

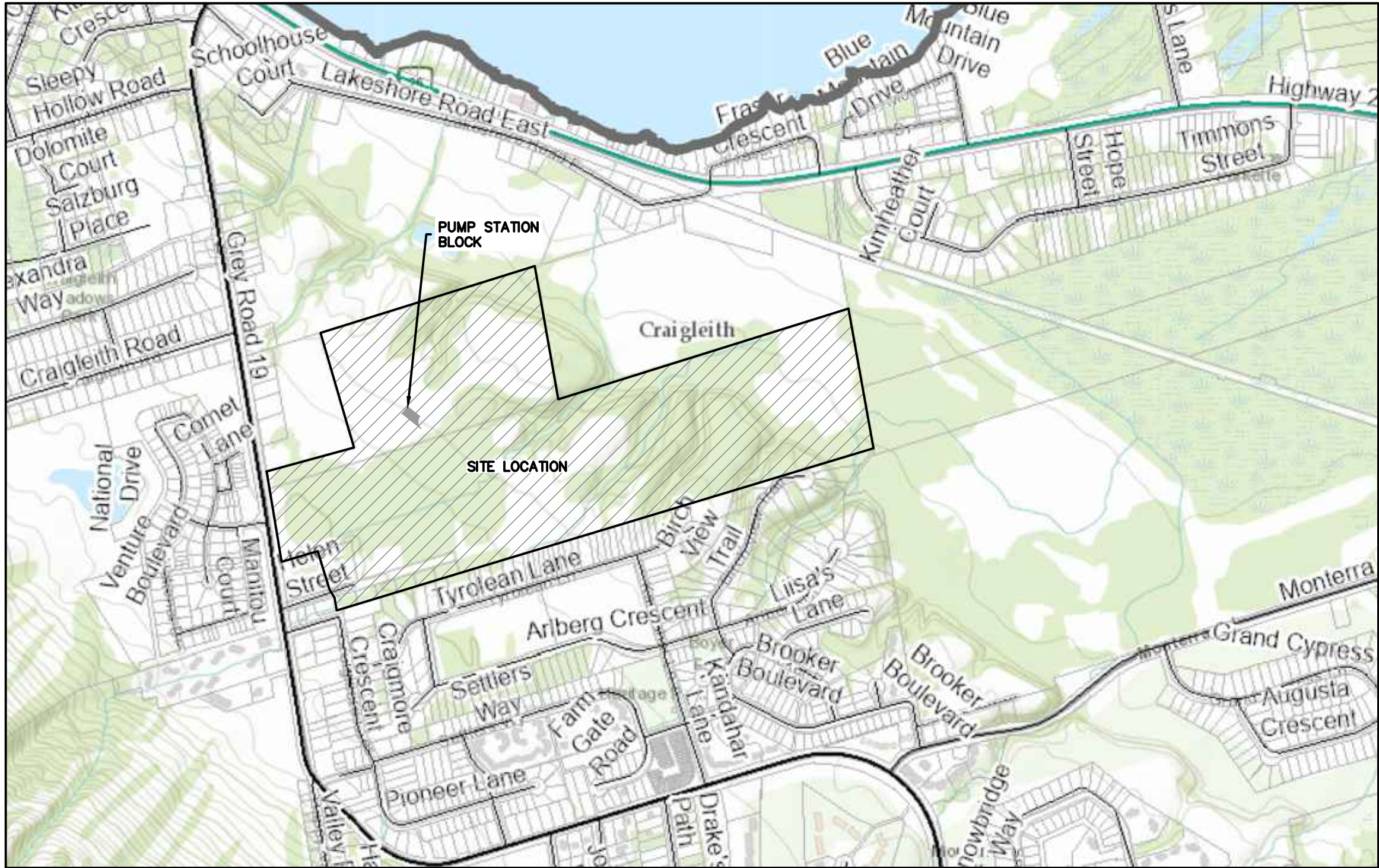
HOME FARM

SEWAGE PUMP STATION

TOWN OF THE BLUE MOUNTAINS

COUNTY OF GREY

DRAWING	TITLE
S001	GENERAL CONSTRUCTION NOTES (STRUCTURAL, SHEET 1 OF 2)
S002	GENERAL CONSTRUCTION NOTES (STRUCTURAL, SHEET 2 OF 2)
S200	STRUCTURAL PLANS AND SCHEDULES
S201	STRUCTURAL DETAILS
A003	GENERAL CONSTRUCTION NOTES (ARCHITECTURAL)
A300	ARCHITECTURAL PLAN, WASHROOM ELEVATIONS & SCHEDULES
A310	ELEVATIONS
A311	WALL SECTIONS, CONSTRUCTION
P101	SEWAGE PUMPING STATION SITE PLAN (CIVIL)
P102	WET WELL CROSS SECTIONS & CONSTRUCTION NOTES
P103	VALVE CHAMBER CROSS SECTIONS
P104	EMERGENCY STORAGE TANK CROSS SECTIONS
P105	GENERAL PROCESS DETAILS
M001	MECHANICAL SPECIFICATIONS, LEGEND & SITE PLAN
M100	PLUMBING: CONTROL BUILDING FLOOR PLAN
M101	HVAC: CONTROL BUILDING FLOOR PLAN & WET WELL SECTION
M102	DETAILS (MECHANICAL)
M103	SCHEDULES (MECHANICAL)
E001	ELECTRICAL LEGEND & CONTROL BUILDING DETAILS
E100	SPS SITE PLAN – PHOTOMETRIC
E101	SPS SITE LIGHTING DETAILS
E110	SPS SITE PLAN – ELECTRICAL
E111	WET WELL & VALVE CHAMBER DETAILS
E112	SPS SITE ELECTRICAL DETAILS (SHEET 1 OF 2)
E113	SPS SITE ELECTRICAL DETAILS (SHEET 2 OF 2)
E300	CONTROL BUILDING – POWER & SYSTEMS
E400	SPS SINGLE LINE DIAGRAM, DETAILS & SCHEDULES
E401	SCHEDULES (ELECTRICAL)
E402	ELECTRICAL SCHEMATICS & BLOCK DIAGRAMS (SHEET 1 OF 3)
E403	ELECTRICAL SCHEMATICS & BLOCK DIAGRAMS (SHEET 2 OF 3)
E404	ELECTRICAL SCHEMATICS & BLOCK DIAGRAMS (SHEET 3 OF 3)
E405	SEWAGE PUMPING STATION CONTROL DIAGRAMS
E406	PLC–1 I/O SCHEMATICS



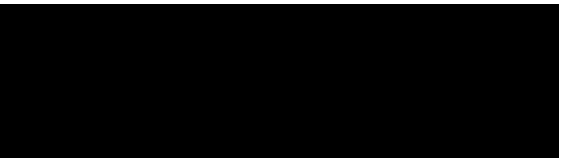
MUNICIPALITY

TOWN OF THE BLUE MOUNTAINS
32 MILL STREET
THE BLUE MOUNTAINS, ONTARIO, NOH 2P0

DEVELOPER

MACPHERSON BUILDERS (BLUE MOUNTAIN) LTD
5525 EGLINTON AVENUE WEST, SUITE 128
TORONTO, ONTARIO, M9C 5K5

DEVELOPER'S ENGINEER



MASTER LEGEND

EXISTING FEATURES (EX.)

XXX.X	EX. CONTOUR
+XXX.XX	EX. GRADE
---	EX. TREELINE
---	EX. WATERCOURSE
---	EX. DITCH
---	EX. WATERMAIN
---	EX. WATER SERVICE
---	EX. FIRE HYDRANT & VALVE
---	EX. SANITARY SEWER & MANHOLE
---	EX. SANITARY FORCEMAIN
---	EX. SANITARY SERVICE
---	EX. STORM SEWER & MANHOLE
---	EX. STORM CATCHBASIN
---	EX. STORM DOUBLE CATCHBASIN
---	EX. STORM CATCHBASIN MANHOLE
---	EX. STORM DOUBLE CATCHBASIN MANHOLE
---	EX. GAS MAIN
---	EX. BELL LINE
---	EX. BELL PEDESTAL
---	EX. CABLE TELEVISION PEDESTAL
---	EX. HYDRO POLE
---	EX. LIGHT STANDARD
---	EX. SIGN
---	EX. BUILDING
BM#	EX. BENCHMARK NUMBER & LOCATION
BH#	EX. BOREHOLE NUMBER & LOCATION

PROPOSED FEATURES (PR.)

---	PR. PROPERTY LIMITS
+XXX.XX	PR. ELEVATION
+XXX.XX	PR. ELEVATION (MATCH EX. ELEVATION)
---	PR. SWALE & SLOPE
---	PR. DITCH DRAINAGE
---	PR. WATERMAIN & VALVE
---	PR. WATER SERVICE
---	PR. STORM SERVICE
---	PR. FIRE HYDRANT & VALVE
---	PR. WATER VALVE CHAMBER
---	PR. WATER QUALITY TESTING STATION
---	PR. SANITARY SEWER & MANHOLE
---	PR. SANITARY FORCEMAIN
---	PR. LOW PRESSURE SANITARY FORCEMAIN
---	PR. SANITARY SERVICE
---	PR. SANITARY CATCHMENT
---	PR. CATCHMENT AREA ID
---	PR. AREA (ha)
---	PR. POPULATION (2.3 p.p.u.)
---	PR. STORM SEWER & MANHOLE
---	PR. CATCHBASIN
---	PR. DOUBLE CATCHBASIN
---	PR. CATCHBASIN MANHOLE
---	PR. DOUBLE CATCHBASIN MANHOLE
---	PR. STORM CATCHMENT
---	PR. CATCHMENT AREA ID
---	PR. RUNOFF COEFFICIENT
---	PR. DRAINAGE AREA (ha)
---	PR. CURB CUT
---	PR. CANADA POST COMMUNITY MAIL BOX
---	PR. TRANSFORMER
---	PR. STOP SIGN
---	PR. NAME SIGN
---	PR. NO PARKING SIGN
---	PR. FENCE
---	PR. BUILDING ENVELOPE
---	PR. LIGHT DUTY SILT FENCE
---	PR. HEAVY DUTY SILT FENCE
---	PR. STRAW BALE CHECK FLOW
---	PR. ROCK CHECK DAM
---	PR. SLOPE (3:1 MAX.)
---	PR. TREE PRESERVATION AREA
---	PR. TOPSOIL STOCKPILE LOCATION
---	PR. LIGHT STANDARD

PROJECT No.: 721-3464
ISSUED FOR APPROVAL REV 1

1. THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT, INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND VENDOR DRAWINGS. 2. THIS SET OF DRAWINGS SHOWS THE COMPLETED CONSTRUCTED PROJECT, IN TERMS OF STRUCTURAL COMPONENTS, THE DRAWINGS DO NOT SHOW COMPONENTS THAT MAY BE NECESSARY FOR CONSTRUCTION SAFETY. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND ABOUT THE JOB SITE DURING CONSTRUCTION, AND THE DESIGN AND ERECTION OF ALL TEMPORARY STRUCTURES, FORMWORK, FALSE WORK, SHORING, ETC. REQUIRED TO COMPLETE THE WORK. 3. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE PROTECTION OF EXISTING STRUCTURES DURING CONSTRUCTION INCLUDING PAINTING AND WELDING. 4. THE OWNER AND ENGINEER SHALL NOT BE RESPONSIBLE FOR THE METHODS, TECHNIQUES AND SEQUENCES OF PROCEDURE TO PERFORM THE WORK. THE SUPERVISION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. 5. THE USE OF THESE DRAWINGS IS LIMITED TO THAT IDENTIFIED IN THE REVISIONS COLUMN. DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED "ISSUED FOR CONSTRUCTION" IN THE REVISIONS COLUMN, BY THE ENGINEER. 6. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO APPROVAL BY THE ENGINEER. 7. THE INFORMATION ON THESE DRAWINGS SHALL NOT BE USED FOR ANY OTHER PROJECT OR WORKS. 8. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE REPRODUCTION OF ANY PART WITHOUT PRIOR WRITTEN CONSENT OF THIS OFFICE IS STRICTLY PROHIBITED. 9. DO NOT SCALE THE DRAWINGS. 10. ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION. 11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE NECESSARY SITE REVIEW AND OBTAIN ALL INFORMATION OF ANY POSSIBLE PHYSICAL OBSTRUCTION THAT MAY AFFECT HIS WORK PERFORMANCE BEFORE PROCEEDING WITH ANY TYPE OF WORK. 12. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION. 13. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY UNAUTHORIZED CHANGES AND DEVIATIONS FROM APPROVED DRAWINGS. THE CONSTRUCTION NOTES AND DRAWINGS ARE SUPPLIED TO ILLUSTRATE THE DESIGN AND GENERAL TYPES OF CONSTRUCTION AND ARE INTENDED TO REQUIRE THE HIGHEST STANDARDS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP. 14. THE CONTRACTOR SHALL LEAVE THE ENTIRE SITE CLEAN AND FREE OF ALL CONSTRUCTION MATERIALS AND WASTE. 15. SECTION MARK SHOWN THUS  MEANS SECTION "A" ON DRAWING S301. 16. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SLEEVES, NAILERS, INSERTS, ETC., TO BE ENCASED IN CONCRETE. 17. SEE ARCHITECTURAL DRAWINGS FOR FLOOR AND ROOF ELEVATIONS, RECESSES, DRAINAGE SLOPES, ETC. 18. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND LANDSCAPE DRAWINGS FOR LOCATIONS, CONFIGURATIONS, EXTENT, AND SIZES OF ALL CURBS, UPSTANDS, DOWNTURNS, AND FOR OPENINGS THROUGH FLOOR AND WALLS FOR DUCTS, CONDUIT AND PIPING "NOT SHOWN ON STRUCTURAL DRAWINGS", PROVIDE FOR SAME. 19. THE GENERAL CONTRACTOR SHALL REVIEW ALL THE DRAWINGS AND CHECK DIMENSIONS BEFORE CONSTRUCTION. REPORT DISCREPANCIES BETWEEN STRUCTURAL AND OTHER DISCIPLINES DRAWINGS, IF APPLICABLE, FOR CLARIFICATION. 20. CONCRETE WORK SHALL CONFORM TO CAN/CSA-A23.1, CAN/CSA-A23.2, CAN/CSA-23.3 AND REFERENCED DOCUMENTS. 21. STRUCTURAL STEEL WORK SHALL CONFORM TO CAN/CSA-S16 AND REFERENCED DOCUMENTS. 22. MASONRY WORK SHALL CONFORM TO CSA-S304.1 AND ITS REFERENCED DOCUMENTS. 23. FIRE RESISTANCE RATINGS SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR PRECISE LOCATION OF REQUIRED FIRE RESISTANCE RATINGS. 24. ALL WORKS SHALL BE COMPLETED IN ACCORDANCE WITH THE ONTARIO BUILDING CODE UNLESS OTHERWISE SPECIFIED 25. DO NOT CUT OR DRILL ANY OPENINGS IN STRUCTURAL MEMBERS WITHOUT WRITTEN PERMISSION OF C.F. CROZIER & ASSOCIATES, LTD.		SEISMIC (COLLINGWOOD, ON) SITE CLASS : C (STIFF SOIL) SYSTEM: CONVENTIONAL CONSTRUCTION MASONRY SHEAR WALL So(0.2):0.096 So(0.5):0.07 So(1.0):0.044 So(2.0):0.023 So(5.0):0.058 So(10.0):0.024 PGA: 0.055 PGV: 0.056 Ie: 1.5 Rd: 1.0 Ro: 1.0 IefαSo(0.2):0.14 Vdesign: 20kN FIELD REVIEW BY ENGINEER 1. THE ENGINEER PROVIDES FIELD REVIEW ONLY FOR THE WORK SHOWN ON THESE STRUCTURAL DRAWINGS. REVIEW IS TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE PLANS AND SUPPORTING DOCUMENTS. 2. PROVIDE 48 HOURS ADVANCE NOTICE OF EACH REQUIRED FIELD REVIEW. FIELD REVIEWS SHALL BE SCHEDULED TO BE CARRIED OUT DURING NORMAL BUSINESS HOURS. 3. DESIGN AND FIELD REVIEW OF EXCAVATION, SHORING, AND BACKFILL IS NOT PERFORMED BY C.F. CROZIER & ASSOCIATES. THIS REVIEW SHALL BE UNDERTAKEN BY A PROFESSIONAL ENGINEER WHO HAS DESIGNED THIS WORK. INSPECTION & TESTING NOTES 1. INSPECTIONS ARE TO BE CARRIED OUT BY AN INDEPENDENT TESTING AND INSPECTION COMPANY FOR THE FOLLOWING WORK: A. PRIOR TO PLACING CONCRETE FOR FOUNDATIONS, FOR SOIL AT FOUNING ELEVATION AND FOR BEARING VALUE B. STRENGTH TESTS FOR CONCRETE FOR FOOTINGS, WALLS, SLABS, ETC. AS REQUIRED BY THE ONTARIO BUILDING CODE C. COMPACTION TESTS FOR FILL UNDER FLOOR SLABS AND AT EXCAVATION FOR WALLS, FOOTINGS, ETC. D. STRUCTURAL STEEL, INCLUDING WELDING, BOLT TENSIONS, ALIGNMENT, PLUMB, ETC. E. DEEP FOUNDATION LOADING SUCH AS HELICAL PIER TORQUE RESISTANCE 2. COPIES OF TESTS RESULTS ARE TO BE SUBMITTED TO THE ENGINEER, MUNICIPALITY AND OWNER. SHOP DRAWING RESPONSIBILITIES AS PART OF THEIR FIELD SERVICES, THE ENGINEER MAY REVIEW SHOP DRAWINGS PERTAINING TO WORK SHOWN ON THE ENGINEER'S DRAWINGS BY MEANS OF APPROPRIATE RATIONAL SAMPLING PROCEDURES AND COMMENT ON THE ACCURACY WITH WHICH THE CONTRACTOR PREPARED THE DRAWINGS. REVIEW OF SHOP DRAWINGS IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT AND IS NOT AN APPROVAL OF THE DETAIL DESIGN INHERENT IN THE SHOP DRAWINGS. RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING THEM. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS OR FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INFORMATION PERTAINING TO THE FABRICATION PERFORMED BY THE CONTRACTOR OF CONSTRUCTION AND INSTALLATION, AND FOR CO-ORDINATION OF THE WORK OF ALL SUB-TRADES. 1. MANUFACTURERS OF ALL STRUCTURAL ELEMENTS SHALL SUBMIT COMPLETE SHOP DRAWINGS. THE CONTRACTOR SHALL MAKE ADEQUATE PROVISION FOR ALL LIKELY CONSTRUCTION LOADING AND SPECIFICATIONS AND ALLOW A MINIMUM OF TWO(2) WEEKS FOR REVIEW. THE SUBMISSION NOR THE REVIEW SHALL RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY FOR PROVIDING PROPER ENGINEERING DESIGN, METHODS, EQUIPMENT, WORKMANSHIP AND SAFETY PROCEDURES. 2. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR THE FOLLOWING: A. CONCRETE MIX DESIGN B. REINFORCING STEEL SHOP DRAWINGS C. PRE-ENGINEERED ROOF TRUSS D. PRE-ENGINEERED ATTIC HATCH E. BRICK&TIES F. ASPHALT SHINGLES TEMPORARY WORKS 1. THE CONTRACTOR SHALL DESIGN, PROVIDE, ERECT, MAINTAIN, REMOVE AND ASSUME FULL AND SOLE RESPONSIBILITY FOR ALL TEMPORARY WORKS REQUIRED FOR THE SAFE AND COMPLETE EXECUTION OF THE WORKS. 2. IN THE EXECUTION OF THE TEMPORARY WORKS AND FOR THE DURATION OF THE CONTRACT, THE CONTRACTOR SHALL MAKE ADEQUATE PROVISION FOR ALL LIKELY CONSTRUCTION LOADING AND PROVIDE SUFFICIENT BRACING AND PROPS TO KEEP THE WORKS IN PLUMB AND ALIGNMENT, AND FREE FROM EXCESSIVE DEFLECTION. 3. ACCESS OF HEAVY CONSTRUCTION EQUIPMENT AND ACCUMULATION OF CONSTRUCTION MATERIALS ON THE FLOORS ARE NOT PERMITTED, UNLESS SUCH HAVE BEEN CATERED FOR IN THE CONTRACTOR'S TEMPORARY WORK DESIGN TO THE SATISFACTION OF THE ARCHITECT. 4. COSTS OF ALL TEMPORARY WORKS, ARE DEEMED TO HAVE BEEN INCLUDED IN THE CONTRACT PRICE. CONSTRUCTION TOLERANCES 1. WHERE ANY DEVIATION OCCURS, AND IT IS ACCEPTABLE TO THE ENGINEER AND ARCHITECT, THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTMENT OF OTHER BUILDING ELEMENTS TO ACCOMMODATE SUCH DEVIATION. COST FOR REMEDIAL WORK FOR DEVIATIONS NOT ACCEPTED SHALL BE BOURNE BY THE CONTRACTOR. 2. THESE REQUIREMENTS SHALL BE REGARDED AS MINIMUM STANDARDS ONLY. THEY DO NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO MEET MORE RIGOROUS REQUIREMENTS SPECIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS OR AS REQUIRED IN SPECIFICATIONS OR SHOP DRAWINGS FOR EQUIPMENT SUCH AS ELEVATORS. MASONRY 3. CONSTRUCTION TOLERANCES FOR STRUCTURAL ELEMENTS SUPPORTING MASONRY WALLS SHALL BE CO-ORDINATED WITH THE REQUIREMENTS FOR MASONRY CONSTRUCTION TOLERANCES IN CSA STANDARD A371. CONCRETE 1. CONSTRUCTION TOLERANCES SHALL CONFORM TO CSA-A23.1 EXCEPT AS NOTED BELOW. 2. VARIATION FROM THE PLUMB: A. IN THE LINES AND SURFACES OF COLUMNS, PIERS, WALLS AND IN ARISES: • 0.25% OF HEIGHT (1 IN 400), MAXIMUM 38mm. • ONLY ONE CURVATURE PER 3m. • THE TOLERANCE GIVEN IS THE MAXIMUM VARIATION FROM A PLUMB LINE. • ALL MEASUREMENTS SHALL BE TO THE SAME SIDE OF THE PLUMB LINE. B. UNLESS SPECIFIED OTHERWISE, THE TOLERANCES FOR EXPOSED CORNER COLUMNS, CONTROL JOINT GROOVES AND OTHER CONSPICUOUS LINES SHALL BE: • 0.125% OF HEIGHT (1 IN 800), MAXIMUM 19mm. • ONLY ONE CURVATURE PER 6m. • MAXIMUM VARIATION IN WINDOW FRAMES SHALL BE 0.2% OF OPENING.	3. VARIATION FROM THE LEVEL OR FROM THE GRADES OR CAMBERS INDICATED: A. UNLESS SPECIFIED OTHERWISE, FLOOR FINISHES SHALL BE CLASS B: • WITH A TOLERANCE OF ±8mm PER 3m, ±9mm OVERALL • ONLY ONE CURVATURE ALLOWED IN 3m. 7. TOLERANCES GIVEN ARE MAXIMUM DISTANCES FROM SPECIFIED LEVELS. CLOSER TOLERANCES MAY BE REQUIRED TO SATISFY SPECIFIED FLOOR FINISHES. 8. UNLESS SPECIFIED OTHERWISE THE LATERAL POSITION OF SLAB EDGE RELATIVE TO SPECIFIED VERTICAL PLANE SHALL BE 12mm OVERALL WITH A MAXIMUM VARIATION OF 6mm OVER A VERTICAL OR HORIZONTAL DISTANCE OF 3m. 9. LOCATION OF COLUMNS AND WALLS SHALL CONFORM TO REQUIREMENTS FOR COLUMNS IN CAN3 A23.1. 10. VARIATION IN CROSS-SECTIONAL DIMENSIONS OF COLUMNS AND BEAMS AND IN THE THICKNESS OF SLABS AND WALLS SHALL CONFORM TO CAN3 A23.1. (ONLY ONE CURVATURE ALLOWED IN 3m).	CONSTRUCTION 1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL PARTS OF THE EXISTING BUILDING IN A SAFE CONDITION DURING THE PROCESS OF CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF EXISTING AND ADJACENT FOOTINGS FROM BEING UNDERMINED AND OVERLOADED BY LIMITING THE SLOPE OF THE LINE BETWEEN ADJACENT FOOTING ELEVATIONS TO 7:10 MAXIMUM AND A MAXIMUM RISE OF 600mm. CONCRETE 1. CONCRETE IS SPECIFIED AS PER THE "PERFORMANCE" ALTERNATE AS OUTLINED IN TABLE 5 OF CAN/CSA-A23.1-04. 2. CONCRETE, FOR FLOOR SLAB, SHALL CONFORM TO THE FOLLOWING: CLASS OF EXPOSURE: N 2, EXPOSED TO FREEZING 5-8% AIR CONTENT AND THAWING STRENGTH: 25 MPa MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS 3. CONCRETE, FOR FOOTINGS AND FOUNDATION WALLS, SHALL CONFORM TO THE FOLLOWING: CLASS OF EXPOSURE: N 2, EXPOSED TO FREEZING 5-8% AIR CONTENT AND THAWING STRENGTH: 25 MPa MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS 4. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR WORKING WITH THE CONCRETE SUPPLIER TO ENSURE THAT THE PLUMB AND HARDENED MIX PROPERTIES MEET SITE REQUIREMENTS FOR PLACING, FINISHING, AND THE OWNER'S SPECIFIED PERFORMANCE REQUIREMENTS. THE GENERAL CONTRACTOR SHALL MEET THE DOCUMENTATION AND QUALITY CONTROL REQUIREMENTS OUTLINED UNDER THE "PERFORMANCE" ALTERNATE OF TABLE 5 OF CAN/CSA-A23.1-14. 5. THE SUPPLIER SHALL MEET ALL CERTIFICATION AND DOCUMENTATION REQUIREMENTS AS OUTLINED UNDER THE "PERFORMANCE" ALTERNATE OF TABLE 5 OF A23.1-14. 6. THE CONCRETE SUPPLIER SHALL BE CERTIFIED BY CONCRETE ONTARIO. 7. PORTLAND CEMENT SHALL BE TYPE GU UNLESS NOTED OTHERWISE. 8. CONCRETE SHALL HAVE A UNIT WEIGHT OF 145 ± 35 kPa UNLESS NOTED OTHERWISE. 9. SLUMP AND AGGREGATE SIZE TO BE DETERMINED BY THE GENERAL CONTRACTOR AND SUPPLIER TO MEET PLACEMENT, AND FINISHING REQUIREMENTS WITHOUT SEGREGATION WHILE MEETING ALL OWNER SPECIFICATIONS. 10. MAXIMUM WATER/CEMENT RATIO AND AIR CONTENT TO MEET THE REQUIREMENTS FOR THE EXPOSURE CLASS AS OUTLINED IN TABLE 2, 4 AND 20 OF CAN/CSA-A23.1. 11. CEMENT TYPE FOR EXPOSURE CLASSES S-1, S-2, AND S-3 SHALL BE AS OUTLINED IN TABLE 3 OF CAN/CSA-A23.1. 12. CHLORIDE ION PENETRABILITY FOR EXPOSURE CLASS C-1 AND C-XL SHALL MEET THE REQUIREMENTS OF TABLE 2 OF CAN/CSA-A2
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TENSION EMBEDMENT AND SPLICE LENGTH CONT.
BOTTOM: "TOP BAR" VALUES ARE 1.3 TIMES THE ABOVE LENGTHS. "TOP BAR" APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300mm OR MORE OF CONCRETE BELOW THE BAR.
NOTES: EPOXY REINFORCING
INCREASE THESE TABLE LENGTHS BY 1.5 FOR EPOXY COATED REINFORCEMENT.
INCREASE THESE TABLE LENGTHS BY 1.7 FOR EPOXY COATED TOP REINFORCEMENT.

CASE 2 CONDITIONS

TENSION EMBEDMENT AND SPLICE LENGTHS ARE TO BE AS PER THE FOLLOWING TABLE FOR MEMBERS NOT SATISFYING CASE 1 CONDITIONS AS SET OUT ABOVE. FOR EXAMPLE:

- ONE WAY SLAB TOP BARS (SEE TOP BAR NOTE).
- SLAB BAND BOTTOM BARS.
- BARS (EXCLUDING THE SPLICE) SPACED CLOSER TOGETHER THAN 2 BAR DIAMETERS.
- STIRRUPS IN BEAMS AND GIRDER.
- SEE ALSO NOTES ON TOP BARS AND EPOXY COATED REINFORCEMENT.

REBAR DESIGNATION	FUNCTION	CONCRETE STRENGTH				
		20 MPa	25 MPa	30 MPa	35 MPa	40 MPa
10M	EMBEDMENT	425	375	350	325	300
	SPLICE	550	500	450	425	400
15M	EMBEDMENT	625	575	525	475	450
	SPLICE	825	725	675	625	575
20M	EMBEDMENT	850	750	700	650	600
	SPLICE	1100	975	900	825	775
25M	EMBEDMENT	1325	1175	1075	1000	925
	SPLICE	1475	1525	1400	1300	1225
30M	EMBEDMENT	1575	1425	1300	1200	1125
	SPLICE	2050	1850	1675	1550	1450
35M	EMBEDMENT	1850	1650	1500	1400	1300
	SPLICE	2400	2125	1975	1825	1700

BOTTOM: "TOP BAR" VALUES ARE 1.3 TIMES THE ABOVE LENGTHS. "TOP BAR" APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300mm OR MORE OF CONCRETE BELOW THE BAR.

NOTES: EPOXY REINFORCING
INCREASE THESE TABLE LENGTHS BY 1.5 FOR EPOXY COATED REINFORCEMENT.
INCREASE THESE TABLE LENGTHS BY 1.7 FOR EPOXY COATED TOP REINFORCEMENT.

REBAR DESIGNATION	FUNCTION	CONCRETE STRENGTH			
		20 MPa	25 MPa	30 MPa & GREATER	
10M	EMBEDMENT	225	200	200	
	SPLICE	300	300	300	
15M	EMBEDMENT	325	300	275	
	SPLICE	450	450	450	
20M	EMBEDMENT	425	375	350	
	SPLICE	575	575	575	
25M	EMBEDMENT	525	475	425	
	SPLICE	725	725	725	
30M	EMBEDMENT	625	575	525	
	SPLICE	850	850	850	
35M	EMBEDMENT	750	650	600	
	SPLICE	1000	1000	1000	

EMBEDMENT OF DOWELS

- WHERE EMBEDMENT IS DIMENSIONED ON THE DRAWINGS, SUCH DIMENSION SHALL APPLY.
- WHERE THE DRAWINGS INDICATE COMPRESSION EMBEDMENT OR WHERE NO EMBEDMENT TYPE IS CALLED FOR, IT SHALL BE AS NOTED BELOW FOR COMPRESSION EMBEDMENT.
- WHERE DRAWINGS INDICATE TENSION EMBEDMENT, IT SHALL BE AS NOTED BELOW FOR TENSION EMBEDMENT.
- ALL EMBEDMENT LENGTHS ARE FOR GRADE 400 REINFORCING STEEL.

REBAR DESIGNATION	COMPRESSION & TENSION EMBEDMENT									
	COMPRESSION EMBEDMENT					TENSION EMBEDMENT				
	CONCRETE STRENGTH					CONCRETE STRENGTH				
	20 MPa	25 MPa	30 MPa & OVER	20 MPa	25 MPa	30 MPa	35 MPa	40 MPa		
10M	250	225	200	300	300	300	300	300		
15M	350	300	275	375	375	375	375	375		
20M	425	375	350	500	450	450	450	450		
25M	525	475	425	825	750	675	625	600		
30M	625	550	525	1175	1050	950	875	825		
35M	750	675	625	1675	1500	1375	1250	1175		

COLUMN SPLICES – WALL ZONE SPLICES

- WHERE SPLICES ARE DIMENSIONED ON THE DRAWINGS, SUCH DIMENSION SHALL APPLY.
- WHERE THE DRAWINGS INDICATE COMPRESSION SPLICES OR WHERE NO SPLICE TYPE IS CALLED FOR, THEY SHALL BE AS NOTED BELOW FOR COMPRESSION SPLICES.
- WHERE DRAWINGS INDICATE TENSION SPLICES, THEY SHALL BE AS NOTED BELOW FOR TENSION SPLICES.
- ALL SPLICE LENGTHS ARE FOR GRADE 400 REINFORCING STEEL.

REBAR DESIGNATION	COMPRESSION SPLICE	TENSION SPLICE (CLASS C)				
		CONCRETE STRENGTH				
		20 MPa	25 MPa	30 MPa	35 MPa	40 MPa
10M	450	450	450	300	450	450
15M	475	625	625	625	625	625
20M	575	850	775	750	825	825
25M	725	1425	1275	1150	1075	1000
30M	850	1975	1775	1625	1500	1400
35M	1025	2950	2550	2325	2150	2000

CONDUITS, PIPES AND SLEEVES IN CONCRETE

EXCEPT WHEN APPROVED BY THE STRUCTURAL ENGINEER, PIPES, CONDUITS, AND SLEEVES EMBEDDED IN CONCRETE SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING GUIDELINES:

- GENERAL:
 - CENTRELINE SPACING SHALL BE NOT LESS THAN 3 DIAMETERS.
 - CENTRELINE SPACING BETWEEN PARALLEL CONDUIT AND REINFORCING BARS SHALL BE THREE DIAMETERS.
 - ADD REINFORCING AT POINTS OF CONGESTION AS DIRECTED BY THE STRUCTURAL ENGINEER.
 - FOR TOPPING ON STEEL DECK, THE CONCRETE THICKNESS IS MEASURED FROM THE TOP OF THE DECK FLUTE.
 - NOT WITHSTANDING THE SATISFYING OF THESE GUIDELINES, THE CONDUIT, SLEEVES, PIPES, ETC., SHALL NOT IMPAIR THE STRUCTURAL STRENGTH AND SHALL BE MOVED IF SO DIRECTED BY THE STRUCTURAL ENGINEER.
- FOR CONDUITS IN THE PLANE OF SLABS AND WALLS:
 - LOCATE BETWEEN TOP AND BOTTOM REINFORCING OR EACH FACE OF REINFORCING.
 - MAXIMUM SIZE IN ONE LAYER SHALL BE NOT MORE THAN 1/4 CONCRETE THICKNESS.
 - OVERALL DEPTH OF CONDUITS AT CROSS-OVERS SHALL NOT BE MORE THAN 1/2 CONCRETE THICKNESS.
- FOR COLUMNS: CONDUIT OR SLEEVES ARE NOT ALLOWED WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER. EMBEDDED PIPING WILL NOT BE ALLOWED.

REINFORCING
1. UNLESS OTHERWISE NOTED, WALLS SHALL BE REINFORCED AS FOLLOWS:

METRIC UNITS

150mm: 15M @ 450mm VERT.
15M @ 300mm HOR.

200mm: 15M @ 300mm VERT.
15M @ 500mm HOR.

250mm: 15M @ 500mm VERT.
15M @ 250mm HOR.

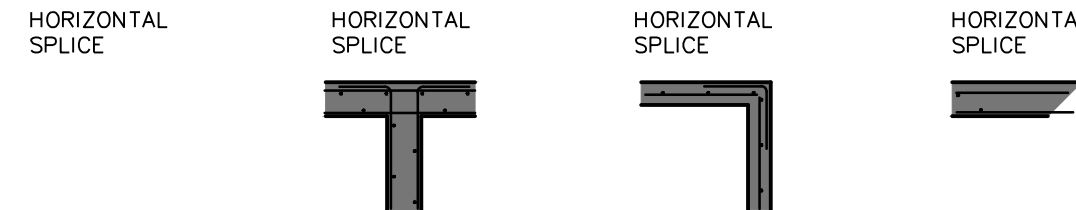
300mm: 15M @ 450mm VERT. E.F. STAGG.
15M @ 300mm HOR. E.F. STAGG.

FOR OTHER THICKNESS, REINFORCEMENT SHALL BE PROPORTIONAL TO ABOVE.

- ALL WALL REINFORCING SHALL BE CONTINUOUS, WITH HOOKS OR CORNER BARS USED AT ALL WALL JUNCTIONS. EXTEND HOOKS TO FAR FACE OF WALL. CORNER BARS SHALL BE LOCATED ON OUTSIDE FACE OR CORNER OF WALL.

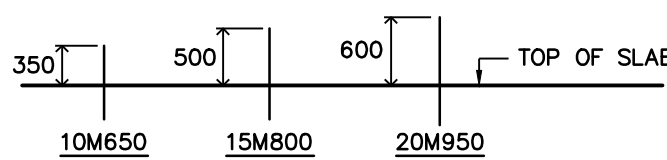
- SPLICES SHALL BE AS FOLLOWS:
BAR:

	10M	15M
A. HORIZONTAL SPLICES SHALL HAVE LAPS OF :	400mm	600mm
B. VERTICAL SPLICES SHALL HAVE LAPS OF: UNLESS OTHERWISE NOTED ON THE DRAWINGS.	350mm	450mm



DETAIL OF HORIZONTAL REINFORCEMENT AT CORNERS

- AT ENDS OF WALLS, PROVIDE TWO(2)– 15M BARS VERTICAL LAPPED 600mm UNLESS OTHERWISE NOTED ON WALL SCHEDULE.
- AT OPENINGS IN WALLS, PROVIDE TWO(2)– 15M BARS PARALLEL TO ALL EDGES AND AT 45° TO EDGE OF PENNING AND EXTENDING BEYOND CORNERS.
- PROVIDE DOWELS AT BASE OF WALLS TO MATCH VERTICAL STEEL UNLESS NOTED.



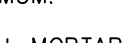
SLAB ON GRADE

- PROVIDE CONCRETE SLABS OVER A 6 MIL POLYETHYLENE VAPOUR BARRIER AND 200mm OF GRANULAR 'A' COMPACTED TO 100% SPD DENSITY AS FOLLOWS:
 - 130mm SLAB REINFORCED WITH WMM 152x152–25.8/25.8 AND WITH 32MPa MIX CONCRETE. MAXIMUM SLUMP FOR ALL CONCRETE SLABS SHALL BE 125mm, USING TYPE 2 CEMENT. CONCRETE SHALL BE POWER TROWELED.
- SEE THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DEPRESSED SLAB AREAS AND DRAINS. SLOPE SLAB TO DRAINS WHERE SHOWN.
- ALL WELDED WIRE FABRIC SHALL BE IN ACCORDANCE WITH CSA G30.5 LAP ADJOINING PIECES AT LEAST ONE FULL MESH.
- ALL POROUS FILL MATERIAL SHALL BE A CLEAN GRANULAR MATERIAL WITH 100% PASSING A 38mm SIEVE AND NO MORE THAN 5% PASSING A NO. 4 SIEVE. POROUS FILL SHALL BE COMPACTED TO 98% MAX. DRY DENSITY PER ASTM D–698.
- THE ENGINEER SHALL NOT BE RESPONSIBLE FOR DIFFERENTIAL SETTLEMENT, SLAB CRACKING OR THEIR FUTURE DEFECTS RESULTING FROM UNREPORTED CONDITIONS MITIGATING THE ABOVE ASSUMED CRITERIA.
- SLAB JOINTS SHALL BE FILLED WITH APPROVED MATERIAL. REMOVE ALL DEBRIS FROM THE SLAB JOINTS, THEN FILL IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AS FOLLOWS:
 - UP TO 150mm SLABS – FILL WITH EPOXY RESIN
 - OTHER SLABS – FILL WITH FIELD MOLDED OR ELASTOMERIC SEALANT
- UNLESS OTHERWISE APPROVED, ALL WELDED WIRE FABRIC SHALL BE BLOCKED INTO THE POSITION INDICATED WITH PRECAST CONCRETE BLOCKS HAVING A COMPRESSIVE STRENGTH EQUAL TO THAT OF THE SLAB.
- WALKWAYS AND OTHER EXTERIOR SLABS ARE NOT INDICATED ON THE STRUCTURAL DRAWINGS. SEE THE SITE PLAN AND ARCHITECTURAL DRAWINGS FOR LOCATIONS, DIMENSIONS, ELEVATIONS, JOINTING DETAILS AND FINISH DETAILS. PROVIDE 100mm WALKS REINFORCED WITH 150x150 W9.1xW9.1 WWF UNLESS OTHERWISE NOTED.
- SLABS TO BE PERMANENTLY EXPOSED TO WEATHER SHALL BE AIR ENTRAINED TO 5–8% WITH AN ADMIXTURE THAT CONFORMS TO CSA A23.3.
- ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF CSA A23.3 DESIGN OF CONCRETE STRUCTURES. HOT AND COLD WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH CSA A23.1 OR A23.4 AS APPLICABLE.
- IN ORDER TO AVOID CONCRETE SHRINKAGE CRACKING, PLACE CONCRETE SLABS IN AN ALTERNATING LANE (OR CHECKERBOARD) PATTERN. THE MAXIMUM LENGTH OF SLAB CAST IN ANY ONE CONTINUOUS POUR IS RECOMMENDED TO BE LESS THAN 30m. THE MAXIMUM SPACING OF JOINTS SHALL BE 7.6m.

- THE ALTERNATE WIRES OF THE WELDED WIRE FABRIC MUST BE PRECUT AT THE SLAB CONTRACTION JOINT LOCATIONS TO CREATE A WEAKENED PLANE. WITHOUT CUTTING THE ALTERNATE WIRES, THE STRENGTH OF THE WIRE WILL PREVENT THE SLAB FROM CRACKING (SEPARATING) AT THE JOINT AND THE SLAB MAY BEGIN TO CRACK ELSEWHERE.
- THE USE OF POLYPROPYLENE FIBRES (IN LIEU OF WELDED WIRE FABRIC) IS PROHIBITED WITHOUT THE WRITTEN AUTHORIZATION OF THE ENGINEER.
- SLABS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING:
 - SLAB THICKNESS – SLAB THICKNESS DESIGN FOR INDUSTRIAL CONCRETE FLOORS ON GRADE, BY ROBERT PACKARD, PORTLAND CEMENT ASSOC. 1976.
 - REINFORCING – DESIGN PROCEDURES FOR INDUSTRIAL SLABS, INTERIM REPORT 1973, THE WIRE REINFORCEMENT INSTITUTE.
- REFER TO SPECIFIED LOADS FOR SLAB LOADING CRITERIA
- THE ENGINEER SHALL NOT BE RESPONSIBLE FOR DIFFERENTIAL SETTLEMENT, SLAB CRACKING OR THEIR FUTURE DEFECTS RESULTING FROM UNREPORTED CONDITIONS MITIGATING THE ABOVE ASSUMED CRITERIA.
- THE FINISH TOLERANCE OF ALL SLABS SHALL BE IN ACCORDANCE WITH ACI 301, TYPE A.
- INSTALL SAW-CUTS TO A MINIMUM OF 1/4 THE SLAB DEPTH IN THE FLOOR SLAB WITHIN 24 HOURS OF POUR. THE MAXIMUM CENTER/CENTER SPACING FOR SAW-CUTS SHALL BE 24 TIMES THE DEPTH UNLESS NOTED OTHERWISE.

- FILL SAWCUTS AND CONSTRUCTION JOINTS WITH SEMI-RIGID, FLEXIBLE EPOXY JOINT FILLER, TO THE MANUFACTURER'S SPECIFICATIONS. ACCEPTABLE FILLER IS REZI-WELD FLEX, STERNSON LOADFLEX, W.R. MEADOWS BONDIFLEX, OR APPROVED ALTERNATE. USE W.R. MEADOWS GARDOX FOR EXTERIOR SAWCUTS.

LOAD BEARING MASONRY (NON-SEISMIC ZONES)

- LOAD-BEARING MASONRY WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ONTARIO BUILDING CODE. FOR ADDITIONAL REQUIREMENTS SEE MASONRY SPECIFICATIONS AND STRUCTURAL DRAWINGS.
- MASONRY WORK SHALL CONFORM TO CSA S304.1 AND ITS REFERENCED DOCUMENTS, INCLUDING:
 - CONCRETE BLOCK TO CAN/CSA–A165.1, TYPE H15/A, UNLESS NOTED OTHERWISE ON SCHEDULE (BASED ON NET AREA).
 - MORTAR TO CAN/CSA–A179, TYPE 'S' FOR ALL WALLS.
 - GROUT TO CAN/CSA–A179.
 - MASONRY WIRE REINFORCING TO CSA G30.5.
 - REINFORCING BARS TO CAN/CSA–G30.18 – 400 mPa
 - MECHANICAL CONNECTIONS & WELDED SPLICES TO CSA–W186 – 400 mPa.
 - CONNECTIONS TO CAN/CSA–A370.
 - PRACTICE TO CAN/CSA–A371.
- FILL BLOCK CORES UNDER ALL CONCENTRATED LOADS WITH 20 MPa CONCRETE GROUT TO A DEPTH OF AT LEAST 600mm MEASURED DOWN FROM THE BEARING.
- PROVIDE HEAVY-DUTY LADDER TYPE OR TRUSS TYPE MASONRY REINFORCING 5mm DIAMETER IN HORIZONTAL JOINTS EVERY SECOND COURSE, WHICH IS 400mm, UNLESS NOTED OTHERWISE IN SCHEDULE.
- PROVIDE LINTELS OVER ALL OPENINGS IN WALLS. SEE LINTEL SCHEDULE. UNLESS NOTED OTHERWISE ON PLAN, CONNECT BACK-TO-BACK ANGLES TOGETHER AT 500mm O.C. MAXIMUM. PROVIDE 150mm MINIMUM END BEARING FOR LINTELS, UNLESS NOTED OTHERWISE.
- PROVIDE ONE(1)–15M CONTINUOUS IN TOP COURSE OF WALL UNDER BEAM OR JOIST BEARING AND FILL CELLS SOLID WITH 20 MPa CONCRETE GROUT.
- LAPS:
 - WIRE REINFORCEMENT – 200mm
 - 10M BARS – 600mm
 - 15M BARS – 750mm
- UNLESS NOTED OTHERWISE, PROVIDE TWO(2)–15M VERTICAL BARS FULL HEIGHT AT:
 - UNSUPPORTED ENDS OF WALLS.
 - EACH CORNER AND AT INTERSECTIONS.
 - EACH SIDE OF DOORS AND OTHER OPENINGS.
- PROVIDE ONE(1)–15M IN EACH CELL OF ALL PIERS AND PILASTERS UNLESS OTHERWISE NOTED. ALL VERTICAL REINFORCING SHALL BE CONTINUED TO WITHIN 50mm OF TOP OF THE WALL.
- PROVIDE CLEANOUTS FOR ALL CELLS TO BE REINFORCED, REPEAT CLEANOUTS ABOVE ABOVE BOND BEAMS.
- FILL CELLS CONTAINING VERTICAL REINFORCING AND BOLTS WITH 21 MPa CONCRETE – 9mm AGGREGATE, 175mm SLUMP. VIBRATE OR PUDDLE TO FILL CELLS COMPLETELY.
- FILL CELLS IN 1.5m LIFTS OR BETWEEN BOND BEAMS, WHICHEVER IS LESS.
- CONTROL JOINTS SHALL BE INSTALLED AT MAXIMUM SPACING OF 9.0m, IF NOT OTHERWISE SHOWN ON DRAWINGS.
- CONTROL JOINTS AND EXPANSION JOINTS SHALL BE CONTINUED THROUGH BOND BEAMS IF NOT OTHERWISE SHOWN.
- OUTSIDE FACE OF EXTERIOR WALLS SHALL BE WATERPROOFED AS PER SPECIFICATIONS. PROVIDE WEEP HOLES AS PER DETAIL.
- NO MASONRY WORK SHALL BE PERMITTED WITH TEMPERATURES BELOW 5° CELSIUS, UNLESS PROVISIONS ARE MADE FOR HEATING THE MATERIALS AND PROTECTING THE WORK.
- PROVIDE 15M @ 600mm O.C. FULL HEIGHT FOR ALL LOAD BEARING MASONRY WALLS, UNLESS NOTED OTHERWISE.
- PROVIDE 1200mm STARTER DOWELS TO MATCH ALL VERTICAL REINFORCING, UNLESS NOTED OTHERWISE.
- LOAD BEARING MASONRY IS SHOWN  THUS ON PLAN.
- SUCCESSIVE MORTAR POURS SHALL BEGIN AND END AT THE MID HEIGHT OF A SINGLE COURSE OF MASONRY.
- ALL GROUT FOR REINFORCED MASONRY SHALL BE PINE OR COURSE GROUT CONFORMING TO CSA–A179 HAVING A MIN. COMPRESSIVE STRENGTH OF 15 MPa @ 28 DAYS AND A SLUMP OF 200mm MINIMUM AND 250mm MAXIMUM.
- ALL MASONRY WALLS SHALL BE FULL MORTAR HEAD AND BED JOINTS HAVING A THICKNESS OF 9mm.
- ALL MASONRY UNITS ARE TO BE LAID IN A RUNNING BOND PATTERN, UNLESS NOTED OTHERWISE
- BRICK VENEER OF MASONRY CAVITY WALLS SHALL BE INSTALLED WITH BRICK TIES DESIGNED BY SUPPLIER IN ACCORDANCE WITH CAN/CSA A370. SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW.

LINTELS

OVER ALL OPENINGS IN MASONRY WALLS PROVIDE THE FOLLOWING LINTELS, UNLESS OTHERWISE SHOWN.

