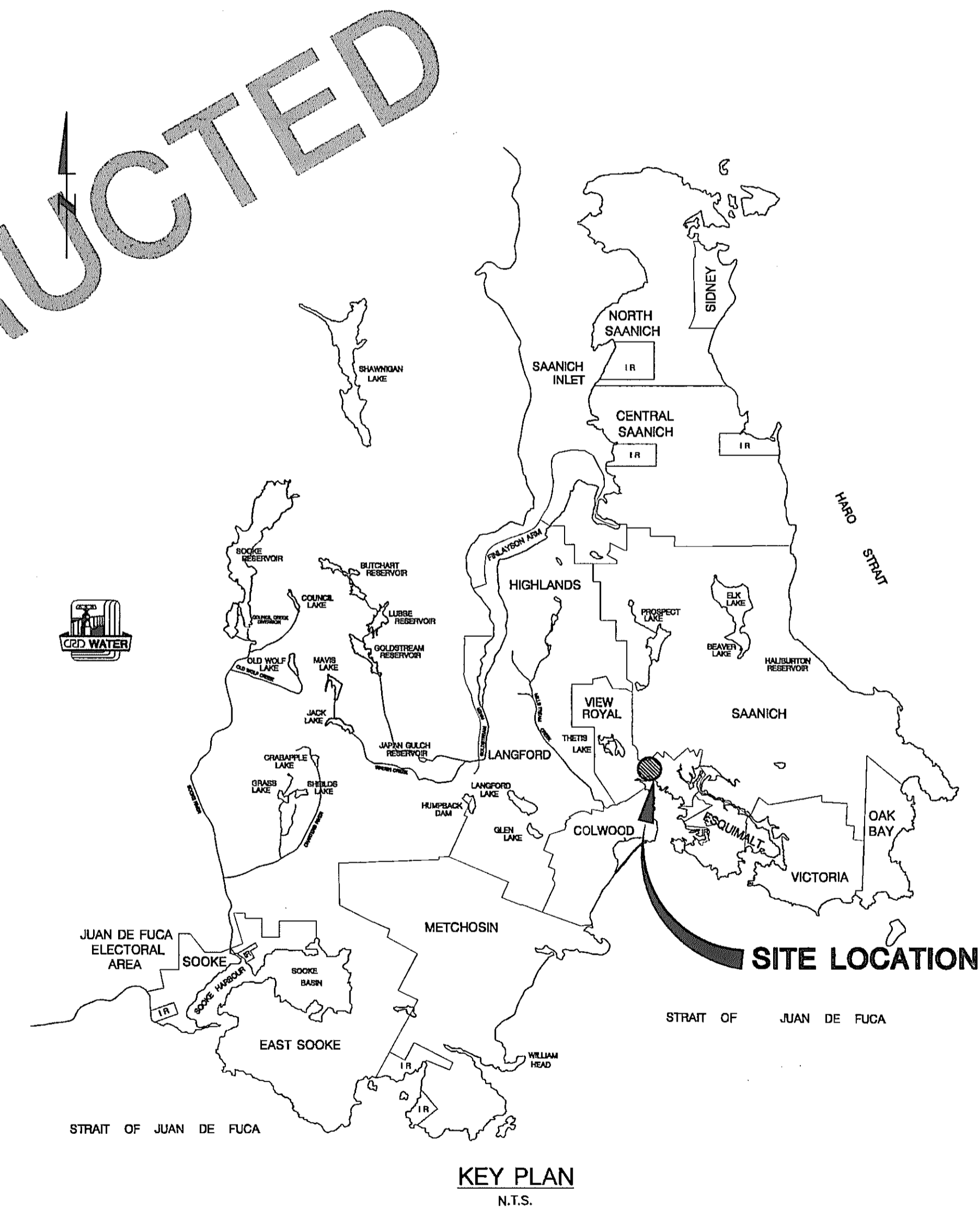
# CRD WATER DEPARTMENT



## WATKISS PRESSURE REGULATING STATION (WATKISS WAY @ MARLER DRIVE)



LOCATION PLAN  
SCALE 1:5000

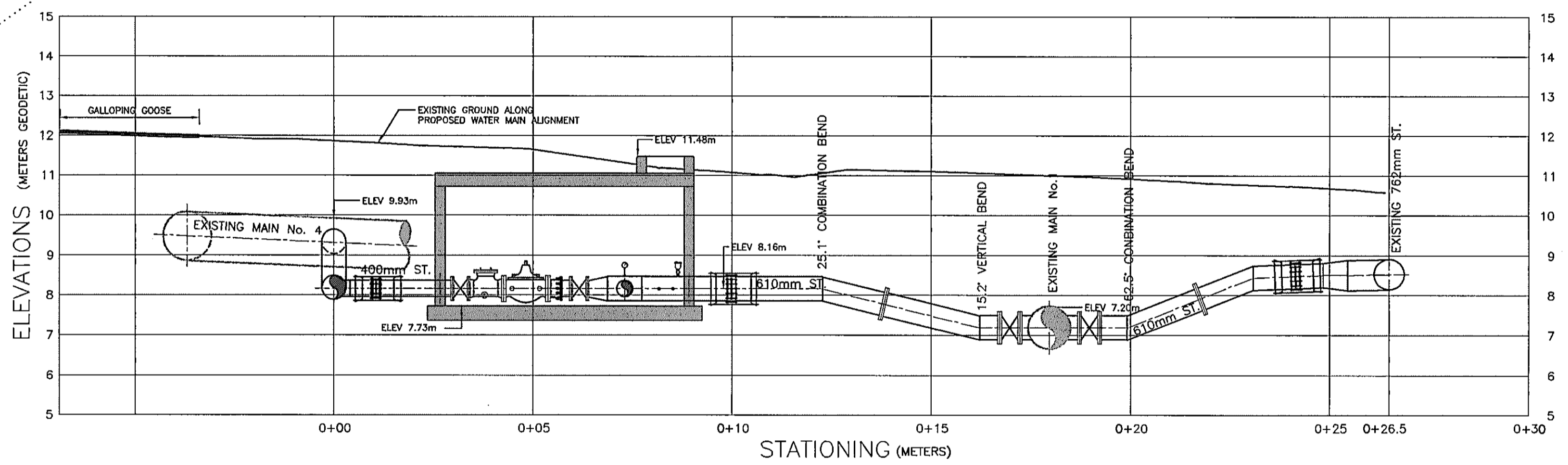
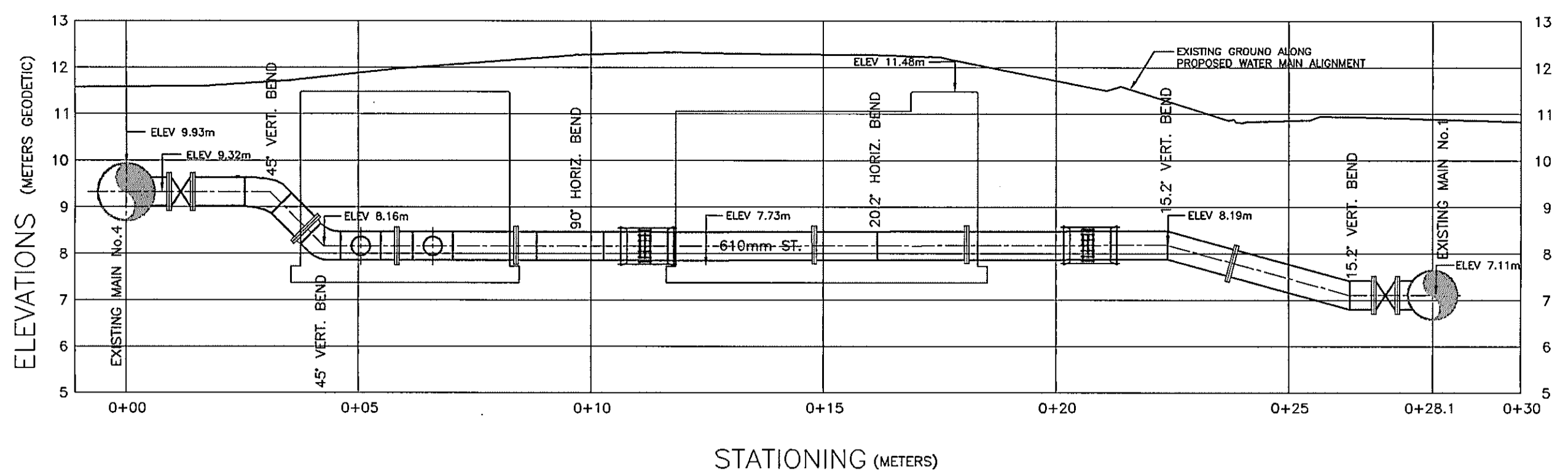
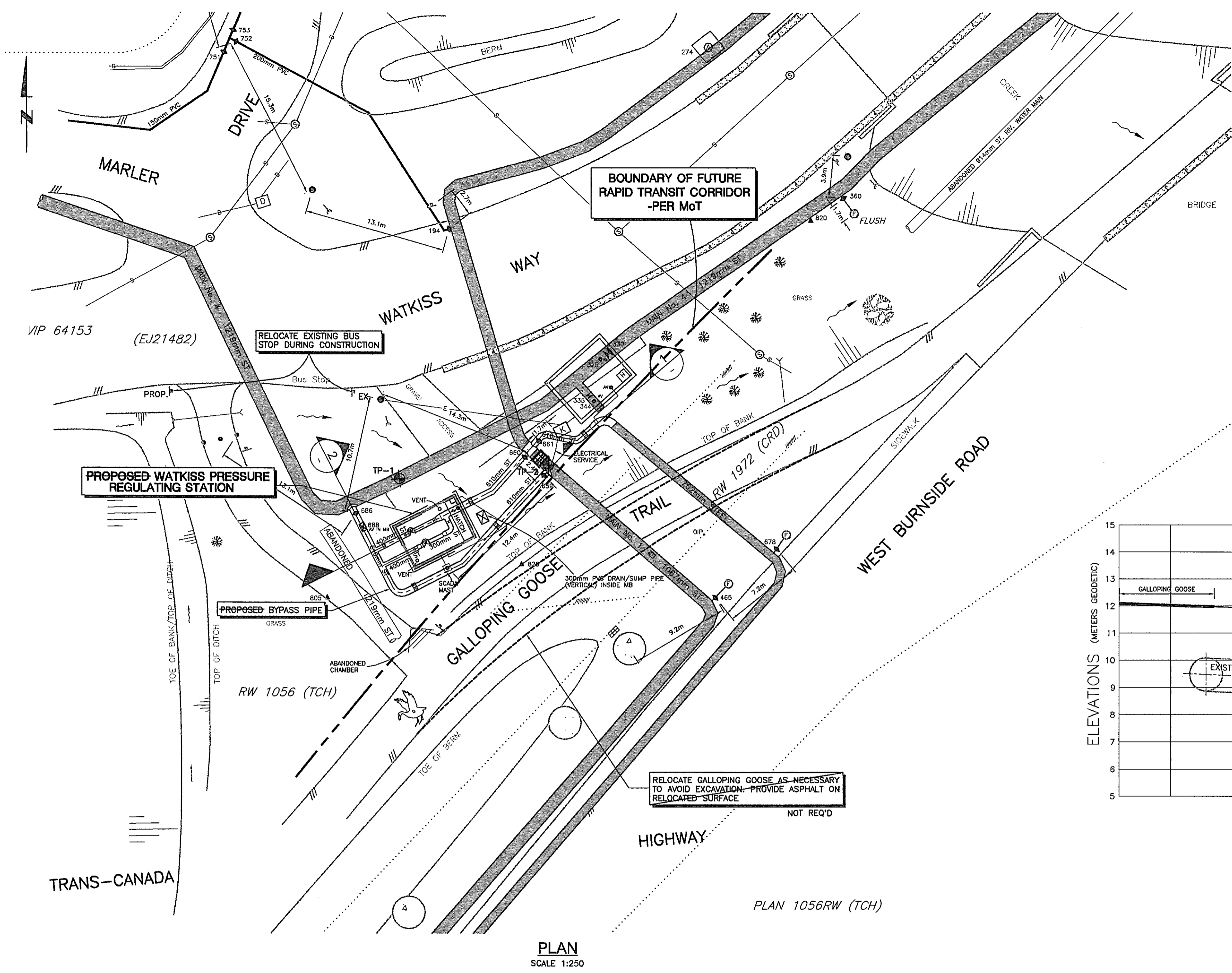


KEY PLAN  
N.T.S.

### INDEX OF DRAWINGS

|        |                                    |         |                                      |
|--------|------------------------------------|---------|--------------------------------------|
| 3646-0 | COVER SHEET                        | 3646-6  | MISCELLANEOUS METALWORK              |
| 3646-1 | SITE PLAN & PROFILE                | 3646-7  | ELECTRICAL SITE PLAN & MISC. DETAILS |
| 3646-2 | GENERAL ARRANGEMENT & MISC DETAILS | 3646-8  | INSTRUMENT LOCATION PLAN & DETAILS   |
| 3646-3 | CHAMBER ARRANGEMENT & SECTIONS     | 3646-9  | POWER AND LIGHTING LAYOUT            |
| 3646-4 | MISCELLANEOUS DETAILS              | 3646-10 | INSTRUMENTATION & CONTROLS           |
| 3646-5 | STRUCTURAL PLANS & DETAILS         |         |                                      |

|             |          |               |             |
|-------------|----------|---------------|-------------|
| date:       | FEB 2003 | scale:        | AS SHOWN    |
| folder:     | 3600     | acad file:    | PLANPROFILE |
| file no:    | 3646.ZIP | cadastral no: | 129         |
| drawing no: | 3646-0   | issue:        | D           |



**1.0 GENERAL NOTES**

- THIS SET OF DRAWINGS SHOW THE COMPLETED PROJECT. TEMPORARY BRACING FOR CONSTRUCTION LOADING CONDITIONS IS THE RESPONSIBILITY OF WATERWORKS.
- ENSURE SAFETY IN AND AROUND THE PROJECT SITE DURING CONSTRUCTION.
- THE CONSTRUCTION ZONE SHALL BE FENCED AND SECURE.
- ALL LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE ONLY AND ARE TO BE CONFIRMED BY WATERWORKS PRIOR TO CONSTRUCTION.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- ALL ELEVATIONS ARE G.S.C IN METERS.

**2.0 INSPECTIONS**

- NOTIFY THE ENGINEER 24 HRS IN ADVANCE WITH A 6 HOUR OPEN WINDOW FOR INSPECTION AND APPROVAL OF THE FOLLOWING:
  - FOUNDATIONS SOILS - PRIOR TO INSTALLATION OF FORMWORK AND PIPING
  - REINFORCING STEEL - BEFORE CONCRETE FORMS ARE "BUTTONED-UP" ON EACH POUR
  - PIPING AND THRUST BLOCKS - PRIOR TO BACKFILLING

**3.0 DESIGN CRITERIA**

- ALL STRUCTURAL WORK HAS BEEN DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE B.C. BUILDING CODE (1992) AND CSA A23.3-M84.

**4.0 FOUNDATIONS**

- ALLOWABLE SOIL BEARING PRESSURE:
  - SOUND BEDROCK - 1000kPa
  - UNDISTURBED GRANULAR DEPOSITS - 400 kPa
  - DISTURBED GRANULAR DEPOSITS - 200 kPa
- LEVEL BEARING SURFACE BELOW FLOOR SLAB AND SUMP WITH 20 MPa CLASS D CONCRETE SKIM COAT MINIMUM THICKNESS 50mm. EXTEND SKIM COAT 150mm BEYOND SLAB EDGES.

**5.0 CONCRETE**

- PROVIDE CONCRETE AND PERFORM WORK TO CSA-A23.1 (LATEST EDITION)
- CONCRETE MIXES SHALL BE AS FOLLOWS:

|                               | ALL WALLS, SLABS & FOUNDATIONS ON CONTROL CHAMBER | ALL OTHER CONCRETE | PLAIN CONCRETE * |
|-------------------------------|---|--------------------|------------------|
| STRENGTH @ 28 DAYS (MPa)      | 30  | 30                 | 20               |
| EXPOSURE CLASS                | C-2   | F-1                | F-2              |
| MAX. AGGREG. SIZE mm (INCHES) | 20 (3/4)  | 20 (3/4)           | 38 (1-1/2)       |
| MAX SLUMP (mm)                | 75 +/- 12   | 75 +/- 12          | 75 +/- 12        |
| AIR CONTENT (%)               | 5 - 7   | 5 - 7              | < 3              |

\* FOR THRUST BLOCKS, SKIM COATS, MASS CONCRETE, ETC.

- CONSTRUCT FORMWORK IN ACCORDANCE WITH WCB OHSR 20.17 TO 20.26 AND CSA S269.1 OF LATEST EDITION. FORMWORK DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR.

**6.0 REINFORCEMENT**

- NEW DEFORMED BARS TO CSA G30.12, GRADE 400 (60 KSI)
- PLACE REINFORCING BARS ON SUITABLE CHAIRS OR SUPPORTS AT MAXIMUM 1200 (48") EACH WAY AND TIE ALL BARS SECURELY IN PLACE.
- PROVIDE 40mm CLEAR COVER FOR REINFORCING, UNLESS NOTED OTHERWISE
- SPLICE BARS AS FOLLOWS UNLESS NOTED OTHERWISE:  
BAR SIZE - 10M 15M 20M 25M  
LAP - 400mm 550mm 700mm 950mm

**7.0 SLAB ON GRADE REQUIREMENTS**

- FILL ALL DEPRESSIONS OR TRENCHES WITH 20 MPa CONCRETE TO PROVIDE A UNIFORM BEARING SURFACE FOR FOOTINGS AND SLABS.
- ALL CONCRETE SHALL BE PROTECTED FROM ADVERSE WEATHER CONDITIONS AND MEET HOT/COLD WEATHER REQUIREMENTS OF THE CONTRACT SPECIFICATIONS.

**8.0 STEEL PIPES AND FITTINGS**

- ALL PIPES AND FITTINGS SHALL BE NOMINAL DIAMETER UNLESS OTHERWISE NOTED.
- PIPE FITTINGS SHALL BE FABRICATED BY WELDERS QUALIFIED IN ACCORDANCE WITH AWWA C200 SECTION 3.3.3.1.
  - THE GENERAL LOCATIONS OF CONNECTIONS ON DRAWINGS MAY BE FABRICATED IN LENGTHS DIFFERENT FROM THOSE SHOWN. ANY LOCATION AND TYPE OF CONNECTION CHANGES ARE SUBJECT TO APPROVAL BY THE ENGINEER.
  - FABRICATOR TO PROVIDE COMPLETE SHOP DRAWINGS, SHOWING ALL PIPES, FITTINGS, AND CONNECTIONS TO EXISTING SERVICES FOR APPROVAL BY THE ENGINEER PRIOR TO FABRICATION

**9.0 MISCELLANEOUS ITEMS**

- MISCELLANEOUS METAL FABRICATION:
- ALL SOLDER USED FOR COPPER PIPE & FITTINGS TO BE LEAD FREE.
  - MISCELLANEOUS STEEL SHALL CONFORM TO CSA G4.21M GRADE 300
  - ALL MISCELLANEOUS STEEL SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION, UNLESS OTHERWISE SPECIFIED.
  - ALL ACCESS HATCHES SHALL BE COMPLETE WITH EXTERNAL VANDAL PROOF LOCKING DEVICES. PADLOCKS SHALL BE SUPPLIED BY CRD WATER DEPARTMENT.

**10.0 CIVIL WORKS - GENERAL NOTES**

- ALL WORKS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE C.R.D. WATER DEPARTMENT SPECIFICATIONS AND REGULATIONS
- ALL UNDERGROUND INSTALLATIONS SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO BACKFILLING.
- LOCATION AND GRADES OF ALL EXISTING UTILITIES ARE TO BE CONFIRMED BY WATERWORKS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES OF THE EXISTING SERVICES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- REINSTATE ALL AREAS DISTURBED BY CONSTRUCTION TO AS GOOD OR BETTER THAN BEFORE CONSTRUCTION.
- ALL ELEVATIONS ARE G.S.C IN METERS.
- COORDINATES ARE TO ASSUMED DATUM.
- WATERWORKS SHALL MAINTAIN MUNICIPAL ROADS DURING CONSTRUCTION AS REQUIRED BY MINISTRY OF TRANSPORTATION (MoT) & TOWN OF VIEW ROYAL.

| PROPOSED | EXISTING | LEGEND |  |
|----------|----------|--------|--|
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |
|          |          |        |  |

**VERIFY SCALES**

BAR IS 20mm LONG ON ORIGINAL DRAWING.

IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

**REUSE OF DOCUMENTS**

THIS DRAWING IS OF A CONFIDENTIAL NATURE AND SHALL NOT BE REPRODUCED IN ANY MANNER, NOR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN PERMISSION OF THE CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT.

ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND SHOULD BE CONFIRMED BY MANUAL DIGGING. CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT DOES NOT ACCEPT RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE INFORMATION SHOWN ON THIS DRAWING.

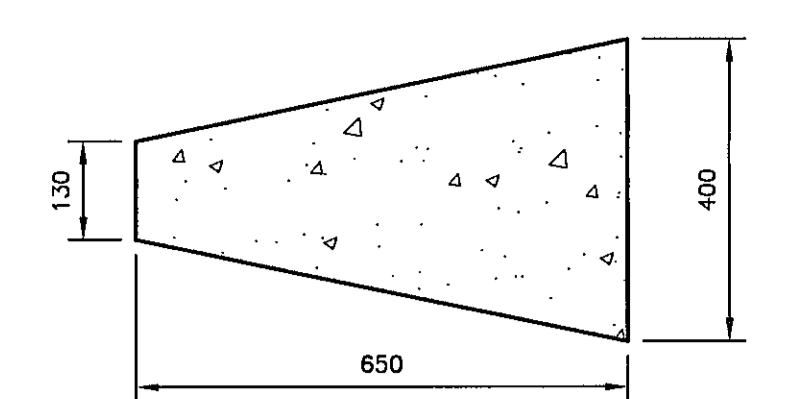
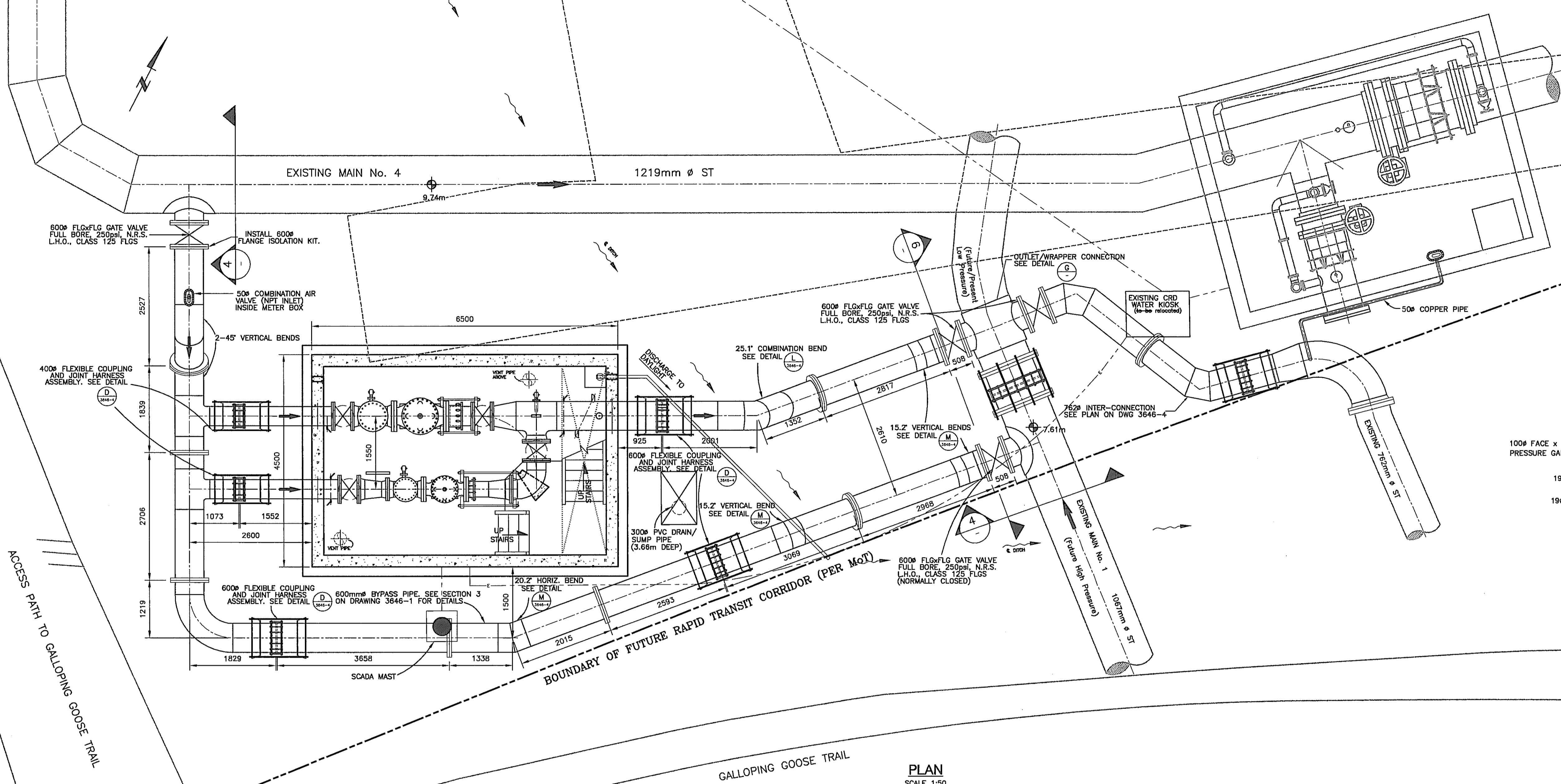
| no. | date   | revision                | chk  | by   |
|-----|--------|-------------------------|------|------|
| D   | MAY 04 | AS-CONSTRUCTED          | M.B. | A.S. |
| C   | JUL 03 | ISSUED FOR CONSTRUCTION | M.B. | A.S. |
| B   | JUN 03 | RE-ISSUED FOR PERMITS   | M.B. | A.S. |
| A   | MAR 03 | ISSUED FOR PERMITS      | M.B. | A.S. |

**CAPITAL REGIONAL DISTRICT WATER DEPARTMENT**  
479 ISLAND HIGHWAY VICTORIA, B.C.

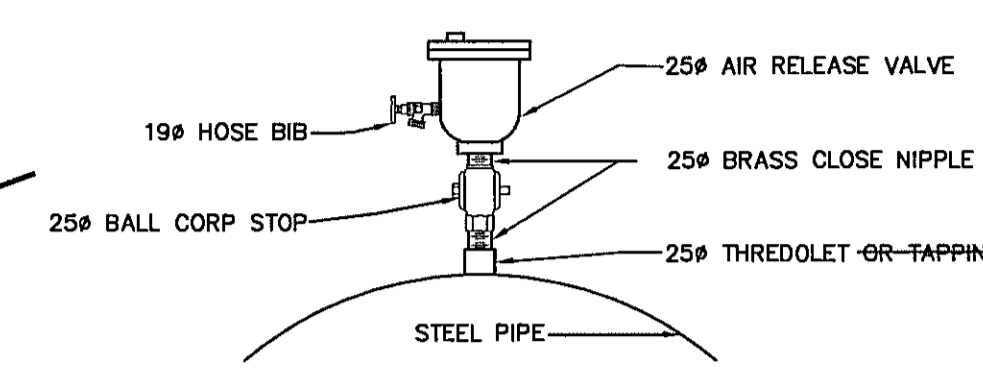
**WATKISS PRESSURE REGULATING STATION**  
WATKISS WAY @ MARLER DRIVE  
SITE PLAN & PROFILE

date: FEB 2003  
designed: M.B./A.S.  
approved: P. MALONE  
folder: \3600  
file no: 3646.ZIP  
drawing no: 3646-1

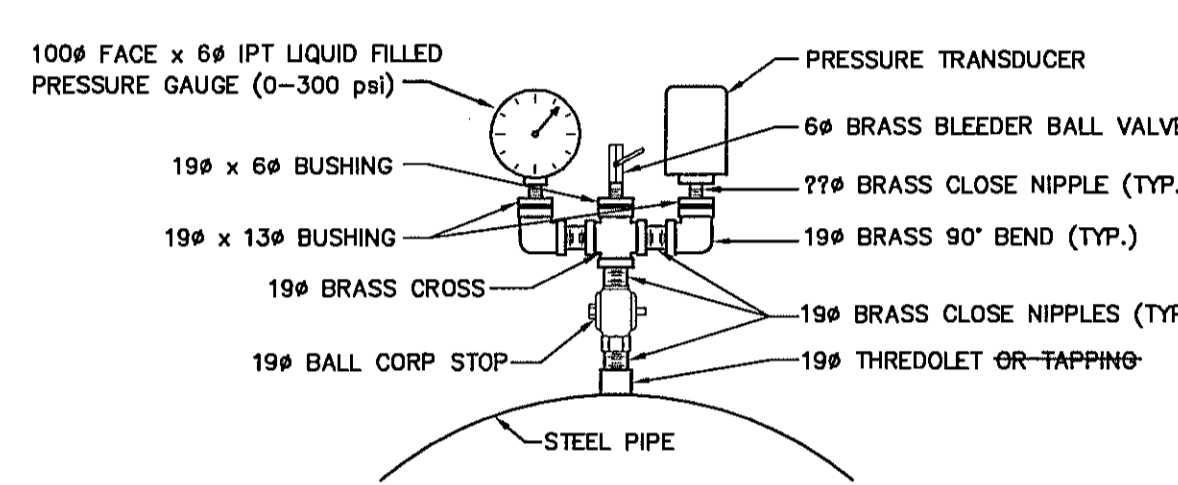
scale: AS SHOWN  
drawn: A. SANDHAR  
checked: M. BRADY  
acad file: PLANPROF  
cadastral no: 129  
issue: D



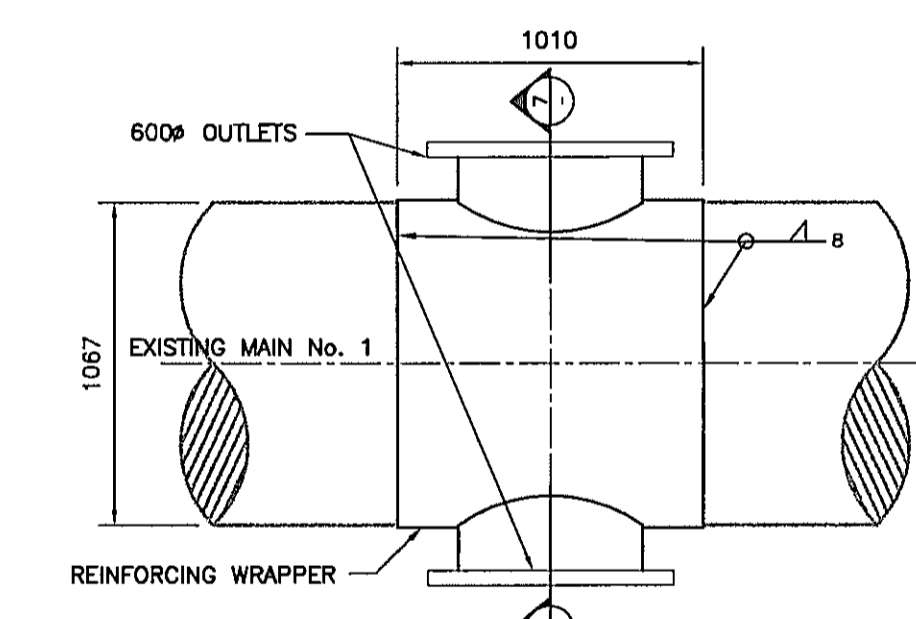
**CONCRETE SUPPORT BLOCK DETAIL**  
SCALE 1:10 (TYP. OF 2)  
3646-3



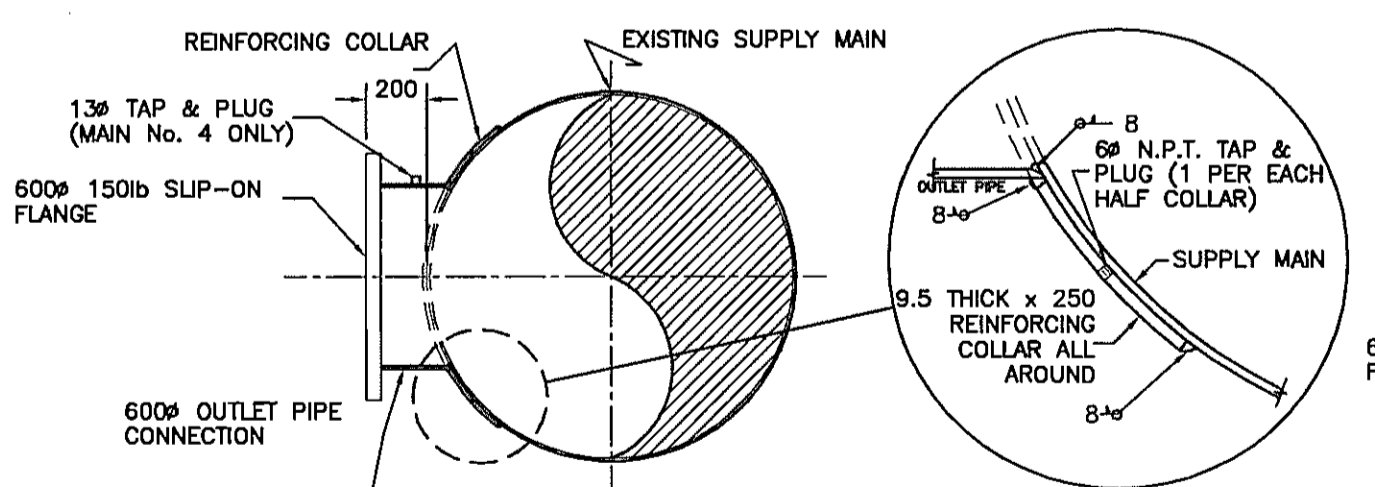
**AIR VALVE ASSEMBLY DETAIL**  
N.T.S. (1 REQ'D)  
3646-3



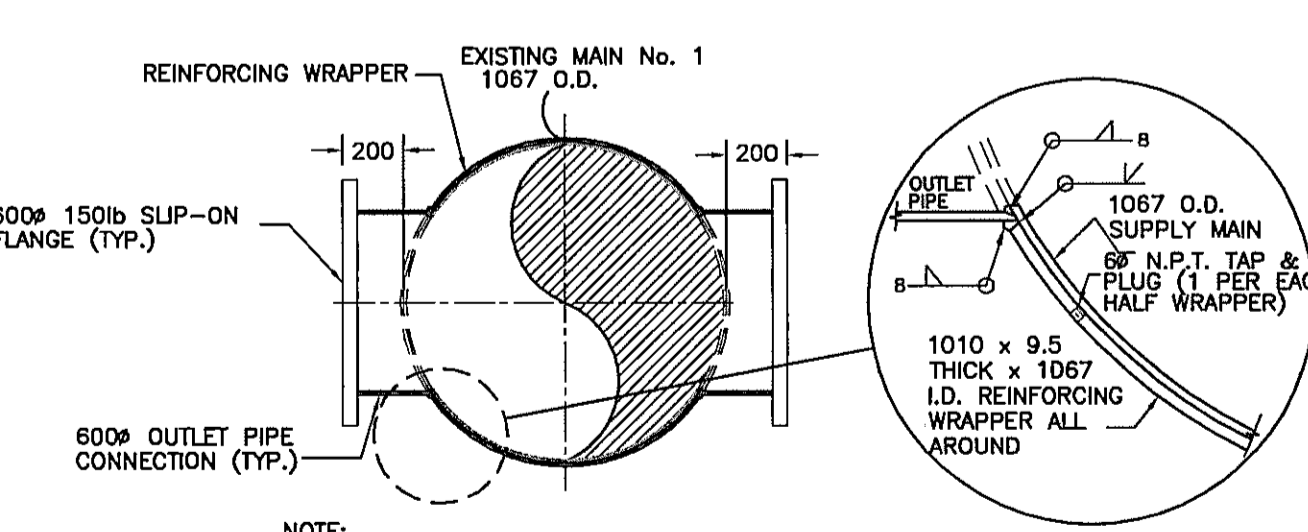
**PRESSURE GAUGE ASSEMBLY DETAIL**  
N.T.S. (1 REQ'D)  
3646-3



**PLAN- OUTLET/WRAPPER CONNECTION DETAIL**  
SCALE 1:25  
3646-3



**SECTION- OUTLET/COLLAR CONNECTION DETAIL**  
SCALE 1:25 (TYP. OF 2)  
3646-3



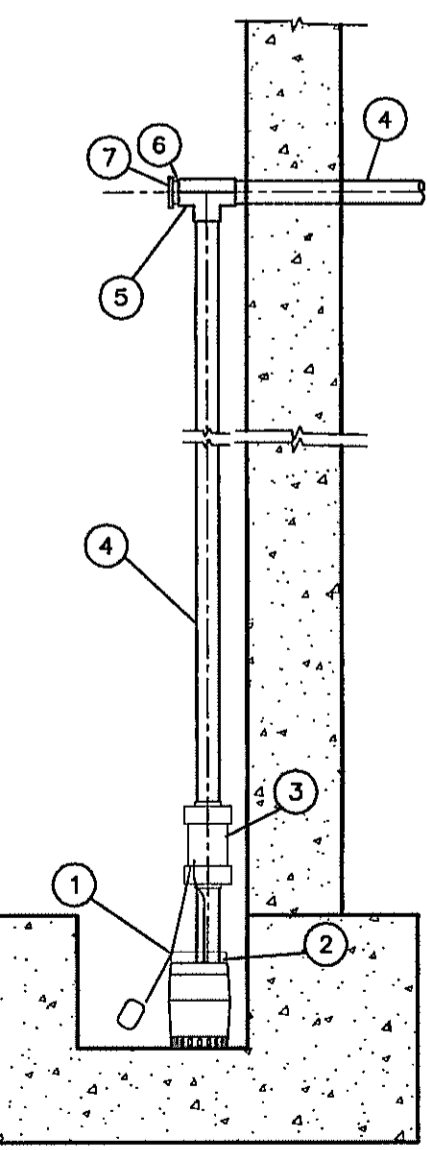
**SECTION- OUTLET/WRAPPER CONNECTION DETAIL**  
SCALE 1:25  
3646-3

**SUMP PUMP LIST OF MATERIALS**

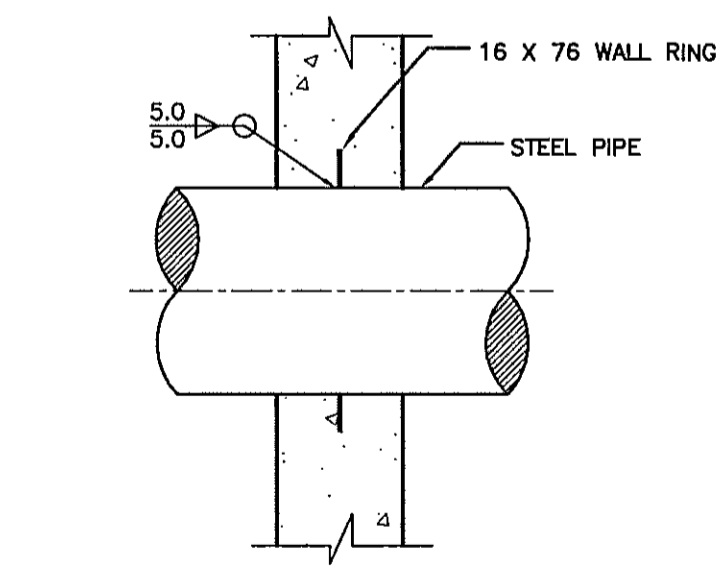
NOTES:  
1.) ALL PIPING SHALL BE SCHEDULE 40 PVC UNLESS OTHERWISE NOTED.  
2.) ALL PIPING TO BE SOLVENT WELDED UNLESS OTHERWISE NOTED.

| ITEM | DESCRIPTION   | QUANTITY |
|------|---|----------|
| 1    | AUTOMATIC SUBMERSIBLE SUMP PUMP "MYERS" - MODEL SSM33 | 1        |
| 2    | 50 Ø SOC. x THR. MALE ADAPTER                         | 1        |
| 3    | 50 Ø TRUE UNION BALL CHECK VALVE                      | 1        |
| 4    | 50 Ø PIPE (LENGTH TO SUIT)                            | N/A      |
| 5    | 50 Ø SOC. x SOC. x SOC. TEE                           | 1        |
| 6    | 50 Ø SPIG. x FEMALE THR. FTG FEMALE ADAPTER           | 1        |
| 7    | 50 Ø MALE THR. PLUG                                   | 1        |

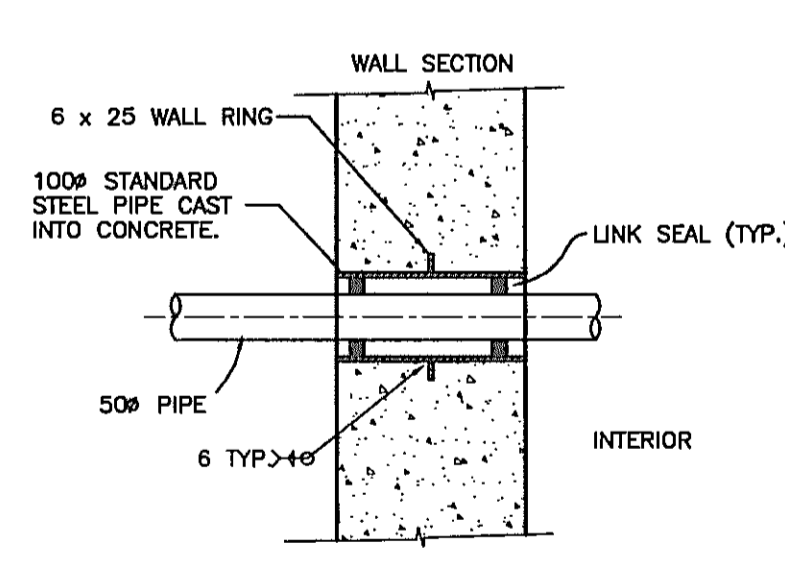
**PLAN**  
SCALE 1:50



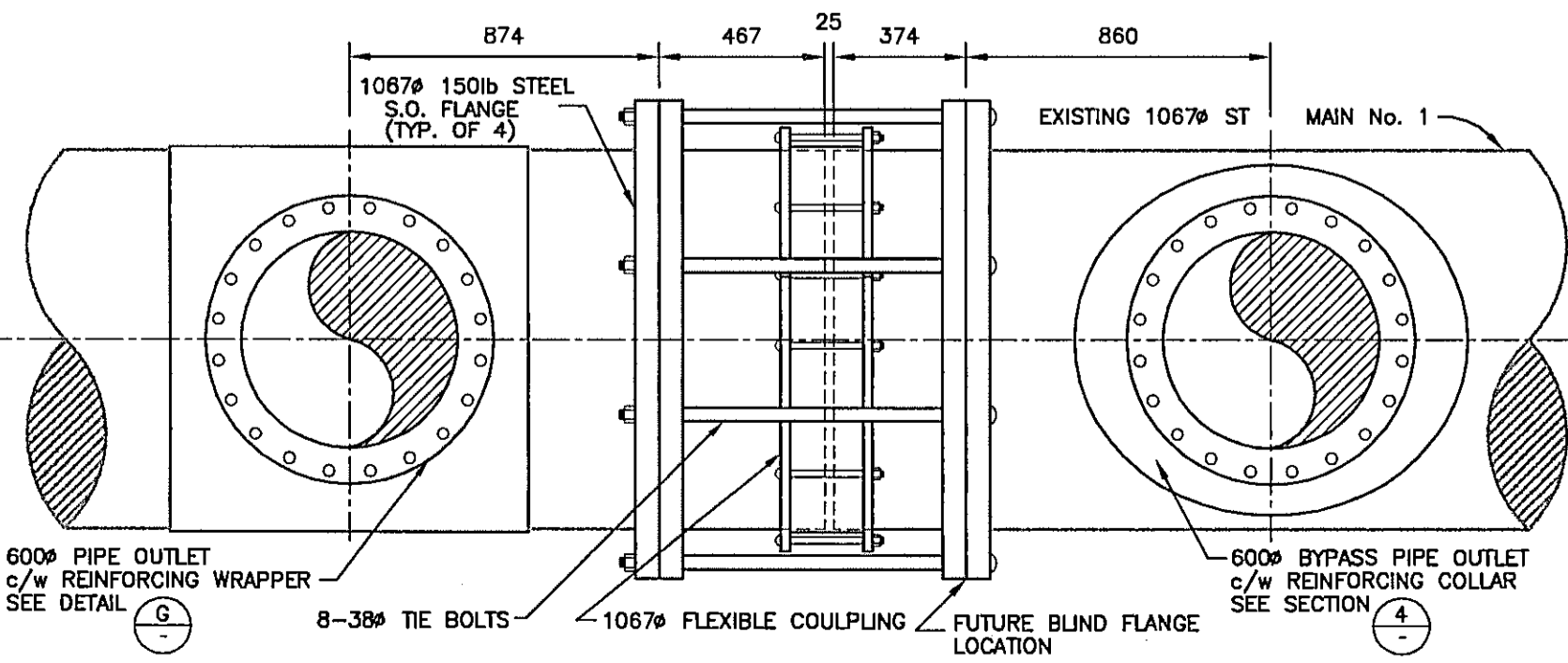
**SECTION- SUMP PUMP**  
SCALE 1:20  
3646-3



**WALL RING DETAIL**  
SCALE 1:15 (TYP. OF 3)  
3646-3



**WALL PENETRATION DETAIL**  
SCALE 1:10 (TYP. OF 2)  
3646-3



**SECTION- MAIN No. 1 OUTLET COUPLING ASSEMBLY**  
SCALE 1:20  
3646-3

**VERIFY SCALES**      **REUSE OF DOCUMENTS**

BAR IS 20mm LONG ON ORIGINAL DRAWING.

