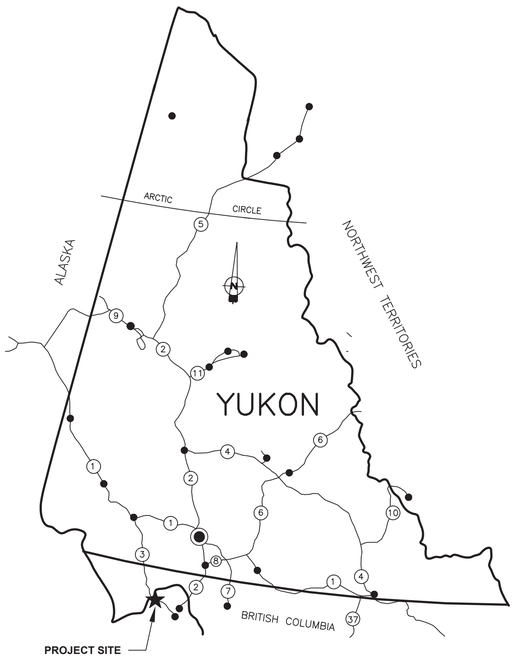
PLEASANT CAMP, BRITISH COLUMBIA, PORT OF ENTRY
TENDER A - SITE SERVICES & SITE SERVICES BUILDING



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ISSUED FOR TENDER, REVISION 0
FEBRUARY 2, 2015
PWGSC Project Number: R.071363.001
Stantec Project Number: 144901928

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

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REGISTERED ARCHITECT JOHN BERG Feb 2, 2015 # 144901928 BRITISH COLUMBIA

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

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par

Drawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services / Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

COVER SHEET

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	G001 OF	0

PWGSC – A1 – 841X594

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BUILDING CODE SUMMARY ANALYSIS

BUILDING CLASSIFICATION
SERVICES BUILDING, PLEASANT CAMP

Major Occupancy	Part 9 - Group F, Division 3 (Low-Hazard Industrial) Table 9.10.2.1
Building Height	One Storey
Sprinklered	No
Building Area	110.2 sm
Streets Facing	1
Construction	Combustible

FLOOR AREAS
SERVICES BUILDING, PLEASANT CAMP

Room	Area (sm)
Water Treatment	42.4
Electrical	26.5
Generator	25.8
Mechanical	15.5
Total Gross Area	110.2

OCCUPANCY LOAD CALCULATION (3.1.17)

Pleasant Camp, Site Services Building

Floor/Type Use	Floor Area (sm)	Area /person (sm)	Occupant Load (persons)
Service rooms	110.2	46	3
Grand Total Occupant Load:			3

(NBCC – Table 3.1.17.1)
* Note: This is considered an unoccupied Services building.

3.4.2.1 HEALTH REQUIREMENTS

• Water Closets: No water closets are required as this is strictly a services building and considered unoccupied. Washrooms are available elsewhere on the site

3.4.2.2 FIRE SEPARATIONS
• This building has multiple services so FRR separations between rooms apply (Section 3.3).
• Emergency Power requires a two-hour FRR separation from other occupancies. (Sentence 3.2.7.9) This has been provided for the Generator room.
• A one-hour FRR separation is required at service rooms with fuel-fired appliances. (Sentence 9.10.10.4) This has been provided in the Mechanical Room.
• A one-hour FRR separation is required at electrical service room. (Sentence 3.6.2.1) This has been provided in the Electrical Room.
• FRR Separation wall to be a continuous, smoke-tight barrier that abuts a ceiling or roof. (Sentence 9.10.9.2)
• Penetrations of Fire Separations to be sealed and tightly fitted to maintain the integrity of the separation. (Section 9.10.9.6)

3.4.2.3 FLAME SPREAD LIMITS
• All interior walls and ceilings to have a surface flame-spread rating of not more than 150. (Sentence 9.10.17.1) Doors to have a flame-spread rating of not more than 200.

3.4.2.4 SOUND CONTROL
• Sound control not required for this occupancy. (Section 9.11)

3.4.2.5 EXITS FROM FLOOR AREAS
• Number of Exits: Individual doors provided at each room, which exit to the exterior
• Exit Signs: Exit signs are not required. [Sentence 9.9.11.3 (1)]

3.4.2.6 BARRIER-FREE DESIGN
• Barrier-Free design not required because this is a non-occupied services building.

3.4.2.7 ROOF SPACES, VENTING
• Roof venting required, unless shown to be unnecessary. (Section 9.19)

3.4.2.8 CANOPY STRUCTURE
• Canopy over fuel tank to be noncombustible construction (steel structure and columns) c/w exposed structure. Steel structure to be separate from adjacent combustible construction Services building.

3.4.2.9 ENERGY EFFICIENCY
• Compliance to 9.36. does NOT apply to this building because the combined floor area is less than 300m2 (NBCC 9.36.1.3 (2b)

CONTRUCTION ASSEMBLIES

INTERIOR WALL ASSEMBLIES

1. ALL FIRE AND SOUND RATED PARTITIONS ARE TO EXTEND TO THE UNDERSIDE OF STRUCTURE. INSTALL FIRE STOPPING AT PARTITION TOPS.
2. ALL STEEL STUD PARTITIONS TO HAVE MID-HEIGHT CONTINUOUS BRIDGING CHANNEL C/W BRIDGING ANGLE CLIP
3. LOCATE CONTROL JOINTS AT 9.144M O.C. ON 1524 MODULE OR ABOVE DOOR FRAME CORNER WHEREVER POSSIBLE
4. IN SOUND CONTROL ASSEMBLIES, ACOUSTICALLY SEAL PERIPHERY OF WALL AND ALL PENETRATIONS AIRTIGHT
5. IN FIRE RATED ASSEMBLIES, PROVIDE APPROVED FIRE STOPS AT ALL PENETRATIONS.

GW1 - GENERATOR ROOM - WATER TREATMENT ROOM
SOUND CONTROL - STC 58
2.0HR FRR - NBC ASSEMBLY W6b - TABLE 9.10.3.1

1 LAYER 16mm ABUSE RESISTANT TYPE X GWB - PRIMED AND PAINTED
1 LAYER 16mm TYPE X GWB
38x140 WOOD STUDS @ 400 O.C.
89mm THICK ABSORPTIVE MATERIAL
RESILIENT METAL CHANNELS @ 600 O.C.
1 LAYER 16mm TYPE X GWB
1 LAYER 16mm ABUSE RESISTANT TYPE X GWB - PRIMED AND PAINTED

GW2 - GENERATOR ROOM - ELECTRICAL ROOM
SOUND CONTROL - STC 58
2.0HR FRR - NBC ASSEMBLY W6b - TABLE 9.10.3.1

1 LAYER 16mm ABUSE RESISTANT TYPE X GWB - PRIMED AND PAINTED
1 LAYER 16mm TYPE X GWB
RESILIENT METAL CHANNELS @ 600 O.C.
38x140 WOOD STUDS @ 400 O.C.
89mm THICK ABSORPTIVE MATERIAL
1 LAYER 16mm TYPE X GWB
1 LAYER 16mm TYPE X GWB
19mm PLYWOOD - PRIMED AND PAINTED

GW3 - MECHANICAL ROOM - ELECTRICAL ROOM
1.0 FRR - NBC ASSEMBLY W1d - TABLE 9.10.3.1

1 LAYER 16mm ABUSE RESISTANT TYPE X GWB - PRIMED AND PAINTED
38x140 STUDS @ 400 O.C.
1 LAYER 16mm ABUSE RESISTANT TYPE X GWB
1 LAYER 19mm PLYWOOD - PRIMED AND PAINTED (ELECTRICAL ROOM SIDE)

GW4 - WATER TREATMENT ROOM - CHLORINE ROOM
NO FRR

PEEL AND STICK AIR VAPOUR BARRIER (WATER ROOM SIDE)
1 LAYER 12.7mm PLYWOOD
38x89 STUDS @ 400 O.C.
1 LAYER 12.7mm G1S PLYWOOD - PRIMED AND PAINTED

GW5 - NOT USED

GW6 - MECHANICAL ROOM - WATER TREATMENT ROOM - ELECTRICAL ROOM
1.0 FRR - NBC ASSEMBLY W1d - TABLE 9.10.3.1

1 LAYER 16mm ABUSE RESISTANT TYPE X GWB - PRIMED AND PAINTED
38x140 STUDS @ 400 O.C.
1 LAYER 16mm ABUSE RESISTANT TYPE X GWB
PEEL AND STICK AIR VAPOUR BARRIER (WATER TREATMENT ROOM SIDE)

GW7 - MECHANICAL ROOM - FURRING WALL

1 LAYER 16mm ABUSE RESISTANT TYPE X GWB - PRIMED AND PAINTED
38x140 STUDS @ 400 O.C.

EXTERIOR WALL ASSEMBLY

EW1

HORIZONTAL CEMENTITIOUS PLANK SIDING (EXISTING MAINTENANCE BUILDING FINISH TO MATCH)
19x89 STRAPPING
WEATHER BARRIER
206mm S.I.P. c/w S.I.P. TAPE TO SEAL JOINTS
19x89 STRAPPING
INTERIOR MATERIAL AND FINISH TO MATCH ADJACENT INTERIOR WALL ASSEMBLIES IN EACH ROOM

* NOTE: 19x89 STRAPPING TO BE REPLACED WITH RESILIENT CHANNEL ON INTERIOR OF GENERATOR ROOM
* NOTE: PEEL AND STICK MEMBRANE TO BE APPLIED FROM 150mm ABOVE BASE OF S.I.P. OVER TOP OF FOOTING. REFER TO SECTIONS AND DETAILS.

EW2

HORIZONTAL CEMENTITIOUS PLANK SIDING (TO MATCH NEW SITE SERVICE BUILDING)
WEATHER BARRIER
13mm PWF PLYWOOD
38x89 PWF STUDS @ 400 O.C.
13mm PWF PLYWOOD

ROOF ASSEMBLY

R1

GALVALUME METAL ROOFING
ICE AND WATER SHIELD
19mm PLYWOOD SHEATHING
PRE-MANUFACTURED WOOD ROOF TRUSSES (SLOPE TO MATCH EXISTING)
206mm S.I.P. TO U/S OF TRUSSES - REFER TO STRUCTURAL FOR FASTENING REQUIREMENTS
PRIME AND PAINT AREAS OF EXPOSED S.I.P

R2

GALVALUME METAL ROOFING
GALVANIZED METAL DECKING
STRUCTURAL STEEL FRAMING

FLOOR ASSEMBLY

F1

150mm CONCRETE SLAB ON GRADE - FINISH PER SPECIFICATIONS
6 mil POLY VAPOUR BARRIER
100mm HI DENSITY RIGID INSULATION
COMPACTED GRANULAR FILL
- REFER TO STRUCTURAL

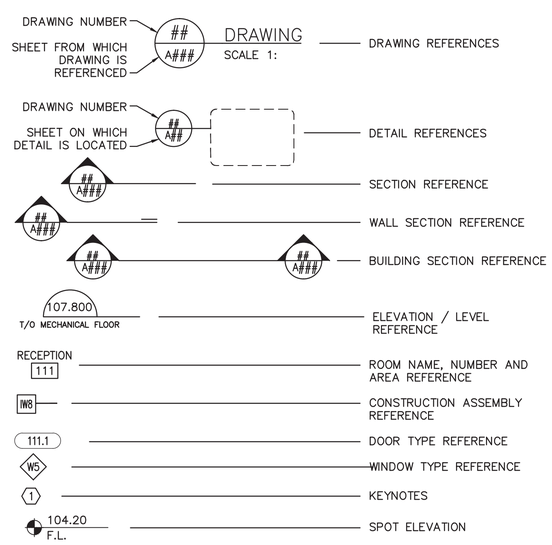
F2

150mm CONCRETE SLAB ON GRADE - FINISH PER SPECIFICATIONS
COMPACTED GRANULAR FILL
- REFER TO STRUCTURAL

GENERAL NOTES:

1. ARCHITECTURAL DRAWINGS TO BE READ IN CONJUNCTION WITH STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
2. ALL CONSTRUCTION MUST MEET OR EXCEED THE REQUIREMENTS OF THE NATIONAL BUILDING CODE 2010.
3. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH GOOD BUILDING PRACTICES. CONTRACTOR TO CAREFULLY INSPECT THE SITE OF WORK AND BE FULLY INFORMED OF CONDITIONS AND LIMITATIONS.
4. CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE AND IMMEDIATELY REPORT ANY DISCREPANCIES TO THE DESIGN TEAM PRIOR TO PROCEEDING.
5. CONFIRM ALL ELEVATIONS (INCLUDING SLABS, LANDSCAPING, ETC.) ON SITE. REPORT ANY VARIANCES TO CONSULTANT.
6. PROVIDE MINIMUM 2% SLOPE AWAY FROM THE BUILDING FOR ALL EXTERIOR GRADING U.N.O. OR DICTATED BY EXIST. SITE CONDITIONS. CONFIRM WITH CONSULTANT.
7. WALLS NOT LOCATED BY DIMENSIONS ARE ASSUMED TO BE CENTERED ON GRID LINES. ALL DIMENSIONS ARE FROM CENTRELINE OF STUD U.N.O.
8. DOOR AND WINDOW SIZES ARE NOMINAL. CONTRACTOR TO CONSULT SUPPLIER FOR EXACT SIZES AND ROUGH OPENINGS.
9. INSTALL ALL DOORS AND FRAMES WITH A CLEAR DIMENSION OF 100MM IN STUD WALLS BETWEEN THE FRAME AND THE NEAREST ADJACENT WALL UNLESS NOTED OTHERWISE.
10. USE TYPE 'X' GWB ON ALL FIRE-RATED GWB PARTITIONS. REFER TO CODE INFORMATION.
11. WHERE MECHANICAL DUCTS AND ELECTRICAL CONDUIT PENETRATE FIRE SEPARATIONS OR WALLS WHICH ARE CONSTRUCTED TO U/S OF STRUCTURE, PROVIDE FIRESTOPPING AND SMOKE SEALS AT PENETRATIONS TO MAINTAIN FRR NOTED ON PARTITION TYPES SCHEDULE.
12. PROVIDE ALL FRAMING / BLOCKING AS REQUIRED TO ENSURE PROPER SECUREMENT OF ALL MATERIALS, EQUIPMENT, ACCESSORIES, ETC. PROVIDE BACKING FOR ITEMS NOTED AS - IN CONTRACT (I.C.), NOT IN CONTRACT (N.I.C.), AND OWNER SUPPLIED CONTRACTOR INSTALLED (O.S.). PROVIDE BLOCKING IN STUD PARTITIONS BEHIND ALL WALL-MOUNTED ITEMS. ALSO REFER TO M AND E SERIES DRAWINGS.
13. PROVIDE FLASHING OVER ALL EXTERIOR DOORS AND WINDOWS.
14. MAINTAIN INTEGRITY OF THE VAPOUR / AIR BARRIER MEMBRANE IN THE EXTERIOR WALLS & ROOF STRUCTURE. ALL MEMBRANES ARE TO BE CONTINUOUS & HAVE A MINIMUM OVERLAP OF 200MM AT ALL FLASHINGS, JOINTS, CHANGES IN DIRECTION, DOORS, ETC.
15. PROVIDE CONTINUOUS ROD AND SEALANT AT ALL JUNCTIONS OF DISSIMILAR MATERIALS, CONTROL JOINTS AND OTHER LOCATIONS WHERE INDICATED.
16. ALL MATERIALS TO BE PRIMED AND PAINTED U.N.O.
17. FOR DOOR SCHEDULE, REFER TO DRAWINGS AND SPECIFICATIONS
18. FOR FINISH SCHEDULE, REFER TO DRAWINGS AND SPECIFICATIONS
19. PAINT ALL EXPOSED STRUCTURE AND MECHANICAL DUCTS. REFER TO FINISH SCHEDULE

SYMBOLS LEGEND:



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REGISTERED ARCHITECT JOHN BEER Feb 27 2015 #14901926 BRITISH COLUMBIA

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

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par

Drawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

CODE SUMMARY & ASSEMBLIES

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	G002 OF	0

PWGSC – A1 – 841X594

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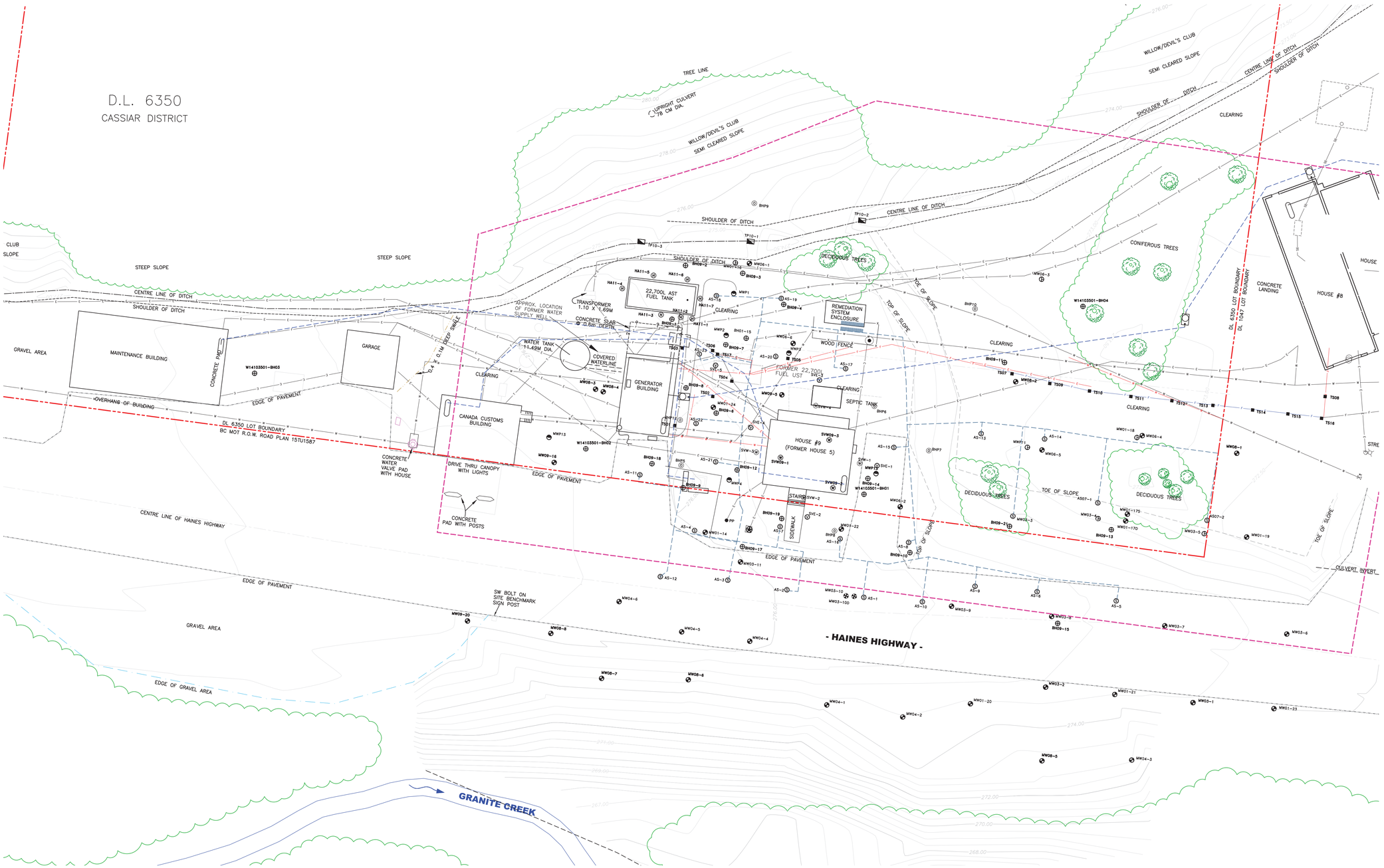

1 / G003 EXISTING SITE PLAN STRUCTURES & U/G SERVICES
1:250

PWGSC – A1 – 841X594

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THIS PLAN PREPARED FROM INFORMATION PROVIDED BY PWGSC.

TRUE NORTH CONSTRUCTION NORTH

REGISTERED ARCHITECT JOHN BEER Feb 2, 2015 #14901920 BRITISH COLUMBIA

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CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

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PWGSC Project Manager/Administrateur de Projets TPSGC

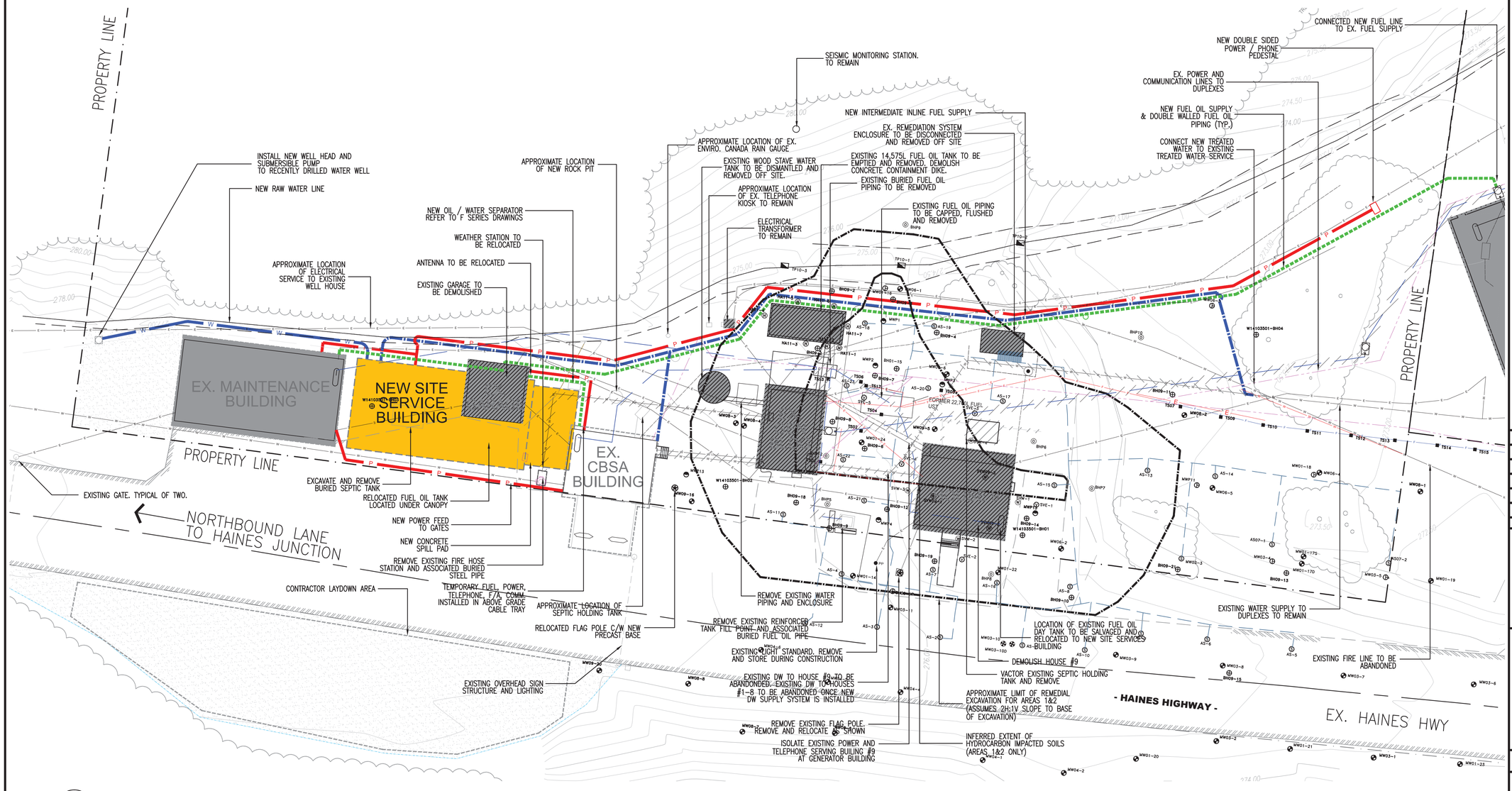
Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

EXISTING SITE BUILDINGS AND UNDERGROUND SERVICES PLAN

FOR REFERENCE ONLY

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	G003 OF	0



1 A101 SITE PLAN
1:500

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LEGEND

- TO BE DEMOLISHED AS PART OF TENDER A
- NEW SITE SERVICES BUILDING
- RAW WATER SUPPLY
- TREATED WATER SUPPLY
- COMBINED ELECTRICAL SERVICES
- FUEL SUPPLY

SEE ALSO MECHANICAL, ELECTRICAL AND FUEL SYSTEMS SITE PLAN FOR INFORMATION.

TRUE NORTH CONSTRUCTION NORTH

REGISTERED ARCHITECT JOHN BERG BRITISH COLUMBIA Feb 2, 2015 #14901980

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Client/client

CANADA BORDER SERVICES AGENCY

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SITE SERVICES & SITE SERVICES BUILDING

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PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

OVERALL SITE PLAN

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	A101 OF	0

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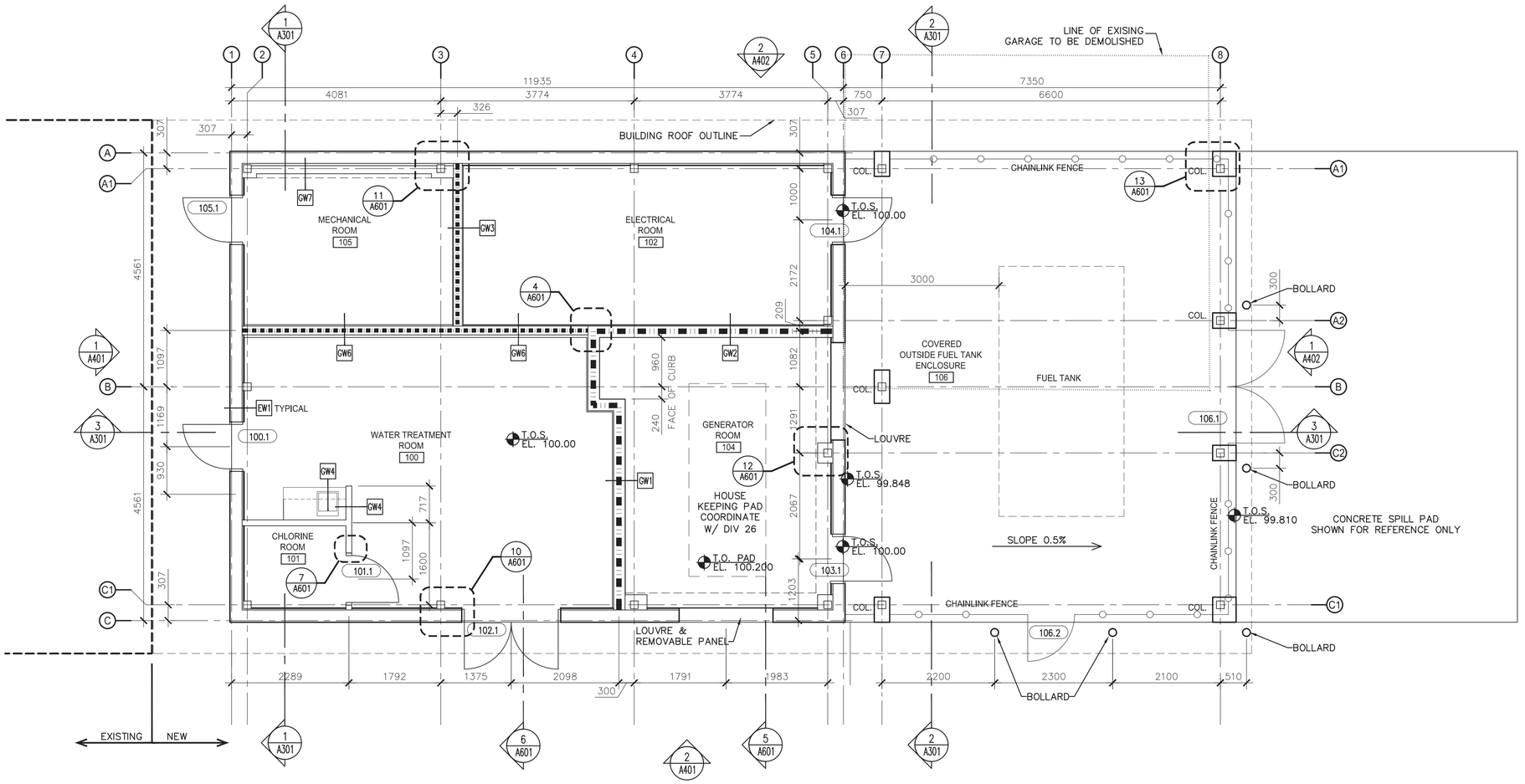

NOTE: BUILDING WIDTH AND HEIGHT TO MATCH EXISTING MAINTENANCE BUILDING. CONTRACTOR TO COORDINATE AND FIELD VERIFY DIMENSIONS.

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SCALE 1:50

1 A201 FLOOR PLAN
1:50

LEGEND

1 HR FIRE RATED ASSEMBLY
2 HR FIRE RATED ASSEMBLY

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CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

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Designed by/Concept par

Drawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

SITE SERVICES BUILDING
FLOOR PLAN

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	A201 OF	0

PWGSC – A1 – 841X594

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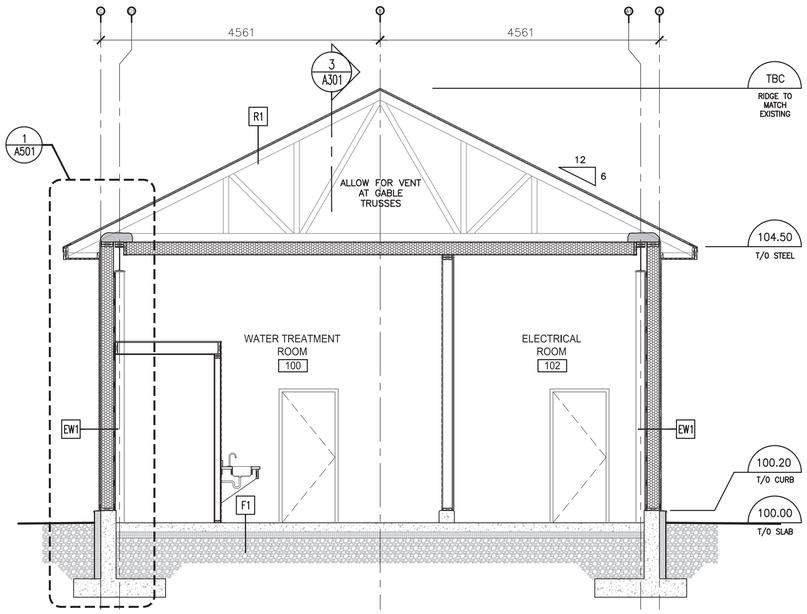

1 A301 BUILDING SECTION
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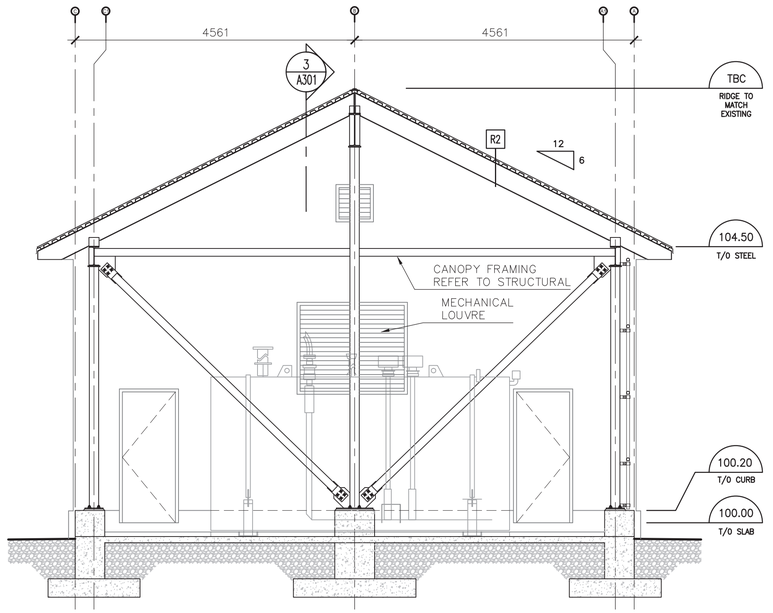

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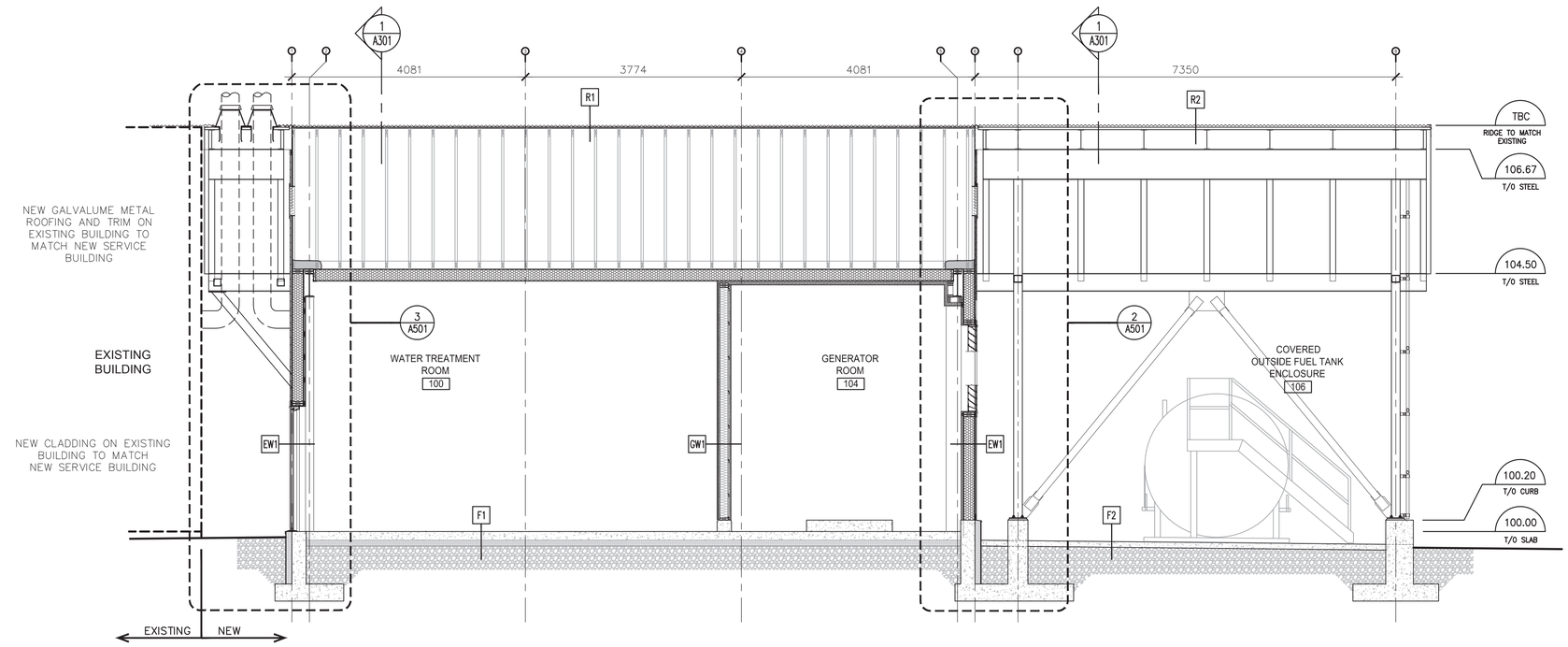

3 A301 BUILDING SECTION
1:50

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REGISTERED ARCHITECT JOHN BERG Feb 2, 2015 #14901988 BRITISH COLUMBIA

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Drawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

SITE SERVICES BUILDING
BUILDING SECTIONS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	A301 OF	0

PWGSC – A1 – 841X594

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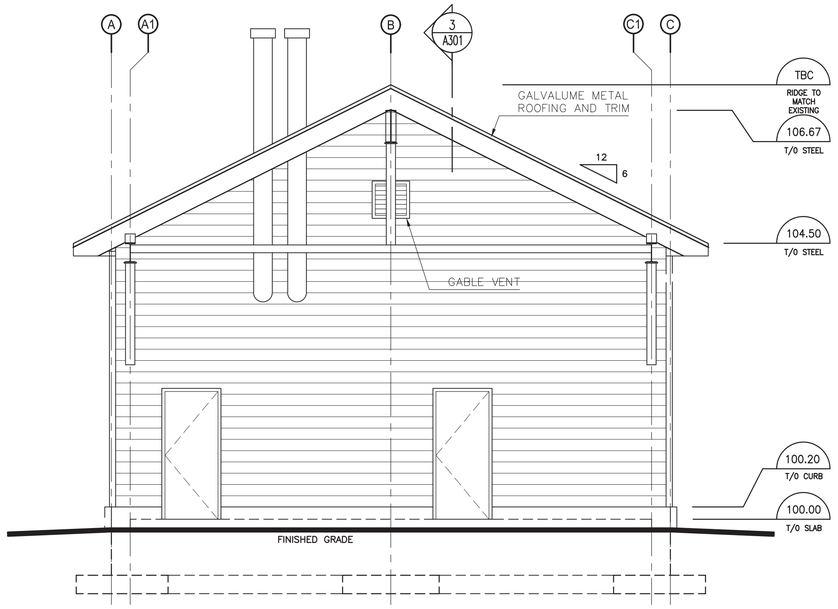
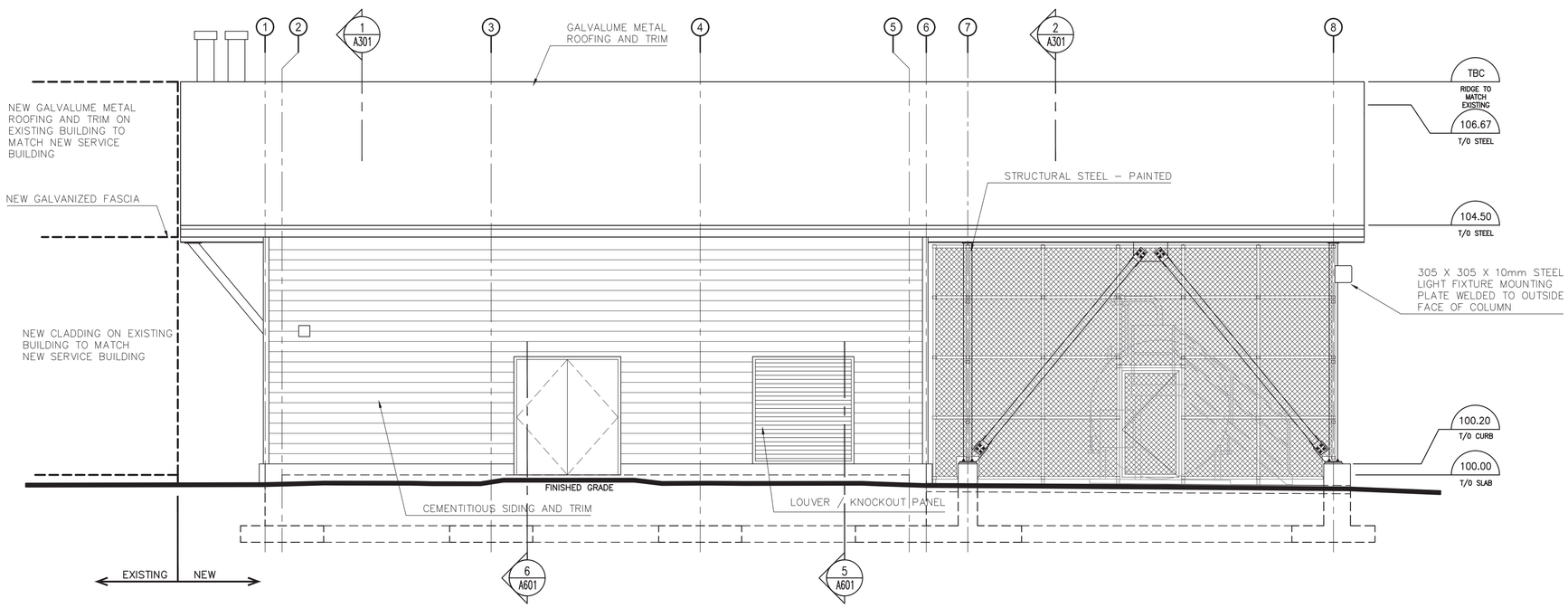


1 A401 NORTH ELEVATION
1:50



2 A401 WEST ELEVATION
1:50

0 1.0 2.0 3.0 4.0 5.0m

SCALE 1:50

PWGSC – A1 – 841X594

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BRITISH COLUMBIA

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	15/02/02

Client/client

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par

Drawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC

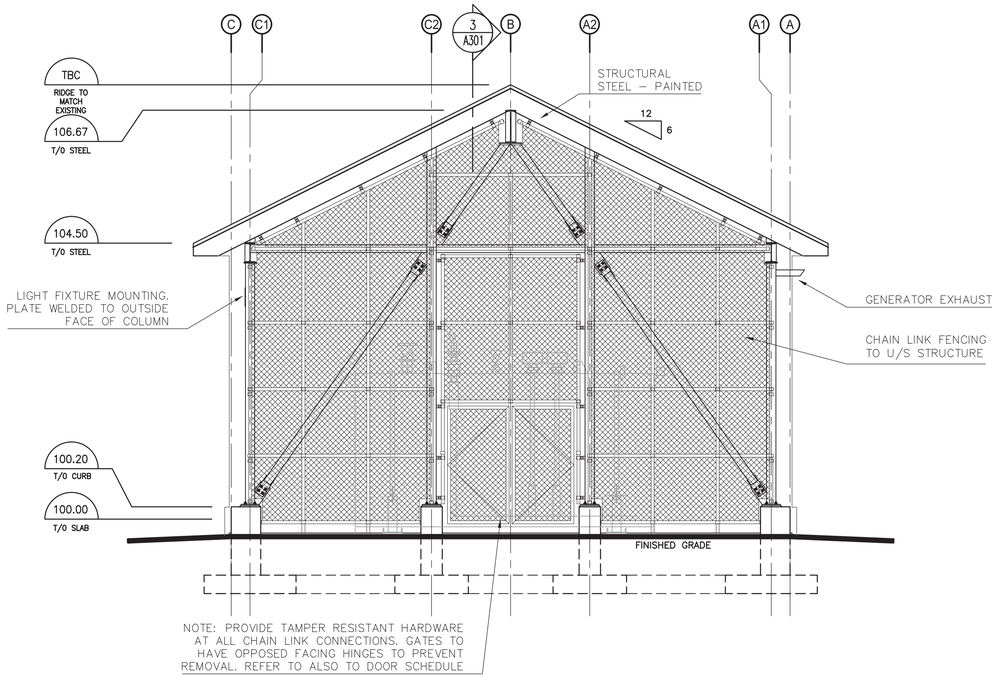
Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

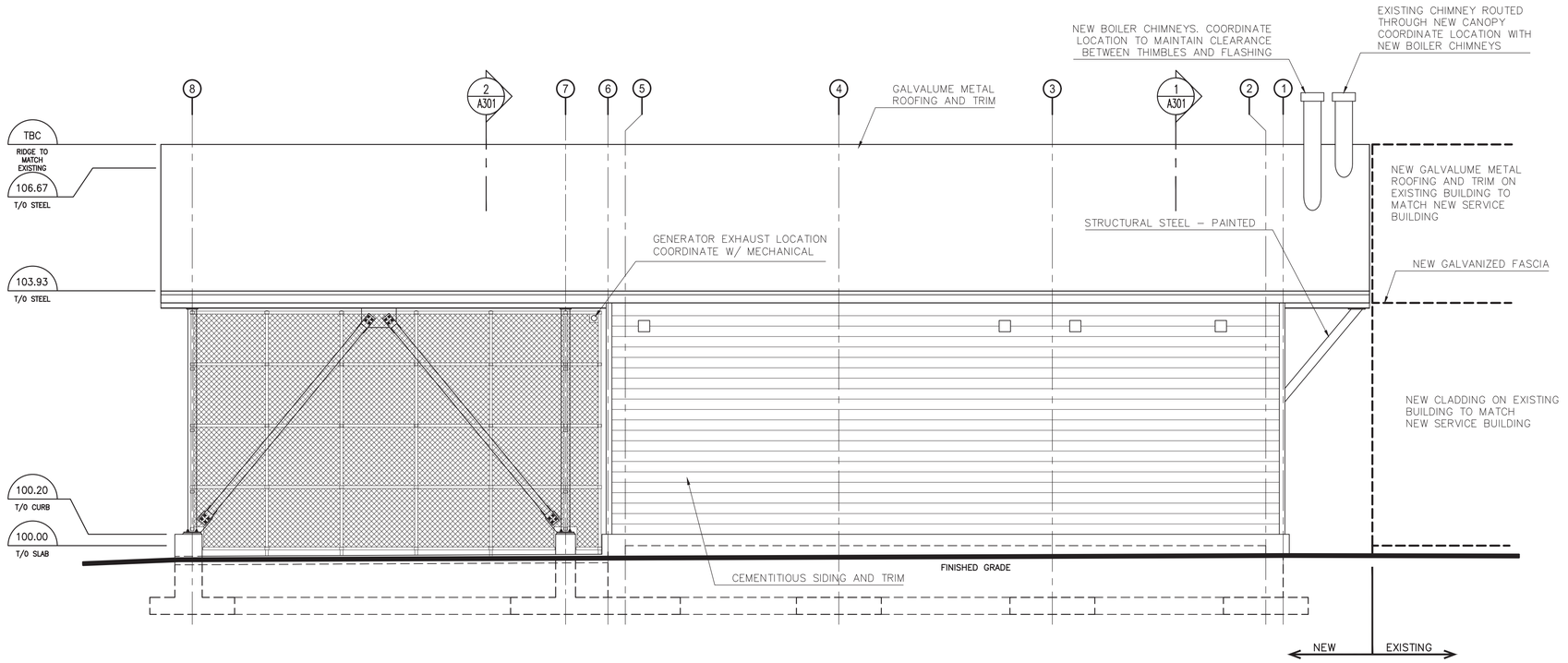
SITE SERVICES BUILDING
EXTERIOR ELEVATIONS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	A401 OF	0

DM5XXXXXX



1 / A402 SOUTH ELEVATION
1:50



2 / A402 EAST ELEVATION
1:50

0 1.0 2.0 3.0 4.0 5.0m
SCALE 1:50

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REGISTERED ARCHITECT JOHN BERRY Feb 2, 2015 #14901928 BRITISH COLUMBIA

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	15/02/02

Client/client

CANADA BORDER SERVICES AGENCY

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PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

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SITE SERVICES BUILDING
EXTERIOR ELEVATIONS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	A402 OF	0

PWGSC – A1 – 841X594

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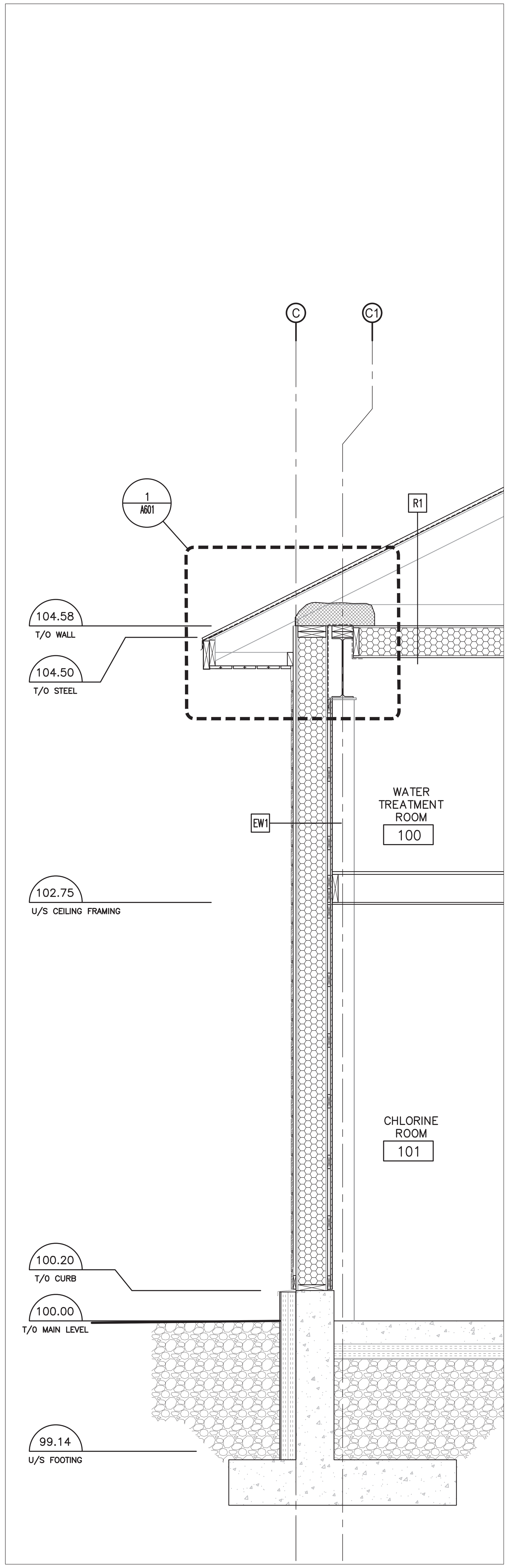
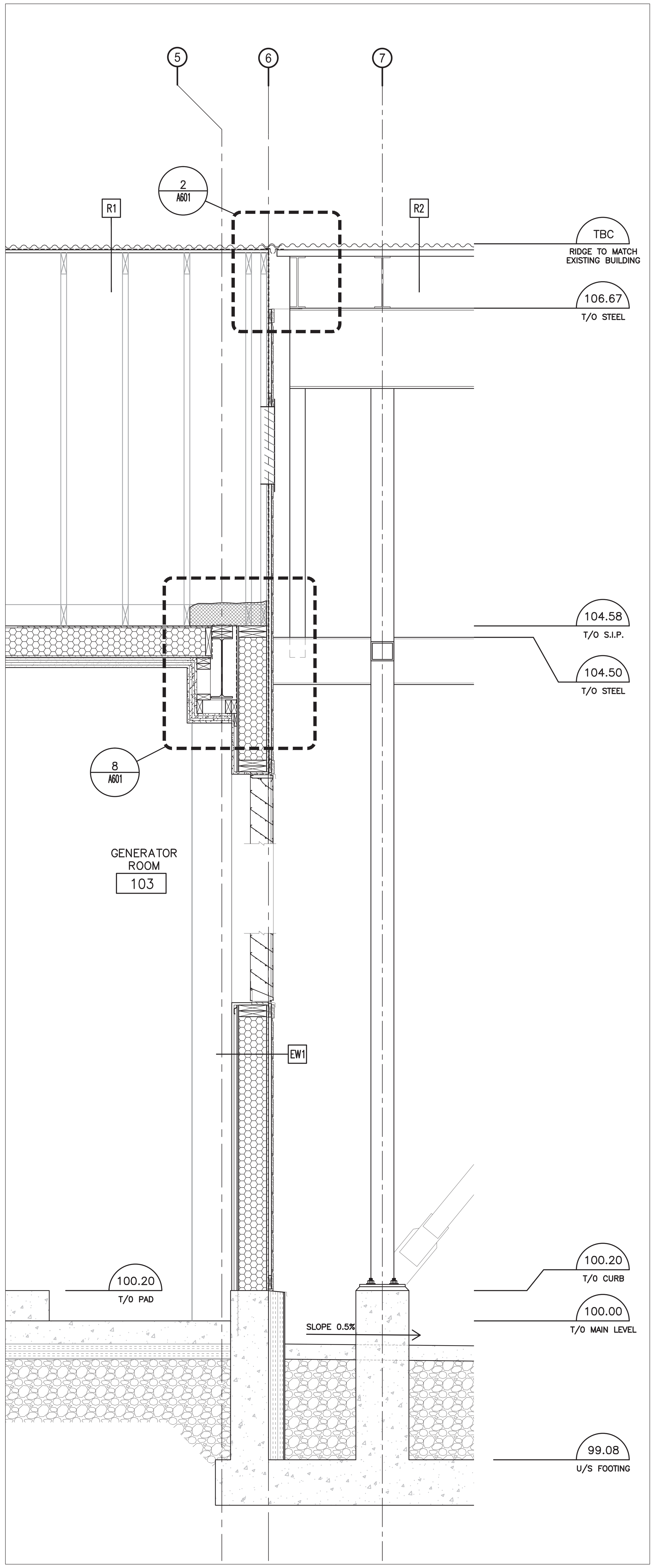
DM5XXXXXX



1 A501 WALL SECTION
1:20



2 A501 WALL SECTION
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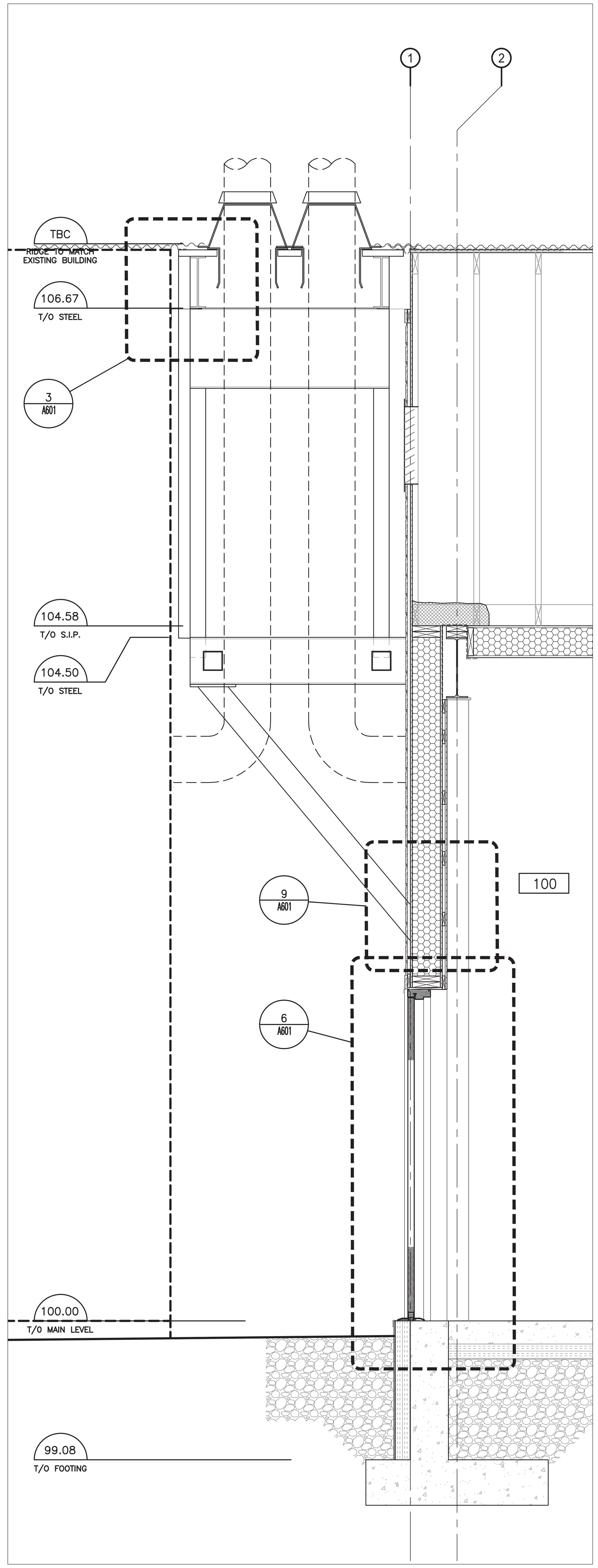

3 A501 WALL SECTION
1:20

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REGISTERED ARCHITECT
BRITISH COLUMBIA
Feb 2, 2015

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CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

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Designed by/Concept par

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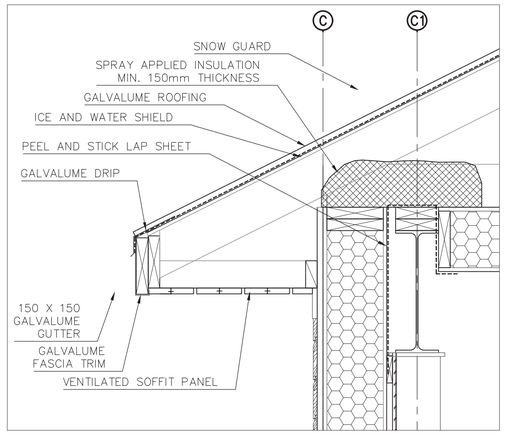
PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

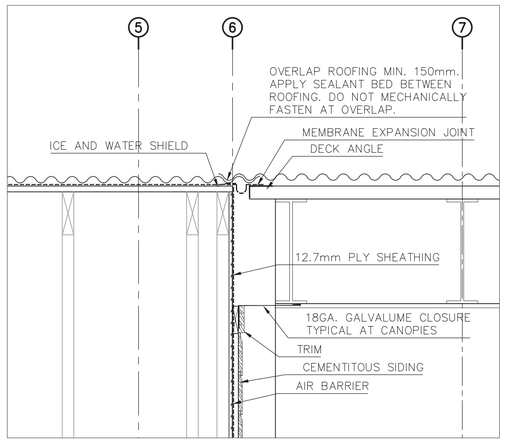
Drawing title/Titre du dessin

SITE SERVICES BUILDING
WALL SECTIONS

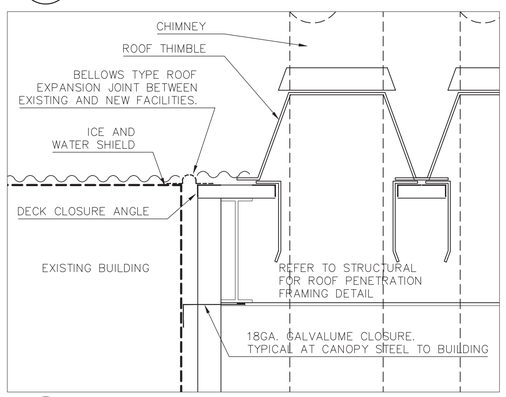
Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
R.071363.001	A501 OF	0



