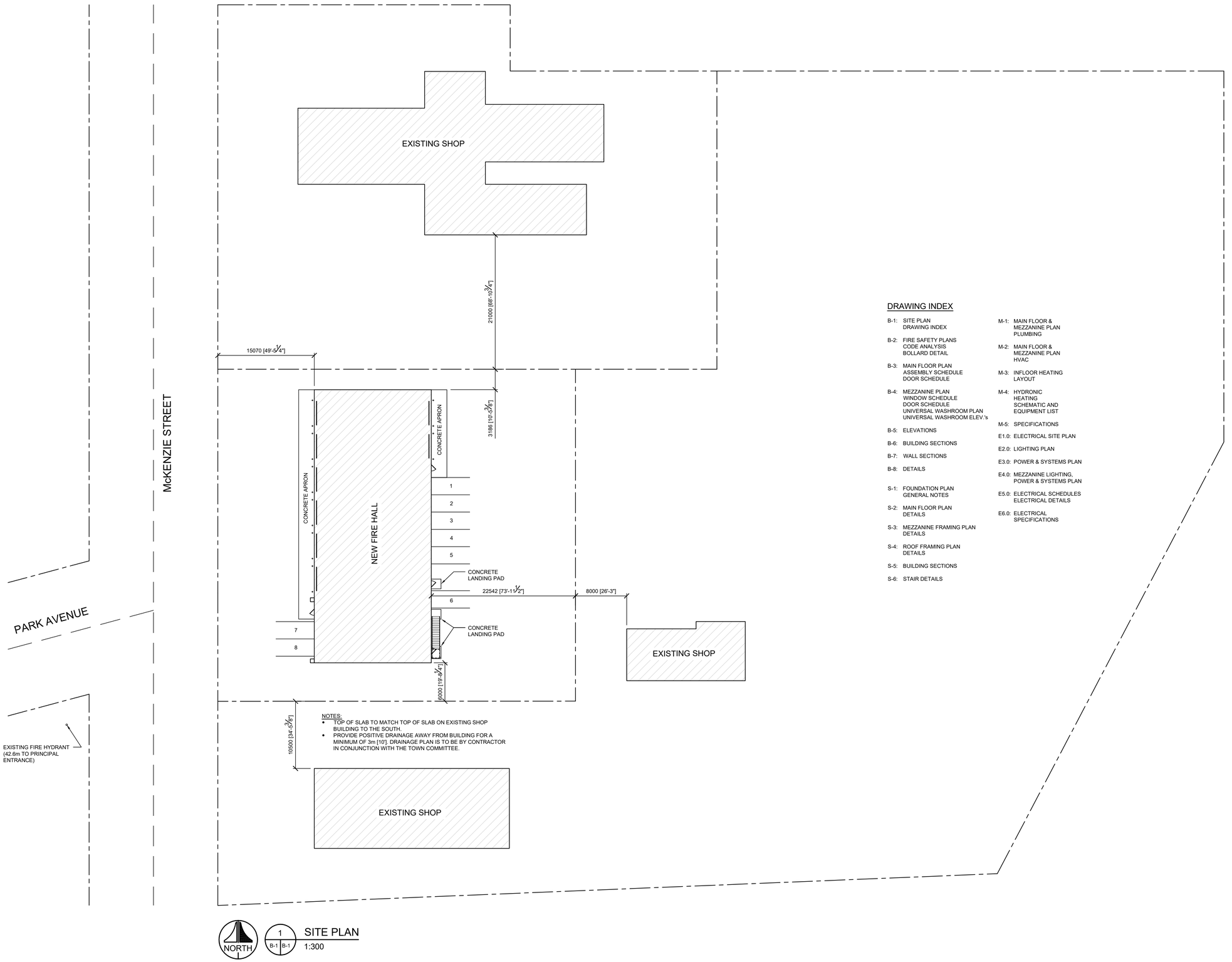
OUTLOOK - RUDY FIRE HALL



NOTES:
- TOP OF SLAB TO MATCH TOP OF SLAB ON EXISTING SHOP BUILDING TO THE SOUTH.
- PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING FOR A MINIMUM OF 3m [10']. DRAINAGE PLAN IS TO BE BY CONTRACTOR IN CONJUNCTION WITH THE TOWN COMMITTEE.

1 B-1 B-1 SITE PLAN
1:300

DRAWING INDEX

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Association of Professional Engineers & Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
JSP Engineering Inc.
70466
Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
STRUCTURAL	23703	JRP

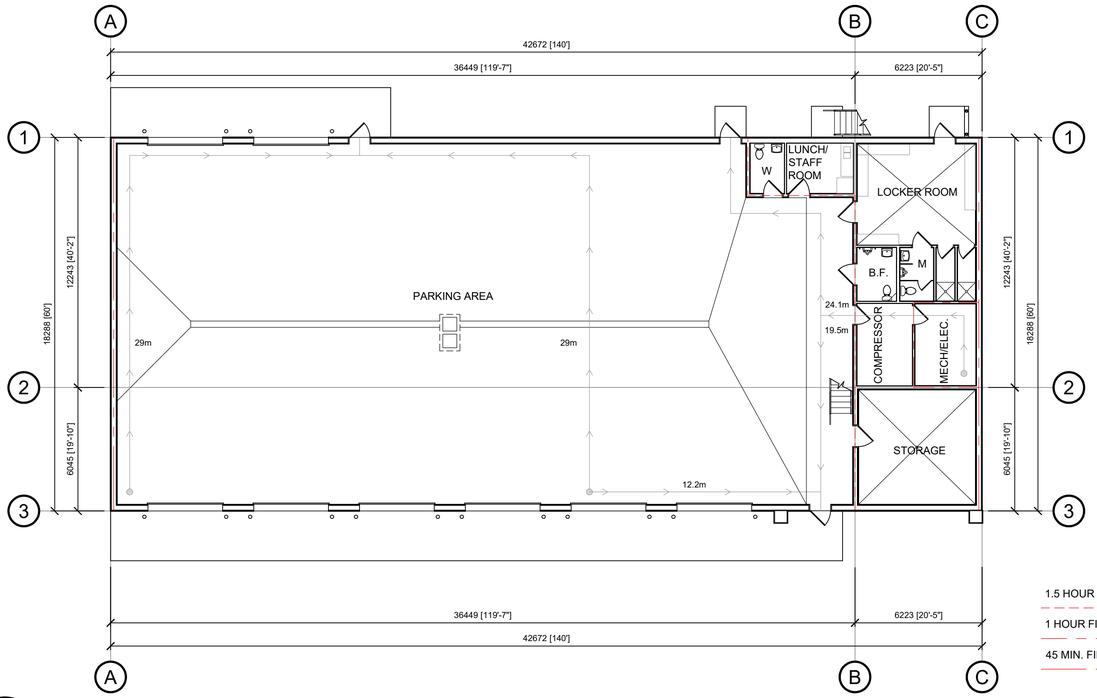
NO.	REVISION	DATE
0	ISSUED FOR OWNER REVIEW	JUL 9/24
1	ISSUED FOR CONSTRUCTION	SEP 26/24

PROJECT TITLE
OUTLOOK - RUDY FIRE HALL

PROJECT LOCATION
OUTLOOK, SK

SHEET TITLE
SITE PLAN
DRAWING INDEX

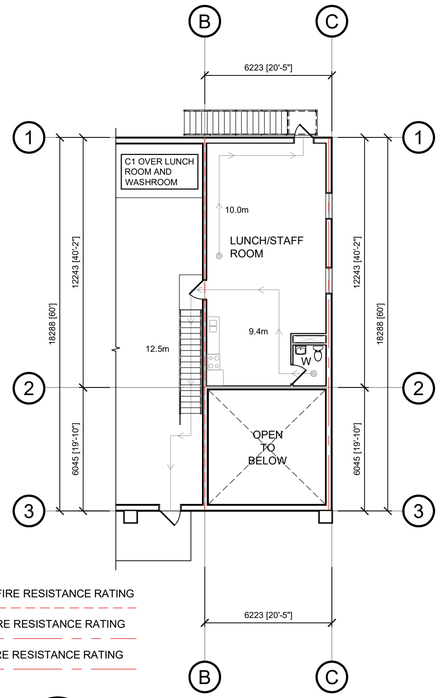
DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	B-1
DESIGNED	REVISION	
JRP	1	



NORTH

1 B-2 B-2 MAIN FLOOR FIRE SAFETY PLAN

1:150



1.5 HOUR FIRE RESISTANCE RATING

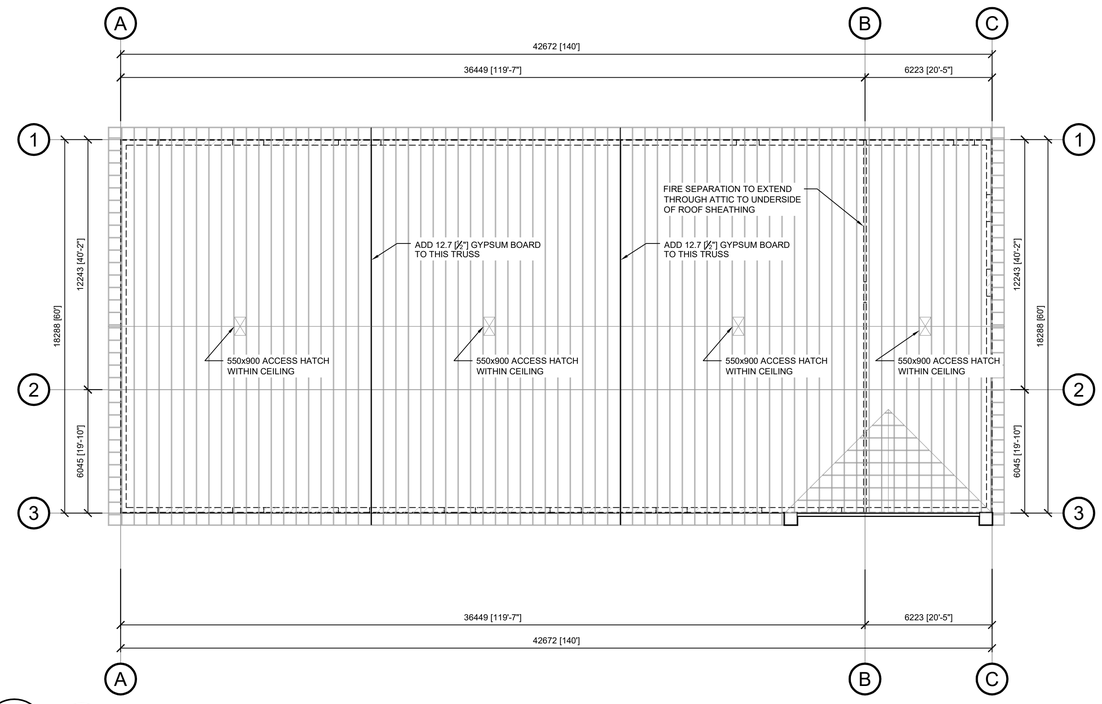
1 HOUR FIRE RESISTANCE RATING

45 MIN. FIRE RESISTANCE RATING

NORTH

2 B-2 B-2 MEZZANINE FIRE SAFETY PLAN

1:150



NORTH

3 B-2 B-2 ATTIC FIRE SAFETY PLAN

1:150

ROOF VENTILATION:
IS TO BE HANDLED BY NATURAL MEANS BY WAY OF CONTINUOUS VENTED SOFFIT ALONG THE EAST AND WEST WALLS AND CONTINUOUS RIDGE VENT. CONTRACTOR TO PROVIDE RAIN/SNOW/BUG SCREEN AT RIDGE VENT.

LEGAL DESCRIPTION

TOWN OF OUTLOOK
LOTS G & K
PARCEL F
REGISTERED PLAN NO. 75-S-02149

BYLAW REQUIREMENTS

ZONE CLASSIFICATION	CS - COMMUNITY SERVICE
PARKING REQUIREMENTS	1 STALL/100 SQ. M. = 8 STALLS STALLS TO BE 2.7m x 6m
MAXIMUM SITE COVERAGE	NO LIMIT
FRONT YARD SET BACK	NO MINIMUM
SIDE YARD SET BACK	NO MINIMUM
REAR YARD SET BACK	NO MINIMUM
LANDSCAPE REQ.	NOT REQUIRED

NBC 2020 CODE ANALYSIS

OCCUPANCY		F3 (STORAGE GARAGE), D (PERSONAL SERVICES)
BUILDING HEIGHT		2 STOREY
BUILDING AREA		780.4 SQUARE METERS
MEZZANINE AREA		78.0 SQUARE METERS
NUMBER OF STREETS/FIRE ACCESS		1
SPRINKLER SYSTEM		☐ REQUIRED ☐ NOT REQUIRED
STAND PIPE		☐ REQUIRED ☐ NOT REQUIRED
FIRE ALARM		☐ REQUIRED ☐ NOT REQUIRED
FIRE DETECTORS		☐ REQUIRED ☐ NOT REQUIRED
SMOKE DETECTORS		☐ REQUIRED ☐ NOT REQUIRED
SMOKE/CO ALARMS		☐ REQUIRED ☐ NOT REQUIRED
EXIT SIGNAGE		☐ REQUIRED ☐ NOT REQUIRED
FIRE BLOCKS IN ATTIC		REQUIRED EVERY 300 sq.m. / 20m MAX SPACING (3.1.11.15)
3.2.2 SUBSECTION		3.2.2.87
REQUIRED RATINGS		FLOORS AND LOAD BEARING ELEMENTS: 45 MINS MEZZANINES: UNRATED ROOFS: UNRATED SERVICE ROOMS: 1 HOUR (3.6.2.1 (1)) STORAGE GARAGE SEPARATION: 1.5 HOUR (3.3.5.6 (1))
SPATIAL SEPARATIONS	NORTH	14% UNPROTECTED OPENINGS, 1 HOUR FRR, NC CLADDING
	SOUTH	32% UNPROTECTED OPENINGS, 45 MIN. FRR, NC CLADDING
	EAST	100% UNPROTECTED OPENINGS, NO RATING, C OR NC CLADDING
	WEST	100% UNPROTECTED OPENINGS, NO RATING, C OR NC CLADDING
OCCUPANT LOAD		STORAGE GARAGE: 667 sq.m./46 sq.m. PER PERSON = 15 STORAGE ROOM: 38 sq.m./46 sq.m. PER PERSON = 1 LOCKER ROOM: 33 sq.m./9.3 sq.m. PER PERSON = 4 STAFF ROOM: 76 sq.m./9.3 sq.m. PER PERSON = 9 TOTAL: 29 PEOPLE
MAXIMUM TRAVEL DISTANCE		30m AS PER 3.4.2.5 (f)
EXIT WIDTH PER 3.4.3.2-A		CORRIDORS: 1100mm, STAIRS: 900mm
REQUIRED WATER CLOSETS		- 30 PEOPLE, ASSUMED 15 MALE AND 15 FEMALE. - 2 CLOSETS FOR MALES REQUIRED BETWEEN 11 AND 25 AS PER 3.7.2.2-C. - 2 CLOSETS FOR FEMALES REQUIRED BETWEEN 1 AND 25 AS PER 3.7.2.2-C
BARRIER FREE DESIGN		REQUIRED ON THE MAIN FLOOR AS PER 3.8.2.1, NOT REQUIRED ON THE MEZZANINE AS PER 3.8.2.3(g) SINCE THE MAIN FLOOR OFFERS ALL THE SAME FACILITIES

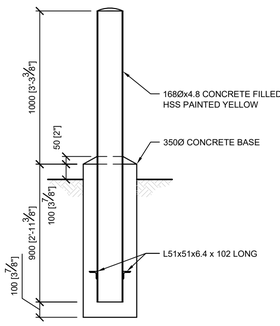
SPATIAL SEPARATION CALCULATIONS

EAST WALL: 6.096m x 42.672m = 260.13 sq m
RATIO L TO H = 7
(BETWEEN 3:1 AND 10:1)
LIMITING DISTANCE = 22.54m
MAX. OPENINGS = 100%
PROVIDED OPENINGS = 17.9%

NORTH WALL: 6.096m x 18.288m = 111.48 sq m
RATIO OF L TO H = 3
(BETWEEN 3:1 AND 10:1)
LIMITING DISTANCE = 3.19m
MAX. OPENINGS = 14%
PROVIDED OPENINGS = 0%

WEST WALL: 6.096m x 42.672m = 260.13 sq m
RATIO L TO H = 7
(BETWEEN 3:1 AND 10:1)
LIMITING DISTANCE = 25.13m
MAX. OPENINGS = 100%
AS PER CLAUSE 3.2.3.10 (2)
PROVIDED OPENINGS = 47.1%

SOUTH WALL: 6.096m X 18.288m = 111.48 sq m
RATIO OF L TO H = 3
(BETWEEN 3:1 AND 10:1)
LIMITING DISTANCE = 6m
MAX. OPENINGS = 32%
PROVIDED OPENINGS = 2.6%



4 B-3 B-2 BOLLARD DETAIL

1:20

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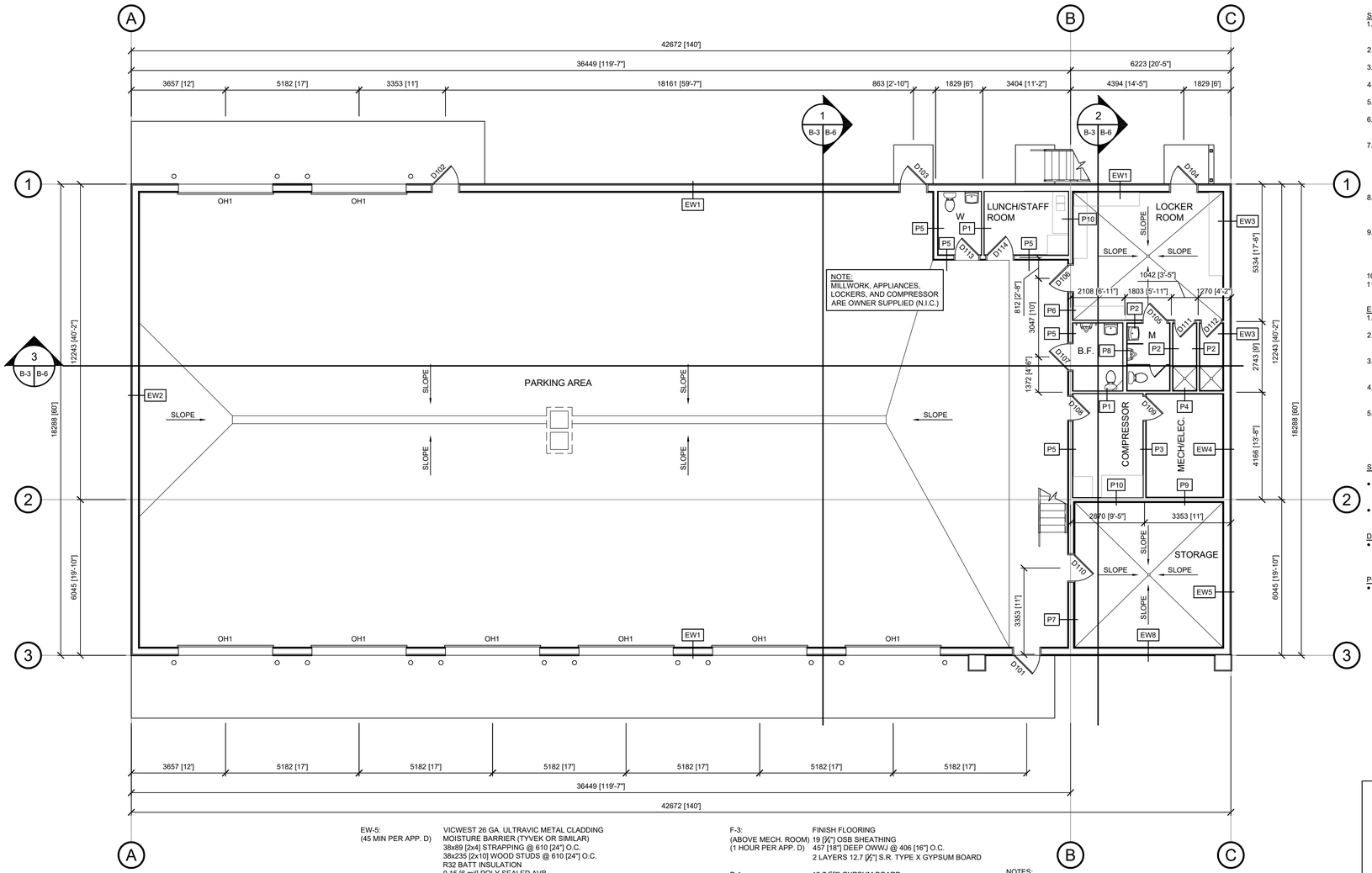
PROJECT TITLE

OUTLOOK - RUDY FIRE HALL

PROJECT LOCATION
OUTLOOK, SK

SHEET TITLE
FIRE SAFETY PLANS
CODE ANALYSIS
BOLLARD DETAIL

DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	B-2
DESIGNED	REVISION	
JRP	1	



NORTH

1 B-3 B-3 MAIN FLOOR PLAN

1:100

ASSEMBLY SCHEDULE

FDN -1:
VICWEST 26 GA. ULTRAVIC METAL CLADDING
PEEL AND STICK MEMBRANE BELOW GRADE
152 [6"] WIDE CORE INSULATED CONCRETE FORMS (ICF - LOGIX)
12.7 [½"] PLYWOOD
12.7 [½"] TRUSSCORE LINER PANELS
(PAINTED PLYWOOD IN PLACE OF TRUSSCORE IN MECH. ROOM)

EW-1:
VICWEST 26 GA. ULTRAVIC METAL CLADDING
MOISTURE BARRIER (TYVEK OR SIMILAR)
38x89 [2x4] STRAPPING @ 610 [24"] O.C.
38x235 [2x10] WOOD STUDS @ 610 [24"] O.C.
R32 BATT INSULATION
0.15 [6 mil] POLY SEALED AVB
19x89 [1x4] STRAPPING @ 610 [24"] O.C. → FROM 100000 TO 103048
19 [¾"] PLYWOOD BACKING
12.7 [½"] TRUSSCORE LINER PANELS
38x89 [2x4] STRAPPING @ 610 [24"] O.C. → FROM 103048 TO 106096
VICWEST 26 GA. ULTRAVIC METAL CLADDING

EW-2:
(1 hour per APP. D)
VICWEST 26 GA. ULTRAVIC METAL CLADDING
MOISTURE BARRIER (TYVEK OR SIMILAR)
38x89 [2x4] STRAPPING @ 610 [24"] O.C.
38x235 [2x10] WOOD STUDS @ 610 [24"] O.C.
R32 ROCK SLAG (FIRE RATED) BATT INSULATION
0.15 [6 mil] POLY SEALED AVB
19 [¾"] PLYWOOD SHEATHING
15.9 [⅝"] TYPE X GYPSUM BOARD
12.7 [½"] TRUSSCORE LINER PANELS → FROM 100000 TO 103048
VICWEST 26 GA. ULTRAVIC METAL CLADDING → FROM 103048 TO 106096

EW-3:
(45 min per APP. D)
VICWEST 26 GA. ULTRAVIC METAL CLADDING
MOISTURE BARRIER (TYVEK OR SIMILAR)
38x89 [2x4] STRAPPING @ 610 [24"] O.C.
38x235 [2x10] WOOD STUDS @ 610 [24"] O.C.
R32 BATT INSULATION
0.15 [6 mil] POLY SEALED AVB
19 [¾"] PLYWOOD SHEATHING
15.9 [⅝"] TYPE X GYPSUM BOARD
12.7 [½"] TRUSSCORE LINER PANELS

EW-4:
(45 MIN PER APP. D)
VICWEST 26 GA. ULTRAVIC METAL CLADDING
MOISTURE BARRIER (TYVEK OR SIMILAR)
38x89 [2x4] STRAPPING @ 610 [24"] O.C.
38x235 [2x10] WOOD STUDS @ 610 [24"] O.C.
R32 BATT INSULATION
0.15 [6 MIL] POLY SEALED AVB
19 [¾"] PLYWOOD SHEATHING
15.9 [⅝"] TYPE X GYPSUM BOARD
12.7 [½"] PAINTED PLYWOOD

EW-5:
(45 MIN PER APP. D)
VICWEST 26 GA. ULTRAVIC METAL CLADDING
MOISTURE BARRIER (TYVEK OR SIMILAR)
38x89 [2x4] STRAPPING @ 610 [24"] O.C.
38x235 [2x10] WOOD STUDS @ 610 [24"] O.C.
R32 BATT INSULATION
0.15 [6 mil] POLY SEALED AVB
19 [¾"] PLYWOOD SHEATHING
15.9 [⅝"] TYPE X GYPSUM BOARD
12.7 [½"] TRUSSCORE LINER PANELS

EW-6:
(45 MIN PER APP. D)
VICWEST 26 GA. ULTRAVIC METAL CLADDING
MOISTURE BARRIER (TYVEK OR SIMILAR)
38x89 [2x4] STRAPPING @ 610 [24"] O.C.
38x235 [2x10] WOOD STUDS @ 610 [24"] O.C.
R32 BATT INSULATION
0.15 [6 mil] POLY SEALED AVB
12.7 [½"] PLYWOOD SHEATHING
15.9 [⅝"] TYPE X GYPSUM BOARD

EW-7:
VICWEST 26 GA. ULTRAVIC METAL CLADDING
MOISTURE BARRIER (TYVEK OR SIMILAR)
38X89 [2X4] STRAPPING @ 610 [24"] O.C.
38X235 [2X10] WOOD STUDS @ 610 [24"] O.C.
R32 BATT INSULATION
0.15 [6 MIL] POLY SEALED AVB
12.7 [½"] GYPSUM BOARD

EW-8:
VICWEST AD300 METAL CLADDING
MOISTURE BARRIER (TYVEK OR SIMILAR) → FROM 103657 TO PARAPET
12.7 [½"] PLYWOOD SHEATHING
38x140 [2x6] WOOD STUDS @ 610 [24"] O.C.
SMARTSIDE
MOISTURE BARRIER (TYVEK OR SIMILAR) → FROM 100000 TO 103657
25x89 [RIPPED 2x4] STRAPPING @ 610 O.C.

R-1:
(ABOVE PARKING & STORAGE ROOM)
STANDING SEAM METAL ROOF
SLIP SHEET OVER UNDERLAYMENT
12.7 [½"] PLYWOOD SHEATHING
ENGINEERED WOOD TRUSSES @ 610 [24"] O.C.
456 DEEP BLOWN IN INSULATION
0.15 [6mil] POLY SEALED AVB
VICWEST 29 GA. ULTRAVIC METAL CLADDING

R-2:
(ABOVE MEZZANINE)
STANDING SEAM METAL ROOF
SLIP SHEET OVER UNDERLAYMENT
12.7 [½"] PLYWOOD SHEATHING
ENGINEERED WOOD TRUSSES @ 610 [24"] O.C.
456 DEEP BLOWN IN INSULATION
0.15 [6mil] POLY SEALED AVB
12.7 [½"] S.R. GYPSUM BOARD

F-1:
152 [6"] CONC. SLAB ON GRADE
0.15 [6mil] POLY VAPOUR BARRIER
51 [2"] HIGH DENSITY RIGID INSULATION
(OMIT 1m [3'-4"] STRIP AROUND PERIMETER)
COMPACTED GRANULAR FILL

F-2:
FINISH FLOORING
19 [¾"] OSB SHEATHING
457 [18"] DEEP OWWJ @ 406 [16"] O.C.
12.7 [½"] S.R. GYPSUM BOARD

F-3:
(ABOVE MECH. ROOM)
(1 HOUR PER APP. D)
FINISH FLOORING
19 [¾"] OSB SHEATHING
457 [18"] DEEP OWWJ @ 406 [16"] O.C.
2 LAYERS 12.7 [½"] S.R. TYPE X GYPSUM BOARD

P-1:
12.7 [½"] GYPSUM BOARD
38x89 [2x4] STUDS @ 406 [16"] O.C.
12.7 [½"] GYPSUM BOARD

P-2:
12.7 [½"] TRUSSCORE LINER PANELS
12.7 [½"] GYPSUM BOARD
38x89 [2x4] WOOD STUDS @ 406 [16"]O.C.
12.7 [½"] GYPSUM BOARD
12.7 [½"] TRUSSCORE LINER PANELS

P-3:
(1 HOUR PER APP.D)
15.9 [⅝"] TYPE X GYPSUM BOARD
38x89 [2x4] WOOD STUDS @ 406 [16"] O.C.
15.9 [⅝"] TYPE X GYPSUM BOARD
12.7 [½"] PAINTED PLYWOOD

P-4:
(1 HOUR PER APP.D)
12.7 [½"] TRUSSCORE LINER PANELS
15.9 [⅝"] TYPE X GYPSUM BOARD
38x89 [2x4] WOOD STUDS @ 406 [16"] O.C.
15.9 [⅝"] TYPE X GYPSUM BOARD
12.7 [½"] PAINTED PLYWOOD

P-5:
(2 HOUR AS PER ULC BXUV.U301)
2 LAYERS 15.9 [⅝"] TYPE X GYPSUM BOARD
38x140 [2x6] WOOD STUDS @ 406 [16"] O.C.
2 LAYERS 15.9 [⅝"] TYPE X GYPSUM BOARD → FROM 100000 TO 103048
12.7 [½"] TRUSSCORE LINER PANELS → FROM 103048 TO 106096
VICWEST 29 GA. ULTRAVIC METAL CLADDING

P-6:
(2 HOUR AS PER ULC BXUV.U301)
12.7 [½"] TRUSSCORE LINER PANELS
2 LAYERS 15.9 [⅝"] TYPE X GYPSUM BOARD
38x140 [2x6] WOOD STUDS @ 406 [16"] O.C.
2 LAYERS 15.9 [⅝"] TYPE X GYPSUM BOARD
12.7 [½"] TRUSSCORE LINER PANELS

P-7:
(2 HOUR AS PER ULC BXUV.U301)
12.7 [½"] TRUSSCORE LINER PANELS
12.7 [½"] PLYWOOD BACKING
2 LAYERS 15.9 [⅝"] TYPE X GYPSUM BOARD
38x184 [2x8] WOOD STUDS @ 406 [16"] O.C.
2 LAYERS 15.9 [⅝"] TYPE X GYPSUM BOARD
12.7 [½"] TRUSSCORE LINER PANELS → FROM 100000 TO 103048
VICWEST 29 GA. ULTRAVIC METAL CLADDING → FROM 103048 TO 106096

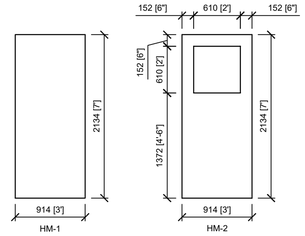
P-8:
12.7 [½"] GYPSUM BOARD
38x140 [2x6] WOOD STUDS @ 406 [16"]O.C.
12.7 [½"] GYPSUM BOARD
12.7 [½"] TRUSSCORE LINER PANELS

P-9:
(1 HOUR PER APP.D)
12.7 [½"] TRUSSCORE LINER PANELS
12.7 [½"] PLYWOOD SHEATHING
15.9 [⅝"] TYPE X GYPSUM BOARD
38x140 [2x6] WOOD STUDS @ 406 [16"] O.C.
15.9 [⅝"] TYPE X GYPSUM BOARD
12.7 [½"] PAINTED PLYWOOD

P-10:
12.7 [½"] GYPSUM BOARD
38x140 [2x6] WOOD STUDS @ 406 [16"]O.C.
15.9 [⅝"] GYPSUM BOARD
12.7 [½"] PLYWOOD BACKING
12.7 [½"] TRUSSCORE LINER PANELS

C-1:
(2 HOUR AS PER ULC BXUV.1502)
2 LAYERS OF MIN. 38mm THICK MINERAL WOOL BATTS
STEEL STUDS @ 406 [16"] O.C. → 600T200-33 PERIMETER TRACKS, 600S162-33 JOISTS
3 LAYERS 15.9 TYPE X GYPSUM BOARD
102 [4"] WIDE x 0.84 [33 mil] STRAPPING @ MID SPAN

NOTES:
- ADD SOUND BATT INSULATION TO WALLS AROUND WASHROOMS AND COMPRESSOR ROOM.
- PARKING AREA, WASHROOM/SHOWER ROOM, LOCKER ROOM, AND STORAGE ROOM ARE TRUSSCORE FINISH.
- MECHANICAL ROOM IS PAINTED PLYWOOD FINISH (COLOUR SELECTION BY OWNER).
- WASHROOMS AND MEZZANINE ARE GYPSUM BOARD FINISH (COLOUR SELECTION BY OWNER).
- PROVIDE DROPPED CEILING AND/OR BULKHEADS WHERE REQUIRED TO SUIT MECHANICAL.



STEEL OVERHEAD DOORS
1. STEEL OVERHEAD DOORS ARE TO BE THERMATITE SECTIONAL INSULATED DOORS T-300. FORM DOOR SECTIONS OF HOT DIPPED GALVANIZED STEEL WITH LONGITUDINAL INTEGRAL REINFORCING RIBS. INSTALL SECTIONS NOT LESS THAN 76mm WIDE.
2. DOORS ARE TO BE 25mm [1"] TALLER THAN OPENING HEIGHT AND EXTEND 25mm [1"] BEYOND JAMBS ON BOTH SIDES OF OPENING.
3. MEETING RAILS TO HAVE INTERLOCKING JOINTS TO ENSURE A WEATHER TIGHT CLOSURE AND ALIGNMENT FOR FULL WIDTH OF DOOR.
4. PROVIDE INSULATED GLASS PANELS AS SHOWN AND INSTALL PANELS USING MANUFACTURER'S STANDARD FOR RUBBER GASKETS.
5. INSULATE DOOR SECTIONS WITH PLASTIC FOAM OR OTHER MATERIAL PROVIDING AN R VALUE OF 25 OR GREATER.
6. PROVIDE GALVANIZED STEEL TRACKS NOT LIGHTER THAN 1.8mm (14 GAUGE) THICK THAT ARE DESIGNED FOR THE DOOR WIDTH, WEIGHT, AND WIND LOADS. INCLINE VERTICAL TRACKS THROUGH USE OF ADJUSTABLE BRACKETS TO OBTAIN A WEATHER TIGHT CLOSURE AT JAMBS.
7. PROVIDE HINGES, BRACKETS, ROLLERS, LOCKING DEVICES, AND OTHER HARDWARE REQUIRED FOR COMPLETE INSTALLATION. ROLLER BRACKETS AND HINGES TO BE SIZED TO SUIT AND BE MINIMUM 1.8mm (14 GAUGE) GALVANIZED STEEL. PROVIDE ROLLERS WITH BALL BEARINGS AND CASE-HARDENED RACES. PROVIDE REINFORCING ON DOORS WHERE ROLLER HINGES ARE CONNECTED. DOORS ARE TO BE FITTED WITH HIGH LIFT HARDWARE SIMILAR TO THE EXISTING HARDWARE.
8. COUNTER BALANCE DOORS WITH AN OIL-TEMPERED, HELICAL-WOUND TORSIONAL SPRING MOUNTED ON A STEEL SHAFT. PROVIDE ADJUSTABLE SPRING TENSION, CONNECT SPRING TO DOORS WITH CABLE THROUGH CABLE DRUMS. PROVIDE CABLE SAFETY FACTOR OF AT LEAST 5 TO 1. PROVIDE SPRINGS WITH A MINIMUM RATING OF 100,000 CYCLES.
9. PROVIDE A WEATHER TIGHT INSTALLATION FREE FROM WARP, TWIST, OR DISTORTION. ADJUST AND LUBRICATE DOORS TO OPERATE FREELY. PROVIDE EXTERIOR DOORS WITH WEATHERPROOF JOINTS BETWEEN SECTIONS, A RUBBER OR VINYL ADJUSTABLE WEATHER STRIP AT TOP AND JAMBS, AND A COMPRESSIBLE NEOPRENE OR RUBBER WEATHER SEAL ATTACHED TO THE BOTTOM OF THE DOOR.
10. NEW DOORS TO BE SHOP PRIMED AND PAINTED TO OWNERS SPECIFICATIONS.
11. PROVIDE MINIMUM OF 1 YEAR WARRANTY ON ALL PARTS AND LABOUR FOR DOOR COMPONENTS.

ELECTRIC OPERATORS
1. 3/4 HP MONARAS MODEL MOSH6113-0M00 OPENERS. PROVIDE 2 REMOTE OPERATORS PER DOOR.
2. MOTORS ARE TO HAVE SUFFICIENT HORSEPOWER AND TORQUE OUTPUT TO MOVE THE DOOR IN EITHER DIRECTION FROM ANY POSITION. DOOR TRAVEL SPEED TO BE NOT LESS THAN 200mm AND NOT MORE THAN 300mm PER SECOND WITHOUT EXCEEDING THE RATED CAPACITY.
3. PROVIDE A MOTOR FOR EACH OVERHEAD DOOR WITH AN ENCLOSED, ACROSS THE LINE TYPE MAGNETIC REVERSING CONTACTOR, THERMAL OVERLOAD AND UNDER VOLTAGE PROTECTION, SOLENOID-OPERATED BRAKE, LIMIT SWITCHES, AND CONTROL SWITCHES.
4. PROVIDE A THREE BUTTON TYPE CONTROL WITH BUTTONS MARKED "OPEN", "CLOSE" AND "STOP". PROVIDE LIMIT SWITCHES TO AUTOMATICALLY STOP DOORS IN THE FULLY OPEN AND FULLY CLOSED POSITIONS. LIMIT SWITCH POSITIONS MUST BE READILY ADJUSTABLE.
5. PROVIDE ENTRAPMENT PROTECTION DEVICES FOR ELECTRICALLY OPERATED DOORS IN ACCORDANCE WITH UL 325, BOTH ELECTRIC EYES AND PNEUMATIC REVERSING BARS AT EACH DOOR. THESE DEVICES MUST IMMEDIATELY STOP AND REVERSE THE DOOR IN ITS CLOSING TRAVEL UPON SENSING AN OBSTRUCTION IN THE DOOR OPENING OR UPON FAILURE OF THE DEVICE OR ANY COMPONENT OF THE CONTROL SYSTEM.

SIGNAGE
- BARRIER-FREE SIGNAGE IN ACCORDANCE WITH NBC 2020 IS TO BE POSTED AT THE BARRIER-FREE PARKING STALL, PRINCIPLE ENTRANCE, AND BARRIER-FREE WASHROOM.
- PROVIDE EXIT SIGNAGE AT EACH OF THE PRIMARY EXITS IN ACCORDANCE WITH NBC 2020.

DOOR HANDLES
- ARE TO BE LEVER STYLE HANDLES WHICH DO NOT REQUIRE TIGHT GRASPING OR TWISTING OF THE WRIST AND ARE TO BE MOUNTED BETWEEN 900mm AND 1100mm ABOVE FINISH FLOOR.

PORTABLE FIRE EXTINGUISHERS
- TO BE PROVIDED AS REQUIRED BY NFPA10 AND THE NATIONAL FIRE CODE.