THIS DRAWING IS OF A CONFIDENTIAL NATURE AND SHALL NOT BE REPRODUCED IN ANY MANNER, NOR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN PERMISSION OF THE CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT.

ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND SHOULD BE CONFIRMED BY MANUAL DIGGING. CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT DOES NOT ACCEPT RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE INFORMATION SHOWN ON THIS DRAWING.

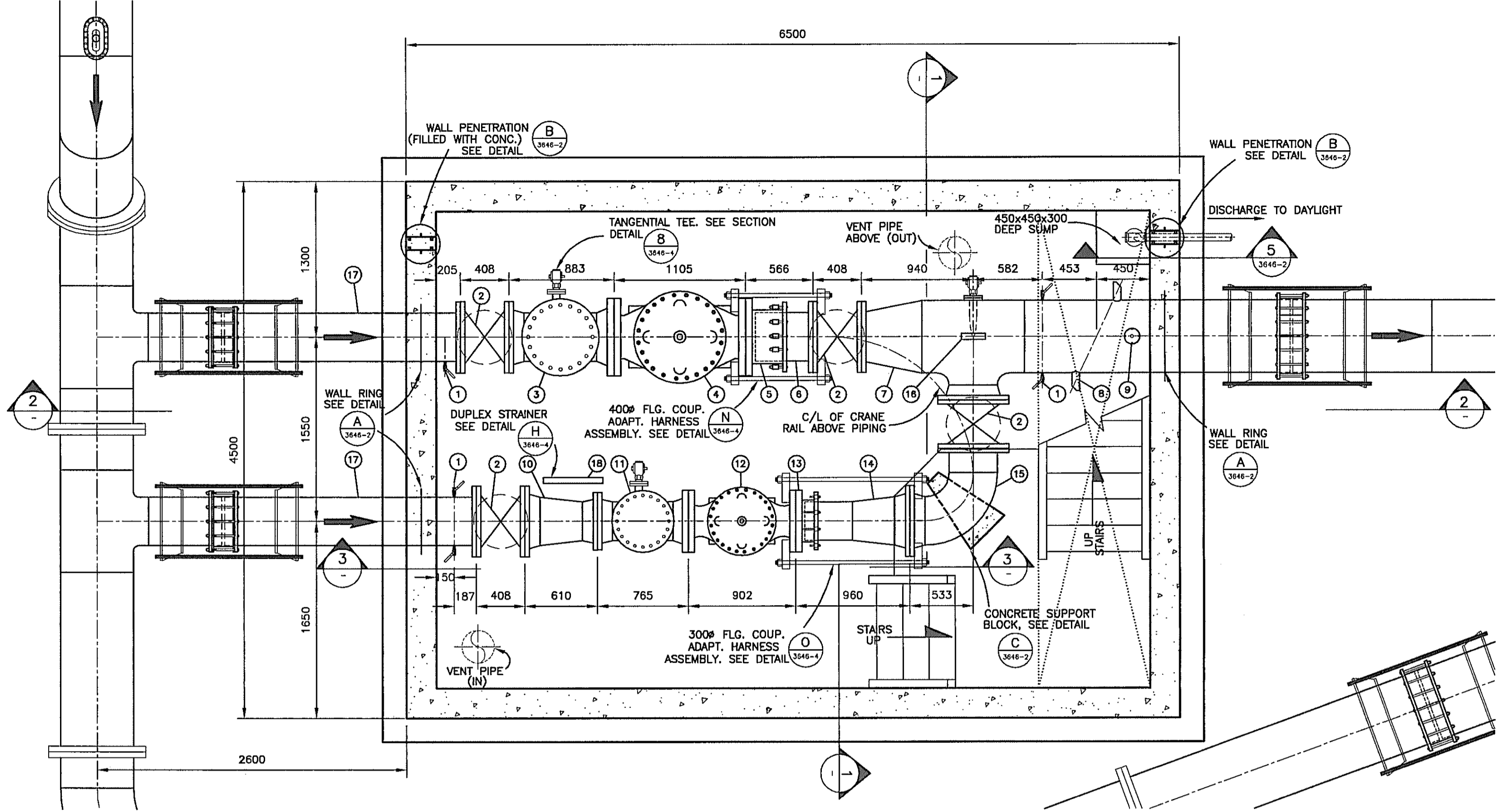
IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

| no. | date   | revision                | chk  | by   |
|-----|--------|-------------------------|------|------|
| D   | MAY 04 | AS-CONSTRUCTED          | M.B. | A.S. |
| C   | JUL 03 | ISSUED FOR CONSTRUCTION | M.B. | A.S. |
| B   | JUN 03 | RE-ISSUED FOR PERMITS   | M.B. | A.S. |
| A   | MAR 03 | ISSUED FOR PERMITS      | M.B. | A.S. |

**CAPITAL REGIONAL DISTRICT WATER DEPARTMENT**  
479 ISLAND HIGHWAY      VICTORIA, B.C.

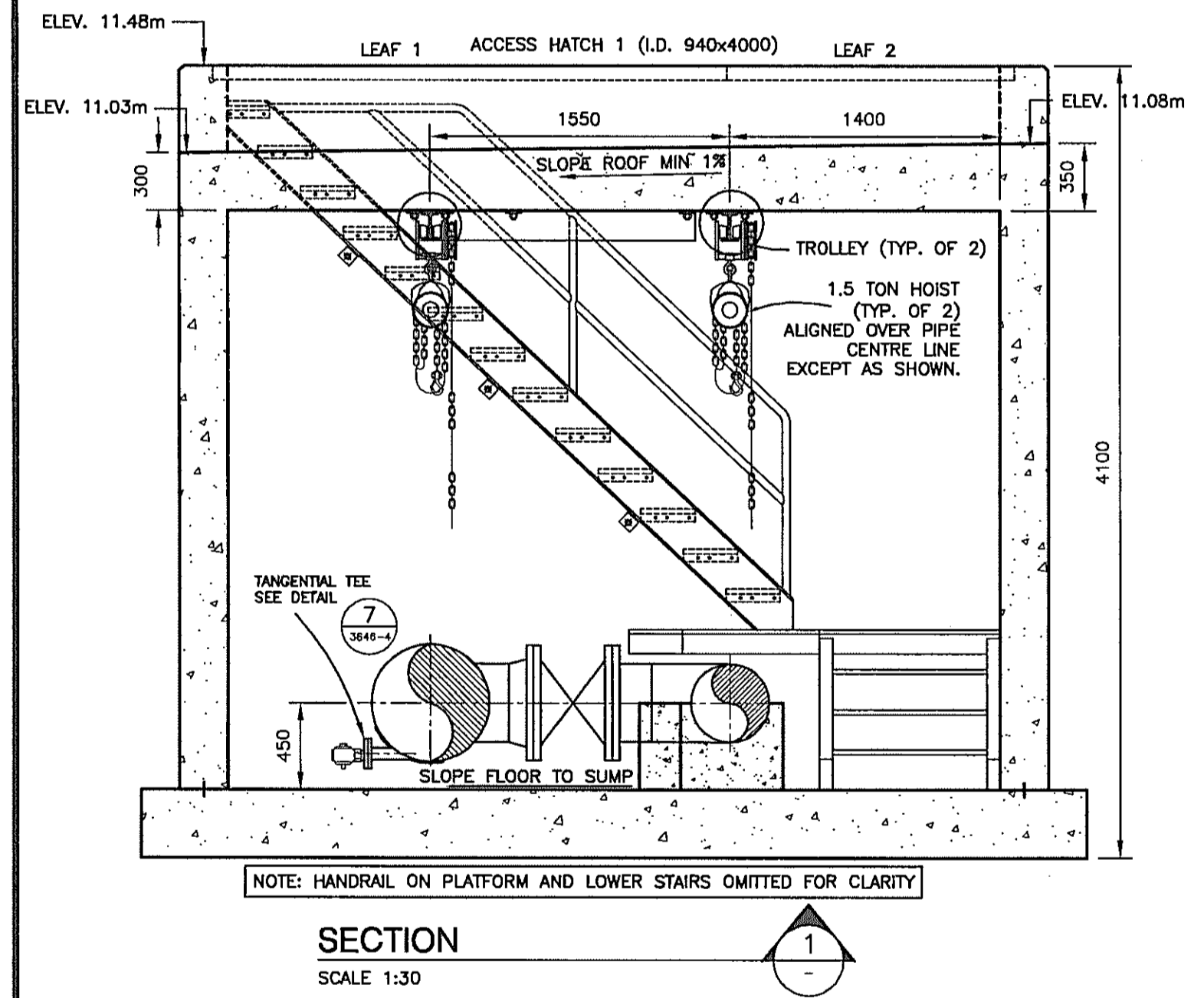
**WATKISS PRESSURE REGULATING STATION**  
WATKISS WAY @ MARLER DRIVE  
GENERAL ARRANGEMENT & MISC DETAILS

date: FEB 2003      scale: AS SHOWN  
designed: M.B./A.S.      drawn: A. SANDHAR  
approved: P. MALONE      checked: M. BRADY  
folder: 5600      acad file: MECHANICAL  
file no: 3646.ZIP      cadastral no: 129  
drawing no:      issue: 3646-2 D

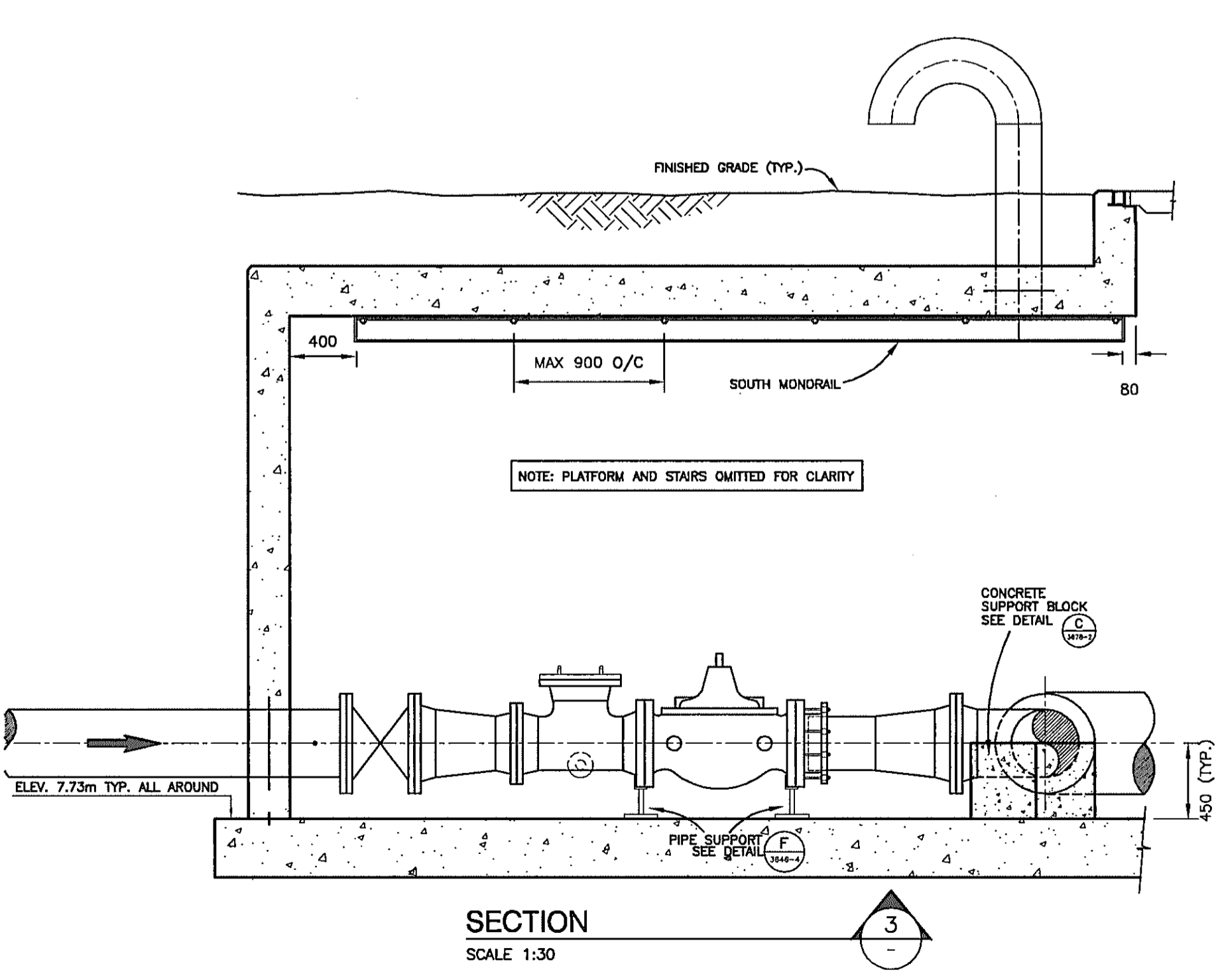
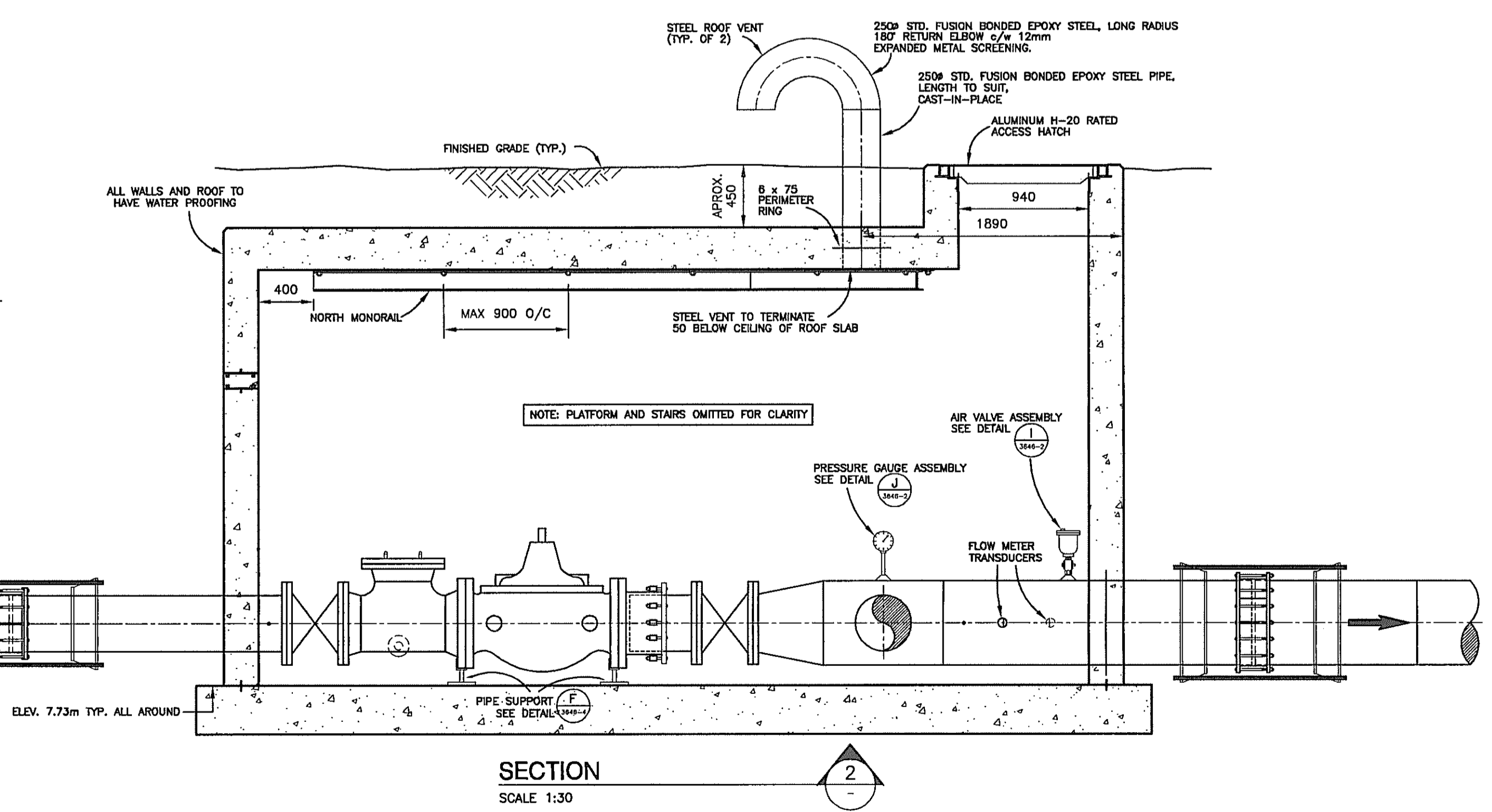


- NOTES:  
 1.) ALL STEEL PIPE SHALL BE STANDARD WALL THICKNESS UNLESS OTHERWISE NOTED.  
 2.) ALL PIPING 50 Ø AND UNDER TO BE BRASS UNLESS OTHERWISE NOTED.  
 3.) ALL MATERIALS TO BE RATED FOR A MAX. WORKING PRESSURE OF 230 psf  
 4.) ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

| LIST OF MATERIALS |  |          |  |
|-------------------|--|----------|--|
| ITEM              | DESCRIPTION  | QUANTITY | COMMENTS                                       |
| 1                 | 13 Ø SIDE OUTLET c/w BALL VALVE & 13 Ø COPPER PIPING FOR PRV CONTROL                       | 3        |  |
| 2                 | 400 Ø FLG x FLG RESILIENT WEDGE GATE VALVE, 250 psi, N.R.S., LEFT HAND OPENING (CLASS 125) | 4        | c/w HANDWHEEL                                  |
| 3                 | 400 Ø 150lb W.N. FLG x 300lb W.N. FLG FABRICATED TEE STRAINER                              | 1        | c/w TANGENTIAL OUTLET                          |
| 4                 | 400 Ø FLG x FLG PRESSURE REDUCING VALVE (CLASS 250)  | 1        |  |
| 5                 | 400 Ø FLANGED COUPLING ADAPTER (CLASS 300)   | 1        | c/w ANCHOR-PINS (MIN-10)                       |
| 6                 | 400 Ø 150lb S.O. FLG x P.E. FABRICATED SPOOL PIECE   | 1        |  |
| 7                 | 400 Ø 150lb S.O. FLG x 600 Ø P.E. x 400 Ø 150lb W.N. FLG FABRICATED REDUCING TEE SPECIAL   | 1        | c/w 400 Ø x 600 Ø REDUCER, WALL RING & HARNESS |
| 8                 | ULTRASONIC FLOW METER AND PIPE MOUNTING BOSS   | 1        |  |
| 9                 | 25 Ø THREDOLET c/w BRASS NIPPLE, BALL CORPORATION STOP, 19 Ø HOSE BIB AND AIR VALVE        | 1        | SEE DETAIL I ON DRAWING 3646-2                 |
| 10                | 400 Ø 150lb W.N. FLG x 300 Ø 150lb W.N. FLG FABRICATED CONCENTRIC REDUCER                  | 1        |  |
| 11                | 300 Ø 150lb W.N. FLG x 300lb W.N. FLG FABRICATED TEE STRAINER                              | 1        | c/w TANGENTIAL OUTLET                          |
| 12                | 300 Ø FLG x FLG PRESSURE REDUCING VALVE (CLASS 250)  | 1        |  |
| 13                | 300 Ø FLANGED COUPLING ADAPTER (CLASS 300)   | 1        | c/w ANCHOR-PINS (MIN-10)                       |
| 14                | 300 Ø P.E. x 400 Ø 150lb W.N. FLG FABRICATED REDUCER SPECIAL                               | 1        |  |
| 15                | 400 Ø 150lb W.N. FLG x 150lb S.O. FLG FABRICATED SHORT RADIUS 90° ELBOW SPECIAL            | 1        |  |
| 16                | PRESSURE GAUGE ASSEMBLY  | 1        | SEE DETAIL J ON DRAWING 3646-2                 |
| 17                | 400 Ø P.E. x 150lb S.O. FLG FABRICATED SPOOL PIECE   | 2        | c/w WALL RING & HARNESS                        |
| 18                | DUPLEX STRAINER ASSEMBLY AND ASSOCIATED PIPING   | 1        | SEE DETAIL H ON DRAWING 3646-3                 |



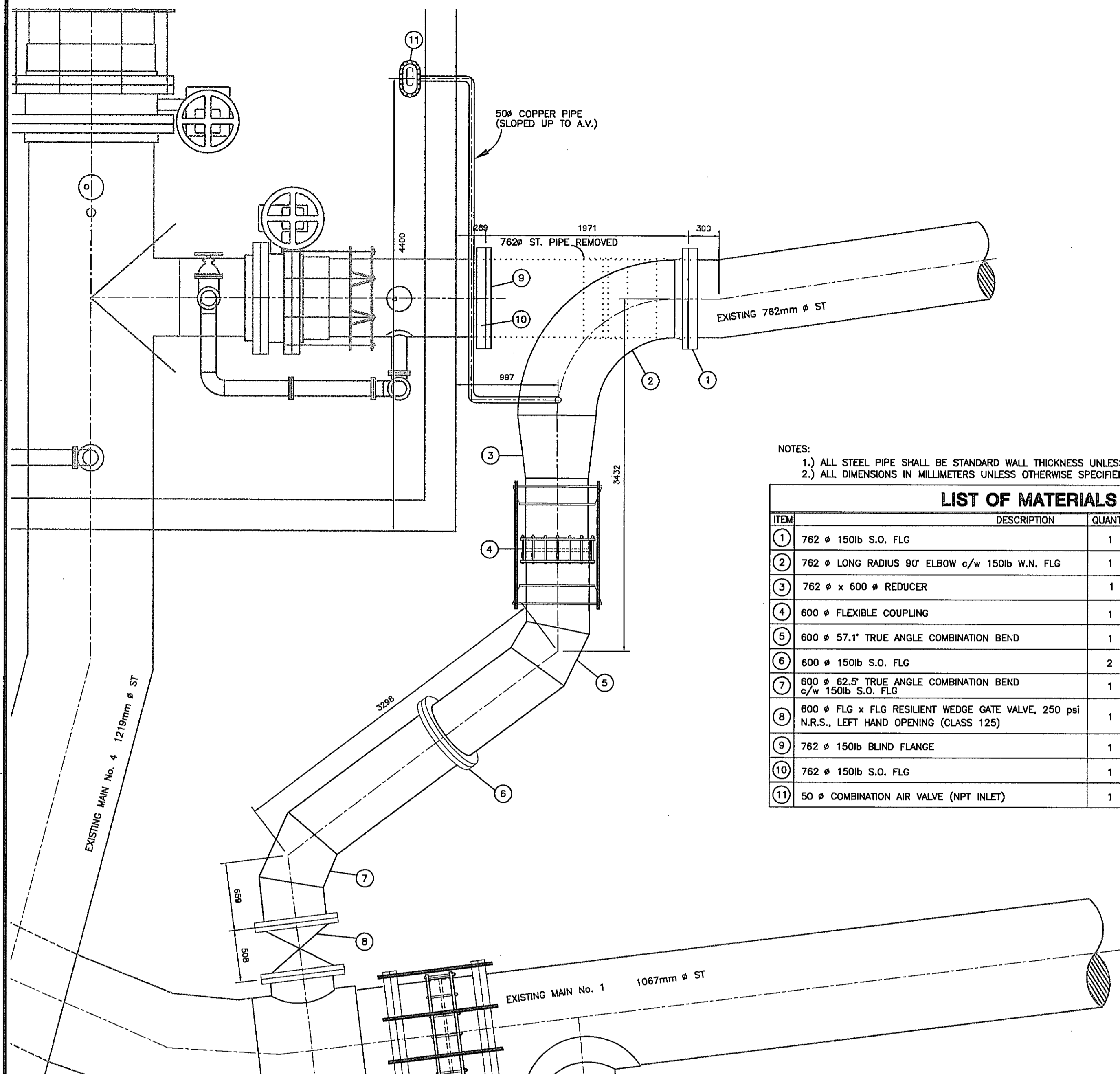
**PRV SETTINGS**  
 400mm Ø PRV: 135psi (95m HGL)  
 300mm Ø PRV: 145psi (102m HGL)



|  |  |
|--|--|
| <b>VERIFY SCALES</b><br>BAR IS 20mm LONG ON ORIGINAL DRAWING.<br><br>IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY. | <b>REUSE OF DOCUMENTS</b><br>THIS DRAWING IS OF A CONFIDENTIAL NATURE AND SHALL NOT BE REPRODUCED IN ANY MANNER, NOR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN PERMISSION OF THE CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT.<br>ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND SHOULD BE CONFIRMED BY MANUAL DIGGING. CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT DOES NOT ACCEPT RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE INFORMATION SHOWN ON THIS DRAWING. |
|--|--|

| no. | date   | revision                | chk  | by   |
|-----|--------|-------------------------|------|------|
| D   | MAY 04 | AS-CONSTRUCTED          | M.B. | A.S. |
| C   | JUL 03 | ISSUED FOR CONSTRUCTION | M.B. | A.S. |
| B   | JUN 03 | RE-ISSUED FOR PERMITS   | M.B. | A.S. |
| A   | MAR 03 | ISSUED FOR PERMITS      | M.B. | A.S. |

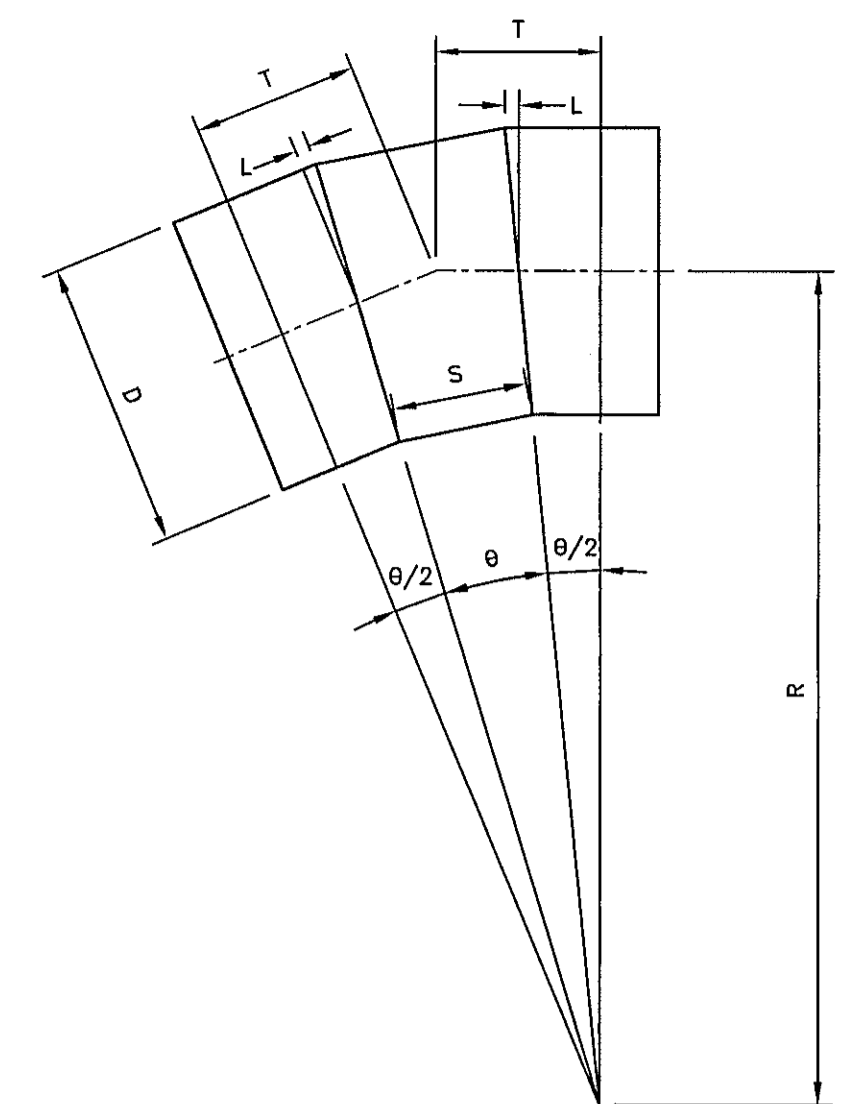
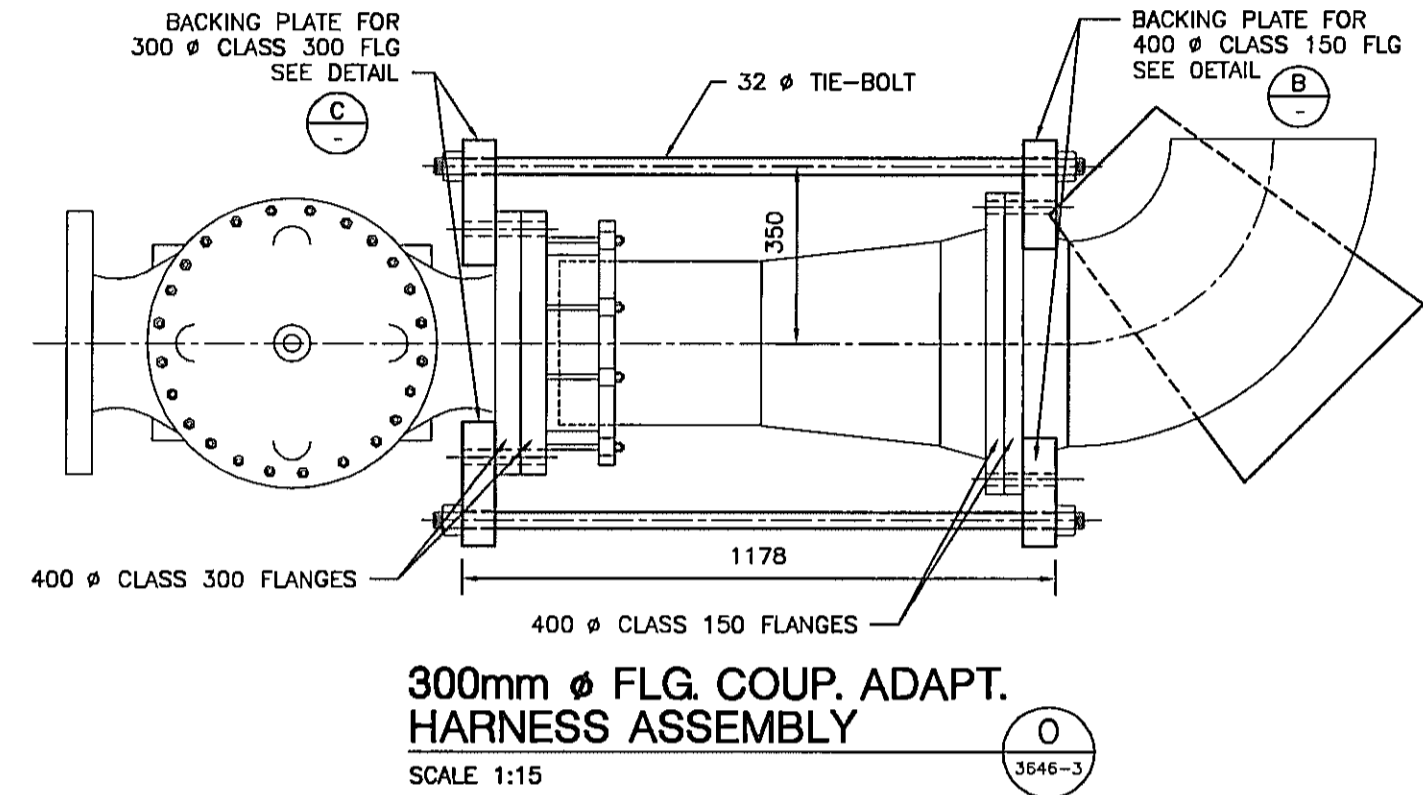
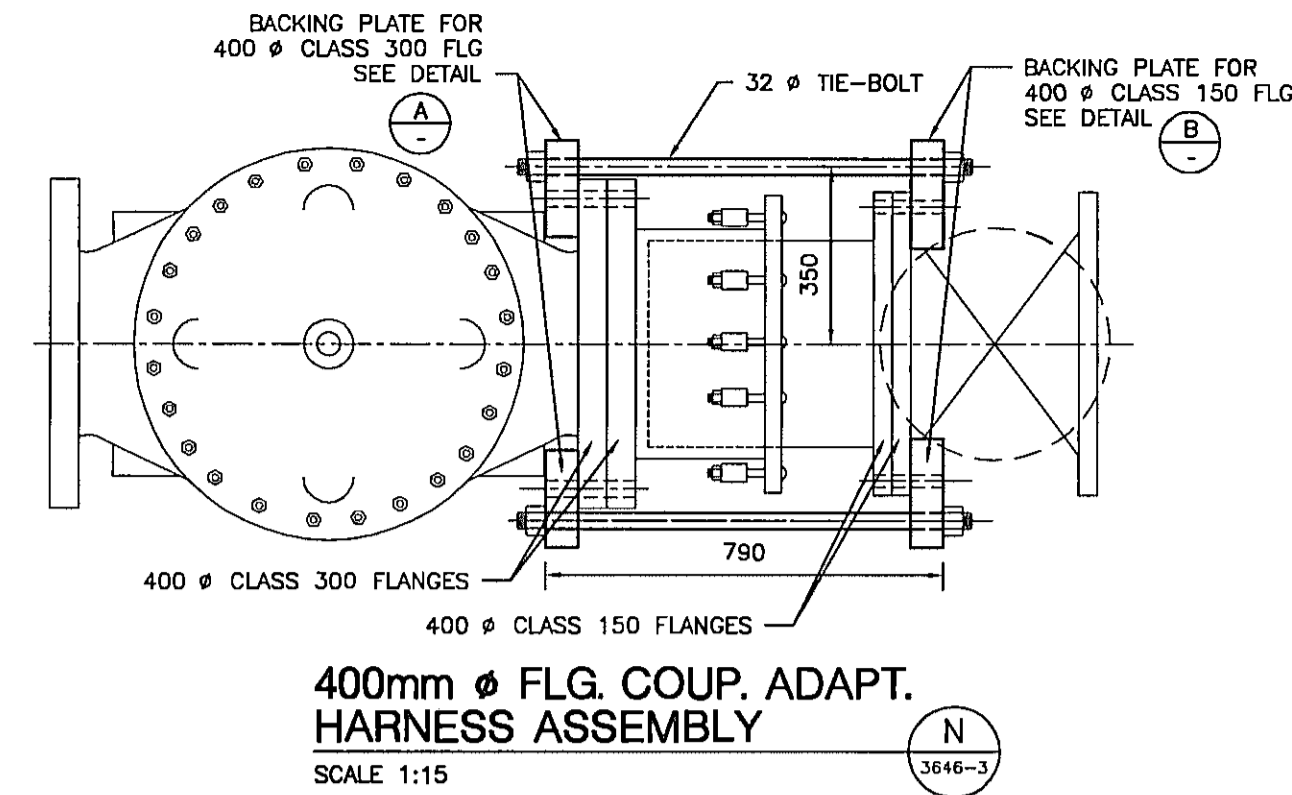
|  |  |  |   |
|--|--|--|---|
| <br><b>CAPITAL REGIONAL DISTRICT WATER DEPARTMENT</b><br>479 ISLAND HIGHWAY VICTORIA, B.C.                                   |  | date: FEB 2003<br>designed: M.B./A.S.<br>approved: P. MALONE<br>folder: \3600<br>file no: 3646.ZIP<br>drawing no: 3646-3 | scale: AS SHOWN<br>drawn: A. SANDHAR<br>checked: M. BRADY<br>acad file: MECHANICAL<br>cadastral no: 129<br>issue: D |
| <b>WATKISS PRESSURE REGULATING STATION</b><br><b>WATKISS WAY @ MARLER DRIVE</b><br><b>CHAMBER ARRANGEMENT &amp; SECTIONS</b> |  |  |   |



**PLAN- 762mm INTER-CONNECTION**  
SCALE 1:30

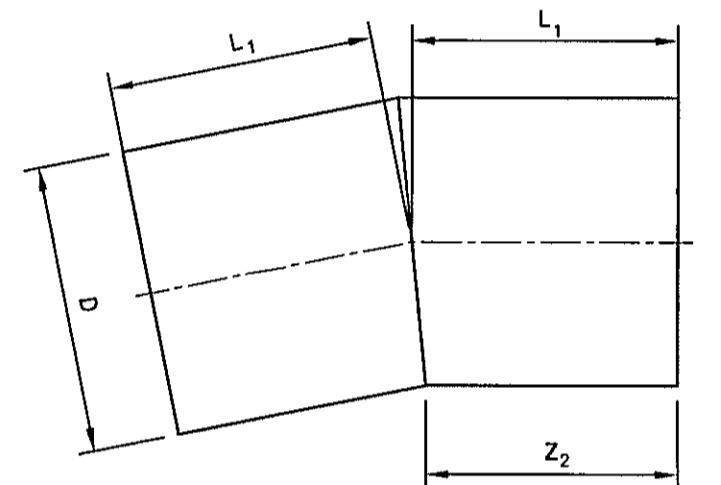
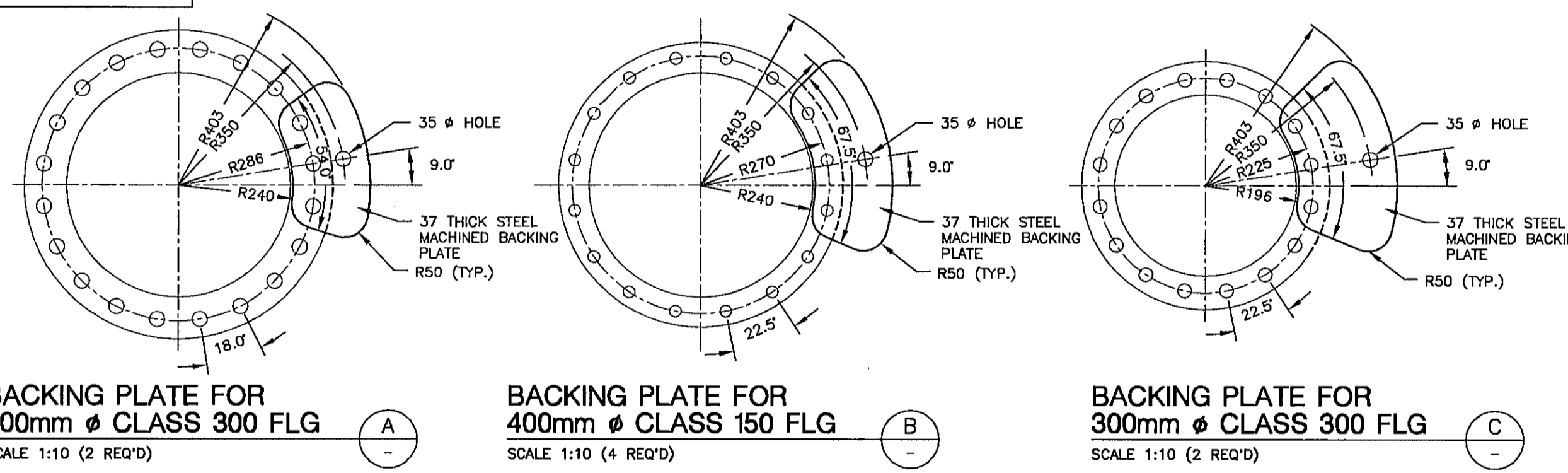
NOTES:  
1.) ALL STEEL PIPE SHALL BE STANDARD WALL THICKNESS UNLESS OTHERWISE NOTED.  
2.) ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

| ITEM | DESCRIPTION  | QUANTITY | COMMENTS                       |
|------|--|----------|--------------------------------|
| 1    | 762 $\phi$ 150lb S.O. FLG  | 1        |                                |
| 2    | 762 $\phi$ LONG RADIUS 90° ELBOW c/w 150lb W.N. FLG  | 1        |                                |
| 3    | 762 $\phi$ x 600 $\phi$ REDUCER  | 1        |                                |
| 4    | 600 $\phi$ FLEXIBLE COUPLING   | 1        | c/w HARNESS ASSEMBLY           |
| 5    | 600 $\phi$ 57.1° TRUE ANGLE COMBINATION BEND   | 1        | SEE DETAIL L ON DRAWING 3646-4 |
| 6    | 600 $\phi$ 150lb S.O. FLG  | 2        |                                |
| 7    | 600 $\phi$ 62.5° TRUE ANGLE COMBINATION BEND c/w 150lb S.O. FLG                                | 1        | SEE DETAIL L ON DRAWING 3646-4 |
| 8    | 600 $\phi$ FLG x FLG RESILIENT WEDGE GATE VALVE, 250 psi N.R.S., LEFT HAND OPENING (CLASS 125) | 1        |                                |
| 9    | 762 $\phi$ 150lb BLIND FLANGE  | 1        |                                |
| 10   | 762 $\phi$ 150lb S.O. FLG  | 1        |                                |
| 11   | 50 $\phi$ COMBINATION AIR VALVE (NPT INLET)  | 1        |                                |



