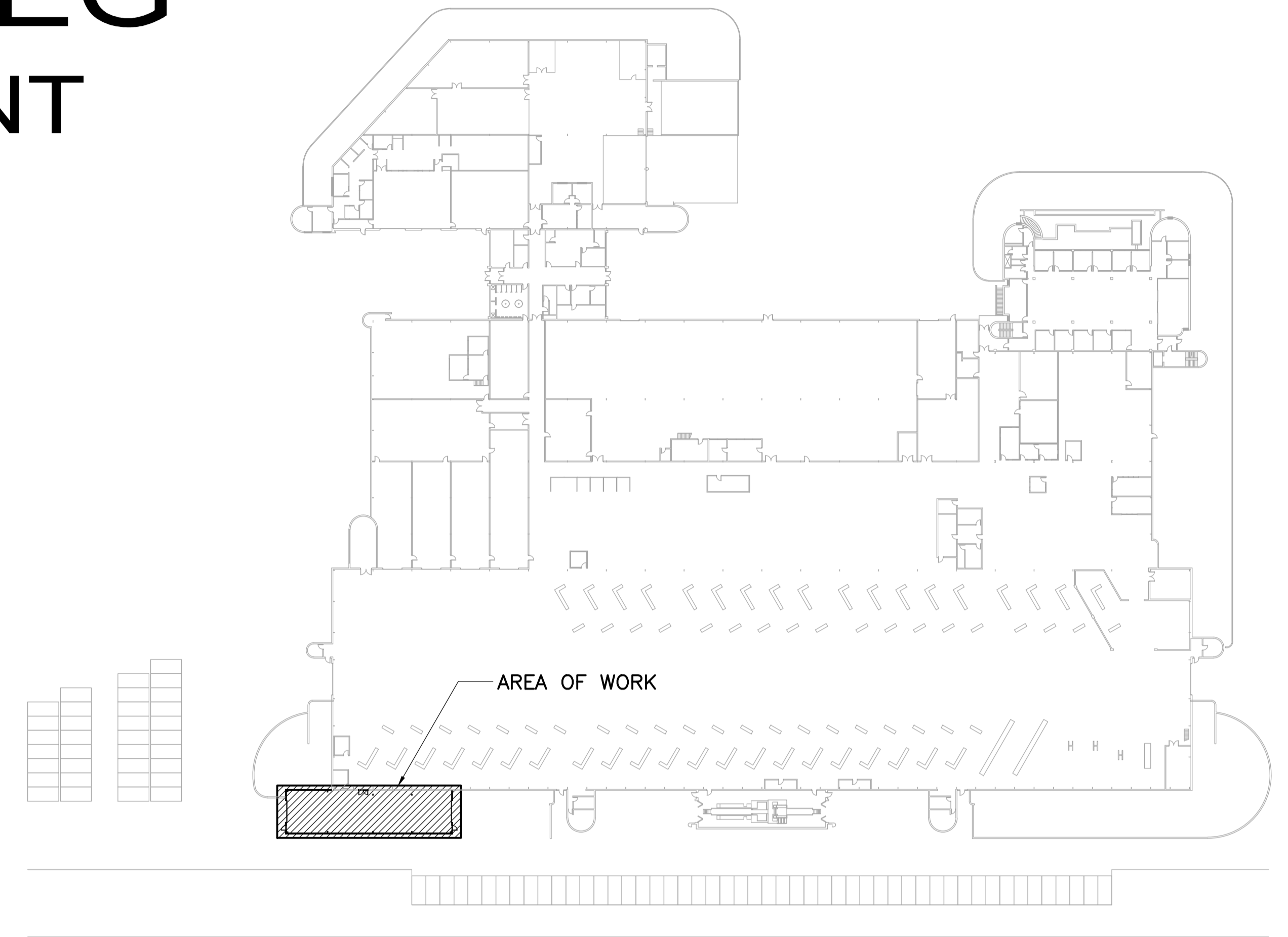




CITY OF WINNIPEG TRANSIT DEPARTMENT

BID OPPORTUNITY No. 11-2014 CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION

ISSUED FOR CONSTRUCTION
JANUARY 17, 2014



KEY PLAN

DRAWING INDEX

BUILDING

1329720500-DWG-G0001-00
1329720500-DWG-G0002-00

OVERALL SITE PLAN
PAVEMENT MODIFICATION PLAN

BUILDING

1329720500-DWG-B0001-00
1329720500-DWG-B0002-00
1329720500-DWG-B0003-00
1329720500-DWG-B0004-00
1329720500-DWG-B0005-00
1329720500-DWG-B0006-00
1329720500-DWG-B0007-00

MAIN FLOOR PLAN
ROOF PLAN
EXTERIOR ELEVATIONS
BUILDING SECTIONS
WALL SECTIONS AND DETAILS
DOOR DETAILS
BUILDING SPECIFICATIONS

STRUCTURAL

1329720500-DWG-S0001-00
1329720500-DWG-S0002-00
1329720500-DWG-S0003-00
1329720500-DWG-S0004-00
1329720500-DWG-S0005-00
1329720500-DWG-S0006-00
1329720500-DWG-S0007-00
1329720500-DWG-S0008-00

GENERAL NOTES
PILE LAYOUT AND MAIN FLOOR PLAN
ROOF FRAMING PLAN
STEEL ELEVATIONS @ GRID LINES J AND K
STEEL ELEVATIONS @ GRID LINES 2', 4 AND 2 AND DETAILS
CONCRETE SECTIONS AND DETAILS SHEET 1
CONCRETE SECTIONS AND DETAILS SHEET 2
CONCRETE SECTIONS AND DETAILS SHEET 3

MECHANICAL

1329720500-DWG-M0001-00
1329720500-DWG-M0002-00
1329720500-DWG-M0003-00
1329720500-DWG-M0004-00
1329720500-DWG-M0005-00
1329720500-DWG-M0006-00
1329720500-DWG-M0007-00
1329720500-DWG-M0008-00
1329720500-DWG-M0009-00

MAIN FLOOR PLAN DOMESTIC COLD WATER AND FIRE PROTECTION COMPRESSED AIR PIPING
MAIN FLOOR PLAN SANITARY AND STORM WATER PIPING
ROOF PLAN SANITARY AND STORM WATER PIPING
MAIN FLOOR PLAN HVAC
ROOF PLAN HVAC
MECHANICAL SECTIONS
MECHANICAL SPECIFICATIONS - SHEET 1
MECHANICAL SPECIFICATIONS - SHEET 2
MECHANICAL SPECIFICATIONS AND SCHEDULES

ELECTRICAL

1329720500-DWG-E0001-00
1329720500-DWG-E0002-00
1329720500-DWG-E0003-00
1329720500-DWG-E0004-00
1329720500-DWG-E0005-00

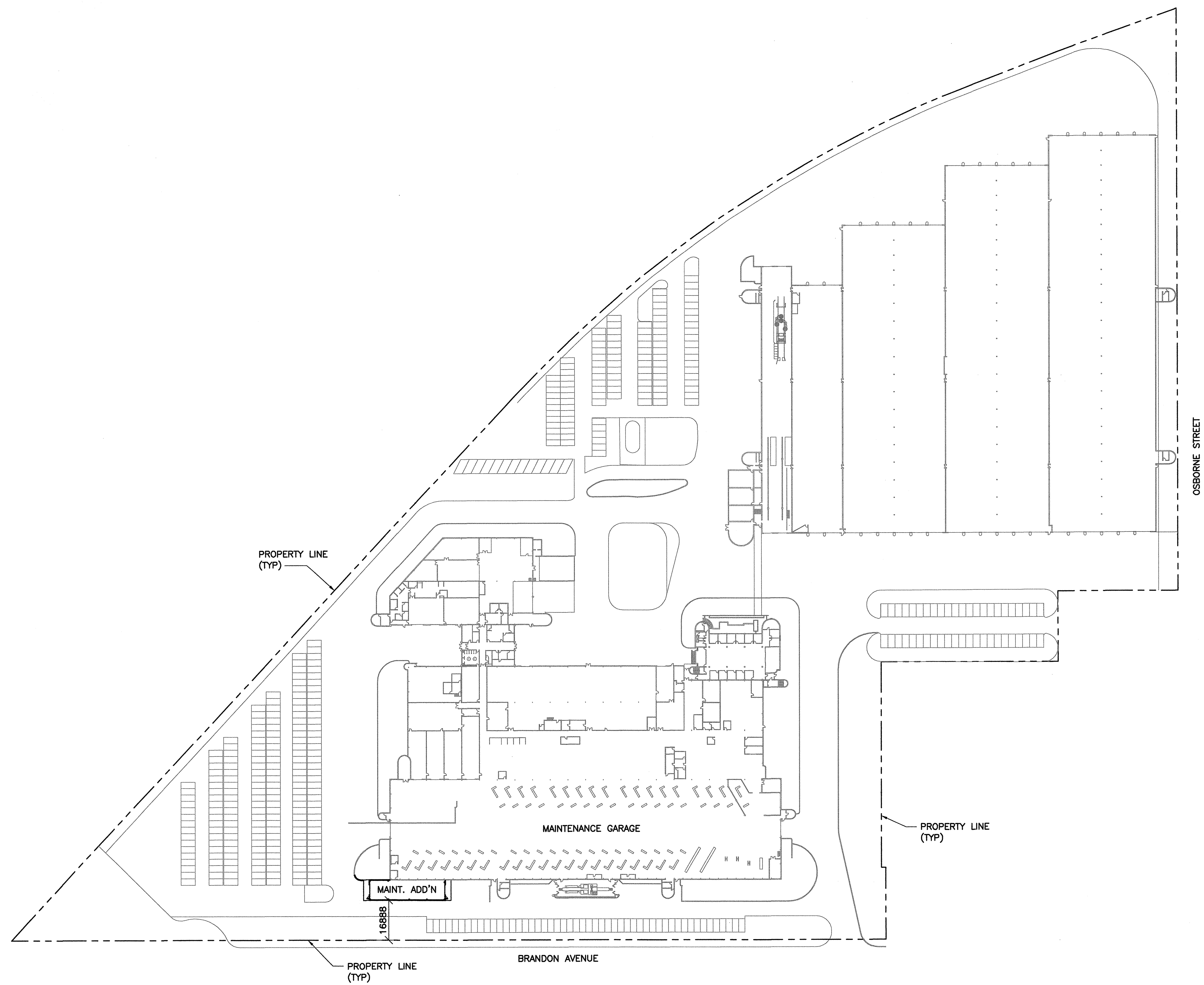
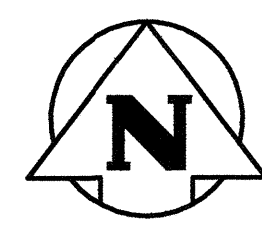
ELECTRICAL PARTIAL MAIN FLOOR PLAN LIGHTING DETAILS
ELECTRICAL PARTIAL MAIN FLOOR PLAN
ELECTRICAL SCHEDULES
ELECTRICAL SPECIFICATIONS - SHEET 1 OF 2
ELECTRICAL SPECIFICATIONS - SHEET 2 OF 2

ABBREVIATED CODE REVIEW - MBC 2011

1. OCCUPANCY CLASSIFICATION	
CLASSIFICATION:	3.2.2.72. INDUSTRIAL BUILDINGS, GROUP F, DIVISION 2, ANY HEIGHT, ANY AREA, SPRINKLERED
MAJOR OCCUPANCY:	VEHICLE PARKING, MAINTENANCE AND STORAGE FACILITY
AREA OF ADDITION:	288m ²
NO. OF STOREYS:	1
SPRINKLERED:	YES
2. CONSTRUCTION REQUIREMENTS	
TYPE OF CONSTRUCTION:	NONCOMBUSTIBLE
ROOF ASSEMBLIES:	NO RATING REQUIRED
FLOOR ASSEMBLIES:	FIRE SEPARATION, 2 HR. FIRE-RATING, - NOT APPLICABLE IN THIS AREA
MEZZANINES:	1 HR. FIRE-RATED - NOT APPLICABLE IN THIS AREA
LOAD BEARING WALLS AND COLUMNS:	RATED TO MATCH SUPPORTED ASSEMBLY
MINIMUM EXITS REQUIRED:	3.3.1.5.(1) 2 REQUIRED
DISTANCE BETWEEN EXITS:	3.4.2.3.(1)(b) 1/2 DIAGONAL FLOOR AREA BUT NOT LESS THAN 9m.
TRAVEL DISTANCE:	3.4.2.5.(1)(c) 45m

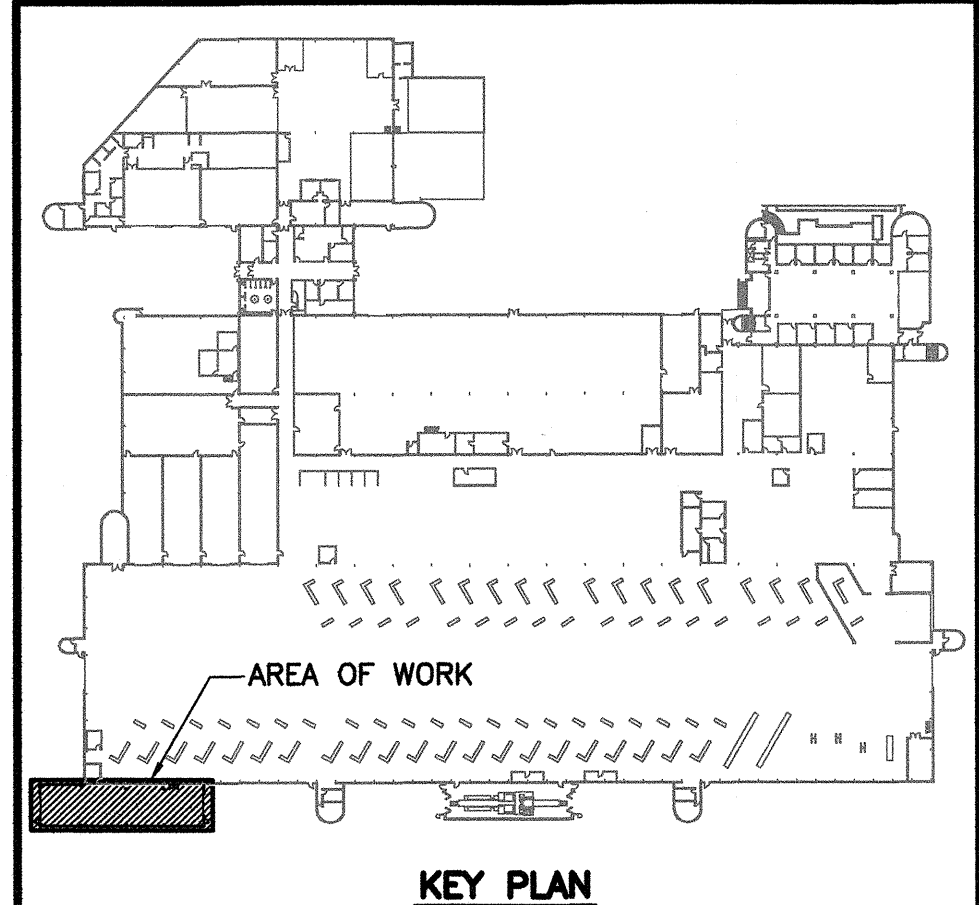


TT PROJECT No. 1329720500



1 SITE PLAN - WINNIPEG TRANSIT - 421 OSBORNE STREET
1 : 1000

REFERENCE DRAWINGS	
NO.	DESCRIPTION



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	EY	CA	DLP	

DESIGNED BY: DLP	PREPARED BY: EV	REVIEWED BY: DLP
AUTHORIZED BY: <i>[Signature]</i>	DATE: 13.11.06	SCALE: AS NOTED

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SUB-CONSULTANTS:

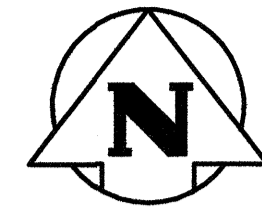
CLIENT:
CITY OF WINNIPEG
TRANSIT DEPARTMENT



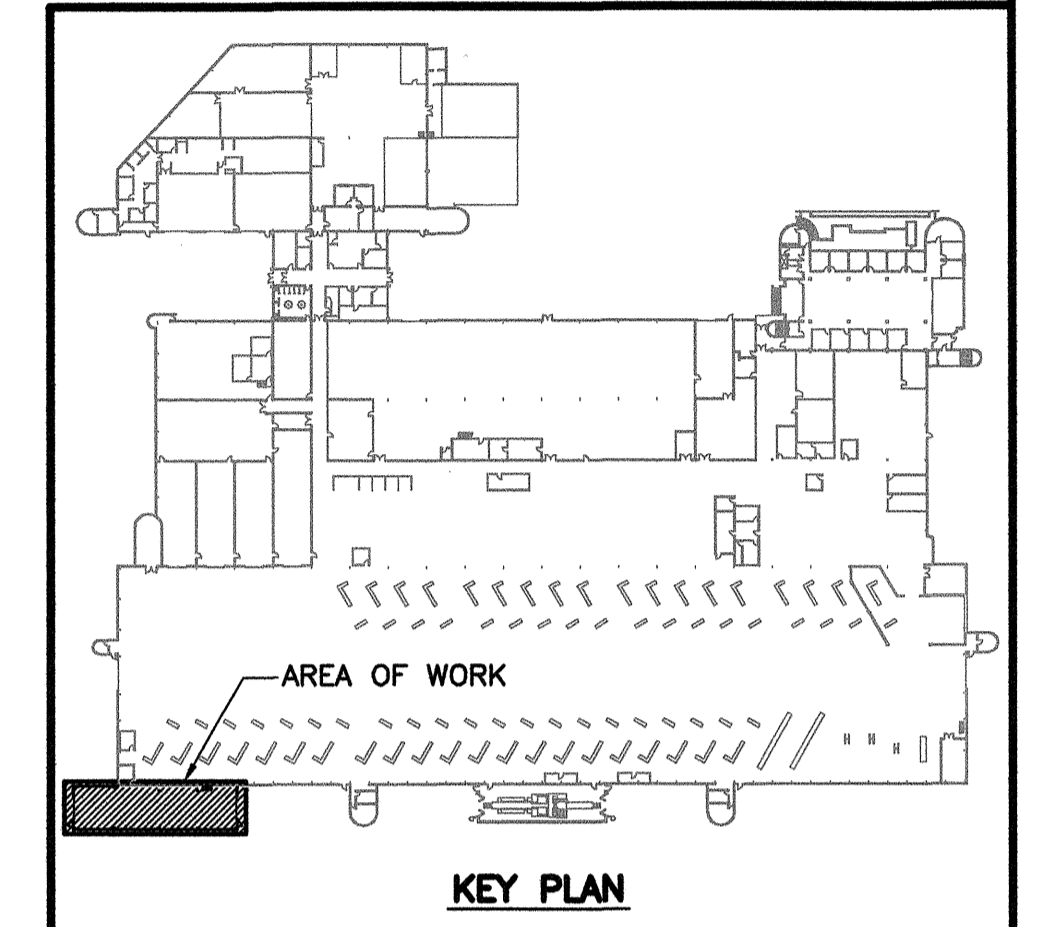
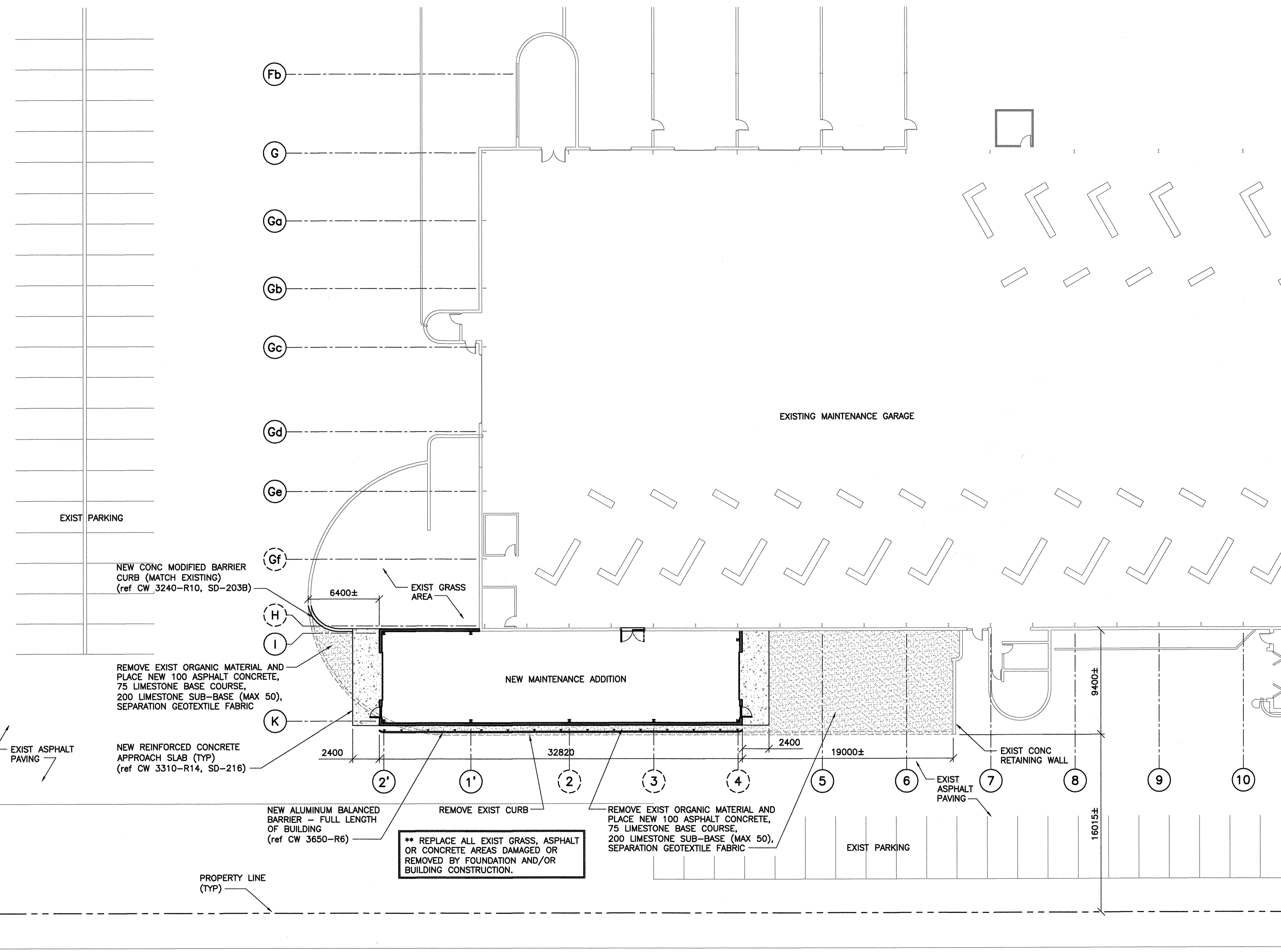
PROJECT NAME:
CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE
BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION:
OVERALL SITE PLAN

DRAWING NO. 1329720500-DWG-G0001	REV: 00
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REFERENCE DRAWINGS	
NO.	DESCRIPTION



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZED
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	GC/DLP	GC/DLP	GC/DLP

DESIGNED BY: GC/DLP	PREPARED BY: EV	REVIEWED BY: DLP
AUTHORIZED BY:	DATE: 13.11.06	SCALE: AS NOTED

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CLIENT:
CITY OF WINNIPEG
TRANSIT DEPARTMENT



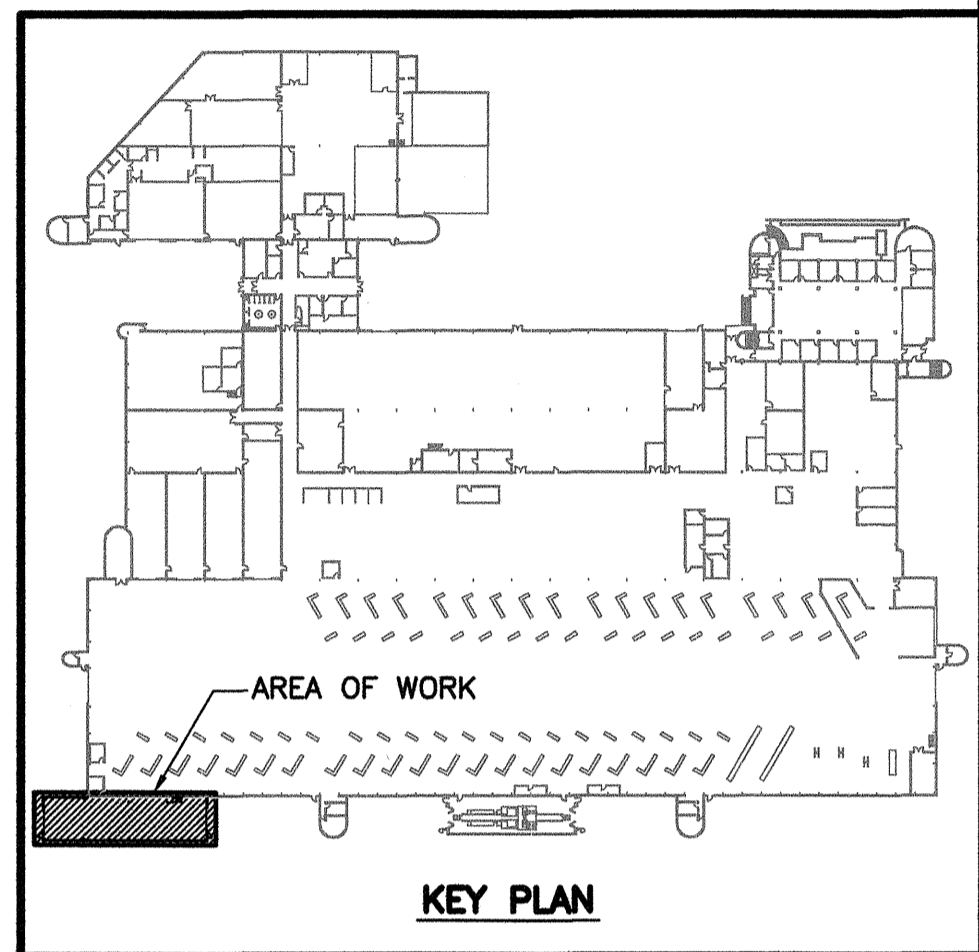
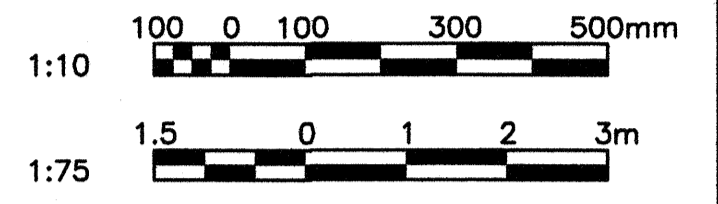
PROJECT NAME:
CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE
BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION:
PAVEMENT MODIFICATION PLAN

DRAWING NO. 1329720500-DWG-G0002	REV: 00
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1
PAVEMENT MODIFICATION PLAN
 1 : 200

REFERENCE DRAWINGS	
NO.	DESCRIPTION

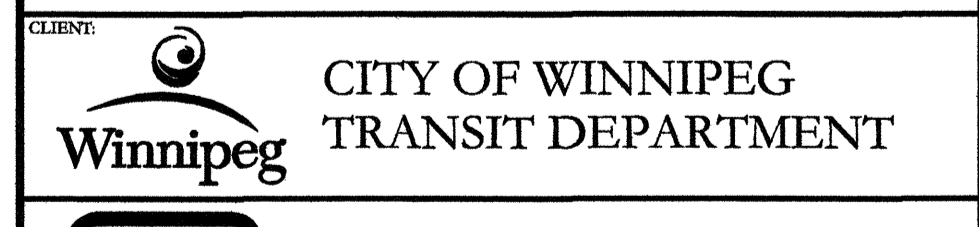


NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	cu	DLP	AS

DESIGNED BY:	PREPARED BY:	REVIEWED BY:
DLP	EV	DLP

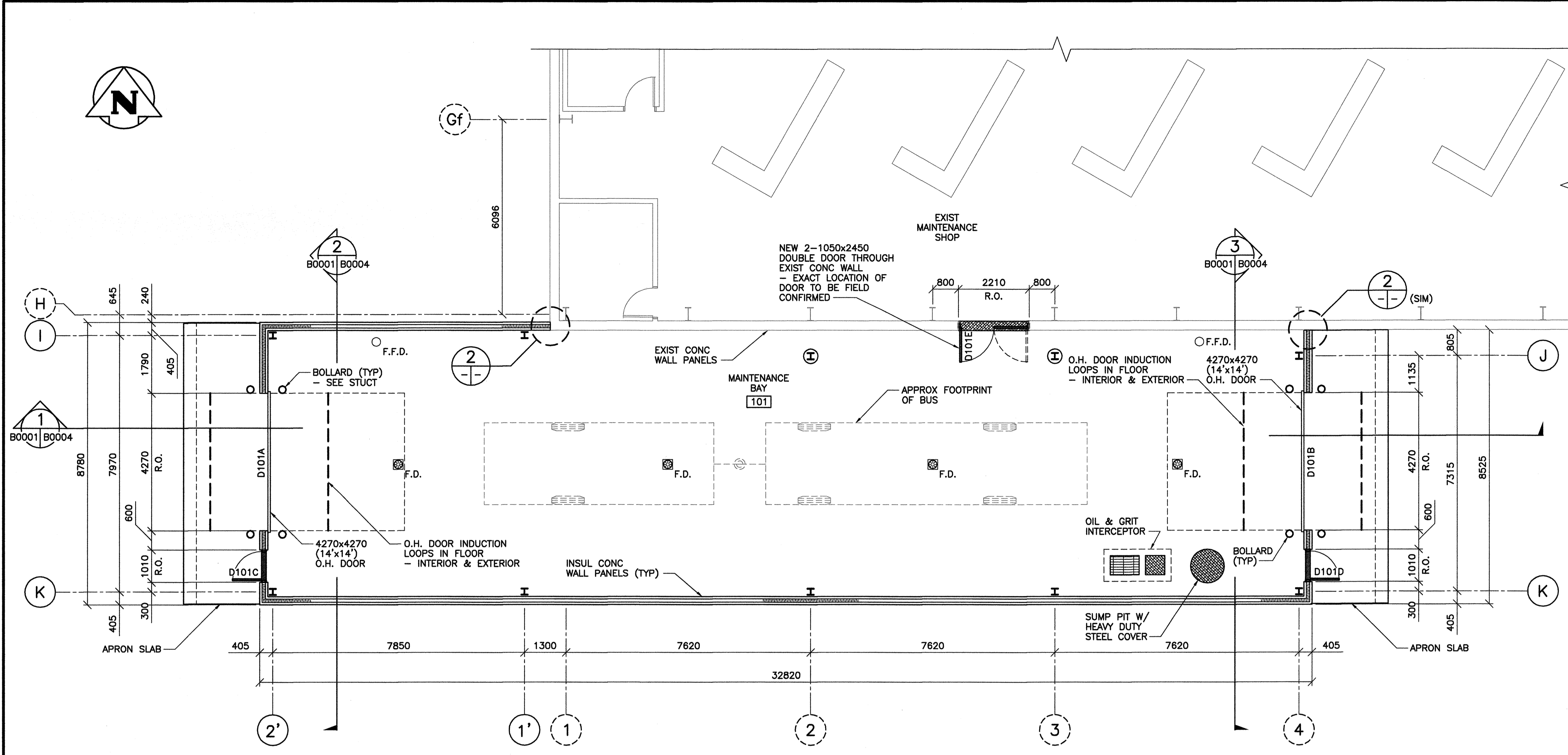
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CLIENT: **CITY OF WINNIPEG TRANSIT DEPARTMENT**

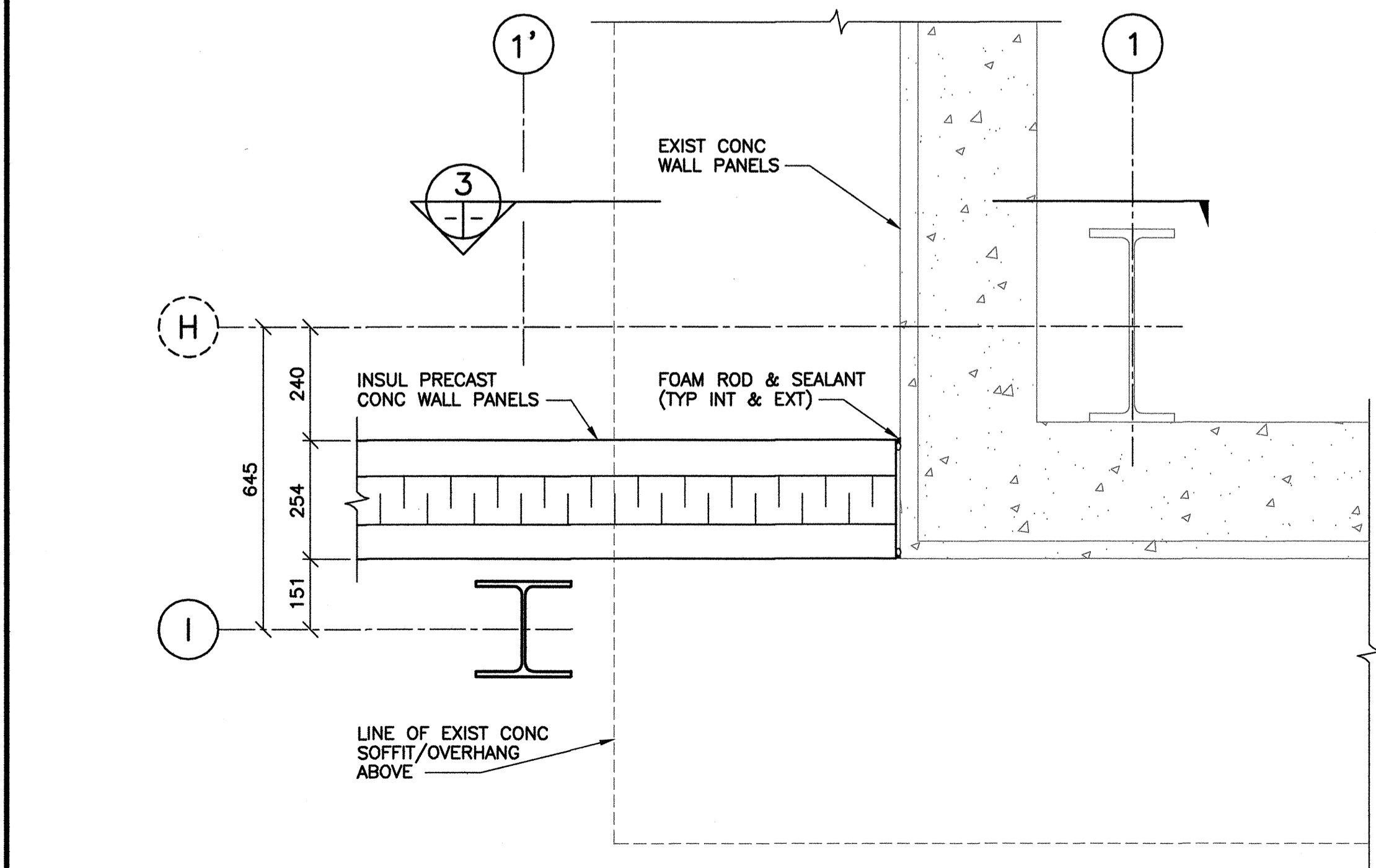


PROJECT NAME: **CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION**

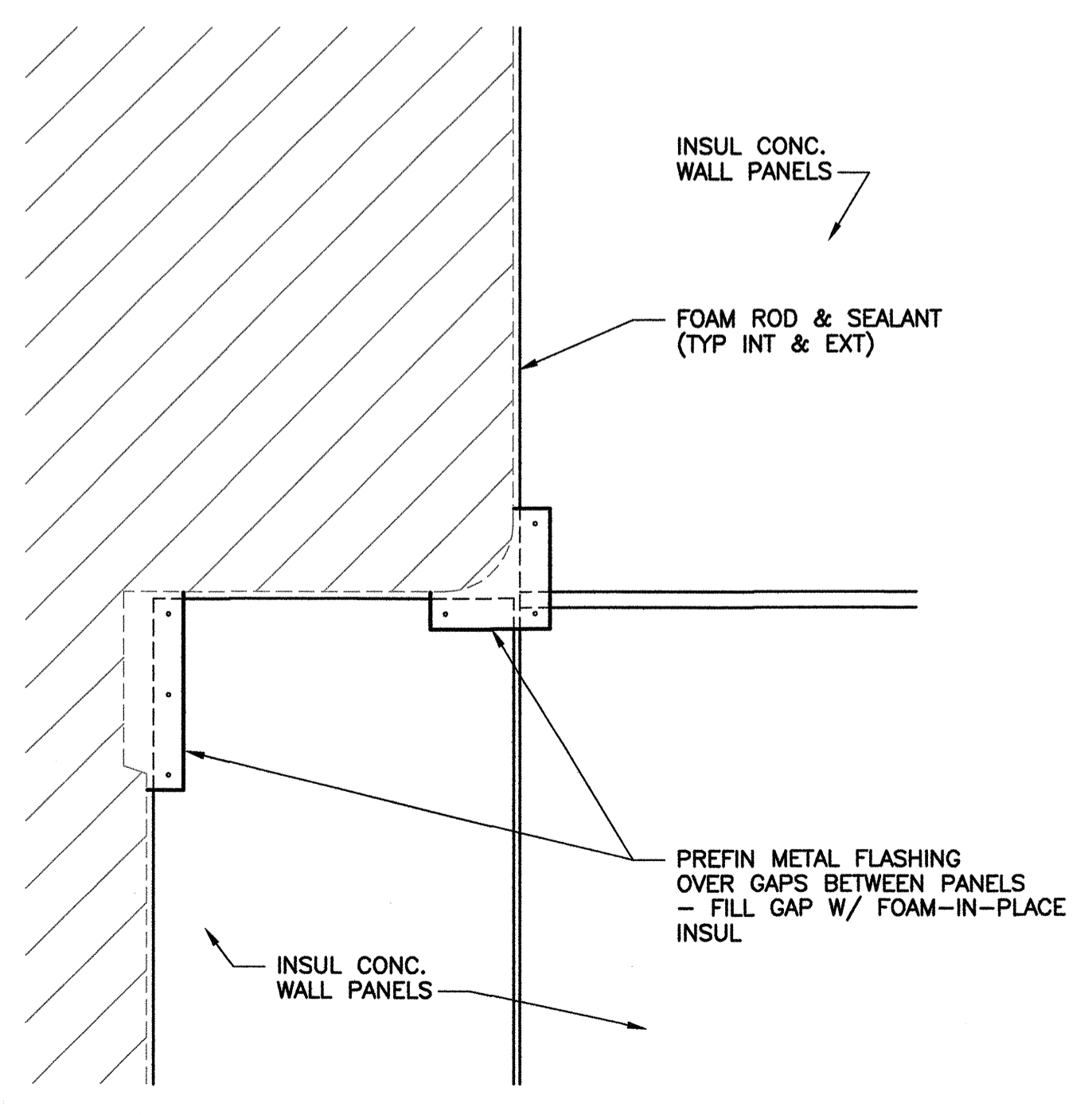
DRAWING NO.	REV.
1329720500-DWG-B0001	00



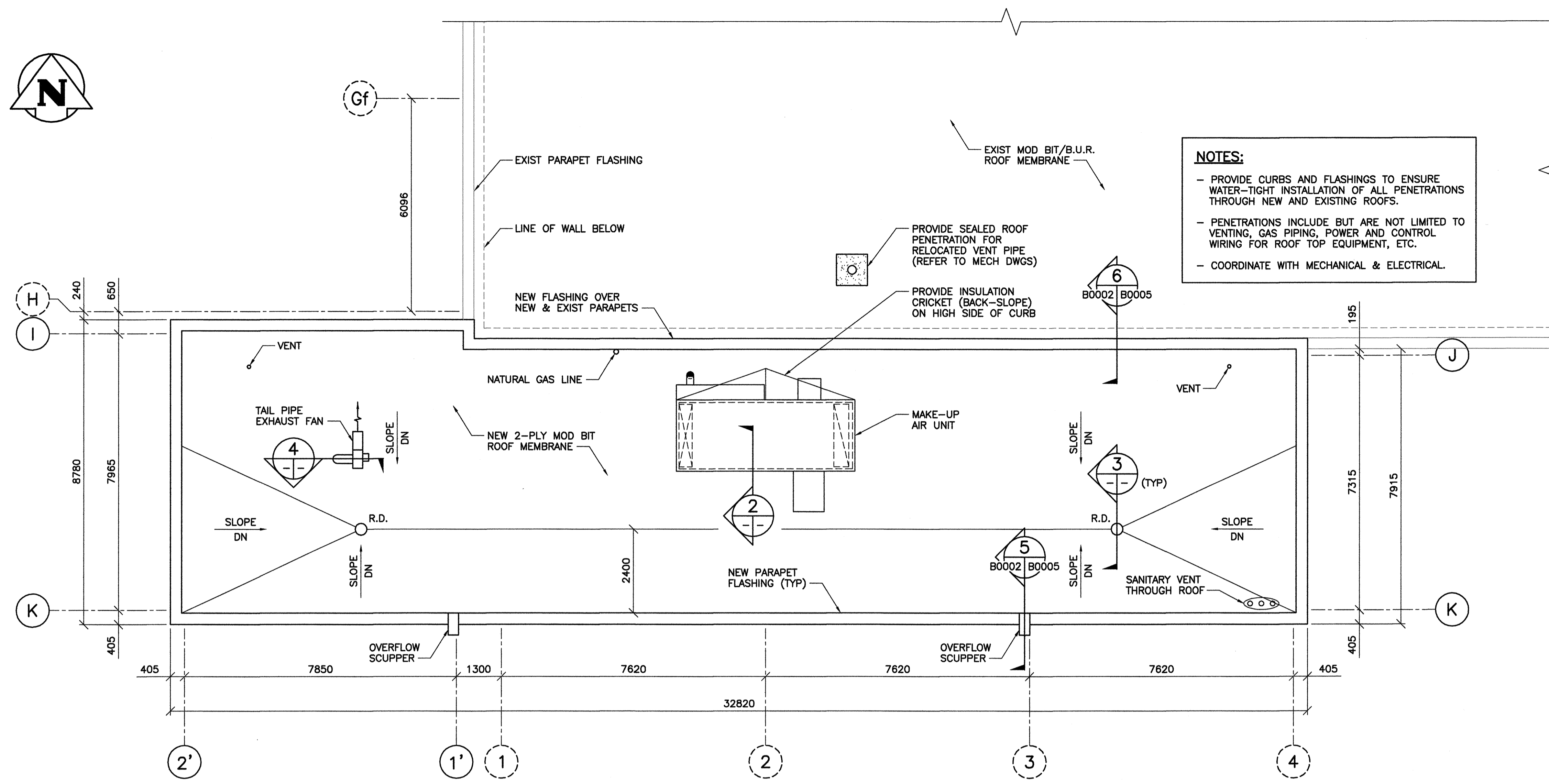
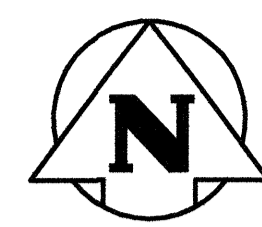
1 FLOOR PLAN
1 : 75



2 CORNER DETAIL
1 : 10



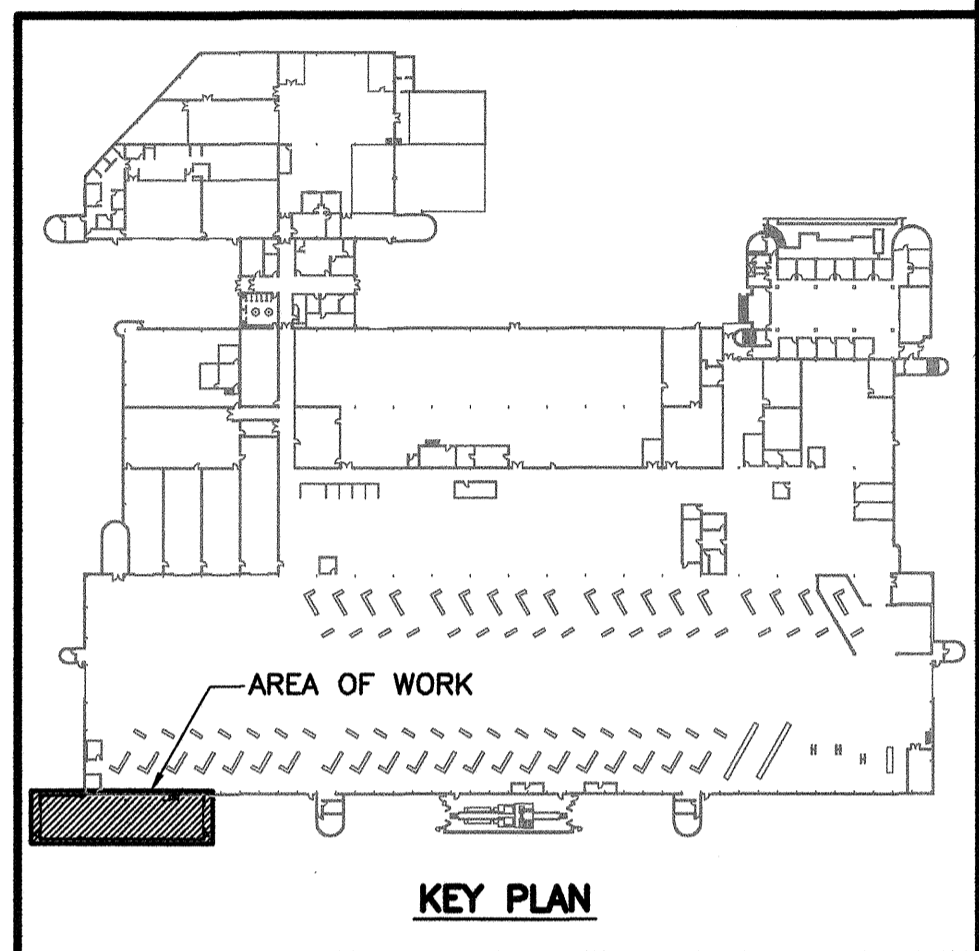
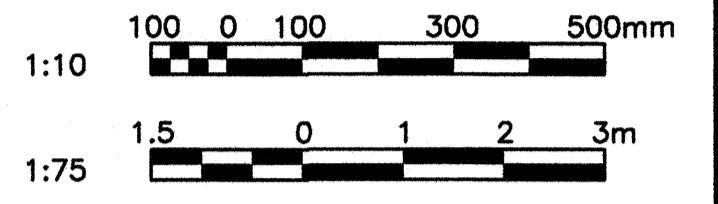
3 DETAIL @ SOFFIT/OVERHANG
1 : 10



NOTES:

- PROVIDE CURBS AND FLASHINGS TO ENSURE WATER-TIGHT INSTALLATION OF ALL PENETRATIONS THROUGH NEW AND EXISTING ROOFS.
- PENETRATIONS INCLUDE BUT ARE NOT LIMITED TO VENTING, GAS PIPING, POWER AND CONTROL WIRING FOR ROOF TOP EQUIPMENT, ETC.
- COORDINATE WITH MECHANICAL & ELECTRICAL.

