FII # 945

Staff Housing - Waterton Lakes National Park

PHASE 2

DEMOLITION SITE
MUNICIPAL ADDRESS: WATERTON LAKES NATIONAL PARK
LEGAL ADDRESS: 1 COMPOUND RD., WATERTON, WATERTON LAKES NATIONAL PARK, AB
ZONING: N/A

LOTS 20 & 21
MUNICIPAL ADDRESS: 102 & 104 WIND FLOWER AVENUE, WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL ADDRESS: LOTS 20 & 21 BLOCK 42 PLAN 5854DK
ZONING: INSTITUTIONAL

RENDERING IS A CONCEPT ONLY, REFER DRAWINGS FOR INFORMATION REGARDING CONSTRUCTION AND FINISHES

ISSUED FOR : BUILDING PERMIT/TENDER
ISSUE DATE: DECEMBER 08, 2016

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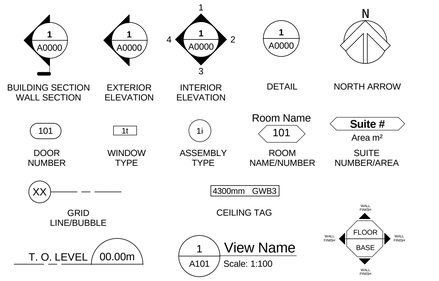
A0000

ABBREVIATIONS

ABV.	Above	LAV.	Lavatory
ACOUST.	Acoustical	L.P.	Low Point
ACT.	Acoustic Tiles on T-bar	MAS'Y	Masonry
A.F.F.	Above Finished Floor	MAX.	Maximum
ALUM./AL.	Aluminum	M.C.W.	Metal Clad Wood
ARCH.	Architectural	MECH.	Mechanical
A.T.D.	Above Trench Drain	MET.	Metal
A.V.B.	Air Vapour Barrier	MFD.	Manufactured
BD.	Board	MFR.	Manufacturer
BLK.	Block	M.I.	Metal Insulated
BM.	Beam	MIN.	Minimum
BOT.	Bottom	MIR.	Mirror
CAB.	Cabinet	MISC.	Miscellaneous
C.C.	Center to Center	M.R.D.	Metal Roof Desk
CEIL./CLG.	Ceiling	MT'D	Mounted
CER./C.T.	Ceramic Tile	MTL.	Material(s)
CHAN.	Channel	MWK.	Millwork
CHT.	Ceiling Height	N.I.C.	Not in Contract
C.I.P.	Cast in Place	NO. or #	Number
C.J.	Control Joint	N.T.S.	Not to Scale
CL.	Centerline	O.C.	On Center
CMU	Concrete Masonry Unit	O/H	Overhead
COL.	Column	OPNG.	Opening
CONC.	Concrete	O.S.B.	Oriented Strand Board
CONSTR.	Construction	PERIM.	Perimeter
CONT.	Continuous	PL.	Plate
CONTR.	Contractor	P.LAM.	Plastic Laminate
CORR.	Corridor	PLN.	Panel
C.S.	Computer Station	PLY.	Plywood
C/W	Complete With	POLY.	Polyethylene
D.	Depth	PREFIN.	Prefinished
DET.	Detail	P.T.	Pressure Treated
D.F.	Drinking Fountain	PTD.	Painted
DIA.	Diameter	PVC.	Polyvinyl Chloride
DIM.	Dimension	P.W.	Pressed Wood
DN.	Down	R.	Riser
DR.	Drain	R./RAD.	Radius
DWG.	Drawing	R.D.	Roof Drain
E.I.F.S.	Ext. Insulation Finish System	RE:	Reference, Refer to
E.J.	Expansion Joint	REINFMN'T	Reinforcement
EL./ELEV.	Elevations	REQ'D	Required
ELECT.	Electrical	REV.	Reverse
ENT.	Entrance	R.W.L.	Rain Water Leader
EQ.	Equal	RESIST.	Resistant
EQP.	Equipment	R.O.	Rough Opening
E.P.	Electrical Panelboard	RM.	Room
EXP.	Expansion	SAN.	Sanitary
EXT.	Exterior	SCHED.	Schedule
F.A.P.	Fire Alarm Panelboard	S.C.W.	Solid Core Wood
F.D.	Floor Drain	SEAL.	Sealant
FDN.	Foundation	SECT.	Section
F.E.C.	Fire Extinguisher Cabinet	SHR.	Shower
F.F.D.	Funnel Floor Drain	SHT.	Sheet
F.H.C.	Fire Hose Cabinet	SHTG.	Sheeting
FIN.	Finish	SIM.	Similar
FL./FLR.	Floor	SPECS.	Specifications
FLG.	Flashing	S.S.	Stainless Steel
F.O.	Face Of	STD.	Standard
F.O.C.	Face Of Concrete	STL.	Steel
F.O.F.	Face Of Finish	STOR.	Storage
F.O.M.	Face Of Masonry	STRUC.	Structural
F.O.S.	Face Of Stud	S.U.	Sealed Unit
F.R.P.	Fibre Reinforced Plastic	SUSP.	Suspended
FTG.	Footing	S.V.	Sheet Vinyl
F.T.P.	Floor Transition Pattern	SYM.	Symmetrical
F.T.S.	Floor Transition Strip	T.	Tread
FUR.	Furring	THK.	Thick
GA.	Gauge	THRES.	Threshold
GALV.	Galvanised	T.O.	Top of
G.B.	Grab Bar	T.O.C.	Top of Concrete
G.C.	General Contractor	T.O.D.	Top of Deck
G.I.S.	Good One Side	T.O.F.	Top of Framing
GL.	Glass	T.O.M.	Top of Masonry
G.S.	Glavanized Steel	T.O.P.	Top of Parapet
GWB.	Gypsum Board	T.O.S.	Top of Slab
G.2.S.	Good Two Side	T.O.W.	Top of Wall
H.	High	T.T.B.	Telephone Terminal Board
HC.	Handicapped	TYP.	Typical
H.C.W.	Hollow Core Wood	U.N.O.	Unless Noted Otherwise
H.D.	High Density	U/S	Underside
H.M.	Hollow Metal	V.	Vent
H.M.I.	Hollow Metal Insulated	V.B.	Vapour Barrier
H.O.B.	Handicap Operator Button	VENT.	Ventilation
HOR.	Horizontal	VERT.	Vertical
H.P.	High Point	VEST.	Vestibule
HR.	Hour	V.O.S.	Verify on Site
H.S.S.	Hollow Structural Section	W.	Width
HT.	Height	W/	With
I.S.M.	Inside Measurement	W.C.	Water Closet
INSUL.	Insulation	WD.	Wood
INT.	Interior	WDW.	Window
ITC.	Intercom	W.GL.	Wire Glass
JAN.	Janitor	W/O	Without
JT.	Joint	WP.	Waterproof
KIT.	Kitchen	W.PT.	Work Point
K.P.	Kick Plate	WR.	Washroom
LAM.	Laminate		

DRAWING REFERENCE SYMBOLS



BUILDING CODE N.B.C. 2015 SUMMARY

BUILDING CODE REVIEW - NBC 2015

BUILDING AREA 860.20 sq. m. 9,259.10 sq. ft.

BUILDING CLASSIFICATION

GROUP C - Residential Section 3.2.2.53, up to 3 Storeys

- The building is 2 Storeys in Heights facing 3 Streets (Fountain Avenue, Windflower Avenue & Lane)
- The building is less than 1,350 sq. m. in area
- The building is of Combustible Construction with Floor Assemblies as fire separations with a fire resistance rating of 45 min.

APPLICABLE CODE SECTIONS

3.3.1.9 Corridors -The minimum width of a public corridor shall be 1100 mm.

3.3.1.4 Corridors - a public corridor shall be separated from the remainder of the storey by a fire separation not less than 45 min.

3.3.1.22 Common Laundry Rooms - in a building of residential occupancy, a laundry room in a floor area that is not within a dwelling units shall be separated from the remainder of the building by a fire separation having a fire-resistance rating not less than 1 h. which is reduced to 45 min. in Sentence (2).

3.3.4.2 Fire Separations - Suites of residential occupancy shall be separated from each other and the remainder of the floor area by a fire separation having a fire resistance rating not less than 1 hr. which is reduced to 45 min. in Sentence (2).

3.3.4.3 Storage Rooms - Sprinklers shall be installed in a storage room provided for the use of tenants in a residential occupancy within a floor area but not contained within a suite.

3.4.2.1 Every floor area intended for occupancy shall be served by at least 2 exits.

3.4.4.1 Fire Resistance Rating of Exit Separations - every exit shall be separated from the remainder of the building by a fire separation having a fire-resistance rating not less than that requried by Subsection 3.2.2, but not less than 45-min.

3.6.2.1 Service Rooms - Mechanical and Electrical rooms shall be separated from the remainder of the building by fire separations having a fire-resistance rating not less than 1h.

3.6.3.1 Vertical Service Spaces and Service Spaces - shall be separated from all other portions of each adjacent storey by a fire resistance separation have ing a fire resistance rating confirming to tables 3.6.3.1 for the fire resistance rating required by Subsection 3.2.2.

3.6.4.4 Attic or Roof Space Access - an attic or roof space more than 600 mm high shall be provided with access from the floor immediately below by a hatchway not less than 550 m by 900 mm or by a stairway.

3.8.1 The requirements for Barrier Free Design does not apply to boarding houses.

5.9.1.2 Dwelling units to be separated from the rest of building by assemblies with an STC 50.

ENERGY CODE COMPLIANCE - NECB 2015

Part 3	Building Envelope Design	Perscriptive Compliance
Part 4	Lighting Design	Perscriptive Compliance
Part 5	HVAC Design	Perscriptive Compliance
Part 6	Service Water Heating Designj	Perscriptive Compliance
Part 7	Electrical Power Systems & Motors	Perscriptive Compliance

GENERAL NOTES

1. THE REQUIREMENTS OF THE NBC 2015 SHALL FORM AN INTEGRAL PART OF THESE DRAWINGS. ALL CONSTRUCTION MATERIALS AND PROCEDURES SHALL CONFORM TO THIS STANDARD.

2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION W/ LANDSCAPE, STRUCTURAL, MECHANICAL, ELECTRICAL, CIVIL & BUILDING ENVELOPE DRAWINGS. IN THE EVENT OF ANY DISCREPANCY, THE ARCHITECT SHALL BE NOTIFIED BEFORE WORK COMMENCES.

3. THE CONTRACTOR SHALL CHECK & VERIFY DIMENSIONS & DETAILS FOR COMPATIBILITY W/ ALL CONSULTANT DRAWINGS PRIOR TO COMMENCING WORK. DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY. THE CONTRACTOR SHALL NOT SCALE THE DRAWINGS.

4. ALL STANDARDS OF CONSTRUCTION SHALL COMPLY W/ THE NBC 2015 AND ANY SPECIAL REQUIREMENTS OF THE LOCAL AUTHORITIES HAVING JURISDICTION.

5. ALTERNATES WHICH RESULT IN A CREDIT FOR THE OWNER SHALL BE REVIEWED BY THE ARCHITECT. HOWEVER, UNTIL A REVISION HAS BEEN ISSUED BY THE ARCHITECT, EXACT DETAILS SHOWN ON THE DRAWING MUST BE ADHERED TO; OTHERWISE CONSTRUCTION WILL BE REJECTED & THE CONTRACTOR CHARGED FOR REMEDIAL WORK & FOR RE-INSPECTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE FULL VALUE OF THE RESULTING CHANGES.

6. THE CONTRACTOR MUST VISIT & EXAMINE THE BUILDING SITES & NOTE THE EXACT NATURE OF EXISTING ELEMENTS INVOLVED IN THE WORK TO BE PERFORMED.

a. ENSURE THE CONTINUITY OF FIRE-RATED ASSEMBLIES LOCATED BEHIND PLUMBING WALLS.

b. PROVIDE FIBREGLASS-FACED WALL BOARD WHERE REQUIRED FOR BATHROOM TILE FINISH - REFER TO INTERIOR ELEVATION DRAWINGS. PROVIDE ADDITIONAL 13mm GYPSUM BOARD IF REQUIRED FOR CONTINUOUS WALL SURFACE.

GENERAL NOTES (CONT.)

c. ELECTRICAL BOX HEIGHTS WILL BE MOUNTED AT 400mm A.F.F. MINIMUM, TYPICAL. WHERE A CABINET EXISTS, AN ELECTRICAL PLUG WILL BE MOUNTED 300mm ABOVE THE TOP OF FINISHED COUNTER HEIGHT.

d. PROVIDE SOLID BLOCKING BETWEEN STUDS FOR GRAB BARS, TOWEL BARS AND OTHER BATHROOM FIXTURES WHERE REQUIRED. COORDINATE LOCATIONS OF GRAB BARS WITH BATHROOM TUB AND SHOWER SUPPLIER.

e. ELECTRICAL BOXES LOCATED IN PARTY WALLS SHALL BE INSTALLED IN SEPARATE CAVITIES ON THE OPPOSITE SIDES OF STUDS.

f. ENSURE CONTINUITY OF FIRE RATING - PROVIDE TYPE "X" GYPSUM BOARD BOX. IF REQUIRED FOR ANY RECESSED FIXTURES INSTALLED IN RATED ASSEMBLIES.

g. ALL DRAIN WASTE AND VENT PIPING TO BE LOCATED OUTSIDE FIRE RATED CORRIDORS WALLS, PARTY WALLS, AND EXIT ENCLOSURE WALLS.

h. INSULATION USED IN THE EXTERIOR WALLS TO CONFORM TO CSA A101-M WITH THE MINIMUM MASS NOT LESS THAN 1.22kg/m² OF WALL SURFACE.

i. PROVIDE CONTINUOUS ACOUSTIC CAULKING ON ALL PARTY AND CORRIDOR WALL JOINTS OR TRANSITIONS.

j. PROVIDE SOLID BLOCKING IN THE CEILING OF ALL BEDROOMS FOR POSSIBLE FUTURE CEILING FANS. TO BE COORDINATED W/ ELECTRICAL DRAWINGS.

k. PLAN DIMENSIONS ARE TO FACE OF STUDS AND GRIDS - U.N.O.

ENVELOPE MANDATORY MEASURES

DOORS & WINDOWS:
MANUFACTURERS OF FENESTRATION PRODUCTS MUST CERTIFY THAT THE PRODUCTS MEET AIR INFILTRATION & U- VALUE REQUIREMENTS OF CAN/ CSA- A440, LATEST EDITION & CANADIAN SUPPLEMENT TO NAFS-08.

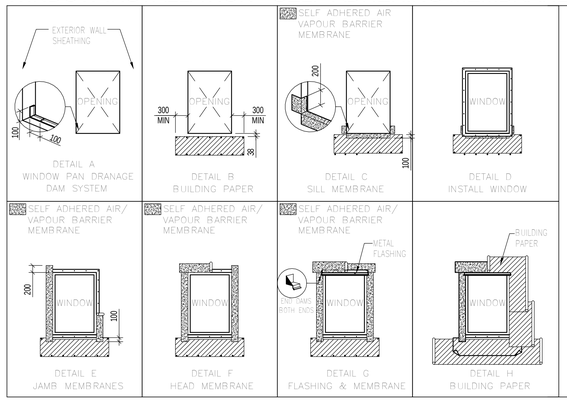
UNFRAMED GLASS DOORS & FIRE DOORS ARE THE TWO EXCEPTIONS TO THESE REQUIREMENTS.

MANUFACTURED DOORS & WINDOWS MUST BE TESTED & SHOWN TO HAVE AIR INFILTRATION RATES NOT EXCEEDING 0.37 CFM/ SF OF DOOR AREA FOR SLIDING & SWING DOORS, & 1.0 CFM/ SF OF DOOR AREA FOR DOUBLE SLIDING & SWING DOORS.

JOINTS & OPENINGS:
JOINTS & OTHER OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHERSTRIPPED, OR OTHERWISE SEALED TO LIMIT AIR LEAKAGE INTO & OUT OF THE BUILDING. THIS APPLIES TO PENETRATIONS FOR PIPES & CONDUITS, DUCTS, VENTS, & SUCH. GAPS BETWEEN WALL PANELS, AROUND DOORS & WINDOWS, & OTHER CONSTRUCTION JOINTS MUST BE WELL SEALED.

INSULATION:
PER DRAWINGS.

WINDOW INSTALLATION - SELF-ADHERING MEMBRANE SEQUENCE



DETAIL A: ENSURE POSITIVE DRAINAGE AT THE SILL OF THE ROUGH OPENING BY MECHANICALLY FASTENING THE SPECIFIED EZEE-DAM WINDOW PAN DRAINAGE DAM SYSTEM, CUT TO FIT THE WIDTH OF THE OPENING. SET THE PREFABRICATED SLOPED SILL DAM AND CORNER DAMS OF THE SYSTEM 13mm FROM THE INTERIOR EDGE OF THE OPENING.

DETAIL B: APPLY A HORIZONTAL STRIP OF BUILDING PAPER 38mm BELOW THE OPENING AND EXTEND 300mm PAST EACH SIDE OF THE OPENING. ONLY STAPLE THE BUILDING PAPER WITHIN 25mm OF THE TOP AND BOTTOM EDGES.

DETAIL C: CLEAN AND DRY ALL SURFACES TO RECEIVE SELF ADHERED AIRVAPOUR BARRIER MEMBRANE INCLUDING SILL, JAMBS, WALL SHEATHING AND BUILDING PAPER. PEEL THE FILM FROM THE BACK OF THE MEMBRANE AND SET MEMBRANE INTO OPENING. ENSURE FULL AND CONTINUOUS COVERAGE OF THE SILL AND EZEE-DAM WINDOW PAN DRAINAGE DAM SYSTEM. EXTEND MEMBRANE MINIMUM 200mm ONTO THE JAMBS AND MINIMUM 100mm ONTO THE BUILDING PAPER BELOW. USE A RUBBER ROLLER TO ENSURE A TIGHT SEAL. MINIMIZING WRINKLES AND ENSURING FULL ADHESION TO SUBSTRATES. WINDOW SETTING BLOCKS MAY BE REQUIRED BY THE WINDOW MANUFACTURER, AND SHOULD BE INSTALLED WITH A COMPATIBLE ADHESIVE PRODUCT, RATHER THAN MECHANICALLY FASTENED.

DETAIL D: INSTALL THE WINDOW, SETTING THE NAILING FIN INTO A CONTINUOUS BEAD OF SEALANT WHICH EXTENDS AROUND 3 SIDES OF THE OPENING, EXCLUDING THE SILL (THE SILL MUST BE ALLOWED TO DRAIN). INSTALL WINDOWS AS PER WINDOW MANUFACTURER'S INSTRUCTIONS.

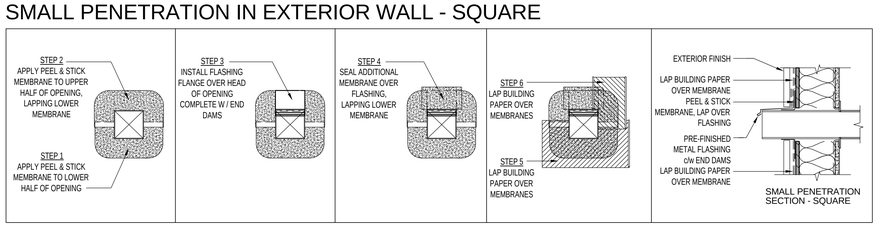
DETAIL E: CLEAN AND DRY ALL SURFACES TO RECEIVE SELF ADHERED AIR VAPOUR BARRIER MEMBRANE INCLUDING WALL SHEATHING, NAILING FINS AND PREVIOUSLY APPLIED MEMBRANE AND BUILDING PAPER. PEEL THE FILM FROM THE BACK OF THE MEMBRANE STRIPS AND INSTALL OVER THE SIDE NAILING FINS. ENSURE MEMBRANE STRIPS EXTEND MINIMUM 200mm BEYOND THE HEAD OF THE WINDOW AND MINIMUM 100mm ONTO THE MEMBRANE AND BUILDING PAPER AT THE SILL. USE A RUBBER ROLLER TO ENSURE A TIGHT SEAL, MINIMIZING WRINKLES AND ENSURING FULL ADHESION TO ALL SUBSTRATES.

DETAIL F: CLEAN AND DRY ALL SURFACES TO RECEIVE SELF ADHERED AIR VAPOUR BARRIER MEMBRANE INCLUDING WALL SHEATHING, TOP NAILING FIN AND PREVIOUSLY APPLIED MEMBRANE STRIPS. PEEL THE FILM FROM THE BACK OF THE MEMBRANE STRIP AND INSTALL OVER THE TOP NAILING FIN OF THE WINDOW. ENSURE MEMBRANE STRIP EXTENDS MINIMUM 200mm BEYOND EACH OF THE JAMB STRIPS. USE A RUBBER ROLLER TO ENSURE A TIGHT SEAL, MINIMIZING WRINKLES AND ENSURING FULL ADHESION TO ALL SUBSTRATES.

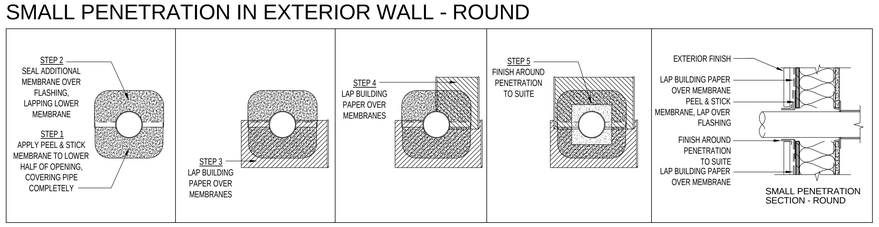
DETAIL G: INSTALL FLASHING ABOVE WINDOW C/W MINIMUM 100 mm. VERTICAL LEG. ENSURE FLASHING HAS END DAMS FOLDED (NOT CUT) ON BOTH ENDS OF THE FLASHING. ENSURE THE FLASHING IS NOT FASTENED THROUGH THE NAILING FIN OF THE WINDOW. CLEAN AND DRY THE VERTICAL LEG OF THE FLASHING AND THE PREVIOUSLY APPLIED MEMBRANE STRIP AT THE HEAD OF THE WINDOW. PEEL THE FILM FROM THE BACK OF THE MEMBRANE AND INSTALL OVER THE VERTICAL LEG OF THE FLASHING. ENSURE MEMBRANE STRIP EXTENDS MINIMUM 200mm BEYOND THE EDGES OF THE PREVIOUSLY APPLIED MEMBRANE. USE A RUBBER ROLLER TO ENSURE A TIGHT SEAL, MINIMIZING WRINKLES AND ENSURING FULL ADHESION TO ALL SUBSTRATES.

DETAIL H: INSTALL THE SPECIFIED BUILDING PAPER HORIZONTALLY BEGINNING AT THE BOTTOM OF THE WALL AND PROCEEDING UPWARD, LAPPING COURSES AS SPECIFIED. TO INSTALL BUILDING PAPER BELOW THE WINDOW, CUT THE BOTTOM 25mm OFF OF THE STRIP OF BUILDING PAPER INSTALLED IN DETAIL B AND INSERT THE NEW COURSE OF BUILDING PAPER UP IN BEHIND. CONTINUE BUILDING PAPER INSTALLATION UP THE FACE OF THE WALL. ENSURE BUILDING PAPER IS NOT FASTENED THROUGH THE NAILING FINS OF THE WINDOW.

SMALL PENETRATION IN EXTERIOR WALL - SQUARE



SMALL PENETRATION IN EXTERIOR WALL - ROUND



DRAWING LIST

ARCHITECTURAL

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A021	FIRE SEPARATION PLANS & FIRE SEPARATION SECTIONS
A022	FIRE SEPARATION TYPICAL DETAILS
A031	WINDOW TYPES W/ WINDOW FRAME TYPES & DOOR TYPES W/ DOOR FRAME TYPES & DOOR SCHEDULE
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A111	SITE PLAN - NEW CONSTRUCTION LOTS 20 & 21
A121	SITE, CANOPY & RAMP DETAILS
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A141	SITE PLAN - DEMOLITION - LOTS 20 & 21
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A202	MAIN FLOOR PLAN & LOFT FLOOR PLAN
A211	ENLARGED FLOOR-FINISHES PLAN - BASEMENT LEVEL-WEST
A212	ENLARGED FLOOR-FINISHES PLAN - BASEMENT LEVEL-EAST
A213	ENLARGED FLOOR-FINISHES PLAN - MAIN LEVEL-WEST
A214	ENLARGED FLOOR-FINISHES PLAN - MAIN LEVEL-EAST
A215	ENLARGED FLOOR-FINISHES PLAN - LOFT LEVEL-WEST
A216	ENLARGED FLOOR-FINISHES PLAN - LOFT LEVEL-EAST
A221	REFLECTED CEILING PLAN - BASEMENT LEVEL
A222	REFLECTED CEILING PLAN - MAIN LEVEL & LOFT LEVEL
A301	VERTICAL CIRCULATION - STAIR 01 & STAIR 02 FLOOR PLANS, SECTIONS & STANDARD DETAILS
A401	BUILDING ELEVATIONS
A402	BUILDING ELEVATIONS - WINDOW TRIM
A501	BUILDING SECTIONS
A601	WALL SECTIONS
A602	WALL SECTIONS
A603	WALL SECTIONS
A604	WALL SECTIONS

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A702	PLAN DETAILS
A801	SECTION DETAILS
A802	SECTION DETAILS
A803	SECTION DETAILS
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A902	KITCHEN PLANS & ELEVATIONS
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A905	BATHROOM PLANS & ELEVATIONS
A906	BATHROOM / JANITOR PLANS & ELEVATIONS
A907	CABINET/INTERIOR SECTIONS & DETAILS

CIVIL

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C103	STAFF HOUSING GRADING PLAN DETAIL SHEET

STRUCTURAL

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S002	GENERAL NOTES
S003	DESIGN NOTES
S004	3D REFERENCE VIEWS
S005	ROOF LOADING PLAN
S010	TYPICAL DETAILS
S011	TYPICAL DETAILS
S012	TYPICAL DETAILS
S200	BASEMENT & MAIN FLOOR FRAMING PLAN
S201	BASEMENT PLAN -WEST
S202	BASEMENT PLAN -EAST
S203	MAIN FLOOR FRAMING -WEST
S204	MAIN FLOOR FRAMING PLAN -EAST
S210	LOFT & ROOF FRAMING PLAN
S211	LOFT FRAMING PLAN -WEST
S212	LOFT FRAMING PLAN -EAST
S213	ROOF FRAMING PLAN -WEST
S214	ROOF FRAMING PLAN -EAST
S300	SCHEDULES
S400	SECTIONS & DETAILS
S410	SECTIONS & DETAILS
S420	SECTIONS & DETAILS
S421	SECTIONS & DETAILS
S430	SECTIONS & DETAILS
S440	SECTIONS & DETAILS

MECHANICAL

M001	MECHANICAL LEGEND
M101	SITE PLAN - MECHANICAL
M201	FOUNDATION PLAN - MECHANICAL
M301	BASEMENT PLAN - MECHANICAL
M302	BASEMENT PLAN - FIRE PROTECTION
M303	MAIN FLOOR PLAN - MECHANICAL
M304	LOFT FLOOR - MECHANICAL
M305	ATTIC AND ROOF PLAN - MECHANICAL
M401	MECH. SCHEMATICS AND DETAILS
M402	MECHANICAL DETAILS
M501	MECHANICAL SCHEDULES

ELECTRICAL

E000	ELECTRICAL LEGEND AND DRAWING LIST
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E200	BASEMENT ELECTRICAL LAYOUT
E201	MAIN FLOOR PLAN ELECTRIAL LAYOUT
E202	LOFT FLOOR PLAN ELECTRICAL LAYOUT
E300	TYPICAL SUITE PLANS ELECTRICAL LAYOUT
E301	TYPICAL SUITE PLANS ELECTRICAL LAYOUT
E400	SINGLE LINE DIST & PANELS
E500	ELECTRICAL SCHEDULES
E600	ELECTRICAL DETAILS

LANDSCAPE

L101	LANDSCAPE PLAN
L201	LANDSCAPE DETAILS

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No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
6	2016-12-08	ISSUED FOR TENDER		
5	2016-12-08	ISSUED FOR BUILDING PERMIT		
4	2016-09-02	ISSUED FOR 99% REVIEW		
3	2016-06-14	ISSUED FOR 66% REVIEW		
2	2016-05-09	ISSUED FOR 33% REVIEW		
1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil

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Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

GENERAL INFORMATION

Surveyed by/Arpente par	Drawn by/Dessine par: MP	Date/Date: 2016-12-08
Designed by/Concept par: FVR	Reviewed by/Revise par: LS/FVR	Scale/Echelle: N.T.S.

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Prime Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet: 39000	Asset No./No. du-bien: FII # 945	Sheet No./No. de la feuille: A001

Drawing Reference No./No. de reference du dessin

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Sheet Size: ISO B1 - 707x1000mm

BUILDING ASSEMBLIES

WALL ASSEMBLIES - EXTERIOR

EW1 EXTERIOR WALL - BASEMENT

EXTERIOR | INTERIOR

- 100mm CONCRETE FACED RIGID INSULATION 610mm LONG ABOVE / BELOW GRADE AND 100mm RIGID INSULATION 2440mm LONG BELOW GRADE (R20)
- DRAIN BOARD
- WATER PROOFING MEMBRANE
- C.I.P. CONCRETE WALL - REFER TO STRUCTURAL

EW2 EXTERIOR WALL - STONE
1hr FIRE RATED ASSEMBLY, N.B.C. 2015 D-2.3.4.-A, D-2.3.4.-G, D-2.3.5.(2)

EXTERIOR | INTERIOR

- MANUFACTURED STONE
- +/- 25mm MORTAR
- 1 LAYER BUILDING PAPER
- 15.5mm EXTERIOR GRADE PLYWOOD
- 38mm SEMI-RIGID MINERAL WOOL INSULATION (R6)
- 38 X 64mm VERTICAL WOOD FURRING @ 406mm O.C. W/ 26mm AIR SPACE
- 38mm SEMI-RIGID MINERAL WOOL INSULATION (R6)
- 38 X 38mm HORIZONTAL WOOD FURRING @ 406mm O.C.
- 2 LAYERS BUILDING PAPER
- 15.5mm EXTERIOR GRADE PLYWOOD
- 38 X 140mm WOOD STUDS @ 406mm O.C. (20min.)
- 140mm MINERAL WOOL INSULATION (R24) (15min.)
- VAPOUR BARRIER
- 15.9mm 'TYPE X' GYPSUM WALL BOARD (40min.)

EW3 EXTERIOR WALL - SIDING OR PANELS
1hr FIRE RATED ASSEMBLY, N.B.C. 2015 D-2.3.4.-A, D-2.3.4.-G, D-2.3.5.(2)

EXTERIOR | INTERIOR

- FIBRE CEMENT SIDING OR PANEL, REFER ELEVATIONS
- 38mm SEMI-RIGID MINERAL WOOL INSULATION (R6)
- 38 X 64mm VERTICAL WOOD FURRING w/ 26mm AIR SPACE
- 38mm SEMI-RIGID MINERAL WOOL INSULATION (R6)
- 38 X 38mm HORIZONTAL WOOD FURRING
- 2 LAYERS BUILDING PAPER
- 15.5mm EXTERIOR GRADE PLYWOOD
- 38 X 140mm WOOD STUDS @ 406mm O.C. (20min.)
- 140mm MINERAL WOOL INSULATION (R24) (15min.)
- VAPOUR BARRIER
- 15.9mm 'TYPE X' GYPSUM WALL BOARD (40min.)

EW4 EXTERIOR WALL - DUTCH GABLE

EXTERIOR | ATTIC

- FIBRE CEMENT SIDING OR PANELS
- 16mm FURRING (VENT)
- 2 LAYERS BUILDING PAPER
- 15.5mm EXTERIOR GRADE PLYWOOD
- 38 X 140mm WOOD STUDS @ 406mm O.C.

EW5 ATTIC LOFT WALL
1hr FIRE RATED ASSEMBLY, N.B.C. 2015 D-2.3.4.-A, D-2.3.4.-G, D-2.3.5.(2)

ATTIC | INTERIOR

- 76mm RIGID INSULATION, MECHANICALLY FASTENED (R12)
- 15.5mm EXTERIOR GRADE PLYWOOD
- 38 X 140mm WOOD STUDS @ 406mm O.C. (20min.)
- 140mm MINERAL WOOL INSULATION (R24) (15min.)
- VAPOUR BARRIER
- 15.9mm 'TYPE X' GYPSUM WALL BOARD (40min.)

EW5a ATTIC LOFT WALL
1hr FIRE RATED ASSEMBLY, N.B.C. 2015 D-2.3.4.-A, D-2.3.4.-G, D-2.3.5.(2)

ATTIC | INTERIOR

- 76mm RIGID INSULATION, MECHANICALLY FASTENED (R12)
- 15.5mm EXTERIOR GRADE PLYWOOD
- 38 X 140mm WOOD STUDS @ 406mm O.C. (20min.)
- 140mm MINERAL WOOL INSULATION (R24) (15min.)
- VAPOUR BARRIER
- *SHEAR WALL SHEATHING - REFER TO STRUCTURAL*
- 15.9mm 'TYPE X' GYPSUM WALL BOARD (40min.)

PARTITION ASSEMBLIES - INTERIOR

P1 45min FIRE RATED ASSEMBLY - UL U376b (sim) / N.B.C. 2015 D-2.3.4.-A
STC 54 - N.B.C. 2015 W11b

CORRIDOR | SUITE

- FINISH AS PER FINISH SCHEDULE
- 2 LAYERS OF 12.7mm 'TYPE X' GYPSUM WALL BOARD (50min.)
- 12.7mm RESILIENT MTL. CHANNELS @ 406mm O.C.
- 2 ROWS 38 X 89mm WOOD STUDS @ 406mm O.C. STAGGERED ON COMMON 38 X 140mm PLATE
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min.)
- FINISH AS PER FINISH SCHEDULE

NOTE:
P1 AND P1b ASSEMBLY TO BE TREATED AS 1Hr FIRE SEPARATION IN LOCATION SHOWN ON SHEET A021 - FIRE SEPARATION PLANS & FIRE SEPARATION SECTIONS

P1a SHEAR WALL
45min FIRE RATED ASSEMBLY - UL U376b (sim) / N.B.C. 2015 D-2.3.4.-A
STC 54 (51) - N.B.C. 2015 W11b (sim) WITH 140mm PLUMBING WALL ON ONE SIDE - INSTALL 89mm ACOUSTIC FIRE BATT INSULATION AROUND PLUMBING AND 1 STUD CAVITY OVER ON EITHER SIDE OF CAVITY WITH PLUMBING.

CORRIDOR | SUITE

- FINISH AS PER FINISH SCHEDULE
- 2 LAYERS OF 12.7mm 'TYPE X' GYPSUM WALL BOARD (50min)
- 12.7mm RESILIENT MTL. CHANNELS @ 406mm O.C.
- *SHEAR WALL SHEATHING - REFER TO STRUCTURAL* (-3 STC pts)
- 2 ROWS 38 X 89mm WOOD STUDS @ 406mm O.C. STAGGERED ON COMMON 38 X 140mm PLATE
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- 38 X 140mm WOOD STUDS @ 406mm O.C. TO ACCOMMODATE PLUMBING LINES
- 12.7mm GYPSUM WALL BOARD
- FINISH AS PER FINISH SCHEDULE

P1b SHEAR WALL
45min FIRE RATED ASSEMBLY - UL U376b (sim) / N.B.C. 2015 D-2.3.4.-A
STC 54 (51) - N.B.C. 2015 W11b (sim)

CORRIDOR | SUITE

- FINISH AS PER FINISH SCHEDULE
- 2 LAYERS OF 12.7mm 'TYPE X' GYPSUM WALL BOARD (50min)
- 12.7mm RESILIENT MTL. CHANNELS @ 406mm O.C.
- *SHEAR WALL SHEATHING - REFER TO STRUCTURAL* (-3 STC pts)
- 2 ROWS 38 X 89mm WOOD STUDS @ 406mm O.C. STAGGERED ON COMMON 38 X 140mm PLATE
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- FINISH AS PER FINISH SCHEDULE

NOTE:
P1 AND P1b ASSEMBLY TO BE TREATED AS 1Hr FIRE SEPARATION IN LOCATION SHOWN ON SHEET A021 - FIRE SEPARATION PLANS & FIRE SEPARATION SECTIONS

P1c SHEAR WALL
45min FIRE RATED ASSEMBLY - UL U376b (sim) / N.B.C. 2015 D-2.3.4.-A
STC 54 (51) - N.B.C. 2015 W11b (sim)

SUITE

- FINISH AS PER FINISH SCHEDULE
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- *SHEAR WALL SHEATHING - REFER TO STRUCTURAL* (-3 STC pts)
- 2 ROWS 38 X 89mm WOOD STUDS @ 406mm O.C. STAGGERED ON COMMON 38 X 140mm PLATE
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 2 LAYERS OF 12.7mm 'TYPE X' GYPSUM WALL BOARD (50min)
- FINISH AS PER FINISH SCHEDULE

NOTE:
PROVIDE PLUMBING WALL AS PER P1a ASSEMBLY WHERE REQUIRED AND INDICATED ON FLOOR PLANS

PARTITION ASSEMBLIES - INTERIOR (CONT.)

P2 SHEAR WALL
45min FIRE RATED ASSEMBLY - UL U376c (sim) / N.B.C. 2015 D-2.3.4.-A
STC 57 (54) - N.B.C. 2015 W13b

- FINISH AS PER FINISH SCHEDULE
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- *SHEAR WALL SHEATHING - REFER TO STRUCTURAL* (-3 STC pts)
- 38 X 89mm WOOD STUDS @ 406mm O.C.
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 25mm AIR SPACE
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 38 X 89mm WOOD STUDS @ 406mm O.C.
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- FINISH AS PER FINISH SCHEDULE

P2a SHEAR WALL
45min FIRE RATED ASSEMBLY - UL U376c (sim) / N.B.C. 2015 D-2.3.4.-A
STC 57 (54) - N.B.C. 2015 W13b (sim) WITH 140mm PLUMBING WALL ON ONE SIDE - INSTALL 140mm ACOUSTIC FIRE BATT INSULATION AROUND PLUMBING AND 1 STUD CAVITY OVER ON EITHER SIDE OF CAVITY WITH PLUMBING.

- FINISH AS PER FINISH SCHEDULE
- 38 X 140mm WOOD STUDS @ 406mm O.C. TO ACCOMMODATE PLUMBING LINES
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- *SHEAR WALL SHEATHING - REFER TO STRUCTURAL* (-3 STC pts)
- 38 X 89mm WOOD STUDS @ 406mm O.C.
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 25mm AIR SPACE
- 38 X 89mm WOOD STUDS @ 406mm O.C.
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- FINISH AS PER FINISH SCHEDULE

P2b SHEAR WALL
45min FIRE RATED ASSEMBLY - UL U376c (sim) / N.B.C. 2015 D-2.3.4.-A
STC 57 (51) - N.B.C. 2015 W13b

SUITE | SUITE

- FINISH AS PER FINISH SCHEDULE
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- *SHEAR WALL SHEATHING - REFER TO STRUCTURAL* (-3 STC pts)
- 38 X 89mm WOOD STUDS @ 406mm O.C.
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 25mm AIR SPACE
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 38 X 89mm WOOD STUDS @ 406mm O.C.
- *SHEAR WALL SHEATHING - REFER TO STRUCTURAL* (-3 STC pts)
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- FINISH AS PER FINISH SCHEDULE

P2c 45min FIRE RATED ASSEMBLY - UL U376c (sim) / N.B.C. 2015 D-2.3.4.-A
STC 57 (54) - N.B.C. 2015 W13b

SUITE | SUITE

- FINISH AS PER FINISH SCHEDULE
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- 38 X 89mm WOOD STUDS @ 406mm O.C.
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 25mm AIR SPACE
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 38 X 89mm WOOD STUDS @ 406mm O.C.
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- FINISH AS PER FINISH SCHEDULE

NOTE:
PROVIDE PLUMBING WALL AS PER P2a ASSEMBLY WHERE REQUIRED AND INDICATED ON FLOOR PLANS

P3 ACOUSTICAL 89mm ASSEMBLY
STC 32 - N.B.C. 2015 W1c

- FINISH AS PER FINISH SCHEDULE
- 12.7mm GYPSUM WALL BOARD
- 38 X 89mm WOOD STUDS @ 406mm O.C.
- FIBREGLASS ACOUSTIC INSULATION (R12)
- 12.7mm GYPSUM WALL BOARD
- FINISH AS PER FINISH SCHEDULE

P3a 89mm ASSEMBLY

- FINISH AS PER FINISH SCHEDULE
- 12.7mm GYPSUM WALL BOARD
- 38 X 89mm WOOD STUDS @ 406mm O.C.
- 12.7mm GYPSUM WALL BOARD
- FINISH AS PER FINISH SCHEDULE

P4 NOTE: INSTALL 140mm ACOUSTIC FIRE BATT INSULATION AROUND PLUMBING AND 1 STUD CAVITY OVER ON EITHER SIDE OF CAVITY WITH PLUMBING

- FINISH AS PER FINISH SCHEDULE
- 12.7mm GYPSUM WALL BOARD
- 38 X 140mm WOOD STUDS @ 406mm O.C.
- 12.7mm GYPSUM WALL BOARD
- FINISH AS PER FINISH SCHEDULE

NOTE:
PROVIDE 140mm (R24) FIBREGLASS ACOUSTIC INSULATION IN ENTIRE PARTITION IF PARTITION IS A PERIMETER WALL OF A WASHROOM.

P5a BULKHEAD ASSEMBLY

- FINISH AS PER FINISH SCHEDULE
- 12.7mm GYPSUM WALL BOARD
- 89 X 38mm WOOD STUDS @ 406mm O.C.

P5b FURRING ASSEMBLY

- FINISH AS PER FINISH SCHEDULE
- 12.7mm GYPSUM WALL BOARD
- 38 X 89mm WOOD STUDS @ 406mm O.C.

P6 SHAFT WALL
1hr FIRE RATED ASSEMBLY - ULC W452, SYSTEM A.
STC 39 (min) - USG-040901 (sim)

- FINISH AS PER FINISH SCHEDULE
- 15.9mm 'TYPE X' GYPSUM WALL BOARD
- 102mm METAL C-H STUDS @ 610mm O.C. W/ FIBREGLASS ACOUSTIC INSULATION
- 25.4mm GYPSUM SHAFT LINER

FOR SHAFT WALLS LOCATED IN TENANT SUITES PROVIDE P6 AS SYSTEM B FOR STC RATING.
2hr FIRE RATED ASSEMBLY - ULC W452, SYSTEM B.
STC 50 (min) - TEST # RAL-OT-04-019 (sim)

- FINISH AS PER FINISH SCHEDULE
- 2 LAYERS 15.9mm 'TYPE X' GYPSUM WALL BOARD
- 102mm 25 GAUGE METAL C-H STUDS @ 610mm O.C. W/ 75mm MINERAL WOOL INSULATION
- 25.4mm GYPSUM SHAFT LINER

P7 SHEAR WALL
45min FIRE RATED ASSEMBLY - N.B.C.2015 D-2.3.4.-A

- FINISH AS PER FINISH SCHEDULE
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- *SHEAR WALL SHEATHING - REFER TO STRUCTURAL*
- 38 X 140mm WOOD STUDS @ 406mm O.C.
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- FINISH AS PER FINISH SCHEDULE

P7a SHEAR WALL
1Hr FIRE RATED ASSEMBLY - N.B.C.2015 D-2.3.4.-A

- FINISH AS PER FINISH SCHEDULE
- 15.9mm 'TYPE X' GYPSUM WALL BOARD (40min)
- *SHEAR WALL SHEATHING - REFER TO STRUCTURAL*
- 38 X 140mm WOOD STUDS @ 406mm O.C.
- 15.9mm 'TYPE X' GYPSUM WALL BOARD (40min)
- FINISH AS PER FINISH SCHEDULE

PARTITION ASSEMBLIES - INTERIOR (CONT.)

P8 45min / 1hr FIRE RATED ASSEMBLY - N.B.C.2015 D-2.1.1.
LOCATION AS PER FIRE SEPARATION PLANS

- FINISH AS PER FINISH SCHEDULE
- C.I.P. CONCRETE WALL - REFER TO STRUCTURAL
- FINISH AS PER FINISH SCHEDULE

P9 45min FIRE RATED ASSEMBLY - Ga File No. WP 3660 (sim) / N.B.C.2015 D-2.3.4.-A

- FINISH AS PER FINISH SCHEDULE
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- 38 X 140mm WOOD STUDS @ 406mm O.C.
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- FINISH AS PER FINISH SCHEDULE

NOTE:
PROVIDE 140mm (R24) FIBREGLASS ACOUSTIC INSULATION IN ENTIRE PARTITION WHERE (INS) IS INDICATED. Ga. File No. W3661

P9a 1hr FIRE RATED ASSEMBLY - Ga File No. WP 3660

- FINISH AS PER FINISH SCHEDULE
- 15.9mm 'TYPE X' GYPSUM WALL BOARD (40min)
- 38 X 140mm WOOD STUDS @ 406mm O.C.
- 15.9mm 'TYPE X' GYPSUM WALL BOARD (40min)
- FINISH AS PER FINISH SCHEDULE

P10 45min FIRE RATED ASSEMBLY - Ga File No. WP 3644 (sim) / N.B.C.2015 D-2.3.4.-A

- FINISH AS PER FINISH SCHEDULE
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- 38 X 89mm WOOD STUDS @ 406mm O.C. W/ FIBREGLASS ACOUSTIC INSULATION
- 12.7mm 'TYPE X' GYPSUM WALL BOARD (25min)
- FINISH AS PER FINISH SCHEDULE

ROOF ASSEMBLIES

R1 TYPICAL TRUSS ROOF W/ 45min FIRE RATED CEILING - N.B.C. 2015 D-2.3.12.

EXTR | VENTED ATTIC SPACE | INT

- FIBREGLASS REINFORCED ASPHALT SHINGLES
- ROOFING FELT
- 15.5mm PLYWOOD SHEATHING
- WOOD STRAPPING -REFER TO STRUCTURAL
- ENGINEERED WOOD TRUSSES W/ VENTED ATTIC SPACE -REFER TO STRUCTURAL
- 140mm MINERAL WOOL INSULATION (R24)
- 184mm MINERAL WOOL INSULATION (R28)
- VAPOUR BARRIER
- 2 LAYERS 12.7mm 'TYPE X' GYPSUM WALL BOARD (45min)

NOTE:
-USE PRE-MANUFACTURED INSULATION STOPS AS PER DETAILS
-PRE-FINISHED PERFORATED METAL SOFFIT @ EXTERIOR OVERHANGS

R1a TYPICAL ROOF @ LOFT LEVEL W/ 45min FIRE RATED CEILING - N.B.C. 2015 D-2.3.12.

EXTR | VENTED ATTIC SPACE | INT

- FIBREGLASS REINFORCED ASPHALT SHINGLES
- ROOFING FELT
- 15.5mm PLYWOOD SHEATHING
- WOOD STRAPPING -REFER TO STRUCTURAL
- ENGINEERED WOOD TRUSSES W/ VENTED ATTIC SPACE -REFER TO STRUCTURAL
- AND 38X184mm WOOD FRAMING 600mm O.C. WHERE REQUIRED
- 140mm MINERAL WOOL INSULATION (R24)
- 184mm MINERAL WOOL INSULATION (R28)
- VAPOUR BARRIER
- 12.7mm RESILIENT CHANNELS @ 600mm O.C.
- 2 LAYERS 12.7mm 'TYPE X' GYPSUM WALL BOARD (45min)

NOTE:
-USE PRE-MANUFACTURED INSULATION STOPS AS PER DETAILS
-PROVIDE BLOCKING FOR DROPPED INFILL CEILING BETWEEN STRUCTURAL BEAMS AS REQUIRED @ LOFT FLOOR, WOOD FRAMING AND SHEATHING AS PER STRUC
-PRE-FINISHED PERFORATED METAL SOFFIT @ EXTERIOR OVERHANGS

R2 CATHEDRAL CEILING AT TYPICAL ROOF AND DORMER ROOF
W/ 45min FIRE RATED CEILING - N.B.C. 2015 D-2.3.12.

EXTR | INT

- FIBREGLASS REINFORCED ASPHALT SHINGLES
- ROOFING FELT
- 15.5mm PLYWOOD SHEATHING
- WOOD STRAPPING -REFER TO STRUCTURAL
- 38 x 235mm WOOD FRAMING
- 184mm MINERAL WOOL INSULATION (R28) W/ 50mm AIR SPACE
- 76mm POLY ISO INSULATION (R18) SCREW FASTENED TO FRAMING
- VAPOUR BARRIER
- 2 LAYERS 12.7mm 'TYPE X' GYPSUM WALL BOARD (45min)

NOTE:
USE PRE-MANUFACTURED INSULATION STOPS TO MAINTAIN AIR SPACE

R3 CANOPY ROOF - VAULTED SOFFIT

EXTR | EXTR

- FIBREGLASS REINFORCED ASPHALT SHINGLES
- ROOFING FELT
- 15.5mm PLYWOOD SHEATHING
- WOOD STRAPPING -REFER TO STRUCTURAL
- WOOD FRAMING -REFER TO STRUCTURAL
- WOOD PLANK SOFFIT, TONGUE & GROOVE CEDAR, FINISH TO MATCH TIMBERFRAME ENTRY STRUCTURES

R3a CANOPY ROOF - HORIZONTAL SOFFIT

EXTR | EXTR

- FIBREGLASS REINFORCED ASPHALT SHINGLES
- ROOFING FELT
- 15.5mm PLYWOOD SHEATHING
- WOOD STRAPPING -REFER TO STRUCTURAL
- ENGINEERED WOOD TRUSSES W/ VENTED ATTIC SPACE - REFER TO STRUCTURAL
- PRE-FINISHED PERFORATED METAL SOFFIT

FLOOR ASSEMBLIES

F1 BASEMENT FLOOR

- C.I.P. CONCRETE SLAB - REFER TO STRUCTURAL
- 15mil POLY VAPOUR BARRIER
- WASHED GRAVEL AND SUBBASE AS PER GEOTECHNICAL REPORT

F2 MAIN FLOOR ASSEMBLY - ABOVE MECHANICAL AREA
1hr FIRE RATED ASSEMBLY, N.B.C. 2015 D-2.3.4.-B, D-2.3.12.
STC 70, IIC 45 - N.B.C. 2015 F38d

- FINISH AS PER FINISH SCHEDULE
- 38mm CONCRETE TOPPING (MINIMUM 70 kg/m²)
- 15.5mm TONGUE & GROOVE PLYWOOD
- WOOD TRUSSES SPACED NOT MORE THAN 600mm O.C. - REFER TO STRUCTURAL
- FIBREGLASS ACOUSTICAL BATT INSULATION (R22)
- 12.7mm RESILIENT METAL CHANNELS AT 600mm O.C.
- 2 LAYERS OF 15.9mm 'TYPE X' GYPSUM WALL BOARD (60min)
- FINISH AS PER FINISH SCHEDULE

F2a MAIN FLOOR ASSEMBLY
45min FIRE RATED ASSEMBLY, N.B.C. 2015 D-2.3.4.-B, D-2.3.12.
STC 49, IIC 28 - N.B.C. 2015 F36a (sim.)

- FINISH AS PER FINISH SCHEDULE
- 38mm CONCRETE TOPPING (MINIMUM 70 kg/m²)
- 15.5mm TONGUE & GROOVE PLYWOOD
- WOOD TRUSSES AT 400mm O.C. - REFER TO STRUCTURAL
- 2 LAYERS OF 15.9mm 'TYPE X' GYPSUM WALL BOARD (60min)
- FINISH AS PER FINISH SCHEDULE

F2b MAIN FLOOR ASSEMBLY - REDUCED SPAN
45min FIRE RATED ASSEMBLY, N.B.C. 2015 D-2.3.4.-B, D-2.3.12.
STC 48, IIC 24 - N.B.C. 2015 F17a (sim.)

- FINISH AS PER FINISH SCHEDULE
- 38mm CONCRETE TOPPING (MINIMUM 70 kg/m²)
- 15.5mm TONGUE & GROOVE PLYWOOD
- 38x235mm WOOD JOISTS AT 400mm O.C. - REFER TO STRUCTURAL
- 2 LAYERS OF 15.9mm 'TYPE X' GYPSUM WALL BOARD (60min)

F3 LOFT FLOOR ASSEMBLY
45min FIRE RATED ASSEMBLY, N.B.C. 2015 D-2.3.4.-B, D-2.3.12.
STC 70, IIC 45 - N.B.C. 2015 F38d (sim.)

- FINISH AS PER FINISH SCHEDULE
- 38mm CONCRETE TOPPING (MINIMUM 70 kg/m²)
- 15.5mm TONGUE & GROOVE PLYWOOD
- WOOD TRUSSES SPACED NOT MORE THAN 600mm O.C. - REFER TO STRUCTURAL
- FIBREGLASS ACOUSTICAL BATT INSULATION (R22)
- 12.7mm RESILIENT METAL CHANNELS AT 600mm O.C.
- 2 LAYERS OF 15.9mm 'TYPE X' GYPSUM WALL BOARD (60min)
- FINISH AS PER FINISH SCHEDULE

F3a LOFT FLOOR ASSEMBLY - REDUCED SPAN
45min FIRE RATED ASSEMBLY, N.B.C. 2015 D-2.3.4.-B, D-2.3.12.
STC 57, IIC 30 - NBC 2015 F19c (sim.)

- FINISH AS PER FINISH SCHEDULE
- 38mm CONCRETE TOPPING (MINIMUM 70 kg/m²)
- 15.5mm TONGUE & GROOVE PLYWOOD
- 38x235 WOOD JOISTS SPACED NOT MORE THAN 600mm O.C. - REFER TO STRUCTURAL
- FIBREGLASS ACOUSTICAL BATT INSULATION (R22)
- 12.7mm RESILIENT CHANNELS @ 400 O.C.
- 2 LAYERS OF 15.9mm 'TYPE X' GYPSUM WALL BOARD (60min)
- AIR SPACE - REFER TO MECHANICAL & ELECTRICAL
- BULKHEAD CONSTRUCTION AS PER P5a ASSEMBLY

F4 TYPICAL STAIR LANDING FLOOR ASSEMBLY

- FINISH AS PER FINISH SCHEDULE
- 38mm CONCRETE TOPPING (MINIMUM 70 kg/m²)
- 15.5mm TONGUE & GROOVE PLYWOOD
- 38x235mm WOOD JOISTS SPACED NOT MORE THAN 600mm O.C. - REFER TO STRUCTURAL
- FRAMING AS REQUIRED
- 12.7mm GYPSUM WALL BOARD

F4a TYPICAL STAIR MID-LANDING FLOOR ASSEMBLY

- FINISH AS PER FINISH SCHEDULE
- 15.5mm TONGUE & GROOVE PLYWOOD
- 38x235mm WOOD JOISTS SPACED NOT MORE THAN 600mm O.C. - REFER TO STRUCTURAL
- FRAMING AS REQUIRED
- 12.7mm GYPSUM WALL BOARD

GENERAL NOTE: REFER TO INTERIOR FLOOR FINISH PLANS AND FINISH LEGEND WHEN NO FINISH SCHEDULE IS PROVIDED

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4	2016-09-02	ISSUED FOR 99% REVIEW		
3	2016-06-14	ISSUED FOR 66% REVIEW		
2	2016-05-09	ISSUED FOR 33% REVIEW		
1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil

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Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

BUILDING ASSEMBLIES

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP	2016-12-08
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
LS/FVR	LS/FVR	1 : 20

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Prog. Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A011

Drawing Reference No./No. de reference du dessin

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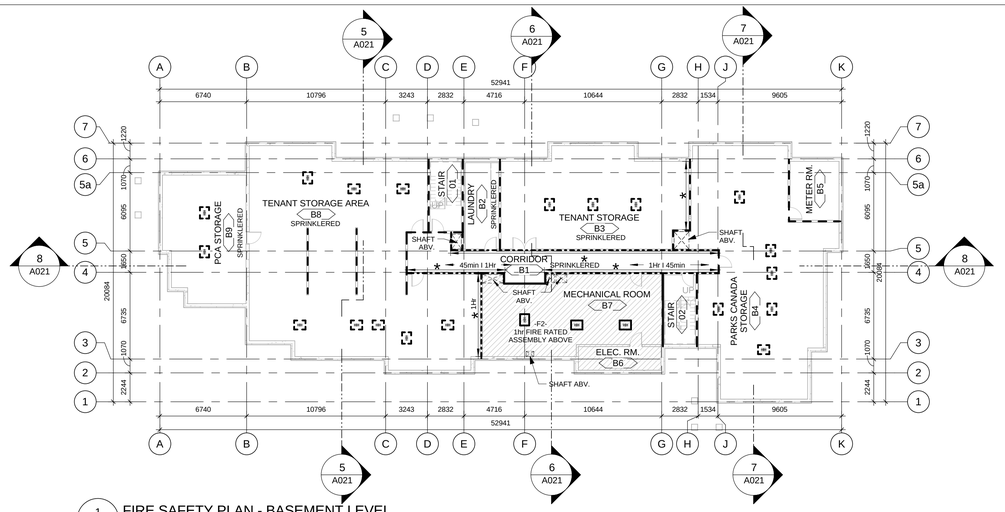
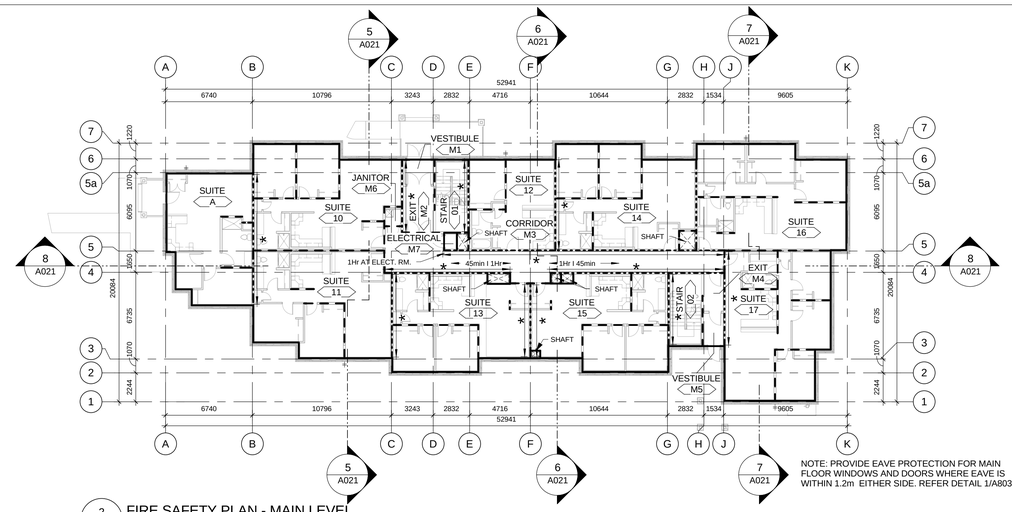
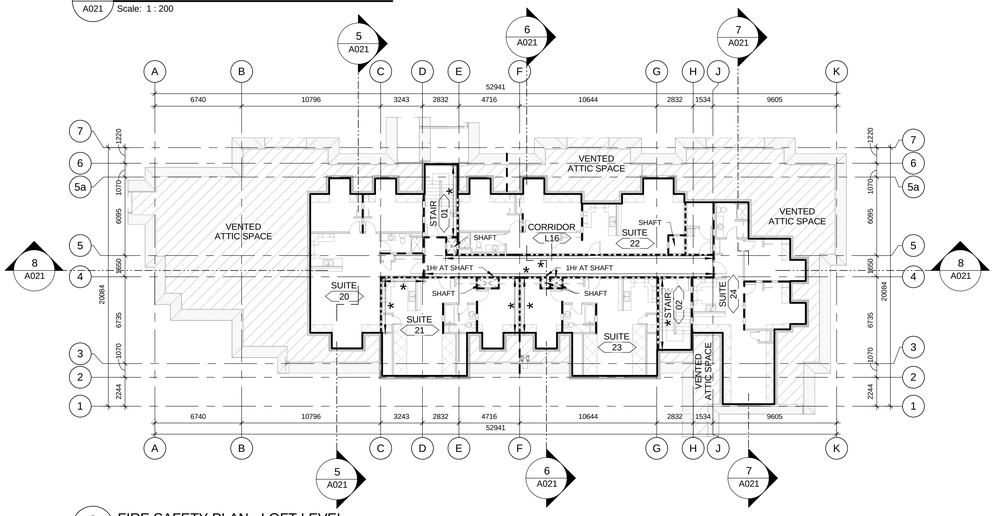


1 A021 FIRE SAFETY PLAN - BASEMENT LEVEL
Scale: 1 : 200



NOTE: PROVIDE EAVE PROTECTION FOR MAIN FLOOR WINDOWS AND DOORS WHERE EAVE IS WITHIN 1.2m EITHER SIDE. REFER DETAIL 1/A803

2 A021 FIRE SAFETY PLAN - MAIN LEVEL
Scale: 1 : 200



3 A021 FIRE SAFETY PLAN - LOFT LEVEL
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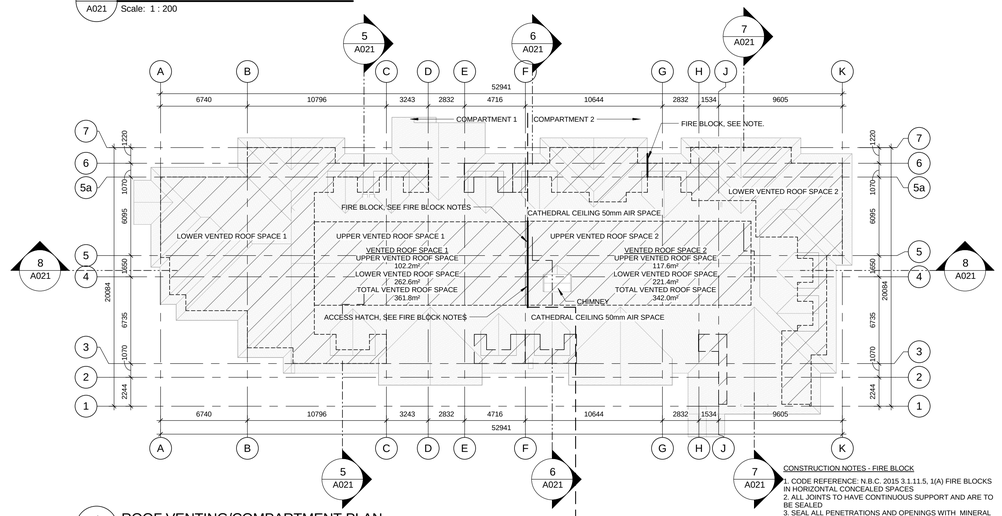
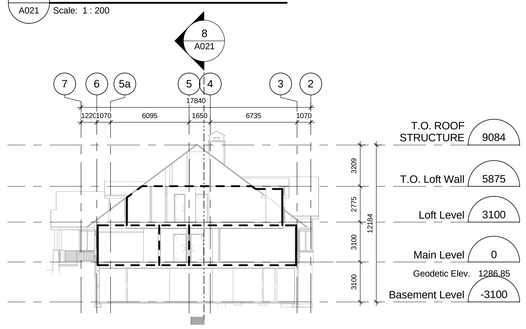
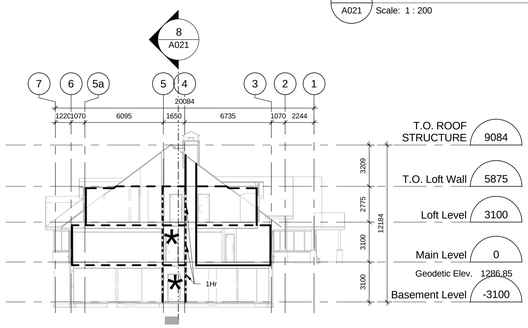


CONSTRUCTION NOTES - FIRE BLOCK
1. CODE REFERENCE: N.B.C. 2015 3.1.11.5, 1(A) FIRE BLOCKS IN HORIZONTAL CONCEALED SPACES
2. ALL JOINTS TO HAVE CONTINUOUS SUPPORT AND ARE TO BE SEALED
3. SEAL ALL PENETRATIONS AND OPENINGS WITH MINERAL WOOL
4. PROVIDE 1 LAYER OF GYPSUM TO ONE SIDE OF WOOD TRUSS, EXTEND TO ROOF SHEATHING, CEILING AND/OR SOFFIT AND FASCIA BOARD. PROVIDE ADDITIONAL BLOCKING/BACKING WHERE REQUIRED.
5. ACCESS HATCH, MINIMUM 550x900mm. PROVIDE CONTINUOUS SUPPORT FOR EDGES WITH GASKET SEALS.

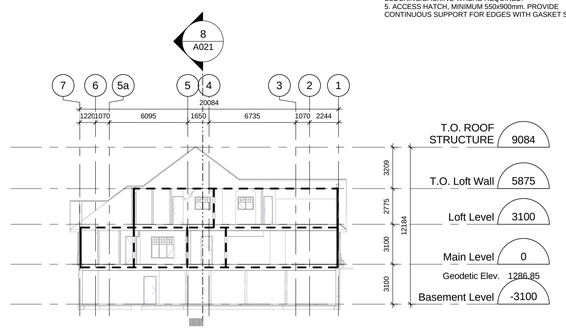
4 A021 ROOF VENTING/COMPARTMENT PLAN
Scale: 1 : 200



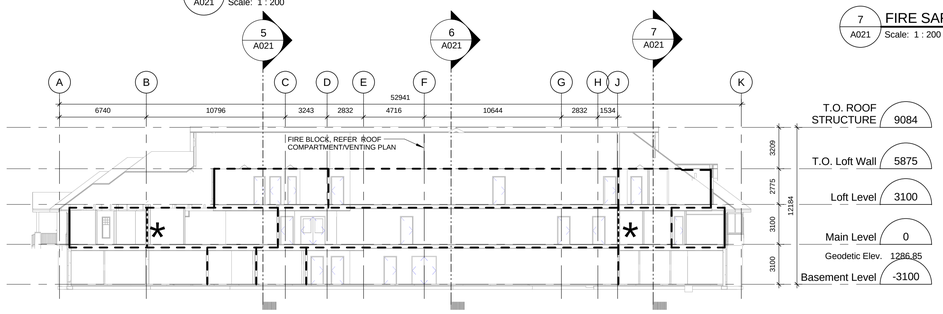
5 A021 FIRE SAFETY SECTION 01
Scale: 1 : 200



6 A021 FIRE SAFETY SECTION 02
Scale: 1 : 200



7 A021 FIRE SAFETY SECTION 03
Scale: 1 : 200



8 A021 FIRE SAFETY SECTION 04
Scale: 1 : 200

FIRE SEPARATION LEGEND

- 45 MINUTE RATED FIRE RESISTANCE RATING
- 45 MINUTE RATED SHEAR WALL * DENOTES SIDE OF WALL TO APPLY STRUCTURAL MEMBRANE
  NOTE: SHEAR WALLS INDICATED BY "1Hr" TO BE 1 HOUR RATED
- 1 HOUR RATED FIRE RESISTANCE RATING

NOTE:
EXTERIOR WALLS EW2, EW3 AND ATTIC LOFT WALLS EW5, EW5a TO HAVE (ON INTERIOR SIDE) ONE LAYER 15.9mm TYPE X GYPSUM WALL BOARD
FOR SHEAR WALL - STRUCTURAL MEMBRANE EXTENT -REFER TO STRUCTURAL DRAWINGS

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Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
FIRE SEPARATION PLANS & FIRE SEPARATION SECTIONS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	1 : 200

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Prok Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-blen	Sheet No./No. de la feuille
39000	FII # 945	A021

Drawing Reference No./No. de reference du dessin

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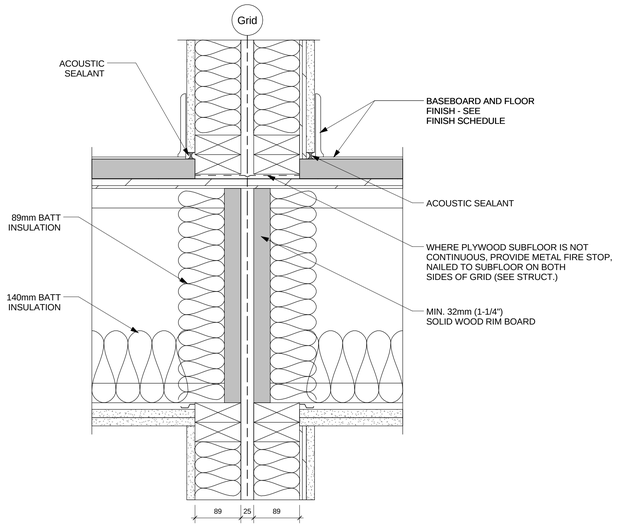
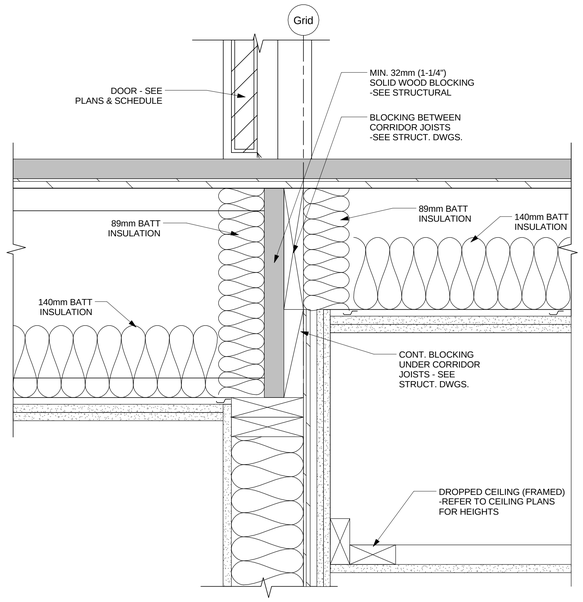
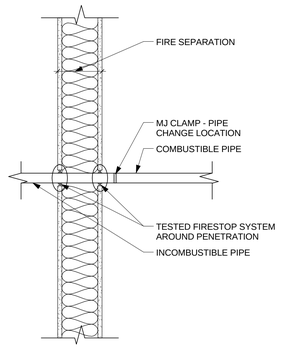


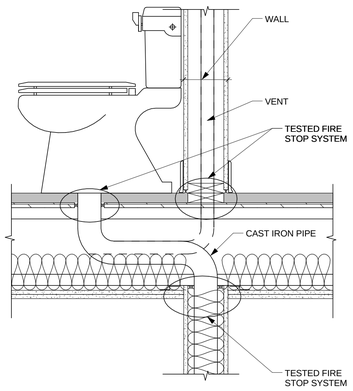
TYPICAL PARTY WALL DETAIL



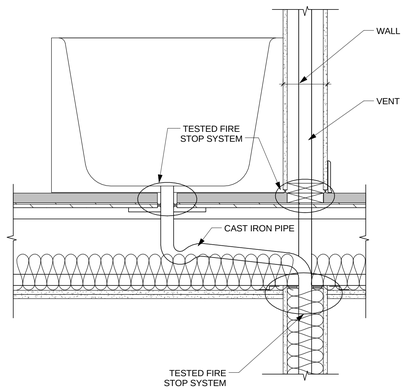
TYPICAL SUITE CORRIDOR DETAIL



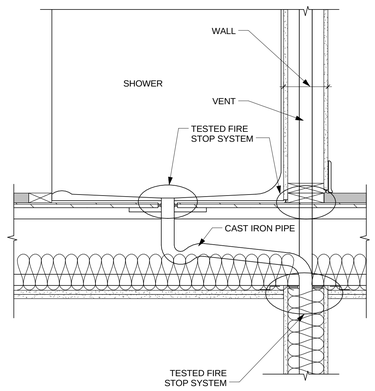
TYPICAL FIRE STOPPING SERVICE PENETRATION DETAIL 01



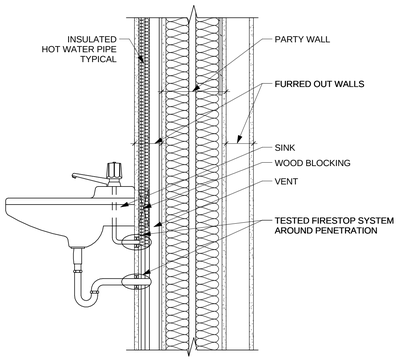
TYPICAL FIRE STOPPING SERVICE PENETRATION DETAIL 02



TYPICAL FIRE STOPPING SERVICE PENETRATION DETAIL 03

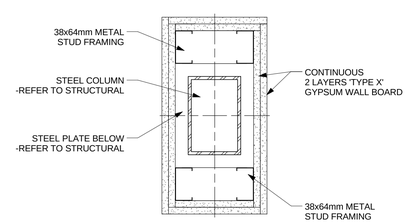


TYPICAL FIRE STOPPING SERVICE PENETRATION DETAIL 04

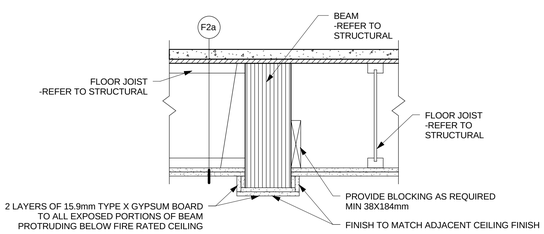


TYPICAL FIRE STOPPING SERVICE PENETRATION DETAIL 05

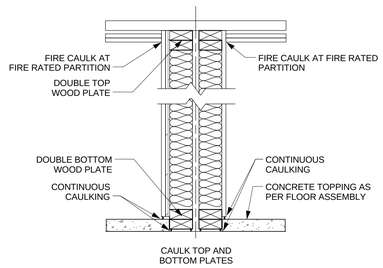
NOTE: FIRE RATED STEEL COLUMNS - N.B.C. 2015 D-2.6.1.-F, D-2.6.4, D-2.6.5
- FOR 1hr FIRE RATING USE 2 LAYERS 15.9mm 'TYPE X' GYPSUM WALL BOARD
- FOR 45min FIRE RATING USE 2 LAYERS 12.7mm 'TYPE X' GYPSUM WALL BOARD
- FOR LOCATION REFER TO FIRE SEPARATION PLANS ON SHEET A021
- FOR METAL STUD FRAMING USE MULTI-SLOT TOP TRACK FOR EXPANSION CONTRACTION



TYPICAL FIRE RATED STEEL COLUMN DETAIL



TYPICAL FIRE RATED PROTRUDING BEAM DETAIL



NOTE:
-REFER TO SHEET A021 FIRE SEPARATION PLANS & FIRE SEPARATION SECTIONS FOR LOCATION OF FIRE RATED WALLS AND SHEAR WALLS W/ * DENOTES SIDE OF WALL TO APPLY STRUCTURAL MEMBRANE

NOTE:
PROVIDE SHEAR WALL BRACING AS PER STRUCTURAL DRAWINGS

TYPICAL AT TOP/BOTTOM PLATE OF WALL ASSEMBLY DETAIL W/ ADDITION INFORMATION AS SHOWN

2 / A022 SHEAR WALL AND CAULKING
Scale: 1 : 10

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Staff Housing Phase 2 Waterton Lakes National Park

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FIRE SEPARATION TYPICAL DETAILS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Prog. Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

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39000	FII # 945	A022

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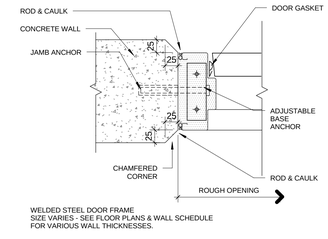
Sheet Size: ISO B1 - 707x1000mm

Door and Frame Schedule - Common

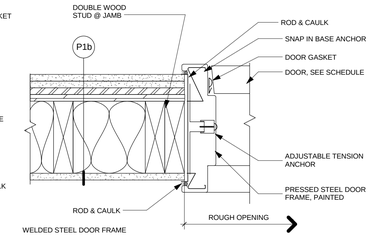
Door #	Location	Type	Door: Material	Door: Finish	Door: Core	Door: Width	Door: Height	Door: Thickness	Glazing: Glazing	Glazing: Thickness	Frame: Type	Frame: Material	Frame: Finish	Frame: Core	Fire Rating (minutes)	Hardware Group	Comments
Basement Level																	
B1	LAUNDRY	C	HM	PT	-	915	2135	45	WG	6mm	4a	PSF	PT	-	20 min	9	
B2	PCA STORAGE	A	HM	PT	-	915	2135	45	-		1	PSF	PT	-	NA	8	
B3	TENANT STORAGE	H	HM	PT	-	915	2135	45	-		4a	PSF	PT	-	20 min	8	
B4	ELEC. RM.	A	HM	PT	-	915	2135	45	-		4	PSF	PT	-	NA	8	
B5	MECHANICAL ROOM	A	HM	PT	-	915	2135	45	-		4a	PSF	PT	-	45min	8	
B6	METER RM.	A	HM	PT	-	915	2135	45	-		4	PSF	PT	-	20 min	8	
B6a	TENANT STORAGE AREA	A	HM	PT	-	915	2135	45	-		4	PSF	PT	-	20 min	8	
B6b	TENANT STORAGE AREA	A	HM	PT	-	915	2135	45	-		4a	PSF	PT	-	20 min	8	
B6c	PARKS CANADA STORAGE	A	HM	PT	-	915	2135	45	-		4	PSF	PT	-	20 min	8	
BS1	STAIR	C	HM	PT	-	915	2135	45	WG	6mm	1	PSF	PT	-	20 min	5	
BS2	STAIR	C	HM	PT	-	915	2135	45	WG	6mm	1	PSF	PT	-	20 min	5	
Main Level																	
M1a	FRONT ENTRANCE	F	FG	PREFIN	INS	915	2135	45	D-TVG	6+6mm	5	ALC	PREFIN	WD	NA	2	
M1b	VESTIBULE	D	FG	PREFIN	-	915	2135	45	S-TVG	6mm	3	WDF	PT	-	NA	4	
M2	EXIT	D	FG	PREFIN	-	915	2135	45	WG	6mm	2	PSF	PT	-	20 min	6	
M4	EXIT	C	HM	PT	-	915	2135	45	WG	6mm	4	PSF	PT	-	20min	5	
M5a	REAR ENTRANCE	G	FG	PREFIN	INS	915	2135	45	D-TVG	6+6mm	5	ALC	PREFIN	WD	NA	1	
M5b	VESTIBULE	C	FG	PREFIN	-	915	2135	45	S-TVG	6mm	3	WDF	PT	-	NA	3	
M6	JANITOR	A	HM	PT	-	915	2135	45	-		4	PSF	PT	-	20 min	8	
M7	ELECTRICAL	A	HM	PT	-	915	2135	45	-		2	PSF	PT	-	45 min	8	
Loft Level																	
L1	JANITOR	A	HM	PT	-	915	2135	45	-		2	PSF	PT	-	20 min	8	
L2	STORAGE	A	HM	PT	-	915	2135	45	-		4	PSF	PT	-	NA	8	
LS1	STAIR	C	HM	PT	-	915	2135	45	WG	6mm	1	PSF	PT	-	20 min	5	
LS2	STAIR	C	HM	PT	-	915	2135	45	WG	6mm	1	PSF	PT	-	20 min	5	

DOOR & FRAME SCHEDULE - SUITES

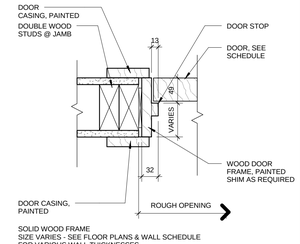
Door #	Location	Type	Door: Material	Door: Finish	Door: Core	Door: Width	Door: Height	Door: Thickness	Glazing: Glazing	Glazing: Thickness	Frame: Type	Frame: Material	Frame: Finish	Frame: Core	Fire Rating (minutes)	Hardware Group	Comments
D01	SUITE	E	SCW	PT	PBC	915	2135	45	-		2	PSF	PT	-	20 min	10	
D02	BEDROOM	E	HCW	PT	-	813	2135	45	-		3	WDF	PT	-	NA	11	
D02a	BEDROOM	E	HCW	PT	-	915	2135	45	-		3	WDF	PT	-	NA	11	
D03	BATHROOM	E	HCW	PT	-	762	2135	45	-		3	WDF	PT	-	NA	11	
D03a	BATHROOM	E	HCW	PT	-	915	2135	45	-		3	WDF	PT	-	NA	11	
D04	BATHROOM	E	HCW	PT	-		2135	45	-		3	WDF	PT	-	NA	11	
D05	CLOSET	E	HCW	PT	-	610	2135	45	-		3	WDF	PT	-	NA	12	
D05a	LAUNDRY	E	HCW	PT	-	915	2135	45	-		3	WDF	PT	-	NA	12	
D06	CLOSET	B	HCW	PT	-	610	2135	45			3	WDF	PT	-	NA	12	



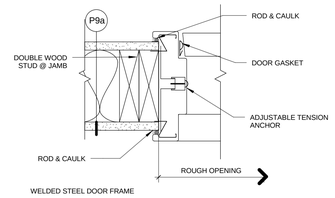
DOOR FRAME TYPE 1



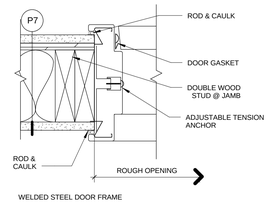
Door Frame Type 2



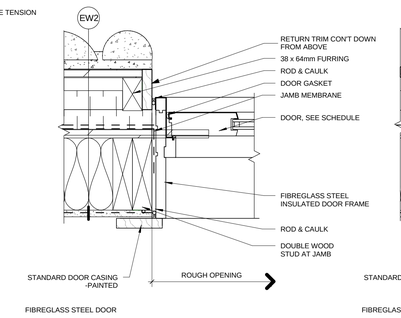
Door Frame Type 3



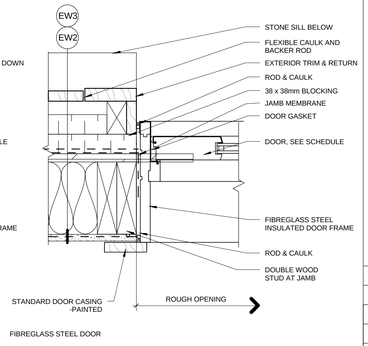
Door Frame Type 4



Door Frame Type 4a

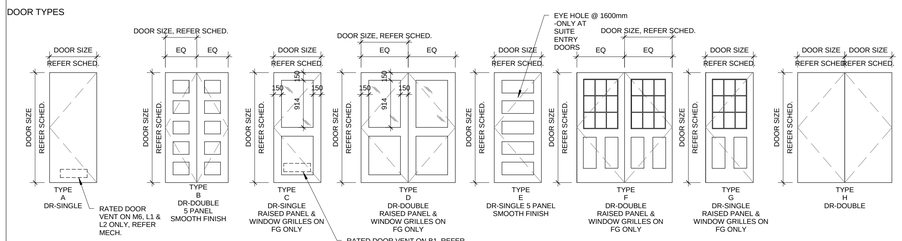


Door Frame Type 5



Door Frame Type 5 - CUT ABOVE STONE

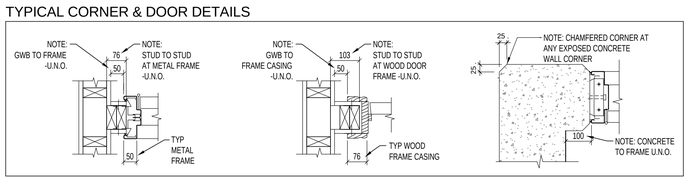
DOOR TYPES

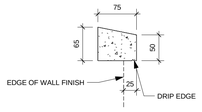


ABBREVIATION LEGEND

WG	-WIRED GLASS
S-TVG	-SINGLE TEMPERED VISION GLASS
D-TVG	-DOUBLE TEMPERED VISION GLASS
HM	-HOLLOW METAL
PSF	-PRESSED STEEL FRAME
WDF	-WOODFRAME
HCW	-HOLLOW CORE WOOD
SCW	-SOLID CORE WOOD
FG	-FIBREGLASS
ALC	-ALUMINUM CLAD
PBC	-PARTICLE BOARD CORE
INS.	-INSULATION
PREFIN.	-PREFINISHED
PT	-PAINTED
S. SPEC	-SEE SPECIFICATIONS
WS	-WEATHER STRIPPING
HO	-HANDICAP OPERATOR
WD	-WOOD

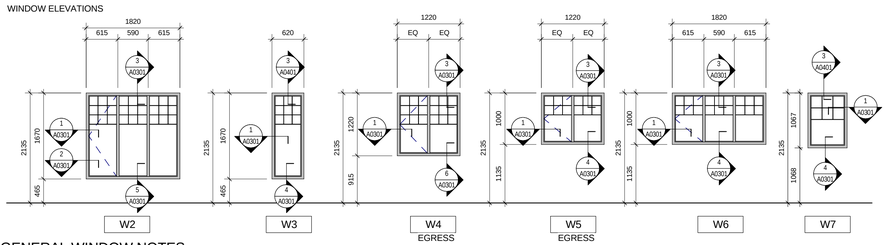
TYPICAL CORNER & DOOR DETAILS





7 A031 Typical Stone Sill Section
Scale: 1 : 5

WINDOW ELEVATIONS



GENERAL WINDOW NOTES

GENERAL CONTRACTOR TO COORDINATE THE INSTALLATION OF ALL WINDOWS WITH ELEVATIONS AND PERTINENT EXTERIOR FINISHES.

SEE WALL ASSEMBLES FOR WALL CONSTRUCTION. NOTIFY PRIME CONSULTANT OF ANY DISCREPANCIES.

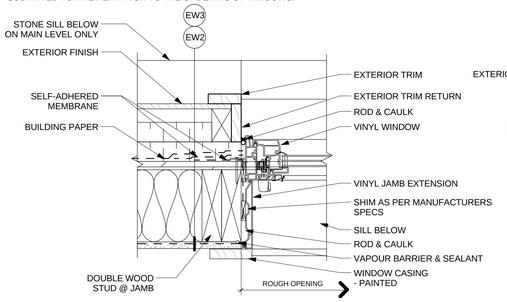
WINDOW DETAILS TO BE READ IN CONJUNCTION WITH EXTERIOR ELEVATIONS AND WINDOW TYPES. CONFIRM LOCATIONS AND EXTENTS OF WINDOWS RELATIVE TO ADJACENT EXTERIOR FINISHES. NOTIFY THE PRIME CONSULTANT OF ANY DISCREPANCIES.

PROVIDE ON SITE INSTTALLATION MOCKUP OF ALL TYPICAL WINDOW CONDITIONS FOR REVIEW BY THE PRIME CONSULTANT PRIOR TO INSTALLATION. ANY ALTERNATES TO BE SUBMITTED FOR REVIEW PRIOR TO THE ORDERING OF WINDOWS.

ALL SUBCONTRACTORS TO ENSURE GIVEN EXTERIOR SUBSTRATE SURFACES ARE PREPARED TO RECEIVE WINDOWS AND ASSOCIATED MEMBRANES, BUILDING PAPER, OR SILL DRAINAGE PAN SYSTEM - SEE INSTALLATION DETAILS.

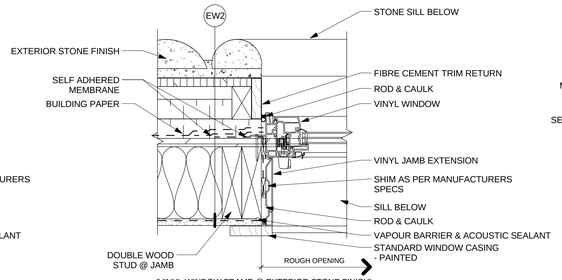
ENSURE ROUGH OPENINGS WITH ASSOCIATED WRAPPINGS SILL DRAINAGE PAN SYSTEM AND WINDOWS ARE PROTECTED DURING AND AFTER COMPLETION OF INSTALLATION.

ARCHITECTURAL WINDOW MUNTEN BARS ARE TO BE INSIDE GLASS.



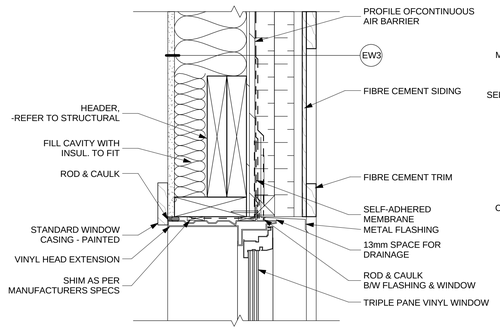
(VINYL WINDOW FRAME @ EXTERIOR CEMENT BOARD FINISH)

1 A031 Window Frame Jamb Detail Type 1
Scale: 1 : 5



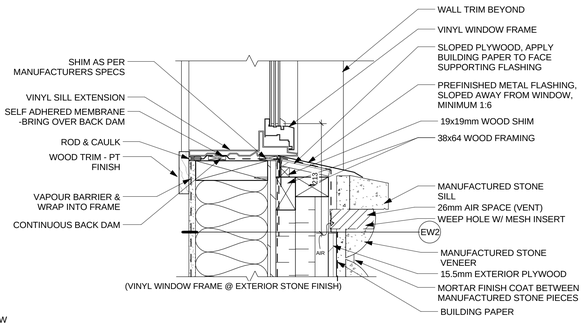
(VINYL WINDOW FRAME @ EXTERIOR STONE FINISH)

2 A031 Window Frame Jamb Detail Type 2
Scale: 1 : 5



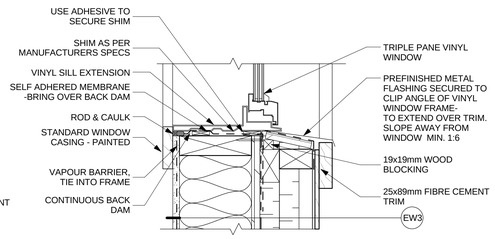
(VINYL WINDOW FRAME @ EXTERIOR CEMENT BOARD FINISH)

3 A031 Window Frame Head Detail Type 1
Scale: 1 : 5



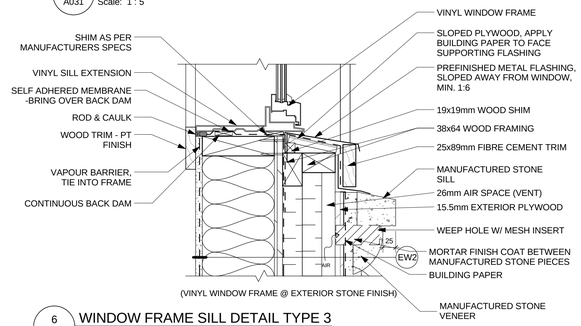
(VINYL WINDOW FRAME @ EXTERIOR STONE FINISH)

5 A031 WINDOW FAME SILL DETAIL 3
Scale: 1 : 5



(VINYL WINDOW FRAME @ EXTERIOR CEMENT BOARD FINISH)

4 A031 Window Frame Sill Detail Type 1
Scale: 1 : 5



(VINYL WINDOW FRAME @ EXTERIOR STONE FINISH)

6 A031 WINDOW FRAME SILL DETAIL TYPE 3
Scale: 1 : 5

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4	2016-09-02	ISSUED FOR 99% REVIEW		
3	2016-06-14	ISSUED FOR 66% REVIEW		
2	2016-05-09	ISSUED FOR 33% REVIEW		
1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

Revision / Revision

A detail number numero de detail
B source drawing no. de dessin no.
C detail on drawing no. detail sur dessin no.

Consultant's Name
Nom de l'expert-conseil

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Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch
Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client
Parks Canada Agency
L'Agence Parcs Canada
Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
WINDOW TYPES W/ WINDOW FRAME TYPES & DOOR TYPES W/ DOOR FRAME TYPES & DOOR SCHEDULE

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client
Approved by/Approuve par
Prok Responsible Officer/Agent Responsable
PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A031

Drawing Reference No./No. de reference du dessin

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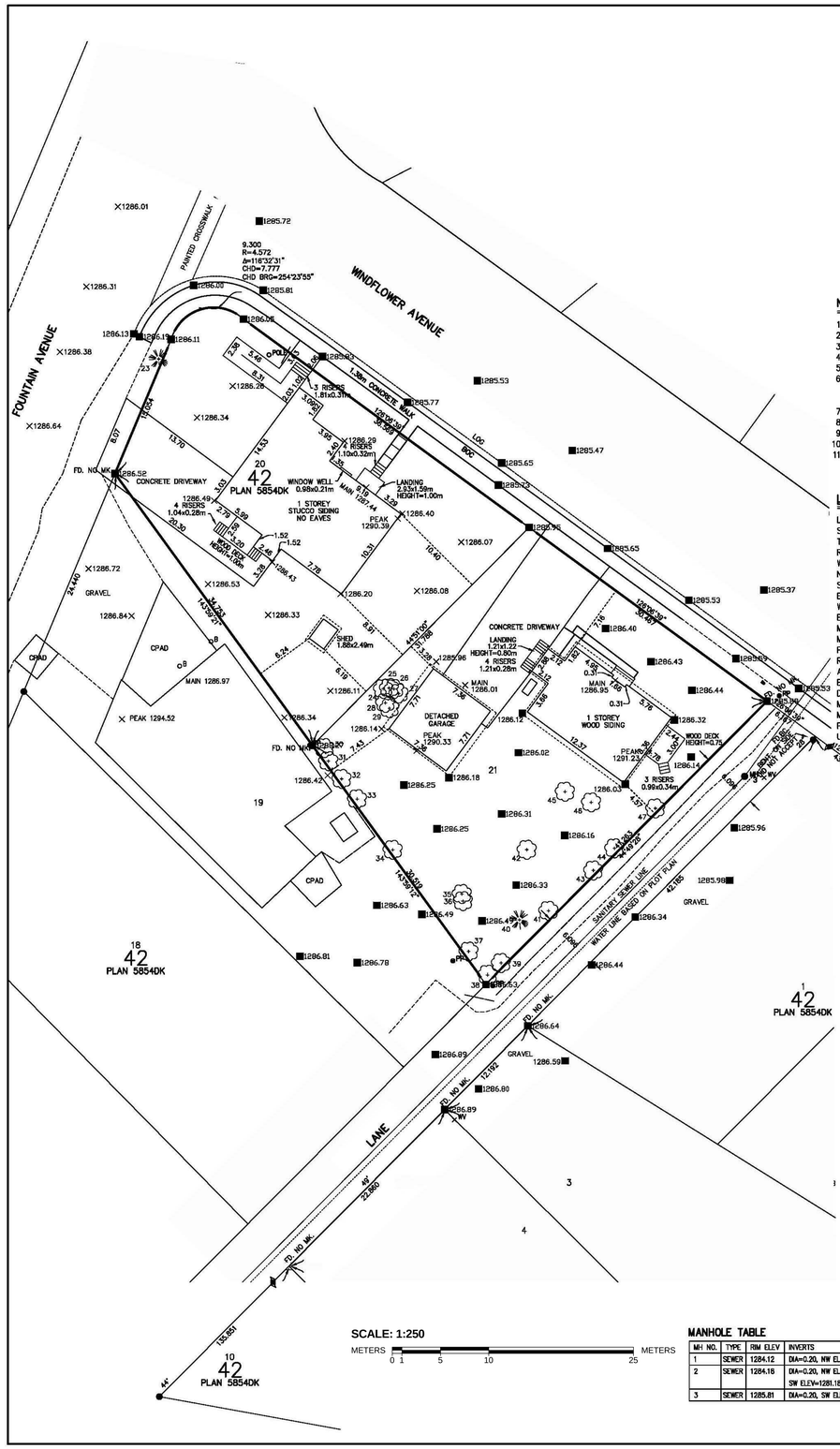

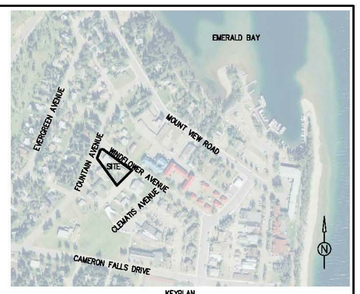

KEYPLAN
SCALE 1:5000

NOTES:

1. Statutory Iron Survey Post found shown thus: ..... ●
2. Statutory Brass Cap found shown thus: ..... ●
3. Unless stated otherwise, all FD. NO MK. locations are re-established by proportion as per Plan 5854DK.
4. All distances are in metres and decimals thereof.
5. All elevations are metres and derived from WC16 (Grid Coordinates: N:5437373.878, E:287398.586, Z:1285.269).
6. Bearings are referred to the Alberta Survey Control Grid as defined by a line joining markers WC16 and WA110 (NAD83 Original, UTM projection, reference meridian –111°, combined factor 0.999953). Control tie measurements made using GPS methods.
7. Area of subject land shown thus: .....
8. Spot Elevations shown thus: ..... ■1285.37
9. Survey conducted between the dates of September 28 to October 1, 2015.
10. Airphoto dated 2009.
11. Any subsequent users of this plan or digital file connot rely on the information without expressed consent and authority of IBI Geomatics Inc., Rares G. Caraba, A.L.S. © 2015.

LEGEND:

List of typical abbreviations shown thus:

SEC.	Section	BOC	Back of Curb
TWP.	Township	BOW	Back of Walk
RGE.	Range	C/L.	Centreline
W.4M.	West of the 4th Meridian	CONC	Concrete
N.	North	ELEC	Electrical
S.	South	EOA	Edge of Asphalt
E.	East	EOG	Edge of Gravel
W.	West	EOW	Edge of Water
ER	Environmental Reserve	FOC	Face of Curb
MR	Municipal Reserve	FOW	Front of Walk
MSR	Municipal School Reserve	LOG	Lip of Gutter
PUL	Public Utility Lot	O/H	Overhead
R/W	Right of Way	PED	Pedestal
AR/W	Access Right of Way	TOB	Top of Bank
BSR/W	Back Sloping Right of Way	TOC	Top of Curb
DR/W	Overland Drainage Right of Way	TOS	Toe of Slope
MR/W	Maintenance Right of Way	TRANS	Transformer
MAR/W	Maintenance Access Right of Way	U/G	Underground
PR/W	Pipeline Right of Way	NAD83	North American Datum 1983
UR/W	Utility Right of Way	3TM	3 Degree Transverse Mercator
		GPS	Global Positioning System
		ASCM	Alberta Survey Control Marker
		CP	Control Point
		BR	Bollard
			Building
			Coniferous Tree
			Deciduous Tree
			Fire Hydrant
		IBX	Irrigation Box
		LS	Light Standard
		MH	Manhole
		PED	Utility Pedestal
		Pole	Pole
			Pole Anchor
		PP	Powerpole
			Shrubs
			Sign
		WV	Water Valve
			Wooden Fence

TREE TABLE

TREE NO.	TYPE	DIA	DRIP	HEIGHT	ELEVATION AT BASE
23	CON	0.90	8.0	25	1286.22
24	DEC	0.20	4.0	20	1286.11
25	DEC	0.30	4.0	20	1286.16
26	DEC	0.15	4.0	20	1286.11
27	DEC	0.25	4.0	20	1286.23
28	DEC	0.65	4.0	20	1286.20
29	DEC	0.65	4.0	20	1286.22
30	DEC	0.75	6.0	20	1286.41
31	DEC	0.25	6.0	20	1286.38
32	DEC	0.35	6.0	20	1286.43
33	DEC	0.35	6.0	20	1286.60
34	DEC	0.30	6.0	10	1286.50
35	DEC	0.25	3.0	8	1286.50
36	DEC	0.25	3.0	8	1286.46
37	DEC	0.20	4.0	8	1286.65
38	DEC	0.20	4.0	8	1286.66
39	DEC	0.70	4.0	8	1286.68
40	CON	0.20	1.0	8	1288.45
41	DEC	0.25	2.5	8	1286.50
42	DEC	0.25	3.5	9	1286.20
43	DEC	0.30	4.0	10	1286.40
44	DEC	0.30	4.0	10	1286.37
45	DEC	0.20	3.0	10	1286.11
46	DEC	0.20	2.0	9	1286.11
47	DEC	0.90	4.0	9	1286.14

SCALE: 1:250

METERS 0 1 5 10 25 METERS

MANHOLE TABLE

MH NO.	TYPE	RIM ELEV	INVERTS
1	SEWER	1284.12	DIA=0.20, NW ELEV=1281.32, SE ELEV=1284.29
2	SEWER	1284.16	DIA=0.20, NW ELEV=1281.14, SE ELEV=1284.13 SW ELEV=1281.18
3	SEWER	1285.81	DIA=0.20, SW ELEV=1283.41, SE ELEV=1283.36

ASSOCIATION OF CANADA LAND SURVEYORS
ASSOCIATION DES ARPENTEURS DES TERRES DU CANADA
ACLS-AATC
Rares Caraba
Comm. No. 1796

TOPOGRAPHIC SURVEY

102 WIND FLOWER AVENUE,
104 WIND FLOWER AVENUE
WATERTON PARK, ALBERTA

LOTS 20 AND 21,
BLOCK 42, PLAN 5854DK
SEC. 23, TWP. 1, RGE. 30, W.4M.

IBI GEOMATICS INC.
400 – Kensington House,
1167 Kensington Cres NW
Calgary AB T2N 1X7 Canada
tel 403 270 5600 fax 403 270 5610

SCALE: 1:250	DRAWN: BM	FILE: 39000A900.dwg PS: TOPO (1)	
DATE: November 18, 2015	CHECKED: MH	DRAWING NUMBER: 39000–900–03	
COMBINED FACTOR: 0.999953	APPROVED: RC		

TOPOGRAPHIC SURVEY FOR REFERENCE ONLY

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Sheet Size: ISO B1 - 707x1000mm

Key Plan

Waterton Key Plan

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Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

SURVEY SITE PLAN - LOTS 20 & 21

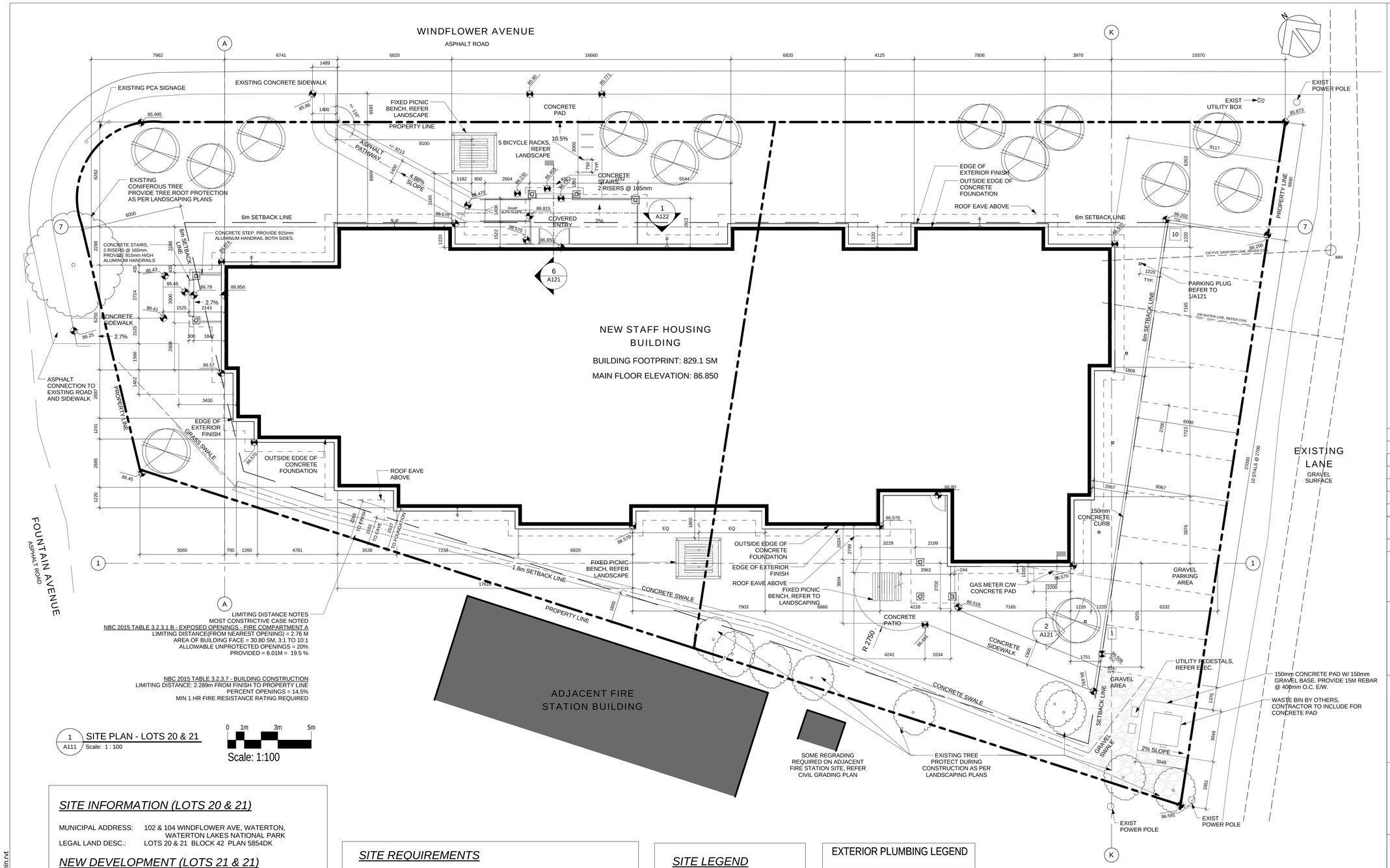
Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
LS/FVR	LS/FVR	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A101

Drawing Reference No./No. de reference du dessin



1 A111 SITE PLAN - LOTS 20 & 21
Scale: 1 : 100

0 1m 3m 5m
Scale: 1:100

SITE INFORMATION (LOTS 20 & 21)

MUNICIPAL ADDRESS: 102 & 104 WINDFLOWER AVE, WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42 PLAN 5854DK

NEW DEVELOPMENT (LOTS 21 & 21)

SITE AREA:	2082.842 m²	(22,419.5 ft²)
BUILDING FOOTPRINT	829.1 m²	(8,924.4 ft²)
SITE COVERAGE	39.8%	
PROVIDED LANDSCAPING AREA	51.0%	
PROVIDED DENSITY (FAR)	0.86	
PARKING STALLS PROVIDED	10 STALLS (REMAINING STALLS PROVIDED ON LOT 39 IN PHASE 1)	

FLOOR AREA SCHEDULE

FLOOR AREAS AS DEFINED BY COMMUNITY PLAN):
(EXITS, VERTICAL CONNECTIONS & MECHANICAL & ELECTRICAL SPACES ARE EXCLUDED)

BASEMENT	673.8 m²	(7,252.7 ft²)
MAIN FLOOR	761.1 m²	(8,192.4 ft²)
LOFT FLOOR	357.4 m²	(3,847.0 ft²)
TOTAL AREA	1792.3m²	(19,292.2 ft²)

*LOFT FLOOR AREA IS 47.0% OF THE MAIN FLOOR AREA

GROSS CONSTRUCTED FLOOR AREAS(OUTSIDE OF WALL):

BASEMENT	829.1 m²	(8,924.4 ft²)
MAIN FLOOR	860.2 m²	(9,259.1 ft²)
LOFT FLOOR	494.2 m²	(5,319.5 ft²)
TOTAL GROSS AREA	2,183.5 m²	(23,503.0 ft²)

SITE REQUIREMENTS

LAND USE ZONING	INSTITUTIONAL
MAXIMUM SITE COVERAGE	40%
MINIMUM LANDSCAPE AREA	20% (NOT INCLUDING PARKING)
MAXIMUM DENSITY (FAR)	1.4
MAXIMUM HEIGHT	10 m
MAXIMUM EAVELINE HEIGHT (STREET)	3.5m
MAXIMUM EAVELINE HEIGHT (BACK LANE)	7 m
PARKING REQUIREMENT	2 STALLS / 3 BEDS = 18 STALLS REQUIRED (SOME STALLS LOCATED ON LOT 39)

UNIT COUNT

SUITE A: 1 bedroom

Main Building: 25 bedrooms

Main (17 beds)
2 - 3 Bedroom Units
5 - 2 Bedroom Units
1 - 1 Bedroom Unit

Loft (8 beds)
3 - 2 Bedroom Units
2 - 1 Bedroom Units

SITE LEGEND

0.000m NEW GRADE
0.000m EXISTING GRADE
NEW TREE
EXISTING TREE

EXTERIOR PLUMBING LEGEND

SC FIRE DEPARTMENT SIAMESE CONNECTION -REFER TO DETAIL 6/A801
HB HOSE BIBB -REFER TO MECHANICAL

NOTE: PROVIDE EAVE PROTECTION FOR MAIN FLOOR WINDOWS AND DOORS WHERE EAVE IS WITHIN 1.2m EITHER SIDE OF OPENING. REFER DETAIL 1/A803

SITE GENERAL NOTES

1. THE CONTRACTOR SHALL SITE VERIFY THE SURVEY INFORMATION PRIOR TO PROCEEDING WITH THE WORK. FAILURE TO REPORT ANY DISCREPANCIES SHALL CONSTITUTE ACCEPTANCE OF THE SITE CONDITIONS.

2. ALL DIMENSIONS, INCLUDING EXISTING DIMENSIONS AND SETTING-OUT GEOMETRIES, SHALL BE SITE VERIFIED BY THE CONTRACTOR PRIOR TO PROCEEDING WITH THE WORK.

3. UNLESS NOTED OTHERWISE, MAKE GOOD ALL AREAS DISTURBED BY EXCAVATION AND/OR INSTALLATION OF CIVIL, MECHANICAL AND ELECTRICAL SERVICES. REFER TO CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS.

REFER TO A141 FOR DEMOLITION SITE PLAN

Key Plan

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5	2016-12-08	ISSUED FOR BUILDING PERMIT		
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3	2016-06-14	ISSUED FOR 66% REVIEW		
2	2016-05-09	ISSUED FOR 33% REVIEW		
1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

Revision / Revision

A detail number numero de detail
B source drawing no. de dessin no.
C detail on drawing no. detail sur dessin no.