MAIN FLOOR DOOR SCHEDULE

MARK	SIZE (L x H)	RATING (FPR)	FRAME TYPE	DOOR TYPE	POWER OPERATOR	HOLD OPEN DEVICE	LOCK SET	DEAD BOLT	INT. PANIC BAR	EXT. HANDLE	PRIVACY LOCKSET	PASSAGE SET	HINGES	WEATHER STRIP AND SWEEP	THRESHOLD	DOOR BOTTOM	CLOSER	CHAIN STOP	FLOOR STOP	NOTES
D101	1016 x 2134 [3'-4" x 7']	N/A	PS	HM-1			●		●	●			●	●	●		●			INSULATED (Umax = 2.1)
D102	1016 x 2134 [3'-4" x 7']	N/A	PS	HM-1			●		●	●			●	●	●		●			INSULATED (Umax = 2.1)
D103	1016 x 2134 [3'-4" x 7']	N/A	PS	HM-1			●		●	●			●	●	●		●			INSULATED (Umax = 2.1)
D104	1016 x 2134 [3'-4" x 7']	45 min	PS	HM-1			✳			✳			●	●	●		●			INSULATED (Umax = 2.1)
D105	914 x 2134 [3' x 7']	N/A	PS	HM-1								●	●			●			●	
D106	914 x 2134 [3' x 7']	60 min	PS	HM-1								●	●			●			●	
D107	1016 x 2134 [3'-4" x 7']	60 min	PS	HM-1							●		●			●			●	
D108	914 x 2134 [3' x 7']	60 min	PS	HM-1								●	●			●			●	
D109	914 x 2134 [3' x 7']	45 min	PS	HM-1								●	●			●			●	
D110	1016 x 2134 [3'-4" x 7']	60 min	PS	HM-1								●	●			●			●	
D111	762x 2134 [2'-6" x 7']	N/A	PS	HM-1							●		●			●			●	
D112	762x 2134 [2'-6" x 7']	N/A	PS	HM-1							●		●			●			●	
D113	914 x 2134 [3' x 7']	60 min	PS	HM-1							●		●			●			●	
D114	1016 x 2134 [3'-4" x 7']	60 min	PS	HM-1								●	●			●			●	
OH1	3657 x 5486 [12' x 18']	N/A	N/A	OH			GLAZ. PER ELEV.													INSULATED (Umax = 1.59)

✳ LOCKSET AT THIS LOCATION ONLY TO BE SIMPLEX L1000 BY KABA

F.R.R CALCULATIONS (APPENDIX D)

EW2: 15.9 TYPE X G.B. 40 min; 1.22 kg/sq m ROCK SLAG 15 min; L.B. WOOD STUDS @ 600 O.C. 15 min; 70 min
EW3: 15.9 TYPE X G.B. 40 min; L.B. WOOD STUDS @ 600 O.C. 15 min; 55 min
EW4: 15.9 TYPE X G.B. 40 min; L.B. WOOD STUDS @ 600 O.C. 15 min; 55 min
EW5: 15.9 TYPE X G.B. 40 min; L.B. WOOD STUDS @ 600 O.C. 15 min; 55 min

P3: 15.9 TYPE X G.B. 40 min; N.L.B. WOOD STUDS @ 400 O.C. 20 min; 60 min
P4: 15.9 TYPE X G.B. 40 min; N.L.B. WOOD STUDS @ 400 O.C. 20 min; 60 min
P9: 15.9 TYPE X G.B. 40 min; N.L.B. WOOD STUDS @ 400 O.C. 20 min; 60 min
F-3: WOOD TRUSSES @ 400 O.C. 10 min; 2 LAYERS 12.7 TYPE X G.B. 50 min; 60 min

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JSP Engineering Inc.
70466
Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
STRUCTURAL	23703	JRP

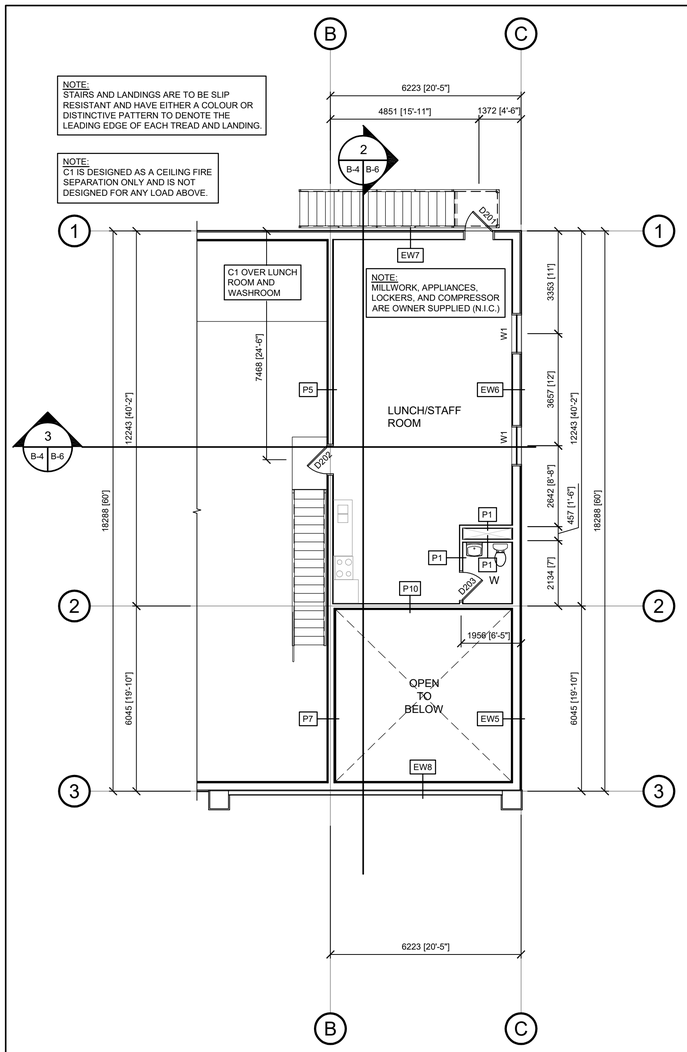
NO.	REVISION	DATE
0	ISSUED FOR OWNER REVIEW	JUL 9/24
1	ISSUED FOR CONSTRUCTION	SEP 26/24

PROJECT TITLE
OUTLOOK - RUDY FIRE HALL

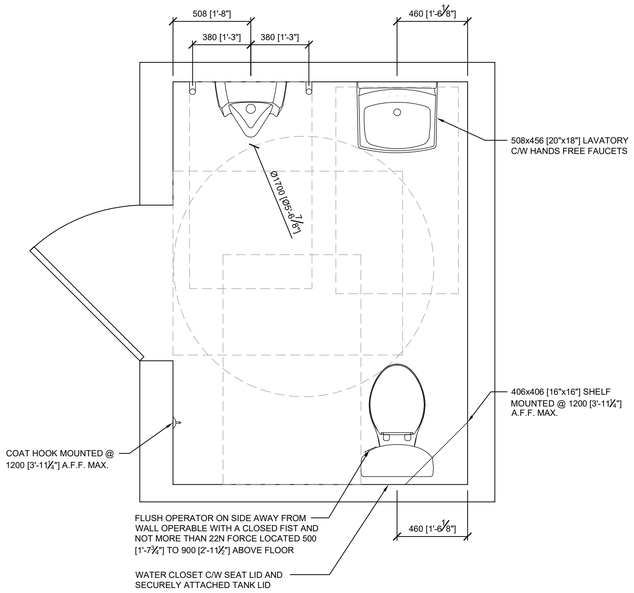
PROJECT LOCATION
OUTLOOK, SK

SHEET TITLE
MAIN FLOOR PLAN
ASSEMBLY SCHEDULE
DOOR SCHEDULE

DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	B-3
DESIGNED: JRP	REVISION: 1	

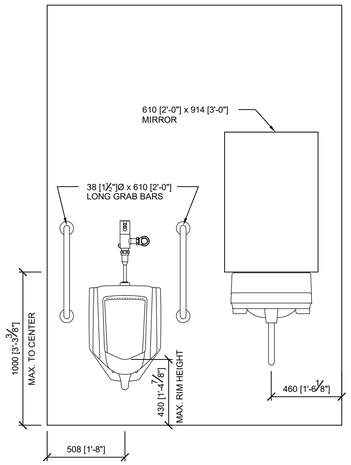


1 B-4 B-4 MEZZANINE PLAN
1:100



2 B-4 B-4 UNIVERAL WASHROOM PLAN
1:20

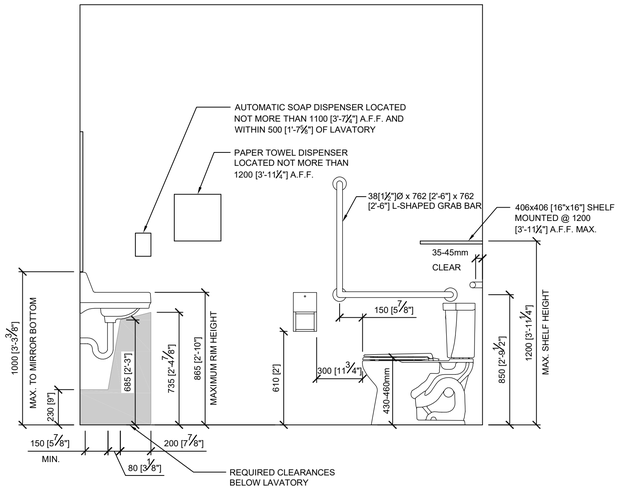
ADDITIONAL UNIVERSAL WASHROOM (BARRIER FREE) REQUIREMENTS
1. DOOR MUST PROVIDE A MINIMUM 850mm CLEAR WIDTH IN THE OPEN POSITION.
2. LATCH FOR DOOR IS TO BE LOCATED BETWEEN 900mm AND 1100mm ABOVE THE FLOOR, CAPABLE OF BEING LOCKED FROM THE INSIDE AND RELEASED FROM THE OUTSIDE IN CASE OF AN EMERGENCY.
3. DOOR IS TO HAVE A DOOR PULL NOT LESS THAN 140mm LONG LOCATED ON THE INSIDE FACE BETWEEN 200mm AND 300mm FROM THE HINGE SIDE AND LOCATED BETWEEN 900mm AND 1100mm ABOVE THE FLOOR.
4. PROVIDE A COAT HOOK MOUNTED NOT MORE THAN 1200mm ABOVE THE FLOOR ON A SIDE WALL AND PROJECTING NOT MORE THAN 50mm FROM THE WALL.



3 B-4 B-4 UNIVERSAL WASHROOM NORTH ELEV.
1:20

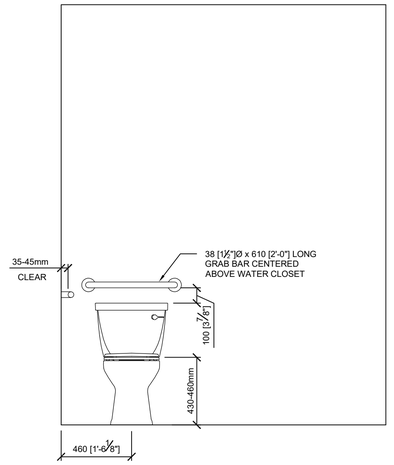
MEZZANINE DOOR SCHEDULE																			
MARK	SIZE (L x H)	RATING (FPR)	FRAME TYPE	DOOR TYPE	POWER OPERATOR	HOLD OPEN DEVICE	LOCK SET	DEAD BOLT	INT. PANIC BAR	EXT. HANDLE	PRIVACY LOCKSET	PASSAGE SET	HINGES	WEATHER STRIP AND SWEEP	THRESHOLD	DOOR BOTTOM	CLOSER	CHAIN STOP	FLOOR STOP	NOTES
D201	914 x 2134 [3' x 7']	N/A	PS	HM-1			●			●	●		●	●	●		●	●		INSULATED (Umax = 1.59)
D202	914 x 2134 [3' x 7']	60 min	PS	HM-2								●	●			●	●		●	INSET GLAZING
D203	914 x 2134 [3' x 7']	N/A	PS	HM-1							●		●			●			●	

WINDOW SCHEDULE			
MARK	ROUGH OPENIG SIZE (L x H)	WALL STUD SIZE	NOTES
W-1	1219 x 1219 [4' x 4']	38x235	TRIPLE GLAZE PVC (Umax = 1.35)



4 B-4 B-4 UNIVERSAL WASHROOM EAST ELEV.
1:20

NOTE:
WATER AND DRAIN PIPES ARE TO BE INSULATED.



5 B-4 B-4 UNIVERSAL WASHROOM SOUTH ELEV.
1:20

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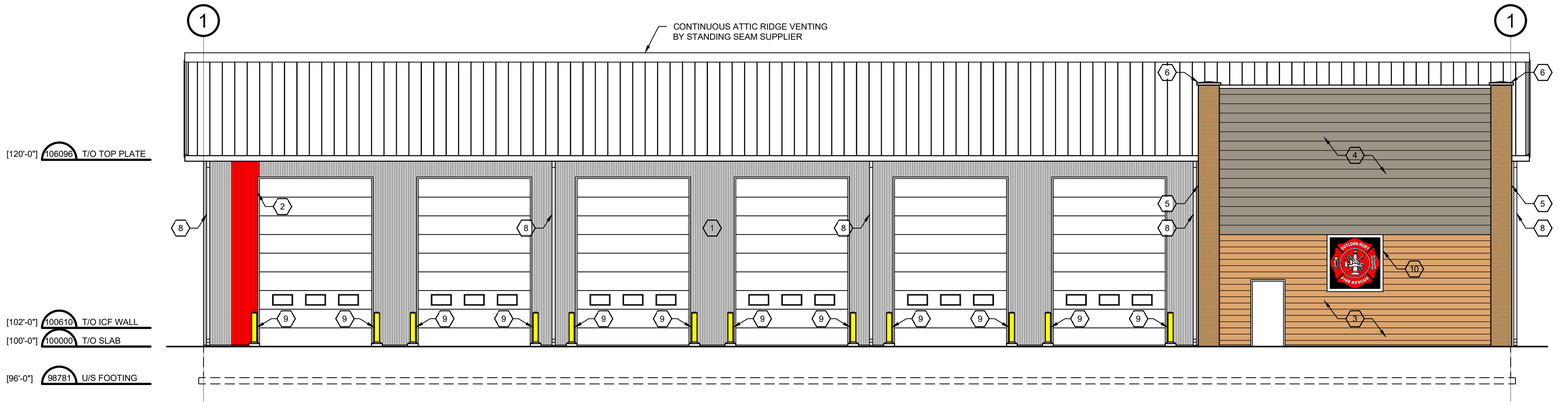
PROJECT TITLE
OUTLOOK - RUDY FIRE HALL

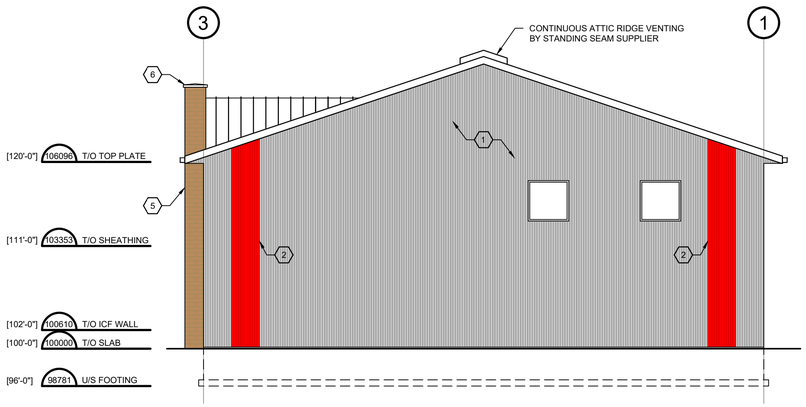
PROJECT LOCATION
OUTLOOK, SK

SHEET TITLE
MEZZANINE PLAN
WINDOW SCHEDULE
DOOR SCHEDULE
UNIVERAL WASHROOM PLAN
UNIVERSAL WASHROOM ELEV.'s

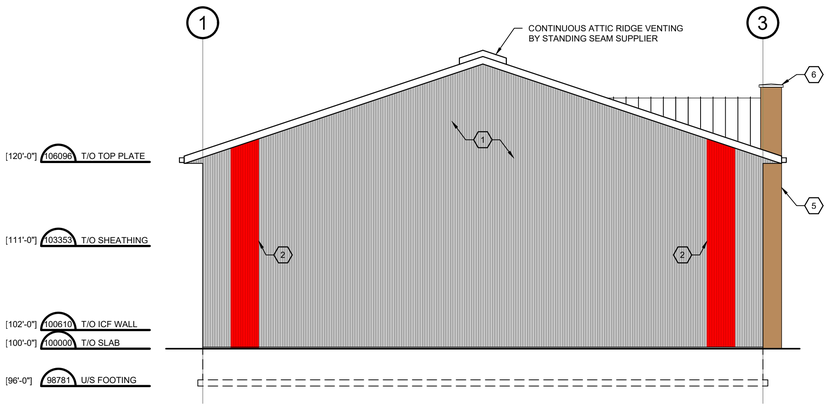
DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	B-4
DESIGNED	REVISION	
JRP	1	



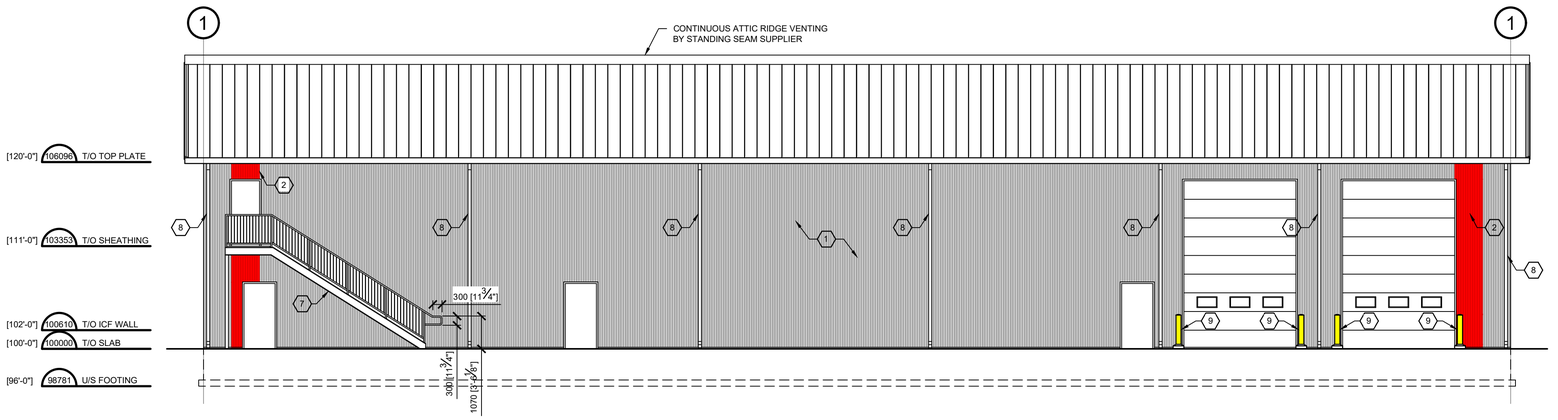
1 / B-5 B-5 WEST ELEVATION
1:100



2 / B-5 B-5 NORTH ELEVATION
1:100



3 / B-5 B-5 SOUTH ELEVATION
1:100



4 / B-5 B-5 EAST ELEVATION
1:100

LEGEND

1. VICWEST ULTRAVIC 26 GAUGE CLADDING - CHARCOAL
2. VICWEST ULTRAVIC 26 GAUGE CLADDING - DARK RED
3. SMARTSIDE - NATURAL
4. VICWEST AD300 - WEATHERED CEDAR
5. 19mm [¾"] STONE TILE
6. CAP STONE
7. EXTERIOR STEEL STAIR PAINTED BLACK
8. EAVES TROUGH AND DOWN SPOUTS
9. CONCRETE FILLED STEEL BOLLARD PAINTED YELLOW
10. SIGNAGE BY OWNER (N.I.C.)

NOTE:
FINAL COLOUR SELECTIONS ARE TO BE BY OWNER. PROVIDE SAMPLES OF ALL PRODUCTS FOR REVIEW AND APPROVAL BY OWNER.

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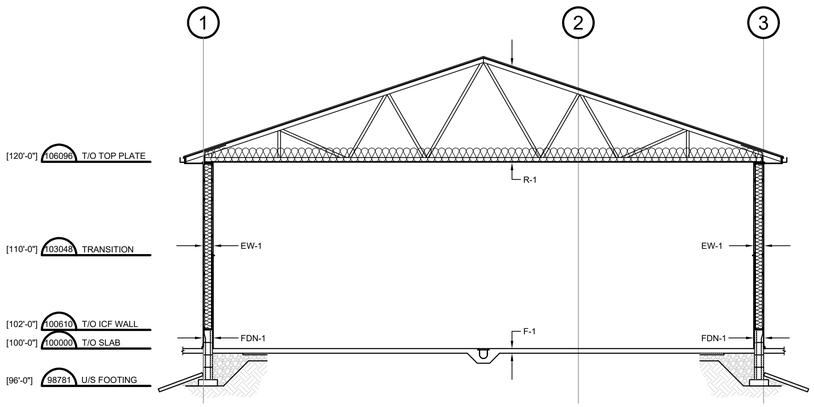
PROJECT TITLE
OUTLOOK - RUDY FIRE HALL

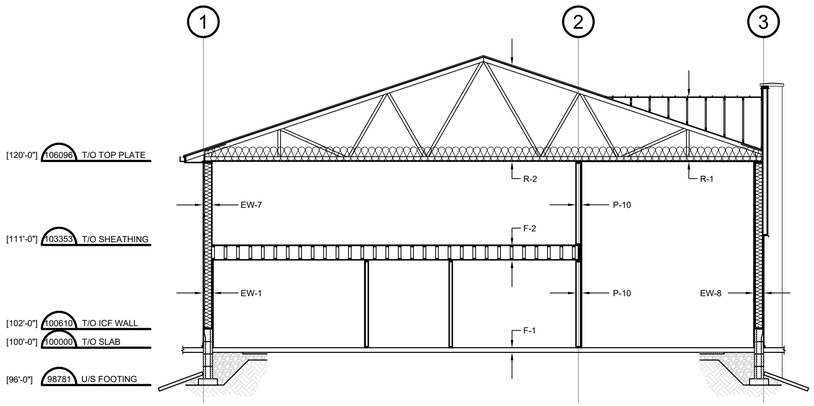
PROJECT LOCATION
OUTLOOK, SK

SHEET TITLE
ELEVATIONS

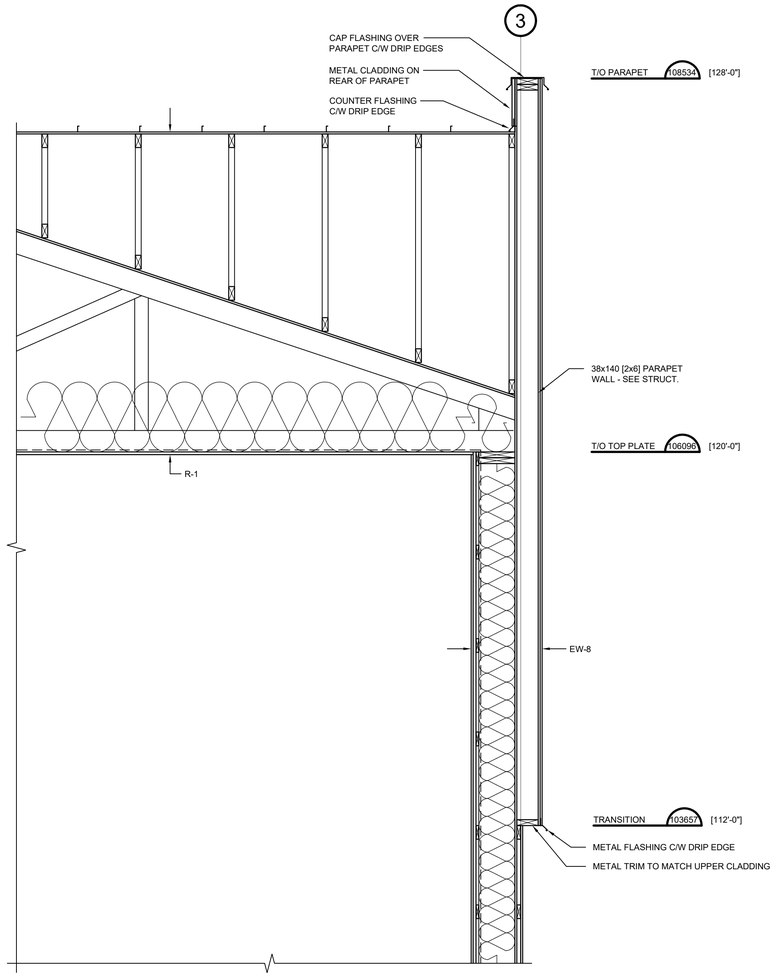
DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	B-5
DESIGNED	REVISION	
JRP	1	



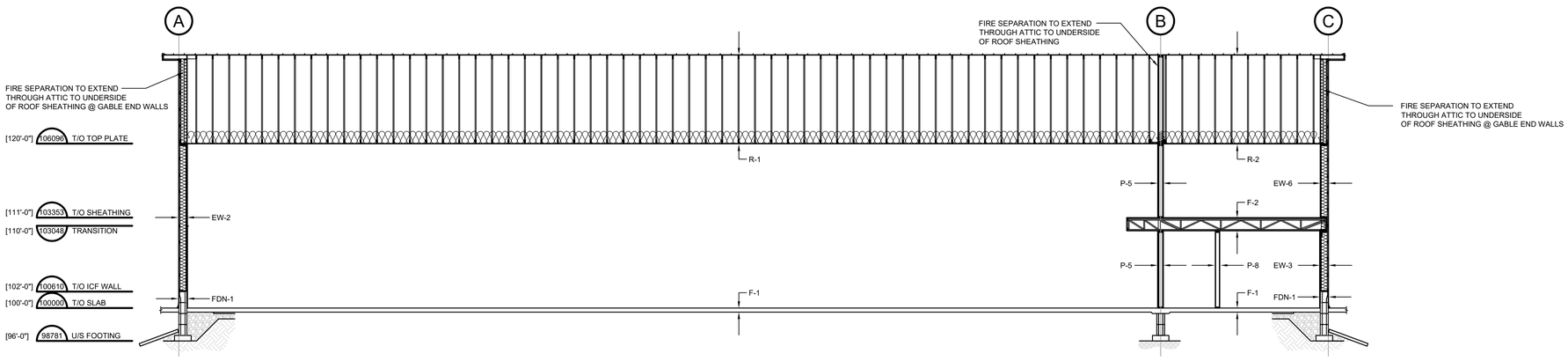
1 B-3 B-6 BUILDING SECTION
1:100



2 B-3,4 B-6 BUILDING SECTION
1:100



4 B-6 B-6 FRONT PARAPET DETAIL
1:20



3 B-3,4 B-6 BUILDING SECTION
1:100

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STRUCTURAL	23703	JRP

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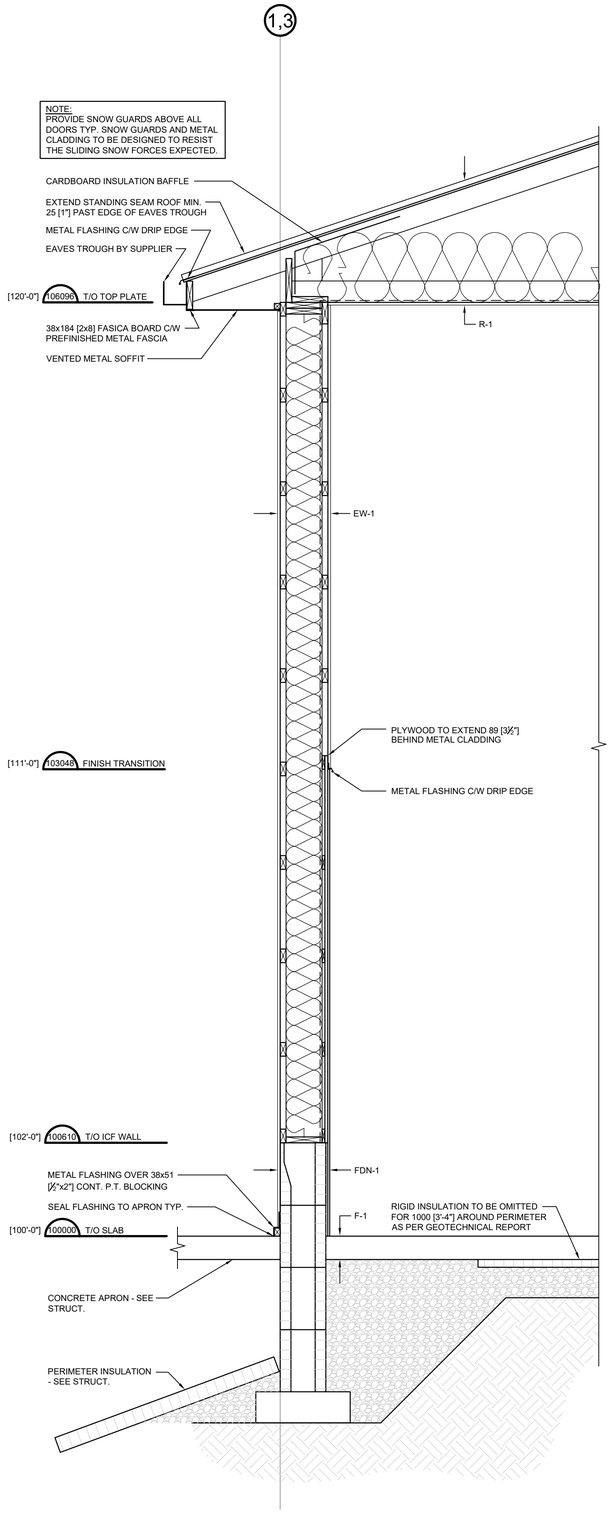
PROJECT TITLE
OUTLOOK - RUDY FIRE HALL

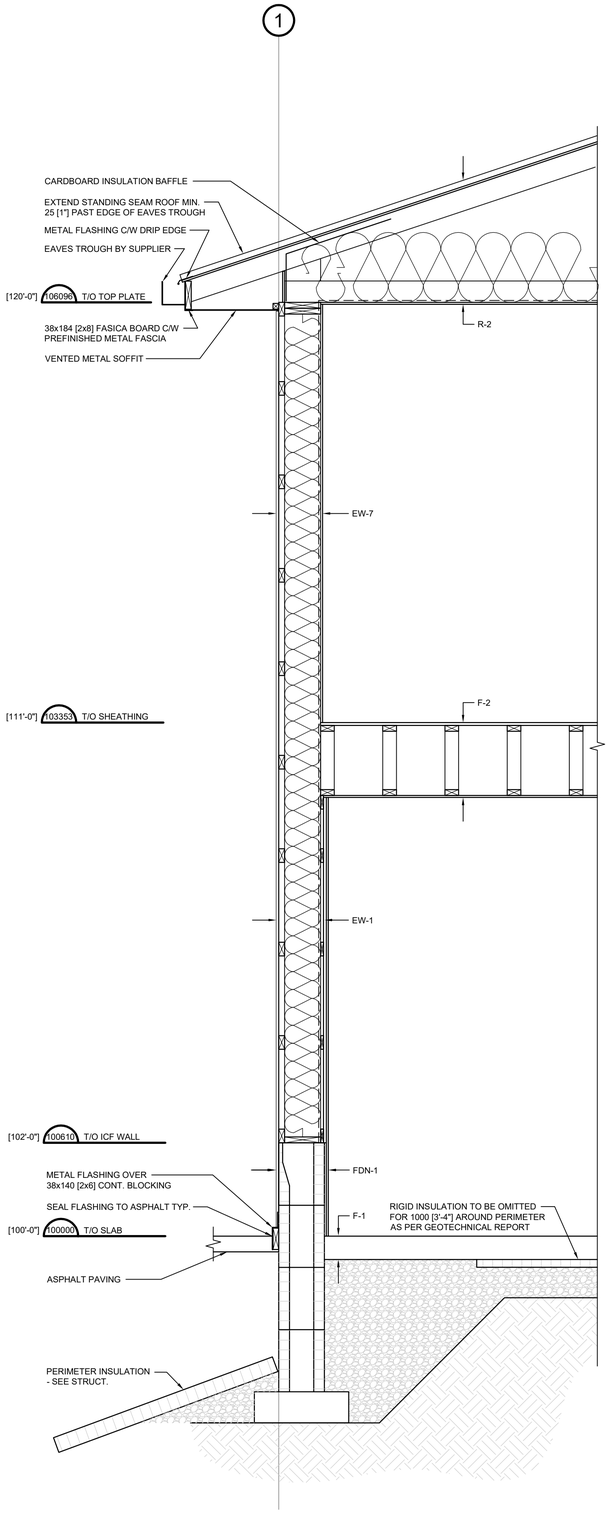
PROJECT LOCATION
OUTLOOK, SK

SHEET TITLE
BUILDING SECTIONS

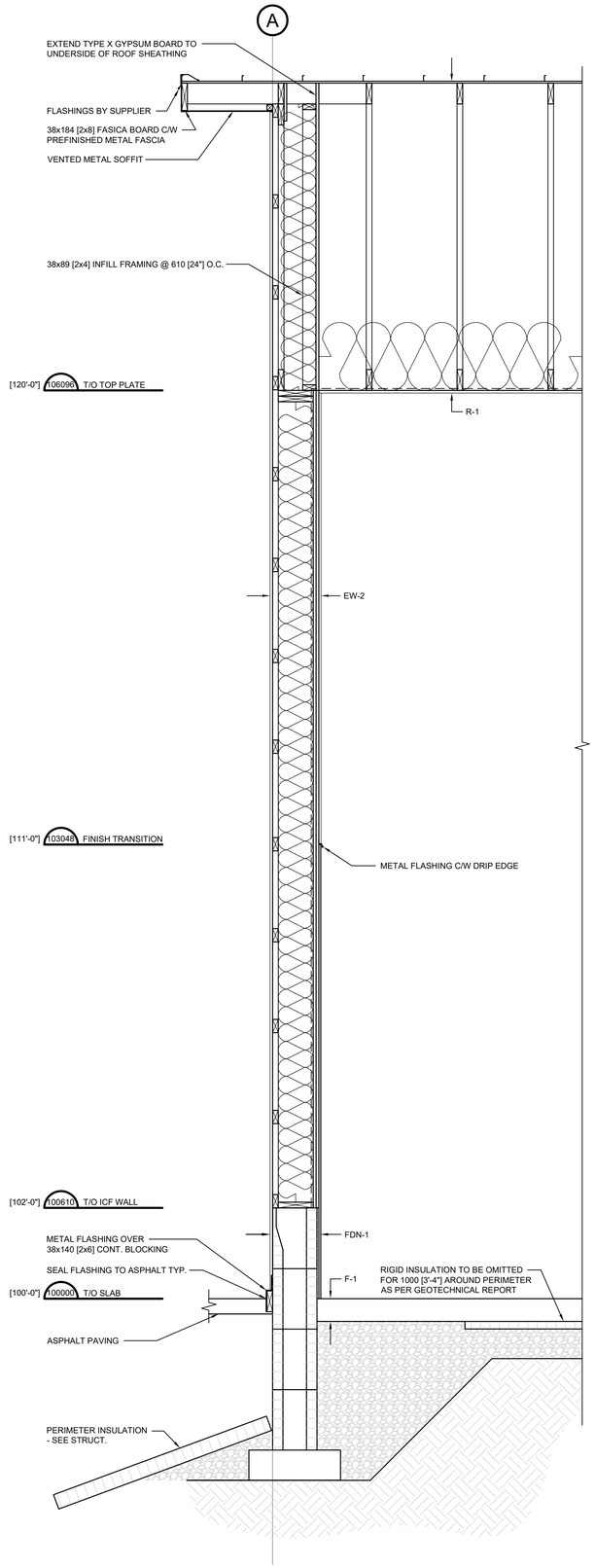
DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	B-6
DESIGNED	REVISION	
JRP	1	



1 B-7 B-7 END WALL SECTION @ CONC. APRON
1:20



2 B-7 B-7 END WALL SECTION @ ASPHALT
1:20



3 B-7 B-7 END WALL SECTION @ ASPHALT
1:20

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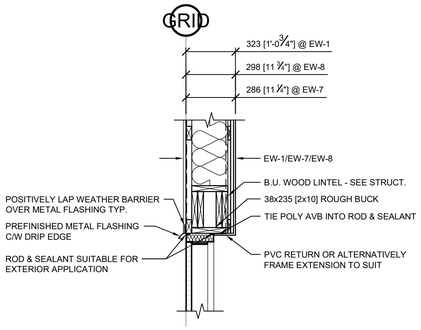
PROJECT TITLE
OUTLOOK - RUDY FIRE HALL

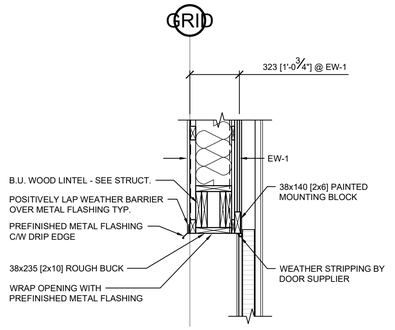
PROJECT LOCATION
OUTLOOK, SK

SHEET TITLE
WALL SECTIONS

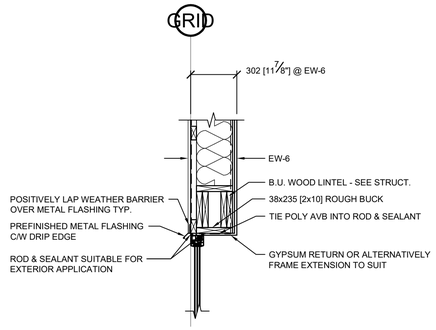
DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	B-7
DESIGNED	REVISION	
JRP	1	



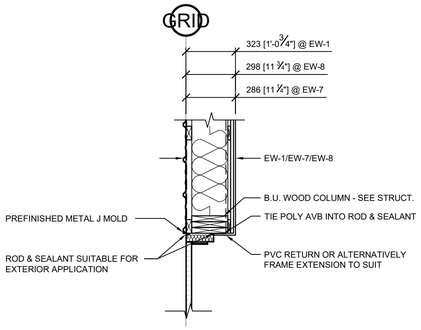
1 B-8 B-8 DOOR HEAD DETAIL
1:20



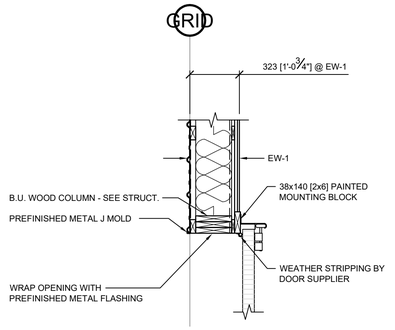
4 B-8 B-8 O.H. DOOR HEAD DETAIL
1:20



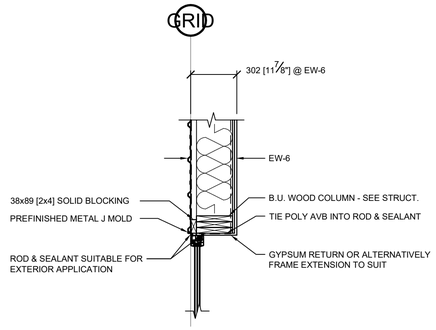
7 B-8 B-8 WINDOW HEAD DETAIL
1:20



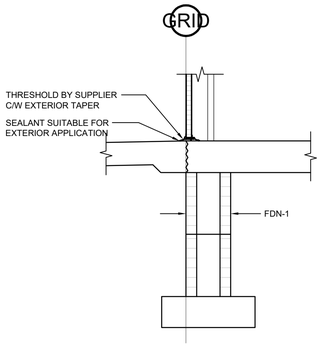
2 B-8 B-8 DOOR JAMB DETAIL
1:20



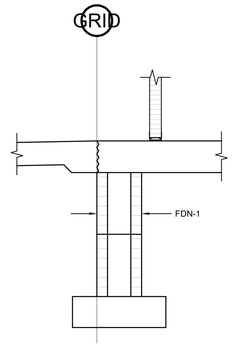
5 B-8 B-8 O.H. DOOR JAMB DETAIL
1:20



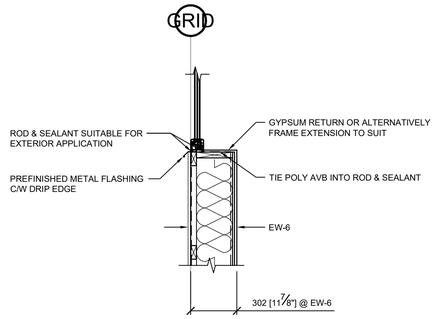
8 B-8 B-8 WINDOW JAMB DETAIL
1:20



3 B-8 B-8 DOOR SILL DETAIL
1:20



6 B-8 B-8 O.H. DOOR SILL DETAIL
1:20



9 B-8 B-8 WINDOW SILL DETAIL
1:20

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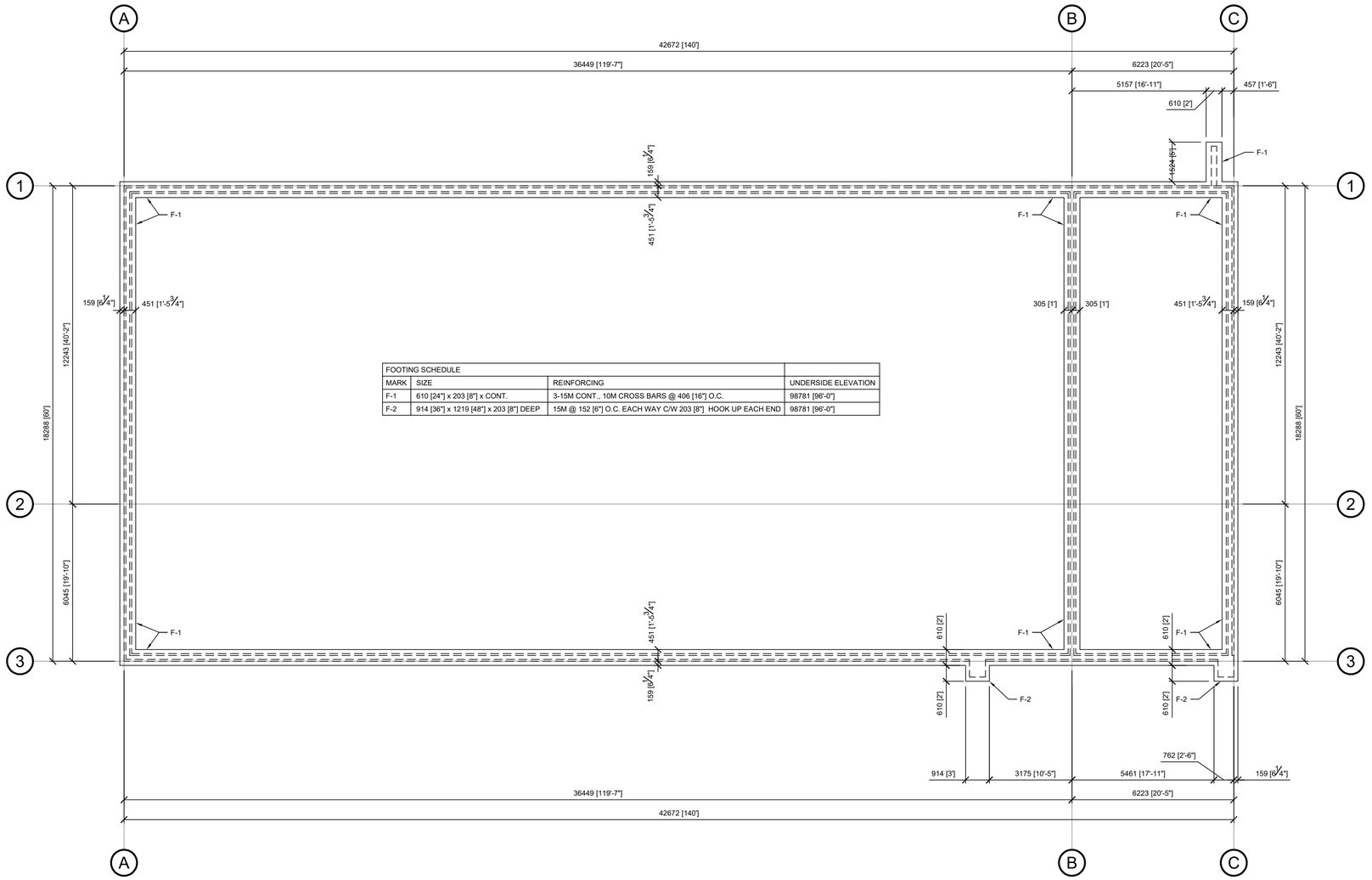
PROJECT TITLE
OUTLOOK - RUDY FIRE HALL

PROJECT LOCATION
OUTLOOK, SK

SHEET TITLE
DETAILS

DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	B-8
DESIGNED	REVISION	
JRP	1	



FOOTING SCHEDULE			
MARK	SIZE	REINFORCING	UNDERSIDE ELEVATION
F-1	610 [24"] x 203 [8"] x CONT.	3-15M CONT., 10M CROSS BARS @ 406 [16"] O.C.	98781 [96'-0"]
F-2	914 [36"] x 1219 [48"] x 203 [8"] DEEP	15M @ 152 [6"] O.C. EACH WAY C/W 203 [8"] HOOK UP EACH END	98781 [96'-0"]

NORTH

1 / S-1 S-1

FOUNDATION PLAN

1:100

GENERAL NOTES
1. DESIGN IS BASED ON THE NATIONAL BUILDING CODE OF CANADA, 2020 (NBC 2020) AND RELEVANT STANDARDS REFERENCED THEREIN.
2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH SPECIFICATIONS, GENERAL NOTES, AND NBC 2020.
3. UNLESS NOTED OTHERWISE, TYPICAL DETAILS APPLY THROUGHOUT.
4. UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE IN MILLIMETERS.
5. DO NOT SCALE THESE DRAWINGS.
6. CONTRACTOR TO CONFIRM ALL DIMENSIONS PRIOR TO CONSTRUCTION.
7. DIMENSIONS FOR EXISTING CONSTRUCTION HAVE BEEN TAKEN FROM ORIGINAL DRAWINGS WHEN AVAILABLE AND MUST BE SITE VERIFIED.
8. THESE DRAWING MUST BE READ IN CONJUNCTION WITH ALL RELATED DRAWINGS INCLUDING OTHER DISCIPLINES, EXISTING DRAWINGS, AND EQUIPMENT DATA SHEETS.