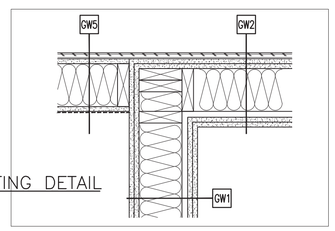
1 A601 SOFFIT DETAIL
1:10



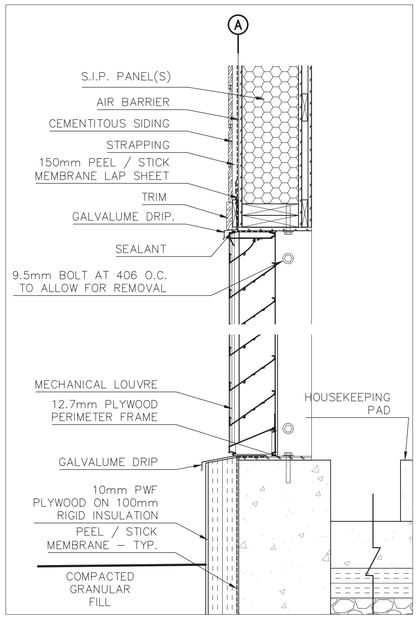
2 A601 ROOF EXPANSION JOINT DETAIL
1:10



3 A601 NEW TO EXISTING ROOF DETAIL
1:10



4 A601 FIRE RATING DETAIL
1:10



5 A601 KNOCKOUT PANEL
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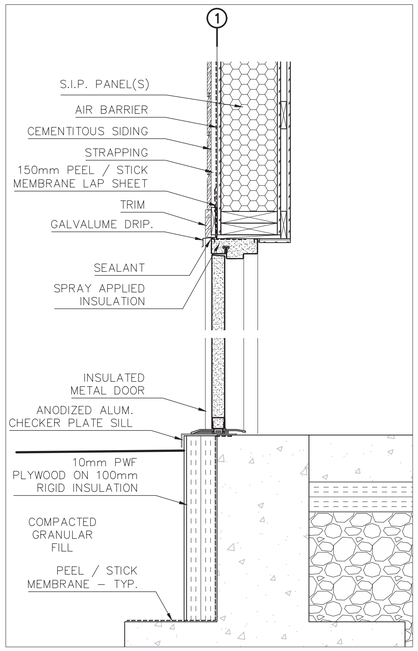
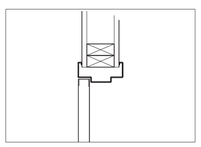
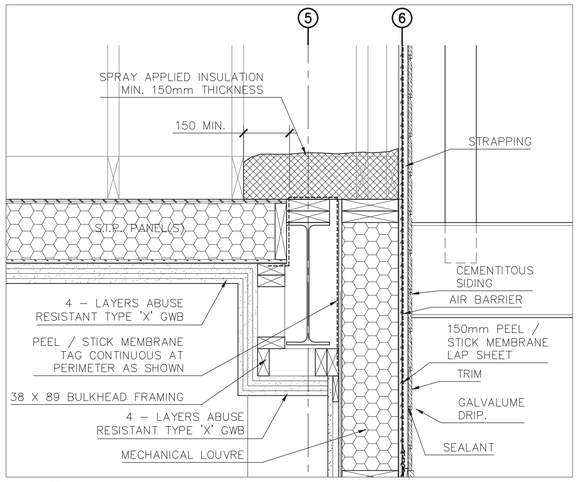


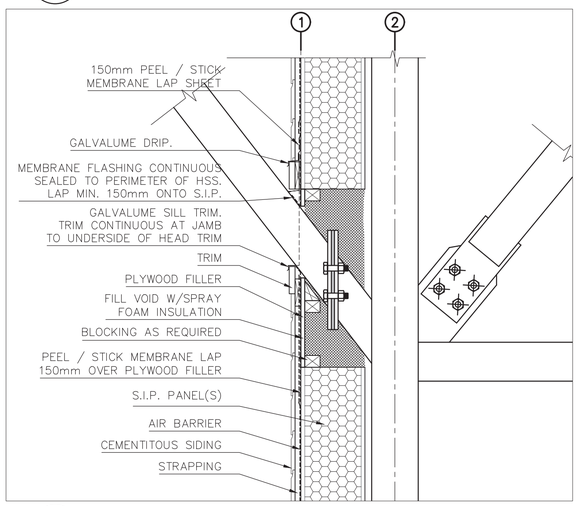
6 A601 DOOR / FOUNDATION SECTION
1:10



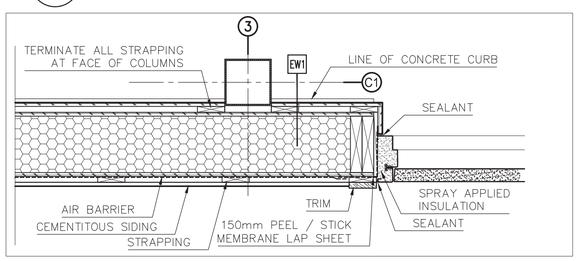
7 A601 DOOR HEAD DETAIL
1:10



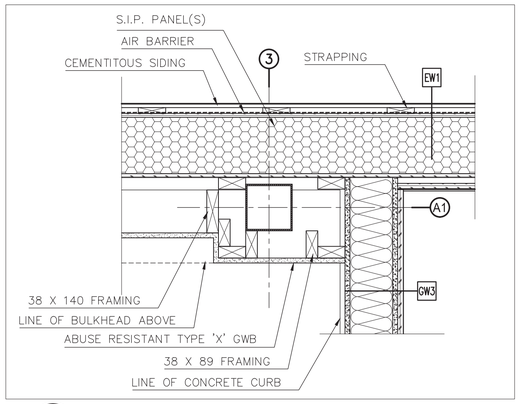
8 A601 RATED BULKHEAD DETAIL
1:10



9 A601 STRUCTURE PENETRATION DETAIL
1:10



10 A601 PLAN DETAIL
1:10



11 A601 PLAN DETAIL
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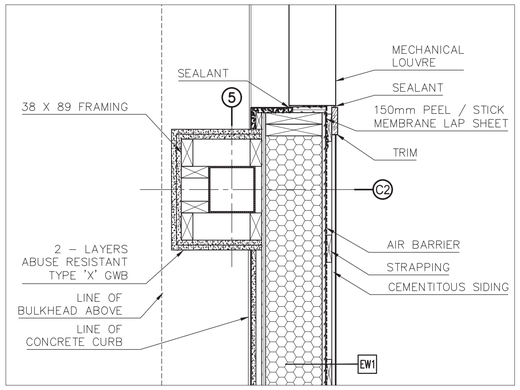

12 A601 PLAN DETAIL
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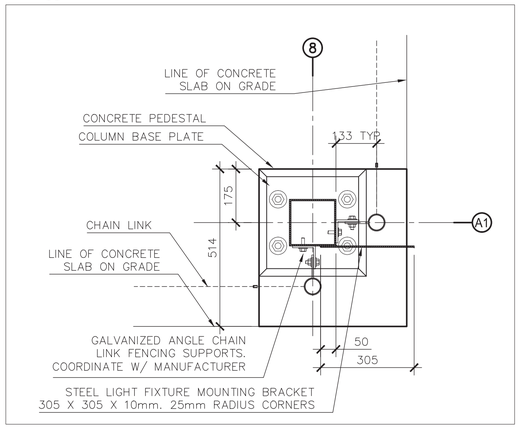

13 A601 PLAN DETAIL
1:10

DOOR SCHEDULE

DOOR NAME	ROOM NAME	DOOR SIZE	DOOR TYPE	DOOR MAT.	DOOR FINISH	FRAME MAT.	FRAME FINISH	FRAME ELEV.	COMMENTS
100.1	WATER TREATMENT ROOM	2134 X 914	-	IHM	PT	TBPS	PT	-	
100.2	WATER TREATMENT ROOM	2134 X 1828	-	IHM	PT	TBPS	PT	-	
101.1	CHLORINE ROOM	2134 X 914	-	HM	PT	HM	PT	-	
102.1	ELECTRICAL ROOM	2134 X 914	-	IHM	PT	TBPS	PT	-	
104.1	GENERATOR ROOM	2134 X 914	-	IHM	PT	TBPS	PT	-	
105.1	MECHANICAL ROOM	2134 X 914	-	IHM	PT	THPS	PT	-	
106.1	TANK ACCESS GATE	2194 X 1828	-	-	-	-	-	-	RIGHT LEAF OPERABLE, PADLOCK HARDWARE, OPPOSED HINGES, TAMPER PROOF FASTENERS, RIGHT LEAF PIN BOLTS TOP AND BOTTOM
106.2	TANK ACCESS GATE	2194 X 914	-	-	-	-	-	-	PADLOCK HARDWARE, OPPOSED HINGES, TAMPER PROOF FASTENERS

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REGISTERED ARCHITECT JOHN BERG Feb 2, 2015 #44901980 BRITISH COLUMBIA

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Client/client

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par

Drawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

SITE SERVICES BUILDING
DETAILS & DOOR SCHEDULE

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	A601 OF	0

PWGSC – A1 – 841X594

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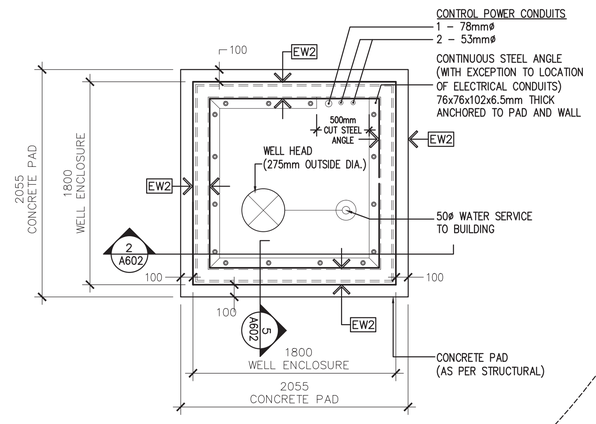
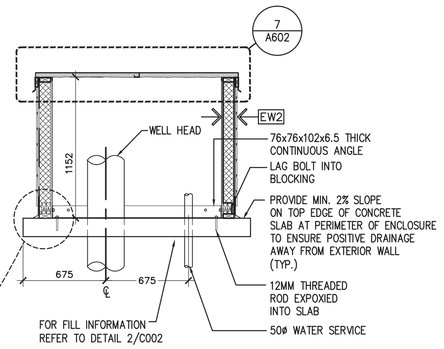
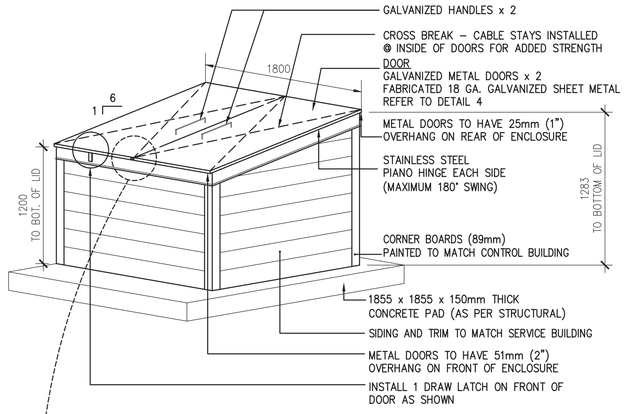


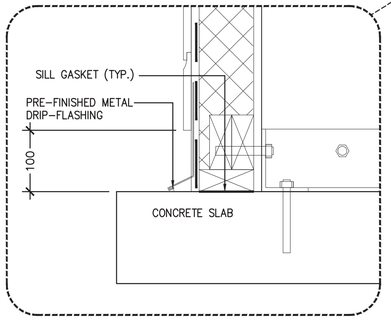
1 A602 WELL ENCLOSURE – PLAN VIEW
1:25



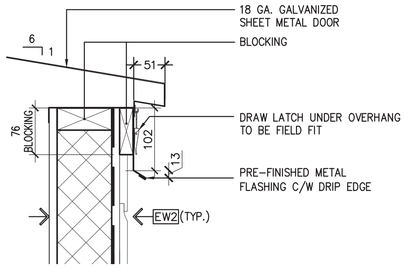
2 A602 WELL ENCLOSURE – SECTION
1:25



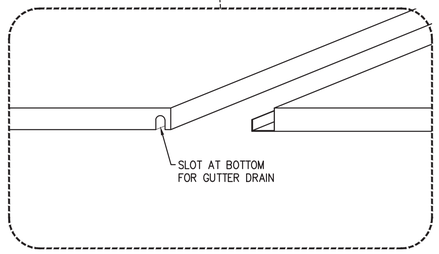
3 A602 WELL ENCLOSURE – AXONOMETRIC VIEW
1:25



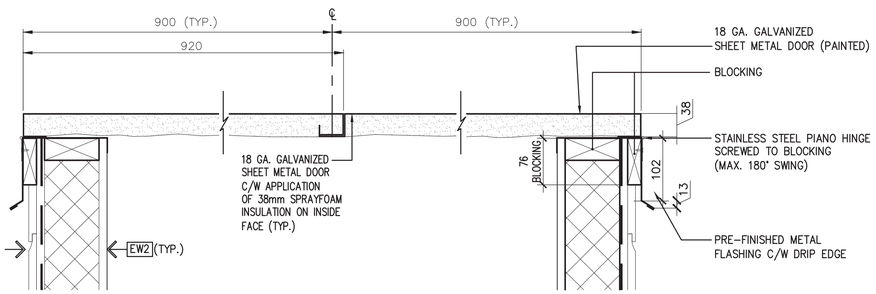
4 A602 SILL PLATE DETAIL
1:5



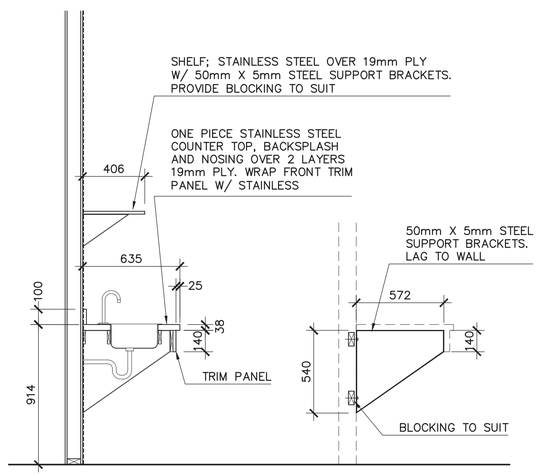
5 A602 WELL ENCLOSURE –TOP OF FRONT WALL SECTION
1:5



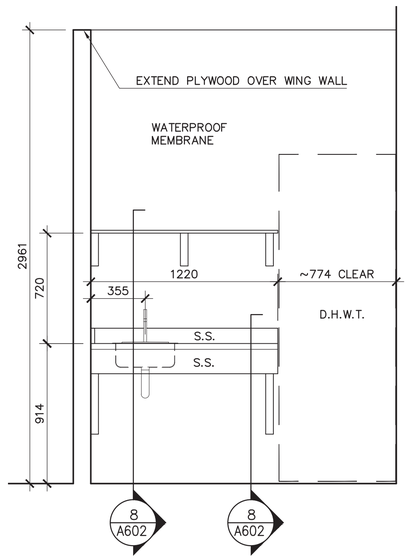
6 A602 DOOR GUTTER DETAIL
1:5



7 A602 WELL ENCLOSURE – METAL DOORS DETAIL
1:5



8 A602 COUNTER SECTION
1:20



9 A602 COUNTER ELEVATION
1:20

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REGISTERED ARCHITECT
JOHN BERG
Feb 2, 2015
#49019
BRITISH COLUMBIA

Revision/ Revision	Description/Description	Date/Date
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CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
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SITE SERVICES BUILDING
DETAILS & WELL ENCLOSURE

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
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PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

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DESIGN NOTES

GENERAL

1. ALL CODES REFERENCED ARE TO BE THE LATEST VERSION AT THE DATE OF ISSUE.
2. DESIGN IS BASED ON THE NATIONAL BUILDING CODE 2010.
3. READ THESE DESIGN NOTES IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS.
4. OBTAIN ENGINEER'S APPROVAL BEFORE CUTTING, BORING, OR SLEEVING LOAD–BEARING MEMBERS UNLESS NOTED OTHERWISE.
5. THE STRUCTURAL DRAWINGS ARE FOR THE COMPLETED PROJECT. STABILITY OF THE EXISTING AND NEW STRUCTURE DURING CONSTRUCTION REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.
6. REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SMALL OPENINGS, SLEEVES, RECESSES, DEPRESSIONS, SUMPS, TRENCHES, CURBS, HOUSEKEEPING PADS, EQUIPMENT BASES, AND SLOPES NOT INDICATED ON THE STRUCTURAL DRAWINGS.
7. OPENINGS AND SLEEVES INDICATED ON THE STRUCTURAL DRAWINGS ARE FOR REFERENCE ONLY. COORDINATE ALL OPENING LOCATIONS AND DIMENSIONS WITH THE APPROPRIATE CONSULTANT AND THE SUB–CONTRACTOR PRIOR TO CONSTRUCTION.
8. REVIEW ALL DRAWINGS AND CHECK DIMENSIONS PRIOR TO IMPLEMENTING THE WORK. REPORT ANY DISCREPANCIES TO THE CONSULTANT FOR CLARIFICATION BEFORE PROCEEDING.
9. COORDINATE PLACEMENT AND LOCATION OF ITEMS BY SUBSEQUENT TRADES. RELEVANT TRADES SHALL REVIEW PRIOR TO ERECTION AND/OR INSTALLATION.
10. NOTIFY THE ENGINEER A MINIMUM OF 72 HOURS PRIOR TO ANY REQUIRED SITE REVIEWS.

EXISTING STRUCTURES

1. THE STRUCTURAL DESIGN IS BASED ON INFORMATION GATHERED FROM THE RECORD DRAWINGS AND FROM LIMITED VISUAL OBSERVATIONS ON SITE.
2. VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS ON SITE PRIOR TO IMPLEMENTING AFFECTED WORK.
3. NOTIFY THE CONSULTANT OF ANY SITE CONDITIONS THAT DIFFER FROM THE CONTRACT DOCUMENTS OR THE RECORD DRAWINGS.
4. SHORE AND UNDERPIN EXCAVATIONS AS REQUIRED TO PREVENT DISTURBANCE TO ADJACENT STRUCTURES, STREETS, SIDEWALKS AND UTILITIES.

DESIGN LOADS

1. UNLESS NOTED OTHERWISE, THE LOADS NOTED IN TABLES AND ON DRAWINGS ARE UNFACTORED.
2. CLIMATIC INFORMATION — REFER TO CLIMATIC INFORMATION TABLE
3. SITE INFORMATION — REFER TO SITE INFORMATION TABLE
4. DESIGN LOADS — REFER TO DESIGN LOADS TABLE
5. LATERAL LOADS
   - 5.1 LATERAL LOADS FROM WIND AND SEISMIC LOADS ARE RESISTED BY THE FOLLOWING ELEMENTS: STEEL BRACING, AND WOOD PANEL SHEAR WALLS.
6. CONSTRUCTION LOADS SHALL NOT EXCEED THE LOADS NOTED ON THE DRAWINGS.

7. DELEGATED DESIGN

1. PORTIONS OF THE DETAILED DESIGN ARE DELEGATED TO THE CONTRACTOR][TRADE CONTRACTOR. RETAIN A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA TO COMPLETE THE DESIGN.
2. SUBMIT SHOP DRAWINGS FOR COMPONENTS REQUIRING DELEGATED DESIGN UNDER THE SEAL AND SIGNATURE OF THE ENGINEER RESPONSIBLE FOR THE DESIGN.
3. THE FOLLOWING COMPONENTS REQUIRE DELEGATED DESIGN:
   - 3.2. STRUCTURAL STEEL CONNECTIONS
   - 3.3. SLIP CRITICAL CONNECTIONS FOR STEEL BRACING
   - 3.4. SIP PANELS INCLUDING CONNECTIONS
   - 3.5. PRE–FABRICATED WOOD TRUSSES
4. THE ENGINEER RESPONSIBLE FOR THE DESIGN IS ALSO RESPONSIBLE FOR REVIEW OF FABRICATION AND INSTALLATION OF THE COMPONENTS. UPON COMPLETION OF THE WORK, CERTIFY IN WRITING TO THE CONSULTANT THAT SUCH REVIEW HAS BEEN COMPLETED
4. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS.

FOUNDATION AND GEOTECHNICAL NOTES

1. FOUNDATION DESIGN IS BASED ON THE FOUNDATION INVESTIGATION SOILS REPORT NUMBER W14103501–01 PREPARED BY TETRA TECH EBA, AND DATED DECEMBER 9,2014. ENSURE THAT THE REQUIREMENTS OUTLINED IN THE REPORT ARE READ AND UNDERSTOOD PRIOR TO COMMENCING WITH FOUNDATION WORK.
2. BEAR ALL FOOTINGS ON UNDISTURBED SOIL NOTWITHSTANDING THE ELEVATIONS INDICATED ON THE DRAWINGS.
3. BRING OVER–EXCAVATION AND CAVITIES IN THE FOOTING BASE UP TO THE REQUIRED LEVELS WITH 10 MPa CONCRETE.
4. REMOVE ALL ORGANIC MATERIAL FROM THE BUILDING AREA AS OUTLINED IN THE GEOTECHNICAL REPORT.
5. REMOVE ALL LOOSE OR SATURATED MATERIAL AND GROUNDWATER FROM THE BASE OF FOOTING EXCAVATIONS BY APPROVED METHODS PRIOR TO PLACING FOUNDATIONS.
6. PROTECT EXCAVATIONS FOR FOOTINGS FROM RAIN, SNOW, FREEZING TEMPERATURES, STANDING WATER, LOSS OF MOISTURE AND DEGRADATION BY APPROVED METHODS.
7. BEARING SURFACES TO BE INSPECTED IN THE FIELD BY A PROFESSIONAL GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA PRIOR TO PLACING CONCRETE.
8. GEOTECHNICAL TESTING AGENCY TO BE APPROVED BY AND RESPONSIBLE TO THE ENGINEER.
9. UNLESS OTHERWISE SHOWN ON PLAN, FOUNDATION ELEMENTS ARE TO BE CENTERED UNDER WALLS, AND COLUMNS.
10. FOR BACKFILL MATERIAL SEE GEOTECHNICAL REPORT.

CAST–IN–PLACE REINFORCED CONCRETE

1. CONCRETE MATERIALS, QUALITY, MIXING, PLACING, FORMWORK AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO THE LATEST EDITION OF CSA A23.1, A23.2, AND A23.3.
2. SUPPLY CONTROLLED CONCRETE IN ACCORDANCE WITH CSA–A23.1 WITH PROPERTIES NOTED IN CONTROLLED CONCRETE TABLE.
3. NOTIFY CONSULTANT 72 HOURS PRIOR TO CONCRETE POURS TO ALLOW FOR REVIEW OF REINFORCEMENT.
4. DO NOT USE ADMIXTURES CONTAINING CALCIUM CHLORIDE.
5. FOR FLOOR SLABS, DESIGN THE CONCRETE MIX WITH AGGREGATE GRADING AND WATER TO CEMENTING MATERIALS RATIO TO MINIMIZE SHRINKAGE.
6. FIELD AND LABORATORY TESTING OF CONCRETE TO BE COMPLETED BY A THIRD PARTY TESTING AND INSPECTION AGENCY APPROVED BY AND RESPONSIBLE TO THE ENGINEER. TESTING AGENCY SHALL BE CERTIFIED TO CSA–A283 AND TESTING TO BE COMPLETED IN ACCORDANCE WITH CSA–A23.2.
7. DO NOT PLACE LOAD ON NEW CONCRETE OR POUR NEW CONCRETE ON NEW CONCRETE UNTIL AT LEAST 75% OF ITS 28 DAY STRENGTH IS ATTAINED. CONCRETE QUALITY CONTROL TESTING SHALL BE COMPLETED BY QUALIFIED PERSONNEL AND REPORTS ARE TO BE SUBMITTED TO THE ENGINEER.
8. BUILDING IS NOT TO BE PUT INTO SERVICE UNTIL ALL CONCRETE COMPONENTS HAVE CURED FOR 28 DAYS OR PROOF THAT THE 28 DAY STRENGTH HAS BEEN ATTAINED THROUGH QUALITY CONTROL TESTING.
9. FILL ALL HOLES IN CONCRETE MEMBERS CAUSED BY CONSTRUCTION PRACTICE WITH NON–SHRINK GROUT WITH A COMPRESSIVE STRENGTH EQUAL TO THAT OF THE CONCRETE.
10. UNLESS OTHERWISE SPECIFIED, ALL CONCRETE ANCHOR BOLTS SHALL BE GRADE A307.
11. PROVIDE 6mil POLYETHYLENE GROUND SHEETS UNDER ALL SLAB–ON–GRADES. LAP SEAMS AM MINIMUM OF 150mm AND TAPE THE ENTIRE LENGTH OF ALL LAPS.
12. CONCRETE SHALL NOT BE POURED IN AN UNCONFINED MANNER FROM A HEIGHT OF MORE THAN 1220mm.
13. ALL BENDS IN PRIMARY REINFORCEMENT TO HAVE A RADIUS OF NOT LESS THAN 3 TIMES THE BAR DIAMETER.
14. QUALITY CONTROL TESTING OF THE CONCRETE AND GROUTS MUST BE COMPLETED BY QUALIFIED PERSONNEL AND REPORTS ARE TO BE SUBMITTED TO THE ENGINEER OF RECORD.
15. ALL CONTROL JOINTS SHALL BE SAW–CUT TO A DEPTH OF ¼ OF THE SLAB THICKNESS OR 25mm, WHICHEVER IS GREATER. FILL ALL JOINTS WITH ELASTOMERIC JOINT SEALANT.
16. ALL GROUT UNDER BEARING PLATES AND BASE PLATES SHALL BE NON–METALLIC, NON–SHRINK TYPE WITH MINIMUM 72 HOUR/28 DAY COMPRESSIVE STRENGTH OF 20/50 MPa, INSTALLED IN ACCORDANCE WITH THE SPECIFICATION AND MANUFACTURER'S RECOMMENDATIONS. PROVIDE GROUT WEEP HOLES IN COLUMN BASE PLATES WHERE SHOWN

CONCRETE REINFORCEMENT

1. REINFORCEMENT STEEL TO CONFORM TO CSA–G30.18 GRADE 400W.
2. DO NOT WELD REINFORCEMENT UNLESS APPROVED IN WRITING BY THE ENGINEER. REINFORCEMENT TO BE WELDED TO CONFORM TO CSA G30.18 – GRADE 400W.
3. NOTIFY THE ENGINEER PRIOR TO CONCRETE PLACEMENT TO ALLOW FOR REVIEW OF REINFORCEMENT.
4. CLEAR CONCRETE COVER TO REINFORCEMENT – REFER TO CLEAR CONCRETE COVER TO REINFORCEMENT TABLE.
5. STANDARD END HOOK LENGTHS FOR REINFORCEMENT – REFER TO STANDARD END HOOKS TABLE.
6. REINFORCEMENT SPLICES – REFER TO REINFORCEMENT SPLICES TABLE.
   - 6.14. WHERE SPLICES ARE INDICATED ON THE DRAWINGS, SUCH DIMENSIONS SHALL APPLY.
   - 6.15. WHERE THE DRAWINGS INDICATE TENSION OR COMPRESSION SPLICES, IT SHALL BE AS INDICATED IN REINFORCEMENT SPLICES TABLE.
   - 6.16. WHERE NO SPLICE OR SPLICE TYPE IS INDICATED ON THESE DRAWINGS, IT SHALL BE A TENSION SPLICE EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION SPLICE.
7. EMBEDMENT OF DOWELS – REFER TO REINFORCEMENT SPLICES TABLE.
   - 7.1. WHERE EMBEDMENT IS DIMENSIONED ON THE DRAWINGS, SUCH DIMENSIONS SHALL APPLY.
   - 7.2. WHERE THE DRAWINGS INDICATE TENSION OR COMPRESSION EMBEDMENT, IT SHALL BE AS NOTED IN THE REINFORCEMENT SPLICES TABLE.
   - 7.3. WHERE NO EMBEDMENT OR EMBEDMENT TYPE IS INDICATED ON THESE DRAWINGS, IT SHALL BE A TENSION EMBEDMENT EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION EMBEDMENT.
8. OPENINGS IN WALLS AND SLABS – UNLESS NOTED OTHERWISE PROVIDE TWO 15M BARS EACH SIDE, ONE EACH FACE, EXTENDING 600 mm PAST THE OPENINGS, PLUS TWO 15M DIAGONAL BARS 1.5 TIMES THE LENGTH OF SHORTEST SIDE OF OPENING OR MINIMUM 500 mm AND MAXIMUM 1500 mm IN LENGTH AT EACH CORNER.
9. DO NOT CUT REINFORCEMENT AT OPENINGS WHERE IT CAN BE SPREAD CONTINUOUS AROUND OPENING.
10. ALL REINFORCEMENT TO BE SUPPORTED AT 900 mm MAXIMUM SPACING.

CONCRETE FORMWORK

1. DESIGN, FABRICATION, ERECTION, AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CAN/CSA–S269.3.
2. REFER TO SPECIFICATIONS AND ARCHITECTURAL DRAWINGS FOR CHAMFERS ON CORNERS .

STRUCTURAL STEEL

1. DESIGN, FABRICATION, ERECTION, AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CSA–S16 AND THE CISC CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL.
2. STEEL TO BE FABRICATED AND ERECTED BY A SHOP CERTIFIED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA–W47.1, DIVISION 1 OR 2.1 ONLY.
3. SUBMIT SHOP DRAWINGS SHOWING ALL STRUCTURAL STEEL MEMBERS FOR REVIEW PRIOR TO FABRICATION. WELDING TO CONFORM TO CSA–W59.
4. WELDING TO REINFORCEMENT STEEL ONLY BY A SHOP CERTIFIED TO CSA–W186 WITH REINFORCEMENT CONFORMING TO CSA–G30.18, GRADE 400W.
5. SHOP GALVANIZING TO CONFORM TO CAN/CSA–G164.
6. ALL EXPOSED WELDS TO BE CONTINUOUS. GRIND ALL EXPOSED WELDS SMOOTH, INCLUDING PAINTED STEEL.
7. SUPPLY STEEL WITH PROPERTIES NOTED IN STEEL GRADES TABLE.
8. CONNECTIONS NOT DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA AT THE STEEL FABRICATOR'S EXPENSE.
9. UNLESS NOTED OTHERWISE, DESIGN CONNECTIONS FOR NON–COMPOSITE BEAMS FOR A FACTORED SHEAR FORCE EQUAL TO 80% OF THE TOTAL BEAM LOAD TABULATED IN THE CISC HANDBOOK OF STEEL CONSTRUCTION.
10. UNLESS NOTED OTHERWISE, DESIGN MOMENT CONNECTIONS FOR NON–COMPOSITE BEAMS FOR A FACTORED MOMENT EQUAL TO THE FULL MOMENT CAPACITY OF THE SMALLER MEMBER JOINED.
11. DESIGN BRACE CONNECTIONS FOR THE LOADS SHOWN ON THE DRAWINGS.
12. PROVIDED A MINIMUM OF 2 BOLTS IN BOLTED CONNECTIONS.
13. PROVIDE 12 mm PLATE STIFFENERS EACH SIDE OF BEAM WHERE AT ALL BEARING CONNECTIONS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
14. DO NOT SPLICE MATERIAL WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. WHERE GRANTED, A COMPLETE NON–DESTRUCTIVE EXAMINATION WILL BE MANDATORY
15. PROVIDE 10 mm WEEP HOLES AT TOP AND BOTTOM OF ALL HSS COLUMNS.
16. ALL GROUT UNDER BEARING PLATES AND BASE PLATES SHALL BE NON–METALLIC, NON–SHRINK TYPE WITH MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 50 MPa, INSTALLED IN ACCORDANCE WITH THE SPECIFICATION AND MANUFACTURER'S RECOMMENDATIONS. PROVIDE GROUT WEEP HOLES IN COLUMN BASE PLATES WHERE SHOWN.
17. SQUARE CUT OR FULL STRENGTH WELD ALL COLUMNS AT BASE PLATES AND AT TOP WHERE BEARING UNDER CONTINUOUS BEAMS.
18. ALL BOLTS AND WOOD FASTENERS PERMANENTLY EXPOSED TO THE ATMOSPHERE SHALL BE GALVANIZED OR ZINC PLATED.
19. ALL WELDS SHALL HAVE AN ULTIMATE STRENGTH OF NOT LESS THAN 490 MPa (E49XX ELECTRODES).
20. CLEAN, PREPARE AND PRIME ALL STRUCTURAL STEEL COLUMNS AND ANCHOR PLATES. DO NOT PRIME ANCHOR BOLTS, SURFACES IN CONTACT WITH CONCRETE OR ELEMENTS FORMING PART OF A SLIP–CRITICAL CONNECTION. DO NOT PRIME BEAMS OR STEEL JOIST PRODUCTS TO ALLOW FOR EASE OF APPLICATION OF FIRE PROOFING.
21. TOUCH–UP FIELD WELDS, CONNECTIONS AND ABRASIONS TO MATCH THE SHOP PRIMER.

STEEL DECK

1. DESIGN, FABRICATION, ERECTION, AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CAN/CSA–S136.
2. WELDING TO CONFORM TO CSA–W59. PLATE WASHERS MAY BE ELIMINATED ONLY IF WELDERS OR WELDING OPERATORS HAVE BEEN CERTIFIED BY THE CANADIAN WELDING BUREAU WITH QUALIFIED PROCEDURES FOR WELDING METAL DECK.
3. SHEET STEEL TO CONFORM TO ASTM A653/A653M, GRADE A STRUCTURAL QUALITY GRADE 230.
4. STEEL ROOF DECK – UNLESS NOTED OTHERWISE ON DRAWINGS, 38mm DEEP PREFORMED ZINC–COATED STEEL IN ACCORDANCE WITH CSSBI 10M. FLUTES SPACED AT 150mm MAXIMUM ON CENTER.
5. UNLESS NOTED OTHERWISE, LIMIT ALLOWABLE DEFLECTION FOR STEEL ROOF DECK TO THE FOLLOWING:
   - a) LIVE LOAD SPAN/360
   - b) TOTAL LOAD SPAN/240
6. DECK UNITS TO BE CONTINUOUS OVER AT LEAST THREE SUPPORTS WHERE STRUCTURAL FRAMING PERMITS.
7. PROVIDE L76x76x6.4 ANGLE TO SUPPORT DECK EDGES AT ALL OPENINGS UP TO 300mm IN SIZE. FOR LARGER OPENINGS, REFER TO TYPICAL DETAILS.

TIMBER

1. ALL WOODEN MEMBERS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF CSA 086.
2. UNLESS NOTED OTHERWISE, ROOF SHEATHING SHALL BE 18.5mm T&G CANADIAN SOFTWOOD PLYWOOD, SHEATHING/STANDARD GRADE (SHG). BLOCK AND NAIL WITH 3" NAILS @ 100mm O/C AT PANEL EDGES. NAILS INTERIOR OF PANELS WITH 3" NAILS @ 200mm O/C.
3. ENSURE ALL 75mm LONG NAILS HAVE A MINIMUM DIAMETER OF 3.66mm AND ALL 64mm LONG NAILS HAVE A MINIMUM DIAMETER OF 3.25mm. ALL SHEAR
4. UNLESS NOTED OTHERWISE, ALL DIMENSIONAL LUMBER SHALL BE SPECIES SPRUCE–PINE–FIR, GRADE No.1 / No.2.
5. SIP WALL ANCHORAGE TO MAIN FLOOR SLAB AND FOUNDATION SHALL BE AS SHOWN ON THE DRAWING.
6. INSTALL ROOF AND WALL ANCHORAGE AS PER DETAILS AND SCHEDULES.
7. ALL BOLTS CONNECTING WOOD TO WOOD OR WOOD TO CONCRETE SHALL BE GRADE ASTM A307. BOLTS SHALL BE GALVANIZED EXCEPT THOSE EMBEDDED INTO CONCRETE
8. ALL DIMENSIONAL LUMBER TO BE EXPOSED TO THE ATMOSPHERE SHALL BE PRESSURE TREATED OR FINISHED WITH A WEATHER RESISTANT COATING. ALL ENGINEERED LUMBER (LVL, PSL & GLULAM MEMBERS) TO BE EXPOSED TO THE ATMOSPHERE SHALL BE TREATED WITH A WEATHER RESISTANT COATING APPLIED AT THE MANUFACTURER'S FACILITY PRIOR TO SHIPMENT TO SITE.
9. RETREAT ALL CUT ENDS OF PRESSURE TREATED LUMBER WHICH REQUIRE ON–SITE CUTTING
10. ALL BOLTS AND WOOD FASTENERS PERMANENTLY EXPOSED TO THE ATMOSPHERE SHALL BE GALVANIZED OR ZINC PLATED.
11. DESIGN CONNECTIONS IN ACCORDANCE WITH CSA–O86 AND CSA–S16 FOR THE LOADS INDICATED ON THE DRAWINGS.
12. PROVIDED A MINIMUM OF 2 BOLTS IN BOLTED CONNECTIONS.
13. INSTALL SILL GASKET UNDER THE ALL SILL PLATES IN CONTACT WITH CONCRETE.

PREFABRICATED WOOD TRUSSES

1. MANUFACTURER SHALL BE RESPONSIBLE FOR USING LUMBER OF SUFFICIENT STRENGTH TO SAFELY CARRY ALL LOADS INDICATED ON THE DRAWINGS. PROVIDE ALL NECESSARY BLOCKING, BRACING, STIFFENERS AND CONNECTIONS IN ACCORDANCE WITH CSA–086.
2. ALL STRUCTURAL COMPOSITE LUMBER SHALL BE DESIGNED IN ACCORDANCE WITH CSA–086.
3. CONTRACTOR TO ENSURE TRUSS LOCATIONS ARE COORDINATED WITH ROOF PENETRATIONS, SEE ARCH. AND MECH. DRAWINGS
4. SUBMIT CHECKED SHOP DRAWINGS SIGNED AND SEALED BY PROFESSIONAL ENGINEER IN THE YUKON TERRITORY FOR REVIEW PRIOR TO FABRICATION.
5. CERTIFY AT THE COMPLETION OF WORK, ALL FABRICATED TRUSSES, SIP PANELS, STRUCTURAL COMPOSITE LUMBER AND ASSOCIATED COMPONENTS ARE FABRICATED AND ERECTED UNDER THE SEAL AND SIGNATURE OF THE CONTRACTORS' PROFESSIONAL STRUCTURAL ENGINEER RESPONSIBLE FOR THIS WORK.
6. CERTIFY THAT ALL FABRICATED TRUSSES, JOISTS, STRUCTURAL COMPOSITE LUMBER AND ASSOCIATED COMPONENTS ARE CAPABLE OF SUPPORTING ALL THE LOADS AND FORCES SPECIFIED IN THE CONTRACT SPECIFICATIONS AND ON THE DRAWINGS.
7. CERTIFY THAT ALL COMPONENTS ARE FABRICATED AND ERECTED IN ACCORDANCE WITH THE REVIEWED SHOP DRAWINGS.

STRUCTURAL INSULATED PANELS

1. MANUFACTURER SHALL BE RESPONSIBLE FOR USING LUMBER OF SUFFICIENT STRENGTH TO SAFELY CARRY ALL LOADS INDICATED ON THE DRAWINGS. PROVIDE ALL NECESSARY BLOCKING, BRACING, STIFFENERS AND CONNECTIONS IN ACCORDANCE WITH CSA–086.
2. UNLESS NOTED OTHERWISE, LIMIT ALLOWABLE DEFLECTION FOR WALL SIP PANELS TO THE FOLLOWING:
   - – LIVE LOAD – SPAN/240
3. ALL STRUCTURAL COMPOSITE LUMBER SHALL BE DESIGNED IN ACCORDANCE WITH CSA–086.
4. CONTRACTOR TO ENSURE WALL & CEILING OPENINGS ARE COORDINATED WITH ARCH. AND MECH. DRAWINGS
5. SUBMIT CHECKED SHOP DRAWINGS SIGNED AND SEALED BY PROFESSIONAL ENGINEER IN THE YUKON TERRITORY FOR REVIEW PRIOR TO FABRICATION.
6. CERTIFY AT THE COMPLETION OF WORK SIP PANELS AND ASSOCIATED COMPONENTS ARE FABRICATED AND ERECTED UNDER THE SEAL AND SIGNATURE OF THE CONTRACTORS' PROFESSIONAL STRUCTURAL ENGINEER RESPONSIBLE FOR THIS WORK.
7. CERTIFY THAT ALL FABRICATED SIP PANELS ASSOCIATED COMPONENTS ARE CAPABLE OF SUPPORTING ALL THE LOADS AND FORCES SPECIFIED IN THE CONTRACT SPECIFICATIONS AND ON THE DRAWINGS.
8. CERTIFY THAT ALL COMPONENTS ARE FABRICATED AND ERECTED IN ACCORDANCE WITH THE REVIEWED SHOP DRAWINGS.

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PROFESSIONAL ENGINEER M. J. WHITE # 36283 BRITISH COLUMBIA ENGINEER
19496 1926
Feb 3, 2015

Revision/ Revision	Description/Description	Date/Date
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CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

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Designed by/Concept par
MJW

Drawn by/Dessine par
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Regional Manager, Architectural and Engineering Services
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GENERAL NOTES & SPECIFICATION

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
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0 10 20 30 40 50 60 70 80 90 100mm

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CLIMATIC INFORMATION

TO BE READ IN CONJUNCTION WITH DESIGN LOADS DESIGN NOTES	
SNOW LOAD (1/50), Ss	8.5 kPa
SNOW LOAD (1/50), Sr	0.3 kPa
HOURLY WIND PRESSURE (1/50)	0.45 kPa
SEISMIC RESPONSE, $S_a(0.2)$	0.896
SEISMIC RESPONSE, $S_a(0.5)$	0.590
SEISMIC RESPONSE, $S_a(1.0)$	0.322
SEISMIC RESPONSE, $S_a(2.0)$	0.174
SEISMIC RESPONSE, PGA	0.393

SITE INFORMATION

TO BE READ IN CONJUNCTION WITH DESIGN LOADS DESIGN NOTES	
IMPORTANCE CATEGORY	POST–DISASTER
WIND EXPOSURE TYPE	OPEN TERRAIN
INTERNAL PRESSURE CATEGORY	2
FOUNDATION SITE CLASS	F
Fa	1.1
Fv	1.2
SPREAD FOOTING FACTORED BEARING CAPACITY (ULS/SLS)	213kPa/330kPa

DESIGN LOADS

TO BE READ IN CONJUNCTION WITH DESIGN LOADS DESIGN NOTES	
MAIN FLOOR	
SUPERIMPOSED DEAD LOAD	1.5 kPa
LIVE LOAD	4.8 kPa
ROOFS	
SUPERIMPOSED DEAD LOAD	1.0 kPa
BASIC SNOW LOAD	8.90 kPa
ACCUMULATED SNOW LOAD	REFER TO [PLANS]
NET FACTORED WIND UPLIFT LOAD	REFER TO [PLANS]
CEILING	
SUPERIMPOSED DEAD LOAD	2.0 kPa
SIP WALL WIND LOAD	
BASIC WIND LOAD	1.2kPa/–1.3kPa

STEEL GRADES

TO BE READ IN CONJUNCTION WITH STRUCTURAL STEEL DESIGN NOTES	
MEMBER TYPE	GRADE
ROLLED W–SHAPES, TEES	CSA G40.21 350W OR ASTM A992 GRADE 50
WELDED WIDE FLANGE SECTIONS	CSA G40.21 350W

CONTROLLED CONCRETE

TO BE READ IN CONJUNCTION WITH CAST–IN–PLACE REINFORCED CONCRETE DESIGN NOTES

CONCRETE ELEMENT	CLASS OF EXPOSURE	MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS (MPa)	MINIMUM COMPRESSIVE STRENGTH AT 56 DAYS (MPa)	MAXIMUM AGGREGATE SIZE (mm)	AIR CONTENT %	MAX. W/C RATIO	CEMENT TYPE
EXTERIOR CONCRETE							
SPREAD FOOTING	F–2	30	N/A	20	4–7	0.55	GU
STRIP FOOTING	F–2	30	N/A	20	4–7	0.55	
FOUNDATION WALL	F–2	30	N/A	20	4–7	0.55	GU
PIER	F–2	30	N/A	20	4–7	0.55	GU
SLAB ON GRADE–BUILDING	F–2	30	N/A	20	4–7	0.55	GU
SLAB ON GRADE–STEEL CANOPY	C–2	32	N/A	20	5–8	0.45	
APRON	C–2	32	N/A	20	5–8	0.45	GU
INTERIOR CONCRETE							
HOUSEKEEPING PADS	N	20	–	20	–	–	GU

* CORROSION INHIBITING ADMIXTURE REQUIRED

STANDARD END HOOKS

TO BE READ IN CONJUNCTION WITH CONCRETE REINFORCEMENT DESIGN NOTES

BAR SIZE	10M	15M	20M	25M	30M	35M	45M	55M
90 HOOK LENGTH	180	260	310	400	510	640	790	1020
180 HOOK LENGTH	140	180	210	280	390	550	670	860

FORCE MODIFICATION FACTORS

TO BE READ IN CONJUNCTION WITH DESIGN LOADS DESIGN NOTES

LATERAL LOAD RESISTANCE SYSTEM	MODIFICATION FACTOR	
	DUCTILITY RELATED, RD	OVERSTRENGTH RELATED, RO
LIMITED DUCTILITY CONCENTRICALLY BRACED FRAME	2.0	1.3

REINFORCEMENT SPLICES

TO BE READ IN CONJUNCTION WITH CONCRETE REINFORCEMENT DESIGN NOTES

BAR SIZE	COMPRESSION SPLICE (mm)	TENSION SPLICE (mm)			
		VERTICAL OR BOTTOM HORIZONTAL BARS		TOP HORIZONTAL BARS	
		UNCOATED BARS	EPOXY COATED BARS	UNCOATED BARS	EPOXY COATED BARS
10M	300	400	600	500	650
15M	450	550	850	750	950
20M	600	700	1000	900	1150
25M	750	1100	1650	1400	1850
30M	900	1300	1950	1700	2200
35M	1025	1550	2300	2000	2600

NOTE 1: THIS TABLE IS BASED ON NORMAL WEIGHT CONCRETE f'c = 35 MPa AND ON REINFORCING STEEL fy = 400 MPa.

NOTE 2: TOP HORIZONTAL BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 300 mm OF CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.

NOTE 3: FOR STANDARD EMBEDMENT DEPTH INTO CONCRETE, DIVIDE BASIC TENSION LAP SPLICE NUMBERS BY 1.3.

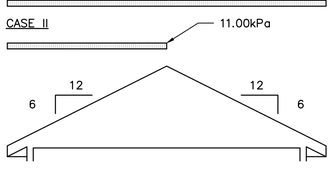
CLEAR CONCRETE COVER TO REINFORCEMENT

TO BE READ IN CONJUNCTION WITH CONCRETE REINFORCEMENT DESIGN NOTES

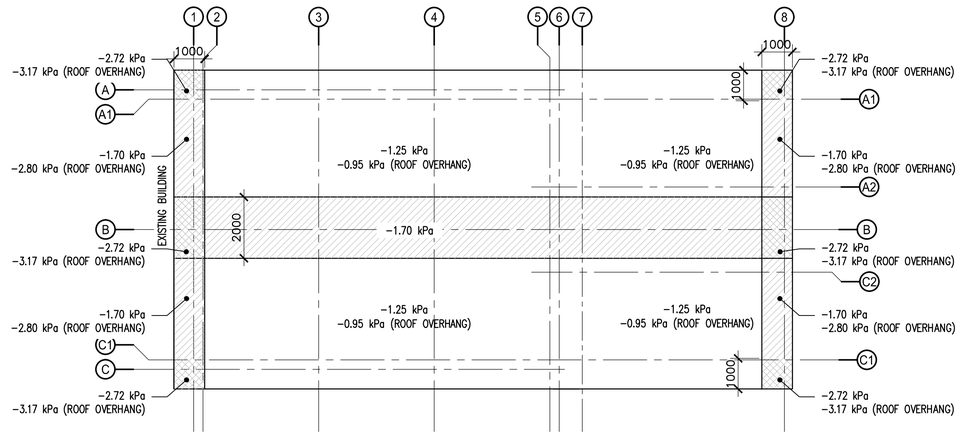
EXPOSURE CONDITION	EXPOSURE CLASS		
	N	F–1, F–2, S–1, S–2, S–3	C–XL, C–1, C–2, C–3, A–1, A–2, A–3
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	–	75 mm	75 mm
BEAMS, GIRDERS, COLUMNS, AND PILES TO TIES/STIRRUPS (EXCEPT AS NOTED BELOW)	30 mm	40 mm	60 mm
SLABS, WALLS, JOISTS, SHELLS, AND FOLDED PLATES (EXCEPT AS NOTED BELOW)	20 mm	40 mm	60 mm
RATIO OF COVER TO NOMINAL BAR DIAMETER	1.0	1.5	2.0
RATIO OF COVER TO NOMINAL MAXIMUM AGGREGATE SIZE	1.0	1.5	2.0

NOTE

THE LARGEST COVER REQUIRED FOR ANY ONE ELEMENT SHALL GOVERN.



3 / S–001 SNOWDRIFT UNFACTORED DIAGRAM
SCALE: NTS



2 / S–001 ROOF NET FACTORED WIND UP–LIFT DIAGRAM
SCALE: NTS

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M. J. WHITE
39283
BRITISH COLUMBIA
ENGINEER
Feb 3, 2015

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CANADA BORDER SERVICES AGENCY

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SPECIFICATION

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
R.071363.001	S–002 2 OF 10	0

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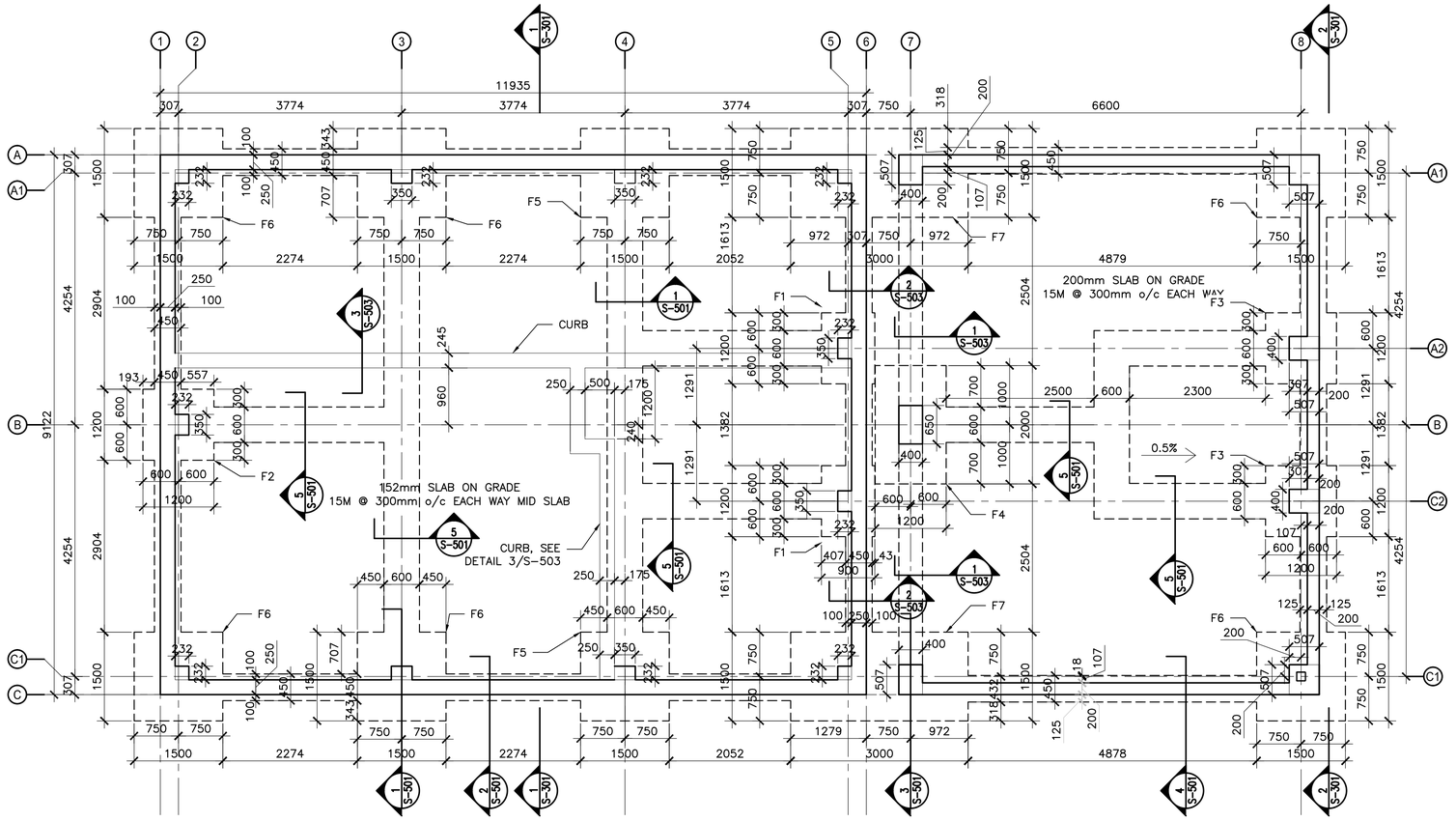
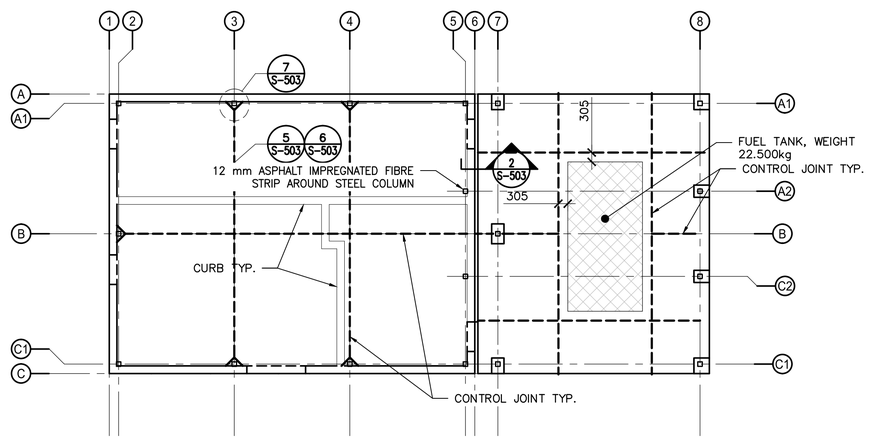


NOTE:
1. GRIDS A,C,1,6 TO OUTSIDE FACE OF SIP/CONCRETE CURB
2. SLAB ON GRADE ACT AS DIAPHRAGM

1 / S-101 FOUNDATION AND MAIN FLOOR PLAN
SCALE: 1:50

FOOTING SCHEDULE			
LABEL	SIZE (mm)	REINFORCEMENT	
		BOTTOM	TOP
F1	900x1200x300	5–20M EQUALLY SPACED SHORT DIRECTION	5–15M EQUALLY SPACED SHORT DIRECTION
		4–20M EQUALLY SPACED LONG DIRECTION	4–15M EQUALLY SPACED LONG DIRECTION
F2	1200x1200x300	5–20M EQUALLY SPACED, EACH DIRECTION	5–15M EQUALLY SPACED, EACH DIRECTION
F3	1200x1200x300	5–20M EQUALLY SPACED, EACH DIRECTION	–
F4	1200x2000x400	11–20M EQUALLY SPACED SHORT DIRECTION	11–15M EQUALLY SPACED SHORT DIRECTION
		7–20M EQUALLY SPACED LONG DIRECTION	7–15M EQUALLY SPACED LONG DIRECTION
F5	1500x1500x300	7–20M EQUALLY SPACED, EACH DIRECTION	–
F6	1500x1500x300	7–20M EQUALLY SPACED, EACH DIRECTION	7–15M EQUALLY SPACED, EACH DIRECTION
F7	1500x3000x400	16–20M EQUALLY SPACED SHORT DIRECTION	16–15M EQUALLY SPACED SHORT DIRECTION
		9–20M EQUALLY SPACED LONG DIRECTION	9–15M EQUALLY SPACED LONG DIRECTION



NOTE:
STRIP&SPREAD FOOTING NOT SHOWN

4 / S-001 CONTROL JOINT DIAGRAM
SCALE: NTS

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M. J. WHITE
39283
PROVINCE OF BRITISH COLUMBIA
ENGINEER
19 FEB 2015
Feb 3, 2015

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FOUNDATION AND MAIN FLOOR PLAN

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R.071363.001	S-101 3 OF 10	0

PWGSC – A1 – 841X594

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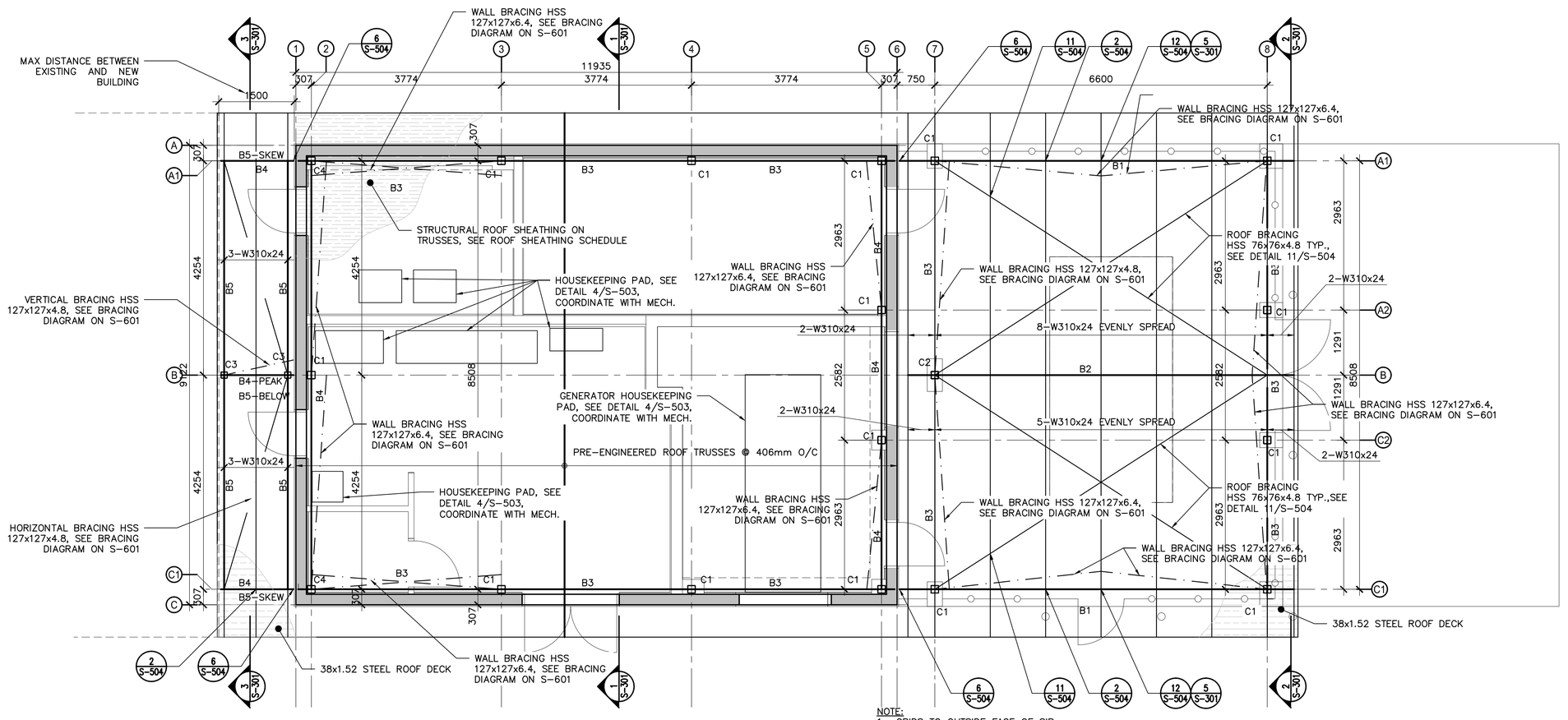
DM5XXXXXX



WALL – SIP PANELS FOR SPECIFICATION SEE ARCH. DRAWINGS, PANELS ARE WIND-LOADED ONLY.