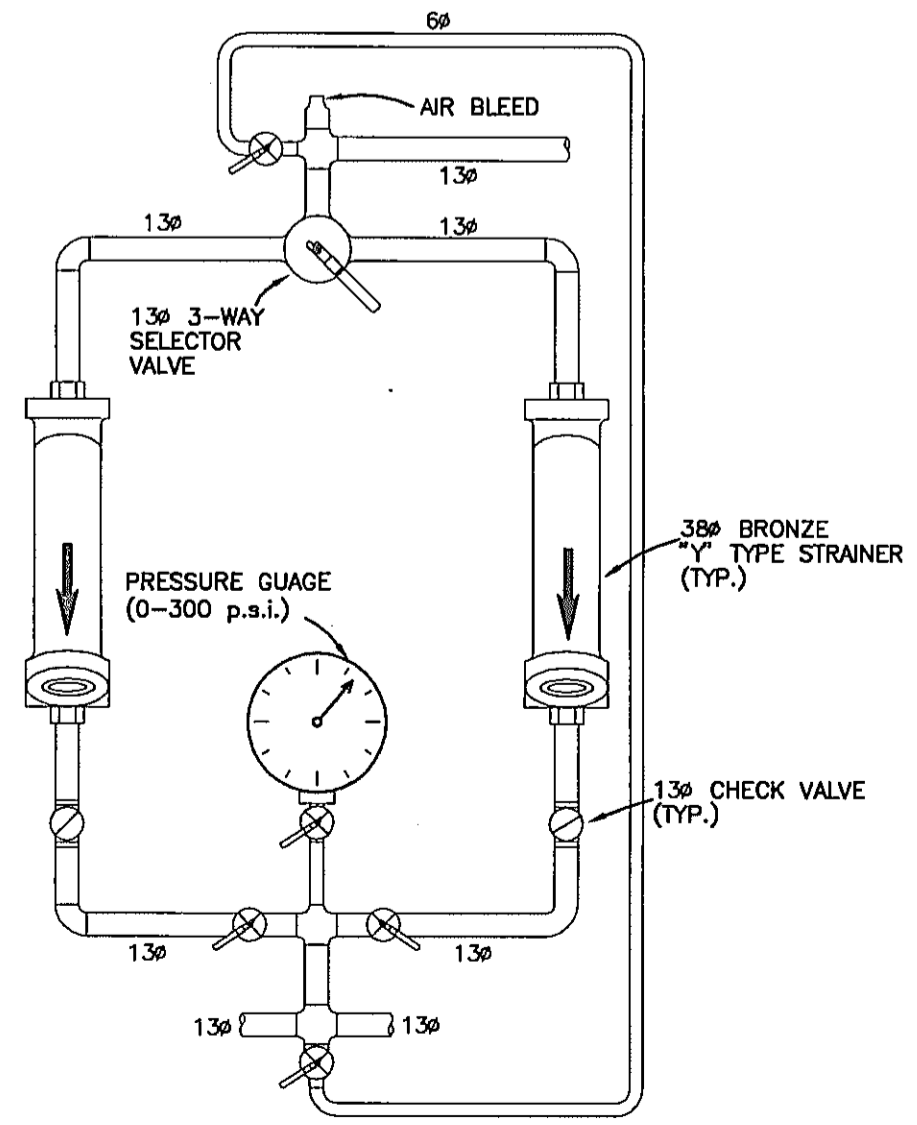
| BEND ANGLE | T   | S   | R    | $\theta$ | D   | L  |
|------------|-----|-----|------|----------|-----|----|
| 25.1°      | 339 | 268 | 1524 | 12.55°   | 610 | 34 |
| 57.1°      | 498 | 310 | 914  | 28.55    | 610 | 78 |
| 62.5°      | 555 | 341 | 914  | 31.25    | 610 | 85 |

**THREE PIECE ELBOW**  
N.T.S. (3646-2)

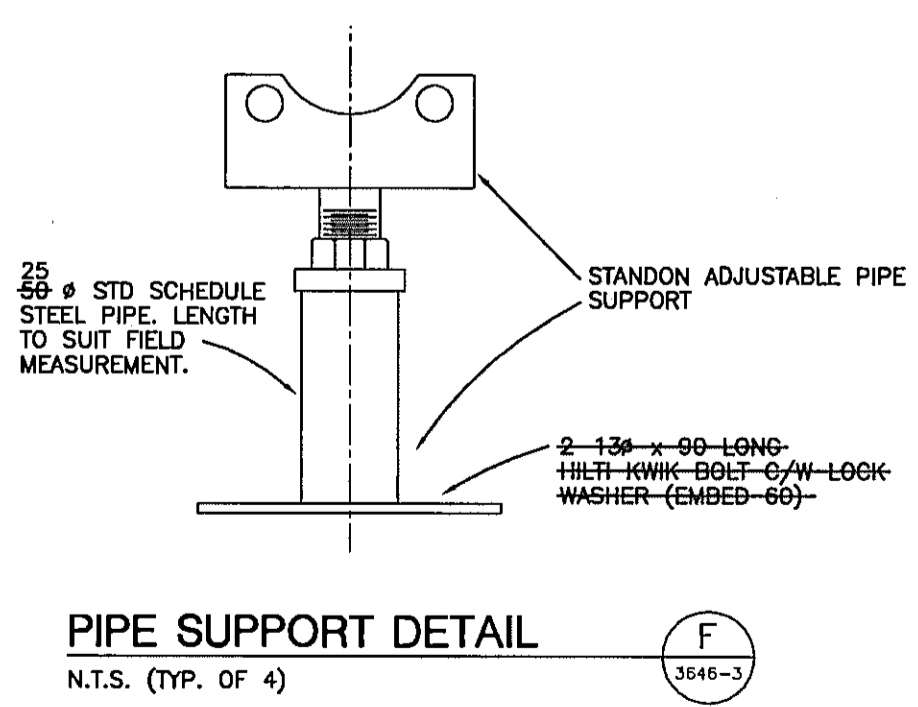


| BEND ANGLE | Z <sub>2</sub> | L <sub>1</sub> | D   |
|------------|----------------|----------------|-----|
| 15.2°      | 254            | 279            | 610 |
| 20.2°      | 254            | 305            | 610 |

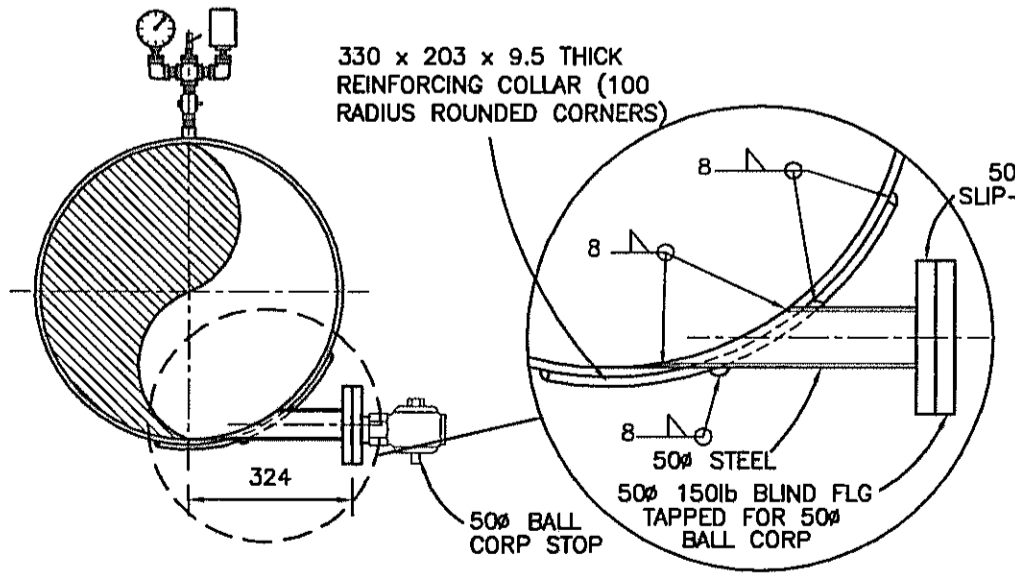
**TWO PIECE ELBOW**  
N.T.S. (3646-2)



**DUPLEX STRAINER DETAIL**  
N.T.S. (3646-3)

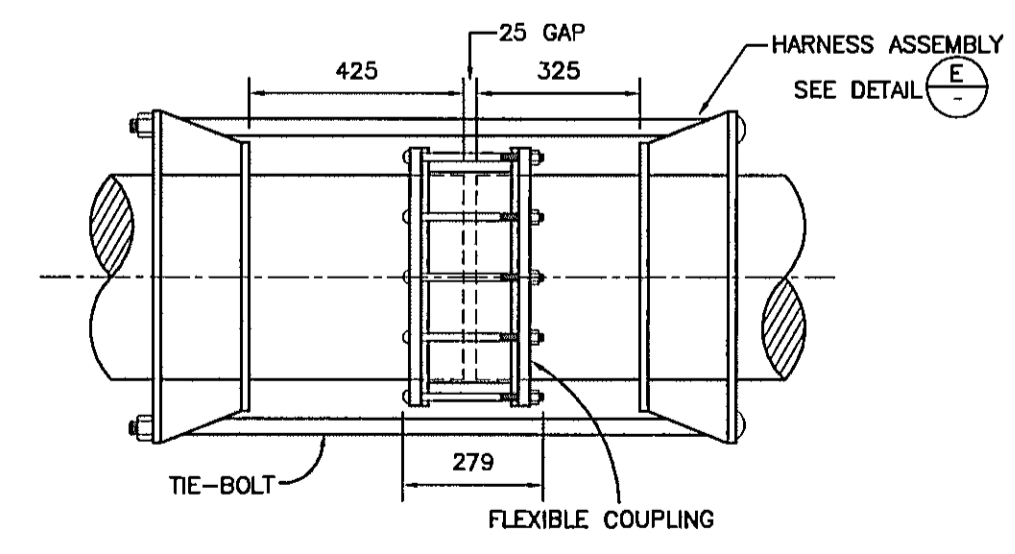


**PIPE SUPPORT DETAIL**  
N.T.S. (TYP. OF 4) (3646-3)

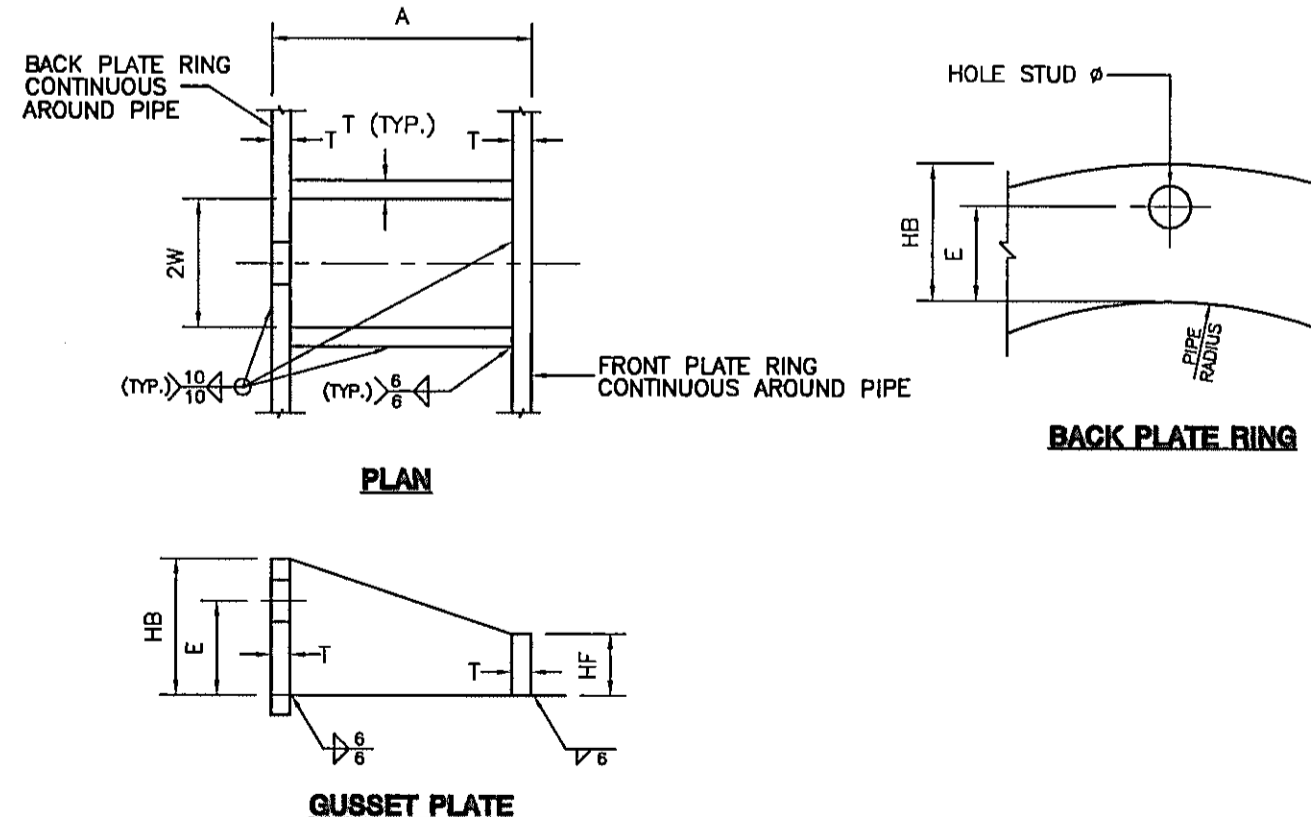


**TANGENTIAL TEE SECTION DETAIL**  
SCALE 1:15 (TYP. OF 3) (3646-3)

| DIMENSIONS OF TIE-BOLTS AND LUGS |                 |                  |           |    |     |    |     |    |    |
|----------------------------------|-----------------|------------------|-----------|----|-----|----|-----|----|----|
| PIPE SIZE                        | TIE BOLT $\phi$ | HOLE STUD $\phi$ | No. BOLTS | T  | A   | W  | HB  | E  | HF |
| 400                              | 32              | 35               | 2         | 16 | 191 | 51 | 127 | 95 | 64 |
| 600                              | 32              | 35               | 4         | 16 | 191 | 51 | 127 | 95 | 64 |
| 762                              | 32              | 35               | 4         | 16 | 191 | 51 | 127 | 95 | 64 |



**FLEXIBLE COUPLING & HARNESS ASSEMBLY DETAIL**  
SCALE 1:15 (TYP. 6) (3646-2)



**HARNESS ASSEMBLY DETAIL**  
N.T.S. (3646-2)

| VERIFY SCALES  | REUSE OF DOCUMENTS  |
|--|---|
| BAR IS 20mm LONG ON ORIGINAL DRAWING.<br>IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY. | THIS DRAWING IS OF A CONFIDENTIAL NATURE AND SHALL NOT BE REPRODUCED IN ANY MANNER, NOR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN PERMISSION OF THE CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT.<br><br>ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND SHOULD BE CONFIRMED BY MANUAL DIGGING. CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT DOES NOT ACCEPT RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE INFORMATION SHOWN ON THIS DRAWING. |

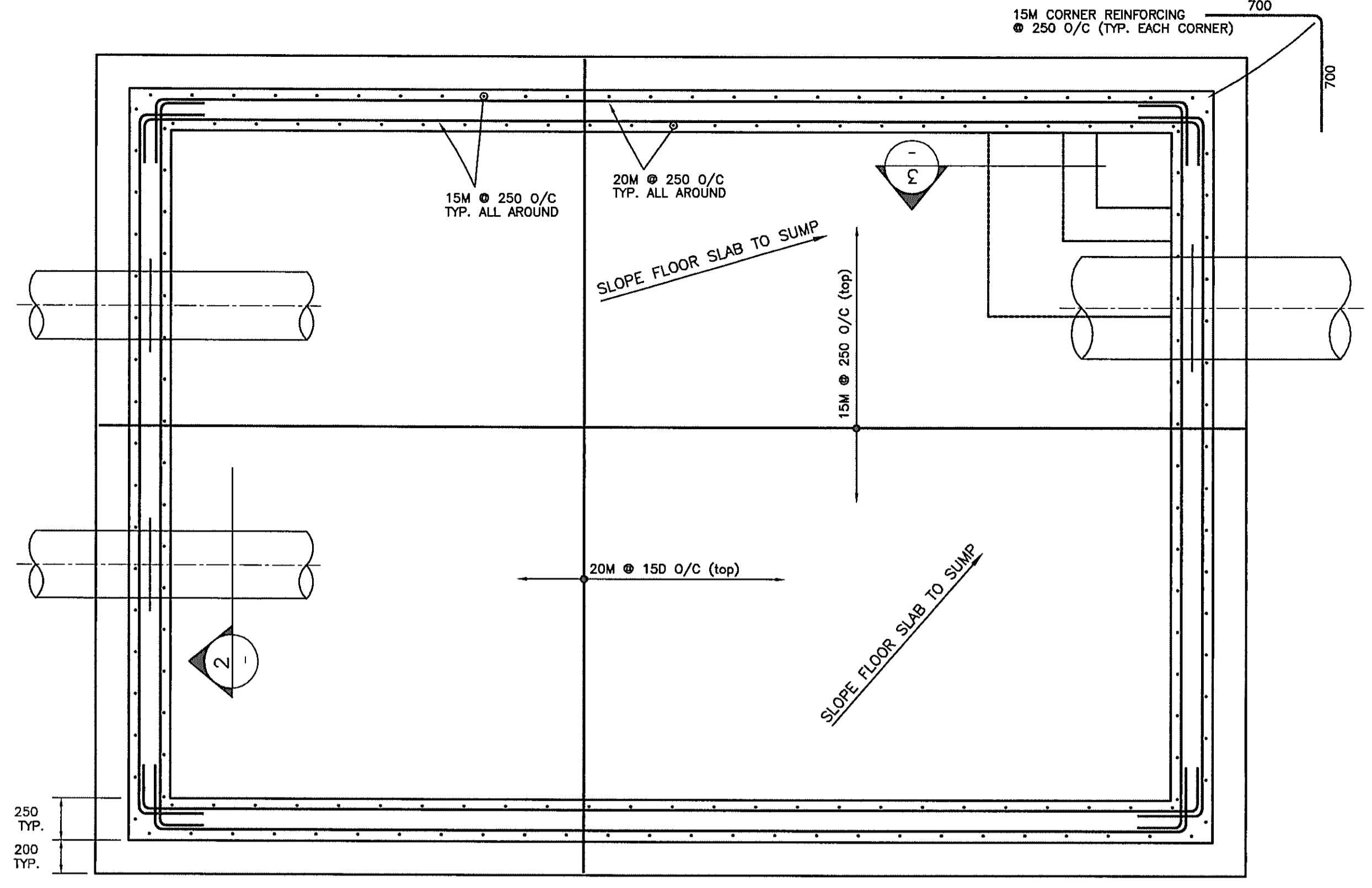
| no. | date   | revision                | chk  | by   |
|-----|--------|-------------------------|------|------|
| D   | MAY 04 | AS-CONSTRUCTED          | M.B. | A.S. |
| C   | JUL 03 | ISSUED FOR CONSTRUCTION | M.B. | A.S. |
| B   | JUN 03 | RE-ISSUED FOR PERMITS   | M.B. | A.S. |
| A   | MAR 03 | ISSUED FOR PERMITS      | M.B. | A.S. |

**CAPITAL REGIONAL DISTRICT WATER DEPARTMENT**  
479 ISLAND HIGHWAY VICTORIA, B.C.

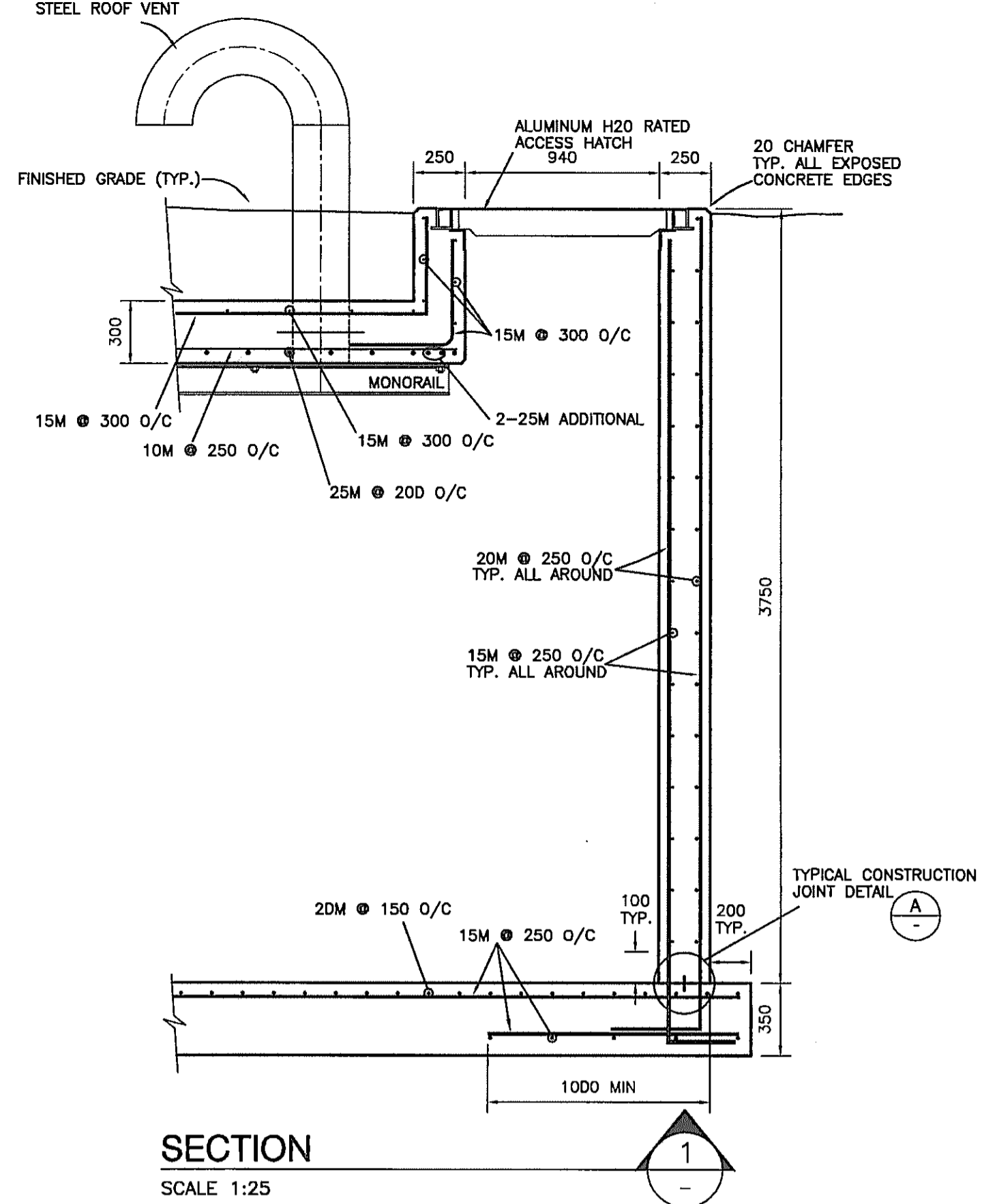
**WATKISS PRESSURE REGULATING STATION**  
WATKISS WAY @ MARLER DRIVE  
MISCELLANEOUS DETAILS

date: FEB 2003  
designed: M.B./A.S.  
approved: P. MALONE  
folder: 3600  
file no: 3646.ZIP  
drawing no: 3646-4

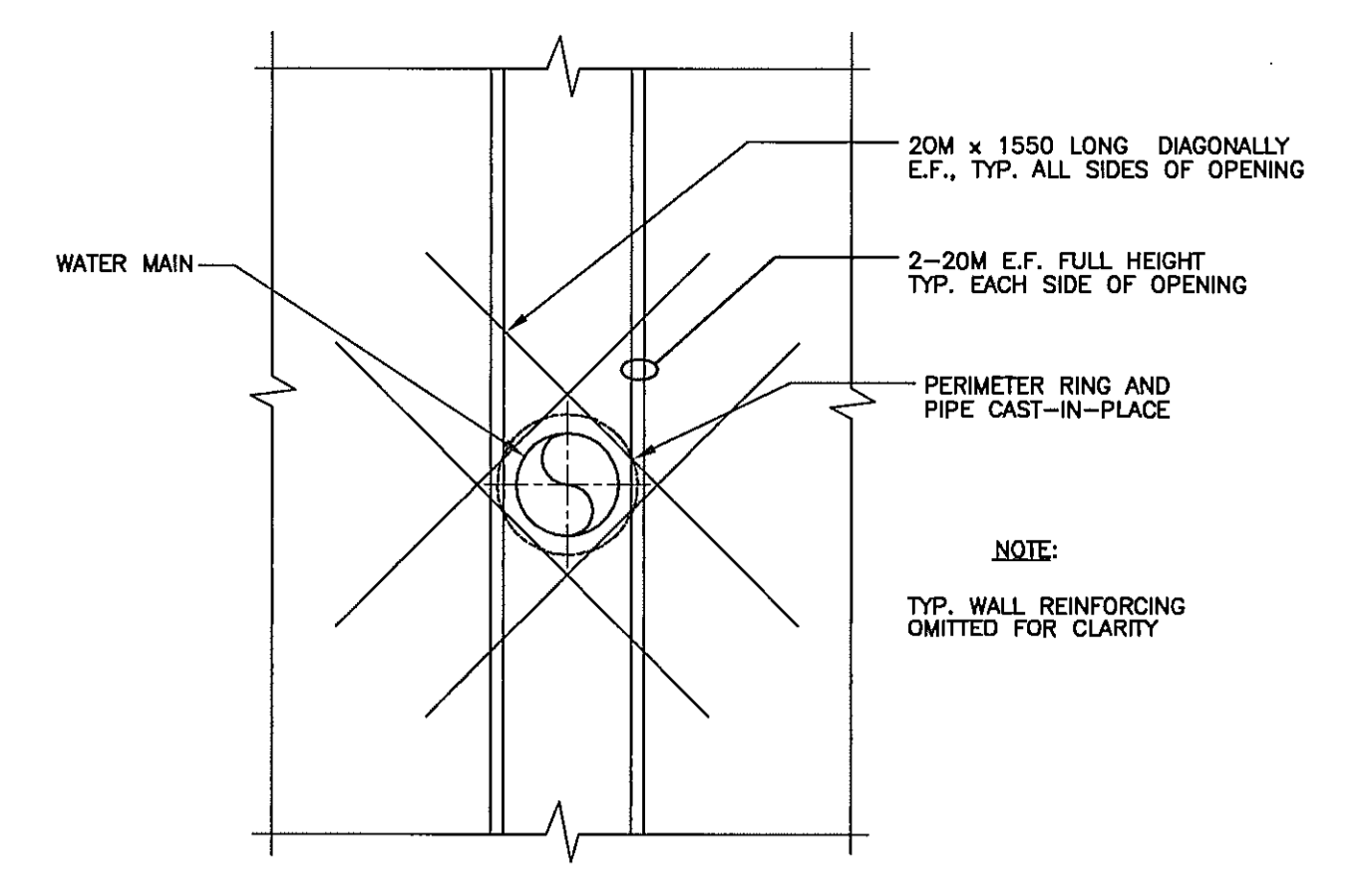
scale: AS SHOWN  
drawn: A. SANDHAR  
checked: M. BRADY  
acad file: MECHANICAL  
cadastral no: 129  
issue: D



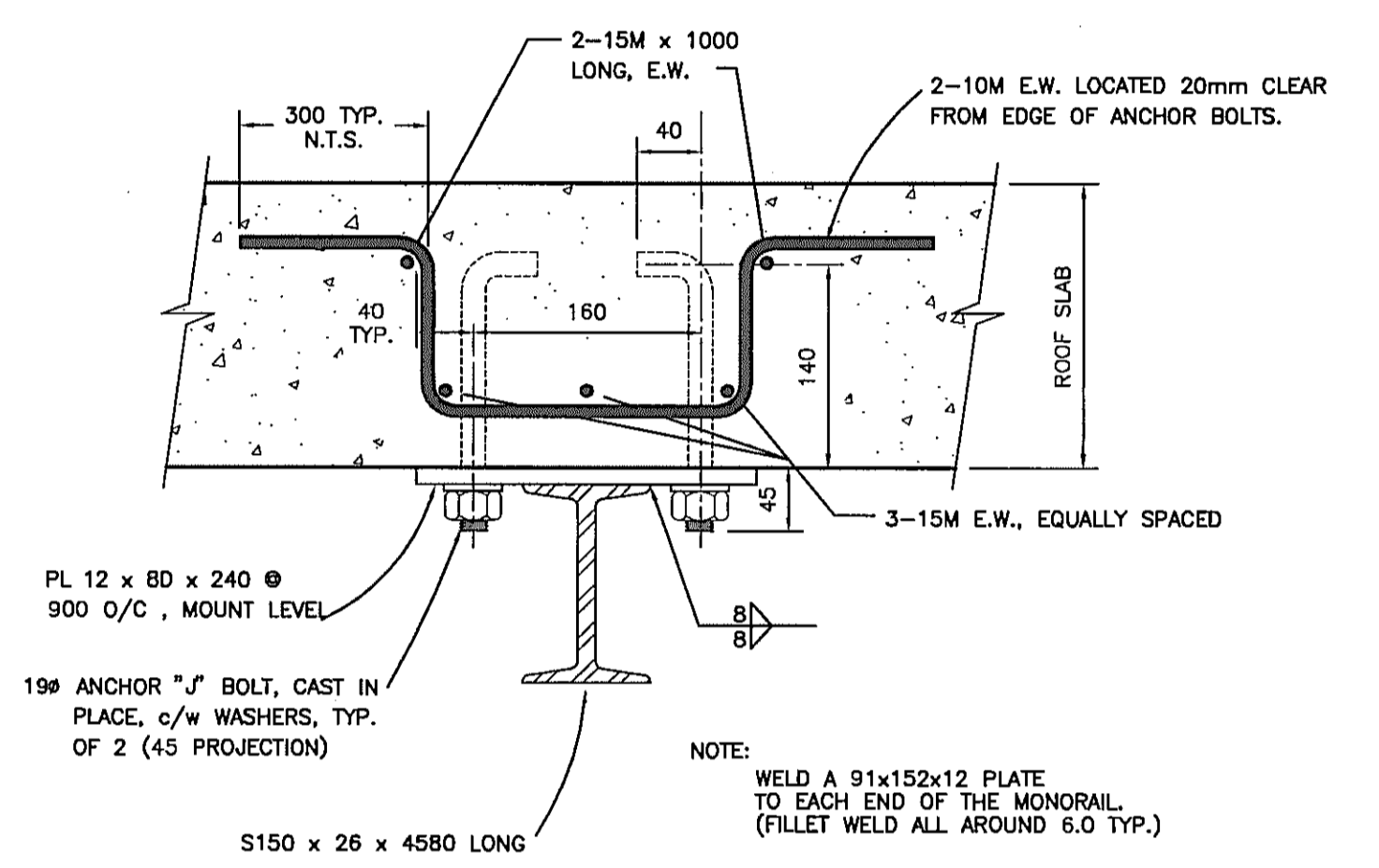
**STRUCTURAL -FLOOR PLAN**  
SCALE 1:25



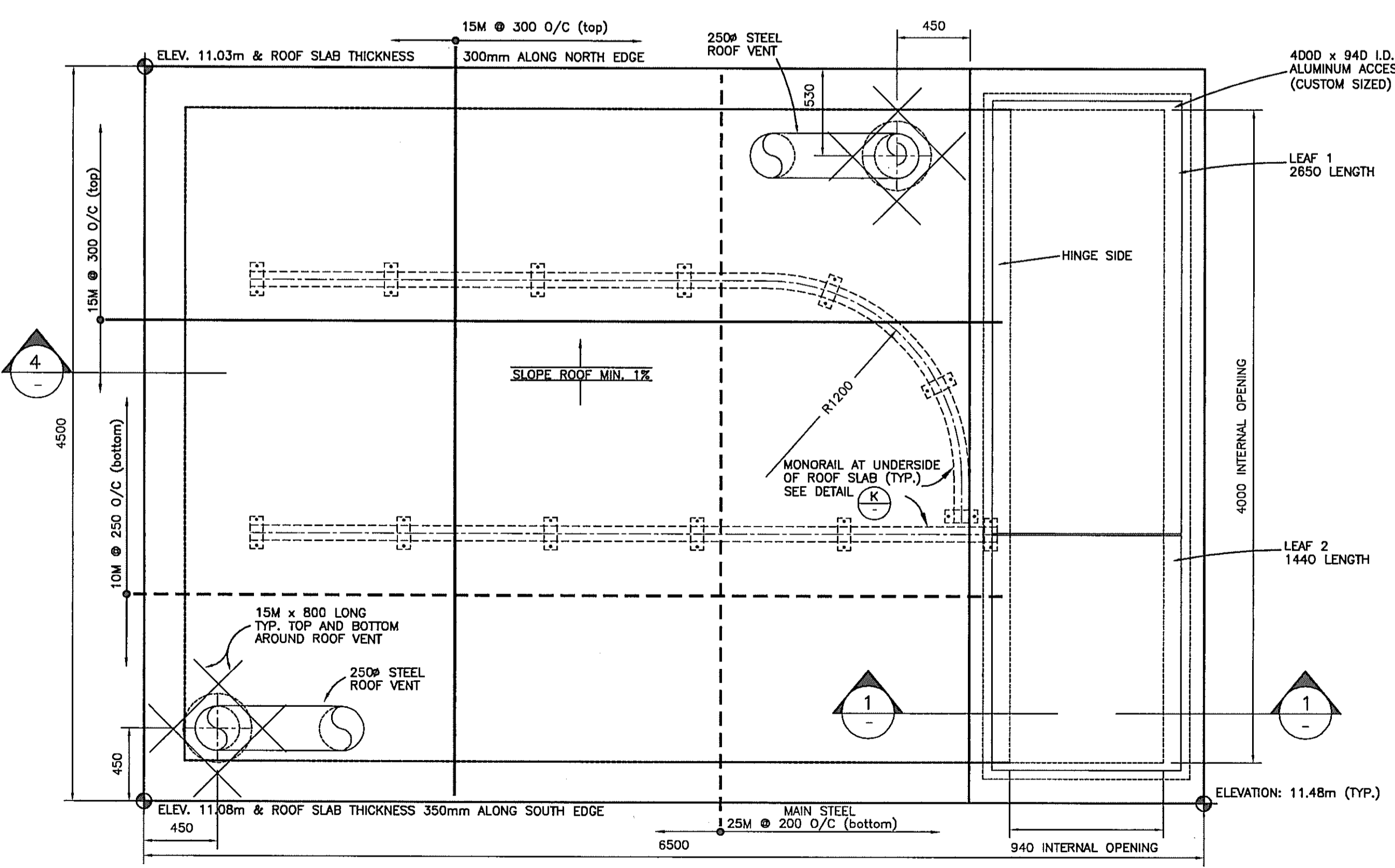
**SECTION**  
SCALE 1:25



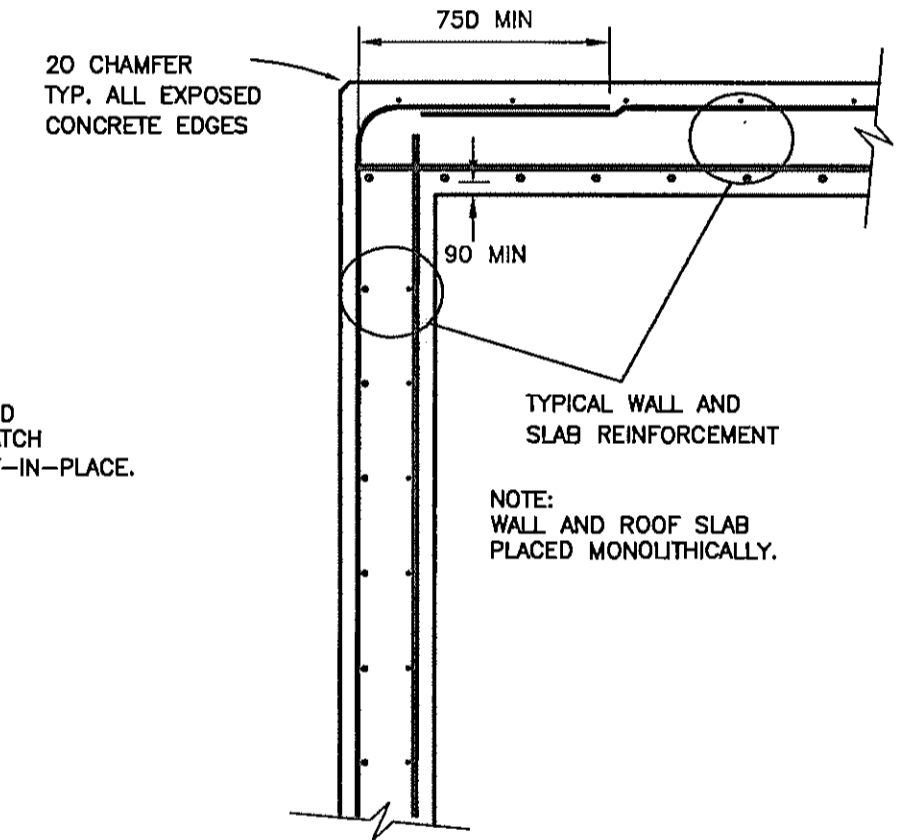
**PIPE OPENING DETAIL**  
N.T.S. (TYP. OF 3)



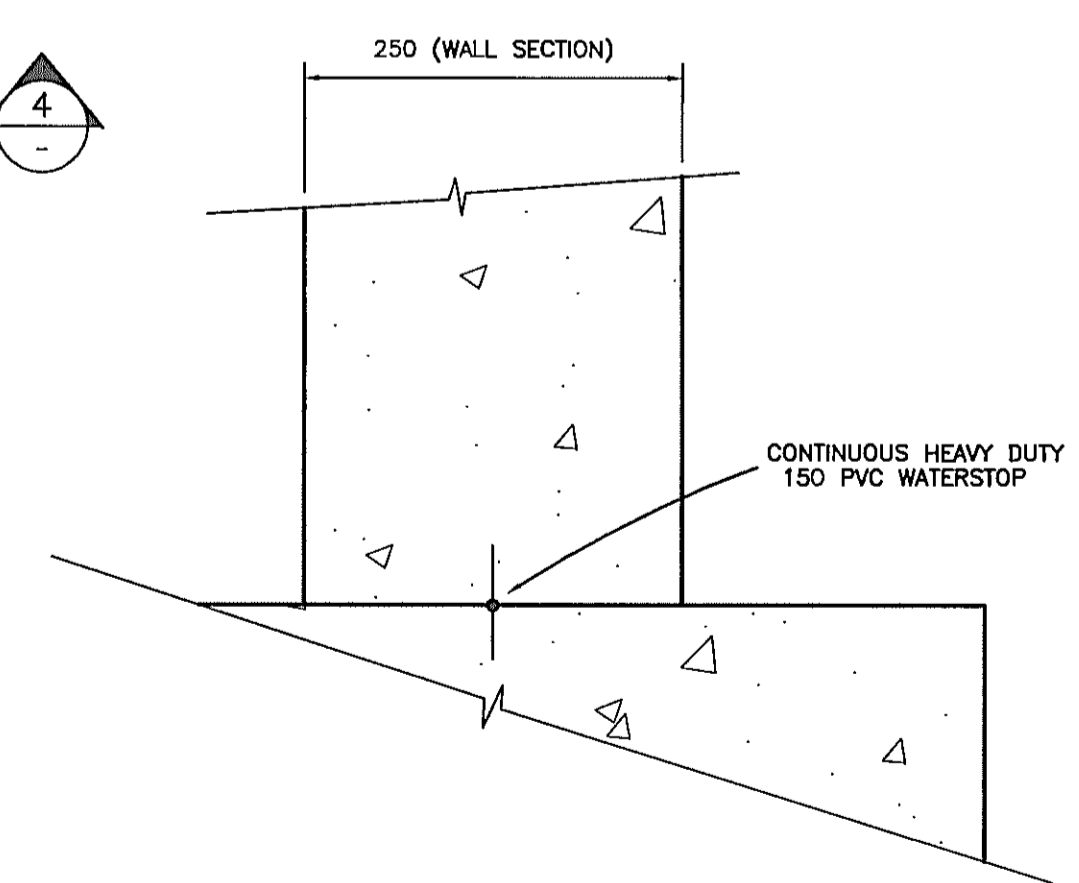
**MONORAIL CONNECTION DETAIL**  
SCALE 1:5 (TYP. OF 12)