DESIGN LOADS (OUTLOOK)
IMPORTANCE CATEGORY: POST DISASTER
HOURLY WIND PRESSURE (1/50): 0.49 kPa
WIND EXPOSURE CLASSIFICATION: OPEN TERRAIN
SNOW LOAD (1/50): Ss = 1.7 kPa
Sr = 0.1 kPa
SEISMIC DATA: Sa(0.2_X) = 0.128
Sa(0.5_X) = 0.127
Sa(1.0_X) = 0.128
Sa(2.0_X) = 0.03
SITE DESIGNATION = X_D

CAST-IN-PLACE CONCRETE
1. ALL CONCRETE MATERIALS AND METHODS OF CONSTRUCTION TO BE IN ACCORDANCE WITH CSA A23.1:19 AND CSA A23.2:19.
2. ALL CONCRETE TO BE NORMAL DENSITY 2400 kg/m³.
3. CONCRETE MIX DESIGNS AND CONCRETE COVER ARE TO BE AS PER THE FOLLOWING:

LOCATION	STRENGTH f'c (MPa)	EXPOSURE CLASS	CONCRETE COVER TO REINFORCING STEEL		
			BOTTOM	TOP	SIDES
FOOTINGS	32	S-2	76 [3"]	40 [1½"]	40 [1½"]
ICF FOUNDATION WALLS	32	S-2	40 [1½"]	40 [1½"]	40 [1½"]
INTERIOR GRADE SUPPORTED SLABS	25	N	MID	MID	40 [1½"]
EXTERIOR GRADE SUPPORTED SLABS	32	C-2	MID	MID	40 [1½"]

4. PROVIDE CONCRETE TESTING TO CSA A23.2:19 REQUIREMENTS.
5. CONCRETE MIX DESIGN FOR INTERIOR CONCRETE SLABS SHALL BE PROPORTIONED AND DELIVERY METHODS SHALL BE SELECTED TO MINIMIZE CONCRETE SHRINKAGE. TYPICAL STRATEGIES INCLUDING BUT NOT LIMITED TO CHILLED MIXING WATER, REDUCED W/CM RATIO, LARGER AGGREGATE, AND HIGH QUALITY CLEAN AGGREGATE WITH LOW SHRINKAGE POTENTIAL SHALL BE CONSIDERED IN THE MIX DESIGN AND DELIVERY OF THE CONCRETE.
6. SUBMIT SEALED MIX DESIGNS FOR CONSULTANT REVIEW OF ALL CONCRETE TYPES AND EXPOSURE CLASS TO BE USED.

FOOTINGS
1. FOOTINGS MUST NOT BE CONSTRUCTED ON DESICCATED, FROZEN, OR WET SUBGRADE.
2. PROTECT SUBGRADE SOIL AT THE FOOTING ELEVATION FROM FREEZING BEFORE, DURING, AND AFTER CONCRETE PLACEMENT UNTIL THE BUILDING IS FULLY ENCLOSED AND HEATED.
3. SIDES OF FOOTINGS SHALL BE FORMED UNLESS CONDITIONS PERMIT EARTH FORMING.
4. IF THE SUBGRADE SOIL BELOW THE FOOTING DEPTH IS DISTURBED DURING EXCAVATION, REMOVE DISTURBED SOIL AND REPLACE WITH CONCRETE TO FOOTING ELEVATION.
5. FOOTINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT DATED AUGUST 5, 2016, PREPARED BY P. MACHIBRODA ENGINEERING LTD., FILE NO. 10602 AND ADDENDUM #1 DATED MAY 7, 2024.
6. ANTICIPATED MOVEMENT OF FOOTINGS DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT IS EXPECTED TO BE LESS THAN 25mm. IF ANTICIPATED MOVEMENT OF UP TO 25mm IS NOT ACCEPTABLE AN ALTERNATE FOUNDATION TYPE SHOULD BE SELECTED OR THE FOOTINGS INCREASED TO REDUCE SETTLEMENT.

INSULATED CONCRETE FORMS (ICF)
1. MAXIMUM CONCRETE LIFT DURING CONCRETE PLACEMENT TO BE AS PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND MUST NOT EXCEED THE FORM STRENGTH.
2. CORE WIDTH OF FORMS TO BE AS INDICATED ON DRAWINGS.
3. REINFORCING TO BE AS INDICATED ON DRAWINGS BUT AT A MINIMUM SHALL INCLUDE 10M BARS AT 406 [16"] O.C. HORIZONTALLY AND 15M BARS AT 406 [16"] O.C. VERTICALLY ON THE INSIDE FACE FOR FOUNDATION WALLS AND CENTERED FOR WALLS ABOVE GRADE. ADD 2-15M VERTS EACH SIDE OF EACH DOORWAY.
4. MINIMUM RSI OF BOTH LAYERS OF INSULATION TO BE GREATER THAN OR EQUAL TO 3.34 FOR FOUNDATION APPLICATIONS.
5. INSTALL FORMS IN STRICT CONFORMANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.
6. PROVIDE GUSSETS, BRACING, BUCKING, AND OTHER SUPPORT MEASURES AS REQUIRED TO MAINTAIN WALL POSITION AND PREVENT BLOWOUT AND DISTORTION OF FORMS.
7. VIBRATE CONCRETE AS PLACING PROCEEDS.

CONCRETE SLABS
1. SUBGRADE AND BASE PREPARATION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT DATED AUGUST 5, 2016, PREPARED BY P. MACHIBRODA ENGINEERING LTD., FILE NO. 10602.
2. GRADE SUPPORTED SLABS ARE NOT TO BE CONSTRUCTED ON DESICCATED, FROZEN, OR WET SOIL.
3. GRADE SUPPORTED SLABS AND GRADE SUPPORTED ELEMENTS ARE ANTICIPATED TO MOVE SEASONALLY AND INTERMITTENTLY WITH CHANGES IN LOADING OR SOIL MOISTURE CONTENT, FROST EFFECTS, AND AS A RESULT OF CONSOLIDATION AND/OR SWELLING. OWNER TO IMPLEMENT ONGOING MAINTENANCE PLAN TO ADDRESS CRACKING, SERVICEABILITY ISSUES, AND DIFFERENTIAL MOVEMENT OF STRUCTURE THAT MAY OCCUR.
4. FROST SHALL NOT BE ALLOWED TO PENETRATE BENEATH THE SLAB.
5. STRUCTURAL SLABS ARE TO BE CAST OVER 152mm [6"] CARDBOARD VOID FORM COMPLETE WITH 9.5mm [⅜"] WOOD PANELING OSB OR PLYWOOD ABOVE.
6. FLOAT EXTERIOR CONCRETE APRONS AND LANDING PADS AND FINISH WITH A LIGHT BROOM FINISH C/W 25mm [1"] CHAMFER AROUND EDGES.
7. INTERIOR SLABS ARE TO BE FINISHED WITH A STEEL TROWEL TO A MINIMUM CLASS A FINISH IN ACCORDANCE WITH CSA A23.1:19.
8. CURE SLABS IN ACCORDANCE WITH CSA A23.1 CURING TYPES:
   A. TYPE 1 MOIST CURING FOR THREE DAYS FOR GRADE SUPPORTED SLABS.
   B. TYPE 3 MOIST CURING FOR SEVEN DAYS FOR ELEVATED SLABS.
9. SAW CUTS ARE TO BE INSTALLED WITHIN 24 HOURS OF SLAB CASTING AT LOCATIONS INDICATED ON PLAN OR AT APPROXIMATELY 25 TIMES THE SLAB THICKNESS BUT NOT MORE THAN 4.5m [14'-9"] O.C.

REINFORCING STEEL
1. ALL REINFORCING STEEL, UNLESS NOTED OTHERWISE, SHALL BE DEFORMED BARS OF HIGH STRENGTH, NEW BILLET STEEL CONFORMING TO CSA G30.18-09 (R2019) GRADE 400R, AND GRADE 400W WHERE WELDING IS REQUIRED.
2. FABRICATE AND PLACE REINFORCING STEEL IN ACCORDANCE WITH CSA A23.1:19.
3. MINIMUM LAP SPLICE FOR 10M BARS TO BE 457mm [18"]. MINIMUM LAP SPLICE FOR ALL OTHER BARS TO BE CLASS B SPLICE OR 36 BAR DIAMETERS (WHICHEVER IS GREATER).
4. SPLICE TOP BARS AT MID SPAN AND BOTTOM BARS AT SUPPORTS UNLESS OTHERWISE NOTED.
5. SUBMIT SHOP DRAWINGS AND DETAILS FOR ALL REINFORCEMENT FOR REVIEW PRIOR TO FABRICATION.

WOOD FRAMING
1. ALL MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH CSA O86 AND NBC 2020.
2. LUMBER SHALL CONFORM TO CAN/CSA O141-05 (R2014) AND BE GRADED IN ACCORDANCE WITH THE NATIONAL LUMBER GRADES AUTHORITY - "STANDARD GRADING RULES FOR CANADIAN LUMBER", MAXIMUM MOISTURE CONTENT OF 19%.
3. WOOD MEMBERS SHALL MEET THE FOLLOWING MINIMUM GRADES:
   A. STUDS & PLATES SPF No.1/No.2 OR BETTER
   B. BEAMS/LINTELS SPF No.1/No.2 OR BETTER
   C. LVL MATERIAL 37 MPa 2.0E
4. NAILS, SPIKES, AND STAPLES TO CONFORM TO CSA B111.
5. WOOD SCREWS TO CONFORM TO ASME B18.6.1.
6. PROVIDE SOLID BLOCKING FOR WOOD COLUMNS THROUGH FLOOR TO SUPPORTS BELOW.
7. ANCHORAGE OF WALLS TO BE 12.7mm [½"] DIAMETER X 152mm [6"] LONG GALV. WEDGE ANCHORS @ 1219mm [4'] O.C. AND AT 610 [2'] O.C. WITHIN SHEAR WALL LOCATIONS. ADD ADDITIONAL ANCHOR AT EACH SIDE OF EACH VEHICLE DOOR OPENING WITHIN 610 [24"] OF OPENING.
8. 38x235 [2x10] STUDS TO BE NAILED TO EACH PLATE (T&B) WITH A MINIMUM OF EIGHT 82mm [3¼"] LONG NAILS.
9. USE CORROSION RESISTANT NAILS FOR ATTACHING TREATED PLATES TO STUDS.

WOOD SHEATHING
1. OSB TO CONFORM WITH CSA O325, PLYWOOD TO CONFORM WITH CSA O121.
2. THICKNESS AND FASTENING OF WOOD PANELING TO BE AS FOLLOWS:

ELEMENT	PANEL TYPE	THICKNESS	EDGE SUPPORT	FASTENER TYPE	FASTENER SPACING U.N.O.	
					EDGES	INTERIOR
WALLS	PLYWOOD	12.7 [½"]	SEE SHEAR WALL SCHEDULE	NAILS	SEE SHEAR WALL SCHEDULE	305 O.C. [12"]
FLOORS	PLYWOOD	19 [¾"]	TONGUE AND GROOVE	GLUE & SCREW	152 O.C. [6"]	305 O.C. [12"]
ROOFS	PLYWOOD	12.7 [½"]	BLOCKED	NAILS	102 O.C. [6"]	305 O.C. [12"]

3. NAILS TO BE 57mm [2¼"] CORROSION RESISTANT NAILS WITH MINIMUM DIAMETER OF 2.9mm [0.114"]. SCREWS TO BE 76mm [3"] x 4.1mm [0.161"] METER. ROOF SHEATHING WITHIN 3048 [10'] OF EACH CORNER TO HAVE A MINIMUM OF 1 SCREW AT EACH PANEL EDGE WHERE THE PANEL MEETS A TRUSS (MIN. 8 FOR A 1219x2438 [4'x8'] SHEET) IN ADDITION TO FASTENERS SPECIFIED ABOVE.
4. FRAME AROUND ALL ROOF OPENINGS WITH 38x184 [2x8] FRAMING BACK TO ADJACENT JOISTS OR TRUSSES.

WOOD TRUSSES & JOISTS
1. ALL MANUFACTURED WOOD JOISTS AND TRUSSES ARE TO BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF SASKATCHEWAN
2. DESIGN OF WOOD JOIST/TRUSSES TO BE IN ACCORDANCE WITH CSA O86.
3. PRIOR TO FABRICATION SUBMIT SEALED SHOP DRAWINGS FOR REVIEW THAT CLEARLY INDICATE DESIGN LOADS, MEMBER SIZES AND ORIENTATION, MATERIAL GRADES, MEMBER LAYOUT, AND BRACING/BRIDGING LOCATIONS.
4. LIVE LOAD DEFLECTION TO BE LIMITED TO L/360 FOR FLOOR AND ROOF JOISTS AND TRUSSES.
5. CONTRACTOR TO PROVIDE ALL BRACING REQUIRED FOR STABILITY DURING ERECTION AND OVERALL TRUSS SYSTEM AS PER THE CANADIAN BUILDING COMPONENT SAFETY INFORMATION BOOK (BCSI-CAN).

METAL CLADDING SHEAR WALLS
1. METAL CLADDING TO CONFORM TO CSA S136 AND CSSBI B18.
2. INTERIOR AND EXTERIOR METAL CLADDING HAS BEEN DESIGNED AS STRUCTURAL SHEAR WALL CLADDING WHERE SHOWN ON DRAWINGS.
3. CLADDING TO BE VICWEST ULTRAVIC WITH A MINIMUM 26 GAUGE (0.46mm [0.018"]) AND A MINIMUM YIELD STRENGTH OF 230 MPa [33 ksi].
4. STRUCTURAL SCREWS TO BE 38 [1½"] LONG #14 TYPE AB (6.3mmØ [0.248"]) AND SIDE-LAP STITCH SCREWS TO BE 19 [¾"] LONG #12 TYPE AB (5.49Ø [0.216"]). INSTALL FASTENERS AS PER SHEAR WALL SCHEDULE.

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Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
STRUCTURAL	23703	JRP

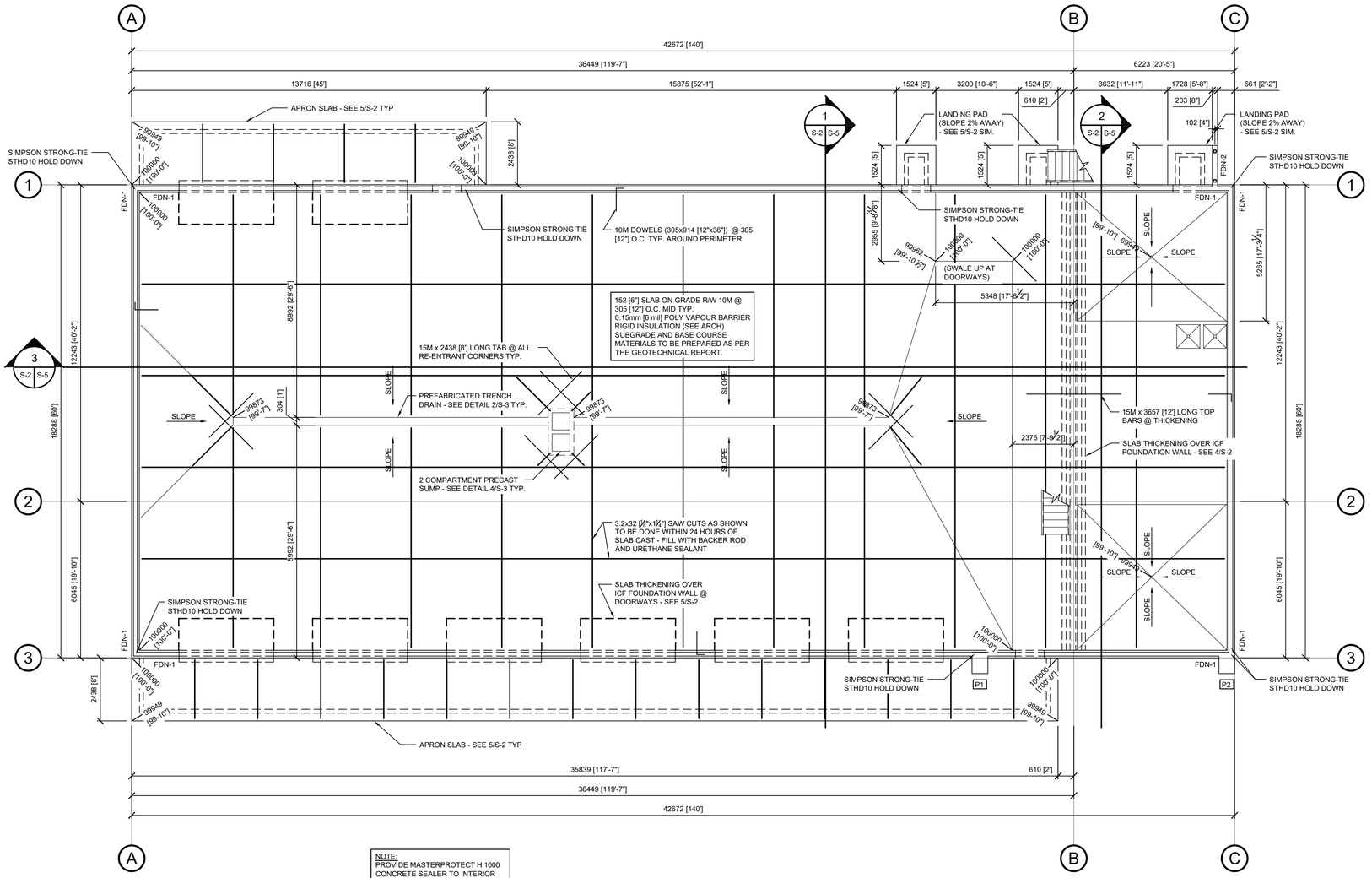
NO.	REVISION	DATE
0	ISSUED FOR OWNER REVIEW	JUL 9/24
1	ISSUED FOR CONSTRUCTION	SEP 26/24

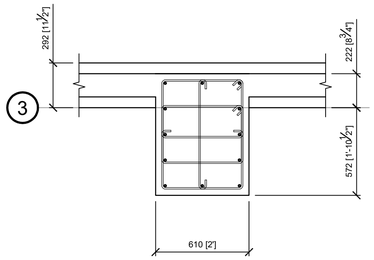
PROJECT TITLE
OUTLOOK - RUDY FIRE HALL

PROJECT LOCATION
OUTLOOK, SK

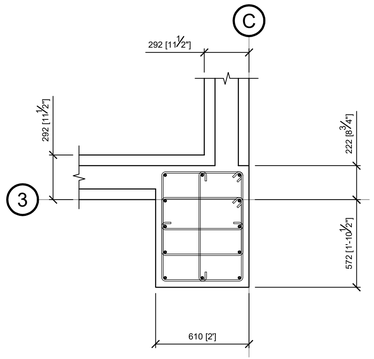
SHEET TITLE
FOUNDATION PLAN
GENERAL NOTES

DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	S-1
DESIGNED	REVISION	
JRP	1	





PILASTER P1
610x794x1626 DEEP [24"x32⅝"x64"] R/W:
- 12-15M VERTS
- 10M TIES IN SETS OF 4:
  2 @ 76 [3"] O.C. TOP
  REMAINDER @ 254 [10"] O.C. MAX.



PILASTER P2
610x794x1626 DEEP [24"x32⅝"x64"] R/W:
- 12-15M VERTS
- 10M TIES IN SETS OF 4:
  2 @ 76 [3"] O.C. TOP
  REMAINDER @ 254 [10"] O.C. MAX.

1 S-2 S-5 MAIN FLOOR PLAN
1:100

NOTE:
PROVIDE MASTERPROTECT H 1000 CONCRETE SEALER TO INTERIOR SLABS ONCE CONCRETE CURING IS COMPLETE AND THE CONCRETE HAS ATTAINED A MINIMUM OF 80% OF THE SPECIFIED STRENGTH.

6 S-2 S-2 PILASTER DETAILS
1:20

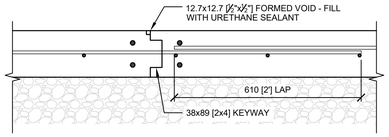
NOTE:
EXTERIOR FACE OF ICF WALLS AND WOOD WALL STRAPPING IS ALIGNED WITH THE GRID LINES TYP.

NOTE:
SIMPSON STRONG-TIE CONNECTORS ARE TO BE AT THE END OF SHEAR WALLS - REFER TO 6/S-3 AND 1/S-4 TYP.

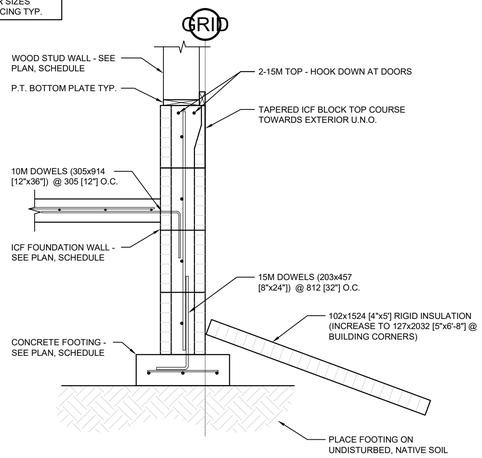
NOTE:
PILASTERS DENOTED P1 SEE 6/S-2 FOR SIZES AND REINFORCING TYP.

FOUNDATION WALL SCHEDULE		
MARK	SIZE	REINFORCING
FDN-1	152 [6"] CORE ICF	15M @ 406 [16"] O.C. VERT., 10M @ 406 [16"] O.C. HORIZ.
FDN-2	203	15M @ 406 [16"] O.C. VERT., 10M @ 406 [16"] O.C. HORIZ.

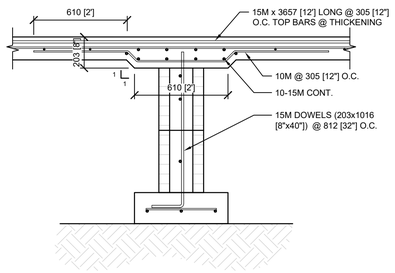
NOTE: ADD 2-15M CONT. TOP OF ALL WALLS (HOOK DOWN AT DOORS)



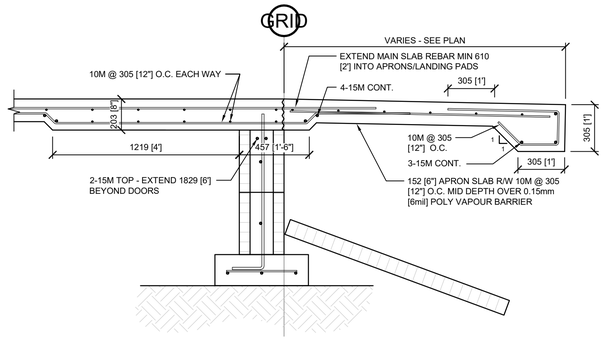
2 S-2 S-2 S.O.G. CONSTRUCTION JOINT DETAIL
1:10



3 S-2 S-2 TYP. FOUNDATION DETAIL
1:20



4 S-2 S-2 THICKENING @ FDN WALL DETAIL
1:20



5 S-2 S-2 APRON SLAB DETAIL @ DOORS
1:20

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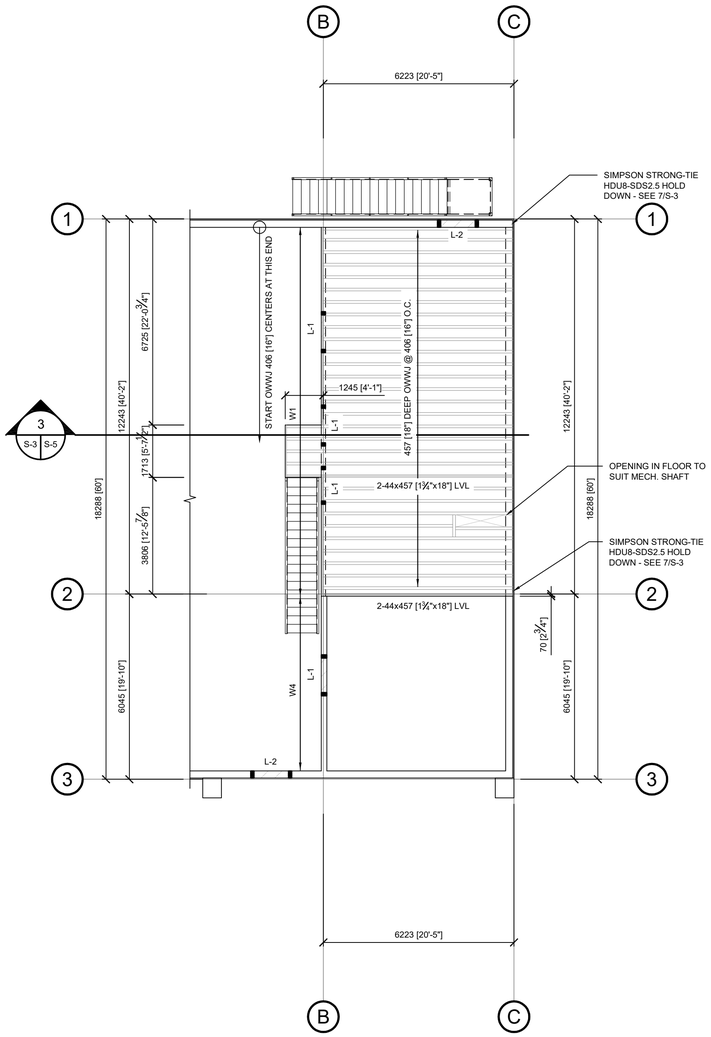
PROJECT TITLE
OUTLOOK - RUDY FIRE HALL

PROJECT LOCATION
OUTLOOK, SK

SHEET TITLE
MAIN FLOOR PLAN
DETAILS

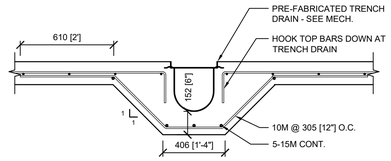
DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	S-2
DESIGNED	REVISION	
JRP	1	



1 S-3 S-3 MEZZANINE FRAMING PLAN

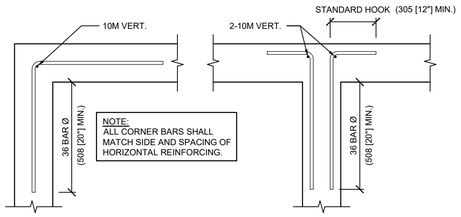
1:100

DESIGN LOADS: DEAD LOAD = 1.0 kPa
LIVE LOAD = 4.8 kPa



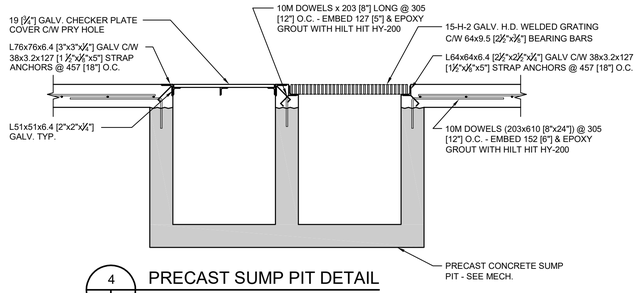
2 S-2 S-3 TRENCH DRAIN DETAIL

1:20



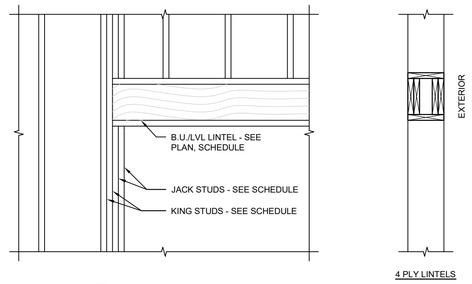
3 S-3 S-3 CORNER BAR DETAILS

1:20



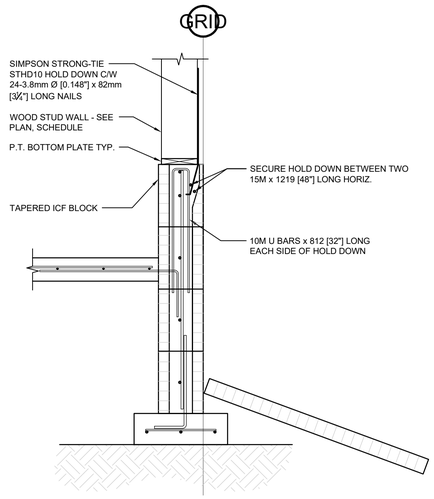
4 S-2 S-3 PRECAST SUMP PIT DETAIL

1:20



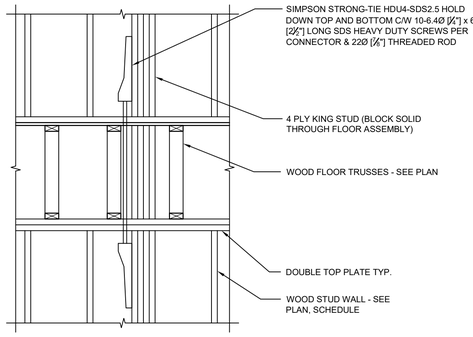
5 S-3,S-4 S-4 LINTEL DETAILS

1:20



6 S-2 S-3 HOLD DOWN DETAIL

1:20



7 S-3 S-3 HOLD DOWN DETAIL

1:20

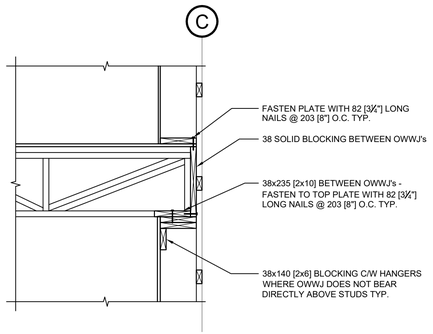
WALL SCHEDULE	
MARK	SIZE
W1	38x140 [2x6] WOOD STUDS @ 406 [16"] O.C.
W2	38x235 [2x10] WOOD STUDS @ 610 [24"] O.C.
W3	2-38x235 [2x10] WOOD STUDS @ 610 [24"] O.C.
W4	2-38x184 [2x8] WOOD STUDS @ 406 [16"] O.C.

NOTE:
PROVIDE SOLID BLOCKING @ 1/3rd POINTS ON WALLS W-2 AND W-3.

SW1	VERTICAL METAL CLADDING FULL HEIGHT EXTERIOR FACE & INTERIOR FACE FROM ELEVATION 103048 TO ELEVATION 106096 C/W FASTENING AS PER 9/S-3. 19 [¾"]. PLYWOOD SHEATHING INTERIOR FACE BELOW ELEVATION 103048 WITH 64 [2½"] LONG NAILS @ 152 [6"] O.C. ALONG PANEL EDGES AND 305 [12"] O.C. IN THE FIELD. HORIZONTAL PANEL EDGES TO BE SUPPORTED BY STRAPPING. VERTICAL EDGES AT B.U. COLUMN EACH END OF SHEAR WALL TO BE SUPPORTED BY VERTICAL BLOCKING BETWEEN THE STRAPPING AS PER 5/S-5. LAP METAL CLADDING OVER PLYWOOD 89 [3½"]. INSTALL HOLD DOWNS AS PER 6/S-3.
SW2	VERTICAL METAL CLADDING FULL HEIGHT EXTERIOR FACE C/W FASTENING AS PER 9/S-3. 19 [¾"] PLYWOOD SHEATHING FULL HEIGHT INTERIOR FACE WITH 64 [2½"] LONG NAILS @ 152 [6"] O.C. ALONG PANEL EDGES AND 305 [12"] O.C. IN THE FIELD. VERTICAL PANEL EDGES TO BE SUPPORTED BY STUDS. FASTEN HORIZONTAL EDGES TO TOP AND BOTTOM PLATES @ 152[6"] O.C. INSTALL HOLD DOWNS AS PER 6/S-3.
SW3	VERTICAL METAL CLADDING FULL HEIGHT EXTERIOR FACE C/W FASTENING AS PER 9/S-3. 12.7 [½"] PLYWOOD SHEATHING FULL HEIGHT INTERIOR FACE WITH 57 [2¼"] LONG NAILS @ 152 [6"] O.C. ALONG PANEL EDGES AND 305 [12"] O.C. IN THE FIELD. VERTICAL PANEL EDGES TO BE SUPPORTED BY STUDS. FASTEN HORIZONTAL EDGES TO TOP AND BOTTOM PLATES @ 152[6"] O.C. INSTALL HOLD DOWNS AS PER 6, 7/S-3.
SW4	12.7 [½"] EXTERIOR PLYWOOD SHEATHING WITH 57 [2¼"] LONG NAILS @ 76 [3"] O.C. ALONG PANEL EDGED AND 305 [12"] O.C. IN THE FIELD. ALL PANEL EDGES TO BE SUPPORTED BY STUD OR BLOCKING. INSTALL HOLD DOWNS AS PER 6/S-3.

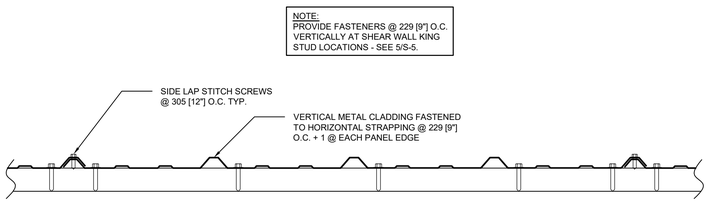
LINTEL SCHEDULE (SEE 5/S-3)			
MAX OPENING	MARK	SIZE	B.U. COLUMN (EACH SIDE)
1067 [3'-6"]	L-1	3-38x286 [2x12]	2 KING STUDS + 1 JACK STUDS
1219 [4'-0"]	L-2	4-38x184 [2x8]	2 KING STUDS + 1 JACK STUDS
3657 [12']	L-3	4-38x302 [1½"x11¾"] LVL	3 KING STUDS + 2 JACK STUDS

- ALL BUILT-UP KING/JACK STUD ASSEMBLIES TO BE NAILED WITH 4 ROWS OF 81mm [3¼"] LONG NAILS @ 254 [10"] O.C. FROM BOTH SIDES.
- BUILT UP KING/JACK STUD ASSEMBLIES GREATER THAN 4 PLIES ARE TO BE THROUGH BOLTED WITH 12.7Ø [½"] BOLTS @ 610 [24"] O.C. (STAGGERED) OR SCREWED WITH FULL DEPTH SCREWS FROM EACH SIDE ONCE PLIES ARE NAILED TOGETHER.
- FRAME CONCRETE ROUGH OPENING FOR ALL VEHICLE MAN DOORS 152 [6"] WIDER THAN FINAL ROUGH OPENING AND RUN 2 FULL HEIGHT JACK STUDS DOWN ALONG FACE OF ICF WALL.FASTEN INNER PLY TO ICF WALL WITH 12.7 [½"] GALV. WEDGE ANCHORS @ 203 [8"] O.C., EMBED 152 [6"].