BLOCK LINTELS

CLEAR SPAN	DEPTH	REINF FOR EACH 100mm FOR BLOCK WALL THICKNESS FOR PORTION THEREOF
UP TO 1200	200	ONE(1)– 10M TOP & BOTTOM
1200 TO 1800	200	ONE(1)– 15M TOP & BOTTOM
1800 TO 2100	400	ONE(1)– 15M TOP & BOTTOM

BRICK WYTHES – FOR EACH 100mm WIDTH OF WALL

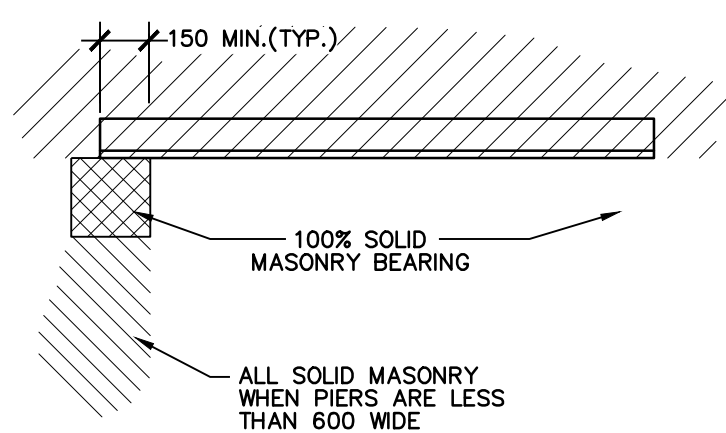
CLEAR SPAN	SIZE
UP TO 1200	L89x89x6
1200 TO 1800	L125x89x6 (LLV)
1800 TO 2900	L152x89x8 (LLV)

STEEL LINTELS

CLEAR SPAN	200mm WALL	250mm WALL	300mm WALL
UP TO 1200	TWO(2)– L89x89x6	TWO(2)– L89x89x6	TWO(2)– L89x89x6 +L127x89x6
1200 TO 1800	TWO(2)– L127x89x6	TWO(2)– L140x89x6	TWO(2)– L127x89x6 +L127x125x6
1800 TO 2100	TWO(2)– L127x89x9	TWO(2)– L140x89x9	TWO(2)– L127x89x6 +L127x127x9

- WELD BACK TO BACK ANGLES TOGETHER TOP AND BOTTOM WITH 5mm FILLET x 50mm LONG AT 450mm MAXIMUM CENTRES.
- MINIMUM BEARING FOR STEEL LINTELS SHALL BE 150mm AND BLOCK LINTELS SHALL BE 200mm.
- FOR LINTELS ABUTTING STEEL COLUMNS, CONCRETE WALL OR COLUMNS, PROVIDE $\angle$ 89x89x9mm SHELF ANGLE.
- FILL VOIDS OF LINTEL BLOCK WITH 20MPa CONCRETE.
- USE MASONRY LINTELS IN ALL FIRE RATED MASONRY WALLS – SEE ARCH. DRAWINGS FOR WALL RATINGS.
- ALL STEEL LINTELS AND SHELF ANGLES IN THE EXTERIOR MASONRY SHALL BE HOT DIP GALVANIZED.

LINTELS BEARING ON MASONRY



TIMBER NOTES

GENERAL

- THE FOLLOWING NOTES INDICATE ONLY THE MINIMUM REQUIREMENTS APPLICABLE TO STRUCTURAL WOOD CONSTRUCTION. SEE ALSO THE ARCHITECTURAL DRAWINGS AND THE SPECIFICATIONS (IF APPLICABLE) FOR REQUIREMENTS FOR NON-STRUCTURAL WOOD FRAMING.
- WOOD CONSTRUCTION SHALL CONFORM TO EITHER CAN3–086–M OR CAN3–086.1–M AND TO THE REQUIREMENTS OF THE ONTARIO BUILDING CODE.
- REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS OF AIR SPACES, INSULATION, ROOFING, FLOOR AND WALL FINISHES.
- MISCELLANEOUS FRAMING NOT SPECIFIED ON DRAWINGS, ARE TO CONFORM TO PART 9 OF THE ONTARIO BUILDING CODE AND IT'S REFERRED DOCUMENTS.

MATERIALS

- LUMBER: UNLESS OTHERWISE NOTED TO BE RED PINE, JACK PINE SPECIES, GRADE No.2, CONFORMING TO CSA STANDARD 0141 WITH A MAXIMUM MOISTURE CONTENT OF 19% AT THE TIME OF INSTALLATION. LUMBER SHALL BEAR THE GRADING STAMP OF AN AGENCY APPROVED BY THE CANADIAN LUMBER STANDARDS ADMINISTRATION BOARD.
- COMPLY WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE FOR:
 - SUB-FLOORING IN TABLE 9.23.14.A
 - ROOF SHEATHING IN TABLE 9.23.15.A
 - WALL SHEATHING IN TABLE 9.23.16.A
- NAILS, SPIKES AND STAPLES: TO CSA STANDARD B111; GALVANIZED FOR EXTERIOR WORK OR HIGHLY HUMID AREAS AND FOR TREATED LUMBER; NAILIN ELSEWHERE. NAILING OF FRAMING UNLESS OTHERWISE NOTED, SHALL CONFORM TO TABLES 9.23.3 A, B AND 9.23.13 A IN THE ONTARIO BUILDING CODE.
- ROUGH HARDWARE: BOLTS, NUTS, WASHERS, LAGS, PINS SCREWS, ALL TO BE HOT-DIP GALVANIZED.
- FRAMING ANCHORS, JOIST HANGERS, BEAM HANGERS, POST CAPS, POST ANCHORS, BACK-UP CLIPS AND ANGLES, UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DRAWINGS, ARE ALL TO BE MANUFACTURED BY SIMPSON STRONG-TIE OR APPROVED EQUAL. ALL ARE TO BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS UTILIZING "SPECIAL" NAILS WHERE REQUIRED.

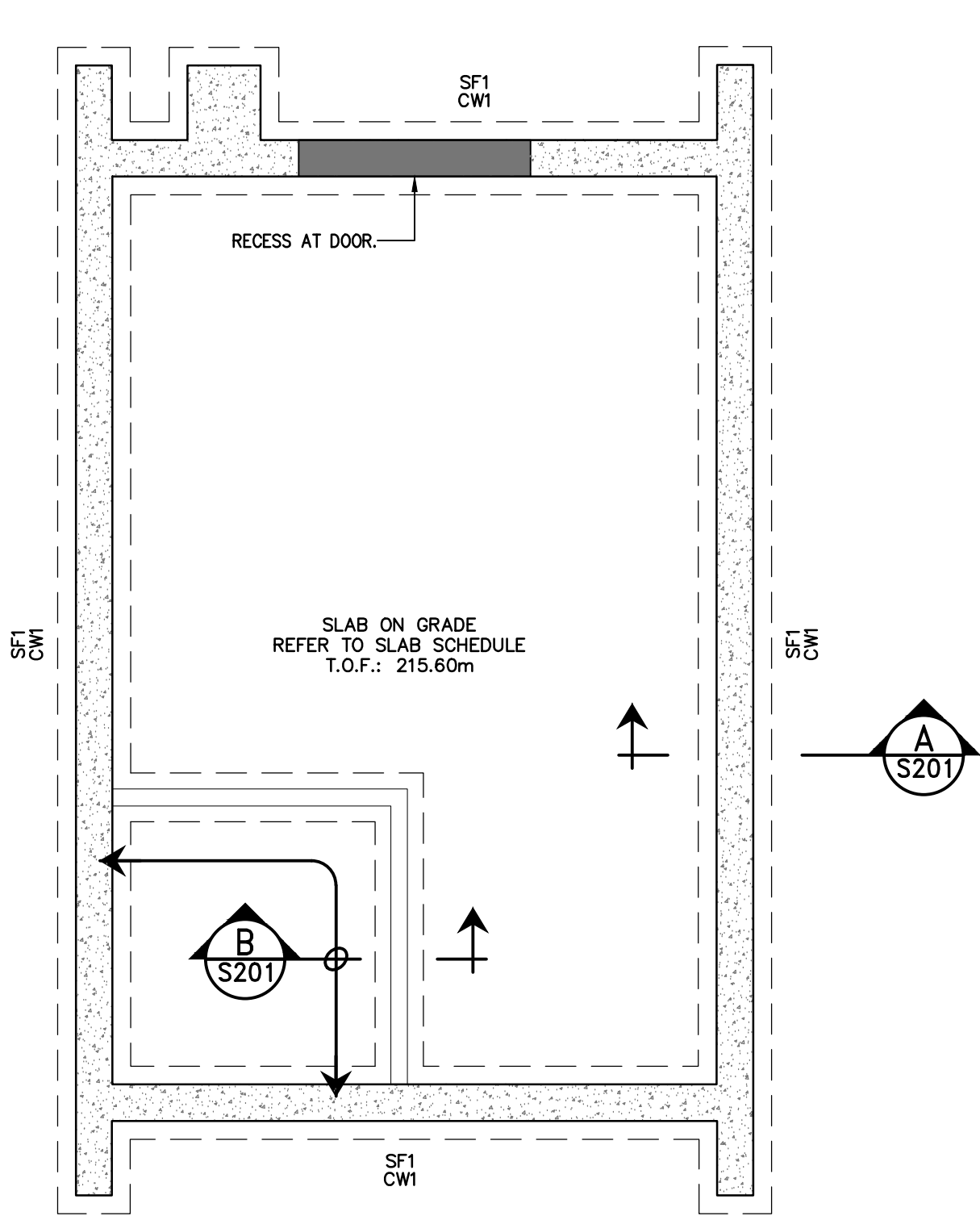
EXECUTION

- STUD WALLS
 - PROVIDE FULL WIDTH SILL PLATES, MIN. 700mm ANCHORED TO FOUNDATION WITH 12mm DIAMETER BOLTS x 250mm LONG @ 1200mm CENTERS. BOLTS TO BE GROUTED OR CONCRETED IN SOLID, UNLESS OTHERWISE STATED.
 - STUDS TO BE OF SIZE AND SPACING NOTED ON STRUCTURAL DRAWINGS.
 - PROVIDE, UNLESS OTHERWISE NOTED, A MINIMUM OF TWO(2) STUDS AT CORNERS, AND EACH SIDE OF THE OPENINGS INTERSECTIONS.
 - ALL STUDS TO BE CONTINUOUS FOR FULL STORY HEIGHT WITH NO SPLICE.
 - PROVIDE MID HEIGHT BLOCK FOR ALL STUD WALLS.
 - PROVIDE UNLESS OTHERWISE NOTED, A MINIMUM OF TWO(2) TOP PLATES FOR LOAD BEARING WALLS. PLATES TO BE LAPPED OR TIED AT CORNERS AND INTERSECTIONS.
 - NON-LOAD BEARING STUD WALL TO CONFORM TO THE REQUIREMENTS OF THE ONTARIO BUILDING CODE.
- FLOOR AND ROOF JOISTS
 - PROVIDE JOISTS OF SIZE, SPACING AND SPAN AS NOTED ON THE STRUCTURAL DRAWINGS. UNLESS OTHERWISE NOTED, JOISTS SHALL BE CONTINUOUS IN ANY ONE SPAN WITH NO SPLICE.
 - WHERE JOISTS FRAME INTO THE SIDE OF A STEEL BEAM, JOISTS SHALL BE SUPPORTED ON THE BOTTOM FLANGE OF THE BEAM. PROVIDE 50mm x 75mm LUMBER BOLTED TO THE WEB WITH MINIMUM 6mm DIAMETER BOLTS AT MAXIMUM 600mm CENTERS.

- BRIDGING OR BLOCKING
 - PROVIDE CROSS-BRIDGING OR SOLID BLOCKING OR APPROVED PROPRIETARY METAL STRAPS IN ACCORDANCE WITH THE ONTARIO BUILDING CODE.
 - PROVIDE CONTINUOUS WOOD STRAPPING ACROSS THE BOTTOM OF JOISTS AS/WHEN REQUIRED BY THE ONTARIO BUILDING CODE.
 - SPACING OF BRIDGING TO BE AT 2.0m MAXIMUM CENTERS.
- SUB-FLOORING AND ROOF SHEATHING
 - TO BE TYPE AND THICKNESS SHOWN ON THE STRUCTURAL DRAWINGS, INSULATED AT MID-END JOISTS STAGGERED.
 - AT EDGES OF PANELS, PROVIDE NOT LESS THAN 50mm x 50mm BLOCKING SECURELY NAILED BETWEEN FRAMING MEMBERS, UNLESS OTHERWISE APPROVED.
 - FOR ROOF SHEATHING PROVIDE AT LEAST A 1.5mm GAP BETWEEN SHEETS.
 - EXTERIOR TYPE PLYWOOD USED AS ROOF AND/OR WALL SHEATHING SHALL BE LEGIBLY IDENTIFIED THAT THE MATERIAL IS OF EXTERIOR TYPE.
 - SUB-FLOORING SHALL BE GLUED AND NAILED TO ALL JOISTS. GLUE TO BE A HIGH SOLIDS, RUBBER CONTACT TYPE, SUPPLIED IN CARTRIDGES. USE A CONTINUOUS BEAD AND RUN A THIN BEAD INTO GROOVES JUST BEFORE INSERTING GROOVES OF T&G PLYWOOD.
 - NAILS TO BE 80mm SPIRAL OR RING THREAD AT 600mm ON CENTERS MAXIMUM.
 - MAKE BUTT JOINTS ON SOLID MATERIAL.
- WALL SHEATHING SHALL BE INSTALLED SO THAT ALL ENDS ARE SUPPORTED WITH END JOINTS STAGGERED. A GAP OF NOT LESS THAN 15mm SHALL BE LEFT BETWEEN SHEETS OF PLYWOOD, WAFER-BOARD OR FIBER-BOARD.
- NOTHING AND DRILLING IS ONLY ALLOWED WITH THE LIMITATIONS SET OUT IN THE ONTARIO BUILDING CODE.
- BRICK VENEER
 - UNLESS OTHERWISE NOTED, BRICK VENEER IS TO BE TIED TO WOOD STUDS WITH A MINIMUM 22 GAUGE x 22mm GALVANIZED CORRUGATED STRIP TIES SPACED AT MAXIMUM 400mm x 600mm CENTERS, ON EVERY STUD. STRIP TIES TO CONFORM TO CAN3–A370–M.
 - IF BRICK VENEER EXCEEDS 10.8m HIGH, CORRUGATED STRIP TIES ARE NOT TO BE USED, OBTAIN DIRECTION BEFORE PROCEEDING.

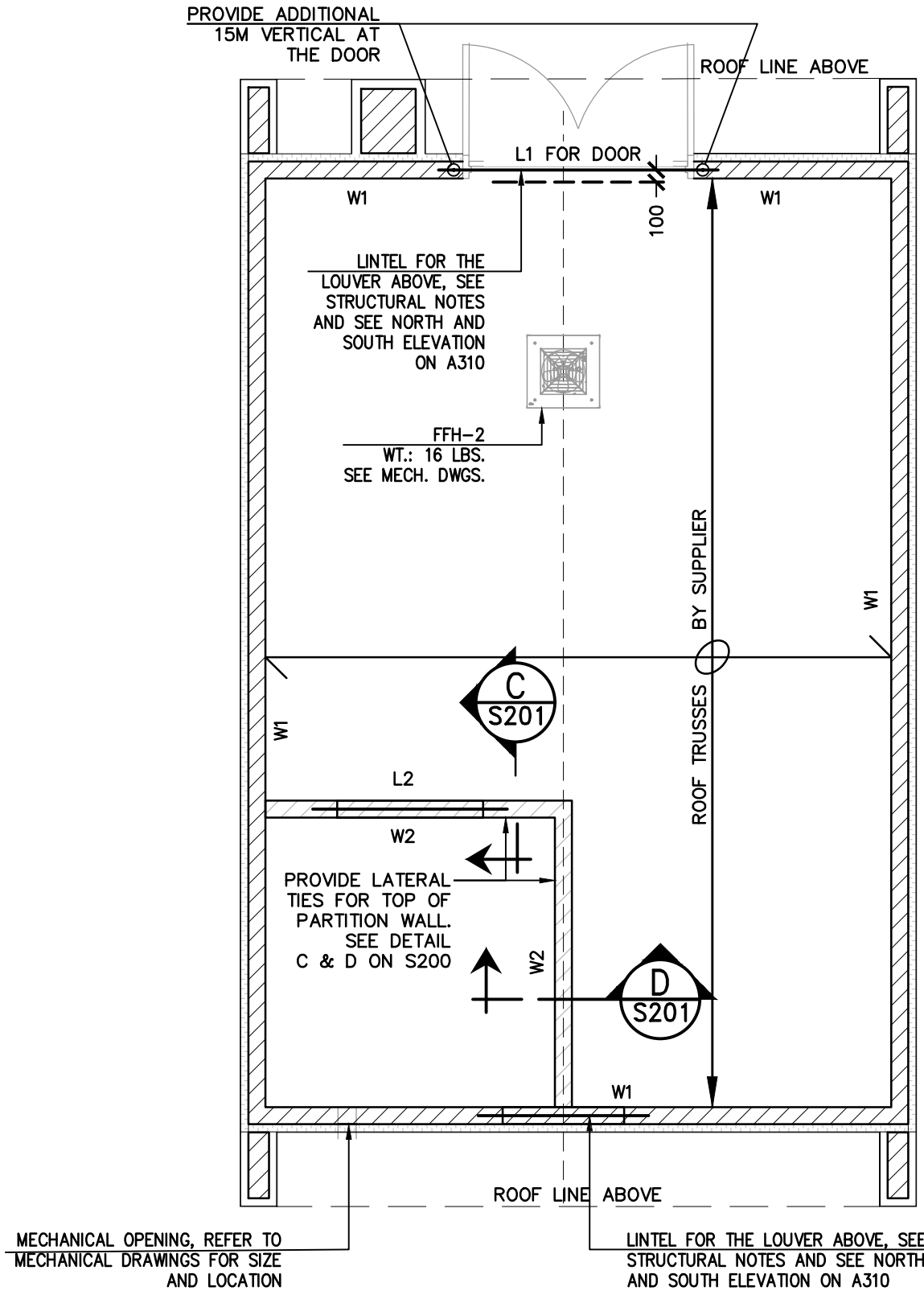
PRE-ENGINEERED WOOD TRUSS

- WOOD TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL DESIGN SPECIFICATION OF THE NATIONAL FOREST PRODUCTS ASSOCIATION. THE DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES OF THE TRUSS PLATE INSTITUTE AND CSA 086 STANDARDS.
- WOOD MATERIALS SHALL BE SOUTHERN PINE, DOUGLAS FIR OR LARCH AND SHALL BE KILN DRIED AND USED AT 19% MAXIMUM MOISTURE CONTENT. PROVIDE GRADE NO. 2 OR AS REQUIRED TO SATISFY STRESS REQUIREMENTS.
- CONNECTOR PLATES



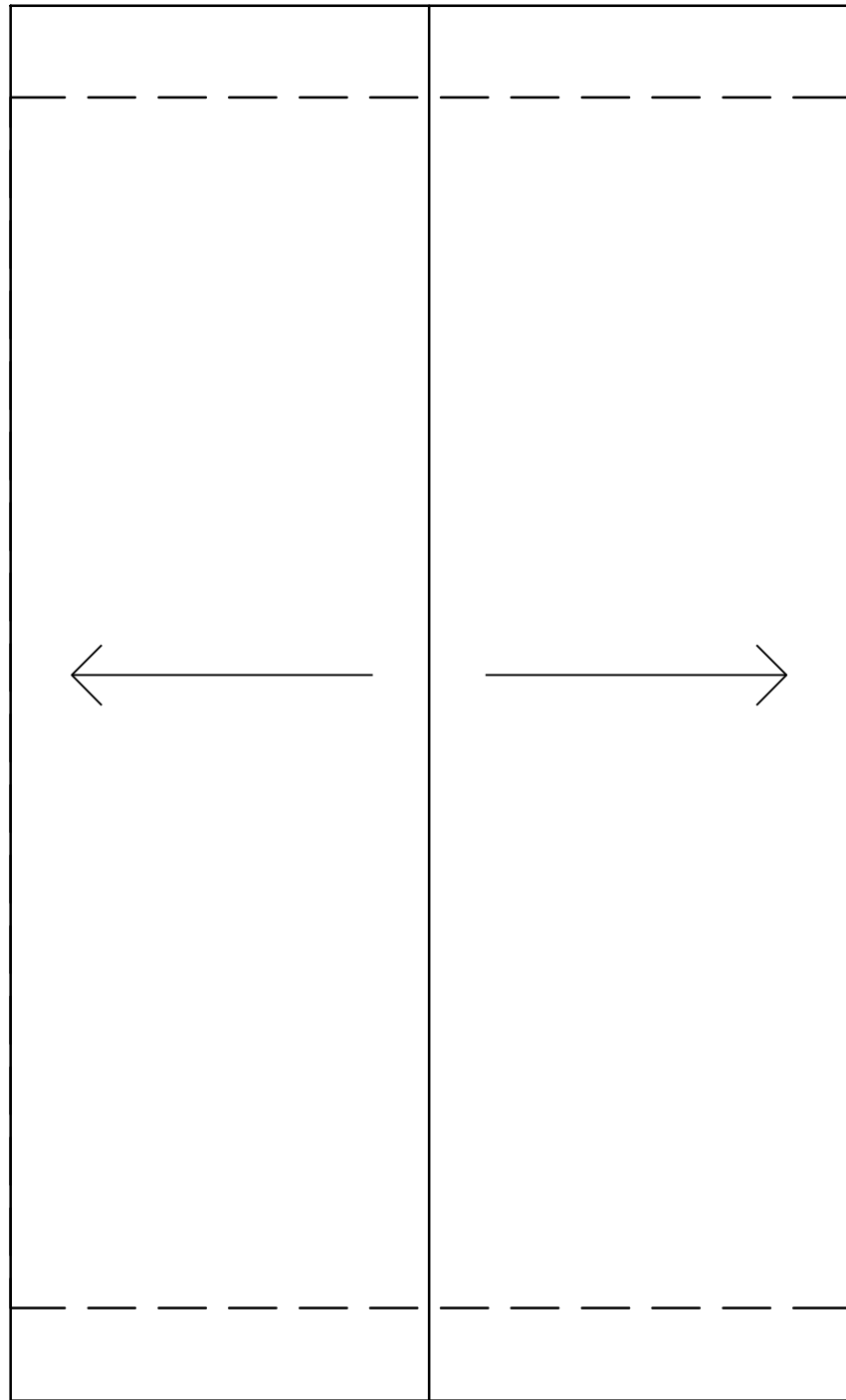
FOUNDATION PLAN

SCALE: 1:50
1. REFER TO ARCHITECTURAL FOR DIMENSIONS



STRUCTURAL PLAN

SCALE: 1:50



ROOF PLAN

SCALE: N.T.S.

WALL SCHEDULE			
MARK	WALL ASSEMBLY	LOWER WALL ASSEMBLY	COMMENTS
W1	VINYL SIDING "KAYCAN" PRESTIGE BEIGE FROM SB-7 COLOUR SELECTION STRAPPING 75mm RIGID INSULATION (R15) SOPRASEAL WALL AIR/VAPOUR BARRIER OR APPROVED EQUIV. 13mm T&G OSB 140mm CONC. BLOCK		15M @ 400 VERT O.C. C/W 15M DOWELS SPACING TO MATCH VERT HEAVY DUTY HORIZONTAL JOINT REINFORCEMENT @ 400 C/C PROVIDE 400mm DEEP BOND BEAM ON TOP AND MID HEIGHT OF THE WALL, REINFORCED WITH 2-15M HOR.
W2	140mm CONC. BLOCK.		15M @ 600 VERT O.C. C/W 15M DOWELS SPACING TO MATCH VERT HEAVY DUTY HORIZONTAL JOINT REINFORCEMENT @ 400 C/C

LINTEL/BEAM SCHEDULE		
MARK	TYPE & SIZE	COMMENTS
L1	2-L152x89x9.5 + 10mm CONT. PLATE. x 250mm WIDE	SOLID CORE AT BEARING LOCATIONS
L2	2-L127x76x6.4 LLV	SOLID CORE AT BEARING LOCATIONS

STRIP FOOTING SCHEDULE		
MARK	SIZE	COMMENTS
SF1	600X200	3-15M CONT. REBAR. REFER TO DETAIL A/S200

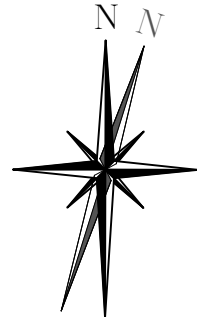
FOUNDATION SCHEDULE		
MARK	WALL ASSEMBLY	COMMENTS
CW1	300mm C.I.P	15M VERT REBAR @ 300 O.C. E.W W/ 2-15M CONT. BARS @ T & B & 15M DOWELS @ 300 O.C. REFER TO DETAIL A/S200

SLAB SCHEDULE		
MARK	THICKNESS	COMMENTS
SOG	130	WELDED WIRE MESH (WWM) 150x150 - 25/25, 50mm ABOVE BOTTOM OF SLAB REFER TO SLAB ON GRADE DETAIL

- NOTE:
- CONCRETE COMPRESSIVE STRENGTH FOUNDATION WALLS, FOOTINGS AND FLOOR SLAB, SEE CONCRETE NOTES ON S001.
 - REINFORCING STEEL SHALL CONFORM CSA G30-18M GRADE 400R.
 - ALL EXTERIOR MASONRY WALLS SHALL BE REINFORCED WITH TRUSS TYPE GALVANIZED MASONRY REINFORCEMENT AT 406 O/C USE BLOK-LOK BL-31
 - MINIMUM COMPRESSIVE STRENGTH OF MASONRY UNIT.
HOLLOW BLOCK 15 MPa
SOLID UNIT 15 MPa
BRICK 31 MPa
 - MASONRY WALL SHALL BE SET WITH TYPE 'S' MORTAR AND LAID WITH FULL HEAD AND BED JOINTS.

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- THE DIGITAL FILES CONTAIN INTELLECTUAL AND DIGITAL DATA PROPERTY THAT IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO C.F. CROZIER & ASSOCIATES INC. PRIOR TO CONSTRUCTION.
- THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT.
- ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- DO NOT SCALE DRAWINGS.

TEMPORARY BENCHMARKS
TBM#1 -
TBM#2 -
TBM#3 -
***ADD REFERENCE TO SURVEY/SOURCE

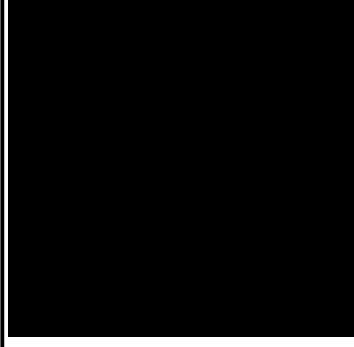


Town

No.	ISSUE
1	ISSUED FOR 90% DETAILED DESIGN
2	ISSUED FOR CLIENT REVIEW - IFT
3	ISSUED FOR 90% DETAILED DESIGN REV 1
4	ISSUED FOR TENDER
5	ISSUED FOR ADDENDUM #1
6	ISSUED FOR ADDENDUM #2
7	ISSUED FOR APPROVAL

DATE: YYYY/MM/DD
2023/03/21
2023/12/15
2024/01/02
2024/01/22
2024/02/09
2024/02/27
2024/03/08

Engineer



Project

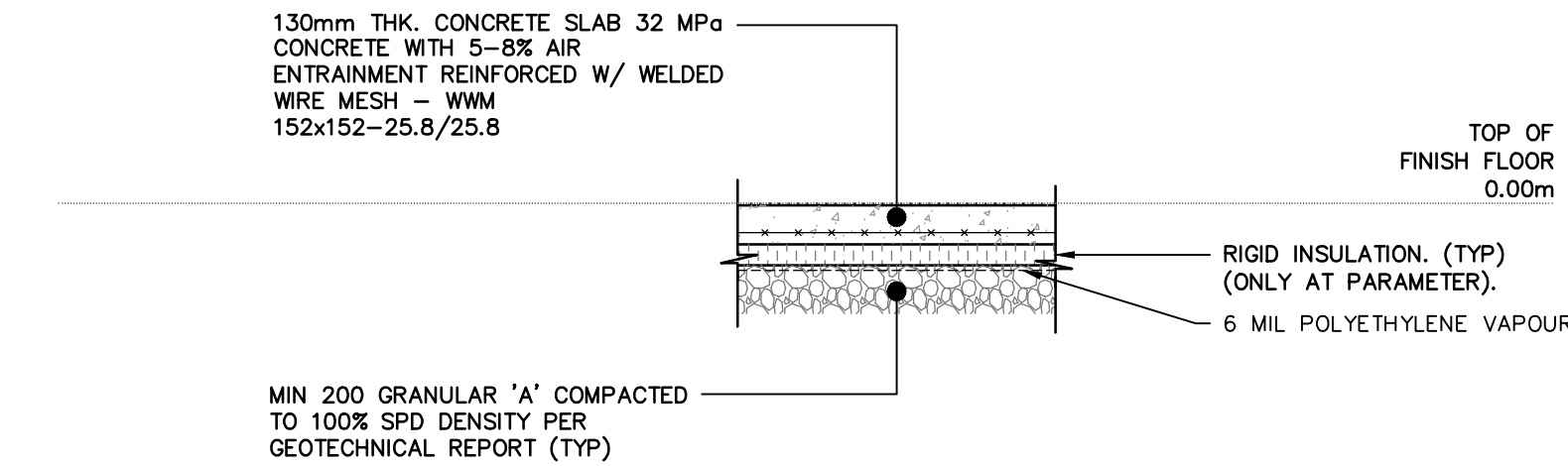
HOME FARM
SEWAGE PUMPING STATION
TOWN OF THE BLUE MOUNTAINS

Drawing

STRUCTURAL PLANS AND SCHEDULES

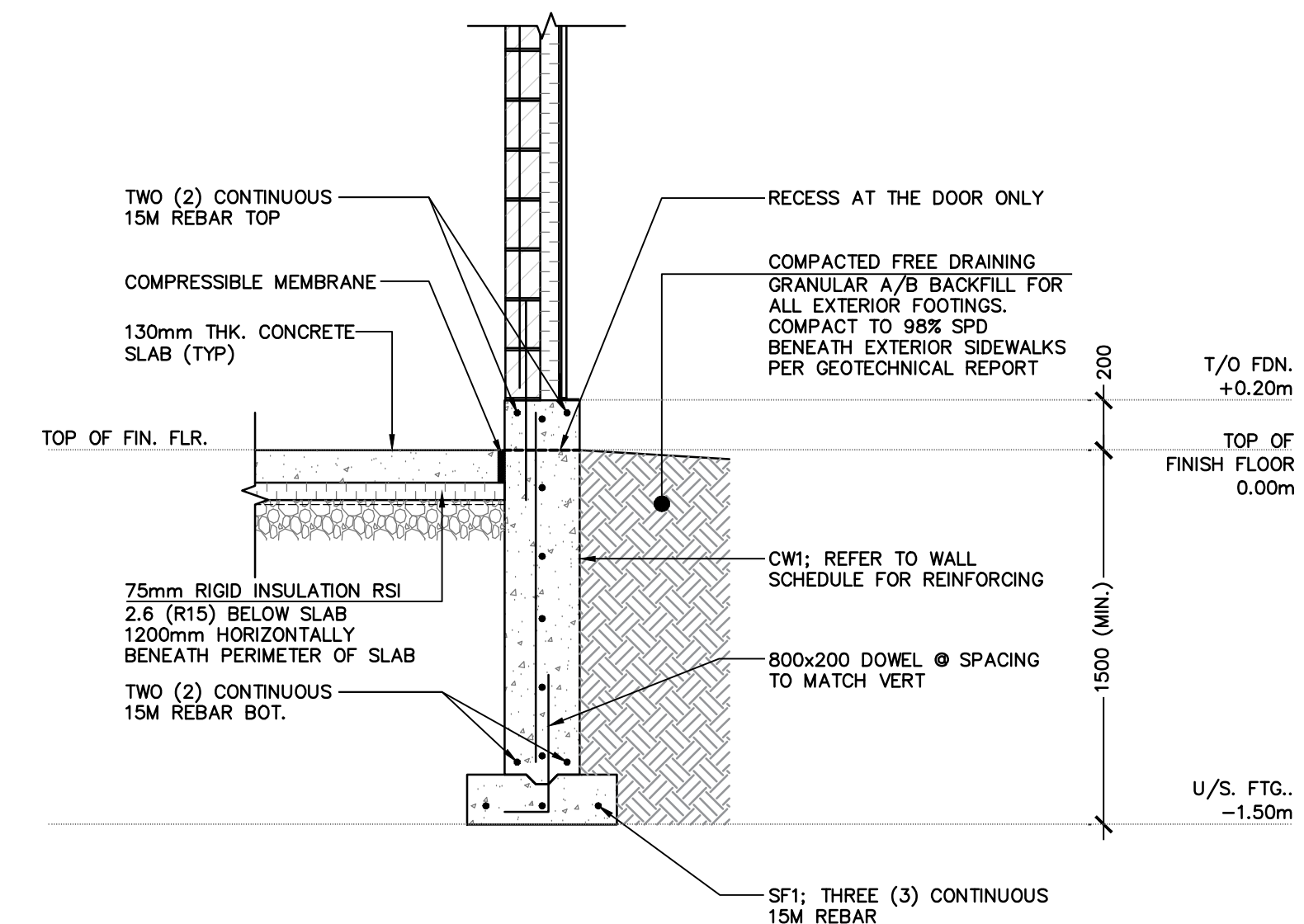


Drawn By	K.L.	Design By	M.S.	Project	721-3464
Check By	S.G.	Check By	J.A.M.	Drawing	S200



SLAB ON GRADE

SCALE: 1:25

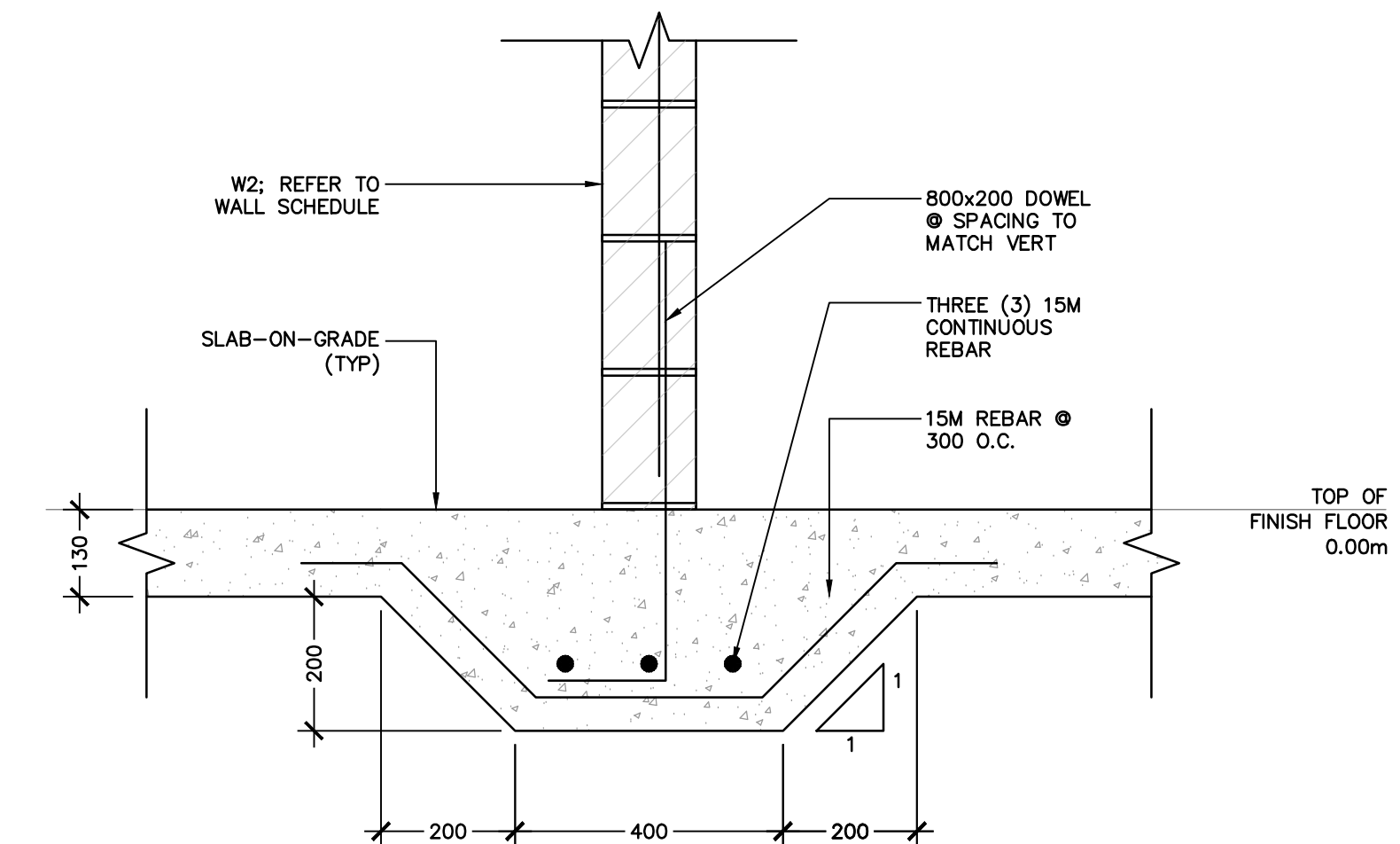


SF1 DETAIL

SCALE: 1:30

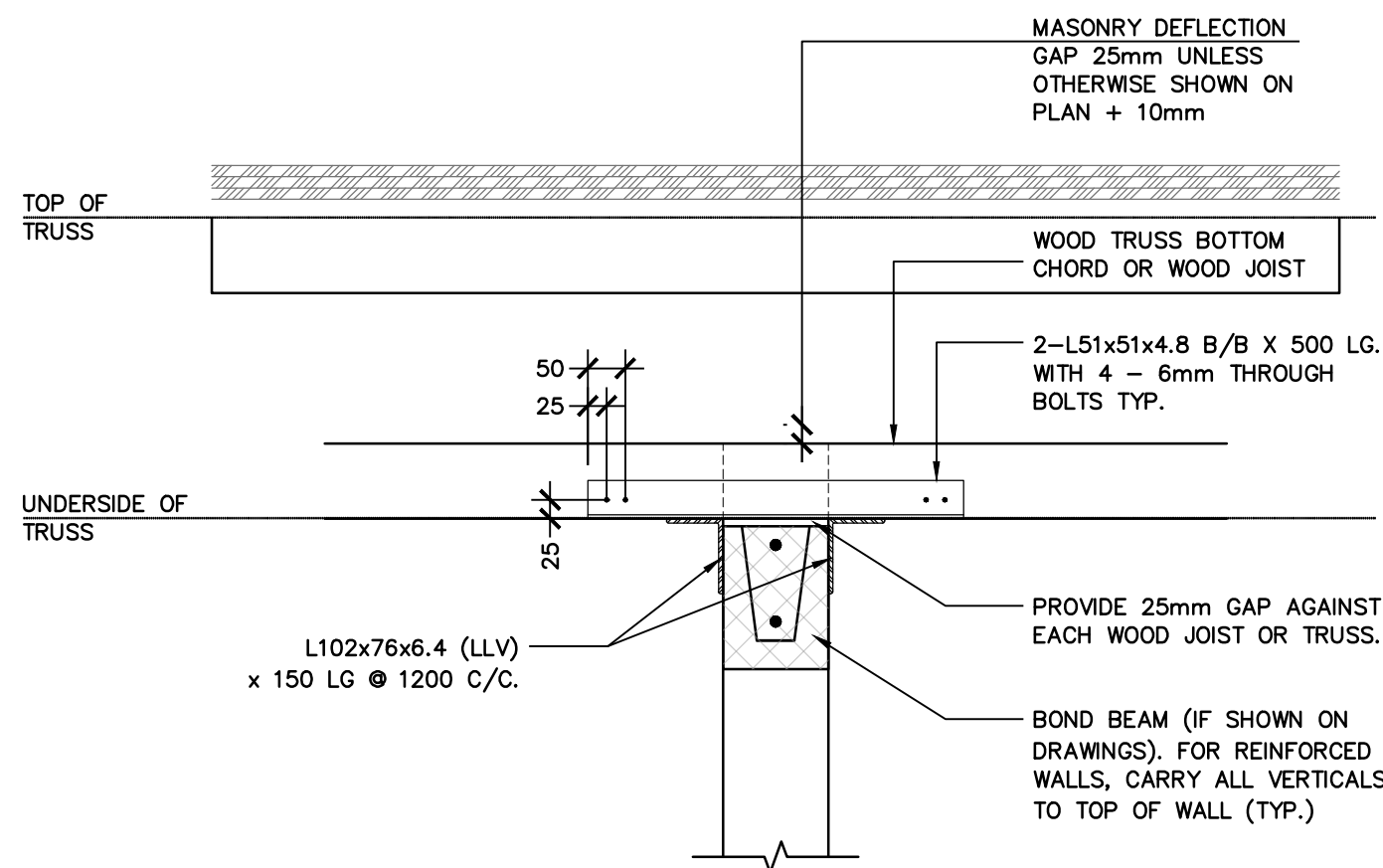
NOTE:

1. ALL FOOTINGS TO BEAR ON UNDISTURBED NATIVE SOIL OR APPROVED ENGINEERED FILL W/ MIN BEARING CAPACITY OF 800 KPa
2. ALL BACKFILL MATERIAL TO BE APPROVED FOR USE BY GEOTECHNICAL ENGINEER



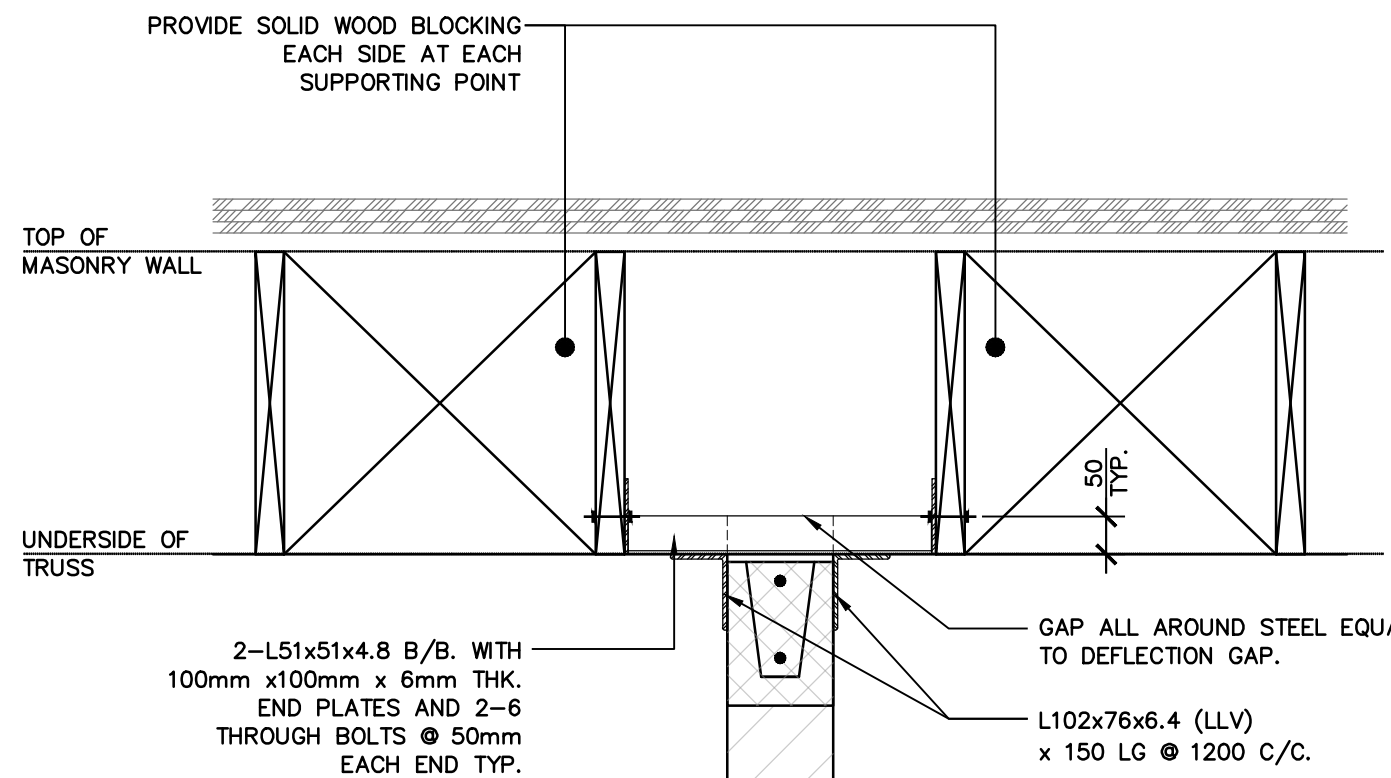
SLAB THICKENING DETAIL

SCALE: 1:10



WALL MASONRY PERPENDICULAR TO WOOD JOIST OR TRUSS

SCALE: 1:10

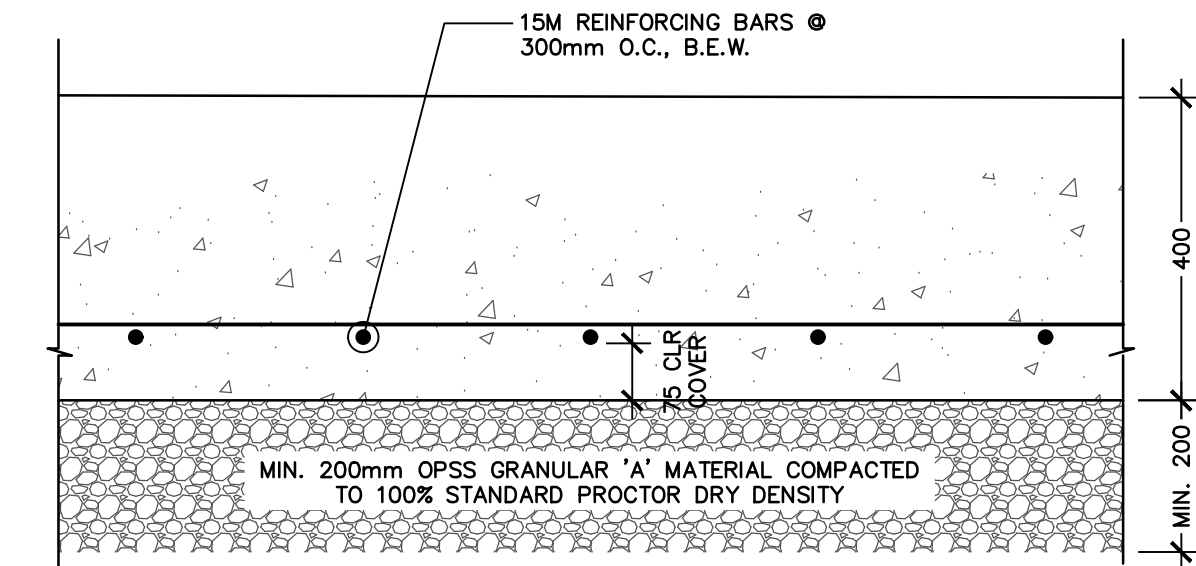


NOTE:

- 2-L51x51 CAN BE LOCATED ANYWHERE ALONG JOIST HEIGHT

WALL MASONRY PARALLER TO WOOD JOIST OR TRUSS

SCALE: 1:10



GENERATOR SLAB DETAIL

SCALE: 1:10

NOTE:

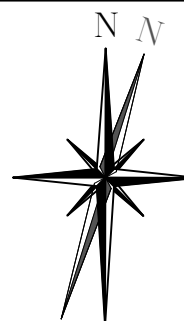
1. TOP OF GENERATOR SLAB TO HAVE MIN. 100mm SEPARATION FROM FINISHED GRADE.

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3. THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT.
4. ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
5. DO NOT SCALE DRAWINGS.

TEMPORARY BENCHMARKS

TBM#1 -
TBM#2 -
TBM#3 -

***ADD REFERENCE TO SURVEY/SOURCE



Town

No.