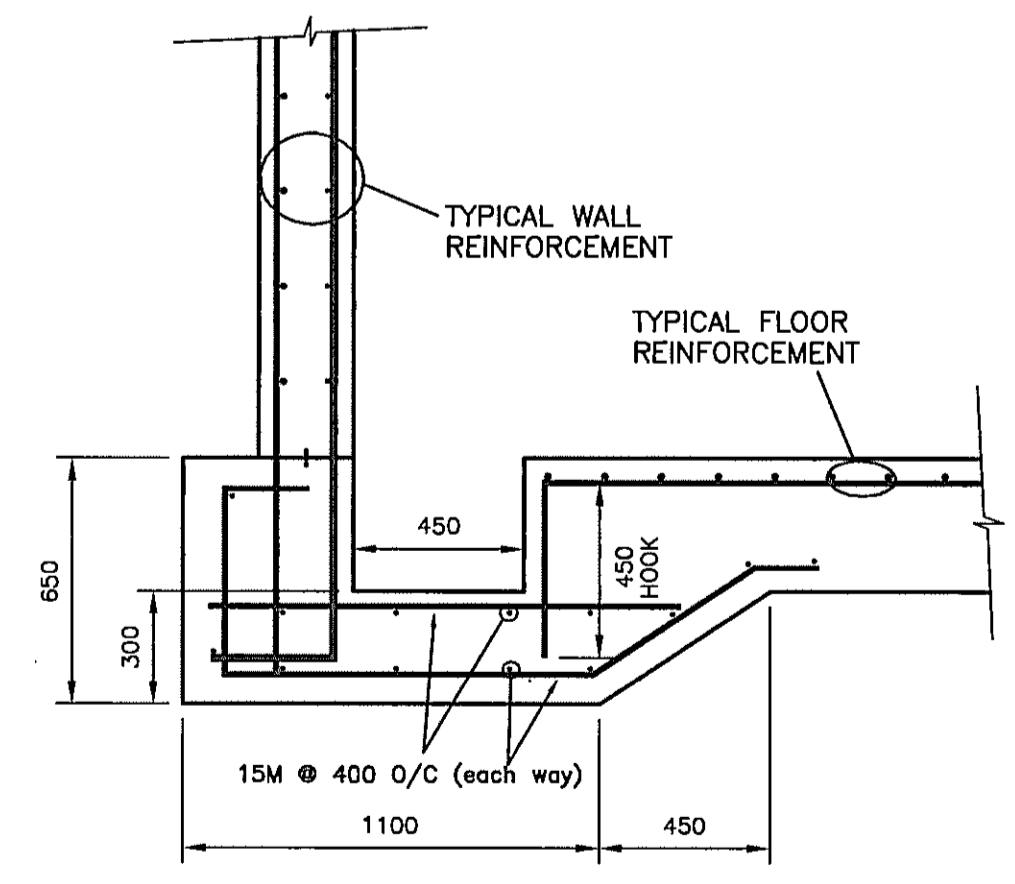
**STRUCTURAL -ROOF PLAN**  
SCALE 1:25



**SECTION - TYPICAL WALL TO ROOF**  
SCALE 1:20



**TYPICAL CONSTRUCTION JOINT DETAIL**  
SCALE 1:5



**SECTION - TYPICAL SUMP**  
SCALE 1:20

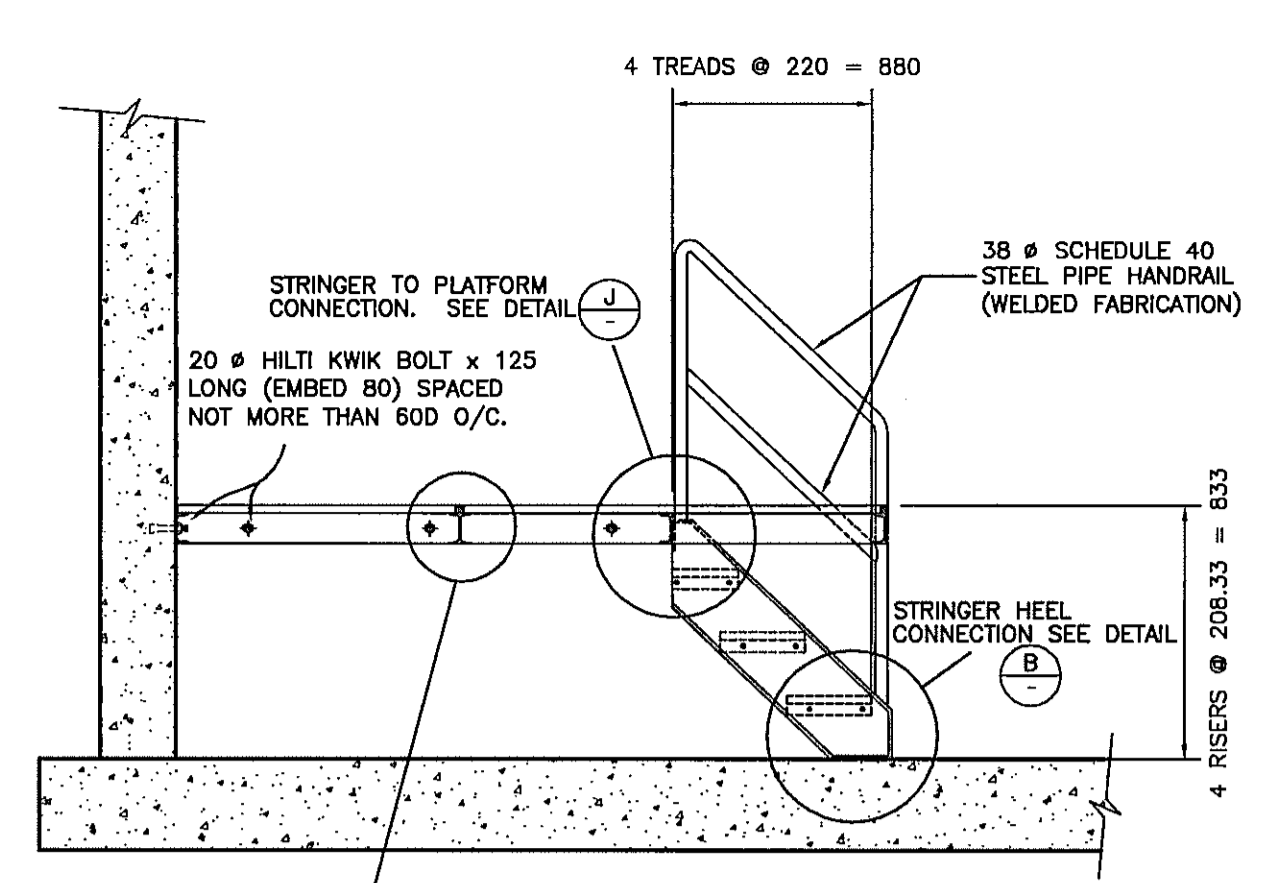
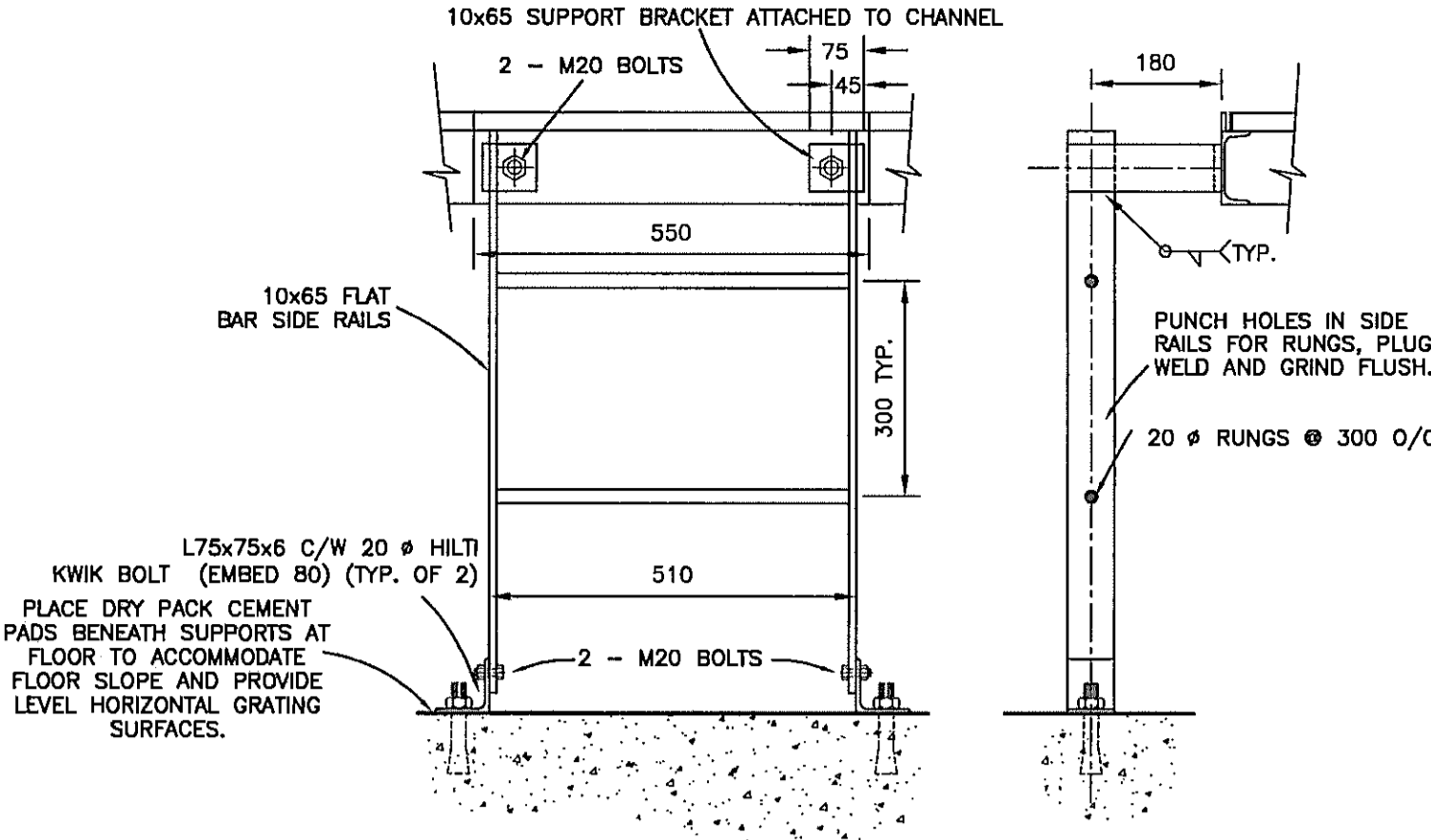
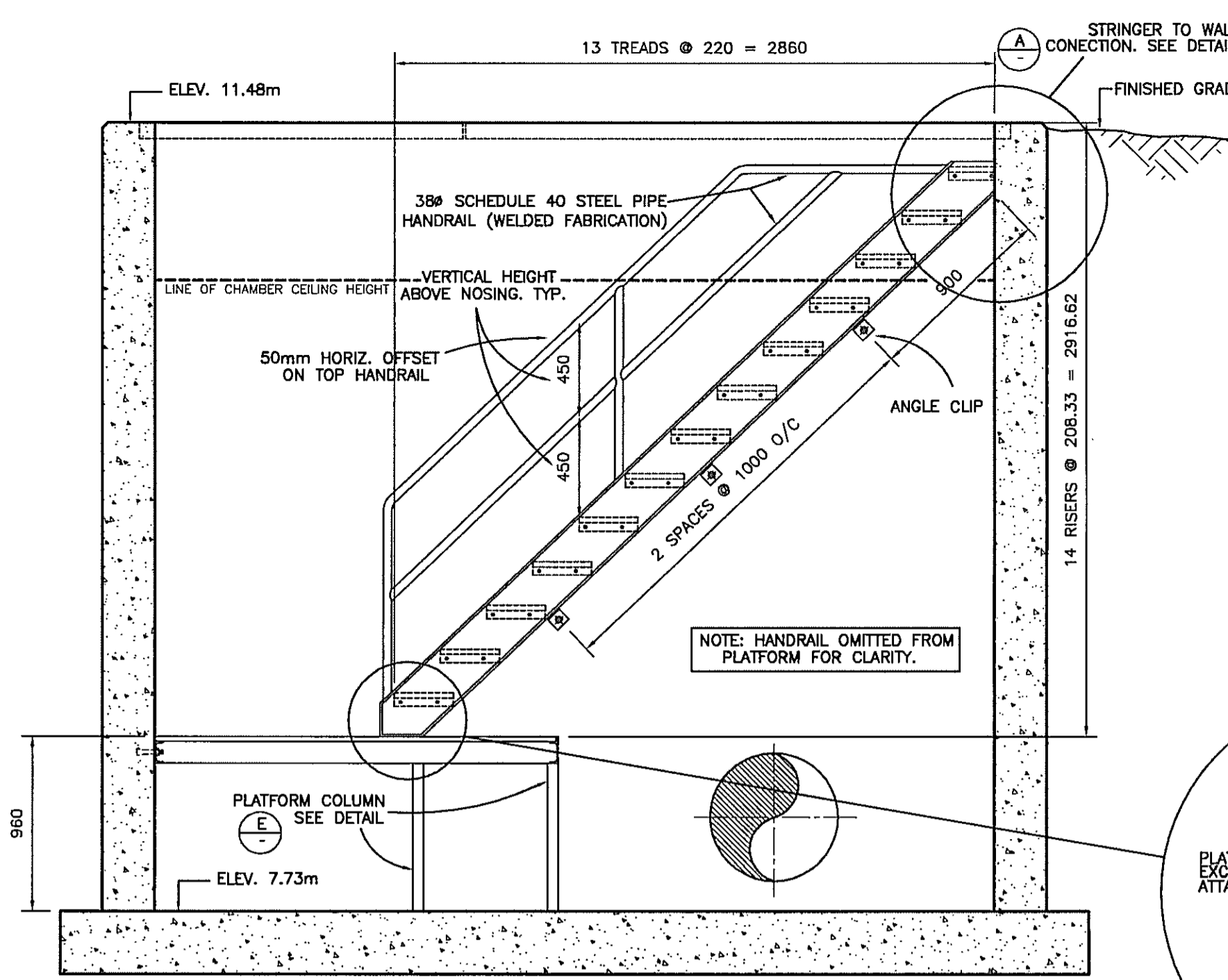
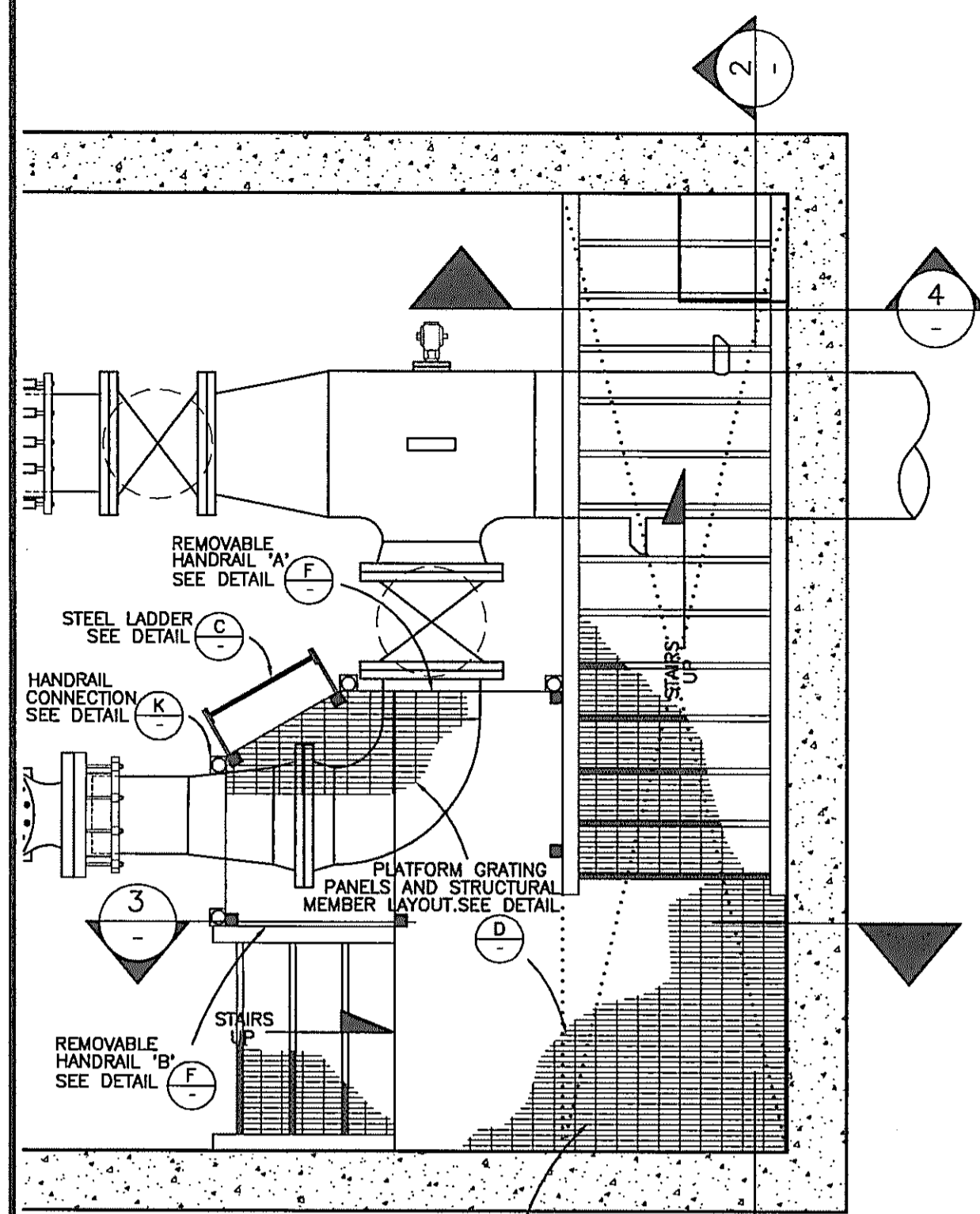
| VERIFY SCALES   | REUSE OF DOCUMENTS   |
|---|--|
| <p>BAR IS 20mm LONG ON ORIGINAL DRAWING.</p> <p>IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY.</p> | <p>THIS DRAWING IS OF A CONFIDENTIAL NATURE AND SHALL NOT BE REPRODUCED IN ANY MANNER, NOR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN PERMISSION OF THE CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT.</p> <p>ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND SHOULD BE CONFIRMED BY MANUAL DIGGING. CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT DOES NOT ACCEPT RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE INFORMATION SHOWN ON THIS DRAWING.</p> |

| no. | date   | revision                | chk  | by   |
|-----|--------|-------------------------|------|------|
| D   | MAY 04 | AS-CONSTRUCTED          | M.B. | A.S. |
| C   | JUL 03 | ISSUED FOR CONSTRUCTION | M.B. | A.S. |
| B   | JUN 03 | RE-ISSUE FOR PERMITS    | M.B. | A.S. |
| A   | MAR 03 | ISSUED FOR PERMITS      | M.B. | A.S. |

**CAPITAL REGIONAL DISTRICT WATER DEPARTMENT**  
479 ISLAND HIGHWAY VICTORIA, B.C.

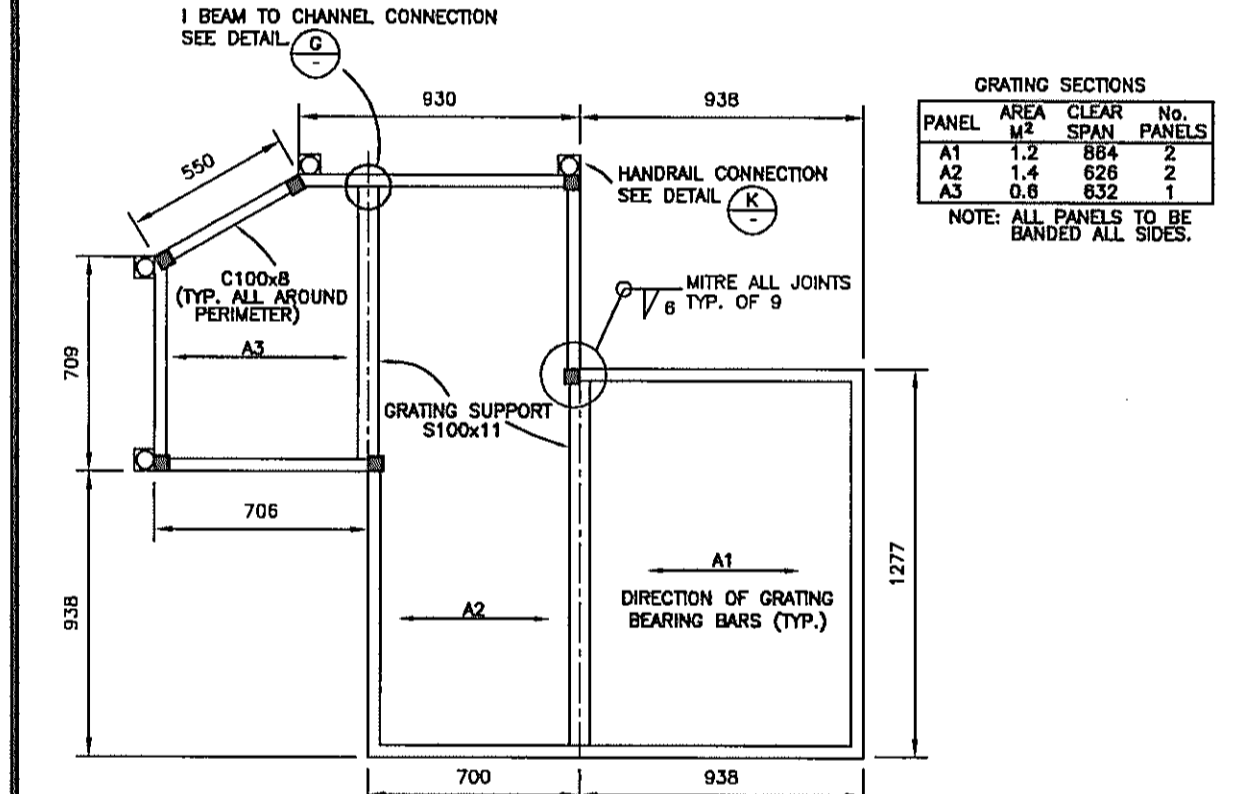
**WATKISS PRESSURE REGULATING STATION**  
WATKISS WAY @ MARLER DRIVE  
STRUCTURAL PLAN & DETAILS

|                     |                       |
|---------------------|-----------------------|
| date: FEB 2003      | scale: AS SHOWN       |
| designed: M.B./A.S. | drawn: A. SANDHAR     |
| approved: P. MALONE | checked: M. BRADY     |
| folder: \3600       | acad file: MECHANICAL |
| file no: 3646.ZIP   | cadastral no: N/A     |
| drawing no: 3646-5  | issue: D              |

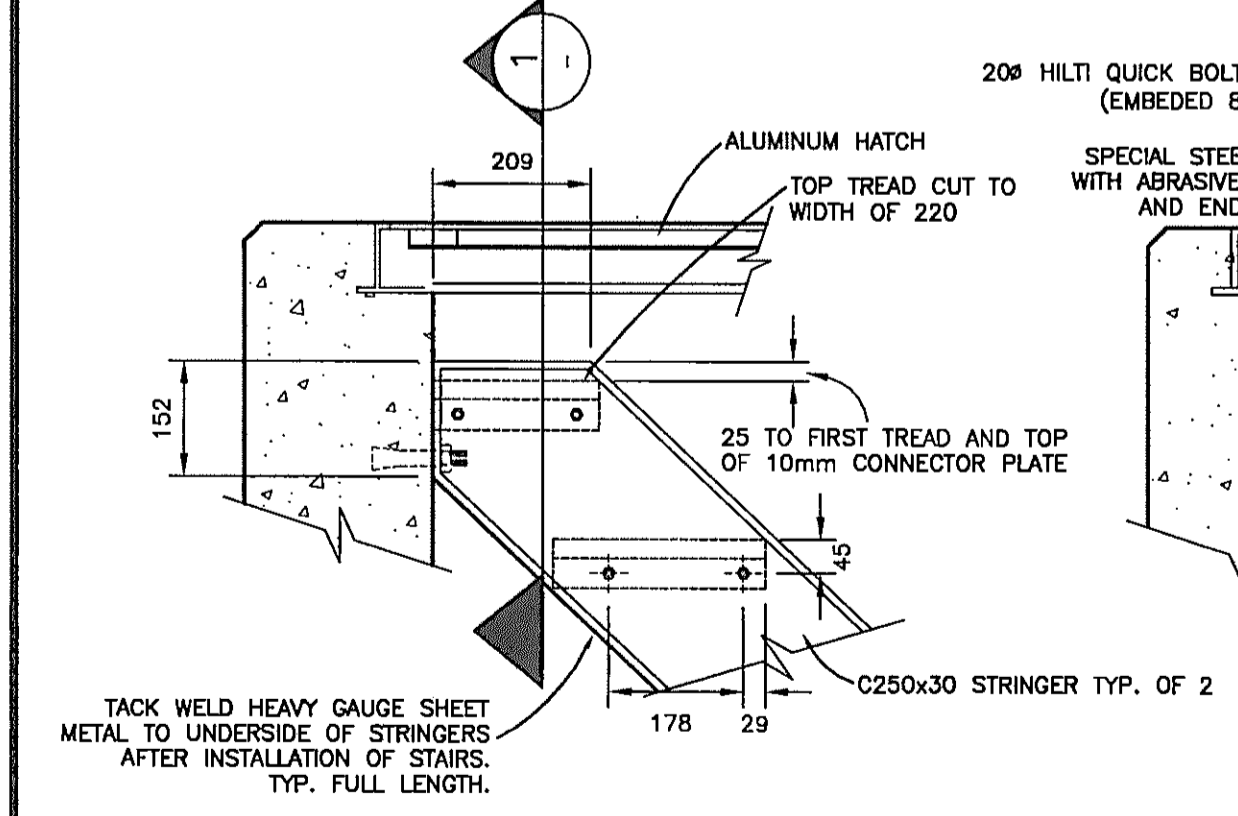


LANDING PLATFORM GRATING.  
25x3.2 BEARING BARS @ 30 O/C

**PLAN - STEEL ACCESS STAIRS**  
SCALE 1:25

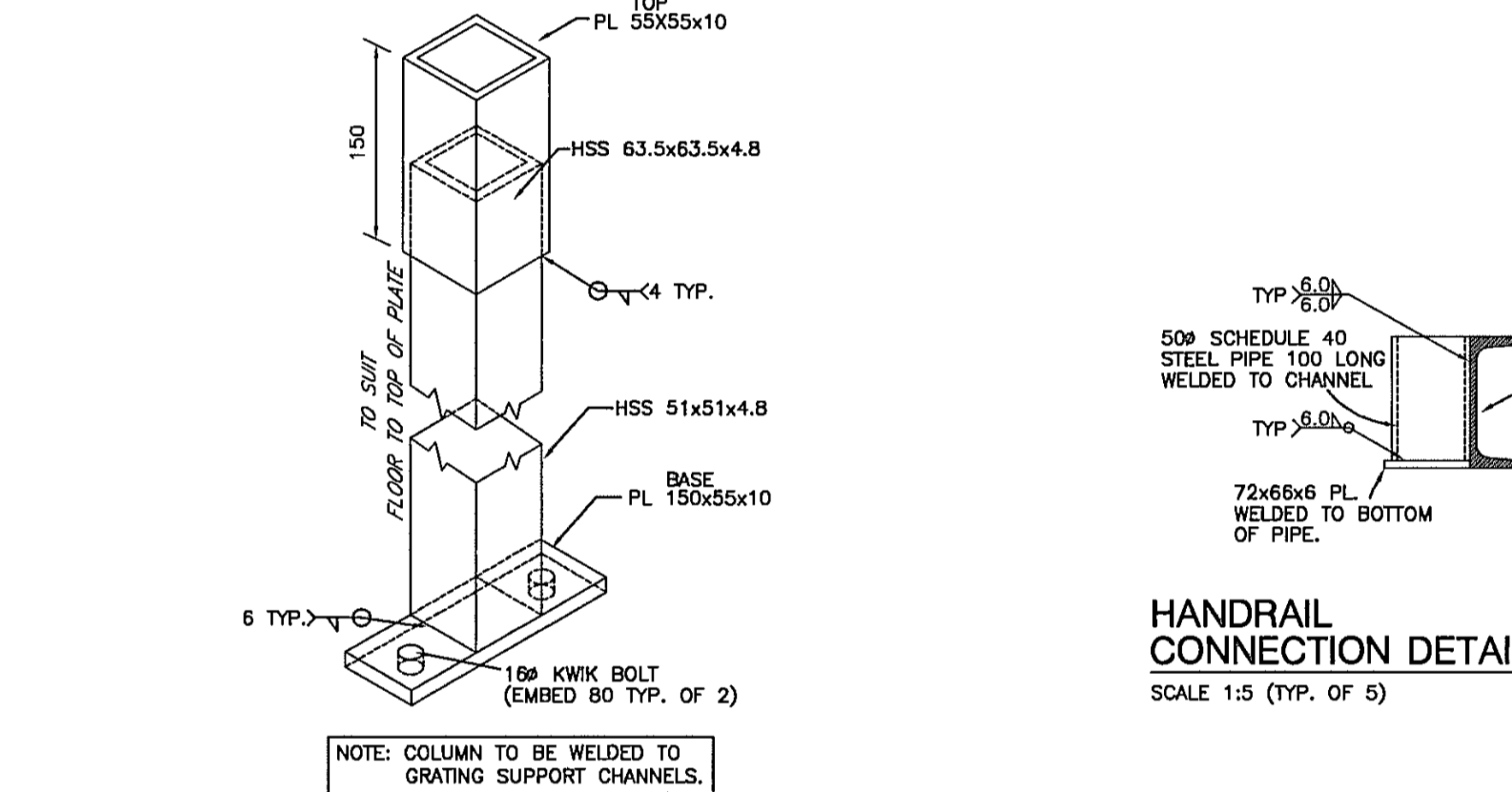


**PLAN - GRATING PANELS & STRUCTURAL DETAIL**  
SCALE 1:25

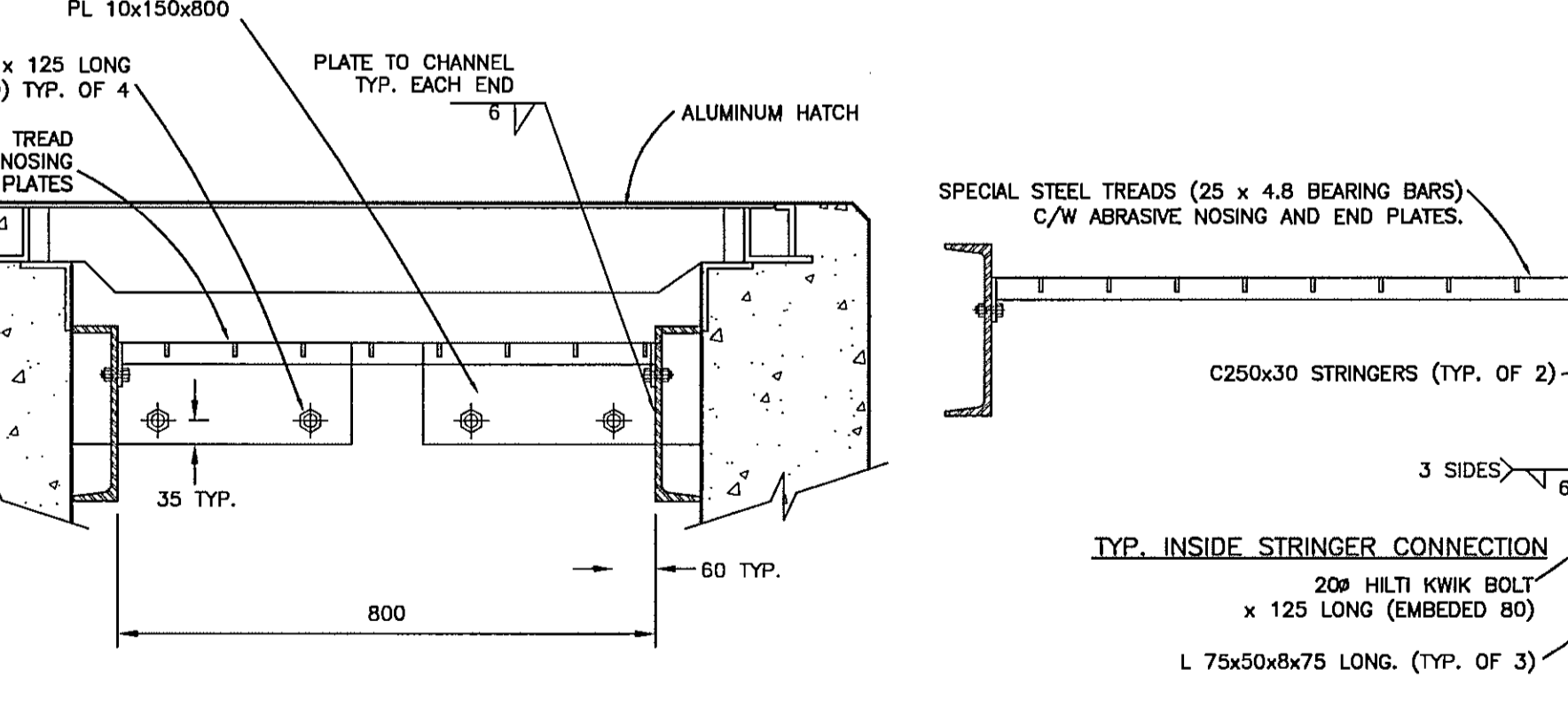


**STRINGER TO WALL CONNECTION DETAIL**  
SCALE 1:10

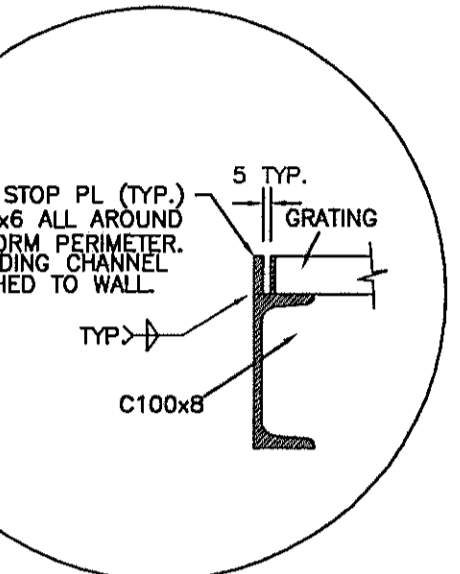
**SECTION**  
SCALE 1:25



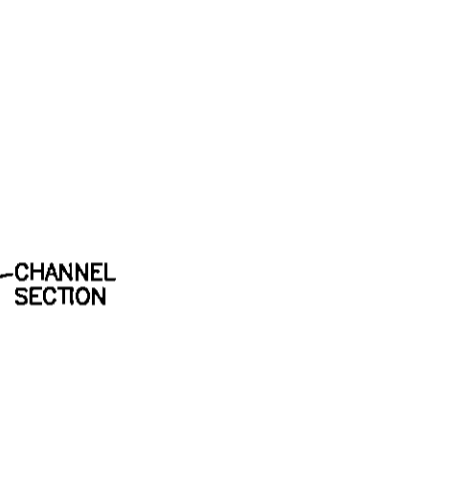
**ADJUSTABLE PLATFORM COLUMN DETAIL**  
SCALE 1:5 (TYP. OF 6)



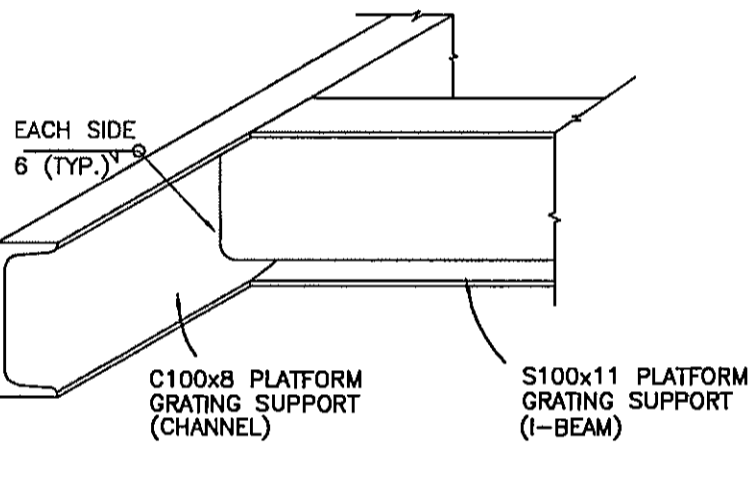
**SECTION**  
SCALE 1:10



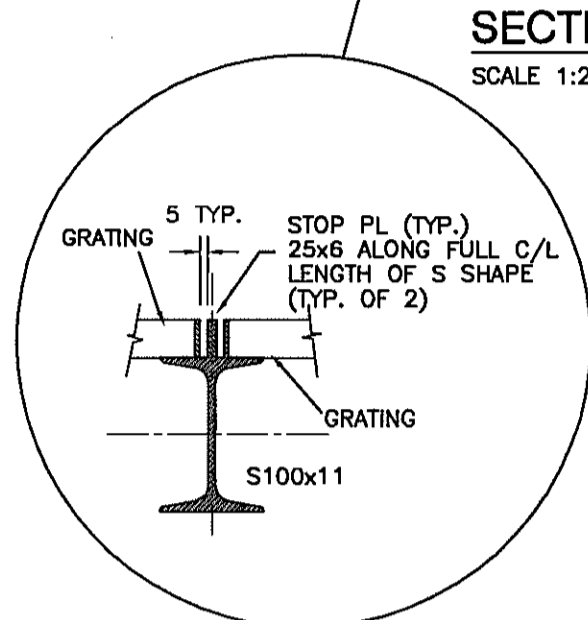
**STOP PL (TYP.) 25x6 ALL AROUND PLATFORM PERIMETER EXCLUDING CHANNEL ATTACHED TO WALL**



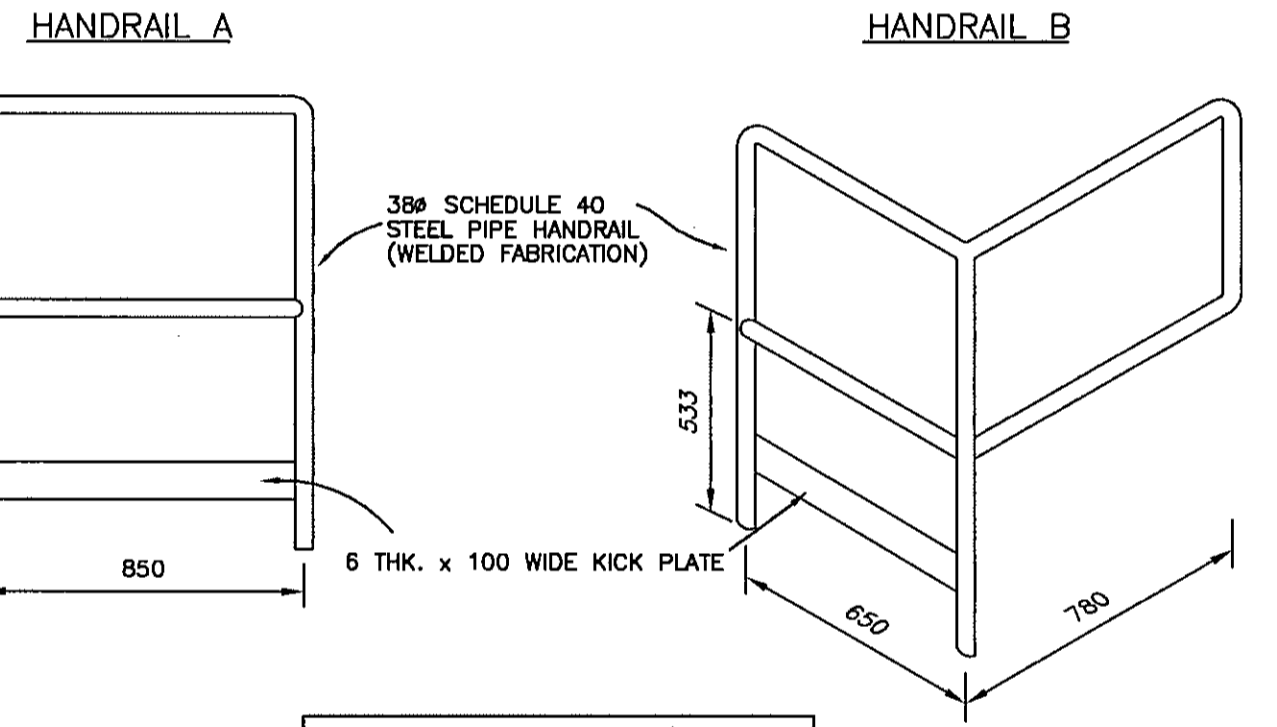
**HANDRAIL CONNECTION DETAIL**  
SCALE 1:5 (TYP. OF 5)



**I BEAM TO CHANNEL CONNECTION DETAIL**  
SCALE 1:5 (TYP. OF 4)



**REMOVABLE HANDRAIL DETAIL**  
N.T.S.



**REMOVABLE HANDRAIL DETAIL**  
N.T.S.

**STRINGER TO WALL CONNECTION DETAIL**  
SCALE 1:10

**SECTION**  
SCALE 1:10

**TREAD DETAIL**  
SCALE 1:10

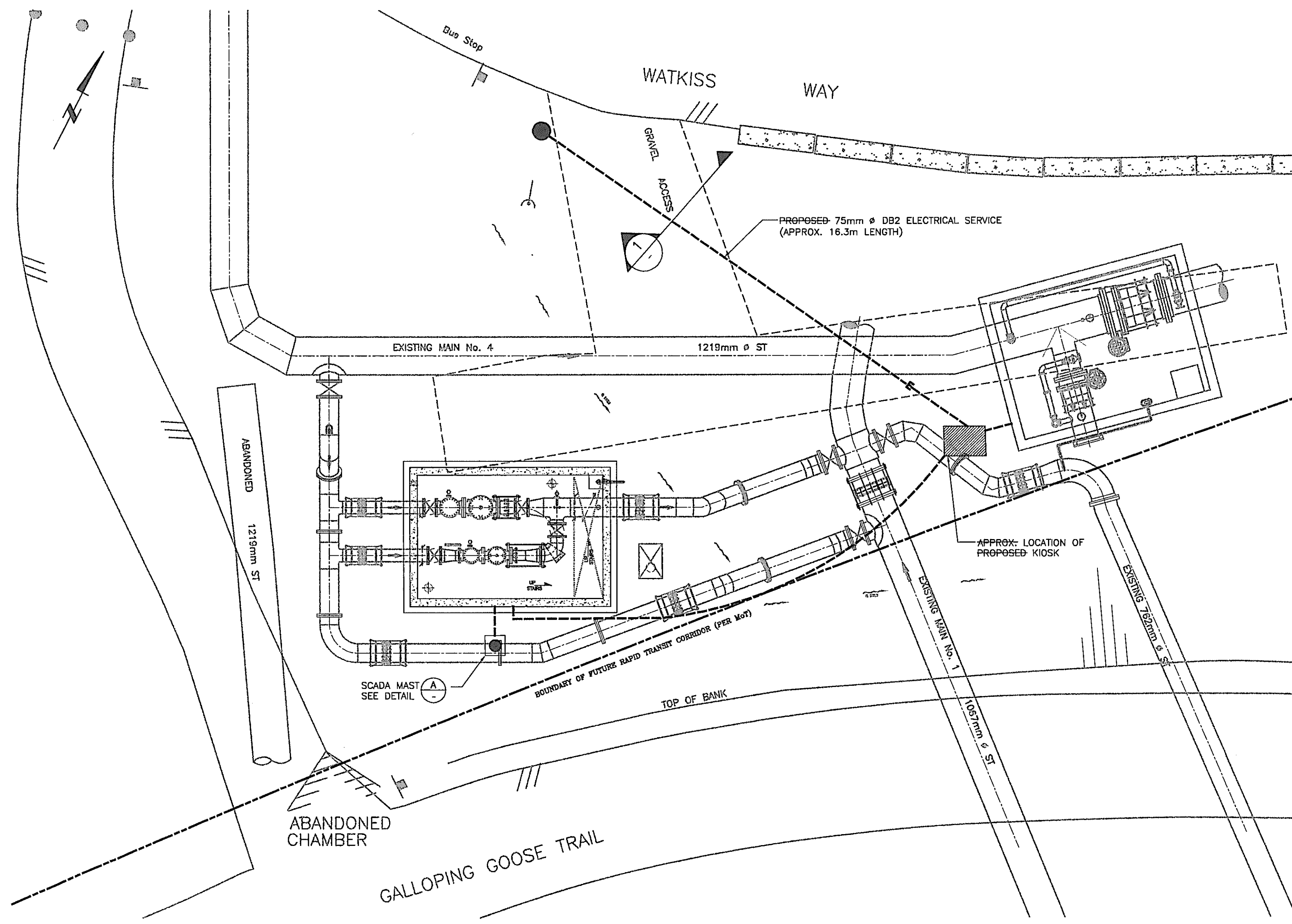
**STRINGER HEEL CONNECTION DETAIL**  
SCALE 1:10

**STRINGER TO PLATFORM CONNECTION DETAIL**  
SCALE 1:10

**SECTION**  
SCALE 1:10

| VERIFY SCALES   |  | REUSE OF DOCUMENTS  |  | CAPITAL REGIONAL DISTRICT WATER DEPARTMENT |  | date: FEB 2003      |  | scale: AS SHOWN       |  |
|---|--|---|--|--|--|---------------------|--|-----------------------|--|
| BAR IS 20mm LONG ON ORIGINAL DRAWING.                 |  | THIS DRAWING IS OF A CONFIDENTIAL NATURE AND SHALL NOT BE REPRODUCED IN ANY MANNER, NOR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN PERMISSION OF THE CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT.  |  | 479 ISLAND HIGHWAY VICTORIA, B.C.          |  | designed: M.B./A.S. |  | drawn: A. SANDHAR     |  |
| IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY. |  | ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND SHOULD BE CONFIRMED BY MANUAL DIGGING. CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT DOES NOT ACCEPT RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE INFORMATION SHOWN ON THIS DRAWING. |  | D MAY 04 AS-CONSTRUCTED M.B./A.S.          |  | approved: P. MALONE |  | checked: M. BRADY     |  |
|   |  |   |  | C JUL 03 ISSUED FOR CONSTRUCTION M.B./A.S. |  | folder: \3800       |  | acad file: MECHANICAL |  |
|   |  |   |  | B JUN 03 RE-ISSUE FOR PERMITS M.B./A.S.    |  | file no: 3646.ZIP   |  | cadastral no: N/A     |  |
|   |  |   |  | A MAR 03 ISSUED FOR PERMITS M.B./A.S.      |  | drawing no: 3646-6  |  | issue: D              |  |
|   |  |   |  | no. date revision chk by                   |  |                     |  |                       |  |

3646-05-03-0001-01123-AM.dwg



**ELECTRICAL PLAN**  
SCALE 1:100

- NOTES:**
1. ALL CONDUITS TO BE SURFACE MOUNT RPVC, UNLESS OTHERWISE NOTED.
  2. CONDUITS FEEDING DEVICES AND INSTRUMENTS MORE THAN 300mm FROM WALL SHALL BE EMBEDDED IN SLAB. CONFIRM INSTRUMENT LOCATIONS BEFORE ROUGH-IN.

| ELECTRICAL FLOOR PLAN LEGEND           |  |
|--|--|
| NOT ALL SYMBOLS MAY APPEAR ON DRAWINGS |  |
| SYMBOL                                 | DESCRIPTION  |
| [Symbol]                               | 1x4 FLUORESCENT LUMINAIRE - TYPE 'A' - SEE LUMINAIRE SCHEDULE                      |
| [Symbol]                               | WALL MOUNTED EMERGENCY LIGHT BATTERY UNIT (150W)                                   |
| [Symbol]                               | EMERGENCY LIGHTS - DOUBLE HEADS  |
| [Symbol]                               | SINGLE POLE SWITCH - 'c' INDICATES CIRCUIT CONTROL (TYPICAL FOR ALL SWITCHING)     |
| [Symbol]                               | JUNCTION BOX MOUNTED ON OR IN CEILING SPACE  |
| [Symbol]                               | WALL MOUNTED DUPLEX RECEPTACLE   |
| [Symbol]                               | GROUND FAULT DUPLEX RECEPTACLE   |
| [Symbol]                               | MANUAL MOTOR STARTER   |
| [Symbol]                               | MAGNETIC MOTOR STARTER   |
| [Symbol]                               | CONDUIT RACEWAY IN CEILING OR SURFACE - No. OF SLASHES INDICATES No. OF CONDUCTORS |
| [Symbol]                               | CONDUIT RACEWAY IN/UNDER FLOOR - No. OF SLASHES INDICATES No. OF CONDUCTORS        |
| [Symbol]                               | CONDUIT RACEWAY HOME RUN - No. OF SLASHES INDICATES No. OF CONDUCTORS              |
| [Symbol]                               | SURFACE MOUNTED COMMUNICATIONS PANEL   |
| [Symbol]                               | SURFACE MOUNTED POWER PANEL  |
| [Symbol]                               | *PP PRIVATE PROPERTY POLE  |
| [Symbol]                               | *BCH B.C. HYDRO POLE   |
| [Symbol]                               | WEATHER HEAD   |
| [Symbol]                               | FLOAT SWITCH - NORMALLY OPEN   |
| [Symbol]                               | FLOAT SWITCH - NORMALLY CLOSED   |
| [Symbol]                               | PRESSURE SWITCH - NORMALLY OPEN  |
| [Symbol]                               | PRESSURE SWITCH - NORMALLY CLOSED  |

- NOTES:**
- EACH INSTRUMENT SHALL BE NUMBERED IN ACCORDANCE WITH THE FOLLOWING SAMPLE:
- STATION IDENTIFIER: 15=ESLER'S
- INSTRUMENT FUNCTION: EIT -15 4 Q1 A
- SUFFIX, IF REQUIRED
- POINT IDENTIFIER
- POINT IFUNCTION: 1 = RTU DISCRETE INPUT  
2 = RTU DISCRETE OUTPUT  
3 = RTU ANALOG INPUT  
4 = RTU ANALOG OUTPUT

ALL WIRES SHALL BE IDENTIFIED WITH MACHINE PRINTED HEAT SHRINK INSULATION AT EVERY TERMINAL AND AT EVERY SPLICE. WHERE SPACE DOES NOT PERMIT USE OF THE FULL NUMBER, IT IS PERMISSABLE TO USE THE POINT FUNCTION, IDENTIFIER, AND SUFFIX.