NOTE:
1. GRIDS TO OUTSIDE FACE OF SIP
2. WINDOWS AND DOORS SIZE AND LOCATION COORDINATE WITH ARCH. DRAWINGS
3. MECH. OPENINGS SIZE AND LOCATION COORDINATE WITH MECH. DRAWINGS
4. TOP OF STEEL CANOPY ROOF SHEATHING (38x1.52 STEEL ROOF DECK) SHALL MATCH TOP OF BUILDING ROOF SHEATHING (19mm PLYWOOD).
5. FOR ROOF TRUSS @ GL 1&6 SEE DETAIL 10/S-504
6. USE SUITABLE POWDER DRIVEN FASTENERS FOR GIVEN DECK AND BEAM/JOIST FLANGE THICKNESS
7. FACTORED ROOF BRACING FORCES = 150kN (T/C)
8. SEE S-601 FOR MEMBER AXIAL FORCES

1 / S-102 ROOF PLAN
SCALE: 1:50

BEAM SCHEDULE	
LABEL	SIZE
B1	W460x52
B2	W530x74
B3	W410x39
B4	W250x33
B5	HSS 127x127x4.8

COLUMN SCHEDULE	
LABEL	SIZE
C1	HSS152x152x4.8
C2	HSS152x152x9.5
C3	HSS 127x127x4.8
C4	HSS 152x152x13

ROOF / CEILING /SHEAR WALL SCHEDULE			
ROOF / WALL LOCATION	STRUCTURE AND SPACING	SHEATHING	NAILS/SCREWS
ROOF-STEEL CANOPY	W310x24, FOR SPACING SEE PLAN VIEW	38x1.52 STEEL ROOF DECK	POWDER DRIVEN FASTENERS @ 300mm O/C
ROOF-BUILDING	PRE-ENGINEERED ROOF TRUSSES @ 406 mm O/C	19mm PLYWOOD	3"@ 50mm O/C
CEILING	184mm (CORE) SIP PANELS	12.5mm PLYWOOD (BOTH SIDES)	SIP SCREW @ 100mm o/c

NOTE:
1. SCREWS @ 50mm o/c AROUND MECH. OPENING, PROVIDE PROPER BLOCKING.
2. NAILING/SCREWING PATTERNS NOTED IN THE SCHEDULE ABOVE PERTAIN ONLY TO SHEATHING PANEL EDGES. THE INTERIOR OF THE SHEATHING PANELS MAY BE NAILED AT 300MM O/C. NAIL SIZE TO MATCH EDGE NAILS.

UPLIFT TIE SCHEDULE	
STRUCTURE	HURRICANE TIE
TRUSS TO PLATE	HURRICANE TIE PER ROOF TRUSS (DOUBLE PLATE) MAX. FACTORED UPLIFT 4.56kN

SILL PLATE ANCHOR BOLT SCHEDULE	
GRID LINE	ANCHOR BOLT SPECIFICATION
EXTERIOR SIP PANELS	16mm CAST IN PLACE ANCHOR BOLT @ 610mm O/C, EMBEDM,ENT LENGTH 102mm (2")

NOTE:
1. ALTERNATIVE ANCHOR BOLTS SHALL MEET MIN. STRUCTURAL CAPACITY AS DESIGNED ANCHOR BOLTS

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M. J. WHITE # 39283 BRITISH COLUMBIA ENGINEER
Feb 3, 2015

Revision/ Revisions	Description/Description	Date/Date
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CANADA BORDER SERVICES AGENCY

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Regional Manager, Architectural and Engineering Services
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ROOF PLAN

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
R.071363.001	S-102 4 OF 10	0

PWGSC – A1 – 841X594
0 10 20 30 40 50 60 70 80 90 100mm
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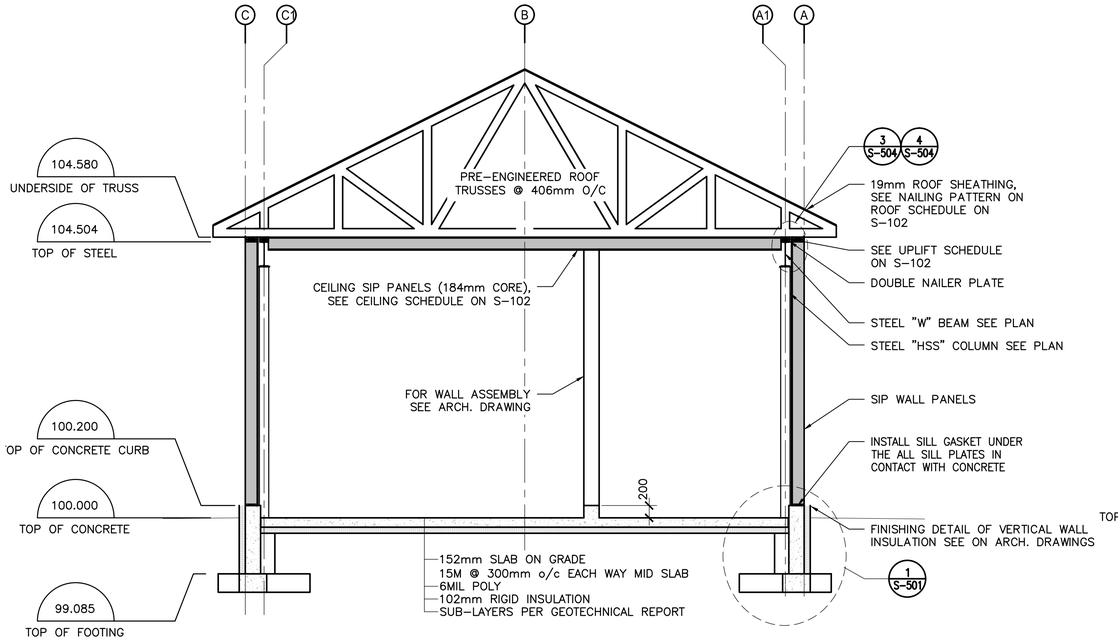
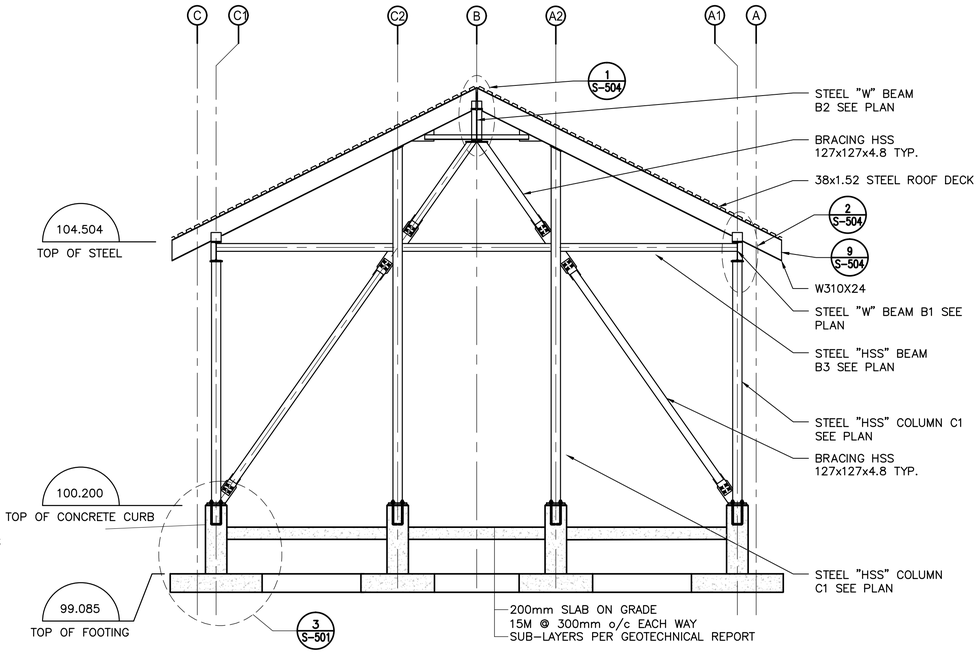
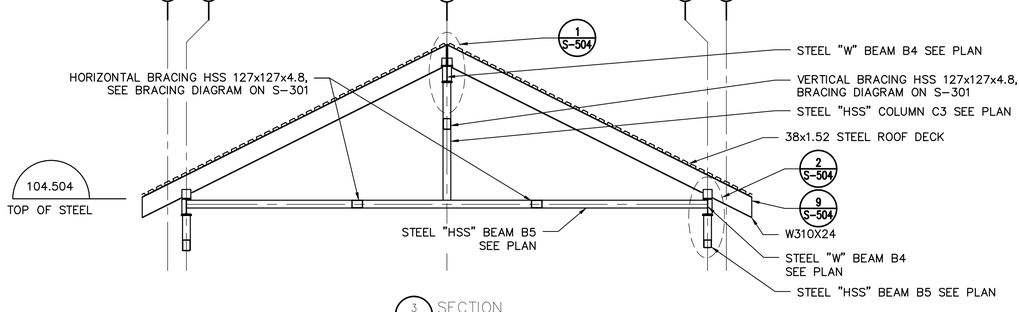


1 / S-301 SECTION
SCALE: 1:50

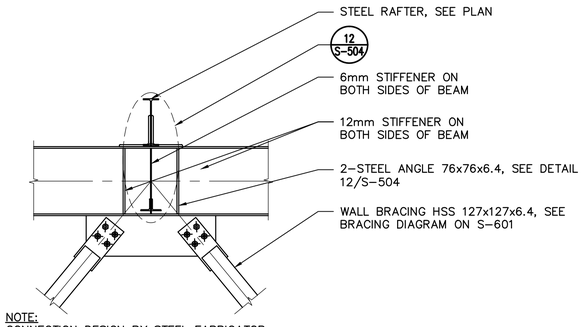


NOTE:
ALL BRACING CONNECTIONS SHALL BE WITH SLIP-CRITICAL BOLTED

2 / S-301 SECTION
SCALE: 1:50

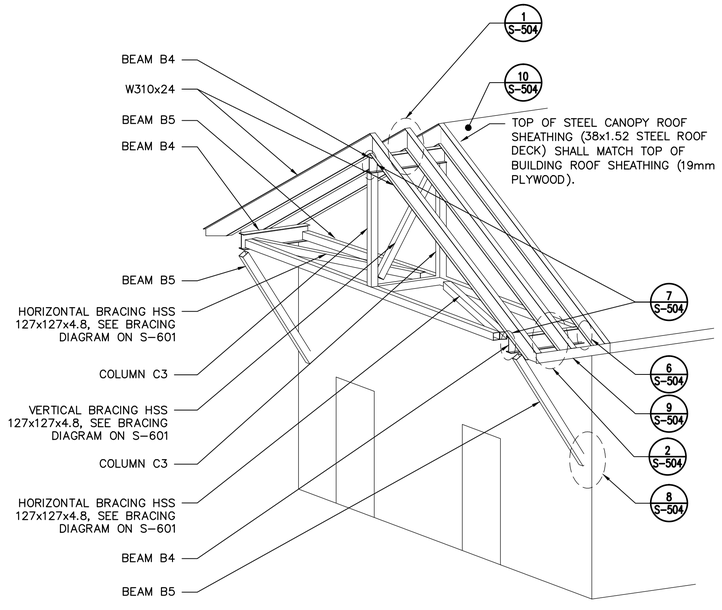


3 / S-301 SECTION
SCALE: 1:50



NOTE:
CONNECTION DESIGN BY STEEL FABRICATOR

5 / S-301 STEEL CANOPY CHEVRON BRACE DETAIL
SCALE: 1:20



NOTE:
1. UNLESS NOTED OTHERWISE ALL CONNECTION SHALL BE DESIGNED BY STEEL MANUFACTURER
2. UNLESS NOTED OTHERWISE ALL CONNECTION SHALL BE SHALL BE WELDED WITH MIN. 6mm FILLET WELD
3. BUILDING DETAILS ARE NOT SHOWN FOR CLARITY, SEE PLAN VIEW

4 / S-301 STEEL CANOPY ON GL 1 - SCHEMATIC ISOMETRIC VIEW
SCALE: NTS

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PROFESSIONAL ENGINEER
M. J. WHITE
39283
BRITISH COLUMBIA
ENGINEER
Feb 3, 2015

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Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

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Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
R.071363.001	**S-301** 5 OF 10	**0**

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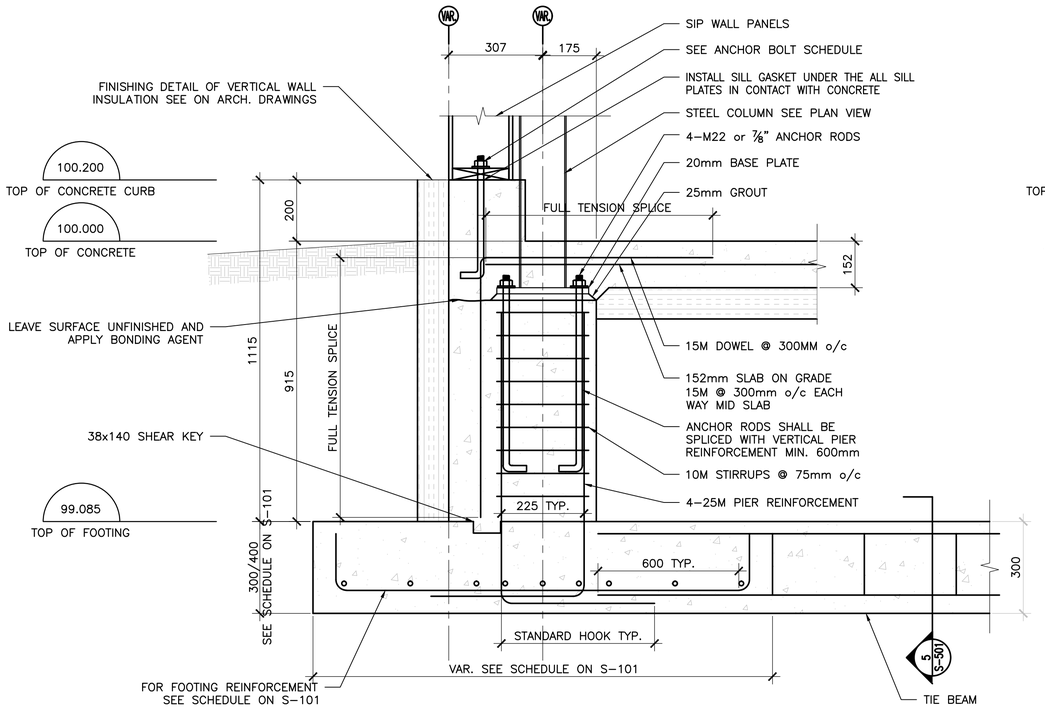
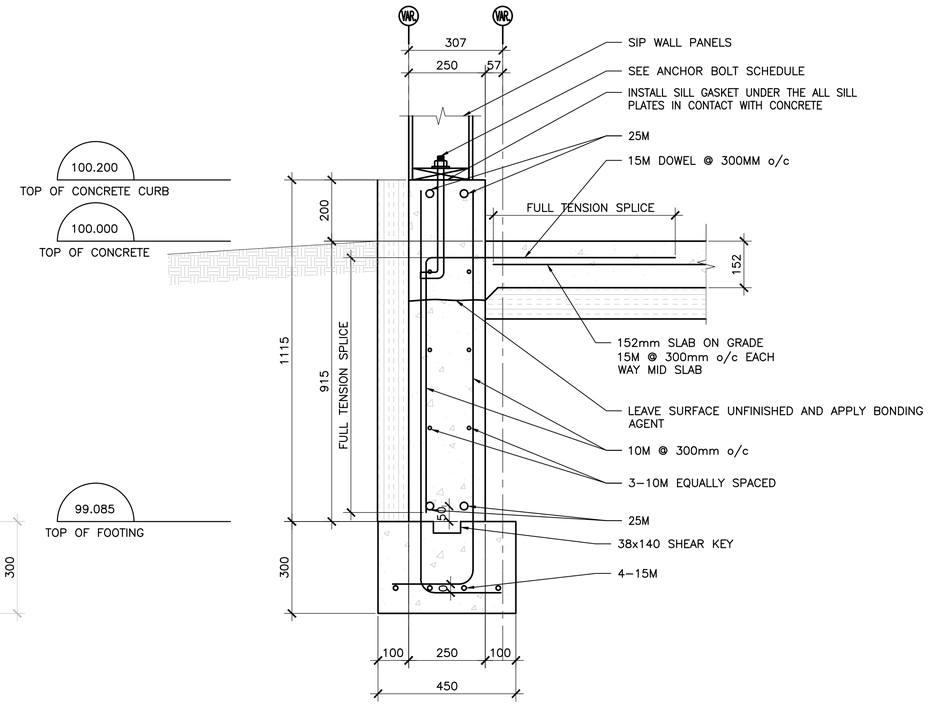
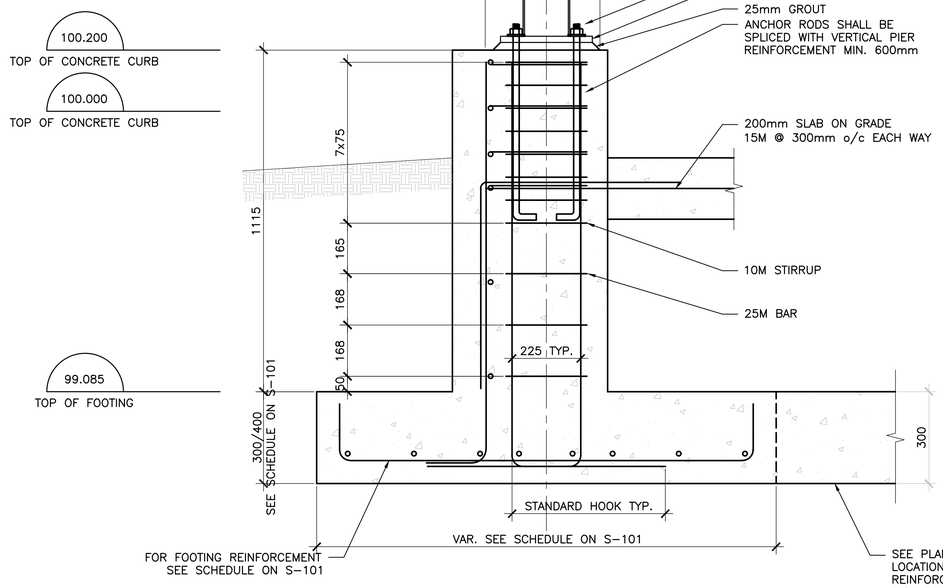


NOTE:
FOUNDATION WALL REINFORCEMENT IS NOT SHOWN FOR CLARITY, SEE REINFORCEMENT ON DETAIL 2/S–501

1 / S–501 SERVICE BUILDING–SPREAD FOOTING DETAIL TYP.
SCALE: 1:10

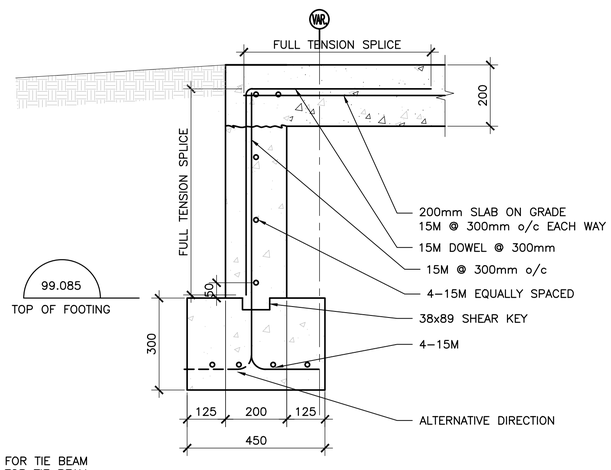


2 / S–501 SERVICE BUILDING– FOUNDATION WALL DETAIL TYP.
SCALE: 1:10

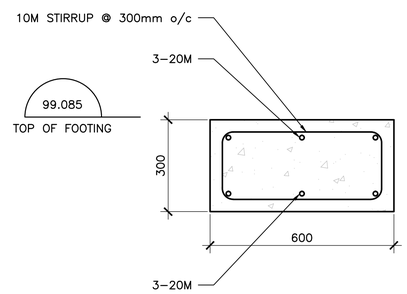


NOTE:
1. FOUNDATION WALL REINFORCEMENT, SEE DETAIL 4/S–501
2. PIER REINFORCEMENT SEE DETAILS ON S–502

3 / S–501 FUEL TANK STEEL CANOPY–SPREAD FOOTING DETAIL TYP.
SCALE: 1:10



4 / S–501 FUEL TANK STEEL CANOPY– FOUNDATION WALL DETAIL TYP.
SCALE: 1:10



5 / S–501 FOUNDATION TIE BEAM SECTION TYP.
SCALE: 1:10

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PROFESSIONAL ENGINEER
M. J. WHITE
39283
BRITISH COLUMBIA
ENGINEER
Feb 3, 2015

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Regional Manager, Architectural and Engineering Services
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R.071363.001	S-501 6 OF 10	0

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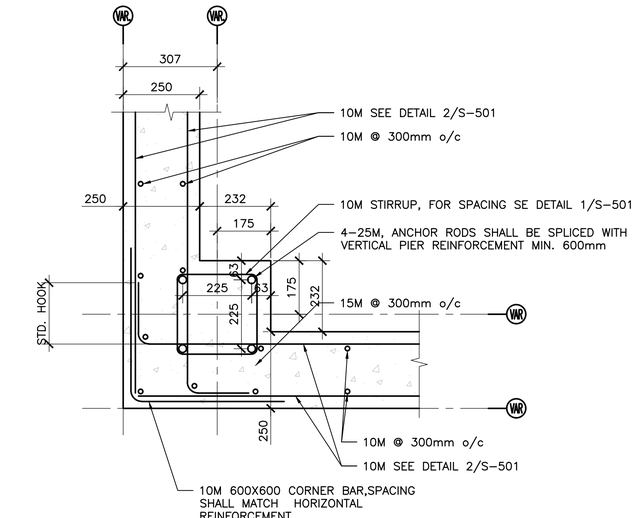
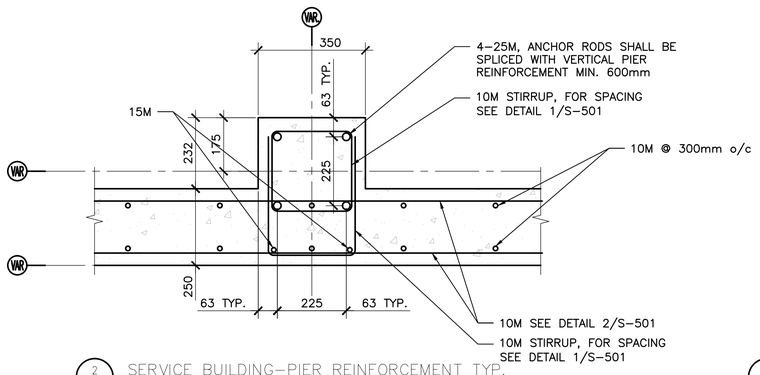
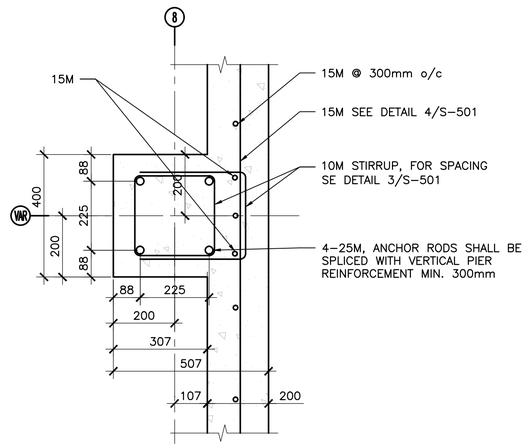


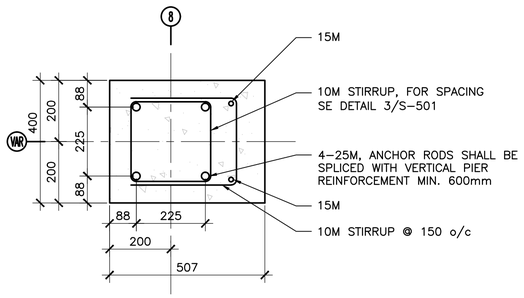
1 S-502 SERVICE BUILDING-CORNER PIER REINFORCEMENT TYP.
SCALE: 1:10



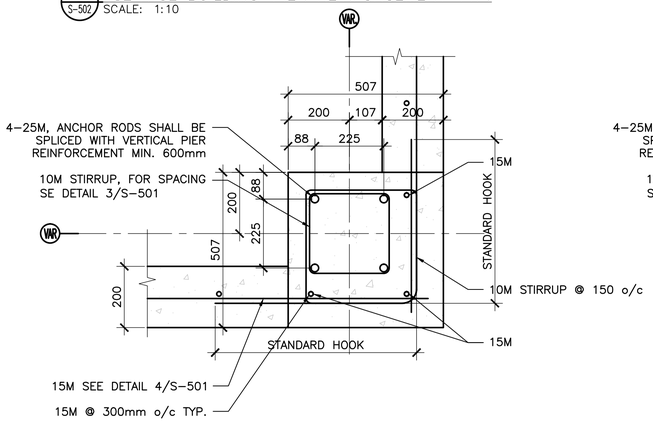
2 S-502 SERVICE BUILDING-PIER REINFORCEMENT TYP.
SCALE: 1:10



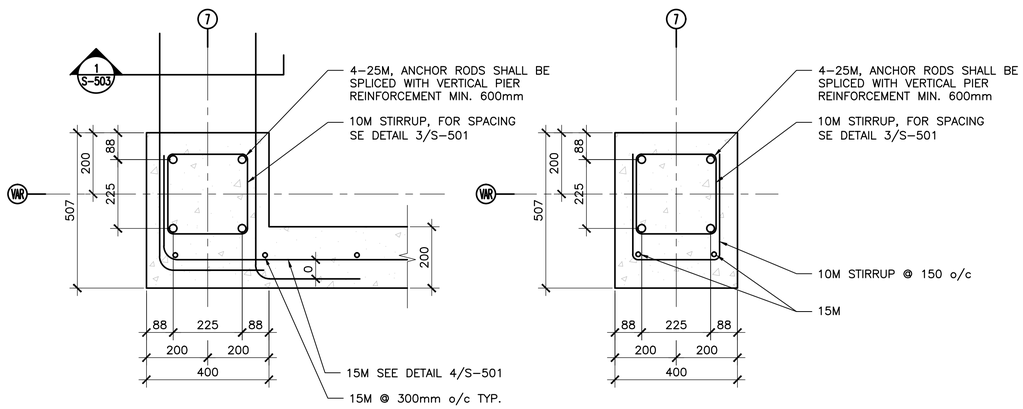
3 S-502 FUEL TANK STEEL CANOPY-PIER REINFORCEMENT GL 8 TYP.
SCALE: 1:10



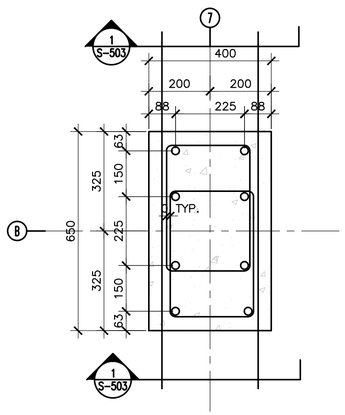
4 S-502 FUEL TANK STEEL CANOPY-PIER REINFORCEMENT GL 8 TYP.
SCALE: 1:10



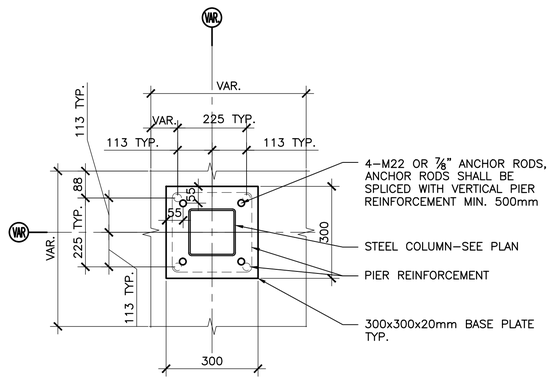
5 S-502 FUEL TANK STEEL CANOPY-PIER REINFORCEMENT GL A1/8 & GL C1/8TYP.
SCALE: 1:10



6 S-502 FUEL TANK STEEL CANOPY-PIER REINFORCEMENT GL A1/7 & GL C1/7TYP.
SCALE: 1:10



7 S-502 FUEL TANK STEEL CANOPY-PIER REINFORCEMENT GL B/7TYP.
SCALE: 1:10



NOTE:
FOR PIER SIZE SE PLAN AND DETAILS ON S-502

8 S-502 BASE PLATE DETAIL TYP.
SCALE: 1:10

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PROFESSIONAL ENGINEER
M. J. WHITE
39283
PROVINCE OF BRITISH COLUMBIA
14/02/12
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Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	S-502 7 OF 10	0

PWGSC – A1 – 841X594

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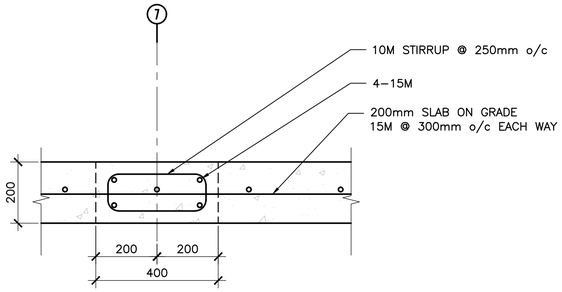
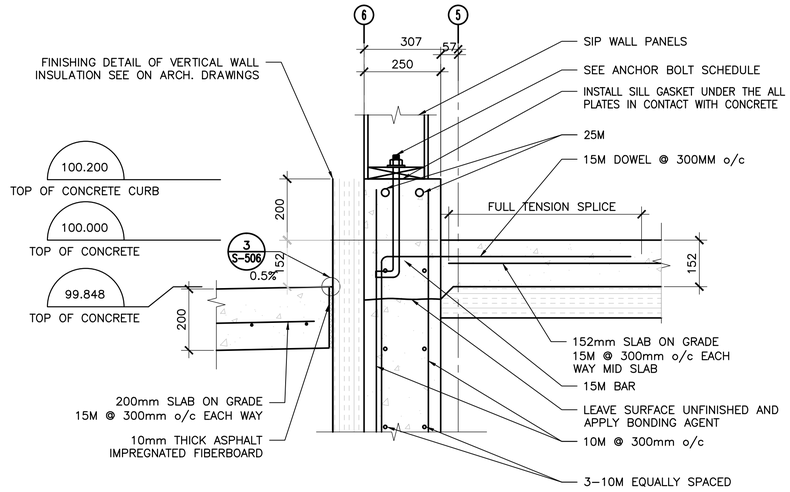
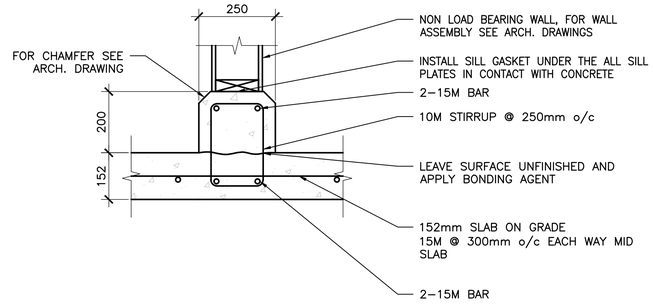


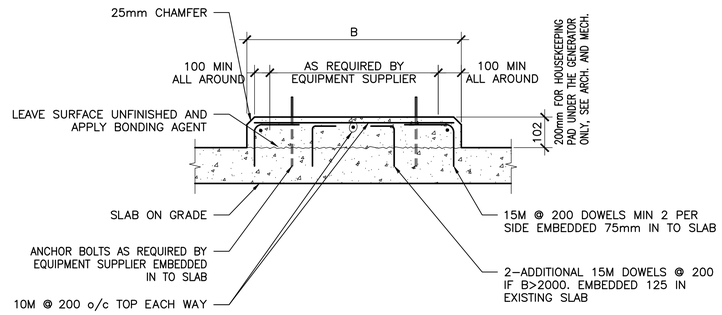
1 S-503 FUEL TANK STEEL CANOPY–SLAB ON GRADE SECTION
SCALE: 1:10



2 S-503 TYPICAL SLAB SECTION @ GL 6
SCALE: 1:10

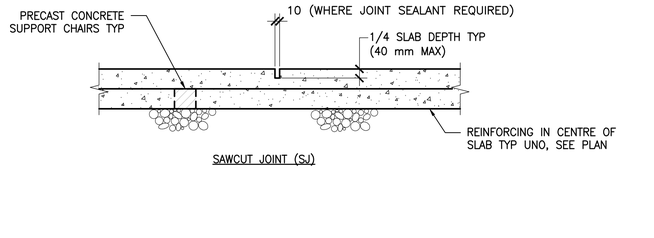


3 S-503 CURB DETAIL
SCALE: 1:10



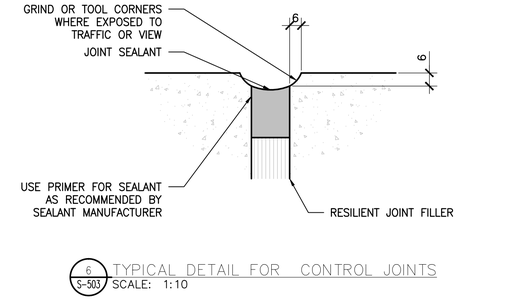
NOTES:
1. PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS OR AS DETERMINED BY THE EQUIPMENT MANUFACTURER AND APPROVED BY THE ENGINEER.
2. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER, AND SHALL BE AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE WHILE PAD IS BEING PLACED.
3. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS SPECIFIED OTHERWISE.
4. USE HYBRID ADHESIVE SYSTEM FOR ALL REBAR AND ANCHOR BOLTS FASTENING TO EXISTING CONCRETE SLAB

4 S-503 HOUSE KEEPING PAD DETAIL TYP.
SCALE: 1:10

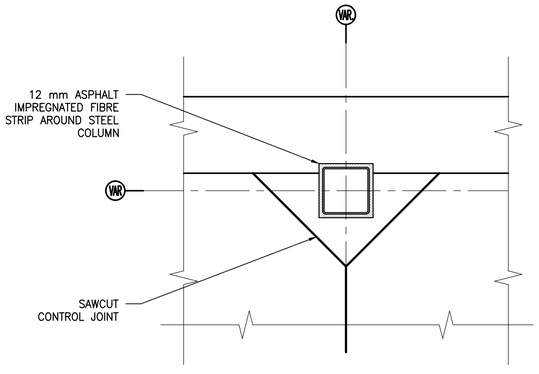


NOTE:
1. PROVIDE SAWCUT JOINT AS SHOWN & AT LOCATIONS SHOWN ON DRAWINGS CUT SAWCUT JOINTS A MAXIMUM OF 24 HRS AFTER PLACING SLAB.
2. CONSTRUCTION JOINT AND SAWCUT JOINTS PATTERNS MUST BE COORDINATED WITH CERAMIC, QUARRY TILE (OR SIMILAR FINISH) PATTERN JOINTS.
3. GRIND LEVEL ALL UNEVEN SURFACES AT THE EDGE OF CONSTRUCTION JOINTS AND SAWCUT JOINTS TO WITHIN SPECIFIED TOLERANCES.
4. JOINT SEALANT REQUIRED FOR ALL EXPOSED FLOORS, AND FOR FLOORS WITH CERAMIC TILE, QUARRY TILE, VINYL ASBESTOS TILE AND OTHER SIMILAR FINISHES WITH JOINT PATTERNS THROUGH THE FINISH. JOINT SEALANT NOT REQUIRED WITH CARPET FINISH.
5. SUBGRADE PER SPECIFICATIONS.

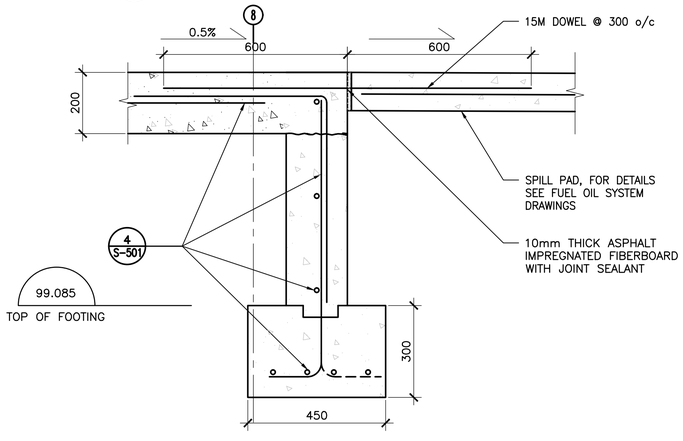
5 S-503 TYPICAL SLAB ON GRADE CONTROL JOINTS
SCALE: 1:10



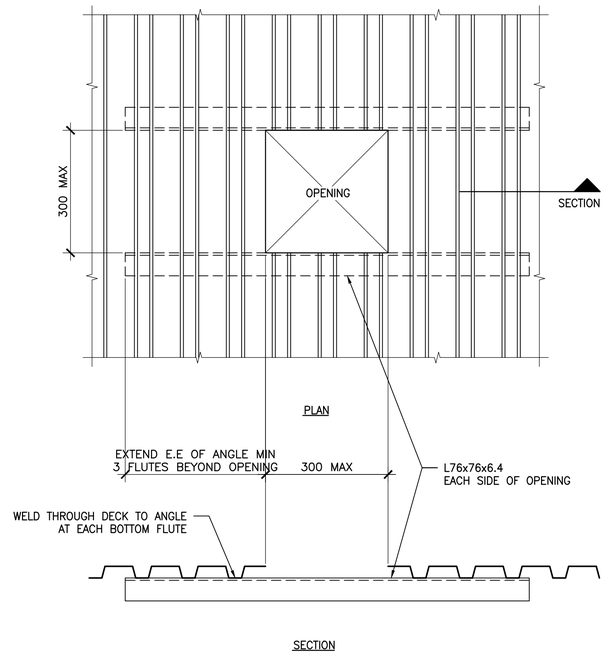
6 S-503 TYPICAL DETAIL FOR CONTROL JOINTS
SCALE: 1:10



7 S-503 HOUSE KEEPING PAD DETAIL TYP.
SCALE: 1:10



8 S-503 FUEL TANK SLAB / SPILL PAD CONNECTION DETAIL
SCALE: 1:10



9 S-503 TYPICAL OPENING THROUGH METAL DECK
SCALE: NTS

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0 10 20 30 40 50 60 70 80 90 100mm

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PROFESSIONAL ENGINEER
M. J. WHITE
39283
PROVINCE OF BRITISH COLUMBIA
ENGINEER
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PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services Gestionnaire régionale, Services d'architectural et de génie, TPSGC

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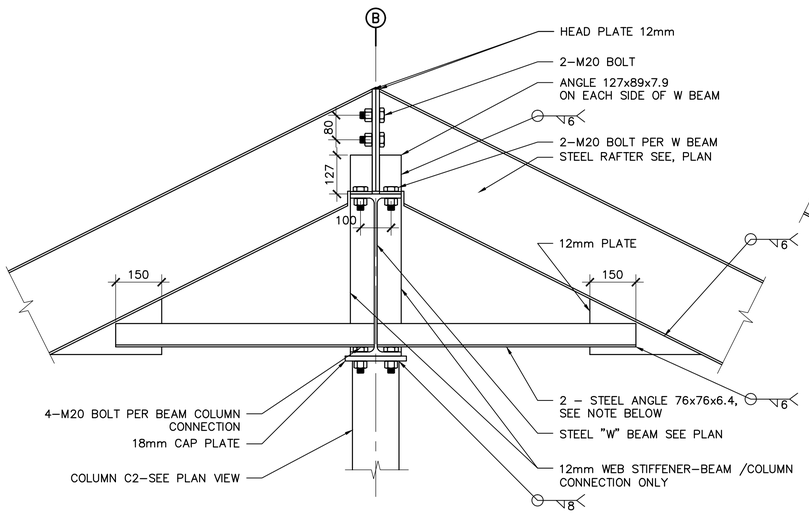
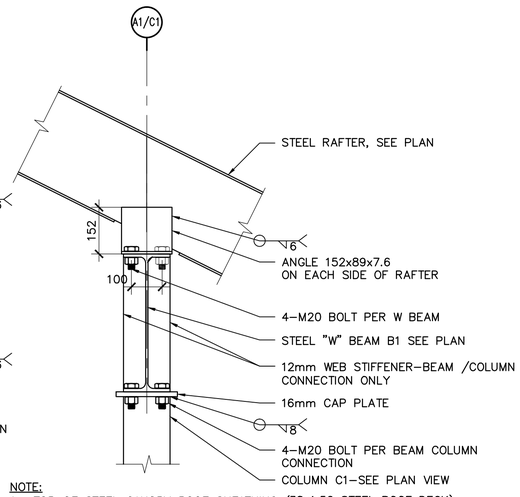
R.071363.001	S-503 8 OF 10	0



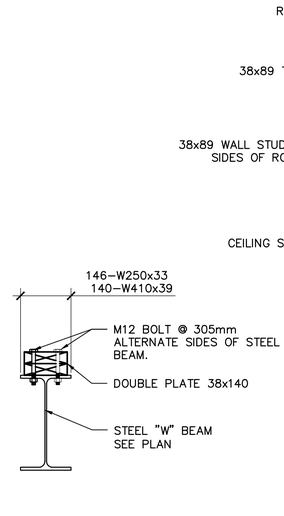
NOTE:
1. TOP OF STEEL CANOPY ROOF SHEATHING (38x1.52 STEEL ROOF DECK) SHALL MATCH TOP OF BUILDING ROOF SHEATHING (19mm PLYWOOD).
2. INSTALL HORIZONTAL STEEL ANGLE 76X76X6.4 FOR RIDGE BEAM ONLY BETWEEN GL7&8

1/S-504 STEEL CANOPY CONNECTION DETAIL1
SCALE: 1:10

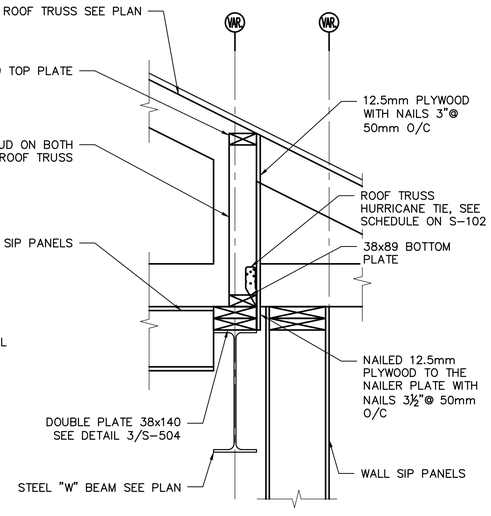


NOTE:
1. TOP OF STEEL CANOPY ROOF SHEATHING (38x1.52 STEEL ROOF DECK) SHALL MATCH TOP OF BUILDING ROOF SHEATHING (19mm PLYWOOD).
2. SEE ALSO DETAIL 12/S–504

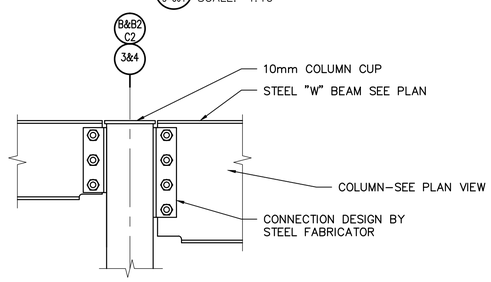
2/S-504 STEEL CANOPY CONNECTION DETAIL2
SCALE: 1:10

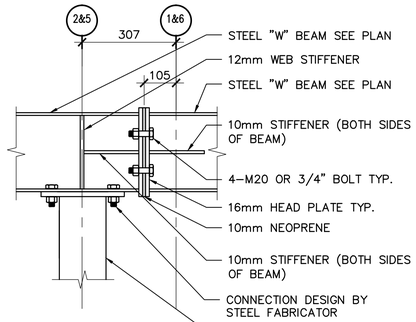


3/S-504 NAILER PLATE DETAIL TYP.
SCALE: NTS

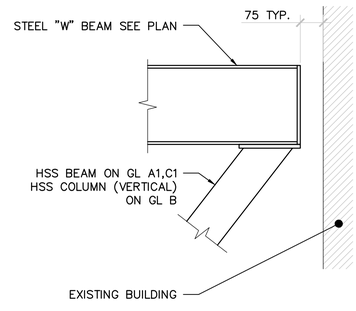


4/S-504 ROOF TRUSS CONNECTION DETAIL TYP.
SCALE: NTS

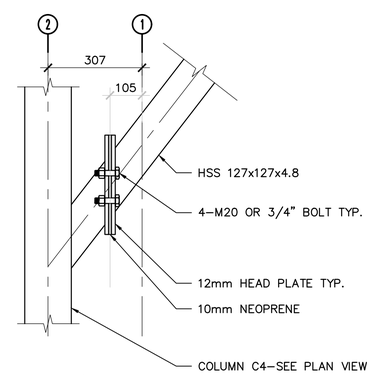




NOTE:
1. USE SPRAY FOAM AROUND CONNECTION REFER TO ARCH. SPECIFICATION
2. BRACING IS NOT SHOWN FOR CLARITY, SEE S–601

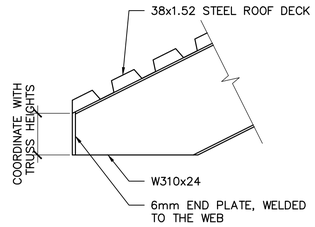


7/S-504 STEEL STRUCTURE DETAIL BY THE EXISTING BUILDING
SCALE: 1:10



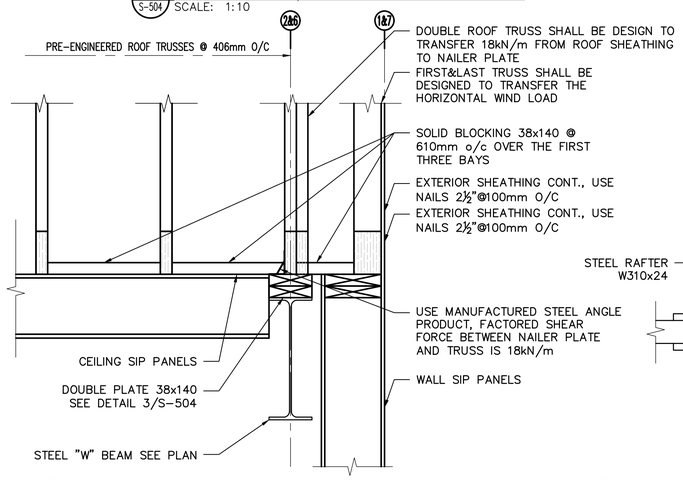
8/S-504 STEEL COLUMN/BEAM CONNECTION DETAIL @ GL 1/A1 AND 1/C1
SCALE: 1:10

5/S-504 STEEL COLUMN/BEAM CONNECTION DETAIL
SCALE: 1:10

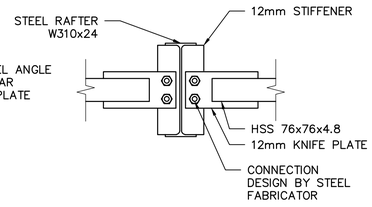


9/S-504 STEEL RAFTER END DETAIL TYP.
SCALE: NTS

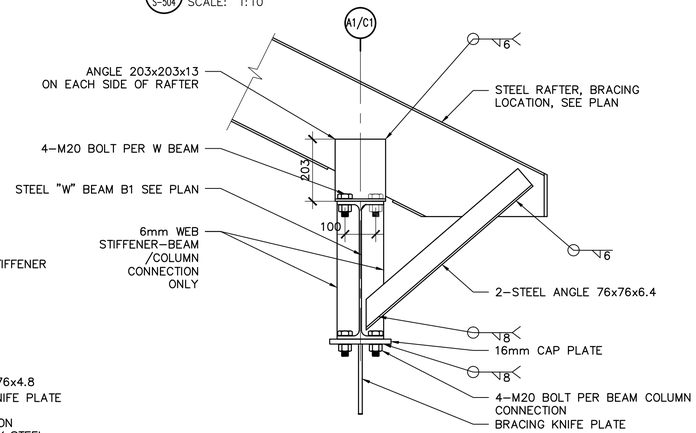
6/S-504 STEEL COLUMN/BEAM CONNECTION DETAIL
SCALE: 1:10



10/S-504 ROOF TRUSS CONNECTION DETAIL @ GL 1,7 TYP.
SCALE: NTS



11/S-504 FUEL CANOPY ROOF BRACING DETAIL
SCALE: NTS



NOTE:
1. TOP OF STEEL CANOPY ROOF SHEATHING (38x1.52 STEEL ROOF DECK) SHALL MATCH TOP OF BUILDING ROOF SHEATHING (19mm PLYWOOD).
2. SEE ALSO DETAIL 2/S–504

12/S-504 STEEL CANOPY CHEVRON BRACE LOCATION DETAIL
SCALE: 1:10

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M. J. WHITE # 39283 BRITISH COLUMBIA ENGINEER
Feb 3, 2015

Revision/ Révision	Description/Description	Date/Date
0	ISSUED FOR TENDER	15/02/02

Client/client
CANADA BORDER SERVICES AGENCY

Project title/Titre du projet
PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par
MJW

Drawn by/Dessine par
PP

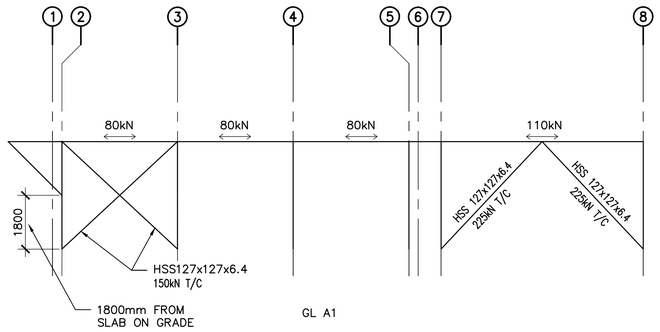
PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

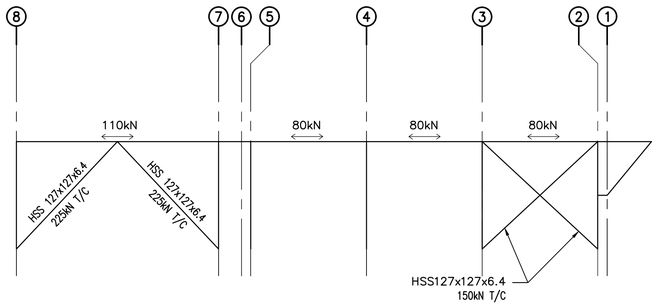
Drawing title/Titre du dessin
DETAILS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	**S-504** 9 OF 10	**0**

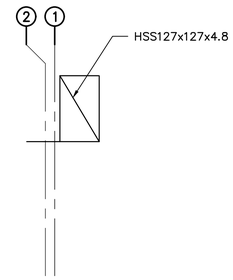
PWGSC – A1 – 841X594
0 10 20 30 40 50 60 70 80 90 100mm
DM5XXXXXX



GL A1

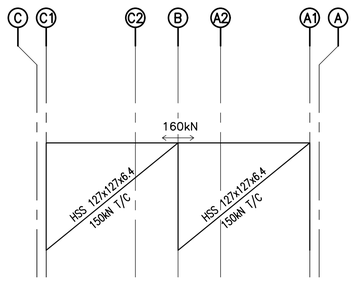


GL C1

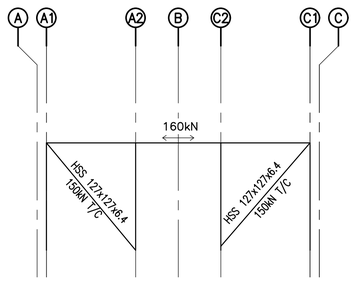


GL B

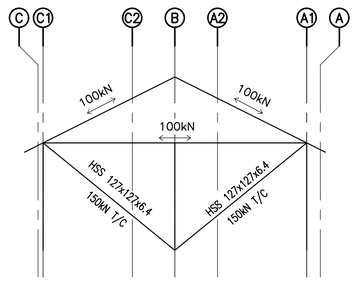
NOTE:
BRACING CONNECTIONS SHALL BE WELDED WITH MIN. 6mm FILLET WELD AND DESIGNED BY STEEL FABRICATOR



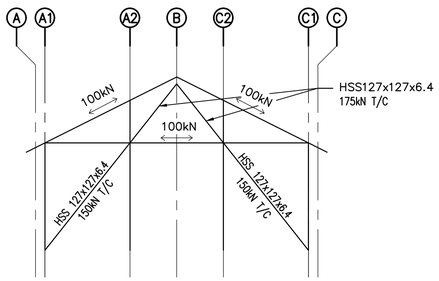
GL 2



GL 5



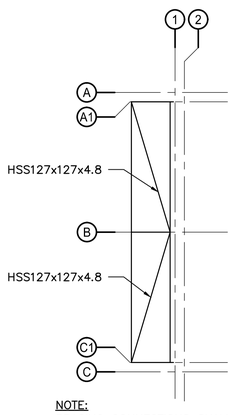
GL 6



GL 7

NOTE:
1. ALL CONNECTIONS SHALL BE DESIGNED BY STEEL FABRICATOR
2. ALL BRACING CONNECTIONS SHALL BE WITH SLIP-CRITICAL BOLTED UNLESS NOTED OTHERWISE-SEE GL-B
3. ALL FORCES SHOWN ARE TOTAL FACTORED LOADS

1 / S-601 VERTICAL BRACING DIAGRAMS
SCALE: NTS



NOTE:
BRACING CONNECTIONS SHALL BE WELDED WITH MIN. 6mm FILLET WELD AND DESIGNED BY STEEL FABRICATOR

2 / S-601 HORIZONTAL BRACING DIAGRAMS
SCALE: NTS

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PROFESSIONAL ENGINEER
M. J. WHITE
39283
PROVINCE OF BRITISH COLUMBIA
ENGINEER
Feb 3, 2015

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	15/02/02

Client/client

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par
MJW

Drawn by/Dessine par
PP

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

BRACING DIAGRAMS

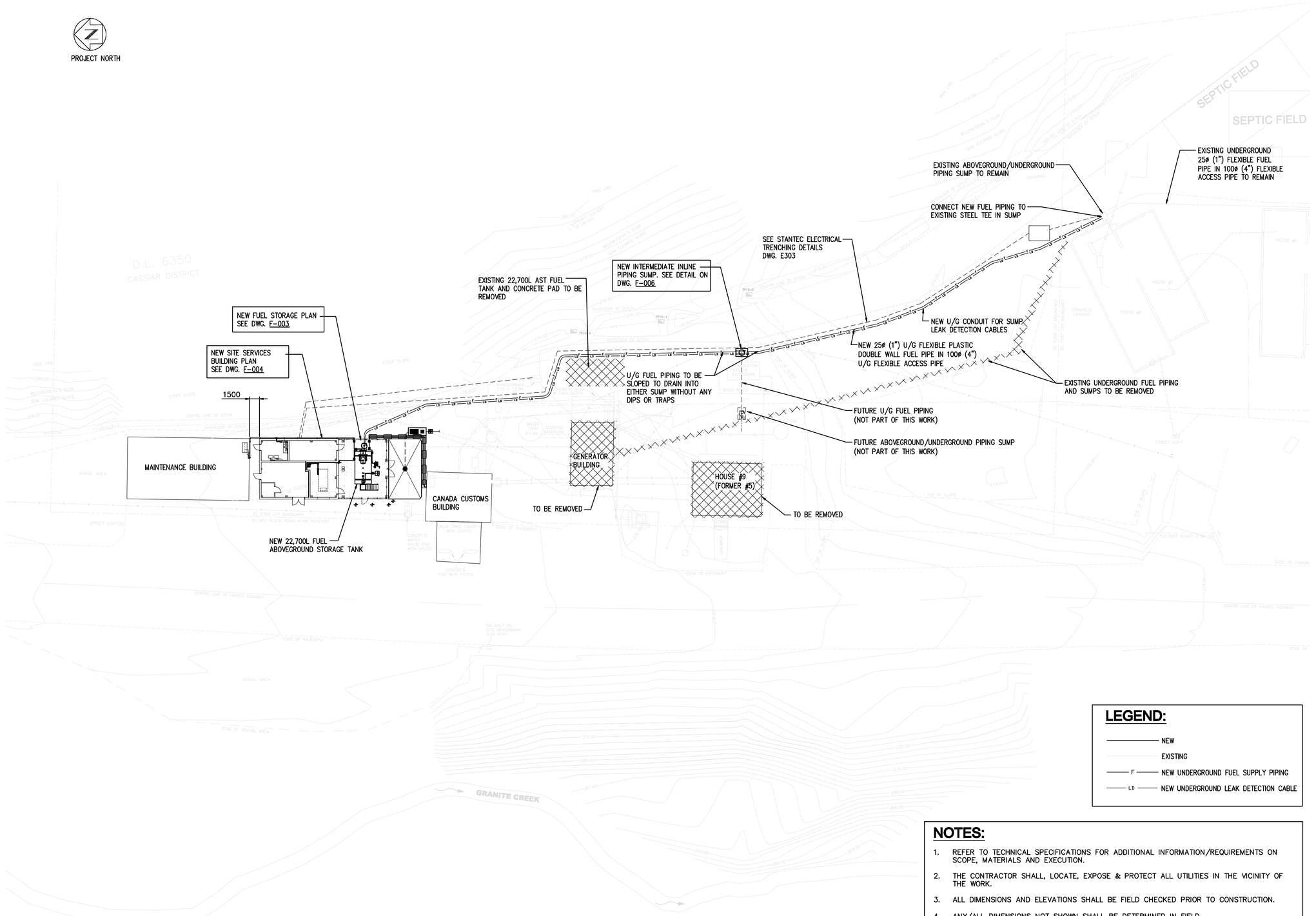
Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
R.071363.001	S-601 10 OF 10	0

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

DM5XXXXXX

PROJECT NORTH



LEGEND:

- NEW
- EXISTING
- F — NEW UNDERGROUND FUEL SUPPLY PIPING
- LD — NEW UNDERGROUND LEAK DETECTION CABLE

NOTES:

1. REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS ON SCOPE, MATERIALS AND EXECUTION.
2. THE CONTRACTOR SHALL, LOCATE, EXPOSE & PROTECT ALL UTILITIES IN THE VICINITY OF THE WORK.
3. ALL DIMENSIONS AND ELEVATIONS SHALL BE FIELD CHECKED PRIOR TO CONSTRUCTION.
4. ANY/ALL DIMENSIONS NOT SHOWN SHALL BE DETERMINED IN FIELD.
5. PIPING/TUBING SHALL BE FIELD ROUTED, SUPPORTED AND PROTECTED FROM MECHANICAL DAMAGE.
6. CONTRACTOR SHALL TIE–IN NEW PIPING/TUBING TO EXISTING SYSTEM, NEW GENERATOR, AND HEATING APPLIANCES.
7. CONTRACTOR SHALL FILL LINES, TEST AND COMMISSION SYSTEMS TO ENSURE SATISFACTORY OPERATION.