8 S-2 S-3 OWWJ BEARING DETAIL

1:20



9 S-3, S-4 S-3 METAL CLADDING FASTENING DETAIL

1:5

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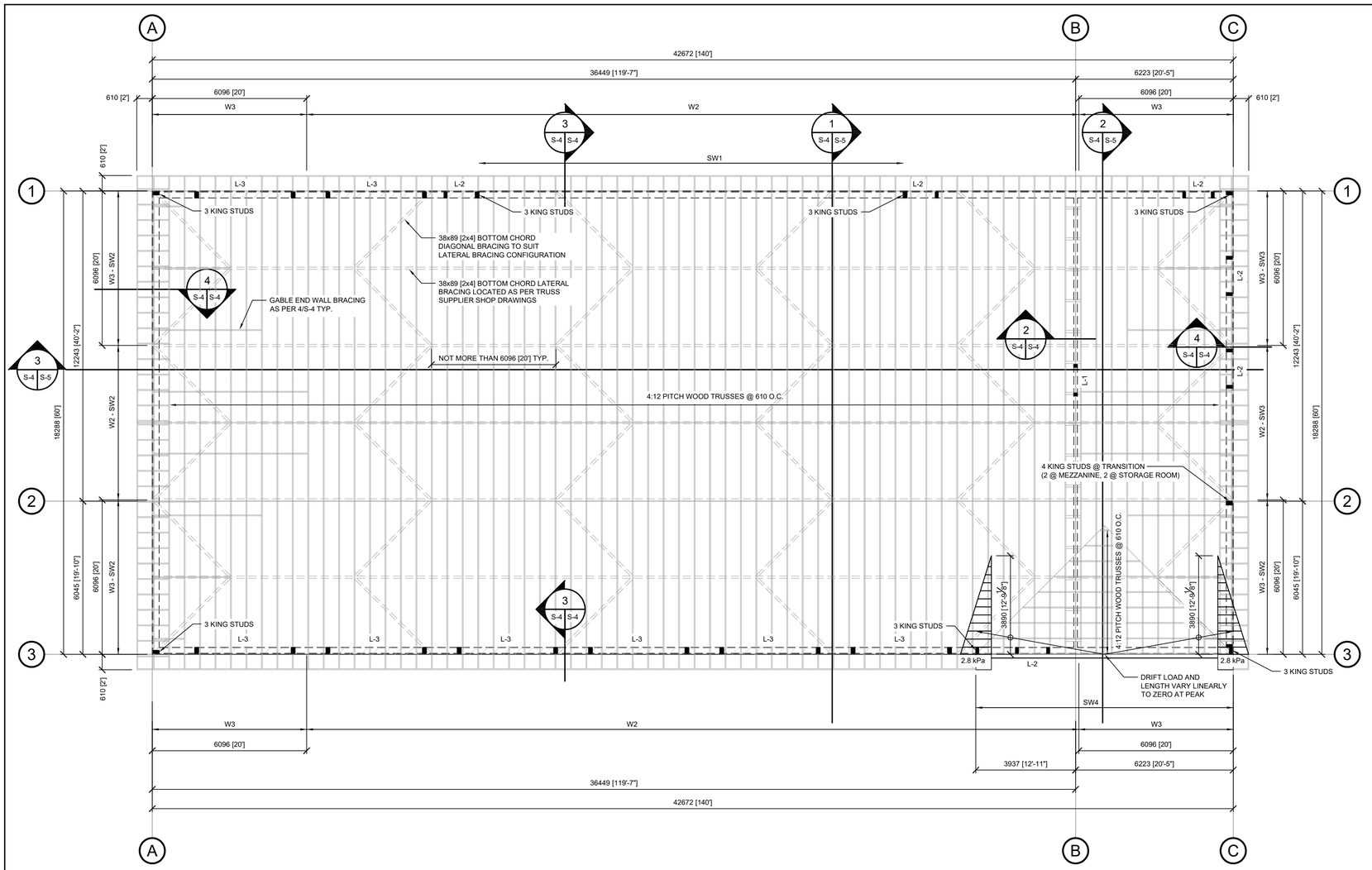
1	ISSUED FOR CONSTRUCTION	SEP 26/24

PROJECT TITLE
OUTLOOK - RUDY FIRE HALL

PROJECT LOCATION
OUTLOOK, SK

SHEET TITLE
MEZZANINE FRAMING PLAN DETAILS

DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	S-3
DESIGNED	REVISION	
JRP	1	



1 S-4 S-4 ROOF FRAMING PLAN
1:100

DESIGN LOADS: DEAD LOAD = 1.0 kPa
SNOW LOAD = 1.83 kPa
NET FACTORED WIND UPLIFT = 1.9 kPa

ROOF FRAMING NOTES:
- EXTERIOR FACE OF WOOD WALL STRAPPING IS ALIGNED WITH THE GRID LINES TYP.
- TOP PLATES OF WALLS ARE REQUIRED AS CHORDS FOR ROOF DIAPHRAGM. LAP ALL PLATE SPLICES 2438 [8'] MINIMUM AND PROVIDE 4 ROWS OF NAILS SPACED AT 152 [6"] O.C. EACH SIDE OF SPLICE (64 NAILS EACH SIDE).
- CONTRACTOR TO PROVIDE TEMPORARY BRACING OF BUILDING TO ALLOW THE INTERIOR SLAB TO BE POURED ONCE BUILDING IS CLOSED IN.

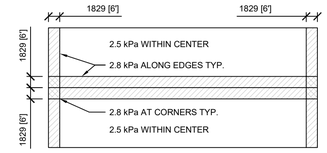
WALL SCHEDULE	
MARK	SIZE
W1	38x140 [2x6] WOOD STUDS @ 406 [16"] O.C.
W2	38x235 [2x10] WOOD STUDS @ 610 [24"] O.C.
W3	2-38x235 [2x10] WOOD STUDS @ 610 [24"] O.C.
W4	2-38x184 [2x8] WOOD STUDS @ 406 [16"] O.C.

NOTE:
PROVIDE SOLID BLOCKING @ 1/3rd POINTS ON WALLS W-2 AND W-3.

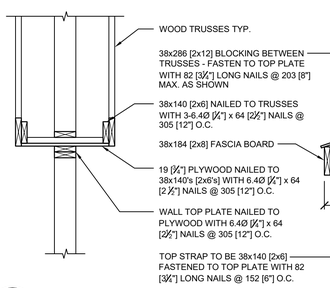
SW1	VERTICAL METAL CLADDING FULL HEIGHT EXTERIOR FACE & INTERIOR FACE FROM ELEVATION 103048 TO ELEVATION 106096 C/W FASTENING AS PER 9/S-3. 19 [¾"] PLYWOOD SHEATHING INTERIOR FACE BELOW ELEVATION 103048 WITH 64 [2½"] LONG NAILS @ 152 [6"] O.C. ALONG PANEL EDGES AND 305 [12"] O.C. IN THE FIELD. HORIZONTAL PANEL EDGES TO BE SUPPORTED BY STRAPPING. VERTICAL EDGES AT B.U. COLUMN EACH END OF SHEAR WALL TO BE SUPPORTED BY VERTICAL BLOCKING BETWEEN THE STRAPPING AS PER 5/S-5. LAP METAL CLADDING OVER PLYWOOD 89 [3½"]. INSTALL HOLD DOWNS AS PER 6/S-3.
SW2	VERTICAL METAL CLADDING FULL HEIGHT EXTERIOR FACE C/W FASTENING AS PER 9/S-3. 19 [¾"] PLYWOOD SHEATHING FULL HEIGHT INTERIOR FACE WITH 64 [2½"] LONG NAILS @ 152 [6"] O.C. ALONG PANEL EDGES AND 305 [12"] O.C. IN THE FIELD. VERTICAL PANEL EDGES TO BE SUPPORTED BY STUDS. FASTEN HORIZONTAL EDGES TO TOP AND BOTTOM PLATES @ 152[6"] O.C. INSTALL HOLD DOWNS AS PER 6/S-3.
SW3	VERTICAL METAL CLADDING FULL HEIGHT EXTERIOR FACE C/W FASTENING AS PER 9/S-3. 12.7 [½"] PLYWOOD SHEATHING FULL HEIGHT INTERIOR FACE WITH 57 [2¼"] LONG NAILS @ 152 [6"] O.C. ALONG PANEL EDGES AND 305 [12"] O.C. IN THE FIELD. VERTICAL PANEL EDGES TO BE SUPPORTED BY STUDS. FASTEN HORIZONTAL EDGES TO TOP AND BOTTOM PLATES @ 152[6"] O.C. INSTALL HOLD DOWNS AS PER 6, 7/S-3.
SW4	12.7 [½"] EXTERIOR PLYWOOD SHEATHING WITH 57 [2¼"] LONG NAILS @ 76 [3"] O.C. ALONG PANEL EDGED AND 305 [12"] O.C. IN THE FIELD. ALL PANEL EDGES TO BE SUPPORTED BY STUD OR BLOCKING. INSTALL HOLD DOWNS AS PER 6/S-3.

LINTEL SCHEDULE (SEE 5/S-3)			
MAX OPENING	MARK	SIZE	B.U. COLUMN (EACH SIDE)
1067 [3'-6"]	L-1	3-38x286 [2x12]	2 KING STUDS + 1 JACK STUDS
1219 [4'-0"]	L-2	4-38x184 [2x8]	2 KING STUDS + 1 JACK STUDS
3657 [12']	L-3	4-44x302 [1¾"x11⅞"] LVL	3 KING STUDS + 2 JACK STUDS

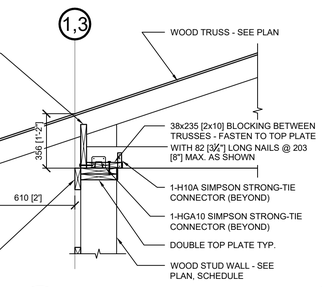
- ALL BUILT-UP KING/JACK STUD ASSEMBLIES TO BE NAILED WITH 4 ROWS OF 81mm [3¼"] LONG NAILS @ 254 [10"] O.C. FROM BOTH SIDES.
- BUILT UP KING/JACK STUD ASSEMBLIES GREATER THAN 4 PLIES ARE TO BE THROUGH BOLTED WITH 12.7Ø [½"] BOLTS @ 610 [24"] O.C. (STAGGERED) OR SCREWED WITH FULL DEPTH SCREWS FROM EACH SIDE ONCE PLIES ARE NAILED TOGETHER.
- FRAME CONCRETE ROUGH OPENING FOR ALL VEHICLE MAN DOORS 152 [6"] WIDER THAN FINAL ROUGH OPENING AND RUN 2 FULL HEIGHT JACK STUDS DOWN ALONG FACE OF ICF WALL.FASTEN INNER PLY TO ICF WALL WITH 12.7 [½"] GALV. WEDGE ANCHORS @ 203 [8"] O.C., EMBED 152 [6"].



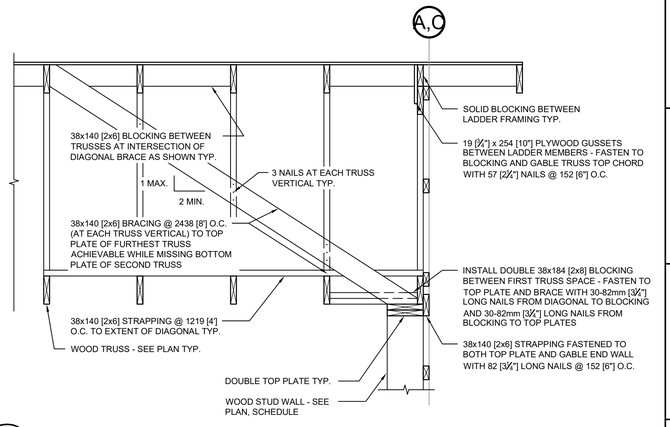
FACTORED WIND UPLIFT FOR ROOF CLADDING MATERIALS



2 S-4 S-4 INT. SHEAR WALL DETAIL
1:20

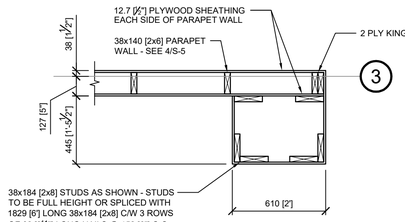


3 S-4 S-4 TRUSS BEARING DETAIL
1:20

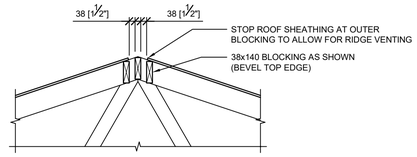


4 S-4 S-4 END WALL BRACING DETAIL
1:20

NOTE:
PILASTER TO BE SHEATHED WITH 12.7 [½"] PLYWOOD ON 3 SIDES AND TOP - FASTEN TO STUDS/PLATES WITH 57 [2¼"] LONG NAILS @ 152 [6"] O.C. ALONG PANEL EDGES AND 305 [12"] O.C. ALONG PANEL INTERIOR - PANEL EDGES TO BE SUPPORTED BY STUD OR BLOCKING.



5 S-4 S-4 PLAN DETAIL @ PILASTERS
1:20



6 S-4 S-4 RIDGE BLOCKING DETAIL
1:20

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2024-09-26
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Association of Professional Engineers & Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
JSP Engineering Inc.
70466

Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
STRUCTURAL	23703	JRP

NO.	REVISION	DATE
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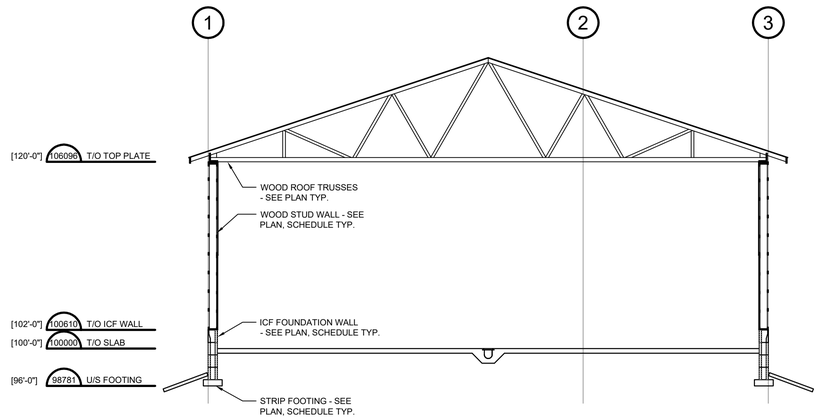
1	ISSUED FOR CONSTRUCTION	SEP 26/24

PROJECT TITLE
OUTLOOK - RUDY FIRE HALL

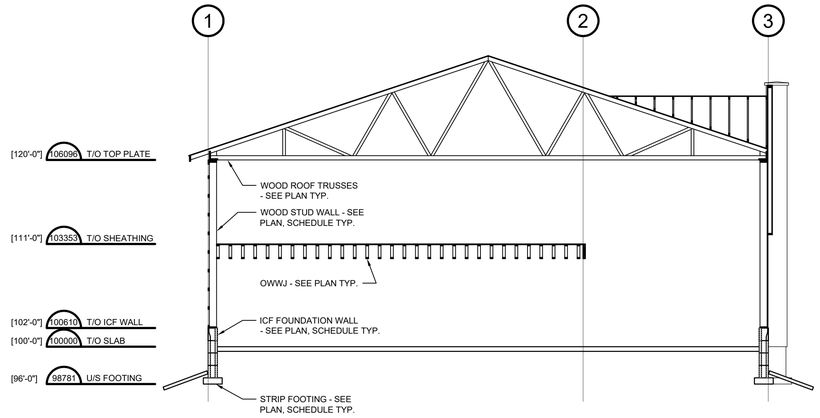
PROJECT LOCATION
OUTLOOK, SK

SHEET TITLE
ROOF FRAMING PLAN DETAILS

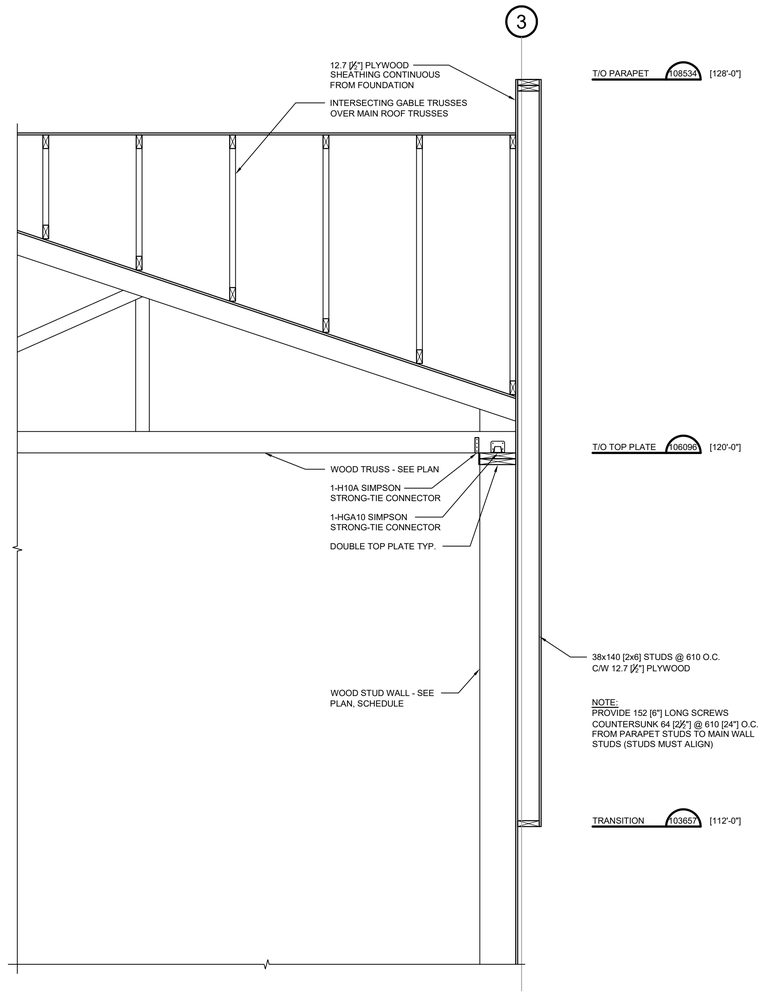
DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	S-4
DESIGNED	REVISION	
JRP	1	



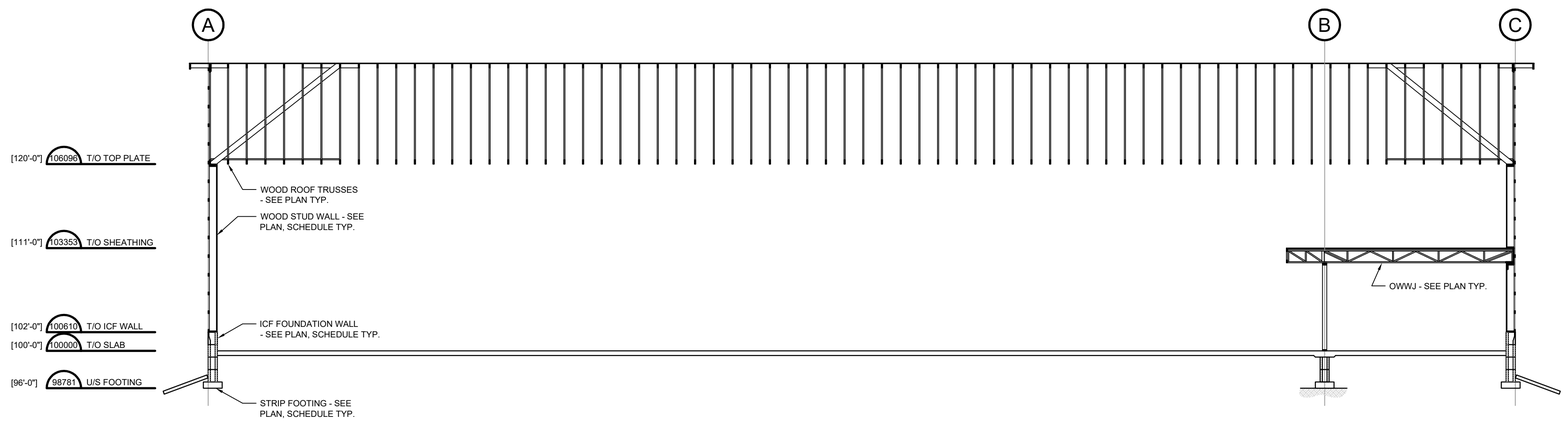
1 S-2, S-3 S-4 S-5 BUILDING SECTION
1:100



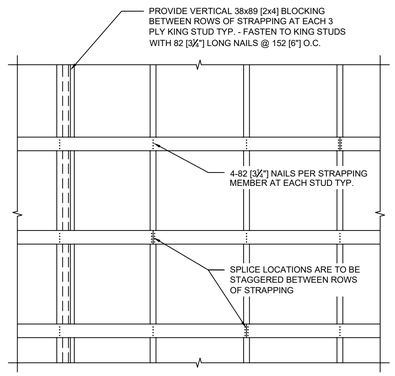
2 S-2, S-3 S-4 S-5 BUILDING SECTION
1:100



4 S-5 S-5 FRONT PARAPET DETAIL
1:20



3 S-2, S-3 S-4 S-5 BUILDING SECTION
1:100



5 S-3, S-4 S-5 STRAPPING ELEVATION
1:20

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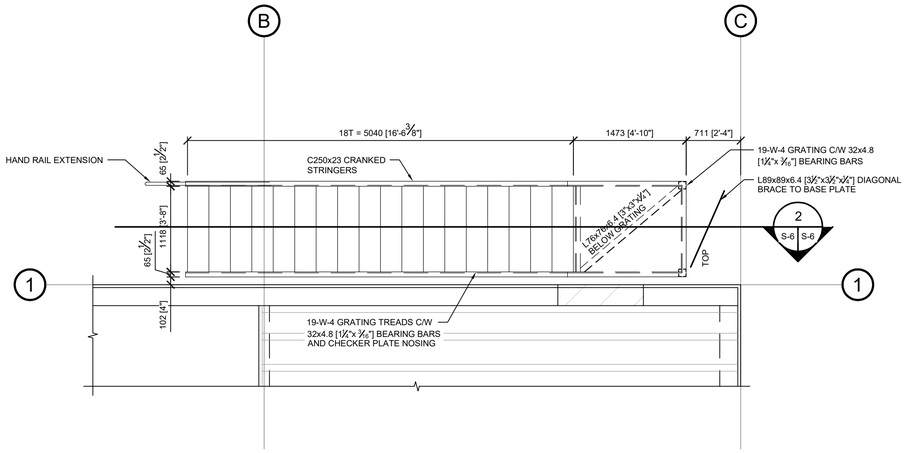
PROJECT TITLE
OUTLOOK - RUDY FIRE HALL

PROJECT LOCATION
OUTLOOK, SK

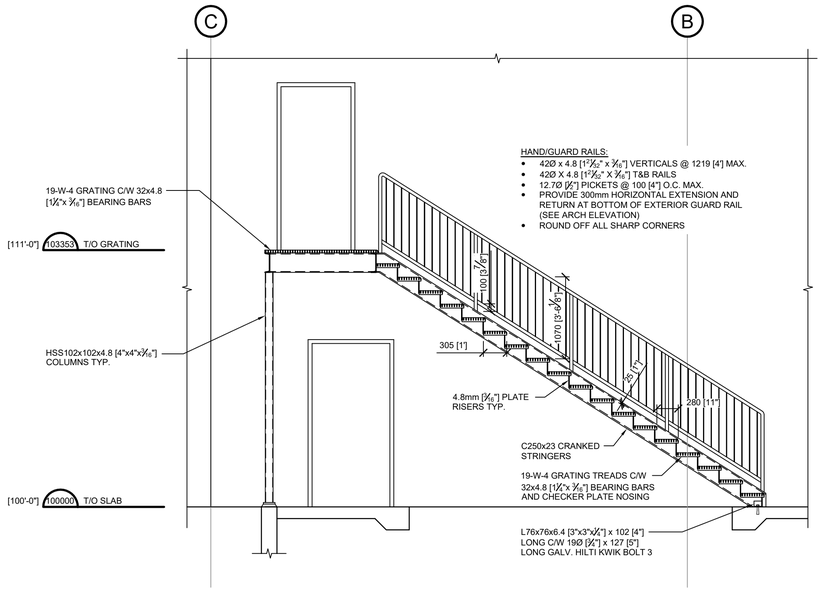
SHEET TITLE
BUILDING SECTIONS

DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	S-5
DESIGNED	REVISION	
JRP	1	

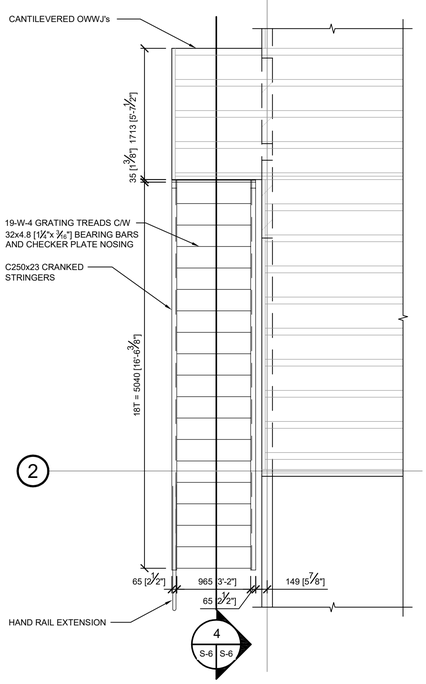


1 S-6 S-6 EXTERIOR STAIR PLAN
1:40

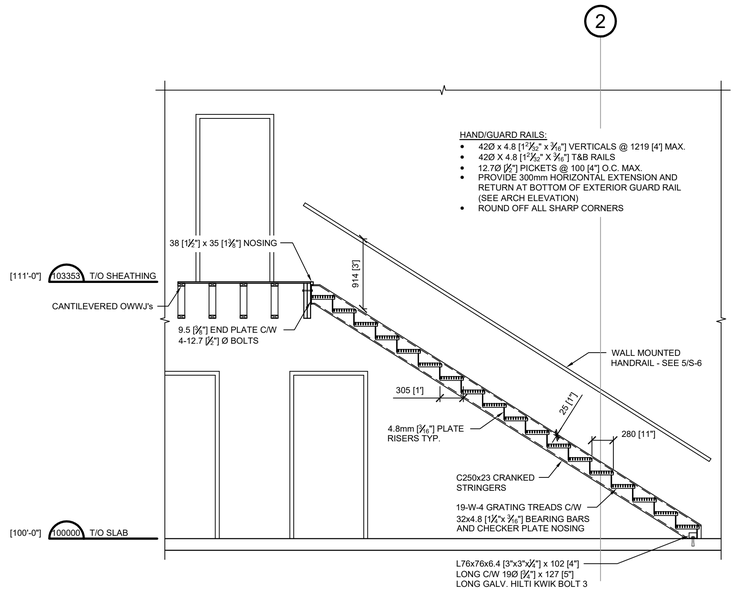
STRUCTURAL STEEL
1. DETAILING, FABRICATION, AND INSTALLATION TO CONFORM TO CSA S16 "LIMIT STATES DESIGN OF STEEL STRUCTURES".
2. FABRICATOR TO BE CERTIFIED BY THE CANADIAN WELDING BUREAU UNDER REQUIREMENTS OF CSA W47.1, DIVISION 1, OR 2, AND/OR CSA W55.3.
3. WELDERS TO BE CWB CERTIFIED. WELDING TO BE IN ACCORDANCE WITH CSA W59.
4. STRUCTURAL STEEL MATERIALS TO BE TO CSA G40.21 UNLESS NOTED OTHERWISE:
   A. PLATES AND BARS: GRADE 300W
   B. W SHAPES, CHANNELS, AND ANGLES: GRADE 350W
   C. HSS: 350W CLASS "C" OR ASTM A500 GRADE C
   D. BOLTS, NUTS, AND WASHERS: ASTM F3125, GRADE A325
   E. WELDING MATERIALS: CSA W48 AND CSA W59.
5. SHOP PAINT TO CONFORM TO CISC/CPMA 1-73A. SHOP PRIMER TO CONFORM TO CISC/CPMA 2-75.
6. DO NOT CUT HOLES OR OTHERWISE MODIFY STRUCTURAL STEEL MEMBERS ON SITE.
7. PROVIDE REQUIRED ERECTION BRACING TO KEEP THE STRUCTURE STABLE AND ALIGNED DURING CONSTRUCTION.



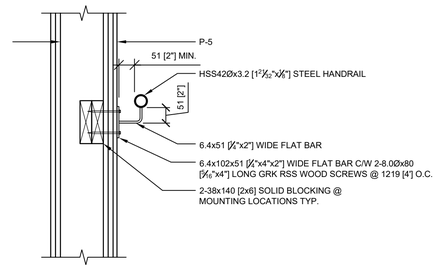
2 S-6 S-6 EXTERIOR STAIR SECTION
1:40



3 S-6 S-6 INTERIOR STAIR PLAN
1:100



4 S-6 S-6 INTERIOR STAIR SECTION
1:40



5 S-6 S-6 WALL MOUNTED HAND RAIL DETAIL
1:10

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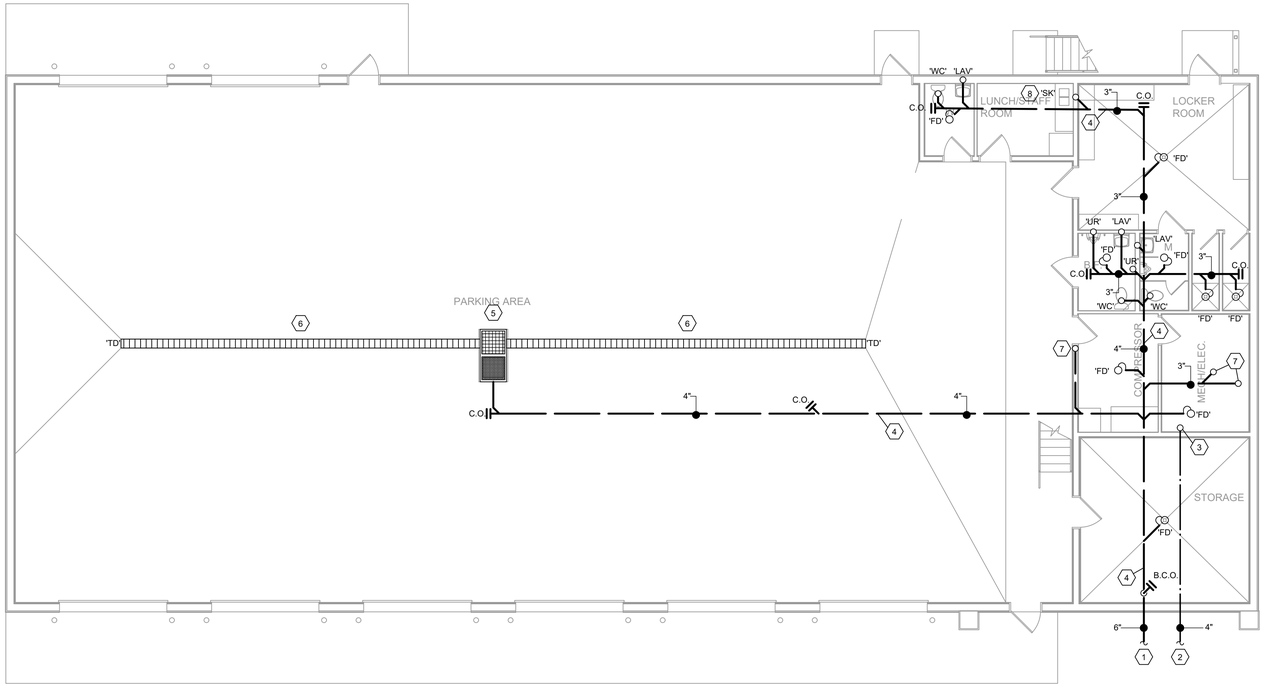
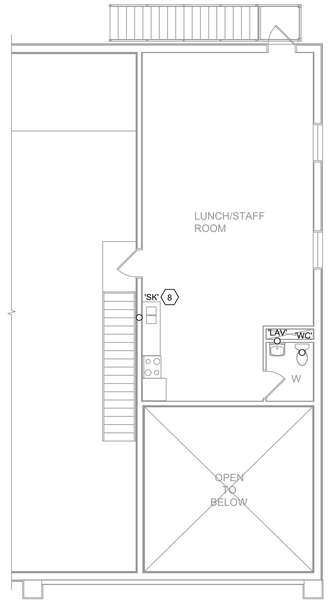
OUTLOOK - RUDY FIRE HALL

PROJECT LOCATION
OUTLOOK, SK

SHEET TITLE
STAIR DETAILS

DRAWN	PROJECT NUMBER	DRAWING
KAV	24.026	S-6
DESIGNED	REVISION	
JRP	1	





1 FOUNDATION PLAN SANITARY PLUMBING
M-1 SCALE: 1/8" = 1'-0"

2 MEZZANINE SANITARY PLUMBING
M-1 SCALE: 1/8" = 1'-0"

DRAWING LIST

PLUMBING GENERAL NOTES

1 ALL LINES SHOWN SCHEMATICALLY AND ARE A GENERAL GUIDELINE. ANY MAJOR DEVIATION FROM WHAT IS SHOWN IS TO BE APPROVED BY PS ENGINEERING.
2 ALL WATER PIPING TO RUN CONCEALED IN FINISHED AREAS WITHIN CEILING SPACE AND WALLS. ALL SEWER LINES TO RUN BELOW FLOOR OR WITHIN WALLS/CEILING SPACE UNLESS OTHERWISE NOTED.
3 ALL WATER LINES TO BE INSULATED AS PER SPEC AND CANVAS WRAPPED. PROVIDE PVC JACKET IN EXPOSED AREAS.
4 ALL EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
5 ALL PIPING TO FIXTURES AND EQUIPMENT TO RUN CONCEALED WHERE POSSIBLE.
6 MECHANICAL CONTRACTOR TO RUN A BEAD OF SILICONE AROUND THE BASE OF NEW WATER CLOSETS AND TUBS.
7 ALL WATER CONNECTIONS TO FIXTURES TO BE 12mm (½") UNLESS OTHERWISE SPECIFIED.
8 CONTRACTOR TO SUPPLY AND INSTALL PLUMBING VENTS, TRAP SEAL PRIMERS, CLEANOUTS, AND ISOLATION VALVES AS PER CODE.
9 ALL EXPOSED WATER SUPPLY PIPING AT WATER CLOSETS TO BE CHROMED. NO EXPOSED PEX/PLASTIC.
10 SOLDERS AND FLUXES HAVING A LEAD CONTENT IN EXCESS OF 0.2% SHALL NOT BE USED.
11 PROVIDE FIRE STOPS AT ALL PIPING THAT PASSES THRU FIRE SEPARATIONS.
12 PVC AND PLASTIC PIPING MAY BE USED WHERE PERMITTED BY CODE. ALL PVC PIPING IN RETURN AIR PLENUMS TO BE XFR.
13 ALL PLUMBING TO BE INSTALLED IN ACCORDANCE WITH THE LATEST VERSIONS OF THE NATIONAL BUILDING CODE, NATIONAL PLUMBING CODE, LOCAL AUTHORITY CONSTRUCTION DESIGN STANDARDS, MUNICIPALITY BYLAWS, AND ALL OTHER APPLICABLE CODES AND REGULATIONS.
14 FIT WATER SUPPLY TO EACH FIXTURE OR GROUP OF FIXTURES WITH A WATER HAMMER ARRESTOR.
15 INSTALL ALL GAS FIRED EQUIPMENT AND PIPING IN ACCORDANCE WITH THE CANADIAN GAS CODE AND GAS UTILITY REQUIREMENTS.
16 PROVIDE A COPY OF PLUMBING AND GAS PERMITS TO OWNER.
17 PROVIDE ISOLATION VALVES ON ALL FIXTURES AS REQUIRED. ALL ISOLATION VALVES ARE TO BE ACCESSIBLE.
18 COORDINATE ALL WORK WITH GENERAL CONTRACTOR AND OTHER TRADES.
19 CONFIRM DETAILS OF ALL SUPPORTS WITH STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
20 CONFIRM ALL SLOPES OF SANITARY AND/OR STORM SEWER PIPING BEFORE COMMENCING WORK.
21 ENSURE ALL MECHANICAL IS INSTALLED WITH A HEAD HEIGHT CLEARANCE FROM FLOOR EQUAL TO OR GREATER THAN THE CLEARANCE OF THE PARKADE OVERHEAD DOORS.
22 CONFIRM ALL ROUTING AND SIZING OF EXISTING PIPING ON SITE PRIOR TO CONSTRUCTION (CCTV FOR UNDERSLAB PIPING).

PLUMBING KEYNOTES

1 NEW INCOMING SANITARY SEWER PIPE C/W CLEAN OUT AT FOUNDATION WALL. SIZE AS NOTED.
2 NEW 4" INCOMING WATER SERVICE. COORDINATE LOCATION ON SITE WITH GENERAL CONTRACTOR.
3 RISE DOMESTIC WATER PIPING ABOVE SLAB AS SHOWN. REFER TO 1/M-2 FOR CONTINUATION. CONFIRM LOCATION OF RISE WITH OWNER.
4 EXTEND NEW SANITARY PIPING BELOW SLAB AND CONNECT TO NEW FIXTURES AS SHOWN. SIZE AS NOTED.
5 NEW TWO-COMPARTMENT PIT INSTALLED AS PER PROVINCIAL PLUMBING CODE. TO BE SUPPLIED AND INSTALLED BY GC.
6 SUPPLY AND INSTALL NEW TRENCH DRAIN AS SPECIFIED. TO BE SUPPLIED AND INSTALLED BY GC.
7 SANITARY SEWER RISER TO RISE INTO MAIN FLOOR CEILING SPACE TO SERVE SECOND FLOOR FIXTURES. REFER TO 1/M-2.
8 BOTH FLOOR LEVEL LUNCH/STAFF ROOM SINK LOCATIONS TO BE COORDINATED WITH MILWORK SHOP DRAWINGS.

PLUMBING SYMBOL LEGEND

SYMBOL	DESCRIPTION
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	DOUBLE CHECK VALVE
	GLOBE VALVE
	REDUCED PRESSURE PRINCIPLE BACK-FLOW PREVENTOR
	LOCKSHIELD BALANCING VALVE
	CONTROL VALVES
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	AUTOMATIC FLOW CONTROL DEVICE
	AUTOMATIC FLOW CONTROL DEVICE WITH INTEGRAL VALVE AND STRAINER
	PRESSURE INDEPENDENT AUTOMATIC FLOW CONTROL VALVE WITH DDC CONTROL MOTOR
	O S AND Y VALVE
	GAS COCK VALVE
	FLEXIBLE PIPE CONNECTION
	STRAINER
	UNION
	PIPE ANCHOR
	EXPANSION JOINT
	DIRECTION OF FLOW
	PIPE CAP
	TRIPLE DUTY VALVE
	SUCTION DIFFUSER
	AIR VENTS - MANUAL AND AUTOMATIC
	STEAM TRAP - FLOAT AND THERMOSTATIC
	STEAM TRAP - BUCKET
	STEAM TRAP - THERMOSTATIC
	HOSE BIBB
NF	NON-FREEZE HOSE BIBB
	TRAP
	FLOOR DRAIN & FUNNEL FLOOR DRAIN
	CONNECT NEW PIPE TO EXISTING
	CLEAN-OUT
	PIPE DROP
	PIPE RISE
	PIPE TEE
	PIPE ELBOW
	PIPE CONTINUATION
	CONNECT TO DRAIN - INDIRECT
	TEMPERATURE GAUGE
	PRESSURE GAUGE
	P & T PLUG
	FIRE EXTINGUISHER

NOTE: NOT ALL MAY BE USED IN THESE DRAWINGS.

PIPING SYMBOL LEGEND

SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRCULATION
	DOMESTIC COLD WATER - SOFT
T	TEMPERED WATER
	FILTERED DRINKING WATER
	SANITARY SEWER
	SANITARY SEWER - UNDERGROUND
	STORM SEWER
	STORM SEWER - UNDERGROUND
G	NATURAL GAS LINE
X	SPRINKLER PIPING
A	COMPRESSED AIR PIPING
D D	EQUIPMENT DRAIN
HWS	HOT WATER HEATING SUPPLY
HWR	HOT WATER HEATING RETURN
GLY	GLYCOL HEATING SUPPLY
GLY	GLYCOL HEATING RETURN
SLR	SOLAR HEATING SUPPLY
SLR	SOLAR HEATING RETURN
HP	HEAT PUMP LOOP SUPPLY
HP	HEAT PUMP LOOP RETURN
CH	CHILLED WATER SUPPLY
CH	CHILLED WATER RETURN
COND	CONDENSER WATER SUPPLY
COND	CONDENSER WATER RETURN
RS	REFRIGERANT SUCTION
RL	REFRIGERANT LIQUID
	LOW PRESSURE STEAM
	LOW PRESSURE CONDENSATE
	MANHOLE
	CATCH BASIN
G	ROOF PIPE SUPPORTS

NOTE: NOT ALL MAY BE USED IN THESE DRAWINGS.