REFERENCE DRAWINGS	
NO.	DESCRIPTION



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	APPROVAL
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	CM	DLP	

PROVINCE OF MANITOBA
C.A. MOTA
Member
No. 24320
REGISTERED PROFESSIONAL ENGINEER

APGEM
Certificate of Authorization
TETRA TECH WEI Inc.
No. 5313 Date: April 30, 2014

DESIGNED BY	PREPARED BY	REVIEWED BY
DLP	EV	DLP

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CLIENT: **CITY OF WINNIPEG TRANSIT DEPARTMENT**



PROJECT NAME: **CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION**

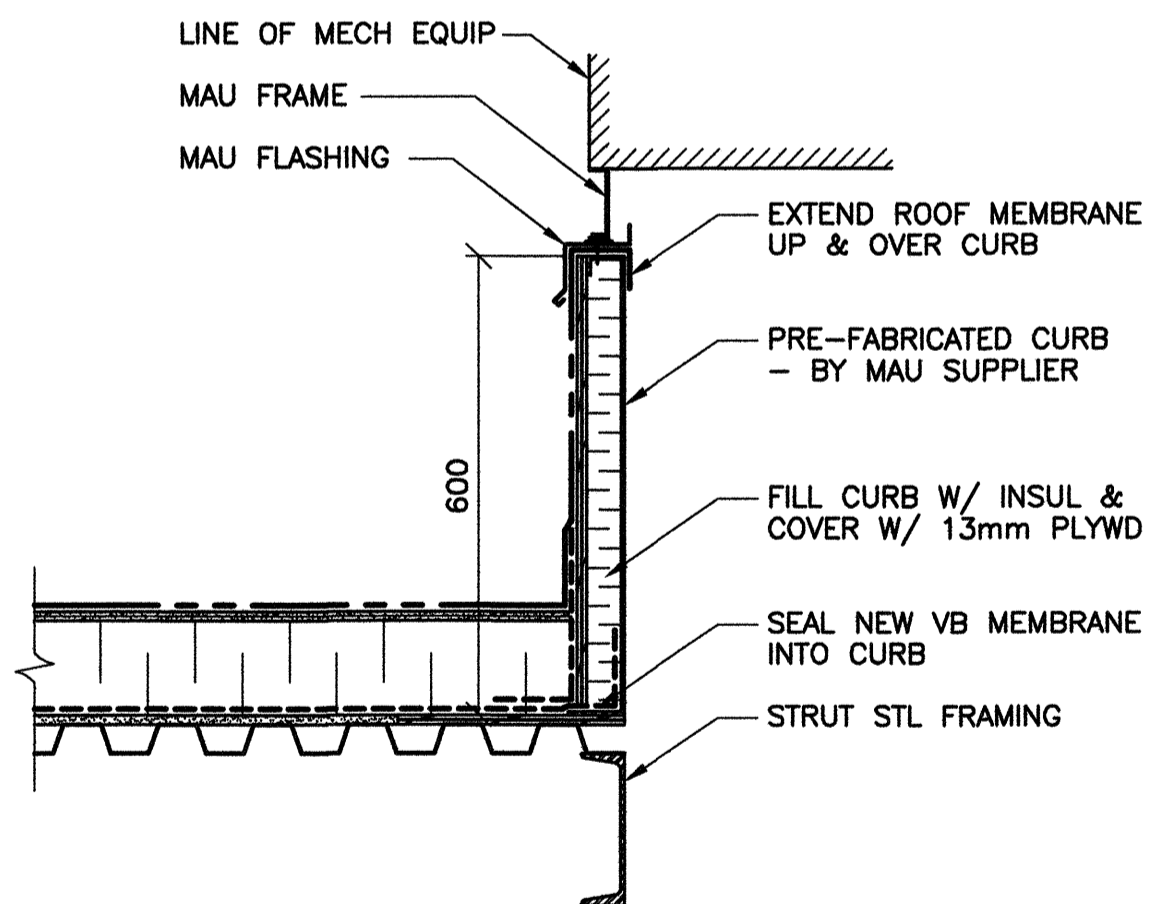
DRAWING DESCRIPTION: **ROOF PLAN**

DRAWING NO. 1329720500-DWG-B0002	REV: 00
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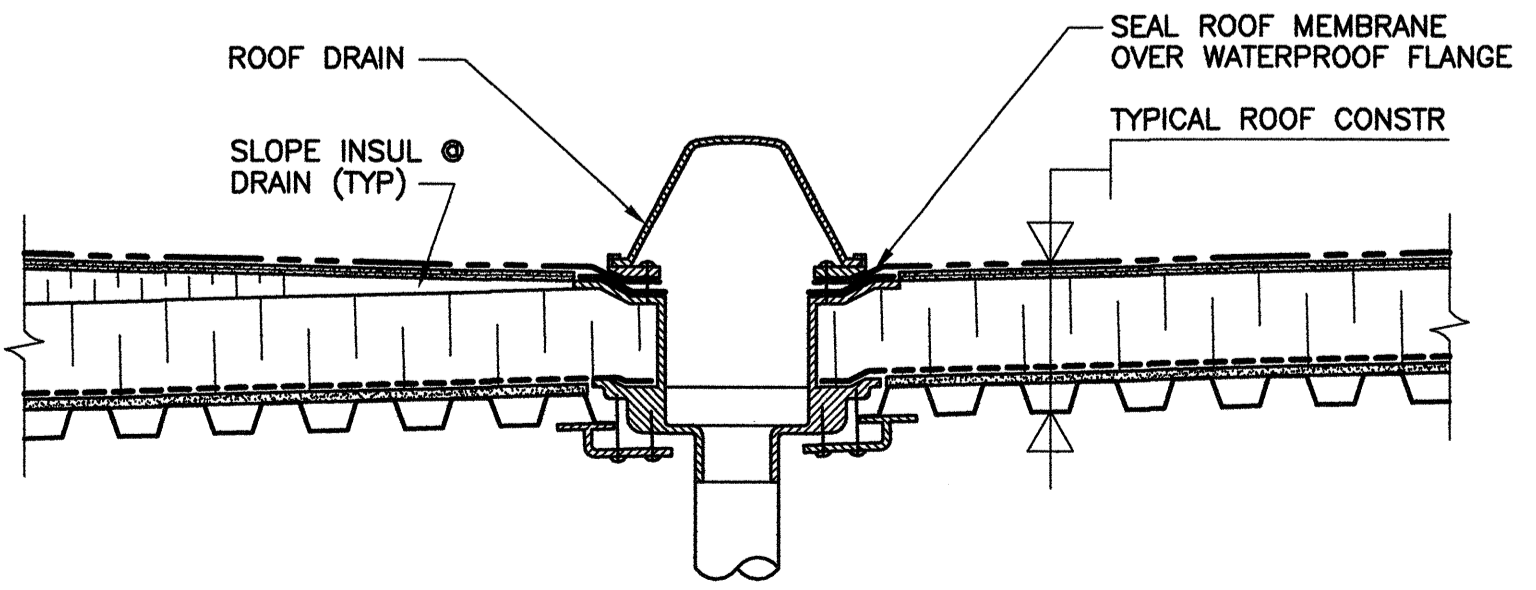
1 ROOF PLAN
1 : 75

ROOF SLOPES:

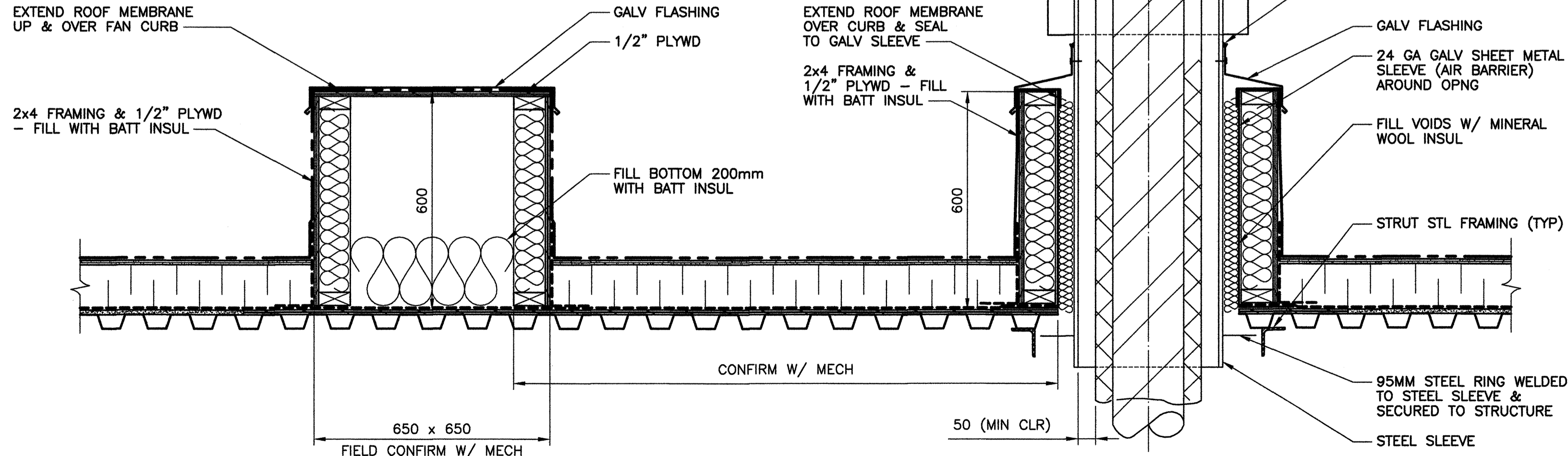
- NOMINAL 2.5% STRUCTURAL SLOPE FROM NORTH TO SOUTH - REFER TO STRUCTURAL DRAWINGS.
- INSULATION BACKSLOPE TO FORM MIN 2.5% REVERSE SLOPE (±5% INSULATION SLOPE).



2 MAU ROOF CURB
1 : 10

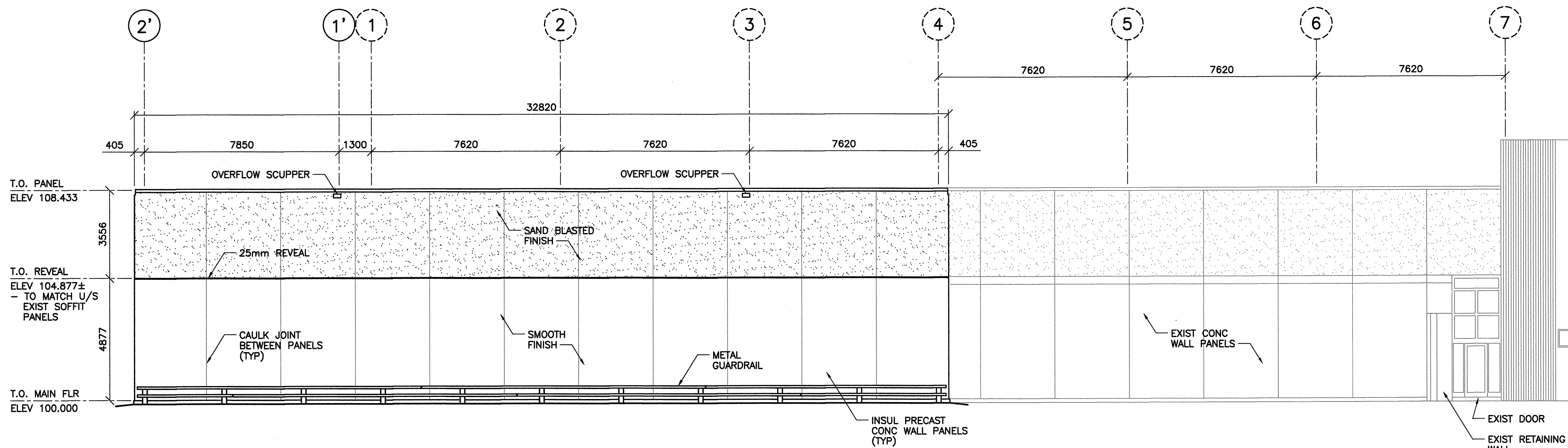


3 ROOF DRAIN DETAIL
1 : 10

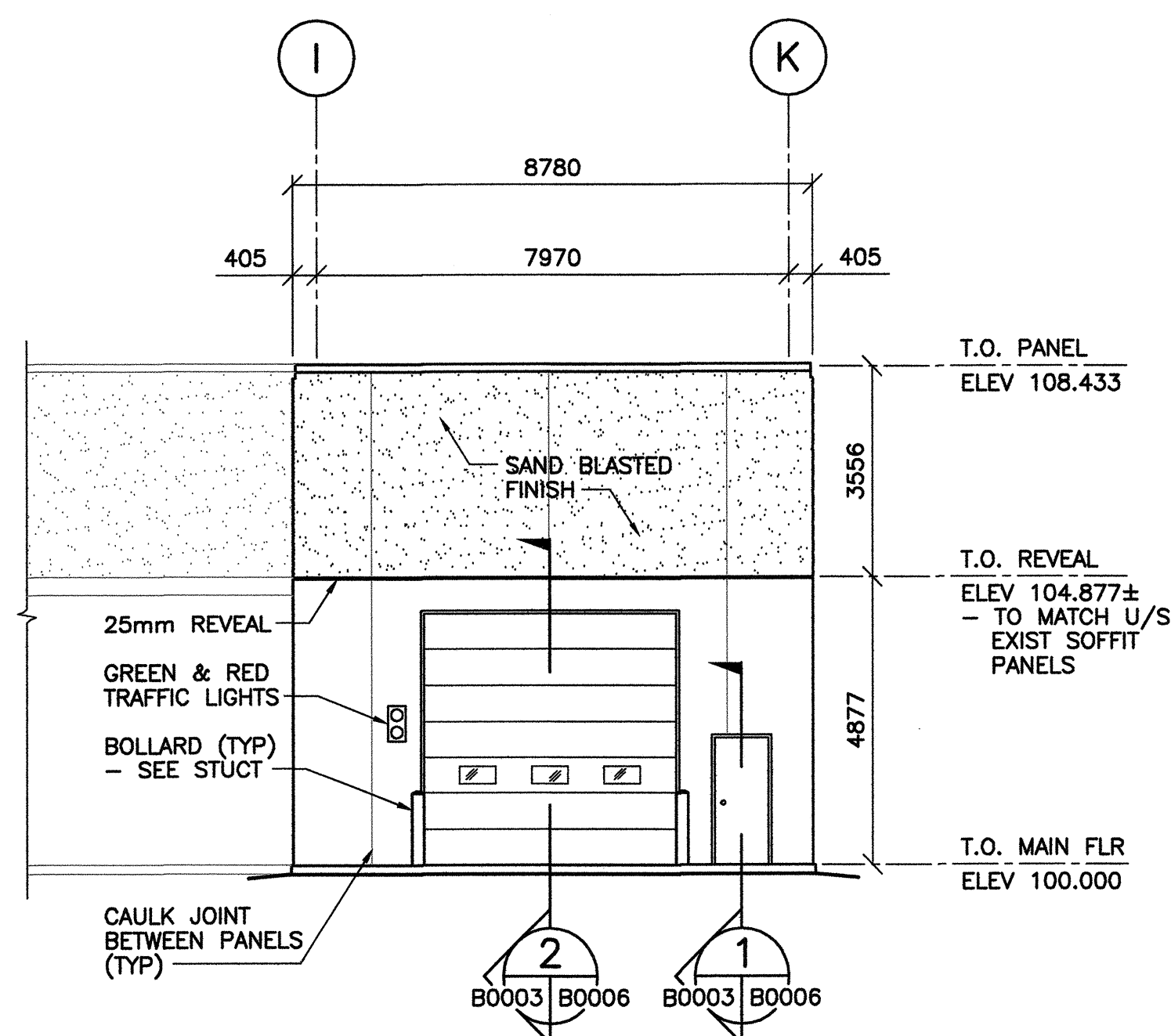


4 EXHAUST FAN CURBS
1 : 10

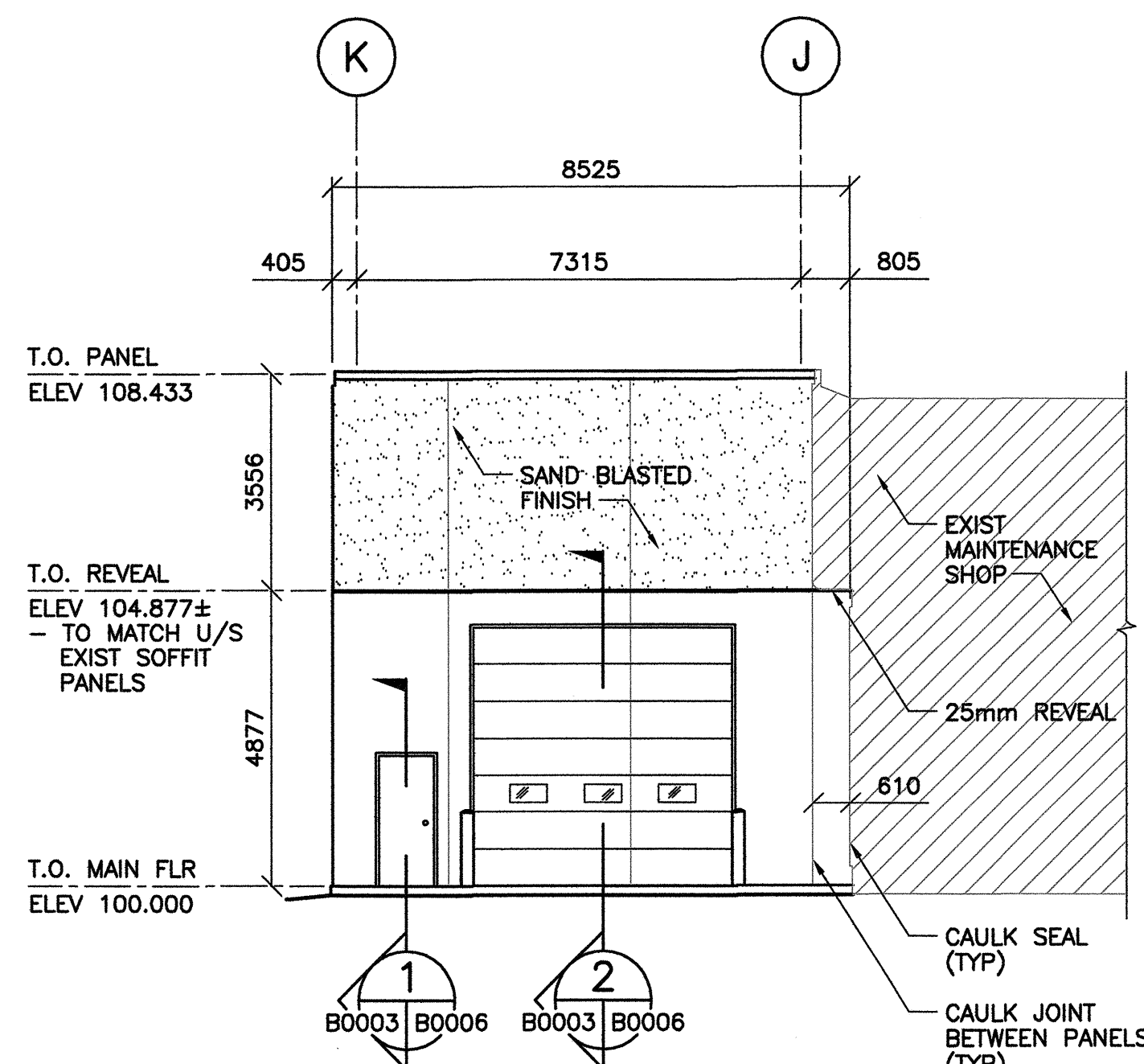
REFER TO MECHANICAL FOR ADDITIONAL DETAILS AND DUCT INSTALLATION.



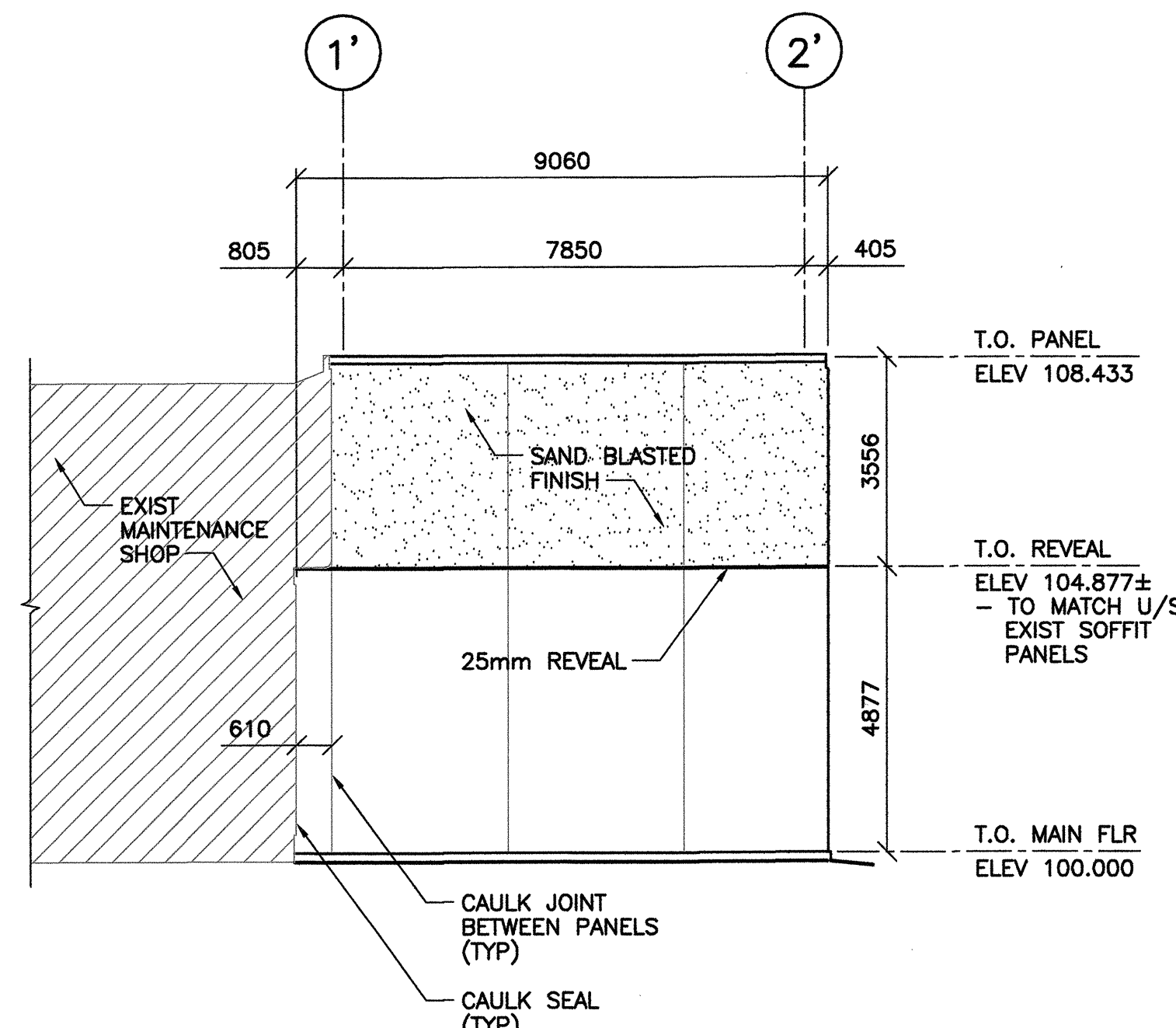
1 SOUTH ELEVATION
1 : 100



2 WEST ELEVATION
1 : 100

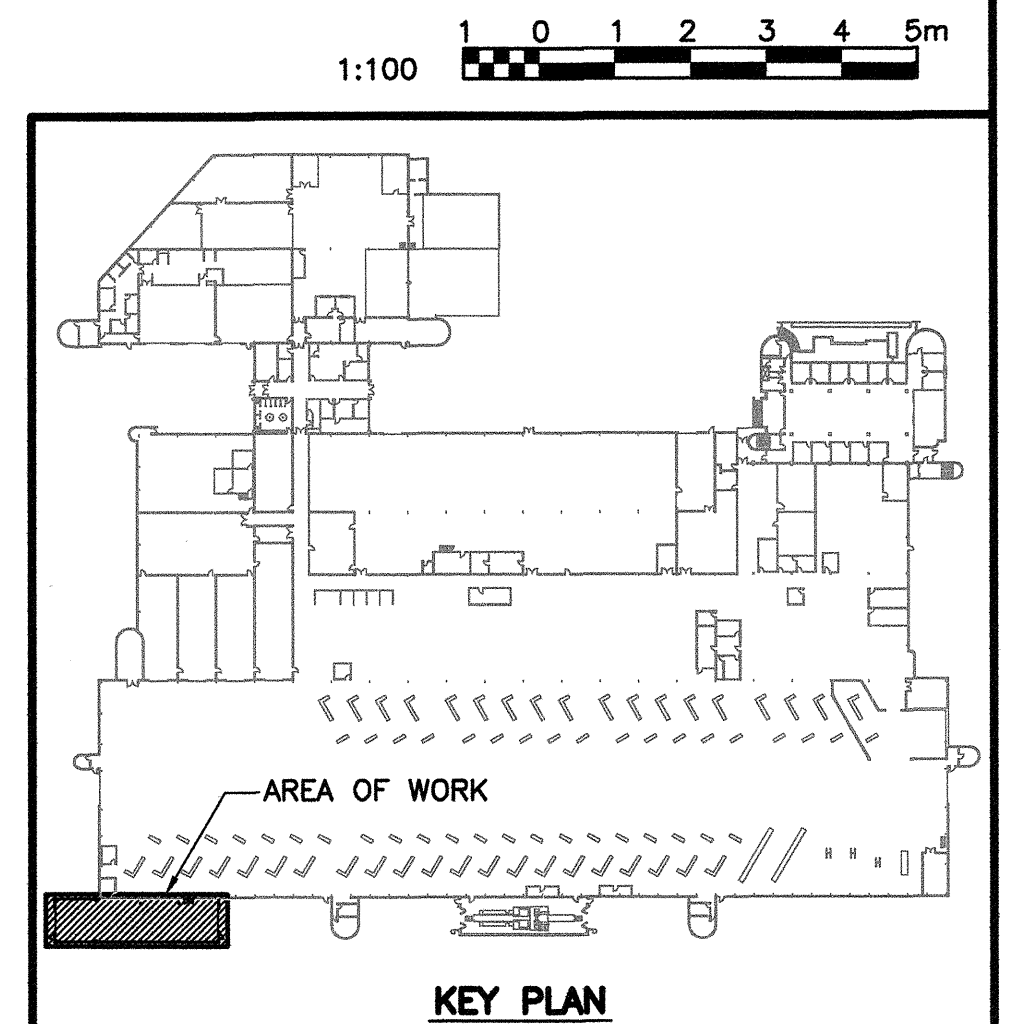


3 EAST ELEVATION
1 : 100



4 PARTIAL NORTH ELEVATION
1 : 100

REFERENCE DRAWINGS	
NO.	DESCRIPTION



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZED
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	CAA	DLP	[Signature]

DESIGNED BY: DLP
 AUTHORIZED BY: [Signature]
 PREPARED BY: EV
 DATE: 13.11.06
 REVIEWED BY: DLP
 SCALE: AS NOTED

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CLIENT: **CITY OF WINNIPEG TRANSIT DEPARTMENT**

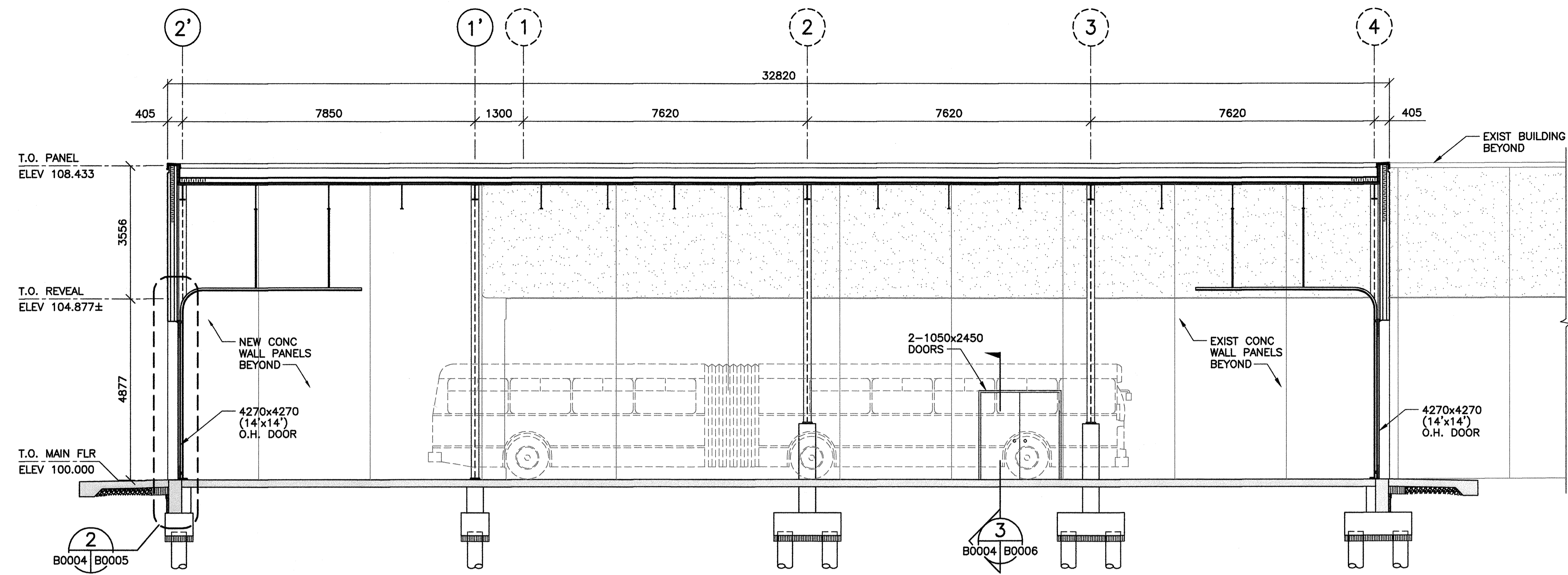


PROJECT NAME: **CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION**

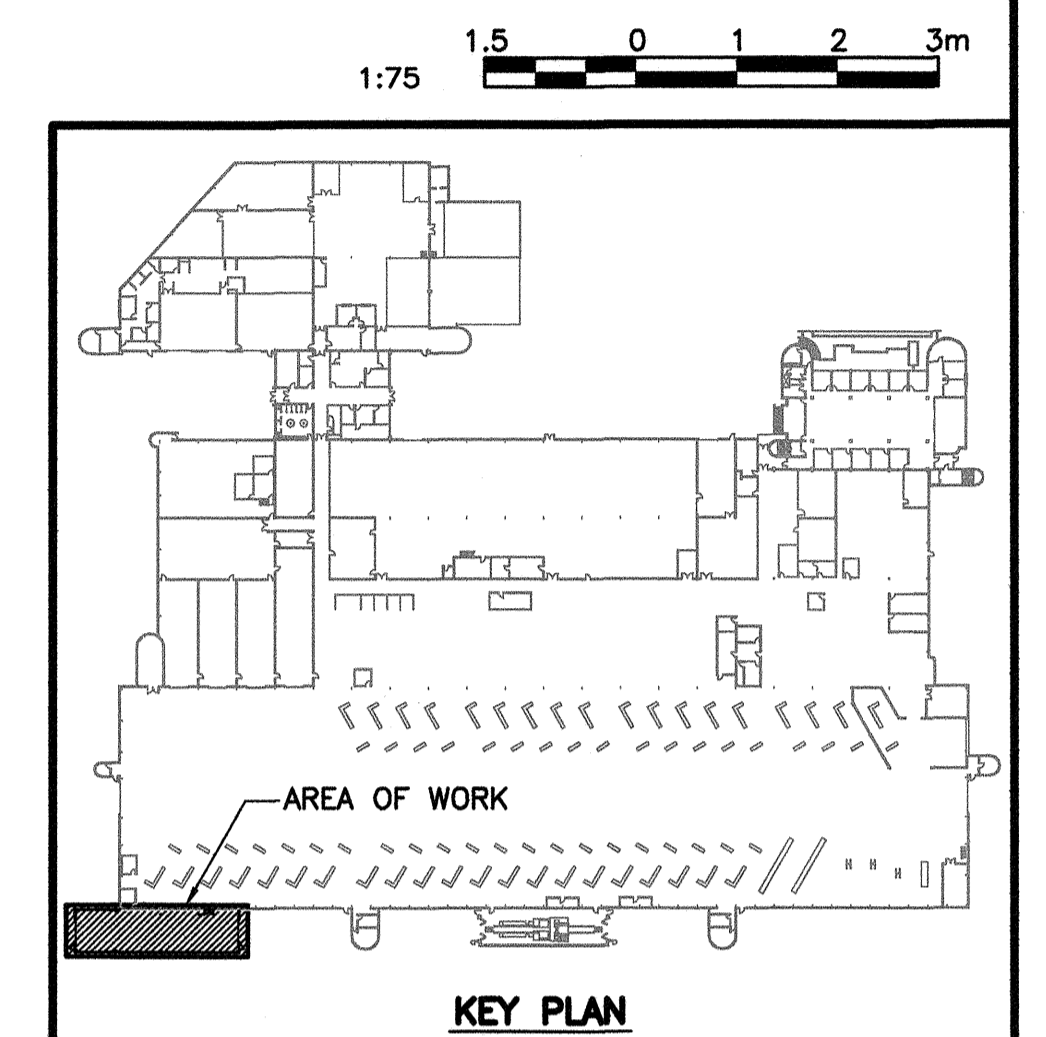
DRAWING DESCRIPTION: **EXTERIOR ELEVATIONS**

DRAWING NO. 1329720500-DWG-B0003	REV. 00
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REFERENCE DRAWINGS	
NO.	DESCRIPTION



1 BUILDING SECTION
B0001|B0004 1 : 75



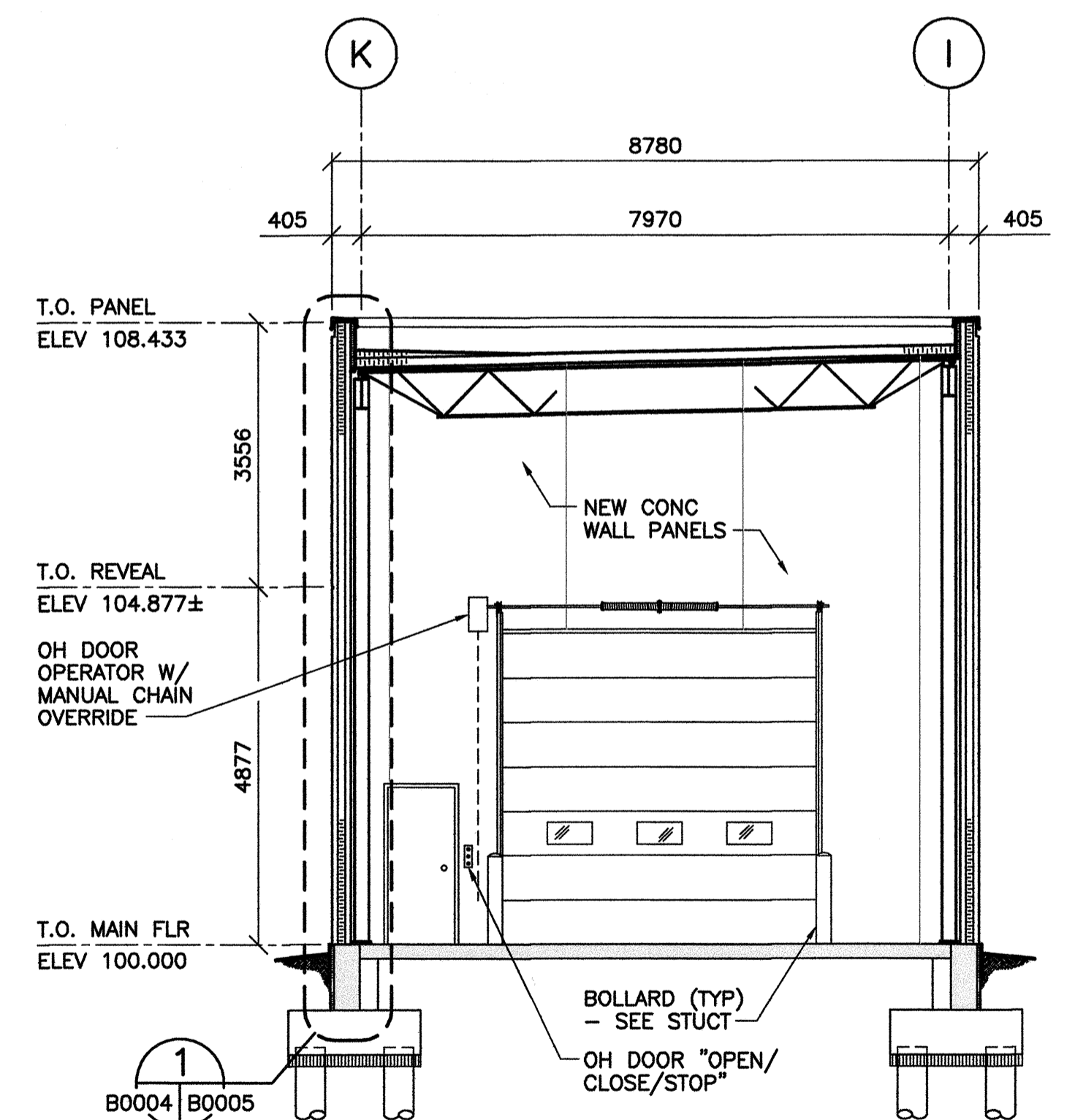
NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZED
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	CM	DLP	[Signature]