FUEL SYSTEM SITE PLAN

SCALE: 1:300

PWGSC – A1 – 841X594

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Morrow Engineering Ltd.
CONSULTING ENGINEERS — NORTH VANCOUVER, B.C.

PROFESSIONAL ENGINEER — B. J. DE MONTBRUN — BRITISH COLUMBIA — FEB. 2, 2015

Revision/ Revision	Description/Description	Date/Date
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A	ISSUED FOR 50% CLIENT REVIEW	14/12/12

Client/client

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TENDER A
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Designed by/Concept par
B.deM

Drawn by/Dessine par
CK

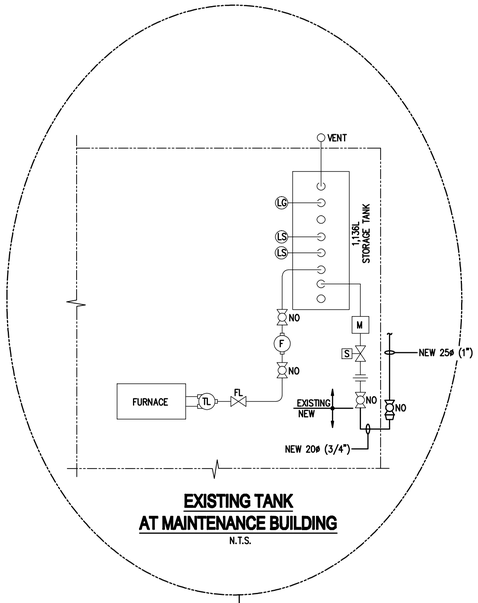
PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services / Gestionnaire régionale, Services d'architectural et de génie, TPSGC

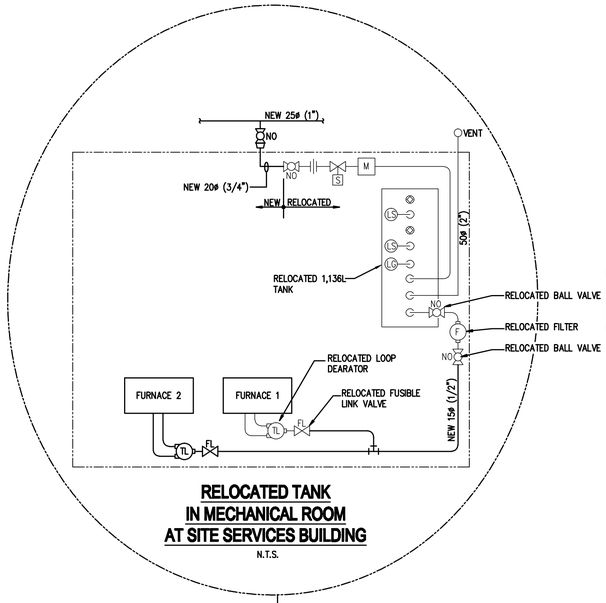
Drawing title/Titre du dessin

FUEL SYSTEMS
SITE PLAN

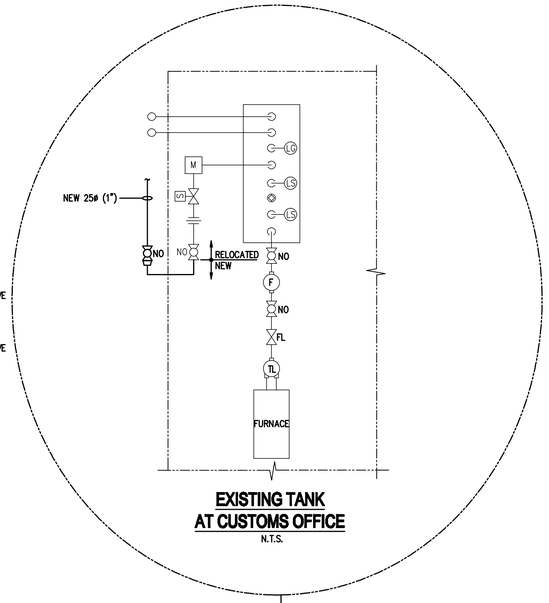
Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
R.071363.001	F-001 OF	0



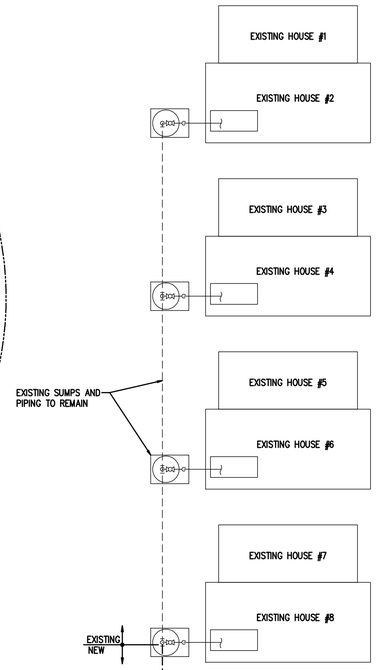
EXISTING TANK AT MAINTENANCE BUILDING
N.T.S.

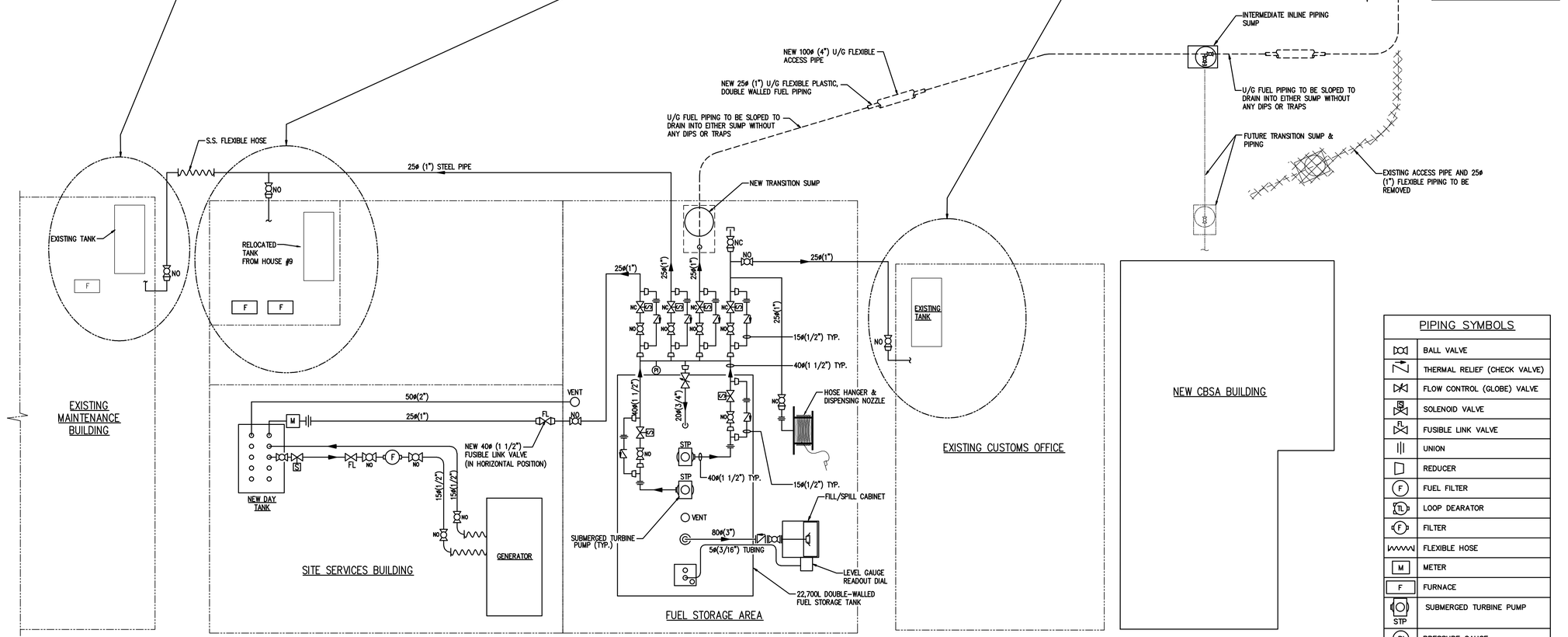


RELOCATED TANK IN MECHANICAL ROOM AT SITE SERVICES BUILDING
N.T.S.



EXISTING TANK AT CUSTOMS OFFICE
N.T.S.





FUEL FLOW DIAGRAM
N.T.S.

PIPING SYMBOLS	
	BALL VALVE
	THERMAL RELIEF (CHECK VALVE)
	FLOW CONTROL (GLOBE) VALVE
S	SOLENOID VALVE
FL	FUSIBLE LINK VALVE
	UNION
	REDUCER
F	FUEL FILTER
TL	LOOP DEARATOR
F	FILTER
	FLEXIBLE HOSE
M	METER
F	FURNACE
STP	SUBMERGED TURBINE PUMP
PI	PRESSURE GAUGE
LG	LEVEL GAUGE
LS	LEVEL SWITCH
NC	NORMALLY CLOSED
NO	NORMALLY OPEN

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Morrow Engineering Ltd.
CONSULTING ENGINEERS — NORTH VANCOUVER, B.C.
TEL: 604.980.1100

PROFESSIONAL ENGINEER — B. J. DE MONTBRUN — BRITISH COLUMBIA — FEB. 2, 2015

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0	ISSUED FOR TENDER	15/02/02
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A	ISSUED FOR 50% CLIENT REVIEW	14/12/12

CANADA BORDER SERVICES AGENCY

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PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par
B.deM

Drawn by/Dessine par
CK

PWGSC Project Manager/Administrateur de Projets TPSGC

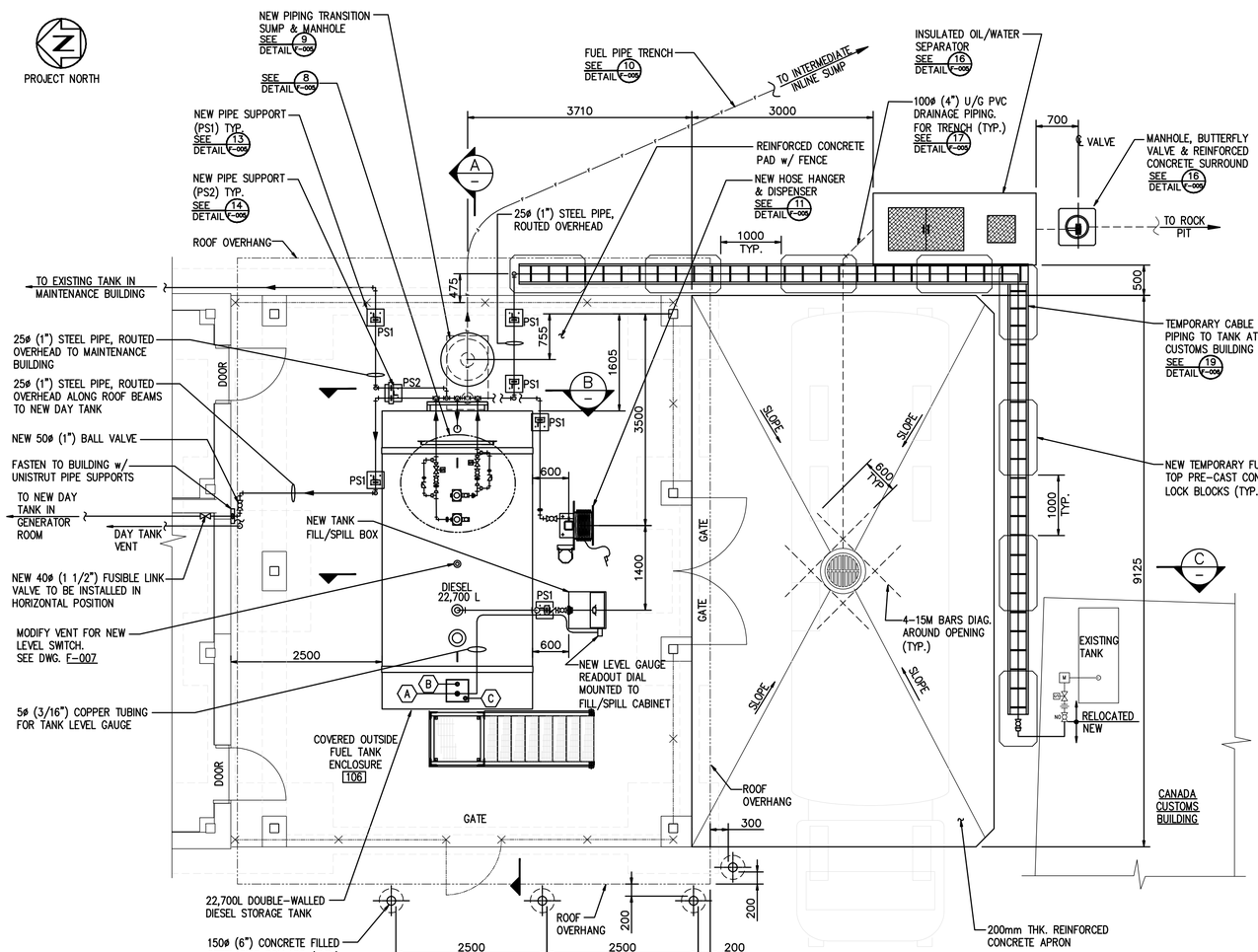
Regional Manager, Architectural and Engineering Services Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

FUEL SYSTEMS FLOW DIAGRAM

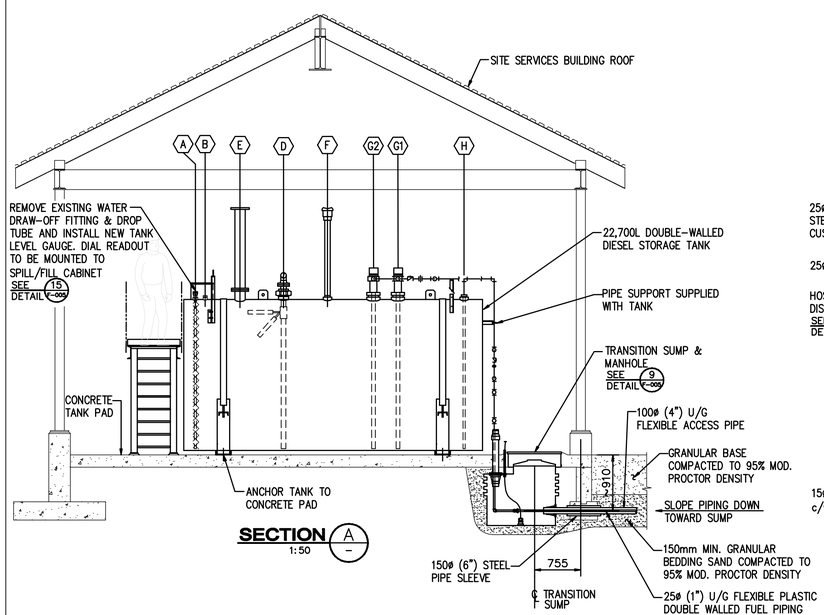
Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	**F-002** OF	**0**

PWGSC – A1 – 841X594



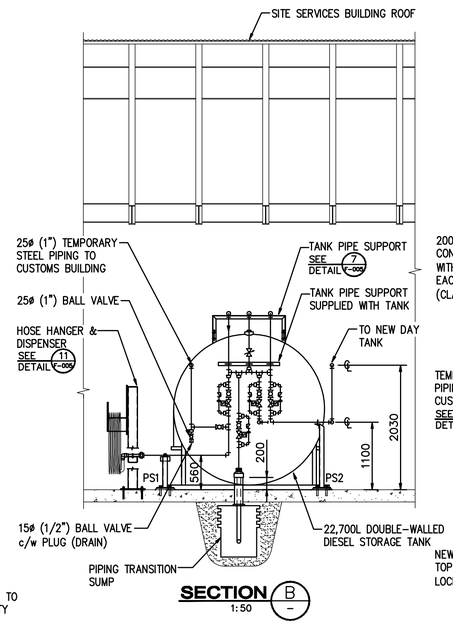
FUEL STORAGE PLAN

SCALE: 1:50



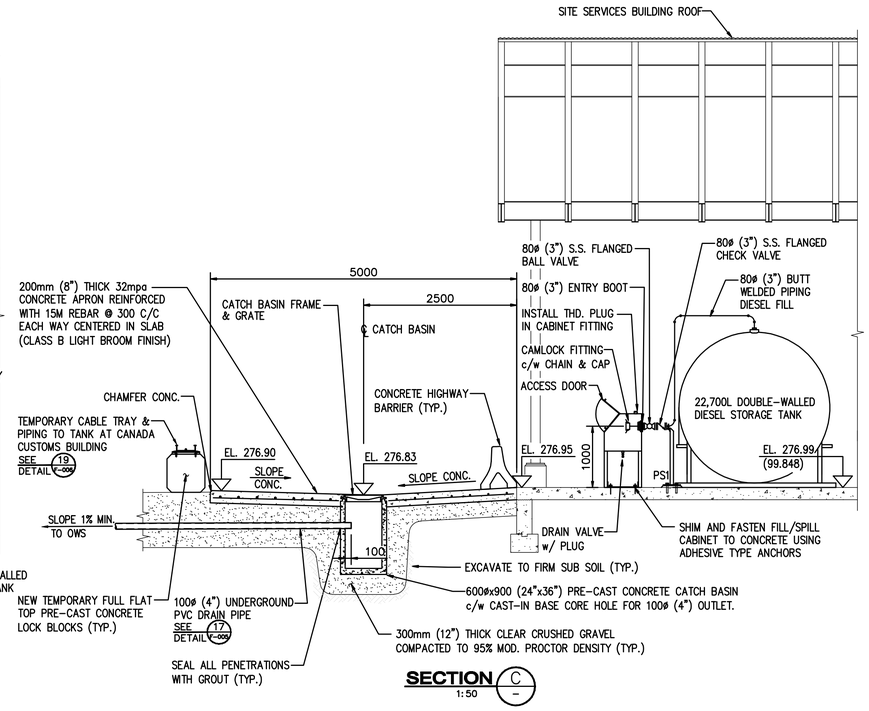
SECTION A

1:50



SECTION B

1:50



SECTION C

1:50

NOTES:

1. ALL DIMENSIONS SHALL BE FIELD CHECKED PRIOR TO PIPING FABRICATION AND INSTALLATION.
2. ANY/ALL DIMENSIONS NOT SHOWN SHALL BE DETERMINED IN FIELD.
3. FUEL PIPING AND TUBING SHALL BE FIELD ROUTED, SUPPORTED AND PROTECTED FROM MECHANICAL DAMAGE.
4. ALL FUEL PIPING ENTRIES THROUGH BUILDING WALLS SHALL BE ABOVEGROUND. WALL PENETRATIONS TO BE SEALED AS PER STANTEC DWG. M501.

PIPE/TUBING SUPPORT MAXIMUM SPACING (mm)		
NOMINAL PIPE SIZE (mm)	STL OR S.S. TUBING	STL OR S.S. SCH.40 OR SCH.80 PIPE
10ø (3/8")	1200	1800
13ø (1/2")	1200	1800
20ø (3/4")	1500	2100
25ø (1")	1800	2100
32 (1 1/4")	2100	2400
38ø (1 1/2")	2400	2700
50ø (2")	2400	3000

NOTE:
WHERE DIFFERENT SIZES OF PIPE/TUBING ARE RUN ALONG THE SAME ALIGNMENT, SUPPORT SPACING USED SHALL BE THAT FOR THE SMALLEST DIAMETER LINE.

DIESEL STORAGE TANK FITTING SCHEDULE

CAP. 22,700 L
DOUBLE WALLED VACUUM MONITORED
2464 DIA x 4877 LG
(97"DIA x 192"LG)

- (A) 50ø (2") FITTING C/W 50øx20ø (2"x3/4") D.T. BUSHING, AND 3/16" DROP TUBING – LEVELOMETER
- (B) 40ø (1ø") FITTING C/W 40ø (1ø") NIPPLE, TIGHT FILL CONNECTION AND DUST CAP (KAMLOK OR EQUAL) – DIPPING PORT
- (C) DRAIN VALVE – SPRING LOADED, PLUNGER TYPE
- (D) 150ø (6") FNPT FITTING, 150ø (6") NIPPLE, HIGH PRESSURE OVERFILL PREVENTION VALVE AND 80ø (3") RF FLANGE – FILL
- (E) EMERGENCY VENT C/W 1300mm LONG EXTENSION & WELDED IN ANTI-THEFT SCREEN
- (F) 80ø (3") FITTING FOR 80ø (3") VENT PIPE C/W OPEN VAPOUR VENT & RAIN HOOD AND LEVEL SWITCH
- (G1) 150ø (6") FITTING C/W 150ø x 100ø (6"x4") BUSHING, 100ø (4") NIPPLE & SUBMERGED TURBINE PUMP
- (G2) 150ø (6") FITTING C/W 150ø x 100ø (6"x4") BUSHING, 100ø (4") NIPPLE & SUBMERGED TURBINE PUMP
- (H) 50ø (2") FITTING C/W 50ø x 20ø (2"x3/4") DOUBLE TAPPED BUSHING, – BYPASS LINE & 20ø (3/4") SCH.40 DROP TUBE
- (J) VACUUM MONITOR
- (K) INTERSTITIAL SPACE EMERGENCY VENT

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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
FEB. 2, 2015
B. J. de MONTBRUN
ENGINEER

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0	ISSUED FOR TENDER	15/02/02
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Client/client

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par: **B.deM**

Drawn by/Dessine par: **CK**

PWGSC Project Manager/Administrateur de Projets TPSGC

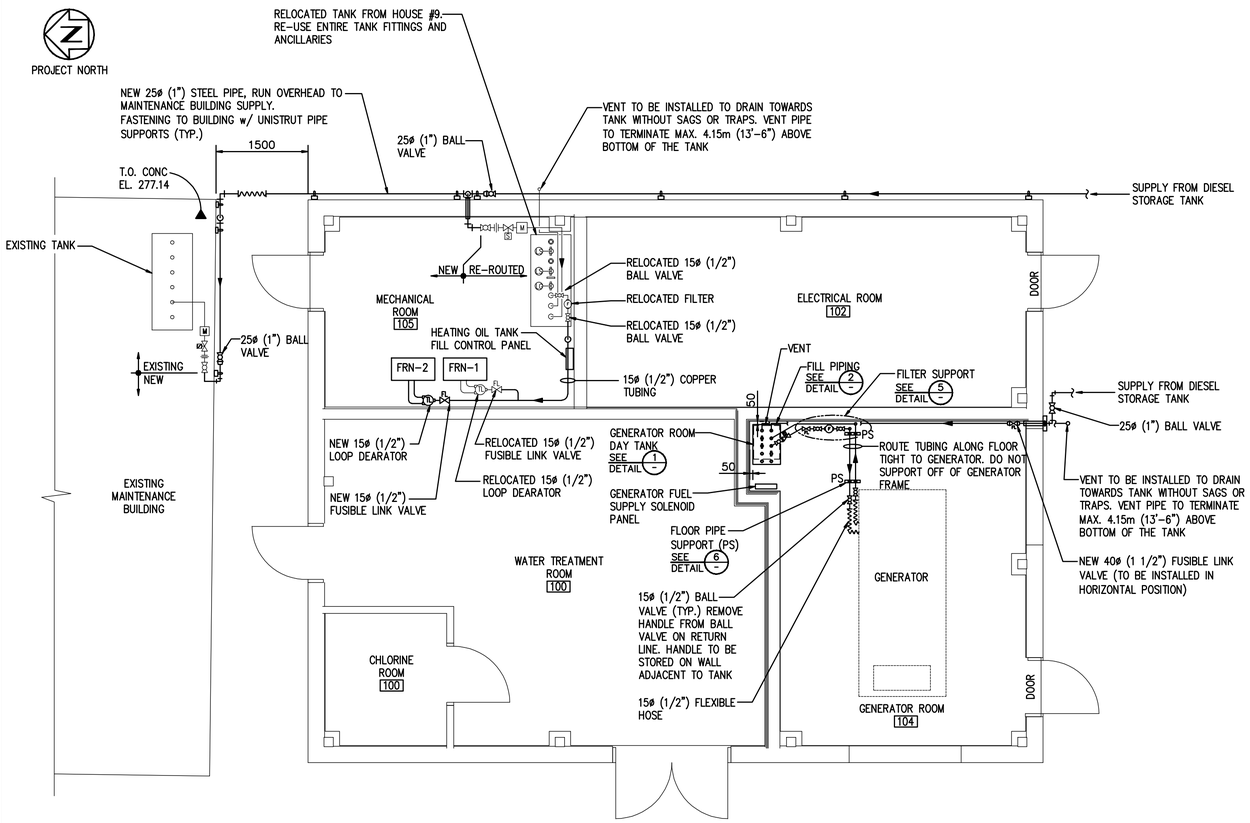
Regional Manager, Architectural and Engineering Services Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

FUEL SYSTEMS
FUEL STORAGE PLAN & SECTIONS

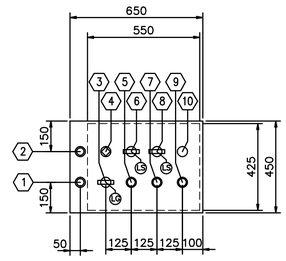
Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	F-003 OF	0

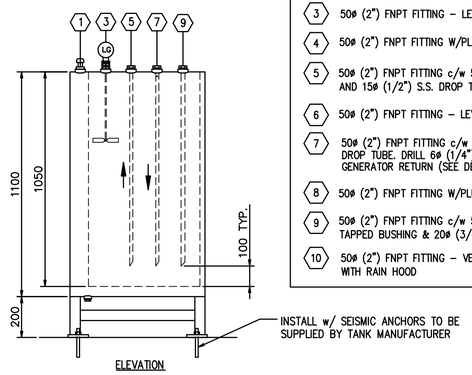
PWGSC – A1 – 841X594



SITE SERVICES BUILDING PLAN

SCALE: 1:50





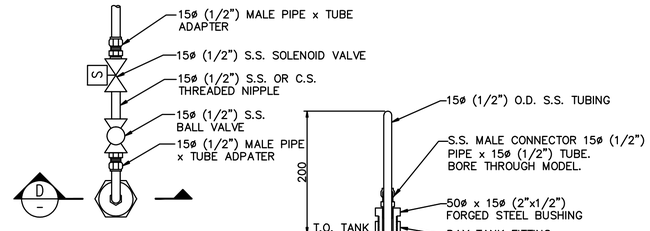
GENERATOR ROOM - DAY TANK FITTING SCHEDULE

245L
650Lx450Wx1100H (255"x18x43")
ULC-S602 (DOUBLE-WALL VACUUM MONITORED)

1. 50ø (2") FNPT FITTING w/ NIPPLE & THREADED CAP – CONTAINMENT INSPECTION PORT
2. 50ø (2") FNPT FITTING w/ VENTED CAP – INTERSTITIAL VENT
3. 50ø (2") FNPT FITTING – LEVEL GAUGE
4. 50ø (2") FNPT FITTING W/PLUG – SPARE
5. 50ø (2") FNPT FITTING c/w 50øx15ø (2"x1/2") BUSHING AND 15ø (1/2") S.S. DROP TUBE – GENERATOR SUPPLY (SEE DETAIL THIS DWG.)
6. 50ø (2") FNPT FITTING – LEVEL ALARM SWITCH
7. 50ø (2") FNPT FITTING c/w 50øx15ø (2"x1/2") BUSHING AND 15ø (1/2") S.S. DROP TUBE. DRILL 6ø (1/4") HOLE IN DROP TUBE FOR SIPHON BREAK. GENERATOR RETURN (SEE DETAIL THIS DWG.)
8. 50ø (2") FNPT FITTING W/PLUG – AUTO PUMP START/STOP – LEVEL SWITCH
9. 50ø (2") FNPT FITTING c/w 50øx20ø (2"x3/4") DOUBLE TAPPED BUSHING & 20ø (3/4") DROP PIPE – FILL (SEE DETAILS THIS DWG.)
10. 50ø (2") FNPT FITTING – VENT PIPE AND OPEN VAPOUR VENT WITH RAIN HOOD

GENERATOR ROOM - DAY TANK

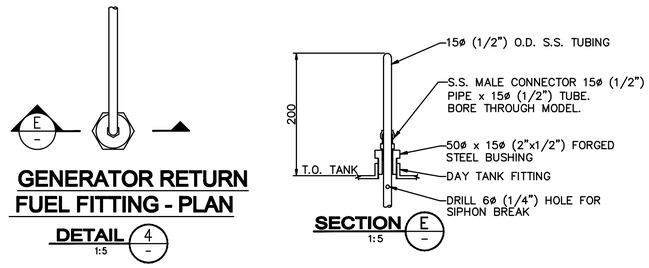
DETAIL 1 (1:15)



GENERATOR SUPPLY FUEL FITTING - PLAN

DETAIL 3 (1:5)

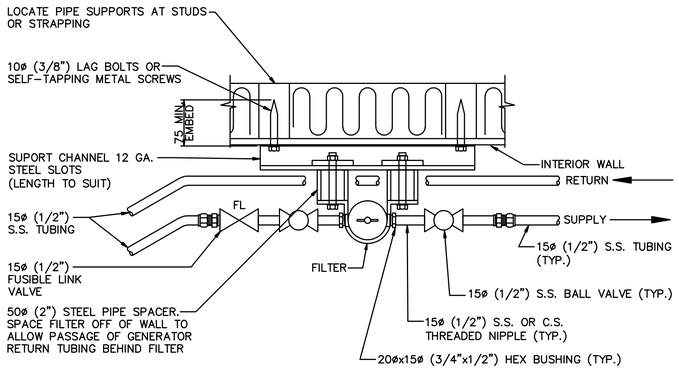
SECTION D (1:5)



GENERATOR RETURN FUEL FITTING - PLAN

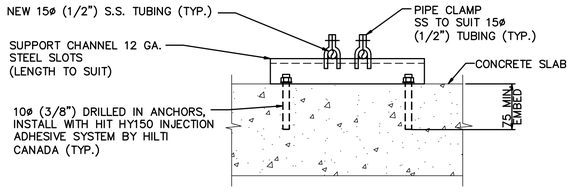
DETAIL 4 (1:5)

SECTION E (1:5)



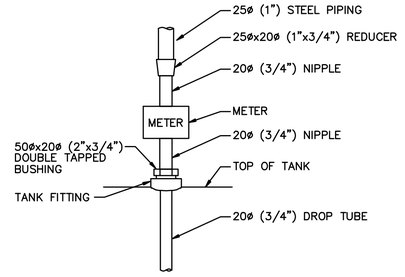
FILTER SUPPORT - PLAN

DETAIL 5 (1:5)



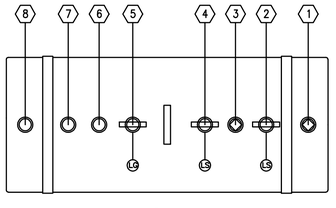
FLOOR PIPE SUPPORT (PS)

DETAIL 6 (1:5)



DAY TANK FILL PIPING

DETAIL 2 (1:5)



PLAN

MECHANICAL ROOM TANK

MECHANICAL ROOM TANK FITTING SCHEDULE

1,136L
1575Lx660Wx1270H (62"x26x50")
ULC-S602

1. 50ø (2") FNPT FITTING W/PLUG – SPARE
2. 50ø (2") FNPT FITTING – LEVEL SWITCH
3. 50ø (2") FNPT FITTING – SPARE
4. 50ø (2") FNPT FITTING – LEVEL SWITCH
5. 50ø (2") FNPT FITTING – LEVEL GAUGE
6. 50ø (2") FNPT FITTING C/W 50ø x 15ø (2" x ½") DOUBLE TAPPED BUSHING AND 15ø (½") DROP PIPE – FURNACE SUPPLY
7. 50ø (2") FNPT FITTING FOR 50ø (2") VENT PIPE C/W OPEN VAPOUR VENT & RAIN HOOD – TANK VENT
8. 50ø (2") FNPT FITTING C/W 50ø x 20ø (2" x ¾") DOUBLE TAPPED BUSHING AND 20ø (¾") DROP TUBE – FILL

Public Works and Government Services Canada
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REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

Morrow Engineering Ltd.
CONSULTING ENGINEERS
NORTH VANCOUVER, B.C.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
B. J. DE MONTBRUN
FEB. 2, 2015

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	15/02/02
B	ISSUED FOR 90% CLIENT REVIEW	15/01/14
A	ISSUED FOR 50% CLIENT REVIEW	14/12/12

Client/client

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

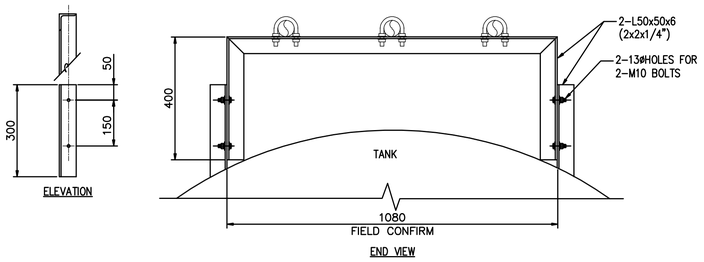
Designed by/Concept par: **B.deM**
Drawn by/Dessine par: **CK**
PWGSC Project Manager/Administrateur de Projets TPSGC
Regional Manager, Architectural and Engineering Services Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

FUEL SYSTEMS
SITE SERVICES BUILDING
PLAN AND DETAILS

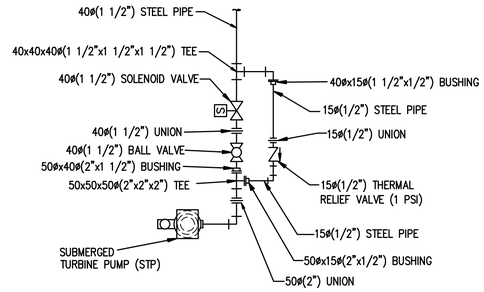
Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
R.071363.001	F-004 OF	0

PWGSC – A1 – 841X594



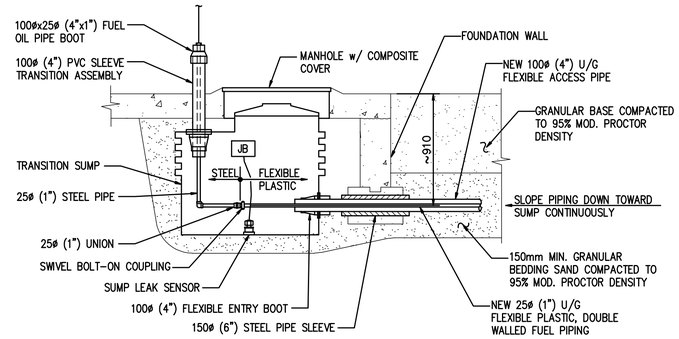
TANK PIPE SUPPORT

DETAIL 7 / F-003 — 1:10



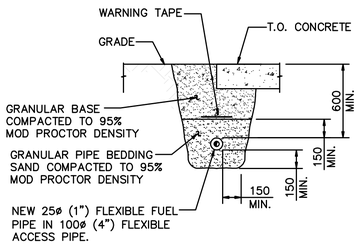
(TYPICAL FOR BOTH PUMP INSTALLATIONS)

DETAIL 8 / F-003 — N.T.S.



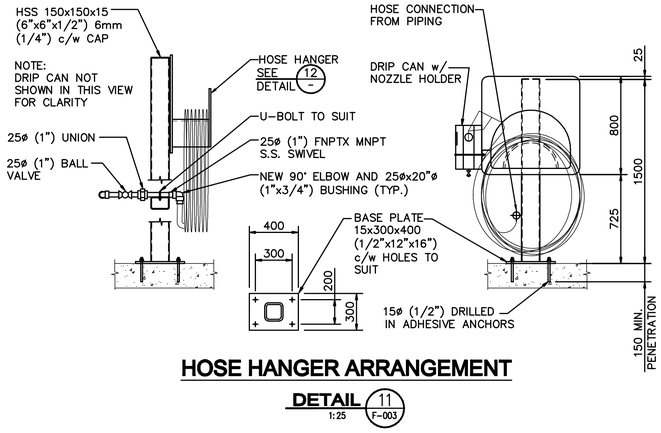
TRANSITION SUMP

DETAIL 9 / F-003 — 1:25



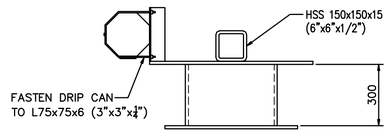
FUEL PIPE TRENCH

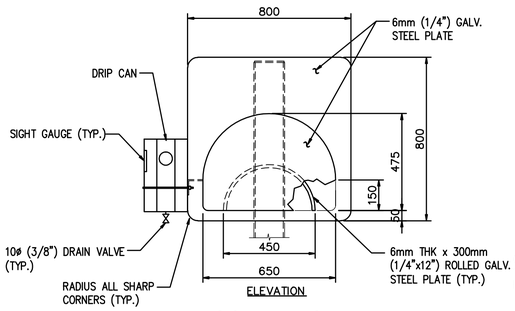
DETAIL 10 / F-003 — 1:25



HOSE HANGER ARRANGEMENT

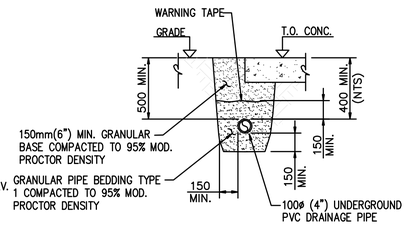
DETAIL 11 / F-003 — 1:25





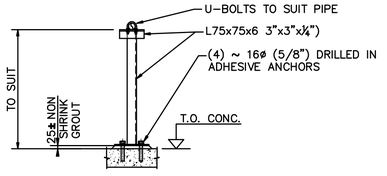
HOSE HANGER

DETAIL 12 / - — 1:15



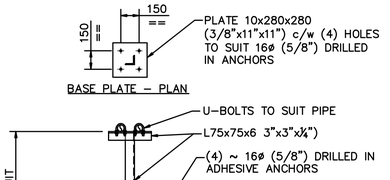
DRAINAGE PIPE TRENCH

DETAIL 17 / F-003 — 1:25



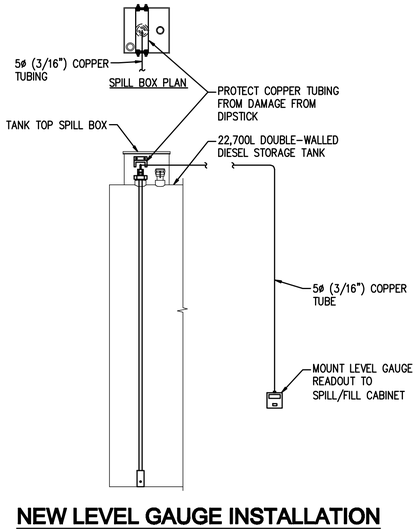
PIPE SUPPORT (PS1)

DETAIL 13 / F-003 — 1:25



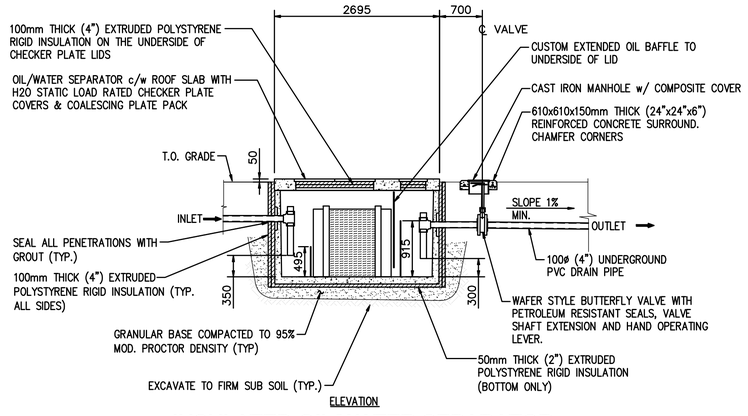
PIPE SUPPORT (PS2)

DETAIL 14 / F-003 — 1:25



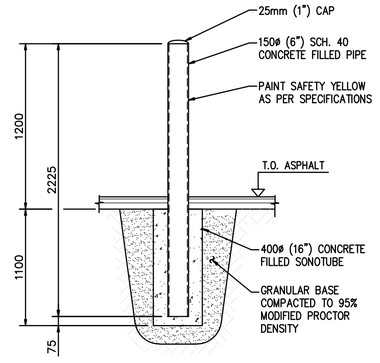
NEW LEVEL GAUGE INSTALLATION

DETAIL 15 / F-003 — 1:25



INSULATED OIL/WATER SEPARATOR

DETAIL 16 / F-003 — 1:50



CONCRETE FILLED STEEL BOLLARD

DETAIL 18 / F-003 — 1:25

PROFESSIONAL ENGINEER — B. J. DE MONTBRUN — BRITISH COLUMBIA — FEB 2, 2015

0	ISSUED FOR TENDER	15/02/02
B	ISSUED FOR 90% CLIENT REVIEW	15/01/14
A	ISSUED FOR 50% CLIENT REVIEW	14/12/12
Revision/ Revision	Description/Description	Date/Date

Client/client

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par
B.deM

Drawn by/Dessine par
CK

PWGSC Project Manager/Administrateur de Projets TPSGC

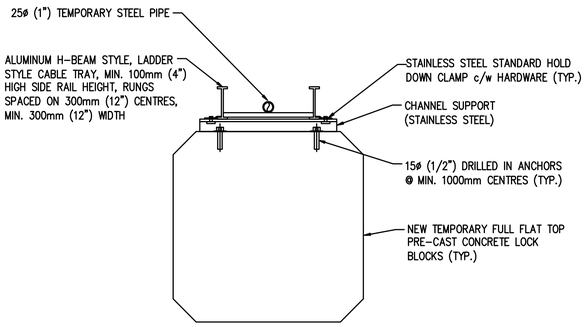
Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

FUEL SYSTEMS
MECHANICAL/CIVIL DETAILS
(SHEET 1)

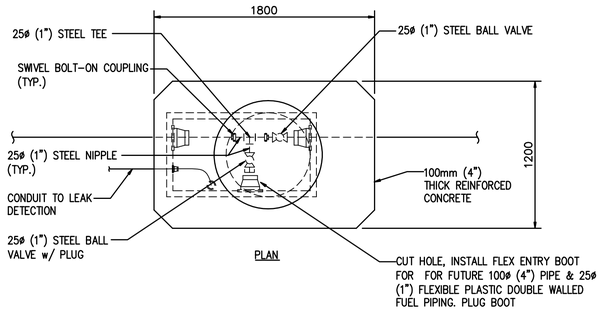
Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
R.071363.001	**F-005** OF	**0**

PWGSC – A1 – 841X594

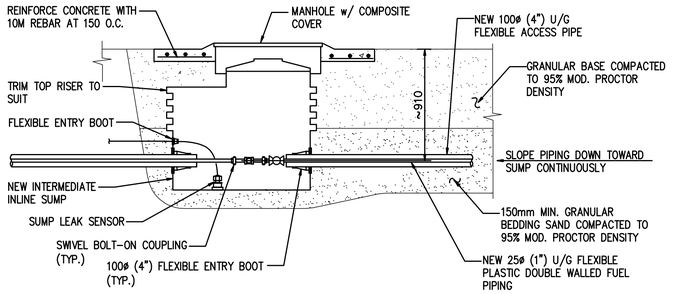


TEMPORARY CABLE TRAY & PIPING TO TANK AT CANADA CUSTOMS BUILDING

DETAIL 19 (F-003) 1:10



PLAN



INTERMEDIATE INLINE SUMP

DETAIL 20 (F-001) 1:25

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

Morrow Engineering Ltd.
CONSULTING ENGINEERS
NORTH VANCOUVER, B.C.

PROFESSIONAL ENGINEER
FEB. 2, 2015
B. J. DE MONTBRUN
BRITISH COLUMBIA
ENGINEER

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

CANADA BORDER SERVICES AGENCY

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CK

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

FUEL SYSTEMS MECHANICAL/CIVIL DETAILS (SHEET 2)

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
R.071363.001	**F-006** OF	**0**

PWGSC – A1 – 841X594

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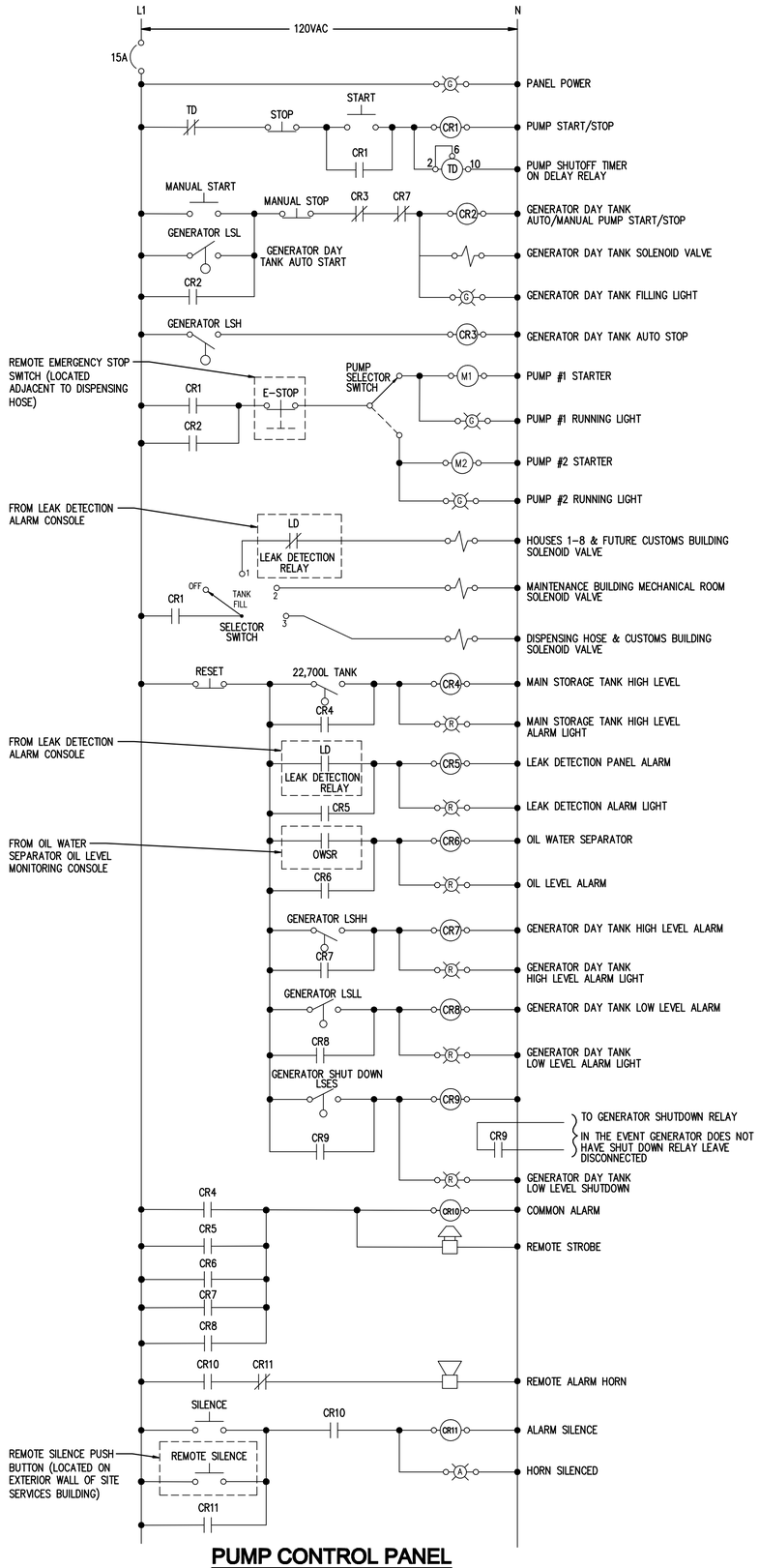
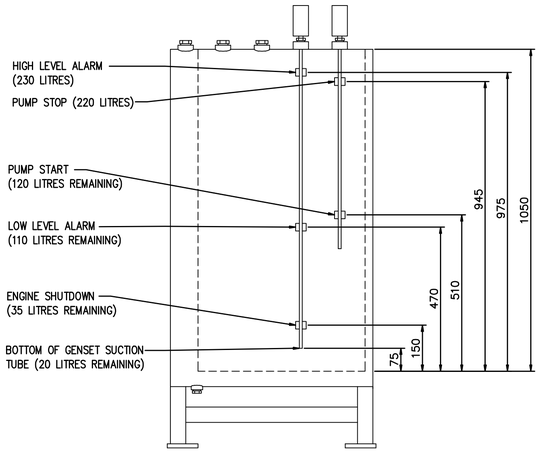
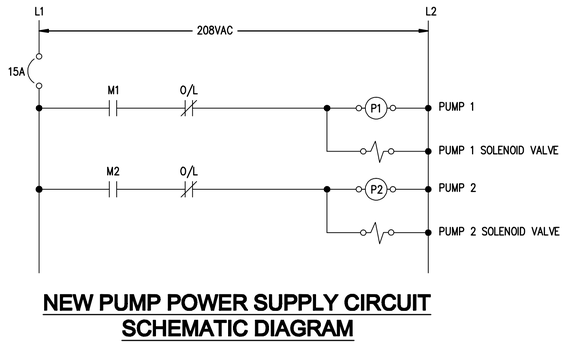
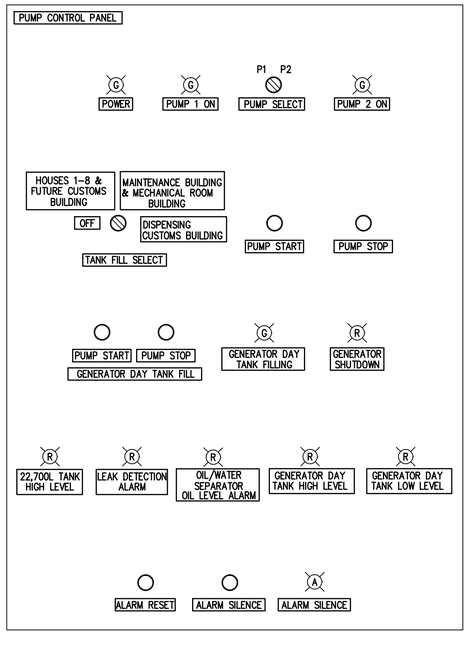


PUMP CONTROL PANEL SCHEMATIC DIAGRAM



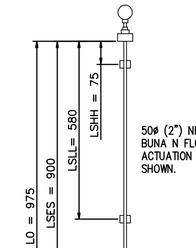


NEW PUMP POWER SUPPLY CIRCUIT SCHEMATIC DIAGRAM



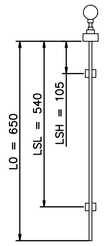
NEW PUMP CONTROL PANEL LAYOUT

N.T.S.



GENERATOR DAY TANK ALARM LEVEL SWITCH

N.T.S.

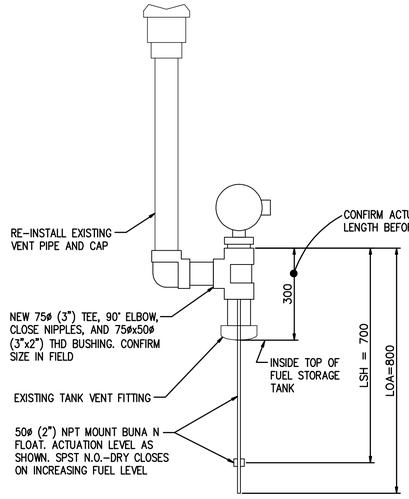


GENERATOR DAY TANK PUMP START/STOP LEVEL SWITCH

N.T.S.

LEVEL SWITCH OPERATION	
LSH	N.O.
LSL	N.C.
LSHH	N.O.
LSLL	N.C.
LSES	N.C.

NOTE:
N.O./N.C. REFERS TO THE SWITCH BEING OPEN/CLOSED WHEN THE TANK IS EMPTY



VENT/90% HIGH LEVEL ALARM SWITCH FOR 22,700L DIESEL STORAGE TANK

N.T.S.

LEGEND

- REMOTE WEATHERPROOF STROBE LIGHT
- REMOTE WEATHERPROOF HORN
- PILOT LIGHT UNITS, COLOR AS SHOWN: A – AMBER, R – RED, G – GREEN
- N.O. MOMENTARY PUSH BUTTON
- N.C. MOMENTARY PUSH BUTTON
- SPST N.O.–DRY CLOSES ON INCREASING LIQUID LEVEL (LSH) — PUMP AUTO–STOP GENERATOR DAY TANK FILL
- SPST N.O.–DRY CLOSES ON INCREASING LIQUID LEVEL (LSHH) — GENERATOR DAY TANK HIGH LEVEL ALARM
- SPST N.C.–DRY CLOSES ON DECREASING LIQUID LEVEL (LSL) — PUMP AUTO–START GENERATOR DAY TANK FILL
- SPST N.C.–DRY CLOSES ON DECREASING LIQUID LEVEL (LSLL) — GENERATOR DAY TANK LOW LEVEL ALARM
- SPST N.C.–DRY CLOSES ON DECREASING LIQUID LEVEL (LSES) — GENERATOR SHUTDOWN
- (CR) CONTROL RELAYS
- (TD) TIME DELAY RELAY
- SOLENOID VALVE

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REAL PROPERTY SERVICES
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PROFESSIONAL ENGINEER — B. J. DE MONTBRUN — BRITISH COLUMBIA — FEB. 2, 2015

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Client/client

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par: **B.deM**

Drawn by/Dessine par: **CK**

PWGSC Project Manager/Administrateur de Projets TPSGC

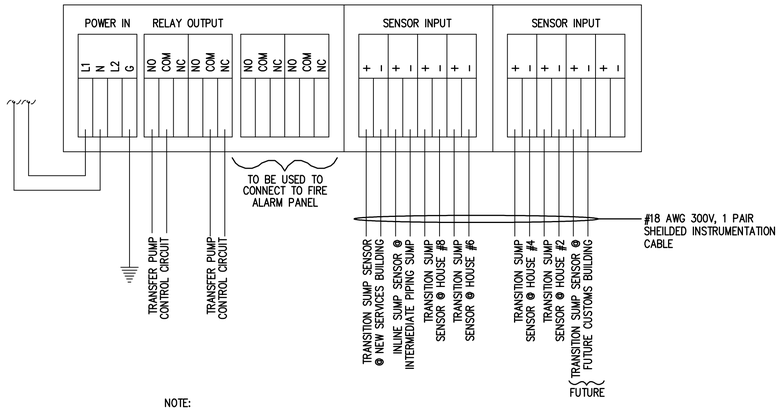
Regional Manager, Architectural and Engineering Services / Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

FUEL SYSTEMS
ELECTRICAL SCHEMATICS & DETAILS (SHEET 1)

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	F-007 OF	0

PWGSC – A1 – 841X594

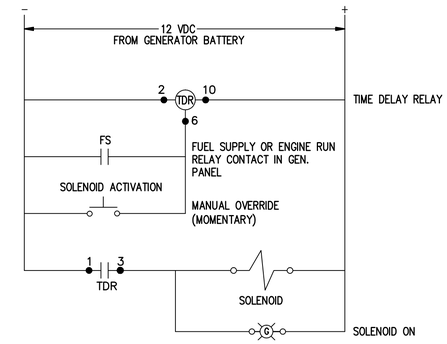


NOTE:

1. NO SPLICES IN THE WIRE BETWEEN A SENSOR JUNCTION BOX AND THE LEAK DETECTION ALARM CONSOLE.

LEAK DETECTION ALARM CONSOLE SCHEMATIC

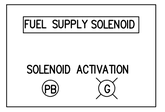
(LOCATED IN SITE SERVICES BUILDING)



IMPORTANT NOTES:

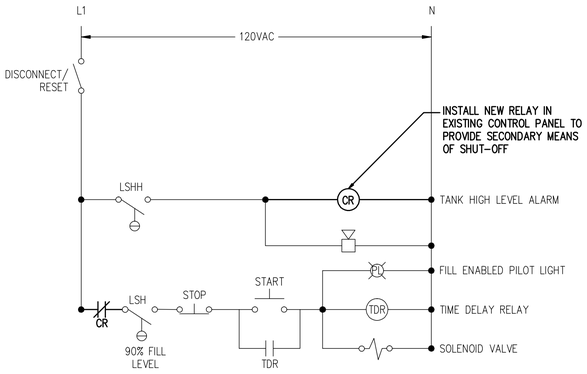
1. FUEL SUPPLY RELAY (OR ENGINE RUN) MUST OPERATE IMMEDIATELY WHEN ENGINE IS CRANKED FOR STARTING OR IF FUEL PUMP IS RUN TO PRIME THE SYSTEM.
2. OFF-DELAY TIMER SET FOR TWO MINUTES TO HOLD SOLENOID OPEN AFTER ENGINE SHUT DOWN.
3. CONTRACTOR TO CONFIRM GENERATOR DC CONTROL VOLTAGE PRIOR TO PURCHASE OF SOLENOID VALVE & TIMING RELAY.

