

FILE NAME AND PATH: C:\Users\Kurt\OneDrive - Crosier Kilgour & Partners Ltd. - Transi... Transi... HVAC Upgrade Phase 3 - General\06 Drawings\0205-0048 - Transi... HVAC Upgrade.dwg
LAYOUT: S1.1
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GENERAL NOTES

- STRUCTURAL DESIGN BASED ON THE MANITOBA BUILDING CODE 2024. ALL CODES AND STANDARDS SHALL BE THE EDITIONS DESIGNATED IN DIVISION B TABLE 1.3.1.2.
- IMPORTANCE CATEGORY: NORMAL
- DO NOT SCALE DRAWINGS.
- ALL DIMENSIONS ARE TO BE VERIFIED WITH THE MECHANICAL DRAWINGS AND EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.
- THESE STRUCTURAL DRAWINGS SHOW THE COMPLETED STRUCTURE AND DO NOT INDICATE ALL COMPONENTS NECESSARY FOR SAFETY DURING CONSTRUCTION. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SAFETY ON AND AROUND THE JOBSITE DURING CONSTRUCTION INCLUDING BUT NOT LIMITED TO ALL TEMPORARY SHORING/BRACING.
- THE EXISTING BUILDING SUPERSTRUCTURE AND FOUNDATIONS HAVE BEEN REVIEWED AND CAN SUPPORT ALL NEW LOADING CONDITIONS SHOWN ON THESE DRAWINGS IN ACCORDANCE WITH PART 4 OF THE 2020 NATIONAL BUILDING CODE OF CANADA, UNLESS NOTED OTHERWISE.

DESIGN NOTES

- LIVE LOADS
 - SEE NOTES ON PLANS. ALL LOADS ARE UNFACTORED UNLESS NOTED.
- SNOW LOADS
 - GROUND SNOW LOAD: $S_s = 39.6$ P.S.F.
 - ASSOCIATED RAIN LOAD: $S_r = 4.2$ P.S.F.
 - SNOW IMPORTANCE FACTOR, $I_s = 1.0$ (ULS) 0.9 (SLS)
- WIND LOADS
 - WIND LOADS HAVE BEEN CALCULATED IN ACCORDANCE WITH THE STATIC PROCEDURE OUTLINED IN NBC20 CLAUSE 4.1.7.3.
 - HOURLY WIND PRESSURE, $q_{50} = 9.4$ P.S.F.
 - WIND IMPORTANCE FACTOR, $I_w = 1.0$ (ULS) 0.75 (SLS)
 - EXPOSURE FACTOR, C_e , BASED ON ROUGH TERRAIN
- EARTHQUAKE LOADS
 - THIS PROJECT IS DEEMED AS MECHANICAL UPGRADE WITH ROOF REINFORCING THAT DOES NOT REDUCE THE CAPACITY OF THE EXISTING SFRS AS PER NATIONAL BUILDING CODE CANADA 2020 COMMENTARY L, AS SUCH NO SEISMIC ASSESSMENT WAS PERFORMED.
- STRUCTURAL MOVEMENTS
 - TYPICAL HORIZONTAL ELEMENTS HAVE BEEN DESIGNED SO THAT THE THEORETICAL VERTICAL DEFLECTIONS WILL NOT EXCEED $L/360$.
 - NON-STRUCTURAL ELEMENTS SUCH AS THE BUILDING ENCLOSURE, MECHANICAL AND ELECTRICAL SERVICES AND SUPPORTS MUST BE DESIGNED AND DETAILED TO ACCOMMODATE THE ANTICIPATED MOVEMENTS NOTED ABOVE.