ISSUE

DATE: YYYY/MM/DD

Engineer

Project

HOME FARM
SEWAGE PUMPING STATION
TOWN OF THE BLUE MOUNTAINS

Drawing

STRUCTURAL DETAILS



Drawn By	K.L.	Design By	M.S.	Project	721-3464
Check By	S.G.	Check By	J.A.M.	Drawing	S201

FOUNDATION NOTES 1. FOUNDATIONS HAVE BEEN DESIGNED FOR THE FOLLOWING ALLOWABLE (WORKING STRESS; SLS) BEARING PRESSURES IN ACCORDANCE WITH THE SOILS REPORT NUMBER 1772163, PREPARED BY GOLDER ASSOCIATES AND DATED OCTOBER 23,2017. FOUNDATION DESIGN IN ACCORDANCE TO OBC 4.2.4.1.(3) WHICH REFERENCES OBC APPENDIX 'A' WHICH IN TURN REFERENCES NBC 2010 STRUCTURAL COMMENTARY 'K' SENTENCE 49(B) THAT STATES FOUNDATIONS TO BE DESIGNED USING EMPIRICAL METHOD, IN WHICH GEOTECHNICAL RESISTANCES / PRESSURES ESTIMATED EMPIRICALLY IN THE CFEM, ARE COMPARED TO THE SPECIFIED LOADS. A. SPREAD OR STRIP FOOTINGS = 100 kPa 2. BEARING SURFACES MUST BE INSPECTED AND APPROVED BY THE SOILS ENGINEER IMMEDIATELY BEFORE CONCRETE IS PLACED. 3. REFER TO SOILS REPORT FOR OTHER SPECIFIC DESIGN REQUIREMENTS FOR FOOTINGS, SOIL SLOPES, FROST PROTECTION, MINIMUM COVER, ETC. 4. EXCAVATE TO LINES AND GRADES REQUIRED TO PROPERLY INSTALL THE FOUNDATIONS AND/OR CONTROLLED STRUCTURAL FILL ON UNDISTURBED NATURAL MATERIAL. REMOVE ALL TOPSOIL OR UNSUITABLE MATERIAL FROM UNDER ANY NEW CONSTRUCTION. CONTROLLED STRUCTURAL FILL, AND SLABS ON GRADE. ALL EXCAVATIONS SHALL BE DRY BEFORE PLACING ANY CONCRETE. 5. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING IF SHORING IS REQUIRED FOR EXCAVATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE EXCAVATION SHORING SYSTEM. SHORING SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER CERTIFIED TO PRACTICE ENGINEERING IN ONTARIO. 6. DO NOT UNDERMINE EXISTING FOOTINGS AND FOUNDATIONS. 7. EXTERIOR WALL FOOTINGS ARE TO BE PLACED AT A MINIMUM DEPTH OF 1500mm BELOW THE LOWEST ADJACENT GROUND SURFACE EXPOSED TO FREEZING. ANY ADJUSTMENT OF ELEVATIONS OF FOOTINGS DUE TO FIELD CONDITIONS MUST HAVE THE APPROVAL OF THE ENGINEER. ALL BEARING SURFACES MUST BE PROTECTED FROM FREEZING BEFORE AND AFTER FOUNDATIONS ARE POURED. 8. PROVIDE A MINIMUM 200mm THICK BASE LAYER OF WELL COMPACTED GRANULAR 'A'. COMPACT TO 98% STANDARD PROCTOR DENSITY (SPD) IN MAX LIFTS NOT EXCEEDING 150mm. 9. NOTIFY CONSULTANT FOR SITE REVIEW OF REINFORCEMENT 48 HOURS PRIOR TO PLACEMENT OF CONCRETE. 10. UNLESS OTHERWISE SHOWN, CENTRE FOUNDATIONS UNDER COLUMNS. 11. DOWELS SHALL BE PLACED BEFORE CONCRETE IS PLACED. TEMPLATES SHALL BE USED TO ENSURE CORRECT PLACEMENT OF DOWELS. 12. FOR GROUND ELEVATIONS AND DRAINAGE SLOPES, SEE SITE PLAN. 13. FOUNDATIONS MAY HAVE TO BE LOWERED TO ACCOMMODATE MECHANICAL OR ELECTRICAL SERVICES. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ELEVATIONS OF SAME. FOUNDATIONS ARE NOT TO BE UNDERMINED BY EXCAVATIONS FOR SERVICES, PITS, ETC. 14. FOUNDATION ELEVATIONS, IF SHOWN, ARE NOT FINAL AND MAY VARY ACCORDING TO SITE CONDITIONS. ALL FOUNDATIONS MUST BE TAKEN TO A BEARING LAYER APPROVED BY THE SOILS ENGINEER. 15. ALL PITS TO BE CLEARED OF DEBRIS BEFORE ANY BACKFILLING. 16. BACKFILLING AGAINST FOUNDATION WALLS SHALL BE DONE ONLY AFTER WALLS ARE BRACED TO PREVENT MOVEMENT, OR TO EQUAL DEPTHS ON BOTH SIDES OF THE WALL. BACKFILL WITH APPROVED GRANULAR MATERIAL PLACED IN 300mm LAYERS AND COMPACTED TO 98% DENSITY AT OPTIMUM MOISTURE CONTENT. 17. DO NOT USE EXCAVATED MATERIAL FOR BACKFILLING UNLESS IT HAS BEEN CERTIFIED CLEAN BY AN APPROVED TESTING FACILITY. IT CAN BE COMPACTED TO 98% STANDARD PROCTOR DENSITY IN LIFTS NOT EXCEEDING 150mm. FOUNDATION HAS BEEN CERTIFIED AS GRANULAR 'A' BY A GEOTECHNICAL ENGINEER. 18. WHERE NEW FOUNDATIONS ARE BUILT IN THE SAME LOCATION AS REMOVED EXISTING FOUNDATIONS OR UNSUITABLE MATERIAL, NEW FOUNDATIONS SHALL BEAR ON UNDISTURBED MATERIAL AT OR BELOW THE ELEVATION OF THE EXISTING FOUNDATIONS OR UNSUITABLE MATERIAL, OR ON STRUCTURAL FILL AFTER COMPLETE REMOVAL OF ANY EXISTING FOUNDATIONS OR UNSUITABLE MATERIAL. 19. PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM FLOWING INTO EXCAVATIONS. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF EXCAVATION BOTTOMS, UNDERCUTTING OF FOOTINGS AND SOIL CHANGES DETRIMENTAL TO THE STABILITY OF SUBGRADES AND FOUNDATIONS. PROVIDE AND MAINTAIN PUMPS, WELL POINTS, SUMPS, SUCTION AND DISCHARGE LINES AND OTHER DEWATERING COMPONENTS AND SYSTEMS AS REQUIRED TO CONVEY WATER AWAY FROM EXCAVATIONS. ESTABLISH AND MAINTAIN TEMPORARY DRAINAGE DITCHES AND DIVERSIONS OUTSIDE EXCAVATION LIMITS TO CONVEY WATER FROM EXCAVATIONS. 20. RESTORE ALL GRADES AROUND THE BUILDING AFFECTED BY THE CONSTRUCTION WORK TO ORIGINAL GRADES SUITABLE FOR FINAL GRADING AND LANDSCAPING BY OTHERS. WINDOWS & DOORS 1. CLADDING SYSTEM AS IT SEPARATES THE INTERIOR FROM THE EXTERIOR SPACE IT SHALL BE DESIGNED AND CONFORM TO PART 5 OF THE ONTARIO BUILDING CODE "ENVIRONMENTAL SEPARATION". 2. THE WINDOW AND DOOR SYSTEMS SHALL CONFORM TO OBC; 9.25.2.2: CONTINUITY OF THE AIR BARRIER SYSTEM, 9.6.1.2: MATERIAL STANDARDS FOR GLASS, 9.6.1.2: STRUCTURAL SUFFICIENCY OF GLASS, AND - SECTION 9.7 WINDOWS, DOORS AND SKYLIGHTS 3. WINDOW PERFORMANCE TO CONFORM TO AAMA / WDMA / CSA 101 / I.S.2 / A440-8/11 NORTH AMERICAN FENESTRATION STANDARDS (NAFS) - OPENABLE WINDOWS SHALL BE PROTECTED BY OR DESIGNED TO ACT AS A GUARD IN ACCORDANCE WITH ARTICLES 3.3.1.17 AND 4.1.5.14. THAT ARE LOCATED LOWER THAN 42" ABOVE THE FINISHED FLOOR. - PROVIDE AND INSTALL WINDOW OPENING SAFETY CONTROL DEVICES TO RESTRICT THE WINDOW FROM OPENING MORE THAN 4" ON THE SECOND LEVEL AND ABOVE. - GLASS TO BE ANNEALED, TEMPERED OR HEAT STRENGTHENED AS PER OBC 9.6.1.3. STRUCTURAL SUFFICIENCY OF GLASS AS REQUIRED. 4. DOOR & WINDOW ASSEMBLIES TO BE NON-COMBUSTIBLE AND COMPLY WITH REQUIREMENTS OF THE OBC FOR NONCOMBUSTIBLE MATERIALS. COMBUSTIBLE SYSTEMS TO COMPLY WITH 3.1.5.4. COMBUSTIBLE GLAZING AND SKYLIGHTS REQUIREMENTS." 5. WHERE SEALANT HAS BEEN SPECIFIED, CONTRACTOR SHALL ALLOW FOR SUITABLE RAINSCREEN AND INSULATED GLAZING UNIT DRAINAGE. WEEP HOLES SHALL BE SIZED ACCORDINGLY. MOISTURE & AIR BARRIER 1. COORDINATE WORK FOR INSTALLATION OF AIR/VAPOUR BARRIER AND THERMAL INSULATION WITH WINDOW AND DOOR INSTALLATION TO CREATE A CONTINUOUS SEAL FROM THE WINDOW AND DOOR ASSEMBLY TO THE ADJACENT CLADDING SYSTEM THAT IS COMPATIBLE WITH THE SEALANT AND ANY ADJACENT COMPONENTS 2. INSTALLATION OF AIR/VAPOUR BARRIER WITH FLEXIBLE MEMBRANE SOPRASEAL STICK 1100 T BY SOPREMA (OR ALTERNATE AS APPROVED) AS PER MANUFACTURER'S INSTRUCTIONS TO ENSURE CONTINUOUS SEAL AND LAP MIN. 100mm AT END AND SIDE LAPS WITH AIR SEAL TAPE/SEALANTS AROUND THE PERIMETER OF THE WINDOWS AND DOORS AND BEHIND INFILL PANELS AND AT ANY PENETRATIONS AS PER MANUFACTURER'S INSTRUCTIONS. REFER TO ATTACHED DETAILS 3. APPLY SEAL TAPE AND/OR SEALANTS TO FILL ANY VOIDS IN THE BARRIER AROUND THE PERIMETER OF THE WINDOWS AND DOOR	DOORS 1. SUPPLY AND INSTALL HOLLOW INSULATION METAL DOORS AT ALL LOCATIONS (OR ALTERNATE AS APPROVED). 2. REMOVE AND REPLACE UNITS THAT ARE BROKEN, CHIPPED, CRACKED OR DAMAGED DURING CONSTRUCTION 3. ADJUST OPERATORS, SCREENS AND HARDWARE TO ENSURE SMOOTH OPERATION AND WEATHERTIGHT SEAL. LUBRICATE MOVING PARTS TO OPERATE SMOOTHLY AND FIT ACCURATELY. 4. REMOVE PROTECTIVE FILM FROM WINDOWS AND DOORS AND CLEAN AND POLISH GLASS SURFACES. 5. INFILL PANELS; - ALUMINUM EXTRUDED PANELS: FINISH TO MATCH WINDOW AND DOOR SYSTEMS. - DO NOT INSTALL COVERS THAT ARE OBSERVED TO BE DEFECTIVE INCLUDING WARPED, BOWED, DENTED, SCRATCHED AND DELAMINATING COMPONENTS. - INSTALL PANELS AS DIRECTED AND DETAILED: DESIGN AND PROVIDE ANCHORAGE SYSTEM REQUIRED TO ACCOMMODATE STRUCTURAL DEFLECTION AND TOLERANCES AND ACCOMMODATE WIND LOADING. - FABRICATE WITH METAL COVERED EDGE SEALS AROUND PERIMETER OF PANEL ASSEMBLY, ENABLING INSTALLATION AND MINOR MOVEMENT OF PERIMETER SEAL. - PROVIDE DRAINAGE FROM PANEL TO THE EXTERIOR; THE PANEL SHALL NOT TO DRAIN INTO THE SYSTEM BELOW - REINFORCE WHERE REQUIRED FROM DEFLECTION CAUSED BY WIND AND SUCTION LOADS. 6. REMOVE PROTECTIVE FILM FROM PANELS. CLEAN EXPOSED PANEL SURFACES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REPAIR AND TOUCH UP WITH COLOUR MATCHING HIGH GRADE ENAMEL MINOR SURFACE DAMAGE, WHERE APPEARANCE AFTER TOUCH-UP IS APPROVED BY THE OWNER. REPLACE DAMAGED PANELS AND COMPONENTS DAMAGED BY THE WORK. MATERIALS 1. COLOUR TO BE SELECTED BY OWNER FROM THE MANUFACTURER'S STANDARD COLOUR RANGE. UNIVERSAL WASHROOM – GENERAL NOTES 1. ALL WORKS TO BE IN CONFORMANCE WITH THE ONTARIO BUILDING CODE (2012). UNIVERSAL WASHROOM 1. REFER TO 3.8.3.12 FOR UNIVERSAL WASHROOM REQUIREMENTS. 2. MUST BE SERVED BY A BARRIER-FREE PATH OF TRAVEL. BARRIER-FREE PATH OF TRAVEL MEANS, WHEN APPLIED TO A BUILDING AND ITS FACILITIES, THAT THE BUILDING AND ITS FACILITIES CAN BE APPROACHED, ENTERED AND USED BY PERSONS WITH PHYSICAL OR SENSORY DISABILITIES. 3. HAVE NO INTERNAL DIMENSION BETWEEN WALLS THAT IS LESS THAN 1675mm. 4. SHALL HAVE A COAT HOOK THAT IS MOUNTED NOT MORE THAN 1200mm ABOVE THE FINISHED FLOOR ON A SIDE WALL AND PROJECTING NOT MORE THAN 50mm FROM THE WALL, AND A SHELF THAT IS LOCATED NOT MORE THAN 1075mm ABOVE THE FINISHED FLOOR, PROJECTING NOT MORE THAN 100mm FROM THE WALL. 5. SHALL BE DESIGNED TO PERMIT A WHEELCHAIR TO TURN IN AN OPEN SPACE NOT LESS THAN 1675mm IN DIAMETER. 6. SHALL BE PROVIDED WITH A MIRROR INSTALLED ABOVE THE LAVATORY. REFER TO LAVATORY NOTE 10 FOR MIRROR DETAILS. 7. HAVE LIGHTING CONTROLLED BY A MOTION SENSOR CONFORMING TO SENTENCE 12.2.4.1(2). LIGHTING MUST HAVE A MINIMUM ILLUMINATION OF 100 lx. 8. SHALL HAVE AN EMERGENCY CALL SYSTEM. REFER TO UNIVERSAL WASHROOM – EMERGENCY CALL SYSTEM NOTES. 9. SHALL HAVE A CLEAR TRANSFER SPACE THAT IS 875mm x 1500mm. UNIVERSAL WASHROOM – DOOR 1. MUST HAVE A DOOR THAT IS CAPABLE OF BEING LOCKED FROM THE INSIDE AND RELEASED FROM THE OUTSIDE IN THE CASE OF AN EMERGENCY. 2. A LEVER STYLE DOOR HANDLE THAT IS A GRASPABLE LATCH-OPERATING MECHANISM LOCATED NOT LESS THAN 900mm AND NOT MORE THAN 1000mm ABOVE FINISHED FLOOR. UNIVERSAL WASHROOM – LAVATORY 1. REFER TO 3.8.3.11. FOR LAVATORY REQUIREMENTS. 2. DISTANCE FROM CENTRE LINE OF LAVATORY TO SIDE WALL SHALL BE NOT LESS THAN 450mm. 3. SHALL BE MOUNTED SO THAT THE TOP OF THE LAVATORY IS NOT MORE THAN 825mm ABOVE FINISHED FLOOR. 4. CLEARANCE BENEATH THE LAVATORY SHALL BE NOT LESS THAN; 900mm WIDE 725mm HIGH AT A POINT OF 200mm BACK FROM THE FRONT EDGE 675mm HIGH AT A POINT OF 200mm BACK FROM THE FRONT EDGE 350mm HIGH FROM A POINT OF 300mm BACK FROM THE FRONT EDGE TO THE WALL 5. PIPES SHALL BE INSULATED SHOULD THEY PRESENT A BURN HAZARD OR HAVE A WATER SUPPLY TEMPERATURE LIMITED TO A MAXIMUM OF 43°C. 6. SHALL BE EQUIPPED WITH FAUCETS THAT HAVE LEVER TYPE HANDLES WITHOUT SPRING LOADING OR OPERATE AUTOMATICALLY. FAUCET TO BE LOCATED SO THAT THE EDGE OF THE BASIN, OR WHERE THE BASIN IS MOUNTED IN A VANITY, TO THE FRONT EDGE OF THE VANITY, NOT MORE THAN 475mm. 7. SHALL HAVE A MINIMUM 1350mm DEEP FLOOR SPACE TO ALLOW FOR A FORWARD APPROACH, OF WHICH A MAXIMUM OF 488mm CAN BE LOCATED UNDER THE LAVATORY. 8. HAVE A SOAP DISPENSER THAT IS; - LOCATED TO BE ACCESSIBLE TO PERSONS IN WHEELCHAIRS - LOCATED SO THAT THE DISPENSING HEIGHT IS NOT MORE THAN 1200mm ABOVE THE FINISHED FLOOR - LOCATED NOT MORE THAN 600mm, MEASURE HORIZONTALLY, FROM EDGE OF THE LAVATORY - OPERABLE WITH ONE HAND 9. SHALL HAVE A TOWEL DISPENSER OR HAND DRYING EQUIPMENT THAT IS; - LOCATED TO BE ACCESSIBLE TO PERSONS IN WHEELCHAIRS - LOCATED SO THAT THE DISPENSING HEIGHT IS NOT MORE THAN 1200mm ABOVE THE FINISHED FLOOR - LOCATED NOT MORE THAN 600mm, MEASURE HORIZONTALLY, FROM EDGE OF THE LAVATORY - OPERABLE WITH ONE HAND	10. IF MIRRORS ARE INSTALLED IN THE WASHROOM, AT LEAST ONE MIRROR SHALL BE INSTALLED ABOVE THE LAVATORY AND MOUNTED SO ITS BOTTOM EDGE IS NOT MORE THAN 1000mm ABOVE THE FINISHED FLOOR OR INCLINED TO THE VERTICAL TO BE USABLE BY A PERSON IN A WHEELCHAIR. 11. WHERE A SHELF IS INSTALLED ABOVE A LAVATORY, IT SHALL BE LOCATED NOT MORE THAN 200mm ABOVE THE TOP OF THE LAVATORY, NOT MORE THAN 1080mm ABOVE THE FINISHED FLOOR, AND PROJECT NOT MORE THAN 100mm FROM THE WALL.
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UNIVERSAL WASHROOM – WATER CLOSET

1. REFER TO 3.8.3.9. FOR WATER CLOSET REQUIREMENTS.

2. SHALL BE EQUIPPED WITH A SEAT LOCATED AT NOT LESS THAN 400mm AND NOT MORE THAN 450mm ABOVE THE FLOOR.

3. SHALL BE EQUIPPED WITH HAND-OPERATED FLUSHING CONTROLS THAT ARE EASILY ACCESSIBLE TO A WHEELCHAIR USER OR BE AUTOMATICALLY OPERABLE.

4. SHALL BE EQUIPPED WITH A BACK SUPPORT WHERE THERE IS NO SEAT LID OR TANK.

5. SEAT SHALL NOT BE SPRING ACTIVATED.

UNIVERSAL WASHROOM – EMERGENCY CALL SYSTEM

1. REFER TO 3.8.3.12.(2) FOR EMERGENCY CALL SYSTEM REQUIREMENTS.

2. EMERGENCY CALL SYSTEM MUST CONSIST OF AUDIBLE AND VISUAL SIGNAL DEVICES INSIDE AND OUTSIDE OF THE WASHROOM THAT ARE ACTIVATED BY A CONTROL DEVICE INSIDE THE WASHROOM.

3. AN EMERGENCY SIGN MUST BE POSTED AND MUST CONTAIN THE WORDS "IN THE EVENT OF AN EMERGENCY PUSH EMERGENCY BUTTON AND AUDIBLE AND VISUAL SIGNAL WILL ACTIVATE". LETTERS MUST BE AT LEAST 25mm HIGH WITH A 6mm STROKE. SIGN MUST BE POSTED ABOVE THE EMERGENCY BUTTON.

UNIVERSAL WASHROOM – TOILET PAPER DISPENSER

1. TOILET PAPER DISPENSER SHALL BE WALL MOUNTED BELOW THE GRAB BAR, IN-LINE WITH OR NOT MORE THAN 300mm IN FRONT OF THE SEAT, AND NOT LESS THAN 600mm ABOVE THE FINISHED FLOOR.

ABBREVIATIONS:

A.B. ANCHOR BOLT

ALT. ALTERNATE

ARCH. ARCHITECTURAL

B.C.E. BOTTOM CHORD EXTENSION

B.L.L. BOTTOM LOWER LAYER

BOT. BOTTOM

B.O.W. BOTTOM OF WALL

B.P. BEAM POCKET

B.U.L. BOTTOM UPPER LAYER

CANTIL. CANTILEVER

C.I.P. CAST IN PLACE

C.J. CONTROL JOINT

CLR. CLEAR

CONC. CONCRETE

CONT. CONTINUOUS

C.P. COMPLETE PENETRATION

CTRS. CENTRES

C/W COMPLETE WITH

DET. DETAIL

D.L. DEAD LOAD

D.O. DO OVER (DITTO)

DP. DEEP (I.E. DEPTH OF BEAM)

D.T.S. DEPTH TO SUIT

DWG. DRAWING

DWLS. DOWELS

E.E. EACH END

E.F. EACH FACE

ELEV. ELEVATION

ELEC. ELECTRICAL

E.S. EACH SIDE

E.W. EACH WAY

EXIST. EXISTING

EXT. EXTERIOR

F.D. FLOOR DRAIN

F.S. FAR SIDE

GALV. GALVANIZED

G.L. GRID LINE

H.1.E. HOOK ONE END

H.2.E. HOOK TWO ENDS

H&V HORIZONTAL AND VERTICAL

HORI. HORIZONTAL

HORIZ. HORIZONTAL

INT. INTERIOR

J.T. JOINT

LG. LONG

L.L. LIVE LOAD

L.L.B.B. LONG LEGS BACK TO BACK

L.L.H. LONG LEG HORIZONTAL

L.L.V. LONG LEG VERTICAL

L.S.H. LONG SIDE HORIZONTAL

L.S.V. LONG SIDE VERTICAL

L.W. LONG WAY

MAX. MAXIMUM

MECH. MECHANICAL

MIN. MINIMUM

N.I.C. NOT IN CONTRACT

N.S. NEAR SIDE

N.T.S. NOT TO SCALE

O.C. ON CENTRE

O/C ON CENTRE

OPP. OPPOSITE

O.W.J. OPEN WEB STEEL JOIST

P.P. PARTIAL PENETRATION

P/T POST-TENSIONING

R.D. ROOF DRAIN

RTN. RETURN

R/W REINFORCED WITH

S.L. SUPERIMPOSED DEAD LOAD

SM. SIMILAR

S.I.B.B. SHORT LEGS BACK TO BACK

S.O.C. SLAB ON GRADE

SPEC. SPECIFICATIONS

STAG. STAGGER

STR. STIRRUP

S.W. SHORT WAY

SYM. SYMMETRICAL

T. THICK

T.HRU THROUGH

T.L.L. TOP LOWER LAYER

T.O. TOP OF

T.O.C. TOP OF CONCRETE

T.O.S. TOP OF STEEL

TYP. TYPICAL

T & B TOP AND BOTTOM

T & C TENSION AND COMPRESSION

T & G TONGUE AND GROOVE

T.J. TIE JOIST

T.O.S. TOP OF SLAB/STEEL

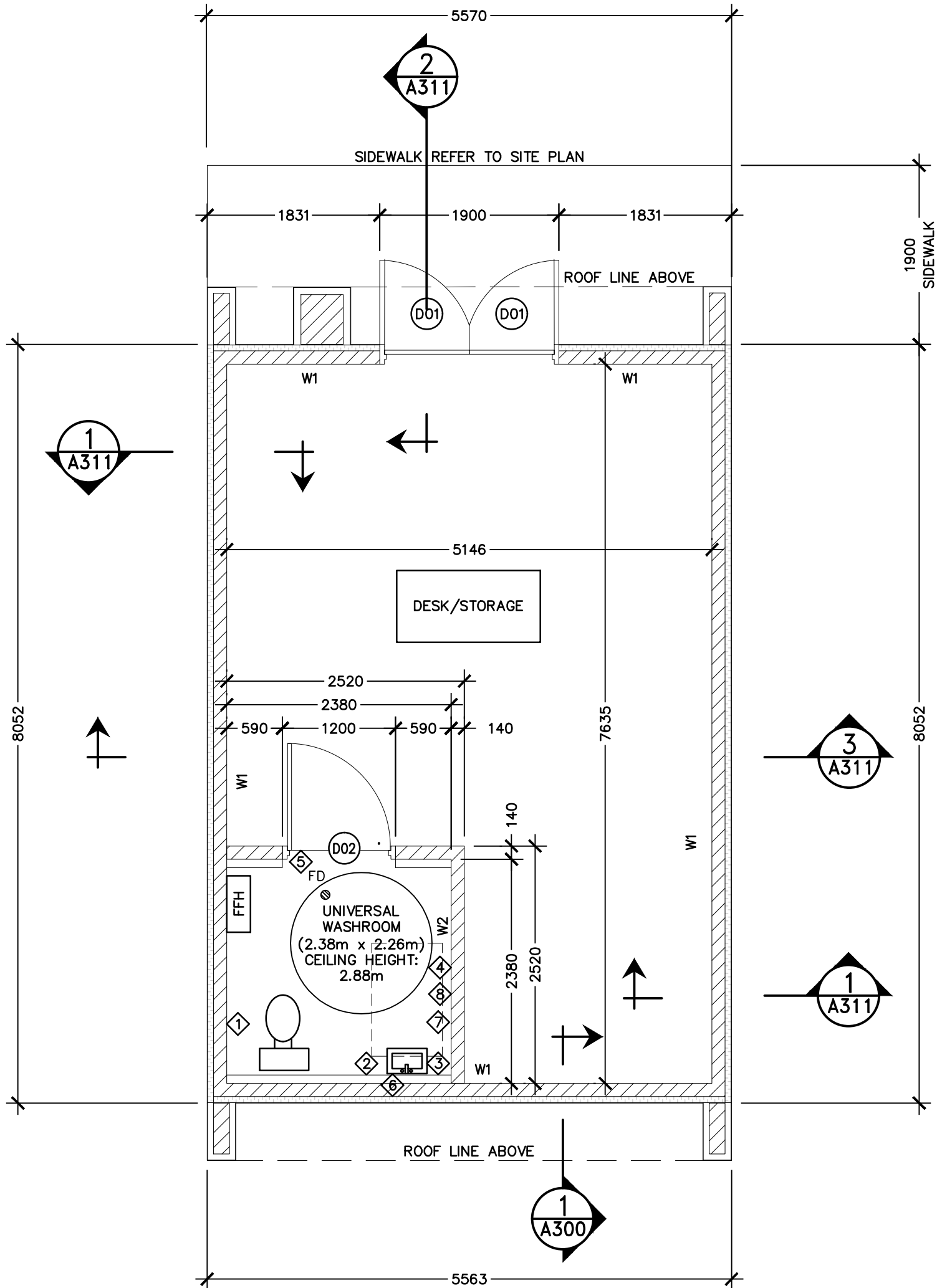
T.U.L. TOP UPPER LAYER

U.N.O. UNLESS NOTED OTHERWISE

U/S UNDERSIDE

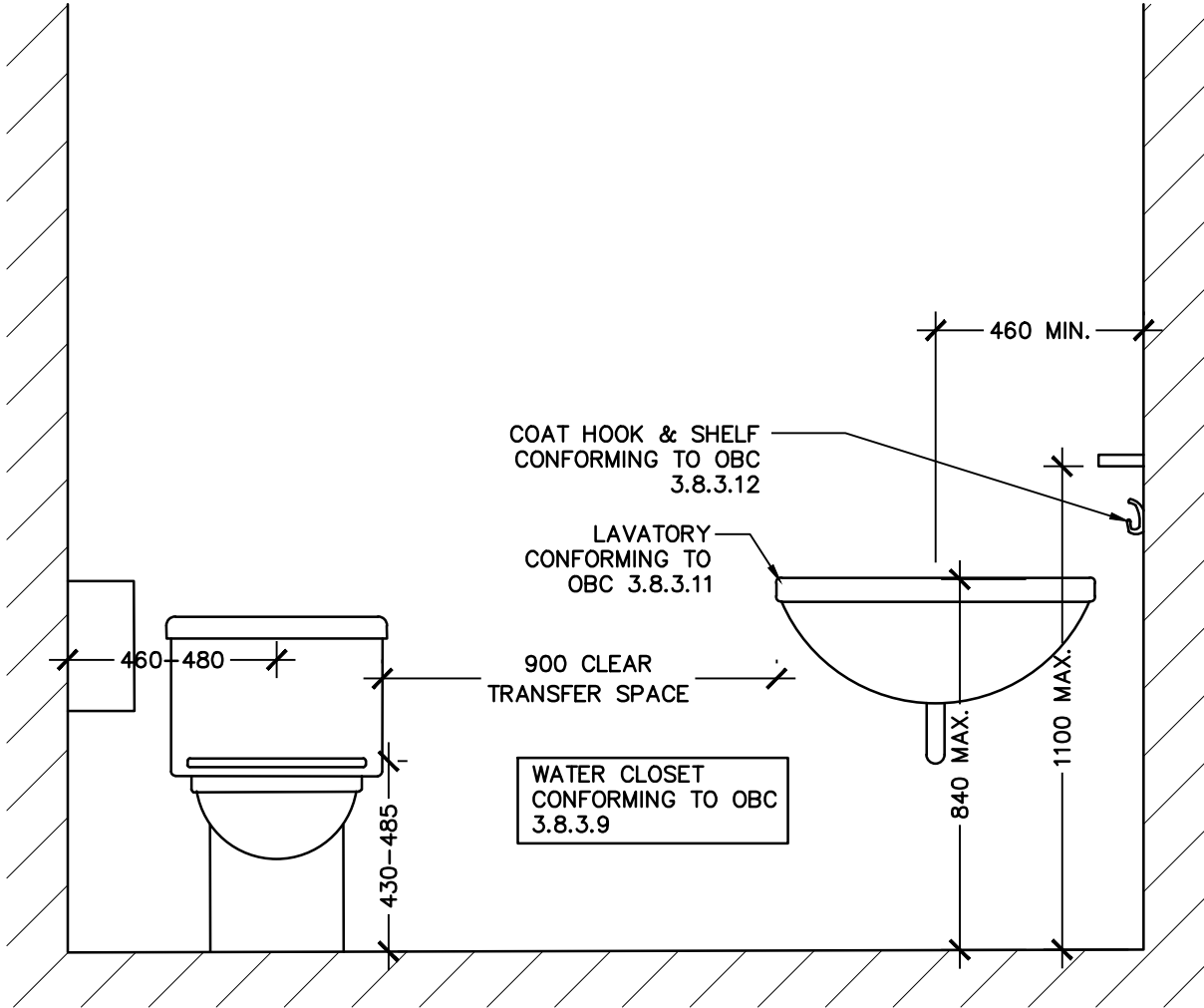
VERT. VERTICAL

W.P. WORK POINT



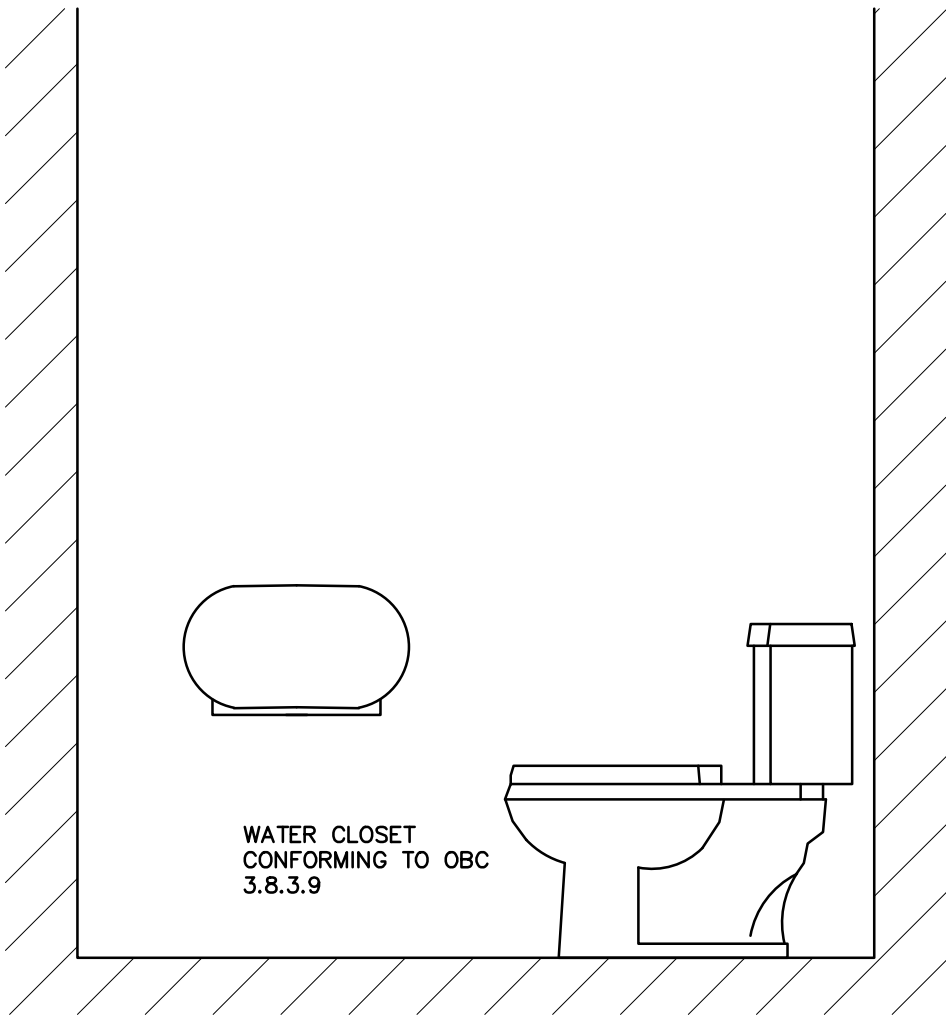
ARCHITECTURAL FLOOR PLAN

SCALE: 1:50
1. REFER TO S200 FOR LINTELS.



FRONT BARRIER FREE WASHROOM
INTERIOR ELEVATION

SCALE: NTS



SIDE BARRIER FREE WASHROOM
INTERIOR ELEVATION

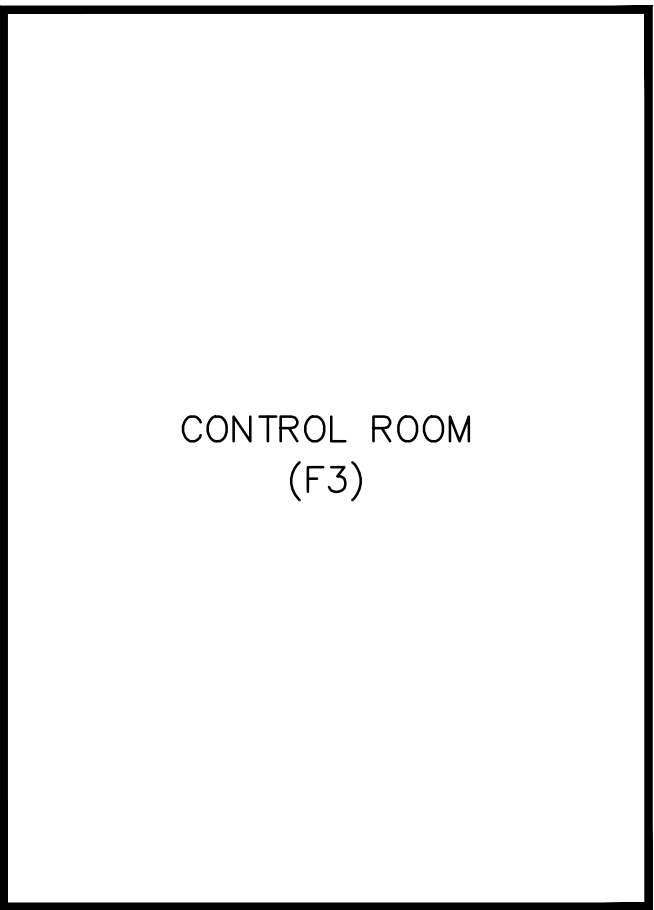
SCALE: NTS

DOOR SCHEDULE				
MARK	TYPE & SIZE	HEIGHT & WIDTH	FRAME	COMMENTS
001	HOLLOW METAL INSULATED	2149x900	TYPE: METAL FINISH : PT	PUSH PLATE, DEADBOLT, DOOR PULL, DOOR OPERATORS, BARRIER-FREE THRESHOLD. PROVIDE WEATHER-STRIP W-25 BY KNC OR EQUIVALENT.
002	HOLLOW METAL INSULATED	2149x1050	TYPE: METAL FINISH : PT	AUTOMATIC SWITCH INCLUDED; MOUNTING HEIGHT TO CONFORM TO BARRIER FREE REQUIREMENTS

NOTE:
1. ALL EXTERIOR DOORS TO INCLUDE WEATHERSTRIPPING
2. ALL WASHROOM DOORS TO INCLUDE LOCKS ON OUTSIDE & INSIDE

ACCESSORIES SCHEDULE			
MARK	ITEM	MANUFACTURER/MODEL	COMMENTS
1	TOILET PAPER DISPENSER	BRADLEY – MODEL 5425	
2	NAPKIN DISPOSAL	BRADLEY – MODEL 4722	
3	FOAM SOAP DISPENSER	BRADLEY – MODEL 6542-73	
4	COAT HOOK		
5	DOOR PULL		
6	MIRROR	BRADLEY – MODEL 740-1830	
8	WASTE RECEPTACLE	BRADLEY – MODEL 355	

COLOUR SCHEDULE & FINISH PRODUCT SPECIFICATIONS		
	M	TYPE
1	PAINT	PT-1: SHERWIN WILLIAMS, WATER-BASED EPOXY PAINT, SEMI-GLOSS FINISH, TRICORN BLACK – SW7258
2	ASPHALT ROOF SHINGLES	BP-DAKOTA-2TONE BLACK
3	ROOF VALLEY FLASHING	METAL BROWN
4	METAL SOFFIT, FASCIA AND FREIZE BOARDS	PRESTIGE BEIGE
5	GUTTERS AND RWL'S	MODERN – PEBBLE CLAY
6	BRICK CLADDING	"BRAMPTON BRICK" – WESTMONT
7	STONESILL/BAND	ARRISCRAFT STONE SILL/BANDING
8	VINYL SIDING	PRESTIGE BEIGE
9	SMART PANEL AND SMART TRIM	MITTEN – TAUPETONE – SW 7633 (PAINTED)
10	DRYWALL CEILING	SEMI-GLOSS FINISH, WHITE.
11	FLOOR	CONCRETE SMOOTH FINISH

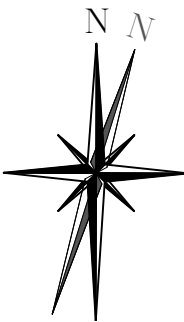


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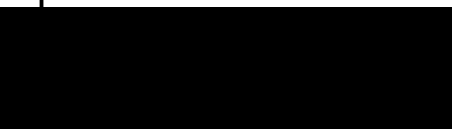
TEMPORARY BENCHMARKS

TBM#1 –
TBM#2 –
TBM#3 –

***ADD REFERENCE TO SURVEY/SOURCE

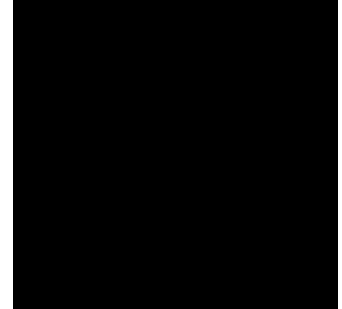


Town



No.	ISSUE	DATE: YYYY/MM/DD
1	ISSUED FOR 90% DETAILED DESIGN	2023/03/21
2	ISSUED FOR CLIENT REVIEW – IFT	2023/12/15
3	ISSUED FOR 90% DETAILED DESIGN REV 1	2024/01/02
4	ISSUED FOR TENDER	2024/01/22
5	ISSUED FOR ADDENDUM #1	2024/02/09
6	ISSUED FOR ADDENDUM #2	2024/02/27
7	ISSUED FOR APPROVAL	2024/03/08
8	ISSUED FOR APPROVAL REV 1	2024/05/24

Engineer



Engineer

Project

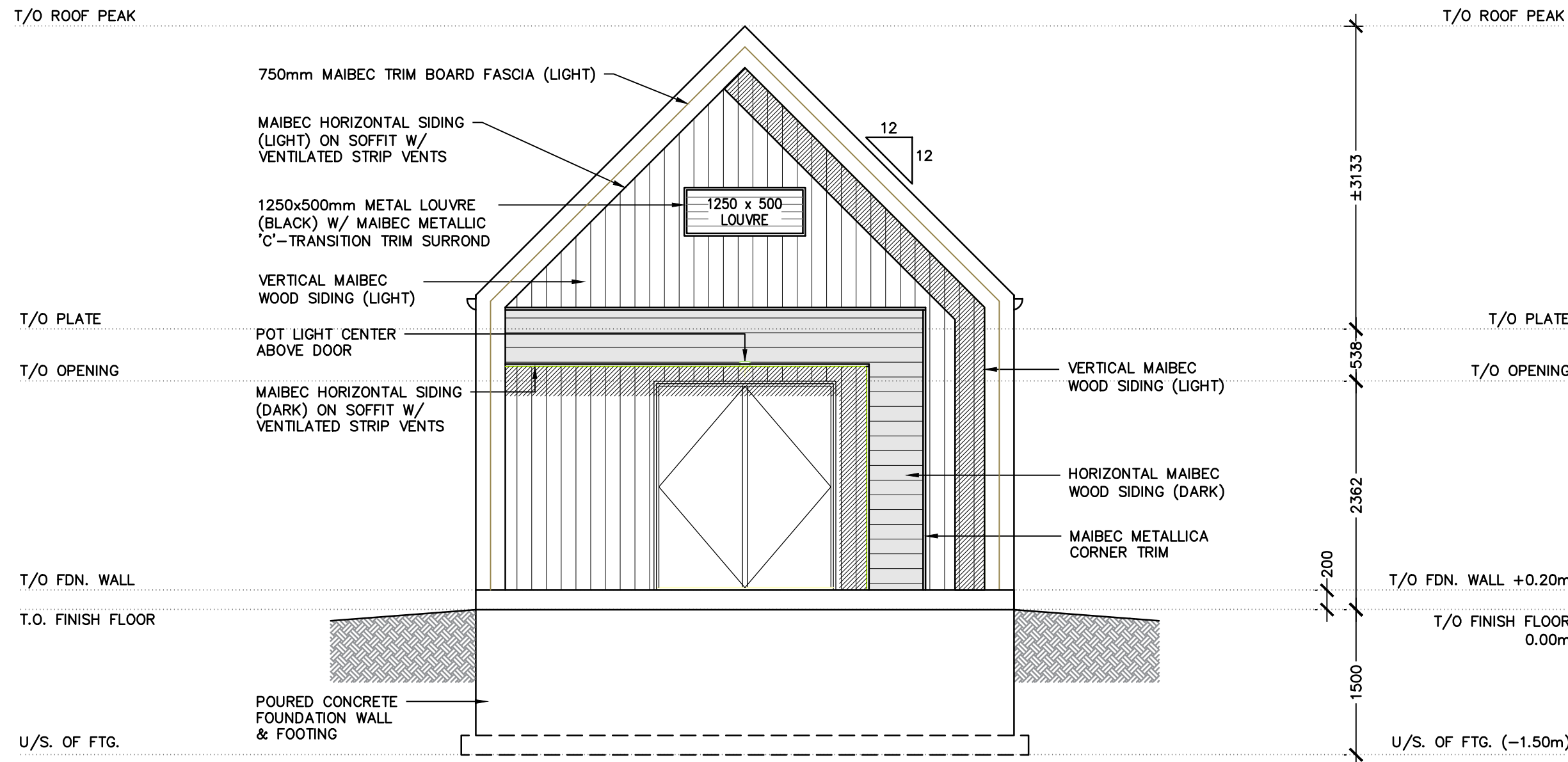
HOME FARM
SEWAGE PUMPING STATION
TOWN OF THE BLUE MOUNTAINS

Drawing

ARCHITECTURAL PLAN, WASHROOM
ELEVATIONS AND SCHEDULES



Drawn By	K.L.	Design By	M.S.	Project	721-3464
Check By	S.G.	Check By	J.A.M.	Drawing	A300

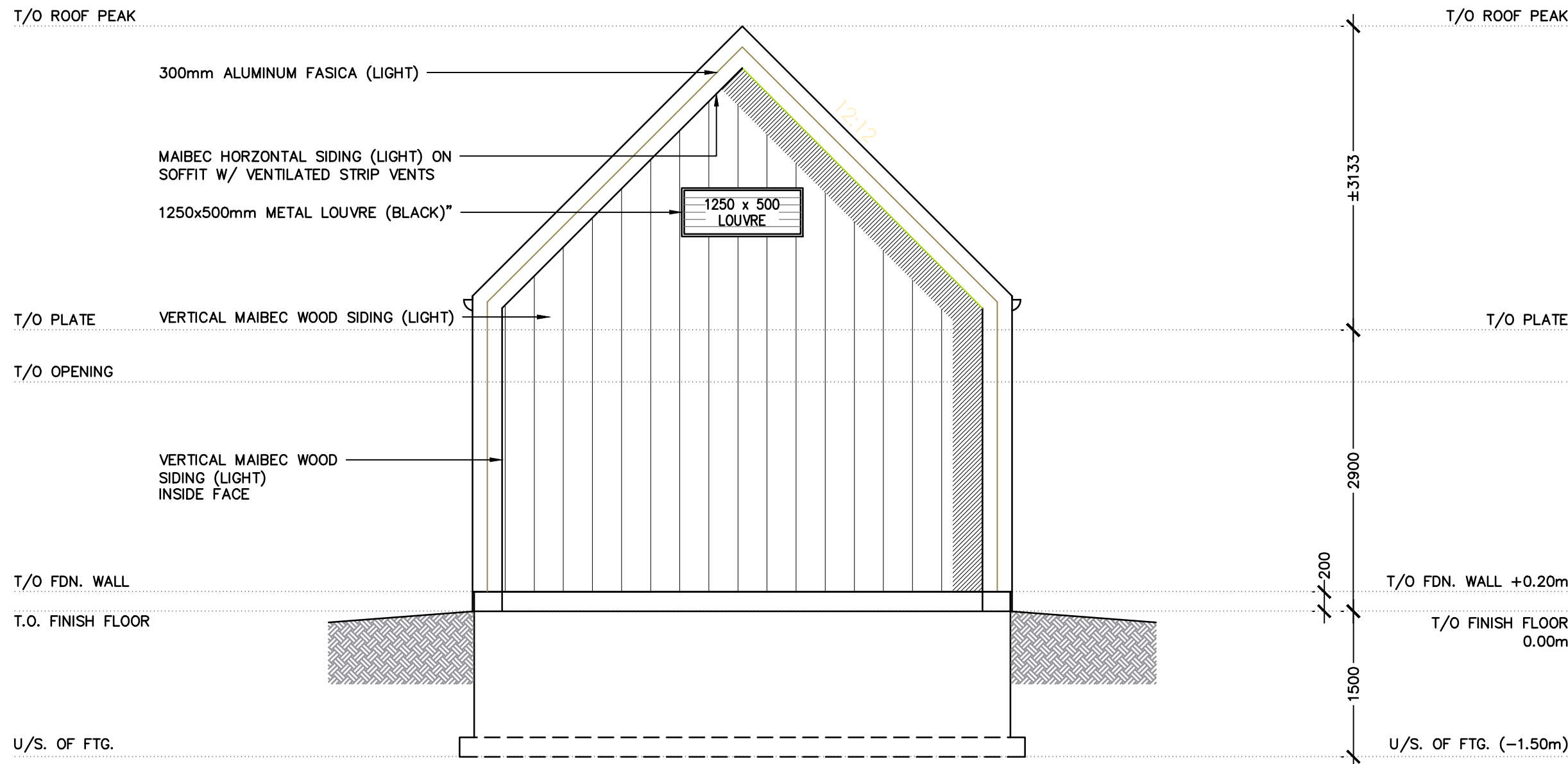


NORTH ELEVATION

SCALE: 1:50

NOTE:

1. UNDERSIDE OF FOOTING TO BE AT UNDISTURBED NATIVE SOIL OR APPROVED ENG FILL W/ MIN BEARING CAPACITY OF 350 KPa

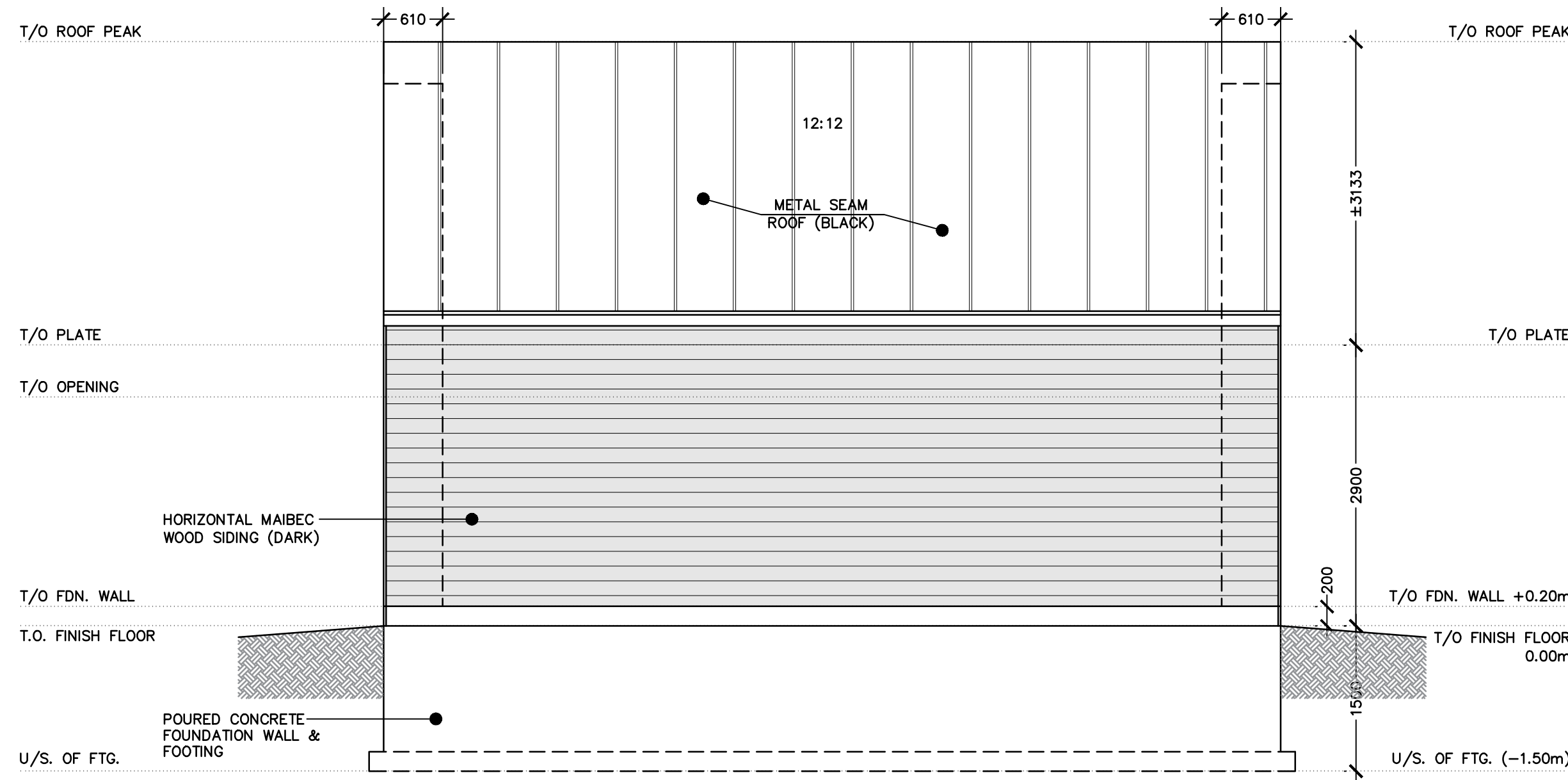


SOUTH ELEVATION

SCALE: 1:50

NOTE:

1. UNDERSIDE OF FOOTING TO BE AT UNDISTURBED NATIVE SOIL OR APPROVED ENG FILL W/ MIN BEARING CAPACITY OF 350 KPa

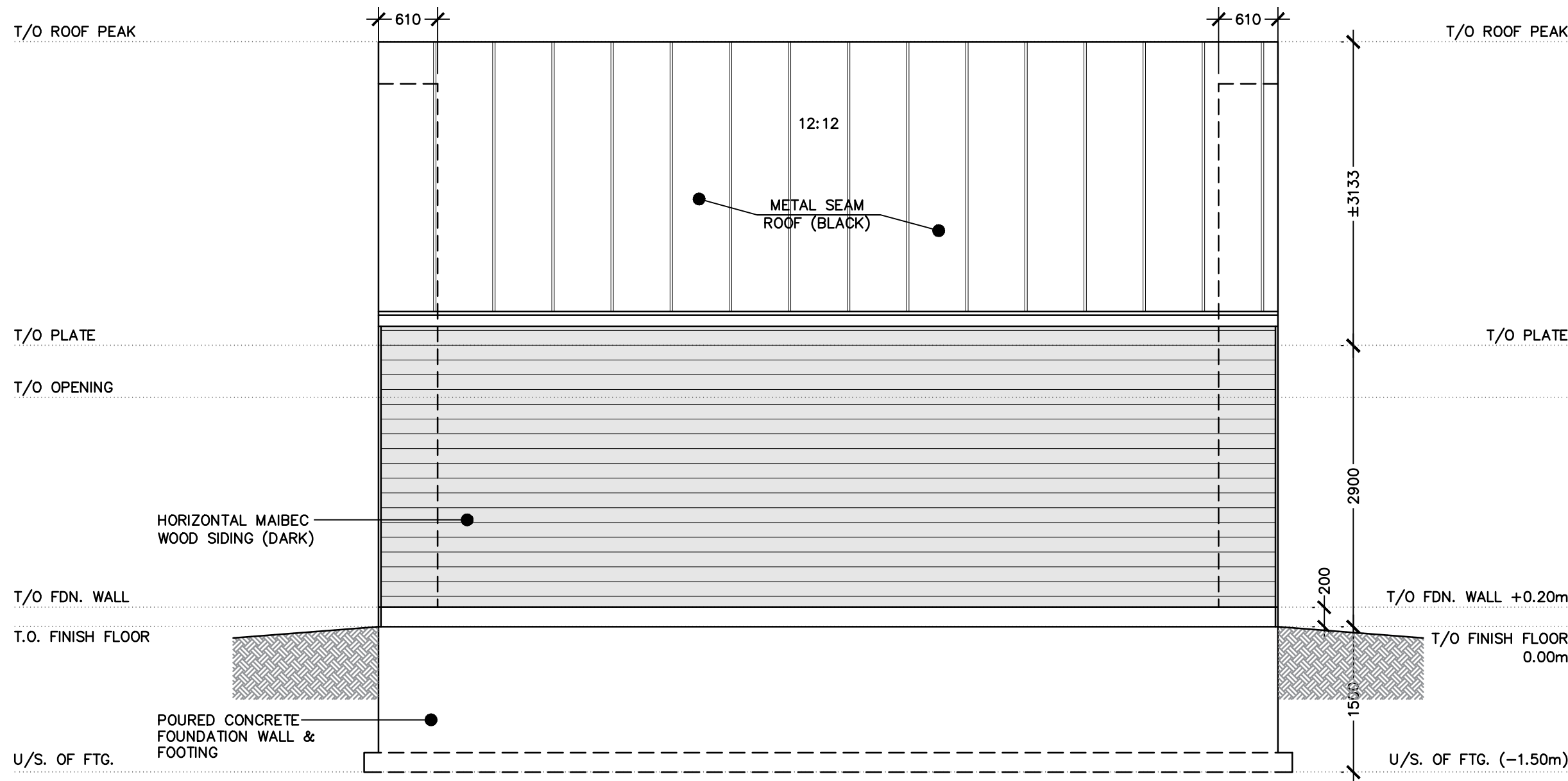


WEST ELEVATION

SCALE: 1:50

NOTE:

1. UNDERSIDE OF FOOTING TO BE AT UNDISTURBED NATIVE SOIL OR APPROVED ENG FILL W/ MIN BEARING CAPACITY OF 350 KPa



EAST ELEVATION

SCALE: 1:50

NOTE:

1. UNDERSIDE OF FOOTING TO BE AT UNDISTURBED NATIVE SOIL OR APPROVED ENG FILL W/ MIN BEARING CAPACITY OF 350 KPa

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TEMPORARY BENCHMARKS

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Town

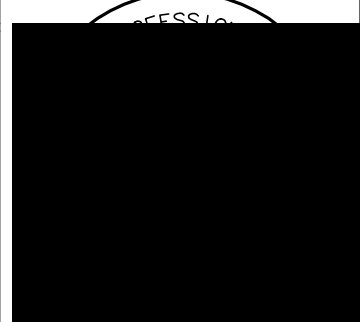
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2	ISSUED FOR CLIENT REVIEW - IFT
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4	ISSUED FOR TENDER
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7	ISSUED FOR APPROVAL
8	ISSUED FOR APPROVAL REV 1

DATE: YYYY/MM/DD

2023/03/21
2023/12/15
2024/01/02
2024/01/22
2024/02/09
2024/02/27
2024/03/08
2024/05/24

Engineer



Engineer

Project

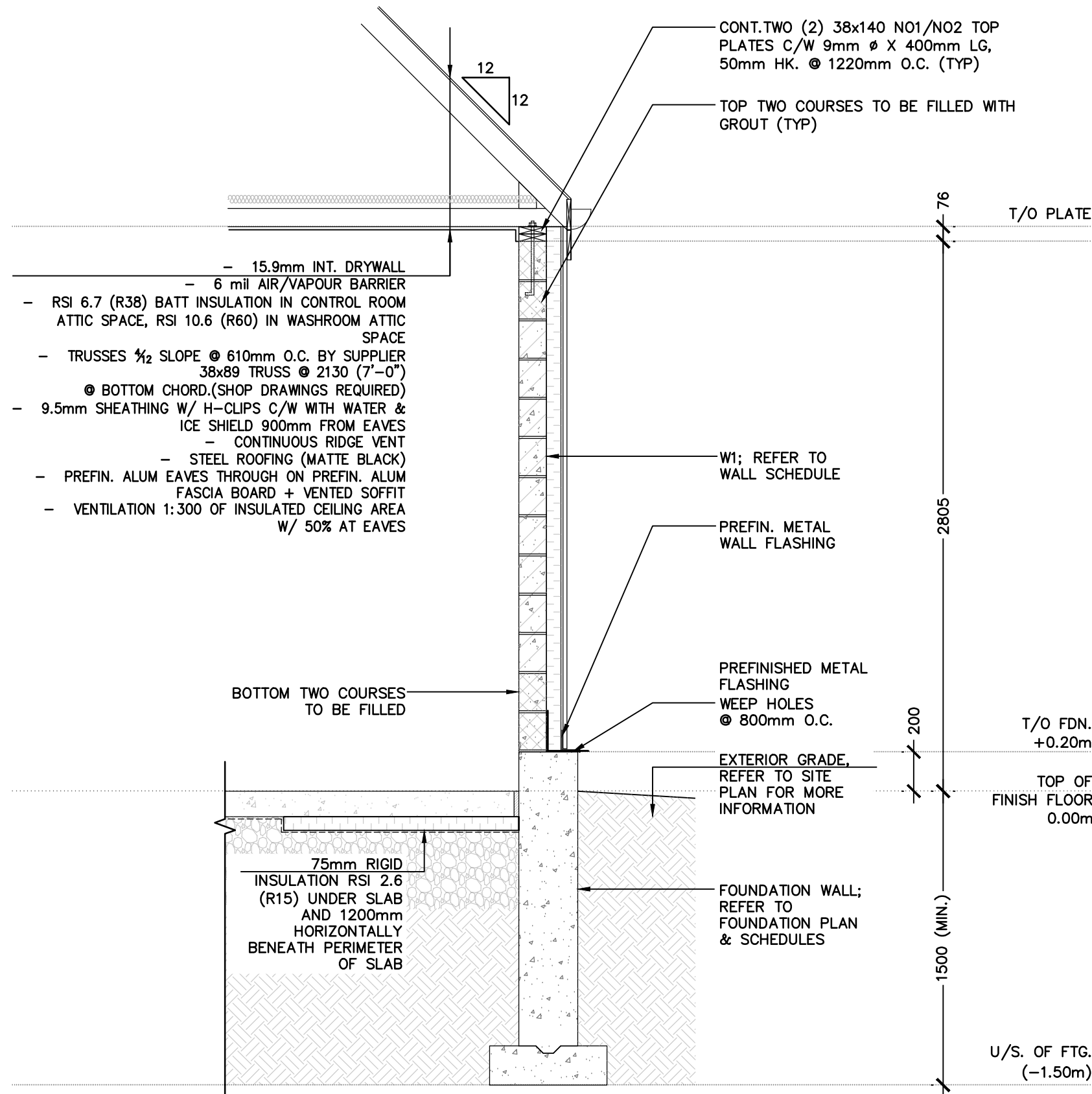
HOME FARM
SEWAGE PUMPING STATION
TOWN OF THE BLUE MOUNTAINS

Drawing

ELEVATIONS

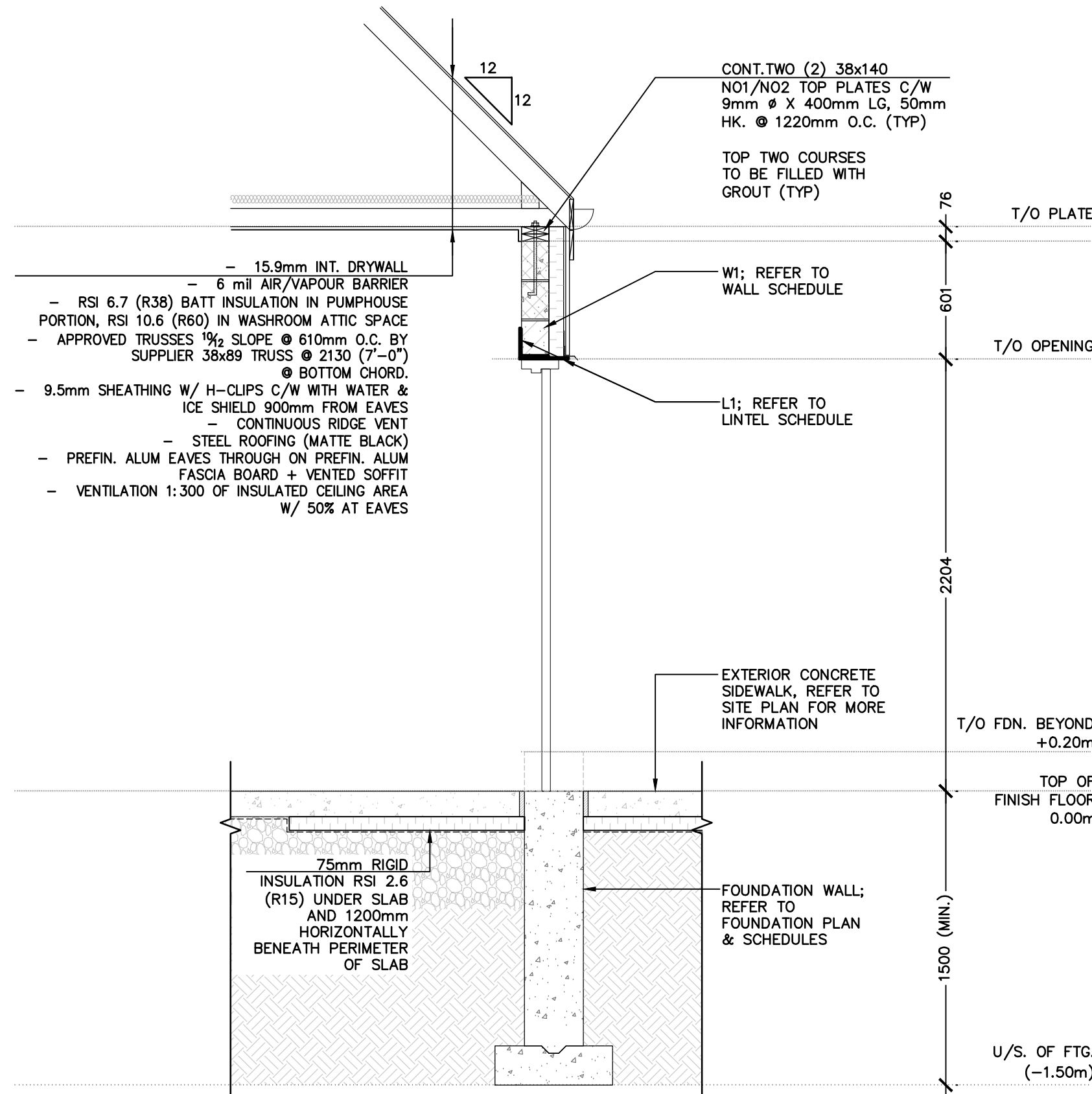


Drawn By	K.L.	Design By	M.S.	Project	721-3464
Check By	S.G.	Check By	J.A.M.	Drawing	A310



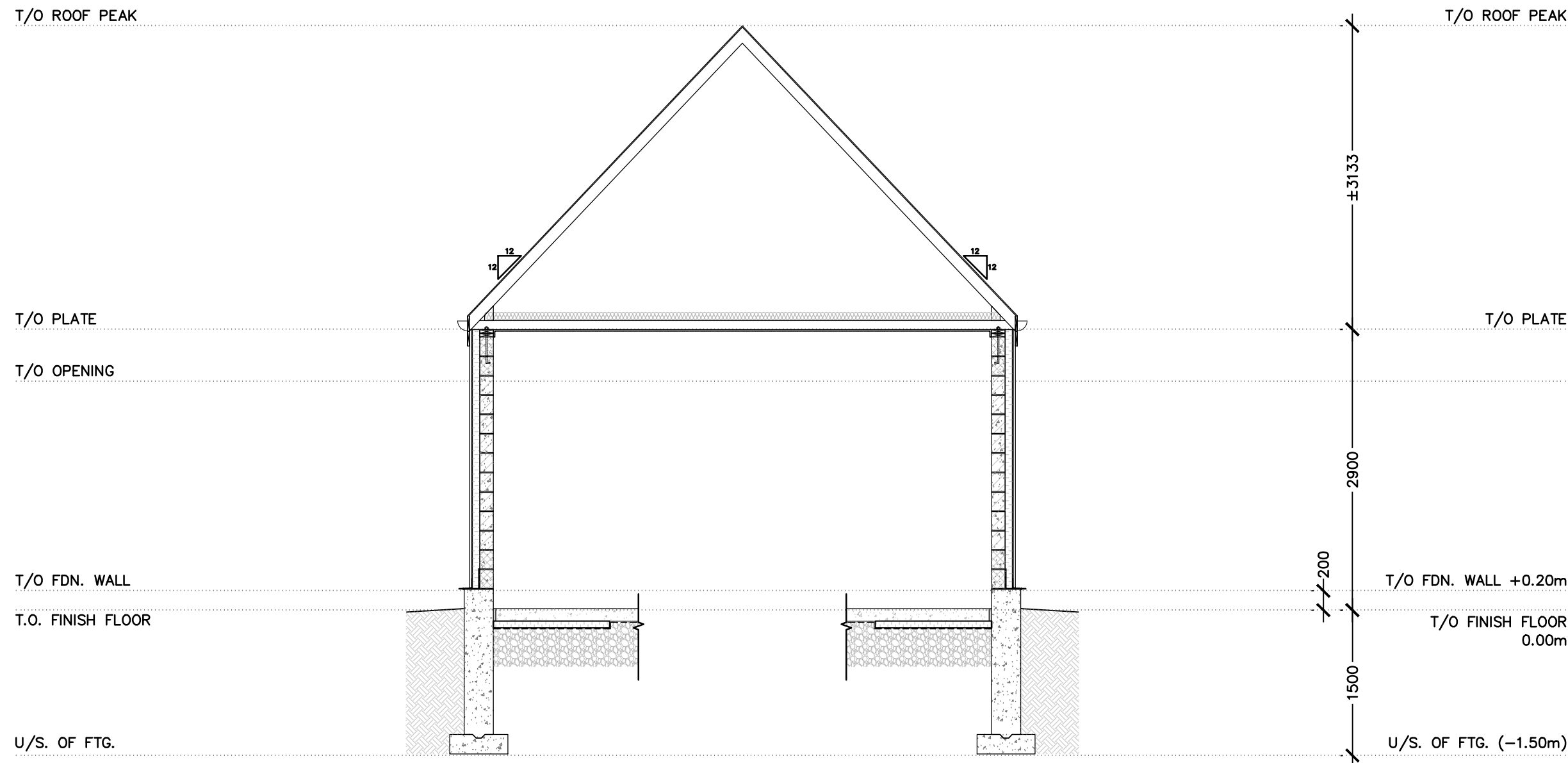
1 W1 WALL SECTION

A311 SCALE: 1:25
NOTE: REFER TO DETAIL A/S200 FOR TYPICAL FOUNDATION SECTION



2 W1 WALL SECTION

A311 SCALE: 1:25
NOTE: REFER TO DETAIL A/S200 FOR TYPICAL FOUNDATION SECTION



3 CROSS SECTION

A311 SCALE: 1:50
NOTE: REFER TO DETAIL A/S200 FOR TYPICAL FOUNDATION SECTION

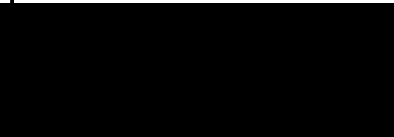
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No.

ISSUE

DATE: YYYY/MM/DD

Engineer

Engineer

Project

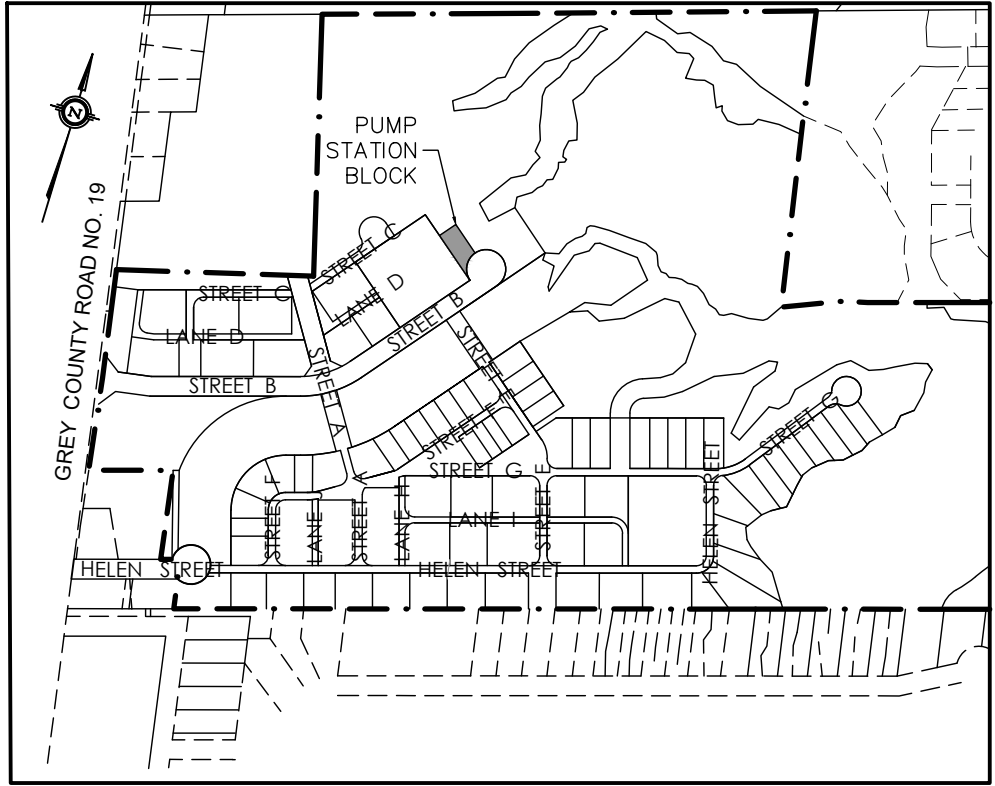
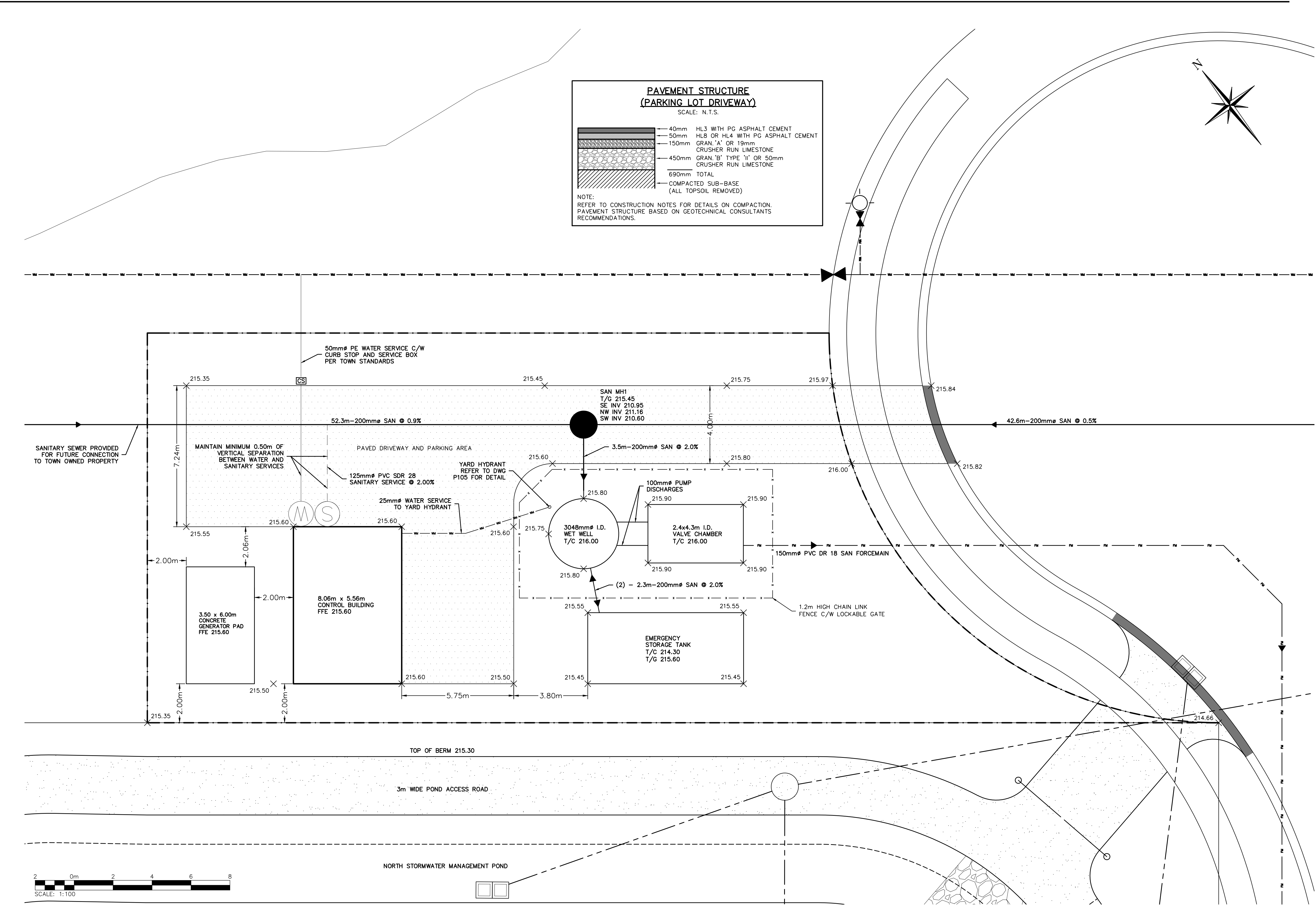
HOME FARM
SEWAGE PUMPING STATION
TOWN OF THE BLUE MOUNTAINS

Drawing

WALL SECTION, CONSTRUCTION



Drawn By	K.L.	Design By	M.S.	Project	721-3464
Check By	S.G.	Check By	J.A.M.	Drawing	A311



NOTE: THE LIMITS OF CONSTRUCTION START AND END AT THE PROPERTY LINE.

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TEMPORARY BENCHMARKS
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TBM#3 -
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[Redacted]

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Engineer

Engineer

Project
**HOME FARM
SEWAGE PUMPING STATION
TOWN OF THE BLUE MOUNTAINS**
Drawing
SEWAGE PUMPING STATION SITE PLAN

C CROZIER CONSULTING ENGINEERS

Drawn By B.E.	Design By B.E.	Project 721-3464
Check By A.L.	Check By M.H.	Drawing P101

1. FOUNDATION DESIGN TO BE CONFIRMED BASED ON RECOMMENDATION OF GEOTECHNICAL ENGINEER.
2. SUBGRADE ELEVATIONS TO BE APPROVED BY THE GEOTECHNICAL ENGINEER.
3. SUPPORT ALL FOOTINGS AND SLABS ON UNDISTURBED SUB-GRADE WHEN DEEMED SUITABLE BY GEOTECHNICAL ENGINEER. WHERE UNSUITABLE, REPLACE WITH ENGINEERED FILL TO ELEVATIONS RECOMMENDED BY GEOTECHNICAL ENGINEER.
4. REVIEW GEOTECHNICAL REPORT FOR RECOMMENDATIONS CONCERNING DEWATERING AT ALL STRUCTURES.
5. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL STRUCTURAL AND MECHANICAL COMPONENTS.

1. PROTECT ALL STRUCTURES FROM FLOTATION DURING CONSTRUCTION.
2. DEWATER EXCAVATION UNTIL CONSTRUCTION IS COMPLETE.

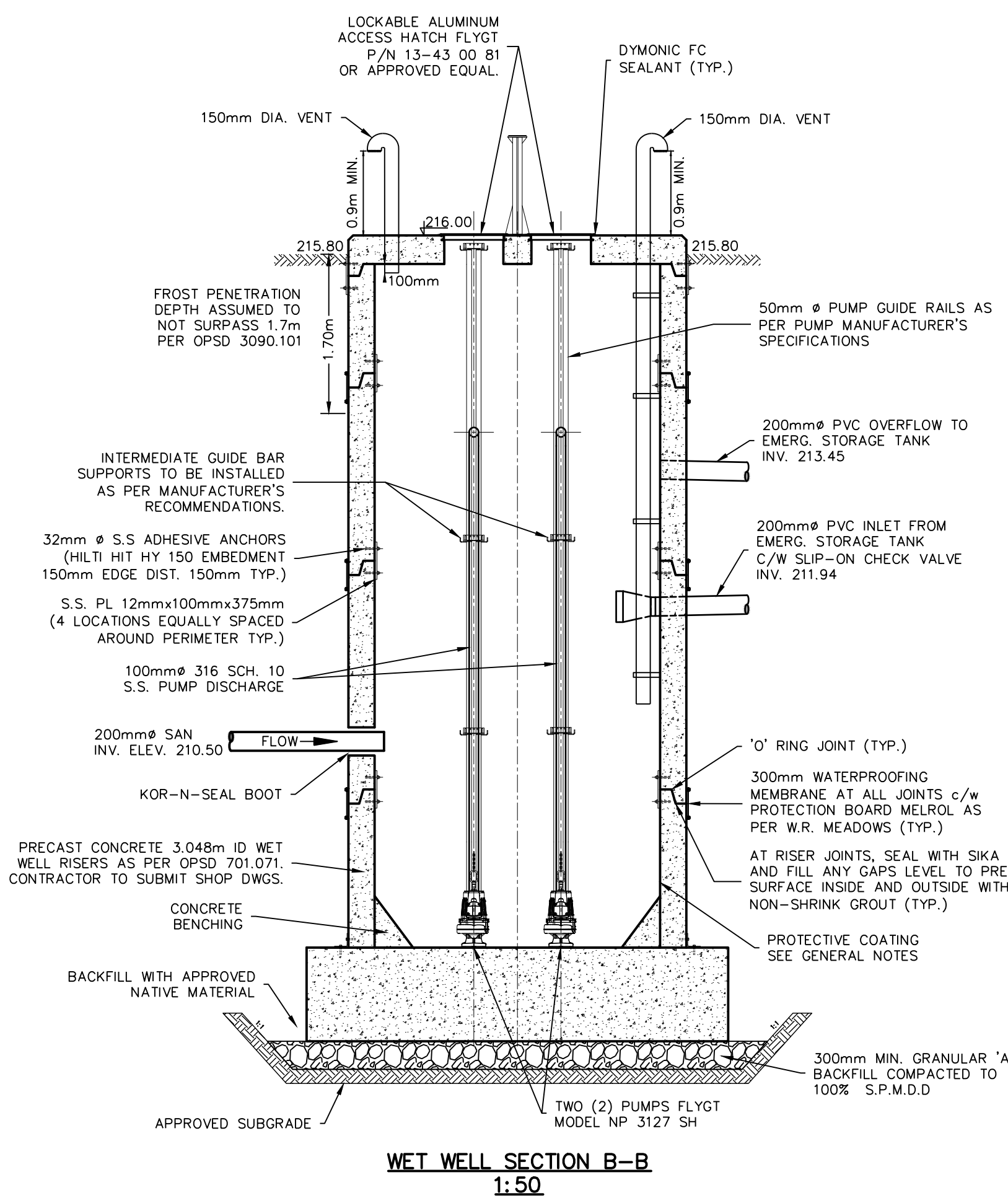
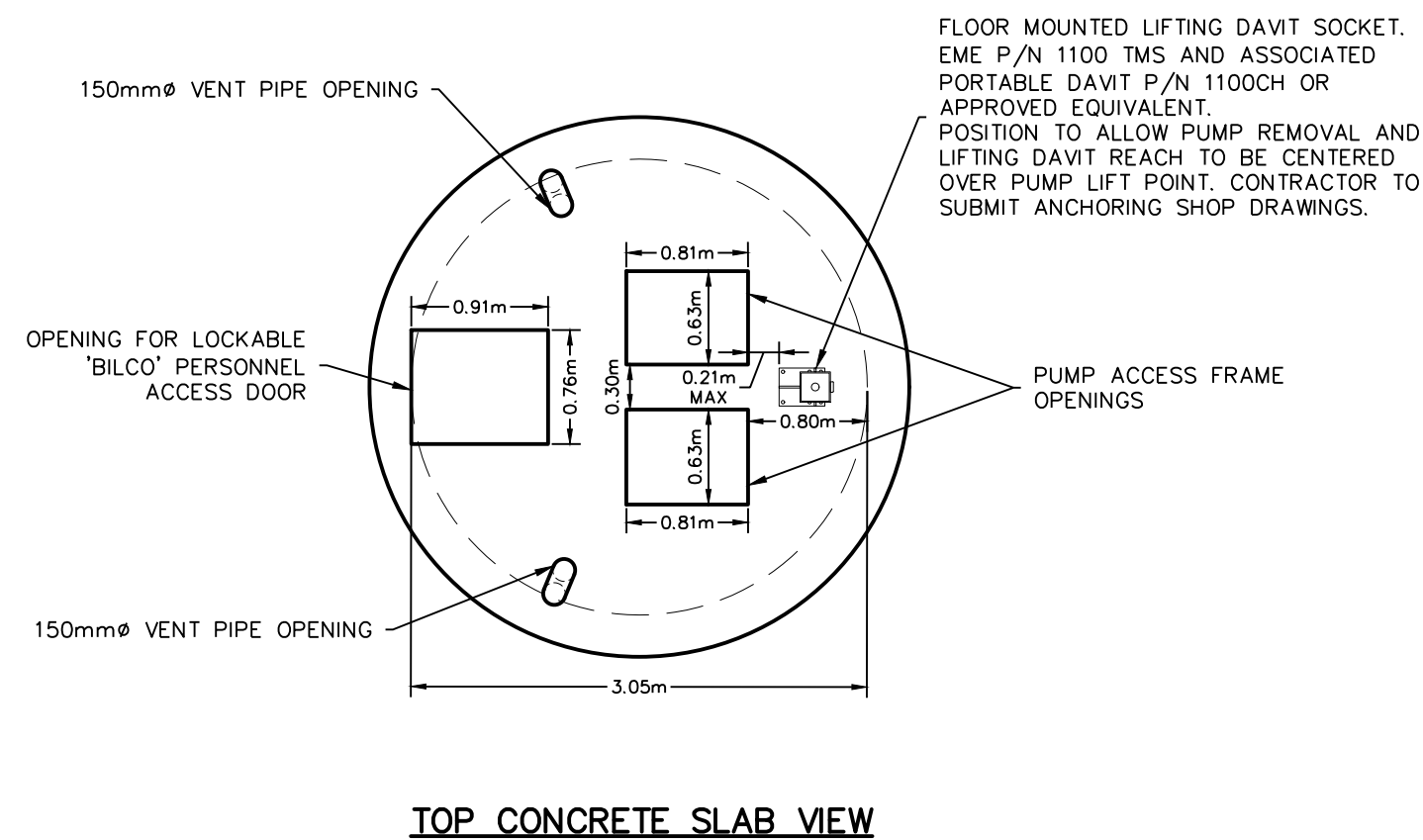
1. CONCRETE STRENGTH IN ACCORDANCE WITH CSA STANDARD A23.1-14 AND A23.2-14.
2. STRUCTURAL CONCRETE UNLESS OTHERWISE NOTED: 30 MPa AT 28 DAYS.
3. EXPOSURE CLASSIFICATION A-1.
4. MAXIMUM WATER CEMENT RATIO 0.50 U.N.O.
5. USE WATER REDUCING AGENT AND SUPERPLASTICIZER.
6. NORMAL MAXIMUM AGGREGATE SIZE 20mm.
7. ENTRAINED AIR CONTENT RANGE 4% TO 7%.
8. LEAN FILL AND MASS CONCRETE 28-DAYS COMPRESSIVE STRENGTH 15 MPa
9. REINFORCING STEEL: CSA STANDARD G30.18-(9/2014), GRADE 400, DEFORMED BARS
10. STRUCTURAL STEEL: CSA STANDARD G40.20-(13/04.2013), GRADE 350 ROLLED SECTIONS, GRADE 300 PLATES.
11. ALUMINUM HATCH:
 - DESIGNED FOR 14.4KIP/A (300 PSF) LOAD C/W S.S. HOLD OPEN ARM AND RELEASE ASSEMBLY, S.S. AUTOMATIC LIFTING ASSEMBLY, LUG CONNECTION FOR PADLOCK, NEOPRENE GASKET FOR WEATHER AND ODOR TIGHTNESS, ALL HARDWARE TO BE STAINLESS STEEL, PADLOCK TO MATCH OWNERS STANDARD, SUBMIT SHOP DWGS. FOR APPROVAL.
12. CEMENTITIOUS COATING FOR INTERIOR OF PUMPING STATION:
 - REFER TO SPECIFICATION 07610 CEMENTITIOUS WATERPROOFING FOR COATING REQUIREMENTS.

1. TWO ELECTRIC SUBMERSIBLE WASTEWATER PUMPS.
2. FLYGT MODEL NP 3127 S/H3 ADAPTIVE 248 12HP WITH 155mm IMPELLER
3. PUMP CAPACITY 18.9 L/S @ 28.1m TDH WITH ONE PUMP IN OPERATION.
4. CAST IRON CASING AND IMPELLER WITH 80mm SOLIDS PASSING.
5. 80mmø (3") DISCHARGE ELBOW, ACCESSORIES AND S.S. GUIDE BARS.
6. 8.0m STAINLESS STEEL LIFTING CHAIN.

AS PART OF THEIR FIELD SERVICES, THE ENGINEER MAY REVIEW SHOP DRAWINGS PERTAINING TO WORK SHOWN ON THE ENGINEER'S DRAWINGS BY MEANS OF APPROPRIATE RATIONAL SAMPLING PROCEDURES AND COMMENT ON THE ACCURACY WITH WHICH THE CONTRACTOR PREPARED THE DRAWINGS. REVIEW OF SHOP DRAWINGS IS FOR THE SOLE PURPOSE OF OBTAINING CONSTRUCTION INFORMATION. REVIEW OF SHOP DRAWINGS IS NOT AN APPROVAL OF THE DETAIL DESIGN INHERENT IN THE SHOP DRAWINGS, RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING THEM. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS OR FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INFORMATION PERTAINING TO THE FABRICATION PROCESS TECHNIQUES OF CONSTRUCTION AND INSTALLATION, AND FOR CO-ORDINATION OF THE WORK OF ALL SUB-TRADES.

1. MANUFACTURERS OF ALL STRUCTURAL ELEMENTS SHALL SUBMIT COMPLETE SHOP DRAWINGS, SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN ONTARIO TO THE CONSULTANT FOR REVIEW PRIOR TO THE SUBMITTAL OF BRICATION (3 SETS OR PDF). SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SPECIFICATIONS AND ALLOW A MINIMUM OF TWO(2) WEEKS FOR REVIEW. THE SUBMISSION NOR THE REVIEW SHALL RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY FOR PROVIDING PROPER ENGINEERING DESIGN, METHODS, EQUIPMENT, WORKMANSHIP AND SAFETY PROCEDURES.
2. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR THE FOLLOWING:
 - A. PRECAST STRUCTURE (CAP, RISERS, BASE)
 - B. PLATFORM, GUARD, AND SUPPORT
 - C. LADDER, SUPPORT, AND FALL ARREST SYSTEM
 - D. FROST STRAPS
 - E. WATERPROOFING MEMBRANE
 - F. VENT PIPE SUPPORT
 - G. STEEL ANGLES, PLATES, AND FASTENERS



PUMP OPERATING ELEVATIONS (m)	
HIGH LEVEL ALARM AND START STANDBY PUMP (FLOAT INTERLOCK)	210.20
START DUTY PUMP ELEVATION (FLOAT INTERLOCK)	209.90
START STANDBY PUMP (PLC)	209.80
START DUTY PUMP (PLC)	209.60
STOP ALL PUMPS (PLC)	209.20
STOP ALL PUMPS (FLOAT INTERLOCK)	208.90
WET WELL FLOOR ELEVATION	208.40



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5. DO NOT SCALE DRAWINGS.

TBM#1-
TBM#2-
TBM#3-

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7	ISSUED FOR APPROVAL REV 1 	2024/05/24

Engineer

Engineer

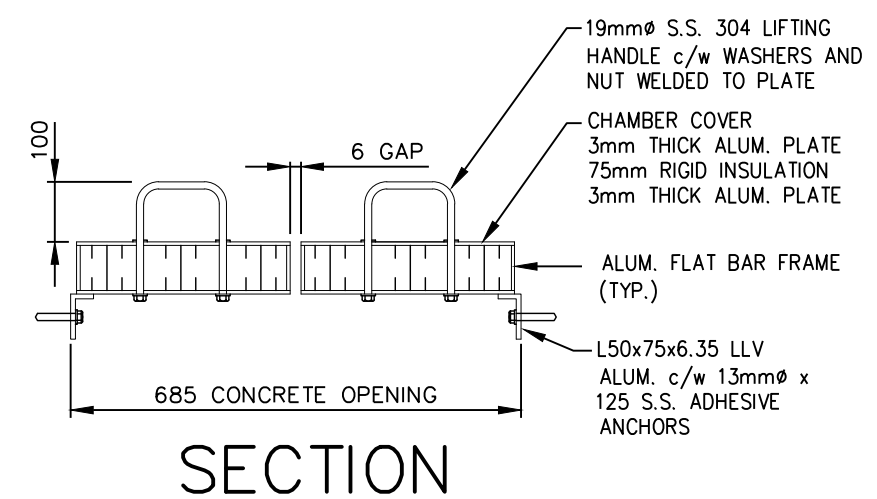
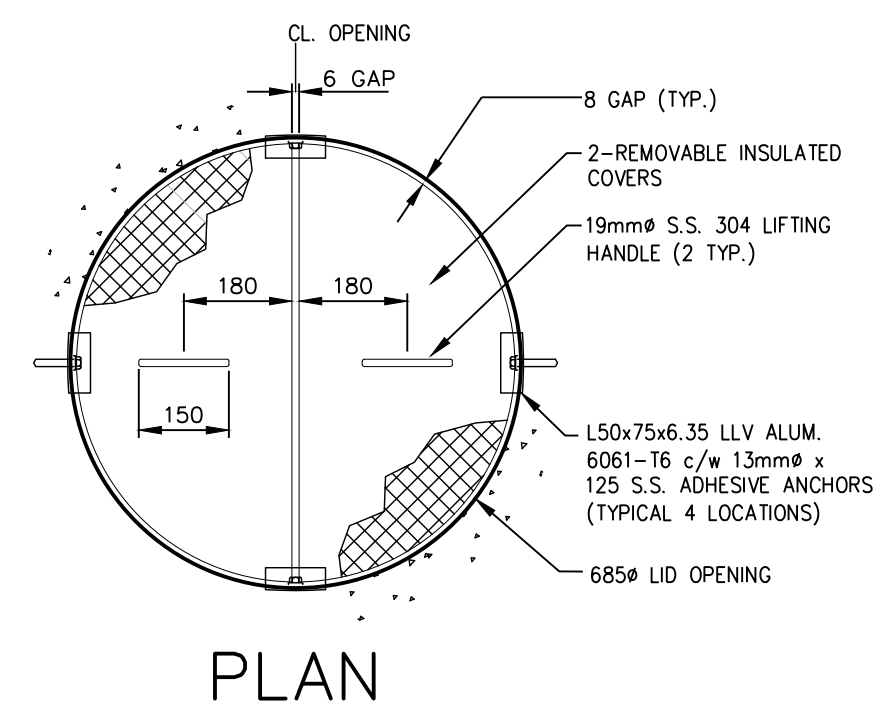
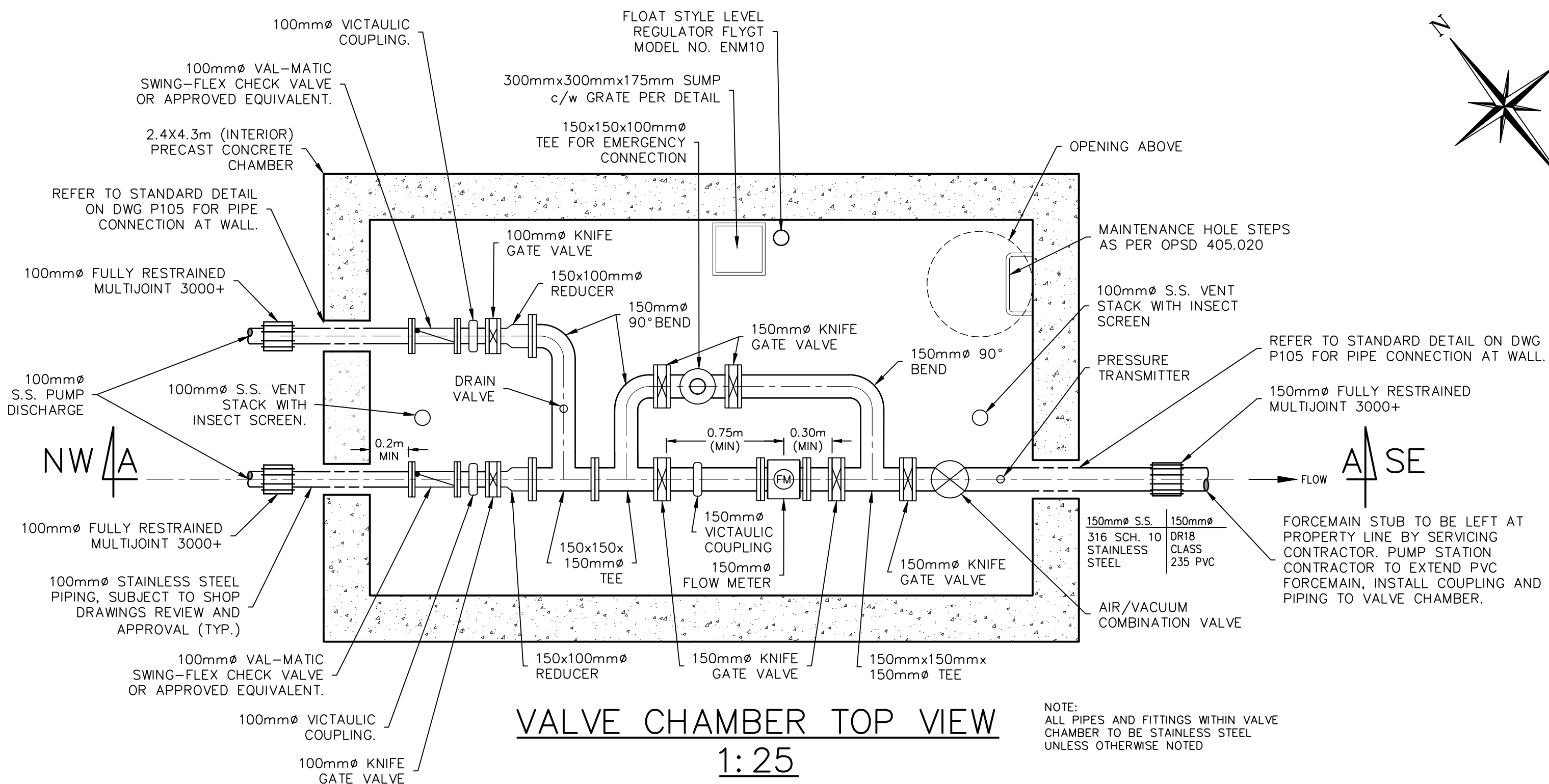
Project	
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HOME FARM
SEWAGE PUMPING STATION
TOWN OF THE BLUE MOUNTAINS

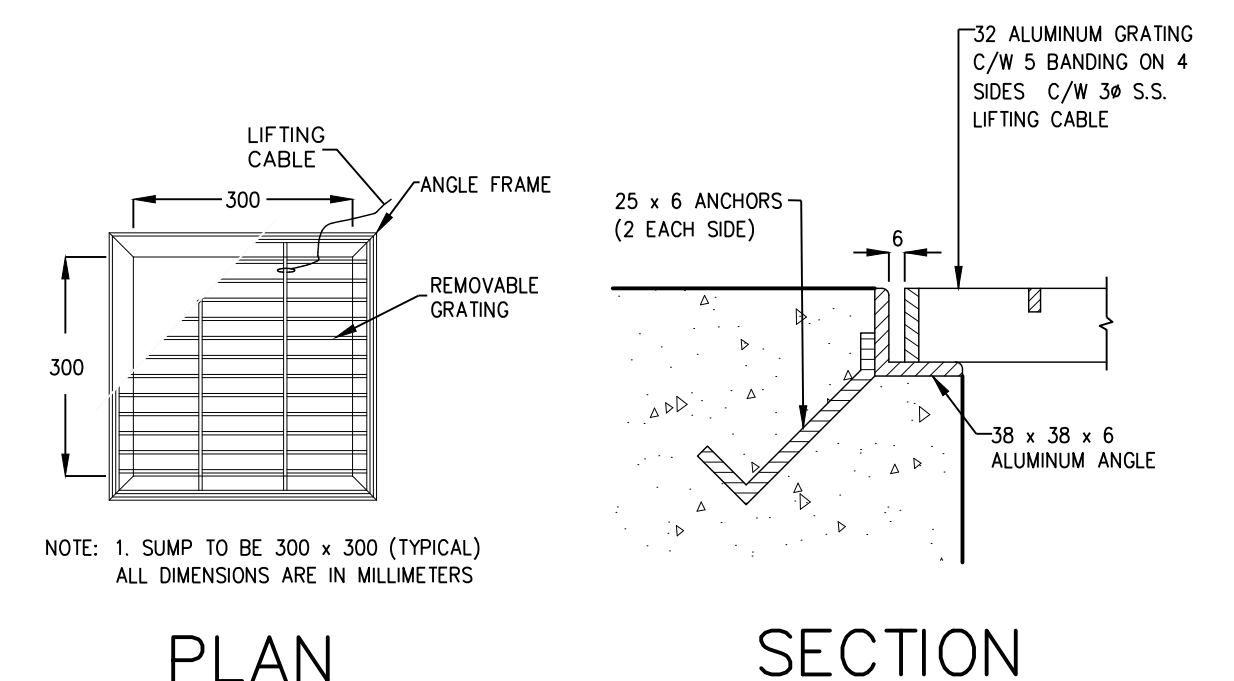
WET WELL CROSS SECTIONS & CONSTRUCTION NOTES



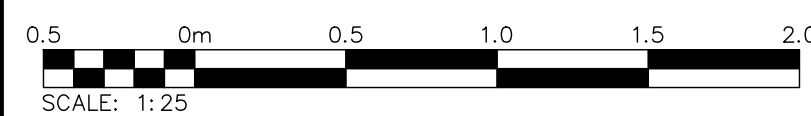
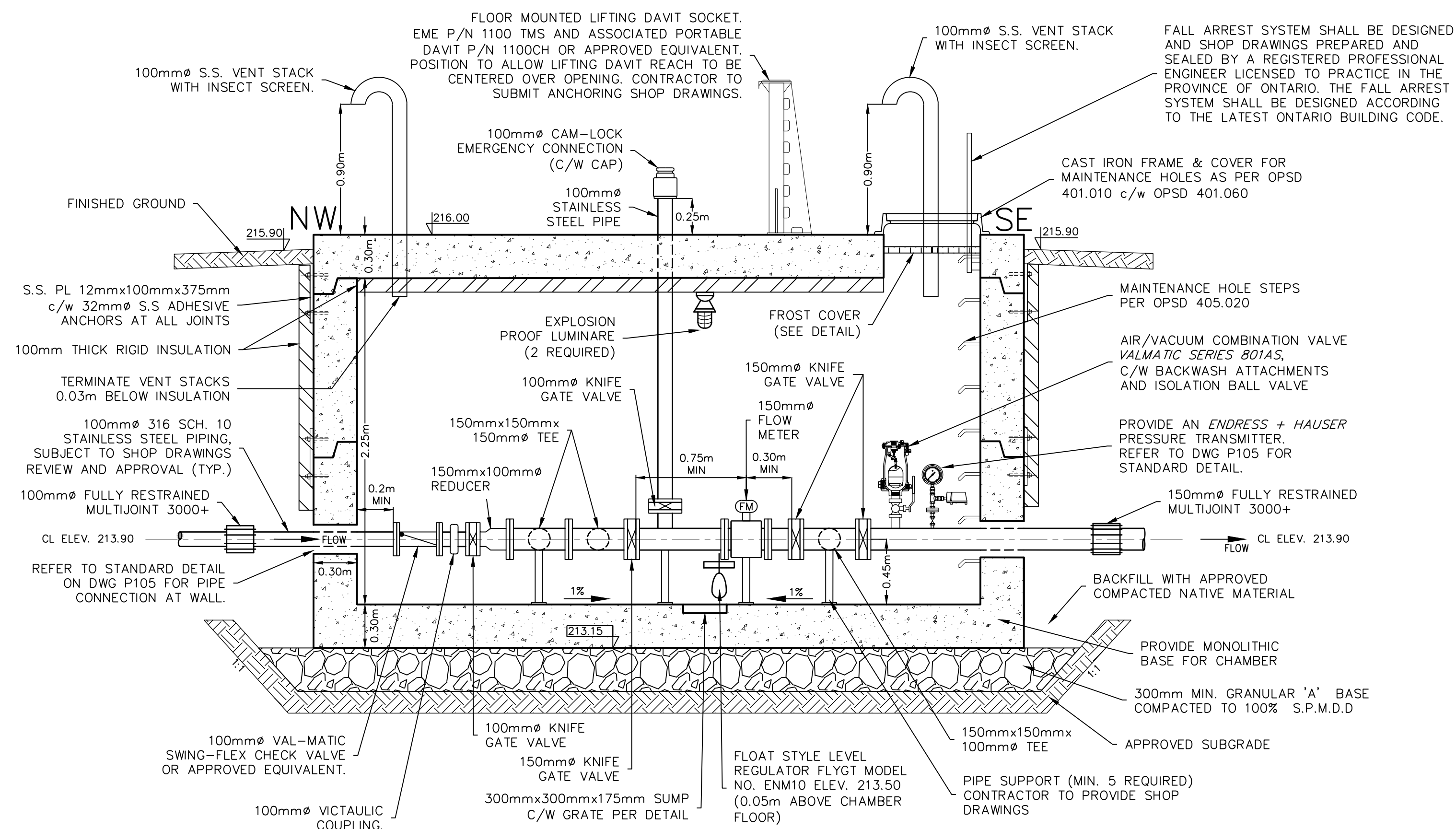
Drawn By	B.E.	Design By	B.E.	Project	721-3464
Check By	A.L.	Check By		Drawing	P102



FROST COVER DETAIL
N.T.S.