DESIGNED BY: DLP
 AUTHORIZED BY: [Signature]
 PREPARED BY: EV
 DATE: 13.11.06
 REVIEWED BY: DLP
 SCALE: AS NOTED

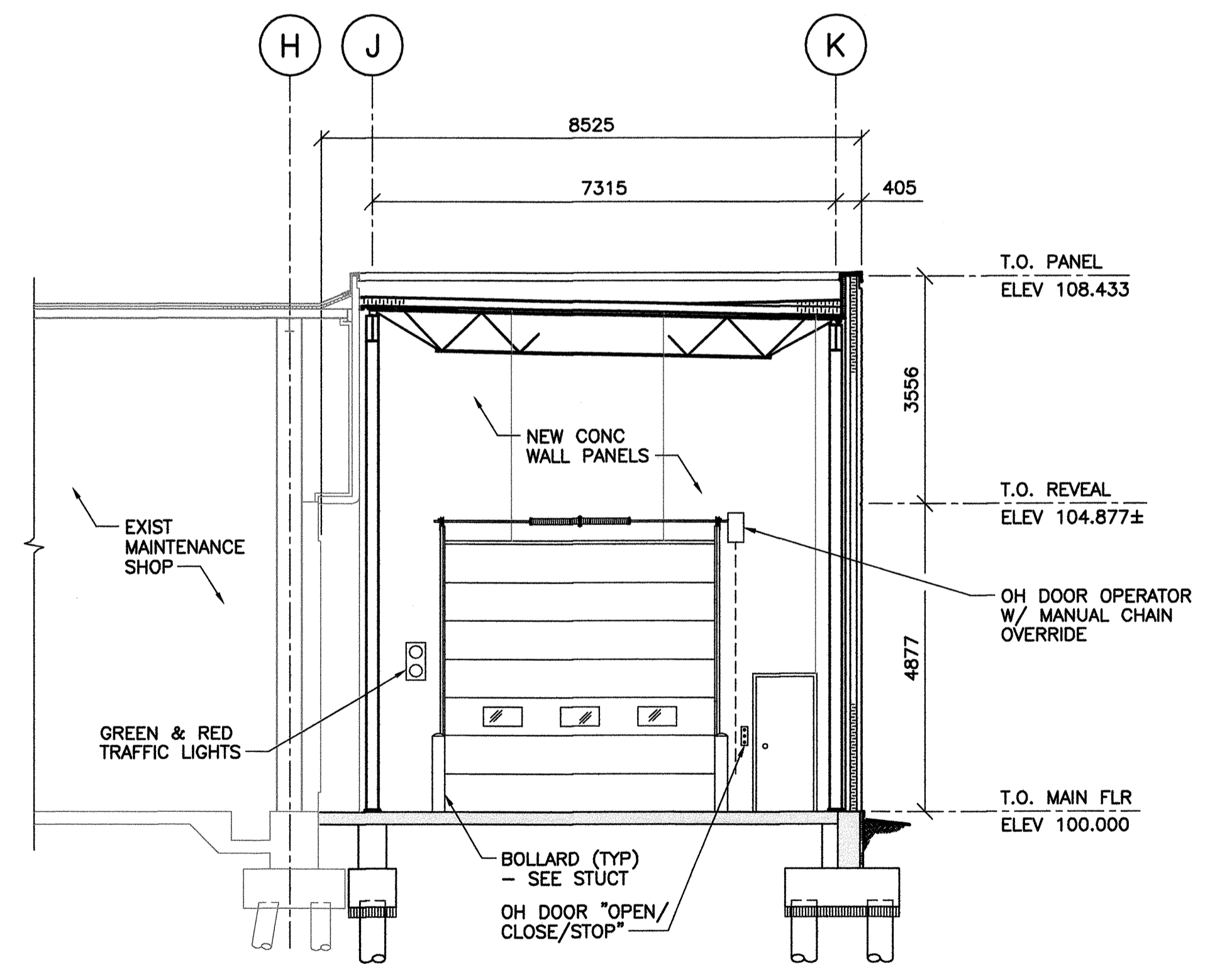
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PROVINCE OF MANITOBA
 REGISTERED PROFESSIONAL ENGINEER
 MOTA Member
 24320
 2017

APEGM
 Certificate of Authorization
 TETRA TECH WEI Inc.
 No. 5313 Date: April 30, 2014



2 BUILDING SECTION
B0001|B0004 1 : 75



3 BUILDING SECTION
B0001|B0004 1 : 75

CLIENT: **CITY OF WINNIPEG**
Winnipeg TRANSIT DEPARTMENT

TETRA TECH

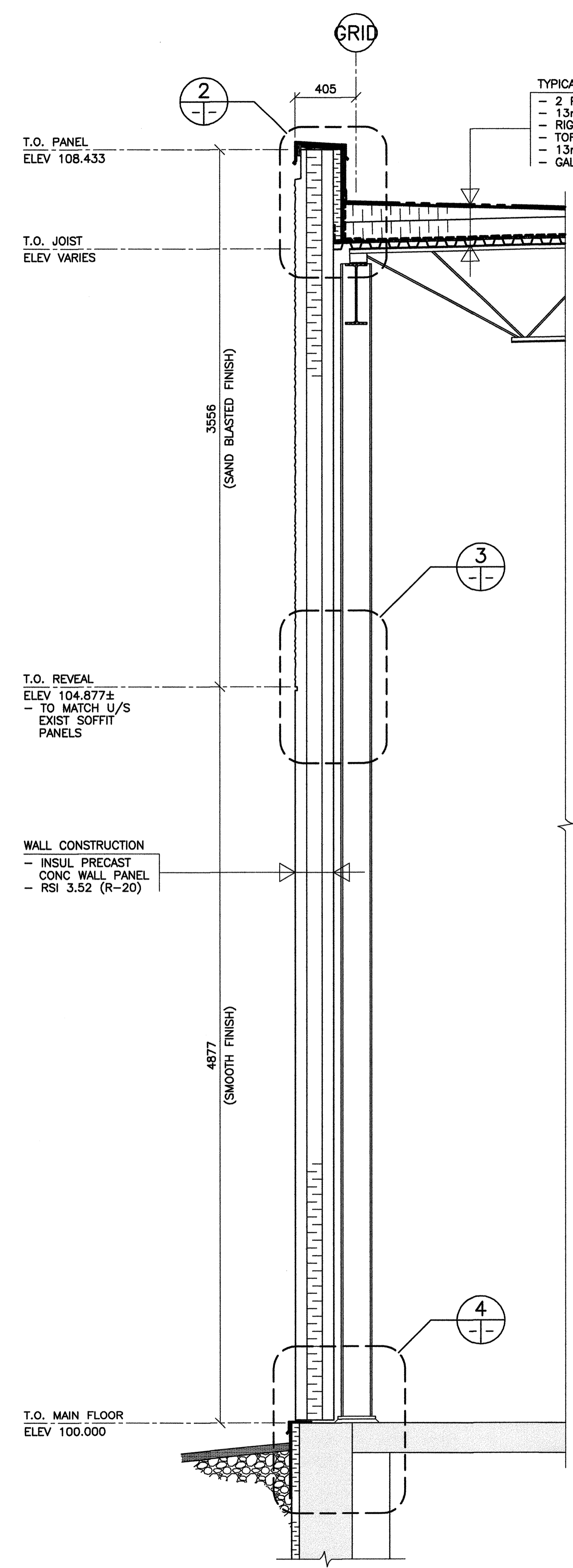
PROJECT NAME:
 CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE
 BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION:
BUILDING SECTIONS

DRAWING NO:
 1329720500-DWG-B0004

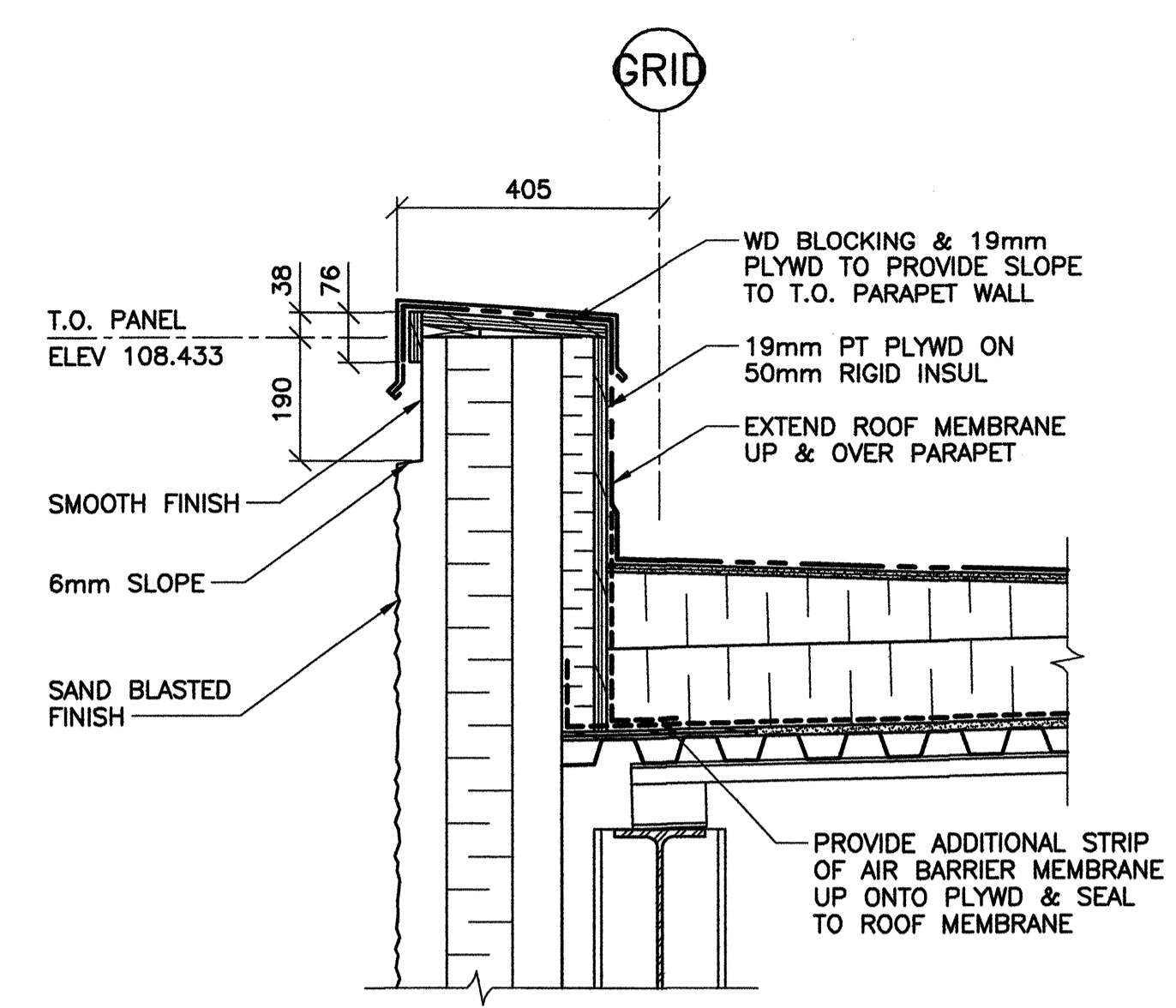
REV:
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REFERENCE DRAWINGS	
NO.	DESCRIPTION

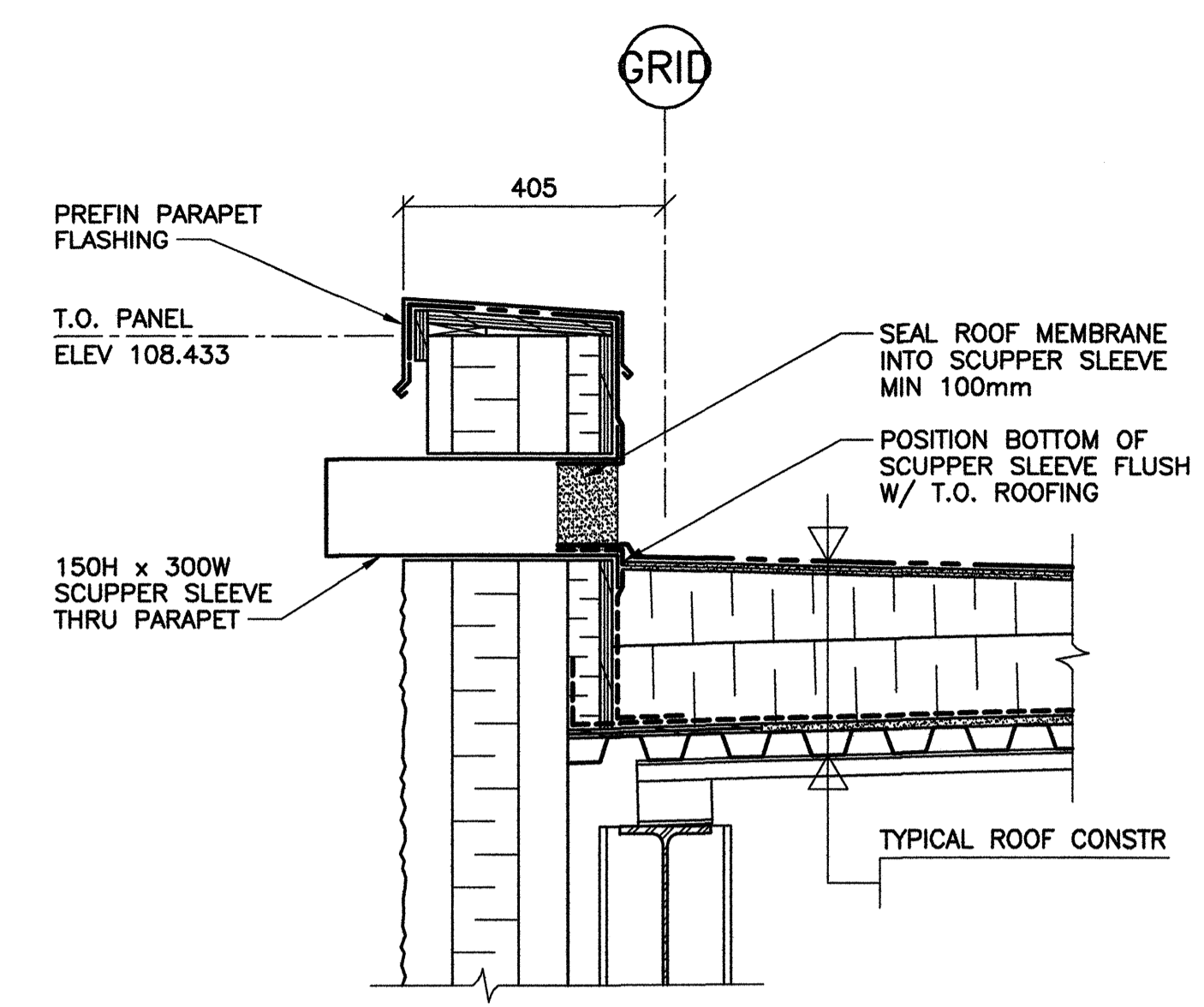


1 TYP WALL SECTION
B0004 B0005 1 : 20

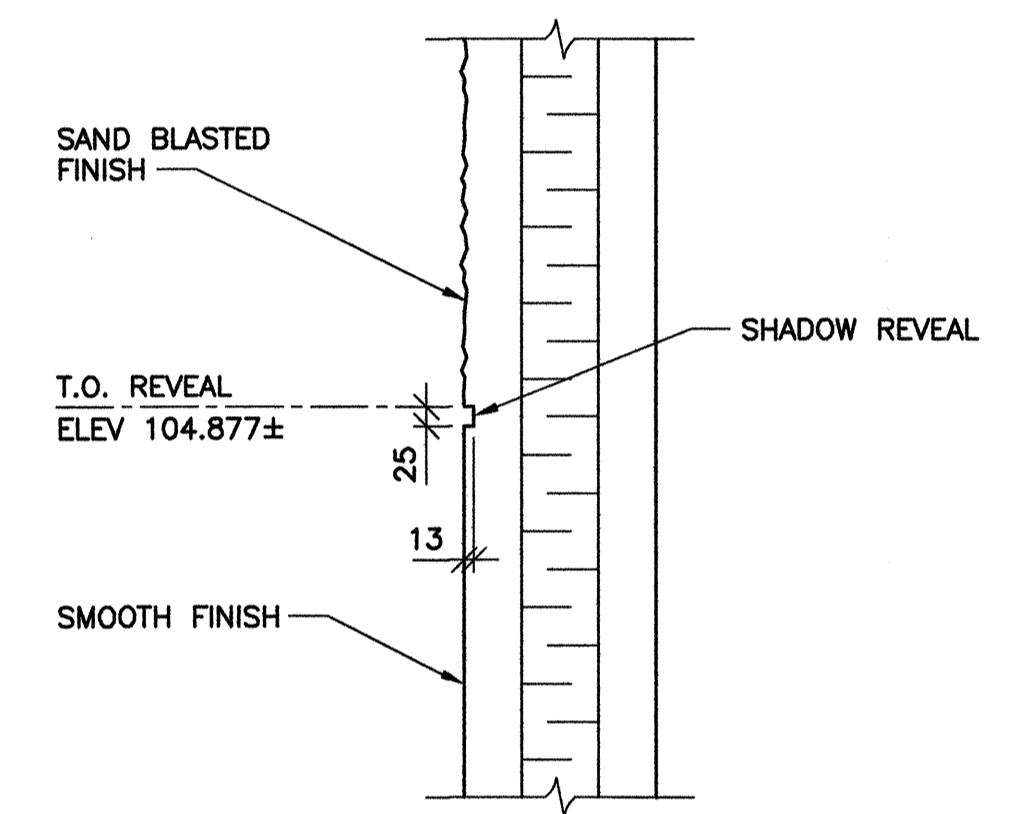
- TYPICAL ROOF CONSTRUCTION
- 2 PLY MOD BIT ROOF MEMBRANE
 - 13mm FIBREBOARD
 - RIGID INSUL RSI 5.28 (R-30)
 - TORCH-ON AIR BARRIER MEMBRANE
 - 13mm GYPSUM BOARD
 - GALV STL ROOF DECK



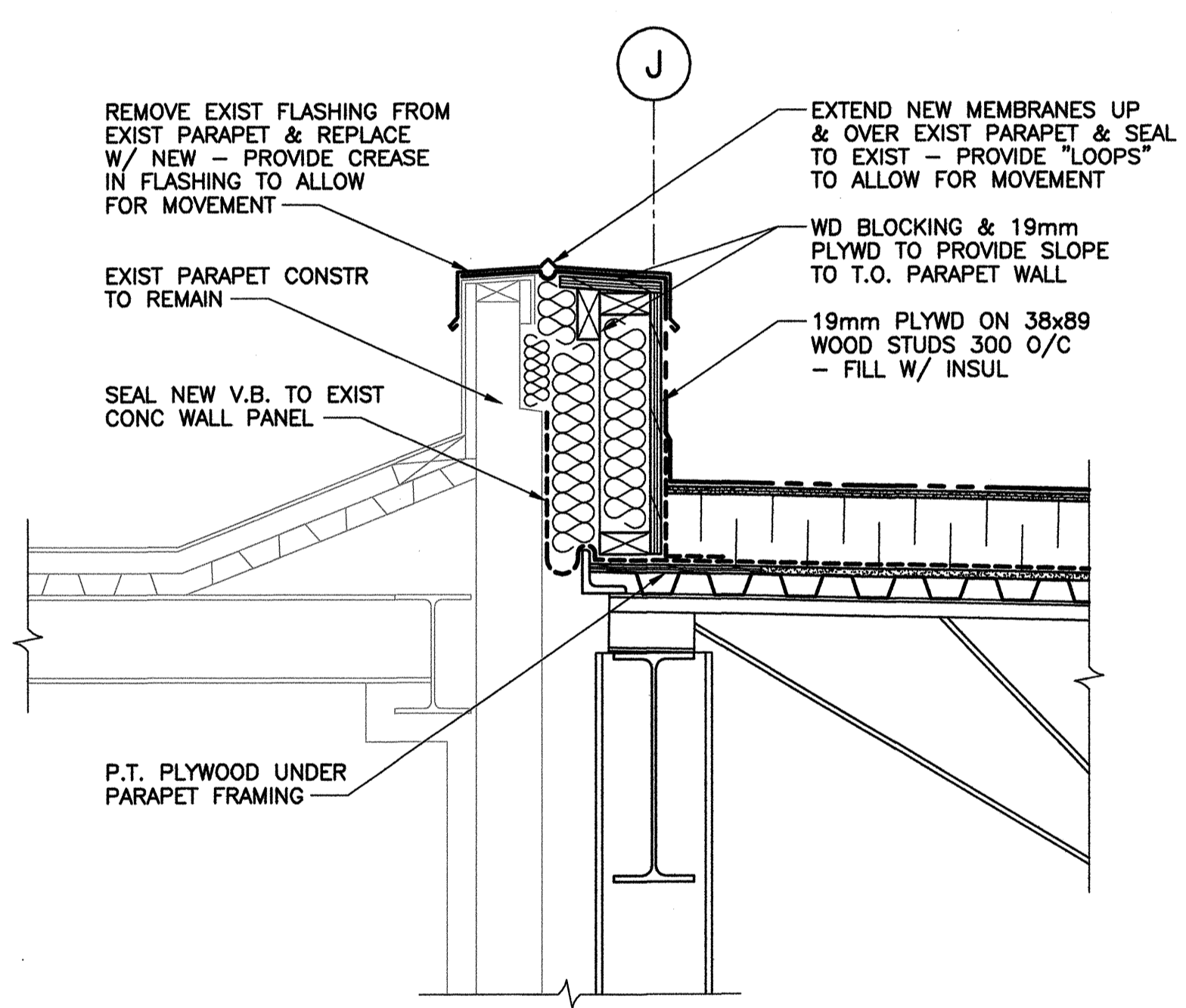
2 PARAPET DETAIL
1 : 10



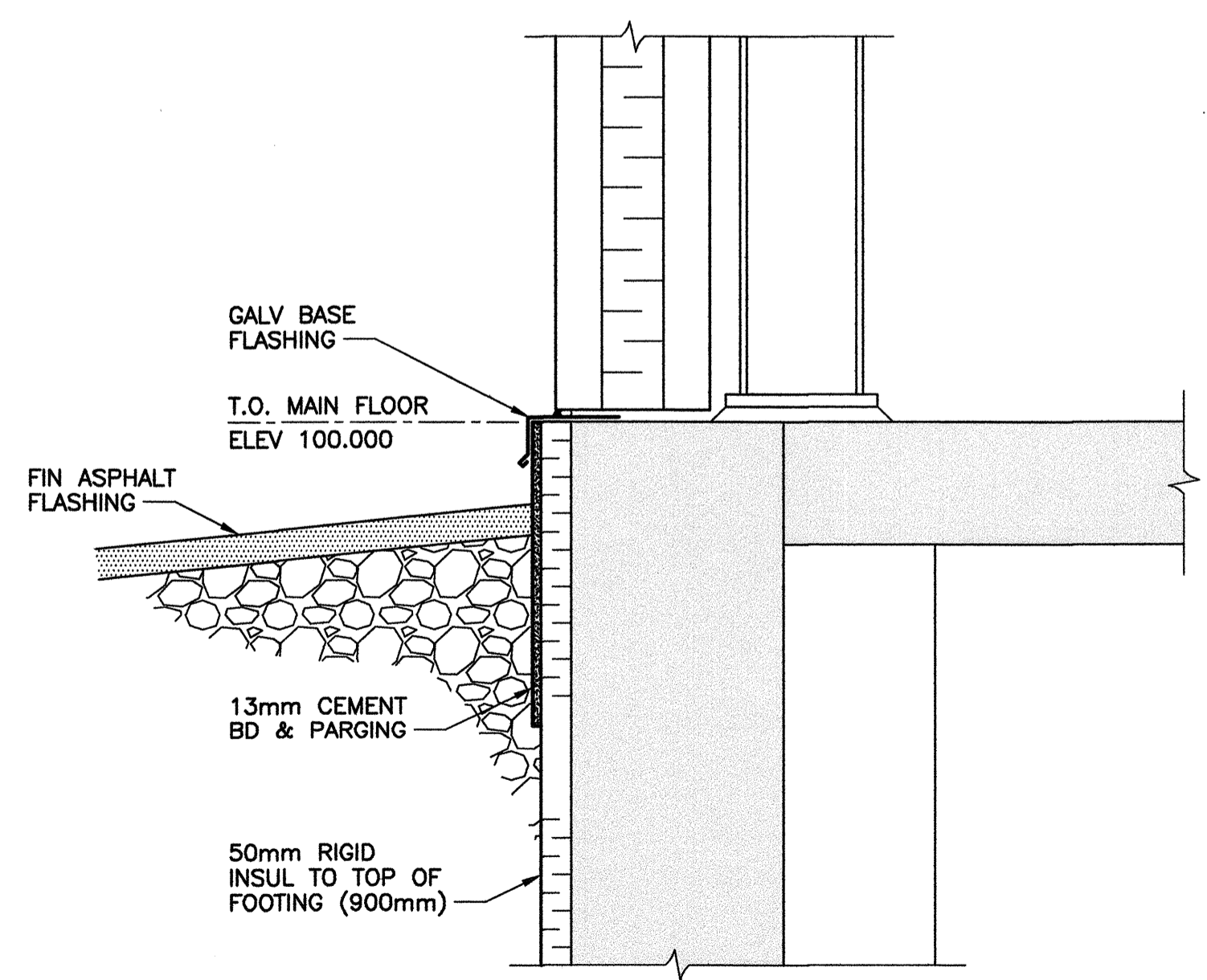
5 SCUPPER DETAIL
B0002 B0005 1 : 10



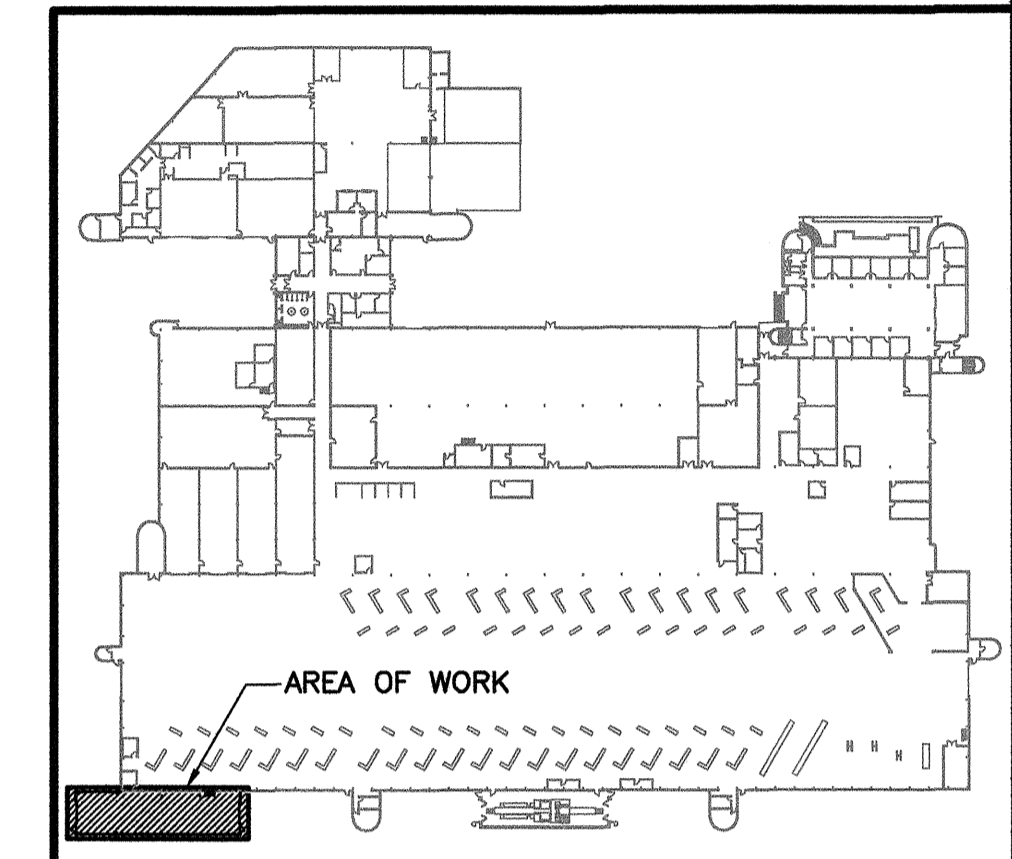
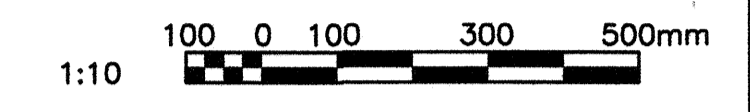
3 REVEAL DETAIL
1 : 10



6 ROOF INTERFACE DETAIL AT EXIST & NEW
B0002 B0005 1 : 10



4 BASE DETAIL
1 : 10



NO.	DATE	DESCRIPTION	PREPARED	REVIEWED	DESIGN	AUTHORIZED
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	EV	DLP	DLP

SEAL

PERMIT STAMP

PROVINCE OF MANITOBA
MOTA
Member
24320
REGISTERED PROFESSIONAL ENGINEER

APEGM
Certificate of Authorization
TETRA TECH WEI Inc.
No. 5313 Date: April 30, 2014

DESIGNED BY	PREPARED BY	REVIEWED BY
DLP	EV	DLP

AUTHORIZED BY: [Signature] DATE: 13.11.06 SCALE: AS NOTED

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SUB-CONSULTANTS:

CLIENT: **Winnipeg** CITY OF WINNIPEG TRANSIT DEPARTMENT

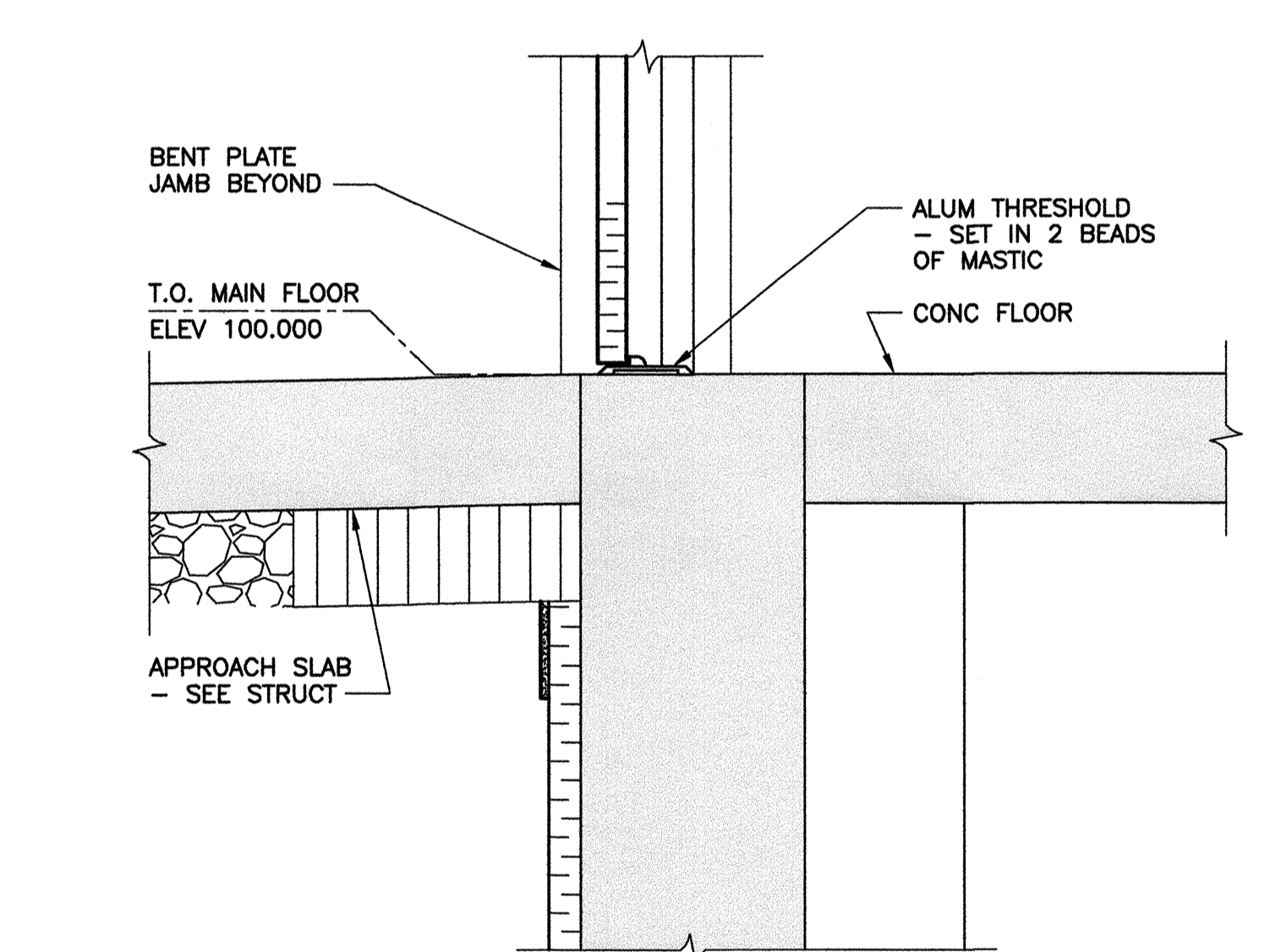
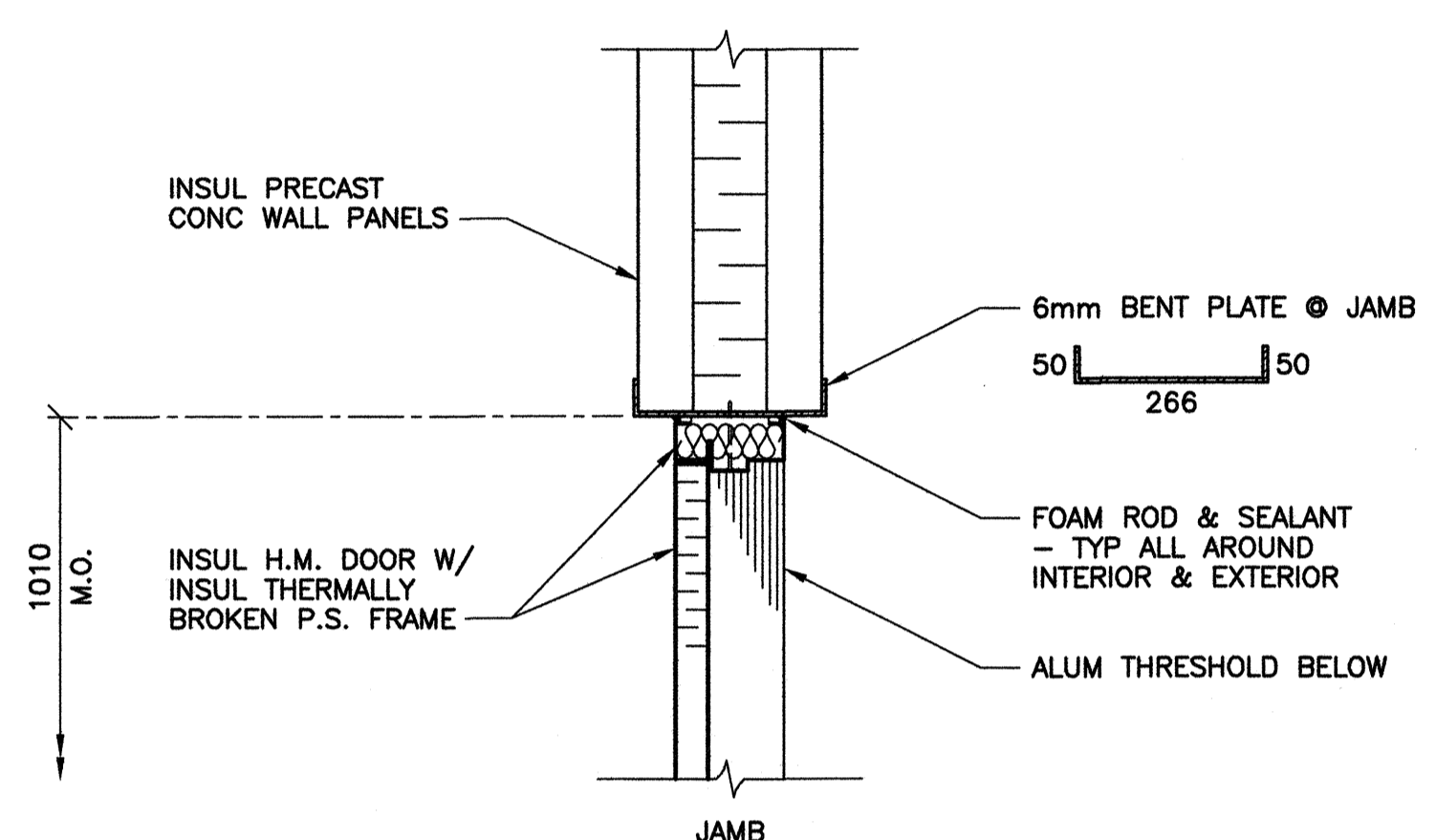
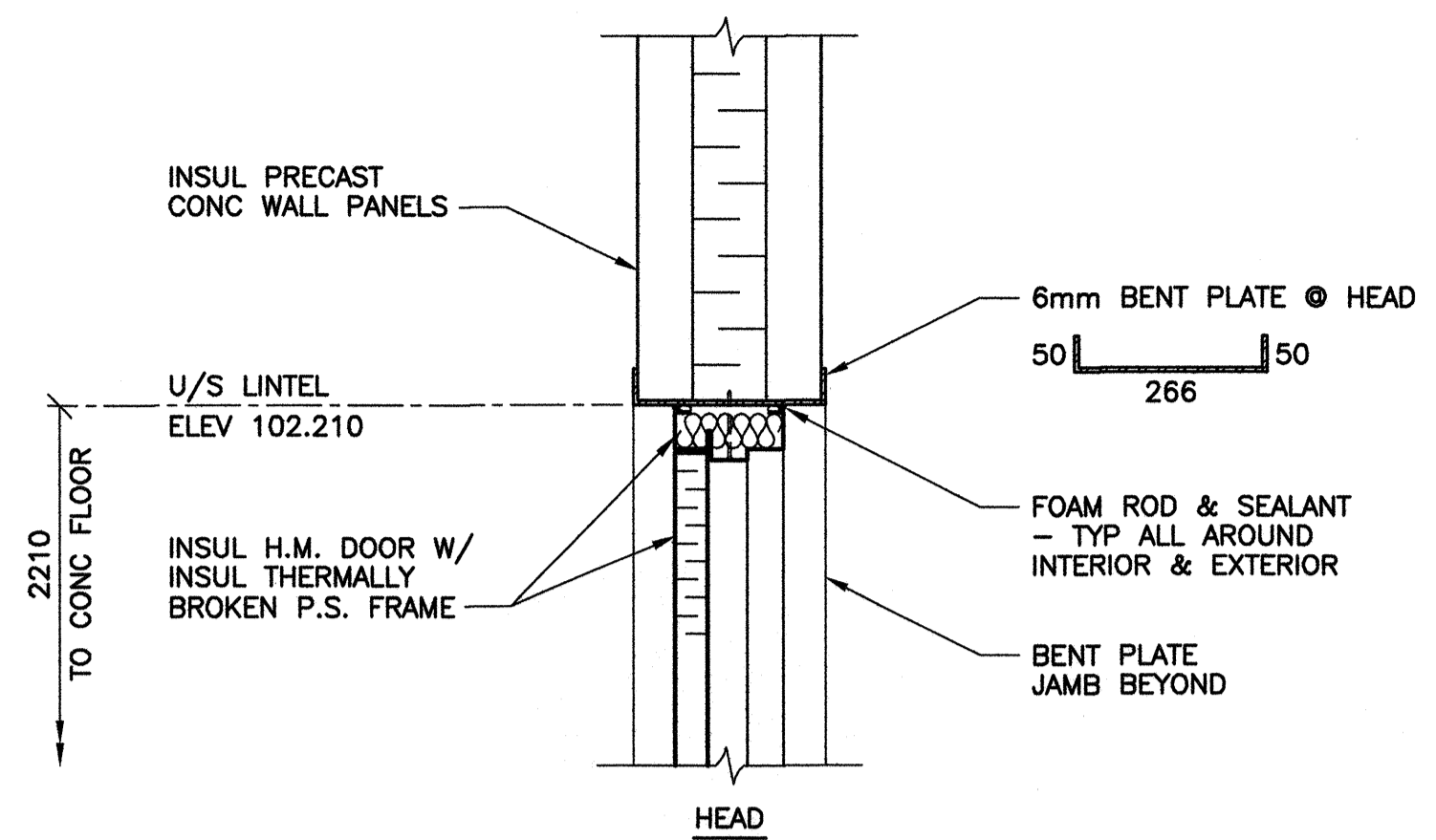