BUILDING GAS LOAD SCHEDULE

ITEM	DESCRIPTION	LOAD (MBH)
UH-1	UNIT HEATER	125
UH-2	UNIT HEATER	125
UH-3	UNIT HEATER	125
UH-4	UNIT HEATER	125
UH-5	UNIT HEATER	200
FN-1	FURNACE	100
WH-1	WATER HEATER	40
	TOTAL METER (OZ)	840

MECHANICAL CONTRACTOR INFORMATION

MINIMUM DISTANCE BETWEEN NATURAL GAS LINE & UNDERGROUND SERVICES = 6FT. MECHANICAL CONTRACTOR SHALL, BEFORE BEGINNING INSTALLATION INSIDE THE BUILDING, CHECK THE LOCATION AND INVERT ELEVATIONS OF ALL SERVICE LINES INCLUDING SANITARY, STORM, WATER, AND NATURAL GAS MAINS WITH LOCAL AUTHORITIES TO ENSURE THAT THESE SERVICES CAN BE INSTALLED AS SHOWN.

PLUMBING FIXTURE CONNECTION TABLE

PLUMBING FIXTURE / DEVICES	DCW	DHW	SAN	VACUUM BREAKER
	(in.)	(in.)	(in.)	
LAV-1 - LAVATORY - COUNTER MOUNT	1/2"	1/2"	1-1/2"	-
WC-1 - WATER CLOSET - FLUSH TANK	1/2"	-	3"	-
SK-1 - SERVICE SINK	1/2"	1/2"	2"	-
SH-1 - SHOWER	1/2"	1/2"	-	-
FD-1 - FLOOR DRAIN	-	-	3"	-

ALL FIXTURE PIPE SIZES AND REQUIREMENTS FOR FOR VACUUM BREAKERS ARE GENERAL ONLY, AND ARE TO BE USED IF NOT SPECIFICALLY NOTED OTHERWISE. IN ADDITION, PROVIDE VACUUM BREAKERS AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

DWG REVISIONS:	NO: 1	DATE: 09/26/2024	ENGINEER: O.O.	DESCRIPTION: ISSUED FOR CONSTRUCTION

MECHANICAL CONSULTANT:
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Mechanical Consulting Engineers
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PROJECT NO. 24S-007

PROFESSIONAL SEAL:

PROFESSIONAL ENGINEER · O. ODHNER · MEMBER 13804 · 24/09/26 YR. MN. DAY · SASKATCHEWAN

Association of Professional Engineers & Geoscientists of Saskatchewan

CERTIFICATE OF AUTHORIZATION

PS ENGINEERING (SASKATOON) INC.
NUMBER 79195

Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
MECH	13804	

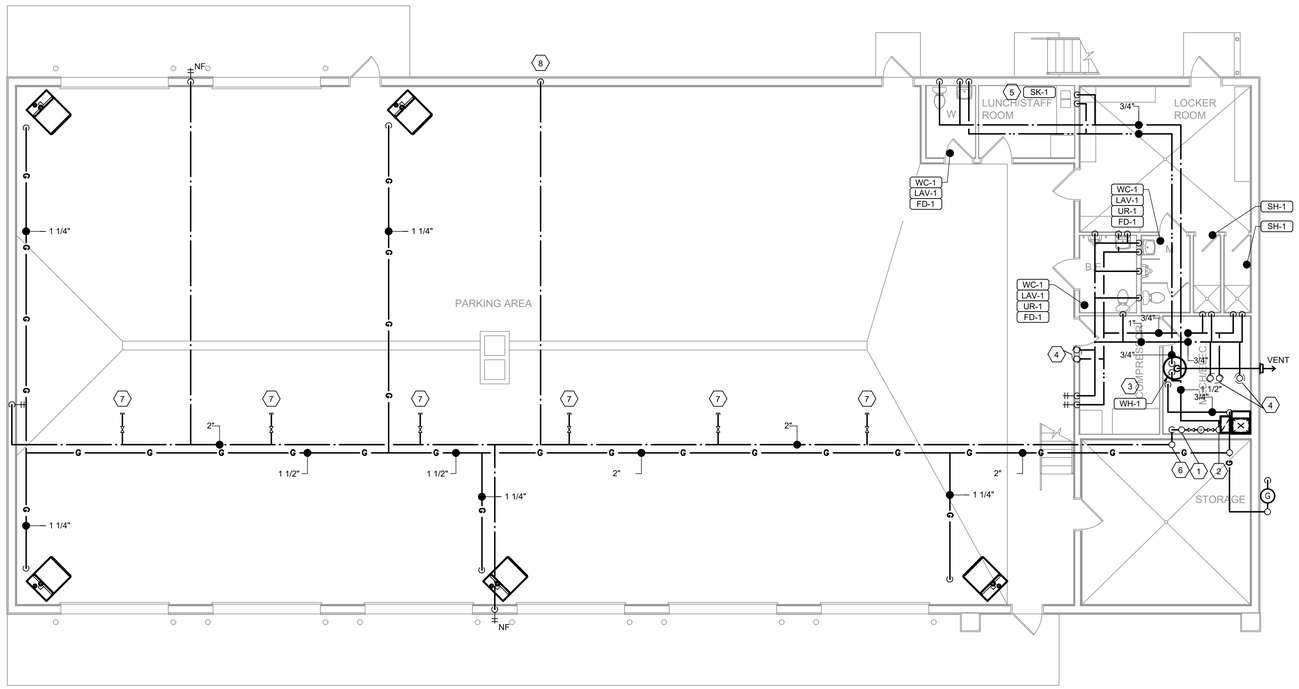
CLIENT:
OUTLOOK

PROJECT:
OUTLOOK - RUDY FIRE HALL

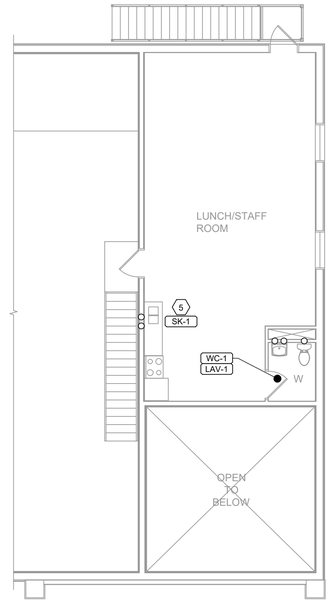
OUTLOOK, SK

DRAWING TITLE:
FOUNDATION PLAN & MEZZ SANITARY PLUMBING

PROJECT :24S-007	DRAWING NUMBER: M-1
DATE : 07/09/2024	
SCALE : AS NOTED	
DRAWN : I.R.	
CHECKED :O.O.	REV:1



1 M-2 MAIN FLOOR PLAN DOMESTIC PLUMBING
SCALE: 1/8" = 1"-0"



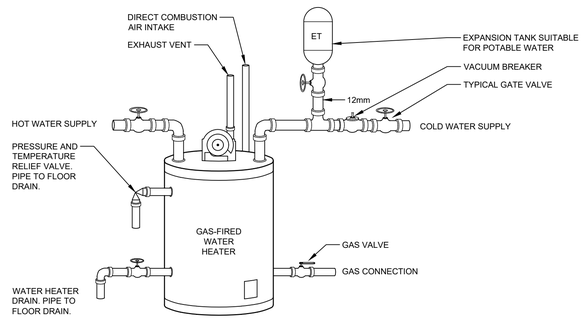
2 M-2 MEZZANINE DOMESTIC PLUMBING
SCALE: 1/8" = 1"-0"

PLUMBING GENERAL NOTES

1. ALL LINES SHOWN SCHEMATICALLY AND ARE A GENERAL GUIDELINE. ANY MAJOR DEVIATION FROM WHAT IS SHOWN IS TO BE APPROVED BY PS ENGINEERING.
2. ALL WATER PIPING TO RUN CONCEALED IN FINISHED AREAS WITHIN CEILING SPACE AND WALLS. ALL SEWER LINES TO RUN BELOW FLOOR OR WITHIN WALLS/CEILING SPACE UNLESS OTHERWISE NOTED.
3. ALL WATER LINES TO BE INSULATED AS PER SPEC AND CANVAS WRAPPED. PROVIDE PVC JACKET IN EXPOSED AREAS.
4. ALL EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
5. ALL PIPING TO FIXTURES AND EQUIPMENT TO RUN CONCEALED WHERE POSSIBLE.
6. MECHANICAL CONTRACTOR TO RUN A BEAD OF SILICONE AROUND THE BASE OF NEW WATER CLOSETS AND TUBS.
7. ALL WATER CONNECTIONS TO FIXTURES TO BE 12mm (½") UNLESS OTHERWISE SPECIFIED.
8. CONTRACTOR TO SUPPLY AND INSTALL PLUMBING VENTS, TRAP SEAL PRIMERS, CLEANOUTS, AND ISOLATION VALVES AS PER CODE.
9. ALL EXPOSED WATER SUPPLY PIPING AT WATER CLOSETS TO BE CHROMED. NO EXPOSED PEX/PLASTIC.
10. SOLDERS AND FLUXES HAVING A LEAD CONTENT IN EXCESS OF 0.2% SHALL NOT BE USED.
11. PROVIDE FIRE STOPS AT ALL PIPING THAT PASSES THRU FIRE SEPARATIONS.
12. PVC AND PLASTIC PIPING MAY BE USED WHERE PERMITTED BY CODE. ALL PVC PIPING IN RETURN AIR PLENUMS TO BE XFR.
13. ALL PLUMBING TO BE INSTALLED IN ACCORDANCE WITH THE LATEST VERSIONS OF THE NATIONAL BUILDING CODE, NATIONAL PLUMBING CODE, LOCAL AUTHORITY CONSTRUCTION DESIGN STANDARDS, MUNICIPALITY BYLAWS, AND ALL OTHER APPLICABLE CODES AND REGULATIONS.
14. FIT WATER SUPPLY TO EACH FIXTURE OR GROUP OF FIXTURES WITH A WATER HAMMER ARRESTOR.
15. INSTALL ALL GAS FIRED EQUIPMENT AND PIPING IN ACCORDANCE WITH THE CANADIAN GAS CODE AND GAS UTILITY REQUIREMENTS.
16. PROVIDE A COPY OF PLUMBING AND GAS PERMITS TO OWNER.
17. PROVIDE ISOLATION VALVES ON ALL FIXTURES AS REQUIRED. ALL ISOLATION VALVES ARE TO BE ACCESSIBLE.
18. COORDINATE ALL WORK WITH GENERAL CONTRACTOR AND OTHER TRADES.
19. CONFIRM DETAILS OF ALL SUPPORTS WITH STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
20. CONFIRM ALL SLOPES OF SANITARY AND/OR STORM SEWER PIPING BEFORE COMMENCING WORK.
21. ENSURE ALL MECHANICAL IS INSTALLED WITH A HEAD HEIGHT CLEARANCE FROM FLOOR EQUAL TO OR GREATER THAN THE CLEARANCE OF THE PARKADE OVERHEAD DOORS.
22. CONFIRM ALL ROUTING AND SIZING OF EXISTING PIPING ON SITE PRIOR TO CONSTRUCTION (CCTV FOR UNDERSLAB PIPING).

PLUMBING KEYNOTES

1. NEW INCOMING DOMESTIC WATER PIPE RISING INTO BUILDING AS SHOWN. PIPE TO RISE UP IN MECHANICAL ROOM AND SPLIT INTO A 1-1/2" AND 2" PIPE AS SPECIFIED. COORDINATE WITH GENERAL CONTRACTOR. MECHANICAL CONTRACTOR RESPONSIBLE FOR PIPING WITHIN BUILDING.
2. RISE INCOMING DOMESTIC WATER PIPE ALONG WALL TIGHT INTO MEZZANINE CEILING AS SHOWN. CONFIRM LOCATION OF RISE OF SITE WITH OWNER.
3. SUPPLY AND INSTALL NEW GAS-FIRED WATER HEATER AS SPECIFIED. LOCATE WATER HEATER IN MECHANICAL ROOM ON DRAIN PLAN. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS & RECOMMENDATIONS. SEE 3/M-2.
4. EXTEND DOMESTIC COLD AND HOT WATER PIPE TO RISE AND CONNECT TO EQUIPMENT ABOVE. SEE 2/M-2.
5. BOTH FLOOR LEVEL LUNCH/STAFF ROOM SINK LOCATIONS TO BE COORDINATED WITH MILWORK SHOP DRAWINGS.
6. RISE INCOMING DOMESTIC WATER PIPE ALONG WALL TIGHT TO U/S OF ROOF STRUCTURE AS SHOWN. CONFIRM LOCATION OF RISE OF SITE WITH OWNER.
7. CONNECT DOMESTIC COLD WATER TO 2" TRUCK FILL VALVE. PIPE TO EXTEND DOWN TO 10' AFF.
8. CONNECT DOMESTIC COLD WATER TO 2" TRUCK FILL STANDPIPE TO 3' AFF.



3 M-2 WATER HEATER SCHEMATIC
SCALE: N.T.S.

THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND OTHER DATA FROM THE PROJECT AND REPORT ANY DISCREPANCIES TO P.S. ENGINEERING BEFORE PROCEEDING WITH ANY WORK. ALL WORK TO COMPLY WITH ALL APPLICABLE CODES, STANDARDS AND REGULATIONS.

DWG REVISIONS:	NO: 1	DATE: 09/26/2024	ENGINEER: O.O.	DESCRIPTION: ISSUED FOR CONSTRUCTION

MECHANICAL CONSULTANT:

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PROJECT NO. 24S-007

PROFESSIONAL SEAL:

PROFESSIONAL ENGINEER — OWEN MEMBER 13804 — 24/09/26 YR. MN. DAY — SASKATCHEWAN

OUTLOOK·RUDY FIRE RESCUE

Association of Professional Engineers & Geoscientists of Saskatchewan

CERTIFICATE OF AUTHORIZATION

PS ENGINEERING (SASKATOON) INC.
NUMBER 79195

Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
MECH	13804	

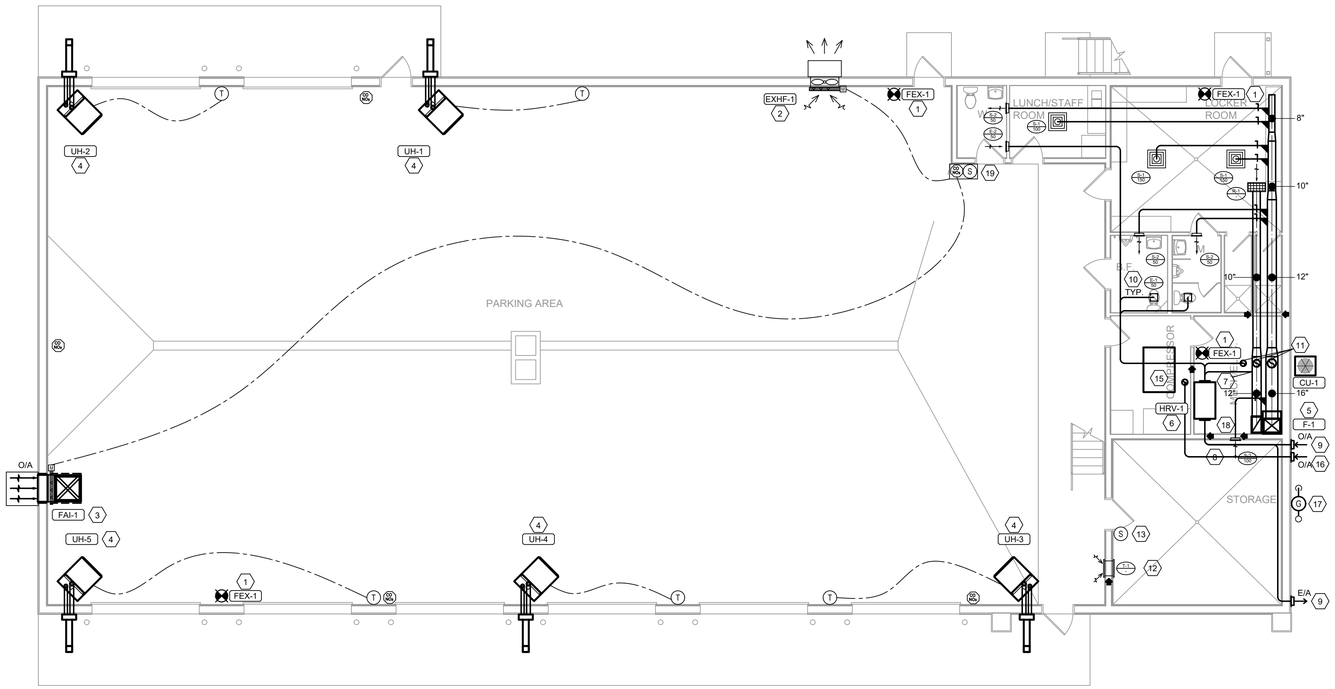
CLIENT:
OUTLOOK

PROJECT:
OUTLOOK - RUDY FIRE HALL

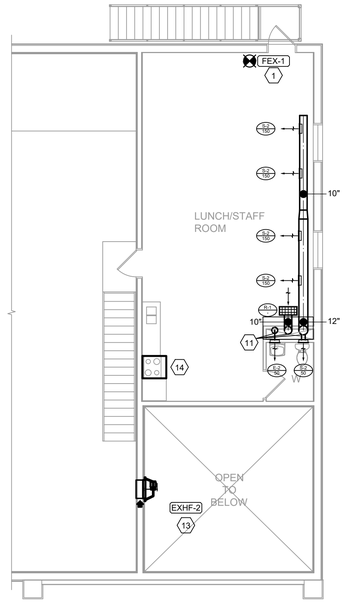
OUTLOOK, SK

DRAWING TITLE:
MAIN FLOOR PLAN & MEZZ DOMESTIC PLUMBING

PROJECT :24S-007	DRAWING NUMBER: M-2
DATE : 07/09/2024	
SCALE : AS NOTED	
DRAWN : I.R.	
CHECKED :O.O.	REV:1



1 MAIN FLOOR PLAN HVAC
M-3 SCALE: 1/8" = 1'-0"



2 MEZZANINE HVAC
M-3 SCALE: 1/8" = 1'-0"

HVAC GENERAL NOTES

1. ALL DUCTING SHOWN SCHEMATICALLY AND IS A GENERAL GUIDELINE. ANY MAJOR DEVIATIONS FROM WHAT IS SHOWN IS TO BE APPROVED BY PS ENGINEERING.
2. ALL DUCT SIZES ARE NET SIZES. INCREASE DUCT SIZE WITH INTERNAL INSULATION AS REQUIRED TO MAINTAIN INDICATED DIMENSIONS.
3. ALL DUCT TAKE-OFFS TO BE 45° CONICAL WITH BALANCING DAMPERS.
4. DUCTING TO BE CONNECTED TO ALL HVAC AND FAN UNITS WITH CANVAS CONNECTIONS.
5. ALL MAIN SUPPLY PLENUM ELBOWS TO BE MITERED WITH TURNING VANES. DUCT ELBOW RADII TO BE MINIMUM 1.5 TIMES THE TURNING DIMENSION UNLESS OTHERWISE NOTED.
6. COORDINATE ROUTING OF DUCTWORK IN CEILING WITH ELECTRICAL TO ENSURE ADEQUATE ACCESS TO ELECTRICAL SYSTEMS IS MAINTAINED AT THE HIGHEST POSSIBLE LEVEL.
7. INSULATE ALL DUCTWORK AS PER SPEC. INSULATION TO BE CANVAS WRAPPED IN FINISHED AREAS ONLY.
8. ENSURE ALL FLUE GAS AND EXHAUST OUTLETS ARE AT LEAST 3m (10ft) AWAY FROM THE NEAREST FRESH AIR INTAKE AND AT LEAST 1m (3ft) FROM BUILDING OPENINGS.
9. ALL EQUIPMENT TO BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
10. ALL MECHANICAL ITEMS ARE TO BE INSTALLED IN ACCORDANCE WITH THE LATEST VERSIONS OF THE NATIONAL BUILDING CODE, NATIONAL ENERGY CODE, SMACNA STANDARDS, LOCAL AUTHORITY CONSTRUCTION DESIGN STANDARDS, MUNICIPALITY BYLAWS, AND ALL OTHER APPLICABLE CODES AND STANDARDS.
11. DUCTWORK WITHIN NEW HVAC UNIT SUPPLY AND RETURN PLENUMS SHALL BE LINED WITH 25mm (1") OF ACOUSTIC INSULATION. INCREASE DUCT SIZE TO MAINTAIN INDICATED DIMENSIONS.
12. ALL DUCTING TO BE FIRE DAMPERED AT ALL FIRE SEPARATIONS COMPLETE WITH QUICK CLOSE HINGED ACCESS DOORS FOR MAINTENANCE OF FUSIBLE LINK.
13. CONTRACTOR TO CHANGE ALL UNIT FILTERS ON BUILDING HANDOVER/COMPLETION AND PROVIDE 1 SET OF SPARE FILTERS FOR EACH PIECE OF EQUIPMENT TO OWNERS TO BE STORED ON SITE.
14. COORDINATE ALL WORK WITH GENERAL CONTRACTOR AND OTHER TRADES (IN PARTICULAR ELECTRICAL).
15. MECHANICAL CONTRACTOR SHALL COORDINATE EXACT DUCT ROUTING ON SITE WITH FINAL JOIST LAYOUT AND ADVISE PS ENGINEERING OF ANY ISSUES PRIOR TO HANGING DUCTWORK. ANY DUCTWORK REMOVAL/MODIFICATION REQUIRED WITHOUT PRIOR NOTIFICATION WILL BE COMPLETED AT NO COST TO THE OWNER.
16. ANY MODIFICATIONS REQUIRED AS A RESULT OF THE INSTALLATION OF AN HVAC UNIT THAT DIFFERS FROM THE EQUIPMENT SCHEDULES IN THE CONTRACT DOCUMENTS IS TO BE COORDINATED ON SITE BETWEEN THE MECHANICAL CONTRACTOR AND OTHER TRADES. FAILURE TO DO SO WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RESOLVE AT NO COST TO THE OWNER.
17. PIPE ALL CONDENSATE DRAINS INDIRECTLY TO NEAREST FLOOR/PIPE DRAIN UNLESS OTHERWISE NOTED.
18. ALL DUCTING IN AREAS WITH FINISHED CEILINGS TO BE INSTALLED CONCEALED WITHIN CEILING SPACE IN A GOOD WORKMANSHIP LIKE MANNER AS PER SMACNA STANDARDS. ALL DUCTWORK IN AREAS WITH NO CEILINGS TO BE SPIRAL ROUND EXPOSED UNLESS OTHERWISE NOTED.
19. ALL INTERLOCKS, TIMER SWITCHES, SPEED SWITCHES, ETC. TO BE BY ELECTRICAL.
20. CONFIRM DETAILS OF ALL SUPPORTS WITH STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
21. ALL EXTERIOR WALL / ROOF PENETRATIONS TO BE SEALED WEATHER / AIR TIGHT.

HVAC KEYNOTES

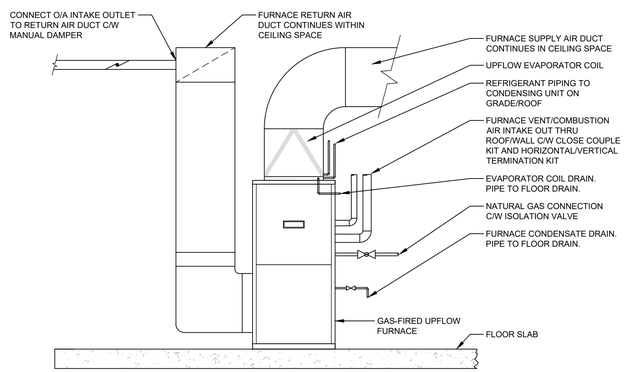
1. SUPPLY AND INSTALL NEW WALL MOUNTED FIRE EXTINGUISHER AS SPECIFIED.
2. SUPPLY AND INSTALL NEW SIDEWALL MOUNT EXHAUST FAN HIGH UP ON WALL AS SPECIFIED. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
3. SUPPLY AND INSTALL NEW FRESH AIR INTAKE LOUVRE C/W MOTORIZED DAMPER HIGH UP ON WALL AS SPECIFIED. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
4. SUPPLY AND INSTALL NEW UNIT HEATER IN SHOP AREA AS SPECIFIED. SUPPORT UNIT FROM STRUCTURE. EXTEND CONTROL WIRE TO PROGRAMMABLE THERMOSTAT AS REQUIRED.
5. SUPPLY AND INSTALL NEW FURNACE AS SPECIFIED. UNIT TO BE LOCATED IN MECHANICAL ROOM. INSTALL AS PER MANUFACTURERS INSTRUCTIONS. EXTEND CONDENSATE TO NEAREST DRAIN. SEE DETAIL 3/M-3.
6. SUPPLY AND INSTALL NEW HRV IN MECHANICAL ROOM AS SHOWN. SUPPORT UNIT FROM STRUCTURE. INSTALL AS PER MANUFACTURERS INSTRUCTIONS. COORDINATE LOCATION WITH GENERAL CONTRACTOR. EXTEND CONDENSATE TO NEAREST DRAIN.
7. EXTEND FRESH AIR DUCT FROM HRV & CONNECT TO FURNACE RETURN PLENUM C/W DAMPER. SIZE AS NOTED. INSULATE AS PER SPEC. MAINTAIN MINIMUM 6 FEET FROM FRESH AIR CONNECTION TO FURNACE INTAKE. BALANCE TO 150 CFM.
8. FRESH AIR INTAKE AND EXHAUST DUCT YO AND FROM HRV. KEEP DUCTS TIGHT TO WALL DURING INSTALLATION.
9. TERMINATE THROUGH EXTERIOR WALL C/W PRE-MANUFACTURED WALL CAP & INSECT SCREEN. MAINTAIN 10 FT SEPARATION BETWEEN INTAKE AND EXHAUST, CONFIRM ROUTING OF DUCTING ON SITE. INSULATE DUCT 10FT FROM EXTERIOR WALL WITH FOIL FACED INSULATION. PROVIDE FIRE DAMPER AT PENETRATION OF FIRE SEPARATION.
10. EXTEND EXHAUST DUCTWORK FROM HRV AND CONNECT TO WASHROOM EXHAUST GRILLE (E-1) AS SHOWN. PROVIDE FIRE DAMPER AT PENETRATION OF FIRE SEPARATION. SIZE & BALANCE AS NOTED. INSULATE AS PER SPEC.
11. EXTEND EXHAUST, RETURN, AND SUPPLY DUCTWORK FROM MECHANICAL ROOM TO SECOND FLOOR CEILING, C/W FIRE DAMPER AT FLOOR.
12. SUPPLY AND INSTALL TRANSFER AIR OPENING C/W GRILLE ON BOTH SIDES.
13. SUPPLY AND INSTALL 600 CFM EXHAUST FAN. RISE DUCTWORK UP FROM EXHAUST FAN AND TERMINATE THOUGH ROOF C/W GOOSENECK. EXTEND CONTROL WIRE TO CONTROL SWITCH IN MAIN FLOOR STORAGE ROOM WALL.
14. SUPPLY AND INSTALL RANGE HOOD ABOVE STAFF ROOM OVEN AS SHOWN.
15. SUPPLY AND INSTALL EXISTING AIR COMPRESSOR RELOCATED FROM OLD FIREHALL.
16. TERMINATE THROUGH EXTERIOR WALL C/W PRE-MANUFACTURED WALL CAP & INSECT SCREEN. INSTALL 4" PVC AIR INTAKE FOR AIR COMPRESSOR. INSTALL AT HIGH LEVEL DOWN TO A.C.
17. NEW NATURAL GAS METER AND LINE UP ABOVE GRADE TIGHT TO BUILDING FOUNDATION.
18. SUPPLY AIR TO STORAGE ROOM DOWN TO LOW LEVEL C/W FIRE DAMPER
19. EXHF-1 TO BE CONNECTED TO AN OVERRIDE SWITCH AS SHOWN.

HVAC SYMBOLS

SYMBOL	DESCRIPTION
	DIRECTION OF FLOW
	FIRE DAMPER
	FIRE/SMOKE DAMPER
	FIRE STOP FLAP
	METAL WALL CAP
	DUCT CONTINUATION - RECTANGULAR
	DUCT CONTINUATION - ROUND
	EXISTING DUCTWORK TO REMAIN
	EXISTING DUCTWORK TO BE REMOVED
	NEW DUCTWORK
	DUCTWORK WITH INTERNAL INSULATION
	BALANCING DAMPER/VOLUME EXTRACTOR
	SUPPLY DUCTWORK - UP AND DOWN
	OUTDOOR DUCTWORK - UP AND DOWN
	RETURN AIR DUCTWORK - UP AND DOWN
	EXHAUST DUCTWORK - UP AND DOWN
	ROUND DUCTWORK - UP AND DOWN
	DUCTWORK CONICAL T's
	DUCTWORK ELBOW WITH TURNING VANES
	PROPELLER FAN EXHAUST
	ELECTRIC FORCE FLOW UNIT HEATER
	UNIT HEATER
	CEILING CIRCULATING FAN
	ELECTRIC BASEBOARD

BRANCH DUCT SIZING

AIR FLOW (CFM)	BRANCH SIZE (INCH)
0-60	5 (125)
60-120	6 (150)
121-230	8 (200)
231-400	10 (250)



3 UPFLOW FURNACE INSTALLATION DETAIL
M-3 SCALE: N.T.S.

THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND OTHER DATA FROM THE PROJECT AND REPORT ANY DISCREPANCIES TO P.S. ENGINEERING BEFORE PROCEEDING WITH ANY WORK. ALL WORK TO COMPLY WITH ALL APPLICABLE CODES, STANDARDS AND REGULATIONS.

DWG REVISIONS:	NO: 1	DATE: 09/26/2024	ENGINEER: O.O.	DESCRIPTION: ISSUED FOR CONSTRUCTION

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PROFESSIONAL ENGINEER — ODHNER — MEMBER 13804 — 24/09/26 YR. MN. DAY — SASKATCHEWAN

OUTLOOK·RUDY FIRE RESCUE

Association of Professional Engineers & Geoscientists of Saskatchewan

CERTIFICATE OF AUTHORIZATION

PS ENGINEERING (SASKATOON) INC.
NUMBER 79195

Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
MECH	13804	

CLIENT:
OUTLOOK

PROJECT:
OUTLOOK - RUDY FIRE HALL

OUTLOOK, SK

DRAWING TITLE:
MAIN FLOOR PLAN & MEZZ HVAC

PROJECT :24S-007	DRAWING NUMBER: M-3
DATE : 07/09/2024	
SCALE : AS NOTED	
DRAWN : I.R.	
CHECKED :O.O.	REV:1

MECHANICAL SPECIFICATIONS

1. GENERAL

1.1. GENERAL PROVISIONS
1.1.1. THE INTENT OF THIS SPECIFICATION AND THE DRAWINGS IS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL MECHANICAL SYSTEM.

1.1.2. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY TO EACH OTHER AND WHAT IS CALLED FOR IN ONE IS BINDING AS IF CALLED FOR BY BOTH. SHOULD ANY DISCREPANCIES AND/OR OMISSIONS BETWEEN DRAWINGS AND THE SPECIFICATIONS BE DISCOVERED, THEY SHALL BE REPORTED TO PS. ENGINEERING IMMEDIATELY AND PRIOR TO TENDER CLOSING FOR RECERTIFICATION BY ADDENDUM.

1.1.3. CONTRACT DOCUMENTS ARE DIAGRAMMATIC ONLY. THEY ARE TO ESTABLISH SCOPE, MATERIAL AND QUALITY. THEY ARE NOT DETAILED INSTALLATION DRAWINGS. MINOR DETAILS USUALLY NOT SHOWN OR SPECIFIED AND ANY INCIDENTAL ACCESSORIES REQUIRED FOR PROPER INSTALLATION OF THE SYSTEM ARE TO BE INCLUDED IN THE WORK.

1.1.4. EACH CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR LAYING OUT THEIR WORK AND FOR ANY DAMAGE CAUSED BY IMPROPER EXECUTION OF THEIR WORK. CONTRACTOR TO CARRY ALL NECESSARY INSURANCE COVERAGE.

1.1.5. THE MECHANICAL CONTRACTOR IS TO ENSURE THAT ALL INTENDED EQUIPMENT WILL FIT WITHIN GIVEN SPACES. MAKE REFERENCE TO THE ELECTRICAL, MECHANICAL, ARCHITECTURAL AND STRUCTURAL DRAWINGS, WHEN SETTING OUT WORK AND BEFORE ORDERING EQUIPMENT, CONTRACTOR MUST BE SATISFIED THAT THE WORK CAN BE CARRIED OUT AS SHOWN ON THESE PLANS WITHOUT CHANGES TO THE BUILDING. ANY ISSUES TO BE RELAYED TO PS. ENGINEERING FOR REVIEW.

1.1.6. ALL WORK SHALL CONFORM TO CURRENTLY ACCEPTED EDITION OF NATIONAL, PROVINCIAL AND MUNICIPAL CODES, STANDARDS BYLAWS AND ACTS; AND WILL MEET THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. THE CODES IN EFFECT AT THE TIME OF BUILDING PERMIT APPLICATION ARE ANTICIPATED TO GOVERN THIS PROJECT. THE BELOW LIST OF REGULATORY AUTHORITIES IS INCLUDED FOR REFERENCE PURPOSES:
- 1.1.6.1. FIRE MARSHALL
- 1.1.6.2. CANADIAN ELECTRICAL CODE
- 1.1.6.3. LOCAL BUILDING BY-LAWS
- 1.1.6.4. WORKER'S COMPENSATION BOARD
- 1.1.6.5. CANADIAN STANDARDS ASSOCIATION
- 1.1.6.6. CANADIAN GAS CODE B-149.1
- 1.1.6.7. NATIONAL BUILDING CODE OF CANADA (N.B.C)
- 1.1.6.8. NATIONAL FIRE PROTECTION ASSOCIATION (N.F.P.A)
- 1.1.6.9. UNDERWRITERS' LABORATORIES (ULC) OF CANADA
- 1.1.6.10. NATIONAL ENERGY CODE FOR BUILDINGS (NECB)

1.1.7. BEFORE COMMENCING THE WORK: EXAMINE THE WORK OF THE OTHER TRADES AND REPORT AT ONCE ANY DEFECT OR INTERFERENCE AFFECTING THE WORK, OR THE GUARANTEE OF THIS WORK. IN ADDITION, PRIOR TO STARTING ANY WORK, THE MECHANICAL CONTRACTOR IS TO REVIEW TYPE, SIZE, AND LOCATION OF ALL EXISTING MECHANICAL EQUIPMENT AND SERVICE CONNECTIONS ON SITE IN COMPARISON TO THAT SHOWN ON THE DRAWINGS AS EXISTING. REVIEW ANY DISCREPANCIES WITH THE P.S. ENGINEERING PRIOR TO STARTING ANY WORK.

1.2. WARRANTY
1.2.1. THE MECHANICAL CONTRACTOR AS A CONDITION PRECEDENT TO FINAL PAYMENT AFTER COMPLETION OF THIS WORK SHALL PROVIDE THE OWNER WITH A WRITTEN GUARANTEE WARRANTING ALL MATERIALS, LABOUR, AND EQUIPMENT FOR ONE (1) FULL YEAR FROM DATE OF ACCEPTANCE.

1.3. WORK, PRODUCTS, AND QUALITY
1.3.1. EQUIPMENT AND MATERIALS TO BE NEW AND FREE FROM DEFECTS AND HAVE DESIGN CHARACTERISTICS AS SPECIFIED.

1.3.2. ALL WORK AND MATERIALS SHALL BE INSTALLED AS SHOWN AND IN ACCORDANCE WITH THE NATIONAL BUILDING CODE AND ALL LOCAL CODES AND BUILDING REGULATIONS.

1.3.3. ALL EQUIPMENT SHALL BE C.S.A. APPROVED.

1.3.4. ALL MECHANICAL EQUIPMENT INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS' PRINTED INSTRUCTIONS.

1.3.5. ALL INSTALLATIONS ARE SUBJECT TO REVIEW AND APPROVAL BY PS. ENGINEERING PRIOR TO ACCEPTANCE.

1.3.6. COORDINATE WORK WITH THAT OF THE OTHER TRADES, IN PARTICULAR THAT OF THE ELECTRICAL TO ENSURE THE INTEGRITY OF THE WORK AND SITE. LEAVE THE CONSTRUCTION SITE IN A SAFE AND CLEAN MANNER AT ALL TIMES.

1.4. FEES AND PERMITS
1.4.1. THE MECHANICAL CONTRACTOR WILL OBTAIN AND PAY FEES FOR ALL PERMITS NECESSARY FOR COMPLETION OF THIS CONTRACT.

1.4.2. CONTRACTOR TO FURNISH ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK CONFORMS WITH STANDARDS AND REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.

1.4.3. THE MECHANICAL CONTRACTOR IS TO OBTAIN ALL NECESSARY PERMITS AND PAY ALL COSTS SO THAT THE WORK HEREINAFTER SPECIFIED MAY BE CARRIED OUT.

1.5. TESTING
1.5.1. TEST ALL EQUIPMENT AND MATERIALS WHERE REQUIRED BY THE SPECIFICATIONS OR AUTHORITIES HAVING JURISDICTION TO DEMONSTRATE ITS PROPER OPERATION TO THE OWNER.
- 1.5.1.1. CARRY OUT ALL HYDRAULIC TESTS PRIOR TO COVERING PIPE IN ANY WAY.
- 1.5.1.1. TEST DOMESTIC WATER PIPING AT 700 kPA (100 PSI) PRESSURE FOR A PERIOD OF TWO (2) HOURS WITH NO APPRECIABLE PRESSURE DROP.
- 1.5.1.2. TEST DRAINAGE SYSTEMS BY FILLING SYSTEMS WITH WATER TO PRODUCE PRESSURE OF 3.0m (10FT) OF WATER COLUMN. KEEP SYSTEM FILLED WITH WATER FOR 15 MINUTES.
- 1.5.1.3. TEST GAS PIPING AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION.
- 1.5.1.4. TEST FIRE WATER PIPING AT 1400 kPA (200 PSI) PRESSURE FOR A PERIOD OF (2) HOURS WITH NO APPRECIABLE PRESSURE DROP.

1.5.2. TEST LOW VELOCITY DUCTWORK FOR TIGHTNESS AND LEAKAGE. ALL LEAKS SHALL BE REPAIRED BEFORE THE SYSTEM IS BALANCED.

1.6. EXCAVATION AND BACKFILLING
1.6.1. THE MECHANICAL CONTRACTOR SHALL DO ALL NECESSARY EXCAVATION. BACKFILL WITH SAND OR OTHER APPROVED MATERIAL TO A MINIMUM OF 300mm (12") OVER ALL PIPING OR AS NECESSARY TO PROTECT THEIR WORK AND THEN COMPACT WITH A MECHANICAL TAMPER. COORDINATE ELEVATIONS AND LOCATION OF GAS, WATER, AND SEWER SERVICES AND PROVIDE MINIMUM 2.0m (79") OF SEPARATION FROM GAS, ELECTRICAL, AND TELEPHONE SERVICE BEFORE INSTALLING.

1.7. CUTTING AND PATCHING
1.7.1. THE MECHANICAL CONTRACTOR SHALL CONFER WITH THE GENERAL CONTRACTOR IN REGARDS TO THIS WORK AND SHALL GIVE LOCATIONS FOR ALL HOLES FOR PIPE AND DUCTS ETC. AND PROVIDE SLEEVES 200mm (8") DIAMETER AND SMALLER AS REQUIRED TO EXECUTE THE MECHANICAL INSTALLATION. PATCH IMPROPERLY LOCATED HOLES AND SLEEVES AT NO FURTHER COST. DRILL EXPANSION BOLTS, HANGER ROD, BRACKETS AND SUPPORT

1.7.2. THE MECHANICAL CONTRACTOR SHALL ACCURATELY LOCATE OPENINGS REQUIRED FOR WORK TO BE CARRIED OUT. ONCE THE LOCATIONS ARE LAID OUT THE MECHANICAL CONTRACTOR SHOULD OBTAIN APPROVAL IN WRITING FROM THE GENERAL CONTRACTOR PRIOR TO CUTTING OR DRILLING. ALL CUTTING, DRILLING AND PATCHING REQUIRED TO INSTALL. THE MECHANICAL SYSTEMS, SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. ALL PATCHING SHALL MATCH EXISTING FINISHES. ALL OPENINGS THROUGH FIRE WALLS SHALL BE FILLED WITH APPROVED FIRE RESISTANT MATERIALS. SUBMIT APPROVAL LETTER ON MATERIAL FROM AUTHORITY HAVING JURISDICTION TO PS. ENGINEERING PRIOR TO COMMENCING WORK.