SUMP FRAME & GRATE DETAIL
N.T.S.



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DATE: xxxx/xx

Engineer

Engine

Project	
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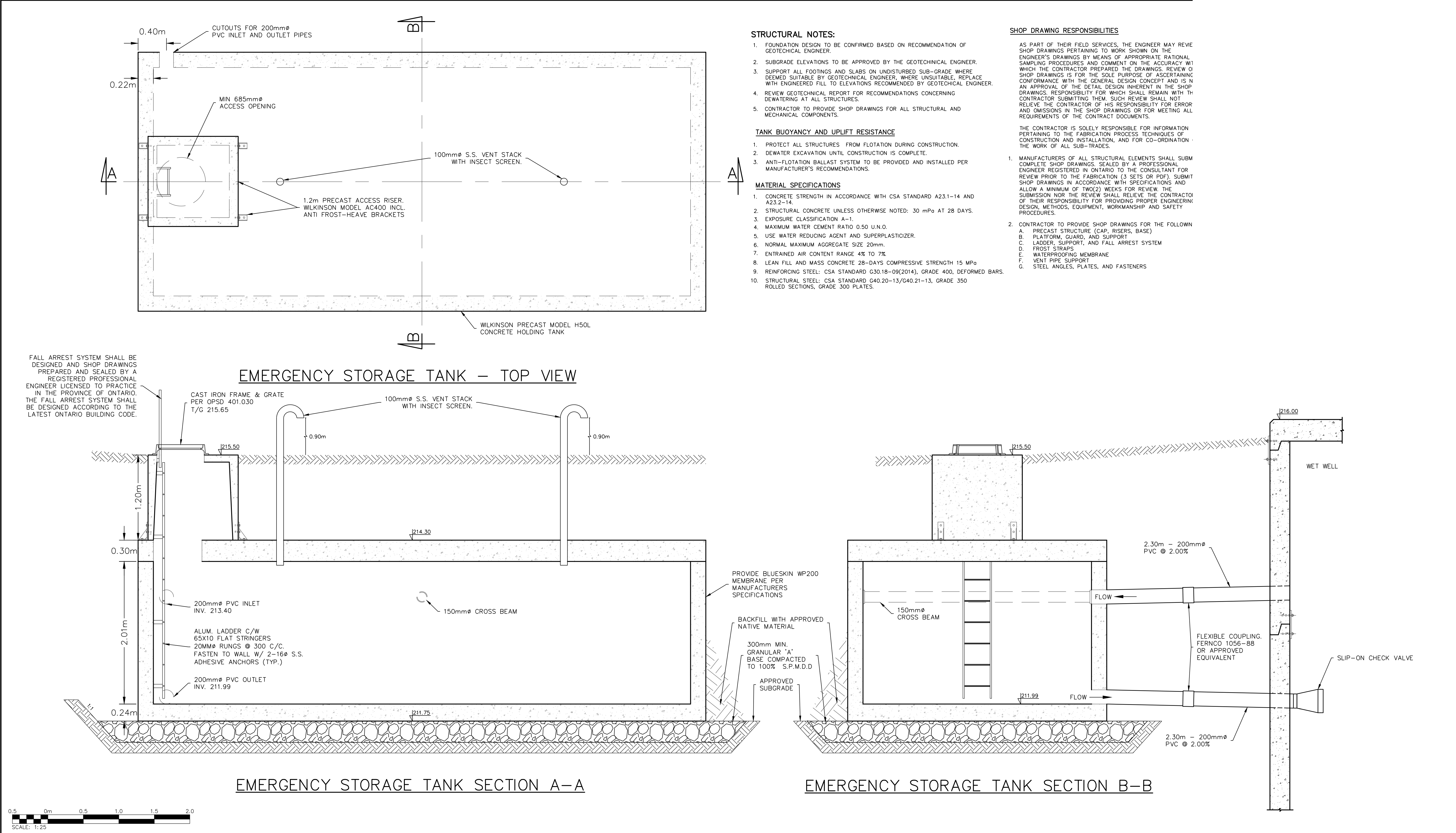
Drawings

HOME FARM
SEWAGE PUMPING STATION
TOWN OF THE BLUE MOUNTAINS

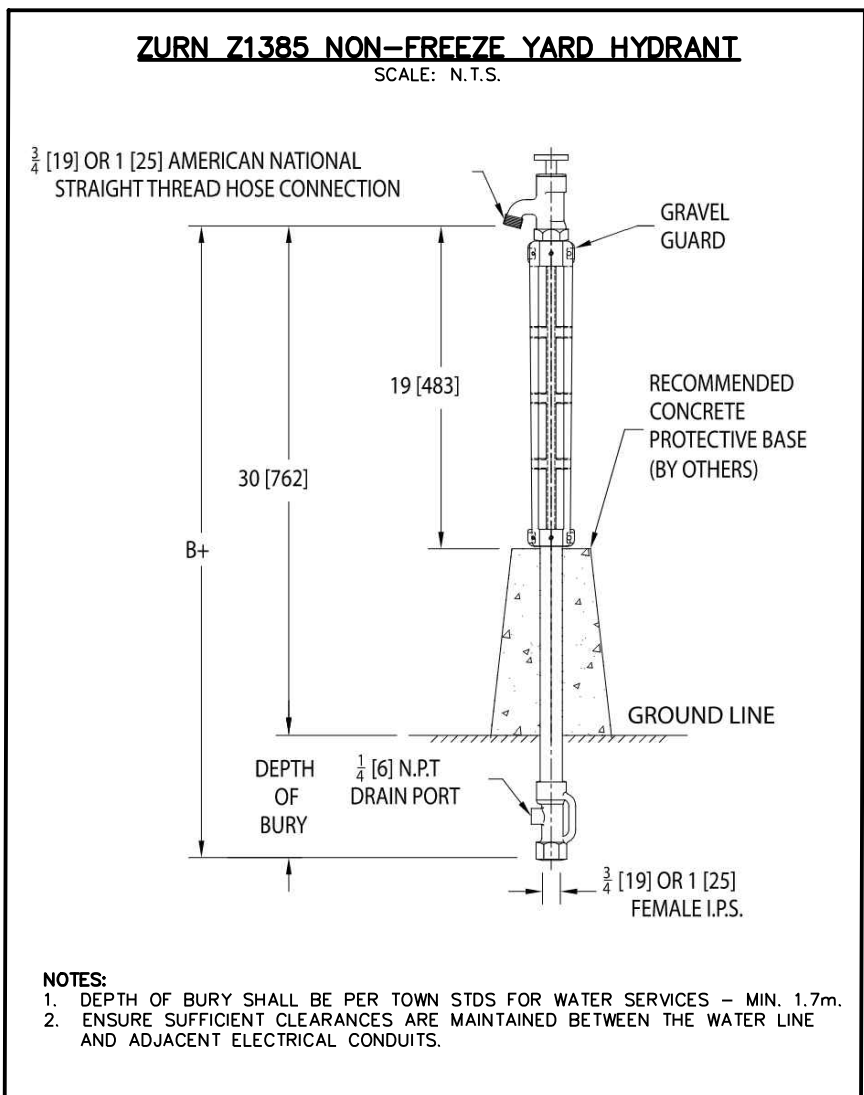
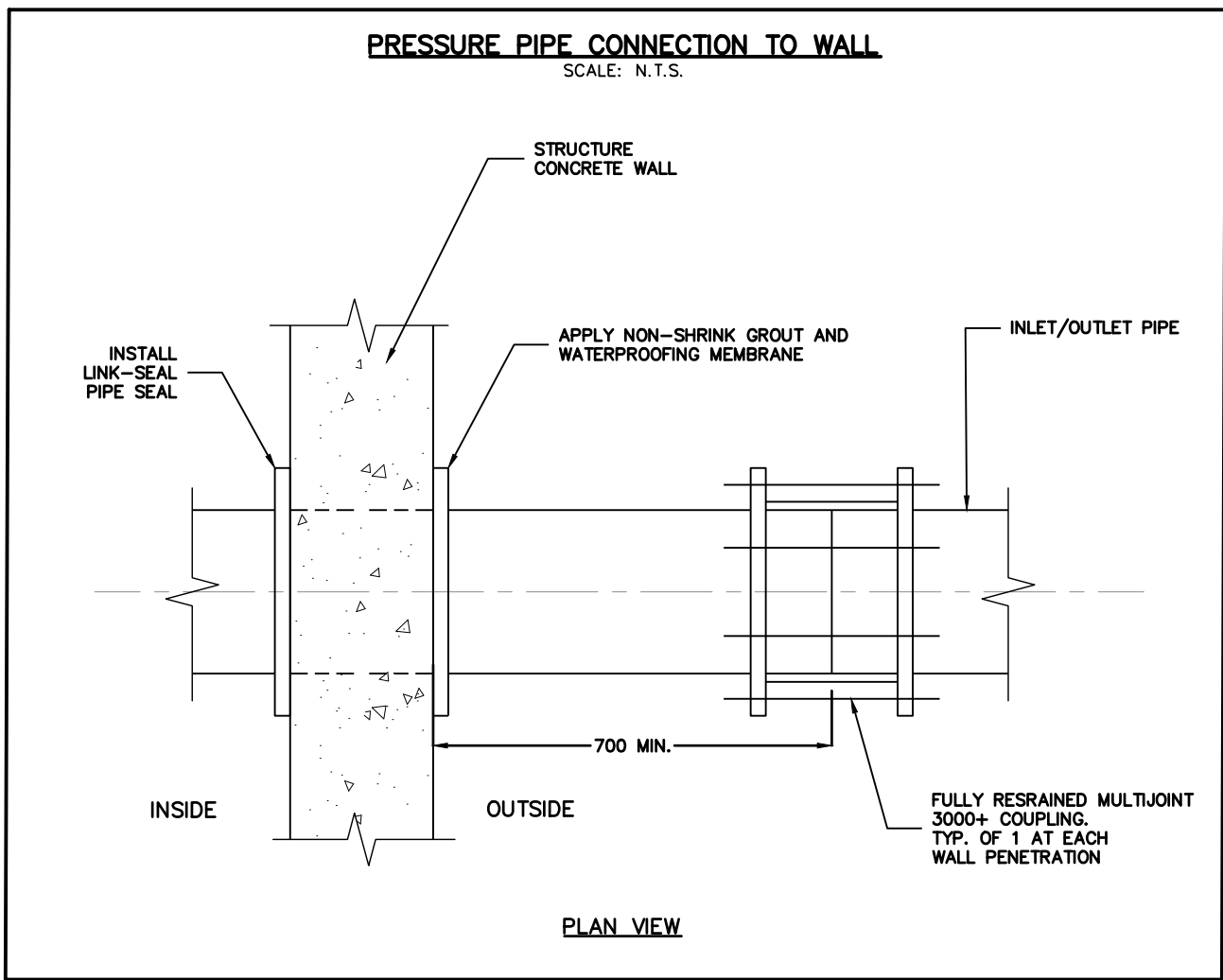
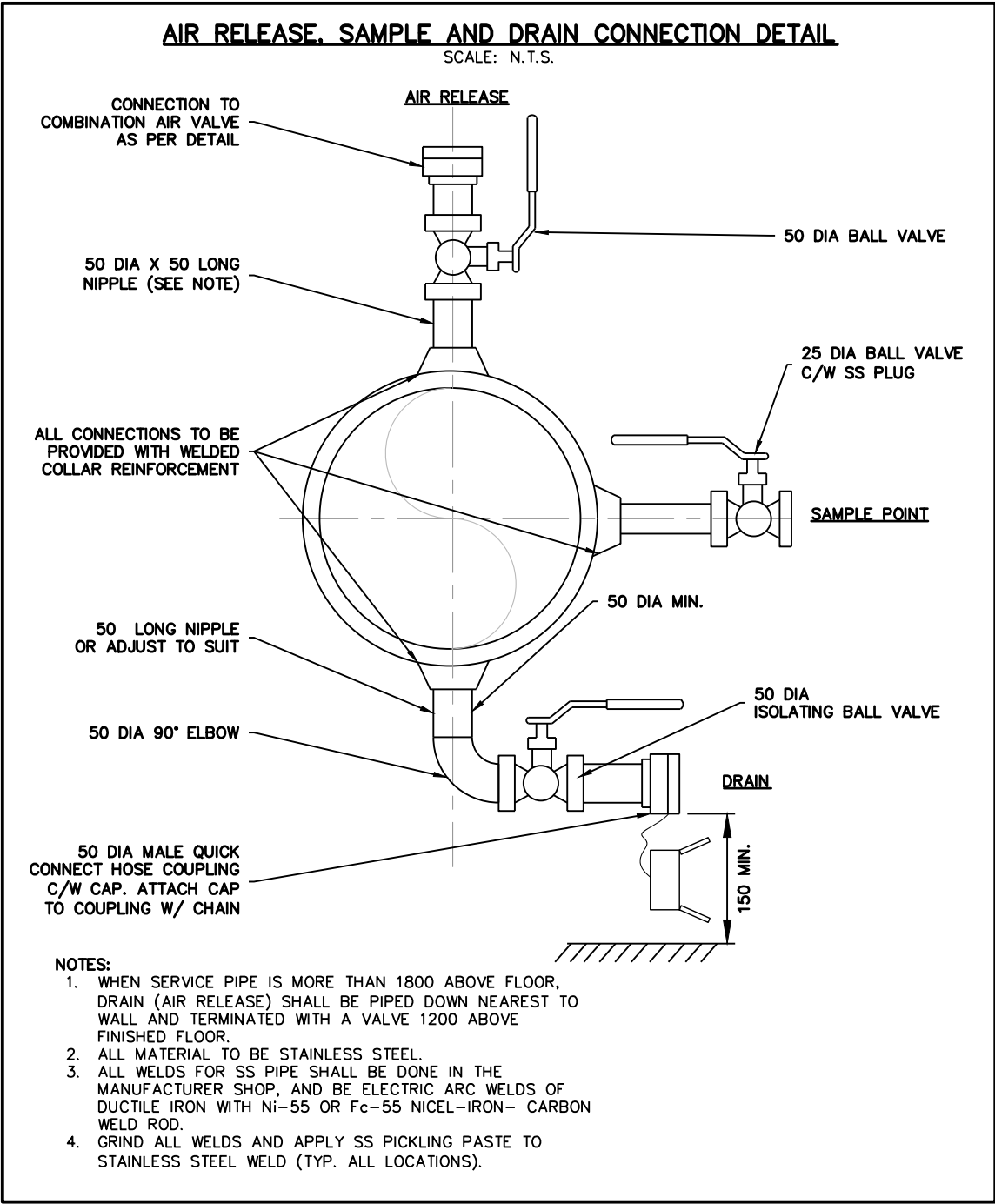
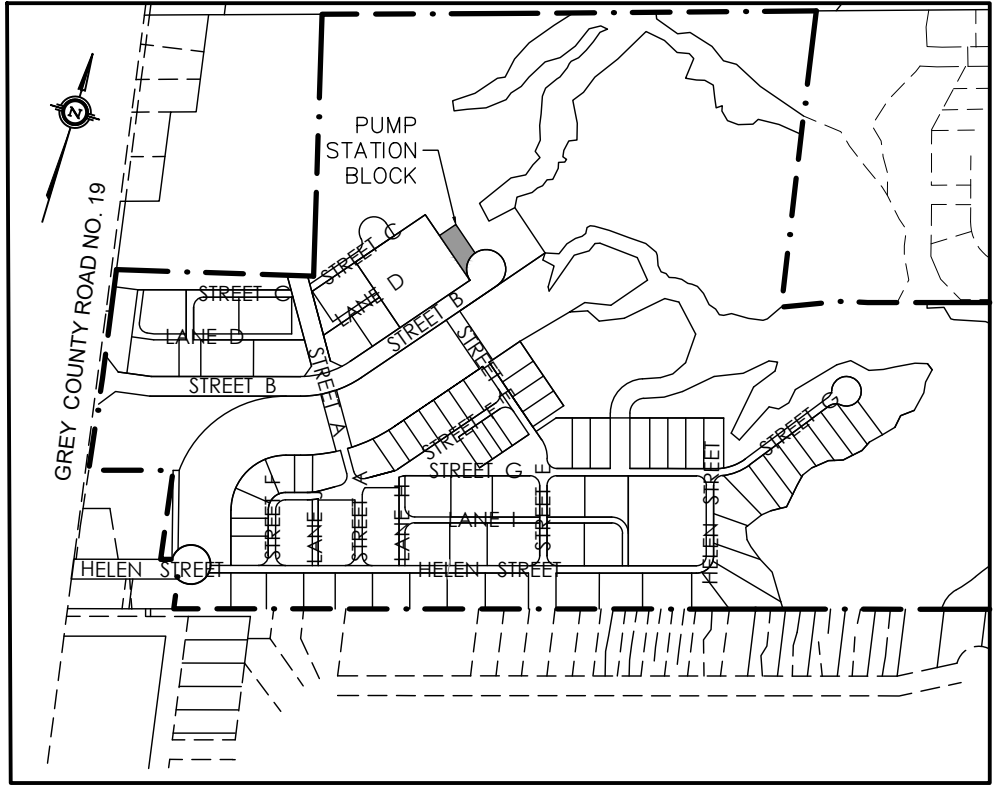
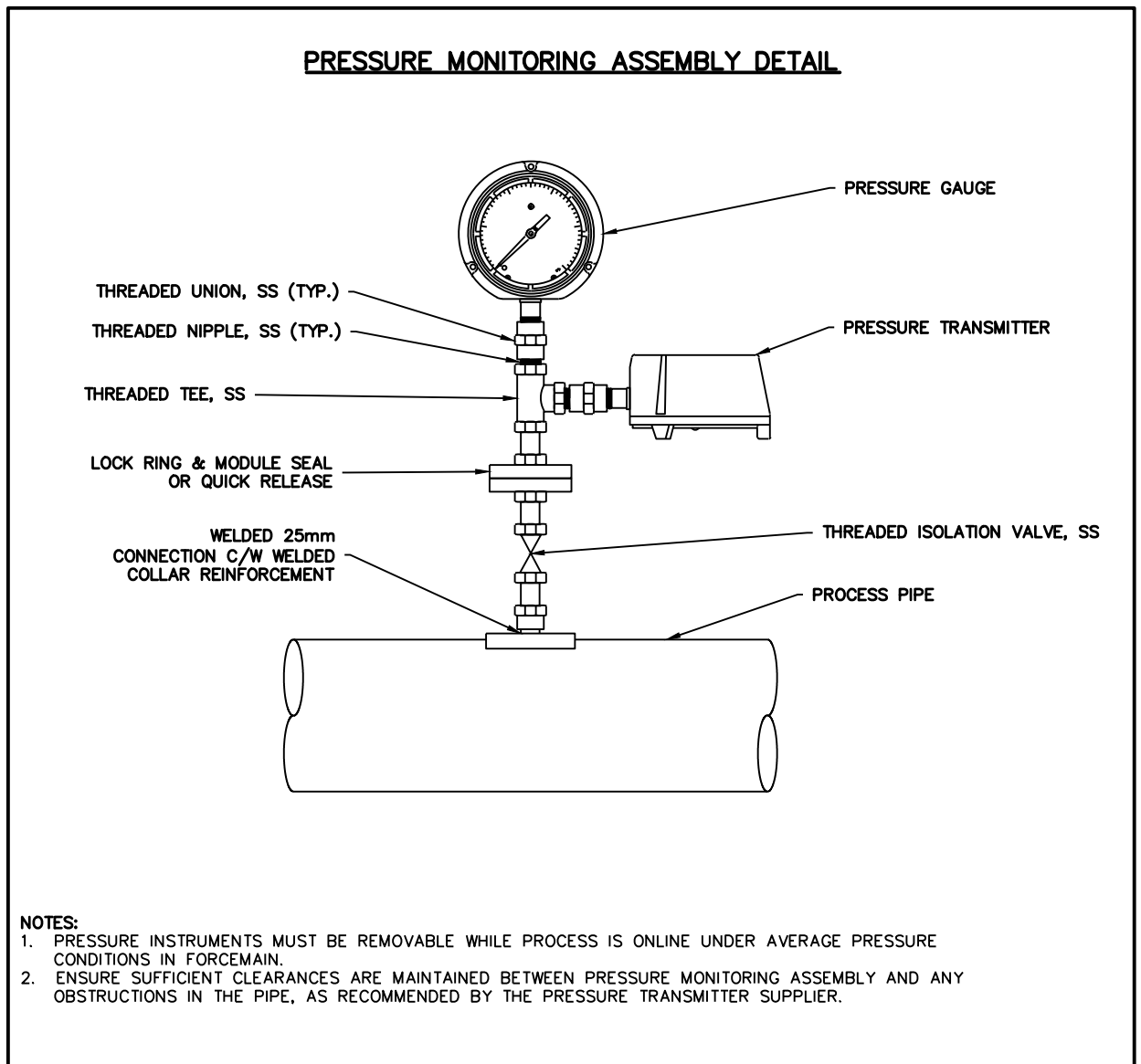
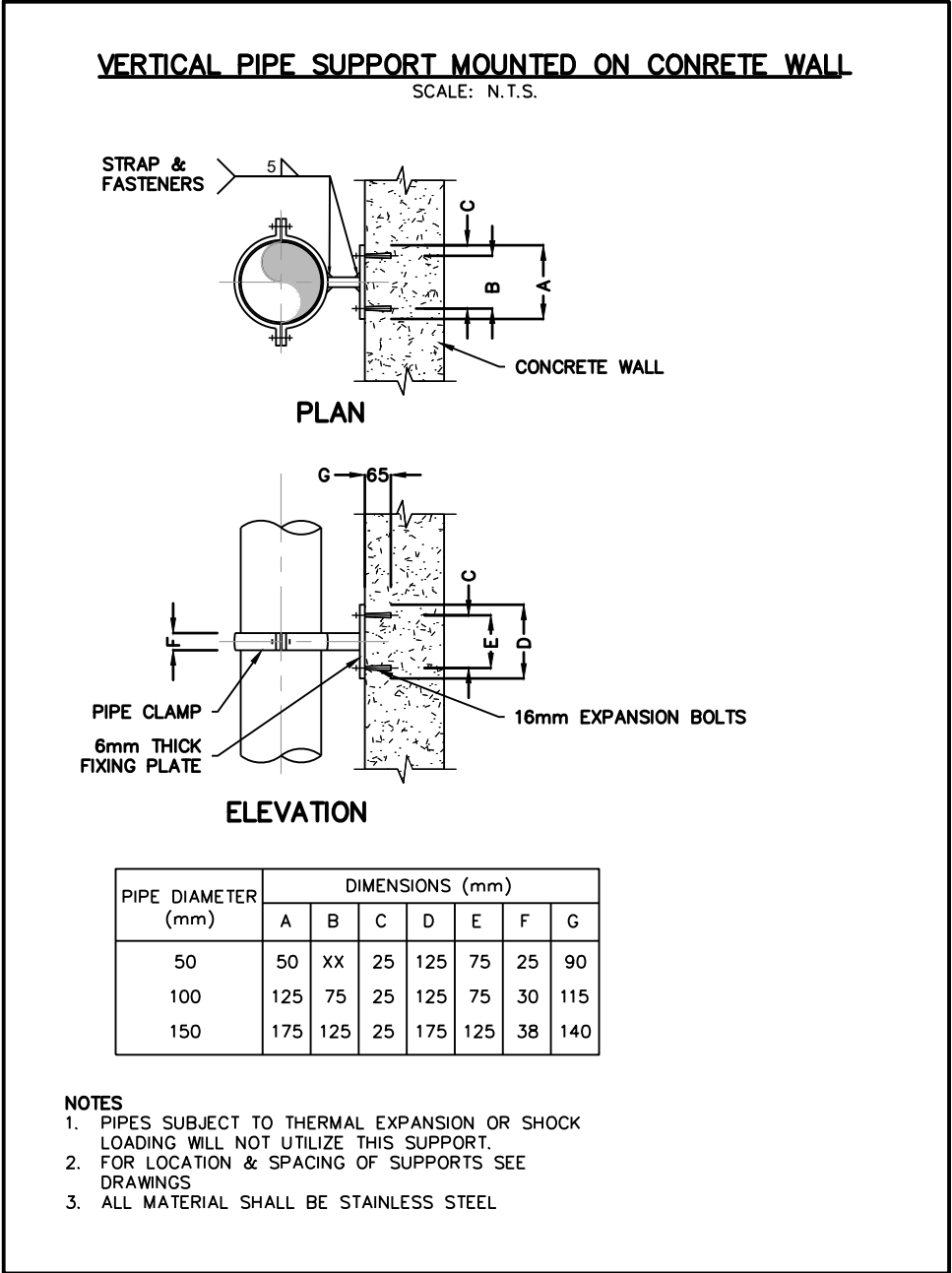
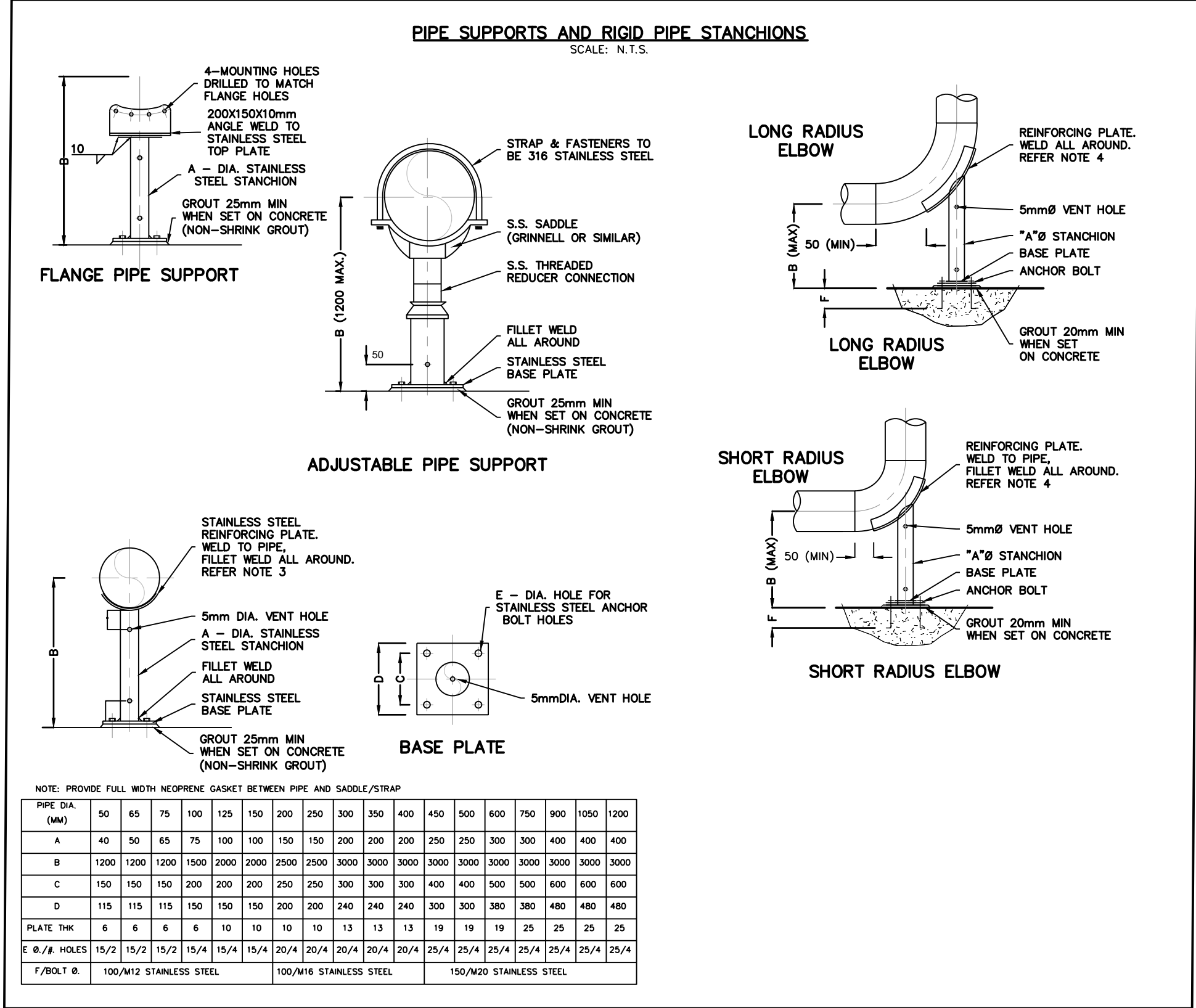
VALVE CHAMBER CROSS SECTIONS



Drawn By	Design By	Project	721-3464
Check By	Check By	Drawing	P103



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			1	ISSUED FOR 1st SUBMISSION	2021/12/10			
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			7	ISSUED FOR APPROVAL REV 1	2024/05/24			



NOTES: PIPING SUPPORT SYSTEM SHALL BE DESIGNED AND SHOP DRAWINGS PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF ONTARIO.

THE DIMENSIONS PROVIDED IN THE DETAILS ON THIS SHEET ARE ONLY SUGGESTIONS. IT IS THE RESPONSIBILITY OF THE ENGINEER WHO SEALED THE SHOP DRAWING(S) TO VERIFY THOSE DIMENSIONS.

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Drawn By B.E. Check By A.L.	Design By Check By	Project	721-3464 P105	Project	721-3464 P105	Project	721-3464 P105	Project	721-3464 P105	Project	721-3464 P105



Drawn By B.E.
Check By A.L.

Design By
Check By

Project 721-3464
P105

GENERAL CONSTRUCTION NOTES

GENERAL

- THE MECHANICAL CONTRACTOR SHALL OBTAIN AND PAY FOR NECESSARY PERMITS PERTAINING TO THE INSTALLATION OF THEIR WORK.
- MECHANICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, STRUCTURAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS.
- WORK MUST BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO BUILDING CODE, ONTARIO FIRE CODE, OCCUPATIONAL HEALTH AND SAFETY ACT, AND LOCAL CODES, MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE CANADIAN STANDARDS ASSOCIATION, LOCAL CODES AND AUTHORITY HAVING JURISDICTION.
- SUBMIT SHOP DRAWINGS FOR EQUIPMENT LISTED ON THE SCHEDULES FOR REVIEW PRIOR TO ORDERING.
- AT THE COMPLETION OF THE PROJECT THE MECHANICAL CONTRACTOR SHALL TURN OVER THREE (3) COMPLETE SETS OF MARKED UP RECORD DRAWINGS TO THE ENGINEER, AND THREE (3) COMPLETE SETS OF OPERATION AND MAINTENANCE MANUALS.
- THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR STORAGE AND SECURITY OF MATERIALS AND EQUIPMENT ON THE JOB SITE.
- THE OWNER'S PROPERTY MUST BE KEPT IN TIDY CONDITION. PROMPTLY REMOVE GARBAGE FROM THE SITE.
- COORDINATE THE INSTALLATION OF WORK WITH OTHER TRADES. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER LAYOUT OF EQUIPMENT AND MATERIALS AND ENSURING THERE ARE NO INTERFERENCES WITH OTHER SYSTEMS.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF THEIR WORK.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATION AND BACK FILL REQUIRED FOR THE INSTALLATION OF UNDERGROUND WORK. BACK FILL MATERIAL MUST BE CLEAN AND PROPERLY COMPACTED.
- PIPES AND EQUIPMENT MUST BE INSTALLED SO AS TO MINIMIZE THE TRANSFER OF VIBRATION TO THE BUILDING AND ALSO TO ALLOW FOR EXPANSION AND CONTRACTION AS NECESSARY.
- EQUIPMENT SHALL BE INSTALLED, STARTED, TESTED, AND ADJUSTED AS PER THE MANUFACTURER'S INSTRUCTIONS, AND AS NECESSARY TO ENSURE OPTIMUM PERFORMANCE. EQUIPMENT SHALL BE INSTALLED TO ALLOW FOR EASY ACCESS AND MAINTENANCE.
- THE MECHANICAL CONTRACTOR SHALL GUARANTEE WORK PERFORMED UNDER THIS CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
- SUITABLE ACCESS DOORS MUST BE PROVIDED WHERE NECESSARY FOR ADJUSTING VALVES, ACCESSING OTHER EQUIPMENT OR CLEAN OUTS, OR FOR INSPECTION OF FIRE DAMPERS.
- PIPE AND DUCT PENETRATIONS THROUGH A FIRE RATED ASSEMBLY MUST BE PROPERLY SEALED WITH AN APPROVED FIRE RATED SYSTEM.
- MATERIALS AND EQUIPMENT SHALL BE NEW AND TOP QUALITY, EXCEPT WHERE NOTED OTHERWISE.
- THIS SPECIFICATION SHALL BE CONSIDERED TO BE THE BASE BID SPECIFICATION AND CONTRACTORS MUST CARRY THE BASE BID MANUFACTURER'S IN THEIR QUOTATION. ALTERNATE MANUFACTURER'S OF EQUIPMENT CAN ONLY BE OFFERED AS PROPOSED ALTERNATES WITH THE CORRESPONDING PRICE REDUCTIONS CLEARLY SHOWN ON A SEPARATE SHEET IF NECESSARY.
- EQUIPMENT SHALL BE ASHRAE A01 COMPLIANT AND SE10 COMPLIANT.
- ELECTRICAL WIRING AND STARTERS TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. LOW VOLTAGE (31V TO 750V) CONTROLS BY THE ELECTRICAL CONTRACTOR. EXTRA-LOW VOLTAGE (UP TO AND INCLUDING 30V) CONTROLS BY THE MECHANICAL CONTRACTOR.
- THE MECHANICAL CONTRACTOR SHALL EXAMINE THE SITE AND DRAWINGS AND SPECIFICATIONS BEFORE BIDDING. NO ALLOWANCE WILL BE MADE FOR FAILURE TO TAKE INTO ACCOUNT ASPECTS WHICH MAY GOVERN THE EXECUTION AND COMPLETION OF THEIR WORK.
- THE MECHANICAL CONTRACTOR SHALL INSTALL PIPE WITH SLEEVES IN ORDER TO PREVENT CONTACT WITH CONCRETE, MASONRY OR SIMILAR MATERIALS.
- THE MECHANICAL CONTRACTOR SHALL NOT WELD TO OR MAKE A HOLE IN A STRUCTURAL MEMBER WITHOUT REVIEW FROM THE STRUCTURAL ENGINEER. ATTACHMENTS TO STRUCTURAL MEMBERS SHALL BE MADE WITH SUITABLE CLAMPS OR CLIPS.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE STEEL LINTELS SUITABLE TO SPAN OPENINGS REQUIRED IN WALLS TO COMPLETE THEIR WORK. INSTALLATION OF THE LINTELS SHALL BE PERFORMED BY THE MASONRY CONTRACTOR.
- ALL MATERIALS IN CEILING SPACE USED FOR RETURN AIR PLENUM MUST BE PLENUM RATED.
- ROOF CURBS AND FLASHING ARE TO BE SUPPLIED BY THE MECHANICAL CONTRACTOR, INSTALLED BY THE GENERAL CONTRACTOR/ ROOFER.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE SEISMIC BRACING AND RESTRAINT SYSTEMS FOR MECHANICAL EQUIPMENT, PIPING, AND SPRINKLER SYSTEM AS REQUIRED BY APPLICABLE LOCAL BUILDING CODES. PROVIDE ENGINEERED, SEALED SHOP DRAWINGS FOR ANY REQUIRED AND INSTALLED SEISMIC BRACING. PROVIDE A SEALED LETTER OF CONFORMANCE UPON COMPLETION.
- THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM TO THE OWNER SUPPLIED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
- ERRORS OR OMISSIONS IN THE DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

HEATING AND VENTILATION

- THE HVAC CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE GENERAL SPECIFICATIONS ABOVE.
- DUCTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO BUILDING CODE, ONTARIO FIRE CODE, AND THE ASHRAE AND SMACNA STANDARDS.
- DUCTS MUST BE SEALED TO PREVENT AIR LEAKAGE.
- FLEXIBLE DUCT CONNECTIONS SHALL BE USED TO CONNECT FANS OR AIR HANDLERS TO RIGID DUCT TO REDUCE THE TRANSFER OF NOISE VIBRATION.
- FINAL CONNECTIONS TO DIFFUSER'S SHALL BE MADE USING FLEXIBLE ALUMINUM DUCTS TO MINIMIZE NOISE VIBRATION WHERE SHOWN.
- FIRE DAMPERS MUST HAVE A FIRE PROTECTION RATING IN ACCORDANCE WITH THE NFPA AND MUST BEAR THE UL/C LABEL. USE TYPE 'B' FIRE DAMPERS ONLY.
- INSTALL MINIMUM R5 INSULATION ON EXTERIOR OF EXHAUST DUCTS, OUTDOOR AIR, AND COMBUSTION AIR DUCTS ADJACENT TO UNHEATED SPACES.
- INSULATE THE FIRST METER OF SUPPLY AND RETURN DUCTS INTERNALLY WITH 1/2" RIGID DUCT LINER.
- INSTALL MINIMUM R5 FOIL BACKED FIBERGLASS BOARD INSULATION WITH JOINTS AND SEAMS SEALED WITH 3" FOIL TAPE ON EXTERIOR OF CONCEALED DUCTS.
- DUCT SIZES DO NOT INCLUDE FOR INTERNAL INSULATION.
- PROVIDE DUCT SEALER ON ALL DUCT JOINTS

PLUMBING

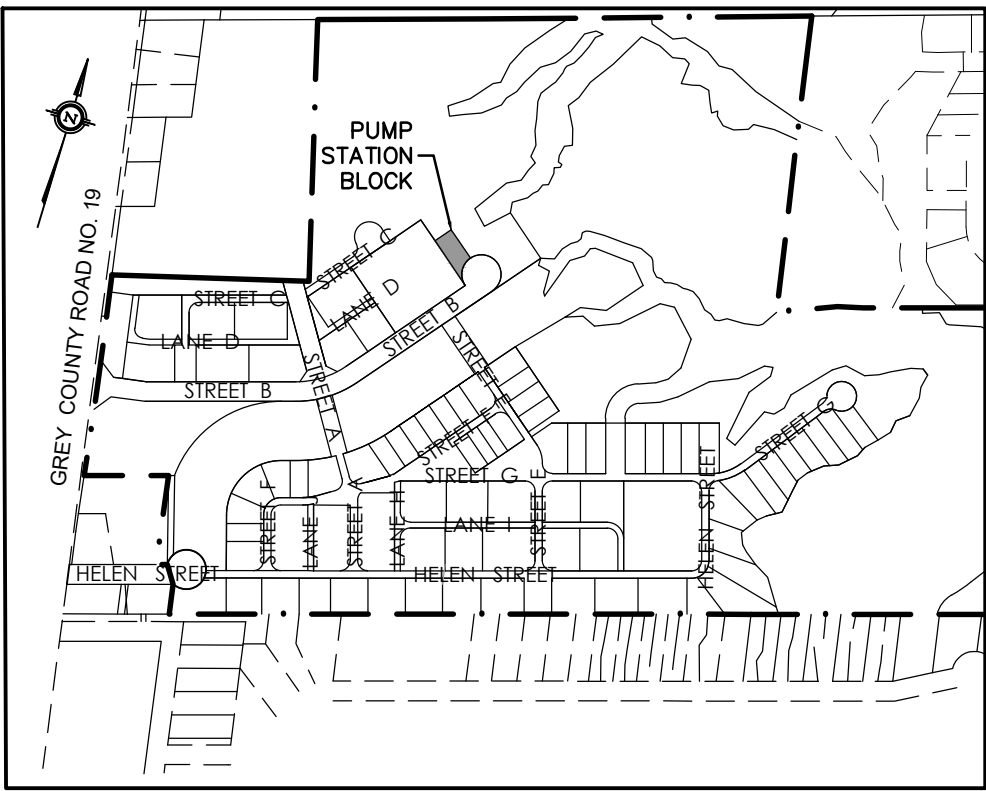
- THE PLUMBING CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE GENERAL SPECIFICATIONS ABOVE.
- WORK MUST BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO BUILDING CODE, ONTARIO FIRE CODE, AND LOCAL CODES.
- DRAIN LINES ARE TO BE SUBJECT TO A WATER TEST AND WATER LINES ARE TO BE TESTED TO THE SATISFACTION OF THE LOCAL PLUMBING INSPECTOR.
- FLOOR DRAINS AND HUB DRAINS ARE TO BE TRAP SEAL PRIMED.
- ALL CLEANOUTS ARE NOT SHOWN. CLEANOUTS MAY BE SUBJECT TO INPUT. CLEANOUTS ARE TO BE PROVIDED IN ACCORDANCE WITH THE PLUMBING CODE AND REQUIREMENTS INCLUDING AT THE BOTTOM OF STACKS AND ALONG HORIZONTAL RUNS. ENSURE THAT CLEANOUTS ARE INCLUDED AT INTERVALS NECESSARY.
- WATER HAMMER ARRESTORS ARE TO BE INSTALLED WHERE NECESSARY TO PREVENT WATER HAMMER IN WATER LINES.
- ABOVE GROUND DRAINS, VENTS, AND RAIN WATER LEADERS 2" OR SMALLER SHALL BE COPPER DWV PIPE WITH WROUGHT OR CAST BRASS SOLDER JOINT FITTINGS, OR XFR PVC DWV PIPE AND FITTINGS. USE LEAD FREE SOLDER.
- ABOVE GROUND DRAINS, VENTS, AND RAIN WATER LEADER OVER 2" SHALL BE CAST IRON PIPE AND FITTINGS WITH MECHANICAL JOINTS, OR XFR PVC DWV PIPE AND FITTINGS OR ABS SOCKET WELD PIPE AND FITTINGS.
- BELOW GROUND DRAINS, VENTS, AND RAIN WATER LEADER OVER 2" SHALL BE CAST IRON PIPE AND FITTINGS WITH MECHANICAL JOINTS, OR XFR PVC DWV PIPE AND FITTINGS.
- BELOW GROUND DRAINS, VENTS, AND RAIN WATER LEADERS SHALL BE CSA APPROVED PVC GASKET PIPE AND FITTINGS OR ABS SOCKET WELD PIPE AND FITTINGS.
- ABOVE GROUND DOMESTIC WATER LINES SHALL BE HARD DRAWN TYPE 'L' COPPER PIPE WITH SOLDER JOINT PRESSURE FITTINGS. USE LEAD FREE SOLDER. CONNECT WATER LINES AT POINTS OF DISTRIBUTION TO NEARBY EQUIPMENT WITH PEX. SIZE WATER LINES TO EACH PIECE OF EQUIPMENT AS SHOWN BY THE PLUMBING EQUIPMENT SCHEDULE.
- GRADE HORIZONTAL WATER LINES TO ENSURE PROPER DRAINAGE. INSTALL DRAIN VALVES IN ACCESSIBLE LOCATIONS AT LOW POINTS.
- RAIN WATER LEADERS SHALL BE INSULATED WITH 1" THICK PREFORMED FIBERGLASS INSULATION WITH AN ASJ VAPOUR BARRIER, JOINTS AND SEAMS MUST BE SEALED. WHEREVER EXPOSED TO VIEW THIS INSULATION SHALL HAVE A BRUSH COAT OF FIRE RETARDANT MASTIC WITH A LAYER OF 6 OUNCE CANVAS WRAP OR PVC JACKET.
- HANGERS FOR HORIZONTAL PIPING SHALL BE BLACK OR COPPER, AS APPROPRIATE, CLEVIS HANGERS MANUFACTURED BY ANVIL OR MYATT.
- HANGERS FOR VERTICAL PIPING SHALL BE BLACK OR COPPER, AS APPROPRIATE, RISER CLAMPS MANUFACTURED BY ANVIL OR MYATT.
- BALL VALVES SHALL BE FULL PORT AND SOLID BALL.
- SET FIXTURES LEVEL, SQUARE, AND CENTERED WITH RELATION TO FLOORS, WALLS, AND PARTITIONS.
- SET FIXTURES AT STANDARD HEIGHT FROM FLOOR UNLESS DIRECTED OTHERWISE.
- INSTALL SHUT OFF VALVES ON EACH WATER SUPPLY TO EQUIPMENT.
- WHERE POSSIBLE ADJUST THE LOCATION / ORIENTATION OF P&D EQUIPMENT TO AVOID CONFLICTS WITH OTHER TRADES.