PROJECT NAME: CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE ARTICULATING BUS MAINTENANCE ADDITION

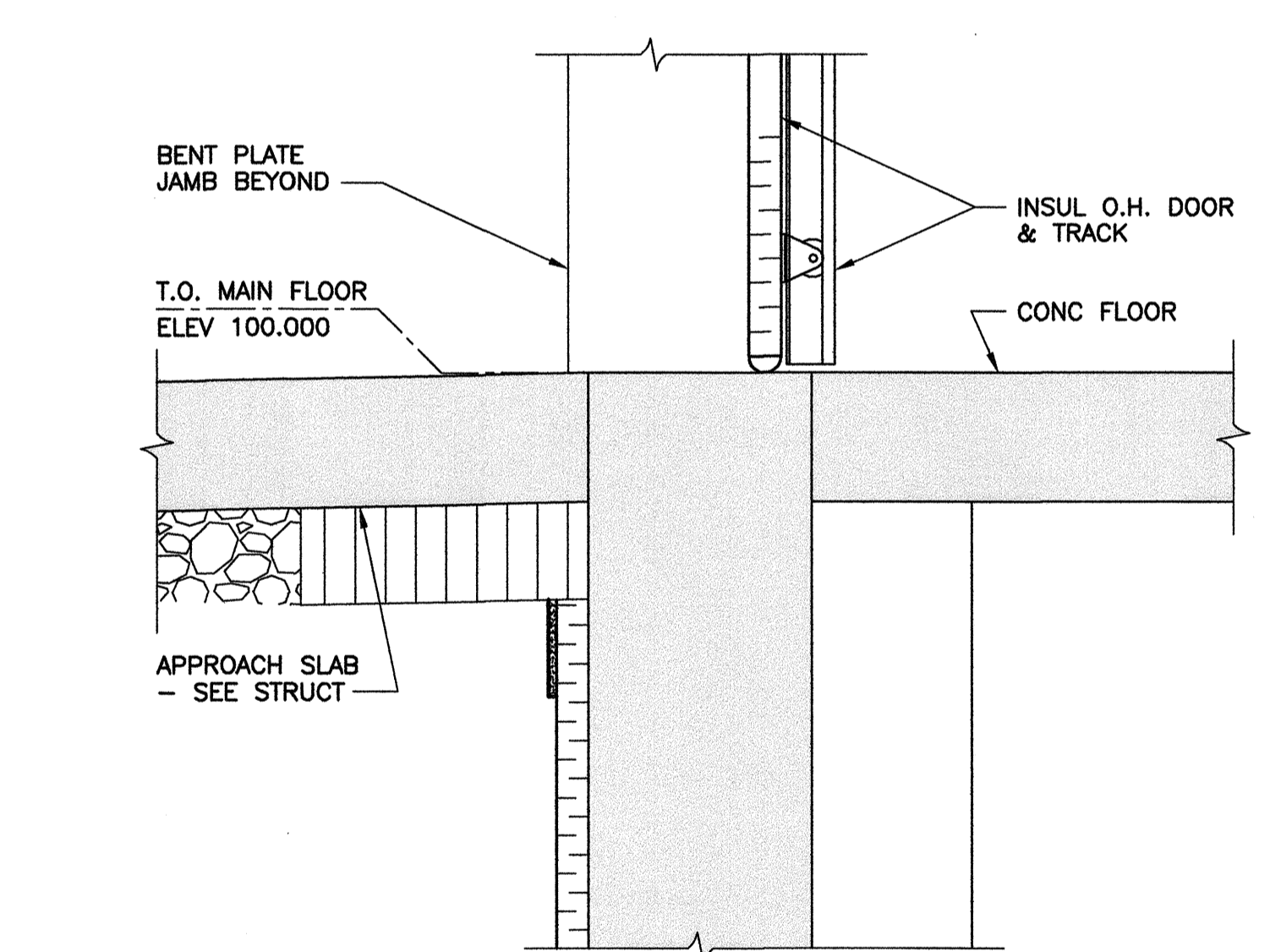
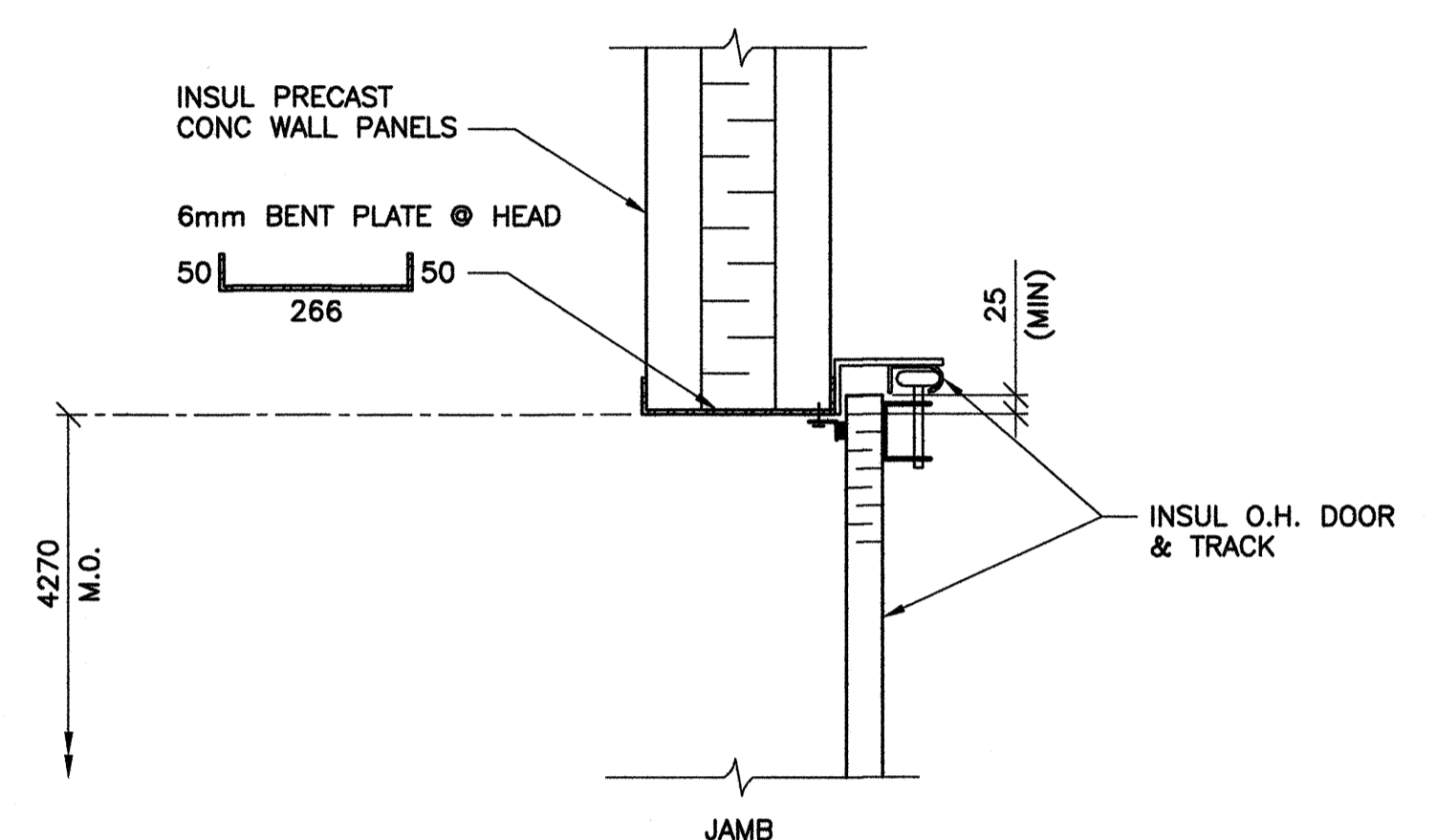
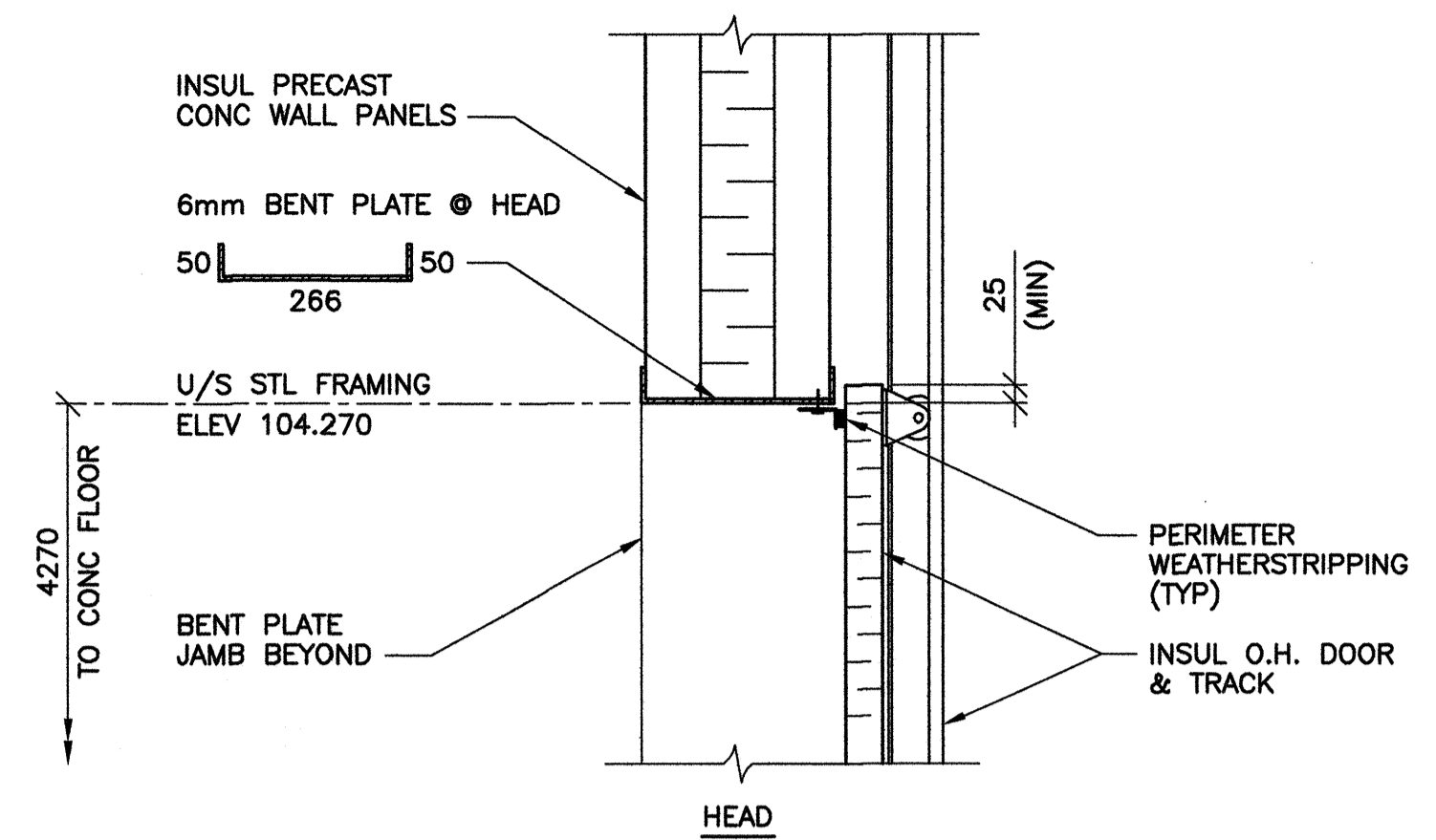
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DRAWING NO.	REV.
1329720500-DWG-B0005	00

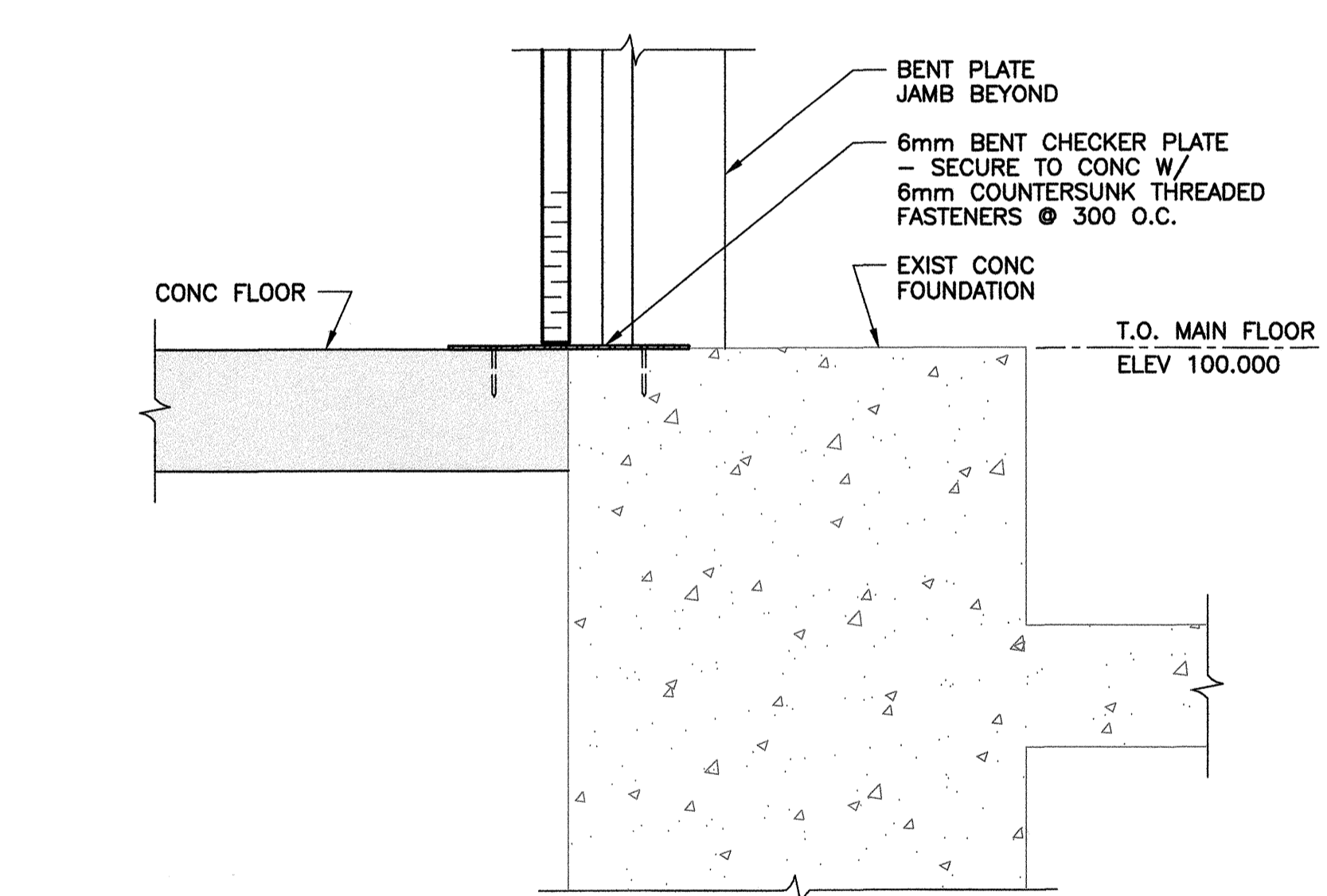
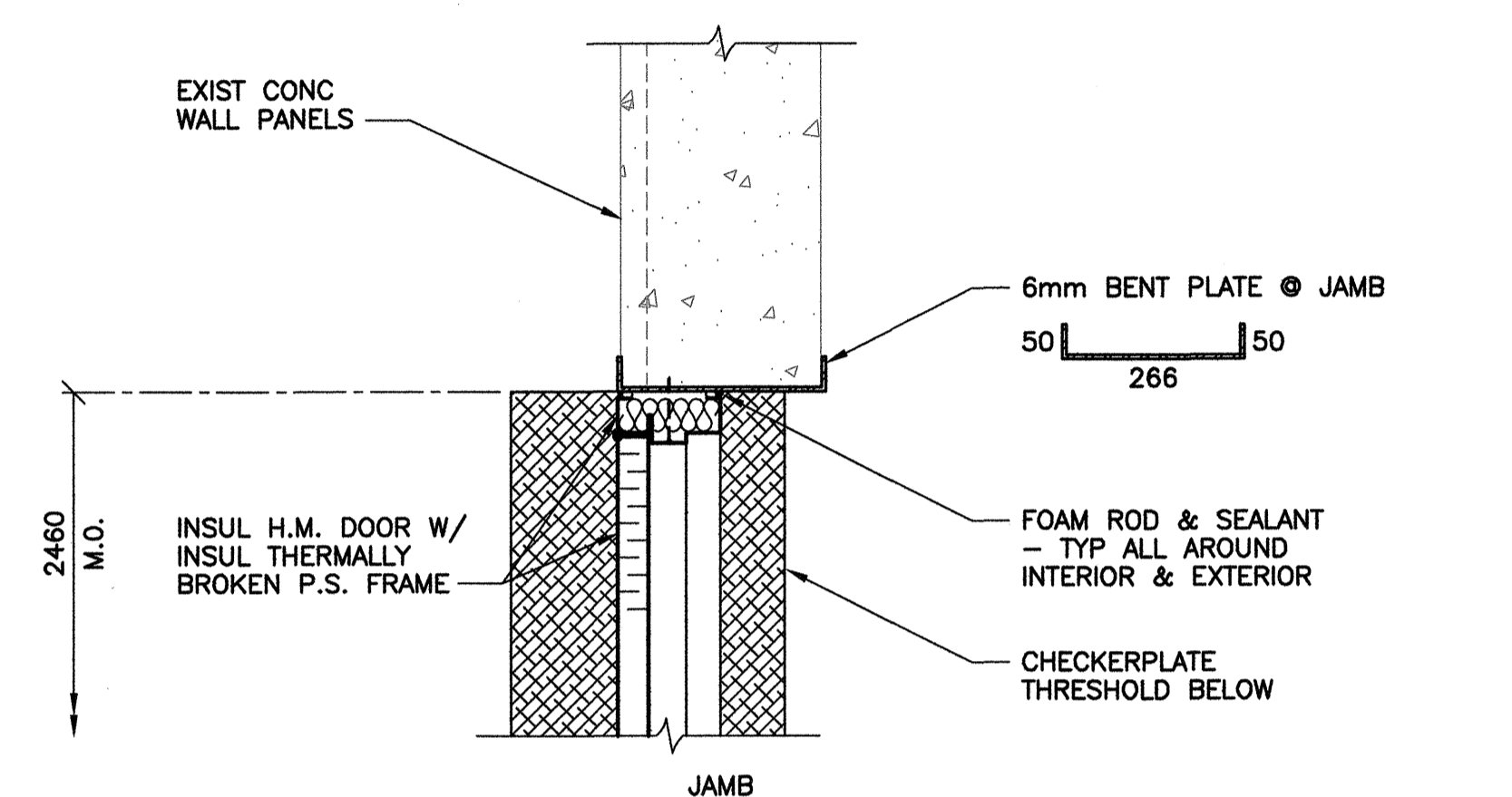
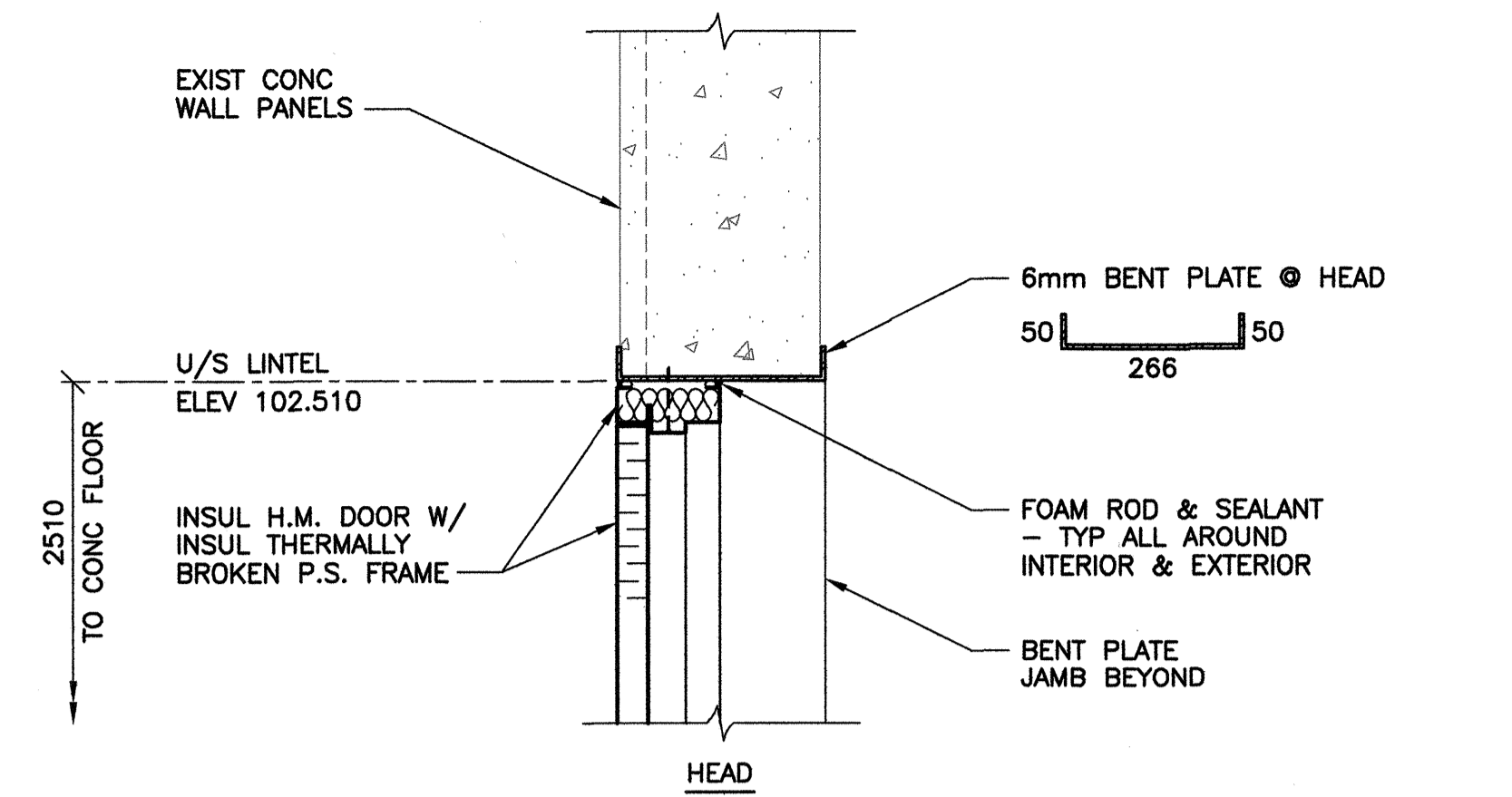
REFERENCE DRAWINGS	
NO.	DESCRIPTION



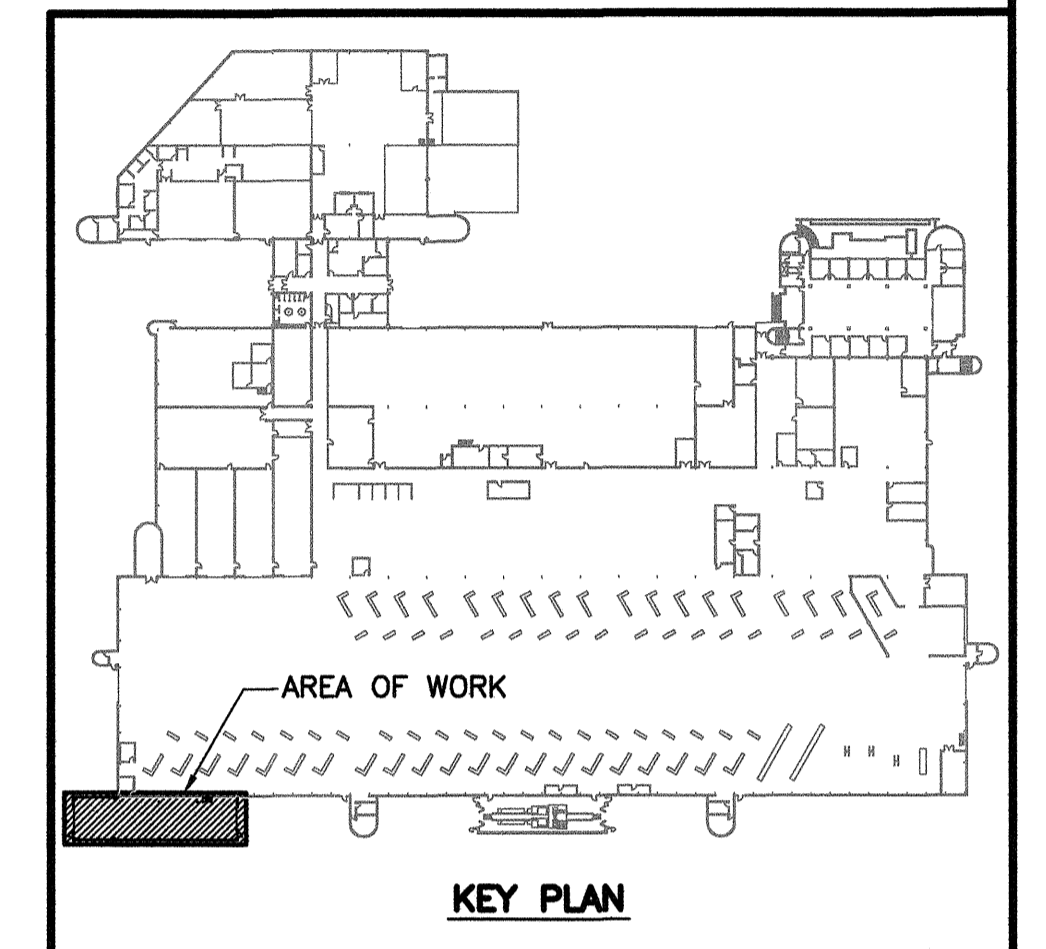
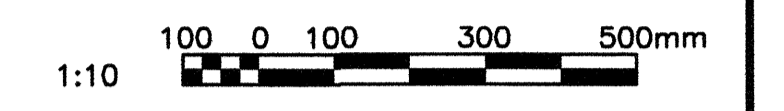
1 MANDOOR DETAILS
B0003 | B0006 1 : 10



2 OVERHEAD DOOR DETAILS
B0003, B0004 | B0006 1 : 10



3 MANDOOR DETAILS THRU EXIST WALL
B0004 | B0006 1 : 10



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZES
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	CM	DLP	[Signature]

SEAL

PERMIT STAMP

DESIGNED BY:	PREPARED BY:	REVIEWED BY:
DLP	EV	DLP
AUTHORIZED BY:	DATE:	SCALE:
[Signature]	13.11.06	AS NOTED

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SUB-CONSULTANTS:

CLIENT:

PROJECT NAME:
CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION:
DOOR DETAILS

DRAWING NO.	REV.
1329720500-DWG-B0006	00

GENERAL:

- .1 DO NOT SCALE DRAWINGS.
.2 VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
.3 VERIFY ALL MECHANICAL AND ELECTRICAL REQUIREMENTS WITH RESPECTIVE DISCIPLINES.
.4 SHOP DRAWINGS AND PRODUCT DATA: SUBMIT OR REVIEW PRIOR TO FABRICATION.
.5 UNLESS NOTED OTHERWISE, INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

PRESSURE TREATED LUMBER AND PLYWOOD:

- WOOD STUDS AND PLATES TO BE GROUP D, #2 OR BETTER, (SPF).
- ALL WOOD TO BE KILN DRIED.
- PLYWOOD THICKNESS AS SHOWN ON DRAWINGS.
- SURFACE-APPLIED WOOD PRESERVATIVE: CLEAR SOLUTION, WATER REPELLENT PRESERVATIVE.
- ALL FASTENERS TO BE GALVANIZED TO CAN/CSA-G164.

INSULATED CONCRETE PANELS

- .1 MANUFACTURER QUALIFICATIONS:
- MANUFACTURER OF PRECAST CONCRETE ELEMENTS SHALL BE CERTIFIED BY THE CANADIAN STANDARDS ASSOCIATION (CSA) ACCORDING TO CSA-A23.4 "PRECAST CONCRETE - MATERIALS AND CONSTRUCTION".
.2 FIELD VERIFICATION:
- CONTRACTOR SHALL FIELD VERIFY ALL DETAILS AND DIMENSIONS RELATED TO THE MANUFACTURING AND INSTALLATION OF NEW PANELS.
.3 SAMPLES:
- PROVIDE 300x200x25mm SAMPLES OF PANELS FOR APPROVAL.
.4 MATERIALS:
- OVERALL PANEL THICKNESS: 254mm (10")
- 76mm (3") EXTERIOR CONCRETE
- 102mm (4") INSULATION - RSI 3.52 (R-20)
- 76mm (3") INTERIOR CONCRETE
.4 INSTALLATION:
- INSTALL IN ACCORDANCE WITH ACCEPTED SHOP DRAWINGS AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

MODIFIED BITUMINOUS ROOFING:

- ACCEPTABLE SYSTEMS: SOPREMA, IKO.
.1 GYPSUM BOARD SHEATHING:
- TO CSA A82.27, EXTERIOR GRADE, 1/2" THICKNESS.
- FASTEN TO STEEL DECK USING No. 10 FLAT HEAD, SELF-TAPPING, TYPE A OR TYPE AB, CADMIUM PLATED SCREWS TO CSA B35.3.
.2 VAPOUR BARRIER:
- TO CGSB 37-GP-56M, STYRENE-BUTADIENE-STYRENE (SBS) ELASTOMERIC POLYMER, PREFABRICATED SHEET, GLASS REINFORCEMENT, WEIGHING 95 g/m^2.
.3 ROOF MEMBRANE:
BASE SHEET:
- TO CGSB 37-GP-56M, STYRENE-BUTADIENE-STYRENE (SBS) ELASTOMERIC POLYMER, PREFABRICATED SHEET, POLYESTER REINFORCEMENT, WEIGHING 180 g/m^2.
CAP SHEET:
- TO CGSB 37-GP-56M, STYRENE-BUTADIENE-STYRENE (SBS) ELASTOMERIC POLYMER, PREFABRICATED SHEET, POLYESTER REINFORCEMENT, WEIGHING 250 g/m^2.
.4 PRIMER:
- AS RECOMMENDED BY ROOFING SYSTEM MANUFACTURER.
.5 BITUMEN:
- ASPHALT TO CSA A123.4, TYPE 2.
.6 INSULATION BOARD:
- POLYISOCYANURATE BOARD INSULATION TO CAN/CGSB-51.26, THICKNESS AS INDICATED ON THE DRAWINGS, SHIPLAPPED EDGES, FELT FACERS.
.7 FIBREBOARD:
- HIGH DENSITY WOOD FIBREBOARD, 1/2" THICKNESS.
.8 INSTALLATION:
- INSTALL FIBREBOARD AND INSULATION IN FULL BED OF ASPHALT.
- DO ALL ROOF WORK IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND CRCA STANDARDS.

OVERHEAD DOORS:

- .1 MATERIALS:
- GALVANIZED STEEL SHEET WITH Z275 ZINC COATING.
- 0.41mm (0.016") SKINS AND 1.52mm (1/16 GA) END CAPS.
- 2 COAT BAKED ON POLYESTER FINISH.
- INSULATION TO PROVIDE R-14 VALUE.
- 3" 14 ga. GALVANIZED STEEL TRACKS, HEAVY DUTY HARDWARE.
- GLAZING: 610x305 (24"x12") INSULATED PANELS, 3 PER DOOR.
- INTERIOR MOUNTED SLIDE LOCK AND WEATHERSTRIPPED.
- AUTO-REVERSING BOTTOM SAFETY EDGE.
- MOTORIZED OPERATION W/ MANUAL CHAIN HOIST OVERRIDE.
- MIN. 3/4 HP, 208V/3 PH MOTOR
- INDUCTION LOOP "SWITCHES" (2 PER DOOR) CUT INTO CONCRETE FLOOR AND APPROACH SLABS ON INTERIOR AND EXTERIOR OF DOOR.
- INTERIOR SURFACE-MOUNTED 3-BUTTON DOOR CONTROL STATION IN NEMA 1 ENCLOSURE - "OPEN-CLOSE-STOP"
- TRAFFIC LIGHT INDICATORS MOUNTED ON APPROACH SIDE OF DOOR.
- "GREEN" TO INDICATE DOOR IS OPEN
- "RED" TO INDICATE DOOR IN MOTION
- BOTH LIGHTS OFF WHEN DOOR IS CLOSED
- ACCEPTABLE PRODUCTS: THERMO-DOR TD-134 BY RELIABLE OVERHEAD DOORS, OR CLOPLAY #3720 BY WALLACE & WALLACE
.2 INSTALLATION:
- COORDINATE INSTALLATION WITH ELECTRICAL TO ENSURE PROPER OPERATION OF DOOR AND CONTROL/SAFETY COMPONENTS.

STEEL DOORS AND FRAMES

- HOT DIPPED GALVANIZED STEEL SHEET: TO ASTM A653M, Z275 COATING.
- REINFORCEMENT CHANNEL: TO CSA G40.20/G40.21, TYPE 44W, COATING DESIGNATION TO ASTM A653M, Z275 COATING.

- 1. DOORS:
- FACE SHEETS: 1.2mm (18 GA) BASE METAL THICKNESS.
2. FABRICATION:
- FABRICATE DOORS WITH POLYURETHANE INSULATED CORE
- FABRICATE DOORS WITH LONGITUDINAL EDGES CONTINUOUSLY WELDED.
- SEAMS: GRIND WELDED JOINTS TO A FLAT PLANE, FILL WITH METALLIC PASTE FILLER AND SAND TO A UNIFORM SMOOTH FINISH
- BLANK, REINFORCE, DRILL DOORS AND TAP FOR TEMPLATED HARDWARE
- PROVIDE FLUSH STEEL TOP CAP
3. FRAMES:
- 16 GA FULLY WELDED CONSTRUCTION.
- EXTERIOR DOOR FRAME THERMALLY BROKEN
4. FABRICATION:
- BLANK, REINFORCE, DRILL AND TAP FRAMES FOR HARDWARE USING TEMPLATES PROVIDED BY FINISH HARDWARE SUPPLIER.
- REINFORCE FRAMES FOR SURFACE MOUNTED HARDWARE
- PREPARE FRAME FOR DOOR SILENCERS, 3 PER DOOR
- WELDING IN ACCORDANCE WITH CSA W59
- GRIND WELDED JOINTS AND CORNERS TO A FLAT PLANE, FILL WITH METALLIC PASTE AND SAND TO UNIFORM SMOOTH FINISH

DOOR HARDWARE:

- ALL LOCKS TO BE KEYS TO MATCH EXISTING DOORS AND THE CITY'S REQUIREMENTS.
.1 CODE 1
HINGES CB191 NRP 630 STANLEY
ELECTRIC STRIKE SUPPLY AND INSTALLATION BY CITY
PREP DOOR FRAME TO RECEIVE STRIKE
EXIT DEVICE 88TP 629 VON DUPRIN
CLOSER 4111 689 LCN
OH STOP 100S SERIES 630 GLYNN JOHNSON
WEATHERSTRIP W13 AL K.N. CROWDER
BOTTOM SWEEP W13S AL K.N. CROWDER
THRESHOLD CT45 AL K.N. CROWDER
.1 CODE 2
HINGES CB179 114x101 26D STANLEY
PASSAGE SET D10S 626 SCHLAGE
CLOSER 4111 26D LCN
SURFACE BOLTS 1631/1632 26D GLYNN JOHNSON
WEATHERSTRIP W21 AL K.N. CROWDER
THRESHOLD 6mm CHECKERPLATE

SEALANTS:

- .1 MULTICOMPONENT URETHANES (FOR CONCRETE AND MASONRY)
- TO CAN/CGSB-19.24.
.2 ONE-PART SILICONES (FOR METAL)
- TO CAN/CGSB-19.18.
.3 BUTYL SEALANT (SETTING ALUMINUM THRESHOLDS).
- TO CGSB 19-GP-14M.

PAINTING:

- COLOURS TO BE SELECTED
INTERIOR:
.1 CONCRETE (PRECAST & CAST-IN-PLACE):
- MPI SYSTEM INT 3.1A, PREMIUM GRADE, GLOSS LEVEL 3.
.2 STRUCTURAL STEEL AND METAL FABRICATIONS:
- MPI SYSTEM INT 5.1Q, PREMIUM GRADE, GLOSS LEVEL 3.
.3 GALVANIZED AND ZINC COATED METAL:
- MPI SYSTEM INT 5.3M, PREMIUM GRADE, GLOSS LEVEL 3.
EXTERIOR:
.1 GALVANIZED AND ZINC COATED METAL:
- MPI SYSTEM EXT 5.1C, PREMIUM GRADE, GLOSS LEVEL 3.

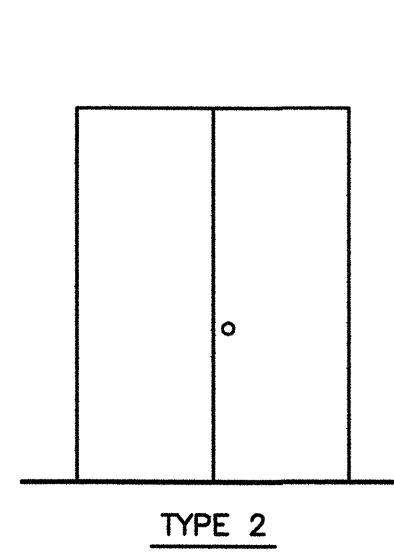
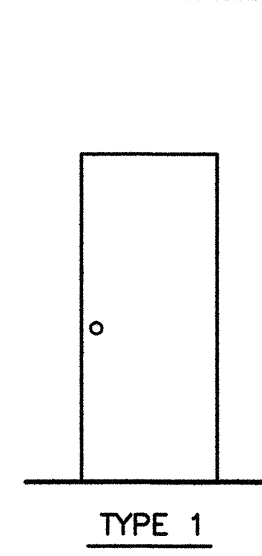
ROOM / AREA FINISHING SCHEDULE

Table with columns: ROOM / AREA, FLOOR, NORTH WALL, EAST WALL, SOUTH WALL, WEST WALL, CEILING. Row 101: MAINTENANCE BAY, C, -, -, C(e), P, C, P, C, P, C, P, STR, P, 7925±

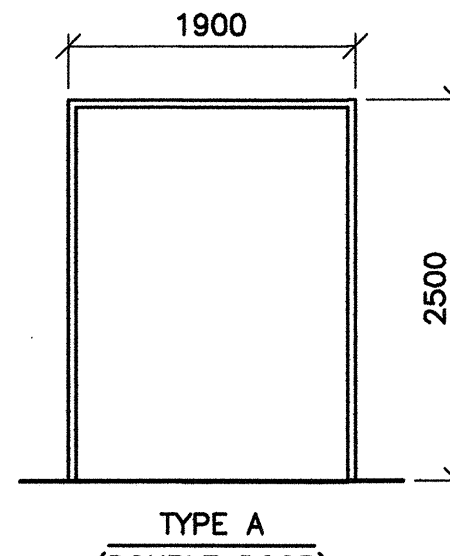
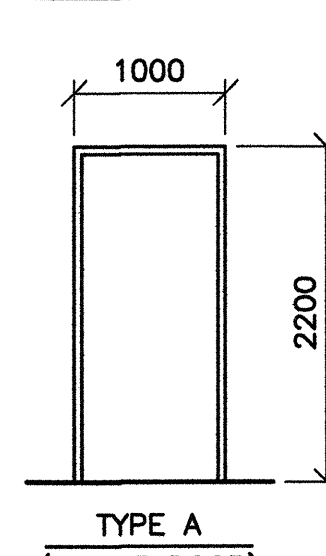
DOOR / WINDOW SCHEDULE

Table with columns: DOOR / WINDOW, FRAME, DOOR SIZE, HARDWARE CODE, F.R. RATING (HOURS), REMARKS. Rows: D101A, D101B, D101C, D101D, D101E

DOOR TYPES:



FRAME TYPES:



ABBREVIATIONS:

- C - CONCRETE
CB - CONCRETE BLOCK
(e) - EXISTING
FIN - FINISH
GALV - GALVANIZED
GB - GYPSUM BOARD
HM - HOLLOW METAL
HT - HEIGHT
INSUL - INSULATED
LAT - LAY-IN ACOUSTIC TILE
MAT - MATERIAL
P - PAINT
PS - PRESSED STEEL
RB - RUBBER BASE
RSF - RESILIENT SHEET FLOORING
STR - STRUCTURE
TB - THERMALLY BROKEN

REFERENCE DRAWINGS table with columns NO. and DESCRIPTION.

Revision table with columns NO., DATE, DESCRIPTION, PREPARED, REVIEW, DESIGN, AUTHORIZED.

Professional Engineer seal for APEGM, Province of Manitoba, and Tetra Tech WEI Inc. Certificate of Authorization, No. 5313, Date: April 30, 2014.

Designation table with columns DESIGNED BY, PREPARED BY, REVIEWED BY, AUTHORIZED BY, DATE, SCALE.

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SUB-CONSULTANTS:

CITY OF WINNIPEG TRANSIT DEPARTMENT

TETRA TECH logo

CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION

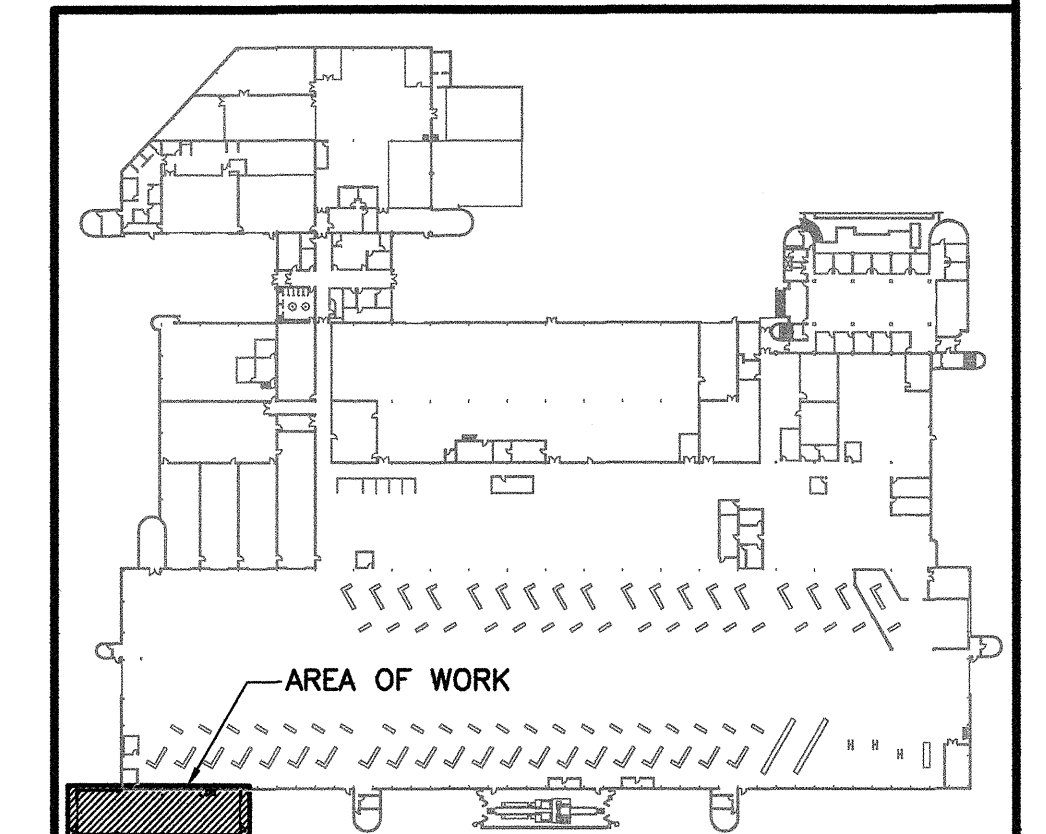
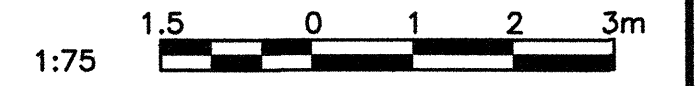
BUILDING SPECIFICATIONS

Table with columns DRAWING NO. and REV. Values: 1329720500-DWG-B0007 and 00

REFERENCE DRAWINGS	
NO.	DESCRIPTION
2185-317	TRANSIT STORAGE & SHOP FACILITIES - FOUNDATION PLAN
2185-319	TRANSIT STORAGE & SHOP FACILITIES - PILE CAP DETAILS

NOTES:

- FOR GENERAL NOTES, REFER TO DRAWING S0001.
- FOR PILE CAP DETAILS, REFER TO DRAWINGS S0006.
- FOR PEDESTAL, GRADE BEAM, AND CONTROL JOINT DETAILS, REFER TO DRAWING S0007.
- FOR BOLLARD DETAILS, REFER TO DRAWING S0008.
- ELEVATION 100.000 TO MATCH TOP OF EXIST CONC FLOOR ALONG GRID LINE H.