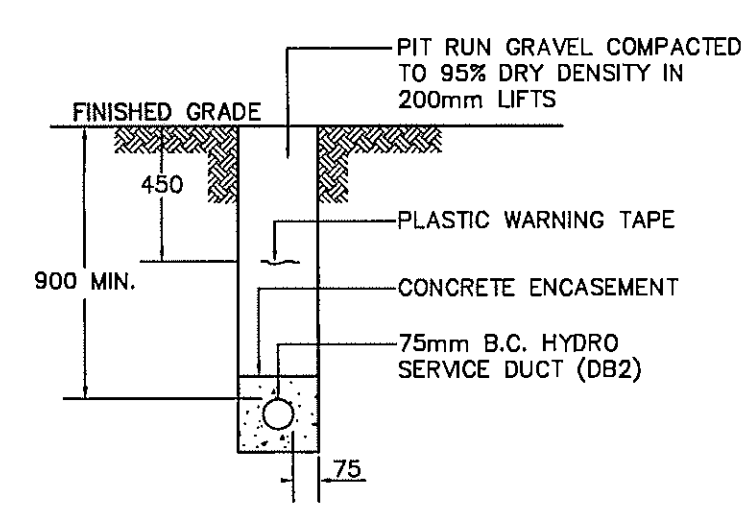
ANALOG WIRING SHALL BE 600 VOLT RATED, TINNED COPPER, POLYETHYLENE INSULATED, WITH 100% SHIELD COVERAGE, 18 AWG TINNED COPPER DRAIN WIRE, AND OVERALL PVC JACKET.

DISCRETE WIRING SHALL BE RW90, XLPE, MINIMUM #12 FOR POWER AND #6 FOR CONTROL.

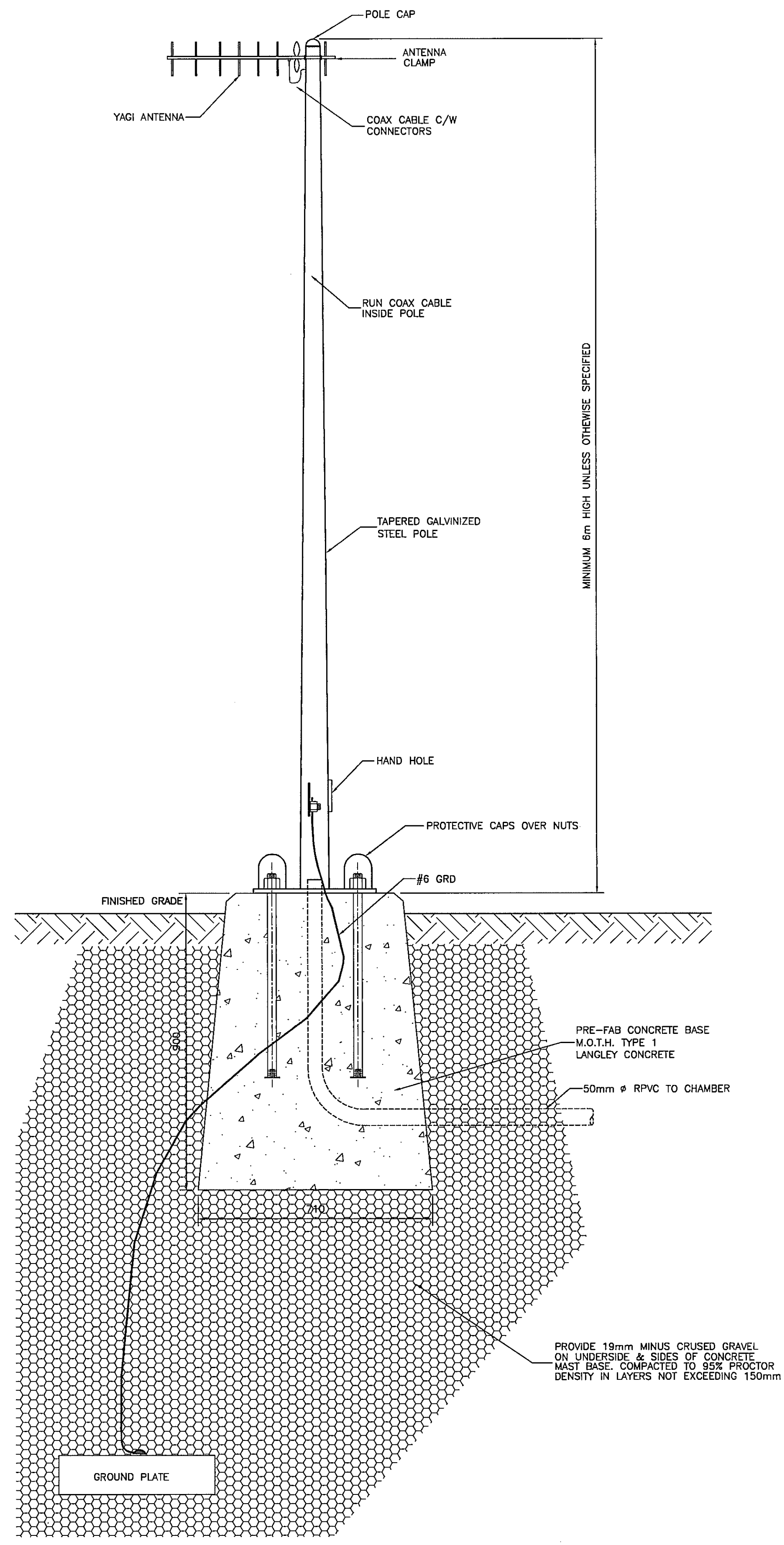
THE FOLLOWING COLOR CODE SHALL APPLY:

|            |        |
|------------|--------|
| AC HOT     | BLACK  |
| AC NEUTRAL | WHITE  |
| AC CONTROL | BLUE   |
| DC+        | RED    |
| DC-        | BROWN  |
| DC CONTROL | YELLOW |
| GROUND     | GREEN  |

**INSTRUMENT IDENTIFICATION SCHEME**



- NOTES:**
1. STAGGER JOINTS.
  2. USE PLASTIC SPACERS SECURELY ANCHORED.
- SERVICE DUCT TRENCH SECTION**  
N.T.S.



**SCADA MAST DETAIL**  
1:10

| PROPOSED | EXISTING | LEGEND        |                |
|----------|----------|---------------|----------------|
| [Symbol] | [Symbol] | VALVE         | STAND PIPE     |
| [Symbol] | [Symbol] | AIR VALVE     | CATHODIC PROT. |
| [Symbol] | [Symbol] | HYDRANT       | POLE           |
| [Symbol] | [Symbol] | REDUCER       | GUY WIRE       |
| [Symbol] | [Symbol] | CAP           | LAMP STAND     |
| [Symbol] | [Symbol] | METER BOX     | SIGN           |
| [Symbol] | [Symbol] | WATER         | CATCH BASIN    |
| [Symbol] | [Symbol] | IRON PIN      | ASPHALT        |
| [Symbol] | [Symbol] | LEAD PLUG     | BANK           |
| [Symbol] | [Symbol] | MONUMENT      | BUSH LINE      |
| [Symbol] | [Symbol] | TRAVERSE HUB  | TREE           |
| [Symbol] | [Symbol] | TEST PIT      | BUSH           |
| [Symbol] | [Symbol] | RIGHT OF WAY  | STUMP          |
| [Symbol] | [Symbol] | PROPERTY LINE | FENCE          |

**VERIFY SCALES**

BAR IS 20mm LONG ON ORIGINAL DRAWING.

IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

**REUSE OF DOCUMENTS**

THIS DRAWING IS OF A CONFIDENTIAL NATURE AND SHALL NOT BE REPRODUCED IN ANY MANNER, NOR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN PERMISSION OF THE CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT.

ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND SHOULD BE CONFIRMED BY MANUAL DIGGING. CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT DOES NOT ACCEPT RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE INFORMATION SHOWN ON THIS DRAWING.

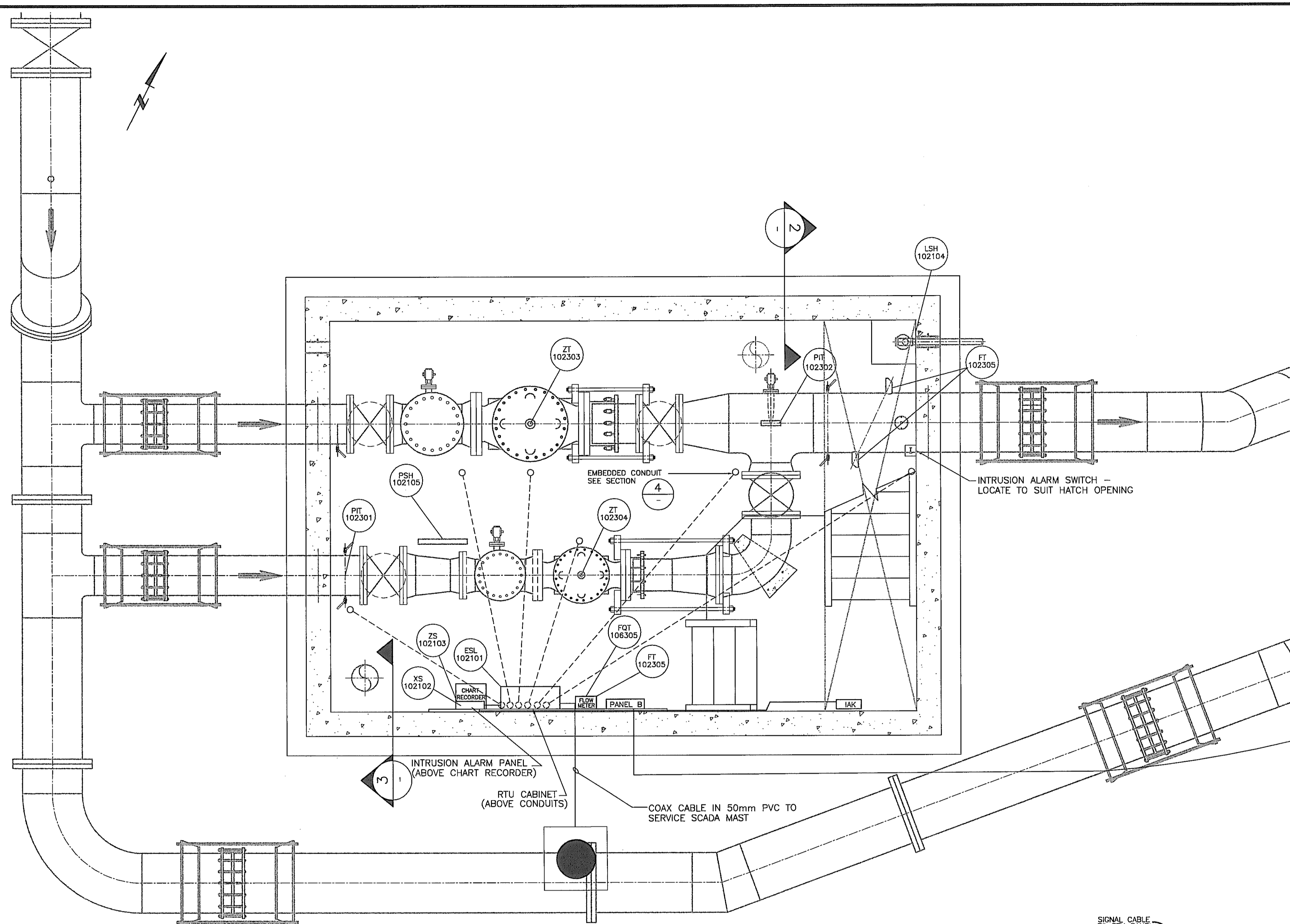
| no. | date   | revision       | chk  | by   |
|-----|--------|----------------|------|------|
| A   | SEP 04 | AS-CONSTRUCTED | M.B. | A.S. |

**CAPITAL REGIONAL DISTRICT WATER DEPARTMENT**  
479 ISLAND HIGHWAY VICTORIA, B.C.

**WATKISS PRESSURE REGULATING STATION**  
WATKISS WAY @ MARLER DRIVE  
ELECTRICAL SITE PLAN & MISC. DETAILS

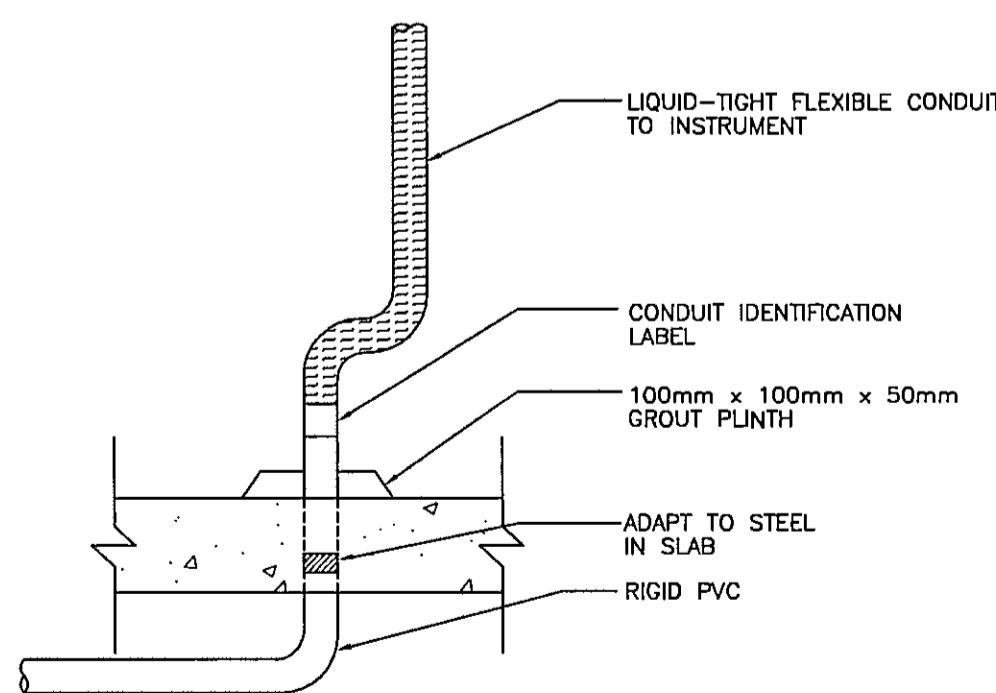
date: SEPT 2004  
designed: A. SANDHAR  
approved:  
folder: 3600  
file no: 3646.ZIP  
drawing no: 129  
scale: AS SHOWN  
drawn: A. SANDHAR  
checked:  
cadastral no: 129  
issue: 3646-7 A





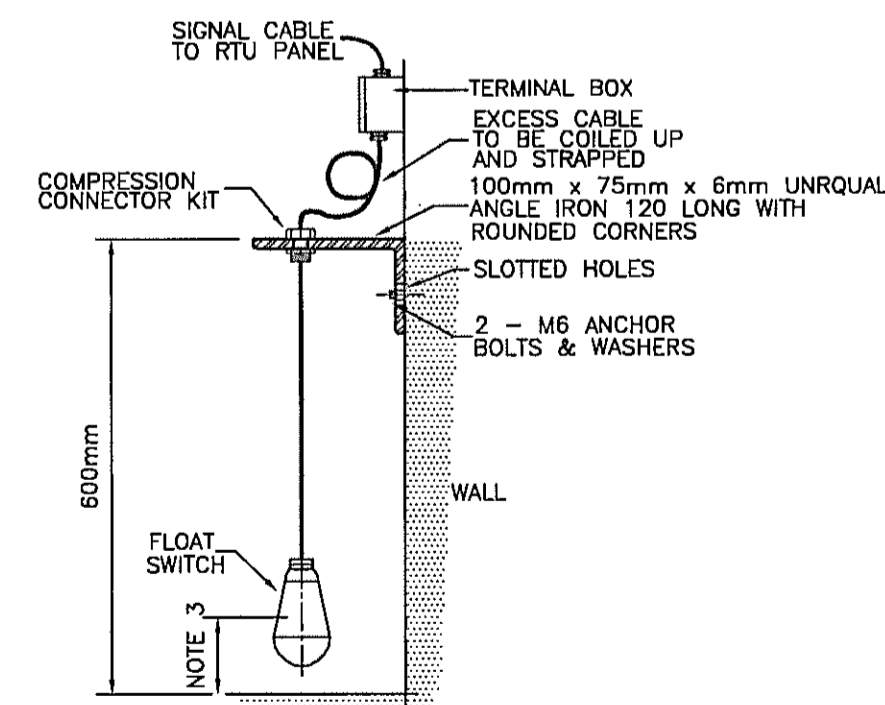
**MECHANICAL FLOOR PLAN**

SCALE 1:25



**EMBEDDED CONDUIT DETAIL**

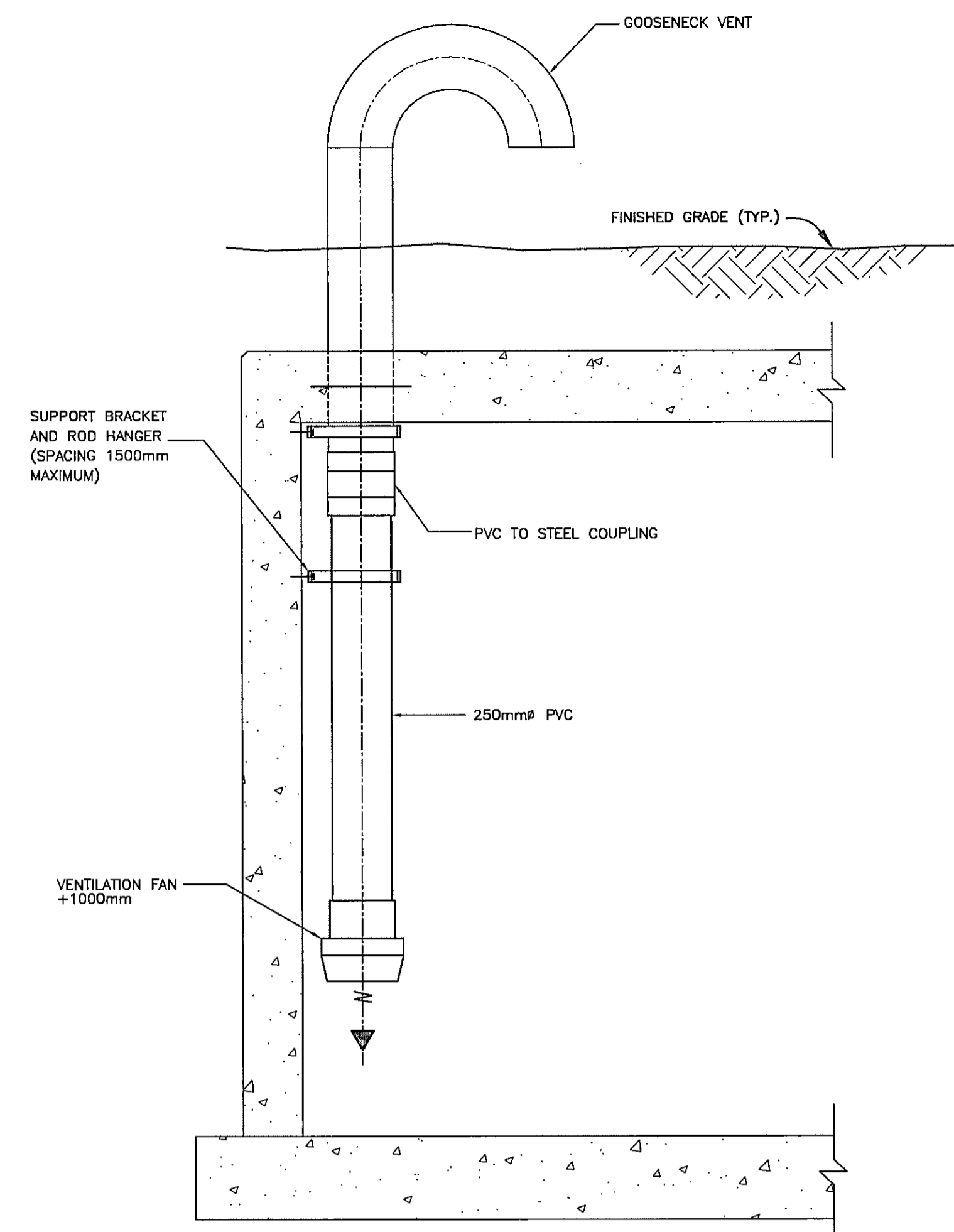
N.T.S. (TYP.)



- NOTES:**
- HOT DIP GALVANIZE ALL METAL AFTER FABRICATION.
  - USE ONLY HOT DIP GALVANIZED BOLTS, NUTS AND ACCESSORIES FOR ANCHORING THE MOUNTING BRACKET.
  - 100mm FROM THE FLOOR OR 150mm FROM THE BOTTOM OF THE SUMP IF EXISTING.

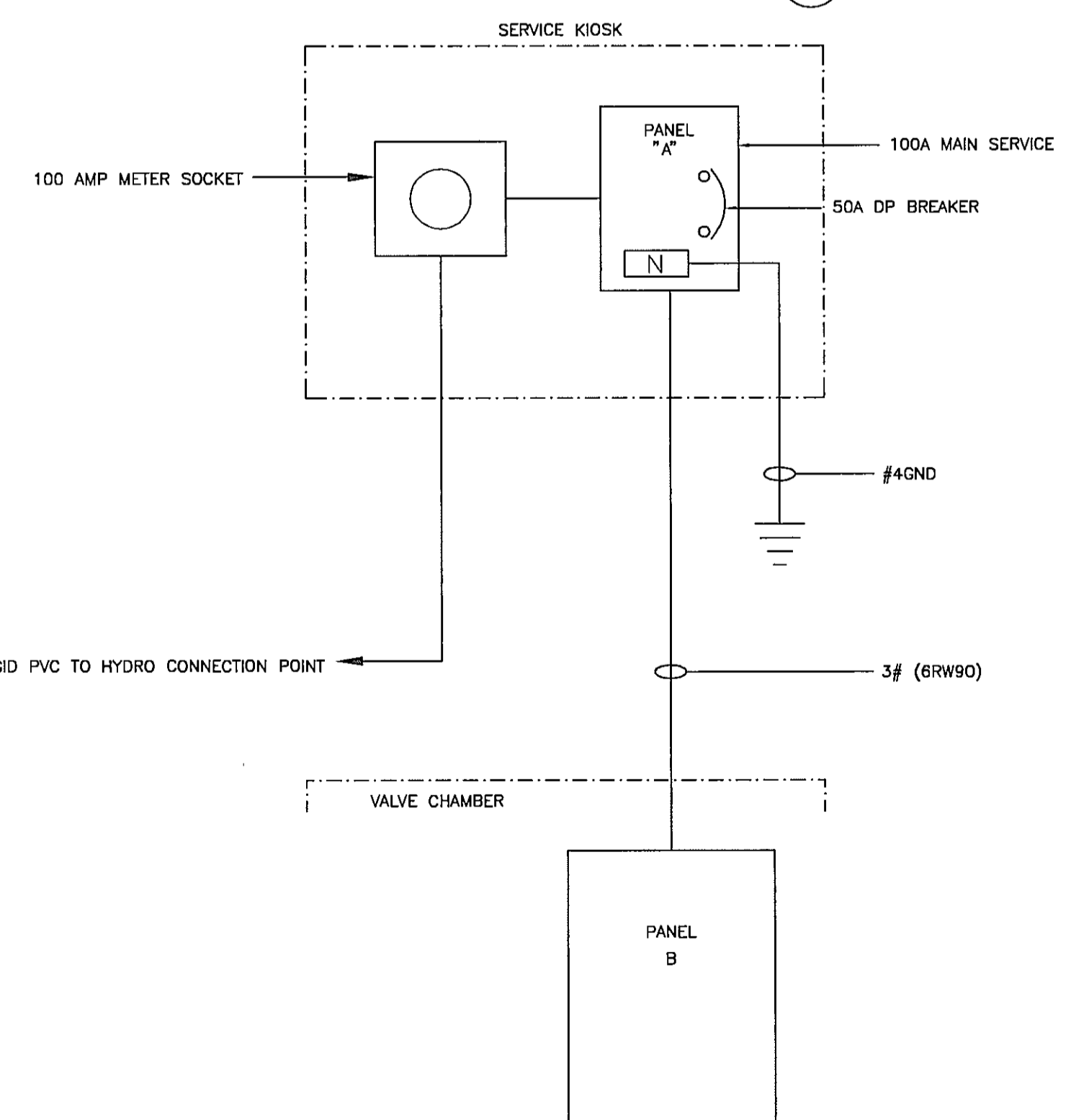
**FLOAT SWITCH DETAIL**

1:10



**VENT SECTION DETAIL**

N.T.S.



**SINGLE LINE POWER DISTRIBUTION DIAGRAM**

N.T.S.

| PROPOSED | EXISTING | LEGEND    |   |                |     |            |   |          |   |               |     |           |
|----------|----------|-----------|---|----------------|-----|------------|---|----------|---|---------------|-----|-----------|
| ◇        | ◇        | VALVE     | ⊖ | STAND PIPE     | ⊞   | ELECT. BOX | ○ | MANHOLE  | ⊞ | IRON PIN      | /// | ASPHALT   |
| ⊙        | ⊙        | AIR VALVE | ⊞ | CATHODIC PROT. | —G— | GAS        | ⊙ | FLUSH MH | ⊞ | LEAD PLUG     | —B— | BANK      |
| ⊙        | ⊙        | HYDRANT   | ⊙ | POLE           | —S— | SEWER      | ⊙ | SEWER MH | ⊞ | MONUMENT      | —B— | BUSH LINE |
| ▷        | ▷        | REDUCER   | ⊞ | GLY WIRE       | —D— | DRAIN      | ⊙ | DRAIN MH | ⊞ | TRAVERSE HUB  | ⊙   | TREE      |
| ⊞        | ⊞        | CAP       | ⊞ | LAMP STAND     | —H— | HYDRO      | ⊙ | HYDRO MH | ⊞ | TEST PIT      | ⊙   | BUSH      |
| ⊞        | ⊞        | METER BOX | ⊞ | SIGN           | —T— | TEL        | ⊙ | TEL MH   | ⊞ | RIGHT OF WAY  | ⊙   | STUMP     |
| —        | —        | WATER     | ⊞ | CATCH BASIN    | —C— | CABLE      | ⊙ | CABLE MH | ⊞ | PROPERTY LINE | —X— | FENCE     |

| VERIFY SCALES   |
|---|
| BAR IS 20mm LONG ON ORIGINAL DRAWING.                 |
| IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY. |

**REUSE OF DOCUMENTS**

THIS DRAWING IS OF A CONFIDENTIAL NATURE AND SHALL NOT BE REPRODUCED IN ANY MANNER, NOR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN PERMISSION OF THE CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT.

ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND SHOULD BE CONFIRMED BY MANUAL DIGGING. CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT DOES NOT ACCEPT RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE INFORMATION SHOWN ON THIS DRAWING.

| no. | date   | revision       | chk by    |
|-----|--------|----------------|-----------|
| A   | SEP 04 | AS-CONSTRUCTED | M.B. A.S. |

**CAPITAL REGIONAL DISTRICT WATER DEPARTMENT**  
479 ISLAND HIGHWAY VICTORIA, B.C.

**WATKISS PRESSURE REGULATING STATION**  
WATKISS WAY @ MARLER DRIVE  
INSTRUMENT LOCATION PLAN & DETAILS

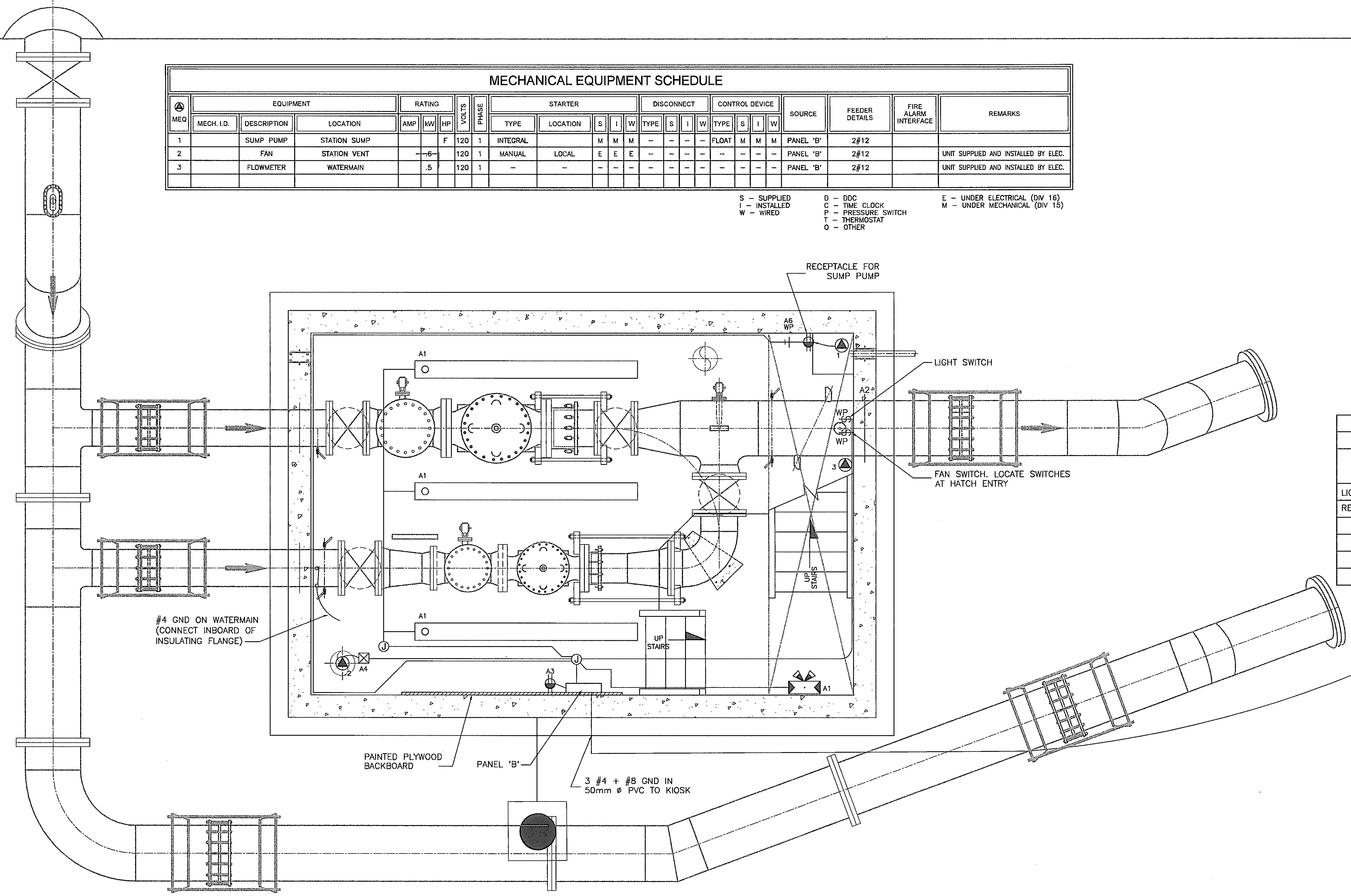
|                      |                       |
|----------------------|-----------------------|
| date: SEPT 2004      | scale: AS SHOWN       |
| designed: A. SANDHAR | drawn: A. SANDHAR     |
| approved:            | checked:              |
| folder: \3600        | acad file: ELECTRICAL |
| file no: 3646.ZIP    | cadastral no:         |
| drawing no: 3646-8   | issue: A              |

EXISTING MAIN No. 4

1219mm Ø ST

| MECHANICAL EQUIPMENT SCHEDULE |            |              |          |        |    |    |       |       |          |          |   |            |   |      |                |   |       |        |                |                      |           |      |                                      |
|-------------------------------|------------|--------------|----------|--------|----|----|-------|-------|----------|----------|---|------------|---|------|----------------|---|-------|--------|----------------|----------------------|-----------|------|--------------------------------------|
| MEQ                           | EQUIPMENT  |              |          | RATING |    |    | VOLTS |       | STARTER  |          |   | DISCONNECT |   |      | CONTROL DEVICE |   |       | SOURCE | FEEDER DETAILS | FIRE ALARM INTERFACE | REMARKS   |      |                                      |
|                               | MECH. I.D. | DESCRIPTION  | LOCATION | AMP    | KW | HP | VOLTS | PHASE | TYPE     | LOCATION | S | I          | W | TYPE | S              | I | W     |        |                |                      |           | TYPE | S                                    |
| 1                             | SUMP PUMP  | STATION SUMP |          |        |    | F  | 120   | 1     | INTEGRAL |          | M | M          | M |      |                |   | FLOAT | M      | M              | M                    | PANEL 'B' | 2#12 |                                      |
| 2                             | FAN        | STATION VENT |          | 6      |    |    | 120   | 1     | MANUAL   | LOCAL    | E | E          | E |      |                |   |       |        |                |                      |           |      | UNIT SUPPLIED AND INSTALLED BY ELEC. |
| 3                             | FLOWMETER  | WATERMAIN    |          | .5     |    |    | 120   | 1     |          |          |   |            |   |      |                |   |       |        |                |                      |           |      | UNIT SUPPLIED AND INSTALLED BY ELEC. |

S - SUPPLIED  
I - INSTALLED  
W - WIRED  
D - DDC  
C - TIME CLOCK  
P - PRESSURE SWITCH  
T - THERMOSTAT  
O - OTHER  
E - UNDER ELECTRICAL (DIV 16)  
M - UNDER MECHANICAL (DIV 15)



MECHANICAL FLOOR PLAN  
SCALE 1:25

PANEL 'B'

| 120/240V, 1Ø, 3W - 100 AMPS |     |         |   |   |         |     |                  |
|-----------------------------|-----|---------|---|---|---------|-----|------------------|
| SURFACE MOUNTED             |     |         |   |   |         |     |                  |
| DESIGNATION                 | BKR | CIR NO. | A | B | CIR NO. | BKR | DESIGNATION      |
| LIGHTING                    | 15A | 1       | ○ | + | 2       | 15A | INSTRUMENTS      |
| RECEPTACLES (GFCI)          | 15A | 3       | ○ | + | 4       | 15  | FAN              |
|                             |     | 5       | ○ | + | 6       | 15  | (GFCI) SUMP PUMP |
|                             |     | 7       | ○ | + | 8       |     |                  |
|                             |     | 9       | ○ | + | 10      |     |                  |
|                             |     | 11      | ○ | + | 12      |     |                  |

| PROPOSED | EXISTING | LEGEND    |   |                |     |   |            |   |          |   |               |     |           |
|----------|----------|-----------|---|----------------|-----|---|------------|---|----------|---|---------------|-----|-----------|
| ◇        | ◇        | VALVE     | ○ | STAND PIPE     | [E] | ○ | ELECT. BOX | ○ | MANHOLE  | ⊥ | IRON PIN      | /// | ASPHALT   |
| ⊙        | ⊙        | AIR VALVE | ⊞ | CATHODIC PROT. | -G- | - | GAS        | ⊙ | FLUSH MH | ⊥ | LEAD PLUG     | /// | BANK      |
| ⊙        | ⊙        | HYDRANT   | ⊙ | POLE           | -S- | - | SEWER      | ⊙ | SEWER MH | ⊥ | MONUMENT      | ⊞   | BUSH LINE |
| ⊞        | ⊞        | REDUCER   | ⊙ | GUY WIRE       | -D- | - | DRAIN      | ⊙ | DRAIN MH | ⊙ | TRAVERSE HUB  | ⊙   | TREE      |
| ⊞        | ⊞        | CAP       | ⊙ | LAMP STAND     | -H- | - | HYDRO      | ⊙ | HYDRO MH | ⊙ | TEST PIT      | ⊙   | BUSH      |
| ⊞        | ⊞        | METER BOX | ⊞ | SIGN           | -T- | - | TEL        | ⊙ | TEL MH   | ⊞ | RIGHT OF WAY  | ⊙   | STUMP     |
| ---      | ---      | WATER     | ⊞ | CATCH BASIN    | -C- | - | CABLE      | ⊙ | CABLE MH | ⊞ | PROPERTY LINE | X-X | FENCE     |

VERIFY SCALES  
BAR IS 20mm LONG ON ORIGINAL DRAWING.  
IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

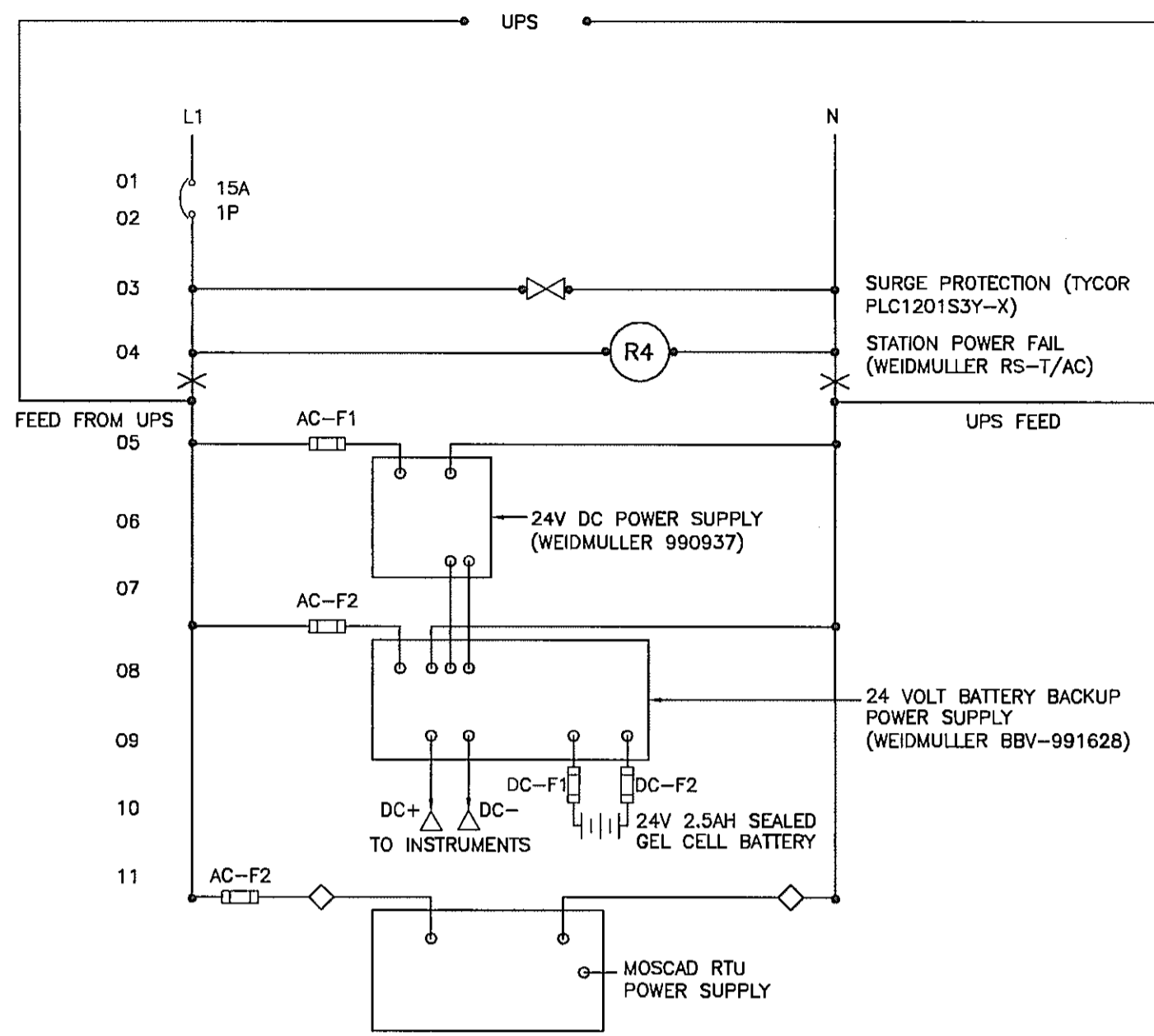
REUSE OF DOCUMENTS  
THIS DRAWING IS OF A CONFIDENTIAL NATURE AND SHALL NOT BE REPRODUCED IN ANY MANNER, NOR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN PERMISSION OF THE CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT.  
ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND SHOULD BE CONFIRMED BY MANUAL DIGGING. CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT DOES NOT ACCEPT RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE INFORMATION SHOWN ON THIS DRAWING.

| no. | date   | revision       | chk  | by   |
|-----|--------|----------------|------|------|
| A   | SEP 04 | AS-CONSTRUCTED | M.B. | A.S. |

CAPITAL REGIONAL DISTRICT  
WATER DEPARTMENT  
479 ISLAND HIGHWAY  
VICTORIA, B.C.