STRUCTURAL STEEL

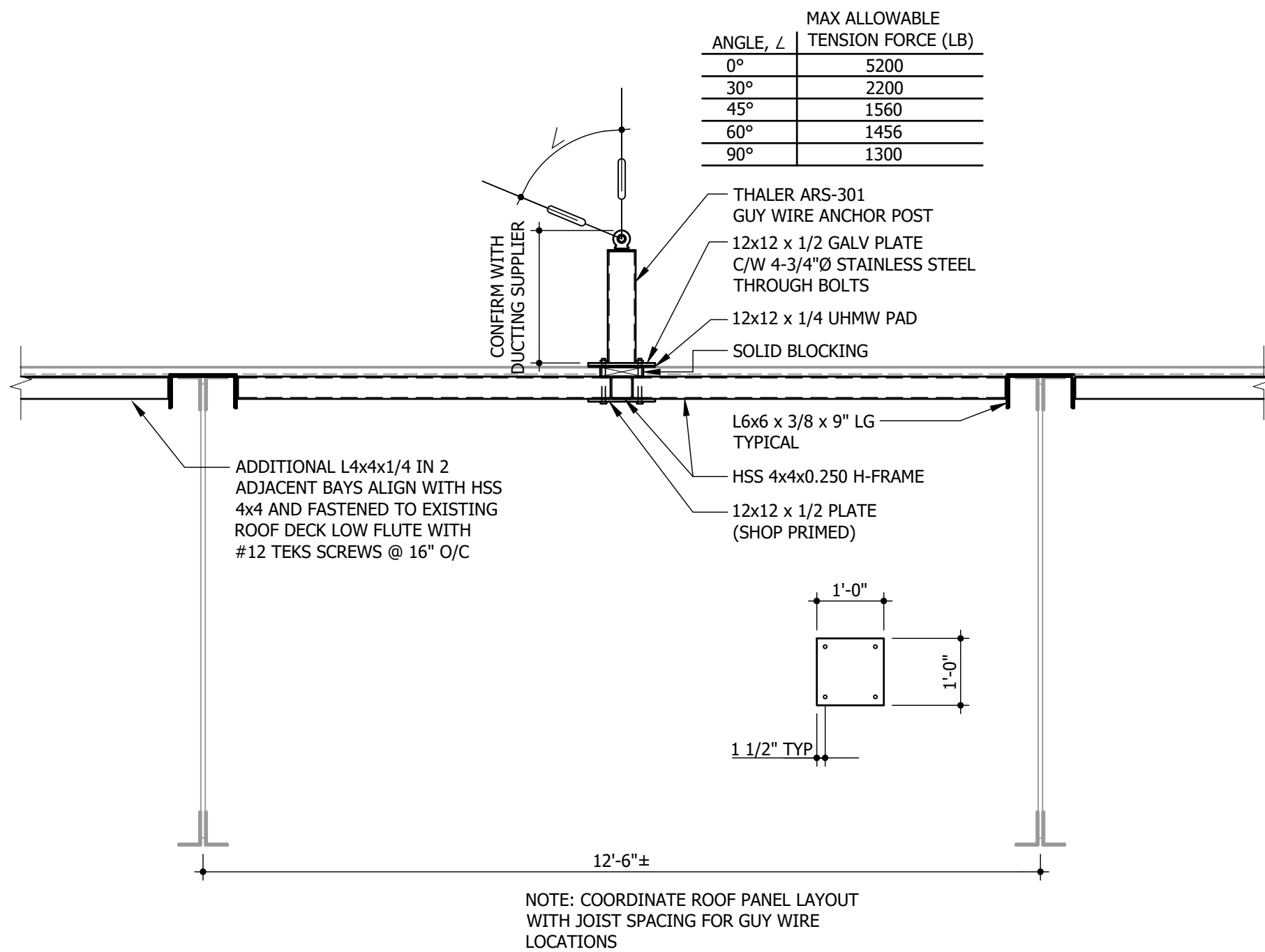
- THE STRUCTURAL STEEL FABRICATOR'S ENGINEER SHALL BE RESPONSIBLE FOR LOCATING AND DESIGNING PROVISIONS FOR ALL TEMPORARY FALL PROTECTION SYSTEMS REQUIRED DURING CONSTRUCTION TO MEET MANITOBA WORKPLACE HEALTH AND SAFETY REGULATIONS.
- THE STRUCTURAL STEEL ERECTOR SHALL BE RESPONSIBLE FOR SUPPLYING AND ERECTING ALL TEMPORARY GUYING AND BRACING OF THE STEEL FRAMING TO PROVIDE STABILITY FOR THE STRUCTURE AS A WHOLE.
- STRUCTURAL STEEL TO CONFORM TO CSA-G40.21-13, "STRUCTURAL QUALITY STEELS" AND CSA-G40.20-13 "GENERAL REQUIREMENTS FOR ROLLED OR WELDED STRUCTURAL QUALITY STEEL", ASTM A572/A572M "STANDARD SPECIFICATION FOR HIGH-STRENGTH LOW-ALLOY COLUMBIUM-VANADIUM STRUCTURAL STEEL" OR ASTM A992/A992M "STANDARD SPECIFICATION FOR STRUCTURAL STEEL SHAPES".
- ALL ROLLED OR STEEL STRUCTURAL SECTIONS SHALL BE G40.21-350W, ASTM A992 OR ASTM A572 GRADE 50. ALL HOLLOW STRUCTURAL SECTIONS TO BE G40.21-350W CLASS C OR ASTM A500-C. ALL ANGLES, CHANNELS AND PLATES SHALL BE G40.21-350W.
- FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE PERFORMED IN ACCORDANCE WITH CSA S16-19, "DESIGN OF STEEL STRUCTURES".
- ALL WELDING SHALL CONFORM TO THE LATEST EDITION OF CSA W59, "WELDED STEEL CONSTRUCTION". FABRICATORS SHALL BE PROPERLY CERTIFIED IN ACCORDANCE WITH CSA W47.1, "CERTIFICATION OF COMPANIES FOR FUSION WELDING OF STEEL STRUCTURES".
- STRUCTURAL STEEL SUPPLIER TO SUBMIT ENGINEERING DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA COVERING THE DESIGN OF CONNECTIONS, TO THE PROJECT DESIGN ENGINEER FOR REVIEW PRIOR TO FABRICATION. CONNECTION DESIGN TO INCLUDE FOR ALL ADJUSTABLE CONNECTIONS REQUIRED TO SUIT FABRICATION AND ERECTION PROCEDURES AND TOLERANCES.