KEY PLAN

NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	CM	CM	

PROVINCE OF MANITOBA
C.P. MOTA
 Member
 24320
 REGISTERED PROFESSIONAL ENGINEER

APEGM
 Certificate of Authorization
TETRA TECH WEI Inc.
 No. 5313 Date: April 30, 2014

DESIGNED BY	PREPARED BY	REVIEWED BY
CM	EV	CM

13.11.06 AS NOTED

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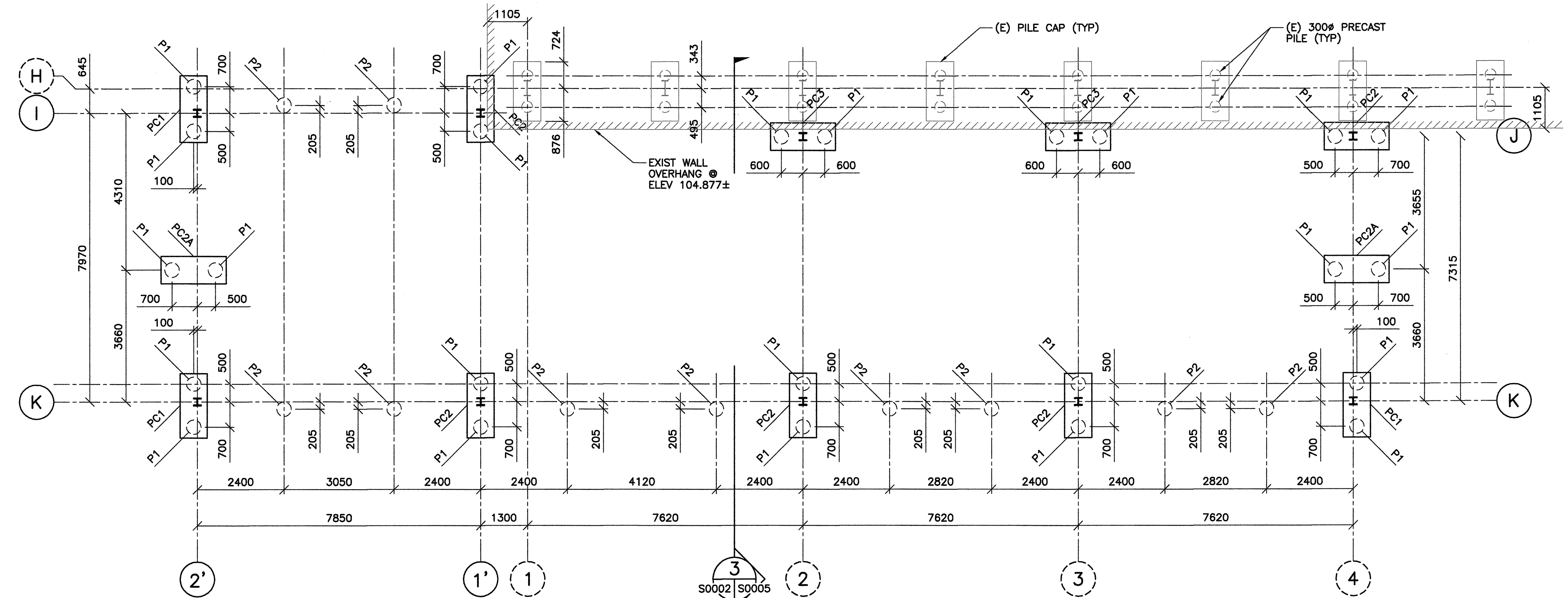
CLIENT: **CITY OF WINNIPEG TRANSIT DEPARTMENT**

TETRA TECH

PROJECT NAME: **CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION**

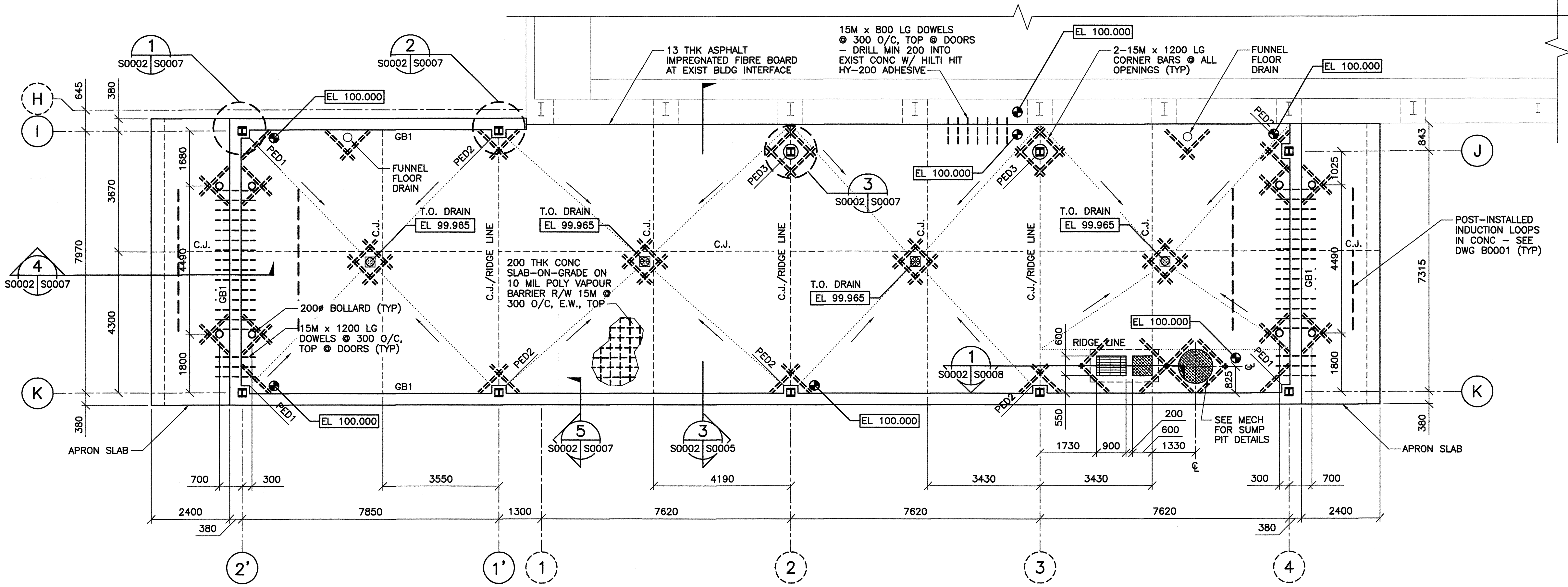
DRAWING DESCRIPTION: **PILE LAYOUT AND MAIN FLOOR PLAN**

DRAWING NO.	REV.
1329720500-DWG-S0002	00



1 PILE LAYOUT
1 : 75

PILE SCHEDULE						
MK.	SIZE (mm)	NO. REQ'D.	CUT-OFF ELEVATIONS	MIN LENGTH (m)	VERTS	TIES
P1	400#	24	98.600	10.5	4-15M	10M @ 225 O/C (DOUBLE TIE @ TOP)
P2	400#	10	99.100	10.5	4-15M	10M @ 225 O/C (DOUBLE TIE @ TOP)

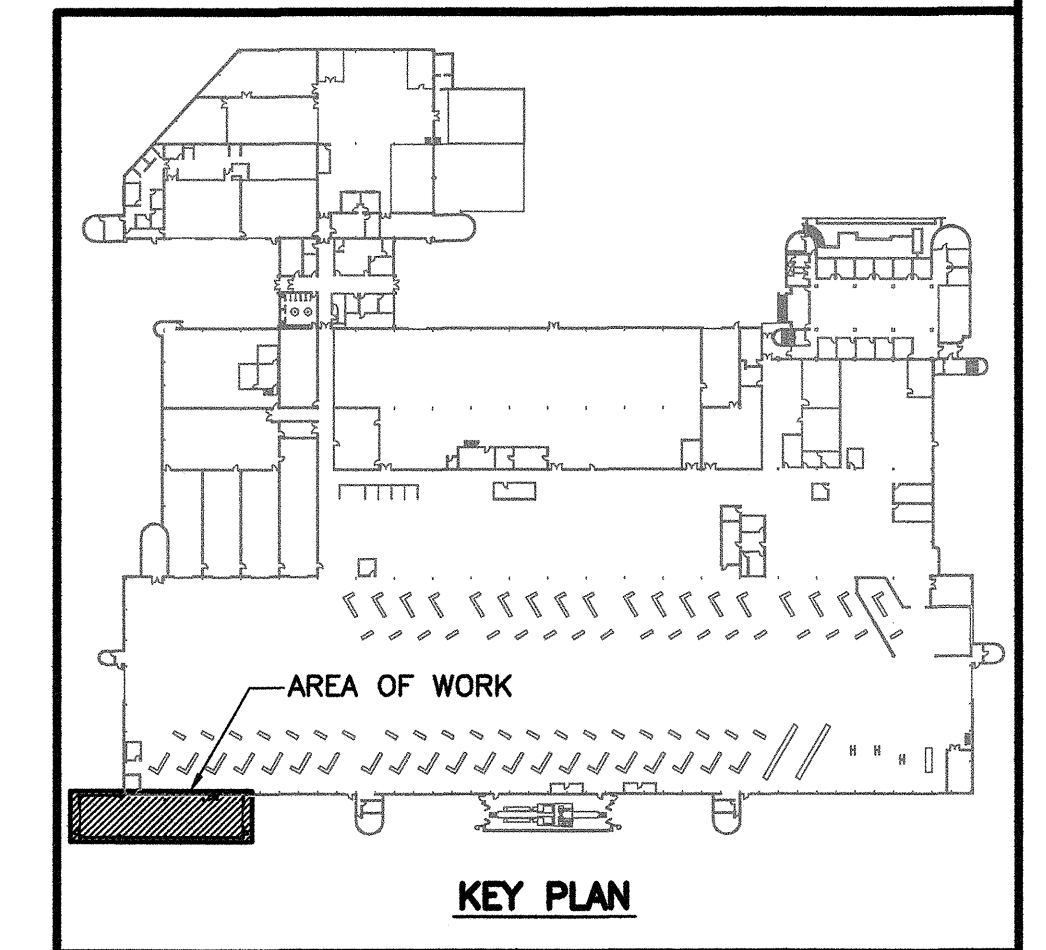
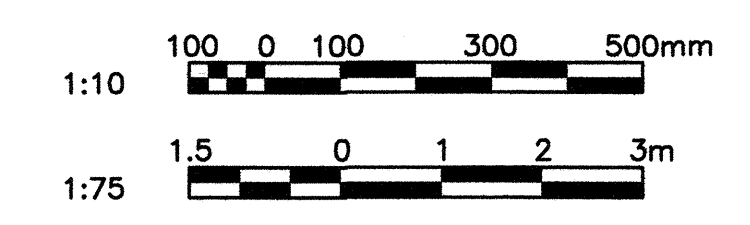


2 MAIN FLOOR PLAN
1 : 75
T.O.C. ELEV 100.000 U.N.O.

GRADE BEAM SCHEDULE						
MK.	SIZE (mm)		TOP BARS	BOT BARS	SKIN STEEL EACH FACE	STIRRUPS
	W	D				
GB1	350	900	4-25M (2 LAYERS OF 2)	4-25M	2-15M	10M @ 175 O.C.

REFERENCE DRAWINGS	
NO.	DESCRIPTION
2185-318	TRANSIT STORAGE & SHOP FACILITIES - ROOF FRAMING PLAN
2185-320	TRANSIT STORAGE & SHOP FACILITIES - SECTIONS & DETAILS

NOTES:
 1. FOR GENERAL NOTES, REFER TO DRAWING S0001.



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	CM	CM	

DESIGNED BY: CM	PREPARED BY: EV	REVIEWED BY: CM
AUTHORIZED BY: <i>[Signature]</i>	DATE: 13.11.06	SCALE: AS NOTED

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SUB-CONSULTANT(S):

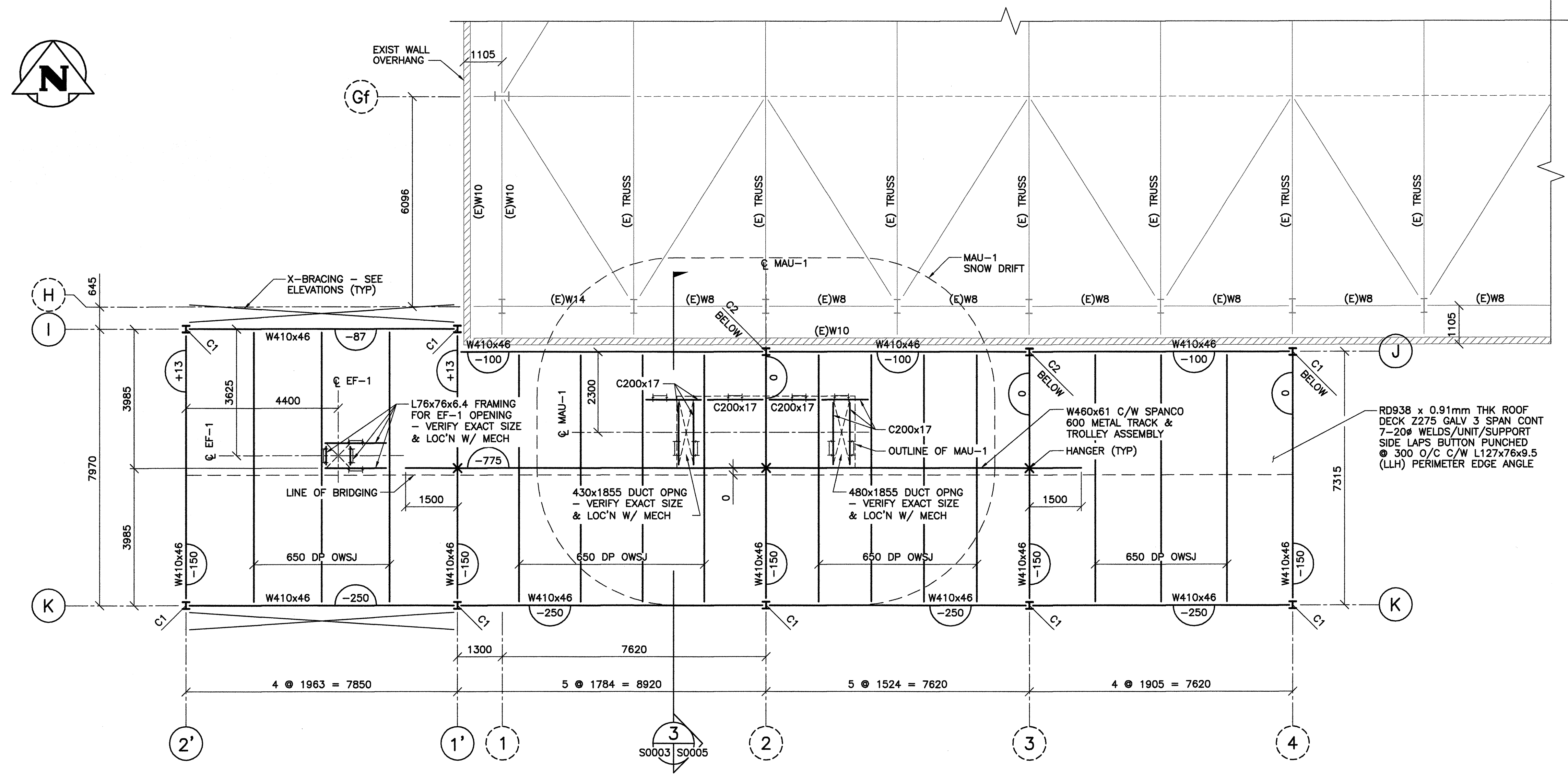
CLIENT: CITY OF WINNIPEG TRANSIT DEPARTMENT

TETRA TECH

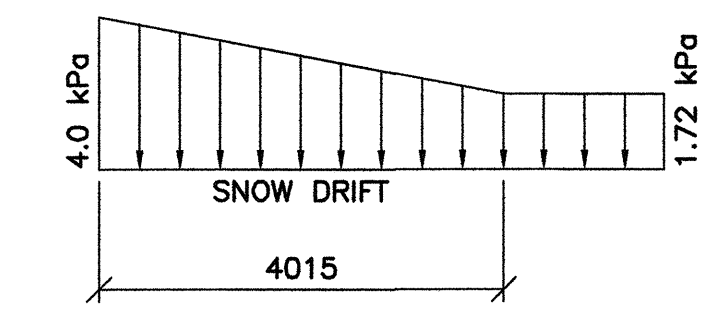
PROJECT NAME: CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION: ROOF FRAMING PLAN

DRAWING NO: 1329720500-DWG-S0003	REV: 00
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1 ROOF FRAMING PLAN
 1 : 75
 T.O.S. ELEV 107.925 U.N.O.

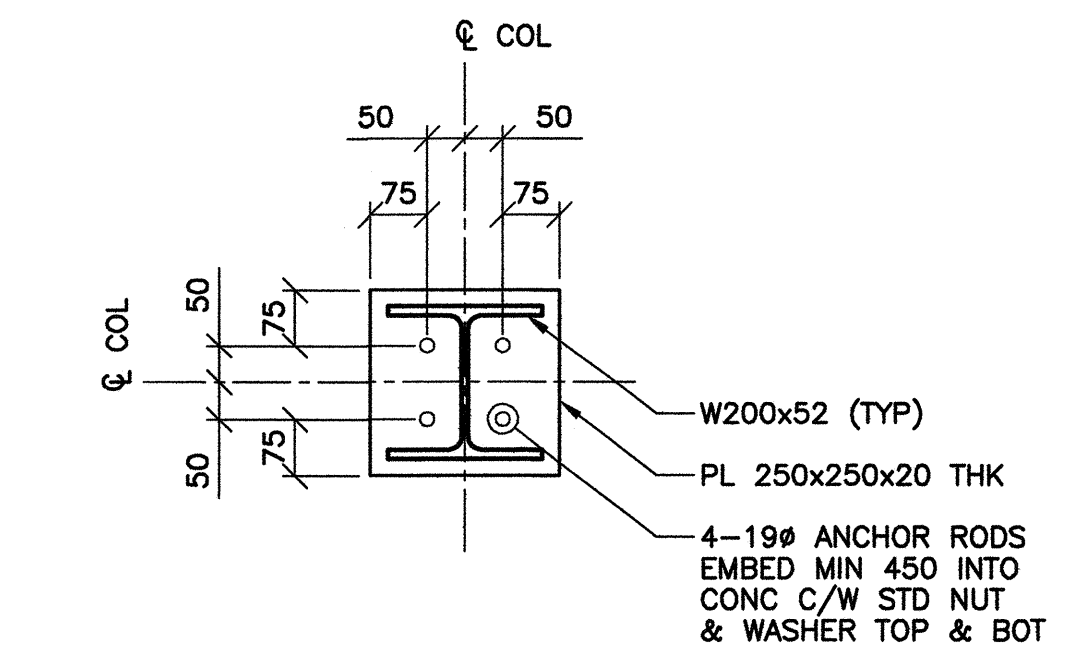


SNOW DRIFT FOR MUA-1

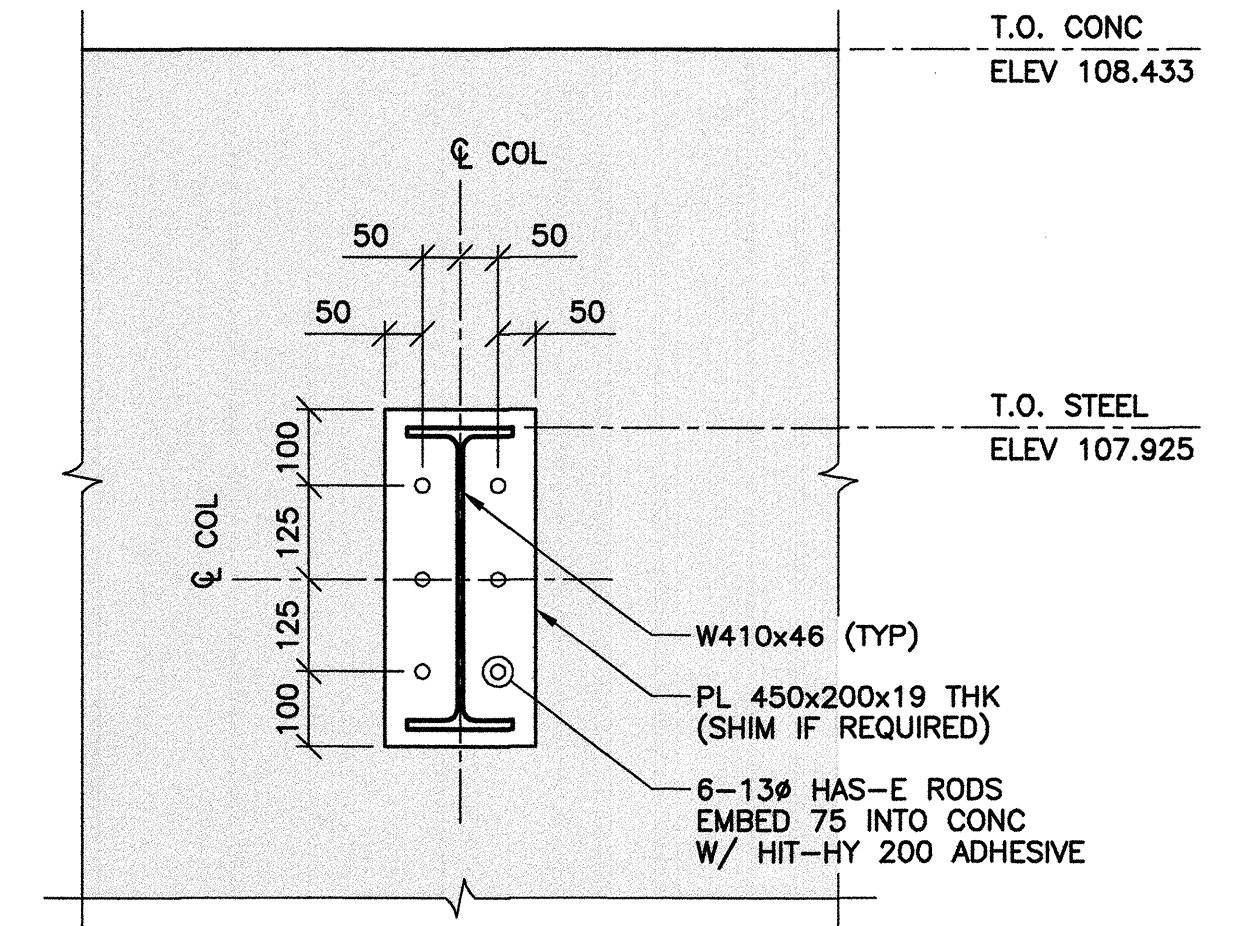
COLUMN SCHEDULE				
MK.	COLUMN	B.PL. TYPE	U/S B.PL.	NO. REQ'D
C1	W200x52	BP1	100.025	8
C2	W200x52	BP1	101.525	2

EQUIPMENT WEIGHTS (SERVICE-UNFACTORED)

MAU-1	2730 kg (6000 lbs)
EF-1	225 kg (500 lbs)



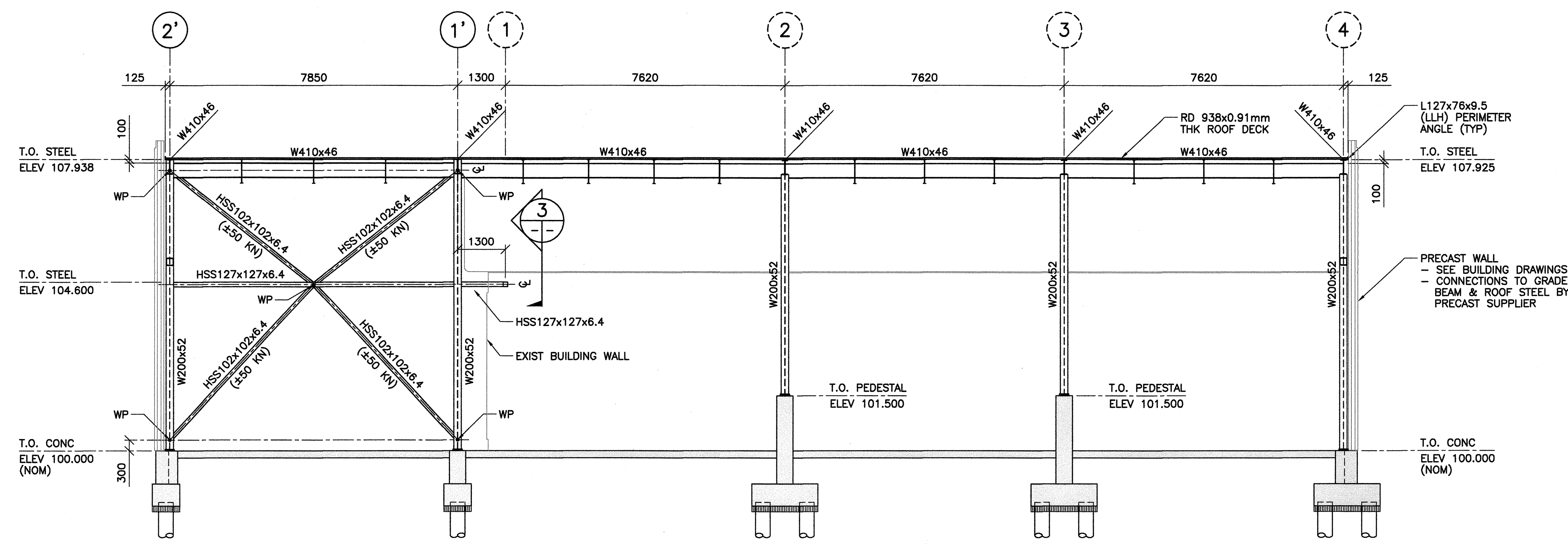
2 COLUMN ANCHORAGE/ BASE PLATE BP1 DETAIL
 1 : 10



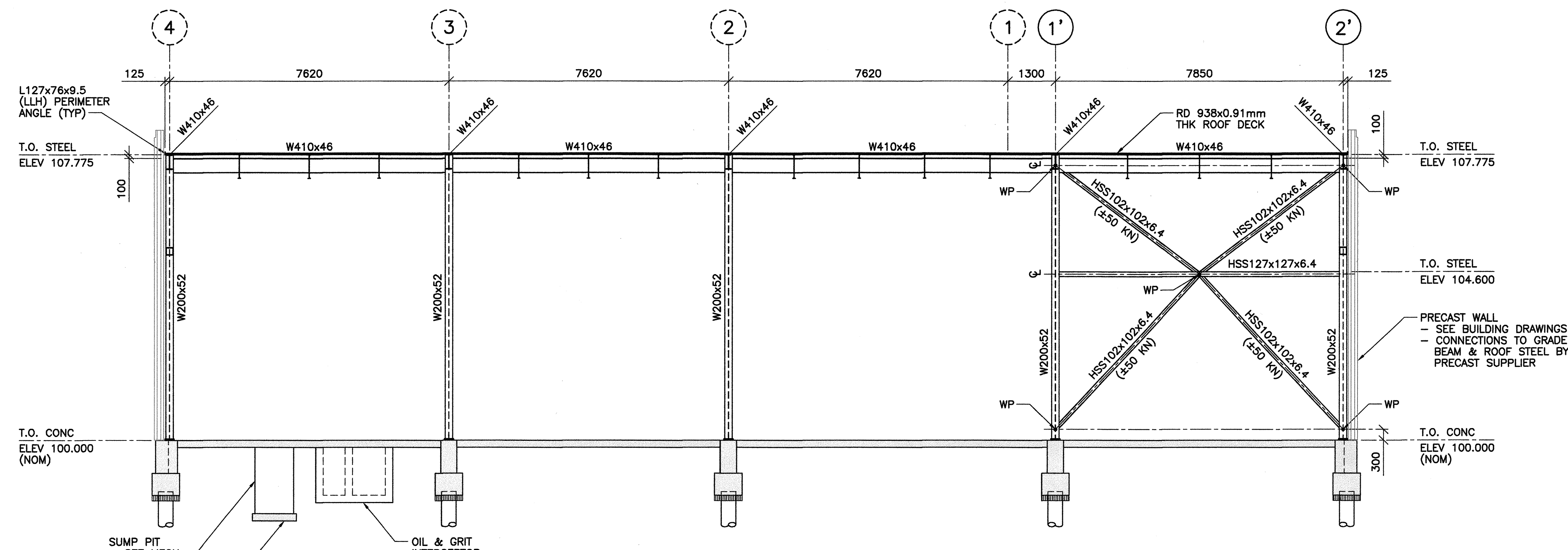
3 WIND STRUT END PLATE/ ANCHORAGE DETAIL
 1 : 10
 - 3 LOC'NS @ GRIDS J & 2, 3, 4

REFERENCE DRAWINGS	
NO.	DESCRIPTION

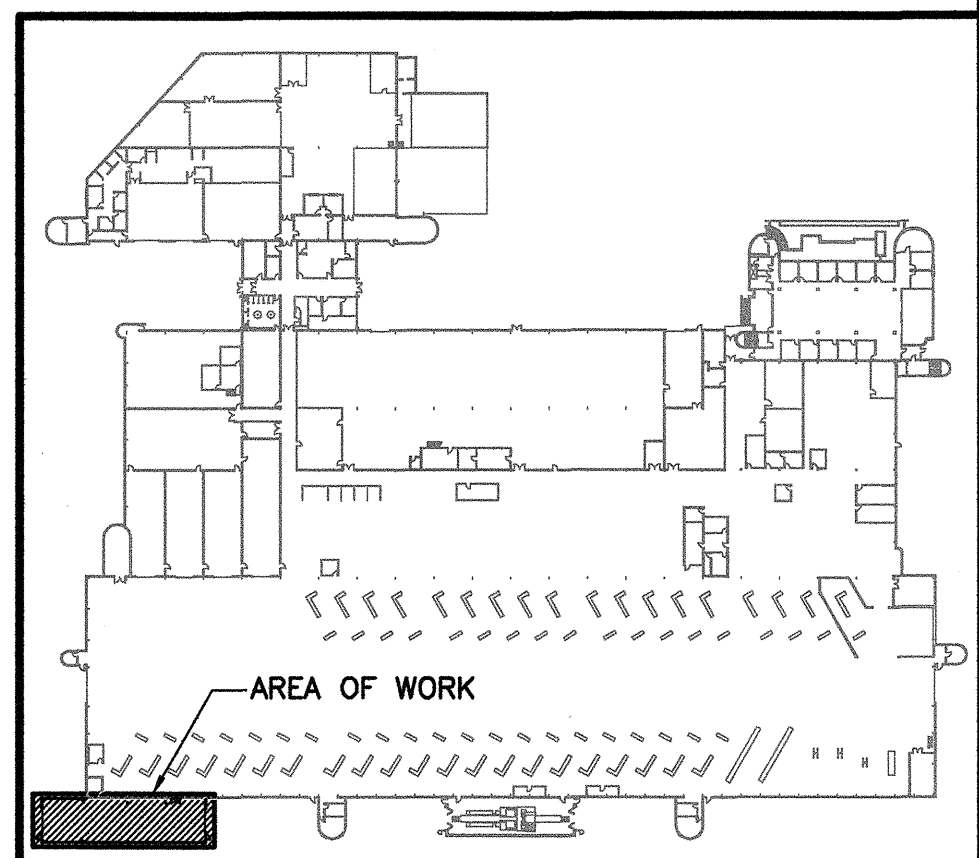
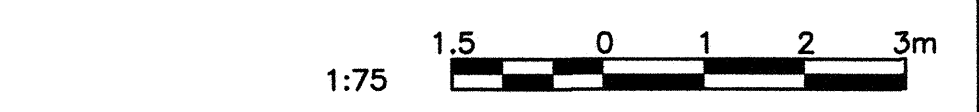
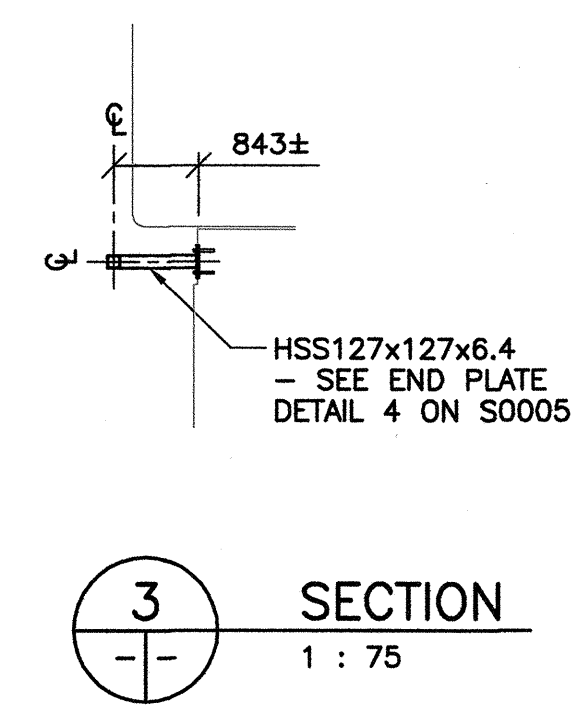
NOTES:
 1. FOR GENERAL NOTES, REFER TO DRAWING S0001.



1 ELEVATION @ GRIDLINE J LOOKING NORTH
 1 : 75



2 ELEVATION @ GRIDLINE K LOOKING SOUTH
 1 : 75



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	CM	CM	CM

PROVINCE OF MANITOBA
 C.P. MOTA
 Member
 24320
 REGISTERED PROFESSIONAL ENGINEER

APEGM
 Certificate of Authorization
 TETRA TECH WEI Inc.
 No. 5313 Date: April 30, 2014

DESIGNED BY: CM	PREPARED BY: EV	REVIEWED BY: CM
AUTHORIZED BY:	DATE: 13.11.06	SCALE: AS NOTED

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CLIENT:
 CITY OF WINNIPEG
 TRANSIT DEPARTMENT

TETRA TECH

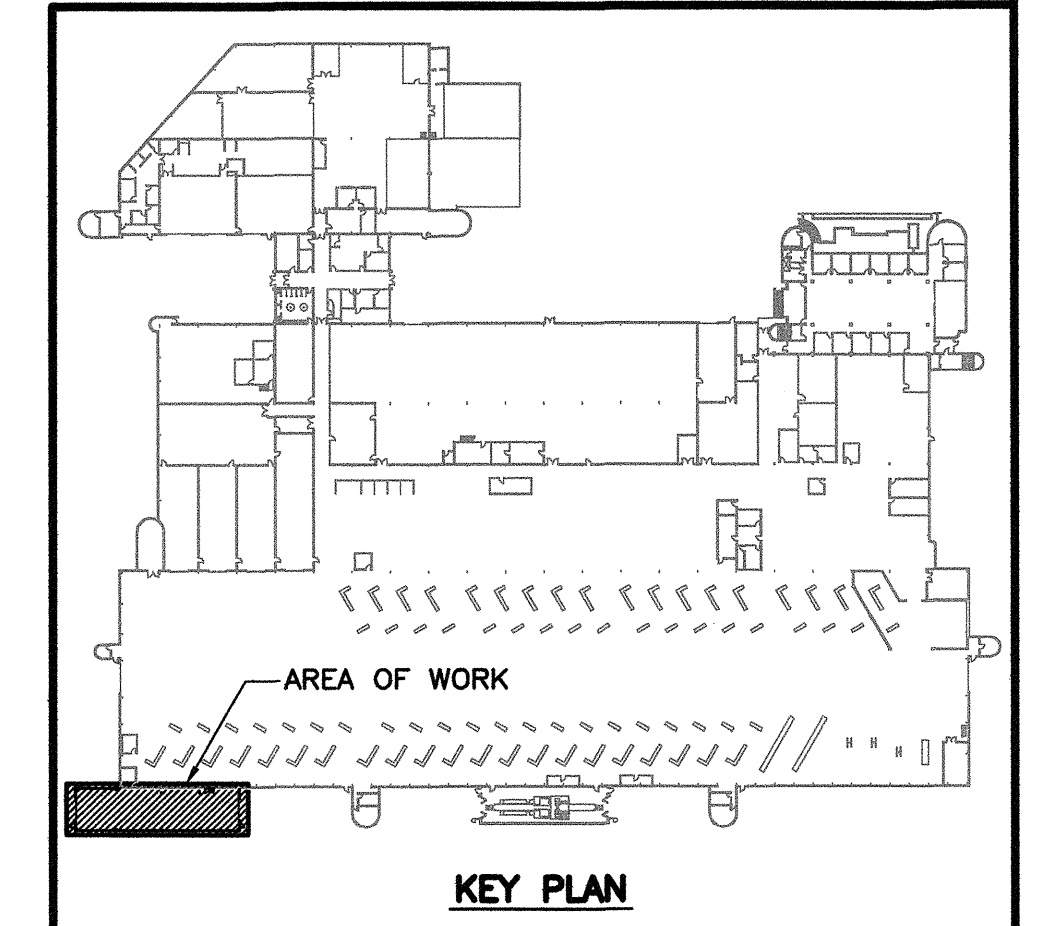
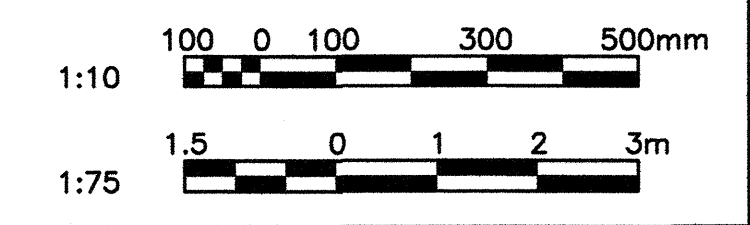
PROJECT NAME:
 CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE
 BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION:
 STEEL ELEVATIONS @
 GRID LINES J AND K

DRAWING NO: 1329720500-DWG-S0004	REV: 00
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REFERENCE DRAWINGS	
NO.	DESCRIPTION

NOTES:
 1. FOR GENERAL NOTES, REFER TO DRAWING S0001.