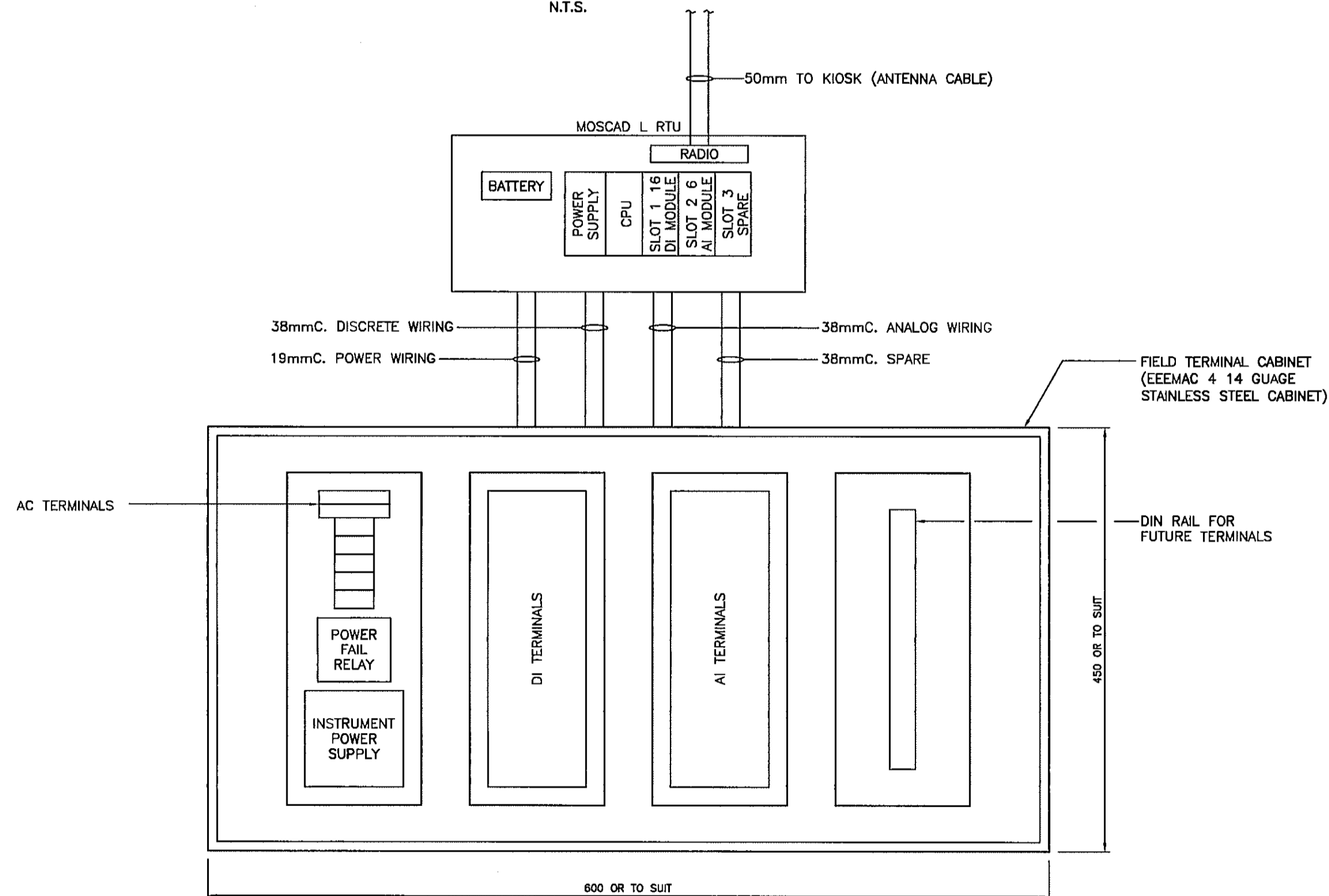
WATKISS PRESSURE REGULATING STATION  
WATKISS WAY @ MARLER DRIVE  
POWER AND LIGHTING LAYOUT

|                      |                       |
|----------------------|-----------------------|
| date: SEPT 2004      | scale: 1:25           |
| designed: A. SANDHAR | drawn: A. SANDHAR     |
| approved:            | checked:              |
| folder: \3600        | acad file: ELECTRICAL |
| file no: 3646.ZIP    | cadastral no:         |
| drawing no: 3646-9   | issue: A              |



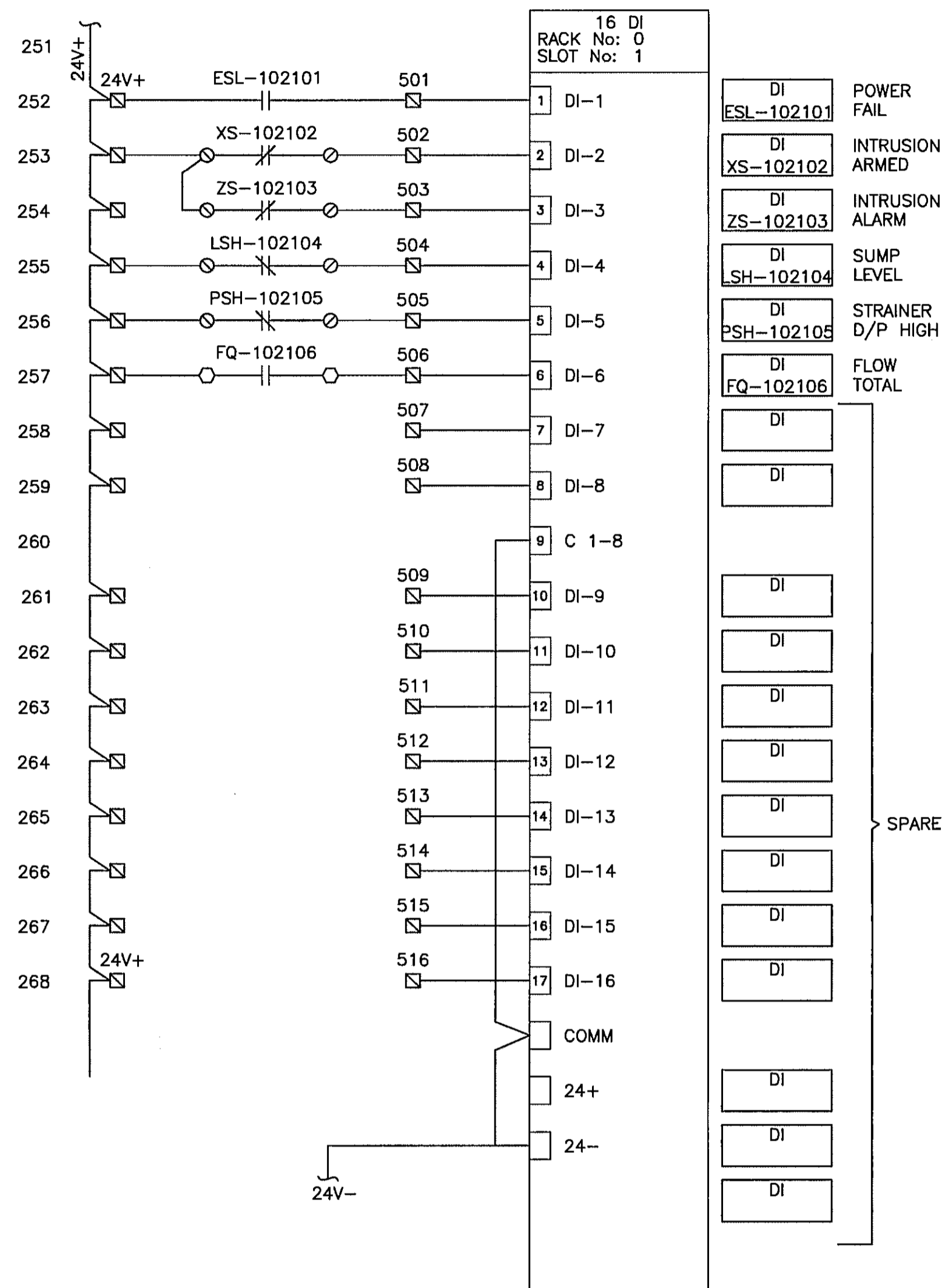
HMI/FIELD TERMINAL CABINET POWER WIRING

N.T.S.

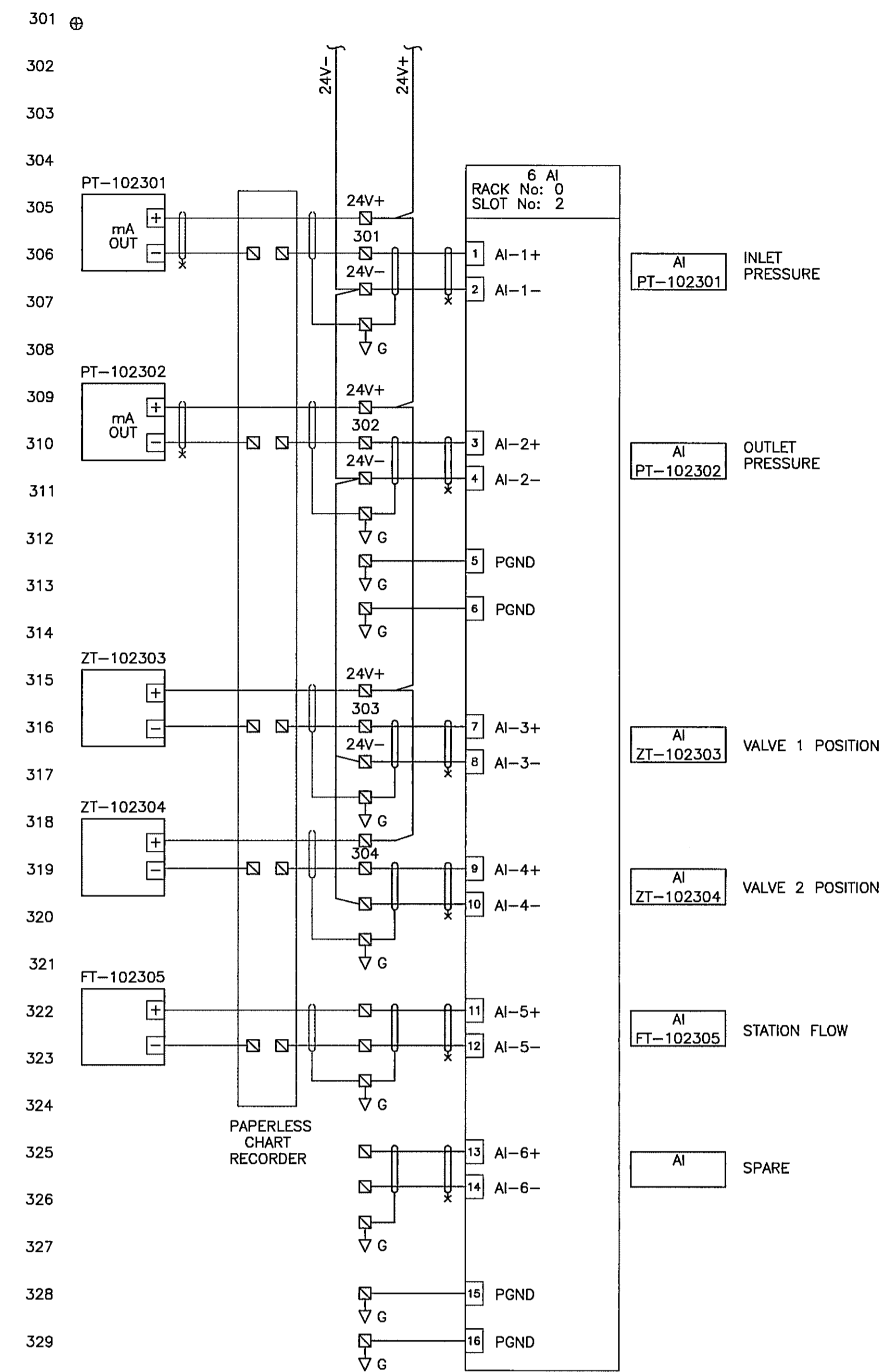


I/O WIRING PLAN

N.T.S.



RTU WIRING SCHEMATIC



RTU WIRING SCHEMATIC

| PROPOSED | EXISTING | LEGEND    |   |                |     |            |   |          |   |               |     |           |
|----------|----------|-----------|---|----------------|-----|------------|---|----------|---|---------------|-----|-----------|
| ◇        | ◆        | VALVE     | ⊖ | STAND PIPE     | ⊠   | ELECT. BOX | ○ | MANHOLE  | ⊥ | IRON PIN      | /// | ASPHALT   |
| ⊕        | ⊕        | AIR VALVE | ⊠ | CATHODIC PROT. | —G— | GAS        | ⊕ | FLUSH MH | ⊥ | LEAD PLUG     | ≡   | BANK      |
| ⊖        | ⊖        | HYDRANT   | ● | POLE           | —S— | SEWER      | ⊕ | SEWER MH | ⊕ | MONUMENT      | ⊖   | BUSH LINE |
| ⊖        | ⊖        | REDUCER   | ⊥ | GUY WIRE       | —D— | DRAIN      | ⊕ | DRAIN MH | ⊕ | TRAVERSE HUB  | ⊖   | TREE      |
| ⊖        | ⊖        | CAP       | ⊕ | LAMP STAND     | —H— | HYDRO      | ⊕ | HYDRO MH | ⊕ | TEST PIT      | ⊖   | BUSH      |
| ⊖        | ⊖        | METER BOX | ⊥ | SIGN           | —T— | TEL.       | ⊕ | TEL MH   | ⊕ | RIGHT OF WAY  | ⊖   | STUMP     |
| —        | —        | WATER     | ⊠ | CATCH BASIN    | —C— | CABLE      | ⊕ | CABLE MH | ⋯ | PROPERTY LINE | X-X | FENCE     |

| VERIFY SCALES   |
|---|
| BAR IS 20mm LONG ON ORIGINAL DRAWING.                 |
| 0 20  |
| IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY. |

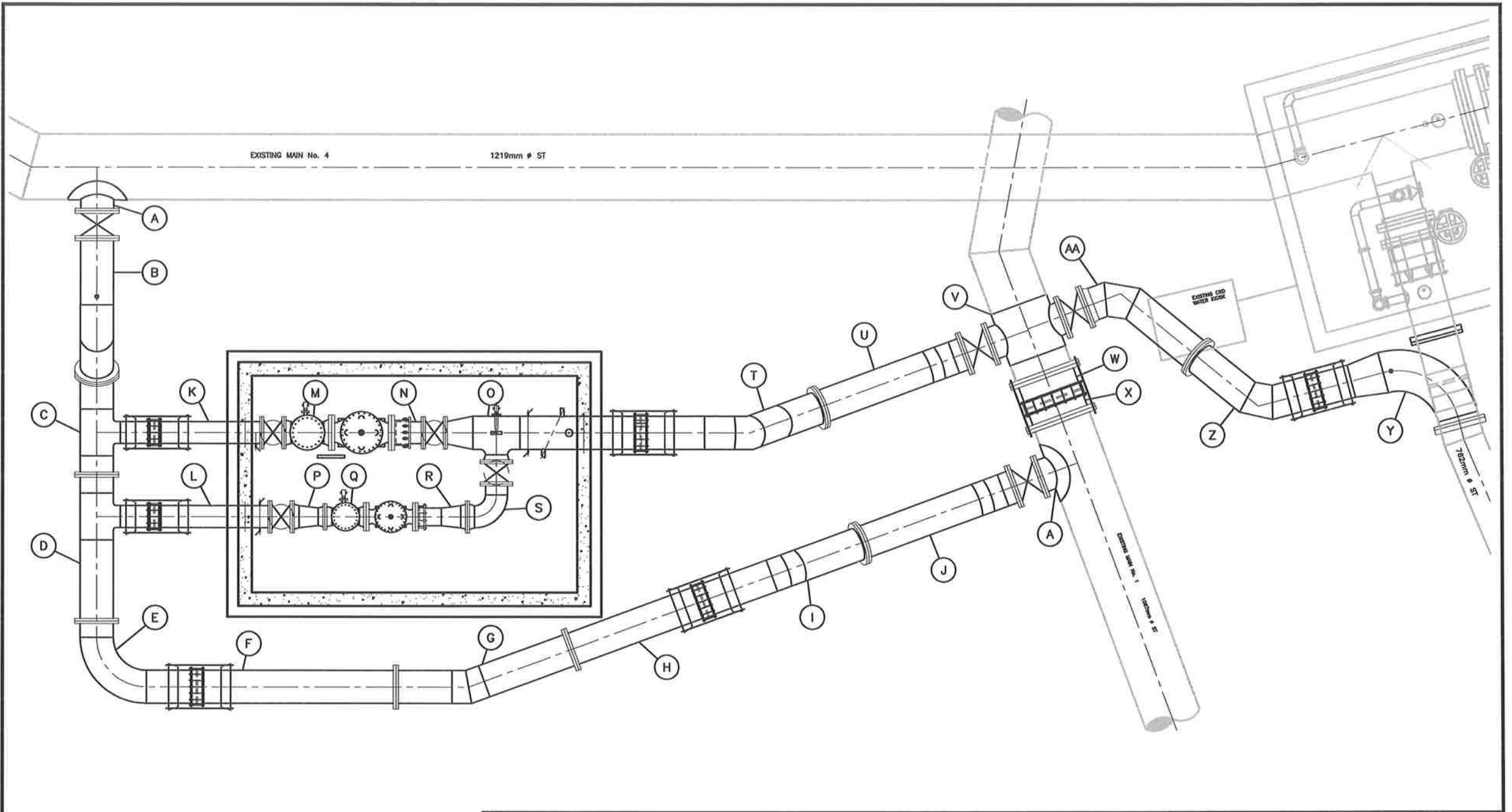
| REUSE OF DOCUMENTS  |
|---|
| THIS DRAWING IS OF A CONFIDENTIAL NATURE AND SHALL NOT BE REPRODUCED IN ANY MANNER, NOR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN PERMISSION OF THE CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT.  |
| ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND SHOULD BE CONFIRMED BY MANUAL DIGGING. CAPITAL REGIONAL DISTRICT, WATER DEPARTMENT DOES NOT ACCEPT RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE INFORMATION SHOWN ON THIS DRAWING. |

| no. | date   | revision       | chk  | by   |
|-----|--------|----------------|------|------|
| A   | SEP 04 | AS-CONSTRUCTED | M.B. | A.S. |

CAPITAL REGIONAL DISTRICT  
WATER DEPARTMENT  
479 ISLAND HIGHWAY  
VICTORIA, B.C.

WATKISS PRESSURE REGULATING STATION  
SCADA SITE No. 102  
INSTRUMENTATION & CONTROLS

|                      |                       |
|----------------------|-----------------------|
| date: JAN 04         | scale: N.T.S.         |
| designed: A. SANDHAR | drawn: A. SANDHAR     |
| approved:            | checked:              |
| folder: \3600        | acad file: ELECTRICAL |
| file no: 3646.ZIP    | cadastral no: 129     |
| drawing no: 3646-10  | issue: A              |



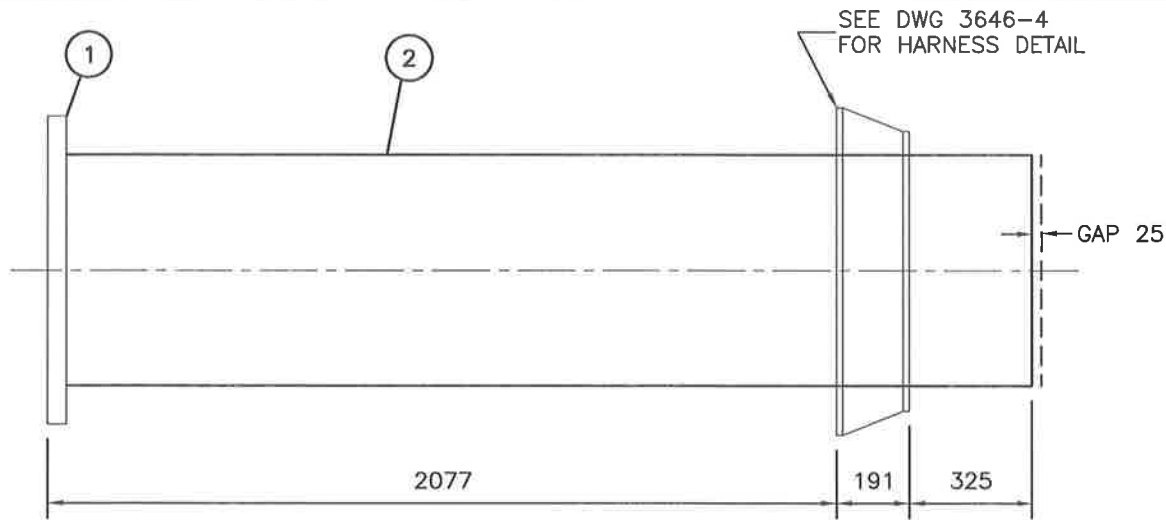
AS-CONSTRUCTED

WATKISS PRESSURE REGULATING STATION  
SHOP DRAWING INDEX

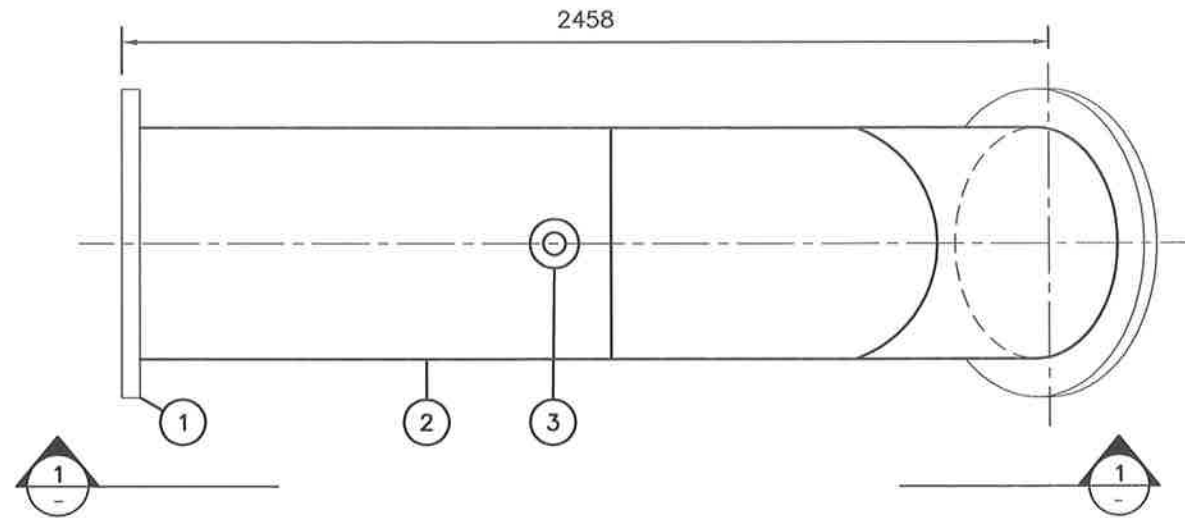
DRAWN BY: A.S.  
FILE: SHOP DWGS  
\\3600\3646.ZIP  
DATE: JUNE 2003

SCALE:  
N.T.S.  
SHEET:  
1 of 17

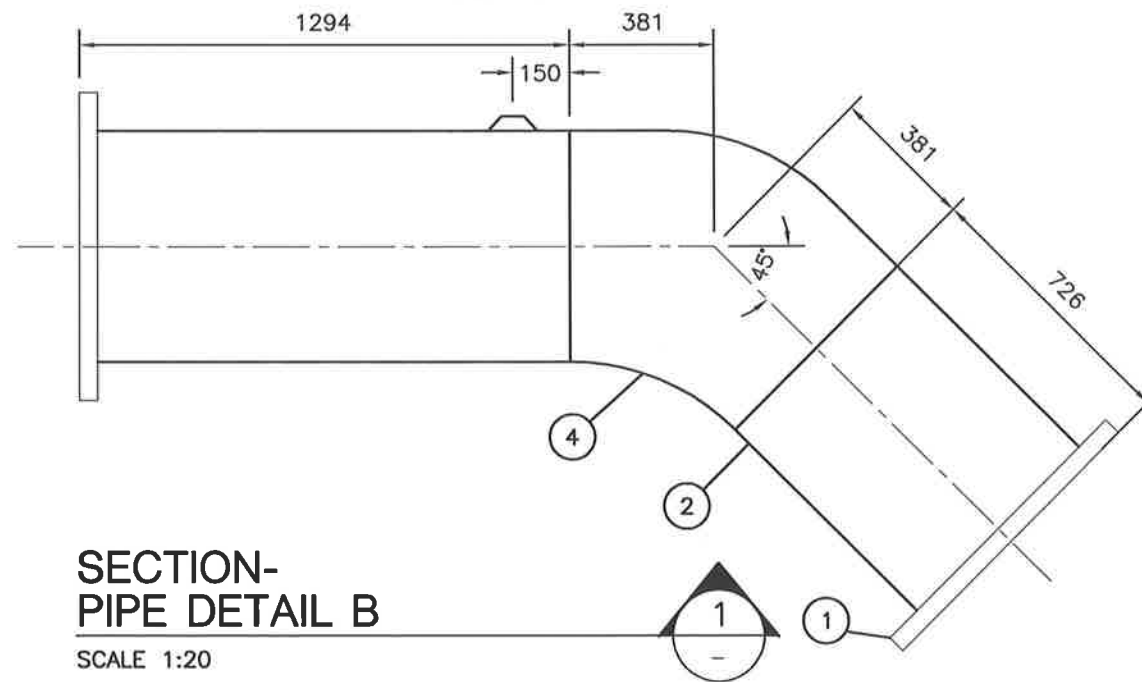




**PLAN- PIPE DETAIL H**  
SCALE 1:20



**PLAN- PIPE DETAIL B**  
SCALE 1:20



**SECTION- PIPE DETAIL B**  
SCALE 1:20

STEEL FABRICATION TO AWWA C208 AND M11,  
LINED AND COATED WITH FUSION BOND EPOXY  
TO AWWA C213

**AS-CONSTRUCTED**

**LIST OF MATERIALS**

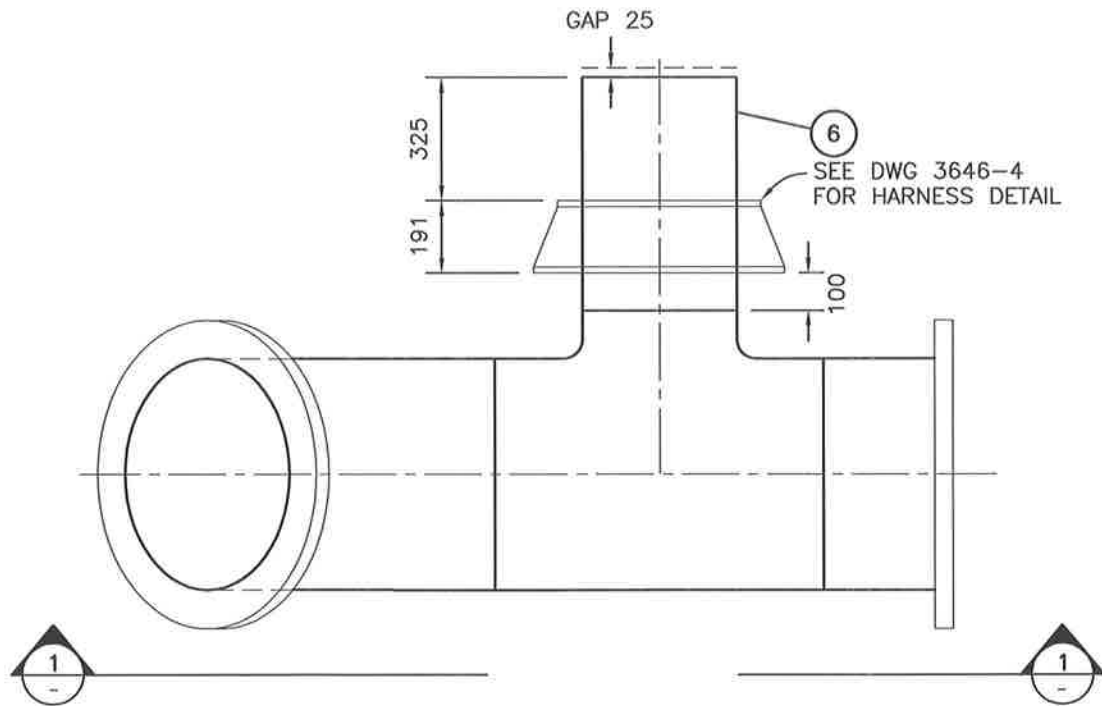
| ITEM | DESCRIPTION                                      | QUA.   |
|------|--|--------|
| ①    | 600mm $\phi$ SLIP-ON FLANGE, 150lb               | 3      |
| ②    | 600mm $\phi$ STEEL PIPE, 610mm O.D. x 9.5mm WALL | 4.578m |
| ③    | 50mm $\phi$ THREDOLET                            | 1      |
| ④    | 600mm $\phi$ 45° ELBOW FTG.                      | 1      |

**WATKISS PRESSURE REGULATING STATION**  
**PIPE DETAIL B & H**

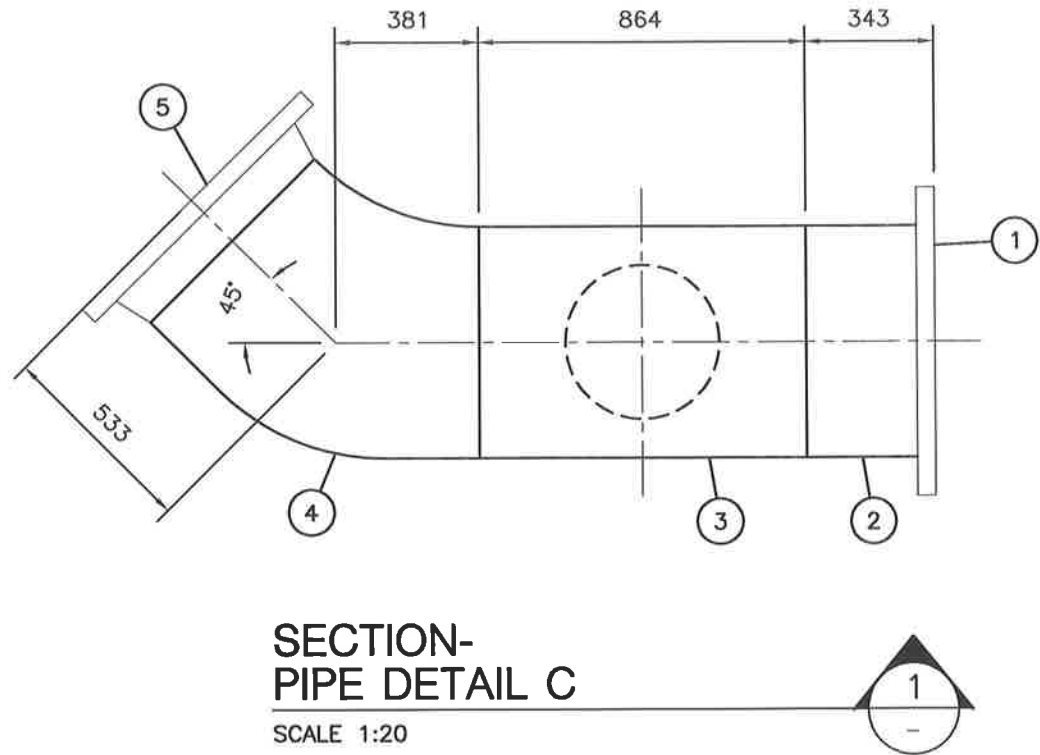
DRAWN BY: A.S.  
FILE: SHOP DWGS  
\\3600\3646.ZIP  
DATE: JUNE 2003

SCALE:  
1:20  
SHEET:  
2 of 17





**PLAN- PIPE DETAIL C**  
SCALE 1:20



**SECTION- PIPE DETAIL C**  
SCALE 1:20

| LIST OF MATERIALS |  |        |
|-------------------|--|--------|
| ITEM              | DESCRIPTION  | QUA.   |
| ①                 | 600mm $\phi$ SLIP-ON FLANGE, 150lb                           | 1      |
| ②                 | 600mm $\phi$ STEEL PIPE, 610mm O.D. x 9.5mm WALL             | 0.343m |
| ③                 | 600mm $\phi$ x 600mm $\phi$ x 400mm $\phi$ REDUCING TEE FTG. | 1      |
| ④                 | 600mm $\phi$ 45' ELBOW FTG.                                  | 1      |
| ⑤                 | 600mm $\phi$ WELD-NECK FLANGE, 150lb                         | 1      |
| ⑥                 | 400mm $\phi$ STEEL PIPE, 406mm O.D. x 9.5mm WALL             | 0.616m |

STEEL FABRICATION TO AWWA C208 AND M11,  
LINED AND COATED WITH FUSION BOND EPOXY  
TO AWWA C213

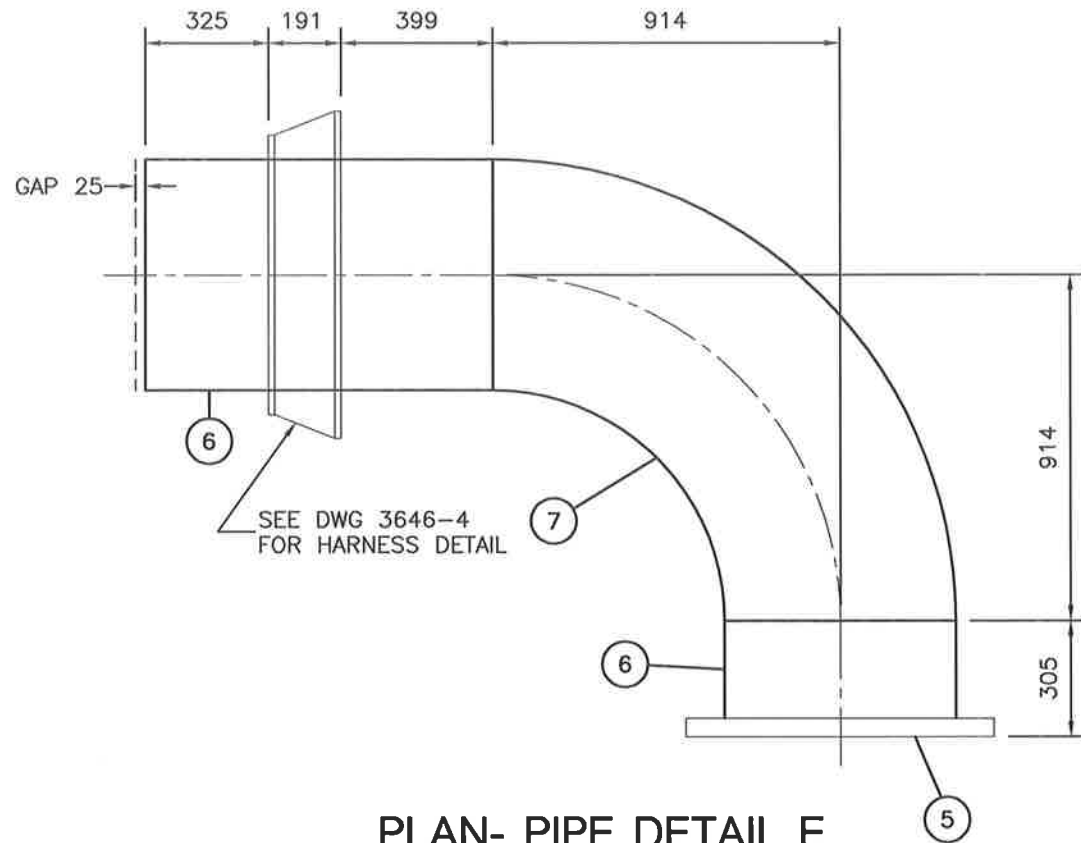
**AS-CONSTRUCTED**

**WATKISS PRESSURE REGULATING STATION**  
**PIPE DETAIL C**

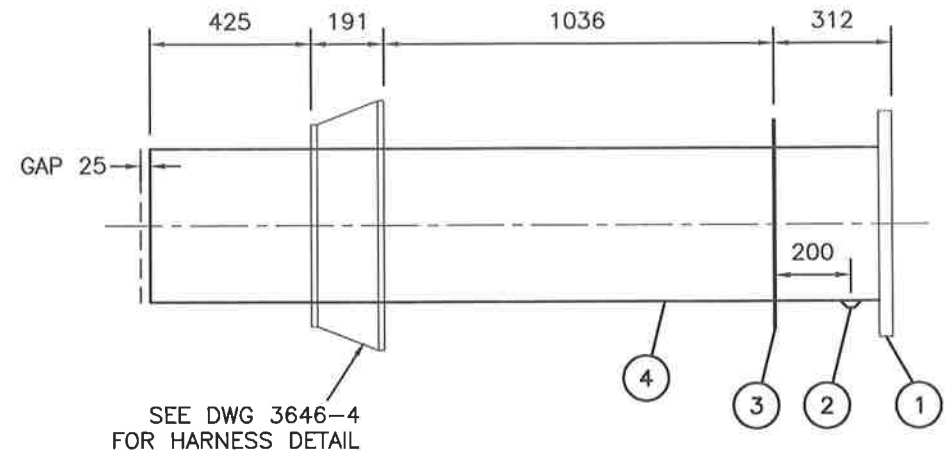
DRAWN BY: A.S.  
FILE: SHOP DWGS  
\\3600\3646.ZIP  
DATE: JUNE 2003