GENERATOR SUPPLY SOLENOID VALVE CONTROL SCHEMATIC



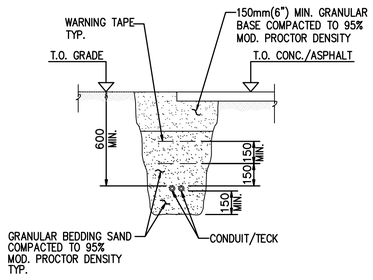
GENERATOR FUEL SUPPLY SOLENOID ACTIVATION PANEL/TIMER ENCLOSURE

N.T.S.



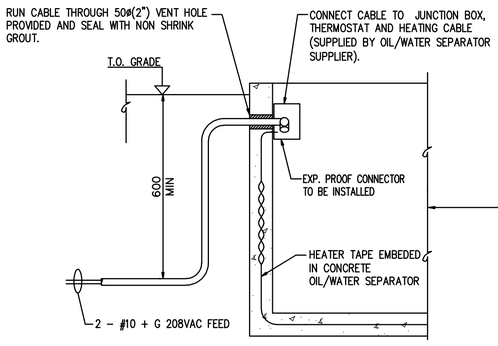
BUILDING FUEL TANK CONTROL PANEL SCHEMATIC

(HOUSE #9/MECHANICAL ROOM, CUSTOMS OFFICE & MAINTANANCE BUILDING ONLY)



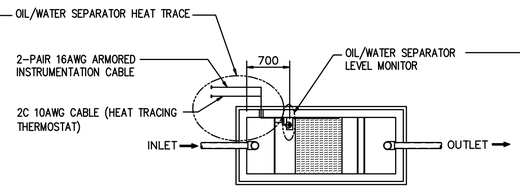
CONDUIT/CABLE TRENCH CROSS SECTION

N.T.S.



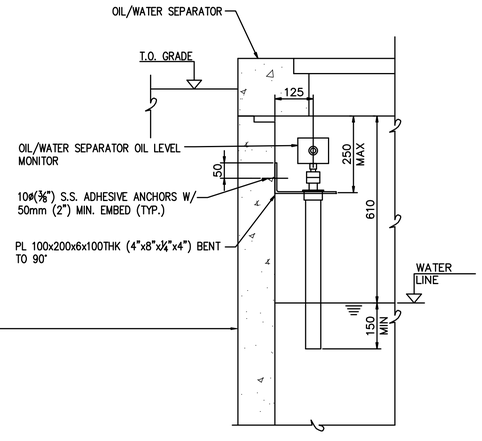
OIL/WATER SEPARATOR HEAT TRACE

SCALE: 1:10



OIL/WATER SEPARATOR PLAN

SCALE: 1:50



OIL/WATER SEPARATOR OIL LEVEL MONITOR

SCALE: 1:10

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CONSULTING ENGINEERS
NORTH VANCOUVER, B.C.

PROFESSIONAL ENGINEER
B. J. DE MONTBRUN
BRITISH COLUMBIA
FEB. 2, 2015

Revision/ Revision Client/client	Description/Description	Date/Date
0	ISSUED FOR TENDER	15/02/02
B	ISSUED FOR 90% CLIENT REVIEW	15/01/14
A	ISSUED FOR 50% CLIENT REVIEW	14/12/12

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par
B.deM

Drawn by/Dessine par
CK

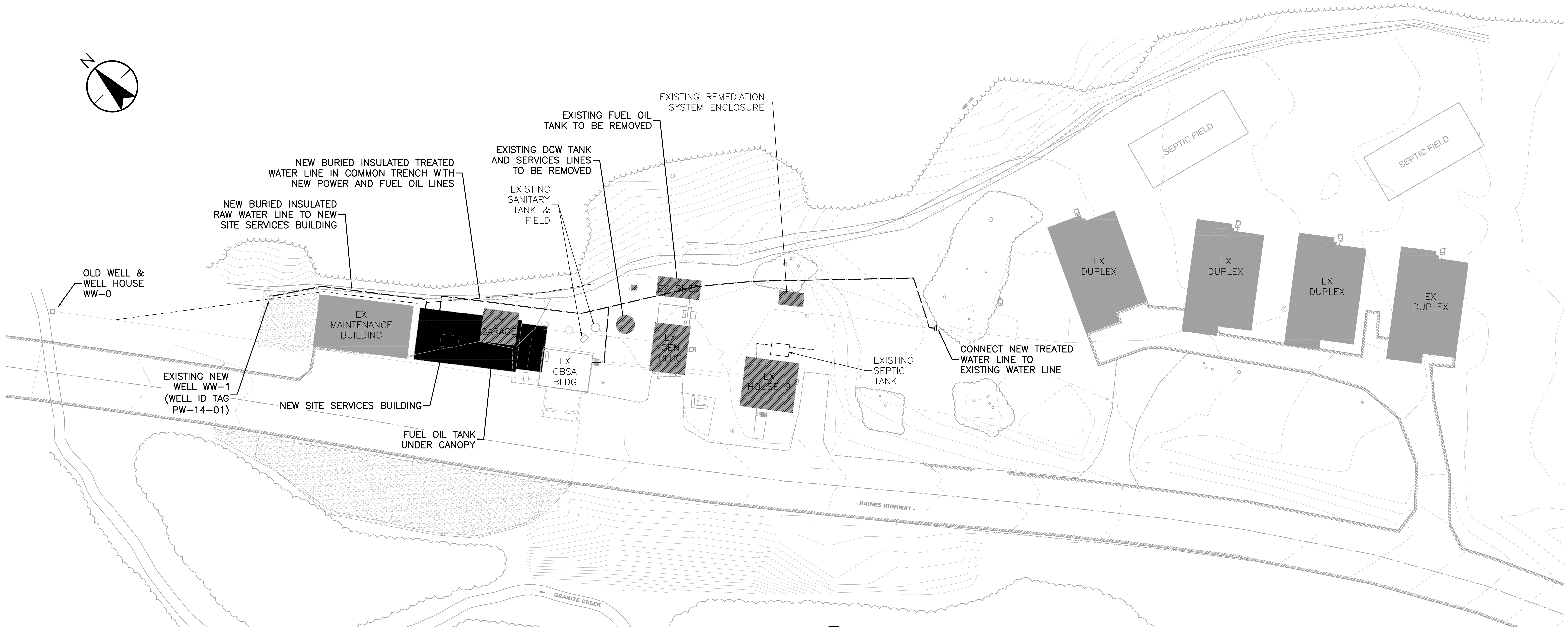
PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

FUEL SYSTEMS
ELECTRICAL SCHEMATICS & DETAILS
(SHEET 2)

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
R.071363.001	**F-008** OF	**0**



1 / M001 MECHANICAL SITE PLAN
SCALE: 1:500

CONTROLS DEVICE LEGEND

UNIT #.	EQUIPMENT
BDD	BACK DRAFT DAMPER
CS	CURRENT SENSOR, SIZED FOR SERVICE
DPS	DIFFERENTIAL PRESSURE SENSOR
ES	END SWITCH
FS	FLOW SWITCH
HS	HAND SWITCH
M	MOTORIZED OPERATOR
OA	OUTSIDE AIR TEMPERATURE SENSOR C/W SHIELD
PS	PRESSURE SWITCH
R	RELAY SIZED FOR SERVICE
T2	LINE VOLTAGE THERMOSTAT
T3	SURFACE MOUNTED AQUASTAT
T5	LINE VOLTAGE THERMOSTAT W/ GUARD, BUILDING LOW TEMPERATURE
T6	REVERSE ACTING THERMOSTAT
T7	AQUASTAT C/W TEMPERATURE WELL
TOL	THERMAL OVERLOAD BY ELECTRICAL
TX	TRANSFORMER
WD	WATER DETECTOR
WTA	WATER TREATMENT PLANT ALARM(S)

CONTROLS LEGEND

- DAMPER
- FILTER
- PRESSURE SENSOR
- AIR FLOW SWITCH
- PROBE SENSOR
- AVERAGING SENSOR
- DIFFERENTIAL PRESURE SENSOR — DPS
- DEVICE TAG — XX
- POINT TAG — XX XXX
- MOTOR STARTER — STARTER
- THERMAL OVERLOAD — TOL
- TRANSFORMER
- PUMP
- THREE WIRE
- TWO WIRE
- LIGHT
- FAN — M
- WIRING PROVIDED BY ELECTRICAL CONTRACTOR
- WIRING PROVIDED BY CONTROLS CONTRACTOR

HVAC SYMBOLS

- RECTANGULAR DUCT
- EXTERIOR DUCT INSULATION
- RECTANGULAR DUCT (WITH ACOUSTIC INSULATION)
- ROUND DUCT
- SQUARE ELBOW TURN (SUPPLY UP/DOWN)
- SQUARE ELBOW TURN (RETURN UP/DOWN)
- SQUARE ELBOW TURN (EXHAUST UP/DOWN)
- SQUARE ELBOW TURN (INTAKE UP/DOWN)
- ELBOW, ROUND, SMOOTH RADIUS (UP/DOWN)
- TEE, 45 DEG., RECTANGULAR MAIN AND BRANCH
- TEE, 45 DEG., RECTANGULAR MAIN AND BRANCH, SQUARE TO ROUND
- TEE, 45 DEG., ROUND MAIN AND BRANCH
- ELBOW, RECTANGULAR, SMOOTH RADIUS WITHOUT VANES (1.0 R/W DEFAULT)
- ELBOW, ROUND, SMOOTH RADIUS (1.0 R/W DEFAULT)
- ELBOW, RECTANGULAR, MITERED WITH TURNING VANES
- ELBOWS, 90 DEG., RECTANGULAR TEE
- TRANSITION, RECTANGULAR, PYRAMIDAL (30° CONTRACTUAL ANGLE DEFAULT)
- DN — SINGLE-LINE DUCT INCLINE
- SINGLE-LINE DUCT TAKEOFF
- DUCT CAP
- DUCT BREAK
- SINGLE-LINE SUPPLY OR RETURN DUCT
- SINGLE-LINE EXHAUST DUCT
- THERMOSTAT
- HUMIDISTAT
- WALL MOUNTED GRILLE/REGISTER
- CEILING DIFFUSER 600x600/300x300
- AIR FLOW ARROWS
- CEILING FAN
- AIR OUTLET TAG (REFER TO SCHEDULE) — QUANTITY, TYPE, SIZE (mm), VOLUME (L/s)
- DOOR GRILLE TAG (REFER TO SCHEDULE)
- RADIATION HEATING TAG (REFER TO SCHEDULE) — QUANTITY, TYPE, LENGTH (mm), CAPACITY (kW)

PIPING IDENTIFICATION AND SYMBOLS

- DWS — DRINKING WATER SUPPLY
- DWR — DRINKING WATER RETURN
- SAN — SANITARY DRAIN (ABOVE GRADE OR FLOOR)
- SAN — SANITARY DRAIN (BELOW GRADE OR FLOOR)
- V — VENT
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC HOT WATER RECIRC.
- T — TEMPERED WATER
- FIRE EXTINGUISHER
- FD — FLOOR DRAIN
- FFD — FUNNEL FLOOR DRAIN
- HB — HOSE BIBB
- CO — STANDARD CLEAN-OUT IN LINE END OF RUN
- CO — STANDARD CLEAN-OUT THROUGH FLOOR END OF RUN
- CO — STANDARD CLEAN-OUT THROUGH FLOOR IN LINE
- % SLOPE — PIPING SLOPE
- FIXTURE TRAP
- BUILDING TRAP
- SANITARY VENT
- TYPE / QUANTITY — PLUMBING FIXTURE TAG (REFER TO SCHEDULE)
- PLUMBING FIXTURES
- FIRE EXTINGUISHER
- PIPE CAP
- PIPE BREAK
- FLOW ARROW
- PIPING ELBOW DOWN
- PIPING ELBOW UP
- PIPING TEE UP
- PIPING TEE DOWN
- PIPING TEE
- GATE VALVE
- GLOBE VALVE
- PRESSURE REDUCING VALVE
- SWING GATE CHECK VALVE
- BALL VALVE
- BALANCING VALVE
- BUTTERFLY VALVE
- PETES PLUG
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- Y STRAINER
- THERMOMETER WELL
- PRESSURE GAUGE AND COCK
- UNION CONNECTION
- FLANGED CONNECTION
- SIGHT FLOW GLASS
- FLEXIBLE CONNECTOR
- MANUAL AIR VENT
- AUTOMATIC AIR VENT
- THERMOMETER
- BACKFLOW PREVENTER, DOUBLE CHECK TYPE
- BACKFLOW PREVENTER, REDUCED PRESSURE ZONE (RPZ) TYPE
- METER
- PUMP (REFER TO SCHEDULE)
- RELIEF (R) OR SAFETY (S) VALVE
- ANGLE GATE VALVE (WITHOUT ACTUATOR)
- THREE WAY VALVE (WITHOUT ACTUATOR)
- VACUUM BREAKER

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Feb 2/2015
Pleasant Camp
144901920

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CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par
B.Zrum / S.Birrell

Drawn by/Dessine par
B.Zrum

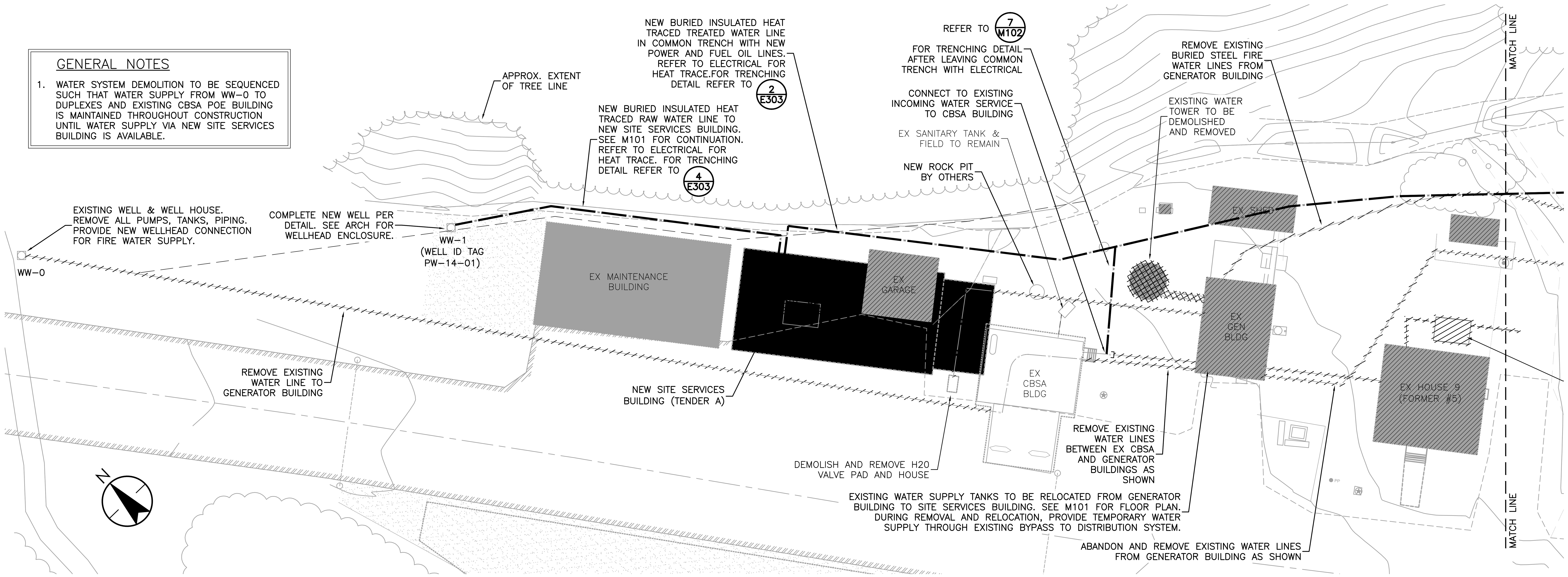
PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

MECHANICAL SITE PLAN & LEGENDS

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
R.071363.001	M001 OF	0



1 M002 MECHANICAL SITE PLAN – NORTH
SCALE: 1:250

1 M002 MECHANICAL SITE PLAN – SOUTH
SCALE: 1:250

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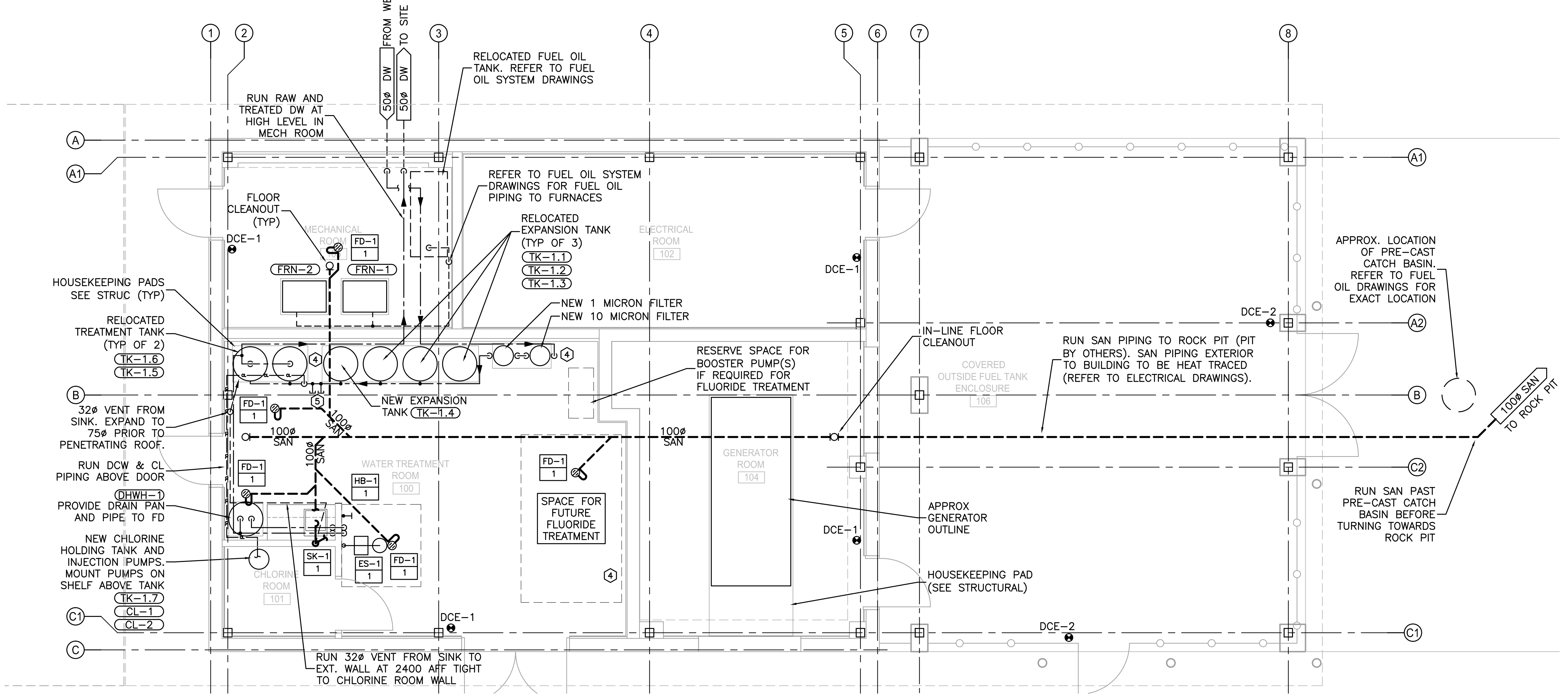
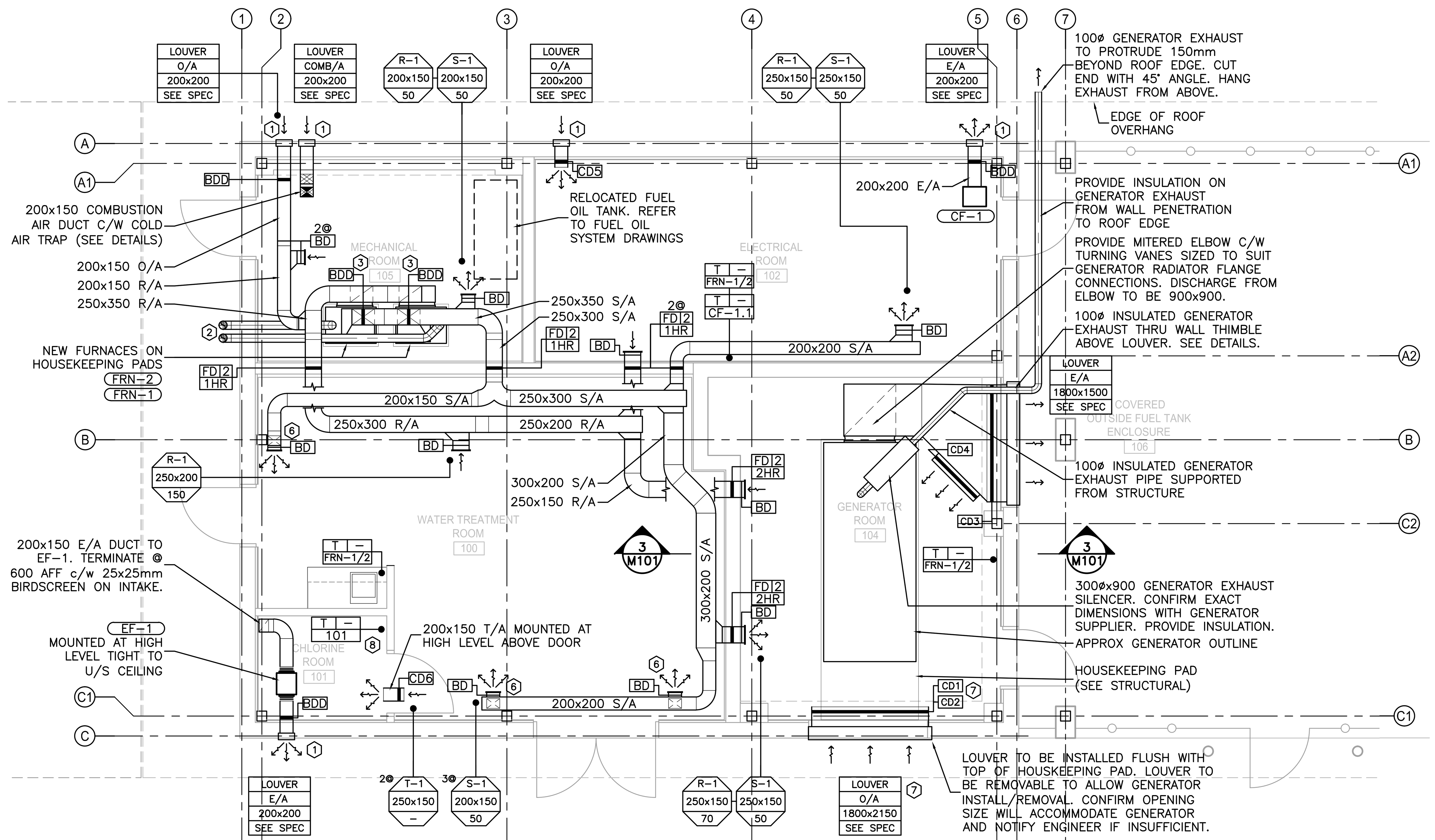
Gestionnaire régionale, Services d'architecture et de génie, TPSGC

Drawing title/Titre du dessin
MECHANICAL DETAILED DEMO & NEW SITE PLAN

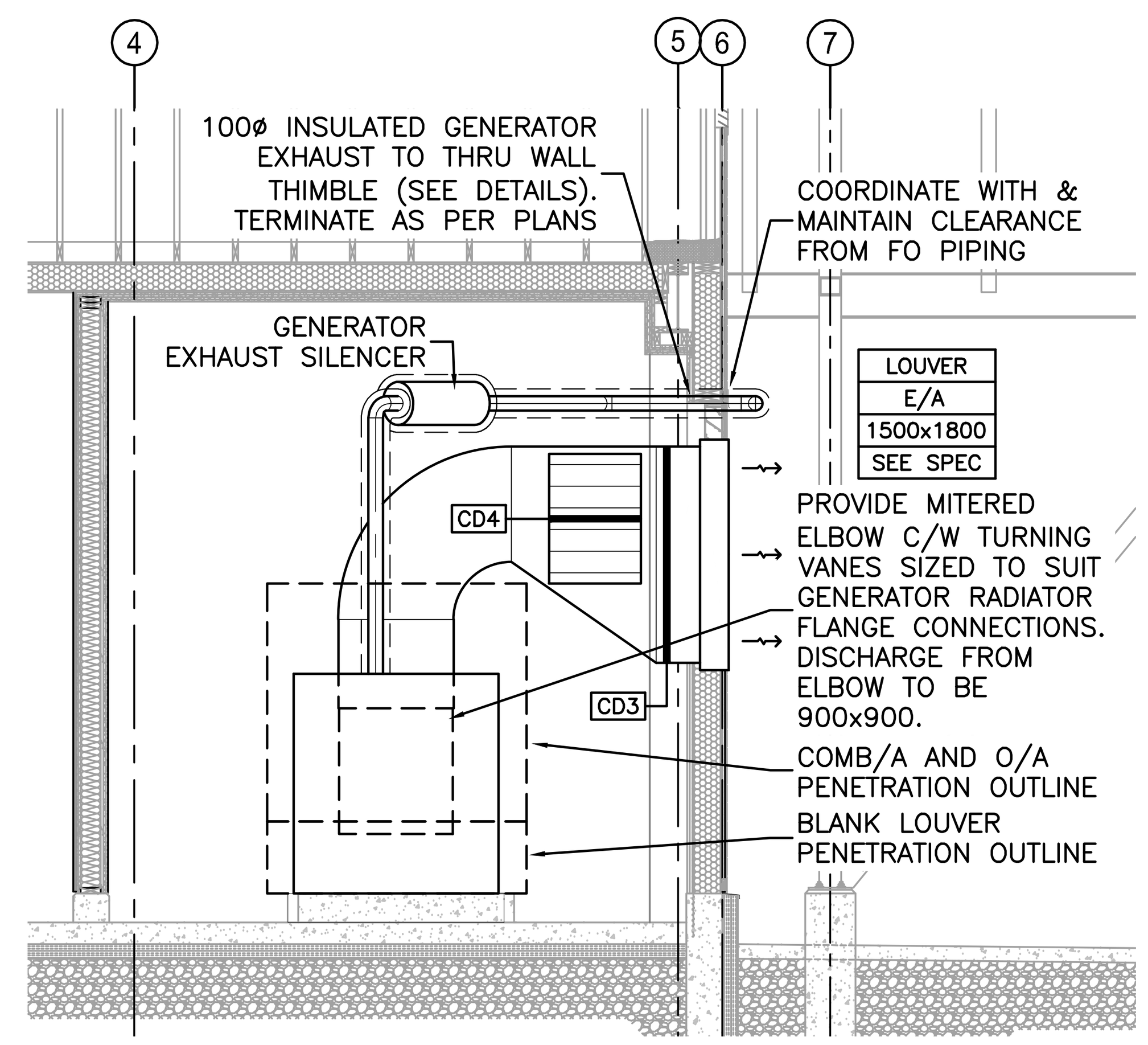
Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
R.071363.001	M002 OF	0



1 / M101 SITE SERVICES BUILDING PLUMBING & FIRE PROTECTION PLAN
SCALE: 1:50



2 / M101 SITE SERVICES BUILDING HVAC PLAN
SCALE: 1:50



3 / M101 GENERATOR ROOM SECTION
SCALE: 1:50

GENERAL NOTES

1. RUN ALL DUCTING FOR FURNACE TIGHT TO U/S CEILING AND TIGHT TO WALLS WHERE POSSIBLE.

KEYNOTES

1. INSTALL LOUVER SUCH THAT DUCT TIGHT AS POSSIBLE TO U/S OF INTERIOR CEILING.
2. 125ø CHIMNEY FROM FURNACE. PROVIDE TEE W/ CLEANOUT AT BASE OF CHIMNEY. OFFSET CHIMNEY EXTERIOR TO BUILDING SUCH THAT CHIMNEY PENETRATES ADJACENT TO ROOF PEAK (ALONG GRIDLINE B). SEE DETAILS ON M501.
3. INSTALL BDD HORIZONTALLY AFTER TRANSITION TO 250x350 ON VERTICAL RISE FROM FURNACE S/A DISCHARGE.
4. WATER DETECTOR LOCATION. PROVIDE REQUIRED CONTROL PANEL(S) FOR OPERATION.
5. LOCATION OF CAPPED CONNECTIONS FOR FUTURE WATER TREATMENT PLANT. REFER TO SCHEMATIC 6/M102 FOR DETAILS.
6. S/A GRILLE DISCHARGE TO DROP TO 1000mm AFF. RUN DROP TIGHT TO WALL.
7. INSTALL CD1 (SINGLE BLADE) AT TOP OF LOUVER. INSTALL CD2 BELOW CD1. INSTALL BLANKED OFF SECTION C/W 100mm THERMAL INSULATION FROM UNDERSIDE CD2 TO BOTTOM OF LOUVER (APPROX. 1800x500).
8. REFER TO ELECTRICAL FOR ROOM BASEBOARD.

TRUE   CONSTRUCTION

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Designed by/Concept par: B.Zrum / S.Birrell

Drawn by/Dessine par: B.Zrum

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services / Gestionnaire régionale, Services d'architectural et de génie, TPSGC

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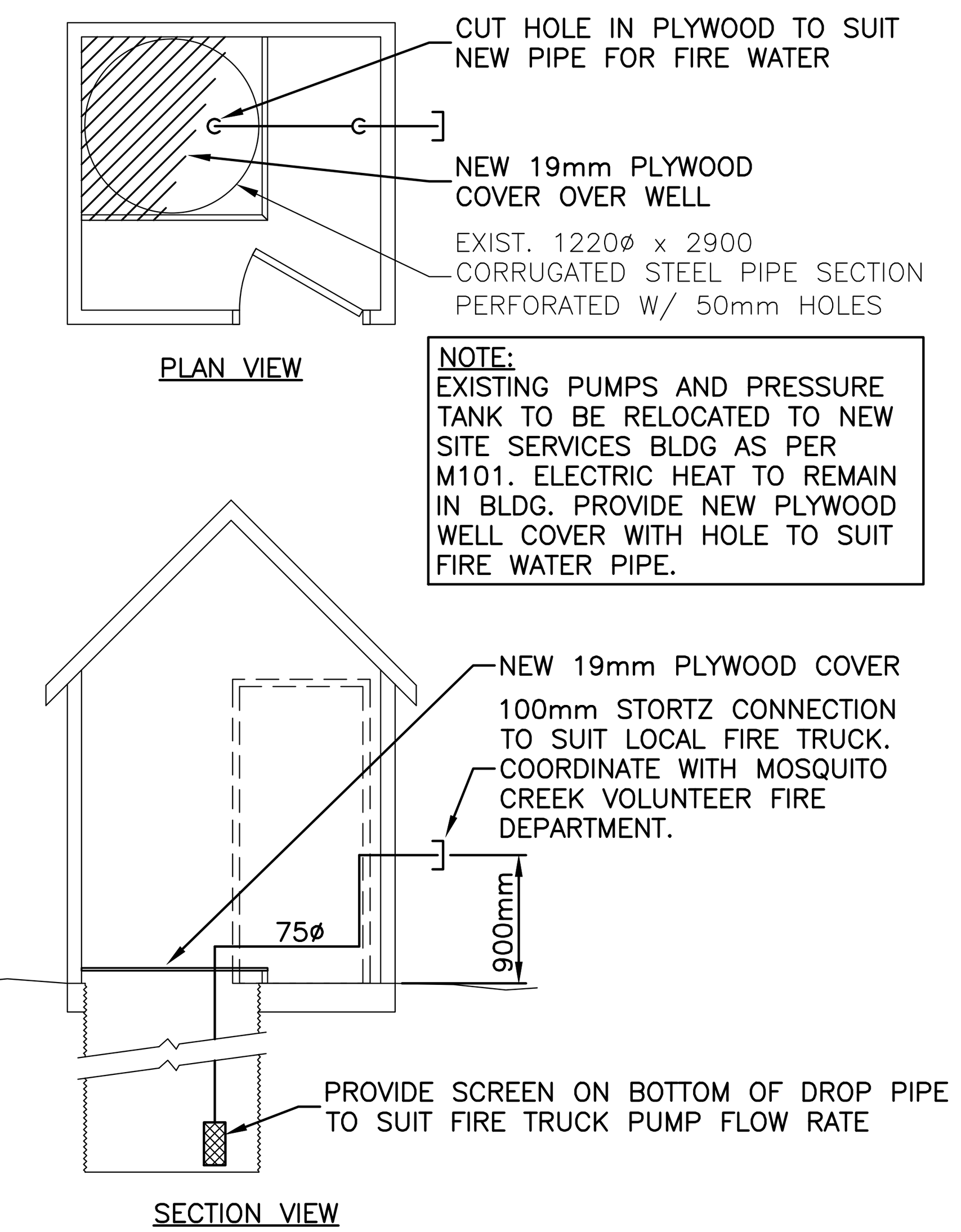
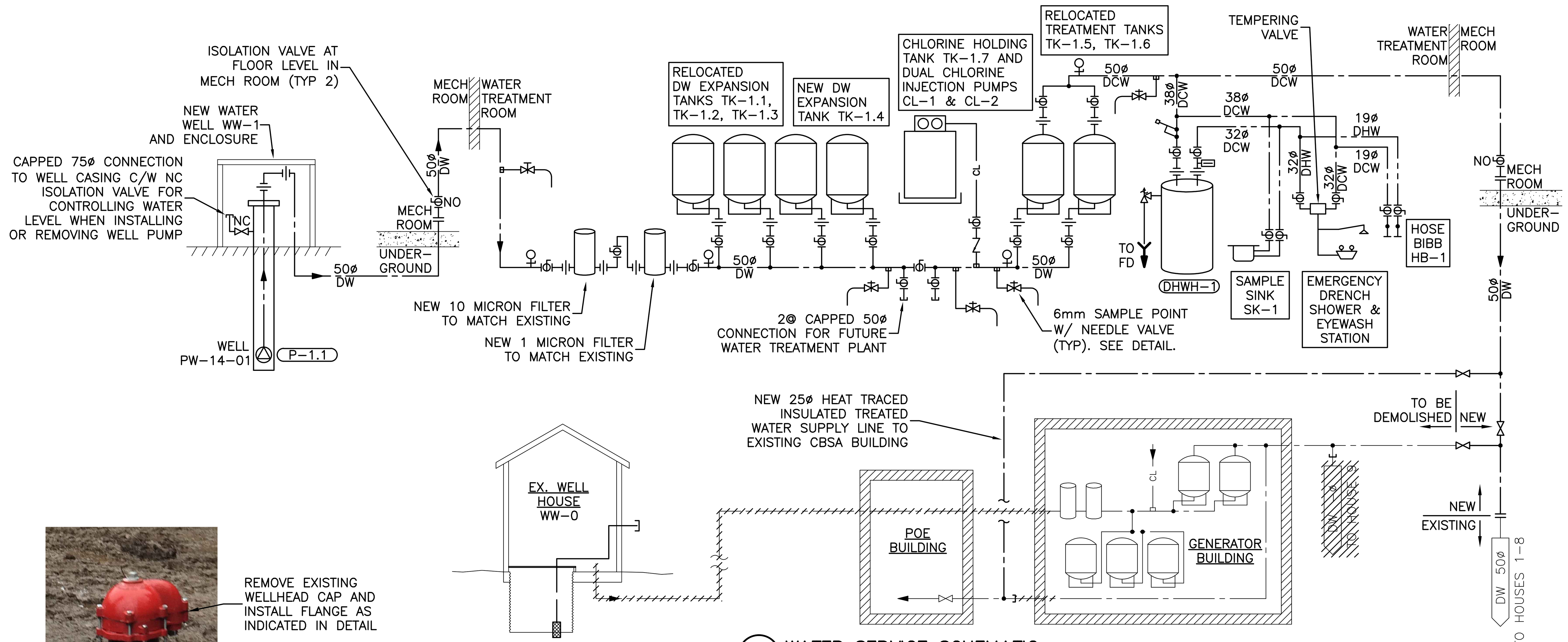
SITE SERVICES BUILDING

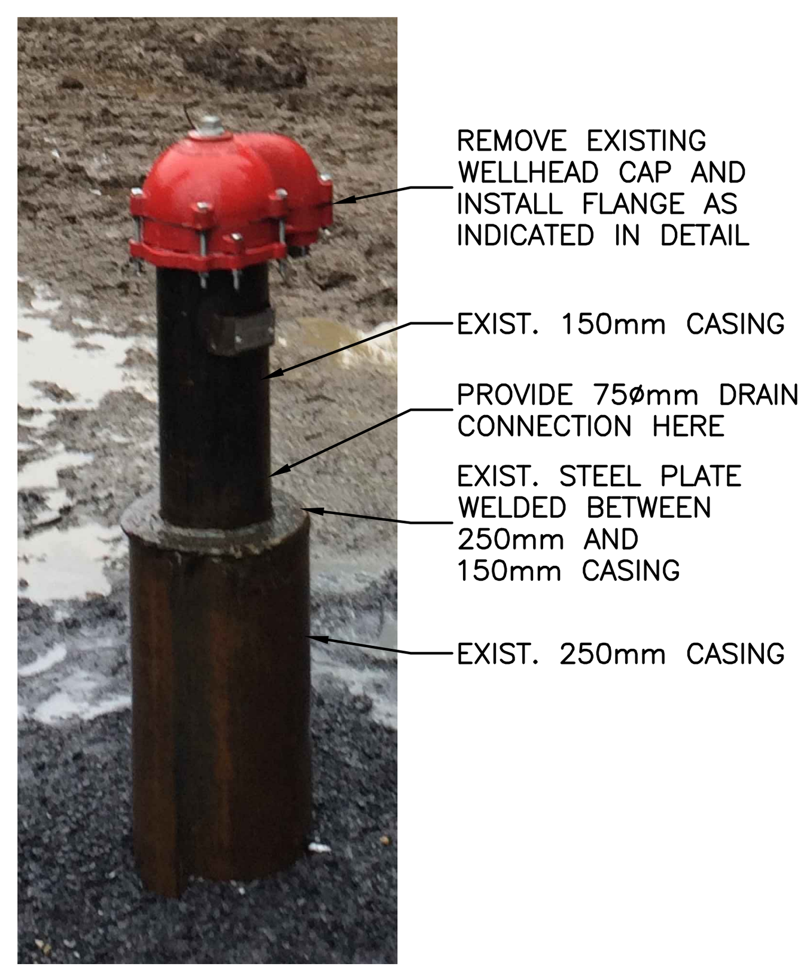
Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
R.071363.001	M101 OF	0



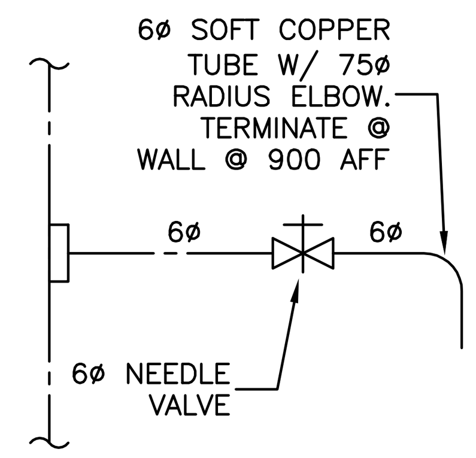
5 / M102 EXISTING WELL (WW-0) MODIFICATION FOR FIRE WATER USE
SCALE: NTS



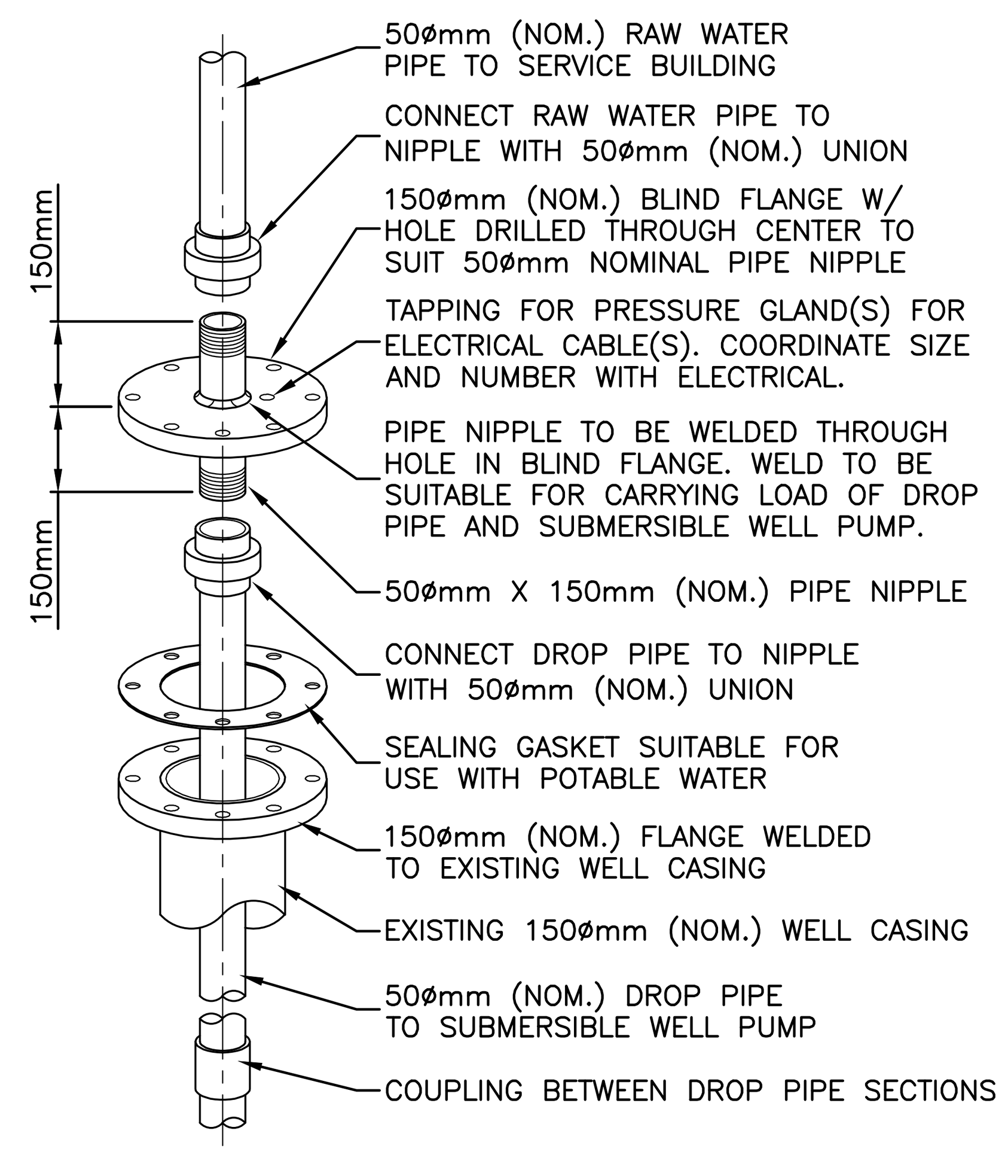
6 / M102 WATER SERVICE SCHEMATIC
SCALE: NTS



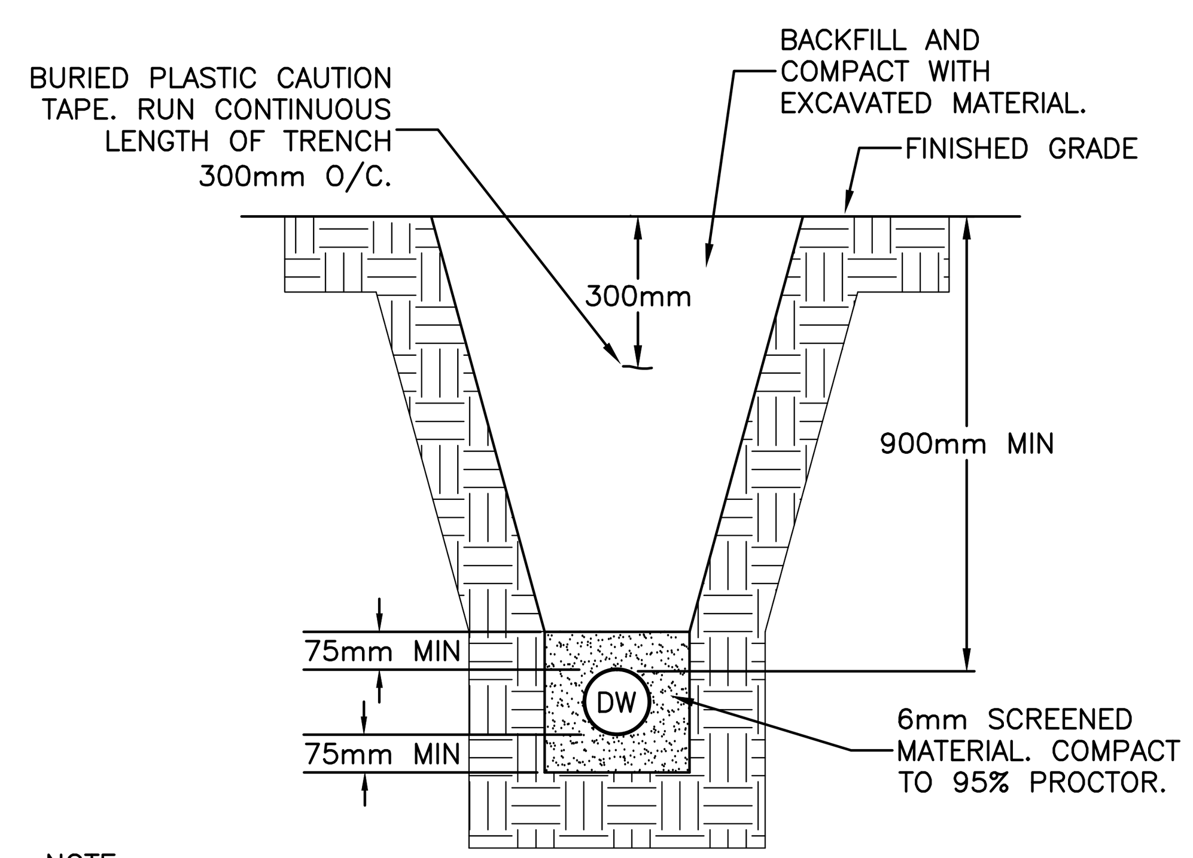
4 / M102 EXIST. WELL HEAD (WW-1) MODIFICATION DETAIL
SCALE: NTS



8 / M102 NEEDLE VALVE DETAIL
SCALE: NTS

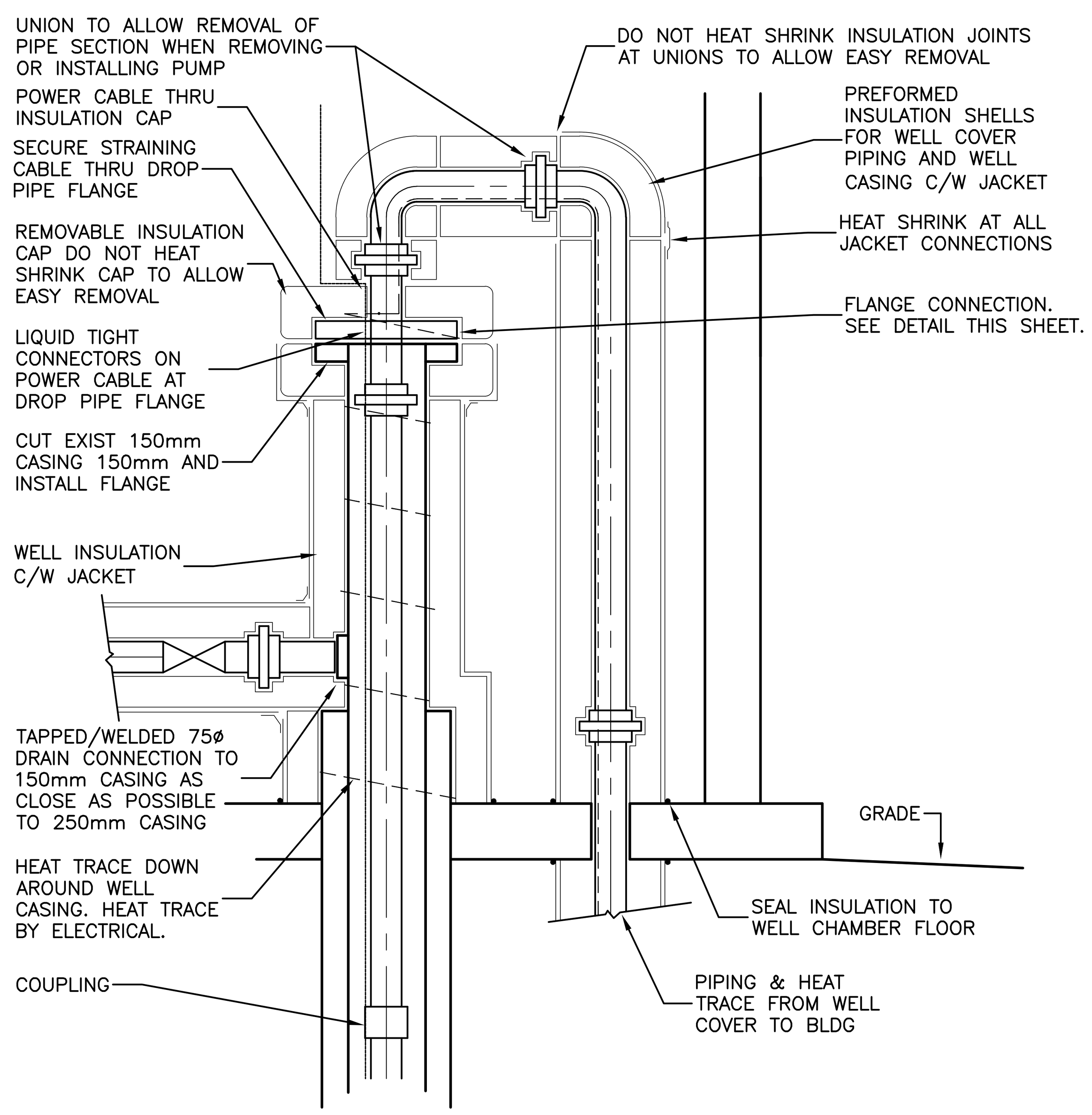


3 / M102 WELL DROP PIPE FLANGE CONNECTION DETAIL
SCALE: NTS

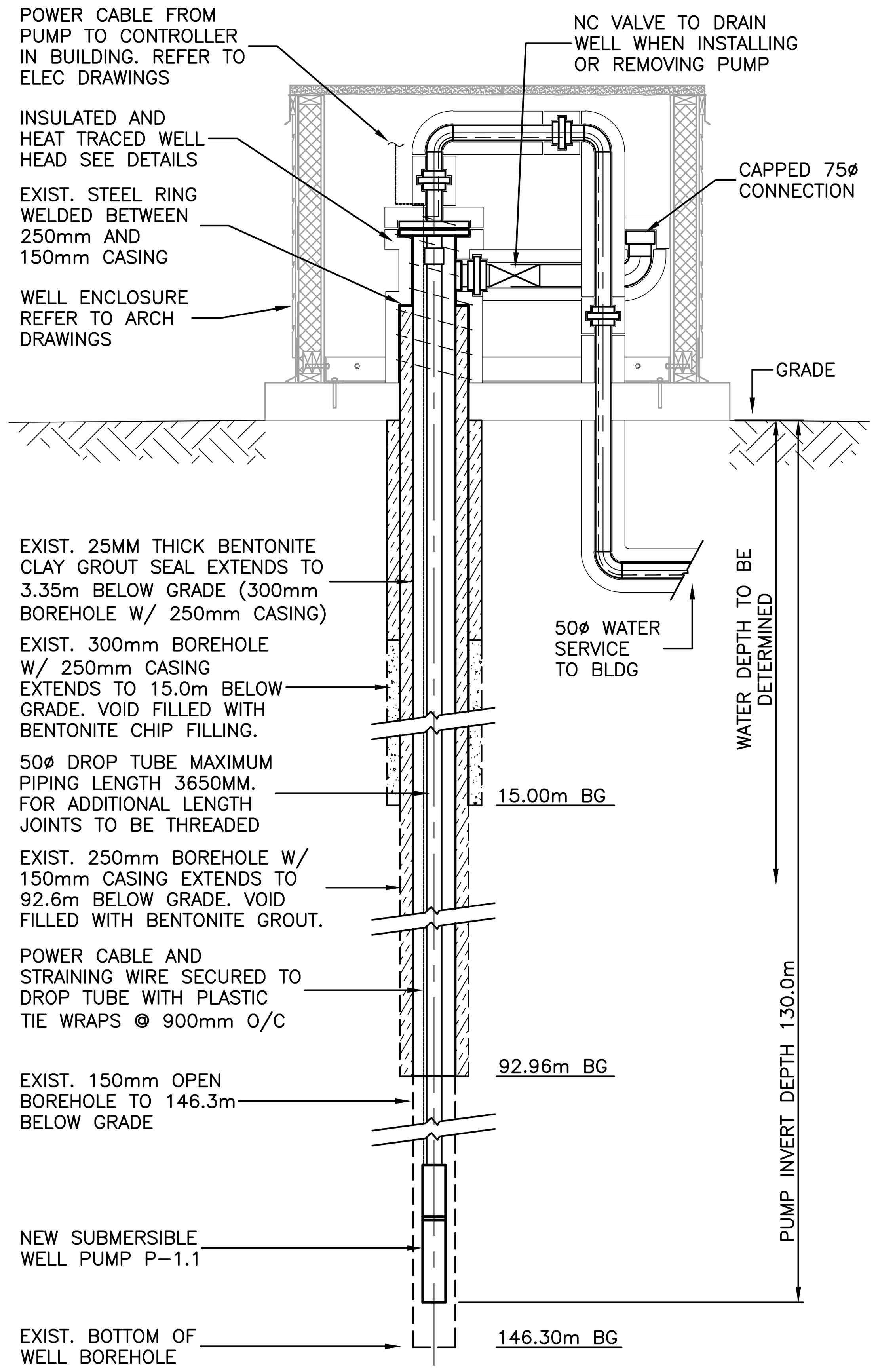


NOTE:
1. DETAIL IS FOR DW PIPE IN ITS OWN TRENCH.
2. FOR DW PIPE IN COMMON TRENCH WITH ELECTRICAL BETWEEN NEW WELL AND SITE SERVICE BUILDING, REFER TO DETAIL 5 ON DRAWING E02-03.
3. FOR DW PIPE IN COMMON TRENCH WITH ELECTRICAL BETWEEN SITE SERVICE BUILDING TO DUPLEXES, REFER TO DETAIL 2 ON DRAWING E02-03.