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	CM	CM	

PROVINCE OF MANITOBA
APEGM
 Certificate of Authorization
TETRA TECH WEI Inc.
 No. 5313 Date: April 30, 2014

DESIGNED BY: CM
 AUTHORIZED BY: [Signature]
 DATE: 13.11.06
 SCALE: AS NOTED

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CLIENT: **CITY OF WINNIPEG TRANSIT DEPARTMENT**

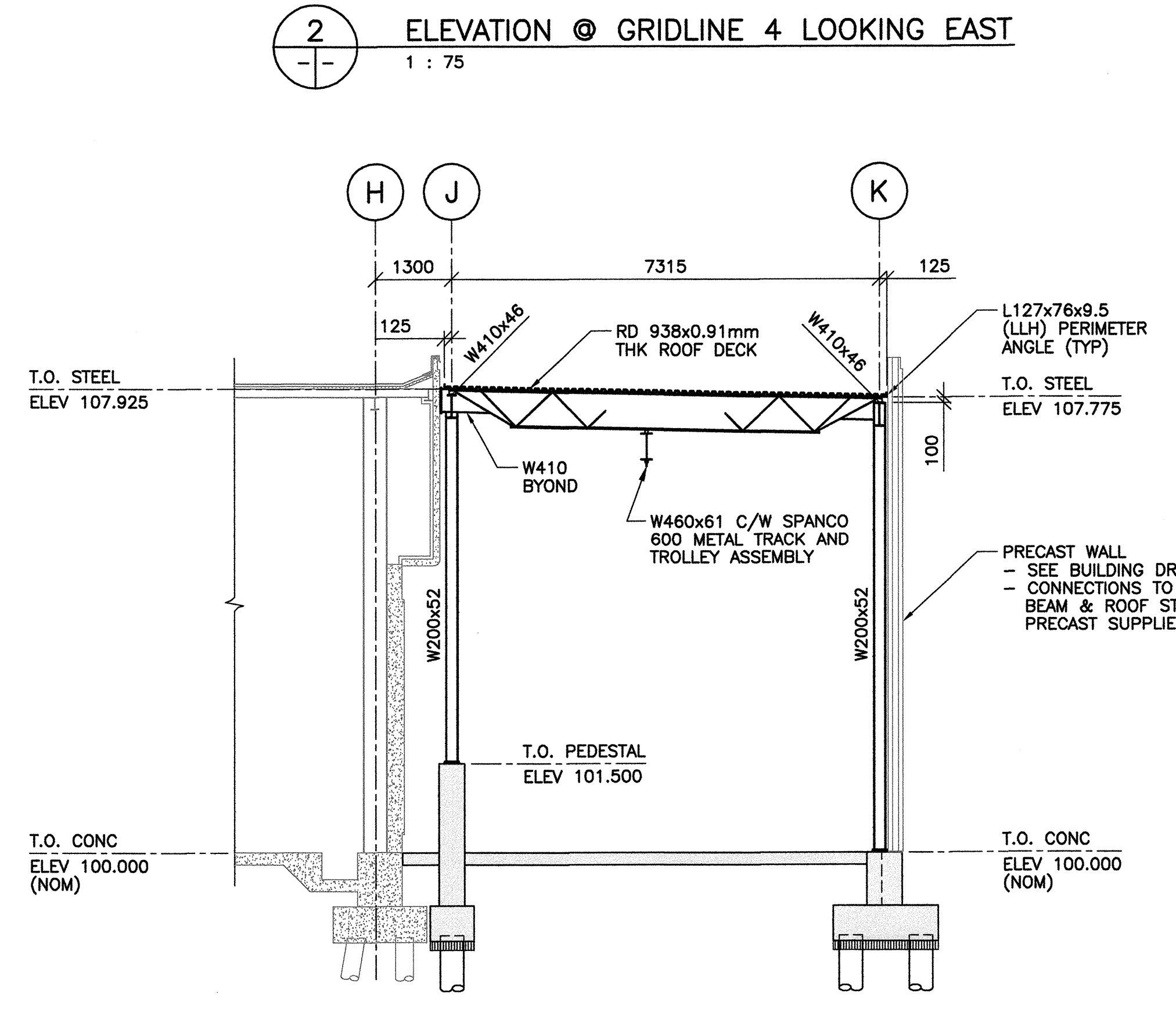
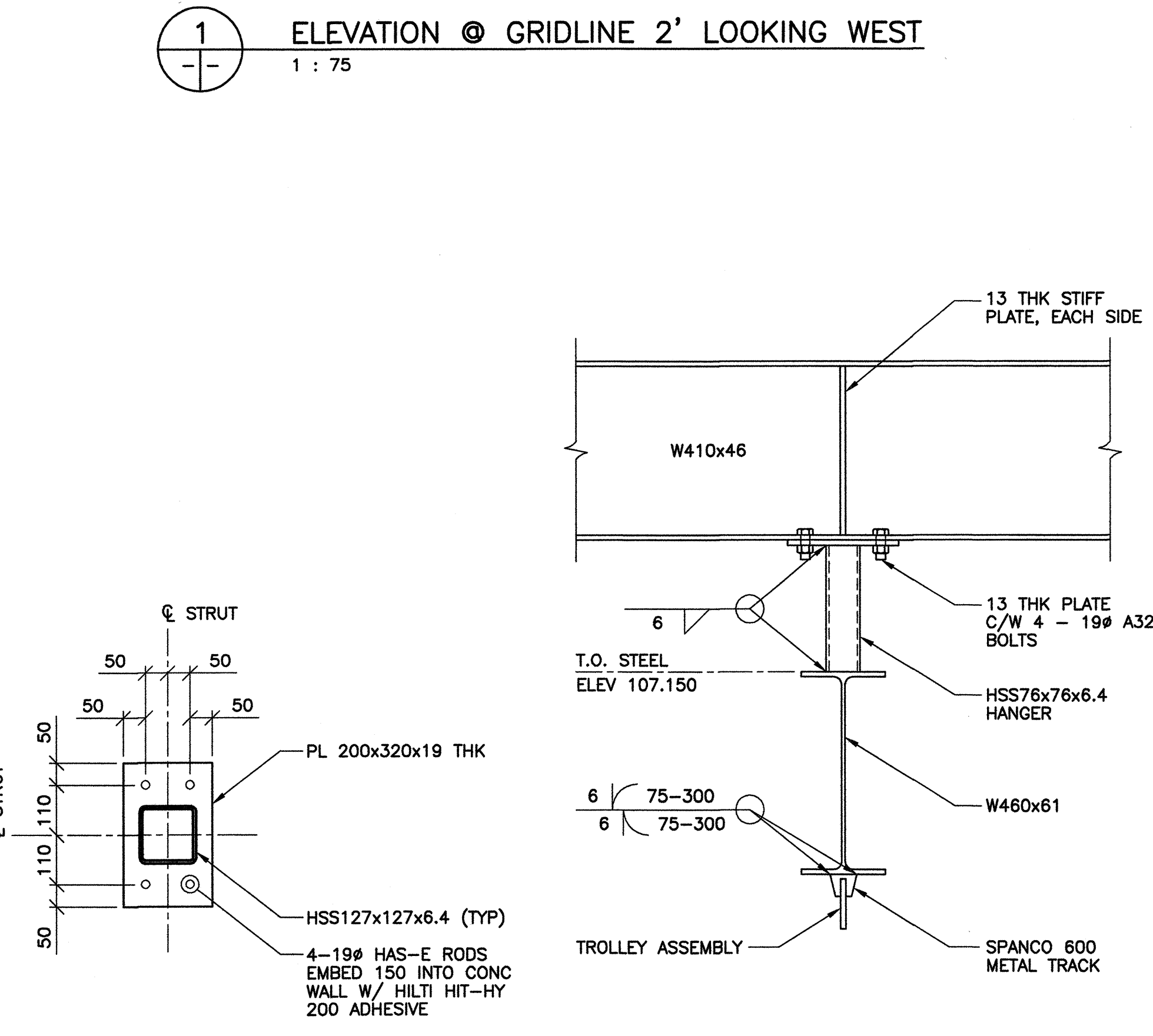
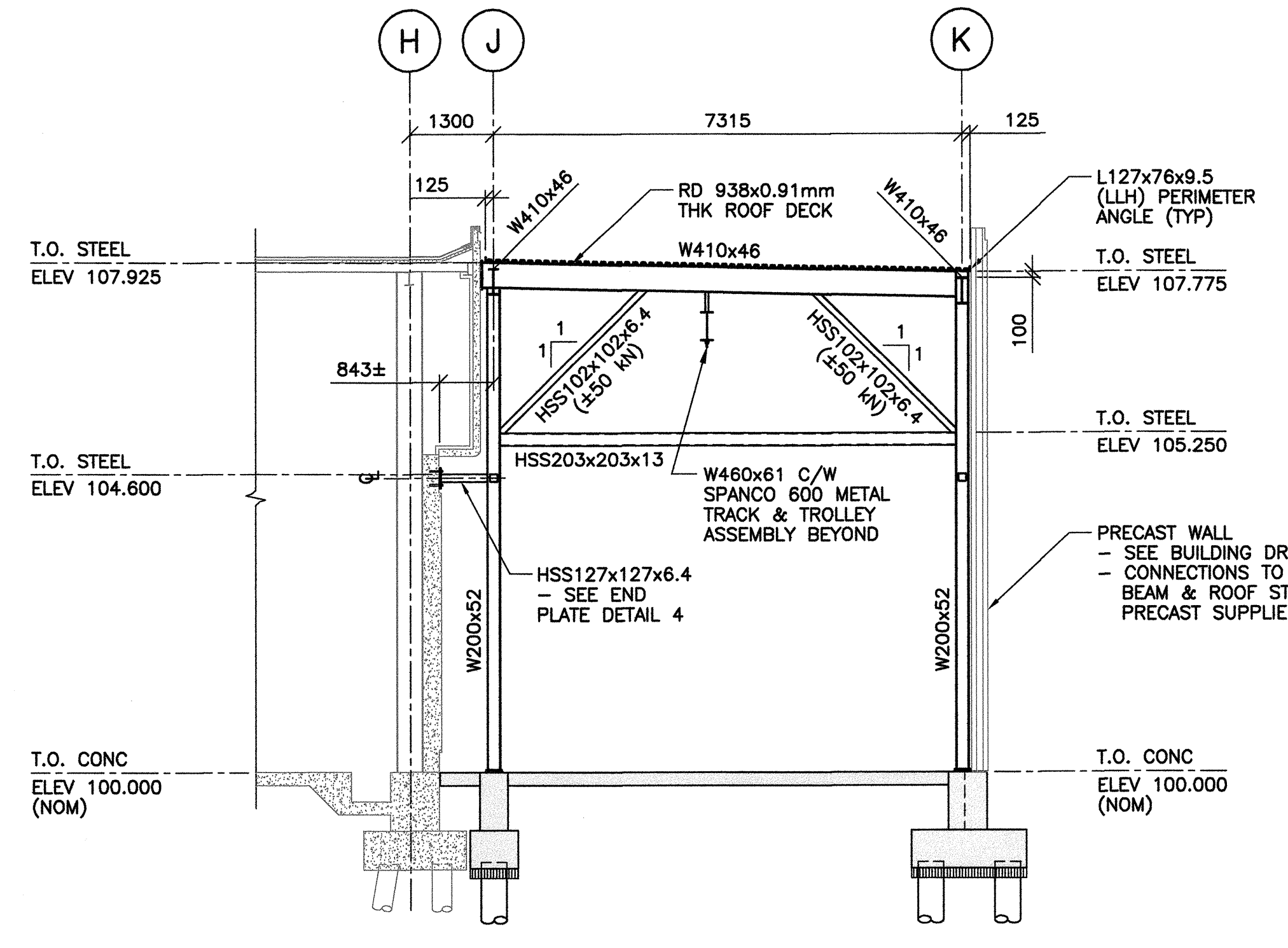
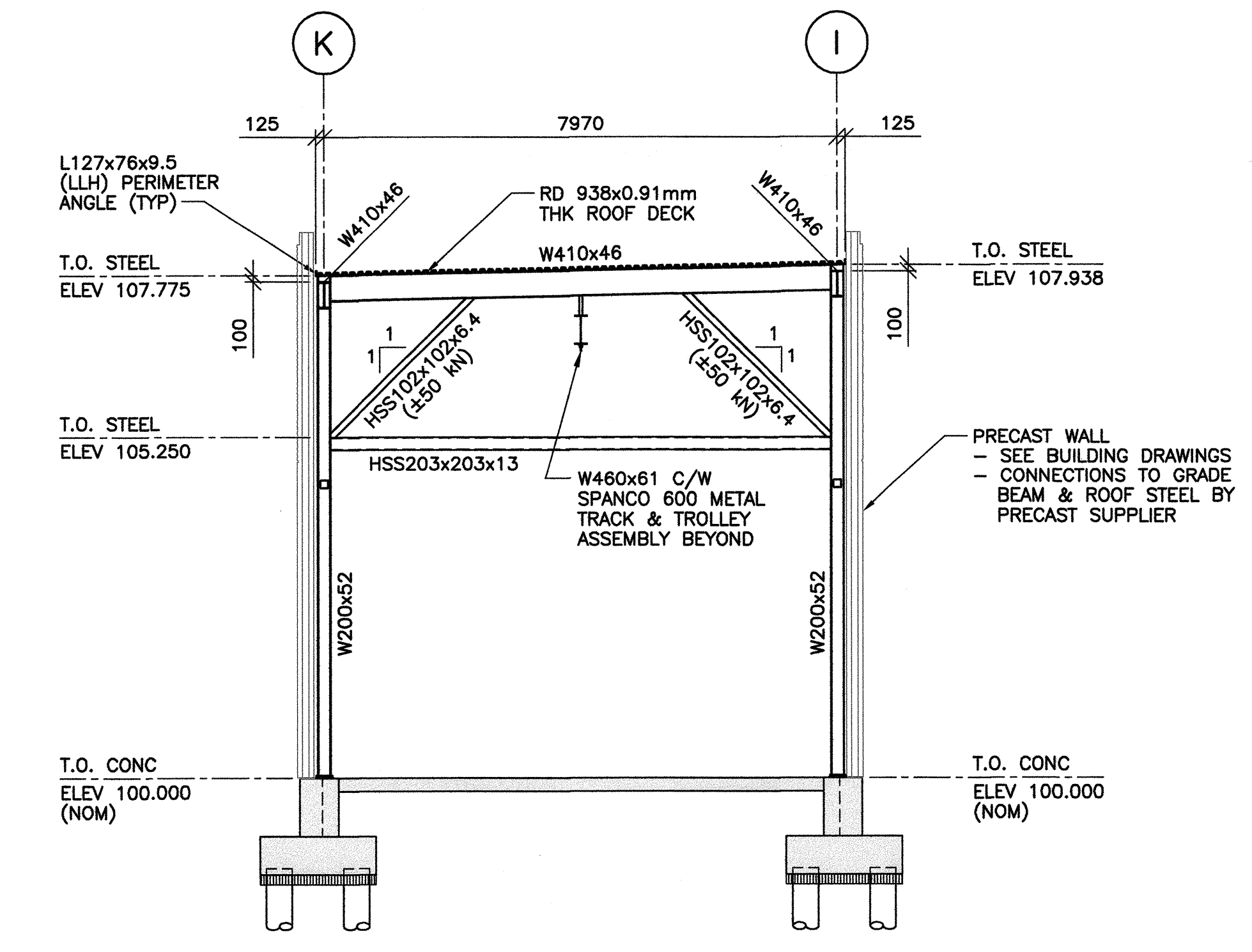
TETRA TECH

PROJECT NAME: **CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION**

DRAWING DESCRIPTION: **STEEL ELEVATIONS @ GRID LINES 2', 4 AND 2 AND DETAILS**

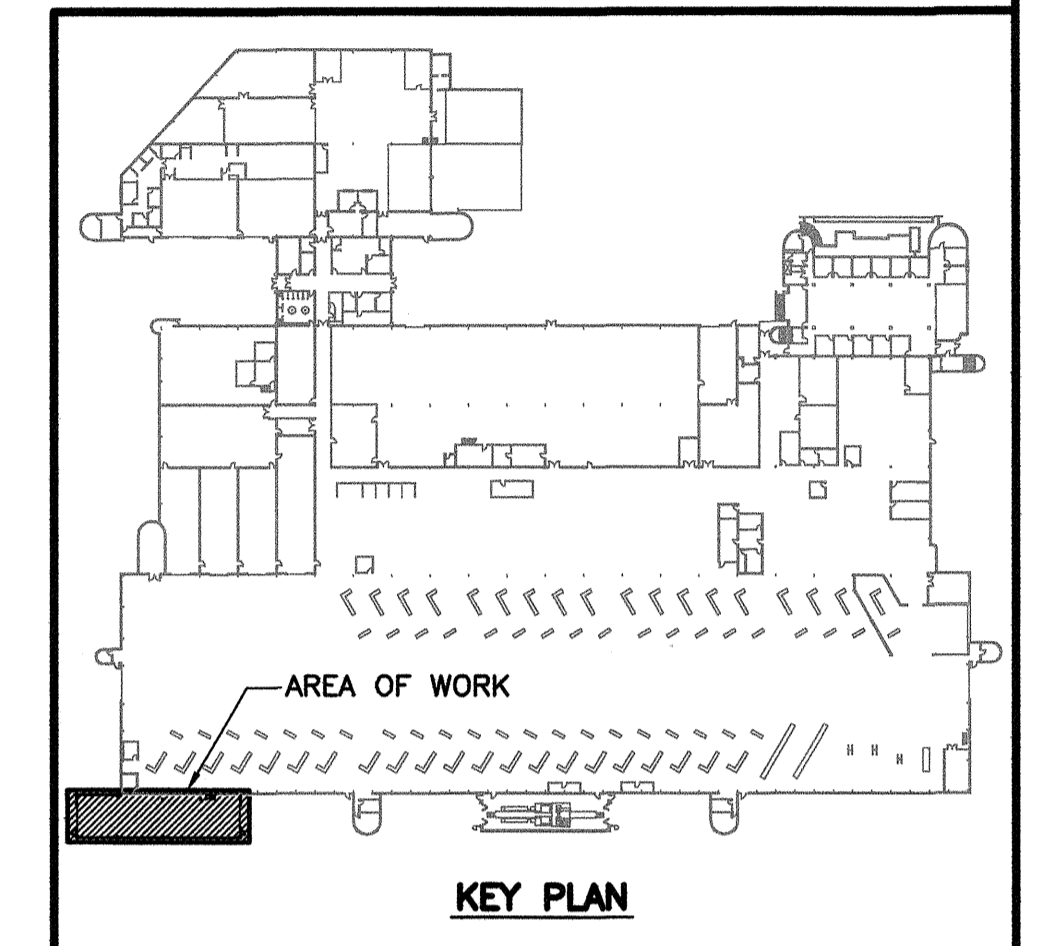
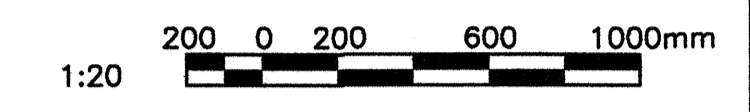
DRAWING NO: 1329720500-DWG-S0005

REV: 00



REFERENCE DRAWINGS	
NO.	DESCRIPTION

NOTES:
 1. FOR GENERAL NOTES, REFER TO DRAWING S0001.



NO.	DATE	DESCRIPTION	PREPARED	REVIEWED	DESIGN	AUTHORIZED
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	CM	CM	

TETRA TECH WEI Inc.
 No. 5313 Date: April 30, 2014

DESIGNED BY:	PREPARED BY:	REVIEWED BY:
CM	EV	CM
AUTHORIZED BY:	DATE:	SCALE:
	13.11.06	AS NOTED

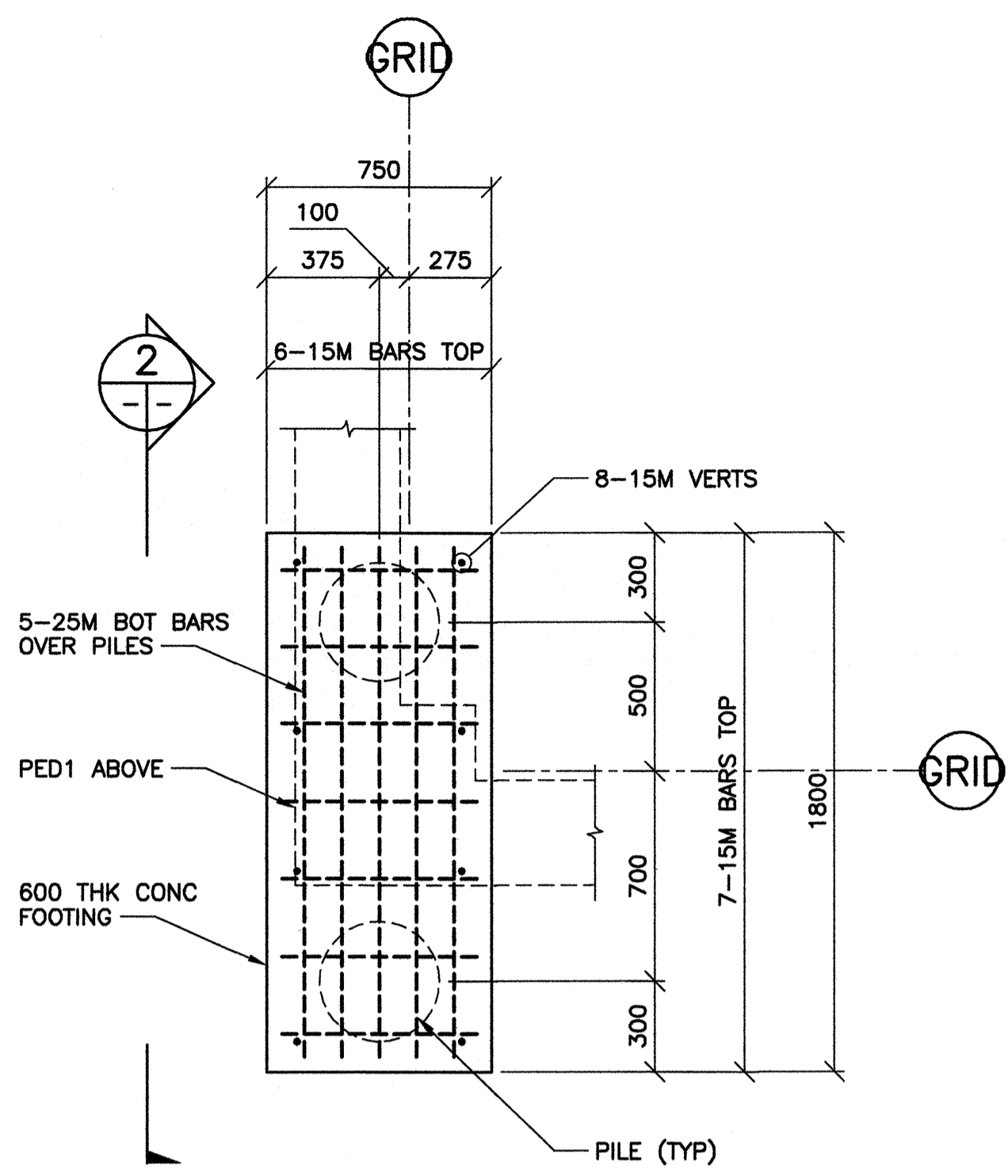
CLIENT: **CITY OF WINNIPEG TRANSIT DEPARTMENT**

TETRA TECH

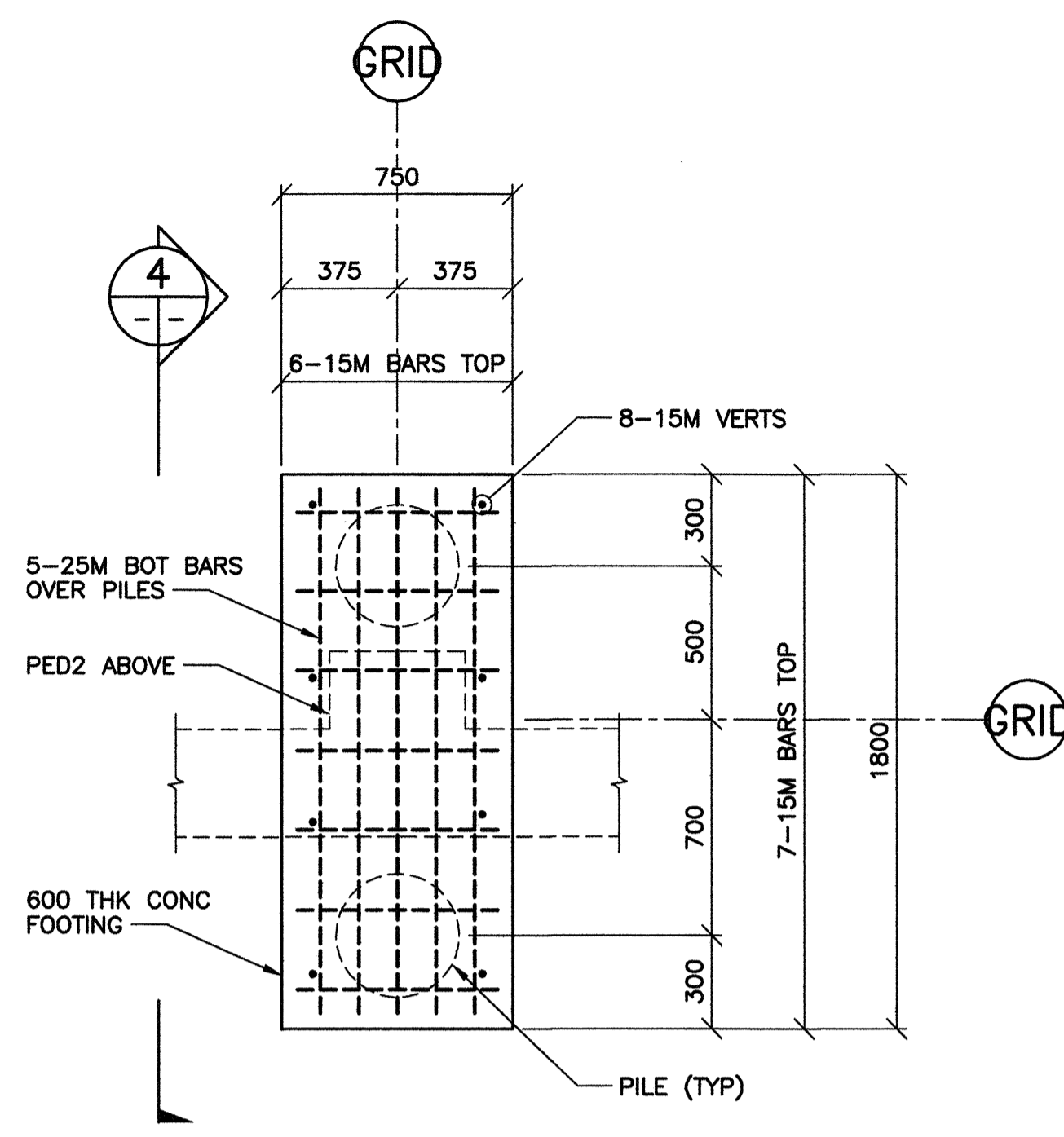
PROJECT NAME: **CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION**

DRAWING DESCRIPTION: **CONCRETE SECTIONS AND DETAILS SHEET 1**

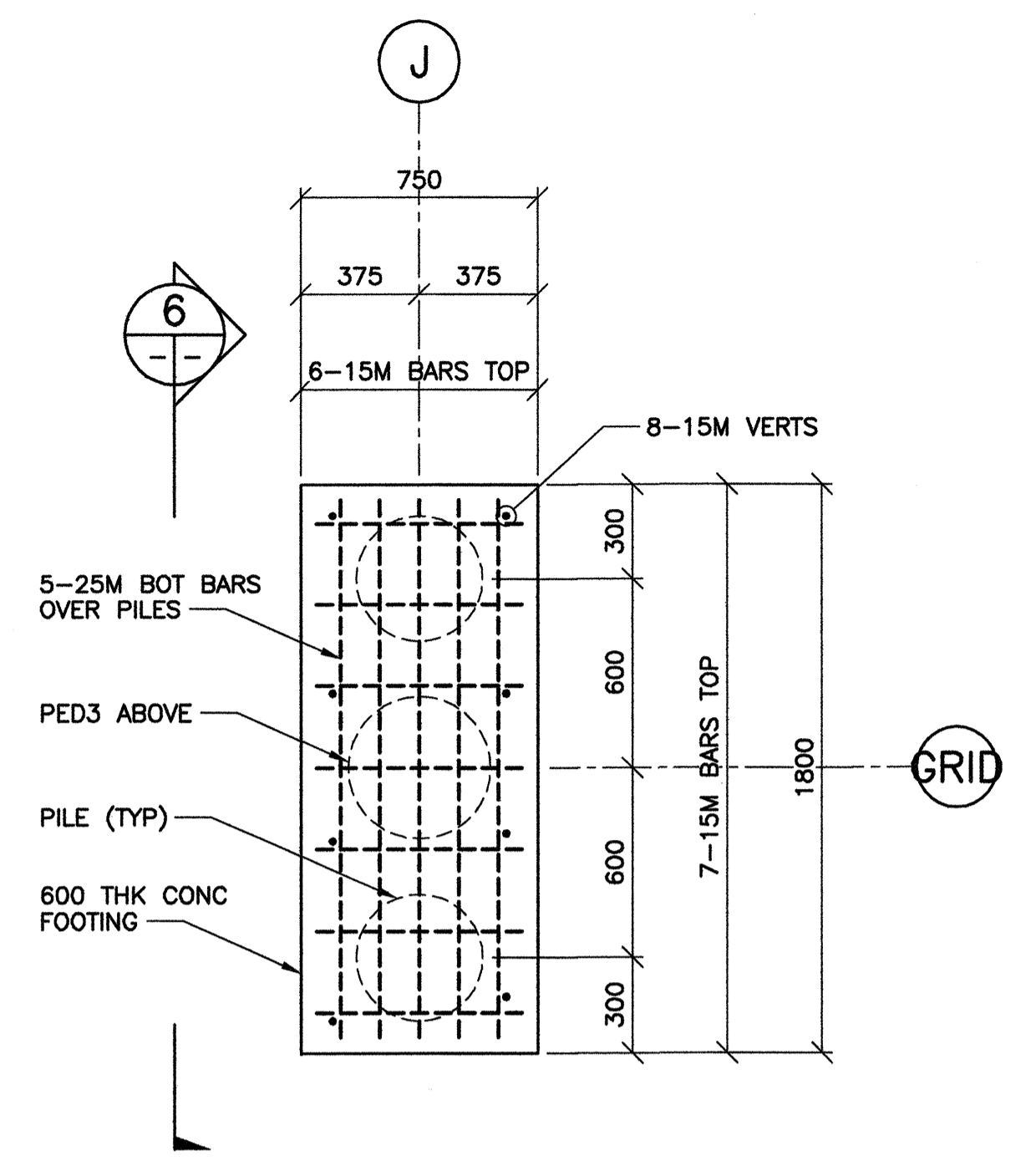
DRAWING NO: 1329720500-DWG-S0006	REV: 00
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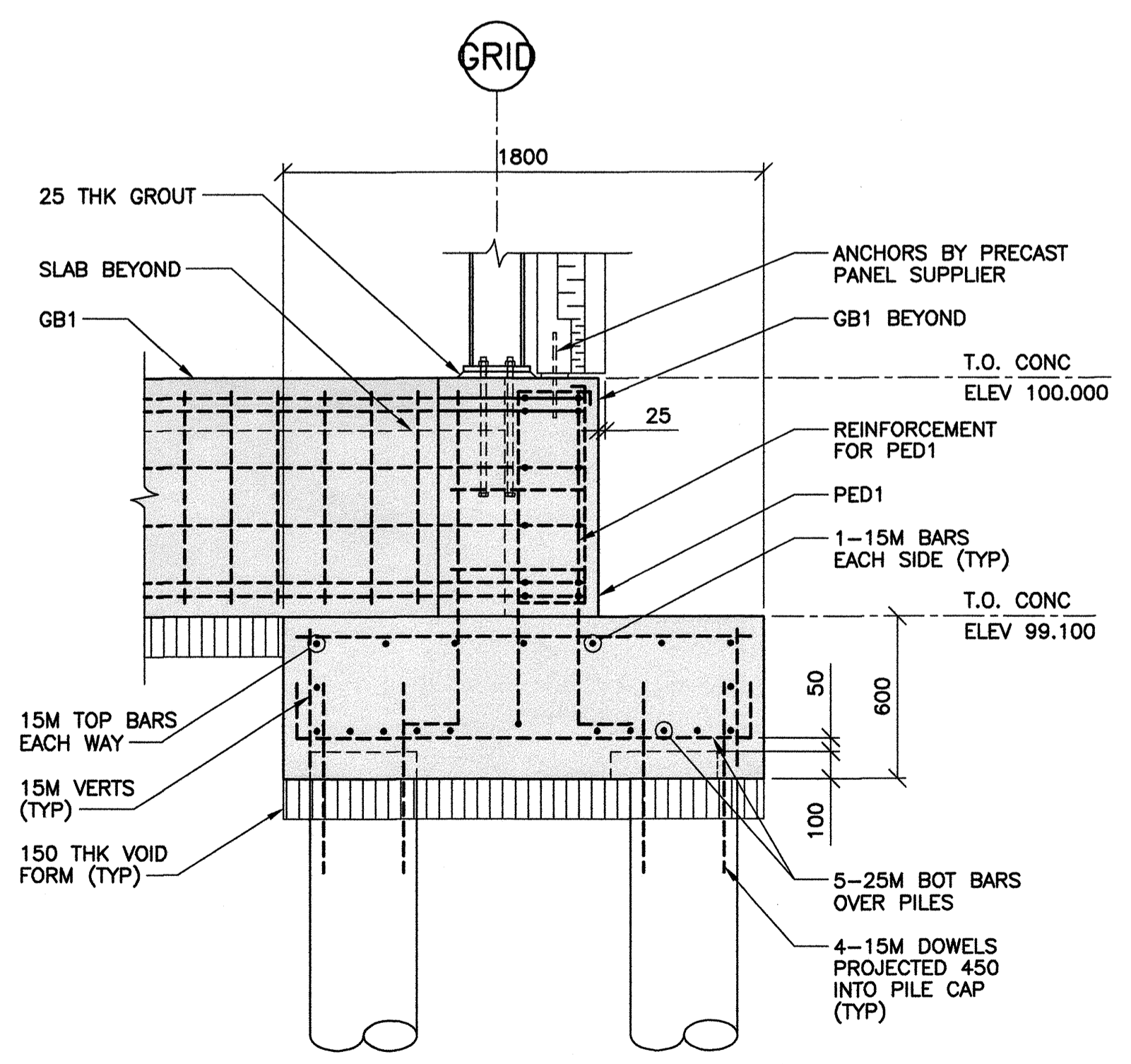
1 PILE CAP - MK. PC1
 1 : 20
 T.O.C. ELEV 99.100 U.N.O.
 - 3 LOC'NS



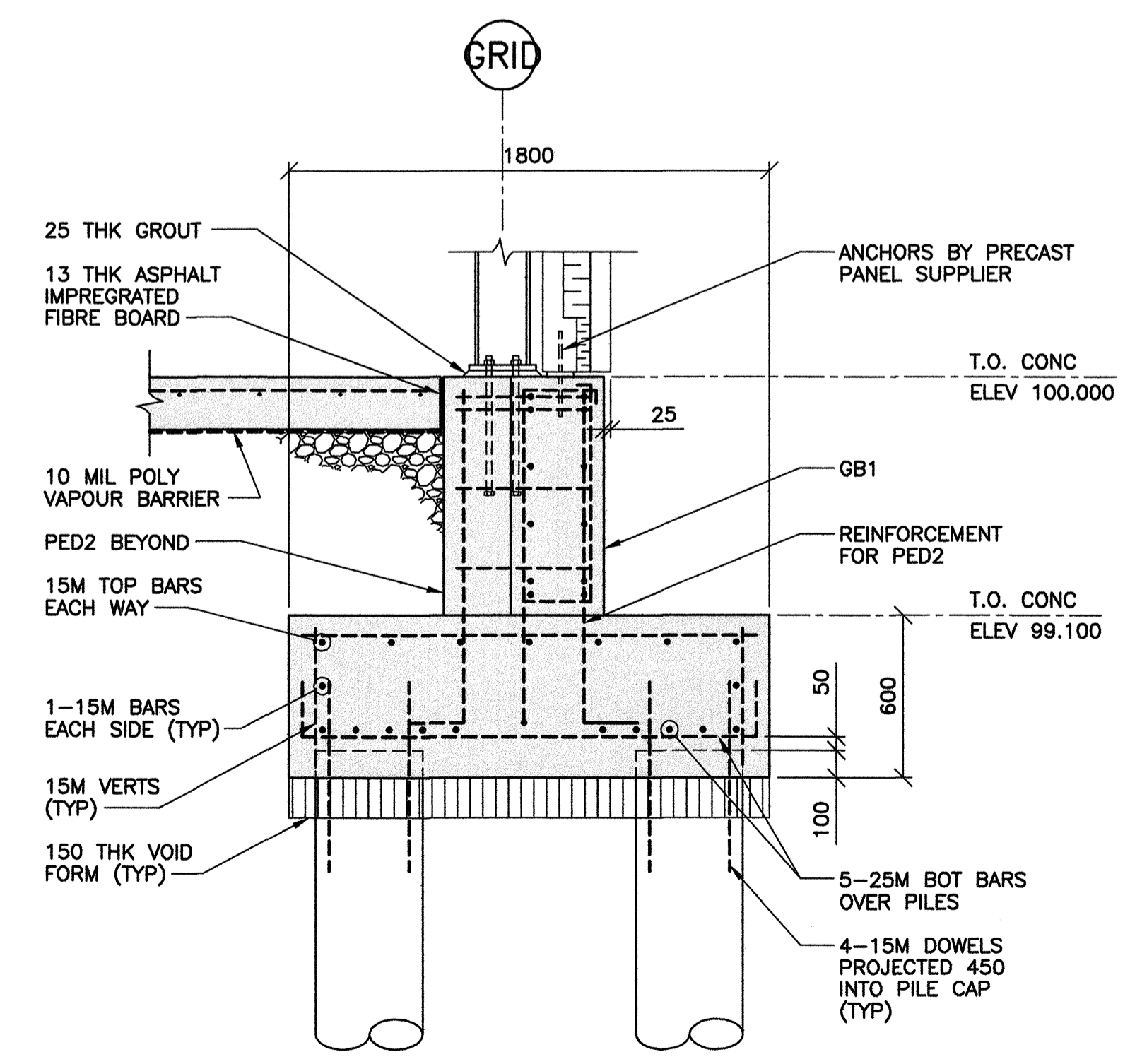
3 PILE CAP - MK. PC2
 1 : 20
 T.O.C. ELEV 99.100 U.N.O.
 - 5 LOC'NS
 - MK. PC2A SIMILAR BUT NO PEDESTAL ABOVE
 - DOWEL 4-15M VERTS INTO GRADE BEAM
 - 2 LOC'NS



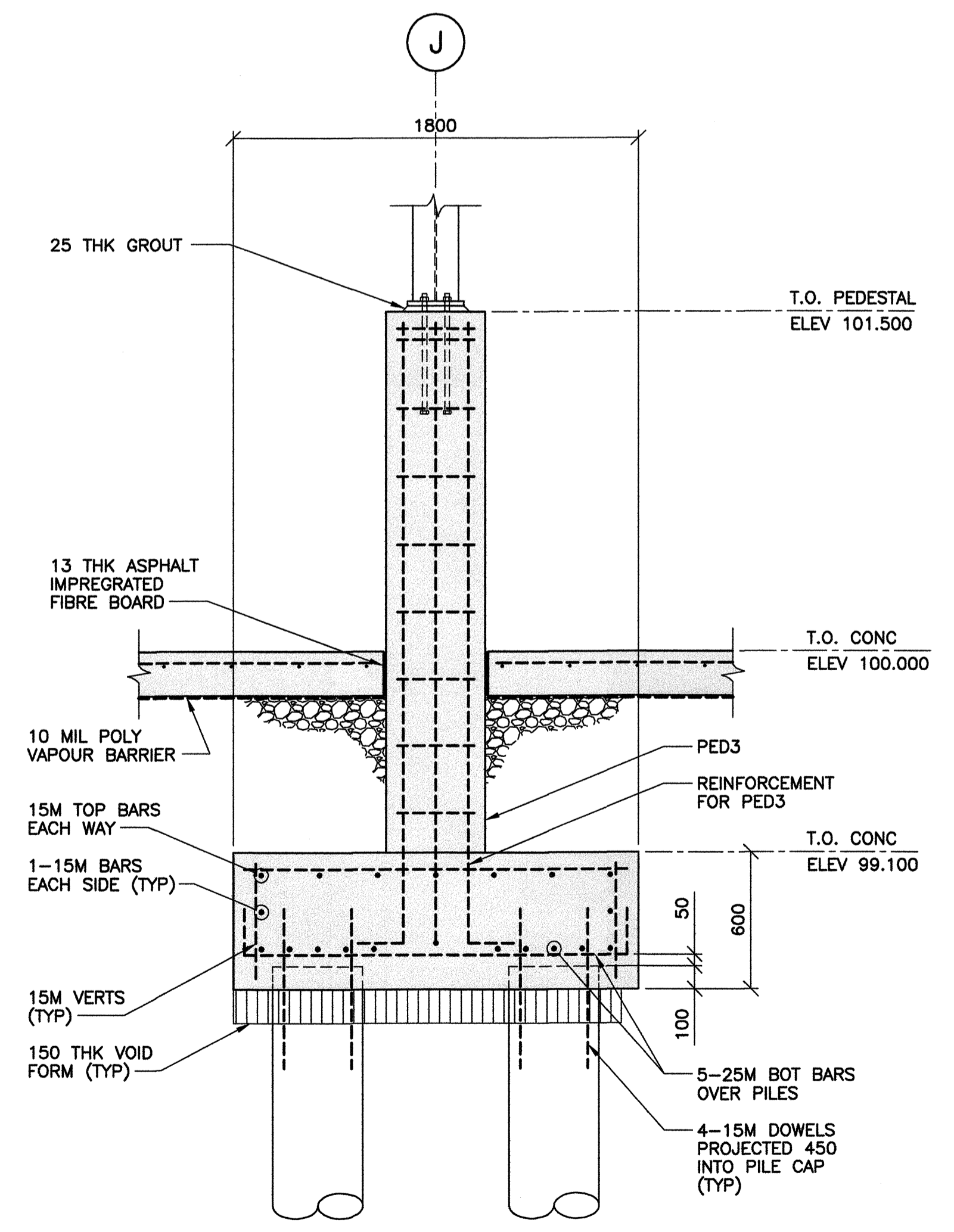
5 PILE CAP - MK. PC3
 1 : 20
 T.O.C. ELEV 99.100 U.N.O.
 - 2 LOC'NS



2 SECTION - MK. PC1
 1 : 20



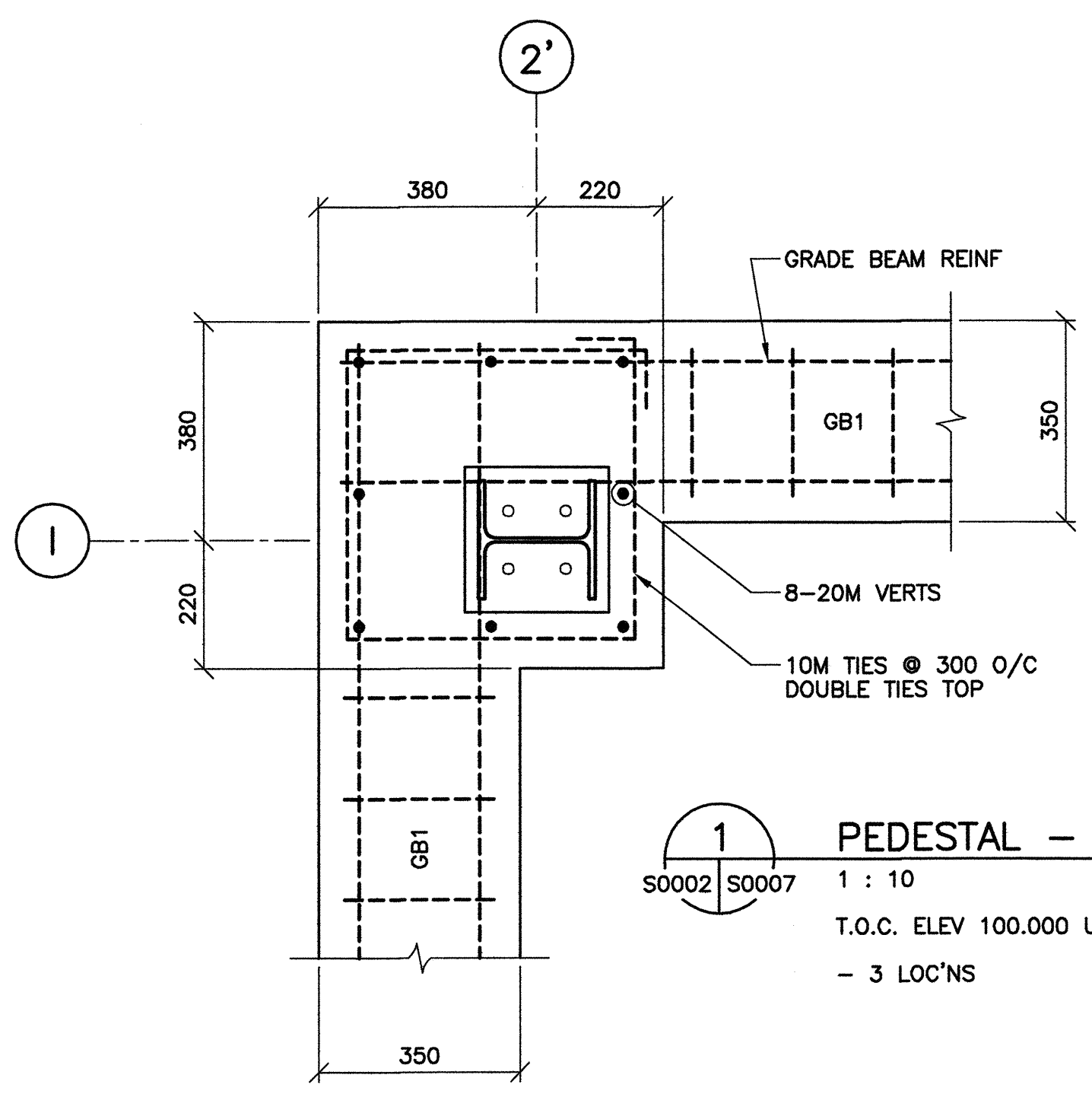
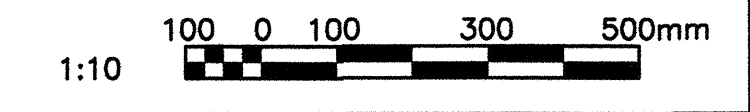
4 SECTION - MK. PC2
 1 : 20