Consultant's Name
Nom de l'expert-conseil

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L'Agence Parcs Canada
Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
SITE PLAN - NEW CONSTRUCTION LOTS 20 & 21

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client
Approved by/Approuve par
Park Responsible Officer/Agent Responsable
PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A111

Drawing Reference No./No. de reference du dessin

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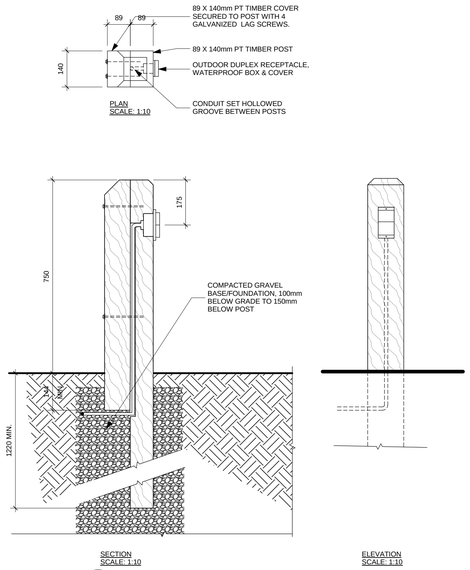
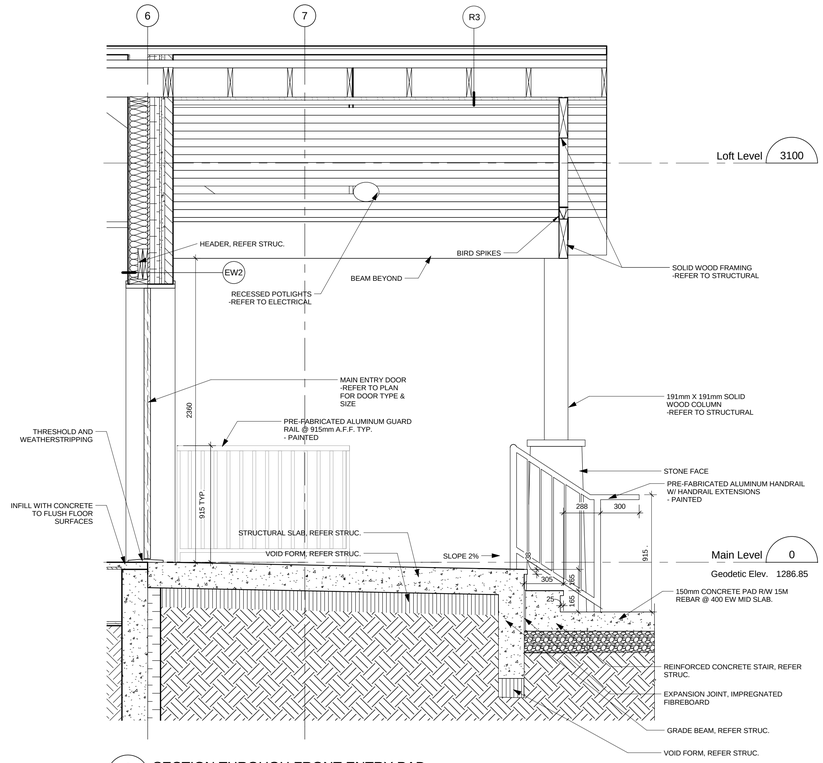
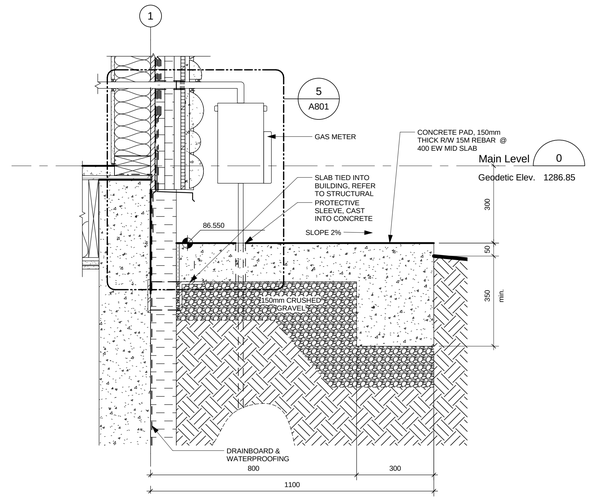


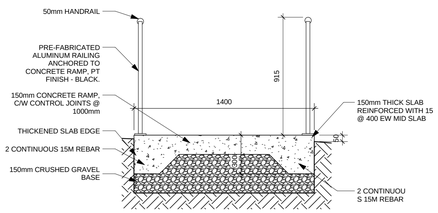
1 / A121 PARKING LOT ELECTRICAL DETAIL
Scale: 1 : 10



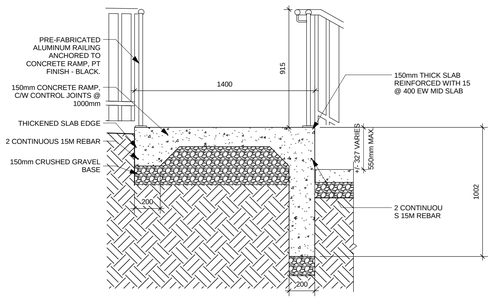
6 / A121 SECTION THROUGH FRONT ENTRY PAD
Scale: 1 : 20



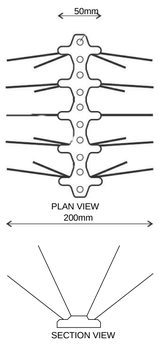
2 / A121 GAS METER SLAB SECTION DETAIL
Scale: 1 : 10



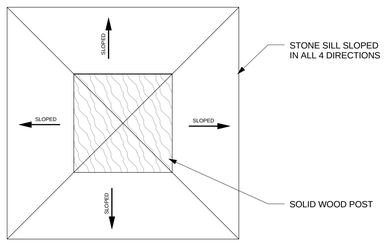
4 / A121 RAMP SECTION A
Scale: 1 : 20



5 / A121 RAMP SECTION B
Scale: 1 : 20



9 / A121 BIRD SPIKE DETAIL
Scale: 1 : 5



8 / A121 FRONT ENTRY COLUMN DETAIL
Scale: 1 : 5

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Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

SITE, CANOPY & RAMP DETAILS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

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Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
39000	FII # 945	A121

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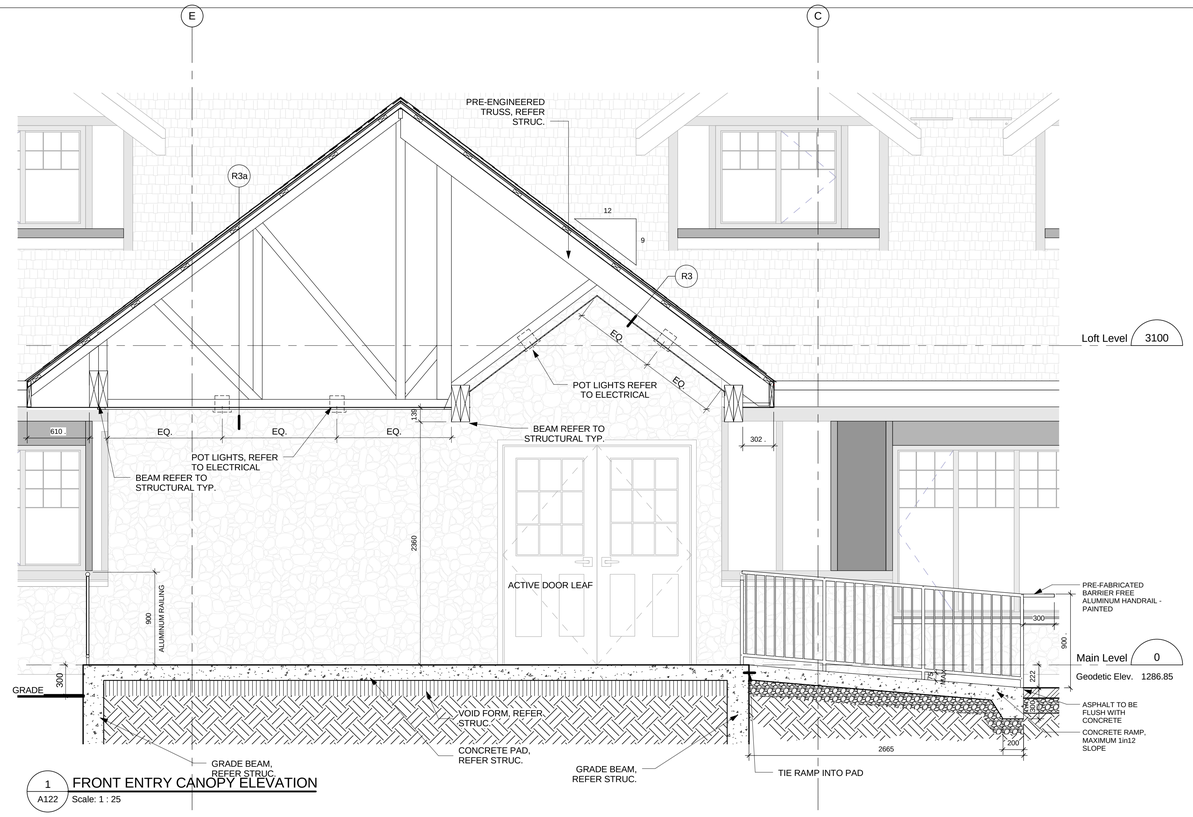
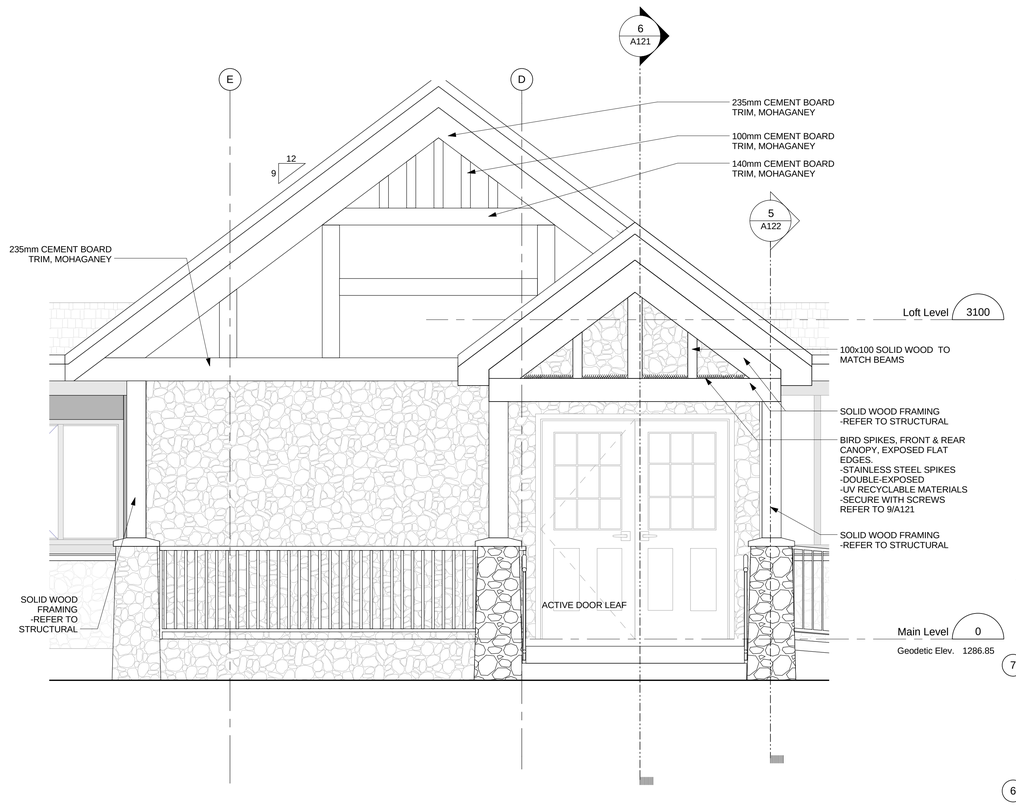
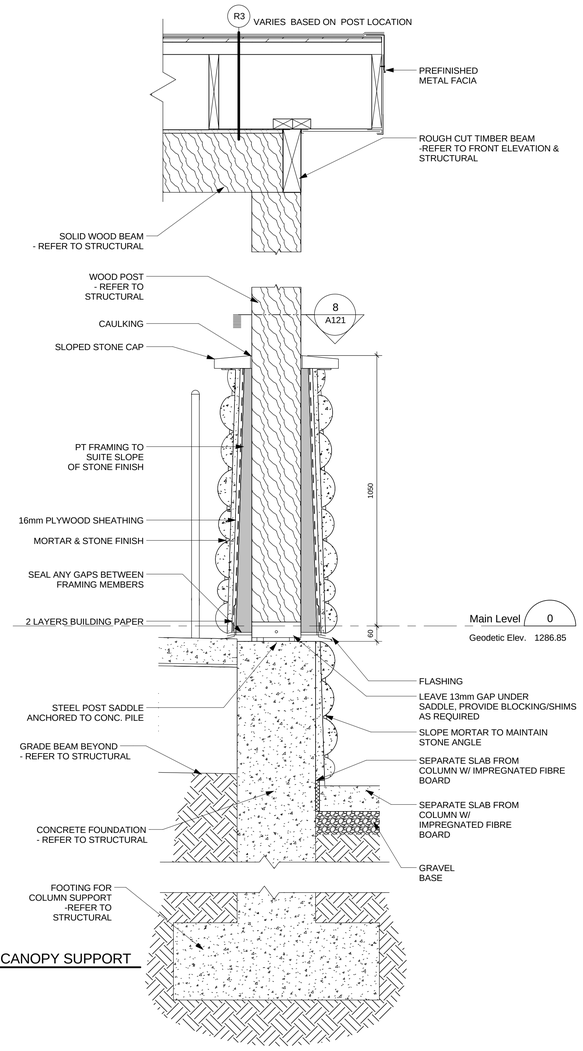


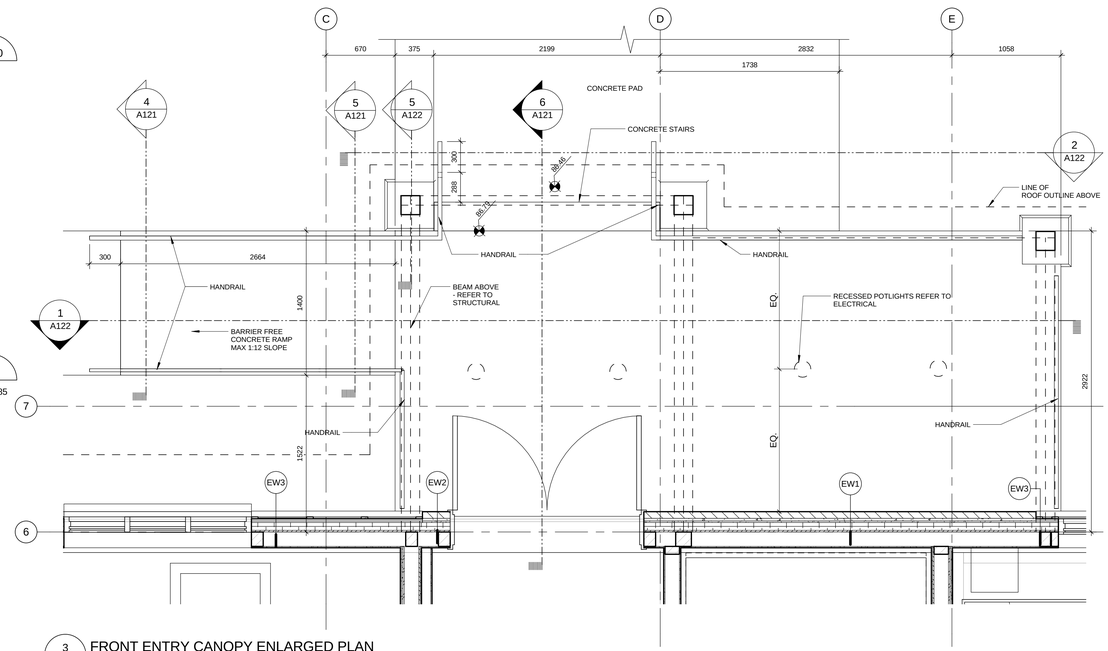
1 A122 FRONT ENTRY CANOPY ELEVATION
Scale: 1 : 25



2 A122 FRONT ENTRY CANOPY SECTION
Scale: 1 : 25



5 A122 SECTION THROUGH CANOPY SUPPORT
Scale: 1 : 10



3 A122 FRONT ENTRY CANOPY ENLARGED PLAN
Scale: 1 : 25

NOTE: REAR CANOPY SIMILAR CONSTRUCTION, REFER SITE PLAN FOR PAD DIMENSIONS

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Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

FRONT ENTRY CANOPY

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AG	2016-12-08
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PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

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Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A122

Drawing Reference No./No. de reference du dessin

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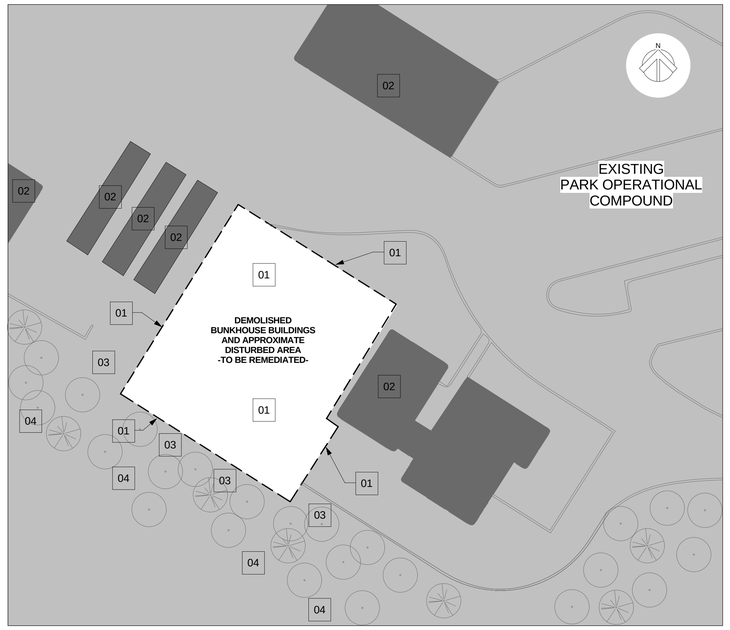
1 A131 BUNKHOUSE DEMOLITION SITE PLAN
Scale: 1 : 400



2 A131 BUNKHOUSE REMEDIATION SITE PLAN
Scale: 1 : 400

LOCATION MAP N

SITE PLAN LEGEND

- AREA OF DEMOLITION
- EXISTING BUILDINGS
- # / A# LOCATION OF TAKEN PICTURE
- EXISTING TREES (NOT ALTERED)

DEMOLITION KEY NOTES

01 - APPROXIMATE AREA OF DEMOLITION WORK
- PROVIDE PROTECTIVE BARRIER AROUND DEMOLITION AREA

02 - EXISTING BUNKHOUSE BUILDINGS TO BE REMOVED
- INCLUDING ALL FOUNDATIONS AND ATTACHED PATIO/STAIR STRUCTURES

03 - ADJACENT EXISTING BUILDING
- TO REMAIN AND TO BE PROTECTED FROM DEMOLITION WORK

04 - EXISTING TREES
- PROVIDE PROTECTIVE BARRIER FOR PROTECTION FROM DEMOLITION WORK

05 - EXISTING POWER POLES
- PROVIDE PROTECTIVE BARRIER FROM DEMOLITION WORK AS REQUIRED. PROVIDE AWARENESS SIGNAGE FOR POWER LINES ABOVE UNTIL ALL WORK IS COMPLETE IN THE SURROUNDING AREA

06 - EXISTING SITE FEATURES AND LANDSCAPE AREAS ARE APPROXIMATE
- TO BE CONFIRMED ON SITE

REMEDIATION KEY NOTES

01 - APPROXIMATE AREA OF DISTURBED GROUND
- FILL DISTURBED AREA WITH CLEAN FILL AND FINISH AREA WITH GRAVEL. MATCH SURROUNDING UNDISTURBED GRADES AND FINISHES.

02 - ADJACENT EXISTING BUILDING
- TO BE EXAMINED FOR ANY DAMAGES DONE FROM DEMOLITION AND REMEDIATION WORK. CONTRACTOR TO BE RESPONSIBLE TO PATCH AND MAKE GOOD AT NO ADDITIONAL COST TO CANADA PARKS AGENCY.

03 - EXISTING TREES

04 - EXISTING POWER POLES

DEMOLITION INFORMATION

DEMOLITION SITE LOCATION
MUNICIPAL ADDRESS: 1 COMPOUND ROAD, WATERTON, WATERTON LAKES NATIONAL PARK, AB
ZONING: N/A

APPROXIMATE EXISTING AREAS:
APPROXIMATE EXISTING BUNKHOUSE SITE AREA - TO BE SITE VERIFIED 1038.26m² 11176 sq. ft.

EXISTING BUILDINGS TO BE DEMOLISHED AREAS - REFER TO SHEET A132 FOR REFERENCE - TO BE SITE VERIFIED

DEMOLITION GENERAL NOTES

1. ENSURE ALL WORK IS PERFORMED IN COMPLIANCE WITH ALL APPLICABLE PROVINCIAL REGULATIONS. REFER TO SPECIFICATIONS FOR HAZARDOUS MATERIALS INFORMATION.
2. NOTIFY AND OBTAIN APPROVAL OF UTILITY COMPANIES BEFORE STARTING DEMOLITION.
3. INSPECT SITE WITH DEPARTMENT REPRESENTATIVE AND VERIFY EXTENT AND LOCATION OF ITEMS DESIGNATED FOR REMOVAL, DISPOSAL, ALTERNATIVE DISPOSAL, RECYCLING, SALVAGE AND ITEMS TO REMAIN.
4. DO NOT INTERFERE WITH USE OF ADJACENT EXISTING BUILDINGS TO REMAIN IN USE. MAINTAIN FREE AND SAFE PASSAGE TO AND FROM OCCUPIED BUILDINGS.
5. CARRY OUT DEMOLITION IN AN ORDERLY AND CAREFUL MANNER USING TRADESMEN QUALIFIED TO PERFORM DEMOLITION AND REMOVAL WORK.
6. COMPLETELY DEMOLISH THE ITEMS INDICATED AND AS REQUIRED TO ACCOMMODATE NEW WORK, AND REMOVE ALL RESULTING MATERIALS FROM THE PREMISES, EXCEPT AS NOTED OTHERWISE.
7. SELLING OR BURNING MATERIALS ON SITE IS NOT PERMITTED.
8. WHERE UNEXPECTED CONDITIONS AND/OR HAZARDOUS MATERIAL ARE ENCOUNTERED DURING DEMOLITION, STOP WORK IN THE AREA IMMEDIATELY AND CONSULT THE DEPARTMENT REPRESENTATIVE AND FOLLOW ALL INSTRUCTIONS.
9. REMOVE ALL PIPING, ELECTRICAL WIRING AND FOUNDATIONS. COMPLETELY REMOVE EXISTING BUILDING AS INDICATED.
10. UTILITIES TO BE CAPPED TWO METERS AWAY FROM BUILDINGS DEMOLISHED AT PARKS OPERATIONAL COMPOUND SITE AND UTILITIES TO BE CAPPED AT PROPERTY LINE AT IN TOWN SITE (102 & 104 WINDFLOWER AVE) - LOTS 20 & 21 BLOCK 42 PLAN 5854DK.
11. DEMOLISH FOUNDATION WALLS AND FOOTINGS, AND CONCRETE FLOORS BELOW OR ON GRADE TO MAKE WAY FOR NEW CONSTRUCTION.
12. DO NOT USE PIECES OF CONCRETE OR MASONRY AS BACKFILL.

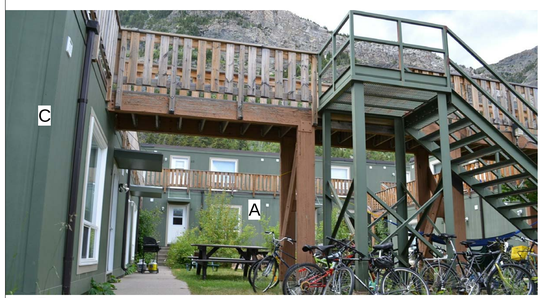
PHOTOGRAPHS OF BUILDINGS TO BE DEMOLISHED

3 A131 NORTH-WEST ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

4 A131 NORTH ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

5 A131 COURTYARD SOUTH-EAST ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

6 A131 COURTYARD SOUTH-EAST ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED



7 A131 COURTYARD SOUTH-EAST ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

8 A131 COURTYARD SOUTH-EAST ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

9 A131 COURTYARD SOUTH-EAST ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

10 A131 COURTYARD SOUTH-EAST ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

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Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

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BUNKHOUSE DEMOLITION AND REMEDIATION SITE PLAN

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
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Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A131

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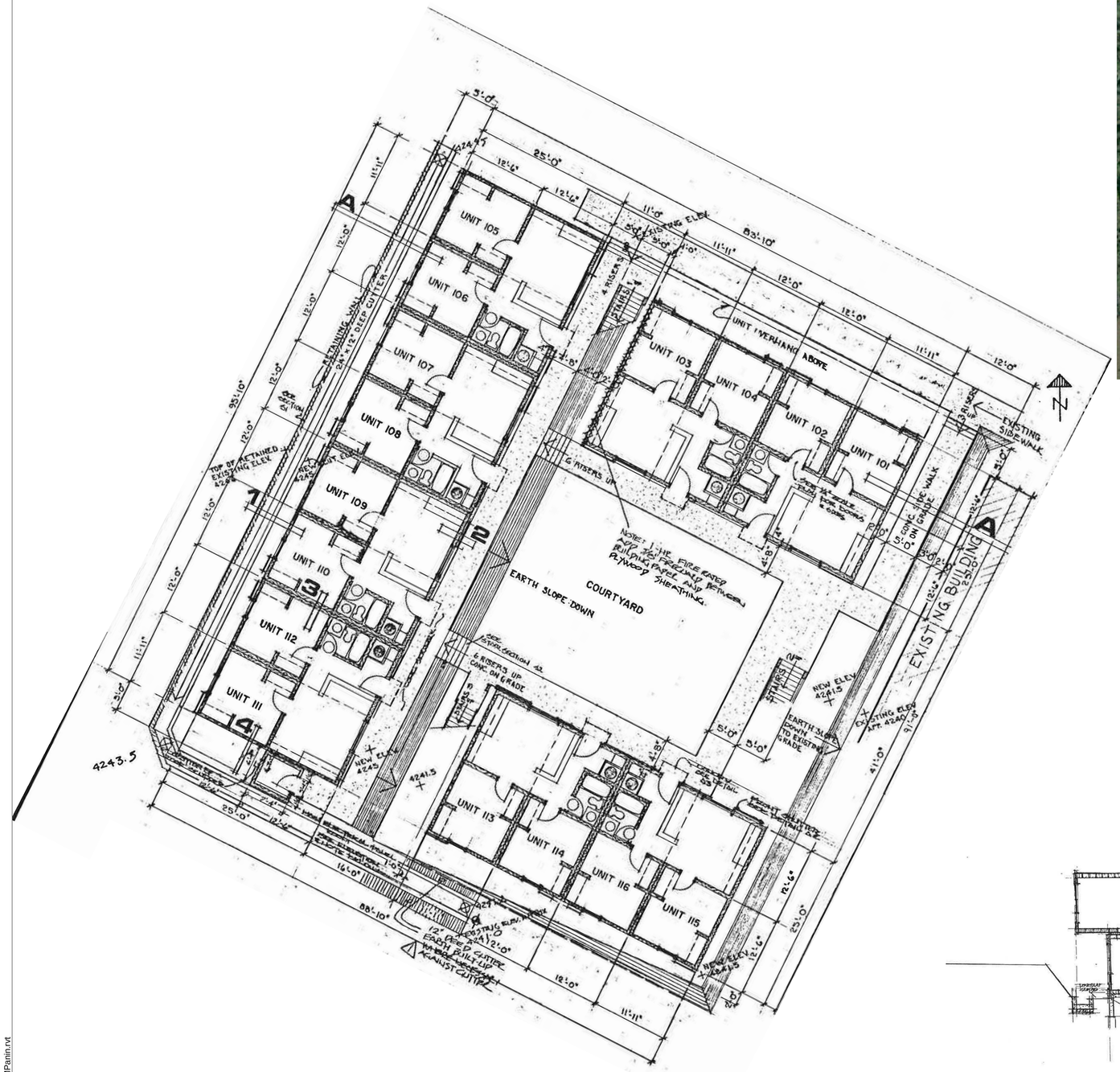

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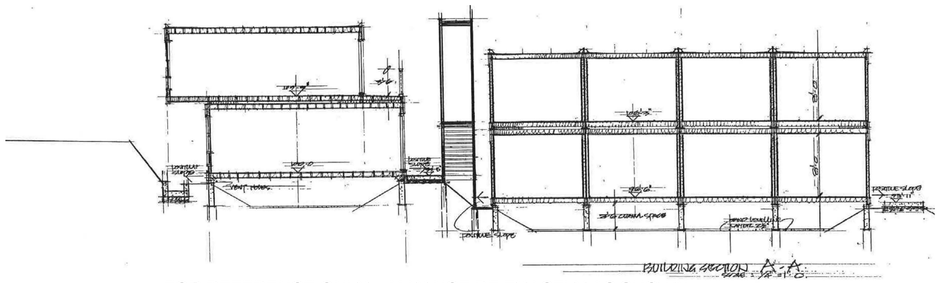
LOCATION MAP N⇧ N.T.S.



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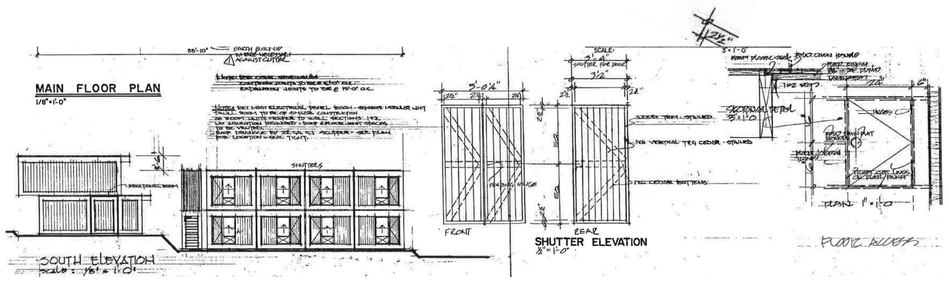

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BUNKHOUSE DEMOLITION

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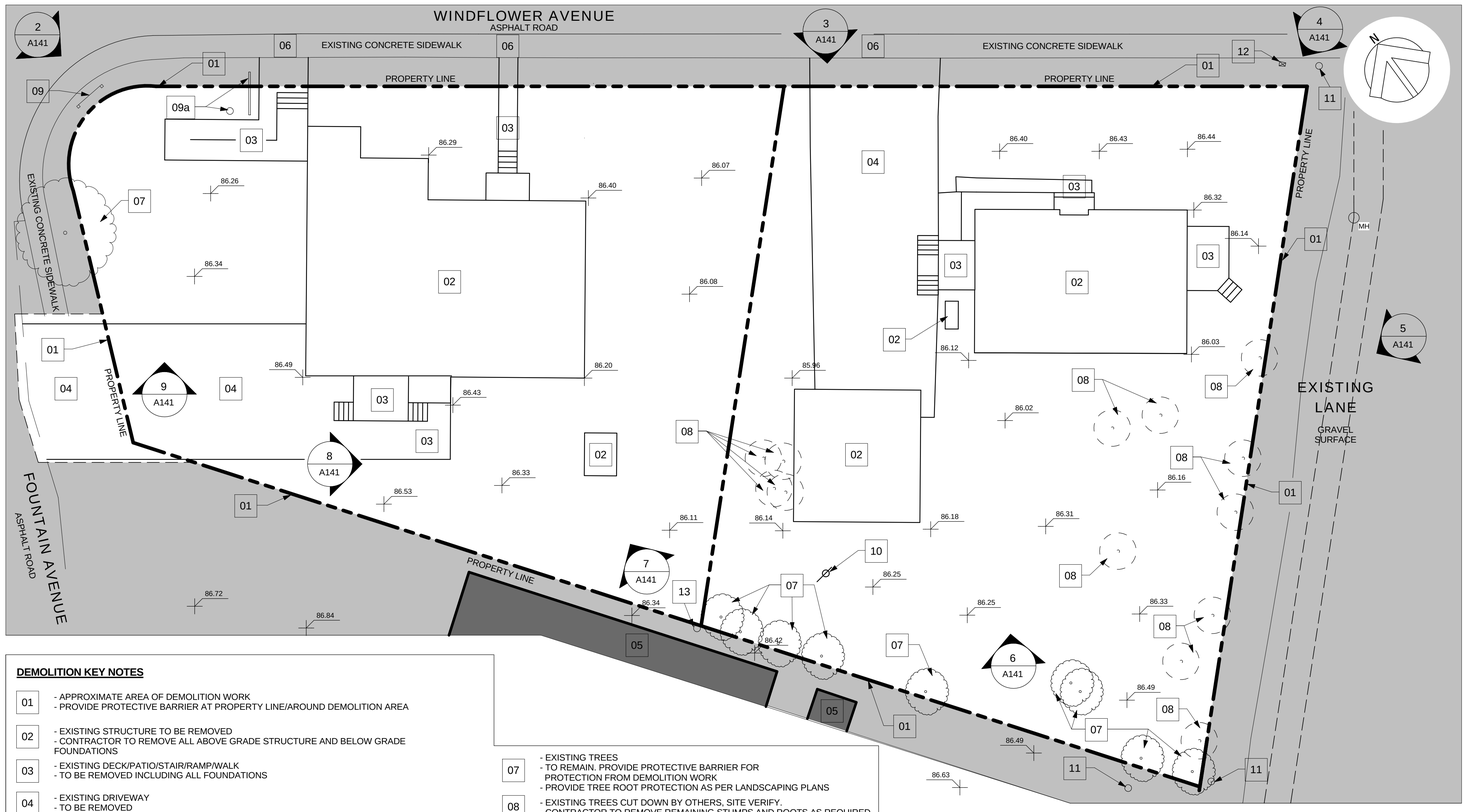

1 A141 DEMOLITION SITE PLAN - LOTS 20 & 21
Scale: 1 : 150

DEMOLITION KEY NOTES

01	- APPROXIMATE AREA OF DEMOLITION WORK - PROVIDE PROTECTIVE BARRIER AT PROPERTY LINE/AROUND DEMOLITION AREA
02	- EXISTING STRUCTURE TO BE REMOVED - CONTRACTOR TO REMOVE ALL ABOVE GRADE STRUCTURE AND BELOW GRADE FOUNDATIONS
03	- EXISTING DECK/PATIO/STAIR/RAMP/WALK - TO BE REMOVED INCLUDING ALL FOUNDATIONS
04	- EXISTING DRIVEWAY - TO BE REMOVED
05	- ADJACENT EXISTING BUILDINGS - TO REMAIN AND TO BE PROTECTED FROM DEMOLITION WORK - TO BE EXAMINED FOR ANY DAMAGES DONE FROM DEMOLITION. CONTRACTOR TO BE RESPONSIBLE TO PATCH AND MAKE GOOD AT NO ADDITIONAL COST TO CANADA PARKS AGENCY
06	- ADJACENT EXISTING SIDEWALK - TO REMAIN AND BE PROTECTED - TO BE PATCHED AND MADE GOOD AS REQUIRED
07	- EXISTING TREES - TO REMAIN. PROVIDE PROTECTIVE BARRIER FOR PROTECTION FROM DEMOLITION WORK - PROVIDE TREE ROOT PROTECTION AS PER LANDSCAPING PLANS
08	- EXISTING TREES CUT DOWN BY OTHERS, SITE VERIFY. - CONTRACTOR TO REMOVE REMAINING STUMPS AND ROOTS AS REQUIRED
09	- EXISTING PCA SIGNAGE - TO REMAIN. PROVIDE PROTECTIVE BARRIER FOR PROTECTION FROM DEMOLITION WORK
09a	- EXISTING SIGNAGE AND FLAGPOLE TO BE REMOVED AND TURNED OVER TO DEPARTMENTAL REPRESENTATIVE. - CONTRACTOR TO REMOVE ALL FOUNDATIONS.
10	- EXISTING EXPOSED CAPPED PVC LINE - TO BE REMOVED
11	- EXISTING POWER POLES - PROVIDE PROTECTIVE BARRIER FROM DEMOLITION WORK AS REQUIRED. PROVIDE AWARENESS SIGNAGE FOR POWER LINES ABOVE UNTIL ALL WORK IS COMPLETE IN THE SURROUNDING AREA
12	- EXISTING UTILITY BOX - TO REMAIN. PROVIDE PROTECTIVE BARRIER FOR PROTECTION FROM DEMOLITION WORK
13	- EXISTING POWER POLE TO BE REMOVED - REMOVE ANY SECONDARY POWER SUPPLIES AND LINES. CONTRACTOR TO COORDINATE WITH APPROPRIATE UTILITIES PROVIDER WHERE NECESSARY.

LOCATION MAP N N.T.S.

SITE PLAN LEGEND

- AREA OF DEMOLITION
- EXISTING BUILDINGS
- # / A# LOCATION OF TAKEN PICTURE
- EXISTING TREES (NOT ALTERED)

DEMOLITION INFORMATION

DEMOLITION SITE LOCATION
MUNICIPAL ADDRESS: 102 & 104 WINDFLOWER AVE, WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL ADDRESS: LOTS 20 & 21 BLOCK 42 PLAN 5854DK
ZONING: INSTITUTIONAL

EXISTING AREAS:
SITE AREA 2082.842m² 22419.5 ft²

EXISTING BUILDINGS TO BE DEMOLISHED AREAS - TO BE SITE VERIFIED

DEMOLITION GENERAL NOTES

1. ENSURE ALL WORK IS PERFORMED IN COMPLIANCE WITH ALL APPLICABLE PROVINCIAL REGULATIONS. REFER TO SPECIFICATIONS FOR HAZARDOUS MATERIALS INFORMATION.
2. NOTIFY AND OBTAIN APPROVAL OF UTILITY COMPANIES BEFORE STARTING DEMOLITION.
3. INSPECT SITE WITH DEPARTMENT REPRESENTATIVE AND VERIFY EXTENT AND LOCATION OF ITEMS DESIGNATED FOR REMOVAL, DISPOSAL, ALTERNATIVE DISPOSAL, RECYCLING, SALVAGE AND ITEMS TO REMAIN.
4. DO NOT INTERFERE WITH USE OF ADJACENT EXISTING BUILDINGS TO REMAIN IN USE. MAINTAIN FREE AND SAFE PASSAGE TO AND FROM OCCUPIED BUILDINGS.
5. CARRY OUT DEMOLITION IN AN ORDERLY AND CAREFUL MANNER USING TRADESMEN QUALIFIED TO PERFORM DEMOLITION AND REMOVAL WORK.
6. COMPLETELY DEMOLISH THE ITEMS INDICATED AND AS REQUIRED TO ACCOMMODATE NEW WORK, AND REMOVE ALL RESULTING MATERIALS FROM THE PREMISES, EXCEPT AS NOTED OTHERWISE.
7. SELLING OR BURNING MATERIALS ON SITE IS NOT PERMITTED.
8. WHERE UNEXPECTED CONDITIONS AND/OR HAZARDOUS MATERIAL ARE ENCOUNTERED DURING DEMOLITION, STOP WORK IN THE AREA IMMEDIATELY AND CONSULT THE DEPARTMENT REPRESENTATIVE AND FOLLOW ALL INSTRUCTIONS.
9. REMOVE ALL PIPING, ELECTRICAL WIRING AND FOUNDATIONS. COMPLETELY REMOVE EXISTING BUILDING AS INDICATED.
10. UTILITIES TO BE CAPPED TWO METERS AWAY FROM BUILDINGS DEMOLISHED AT PARKS OPERATIONAL COMPOUND SITE AND UTILITIES TO BE CAPPED AT PROPERTY LINE AT IN TOWN SITE (102 & 104 WINDFLOWER AVE) - LOTS 20 & 21 BLOCK 42 PLAN 5854DK.
11. DEMOLISH FOUNDATION WALLS AND FOOTINGS, AND CONCRETE FLOORS BELOW OR ON GRADE TO MAKE WAY FOR NEW CONSTRUCTION.
12. DO NOT USE PIECES OF CONCRETE OR MASONRY AS BACKFILL.

PHOTOGRAPHS OF BUILDINGS TO BE DEMOLISHED

2 A141 NORTH-WEST ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

3 A141 NORTH ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

4 A141 NORTH-EAST ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

5 A141 EAST ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

6 A141 SOUTH-EAST ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

7 A141 SOUTH ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

8 A141 SOUTH ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

9 A141 SOUTH-WEST ELEVATION OF EXISTING BUILDINGS TO BE DEMOLISHED

Key Plan

Waterton Key Plan

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3	2016-12-08	ISSUED FOR TENDER		
2	2016-12-08	ISSUED FOR BUILDING PERMIT		
1	2016-09-02	ISSUED FOR 99% REVIEW		

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B source drawing no. de dessin no.
C detail on drawing no. detail sur dessin no.

Consultant's Name
Nom de l'expert-conseil

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Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
SITE PLAN - DEMOLITION - LOTS 20 & 21

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP	2016-12-08
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
LS/FVR	LS/FVR	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Pink Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A141

Drawing Reference No./No. de reference du dessin

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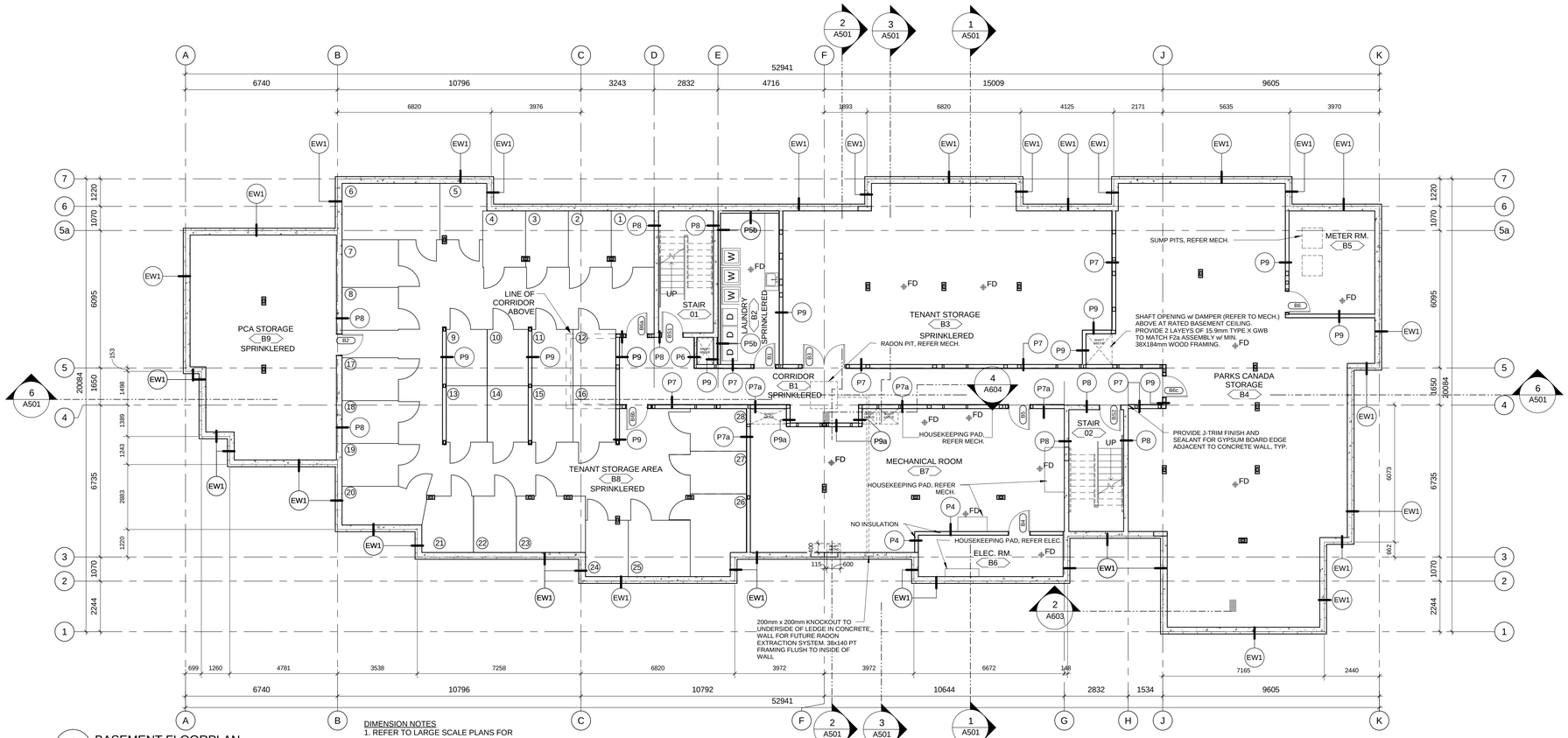
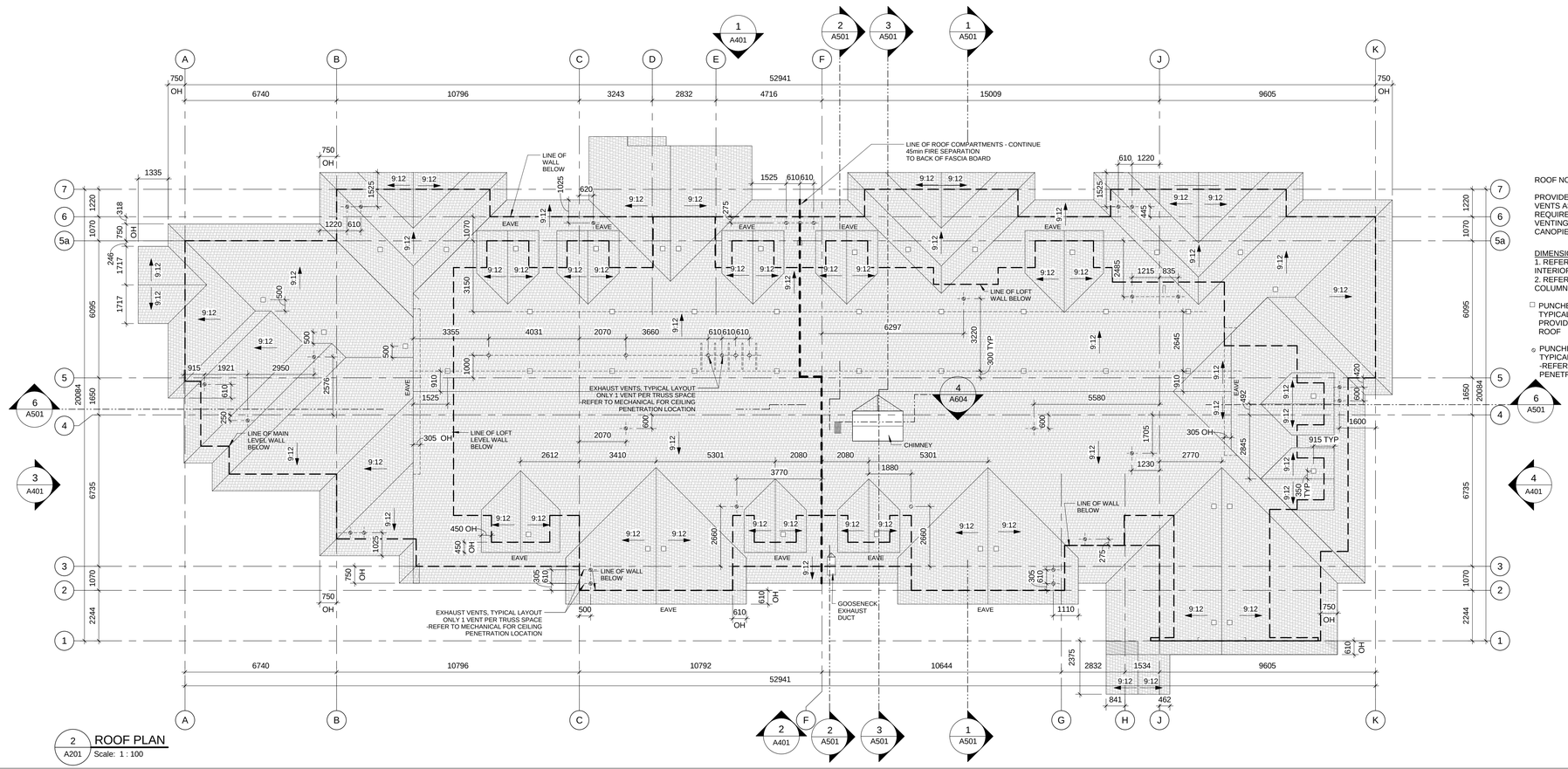


1 A201 BASEMENT FLOORPLAN
Scale: 1 : 100

DIMENSION NOTES
1. REFER TO LARGE SCALE PLANS FOR INTERIOR WALL TYPES AND DIMENSIONS
2. REFER STRUCTURAL DRAWINGS FOR COLUMN DIMENSIONS



ROOF NOTE:

PROVIDE MINIMUM 60 PUNCHED ROOF VENTS AS PER ROOF PLAN LAYOUT AS REQUIRED FOR VENTING, PROVIDE VENTING FOR ALL DORMERS AND CANOPIES.

DIMENSION NOTES
1. REFER TO LARGE SCALE PLANS FOR INTERIOR WALL TYPES AND DIMENSIONS
2. REFER STRUCTURAL DRAWINGS FOR COLUMN DIMENSIONS

□ PUNCHED ROOF VENTS - VENTILATION TYPICAL LAYOUT ONLY 1 VENT PER TRUSS SPACE PROVIDE EVEN SPACING, VENTS TO ALIGN ON ROOF

⊙ PUNCHED ROOF VENT - EXHAUST VENTS TYPICAL LAYOUT ONLY 1 VENT PER TRUSS SPACE -REFER TO MECHANICAL FOR CEILING PENETRATION LOCATION

2 A201 ROOF PLAN
Scale: 1 : 100

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3	2016-06-14	ISSUED FOR 66% REVIEW		
2	2016-05-09	ISSUED FOR 33% REVIEW		
1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

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Canada

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Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
BASEMENT FLOOR PLAN & ROOF PLAN

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
LS/FVR	LS/FVR	1 : 100

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Prok Responsible Officer/Agent Responsible
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A201

Drawing Reference No./No. de reference du dessin

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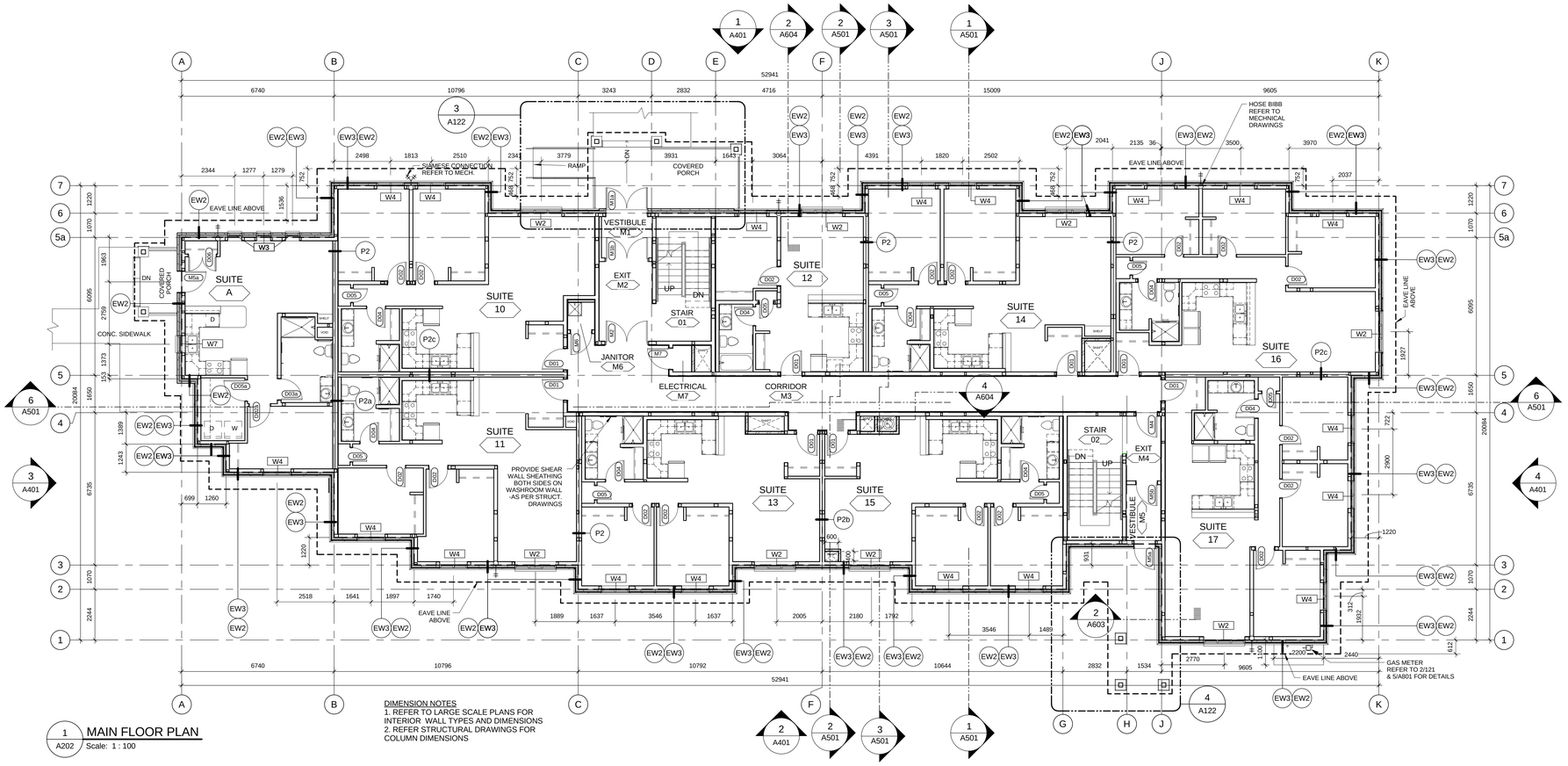


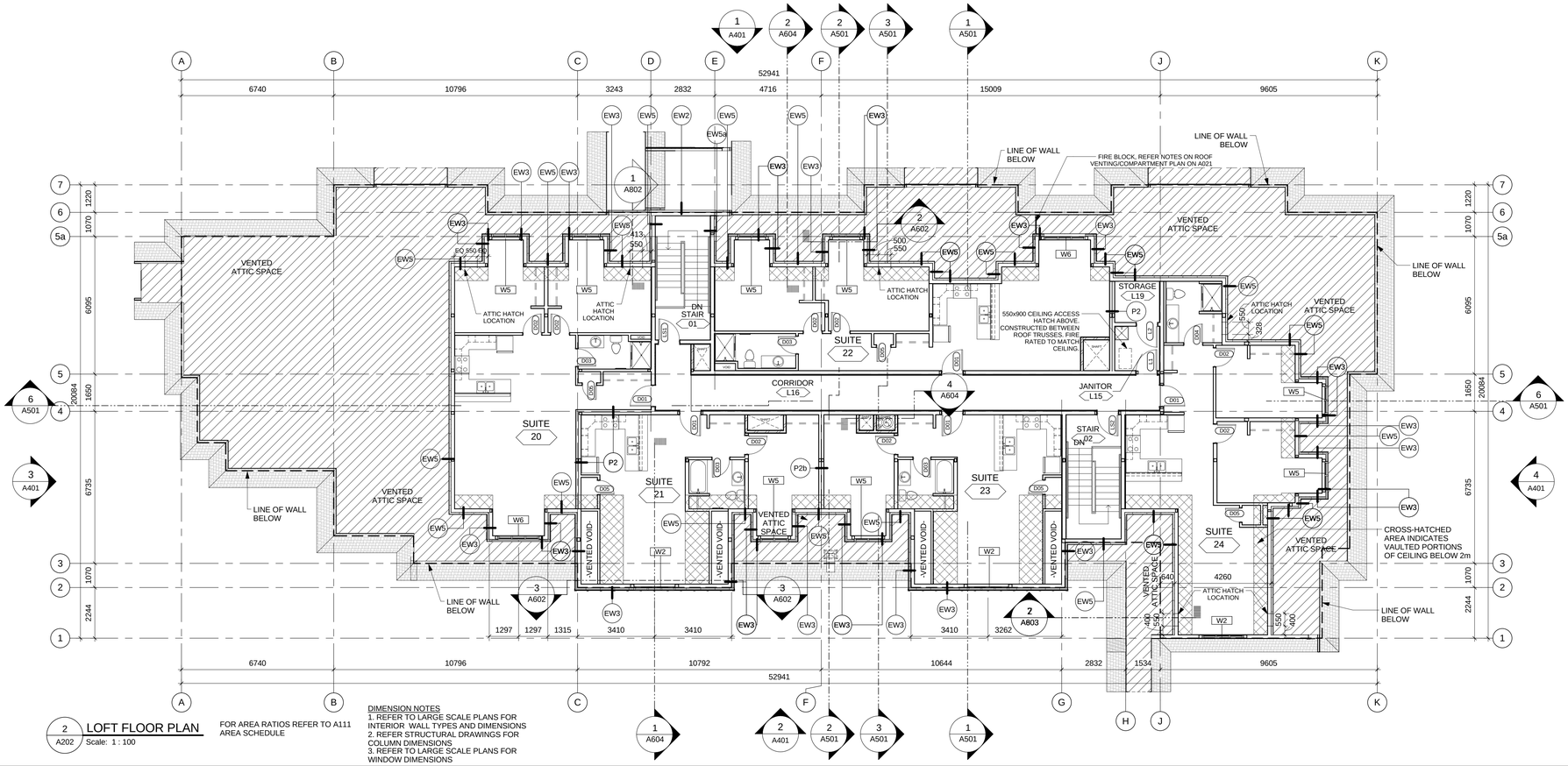
1 A202 MAIN FLOOR PLAN
Scale: 1 : 100

DIMENSION NOTES
1. REFER TO LARGE SCALE PLANS FOR INTERIOR WALL TYPES AND DIMENSIONS
2. REFER STRUCTURAL DRAWINGS FOR COLUMN DIMENSIONS

EXTERIOR PLUMBING LEGEND

	SC	FIRE DEPARTMENT SIAMESE CONNECTION -REFER TO DETAIL 6/A801
	HB	HOSE BIBB -REFER TO MECHANICAL

NOTE: PROVIDE EAVE PROTECTION FOR MAIN FLOOR WINDOWS AND DOORS WHERE EAVE IS WITHIN 1.2m EITHER SIDE OF OPENING. REFER DETAIL 1/A803



2 A202 LOFT FLOOR PLAN
Scale: 1 : 100

FOR AREA RATIOS REFER TO A111 AREA SCHEDULE

DIMENSION NOTES
1. REFER TO LARGE SCALE PLANS FOR INTERIOR WALL TYPES AND DIMENSIONS
2. REFER STRUCTURAL DRAWINGS FOR COLUMN DIMENSIONS
3. REFER TO LARGE SCALE PLANS FOR WINDOW DIMENSIONS

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5	2016-12-08	ISSUED FOR BUILDING PERMIT		
4	2016-09-02	ISSUED FOR 99% REVIEW		
3	2016-06-14	ISSUED FOR 66% REVIEW		
2	2016-05-09	ISSUED FOR 33% REVIEW		
1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

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Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
MAIN FLOOR PLAN & LOFT FLOOR PLAN

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	1 : 100

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Pink Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
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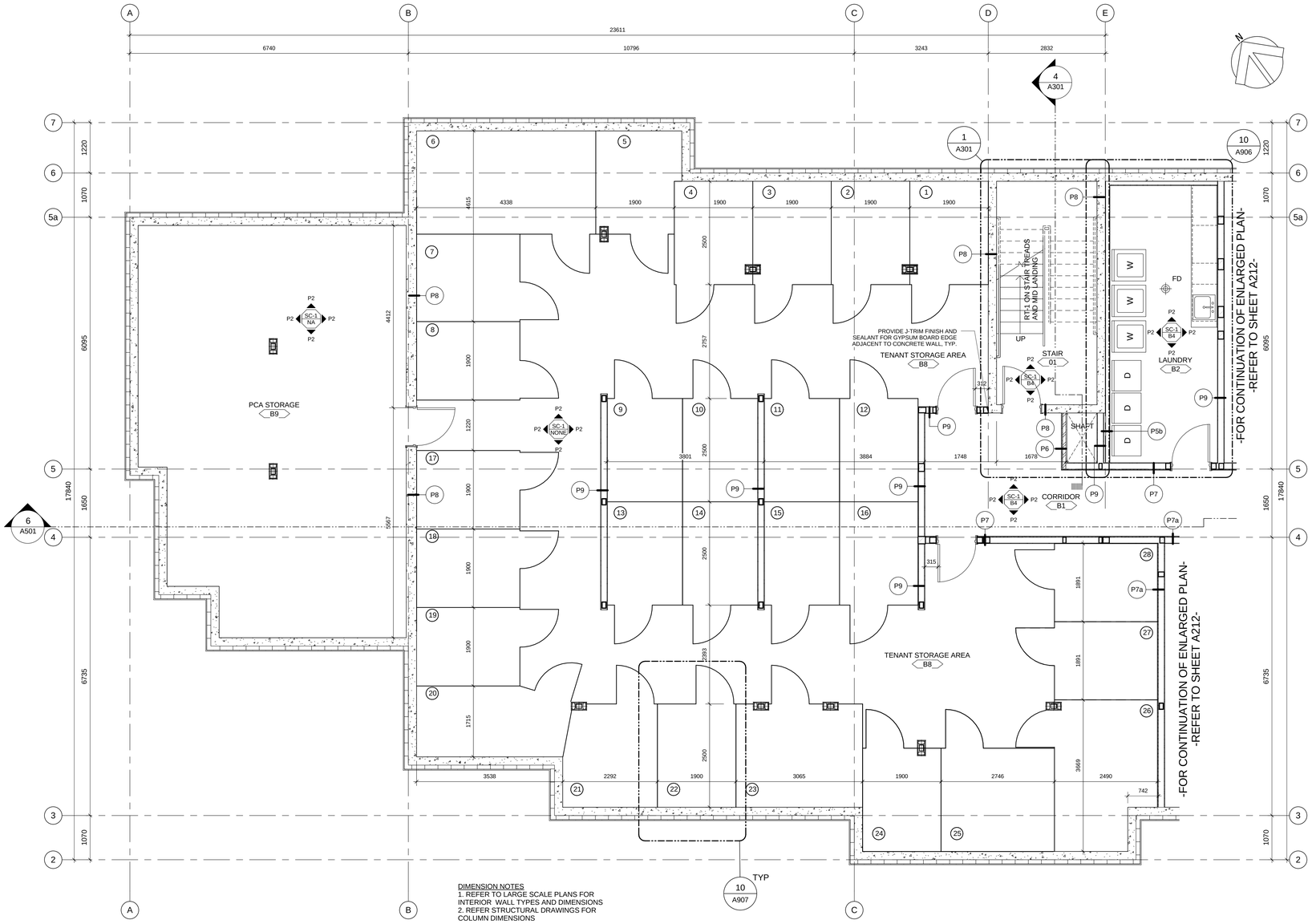

DIMENSION NOTES
1. REFER TO LARGE SCALE PLANS FOR INTERIOR WALL TYPES AND DIMENSIONS
2. REFER STRUCTURAL DRAWINGS FOR COLUMN DIMENSIONS

1 / A211 ENLARGED-FINISHES PLAN - BASEMENT LEVEL-WEST
Scale: 1 : 50

FINISH SCHEDULE

FLOOR BASE

FLOOR FINISHES

LVT-1 **RESILIENT FLOORING - TYPE 1**
PRODUCT: LUXURY VINYL PLANK
COLOUR: LIGHT BROWN, WOOD LOOK

LVT-2 **RESILIENT FLOORING - TYPE 2**
PRODUCT: LUXURY VINYL PLANK
COLOUR: LIGHT BEIGE, WOOD LOOK

VF-1 **RESILIENT FLOORING - TYPE 3**
PRODUCT: VINYL SHEET FLOORING
COLOUR: TBD

RT-1 **RESILIENT FLOORING - TYPE 4**
PRODUCT: RUBBER TREADS & MATCHING RUBBER TILE MID LANDING
COLOUR: TBD

SC-1 **SEALED CONCRETE FLOOR**

BASE

B1 **WALL BASE - UNITS**
PRODUCT: 100mm x 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P5

B2 **WALL BASE**
PRODUCT: 140mm x 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P4

B3 **WALL "CHAIR" RAIL @ 1000mm A.F.F.**
PRODUCT: 100mm X 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P4

B4 **RUBBER BASE**
PRODUCT: RUBBER BASE
COLOUR: GREY

WALL FINISHES

WT-1 **WALL TILE - BACKSPLASH/SHOWER SURROUND**
PRODUCT: CERAMIC TILE: 150mm x 150mm
COLOUR: WHITE

- **NO FINISH**

PAINT COLOURS

P1 PAINT COLOUR 1: - UNITS
TYPE: EGGSHELL
COLOUR: TBD

P2 PAINT COLOUR 2: - CORRIDORS
TYPE: EGGSHELL
COLOUR: TBD

P3 PAINT COLOUR 3: ACCENT - UNITS
TYPE: EGGSHELL
COLOUR: TBD

P4 PAINT COLOUR 4: TRIM - UNITS
TYPE: SEMI-GLOSS
COLOUR: TBD

P5 PAINT COLOUR 4: DOORS & TRIM - CORRIDOR
TYPE: SEMI-GLOSS
COLOUR: TBD

P6 CEILING:
TYPE: FLAT
COLOUR: TBD

CEILING FINISH

C1 GYPSUM, SMOOTH FINISH
PAINT FINISH: P6

NOTE:
CONTRACTOR TO COORDINATE TO EXTEND SUBSTRATES AS REQUIRED TO ACHIEVE CONTINUOUS WALL FINISH.

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2	2016-05-09	ISSUED FOR 33% REVIEW		
1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

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Consultant's Name / Nom de l'expert-conseil

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Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
ENLARGED FLOOR-FINISHES PLAN - BASEMENT LEVEL-WEST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	1:50

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Pink Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A211

Drawing Reference No./No. de reference du dessin

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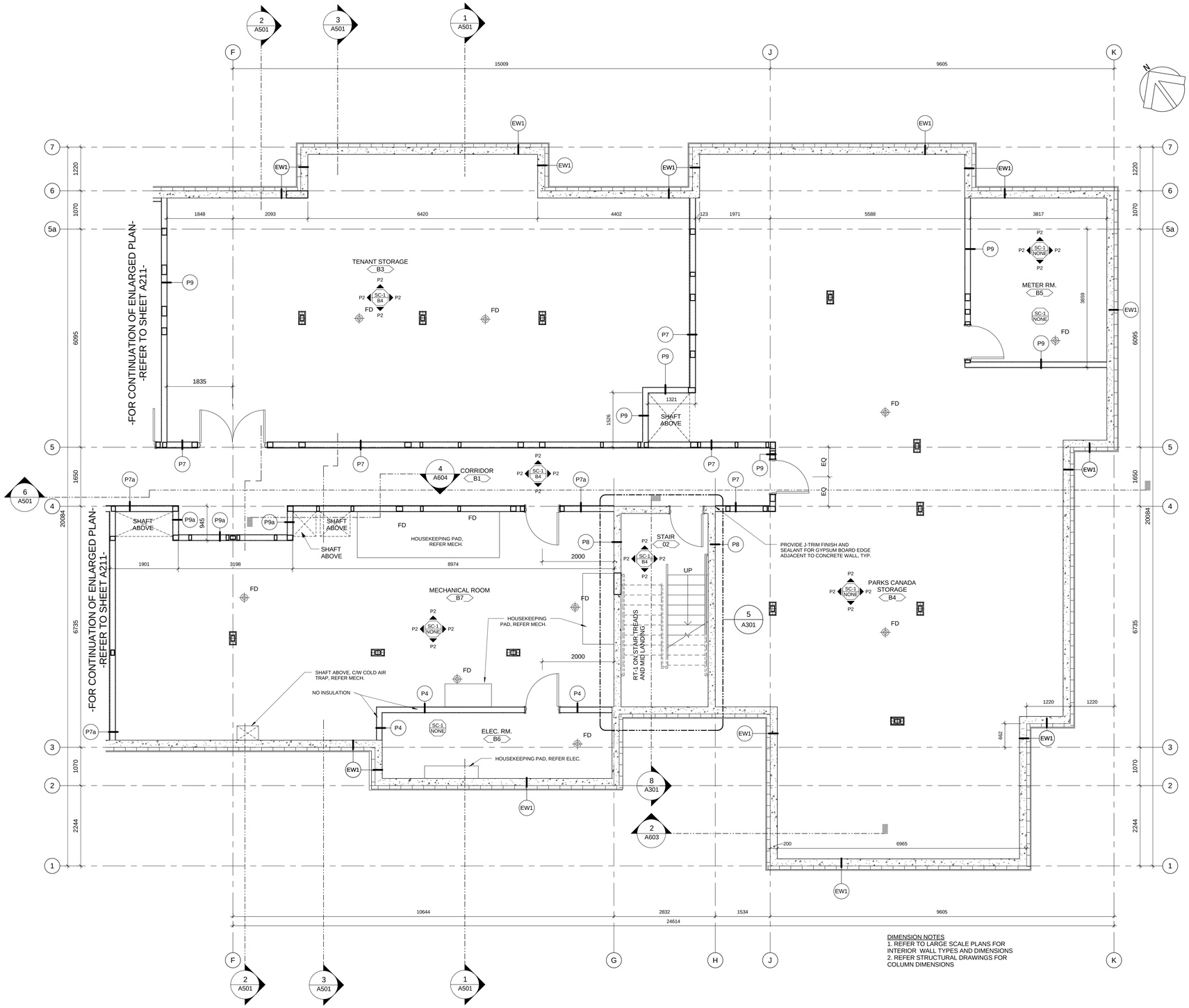

1 A212 ENLARGED-FINISHES PLAN - BASEMENT LEVEL-EAST
Scale: 1 : 50

FINISH SCHEDULE

FLOOR FINISHES

LVT-1 **RESILIENT FLOORING - TYPE 1**
PRODUCT: LUXURY VINYL PLANK
COLOUR: LIGHT BROWN, WOOD LOOK

LVT-2 **RESILIENT FLOORING - TYPE 2**
PRODUCT: LUXURY VINYL PLANK
COLOUR: LIGHT BEIGE, WOOD LOOK

VF-1 **RESILIENT FLOORING - TYPE 3**
PRODUCT: VINYL SHEET FLOORING
COLOUR: TBD

RT-1 **RESILIENT FLOORING - TYPE 4**
PRODUCT: RUBBER TREADS & MATCHING RUBBER TILE MID LANDING
COLOUR: TBD

SC-1 **SEALED CONCRETE FLOOR**

BASE

B1 **WALL BASE - UNITS**
PRODUCT: 100mm x 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P5

B2 **WALL BASE**
PRODUCT: 140mm x 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P4

B3 **WALL "CHAIR" RAIL @ 1000mm A.F.F.**
PRODUCT: 100mm X 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P4

B4 **RUBBER BASE**
PRODUCT: RUBBER BASE
COLOUR: GREY

WALL FINISHES

WT-1 **WALL TILE - BACKSPLASH/SHOWER SURROUND**
PRODUCT: CERAMIC TILE: 150mm x 150mm
COLOUR: WHITE

- **NO FINISH**

PAINT COLOURS

P1 PAINT COLOUR 1: - UNITS
TYPE: EGGSHELL
COLOUR: TBD

P2 PAINT COLOUR 2: - CORRIDORS
TYPE: EGGSHELL
COLOUR: TBD

P3 PAINT COLOUR 3: ACCENT - UNITS
TYPE: EGGSHELL
COLOUR: TBD

P4 PAINT COLOUR 4: TRIM - UNITS
TYPE: SEMI-GLOSS
COLOUR: TBD

P5 PAINT COLOUR 4: DOORS & TRIM - CORRIDOR
TYPE: SEMI-GLOSS
COLOUR: TBD

P6 CEILING:
TYPE: FLAT
COLOUR: TBD

CEILING FINISH

C1 GYPSUM, SMOOTH FINISH
PAINT FINISH: P6

NOTE:
CONTRACTOR TO COORDINATE TO EXTEND SUBSTRATES AS REQUIRED TO ACHIEVE CONTINUOUS WALL FINISH.

DIMENSION NOTES
1. REFER TO LARGE SCALE PLANS FOR INTERIOR WALL TYPES AND DIMENSIONS
2. REFER STRUCTURAL DRAWINGS FOR COLUMN DIMENSIONS

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2	2016-05-09	ISSUED FOR 33% REVIEW		
1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

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Canada

Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
ENLARGED FLOOR-FINISHES PLAN - BASEMENT LEVEL-EAST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
LS/FVR	LS/FVR	1:50

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Prok Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A212

Drawing Reference No./No. de reference du dessin

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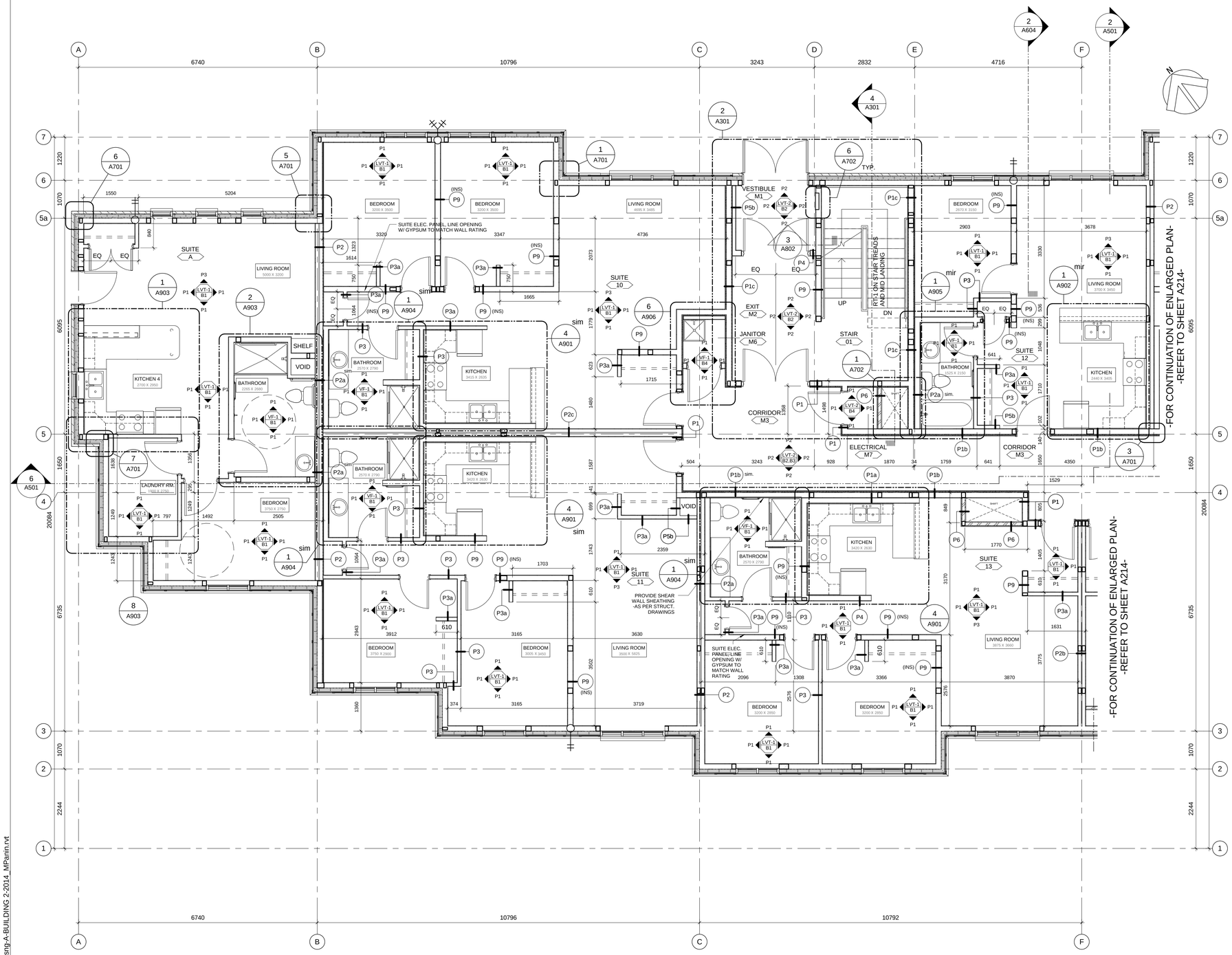


1 A213 ENLARGED-FINISHES PLAN - MAIN LEVEL-WEST
Scale: 1 : 50

FINISH SCHEDULE

FLOOR FINISHES

LVT-1 **RESILIENT FLOORING - TYPE 1**
PRODUCT: LUXURY VINYL PLANK
COLOUR: LIGHT BROWN, WOOD LOOK

LVT-2 **RESILIENT FLOORING - TYPE 2**
PRODUCT: LUXURY VINYL PLANK
COLOUR: LIGHT BEIGE, WOOD LOOK

VF-1 **RESILIENT FLOORING - TYPE 3**
PRODUCT: VINYL SHEET FLOORING
COLOUR: TBD

RT-1 **RESILIENT FLOORING - TYPE 4**
PRODUCT: RUBBER TREADS & MATCHING RUBBER TILE MID LANDING
COLOUR: TBD

SC-1 **SEALED CONCRETE FLOOR**

BASE

B1 **WALL BASE - UNITS**
PRODUCT: 100mm x 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P5

B2 **WALL BASE**
PRODUCT: 140mm x 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P4

B3 **WALL "CHAIR" RAIL @ 1000mm A.F.F.**
PRODUCT: 100mm X 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P4

B4 **RUBBER BASE**
PRODUCT: RUBBER BASE
COLOUR: GREY

WALL FINISHES

WT-1 **WALL TILE - BACKSPLASH/SHOWER SURROUND**
PRODUCT: CERAMIC TILE: 150mm x 150mm
COLOUR: WHITE

- **NO FINISH**

PAINT COLOURS

P1 PAINT COLOUR 1: - UNITS
TYPE: EGGSHELL
COLOUR: TBD

P2 PAINT COLOUR 2: - CORRIDORS
TYPE: EGGSHELL
COLOUR: TBD

P3 PAINT COLOUR 3: ACCENT - UNITS
TYPE: EGGSHELL
COLOUR: TBD

P4 PAINT COLOUR 4: TRIM - UNITS
TYPE: SEMI-GLOSS
COLOUR: TBD

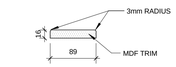
P5 PAINT COLOUR 4: DOORS & TRIM - CORRIDOR
TYPE: SEMI-GLOSS
COLOUR: TBD

P6 CEILING:
TYPE: FLAT
COLOUR: TBD

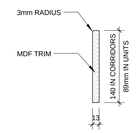
CEILING FINISH

C1 GYPSUM, SMOOTH FINISH
PAINT FINISH: P6

NOTE:
CONTRACTOR TO COORDINATE TO EXTEND SUBSTRATES AS REQUIRED TO ACHIEVE CONTINUOUS WALL FINISH.



2 A213 WINDOW / DOOR TRIM
Scale: 1 : 5



3 A213 WALL BASE
Scale: 1 : 5

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4	2016-09-02	ISSUED FOR 99% REVIEW		
3	2016-06-14	ISSUED FOR 66% REVIEW		
2	2016-05-09	ISSUED FOR 33% REVIEW		
1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

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Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
ENLARGED FLOOR-FINISHES PLAN - MAIN LEVEL-WEST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Fore Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A213

Drawing Reference No./No. de reference du dessin

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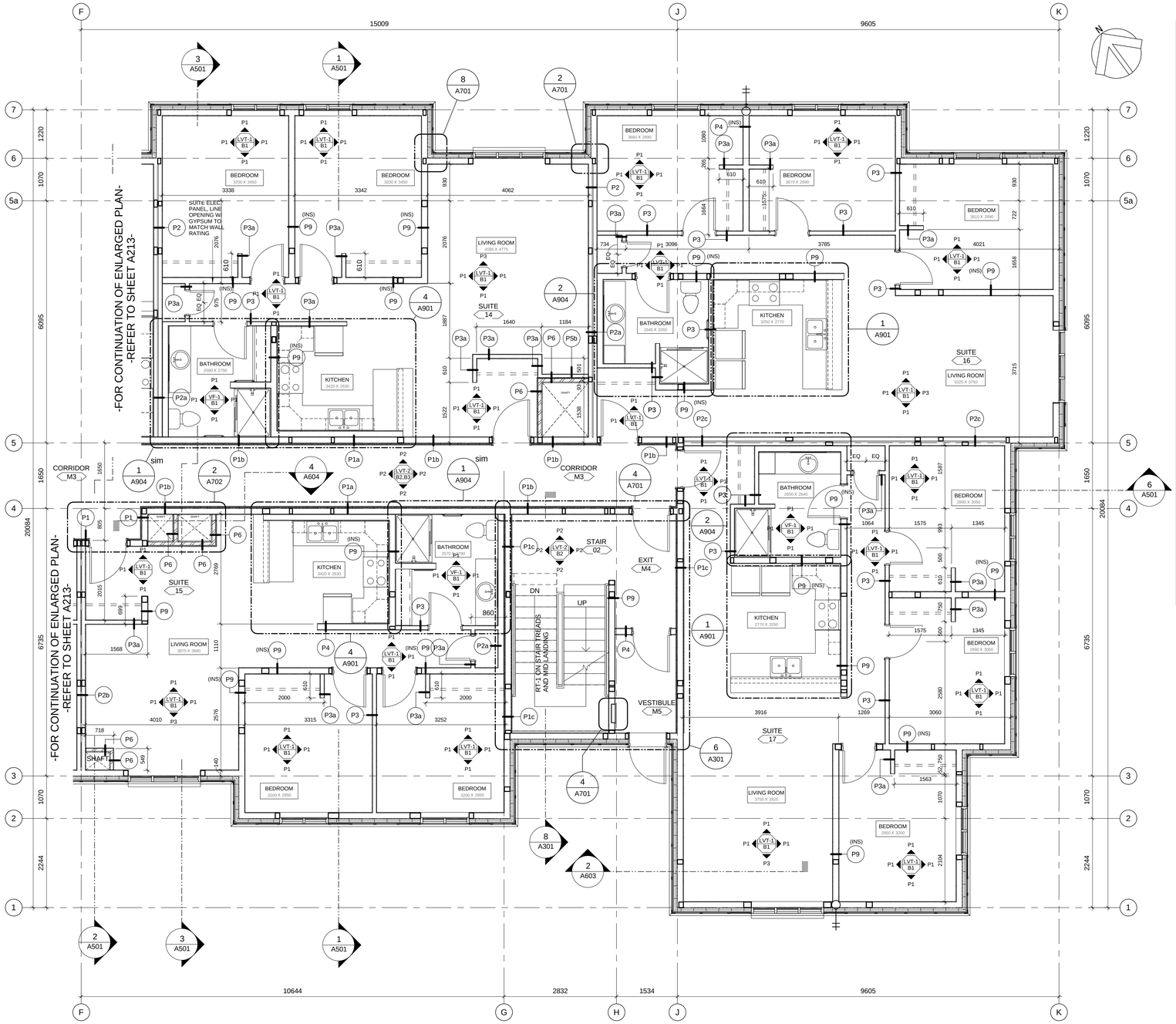

1 A214 ENLARGED-FINISHES PLAN - MAIN LEVEL-EAST
Scale: 1 : 50

FINISH SCHEDULE

FLOOR FINISHES

LVT-1 **RESILIENT FLOORING - TYPE 1**
PRODUCT: LUXURY VINYL PLANK
COLOUR: LIGHT BROWN, WOOD LOOK

LVT-2 **RESILIENT FLOORING - TYPE 2**
PRODUCT: LUXURY VINYL PLANK
COLOUR: LIGHT BEIGE, WOOD LOOK

VF-1 **RESILIENT FLOORING - TYPE 3**
PRODUCT: VINYL SHEET FLOORING
COLOUR: TBD

RT-1 **RESILIENT FLOORING - TYPE 4**
PRODUCT: RUBBER TREADS & MATCHING RUBBER TILE MID LANDING
COLOUR: TBD

SC-1 **SEALED CONCRETE FLOOR**

BASE

B1 **WALL BASE - UNITS**
PRODUCT: 100mm x 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P5

B2 **WALL BASE**
PRODUCT: 140mm x 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P4

B3 **WALL "CHAIR" RAIL @ 1000mm A.F.F.**
PRODUCT: 100mm X 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P4

B4 **RUBBER BASE**
PRODUCT: RUBBER BASE
COLOUR: GREY

WALL FINISHES

WT-1 **WALL TILE - BACKSPLASH/SHOWER SURROUND**
PRODUCT: CERAMIC TILE: 150mm x 150mm
COLOUR: WHITE

- **NO FINISH**

PAINT COLOURS

P1 PAINT COLOUR 1: - UNITS
TYPE: EGGSHELL
COLOUR: TBD

P2 PAINT COLOUR 2: - CORRIDORS
TYPE: EGGSHELL
COLOUR: TBD

P3 PAINT COLOUR 3: ACCENT - UNITS
TYPE: EGGSHELL
COLOUR: TBD

P4 PAINT COLOUR 4: TRIM - UNITS
TYPE: SEMI-GLOSS
COLOUR: TBD

P5 PAINT COLOUR 4: DOORS & TRIM - CORRIDOR
TYPE: SEMI-GLOSS
COLOUR: TBD

P6 CEILING:
TYPE: FLAT
COLOUR: TBD

CEILING FINISH

C1 GYPSUM, SMOOTH FINISH
PAINT FINISH: P6

NOTE:
FOR WINDOW / DOOR TRIM AND
WALL BASE DETAILS REFER TO SHEET A213

NOTE:
CONTRACTOR TO COORDINATE TO EXTEND SUBSTRATES AS REQUIRED TO ACHIEVE CONTINUOUS WALL FINISH.

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Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

ENLARGED FLOOR-FINISHES PLAN - MAIN LEVEL-EAST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	1:50

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Prok Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A214

Drawing Reference No./No. de reference du dessin

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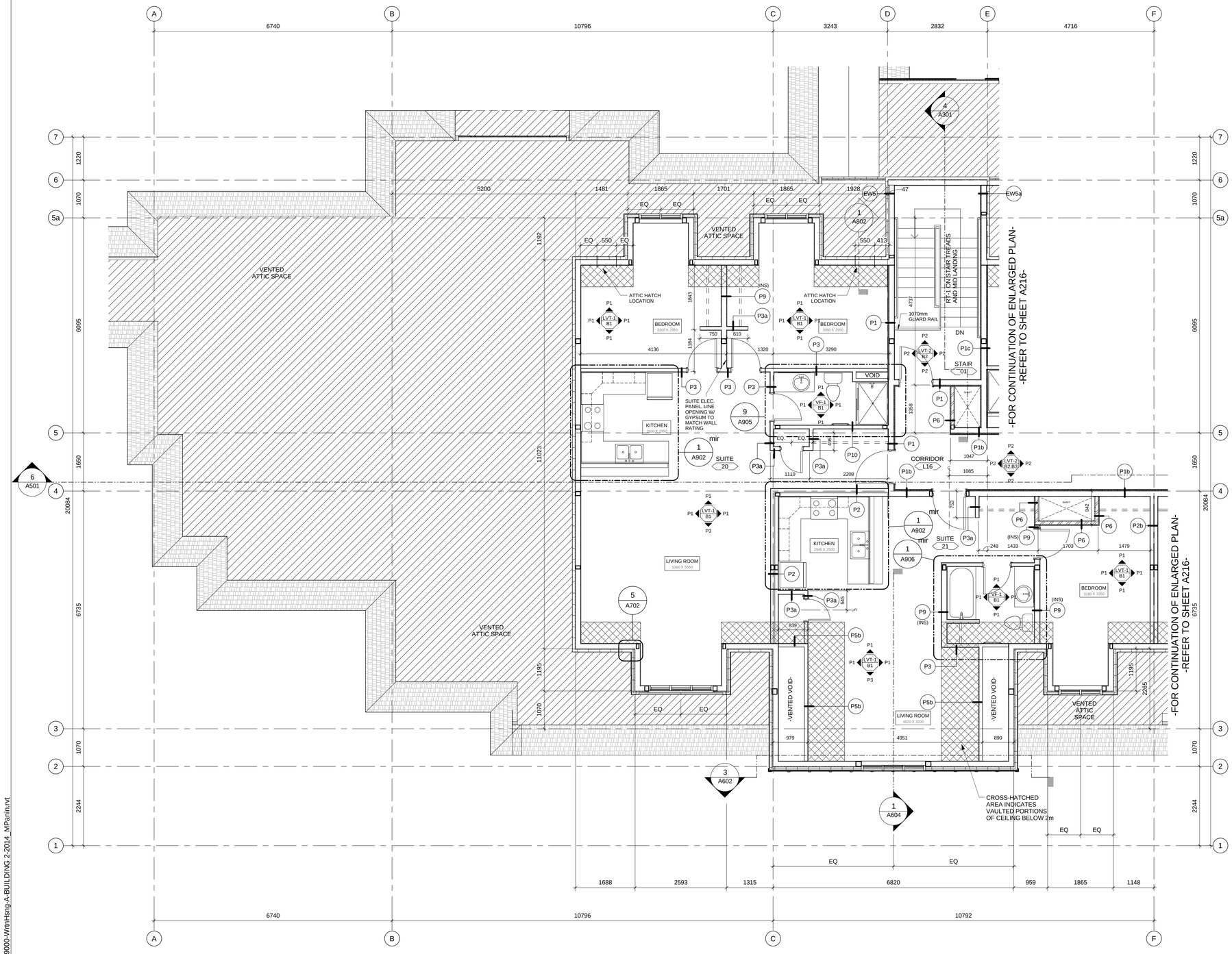

1 A215 ENLARGED-FINISHES PLAN - LOFT LEVEL-WEST
Scale: 1 : 50

FINISH SCHEDULE

FLOOR FINISHES

LVT-1 **RESILIENT FLOORING - TYPE 1**
PRODUCT: LUXURY VINYL PLANK
COLOUR: LIGHT BROWN, WOOD LOOK

LVT-2 **RESILIENT FLOORING - TYPE 2**
PRODUCT: LUXURY VINYL PLANK
COLOUR: LIGHT BEIGE, WOOD LOOK

VF-1 **RESILIENT FLOORING - TYPE 3**
PRODUCT: VINYL SHEET FLOORING
COLOUR: TBD

RT-1 **RESILIENT FLOORING - TYPE 4**
PRODUCT: RUBBER TREADS & MATCHING RUBBER TILE MID LANDING
COLOUR: TBD

SC-1 **SEALED CONCRETE FLOOR**

BASE

B1 **WALL BASE - UNITS**
PRODUCT: 100mm x 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P5

B2 **WALL BASE**
PRODUCT: 140mm x 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P4

B3 **WALL "CHAIR" RAIL @ 1000mm A.F.F.**
PRODUCT: 100mm X 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P4

B4 **RUBBER BASE**
PRODUCT: RUBBER BASE
COLOUR: GREY

WALL FINISHES

WT-1 **WALL TILE - BACKSPLASH/SHOWER SURROUND**
PRODUCT: CERAMIC TILE: 150mm x 150mm
COLOUR: WHITE

- **NO FINISH**

PAINT COLOURS

P1 PAINT COLOUR 1: - UNITS
TYPE: EGGSHELL
COLOUR: TBD

P2 PAINT COLOUR 2: - CORRIDORS
TYPE: EGGSHELL
COLOUR: TBD

P3 PAINT COLOUR 3: ACCENT - UNITS
TYPE: EGGSHELL
COLOUR: TBD

P4 PAINT COLOUR 4: TRIM - UNITS
TYPE: SEMI-GLOSS
COLOUR: TBD

P5 PAINT COLOUR 4: DOORS & TRIM - CORRIDOR
TYPE: SEMI-GLOSS
COLOUR: TBD

P6 CEILING:
TYPE: FLAT
COLOUR: TBD

CEILING FINISH

C1 GYPSUM, SMOOTH FINISH
PAINT FINISH: P6

NOTE:
FOR WINDOW / DOOR TRIM AND WALL BASE DETAILS REFER TO SHEET A213

NOTE:
CONTRACTOR TO COORDINATE TO EXTEND SUBSTRATES AS REQUIRED TO ACHIEVE CONTINUOUS WALL FINISH.

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2	2016-05-09	ISSUED FOR 33% REVIEW		
1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

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Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
ENLARGED FLOOR-FINISHES PLAN - LOFT LEVEL-WEST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
LS/FVR	LS/FVR	1:50

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Prok Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A215

Drawing Reference No./No. de reference du dessin

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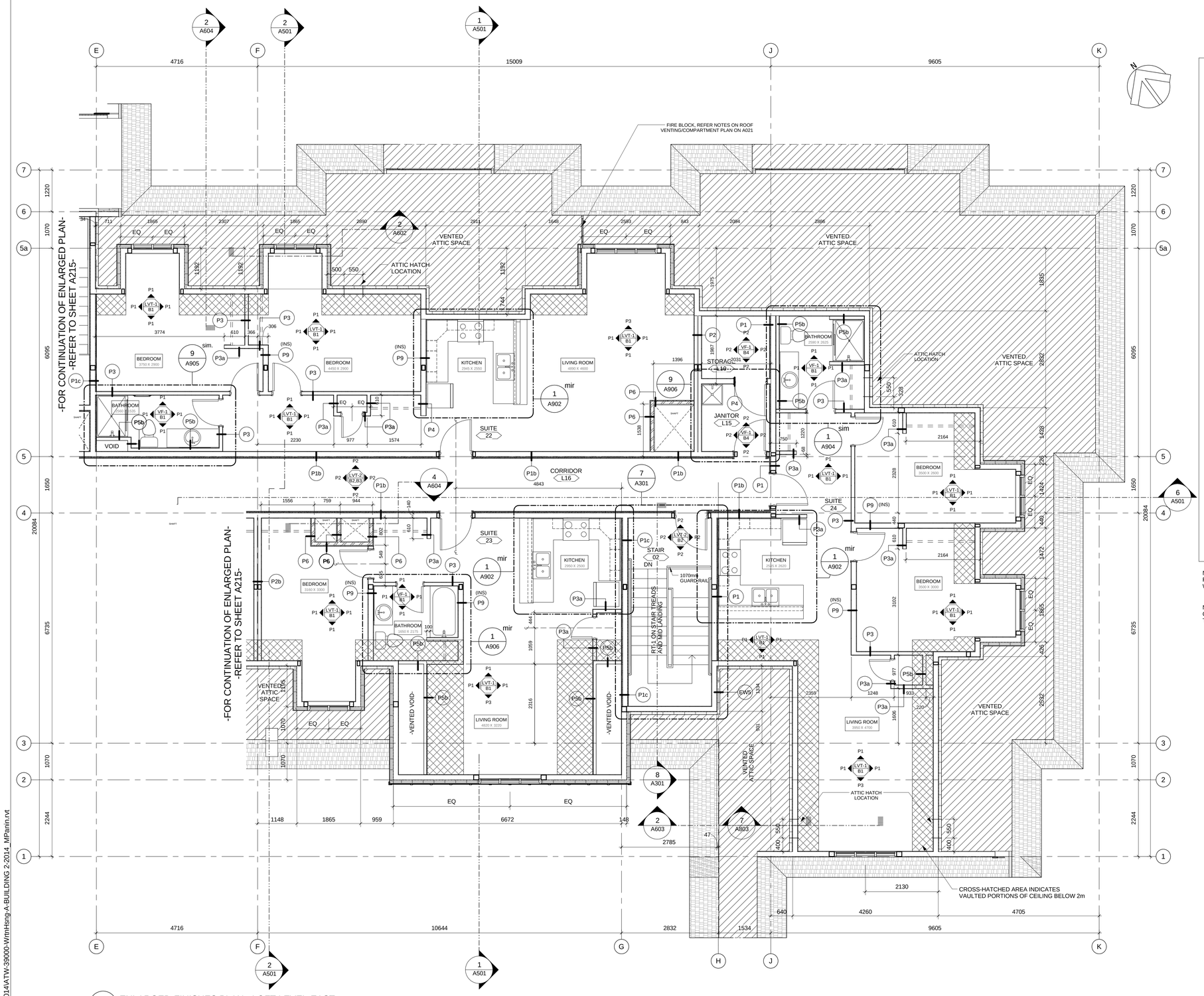

1 / A216 ENLARGED-FINISHES PLAN - LOFT LEVEL-EAST
Scale: 1 : 50

FINISH SCHEDULE

FLOOR FINISHES

LVT-1 **RESILIENT FLOORING - TYPE 1**
PRODUCT: LUXURY VINYL PLANK
COLOUR: LIGHT BROWN, WOOD LOOK

LVT-2 **RESILIENT FLOORING - TYPE 2**
PRODUCT: LUXURY VINYL PLANK
COLOUR: LIGHT BEIGE, WOOD LOOK

VF-1 **RESILIENT FLOORING - TYPE 3**
PRODUCT: VINYL SHEET FLOORING
COLOUR: TBD

RT-1 **RESILIENT FLOORING - TYPE 4**
PRODUCT: RUBBER TREADS & MATCHING RUBBER TILE MID LANDING
COLOUR: TBD

SC-1 **SEALED CONCRETE FLOOR**

BASE

B1 **WALL BASE - UNITS**
PRODUCT: 100mm x 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P5

B2 **WALL BASE**
PRODUCT: 140mm x 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P4

B3 **WALL "CHAIR" RAIL @ 1000mm A.F.F.**
PRODUCT: 100mm X 12.9mm MDF TRIM, PRIMED & PAINTED
COLOUR: P4

B4 **RUBBER BASE**
PRODUCT: RUBBER BASE
COLOUR: GREY

WALL FINISHES

WT-1 **WALL TILE - BACKSPLASH/SHOWER SURROUND**
PRODUCT: CERAMIC TILE: 150mm x 150mm
COLOUR: WHITE

- **NO FINISH**

PAINT COLOURS

P1 PAINT COLOUR 1: - UNITS
TYPE: EGGSHELL
COLOUR: TBD

P2 PAINT COLOUR 2: - CORRIDORS
TYPE: EGGSHELL
COLOUR: TBD

P3 PAINT COLOUR 3: ACCENT - UNITS
TYPE: EGGSHELL
COLOUR: TBD

P4 PAINT COLOUR 4: TRIM - UNITS
TYPE: SEMI-GLOSS
COLOUR: TBD

P5 PAINT COLOUR 4: DOORS & TRIM - CORRIDOR
TYPE: SEMI-GLOSS
COLOUR: TBD

P6 CEILING:
TYPE: FLAT
COLOUR: TBD

CEILING FINISH

C1 GYPSUM, SMOOTH FINISH
PAINT FINISH: P6

NOTE:
FOR WINDOW / DOOR TRIM AND WALL BASE DETAILS REFER TO SHEET A213

NOTE:
CONTRACTOR TO COORDINATE TO EXTEND SUBSTRATES AS REQUIRED TO ACHIEVE CONTINUOUS WALL FINISH.

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Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

ENLARGED FLOOR-FINISHES PLAN - LOFT LEVEL-EAST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	1:50

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Prok Responsible Officer/Agent Responsible
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Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A216

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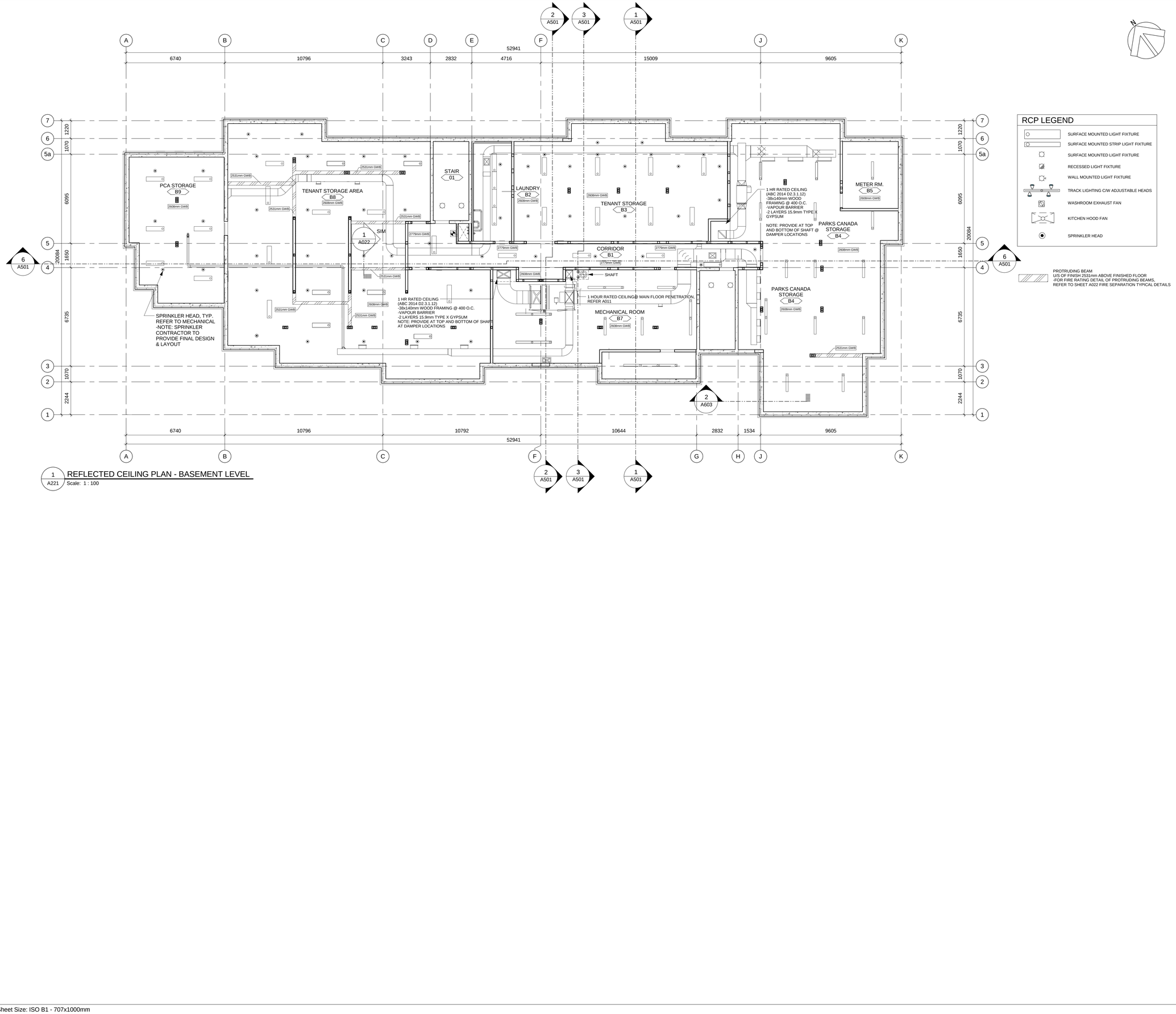

1 A221 REFLECTED CEILING PLAN - BASEMENT LEVEL

Scale: 1 : 100

RCP LEGEND

- SURFACE MOUNTED LIGHT FIXTURE
- SURFACE MOUNTED STRIP LIGHT FIXTURE
- SURFACE MOUNTED LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- TRACK LIGHTING C/W ADJUSTABLE HEADS
- WASHROOM EXHAUST FAN
- KITCHEN HOOD FAN
- SPRINKLER HEAD

PROTRUDING BEAM
U/S OF FINISH 2531mm ABOVE FINISHED FLOOR
-FOR FIRE RATING DETAIL OF PROTRUDING BEAMS, REFER TO SHEET A002 FIRE SEPARATION TYPICAL DETAILS

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Canada

Client/client

Parks Canada Agency / L'Agence Parcs Canada

Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

REFLECTED CEILING PLAN - BASEMENT LEVEL

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	1:100

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable

Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A221

Drawing Reference No./No. de reference du dessin

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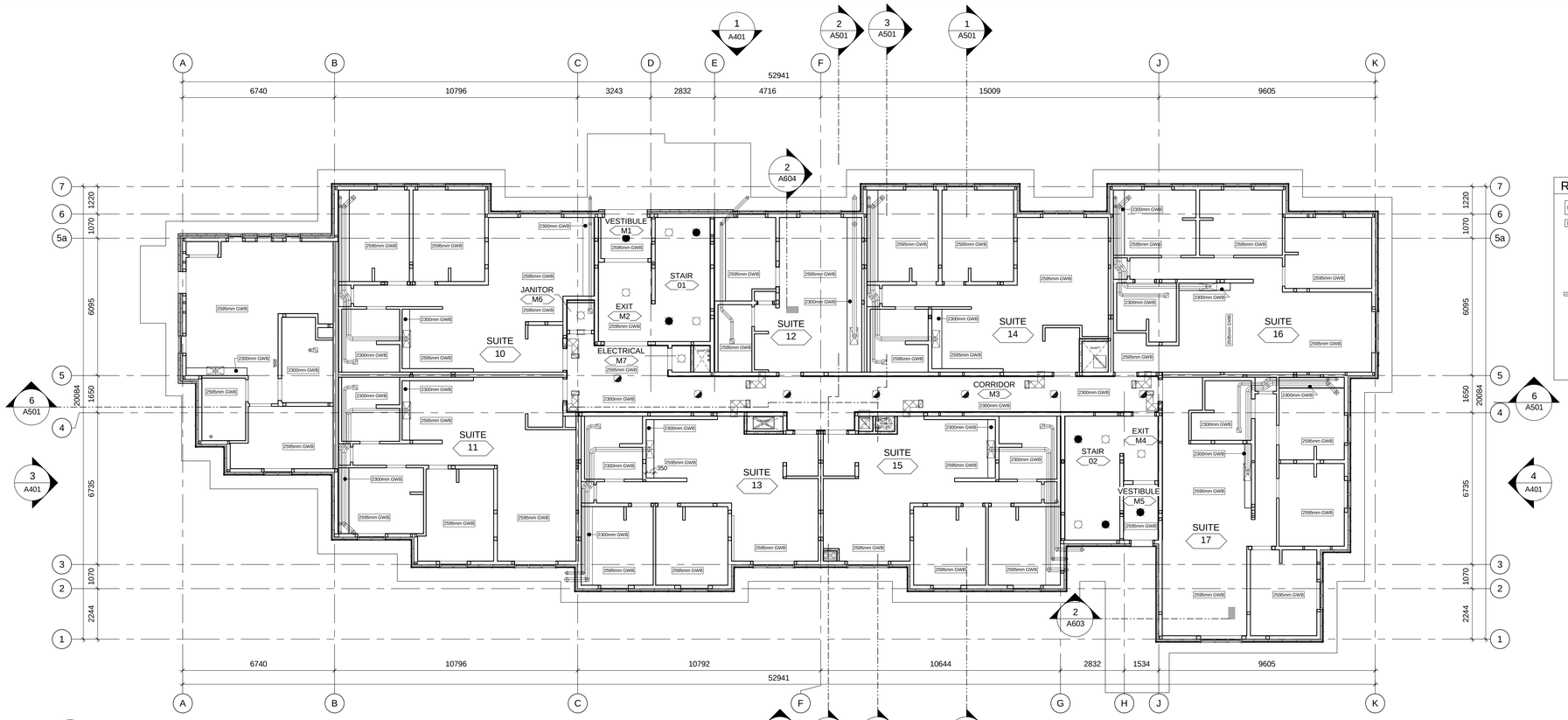
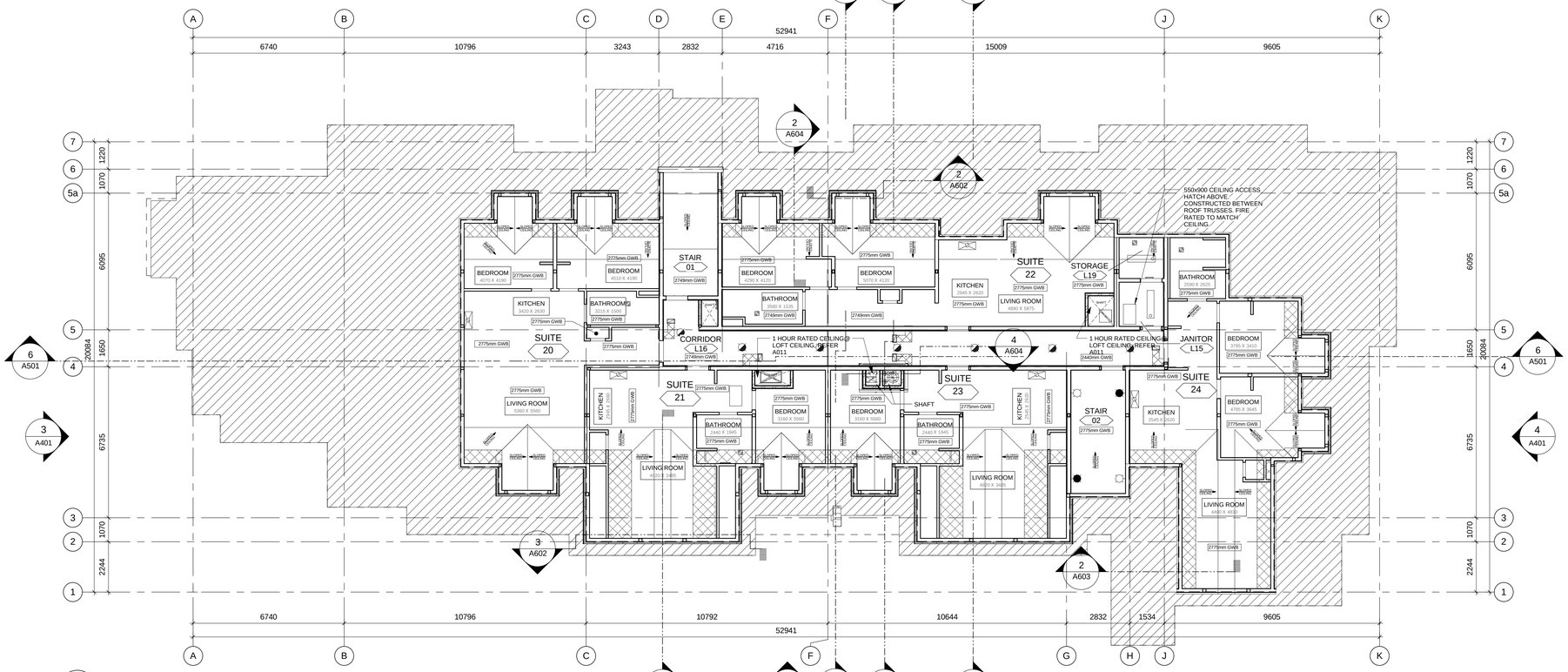


1 A222 REFLECTED CEILING PLAN - MAIN LEVEL
Scale: 1 : 100

RCP LEGEND

- SURFACE MOUNTED LIGHT FIXTURE
- SURFACE MOUNTED STRIP LIGHT FIXTURE
- SURFACE MOUNTED LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- TRACK LIGHTING C/W ADJUSTABLE HEADS
- WASHROOM EXHAUST FAN
- KITCHEN HOOD FAN
- SPRINKLER HEAD



2 A222 REFLECTED CEILING PLAN - LOFT LEVEL
Scale: 1 : 100

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5	2016-12-08	ISSUED FOR BUILDING PERMIT		
4	2016-09-02	ISSUED FOR 99% REVIEW		
3	2016-06-14	ISSUED FOR 66% REVIEW		
2	2016-05-09	ISSUED FOR 33% REVIEW		
1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

Revision / Revision

A detail number
numero de detail
B source drawing no.
de dessin no.
C detail on drawing no.
detail sur dessin no.