SCALE:  
1:20  
SHEET:  
3 of 17

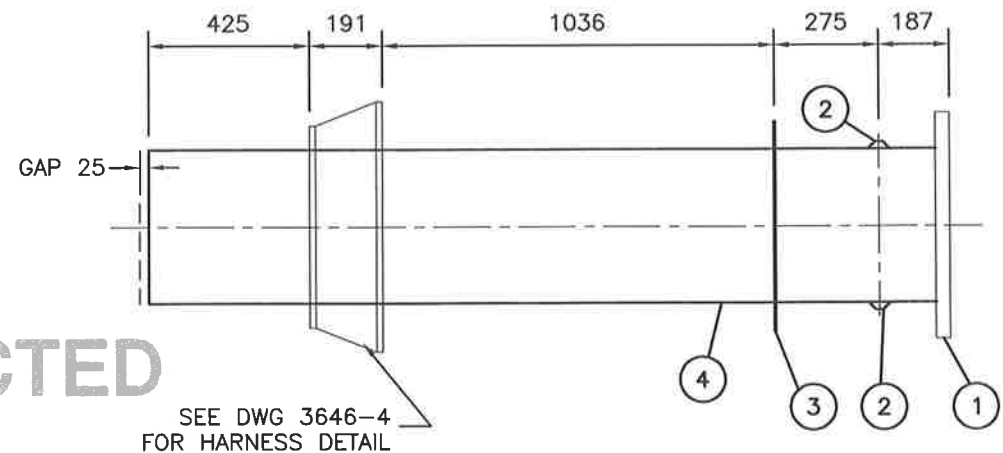




**PLAN- PIPE DETAIL E**  
SCALE 1:20



**PLAN- PIPE DETAIL K**  
SCALE 1:20



**PLAN- PIPE DETAIL L**  
SCALE 1:20

**AS-CONSTRUCTED**

STEEL FABRICATION TO AWWA C208 AND M11,  
LINED AND COATED WITH FUSION BOND EPOXY  
TO AWWA C213

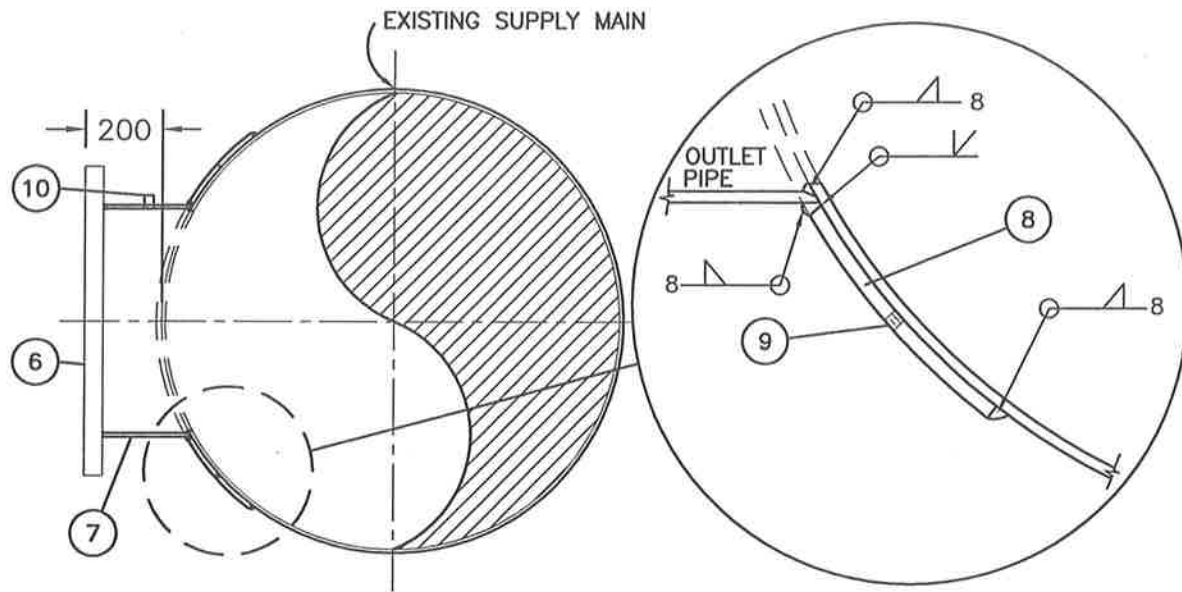
**WATKISS PRESSURE REGULATING STATION**  
**PIPE DETAIL E, K & L**

| LIST OF MATERIALS |  |        |
|-------------------|--|--------|
| ITEM              | DESCRIPTION  | QUA.   |
| ①                 | 400mm Ø SLIP-ON FLANGE, 150lb                            | 2      |
| ②                 | 13mm Ø THREDOLET   | 3      |
| ③                 | 16mm THICK x 76mm WIDE WALL RING (406mm I.D. 482mm O.D.) | 2      |
| ④                 | 400mm Ø STEEL PIPE, 406mm O.D. x 9.5mm WALL              | 4.078m |
| ⑤                 | 600mm Ø SLIP-ON FLANGE, 150lb                            | 1      |
| ⑥                 | 600mm Ø STEEL PIPE, 610mm O.D. x 9.5mm WALL              | 1.220m |
| ⑦                 | 600mm Ø 90° LONG RADIUS ELBOW FTG.                       | 1      |

DRAWN BY: A.S.  
FILE: SHOP DWGS  
\\3600\3646.ZIP  
DATE: JUNE 2003

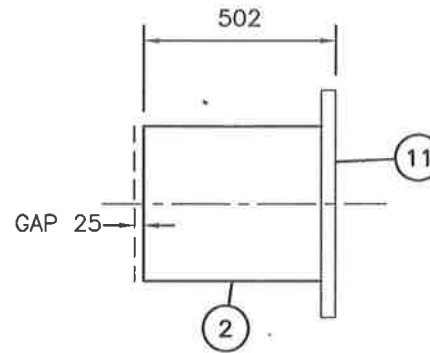
SCALE:  
1:20  
SHEET:  
4 of 17



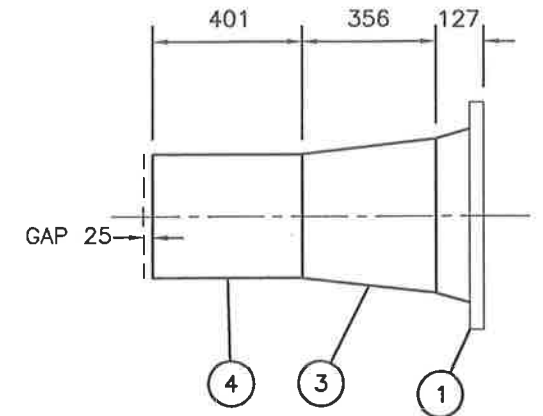


**SECTION- PIPE DETAIL A**  
SCALE 1:20 (TYP. OF 2)

STEEL FABRICATION TO AWWA C208 AND M11, OUTLETS LINED WITH CEMENT-MORTAR TO AWWA C209 AND WRAPPED WITH DENSO-TAPE TO AWWA C214

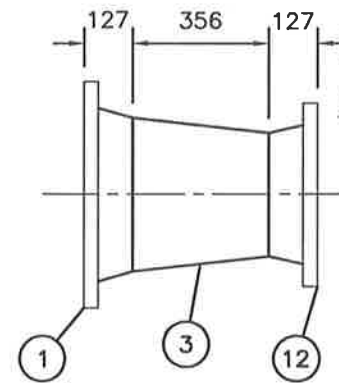


**PLAN- PIPE DETAIL N**  
SCALE 1:20

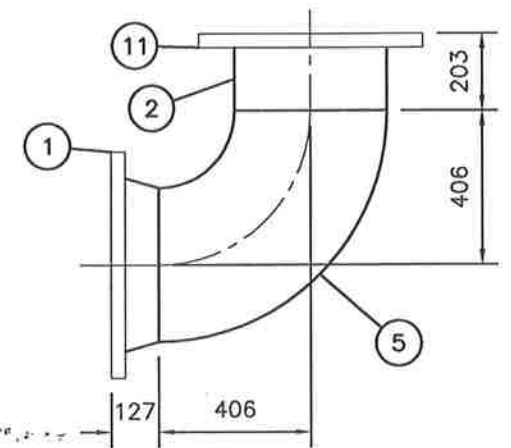


**PLAN- PIPE DETAIL R**  
SCALE 1:20

STEEL FABRICATION TO AWWA C208 AND M11, LINED AND COATED WITH FUSION BOND EPOXY TO AWWA C213



**PLAN- PIPE DETAIL P**  
SCALE 1:20



**PLAN- PIPE DETAIL S**  
SCALE 1:20

**LIST OF MATERIALS**

| ITEM | DESCRIPTION  | QUA.   |
|------|--|--------|
| 1    | 400mm $\phi$ WELD-NECK FLANGE, 150lb                   | 3      |
| 2    | 400mm $\phi$ STEEL PIPE, 406mm O.D. x 9.5mm WALL       | 0.705m |
| 3    | 400mm $\phi$ x 300mm $\phi$ REDUCER FTG.               | 2      |
| 4    | 300mm $\phi$ STEEL PIPE, 324mm O.D. x 9.5mm WALL       | 0.401m |
| 5    | 400mm $\phi$ 90° SHORT RADIUS ELBOW FTG.               | 1      |
| 6    | 600mm $\phi$ SLIP-ON FLANGE, 150lb                     | 2      |
| 7    | 600mm $\phi$ STEEL PIPE, 610mm O.D. x 9.5mm WALL       | 0.6m   |
| 8    | 250mm x 12.7mm THICK REINFORCING COLLAR ALL AROUND     | 2      |
| 9    | 6mm $\phi$ N.P.T. TAP & PLUG (1 PER EACH HALF COLLAR)  | 4      |
| 10   | 13mm $\phi$ N.P.T. TAP & PLUG (MAIN No. 4 OUTLET ONLY) | 1      |
| 11   | 400mm $\phi$ SLIP-ON FLANGE, 150lb                     | 2      |
| 12   | 300mm $\phi$ WELD-NECK FLANGE, 150lb                   | 1      |

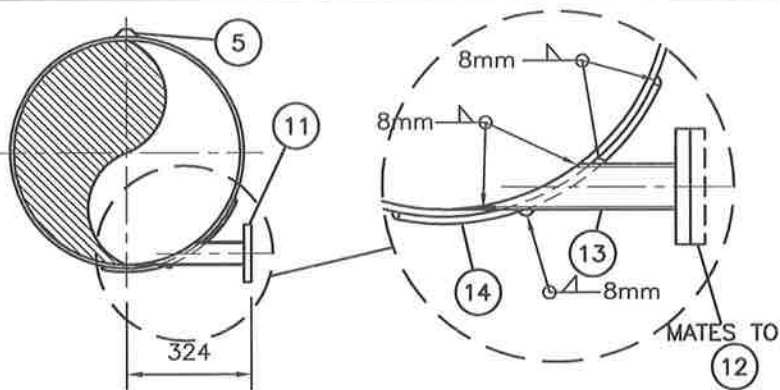
**AS-CONSTRUCTED**

**WATKISS PRESSURE REGULATING STATION**  
**PIPE DETAIL A, N, P, R & S**

|                 |                |
|-----------------|----------------|
| DRAWN BY: A.S.  | SCALE: 1:20    |
| FILE: SHOP DWGS | SHEET: 5 of 17 |
| DATE: JUNE 2003 |                |

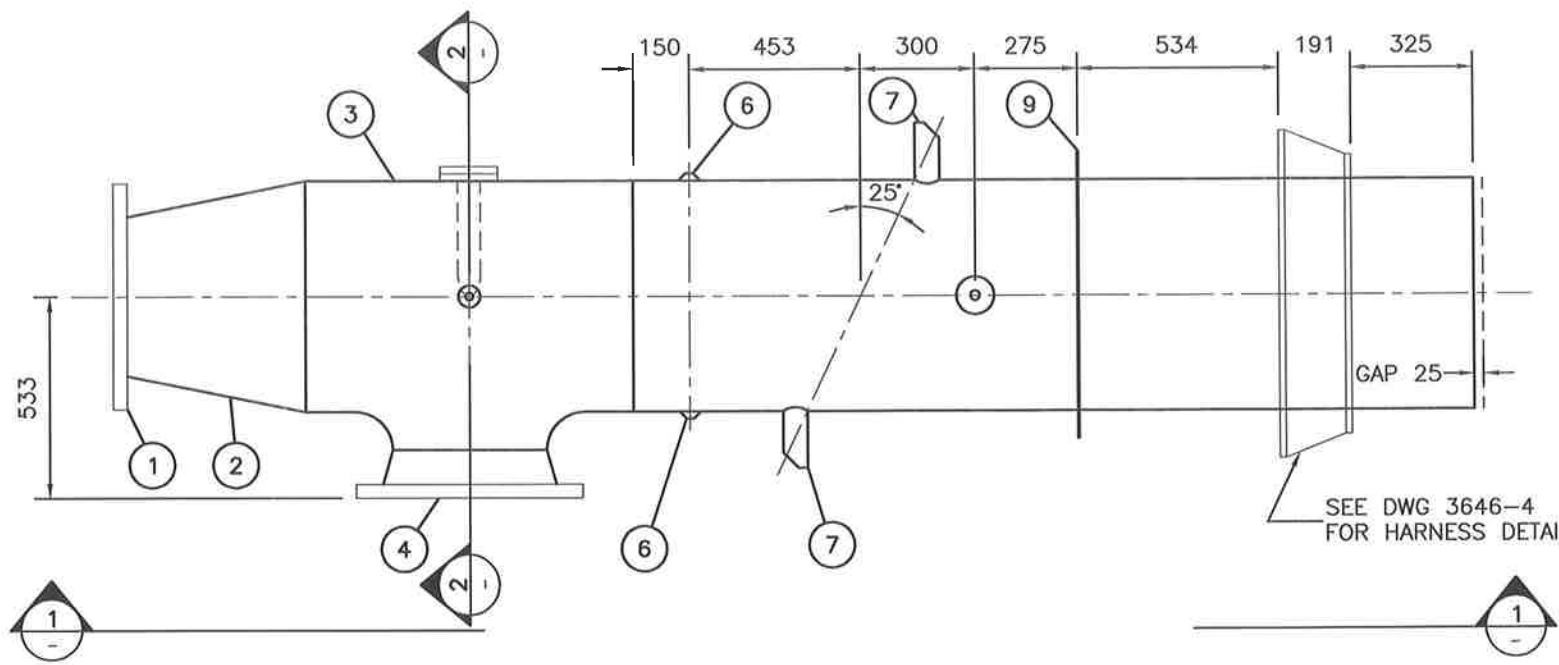






**SECTION-  
PIPE DETAIL O**

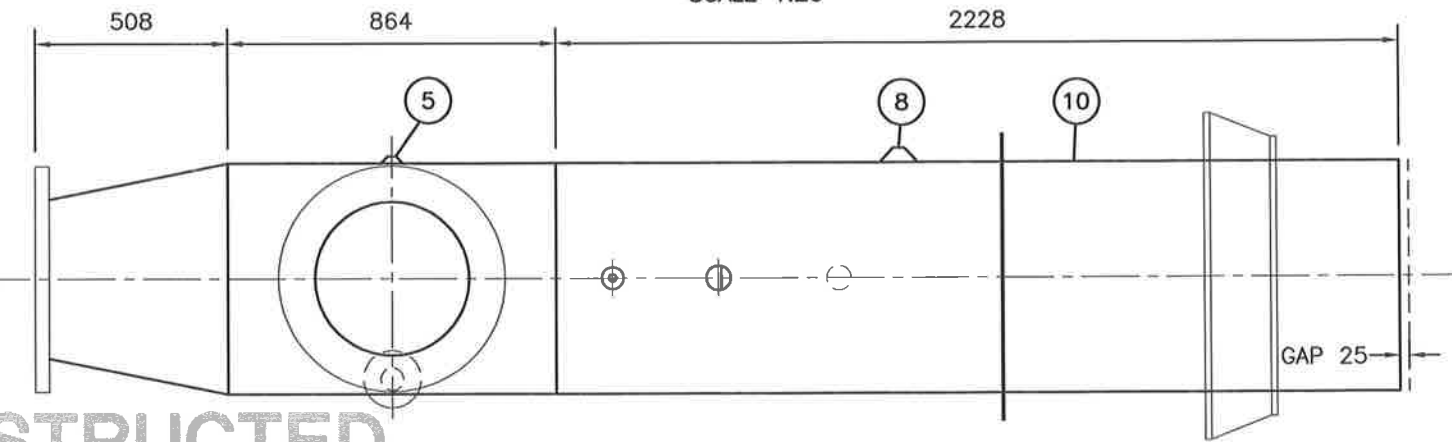
SCALE 1:20 (TYP. OF 3 TANGENTIAL TEES)



**PLAN- PIPE DETAIL O**

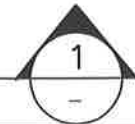
SCALE 1:20

SEE DWG 3646-4  
FOR HARNESS DETAIL



**SECTION-  
PIPE DETAIL O**

SCALE 1:20



**LIST OF MATERIALS**

| ITEM | DESCRIPTION   | QUA.   |
|------|---|--------|
| 1    | 400mm $\phi$ SLIP-ON FLANGE, 150lb  | 1      |
| 2    | 600mm $\phi$ x 400mm $\phi$ REDUCER FTG.                                      | 1      |
| 3    | 600mm $\phi$ x 600mm $\phi$ x 400mm $\phi$ REDUCING TEE FTG.                  | 1      |
| 4    | 400mm $\phi$ WELD-NECK FLANGE, 150lb  | 1      |
| 5    | 19mm $\phi$ THREDOLET   | 1      |
| 6    | 13mm $\phi$ THREDOLET   | 2      |
| 7    | ULTRASONIC METER PIPE BOSS  | 2      |
| 8    | 25mm $\phi$ THREDOLET   | 1      |
| 9    | 16mm THICK x 76mm WIDE WALL RING (406mm I.D. 482mm O.D.)                      | 1      |
| 10   | 600mm $\phi$ STEEL PIPE, 610mm O.D. x 9.5mm WALL                              | 2.228m |
| 11   | 50mm $\phi$ SLIP-ON FLANGE, 150lb   | 3      |
| 12   | 50mm $\phi$ THREADED FLANGE, 150lb  | 3      |
| 13   | 50mm $\phi$ STEEL PIPE, 60mm O.D. x 3.9mm WALL                                | 0.900m |
| 14   | 330mm x 203mm x 9.5mm THICK REINFORCING COLLAR (100mm RADIUS ROUNDED CORNERS) | 1      |

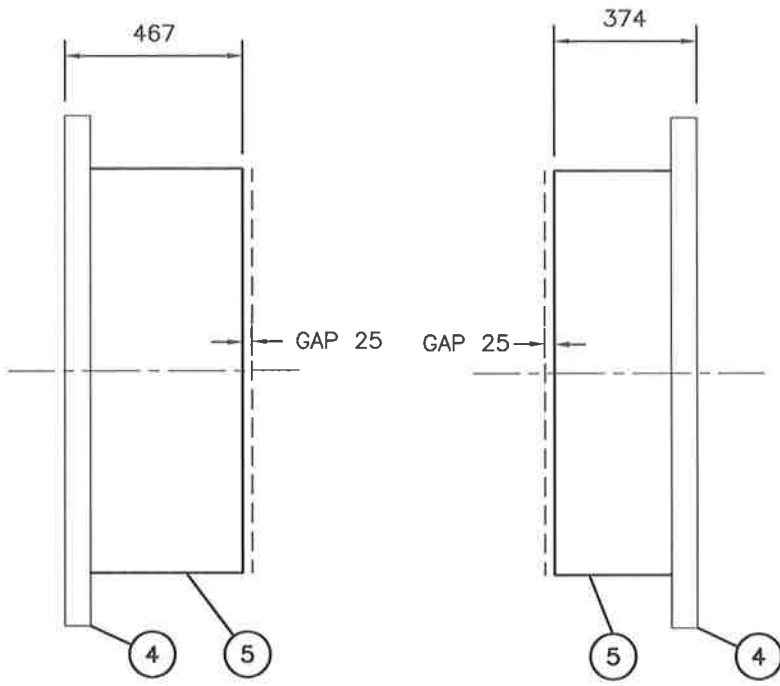
STEEL FABRICATION TO AWWA C208 AND M11,  
LINED AND COATED WITH FUSION BOND EPOXY  
TO AWWA C213

**WATKISS PRESSURE REGULATING STATION  
PIPE DETAIL O**

DRAWN BY: A.S.  
FILE: SHOP DWGS  
\\3600\3646.ZIP  
DATE: JUNE 2003

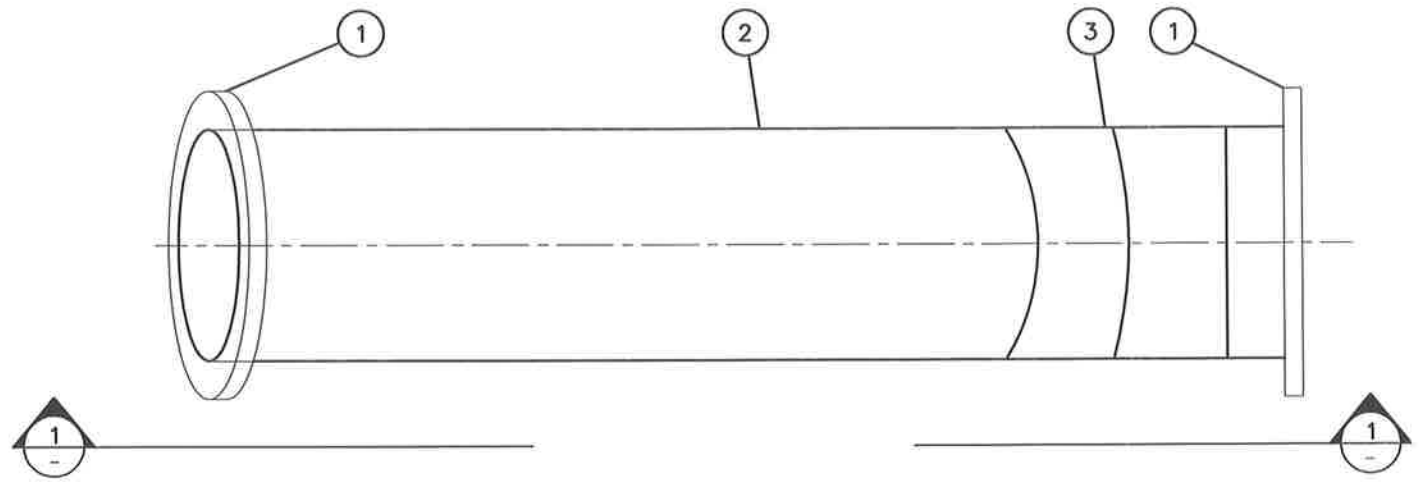
SCALE:  
1:20  
SHEET:  
6 of 17



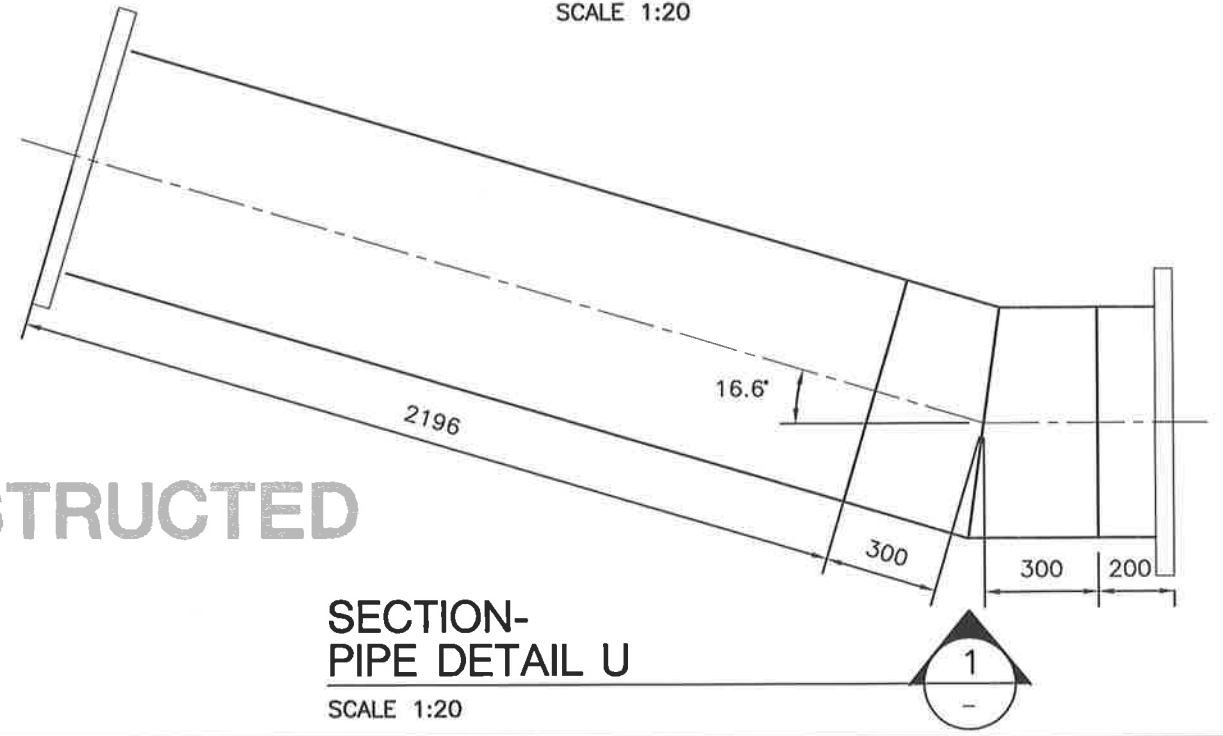


**PLAN- PIPE DETAIL W**  
SCALE 1:20

**PLAN- PIPE DETAIL X**  
SCALE 1:20



**PLAN- PIPE DETAIL U**  
SCALE 1:20



**SECTION- PIPE DETAIL U**  
SCALE 1:20

STEEL FABRICATION TO AWWA C208 AND M11,  
LINED AND COATED WITH FUSION BOND EPOXY  
TO AWWA C213

**AS-CONSTRUCTED**

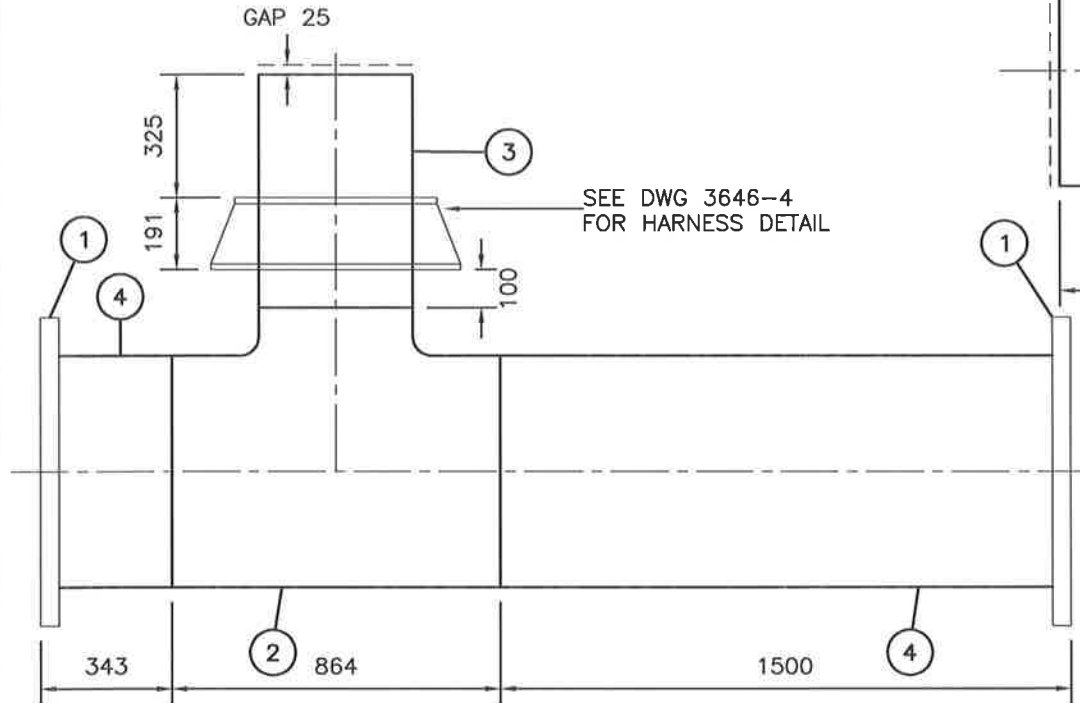
| LIST OF MATERIALS |  |        |
|-------------------|--|--------|
| ITEM              | DESCRIPTION  | QUA.   |
| ①                 | 600mm Ø SLIP-ON FLANGE, 150lb                            | 2      |
| ②                 | 600mm Ø STEEL PIPE, 610mm O.D. x 9.5mm WALL (INCLUDES ③) | 2.979m |
| ③                 | 600mm Ø 16.6° 2 PIECE FABRICATED ELBOW                   | 1      |
| ④                 | 1067mm Ø SLIP-ON FLANGE, 150lb                           | 2      |
| ⑤                 | 1067mm Ø STEEL PIPE, 1067mm O.D. x 9.5mm WALL            | 0.841m |

**WATKISS PRESSURE REGULATING STATION**  
**PIPE DETAIL U, W & X**

|                 |                |
|-----------------|----------------|
| DRAWN BY: A.S.  | SCALE: 1:20    |
| FILE: SHOP DWGS | SHEET: 7 of 17 |
| DATE: NOV 2003  |                |



STEEL FABRICATION TO AWWA C208 AND M11,  
LINED AND COATED WITH FUSION BOND EPOXY  
TO AWWA C213



**PLAN- PIPE DETAIL D**

SCALE 1:20

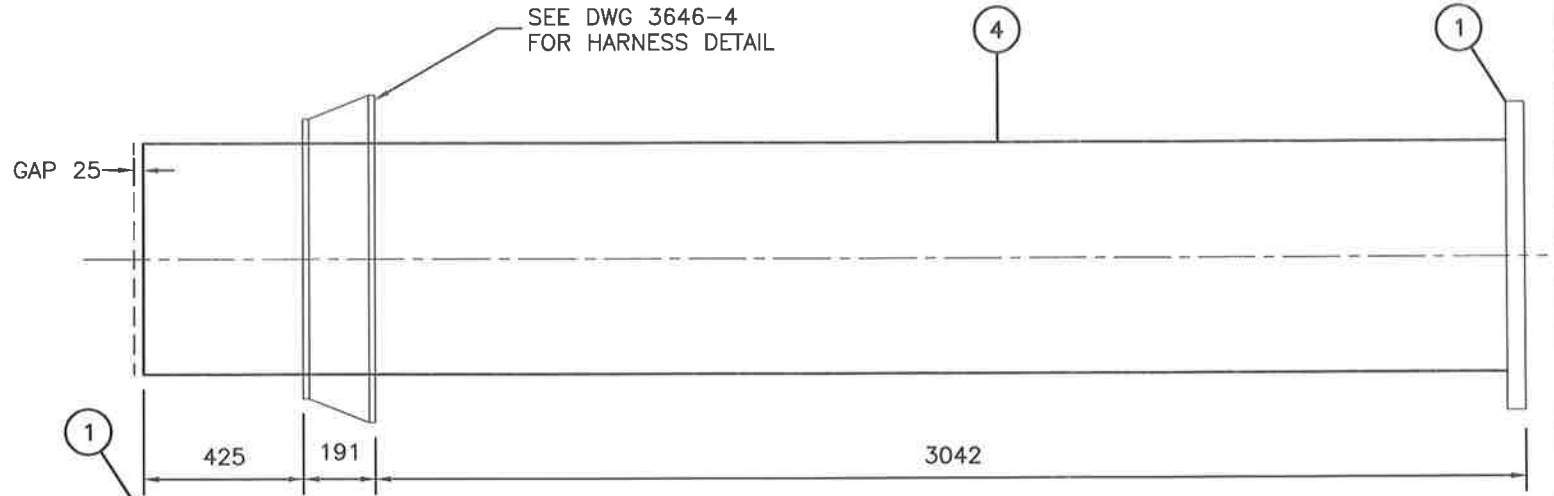
LIST OF MATERIALS

| ITEM | DESCRIPTION   | QUA.   |
|------|---|--------|
| ①    | 600mm $\phi$ SLIP-ON FLANGE, 150lb                            | 5      |
| ②    | 600mm x 600mm x 400mm $\phi$ REDUCING TEE FTG.                | 1      |
| ③    | 400mm $\phi$ STEEL PIPE, 406mm O.D. x 9.5mm WALL              | 0.616m |
| ④    | 600mm $\phi$ STEEL PIPE, 610mm O.D. x 9.5mm WALL (INCLUDES ⑤) | 8.853m |
| ⑤    | 600mm $\phi$ 20.2' 2 PIECE FABRICATED ELBOW                   | 1      |

AS-CONSTRUCTED

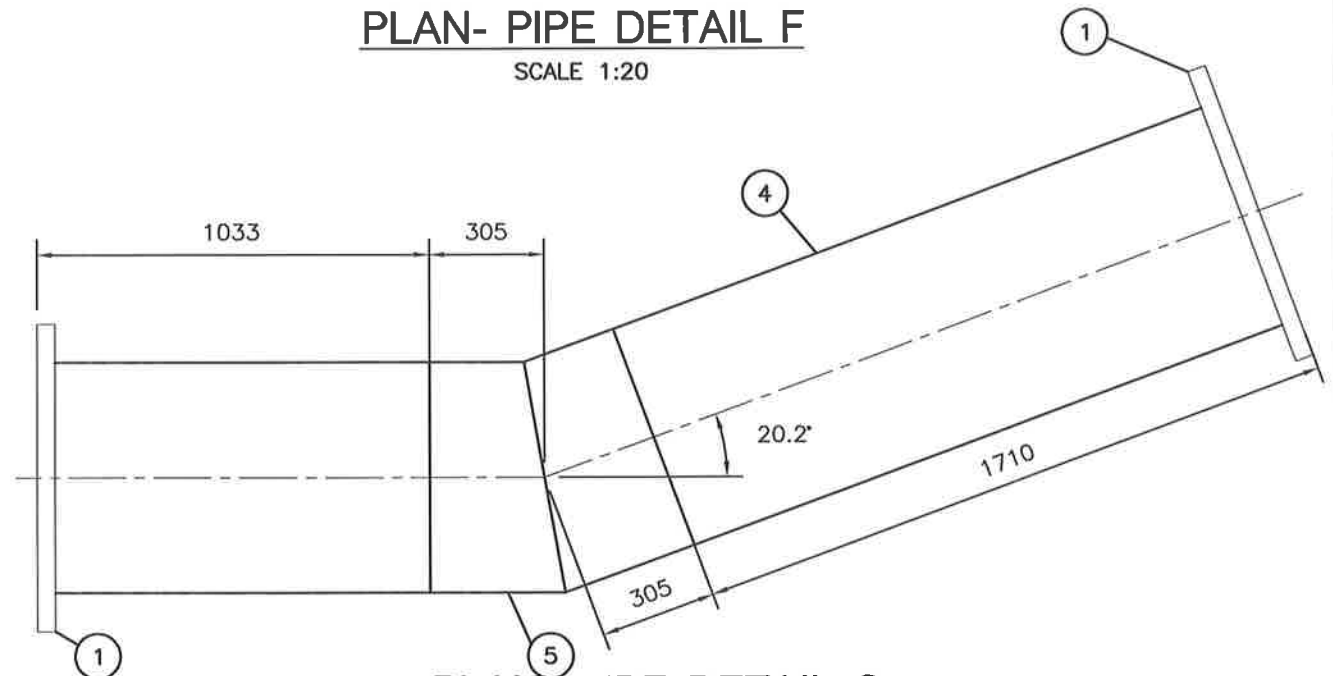
**WATKISS PRESSURE REGULATING STATION  
PIPE DETAIL D, F & G**

SEE DWG 3646-4  
FOR HARNESS DETAIL



**PLAN- PIPE DETAIL F**

SCALE 1:20



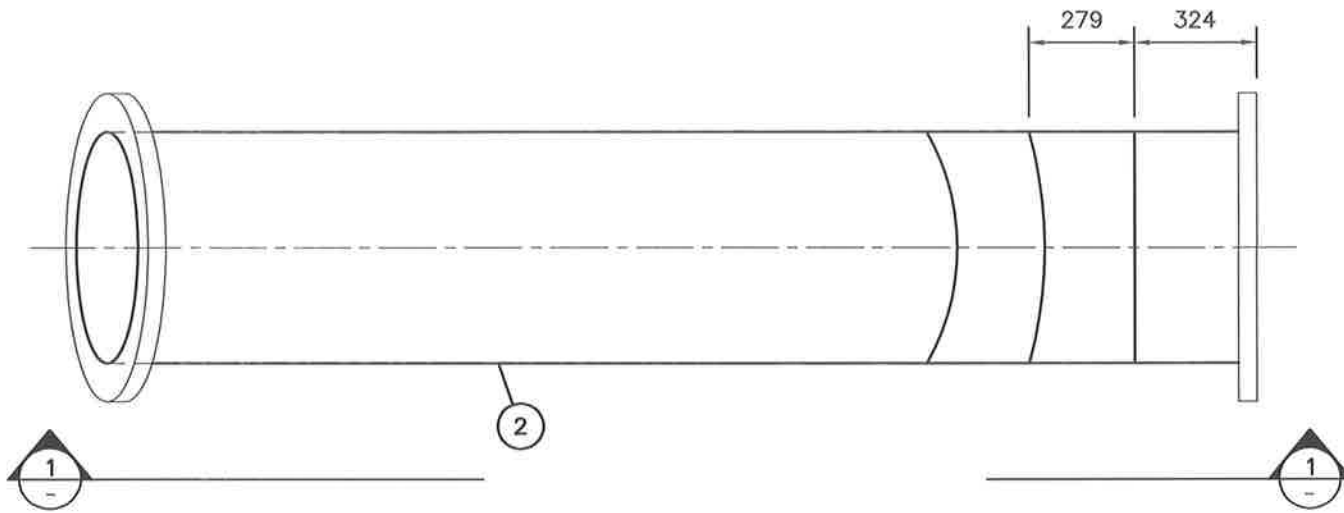
**PLAN- PIPE DETAIL G**

SCALE 1:20

DRAWN BY: A.S.  
FILE: SHOP DWGS  
\\3600\3646.ZIP  
DATE: JUNE 2003

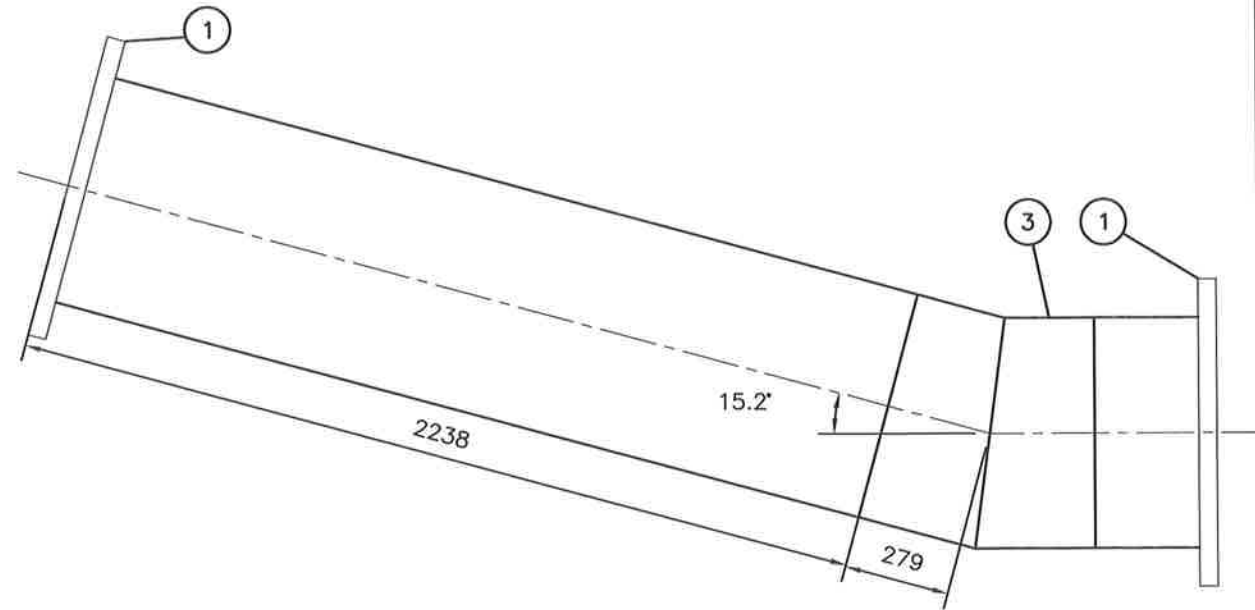
SCALE:  
1:20  
SHEET:  
8 of 17





**PLAN- PIPE DETAIL J**

SCALE 1:20



**SECTION- PIPE DETAIL J**

SCALE 1:20

STEEL FABRICATION TO AWWA C208 AND M11,  
LINED AND COATED WITH FUSION BOND EPOXY  
TO AWWA C213

**AS-CONSTRUCTED**

**LIST OF MATERIALS**

| ITEM | DESCRIPTION   | QUA.   |
|------|---|--------|
| ①    | 600mm $\phi$ SLIP-ON FLANGE, 150lb                            | 2      |
| ②    | 600mm $\phi$ STEEL PIPE, 610mm O.D. x 9.5mm WALL (INCLUDES ③) | 3.120m |
| ③    | 600mm $\phi$ 15.2' 2 PIECE FABRICATED ELBOW                   | 1      |