7 / M102 BURIED WATER PIPE DETAIL
SCALE: NTS



2 / M102 WELL HEAD DETAIL
SCALE: NTS



1 / M102 WELL DETAIL
SCALE: NTS

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CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

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TENDER A
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Designed by/Concept par
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Drawn by/Dessine par
B.Zrum

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

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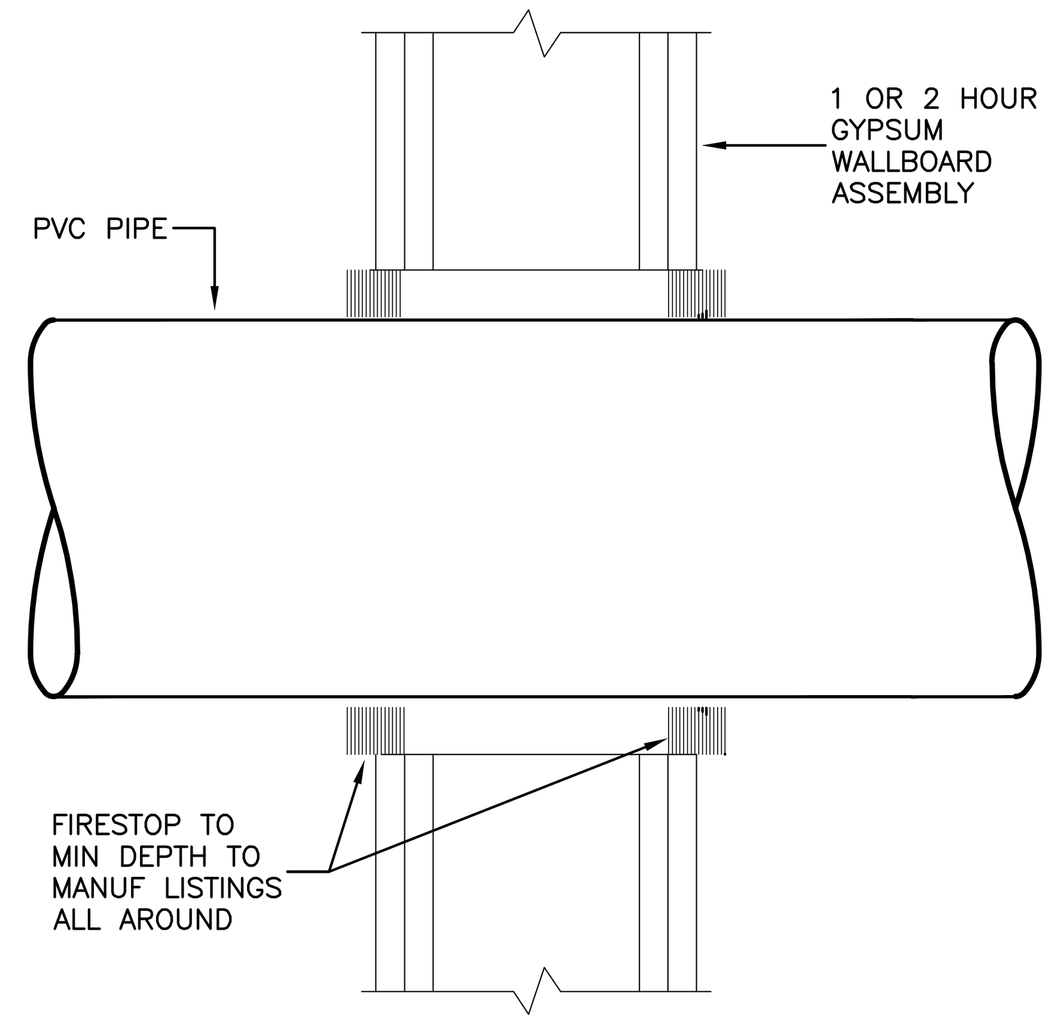
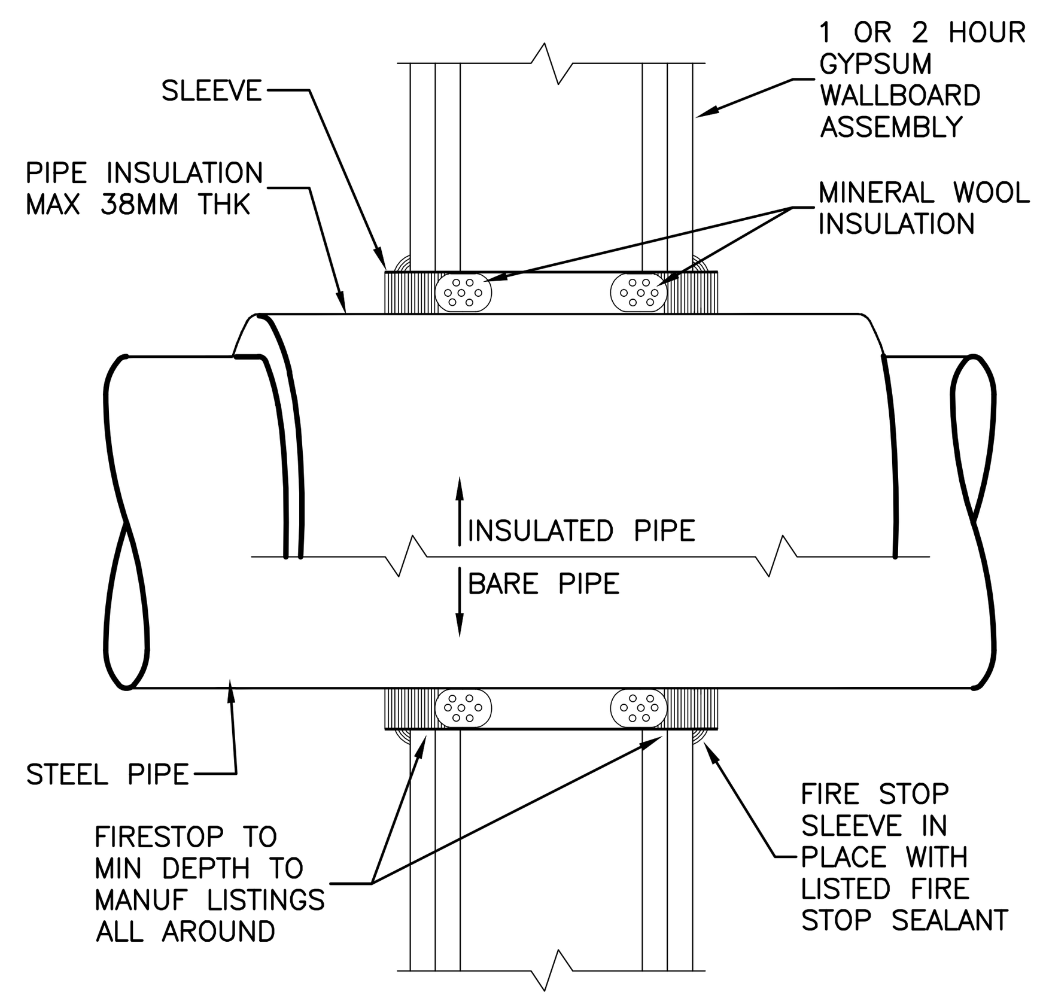
WELL PLANS & DETAILS

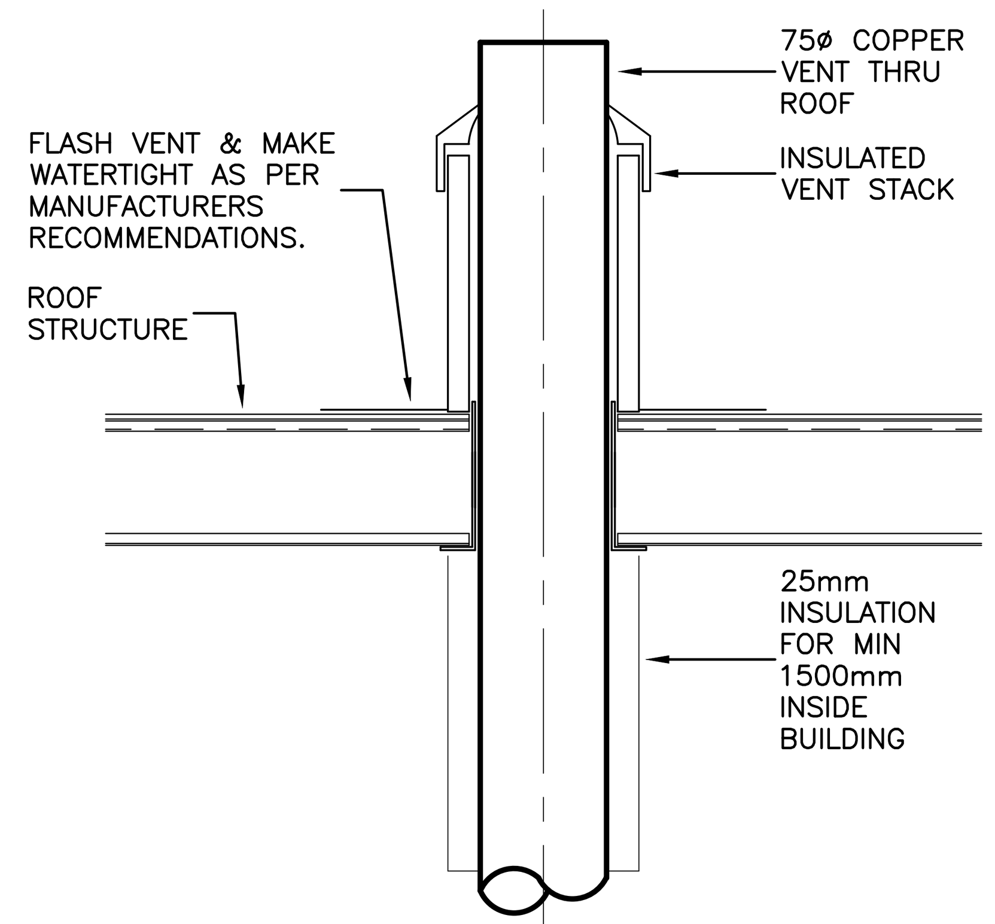
Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
R.071363.001	M102 OF	0



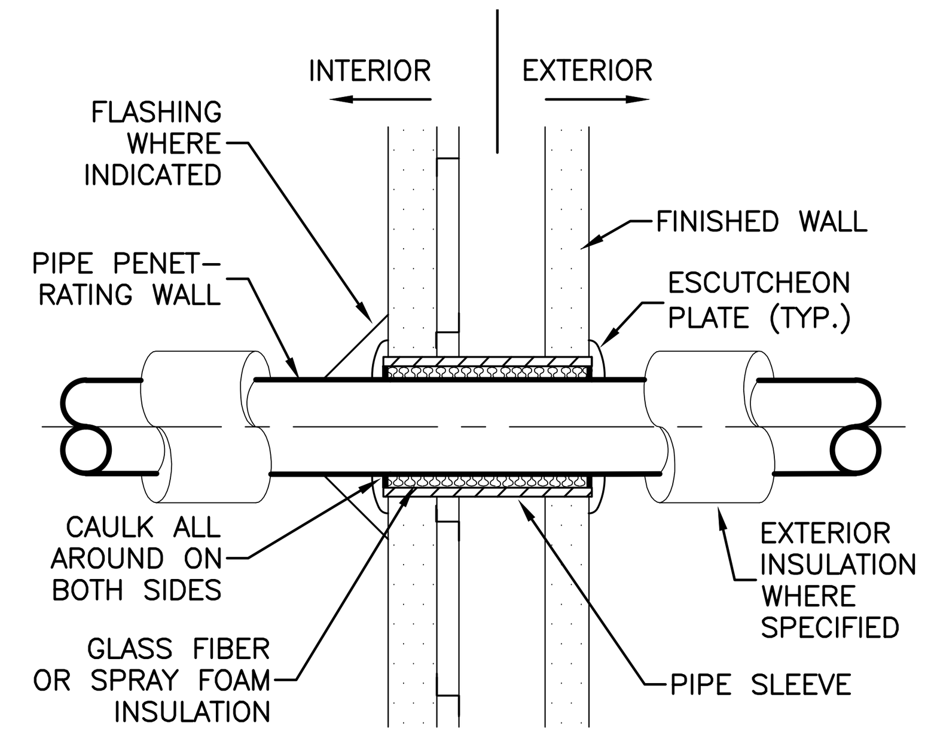
1 PVC 50ø & SMALLER PIPE FIRE STOP DETAIL
M501 SCALE: NTS



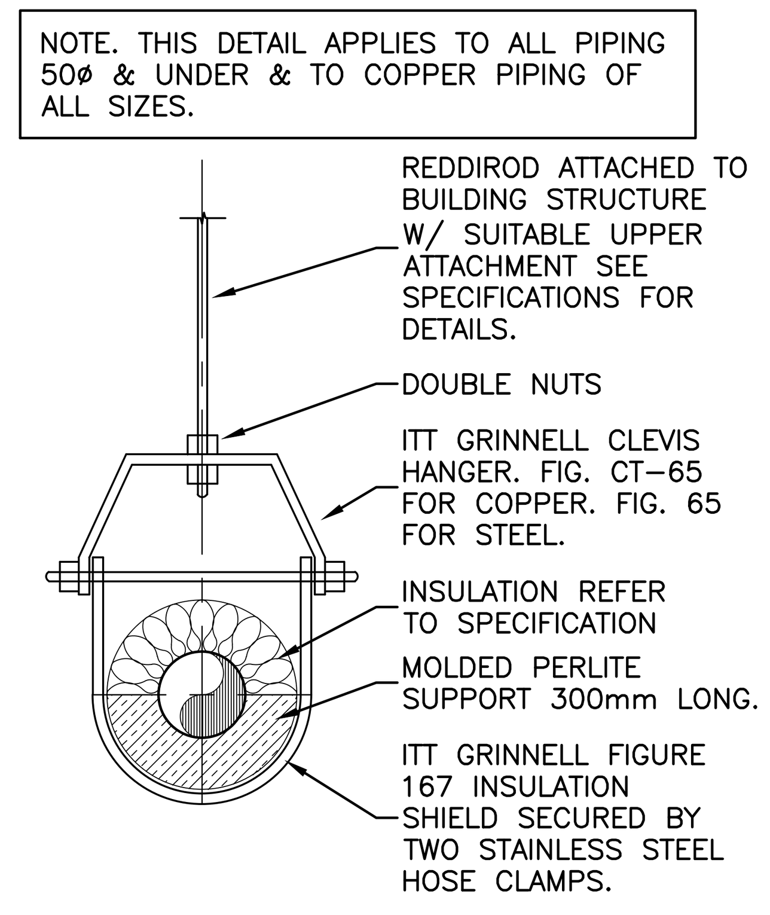
2 METALLIC BARE/INSULATED PIPE FIRE STOP DETAIL
M501 SCALE: NTS



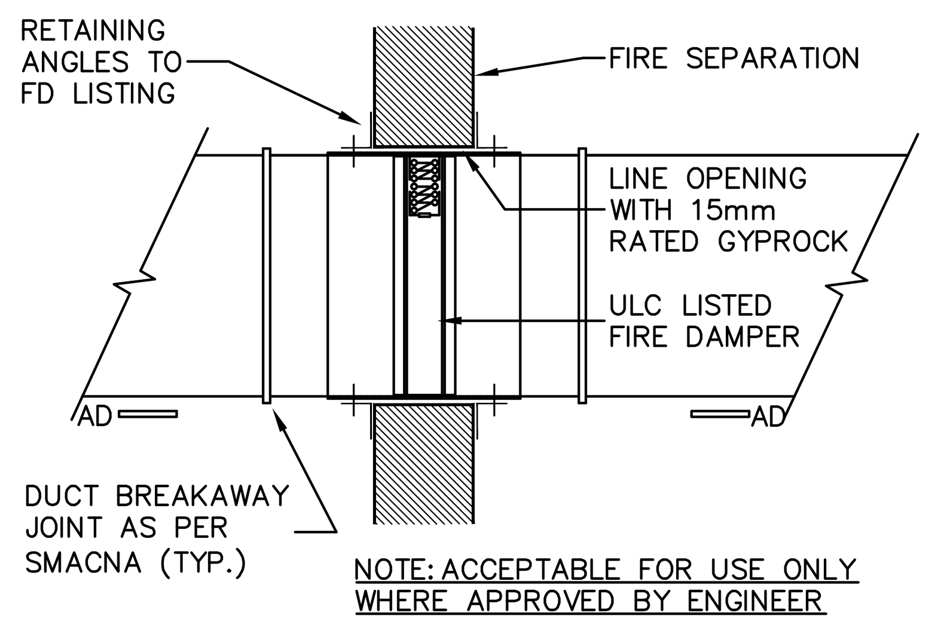
3 SANITARY ROOF VENT DETAIL
M501 SCALE: NTS



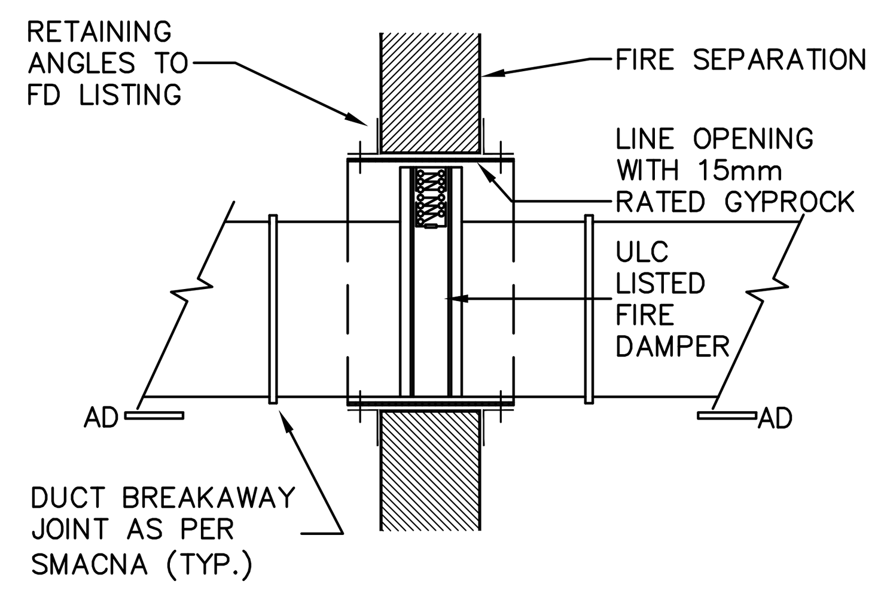
4 PIPE THROUGH EXTERIOR WALL DETAIL
M501 SCALE: NTS



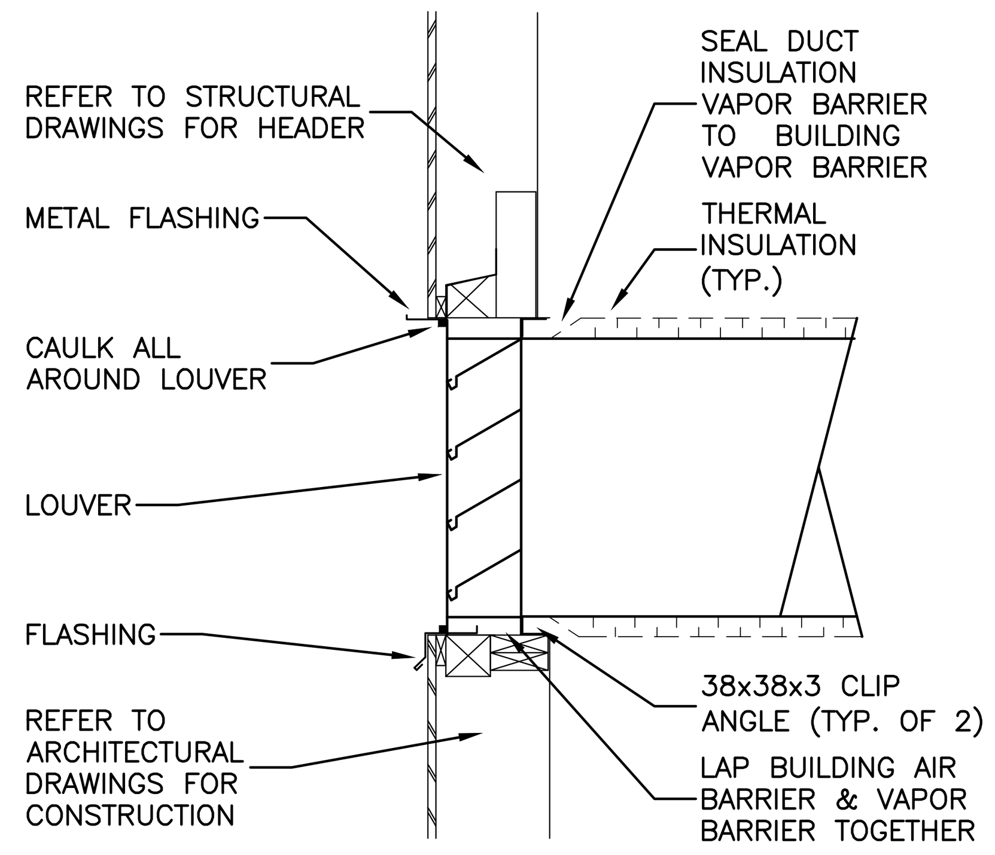
5 STANDARD PIPE HANGER DETAIL (TYPE 1)
M501 SCALE: NTS



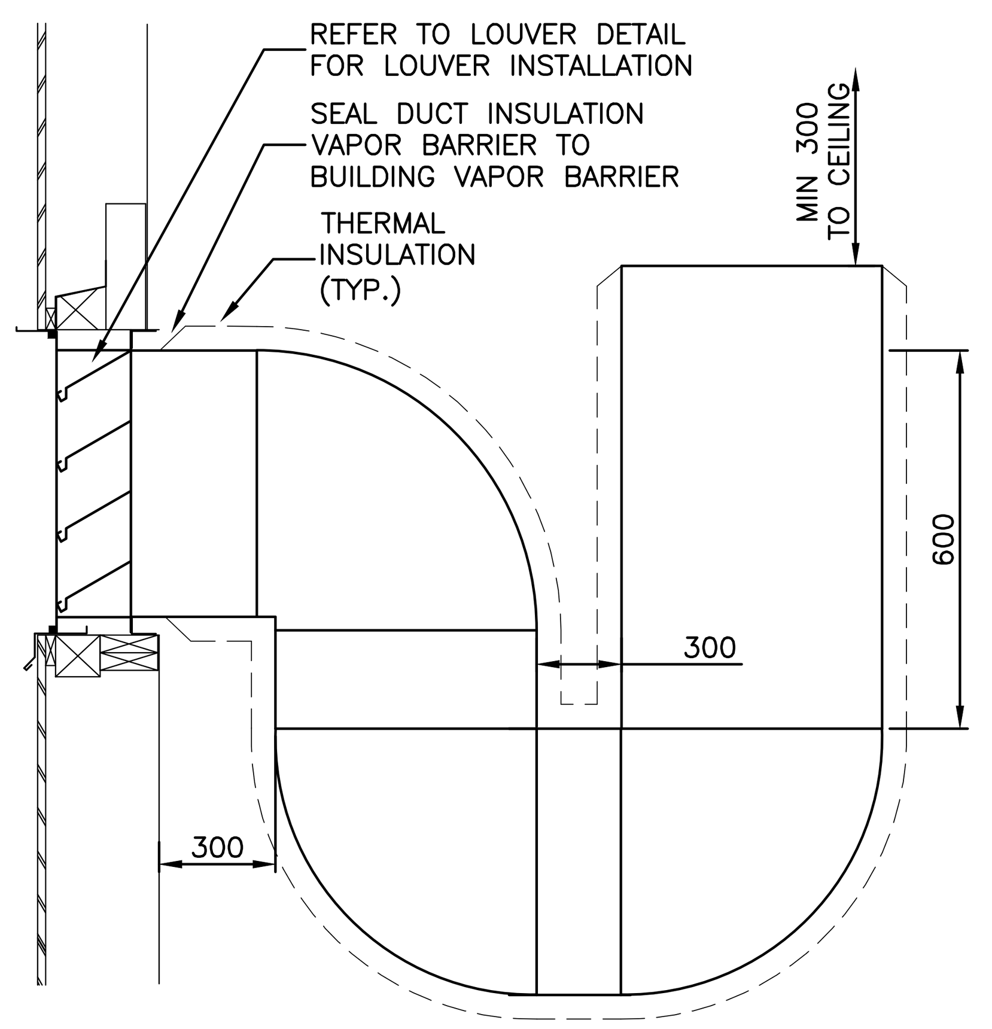
6 FIRE DAMPER DETAIL (TYPE 1)
M501 SCALE: NTS



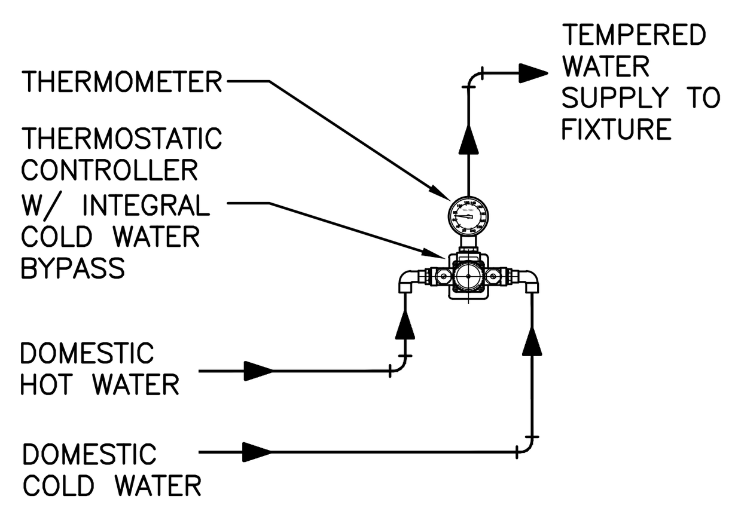
7 FIRE DAMPER DETAIL (TYPE 2)
M501 SCALE: NTS



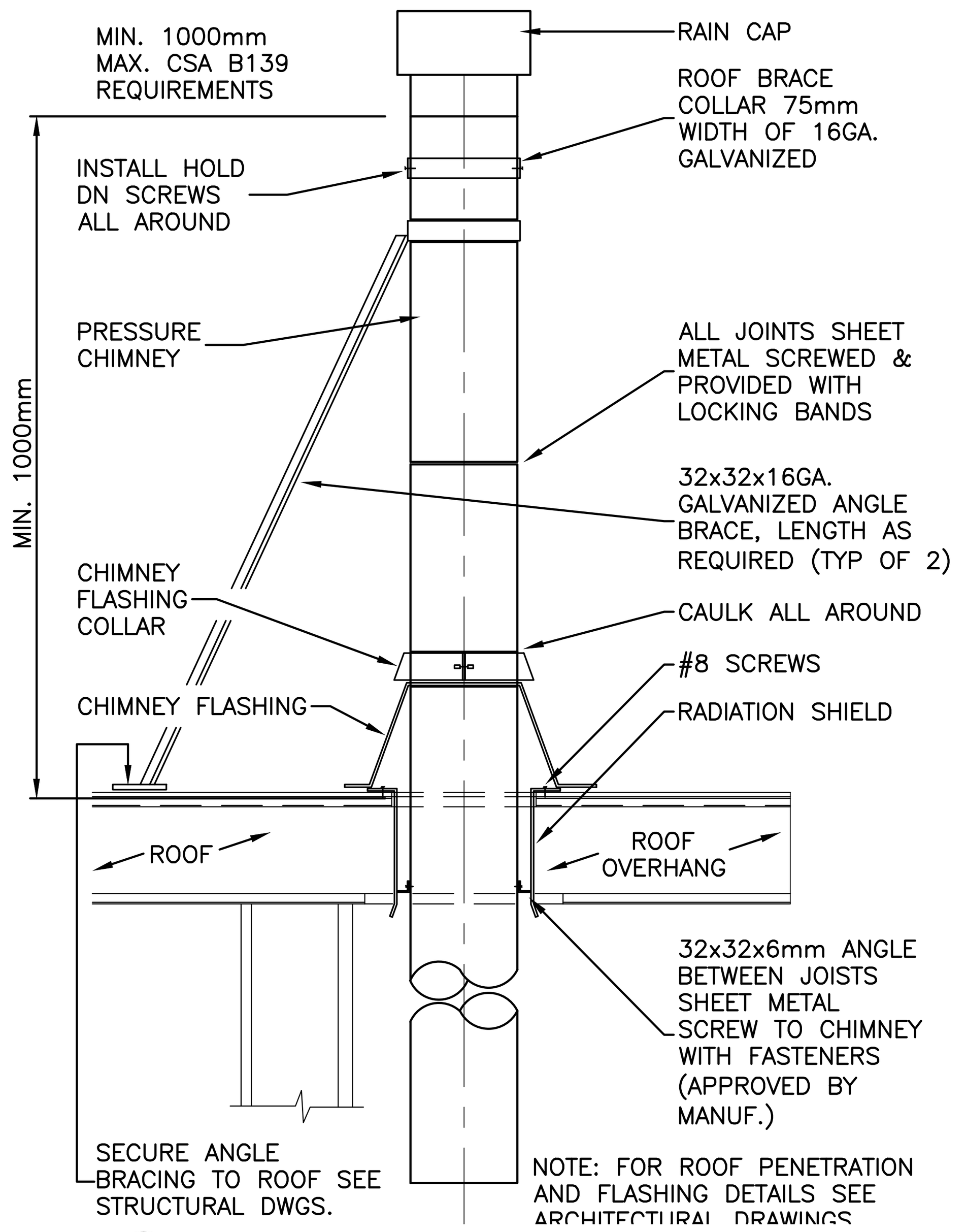
8 WALL LOUVER DETAIL
M501 SCALE: NTS



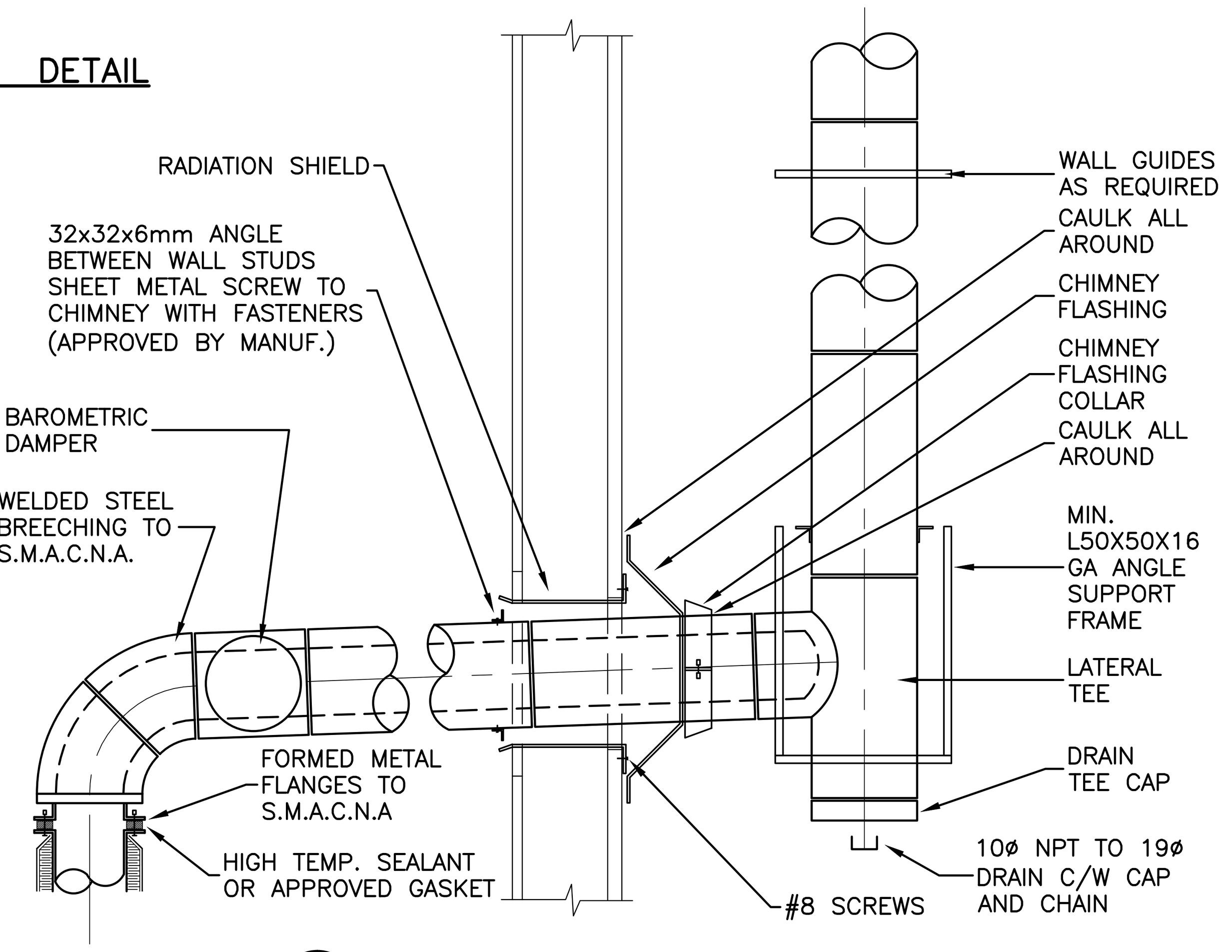
9 COMBUSTION AIR COLD AIR TRAP DETAIL
M501 SCALE: NTS



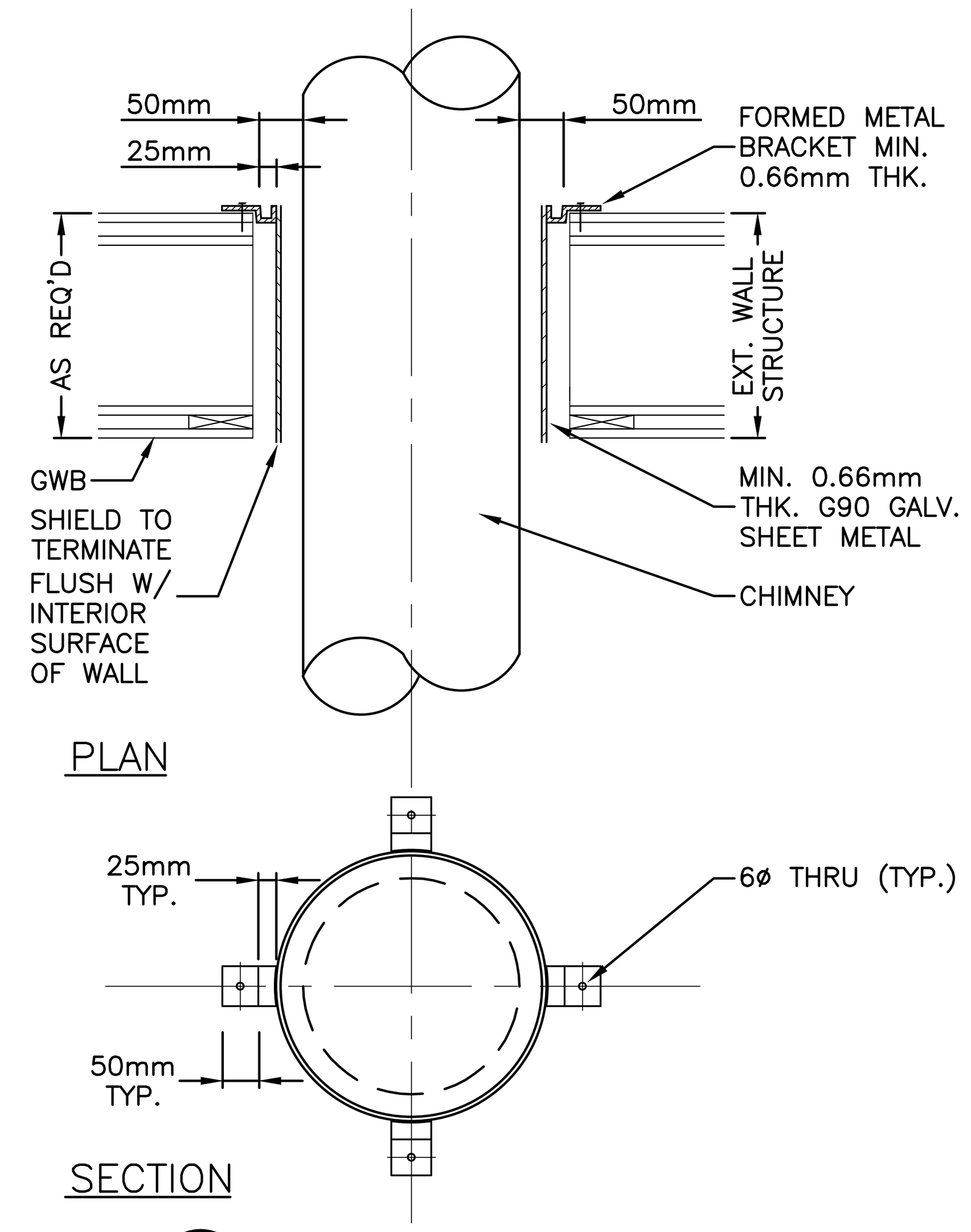
10 TYPICAL MIXING VALVE DETAIL
M501 SCALE: NTS



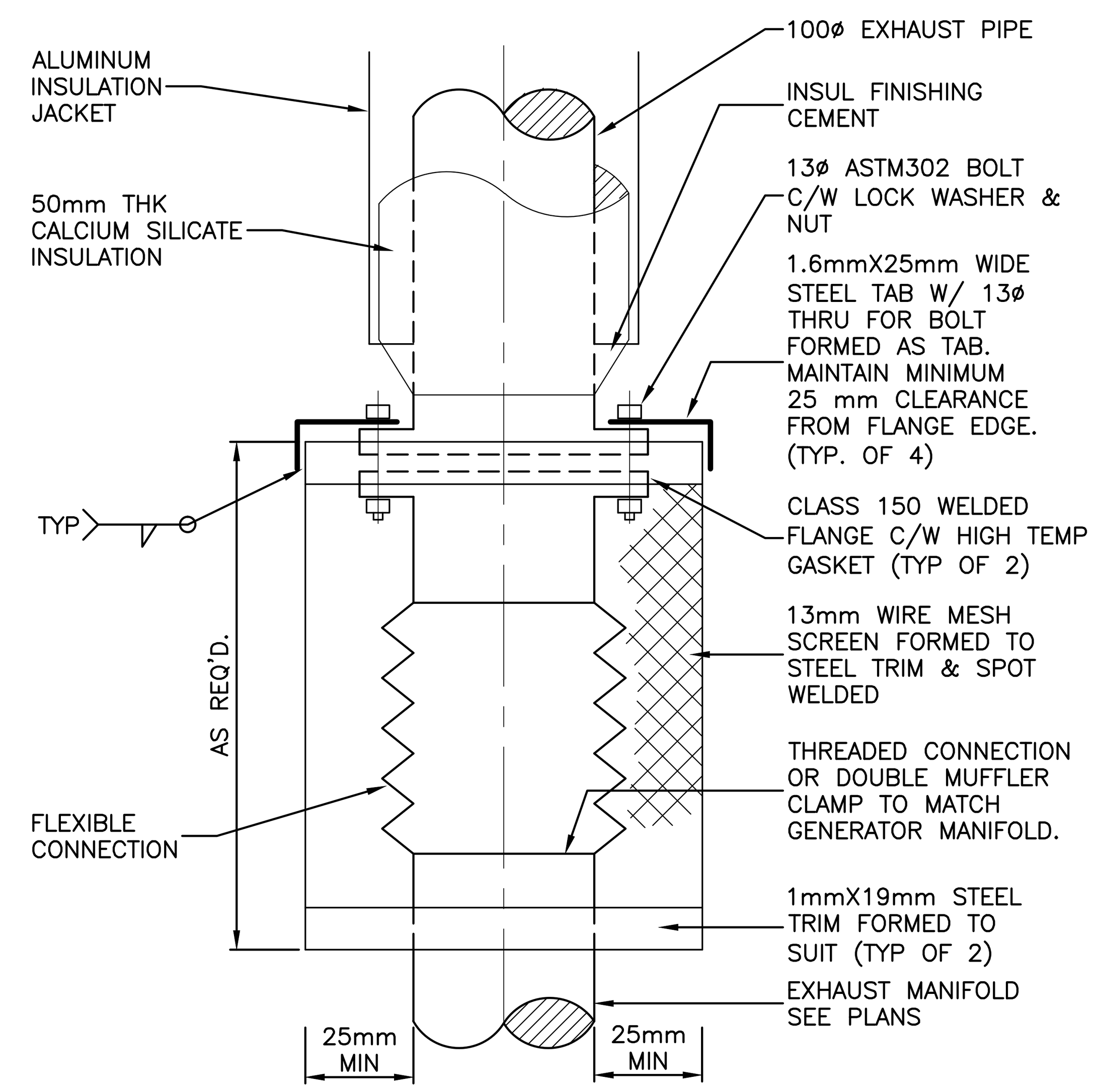
11 FURNACE CHIMNEY DETAIL (TOP)
M501 SCALE: NTS



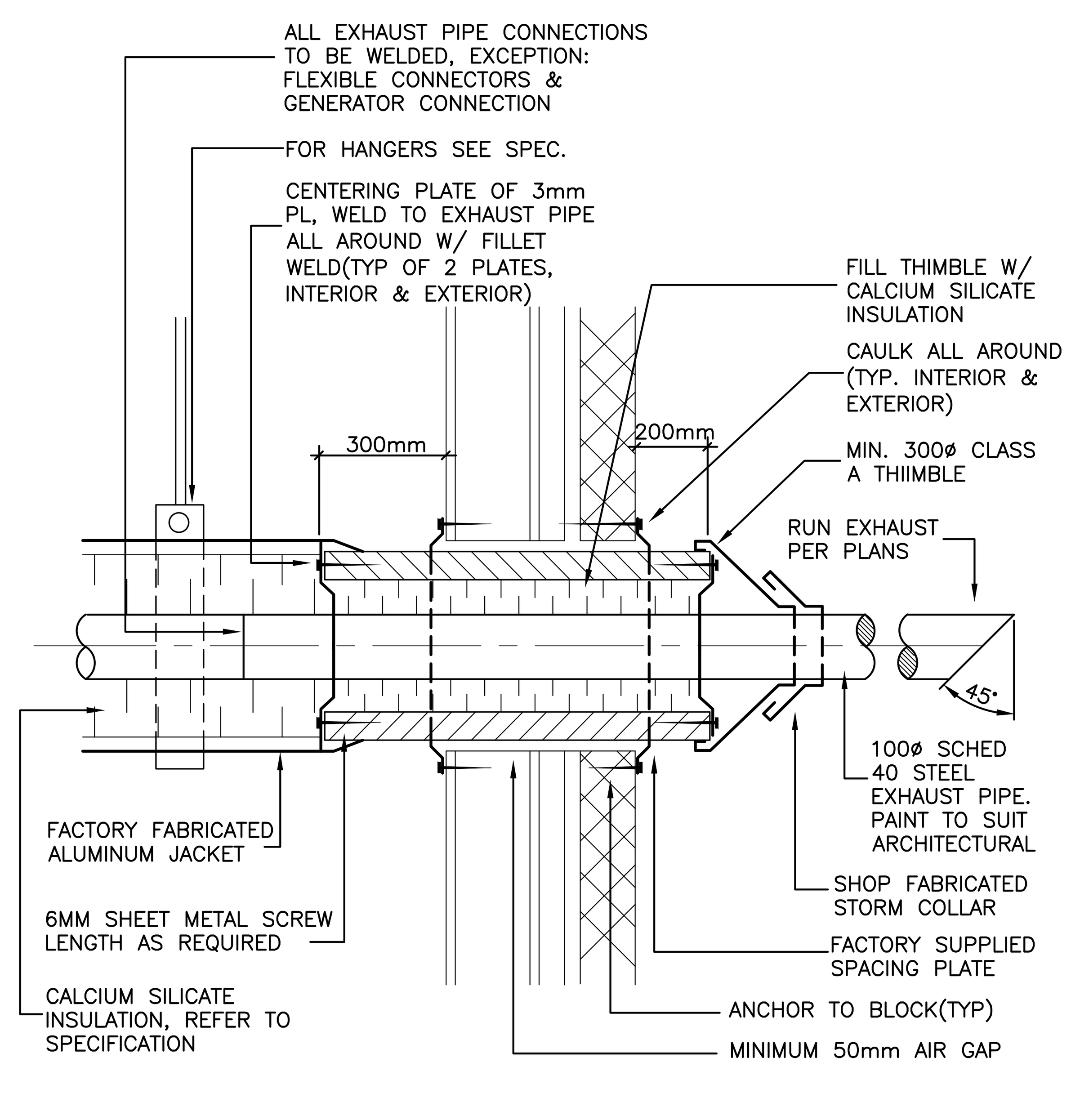
12 FURNACE CHIMNEY DETAIL (BOTTOM)
M501 SCALE: NTS



13 RADIATION SHEILD DETAIL
M501 SCALE: NTS



14 GENERATOR FLEXIBLE CONNECTION SAFETY SCREEN DETAIL
M501 SCALE: NTS



15 GENERATOR EXHAUST THIMBLE THRU WALL DETAIL
M501 SCALE: NTS

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PROFESSIONAL ENGINEER, PROVINCE OF BRITISH COLUMBIA — # 40792 — Feb 2 2015 — Pleasant Camp 149901920

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CANADA BORDER SERVICES AGENCY

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PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

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Designed by/Concept par
B.Zrum / S.Birrell

Drawn by/Dessine par
B.Zrum

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin
DETAILS

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FURNACE SCHEDULE

TAG No.	LOCATION	MANUFAC-TURER	MODEL	FUEL	INPUT (kW)	OUTPUT (kW)	COOLING		FAN MOTOR		MOTOR POWER (Hp)	V/PH	REMARKS
							CAPACITY (kW)	REFRIGERANT	FLOW (L/s)	E.S.P (Pa)			
FRN-1	ROOM 105	–	–	No. 2 OIL	20.5	17.3	N/A	N/A	305	–	1/2	120/1	ECM VARIABLE SPEED BLOWER MOTOR
FRN-2	ROOM 105	–	–	No. 2 OIL	20.5	17.3	N/A	N/A	305	–	1/2	120/1	ECM VARIABLE SPEED BLOWER MOTOR

FAN SCHEDULE

FAN No.	SERVICE	LOCATION	MANUFACTURER	MODEL No.	AIR FLOW (L/s)	EXTERNAL STATIC PRESS. (Pa)	MOTOR (Hp)	FAN RPM	ELECTRICAL (V/Ph/Hz)	MOUNTING ARR'GT	TYPE	REMARKS
CF-1	COOLING	ROOM 102 GRLN A:2	–	–	100	110	1/9	1000	120/1/60	CEILING	CENTRIFUGAL	INTERLOCKED WITH CD-5
EF-1	EXHAUST	ROOM 101 GRLN C1:2	–	–	25	75	1/6	1428	120/1/60	INLINE	CENTRIFUGAL	INTERLOCKED WITH CD-6

MOTORIZED DAMPER SCHEDULE

TAG No.	DUTY	POSITION	TYPE	SIZE	REMARKS
CD-1	GENERATOR COMB/A	NC	2 POSITION	1800x150	PARALLEL BLADE THERMALLY INSULATED, THERMALLY BROKEN
CD-2	GENERATOR O/A	NC	MODULATING	1800x1500	OPPOSED BLADE THERMALLY INSULATED, THERMALLY BROKEN
CD-3	GENERATOR E/A	NC	MODULATING	1800x1500	OPPOSED BLADE THERMALLY INSULATED, THERMALLY BROKEN
CD-4	GENERATOR R/A	NO	MODULATING	900x750	OPPOSED BLADE
CD-5	ELECTRICAL ROOM O/A	NC	2 POSITION	200x150	PARALLEL BLADE THERMALLY INSULATED, THERMALLY BROKEN
CD-6	CHLORINE ROOM T/A	NC	2 POSITION	200x150	PARALLEL BLADE

GRILLE, DIFFUSER, AND LOUVER SCHEDULE

TAG No.	MANUFACTURER	MODEL No.	SIZE	SERVICE	DESCRIPTION	FINISH	REMARKS
S-1	–	–	SEE DWG	SUPPLY	DOUBLE DEFLECTION SUPPLY GRILLE	WHITE	19mm BLADE SPACING, C/W BALANCING DAMPER
R-1	–	–	SEE DWG	RETURN	EGG CRATE RETURN GRILLE	WHITE	
T-1	–	–	SEE DWG	TRANSFER	EGG CRATE RETURN GRILLE	WHITE	
LOUVER	–	–	SEE DWG	–	STATIONARY, DRAINABLE LOUVER	–	

ELECTRIC DOMESTIC HOT WATER HEATER SCHEDULE

TAG No.	LOCATION	MANUFACTURER	MODEL	CAPACITY (L)	ELEMENTS (W)	V/PH	REMARKS
DHWH-1.1	ROOM 100 GRLN B-C:2-3	–	–	303	1 @ 3000	208/3	610mm DIAMETER

PLUMBING FIXTURES SCHEDULE

TAG No.	MANUFACTURER	MODEL No.	DESCRIPTION	DCW (ømm)	DHW (ømm)	SAN (ømm)	VENT(ø mm)	REMARKS
ES-1	–	–	EMERGENCY DRENCH SHOWER AND EYEWASH STATION	32	32	N/A	N/A	EMERGENCY SHOWER C/W EYEWASH STATION AND LEAD FREE THERMOSTATIC MIXING VALVE.
FD-1	–	–	FLOOR DRAIN	N/A	N/A	75	N/A	
HB-1	–	–	INTERIOR HOSE BIBB	19	N/A	N/A	N/A	COMMERCIAL GRADE, STAINLESS STEEL, LEAD FREE, W/ VACUUM BREAKER
SK-1	–	–	SAMPLE SINK	13	13	38	32	410x478x254 (LxWxD) STAINLESS STEEL DROP-IN SINK C/W 102mm CENTERSET 114mm RADIUS GOOSNECK FAUCET W/ 150mm WRIST BLADE HANDLES

FIRE EXTINGUISHER SCHEDULE

TAG No.	MANUFACTURER	MODEL No.	DESCRIPTION	UL RATING	BRACKET	REMARKS
DCE-1	–	–	PRESSURIZED DRY CHEMICAL, 9.07 kg	10A-120B:C	STANDARD HANGER WITH QUICK RELEASE MECHANICAL RETENSION STRAP	
DCE-2	–	–	PRESSURIZED DRY CHEMICAL, 4.54 kg	4A-80B:C	STANDARD HANGER WITH QUICK RELEASE MECHANICAL RETENSION STRAP	SUITABLE FOR OUTDOOR MOUNTING C/W HIGH VISIBILITY, HEAVY DUTY COVER

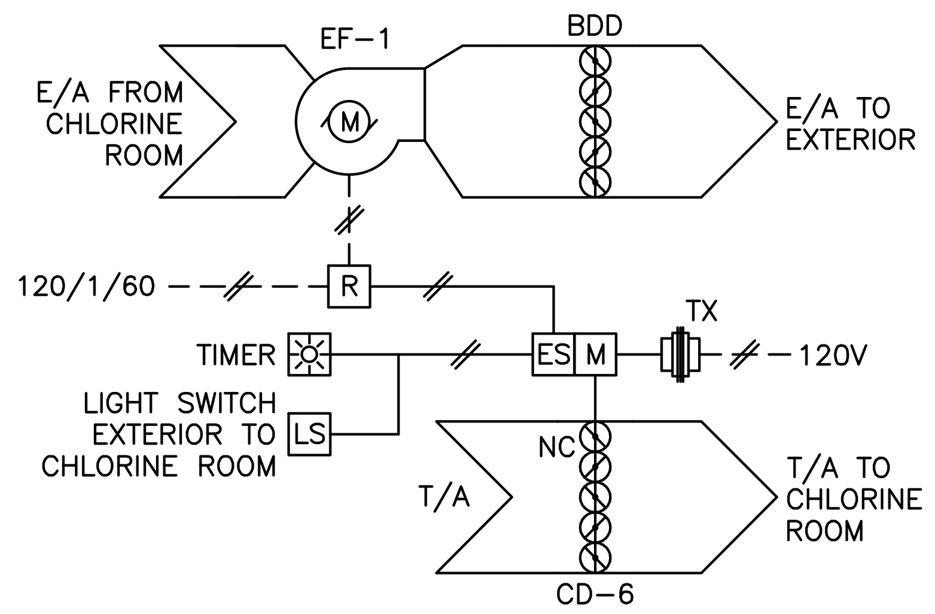
TANK SCHEDULE

TAG No.	SERVICE	LOCATION	MANUFACTURER	MODEL No.	USAGE	TANK VOLUME (L)	TANK ACCEPTANCE VOLUME (L)	DIMENSIONS (ø X L) (W x L x H) (mm)	REMARKS
N/A	PRESSURE TANK	–	FLEXCON INDUSTRIES	PC366R	–	450	180	660x1518	EXISTING TANK LOCATED IN OLD WELLHOUSE TO BE TURNED OVER TO OWNER
TK-1.1	EXPANSION TANK	ROOM 100 GRLN B	ELBI	FLEXTROL AF-300	FILTERED RAW WATER	–	300	660x1290	EXISTING TANK LOCATED IN GENERATOR BUILDING TO BE RELOCATED
TK-1.2	EXPANSION TANK	ROOM 100 GRLN B	ELBI	FLEXTROL AF-300	FILTERED RAW WATER	–	300	660x1290	EXISTING TANK LOCATED IN GENERATOR BUILDING TO BE RELOCATED
TK-1.3	EXPANSION TANK	ROOM 100 GRLN B	ELBI	FLEXTROL AF-300	FILTERED RAW WATER	–	300	660x1290	EXISTING TANK LOCATED IN GENERATOR BUILDING TO BE RELOCATED
TK-1.4	EXPANSION TANK	ROOM 100 GRLN B	–	–	FILTERED RAW WATER	–	300	660x1290	NEW TANK TO MATCH TK-1.1, TK-1.2, AND TK-1.3
TK-1.5	TREATMENT	ROOM 100 GRLN B	WELLMATE	WM-UT-450	CHLORINE CONTACT	454	–	610x1860	EXISTING TANK LOCATED IN GENERATOR BUILDING TO BE RELOCATED
TK-1.6	TREATMENT	ROOM 100 GRLN B	WELLMATE	WM-UT-450	CHLORINE CONTACT	454	–	610x1860	EXISTING TANK LOCATED IN GENERATOR BUILDING TO BE RELOCATED
TK-1.7	CHLORINE HOLDING	ROOM 101 GRLN C1:2	–	–	CHLORINE HOLDING	75	–	356x813	NEW TANK TO BE USED FOR CHLORINE SOLUTION HOLDING/MIXING FOR DOSING PUMPS

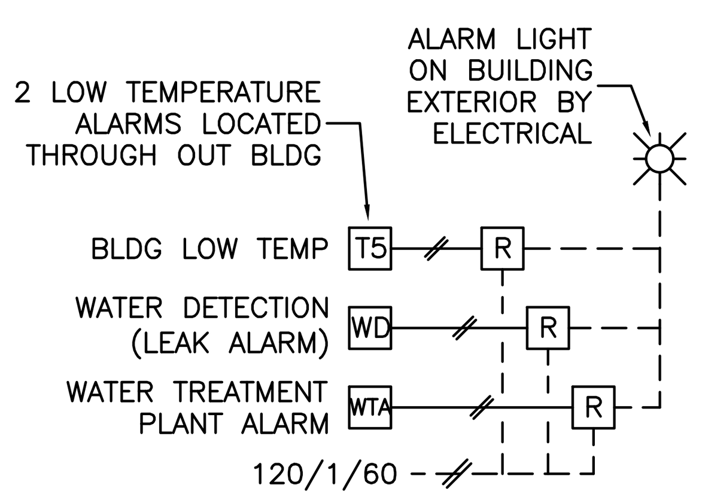
PUMP SCHEDULE

TAG No.	SERVICE	LOCATION	MANUFACTURER	MODEL No.	CAPACITY (L/s)	HEAD (M)	FLUID	MOTOR (Hp)	RPM	ELECTRICAL (V/Ph/Hz)	REMARKS
P-1.1	RAW WATER	WELL	–	–	1.26	78.7	WATER	3	3450	208/3/60	PUMP TO BE SUITABLE FOR 150mm CASING/BOREHOLE
P-1.2	RAW WATER BOOSTER	ROOM 100 GRLN C:1	–	–	1.92	26.5	WATER	1.5	–	UNKNOWN	EXISTING PUMP LOCATED IN OLD WELLHOUSE TO BE TURNED OVER TO OWNER
P-1.3	RAW WATER BOOSTER	ROOM 100 GRLN C:1	–	–	1.92	26.5	WATER	1.5	–	UNKNOWN	EXISTING PUMP LOCATED IN OLD WELLHOUSE TO BE TURNED OVER TO OWNER
CL-1	CHLORINE INJECTION	ROOM 101 GRLN 2	–	–	–	–	CL SOL'N	20W	–	120/1/60	
CL-2	CHLORINE INJECTION	ROOM 101 GRLN 2	–	–	–	–	CL SOL'N	20W	–	120/1/60	

NOTES:
1. TWO-POSITION CD-6 INTERLOCKED WITH EF-1.
2. LIGHT SWITCH OR TIMER TO ACTIVATE CD-6.
3. EF-1 ON ONCE CD-6 FULLY OPEN.
4. TIMER SET FOR 5 MIN PER HOUR (ADJUSTABLE).



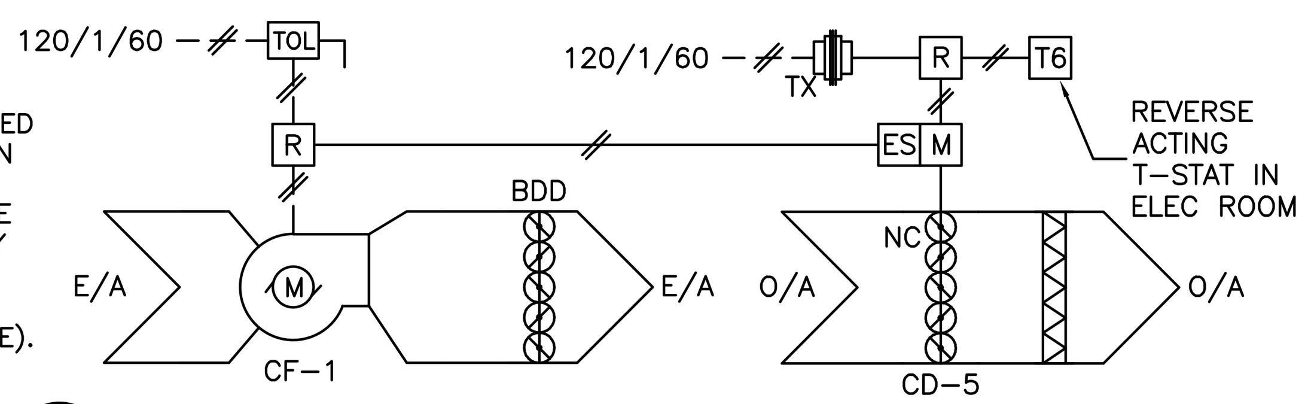
2 CHLORINE ROOM EXHAUST CONTROL SCHEMATIC
M701 SCALE: NTS



NOTES:
1. BUILDING LOW TEMPERATURE ALARMS TO BE LOCATED IN ROOMS 100 AND 102.
2. TOTAL OF 3 WATER DETECTORS AND ASSOCIATED REQUIRED CONTROL PANEL(S) TO BE INSTALLED IN THE WATER TREATMENT ROOM AS INDICATED ON DRAWING M101.
3. WATER TREATMENT PLANT ALARM IS FOR ALL ALARMS GENERATED BY THE WATER TREATMENT PLANT EQUIPMENT.

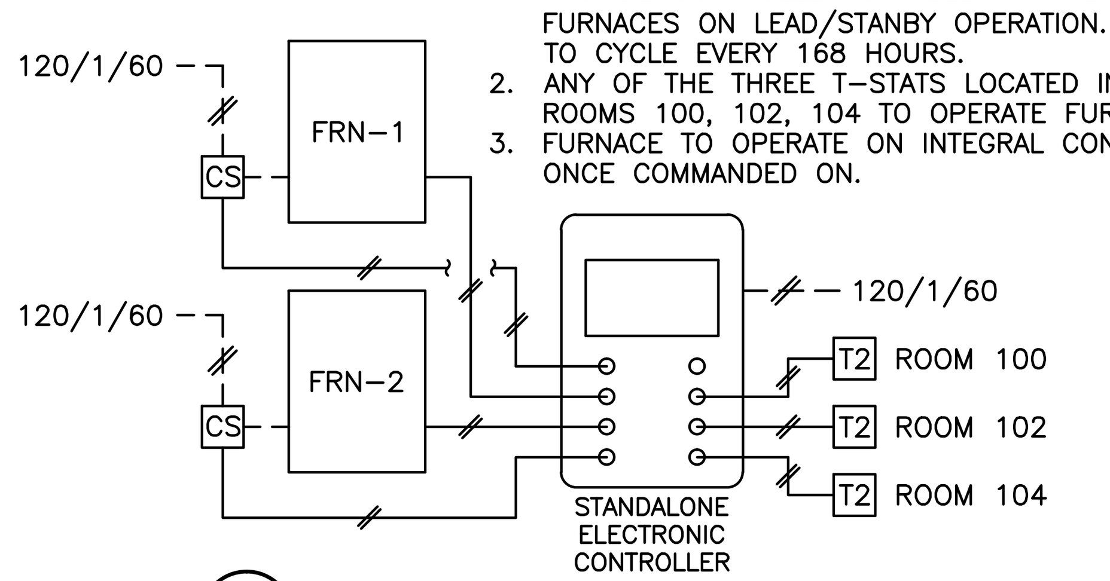
5 BUILDING ALARM SCHEMATIC
M701 SCALE: NTS

NOTES:
1. TWO-POSITION CD-5 INTERLOCKED WITH CF-1, OPEN WHEN CF-1 ON.
2. T-STAT TO CYCLE CF-1 TO SATISFY SETPOINT.
3. INITIAL SETPOINT 30°C (ADJUSTABLE).