Consultant's Name
Nom de l'expert-conseil

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Canada

Client/client
Parks Canada Agency
L'Agence Parcs Canada
Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

REFLECTED CEILING PLAN - MAIN LEVEL & LOFT LEVEL

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	1:100

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Parks Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
39000	FII # 945	A222

Drawing Reference No./No. de reference du dessin

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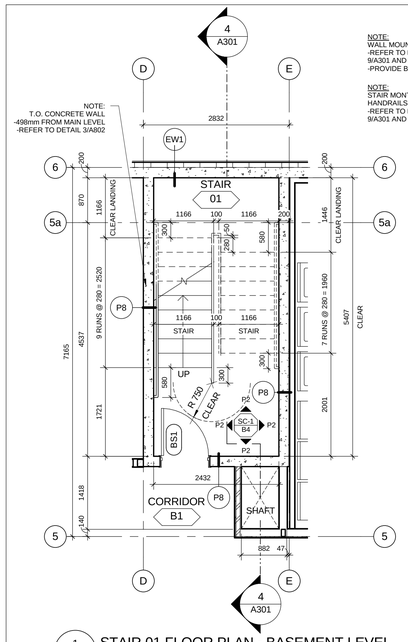
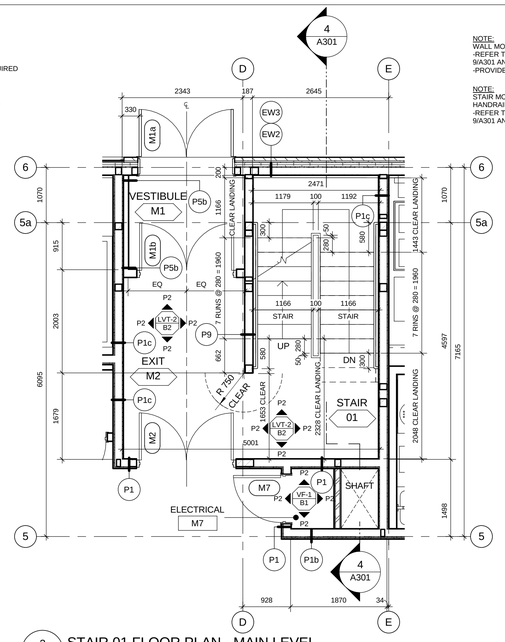


NOTE:
WALL MOUNTED HANDRAILS
-REFER TO DETAIL
9/A301 AND 11/A301
-PROVIDE BLOCKING AS REQUIRED

NOTE:
STAIR MONTED
HANDRAILS AND GUARDRAILS
-REFER TO DETAIL
9/A301 AND 10/A301

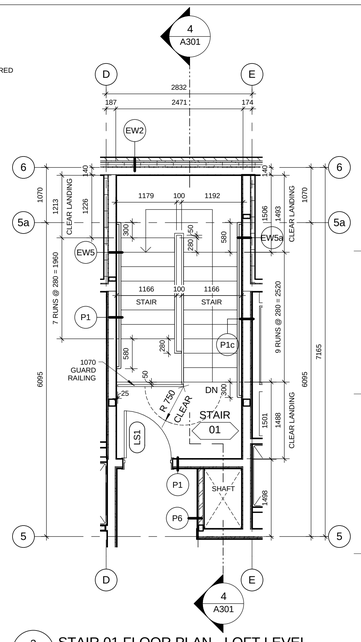
1 A301 STAIR 01 FLOOR PLAN - BASEMENT LEVEL
Scale: 1 : 50



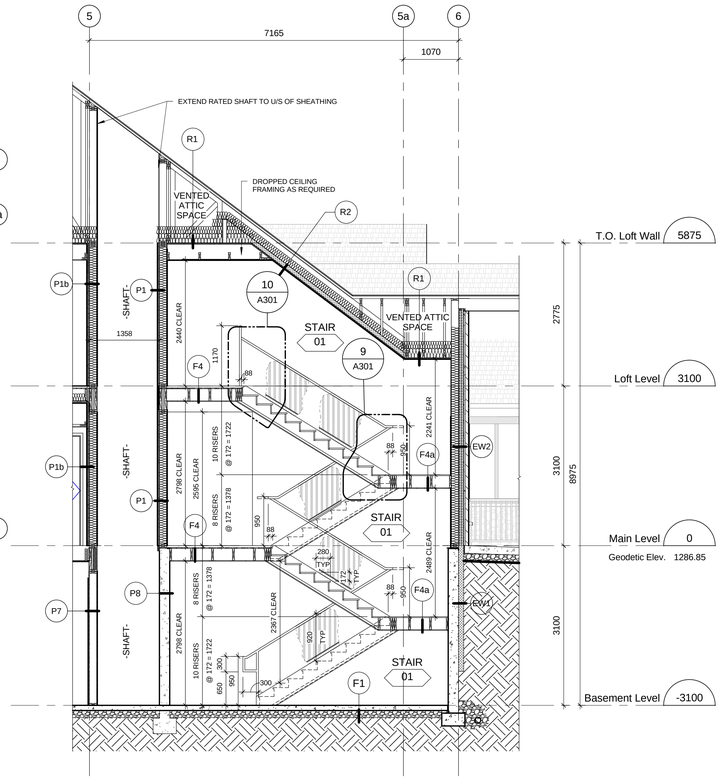
NOTE:
WALL MOUNTED HANDRAILS
-REFER TO DETAIL
9/A301 AND 11/A301
-PROVIDE BLOCKING AS REQUIRED

NOTE:
STAIR MONTED
HANDRAILS AND GUARDRAILS
-REFER TO DETAIL
9/A301 AND 10/A301

2 A301 STAIR 01 FLOOR PLAN - MAIN LEVEL
Scale: 1 : 50



3 A301 STAIR 01 FLOOR PLAN - LOFT LEVEL
Scale: 1 : 50



4 A301 STAIR 01 - SECTION
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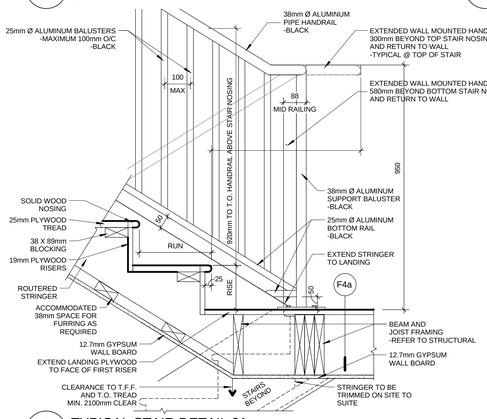
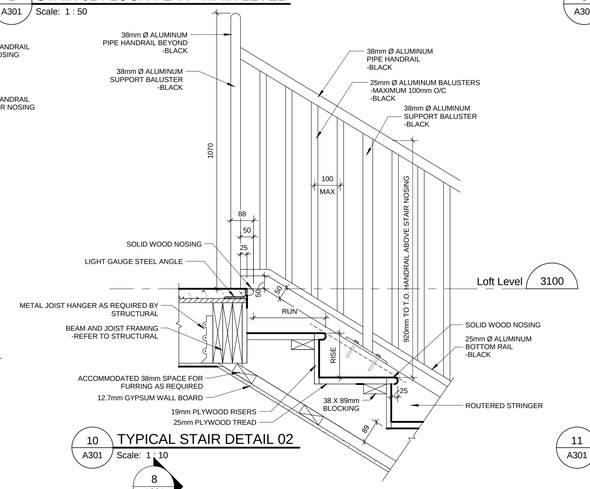
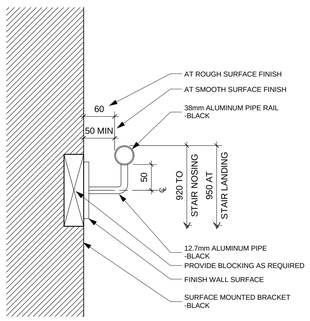


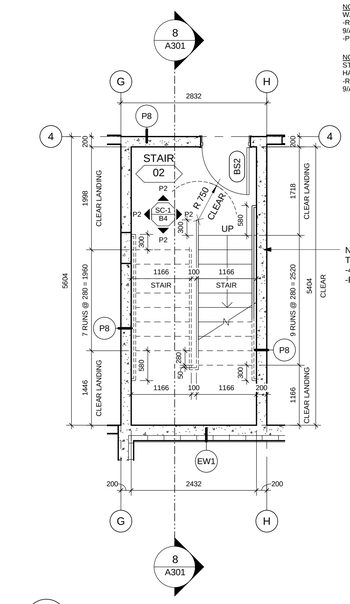
9 A301 TYPICAL STAIR DETAIL 01
Scale: 1 : 10



10 A301 TYPICAL STAIR DETAIL 02
Scale: 1 : 10



11 A301 TYPICAL STAIR DETAIL 03
Scale: 1 : 5

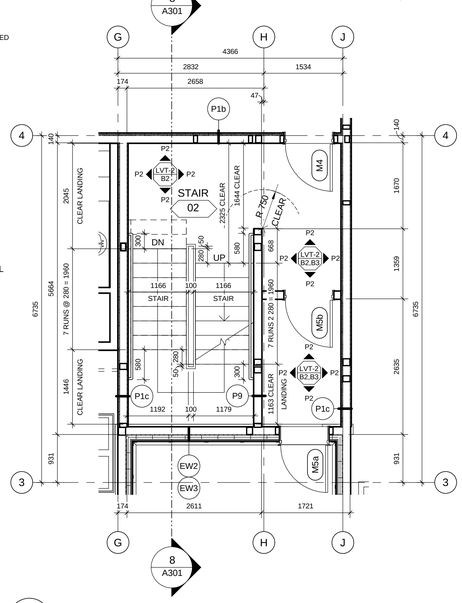


NOTE:
WALL MOUNTED HANDRAILS
-REFER TO DETAIL
9/A301 AND 11/A301
-PROVIDE BLOCKING AS REQUIRED

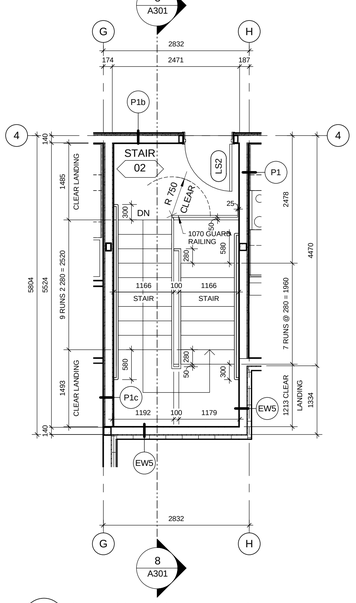
NOTE:
STAIR MONTED
HANDRAILS AND GUARDRAILS
-REFER TO DETAIL
9/A301 AND 10/A301

NOTE:
T.O. CONCRETE WALL
-498mm FROM MAIN LEVEL
-REFER TO DETAIL 3/A802

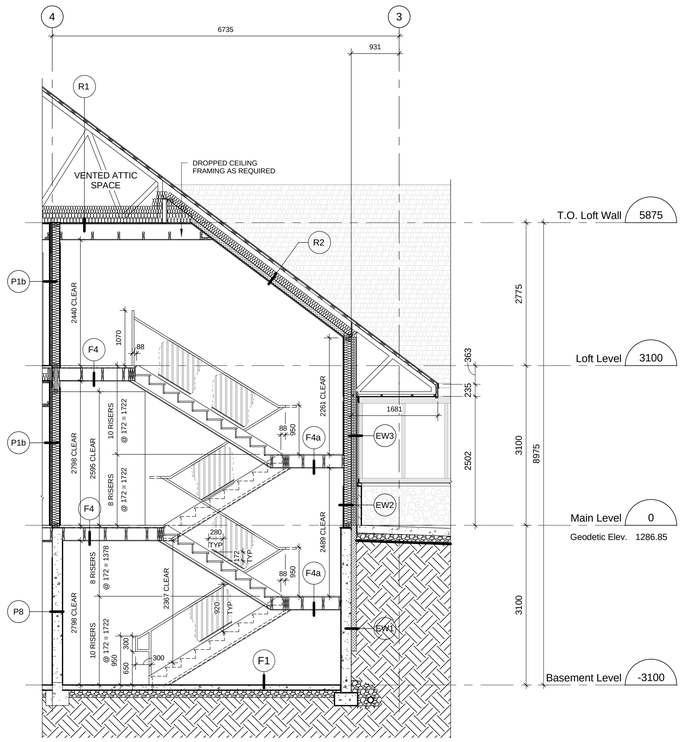
5 A301 STAIR 02 FLOOR PLAN - BASEMENT LEVEL
Scale: 1 : 50



6 A301 STAIR 02 FLOOR PLAN - MAIN LEVEL
Scale: 1 : 50



7 A301 STAIR 02 FLOOR PLAN - LOFT LEVEL
Scale: 1 : 50



8 A301 STAIR 02 - SECTION
Scale: 1 : 50

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1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

Revision / Revision

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Consultant's Name
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Canada

Client/client
Parks Canada Agency
L'Agence Parcs Canada
Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
VERTICAL CIRCULATION - STAIR 01 & STAIR 02 FLOOR PLANS, SECTIONS & STANDARD DETAILS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP	2016-12-08
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
LS/FVR	LS/FVR	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client
Approved by/Approuve par
Pwgsc Responsible Officer/Agent Responsable
PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A301

Drawing Reference No./No. de reference du dessin

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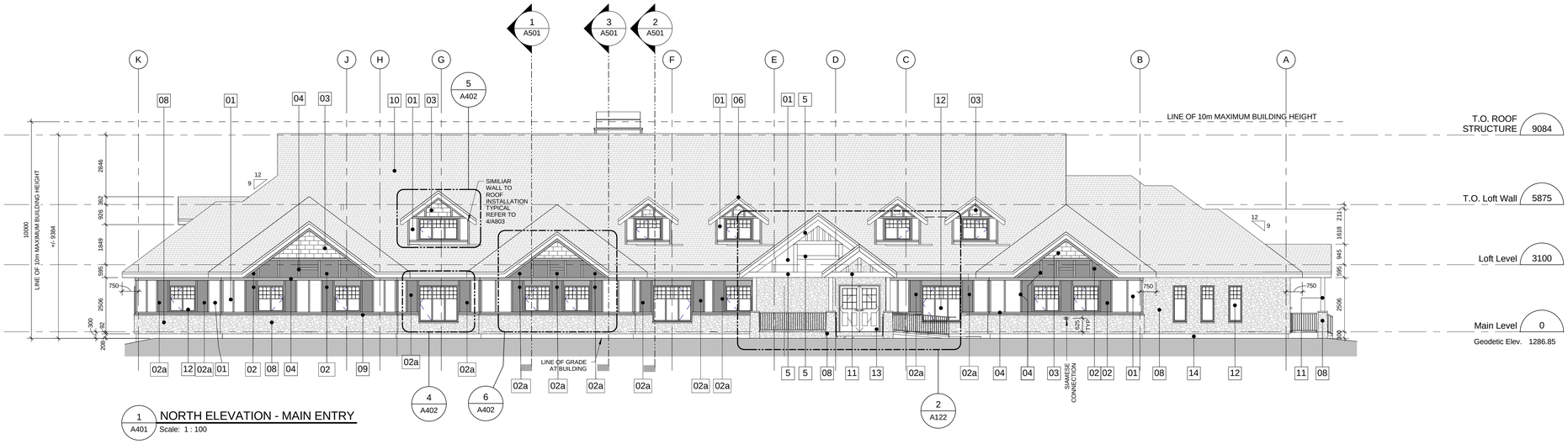
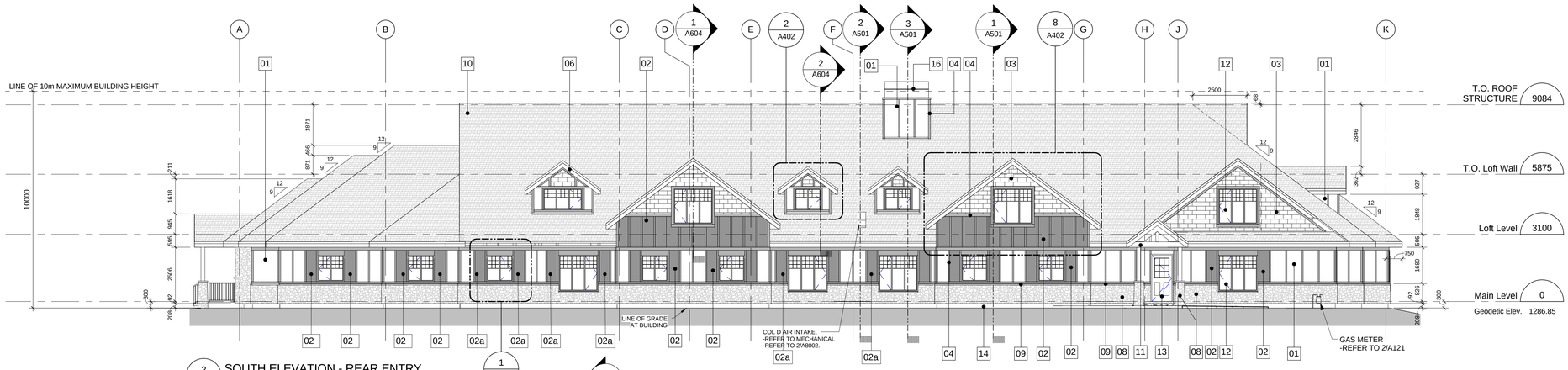


1 A401 NORTH ELEVATION - MAIN ENTRY
Scale: 1 : 100



2 A401 SOUTH ELEVATION - REAR ENTRY
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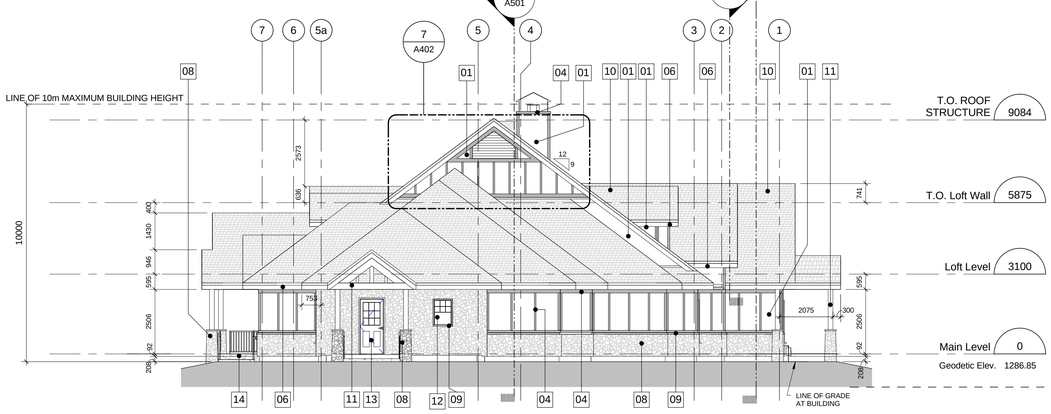
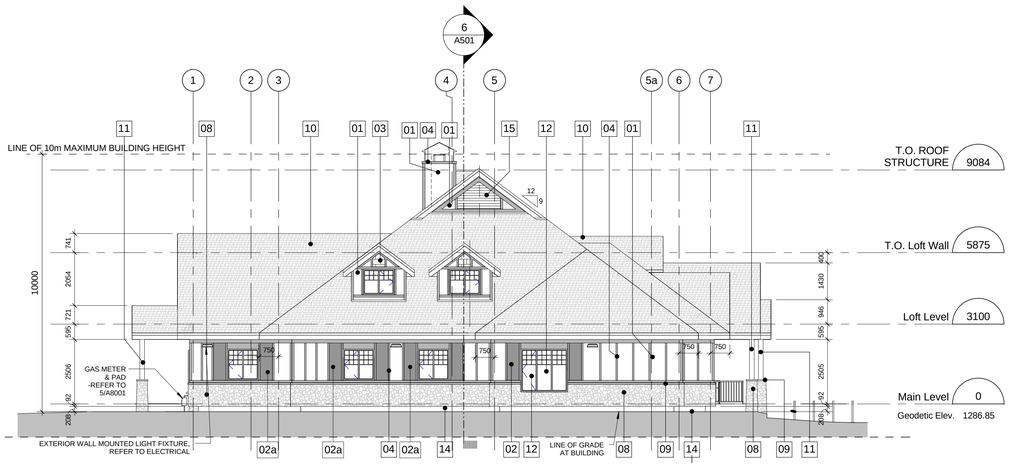


3 A401 WEST ELEVATION
Scale: 1 : 100



4 A401 EAST ELEVATION
Scale: 1 : 100

MATERIALS LEGEND

No.	MATERIALS	COLOR/FINISH	No.	MATERIALS	COLOR/FINISH
1	CEMENT BOARD SIDING - Smooth Panel	COBBLESTONE	9	CULTURED STONE CAP	GRAY
2	CEMENT BOARD SIDING - Smooth Panel	MOUNTAIN SAGE	10	FIBERGLASS REINFORCED ASPHALT SHINGLES	DRIFTWOOD
2a	CEMENT BOARD SIDING - Smooth Panel	COUNTRY RED	11	CEDAR TIMBER POSTS AND BEAMS	CLEAR WOOD PRESERVATIVE
3	STAINED FIBER CEMENT SHAKE SIDING	MAHOGANY	12	VINYL WINDOW	WICKER
4	CEMENT BOARD TRIM	KHAKI BROWN	13	FIBERGLASS ENTRY DOOR	PAINT COLOUR - TO MATCH COUNTRY LANE RED
5	CEMENT BOARD TRIM STAINED	MAHOGANY	14	PRE-PARGED INSULATION BOARD	
6	METAL FASCIA	PEBBLE KHAKI	15	PREFINISHED MECHANICAL LOUVER	BLACK ANODIZED
7	METAL SOFFIT - Vented	WICKER	16	METAL CHIMNEY CANOPY	PEBBLE KHAKI
8	CULTURED STONE - Stream Stone	SPRING	17	PREFINISHED METAL FLASHING	TO MATCH ROOF

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1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

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B source drawing no. / de dessin no.
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Consultant's Name / Nom de l'expert-conseil

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Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
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Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

BUILDING ELEVATIONS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	1:100

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Pub. Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A401

Drawing Reference No./No. de reference du dessin

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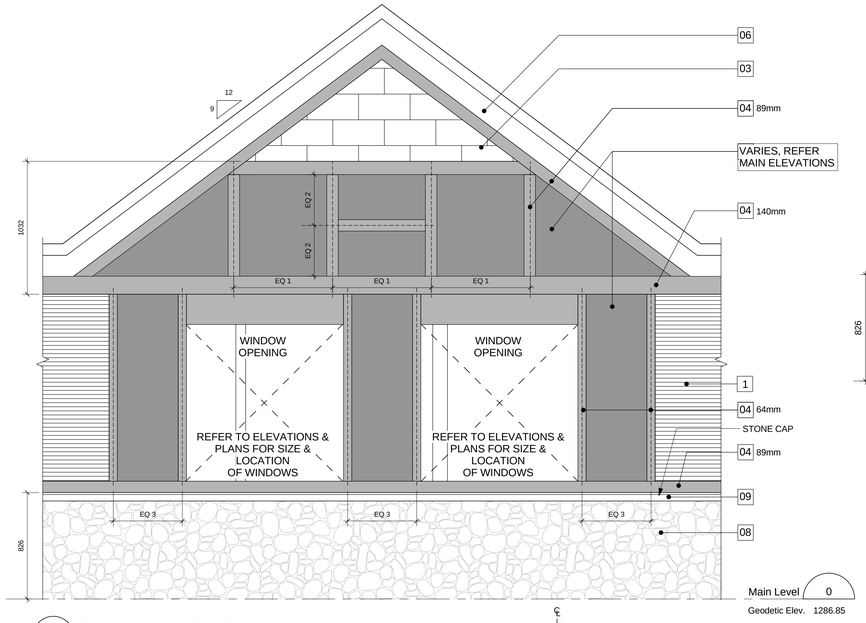
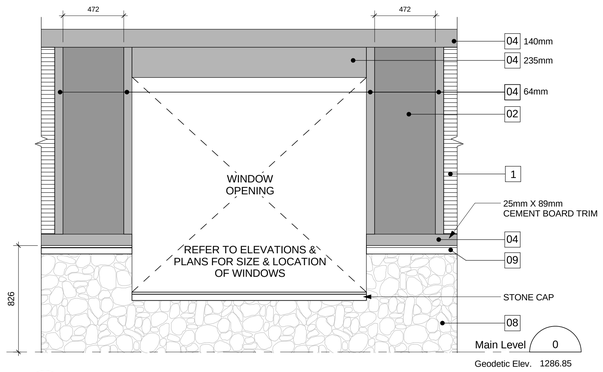
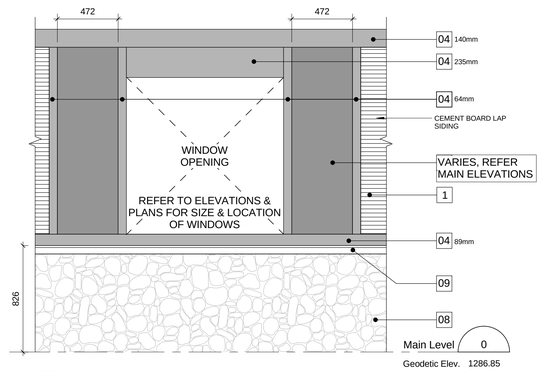


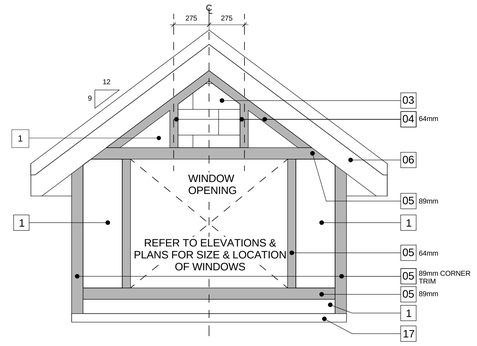
6 A402 Enlarged Window Trim Detail 02
Scale: 1 : 20



4 A402 Enlarged Window Trim Detail 01
Scale: 1 : 20



1 A402 Enlarged Window Trim Detail 06
Scale: 1 : 20



2 A402 Enlarged Window Trim Detail 03
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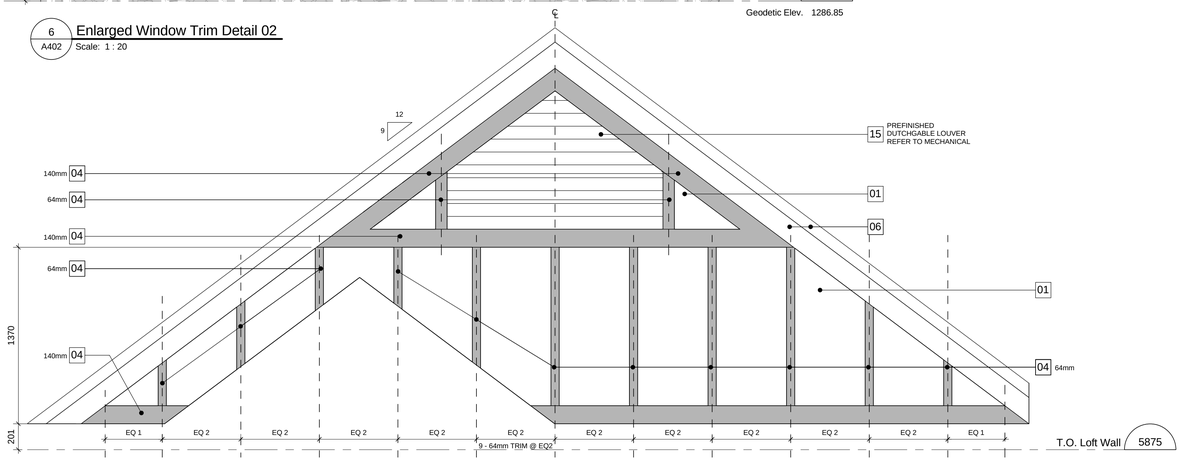
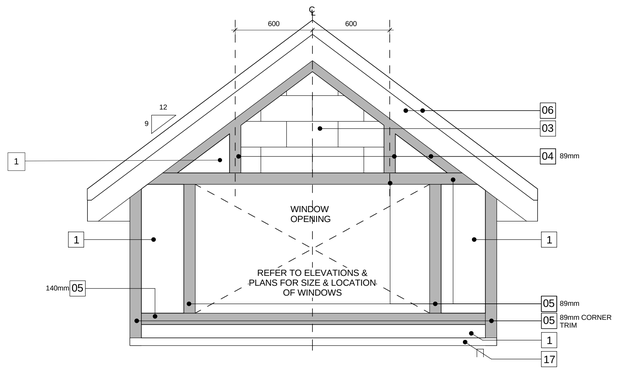


7 A402 West Enlarged Dutchgable Louver
Scale: 1 : 20



5 A402 Enlarged Window Trim Detail 04
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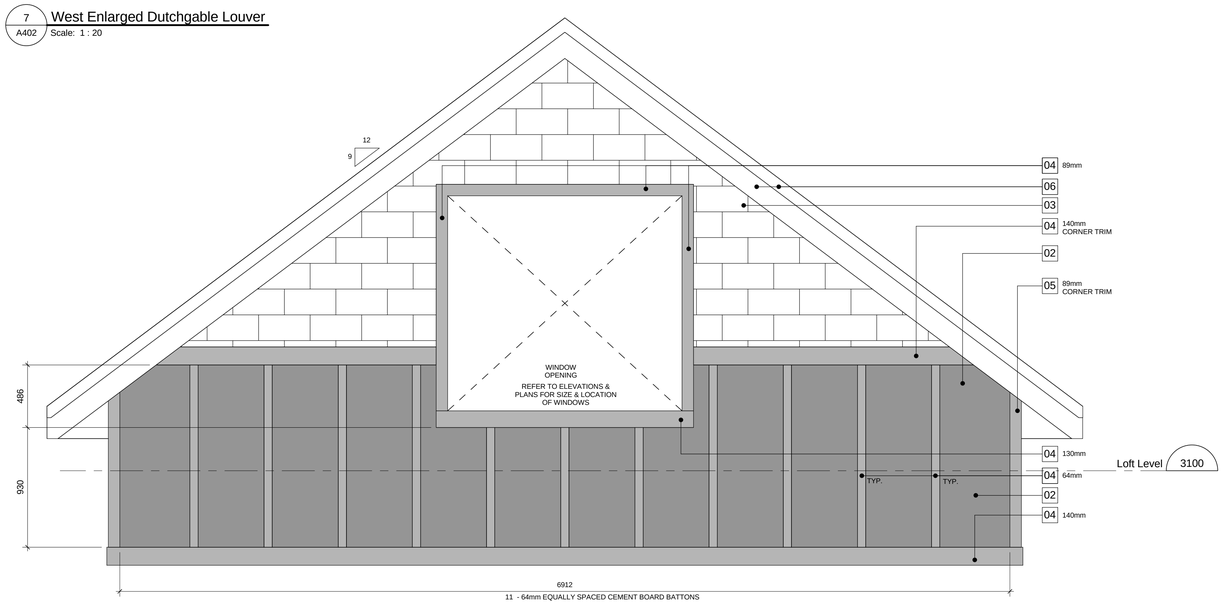

8 A402 Enlarged Window Trim Detail 05
Scale: 1 : 20

MATERIALS LEGEND

No.	MATERIALS	COLOR/FINISH	No.	MATERIALS	COLOR/FINISH
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2	CEMENT BOARD SIDING - Smooth Panel	MOUNTAIN SAGE	10	FIBERGLASS REINFORCED ASPHALT SHINGLES	DRIFTWOOD
2a	CEMENT BOARD SIDING - Smooth Panel	COUNTRY RED	11	CEDAR TIMBER POSTS AND BEAMS	CLEAR WOOD PRESERVATIVE
3	STAINED FIBER CEMENT SHAKE SIDING	MAHOGANY	12	VINYL WINDOW	WICKER
4	CEMENT BOARD TRIM	KHAKI BROWN	13	FIBERGLASS ENTRY DOOR	PAINT COLOUR - TO MATCH COUNTRY LANE RED
5	CEMENT BOARD TRIM STAINED	MAHOGANY	14	PRE-PARGED INSULATION BOARD	
6	METAL FASCIA	PEBBLE KHAKI	15	PREFINISHED MECHANICAL LOUVER	BLACK ANODIZED
7	METAL SOFFIT - Vented	WICKER	16	METAL CHIMNEY CANOPY	PEBBLE KHAKI
8	CULTURED STONE - Stream Stone	SPRING	17	PREFINISHED METAL FLASHING	TO MATCH ROOF

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1	2016-09-02	ISSUED FOR 99% REVIEW		

Revision / Revision

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Consultant's Name
Nom de l'expert-conseil

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Canada

Client/client
Parks Canada Agency
L'Agence Parcs Canada
Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

BUILDING ELEVATIONS - WINDOW TRIM

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	1:20

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Prog Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A402

Drawing Reference No./No. de reference du dessin

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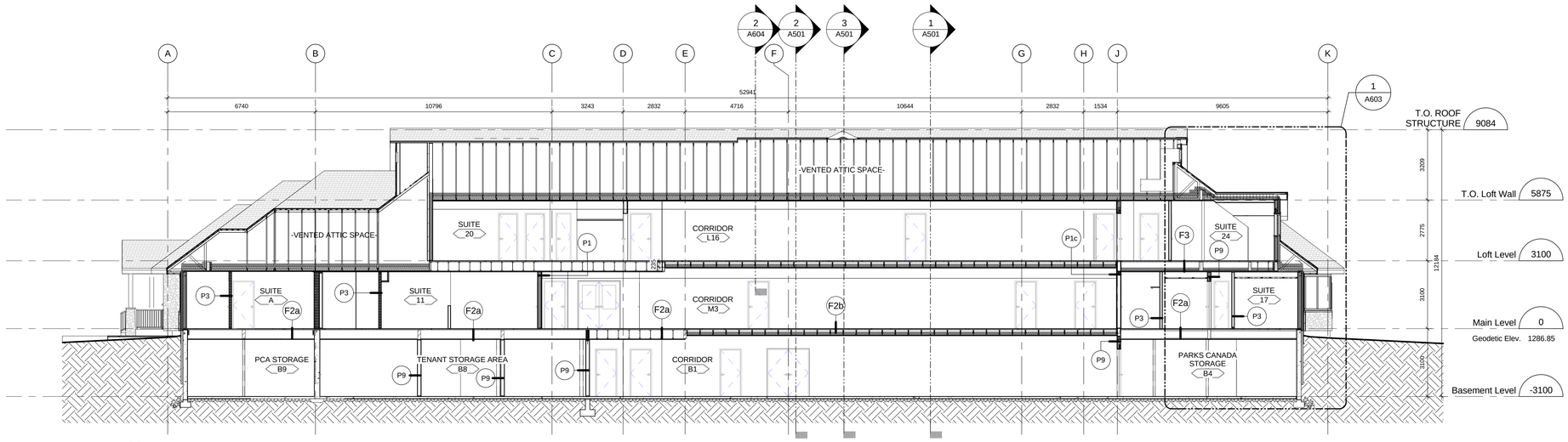

6 A501 BUILDING SECTION 01
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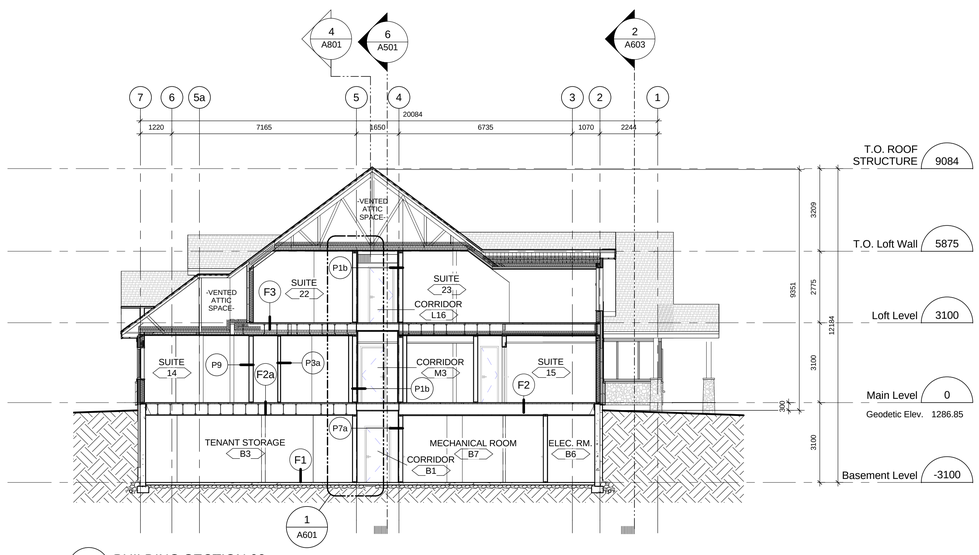

1 A501 BUILDING SECTION 02
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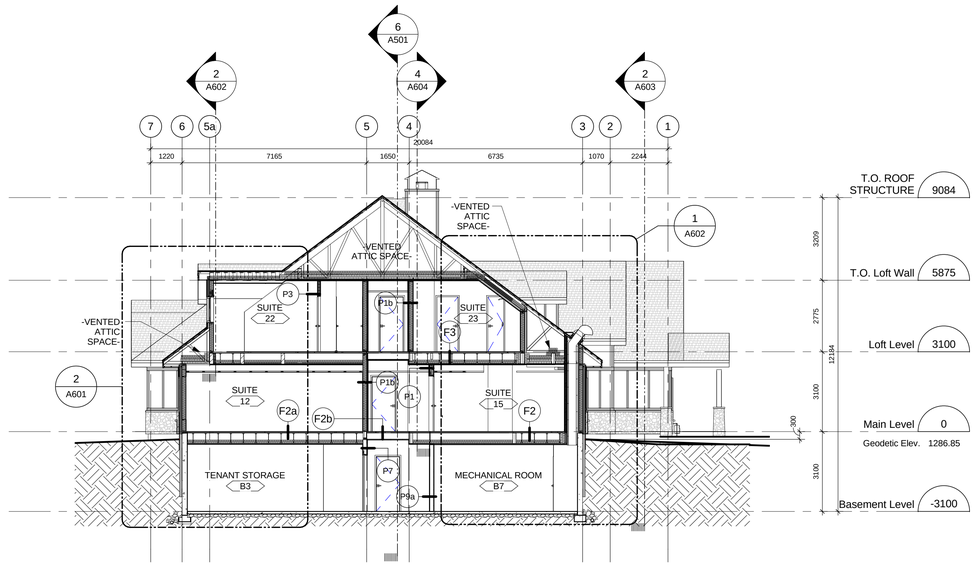

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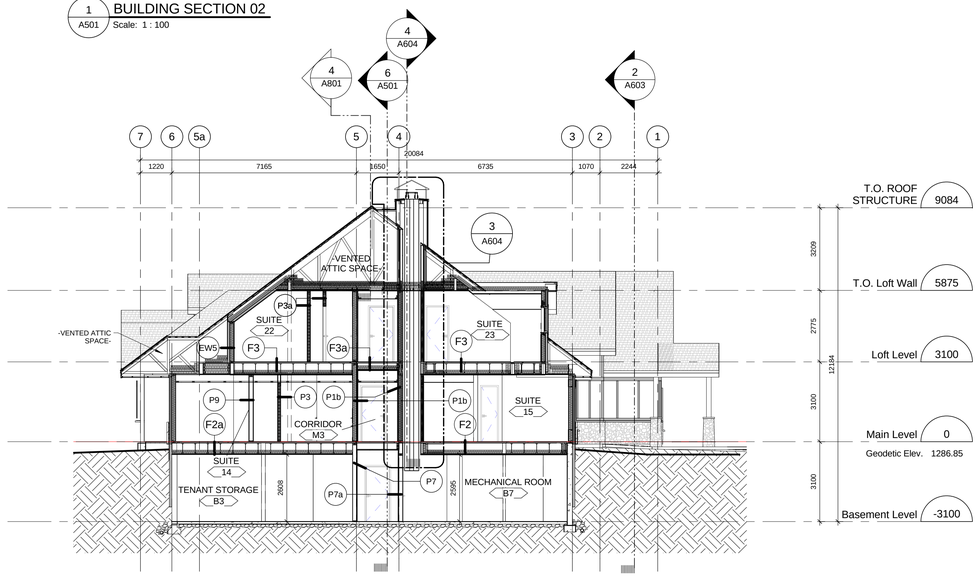

3 A501 BUILDING SECTION 04
Scale: 1 : 100

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5	2016-12-08	ISSUED FOR BUILDING PERMIT		
4	2016-09-02	ISSUED FOR 99% REVIEW		
3	2016-06-14	ISSUED FOR 66% REVIEW		
2	2016-05-09	ISSUED FOR 33% REVIEW		
1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

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Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
BUILDING SECTIONS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	1 : 100

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Parks Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A501

Drawing Reference No./No. de reference du dessin

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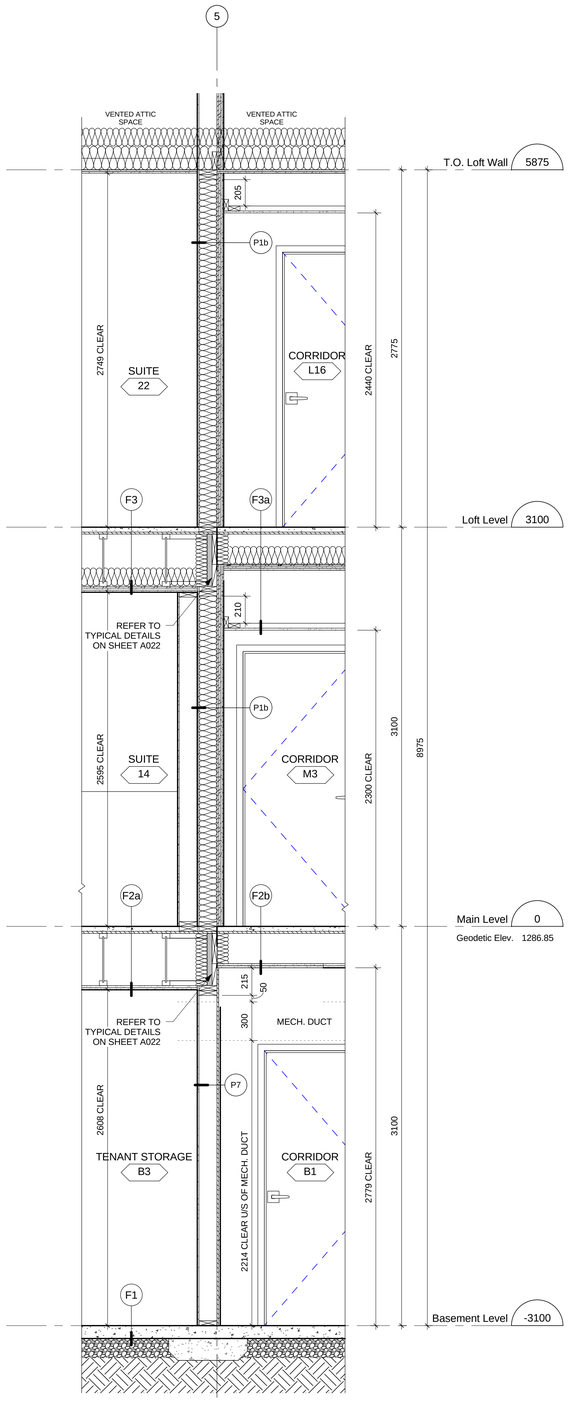

1 A601 WALL SECTION 01
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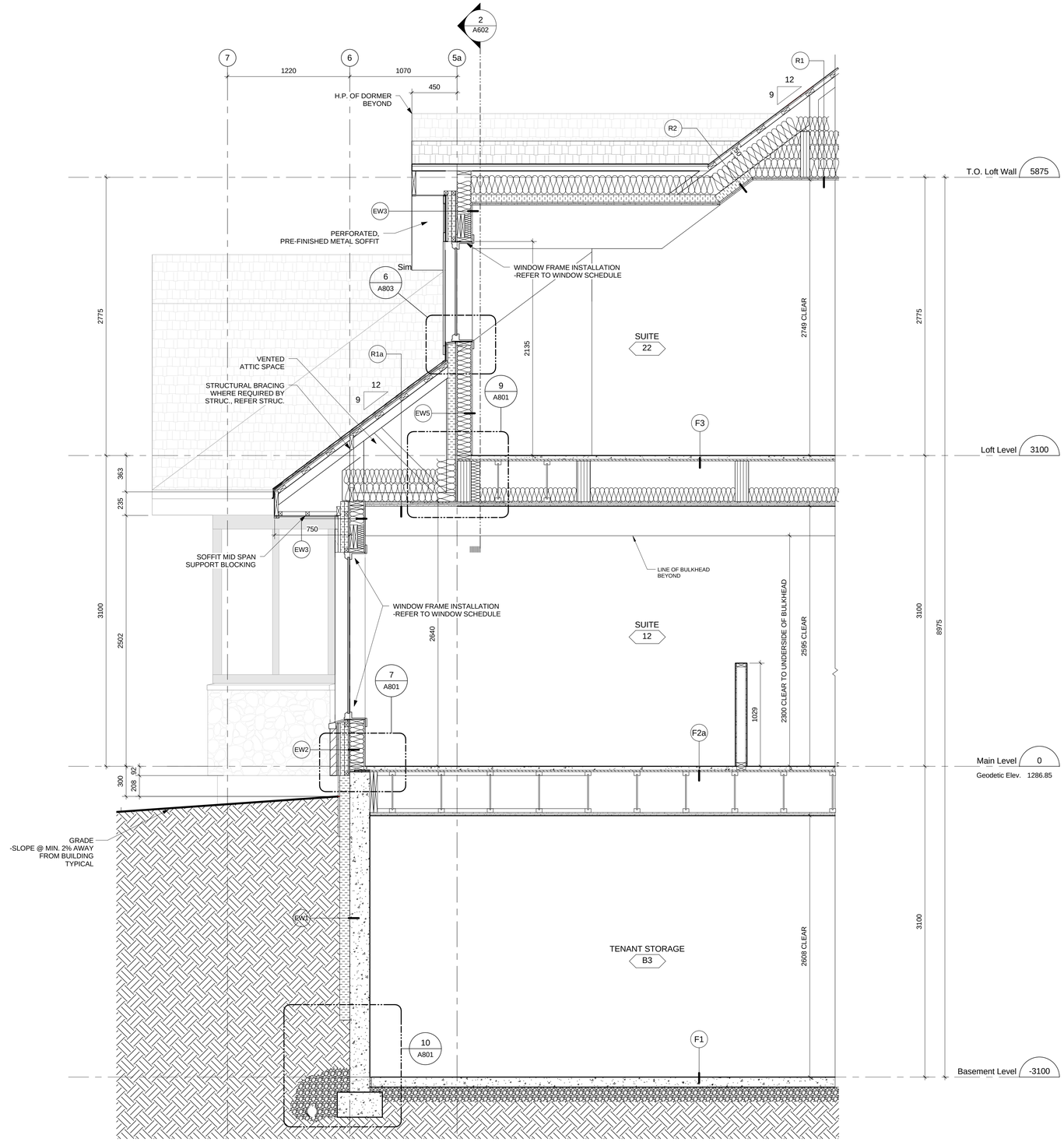

2 A601 WALL SECTION 02
Scale: 1 : 20

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1	2016-05-06	DEVELOPMENT PERMIT REVIEW		

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Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

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LS/FVR	LS/FVR	1 : 20

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Randy Boldt

Client Acceptance/Acceptation du client
Pink Responsible Officer/Agent Responsable

Approved by/Approuve par
PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A601

Drawing Reference No./No. de reference du dessin

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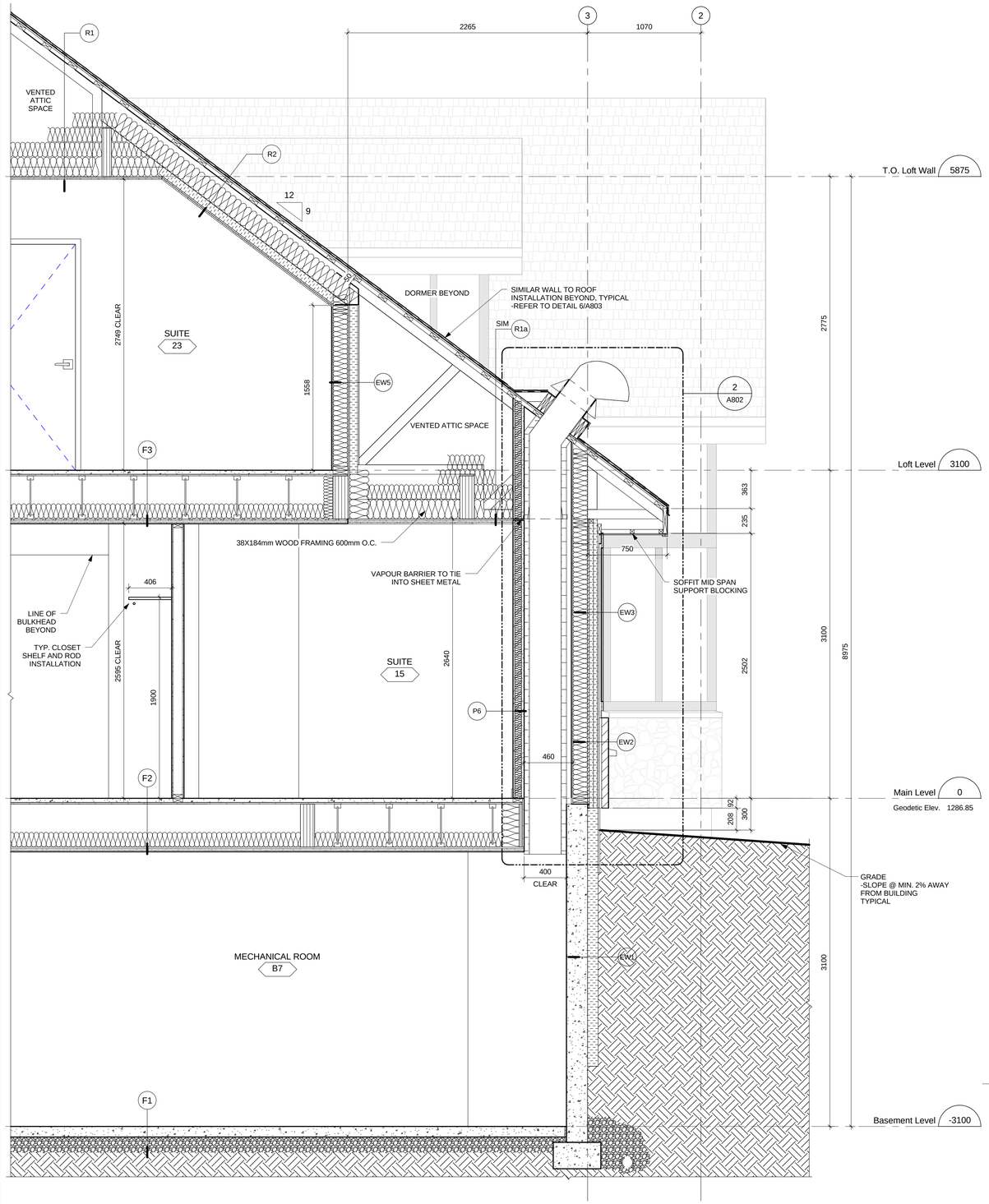

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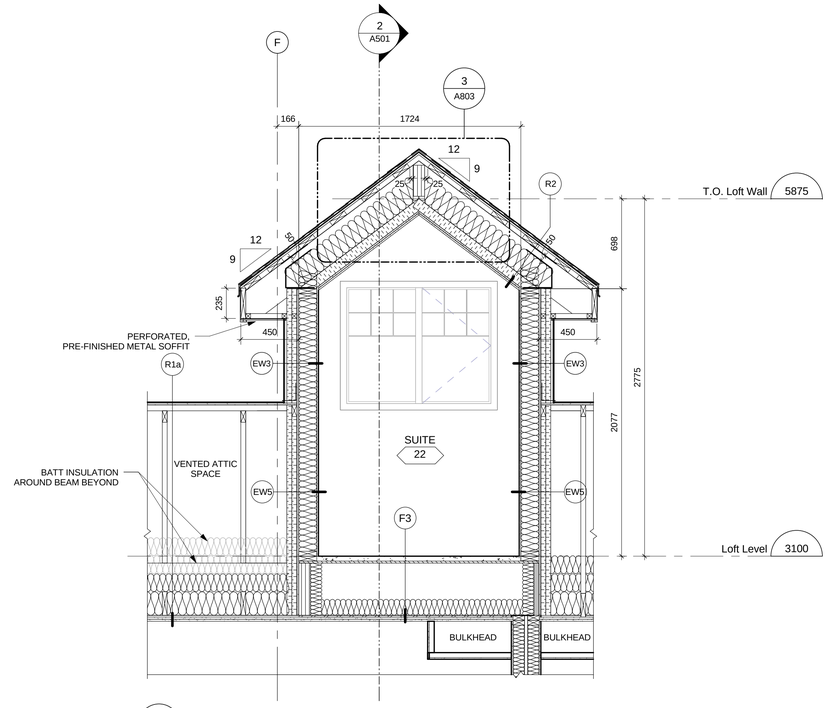

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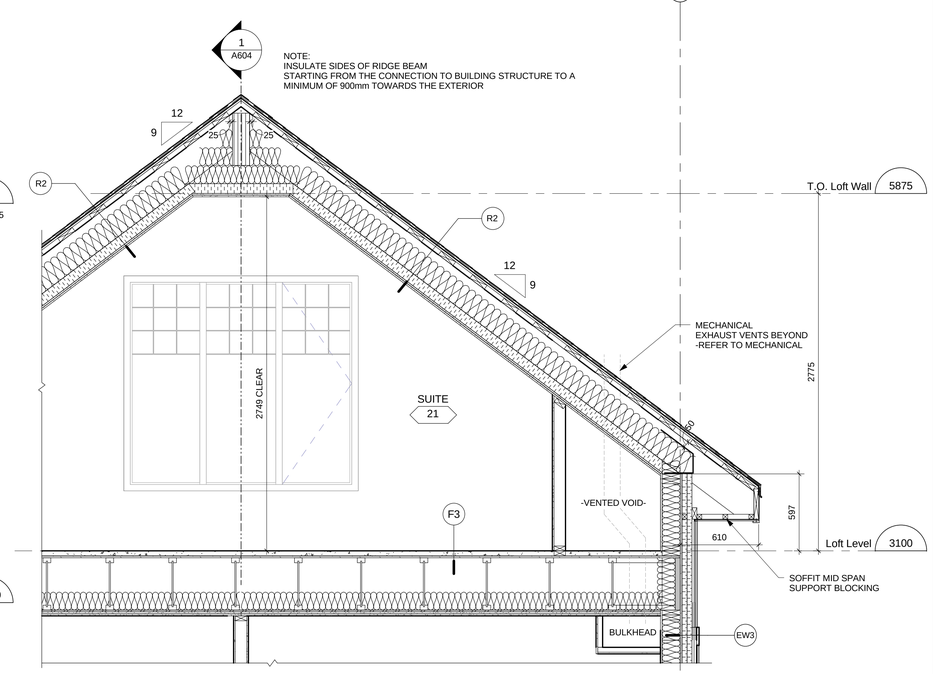

3 A602 WALL SECTION 05
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1	2016-06-14	ISSUED FOR 66% REVIEW		

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LS/FVR	LS/FVR	1 : 20

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Randy Boldt

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Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A602

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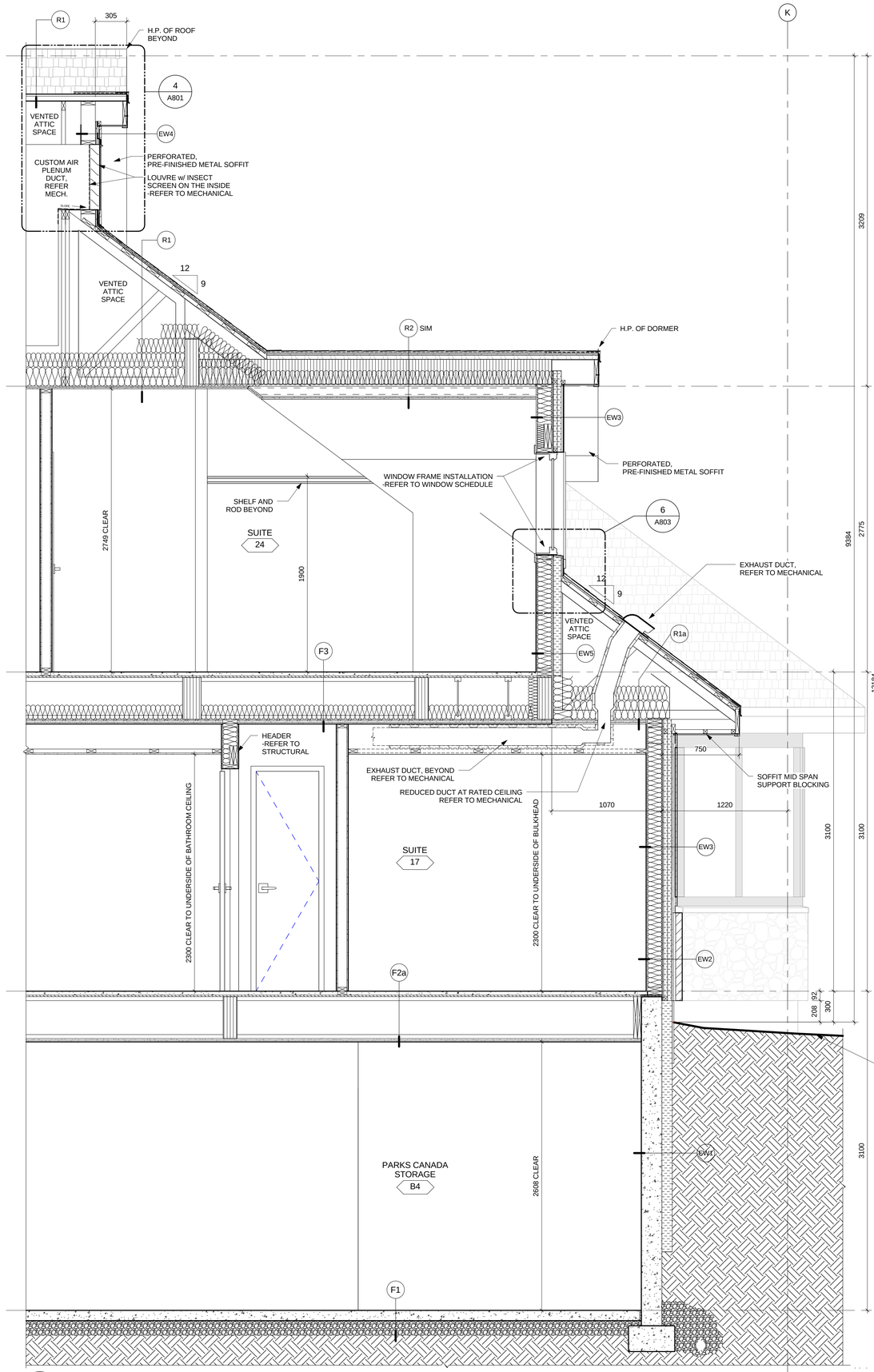

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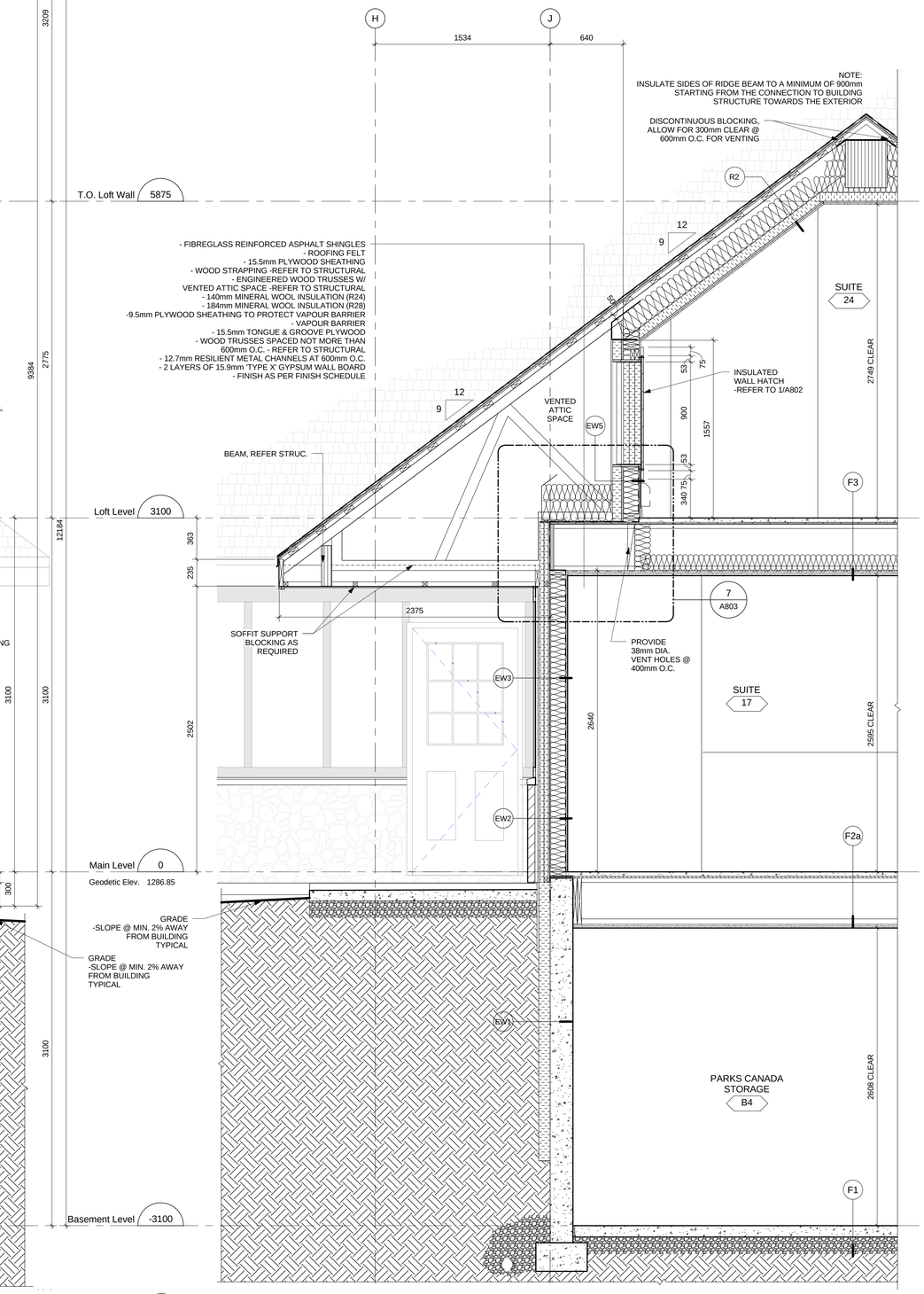

2 A603 WALL SECTION 07
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1	2016-09-02	ISSUED FOR 99% REVIEW		

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Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP	2016-12-08
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
LS/FVR	LS/FVR	1 : 20

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

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Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A603

Drawing Reference No./No. de reference du dessin

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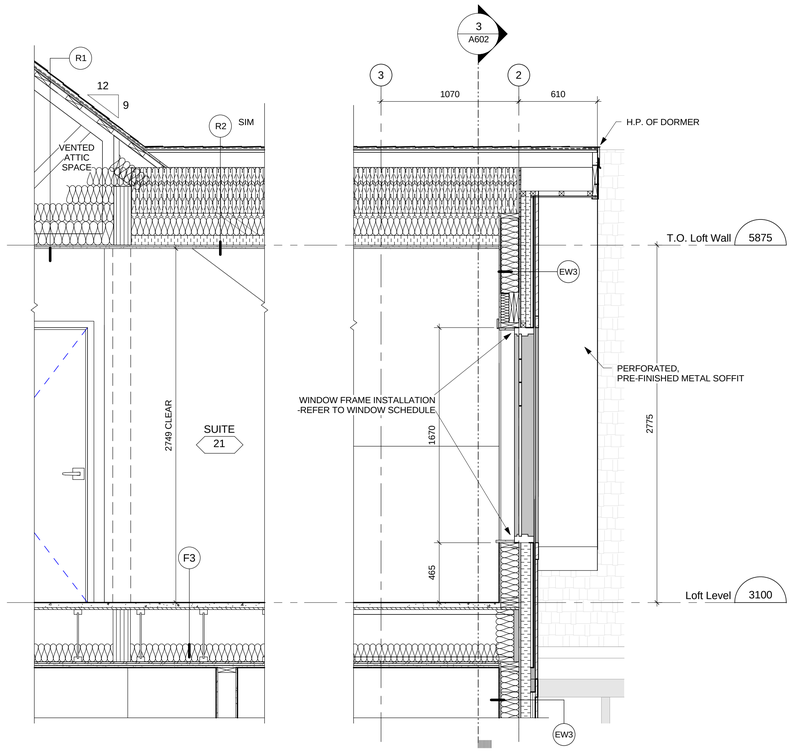

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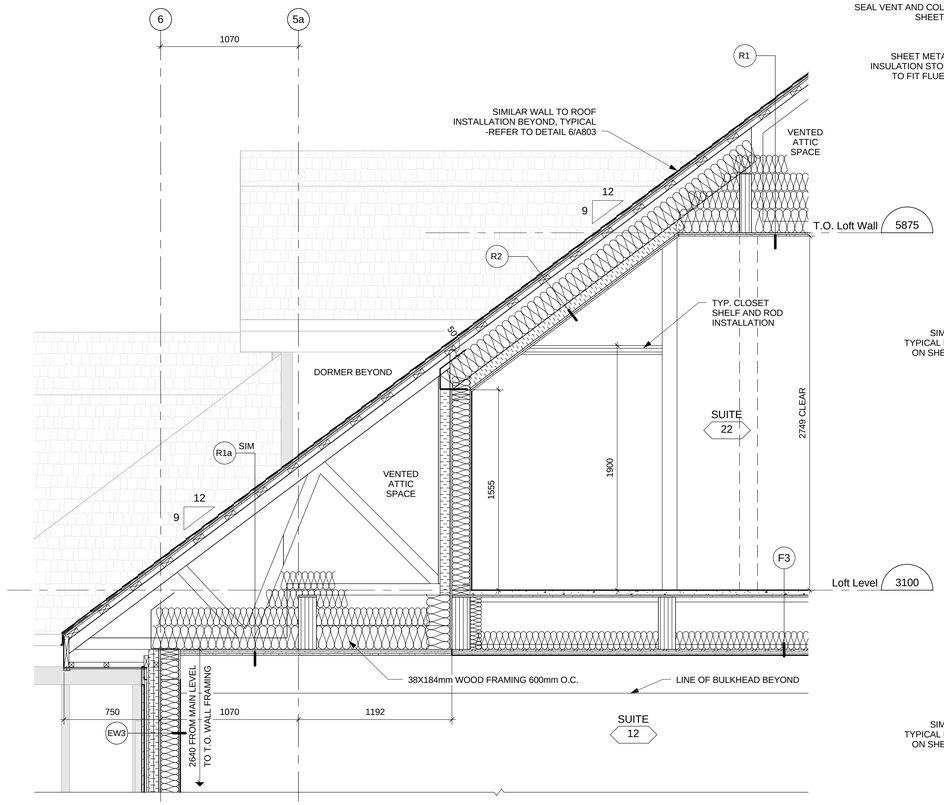

2 / A604 WALL SECTION 09
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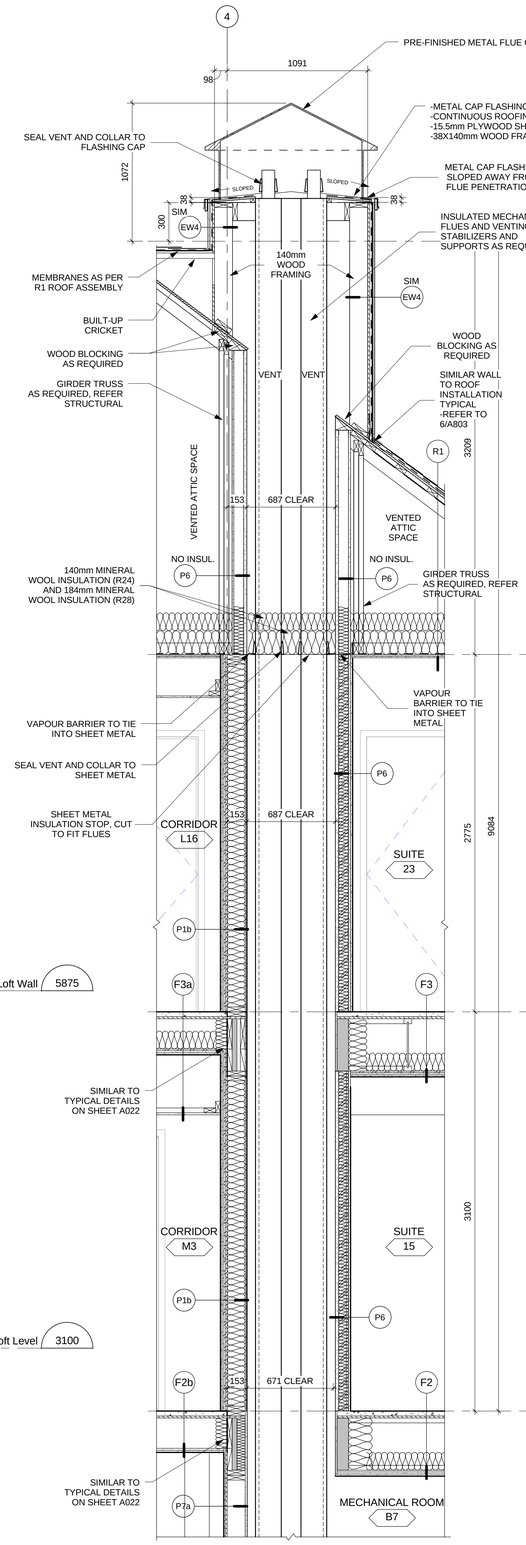

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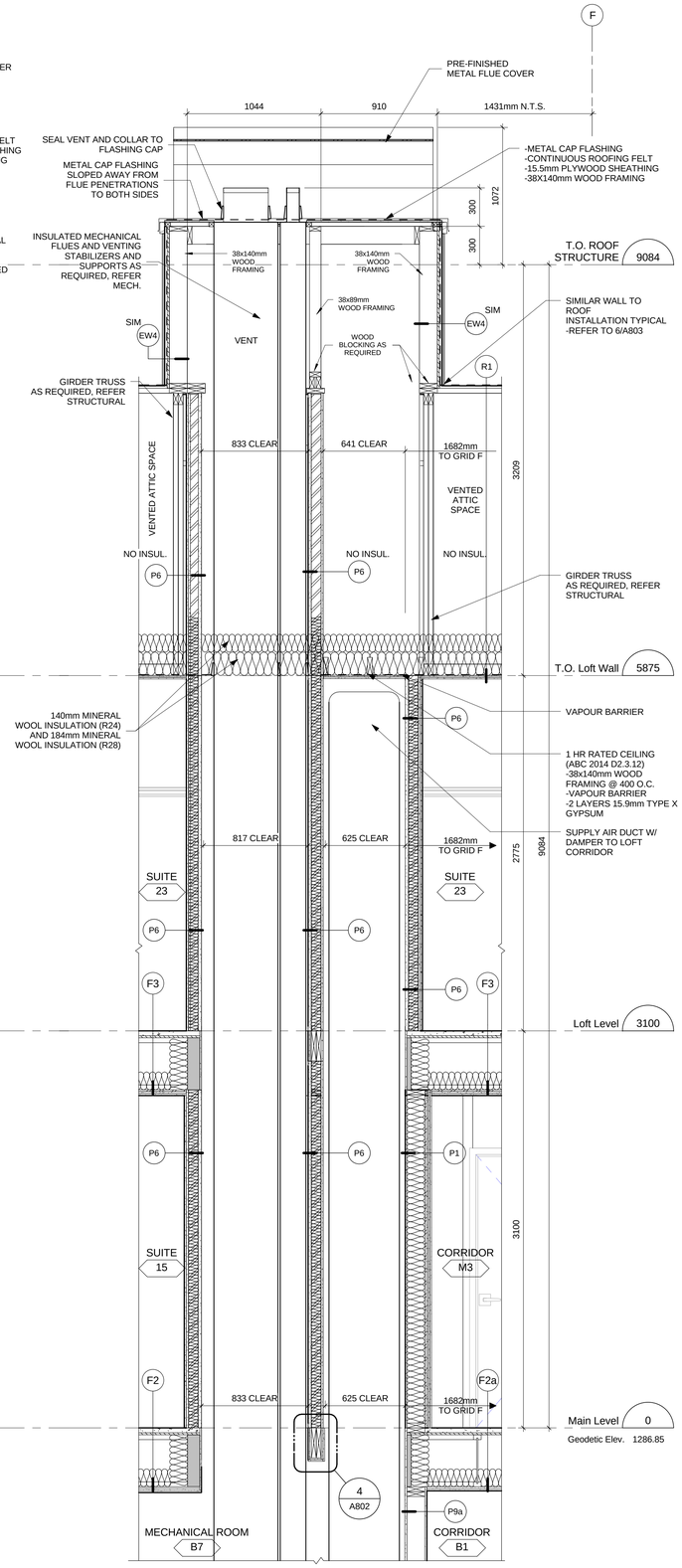

4 / A604 PRELIM. CHIMNEY SECTION 02
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Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
WALL SECTIONS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP	2016-12-08
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
LS/FVR	LS/FVR	1 : 20

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

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Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A604

Drawing Reference No./No. de reference du dessin

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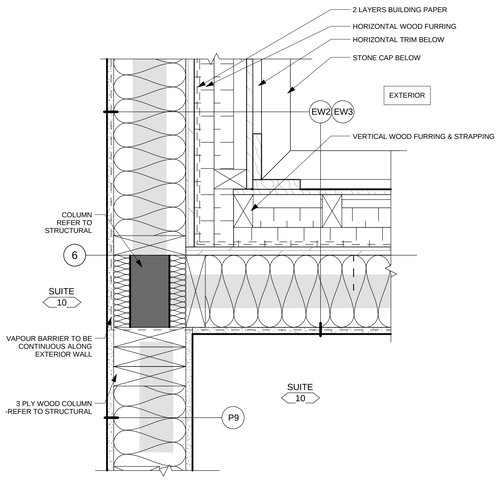
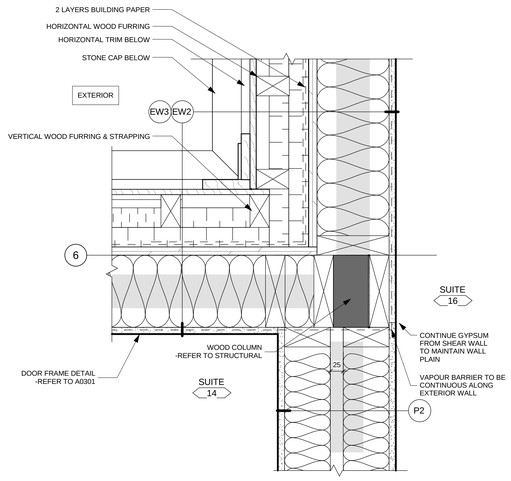


1 A701 TYPICAL MAIN LEVEL EXTERIOR WALL DETAIL
Scale: 1 : 5



2 A701 TYPICAL MAIN LEVEL EXTERIOR WALL DETAIL 02
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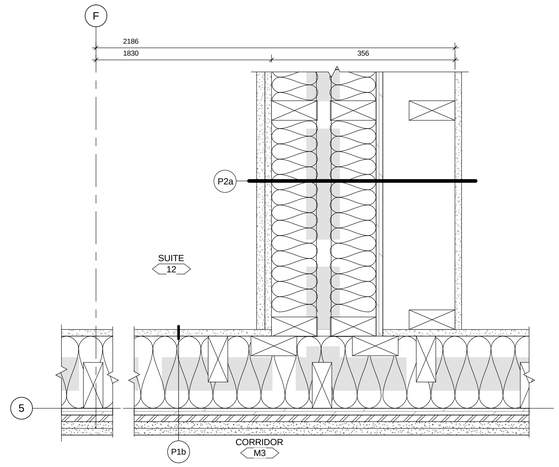

3 A701 MAIN LEVEL GRID F5
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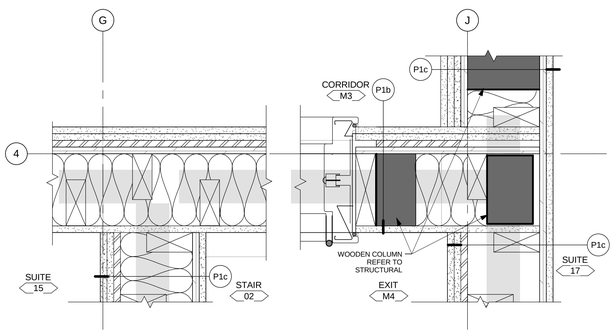
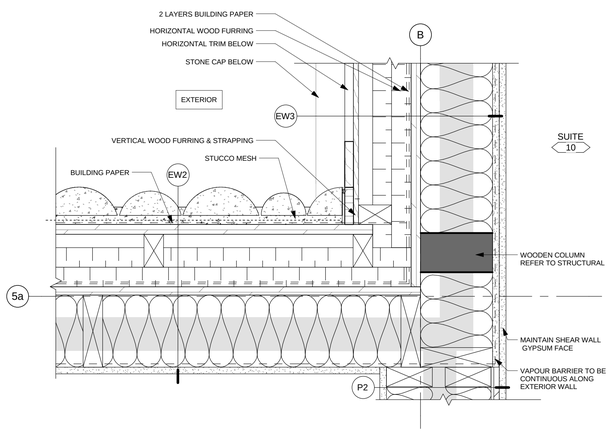
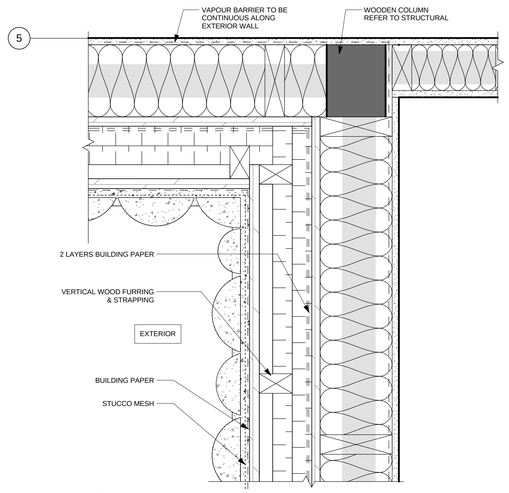


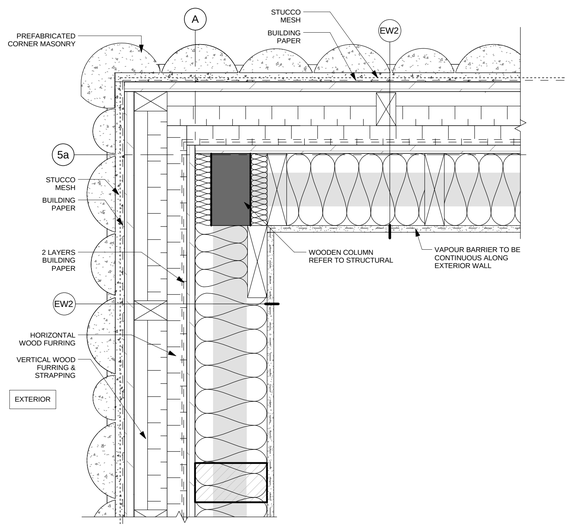
4 A701 TYPICAL INTERIOR WALL CORNER DETAIL
Scale: 1 : 5



5 A701 TYPICAL EXTERIOR CEMENT BOARD & STONE DETAIL
Scale: 1 : 5



7 A701 TYPICAL EXTERIOR STONE INSIDE CORNER DETAIL
Scale: 1 : 5



6 A701 TYPICAL EXTERIOR STONE OUTSIDE CORNER DETAIL
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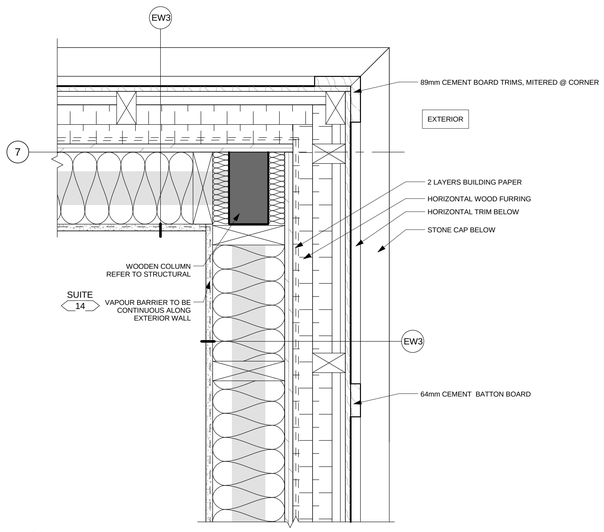

8 A701 TYPICAL MAIN LEVEL EXTERIOR EW3 OUTSIDE CORNER DETAIL
Scale: 1 : 5

LEGEND:

45 min F.R.R.

60 min F.R.R.

FOR LOCATION OF FIRE RATED ASSEMBLIES AND COLUMNS REFER TO SHEET A0201 - FIRE SEPARATION PLANS & SECTIONS & STANDARD DETAILS

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Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

PLAN DETAILS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MP/AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	1:5

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Parks Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A701

Drawing Reference No./No. de reference du dessin

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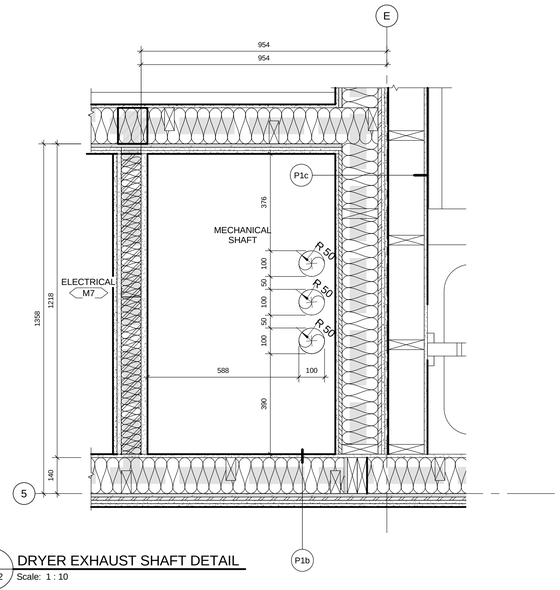

1 A702 DRYER EXHAUST SHAFT DETAIL
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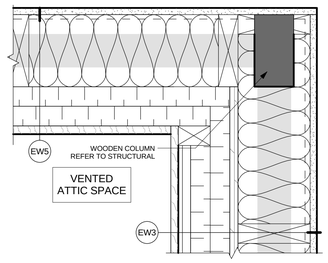
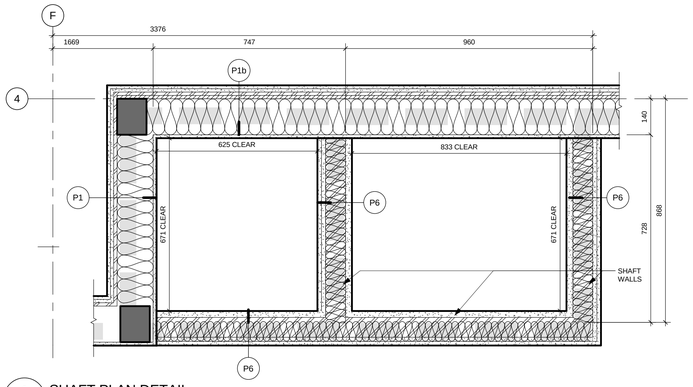


5 A702 LOFT EXTERIOR CORNER DETAIL 2
Scale: 1 : 5



2 A702 SHAFT PLAN DETAIL
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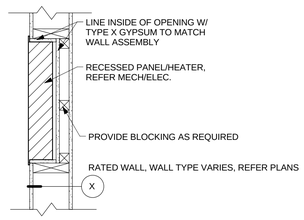
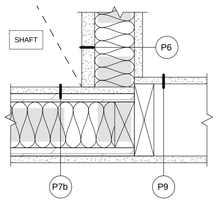
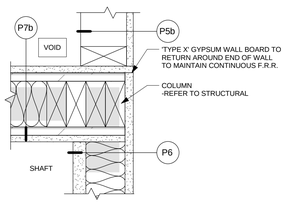


6 A702 TYPICAL RECESSED PANEL DETAIL FOR RATED WALLS
Scale: 1 : 10



3 A702 SHEAR WALL / SHAFT WALL FIRE RATED DETAIL
Scale: 1 : 5



4 A702 SHEAR WALL / SHAFT WALL FIRE RATED DETAIL 2
Scale: 1 : 5

LEGEND:

45 min F.R.R.

60 min F.R.R.

FOR LOCATION OF FIRE RATED ASSEMBLIES AND COLUMNS
REFER TO SHEET A0201 - FIRE SEPARATION PLANS
& SECTIONS & STANDARD DETAILS

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Randy Boldt

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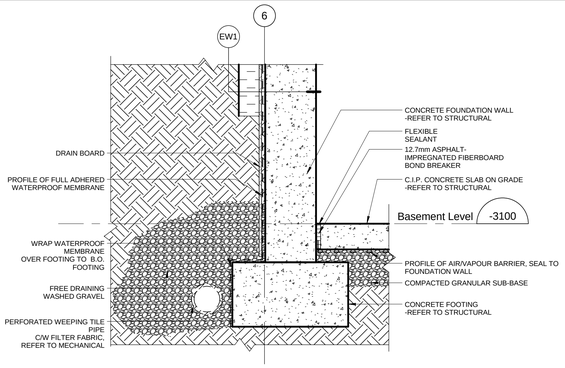
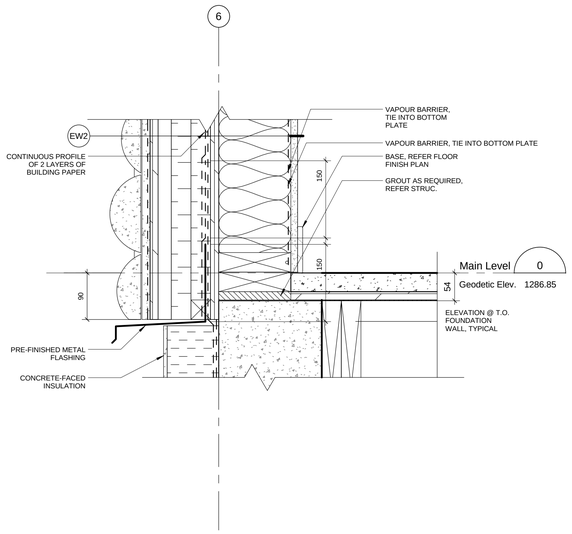
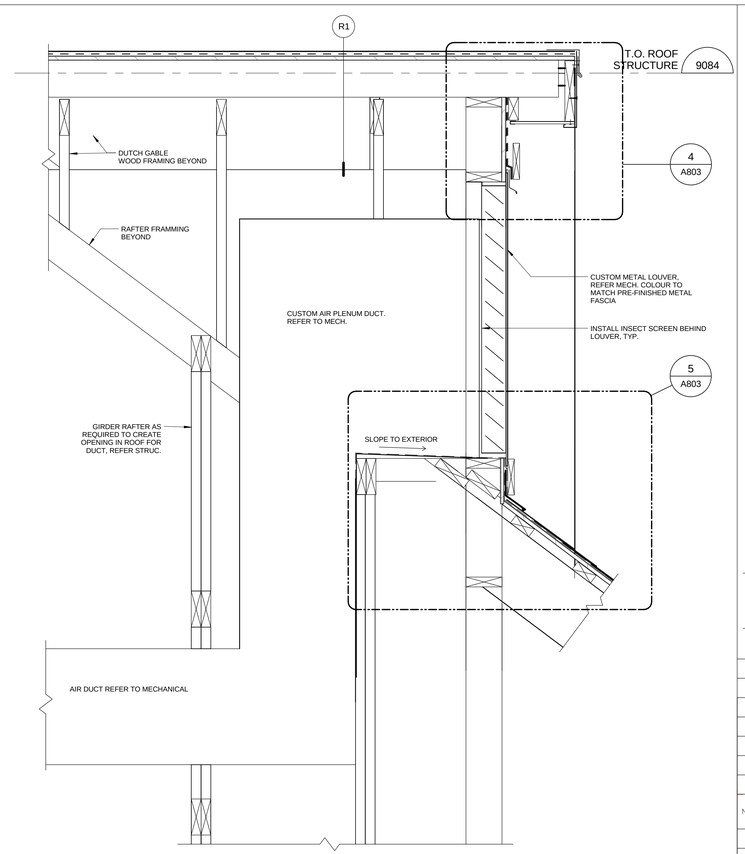


10 A801 SECTION DETAIL - FOUNDATION FOOTING WEEPING TILE - TYPICAL
Scale: 1 : 10



7 A801 SECTION DETAIL - MAIN LEVEL PERIMETER - TYPICAL
Scale: 1 : 5



4 A801 ROOF SECTION - TYPICAL GABLE VENT
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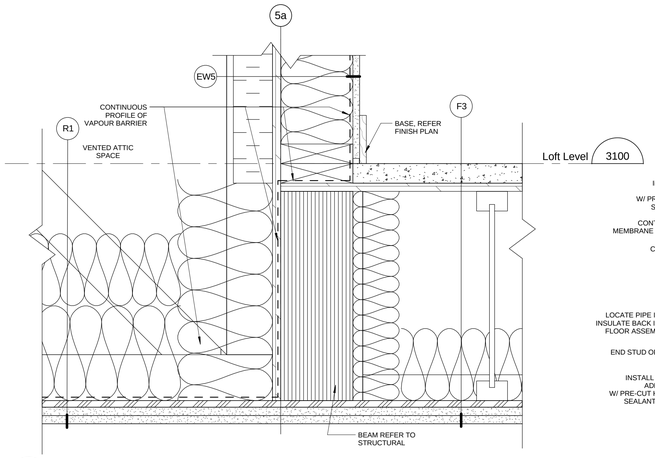
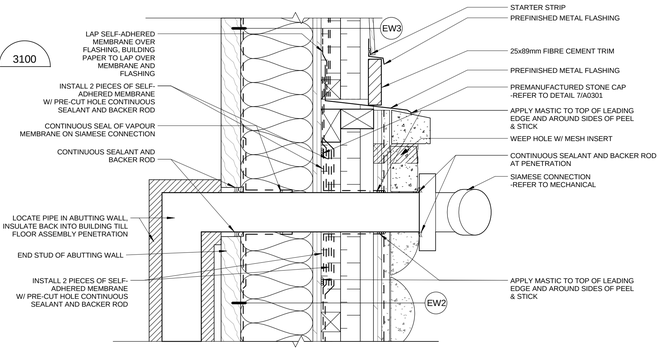


9 A801 SECTION DETAIL - SUITE WALL/VENTED ATTIC - TYPICAL DETAIL
Scale: 1 : 5



6 A801 SECTION DETAIL - WALL TRANISTION AND SIAMESE CONNECTION
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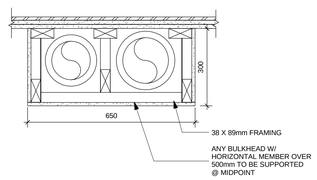

2 A801 OVERSIZE BULKHEAD ASSEMBLY
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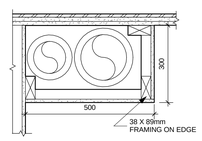
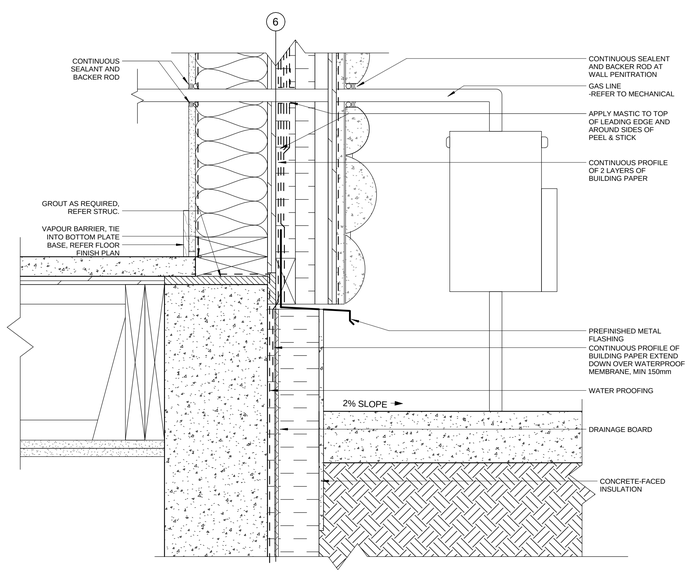


3 A801 STANDARD BULKHEAD ASSEMBLY
Scale: 1 : 10



5 A801 SECTION DETAIL - GAS METER PENETRATION
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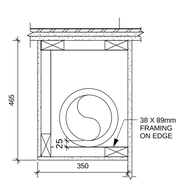
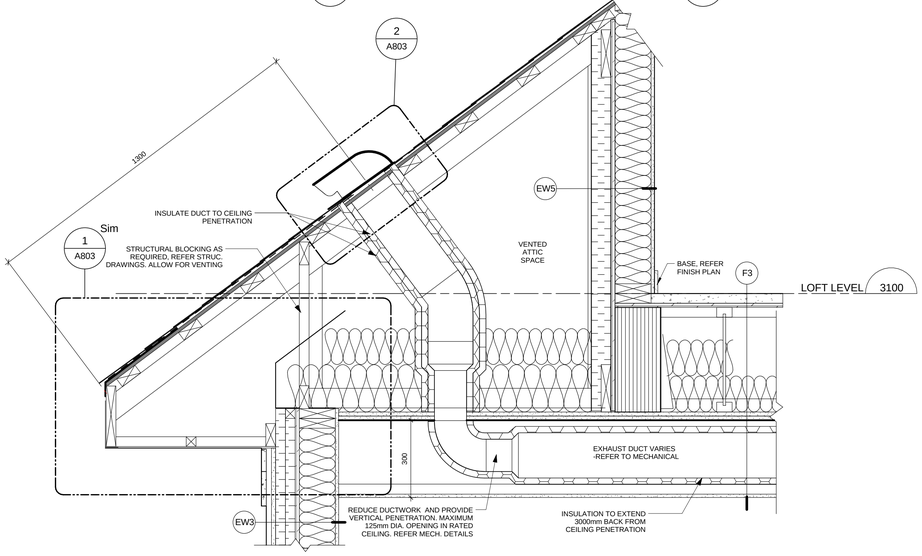


11 A801 SECTION DETAIL - STANDARD BULKHEAD ASSEMBLY - KITCHEN
Scale: 1 : 10



1 A801 SECTION DETAIL - TYPICAL EXHAUST DUCT ROOF PENETRATION @ EAVE
Scale: 1 : 10

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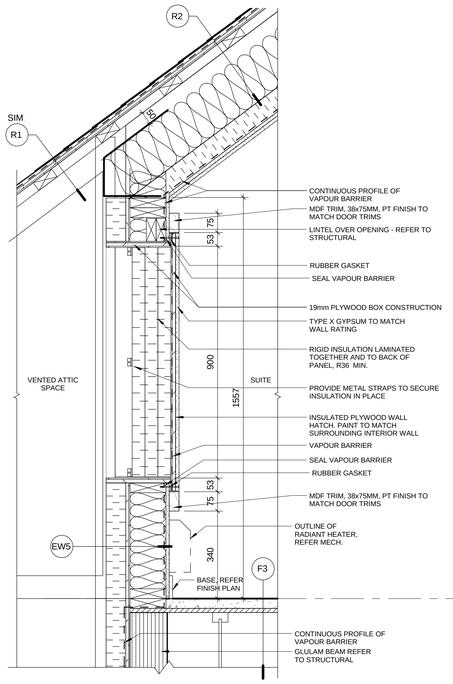

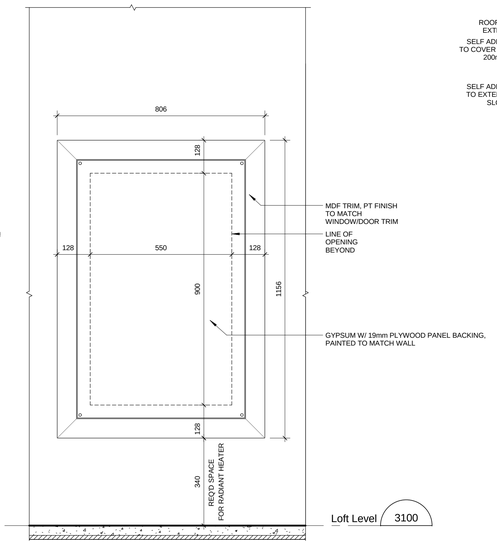

1 / A802 SECTION DETAIL - ATTIC ACCESS WALL HATCH
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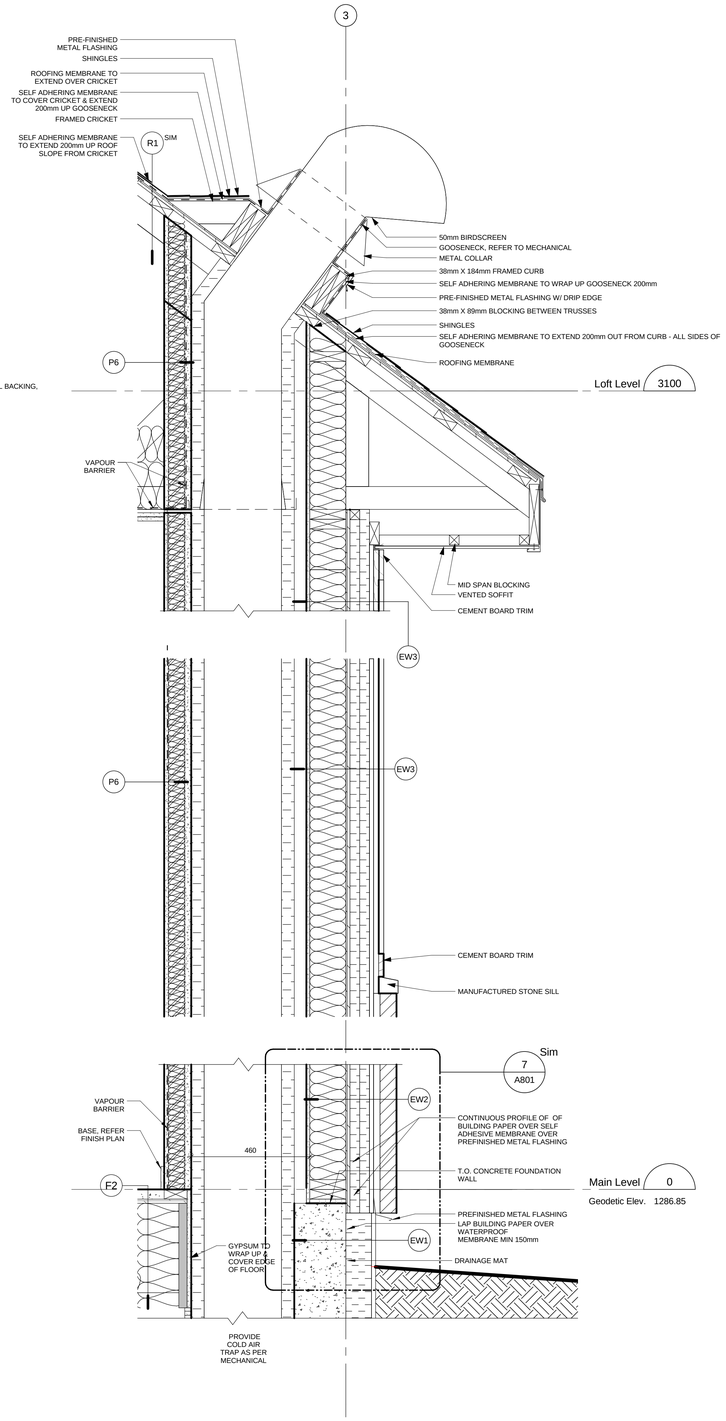

2 / A802 SECTION DETAIL - COLD AIR INTAKE SHAFT
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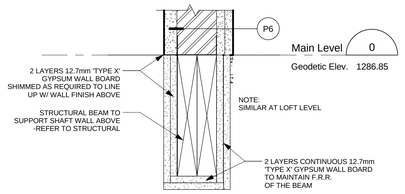

4 / A802 SHAFT BEAM SECTION DETAIL
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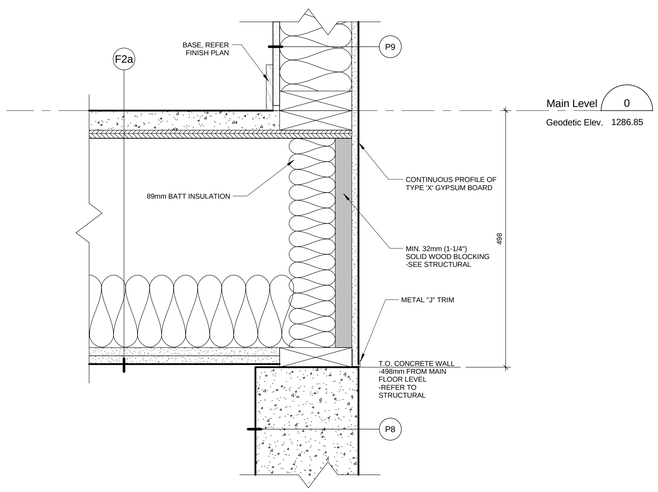

3 / A802 SECTION DETAIL - LOWERED WALL @ STAIR
Scale: 1 : 5

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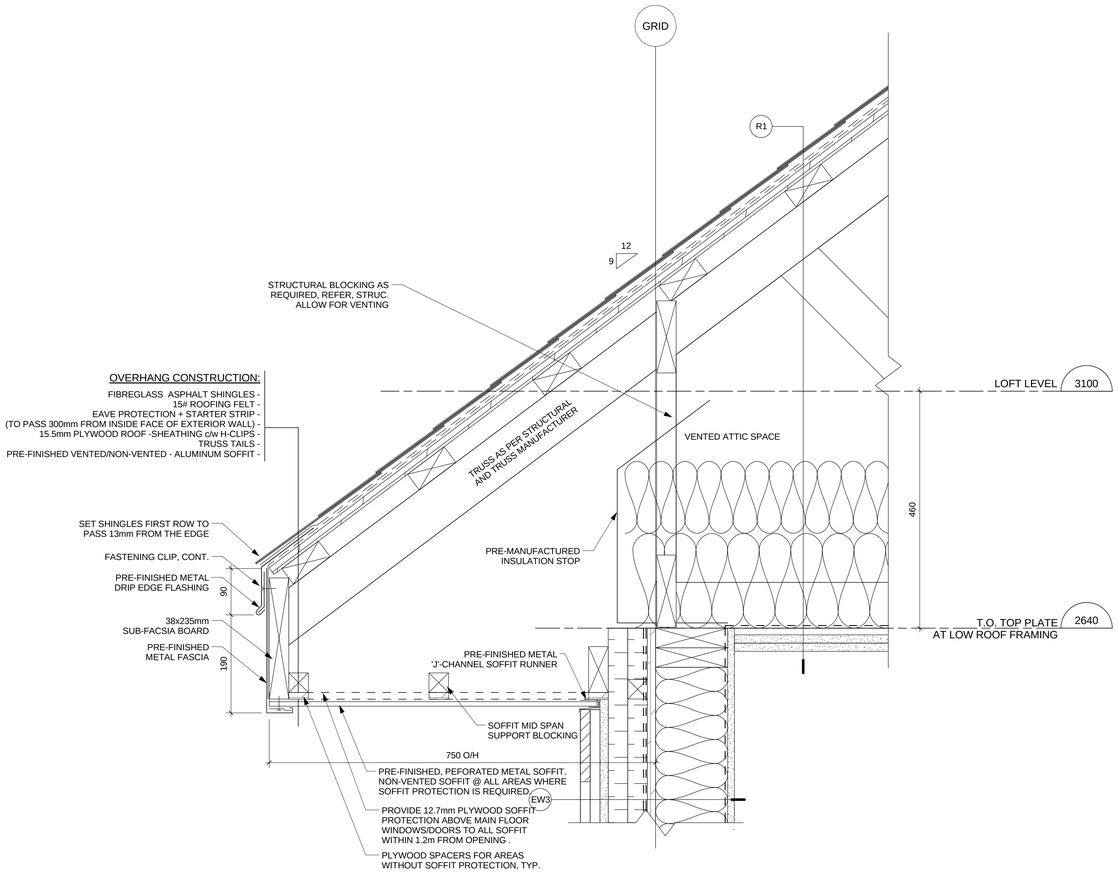
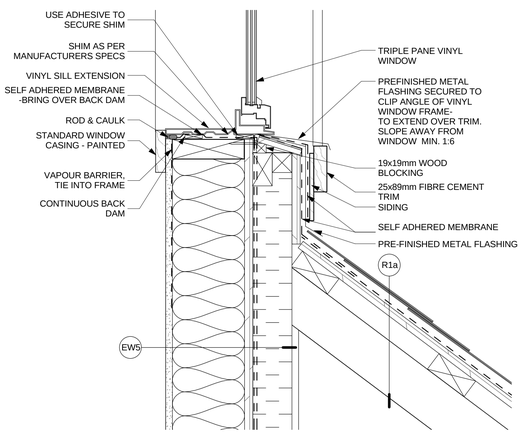
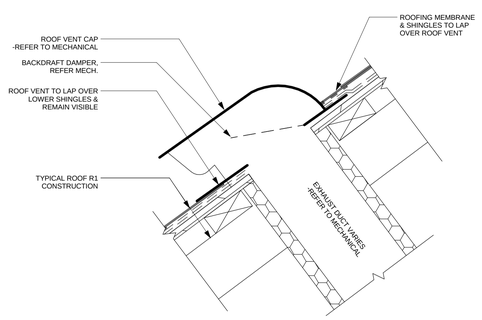


1 / A803 SECTION DETAIL - TYPICAL OVERHANG DETAIL
Scale: 1 : 5



6 / A803 TYPICAL DORMER WINDOW SILL
Scale: 1 : 5



2 / A803 SECTION DETAIL - EXHAUST DUCT ROOF PENETRATION
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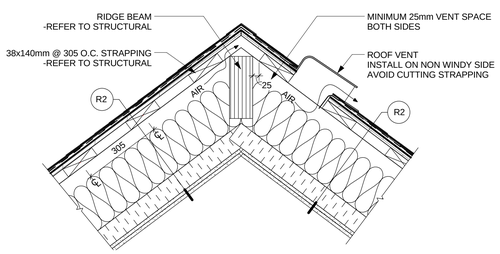

3 / A803 R2 DORMER WITH ROOF VENTING
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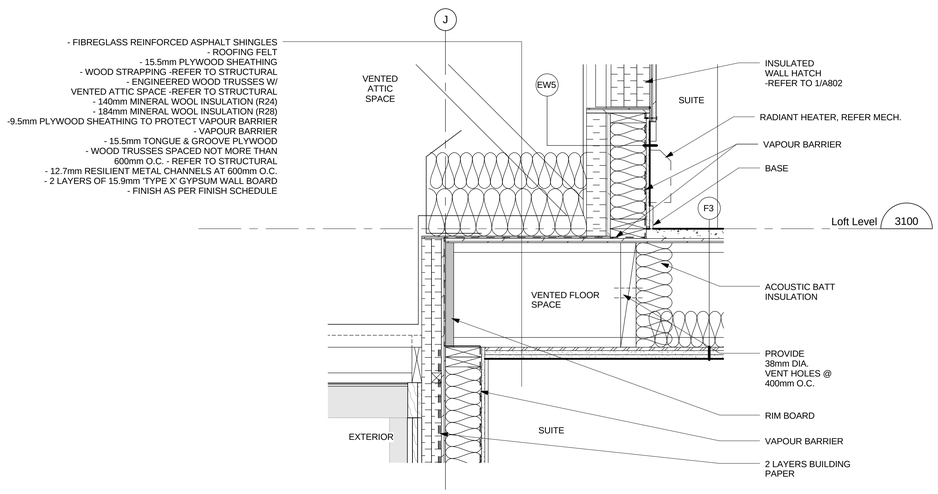