1.8. FLASHING AND COUNTERFLASHING
1.8.1. ALL MECHANICAL WORK PASSING THROUGH THE ROOF SHALL BE FLASHED BY THE MECHANICAL CONTRACTOR. COUNTERFLASHING TO BE DONE BY THE ROOFING CONTRACTOR.

1.9. APPROVALS
1.9.1. REQUEST FOR APPROVAL OF EQUIVALENT EQUIPMENT FROM MANUFACTURER'S NOT SPECIFIED ON DRAWINGS SHALL BE MADE IN WRITING SEVEN DAYS PRIOR TO TENDER CLOSING.

1.10. SHOP DRAWINGS
1.10.1. SUBMIT COLOUR PDF's OF SHOP DRAWINGS TO PS. ENGINEERING FOR ALL EQUIPMENT SPECIFIED IN THE SPECIFICATION OR DRAWINGS FOR PS. ENGINEERING'S REVIEW. DO NOT ORDER EQUIPMENT OR MATERIALS UNTIL PS. ENGINEERING HAS REVIEWED SHOP DRAWINGS.

1.11. ELECTRIC MOTORS AND WIRING
1.11.1. SUPPLY ALL MECHANICAL EQUIPMENT WITH ELECTRIC MOTORS AS REQUIRED.

1.11.2. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY ALL MOTOR STARTERS AND DISCONNECT SWITCHES FOR ALL MOTORS FOR THIS PROJECT AND INSTALL LINE VOLTAGE WIRING TO STARTERS AND FROM STARTERS TO MOTORS, EXCEPT WHERE PRE-WIRED IN

1.11.3. ELECTRICAL CONTROLS CONNECTED TO MECHANICAL EQUIPMENT SHALL BE SUPPLIED BY THE MECHANICAL CONTRACTOR AND SHALL BE INSTALLED, WIRED, AND CONNECTED BY THE MECHANICAL CONTROLS SUBCONTRACTOR.

1.11.4. MECHANICAL SHALL CONFIRM ALL EQUIPMENT ELECTRICAL RATINGS WITH ELECTRICAL DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO ORDERING EQUIPMENT.

1.12. MAINTENANCE MANUALS
1.12.1. FURNISH THREE (3) SETS OF OPERATION & MAINTENANCE MANUALS WITH INFORMATION OUTLINED BELOW TO PS. ENGINEERING PRIOR TO FINAL INSPECTION FOR APPROVAL.

1.12.2. MAINTENANCE MANUALS TO BE ASSEMBLED IN HARD COVER BINDERS. IDENTIFY FRONT COVER WITH PROJECT NAME & PROJECT LOCATION. PROVIDE INDEX AND INDEX LABELS. MANUALS SHALL CONTAIN THE FOLLOWING:
- 1.12.2.1. WARRANTY CERTIFICATE, BALANCING REPORTS
- 1.12.2.2. DESCRIPTION OF ALL SYSTEMS
- 1.12.2.3. DESCRIPTION OF COMPONENTS OF EACH PIECE OF EQUIPMENT
- 1.12.2.4. DESCRIPTION OF CONTROL SYSTEM
- 1.12.2.5. COMPLETE SET OF DRAWINGS
- 1.12.2.6. DETAILED MAINTENANCE AND LUBRICATION SCHEDULE
- 1.12.2.7. OPERATING AND MAINTENANCE INSTRUCTIONS FOR MAJOR EQUIPMENT
- 1.12.2.8. LIST OF EQUIPMENT SUPPLIERS AND MANUFACTURERS
- 1.12.2.9. LIST OF CONTRACTORS AND CONSULTANTS.

1.13. OPERATING INSTRUCTIONS
1.13.1. ARRANGE AND PAY FOR THE SERVICE OF FULLY QUALIFIED PERSONNEL INCLUDING MANUFACTURER'S REPRESENTATIVES TO INSTRUCT THE OWNER IN OPERATION AND PREVENTIVE MAINTENANCE OF EACH PIECE OF EQUIPMENT AND SYSTEM SUPPLIED AND INSTALLED.

1.14. SUPPORTS, ANCHORS, AND SLEEVES
1.14.1. INSTALL SUPPORTS OF STRENGTH AND RIGIDITY TO SUIT LOADING WITHOUT UNDULY STRESSING OF BUILDING. LOCATE ADJACENT TO EQUIPMENT TO PREVENT UNDUE STRESS IN PIPING AND EQUIPMENT.

1.14.2. PROVIDE CHROME PLATED FLOOR, CEILING, AND WALL ESCUTCHEONS AS REQUIRED FOR PIPING IN FINISHED AREAS.

1.15. IDENTIFICATION
1.15.1. THE MECHANICAL CONTRACTOR SHALL SUPPLY AND PERMANENTLY INSTALL LAMACOIDS TO PROVIDE IDENTIFICATION OF ALL INSTALLED EQUIPMENT LIKE FANS, WATER HEATERS, AND THEIR SWITCHES.

1.15.2. IDENTIFY ALL PIPING BY MEANS OF COLORED, SELF-ADHESIVE LABELS AND DIRECTIONAL ARROWS USING 19mm (3/4") HIGH LETTERING.

1.15.3. LABEL ALL VALVES LARGER THAN 25mm (1").

1.16. RECORD DRAWINGS
1.16.1. THE MECHANICAL CONTRACTOR SHALL KEEP ON SITE EXTRA SETS OF PRINTS AND SPECIFICATIONS ON WHICH ALL CHANGES AND DEVIATIONS FROM THE ORIGINAL DESIGN SHALL BE RECORDED DAILY. THESE CHANGES MUST BE NEATLY ADDED TO A CLEAN SET OF DRAWINGS AND GIVEN TO THE OWNERS MARKED "AS-BUILT".

1.17. EQUIPMENT AND MATERIALS CLEANUP
1.17.1. PIPING, FIXTURES, DUCTS, AND EQUIPMENT SHALL BE THOROUGHLY CLEANED OF DIRT, GREASE, ADHESIVE LABELS, AND FOREIGN MATERIALS.

2. PLUMBING

2.1. GENERAL
2.1.1. SUPPLY AND INSTALL THE PLUMBING SYSTEM AS SHOWN ON THE DRAWINGS WITH THE HIGHEST QUALITY OF WORKMANSHIP AND USING CSA APPROVED MATERIALS IN ACCORDANCE TO THE LATEST EDITIONS OF THE NATIONAL/PROVINCIAL PLUMBING CODE.

2.1.2. SUPPLY AND INSTALL COMPLETE DOMESTIC WATER, DRAINAGE, AND VENT PIPING SERVING ALL NEW PLUMBING FIXTURES. ALL WATER AND SEWER PIPING SHALL EXTEND TO THE NEW BUILDING SERVICES. ENSURE THAT SEWER SERVICES ARE RUN WITH SUFFICIENT SLOPE FOR DRAINAGE WITH ADEQUATE COVER TO PREVENT FREEZING.

2.1.3. ENSURE ALL ROOF PENETRATIONS FOR PLUMBING VENTS ARE A MINIMUM 3M (10FT) AWAY MEASURED HORIZONTALLY AND 1M (3,3FT) AWAY MEASURED VERTICALLY FROM ANY VENTILATION AIR INTAKE OR OPERABLE WINDOW.

2.1.4. COORDINATE ALL PLUMBING ROUGH IN LOCATIONS WITH ARCHITECTURAL PLANS PRIOR TO COMMENCING WORK. ADJUST LOCATIONS WHERE REQUIRED.

2.1.5. CONFIRM ALL LOCATIONS AND SIZING OF EXISTING SITE SERVICES PRIOR TO COMMENCING WORK.

2.1.6. ALL PLUMBING FIXTURES IN THE EQUIPMENT SCHEDULE SHALL BE CONSIDERED AS A BASE MODEL ONLY, ANY OTHER EQUIPMENT CAN BE USED IF APPROVED BY PS. ENGINEERING.

2.1.7. SUPPLY AND INSTALL ALL REQUIRED FITTINGS, HANGERS, RODS AND/OR FASTENERS NEEDED TO COMPLETE THE INSTALLATION. ALL TO LOCAL INDUSTRY STANDARDS, AND TO BE APPROVED BY THE AUTHORITIES HAVING JURISDICTION.

2.1.8. CLEANOUTS:SUPPLY AND INSTALL CLEAN OUTS AT THE BASE OF EACH VERTICAL WASTE STACK AND AT THE BUILDING FOUNDATION AT THE POINT OF EXIT. CLEANOUTS SAME SIZE AS THE PIPE UP TO 4"Ø (100mm) BUT NOT LESS THAN 4"Ø (100mm) FOR LARGER PIPE. CLEANOUTS SHOULD BE EASILY ACCESSIBLE AND SHOULD BE GAS TIGHT AND WATER TIGHT. PROVIDE A MIN CLEARANCE OF 24" (600mm) FOR RODDING. PROVIDE AND SET CLEANOUTS FOR DRAINS A MAXIMUM OF 15m (50') APART FOR PIPE SIZES BELOW 150mm (6") DIAMETER, AND A MAXIMUM OF 30m (100') APART FOR PIPE SIZES IN EXCESS OF 100mm (4") DIAMETER. INSTALL IN ALL STRAIGHT RUNS OF STORM AND SANITARY SEWERS, AT LOCATIONS AS DIRECTED BY PS. ENGINEERING.

2.1.9. PROVIDE MANUFACTURED SHOCK ABSORBERS ANCON MODEL SG OR AIR CHAMBERS TO PREVENT WATER HAMMER. INSTALL ON ALL HOT AND COLD WATER SUPPLIES TO EACH FIXTURE OR EACH GROUP OF FIXTURES. AIR CHAMBERS SHALL BE A MINIMUM OF 19mm (3/4") DIAMETER AND 450mm (18") LONG.

2.1.10. INSTALL OVERSIZED CLAMPS AND 13mm (1/2") "ARMAFLEX" FOAM RUBBER INSULATION, 75mm (3") LONG AROUND EACH PLUMBING DRAINAGE STACK AND EACH DOMESTIC WATER PIPE AT EACH SUPPORT POINT THROUGH WOODEN STRUCTURE.

2.1.11. PROVIDE VACUUM BREAKERS ON LINES SERVING EQUIPMENT OR FIXTURES WHERE CONTAMINATION OF DOMESTIC WATER MAY OCCUR.

2.1.12. INSTALL WATTS SERIES 900 BACKFLOW PREVENTER OR APPROVED EQUAL ON ALL POTABLE WATER WHERE BACKFLOW AND CROSS CONNECTION MAY OCCUR.

2.1.13. INSTALL ZURN Z1072 BARRIER TRAP SEAL FOR ALL FLOOR DRAINS

2.1.14. PROVIDE ALL VALVES AS SHOWN ON THE DRAWINGS OR AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. INSTALL ISOLATION VALVES AT ALL CONNECTIONS TO EQUIPMENT, AND IN ALL BRANCHES, FIXTURES, OR GROUPS OF FIXTURES.

2.1.15. ISOLATE EACH PLUMBING FIXTURE WITH SHUT-OFF VALVES. USE QUICK OPENING "HENDERSON NEWMAN SUPERBALL" VALVES FOR WATER AND GAS.

2.1.16. PLUMBING FIXTURES SHALL BE AS SPECIFIED, OR APPROVED EQUAL.

2.1.17. STERILIZE WATER SERVICE WITH CHLORINE AS PER CITY AND PROVINCIAL PLUMBING CODE STANDARDS AND PROVIDE A WRITTEN REPORT FLUSH SYSTEM AND HAVE BACTERIOLOGICAL TESTS COMPLETED AT A RECOGNIZED CERTIFIED LABORATORY.

2.2. PIPE AND FITTINGS
2.2.1. ALL PIPING SHALL MEET THE REQUIREMENTS OF THE PROVINCIAL PLUMBING CODE AND NATIONAL BUILDING CODE. PVC OR ABS PIPING IS NOT PERMITTED THROUGH A FIRE SEPARATION.

2.2.2. DOMESTIC WATER ABOVE GROUND: TYPE K OR TYPE L, HARD COPPER, 95/5 SOLDER JOINTS, WROUGHT COPPER OR BRONZE FITTINGS. OVER 75mm (3"): GALVANIZED STEEL, SCREWED JOINTS. AQUAPEX, AQUARISE AND PEX PIPING ARE ACCEPTABLE.

2.2.3. DOMESTIC WATER BELOW GRADE: TYPE K SOFT COPPER, FLARED JOINTS. OVER 50mm (2"): CAST IRON PIPE, CAST IRON FITTINGS, MECHANICAL JOINTS. PVC AND HDPE ARE ACCEPTABLE.

2.2.4. WASTE AND VENT PIPING ABOVE GROUND: TYPE DWV OR HARD DRAWN DRAINAGE TUBE, CAST BRASS FITTINGS, 50/50 SOLDER JOINTS. CAST IRON SOIL PIPE AND FITTINGS, MECHANICAL JOINTS. PVC PIPING IS ALSO ACCEPTABLE.

2.2.5. WASTE AND VENT PIPING BELOW GRADE: 150mm (6") AND SMALLER, CAST IRON PIPE, CAST IRON FITTINGS, MECHANICAL JOINTS. PVC PIPING IS ALSO ACCEPTABLE.

2.2.6. WASTE, STORM, AND VENT PIPING: PVC PIPING TO BE XFR RATED IN RETURN AIR PLENUM.

2.3. VALVES
2.3.1. VALVES ON COLD, HOT, AND/OR RECIRCULATING WATER PIPING SHALL BE AS FOLLOWS:
- 2.3.1.1. GATE VALVES 50mm (2") AND SMALLER: CRANE No. 1320C
- 2.3.1.2. GATE VALVES 65mm (2 1/2") AND LARGER: CRANE No. 465 1/2C
- 2.3.1.3. GLOBE VALVES 50mm (2") AND SMALLER: CRANE No. 1310
- 2.3.1.4. GLOBE VALVES 65mm (2 1/2") AND LARGER: CRANE No. 351
- 2.3.1.5. CHECK VALVES 50mm (2") AND SMALLER: CRANE No. 1342
- 2.3.1.6. CHECK VALVES 65mm (2 1/2") AND LARGER: CRANE No. 373
- 2.3.1.7. BALL VALVES 6mm (1/4") THRU 50mm (2"): GRINNELL FIG. 1550

2.4. GAS
2.4.1. MECHANICAL CONTRACTOR SHALL INSTALL GAS SERVICE FROM NEW GAS SERVICE TO ALL GAS-FIRED EQUIPMENT COMPLETE WITH ALUMINIZED PAINT COATING ON PIPE WHERE EXPOSED TO OUTDOORS. LINES CONCEALED SHALL BE BRAZED SEAMLESS COPPER K OR L UP TO 32mm (1¼") OR SCHEDULE 40 BLACK STEEL THREADED UP TO 50mm (2½").

2.4.2. ALL GAS PIPING FITTINGS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CSA STANDARD B-149 INSTALLATION CODE.

2.4.3. CONTRACTOR TO COORDINATE APPLICATION AND INSTALLATION OF NEW GAS SERVICE WITH GAS UTILITY AND OWNER.

3. HEATING/VENTILATION

3.1. GENERAL
3.1.1. DUCTWORK SHALL BE GALVANIZED STEEL AND LOCK FORMING QUALITY. ALL DUCTWORK SHALL BE CONSTRUCTED BRACED, CONNECTED, JOINTED, AND INSTALLED IN ACCORDANCE WITH THE LATEST ISSUE OF ASHRAE GUIDE AND DUCT CONSTRUCTION STANDARDS ISSUED BY SMACNA, NFPA 90 AND 90A, PROVINCIAL CODE, AND LOCAL REGULATIONS. INSTALL ALL SUPPLY, RETURN, AND EXHAUST DUCTS COMPLETE WITH GRILLES AND DIFFUSERS AS SHOWN ON THE DRAWINGS.

3.1.2. FIRE DAMPERS AND FIRE STOPS SHALL BE ULC LABELED. INSTALL WHERE SHOWN AND/OR REQUIRED BY AUTHORITIES HAVING JURISDICTION. PROVIDE ACCESS FOR SERVICING AND INSPECTION. FIRE DAMPERS SHALL BE TYPE 'B' WITH DAMPER BLADES FULLY CLEAR OF THE AIR STREAM, SEAL WITH DOW CORNING RTV SILICONE FOAM.

3.1.3. BALANCING DAMPERS SHALL BE INSTALLED IN ALL BRANCHES AS REQUIRED.

3.1.4. ALL EQUIPMENT SHALL BE AS SPECIFIED OR APPROVED EQUAL.

3.1.5. ALL EXPOSED DUCTWORK TO BE SPIRAL ROUND UNLESS OTHERWISE NOTED.

3.1.6. PROVIDE SHEET METAL FIRE STOPS TIGHT AROUND DUCTS PASSING THROUGH FIRE SEPARATIONS AND CEILINGS.

3.1.7. ALL DUCTWORK SHALL BE GALVANIZED STEEL: 28 GAUGE FOR UP TO 305mm (12") WIDE OR 205mm (8") DIAMETER, 24 GAUGE FOR 330mm (13") TO 760mm (30") WIDE OR 230mm (9") TO 760mm (30") DIAMETER. ALL FITTINGS TO MEET SMACNA DESIGN STANDARDS.

3.1.8. PROVIDE FLEX CONNECTIONS, 6mm (1/4") DURODYNE CONFLEX PCV COATED POLYESTER AT INLET AND OUTLETS OF ALL HVAC AND FAN UNITS.

3.1.9. CLEAN ALL EQUIPMENT AND CHANGE ALL FILTERS PRIOR TO OCCUPANCY. PROVIDE 1 SET OF SPARE FILTERS ON SITE FOR OWNER.

3.2. BALANCING
3.2.1. BALANCING OF ALL VENTILATION AND HYDRONIC SYSTEMS AS INDICATED SHALL BE DONE BY THE MECHANICAL CONTRACTOR WHEN ALL EQUIPMENT IS OPERATING UNDER FULL LOAD. THE CONTRACTOR SHALL ALLOW SUFFICIENT FUNDS TO CHANGE THE PULLEYS ON MOTORS OR FANS TO PROPERLY BALANCE THE SYSTEM AT THE LOWEST FAN RPM.

3.2.2. BALANCING CONTRACTOR SHALL BALANCE ALL AIR OUTLETS AND EQUIPMENT VOLUMES TO WITHIN 5% OF DESIGNED VALUES.

3.2.3. BALANCING CONTRACTOR SHALL SUBMIT FOR REVIEW THREE (3) COPIES OF THE REPORT CONTAINING THE FOLLOWING:
- 3.2.3.1. SUPPLY AND RETURN AIR VOLUMES, SUCTION, DISCHARGE, AIR PRESSURE, RPM, AND AMPS OF ALL SUPPLY, RETURN, AND/OR EXHAUST FANS.
- 3.2.3.2. SUPPLY, RETURN, AND/OR EXHAUST AIR VOLUMES OF ALL GRILLES AND DIFFUSERS.
- 3.2.3.3. SKETCH LAYOUT OF DUCT SYSTEMS SHOWING DETAIL OF BALANCE.
- 3.2.3.4. FLOWS OF ALL MANIFOLDS, LOOPS, PUMPS, AND AMPS OF ALL PUMP MOTORS.

4. INSULATION

4.4. GENERAL
4.4.1. ALL INSULATION AND MATERIALS ASSOCIATED WITH INSULATION SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPED CLASSIFICATION OF NOT MORE THAN 50.

4.4.2. ALL PIPING INSULATION SHALL BE FIBROUS GLASS WITH K VALUE MAXIMUM 0.3 W/m DEGREES CELSIUS AT 24 DEGREES CELSIUS WITH FACTORY APPLIED JACKET - MANSON AK PIPE INSULATION OR APPROVED EQUAL. APPLY PAINTABLE PVC JACKET ON ALL EXPOSED PIPING IN FINISHED AREAS.

4.4.3. RECOVERING JACKET ON DUCTWORK SHALL BE ULC LISTED "THERMO CANVAS" TREATED COTTON FABRIC, SUITABLE FOR PAINTING. PROVIDE RECOVERING JACKET ON ALL EXPOSED INSULATION THROUGHOUT, INCLUDING EQUIPMENT ROOM. INSULATION LOCATED IN PIPE SHAFTS AND SUSPENDED CEILING SPACES IS NOT CONSIDERED EXPOSED.

4.4.4. ENSURE INSULATION IS CONTINUOUS THROUGH INSIDE WALLS. PACK AROUND PIPES WITH FIRE-PROOF, SELF SUPPORTING INSULATION MATERIALS.

4.4.5. INSULATE DUCTWORK WITH MANSON ALLEY WRAP INSULATION OR EQUIVALENT FACED WITH FSK FOR AN EFFECTIVE VAPOUR BARRIER.

4.4.6. LINE DUCTWORK WITH MANSON ACOUSTI-LINER, 0.68 kg (1.5 lbs.) DENSITY COATED SURFACE SHALL FACE AIR STREAM. ALL DUCTWORK IN SUPPLY AND RETURN AIR PLENUMS SHALL BE INSULATED. DUCT SIZES SHOWN ARE CLEAR INSIDE.
- 4.4.6.1. INSULATION SCHEDULE:
- 4.4.6.2. HOT, COLD, AND HOT WATER RECIRC WATER LINES - 25mm (1")
- 4.4.6.3. PLUMBING VENTS WITHIN 3.0m (10'-0") OF ATTIC OR COLD ROOF OR COLD WALL COMPLETE WITH FOIL FACED VAPOUR BARRIER - 38mm (1½")
- 4.4.6.4. ROOF DRAINS, HOPPERS AND PIPING WITHIN 5m (16'-0") OF ROOF DRAIN OR COLD WALL - 38mm (1½")
- 4.4.6.5. EXHAUST DUCTS FROM CEILING MOUNTED FANS TO ROOF OR WALL DISCHARGE - EXTERNAL 38mm (1½")
- 4.4.6.6. EXHAUST DUCTS WITHIN 3.0m (10'-0") OF ATTIC OR COLD ROOF OR COLD WALL COMPLETE WITH FOIL FACED VAPOUR BARRIER - 38mm (1½")
- 4.4.6.7. SUPPLY AND RETURN AIR PLENUMS OF HVAC UNITS - INTERNAL - 25mm (1")
- 4.4.6.8. SUPPLY AIR DUCTS CONCEALED WITHIN CEILING SPACES - 38mm (1½")
- 4.4.6.9. OUTDOOR AIR INTAKES - 50mm (2")
- 4.4.6.10. EXTERIOR SUPPLY AIR DUCTS - EXTERNAL - 75mm (3") RIGID FIBREGLASS DUCT INSULATION WITH STUCCO EMBOSSED ALUMINUM JACKET
- 4.4.6.11. REFRIGERANT PIPING - ARMAFLEX AS PER MANUFACTURER'S SPECIFICATIONS AND REQUIREMENT.

6. FIRE PROTECTION

6.1. FIRE EXTINGUISHERS
6.1.1. FIRE EXTINGUISHERS: FIRE PROTECTION CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS AS PER PLAN, IN ACCORDANCE WITH NFPA #10 ON WALL HANGERS AND/OR WITHIN CABINETS AS PER PLANS.

7. CONTROLS

7.1. GENERAL
7.1.1. ALL THERMOSTATS, THERMOMETERS, AND CONTROLLERS UNLESS OTHERWISE STATED SHALL BE PROGRAMMABLE, RATED IN CELSIUS DEGREES, SHALL BE ACCURATE TO WITHIN ±1°C, AND MOUNTED BETWEEN 1400mm AND 1500mm ABOVE THE FINISHED FLOOR LEVEL.

7.1.2. ALL THERMOSTATS, THERMOMETERS, AND CONTROLLERS SHALL BE SUPPLIED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTROLS SUB CONTRACTOR.

7.1.3. REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR POWER TO MECHANICAL EQUIPMENT BY THE ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL LINE VOLTAGE WIRING. MECHANICAL/CONTROLS CONTRACTOR IS RESPONSIBLE FOR ALL LOW VOLTAGE WIRING.

PLUMBING FIXTURE SCHEDULE

TAG	MAKE / MODEL	FUNCTION	DESCRIPTION
WC-1	GERBER / GWS31818	WATER CLOSET - TANK TYPE - BARRIER FREE	ELONGATED 419mm (16-1/2") HIGH TOILET, WHITE VITREOUS CHINA, FLOOR MOUNTED, 4.8 L (1.28 US GAL) PER FLUSH, FULLY GLAZED TRAPWAY, AND INSULATED TANK. PROVIDE CENTOCO #820STSS HEAVY DUTY TOILET SEAT, WHITE SOLID PLASTIC, STAINLESS STEEL POSTS AND SELF-SUSTAINING CHECK HINGES, OPEN FRONT COVER.
U-1	GERBER / GHE27710	URINAL - HANDS FREE	VITREOUS CHINA, HIGH EFFICIENCY, ADA COMPLIANT URINAL C/W ELONGATED RIM, DUAL WALL HANGERS, AND 19mm (3/4") TOP INLET. PROVIDE SLOAN "OPTIMA PLUS" MODEL 8186 HANDS-FREE FLUSH VALVE WITH HIGH CHLORAMINE RESISTANT SYNTHETIC RUBBER DIAPHRAGM, SOLID BRASS BODY WITH CHROME FINISH, ADA COMPLIANT, BATTERY POWERED, ANGLE STOP WITH VANDAL RESISTANT STOP CAP, LOW BATTERY LED, MANUAL OVERRIDE BUTTON, 3.8 LPF (1.0 GPF)
LAV-1	GERBER / G0012834CH	LAVATORY - COUNTER MOUNTED - METERED FAUCET BARRIER FREE	VITREOUS CHINA COUNTER MOUNTED LAVATORY. PROVIDE DELTA 87T104 PUSH BUTTON METERING DECK MOUNT FAUCET, 1.9 L/MIN (0.5 USGPM), 4" CENTERSET FAUCET WITH DELTA R2900-MIX MECHANICAL MIXING VALVE, TECK #33T311 CAST BRASS 32mm (1-1/4") P-TRAP, TECK #33T290 BRASS 32mm (1-1/4") OFFSET OPEN GRID WASTE, AND RIGID/FLEX SUPPLIES WITH LOCKSHIELD STOPS AND FLEXIBLE RISERS. PROVIDE TRUEBRO #103 WHITE VINYL PIPE COVER OVER DRAIN AND SUPPLIES.
SK-1	KINDRED / QDL2031-8-3N	COUNTER MOUNTED KITCHEN SINK	DOUBLE COMPARTMENT, STAINLESS STEEL, DROP-IN SINK C/W SILK FINISHED EXPOSED SURFACES, RIM SEAL, CRUMB CUP WASTE ASSEMBLY, AND UNDERCOATING TO REDUCE CONDENSATION AND NOISE. PROVIDE DELTA #191LF FAUCET C/W SINGLE LEVER HANDLE, CERAMIC CARTRIDGE, GOOSENECK SPOUT, 1.5 GPM AERATOR, RIGID/FLEX SUPPLIES WITH LOCKSHIELD STOPS AND FLEXIBLE RISERS, AND CAST BRASS P-TRAP WITH BOTTOM CLEANOUT.
SH-1	MAXX/US36 ACRYLYX	36X36 ALCOVE SHOWER	FIBREGLASS REINFORCED ACRYLIC SHOWER STALL C/W SCRATCH AND FADE RESISTANT HIGH GLOSS FINISH, TOILETRY SHELVES, AND CENTER DRAIN. PROVIDE PIVOLOK SHOWER DOOR TO SUIT. PROVIDE POWERS HYDROGUARD MODEL PB413-M-2-0-0-0-W SHOWER VALVE C/W CAST-BRASS CONSTRUCTION, TEMPERATURE LIMIT STOP, INTEGRAL CHECKSTOPS, CHROME PLATED FINISH, IN-LINE VACUUM BREAKER, DELUXE CHROME-PLATED BRASS SHOWER HEAD, ARM, AND FLANGE.
TD-1	WATTS / DEAD LEVEL D	TRENCH DRAIN	PRE-SLOPED POLYPROPYLENE TRENCH DRAIN C/W DUCTILE IRON FRAME AND GRATE. UNIT TO BE 12" IN WIDTH. LENGTH TO SUIT PLANS.
FD-1	WATTS / FD-200-A	FLOOR DRAIN	DURA COATED CAST IRON BODY, BOTTOM OUTLET, HEAVY DUTY POLISHED NICKEL BRONZE ROUND STRAINER.
HB	WATTS/HY-430	WALL HYDRANT	HYDRANT KEY OPERATION, ANTI SYPHON, AUTOMATIC DRAINING WITH INTERGRAL VACUUM BREAKER
NFHB	WATTS/HY-420	NON FREEZE WALL HYDRANT	HYDRANT KEY OPERATION, ANTI SYPHON, AUTOMATIC DRAINING WITH INTERGRAL VACUUM BREAKER
CO	WATTS/FD-100-DD	HUB DRAIN	FLOOR CLEANOUT WITH 130mm ROUND ADJUSTABLE HEAVY DUTY NICKEL BRONZE TOP, INTERNAL SEAL PLUG, DURA COATED CAST IRON BODY AND NEOPRENE BODY SLEEVE.
CO-1	WATTS / CO-100-CR	FLOOR CLEANOUT	FLOOR CLEANOUT WITH 130mm ROUND ADJUSTABLE HEAVY DUTY NICKEL BRONZE TOP, INTERNAL SEAL PLUG, DURA COATED CAST IRON BODY AND NEOPRENE BODY SLEEVE.

DOMESTIC WATER HEATER SCHEDULE

TAG	MAKE	MODEL	LOCATION	HEATING CAPACITY (MBH)	STORAGE CAPACITY (GAL)	ELECTRICAL (V/Ph/Hz)	NOTES
WH-1	BRADFORD WHITE	RG2PDV40S6N	MECH ROOM	40	40	115/1/60	1

NOTES:
1. PROVIDE T&P RELIEF VALVE, DRAIN LINE, 43 GALLONS/HR RECOVERY @ 90°F TEMP RISE, POWER VENT, DIRECT COMBUSTION AIR INTAKE, AND PROTECTIVE ANODE ROD. SEE DETAIL 3/M4.1.

FIRE EXTINGUISHER SCHEDULE

TAG	LOCATION	TYPE	RATING	CABINET	NOTES
FEX-1	GENERAL AREAS	ABC	5 LB, 3-A : 40-B:C	NO	1

NOTES:
1. MECHANICAL CONTRACTOR TO PROVIDE FIRE EXTINGUISHERS AS PER PLANS AND NFPA #10.

FURNACE SCHEDULE

TAG	MAKE	MODEL	LOCATION	HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	COOLING (TONS)	E.S.P. (in w.c.)	MOTOR (HP)	SUPPLY AIR (CFM)	MCA (Amps)	MOP (Amps)	ELECTRICAL (V/Ph/Hz)	NOTES
F-1	DAIKIN	DC96VC1005CN	MECH ROOM	100	96.1	3	0.5	0.5	1200	13.9	20	120/1/60	1,2

NOTES:
1. C/W AIR FILTER AND RACK, DIRECT DRIVE ECM BLOWER AND MOTOR, UPFLOW EVAPORATOR COIL WITH FACTORY TXV, AND 7 DAY/24HR PROGRAMMABLE NIGHT SET BACK THERMOSTAT WITH LOCKABLE PLASTIC COVER. FURNACE FAN TO RUN CONTINUOUSLY DURING OCCUPIED HOURS.
2. SEE DETAIL 3/M-3.

CONDENSING UNIT SCHEDULE

TAG	MAKE	MODEL	LOCATION	SEER	EER	REFRIGERANT	COOLING (TONS)	RLA (Amps)	MOP (Amps)	ELECTRICAL (V/Ph/Hz)	NOTES
CU-1	DAIKIN	DX5SEA3610	OUTDOOR	15.2	12.2	R-410A	3	14.1	30	208/230/1/60	1

NOTES:
1. CONNECT TO INDOOR EVAPORATOR COIL CAPE4860C4

HRV SCHEDULE

TAG	MAKE	MODEL	LOCATION	SUPPLY AIR FLOW (CFM)	EXHAUST AIR FLOW (CFM)	ESP (in w.c.)	WINTER SENSIBLE EFFECTIVENESS	ELECTRICAL (V/Ph/Hz)	WEIGHT (LBS)	CONTROL	NOTES
HRV-1	NU-AIR	NU500HRV	MECH ROOM	425	425	0.4	65%	120/1/60	80	WALL CONTROLLER	1

NOTES:
1. C/W PRE-PAINTED GALVANIZED STEEL CABINET WITH 1" INTERNAL INSULATION, CONDENSATE DRAIN CONNECTIONS, ALUMINUM COUNTER-FLOW RECOVERY CORE, (2) PSC MOTORS EACH DRIVING (1) CENTRIFUGAL BLOWER, MERV 6 FILTERS IN EACH AIR STREAM, EXHAUST AIR DEFROST, AND DIGITAL WALL MOUNTED CONTROL.

FAN SCHEDULE

TAG	MAKE	MODEL	LOCATION	TYPE	FUNCTION	AIR CAPACITY (CFM)	E.S.P. (in w.c.)	MOTOR (HP)	DRIVE	WEIGHT (LBS)	ELECTRICAL (V/Ph/Hz)	NOTES
EXHF-1	COOK	XMWH	SHOP	WALL PROP	EXHAUST	5200	0.75	1	BELT	341	115/1/60	1,2
EXHF-2	COOK	SQN-B	STORAGE	INLINE	EXHAUST	600	.250	$\frac{1}{6}$	BELT	96	115/1/60	-

NOTES:
1. C/W MOTORIZED SHUTER - 115V, WALL COLAR AND MOTOR SIDE WIRE GUARD
2. INTERLOCKED FAI-1 TO OPERATE VIA SIGNAL FROM GAS MONITORING SYSTEM, WITH AN OVERRIDE SWITCH.

UNIT HEATER SCHEDULE

TAG	MAKE	MODEL	LOCATION	HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	AIR FLOW (CFM)	MOTOR (HP)	ELECTRICAL (V/Ph/Hz)	WEIGHT (KG)	NOTES
UH-1/2/3/4	REZNOR	UDZ-125	SHOP	125	99	1537	1/4	115/1/60	107	1
UH-5	REZNOR	UDZ--200	SHOP	200	166	2562	1/4	115/1/60	194	1

NOTES:
1. OPERATE FROM HEAT ONLY PROGRAMMABLE THERMOSTAT.

EXPANSTION TANK SCHEDULE

TAG	FUNCTION	LOCATION	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	SIZE		NOTES
					LENGTH (IN)	DIAMETER (IN)	
ET-1	DOMESTIC WATER	MECH ROOM	3.5	2.3	14	10	1

NOTES:
1. TANK COMPLETE WITH HEAVY DUTY BUTYL BLADDER, FACTORY PRE-CHARGED & FIELD ADJUSTABLE, SUITABLE FOR USE IN DOMESTIC WATER SYSTEM.

GAS DETECTOR SCHEDULE

TAG	MAKE	MODEL	FUNCTION	SENSOR AREA (FT2)	SENSOR RADIUS (FT)	MOUNTING HEIGHT (FT)	SENSOR RANGE	LOW ALARM SETPOINT	HIGH ALARM SETPOINT	ELECTRICAL (V/Ph/Hz)	NOTES
CO/NO2	CET	FCS-8-M	GAS DETECTION	7,000	40	3.0-4.0	0-200 PPM (CO) 0-10 PPM (NO2)	25 PPM (CO) 1.0 PPM (NO2)	100 PPM (CO) 3.0 PPM (NO2)	120/1/60	1,2

NOTES:
1. SENSOR SYSTEM TO BE C/W LOW/HIHG RELAYS, LIGHTS & AUDIBLE ALARM.
2. DETECTRO C/W DUAL SENSORS CO & NO2 COMBINED AND OPTION TO ATTACH PROPANE AS REMOTE SENSOR WITH THE SAME ADDRESS LINE. SUPPLY DIGITAL SENSORS WITH FCS SYSTEM VIA RS485 DAISY CHAIN, DETECTOR LOW VOLTAGE SUPPLY THROUGH FCS CONTROLLER

DAMPER SCHEDULE

TAG	MAKE	MODEL	BLADE TYPE	WIDTH (IN)	HEIGHT (IN)	ACTUATOR	NOTES
FAI-1	ALUMAVENT	3965	PARALLEL	36	36	AFB24-S	1,2

NOTES:
1. C/W AUXILIARY SWITCH
2. INSULATED DAMPER

AIR TERMINAL SCHEDULE

TAG	MAKE	MODEL	SIZE	FUNCTION	MOUNTING	DESCRIPTION	NOTES
S-1	E.H. PRICE	SPD-3-1-B12	24"x24"	SUPPLY	CEILING	SQUARE PLAQUE DIFFUSER	1
S-2	E.H. PRICE	520	12"X12"	SUPPLY	DUCT MOUNTED	LOUVERED SUPPLY GRILLE	
R-1	E.H. PRICE	24x12/80/F/A/B12	24"x12"	RETURN	CEILING/WALL	EGGCRATE RETURN GRILLE	2
E-1	E.H. PRICE	8x8/80/F/A/B12	8"x8"	EXHAUST	CEILING/WALL	EGGCRATE EXHAUST GRILLE	2
T-1	E.H. PRICE	530	24"X12"	EXHAUST	DUCT MOUNTED	LOUVERED TRANSFER GRILLE	

NOTES:
1. THROAT SIZE TO MATCH DUCT SIZE.
2. COORDINATE COLOR WITH ARCHITECT

SEQUENCE OF OPERATION

UH-1/2/3/4/5:	CONTROLLED BY HEAT ONLY PROGRAMMABLE THERMOSTAT.
HRV-1:	RUN CONTINUOUSLY WHILE OCCUPIED.
EXHF-1:	INTERLOCKED WITH FAI-1 & GAS MONITORING SYSTEM, WITH AN OVERRIDE SWITCH.
FAI-1:	INTERLOCKED WITH EXHF-1 & GAS MONITORING SYSTEM.
EXHF-2:	CONTROLLED BY SWITCH.

THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND OTHER DATA FROM THE PROJECT AND REPORT ANY DISCREPANCIES TO P.S. ENGINEERING BEFORE PROCEEDING WITH ANY WORK. ALL WORK TO COMPLY WITH ALL APPLICABLE CODES, STANDARDS AND REGULATIONS.