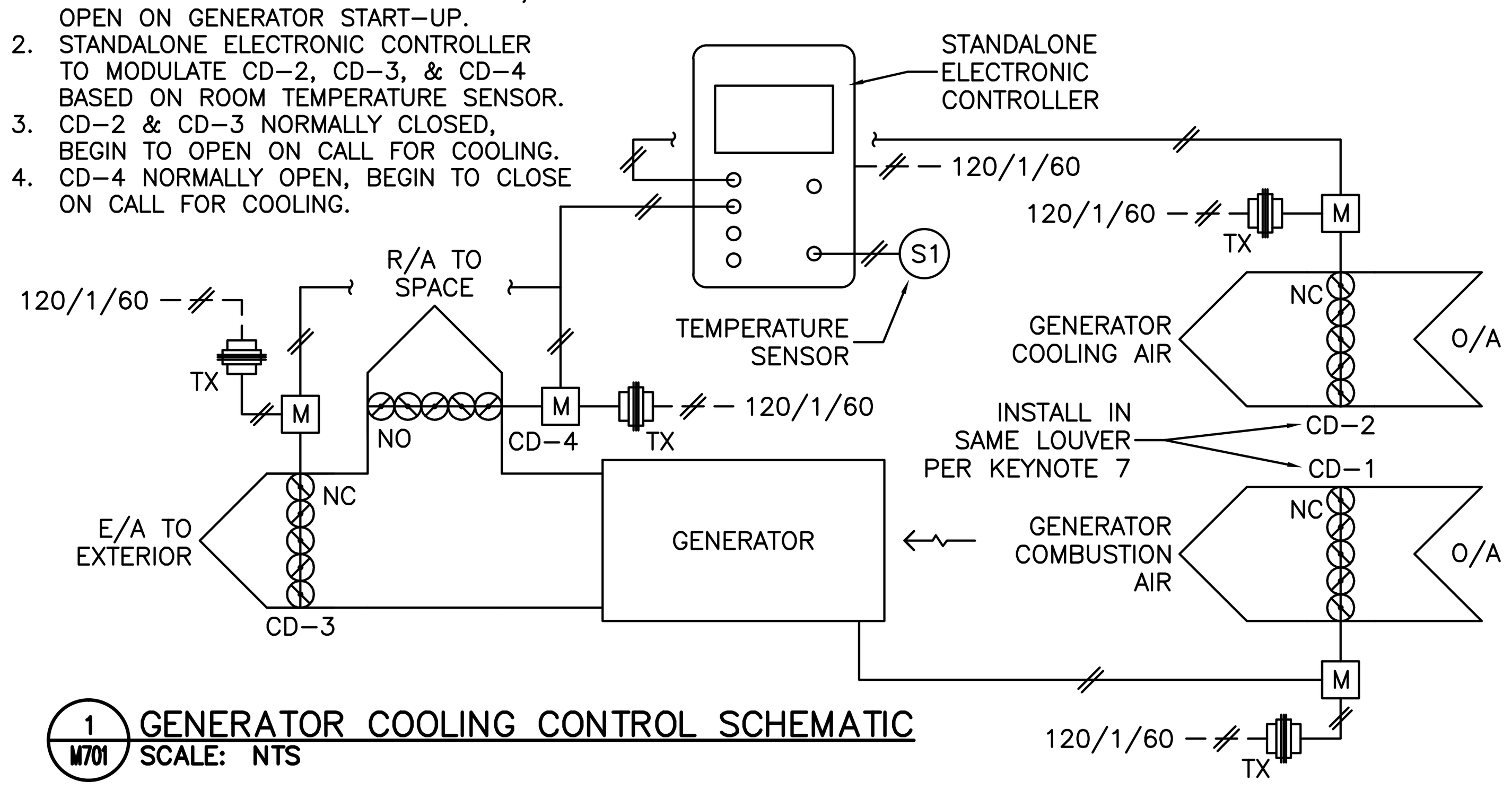
3 ELECTRICAL ROOM COOLING CONTROL SCHEMATIC
M701 SCALE: NTS

NOTES:
1. PROVIDE CONTROLLER CAPABLE OF OPERATING FURNACES ON LEAD/STANBY OPERATION. LEAD TO CYCLE EVERY 168 HOURS.
2. ANY OF THE THREE T-STATS LOCATED IN ROOMS 100, 102, 104 TO OPERATE FURNACES.
3. FURNACE TO OPERATE ON INTEGRAL CONTROLS ONCE COMMANDED ON.



4 FURNACE CONTROL SCHEMATIC
M701 SCALE: NTS

NOTES:
1. CD-1 INTERLOCKED WITH GENERATOR, OPEN ON GENERATOR START-UP.
2. STANDALONE ELECTRONIC CONTROLLER TO MODULATE CD-2, CD-3, & CD-4 BASED ON ROOM TEMPERATURE SENSOR.
3. CD-2 & CD-3 NORMALLY CLOSED, BEGIN TO OPEN ON CALL FOR COOLING.
4. CD-4 NORMALLY OPEN, BEGIN TO CLOSE ON CALL FOR COOLING.



1 GENERATOR COOLING CONTROL SCHEMATIC
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Designed by/Concept par
B.Zrum / S.Birrell

Drawn by/Dessine par
B.Zrum

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

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SCHEDULES AND CONTROLS SCHEMATICS

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
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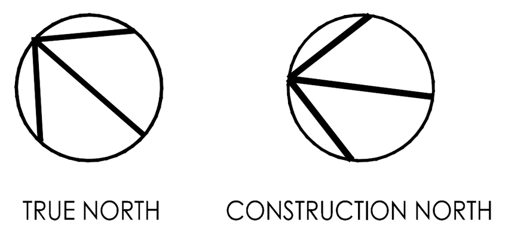
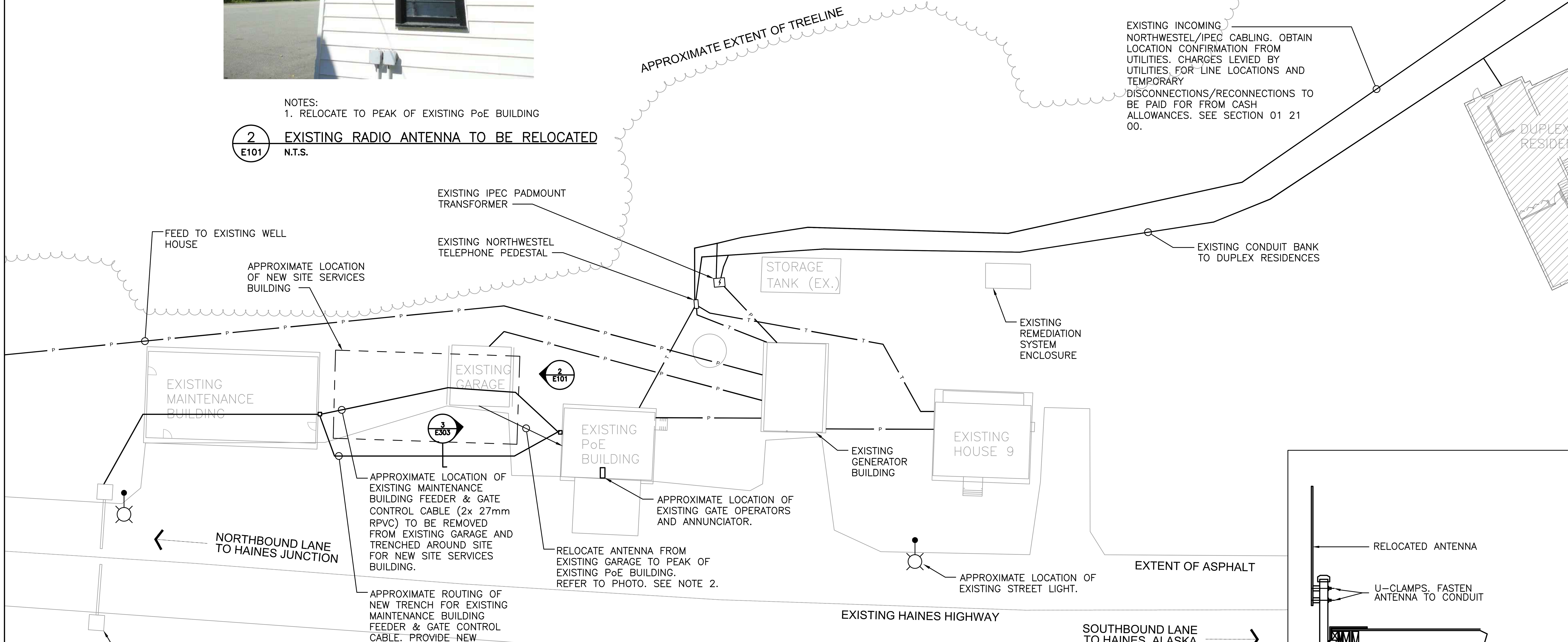
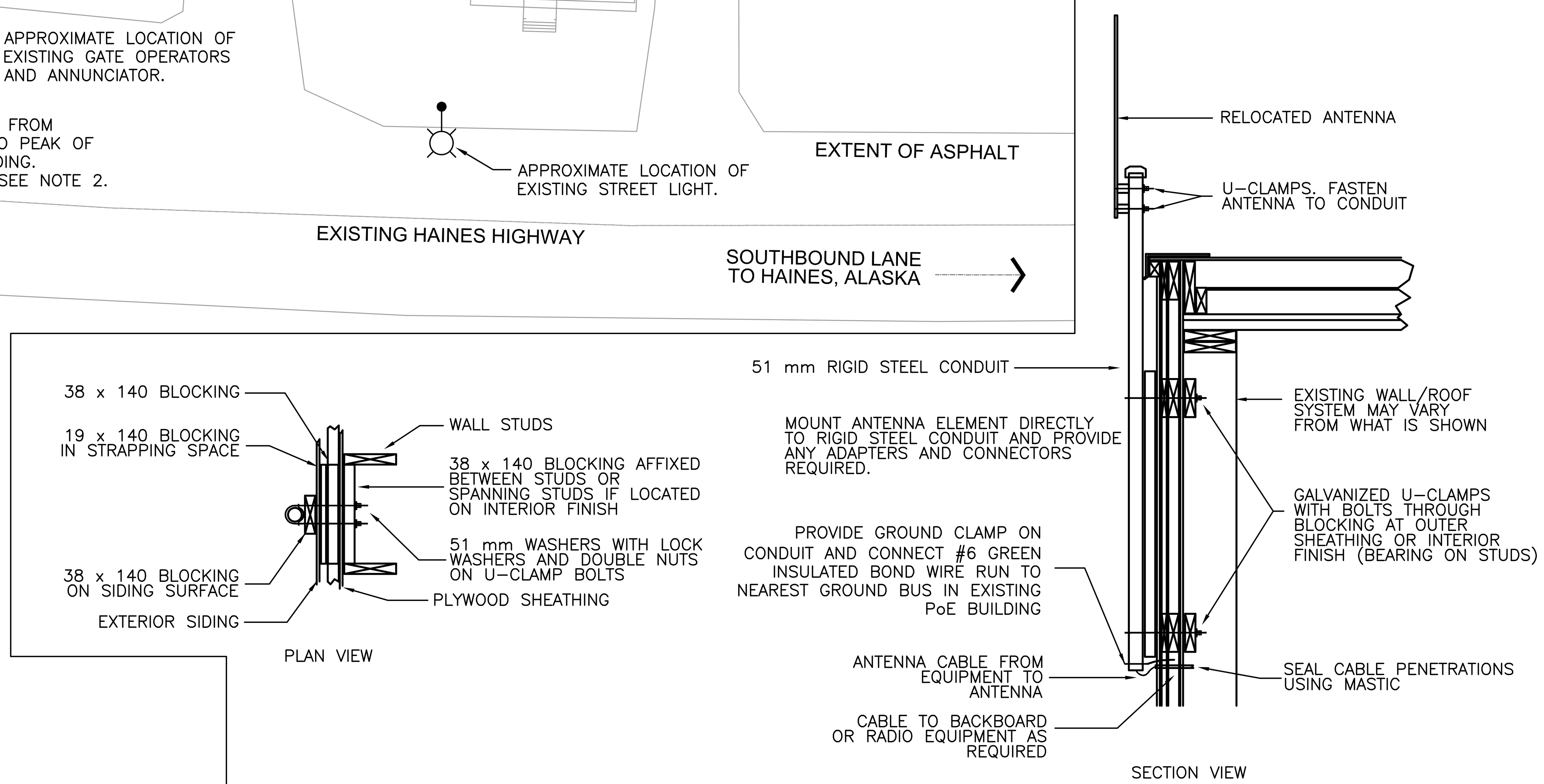


NOTES:
1. RELOCATE TO PEAK OF EXISTING PoE BUILDING

2 E101 EXISTING RADIO ANTENNA TO BE RELOCATED
N.T.S.





NOTES:
1. LOCATIONS OF EXISTING SHALLOW UTILITIES ARE BASED ON AS-BUILT INFORMATION PROVIDED BY OTHERS. SITE CONDITIONS MAY NOT BE ACCURATELY REPRESENTED BY THESE DRAWINGS. THIS DRAWING DOES NOT REPRESENT ALL SITE UTILITIES. REFER TO G003
2. DISCONNECT AND RECONNECT ANTENNA AT LOCATION SHOWN. PRIOR TO DISCONNECTING, SCHEDULE ANY DOWN-TIME WITH LOCAL CBSA REPRESENTATIVE AT LEAST 3 DAYS IN ADVANCE. SEE DETAIL 3/E101
3. SEE SPECIFICATIONS SECTION 01 11 00 FOR WORK CONSTRAINTS.
4. A GROUND-PENETRATING RADAR SITE SURVEY IS DESCRIBED IN SPECIFICATION SECTION 33 65 80. COORDINATE WITH THE TRADE CONDUCTING THE SURVEY AND PROVIDE ANY SERVICES REQUIRED TO ASSIST WITH DISCONNECTION OR IDENTIFICATION OF ELECTRICAL UNDERGROUND SERVICES PRIOR TO TRENCHING, DIGGING OR MAKING ANY BELOW-GRADE INSTALLATIONS, CONFIRM THAT THERE ARE NO OBSTRUCTIONS.

1 E101 SITE PLAN – EXISTING SERVICES
1:250

3 E101 ANTENNA MOUNTING DETAIL
N.T.S.

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Drawn by/Dessine par: EH
PWGSC Project Manager/Administrateur de Projets TPSGC
Regional Manager, Architectural and Engineering Services / Gestionnaire régionale, Services d'architectural et de génie, TPSGC

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SITE PLAN -
EXISTING SHALLOW UTILITIES PLAN AND MINOR MODIFICATIONS

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
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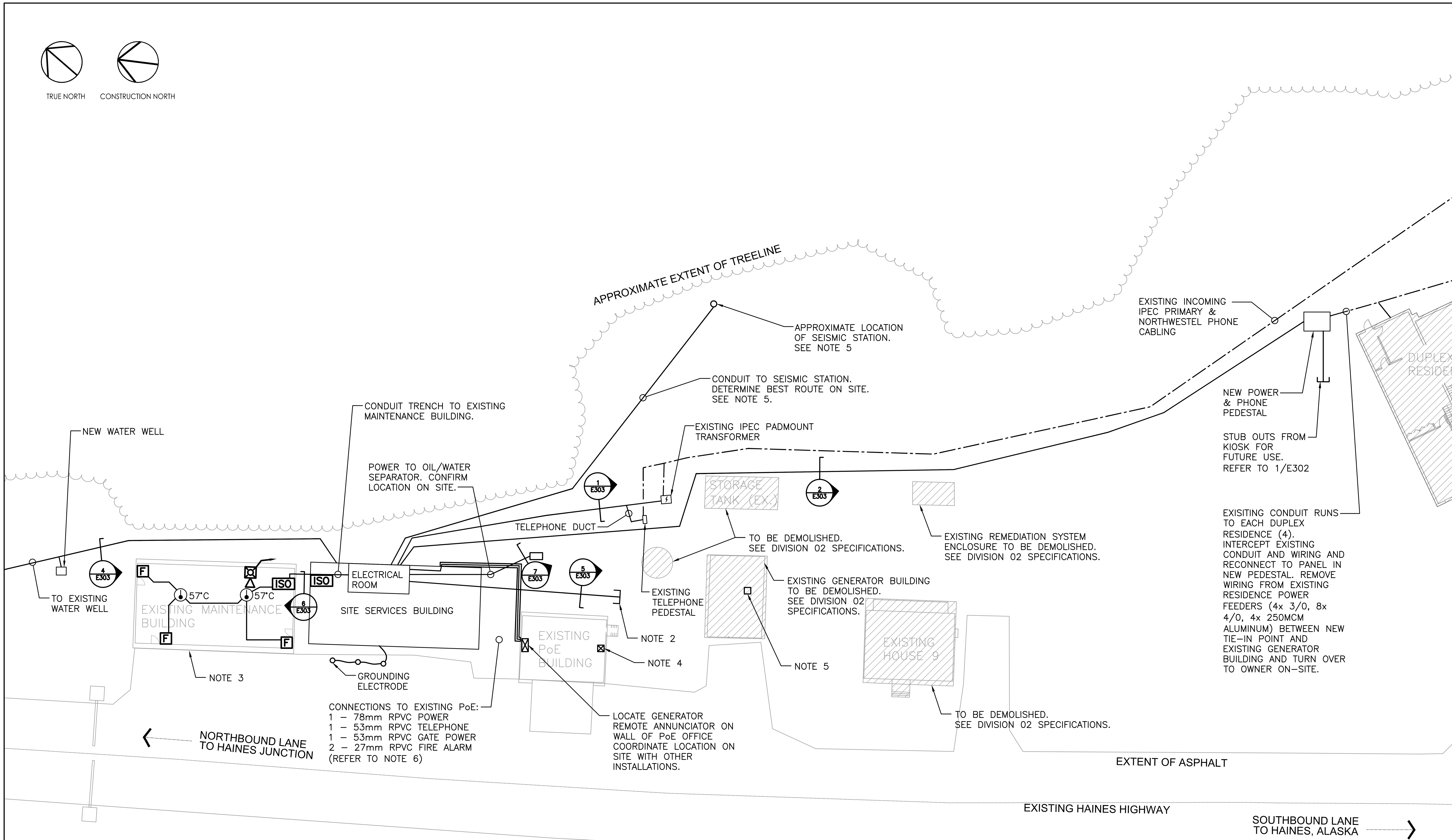

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2. EXTEND OUT TO LOCATION APPROXIMATELY 4000mm EAST OF SOUTH-EAST CORNER OF EXISTING PoE BUILDING. COORDINATE WITH ROCK PIT, SEPTIC FIELD, REMEDIATION EXCAVATION BOUNDARIES AND OTHER SITE WORKS. MARK END LOCATION ACCURATELY ON AS-BUILTS TO PERMANENT REFERENCE POINT. PROVIDE ABOVE-GRADE FLAG MARKING END POINT. CONDUIT TO BE EMT INSIDE OF BUILDING. SEE 1/E201
3. PROVIDE NEW FIRE ALARM DEVICES AT APPROXIMATE LOCATIONS SHOWN AND CONNECT TO NEW FIRE ALARM SYSTEM ADDRESSABLE LOOP & SIGNAL CIRCUIT.
4. APPROXIMATE LOCATION OF EXISTING SITE FIRE ALARM PANEL (NOTIFIER SYSTEM 500). PROVIDE THREE MONITORING MODULES (TROUBLE, SUPERVISORY, ALARM) IN THE EXISTING PoE BUILDING AND CONNECT TO THE SIGNAL OUTPUT RELAYS OF THE EXISTING F/A PANEL. CONNECT MODULES TO THE NEW SYSTEM DATA LOOP SUCH THAT TROUBLE, ALARM AND SUPERVISORY CONDITIONS ARE SIGNALED TO THE NEW SYSTEM.
5. RELOCATE EXISTING SEISMOMETER CONTROLLER FROM EXISTING GENERATOR BUILDING TO NEW SITE SERVICES BUILDING. PROVIDE NEW 63mm RPVC CONDUIT, TECK CABLES FOR ETHERNET, RS232 AND 2 #10 AWG. ALL WORK IN SEISMIC STATION VAULT TO BE COORDINATED WITH NATURAL RESOURCES CANADA.
6. CONNECTIONS TO EXISTING PoE TO BE ROUTED IN OVERHEAD CABLE TRAY. TRAY SPECIFIED IN OTHER DIVISION.

1 / E102 SITE PLAN
1:250

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Drawn by/Dessine par: EH
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Drawing title/Titre du dessin
SITE PLAN - UTILITIES PLAN

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
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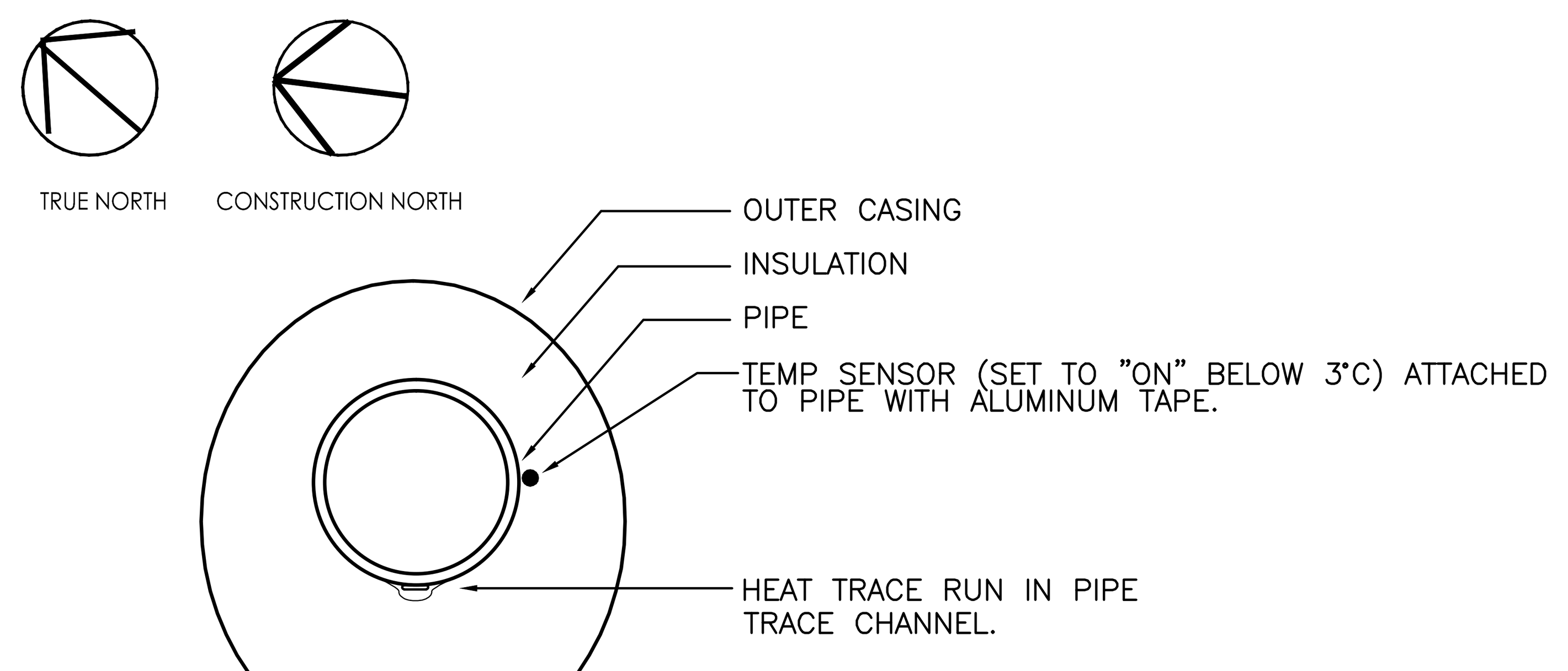
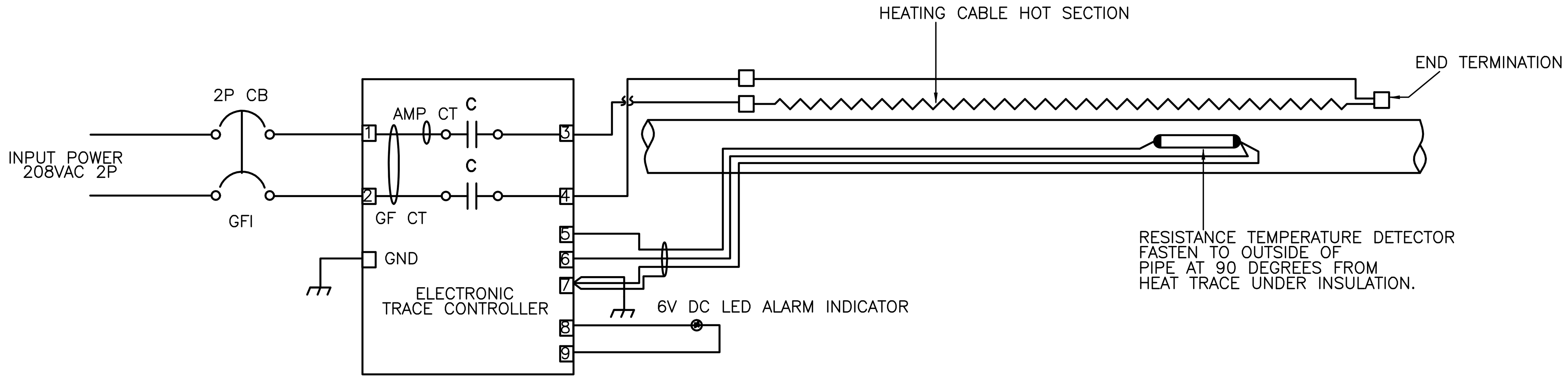


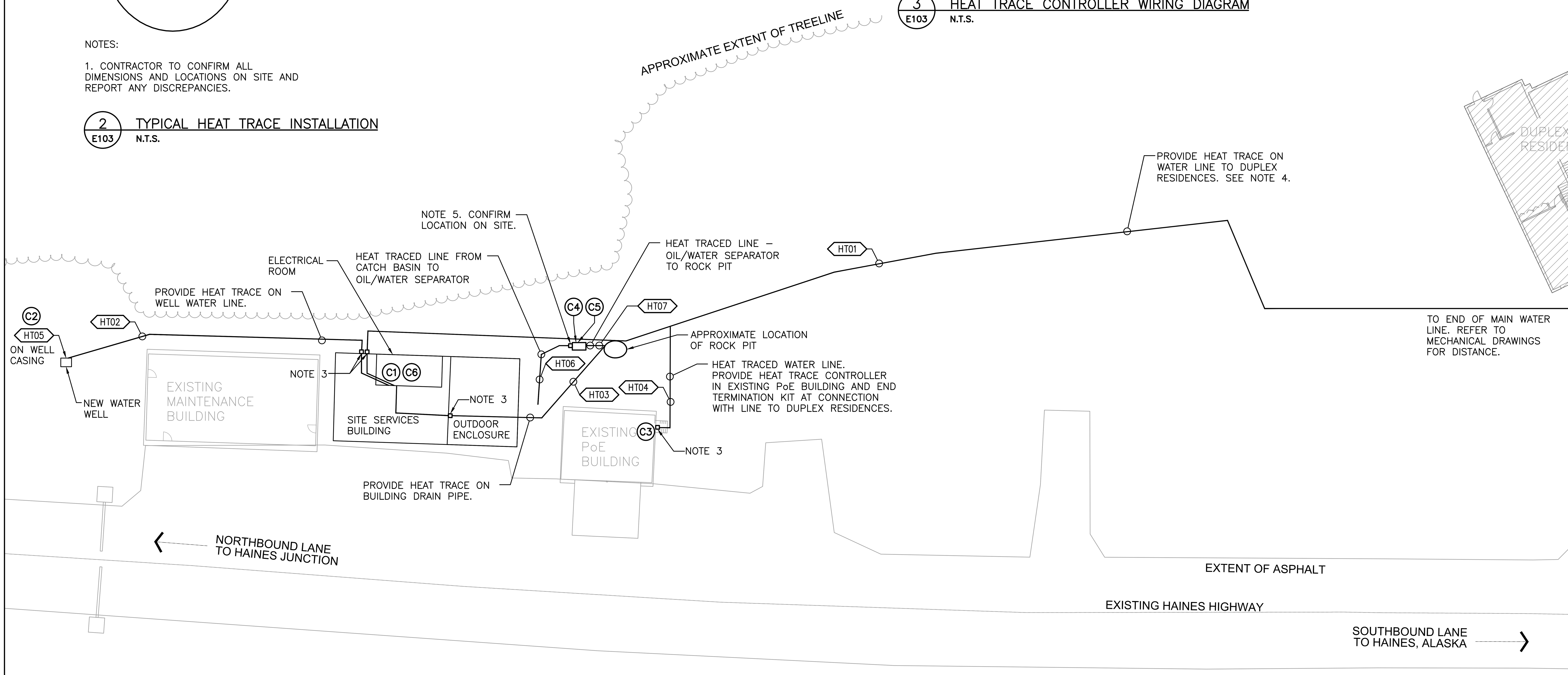
NOTES:

1. CONTRACTOR TO CONFIRM ALL DIMENSIONS AND LOCATIONS ON SITE AND REPORT ANY DISCREPANCIES.

2 E103 TYPICAL HEAT TRACE INSTALLATION
N.T.S.

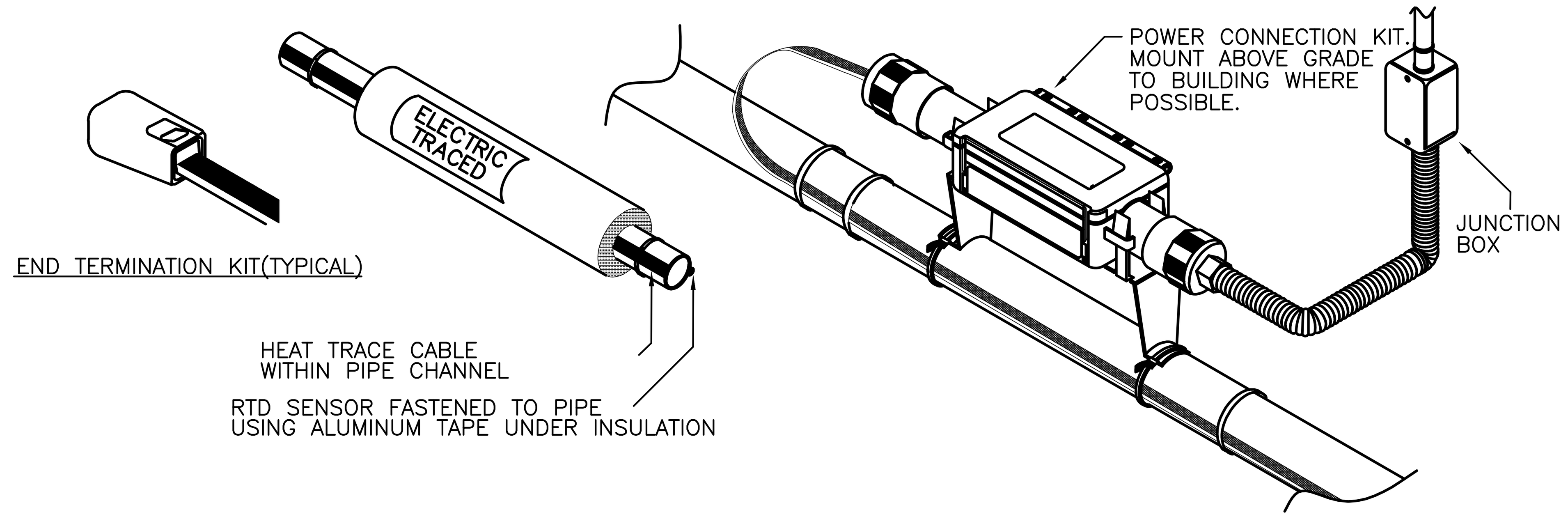


3 E103 HEAT TRACE CONTROLLER WIRING DIAGRAM
N.T.S.



NOTES:
1. THIS DRAWING DOES NOT REPRESENT ALL SITE UTILITIES. REFER TO G003
2. COORDINATE LOCATIONS WITH MECHANICAL DRAWINGS.
3. HEAT TRACE POWER CONNECTION (COLD LEAD) KITS MOUNTED ON BUILDING EXTERIOR. HEAT TRACE MUST NOT PENETRATE OR BE IN CONTACT WITH ANY BUILDING ENVELOPE. PROVIDE JUNCTION BOXES ON BUILDING EXTERIOR FOR COLD LEAD CONNECTIONS.
4. PROVIDE TRACE ALONG MAIN WATER SUPPLY LINE TO END (EXCLUDING FINAL SERVICE LINES TO RESIDENCES). PRIOR TO INSTALLATION, DETERMINE EXTENT OF TRACE COMING FROM RESIDENCES AND USE EXISTING HEAT TRACE WHERE POSSIBLE.

1 E103 SITE PLAN
1:250



4 E103 TYPICAL HEAT TRACE INSTALLATION
N.T.S.

CONTROLLER	CONTROLLER LOCATION	CIRCUIT(S) CONTROLLED	CONTROLLER TYPE
C1	SERVICES BUILDING ELECTRICAL ROOM	HT01	INTELLIGENT
C2	NEW WATER WELL HOUSING	HT05	AMBIENT SENSING MECHANICAL
C3	EXISTING PoE	HT04	REMOTE SENSING MECHANICAL
C4	OIL/WATER SEPARATOR	HT06	REMOTE SENSING MECHANICAL
C5	OIL/WATER SEPARATOR	HT07	REMOTE SENSING MECHANICAL
C6	SERVICES BUILDING ELECTRICAL ROOM	HT02, HT03	INTELLIGENT

5 E103 HEAT TRACE CONTROLLER SCHEDULE
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EH

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Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

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SITE PLAN -
HEAT TRACE

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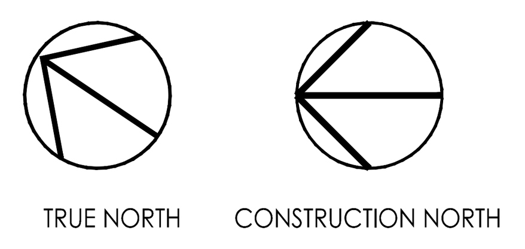
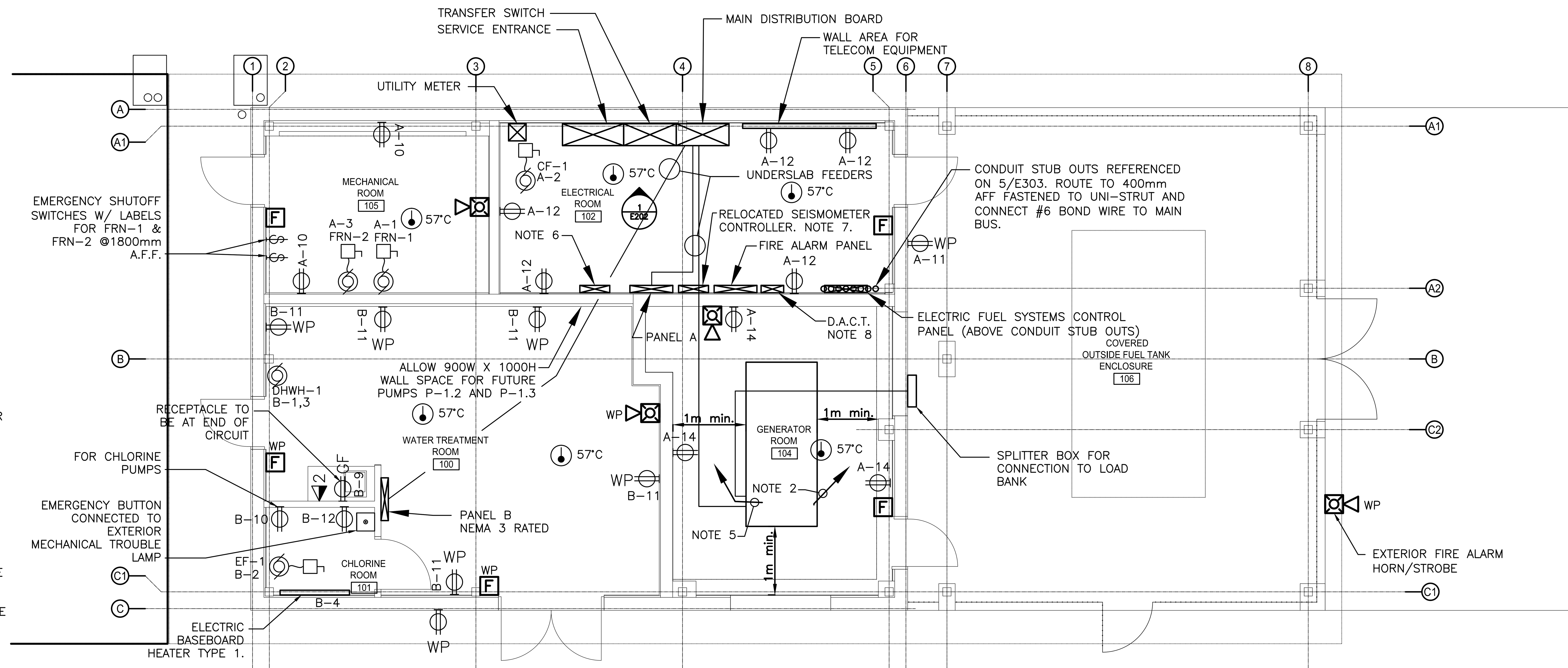




1 SITE SERVICES BUILDING – POWER PLAN
E201 1:50

NOTES:

1. COORDINATE WITH DUCTWORK AND MECHANICAL EQUIPMENT AND ADJUST LAYOUT ON SITE.

2. CONDUIT AND CABLING FOR GENERATOR REMOTE ANNUNCIATOR TO EXISTING PoE BUILDING.

3. ALL INSTALLATIONS IN CHLORINE ROOM ARE TO BE SUITABLE FOR A CORROSIVE ENVIRONMENT.

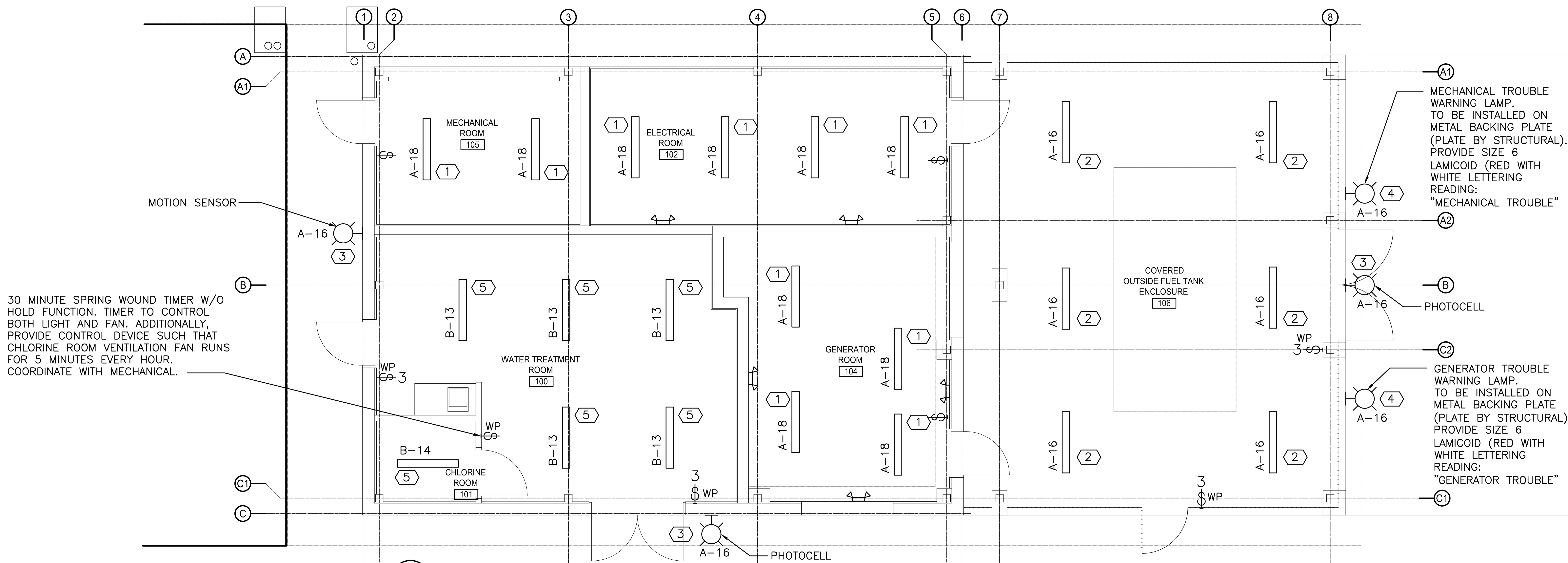
4. ALL INSTALLATIONS IN WATER TREATMENT ROOM ARE TO BE SUITABLE FOR WET ENVIRONMENT.

5. PROVIDE COMMON GENERATOR TROUBLE SIGNAL TO FIRE ALARM CONTROL PANEL THROUGH MONITORING MODULE. GENERATOR COMMON TROUBLE TO INCLUDE ALL GENERATOR POINTS REQUIRED BY CAN/CSA-C282.

6. HEAT TRACE CONTROLLERS C1 & C6.

7. PROVIDE POWER AND TELEPHONE LINE CONNECTION.

8. PROVIDE TWO STRUCTURED WIRING LINES FROM TELEPHONE AREA OF TELECOMM BOARD TO D.A.C.T. IN SEPARATE 21mm CONDUITS.



2 SITE SERVICES BUILDING – LIGHTING PLAN
E201 1:50

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REAL PROPERTY SERVICES
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Revision/Révision	Description/Description	Date/Date
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Client/client

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par: CFM

Drawn by/Dessine par: EH

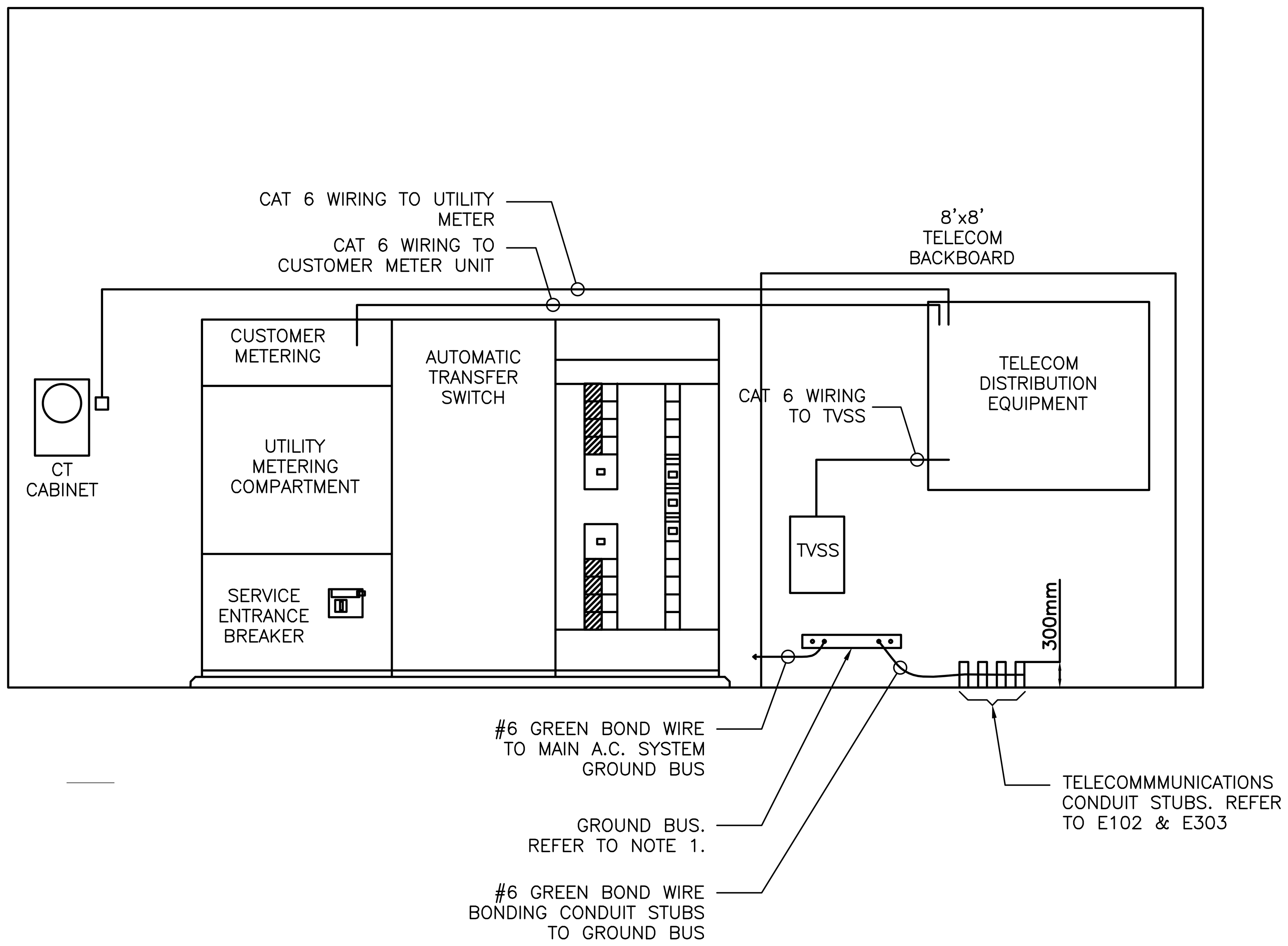
PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

SITE SERVICES BUILDING PLAN

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
R.071363.001	E201 OF	0



NOTES:
1. PROVIDE TELECOMMUNICATIONS GROUND BUS ON INSULATED STANDOFFS. SEE SPECIFICATIONS SECTION 26 05 28.

1 E202 ELECTRICAL ROOM 102 – WEST ELEVATION
1:25

LEGEND

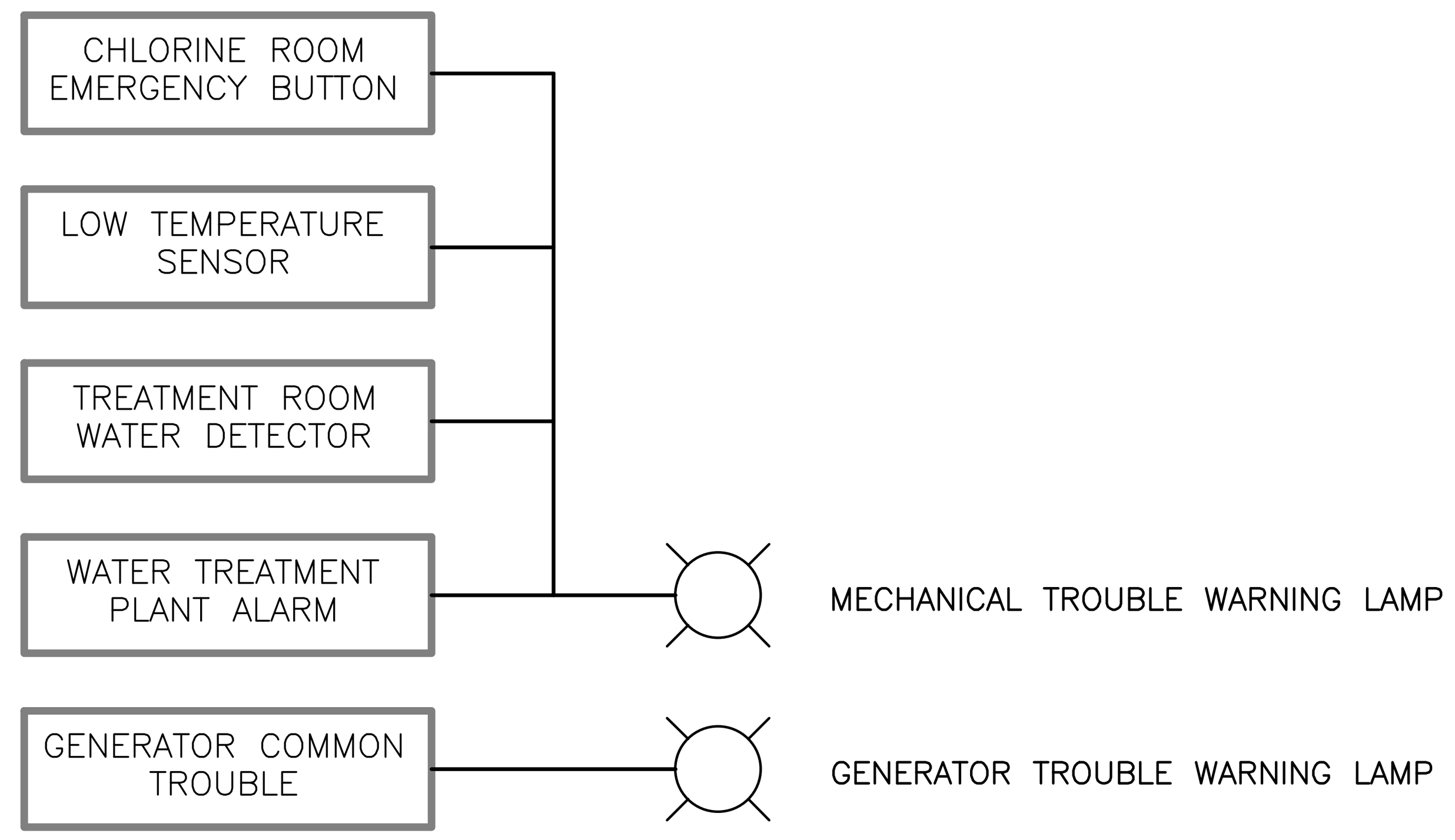
	FLUORESCENT STRIP LUMINAIRE
	WALL MOUNTED EXTERIOR LUMINAIRE
$	WALL MOUNTED LINE VOLTAGE SWITCH
$3	3 WAY WALL MOUNTED 3 WAY LINE VOLTAGE SWITCH
	DUPLEX RECEPTACLE
	FOURPLEX RECEPTACLE
GF	GROUND FAULT INTERRUPTER (GFI) DUPLEX RECEPTACLE
	5-20R DUPLEX RECEPTACLE
GF	5-20R GROUND FAULT INTERRUPTER (GFI) DUPLEX RECEPTACLE
	SPECIAL RECEPTACLE (TYPE AS INDICATED)
#	STRUCTURED WIRING OUTLET (# DENOTES NUMBER OF CABLES)
	ELECTRIC MOTOR
	DISCONNECT SWITCH
	WALL MOUNTED EMERGENCY LIGHTS WITH 2 HOUR BATTERY PACK
	CEILING MOUNTED EMERGENCY LIGHTS WITH 2 HOUR BATTERY PACK
	PUSHBUTTON
	FIRE ALARM FIXED TEMPERATURE HEAT DETECTOR
F	FIRE ALARM MANUAL PULL STATION
	FIRE ALARM HORN/STROBE
ISO	FIRE ALARM ISOLATION MODULE
	PANEL BOARD
HTXX	HEAT TRACE CIRCUIT IDENTIFIER
CX	HEAT TRACE CONTROLLER IDENTIFIER

2 E202 ELECTRICAL LEGEND
N.T.S.

LUMINAIRES

TYPE	DESCRIPTION	VOLTAGE
1	CEILING SURFACE-MOUNTED, LINEAR L.E.D. FIXTURE WITH LUMEN OUTPUT OF 5000 +/- 10% LUMENS AND LENGTH OF APPROXIMATELY 1200MM. WIRE GUARD FOR PROTECTION OF LIGHT EMITTERS.	120V
2	EXTERIOR-RATED, CHAIN SUSPENDED, LINEAR L.E.D. FIXTURE WITH LUMEN OUTPUT OF 5000 +/- 10% LUMENS AND LENGTH OF APPROXIMATELY 1200MM. LEXAN OR TEMPERED GLASS LENS WITH GASKET. SUITABLE FOR OPERATION AT -35°C	120V
3	WALL-MOUNTED EXTERIOR L.E.D. WALL PACK WITH SEALED TEMPERED GLASS OR LEXAN LENS, ALUMINUM HOUSING, POLYESTER POWDER COAT FINISH. HIGH CUT-OFF, DARK-SKY COMPLIANT. OUTPUT OF 4000 LUMENS +/- 10%. WITH INTEGRAL PHOTOCELL OR MOTION SENSOR AS INDICATED.	120V
4	WALL-MOUNTED EXTERIOR L.E.D. STEADY BURN WARNING LIGHT WITH RED LENS, FULLY SEALED. OUTPUT OF 500 LUMENS +/- 10%.	120V
5	CEILING SURFACE-MOUNTED, LINEAR L.E.D. FIXTURE WITH LUMEN OUTPUT OF 5800 LUMENS +/- 10% AND LENGTH OF APPROXIMATELY 1200MM. SUITABLE FOR WET AND CORROSIVE ENVIRONMENTS. NON-METALLIC HOUSING AND SEALED LENS. COLOUR TEMPERATURE OF 4000K.	120V

3 E202 LUMINAIRE SCHEDULE
N.T.S.



4 E202 WARNING LIGHTS BLOCK DIAGRAM
N.T.S.

TYPE	DESCRIPTION
1	1450W, 120VAC, INTEGRAL THERMOSTAT, ELECTRIC BASEBOARD HEATER SUITABLE FOR CORROSIVE ENVIRONMENT, AND WITH TEMPERATURE RANGE THAT INCLUDES 10°C TO 25°C.
2	800W, 120VAC, STRIP HEATER WITH INTEGRAL THERMOSTAT WITH TEMPERATURE RANGE THAT INCLUDES 5°C TO 25°C.

5 E202 ELECTRIC BASEBOARD HEATER SCHEDULE
N.T.S.

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CANADA BORDER SERVICES AGENCY

Project title/Titre du projet
PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only
Designed by/Concept par: CFM
Drawn by/Dessine par: EH
PWGSC Project Manager/Administrateur de Projets TPSGC
Regional Manager, Architectural and Engineering Services / Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin
SITE SERVICES BUILDING DETAILS

Project No./No. du projet: R.071363.001
Sheet/Feuille: E202 OF
Revision no./La Révision no.: 0

PWGSC – A1 – 841X594
DM5XXXXXX

EQUIPMENT	LOCATION	HP	VOLTS	PHASE	FLA	FEEDER	BREAKER	CONTROL
FRN-1	MECHANICAL ROOM	.5	120V	1	12	2 #12 CU R90 + BOND IN 16mm GALV. STEEL CONDUIT	1P15	LRD
FRN-2	MECHANICAL ROOM	.5	120V	1	12	2 #12 CU R90 + BOND IN 16mm GALV. STEEL CONDUIT	1P15	LRD
EF-1	CHLORINE ROOM	.1667	120V	1	3.4	2 #12 CU R90 + BOND IN 16mm GALV. STEEL CONDUIT	1P15	MMP/R/HOA
CF-1	ELECTRICAL ROOM	.1113	120V	1	.77	2 #12 CU R90 + BOND IN 16mm GALV. STEEL CONDUIT	1P15	MMP/R/HOA
P-1.1	WELL	3	208V	3	11.9	2 #12 CU R90 + BOND IN 16mm GALV. STEEL CONDUIT	3P15	CMS
DHWH-1	WATER TREATMENT ROOM	-	208V	1	14.5	2 #10 CU R90 + BOND IN 21mm GALV. STEEL CONDUIT	2P30	BREAKER ONLY
FUEL PUMP CONTROL PANEL	ELECTRICAL ROOM	-	120V	1	2	2 #12 CU R90 + #12 GND. IN 21mm GALV. STEEL CONDUIT	1P15	BREAKER ONLY
FUEL PUMP CONTROL PANEL: STP-1 & -2 MOTOR STARTERS	ELECTRICAL ROOM	.333	208V	1	4	2 #12 CU R90 + #12 GND. IN 21mm GALV. STEEL CONDUIT	2P15	BREAKER ONLY
OIL WATER SEPARATOR - HEAT TRACE	EXTERIOR	-	208V	1	15	2 #19 CU R90 + #12 GND. IN 21mm GALV. STEEL CONDUIT	2P30	BREAKER ONLY
OIL WATER SEPARATOR OIL LEVEL MONITOR	ELECTRICAL ROOM	-	120V	1	-	2 #12 CU R90 + #12 GND. IN 21mm GALV. STEEL CONDUIT	1P15	BREAKER ONLY
LEAK DETECTION PANEL	ELECTRICAL ROOM	-	120V	1	2	2 #12 CU R90 + #12 GND. IN 21mm GALV. STEEL CONDUIT	1P15	BREAKER ONLY
HEATING OIL TANK FILL CONTROL PANEL	MECHANICAL ROOM	-	120V	1	2	2 #12 CU R90 + #12 GND. IN 21mm GALV. STEEL CONDUIT	1P15	BREAKER ONLY

NOTES:
1. EQUIPMENT SCHEDULE IS FOR ESTIMATING PURPOSES ONLY. CONFIRM ALL MOTOR FULL LOAD CURRENTS WITH NAMEPLATES AND SIZE MOTOR DISCONNECTS, BREAKERS, FUSES, FEEDERS AND OVERLOADS ACCORDINGLY.
2. COORDINATE ALL INFORMATION WITH RELEVANT DISCIPLINES INCLUDING MECHANICAL AND FUEL OIL.

CONTROL DEVICE LEGEND:

LRD – LOAD RATED DISCONNECT
MAG – MAGNETIC STARTER
CMS – COMBINATION MAGNETIC STARTER WITH DISCONNECT
/R – WITH LOAD RATED RELAY
/HOA – WITH H-O-A SWITCH
/K – KEYED
/SS – SOFT START
VFD – VARIABLE FREQUENCY DRIVE
MMP – MANUAL MOTOR PROTECTION

1 / E203 MOTOR/EQUIPMENT LIST
N.T.S.