7 / A803 LOFT FLOOR @ REAR CANOPY
Scale: 1 : 10

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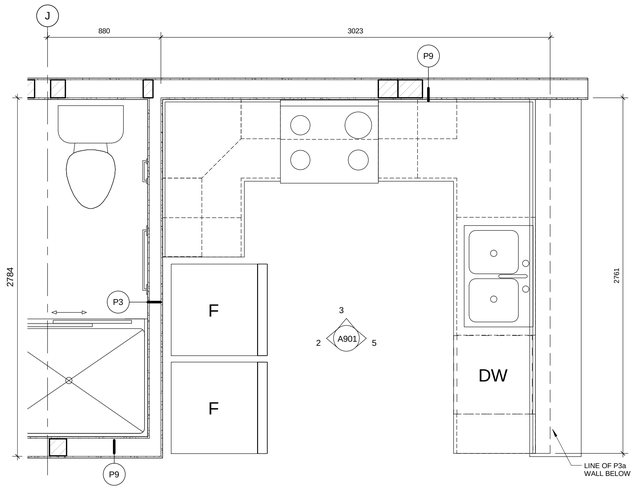
INTERIOR ELEVATION NOTES:

- REFER TO FINISHES PLANS FOR MATERIALS & FINISHES



1 A901 Typical Enlarged Plan - Kitchen 1
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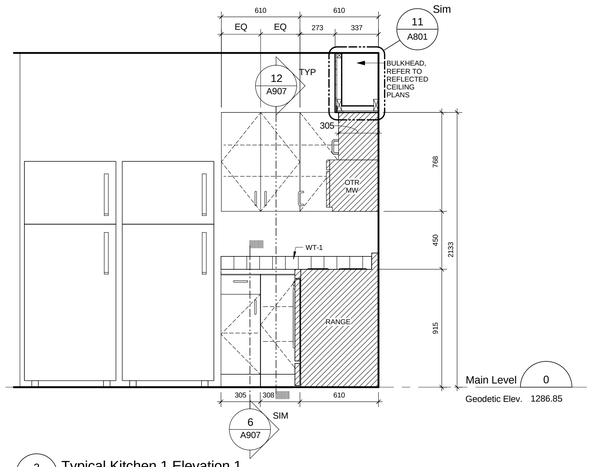
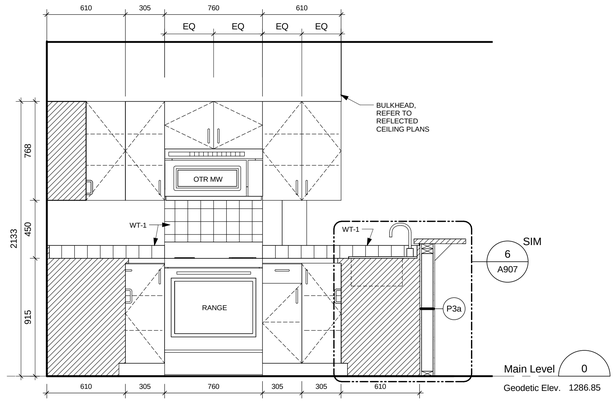
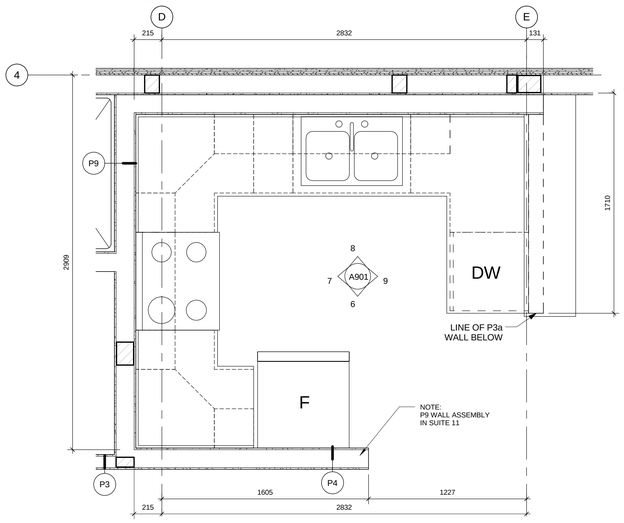


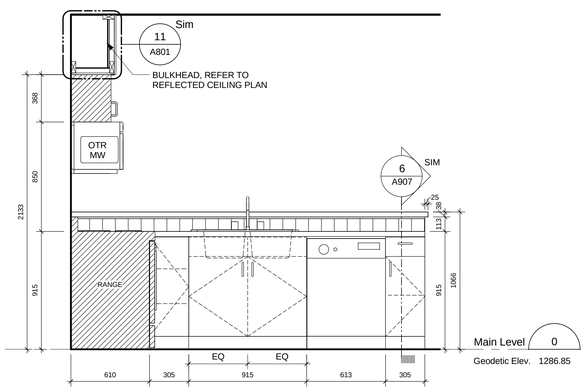
2 A901 Typical Kitchen 1 Elevation 1
Scale: 1 : 20



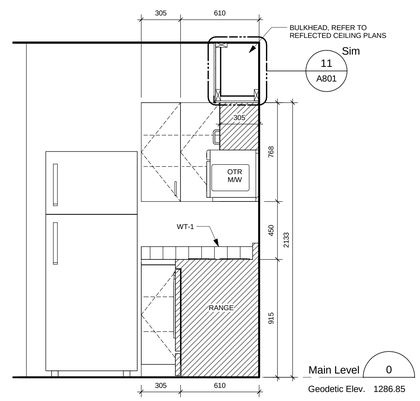
3 A901 Typical Kitchen 1 Elevation 2
Scale: 1 : 20



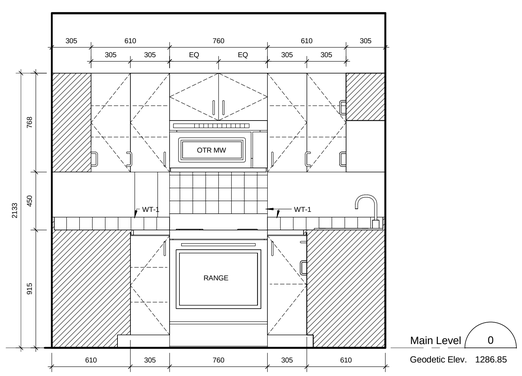
4 A901 Typical enlarged Plan - Kitchen 2
Scale: 1 : 20



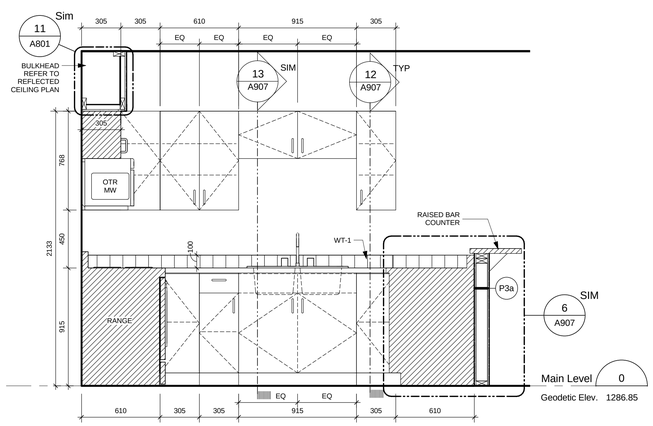
5 A901 Kitchen 1 Elevation 3
Scale: 1 : 20



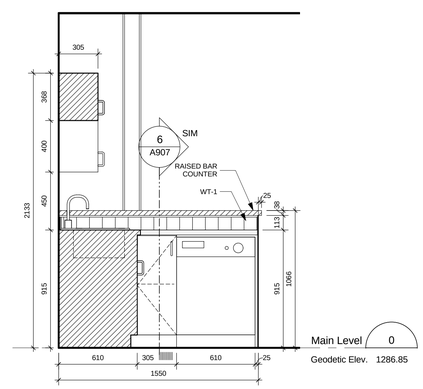
6 A901 Kitchen 2 Elevation 1
Scale: 1 : 20



7 A901 Kitchen 2 Elevation 2
Scale: 1 : 20



8 A901 Kitchen 2 Elevation 3
Scale: 1 : 20



9 A901 Kitchen 2 Elevation 4
Scale: 1 : 20

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2	2016-09-02	ISSUED FOR 99% REVIEW		
1	2016-06-14	ISSUED FOR 66% REVIEW		

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Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

KITCHEN PLANS & ELEVATIONS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	1:20

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Prog Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A901

Drawing Reference No./No. de reference du dessin

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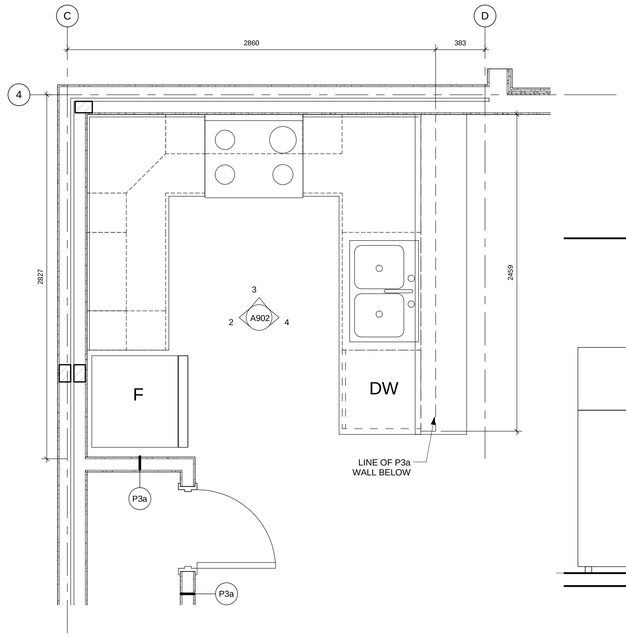
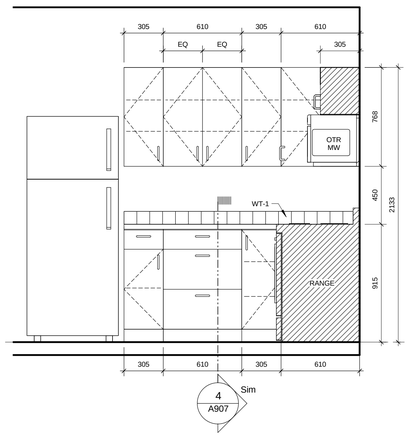
Sheet Size: ISO B1 - 707x1000mm

INTERIOR ELEVATION NOTES:

- REFER TO FINISHES PLANS FOR MATERIALS & FINISHES



1 A902 Typical enlarged Plan - Kitchen 4
Scale: 1 : 20



2 A902 Kitchen 4 Elevation 1
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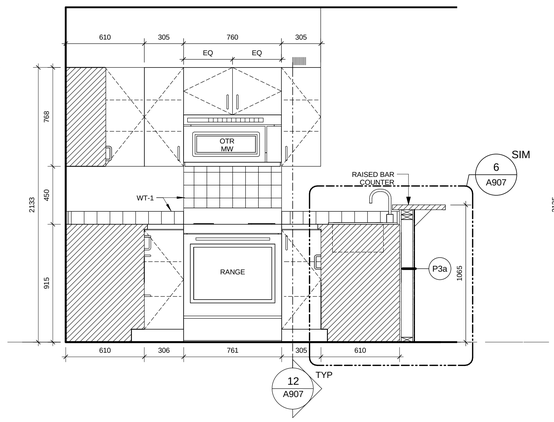

3 A902 Kitchen 4 Elevation 2
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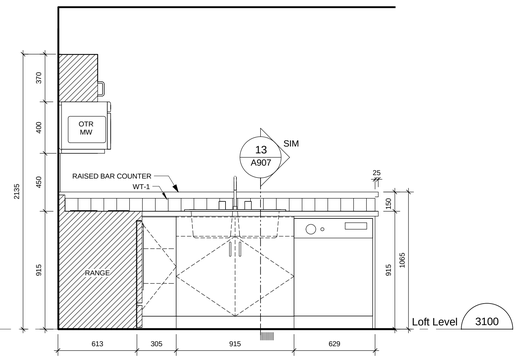

4 A902 Kitchen 4 Elevation 3
Scale: 1 : 20

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Consultant's Name
Nom de l'expert-conseil

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Client/client
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Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

KITCHEN PLANS & ELEVATIONS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AG	2016-12-08
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
LS/FVR	LS/FVR	1:20

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client
Park Responsible Officer/Agent Responsable

Approved by/Approuve par
PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A902

Drawing Reference No./No. de reference du dessin

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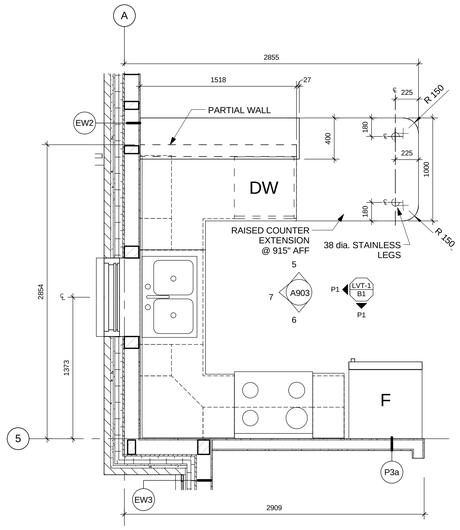
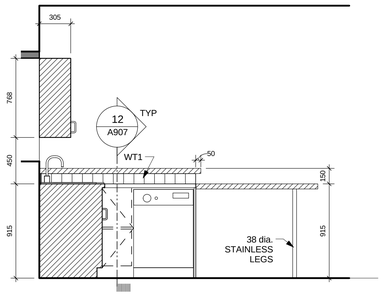
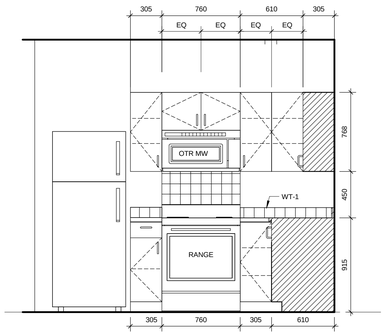


1 A903 Typical enlarged Plan - Kitchen 3 - Unit A
Scale: 1 : 25



5 A903 Suite A - Kitchen 3 Elevation 1
Scale: 1 : 25



6 A903 Suite A - Kitchen 3 Elevation 2
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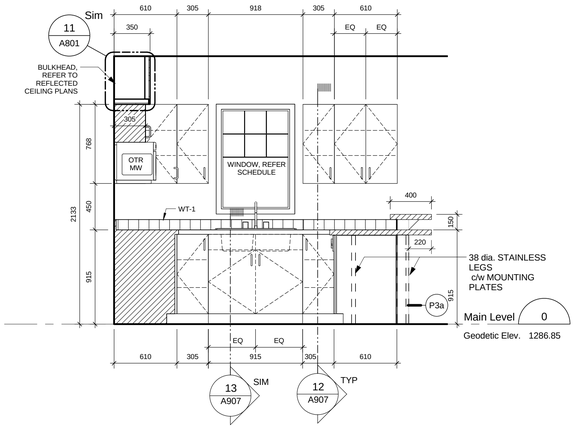

7 A903 Suite A - Kitchen 3 Elevation 3
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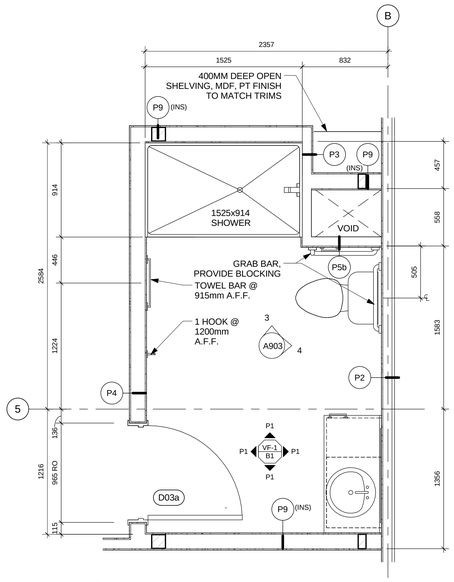
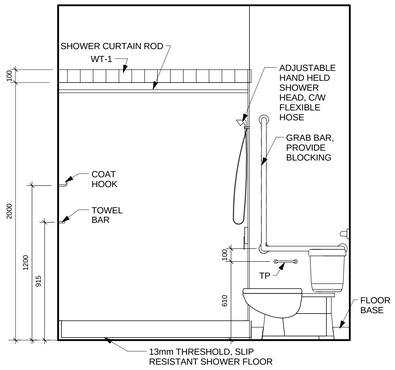
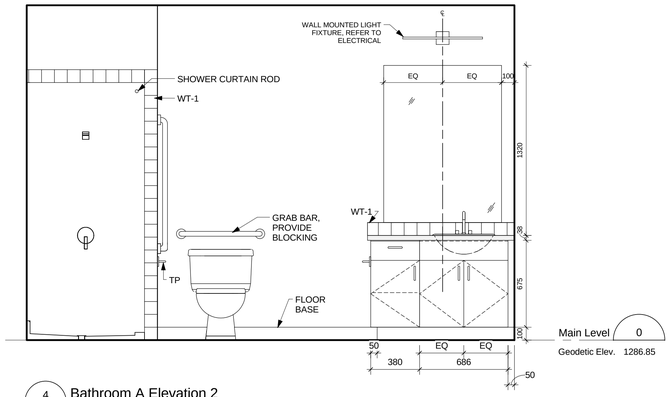


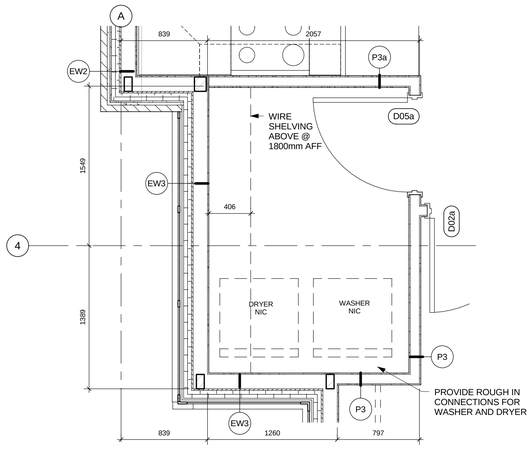
2 A903 Enlarged plan - Bathroom Unit A
Scale: 1 : 25



3 A903 Bathroom A Elevation 1
Scale: 1 : 20



4 A903 Bathroom A Elevation 2
Scale: 1 : 20



8 A903 Enlarged Plan - Laundry Rm. Unit A
Scale: 1 : 25

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Project title/Titre du projet

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Drawing title/Titre du dessin

SUITE A - PLANS & ELEVATIONS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	As indicated

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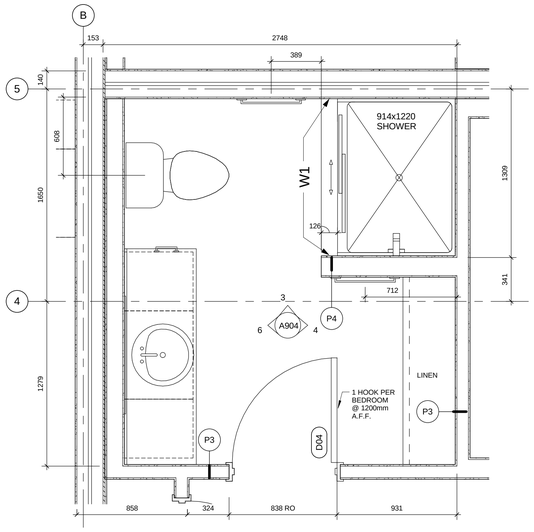

1 A904 Typical enlarged Plan - Bathroom 1
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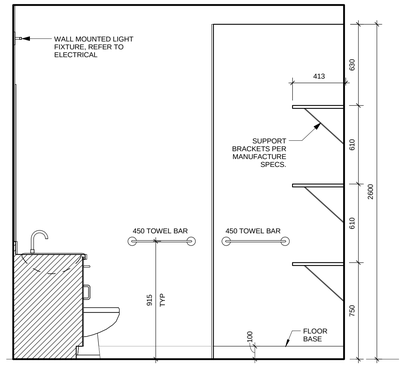

3 A904 Bathroom 1 Elevation 1
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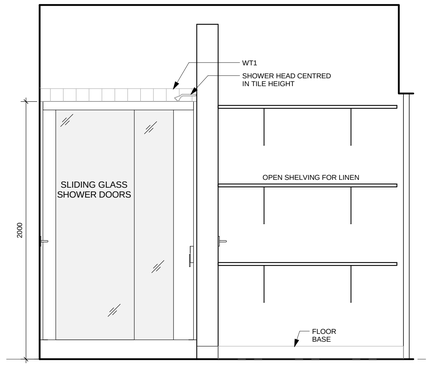
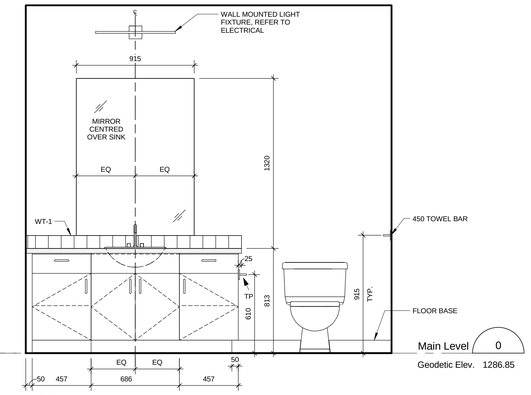
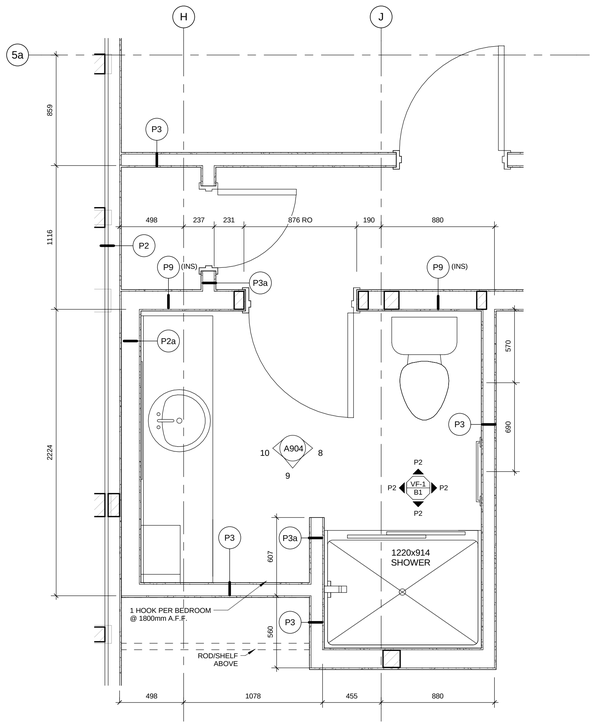


4 A904 Bathroom 1 Elevation 2
Scale: 1 : 20

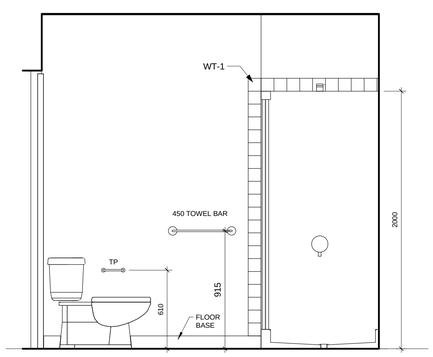


6 A904 Bathroom 1 Elevation 4
Scale: 1 : 20

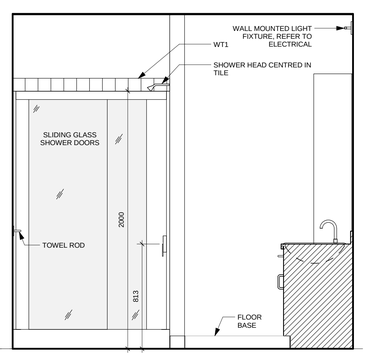
Main Level 0
Geodetic Elev. 1286.85



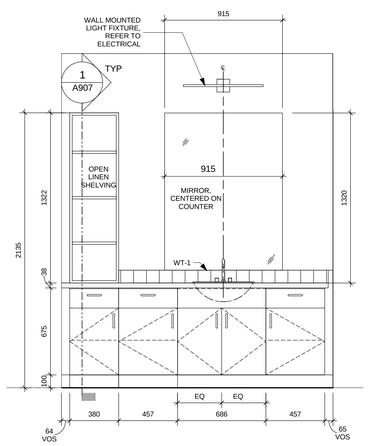
2 A904 Typical enlarged Plan - Bathroom 2
Scale: 1 : 20



8 A904 Bathroom 2 Elevation 2
Scale: 1 : 20



9 A904 Bathroom 2 Elevation 3
Scale: 1 : 20



10 A904 Bathroom 2 Elevation 4
Scale: 1 : 20

Main Level 0
Geodetic Elev. 1286.85

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3	2016-12-08	ISSUED FOR BUILDING PERMIT		
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Project title/Titre du projet
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Drawing title/Titre du dessin
BATHROOM PLANS & ELEVATIONS

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	AG	2016-12-08
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Randy Boldt

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Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
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Drawing Reference No./No. de reference du dessin

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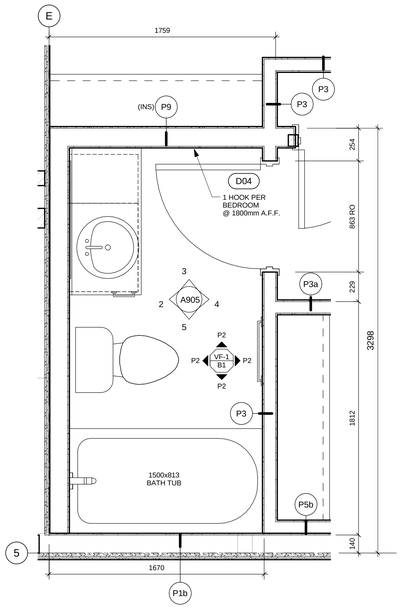
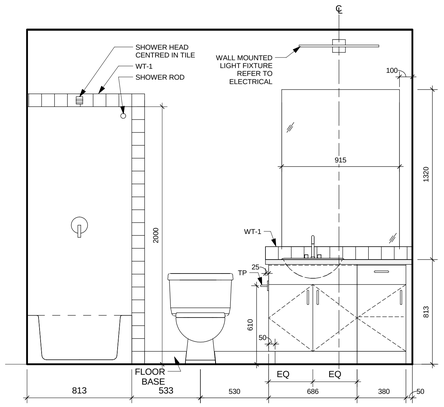
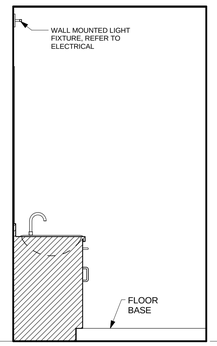


1 A905 Typical enlarged Plan - Bathroom 3
Scale: 1 : 20



2 A905 Bathroom 3 Elevation 1
Scale: 1 : 20



3 A905 Bathroom 3 Elevation 2
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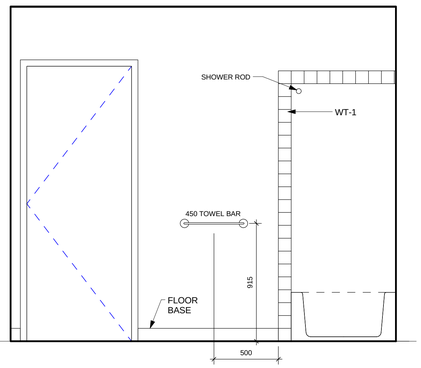
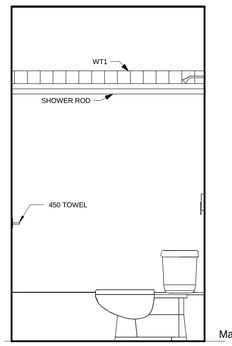
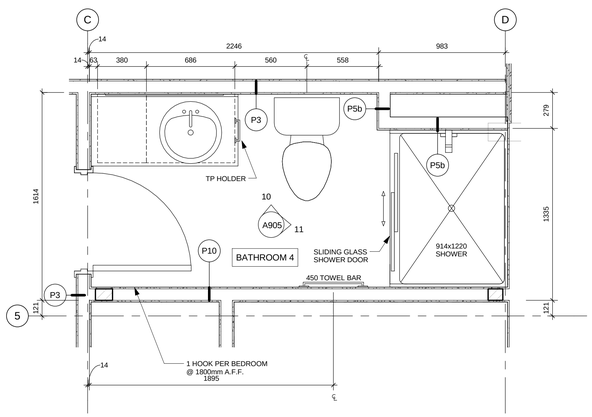


4 A905 Bathroom 3 Elevation 3
Scale: 1 : 20

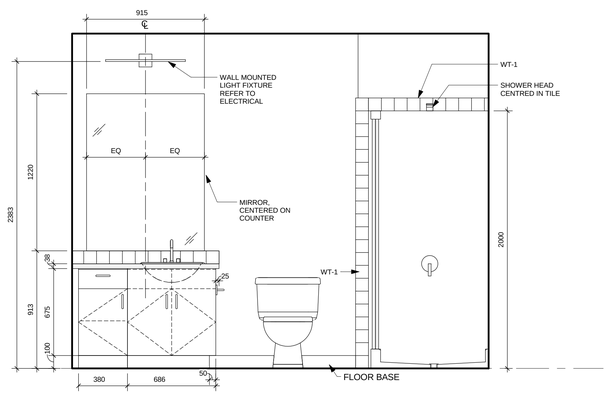


5 A905 Bathroom 3 Elevation 4
Scale: 1 : 20

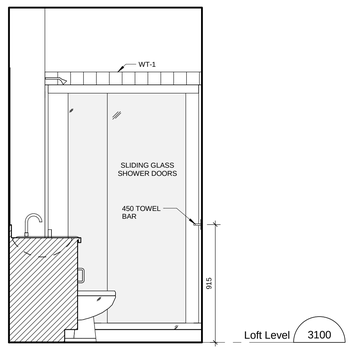
Main Level 0
Geodetic Elev. 1286.85



9 A905 Typical enlarged Plan - Bathroom 4
Scale: 1 : 20



10 A905 Bathroom 5 Elevation 1
Scale: 1 : 20



Loft Level 3100

11 A905 Bathroom 5 Elevation 2
Scale: 1 : 20

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3	2016-12-08	ISSUED FOR BUILDING PERMIT		
2	2016-09-02	ISSUED FOR 99% REVIEW		
1	2016-06-14	ISSUED FOR 66% REVIEW		

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil

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Canada

Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

BATHROOM PLANS & ELEVATIONS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AG	2016-12-08
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
LS/FVR	LS/FVR	1:20

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsible
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	A905

Drawing Reference No./No. de reference du dessin

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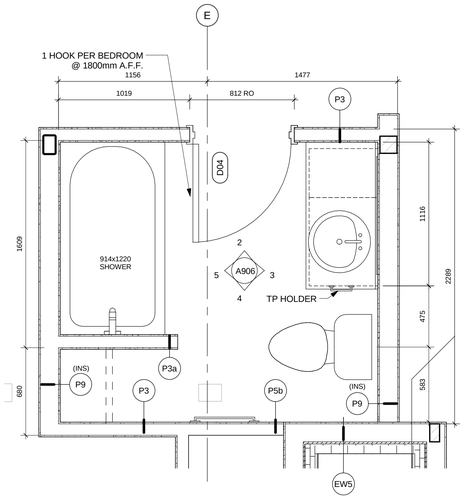
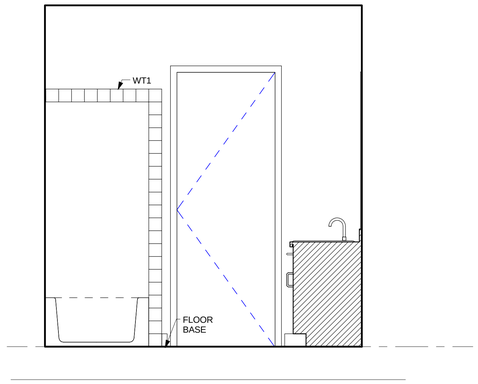
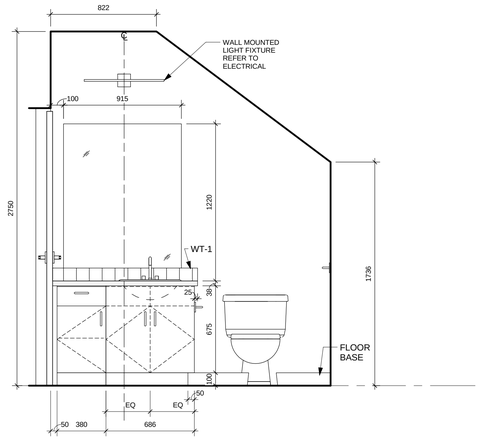


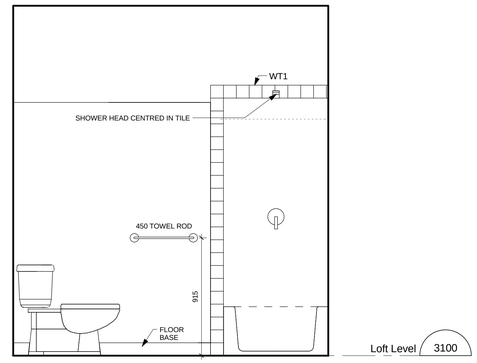
1 A906 Typical enlarged Plan - Bathroom 5
Scale: 1 : 20



2 A906 Bathroom 6 Elevation 1
Scale: 1 : 20



3 A906 Bathroom 6 Elevation 2
Scale: 1 : 20



4 A906 Bathroom 6 Elevation 3
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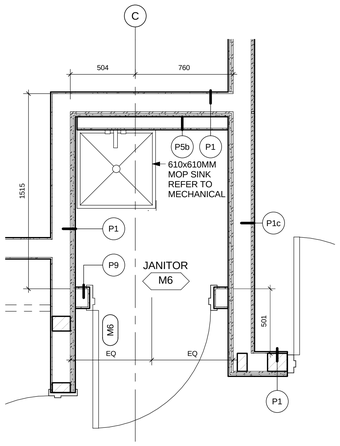
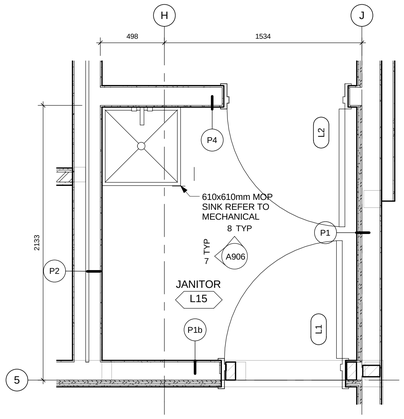
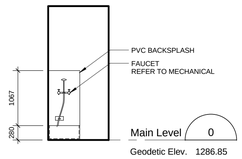


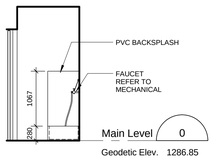
6 A906 Enlarged Plan - Main Floor Janitor room
Scale: 1 : 20



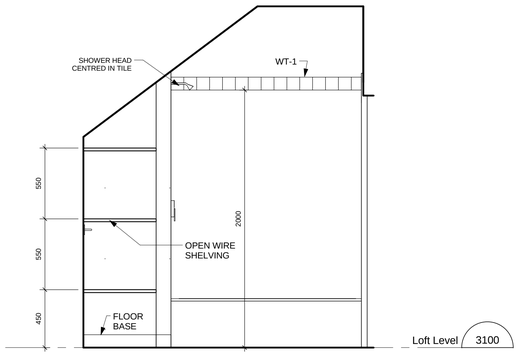
9 A906 Enlarged Plan - Loft Janitor room
Scale: 1 : 20



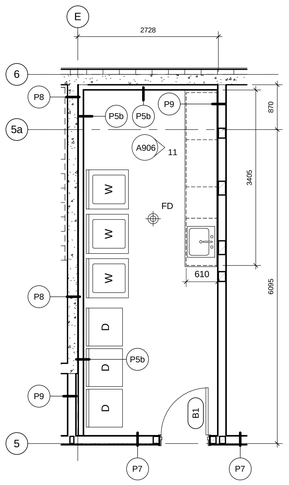
8 A906 Janitor room Main Floor - Elevation 2
Scale: 1 : 50



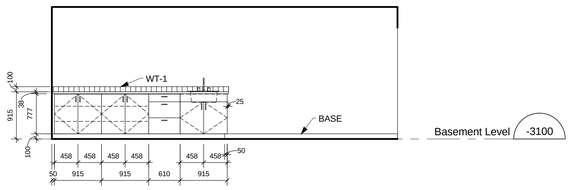
7 A906 Janitor room Main Floor - Elevation 1
Scale: 1 : 50



5 A906 Bathroom 6 Elevation 4
Scale: 1 : 20



10 A906 Enlarged Plan - Laundry
Scale: 1 : 50



11 A906 Laundry - Elevation 1
Scale: 1 : 50

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Drawing title/Titre du dessin

BATHROOM / JANITOR PLANS & ELEVATIONS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AG	2016-12-08
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PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client
Approved by/Approuve par
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39000	FII # 945	A906

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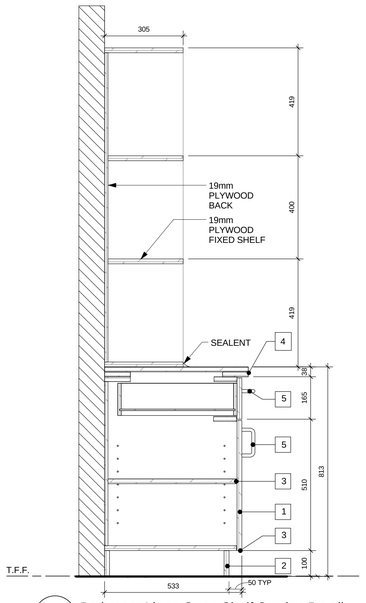
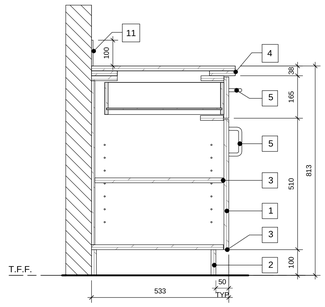
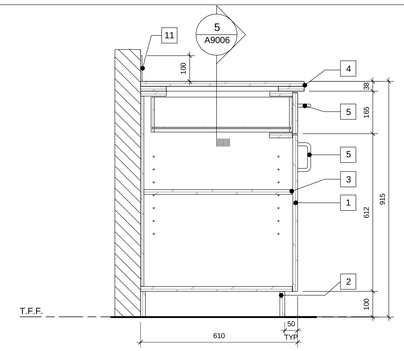


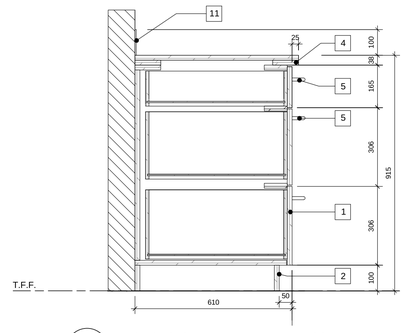
1 / A907 Bathroom Linen Open Shelf Section Detail
Scale: 1 : 10



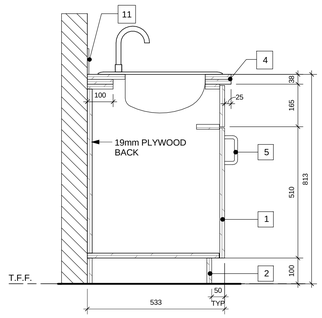
2 / A907 TypicalBathroomCabinetSectionDetail
Scale: 1 : 10



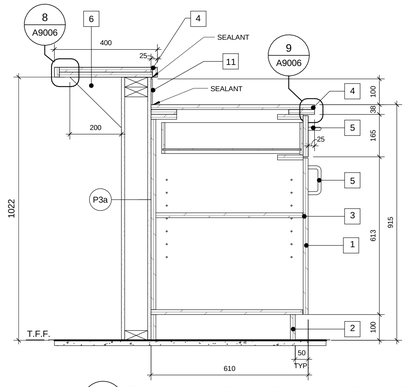
3 / A907 Typical Kitchen Base Cabinet Section Detail
Scale: 1 : 10



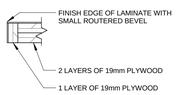
4 / A907 Typical Kitchen Base Drawer Cabinet Section
Scale: 1 : 10



5 / A907 TypicalBathroomCabinetSectionDetail With sink
Scale: 1 : 10

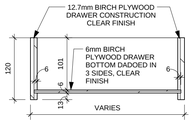


6 / A907 Typical Kitchen Raised Bar Cabinet Section Detail
Scale: 1 : 10

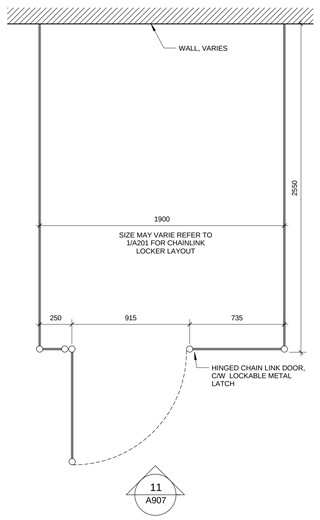


7 / A907 Typical Raised Counter Edge Detail
Scale: 1 : 5

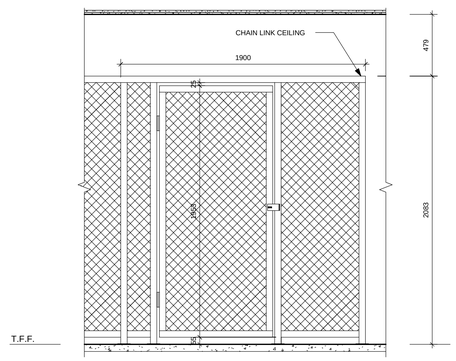
8 / A907 Typical Counter Edge Detail
Scale: 1 : 5



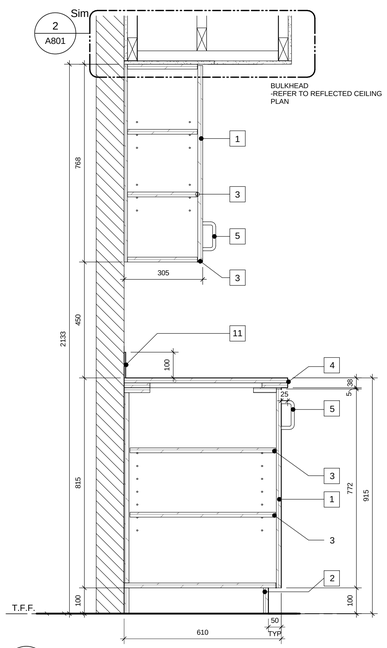
9 / A907 Typical Drawer Section Detail
Scale: 1 : 5



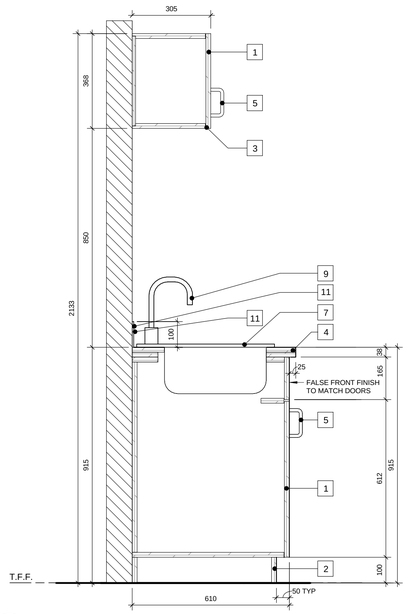
10 / A907 Typical Chain Link Locker Plan
Scale: 1 : 10



11 / A907 Chain Link Locker Fence
Scale: 1 : 20



12 / A907 Typical Kitchen Upper & Base Cabinets Section Detail
Scale: 1 : 10



13 / A907 Typical Kitchen Upper & Base Sink Cabinets Section Detail
Scale: 1 : 10

MILLWORK LEGEND

1	-DOOR
2	- 19mm PLYWOOD TOEKICK
3	-ADJUSTABLE SHELVES
4	- PLYWOOD COUNTER, PLASTIC LAMINATE APPLIED TO ALL EXPOSED EDGES
5	-DRAWER/DOOR PULLS
6	- 200mm X 200mm X 38mm THICK ANGLED SHELF SUPPORT, PT. FINISH TO MATCH WALL TRIM
7	- DOUBLE SINK - REFER TO MECHANICAL
8	- SINGLE VANITY SINK - REFER TO MECHANICAL
9	- KITCHEN FAUCET - REFER TO MECHANICAL
10	- BATHROOM FAUCET - REFER TO MECHANICAL
11	- TILE BACKSPLASH, REFER TO INTERIOR FINISH SCHEDULE
12	- STRETCHER, FINISH EXPOSED EDGES TO MATCH CABINET FINISH

MILLWORK NOTES:

-SITE VERIFY ALL DIMENSIONS PRIOR TO CABINET CONSTRUCTION

-ALL EXPOSED EDGES TO MATCH CABINET FINISH, EDGE MATERIAL AS PER SPECIFICATION.

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Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

CABINET/INTERIOR SECTIONS & DETAILS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AG	2016-12-08
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
LS/FVR	LS/FVR	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

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Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

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39000	FII # 945	A907

Drawing Reference No./No. de reference du dessin

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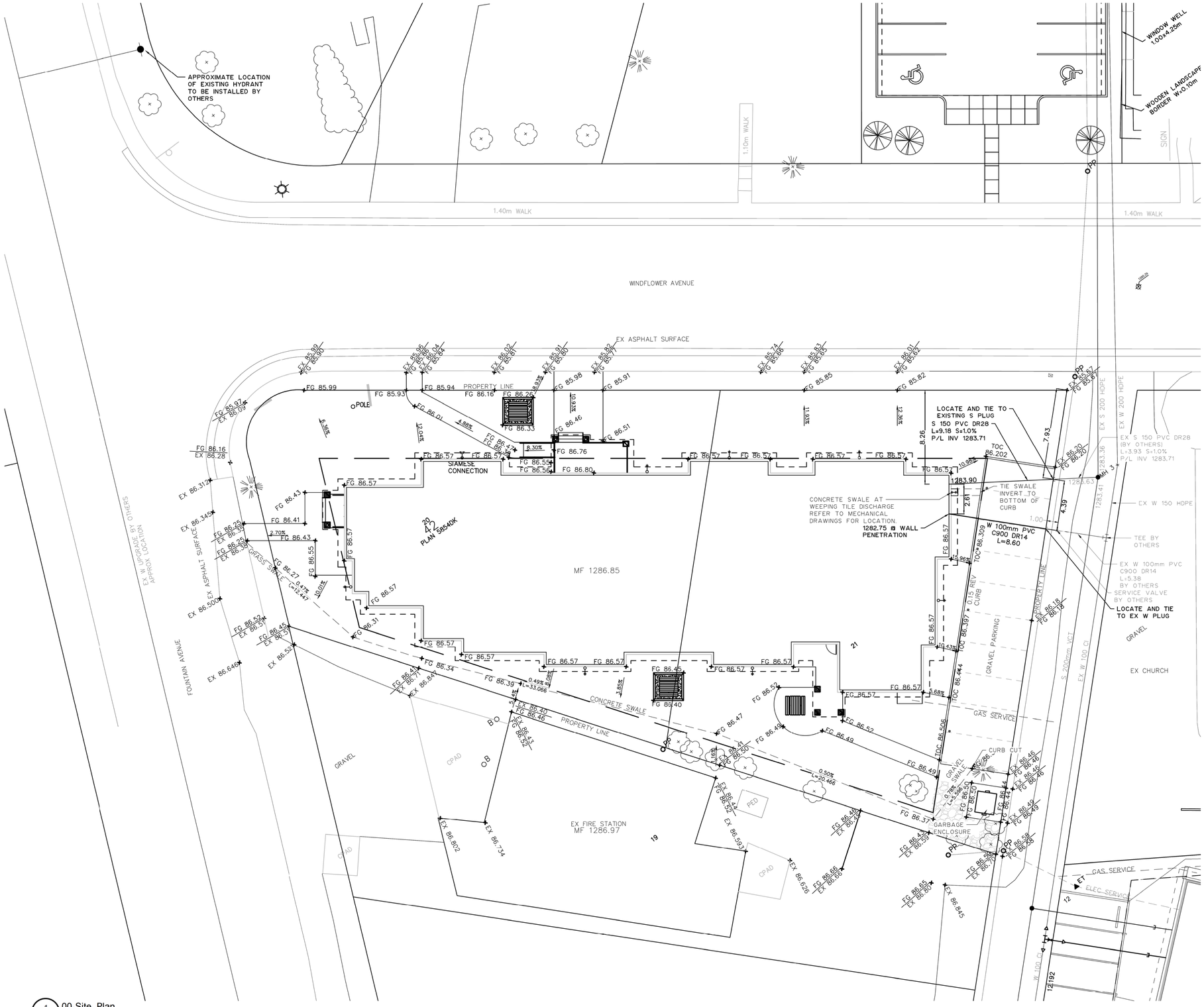

1 DP101 00-Site_Plan
Scale: 1:150

NOTES:

1. ALL ELEVATIONS, AND DIMENSIONS IN METRES AND PIPE SIZES IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. PROPOSED UNDERGROUND UTILITIES TO BE INSULATED, TO BE CONFIRMED BY CLIENT.
3. EXISTING INFORMATION IS BASED ON UTM GRID NAD 83 COORDINATES.
4. FOR DETAILS REFER TO DRAWING C103.

No.	Date/Date	Description/Description	Drawn by/Dessine par	Approved Approuve
6	2016-12-08	ISSUED FOR TENDER	S.D.H.	T.A.C.
5	2016-12-08	ISSUED FOR BUILDING PERMIT	S.D.H.	T.A.C.
4	2016-09-02	ISSUED FOR 99% REVIEW	S.D.H.	T.A.C.
3	2016-08-12	ISSUED FOR COORDINATION	S.D.H.	T.A.C.
2	2016-06-14	ISSUED FOR 66% REVIEW	S.D.H.	T.A.C.

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Consultant's Name
Nom de l'expert-conseil

MPE Engineering Ltd.

Elec 2016
Sceau/Cachet/Ingénieur

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Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

STAFF HOUSING GRADING PLAN

Surveyed by/Arpenté par	Drawn by/Dessiné par	Date/Date
	SDH	2016-09-02
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
SDH/TAC	TAC	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
RANDY BOLDT

Client Acceptance/Acceptation du client
Approved by/Approuvé par

Park Responsible Officer/Agent Responsable
PWGSC Project Manager/Administrateur de Projets TPSGC

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28-035-001	Asset No. 945	C102
Drawing Reference No./No. de reference du dessin		
28035-001-01-SP.dwg		

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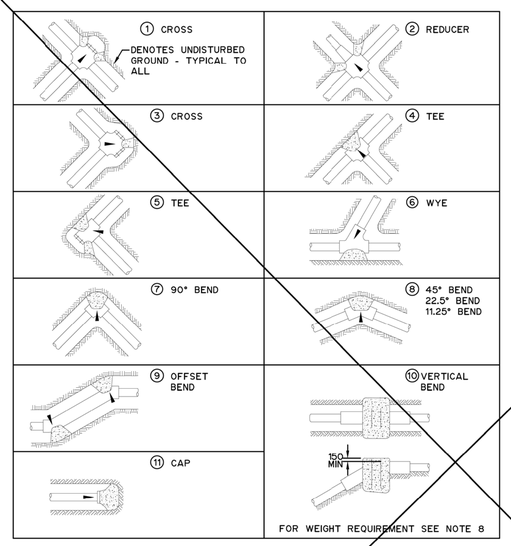


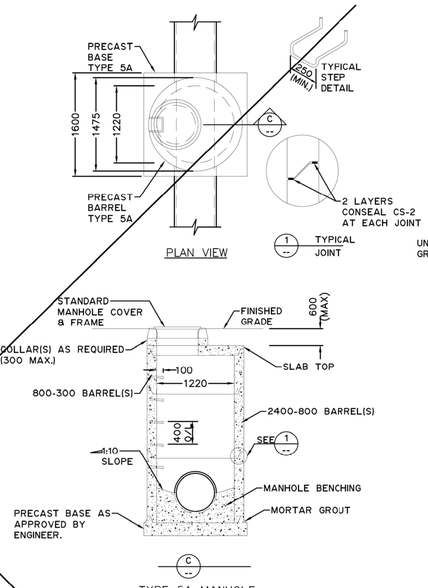
TYPICAL THRUST BLOCK LOCATIONS

BEARING AREA OF BLOCKS						
CONCRETE AREAS IN SQUARE METRES						
TYPE OF FITTING	PIPE SIZE (mm)					
	100	150	200	250	300	400
1,4,11	0.2	0.4	0.7	1.0	1.4	1.9
3,5,7	0.3	0.5	0.9	1.4	2.0	2.7
2	-	-	-	0.5	0.7	1.6
6,8,10	0.2	0.3	0.5	0.6	1.1	1.4
9	0.3	0.6	1.0	1.2	2.2	2.9

DEAD WEIGHT IN CUBIC METRES OF CONCRETE (m^3)

DEGREE OF BEND	SIZE OF BEND (mm)					
	100	150	200	250	300	400
90°	0.8	1.5	2.7	4.2	6.1	10.7
45°	0.4	1.1	1.5	2.3	3.4	5.7
22 1/2°	0.4	0.8	0.9	1.1	1.9	3.1
11 1/4°	0.4	0.4	0.5	0.8	1.1	1.5

THRUST BLOCK DATA

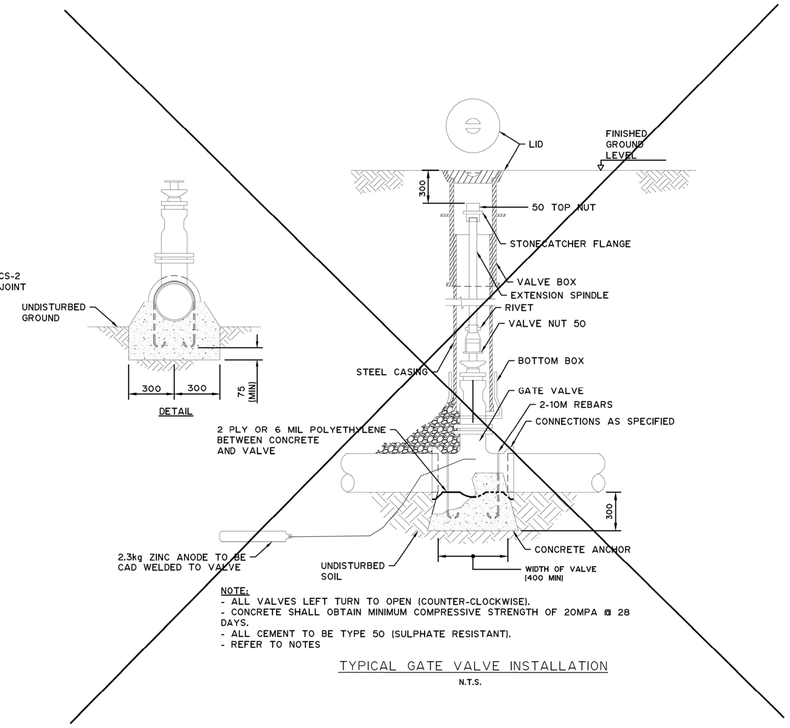


TYPE 5A MANHOLE ASSEMBLY

NOTE:
- REFER TO NOTES

NOTES:

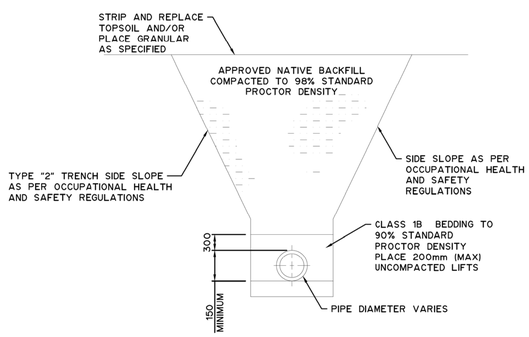
1. DESIGN ASSUMPTION
   a) HYDRAULIC PRESSURE 1.38 MPa (200 psi)
   b) SOIL BEARING 100 kPa (2000 lbs/ft²) MEDIUM SOFT CLAY
2. CONCRETE SHALL BE SULPHATE RESISTANT.
3. TEMPORARY BLOCKING MUST BE APPROVED BY THE ENGINEER
4. 2 PLY OF 0.15mm (6 MIL) POLYETHYLENE SHALL BE PLACED BETWEEN PIPE AND CONCRETE
5. CONCRETE SHALL BE 20 MPa AT 28 DAY STRENGTH, MAXIMUM SLUMP 75mm.
6. THRUST BLOCKS AS PER STD. SPEC. SECTION 33 11 16.
7. IN DISTURBED GROUND (COMPACTED BACK FILL) INCREASE BEARING AREA BY 50%
8. DEAD WEIGHT REACTION BLOCK REQUIREMENTS FOR VERTICAL BENDS (BASED ON 1380 kPa PRESSURE) SHALL BE AS FOLLOWS:



NOTE:
- ALL VALVES LEFT TURN TO OPEN (COUNTER-CLOCKWISE).
- CONCRETE SHALL OBTAIN MINIMUM COMPRESSIVE STRENGTH OF 20MPA @ 28 DAYS.
- ALL CEMENT TO BE TYPE 50 (SULPHATE RESISTANT).
- REFER TO NOTES

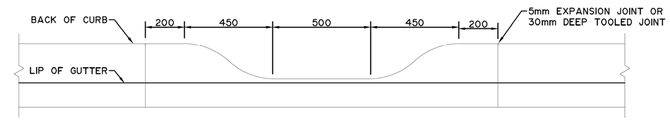
TYPICAL GATE VALVE INSTALLATION

N.T.S.



TYPICAL SERVICE PIPE TRENCH

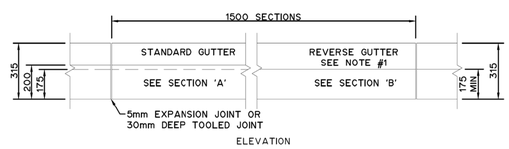
NTS



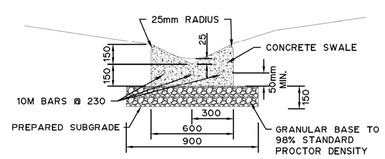
ELEVATION

TYPICAL CURB CUT

NTS

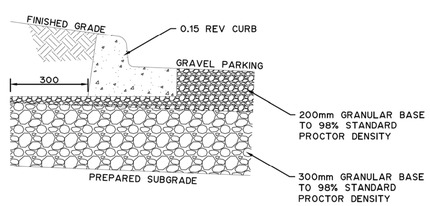


ELEVATION



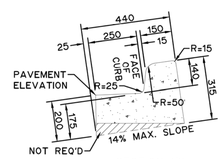
CONCRETE SWALE

NTS



TYPICAL CURB & GRAVEL PARKING STRUCTURE

NTS



SECTION 'B'

MATERIAL SPECIFICATIONS:
- CONCRETE AS SET OUT UNDER SECTION 403.10.08
- REINFORCING STEEL TO BE DEFORMED BARS f_y=400MPa (CONFORM TO C.S.A. SPEC G30.18 - LATEST EDITION).
- COVERING FOR REINFORCING STEEL SHALL BE 50mm.
- ALL LAPS SHALL BE 30 BAR DIAMETERS. ALL LAPS MUST BE TIED SECURELY.
- REINFORCING BARS TO BE EXTENDED INTO CURB, GUTTER AND SIDEWALK.
- REINFORCEMENT OR FIBRE CONCRETE (OPTIONAL) - FIBRE CONCRETE SPECIFICATION - SEE ROADS CONSTRUCTION SPEC. (MOST RECENT VERSION) SECTION 310.01.04.
- CONSTRUCTION JOINTS AS PER ROADS CONSTRUCTION SPEC.- JOINT DETAILS #454.1015.006

GENERAL NOTES:

1. THESE DETAILS SHALL BE READ IN CONJUNCTION WITH ALL APPLICABLE OWNER STANDARD DETAILS. INFORM THE ENGINEER IMMEDIATELY UPON DISCOVERY OF POTENTIAL CONFLICTS WITH OWNER STANDARDS.
2. ALL DIMENSIONS ARE IN MILLIMETERS.
3. PIPE DIAMETERS ARE IN MILLIMETERS.
4. PROPOSED UNDERGROUND UTILITIES TO BE INSULATED, TO BE CONFIRMED BY CLIENT.
5. EXISTING INFORMATION IS BASED ON UTM GRID NAD 83 COORDINATES

SEWER SYSTEM NOTES:

1. SEWERS SHALL BE DESIGNED, PROCURED, INSTALLED, INSPECTED, AND TESTED IN ACCORDANCE WITH THE SPECIFICATIONS.
2. PIPE, MANHOLES, CATCHBASINS, RIMS, FRAMES, GRATES, AND ALL OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH LIST OF APPROVED PRODUCTS.
3. MANHOLES SHALL BE "TYPE 5A" SRC UNLESS NOTED OTHERWISE.
4. MANHOLE BENCHING SHALL BE CONSTRUCTED AS PER THE DETAILS.
5. MINIMUM COVER OVER STORM AND SANITARY MAINS AND SERVICES SHALL BE 1.20m AND 2.50m RESPECTIVELY. FOR SEWERS WITH LESS THAN THE MINIMUM SPECIFIED COVER PROVIDE INSULATION.

WATER SYSTEM NOTES:

1. POTABLE WATER INFRASTRUCTURE SHALL BE DESIGNED, PROCURED, INSTALLED, INSPECTED, AND TESTED IN ACCORDANCE WITH THE SPECIFICATIONS.
2. PIPE, VALVES, HYDRANTS, AND ALL OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE LIST OF APPROVED PRODUCTS.
3. WATER PIPES LESS THAN OR EQUAL TO 100mm DIAMETER SHALL BE DR14 PVC UNLESS NOTED OTHERWISE.
4. A 2.3 kg ZINC ANODE FOR CATHODIC PROTECTION SHALL BE PROVIDED FOR METALLIC ELEMENTS OF THE WATER SYSTEM.
5. MINIMUM COVER OVER WATER MAINS AND SERVICES SHALL BE 2.70m AND 3.00m FOR CLAY AND GRAVEL SOILS RESPECTIVELY. FOR WATER PIPES WITH LESS THAN THE MINIMUM SPECIFIED COVER PROVIDE INSULATION.

No.	Date/Date	Description/Description	Drawn by/Dessine par	Approved/Approuve
6	2016-12-08	ISSUED FOR TENDER	S.D.H.	T.A.C.
5	2016-12-08	ISSUED FOR BUILDING PERMIT	S.D.H.	T.A.C.
4	2016-09-02	ISSUED FOR 99% REVIEW	S.D.H.	T.A.C.
3	2016-08-12	ISSUED FOR COORDINATION	S.D.H.	T.A.C.
2	2016-08-14	ISSUED FOR 66% REVIEW	S.D.H.	T.A.C.

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.

Exp. 2016
Sceau de l'ingénieur

PERMIT TO PRACTICE
MPE ENGINEERING LTD.
PERMIT NUMBER: P 3680
The Association of Professional Engineers and Geoscientists of Alberta

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'équipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
STAFF HOUSING GRADING PLAN DETAIL SHEET

Surveyed by/Arpenté par	Drawn by/Dessine par	Date/Date
	SDH	2016-09-02
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
SDH/TAC	TAC	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC: RANDY BOLDT

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuvé par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
28-035-001	Asset No. 945	C103

Drawing Reference No./No. de reference du dessin: 28035-001-01-DETAILS.dwg

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A. GENERAL

1. THE STRUCTURE IS TO BE BUILT IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL BUILDING CODE OF CANADA 2015 (NBC), AND ANY APPLICABLE REQUIREMENTS OR BY LAWS OF THE AUTHORITY HAVING JURISDICTION.

2. WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND DESIGN NOTES, THEY SHALL BE THE LATEST EDITIONS OR REVISION, UNLESS NOTED OTHERWISE.

3. READ STRUCTURAL DRAWINGS AND SPECIFICATIONS IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS.

4. BEFORE PROCEEDING WITH WORK, CHECK THE DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS AGAINST ALL OTHER DRAWINGS AND REPORT DISCREPANCIES TO THE CONSULTANT. DO NOT SCALE THE DRAWINGS.

5. REFER TO THE ARCHITECTURAL AND OTHER DRAWINGS FOR LOCATIONS AND SIZES OF PITS, BASES, HOUSEKEEPING PADS, SUMPS, TRENCHES, DEPRESSIONS, GROOVES, CURBS, CHAMFERS, SLOPES, OPENINGS AND SLEEVES NOT SHOWN ON THE STRUCTURAL DRAWINGS. OBTAIN THE CONSULTANT'S PRIOR APPROVAL BEFORE INSTALLING OPENINGS, SLEEVES, ETC. WHICH ARE NOT SHOWN ON STRUCTURAL DRAWINGS.

6. THE STRUCTURE HAS BEEN DESIGNED FOR THE LOADS SHOWN. ENSURE THEY ARE NOT EXCEEDED DURING CONSTRUCTION.

7. TYPICAL STRUCTURAL DETAILS SHALL GOVERN THE WORK. IF DETAILS DIFFER ON OTHER DRAWINGS, THE MOST STRINGENT SHALL GOVERN. IN SOME TYPICAL DETAILS, PORTIONS OF THE STRUCTURE HAVE BEEN CUT BACK OR REMOVED FOR CLARITY PURPOSES ONLY. REFER TO PLANS AND SECTIONS FOR ACTUAL CONDITIONS.

8. THE GENERAL CONTRACTOR IS TO COORDINATE WITH THE STRUCUTRAL STEEL TRADE AND THE WOOD FRAMER TRADE TO MINIMIZE THE POTENTIAL AFFECTS FROM DIFFERENTIAL SHRINKAGE. PROTECT ALL WOOD ELEMENTS DUE TO WETTING DURING STORAGE AND INSTALLATION. DRY WOOD PRIOR TO INSTALLING SHEATHING.

9. CONTRACT ADMINISTRATION BY ENTUITIVE

   A. ENTUITIVE HAS BEEN RETAINED TO PROVIDE CONTRACT ADMINISTRATION SERVICES FOR THE PROJECT. THESE SERVICES INCLUDE FIELD REVIEW, REVIEW OF SHOP DRAWINGS, ATTENDANCE AT SITE MEETINGS DURING THE CONSTRUCTION OF THE STRUCTURAL WORK, RESPONSE TO SITE GENERATED QUESTIONS, CLARIFICATIONS, RFI'S, AS WELL AS ADDITIONAL ACTIVITIES ASSOCIATED WITH THE ADMINISTRATION OF THE CONSTRUCTION CONTRACT.

   B. FIELD REVIEW:

      i ENTUITIVE WILL CARRY OUT PERIODIC FIELD REVIEWS OF THE WORK SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS ONLY. THESE REVIEWS WILL BE PERFORMED ON BEHALF OF THE OWNER TO DETERMINE WHETHER THE CONSTRUCTION IS BEING CARRIED OUT IN GENERAL CONFORMITY WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT THE WORK IS COMPLETED IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AND ALL APPLICABLE CODES, STANDARDS AND ACTS.

      ii THE CONTRACTOR IS NOT TO CONSTRUE THESE REVIEWS AS BEING PART OF OR IN LIEU OF THEIR OWN FIELD REVIEW OF THE WORK BEING CARRIED OUT ON SITE.

      iii THE EXTENT AND NATURE OF THE WORK REVIEWED ON SITE IS AT THE SOLE DISCRETION OF ENTUITIVE'S SITE REPRESENTATIVE. THE WORK WILL BE REVIEWED ON A SAMPLING BASIS.

      iv THE GENERAL CONTRACTOR IS TO PROVIDE A MINIMUM OF 48 HOURS ADVANCE NOTICE WHEN A PARTICULAR ASPECT OF THE WORK IS READY FOR REVIEW. THE WORK TO BE REVIEWED SHALL BE GENERALLY COMPLETE, PRIOR TO ENTUITIVE'S SITE REPRESENTATIVE VISITING THE SITE.

   C. SHOP DRAWING REVIEW:

      i ENTUITIVE'S REVIEW OF SHOP DRAWINGS IS CARRIED OUT ON A RANDOM SAMPLING BASIS. AS SUCH, NOT ALL SHOP DRAWINGS ARE REVIEWED NOR IS ALL OF THE INFORMATION ON ANY PARTICULAR SHOP DRAWING REVIEWED BY ENTUITIVE.

      ii REVIEW OF SHOP DRAWINGS IS ONLY FOR GENERAL CONFORMITY WITH THE CONTRACT DOCUMENTS. THE REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF ANY OF THEIR CONTRACTUAL RESPONSIBILITIES, NOR DOES IT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITIES TO ENSURE THE SHOP DRAWINGS ARE COMPLETE, COORDINATED WITH THE WORK OF ALL OTHER TRADES AND FREE OF ERRORS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT INFORMATION SHOWN ON THE SHOP DRAWINGS INCLUDING BUT NOT LIMITED TO: MEMBER SIZES, QUANTITIES, DIMENSIONS, EXISTING SITE CONDITIONS, FABRICATION PROCESSES, MEANS AND METHODS OF CONSTRUCTION AND THE LIKE ARE CORRECT, CONSISTENT WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND ARE COORDINATED WITH THE WORK OF ALL OTHER TRADES.

      iii ALL SHOP DRAWINGS ARE TO BE REVIEWED BY THE GENERAL CONTRACTOR PRIOR TO BEING SUBMITTED TO ENTUITIVE. THE GENERAL CONTRACTOR'S REVIEWED STAMP SHALL BE AFFIXED TO ALL SHOP DRAWINGS SUBMITTED TO ENTUITIVE FOR REVIEW

      iv SHOP DRAWINGS ARE TO BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER AS REQUIRED BY THE CONTRACT DOCUMENTS. ANY SHOP DRAWINGS SUBMITTED WITHOUT THE PROFESSIONAL ENGINEER'S SEAL AND SIGNATURE (WHERE REQUIRED) WILL BE RETURNED "UNREVIEWED" AND MARKED FOR RESUBMISSION.

      v COMMENTS MADE ON SHOP DRAWINGS ARE NOT TO BE CONSTRUED AS INSTRUCTIONS OR AUTHORIZED CHANGES TO THE CONTRACT DOCUMENTS. IF THE GENERAL CONTRACTOR BELIEVES THAT COMMENTS MADE ON THE SHOP DRAWINGS WILL RESULT IN CHANGES TO THE CONTRACT, THEY ARE TO NOTIFY THE CONSULTANT OF THIS PRIOR TO UNDERTAKING THE WORK

      vi SHOP DRAWINGS WILL BE PROCESSED WITHIN THE TIME FRAMES NOTED IN THE CONTRACT DOCUMENTS UNLESS OTHER ARRANGEMENTS ARE MADE IN ADVANCE OF THE SUBMISSION OF THE SHOP DRAWINGS.

   D. RESPONSE TO RFI'S:

      i RFI'S WILL BE PROCESSED IN A TIMELY MANNER , PROVIDED THE TIME FRAMES IDENTIFIED ARE REASONABLE AND CONSISTENT WITH THE URGENCY OF THE REQUIRED RESPONSE.

      ii THE EXTENT OF ANY PARTICULAR RFI SHALL BE LIMITED TO A PARTICULAR AREA OF THE WORK OR A CONSISTENT ISSUE AFFECTING DIFFERENT AREAS OF THE WORK. ANY PARTICULAR RFI SHALL NOT INCLUDE TWO OR MORE UNRELATED ITEMS.

B. OPENINGS THROUGH THE STRUCTURE

1. PLACEMENT AND DETAILING OF REINFORCEMENT AROUND SLEEVES, F0RMED OPENINGS AND THE LIKE ARE TO CONFORM TO THE REQUIREMENTS NOTED ON THE STRUCTURAL CONTRACT DOCUMENTS. PROVIDE COORDINATED SLEEVING DRAWINGS IN ACCORDANCE WITH SPECIFICATION REQUIREMENTS.

2. REFER TO TYPICAL DETAIL FOR MINIMUM SPACING OF SLEEVES. IF THESE SPACING REQUIREMENTS CAN NOT BE MAINTAINED, REINFORCE AROUND SLEEVES AS PER DETAILS FOR FORMED OPENINGS IN TYPICAL DETAIL .

C. SEQUENCE OF CONSTRUCTION

1. PROVIDE ALL NECESSARY CONNECTIONS AND TEMPORARY SUPPORTS AS REQUIRED TO SAFELY CONSTRUCT THE STRUCTURE.

2. UNLESS NOTED OTHERWISE, THE FINAL CONSTRUCTION SEQUENCING OR PHASING REQUIREMENTS ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND SHALL BE DETERMINED AS AN INTEGRAL PART OF THEIR OVERALL CONSTRUCTION MEANS AND METHODS.

3. THE TIMBER FRAME ALONE IS NOT STABLE UNTIL THE PLYWOOD WALL SHEATHING IS INSTALLED AND THE FLOOR AND ROOF SHEATHING IS INSTALLED

D. FUTURE PROVISIONS

1. THE STRUCTURE HAS NOT BEEN DESIGNED FOR ANY FUTURE PROVISIONS OR EXTENSIONS

E. MATERIALS

1. CONCRETE: CONFORM TO THE REQUIREMENTS OF CSA-A23.1 & AND THE FOLLOWING PERFORMANCE BASED CRITERIA:

- FOOTINGS:	EXPOSURE CLASS GU; MIN 28 DAY COMPRESSIVE STRENGTH SLUMP 80±30; MAX W/C RATIO 0.40	= 30 MPa;
- FOUNDATION WALLS:	EXPOSURE CLASS 'F-2'; MIN 28 DAY COMPRESSIVE STREGNTH SLUMP 80±30; MAX W/C RATIO 0.40; AIR CONTENT 5% TO 8%	= 30 MPa;
- SOIL BEARING SLAB ON GRADE:	EXPOSURE CLASS GU; MIN 28 DAY COMPRESSIVE STRENGTH SLUMP 40±20	= 25 MPa;
- TOPPING SLABS:	EXPOSURE CLASS GU; MIN 28 DAY COMPRESIVE STRENGTH	= 25 MPa;
- RAMP, EXTERIOR STAIRS, REINFORCED CURBS, RETAINING WALLS:	EXPOSURE CLASS C-1; MIN 28 DAY COMPRESSIVE STRENGTH	= 35 MPa;
- UNREINFORCED SIDEWALKS:	EXPOSURE CLASS C-2; MIN 28 DAY COMPRESSIVE STRENGTH	= 32 MPa;
- UNSHRINKABLE FILL:	MAX 28 DAY COMPRESSIVE STRENGTH = 0.40 MPa MAX	
- LEAN MIX CONCRETE:	MIN 28 DAY COMPRESSIVE STRENGTH = 8 MPa	

2. REINFORCEMENT: CONFORM TO CSA G30 SERIES, fy = 400 MPa FOR ALL REINFORCEMENT EXCEPT THAT fy = 450 MPa FOR WELDED WIRE FABRIC EQUAL TO OR GREATER THAN MW7.7 (Ø=3.1mm) AND fy=386 MPa FOR WELDED WIRE FABRIC LESS THAN MW7.7 (Ø3.1mm). PROVIDE WELDED WIRE FABRIC IN FLAT SHEETS ONLY. ALL REINFORCEMENT IS TO BE BLACK EXCEPT WHERE THE SUFFIX C IS USED TO DESIGNATE EPOXY COATED REINFORCEMENT.

3. STRUCTURAL STEEL:

   ANGLES, PLATES AND CHANNELS TO CONFORM TO CAN/CSA-G40.20/G40.21 GRADE 300W.
   HOLLOW STRUCTURAL SECTIONS TO CONFORM TO ASTM A500 GRADE C.

4. ANCHOR RODS: CONFORM TO 300W THREADED ROD CONFORMING TO CSA G40.21-M, UNLESS NOTED OTHERWISE.

5. STRUCTURAL BOLTS SHALL CONFORM TO ASTM A325M, NUTS SHALL CONFORM TO ASTM A563M, WASHERS SHALL CONFORM TO ASTM F436M.

6. WELDED STUD SHEAR CONNECTORS: HEADED STUDS SHALL BE MANUFACTURED BY NELSON (OR APPROVED ALTERNATIVE) AND SHALL BE MADE FROM MILD STEEL CONFORMING TO ASTM A108 GRADE 1010 THROUGH 1020. HEADED STUDS SHALL BE WELDED PER MANUFACTURER'S RECOMMENDATIONS. MECHANICAL PROPERTIES OF HEADED STUDS SHALL BE IN ACCORDANCE WITH AWS D1.1.

7. NON-SHRINK GROUT: 35 MPa MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.

8. FOUNDATION INSULATION: EXTRUDED POLYSTYRENE WITH A MINIMUM COMPRESSIVE STRENGTH OF 0.24 MPa UNLESS NOTED OTHERWISE.

9. SAWN LUMBER: CONFORM TO THE REQUIREMENTS OF CSA O141. SPECIES: SPRUCE-PINE-FIR, GRADE: No.2 OR BETTER.

10. PLYWOOD SHEATHING: DOUGLAS FIR PLYWOOD CONFORMING TO THE REQUIREMENTS OF CSA O121, CANADIAN SOFTWOOD PLYWOOD CONFORMING TO THE REQUIREMENTS OF CSA O151 AND BEAR THE STAMP INDICATING SUCH.

11. GLUED-LAMINATED TIMBER: CONFORM TO CSA 0122.
    APPEARANCE GRADE: INDUSTRIAL.

12. TIMBER I-JOISTS: CONFORM TO CSA 086. MANUFACTURED BY WEYERHAEUSER OR APPROVED EQUIVALENT.

13. STRENGTH PROPERTIES OF PROPRIETARY MANUFACTURED WOOD ELEMENTS TO MEET OR EXCEED THOSE SPECIFIED IN WEYERHAEUSER'S Trus Joist® Beam, Header, and Column Specifier's Guide (W. Canada) TJ-9505 May 2015" SPECIFIER'S GUIDE. MATERIAL TO MEET OR EXCEED THE FOLLOWING VALUES FOR MODULUS OF ELASTICITY (E). COMMON WIDTH AND DEPTH SIZES PROVIDED IN mm. REFER TO SPECIFIER'S GUIDE FOR ALL OTHER MECHANICAL PROPERTIES.

14. LAMINATED STRAND LUMBER (LSL) - 1.55E TimberStrand(r) LSL: E = 10.7 GPa
    FOR HEADERS AND BEAMS: WIDTHS = 45, 89; DEPTHS = 241, 302, 356, 406

15. LAMINATED VENEER LUMBER (LVL) - 2.0E Microllam(r) LVL: E = 13.8 GPa
    FOR HEADERS AND BEAMS: WIDTH = 45; DEPTHS = 140, 184, 235, 241, 286, 302, 356, 406, 457, 508

16. PARALLEL STRAND LUMBER (PSL) - 1.8E Parallam(r) PSL: E = 12.4 GPa
    FOR COLUMN AND POSTS: SIZE = 89x89, 89x133, 89x178, 133x133, 133x178, 178x178

17. PARALLEL STRAND LUMBER (PSL) - 2.2E Parallam(r) PSL: E = 15.2 GPa
    FOR HEADERS AND BEAMS: WIDTHS = 89, 133, 178; DEPTHS = 235, 241, 286, 302, 356, 406, 457, 483, 508, 559, 610

18. WIRE NAILS, SPIKES, AND STAPLES: CONFORM TO CSA-B111. NAILS SHALL BE EITHER HOT-DIPPED GALVANIZED OR STAINLESS STEEL. NO STAPLES ARE TO BE USED TO FASTEN SRUCTURAL ELEMENTS TOGETHER.

19. WOOD ADHESIVES: CONFORM TO CSA-0112

20. LAG SCREWS: CONFORM TO ASTM B18.2.1

21. WOOD SCREWS: CONFORM TO ASTM B18.6.1. SCREW NOMINAL DIAMETERS AND YIELD STRENGTHS TO CONFORM TO CSA 086.

22. GALVANIZING: CONFORM TO ASTM A653M, STANDARD SPECIFICATION FOR STEEL SHEET, ZINC-COATED (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY HOT-DIP PROCESS.

23. INSTALL ALL HARDWARE AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

F. FOUNDATIONS

1. A COPY OF THE GEOTECHNICAL INVESTIGATION REPORT BY GOLDER ASSOCIATES DATED DECEMBER 4, 2015 TITLED WATERTON LAKES STAFF HOUSING, WATERTON LAKES NATIONAL PARKS, AB (GOLDER PROJECT No. 1534393/PHASE 2000 IS AVAILABLE FROM THE CONSULTANT. THIS INFORMATION IS AVAILABLE SOLELY AS A GUIDE. NO RESPONSIBILITY IS ACCEPTED BY THE OWNER OR THE CONSULTANT FOR ITS CORRECTNESS, NOR SHALL ITS ACCURACY AFFECT THE PROVISION OF THIS CONTRACT.

2. FOUND ALL FOOTINGS ON NATURALLY CONSOLIDATED UNDISTURBED SAND AND GRAVEL CAPABLE OF SAFELY SUSTAINING A FACTORED ULTIMATE LIMIT STATES (ULS) BEARING PRESSURE AND A SERVICEABILITY LIMIT STATE (SLS) BEARING PRESSURE AS PRESENTED IN TABLES 1 AND 2 BELOW. IF THESE CONDITIONS DO NOT PREVAIL AT THE FOUNDING ELEVATIONS SHOWN, ADVISE THE CONSULTANT BEFORE PROCEEDING WITH THE WORK.

TABLE 1: FACTORED ULS BEARING PRESSURE(kPa) FOR SQUARE AND STRIP FOOTINGS PLACE ON NATIVE UNDISTURBED SAND AND GRAVEL

FOOTING WIDTH	0.5m	1.0m	1.5m	2.0m	2.5m
SQUARE FOOTING	550	600	675	725	775
STRIP FOOTING	575	650	N/A	N/A	N/A

TABLE 2: FACTORED SSL BEARING PRESSURE(kPa) FOR SQUARE AND STRIP FOOTINGS PLACE ON NATIVE UNDISTURBED SAND AND GRAVEL

FOOTING WIDTH	0.5m	1.0m	1.5m	2.0m	2.5m
SQUARE FOOTING	1000	600	400	300	300
STRIP FOOTING	600	425	N/A	N/A	N/A

3. FOUNDING ELEVATION OF FOOTINGS ARE NOTED ON THE FOUNDATION PLAN. THESE ELEVATIONS HAVE BEEN DETERMINED BASED ON RECOMMENDATIONS INCLUDED IN THE GEOTECHNICAL REPORT. FOUNDING ELEVATIONS ARE SUBJECT TO CONFIRMATION BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION. FOUND FOOTINGS SUSCEPTIBLE TO FROST DAMAGE A MINIMUM OF 1800 mm AND 1200mm BELOW FINISHED GRADE FOR UNHEATED AND HEATED STRUCTURES RESPECTIVELY UNLESS NOTED OTHERWISE.

4. PROVIDE TEMPORARY FROST PROTECTION, DURING CONSTRUCTION, FOR ALL FOUNDATIONS WHICH ARE NOT FOUNDED A MINIMUM OF 1800 mm BELOW GRADE

5. INSULATION IS SHOWN WHERE REQUIRED FOR PROTECTION OF THE FOUNDATIONS FROM DAMAGE DUE TO FROST ACTION ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR FOUNDATION INSULATION NOT SHOWN ON THE STRUCTURAL DRAWINGS.

6. THE LINE OF SLOPE BETWEEN ADJACENT FOOTINGS OR EXCAVATIONS OR ALONG STEPPED FOOTINGS SHALL NOT EXCEED A RISE OF 7 IN A RUN OF 10 UNLESS NOTED OTHERWISE.

7. DO NOT PLACE BACKFILL AGAINST WALLS RETAINING EARTH (OTHER THAN CANTILEVER RETAINING WALLS) UNTIL THE WALLS AND THE FLOOR CONSTRUCTION AT TOP AND BOTTOM OF THE WALLS HAVE BEEN CAST AND ATTAINED 100% OF THEIR DESIGN STRENGTH.

8. CARRY OUT BACKFILLING AGAINST FOUNDATION WALLS WHERE THERE IS GRADE ON BOTH SIDES IN SUCH A MANNER THAT THE LEVEL OF BACKFILLING ON ONE SIDE OF THE WALL IS NEVER MORE THAN 600 mm DIFFERENT FROM THE LEVEL ON THE OTHER SIDE OF THE WALL.

9. DO NOT COMPACT CLOSER THAN 1800 mm FROM WALLS WITH HEAVY EQUIPMENT. USE LIGHT HAND CONTROLLED EQUIPMENT WITHIN 1800 mm FROM WALLS.

G. SLAB ON GRADE

1. PLACE SLAB-ON-GRADE ON MATERIAL CAPABLE OF SUSTAINING A MINIMUM SLS BEARING PRESSURE OF 25 kPa WITHOUT SETTLEMENT.

2. REFER TO THE GEOTECHNICAL REPORT FOR SUB-SOIL RECOMMENDATIONS.

H. CONCRETE AND REINFORCEMENT

1. ALL DOWELS SHALL HAVE MINIMUM EMBEDMENT EQUIVALENT TO THE STRAIGHT TENSION EMBEDMENT LENGTH OR 600 mm, WHICHEVER IS GREATER, UNLESS NOTED OTHERWISE.

2. PROVIDE DOWELS TO WALLS, COLUMNS AND PILASTERS SIMILAR IN NUMBER, SIZE, AND SPACING TO THE VERTICAL STEEL IN THE WALL, COLUMN OR PILASTER ABOVE UNLESS NOTED OTHERWISE.

3. REINFORCEMENT IDENTIFIED AS 'CONTINUOUS' SHALL TERMINATE WITH STANDARD END HOOKS AND SHALL BE LAPPED WITH CLASS 'B' TENSION LAP SPLICES.

5. REINFORCEMENT LENGTHS NOTED IN TYPICAL DETAILS ARE MINIMUM LENGTHS UNLESS NOTED OTHERWISE.

6. CONSTRUCTION JOINTS:

   A. HORIZONTAL CONSTRUCTION JOINTS IN WALLS SHALL ONLY BE MADE WHERE SHOWN ON THE DRAWINGS.

   B. SUBMIT PROPOSED LOCATION OF ALL CONSTRUCTION JOINTS FOR REVIEW BY THE CONSULTANT.

7. LAP SPLICES FOR WELDED WIRE FABRIC (WWF) SHALL BE:

   152 X 152 WWF 500 mm
   102 X 102 WWF 350 mm
   51 X 51 WWF 250 mm

8. CONCRETE COVER:

   A. COVER SHALL BE MEASURED FROM THE DEEPEST POINT OF TEXTURED CONCRETE SURFACE (OR REGLET/REVEAL) TO THE NEAREST DEFORMATION OF THE REINFORCEMENT. REINFORCEMENT INCLUDES TIES / STIRRUPS AND MAIN REINFORCEMENT.

   B. ALL CONCRETE CAST AGAINST EARTH IS TO HAVE 75 mm COVER, UNO.

   C. ALL CONCRETE EXPOSED TO EARTH IS TO HAVE 50 mm COVER, UNO.

   D. FOUNDATION WALL INSIDE FACE TO HAVE 25mm COVER, UNO.

I. STRUCTURAL STEEL

1. SUBMIT SEALED SHOP DRAWINGS OF ALL STRUCTURAL STEEL FRAMING. PROVIDE SEQUENCE OF ERECTION, TYPE OF EQUIPMENT USED IN ERECTION, AND TEMPORARY BRACINGS.

2. SPLICES SHALL BE DESIGNED TO DEVELOP THE FULL CROSS SECTIONAL CAPACITY OF THE MEMBER AT THE POINT OF THE SPLICE. MEMBERS SHALL NOT BE SPLICED AT POINTS OF MAXIMUM STRESS. NO SPLICES SHALL BE MADE UNLESS SHOWN ON THE DRAWINGS OR REVIEWED AND APPROVED BY THE CONSULTANT.

3. LENGTH FOR ANCHOR RODS, STRAP ANCHORS AND SIMILAR DEVICES IS GIVEN FOR THE STRAIGHT LENGTH WITHOUT HOOK. PROVIDE 50mm HOOK FOR STRAP ANCHORS TYPICAL UNLESS NOTED OTHERWISE.

DRAWING LIST

DRAWING NO.	DRAWING TITLE	REVISION	DATE
S001	GENERAL NOTES	5	2016-12-08
S002	GENERAL NOTES	5	2016-12-08
S003	DESIGN NOTES	5	2016-12-08
S004	3D REFERENCE VIEWS	5	2016-12-08
S005	ROOF LOADING PLAN	5	2016-12-08
S010	TYPICAL DETAILS	5	2016-12-08
S011	TYPICAL DETAILS	5	2016-12-08
S012	TYPICAL DETAILS	5	2016-12-08
S200	BASEMENT & MAIN FLOOR FRAMING PLAN	5	2016-12-08
S201	BASEMENT PLAN - WEST	5	2016-12-08
S202	BASEMENT PLAN - EAST	5	2016-12-08
S203	MAIN FLOOR FRAMING PLAN - WEST	5	2016-12-08
S204	MAIN FLOOR FRAMING PLAN - EAST	5	2016-12-08
S210	LOFT & ROOF FRAMING PLAN	5	2016-12-08
S211	LOFT/LOW ROOF FRAMING PLAN - WEST	5	2016-12-08
S212	LOFT/LOW ROOF FRAMING PLAN - EAST	5	2016-12-08
S213	ROOF FRAMING PLAN - WEST	5	2016-12-08
S214	ROOF FRAMING PLAN - EAST	5	2016-12-08
S300	SCHEDULES	5	2016-12-08
S400	SECTIONS & DETAILS	5	2016-12-08
S410	SECTIONS & DETAILS	5	2016-12-08
S420	SECTIONS & DETAILS	5	2016-12-08
S421	SECTIONS & DETAILS	5	2016-12-08
S430	SECTIONS & DETAILS	5	2016-12-08
S440	SECTIONS & DETAILS	5	2016-12-08

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
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4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
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1	2016-05-05	ISSUED FOR 33%	AD	IW

Revision / Revision

A detail number
numero de detail
B source drawing no.
de dessin no.
C detail on drawing no.
detail sur dessin no.

Consultant's Name
Nom de l'expert-conseil

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PROFESSIONAL ENGINEER IAN WASHBROOK ALBERTA
Nov 30, 2016
APEGA PERMIT TO PRACTICE P#11274

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

Client Services Team Southern Alberta Operations Branch
Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations

Canada

Client/client
Parks Canada Agency
L'Agence Parcs Canada

Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

GENERAL NOTES

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
KL	IW	1 : 1

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client
Park Responsible Officer/Agent Responsable

Approved by/Approuve par
PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet: C015-0870
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Drawing Reference No./No. de reference du dessin

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J. TIMBER

1. PROTECT ALL WOOD ELEMENTS FROM DAMAGE AND STAINING DUE TO WETTING AND MOISTURE DURING STORAGE AND INSTALLATION.
2. ENSURE SURFACES THAT ARE TO RECEIVE FINISHES MEET MANUFACTURERS REQUIREMENTS FOR MAXIMUM MOISTURE CONTENT FOR THE FINISH SPECIFIED.
3. PROVIDE A MOISTURE BARRIER FOR ALL WOOD ELEMENTS IN CONTACT WITH CONCRETE OR MASONRY. THE MOISTURE BARRIER JOINTS ARE TO BE LAPPED AND SEALED.
4. TIMBER SHALL NOT BE INCISED FOR PRESERVATIVE TREATMENT, UNLESS NOTED OTHERWISE.
5. HOLES, CUTS OR NOTCHES IN WOOD ELEMENTS OTHER THAN THOSE SHOWN IN TYPICAL DETAILS ARE NOT PERMITTED WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.
6. HANGERS AND THEIR CONNECTIONS MUST ADEQUATELY SUPPORT THE FULL SHEAR CAPACITY OF THE MEMBER, UNLESS NOTED OTHERWISE.
7. NAILS FASTENED INTO SHEAR WALLS OR DIAPHRAGMS SHALL NOT BE OVER-DRIVEN MORE THAN 15% OF THE PANEL THICKNESS.
8. ALL LAG SCREWS, THROUGH BOLTS, AND OTHER HARDWARE CONNECTING PRESERVATIVE TREATED MEMBERS ARE TO BE HOT DIPPED GALVANIZED.
9. REPRESENTATIVE TIMBER TO TIMBER CONNECTIONS HAVE BEEN SHOWN ON THE DRAWINGS. THE TIMBER SUPPLIER IS RESPONSIBLE FOR THE FINAL DESIGN OF CONNECTIONS BETWEEN TIMBER ELEMENTS AND CONFORM IN PRINCIPLE WITH THE REPRESENTITIVE CONNECTIONS. THESE INCLUDE AND ARE NOT LIMITED TO CONNECTORS, FASTENERS, HANGERS, TIE-DOWNS, POST AND BEAM HARDWARE.
10. END GRAIN OF ALL GLULAM MEMBERS ARE TO BE FACTORY COATED WITH END SEALER.
11. ALL TEMPORARY BRACING AND GUARDS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
12. DIMENSIONAL LUMBER:
    - A. ALL CARPENTRY SHALL CONFORM TO SECTION 9.23 OF THE NATIONAL BUILDING CODE AND CSA 086-14.
    - B. ALL DIMENSION LUMBER TO BE KILN DRIED TO A MOISTURE CONTENT OF LESS THAN 19%, AND SHALL BE SPF #2 GRADE OR BETTER.
    - C. UNO SILL PLATES ARE TO BE SECURED TO CONCRETE WITH 13 mm DIAMETER ANCHOR RODS 150 mm EMBEDMENT WITH 50 mm 90 DEGREE HOOKS SPACED AT 1200 o/c OR POST INSTALLED 13mm DIAMETER SIMPSON TITEN HD ANCHORS 127mm EMBEDMENT SPACED AT 1200 mm o/c UNO. ANCHOR SPACING SHALL BE 600 o/c FOR SILLS ON FOUNDATION WALL.
    - D. ALL SPANS FOR WOOD JOISTS, RAFTERS, BEAMS, AND LINTELS SHALL COMPLY WITH SPANS SHOWN IN THE CANADIAN WOOD COUNCIL PUBLICATION "THE SPAN BOOK" AND/OR THE NATIONAL BUILDING CODE.
    - E. JOISTS ARE TO BE DOUBLED UNDER ALL PARALLEL PARTITIONS AND UNO.
    - F. JOISTS SHALL BE PLACED TO ACCOMODATE HEATING AND PLUMBING.
    - G. ALL STAIR TREADS AND RISERS TO BE SCREWED AND GLUED WITH AN ADHESIVE TO THE STAIR STRINGERS.
    - H. ALL POSTS OR COLUMNS TO BE CONTINUOUS FROM BEAM ELEVATION TO FOUNDATIONS OR OTHER SOLID SUPPORT EVEN IF SUPPORTED ON LOAD BEARING STUD WALLS. PROVIDE SQUASH BLOCKING THROUGH FLOOR SYSTEM IN ALL CASES WHERE POSTS OR COLUMNS DO NOT BEAR DIRECTLY ON SOLID SUPPORT.
13. CONNECTIONS:

    ALL BOLTS AND ANCHOR BOLTS SHALL CONFORM TO ASTM A307.

    ALL BOLTS AND NUTS MUST BE FITTED WITH CUT STEEL WASHERS.

    ALL STEEL PLATE USED IN CONNECTION DETAILS SHALL BE 300W.

    ALL HOLD-DOWN CONNECTORS SHALL BE 'SIMPSON' AS SPECIFIED ON THE DRAWINGS, OR APPROVED EQUIVALENT.

    NAILING SHALL BE WITH COMMON WIRE NAILS.

    BOLT HOLES SHALL BE 1.5mm LARGER THAN THE BOLT DIAMETER.

    NO CHECKS OR SPLITS ALLOWED AT AREAS TO BE BOLTED OR LAGGED.

    ALL EXPOSED BOLTS AND WASHERS SHALL BE GALVANIZED, OR AS SPECIFIED BY THE ARCHITECT.
14. PROVIDE 2X BLOCKING AT MIDHEIGHT OF STUDS OVER 2400 IN HEIGHT.
15. BLOCKING OR EQUIVALENT BRACING SHALL BE PLACED BETWEEN ALL TRUSSES AT BEARING SUPPORTS.
    TJI BLOCKING OR 32mm LSL RIMBOARD SHALL BE PLACED BETWEEN ALL JOISTS AT BEARING SUPPORTS, UNO.
16. ENSURE THAT ALL JAMBS, CRIPPLES AND POSTS ARE SUPPORTED CONTINUOUSLY WITH MINIMUM EQUAL MEMBERS AT LEVELS BELOW INCLUDING WITHIN FLOOR DEPTHS AND HEADER/BEAM LOCATIONS, UNO.
17. ALL HEADERS ARE TO BE FASTENED TO THE FIRST JAMB STUD WITH A MINIMUM 3 - 76mm 10D NAILS PER 38mm WIDTH OF HEADER WITH THE SAME NAILING PATTERN USED TO FASTEN EACH ADDITIONAL JAMB STUD, UNO.
18. ALL STRUCTURAL CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
19. PRE-ENGINEERED FLOOR AND ROOF SYSTEMS:
    - A. ALL PRE-ENGINEERED FLOOR AND ROOF SYSTEM LAYOUTS TO BE REVIEWED AND CONFIRMED BY MANUFACTURER PRIOR TO START OF CONSTRUCTION.
    - B. ALL PRE-ENGINEERED FLOOR AND ROOF SYSTEMS INCLUDING JOISTS, BEAMS, LINTELS, AND TRUSSES TO BE SIZED, INSTALLED, AND BRACED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
    - C. PRE-ENGINEERED MANUFACTURER TO PROVIDE SHOP DRAWINGS OF FLOOR AND ROOF SYSTEM COMPONENTS WHICH SHALL BE VERIFIED BY AND BEAR THE STAMP OF A PROFESSIONAL ENGINEER.
    - D. BEAM LAMINATIONS AS PER FLOOR SUPPLIERS RECOMMENDATION.

K. TIMBER EXECUTION

1. WALL STUD SPACING SHALL NOT EXCEED 406 mm UNO.
2. FINGER JOINED STUDS ARE NOT PERMITTED.
3. ALL DIMENSION LUMBER BUILT-UP COLUMNS SUPPORTING DIMENSION LUMBER BUILT-UP BEAMS SHALL HAVE THE NUMBER OF COLUMN PLYS MATCHING THE NUMBER OF BEAM PLYS.
4. ALL DIMENSION LUMBER BUILT-UP COLUMNS SUPPORTING PROPRIETARY MANUFACTURED BUILT-UP BEAMS SHALL HAVE THE NUMBER OF COUMN PLYS EXCEED THE NUMBER OF BEAM PLYS BY ONE.
5. ALL FREE STANDING DIMENSION LUMBER BUILT-UP COLUMNS SHALL HAVE 3 PLYS MINIMUM.
6. MULTI-PLY PROPRIETARY MANUFACTURED BEAMS SHALL BE NAILED WITH THREE (3) ROWS OF 89 mm NAILS AT 300 mm O/C EACH SIDE FOR THREE (3) PLYS. FOUR (4) OR MORE PLYS SHALL BE BOLTED WITH 2 ROWS OF 12.7 mm DIAMETER BOLTS AT 300 mm O/C STAGGERED BETWEEN ROWS.
7. ALL FRAMING CONNECTORS SHALL BE A MINIMUM OF 0.912 mm (20-GAUGE) HOT-DIPPED GALVANIZED STEEL CONFORMING TO ASTM A653/A653M-15, STANDARD SPECIFICATION FOR STEEL SHEET, ZINC-COATED (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY HOT-DIP PROCESS. FRAMING STRAPS SHALL BE A MINIMUM OF 38 mm x 400 mm.
8. REFER TO WALL, COLUMN, LINTEL, AND BEAM SCHEDULES AND DETAILS.
9. WHERE SHEATHING PANEL THICKNESSES DIFFERS BETWEEN ARCHITECTURAL AND STRUCTURAL DRAWINGS, USE THE THICKER OF THE PANELS SPECIFIED. NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER OF ANY DIFFERENCES PRIOR TO CONSTRUCTION.
10. ALL SHEATHING TO BEAR A MARK INDICATING THE PANEL IS SUTABLE FOR THE PROPOSED END USE (i.e. FLOOR, ROOF, OR WALL) AND THE SPACING OF THE SUPPORTS ON WHICH THE PANEL IS FASTENED.
11. ALL SHEATHING TO BE INSTALLED WITH ITS LONG AXIS PERPENDICULAR TO THE SUPPORTING MEMBERS WITH PANEL EDGES STAGGERED.
12. WALL SHEATHING TO BE A MINIMUM 12.5 mm THICK. PROVIDE A 2 mm GAP BETWEEN PANEL EDGES. PROVIDE BLOCKING AT ALL HORIZONTAL PANEL EDGES IN SHEAR-WALL SEGMENTS AS NOTED IN THE DRAWINGS.
13. FLOOR SHEATHING TO BE 16 mm THICK CANADIAN SOFTWOOD T&G FIR PLYWOOD SUB FLOOR SCREWED SECURELY TO ALL JOISTS AT 150 mm ALONG EDGES AND 300 mm ON INTERMEDIATE MEMBERS. GLUE TO ALL SUPPORTING MEMBERS USING PL400 OR EQUIVALENT.
14. ROOF SHEATHING SHALL BE A MINIMUM 15.5mm THICK PLYWOOD OR OSB.
15. PROVIDE 3 mm GAP AT ALL EDGES OF ROOF SHEATHING.
16. FOR UPLIFT PROVIDE FRAMING ANCHORS TO RESIST A FACTORED 4 kN LOAD AT EACH END OF EACH ROOF RAFTER.
17. MEMBERS SHALL BE ALIGNED LEVEL AND PLUMB WITHIN A TOLERANCE OF 1 IN 500.
18. PROVIDE SOLID BLOCKING BETWEEN JOISTS OVER SUPPORT AT ALL CANTILEVERED CONDITIONS.
19. MINIMUM BEARING LENGTHS

    50 mm FOR ALL JOISTS, LINTELS, AND RAFTERS
    100 mm FOR ALL BEAMS
20. PROVIDE 38x38 DIAGONAL CROSS BRIDGING AT MIDSPAN OR AT 2100 mm O/C MAXIMUM FOR ALL DIMENSION LUMBER JOISTS.

L. TIMBER SUBMITTAL

1. THE FLOOR SYSTEM SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE IN WHICH THE FLOOR SYSTEM WILL BE INSTALLED.
2. SUBMIT SEALED SHOP DRAWINGS FOR REVIEW BY DEPARTMENTAL REPRESENTATIVE PRIOR TO INSTALLING THE FLOOR SYSTEM.
3. SHOP DRAWINGS SHALL CONTAIN LAYOUT, DESIGN CRITERIA (INCLUDING LOADINGS), CONNECTIONS, BRACING REQUIREMENTS, AND ALL OTHER RELEVANT DETAILS REQUIRED FOR THE ASSEMBLY OF THE FLOOR SYSTEM.
4. THE SUPPLIER SHALL CARRY OUT A REVIEW BY A PROFESSIONAL ENGINEER OF THE INSTALLED FLOOR SYSTEM AFTER THE MECHANICAL SYSTEMS ARE IN PLACE TO ENSURE THAT THE FLOOR SYSTEM WAS INSTALLED IN CONFORMANCE WITH THE THE SHOP DRAWINGS PREVIOUSLY SUBMITTED.
5. THE PROFESSIONAL ENGINEER REVIEWING THE INSTALLED FLOOR SYSTEM SHALL PROVIDE A SIGNED AND SEALED REPORT ADDRESSING, AS A MINIMUM, PROPER ALIGNMENT AND PLACEMENT, CONFIRMATION OF BEARING OF JOISTS AND BEAMS ON SUPPORTING ELEMENTS, ADEQUACY OF BRACING, INSTALLATION OF HANGERS AND CONNECTORS, AND ANY REPAIRS REQUIRED TO DAMAGED OR ALTERED MEMBERS.
6. THE ERECTION CONTRACTOR SHALL BE SUPPLIED WITH DETAILED INSTRUCTIONS FOR THE CARE, STORAGE, HANDLING, AND ERECTION OF THE FLOOR JOISTS AND BEAMS, INCLUDING A LAYOUT PLAN AND DETAILS.
7. THE CONTRACTOR SHALL NOT CUT, DRILL, NOTCH, OR MODIFY ANY JOISTS, BEAMS, STUDS, POSTS, OR COLUMNS, EXCEPT IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
8. ALL TEMPORARY BRACING AND GUARDS SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY.
9. MINIMUM NAILING OF TIMBER FRAMING REQUIREMENTS:
    - A. BOTTOM PLATE TO STUD: 3x76 mm EACH STUD.
    - B. TOP PLATE TO STUD:

      38x140 STUD: 3x89 mm EACH STUD
      38x184 STUD: 4x89 mm EACH STUD
    - C. HORIZONTAL BLOCKING: 2x76 mm EACH END
    - D. FRAMING AROUND WINDOWS AND OPENINGS - THROUGH NAILING (IN ADDITION TO FRAMING ANCHORS SHOWN/PROVIDED):

      38x140 MEMBERS: 3x89mm EACH MEMBER
      38x184 MEMBERS: 3x89 mm EACH MEMBER
    - E. FLOOR JOISTS AND BLOCKING TO TOP PLATES - TOE NAILING:

      38x140 MEMBERS: 3x89 mm EACH MEMBER
      38x184 MEMBERS: 3x89 mm EACH MEMBER
    - F. FLOOR SHEATHING: 63 mm @ 150 mm O/C ON ALL SUPPORTS MINIMUM UNO
    - G. ROOF SHEATHING: SEE DETAILS
    - H. REFER TO TYPICAL DETAIL T3 FOR BUILT-UP COLUMNS AND TIMBER EXECUTION ABOVE.
    - I. BUILT-UP DIMENSION LUMBER BEAMS:

      2 PLY: 76 mm @ 200 mm O/C STAGER ROWS TOP AND BOTTOM. DO NOT SPLICE MEMBERS.
      3 PLY: 89 mm @ 200 mm O/C STAGER ROWS TOP AND BOTTOM. DO NOT SPLICE MEMBERS.

M. POST-INSTALLED ANCHORS

1. EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES AS PROVIDED BY HILTI (CANADA) CORPORATION.
    - A. ANCHORAGE TO CONCRETE
      - i ADHESIVE ANCHORS FOR CONCRETE USE:
        1. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HIT-Z ROD FOR FAST CURE APPLICATIONS.
        2. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM FOR FAST CURE APPLICATIONS.
        3. HILTI HIT-RE 500-SD EPOXY ADHESIVE ANCHORING SYSTEM FOR SLOW CURE APPLICATIONS.
        4. HILTI HIT-RE 500 EPOXY ADHESIVE ANCHORING SYSTEM FOR SLOW CURE APPLICATIONS.
        5. STEEL ANCHOR ELEMENT SHALL BE HILTI HIS-N INTERNALLY THREADED INSERTS, HILTI HAS-E CONTINUOUSLY THREADED ROD, OR CONTINUOUSLY DEFORMED STEEL REBAR.
      - ii MEDIUM DUTY MECHANICAL ANCHORS FOR CONCRETE USE:
        1. HILTI KWIK HUS EZ AND KWIK HUS EZ-I SCREW ANCHORS.
        2. HILTI KWIK BOLT-TZ EXPANSION ANCHORS.
        3. HILTI KWIK BOLT 3 EXPANSION ANCHORS.
      - iii HEAVY DUTY MECHANICAL ANCHORS FOR CONCRETE USE:
        1. HILTI HDA UNDERCUT ANCHORS.
        2. HILTI HSL-3 EXPANSION ANCHORS.
    - B. REBAR DOWELING INTO CONCRETE
      - i ADHESIVE ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
        1. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM WITH CONTINUOUSLY DEFORMED REBAR.
        2. HILTI HIT-RE 500-SD EPOXY ADHESIVE ANCHORING SYSTEM WITH CONTINUOUSLY DEFORMED REBAR.
        3. HILTI HIT-RE 500 EPOXY ADHESIVE ANCHORING SYSTEM WITH CONTINUOUSLY DEFORMED REBAR.
2. ANCHOR CAPACITY USED IN DESIGN HAS BEEN BASED ON THE TECHNICAL DATA PUBLISHED BY HILTI. SUBSTITUTION REQUESTS FOR ALTERNATE ANCHORS MUST BE APPROVED IN WRITING BY THE CONSULTANT PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE ALTERNATIVE ANCHOR IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED FOR COMPLIANCE WITH THE RELEVANT BUILDING CODE. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.
3. INSTALL ANCHORS PER THE MANUFACTURER WRITTEN INSTRUCTIONS.
4. INSTALL ANCHORS IN NEW CONCRETE STRUCTURES AFTER CONCRETE HAS ATTAINED ITS 28 DAY SPECIFIED STRENGTH.
5. OVERHEAD ADHESIVE ANCHORS MUST BE INSTALLED USING THE HILTI PROFI SYSTEM.
6. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE CONSULTANT MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
7. ANCHOR CAPACITY IS DEPENDANT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN STRICT ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
8. EXISTING REINFORCEMENT IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE EXISTING REINFORCEMENT AT THE LOCATIONS OF THE CONCRETE ANCHORS, BY HILTI FERROSCAN, HILTI PS 1000, GPR, X-RAY, CHIPPING OR OTHER MEANS. DO NOT CUT OR DAMAGE EXISTING REINFORCEMENT WHEN INSTALLING ANCHORS.