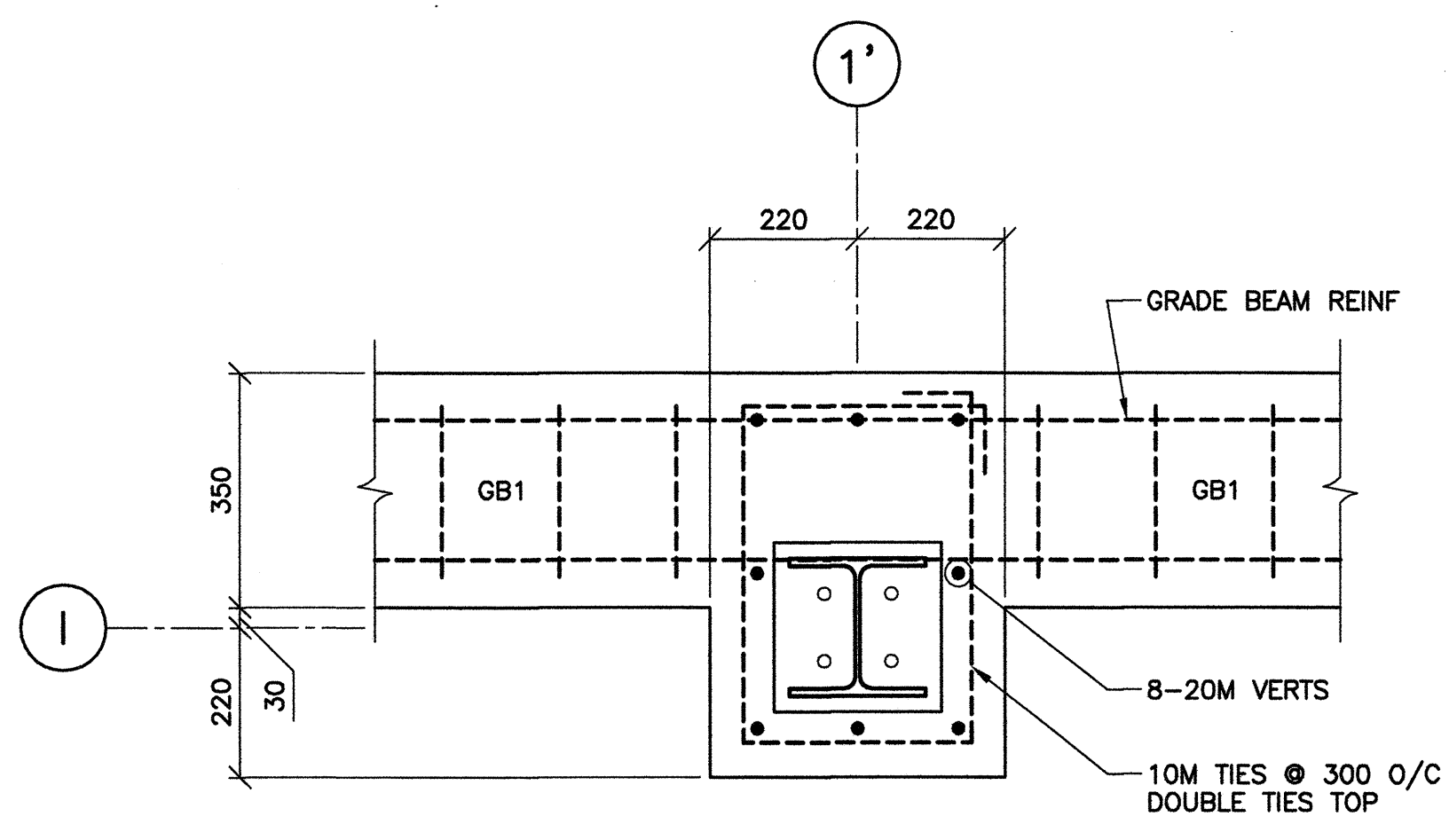
6 SECTION - MK. PC3
 1 : 20

REFERENCE DRAWINGS	
NO.	DESCRIPTION

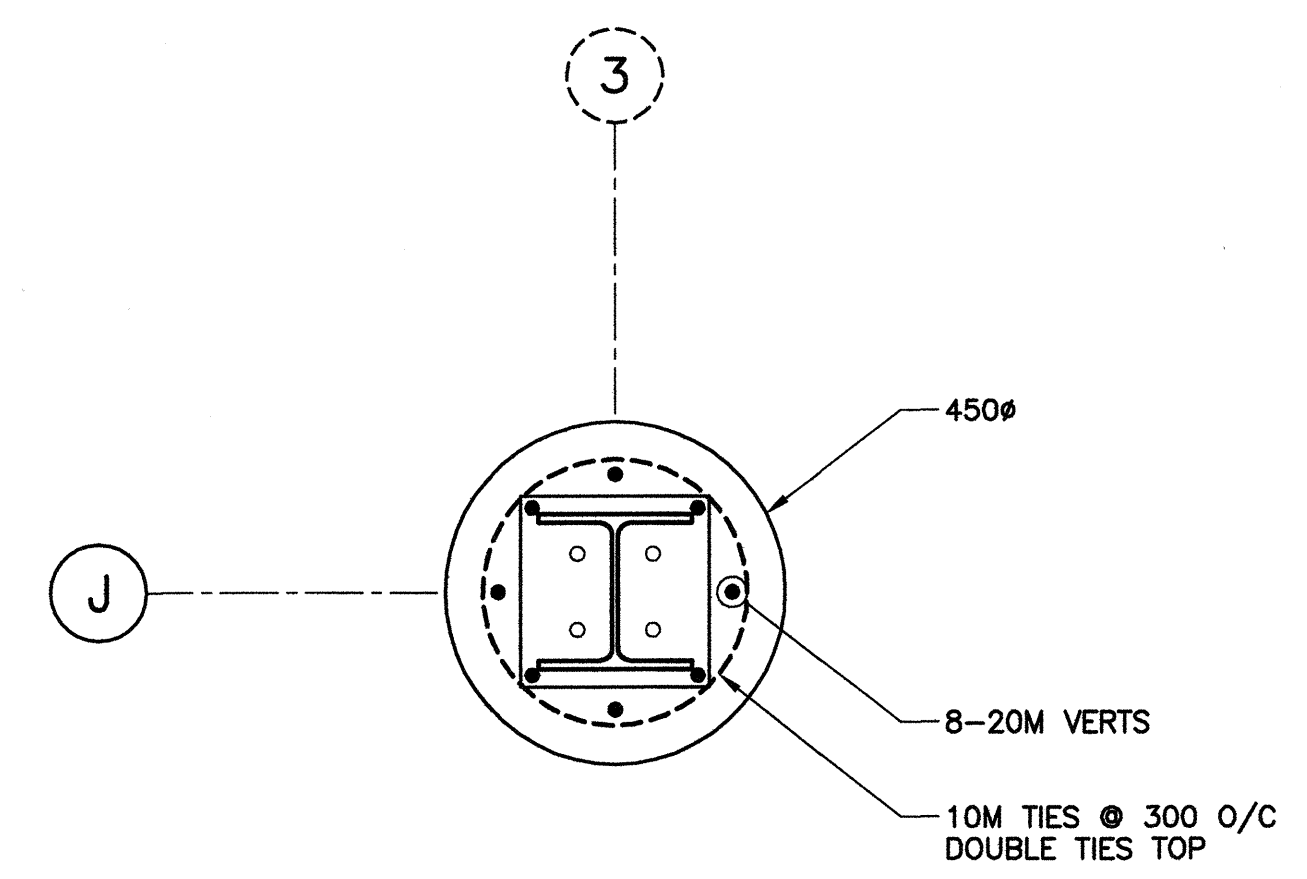
NOTES:
1. FOR GENERAL NOTES, REFER TO DRAWING S0001.



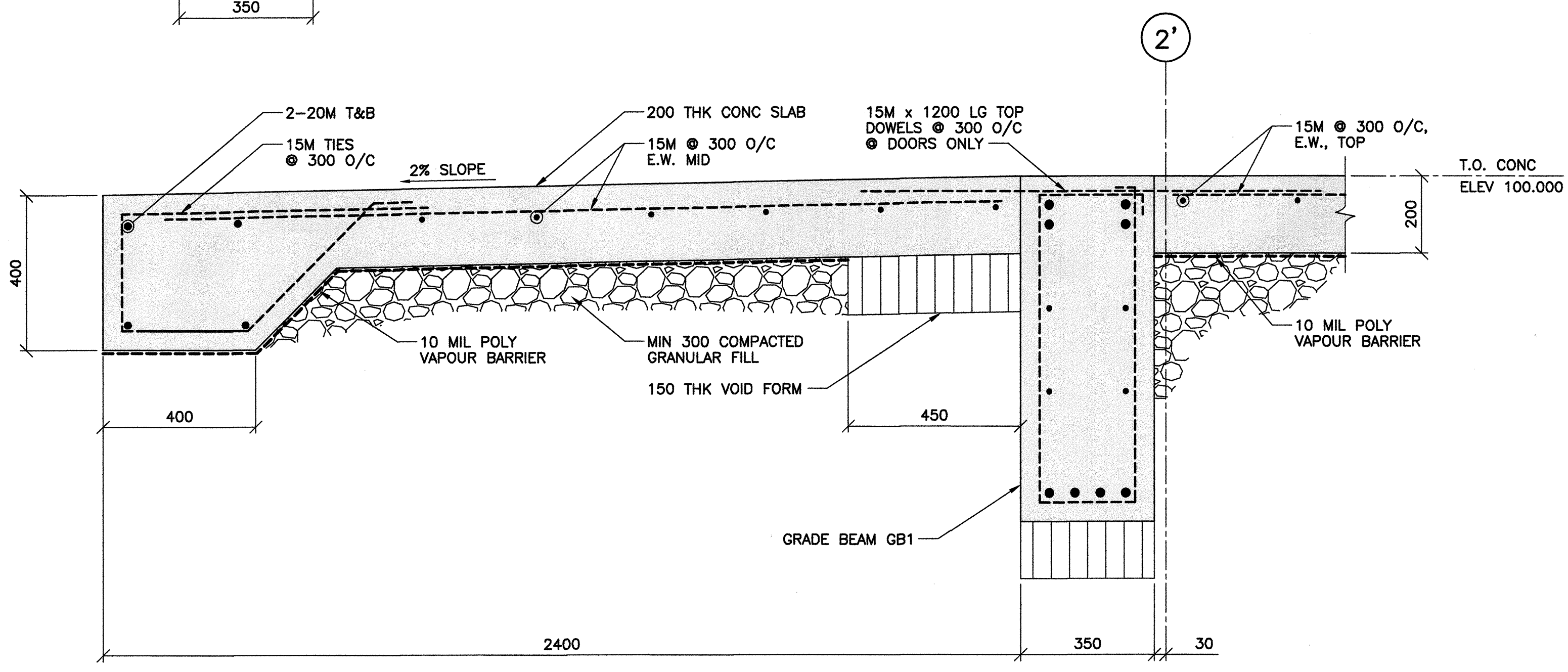
1 PEDESTAL - MK PED1 DETAIL
S0002 | S0007 1 : 10
T.O.C. ELEV 100.000 U.N.O.
- 3 LOC'NS



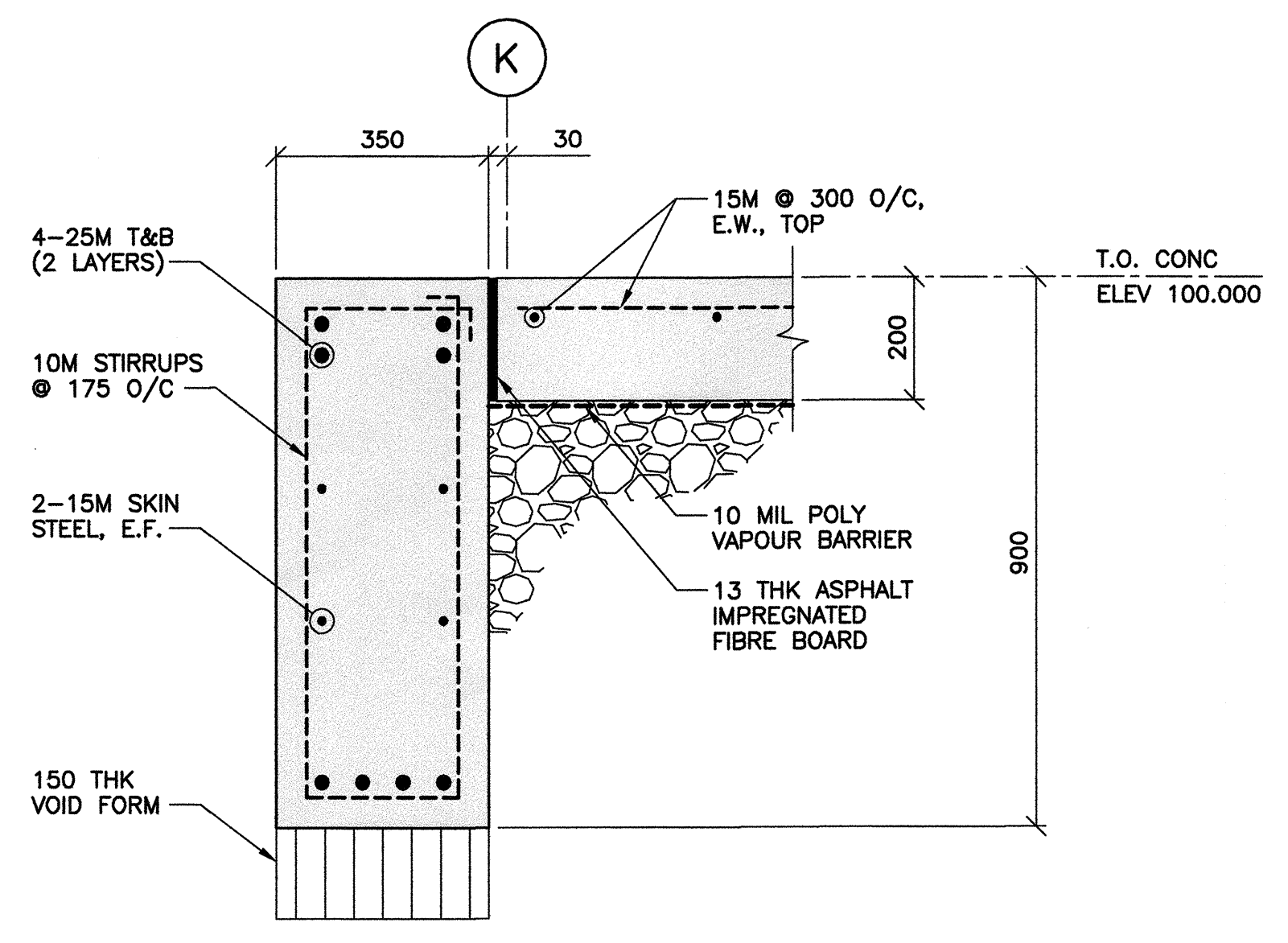
2 PEDESTAL - MK PED2 DETAIL
S0002 | S0007 1 : 10
T.O.C. ELEV 100.000 U.N.O.
- 8 LOC'NS



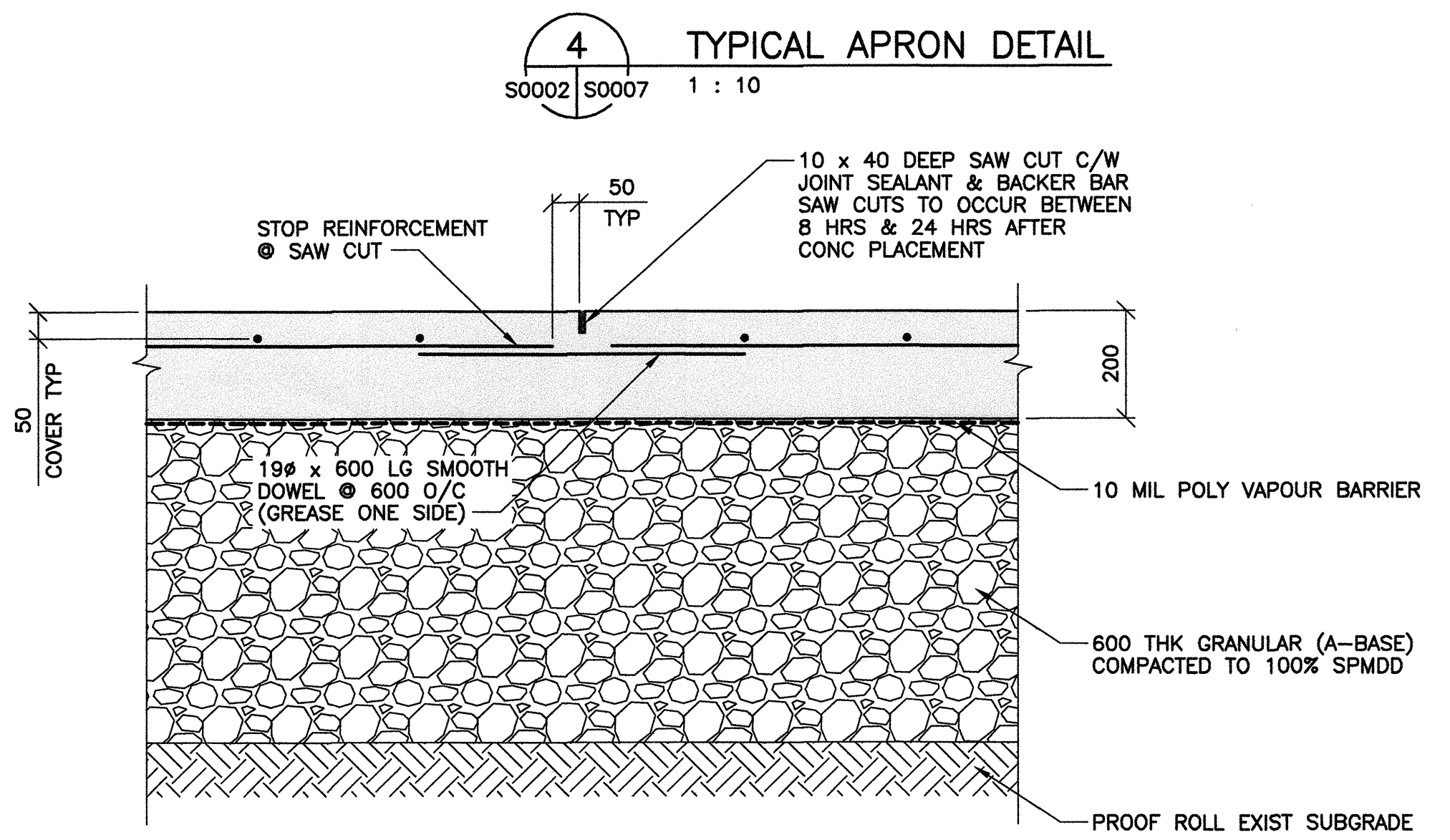
3 PEDESTAL - MK PED3 DETAIL
S0002 | S0007 1 : 10
T.O.C. ELEV 101.500 U.N.O.
- 2 LOC'NS



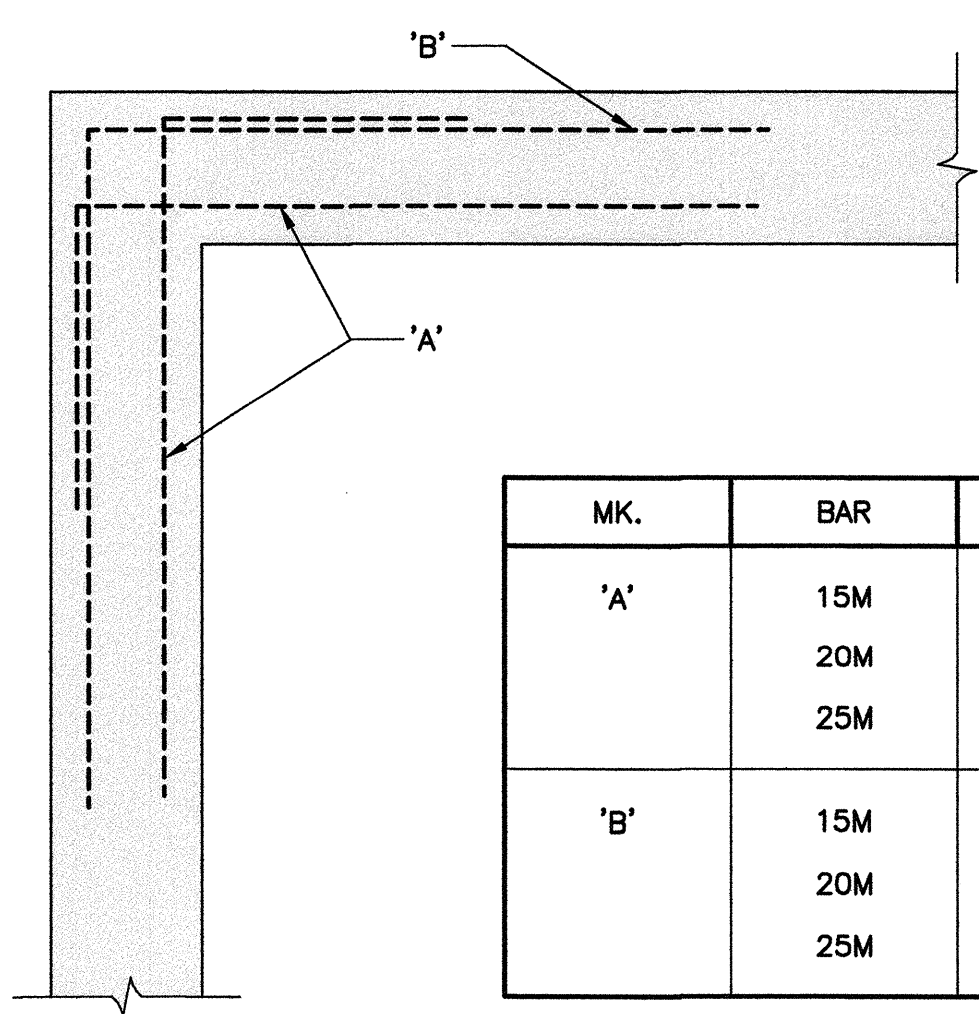
4 TYPICAL APRON DETAIL
S0002 | S0007 1 : 10



5 GRADE BEAM - MK GB1 SECTION
S0002 | S0007 1 : 10

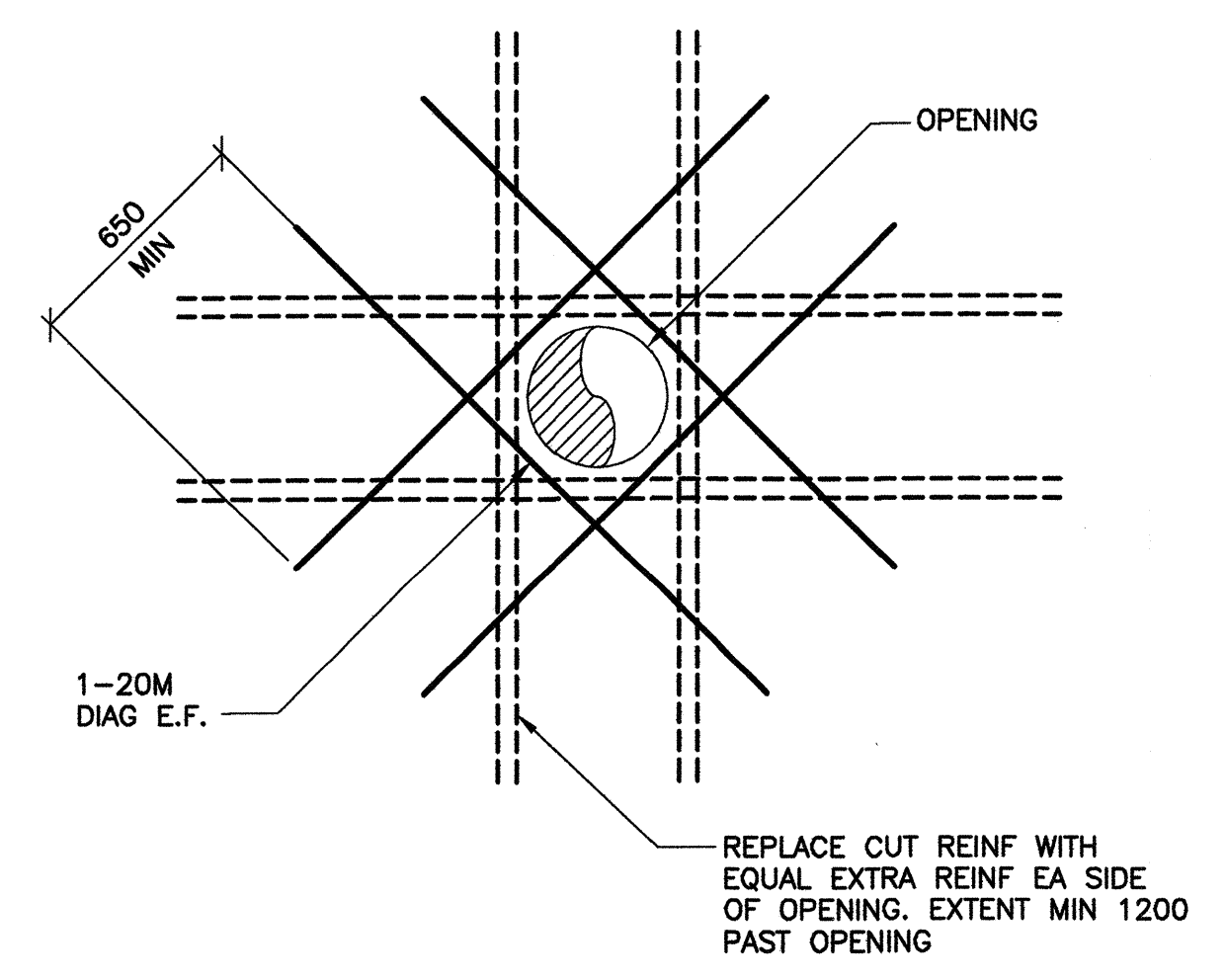


6 CONTROL JOINT DETAIL
1 : 10

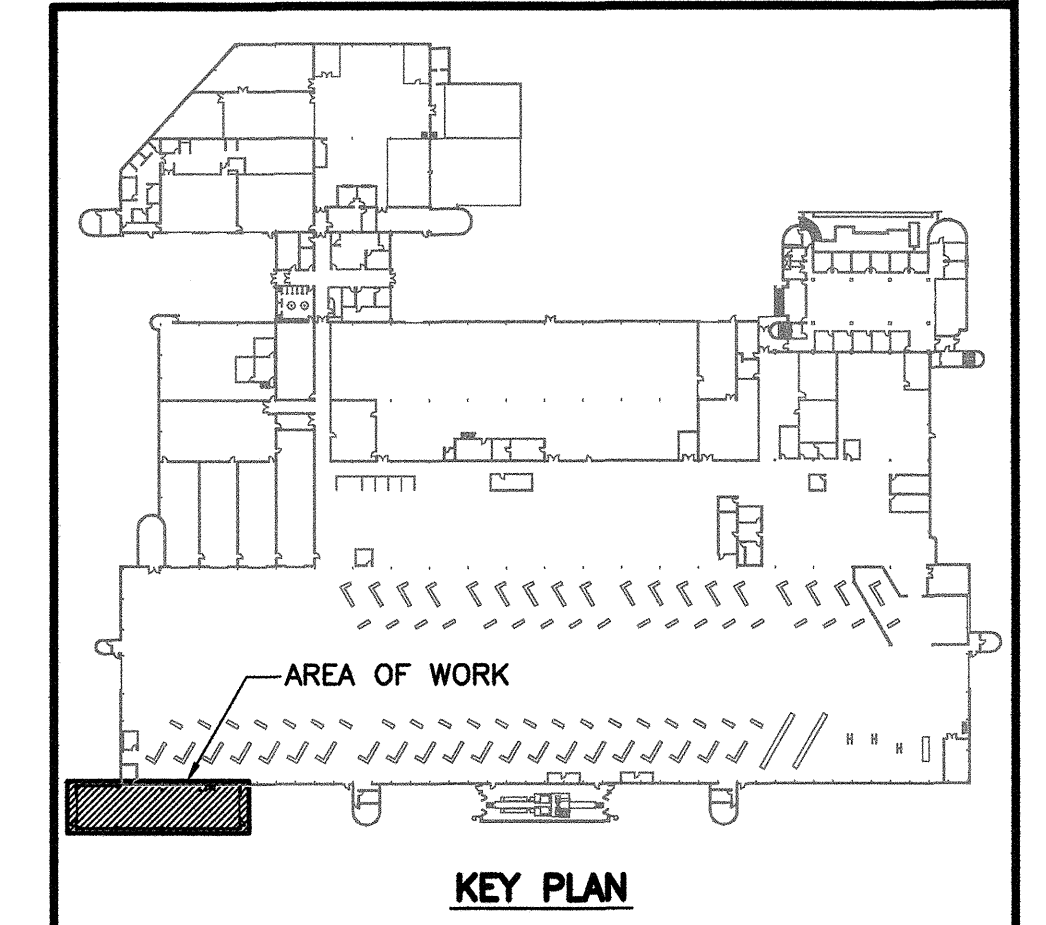


7 TYPICAL CORNER DETAIL
N.T.S.

MK.	BAR	LENGTH
'A'	15M	900 x 400
	20M	1200 x 600
	25M	2000 x 600
'B'	15M	900 x 900
	20M	1050 x 1050
	25M	1200 x 1200



8 TYPICAL OPENING DETAIL
N.T.S.



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	CM	CM	[Signature]

DESIGNED BY: CM	PREPARED BY: EV	REVIEWED BY: CM
AUTHORIZED BY: [Signature]	DATE: 13.11.06	SCALE: AS NOTED

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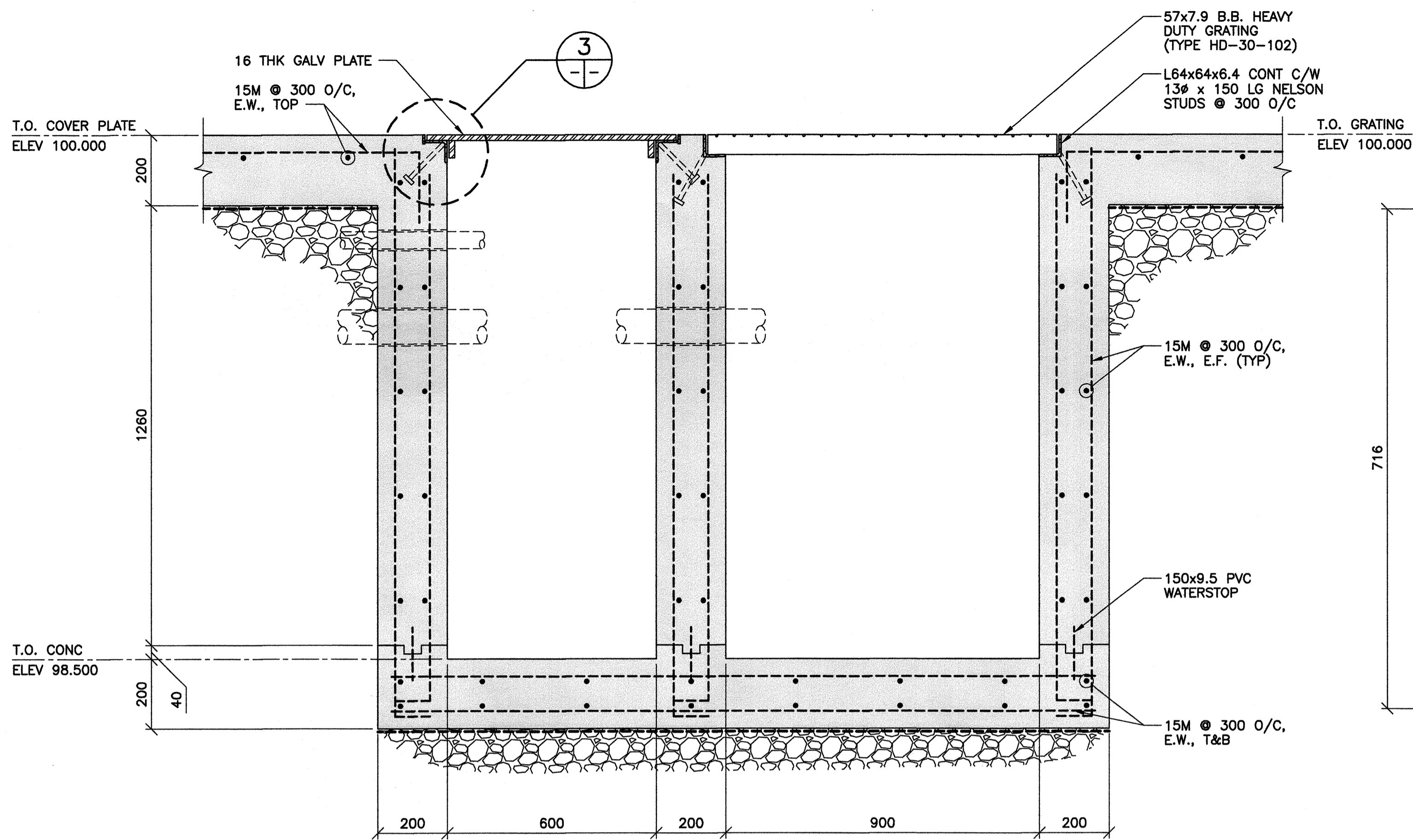
CLIENT: CITY OF WINNIPEG TRANSIT DEPARTMENT

TETRA TECH

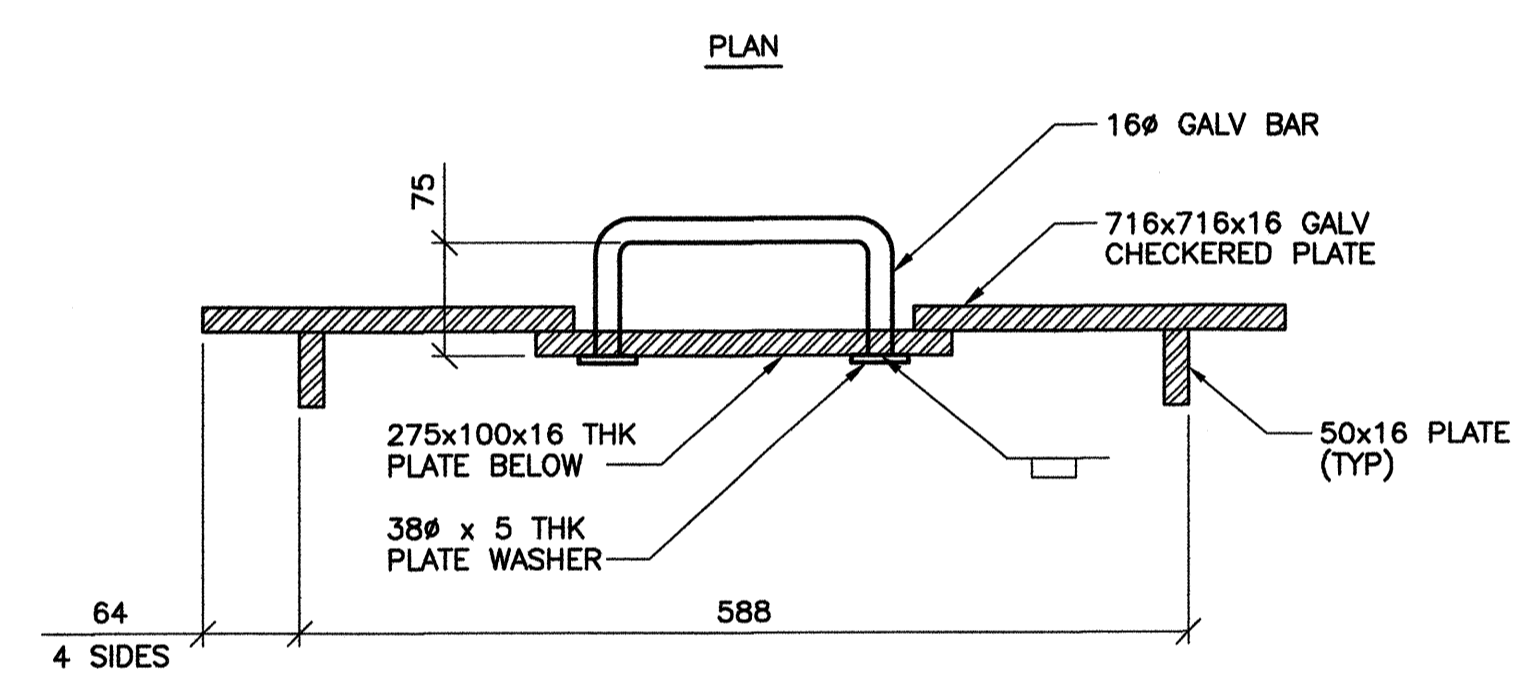
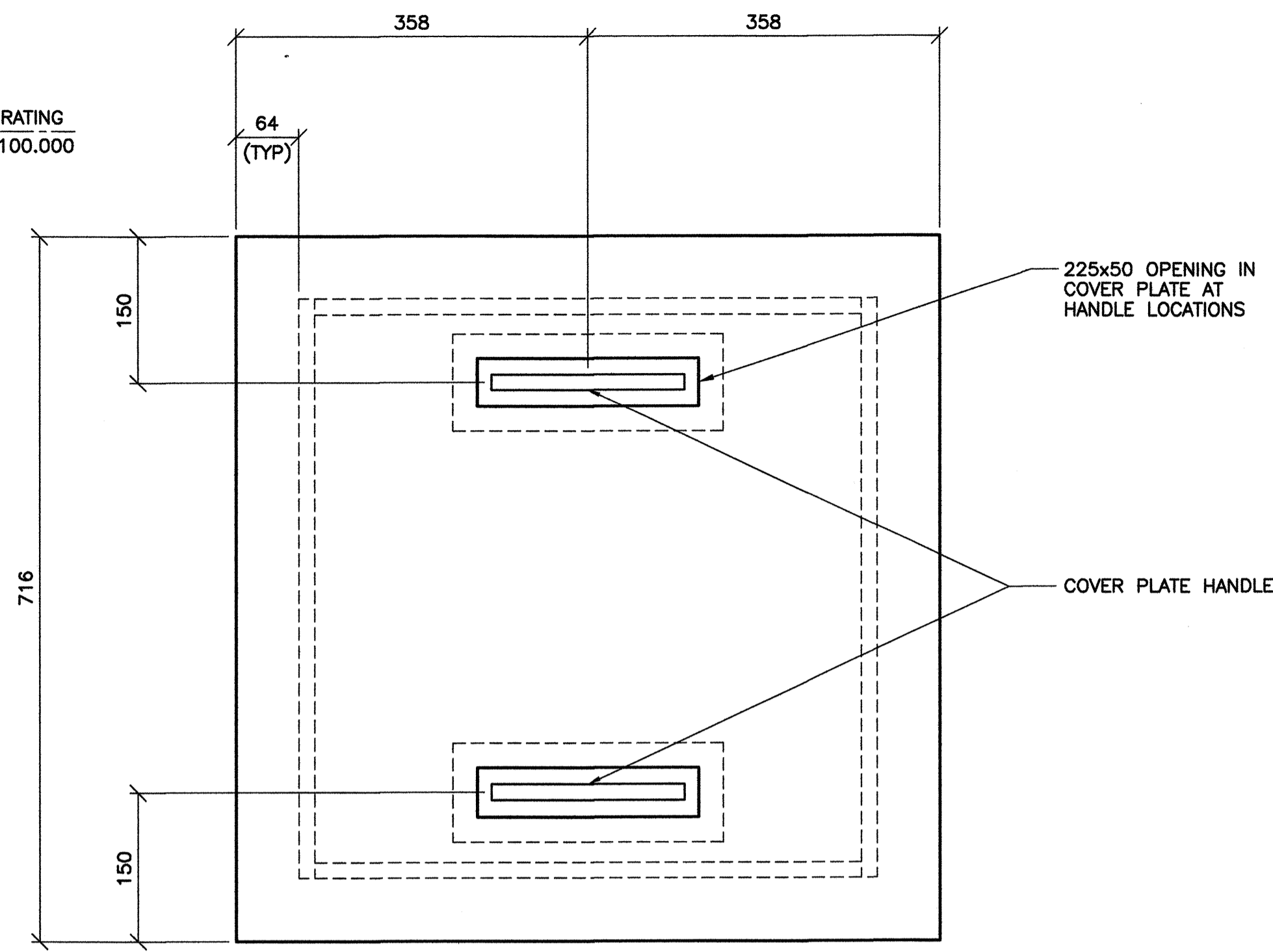
PROJECT NAME: CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION: CONCRETE SECTIONS AND DETAILS SHEET 2