FROM	TO	LOCATION	DESCRIPTION
PUMP CONTROL PANEL – STP STARTERS M1 & M2	SUBMERGED TURBINE PUMPS AND SOLENOID VALVES	TOP OF MAIN STORAGE TANK	2 X 2 #12 R90 COPPER+ #12 GND IN 21MM GALV. STEEL CONDUITS
PUMP CONTROL PANEL	GENERATOR DAY TANK LEVEL ALARM SWITCH	TOP OF DAY TANK IN GENERATOR ROOM	6 #14 R90 COPPER IN 21MM GALV. STEEL CONDUIT
PUMP CONTROL PANEL	GENERATOR DAY TANK PUMP START/STOP LEVEL SWITCH	TOP OF DAY TANK IN GENERATOR ROOM	4 #14 R90 COPPER IN 21MM GALV. STEEL CONDUIT
PUMP CONTROL PANEL	GENERATOR DAY TANK FILL SOLENOID VALVE	ON FUEL PIPING AT EAST END OF MAIN STORAGE TANK	2 #14 R90 COPPER IN 16MM GALV. STEEL CONDUIT
PUMP CONTROL PANEL	E-STOP PUSH BUTTON	ON FENCE SOUTH OF MAIN STORAGE TANK	2 #14 R90 COPPER IN 16MM GALV. STEEL CONDUIT
PUMP CONTROL PANEL – TANK FILL SELECTOR SWITCH	TANK FILL SOLENOID VALVES	ON FUEL PIPING AT EAST END OF MAIN STORAGE TANK	3X 2 #14 R90 COPPER IN 16MM GALV. STEEL CONDUIT
PUMP CONTROL PANEL	MAIN STORAGE TANK HIGH LEVEL SWITCH	TOP OF MAIN STORAGE TANK	2 #14 R90 COPPER IN 16MM GALV. STEEL CONDUIT
PUMP CONTROL PANEL	GENERATOR CONTROL PANEL	ENGINE SHUTDOWN RELAY (DAY TANK LOW LEVEL SHUTDOWN)	2 #14 R90 COPPER IN 16MM GALV. STEEL CONDUIT
PUMP CONTROL PANEL	REMOTE ALARM HORN, STROBE LIGHT AND ALARM SILENCE	SOUTH WEST CORNER OF MAIN STORAGE TANK AREA	6 #14 R90 COPPER IN 21MM GALV. STEEL CONDUIT
OIL WATER SEPARATOR OIL LEVEL MONITOR	OIL LEVEL SENSOR	IN OIL WATER SEPERATOR	2 PAIR #16 DIRECT BURIED ARMOURED INSTRUMENTATION CABLE
OIL WATER SEPARATOR OIL LEVEL MONITOR RELAY	PUMP CONTROL PANEL	IN ELECTRICAL ROOM	RELAY OUTPUT. 2 #14 R90 COPPER IN 21MM GALV. STEEL CONDUIT
U/G PIPING LEAK DETECTION PANEL	EXISTING PIPING LEAK DETECTION PANEL FOR SUMPS #1-4	IN DUPLEX RESIDENCE (LOCATION UNKNOWN)	4 X #18 1 PAIR SHIELDED INSTRUMENTATION CABLES IN 27MM GALV. STEEL CONDUIT
U/G PIPING LEAK DETECTION PANEL	PIPING SUMP LEAK SENSOR	IN NEW INTERMEDIATE UNDERGROUND PIPING SUMP	1 X #18 1 PAIR SHIELDED INSTRUMENTATION CABLE IN 21MM GALV. STEEL CONDUIT
U/G PIPING LEAK DETECTION PANEL	PIPING SUMP LEAK SENSOR	IN NEW UNDERGROUND PIPING SUMP AT MAIN STORAGE TANK	1 X #18 1 PAIR SHIELDED INSTRUMENTATION CABLE IN 21MM GALV. STEEL CONDUIT
U/G PIPING LEAK DETECTION PANEL	FUTURE PIPING SUMP LEAK SENSOR	FUTURE CUSTOMS BUILDING PIPING SUMP	RUN SPARE 21MM GALV. STEEL CONDUIT TO INTERMEDIATE PIPING SUMP
LEAK DETECTION PANEL RELAYS	PUMP CONTROL PANEL	IN ELECTRICAL ROOM	RELAY OUTPUTS. 4 #14 R90 COPPER IN 21MM GALV. STEEL CONDUIT
GENERATOR CONTROL PANEL	GENERATOR FUEL SUPPLY LINE SOLENOID VALVE CONTROL PANEL	IN GENERATOR ROOM	12 VDC POWER TO SOLENOID VALVE CONTROL PANEL. 2 #12 R90 COPPER IN 16MM GALV. STEEL CONDUIT
GENERATOR FUEL SUPPLY LINE SOLENOID VALVE CONTROL PANEL	GENERATOR FUEL SUPPLY LINE SOLENOID VALVE	ON FUEL SUPPLY LINE AT TOP OF GENERATOR DAY TANK	12 VDC POWER TO SOLENOID VALVE. 2 #12 R90 COPPER IN 16MM GALV. STEEL CONDUIT

NOTES:
1. PROVIDE CONDUIT, CABLE, WIRING AND TERMINATIONS BETWEEN DEVICES AND EQUIPMENT AS IDENTIFIED ABOVE.
2. COORDINATE WITH FUEL OIL DRAWINGS AND SPECIFICATIONS.

2 / E203 FUEL OIL SYSTEM EQUIPMENT LIST
N.T.S.

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CANADA BORDER SERVICES AGENCY

Project title/Titre du projet
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TENDER A
SITE SERVICES & SITE SERVICES BUILDING

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Designed by/Concept par
CFM

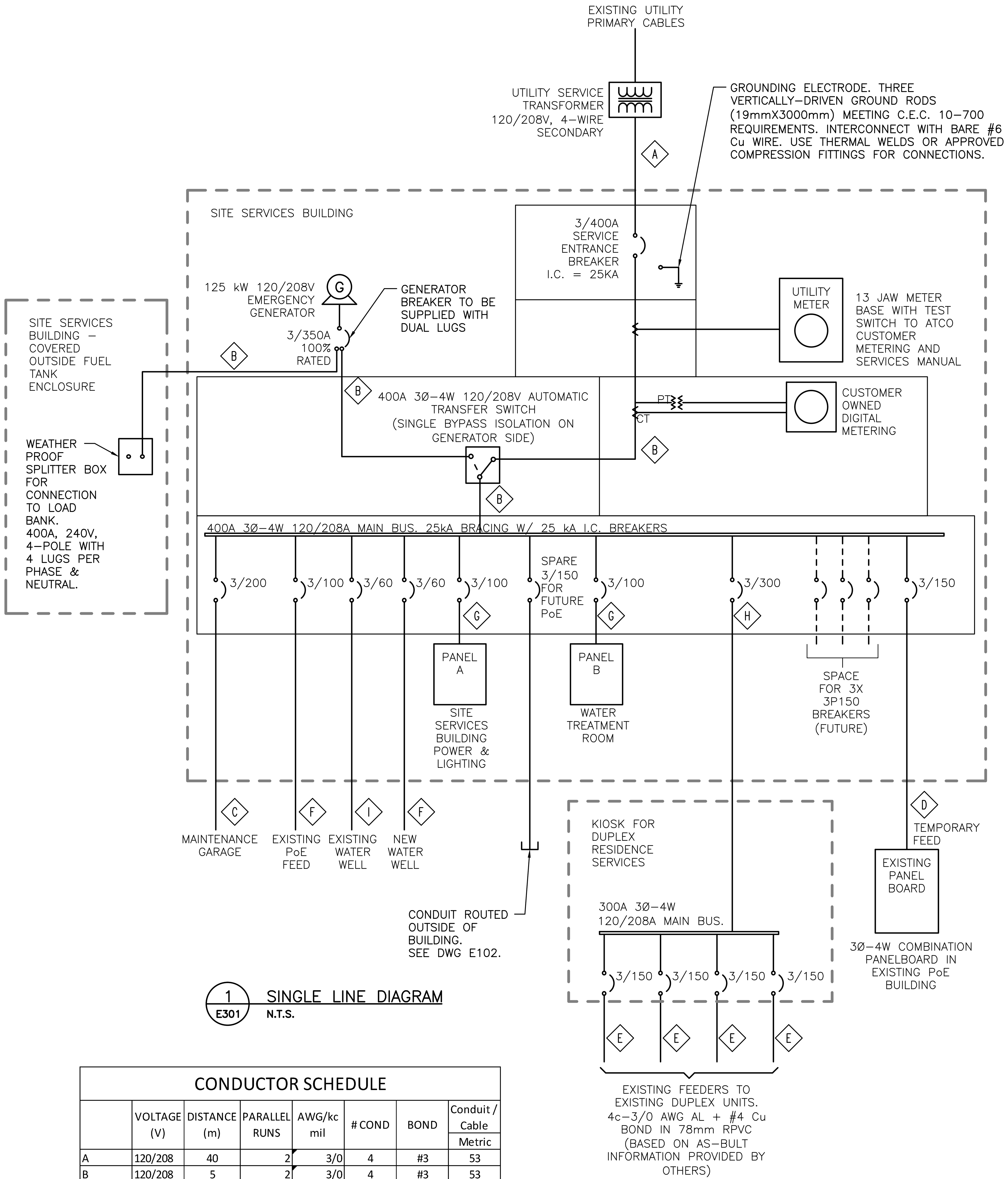
Drawn by/Dessine par
EH

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin
MOTOR/EQUIPMENT LISTS

Project No./No. du projet: R.071363.001
Sheet/Feuille: E203 OF
Revision no./La Révision no.: 0



1 E301 SINGLE LINE DIAGRAM
N.T.S.

CONDUCTOR SCHEDULE							
	VOLTAGE (V)	DISTANCE (m)	PARALLEL RUNS	AWG/kc mil	# COND	BOND	Conduit / Cable Metric
A	120/208	40	2	3/0	4	#3	53
B	120/208	5	2	3/0	4	#3	53
C	120/208	30	1	3/0	4	#6	78
D	120/208	45	1	1/0	4	#6	TECK
E	120/208	60-100	EXISTING. SEE 1/E301				
F	120/208	40	1	#6	4	#8	35
G	120/208	<20	1	#3	4	#6	35
H	120/208	130	1	500	4	#3	78
I	120/208	90	1	#6	4	#8	TECK

1. DISTANCES IN THE TABLE ABOVE ARE APPROXIMATE. VERIFY REQUIRED CABLE LENGTHS PRIOR TO ORDERING.

2. WHERE CONDUIT IS RUN BOTH IN BUILDINGS AND UNDERGROUND, EMT TO BE RUN IN BUILDING AND RPVC WHERE UNDERGROUND EXCEPT WHERE INDICATED OTHERWISE.

2 E301 CONDUCTOR SCHEDULE
N.T.S.

Load Estimate		
		Demand (kW)
Existing Peak Demand		37
Site Services Building	Area	5
	Mechanical	2
	Water Treatment (est)	8
Future PoE Building	Area	12
	Mechanical	
New Well	Area	0
	Mechanical	4
Heat Trace		6
Fuel & Misc		9
Future Site Lighting		3
Total		86
80% Service Factor		107
Amps (@ 208V, 3Φ)		298

3 E301 LOAD ESTIMATE
N.T.S.

PANEL A												
		WATTS					WATTS					
CIRC.	BRKR	A	B	C	DESCRIPTION	DESCRIPTION	A	B	C	BRKR	CIRC	
1	1P15	375			FRN-1	CF-1	100			1P15	2	
3	1P15		375		FRN-2	OIL WATER SEPARATOR HEAT		1500		2P30	4	
5	3P15			750	P-1.1				1500		6	
7		750				MECHANICAL PANELS	400			1P15	8	
9			750			MECH. ROOM PLUGS		300		1P15	10	
11	1P15			150	FUEL ENCLOSURE PLUG	ELEC. ROOM PLUGS			750	1P15	12	
13	2P15	125			OIL PUMP MOTOR STARTERS	GEN. ROOM PLUGS	450			1P15	14	
15			125			EXTERIOR & FUEL ENCL. LIGHTS		700		1P15	16	
17	1P15				SPARE	MECH/GEN/ELEC ROOM LIGHTS			750	1P15	18	
19	2P60	2700			HEAT TRACE - C1 (GFI)	HEAT TRACE - C2 (GFI)	75			2P15	20	
21			2700					75			22	
23	2P15			200	HEAT TRACE - C4&C5 (GFI)	HEAT TRACE - C6 (GFI)			800	2P30	24	
25		200					800				26	
27	1P15				SPARE	SPARE				1P15	28	
29	1P15				SPARE	SPARE				1P15	30	
31					SPACE	SPACE					32	
33					SPACE	SPACE					34	
35					SPACE	SPACE					36	
37					SPACE	SPACE					38	
39					SPACE	SPACE					40	
41					SPACE	SPACE					42	
TOTAL		4150	3950	1100			1825	2575	3800		TOTAL	
PHASE A TOTAL =			5975									
PHASE B TOTAL =			6525									
PHASE C TOTAL =			4900									
PANEL TOTAL =			17400		@ 120/208 VOLTS 3 PHASE		48.3 AMPS					

4 E301 PANEL A SCHEDULE
N.T.S.

PANEL B											
		WATTS					WATTS				
CIRC.	BRKR	A	B	C	DESCRIPTION	DESCRIPTION	A	B	C	BRKR	CIRC
1	2P30	1500			DHWH-1	EF-1	125			1P15	2
3			1500			BASEBOARD HEATER		1450		1P20	4
5	2P15			560	P-1.2 (FUTURE)	P-1.3 (FUTURE)			560	2P15	6
7		560					560				8
9	1P15		300		MECHANICAL CONTROL	CHLORINE PUMPS		35		1P15	10
11	1P15			900	WATER TREATMENT PLUGS	CHLORINE ROOM PLUGS			150	1P15	12
13	1P15	375			WATER TREATMENT LIGHTS	CHLORINE ROOM LIGHTS	75			1P15	14
15	1P15				SPARE	SPARE				1P15	16
17	1P15				SPARE	SPARE				1P15	18
19					SPACE	SPACE					20
21					SPACE	SPACE					22
23					SPACE	SPACE					24
25					SPACE	SPACE					26
27					SPACE	SPACE					28
29					SPACE	SPACE					30
31					SPACE	SPACE					32
33					SPACE	SPACE					34
35					SPACE	SPACE					36
37					SPACE	SPACE					38
39					SPACE	SPACE					40
41					SPACE	SPACE					42
TOTAL		2435	1800	1460			760	1485	710		TOTAL
PHASE A TOTAL =			3195								
PHASE B TOTAL =			3285								
PHASE C TOTAL =			2170								
PANEL TOTAL =			8650		@ 120/208 VOLTS 3 PHASE		24.0 AMPS				

5 E301 PANEL B SCHEDULE
N.T.S.

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PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

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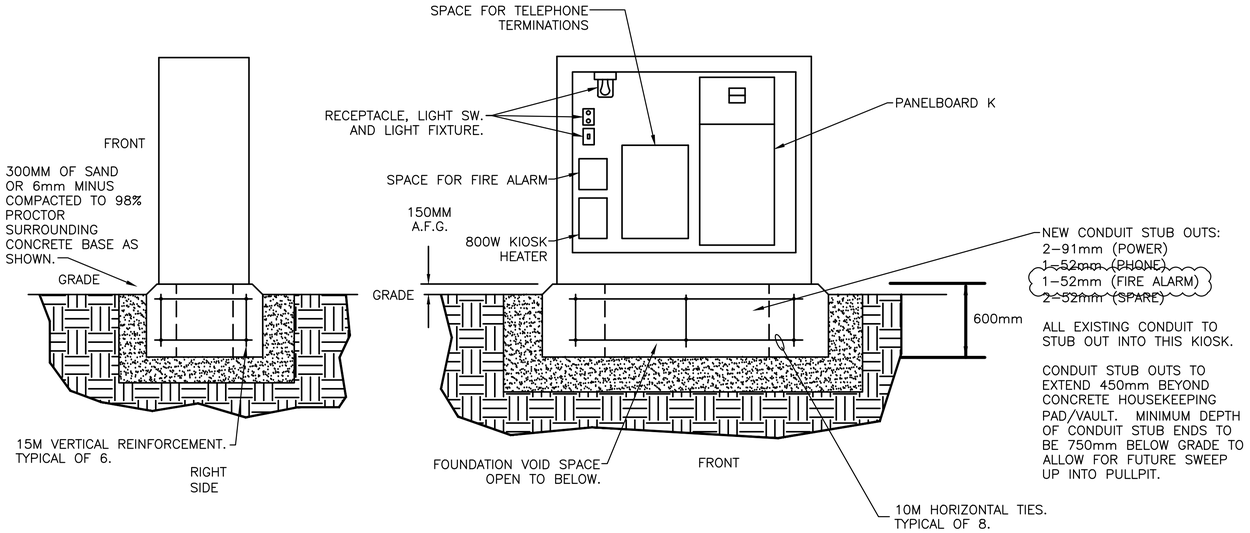
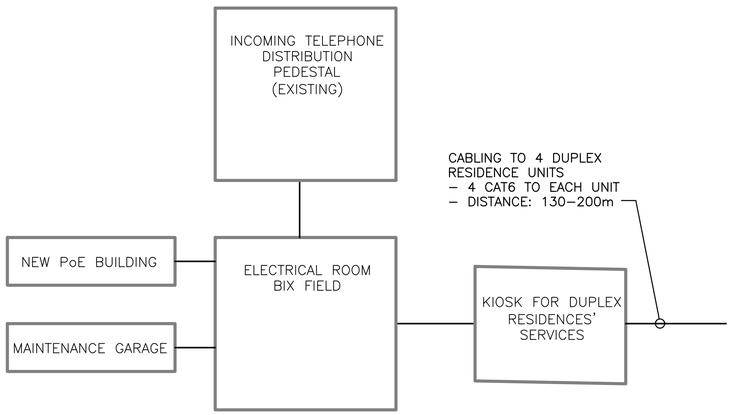
SINGLE LINE DIAGRAM

Project No./No. du projet: R.071363.001
Sheet/Feuille: E301 OF
Revision no./La Révision no.: 0

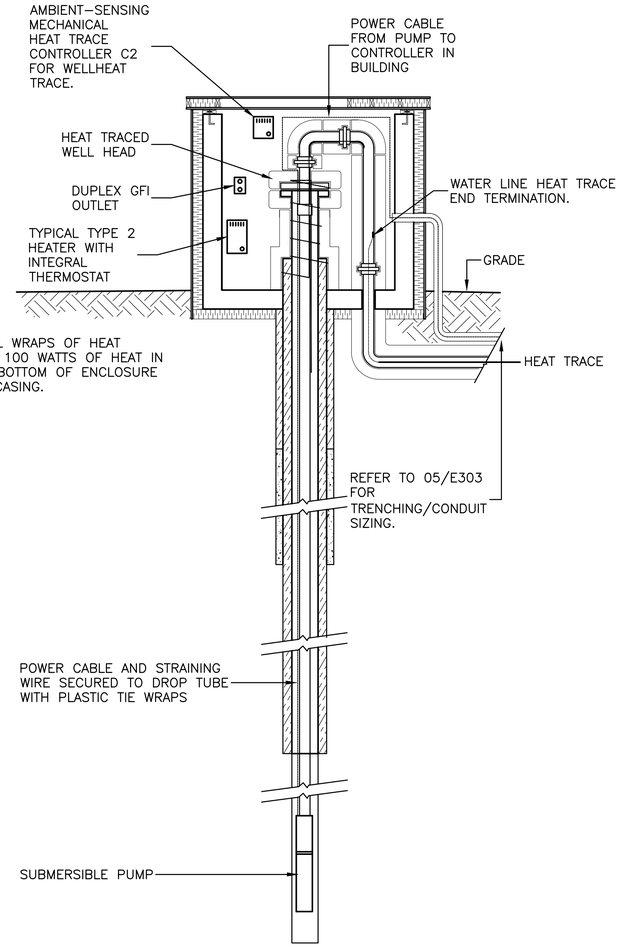


NOTES:
1. SIZE KIOSK AND BASE TO ACCOMMODATE EQUIPMENT SHOWN.

1 / E302 RESIDENCES UTILITY PEDESTAL DETAILS
NTS



2 / E302 TELEPHONE NETWORK BLOCK DIAGRAM
NTS



3 / E302 WELL DETAILS
NTS

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LAA901938

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ELECTRICAL DETAILS

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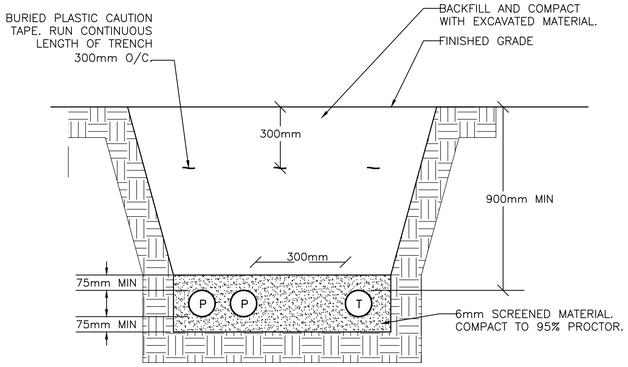
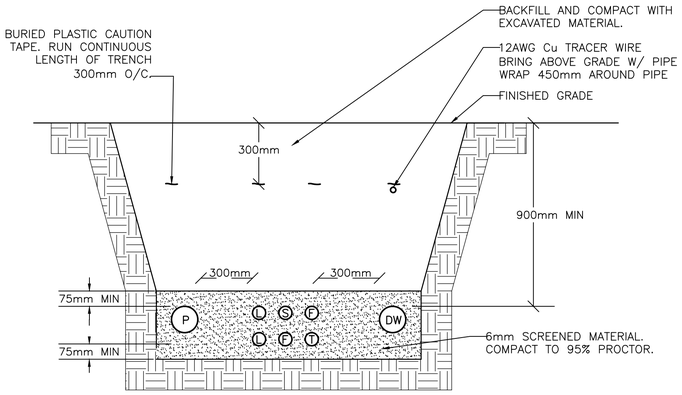
R.071363.001	**E302** OF	**0**



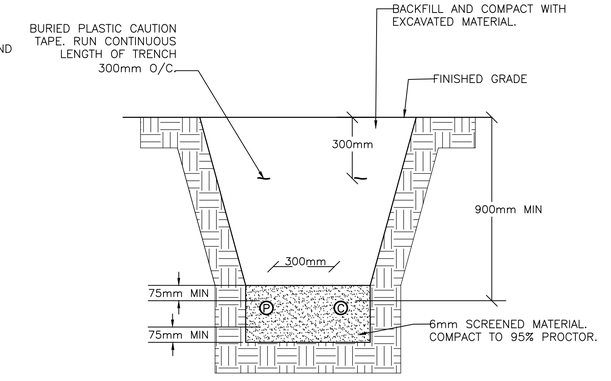
2 – 104mm RPVC POWER
1 – 104mm RPVC TELEPHONE

1 TRENCH CONDUIT AND CABLE BURIAL DETAIL
E303 NTS



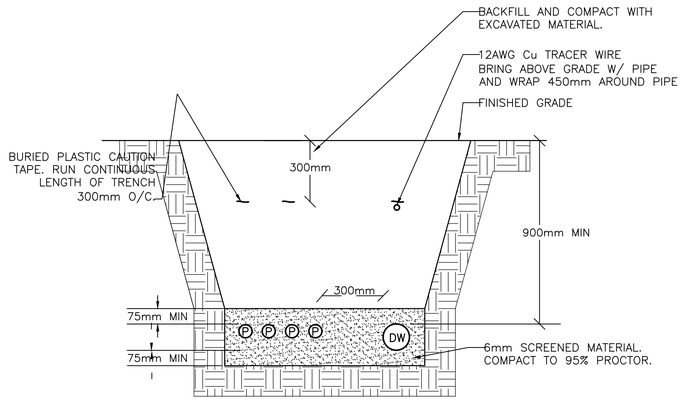
1 – 78mm RPVC POWER
1 – 53mm RPVC TELEPHONE
2 – 53mm RPVC FIRE ALARM
1 – 53mm SPARE
1 – 27mm LEAK DETECTION TO EXISTING LEAK DETECTION PANEL IN RESIDENCES. PANEL LOCATION TO BE DETERMINED ON SITE. REFER TO FUEL OIL SYSTEM DRAWINGS.
1 – 21mm LEAK DETECTION BETWEEN SITE SERVICES BUILDING AND INTERMIDIATE PIPING SUMP – REFER TO FUEL OIL SYSTEM DRAWINGS.
1 – DOMESTIC WATER AS INDICATED ON MECHANICAL

2 DUPLEX UNITS
E303 NTS



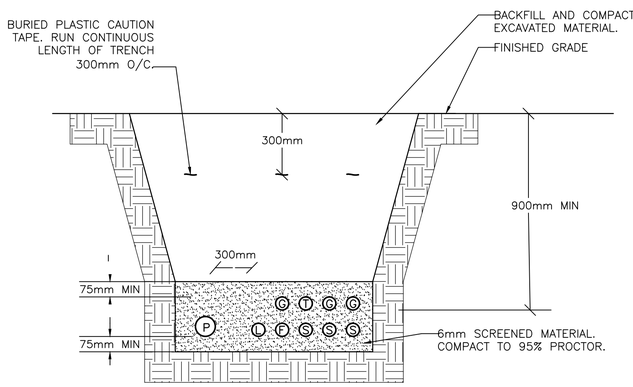
1 – 27mm GATE POWER
1 – 27mm GATE CONTROL

3 GATE CONNECTIONS
E303 NTS



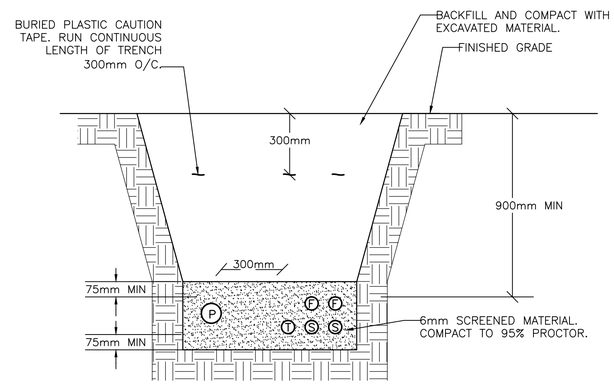
TO NEW WELL:
1 – 53mm RPVC WELL POWER
1 – 35mm RPVC WELL ENCLOSURE HEAT
1 – 35mm RPVC WELL CASING HEAT TRACE
1 – DOMESTIC WATER AS INDICATED ON MECHANICAL
TO EXISTING WELL:
1 – 53mm RPVC WELL POWER

4 WATER WELLS
E303 NTS



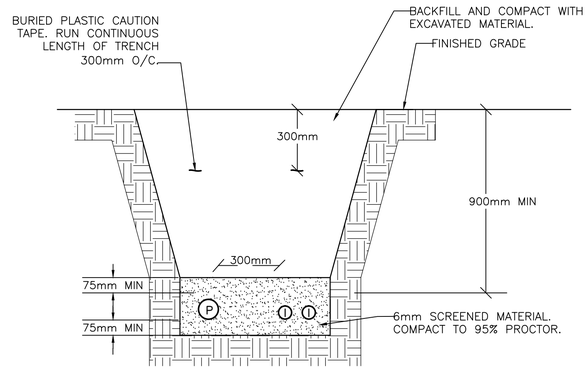
1 – 78mm RPVC POWER
1 – 53mm RPVC TELEPHONE
1 – 27mm RPVC GATE POWER
1 – 27mm RPVC GATE CONTROL
1 – 41mm RPVC GENERATOR REMOTE ANNUNCIATOR
1 – 41mm RPVC FIRE ALARM
1 – 21mm RPVC LEAK DETECTION
1 – 53mm SPARE (FROM ELECTRICAL ROOM)
2 – 41mm SPARE (FROM ELECTRICAL ROOM)

5 FUTURE PoE CONNECTION STUB OUT
E303 NTS



1 – 53mm RPVC POWER
1 – 41mm RPVC TELEPHONE
2 – 21mm RPVC FIRE ALARM
2 – 21mm RPVC SECURITY/MISC

6 EXISTING MAINTENANCE BUILDING
E303 NTS



1 – 35mm RPVC POWER
2 – DIRECT BURIED INSTRUMENTATION CABLE. REFER TO 1/E203

7 OIL WATER SEPARATOR
E303 NTS

NOTE:
1. SEPARATION BETWEEN CONDUITS TO BE MINIMUM 50mm UNLESS OTHERWISE NOTED.

PWGSC – A1 – 841X594

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

Stantec

Stantec Architecture Ltd.

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PROFESSIONAL ENGINEER R.D. SADLER #21263 PROVINCE OF BRITISH COLUMBIA 15/02/11
1AA901938

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	15/02/02

Client/client

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

Consultant Signature Only

Designed by/Concept par
CFM

Drawn by/Dessine par
EH

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

TRENCHING DETAILS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	E303 OF	0

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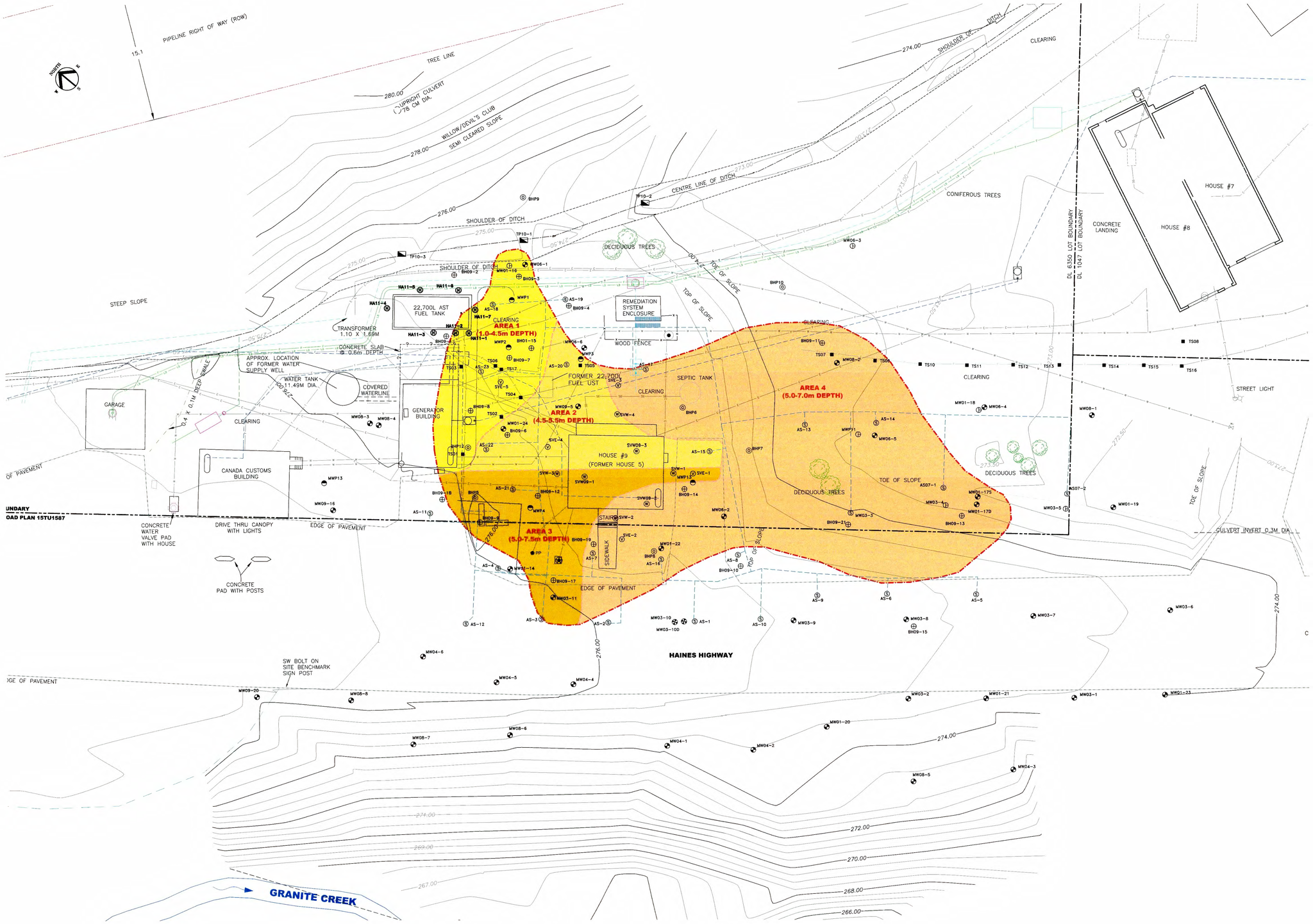


Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

SNC·LAVALIN

- LOT BOUNDARY
- FORMER STRUCTURES
- TELEPHONE LINE (UG)
- WATER LINE
- ELECTRICAL LINE
- FUEL LINE
- ELECTRICAL/TELEPHONE LINE
- SEPTIC
- AS/SVE SYSTEM PIPING
- UTILITY CORRIDOR (201)
- PROPOSED U/G UTILITIES TO BE INSTALLED
- INFERRED EXTENT OF HYDROCARBON IMPACTED SOILS >CL/RL STANDARDS/GUIDELINES

- BOREHOLE (OTHER)
- MONITORING WELL (OTHER)
- MONITORING WELL (SNC-LAVALIN)
- BOREHOLE
- AIR SPARGE WELL (SNC-LAVALIN)
- SOIL VAPOUR EXTRACTION WELL (SNC-LAVALIN)
- SOIL VAPOUR WELL
- TEST PIT
- TRENCH SAMPLE
- HAND AUGER SAMPLE
- FLAGPOLE (ARBITRARY DATUM)
- SURFACE WATER SAMPLING LOCATION
- FIRE HYDRANT
- DESTROYED MONITORING WELL

- AREA 1 INFERRED EXTENT OF IMPACTED SOILS (APPROXIMATE)
- AREA 2 INFERRED EXTENT OF IMPACTED SOILS (APPROXIMATE)
- AREA 3 INFERRED EXTENT OF IMPACTED SOILS (APPROXIMATE)
- AREA 4 INFERRED EXTENT OF IMPACTED SOILS (APPROXIMATE)

0 1 2 5 Metres 10
SCALE 1:200

5		
4		
3		
2		
1		
0	ISSUED FOR TENDER	2015-06-18
Revision/ Revision	Description/Description	Date/Date

Client/client

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA S. W. BRIDGER #29452 SCIENTIST

Consultant Signature Only

Designed by/Concept par
DWB

Drawn by/Dessine par
AMK

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services Gestionnaire régionale, Services d'architectural et de génie, TPSGC

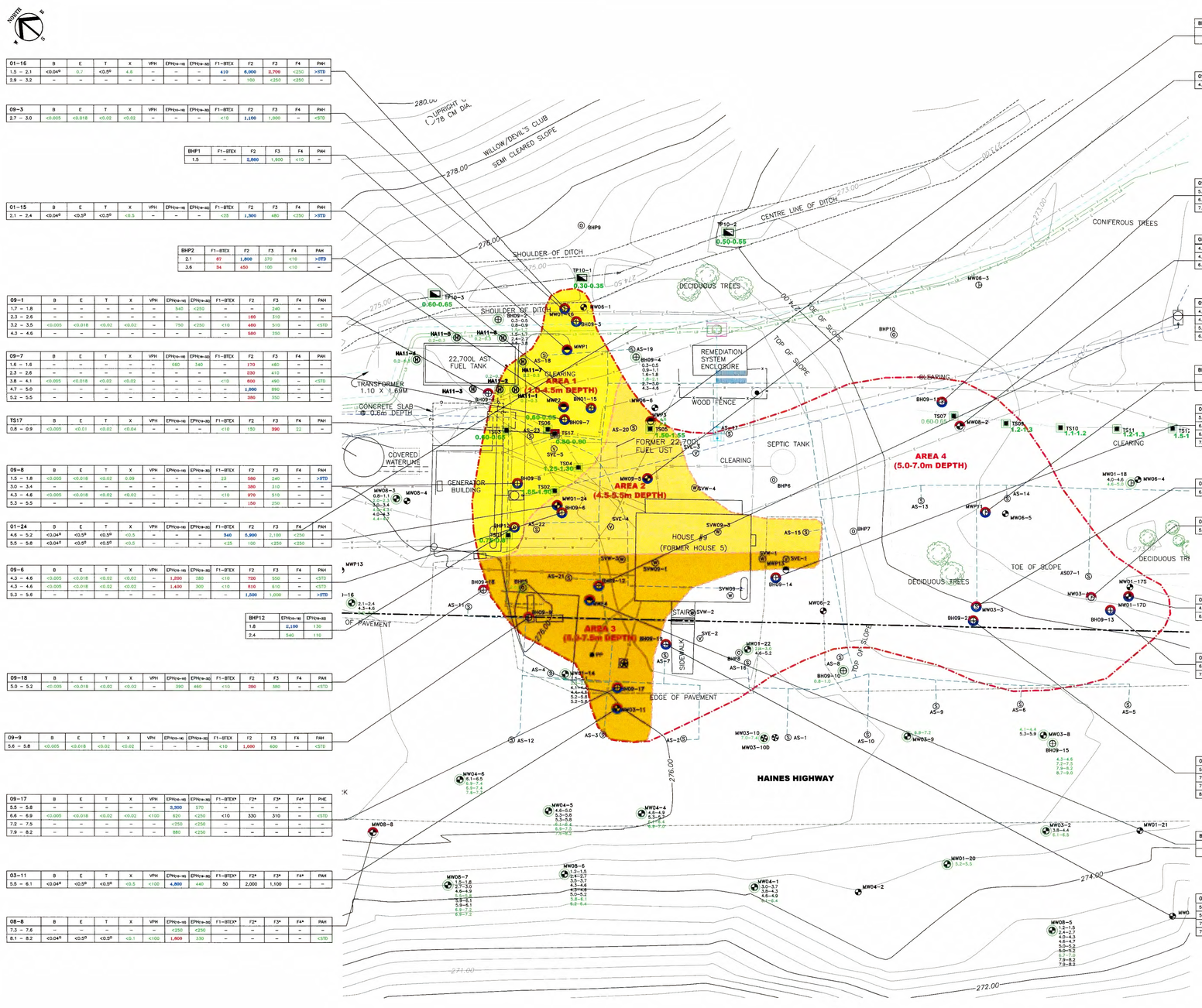
Drawing title/Titre du dessin

SOIL REMEDIATION AREAS

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
R.071363.001	SR-001 OF	0

PWGSC – A1 – 841X594

PATH: P:\CURRENT PROJECTS\PUBLIC WORKS AND GOV'T SERVICES CANADA\511502 – PLEASANT CAMP\GEOMATICS\CAD\511502-SR1.DWG



01–16	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
1.5 – 2.1	<0.04^{a}	0.7	<0.5^{a}	4.6	–	–	–	410	6,000	2,700	<250	>STD
2.9 – 3.2	–	–	–	–	–	–	–	–	100	<250	<250	–

09–3	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
2.7 – 3.0	<0.005	<0.018	<0.02	<0.02	–	–	–	<10	1,100	1,000	–	<STD

BHP1	F1–BTEX	F2	F3	F4	PAH
1.5	–	2,800	1,900	<10	–

01–15	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
2.1 – 2.4	<0.04^{a}	<0.5^{a}	<0.5^{a}	<0.5	–	–	–	<25	1,300	480	<250	>STD

BHP2	F1–BTEX	F2	F3	F4	PAH
2.1	67	1,800	370	<10	>STD
3.6	34	450	100	<10	–

09–1	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
1.7 – 1.8	–	–	–	–	–	540	<250	–	–	240	–	–
2.3 – 2.6	–	–	–	–	–	–	–	–	160	310	–	–
3.2 – 3.5	<0.005	<0.018	<0.02	<0.02	–	750	<250	<10	460	510	–	<STD
4.3 – 4.6	–	–	–	–	–	–	–	–	580	250	–	–

09–7	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
1.6 – 1.6	–	–	–	–	–	660	340	–	170	460	–	–
2.3 – 2.6	–	–	–	–	–	–	–	–	230	410	–	–
3.8 – 4.1	<0.005	<0.018	<0.02	<0.02	–	–	–	<10	600	490	–	<STD
4.7 – 5.0	–	–	–	–	–	–	–	–	1,000	890	–	–
5.2 – 5.5	–	–	–	–	–	–	–	–	380	350	–	–

TS17	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
0.8 – 0.9	<0.005	<0.01	<0.02	<0.04	–	–	–	<10	150	390	22	–

09–8	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
1.5 – 1.8	<0.005	<0.018	<0.02	0.09	–	–	–	23	580	240	–	>STD
3.0 – 3.4	–	–	–	–	–	–	–	–	380	310	–	–
4.3 – 4.6	<0.005	<0.018	<0.02	<0.02	–	–	–	<10	970	510	–	–
5.3 – 5.5	–	–	–	–	–	–	–	–	150	250	–	–

01–24	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
4.6 – 5.2	<0.04^{a}	<0.5^{a}	<0.5^{a}	<0.5	–	–	–	340	5,900	2,100	<250	–
5.5 – 5.8	<0.04^{a}	<0.5^{a}	<0.5^{a}	<0.5	–	–	–	<25	100	<250	<250	–

09–6	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
4.3 – 4.6	<0.005	<0.018	<0.02	<0.02	–	1,200	280	<10	720	550	–	<STD
4.3 – 4.6	<0.005	<0.018	<0.02	<0.02	–	1,400	300	<10	810	610	–	<STD
5.3 – 5.6	–	–	–	–	–	–	–	–	1,500	1,000	–	>STD

BHP12	EPH(10–19)	EPH(19–32)
1.8	2,100	130
2.4	540	110

09–18	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
5.0 – 5.2	<0.005	<0.018	<0.02	<0.02	–	390	460	<10	200	380	–	<STD

09–9	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
5.6 – 5.8	<0.005	<0.018	<0.02	<0.02	–	–	–	<10	1,000	600	–	<STD

09–17	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX*	F2*	F3*	F4*	PHE
5.5 – 5.8	–	–	–	–	–	3,300	570	–	–	–	–	–
6.6 – 6.9	<0.005	<0.018	<0.02	<0.02	<100	620	<250	<10	330	310	–	<STD
7.2 – 7.5	–	–	–	–	–	<250	<250	–	–	–	–	–
7.9 – 8.2	–	–	–	–	–	880	<250	–	–	–	–	–

03–11	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX*	F2*	F3*	F4*	PAH
5.5 – 6.1	<0.04^{a}	<0.5^{a}	<0.5^{a}	<0.5	<100	4,800	440	50	2,000	1,100	–	–

08–8	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX*	F2*	F3*	F4*	PAH
7.3 – 7.6	–	–	–	–	–	<250	<250	–	–	–	–	–
8.1 – 8.2	<0.04^{a}	<0.5^{a}	<0.5^{a}	<0.1	<100	1,600	330	–	–	–	–	<STD

BHP3	F1–BTEX	F2	F3	F4	PAH
4.6	–	350	110	<10	–
5.5	–	500	130	<10	–

09–5	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
4.9 – 5.2	<0.005	<0.018	<0.02	<0.02	–	830	340	<10	450	450	–	>STD

09–11	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
5.8 – 6.1	<0.005	<0.018	<0.02	<0.02	–	2,600	300	<10	1,400	830	–	>STD
6.6 – 6.9	–	–	–	–	–	–	–	–	800	610	–	–
7.3 – 7.6	–	–	–	–	–	–	–	–	340	340	–	–

08–2	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
4.7 – 4.9	–	–	–	–	–	300	<250	–	–	–	–	–
4.9 – 5.2	–	–	–	–	–	<250	<250	–	–	–	–	–
6.0 – 6.1	–	–	–	–	–	2,900	480	–	–	–	–	–

09–12	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
4.9 – 5.2	–	–	–	–	–	990	330	–	500	500	–	–
4.9 – 5.2	–	–	–	–	–	910	450	–	480	500	–	–
5.6 – 5.9	<0.005	<0.018	<0.02	<0.02	–	–	–	<10	1,500	990	–	>STD
6.9 – 7.2	–	–	–	–	–	–	–	–	440	560	–	>STD

BHP11	F1–BTEX	F2	F3	F4
5.5	–	2,500	1,200	<10
6.4	–	830	420	<10

09–14	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
5.6 – 5.9	–	–	–	–	–	–	–	–	270	300	–	–
6.9 – 7.0	<0.005	<0.018	<0.02	0.037	<100	–	–	10	790	470	–	>STD
6.9 – 7.0	<0.005	<0.018	<0.02	<0.02	–	<250	<250	<10	540	310	–	>STD
7.9 – 8.2	–	–	–	–	–	–	–	–	410	350	–	–

03–03	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
6.2 – 6.6	<0.04^{a}	<0.5^{a}	<0.5^{a}	<0.5	<100	3,500	430	<25	1,200	850	–	–

03–04	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
5.9 – 6.2	<0.04^{a}	<0.5^{a}	<0.5^{a}	<0.5	<100	1,400	<250	<25	910	680	–	–

01–17D	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
4.4 – 4.8	<0.04^{a}	<0.5^{a}	<0.5^{a}	<0.5	–	–	–	<25	<80	<250	<250	–
6.1 – 6.3	<0.04^{a}	<0.5^{a}	<0.5^{a}	<0.5	–	2,700	300	<25	1,900	1,100	<250	–

09–13	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
6.2 – 6.6	<0.005	<0.018	<0.02	<0.02	<100	2,600	550	21	1,300	800	–	<STD
7.8 – 8.1	–	–	–	–	–	–	–	–	<5	22	–	–

09–21	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX	F2	F3	F4	PAH
5.8 – 6.1	–	–	–	–	–	–	–	–	<5	44	–	–
7.0 – 7.3	–	–	–	–	–	–	–	–	350	380	–	–
7.5 – 7.8	<0.005	<0.018	<0.02	<0.02	–	1,500	<250	<10	870	720	–	>STD
8.5 – 8.8	–	–	–	–	–	–	–	–	120	150	–	–

BHP4	B	E	T	X	F1–BTEX	F2	F3	F4	PAH
4.8	–	–	–	–	–	5,400	2,100	<10	–
5.2	<0.04	<0.1	<0.1	<0.1	66	1,600	730	<10	–

09–19	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1–BTEX*	F2*	F3*	F4*	PAH
5.2 – 5.5	–	–	–	–	–	–	–	–	–	–	–	<STD
5.8 – 6.1	<0.005	<0.018	<0.02	<0.02	–	620	<250	<10	420	430	–	<STD
7.0 – 7.3	–	–	–	–	–	–	–	–	–	–	–	<STD
7.9 – 8.2	–	–	–	–	–	2,200	460	–	–	–	–	–

	Benzene (µg/g)	Ethyl-benzene (µg/g)	Toluene (µg/g)	Xylenes (µg/g)	VPH (C6-C10) (µg/g)	EPH (C10-C19) (µg/g)	EPH (C19-C32) (µg/g)	F1 (C6-C10) (µg/g)	F2 (>C10-C16) (µg/g)	F3 (>C16-C34) (µg/g)	F4 (>C34-C50) (µg/g)	PAH (µg/g)
BC Standards												
CSR Residential Land Use (RL)	10	1	1.5	5	200	1,000	1,000	n/a	n/a	n/a	n/a	refer to tables
CSR Commercial Land Use (CL)	10	20	25	50	200	2,000	2,000	n/a	n/a	n/a	n/a	refer to tables
Federal Guidelines/Standards												
CCME CEQG/CWS Residential Coarse-Grained Surface Soil (sample depth < 1.5m)	0.095	50	0.1	14	n/a	n/a	n/a	30	150	300	2,800	refer to tables
CCME CEQG/CWS Commercial Coarse-Grained Surface Soil (sample depth < 1.5m)	0.30	50	110	65	n/a	n/a	n/a	320	260	1,700	3,300	refer to tables
CCME CEQG/CWS Residential Fine-Grained Surface Soil (sample depth < 1.5m)	2.1	120	0.1	37	n/a	n/a	n/a	210	150	1,300	5,600	refer to tables
CCME CEQG/CWS Commercial Fine-Grained Surface Soil (sample depth < 1.5m)	2.8	430	330	230	n/a	n/a	n/a	320	260	2,500	6,600	refer to tables
CCME CEQG/CWS Residential Coarse-Grained Subsoil (sample depth > 1.5m)	0.11	50	0.1	16	n/a	n/a	n/a	30	150	2,500	10,000	refer to tables
CCME CEQG/CWS Commercial Coarse-Grained Subsoil (sample depth > 1.5m)	0.32	50	0.1	37	n/a	n/a	n/a	320	1,000	3,500	10,000	refer to tables
CCME CEQG/CWS Residential Fine-Grained Subsoil (sample depth > 1.5m)	2.1	240	220	130	n/a	n/a	n/a	610	1,000	3,500	10,000	refer to tables
CCME CEQG/CWS Commercial Fine-Grained Subsoil (sample depth > 1.5m)	2.9	860	660	460	n/a	n/a	n/a	800	1,000	5,000	10,000	refer to tables

* FEDERAL STANDARDS NOT APPLIED OFF SITE ON PROVINCIAL LANDS

LOCATION

ANALYTICAL SOIL RESULTS

03–11	Depth Range	B	E	T	X	VPH	EPH(10–19)	EPH(19–32)	F1	F2	F3	F4	PHE	NAP	FL
11–1	5.5 – 6.1	<0.04^{a}	<0.5^{a}	<0.5^{a}	<0.5	<100	4,800	440	50	2,000	1,100	–	–	–	–

SAMPLE ID

DEPTH OF SAMPLE (m)

DENOTES MDL IS GREATER THAN THE REGULATORY STANDARD

GREEN – CONCENTRATION LESS THAN OR EQUAL TO THE APPLICABLE STANDARDS/GUIDELINES

RED – CONCENTRATION GREATER THAN THE CSR RL STANDARDS/CCME RL GUIDELINES

BLUE – CONCENTRATION GREATER THAN THE CSR CL STANDARDS/CCME CL GUIDELINES

1. ORIGINAL DRAWING IN COLOUR.
2. LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED ON SITE. NOT ALL UTILITIES MAY BE SHOWN.

B	BENZENE
E	ETHYLBENZENE
T	TOLUENE
X	XYLENES
VPH	VOLATILE PETROLEUM HYDROCARBONS (C6–C10)
EPH(C10–C19)	EXTRACTABLE PETROLEUM HYDROCARBONS (C10–C19)
EPH(C19–C32)	EXTRACTABLE PETROLEUM HYDROCARBONS (C19–C32)
F1	(C6–C10)
F2	(C10–C16)
F3	(C16–C34)
F4	(C34–C50)
NAP	NAPHTHALENE
FL	FLOURENE
PHE	PHENANTHRENE
<	DENOTES CONCENTRATION LESS THAN INDICATED DETECTION LIMIT
–	NOT ANALYZED FOR

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

SNC • LAVALIN

- LOT BOUNDARY
- FORMER STRUCTURES
- TELEPHONE LINE (UG)
- WATER LINE
- ELECTRICAL LINE
- FUEL LINE
- ELECTRICAL/TELEPHONE LINE
- SEPTIC
- AS/SVE SYSTEM PIPING
- UTILITY CORRIDOR (2011)
- PROPOSED U/G UTILITIES TO BE INSTALLED
- INFERRED EXTENT OF HYDROCARBON IMPACTED SOILS >CL/RL STANDARDS/GUIDELINES

- ◎ BOREHOLE (OTHER)
- ◒ MONITORING WELL (OTHER)
- ◕ MONITORING WELL (SNC–LAVALIN)
- ⊕ BOREHOLE
- Ⓢ AIR SPARGE WELL (SNC–LAVALIN)
- Ⓥ SOIL VAPOUR EXTRACTION WELL (SNC–LAVALIN)
- Ⓦ SOIL VAPOUR WELL
- ◩ TEST PIT
- ■ TRENCH SAMPLE
- Ⓗ HAND AUGER SAMPLE
- ✪ FLAGPOLE (ARBITRARY DATUM)
- ▼ SURFACE WATER SAMPLING LOCATION
- ⚙ FIRE HYDRANT
- ⦶ DESTROYED MONITORING WELL

- 🟨 AREA 1 INFERRED EXTENT OF IMPACTED SOILS (APPROXIMATE)
- 🟨 AREA 2 INFERRED EXTENT OF IMPACTED SOILS (APPROXIMATE)
- 🟧 AREA 3 INFERRED EXTENT OF IMPACTED SOILS (APPROXIMATE)
- 🟧 AREA 4 INFERRED EXTENT OF IMPACTED SOILS (APPROXIMATE)

0 1 2 METRES 10
SCALE 1:200

Revision/ Revision	Description/Description	Date/Date
5		
4		
3		
2		
1		
0	ISSUED FOR TENDER	2015-02-12

Client/client

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

D. W. BRIDGER #29452

Consultant Signature Only

Designed by/Concept par
DWB

Drawn by/Dessine par
AJK

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

SOIL QUALITY

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
R.071363.001	SR-002 OF	0

PWGSC – A1 – 841X594

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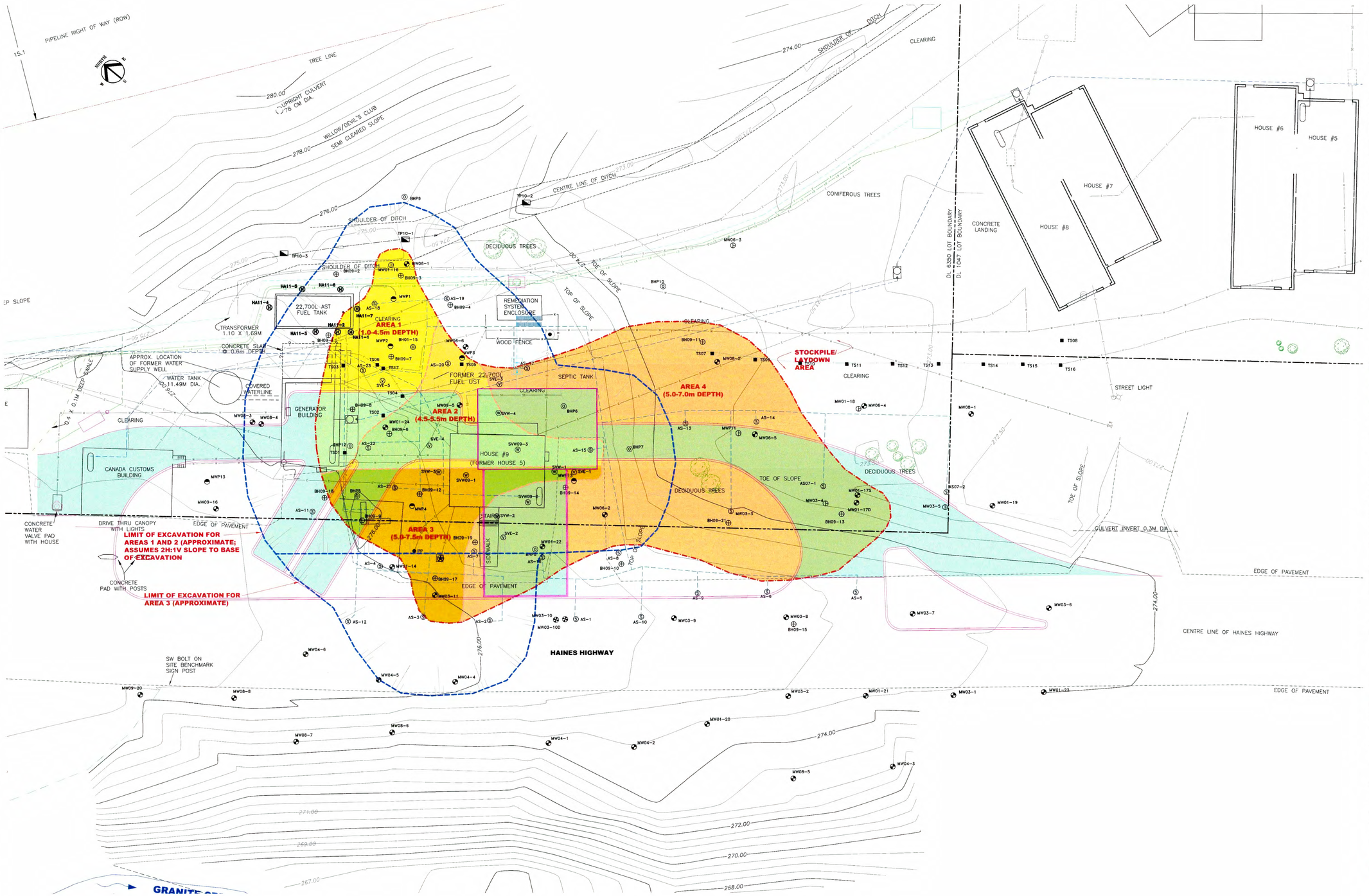

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

SNC·LAVALIN

- LOT BOUNDARY
- FORMER STRUCTURES
- TELEPHONE LINE (UG)
- WATER LINE
- ELECTRICAL LINE
- FUEL LINE
- ELECTRICAL/TELEPHONE LINE
- SEPTIC
- AS/SVE SYSTEM PIPING
- UTILITY CORRIDOR (2011)
- PROPOSED U/G UTILITIES TO BE INSTALLED
- INFERRED EXTENT OF HYDROCARBON IMPACTED SOILS >CL/RL STANDARDS/GUIDELINES
- APPROXIMATE LIMIT OF EXCAVATION TOP OF SLOPE (ASSUMES 2H:1V SLOPE)
- BOREHOLE (OTHER)
- MONITORING WELL (OTHER)
- MONITORING WELL (SNC-LAVALIN)
- BOREHOLE
- AIR SPARGE WELL (SNC-LAVALIN)
- SOIL VAPOUR EXTRACTION WELL (SNC-LAVALIN)
- SOIL VAPOUR WELL
- TEST PIT
- TRENCH SAMPLE
- HAND AUGER SAMPLE
- FLAGPOLE (ARBITRARY DATUM)
- SURFACE WATER SAMPLING LOCATION
- FIRE HYDRANT
- DESTROYED MONITORING WELL
- PROPOSED LOCATION OF FUTURE ACCESS ROADWAY FOR PORT FACILITY (PRELIMINARY)
- PROPOSED LOCATION OF FUTURE PORT FACILITY BUILDINGS/STRUCTURES (PRELIMINARY)

- AREA 1 INFERRED EXTENT OF IMPACTED SOILS (APPROXIMATE)
- AREA 2 INFERRED EXTENT OF IMPACTED SOILS (APPROXIMATE)
- AREA 3 INFERRED EXTENT OF IMPACTED SOILS (APPROXIMATE)
- AREA 4 INFERRED EXTENT OF IMPACTED SOILS (APPROXIMATE)

0 1 2 5 10 METRES
SCALE 1:200

5		
4		
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2		
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0	ISSUED FOR TENDER	2015-02-12
Revision/ Revision	Description/Description	Date/Date

Client/client

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet

PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES & SITE SERVICES BUILDING

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA D. W. BRIGGER #25452 PROFESSIONAL SCIENTIST

Consultant Signature/Sceau

Designed by/Concept par
AWS

Drawn by/Dessine par
ATE

PWGSC Project Manager/Administrateur de Projets TPSGC

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Drawing title/Titre du dessin

APPROXIMATE LIMIT OF REMEDIAL EXCAVATION AND PROPOSED FUTURE PORT FACILITY LAYOUT

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.071363.001	SR-003 OF	0

PWGSC – A1 – R41X594

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