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Consultant's Name / Nom de l'expert-conseil
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	AD	12/02/16
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KL	IW	1 : 1

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
C015-0870	FII # 945	S002

Drawing Reference No./No. de reference du dessin

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A. GENERAL

1. THE STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL BUILDING CODE OF CANADA 2015 (NBC).

2. ALL REINFORCED CONCRETE ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH CSA A23.3, DESIGN OF CONCRETE STRUCTURES.

3. ALL STRUCTURAL STEEL ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH CSA-S16, LIMIT STATES DESIGN OF STEEL STRUCTURES.

   A. THE STRUCTURAL STEEL DESIGN IS BASED ON "SIMPLE" CONSTRUCTION.

   B. ALL CONNECTIONS ARE ASSUMED TO BE BEARING TYPE CONNECTIONS, UNLESS NOTED OTHERWISE. THE BOLTS SHALL BE BROUGHT TO A SNUG-TIGHT CONDITION AS DEFINED IN CSA-S16.

4. ALL STRUCTURAL GLUED-LAMINATED TIMBER ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH CSA-086, ENGINEERING DESIGN IN WOOD (LIMIT STATES DESIGN).

B. LATERAL LOAD RESISTING SYSTEM

1. THE LATERAL WIND AND EARTHQUAKE LOADS APPLIED TO THE STRUCTURE ARE RESISTED BY THE FOLLOWING:

   A. TIMBER NAILED SHEAR WALLS WITH WOOD-BASED PANELS AND GYPSUM PANELS IN COMBINATION.

2. THE STRUCTURE HAS BEEN DESIGNED TO RESIST LATERAL WIND AND EARTHQUAKE LOADS IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 2015.

3. THE DESIGN PARAMETERS FOR WIND AND EARTHQUAKE ARE AS NOTED BELOW:

   A. WIND LOADS

   THE WIND LOADS HAVE BEEN CALCULATED IN ACCORDANCE WITH STATIC PROCEDURE AS OUTLINED IN THE USER'S GUIDE - NBC 2015 STRUCTURAL COMMENTARIES.

   - HOURLY WIND PRESSURES FOR WATERTON VILLAGE, ALBERTA (VALUES PROVIDED BY PARKS CANADA AGENCY):
     q50 = 0.97 kPa

   - WIND IMPORTANCE FACTOR, BASED ON TABLE 4.1.7.1 OF THE 2015 NBC
     CATEGORY - NORMAL
     Iw = 1.0 (ULS)
     Iw = 0.75 (SLS)

   - EXPOSURE FACTOR BASED ON OPEN TERRAIN AS DESCRIBED IN THE USER'S GUIDE - NBC 2015 STRUCTURAL COMMENTARIES
     Ce = 0.91

   - EXTERNAL AND INTERNAL GUST EFFECT FACTORS AND PRESSURE COEFFICIENTS
     CpCg FACTORS BASED ON USER'S GUIDE - NBC 2015 STRUCTURAL COMMENTARIES FIGURE I-7 FOR PRIMARY STRUCTURAL ACTIONS, FIGURE I-8 FOR THE DESIGN OF EXTERIOR WALL STRUCTURAL COMPONENTS AND CLADDING, AND FIGURE I-11 FOR HIPPED ROOFS WITH A SLOPE GREATER THAN 7 DEGREES FOR THE DESIGN OF STRUCTURAL COMPONENTS AND CLADDING.
     Cgi = 2.0 AS CALCULATED ACCOUNTING FOR THE SIZES OF THE OPENINGS IN THE BUILDING ENVELOPE, THE INTERNAL VOLUME, AND THE FLEXIBILITY OF THE BUILDING ENVELOPE IN ACCORDANCE WITH THE USER'S GUIDE

   - EXTERNAL AND INTERNAL PRESSURE COEFFICIENTS
     Cpi = -0.45 AND +0.30, BASED ON CATEGORY 2 OF THE USER'S GUIDE

   B. EARTHQUAKE LOADS

   THE EARTHQUAKE LOADS HAVE BEEN CALCULATED IN ACCORDANCE WITH THE EQUIVALENT STATIC FORCE PROCEDURE.

   - EARTHQUAKE IMPORTANCE FACTOR, BASED ON NATURAL RESOURCES CANADA'S www.earthquakecanada.ca 2015 NATIONAL BUILDING CODE OF CANADA SEISMIC HAZARD CALCULATOR CATEGORY - NORMAL
     IE = 1.0 (ULS)

   - SEISMIC HAZARD PARAMETERS FOR WATERTON VILLAGE, ALBERTA (LATITUDE OF 49.0517 DEGREES AND A LONGITUDE OF -113.9112 DEGREES):
     Sa(0.2) = 0.251, Sa(0.5) = 0.151, Sa(1.0) = 0.076, Sa(2.0) = 0.043, PGA = 0.129

   - SITE CLASSIFICATION FOR SEISMIC SITE RESPONSE:
     CLASS = C

   - ACCELERATION AND VELOCITY BASED SITE COEFFICIENTS:
     Fa = 1.0, Fv = 1.0

   - TYPE OF SEISMIC FORCE RESISTING SYSTEM (SFRS): TIMBER NAILED SHEAR WALLS WITH WOOD-BASED PANELS AND GYPSUM PANELS IN COMBINATION:
     Rd = 3.0, Ro = 1.7

   - FUNDAMENTAL LATERAL PERIOD USED FOR CALCULATIONS
     Ta = 0.11 SEC
     BASED ON A 2ND FLOOR REFERENCE HEIGHT OF 3m USING THE SHEAR WALL EQUATION FROM 4.1.8.11.3c

4. DESIGN FACTORED BASE SHEAR:

   MAXIMUM WIND
   NORTH / SOUTH DIRECTION = 700kN
   EAST / WEST DIRECTION = 200kN

   MAXIMUM EARTHQUAKE = 175kN

5. DESIGN FACTORED BASE OVERTURNING:

   MAXIMUM WIND
   NORTH / SOUTH DIRECTION = 1215 kNm
   EAST / WEST DIRECTION = 1535 kNm

   MAXIMUM EARTHQUAKE = 830 kNm

C. LOADS ON FOUNDATION / RETAINING WALLS

1. THE WALLS HAVE BEEN DESIGNED ASSUMING FREE DRAINING BACKFILL WHICH DOES NOT PERMIT THE BUILD-UP OF HYDROSTATIC PRESSURE

2. WALL HAVE BEEN DESIGNED FOR A HORIZONTAL PRESSURE (P IN kPa) AT ANY DEPTH (h in m) GIVEN BY THE EXPRESSION:

   P = Ko (gh + q)

   WHERE THE
   SOIL PRESSURE COEFFICIENT, Ko = 0.45
   UNIT WEIGHT OF SOIL, g = 21kN/m³
   SURCHARGE, q= 12.0 kPa

D. LIVE LOADS ON FLOORS

1. BASEMENT LEVEL: 4.8kPa
   RESIDENTAL AREAS ON MAIN LEVEL AND LOFT LEVEL: 1.9kPa
   COMMON CORRIDORS AT MAIN LEVEL AND LOFT LEVEL, STAIRS, AND LOBBY: 4.8kPa
   ROOF TRUSS BOTTOM CHORD: 1.5 kN POINT LOAD APPLIED ANYWHERE

E. LIVE LOADS ON ROOFS AND WALLS

1. THE ROOF AREAS HAVE BEEN DESIGNED TO RESIST SNOW, RAIN AND WIND LOADS IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 2015. THE DESIGN PARAMETERS FOR THESE LOADS ARE AS NOTED BELOW.

2. SNOW LOAD:

   THE SNOW LOADS HAVE BEEN CALCULATED IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA, 2015.

   - SNOW IMPORTANCE FACTOR, BASED ON TABLE 4.1.6.2 OF THE NBC 2015
     CATEGORY - NORMAL
     Is = 1.0 (ULS)
     Is = 0.9 (SLS)

   - GROUND SNOW LOAD (1 IN 50 YEAR)
     Ss = 3.2kPa (PSF)

   - BASIC ROOF SNOW LOAD FACTOR
     Cb = 0.8

     WIND EXPOSURE FACTOR
     Cw = 1.0 (ASSUME FUTURE DEVELOPMENT REDUCES OPEN EXPOSURE)
     ROOF SLOPE, α=9:12 (36.9°)

     SLOPE FACTOR
     Cs = 0.83 (NON-SLIPPERY SLOPE)

     SHAPE FACTOR
     Ca = 1.0 CASE I; 1.25 CASE II

     ASSOCIATED RAIN LOAD (1 IN 50 YEAR)
     Sr = 0.3kPa (PSF)
     S = Is[Ss(CbCwCsCa) + Sr] = 2.42 kPa (CASE I); 2.96 kPa (CASE II). EXCEEDS MINIMUM LIVE LOAD OF 1.0 kPa

   - ALLOW FOR SNOW CORNICES BEYOND THE EDGE OF THE ROOF A DISTANCE EQUAL TO THE DEPTH OF SNOW OF 1.0m BASED ON AN AVERAGE SNOW DENSITY OF 3.0 kN/m³.

   - SNOW ACCUMULATION IN VALLEYS AND BETWEEN DORMERS - S = 5.1 kPa.

3. WIND LOAD

   THE WIND LOADS HAVE BEEN CALCULATED IN ACCORDANCE WITH STATIC PROCEDURE AS OUTLINED IN THE USER'S GUIDE - NBC 2015 STRUCTURAL COMMENTARIES.

   HOURLY WIND PRESSURES FOR WATERTON VILLAGE, ALBERTA (VALUES PROVIDED BY PARKS CANADA AGENCY):
   q50 = 0.97 kPa

   - WIND IMPORTANCE FACTOR, BASED ON TABLE 4.1.7.1 OF THE 2015 NBC
     CATEGORY - NORMAL
     Iw = 1.0 (ULS)
     Iw = 0.75 (SLS)

   - EXPOSURE FACTOR BASED ON OPEN TERRAIN AS DESCRIBED IN THE USER'S GUIDE - NBC 2015 STRUCTURAL COMMENTARIES.
     Ce = 0.91

   A. ROOFS (+ DOWNWARD; - UPWARD) NET UNFACTORED WIND PRESSURE (ULS):

   - ROOF OVERHANGS (INCLUDING ENTRANCE CANOPY) = -3.4 kPa

   - ALL ROOF AREAS = -2.5 kPa FOR EFFECTIVE WIND AREAS ≥ 2.5 m²

   - ALL ROOF AREAS = -2.6 kPa FOR EFFECTIVE WIND AREAS <2.5 m²

   - ALL ROOF AREAS = 1.8 kPa

   B. EXTERIOR STUD WALLS

   - NET UNFACTORED WIND PRESSURE (ULS): ± 2.6kPa

F. SUPERIMPOSED DEAD LOADS AND OTHER LOADS

1. THE STRUCTURE HAS BEEN DESIGNED TO RESIST THE FOLLOWING SUPERIMPOSED DEAD LOADS.

   - BASEMENT LEVEL:

   - FLOOR FINISHES = 0.5 kPa
   - NON-LOAD BEARING PARTITIONS = 1.0 kPa

   - MAIN LEVEL AND LOFT LEVEL FRAMING:

   - CARPET & UNDERLAY = 0.15 kPa (0.0 kPa FOR UPLIFT LOAD CASE*)
   - 38mm NORMAL DENSITY CONCRETE TOPPING = 0.91 kPa
   - 16mm PLYWOOD SHEATHING = 0.09 kPa
   - 300mm ACOUSTICAL BATT INSULATION = 0.10 kPa (0.0 kPa FOR UPLIFT LOAD CASE*)
   - 2 LAYERS OF 15.9mm TYPE X GYPSUM WALL BOARD = 0.27 kPa
   - SPRINKLER SYSTEM = 0.05 kPa (0.0 kPa FOR UPLIFT LOAD CASE*)
   - SUSPENDED MECHANICAL AND ELECTRICAL ALLOWANCE = 0.25 kPa (0.1 kPa FOR UPLIFT LOAD CASE)
   - NON-LOAD BEARING PARTITIONS = 1.0 kPa (0.5 kPa FOR UPLIFT LOAD CASE*)
   - TOTAL = 2.84 kPa (1.89 kPa FOR UPLIFT LOAD CASE*)

   - BOTTOM CHORD OF ROOF TRUSSES; UNDERSIDE OF ROOF RAFTERS:

   - SUSPENDED MECHANICAL AND ELECTRICAL ALLOWANCE = 0.25 kPa (0.1 kPa FOR UPLIFT LOAD CASE*)
   - 300 BAT INSULATION = 0.10 kPa
   - 1 LAYER OF 15.9mm TYPE X GYPSUM WALL BOARD = 0.14 kPa
   - TOTAL = 0.5 kPa (0.3 kPa FOR UPLIFT LOAD CASE*)

   - TOP CHORD OF ROOF TRUSSES; TOP OF ROOF RAFTERS:

   - 12.5mm PLYWOOD SHEATHING = 0.07 kPa FLAT (0.09 kPa PROJECTED)
   - ASPHALT SHINGLES + FUTURE REROOFING = 0.24 kPa FLAT (0.30 kPa PROJECTED); (0.12 kPa FLAT, 0.15 kPa PROJECTED FOR UPLIFT LOAD CASE*)
   - MISCELLANEOUS = 0.1 kPa PROJECTED (0.0 kPa FOR UPLIFT LOAD CASE*)
   - TOTAL = 0.5 kPa PROJECTED (0.24 kPa PROJECTED FOR UPLIFT LOAD CASE*)

   (*) UPLIFT LOAD CASE IS FOR OVERALL UPLIFT ON THE ROOF TRUSSES AND ROOF RAFTERS FOR ROOF TRUSS DESIGN, RESPECTIVE TIE DOWN DESIGN AND LOAD BEARING WALL DETAILS.

2. THESE SUPERIMPOSED DEAD LOADS HAVE BEEN DETERMINED BASED ON THE MATERIALS SHOWN ON THE ARCHITECTURAL DRAWINGS AND INFORMATION PROVIDED BY THE OTHER DESIGN DISCIPLINES. IF THE CONTRACTOR PROPOSES TO SUBSTITUTE ANY SPECIFIED MATERIALS WITH MATERIALS OF HEAVIER CONSTRUCTION, THEY SHALL INFORM THE CONSULTANT WHO WILL ASSESS THE IMPACT OF THE PROPOSED SUBSTITUTION PRIOR TO PROPOSED SUBSTITUTION BEING ACCEPTED.

3. ASSUMED SELF WEIGHT:

   - MAIN LEVEL AND LOFT LEVEL WOOD JOIST/FLOOR TRUSS FLOOR FRAMING = 0.11 kPa
   - ROOF TRUSS SELF WEIGHT = 0.2 kPa FLAT (0.25 kPa PROJECTED)

G. STRUCTURAL MOVEMENTS

1. TYPICAL HORIZONTAL ELEMENTS HAVE BEEN DESIGNED SO THAT THE THEORETICAL VERTICAL DEFLECTIONS WILL NOT EXCEED THE VALUES NOTED IN TABLE 1 BELOW.

2. INTERIOR NON LOAD BEARING WALLS AND PARTITIONS, ARE TO BE DETAILED TO ACCOMMODATE A MINIMUM OF 25mm (1") VERTICAL MOVEMENT AT THE TOP OF THE PARTITION, UNLESS NOTED OTHERWISE.

3. THE STRUCTURE HAS BEEN DESIGNED TO LIMIT THE MAXIMUM INTERSTOREY DRIFT AT THE SERVICEABILITY LIMIT STATE (SLS) TO h/500, FOR WIND LOADS WHERE 'h' IS THE FLOOR TO FLOOR HEIGHT BETWEEN TWO ADJACENT FLOORS, AND TO 0.025 hs FOR EARTHQUAKE LOADS, WHERE 'hs' IS THE HEIGHT OF THE STOREY.

4. NON STRUCTURAL ELEMENTS SUCH AS MOVEMENT JOINTS, THE BUILDING ENCLOSURE, MECHANICAL AND ELECTRICAL SERVICES AND SUPPORTS, AND THE LIKE, MUST BE DESIGNED AND DETAILED TO ACCOMMODATE, AS A MINIMUM, THE ANTICIPATED MOVEMENTS NOTED ABOVE.

TABLE 1 - VERTICAL DEFLECTION LIMITATIONS

TYPE OF MEMBER	DEFLECTION TO BE CONSIDERED	DEFLECTION LIMITATION
DIMENSION LUMBER/GLUE-LAMINATED MEMBERS/PROPRIETARY MANUFACTURED WOOD ELEMENTS		
SIMPLE SPAN MEMBERS OF ALL FLOORS AND ROOFS	TOTAL LOAD	L/240 OR 25mm MAX
SIMPLE SPAN MEMBERS OF ROOFS AND PRE-ENGINEERD ROOF TRUSSES SUPPORTING CONSTRUCTION AND FINISHES SUSCEPTIBLE TO CRACKING	LIVE LOAD	L/240
GIRDERS/BEAMS SUPPORTING FLOOR FRAMING	LIVE LOAD	L/360
FLOOR FRAMING	LIVE LOAD	L/480

NOTE: ALL JOISTS ARE TO MEET THE VIBRATION REQUIREMENTS AS SET OUT IN THE NATIONAL BUILDING CODE.

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-03	ISSUED FOR 66%	AD	IW
1	2016-05-05	ISSUED FOR 33%	AD	IW

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil
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Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2
Waterton Lakes National Park

Drawing title/Titre du dessin
DESIGN NOTES

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	1 : 1

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S003

Drawing Reference No./No. de reference du dessin

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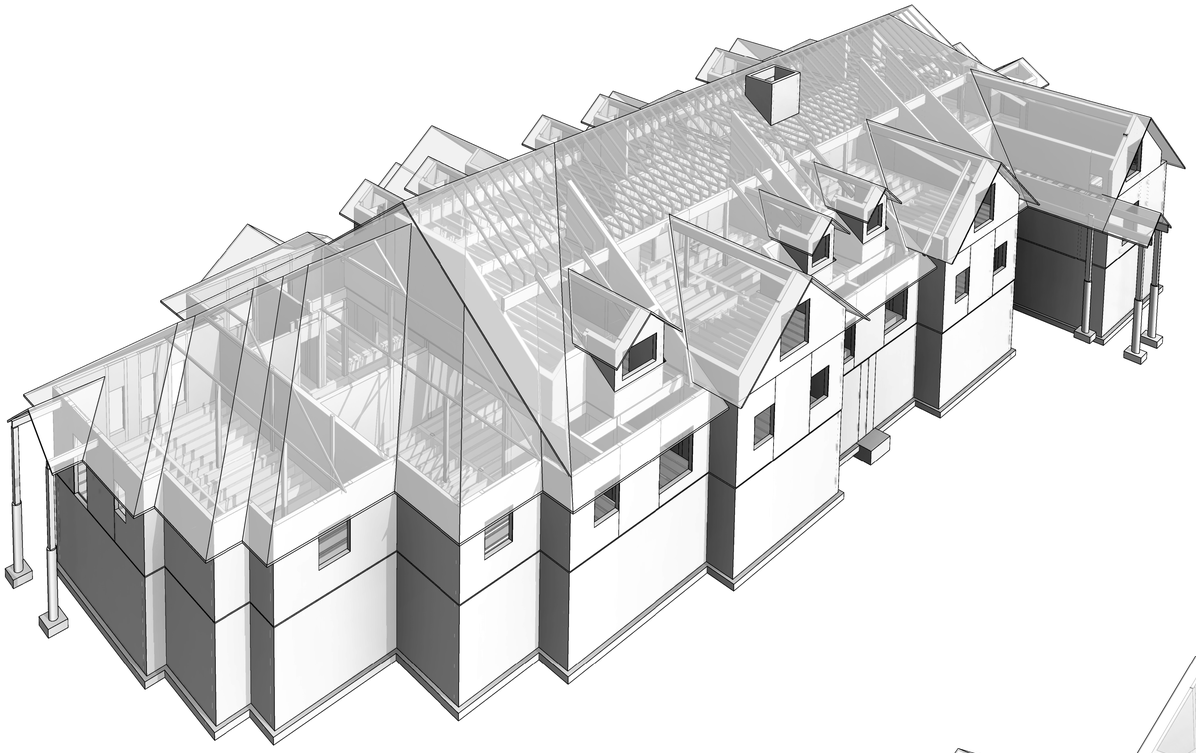
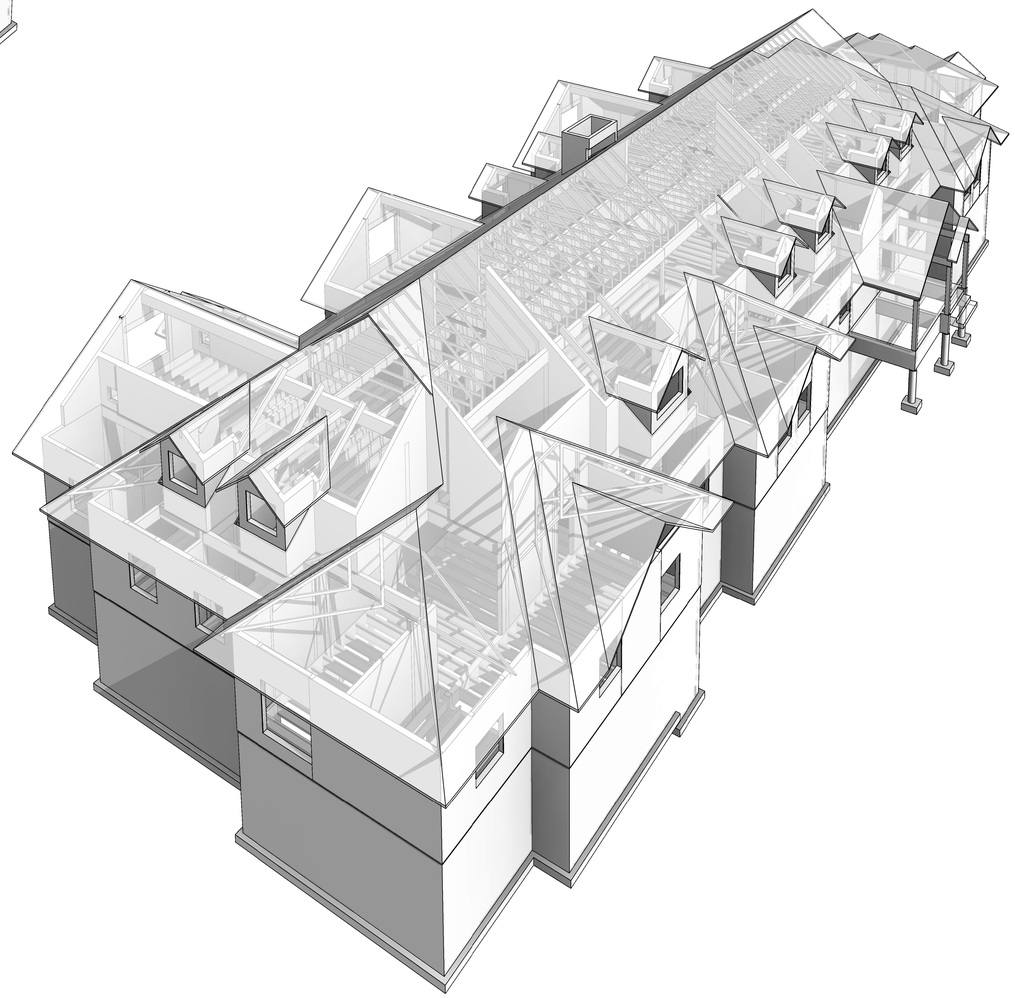


3D ISO LOOKING NORTH



3D ISO LOOKING SOUTH

DIAGRAM IS INDICATIVE ONLY. REFER TO PLANS, SECTIONS AND SPECIFICATIONS

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-03	ISSUED FOR 66%	AD	IW

Revision / Revision

A detail number
numero de detail
B source drawing no.
de dessin no.
C detail on drawing no.
detail sur dessin no.

Consultant's Name
Nom de l'expert-conseil

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

Client Services Team Southern Alberta Operations Branch
Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations

Canada

Client/client

Parks Canada Agency
L'Agence Parcs Canada

Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

3D REFERENCE VIEWS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client
Park Responsible Officer/Agent Responsable

Approved by/Approuve par
PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S004

Drawing Reference No./No. de reference du dessin

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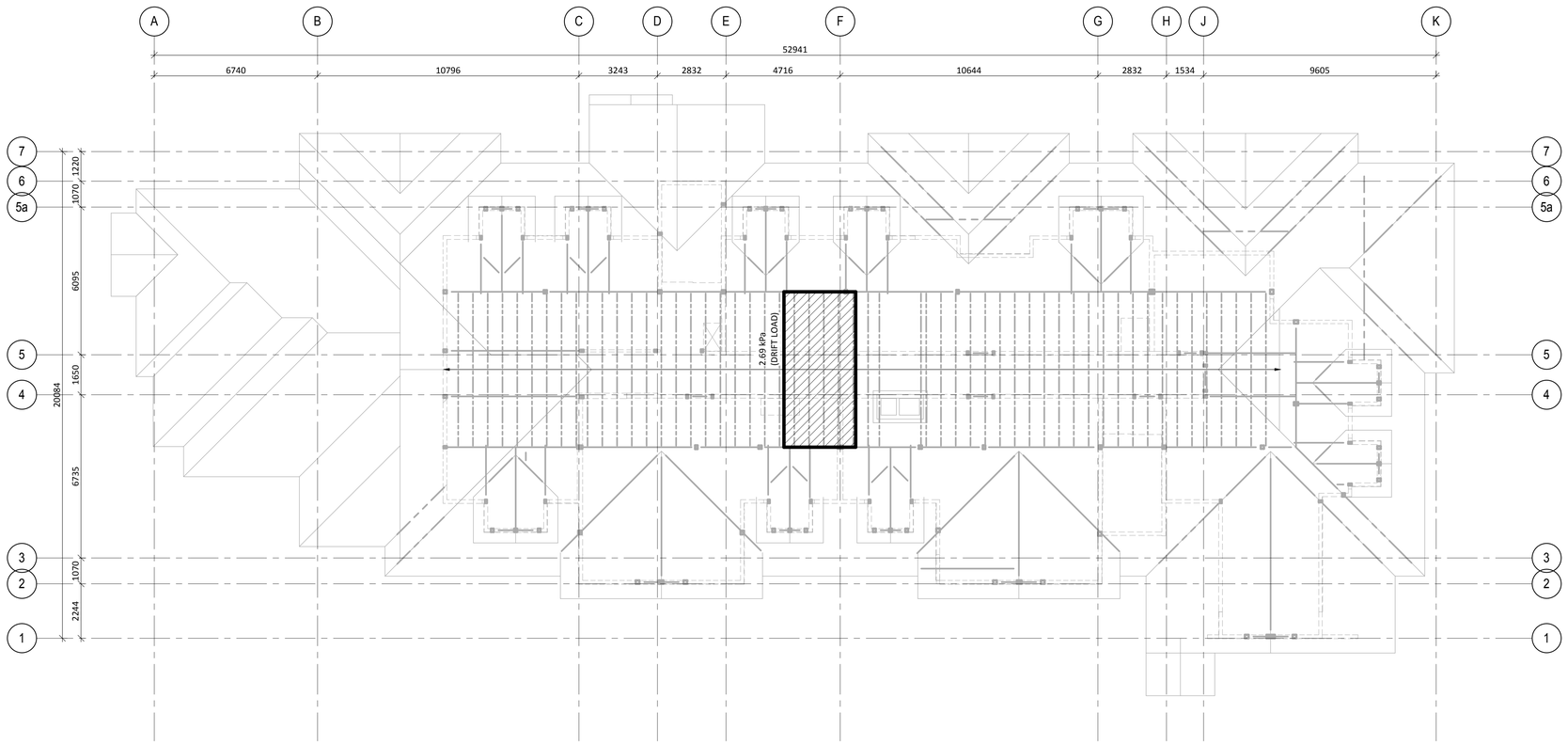

N

TRUE NORTH

ROOF LOADING PLAN

1 : 100

1. ROOF DRIFT LOAD TYPICAL UNO.

- GIRDERS/BEAMS = 4.0 kPa
- INDIVIDUAL MEMBERS = 5.1 kPa

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW

Revision / Revision

A detail number
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Travaux publics et Services gouvernementaux Canada

Client Services Team Southern Alberta Operations Branch
Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations

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ROOF LOADING PLAN

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	1 : 100

PWGSC Project Manager/Administrateur de Projets TPSGC
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Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S005

Drawing Reference No./No. de reference du dessin

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A. ROD	=	ANCHOR ROD
AEC	=	ARCH EXPOSED CONCRETE
AES	=	ARCH EXPOSED STEEL
ALT	=	ALTERNATE
ARCH	=	ARCHITECTURAL
ASL	=	ADDITIONAL SNOW LOAD
BLL	=	BOTTOM LOWER LAYER
BM	=	BEAM
BML	=	BOTTOM MIDDLE LAYER
B, BOT	=	BOTTOM
BUL	=	BOTTOM UPPER LAYER
BPL	=	BASE (BEARING) PLATE
c/c	=	CENTRE TO CENTRE
c/w, C/W	=	CONNECT WITH
CANT	=	CANTILEVER
CL	=	CLEAR
C	=	EPOXY COATED
COL	=	COLUMN
CA, CB	=	COLUMN ABOVE, BELOW
CONC	=	CONCRETE
CONT	=	CONTINUOUS
CJ	=	CONSTRUCTION JOINT
CLS	=	COMPRESSION LAP SPLICE
CP	=	CAST-IN PLATE
DET	=	DETAIL
DIAG	=	DIAGONAL
DIA, Ø	=	DIAMETER
DIM	=	DIMENSION
DWG(S)	=	DRAWING(S)
DWL(S)	=	DOWEL(S)
DB	=	DIVIDER BEAM
EA	=	EACH
EE	=	EACH END
EF	=	EACH FACE
EL	=	ELEVATION
ELEV	=	ELEVATOR
ELECT	=	ELECTRICAL
EQ	=	EQUAL
ES	=	EACH SIDE
EW	=	EACH WAY
EX, EXIST	=	EXISTING
EJ, EXP JT	=	EXPANSION JOINT
EXT	=	EXTERIOR
E-W	=	EAST-WEST
FDN	=	FOUNDATION
FF	=	FAR FACE
FIN	=	FINISHED
FL	=	FLOOR
FMC	=	FULL MOMENT CONNECTION
FTG	=	FOOTING
F'c	=	CONCRETE COMPRESSIVE STRENGTH
fy	=	YIELD STRENGTH
GA	=	GAUGE
GALV	=	GALVANIZED
HH	=	HOOKED EACH END
H, HORIZ	=	HORIZONTAL
HSC	=	HORIZONTALLY SLOTTED CONNECTION
HEF	=	HORIZONTAL EACH FACE
IF	=	INSIDE FACE
INT	=	INTERIOR
IR	=	INTEGRITY REINFORCEMENT
JT	=	JOINT

LG	=	LONG
LL	=	LOWER LAYER
LLV	=	LONG LEG VERTICAL
LLH	=	LONG LEG HORIZONTAL
LSV	=	LONG SIDE VERTICAL
LSH	=	LONG SIDE HORIZONTAL
ℓ_d	=	DEVELOPMENT LENGTH OF REINFORCEMENT
MAX	=	MAXIMUM
MECH	=	MECHANICAL
MEZZ	=	MEZZANINE
MIN	=	MINIMUM
ML	=	MIDDLE LAYER
MOM	=	MOMENT
MJ	=	MOVEMENT JOINT
NIC	=	NOT IN CONTRACT
NF	=	NEAR FACE
NO.	=	NUMBER
NTS	=	NOT TO SCALE
N-S	=	NORTH-SOUTH
OWSJ	=	OPEN WEB STEEL JOIST
OF	=	OUTSIDE FACE
OPEN	=	OPENING
PL	=	PLATE
PC	=	PRECAST
PROJ	=	PROJECTION
R	=	RADIUS
RD	=	ROOF DRAIN
REF	=	REFERENCE
REINF	=	REINFORCE, REINFORCEMENT
REQ'D	=	REQUIRED
REV	=	REVISION, REVISED
R/W	=	REINFORCE WITH
RWB	=	RAFTER WOOD BEAM
RWG	=	RAFTER WOOD GIRDER
SA	=	SHELF ANGLE
SDF	=	STEP DOWN FOOTING
SL	=	SLAB
SOG	=	SLAB ON GRADE
SPEC'S	=	SPECIFICATIONS
STD	=	STANDARD
STRUCT	=	STRUCTURAL
SQ	=	SQUARE
T	=	TOP
TEMP	=	TEMPERATURE
TD	=	TYPICAL DETAIL
TJ	=	TIE JOIST
TML	=	TOP MIDDLE LAYER
TLL	=	TOP LOWER LAYER
TLS	=	TENSION LAP SPLICE
TOW	=	TOP OF WALL
TUL	=	TOP UPPER LAYER
TYP	=	TYPICAL
UL	=	UPPER LAYER
U/N, UNO	=	UNLESS OTHERWISE NOTED
U/S	=	UNDERSIDE
V, VERT	=	VERTICAL
VBR	=	VERTICAL BRACING
VEF	=	VERTICAL EACH FACE
VSC	=	VERTICALLY SLOTTED CONNECTION
WP	=	WORK POINT
WPL	=	WALL PLATE
WWF	=	WELDED WIRE FABRIC
WB	=	WOOD BEAM

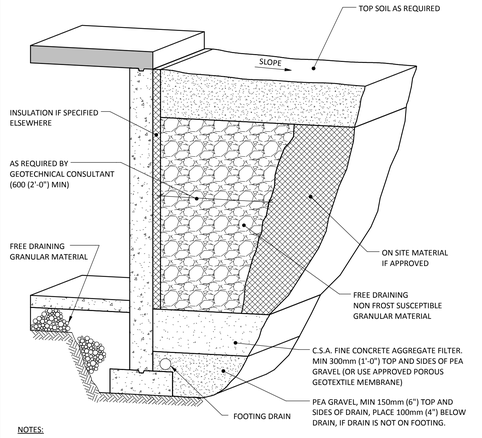
FORCES

Cf	=	FACTORED COMPRESSIVE FORCE kN (kips)
Cf(E)	=	FACTORED COMPRESSIVE FORCE kN (kips) DUE TO EARTHQUAKE
DL	=	DEAD LOAD
LL	=	LIVE LOAD
W	=	WIND LOAD
Mfx	=	FACTORED BENDING MOMENT ABOUT X-X AXIS, kN-m (kip-ft)
Mfy	=	FACTORED BENDING MOMENT ABOUT Y-Y AXIS, kN-m (kip-ft)
Mfx(E)	=	FACTORED BENDING MOMENT ABOUT X-X AXIS, kN-m (kip-ft) DUE TO EARTHQUAKE
Mfy(E)	=	FACTORED BENDING MOMENT ABOUT Y-Y AXIS, kN-m (kip-ft) DUE TO EARTHQUAKE
TMf	=	FACTORED TORSIONAL MOMENT, kN-m (kip-ft)
TMf(E)	=	FACTORED TORSIONAL MOMENT, kN-m (kip-ft) DUE TO EARTHQUAKE
Tf(E)	=	FACTORED TENSION FORCE, kN (kips) DUE TO EARTHQUAKE
UR	=	UPLIFT RESISTANCE
WL	=	UNFACTORED LIVE LOAD ON FRAMING, (kN/m)
WD	=	UNFACTORED DEAD LOAD ON FRAMING, (kN/m)
WW	=	UNFACTORED WIND LOAD ON FRAMING, (kN/m)

UNITS

kg	=	KILOGRAM
kN	=	KILONEWTON
kN-m	=	KILONEWTON METRE
kN/m²	=	kN PER SQUARE METRE
kN/m	=	KILONEWTON PER METRE
kPa	=	KILOPASCAL
m	=	METRE
N	=	NEWTON
Pa	=	PASCAL
MPa	=	MEGAPASCAL

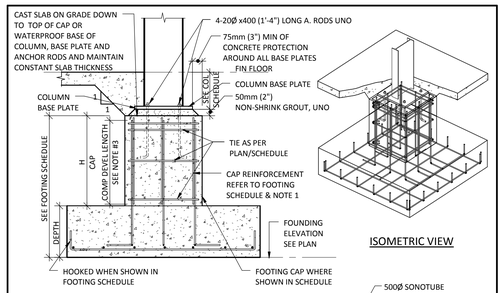
G1 — ABBREVIATIONS



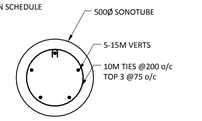
NOTES:

1. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION. WHERE INFORMATION DIFFERS FROM THAT SHOWN ABOVE, THE REQUIREMENTS OF THE GEOTECHNICAL REPORTS SHALL GOVERN.
2. REFER TO ARCHITECTURAL DRAWINGS FOR INSULATION, WATERPROOFING AND THE LIKE.
3. ALL FILL TO BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY, UNLESS OTHERWISE NOTED OR SHOWN.
4. FOOTING DRAINS TO BE MIN 100mm DIAMETER LEADING TO POSITIVE SUMP. INVERT TO BE MIN 150mm (6") BELOW UNDERSIDE OF FLOOR SLAB.
5. BACKFILL NOT TO PROCEED UNTIL SLAB ON GRADE AND FLOOR FRAMING INSTALLED. LIMIT DIFFERENTIAL IN BACKFILL HEIGHTS ON WALL TO 610mm MAX UNTIL SLAB ON GRADE AND FLOOR FRAMING INSTALLED.

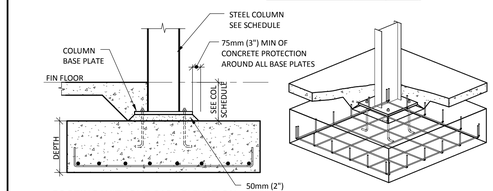
G3R — BACKFILL AT FOUNDATION WALLS



FOOTING WITH CAP - ELEVATION



TYPICAL FOOTING CAP AT INTERIOR STEEL COLUMNS (IF REQUIRED)

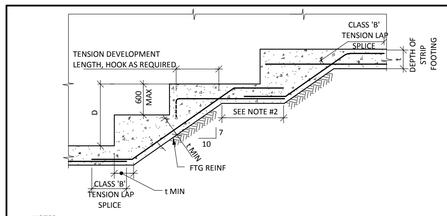


FOOTING WITHOUT CAP - ELEVATION

NOTES:

1. PROVIDE MINIMUM VERTICAL STEEL OF 0.5% OF CAP AREA IN CAP WITH TIES (8-20 MIN) UNLESS NOTED OTHERWISE IN SCHEDULE.
2. PROVIDE DEVELOPMENT AND SPLICE LENGTHS AS SHOWN, UNLESS NOTED OTHERWISE.
3. EXTEND DOWELS INTO FOOTING BELOW WHEN HEIGHT OF CAP IS LESS THAN THE COMPRESSION DEVELOPMENT LENGTH OF THE DOWELS BEING DEVELOPED.
4. ARRANGE VERTICAL BARS AND DETAIL SETS OF TIES AROUND DOWELS IN ACCORDANCE WITH TYPICAL DETAIL CC1.

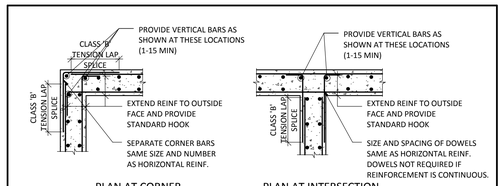
CF6R — FOOTING UNDER STEEL COLUMN



NOTES:

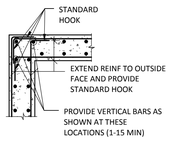
1. MAINTAIN MINIMUM SLOPE UNLESS NOTED OTHERWISE IN THE GEOTECHNICAL REPORT.
2. IF TOTAL STEPPING "D" EXCEEDS 1200mm PROVIDE INTERMEDIATE HORIZONTAL SECTION OF A MINIMUM LENGTH OF 1200mm.

CF1 — STEPPED DOWN FOOTING



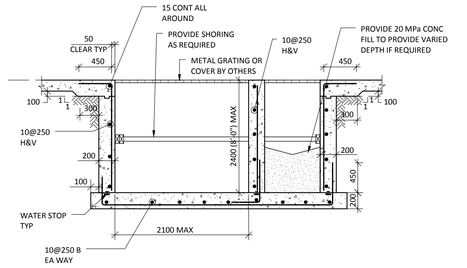
PLAN AT CORNER

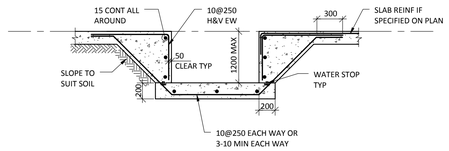
PLAN AT INTERSECTION



PLAN AT CORNER (ALTERNATIVE)

CW2R — REINFORCEMENT DETAILS IN CONCRETE FOUNDATION WALLS





TYPICAL PIT OR TRENCH DETAIL

NOTE:

1. THE USE OF PRECAST PITS IS ACCEPTABLE PROVIDED THEY ARE SUPPLIED WITH A CONCRETE BASE AND ARE DESIGNED TO RESIST LOADS IDENTIFIED IN THE DESIGN NOTES.
2. PROVIDE RECESS OR CAST IN ANGLES TO RECEIVE GRATING OR PIT COVER AS PER ARCHITECTURAL DRAWINGS, TYPICAL.

CW1 — PITS AND TRENCHES

NOTE:

1. TYPICAL DETAILS SHALL GOVERN THE WORK, UNLESS NOTED OTHERWISE.
2. IF TYPICAL DETAILS DIFFER FROM OTHER DETAILS, THE MORE STRINGENT SHALL GOVERN.

TYPICAL DETAIL LIST

DETAIL NO.	DETAIL TITLE	DRAWING NO.
CONCRETE FOUNDATIONS		
CF1	STEPPED DOWN FOOTING	S010
CF3	ADJACENT FOOTINGS AND EXCAVATIONS	S010
CF4	BACKFILL AROUND SERVICES BENEATH STRIP FOOTINGS	S010
CF6	FOOTING UNDER STEEL COLUMN	S010
PD4	RADON MITIGATION	S012
CONCRETE SLABS		
CS14	JOINTS IN SLAB ON GRADE	S011
CONCRETE WALLS		
CW1	PITS AND TRENCHES	S010
CW2	REINFORCEMENT DETAILS IN CONCRETE WALLS	S010
CW3	REINFORCEMENT AT OPENINGS AND SLEEVES IN CONCRETE WALLS	S011
GENERAL		
G1	ABBREVIATIONS	S010
G2	SYMBOLS	S010
G3	BACKFILL AT FOUNDATION WALLS	S010
TIMBER		
PD1	TYPICAL JOIST CONNECTION AT CORRIDOR	S012
PD2	OPENINGS IN EXTERIOR TIMBER STUD WALLS	S012
PD3	TYPICAL ROOF HEEL BLOCKING	S012
PD5	TYPICAL ROOF STRAPPING	S012
PD6	RIMBOARD FASTENING	S012
PD7	SHEARWALL CONNECTIONS	S012
PD8	TYPICAL WOOD STAIR FRAMING	S012
T3	NAILING FOR BUILT-UP COLUMNS	S011
T5	BOLTED CONNECTIONS - MIN. SPACING, END AND EDGE DISTANCE	S011
T6	MIN. SPACING, END AND EDGE DISTANCE FOR LAG SCREW CONNECTIONS	S011
T8	SHEAR AND DIAPHRAGM CONNECTION DETAILS	S011
T12	FRAMING FOR HOLES THROUGH WOOD JOIST	S011

@	=	AT
℄	=	CENTRE LINE
▶	=	MOMENT CONNECTION
☾	=	STEEL SADDLE CONNECTION
⧅	=	OPENING
=====	=	SAWCUT IN SLAB ON GRADE
L	=	SINGLE ANGLE
⅃L	=	BACK TO BACK ANGLES
⊐⊏	=	OPENING THROUGH CONCRETE BEAM
▼	=	VERTICAL CONTROL JOINT IN MASONRY/CONCRETE WALL

CIRCULAR BEAM PENETRATION

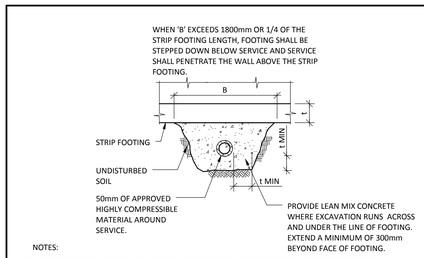
RECTANGULAR BEAM PENETRATION

OPENINGS THROUGH STEEL BEAMS

STRUCTURE LEGEND

	MARK	DESCRIPTION
NEW STRUCTURE		INDICATES CONCRETE STRUCTURE ABOVE
		INDICATES CONCRETE UPTURNED BEAMS AND CURBS
		INDICATES CONCRETE/MASONRY STRUCTURE BELOW
		INDICATES CONCRETE IN SECTION
		INDICATES MASONRY WALL ABOVE AND IN SECTION
		INDICATES WOOD WALL ABOVE AND IN SECTION
		INDICATES WOOD SHEARWALL ABOVE AND IN SECTION
EXISTING STRUCTURE		INDICATES EXISTING CONCRETE STRUCTURE ABOVE
		INDICATES EXISTING CONCRETE UPTURNED BEAMS AND CURBS
		INDICATES EXISTING CONCRETE/MASONRY STRUCTURE BELOW
		INDICATES EXISTING CONCRETE IN SECTION
		INDICATES EXISTING MASONRY WALL ABOVE AND IN SECTION

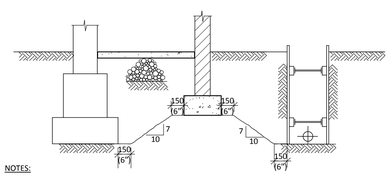
G2R — SYMBOLS



NOTES:

1. UNDERGROUND SERVICES TO BE INSTALLED PRIOR TO CONSTRUCTION OF STRIP FOOTING ABOVE.

CF4 — BACKFILL AROUND SERVICES BENEATH STRIP FOOTINGS



NOTES:

1. MAINTAIN MINIMUM SLOPE TO ADJACENT FOOTINGS AND EXCAVATIONS UNLESS NOTED OTHERWISE IN THE GEOTECHNICAL REPORT.
2. LOWER FOOTINGS AS NECESSARY TO ACHIEVE SLOPE NOTED.
3. ENSURE SPECIFIED SLOPE IS NOT COMPROMISED BY DISTURBED SOIL BETWEEN THE EXCAVATIONS.

CF3 — ADJACENT FOOTINGS AND EXCAVATIONS

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-03	ISSUED FOR 66%	AD	IW
1	2016-05-05	ISSUED FOR 33%	AD	IW

Revision / Revision

A detail number numero de detail
B source drawing no. de dessin no.
C detail on drawing no. detail sur dessin no.

Consultant's Name
Nom de l'expert-conseil
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Calgary, AB T2P 1B8
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Eng. Stamp
Sceau de l'ingenieur

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch
Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client
Parks Canada Agency
L'Agence Parcs Canada
Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

TYPICAL DETAILS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	1 : 1

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Pink Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
C015-0870	FII # 945	S010

Drawing Reference No./No. de reference du dessin

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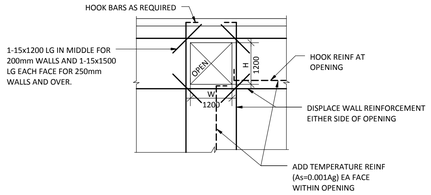
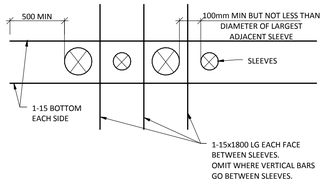


OPENINGS IN CONCRETE FOUNDATION WALLS

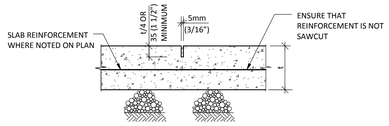


SLEEVES IN CONCRETE FOUNDATION WALLS

NOTES:

1. DO NOT MAKE OPENINGS LARGER THAN THE MAXIMUM DIMENSIONS NOTED ABOVE WITHOUT PRIOR APPROVAL FROM THE CONSULTANT UNLESS NOTED OTHERWISE.
2. UNLESS NOTED OTHERWISE, REINFORCE AROUND OPENINGS IN CONCRETE WALLS AS NOTED ABOVE.

CW3	REINFORCEMENT AT OPENINGS AND SLEEVES IN CONCRETE FOUNDATION WALLS



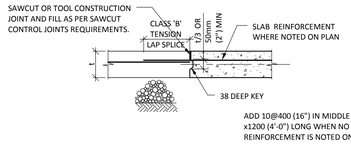
SAWCUT CONTROL JOINT

NOTES:

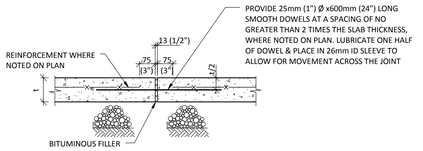
1. SAW CUT SLAB ON GRADE WITHIN 6 TO 18 HOURS AFTER PLACING CONCRETE.
2. COORDINATE EXACT LOCATIONS OF SAWCUTS IN SLAB ON GRADE WITH ARCHITECTURAL REQUIREMENTS.
3. MAXIMUM SPACING OF SAWCUTS IN SLAB ON GRADE SHALL NOT EXCEED THE FOLLOWING, UNO.

SLAB THICKNESS 100 (4")	3000 (10'-0") MAXIMUM
SLAB THICKNESS 125 (5") OR GREATER	4500 (15'-0") MAXIMUM

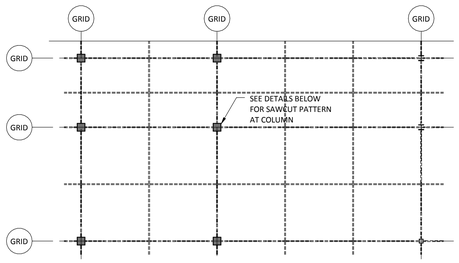
4. LIMIT LENGTH TO WIDTH RATIO OF ANY SAWCUT PANEL TO 1.5 MAXIMUM.
5. SAWCUT SLAB ON GRADE AT LOCATIONS SHOWN ON PLAN OR AS NOTED BELOW. ALTERNATE LOCATIONS SHALL BE SUBMITTED TO CONSULTANT FOR REVIEW, WELL IN ADVANCE OF POURING SLAB ON GRADE.
6. AFTER THE SLAB IS A MINIMUM 60 DAYS OLD, REMOVE ALL DEBRIS FROM THE SAW CUTS AND FILL WITH MORTAR CONTAINING CEMENT, SAND AND LATEX BONDING AGENT, OR AS NOTED IN SPECIFICATIONS.
7. PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT ROUT ALL CRACKS IN THE SLAB ON GRADE AND FILL WITH MORTAR CONTAINING CEMENT, SAND AND LATEX BONDING AGENT OR AS NOTED IN SPECIFICATIONS.



CONSTRUCTION JOINT



MOVEMENT JOINT

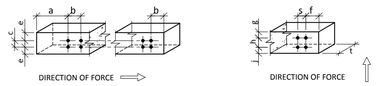


TYPICAL SAWCUT PATTERN IN SLAB ON GRADE

CONCRETE COLUMN (OR HOLLOW STEEL COLUMN)

STEEL COLUMN

CS14	JOINTS IN SLAB ON GRADE



LOAD PARALLEL GRAIN

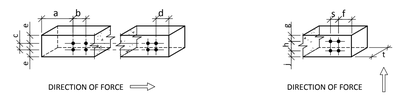
LOAD PERPENDICULAR TO GRAIN

BOLT Ø	a	b	c	f	g	h	j	t	s
13mmØ	65	50	40	50	20	40	50	40	40
								65	56
								≥75	65
16mmØ	80	65	50	65	25	50	65	40	45
								65	60
								90	75
								≥95	80
19mmØ	95	75	60	75	30	60	75	40	50
								65	65
								90	80
								≥114	95
22mmØ	110	90	65	90	30	65	90	40 TO 45	56
								65	68
								90	83
								≥130	111
25mmØ	130	100	75	100	40	75	100	40 TO 50	65
								65	72
								90	87
								140	120
								≥150	125

NOTES:

1. e = THE GREATER OF 1.5 TIMES BOLT DIAMETER OR HALF OF ACTUAL SPACING BETWEEN ROWS.

T5	BOLTED CONNECTIONS - MINIMUM SPACING, END AND EDGE DISTANCE



LOAD PARALLEL GRAIN

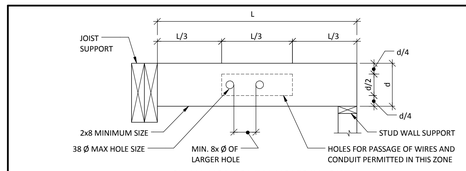
LOAD PERPENDICULAR TO GRAIN

LAG SCREW Ø	a	b	c	d	f	g	h	j	t	s
6mmØ	50	25	13	50	50	10	20	25	13	16
									≥40	32
9.5mmØ	67	40	20	50	50	13	30	40	20	25
									≥40	36
									≥57	50
13mmØ	90	50	25	50	50	20	40	50	40	40
									65	58
									≥75	65
16mmØ	111	65	32	65	65	25	50	65	40	45
									65	60
									90	75
									≥95	79
20mmØ	133	75	40	75	75	30	57	75	65	65
									90	79
									≥114	95

NOTES:

1. e = THE GREATER OF 1.5 TIMES BOLT DIAMETER OR HALF OF ACTUAL SPACING BETWEEN ROWS.
2. LOADED END DISTANCES ARE MINIMUM PERMITTED FOR TENSION MEMBERS.

T6	LAG SCREW CONNECTIONS - MINIMUM SPACING, END AND EDGE DISTANCE

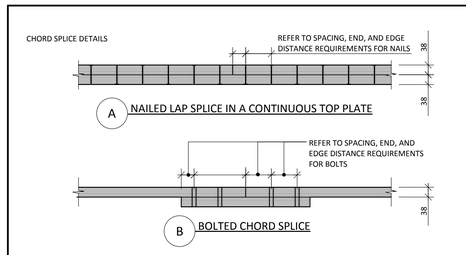


SMALL HORIZONTAL HOLES IN JOIST

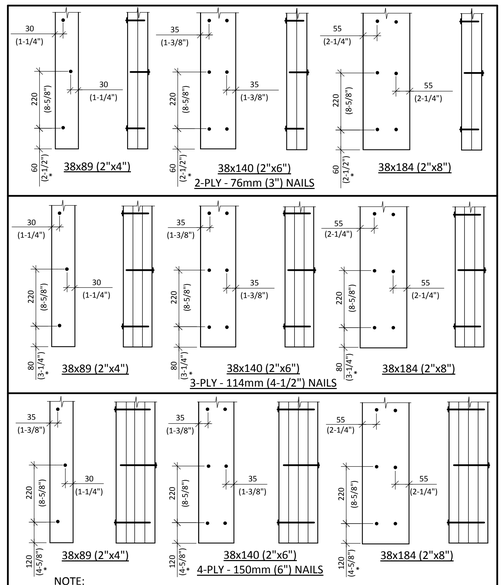
NOTES:

1. THIS TYPICAL DETAIL IS APPLICABLE ONLY FOR SIMPLY SUPPORTED AND UNIFORMLY LOADED JOISTS
2. HOLES INDICATED ARE FOR THE PASSAGES OF WIRES, CONDUIT AND PIPES; NOT FOR THE ATTACHMENT OF HANGING BRACKETS OR HARDWARE.
3. HOLES NOT CONFORMING TO THIS TYPICAL DETAIL MUST BE APPROVED BY THE STRUCTURAL ENGINEER.
4. REFER TO GUIDELINES SETOUT BY PROPRIETARY MANUFACTURED WOOD SUPPLIERS.

T12 R	FRAMING FOR HOLES THROUGH WOOD JOIST



T8	SHEAR AND DIAPHRAGM CONNECTION DETAILS



NOTE:

1. * END DISTANCE VALUES ARE SHOWN FOR D.FIR-L, HEM-FIR, AND WESTERN CEDAR. FOR S-P-F AND NORTHERN, DISTANCES MAY BE DECREASED TO 80% OF THOSE SHOWN.

T3	NAILING FOR BUILT-UP COLUMNS

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-03	ISSUED FOR 66%	AD	IW
1	2016-05-05	ISSUED FOR 33%	AD	IW

Revision / Revision

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Consultant's Name
Nom de l'expert-conseil
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Sceau de l'ingenieur

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch
Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client
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L'Agence Parcs Canada
Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

TYPICAL DETAILS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	1 : 1

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Prime Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
C015-0870	FII # 945	S011

Drawing Reference No./No. de reference du dessin

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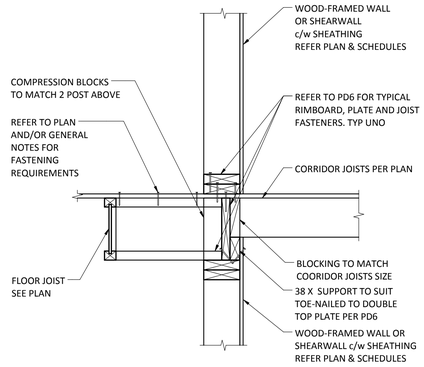
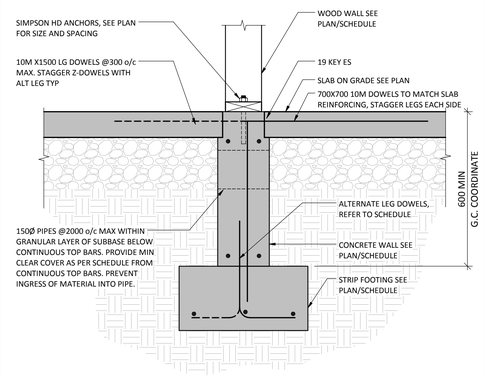
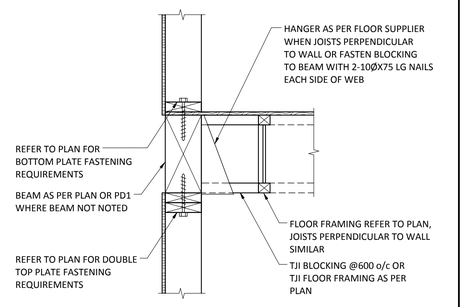


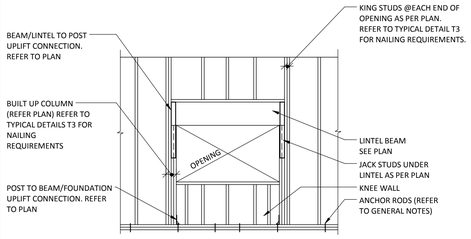
PD1 TYPICAL JOIST CONNECTION AT CORRIDORS



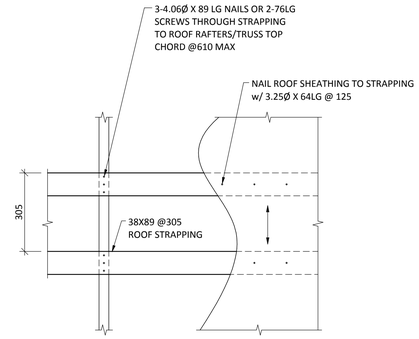
PD4 RADON MITIGATION AT LOAD BEARING TIMBER WALLS



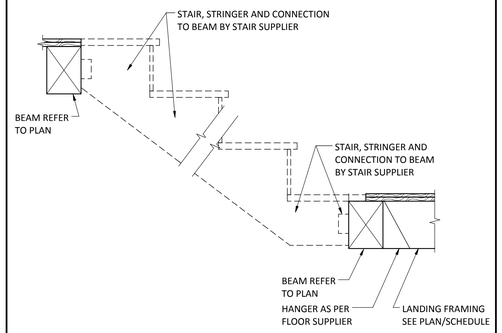
PD7 SHEARWALL CONNECTIONS



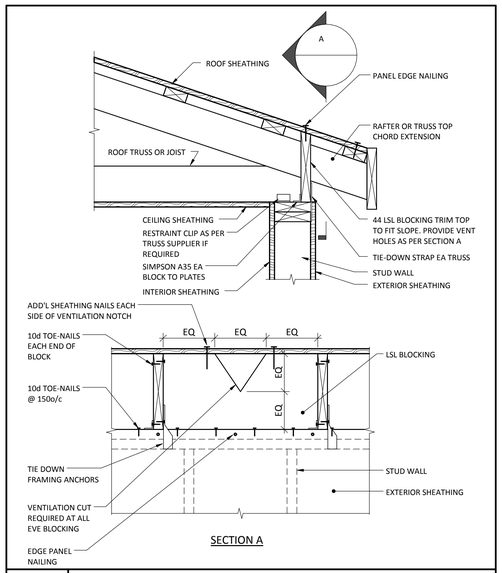
PD2 OPENINGS IN EXTERIOR TIMBER STUD WALLS



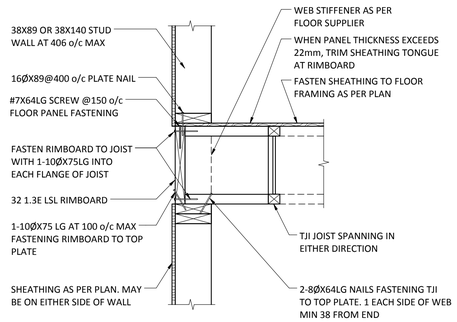
PD5 TYPICAL ROOF STRAPPING



PD8 TYPICAL WOOD STAIR FRAMING



PD3 TYPICAL ROOF HEEL BLOCKING



PD6 RIMBOARD FASTENING

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

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PROFESSIONAL ENGINEER IAN MASHINTER
APEGA Permit to Practice P-8279

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Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2
Waterton Lakes National Park

Drawing title/Titre du dessin
TYPICAL DETAILS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Parks Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S012

Drawing Reference No./No. de reference du dessin

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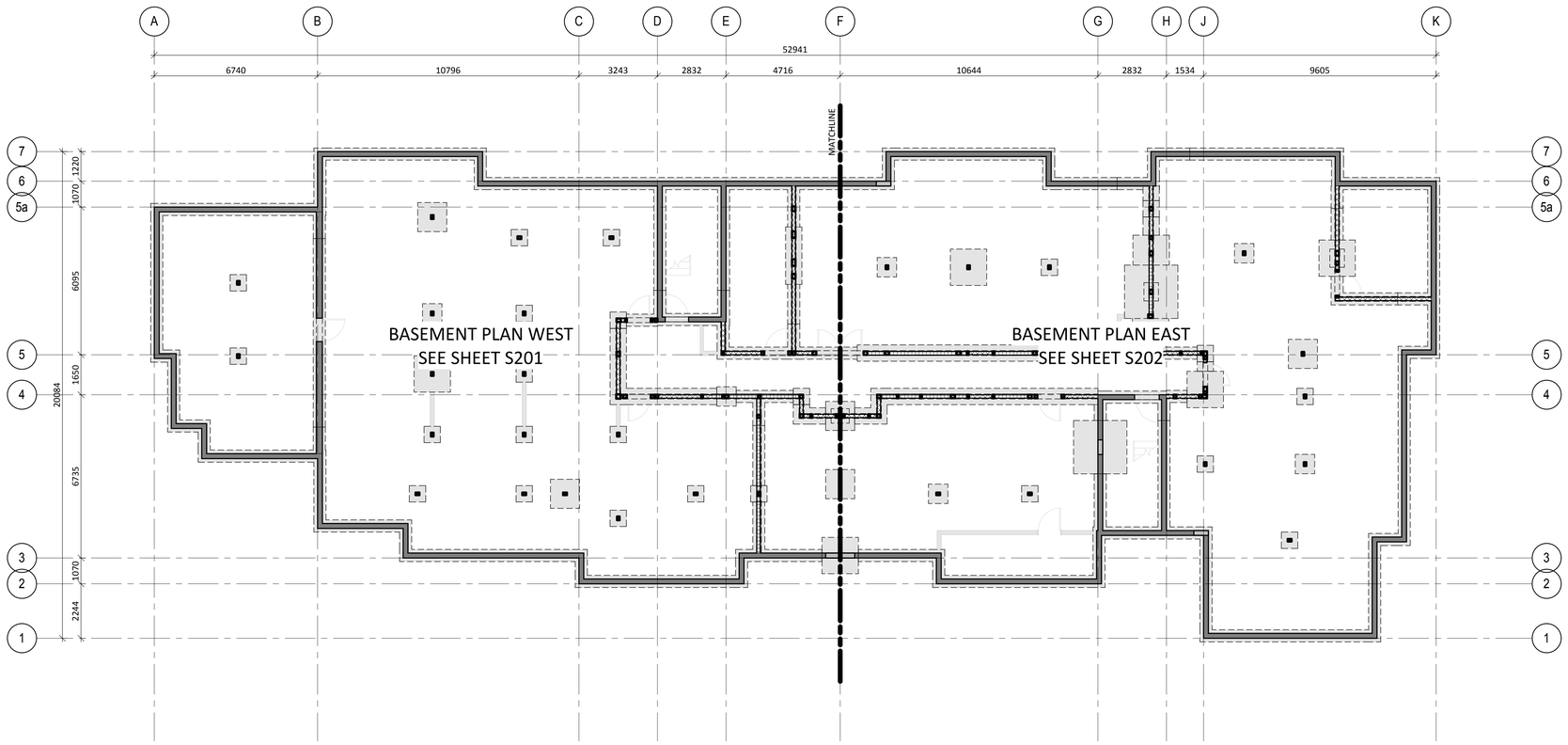
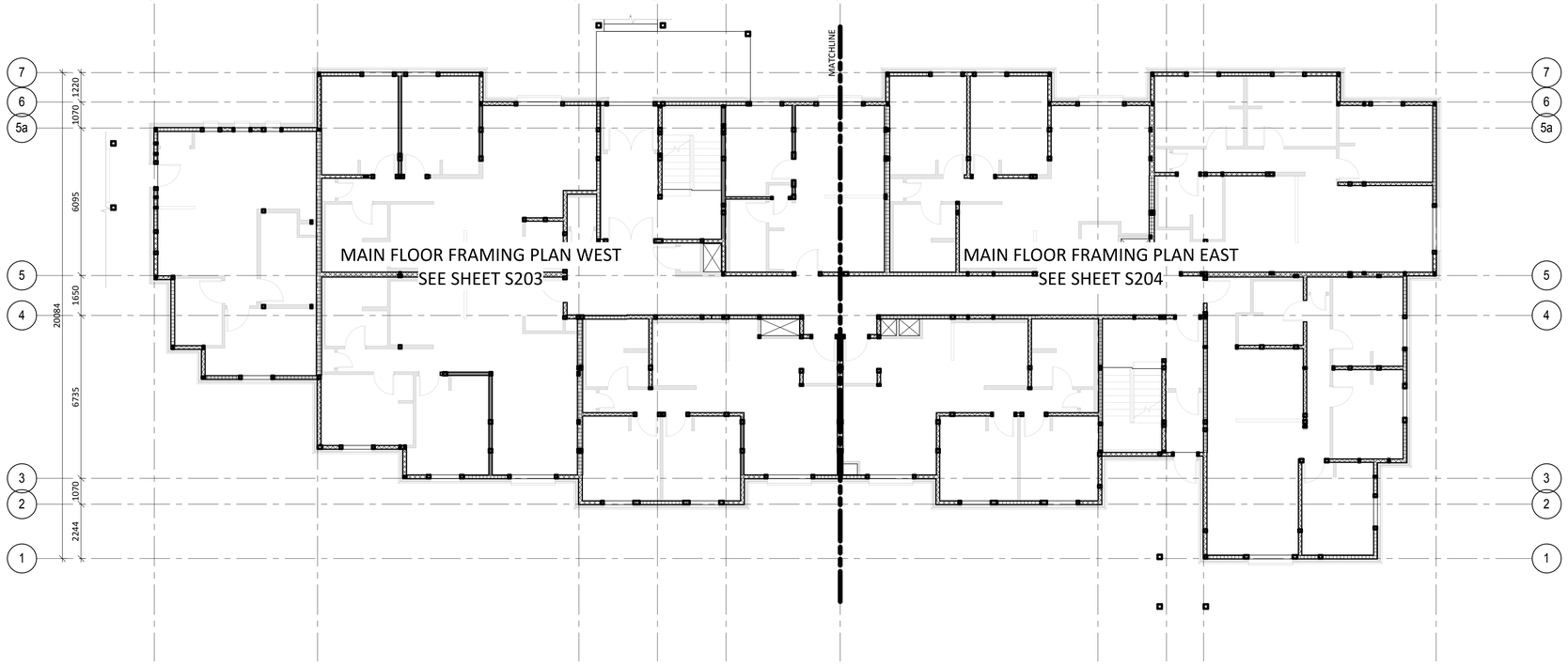


BASEMENT PLAN OVERALL PLAN

1 : 100

1. TOP OF SLAB IS AT REFERENCE ELEVATION -3100 (GEODETIC 1283.75) EXCEPT AS CROSSED AND NOTED. ELEVATIONS FOR AREAS CROSSED AND NOTED ARE TO BE READ FROM TOP OF SLAB ELEVATION.
2. U/S OF COLUMN FOOTINGS ARE AT REFERENCE ELEVATION -3650 (GEODETIC 1283.2) AND U/S OF WALL FOOTINGS ARE AT REFERENCE ELEVATION -3600 (GEODETIC 1283.25) UNLESS NOTED OTHERWISE. ELEVATIONS NOTED ARE REFERENCED FROM REFERENCE ELEVATION 0.00 (GEODETIC 1286.85) TO U/S OF FOOTING.
3. CENTRE ALL CAPS AND FOOTINGS UNDER COLUMNS UNLESS NOTED OTHERWISE.
4. SEE ARCHITECTURAL DRAWINGS FOR SLOPES TO DRAINS. MAINTAIN SLAB THICKNESS SHOWN.
5. REFER TO S300 SCHEDULES FOR COLUMN, BASEPLATES AND SHEARWALL TYPES.



MAIN FLOOR OVERALL PLAN

1 : 100

1. TOP OF FINISHED FLOOR IS AT REFERENCE ELEVATION 0.00 (GEODETIC 1286.85) EXCEPT AS CROSSED AND NOTED. AREAS CROSSED AND NOTED ARE TO BE READ FROM FINISHED FLOOR ELEVATION.
2. TOPS OF JOISTS AND BEAMS ARE 54mm BELOW FINISHED FLOOR ELEVATION EXCEPT AS NOTED OTHERWISE.
3. REFER TO S300 SCHEDULES FOR COLUMN, BEAMS, JOISTS AND SHEARWALL TYPES.

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-03	ISSUED FOR 66%	AD	IW

Revision / Revision

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C detail on drawing no. / detail sur dessin no.

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Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2
Waterton Lakes National Park

Drawing title/Titre du dessin
BASEMENT & MAIN FLOOR FRAMING PLAN

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	1 : 100

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Parks Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S200

Drawing Reference No./No. de reference du dessin

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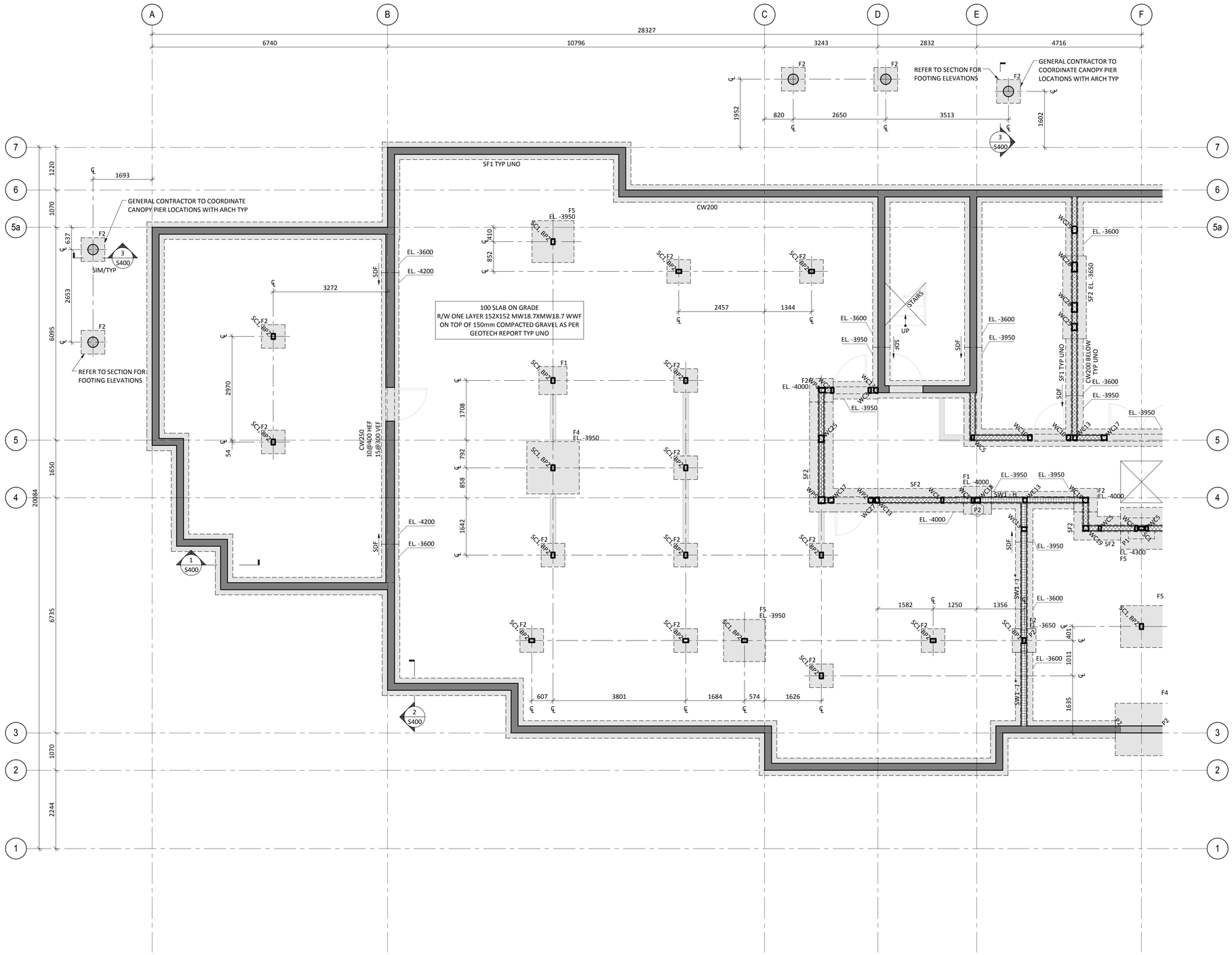


BASEMENT PLAN - WEST

1 : 50

NOTES:

1. FOOTING STEP LOCATIONS INDICATED ON PLAN ARE SCHEMATIC ONLY. GENERAL CONTRACTOR TO COORDINATE ALL FOOTING STEP LOCATIONS TYP.
2. * - PROVIDE 133X406 1.55E LSL ABOVE WALL FASTEN DOUBLE TOP PLATE TO BEAM ABOVE/BELOW w/ 8ØX150LG RSS SCREWS @150o/c.
3. ** - PROVIDE 133X406 1.55E LSL ABOVE WALL FASTEN DOUBLE TOP PLATE TO BEAM ABOVE/BELOW w/ 8ØX150LG RSS SCREWS @100o/c. FASTEN BOTTOM PLATE TO WALL BELOW WITH 16Ø HILTI HUS SCREWS @600 o/c.

UPLIFT NOTES: NOTED ON PLAN AS FOLLOWS: XX
- UPLIFT NOTE NUMBER AS PER BELOW
- (B) - BEAM/LINTEL/TRUSS TO POST BELOW CONNECTION
- (P) - POST TO BEAM/LINTEL BELOW CONNECTION

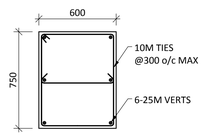
1. 2-HDU8-SDS2.5 CONNECTING POST TO PILASTER BELOW w/ 22Ø HAS ROD. EMBED 250 WITH HILTI HY-200 SAFESET
2. FASTEN POST TO CONCRETE WALL BELOW w/ HDU5-SDS2.5 w/ AB2. ANCHOR MUST BE CAST IN PLACE, POST INSTALLED ANCHOR NOT ACCEPTABLE.

STRIP FOOTING SCHEDULE

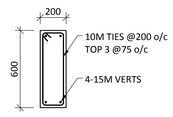
MARK	WIDTH (mm)	DEPTH (mm)	LONGITUDINAL	TRANSVERSE
SF1	500	250	3-15 CONT	N/A
SF2	675	300	3-15 CONT	N/A

FOOTING SCHEDULE

MARK	WIDTH (mm)	LENGTH (mm)	DEPTH (mm)	REINFORCING
F1	800	800	300	3-15 T&B EW (HH)
F2	675	675	300	3-15 BEW (HH)
F3	2200	2200	900	8-25M T&B EW (HH)
F4	1500	1500	600	6-20M T&B EW (HH)
F5	1200	1200	600	5-20M T&B EW (HH)



PILASTER 1 (P1)



PILASTER 2 (P2)

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
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4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-14	ISSUED FOR 66%	AD	IW

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

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Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2
Waterton Lakes National Park

Drawing title/Titre du dessin
BASEMENT PLAN - WEST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S201

Drawing Reference No./No. de reference du dessin

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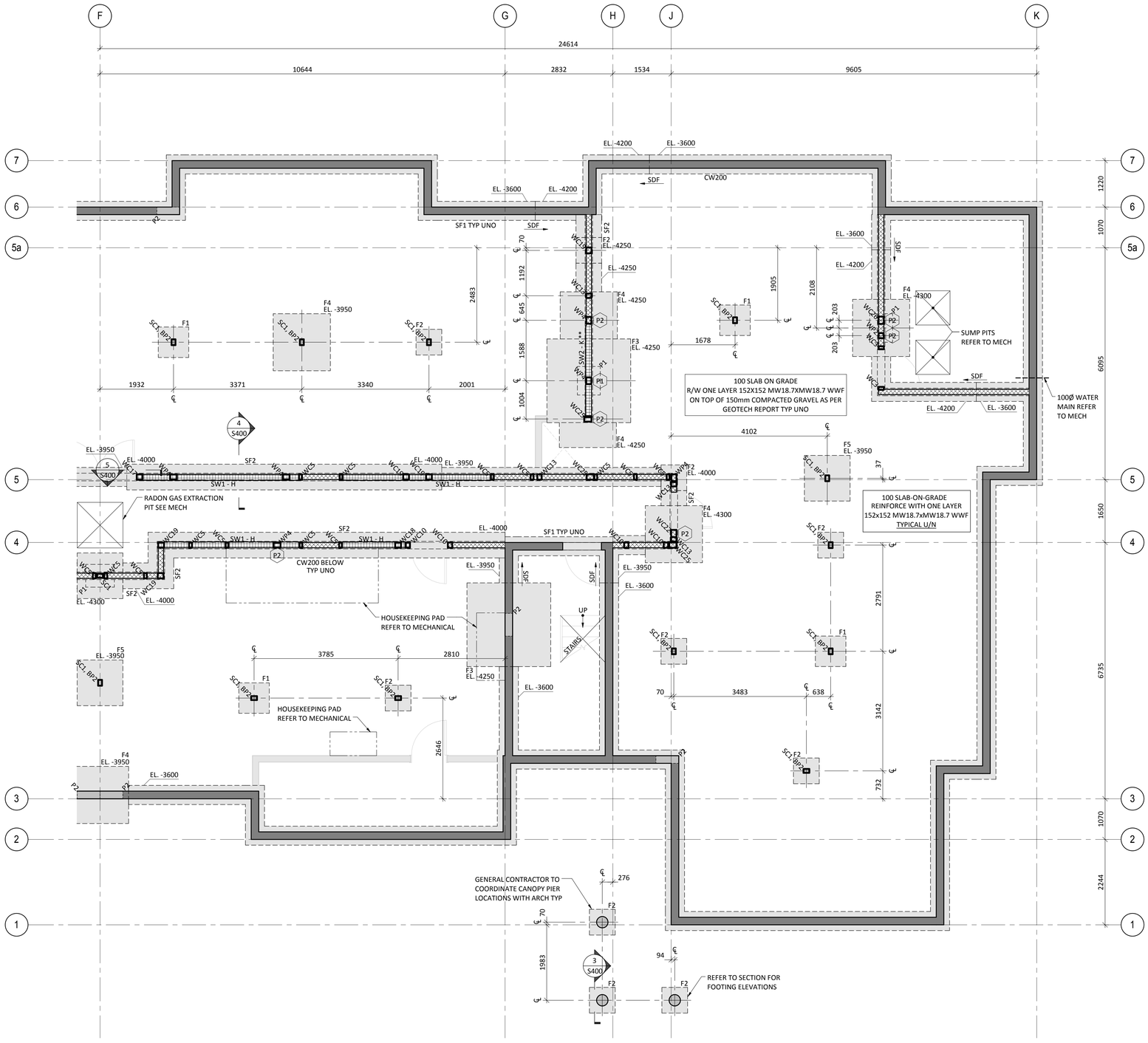


BASEMENT PLAN - EAST

1 : 50

NOTES:

1. FOOTING STEP LOCATIONS INDICATED ON PLAN ARE SCHEMATIC ONLY. GENERAL CONTRACTOR TO COORDINATE ALL FOOTING STEP LOCATIONS TYP.
2. * - PROVIDE 133X406 1.55E LSL ABOVE WALL FASTEN DOUBLE TOP PLATE TO BEAM ABOVE/BELOW w/ 8ØX150LG RSS SCREWS @150o/c.
3. ** - PROVIDE 133X406 1.55E LSL ABOVE WALL FASTEN DOUBLE TOP PLATE TO BEAM ABOVE/BELOW w/ 8ØX150LG RSS SCREWS @100o/c.

UPLIFT NOTES: NOTED ON PLAN AS FOLLOWS: (XX) — UPLIFT NOTE NUMBER AS PER BELOW

(B) - BEAM/LINTEL/TRUSS TO POST BELOW CONNECTION
(P) - POST TO BEAM/LINTEL BELOW CONNECTION

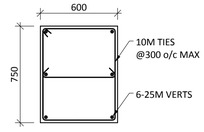
1. 2-HDU8-SDS2.5 CONNECTING POST TO PILASTER BELOW w/ 22Ø HAS ROD. EMBED 250 WITH HILTI HY-200 SAFESET
2. FASTEN POST TO CONCRETE WALL BELOW w/ HDU5-SDS2.5 w/ AB2. ANCHOR MUST BE CAST IN PLACE, POST INSTALLED ANCHOR NOT ACCEPTABLE.

STRIP FOOTING SCHEDULE

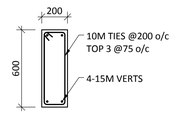
MARK	WIDTH (mm)	DEPTH (mm)	LONGITUDINAL	TRANSVERSE
SF1	500	250	3-15 CONT	N/A
SF2	675	300	3-15 CONT	N/A

FOOTING SCHEDULE

MARK	WIDTH (mm)	LENGTH (mm)	DEPTH (mm)	REINFORCING
F1	800	800	300	3-15 T&B EW (HH)
F2	675	675	300	3-15 BEW (HH)
F3	2200	2200	900	8-25M T&B EW (HH)
F4	1500	1500	600	6-20M T&B EW (HH)
F5	1200	1200	600	5-20M T&B EW (HH)



PILASTER 1 (P1)



PILASTER 2 (P2)

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-14	ISSUED FOR 66%	AD	IW

Revision / Revision

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Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2
Waterton Lakes National Park

Drawing title/Titre du dessin
BASEMENT PLAN - EAST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Parks Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S202

Drawing Reference No./No. de reference du dessin

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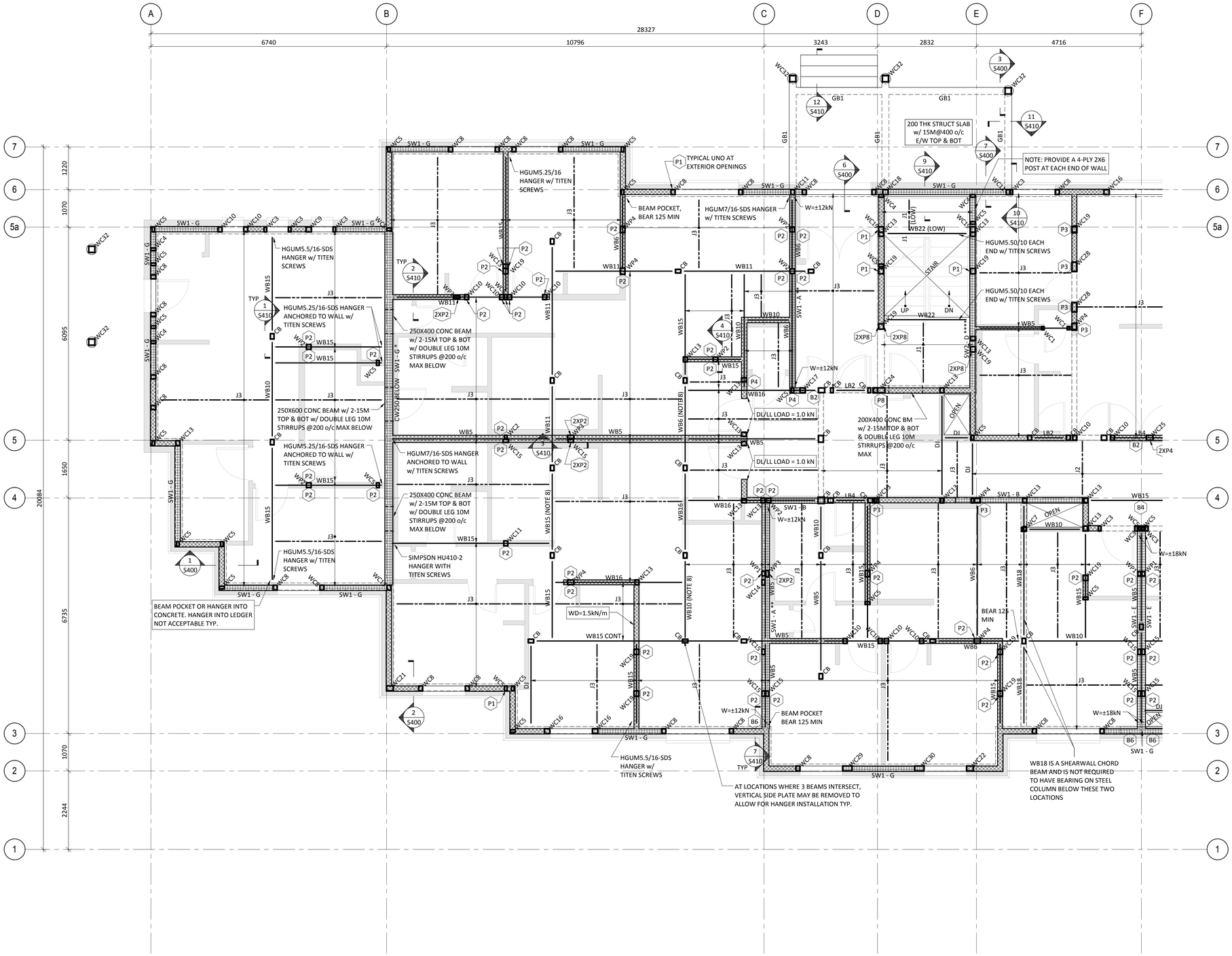

MAIN FLOOR FRAMING PLAN - WEST

1 : 50

NOTES:

1. "DJ" INDICATES MEMBER TO BE DESIGNED BY FLOOR SUPPLIER.
2. RIMBOARD TO BE 32mm 1.3E LSL TYP UNO.
3. FLOOR SHEATHING TO BE 16mm PLYWOOD GLUED & SCREWED TO FLOOR WITH #7 SCREWS @150 o/c AT PANEL EDGES AND 300 o/c AT INTERMEDIATE MEMBERS TYP UNO.
4. * - FASTEN BOTTOM PLATE TO BEAM BELOW w/ 8ØX150LG SCREWS @150 o/c MAX.
5. ** - PROVIDE 89X406 1.55E LSL ABOVE WALL. FASTEN DOUBLE TOP PLATE TO BEAM ABOVE/BELOW w/ 8ØX150LG RSS SCREWS @150o/c.
6. *** - PROVIDE 89X406 1.55E LSL ABOVE WALL. FASTEN DOUBLE TOP PLATE TO BEAM ABOVE w/ 8ØX150 LG RSS SCREWS @100 o/c.
7. **** - PROVIDE LSL BEAM SEE PLAN/SCHEDULE ABOVE WALL. FASTEN DOUBLE TOP PLATE TO BEAM ABOVE w/ 8ØX150 LG RSS SCREWS @75 o/c. FASTEN DOUBLE BOTTOM PLATE TO CONCRETE WALL BELOW w/ 16Ø HILTI HUS SCREWS @400 o/c MAX.
8. PROVIDE 2-HSS76X76X4.8 AT U/S OF BEAM AS SHIM PLATES. WELD SOLIDLY ALONG ONE FACE TYP EACH TUBE.

UPLIFT NOTES: NOTED ON PLAN AS FOLLOWS: (XX) — UPLIFT NOTE NUMBER AS PER BELOW
(B) - BEAM/LINTEL/TRUSS TO POST BELOW CONNECTION
(P) - POST TO BEAM/LINTEL BELOW CONNECTION

1. HDU2-SDS2.5 W/ 16mm HAS ROD CONNECTING POST TO WALL BELOW; EMBED 150 WITH HILTI HY-200 SAFESET.
2. MSTC48B3 STRAP CONNECTING POST TO BEAM. USE 10ØX64LG NAILS.
3. MSTC66 CONNECTING POST TO POST
4. HTS 16 CONNECTING BEAM TO POST
5. HDU5-SDS2.5 AND 16mm THREADED ROD CONNECTING POST TO VGT ON BEAM.
6. VGTR/L W/ 16MM HAS ROD CONNECTING BEAM TO CONCRETE WALL BELOW. EMBED 150 WITH HILTI HY-200 SAFESET
7. HDU8-SDS2.5 w/ 22Ø THREADED ROD CONNECTING POST TO HDU8-SDS2.5 ON POST BELOW.
8. 1-MSTCM60 STRAP CONNECTING POST TO WALL BELOW WITH TITEN SCREWS.

GRADE BEAM SCHEDULE

MARK	DEPTH (mm)	WIDTH (mm)	REINFORCMENT	STIRRUPS
GB1	900	200	2-20M TOP & BOT 3-15M EACH SIDE	10M DOUBLE LEG (TYP UNO) @600 o/c

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
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4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-14	ISSUED FOR 66%	AD	IW

Revision / Revision

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Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2
Waterton Lakes National Park

Drawing title/Titre du dessin
MAIN FLOOR FRAMING PLAN - WEST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
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KL	IW	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

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Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S203

Drawing Reference No./No. de reference du dessin

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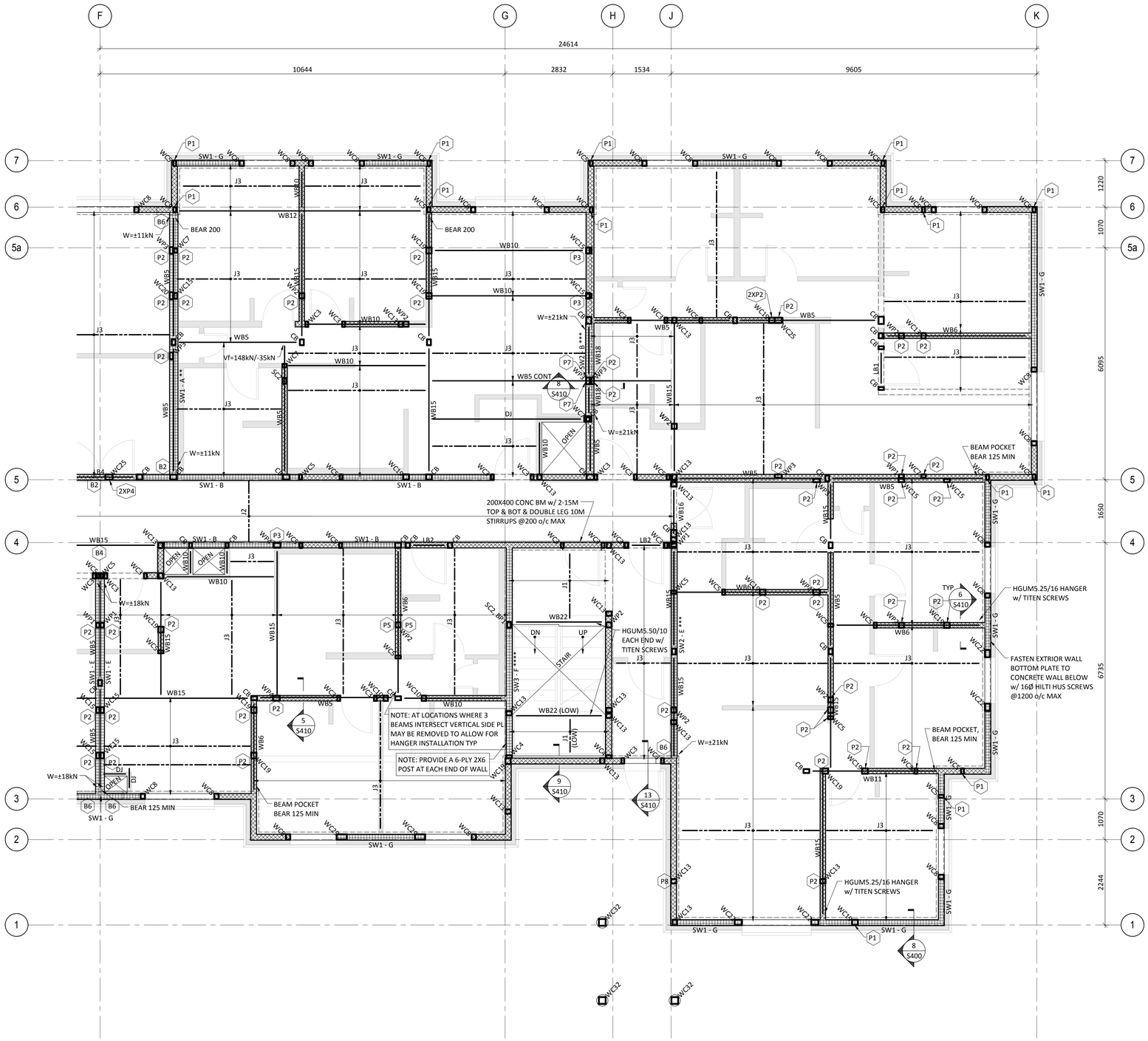

MAIN FLOOR FRAMING PLAN - EAST

1 : 50

NOTES:

1. "DJ" INDICATES MEMBER TO BE DESIGNED BY FLOOR SUPPLIER.
2. RIMBOARD TO BE 32mm 1.3E LSL TYP UNO.
3. FLOOR SHEATHING TO BE 16mm PLYWOOD GLUED & SCREWED TO FLOOR WITH #7 SCREWS @150 o/c AT PANEL EDGES AND 300 o/c AT INTERMEDIATE MEMBERS TYP UNO.
4. * - FASTEN BOTTOM PLATE TO BEAM BELOW w/ 8ØX150LG SCREWS @150 o/c MAX.
5. ** - PROVIDE 89X406 1.55E LSL ABOVE WALL. FASTEN DOUBLE TOP PLATE TO BEAM ABOVE/BELOW w/ 8ØX150LG RSS SCREWS @150o/c.
6. *** - PROVIDE 89X406 1.55E LSL ABOVE WALL. FASTEN DOUBLE TOP PLATE TO BEAM ABOVE w/ 8ØX150 LG RSS SCREWS @100 o/c.
7. **** - PROVIDE LSL BEAM SEE PLAN/SCHEDULE ABOVE WALL. FASTEN DOUBLE TOP PLATE TO BEAM ABOVE w/ 8ØX150 LG RSS SCREWS @75 o/c. FASTEN DOUBLE BOTTOM PLATE TO CONCRETE WALL BELOW w/ 16Ø HILTI HUS SCREWS @400 o/c MAX.
8. PROVIDE 2-HSS76X76X4.8 AT U/S OF BEAM AS SHIM PLATES. WELD SOLIDLY ALONG ONE FACE TYP EACH TUBE.

UPLIFT NOTES: NOTED ON PLAN AS FOLLOWS: (XX) — UPLIFT NOTE NUMBER AS PER BELOW

(B) - BEAM/LINTEL/TRUSS TO POST BELOW CONNECTION
(P) - POST TO BEAM/LINTEL BELOW CONNECTION

1. HDU2-SDS2.5 W/ 16mm HAS ROD CONNECTING POST TO WALL BELOW; EMBED 150 WITH HILTI HY-200 SAFESET.
2. MSTC48B3 STRAP CONNECTING POST TO BEAM. USE 10ØX64LG NAILS.
3. MSTC66 CONNECTING POST TO POST
4. HTS 16 CONNECTING BEAM TO POST
5. HDU5-SDS2.5 AND 16mm THREADED ROD CONNECTING POST TO VGT ON BEAM.
6. VGTR/L W/ 16MM HAS ROD CONNECTING BEAM TO CONCRETE WALL BELOW. EMBED 150 WITH HILTI HY-200 SAFESET
7. HDU8-SDS2.5 w/ 22Ø THREADED ROD CONNECTING POST TO HDU8-SDS2.5 ON POST BELOW.
8. 1-MSTCM60 STRAP CONNECTING POST TO WALL BELOW WITH TITEN SCREWS.

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-14	ISSUED FOR 66%	AD	IW

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil
ENTUITIVE
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Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2
Waterton Lakes National Park

Drawing title/Titre du dessin
MAIN FLOOR FRAMING PLAN - EAST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S204

Drawing Reference No./No. de reference du dessin

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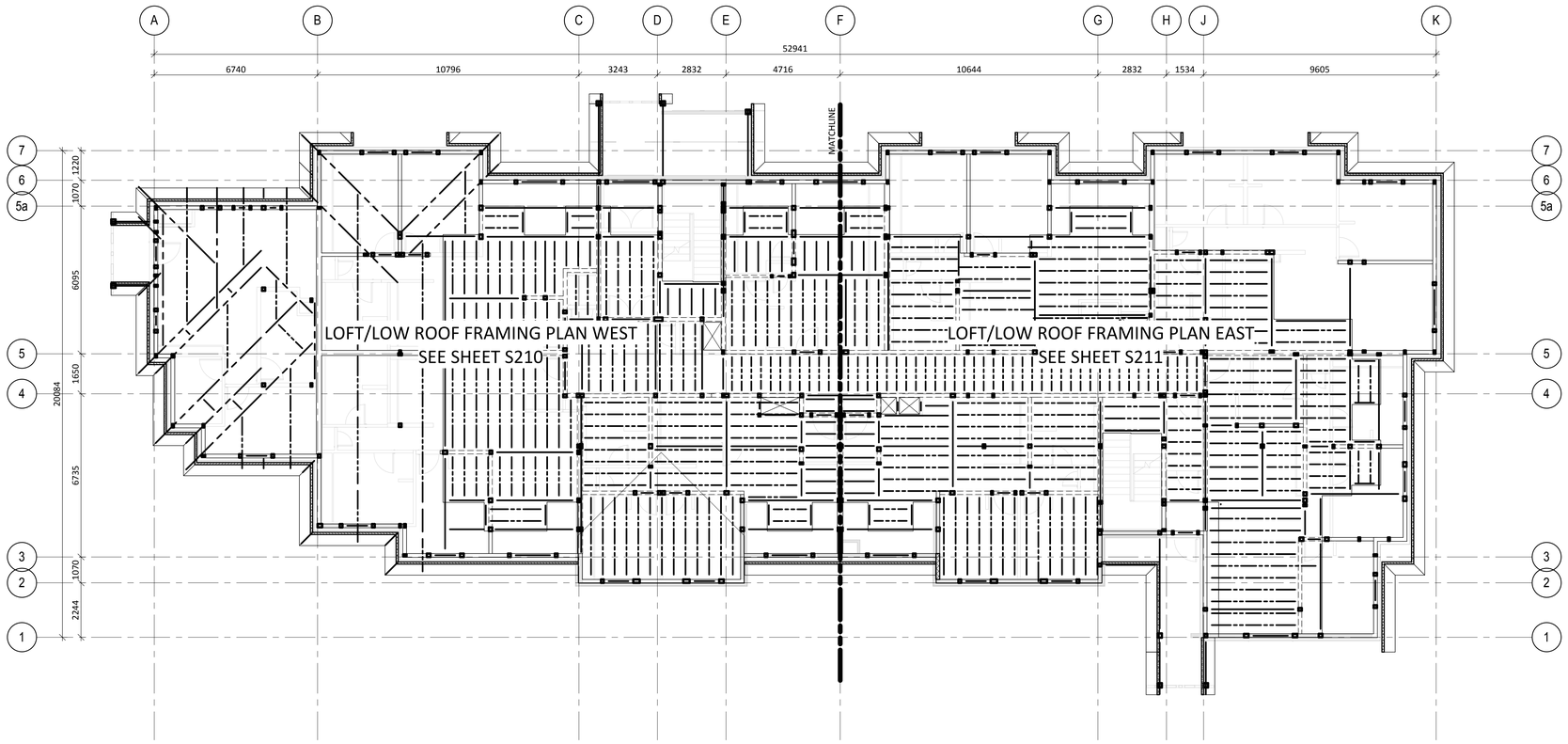
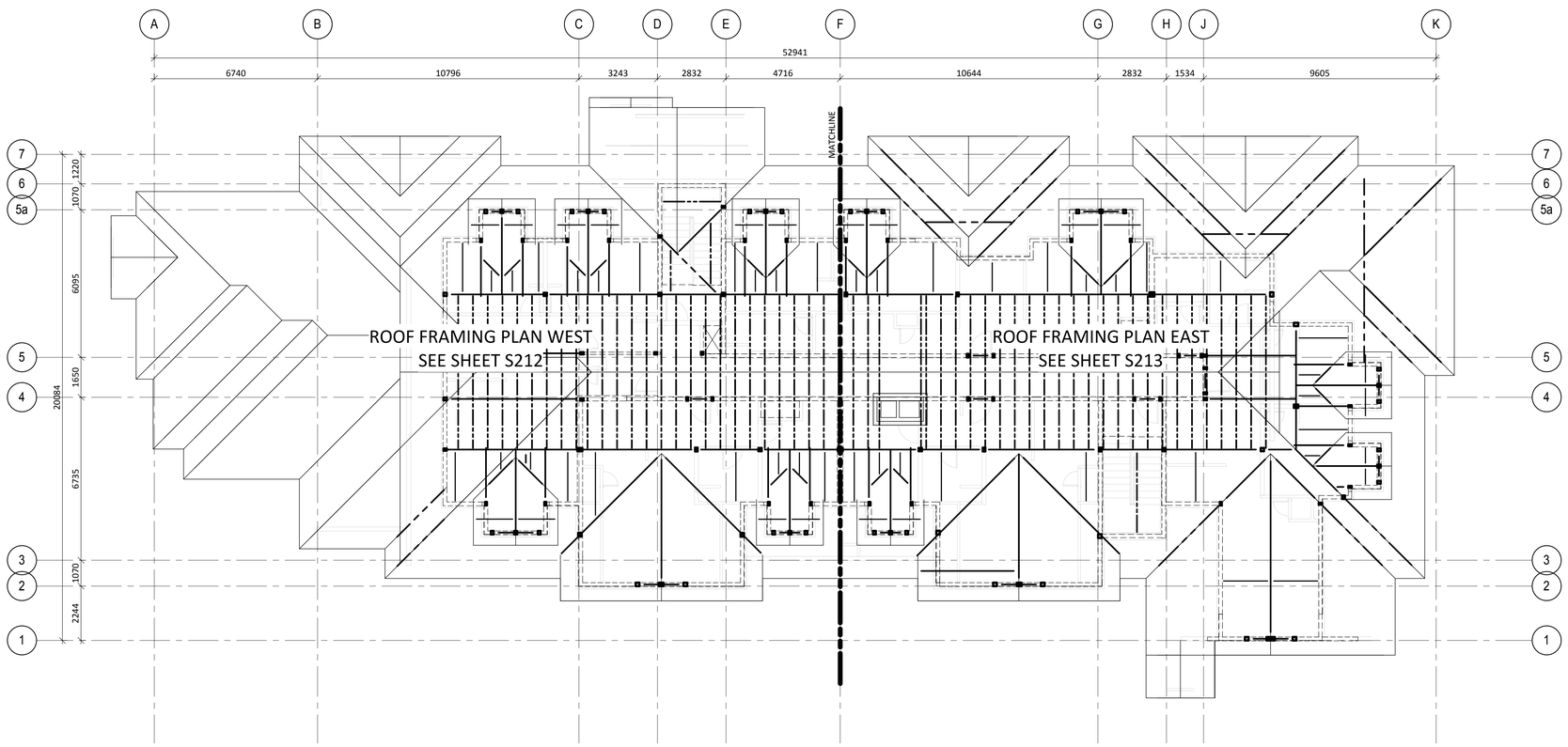


LOFT FLOOR OVERALL PLAN

1 : 100

1. TOP OF FINISHED FLOOR IS AT REFERENCE ELEVATION 3100 (GEODETIC 1289.95) EXCEPT AS CROSSED AND NOTED. AREAS CROSSED AND NOTED ARE TO BE READ FROM FINISHED FLOOR ELEVATION.
2. TOPS OF JOISTS AND BEAMS ARE 54mm BELOW FINISHED FLOOR ELEVATION (WHERE FLOOR IS SUPPORTED).
3. REFER TO S300 SCHEDULES FOR COLUMN, BEAMS, JOISTS AND SHEARWALL TYPES.



ROOF OVERALL PLAN

1 : 100

1. REFER TO ARCHITECTURAL FOR ROOF SLOPES.
2. REFER TO S300 SCHEDULES FOR COLUMN, BEAMS, JOISTS AND SHEARWALL TYPES.

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-03	ISSUED FOR 66%	AD	IW

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil
ENTUITIVE
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Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2
Waterton Lakes National Park

Drawing title/Titre du dessin
LOFT & ROOF FRAMING PLAN

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	1 : 100

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
C015-0870	FII # 945	S210

Drawing Reference No./No. de reference du dessin

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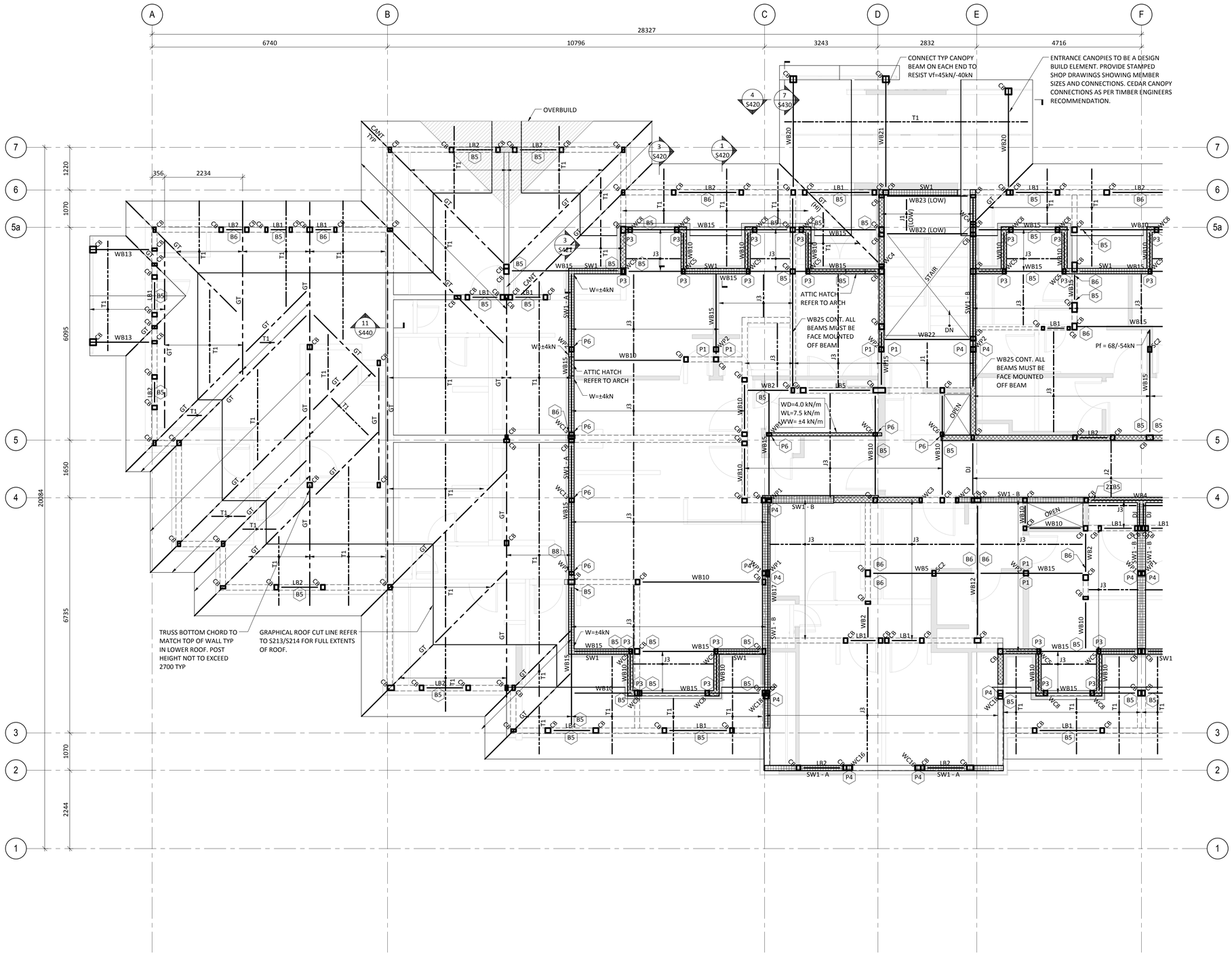

LOFT FLOOR FRAMING PLAN - WEST

1 : 50

NOTES:

1. RIMBOARD TO BE 32mm 1.3E LSL TYP UNO.
2. FLOOR SHEATHING TO BE 16mm PLYWOOD GLUED & SCREWED TO FLOOR WITH #7 SCREWS @150 o/c AT PANEL EDGES AND 300 o/c AT INTERMEDIATE MEMBERS TYP UNO.
3. ROOF SHEATHING TO BE 16mm PLYWOOD FASTENED AS PER PD5.
4. LINTELS AT U/S OF BEAMS/TRUSSES TYP BREAK DOUBLE TOP PLATES AS REQUIRED.
5. ANCHORAGE OF GIRDER TRUSSES TO BEAMS, LINTELS & POSTS AS PER TRUSS SUPPLIERS RECOMMENDATION.
6. PROVIDE 89X89 1.8E PSL BEAM AND WC3 EACH SIDE AT EACH ATTIC HATCH TYP.
7. - FRAMING NOTED ON PLAN AS "GT" REPRESENTS A PRE-ENGINEERED GIRDER TRUSS.
   - FRAMING NOTED NOTED ON PLAN AS "T1" REPRESENTS A PRE-ENGINEERED TRUSS @ 610 o/c. (TRUSS SPACING TO BE COORDINATED BY ROOF SUPPLIER).
   - FRAMING NOTED "DJ" REPRESENTS MEMBERS TO BE DESIGNED BY FLOOR SUPPLIER.