DWG REVISIONS:	NO: 1	DATE: 09/26/2024	ENGINEER: O.O.	DESCRIPTION: ISSUED FOR CONSTRUCTION

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Mechanical Consulting Engineers
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Contact: Odhner
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PROJECT NO. 24S-007

PROFESSIONAL SEAL:

PROFESSIONAL ENGINEER
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MEMBER 13804
24/09/26
YR. MN. DAY
SASKATCHEWAN

Association of Professional Engineers & Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
PS ENGINEERING (SASKATOON) INC.
NUMBER 79195
Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
MECH	13804	

CLIENT:
OUTLOOK

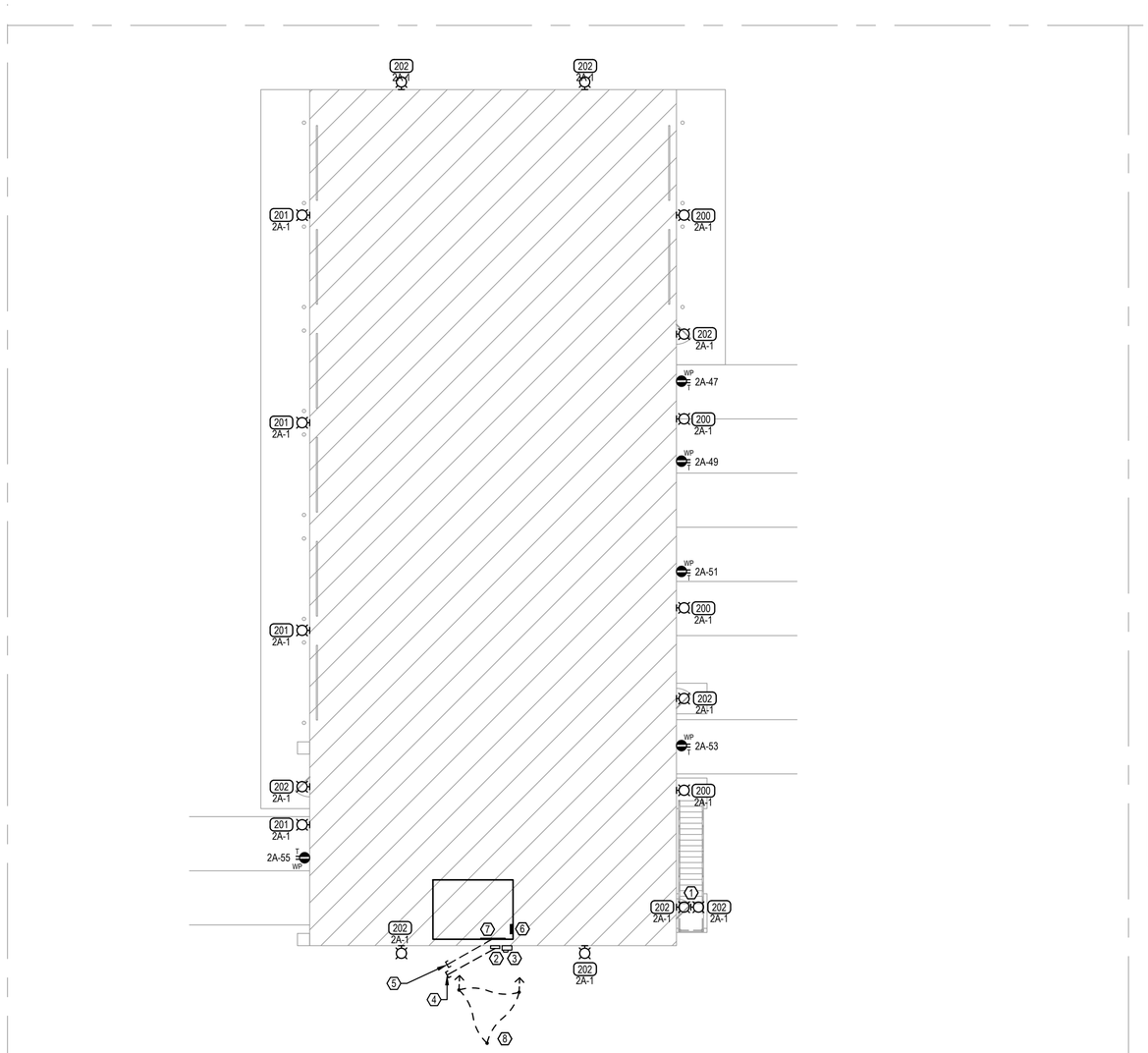
PROJECT:
OUTLOOK - RUDY FIRE HALL

OUTLOOK, SK

DRAWING TITLE:
MECHANICAL SCHEDULE & SPECIFICATIONS

PROJECT :24S-007
DATE : 07/09/2024
SCALE : AS NOTED
DRAWN : I.R.
CHECKED :O.O.

DRAWING NUMBER:
M-4
REV:1



1 SITE PLAN
E-1
SCALE: 1:150
0 3750 7500

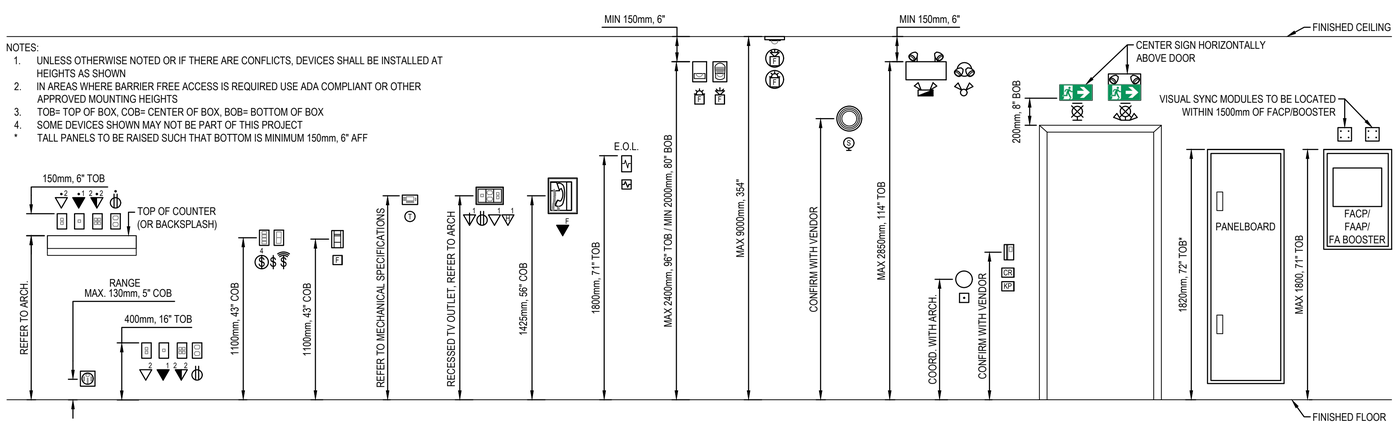
GENERAL NOTES

1. ELECTRICAL CONTRACTOR TO CONTACT EACH UTILITY'S FIELD PERSONNEL, MEET ON SITE AND CONFIRM SITE ENTRY POINTS AS WELL AS TO COORDINATE ANY SPECIAL REQUIREMENTS PRIOR TO TRENCHING. CONFIRM REQUIREMENT AND PLACEMENT OF PULL PITS. CONFIRM PLACEMENT OF PEDESTALS AND/OR TRANSFORMERS.
2. ENSURE PROPER CLEARANCES ARE MAINTAINED FROM DEEP SERVICES, HYDRANTS, & VALVES - 3m (10') HORIZONTAL, OR GAS LINES 1.0m (5') HORIZONTAL. CONFIRM CLEARANCES INDICATED IN THIS NOTE WITH THE LOCAL UTILITY'S OR AUTHORITY'S REQUIREMENT.
3. PULL PITS OR ABOVE GROUND PEDESTALS ARE TO BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR WHERE SHOWN. COORDINATE REQUIREMENTS WITH UTILITY AND INSTALLATION DETAILS WITH THE GENERAL CONTRACTOR.
4. ALL SITE LIGHTING TO BE #10 WIRING UNLESS OTHERWISE SHOWN ON THE DRAWING OR, IF REQUIRED, INCREASE SIZE TO CEC VOLTAGE DROP REQUIREMENTS.
5. VEHICLE RECEPTACLE WIRING FOR VOLTAGE DROP AS FOLLOWS:
   USE #12 WIRING TO 28m (92') MAX., #10 WIRING TO 45m (147') MAX., #8 WIRING TO 70m (230') MAX.

KEYNOTES

1	ONE FIXTURE MOUNTED AT 8' A.F.F. OF MAIN FLOOR. ONE FIXTURE MOUNTED ABOVE SECOND FLOOR LANDING AT 19' A.F.F. OF MAIN FLOOR
2	WEATHERPROOF CSTE TO UTILITY REQUIREMENTS
3	WEATHERPROOF 7 JAW UTILITY METER SOCKET
4	CONTRACTOR TO SUPPLY AND INSTALL ONE 4" PRVC CONDUIT STUBBED OUT FOR INCOMING SERVICE CONDUCTORS BY UTILITY AT 900mm (3') BELOW GRADE.
5	TELEPHONE & CATV DUCTS STUBBED OUT FOR COMMUNICATIONS SERVICES. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL ONE 100mm (4") RPVC DUCT FOR TEL & ONE 100mm (4") RPVC DUCT FOR CATV AT 900mm (3') BELOW GRADE.
6	APPROXIMATE LOCATION OF ELECTRICAL MAIN DISTRIBUTION EQUIPMENT. REFER TO PLAN DRAWINGS FOR EXACT LOCATION.
7	APPROXIMATE LOCATION OF MAIN TTB/TVTB BACKBOARD. REFER TO PLAN DRAWINGS FOR EXACT LOCATION.
8	BUILDING GROUND GRID BURIED OUTSIDE, ADJACENT TO ELECTRICAL ROOM TO INCLUDE THREE 19mm (3/4") X 3m (10') COPPER RODS DRIVEN INTO THE EARTH SPACED A MINIMUM OF 3m (10') BETWEEN EACH ROD, WITH BARE #2/0 COPPER CONDUCTORS BOLTED TO EACH ROD AS SHOWN. PROVIDE TWO INCOMING TAILS TO BE TERMINATED ON THE MAIN GROUND BAR LOCATED IN THE MAIN DISTRIBUTION PANEL GROUND BUS. INSTALLATION PHOTOGRAPHS AND EARTH TO GROUND RESISTANCE TEST TO BE COMPLETED AND SUBMITTED TO ENGINEER FOR REVIEW PRIOR TO BACKFILL. REFER TO SPECIFICATIONS FOR FURTHER DETAILS.

NOTES:
1. UNLESS OTHERWISE NOTED OR IF THERE ARE CONFLICTS, DEVICES SHALL BE INSTALLED AT HEIGHTS AS SHOWN
2. IN AREAS WHERE BARRIER FREE ACCESS IS REQUIRED USE ADA COMPLIANT OR OTHER APPROVED MOUNTING HEIGHTS
3. TOB= TOP OF BOX, COB= CENTER OF BOX, BOB= BOTTOM OF BOX
4. SOME DEVICES SHOWN MAY NOT BE PART OF THIS PROJECT
* TALL PANELS TO BE RAISED SUCH THAT BOTTOM IS MINIMUM 150mm, 6" AFF



TYPICAL MOUNTING HEIGHTS

SCALE: N.T.S.

ELECTRICAL SYMBOL LEGEND

NOTE: SOME SYMBOL REFERENCES MAY NOT BE A PART OF THIS PROJECT

LIGHTING

	LINE VOLTAGE SWITCH		RECESSED MOUNTED LIGHT FIXTURE
	WALL MOUNT OCCUPANCY SENSOR SWITCH		SURFACE MOUNTED LIGHT FIXTURE
	CEILING MOUNT OCCUPANCY SENSOR		SUSPENDED LIGHT FIXTURE
#	LOW VOLTAGE SWITCH - # INDICATES BUTTONS		STRIP LIGHT
	CEILING MOUNT EXIT SIGN, LINE DENOTES FACE		WALL MOUNTED LINEAR LIGHT FIXTURE
	WALL MOUNTED EXIT SIGN		WALL MOUNTED LIGHT FIXTURE
	EXIT SIGN C/W SELF POWERED EM LIGHTING		SURFACE MOUNTED LIGHT FIXTURE
	REMOTE EMERGENCY HEADS		RECESSED DOWNLIGHT
	BATTERY PACK C/W EMERGENCY HEADS		PENDANT MOUNTED LIGHT FIXTURE
	EMERGENCY LIGHT FIXTURE		TRACK LIGHT, NO. OF HEADS AS PER PLANS
100 CCT a +2700	FIXTURE TYPE TAG CIRCUIT CONTROL ZONE / SWITCH I.D. MOUNTING HEIGHT		UNDERCABINET / COVE LIGHT FIXTURE
			ILLUMINATED BOLLARD
			POLE MOUNTED EXTERIOR LIGHT FIXTURE

LIGHTING SYMBOL ANNOTATIONS:

PEC	PHOTOELECTRIC CELL	D	DIMMER
TC	TIMECLOCK	DT	DUAL TECHNOLOGY
NL	NIGHTLIGHT (UN-SWITCHED)	VAC	VACANCY SENSOR (MANUAL ON, AUTO OFF)
3	3-WAY	EM	EMERGENCY LIGHT FIXTURE
LV	LOW VOLTAGE	EM#	EMERGENCY BATTERY UNIT I.D.

POWER

	DUPLEX RECEPTACLE		SPECIAL RECEPTACLE
	QUAD RECEPTACLE		JUNCTION BOX
	GFI RECEPTACLE		PAC POLE
	SPLIT FED RECEPTACLE		MOTOR
	HALF SWITCHED RECEPTACLE		DISCONNECT SWITCH
	ISOLATED GROUND RECEPTACLE	MS VFD	MAGNETIC STARTER / VFD
	PEDESTAL MOUNTED RECEPTACLE	SPD	SURGE PROTECTION DEVICE

POWER SYMBOL ANNOTATIONS:

T	T-SLOT (20A)	TR	TAMPER RESISTANT
WP	WEATHERPROOF	U	USB CHARGER

DISTRIBUTION

	SURFACE MOUNTED PANELBOARD		LOW TENSION PANEL
	RECESSED MOUNTED PANELBOARD		UTILITY METER STACK
	TELEPHONE/TELEVISION BACKBOARD		UTILITY METER
	TRANSFORMER		SAFETY DISCONNECT

DISTRIBUTION SYMBOL ANNOTATIONS:

MDP	MAIN DISTRIBUTION PANEL	LVRC	LOW VOLTAGE RELAY PANEL
CDP	CENTRAL DISTRIBUTION PANEL	TBB	TELEPHONE / TELEVISION BACKBOARD
MCC	MOTOR CONTROL CENTER	TX	TRANSFORMER

LOW TENSION

#	DATA NETWORK JACK	WAP	WIRELESS ACCESS POINT PROVIDE DATA DROP IN CLG SPACE
#	TELEPHONE JACK		
#	COMBINATION TEL/DATA JACK		PUSHBUTTON
#	TELEVISION COAX OUTLET		UP/DOWN/STOP BUTTON
#	HDMI OUTLET		CEILING MOUNTED SPEAKER
B C	DOORBELL BUZZER / DOORBELL CHIME		WALL MOUNTED SPEAKER
T	THERMOSTAT	CO CO_2	CO/NO$_2$ SENSORS

LOW TENSION SYMBOL ANNOTATIONS:
\# NUMBER INDICATES QUANTITY OF CABLES / DROPS FOR EACH LOCATION

FIRE ALARM

F	HORN	FT	HEAT DETECTOR - FIXED TEMPERATURE
F #	HORN STROBE		HEAT DETECTOR - RATE OF RISE
F #	STROBE		SMOKE DETECTOR
F	MANUAL STATION	A	SMOKE ALARM (120V)
P	SPEAKER	D	DUCT SMOKE DETECTOR
#	SPEAKER STROBE		END OF LINE RESISTOR
	ELECTROMAGNETIC DOOR HOLD OPEN	FM	FIRE ALARM MODULE
	FIRE ALARM PANEL	F	FIRE PHONE

FIRE ALARM SYMBOL ANNOTATIONS:

#	CANDELA RATING FOR STROBE	MM	MONITORING MODULE
FACP	FIRE ALARM CONTROL PANEL	CM	CONTROL MODULE
FAAP	FIRE ALARM ANNUNCIATOR PANEL	FS	FLOW SWITCH
IM	ISOLATOR MODULE	TS	TAMPER SWITCH

SECURITY

	WALL MOUNTED MOTION SENSOR	SD	SECURITY DEVICE
	CEILING MOUNTED MOTION SENSOR	C	SECURITY CAMERA (CAT6 OUTLET)

SECURITY SYMBOL ANNOTATIONS:

CR	CARD READER	KP	KEY PAD
ES	ELECTRIC STRIKE	GB	GLASS BREAK SENSOR
DC	DOOR CONTACT / DOOR POSITION SWITCH	ML	MAGNETIC LOCK
X	REQUEST TO EXIT	EC	ELECTRONIC CLOSER

ANNOTATIONS

	UNDERGROUND / UNDERSLAB CONDUIT		DOT ABOVE ANY SYMBOL INDICATES ABOVE COUNTER MOUNTING HEIGHT
	OVERHEAD OR SURFACE CONDUIT		
	CONDUIT STUB		ANY SYMBOL WITHIN CIRCLE INDICATES CEILING MOUNT DEVICE
1	KEY NOTE REFERENCE		
1/E1	DRAWING REFERENCE		ANY SYMBOL WITHIN SQUARE INDICATES FLOOR MOUNT DEVICE

ENGLOBE

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PROJECT#: 024 05 783

CONSULTANT TEAM:

CODE COMPLIANCE
THIS SET OF DRAWINGS AND THE DESIGNS CONTAINED WITHIN COMPLY WITH THE FOLLOWING CODES:
BUILDING CODE: NBC 2020
ELECTRICAL CODE: CEC 2021
ENERGY CODE: NECB 2020

LEGAL DESCRIPTION
LOT: G & K BLOCK: PARCEL F
PLAN: 45-S-02149
OUTLOOK, SASKATCHEWAN

CLIENT:

STAMP:
PROFESSIONAL ENGINEER
J.G. FAIRHEAD
MEMBER 13427
24 YR. 09 MN. 30 DAY
SASKATCHEWAN

Association of Professional Engineers, and Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
ENGLOBE CORP.
NUMBER C1158
Permission to Consult held By:
Discipline: Electrical | Sask. Reg. No.: 13427 | Signature

REVISIONS:

#	DESCRIPTION	YEAR.MN.DY
0	ISSUED FOR CONSTRUCTION	2024.09.30

PROJECT NAME:
OUTLOOK -RUDY FIRE HALL
LOCATION: OUTLOOK, SASKATCHEWAN

DRAWING NAME:
SITE PLAN

PROJECT#: 024 05 783 | DRAWN: MC
DESIGNED: RH | CHECKED: JF

DRAWING NUMBER:
E-1

PLOT DATE: September 30, 2024
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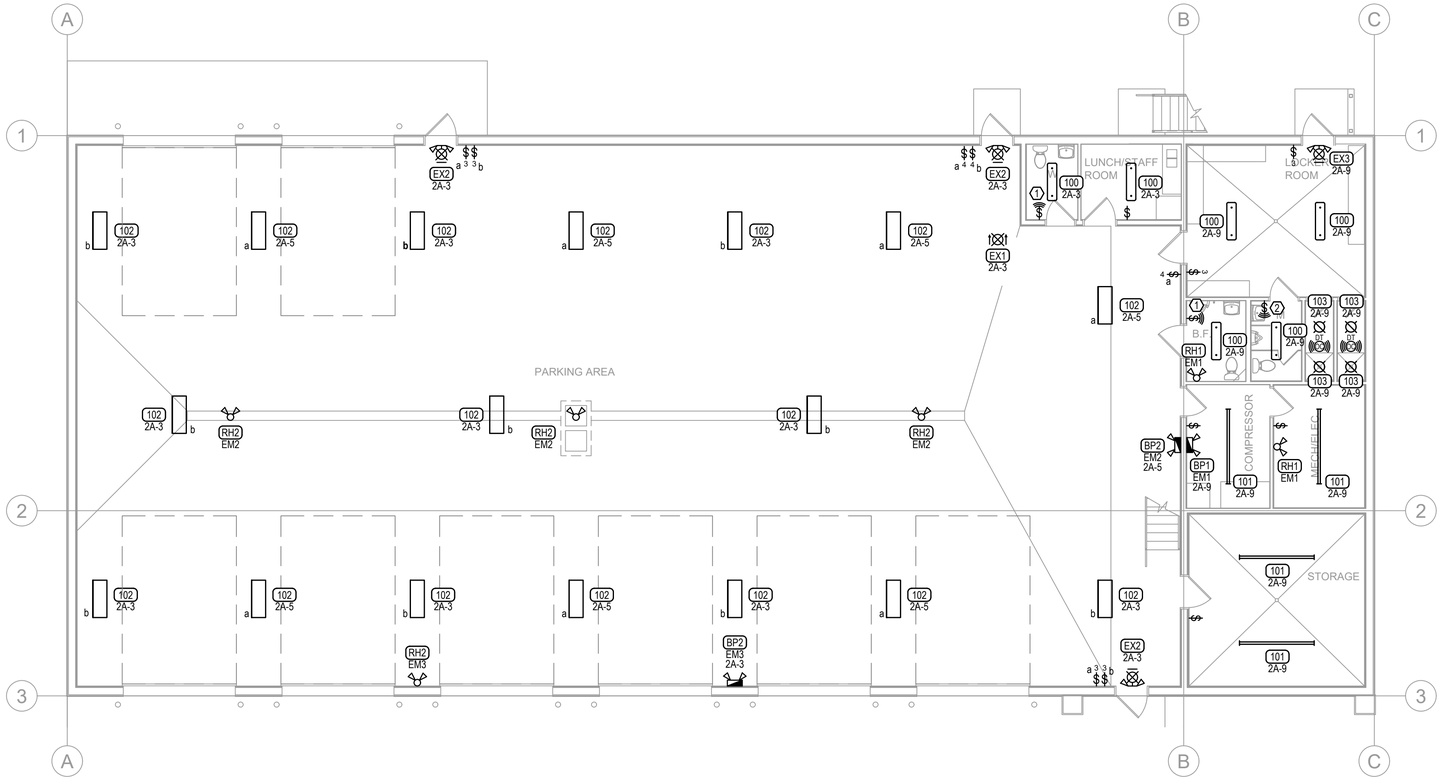

1 E-2 **MAIN FLOOR LIGHTING PLAN**

SCALE: 1:100

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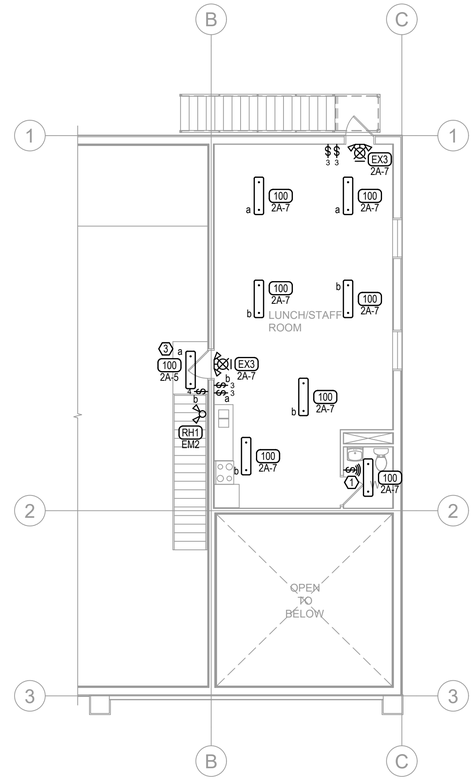

1 E-2 **MEZZANINE LIGHTING PLAN**

SCALE: 1:100

0 1250 2500 5000

KEYNOTES

1	MANUAL ON VACANCY OFF DUAL RELAY LIGHTING / FAN CONTROL LINE VOLTAGE SWITCH. FAN TO REMAIN ON FOR SET TIME AFTER LIGHTING TURNS OFF. CONFIRM EXACT DELAY TIME WITH OWNER.
2	MANUAL ON VACANCY OFF DUAL RELAY, DUAL TECHNOLOGY LIGHTING / FAN CONTROL LINE VOLTAGE SWITCH. FAN TO REMAIN ON FOR SET TIME AFTER LIGHTING TURNS OFF. CONFIRM EXACT DELAY TIME WITH OWNER.
3	MOUNTED TO UNDERSIDE OF LANDING

ENGLOBE

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PROJECT#: 024 05 783

CONSULTANT TEAM:

CODE COMPLIANCE

THIS SET OF DRAWINGS AND THE DESIGNS CONTAINED WITHIN COMPLY WITH THE FOLLOWING CODES:
BUILDING CODE: NBC 2020
ELECTRICAL CODE: CEC 2021
ENERGY CODE: NECB 2020

LEGAL DESCRIPTION

LOT: G & K BLOCK: PARCEL F
PLAN: 45-S-02149

OUTLOOK, SASKATCHEWAN

CLIENT:

STAMP:

PROFESSIONAL ENGINEER
J.G. FAIRHEAD
MEMBER 13427
24 09 30
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Discipline	Sask. Reg. No.	Signature
Electrical	13427	

REVISIONS:

#	DESCRIPTION	YEAR.MN.DY
0	ISSUED FOR CONSTRUCTION	2024.09.30

PROJECT NAME:

OUTLOOK -RUDY FIRE HALL

LOCATION: OUTLOOK, SASKATCHEWAN

DRAWING NAME:

LIGHTING FLOOR PLANS

PROJECT#: 024 05 783	DRAWN: MC
DESIGNED: RH	CHECKED: JF

DRAWING NUMBER:

E-2

PLOT DATE: September 30, 2024
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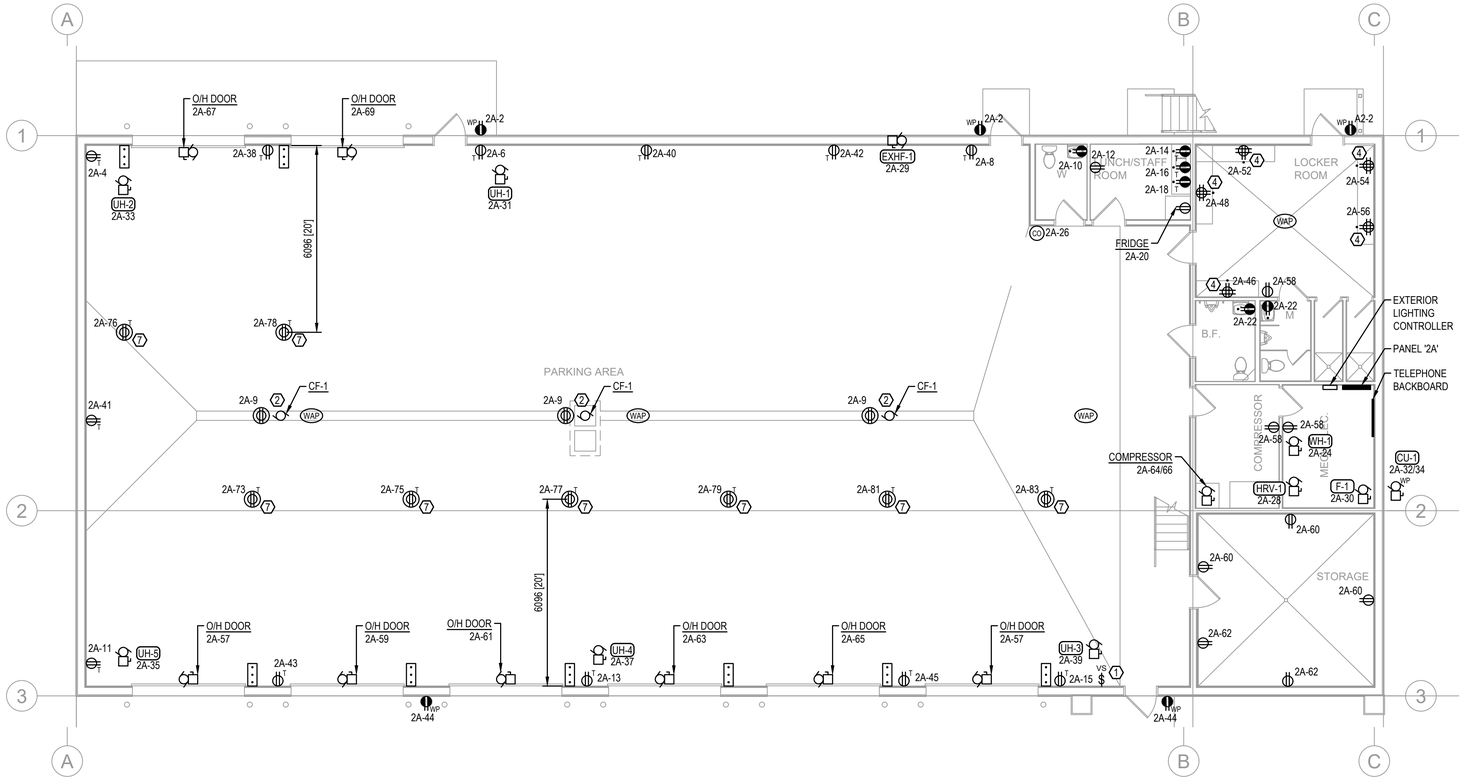

1 E-3 **MAIN FLOOR POWER & AUXILIARY PLAN**

SCALE: 1:100

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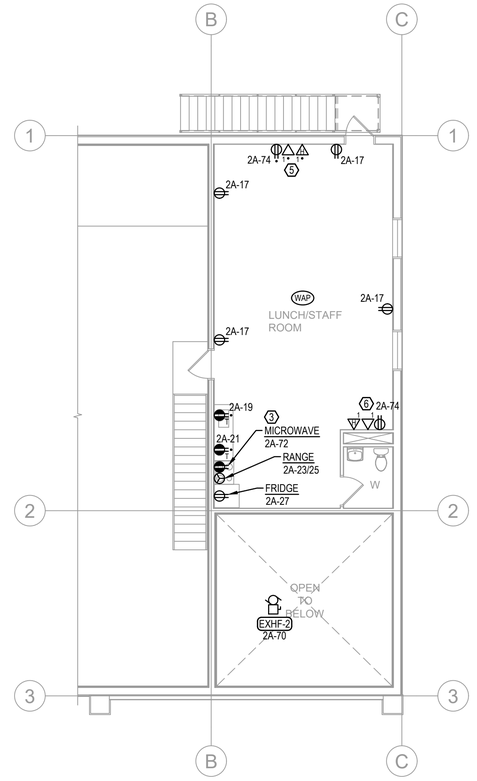

1 E-3 **MEZZANINE POWER & AUXILIARY PLAN**

SCALE: 1:100

0 1250 2500 5000

GENERAL NOTES

1. CIRCUITS NOTED ARE FOR GROUPING PURPOSES ONLY. CONTRACTOR TO RED LINE ANY CHANGES TO CIRCUIT NUMBERS.
2. WIRELESS ACCESS POINT AND AUDIO VISUAL DATA CABLES TO BE INSTALLED BACK TO PATCH PANEL AT TELEPHONE BACK BOARD IN MAIN FLOOR MECH / ELEC ROOM.

KEYNOTES

1	VARIABLE SPEED SWITCH CONTROL FOR CEILING FANS
2	ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL CEILING FAN SIMILAR TO CANARM CP56FR C/W 1 FRMC5 SPEED CONTROL FOR THE 3 FANS.
3	RECEPTACLE FOR MICROWAVE / HOOD FAN COMBINATION. CONFIRM EXACT LOCATION ON SITE PRIOR TO ROUGH IN.
4	RECEPTACLE MOUNTED 4" ABOVE TOP OF LOCKER TO BOTTOM OF ROUGH IN BOX. CONFIRM EXACT HEIGHT ON SITE PRIOR TO ROUGH IN.
5	WALL MOUNTED TV LOCATION. REFER TO ROUGH IN DETAIL ON DRAWING E-4. CONFIRM EXACT HEIGHT FOR ROUGH IN WITH OWNER.
6	INSTALL 1 1/14" CONDUIT FROM WALL OUTLET HDMI LOCATION TO BEHIND TV HDMI OUTLET LOCATION.
7	CEILING MOUNTED 20 AMP RECEPTACLE FOR OWNER SUPPLIED CORD REEELS

ENGLOBE

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PROJECT#: 024 05 783

CONSULTANT TEAM:

CODE COMPLIANCE
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DISCLAIMER:

REVISIONS:

#	DESCRIPTION	YEAR.MN.DY
0	ISSUED FOR CONSTRUCTION	2024.09.30

PROJECT NAME:
OUTLOOK -RUDY FIRE HALL
LOCATION: OUTLOOK, SASKATCHEWAN

DRAWING NAME:
POWER & AUXILIARY PLANS

PROJECT#: 024 05 783	DRAWN: MC
DESIGNED: RH	CHECKED: JF

DRAWING NUMBER:
E-3

PLOT DATE: September 30, 2024
FILENAME: Z:\2024\024050000\024 05 783_Outlook Rudy Fire Hall\3 ELECTRICAL\1 DRAWINGS\024 05 783 - E-3 Power & Auxiliary Plans.dwg

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER	DESCRIPTION	LUMENS/LAMPS	FIXTURE WATTS	COMMENTS
100	LITHONIA LIGHTING	STL4 48L EZ1 LP840	5,089LM LED	45.16W	4' WRAP SURFACE MOUNTED
101	LITHONIA LIGHTING	TZL1N L96 10000LM FST MVOLT 40K 80 CRI	8,971LM LED	68.24W	8' STRIP LIGHT SURFACE / SUSPENDED AS REQUIRED.
102	LITHONIA LIGHTING	IBE L48 22000LM SD080 MD XXXX 40K 80CRI	22,713LM LED	165.73W	HIGHBAY FIXTURE CHAIN HUNG TO 18' A.F.F.
103	JUNO LIGHTING	JSF 7IN 120V	1,000LM LED	13W	SURFACE MOUNTED 7" WET RATED DOWNLIGHT
200	LITHONIA LIGHTING	TWR2 LED ALO-MED 40K UVOLT	12,449LM LED	82.1W	EXTERIOR WALL PACK FIXTURE MOUNTED AT 19' A.F.F. COORDINATE EXACT HEIGHT WITH STRUCTURE.
201	LITHONIA LIGHTING	TWR1 LED ALO-HIGH 40K UVOLT	5,347LM LED	36W	EXTERIOR WALL PACK FIXTURE MOUNTED AT 19' A.F.F. COORDINATE EXACT HEIGHT WITH STRUCTURE.
202	LITHONIA LIGHTING	WPX1 LED P1 40K MVOLT	1,568LM LED	11.47W	EXTERIOR WALL PACK FIXTURE MOUNTED AT 8' A.F.F.
EX1	STANPRO	RMXL 2 WH IB	LED	2W	ALUMINUM PICTOGRAM SELF-POWERED EXIT SIGN
EX2	STANPRO	PRMXL1036-2S7LA	LED	2-7 W	36W COMBINATION ALUMINUM PICTOGRAM EXIT SIGN C/W DUAL EMERGENCY HEADS
EX3	STANPRO	PRMXL1036-2S4LR	LED	2-4 W	36W COMBINATION ALUMINUM PICTOGRAM EXIT SIGN C/W DUAL EMERGENCY HEADS
BP1	STANPRO	SLB 12100 - 2S 4LR WH	LED	2-4 W	100W BATTERY PACK C/W DUAL EMERGENCY HEADS.
BP2	STANPRO	SLB 12100 - 2S 7LA WH	LED	2-7 W	100W BATTERY PACK C/W DUAL EMERGENCY HEADS.
RH1	STANPRO	S 2 06-24 4WLR WH	LED	2-4 W	REMOTE DUAL EMERGENCY HEADS
RH2	STANPRO	S 2 06-24 7WLA WH	LED	2-7 W	REMOTE DUAL EMERGENCY HEADS

NOTES:
-LIGHT FIXTURES AND LAMPS TO HAVE A COLOUR TEMPERATURE OF 4000K
-EQUIVALENT PRODUCTS ARE PERMITTED UPON APPROVAL OF ENGINEER
-FIXTURE DRIVERS TO BE COMPATIBLE WITH LIGHTING CONTROL INCLUDING DIMMERS
-ALL EMERGENCY LIGHTING SOURCE BATTERIES TO BE SIZED FOR 30 MINUTE OPERATION. FEED FROM THE SAME CIRCUIT AS THE LOCAL LIGHTING
-ALL REMOTE FIXTURES TO BE FED FROM BATTERY SOURCES THAT ARE ON THE SAME CIRCUIT AS THE LOCAL LIGHTING
-ALL EMERGENCY FIXTURE HEADS TO MATCH THROUGHOUT ENTIRE PROJECT

MOTOR SCHEDULE

ITEM	DESCRIPTION	LOCATION	LOAD	VOLTAGE	PHASE	BREAKER	CONDUIT & WIRE SIZE	CONTROL	COMMENTS
WH-1	DOMESTIC WATER HEATER (GAS)	MECH. ROOM	3.1A	120V	1Ø	15A-1P	3/4"C-2#12 XL	-	PROVIDE DISCONNECT
F-1	FURNACE	MECH. ROOM	0.5HP	120V	1Ø	20A-1P	3/4"C-2#12 XL	-	PROVIDE DISCONNECT
CU-1	CONDENSING UNIT	EXTERIOR	14.1A	240V	1Ø	30A-2P	3/4"C-2#10 XL	-	PROVIDE WP DISCONNECT, INTERCONNECT AS PER MANUFACTURER'S SPECIFICATIONS
HRV-1	HEAT RECOVERY VENTILATOR	MECH. ROOM	FRAC.	120V	1Ø	15A-1P	3/4"C-2#12 XL	WALL CONTROLLER	PROVIDE DISCONNECT
EXHF-1	EXHAUST FAN	SHOP	1 HP	120V	1Ø	40A-1P	3/4"C-2#8 XL	MANUAL STARTER	PROVIDE WEATHERPROOF DISCONNECT.
EXHF-2	EXHAUST FAN	STORAGE	1/16 HP	120V	1Ø	15A-1P	3/4"C-2#12 XL	MANUAL STARTER	PROVIDE DISCONNECT
UH-1	UNIT HEATER (GAS)	SHOP	1/4 HP	120V	1Ø	15A-1P	3/4"C-2#12 XL	LINE VOLTAGE T-STAT	PROVIDE DISCONNECT
UH-2	UNIT HEATER (GAS)	SHOP	1/4 HP	120V	1Ø	15A-1P	3/4"C-2#12 XL	LINE VOLTAGE T-STAT	PROVIDE DISCONNECT
UH-3	UNIT HEATER (GAS)	SHOP	1/4 HP	120V	1Ø	15A-1P	3/4"C-2#12 XL	LINE VOLTAGE T-STAT	PROVIDE DISCONNECT
UH-4	UNIT HEATER (GAS)	SHOP	1/4 HP	120V	1Ø	15A-1P	3/4"C-2#12 XL	LINE VOLTAGE T-STAT	PROVIDE DISCONNECT
UH-5	UNIT HEATER (GAS)	SHOP	1/4 HP	120V	1Ø	15A-1P	3/4"C-2#12 XL	LINE VOLTAGE T-STAT	PROVIDE DISCONNECT
CO/NO	GAS DETECTION EQUIPMENT	SHOP	-	120V	1Ø	15A-1P	3/4"C-2#12 XL	-	TERMINATE POWER TO MECHANICAL INSTALLED GAS DETECTION PANEL.

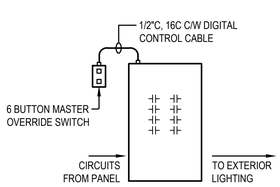
NOTES:
-REVIEW MECHANICAL SHOP DRAWINGS PRIOR TO ORDERING ELECTRICAL EQUIPMENT. IF NECESSARY, ADJUST DISTRIBUTION TO SUIT ELECTRICAL REQUIREMENTS.
-ROOFTOP EQUIPMENT MAINTENANCE RECEPTACLE TO BE MOUNTED IN PEDESTAL EQUAL TO ACE MFG. AP-4-20G-AH, RT. RECEPTACLE TO BE 120, 20A, T-SLOT, GFCI, MOUNTED NOT LESS THAN 750mm ABOVE THE FINISHED ROOF IN ACCORDANCE WITH CEC 26-704. ALL ROOFTOP EQUIPMENT TO BE LOCATED WITHIN 7.5m FROM A MAINTENANCE RECEPTACLE. IF RECEPTACLES ARE TO BE MOUNTED ON ANYTHING OTHER THAN THE INDICATED PEDESTAL, CONFIRM ACCEPTABLE LOCATIONS/MOUNTING WITH LOCAL AHJ PRIOR TO ROUGH IN.