- ALL BOLTED CONNECTIONS TO USE ASTM F3125 A325 HIGH STRENGTH BOLTS. MINIMUM CONNECTION SHALL CONSIST OF 2 BOLTS.
- ALL STRUCTURAL STEEL TO RECEIVE ONE COAT OF CISC/CPMA 1-73a QUICK DRYING SHOP PRIMER. STEEL TO BE CLEANED IN CONFORMANCE WITH SSPC-SP2. STEEL RECEIVING FINISH PAINTING TO HAVE ONE COAT OF CISC/CPMA 2-75 QUICK DRYING SHOP PRIMER. STEEL TO BE CLEANED IN CONFORMANCE WITH SSPC-SP7.
- NO HOLES PERMITTED IN TOP FLANGE OF BEAMS AT COLUMNS WHERE BEAMS ARE CONTINUOUS OVER COLUMNS.
- FABRICATOR TO NOTIFY ENGINEER OF ANY PROPOSED MEMBER SUBSTITUTIONS AND CHANGED CONNECTION DETAILS.
- THE STRUCTURAL STEEL SUPPLIER SHALL PROVIDE AND BE RESPONSIBLE FOR ALL HOLES IN STEEL SECTIONS REQUIRED BY OTHER TRADES. SECTION SHALL BE STRENGTHENED WHERE REQUIRED TO GUARANTEE THE ORIGINAL STRENGTH OF THE BEAM. ANY CUTTING OF STEEL AT THE JOB SITE SHALL BE DONE ONLY AS DIRECTED AND APPROVED BY THE ENGINEER.
- JOIST SEATS MAY BE BOLTED TO BEAM TOP FLANGES USING PAIRS OF 9/16" DIAMETER BOLT HOLES ORIENTED ACROSS THE FLANGE WIDTH. ALL HOLES MUST BE FILLED WITH 1/2" DIAMETER BOLTS.
- UNLESS NOTED OTHERWISE ON DRAWINGS PROVIDE $L3 \times 3 \times 1/4$ DIAPHRAGM CHORD ANGLE AROUND ENTIRE PERIMETER OF BUILDING.
- ALL OPENINGS LARGER THAN 12 IN. x 12 IN. THROUGH STEEL DECK TO BE FRAMED WITH $L3 \ 1/2 \times 3 \ 1/2 \times 1/4$ ANGLES ALL AROUND, EXCEPT AS NOTED. SMALLER OPENINGS THROUGH STEEL DECK TO BE STIFFENED BY STEEL DECK SUPPLIER. WHEN STEEL DECK CHANGES ITS FRAMING DIRECTION, USE $L \ 2 \ 1/2 \times 2 \ 1/2 \times 1/4$ ANGLE TO SUPPORT EDGE.