UPLIFT NOTES: NOTED ON PLAN AS FOLLOWS: (XX) — UPLIFT NOTE NUMBER AS PER BELOW
(B) - BEAM/LINTEL/TRUSS TO POST BELOW CONNECTION
(P) - POST TO BEAM/LINTEL BELOW CONNECTION

1. MSTC48B3 STRAP CONNECTING POST TO BEAM. USE 10ØX64 LG NAILS.
2. VGT W/ 16MM THREADED ROD CONNECTING BEAM TO HDU5-SDS2.5 ON POST
3. 1 - LSTA24 CONNECTING POST TO BEAM
4. MSTC66 STRAP CONNECTING POST TO POST
5. 1 - HTS16 E/E CONNECTING BEAM TO POST
6. MSTC48B3 STRAP E/E CONNECTING BEAM TO POST.
8. HDU5-SDS2.5 ON POST W/ 16MM THREADED ROD CONNECTED TO VGTR/L ON BEAM.
9. HTS16 CONNECTING BEAM TO LINTEL BELOW.

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-14	ISSUED FOR 66%	AD	IW

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil
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Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2
Waterton Lakes National Park

Drawing title/Titre du dessin
LOFT/LOW ROOF FRAMING PLAN - WEST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Prime Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S211

Drawing Reference No./No. de reference du dessin

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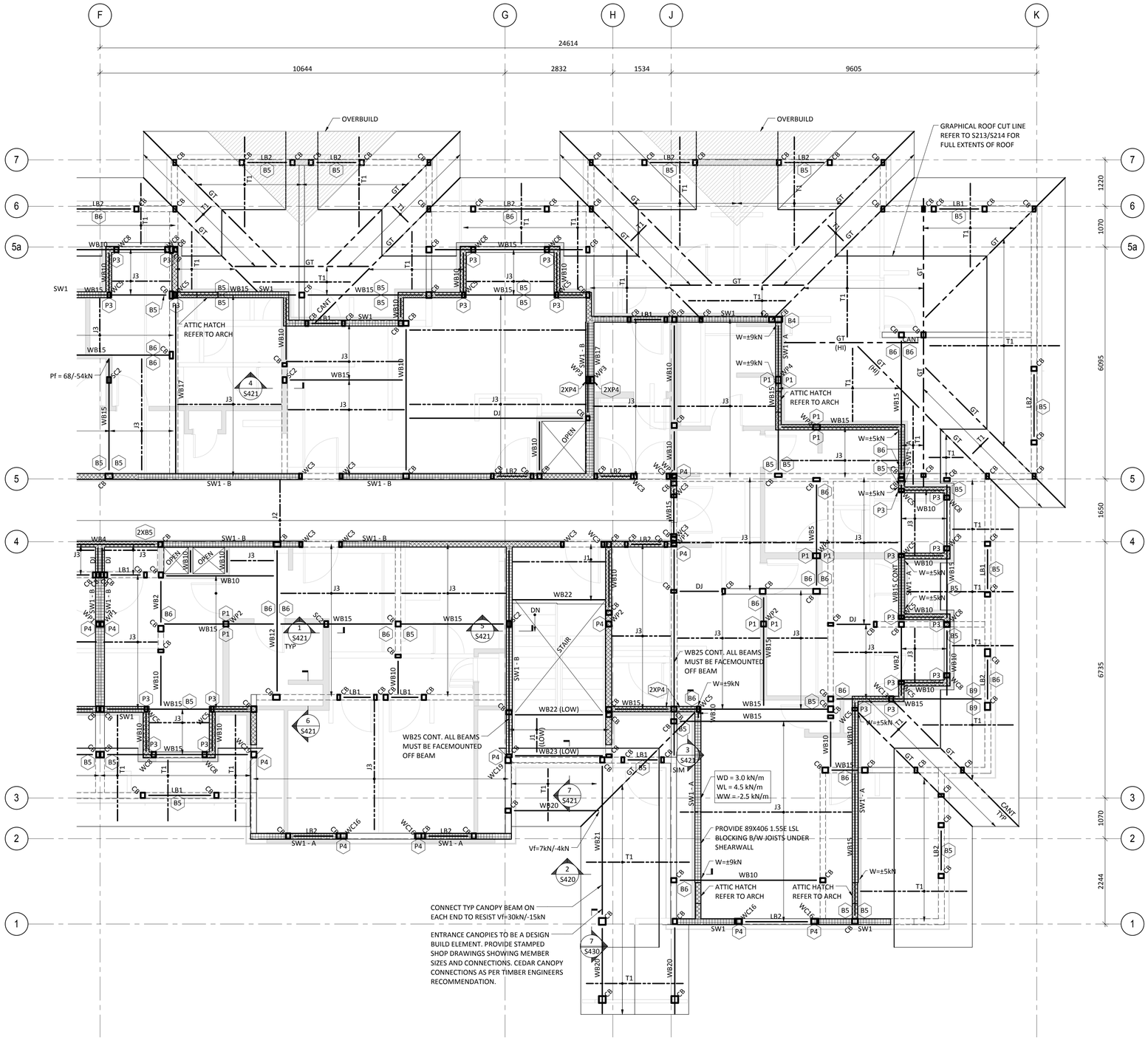

LOFT FLOOR FRAMING PLAN - EAST

1 : 50

NOTES:

1. RIMBOARD TO BE 32mm 1.3E LSL TYP UNO.
2. FLOOR SHEATHING TO BE 16mm PLYWOOD GLUED & SCREWED TO FLOOR WITH #7 SCREWS @150 o/c AT PANEL EDGES AND 300 o/c AT INTERMEDIATE MEMBERS TYP UNO.
3. ROOF SHEATHING TO BE 16mm PLYWOOD FASTENED AS PER PD5.
4. LINTELS AT U/S OF BEAMS/TRUSSES TYP BREAK DOUBLE TOP PLATES AS REQUIRED.
5. ANCHORAGE OF GIRDER TRUSSES TO BEAMS, LINTELS & POSTS AS PER TRUSS SUPPLIERS RECOMMENDATION.
6. PROVIDE 89X89 1.8E PSL BEAM AND WC3 EACH SIDE AT EACH ATTIC HATCH TYP.
7. - FRAMING NOTED ON PLAN AS "GT" REPRESENTS A PRE-ENGINEERED GIRDER TRUSS.
   - FRAMING NOTED NOTED ON PLAN AS "T1" REPRESENTS A PRE-ENGINEERED TRUSS @ 610 o/c. (TRUSS SPACING TO BE COORDINATED BY ROOF SUPPLIER).
   - FRAMING NOTED "DJ" REPRESENTS MEMBERS TO BE DESIGNED BY FLOOR SUPPLIER.

UPLIFT NOTES: NOTED ON PLAN AS FOLLOWS: (XX) — UPLIFT NOTE NUMBER AS PER BELOW
(B) - BEAM/LINTEL/TRUSS TO POST BELOW CONNECTION
(P) - POST TO BEAM/LINTEL BELOW CONNECTION

1. MSTC48B3 STRAP CONNECTING POST TO BEAM. USE 10ØX64 LG NAILS.
2. VGT W/ 16MM THREADED ROD CONNECTING BEAM TO HDU5-SDS2.5 ON POST
3. 1 - LSTA24 CONNECTING POST TO BEAM
4. MSTC66 STRAP CONNECTING POST TO POST
5. 1 - HTS16 E/E CONNECTING BEAM TO POST
6. MSTC48B3 STRAP E/E CONNECTING BEAM TO POST.
8. HDU5-SDS2.5 ON POST W/ 16MM THREADED ROD CONNECTED TO VGTR/L ON BEAM.
9. HTS16 CONNECTING BEAM TO LINTEL BELOW.

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-14	ISSUED FOR 66%	AD	IW

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
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Consultant's Name / Nom de l'expert-conseil
ENTUITIVE
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Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2
Waterton Lakes National Park

Drawing title/Titre du dessin
LOFT/LOW ROOF FRAMING PLAN - EAST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S212

Drawing Reference No./No. de reference du dessin

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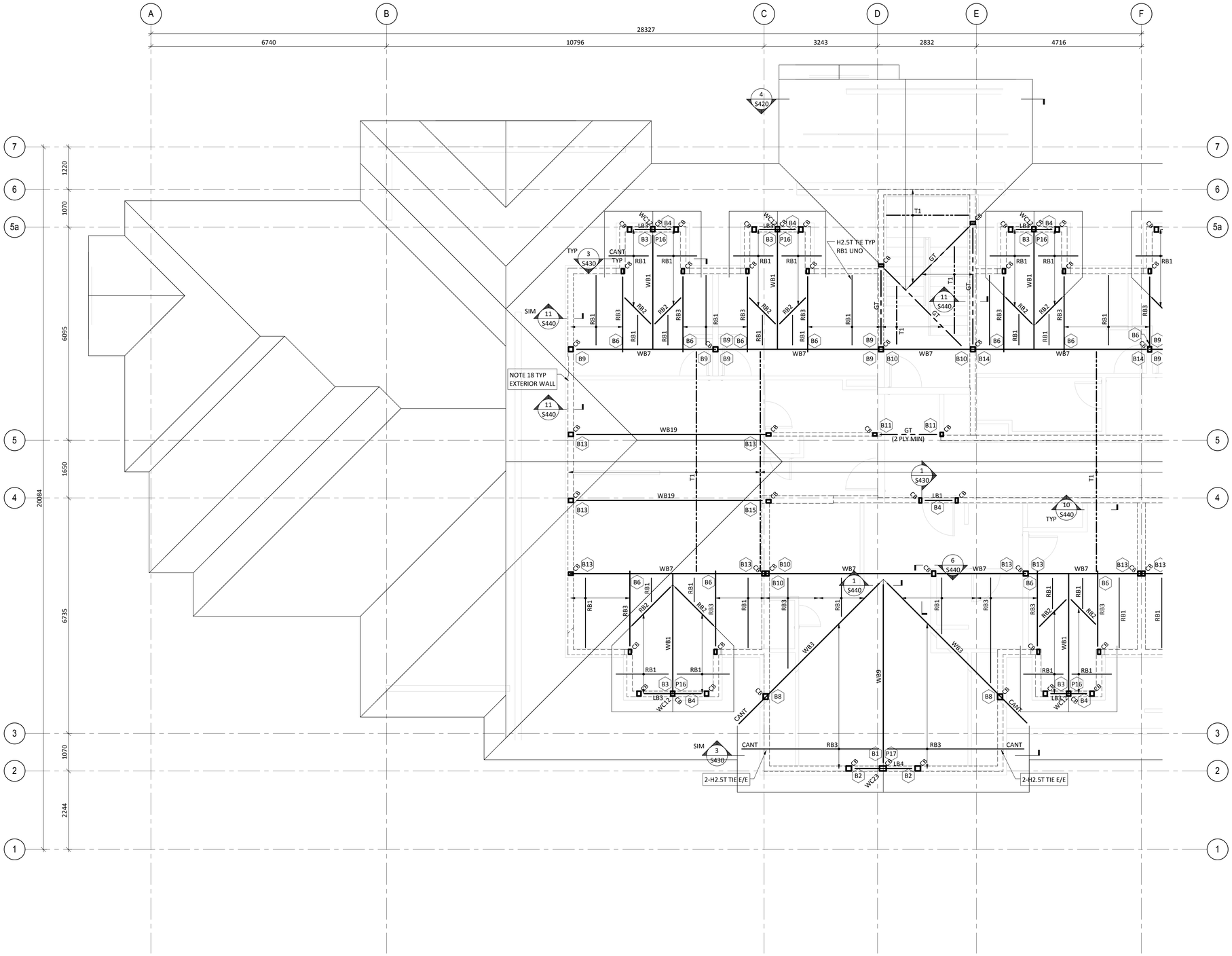

ROOF FRAMING PLAN - WEST

1 : 50

NOTES:

1. RIMBOARD TO BE 32mm 1.3E LSL TYP UNO.
2. ROOF SHEATHING TO BE 16mm PLYWOOD FASTENED AS PER PD5.
3. LINTELS AT U/S OF BEAMS/TRUSSES TYP BREAK DOUBLE TOP PLATES AS REQUIRED.
4. ANCHORAGE OF GIRDER TRUSSES TO BEAMS, LINTELS & POSTS AS PER TRUSS SUPPLIERS RECOMMENDATION.
5. - FRAMING NOTED ON PLAN AS "GT" REPRESENTS A PRE-ENGINEERED GIRDER TRUSS.
   - FRAMING NOTED NOTED ON PLAN AS "T1" REPRESENTS A PRE-ENGINEERED TRUSS @ 610 o/c. (TRUSS SPACING TO BE COORDINATED BY ROOF SUPPLIER).
   - FRAMING NOTED "DJ" REPRESENTS MEMBERS TO BE DESIGNED BY FLOOR SUPPLIER.

UPLIFT NOTES: NOTED ON PLAN AS FOLLOWS: (XX) — UPLIFT NOTE NUMBER AS PER BELOW
(B) - BEAM/LINTEL/TRUSS TO POST BELOW CONNECTION
(P) - POST TO BEAM/LINTEL BELOW CONNECTION

1. 4 - HTS16 CONNECTING BEAM TO POST
2. 1 - MSTC48B3 E/E CONNECTING LINTEL TO POST
3. 1 - HTS 16 CONNECTING BEAM TO POST.
4. 1 - LSTA24 E/E CONNECTING LINTEL TO POST
5. 1 - HTS16 CONNECTING BEAM TO POST
6. 1 - H2.5T TIE E/E
7. 2 - H2.5T TIE CONNECTING BEAM TO POST
8. VGT W/ 16MM THREADED ROD CONNECTING BEAM TO HDU5-SDS2.5 ON POST
9. VGTR/L W/ 16MM THREADED ROD CONNECTING BEAM TO HDU5-SDS2.5 ON POST
10. MSTC48B3 CONNECTING BEAM TO POST.
11. LGT2 CONNECTING GIRDER TRUSS TO POST. TBC BY TRUSS SUPPLIER
12. MSTC66 STRAP CONNECTING POST TO POST
13. HDU5-SDS2.5 W/ 16MM THREADED ROD CONNECTING BEAM TO HDU5-SDS2.5 ON POST
14. HDQ8-SDS3 W/ 22MM THREADED ROD CONNECTING BEAM TO HDQ8-SDS3 ON POST
15. 2 - MSTA30 STRAPS CONNECTING BEAM TO POST
16. 1 - HTS 16 CONNECTING POST TO LINTEL
17. 4 - HTS 16 CONNECTING POST TO LINTEL
18. FASTEN BOTTOM PLATE TO BEAM BELOW WITH 8MMX150LG RSS SCREWS @ 200 O.C. MAX.

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-14	ISSUED FOR 66%	AD	IW

Revision / Revision

A detail number numero de detail
B source drawing no. de dessin no.
C detail on drawing no. detail sur dessin no.

Consultant's Name
Nom de l'expert-conseil

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Eng. Stamp
Sceau de l'ingenieur

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch
Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client
Parks Canada Agency
L'Agence Parcs Canada
Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

ROOF FRAMING PLAN - WEST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Parks Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S213

Drawing Reference No./No. de reference du dessin

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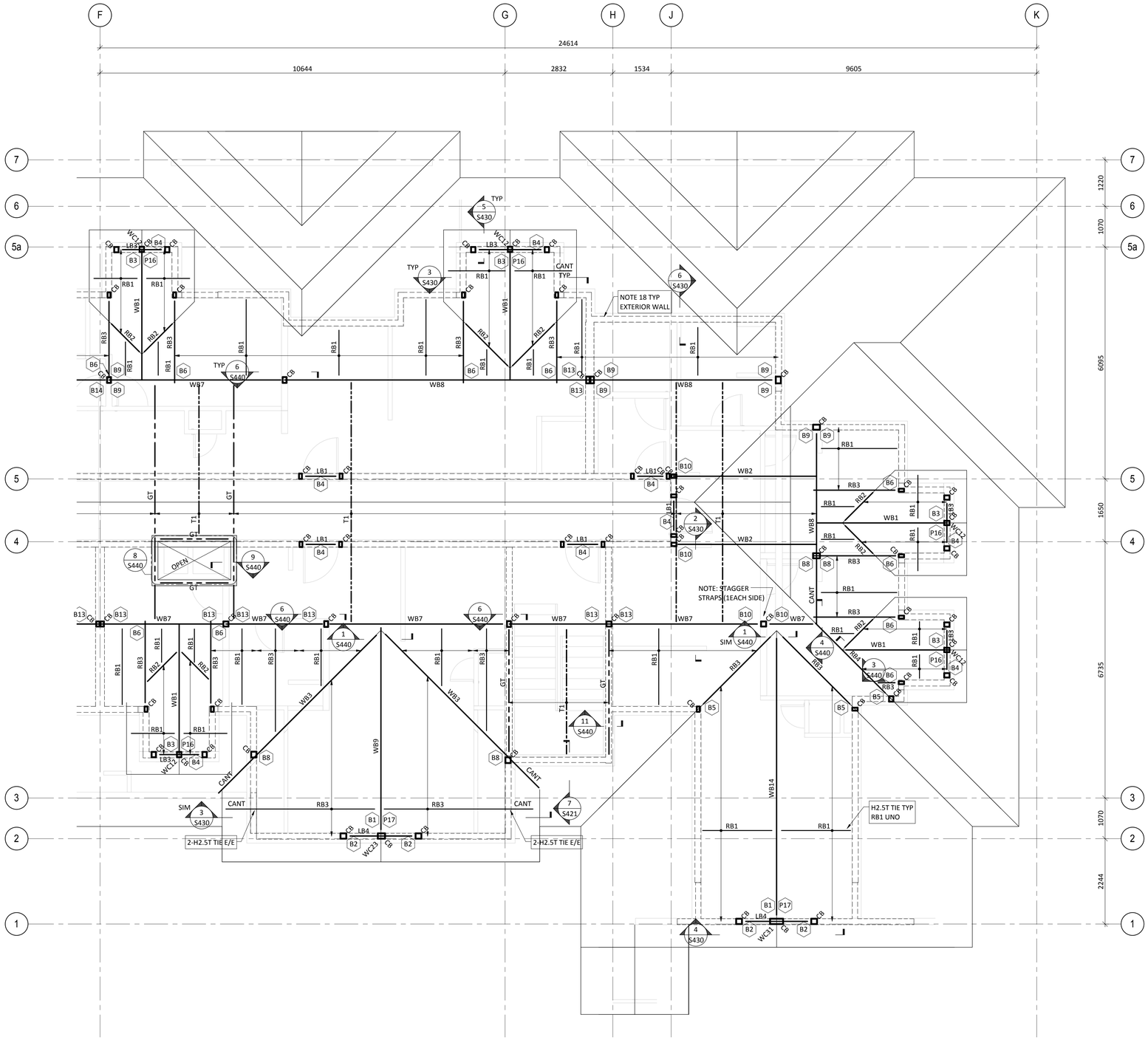

ROOF FRAMING PLAN - EAST

1 : 50

NOTES:

1. RIMBOARD TO BE 32mm 1.3E LSL TYP UNO.
2. ROOF SHEATHING TO BE 16mm PLYWOOD FASTENED AS PER PD5.
3. LINTELS AT U/S OF BEAMS/TRUSSES TYP BREAK DOUBLE TOP PLATES AS REQUIRED.
4. ANCHORAGE OF GIRDER TRUSSES TO BEAMS, LINTELS & POSTS AS PER TRUSS SUPPLIERS RECOMMENDATION.
5. - FRAMING NOTED ON PLAN AS "GT" REPRESENTS A PRE-ENGINEERED GIRDER TRUSS.
   - FRAMING NOTED NOTED ON PLAN AS "T1" REPRESENTS A PRE-ENGINEERED TRUSS @ 610 o/c. (TRUSS SPACING TO BE COORDINATED BY ROOF SUPPLIER).
   - FRAMING NOTED "DJ" REPRESENTS MEMBERS TO BE DESIGNED BY FLOOR SUPPLIER.

UPLIFT NOTES: NOTED ON PLAN AS FOLLOWS: (XX) — UPLIFT NOTE NUMBER AS PER BELOW
(B) - BEAM/LINTEL/TRUSS TO POST BELOW CONNECTION
(P) - POST TO BEAM/LINTEL BELOW CONNECTION

1. 4 - HTS16 CONNECTING BEAM TO POST
2. 1 - MSTC48B3 E/E CONNECTING LINTEL TO POST
3. 1 - HTS 16 CONNECTING BEAM TO POST.
4. 1 - LSTA24 E/E CONNECTING LINTEL TO POST
5. 1 - HTS16 CONNECTING BEAM TO POST
6. 1 - H2.5T TIE E/E
7. 2 - H2.5T TIE CONNECTING BEAM TO POST
8. VGT W/ 16MM THREADED ROD CONNECTING BEAM TO HDU5-SDS2.5 ON POST
9. VGTR/L W/ 16MM THREADED ROD CONNECTING BEAM TO HDU5-SDS2.5 ON POST
10. MSTC48B3 CONNECTING BEAM TO POST.
11. LGT2 CONNECTING GIRDER TRUSS TO POST. TBC BY TRUSS SUPPLIER
12. MSTC66 STRAP CONNECTING POST TO POST
13. HDU5-SDS2.5 W/ 16MM THREADED ROD CONNECTING BEAM TO HDU5-SDS2.5 ON POST
14. HDQ8-SDS3 W/ 22MM THREADED ROD CONNECTING BEAM TO HDQ8-SDS3 ON POST
15. 2 - MSTA30 STRAPS CONNECTING BEAM TO POST
16. 1 - HTS 16 CONNECTING POST TO LINTEL
17. 4 - HTS 16 CONNECTING POST TO LINTEL
18. FASTEN BOTTOM PLATE TO BEAM BELOW WITH 8MMX150LG RSS SCREWS @ 200 O.C. MAX.

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
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Revision / Revision

A detail number / numero de detail
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Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
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Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

ROOF FRAMING PLAN - EAST

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
KL	IW	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Parks Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S214

Drawing Reference No./No. de reference du dessin

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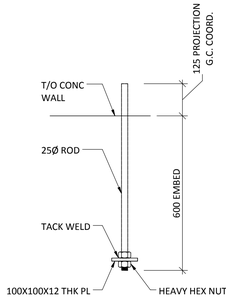
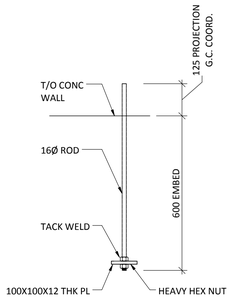
SHEARWALL SCHEDULE			
MARK	SHEATHING	NAILS	NAIL SPACING
SW1	15.5mm PLYWWOD	3.66ØX75LG	150 o/c AT PANEL EDGES
SW2	15.5mm PLYWWOD	3.66ØX75LG	75 o/c AT PANEL EDGES
SW3	15.5mm PLYWWOD	3.66ØX75LG	50 o/c AT PANEL EDGES

NOTE:
1. PLYWOOD ON SIDE OF WALL WITH TEXT TYPICAL.
2. ALL SHEARWALLS GREATER THAN 2440 IN HEIGHT TO BE BLOCKED AT PANEL EDGES.
3. PANEL JOINTS ARE TO BE OFFSET TO FALL ON DIFFERENT MEMBERS OR FRAMING IS TO BE 64mm OR THICKER AND NAILS ON EACH SIDE SHALL BE STAGGERED.
4. ALL SHEARWALLS TO HAVE 2-PLY POST EACH END TYP UNO.
5. SHEARWALLS LOCATED ON SIDE OF WALL WITH TEXT TYP UNO.
6. VERTICAL PENETRATIONS NOT PERMITTED THROUGH SHEARWALLS TYP.
7. SW'X'-'Y' INDICATES SHEARWALL:
   - X = SHEATHING THICKNESS AND NAILING PATTERN, REFER TO SCHEDULE
   - Y = HOLDOWN REQUIRED EACH END, REFER TO SCHEDULE.

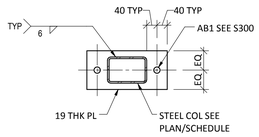
HOLDOWN SCHEDULE			
HOLDOWN MARK	HOLDOWN	HOLDOWN EMBEDMENT (mm)	COMMENTS
A	MSTC48B3	--	EACH END CONNECTING POST TO BEAM BELOW
B	MSTC66	--	EACH END CONNECTING POST TO POST BELOW
D	2-MSTCM60 STRAPS	--	EACH END w/ TITEN SCREWS CONNECTING POST TO COLUMN WALL BELOW
E	2-MSTC48B3	--	EACH END CONNECTING POST TO BEAM BELOW
F	3-MSTCM60 STRAPS	--	EACH END w/ TITEN SCREWS CONNECTING POST TO CONCRETE BELOW
G	1-MSTCM60 STRAP	--	EACH END w/ TITEN SCREWS CONNECTING POST TO CONCRETE BELOW
H	1-HDU8-SDS2.5 w/ 19Ø HAS ROD	350 w/ HILTI HY-200 SAFESET	EACH END CONNECTING POST TO FOUNDATION WALL BELOW
J	HDU11-SDS2.5 w/ 25Ø HAS ROD	450 w/ HILTI HY-200 SAFESET	--
K	HDU11-SDS2.5 w/ AB1		POST INSTALLED ANCHOR NOT ACCEPTABLE, ANCHOR MUST BE CAST IN PLACE



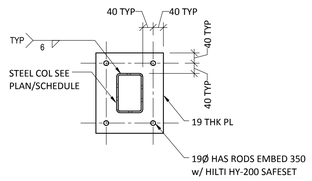
ANCHOR BOLT 1 (AB1)



ANCHOR BOLT 2 (AB2)



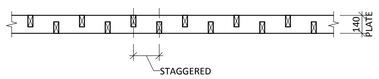
BP1



BP2

LOAD BEARING WALL SCHEDULE (UNO) (STUD SIZE & SPACING)			
WALL TYPE	BASEMENT TO MAIN	MAIN TO LOFT	LOFT TO ROOF
EXTERIOR WALLS	--	38x140 @ 400 c/c (DOUBLE 38X140 TOP & BOT PLATES)	38x140 @ 400 c/c (DOUBLE 38X140 TOP & BOT PLATES)
INTERIOR WALLS	38x140 @ 400 c/c (DOUBLE 38X140 TOP & BOT PLATES)	38x140 @ 400 c/c (DOUBLE 38X140 TOP & BOT PLATES)	--
DEMISING WALLS (B/W SUITES)	--	38X89 @ 400 c/c (DOUBLE 38X89 TOP & BOT PLATES)	38X89 @ 400 c/c (DOUBLE 38X89 TOP & BOT PLATES)
CORRIDOR/ STAIRWELL	2-38x89 @ 300 c/c STAGGERED (DOUBLE 38X140 TOP & BOT PLATE)	38x89 @ 200 c/c STAGGERED (DOUBLE 38X140 TOP & BOT PLATES)	38x89 @ 300 c/c STAGGERED (DOUBLE 38X140 TOP & BOT PLATES)

NOTE:
1. ALL WALLS TO BE SPF No.2 OR BETTER.
2. BACK TO BACK DEMISING WALLS TO HAVE STUDS STAGGERED TYP.
3. STUD WALLS HAVE BEEN SIZED FOR 82% CAPACITY BASED ON ARCHITECTURAL WALL ASSEMBLY RESTRICTIONS.



WOOD BEAM SCHEDULE		
MARK	SIZE	COMMENTS
WB1	2 PLY - 45X241	2.0E LVL
WB2	2 PLY - 45X302	2.0E LVL
WB3	133X241	2.2E PSL
WB4	3 PLY - 45X302	2.0E LVL
WB5	178X406	2.0E PSL
WB6	133X406	2.0E PSL
WB7	3 PLY - 45X457	2.0E LVL
WB8	178X457	2.0E PSL
WB9	4 PLY - 45X356	2.0E LVL
WB10	2 PLY - 45X406	2.0E LVL
WB11	178X483	2.2E PSL
WB12	178X406	2.2E PSL
WB13	89X235	ROUGH SAWN CEDAR
WB14	365X418	20f-E D. FIR L GLULAM
WB15	3 PLY - 45X406	2.0E LVL
WB16	3 PLY - 45X483	2.0E LVL
WB17	89X406	1.55E LSL SHEARWALL DIAPHRAM CONNECTOR BEAMS
WB18	133X406	1.55E LSL SHEARWALL DIAPHRAM CONNECTOR BEAMS
WB19	2 PLY - 45X356	2.0E LVL
WB20	2 PLY - 89X355	No.2 GRADE CEDAR
WB21	2 PLY - 89X355	SELECT STRUCTURAL GRADE CEDAR
WB22	3 PLY - 45X235	2.0E LVL
WB23	1 PLY - 45X235	2.0E LVL

NOTES:
1. BEAM LAMINATIONS AS PER FLOOR SUPPLIERS RECOMMENDATIONS.
2. WB# CONT INDICATES CONTINUOUS BEAM OVER SUPPORT.
3. 'DJ' - MEMBER TO BE DESIGNED BY FLOOR SUPPLIER (DOUBLE JOIST TYP UNO).

LINTEL BEAM SCHEDULE		
MARK	SIZE	COMMENTS
LB1	2 PLY - 38X235	SPF No.2
LB2	3 PLY - 38X235	SPF No.2
LB3	2 PLY - 45X184	2.0E LVL
LB4	3 PLY - 45X241	2.0E LVL
LB5	3 PLY - 38X286	SPF No.2

RAFTER BEAM SCHEDULE			
MARK	SIZE	SPACING	COMMENTS
RB1	38X235	610 o/c MAX	SPF No.2
RB2	38X235		SPF No.2
RB3	2 PLY - 38X235	610 o/c MAX	SPF No.2
RB4	89X241		2.2E PSL

NOTE: RAFTER SIZE AND SPACING TO BE CONFIRMED BY ROOF SUPPLIER. SHOP DRAWING SUBMITALS SHALL INCLUDE RAFTERS.

FLOOR JOIST SCHEDULE			
MARK	SIZE	SPACING	COMMENTS
J1	38X235	400 o/c	SPF No.2
J2	38X184	400 o/c	SPF No.2
J3	406 DP FLOOR JOIST	488 o/c MAX	PRE-ENGINEERED

NOTE: SIZE AND SPACING TO BE CONFIRMED BY FLOOR SUPPLIER

WOOD COLUMN SCHEUDLE				
MARK	SIZE	JACK STUDS	KING STUDS	COMMENTS
WC1	38X89	1	1	SPF No.2
WC2	38X89	--	2	SPF No.2
WC3	38X140	1	1	SPF No.2
WC4	38X140	2	--	SPF No.2
WC5	38X140	--	2	SPF No.2
WC6	38X89	3	--	SPF No.2
WC7	38X89	--	3	SPF No.2
WC8	38X140	1	2	SPF No.2
WC9	38X140	1	3	SPF No.2
WC10	38X140	2	1	SPF No.2
WC11	38X140	3	--	SPF No.2
WC12	38X140	3	--	SPF No.2 STUB COL
WC13	38X140	--	3	SPF No.2
WC14	38X89	4	--	SPF No.2
WC15	38X89	--	4	SPF No.2
WC16	38X140	2	2	SPF No.2
WC17	38X140	3	1	SPF No.2
WC18	38X140	4	--	SPF No.2
WC19	38X140	--	4	SPF No.2
WC20	38X89	--	5	SPF No.2
WC21	38X140	1	4	SPF No.2
WC22	38X140	3	2	SPF No.2
WC23	38X140	5	--	SPF No.2 STUB COL
WC24	38X140	3	6	SPF No.2
WC25	38X140	--	5	SPF No.2
WC26	38X140	5	--	SPF No.2
WC27	38X140	--	1	SPF No.2
WC28	38X140	--	6	SPF No.2
WC29	38X140	1	6	SPF No.2
WC30	38X140	3	4	SPF No.2
WC31	38X140	9	--	SPF No.2 STUB COL
WC32	178X178	--	1	No.1 GRADE CEDAR
WP1	89X133	1	--	1.8E PSL
WP2	133X133	1	--	1.8E PSL
WP3	89X178	1	--	1.8E PSL
WP4	133X178	1	--	1.8E PSL
WP5	178X178	1	--	1.8E PSL

NOTES:
1. BEAMS TO BEAR DIRECTLY ON STRUCTURAL COMPOSITE LUMBER COLUMNS (JACK STUDS) TYPICAL. STRUCTURAL COMPOSITE LUMBER COLUMNS TO BEAR DIRECTLY ON BEAM/CONCRETE BELOW. WOOD PLATES NOT PERMITTED BELOW STRUCTURAL COMPOSITE LUMBER COLUMNS TYP.
2. BEAM TO BEAR FULLY ON CRIPPLE STUDS INDICATED (IE: BEAMS WITH 4 JACK STUDS INDICATED THEREFORE REQUIRE 150mm BEARING). WOOD PLATES ARE NOT PERMITTED BETWEEN U/S OF BEAM AND TOP OF JACK STUDS TYP.

STEEL COLUMN SCHEDULE		
MARK	SIZE	COMMENTS
SC1	HSS 152X102X4.8	w/ 300LGX20 THK CAP PL REFER TODETAIL 7/S440 FOR WIDTH
SC2	HSS 152X102X6.4	SEE SECTION 1/S421

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW
2	2016-06-14	ISSUED FOR 66%	AD	IW

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil
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Canada

Client/client
Parks Canada Agency / L'Agence Parcs Canada
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Staff Housing Phase 2 Waterton Lakes National Park

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SCHEDULES

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
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KL	IW	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
C015-0870	FII # 945	S300

Drawing Reference No./No. de reference du dessin

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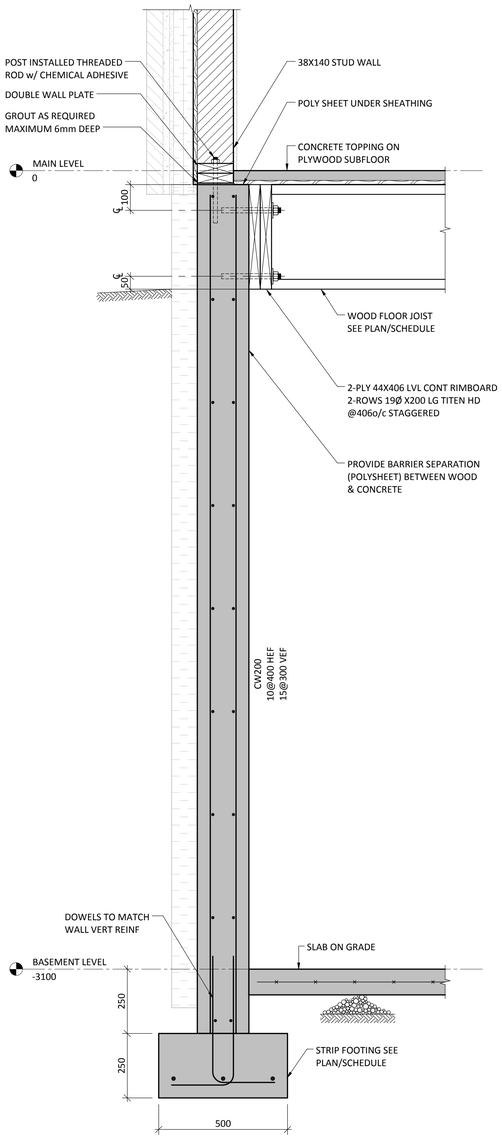
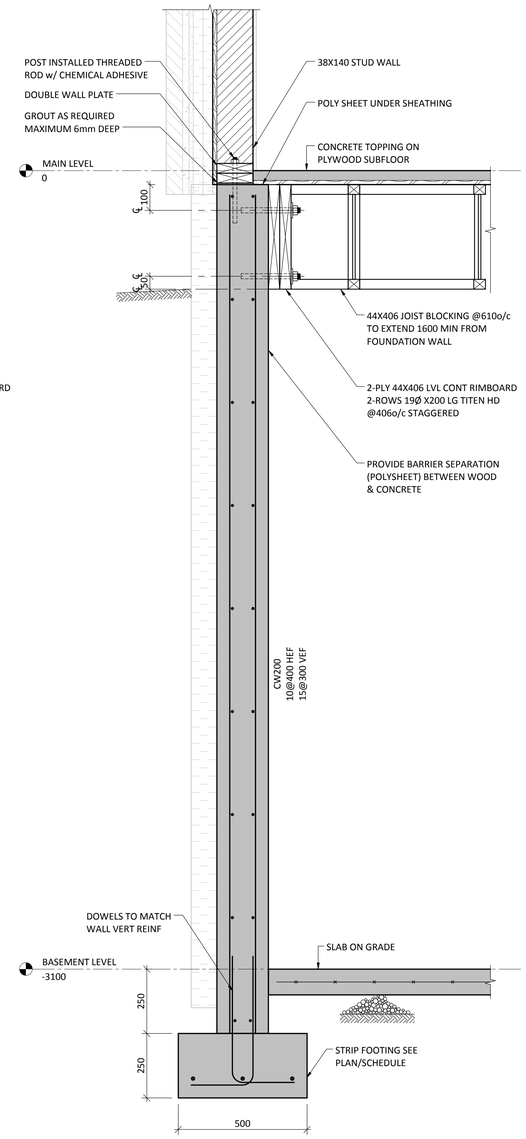


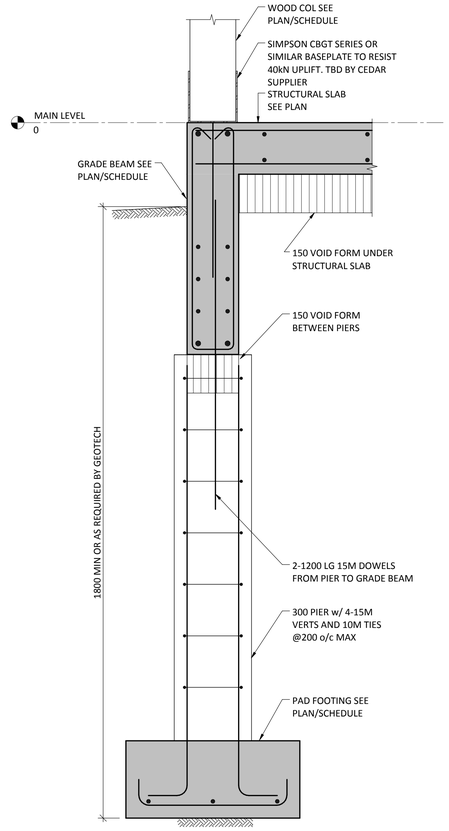
1 S400 TYPICAL FOUNDATION WALL JOIST PERPENDICULAR

1 : 10



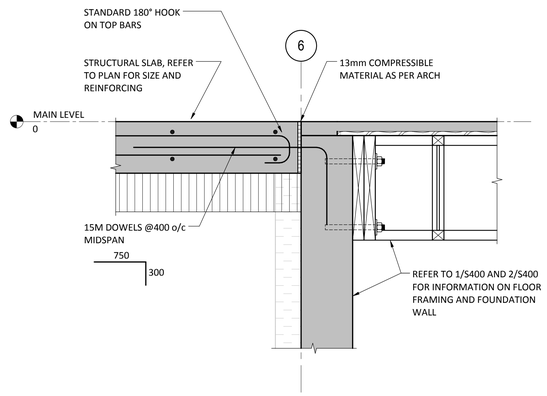
2 S400 TYPICAL FOUNDATION WALL JOISTS PARALLEL

1 : 10



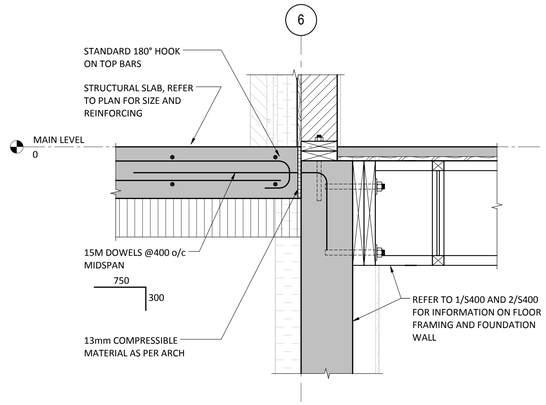
3 S400 GRADE BEAM DETAILS AT PIER SUPPORTS

1 : 10



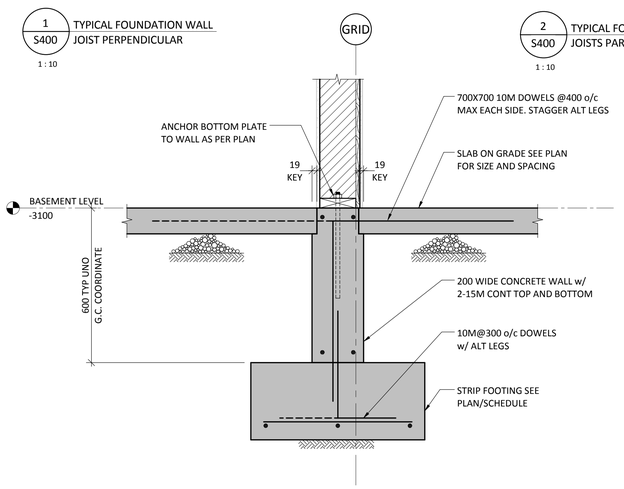
6 S400 DETAIL AT STRUCTURAL SLAB/BUILDING INTERFACE

1 : 10



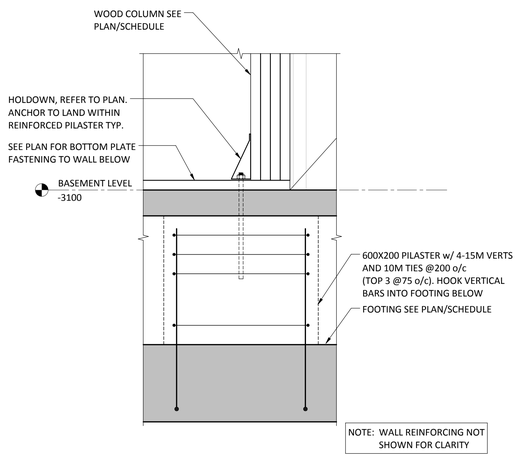
7 S400 DETAIL AT STRUCTURAL SLAB/BUILDING INTERFACE

1 : 10



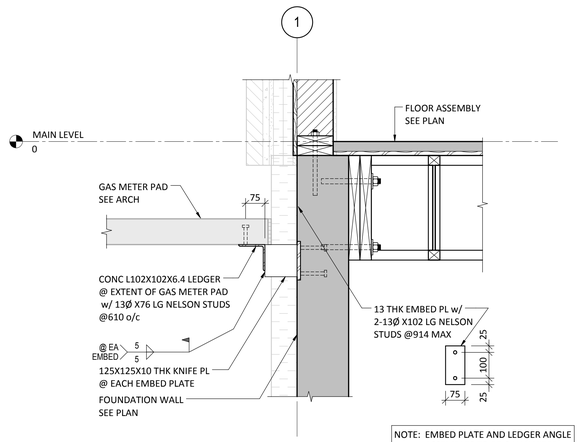
4 S400 TYPICAL INTERIOR BEARING WALL SECTION

1 : 10



5 S400 TYPICAL INTERIOR HOLDOWN DETAIL

1 : 10



8 S400 EXTERIOR SLAB SUPPORT @ GAS METER PAD

1 : 10

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5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
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Consultant's Name / Nom de l'expert-conseil
ENTUITIVE
209 - 8th Avenue SW, Suite 300
Calgary, AB T2P 1B8
403-879-1270

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Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
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SECTIONS & DETAILS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
KL	IW	1 : 10

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Pink Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S400

Drawing Reference No./No. de reference du dessin

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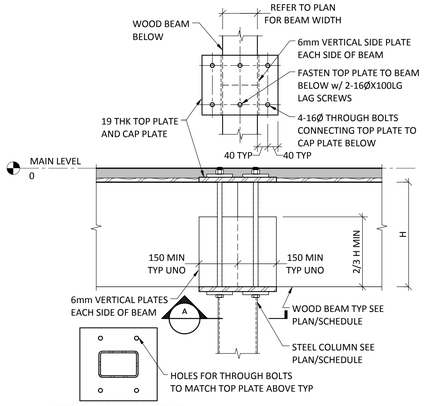
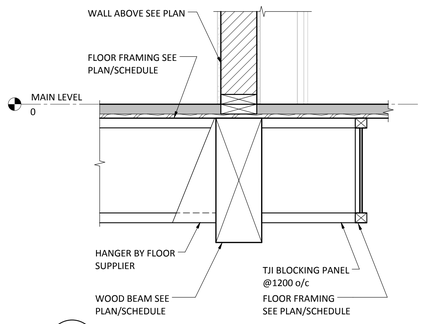
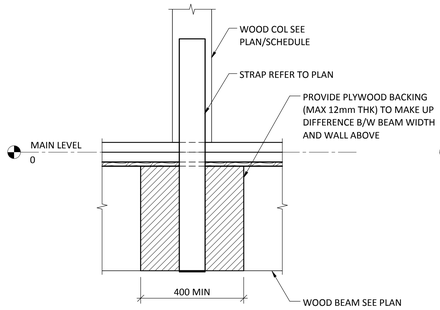


NOTE: WHEN TWO BEAMS TYPING INTO SAME COLUMN ARE NOT THE SAME NUMBER OF PILES, ADD 600 LG BLOCKING EACH SIDE OF THINNER BEAM AT SOLUMN LOCATION TO ENSURE BEAM WIDTHS MATCH AT COLUMN.

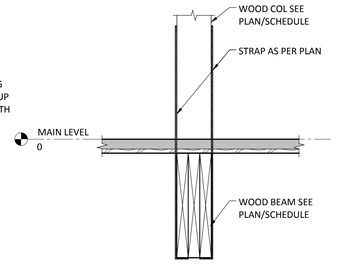
1 / S410 TYPICAL WOOD BEAM TO STEEL COLUMN CONNECTION - MAIN FLOOR
1 : 10



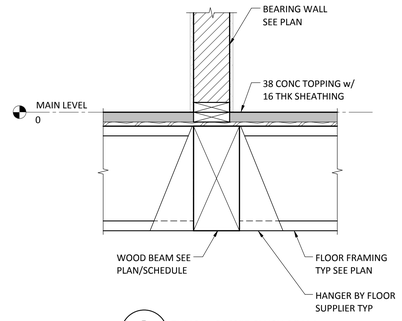
2 / S410 TYPICAL FLUSH BEAM WITH FRAMING PARALLEL ONE SIDE
1 : 10



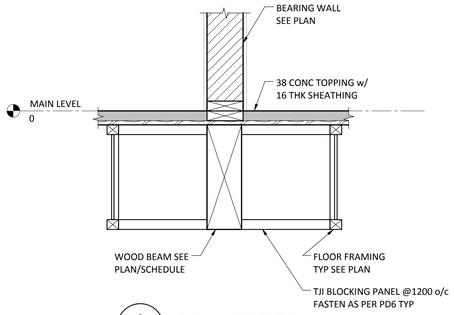
3 / S410 DEMISING WALL SHEARWALL STRAP CONNECTION DETAIL
1 : 10



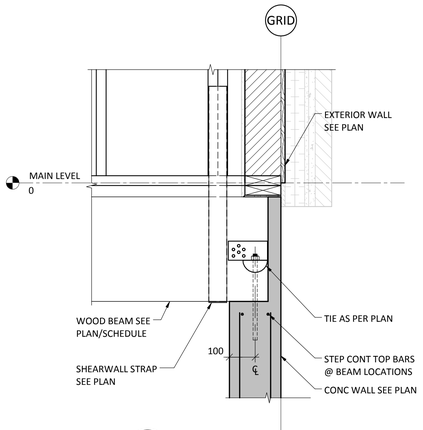
4 / S410 TYPICAL SHEARWALL HOLDOWN TO BEAM BELOW
1 : 10



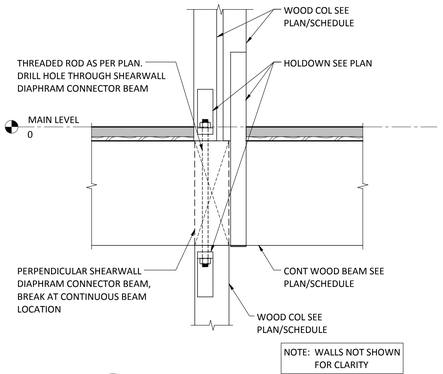
5 / S410 TYPICAL OFFSET FLUSH BEAM DETAIL @ EXTERIOR WALL
1 : 10



6 / S410 TYPICAL INTERIOR FLUSH BEAM WITH FLOOR FRAMING PARALLEL
1 : 10

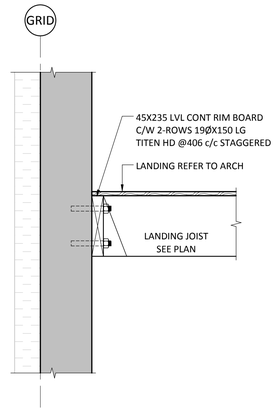


7 / S410 TYPICAL CONC BEAM POCKET
1 : 10

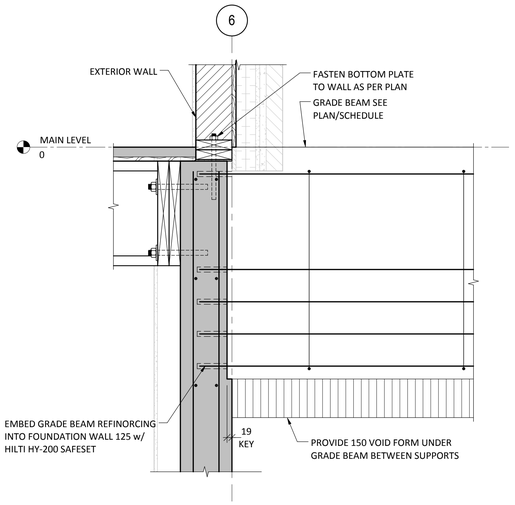


NOTE: WALLS NOT SHOWN FOR CLARITY

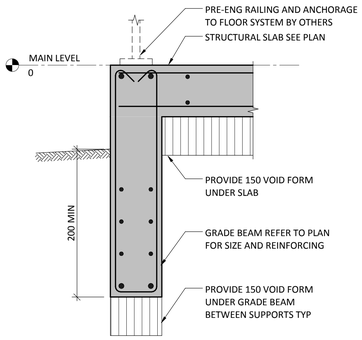
8 / S410 CONTINUOUS BEAM UPLIFT CONNECTION DETAIL
1 : 10



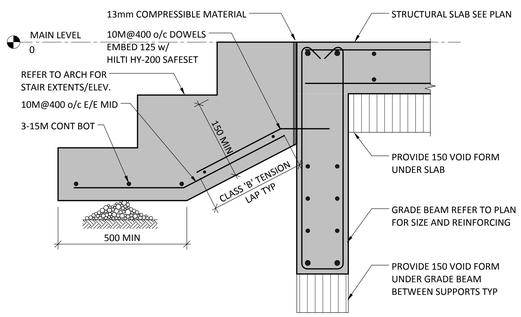
9 / S410 TYPICAL LEDGER TO FOUNDATION WALL DETAIL
1 : 10



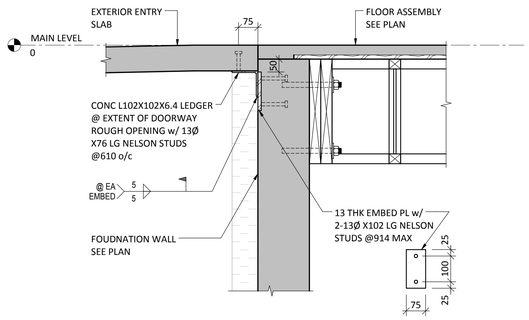
10 / S410 GRADE BEAM TO FOUNDATION WALL CONNECTION DETAIL
1 : 10



11 / S410 TYPICAL RAISED ENTRANCE GRADE BEAM @ PERIMETER
1 : 10



12 / S410 TYPICAL REAISED ENTRANCE GRADE BEAM @ STAIR
1 : 10



NOTE: EMBED PLATE AND LEDGER ANGLE ASSEMBLES TO BE GALVANIZED. CORROSION PROTECTION TO BE RESTORED AFTER FIELD WELDING w/ ZINGA PAINT OR EQUIVALENT

13 / S410 TYPICAL EXTERIOR SLAB SUPPORT @ ENTRANCES
1 : 10

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW

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C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil
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Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
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Client/client
Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
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Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	1 : 10

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Pink Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S410

Drawing Reference No./No. de reference du dessin

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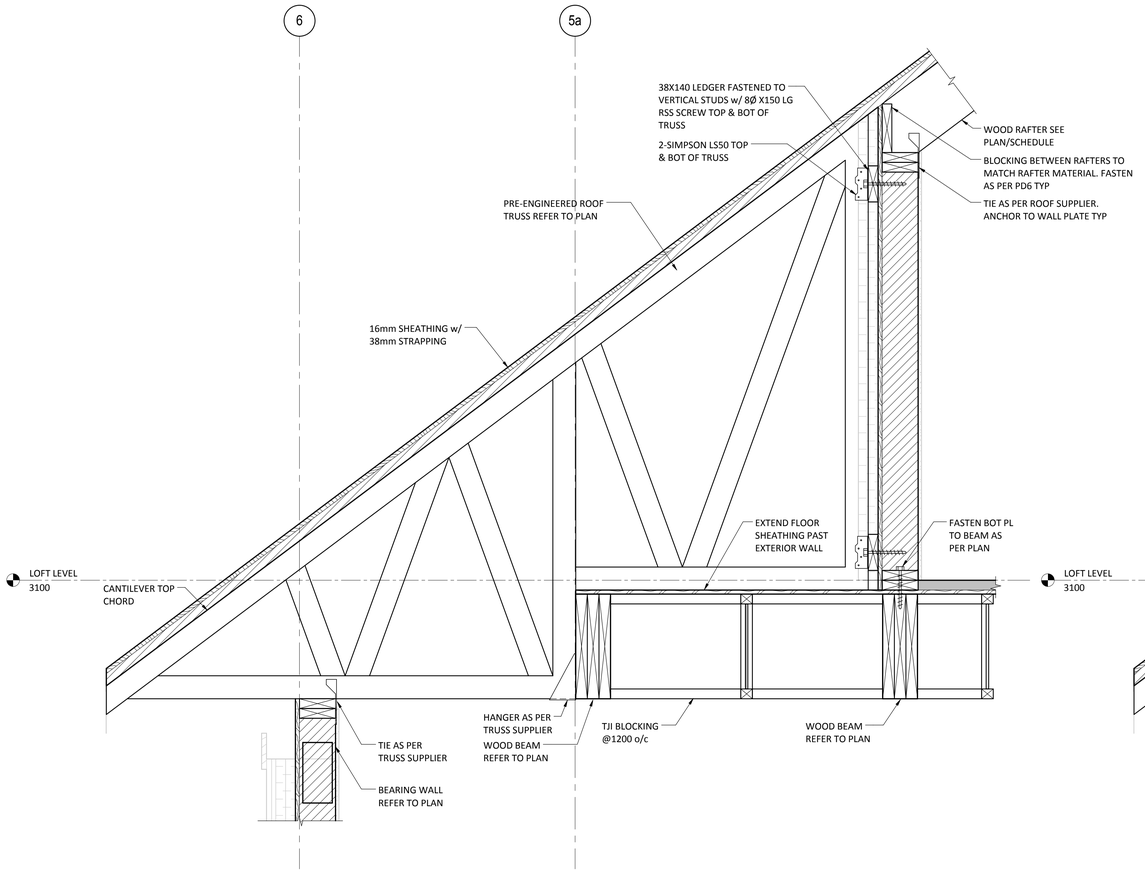
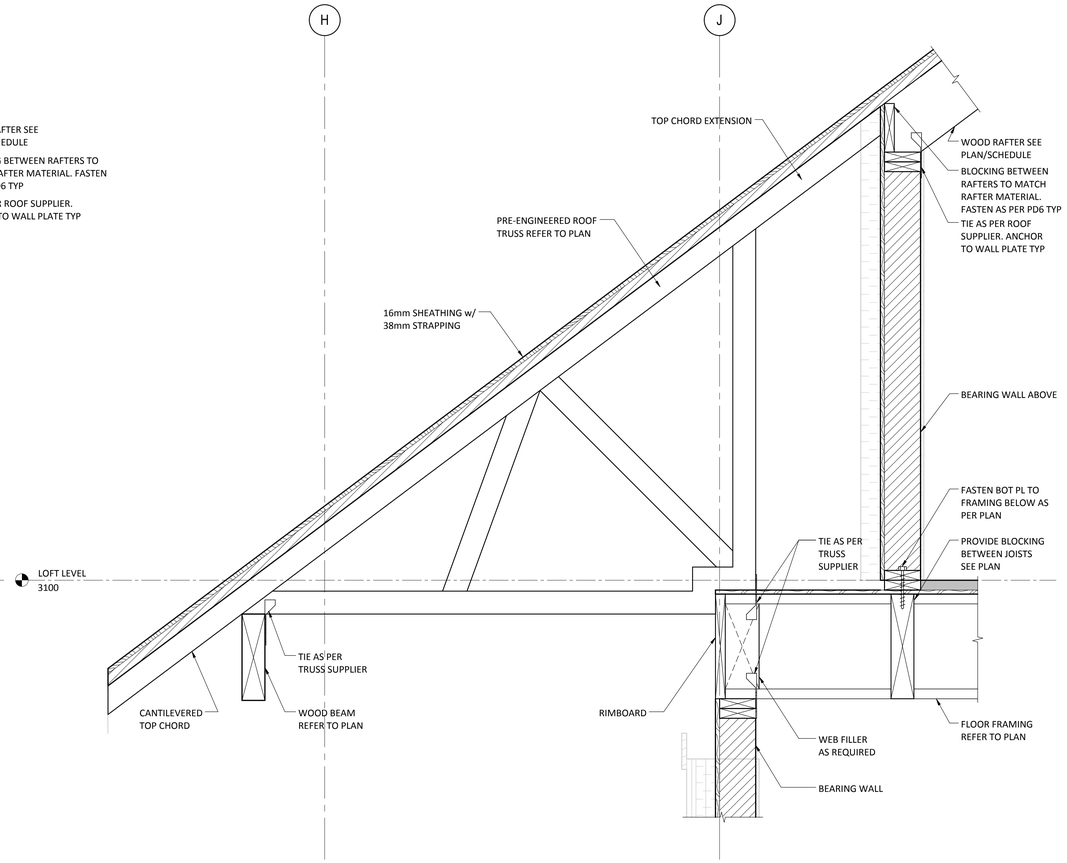


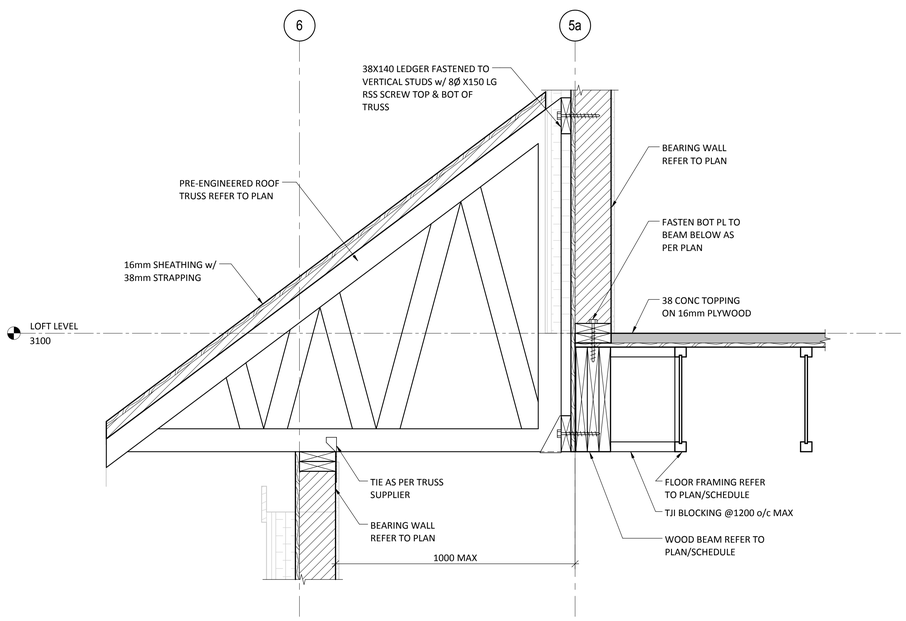
1 S420 OVERBUILT ROOF DETAIL

1 : 10



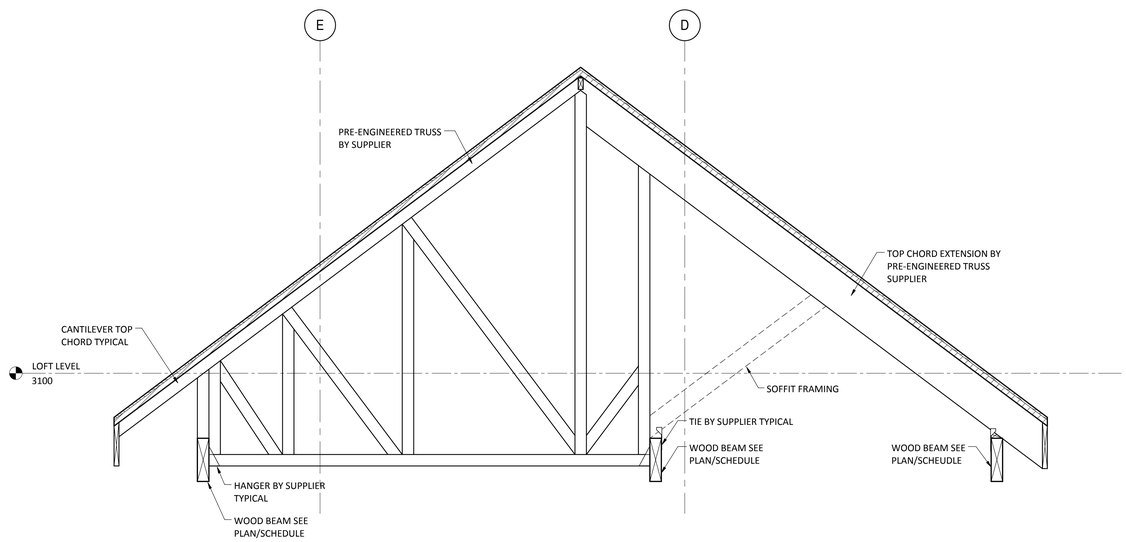
2 S420 OVERBUILT ROOF DETAIL

1 : 10



3 S420 LOW ROOF FRAMING DETAIL

1 : 10



4 S420 ENTRANCE CANOPY TRUSS DETAILS

1 : 20

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
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3	2016-09-02	ISSUED FOR 99%	AD	IW

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Consultant's Name / Nom de l'expert-conseil

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403-879-1270

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Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations

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Waterton Lakes National Park

Drawing title/Titre du dessin

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Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
KL	IW	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Proj. Responsible Officer/Agent Responsable

Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
C015-0870	FII # 945	S420

Drawing Reference No./No. de reference du dessin

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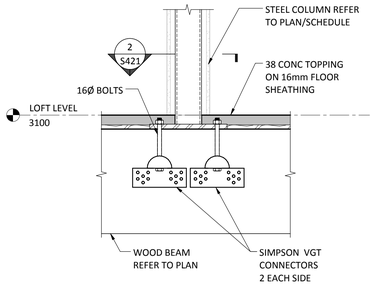
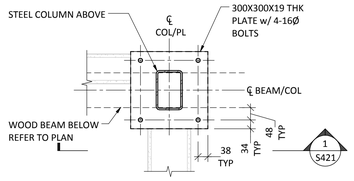


1 / S421 TYPICAL STEEL COLUMN TO WOOD BEAM CONNECTION

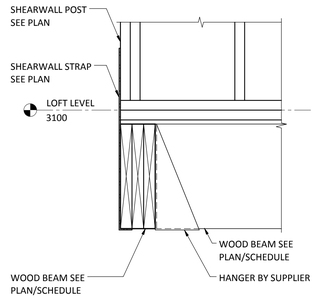
1 : 10

NOTE:
1. BASE PLATE TO SIT DIRECTLY ON BEAM TYP. INSTALLATION ON SHEATHING NOT ACCEPTABLE.
2. FLOOR JOISTS NOT SHOWN FOR CLARITY.



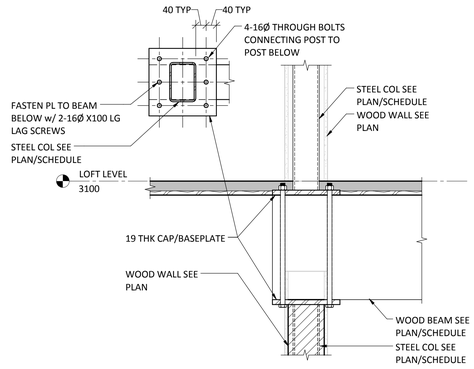
2 / S421 TYPICAL STEEL COLUMN BASEPLATE DETAILS

1 : 10



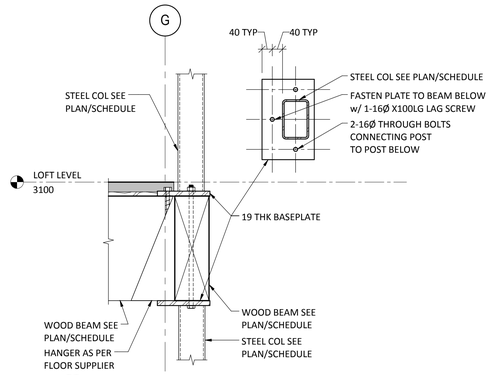
3 / S421 SHEARWALL CONNECTION DETAIL

1 : 10



4 / S421

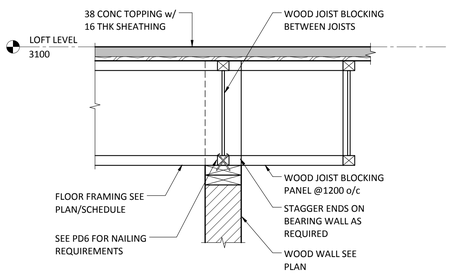
1 : 10



5 / S421 STEEL COLUMN TRANSFER AT STAIRWELL

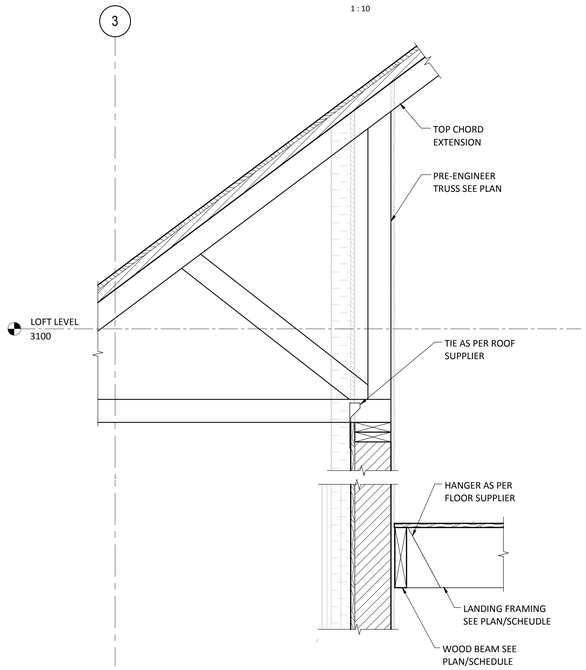
1 : 10

NOTE: SHEARWALLS NOT SHOWN FOR CLARITY



6 / S421 TYPICAL INTERIOR BEARING WALL

1 : 10



7 / S421 STAIRWELL WALL ROOF FRAMING DETAILS

1 : 10

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Waterton Lakes National Park

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KL	IW	1 : 10

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S421

Drawing Reference No./No. de reference du dessin

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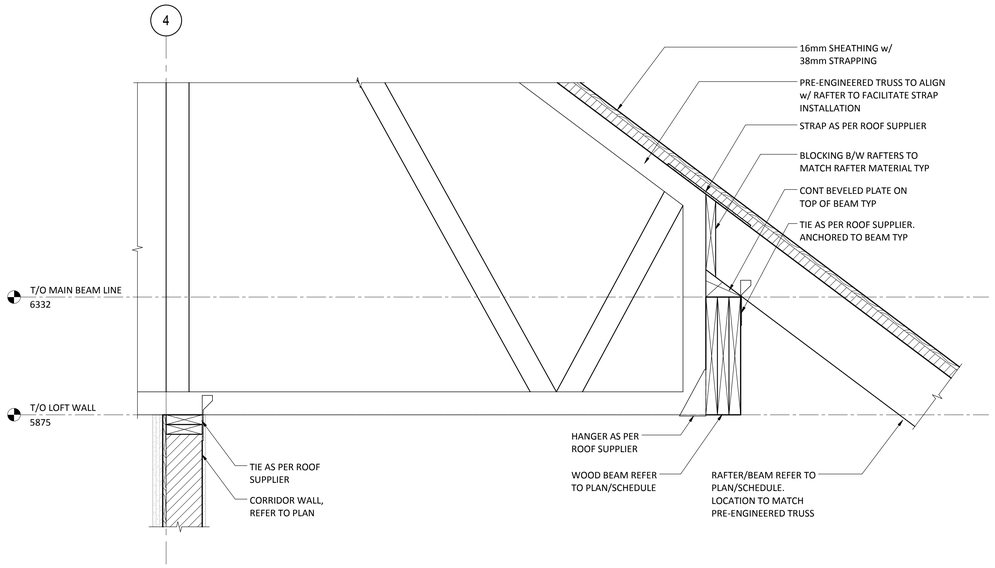
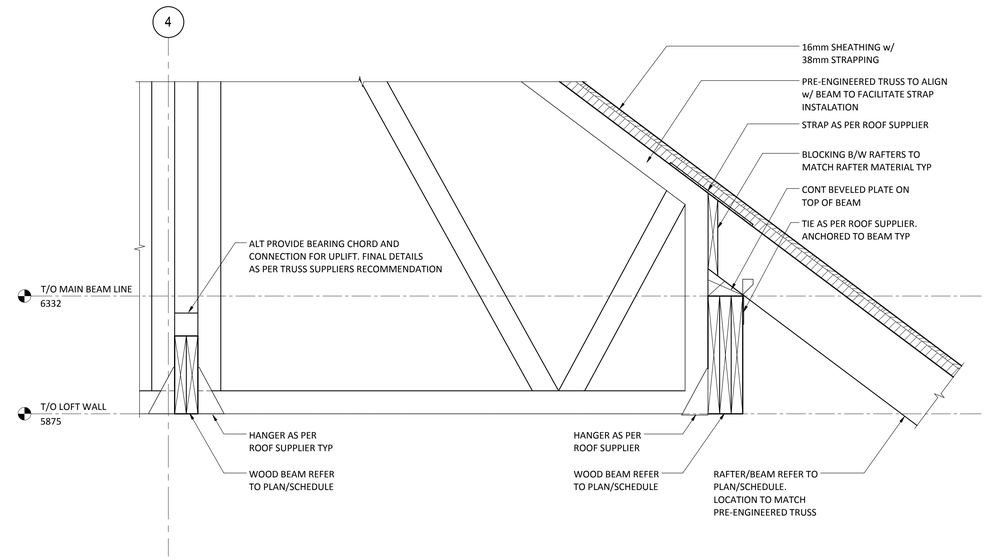


1 / S430 TYPICAL MAIN BEAM LINE FRAMING

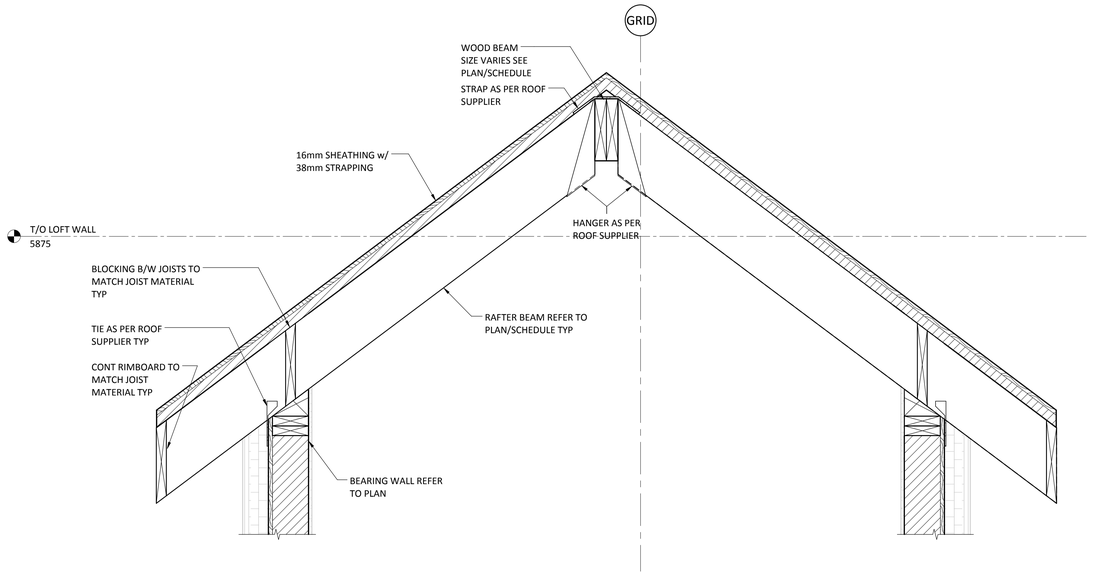
1 : 10



2 / S430 TYPICAL MAIN BEAM LINE FRAMING

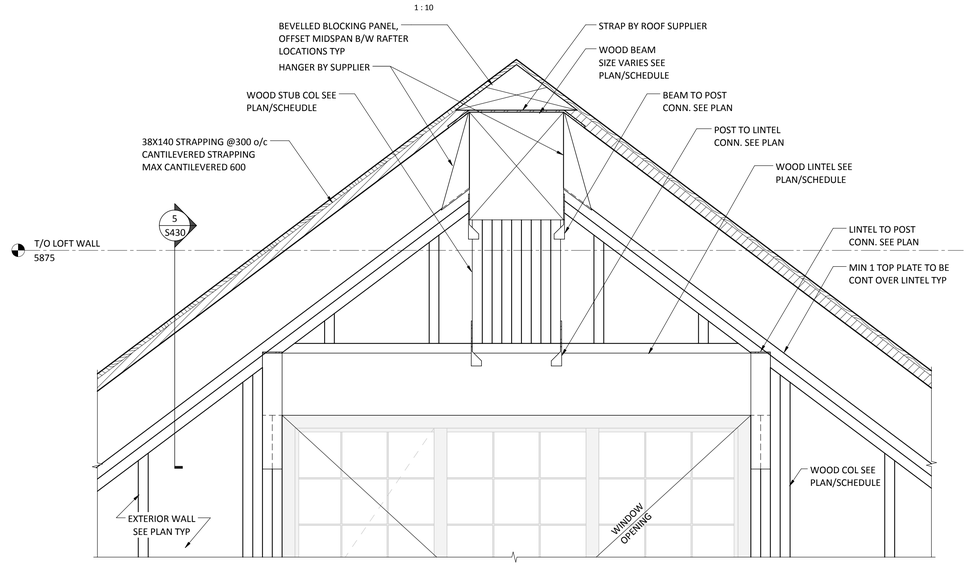
1 : 10

NOTE: TRUSS DESIGNER TO COORDINATE WITH MECHANICAL FOR DUCTWORK TO AVOID CONFLICT WITH TRUSS CHORDS/MEMBERS TYP.



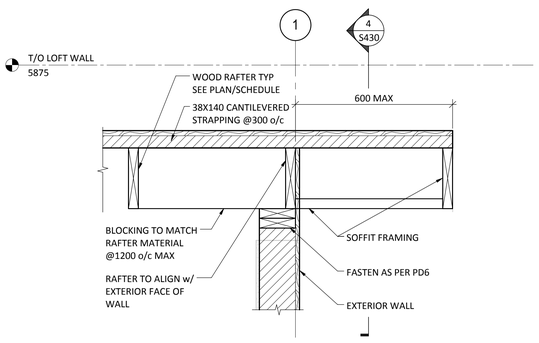
3 / S430 TYPICAL DORMER FRAMING

1 : 10



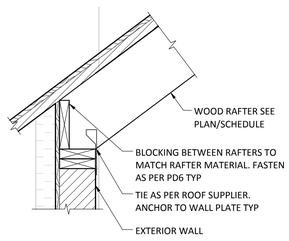
4 / S430 TYPICAL LINTEL WINDOW ELEVATION

1 : 10



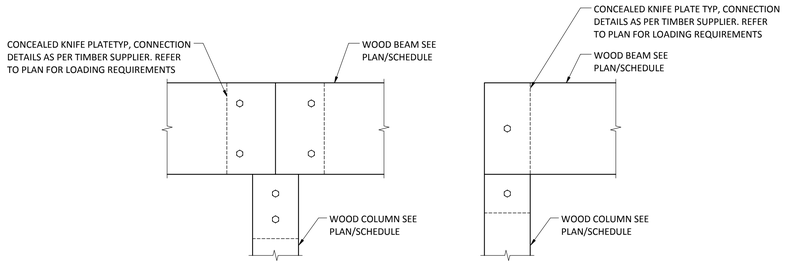
5 / S430

1 : 10



6 / S430 TYPICAL EXTERIOR WALL DETAIL @ CATHEDRAL CEILING

1 : 10



7 / S430 TIMBER CONNECTION DETAILS

1 : 10

NOTE: CONNECTION DETAILS SHOWN HERE ARE SCHEMATIC ONLY. FINAL CONNECTION DESIGN TO RESIST FORCES INDICATED AS PER TIMBER ENGINEERS RECOMMENDATION

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
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Project title/Titre du projet

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KL	IW	1 : 10

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Prog Responsible Officer/Agent Responsable

Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S430

Drawing Reference No./No. de reference du dessin

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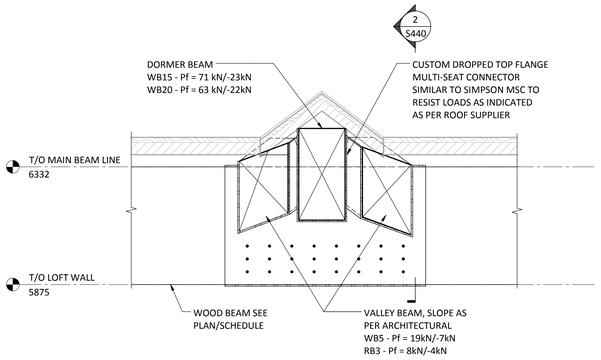
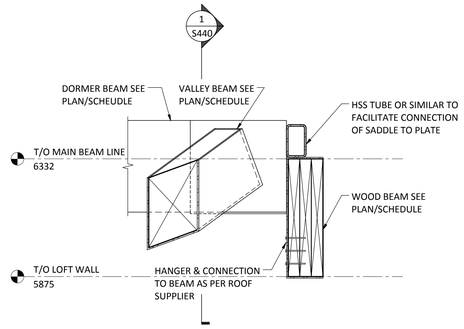


1 S440 CUSTOM DORMER SLOPED HANGER DETAIL

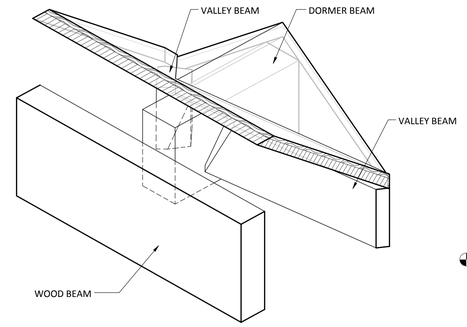
1 : 10

NOTE: CUSTOM HANGERS TO BE DESIGNED BY SIMPSON STRONG TIE OR EQUIVALENT. HANGER DESIGN TO BE SIGNED AND SEALED.

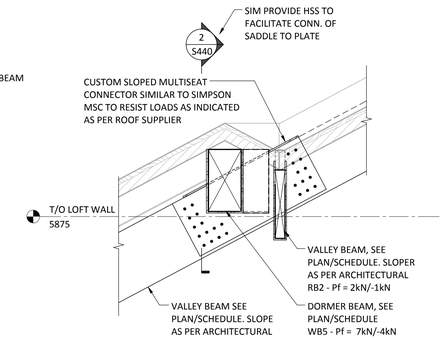


2 S440 CUSTOM DORMER SLOPED HANGER DETAIL

1 : 10



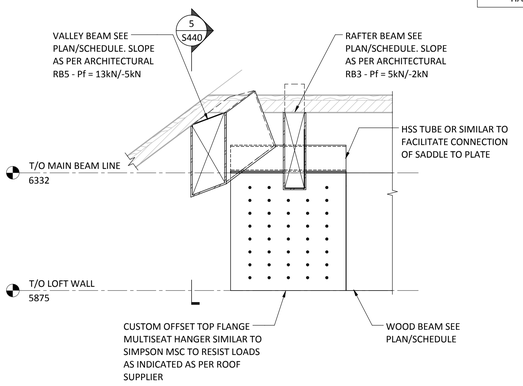
3D ISO - SECTION 1/S440 & 2/S440



3 S440 CUSTOM SLOPED HANGER DETAIL

1 : 10

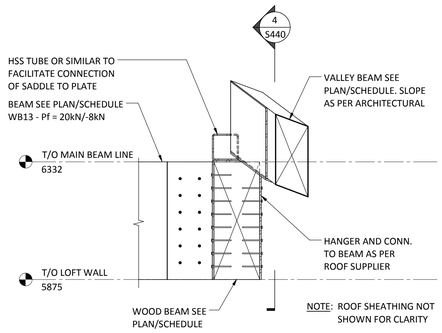
NOTE: CUSTOM HANGERS TO BE DESIGNED BY SIMPSON STRONG TIE OR EQUIVALENT. HANGER DESIGN TO BE SIGNED AND SEALED.



4 S440 CUSTOM SLOPED HANGER DETAIL

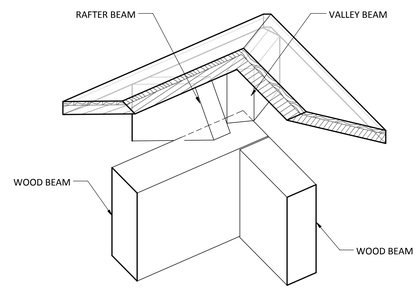
1 : 10

NOTE: CUSTOM HANGERS TO BE DESIGNED BY SIMPSON STRONG TIE OR EQUIVALENT. HANGER DESIGN TO BE SIGNED AND SEALED.

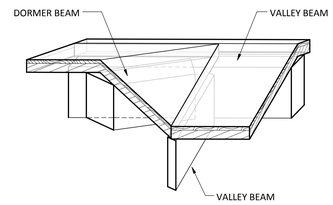


5 S440 CUSTOM SLOPED HANGER DETAIL

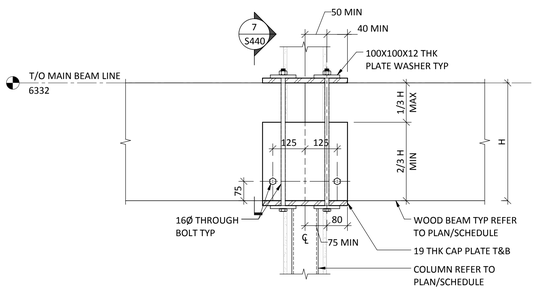
1 : 10



3D ISO - SECTION 4/S440 & 5/S440

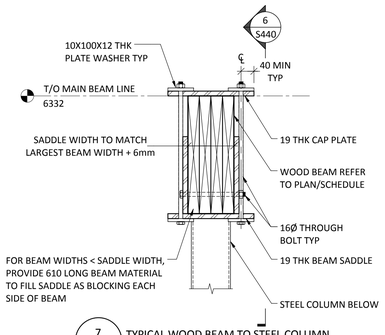


3D ISO - SECTION 3/S440



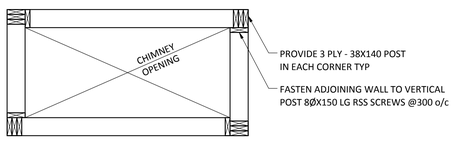
6 S440 TYPICAL WOOD BEAM TO STEEL COLUMN CONNECTION @ ROOF

1 : 10



7 S440 TYPICAL WOOD BEAM TO STEEL COLUMN CONNECTION @ ROOF

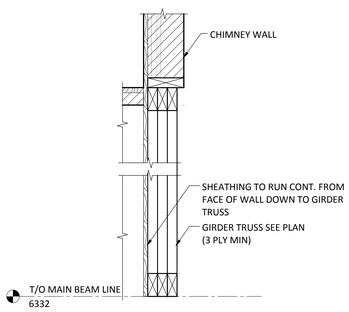
1 : 10



NOTE: STAGGER WALL ENDS AS INDICATED

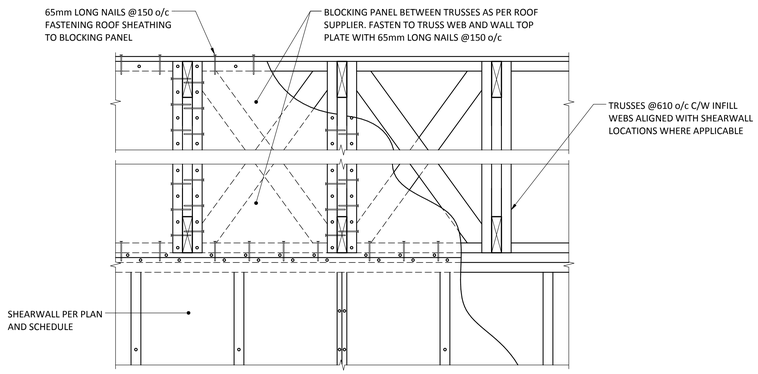
8 S440 PARTIAL PLAN CHIMNEY

1 : 20



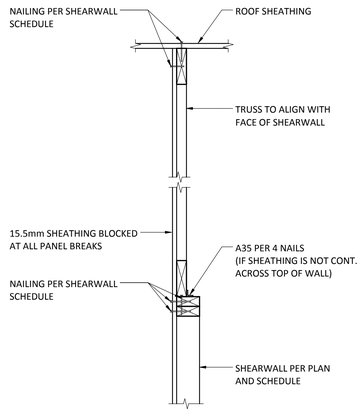
9 S440 CHIMNEY TO TRUSS CONNECTION DETAIL

1 : 10



10 S440 TRUSS PANEL BLOCKING

1 : 10



11 S440 TYPICAL SECTION TRUSS ABOVE SHEARWALL

1 : 10

No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	AD	IW
4	2016-12-08	ISSUED FOR BUILDING PERMIT	AD	IW
3	2016-09-02	ISSUED FOR 99%	AD	IW

Revision / Revision

A detail number numero de detail
B source drawing no. de dessin no.
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Consultant's Name
Nom de l'expert-conseil

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PROFESSIONAL ENGINEER ALBERTA
ANDREW DIETRICH
Nov 30, 2016
AMEC Foster Wheeler Americas Ltd. P-8279

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch
Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations

Canada

Client/client
Parks Canada Agency
L'Agence Parcs Canada
Western and Northern Region
Ouest et Nord du Canada

Project title/Titre du projet

Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin

SECTIONS & DETAILS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	AD	12/02/16
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
KL	IW	As indicated

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Prime Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
C015-0870	FII # 945	S440

Drawing Reference No./No. de reference du dessin

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GENERAL PIPING

- PIPE DROP
- PIPE RISE
- BOTTOM TAKE-OFF
- TOP TAKE-OFF
- TEE CONNECTION
- CAP
- FLANGED SPOOL PIECE
- UNION/FLANGED CONNECTION
- RUNNING TRAP
- FIXTURE TRAP
- DIRECTION OF FLOW
- PIPE SIZE (25ø)
- MULTI-PIPE SIZE (25ø)
- EXPANSION JOINT
- PRESSURE/TEMP WELL
- PIPE BREAK
- GUIDE
- ANCHOR
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- SANITARY VENT
- TEMPERATURE SENSOR (T)
- PRESSURE SENSOR (P)
- DIFFERENTIAL PRESSURE SENSOR (DP)
- PRESSURE GAUGE WITH SHUTOFF COCK
- FLOW SWITCH (FS)
- SENSOR AVERAGING PROBE
- AIR SEPARATOR
- AIR SCOOP
- BACK FLOW PREVENTER
- BLOW OFF STRAINER
- STRAINER
- AUTOMATIC AIR VENT

GENERAL PIPING (CONT.)

- 2 WAY CONTROL VALVE
- 3 WAY CONTROL VALVE
- BALANCING VALVE
- CIRCUIT BALANCING VALVE
- PLUG VALVE
- ISOLATION VALVE
- PRESSURE REDUCING VALVE
- RELIEF OR SAFETY VALVE
- SOLENOID VALVE (S)
- DIFFERENTIAL PRESSURE VALVE (DP)
- SUPERVISED VALVE (S)
- STEAM TRAPS
- SWING GATE CHECK VALVE
- TRIPLE DUTY VALVE
- SUCTION GUIDE (SG)

PLUMBING FIXTURE

- THERMOMETER
- METER (M)
- FLOOR DRAIN
- HUB DRAIN
- ROOF DRAIN
- PUMP
- CLEAN-OUT
- IN FLOOR CLEANOUT
- HOSE BIBB
- SIGHT GLASS
- MICRON FILTER
- EMERGENCY EYEWASH
- CHEMICAL POT FEEDER
- RADIANT PANEL
- RADIANT CABINET

FIRE PROTECTION

- FIRE EXTINGUISHER
- FIRE EXTINGUISHER C/W SEMI RECESSED CABINET
- FIRE EXTINGUISHER C/W SURFACE MOUNT CABINET
- FIRE HOSE CABINET (FHC)
- FIRE DEPARTMENT SIAMESE CONNECTION
- UPRIGHT SPRINKLER
- PENDANT SPRINKLER
- CONCEALED SPRINKLER
- SIDEWALL HEAD SPRINKLER
- SIDEWALL HEAD DRY SPRINKLER (D)

VENTILATION DUCT WORK

- THERMAL LINING (INSULATION)
- ACOUSTICAL LINING (INSULATION)
- RECTANGULAR DUCT
- ROUND DUCT (300ø)
- FLAT OVAL DUCT (300x200ø)
- FLEXIBLE DUCT CONNECTION
- BRAIDED FLEXIBLE PIPE CONNECTOR
- DOUBLE SPHERE RUBBER PIPE CONNECTOR
- VARIABLE VOLUME TERMINAL UNIT
- TRANSITION (100x75 75x50)
- RECTANGULAR TO ROUND TRANSITION (100x75 75ø)
- TURNING VANES
- SMOKE DETECTORS (S)
- DUCT REHEAT COIL
- RELIEF VENT
- CHIMNEY
- INDICATES DIRECTION OF AIR FLOW
- AIR FLOW MEASURING STATION

VENTILATION FIXTURE

- CEILING FAN
- FAN
- SIDE WALL FAN
- FREEZE-STAT (F)
- DIFFERENTIAL PRESSURE SENSOR (DP)
- THERMOSTAT (T)
- THERMOSTAT C/W LOCKABLE COVER
- THERMOSTAT C/W REMOTE TEMPERATURE SENSOR (T) (S)
- HUMIDISTAT (H)
- CARBON MONOXIDE SENSOR (CO)
- CARBON DIOXIDE SENSOR (CO_2)
- NITROGEN DIOXIDE SENSOR (NO_2)
- SUPPLY AIR DUCT (UP & DOWN)
- RETURN AIR DUCT (UP & DOWN)
- EXHAUST AIR DUCT (UP & DOWN)
- OUTSIDE OR COMBUSTION AIR (UP & DOWN)
- RETURN GRILLE
- EXHAUST GRILLE
- SUPPLY DIFFUSER
- ROUND DUCT RISER
- ROUND DUCT DROP
- BALANCING DAMPER
- FIRE DAMPER (FD)
- SMOKE DAMPER (SD)
- COMBINATION FIRE/SMOKE DAMPER (FD/SD)
- MOTORIZED DAMPER (M)

TAGS

- FIXTURE AND EQUIPMENT TAG
- EMCS POINT IDENTIFICATION TAG
- KEY NOTES
- REVISION No.
- RADIATION TAG (TYPE / SIZE / CAP.) — TYPE; FIN LENGTH (mm); CAPACITY (kW)
- AIR GRILL TAG (QTY / TYPE / SIZE / L/S) — S – SUPPLY; R – RETURN; E – EXHAUST; T – TRANSFER

PERMIT TO PRACTICE
MPE ENGINEERING LTD.
PERMIT NUMBER: P 3680
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

No.	Date/Date	Description/Description	Drawn by/Dessine par	Approved/Approuve
5	16-12-08	ISSUED FOR TENDER	C.M.P.	A.G.K.
4	16-12-08	ISSUED FOR BP	C.M.P.	A.G.K.
3	16-09-02	ISSUED FOR 99% REVIEW	C.M.P.	A.G.K.
2	16-06-14	ISSUED FOR 66% REVIEW	C.M.P.	A.G.K.
1	16-05-05	ISSUED FOR 33% REVIEW	C.M.P.	A.G.K.

Revision / Revision

A detail number / numero de detail
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Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.
Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'équipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet: Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin: MECHANICAL LEGEND

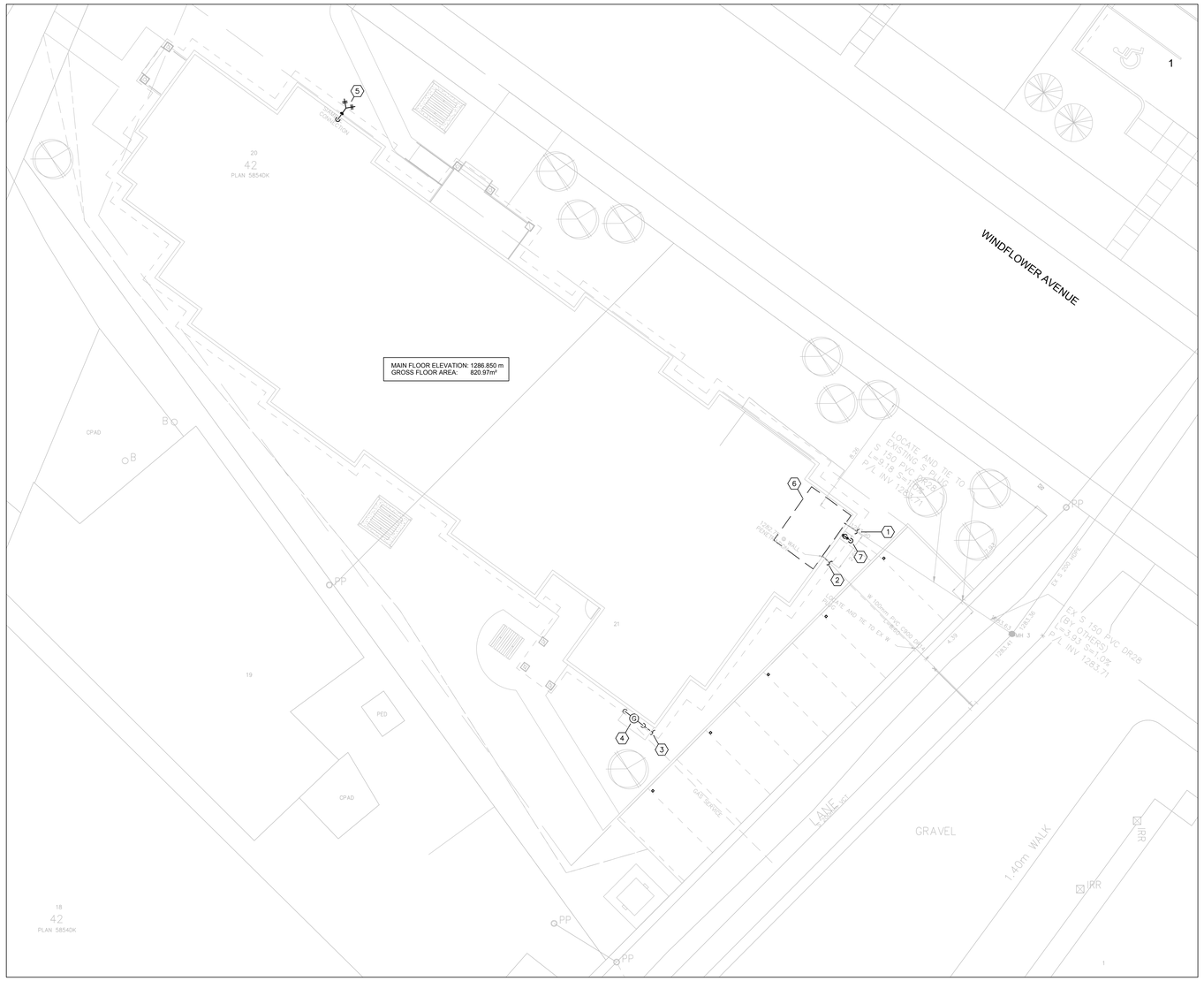
Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	C.M.P.	2016-04-21
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
C.M.P.	A.G.K.	N.T.S.

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	Asset No. 945	M001

Drawing Reference No./No. de reference du dessin



1 SITE PLAN - MECHANICAL
M1001 SCALE: 1:150

GENERAL NOTES:

1. FOR FINAL BUILDING LOCATION, DIMENSIONS, AND PARKING LAYOUT, REFER TO LATEST ARCHITECTURAL DRAWINGS.
2. PRIOR TO COMMENCING INSTALLATION WITHIN THE BUILDING, VERIFY THE LOCATION AND INVERT ELEVATIONS OF ALL SERVICE LINES WITH AUTHORITIES HAVING JURISDICTION TO ENSURE SERVICES CAN BE INSTALLED AS SHOWN.
3. DEPTH OF BURY FOR ALL WATER MAINS SHALL NOT BE LESS THAN 3.0M TO TOP OF PIPE UNLESS NOTED OTHERWISE.
4. ALL CROSS CONNECTIONS MUST BE EITHER ELIMINATED OR PROTECTED AGAINST BACKFLOW BY THE INSTALLATION OF A CROSS CONNECTION CONTROL DEVICE. ALL CROSS CONNECTION CONTROL DEVICES MUST BE INSTALLED IN ACCORDANCE WITH THE WATER UTILITY BY-LAW 22M82 AND THE NATIONAL PLUMBING CODE OF CANADA.
5. ALL ELEVATIONS ARE REFERENCED TO 1200m DATUM.
6. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL SERVICES TO 1.0M BEYOND THE BUILDING. COORDINATE SERVICE LOCATIONS AND ELEVATIONS WITH CIVIL CONTRACTOR.
7. REFER TO CIVIL DRAWINGS FOR SITE SERVICING AND GRADING DETAILS.

N

SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

GAS SCHEDULE:

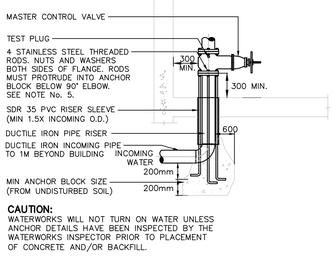
EQUIPMENT	INPUT	
	MBH	KW
DOMESTIC WATER HEATER (DWH-1)	150	44.0
DOMESTIC WATER HEATER (DWH-2)	150	44.0
BOILER (B-1)	999	292.7
BOILER (B-2)	999	292.7
TOTAL:	2298	673.3

GAS METER OUTLET PRESSURE – 14 kPa (2 psi)
MINIMUM DISTANCE BETWEEN GAS LINE AND UNDERGROUND SERVICES – 6'-6" (2000mm)

PRIOR TO COMMENCING INSTALLATION WITHIN THE BUILDING, VERIFY THE LOCATION AND INVERT ELEVATIONS OF SERVICE LINES INCLUDING SANITARY SEWER, STORM SEWER, WATER MAINS, AND GAS MAINS WITH AUTHORITIES HAVING JURISDICTION TO ENSURE SERVICES CAN BE INSTALLED AS SHOWN.

KEY NOTES:

1. 150mm SANITARY LEAVING BUILDING INVERT=1283.90m.
2. 100mm WATER SERVICE ENTERING BUILDING. REFER TO CIVIL SITE SERVICING PLAN FOR CONTINUATION.
3. INCOMING HIGH PRESSURE GAS SERVICE. REFER TO CIVIL SITE SERVICING PLAN FOR CONTINUATION.
4. GAS METER ASSEMBLY MOUNTED ON CONCRETE PAD. ENSURE CLEARANCE OF MINIMUM 1.0m FROM REGULATOR TO ANY BUILDING OPENING, ENTER BUILDING WITH 14 kPa GAS SERVICE.
5. FIRE DEPARTMENT SIAMESE CONNECTION.
6. OUTLINE OF WATER METER ROOM.
7. 50mm WEEPING TILE DISCHARGE.

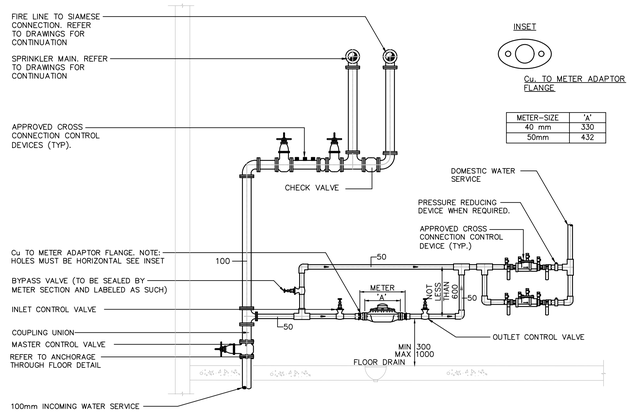


CAUTION:
WATERWORKS WILL NOT TURN ON WATER UNLESS ANCHOR DETAILS HAVE BEEN INSPECTED BY THE WATERWORKS INSPECTOR PRIOR TO PLACEMENT OF CONCRETE AND/OR BACKFILL.

NOTES:

1. THE MASTER CONTROL VALVE SHALL BE ONE OF THE FOLLOWING:
   a) RESILIENT SEATED RISING SPINDLE (OS & Y) FLANGED GATE VALVE (UL OR ULC LISTED) FOR FIRE LINES AND CSA APPROVED FOR DOMESTIC LINES.
   b) SHORT-BODY, RUBBER SEATED FLANGED OR LUG WATER TYPE BUTTERFLY VALVE C/W HAND WHEEL, REDUCTION GEAR OPERATOR, POSITION INDICATOR (UL OR ULC LISTED) PROVIDED THEY ARE NOT IN A SUCTION LINE FOR FIRE PUMP(S).
2. ENTRANCE PIPE MATERIAL THROUGH THE OUTSIDE WALL AND THROUGH THE FLOOR SHALL BE DUCTILE IRON PIPE AWWA C153 (LATEST EDITION) CLASS 53 OR APPROVED EQUAL. BURIED FITTINGS (90° ELBOW) SHALL BE CAST OR DUCTILE IRON CONFORMING TO AWWA C110 (LATEST EDITION) OR APPROVED EQUAL. ALL SERVICE ENTRIES (INCLUDING ANCHOR DETAILS) SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER AND DETAILED ON THE DEVELOPMENT SITE SERVICING PLAN (DSSP). (ANCHOR RODS SHALL BE 18-8 STAINLESS STEEL, WHERE A STANDARD 3m LENGTH OF ROD REQUIRES EXTENSION, AN APPROVED STAINLESS HEXAGON NUT COUPLING SHALL BE INSTALLED AT THE UPPER END OF THE ROD).
3. PROVIDE ADEQUATE PIPE SUPPORT. REFER TO DEVELOPMENT SITE SERVICING PLAN (DSSP) GUIDELINES (2.8.8.3 PIPING SUPPORT)
4. INTERNAL PLUMBING STUB TO TERMINATE A MINIMUM OF 2.0m OUT FROM EXTERIOR WALL OR FOOTING. ENTRANCE OF PIPE THROUGH WALL SHALL BE PERPENDICULAR (90°) TO WALL.
5. ANCHOR RODS TO BE $\frac{3}{4}$" FOR 100mm – 200mm SERVICE, $\frac{7}{8}$" FOR 250mm – 300mm SERVICE AND 1" FOR 350mm – 400mm SERVICE.
6. A RESTRAINED FLANGE ADAPTOR MAY MAY BE USED TO CONNECT THE RISER OR WALL ENTRY PIPE TO THE MASTER CONTROL VALVE. RESTRAINED FLANGE ADAPTOR SHALL BE EBAA SERIES 2100 MEGA FLANGE OR APPROVED EQUAL.

2 ANCHORAGE THROUGH FLOOR DETAIL
M101 SCALE: N.T.S.



METER-SIZE	'A'
40 mm	330
50mm	432

3 WATER METER DETAIL
M101 SCALE: N.T.S.

100mm INCOMING WATER NOTES:

1. THE SPACE ABOVE, 600mm BEHIND, AND THE ACCESS IN FRONT OF THE METER SETTING SHALL BE CLEAR AND FREE OF OBSTRUCTION. 2m HEADROOM MUST BE PROVIDED IN THIS AREA. PROVIDE ADEQUATE PIPE SUPPORT.
2. THE BY-PASS, INLET AND OUTLET VALVES SHALL BE A RESILIENT SEATED RISING SPINDLE (OS & Y) FLANGED GATE VALVE, CSA APPROVED.
3. THE MASTER CONTROL VALVE SHALL BE ONE OF THE FOLLOWING:
   a) RESILIENT SEATED RISING SPINDLE (OS &Y) FLANGED GATE VALVE (UL OR ULC LISTED) FOR FIRE LINES AND CSA APPROVED FOR DOMESTIC LINES.
   b) SHORT-BODY, RUBBER SEATED FLANGED OR LUG WATER TYPE BUTTERFLY VALVE C/W HAND WHEEL, REDUCTION GEAR OPERATOR, POSITION INDICATOR (UL OR ULC LISTED) PROVIDED THEY ARE NOT IN A SUCTION LINE FOR FIRE PUMP(S).
4. ENTRANCE PIPE MATERIAL THROUGH THE OUTSIDE WALL AND THROUGH THE FLOOR SHALL BE DUCTILE IRON PIPE AWWA C151 (LATEST EDITION) CLASS 52 OR APPROVED EQUAL. BURIED FITTINGS (90° ELBOW) SHALL BE CAST OR DUCTILE IRON CONFORMING TO AWWA C110 (LATEST EDITION) OR APPROVED EQUAL. SERVICE ENTRIES THROUGH THE FLOOR (INCLUDING ANCHOR DETAILS) SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER AND DETAILED ON THE MECHANICAL SITE PLAN. (ANCHOR RODS SHALL BE 18-8 STAINLESS STEEL, WHERE A STANDARD 3m LENGTH OF ROD REQUIRES EXTENSION, AN APPROVED STAINLESS HEXAGON NUT COUPLING SHALL BE INSTALLED AT THE UPPER END OF THE ROD).
5. WATERWORKS WILL NOT TURN ON WATER UNLESS ANCHOR DETAILS HAVE BEEN INSPECTED BY THE WATERWORKS INSPECTOR PRIOR TO PLACEMENT OF CONCRETE AND/OR BACKFILL.
6. AN APPROVED PREMISE ISOLATING CROSS CONNECTION DEVICE SHALL BE INSTALLED IMMEDIATELY AFTER THE WATER METER SETTING ON ALL COMMERCIAL, INDUSTRIAL AND MULTI FAMILY RESIDENTIAL (3 UNITS OR MORE) SERVICES.

   FOR DOMESTIC SERVICES THAT REQUIRE A 24 HOUR UNINTERRUPTED WATER SUPPLY, A PARALLEL CROSS CONNECTION CONTROL DEVICE ARRANGEMENT (SEE SHEET No. 22) MUST BE INSTALLED TO FACILITATE ANNUAL TESTING AND ROUTINE MAINTENANCE OF THE CROSS CONNECTION CONTROL DEVICE(S).
7. BY-PASS IS NOT REQUIRED FOR IRRIGATION METERS. THE BY PASS PIPE SHALL BE THE SAME SIZE AS THE MAIN PIPE.
8. THE BY-PASS VALVE SHALL BE INSTALLED ON THE VERTICAL PIPE SECTION AS SHOWN.
9. WATER CONNECTIONS (IE DRAIN DOWN VALVE OR HOSE BIBB ETC.) SHALL NOT BE PERMITTED BEFORE THE APPROVED CROSS CONNECTION CONTROL DEVICE. FOR INQUIRY CALL 311.
10. AN APPROVED PREMISES-ISOLATING CROSS CONNECTION CONTROL DEVICE SHALL BE INSTALLED IMMEDIATELY AFTER THE WATER METER OUTLET VALVE ON ALL IRRIGATION SERVICES.
11. METERS MUST BE INSTALLED IN A METER/MECHANICAL ROOM WITHIN REASONABLE DISTANCE OF A FLOOR DRAIN. METER LOCATIONS MUST BE APPROVED BY WATER RESOURCES.