- EQUIPMENT NOTED ON THIS DRAWING IS IDENTIFIED BY TRADE NAME TO INDICATE MINIMUM ACCEPTABLE QUALITY.
- SLOPE NOMINALLY HORIZONTAL DRAIN LINES AT A MINIMUM 1:100.
- PROVIDE A COMPLETE PLUMBING VENTING SYSTEM FOR ALL PLUMBING FIXTURES AND TRAPS AS REQUIRED IN ACCORDANCE WITH THE ONTARIO BUILDING CODE. YOKE VENTS WHERE POSSIBLE TO MINIMIZE VENT STACKS THRU ROOF. MINIMUM VENT SIZE THRU' ROOF = 75#, (3"Ø).
- INSTALL APPROVED FIRESTOP DEVICE, (SUCH AS 3-M FIRE BARRIER PLASTIC PIPE DEVICE), ON ALL PIPING THAT PENETRATES A FIRE SEPARATION. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS & RATINGS OF FIRE SEPARATIONS.
- PROVIDE CHROME PLATED BRASS ESCUTCHEONS WHERE PIPING PENETRATES WALLS IN FINISHED AREAS
- INSULATE ALL EXPOSED PIPING WITH 25MM THICK DUAL TEMPERATURE GLASS FIBRE PIPE INSULATION COMPLETE WITH POLYVINYL COVERING

THERMOSTAT - HEATING ONLY

- SUITABLE FOR HARSH ENVIRONMENTS
- MECHANICAL CONTROL
- COMPATIBLE WITH HEAT ONLY SYSTEMS
- ECONOMY MODEL - SIMPLE, WORRY-FREE OPERATION
- MOUNTING HARDWARE AND WALL PLATE INCLUDED
- BIMETAL TEMPERATURE SENSOR
- MERCURY FREE
- ACCEPTABLE EQUIPMENT: HONEYWELL OR APPROVED EQUAL

END OF SECTION



ABBREVIATIONS

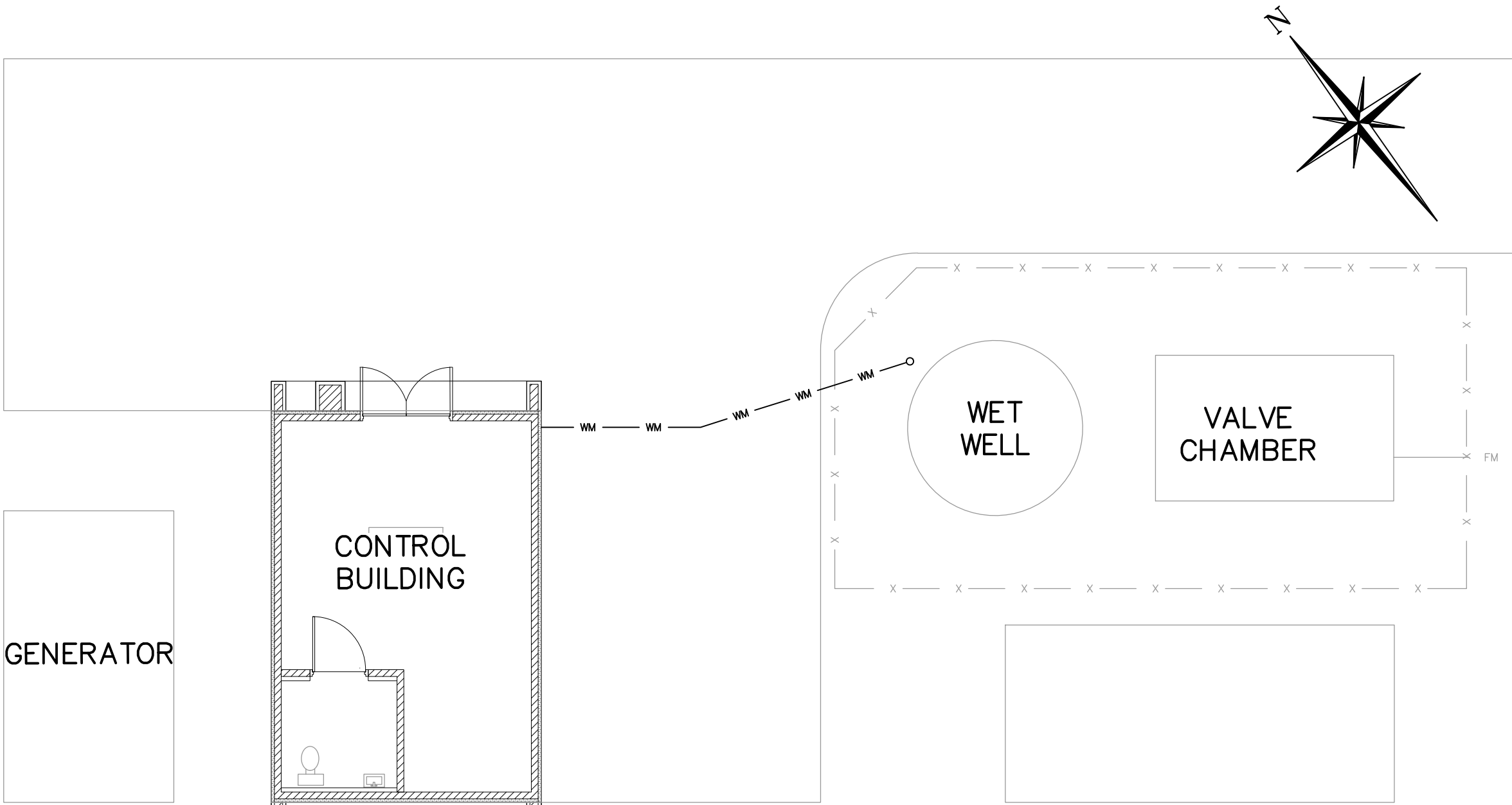
A.P.	ACCESS PANEL
C/W	COMPLETE WITH
CBV	CIRCUIT BALANCING VALVE
ED	EXISTING TO BE DEMOLISHED
ER	EXISTING TO BE RELOCATED
EX	EXISTING TO REMAIN
F/A	FROM ABOVE
F/B	FROM BELOW
NTS	NOT TO SCALE
PR	PROPOSED TO MATCH EXISTING
REL	EXISTING AT RELOCATED LOCATION
T/A	TO ABOVE
T/B	TO BELOW
VTR	VENT THRU ROOF

PLUMBING LEGEND

	WATER METER
	TRAP
	FLOOR DRAIN
	FUNNEL FLOOR DRAIN
	CLEAN OUT
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRC.
	SANITARY
	STORM
	EQUIPMENT/ FIXTURE DESIGNATION
	BACKFLOW PREVENTOR
	HOSE BIB

HVAC LEGEND

	GAS METER
	SUPPLY DUCT UP
	EXHAUST DUCT UP
	RETURN DUCT UP
	DIFFUSERS, REGISTERS AND GRILLES
	DETAILS: A. INDICATES TYPE. B. INDICATES CAPACITY FOR EACH(CFM) C. INDICATES SIZE OF GRILLE, REGISTER OR DIFFUSER NECK CONNECTION
	RETURN GRILLE C/W BALANCING DAMPER
	EXHAUST GRILLE C/W BALANCING DAMPER
	THERMOSTAT
	SUPPLY AIR FLOW DIRECTION
	EXHAUST AIR FLOW DIRECTION
	PIPE DOWN (ELBOW)
	PIPE DOWN (TEE)
	PIPE UP (ELBOW)
	NATURAL GAS
	DIFFUSER
	FIRE DAMPER



SITE PLAN

SCALE: 1:100

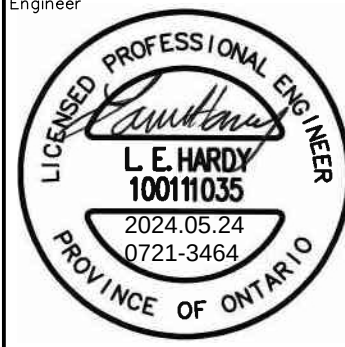
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TEMPORARY BENCHMARKS

- TBM#1-
TBM#2-
TBM#3-
***ADD REFERENCE TO SURVEY/SOURCE

Town

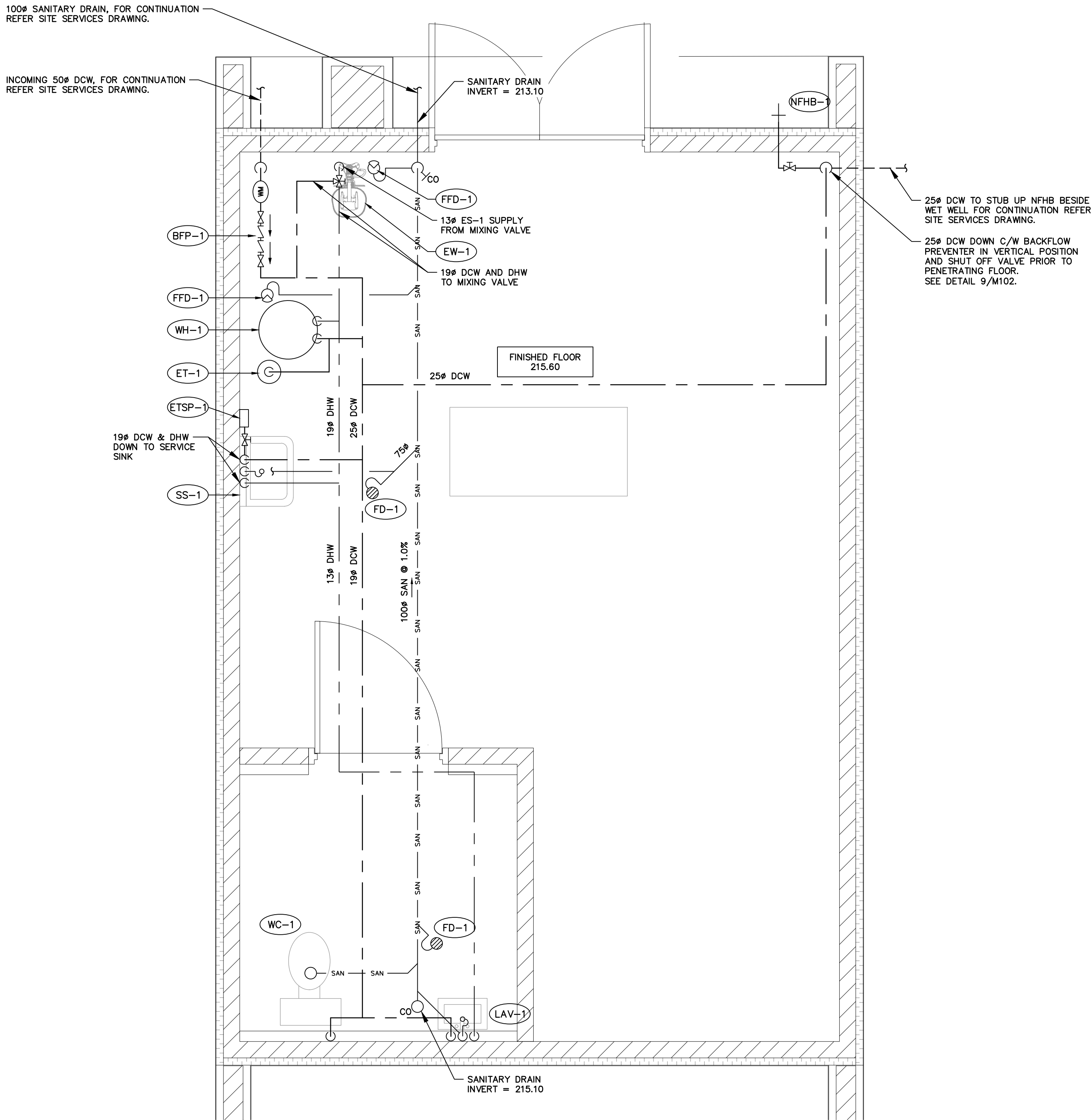
No.	ISSUE	DATE: YYYY/MM/DD	Engineer
1	ISSUED FOR 90% DETAILED DESIGN	2023/03/21	
2	ISSUED FOR CLIENT REVIEW - IFT	2023/12/15	
3	ISSUED FOR 90% DETAILED DESIGN REV 1	2024/01/02	
4	ISSUED FOR TENDER	2024/01/22	
5	ISSUED FOR ADDENDUM #1	2024/02/09	
6	ISSUED FOR APPROVAL	2024/03/08	
7	ISSUED FOR APPROVAL REV 1	2024/05/24	



Project
HOME FARM
SEWAGE PUMPING STATION
TOWN OF THE BLUE MOUNTAINS
Drawing
MECHANICAL SPECIFICATIONS,
LEGEND & SITE PLAN



Drawn By	H.S.	Design By	H.S.	Project	721-3464
Check By	B.K.	Check By	L.H.	Drawing	M001



SPS CONTROL ROOM – PLUMBING

SCALE: 1:25

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TEMPORARY BENCHMARKS

TBM#1--
TBM#2--
TBM#3--

***ADD REFERENCE TO SURVEY/SOURCE

Town

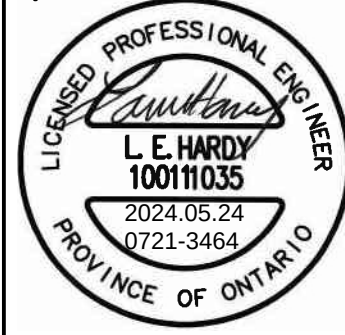
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ISSUE

DATE: YYYY/MM/DD

Engineer

Engineer



Project

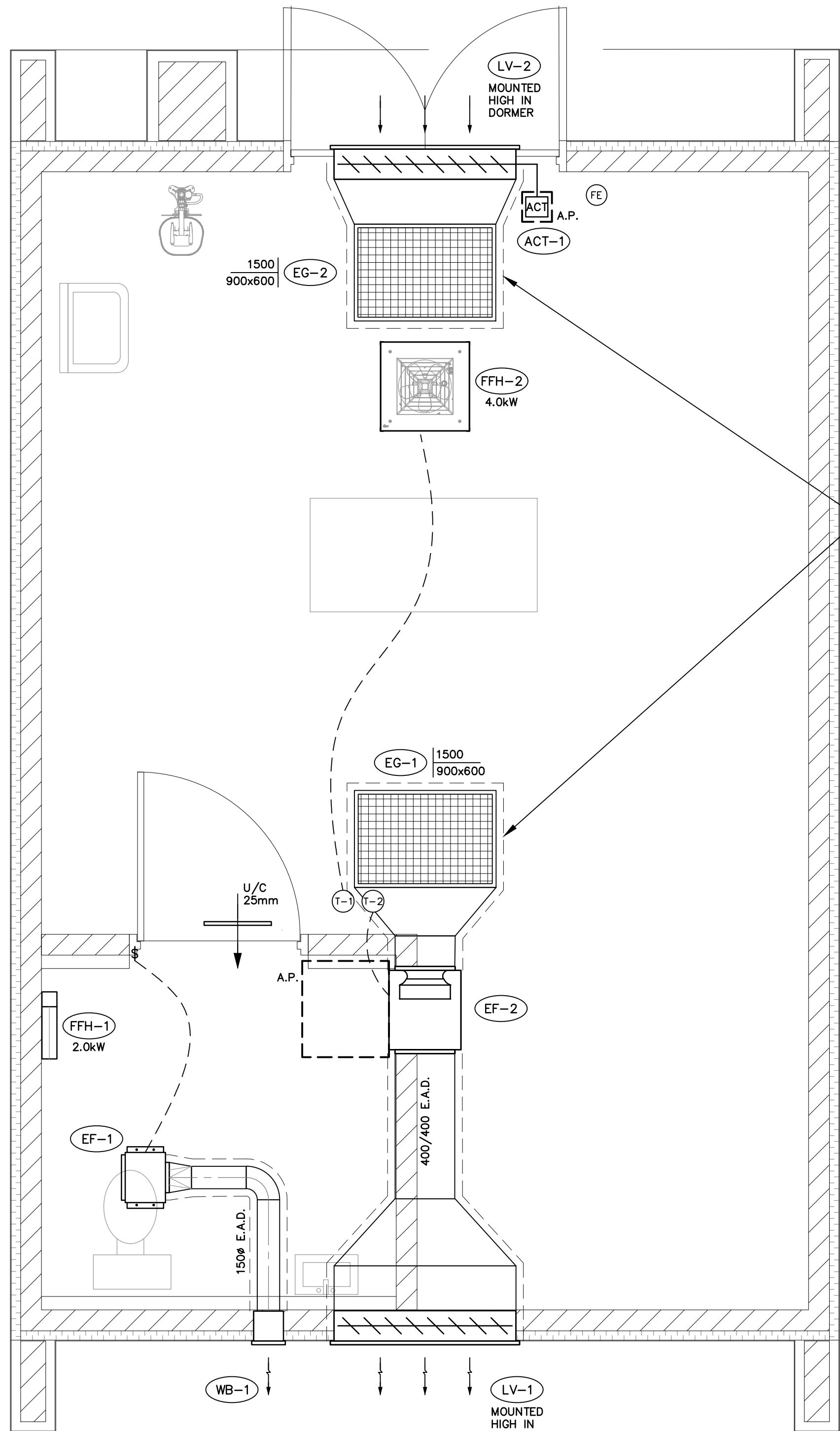
HOME FARM
SEWAGE PUMPING STATION
TOWN OF THE BLUE MOUNTAINS

Drawing

PLUMBING: CONTROL
BUILDING FLOOR PLAN



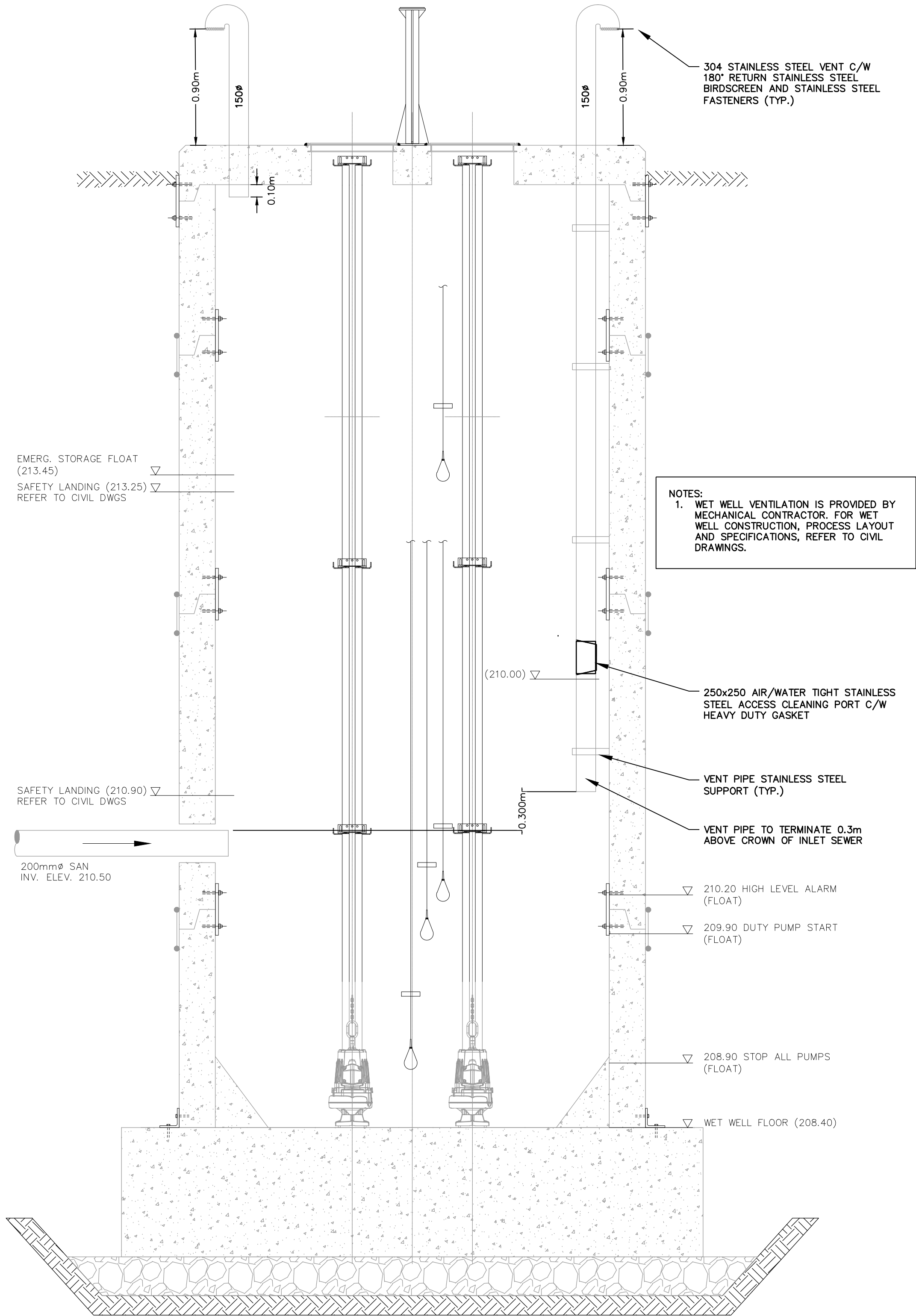
Drawn By	H.S.	Design By	H.S.	Project	721-3464
Check By	B.K.	Check By	L.H.	Drawing	M100



EXTERNALLY WRAP ALL DUCTWORK
RUNNING IN ATTIC SPACE WITH 2
LAYERS OF 25mm (1") INSULATION
(TYPICAL)

SPS CONTROL ROOM – H.V.A.C.

SCALE: 1:25



WET WELL SECTION

SCALE: 1:25

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TEMPORARY BENCHMARKS

TBM#1 –
TBM#2 –
TBM#3 –

***ADD REFERENCE TO SURVEY/SOURCE

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No.

ISSUE

DATE: YYYY/MM/DD

Engineer

Engineer



Project

HOME FARM
SEWAGE PUMPING STATION
TOWN OF THE BLUE MOUNTAINS

Drawing

HVAC: CONTROL BUILDING FLOOR PLAN &
WET WELL SECTION



Drawn By

H.S.

Design By

H.S.

Project

721-3464

Check By

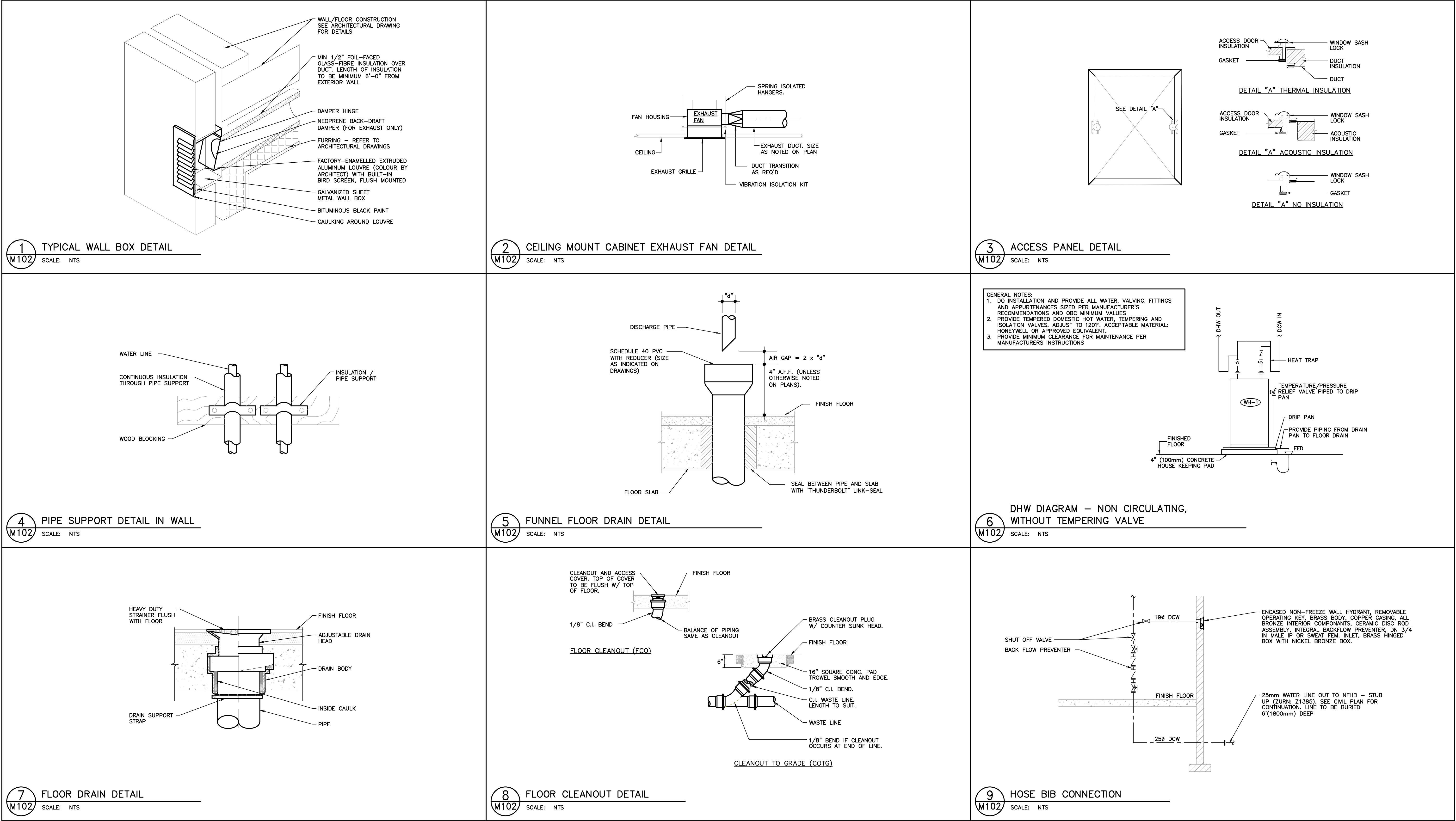
B.K.

Check By

L.H.

Drawing

M101



FAN SCHEDULE											
TAG	APPLICATION	MANUFACTURER	MODEL	CFM	ESP (" WC)	ELECTRICAL			STARTER	WEIGHT (lbs)	NOTES
						VOLTAGE	HP/WATTS	MCA/MOP			
EF-1	WASHROOM	GREENHECK	SP-A110	100	0.12"	115V/1/60	13 WATT	-	TIMER SWITCH	23	CEILING MOUNTED INLINE EXHAUST FAN C/W STANDARD POLYSTYRENE GRILLE, VIBRATION ISOLATOR, MOUNTING HARDWARE AND BACKDRAFT DAMPER. INSTALL AS PER MANUFACTURERS SPECIFICATIONS.
EF-2	CONTROL BUILDING EXHAUST	GREENHECK	SQ-120	1500	0.14"	120V/1/60	1/2HP	12.25/20	REVERSE ACTING T-STAT W/ ON/OFF/AUTO SWITCH	84	CEILING MOUNTED, INLINE FAN, C/W VIBRATION ISOLATOR, MOUNTING HARDWARE, BACKDRAFT DAMPER AND DISCONNECT SWITCH, INTERLOCKED WITH MD-1. INSTALL AS PER MANUFACTURERS SPECIFICATIONS.

ELECTRIC WATER HEATER SCHEDULE										
TAG	MANUFACTURER	MODEL	STORAGE CAPACITY	RECOVERY ● 100°F RISE (GPH)	WATER CONNECTION	ELECTRICAL			SHIPPING WEIGHT (lbs)	REMARKS
						VOLTAGE	WATTS	AMPS		
WH-1	RHEEM	EGSP20	19.9GAL	12	19ø	208/1/60	3000	14.4	76	C/W DRAIN PAIN, DOMESTIC HOT WATER SUPPLY TEMPERATURE SHALL BE SET AT 120°F.

ELECTRIC HEATER SCHEDULE							
TAG	MANUFACTURER	MODEL	FLOW (CFM)	HEAT KW	VOLTAGE (V/PH/Hz)	WEIGHT (LBS)	NOTES
FFH-1	STELPRO	WF2008T	-	2.0	208V/1/60	-	SURFACE WALL MOUNTED FORCE FLOW HEATER c/w SURFACE ADAPTER INTERNAL THERMOSTAT
FFH-2	STELPRO	DRIO481C24	450	4.0	208V/1/60	16	SURFACE CEILING MOUNTED FORCE FLOW HEATER c/w MOUNTING BRACKETS & REMOTE WALL MOUNTED THERMOSTAT

PLUMBING FIXTURE SCHEDULE						
TAG	DESCRIPTION	SANITARY	VENT	HOT WATER	COLD WATER	NOTES
EW-1	EYE WASH	1- $\frac{1}{4}$ " (32mm)	-	$\frac{1}{2}$ " (12mm)	$\frac{1}{2}$ " (12mm)	BRADLEY S19214-BA1ABC00, PEDESTAL MOUNT HALO EYEWASH, 24" DRAIN HEIGHT C/W NAVIGATOR S19-2000 EFX8 EMERGENCY THERMOSTATIC MIXING VALVE
LAV-1	LAVATORY (BARRIER FREE)	1- $\frac{1}{4}$ " (32mm)	1- $\frac{1}{4}$ " (32mm)	$\frac{1}{2}$ " (12mm)	$\frac{1}{2}$ " (12mm)	AMERICAN STANDARD 0356921.020 BASIN - WALL-HUNG LAVATORY, VITREOUS CHINA, WHITE FINISH WITH KNEE CONTACT GUARD. 1340M119.002 FAUCET - MANUAL, SINGLE HANDLE, LAVATORY FAUCET. 2411.015.002 FIXTURE DRAIN - GRID DRAIN, FOR SINKS, BRASS CONSTRUCTION, POLISHED CHROME FINISH, 6-3/8" (162 MM) HEIGHT, WITH OVERFLOW. MCGUIRE LFBV170 SUPPLY - LEAD FREE, 127 MM (5") LENGTH, CONVERTIBLE QUARTER-TURN SUPPLY, CHROME-PLATED FINISH, 13 MM (1/2") COPPER SWEAT X 10 MM (3/8") OUTER Ø BRASS BALL VALVE, 304 MM (12") COPPER FLEXIBLE RISERS, CONVERTIBLE LOOSE KEY HANDLE, LAVATORY, ONE DEEP BELL FLANGE MCGUIRE 8090C P-TRAP - HEAVY CAST BRASS, ADJUSTABLE P-TRAP, GROUND JOINT CAST BRASS ELBOW, WITH CLEANOUT PLUG WATTS CA-461 CARRIER
SS-1	SERVICE SINK	3" (75mm)	1- $\frac{1}{2}$ " (38mm)	$\frac{1}{2}$ " (12mm)	$\frac{1}{2}$ " (12mm)	KOHLER BANNON SERVICE SINK, K-6714, C/W K-6673 3" IRON PIPE CONNECTION WITH CLEANOUT PLUG AND STRAINER, CHICAGO FAUCET 540-LDABCP
WC-1	WATER CLOSET (BARRIER FREE)	3" (75mm)	1- $\frac{1}{2}$ " (38mm)	-	$\frac{1}{2}$ " (12mm)	AMERICAN STANDARD 215AA064.020 TOILET - CADET PRO, TANK TYPE TOILET, FLOOR MOUNTED WITH FLOOR OUTLET, LOW CONSUMPTION 6.0 LPF (1.6 GPF), WHITE FINISH VITREOUS CHINA, EVERGLEAN ANTIMICROBIAL SURFACE, ELONGATED BOWL, CENTOCO 1500STSCCSSFE-001 SEAT - FAST-N-LOOK, FOR ELONGATED BOWL, WITH TANK COVER LOCKING DEVICE, OPEN FRONT, POLYPROPYLENE, TOILET SEAT, LESS SEAT COVER, AND SELF-SUSTAINING PLASTIC COMMERCIAL CHECK HINGES, WHITE FINISH.MCGUIRE LFBV172 SUPPLY - LEAD FREE, 127 MM (5") LENGTH, CONVERTIBLE QUARTER-TURN SUPPLY, CHROME-PLATED FINISH, TWO 13 MM (1/2") COPPER SWEAT X 10 MM (3/8") OUTER Ø BRASS BALL VALVE, 304 MM (12") COPPER FLEXIBLE RISERS, CONVERTIBLE LOOSE KEY HANDLE, TOILET, 2 DEEP BELL FLANGE
CO	CLEANOUT	-	-	-	-	ZURN ZN1602-VP, EPOXY COATED CAST IRON CLEANOUT WITH NICKEL BRONZE COVER, ANCHOR FLANGE, REVERSIBLE MEMBRANE CLAMP ADJUSTABLE COMBINED ACCESS COVER, PLUG WITH GASKET SEAL, AND VANDAL PROOF.
ET-1	EXPANSION TANK	-	-	-	$\frac{3}{4}$ " (19mm)	ARMTROL ST-5, 2.0 GAL. TANK VOLUME
FD-1	FLOOR DRAIN	3" (75mm)	1- $\frac{1}{2}$ " (38mm)	-	-	ZURN Z556-ZN-VP, CAST IRON BODY FLOOR DRAIN C/W 150mmø NICKEL BRONZE ROUND STRAINER, TRAP PRIMER CONNECTION, VANDAL PROOF SECURED TOP & SCREWS.
FFD-1	FUNNEL FLOOR DRAIN	3" (75mm)	1- $\frac{1}{2}$ " (38mm)	-	-	ZURN ZN-211-BF-VP, CAST IRON BODY FLOOR DRAIN C/W 150mmø NICKEL BRONZE ROUND STRAINER, TRAP PRIMER CONNECTION, VANDAL PROOF SECURED TOP & SCREWS.
NFHB-1	NON-FREEZE HOSE BIB	-	-	-	$\frac{3}{4}$ " (19mm)	Z1320XL - ENCASED NON-FREEZE WALL HYDRANT, REMOVABLE OPERATING KEY, BRASS BODY, COPPER CASING, ALL BRONZE INTERIOR COMPONENTS, CERAMIC DISC ROD ASSEMBLY, INTEGRAL BACKFLOW PREVENTER, DN 3/4 IN MALE IP OR SWEAT FEM. INLET, BRASS HINGED BOX WITH NICKEL BRONZE BOX.
HB-1	NON-FREEZE HOSE BIB - STUB UP	-	-	-	1" (25mm)	Z1385 - NON-FREEZE VERTICAL POST HYDRANT, DN 25 MM (1 IN) THREADED INLET BY 1524 MM (5 FT) DEPTH OF BURY, ALL BRONZE INTERNAL COMPONENTS. GALVANIZED STEEL CASING AND CAST ALUMINUM CASING GUARD, NON-TURNING OPERATING ROD WITH FREE-FLOATING COMPRESSION CLOSURE VALVE. LOCATED BY WET WELL. SEE CIVIL DRAWINGS FOR LOCATION.
BFP-1/2	BACK FLOW PREVENTOR	-	-	-	2" (50mm)	WATTS LF909, BACK FLOW PREVENTOR, REDUCED PRESSURE VALVE ASSEMBLY, COMPLETE WITH STRAINER.
ETSP-1	ELECTRONIC TRAP SEAL PRIMER	-	-	-	$\frac{1}{2}$ " (12mm)	MIFAB MI-100 C/W POWDER COATED CABINET, 2øzs OF WATER EVERY 24 HOURS, 24VDC 120V WITH 24 HOUR TIMER WITH RELAY
NOTES: 1. ALL WASHROOM MODELS MUST BE COMPATIBLE WITH "SMISH" PRODUCTS. 2. OWNER'S RESPONSIBILITIES TO VERIFY ALL EQUIPMENT AND ITEM QUANTITY. 3. CONTRACTOR TO PROVIDE, INSTALL & HOOK-UP EQUIPMENT. 4. CONTRACTOR TO CONFIRM ALL EQUIPMENT SPECS PRIOR TO CONSTRUCTION. 5. CONTRACTOR TO VERIFY ALL OUTLET LOCATIONS WITH OWNER. 6. PROVIDE ISOLATING VALVE ON HOT AND COLD WATER LINES TO EACH PIECE OF PLUMBING FIXTURE (TYPICAL UNLESS NOTED OTHERWISE). 7. INSULATE ALL EXPOSED PIPING WITH 25MM THICK DUAL TEMPERATURE GLASS FIBRE PIPE INSULATION COMPLETE WITH POLYVINYL COVERING						

GRILLE SCHEDULE						
TAG	MANUFACTURER	MODEL	SIZE	APPLICATION	MOUNTING	NECK SIZE
EG-1	PRICE	80	AS SHOWN ON PLAN	EXHAUST	DRYWALL	AS SHOWN ON PLAN
EG-2	PRICE	80	AS SHOWN ON PLAN	SUPPLY	DRYWALL	AS SHOWN ON PLAN

CONTROLS SCHEDULE			
TAG	MANUFACTURER	MODEL	NOTES
T-1	HONEYWELL	T7350	THERMOSTAT, SURFACE MOUNT, 7-DAY PROGRAMMABLE
T-2	HONEYWELL	T631A-C	REVERSE ACTING THERMOSTAT, SURFACE MOUNT, 120V
ACT-1	BELIMO	LF-120	120vac, EXTERNAL, TWO POSITION, SPRING RETURN, CLOSED FAIL POSITION.

LOUVER SCHEDULE							
TAG	SYSTEM	MANUFACTURER	MODEL No.	TYPE	SIZE	FREE AREA (FT2)	NOTES
LV-1	EXHAUST	GREENHECK	ESD-435	4" DEEP LOUVER	48"x18" 1219mmx457mm	2.62	c/w BACKDRAFT DAMPER, DRAINABLE BLADE LOUVRE, COLOUR BY OWNER
LV-2	FRESH AIR INTAKE	GREENHECK	ESD-435	4" DEEP LOUVER	48"x18" 1219mmx457mm	2.62	- C/W VCD-23 3V BLADE DAMPER, INTERLOCKED WITH EXHAUST FAN #EF-2 - DRAINABLE BLADE LOUVRE c/w 1/2" MESH BIRD SCREEN - COLOUR SELECTION BY OWNER
WB-1	EXHAUST	REVERSOMATIC	SWBW-8	SINGLE WALL BOX	9"x9" 229mmx229mm	-	c/w BACKDRAFT DAMPER, EXTRUDED ALUMINUM GRILLES, COLOUR BY ARCHITECT

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TEMPORARY BENCHMARKS

TBM#1-
TBM#2-
TBM#3-

***ADD REFERENCE TO SURVEY/SOURCE



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Project

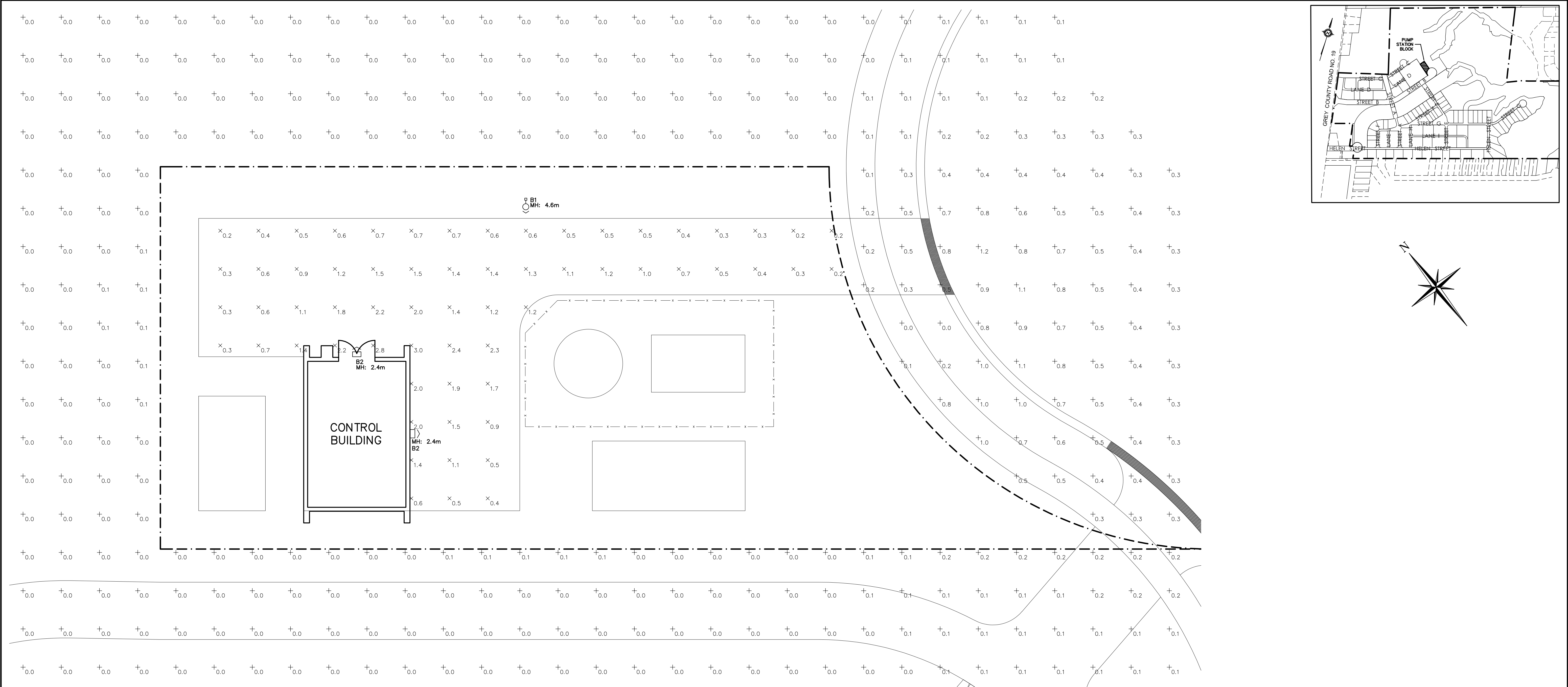
HOME FARM
SEWAGE PUMPING STATION
TOWN OF THE BLUE MOUNTAINS

Drawing

SCHEDULES

Drawn ByH.S. Design ByH.S. Project721-3464

Check ByB.K. Check ByL.H. DrawingM103



SPS SITE PLAN – PHOTOMETRIC

SCALE: 1:100

LABEL	CALC. TYPE	UNITS	SYMBOL	AVG	MAX	MIN	AVG/MIN
PUMPING STATION	ILLUMINANCE	FC	X	1.0	3.0	0.2	5.2:1

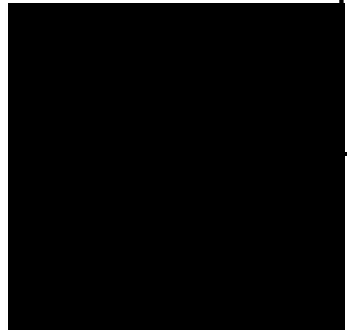
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Engineer



Project

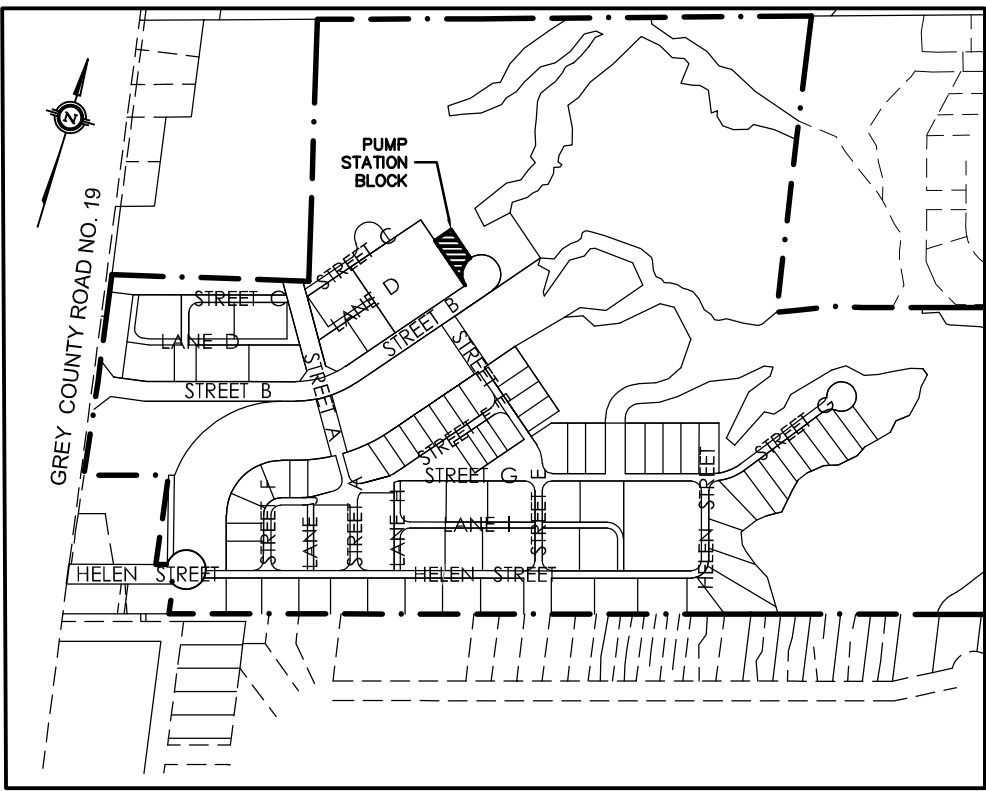
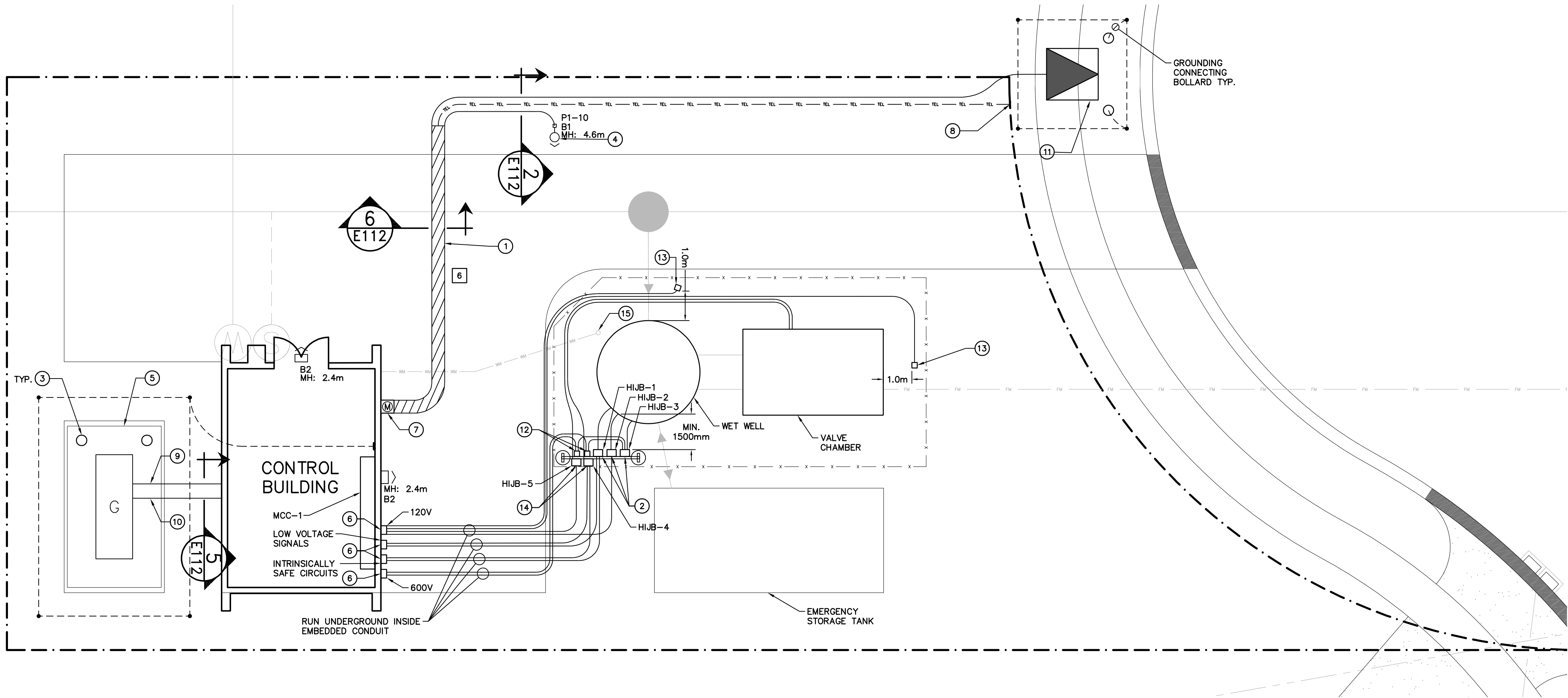
HOME FARM
CHANNEL CONSTRUCTION
TOWN OF THE BLUE MOUNTAINS

Drawing

SEWAGE PUMPING STATION SITE PLAN –
PHOTOMETRIC



Drawn By	J.R.B.	Design By	J.R.B./J.S.	Project	721–3464
Check By	R.T.	Check By	J.G.L.	Drawing	E100



SPS SITE PLAN – ELECTRICAL

SCALE: 1:100

GENERAL NOTES:

- REFER TO SINGLE LINE DIAGRAM ON DRAWING E400 FOR CIRCUIT NUMBERS DEDICATED TO PROPOSED LIGHTING FIXTURES AND RECEPTACLES.
- ELECTRICAL CONTRACTOR TO ENSURE ALL STAINLESS STEEL ELEMENTS IN THE WET WELL & VALVE CHAMBER INCLUDING ANY ACCESSORIES AND FIXTURES TO BE 316SS GRADE.
- GENERATOR'S OUTDOOR FUEL TANK SHALL BE EQUIPPED WITH ELECTRONIC FULL-LIMITING THAT MUST BE IN CONFORMANCE TO APPLICABLE STANDARDS AND CODES. PROVIDE K-TECH INDUSTRIAL PRODUCTS INC. AL201-1-12VDC WEATHERPROOF ALARM PANEL OR APPLICABLE SIMILAR. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL.
- GENERATOR SHALL BE EQUIPPED WITH ETHERNET COMMUNICATION CARD TO ESTABLISH ETHERNET/P LINK TO PLC COMPLETE WITH REMOTE MONITORING CAPABILITIES.
- CONTRACTOR TO ENSURE THAT THE GENERATOR'S FUEL TANK SHALL BE FULL UPON GENERATOR COMMISSIONING AND PROJECT COMPLETION.
- THIS PUMPING STATION MUST ACTIVELY RUN FOR 24 HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE SUPPLIER TO PROVIDE A FUEL TANK THAT CAN PROVIDE BACK UP TO THIS FACILITY FOR AT LEAST 24 HOURS WITHOUT ANY INTERRUPTIONS.
- THIS DRAWING MUST BE READ IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, STRUCTURAL & MECHANICAL DRAWINGS.

DRAWING NOTES:

- PROVIDE #12 AWG + GND IN 50mm DUCT BANK. ELECTRICAL CONTRACTOR TO REFER TO DUCT BANK DETAIL ON DWG. E112.
- PROVIDE LOCAL WET WELL PUMP JUNCTION BOXES, STAINLESS STEEL, NEMA 4X. HJUB-1 JUNCTION BOX FOR INSTRUMENT SIGNAL CABLE, HJUB-2 JUNCTION BOX FOR 120V POWER CABLES, & HJUB-3 JUNCTION BOX FOR 600V POWER CABLES. ALL ELECTRICAL WIRING AND INSTALLATION FOR THE EQUIPMENT MUST RATED FOR CLASS 1 DIV.2. LOCATE WET WELL JUNCTION BOX STAND, MINIMUM 1000mm FROM WET WELL HATCH AND 1500mm FROM WET WELL VENT. REFER TO DWG. E113 FOR MOUNTING CONFIGURATION.
- ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL PROTECTIVE BOLLARD. REFER TO TYPICAL DETAIL 8 IN DWG. E112. COORDINATE EXACT REQUIREMENTS WITH GENERATOR SUPPLIER.
- POLE MOUNTED LIGHTING FIXTURE TO BE CONNECTED TO PANEL P1. ELECTRICAL CONTRACTOR TO PROVIDE 8 POLE CONTACTOR C/W TIMER OR PHOTOCCELL FOR COMPLETE EXTERIOR LIGHTING CONTROL. PROVIDE ALL ACCESSORIES FOR A COMPLETE FUNCTIONING EXTERIOR LIGHTING CONTROL SYSTEM.
- ELECTRICAL CONTRACTOR TO COORDINATE & VERIFY WITH GENERATOR MANUFACTURER FOR EXACT INSTALLATION REQUIREMENTS. ELECTRICAL CONTRACTOR TO ENSURE CONCRETE PAD IS 1m OFFSET FROM GENSET. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR SUPPLYING AND INSTALLING GENERATOR PAD, GENERATOR, AND ALL ASSOCIATED ACCESSORIES FOR A COMPLETE WORKING STANBY BACKUP EMERGENCY POWER SYSTEM. REFER TO DETAIL 4 IN DWG. E112.
- PROVIDE NEMA 3R RATED ELECTRICAL PULL BOXES.
- ELECTRICAL CONTRACTOR TO PROVIDE NEMA 3R RATED 900x900x250mm LOCKABLE DOOR, REMOVABLE BACK PLATE FOR METER BASE AS PER HYDRO ONE REQUIREMENTS. COORDINATE EXACT REQUIREMENTS WITH HYDRO ONE PRIOR TO INSTALLATION.
- COORDINATE EXACT DEMARCATION POINT WITH TELECOMMUNICATION SERVICE PROVIDER.
- PROVIDE 1C-3#3/0 AWG + GND, 600V, XLP/ USE-2 CT RATED, 90C IN 100mm DUCT BANK. ELECTRICAL CONTRACTOR TO REFER TO GENERATOR DUCT BANK DETAIL ON DWG. E112.
- PROVIDE #10 AWG + GND FOR GENERATOR BLOCK HEATER IN 100mm DUCT BANK. ELECTRICAL CONTRACTOR TO REFER TO GENERATOR DUCT BANK DETAIL ON DWG. E112.
- ELECTRICAL CONTRACTOR TO PROVIDE TRANSFORMER VAULT, GROUNDING, BOLLARDS AND ALL OTHER NECESSARY ACCESSORIES FOR A FULLY FUNCTIONING SYSTEM AS PER ESA AND HYDRO ONE REQUIREMENTS. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH HYDRO ONE.
- PROVIDE TWO (2) 600V, EMERGENCY STOP BUTTON FOR EACH PUMP THAT SHALL BE OUTDOOR RATED, TAMPERPROOF & APPROVED FOR ZONE 2 (CLASS 1 DIV. 2) HAZARD LOCATIONS. PROPOSED EMERGENCY STOP BUTTON MUST MEET APPLICABLE CANADIAN & LOCAL CODES & STANDARDS.
- POST MOUNTED TAMPERPROOF RECEPTACLE. SHALL BE LOCATED 1500mm AWAY FROM ANY VENT OR OPENINGS
- PROVIDE LOCAL VALVE CHAMBER JUNCTION BOXES , STAINLESS STEEL NEMA 4X. HJUB-4 JUNCTION BOX FOR INSTRUMENT SIGNAL CABLE & HJUB-5 JUNCTION BOX FOR 120V POWER CABLES. ALL ELECTRICAL WIRING TO AND INSTALLATION FOR THE EQUIPMENT MUST BE RATED FOR CLASS 1 DIV.2 VALVE CHAMBER JUNCTION BOXES TO BE MOUNTED ON SAME UNI-STRUT STAND AS WET WELL PUMP JUNCTION BOXES. REFER TO DWG. E113 FOR MOUNTING CONFIGURATION.
- PROPOSED LOCATION OF YARD HYDRANT. REFER TO CIVIL DRAWINGS FOR EXACT LOCATION.