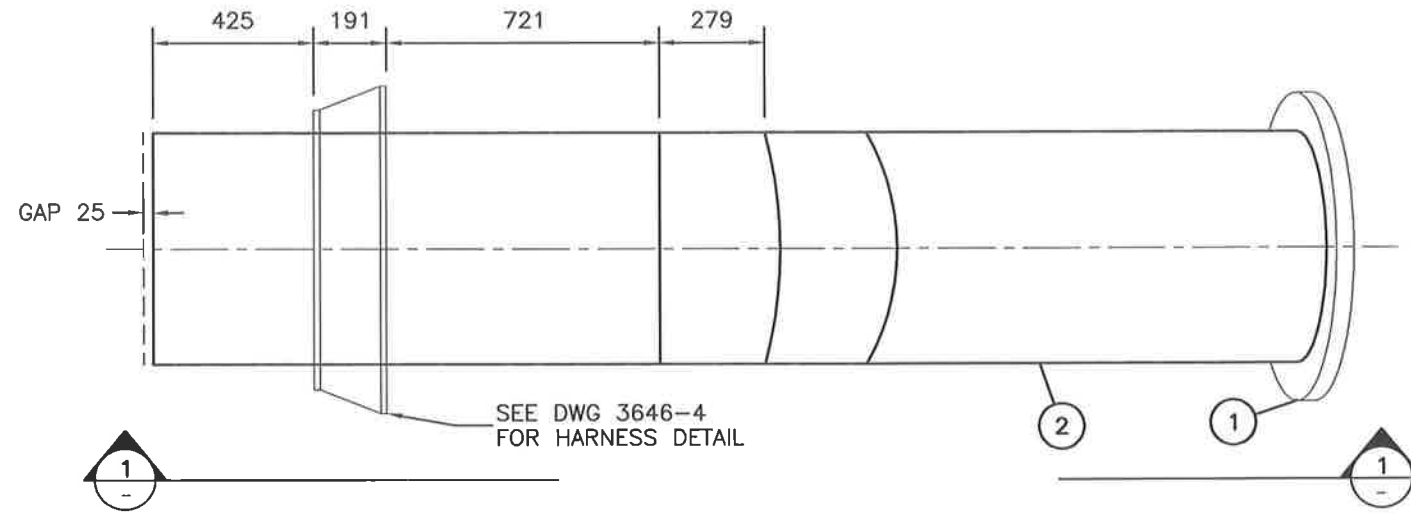
**WATKISS PRESSURE REGULATING STATION  
PIPE DETAIL J**

DRAWN BY: A.S.  
FILE: SHOP DWGS  
\\3600\3646.ZIP  
DATE: NOV 2003

SCALE:  
1:20  
SHEET:  
9 of 17

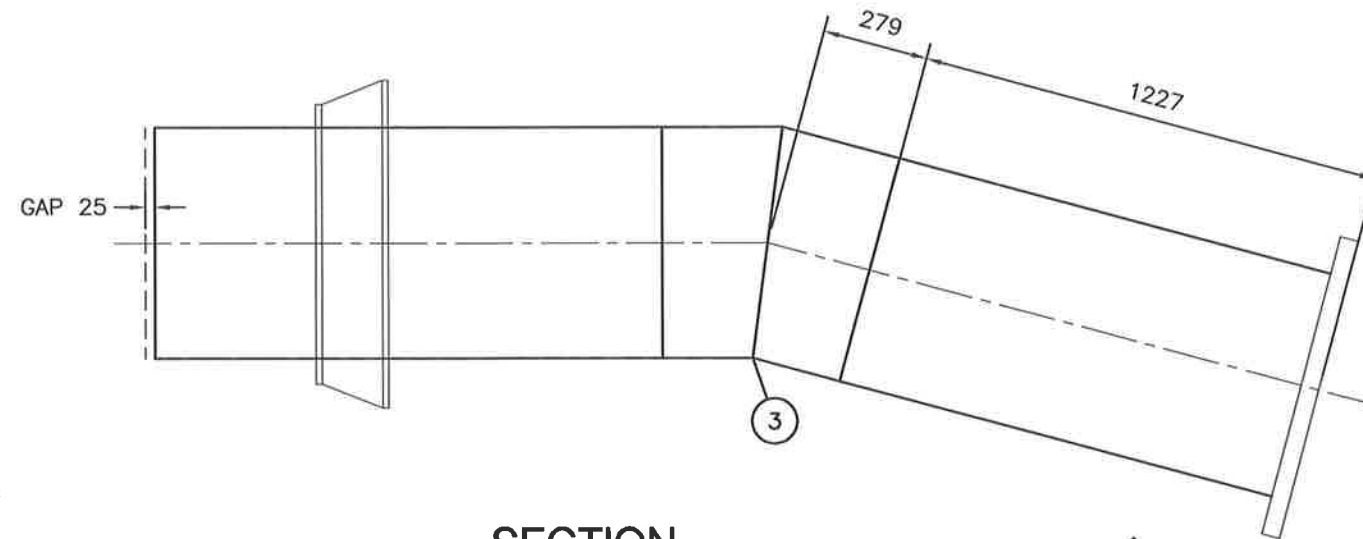


STEEL FABRICATION TO AWWA C208 AND M11,  
 LINED AND COATED WITH FUSION BOND EPOXY  
 TO AWWA C213



**PLAN- PIPE DETAIL I**

SCALE 1:20



**SECTION- PIPE DETAIL I**

SCALE 1:20

**AS-CONSTRUCTED**

**LIST OF MATERIALS**

| ITEM | DESCRIPTION  | QUA.   |
|------|--|--------|
| ①    | 600mm $\varnothing$ SLIP-ON FLANGE, 150lb                            | 1      |
| ②    | 600mm $\varnothing$ STEEL PIPE, 610mm O.D. x 9.5mm WALL (INCLUDES ③) | 3.122m |
| ③    | 600mm $\varnothing$ 15.2' 2 PIECE FABRICATED ELBOW                   | 1      |

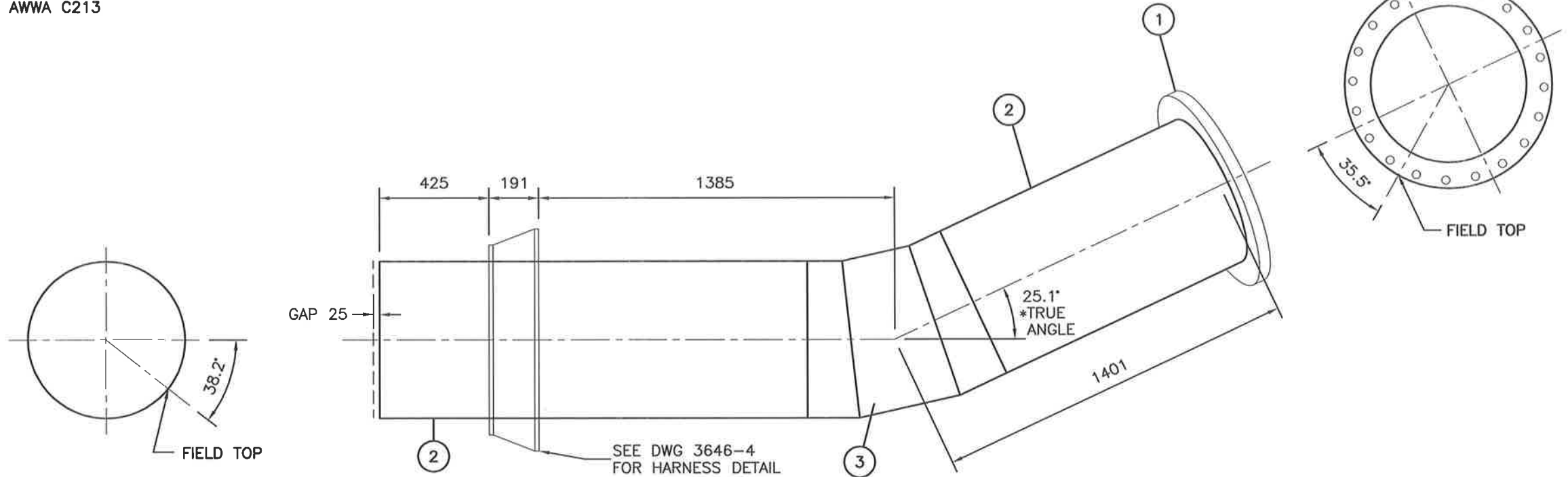
**WATKISS PRESSURE REGULATING STATION  
 PIPE DETAIL I**

DRAWN BY: A.S.  
 FILE: SHOP DWGS  
 \3600\3646.ZIP  
 DATE: JUNE 2003

SCALE:  
 1:20  
 SHEET:  
 10 of 17



STEEL FABRICATION TO AWWA C208 AND M11,  
 LINED AND COATED WITH FUSION BOND EPOXY  
 TO AWWA C213



**PLAN- PIPE DETAIL T**

SCALE 1:20

**LIST OF MATERIALS**

| ITEM | DESCRIPTION  | QUA.  |
|------|--|-------|
| ①    | 600mm $\phi$ SLIP-ON FLANGE, 150lb                                       | 1     |
| ②    | 600mm $\phi$ STEEL PIPE, 610mm O.D. x 9.5mm WALL (INCLUDES ③)            | 3.371 |
| ③    | 600mm $\phi$ 26.4° TRUE ANGLE 3 PIECE FABRICATED ELBOW (ROTATED TO SUIT) | 1     |

**AS-CONSTRUCTED**

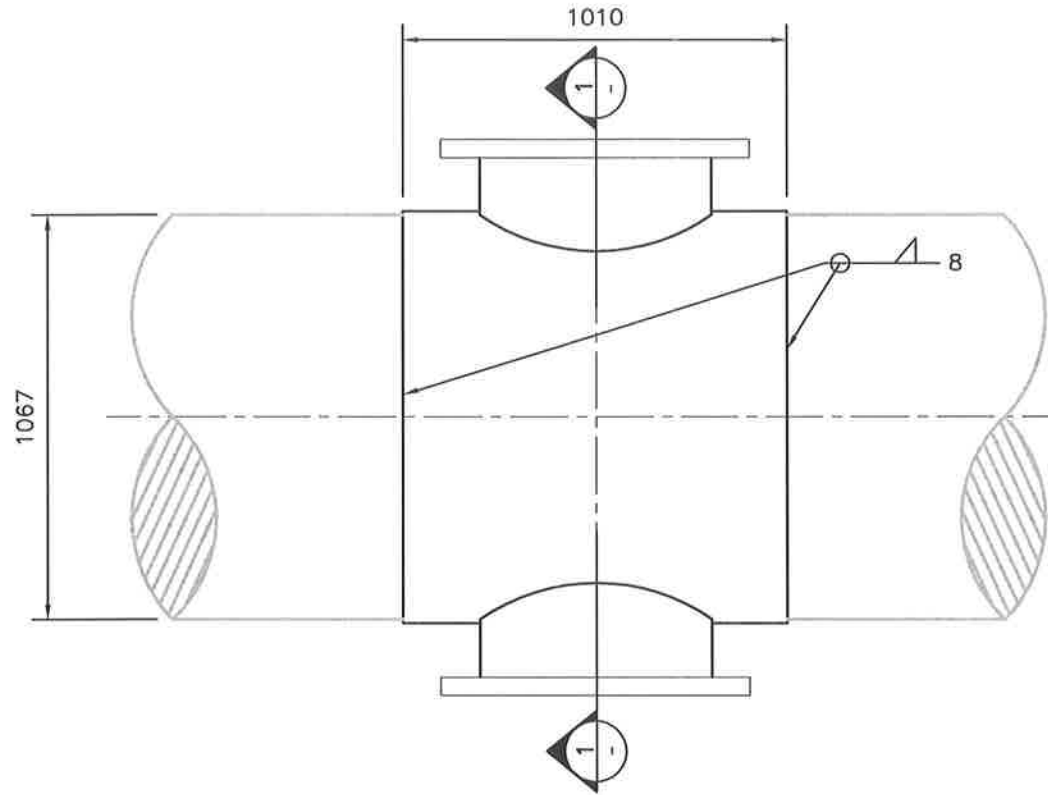
**WATKISS PRESSURE REGULATING STATION  
 PIPE DETAIL T**

DRAWN BY: A.S.  
 FILE: SHOP DWGS  
 \3600\3646.ZIP  
 DATE: NOV 2003

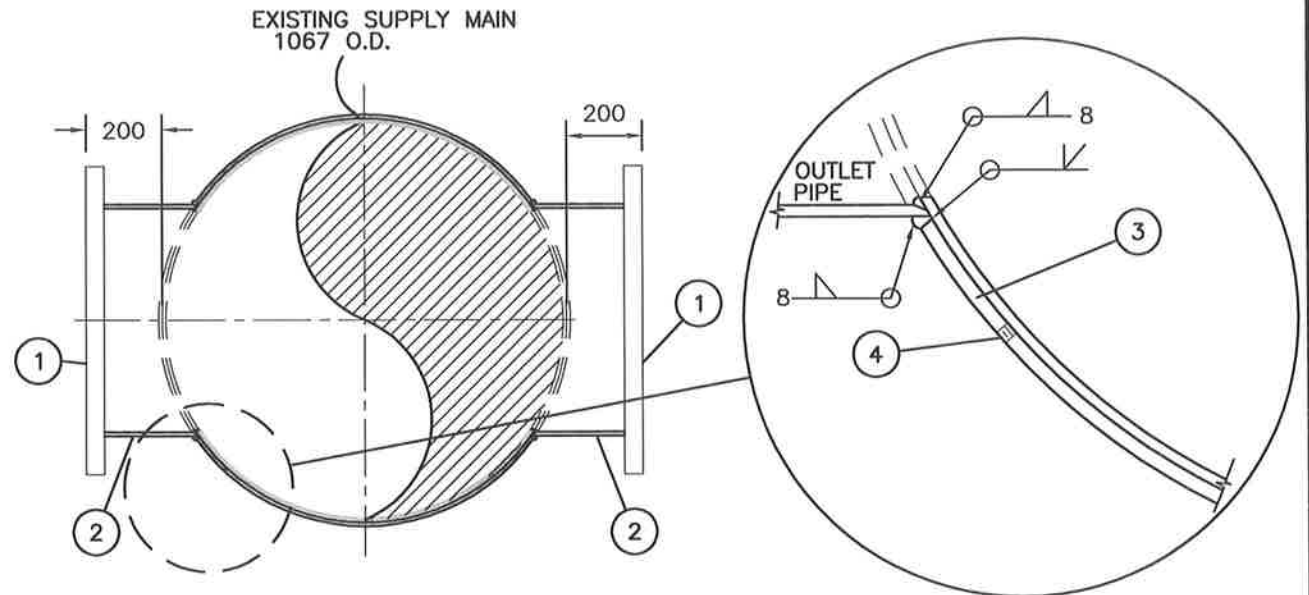
SCALE:  
 1:20  
 SHEET:  
 11 of 17



STEEL FABRICATION TO AWWA C208  
AND M11, OUTLETS LINED WITH  
CEMENT-MORTAR TO AWWA C209 AND  
WRAPPED WITH DENSO-TAPE TO  
AWWA C214



**PLAN- PIPE DETAIL V**  
SCALE 1:20



**SECTION- PIPE DETAIL V**  
SCALE 1:20

**LIST OF MATERIALS**

| ITEM | DESCRIPTION   | QUA. |
|------|---|------|
| ①    | 600mm $\phi$ SLIP-ON FLANGE, 150lb                                | 2    |
| ②    | 600mm $\phi$ STEEL PIPE, 610mm O.D. x 9.5mm WALL                  | 0.6m |
| ③    | 1010mm x 9.5mm THICK REINFORCING WRAPPER ALL AROUND x 1067mm I.D. | 1    |
| ④    | 6mm $\phi$ N.P.T. TAP & PLUG (1 PER EACH HALF WRAPPER)            | 2    |

**AS-CONSTRUCTED**

**WATKISS PRESSURE REGULATING STATION**  
**PIPE DETAIL V**

DRAWN BY: A.S.  
FILE: SHOP DWGS  
\\3600\3646.ZIP  
DATE: JUNE 2003

SCALE:  
1:20  
SHEET:  
12 of 17

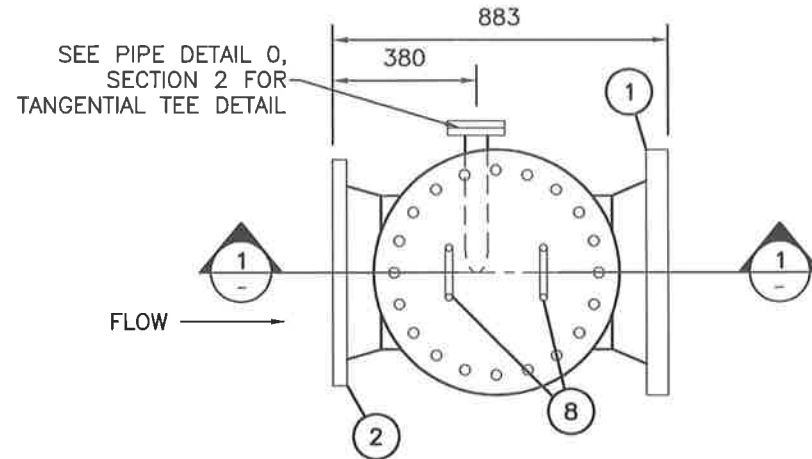


# AS-CONSTRUCTED

STEEL FABRICATION TO AWWA C208 AND M11,  
LINED AND COATED WITH FUSION BOND EPOXY  
TO AWWA C213

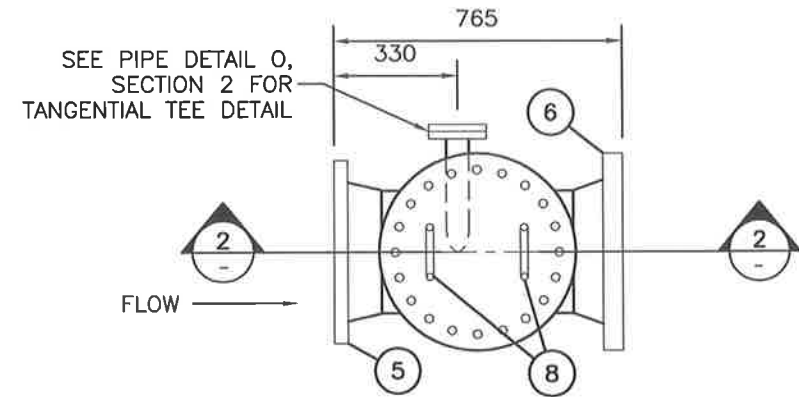
## LIST OF MATERIALS

| ITEM | DESCRIPTION                           | QUA. |
|------|---------------------------------------|------|
| ①    | 400mm $\phi$ WELD-NECK FLANGE, 300lb  | 1    |
| ②    | 400mm $\phi$ WELD-NECK FLANGE, 150lb  | 2    |
| ③    | 400mm x 400mm x 400mm TEE FTG.        | 1    |
| ④    | 400mm $\phi$ BLIND FLANGE, 150lb      | 1    |
| ⑤    | 300mm $\phi$ WELD-NECK, 150lb         | 2    |
| ⑥    | 300mm $\phi$ WELD-NECK, 300lb         | 1    |
| ⑦    | 300mm x 300mm x 300mm TEE FTG.        | 1    |
| ⑧    | 19mm $\phi$ x 150mm LONG LIFTING BARS | 4    |
| ⑨    | 300mm $\phi$ BLIND FLANGE, 150lb      | 1    |



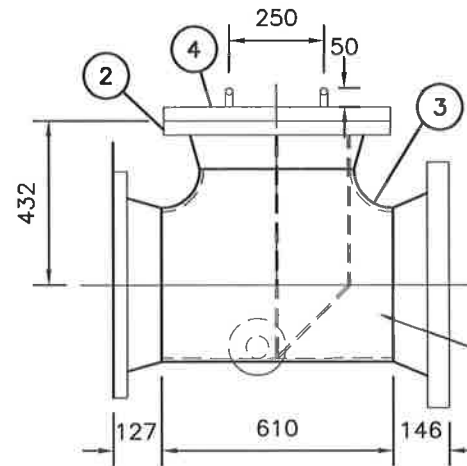
PLAN- PIPE DETAIL M

SCALE 1:20



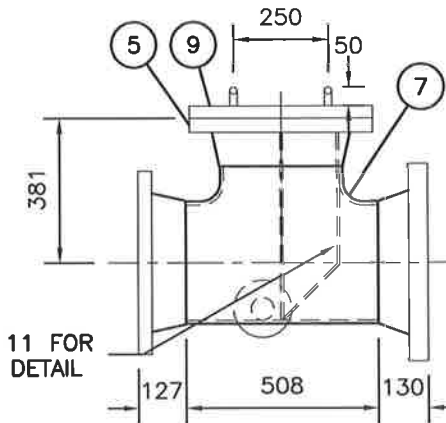
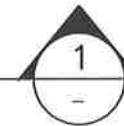
PLAN- PIPE DETAIL Q

SCALE 1:20



SECTION-  
PIPE DETAIL M

SCALE 1:20



SECTION-  
PIPE DETAIL Q

SCALE 1:20



REFER TO SHEET 11 FOR  
BASKET STRAINER DETAIL

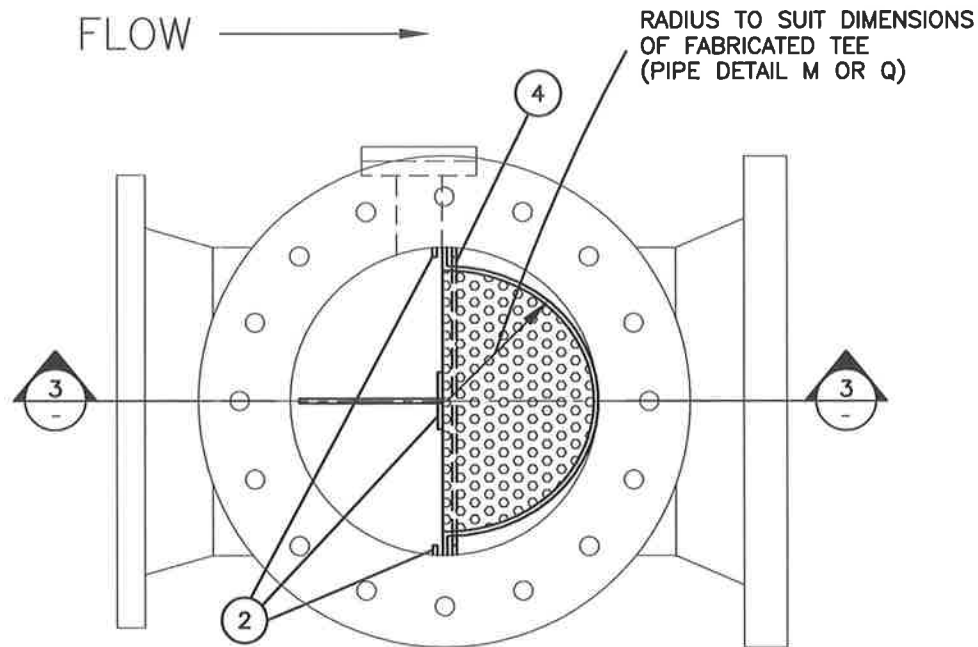
## WATKISS PRESSURE REGULATING STATION PIPE DETAIL M & Q

DRAWN BY: A.S.  
FILE: SHOP DWGS  
3600\3646.ZIP  
DATE: JUNE 2003

SCALE:  
1:20  
SHEET:  
13 of 17

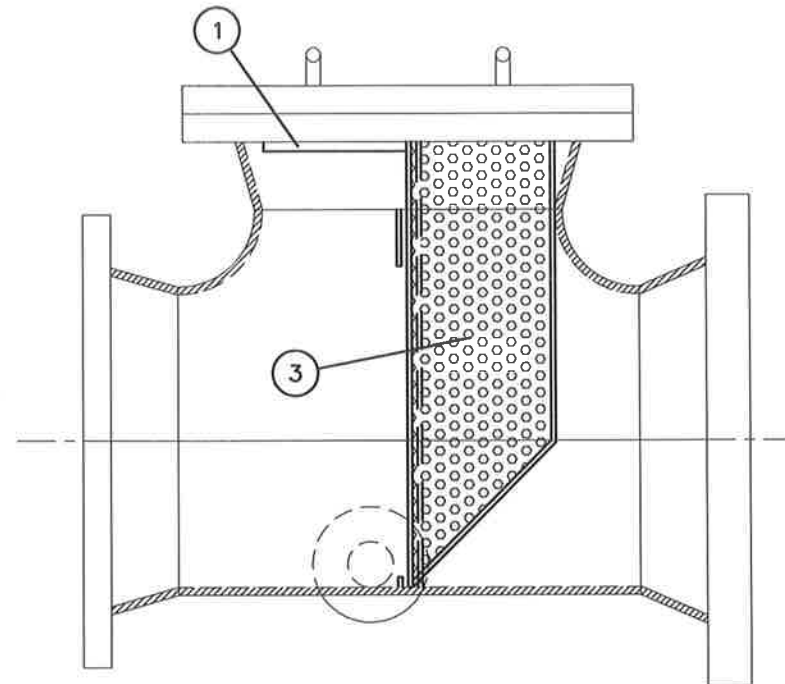






**PLAN- BASKET STRAINER**

SCALE 1:10



**SECTION-  
BASKET STRAINER**

SCALE 1:10

**LIST OF MATERIALS**

| ITEM | DESCRIPTION   | QUA. |
|------|---|------|
| ①    | 150mm x 13mm x 6mm THICK PLATE STEEL  | 2    |
| ②    | 75mm x 13mm x 6mm THICK PLATE STEEL   | 10   |
| ③    | 6mm THICK PERFORATED STAINLESS STEEL SCREEN<br>c/w 9.5mm Ø HOLES            | 2    |
| ④    | 13mm HIGH x 6mm THICK STEEL PLATE<br>(CONTINUOUS AROUND INSIDE OF TEE BODY) | 2    |

**AS-CONSTRUCTED**

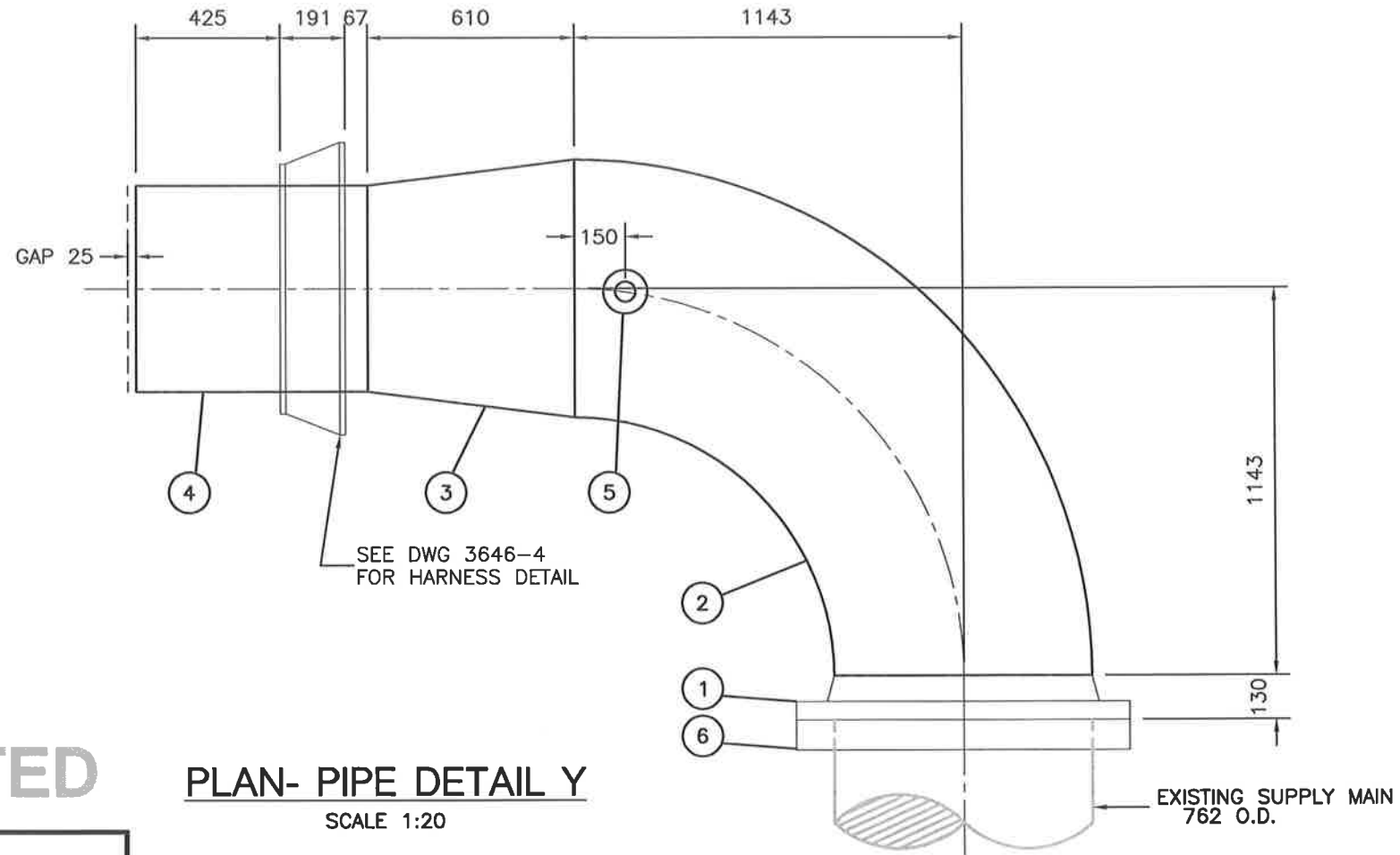
**WATKISS PRESSURE REGULATING STATION  
BASKET STRAINER DETAIL**

*DRAWN BY:* A.S.  
*FILE:* SHOP DWGS  
\\3600\3646.ZIP  
*DATE:* JUNE 2003

*SCALE:*  
1:10  
*SHEET:*  
14 of 17



STEEL FABRICATION TO AWWA C208 AND M11,  
LINED AND COATED WITH FUSION BOND EPOXY  
TO AWWA C213



**AS-CONSTRUCTED**

**PLAN- PIPE DETAIL Y**  
SCALE 1:20

**DRY FIT PIPE FABRICATION IN FIELD PRIOR  
TO APPLYING LINING AND COATING**

**LIST OF MATERIALS**

| ITEM | DESCRIPTION                                      | QUA.  |
|------|--|-------|
| ①    | 762mm $\phi$ WELD-NECK FLANGE, 150lb             | 1     |
| ②    | 762mm $\phi$ 90° LONG RADIUS ELBOW FTG           | 1     |
| ③    | 762mm x 600mm $\phi$ CONCENTRIC REDUCER          | 1     |
| ④    | 600mm $\phi$ STEEL PIPE, 610mm O.D. x 9.5mm WALL | 0.683 |
| ⑤    | 50mm $\phi$ THREDOLET                            | 1     |
| ⑥    | 762mm $\phi$ SLIP-ON FLANGE, 150lb               | 1     |

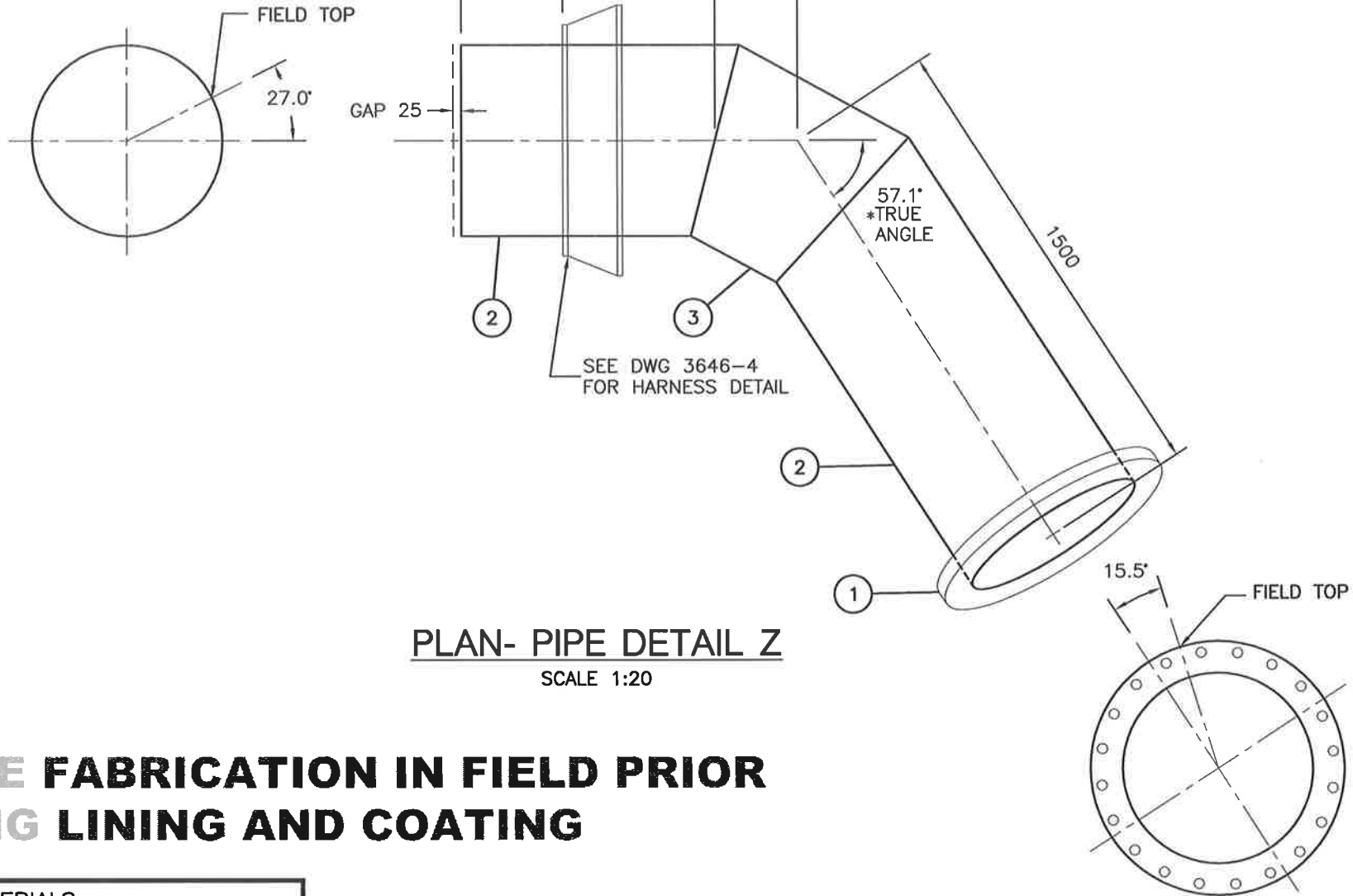
**WATKISS PRESSURE REGULATING STATION**  
**PIPE DETAIL Y**

*DRAWN BY:* A.S.  
*FILE:* SHOP DWGS  
\\3600\3646.ZIP  
*DATE:* NOV 2003

*SCALE:*  
1:20  
*SHEET:*  
15 of 17



STEEL FABRICATION TO AWWA C208 AND M11,  
LINED AND COATED WITH FUSION BOND EPOXY  
TO AWWA C213



**PLAN- PIPE DETAIL Z**  
SCALE 1:20

**DRY FIT PIPE FABRICATION IN FIELD PRIOR  
TO APPLYING LINING AND COATING**

**LIST OF MATERIALS**

| ITEM | DESCRIPTION   | QUA.  |
|------|---|-------|
| ①    | 600mm Ø SLIP-ON FLANGE, 150lb                                       | 1     |
| ②    | 600mm Ø STEEL PIPE, 610mm O.D. x 9.5mm WALL (INCLUDES ③)            | 2.574 |
| ③    | 600mm Ø 57.1° TRUE ANGLE 3 PIECE FABRICATED ELBOW (ROTATED TO SUIT) | 1     |

**AS-CONSTRUCTED**

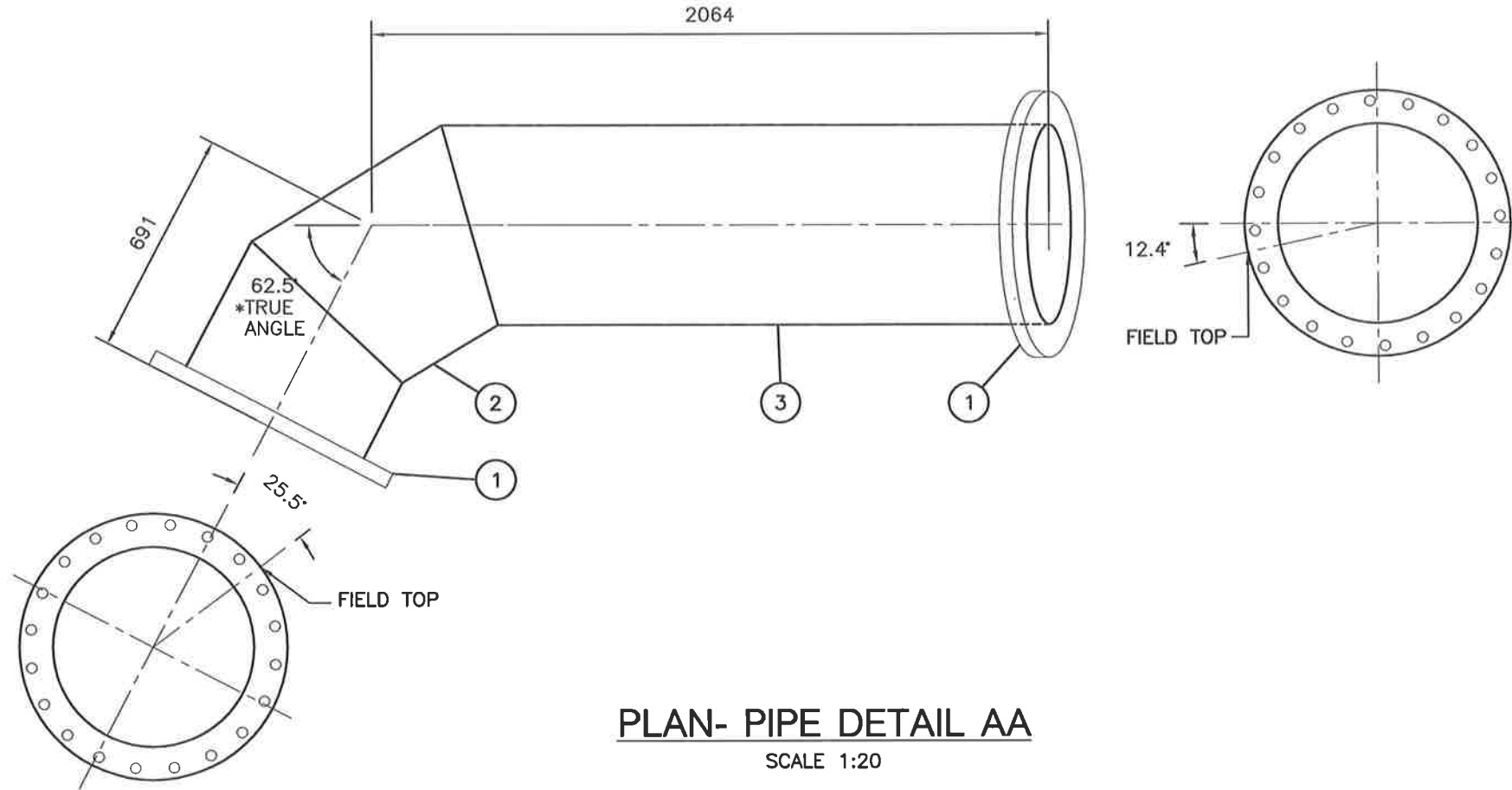
**WATKISS PRESSURE REGULATING STATION  
PIPE DETAIL Z**

DRAWN BY: A.S.  
FILE: SHOP DWGS  
\\3600\3646.ZIP  
DATE: NOV 2003

SCALE:  
1:20  
SHEET:  
16 of 17



STEEL FABRICATION TO AWWA C208 AND M11,  
 LINED AND COATED WITH FUSION BOND EPOXY  
 TO AWWA C213



**PLAN- PIPE DETAIL AA**

SCALE 1:20

**AS-CONSTRUCTED**

**DRY FIT PIPE FABRICATION IN FIELD  
 PRIOR TO APPLYING LINING AND COATING**

**LIST OF MATERIALS**

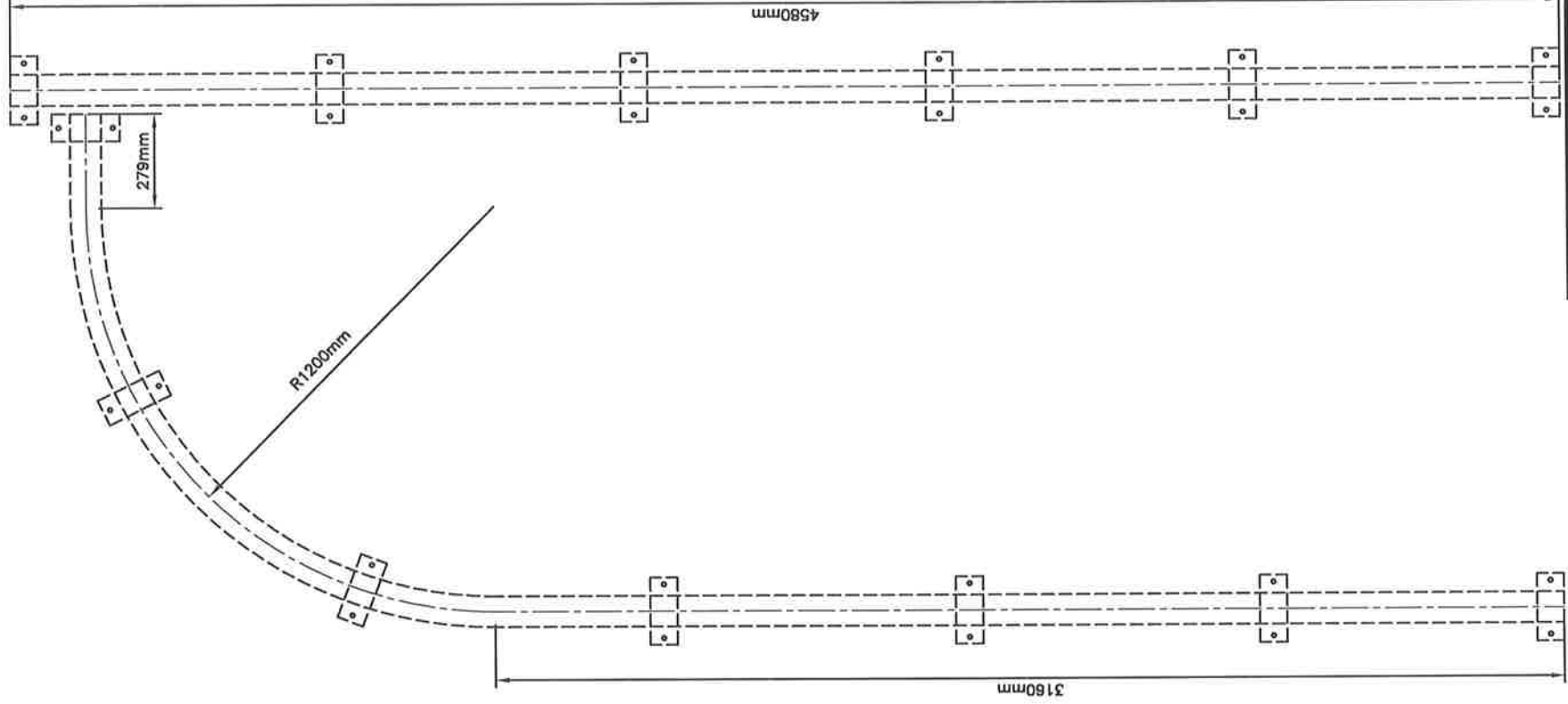
| ITEM | DESCRIPTION  | QUA.  |
|------|--|-------|
| ①    | 600mm $\phi$ SLIP-ON FLANGE, 150lb                                       | 2     |
| ②    | 600mm $\phi$ 62.5° TRUE ANGLE 3 PIECE FABRICATED ELBOW (ROTATED TO SUIT) | 1     |
| ③    | 600mm $\phi$ STEEL PIPE, 610mm O.D. x 9.5mm WALL (INCLUDES ②)            | 2.603 |

**WATKISS PRESSURE REGULATING STATION  
 PIPE DETAIL AA**

*DRAWN BY:* A.S.  
*FILE:* SHOP DWGS  
 \3600\3646.ZIP  
*DATE:* NOV 2003

*SCALE:*  
 1:20  
*SHEET:*  
 17 of 17





**NOTE:**

THIS DRAWING IS TO BE READ IN CONJUNCTION  
 WITH CRD WATER DEPARTMENT DRAWING NO.  
 3646-5. (WATKISS PRESSURE REGULATING STATION)



**CAPITAL REGIONAL DISTRICT  
 WATER DEPARTMENT**

479 ISLAND HIGHWAY  
 VICTORIA, B.C.

**WATKISS PRESSURE REGULATING STATION  
 MONORAIL DIMENSION DETAIL**

**SHOP DRAWING**

|           |            |                |            |
|-----------|------------|----------------|------------|
| date:     | JULY 21/03 | scale:         | 1:20       |
| designed: | A. SANDHAR | drawn:         | A. SANDHAR |
| approved: |            | checked:       |            |
| folder:   |            | acad file:     | MECHANICAL |
| file no:  | 3646       | cadastroil no: | N/A        |
|           | 3646.ZIP   | drawing no:    |            |
|           |            | issue:         | A          |