50mm DOMESTIC WATER METER NOTES:

12. PIPING ON EACH SIDE OF METER MUST BE ADEQUATELY SUPPORTED TO THE SATISFACTION OF THE WATERWORKS METER SECTION.
13. PIPING FOR METER MUST BE ON A HORIZONTAL PLANE.
14. MINIMUM DISTANCE OF 300mm BETWEEN ANY WALL AND A METER OR METER TREE.
15. VALVES ARE REQUIRED ADJACENT TO METERS (INLET AND OUTLET SIDE).
16. ALTERNATE ARRANGEMENT OF PIPING AND VALVING MUST HAVE THE APPROVAL OF THE WATERWORKS METER SECTION PRIOR TO INSTALLATION.
17. THE AREA FOR 600mm IN FRONT OF THE METER SHALL BE FREE OF OBSTRUCTION TO ALLOW FOR CONVENIENT READING AND SERVICING OF THE METER. 2 METER HEADROOM MUST BE PROVIDED IN THIS AREA.
18. METERS MUST BE INSTALLED IN THE MECHANICAL ROOM AND WITHIN REASONABLE DISTANCE OF A FLOOR DRAIN. IN NO CASE SHALL A METER BE INSTALLED IN A BATHROOM, BEDROOM, CRAWL SPACE, GARAGE OR UNDER A STAIRWELL. METER LOCATIONS MUST BE APPROVED BY WATERWORKS.
19. METER SPACERS TO BE SUPPLIED BY CITY OF CALGARY (FOR USE WITHIN CITY LIMITS) PHONE 311.
20. ALL FITTINGS AND PIPE ARE TO BE BRASS OR SOLDERED COPPER.
21. SERVICE VALVES, MAIN VALVES OR ANY OTHER CITY OWNED WATERWORKS APPURTENANCES SHALL BE OPERATED BY WATER SERVICES PERSONNEL ONLY.
22. THE BY-PASS VALVE SHALL BE A FULL PORT GATE VALVE (A BALL VALVE IS NOT ACCEPTABLE). ALL OTHER VALVES SHALL BE FULL PORT GATE OR BALL VALVES.
23. AN APPROVED PREMISE ISOLATING CROSS CONNECTION DEVICE SHALL BE INSTALLED IMMEDIATELY AFTER THE WATER METER SETTING ON ALL COMMERCIAL, INDUSTRIAL AND MULTI FAMILY RESIDENTIAL (3 UNITS OR MORE) SERVICES.

PERMIT TO PRACTICE
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PERMIT NUMBER: P 3680
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

No.	Date/Date	Description/Description	Drawn by/ Dessine par	Approved/ Approuve
5	16-12-08	ISSUED FOR TENDER	C.M.P.	A.G.K.
4	16-12-08	ISSUED FOR BP	C.M.P.	A.G.K.
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1	16-05-05	ISSUED FOR 33% REVIEW	C.M.P.	A.G.K.

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Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.
Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient L'Equipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
SITE PLAN - MECHANICAL

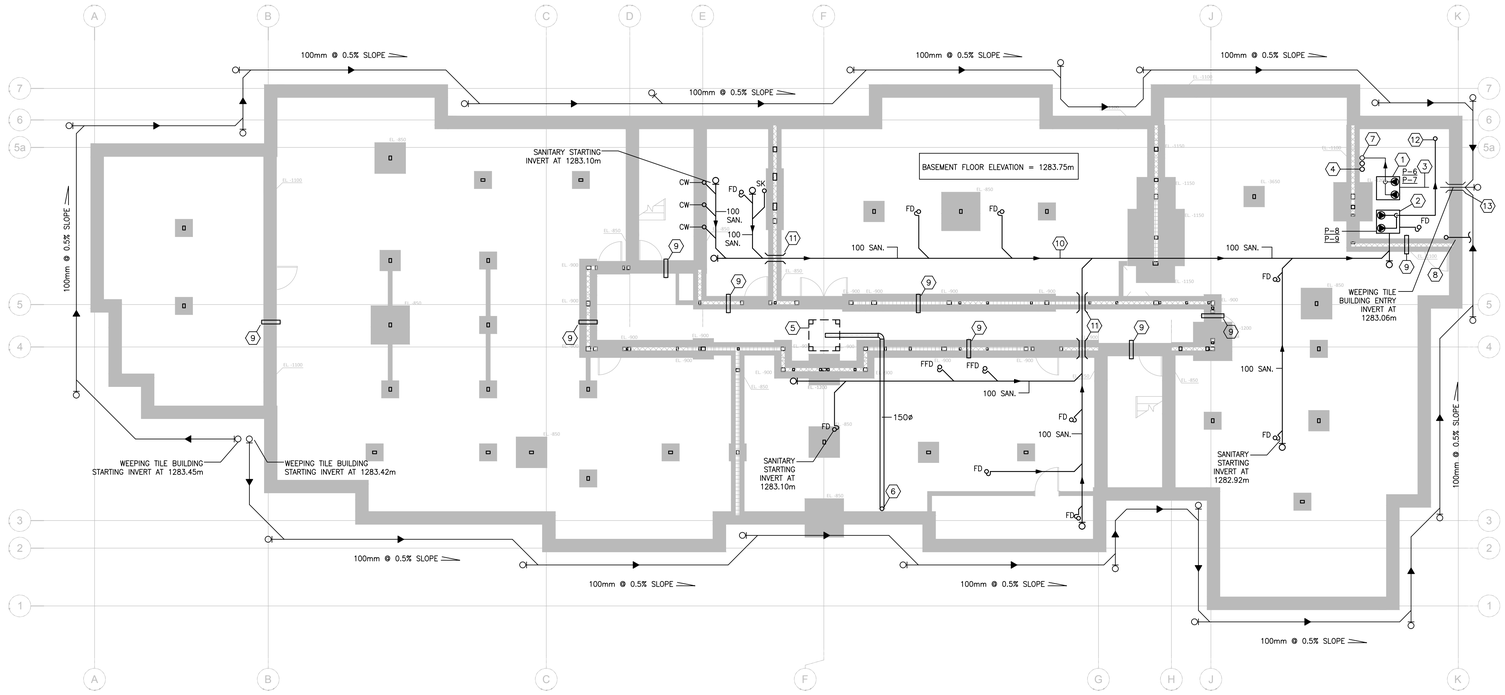
Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	C.M.P.	2016-04-21
Designed by/Concept par: C.M.P.	Reviewed by/Revise par: A.G.K.	Scale/Echelle: AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
39000	Asset No. 945	M101

Drawing Reference No./No. de reference du dessin



1 / M201 FOUNDATION PLAN - MECHANICAL
SCALE: 1:100

GENERAL NOTES:

1. ALL SANITARY PIPING TO RUN @1% SLOPE UNLESS OTHERWISE NOTED.
2. DRAWING IS DIAGRAMMATIC ONLY, CONTRACTOR TO INSTALL ALL DRAINS AND VENTS NOT SHOWN TO BE INSTALLED IN ACCORDANCE WITH NATIONAL PLUMBING CODE. CONTRACTOR TO PROVIDE AN ACCURATE AS-BUILT REFLECTING SUCH.
3. 20mm HEATING GLYCOL CONNECTIONS FOR ALL PERIMETER RADIATION, FORCE FLOW HEATERS, AND UNIT HEATERS UNLESS OTHERWISE NOTED.
4. COORDINATE ALL CLEAN-OUT LOCATIONS AND EXTENSIONS AS REQUIRED WITH PLAN ABOVE.
5. CONTRACTOR TO MAINTAIN MAXIMUM HEADROOM AT ALL TIMES.

KEY NOTES:

1. 900x900x1200 DEEP CAST-IN PLACE WEEPING TILE SUMP PIT C/W P-6 & P-7.
2. 900x900x1200 DEEP CAST-IN PLACE SANITARY SUMP PIT C/W P-8 & P-9.
3. TRANSITION PERFORATED WEEPING TILE INTO SOLID PIPE BEFORE ENTERING BUILDING ENVELOPE.
4. 50ø WEEPING TILE & SANITARY SUMP PIT VENT UP TO FLOOR ABOVE.
5. RADON GAS EXTRACTION PIT BELOW THICKENED SLAB. COORDINATE WITH STRUCTURAL DRAWINGS FOR FINAL LOCATION. REFER TO DETAIL 11/M402.
6. 150ø RADON GAS VENT PIPE. STUB UP AND CAP IN BASEMENT FLOOR ABOVE.
7. 100ø WEEPING TILE DRAIN PUMPED UP TO FLOOR ABOVE.
8. 100ø INCOMING DOMESTIC WATER MAIN RISER TO WATER METER ROOM ABOVE.
9. PROVIDE SUB-SLAB WALL VENTING 150ø PVC PIPE AT LOCATIONS SHOWN. REFER TO STRUCTURAL DRAWINGS FOR INSTALLATION DETAIL.
10. SANITARY PIPING FROM BASEMENT FIXTURES TO SANITARY PIT (TYPICAL).
11. PROVIDE DUCTILE IRON SLEEVES FOR SANITARY PIPES RUNNING UNDERNEATH STRIP FOOTING.
12. 65ø PUMPED SANITARY LINE UP TO METER ROOM ABOVE.
13. 100ø INCOMING WEEPING TILE LINE AT 12803.06m. PROVIDE DUCTILE IRON SLEEVE FOR PORTION UNDERNEATH FOUNDATION.

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PERMIT NUMBER: P 3680
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SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

No.	Date/Date	Description/Description	Drawn by/ Dessine par	Approved Approuve
5	16-12-08	ISSUED FOR TENDER	C.M.P.	A.G.K.
4	16-12-08	ISSUED FOR BP	C.M.P.	A.G.K.
3	16-09-02	ISSUED FOR 99% REVIEW	C.M.P.	A.G.K.
2	16-06-14	ISSUED FOR 66% REVIEW	C.M.P.	A.G.K.
1	16-05-05	ISSUED FOR 33% REVIEW	C.M.P.	A.G.K.

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.
Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

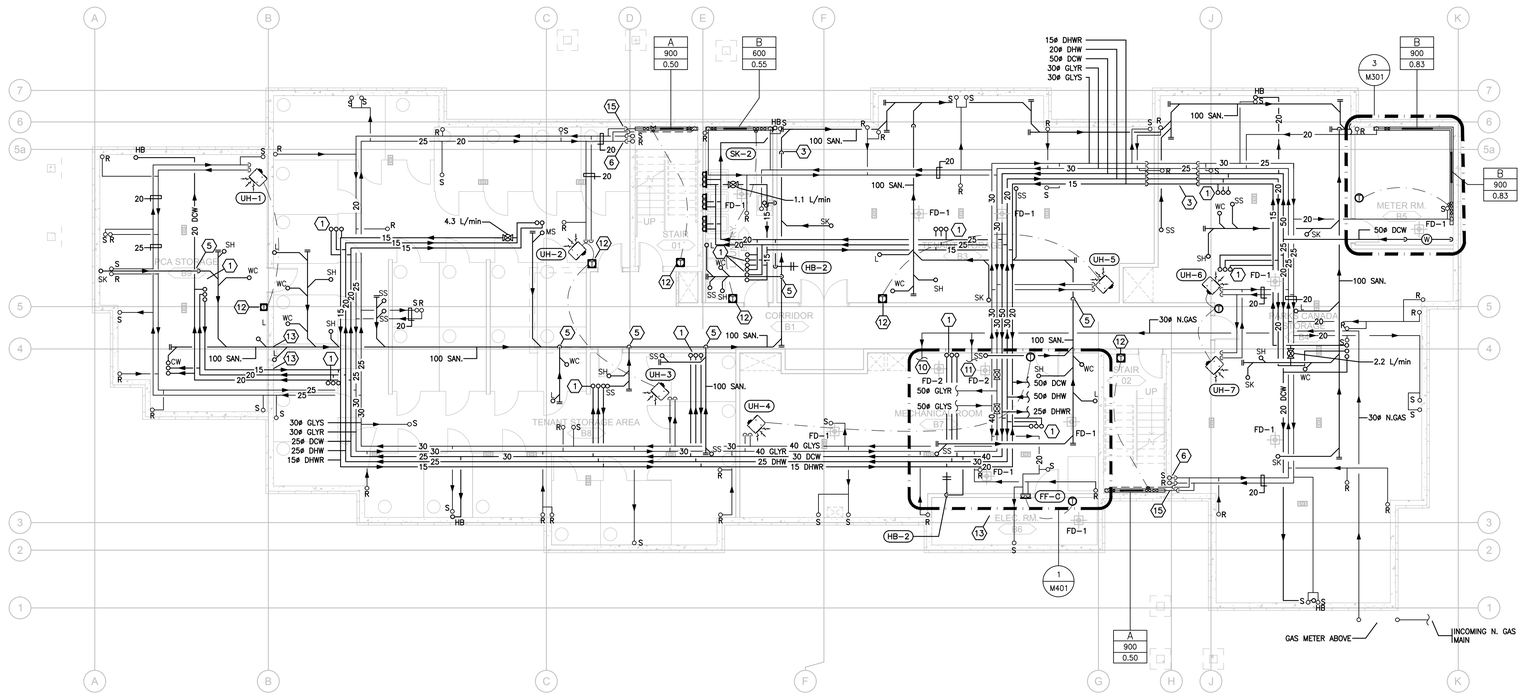
Drawing title/Titre du dessin
FOUNDATION PLAN - MECHANICAL

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	C.M.P.	2016-04-21
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
C.M.P.	A.G.K.	AS INDICATED

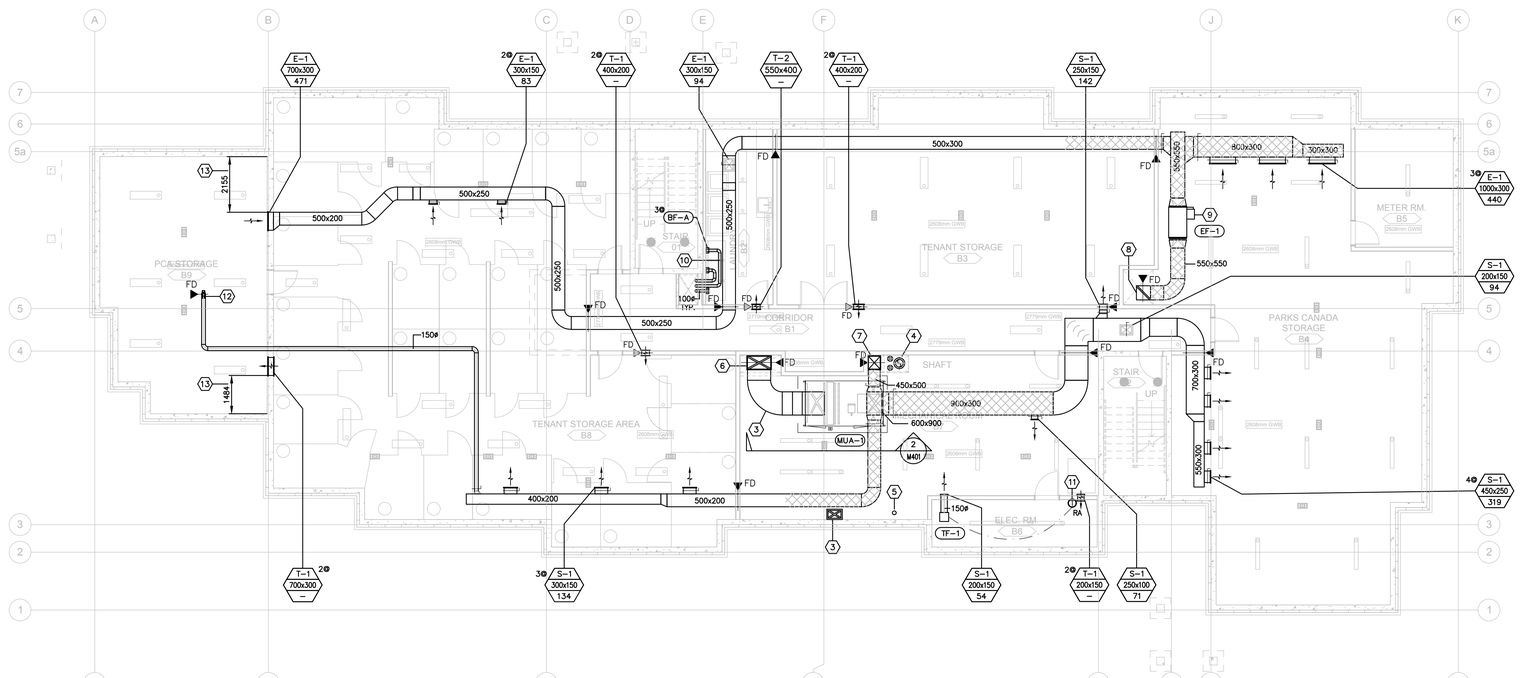
PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt
Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
39000	Asset No. 945	M201

Drawing Reference No./No. de reference du dessin



1 / M301 BASEMENT FLOOR PLAN - PLUMBING AND HEATING
SCALE: 1:100



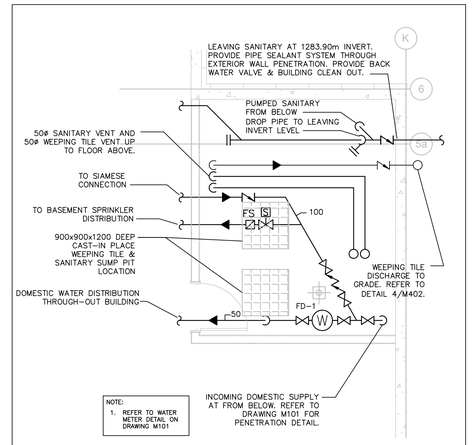
2 / M301 BASEMENT FLOOR PLAN - VENTILATION
SCALE: 1:100

GENERAL NOTES:

1. ALL SANITARY PIPING TO RUN @1% SLOPE UNLESS OTHERWISE NOTED.
2. DRAWING IS DIAGRAMMATIC ONLY, CONTRACTOR TO INSTALL ALL DRAINS AND VENTS NOT SHOWN TO BE INSTALLED IN ACCORDANCE WITH NATIONAL PLUMBING CODE. CONTRACTOR TO PROVIDE AN ACCURATE AS-BUILT REFLECTING SUCH.
3. 20mm HEATING GLYCOL CONNECTIONS FOR ALL PERIMETER RADIATION, FORCE FLOW HEATERS, AND UNIT HEATERS UNLESS OTHERWISE NOTED.
4. COORDINATE ALL CLEAN-OUT LOCATIONS AND EXTENSIONS AS REQUIRED WITH PLAN ABOVE.
5. CONTRACTOR TO MAINTAIN MAXIMUM HEADROOM AT ALL TIMES.

KEY NOTES:

1. 20 DCW, 20 DHW & 15 DHWR LINES UP TO SUITES ABOVE.
2. 50ø SANITARY VENT AND 50ø WEEPING TILE VENT FROM BASEMENT, UP TO CURVED ROUND PIPE ON SLOPED ROOF.
3. DROP SANITARY PIPE BELOW DUCTWORK.
4. RISE PIPE UP ABOVE DUCTWORK.
5. RISE PIPE UP ABOVE DUCTWORK INTO JOIST SPACE.
6. RISE GLYCOL SUPPLY AND RETURN LINES INTO JOIST SPACE.
7. CONTRACTOR TO SUPPLY DRIP PAN UNDERNEATH PIPING IN ELECTRICAL ROOM.
8. DOMESTIC HOT WATER RETURN PIPING C/W BALANCING VALVE.
9. WEEPING TILE DISCHARGE TO GRADE. REFER TO DETAIL 4/M402.
10. 25ø N.GAS TO BOILERS. REFER TO DETAIL 3/M401 FOR CONTINUATION.
11. 12ø N.GAS TO DOMESTIC WATER HEATERS. REFER TO DETAIL 4/M401 FOR CONTINUATION.
12. PROVIDE LOCKABLE THERMOSTAT COVER.
13. PROVIDE PRE-CAST PIPING SLEEVES THROUGH CONCRETE WALL. COORDINATE WITH STRUCTURAL & ARCHITECTURAL.
14. PROVIDE DRIP PAN UNDER PIPING IN ELECTRICAL ROOM (TYPICAL).
15. DROP SUPPLY AND RETURN PIPING DOWN TO STAIR LANDING LEVEL TO FEED RADIANT CABINET.



3 / M3001 WATER METER ROOM DETAIL
SCALE: 1:50

GENERAL NOTES:

1. ALL BASEMENT DUCTWORK TO RUN AS TIGHT TO BASEMENT CEILING SPACE AS POSSIBLE UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO MAINTAIN MINIMUM HEADROOM OF 2150mm THROUGHOUT BASEMENT CORRIDOR.
3. CONTRACTOR TO MAINTAIN MINIMUM HEADROOM OF 2050mm THROUGHOUT BASEMENT OCCUPIABLE STORAGE SPACE.

KEY NOTES:

1. MAKE-UP AIR UNIT MUA-1 MOUNTED ON 100mm HOUSE KEEPING PAD.
2. PROVIDE ACOUSTIC INSULATION FOR SUPPLY AIR DUCT AS SHOWN.
3. 500x300 COMBUSTION AIR INTAKE C/W 50mm INSULATION IN FIRE RATED ENCLOSURE. TERMINATION 450mm ABOVE FINISHED FLOOR. PROVIDE 600mm HIGH COLD AIR TRAP.
4. RUN 300ø AL29-4C BOILER FLUE & TWO 100ø PVC DWV HEATER FLUE IN FIRE-RATED SHAFT. PROVIDE 2" INSULATION ON ALL FLUE VENTING. REFER TO DRAWING 1/M401 FOR ROUTING.
5. 150mm CAPPED RADON GAS ROUGH-IN FROM BELOW.
6. 900x500 OUTSIDE AIR INTAKE. C/W FIRE DAMPER AT MAIN FLOOR PENETRATION & 50mm THERMAL INSULATION FROM TOP OF SHAFT TO CONNECTION WITH MAKE-UP AIR UNIT. PROVIDE ACOUSTICAL LINING UP TO LOFT FLOOR.
7. 450x500 SUPPLY AIR DUCT RISE IN MECHANICAL SHAFT TO FLOORS ABOVE. PROVIDE FIRE DAMPER AND ACOUSTICAL LINING UP TO LOFT FLOOR.
8. 550x550 BASEMENT EXHAUST AIR DUCT IN MECHANICAL SHAFT TO ATTIC SPACE. PROVIDE ACOUSTICAL LINING UP TO LOFT FLOOR AND C/W FIRE DAMPER AT MAIN FLOOR PENETRATION.
9. BASEMENT EXHAUST FAN EF-1 MOUNTED FROM STRUCTURE C/W VIBRATION ISOLATION AND FLEXIBLE CONNECTIONS.
10. DRYER EXHAUST DUCTING UP TO SECOND FLOOR C/W FIRE WRAPPING OF ENTIRE LENGTH. (3 TYP.)
11. INTERCONNECT REVERSE ACTING THERMOSTAT TO TRANSFER FAN TF-2 IN ELECTRICAL ROOM.
12. 150ø SUPPLY DUCT TO SUIT ABOVE. TRANSITION TO 200x100 FOR GRILLE CONNECTION.
13. MAINTAIN OPENING EDGE DISTANCE FROM BASEMENT EXTERIOR WALL AS SHOWN.

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SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

No.	Date/Date	Description/Description	Drawn by/Dessine par	Approved/Approuve
5	16-12-08	ISSUED FOR TENDER	C.M.P.	A.G.K.
4	16-12-08	ISSUED FOR BP	C.M.P.	A.G.K.
3	16-09-02	ISSUED FOR 99% REVIEW	C.M.P.	A.G.K.
2	16-06-14	ISSUED FOR 66% REVIEW	C.M.P.	A.G.K.
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Revision / Revision

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Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.
Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

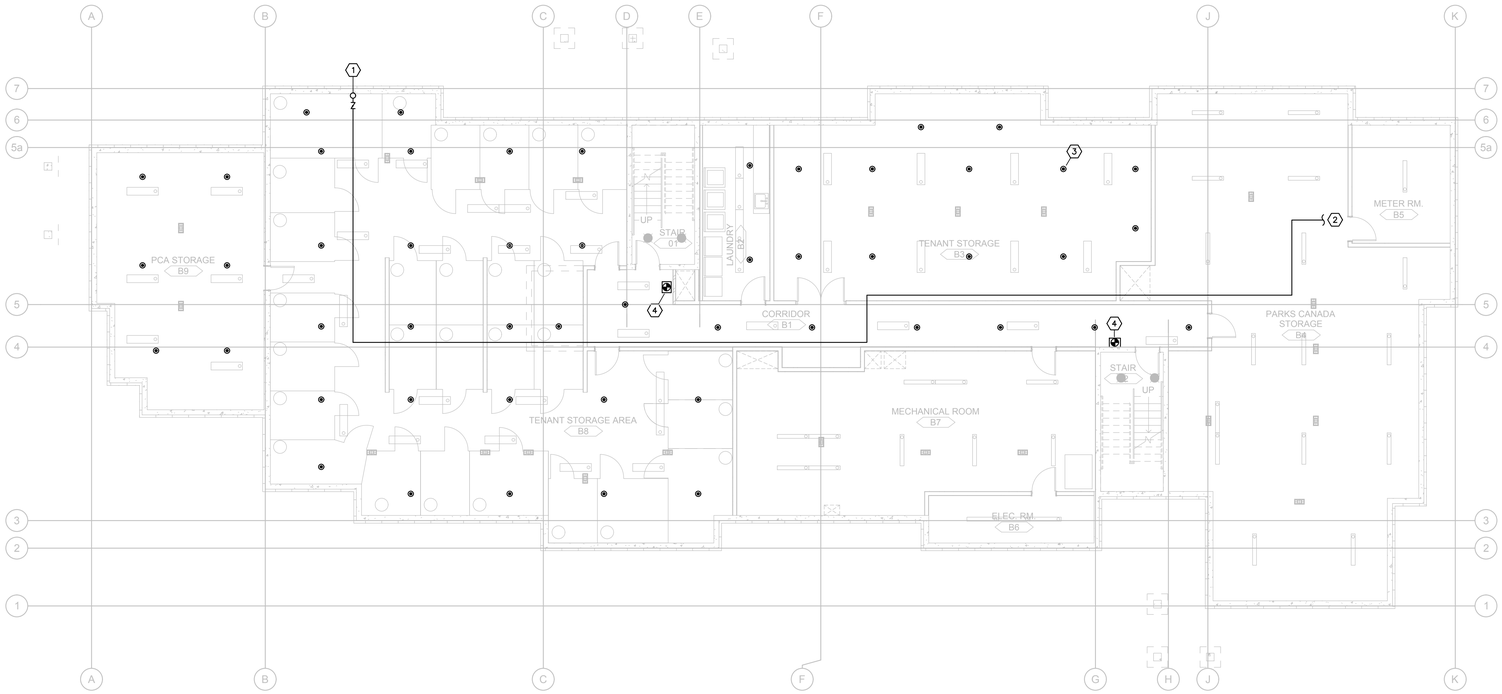
Drawing title/Titre du dessin
BASEMENT PLAN - MECHANICAL

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	C.M.P.	2016-04-21
Designed by/Concept par: C.M.P.	Reviewed by/Revise par: A.G.K.	Scale/Echelle: AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt
Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	Asset No. 945	M301

Drawing Reference No./No. de reference du dessin



1 / M302 BASEMENT FLOOR PLAN - FIRE PROTECTION
SCALE: 1:100

GENERAL NOTES:

1. ADD SPRINKLERS ABOVE AND BELOW OBSTRUCTIONS W/ 1200mm WIDTH & OVER.
2. SPRINKLERS TO BE INSTALLED IN ACCORDANCE WITH BOTH NFPA 13 AND/OR NFPA 13R. CONFIRM NUMBER OF HEADS REQUIRED PRIOR TO SUBMITTING PRICE. COORDINATE HEADS WITH ELECTRICAL, STRUCTURAL, AND ARCHITECTURAL DRAWINGS. SPRINKLER SYSTEM TO BE HYDRAULICALLY SIZED FOR LIGHT AND ORDINARY HAZARD OCCUPANCIES IN COMPLIANCE WITH NFPA 13. SPRINKLER HEADS SHOWN ON DRAWING ARE FOR COORDINATION ONLY. FINAL HEAD COUNT WILL BE THE RESPONSIBILITY OF THE SPRINKLER CONTRACTOR.
3. COORDINATE FINAL LOCATION OF FIRE EXTINGUSHER CABINETS WITH ARCHITETURAL DRAWINGS.
4. FINAL FIRE PROTECTION DRAWINGS TO BE SUBMITTED BY FIRE PROTECTION CONTRACTOR.
5. CONTRACTOR TO MAINTAIN MAXIMUM HEADROOM AT ALL TIMES.
6. COORDINATE LOCATION OF SPRINKLER HEADS WITH ELECTRICAL LIGHTING LAYOUT.
7. SPRINKLER CONTRACTOR SHALL DESIGN SYSTEM IN ACCORDANCE TO NFPA 13R STANDARDS UNDERSTANDING THE EXISTING HYDRANT FLOW TEST MEASURED AT 58 PSI STATIC PRESSURE AND 36 PSI RESIDUAL PRESSURE AT 900 GPM FLOW RATE. CONTRACTOR SHALL HYDRAULICALLY DESIGN SYSTEM FOR THIS PRESSURE CONDITION.

KEY NOTES:

1. 100ø SIAMESE CONNECTION RISER TO FLOOR ABOVE.
2. 100ø SIAMESE CONNECTION TO SPRINKLER TREE. REFER TO WATER METER DETAIL ON DWG M301 FOR CONTINUATION.
3. UPRIGHT SPRINKLER HEADS TYP.
4. SURFACE MOUNTED FIRE EXTINGUISHER CABINET TYP.

SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

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2	16-06-14	ISSUED FOR 66% REVIEW	C.M.P.	A.G.K.
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Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.

Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Equipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
BASEMENT PLAN - FIRE PROTECTION

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	C.M.P.	2016-04-21
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
C.M.P.	A.G.K.	AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet: 39000
Asset No./No. du-bien: Asset No. 945
Sheet No./No. de la feuille: M302
Drawing Reference No./No. de reference du dessin

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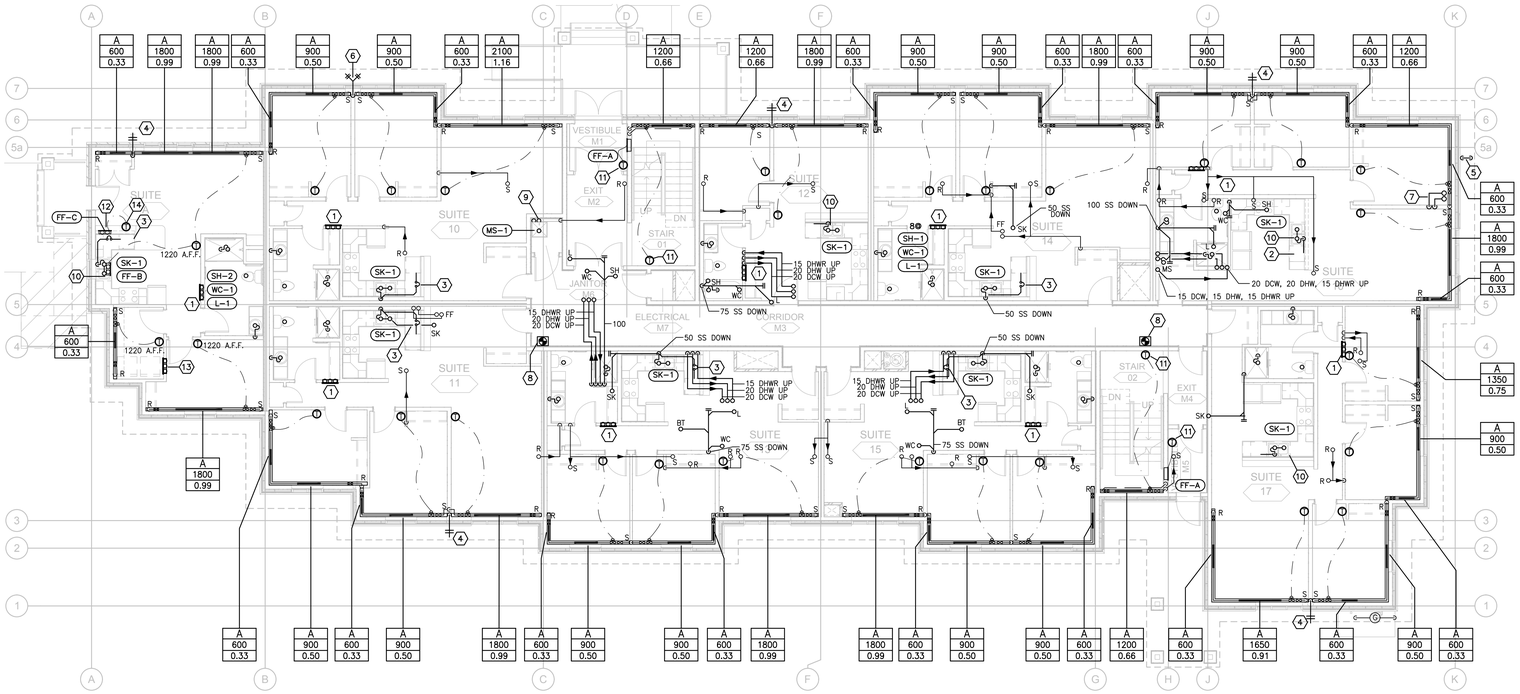
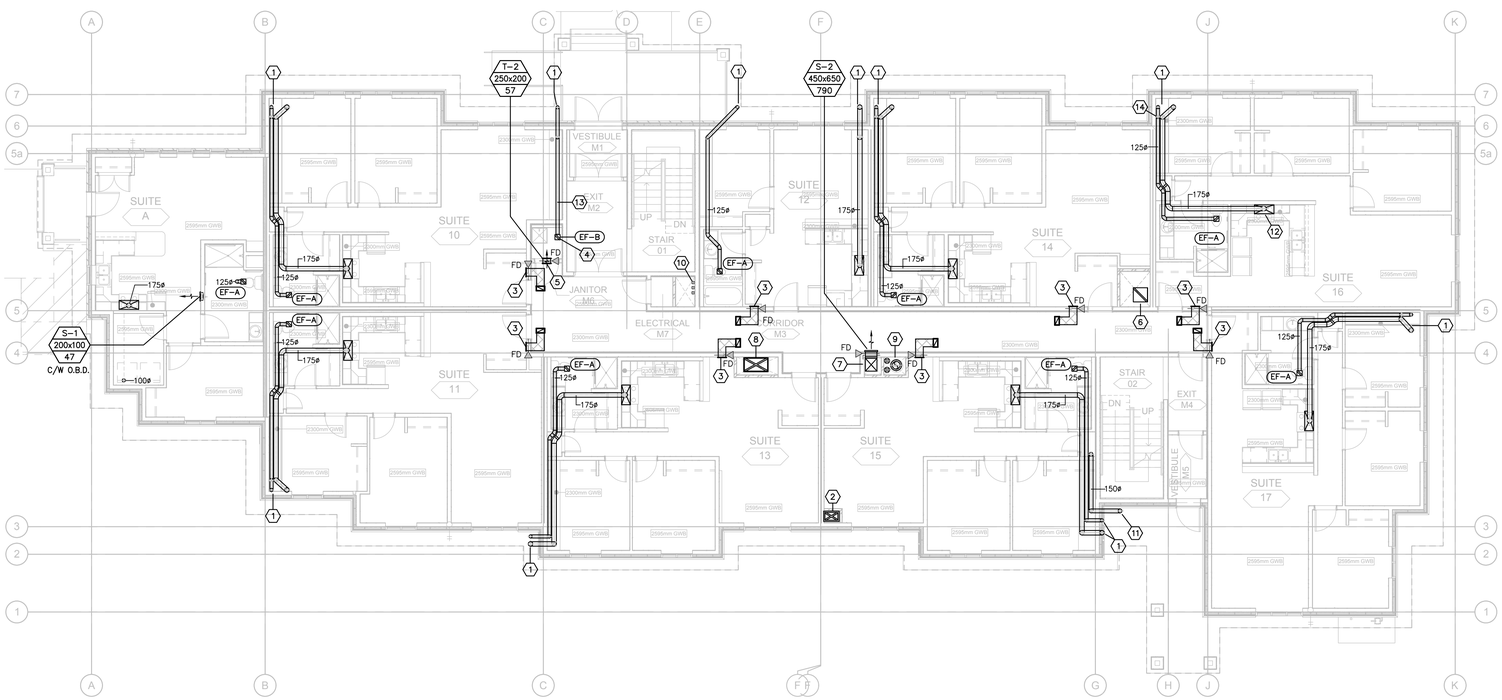
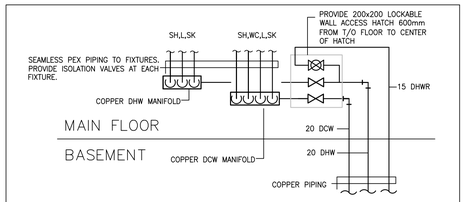


1 M303 MAIN FLOOR PLAN - PLUMBING AND HEATING
SCALE: 1:100



2 M303 MAIN FLOOR PLAN - VENTILATION
SCALE: 1:100



3 M303 MAIN FLOOR DOMESTIC WATER MANIFOLD DETAIL
SCALE: 1:100

GENERAL NOTES:

1. ALL SANITARY PIPING TO RUN @1% SLOPE UNLESS OTHERWISE NOTED.
2. DRAWING IS DIAGRAMMATIC ONLY, CONTRACTOR TO INSTALL ALL DRAINS AND VENTS NOT SHOWN TO BE INSTALLED IN ACCORDANCE WITH NATIONAL PLUMBING CODE. CONTRACTOR TO PROVIDE AN ACCURATE AS-BUILT REFLECTING SUCH.
3. 20mm HEATING GLYCOL CONNECTIONS FOR ALL PERIMETER RADIATION, FORCE FLOW HEATERS, AND UNIT HEATERS UNLESS OTHERWISE NOTED.
4. COORDINATE ALL CLEAN-OUT LOCATIONS AND EXTENSIONS AS REQUIRED WITH PLAN ABOVE.
5. CONTRACTOR TO MAINTAIN MAXIMUM HEADROOM AT ALL TIMES.
6. ALL SANITARY BRANCH LINES FROM WATER CLOSETS TO BE 75mm.
7. ALL SANITARY BRANCH LINE SIZES FROM KITCHEN SINKS, LAVATORIES, BATHTUBS AND WASHING MACHINES TO BE 40mm.

KEY NOTES:

1. 20 DCW, 20 DHW & 15 DHWR LINES FROM BELOW TO SUITE DISTRIBUTION MANIFOLD. PROVIDE WALL ACCESS PANEL FOR SUITE SHUTOFF VALVE. REFER TO DETAIL ON THIS DRAWING.
2. PROVIDE ROUGH-IN AND FINAL CONNECTION TO DISHWASHER (TYPICAL).
3. CONNECT DISHWASHER INTO RUNNING TRAP LINE.
4. 20mm NON-FREEZE HOSE BIBB HB-1.
5. WEEPING TILE DISCHARGE. REFER TO DETAIL 4/M402.
6. FIRE DEPARTMENT SIAMESE CONNECTION. CONNECTION SUPPLIED FROM BASEMENT BELOW.
7. 50ø SANITARY SUMP PIT VENT AND 50ø WEEPING TILE VENT FROM BASEMENT, UP TO CURVED ROUND PIPE ON SLOPED ROOF.
8. SURFACE MOUNTED FIRE EXTINGUISHER CABINET TYP.
9. 15 DCW, 15 DHW LINES FROM BELOW TO LOFT FLOOR MOP SINK FAUCET.
10. PROVIDE AIR ADMITTANCE VALVE FOR KITCHEN SINK DRAINS.
11. PROVIDE LOCKABLE THERMOSTAT COVER.
12. ELECTRIC ENTRANCE HEATER. RECESS MOUNTED INTO HALF-WALL IN DOWN BLOW POSITION.
13. CAP WASHER & DRYER ROUGH-INS FOR FUTURE FOR FUTURE WASHER.
14. PROVIDE METAL THERMOSTAT COVER.

GENERAL NOTES:

1. ALL DUCT WORK TO RUN IN DROPPED CEILINGS AND BULKHEADS. CONTRACTOR TO COORDINATE FINAL DROPPED CEILINGS AND BULKHEADS WITH ARCHITECTURAL DRAWINGS.
2. CONTRACTOR TO MAINTAIN MAXIMUM HEADROOM AT ALL TIMES AND COORDINATE INSTALLATION OF ALL MECHANICAL, ARCHITECTURAL AND STRUCTURAL ELEMENTS.

KEY NOTES:

1. TERMINATE EXHAUST DUCTS WITH VENT CAPS AS SHOWN ON DETAIL 5/M402. REFER TO ARCHITECTURAL FOR TERMINATION LOCATIONS.
2. 500x300 COMBUSTION AIR INTAKE C/W 50mm INSULATION IN FIRE RATED ENCLOSURE. EXTEND THROUGH ROOF AND TERMINATE WITH GOOSENECK AS SHOWN ON DETAIL 6/M402.
3. RUN 300x150 SUITE TRANSFER AIR DUCTING WITH TWO BENDS IN CORRIDOR DROPPED CEILING. C/W GRILLES AND MULTI-BLADE TYPE FIRE DAMPER (TYP.). REFER TO DETAILS 1/M402 AND 2/M402.
4. EXHAUST FAN EF-B SURFACE MOUNTED EXPOSED BELOW CEILING.
5. DOOR MOUNTED TRANSFER AIR GRILLE C/W FUSE LINK FIRE DAMPER.
6. 550x550 BASEMENT EXHAUST DUCT IN MECHANICAL SHAFT. ACOUSTICALLY LINE UP TO LOFT FLOOR.
7. 450x500 SUPPLY AIR DUCT FROM BELOW. PROVIDE 450x650 TAKE OFF C/W GRILLE & MULTI-BLADE FIRE DAMPER TO MAIN FLOOR CORRIDOR. PROVIDE ACOUSTIC LINING UP TO LOFT FLOOR.
8. 900x500 OUTDOOR AIR INTAKE DUCT. PROVIDE 50mm THERMAL INSULATION FOR FULL LENGTH OF SHAFT & ACOUSTIC LINING UP TO LOFT FLOOR.
9. RUN 300ø AL29-4C BOILER FLUE & TWO PVC 100ø DHW HEATER FLUE IN FIRE-RATED SHAFT. PROVIDE 50mm INSULATION ON ALL FLUE VENTING.
10. RUN 3x 100ø DRYER EXHAUST FROM BELOW INSIDE SHAFT TO ROOF. PROVIDE FIRE INSULATION FROM FLOOR PENETRATION TO DUCT TERMINATION.
11. 150ø AIR RELIEF DUCT UP TO SLOPED ROOF. TERMINATE W/ VENT CAP. REFER TO DETAIL 5/M402.
12. REFER TO ARCHITECTURAL DRAWINGS FOR OTR MICROWAVE & RANGE HOOD SPECIFICATION. PROVIDE CONNECTION TO EXHAUST DUCTING (TYPICAL).
13. PROVIDE FIRE WRAPPING ON ENTIRE DUCT.
14. EXHAUST DUCTING TO PENETRATE CEILING AT PERPENDICULARLY (TYPICAL). REDUCE RANGE HOOD EXHAUST DUCTING TO 125ø AT CEILING PENETRATIONS. REFER TO DETAIL 12/M402.

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SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

No.	Date/Date	Description/Description	Drawn by/Dessine par	Approved/Approuve
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4	16-12-08	ISSUED FOR BP	C.M.P.	A.G.K.
3	16-09-02	ISSUED FOR 99% REVIEW	C.M.P.	A.G.K.
2	16-06-14	ISSUED FOR 66% REVIEW	C.M.P.	A.G.K.
1	16-05-05	ISSUED FOR 33% REVIEW	C.M.P.	A.G.K.

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Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.
Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient Equipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
MAIN FLOOR PLAN - MECHANICAL

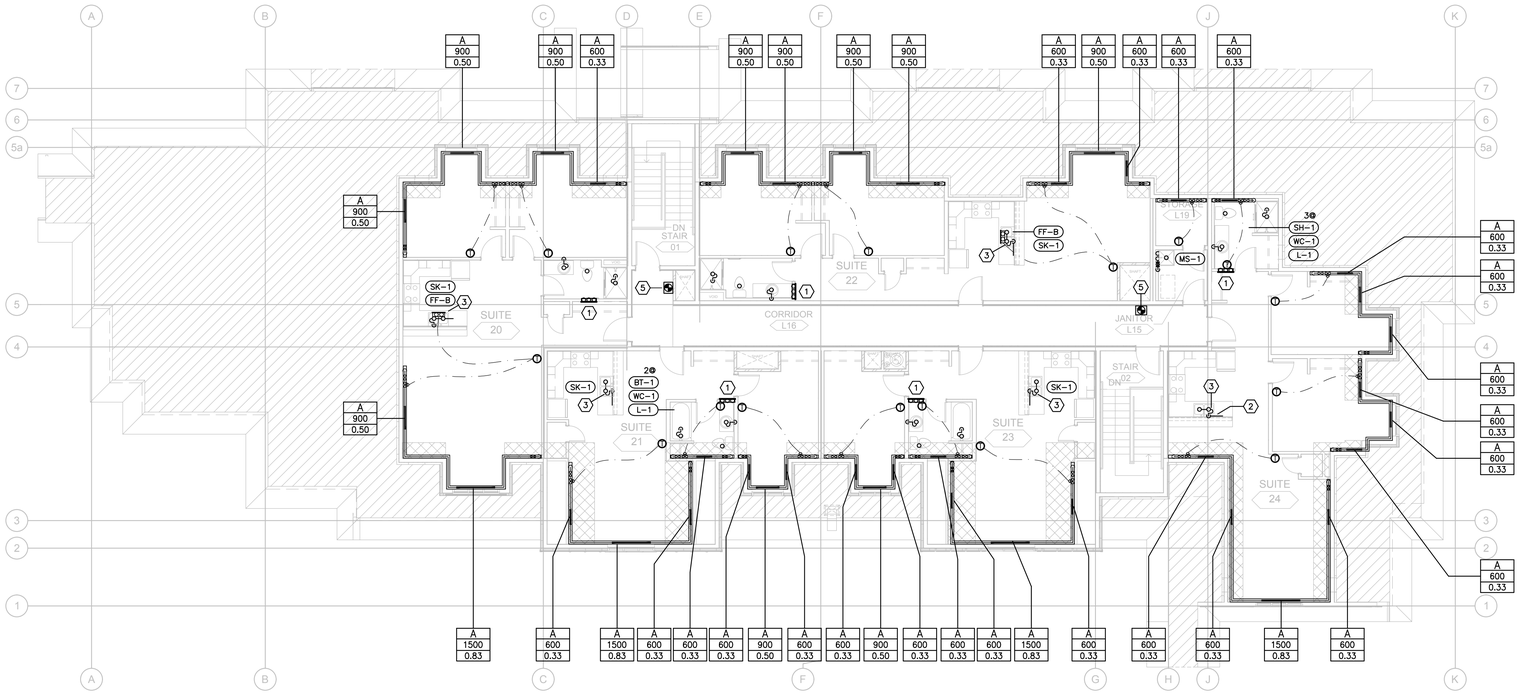
Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	C.M.P.	2016-04-21
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
C.M.P.	A.G.K.	AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

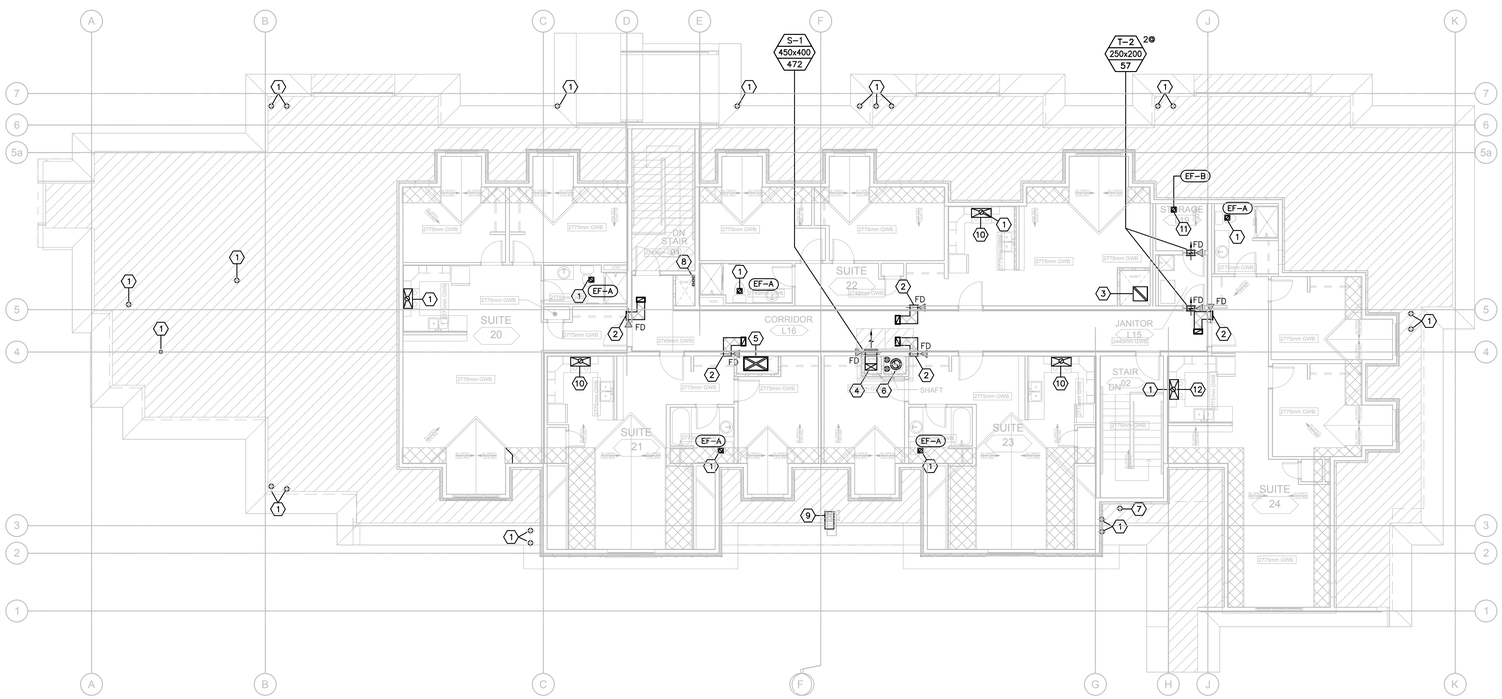
Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	Asset No. 945	M303

Drawing Reference No./No. de reference du dessin



1 M304 SECOND FLOOR PLAN - PLUMBING AND HEATING
SCALE: 1:100



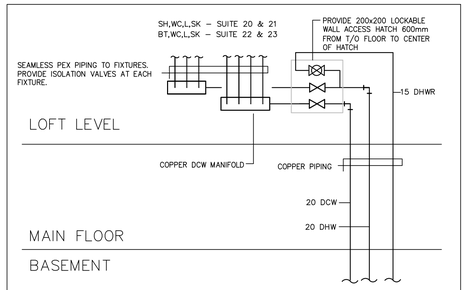
2 M304 SECOND FLOOR PLAN - VENTILATION
SCALE: 1:100

GENERAL NOTES:

1. ALL SANITARY PIPING TO RUN @1% SLOPE UNLESS OTHERWISE NOTED.
2. DRAWING IS DIAGRAMMATIC ONLY, CONTRACTOR TO INSTALL ALL DRAINS AND VENTS NOT SHOWN TO BE INSTALLED IN ACCORDANCE WITH NATIONAL PLUMBING CODE. CONTRACTOR TO PROVIDE AN ACCURATE AS-BUILT REFLECTING SUCH.
3. 20mm HEATING GLYCOL CONNECTIONS FOR ALL PERIMETER RADIATION, FORCE FLOW HEATERS, AND UNIT HEATERS UNLESS OTHERWISE NOTED.
4. COORDINATE ALL CLEAN-OUT LOCATIONS AND EXTENSIONS AS REQUIRED WITH PLAN ABOVE.
5. CONTRACTOR TO MAINTAIN MAXIMUM HEADROOM AT ALL TIMES.
6. ALL SANITARY BRANCH LINES FROM WATER CLOSETS TO BE 75mm.
7. ALL SANITARY BRANCH LINE SIZES FROM KITCHEN SINKS, LAVATORIES, BATHTUBS AND WASHING MACHINES TO BE 40mm.

KEY NOTES:

1. 20 DCW, 20 DHW & 15 DHWR LINES FROM BELOW TO SUITE DISTRIBUTION MANIFOLD. PROVIDE WALL ACCESS PANEL FOR SUITE SHUTOFF VALVE. REFER TO DETAIL ON THIS DRAWING.
2. PROVIDE ROUGH-IN AND FINAL CONNECTION TO DISHWASHER (TYPICAL).
3. PROVIDE AIR ADMITTANCE VALVE FOR KITCHEN SINK DRAINS.
4. 50ø SANITARY VENT AND 50ø WEEPING TILE VENT FROM BASEMENT, UP TO CURVED ROUND PIPE ON SLOPED ROOF.
5. SURFACE MOUNTED FIRE EXTINGUISHER CABINET TYP.



3 M304 LOFT FLOOR DOMESTIC WATER MANIFOLD DETAIL
SCALE: 1:100

GENERAL NOTES:

1. ALL DUCT WORK TO RUN IN DROPPED CEILINGS AND BULKHEADS. CONTRACTOR TO COORDINATE FINAL DROPPED CEILINGS AND BULKHEADS WITH ARCHITECTURAL DRAWINGS.
2. CONTRACTOR TO MAINTAIN MAXIMUM HEADROOM AT ALL TIMES AND COORDINATE INSTALLATION OF ALL MECHANICAL, ARCHITECTURAL AND STRUCTURAL ELEMENTS.

KEY NOTES:

1. RUN EXHAUST DUCTING UP THROUGH ROOF (TYPICAL). TERMINATE EXHAUST DUCTS WITH VENT CAPS AS SHOWN ON DETAIL 5/M402. REFER TO ARCHITECTURAL FOR TERMINATION LOCATIONS.
2. RUN 300x150 SUITE TRANSFER AIR DUCTING WITH TWO BENDS IN CORRIDOR DROPPED CEILING. C/W GRILLES AND MULTI-BLADE TYPE FIRE DAMPER (TYP.). REFER TO DETAILS 1/M402 AND 2/M402.
3. 550x550 BASEMENT EXHAUST DUCT IN MECHANICAL SHAFT. INSTALL FIRE DAMPER AT ATTIC PENETRATION. PROVIDE 50mm THERMAL INSULATION 3 METERS FROM ATTIC PENETRATION.
4. TRANSITION SUPPLY DUCT TO 450x250 C/W GRILLE & MULTI-BLADE FIRE DAMPER TO LOFT FLOOR CORRIDOR. PROVIDE ACOUSTIC LINING UP TO LOFT FLOOR.
5. 900x500 OUTDOOR AIR OUTDOOR AIR INTAKE DUCT. INSTALL FIRE DAMPER AT ATTIC PENETRATION. PROVIDE 50mm THERMAL INSULATION FOR FULL LENGTH OF SHAFT.
6. RUN 300ø AL29-4C BOILER FLUE & TWO 100ø DHW HEATER FLUE IN FIRE-RATED SHAFT. PROVIDE 50mm INSULATION ON ALL FLUE VENTING.
7. 150ø AIR RELIEF DUCT FROM BASEMENT. TERMINATE WITH ROOF CAP REFER TO DETAIL 5/M402.
8. 3x 100ø DRYER EXHAUST FROM BELOW. PROVIDE FIRE WRAP INSULATION FROM FLOOR PENETRATION TO DUCT TERMINATION. TERMINATE EXHAUST DUCTS WITH VENT CAPS AS SHOWN ON DETAIL 5/M402.
9. 300x350 COMBUSTION AIR INTAKE GOOSENECK AS SHOWN ON DETAIL 6/M402.
10. REFER TO ARCHITECTURAL DRAWINGS FOR OTR MICROWAVE & RANGE HOOD SPECIFICATION. PROVIDE CONNECTION TO EXHAUST DUCTING (TYPICAL).
11. EXHAUST FAN EF-B SURFACE MOUNTED EXPOSED BELOW CEILING. RUN EXHAUST DUCTING UP THROUGH ROOF AND TERMINATE WITH VENT CAP.
12. EXHAUST DUCTING TO PENETRATE CEILING PERPENDICULARLY (TYPICAL). REDUCE RANGE HOOD EXHAUST DUCTING TO 125ø AT CEILING PENETRATIONS.

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SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

No.	Date/Date	Description/Description	Drawn by/Dessine par	Approved/Approuve
5	16-12-08	ISSUED FOR TENDER	C.M.P.	A.G.K.
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3	16-09-02	ISSUED FOR 99% REVIEW	C.M.P.	A.G.K.
2	16-06-14	ISSUED FOR 66% REVIEW	C.M.P.	A.G.K.
1	16-05-05	ISSUED FOR 33% REVIEW	C.M.P.	A.G.K.

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.
Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

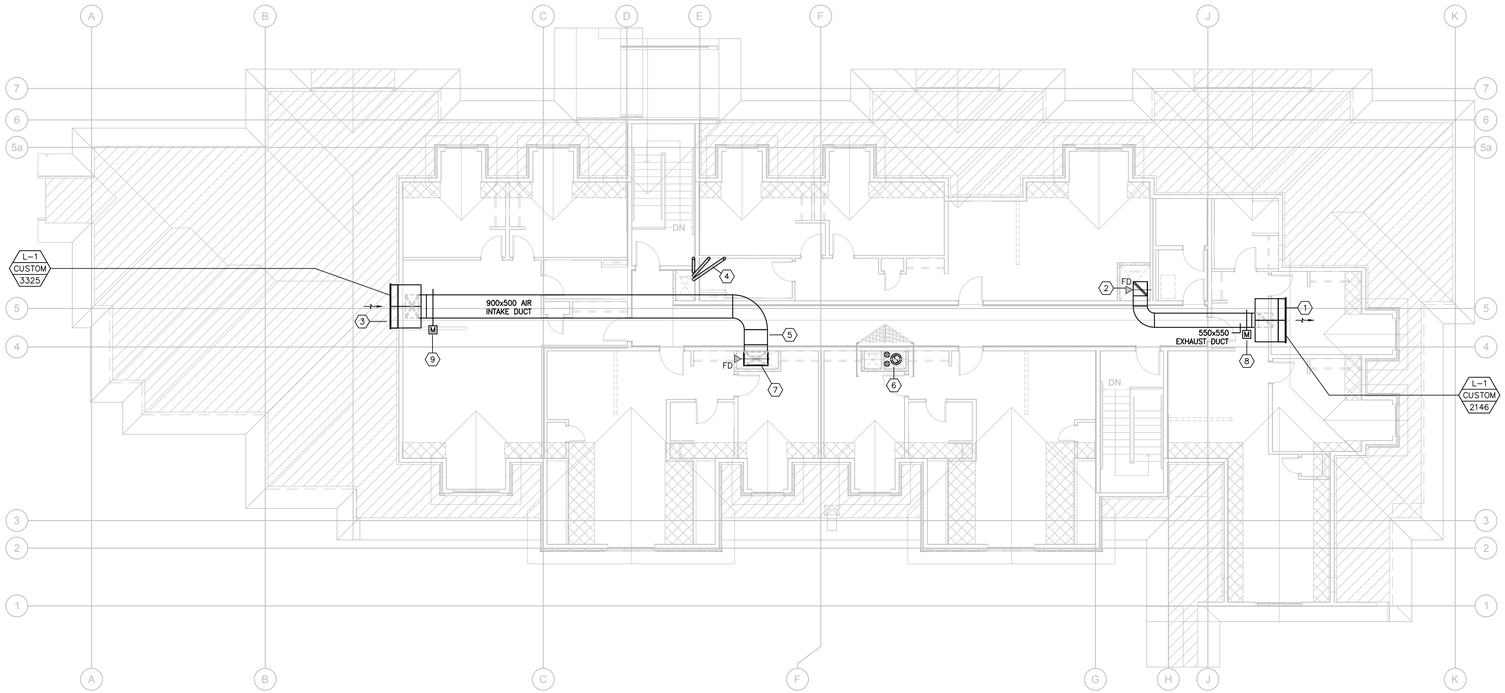
Drawing title/Titre du dessin
LOFT FLOOR - MECHANICAL

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	C.M.P.	2016-04-21
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
C.M.P.	A.G.K.	AS INDICATED

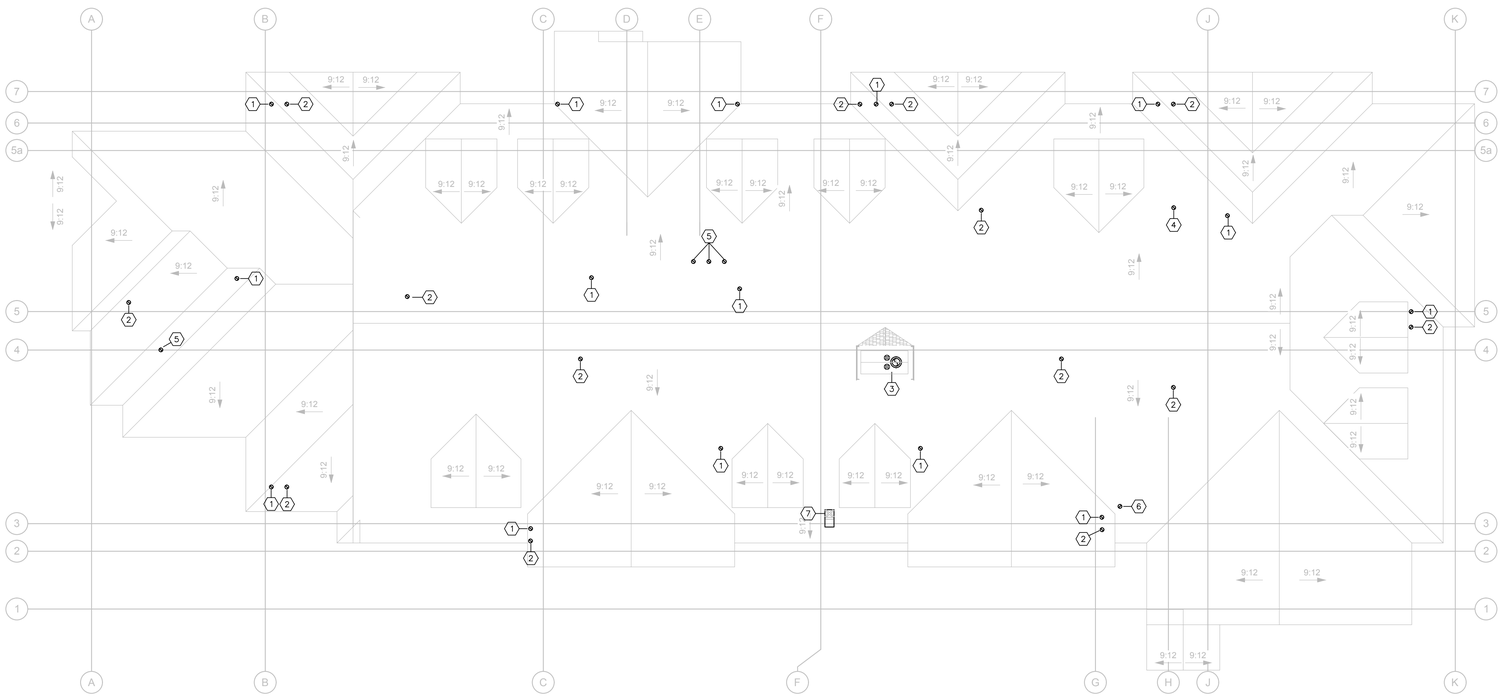
PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt
Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	Asset No. 945	M304

Drawing Reference No./No. de reference du dessin



1 / M305 ATTIC PLAN - MECHANICAL
SCALE: 1:100



2 / M305 ROOF PLAN - MECHANICAL
SCALE: 1:100

GENERAL NOTES:

1. ALL DUCTWORK IN ATTIC SPACE TO BE SUSPENDED FROM STRUCTURE.
2. COORDINATE LOUVER & DUCT INSTALLATION WITH ARCHITECTURAL & STRUCTURAL OPENING.

KEY NOTES:

1. CUSTOM EXHAUST LOUVER MOUNTED ON DUTCH GABLE FACE. EXTEND DUCTING PLENUM WITH LOUVER PROFILE BACK 900mm. PROVIDE 0.5% SLOPE TOWARDS LOUVER. REFER TO DRAWING 8/402 FOR LOUVER SIZING & DIMENSIONS.
2. 550x550 EXHAUST DUCTING FROM BELOW. CHANGE DIRECTION TO HORIZONTAL ABOVE LOFT FLOOR STRUCTURAL CEILING AND RUN DUCTING IN ATTIC SPACE TO EXHAUST PLENUM. THERMALLY INSULATE EXHAUST DUCT IN ATTIC AND VERTICAL RISER DOWN TO ACOUSTIC INSULATION.
3. CUSTOM INTAKE LOUVER MOUNTED ON DUTCH GABLE FACE. EXTEND DUCTING PLENUM WITH LOUVER PROFILE BACK 900mm. PROVIDE 0.5% SLOPE TOWARDS LOUVER. REFER TO DRAWING 8/402 FOR LOUVER SIZING & DIMENSIONS.
4. 3x 100ø EXHAUST DUCTS FROM BASEMENT. PROVIDE FIRE WRAP INSULATION FOR ENTIRE LENGTH. REFER TO ARCHITECTURAL FOR TERMINATION OFFSET LOCATIONS.
5. 900x500 INTAKE DUCTING FROM BELOW. COORDINATE PENETRATION INTO ATTIC SPACE WITH STRUCTURAL. CHANGE DIRECTION TO HORIZONTAL ABOVE LOFT LEVEL STRUCTURAL CEILING AND RUN DUCTING IN ATTIC SPACE TO INTAKE PLENUM.
6. 300ø BOILER FLUE & 2x 100ø DOMESTIC WATER HEATER FLUE IN ARCHITECTURAL CHIMNEY.
7. PROVIDE 50mm THERMAL INSULATION ON INTAKE DUCTING FROM 3m BEYOND TOP OF SHAFT TO BASEMENT MAKE-UP AIR UNIT MUA-1.
8. PROVIDE MOTORIZED DAMPER IN EXHAUST DUCTING. INTERLOCK WITH OPERATIONS OF MAIN EXHAUST FAN EF-1.
9. PROVIDE MOTORIZED DAMPER IN INTAKE DUCTING. INTERLOCK WITH OPERATIONS OF MAKE-UP AIR UNIT MUA-1.

GENERAL NOTES:

1. CONTRACTOR TO COORDINATE EXHAUST VENT CAP LOCATIONS WITH ARCHITECTURAL DRAWINGS.

KEY NOTES:

1. 125ø BATHROOM EXHAUST DUCT TERMINATION C/W ROOF CAP & BACKDRAFT DAMPER. REFER TO DETAIL 5/M402.
2. 175ø KITCHEN EXHAUST HOOD TERMINATION C/W ROOF CAP & BACKDRAFT DAMPER. REFER TO DETAIL 5/M402.
3. 300ø BOILER FLUE & 2x 100ø DOMESTIC WATER HEATER FLUE IN ARCHITECTURAL CHIMNEY.
4. 150ø JANITOR & STORAGE ROOM EXHAUST DUCT TERMINATION. C/W ROOF CAP & BACKDRAFT DAMPER. REFER TO DETAIL 5/M402.
5. 100ø DRYER EXHAUST DUCT TERMINATION C/W ROOF CAP & BACKDRAFT DAMPER. REFER TO DETAIL 5/M402.
6. 150ø AIR RELIEF DUCT FROM BASEMENT. TERMINATE WITH ROOF CAP REFER TO DETAIL 5/M402.
7. 300x350 COMBUSTION AIR INTAKE GOOSENECK AS SHOWN ON DETAIL 6/M402.

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Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
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Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

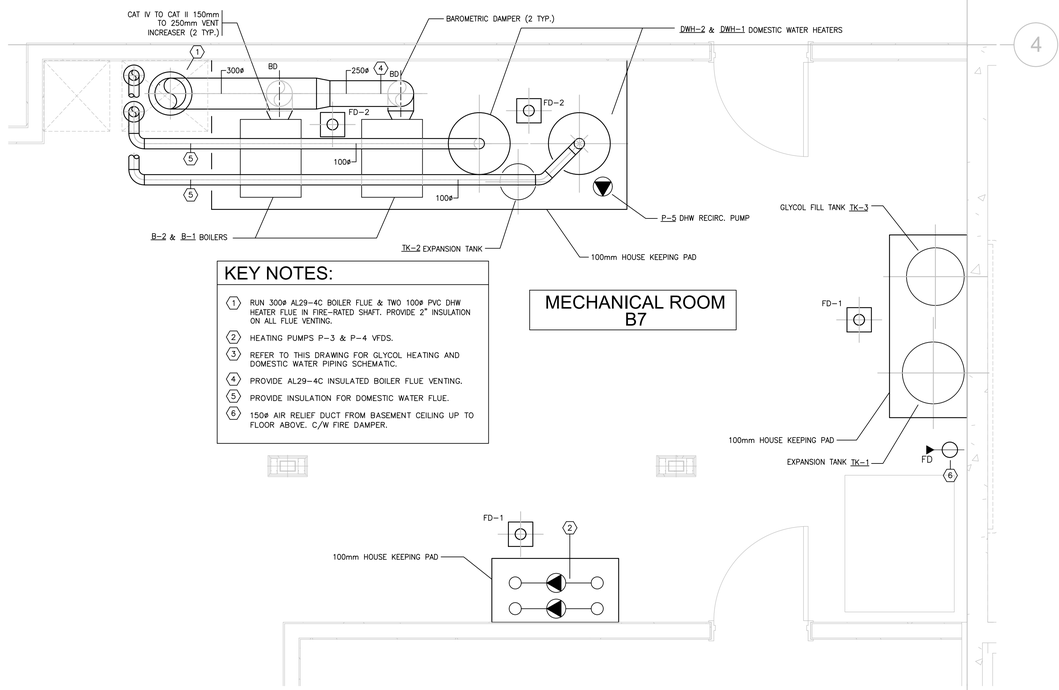
Drawing title/Titre du dessin
ATTIC AND ROOF PLAN - MECHANICAL

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	C.M.P.	2016-04-21
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
C.M.P.	A.G.K.	AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt
Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
39000	Asset No. 945	M305

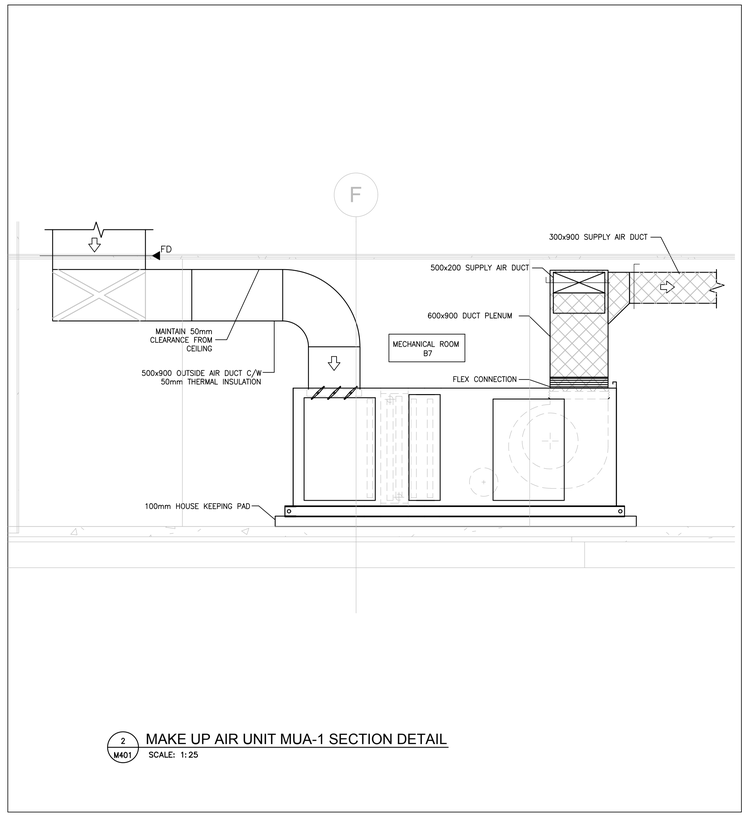
Drawing Reference No./No. de reference du dessin



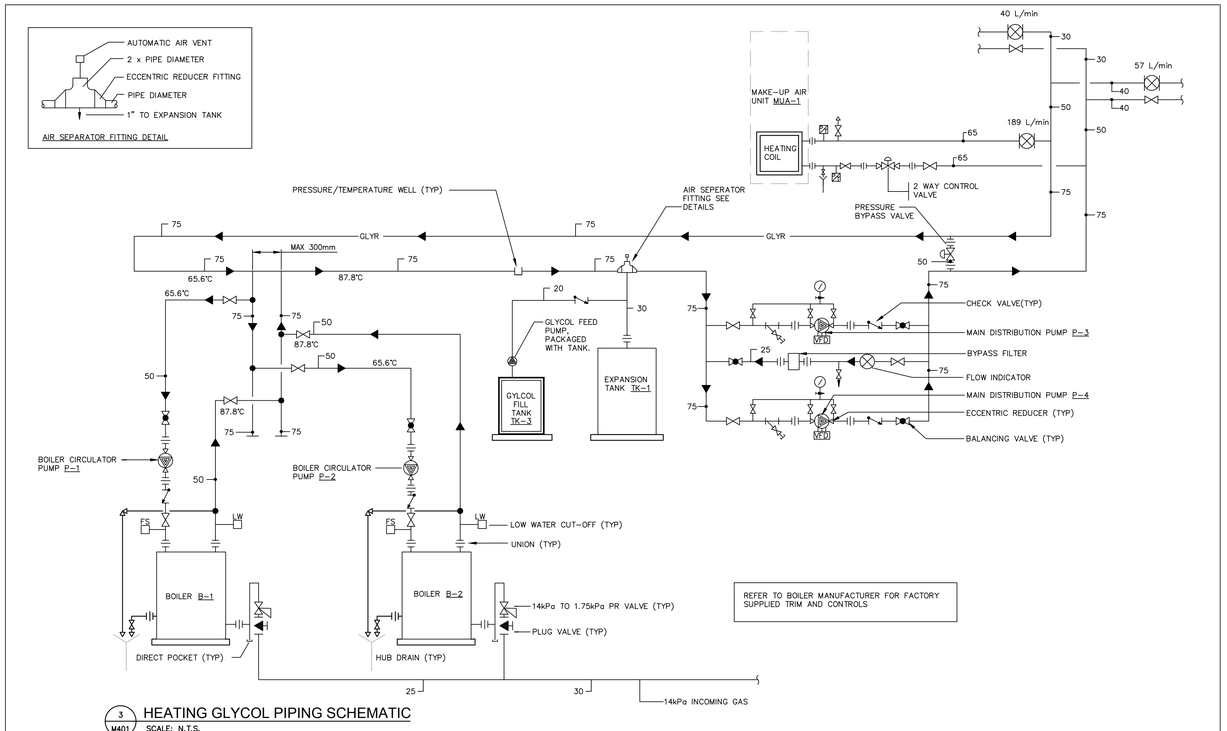
KEY NOTES:

1. RUN 300ø AL29-4C BOILER FLUE & TWO 100ø PVC DHW HEATER FLUE IN FIRE-RATED SHAFT. PROVIDE 2" INSULATION ON ALL FLUE VENTING.
2. HEATING PUMPS P-3 & P-4 VFDS.
3. REFER TO THIS DRAWING FOR GLYCOL HEATING AND DOMESTIC WATER PIPING SCHEMATIC.
4. PROVIDE AL29-4C INSULATED BOILER FLUE VENTING.
5. PROVIDE INSULATION FOR DOMESTIC WATER FLUE.
6. 150ø AIR RELIEF DUCT FROM BASEMENT CEILING UP TO FLOOR ABOVE. C/W FIRE DAMPER.

1 / M401 MECHANICAL ROOM DETAIL
SCALE: 1:25



2 / M401 MAKE UP AIR UNIT MUA-1 SECTION DETAIL
SCALE: 1:25



3 / M401 HEATING GLYCOL PIPING SCHEMATIC
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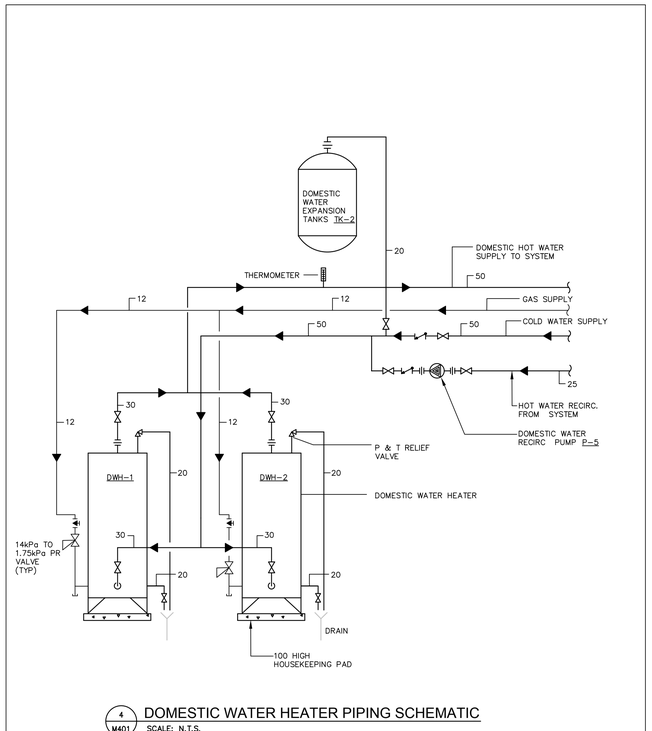

4 / M401 DOMESTIC WATER HEATER PIPING SCHEMATIC
SCALE: N.T.S.

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Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'équipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
MECH. SCHEMATICS AND DETAILS

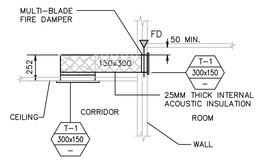
Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	C.M.P.	2016-04-21
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
C.M.P.	A.G.K.	AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

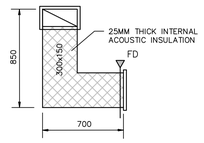
Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
39000	Asset No. 945	M401

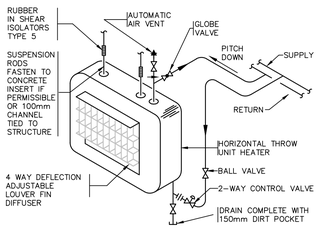
Drawing Reference No./No. de reference du dessin



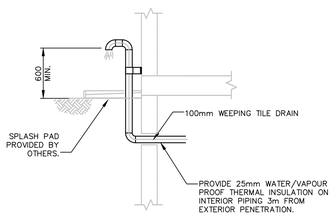
1 M402 TYPICAL SOUND TRAP DETAIL - SECTION VIEW
SCALE: N.T.S.



2 M402 TYPICAL SOUND TRAP DETAIL - PLAN VIEW
SCALE: N.T.S.



3 M402 GLYCOL UNIT HEATER DETAIL
SCALE: N.T.S.



4 M402 WEEPING TILE DISCHARGE DETAIL
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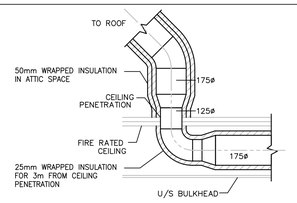
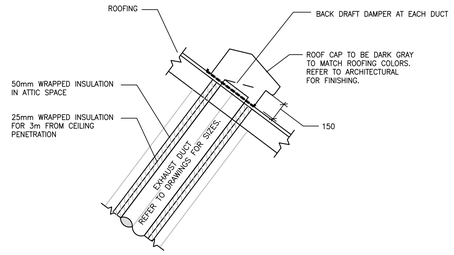


12 M402 RANGE HOOD EXHAUST DETAIL
SCALE: N.T.S.



5 M402 TYPICAL EXHAUST VENT DETAIL
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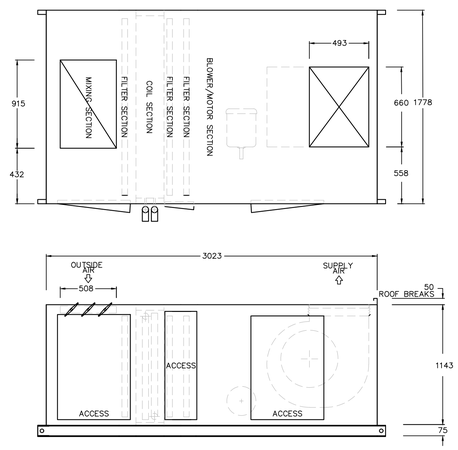

7 M402 MAKE-UP AIR UNIT MUA-1 DETAIL
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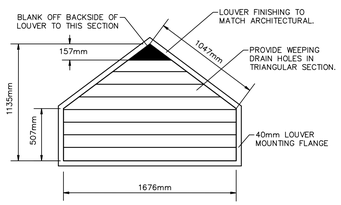

8 M402 CUSTOM EXHAUST & INTAKE LOUVER DETAIL
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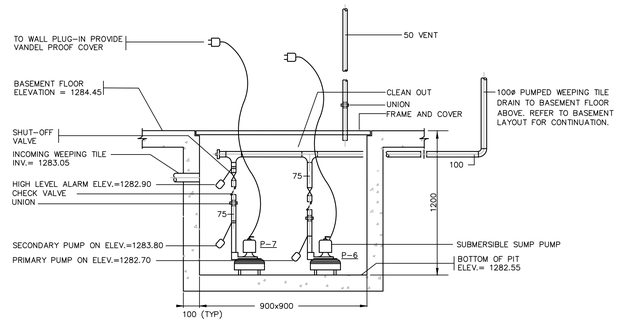

9 M402 CAST IN PLACE WEEPING TILE SUMP PIT DETAIL
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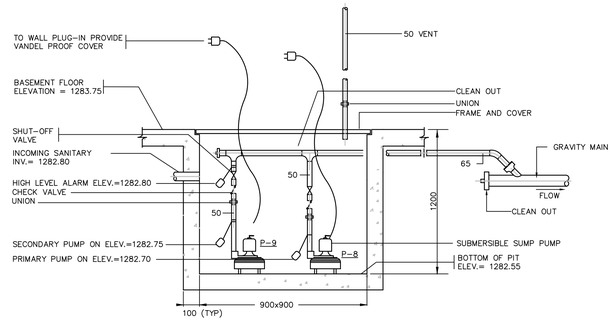

10 M402 CAST IN PLACE SANITARY SUMP PIT DETAIL
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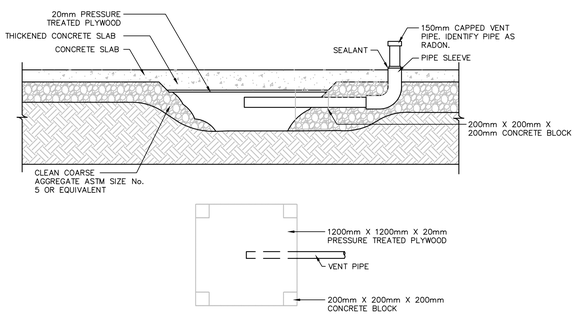

11 M402 RADON GAS SUCTION PIT DETAIL
SCALE: N.T.S.

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Consultant's Name / Nom de l'expert-conseil
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Eng. Stamp / Sceau de l'ingenieur

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Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
MECHANICAL DETAILS

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	C.M.P.	2016-04-21
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C.M.P.	A.G.K.	AS INDICATED

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39000	Asset No. 945	M402

Drawing Reference No./No. de reference du dessin

PLUMBING FIXTURE SCHEDULE

TAG No.	FIXTURE	DESCRIPTION	TRIM AND ACCESSORIES
WC-1	TANK TYPE WATER CLOSET – TWO PIECE	PRESSURE-LITE TOILET WITH FLUSHMATE SYSTEM, VITREOUS CHINA, 15" (381) HIGH ELONGATED BOWL, 1.0GPF (3.8 LPF). WHITE REG TANK WITH FLUSHMATE.	ELONGATED TOILET SEAT WITH QUICK DISCONNECT.
L-1	COUNTER MOUNT LAVATORY	SELF-RIMMING LAVATORY. 20-1/8" (51.1 CM) IN LENGTH AND 16 1/2"" (41.9 CM) IN WIDTH. WITH OVERFLOW. 8" (20.3 CM) CENTERS, 4" (10.2 CM) CENTERS, OR SINGLE-HOLE DRILLING).	DELTA 536-TP-DST ADA COMPLIANT SINGLE HANDLE LAVATORY FAUCET 4" (102MM) CENTERSET. DIAMOND EMBEDDED CERAMIC DISC CARTDRIGE CONTROL MECHANISM. CONTROL HANDLE SHALL RETURN TO NEUTRAL POSITION WHEN VALVE IS TURNED OFF. 1.5GPM (5.7L/MIN) FLOWRATE AT 60PSI STANDARD.
BT-1	ACRYLIC TUB/SHOWER SURROUND	60"X32" (1524X812.8MM) ONE PIECE ACRYLIC BATH/SHOWER WITH WIDE 3-LEVEL CORNER SHELVES. C/W ACCESS PANEL & 3" (76.2MM) ABOVE FLOOR ROUGH-IN.	ROUGH-IN CABLE BATH DRAIN, PVC, 30" (762MM) CABLE WITH TUBING. TRADITIONAL ROTARY TURN BATH DRAIN TRIM. DELTA T13420-H2O-CDN SOLID BRASS FABRICATED BODY FAUCET TRIM. VALVE BODY TO MAINTAIN BALANCED PRESSURE OF HOT AND COLD WATER. 120° MAXIMUM HANDLE ROTATION, FIELD ADJUSTABLE TO LIMIT HANDLE ROTATION INTO HOT WATER ZONE. 1.5GPM (5.7L/MIN).
SK-1	MULTI PURPOSE DROP IN DOUBLE BASIN STAINLESS STEEL	33"X22"X10" (838X559X255MM) TOP MOUNT DOUBLE-EQUAL BOWL KITCHEN SINK.	DELTA 470-DST SINGLE HANDLE KITCHEN FAUCET FEATURING A SINGLE HOLE MOUNTING CONFIGURATION WITH AN 8" (203.2MM) DECK PLATE. 9" (229MM) LONG SPOUT. INCLUDES DIAMOND COATED CERAMIC CARTRIDGE CONTROL MECHANISM, 53" (1346MM) LONG HOSE WITH 34" (864MM) USABLE LENGTH WITH 3/8" (9.5MM) COMPRESSION FITTINGS. LEVER HANDLE SHALL RETURN TO NEUTRAL POSITION WHEN FAUCET IS TURNED OFF. STANDARD 1.8 GPM (6.8 L/MIN) @ 414 kPa SINK STRAINER, 1 1/2" X 4" (38.1X101.6MM) TAILPIECE. INTEGRATED DOUBLE CHECK VALVE IN SPOUT.
SK-2	SINGLE BASIN DROP IN STAINLESS UTILITY SINK	BALLAD TOP MOUNT UTILITY SINK. 25"X22" (635X560MM) EXTERIOR DIMENSIONS, 18 GAUGE STAINLESS TOP MOUNT WITH 12" (305MM) DEPTH. INCLUDES INSTALLATION HARDWARE.	DELTA 26C3145 TWO HANDLE HEAVY DUTY CAST BRASS SINK FAUCET C/W 8" (203MM) CENTERS. POLISHED CHROME PLATED FINISH. 1.5GPM (5.7 L/MIN) FLOW CONTROL AERATOR. 8" (203MM) LONG SPOUT.
FD-1	BASEMENT FLOOR DRAIN	4" (100mm) EPOXY COATED CAST IRON FLOOR DRAIN.	C/W ANCHOR FLANGE, REVERSIBLE MEMBRANE CLAMP WITH PRIMARY AND SECONDARY WEEPHOLES, 1/4" (6) THICK (SPECIFY DIAMETER) NICKEL BRONZE STRAINER.
FD-2	BASEMENT FLOOR DRAIN	4" (100mm) EPOXY COATED CAST IRON FUNNEL FLOOR DRAIN.	C/W FUNNEL, ANCHOR FLANGE, REVERSIBLE MEMBRANE CLAMP WITH PRIMARY AND SECONDARY WEEPHOLES, 1/4" (6) THICK (SPECIFY DIAMETER) NICKEL BRONZE STRAINER.
HB-1	NON-FREEZE HOSE BIB	NON-FREEZE WALL HYDRANT WITH CROME FACE & INTEGRAL VACUUM BREAKER.	NON-FREEZE KEY OPERATED WALL HYDRANT WITH CHROME PLATED FACE, INTEGRAL VACUUM BREAKER, 3/4" (19) HOSE CONNECTION, 3/4" (19) FEMALE x 1" (25) MALE PIPE CONNECTION, ALL BRONZE HEAD, SEAT CASTING AND INTERNAL WORKING PARTS, BRONZE WALL CASING, AND LOOSE KEY.
HB-2	BASEMENT HOSE BIB	CAST BRASS HOSE BIBB	BUILT-IN BACKFLOW PROTECTION, INTEGRAL VACUUM BREAKER, DRAINABLE IN COLD WEATHER.
SH-1	SHOWER	ONE PIECE SHOWER STALL SIZE – 48"X37"X80" (1219MM X 940MM X 2032MM), VACUUM FORMED ACRYLIC REINFORCED WITH FIBERGLASS, SCRATCH, STAIN AND FADE RESISTANT HIGH GLOSS FINISH, CHROME DRAIN IS INCLUDED, FEATURES AN ACRYLIC TOWEL BAR AND 6 LARGE SHELVES, BUILT IN 1" (25) TILE FLANGE ON 3 SIDES, PATTERNED BOTTOM, PROVIDE SLIDING GLASS DOOR W/ CHROME TRIMS. REFER TO ARCHITECTURAL.	ROUGH-IN CABLE BATH DRAIN, PVC, 30" (762MM) CABLE WITH TUBING. TRADITIONAL ROTARY TURN BATH DRAIN TRIM. DELTA T13020-CDN SOLID BRASS FABRICATED BODY FAUCET TRIM. VALVE BODY TO MAINTAIN BALANCED PRESSURE OF HOT AND COLD WATER. 120° MAXIMUM HANDLE ROTATION, FIELD ADJUSTABLE TO LIMIT HANDLE ROTATION INTO HOT WATER ZONE. 1.5GPM (5.7L/MIN).
SH-2	BARRIER FREE SHOWER	BARRIER FREE SHOWER STALL SIZE – 60"X37"X75" (1524MM X 940MM X 1905MM), VACUUM FORMED ACRYLIC REINFORCED WITH FIBERGLASS, SCRATCH, STAIN AND FADE RESISTANT HIGH GLOSS FINISH, CHROME DRAIN IS INCLUDED. PROVIDE L-SHAPED STAINLESS STEEL GRAB BAR ON EACH SIDE WALL, TWO STAINLESS STEEL GRAB BAR ON BACK WALL, 1" (25.4MM) STAINLESS STEEL CURTAIN ROD, LEFT-HAND SEAT, UPPER AND LOWER TOILETRY SHELVES. SHOWER TRIM INSTALLED ON RIGHT HAND SIDE.	ROUGH-IN CABLE BATH DRAIN, PVC, 30" (762MM) CABLE WITH TUBING. TRADITIONAL ROTARY TURN BATH DRAIN TRIM. DELTA T13020-CDN SOLID BRASS FABRICATED BODY FAUCET TRIM. VALVE BODY TO MAINTAIN BALANCED PRESSURE OF HOT AND COLD WATER. 120° MAXIMUM HANDLE ROTATION, FIELD ADJUSTABLE TO LIMIT HANDLE ROTATION INTO HOT WATER ZONE. 1.5GPM (5.7L/MIN).
MS-1	MOP SINK	24"x24"x10" (610x610x254mm) HOMOGENOUS ONE-PIECE STONE MOP SERVICE BASIN. C/W 3" (76mm) DRAIN PIPE CONNECTION, STAINLESS STEEL DRAIN BODY, DOME STRAINER & LINT BASKET.	3GPM (18 L/MIN) CHROME PLATED CAST BRASS 2 HANDLE SERVICE FAUCET C/W WALL BRACE, INLINE VACUUM BREAKER, PAIL HOOK, INTEGRAL STOPS, AND 8" (203mm) CENTERS. PROVIDE STAINLESS STEEL MOP HANGER 3" QUICK DRAIN CONNECTOR, HEAVY DUTY HOSE, HOSE BRACKET, & SILICONE SEALANT.

FORCE FLOW SCHEDULE (HYDRONIC)

TAG No.	LOCATION/SERVICE	AIR SIDE FLOW (L/s)	AIR SIDE PRESS. DROP (Po)	HEATING FLUID	HEATING HEATING CAPACITY (kW)	HEATING ENT. FLUID (°C)	HEATING LVG. FLUID (°C)	HEATING FLUID FLOW (L/s)	HEATING PRESS. DROP (kPa)	MOTOR POWER (Watts)	MOTOR RPM	MOTOR ELECTRICAL (V/Ph/Hz)	MCA	WEIGHT (kg)	REMARKS
FF-A	ENTRANCE & ELECTRICAL ROOM	NORMAL 39 BOOST 59	–	50% GLYCOL	1.8	87.8	–	0.063	3.2	40	–	115/1/60	–	10.8	RECESSED WALL FORCE FLOW HEATER. C/W NORMAL & BOOST MODE.
FF-B	BATHROOMS	NORMAL 19 BOOST 25	–	50% GLYCOL	0.94	87.8	–	0.063	2.3	25	–	115/1/60	–	5.5	KICKSPACE FORCE FLOW HEATER. C/W NORMAL & BOOST MODE.
FF-C	ENTRANCE & ELECTRICAL ROOM	NORMAL 19 BOOST 25	–	50% GLYCOL	0.96	87.8	–	0.063	2.3	40	–	115/1/60	–	9.5	RECESSED WALL FORCE FLOW HEATER. C/W NORMAL & BOOST MODE.

RADIATION SCHEDULE (BASEBOARD)

TAG No.	LOCATION/SERVICE	ENCLOSURE HEIGHT in (mm)	ELEMENT TUBE ø in (mm)	ELEMENT FIN SIZE in x in (mm x mm)	AVG. WATER TEMP. °F (°C)	CAPACITY Btuh/ft (kW/m)	REMARKS
TYPE A	RESIDENTIAL SUITES, STAIR LANDING	8 (203.2)	0.75 (19.1)	2.5 x 3.25 (64 x 83)	170.0 (77)	565 (0.54)	SLOPED TOP CABINET, 102mm ABOVE FINISHED FLOOR TO UNDERSIDE OF CABINET.
TYPE B	BASEMENT	14 (355.6)	1.25 (31.8)	4 x 4 (102 x 102)	170.0 (77)	869 (0.84)	SLOPED TOP AND BOTTOM CABINET, 1200mm ABOVE FINISHED FLOOR TO UNDERSIDE OF CABINET UNLESS OTHERWISE INDICATED IN MECHANICAL OR ARCHITECTURAL PLANS.

LOUVER SCHEDULE

TAG No.	FINISH	MOUNTING	REMARKS/DESCRIPTION
L-1	BAKED ENAMEL, COLOUR BY ARCHITECT	DUTCH GABLE EXTERIOR WALL	WIND-DRIVEN RAIN LOUVER EXTRUDED ALUMINUM FREE AREA VELOCITY 5m/s (1000fpm), PRESSURE DROP 248.84Pa (0.3inwg), WATER PENETRATION AT 6.35m/s, 202mm/h RAINFALL AND 22m/s WIND – 99.8% EFFECTIVENESS. C/W INSECT SCREEN. REFER TO DETAIL 8 ON DWG M402 FOR SIZES AND DIMENSIONS.

UNIT HEATER SCHEDULE (HYDRONIC)

TAG No.	LOCATION/SERVICE	AIR SIDE FLOW (L/s)	AIR SIDE PRESS. DROP (Po)	HEATING FLUID	HEATING HEATING CAPACITY (kW)	HEATING ENT. FLUID (°C)	HEATING LVG. FLUID (°C)	HEATING FLUID FLOW (L/s)	HEATING PRESS. DROP (kPa)	MOTOR POWER (Watts)	MOTOR RPM	MOTOR ELECTRICAL (V/Ph/Hz)	MCA	WEIGHT (kg)	REMARKS
UH-1	PARKS STORAGE B9	260	–	50% GLYCOL	6.6	87.8	–	0.09	0.9	37	1500	115/1/60	–	40	HORIZONTAL UNIT HEATER SUSPENDED FROM CEILING
UH-2	TENANT STORAGE B8	260	–	50% GLYCOL	6.6	87.8	–	0.09	0.9	37	1500	115/1/60	–	40	HORIZONTAL UNIT HEATER SUSPENDED FROM CEILING
UH-3	TENANT STORAGE B8	260	–	50% GLYCOL	6.6	87.8	–	0.09	0.9	37	1500	115/1/60	–	40	HORIZONTAL UNIT HEATER SUSPENDED FROM CEILING
UH-4	MECHANICAL ROOM B7	260	–	50% GLYCOL	6.6	87.8	–	0.09	0.9	37	1500	115/1/60	–	40	HORIZONTAL UNIT HEATER SUSPENDED FROM CEILING
UH-5	TENANT STORAGE B3	260	–	50% GLYCOL	6.6	87.8	–	0.09	0.9	37	1500	115/1/60	–	40	HORIZONTAL UNIT HEATER SUSPENDED FROM CEILING
UH-6	PARKS STORAGE B4	260	–	50% GLYCOL	6.6	87.8	–	0.09	0.9	37	1500	115/1/60	–	40	HORIZONTAL UNIT HEATER SUSPENDED FROM CEILING
UH-7	PARKS STORAGE B4	260	–	50% GLYCOL	6.6	87.8	–	0.09	0.9	37	1500	115/1/60	–	40	HORIZONTAL UNIT HEATER SUSPENDED FROM CEILING

GRILLE & DIFFUSER SCHEDULE

TAG No.	FINISH	MOUNTING	REMARKS/DESCRIPTION
S-1	WHITE POWDER COAT	WALL / CEILING	LOUVERED SUPPLY DOUBLE DEFLECTION STEEL CONSTRUCTION, 3/4 IN. [19] BLADE SPACING, FRONT BLADES PARALLEL TO LONG DIMENSION COUNTERSUNK SCREWHOLES A C/W OVAL-HEAD SCREWS
S-2	WHITE POWDER COAT	WALL / CEILING	LOUVERED SUPPLY DOUBLE DEFLECTION STEEL CONSTRUCTION, 3/4 IN. [19] BLADE SPACING, FRONT BLADES PARALLEL TO SHORT DIMENSION COUNTERSUNK SCREWHOLES A C/W OVAL-HEAD SCREWS
E-1	WHITE POWDER COAT	WALL / CEILING	LOUVERED RETURN DOUBLE DEFLECTION STEEL CONSTRUCTION, 3/4 IN. [19] BLADE SPACING, FRONT BLADES PARALLEL TO LONG DIMENSION COUNTERSUNK SCREWHOLES A C/W OVAL-HEAD SCREWS
T-1	WHITE POWDER COAT	WALL / CEILING	LOUVERED RETURN DOUBLE DEFLECTION STEEL CONSTRUCTION, 3/4 IN. [19] BLADE SPACING, FRONT BLADES PARALLEL TO LONG DIMENSION COUNTERSUNK SCREWHOLES A C/W OVAL-HEAD SCREWS
T-2	BP DARK BRONZE, PAINT TO MATCH DOOR	DOOR	STEEL FIRE RATED DOOR GRILLE UP TO 1.5 HR RATING. 71°C LISTED FUSIBLE LINK WITH STAINLESS STEEL OPERATING SPRING AND DEADLOCK BAR. DOOR CUTOUT MUST BE THE SAME SIZE AS LOUVER SIZE. 45% FREE AREA.

TANK SCHEDULE

TAG No.	LOCATION/SERVICE	FLUID	TANK VOLUME gal (L)	MAX ACCEPTANCE VOLUME gal (L)	DIMENSIONS DIAMETER in. (mm)	DIMENSIONS LENGTH in. (mm)	REMARKS
TK-1	MECH. ROOM GLYCOL EXPANSION	50% GLYCOL	68 (257)	34 (129)	24 (600)	47 (1194)	VERTICAL ORIENTATION EXPANSION TANK. PROVIDE 100mm HOUSE KEEPING PAD.
TK-2	MECH. ROOM DOMESTIC WATER EXPANSION	HOT WATER	6.4 (24.2)	3.2 (12.1)	12 (300)	14 (350)	VERTICAL ORIENTATION EXPANSION TANK. STRAP MOUNT TO WALL.
TK-3	MECH. ROOM GLYCOL FEED SYSTEM	50% GLYCOL	45 (160)		22 (560)	36 (930)	VERTICAL ORIENTATION GLYCOL FILL TANK. C/W MANUAL CONTROL PUMP – 249 W MOTOR, 120/1/60.

PUMP SCHEDULE

TAG No.	LOCATION	SERVICE	TYPE	FLUID	FLOW gpm (L/s)	HEAD ft. (kPa)	MOTOR HP (kW)	RPM	ELECTRICAL (V/Ph/Hz)	REMARKS
P-1	MECHANICAL ROOM	PRIMARY HEATING	IN-LINE CIRCULATOR	50% GLYCOL	44 (2.8)	5 (34.47)	0.25 (0.19)	1800	115/1/60	C/W 3 SPEED MOTOR.
P-2	MECHANICAL ROOM	PRIMARY HEATING	IN-LINE CIRCULATOR	50% GLYCOL	44 (2.8)	5 (34.47)	0.25 (0.19)	1800	115/1/60	C/W 3 SPEED MOTOR.
P-3	MECHANICAL ROOM	SECONDARY HEATING	IN-LINE	50% GLYCOL	76 (4.79)	25 (74.73)	1 (0.75)	1705	208/1/60	C/W INTEGRATED SINGLE PHASE VFD, INTEGRAL CONTROLLER, BUILT-IN DIFFERENTIAL-PRESSURE & TEMPERATURE SENSOR.
P-4	MECHANICAL ROOM	SECONDARY HEATING	IN-LINE	50% GLYCOL	76 (4.79)	25 (74.73)	1 (0.75)	1705	208/1/60	C/W INTEGRATED SINGLE PHASE VFD, INTEGRAL CONTROLLER, BUILT-IN DIFFERENTIAL-PRESSURE & TEMPERATURE SENSOR.
P-5	MECHANICAL ROOM	DOMESTIC HOT WATER RECIRC.	IN-LINE CIRCULATOR	WATER	5.4 (0.2)	7 (20.9)	0.10 (0.08)	–	115/1/60	C/W TIME CLOCK.
P-6	BASEMENT	STORM SUMP PUMP	SUBMERSIBLE PUMP	STORM WATER	100 (6.39)	15 (44.8)	0.75 (0.56)	1725	115/1/60	C/W 3 FLOAT SYSTEM.
P-7	BASEMENT	STORM SUMP PUMP	SUBMERSIBLE PUMP	STORM WATER	100 (6.39)	15 (44.8)	0.75 (0.56)	1725	115/1/60	C/W 3 FLOAT SYSTEM.
P-8	BASEMENT	SANITARY SUMP PUMP	SEWAGE PUMP	SANITARY WATER	15 (0.9)	8 (23.9)	0.33 (0.25)	3450	115/1/60	C/W 3 FLOAT SYSTEM.
P-9	BASEMENT	SANITARY SUMP PUMP	SEWAGE PUMP	SANITARY WATER	15 (0.9)	8 (23.9)	0.33 (0.25)	3450	115/1/60	C/W 3 FLOAT SYSTEM.

BOILER SCHEDULE

TAG No.	LOCATION/SERVICE	TYPE	FUEL	INPUT (INC. ALTITUDE CORRECTION) MBH (kW)	OUTPUT (INC. ALTITUDE CORRECTION) MBH (kW)	FLUID TYPE	FLUID TEMP. IN °F (°C)	FLUID TEMP. OUT °F (°C)	FLUID FLOW gpm (L/s)	PRESS. DROP PSI (kPa)	VOLTAGE	WEIGHT lbs (kg)	REMARKS
B-1	BASEMENT MECHANICAL ROOM	85% EFFICIENCY	N.GAS	909 (267.0)	688 (201.7)	50% GLYCOL	150.0 (66)	190.0 (88)	43.9 (2.8)	1 (6.9)	120/1/60	603 273	MODULATING BURNER WITH 5:1 TURN DOWN. COPPER-FINNED TUBE HEAT EXCHANGER. C/W BAROMETRIC DAMPER, OPERATING CONTROL AND DATA LOGGING.
B-2	BASEMENT MECHANICAL ROOM	85% EFFICIENCY	N.GAS	909 (267.0)	688 (201.7)	50% GLYCOL	150.0 (66)	190.0 (88)	43.9 (2.8)	1 (6.9)	120/1/60	603 273	MODULATING BURNER WITH 5:1 TURN DOWN. COPPER-FINNED TUBE HEAT EXCHANGER. C/W BAROMETRIC DAMPER, OPERATING CONTROL AND DATA LOGGING.

DOMESTIC WATER HEATER SCHEDULE (GAS)

TAG No.	LOCATION	FUEL	INPUT MBH (kW)	RECOVERY RATE gal/hr @ 100 °F RISE (L/hr @ 56°C RISE)	STORAGE CAPACITY GAL (L)	ELECTRICAL (V/Ph/Hz)	MCA	WEIGHT lbs (kg)	REMARKS
DWH-1	BASEMENT MECHANICAL ROOM	N.GAS	150 (43.96)	148 (560.92)	100 (378.5)	120/1/60	FRAC	523 (237.23)	HIGH EFFICIENCY MODULATING BURNER. HEAT EXCHANGER TO BE INTERNALLY & EXTERNALLY GLASS COATED. C/W LCD DISPLAY, SYSTEM DIAGNOSTICS & RUN TIME HISTORY. C/W CONDENSATE NEUTRALIZATION TANK.
DWH-2	BASEMENT MECHANICAL ROOM	N.GAS	150 (43.96)	148 (560.92)	100 (378.5)	120/1/60	FRAC	523 (237.23)	HIGH EFFICIENCY MODULATING BURNER. HEAT EXCHANGER TO BE INTERNALLY & EXTERNALLY GLASS COATED. C/W LCD DISPLAY, SYSTEM DIAGNOSTICS & RUN TIME HISTORY. C/W CONDENSATE NEUTRALIZATION TANK.

FAN SCHEDULE

TAG No.	LOCATION	SERVICE	AIR FLOW CFM (L/s)	E.S.P. in. w.c. (Pa)	MOTOR HP (kW)	RPM	ELECTRICAL (V/Ph/Hz)	MOUNTING ARR'GT	WEIGHT lbs (kg)	REMARKS
EF-1	BASEMENT	BASEMENT VENTILATION	4550 (2146)	0.75 (186.6)	1 (0.75)	1725	208/1/60	CEILING HUNG	565 (256)	CEILING HUNG VANE AXIAL BELT DRIVE FAN C/W INTEGRAL SOUND TRAP IN HOUSING, SOUND LEVEL 58dB.
EF-A	BATHROOM	BATHROOM VENTILATION	115 (54)	0.125 (31.1)	0.12 (0.09)	630	115/1/60	RECESSED CEILING	24 (11)	RECESSED CEILING MOUNTED EXHAUST FAN C/W ON/OFF SWITCH.
EF-B	JANITOR ROOMS INDOOR STORAGE	VENTILATION FAN	157 (66)	0.125 (31.1)	0.13 (0.1)	710	115/1/60	CEILING MOUNTED	23.7 (10.5)	CEILING SURFACE MOUNTED VENTILATION FAN.
BF-A	BASEMENT LAUNDRY	DRYER BOOSTER FAN	115 (61.4)	0.76 (189.1)	0.11 (0.08)	2500	115/1/60	WALL MOUNTED	– –	WALL MOUNTED AS PER MANUFACTURER SPECIFICATIONS. CONNECTION TO DRYER CONTROL BOX BY ELECTRICAL. C/W LINT TRAP.
TF-1	BASEMENT ELECTRICAL ROOM	TRANSFER FAN	157 (66)	0.125 (31.1)	0.13 (0.1)	710	115/1/60	CEILING MOUNTED	23.7 (10.5)	CEILING SURFACE MOUNTED TRANSFER FAN C/W REVERSE ACTING THERMOSTAT.

MAKE-UP AIR UNIT SCHEDULE (HYDRONIC)

UNIT No.	LOCATION	SERVICE	AIR CAPACITY cfm (L/s)	AIR E.S.P. in. w.c. (Pa)	AIR MOTOR BHP (kW)	AIR MOTOR HP (kW)	AIR ELECTRICAL (V/Ph/Hz)	MCA	HEATING INPUT CAPACITY MBH (kW)	HEATING FUEL	HEATING EDBT. °F . (°C)	HEATING LDBT. °F . (°C)	HEATING EWT. °F . (°C)	HEATING LWT. °F . (°C)	HEATING FLUID GPM. (l/s)	HEATING PRESSURE DROP FT. (kPa)	WEIGHT lbs (kg)	REMARKS
MUA-1	BASEMENT MECHANICAL ROOM	BUILDING	7050 (3326)	1.5 (374)	6.1 (4.5)	7.5 (5.6)	208/1/60	46.8	668.7 (196)	50% GLYCOL	–31.0 (–35.0)	73.5 (23.1)	190 (87.8)	160.3 (71.3)	50 (3.15)	8.5 (25.6)	2,685 (1218)	C/W SUMMER & WINTER FILTERS. PROVIDE MERV 13 FINAL FILTER. TERMINAL BLOCKS TO ACCEPT NO.6 AWG.

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SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

No.	Date/Date	Description/Description	Drawn by/Dessine par	Approved/Approuve
5	16-12-08	ISSUED FOR TENDER	C.M.P.	A.G.K.
4	16-12-08	ISSUED FOR BP	C.M.P.	A.G.K.
3	16-09-02	ISSUED FOR 99% REVIEW	C.M.P.	A.G.K.
2	16-06-14	ISSUED FOR 66% REVIEW	C.M.P.	A.G.K.
1	16-05-05	ISSUED FOR 33% REVIEW	C.M.P.	A.G.K.