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Town



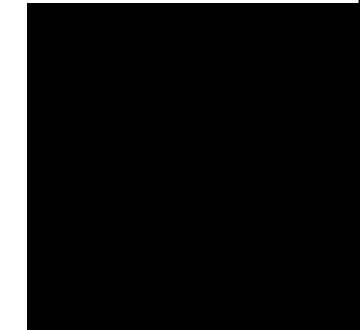
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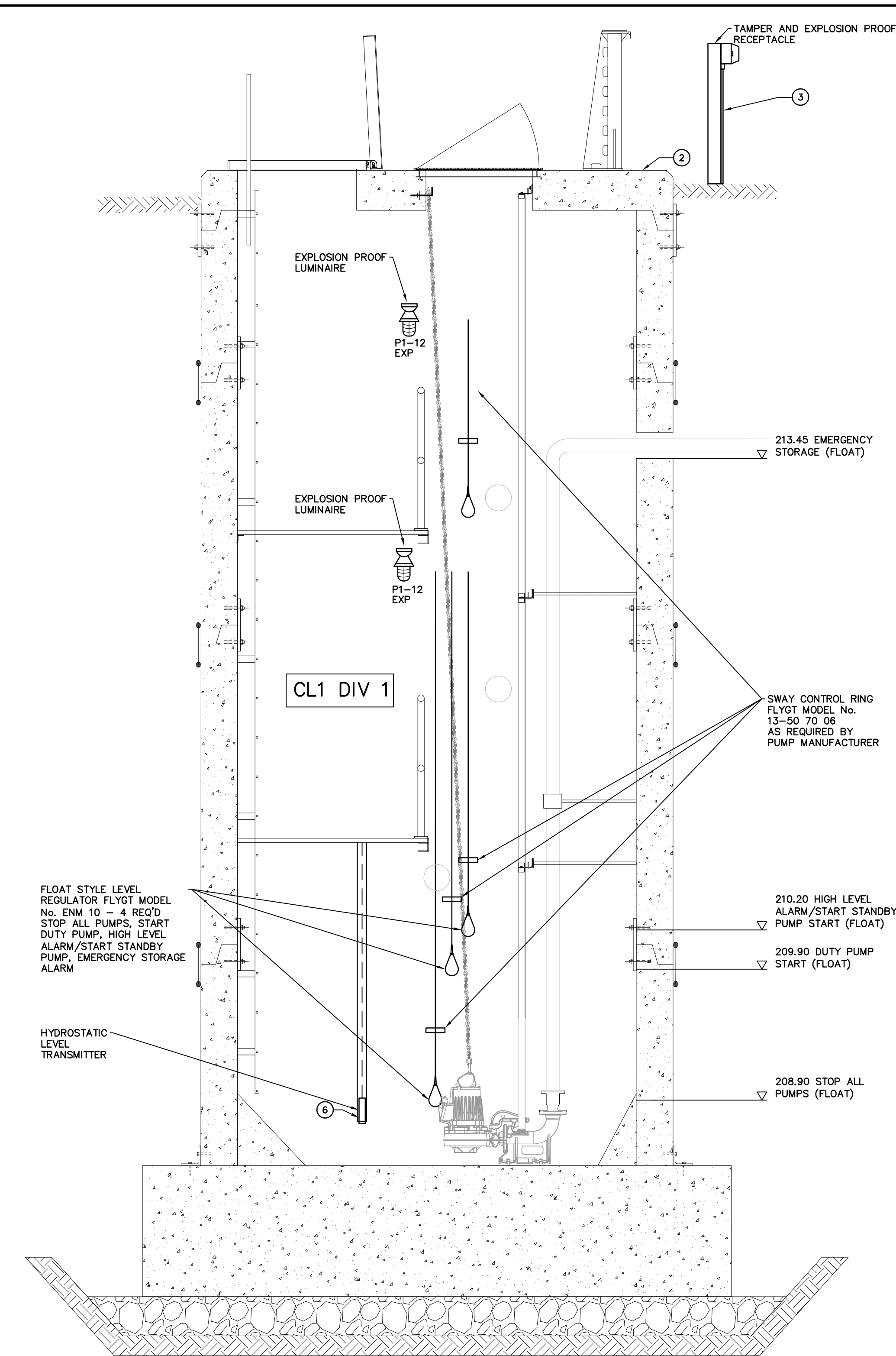
HOME FARM
CHANNEL CONSTRUCTION
TOWN OF THE BLUE MOUNTAINS

Drawing

SEWAGE PUMPING STATION SITE PLAN –
ELECTRICAL

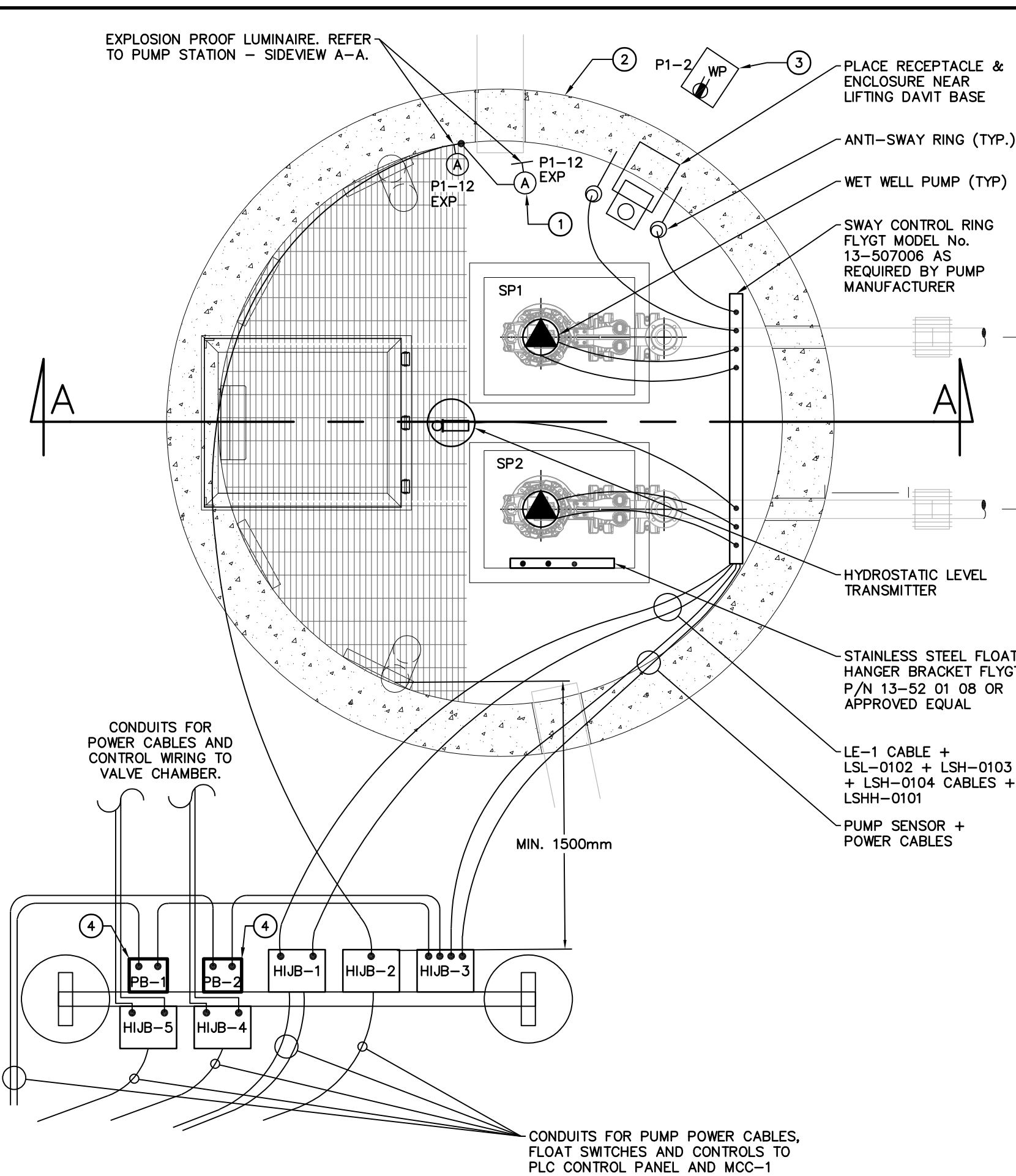


Drawn By	J.R.B.	Design By	J.R.B./I.S.	Project	721-3464
Check By	R.T.	Check By	J.G.L.	Drawing	E110



PUMP STATION – SIDE VIEW A-A

SCALE: 1:25



PUMP STATION – TOP VIEW

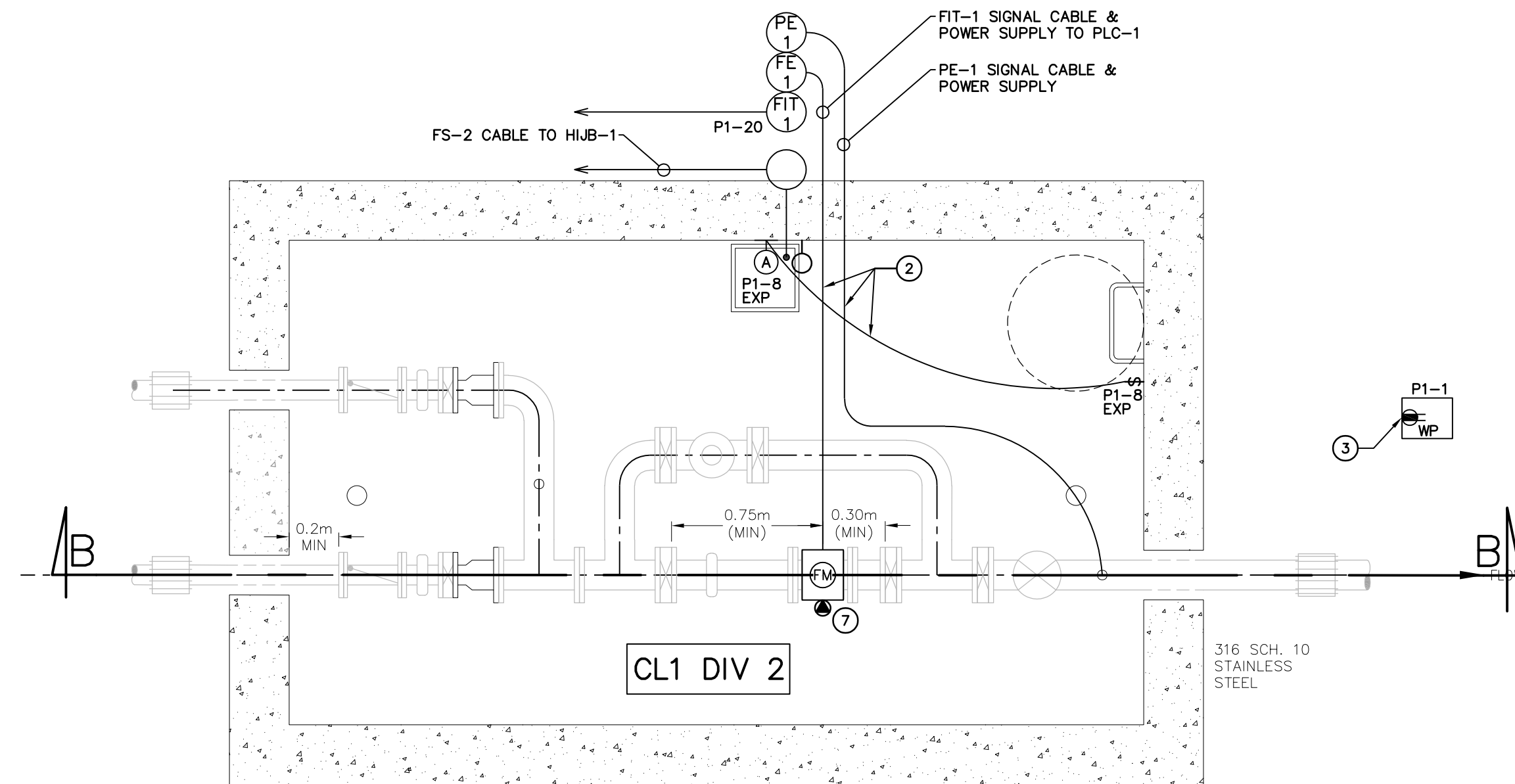
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GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ACTUAL FIELD CONDITION AND CONSIDER THE ALLOWABLE BENDING RADIUS FOR CONDUITS. LAYOUT OF THE CABLE SHOWN IS DIAGRAMMATIC ONLY.
2. ELECTRICAL CONTRACTOR SHALL REFER TO MANUFACTURER'S MANUAL AND CONTROL SCHEMATICS FOR INSTALLATION, DIMENSION, TERMINATION AND TESTING.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CIVIL, STRUCTURAL AND MECHANICAL PLANS.
4. MAINTAIN 12" CLEARANCE BETWEEN POWER AND CONTROL CABLES.
5. ELECTRICAL CONTRACTOR SHALL BOND STAINLESS STEEL ELEMENTS LOCATED IN WET WELL AND VALVE CHAMBER PER DESC SECTION 10.

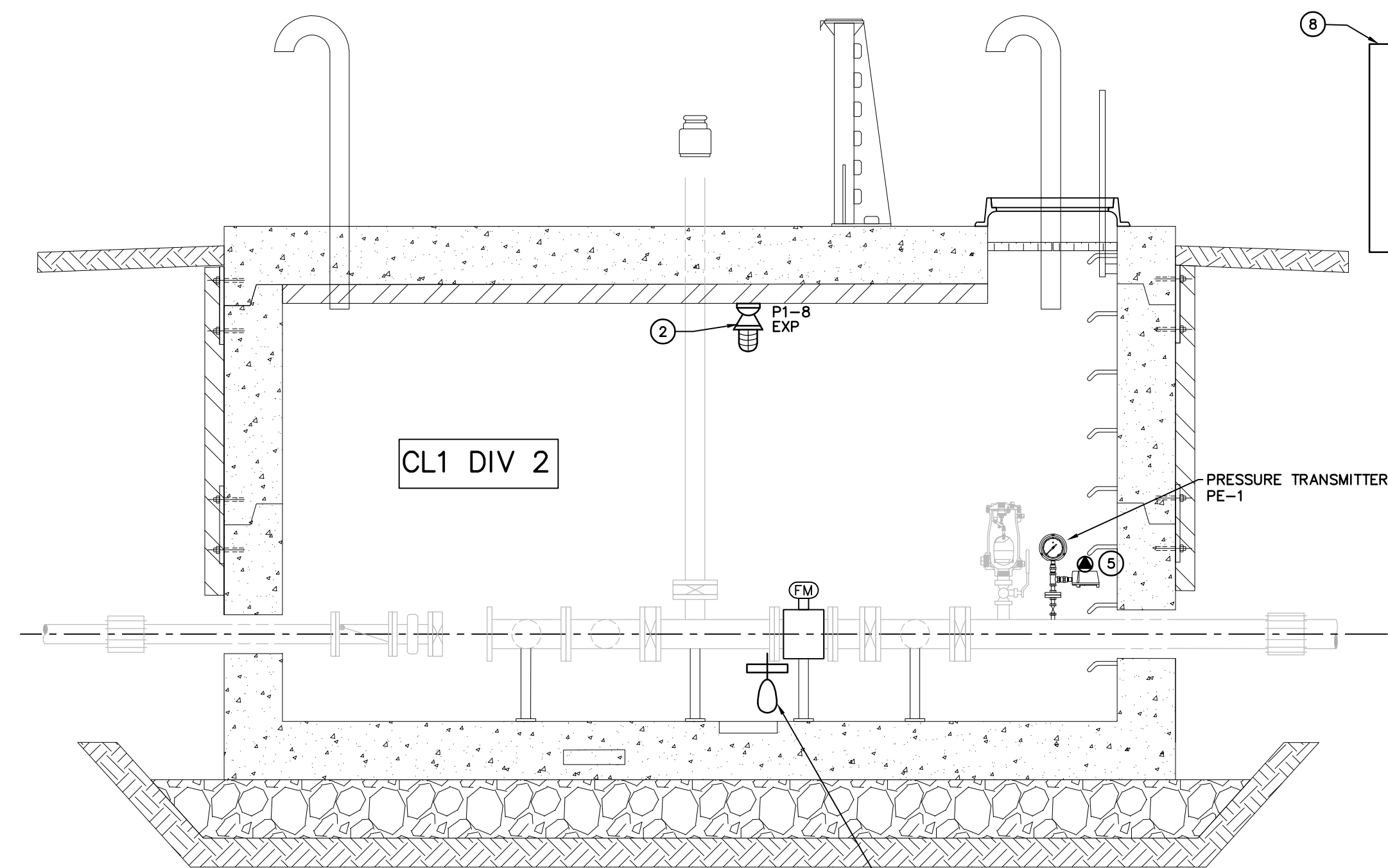
DRAWING NOTES:

1. TOGGLE SWITCH FOR WET WELL LIGHTING TO BE LOCATED IN CONTROL BUILDING.
2. ALL ELECTRICAL WIRING AND EQUIPMENT TO BE INSTALLED AT WET WELL & VALVE CHAMBER (INSIDE & OUTSIDE) TO BE HAZARDOUS RATED AS SHOWN.
3. PROVIDE ONE (1) 20A, 120V WEATHERPROOF POST MOUNTED RECEPTACLE WITH TAMPERPROOF ENCLOSURE. POST MOUNTED RECEPTACLE SHALL BE PLACED CLOSE TO LIFTING DAVIT BASE & 0.9m AWAY FROM ANY HATCH OR VENT.
4. PROVIDE TWO (2) EMERGENCY STOP BUTTON FOR EACH PUMP THAT SHALL BE OUTDOOR RATED & TAMPERPROOF. PROPOSED EMERGENCY STOP BUTTON MUST MEET APPLICABLE CANADIAN & LOCAL CODES & STANDARDS.
5. ELECTRICAL CONTRACTOR TO PROVIDE 24V DIRECT CONNECTION REQUIRED FOR PRESSURE TRANSMITTER. ELECTRICAL CONTRACTOR TO COORDINATE WITH PRESSURE TRANSMITTER MANUFACTURER FOR COMPLETE INSTALLATION REQUIREMENTS.
6. ELECTRICAL CONTRACTOR MUST COORDINATE WITH THE MANUFACTURER TO DETERMINE THE DEPTH AT WHICH HYDROSTATIC TRANSMITTER SHALL BE PLACED. PROVIDE ALL NECESSARY ACCESSORIES FOR A FULLY FUNCTIONAL SYSTEM.
7. ELECTRICAL CONTRACTOR TO SUPPLY & INSTALL MAGNETIC FLOW METER WITH ALL POWER & CONTROLS CONNECTIONS. COORDINATE EXACT REQUIREMENTS WITH SUPPLIER.
8. PROVIDE ONE (1) 20A, 120V WEATHERPROOF POST MOUNTED RECEPTACLE WITH TAMPERPROOF ENCLOSURE. POST MOUNTED RECEPTACLE SHALL BE PLACED AWAY FROM ANY HATCH OR VENT.



VALVE CHAMBER – TOP VIEW

SCALE: 1:25



VALVE CHAMBER – SIDE VIEW B-B

SCALE: 1:25

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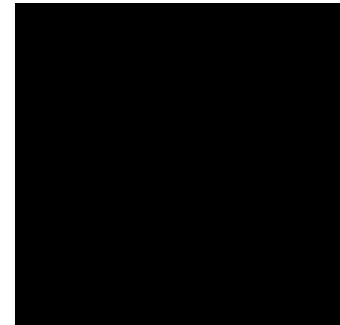
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Engineer



Project



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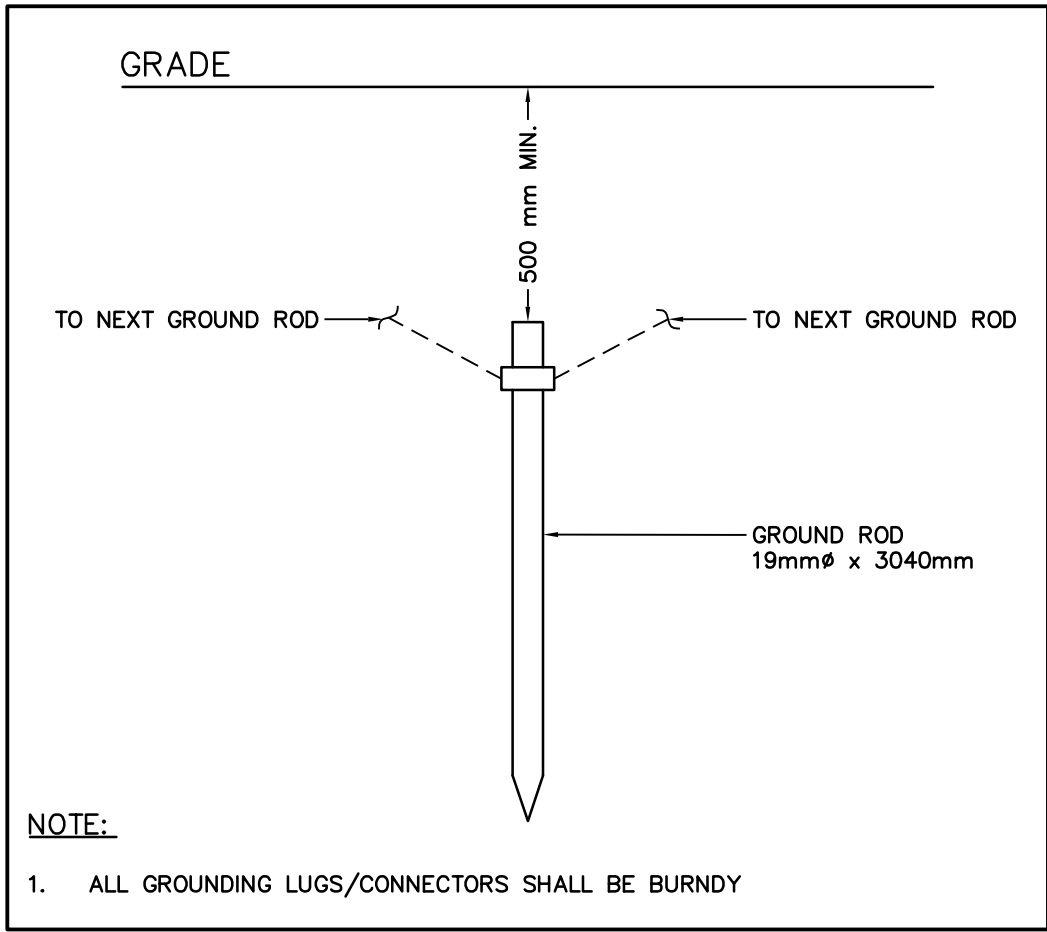


HOME FARM
CHANNEL CONSTRUCTION
TOWN OF THE BLUE MOUNTAINS

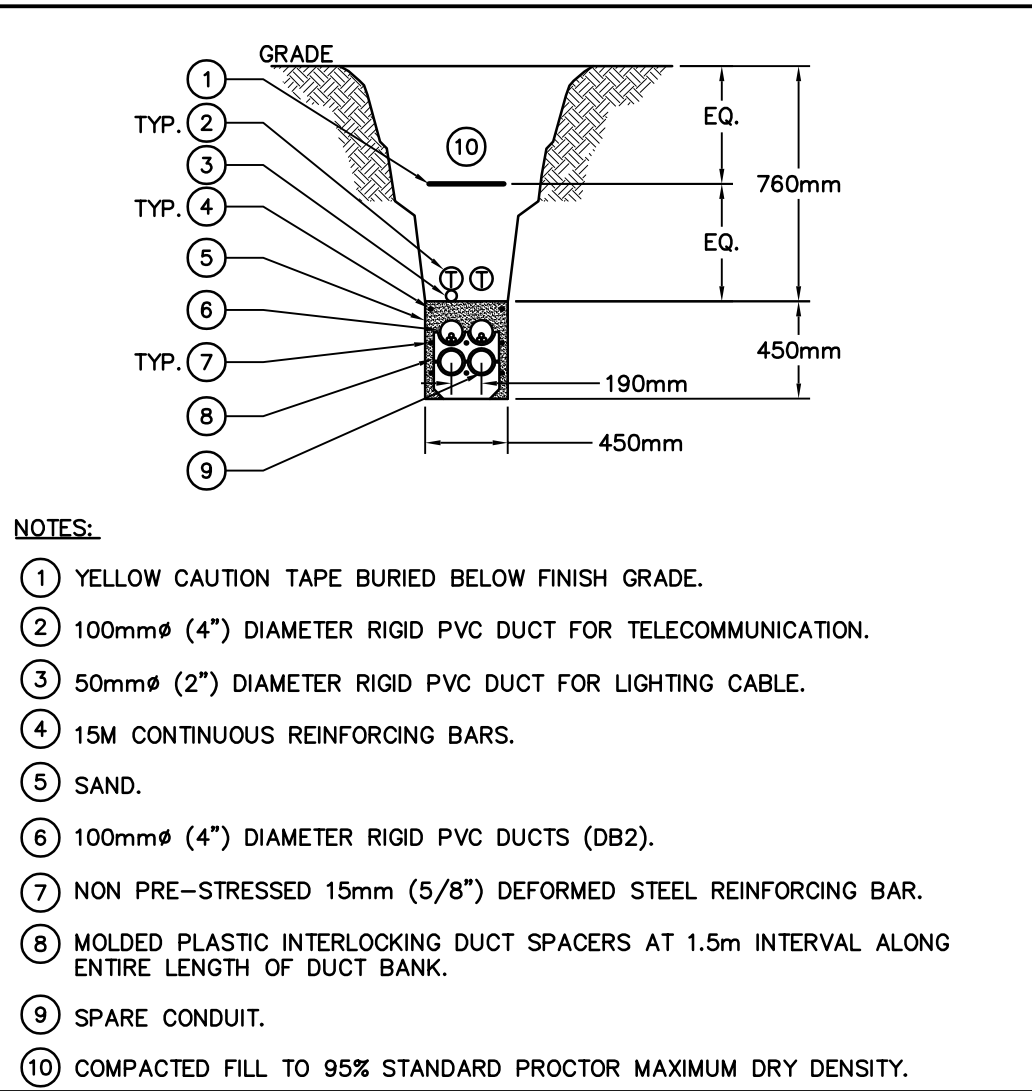
WET WELL & VALVE CHAMBER DETAILS



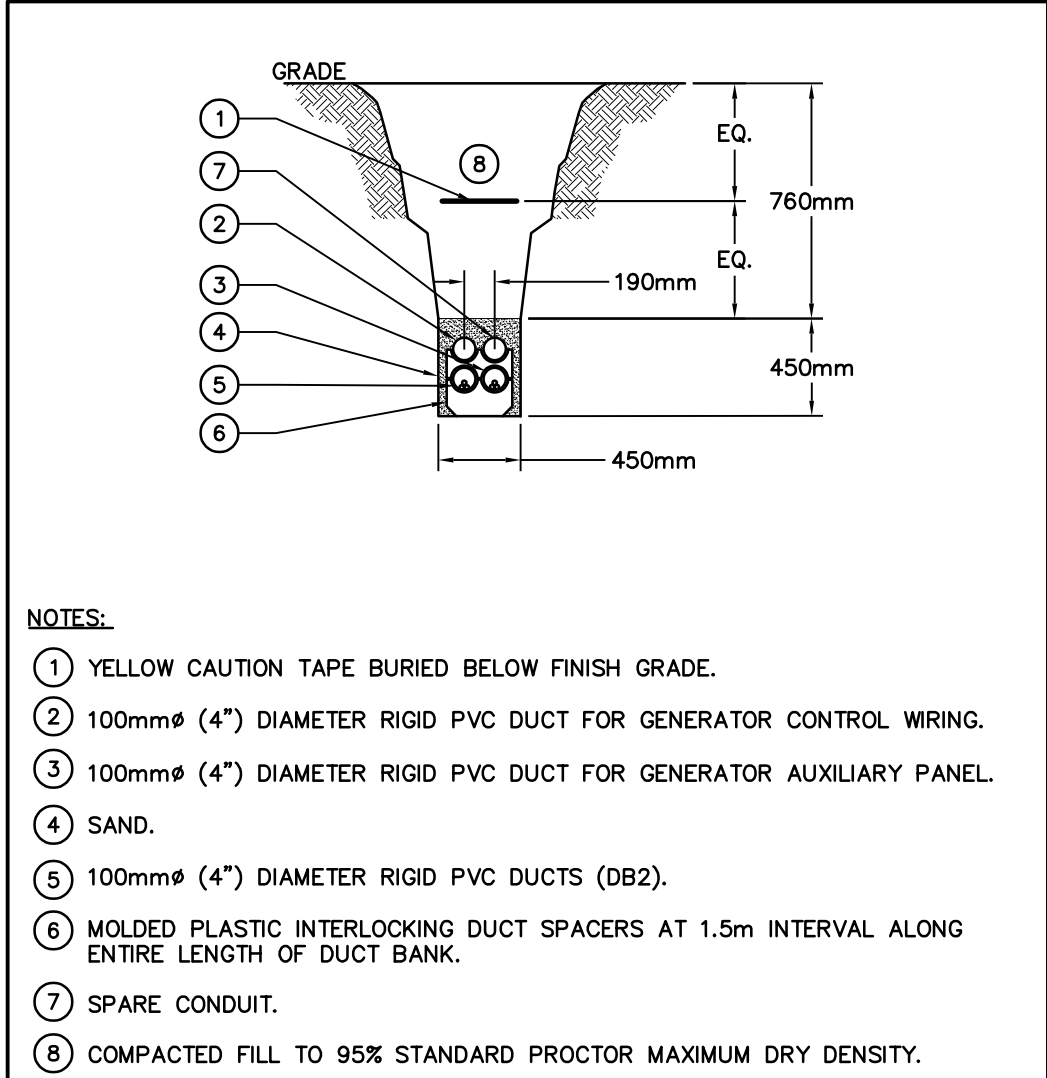
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Check By	R.T.	Check By	J.G.L.	Drawing	E111



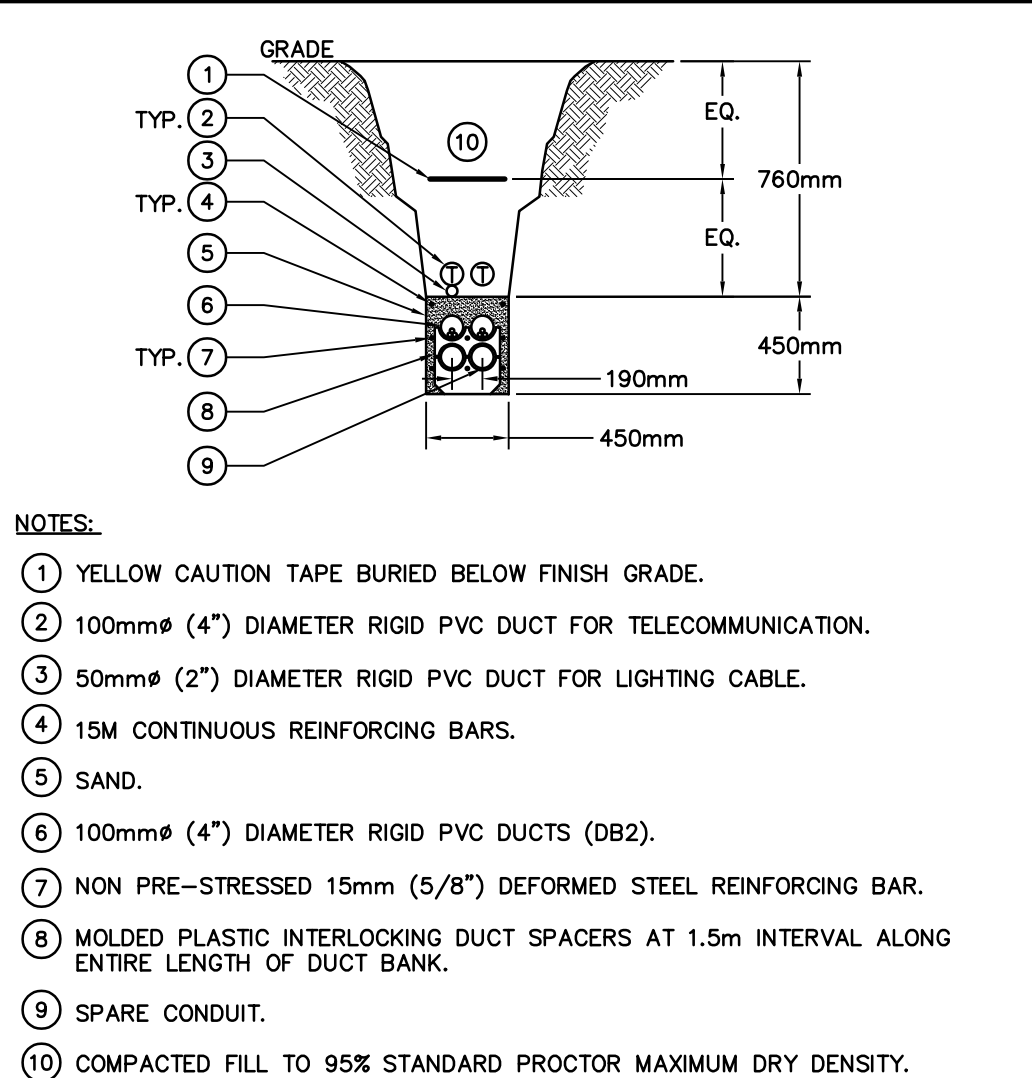
1 GROUND ROD DETAIL
E112 SCALE: N.T.S.



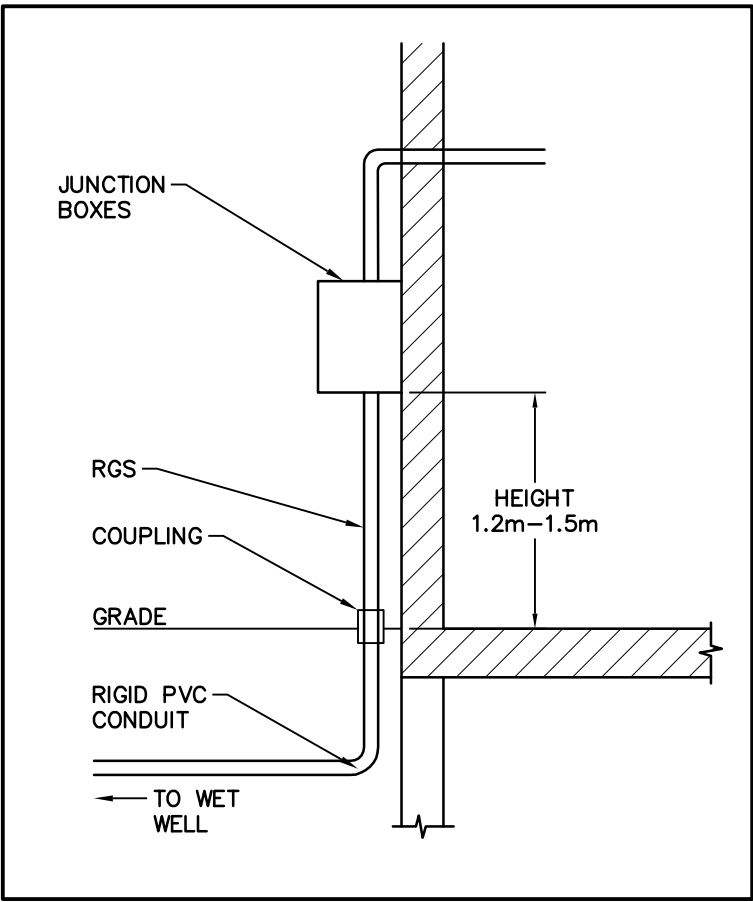
2 GENERAL SECONDARY DUCT BANK
CONCRETE ENCASED DETAIL
E112 SCALE: N.T.S.



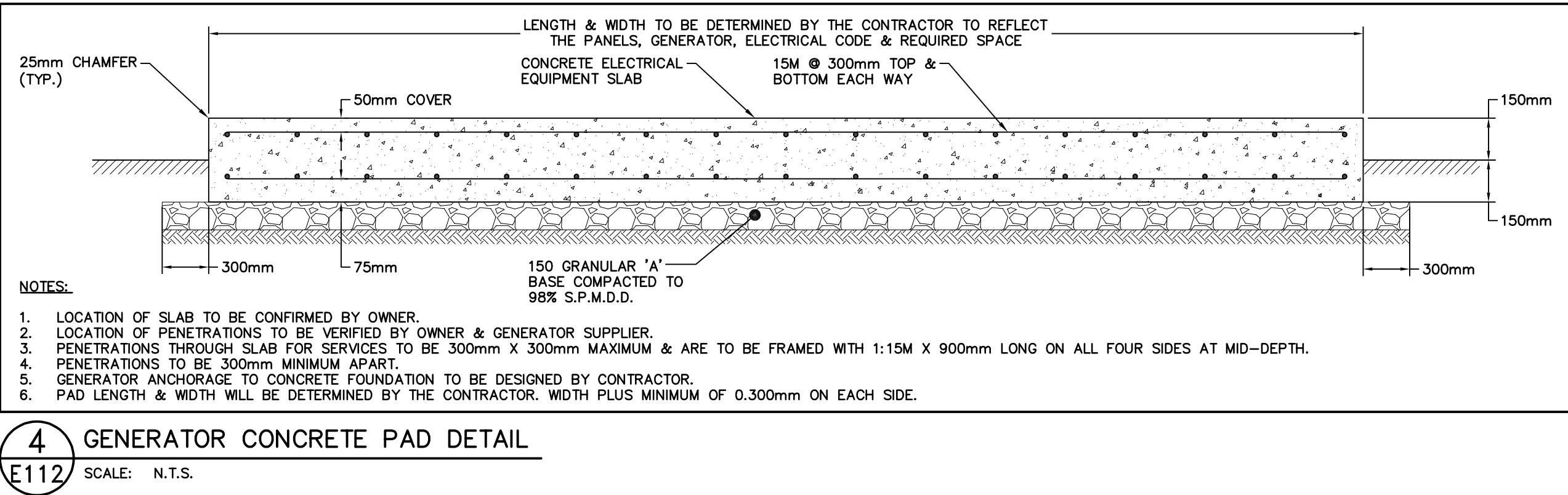
5 GENERAL SECONDARY DUCT BANK
ENCASED DETAIL – GENERATOR
E112 SCALE: N.T.S.



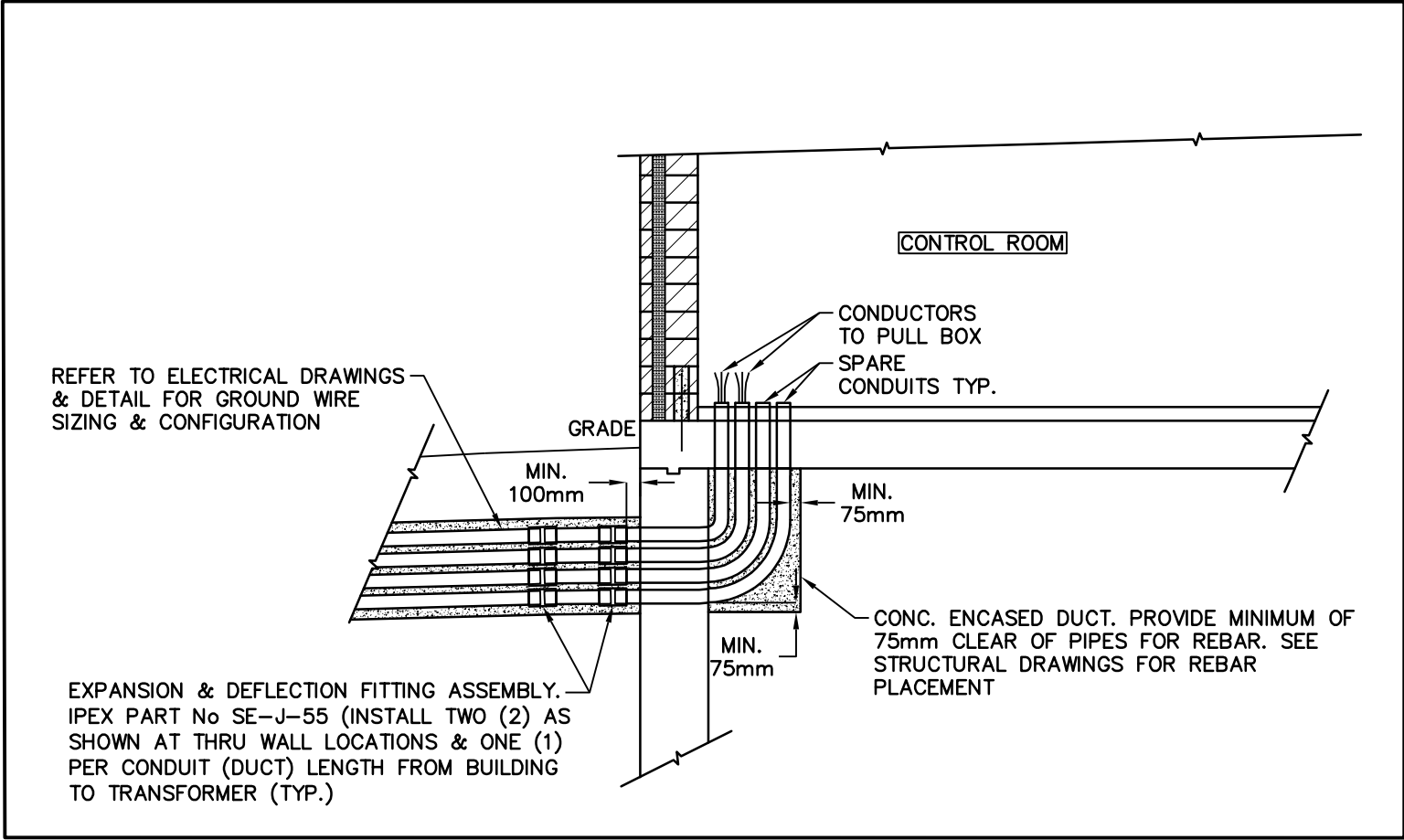
6 GENERAL SECONDARY DUCT BANK
CONCRETE ENCASED DETAIL
E112 SCALE: N.T.S.



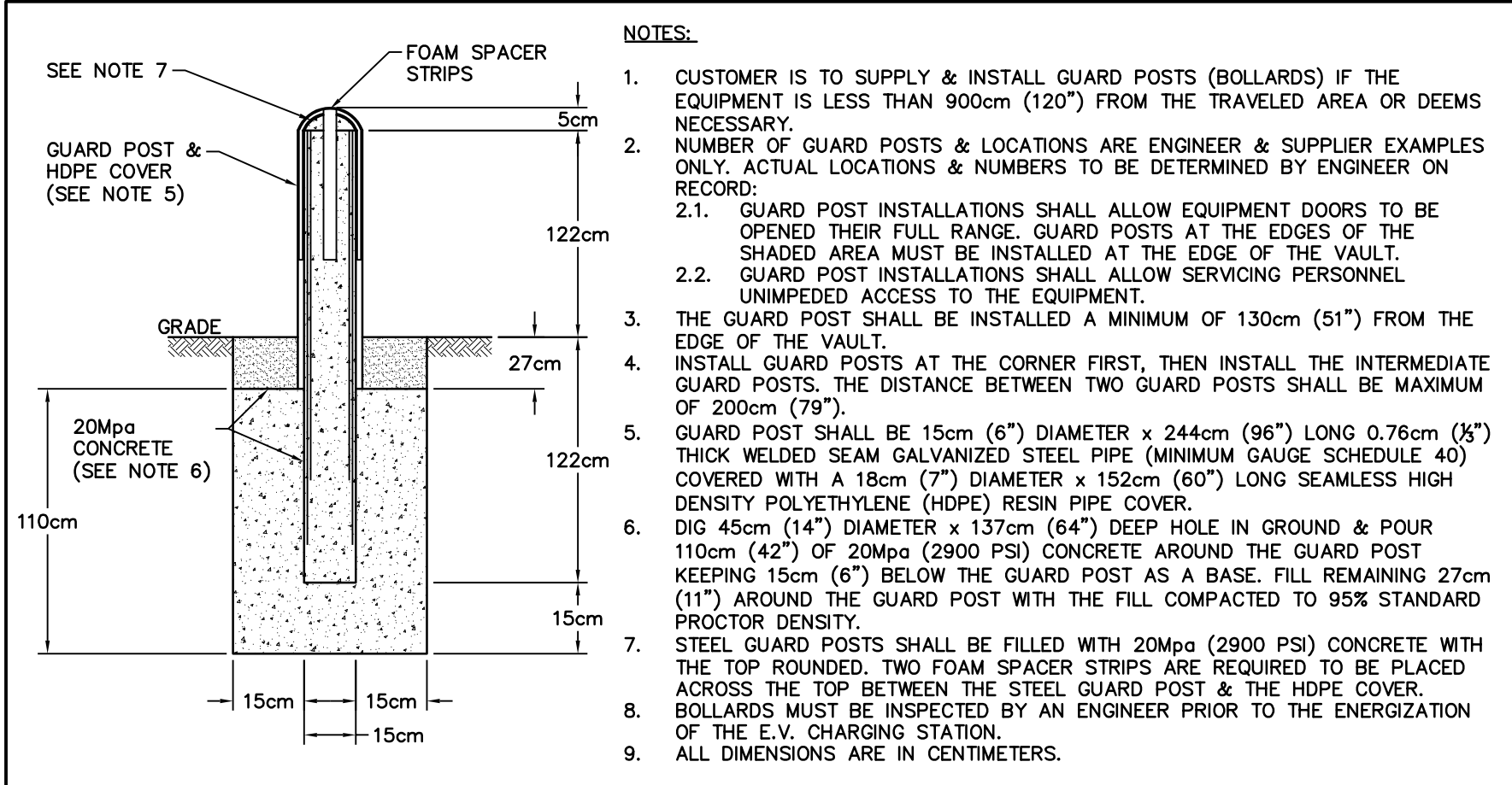
3 PULL BOX ARRANGEMENT
E112 SCALE: N.T.S.