STEEL DECK

- ROOF DECK SHALL MATCH EXISTING ROOF DECK PROFILE.
- DECK SHALL BE MINIMUM GRADE A WITH A MINIMUM GALVANIZED ZINC COATING TO Z275.

ABBREVIATIONS:

@	AT (SPACING)	FDN	FOUNDATION	Pa	PASCAL
AB	ANCHOR BOLT	FF	FAR FACE	PC	PRECAST
ADJ	ADJUSTABLE	FIN	FINISHED	PERP	PERPENDICULAR
AFF	ABOVE FINISHED FLOOR	FL	FLOOR	PL, t	PLATE
ARCH	ARCHITECT, ARCHITECTURAL	FS	FAR SIDE	PLF	POUNDS PER LINEAL FOOT
BOT, B	BOTTOM	FT	FOOT/FEET	PLYWD	PLYWOOD
B PL	BASE PLATE	FTG	FOOTING	PREFAB	PREFABRICATED
BC	BOTTOM CHORD	GA	GAUGE	PROJ	PROJECTION
BD	BOARD	GALV	GALVANIZED	PSF	POUNDS PER SQUARE FOOT
BTWN	BETWEEN	GEN	GENERAL	PSI	POUNDS PER SQUARE INCH
BLDG	BUILDING	GR	GRADE	PT	PRESSURE TREATED
BLK	BLOCK	GRAN	GRANULAR	R	RADIUS, REACTION
BLI	BOTTOM LOWER LAYER	H	HIGH	REF	REFERENCE
BM	BEAM	H	HORIZONTAL FORCE	REINF	REINFORCE, REINFORCEMENT
BRDG	BRIDGING	H	(UNFACTORED)	REM	REMAINDER
BRG	BEARING	HC	HOLLOWCORE	REQ	REQUIRED
BRG PL	BEARING PLATE	HEX	HEXAGON	REV	REVISION, REVISED
BS	BOTH SIDES	HORIZ	HORIZONTAL	RO	ROUGH OPENING
BSMT	BASEMENT	Hf	HORIZONTAL FORCE	R/W	REINFORCE WITH
BUL	BOTTOM UPPER LAYER	Hf	(FACTORED)	SCHED	SCHEDULE
C	COMPRESSION	HM	HOLLOW METAL	SECT	SECTION
	(UNFACTORED)	HP	HIGH POINT	SIM	SIMILAR
C/C	CENTRE TO CENTRE	HT	HEIGHT	SJ	STRUT JOIST
C/W	COMPLETE WITH	IC	IN CENTRE	SLE	STRUT ONE END
Ø	CENTRE LINE	ID	INSIDE DIAMETER	SL	SLAB
CANT	CANTILEVER	I/F	INSIDE FACE	SOG	SLAB ON GRADE
CAP.	CAPACITY	INSUL	INSULATION	SPEC	SPECIFICATIONS
CEM	CEMENT	INT	INTERIOR	SPF	SPRUCE-PINE-FIR
Cf	COMPRESSIVE FORCE	JST	JOIST	SQ	SQUARE
	(FACTORED)	JT	JOINT	STD	STANDARD
CHAN	CHANNEL	kg	KILOGRAM	STR	STAIR
CI	CAST IRON	KIP, K	1000 LB	STIFF	STIFFENER
CIP	CAST-IN-PLACE	KLF	kip(s) PER LINEAL FOOT	STIR	STIRRUP
CJ	CONTROL JOINT	kN	KILONEWTON	STL	STEEL
CLR	CLEAR	KO	KNOCKOUT	STRUCT	STRUCTURAL
CMU	CONCRETE MASONRY UNIT	kPa	KILOPASCAL	SYM	SYMMETRICAL
COL	COLUMN	KSF	kip(s) PER SQUARE FOOT	T	TENSION (UNFACTORED)
COMP	COMPOSITE	KSI	kip(s) PER SQUARE INCH	TOP	TOP
CONC	CONCRETE	L	LOW	T/O	TOP OF
CONN	CONNECT, CONNECTION	LB, #	POUND(S)	T&B	TOP & BOTTOM
CONSTR	CONSTRUCTION	LG	LONG	TEMP	TEMPORARY
CONT	CONTINUOUS	LL	LIVE LOAD	Tf	TENSION FORCE (FACTORED)
CORR	CORRIDOR	LL	LOWER LAYER	THRU	THROUGH
DBL	DOUBLE	LLV	LONG LEG VERTICAL	TLL	TOP LOWER LAYER
DEFL	DEFLECTION	LLH	LONG LEG HORIZONTAL	TRANS	TRANSVERSE
DEMO	DEMOLISH, DEMOLITION	LONG	LONGITUDINAL	TS	TEMPERATURE STEEL
DEPR	DEPRESSION	LP	LOW POINT	TUL	TOP UPPER LAYER
DET	DETAIL	m	METRE	TYP	TYPICAL
DEV	DEVELOP, DEVELOPMENT	mm	MILLIMETRE	UHMW	ULTRA HIGH MOLECULAR
Ø, DIA	DIAMETER	MAS	MASONRY		WEIGHT
DIAG	DIAGONAL	MAX	MAXIMUM	UL	UPPER LAYER
DIM	DIMENSION	MECH	MECHANICAL	U/N	UNLESS OTHERWISE NOTED
DIR	DIRECTION	MEZZ	MEZZANINE	U/S	UNDERSIDE
DL	DEAD LOAD	Mf	FACTORED MOMENT	V	VERTICAL SHEAR
DN	DOWN	MIN	MINIMUM		(UNFACTORED)
DP	DEEP	MISC	MISCELLANEOUS	VERT	VERTICAL
DR	DOOR	MK	MARK	Vf	VERTICAL SHEAR (FACTORED)
DFIR	DOUGLAS FIR	MO	MASONRY OPENING	W	WIDE, WIDTH
DWG	DRAWING(S)	MOM	MOMENT	W/	WITH
DWL	DOWEL(S)	Mpa	MEGAPASCAL	W/O	WITHOUT
EA	EACH	NIC	NOT IN CONTRACT	WD	WOOD
EE	EACH END	NF	NEAR FACE	WP	WORK POINT
EF	EACH FACE	NO.	NUMBER	WT	WEIGHT
EJ	EXPANSION JOINT	NOM	NOMINAL	WWM	WELDED WIRE MESH
EL	ELEVATION	NTS	NOT TO SCALE	X-BRACE	CROSS BRACING
ELEV	ELEVATOR	N-S	NORTH-SOUTH		
ELEC	ELECTRICAL	NS	NELSON STUD		
ENG	ENGINEER	O/C	ON CENTRE		
EQ	EQUAL	OD	OUTSIDE DIAMETER		
EQUIP	EQUIPMENT	O/O	OUT TO OUT		
ES	EACH SIDE	O/F	OUTSIDE FACE		
E-W	EAST-WEST	OH	OVERHEAD		
EW	EACH WAY	OPNG	OPENING		
EXIST	EXISTING	OWSJ	OPEN WEB STEEL JOIST		
EXP	EXPANSION				
EXT	EXTERIOR				