PANEL SCHEDULE

PANEL: 2A | CCT#: 120 | PROJECT: 024 05 783
VOLTAGE: 120/240 V | 1 PHASE | MOUNTING: SURFACE | LOCATION: MECH/ELEC ROOM

DESCRIPTION		POWER				CCT	1Φ		CCT			POWER		DESCRIPTION	
C		HP	WATTS	A	P	#	A	B	#	P	A	WATTS	HP	C	
L	EXTERIOR LIGHTING		700	15	1	1	⧫		2	1	15	600		R	EXTERIOR REPTACLES
L	PARKING LIGHTING		1728	20	1	3		⧫	4	1	20	200		R	PARK AREA RECEP.
L	PARKING LIGHTING		1217	20	1	5	⧫		6	1	20	200		R	PARK AREA RECEP.
L	OFFICE LIGHTING		875	15	1	7		⧫	8	1	20	200		R	PARK AREA RECEP.
M	CEILING FANS		900	15	1	9	⧫		10	1	15	200		R	WASH. RECEPT.
R	PARK AREA RECEP.		200	20	1	11		⧫	12	1	15	200		R	STAFF RM RECEPT.
R	PARK AREA RECEP.		200	20	1	13	⧫		14	1	20	200		R	COUNTERTOP RECEPT.
R	PARK AREA RECEP.		200	20	1	15		⧫	16	1	20	200		R	COUNTERTOP RECEPT.
R	LUNCH RM RECEPT.		600	15	1	17	⧫		18	1	20	200		R	COUNTERTOP RECEPT.
R	COUNTERTOP RECEPT.		200	20	1	19		⧫	20	1	15	750		R	FRIDGE
R	COUNTERTOP RECEPT.		200	20	1	21	⧫		22	1	15	200		R	WASH RECEPT.
R	RANGE		4000	50	2	23		⧫	24	1	15	300		R	WH-1
//	//	//	4000	//	//	25	⧫		26	1	15	300		R	GAS DETECTION
R	FRIDGE		750	15	1	27		⧫	28	1	15	400	1/8	H	HRV-1
M	EXHF-1	1	1920	40	1	29	⧫		30	1	20	1176	1/2	H	F-1
M	UH-1	1/4	696	15	1	31		⧫	32	2	30	1692		C	CU-1
M	UH-2	1/4	696	15	1	33	⧫		34	//	//	1692	//	//	//
M	UH-5	1/4	696	15	1	35		⧫	36	1	15	528	1/6	M	EXHF-2
M	UH-4	1/4	696	15	1	37	⧫		38	1	20	200		R	RECEPTACLE
M	UH-3	1/4	696	15	1	39		⧫	40	1	20	200		R	RECEPTACLE
R	PARK AREA RECEP.		200	20	1	41	⧫		42	1	20	200		R	RECEPTACLE
R	PARK AREA RECEP.		200	20	1	43		⧫	44	1	15	400		R	EXTERIOR REPTACLES
R	PARK AREA RECEP.		200	20	1	45	⧫		46	1	15	400		R	QUAD RECEPTACLE
R	PARKING STALL		200	20	1	47		⧫	48	1	15	400		R	QUAD RECEPTACLE
R	PARKING STALL		200	20	1	49	⧫		50	1	15	400		R	QUAD RECEPTACLE
R	PARKING STALL		200	20	1	51		⧫	52	1	15	400		R	QUAD RECEPTACLE
R	PARKING STALL		200	20	1	53	⧫		54	1	15	400		R	QUAD RECEPTACLE
R	PARKING STALL		200	20	1	55		⧫	56	1	15	400		R	QUAD RECEPTACLE
M	O/H DOOR	1/2	1176	20	1	57	⧫		58	1	15	600		R	RECEPTACLES
M	O/H DOOR	1/2	1176	20	1	59		⧫	60	1	15	600		R	RECEPTACLES
M	O/H DOOR	1/2	1176	20	1	61	⧫		62	1	15	200		R	RECEPTACLES
M	O/H DOOR	1/2	1176	20	1	63		⧫	64	2	30	2160		M	COMPRESSOR
M	O/H DOOR	1/2	1176	20	1	65	⧫		66	//	//	2160	//	//	//
M	O/H DOOR	1/2	1176	20	1	67		⧫	68	1	15			R	SPARE
M	O/H DOOR	1/2	1176	20	1	69	⧫		70	1	15	400	1/8	M	EXHF-2
M	O/H DOOR	1/2	1176	20	1	71		⧫	72	1	15	1400		R	HOOD FAN / MICRO
R	CORD REEL		1440	20	1	73	⧫		74	1	15	800		R	LUNCH ROOM A-V REC.
R	CORD REEL		1440	20	1	75		⧫	76	1	20	1440		R	CORD REEL
R	CORD REEL		1440	20	1	77	⧫		78	1	20	1440		R	CORD REEL
R	CORD REEL		1440	20	1	79		⧫	80	1	15			R	SPARE
R	CORD REEL		1440	20	1	81	⧫		82	1	15			R	SPARE
R	CORD REEL		1440	20	1	83		⧫	84	1	15			R	SPARE
						85	⧫		86	1	15			R	SPARE
						87		⧫	88	1	15			R	SPARE
						89	⧫		90	1	20			R	SPARE
						91		⧫	92	1	20			R	SPARE
						93	⧫		94	1	20			R	SPARE
						95		⧫	96	1	20			R	SPARE
						97	⧫		98						
						99		⧫	100						
						101	⧫		102						
						103		⧫	104						
						105	⧫		106						
						107		⧫	108						
						109	⧫		110						
						111		⧫	112						
						113	⧫		114						
						115		⧫	116						
						117	⧫		118						
						119		⧫	120						

PANEL TO BE FEED THROUGH DOUBLE TUB



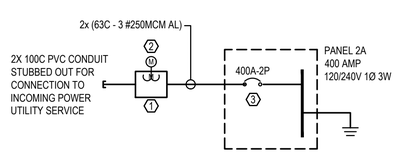
SPECIFICATIONS:
PROVIDE AND INSTALL ONE OF THE FOLLOWING DIGITAL LIGHTING CONTROL PANELS:
CURRENT - CX083S083LM
LIGHTLEEDER - LL-08
LEVITON - EZ-MAX PLUS R08BD-L08
NLIGHT - ARP INTENC08 NLT 8FCR CNDV

CONTROL PANEL TO BE EQUIPPED WITH DIGITAL ASTRONOMICAL TIMECLOCK, NON VOLATILE PROGRAM MEMORY, 10 YR BATTERY BACK UP, AND MODEM.

PROVIDE 8 N.C. LATCHING RELAYS

PROGRAM LOCAL LATITUDE AND COORDINATE TIME SCHEDULE WITH OWNER.

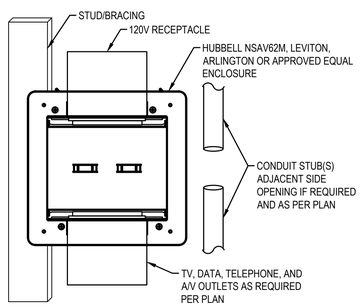
EXTERIOR LIGHTING CONTROLS
SCALE: N.T.S.



SINGLE LINE DIAGRAM KEYNOTES

1	WEATHERPROOF CSTE
2	WEATHERPROOF UTILITY METER SOCKET
3	PANEL COMPLETE WITH INTEGRAL MAIN BREAKER

SINGLE LINE DIAGRAM
SCALE: N.T.S.



NOTE:
COORDINATE EXACT LOCATION W/ OWNER PRIOR TO ROUGH-IN

RECESSED TV OUTLET DETAIL
SCALE: N.T.S.

PROJECT MANAGER:
RAY HJELMELAND
780.801.6142
ray.hjelmeland@englobecorp.com

PROJECT#: 024 05 783

CONSULTANT TEAM:

CODE COMPLIANCE
THIS SET OF DRAWINGS AND THE DESIGNS CONTAINED WITHIN COMPLY WITH THE FOLLOWING CODES:
BUILDING CODE: NBC 2020
ELECTRICAL CODE: CEC 2021
ENERGY CODE: NECB 2020

LEGAL DESCRIPTION
LOT: G & K BLOCK: PARCEL F
PLAN: 45-S-02149
OUTLOOK, SASKATCHEWAN

CLIENT:

STAMP:
PROFESSIONAL ENGINEER
J.G. FAIRHEAD
MEMBER 13427
24 YR. 09 MN. 30 DAY
SASKATCHEWAN

Association of Professional Engineers, and Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
ENGLOBE CORP.
NUMBER C1158
Permission to Consult held By:
Discipline: Electrical | Sask. Reg. No.: 13427 | Signature

REVISIONS:

#	DESCRIPTION	YEAR.MN.DY
0	ISSUED FOR CONSTRUCTION	2024.09.30

PROJECT NAME:
OUTLOOK -RUDY FIRE HALL
LOCATION: OUTLOOK, SASKATCHEWAN

DRAWING NAME:
SINGLE LINE DIAGRAM & SCHEDULES

PROJECT#: 024 05 783	DRAWN: MC
DESIGNED: RH	CHECKED: JF

DRAWING NUMBER:
E-4

PLOT DATE: September 30, 2024
FILENAME: Z:\2024\024\05000\024 05 783_Outlook Rudy Fire Hall\3 ELECTRICAL\1 DRAWINGS\024 05 783 - E-4 SLD & Schedules.dwg

ELECTRICAL CONTRACTOR GENERAL REQUIREMENTS

General Requirements, Division 1, shall form part of this Division, and all instructions to bidders, General Conditions, amendments thereto, and General Requirements of that Division apply to and govern the work of this Division.

1. This section contains requirements applicable and supplementary to other Divisions, and are to be read in conjunction with those Divisions.
2. "Utility" shall hereafter mean the electrical power supply company, telephone supply company, fibre network supply company and cable TV supply company.
3. The electrical installation shall adhere to the latest edition of the Canadian Electrical Code (CEC), applicable building code, and all other codes in force by the local Authority Having Jurisdiction (AHJ).
4. Electrical drawings and these specifications are complementary to each other. Treat discrepancies between them as requirement to adhere to the most restrictive conditions. Contact Engineer 5 days prior to tender close if discrepancies or errors/omissions are found.
5. Provide all labour, materials, tools, equipment, and transportation required for the complete installation and testing of all systems described herein.
6. Obtain exact dimensions and coordinate placement of electrical equipment conduit, devices and fittings from architectural and structural drawings. Make any necessary adjustments to accommodate structural and architectural conditions without additional charge. Notify engineer prior to all significant revisions.
7. Materials are to be new, not inferior to the quality specified, and conform to standards issued by CSA, ULC, or any other Canadian standards agency.
   - A. Where materials are specified by technical description, provide the best commercial qualities available for the purpose.
   - B. Maintain uniformity of manufacture, type, and style within a particular group or class of equipment throughout the work.
   - C. All work and materials covered by these specifications shall be subject to inspection at any and all times by the Engineer or the Owner's representative. If the inspection finds any material that does not conform to these specifications, Electrical Contractor shall, within three (3) days after being notified by the Engineer or Owner, remove the material from the premises and is not entitled to any additional charge.
9. Inform Engineer of all inspections by AHJ at least 48 hours in advance.
10. Provide all necessary measurements and assistance to Engineer on his visits to the site at any phase of the project, including after completion.
11. No deviations from the drawings shall be permitted without written permission from the Engineer.
12. Workmanship
    - A. All work is to be executed in a neat and orderly manner, with all surface conduit following building lines, and concrete-embedded conduit having minimum 25% of slab thickness coverage. Coordinate with structural engineer.
    - B. Keep a competent foreman on the project for its duration, unless able to provide satisfactory reasons for changing that person.
    - C. Tradesmen under foreman, including specialty Electrical sub-trades, are to be competent in all aspects of work to which they are assigned. Specialty sub-trades include, but may not be limited to, audio/visual systems, voice/data infrastructure (provide copy of workers' certification by equipment manufacturer), public address, intercommunication, security/access control, and lighting control.
    - D. Do not position device boxes based on Electrical drawings unless dimensions are shown. Determine placement of device boxes from Architectural drawings. If placement is not shown, consult with Architect or Engineer for clarification.
      a. Place adjacent device boxes horizontally and vertically so their centrelines align. Boxes on opposite sides of a wall are to be separated by at least one stud space, unless directed otherwise, or provide sound-deadening material between them.
      b. Locating devices 3 meters or less from position shown on drawings as directed by engineer at rough-in shall not entitle contractor to any extra charges.
13. Protect all finished and unfinished work and equipment
    - A. Any damage by this contractor is to be repaired at no expense to Owner.
    - B. Receive and protect electrical equipment provided by Owner.
    - C. Where panels or other items are scratched, repaint entire affected surface to same finish as other sides or to voltage or system-coded colours.
    - D. All newly installed equipment to be left clean and in new condition at the completion of the project.
14. Excavation, Backfilling, etc.
    - A. All electrical underground work requiring excavating, trenching, etc, shall be the responsibility of the electrical contractor.
    - B. All underground work to be coordinated with Utility companies and General Contractor.
    - C. All trench bottoms to have 80mm of clean screen sand as base for conduits. Provide 300mm of screen sand on top of conduits prior to backfilling.
    - D. Where underground conduits require protection, Provide 75mm of concrete encasement. Electrical contractor to confirm with utility companies, and local inspection department, requirements of encasement prior to backfilling.
    - E. It is the responsibility of the electrical contractor to notify the inspection department prior to backfilling.
    - F. Prior to commencing any work, the electrical contractor is responsible for reviewing all mechanical / electrical services including deep service to avoid any possible conflict. Refer to Mechanical and Civil drawings prior to starting work.
15. Visit site / premises before tender in order to ascertain working conditions. No extras will be paid based on site or working conditions.
16. Provide sleeves, inserts, etc, as required, to General Contractor for placement in concrete, and supervise their placement. Correct incorrect placement at own expense.
    - A. X-ray scan all concrete prior to cutting, coring, etc. Provide scan results to owner / engineer upon request. Review results with all disciplines with infrastructure that may be affected by cutting, coring, etc.
17. Remove daily debris and surplus materials resulting from this trade's work.
18. No consideration will be given to requests for extras or equipment substitution due to late ordering of material, including delays due to rejection of shop drawings.

SHOP DRAWINGS SUBMITTALS

1. All shop drawings shall be manufacturers' data sheets and information. Provide shop drawings in electronic PDF format. No facsimiles, screen captures, blank catalogue pages, or poor quality reproductions will be accepted.
2. Include only information relative to the equipment for which the shop drawing is submitted. Where equipment choices exist on cut sheets, indicate the proposed equipment with arrows or highlighting. Additionally, provide a list of the submitted equipment. Shop drawings to clearly state equipment tags/designations.
3. All shop drawings submitted to the Engineer must bear the approvals of the Contractor prior to engineer review. Work shall not proceed with items until Engineer's reviews are complete and shop drawings are returned.
4. Consultant's review will be for conformity with the design concept and requirements of any and all related construction documents, and that the materials suit the site conditions and fit in the available space
5. Supply shop drawings for at least the following items or item types:
   - A. Distribution and sub-distribution panels, panelboards, disconnect switches, transformers, SPDs, circuit breakers, fuses, and their characteristics, instrument transformers, protective relays, etc.
   - B. Motor control equipment, including starters, contactors, overload heaters, control relays, time-delay relays, motor circuit and control fuses and breakers, pilot lights, control transformers, and selector switches.
   - C. All light fixtures and controls (line/low voltage controls).
   - D. All low voltage systems' components including fire alarm, structured cabling, etc.
   - E. Wiring and cabling devices including receptacles, switches, floor boxes, power poles, cable tray, data racks, UPS systems, and disconnect switches.
   - F. Emergency genset and transfer switch equipment (where specified).
   - G. Firestopping system and details (See fire stopping section below).

ALTERNATES

1. No alternates will be allowed without written acceptance on alternate submittals from the engineer prior to close of tender.
2. The contractor remains solely responsible for ensuring that the materials meet or exceed the requirements of any and all related construction documents, and that the materials will suit the site conditions and fit in the available space.

PERMITS, CERTIFICATES, and FEES

1. Obtain, pay for, and submit all permits and necessary documents (including drawing approvals by the Electrical Inspection Authority) necessary for the electrical work to commence.
2. On completion of the work, submit a Certificate of Acceptance from the Inspection Authority to the Engineer.

FIRE STOPPING

1. The electrical contractor, in coordination with the general contractor, is responsible for the installation of all fire stopping systems relating to electrical penetrations through fire rated ceilings, wall or assemblies. The fire stopping systems utilized, shall maintain an effective barrier against the spread of flames, smoke and hot gases and shall have passed the CAN/ULC-S115 approved testing procedure.
2. The electrical contractor must provide adequate notification to the electrical engineer that firestopping has been completed to allow for field observations and reporting prior to concealment.
3. Submit shop drawings for approval, of all fire stopping system details, including but not limited to, product manufacturer's specifications, technical data for each material and CUL approved documentation.

PROGRESS CLAIMS, EXTRAS, and CREDITS

1. Immediately after award of contract, provide Engineer with an itemized schedule of the tender price, with major items, milestones, etc. as line items (examples: Mobilization, Conduit, Service Equipment, Luminaires, Wiring, Voice/Data system) shown, totaling to the quoted price. Thereafter, when submitting progress claims, this schedule shall be used, and claims shall be made based upon percentage completion of each line item. Extras or credits shall be shown added or deleted to main contract.
2. Any claim for progress or extras or offer of credit with respect to proposed electrical changes must be accompanied by a complete breakdown of labour and materials, together with explanation of any condition warranting additional consideration. Failure to supply such information will result in immediate rejection of the claim or offer.
   - A. Such claim must show quantities, unit prices, labour rates and hours, suppliers' invoices, and any other substantiating documentation.
   - B. All equipment and material related to a claim must be installed or stored on site in a secure and safe location.
   - C. Where agreement cannot be arrived at, claims are to be dealt with under General Conditions, and proposed changes are to be enacted as directed in writing.

INSPECTIONS and TESTS

1. Before energizing any portion of the electrical system, provide and pay for testing equipment as part of this contract to perform 1000 volt megger tests (L-L, L-N, L-G) on all feeders and branch circuits, and verify that results conform to the Canadian Electrical Code, and to the satisfaction of the Inspection Authority and to the Engineer.

ENGINEER SITE OBSERVATIONS

1. Contact the Engineer for field reviews at the following stages of construction (provide 5 (five) working days notice):
   - A. Rough-in
   - B. Substantial Completions
   - C. Completion of Deficiencies (if required)
2. The following items are to be completed prior to substantial inspection:
   - A. Fire alarm verification report from manufacturer's representative and witnessing engineer's certificate to be completed. Send copies to Engineer.
   - B. Connection of fire alarm system to central monitoring agency as per ULC-S561 to be complete and operational with certificate.
   - C. All emergency and exit lighting to be installed, operational and fully charged as per drawings. Contractor to conduct load test prior to review.
   - D. All devices not installed must have wiring terminated inside a junction box c/w cover (no exposed wiring).
   - E. All electrical equipment to have covers and doors installed.
3. Failure to inform the Engineer of construction progress as described above may result in the Engineer being unable to issue an "Assurance of Professional Review and Compliance" (Schedule 'C') to the local building authority which is required for occupancy.
4. Cost for additional site reviews being required due to failure to comply with these requirements will be charged to the contractor.

AS-BUILT DRAWINGS

1. Maintain at the job site, one set of prints on which is recorded, day-by-day, all outlets, conduit, fixtures, and equipment as installed; together with any changes made to the work. Checking of progress on the preparation of the as built drawings will be carried out by the supervising Engineer regularly.
2. Dimension underground services installed relative to the structure, clearly dimension and mark, to ensure ease of locating at future date, all concealed conduits and/or other equipment.
3. Upon completion, obtain the most current floor plan from the engineer and transpose all as-built markups onto a clean set and scan to PDF.

OPERATION and MAINTENANCE MANUALS

1. Provide to the Owner electronic copy of O&M Manuals for the electrical systems and equipment in PDF format. PDF shall be organized with bookmarked chapters and sections. Manuals to include written system description and operating procedures, drawing list, maintenance and installation brochures, test certificates, start-up reports, maintenance schedules, shop drawings, warranty letter, list of subcontractors and equipment suppliers, c/w addresses and phone numbers. Instruct the Owner in the operation and maintenance of the electrical systems. A suitable deficiency holdback will be retained until the above and related contract close-out requirements are completed.

GUARANTEE/WARRANTY

1. All electrical equipment and systems installed and connected shall be guaranteed free of defective material and workmanship for a period of the greater of one year or any manufacturer offered extended warranty on specific items or systems, with time started from date of substantial completion (or system start-up, if later than substantial completion). Any defects shall be remedied without cost to Owner during this period.
2. Provide documents of guarantee/warranty in the O&M Manuals, stating commencement of warranty period. Any manufacturer's extended warranty/warranties shall be provided as part of these documents, and drawn to the Owner's notice on turnover of manuals.

IDENTIFICATION and LABELING

1. All items of new electrical equipment such as power, lighting, signal, telephone panels, disconnect switches, manual and automatic control devices, etc., shall have nameplates. These nameplates shall be, unless otherwise specified, black plastic lamacoid with engraved white lettering. Nameplates shall be neat and uniform in appearance.
2. Nameplates shall indicate the use and voltage of equipment, as specified and shown on the drawings.
   - A. Panels: Voltage, phase, identification
   - B. Low Voltage Panels: System name
   - C. Manual Controls: Name of equipment controlled
   - D. Automatic Controls: Identify as on schematic diagrams
3. Distribution panels shall have date of installation and individual nameplates indicating each circuit's use.
4. Branch circuit panelboards shall have typed circuit directories behind clear plastic, on the inside of the panel door.
5. Identify all receptacle coverplates with clear self-adhesive Mylar tape with black lettering indicating panel and circuit number (i.e. "A25"). Alternatively coverplates can be mechanically engraved.
6. All fusible disconnects and breakers with adjusted trip settings to have lamacoid label stating "MOCP: __A".
7. Identification of Panels and Junction Boxes
   - A. Each panel, junction box and junction box cover shall be colour identified by system type carried.
   - B. Voltage colour identification for line voltage equipment shall be as follows:
     a. 120/208 V or 120/240 V Grey

GROUNDING and BONDING

1. Provide system ground via ground rod network in accordance with CEC Section 10 and Table 16.
2. Ground rods to be 19mm x 3000mm, install minimum of three rods spaced 3000mm apart.
3. Maximum resistance to ground shall be 20 ohms.
4. Buried grounding conductors shall be #2/0 AWG bare copper. Use approved connection method only, refer to local inspection department and utility service provider requirements.
5. Above grade grounding conductors within building shall be sized according to CEC Table 16.
6. Bond all electrically powered equipment to ground using suitable connectors. Equipment bonding conductors shall be sized according to CEC Table 16.
7. Install #12 green ground wires in all conduits.
8. Bond incoming gas and water mains with minimum #6 AWG to main building ground.
9. Provide grounding bus bar c/w lugs at all telephone/TV backboards, communications cabinets, and data racks. Bond all wall or free standing data racks to ground with #6 green insulated ground wire.

RACEWAYS and JUNCTION BOXES

1. Conduits to consist of rigid steel, electric metallic tubing (EMT), rigid PVC, DB-2, high-density polyethylene (HDPE) Flex tubing or liquid-tight flex.
2. Minimum conduit size to be 21mm (3/4") unless specifically noted otherwise.
3. Bushings to be installed on all metallic conduit.
4. Direct buried conduits to be rigid PVC, DB-2 or high-density polyethylene (HDPE) only.
5. Conduits installed in concrete slab to be rigid PVC, EMT, DB-2 or plastic approved "Core-Flex" tubing.
6. All buried conduits to adapt to rigid PVC, EMT or rigid steel when transitioning to above ground.
7. All empty conduits to be clearly labeled on both ends and have pull cord installed.
8. Provide water-tight fittings, conduit and junction boxes for all wash bay, exterior installations and damp locations.
9. Provide explosion proof approved conduits, fittings, seals and boxes in all classified areas as required by C.E.C.
10. All EMT straps, couplings and connectors to be zinc plated steel unless otherwise specified by the engineer.
11. Raceways, junction boxes to be identified and colour coded as per Identification and Labeling section, this specification.
12. All underground conduits to be free of debris, rocks and dirt prior to installation of conductors. Pipes to be "swabbed" clean and properly capped off if installed for future use. Mark on as-built drawings, exact location of all underground conduits.
13. All conduits, junction boxes to be concealed. Confirm with engineer, where and if surface mount conduit and junction boxes will be allowed. Electrical contractor to coordinate with general contractor to provide labour force during all concrete slab and masonry installations. Use only approved mason boxes and fittings.
14. It is the responsibility of the electrical contractor to provide and install any specialty recessed fittings or plates as shown as details in the electrical drawings.
15. All interior junction boxes to be cast metal, rigid PVC, aluminum or steel. Use of PVC boxes to be approved by the engineer.
16. All conduits to be installed parallel to building lines unless otherwise stated.
17. All lighting control wiring to be in conduit in open ceilings and inaccessible ceilings. Free-air wiring is permitted in accessible dropped ceilings. See "Conductors and Cables" for FT ratings.

CONDUCTORS and CABLES

1. Minimum line voltage conductor size is #12AWG copper. All conductors to be copper unless otherwise noted. Aluminum conductors shall be acceptable for sizes 200A and larger unless noted otherwise.
2. All wiring within a plenum space must be rated FT6 unless installed in an enclosed raceway. All raceways installed in plenum space must meet the same rating.
3. Power conductors shall be RW90 X-Link, 600V insulation unless indicated otherwise.
4. Armoured Cable: To CSA C22.2 No. 51:14 (R2018). Use in concealed and dry locations only.
5. TECK 90 Cable: To CSA C22.2 No. 131 and No.174. Use where specified.
6. VFD Cable: To CSA C22.2 No. 123, use for wiring installations between VFD and motor terminals.
   - A. Conductor: Stranded copper with industrial-grade 1000V XLP insulation.
   - B. Full size copper ground conductors
   - C. Foil/braid shield or dual spiral copper tape shielding
7. Non-Metallic Sheathed Cable: to CSA C22.2 No. 48-M90 and as follows:
   - A. Insulation: PVC NMD90, 300V insulation
8. Control Cable for Class 2 Circuits to be copper, 300V insulation, rated 75°C.
9. Teck 90 Cable/VFD cable installation
   - A. Provide protection for exposed cables where subject to damage. Cables prohibited to penetrate concrete slabs without sleeving.
   - B. Support horizontal runs on cable tray or channels c/w spacers and clamps.
   - C. Support vertical runs on channels c/w spacers and clamps.
   - D. Support cables minimum one diameter apart. Maintain equal spacing across supports.
   - E. Utilize only approved tech connectors and fittings when terminating cables.
10. Installation
    - A. A grounding conductor shall be installed in conduits and ducts, as specified in the Canadian Electrical Code, whether or not it is shown on the drawings.
    - B. All line voltage wiring in non-combustible buildings to be installed in conduit with the exceptions of flexible armoured cable in following circumstances or as noted otherwise:
      a. Wiring to luminaries from main conduit runs may not exceeding 4 meters (excluding vertical drops to suspended fixtures) in accessible ceiling areas up to 5 light fixtures may be daisy chained using flexible armoured cable.
      b. Horizontal wiring distance within walls not to exceed 5 meters. Vertical wiring from ceiling to be conduit only.
    - C. All low voltage wiring in non-combustible buildings permitted to be installed free air with appropriate cable support (maximum spacing 5'). For wall and inaccessible ceiling spaces provide conduit raceway.
    - D. Neutral conductors to be fully rated. De-rating of any neutral conductors is not acceptable.

MECHANICAL EQUIPMENT and CONTROLS

1. All controls to be supplied and installed by mechanical. All low voltage control wiring and conduit to be the responsibility of the Mechanical Contractor. Line voltage (120V or greater) wiring to be the responsibility of the electrical contractor, coordinate equipment requirements with mechanical contractor.
2. Manual motor Starter: CSA-C22.2 No. 14, NEMA 1, AC general-purpose Class A, manually operated, full voltage controller with overload element, auxiliary contact and toggle operator.
3. The electrical trade shall provide magnetic motor starters, as per CEC, for all three phase motors, excluding mechanical equipment supplied with integral motor protection, whether shown in the motor schedule or not. Size heaters to FLA of equipment and starter's manufacturers value.
4. Refer to mechanical drawings for control requirements.
5. Provide 120 volt control circuits for control transformers. Confirm locations and quantities with Mechanical Contractor.
6. Confirm load, voltage, and phase of all equipment with Mechanical Contractor prior to rough-in and ordering of equipment.,
7. Refer to mechanical drawings for scope of mechanical control wiring when a building management system (BMS) is specified and coordinate with mechanical contractor.
8. Control equipment, time clocks, gas detector systems, summer switches, etc. to be supplied by the mechanical trade, wired, installed and connected by the electrical trade. Confirm operation interlocks required and wire for damper motors, air proving switches etc.
9. Provide fire alarm shut down interlocks, duct detectors, stairwell HVAC, MUA and exhaust requirements as shown on the drawings.
10. Provide room switches for all exhaust fans whether shown on drawings or not, unless fan control requirements are provided by mechanical drawings, engineer or building owner.
11. Refer to power riser drawing when motor control centres (MCC's) have been specified for panel bussing size, voltage and breaker/starters requirements.
12. All roof top mounted mechanical equipment to have a dedicated weatherproof, GFCI, 20A, t-slot service receptacle within 7.5 meters. Service receptacle to be mounted at a minimum of 750mm above the roof surface on pedestal meeting the requirements of rule 26-710.
13. Confirm proper operation of mechanical equipment/systems with mechanical contractor prior to final inspection.
14. Electrical contractor to perform the following checks prior to starting any motor loads:
    - A. Confirm motor nameplate data with motor starter heater overloads, setting of MOCPs and fuse sizes (where applicable)
    - B. Verify shaft rotation with mechanical contractor
    - C. Ensure disconnects are installed and accessible
    - D. Confirm labeling of disconnects and starters

WIRING DEVICES

1. Device Boxes
   - A. Install all outlet boxes flush with the finished surface where conduit is concealed.
   - B. Where outlets occur in walls or ceilings containing vapour barrier, the electrical trade shall install molded "poly-vapour" hats, to maintain the integrity of the vapour barrier.
   - C. Minimum 100mm square box size for all devices in non-combustible construction c/w single or double gang plaster ring as required.
   - D. Locate above accessible ceilings or unfinished areas. Coordinate with general contractor in areas where access hatches are required to maintain accessibility.
   - E. Support boxes independent from conduit.
   - F. Owner reserves the right to modify final location of outlets prior to rough-in with no change to contract price, considering the distance does not exceed 3m from original indicated location.
   - G. Back to back outlet box installations are to maintain at least one stud space separation in walls.
   - H. Back to back outlet boxes are not permitted to share horizontal conduit between boxes, individual vertical conduit installations are required between rooms.
2. Receptacles
   - A. White decorator specification grade, equivalent to those manufactured by Pass & Seymour 26242. Receptacles shall be impact resistant thermoplastic.
   - B. Suite receptacles shall be residential grade, white finish decorator style. Tamper resistant receptacles equal to Pass & Seymour 885TRW to be installed where required as per CEC section 26-712.
   - C. GFCI receptacles shall be specification grade equivalent to those manufactured by Pass & Seymour 1595.
   - D. All receptacles shall be of the same manufacturer and finish throughout.
   - E. All receptacles to be tamper-resistant as per CEC 26-706 in the following areas: child care facilities, guest rooms and suites of hotels and motels, preschool and elementary education facilities, and dwelling units.
   - F. USB charger receptacles shall be specification grade capable of minimum 3.1A charging capability, equal to Pass & Seymour TR5262USB.
3. Switches
   - A. Rated 15 amperes 120/277 or 347 volts AC, white specification grade, decorator style, equivalent to those manufactured by Pass & Seymour 2601W or 2624347W. Switches shall be impact resistant thermoplastic.
   - B. Suite switches shall be residential grade, white finish decorator style.
   - C. All switches shall be of the same manufacturer and finish throughout.
4. Dimmers
   - A. Dimmers to be electronic decorator style c/w on/off control rated for the load it controls.
   - B. Dimmers controlling luminaires shall be rated as compatible with the specified light fixture.
5. Line Voltage Occupancy Sensors
   - A. Ceiling Mounted Occupancy Sensors
     a. Sensor shall be passive infrared (PIR) or dual technology (DT) as indicated on drawing. Provide a minimum coverage of 2000 square feet, 360°. Dual technology sensors to include microphonic or ultrasonic detection in addition to PIR.
     b. Manual time adjustment of 30 seconds to 20 minutes. Set time adjustment to 15 minutes during installation.
     c. Where multiple sensors are servicing the same area, the sensors shall be wired in such a manner as to turn all light fixtures on when motion is detected from any of the sensors.
     d. Adjustable sensitivity.
     e. Acceptable manufacturers: Leviton, Watt Stopper, Lutron, Eaton, Sensorswitch or approved equivalent.
   - B. Wall Mounted Occupancy Sensors
     a. Sensor shall be passive infrared (PIR) or dual technology (DT) as indicated on drawing. Providing a minimum 900 square foot coverage, 180°. Dual technology sensors to include microphonic or ultrasonic detection in addition to PIR.
     b. Sensor shall be c/w light fixture compatible dimming for locations as indicated on drawings.
     c. Provide a 2 pole sensor when 2 unique circuits are connected to the sensor as indicated on drawings.
     d. Adjustable operating mode of either vacancy (manual-on) or occupancy (auto-on). Set operating mode to occupancy during installation unless otherwise noted.
     e. Adjustable time delay of 30 seconds to 30 minutes. Set time adjustment to 15 minutes during installation.
     f. Adjustable sensitivity.
     g. Acceptable manufacturers: Leviton, Watt Stopper, Lutron, Eaton, Sensorswitch or approved equivalent.
6. Cover Plates
   - A. Surface mounted devices shall be fitted with a metal, galvanized cover plate, with rolled edges in service rooms.
   - B. Weatherproof in-use coverplates to be equal to Hubbell low-profile, extra-duty, ML500G series.
   - C. All flush switches and receptacles shall be fitted with standard size, nylon commercial grade covers with colour to match device. Covers shall have beveled edge. Covers shall fit tight to the wall and to the wiring devices.
7. Mounting Heights
   - A. Unless otherwise noted, or if there are conflicts, devices shall be installed above finished floor level as per Typical Mounting Heights detail on drawings.
   - B. In locations where barrier free access is required, use ADA compliant or other approved mounting heights.
8. Barrier Free access pushbutton locations to be coordinated with the Architect. Refer to architectural drawings for locations. Provide 120V, 15A power to each operator. Utilize emergency power if available.

LIGHTING

1. Installation of all light fixtures to be coordinated with general contractor. The electrical contractor is responsible for providing any necessary back boxes, flush trim ring, plaster rings and bolt patterns as needed prior to fixture installation.
2. Refer to electrical drawings and fixture schedule for fixture catalogue numbers, manufacturer, lamp requirements and installation notes.
3. The electrical contractor to allow for all surface mounted fixtures to be suspended at engineers request.
4. Recessed fixtures in fire rated ceilings or assemblies to be installed in coordination with the general contractor and installed in a manner to maintain the integrity of the fire rating. Utilize fire rated back boxes or housings where necessary.
5. Storage of light fixtures on site to be the responsibility of both the general and electrical contractor. Fixtures to be stored in a safe, secure place free from damage. No extras will be issued for damaged or missing fixtures.
6. LED Fixtures: LED modules shall be replaceable without replacement of the entire luminaire. LED luminaires shall be rated for a minimum operational life of 50,000 hours based on an average of 10 hours per operation cycle at a temperature of 25°C. Lumen output depreciation shall be less than 30% over the life of the LED. LED luminaires shall be rated to operate at 60Hz with a power factor of 0.9 or greater and THD of less than 10% over the entire load range of 0-100%.
7. Emergency lighting to be energized upon loss of power of lighting circuit within each occupied area.
8. Exit signage to be circuited from dedicated circuit or local area self contained emergency circuit.
9. All exit signage and emergency lighting locations to be coordinated with other trades prior to rough-in. All devices to be clearly visible. Contractor to relocate devices as required.

PANELBOARDS

1. All panelboards shall be by one manufacturer meet CSA C22.2 No. 29 and shall be of the bolt-on circuit breaker type.
2. Panelboards shall consist of dead-front assemblies of molded case circuit breakers in code gauge sheet metal enclosures c/w door, latch, lock, and keys. Locks shall be keyed alike. Panels shall be factory painted. Refer to "IDENTIFICATION and LABELING". Unused breaker space to be c/w blank plates. Drip hoods are required on all surface mounted equipment.
3. Panelboard main bus shall be of plated copper or aluminum; amperage as indicated on the single line diagram. Main lugs shall be suitable for either copper or aluminum feeder conductors.
4. Circuit breakers shall be molded case, bolt-on 10,000A RMS symmetrical interrupting capacity or higher where required. (Switching duty if required.)
5. Panelboards installed in finished areas to be flush mounted, with smooth lockable doors.
6. Multi-pole breakers shall have common tripping elements operated by a single handle.
7. The circuit numbering on both single and double tub panels shall be consecutive, with odd numbers on the left and even numbers on the right. Two (2) sets of identical numbers on double tub panels will not be accepted. Install typed directories in panelboard door cardholder.
8. Panels to be ordered with breakers pre-installed. Include minimum of 5 spare 15A single pole breakers in each 120/208V branch circuit panelboard whether shown or not on the panel schedule.
9. Measure individual phase loading to ensure panelboard loads are balanced. Revise circuit designations as required.

STRUCTURED CABLING

1. The structured cabling system described herein, shall consist of all outlets, conduit, cables, connectors, terminations and panels as required to provide a complete and operational voice and data distribution system.
2. Provide terminated telephone tie cable from the demarcation point to location of the PBX if the PBX is located remote from the demarcation. Confirm with the Owner's representative.
3. Supply and install a complete cable distribution system to Category 6 Standards to support both voice and data communication systems. Cable installer shall be certified Siemon, Belden, Tyco, Hubbell, Wirewerks, Leviton, Systimax or engineer approved alternate. Installation shall conform to EIA/TIA 568C Standards. All terminations and testing shall be completed per vendor's installation and testing practices. Contractor to include test results from an approved tester with O&M manual.
4. All wiring to be rated FT6 unless installed in an enclosed raceway. All raceways installed in plenum space must meet the same rating.
5. All data cables shall be terminated to RJ45 Category 6 patch panels and RJ45 jacks. Allow minimum 20% space capacity on all patch panels. Maximum individual patch panel capacity to be 48 ports. RJ45 Jacks shall be of punch down style and wired to T568A wiring scheme. Voice cable and jack shall be white and data cable & jacks shall be blue.
6. Cat6 network drops with male termination (typically used for security camera, wireless access points, etc) to be terminated with modular plug terminated link as per TIA 568-2.D.
7. Data cable runs are not to exceed 90m in length as per TIA. Verify all lengths prior to rough-in.
8. Provide 2 metres spare cable coiled at each end.
9. All voice cables shall utilize Cat 6 cabling and be terminated on wall mounted BIX block. If VOIP telephone system is being used all telephone drops to be treated the same as data and terminated on patch panels.
10. All cables and outlets shall be labeled per TIA standards. Confirm labeling convention with Engineer/Owner.
11. Provide two (2) factory assembled patch cables (2 metres and 3 metres) for each data run. Cable shall be of stranded wire construction with molded, snagless boots. Confirm colours and lengths with owner.
12. Up to 4 port wall faceplates are acceptable. Colour to be white.
13. Data rack shown on details and drawings to include the following:
    - A. One - 20A, Quad t-slot, 120V dedicated electrical receptacle adjacent to rack, 0U power distribution bar for all fully enclosed cabinets.
    - B. One (1) of 1U horizontal cable management with D-rings for each patch panel.
    - C. One vertical cable management trough minimum 3 inches wide.
    - D. All racks to be bonded to ground.
14. Where identified in the drawing package, provide complete fibre optic communication system including the following:
    - A. Fibre cabling: multi mode 50µm tight buffered, that meets or exceeds EIA/TIA 568.3-D standards.
    - B. Include 2m service loop at each termination.
    - C. Configuration: LC duplex type connector, coordinate with owner prior to ordering.
    - D. Provide fibre patch cables between fibre patch panel and media converter, for use with ethernet switch.
    - E. Provide fiber patch panels, feed through style ports. Terminate all fiber strands on patch panel.
    - F. Bond all patch panels, using #6 AWG insulated copper to building service ground.
    - G. Terminate, test, and label all fibre cables.

PLOT DATE: September 30, 2024
FILENAME: Z:\2024\2405000\024 05 783_Outlook Rudy Fire Hall\3 ELECTRICAL\1 DRAWINGS\024 05 783 - E-5 Specifications.dwg

eNGLOBe

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PROJECT#: 024 05 783

CONSULTANT TEAM:

CODE COMPLIANCE
THIS SET OF DRAWINGS AND THE DESIGNS CONTAINED WITHIN COMPLY WITH THE FOLLOWING CODES:
BUILDING CODE: NBC 2020
ELECTRICAL CODE: CEC 2021
ENERGY CODE: NECB 2020

LEGAL DESCRIPTION
LOT: G & K BLOCK: PARCEL F
PLAN: 45-S-02149
OUTLOOK, SASKATCHEWAN

CLIENT:

STAMP:

PROFESSIONAL ENGINEER
J.G. FAIRHEAD
MEMBER 13427
24 09 30
YR. MN. DAY
SASKATCHEWAN

Association of Professional Engineers, and Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
ENGLOBE CORP.
NUMBER C1158
Permission to Consult held By:

Discipline	Sask. Reg. No.	Signature
Electrical	13427	

REVISIONS:

#	DESCRIPTION	YEAR.MN.DY
0	ISSUED FOR CONSTRUCTION	2024.09.30

PROJECT NAME:
OUTLOOK -RUDY FIRE HALL
LOCATION: OUTLOOK, SASKATCHEWAN

DRAWING NAME:
SPECIFICATIONS

PROJECT#: 024 05 783	DRAWN: MC
DESIGNED: RH	CHECKED: JF

DRAWING NUMBER:
E-5