4 GENERATOR CONCRETE PAD DETAIL
E112 SCALE: N.T.S.



7 GENERAL ELECTRICAL DUCTS & BUILDING DETAIL
E112 SCALE: N.T.S.



8 GUARD POST (BOLLARDS)
E112 SCALE: N.T.S.

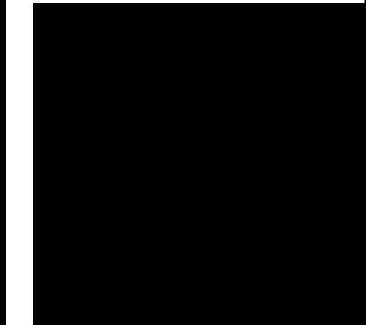
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Town



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Engineer



Project



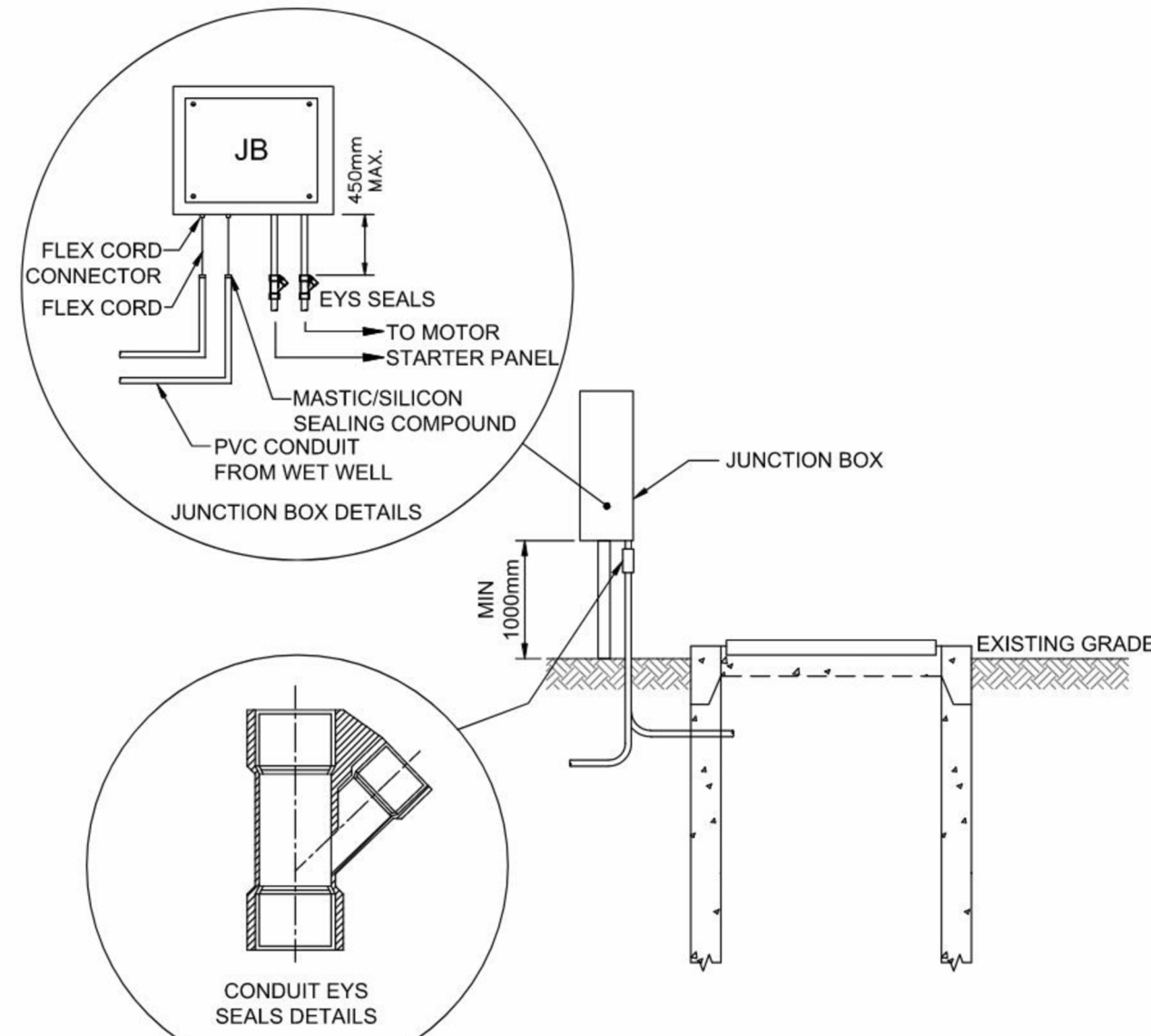
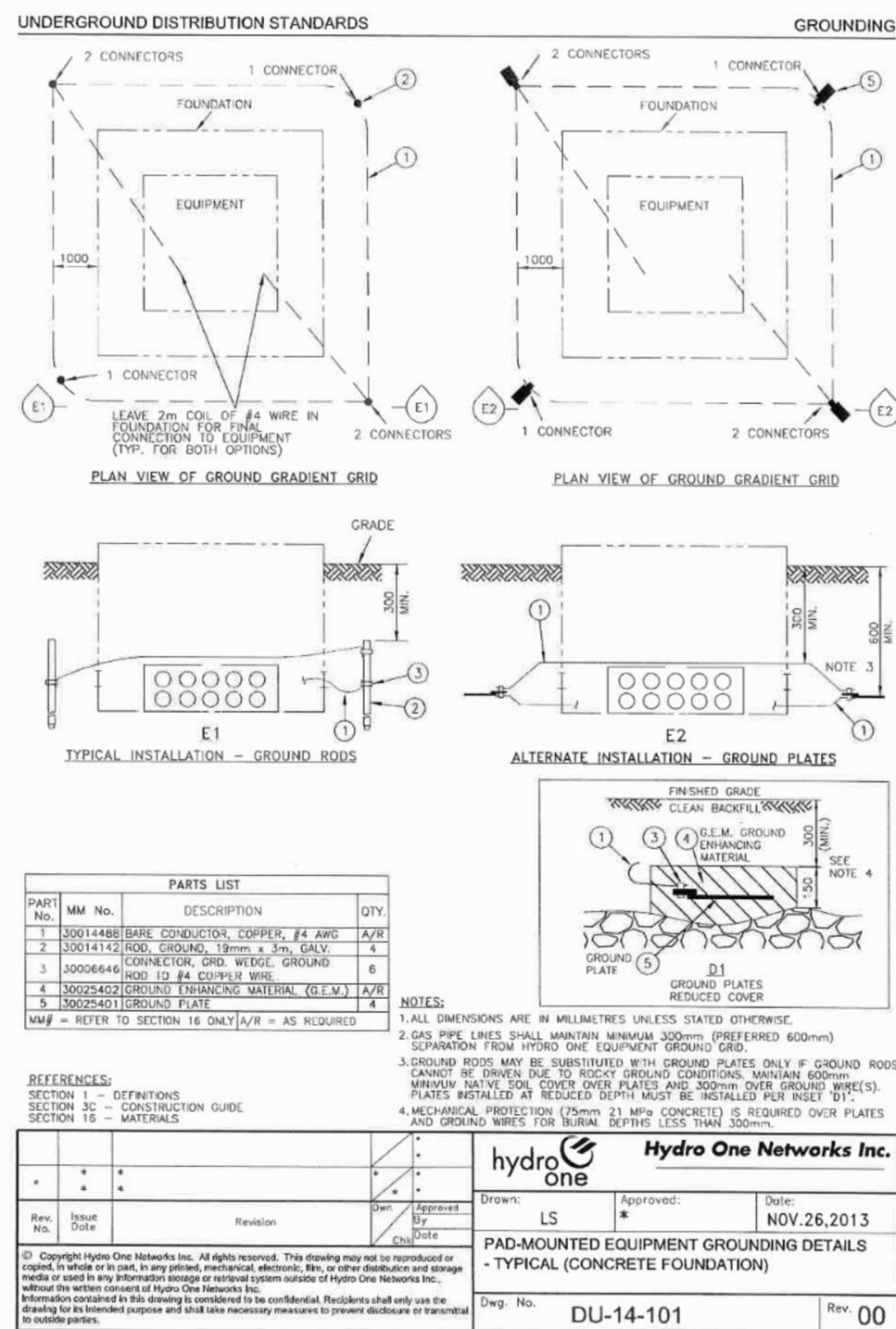
Drawing

HOME FARM
CHANNEL CONSTRUCTION
TOWN OF THE BLUE MOUNTAINS

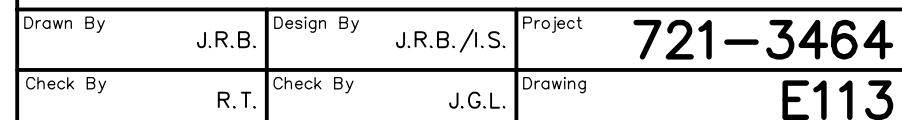
SPS SITE ELECTRICAL DETAILS
(SHEET 1 OF 2)



Drawn By	J.R.B.	Design By	J.R.B./I.S.	Project	721-3464
Check By	R.T.	Check By	J.G.L.	Drawing	E112



1 WET WELL JUNCTION BOX STAND
E113 SCALE: N.T.S.





GENERAL NOTE:

1. THIS DRAWING MUST BE READ IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, STRUCTURAL & MECHANICAL DRAWINGS.

DRAWING NOTES:

- (1) PROVIDE STEP DOWN – TRANSFORMER & 24V LOW VOLTAGE WIRING FOR THERMOSTAT. COORDINATE ALL REQUIREMENT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
- (2) PROVIDE GROUND BAR PER LATEST OESC.
- (3) PROVIDE MANUAL TOGGLE FOR WET WELL LIGHTING FIXTURE.
- (4) PROVIDE DEDICATED DATA OUTLET FOR DESK/STORAGE & PLC. PROVIDE DEDICATED CAT-6 CONNECTION BETWEEN DATA OUTLETS. COORDINATE EXACT LOCATION IN THE FIELD PRIOR TO ROUGH-IN. ELECTRICAL CONTRACTOR TO PROVIDE WIRING AND CONDUIT BACK TO MAIN TELECOMM PANEL LOCATION.
- (5) PROVIDE 15A, 120V POWER TO REVERSING ACTION THERMOSTAT & PROVIDE ALL NECESSARY ACCESSORY FOR A FULLY FUNCTIONAL SYSTEM.
- (6) PROVIDE 6" CONCRETE HOUSEKEEP PAD (4.2m (L) X 0.83m(W) X 0.15m(D)) FOR MCC-1. COORDINATE EXACT REQUIREMENTS WITH MCC-1 SUPPLIER PRIOR TO ROUGH-IN.
- (7) PROVIDE DIRECT CONNECTION FOR 120V VENTILATION CONTROL PANEL. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
- (8) PROVIDE 3/4" x 4' x 8" FIRE-RATED PLYWOOD & DEDICATED 20A, 120V RECEPTACLE FOR INCOMING TELECOMMUNICATION SERVICE C/W LIGHTING ARRESTORS AS REQUIRED BY TELECOMMUNICATION PROVIDER PHONE JACK & MODEM.
- (9) NOT USED.
- (10) EF-1: PROVIDE 15A, 120V, 1ø, HP RATED TOGGLE SWITCH FOR EXHAUST FAN. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION PRIOR TO ROUGH-IN.
- (11) EF-2: PROVIDE 20A, 120V, 1ø, HP RATED TOGGLE SWITCH FOR EXHAUST FAN. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION PRIOR TO ROUGH-IN.
- (12) FFH-1: PROVIDE 15A, 208V, 1ø DIRECT CONNECTION FOR FAN FORCED HEATER. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION PRIOR TO ROUGH-IN.
- (13) FFH-2: PROVIDE 30A, 208V, 1ø DIRECT CONNECTION FOR FAN FORCED HEATER. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION PRIOR TO ROUGH-IN.
- (14) WH-1: PROVIDE 15A, 208V, 1ø NON-FUSED DISCONNECT SWITCH FOR WATER HEATER. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION PRIOR TO ROUGH-IN.
- (15) MD-1: PROVIDE 15A, 120V, HP RATED TOGGLE SWITCH. COORDINATE EXACT LOCATION WITH THE MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE CONTROL WIRING FOR INTERCONNECTION WITH EF-2 & PROVIDE ALL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.
- (16) PROVIDE DIRECT CONNECTION FOR ELECTRONIC TRAP SEAL PRIMER. COORDINATE EXACT LOCATION WITH THE MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
- (17) EMERGENCY SERVICE CONDUITS (EXACT LOCATION TO BE COORDINATED ON SITE).
- (18) MAIN SERVICE CONDUITS (EXACT LOCATION TO BE COORDINATED ON SITE).
- (19) TELECOMMUNICATION SERVICE CONDUITS (EXACT LOCATION TO BE COORDINATED ON SITE). EXTEND TO COMMUNICATION BACKBOARD WITH RIGID PVC CONDUIT. PROVIDE PULL ROPE WITHIN CONDUIT FOR INSTALLATION OF COMMUNICATION CABLE (BY OTHERS).
- (20) PROVIDE NEMA 3R RATED ELECTRICAL PULL BOXES.

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Engineer

Project

HOME FARM
CHANNEL CONSTRUCTION
TOWN OF THE BLUE MOUNTAINS

Drawing

CONTROL BUILDING — POWER & SYSTEMS

		CROZIER CONSULTING ENGINEERS	
Drawn By	J.R.B.	Design By	J.R.B./I/S
Check By	R.T.	Check By	J.G.L.
		Project	721—3464
		Drawing	E300

Panel ID: **P1**

Location: Control Room

Mounting: **SURFACE**

Neutral: **SOLID**

NEW

Bus Type: **Copper**

Voltage: 120/208V, 3PH

Service: **3 PHASE, 4 WIRE**

Mains: 125A BREAKER

AIC: 14,000

Load Description	KVA	Brk	P	Ckt #	Phase	Ckt #	P	Brk	KVA	Load Description
VALVE CHAMBER WP RECEPT.	0.2	20	1	1	A	2	1	20	0.2	WET WELL RECEPTACLE
CONTROL ROOM RECEPTACLES	1.4	20	1	3	B	4	1	15	0.3	DOOR OPERATOR
TELEPHONE BLOCK	1.0	15	1	5	C	6	1	15	0.7	REVERSE ACTING THERMOSTAT
EMERGENCY EXIT SIGN	0.1	15	1	7	A	8	1	15	0.6	VALVE CHAMBER LIGHTING
TELECOMM RECEPTACLE	0.2	20	1	9	B	10	1	15	0.3	LIGHTING EXTERIOR
SPARE		20	1	11	C	12	1	15	1.0	WET WELL LIGHTING
UPS	3.0	30	1	13	A	14	1	15	0.1	EF-1
WH-1	3.0	15	2	15	B	16	1	15	0.2	LIGHTING INTERIOR
---	-	-	-	17	C	18	1	15	0.1	EMERGENCY BATTERY PACK
DIALER	0.2	15	1	19	A	20	1	15	0.2	FIT-1
PANEL LIGHT	0.2	15	1	21	B	22	1	15		SPARE
PANEL HEATER	0.3	15	1	23	C	24	1	15	0.2	LIT-1
VENTILATION CONTROL PANEL	0.5	15	1	25	A	26	1	15		SPARE
SPARE		20	1	27	B	28	1	20	1.5	EF-2
SPARE		20	1	29	C	30	2	30	4.4	FFH-2
MD-1	0.6	15	1	31	A	32	-	-	-	---
ETSP-1	0.2	15	1	33	B	34	2	15	2.2	FFH-1
SPD	60	3	35	C	36	-	-	-	-	---
---	-	-	-	37	A	38	1	15		SPARE
---	-	-	-	39	B	40	1	15	0.2	WASHROOM GFI RECEPTACLE
SPARE		20	1	41	C	42	3	60	5.0	GENERATOR AUXILIARY
SPARE		20	1	43	A	44	-	-	-	---
SPARE		20	1	45	B	46	-	-	-	---
SPACE				47	C	48	1	15		SPACE
SPACE				49	A	50	1	15		SPACE
SPACE				51	B	52	1	15		SPACE
SPACE				53	C	54				SPACE
SPACE				55	A	56				SPACE
SPACE				57	B	58				SPACE
SPACE				59	C	60				SPACE

Load Summary

Total Connected Load28.0 KVA

Diversity80.0%

Panel Demand Load:22.4 KVA62.3 AMP

Additional Options:

☐ Sub-Feed Lugs

☐ NEMA 3R Enclosure

☐ Sprinkler proof - Gasketted

☐ Isolated Ground

☐ Service Entrance Rated

☐ Surge Protection Device

☒ Drip-Proof

☒ Lockable Panel

SPS EQUIPMENT SCHEDULE					
EQUIPMENT	MANUFACTURER	CATALOG NUMBER	RATING	COMMENTS	ABBREVIATION
PUMPS	FLYGT	REFER TO CIVIL DRAWINGS	12HP, 8.9kW, 600V	N/A	SP-1, SP-2
AUTOMATIC TRANSFER SWITCH	EATON	N/A	125A, 600V, 3PH, 4W	BUILT-IN MCC SECTION	ATS
VARIABLE FREQUENCY DRIVE	SCHNEIDER	ATV320D11S6C	600V	SUITABLE FOR 12 HP PUMP C/W ETHERNET COMMUNICATION	VFD
DIESEL GENERATOR	GENERAC	SD060	60kW, 600V, 3PH, 4W	RUN TIME - 39 HOURS C/W ETHERNET COMMUNICATION, 80kW ALTERNATOR SIZE	N/A
SURGE PROTECTION DEWICE	INNOSYS	TK-ST160-3Y600	347/600VAC, 3PH, 4W	FOR MCC	SPD
SURGE PROTECTION DEWICE	INNOSYS	TK-ST120-3Y208	120/208VAC, 3PH, 4W	FOR PANEL P1	SPD
INTERRUPTED POWER SUPPLY	EATON	9SX3000	3000VA	N/A	UPS
POWER MONITOR	ALLEN BRADLEY	1408-TS3A-ENT	N/A	C/W ETHERNET COMMUNICATION	N/A
FLOW METER	ENDRESS & HAUER	PROLINE PROMAG W 400	N/A	5XDN INLET SUITABLE FOR CLASS 1 DIV 2. SENSOR SHALL BE IP68 RATED. TRANSMITTER SHALL BE LOCATED IN THE CONTROL BUILDING. ELECTRICAL CONTRACTOR SHALL PROVIDE SUFFICIENT SIGNAL CABLES ALL THE WAY UP TO THE CONTROL BUILDING WITHOUT SPLICING.	FM
PRESSURE TRANSMITTER	ENDRESS & HAUER	PMP51B	N/A	PROVIDE 120/24V STEP DOWN TRANSFORMER. COORDINATE WITH SUPPLIER FOR ADDITIONAL INFORMATION. SUITABLE FOR CLASS 1, DIV. 2	PE-1
HYDROSTATIC LEVEL TRANSMITTER	DWYER	PBLTX-15-60-PU	10-28 VDC	LE SHALL BE CONNECTED TO LIT THAT SHALL CARRY 24VDC AND 4-20mA SIGNAL. LIT PROVIDED SHALL HAVE LOCAL DISPLAY THAT SHALL C/W 4-20mA OUTPUT SIGNAL TO THE PLC. LIT SHALL BE LOCATED IN THE CONTROL BUILDING. COORDINATE WITH SUPPLIER FOR MORE POWER REQUIREMENTS. SUITABLE FOR CLASS 1, DIV 1.	LE-1

PLC HARDWARE SCHEDULE			
EQUIPMENT	MANUFACTURER	CATALOG NUMBER	DISTRIBUTOR
COMPACT LOGIX 5370 L3 CONTROLLER	ALLEN BRADLEY	1769-L33ER	WESTBURNE
POWER SUPPLY	ALLEN BRADLEY	1769-PA4	WESTBURNE
16 PE 24VDC INPUT MODULE	ALLEN BRADLEY	1769-IQ16	WESTBURNE
16 PE RELAY OUTPUT MODULE	ALLEN BRADLEY	1769-OW16	WESTBURNE
8CH ANALOG INPUT MODULE	ALLEN BRADLEY	1769-IF8	WESTBURNE
4CH ANALOG OUTPUT MODULE	ALLEN BRADLEY	1769-OF4	WESTBURNE
RACK RIGHT END CAP	ALLEN BRADLEY	1769-ECR	WESTBURNE

HMI HARDWARE SCHEDULE			
EQUIPMENT	MANUFACTURER	CATALOG NUMBER	DISTRIBUTOR
10" TOUCH SCREEN	ALLEN BRADLEY	2711R-T10T	WESTBURNE

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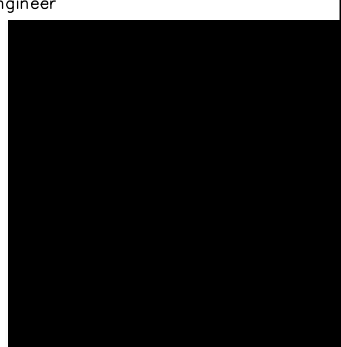
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Engineer



Project

HOME FARM
CHANNEL CONSTRUCTION
TOWN OF THE BLUE MOUNTAINS

Drawing

SCHEDULES



Drawn By	J.R.B.	Design By	J.R.B./J.S.	Project	721-3464
Check By	R.T.	Check By	J.G.L.	Drawing	E401

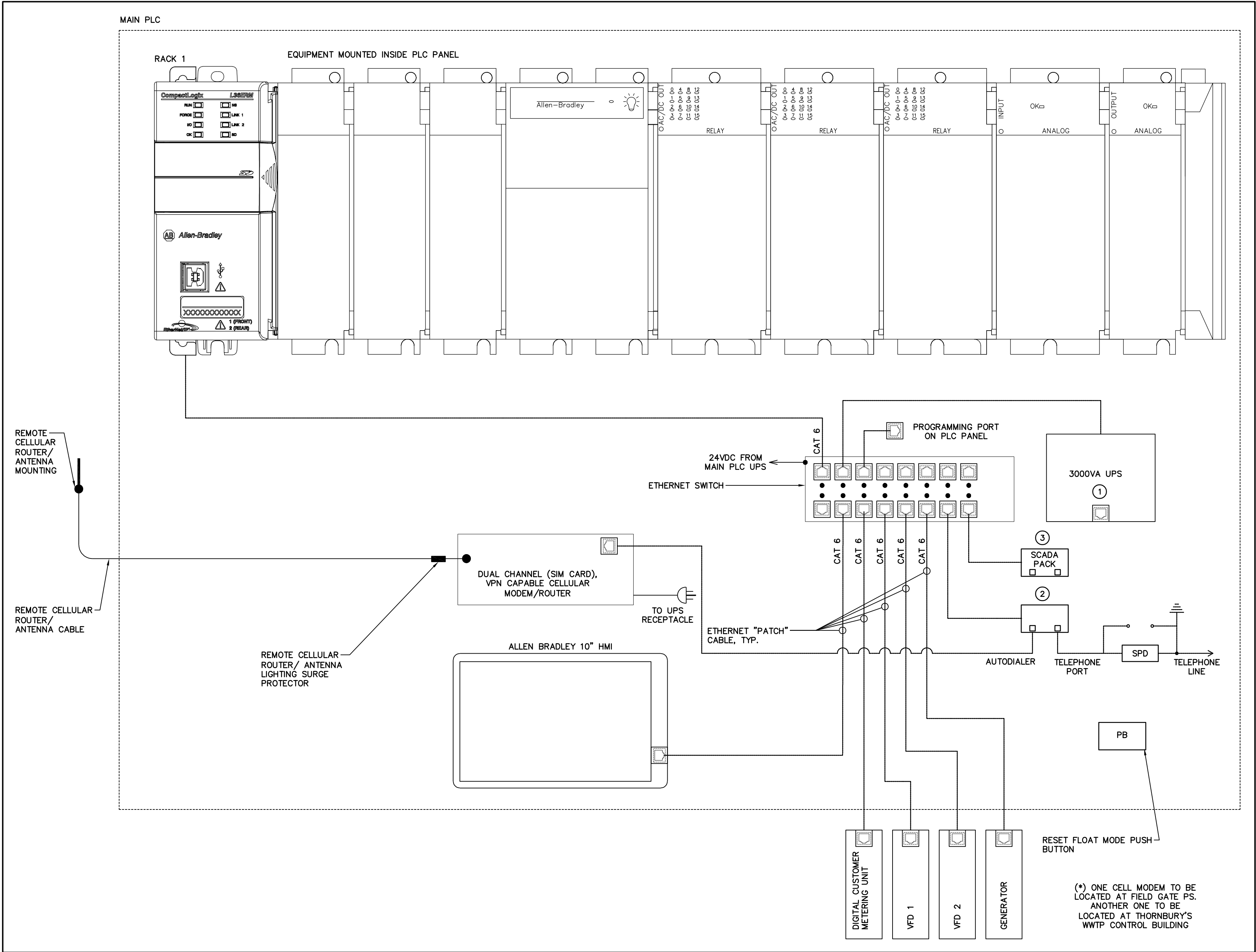


1. PLEASE REFER TO PROCESS CONTROL NARRATIVE FOR ALARM CONDITIONS AND ACTIONS



1. ELECTRICAL CONTRACTOR TO PERFORM PROTECTION COORDINATION AND SHORT CIRCUIT STUDY.
2. ELECTRICAL CIRCUIT BREAKER'S TRIP SETTING SHALL BE BASED ON THE STUDY'S RESULT.
3. FM DENOTES WET WELL FLOW METER, LIT DENOTES WET WELL LEVEL TRANSMITTER & PE DENOTES WET WELL PRESSURE TRANSMITTER.
4. ELECTRICAL CONTRACTOR TO PROVIDE HARDWIRED INTERLOCKS AS INDICATED IN PROCESS CONTROL NARRATIVE.

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PUMP STATION OPERATING ELEVATIONS (m)	
DESCRIPTION	INTERIM ELEVATION
HIGH LEVEL ALARM AND START STANDBY PUMP (FLOAT INTERLOCK)	210.20
START DUTY PUMP ELEVATION (FLOAT INTERLOCK)	209.90
START STANDBY PUMP (PLC)	209.80
START DUTY PUMP (PLC)	209.60
STOP ALL PUMP (PLC)	209.20
STOP ALL PUMPS (FLOAT INTERLOCK)	208.90
WET WELL FLOOR ELEVATION	208.40

1 PLC-1 COMMUNICATION ARCHITECTURE CONFIGURATION
E403 SCALE: N.T.S.

GENERAL NOTES:

- ABOVE PLC-1 COMMUNICATION ARCHITECTURE INDICATES EQUIPMENT MOUNTED INSIDE THE PLC PANEL.
- ETHERNET SWITCH MUST BE PROVIDED INSIDE THE PLC PANEL.
- ELECTRICAL CONTRACTOR TO PROVIDE SHOP DRAWINGS C/W EQUIPMENT LAYOUTS, SPECIFICATIONS & WIRING SCHEMATICS FOR APPROVAL PRIOR TO ORDER OR CONSTRUCTION.
- COORDINATE ALL REQUIREMENTS TO THE TOWN OF BLUE MOUNTAIN AND THEIR AUTHORIZED CONTRACTOR FOR ALL PUMP, PLC AND OPERATION REQUIREMENTS.
- REFER TO EATON VFD DRAWINGS FOR LATEST SCHEMATICS.
- PLC SHALL BE ALLEN BRADLEY COMPACT LOGIX 5370 1769-L33ER.
- CELL MODEM BY CRADLEPOINT COR IBR900 SERIES MODEL NO. MAI-0900600--NNA
- DIALER SHALL BE RACO. IT SHALL INCLUDE PROVISION FOR SERIAL PRINTER PORT CONNECTION RJ45.
- PUMP MOTOR SPEED CONTROL ENABLED AT PLC CUBICLE VIA TOUCH SCREEN, AND VFD KEYPAD WHEN IN VFD MODE.

DRAWING NOTES:

- UPS TO BE RATED TO PROVIDE MINIMUM 60 MINUTES RUN TIME COORDINATE WITH TOWN OF BLUE MOUNTAIN IF ADDITIONAL AMOUNT OF TIME IS REQUIRED.
- ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL BACK UP AUTODIALER FOR STATION ALARMING, SEE PCN FOR EXACT CONFIGURATION AND REQUIREMENTS.
- AUTHORIZED TOWN'S REPRESENTATIVE SHALL CONNECT TO THIS SEWAGE PUMPING STATION WITH THE TOWN'S MAIN WWTP.

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Engineer

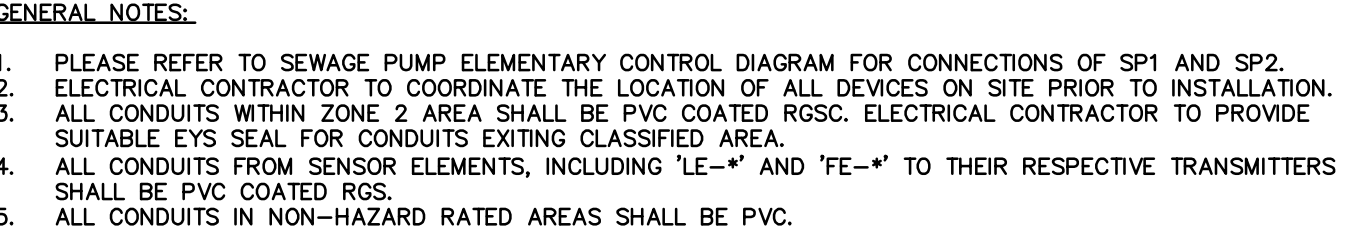
Project

HOME FARM
CHANNEL CONSTRUCTION
TOWN OF THE BLUE MOUNTAINS

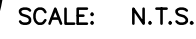
ELECTRICAL SCHEMATICS & BLOCK DIAGRAMS
(SHEET 2 OF 3)

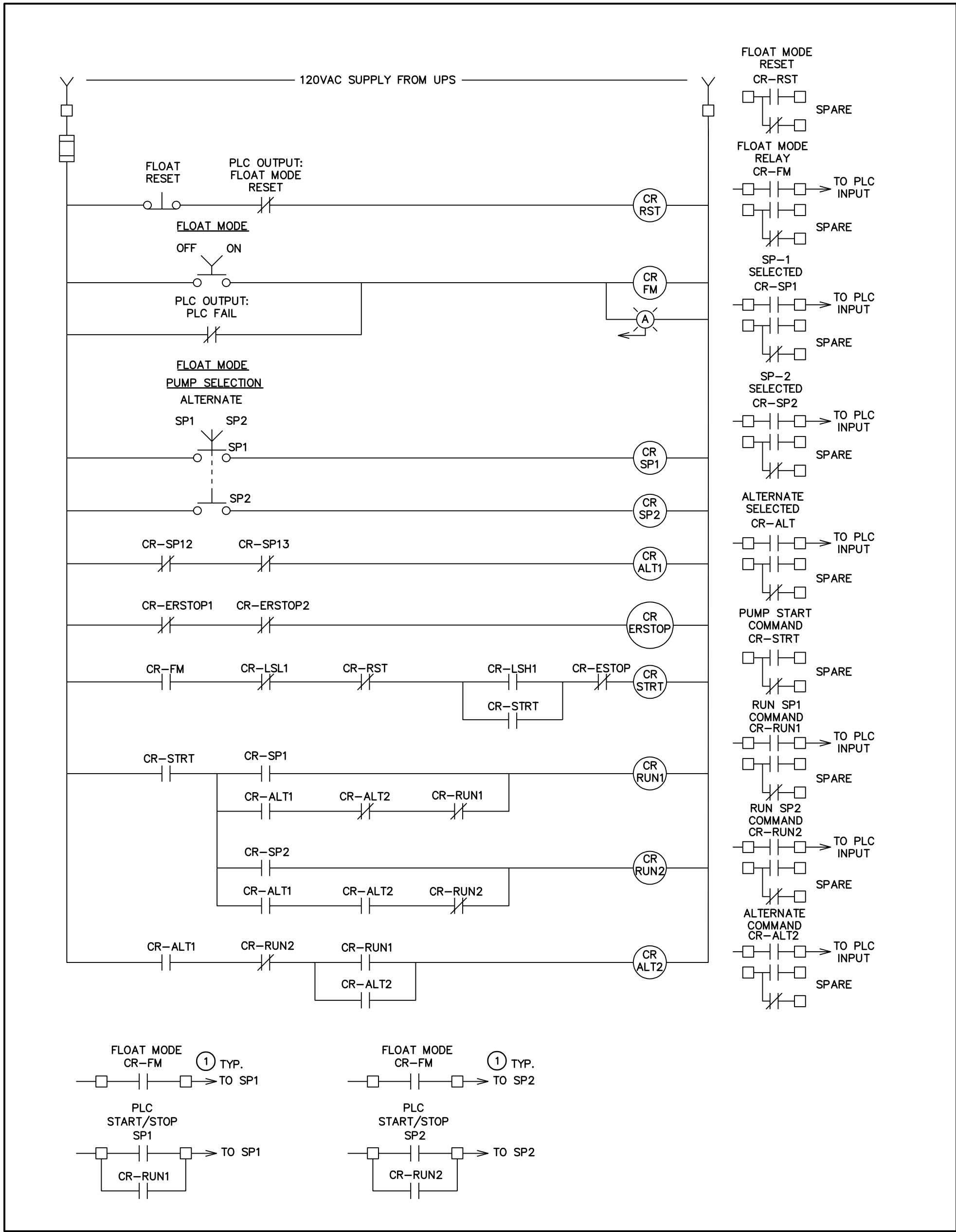


Drawn By	J.R.B.	Design By	J.R.B./I.S.	Project	721-3464
Check By	R.T.	Check By	J.G.L.	Drawing	E403



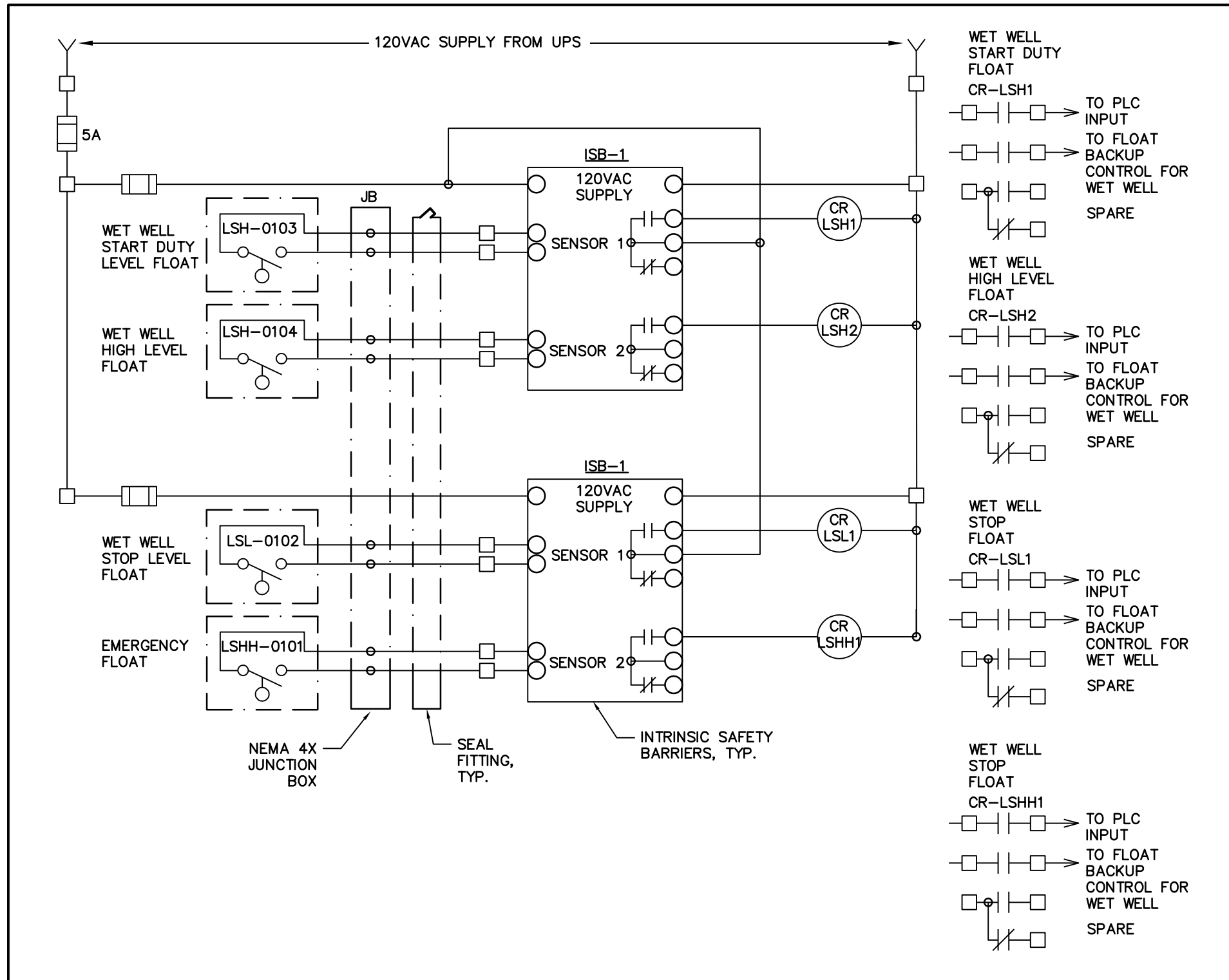
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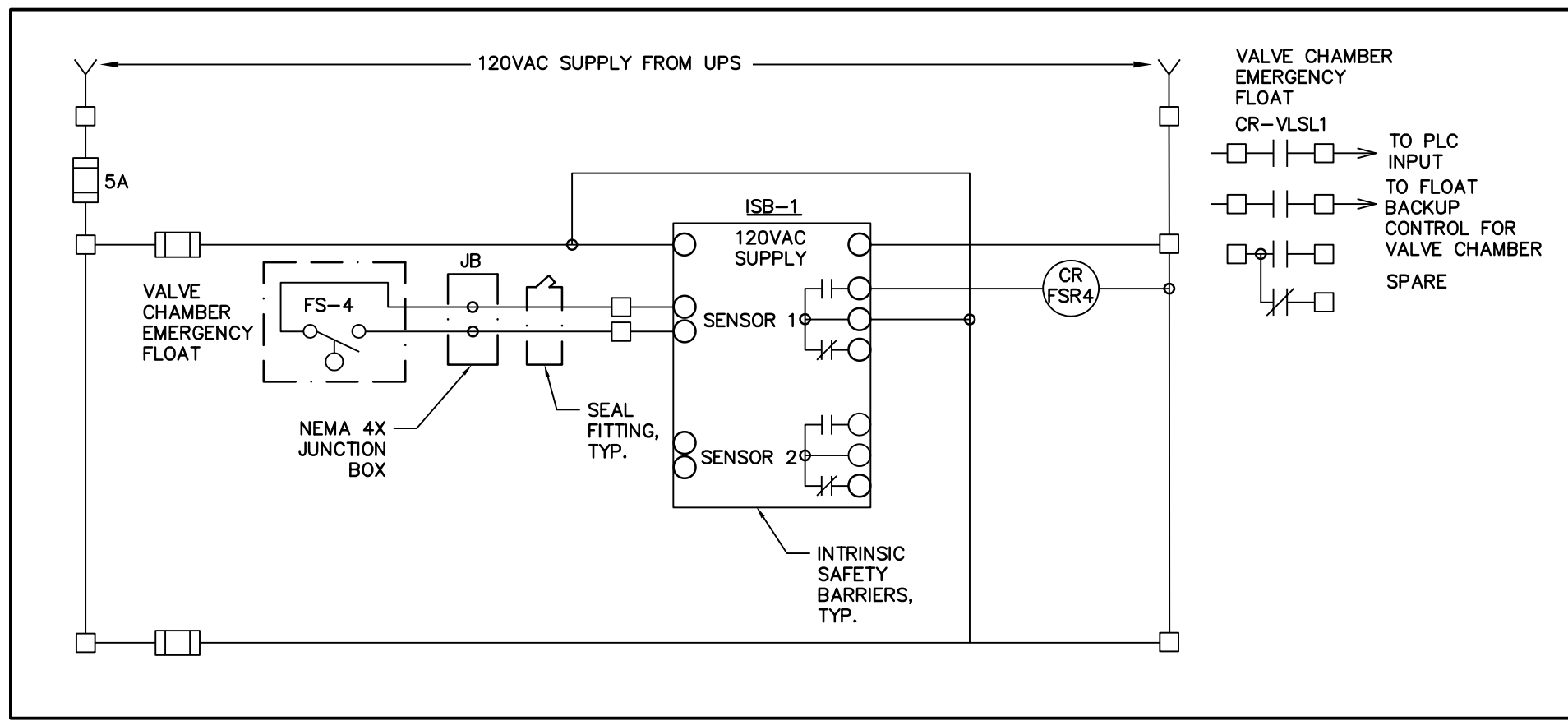


1 SEWAGE PUMP BACKUP FLOAT SWITCH CONTROL DIAGRAM
E405 SCALE: N.T.S.

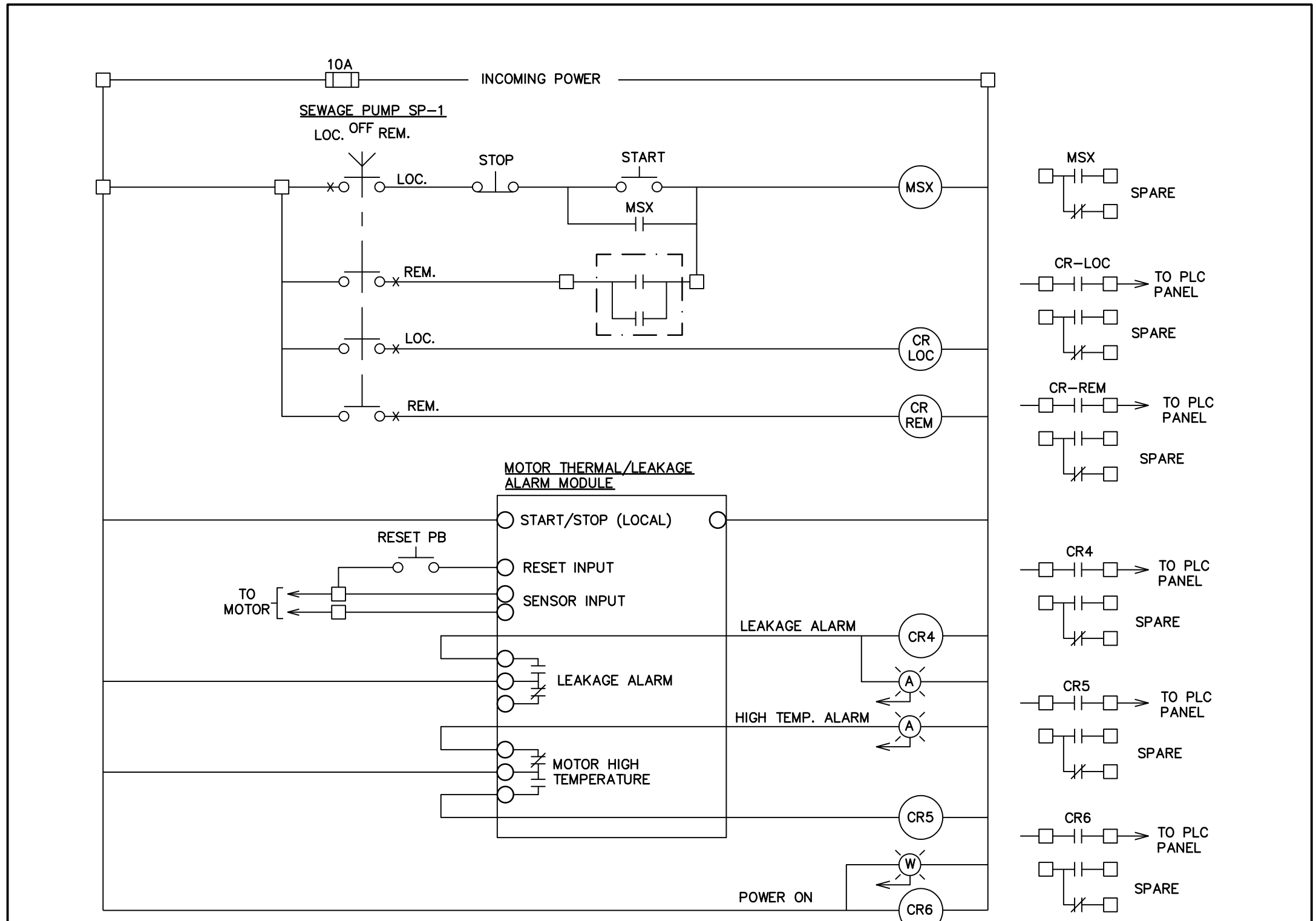
DRAWING NOTE:
1 PLEASE REFER TO SEWAGE PUMP ELEMENTARY CONTROL DIAGRAM FOR CONNECTIONS OF SP1 AND SP2.



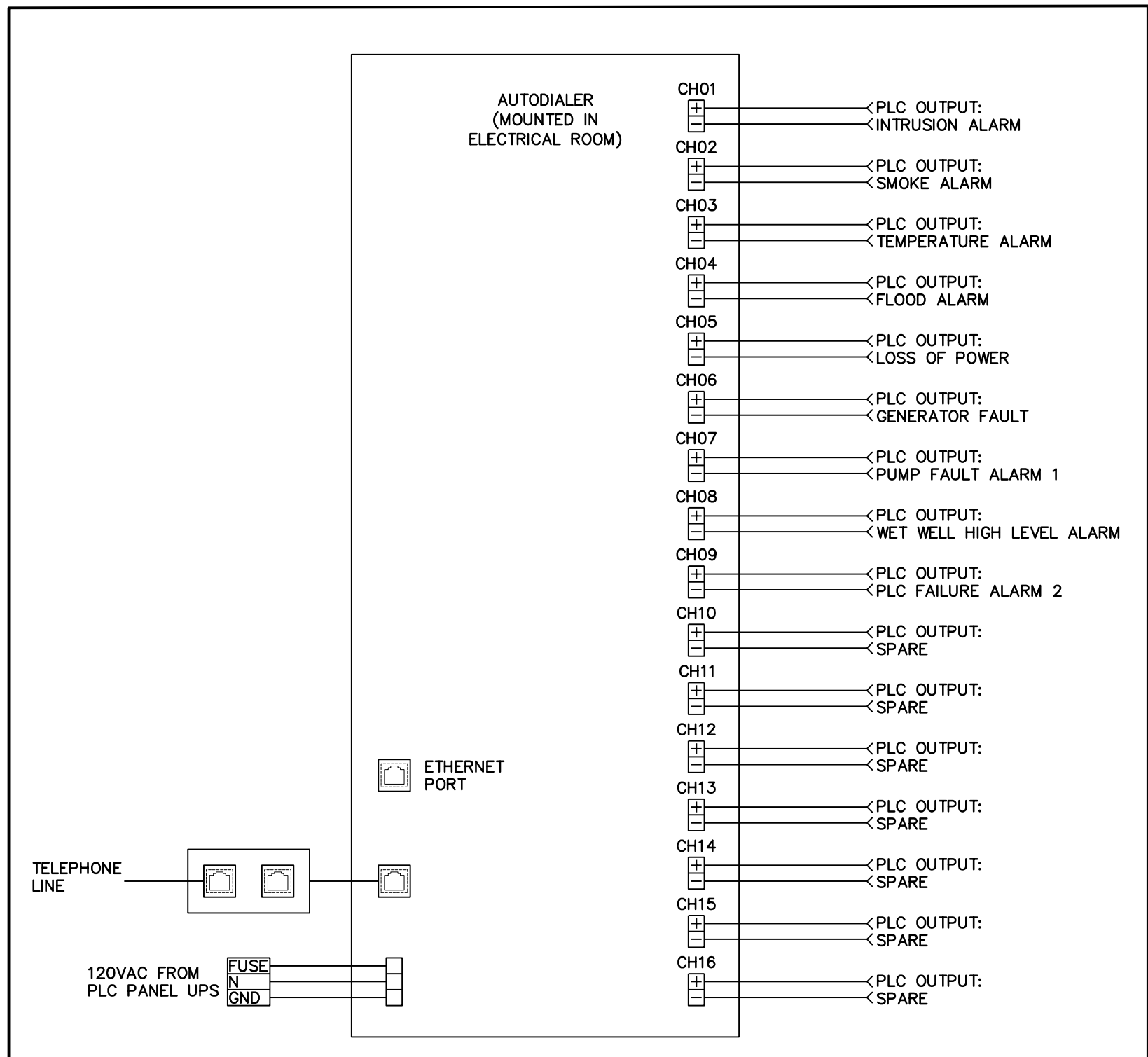
2 WET WELL FLOAT SWITCH CONTROL DIAGRAM
E405 SCALE: N.T.S.



3 VALVE CHAMBER FLOAT SWITCH CONTROL DIAGRAM
E405 SCALE: N.T.S.



4 SEWAGE PUMP ELEMENTARY CONTROL DIAGRAM
E405 SCALE: N.T.S.



5 AUTODIALER DIAGRAM
E405 SCALE: N.T.S.

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Town

[Redacted]

No.	ISSUE	DATE: YYYY/MM/DD
1	ISSUED FOR 90% DETAILED DESIGN	2023/03/21
2	ISSUED FOR CLIENT REVIEW - IFT	2023/12/15
3	ISSUED FOR 90% DETAILED DESIGN REV 1	2024/01/03
4	ISSUED FOR TENDER	2024/01/22
5	ISSUED FOR ADDENDUM #1	2024/02/09
6	ISSUED FOR APPROVAL	2024/03/08
7	ISSUED FOR APPROVAL REV 1	2024/05/24

Engineer

[Redacted]

Project

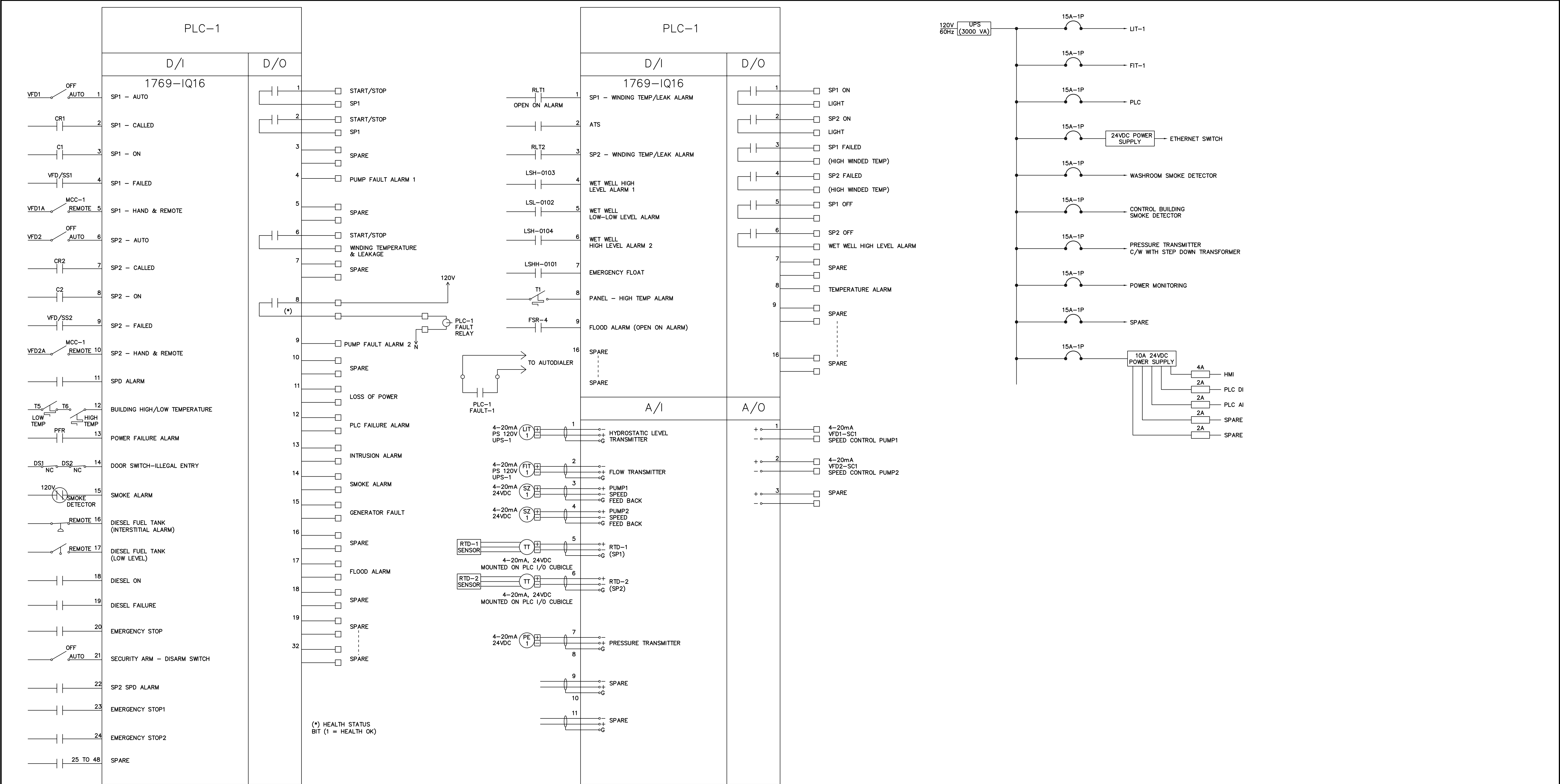
HOME FARM
CHANNEL CONSTRUCTION
TOWN OF THE BLUE MOUNTAINS

Drawing

SEWAGE PUMPING STATION CONTROL DIAGRAMS

CROZIER
CONSULTING ENGINEERS

Drawn By J.R.B. Design By J.R.B./J.S. Project 721-3464
Check By R.T. Check By J.G.L. Drawing E405



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Engineer



Project

HOME FARM
CHANNEL CONSTRUCTION
TOWN OF THE BLUE MOUNTAINS

Drawing

PLC-1 I/O SCHEMATICS



Drawn By	J.R.B.	Design By	J.R.B./I.S.	Project	721-3464
Check By	R.T.	Check By	J.G.L.	Drawing	E406