A GUY WIRE/ROOF ANCHOR BETWEEN TRUSSES

- 1/2" = 1'-0"
- GC TO COORDINATE NUMBER AND LOCATION OF GUY WIRE SUPPORTS WITH DUCTING SUPPLIER.
 - POST COATING TO MATCH ROOFING.
 - NOT DESIGNED AS A FALL ARREST TIE-OFF POINT.

DUCT SUPPORT DESIGN GUIDANCE

DUCT SUPPORT FRAMING IS TO BE DESIGNED AND SUPPLIED BY THE DUCTING CONTRACTOR. SHOP DRAWINGS OF DUCT SUPPORTS ARE TO BE SUBMITTED FOR REVIEW AND SHALL INCLUDE DESIGN LOADING AND MAXIMUM SUPPORT LEG REACTIONS. MAXIMUM LOAD APPLIED TO ROOF FRAMING TO BE 36 PSF. SUPPORT PADS TO BE DESIGNED ACCORDINGLY TO LIMIT LOAD APPLIED TO ROOF. SUPPORT PADS TO BE CONSTRUCTED OF MATERIAL TO AVOID DAMAGE TO ROOFING MEMBRANE, OR SHALL BE PLACED ON SOPREMA SOPRAMAT ROOF PROTECTION PADS.



SMS Engineering

770 Bradford Street Winnipeg, Canada (204) 775-0291
smseng.com

Project Title
**TRANSIT MAINTENANCE
AND REPAIR BUILDING
MECHANICAL UPGRADE -
EAST HIGH BAY**

WINNIPEG

Drawing Title
**GENERAL NOTES AND
ABBREVIATIONS**

MAINTOBA

Drawn By
KGT
Checked By
JAL
Approved By
JAL
Scale
AS NOTED
Date
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