Revision / Revision

A detail number numero de detail
B source drawing no. de dessin no.
C detail on drawing no. detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.
Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Equipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
MECHANICAL SCHEDULES

Surveyed by/Arpente par	Drawn by/Dessine par: C.M.P.	Date/Date: 2016-04-21
Designed by/Concept par: C.M.P.	Reviewed by/Revise par: A.G.K.	Scale/Echelle: N.T.S.

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt
Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet: 39000	Asset No./No. du-bien: Asset No. 945	Sheet No./No. de la feuille: M501

Drawing Reference No./No. de reference du dessin

DISTRIBUTION

- LIGHTING/POWER PANEL
- DATA PANEL
- INTERCOM PANEL
- FIRE ANNUNCIATOR PANEL
- GROUND BAR
- PLYWOOD BACKBOARD
- EXTERIOR TRANSFORMER
- DRY TYPE TRANSFORMER
- METERING CABINET
- UTILITY METER
- POWER METER
- ELECTRIC UTILITY METER 200A AND LESS
- WATER METER
- GAS METER
- SPLITTER
- ELECTRICAL CENTRAL DISTRIBUTION PANEL (CDP)
- ELECTRICAL MOTOR CONTROL CENTRE (MCC)
- ELECTRICAL MAIN DISTRIBUTION BOARD
- TRANSFER SWITCH WITH BY-PASS
- TRANSFER SWITCH
- LVT — 120/24V LOW VOLTAGE TRANSFORMER
- ESD — WALL MOUNTED EMERGENCY SHUTDOWN BUTTON
- WEATHER HEAD

LIGHTING

- SURFACE MOUNTED LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- RECESSED LIGHT FIXTURE WITH END PLATES
- SURFACE MOUNTED STRIP LIGHT FIXTURE
- UNDER CABINET/VALENCE STRIP LIGHT FIXTURE
- WALL MOUNTED CUBED LIGHT FIXTURE
- SURFACE MOUNTED LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- EM — WALL MOUNTED LIGHT FIXTURE ON EMERGENCY
- TRACK LIGHT C/W PENDANT HEADS
- TRACK LIGHT C/W ADJUSTABLE HEADS
- LANDSCAPE UPLIGHT FIXTURE
- RECESSED STEP LIGHT FIXTURE
- SURFACE MOUNTED HOT TUB/POOL LIGHT FIXTURE
- BOLLARD LIGHT FIXTURE
- POLE MOUNTED LIGHT FIXTURE (ONE HEAD SHOWN)
- WALL MOUNTED HID LIGHT FIXTURE

POWER

- DUPLEX RECEPTACLE
- SPLIT FEED RECEPTACLE
- FOURPLEX RECEPTACLE
- SWITCHED DUPLEX RECEPTACLE
- 20A T-SLOT RECEPTACLE (KITCHEN)
- TWISTLOCK RECEPTACLE
- 208 VOLT 1PH RECEPTACLE
- 208 VOLT 3PH RECEPTACLE
- WALL MOUNTED USB PORT
- PEDESTAL DUPLEX RECEPTACLE
- POST TOP SERVICE RECEPTACLE
- SB — WALL MOUNTED MULTI-GANG BOX
- WALL MOUNTED PUSH BUTTON
- SPD — WALL MOUNTED SURGE PROTECTIVE DEVICE (SPD OR TVSS)
- VFD — WALL MOUNTED VARIABLE FREQUENCY DRIVE (VFD)
- CEILING MOUNTED DUPLEX RECEPTACLE
- CEILING MOUNTED FOURPLEX RECEPTACLE
- CEILING MOUNTED 208 VOLT 1PH RECEPTACLE
- CEILING MOUNTED 208 VOLT 3PH RECEPTACLE
- R — AUXILIARY RELAY
- P — CEILING MOUNTED POWER ZONE BOX
- REEL DOWN RECEPTACLE
- PACK POLE
- No. — FLOOR MOUNTED DUPLEX RECEPTACLE (No. OF OUTLETS)
- No. — FLOOR MOUNTED FOURPLEX RECEPTACLE (No. OF OUTLETS)
- No. — FLOOR MOUNTED 208 VOLT 1PH RECEPTACLE (No. OF OUTLETS)
- No. — FLOOR MOUNTED 208 VOLT 3PH RECEPTACLE (No. OF OUTLETS)
- SB — FLOOR MOUNTED MULTI-GANG BOX
- MOTOR
- MOTOR WITH DISCONNECT SWITCH
- MOTOR WITH FUSIBLE DISCONNECT SWITCH
- MOTOR WITH COMBINATION DISCONNECT SWITCH
- MSM — MAGNETIC MOTOR STARTER
- HOME RUN WITH WIRE COUNT
- WAP — WIRELESS ACCESS POINT
- ELECTRICAL HEATING
- HEAT TRACING

SWITCHES AND JUNCTIONS BOXES

- LINE VOLTAGE SWITCH
- P — SWITCH C/W PILOT LIGHT
- 2 — TWO POLE SWITCH
- 3 — THREE WAY SWITCH
- 4 — FOUR WAY SWITCH
- M — MANUAL MOTOR PROTECTION SWITCH C/W PILOT LIGHT
- K — KEY OPERATED SWITCH - CYLINDER TYPE
- T — TIMER SWITCH
- D — DIMMER SWITCH - SLIDER TYPE
- OS — OCCUPANCY MOTION SWITCH
- L — INTERNALLY ILLUMINATED LIGHT SWITCH
- 347 — 347 VOLT SWITCH
- R — LOW VOLTAGE LIGHTING CONTROL SWITCH
- 2 GANG SWITCH
- 3 GANG SWITCH
- WALL MOUNTED PHOTOCELL
- WALL MOUNTED JUNCTION BOX
- FLOOR MOUNTED JUNCTION BOX
- J — CEILING MOUNTED JUNCTION BOX
- THERMOSTAT
- NON-FUSEABLE DISCONNECT SWITCH
- FUSEABLE DISCONNECT SWITCH
- COMBINATION MAGNETIC HOA STARTER
- O/H DOOR PUSH BUTTON
- PB — PULL BOX

LIFE SAFETY

- CEILING MOUNTED EXIT LIGHT SINGLE FACE
- CEILING MOUNTED EXIT LIGHT DOUBLE FACE
- CEILING COMBINATION EXIT SIGN AND EMERGENCY LIGHT C/W BATTERY
- WALL MOUNTED EXIT LIGHT SINGLE FACE
- WALL MOUNTED EXIT LIGHT DOUBLE FACE
- WALL COMBINATION EXIT SIGN AND EMERGENCY LIGHT C/W BATTERY
- EXIT LIGHT DIRECTIONAL ARROW
- WALL MOUNTED EMERGENCY LIGHTING BATTERY PACK
- CEILING MOUNTED EMERGENCY LIGHTING DOUBLE REMOTE HEAD
- CEILING MOUNTED EMERGENCY LIGHTING RECESSED REMOTE HEAD
- WALL MOUNTED EMERGENCY LIGHTING DOUBLE REMOTE HEAD
- F — FIRE ALARM BELL
- F — FIRE ALARM BELL WITH STROBE
- F — FIRE ALARM STROBE
- F — FIRE ALARM HORN
- F — FIRE ALARM HORN/STROBE
- M — MINI FIRE ALARM HORN C/W SILENCE BUTTON
- M — MINI FIRE ALARM HORN/STROBE C/W SILENCE BUTTON
- FIRE ALARM BEACON
- F — CEILING MOUNTED FIRE ALARM HORN/STROBE
- F — CEILING MOUNTED FIRE ALARM EVACUATION HORN
- F — CEILING MOUNTED FIRE ALARM SPEAKER
- F — CEILING MOUNTED FIRE ALARM SPEAKER WITH STROBE
- F — CEILING MOUNTED FIRE ALARM HORN SPEAKER
- F — WALL MOUNTED FIRE ALARM EVACUATION HORN
- F — WALL MOUNTED FIRE ALARM SPEAKER
- F — WALL MOUNTED FIRE ALARM SPEAKER WITH STROBE
- F — WALL MOUNTED FIRE ALARM HORN SPEAKER
- FIRE ALARM PULLSTATION
- SMOKE DETECTOR
- DUCT SMOKE DETECTOR
- HEAT DETECTOR - RATE OF RISE
- FT — HEAT DETECTOR - FIXED TEMPERATURE
- CO — CARBON MONOXIDE DETECTOR
- NO — NITROGEN OXIDE DETECTOR
- A — SMOKE ALARM
- C — COMBINATION SMOKE ALARM/CARBON MONOXIDE DETECTOR
- F — FIRE FIGHTERS HANDSET
- FRM — FIRE RELAY MODULE
- ISO — ISOLATION MODULE
- IM — ADDRESSABLE INPUT MODULE
- DSS — DUCT SMOKE SENSOR
- F — FLOW SWITCH
- TAMPER VALVE
- S — SOLENOID VALVE
- EOL — END OF LINE DEVICE

SECURITY

- K — WALL MOUNTED SECURITY KEYPAD
- C — WALL MOUNTED CARD READER
- REX — WALL MOUNTED REQUEST TO EXIT PUSH BUTTON
- M — WALL MOUNTED MOTION SENSOR
- WALL MOUNTED DAYLIGHT HARVESTING
- M — CEILING MOUNTED MOTION SENSOR
- CEILING MOUNTED DAYLIGHT HARVESTING
- WALL MOUNTED CCTV CAMERA - FIXED
- WALL MOUNTED CCTV CAMERA - PAN, TILT, ZOOM
- WALL MOUNTED CCTV CAMERA - FUTURE
- CEILING MOUNTED CCTV CAMERA - FIXED
- CEILING MOUNTED CCTV CAMERA - PAN, TILT, ZOOM
- CEILING MOUNTED CCTV CAMERA - FUTURE
- M — MAGNETIC DOOR LOCK
- M — MAGNETIC DOOR HOLD OPEN DEVICE
- DS — DOOR POSITION SWITCH
- E — ELECTRIC DOOR HANDLE
- BG — BREAK GLASS SENSOR
- SA — SOLARART BUZZER

COMMUNICATIONS

- WALL MOUNTED TELEPHONE OUTLET
- P — PAY TELEPHONE OUTLET
- TELEPHONE OUTLET FOR MODULAR FURNITURE
- WALL MOUNTED DATA OUTLET
- WALL MOUNTED COMBINATION TELEPHONE/DATA OUTLET
- WALL MOUNTED INTERCOM OUTLET
- WALL MOUNTED TELEVISION OUTLET
- WALL MOUNTED AUXILIARY OUTLET
- M — WALL MOUNTED MICROPHONE OUTLET
- WALL MOUNTED CHIME OR BUZZER
- WALL MOUNTED SINGLE FACED CLOCK
- WALL MOUNTED DOUBLE FACED CLOCK
- WALL MOUNTED CLOCK OUTLET
- WALL MOUNTED DIGITAL PROGRAMMABLE TIME CLOCK
- CEILING MOUNTED SINGLE FACED CLOCK
- CEILING MOUNTED DOUBLE FACED CLOCK
- CEILING MOUNTED TELEPHONE OUTLET
- CEILING MOUNTED COMBINATION TELEPHONE/DATA OUTLET
- CEILING MOUNTED TELEVISION OUTLET
- S — CEILING MOUNTED SECURITY TELEVISION OUTLET
- CEILING MOUNTED DATA OUTLET
- No. — FLOOR MOUNTED DATA OUTLET (No. OF OUTLETS)
- No. — FLOOR MOUNTED INTERCOM OUTLET (No. OF OUTLETS)
- No. — FLOOR MOUNTED TELEPHONE OUTLET (No. OF OUTLETS)
- No. — FLOOR MOUNTED TELEVISION OUTLET (No. OF OUTLETS)
- No. — FLOOR MOUNTED COMBINATION TELEPHONE/DATA OUTLET (No. OF OUTLETS)
- T — CEILING MOUNTED TELEPHONE ZONE BOX
- D — CEILING MOUNTED DATA ZONE BOX
- S — BELL
- V — VOLUME CONTROL
- S — CEILING MOUNTED SPEAKER
- S — CEILING MOUNTED SOUND MASKING SPEAKER
- S — WALL MOUNTED SPEAKER
- S — CEILING MOUNTED HORN SPEAKER
- S — WALL MOUNTED HORN SPEAKER
- WALL MOUNTED INTERCOM SPEAKER
- RADIO LINK

OCCUPANCY SENSORS

- P — WALL MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR
- U — WALL MOUNTED ULTRA SONIC OCCUPANCY SENSOR
- C — WALL MOUNTED PASSIVE INFRARED/ULTRA SONIC OCCUPANCY SENSOR
- P — CEILING MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR
- U — CEILING MOUNTED ULTRA SONIC OCCUPANCY SENSOR
- C — CEILING MOUNTED PASSIVE INFRARED/ULTRA SONIC OCCUPANCY SENSOR

MISCELLANEOUS AND LABELS

- REVISION NUMBER
- FIXTURE TYPE
- MECHANICAL EQUIPMENT IDENTIFICATION TAG
- KITCHEN EQUIPMENT TAG
- KEY NOTES
- SINGLE LINE BREAK
- DOUBLE LINE BREAK
- CAPPED OFF LINE OR CONDUIT
- CONDUIT BREAK
- CABLE TRAY
- a — INSTALL ABOVE COUNTER
- b — INSTALL BUILT INTO MILLWORK
- DW — DISH WASHER
- F — FRIDGE
- R — RANGE
- M — MICROWAVE
- G — GARBURATOR
- D — DRYER
- W — WASHER
- NL — NIGHT LIGHT
- T — TAMPER PROOF
- GFI — GROUND FAULT INTERRUPTER
- IG — ISOLATED GROUND
- EM — EMERGENCY
- AF — AMP FRAME
- AT — AMP TRIP
- WP — WEATHER PROOF
- XP — EXPLOSION PROOF
- E — EXISTING DEVICE TO REMAIN
- X — EXISTING DEVICE TO BE REMOVED
- ER — EXISTING DEVICE TO BE RELOCATED
- RD — RELOCATED DEVICE
- WIRE COUNT
- CONDUIT RUN UP
- CONDUIT RUN DOWN
- OH — OVERHEAD POWER
- UG — UNDERGROUND POWER
- CONDUCTOR/CONDUIT
- UNDERGROUND CONDUCTOR/CONDUIT
- FLEXIBLE CONDUIT
- EXISTING EQUIPMENT

PROJECT DRAWING LIST

Drawing No.	Drawing Name
E000	ELECTRICAL LEGEND AND DRAWING LIST
E100	SITE PLAN - ELECTRICAL LAYOUT
E200	BASEMENT FLOOR PLAN - ELECTRICAL LAYOUT
E201	MAIN FLOOR PLAN - ELECTRICAL LAYOUT
E202	LOFT FLOOR PLAN - ELECTRICAL LAYOUT
E300	TYPICAL SUITE PLANS - ELECTRICAL LAYOUT
E301	TYPICAL SUITE PLANS - ELECTRICAL LAYOUT
E400	ELECTRICAL SINGLE LINE DISTRIBUTION AND PANELS
E500	ELECTRICAL SCHEDULES
E600	ELECTRICAL DETAILS

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SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

No.	Date/Date	Description/Description	Drawn by/Dessine par	Approved/Approuve
5	16-12-08	ISSUED FOR TENDER	L.L.L.	K.O.K.
4	16-12-08	ISSUED FOR BP	L.L.L.	K.O.K.
3	16-09-02	ISSUED FOR 99% REVIEW	L.L.L.	J.M.T.
2	16-06-14	ISSUED FOR 66% REVIEW	L.L.L.	J.M.T.
1	16-05-05	ISSUED FOR 33% REVIEW	L.L.L.	J.M.T.

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
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Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.

Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
ELECTRICAL LEGEND AND DRAWING LIST

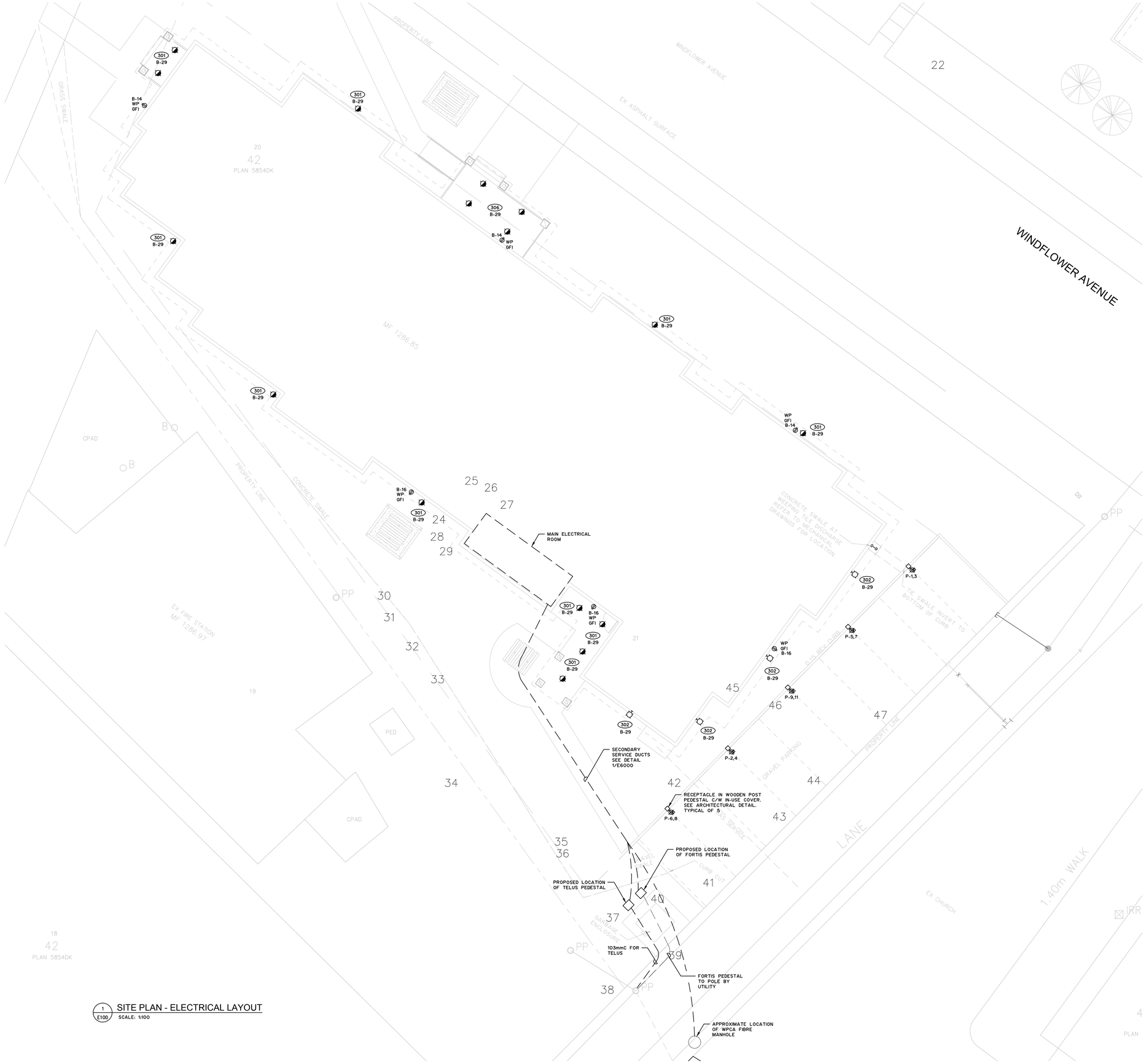
Surveyed by/Arpente par	Drawn by/Dessine par: L.L.L.	Date/Date: 2016-04-21
Designed by/Concept par: J.M.T.	Reviewed by/Revise par: K.O.K.	Scale/Echelle: AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet: 39000	Asset No./No. du-bien: Asset No. 945	Sheet No./No. de la feuille: E000

Drawing Reference No./No. de reference du dessin



1 / E100 SITE PLAN - ELECTRICAL LAYOUT
SCALE: 1:100

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Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
SITE PLAN - ELECTRICAL LAYOUT

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	L.L.L.	2016-04-21
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
J.M.T.	K.O.K.	AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

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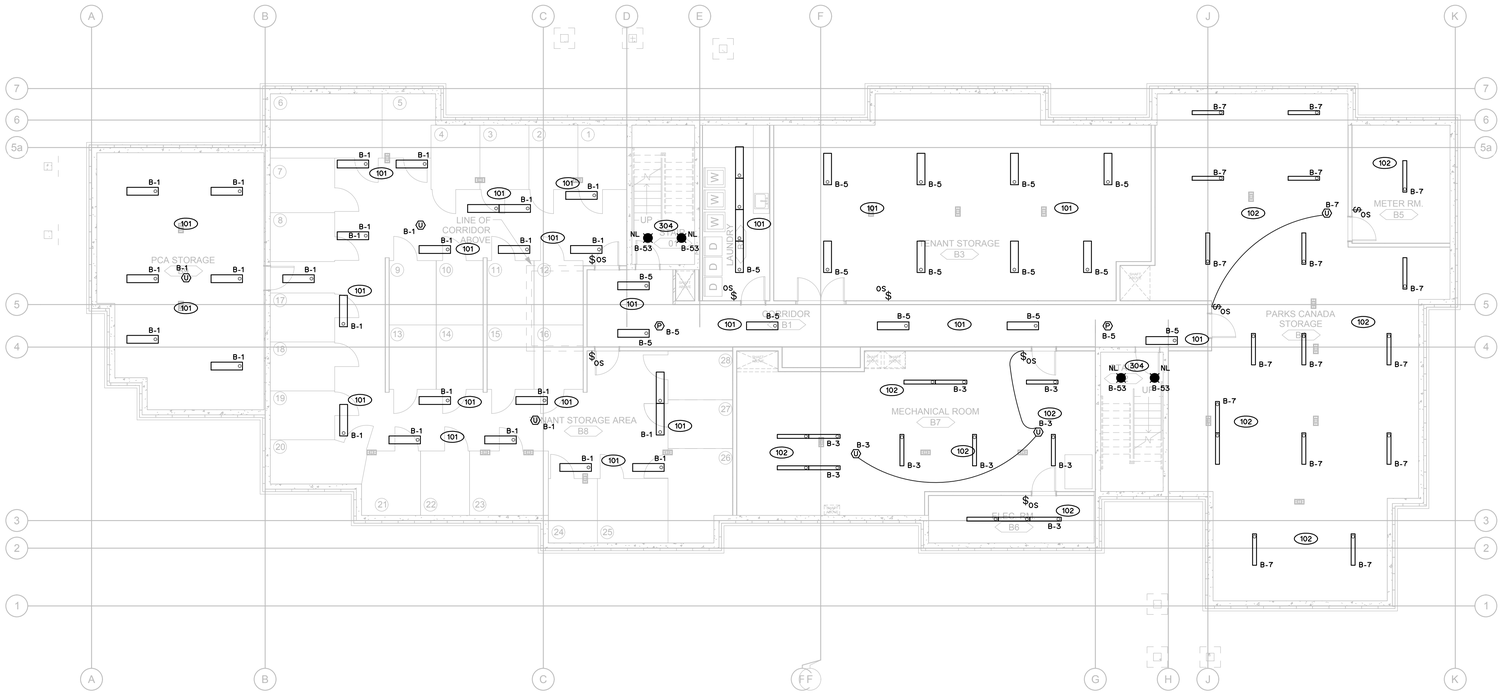
Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	Asset No. 945	E100

Drawing Reference No./No. de reference du dessin

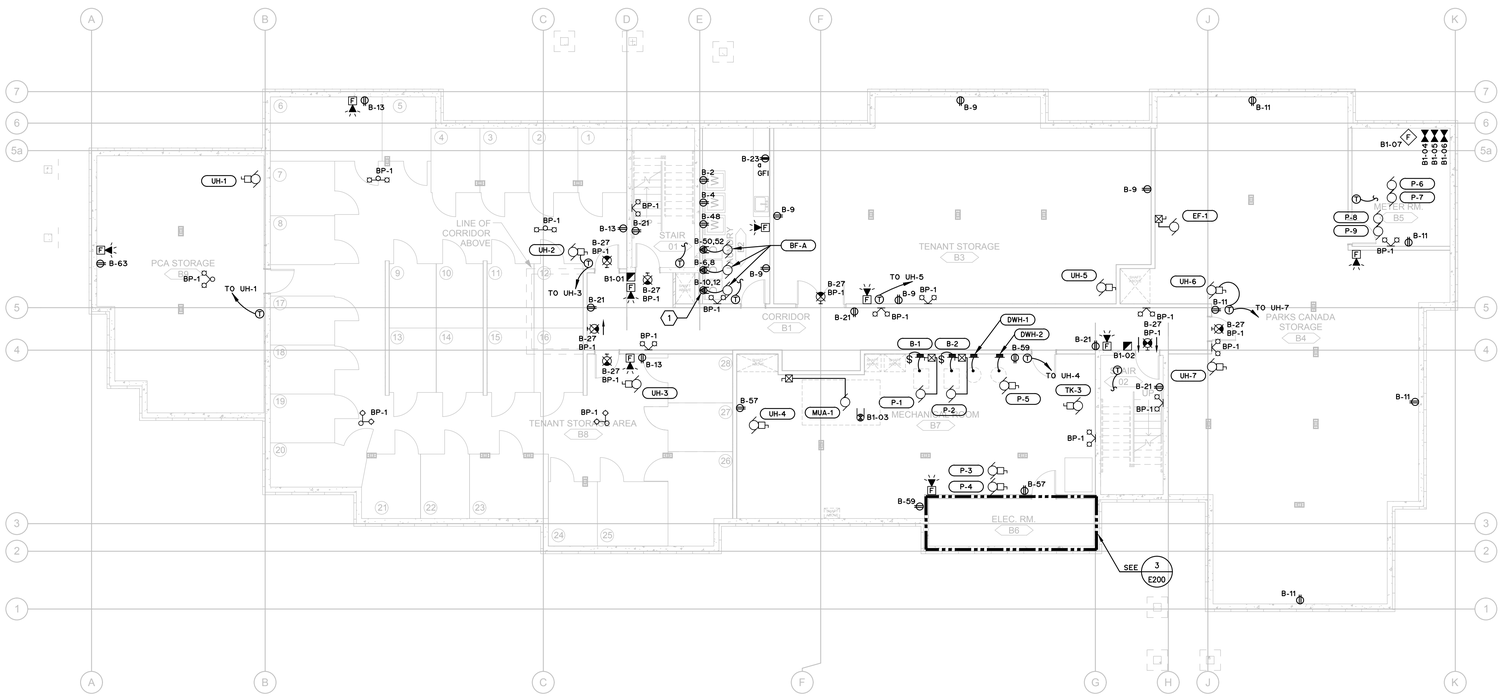


1 / E200 BASEMENT FLOOR PLAN LIGHTING LAYOUT

SCALE: 1:100

GENERAL NOTES:

1. LIGHTING ON CIRCUIT B-5 WITHIN CORRIDOR AND STAIRCASES TO BE CONTROLLED BY MOTION SENSOR SWITCHING INDICATED

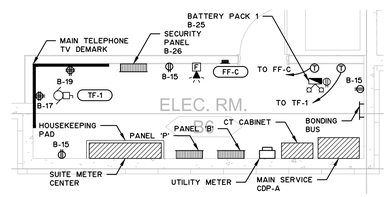


2 / E200 BASEMENT FLOOR PLAN POWER AND SYSTEMS LAYOUT

SCALE: 1:100

KEY NOTES:

1. SUPPLY AND INSTALL DSC-300 DRYER RECEPTACLE. WIRE-UP COMPLETE WITH BOOSTER FAN ABOVE. TYPICAL FOR 3 DRYERS



3 / E200 ELECTRICAL ROOM B6 ELECTRICAL LAYOUT

SCALE: 1:50

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LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

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Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet: Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin: BASEMENT FLOOR PLAN ELECTRICAL LAYOUT

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	L.L.L.	2016-04-21
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
J.M.T.	K.O.K.	AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

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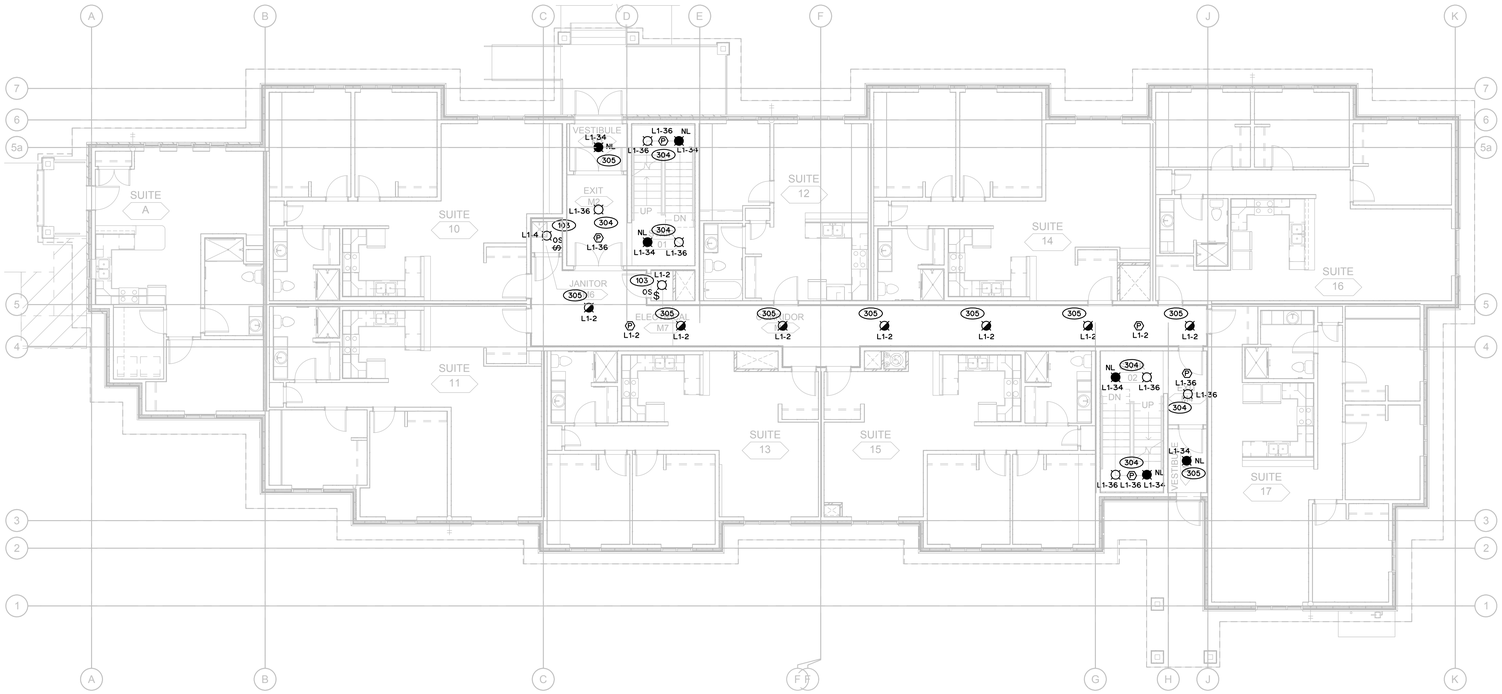
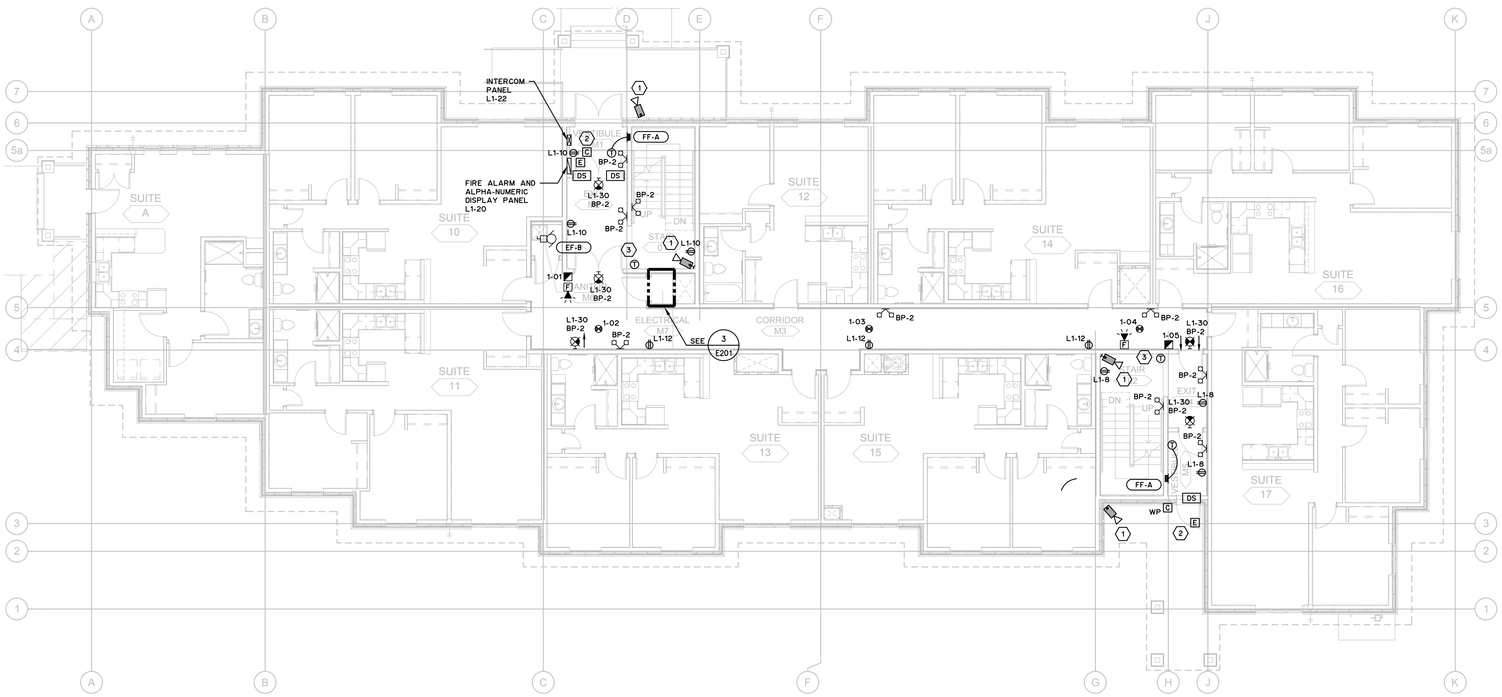
Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
39000	Asset No. 945	E200

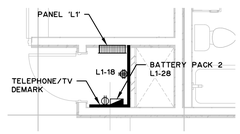
Drawing Reference No./No. de reference du dessin



MAIN FLOOR PLAN
LIGHTING LAYOUT
1 / E201 SCALE: 1:100



MAIN FLOOR PLAN
POWER AND SYSTEMS LAYOUT
2 / E201 SCALE: 1:100



ELECTRICAL CLOSET
ELECTRICAL LAYOUT
3 / E201 SCALE: 1:50

KEY NOTES:

1. ROUGH IN FOR FUTURE CAMERAS. PROVIDE AND INSTALL BOX AND CONDUIT BACK TO SECURITY PANEL LOCATION. COORDINATE LOCATIONS WITH ARCHITECT AND OWNER ON SITE
2. SECURITY DEVICES TO BE FED FROM 24VDC TRANSFORMER POWERED FROM THE CORRESPONDING 120VAC CIRCUIT. SEE DETAILS 7/E600 AND 8/E600
3. RADIATION THERMOSTAT

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL 120V CIRCUITS TO LOW VOLTAGE TRANSFORMERS FOR MECHANICAL THERMOSTATS. CO-ORDINATE WITH MECHANICAL CONTROLS CONTRACTOR FOR LOCATIONS
2. MOTION SENSORS TO CONTROL LIGHTING ON NOTED CIRCUIT THAT IS WITHIN THE SAME ENCLOSED STAIRCASE OR CORRIDOR

SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
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Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
MAIN FLOOR PLAN ELECTRICAL LAYOUT

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	L.L.L.	2016-04-21
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
J.M.T.	K.O.K.	AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

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Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet: 39000
Asset No./No. du-bien: Asset No. 945
Sheet No./No. de la feuille: E201
Drawing Reference No./No. de reference du dessin

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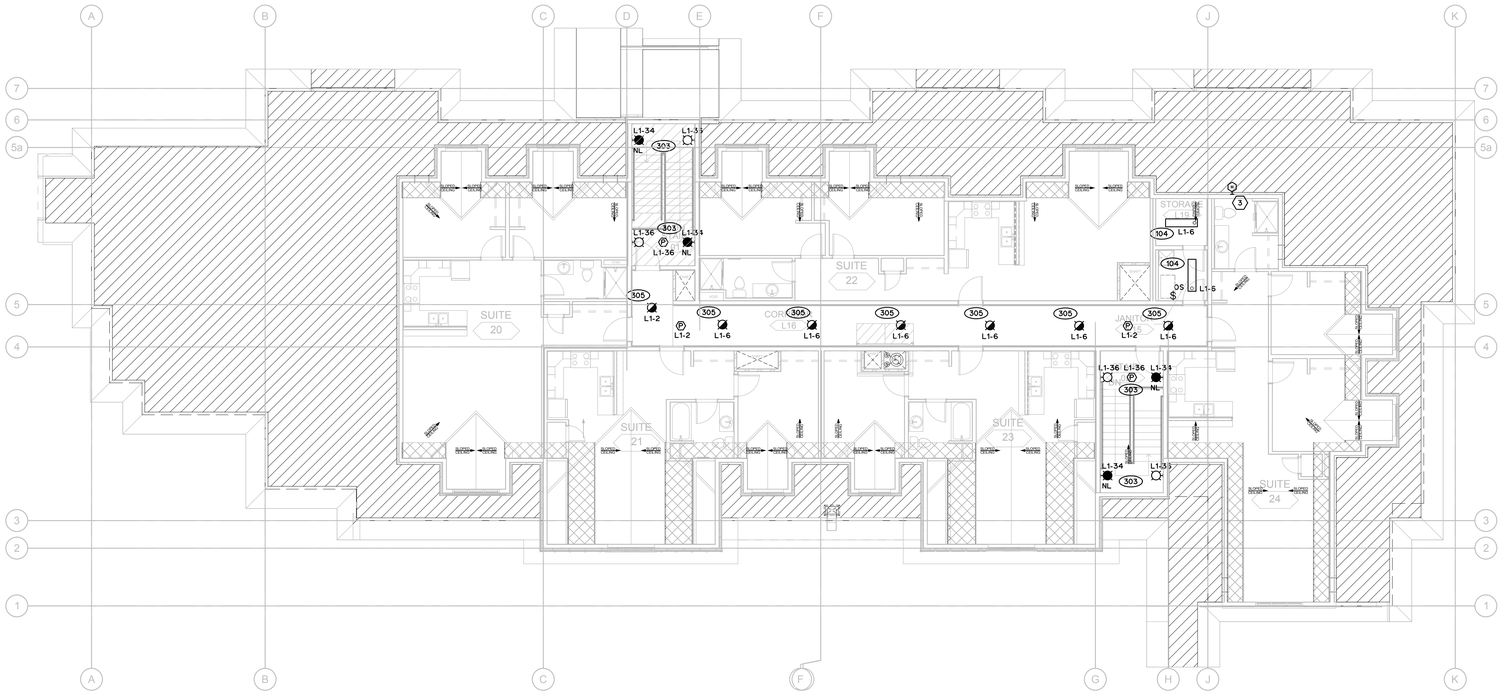
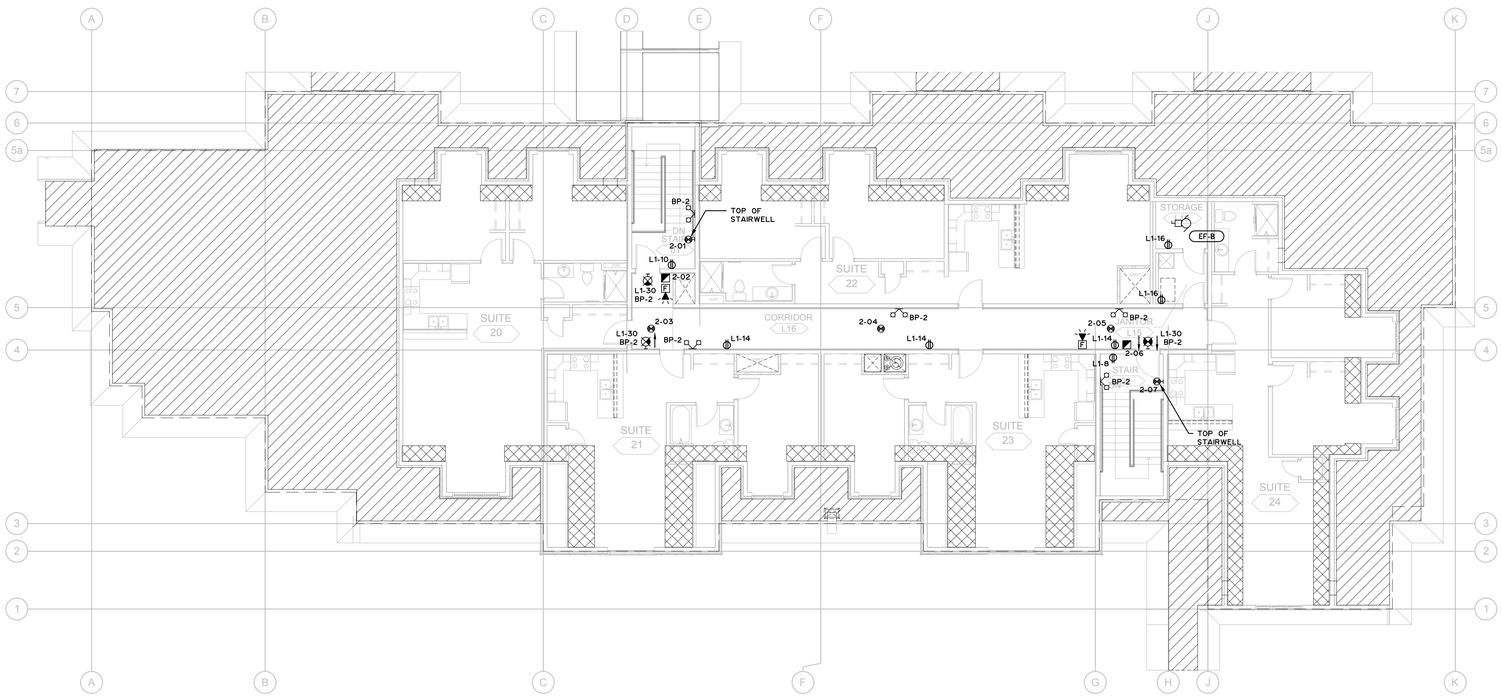


1 / E202 LOFT FLOOR PLAN
LIGHTING LAYOUT
SCALE: 1:100



2 / E202 LOFT FLOOR PLAN
POWER AND SYSTEMS LAYOUT
SCALE: 1:100

KEY NOTES:

1. MOTORIZED DAMPER IN ATTIC ON EXHAUST DUCT. INTERCONNECT WITH EXHAUST FAN EF-1
2. MOTORIZED DAMPER IN ATTIC ON INTAKE DUCT. INTERCONNECT WITH MAKE UP AIR MUA-1
3. EXTERIOR WALL MOUNTED PHOTOCELL FOR EXTERIOR LIGHTING CONTROL

SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

No.	Date/Date	Description/Description	Drawn by/ Dessine par	Approved Approuve
5	16-12-08	ISSUED FOR TENDER	L.L.L.	K.O.K.
4	16-12-08	ISSUED FOR BP	L.L.L.	K.O.K.
3	16-09-02	ISSUED FOR 99% REVIEW	L.L.L.	J.M.T.
2	16-06-14	ISSUED FOR 66% REVIEW	L.L.L.	J.M.T.
1	16-05-05	ISSUED FOR 33% REVIEW	L.L.L.	J.M.T.

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.

Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Equipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
LOFT FLOOR PLAN ELECTRICAL LAYOUT

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	L.L.L.	2016-04-21
Designed by/Concept par	**Reviewed by/Revise par**	**Scale/Echelle**
J.M.T.	K.O.K.	AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
39000	Asset No. 945	E202

Drawing Reference No./No. de reference du dessin

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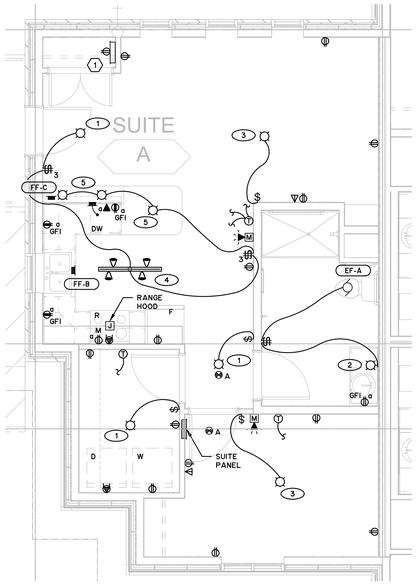
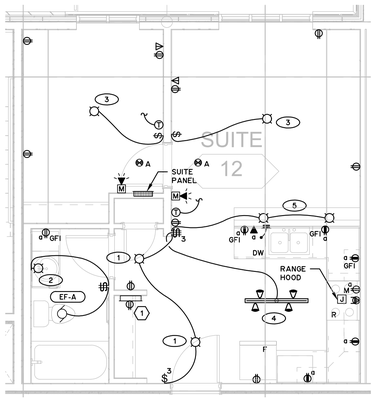


1 E300 MAIN FLOOR PLAN
TYPICAL SUITE 'A'
SCALE: 1:50



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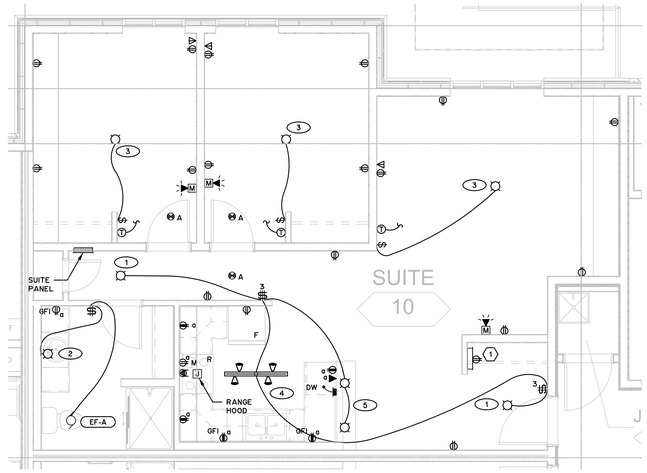
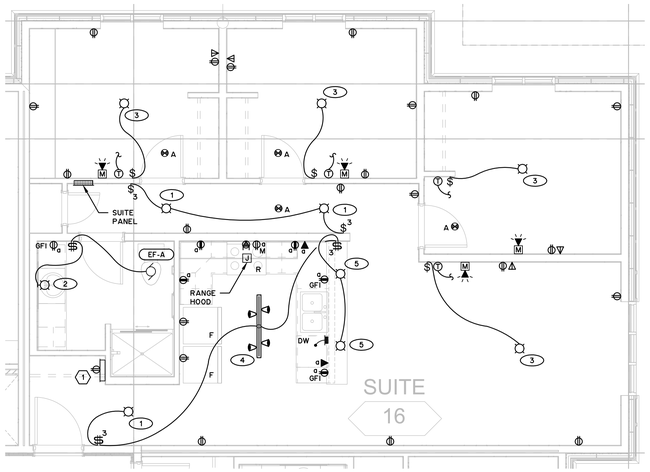
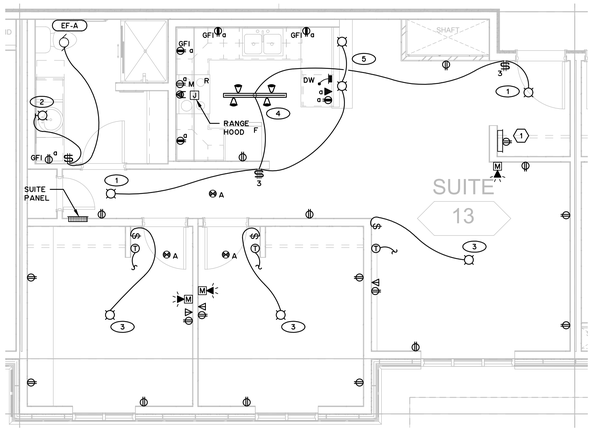
TYPICAL SUITE '12'
SCALE: 1:50



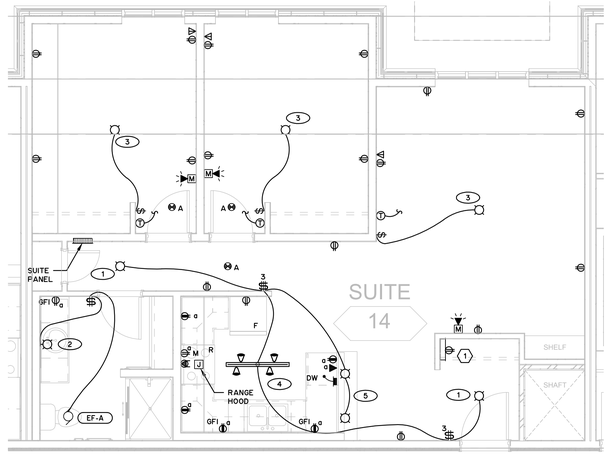
3 E300 MAIN FLOOR PLAN
TYPICAL SUITE '10'
SCALE: 1:50



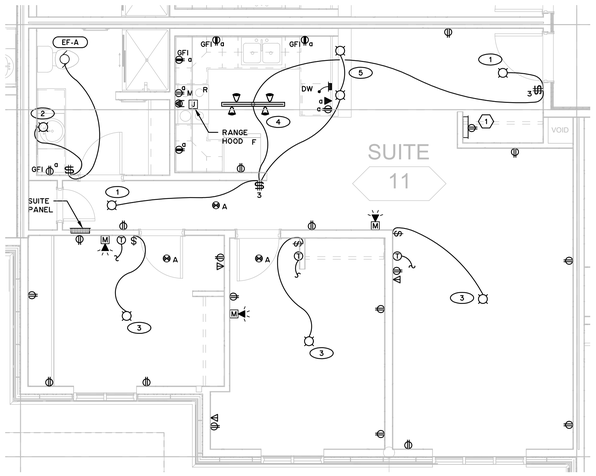
4 E300 MAIN FLOOR PLAN
TYPICAL SUITE '16' AND '17'
SCALE: 1:50



5 E300 MAIN FLOOR PLAN
TYPICAL SUITE '13' AND '15'
SCALE: 1:50



6 E300 MAIN FLOOR PLAN
TYPICAL SUITE '14'
SCALE: 1:50



7 E300 MAIN FLOOR PLAN
TYPICAL SUITE '11'
SCALE: 1:50

KEY NOTES:

1. DATA/VOICE/TV NETWORK DISTRIBUTION PANEL TO BE 356Wx71H STRUCTURED MEDIA BOX AND RECESSED MOUNTED IN ENTRY CLOSET OF EACH SUITE, 610mm ABOVE FINISHED FLOOR. CONTRACTOR TO RUN ALL SUITE VOICE/DATA/CABLE TV DEVICE CABLING TO THIS BOX. PROVIDE AND INSTALL 120V DUPLEX RECEPTACLE MOUNTED INSIDE ENCLOSURE

GENERAL NOTES:

1. CONFIRM LOCATION AND MOUNTING HEIGHTS OF ALL DEVICES PRIOR TO ROUGH-IN
2. ALL DEVICES LOCATED ON PARTY WALLS DIVIDING SUITES SHALL NOT BE MOUNTED BACK TO BACK BUT SHALL BE MOUNTED A MINIMUM OF 1 STUD WIDTH APART
3. SMOKE ALARMS IN SUITE TO BE 120V HARD WIRED, CONNECTED TO LIGHTING CIRCUIT AND COMPLETE WITH DUAL SENSING FOR SMOKE AND CARBON MONOXIDE. MULTIPLE SMOKE DETECTORS IN THE SAME SUITE ARE TO BE INTERCONNECTED
4. RUN 3No.8 NMD90 FROM RANGE TO SUITE ELECTRICAL PANEL (OR 'BX')
5. CO-ORDINATE ALL KITCHEN ELECTRICAL OUTLETS WITH GENERAL CONTRACTOR AND MILLWORK CONTRACTOR PRIOR TO ROUGH-IN
6. WIRE ALL BATHROOM DEVICES TO LOAD SIDE OF GFI RECEPTACLE
7. ALL SUITE DIMMERS SHALL BE MOUNTED IN 103mm SQUARE BACK BOXES C/W SINGLE GANG PLASTER RING AND SHALL BE LUTRON S-600P
8. ALL SWITCHES AND DIMMERS GANGED TOGETHER SHALL BE MOUNTED IN A MULTI-GANG BOX C/W ONE PIECE FACEPLATE
9. PROVIDE ARC FAULT PROTECTED BREAKERS FOR RECEPTACLES IN ALL SLEEPING AREAS AS REQUIRED BY CODE
10. INSTALL TAMPER RESISTANT RECEPTACLES IN ALL LOCATIONS BELOW COUNTER HEIGHT AS REQUIRED BY THE CURRENT C.E.C.
11. FINAL LOCATION OF ALL SUITE PANELS TO BE CO-ORDINATED ON SITE WITH CONSULTANT PRIOR TO ROUGH-IN
12. COORDINATE LIGHTING LAYOUT WITH JOIST LAYOUT. PROVIDE SCHEMATIC OF LAYOUT PRIOR TO INSTALLATION TO CONSULTANT FOR REVIEW
13. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL 120V CIRCUIT TO LOW VOLTAGE TRANSFORMER FOR RADIATION THERMOSTATS. CO-ORDINATE WITH MECHANICAL CONTROLS CONTRACTOR FOR LOCATIONS

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SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

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Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

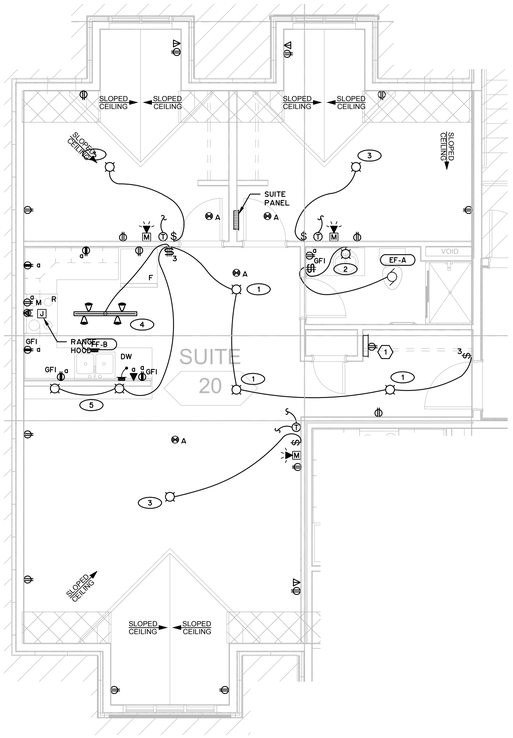
Drawing title/Titre du dessin
TYPICAL SUITE PLANS ELECTRICAL LAYOUT

Surveyed by/Arpenté par	Drawn by/Dessine par: L.L.L.	Date/Date: 2016-04-21
Designed by/Concept par: J.M.T.	Reviewed by/Revise par: K.O.K.	Scale/Echelle: AS INDICATED

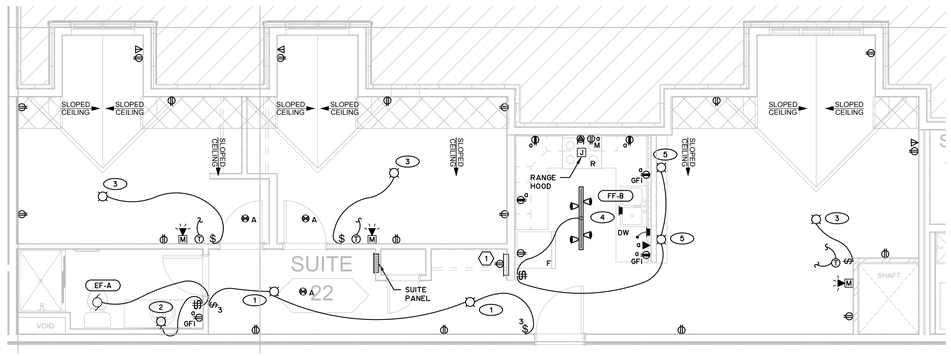
PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Parks Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

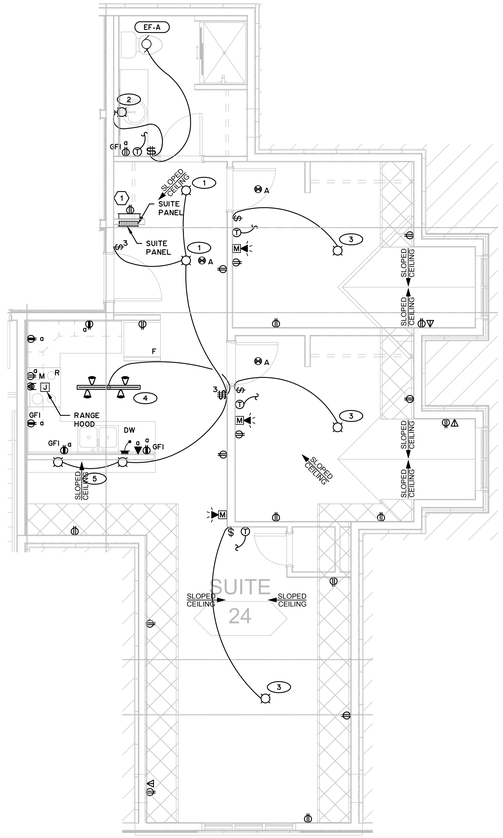
Project No./No. du projet: 39000	Asset No./No. du-bien: Asset No. 945	Sheet No./No. de la feuille: E300
Drawing Reference No./No. de reference du dessin		



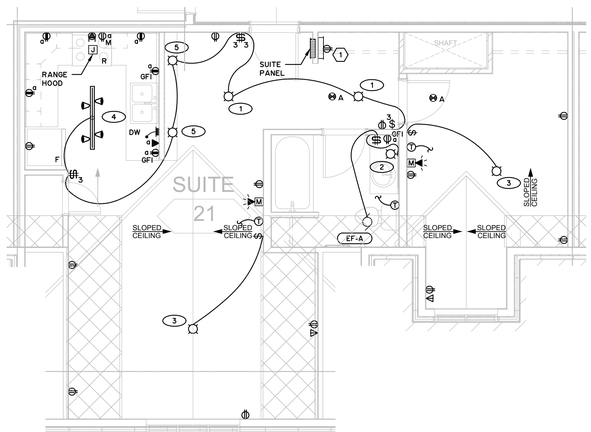
1 E301 LOFT FLOOR PLAN
TYPICAL SUITE '20'
SCALE: 1:50



2 E301 LOFT FLOOR PLAN
TYPICAL SUITE '22'
SCALE: 1:50



3 E301 LOFT FLOOR PLAN
TYPICAL SUITE '24'
SCALE: 1:50



4 E301 LOFT FLOOR PLAN
TYPICAL SUITE '21'
SCALE: 1:50

KEY NOTES:

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Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
TYPICAL SUITE PLANS ELECTRICAL LAYOUT

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	L.L.L.	2016-04-21
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
J.M.T.	K.O.K.	AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

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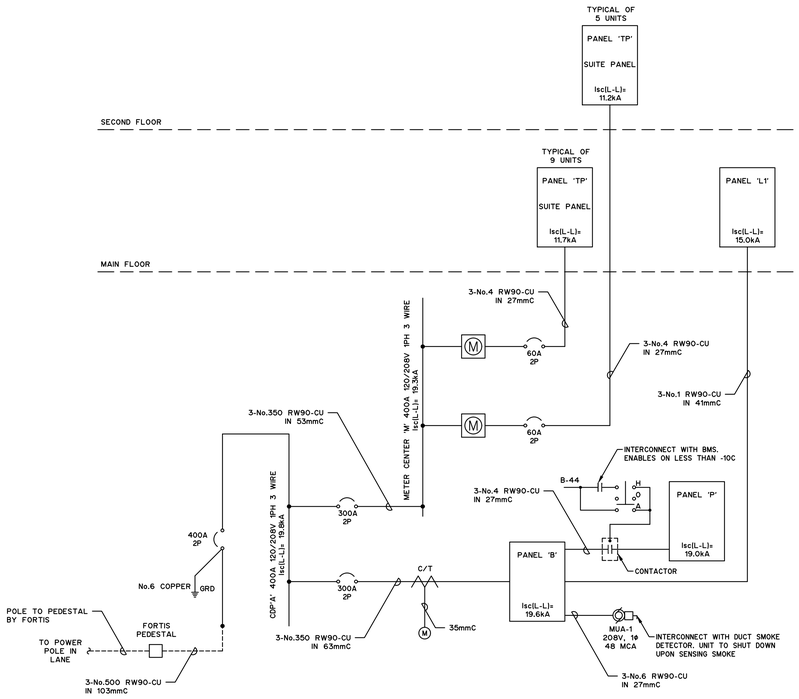
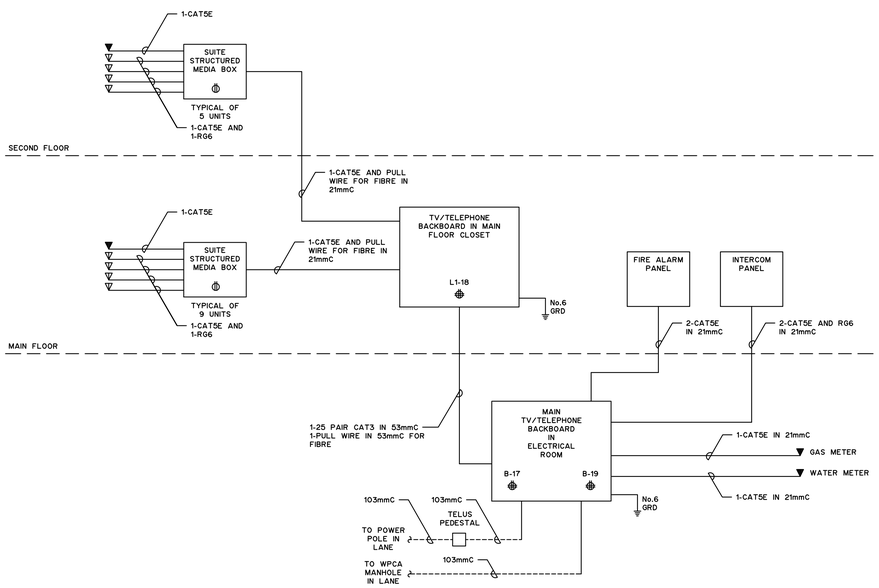
Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	Asset No. 945	E301

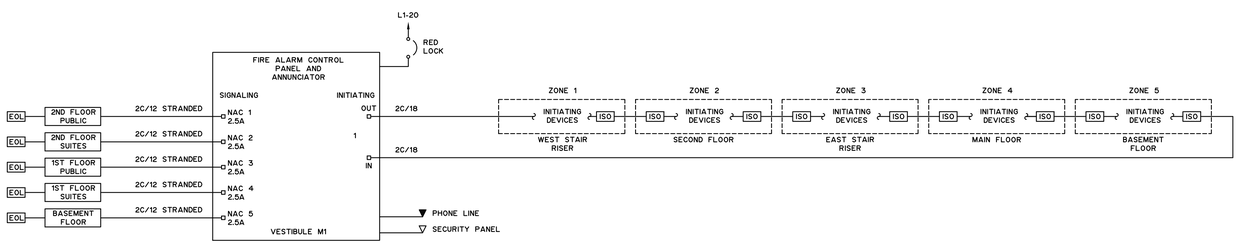
Drawing Reference No./No. de reference du dessin



1 E400 ELECTRICAL SINGLE LINE DISTRIBUTION
SCALE: N.T.S.



2 E400 COMMUNICATION RISER DIAGRAM
SCALE: N.T.S.



3 E400 FIRE ALARM RISER DIAGRAM
SCALE: N.T.S.

PANEL DESIGNATION 'B'

MOUNTING: SURFACE PANEL
LOCATION: ELEC ROOM
LOADS: BASEMENT
VOLTAGE 120/208 V
PHASES 1
WIRE 3
CIRCUITS 72
BUS RATING: 400 A
FED FROM: CDP-'A'
INTERRUPTING CAPACITY: kAIC

CCT. NO.	LOAD DESCRIPTION	BRKR. SIZE	kVA A	kVA B	kVA A	kVA B	BRKR. SIZE	LOAD DESCRIPTION	CCT. NO.
1	BASEMENT STORAGE LIGHTING	15A	1.10		0.70		15A	WASHER	2
3	MECHANICAL ROOM LIGHTING	15A		0.90		0.70	15A	WASHER	4
5	BASEMENT STORAGE LIGHTING	15A	1.10		2.00		30A	DRYER	6
7	BASEMENT STORAGE LIGHTING	15A		1.00		2.00	2P		8
9	RECEPTACLES - SERVICE	15A	0.60		2.00		30A	DRYER	10
11	RECEPTACLES - STORAGE	15A		0.20		2.00	2P		12
13	RECEPTACLES - STORAGE	15A	0.20		0.30		15A	RECEPTACLES - EXTERIOR	14
15	RECEPTACLES - ELECTRICAL	15A		0.20		0.30	15A	RECEPTACLES - EXTERIOR	16
17	RECEPTACLE - COMM	15A	0.60		0.10		15A	FORCE FLOW FF-C	18
19	RECEPTACLE - COMM	15A		0.60		0.70	15A	BOILERPUMP P-1	20
21	BASEMENT CORRIDOR RECEPT	15A	0.30		0.70		15A	BOILER PUMP P-2	22
23	LAUNDRY ROOM RECEPTACLE	15A		0.20		0.10	15A	RECIRC PUMP P-5	24
25	BATTERY PACKS	15A	0.20		0.50		20A	SECURITY PANEL	26
27	EXIT LIGHTS	15A		0.25		1.60	30A	SUMP PUMP P-6	28
29	LIGHTING - EXTERIOR	15A	1.00		1.60		30A	SUMP PUMP P-7	30
31	BOILER B-1	15A		0.10		0.80	15A	SUMP PUMP P-8	32
33	BOILER B-2	15A	0.10		0.80		15A	SUMP PUMP P-9	34
35	DOMESTIC WATER HEATER 1	15A		0.10		0.90	20A	HEATING PUMP P-3	36
37	DOMESTIC WATER HEATER 2	15A	0.10		0.90		2P		38
39	EXHAUST FAN 1	20A		0.90		0.90	20A	HEATING PUMP P-4	40
41		2P	0.90		0.90		2P		42
43	UNIT HEATER UH-1,2	15A		0.30		0.10	15A	BMS PANEL	44
45	UNIT HEATER UH-3,4	15A	0.30		0.10		15A	GLYCOL TANK PUMP TK-3	46
47	SPACE					0.70	15A	WASHER	48
49	MAKE UP AIR MUA-1	80A	4.20		2.00		30A	DRYER	50
51		2.00	2P	4.20		2.00	2P		52
53	LIGHTING - NIGHT LIGHTS	15A	0.50		0.30		15A	UNIT HEATER UH-5,6,7	54
55	EXTERIOR LIGHTING CONTACTO	15A		0.10		0.100	15A	TRANSFER FAN TF-1	56
57	MECHANICAL ROOM RECEPTS	15A	0.30						58
59	MECHANICAL ROOM RECEPTS	15A		0.30					60
61									62
63									64
65	PANEL 'P'	70A	3.60				15A	SPARE	66
67		2P		3.60			15A	SPARE	68
69	PANEL 'L1'	100A	4.00				15A	SPARE	70
71		2P		4.00			15A	SPARE	72
			19.10	16.95	12.90	12.90			

A TOTAL LOAD = 32.00
B TOTAL LOAD = 29.85
* PROVIDE ARC FAULT BREAKERS TO FEED BEDROOM RECEPTACLES
TOTAL LOAD : 61.85 kVA CONNECTED (297.36 AMP)

FIRE ALARM POINT SCHEDULE

LEGEND

MPS	MANUAL PULL STATION
RHT	RATE-OF-RISE TYPE HEAT DETECTOR
FT	FIXED TEMPERATURE TYPE HEAT DETECTOR
S	SMOKE DETECTOR
DS	DUCT SMOKE DETECTOR
TPV	SPRINKLER TAMPER VALVE
FS	SPRINKLER FLOW SWITCH
CR	FIRE CONTROL RELAY
ZAM	ZONE ALARM MODULE
IM	ISOLATION MODULE

ADDRESS	ZONE	LOCATION	DEVICE
B1-01	5	BASEMENT STAIR 01	MPS
B1-02	5	BASEMENT STAIR 02	MPS
B1-03	5	MUA-1 - MECHANICAL ROOM B7	DS
B1-04	5	MASTER CONTROL VALVE - METER ROOM B5	TPV
B1-05	5	MASTER CONTROL VALVE - METER ROOM B5	TPV
B1-06	5	MASTER CONTROL VALVE - METER ROOM B5	TPV
B1-07	5	MASTER CONTROL VALVE - METER ROOM B5	FS
1-01	4	EXIT M2	MPS
1-02	4	CORRIDOR M3	S
1-03	4	CORRIDOR M3	S
1-04	4	CORRIDOR M3	S
1-05	4	EXIT M4	MPS
2-01	1	STAIR L17	S
2-02	2	EXIT STAIR L17	MPS
2-03	2	CORRIDOR L16	S
2-04	2	CORRIDOR L16	S
2-05	2	CORRIDOR L16	S
2-06	2	EXIT STAIR L18	MPS
2-07	3	STAIR L18	S

PANEL DESIGNATION 'TP'

MOUNTING: RECESSED PANEL
LOCATION:
LOAD: TYPICAL SUITE PANEL
VOLTAGE 120/208 V
PHASES 1
WIRE 3
CIRCUITS 24
BUS RATING: 60 A
FED FROM: METER CENTER
INTERRUPTING CAPACITY: kAIC

CCT. NO.	LOAD DESCRIPTION	BRKR. SIZE	kVA A	kVA B	kVA A	kVA B	BRKR. SIZE	LOAD DESCRIPTION	CCT. NO.
1	LIGHTING	15A	0.25		3.00		40A	RANGE	2
3	LIGHTING	15A		0.25		3.00	2P		4
5	LIGHTING	15A	0.25		1.00		15A	MICROVAVE	6
7	RECEPTACLES *	15A		0.30		0.20	15A	FRIDGE	8
9	RECEPTACLES *	15A	0.30		0.20		15A	FRIDGE (ONLY IN 3 BED UNIT)	10
11	RECEPTACLES *	15A		0.30		1.00	15A	DISHWASHER	12
13	RECEPTACLES	15A	0.30		0.50		15A	RANGE HOOD	14
15	RECEPTACLES	15A		0.30		0.25	15A	COMMUNICATION BOX	16
17	KITCHEN RECEPTACLES	20A	0.60		0.50		15A	HEATER	18
19	KITCHEN RECEPTACLES	20A		0.60					20
21	KITCHEN RECEPTACLES	20A	0.60						22
23	RECEPTACLES - GFI	15A		0.60			15A	SPARE	24
			2.30	2.35	5.20	4.45			

A TOTAL LOAD = 7.50
B TOTAL LOAD = 6.80
* PROVIDE ARC FAULT BREAKERS TO FEED BEDROOM RECEPTACLES
TOTAL LOAD : 14.30 kVA CONNECTED (39.74 AMP)

PANEL DESIGNATION 'P'

MOUNTING: SURFACE PANEL
LOCATION: ELEC ROOM
LOADS: PARKING
VOLTAGE 120/208 V
PHASES 1
WIRE 3
CIRCUITS 12
BUS RATING: 100 A
FED FROM: PANEL B
INTERRUPTING CAPACITY: kAIC

CCT. NO.	LOAD DESCRIPTION	BRKR. SIZE	kVA A	kVA B	kVA A	kVA B	BRKR. SIZE	LOAD DESCRIPTION	CCT. NO.
1	CAR RECEPTACLE	15A	0.65		0.65		15A	CAR RECEPTACLE	2
3	CAR RECEPTACLE	15A		0.65		0.65	15A	CAR RECEPTACLE	4
5	CAR RECEPTACLE	15A	0.65		0.65		15A	CAR RECEPTACLE	6
7	CAR RECEPTACLE	15A		0.65		0.65	15A	CAR RECEPTACLE	8
9	CAR RECEPTACLE	15A	0.65						10
11	CAR RECEPTACLE	15A		0.65					12
			1.95	1.95	1.30	1.30			

A TOTAL LOAD = 3.25
B TOTAL LOAD = 3.25
TOTAL LOAD : 6.50 kVA CONNECTED (31.25 AMP)

PANEL DESIGNATION 'L1'

MOUNTING: SURFACE PANEL
LOCATION: ELEC CLOSET
LOADS: ABOVE GRADE FLOORS
VOLTAGE 120/208 V
PHASES 1
WIRE 3
CIRCUITS 42
BUS RATING: 125 A
FED FROM: PANEL B
INTERRUPTING CAPACITY: kAIC

CCT. NO.	LOAD DESCRIPTION	BRKR. SIZE	kVA A	kVA B	kVA A	kVA B	BRKR. SIZE	LOAD DESCRIPTION	CCT. NO.
1	SPARE	15A			0.20		15A	LIGHTING - MAIN FLOOR	2
3	SPARE	15A						SPACE	4
5	SPARE	15A			0.20		15A	LIGHTING - SECOND FLOOR	6
7	SPARE	15A			0.20		15A	RECEPTACLES - NW STAIRS	8
9					0.40		15A	RECEPTACLES - SE STAIRS	10
11						0.40	15A	RECEPTACLES - MAIN CORRIDOR	12
13					0.40		15A	RECEPTACLES - UPPER CORRID	14
15						0.30	15A	RECEPTACLES - STORAGE	16
17					0.80		15A	RECEPTACLE - ELEC CLOSET	18
19						1.00	20A	FIRE ALARM PANEL	20
21					1.00		20A	INTERCOM PANEL	22
23								SPACE	24
25					0.20		15A	ATTIC DAMPERS	26
27						0.25	15A	EMERGENCY LIGHTING	28
29					0.30		15A	EXIT LIGHTS	30
31						0.40	15A	FORCE FLOW FF-A	32
33					0.40		15A	LIGHTING - NIGHT LIGHTS	34
35						0.40	15A	LIGHTING - STAIRCASE	36
37					0.10		15A	EXHAUST FANS EF-B	38
39								SPACE	40
41									42
			0.00	0.00	4.00	3.15			

A TOTAL LOAD = 4.00
B TOTAL LOAD = 3.15
TOTAL LOAD : 7.15 kVA CONNECTED (34.38 AMP)

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SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

No.	Date/Date	Description/Description	Drawn by/Dessine par	Approved/Approuve
5	16-12-08	ISSUED FOR TENDER	L.L.L.	K.O.K.
4	16-12-08	ISSUED FOR BP	L.L.L.	K.O.K.
3	16-09-02	ISSUED FOR 99% REVIEW	L.L.L.	J.M.T.
2	16-06-14	ISSUED FOR 66% REVIEW	L.L.L.	J.M.T.
1	16-05-05	ISSUED FOR 33% REVIEW	L.L.L.	J.M.T.

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.
Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
ELECTRICAL SINGLE LINE DISTRIBUTION AND PANELS

Surveyed by/Arpente par	Drawn by/Dessine par: L.L.L.	Date/Date: 2016-04-21
Designed by/Concept par: J.M.T.	Reviewed by/Revise par: K.O.K.	Scale/Echelle: AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt
Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet: 39000	Asset No./No. du-bien: Asset No. 945	Sheet No./No. de la feuille: E400
Drawing Reference No./No. de reference du dessin		

EMERGENCY LIGHTING BATTERY PACK SCHEDULE

BATTERY PACK No.	EXIT SIGN LOAD	SINGLE HEAD LOAD	DOUBLE HEAD LOAD	TOTAL LOAD	SPECIFICATION	LOCATION
BP-1	5 UNIT 10 WATTS	0 UNITS 0 WATTS	12 UNITS 144 WATTS	154 WATTS	AS LUMACELL RG125220 /2LD10-AT	BASEMENT ELECTRICAL ROOM
BP-2	6 UNITS 36 WATTS	UNITS 0 WATTS	13 UNITS 156 WATTS	192 WATTS	AS LUMACELL RG125250 /2LD10-AT	MAIN FLOOR ELECTRICAL CLOSET

MECHANICAL EQUIPMENT MOTOR SCHEDULE

No.	GENERAL DESCRIPTION	LOCATION	LOAD	VOLTS	PHASE	FEEDER/PROTECTION	CIRCUIT	NOTES
B-1	BOILER	MECHANICAL ROOM B5	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-31	PROVIDE CONTROL CIRCUIT. PROVIDE MODULE ON/OFF TOGGLE SWITCH. CONNECT UP LOW WATER CUT-OFFS
B-2	BOILER	MECHANICAL ROOM B5	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-33	PROVIDE CONTROL CIRCUIT. PROVIDE MODULE ON/OFF TOGGLE SWITCH. CONNECT UP LOW WATER CUT-OFFS
BF-A	DRYER BOOSTER FAN (TYPICAL OF 3)	BASEMENT LAUNDRY	FRAC EACH	120	1	2-No.12 RW90-CU IN 21mmC TO REVERSOMATIC DRYER RECEPTACLE	-	PROVIDE MOTOR PROTECTION SWITCH AND REVERSOMATIC DSC-300 RECEPTACLE FOR EACH DRYER. WIRE UP COMPLETE
DWH-1	DOMESTIC WATER HEATER	MECHANICAL ROOM B5	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-35	PROVIDE CONTROL CIRCUIT
DWH-2	DOMESTIC WATER HEATER	MECHANICAL ROOM B5	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-37	PROVIDE CONTROL CIRCUIT
EF-1	EXHAUST FAN	TENANT STORAGE B4	1 HP	240	1	3-No.12 RW90-CU IN 21mmC TO 20A-2P BREAKER	B-39,41	PROVIDE COMBINATION MAGNETIC STARTER AND HOA SWITCH. I/L WITH MUA-1
EF-A	EXHAUST FAN	BATHROOMS SUITES	FRAC	120	1	2-No.12 NMD90-CU IN FREE AIR TO LINE SIDE OF NEIGHBORING LIGHT CIRCUIT	SUITE PANEL	PROVIDE WALL SWITCH. FAN TO SHARE NEIGHBORING LIGHT CIRCUIT
EF-B	EXHAUST FAN	INSIDE STORAGE M6 AND L19	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	L1-38	PROVIDE PROTECTION SWITCH. WIRE TO LINE VOLTAGE THERMOSTAT. ALWAYS ON
FF-A	FORCE FLOW	ENTRANCE M1, M5	40 W	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	L1-32	PROVIDE MOTOR PROTECTION SWITCH. WIRE TO LINE VOLTAGE THERMOSTAT. COORDINATE W/ CONTROLS CONTRACTOR
FF-B	FORCE FLOW	BATHROOMS AND KITCHENS ON 2ND FLOOR	25 W	120	1	2-No.12 NMD90-CU IN FREE AIR TO LINE SIDE OF NEIGHBORING LIGHT CIRCUIT	SUITE PANEL	I/L WITH SUITE THERMOSTAT. PROVIDE MOTOR PROTECTION SWITCH. HEATER TO SHARE NEIGHBORING LIGHT CIRCUIT
FF-C	FORCE FLOW	ELECTRICAL ROOM AND SUITE 'A'	40 W	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-18	PROVIDE MOTOR PROTECTION SWITCH. WIRE TO LINE VOLTAGE THERMOSTAT. COORDINATE W/ CONTROLS CONTRACTOR
MUA-1	MAKE-UP AIR UNIT	MECHANICAL ROOM B5	46.6 MCA	240	1	3-No.6 RW90-CU IN 27mmC TO 80A-2P BREAKER	B-49,51	PACKAGED UNIT C/W VFD. WIRE TO DISC SWITCH FIRST THEN TO VFD. I/L WITH DUCT SMOKE DETECTOR
P-1	HEATING PUMP FOR B-1	MECHANICAL ROOM B7	1/4 HP	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-20	PROVIDE MAGNETIC STARTER C/W PROTECTION SWITCH, HOA SWITCH AND PILOT LIGHTS. I/L WITH BOILER B-1
P-2	HEATING PUMP FOR B-2	MECHANICAL ROOM B7	1/4 HP	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-22	PROVIDE MAGNETIC STARTER C/W PROTECTION SWITCH, HOA SWITCH AND PILOT LIGHTS. I/L WITH BOILER B-2
P-3	HEATING PUMP	MECHANICAL ROOM B7	1 HP	240	1	3-No.12 RW90-CU IN 21mmC TO 20A-2P BREAKER	B-36,38	PACKAGED UNIT. PROVIDE DISCONNECT SWITCH AT UNIT. I/L WITH BMS
P-4	HEATING PUMP	MECHANICAL ROOM B7	1 HP	240	1	3-No.12 RW90-CU IN 21mmC TO 20A-2P BREAKER	B-40,42	PACKAGED UNIT. PROVIDE DISCONNECT SWITCH AT UNIT. I/L WITH BMS
P-5	RECIRC PUMP FOR DWH	MECHANICAL ROOM B7	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-24	PROVIDE MOTOR PROTECTION SWITCH C/W PILOT LIGHT. I/L WITH BMS
P-6	STORM SUMP PUMP	MECHANICAL ROOM B5	3/4 HP	120	240	2-No.12 RW90-CU IN 21mmC TO 30A-1P BREAKER	B-28	PROVIDE COMBINATION MAGNETIC STARTER AND HOA SWITCH. WIRE UP FLOATS. I/L WITH BMS.
P-7	STORM SUMP PUMP	MECHANICAL ROOM B5	3/4 HP	120	1	2-No.12 RW90-CU IN 21mmC TO 30A-1P BREAKER	B-30	PROVIDE COMBINATION MAGNETIC STARTER AND HOA SWITCH. WIRE UP FLOATS. I/L WITH BMS.
P-8	SANITARY SUMP PUMP	MECHANICAL ROOM B5	1/3 HP	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-32	PROVIDE COMBINATION MAGNETIC STARTER AND HOA SWITCH. WIRE UP FLOATS. I/L WITH BMS.
P-9	SANITARY SUMP PUMP	MECHANICAL ROOM B5	1/3 HP	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-34	PROVIDE COMBINATION MAGNETIC STARTER AND HOA SWITCH. WIRE UP FLOATS. I/L WITH BMS.
TF-1	TRANSFER FAN	ELECTRICAL ROOM B6	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-56	PROVIDE PROTECTION SWITCH. WIRE TO REVERSE ACTING THERMOSTAT
TK-3	GYLCOL TANK PUMP	MECHANICAL ROOM B5	0.25 kW	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-46	PROVIDE MOTOR PROTECTION SWITCH C/W PILOT LIGHT
UH-1	UNIT HEATER	OPEN STORAGE B9	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-43	PROVIDE PROTECTION SWITCH. WIRE TO LINE VOLTAGE THERMOSTAT.
UH-2	UNIT HEATER	TENANT STORAGE B8	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-43	PROVIDE PROTECTION SWITCH. WIRE TO LINE VOLTAGE THERMOSTAT.
UH-3	UNIT HEATER	TENANT STORAGE B8	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-45	PROVIDE PROTECTION SWITCH. WIRE TO LINE VOLTAGE THERMOSTAT.
UH-4	UNIT HEATER	MECHANICAL ROOM B7	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-45	PROVIDE PROTECTION SWITCH. WIRE TO LINE VOLTAGE THERMOSTAT.
UH-5	UNIT HEATER	TENANT STORAGE B3	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-54	PROVIDE PROTECTION SWITCH. WIRE TO LINE VOLTAGE THERMOSTAT.
UH-6	UNIT HEATER	PARKS STORAGE B4	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-54	PROVIDE PROTECTION SWITCH. WIRE TO LINE VOLTAGE THERMOSTAT.
UH-7	UNIT HEATER	PARKS STORAGE B4	FRAC	120	1	2-No.12 RW90-CU IN 21mmC TO 15A-1P BREAKER	B-54	PROVIDE PROTECTION SWITCH. WIRE TO LINE VOLTAGE THERMOSTAT.

LUMINAIRE FIXTURE SCHEDULE

No.	GENERAL DESCRIPTION	LOCATION	LAMPS	VOLTAGE	SPECIFICATION/COMMENTS
1	SURFACE MOUNT CORRIDOR / ENTRANCE LIGHT FIXTURE	SUITES - CORRIDORS / ENTRANCES	9.3W LED 1100 LUMEN 3000K	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
2	BATHROOM VANITY LIGHT FIXTURE	SUITES - BATHROOMS	MID-FLEX LED 2400 LUMEN 3000K	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
3	SURFACE MOUNT BEDROOM LIGHT FIXTURE	SUITES - BEDROOMS/LIVING ROOM	24W LED 2000 LUMEN 3000K	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
4	SURFACE MOUNT TRACK KITCHEN LIGHT FIXTURE	SUITES - KITCHEN	5 INTEGRAL SPOT HEADS 3000K LED	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
5	SUSPENDED PENDANT KITCHEN COUNTER LIGHT FIXTURE	SUITES - KITCHEN COUNTER	400 LUMEN 3000K LED	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
101	1220mm CEILING MOUNTED WRAP AROUND FLUORESCENT LIGHT FIXTURE	BASEMENT - PUBLIC AREAS	2x32 WATT 4100K T-8	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
102	1200mm CEILING MOUNTED FLUORESCENT STRIP WITH WIREGUARD	BASEMENT - SERVICE ROOMS	2x32 WATT 4100K T-8	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
103	KEYLESS LAMPHOLDER	MAIN FLOOR - SERVICE ROOMS	16 WATT E26 LED BULB 4100K	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
104	1220mm CEILING MOUNTED FLUORESCENT STRIP WITH WIREGUARD	SECOND FLOOR - STORAGE ROOM, JANITOR ROOM	1x32 WATT 4100K T-8	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
301	RECESSED 4" POTLIGHT FIXTURE. SUITABLE FOR OUTDOOR MOUNTING	EXTERIOR CANOPY - ALL SIDES	650 LUMEN 3000K LED	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
302	EXTERIOR WALL MOUNTED LIGHT FIXTURE	EXTERIOR OF BUILDING - FACING GRAVEL LANE	47W LED 3800 LUMEN 3000K	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
303	WALL MOUNTED STAIRCASE LED FIXTURE	STAIRCASE RISER	15W LED 1515 LUMEN 3000K	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
304	280mm CEILING MOUNTED STAIRCASE LED FIXTURE	STAIRCASE RISER	15W LED 1515 LUMEN 3000K	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
305	RECESSED 6" POTLIGHT FIXTURE SUITABLE FOR DRYWALL MOUNTING	PUBLIC AREAS	1200 LUMENS LED 3000K	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS
306	RECESSED 4" DIRECTIONAL POTLIGHT FIXTURE. SUITABLE FOR OUTDOOR MOUNTING	EXTERIOR FRONT CANOPY	650 LUMEN 3000K LED	120	COOPER, LITHONIA, WAC LIGHTING, OR APPROVED EQUIVALENTS PER SPECIFICATIONS

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PERMIT NUMBER: P 3680
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SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

No.	Date/Date	Description/Description	Drawn by/ Dessine par	Approved Approuve
5	16-12-08	ISSUED FOR TENDER	L.L.L.	K.O.K.
4	16-12-08	ISSUED FOR BP	L.L.L.	K.O.K.
3	16-09-02	ISSUED FOR 99% REVIEW	L.L.L.	J.M.T.
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Revision / Revision

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Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.

Eng. Stamp / Sceau de l'ingenieur

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

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2
Waterton Lakes National Park

Drawing title/Titre du dessin
ELECTRICAL SCHEDULES

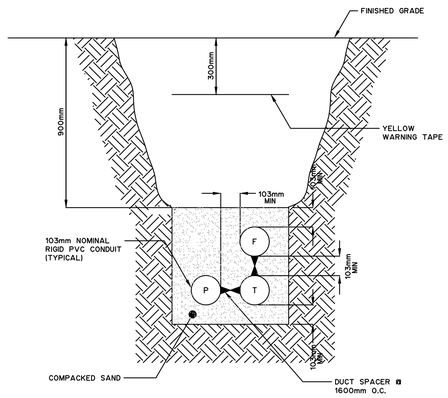
Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	L.L.L.	2016-04-21
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
J.M.T.	K.O.K.	AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
39000	Asset No. 945	E500

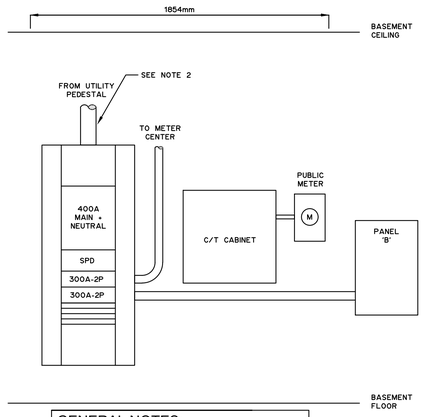
Drawing Reference No./No. de reference du dessin



GENERAL NOTES:

1. DRILL 19mm HOLE IN EACH DUCT AT LOW POINT
2. MAINTAIN 2M CLEARANCE FROM OTHER SERVICES ON ALL SIDES
3. ALL CONDUITS C/W No.12 STEEL PULLWIRE

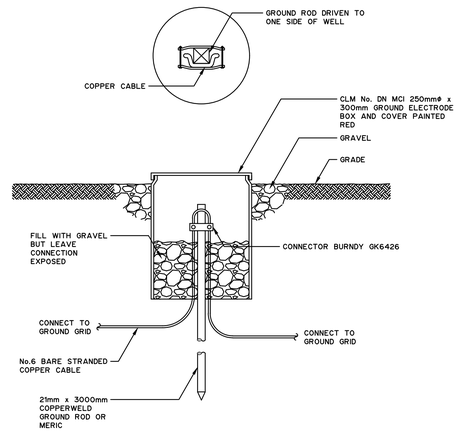
1 / E600 DUCTBANK SECTION
SCALE: N.T.S.



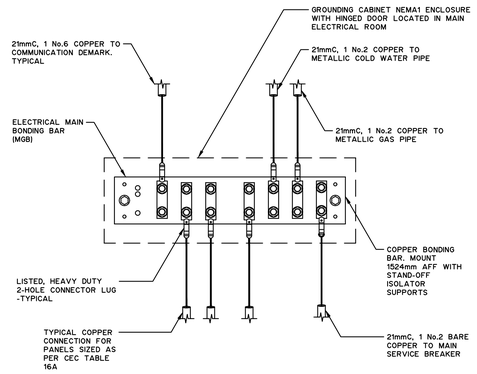
GENERAL NOTES:

1. SERVICE LAYOUT AND EQUIPMENT TO BE PROVIDED TO ACCOMODATE ALL REQUIRED BREAKERS AS INDICATED, AS WELL AS SPACES PROVIDED FOR FUTURE. SWITCHBOARD MANUFACTURER TO PROVIDE DETAILED LAYOUT SHOWING ALL EQUIPMENT REQUIRED COMPLETE WITH DIMENSIONS TO CONSULTANT FOR REVIEW AT PRICING STAGE. EQUIPMENT HEIGHT TO BE COORDINATED WITH BASEMENT FINISHED HEIGHT
2. INCOMING SECONDARY TO BE SLOPED AT 2% TOWARDS THE ELECTRICAL ROOM. PROVIDE AND INSTALL DRAINAGE AND SEALING AT CONDUIT UPON BUILDING PENETRATION. DRAINAGE TO BE RUN DOWN TO FLOOR

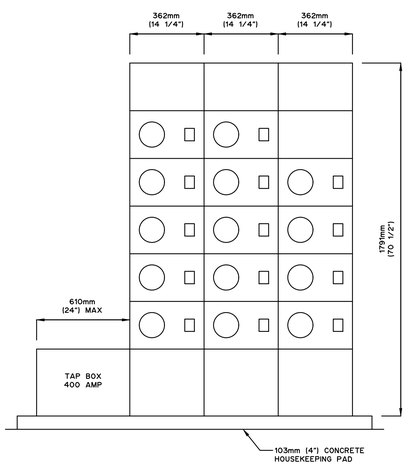
2 / E600 MAIN ELECTRICAL SERVICE DETAIL
SCALE: N.T.S.



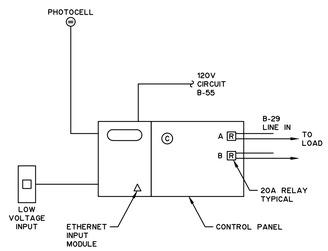
3 / E600 EXTERIOR GROUNDING DETAIL
SCALE: N.T.S.



4 / E600 ELECTRICAL SERVICE MAIN BONDING BAR DETAIL
SCALE: N.T.S.

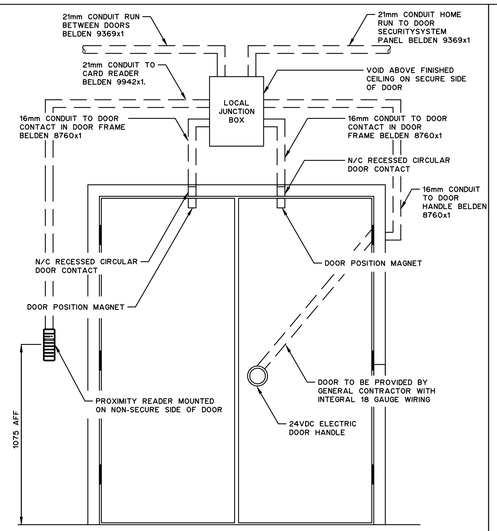


7 / E600 METER STACK DETAIL
SCALE: N.T.S.



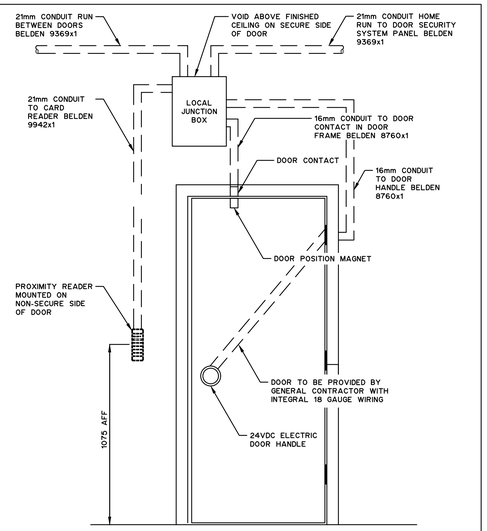
EXTERIOR DIGITAL PROGRAMMABLE LIGHTING CONTROL WITH ASTRONOMIC CLOCK DETAIL

6 / E600
SCALE: N.T.S.



FINISHED FLOOR VIEW FROM SECURE SIDE OF DOOR

7 / E600 SECURITY TWO DOOR DETAIL
SCALE: N.T.S.



FINISHED FLOOR VIEW FROM SECURE SIDE OF DOOR

8 / E600 SECURITY ONE DOOR DETAIL
SCALE: N.T.S.

PERMIT TO PRACTICE
MPE ENGINEERING LTD.
PERMIT NUMBER: P 3680
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

SITE INFORMATION

MUNICAPAL ADDRESS: WATERTON, WATERTON LAKES NATIONAL PARK
LEGAL LAND DESC.: LOTS 20 & 21 BLOCK 42

No.	Date/Date	Description/Description	Drawn by/ Dessine par	Approved Approuve
5	16-12-08	ISSUED FOR TENDER	L.L.L.	K.O.K.
4	16-12-08	ISSUED FOR BP	L.L.L.	K.O.K.
3	16-09-02	ISSUED FOR 99% REVIEW	L.L.L.	J.M.T.
2	16-06-14	ISSUED FOR 66% REVIEW	L.L.L.	J.M.T.
1	16-05-05	ISSUED FOR 33% REVIEW	L.L.L.	J.M.T.

Revision / Revision

A detail number / numero de detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

Consultant's Name / Nom de l'expert-conseil: MPE Engineering Ltd.
Eng. Stamp / Sceau de l'Ingenieur

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada
Client Services Team Southern Alberta Operations Branch / Le Client Entretient l'Équipe Alberta Méridional Branche d'Opérations
Canada

Client/client: Parks Canada Agency / L'Agence Parcs Canada
Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet
Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
ELECTRICAL DETAILS

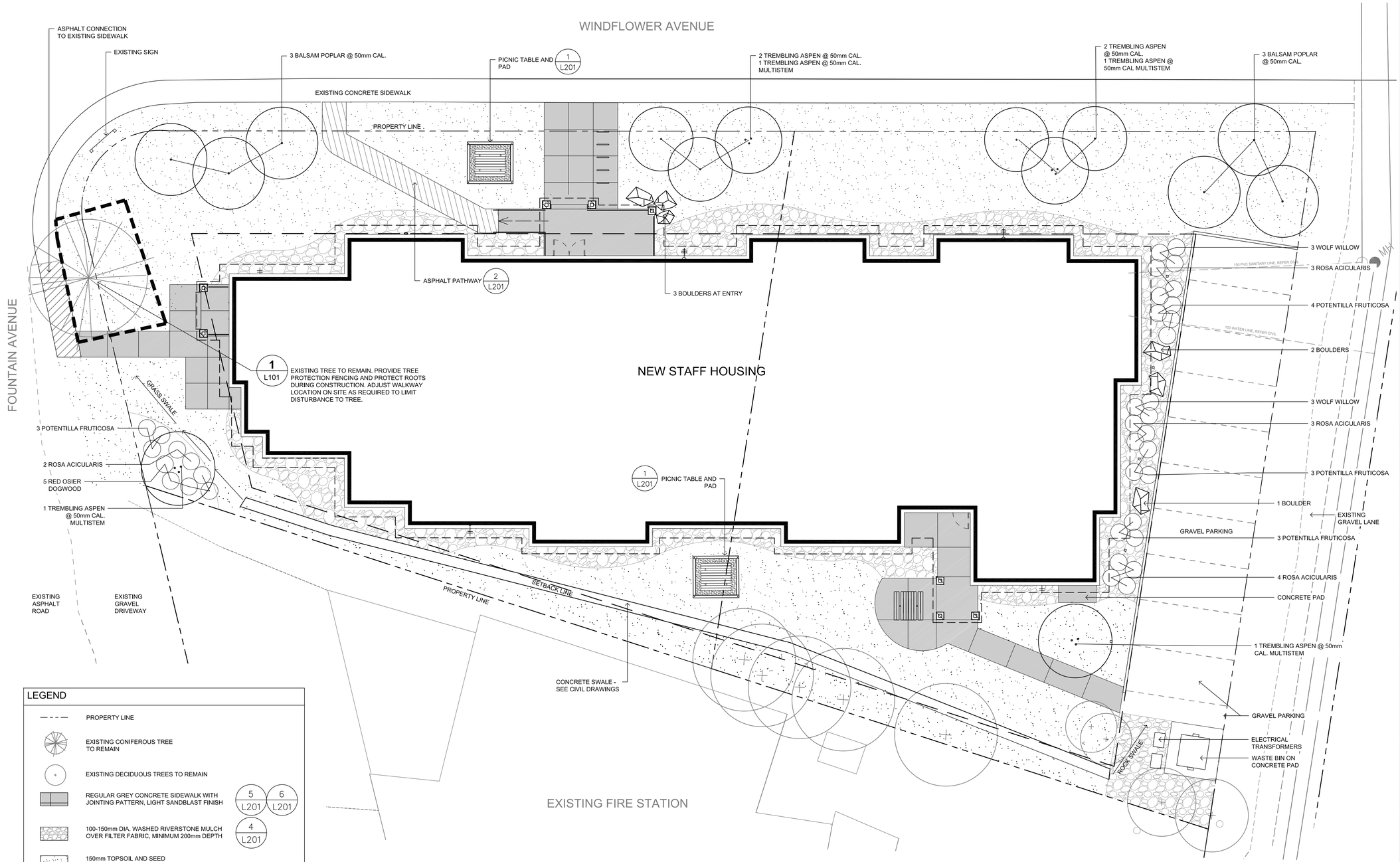
Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	L.L.L.	2016-04-21
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
J.M.T.	K.O.K.	AS INDICATED

PWGSC Project Manager/Administrateur de Projets TPSGC: Randy Boldt

Client Acceptance/Acceptation du client — Park Responsible Officer/Agent Responsable
Approved by/Approuve par — PWGSC Project Manager/Administrateur de Projets TPSGC

Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
39000	Asset No. 945	E600

Drawing Reference No./No. de reference du dessin



LEGEND

- PROPERTY LINE
- EXISTING CONIFEROUS TREE TO REMAIN
- EXISTING DECIDUOUS TREES TO REMAIN
- REGULAR GREY CONCRETE SIDEWALK WITH JOINTING PATTERN, LIGHT SANDBLAST FINISH — 5 L201 / 6 L201
- 100-150mm DIA. WASHED RIVERSTONE MULCH OVER FILTER FABRIC, MINIMUM 200mm DEPTH — 4 L201
- 150mm TOPSOIL AND SEED

LOW MAINTENANCE NATURAL SEED MIX:

30%	CANADA BLUE GRASS	POA COMPRESSA
30%	HARD FESCUE	FESTUCA LONGIFOLIA
30%	ALPINE BLUE GRASS	POA AMPLA
10%	MANHATTAN III PERENNIAL RYEGRASS (NURSE CROP)	LOLIUM PERENNE

- DECIDUOUS TREES
- SHRUB PLANTING, 600mm DEPTH SOIL MIX PLANTING BED, 75mm DEPTH WOOD CHIP MULCH WHERE NOT IN RIVERSTONE MULCH
- BOULDERS. MINIMUM 1000 x 750 x 450mm HT. QTY: 6
- PICNIC TABLE QTY: 2 — 1 L201
- BICYCLE RACKS QTY: 5 — 3 L201

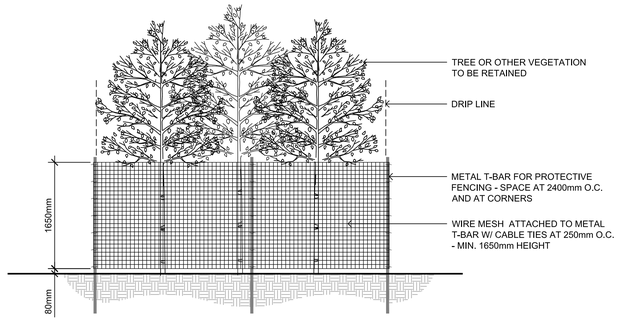
NOTE: ALL TREE AND SHRUB PLANTINGS TO BE ENCLOSED WITH TEMPORARY FENCING TO PREVENT DEER BROWSING UNTIL PLANT ESTABLISHMENT. SEE CIVIL DRAWINGS FOR SWALE DETAILS

PHASE 2 PLANTING SCHEDULE

QTY.	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
DECIDUOUS TREES				
6	POPULUS BALSAMIFERA	BALSAM POPLAR	50mm CAL.	B&B
4	POPULUS TREMULOIDES	TREMBLING ASPEN	50mm CAL.	B&B
4	POPULUS TREMULOIDES	TREMBLING ASPEN	50mm CAL.	B&B, MULTI-STEM, 3 STEM MIN.
DECIDUOUS SHRUBS				
5	CORNUS SERICEA	RED OSIER DOGWOOD	400mm HT.	#2 CONT.
6	ELAEAGNUS COMMUTATA	WOLF WILLOW	400mm HT.	#2 CONT.
13	POTENTILLA FRUTICOSA	POTENTILLA (NO CULTIVARS)	400mm HT.	#2 CONT.
12	ROSA ACICULARIS	COMMON ROSE	400mm HT.	#2 CONT.

TREE CALCULATIONS

TOTAL EXISTING TREES ON SITE	19
TREES TO BE REMOVED	13
REQUIRED REPLACEMENT TREES (3:1)	39
PROPOSED TREES	14
TREES TO BE SUPPLIED BY CONTRACTOR FOR PLANTING BY PCA ELSEWHERE IN THE PARK	25



1 / L101 TREE PROTECTION FENCING
SCALE 1:40

0 5 10 Meters

Key Plan

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No.	Date/Date	Description/Description	Drawn by Dessine par	Approved Approuve
5	2016-12-08	ISSUED FOR TENDER	MD	BB
4	2016-12-08	ISSUED FOR BUILDING PERMIT	MD	BB
3	2016-09-02	ISSUED FOR 99%	MD	BB
2	2016-06-14	ISSUED FOR 66%	MD	BB
1	2016-05-05	ISSUED FOR 33%	TY	BB

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Consultant's Name / Nom de l'expert-consell
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Eng. Stamp / Sceau de l'ingenieur
The Alberta Association of Landscape Architects
Brian Baker

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Staff Housing Phase 2 Waterton Lakes National Park

Drawing title/Titre du dessin
LANDSCAPE PLAN

Surveyed by/Arpente par	Drawn by/Dessine par	Date/Date
	MD	2016-12-08
Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
BB	BB	1:100

PWGSC Project Manager/Administrateur de Projets TPSGC
Randy Boldt

Client Acceptance/Acceptation du client — Park Responsable Officer/Agent Responsable
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Project No./No. du projet	Asset No./No. du-bien	Sheet No./No. de la feuille
39000	FII # 945	L101

Drawing Reference No./No. de reference du dessin

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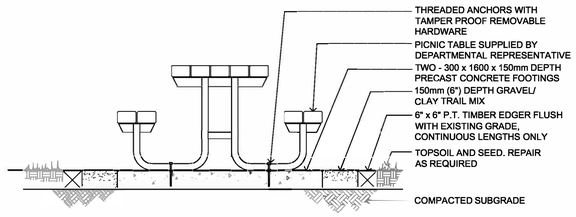
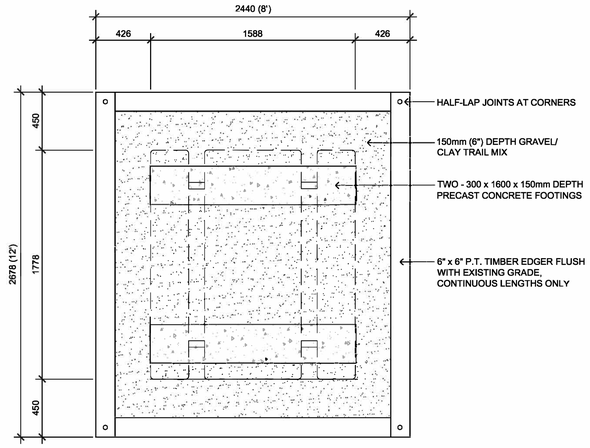
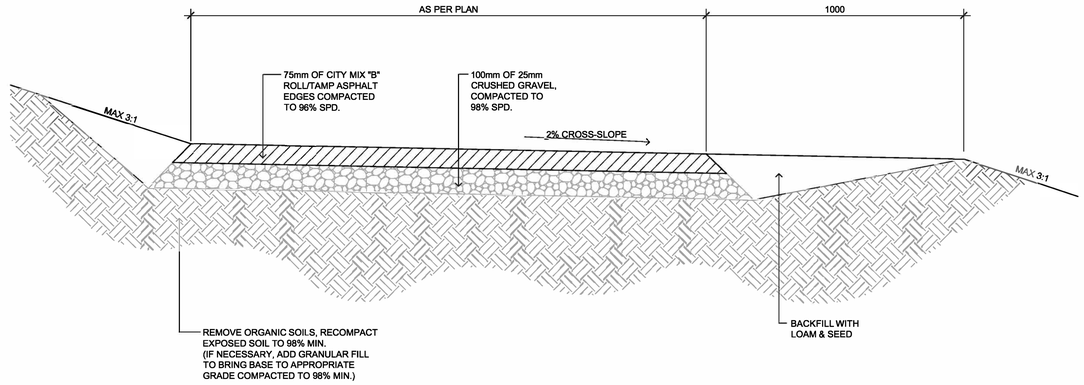
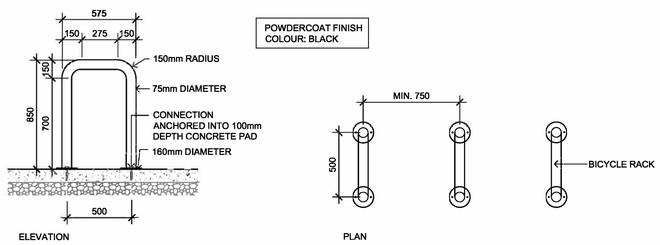




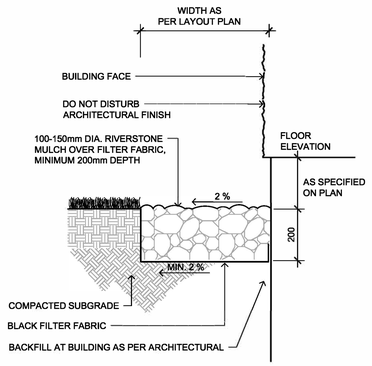
1 L201 PICNIC TABLE ON GRAVEL PAD
SCALE 1:20



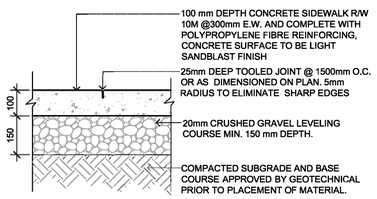
2 L201 ASPHALT PATH
SCALE 1:10



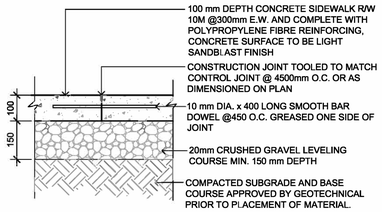
3 L201 BICYCLE RACK
SCALE 1:20



4 L201 GRAVEL MAINTENANCE PLINTH
SCALE 1:10



5 L201 CONCRETE SIDEWALK – CONTROL JOINT
SCALE 1:10



6 L201 CONCRETE SIDEWALK – CONSTRUCTION JOINT
SCALE 1:10

Key Plan

Waterton Key Plan

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Designed by/Concept par	Reviewed by/Revise par	Scale/Echelle
BB	BB	AS NOTED

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39000	FII # 945	L201

Drawing Reference No./No. de reference du dessin

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