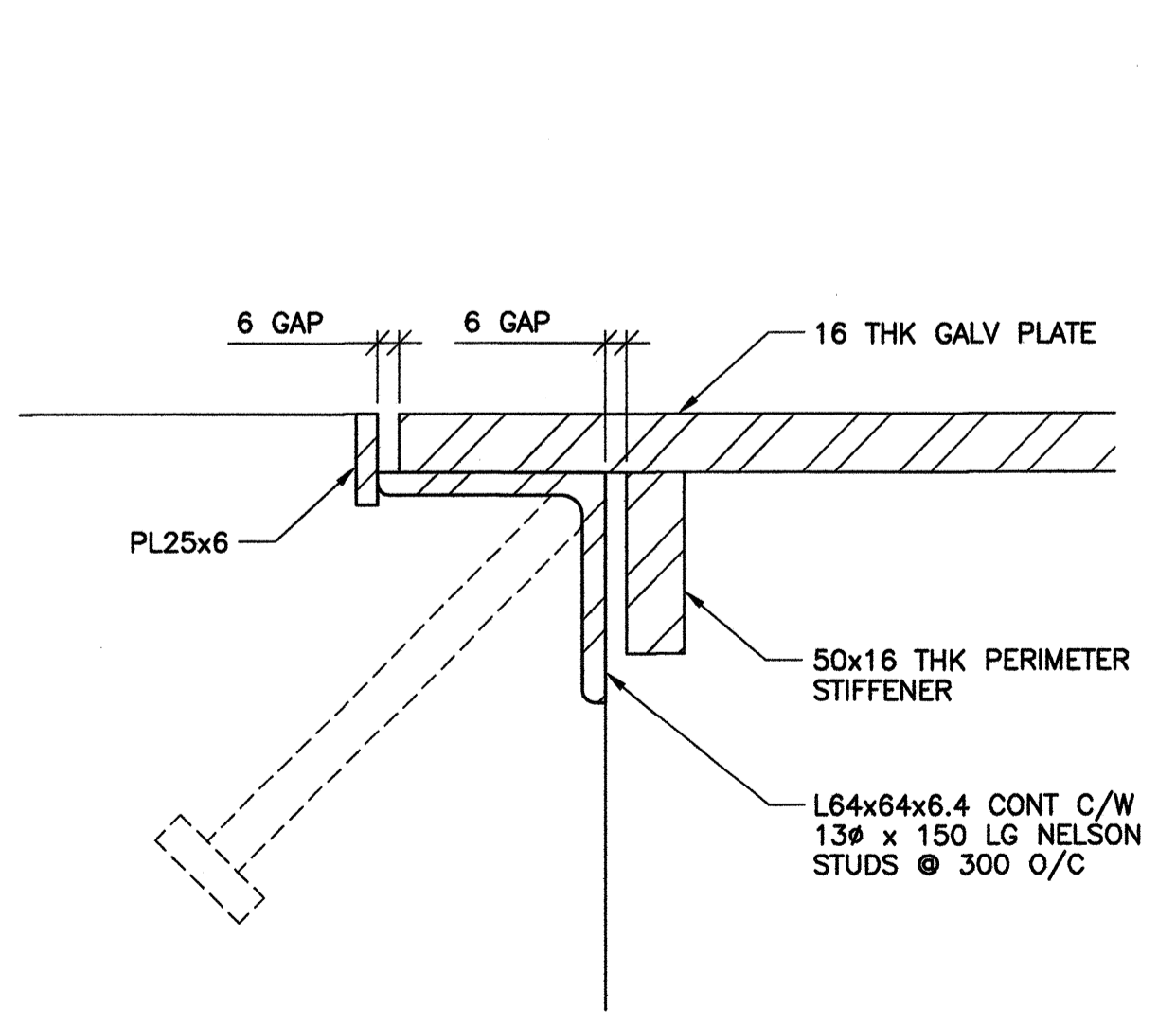
DRAWING NO. 1329720500-DWG-S0007	REV: 00
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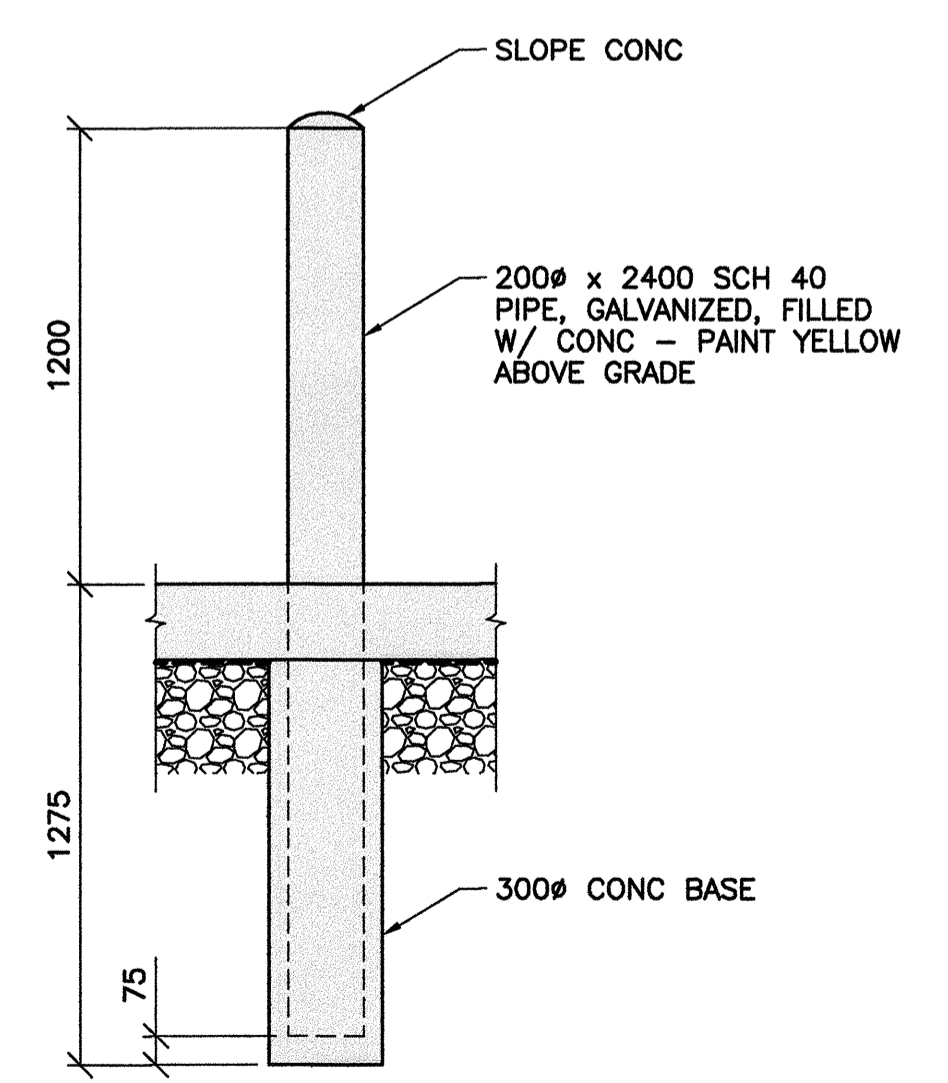
1 OIL & GRIT INTERCEPTOR
 S0002 | S0008 1 : 10
 - COORDINATE PIPING DETAILS W/ MECHANICAL



2 COVER PLATE
 1 : 5



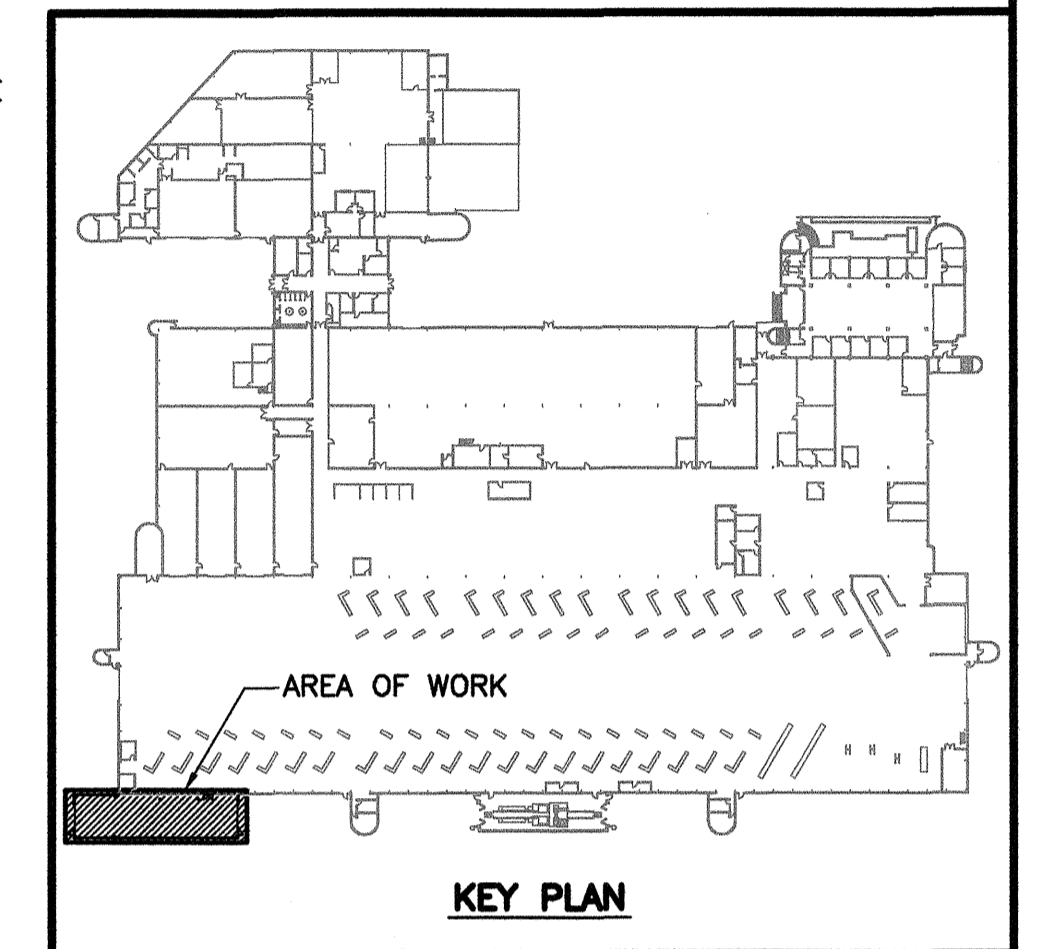
3 COVER PLATE EMBEDMENT DETAIL
 1 : 2



4 TYP BOLLARD DETAIL
 1 : 20

REFERENCE DRAWINGS	
NO.	DESCRIPTION

NOTES:
 1. FOR GENERAL NOTES, REFER TO DRAWING S0001.



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	APPROVED
00	14.01.17	ISSUED FOR CONSTRUCTION	EV	CM	CM	CM

REGISTERED PROFESSIONAL ENGINEER

APEGM
 Certificate of Authorization
TETRA TECH WEI Inc.
 No. 5313 Date: April 30, 2014

DESIGNED BY:	PREPARED BY:	REVIEWED BY:
CM	EV	CM

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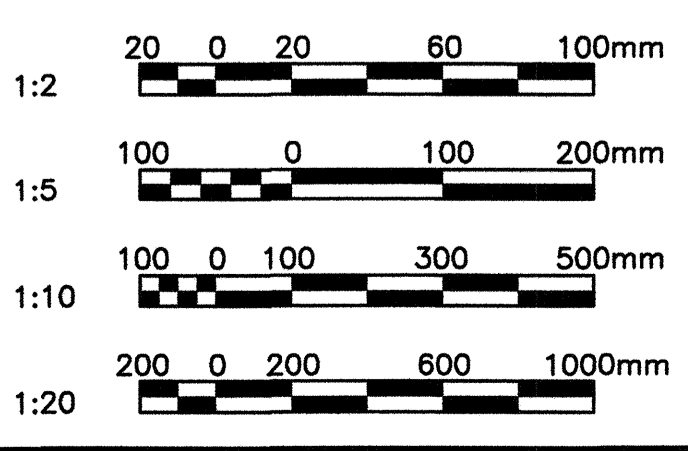
CLIENT:
CITY OF WINNIPEG
 TRANSIT DEPARTMENT

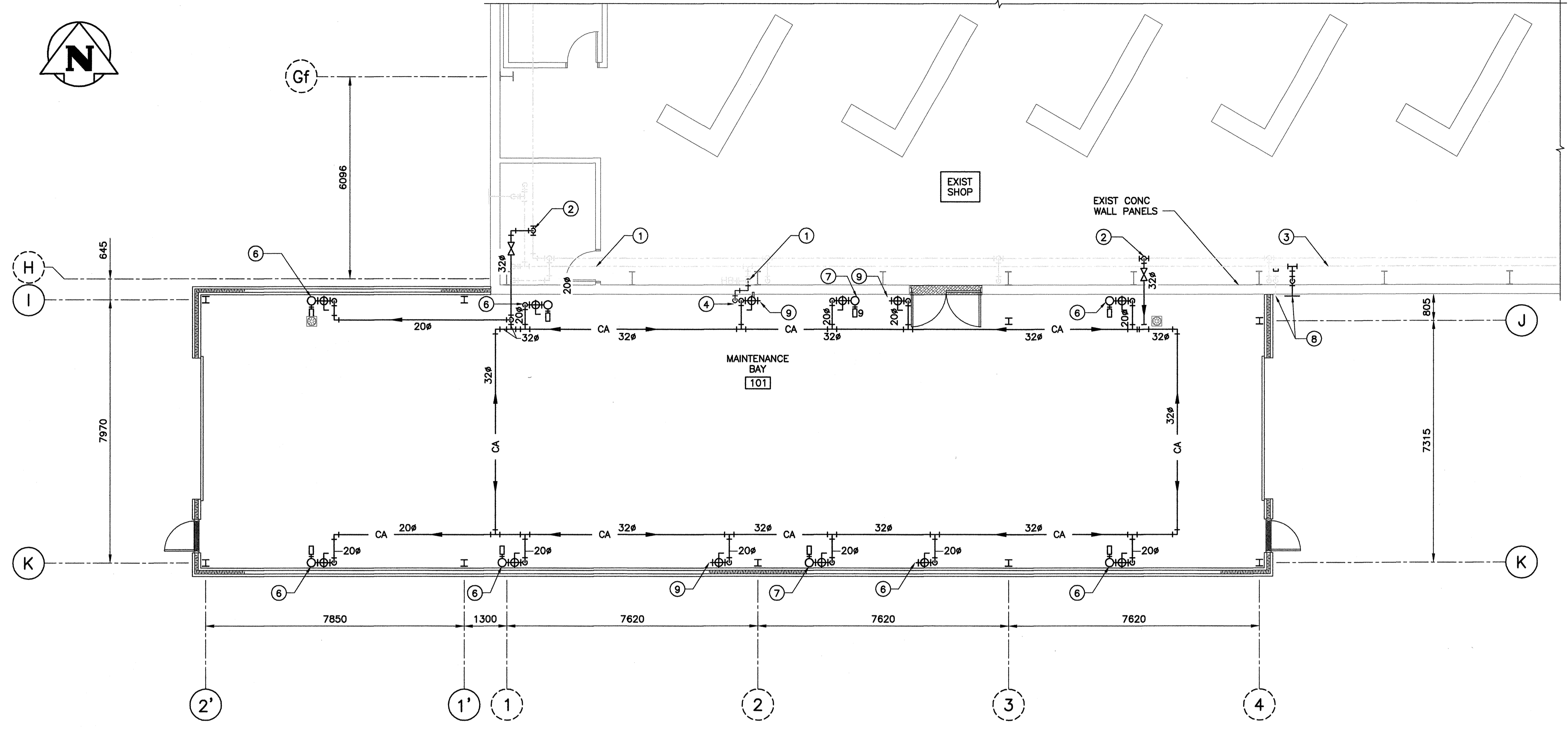
TETRA TECH

PROJECT NAME:
 CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION:
CONCRETE SECTIONS AND DETAILS SHEET 3

DRAWING NO.	REV.
1329720500-DWG-S0008	00





1 MAIN FLOOR PLAN - DOMESTIC COLD WATER, FIRE PROTECTION AND COMPRESSED AIR PIPING
1 : 75

DRAWING NOTES:

- ① EXISTING 50mm DOMESTIC COLD WATER LINE.
- ② PROVIDE COMPRESSED AIR CONNECTION TO EXISTING 100mm COMPRESSED AIR PIPING APPROXIMATELY AT THIS LOCATION. COORDINATE PIPING ROUTE ON SITE.
- ③ EXISTING 50mm DOMESTIC COLD WATER LINE.
- ④ 40mm DCW QUICK CONNECTION TO MATCH THE EXISTING FLOOR CLEANING SYSTEM, C/W SHUTOFF VALVE.
- ⑤ PROVIDE DOMESTIC COLD WATER CONNECTION FROM THE EXISTING 50mm RISER APPROXIMATELY AT THIS LOCATION. COORDINATE PIPING ROUTE ON SITE.
- ⑥ "NATIONAL ENERGY" HOSE REEL SYSTEM AT HIGH LEVEL. HOSE SIZE TO BE 13mm. PROVIDE ALL NECESSARY SUPPORT AND ACCESSORIES AS REQUIRED. PROVIDE BALL VALVE AND QUICK CONNECT FITTING. CONFIRM EXACT LOCATION, ELEVATION AND SIZE ON SITE WITH THE CITY.
- ⑦ "NATIONAL ENERGY" HOSE REEL SYSTEM AT HIGH LEVEL, SERIES 884. HOSE SIZE TO BE 20mm. PROVIDE ALL NECESSARY SUPPORT AND ACCESSORIES AS REQUIRED. PROVIDE BALL VALVE AND QUICK CONNECT FITTING. 3m A.F.F., INCLUDING 15m LINE (20mm IN DIA.).
- ⑧ EXISTING WALL HYDRANT TO BE RELOCATED. COORDINATE EXACT LOCATION ON SITE.
- ⑨ 20mm COMPRESSED AIR PIPING DROP APPROXIMATELY AT THIS LOCATION. PROVIDE ISOLATION VALVE AND 13mm QUICK CONNECTION 1.2m A.F.F.

LEGEND:

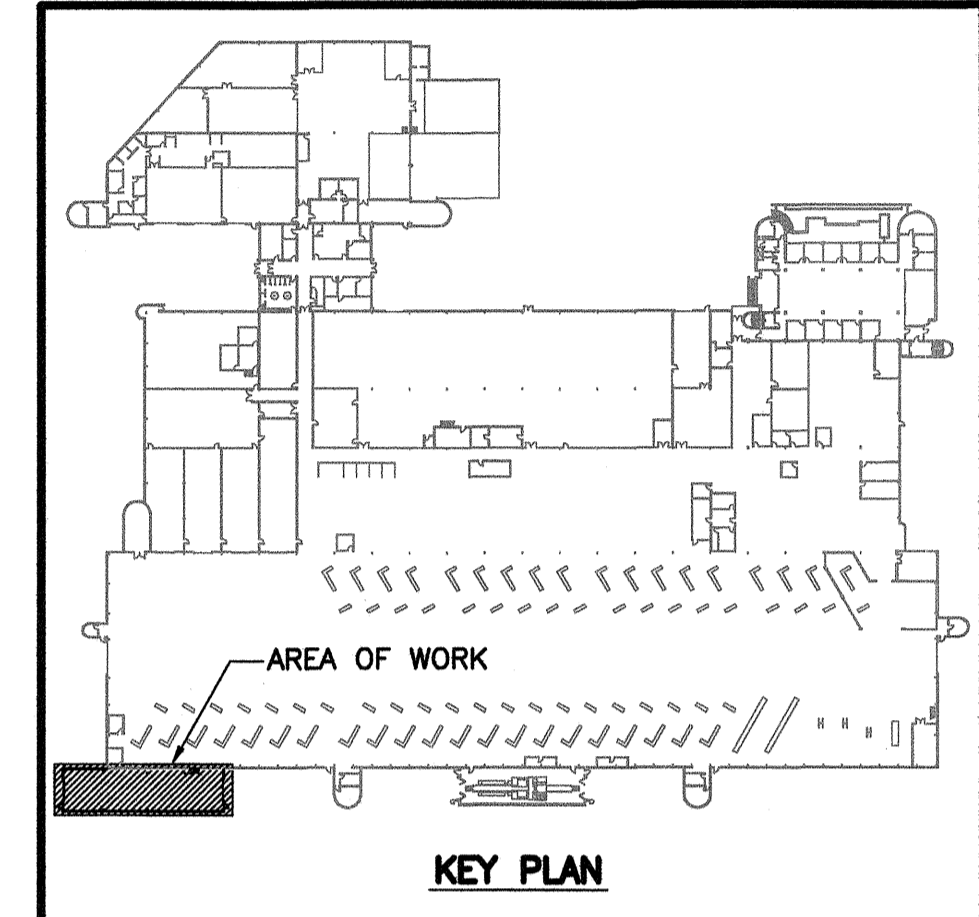
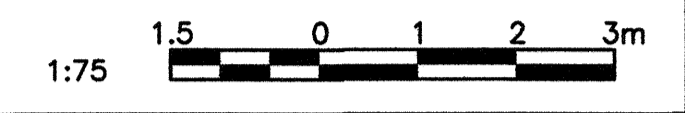
- R— PIPE RISER DOWN
- U— PIPE RISER UP
- DCW DOMESTIC COLD WATER
- CA— COMPRESSED AIR LINE
- V--- VENT
- CO II CLEAN OUT
- W— WALL HYDRANT
- BV— BALL VALVE
- HB— HOSE BIBB
- AHU— EQUIPMENT TAG

GENERAL NOTES:

1. PROVIDE A SPRINKLER SYSTEM SERVING THE NEW ADDITION AS PER NFPA-13. THE NEW SYSTEM WILL BE TIED INTO THE EXISTING SERVICE. FIRE PROTECTION FOR THIS BUILDING IS TO BE BY AN APPROVED SPRINKLER CONTRACTOR. CONFIRM FLOW REQUIREMENTS AND WATER AVAILABILITY PRIOR TO INSTALLATION OF NEW SYSTEM. PROVIDE HYDRAULIC CALCULATIONS AND SHOP DRAWINGS. HAZARDS, FLOW, AREA AND MATERIAL REQUIREMENTS TO MATCH EXISTING INSTALLATIONS.
2. PROVIDE FIRE EXTINGUISHERS PER NFPA-10 REQUIREMENTS.

REFERENCE DRAWINGS	
NO.	DESCRIPTION

- NOTES:**
1. REFER TO DWG 1329720500-DWG-S0001 FOR MAIN FLOOR STRUCTURAL DETAILS.
 2. REFER TO DWG 1329720500-DWG-B0001 FOR MAIN FLOOR BUILDING DETAILS.



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZED
00	14.01.17	ISSUED FOR CONSTRUCTION	DD	TS	TS	TS

PROVINCE OF MANITOBA
REGISTERED PROFESSIONAL ENGINEER
T. SUN
Member
33181

APEGM
Certificate of Authorization
TETRA TECH WEI Inc.
No. 5313 Date: April 30, 2014

DESIGNED BY:	PREPARED BY:	REVIEWED BY:
TS	EV	JS

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SUB-CONSULTANTS:

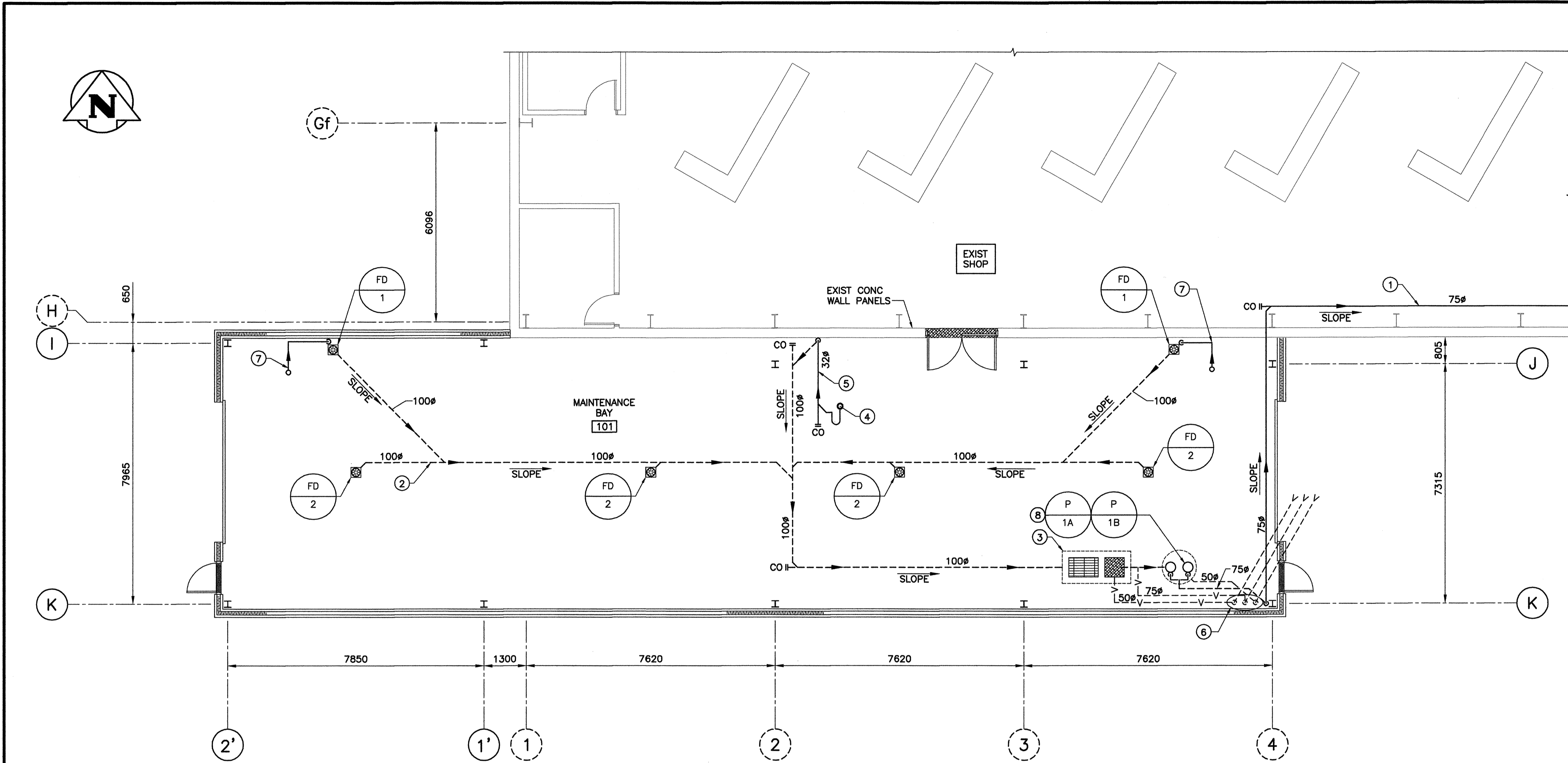
CLIENT: CITY OF WINNIPEG
TRANSIT DEPARTMENT

TETRA TECH

PROJECT NAME:
CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE
BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION:
**MAIN FLOOR PLAN DOMESTIC COLD
WATER AND FIRE PROTECTION
COMPRESSED AIR PIPING**

DRAWING NO: 1329720500-DWG-M0001	REV: 00
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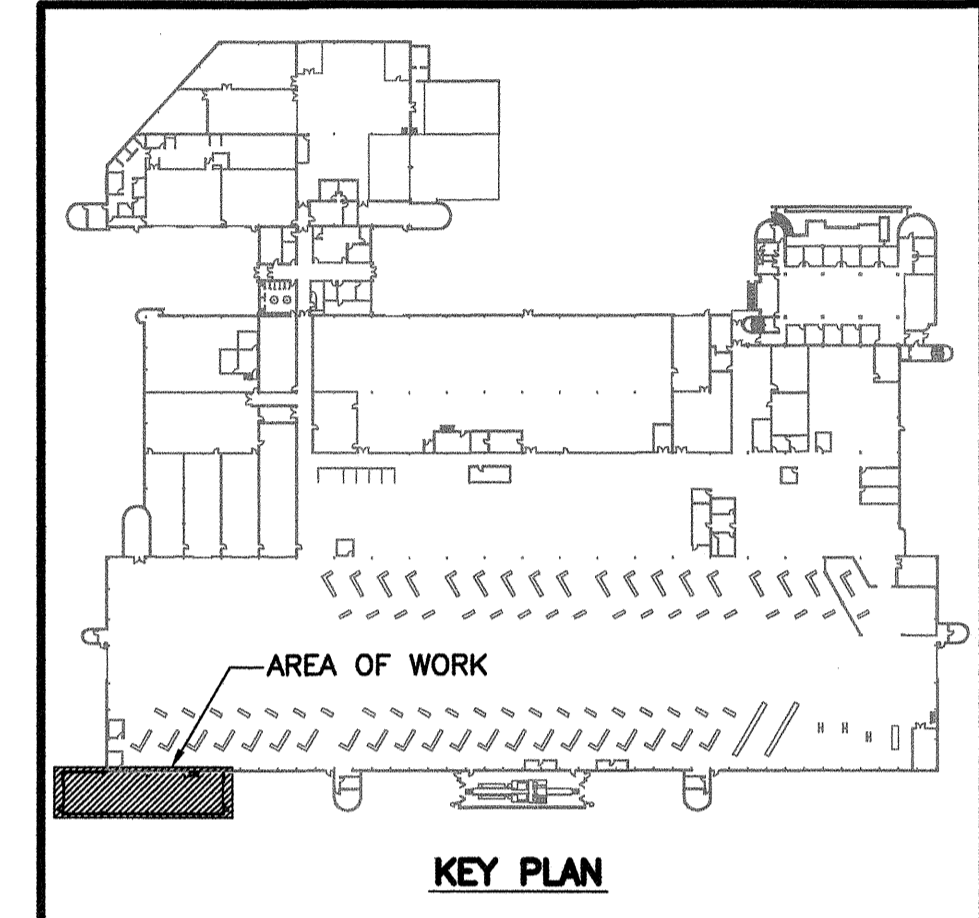
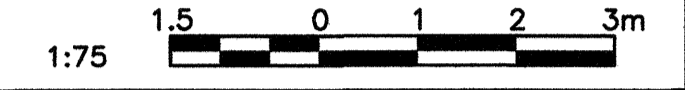


1
- -
MAIN FLOOR PLAN - SANITARY AND STORM WATER PIPING
1 : 75

- DRAWING NOTES:**
- ① SANITARY PIPING AT HIGH LEVEL UP FROM SANITARY PUMPS IN THE PIT. TIE INTO THE EXISTING DRAIN SERVICE IN THE SPRINKLER ROOM (APPROXIMATELY 50m FROM THE PIT). MECHANICAL CONTRACTOR SHALL COORDINATE PIPING ROUTE AND EXACT TIE-IN LOCATION WITH THE CITY.
 - ② UNDERGROUND SANITARY PIPING. PROVIDE ADEQUATE SUPPORT AND PROTECTION AS PER NATIONAL PLUMBING CODE, TYPICAL.
 - ③ TWO COMPARTMENT OIL & GRIT INTERCEPTOR. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
 - ④ 32mm CONDENSATE DRAIN DOWN FROM MAU-1 THROUGH THE CURB C/W INSULATION AND HEAT TRACE. PROVIDE TRAP PRIMER AS REQUIRED.
 - ⑤ PIPING BELOW ROOF AT HIGH LEVEL.
 - ⑥ VENT THROUGH ROOF. COORDINATE EXACT LOCATION AND ROUTE ON SITE.
 - ⑦ 32mm CONDENSATE PIPING FROM GAS FIRED UNIT HEATER. DOWN TO FLOOR DRAIN. APPROXIMATELY AT THIS LOCATION.
 - ⑧ DUPLEX SANITARY PUMP IN 1050mm FIBERGLASS PIT C/W CONCRETE ANTI-FLOATING PAD AND HEAVY DUTY STEEL COVER RATED FOR HS-20 WHEEL LOAD AS REQUIRED. PROVIDE DEDICATED CHECK VALVE AND ISOLATION VALVE FOR EACH PUMP. COORDINATE WITH STRUCTURAL AND MANUFACTURER FOR EXACT PIT LOCATION AND ROUGH-INS.

REFERENCE DRAWINGS	
NO.	DESCRIPTION

- NOTES:**
1. REFER TO DWG 1329720500-DWG-S0001 FOR MAIN FLOOR STRUCTURAL DETAILS.
 2. REFER TO DWG 1329720500-DWG-B0001 FOR MAIN FLOOR BUILDING DETAILS.
 3. REFER TO DWG 1329720500-DWG-M0001 FOR PLUMBING LEGEND.
 4. REFER TO STRUCTURAL DRAWINGS FOR FLOOR DRAIN AND PIT LOCATIONS.



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	DD	JS	TS	TS

DESIGNED BY: TS	PREPARED BY: EV	REVIEWED BY: JS
AUTHORIZED BY: <i>[Signature]</i>	DATE: 13.11.20	SCALE: AS NOTED

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SEAL: PROVINCE OF MANITOBA
T. SUN
Member
33181
REGISTERED PROFESSIONAL ENGINEER

PERMIT STAMP: APEGM
Certificate of Authorization
TETRA TECH WEI Inc.
No. 5518 Date: April 30, 2014

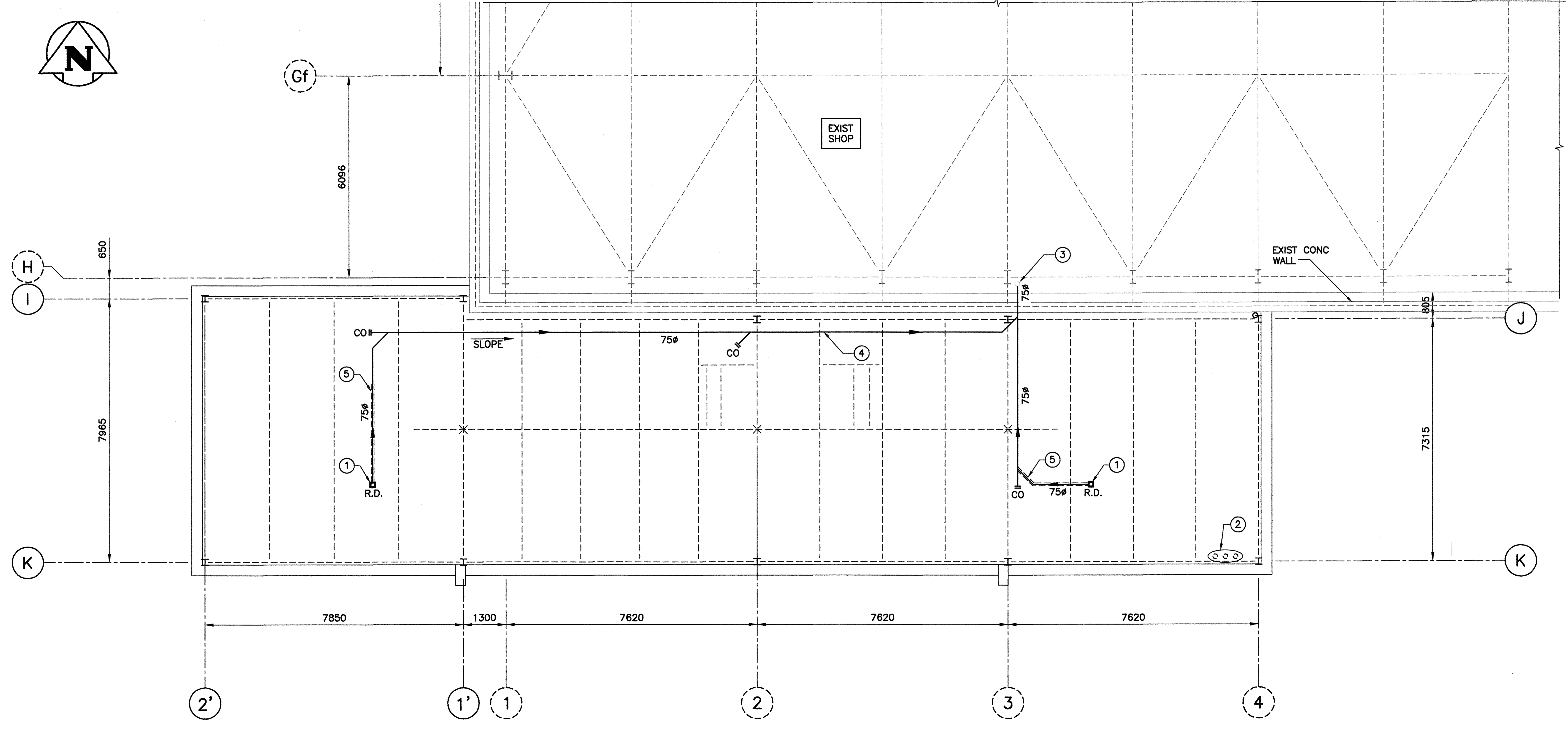
CLIENT:
Winnipeg CITY OF WINNIPEG
TRANSIT DEPARTMENT



PROJECT NAME:
CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE
BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION:
MAIN FLOOR PLAN
SANITARY AND STORM WATER
PIPING

DRAWING NO. 1329720500-DWG-M0002	REV: 00
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1 ROOF PLAN - SANITARY AND STORM WATER PIPING
1 : 75

DRAWING NOTES:

- ① PIPE UP TO CONTROL ROOF DRAIN.
- ② SANITARY VENT THROUGH ROOF. PROVIDE FLASHING, COORDINATE WITH ROOFING SYSTEM AND ROOFING CONTRACTOR.
- ③ APPROX. LOCATION OF EXISTING RAIN WATER LEADER. COORDINATE TIE-IN ELEVATION, SIZE AND LOCATION ON SITE.
- ④ STORM WATER PIPING AT HIGH LEVEL. COORDINATE EXACT ROUTE ON SITE (TYPICAL).
- ⑤ PROVIDE HEAT TRACE FOR THE FIRST 3.0m OF PIPING; SELF-REGULATING TYPE C/W CONTROL AS REQUIRED.

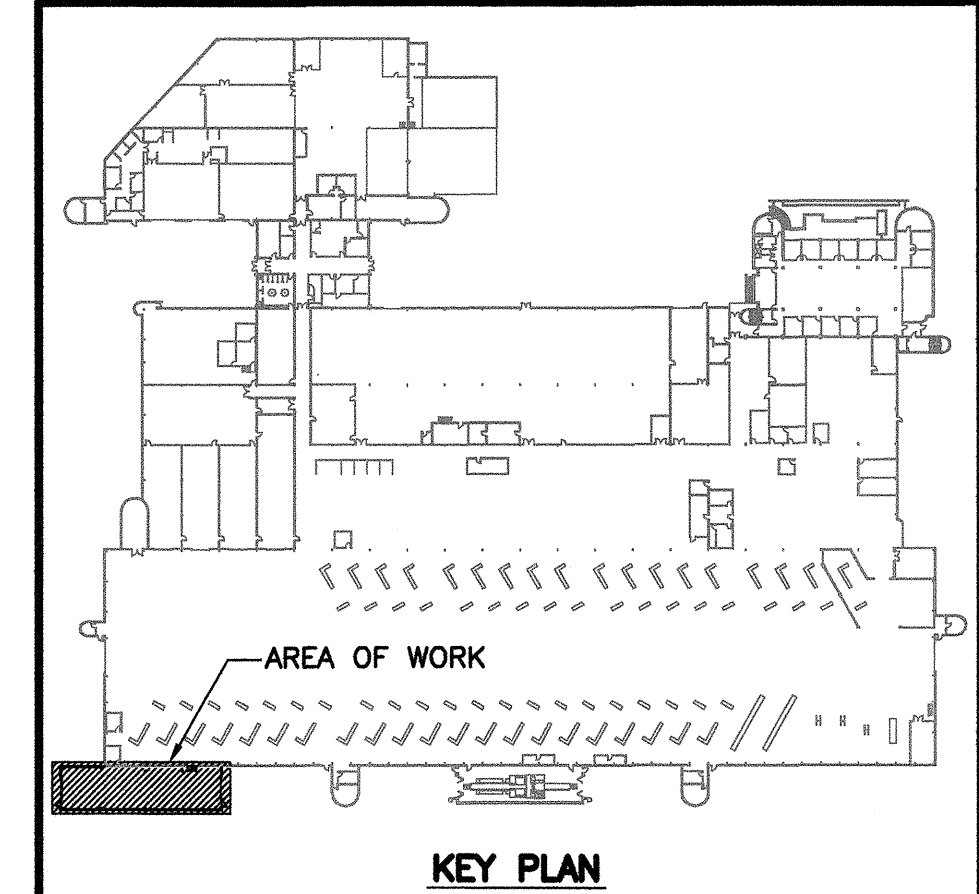
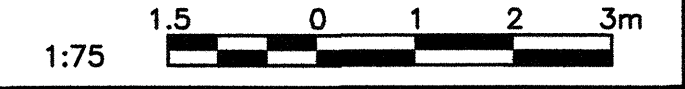
LEGEND:

- ↑ PIPE RISER DOWN
- COIL— CLEAN OUT

REFERENCE DRAWINGS	
NO.	DESCRIPTION

NOTES:

- 1. REFER TO DWG 1329720500-DWG-M0007 FOR MECHANICAL SCHEDULES.
- 2. REFER TO DWG 1329720500-DWG-S0003 FOR MAIN FLOOR STRUCTURAL DETAILS.
- 3. REFER TO DWG 1329720500-DWG-B0002 FOR MAIN FLOOR BUILDING DETAILS.
- 4. REFER TO DWG 1329720500-DWG-M0001 FOR PLUMBING LEGEND.



NO.	DATE	DESCRIPTION	PREPARED	REVIEWED	DESIGN	AUTHORIZED
01	14.01.17	ISSUED FOR CONSTRUCTION	DD	JS	TS	TS

REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY:	PREPARED BY:	REVIEWED BY:
TS	EV	JS
AUTHORIZED BY:	DATE:	SCALE:
	13.11.20	AS NOTED

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SUB-CONSULTANTS:

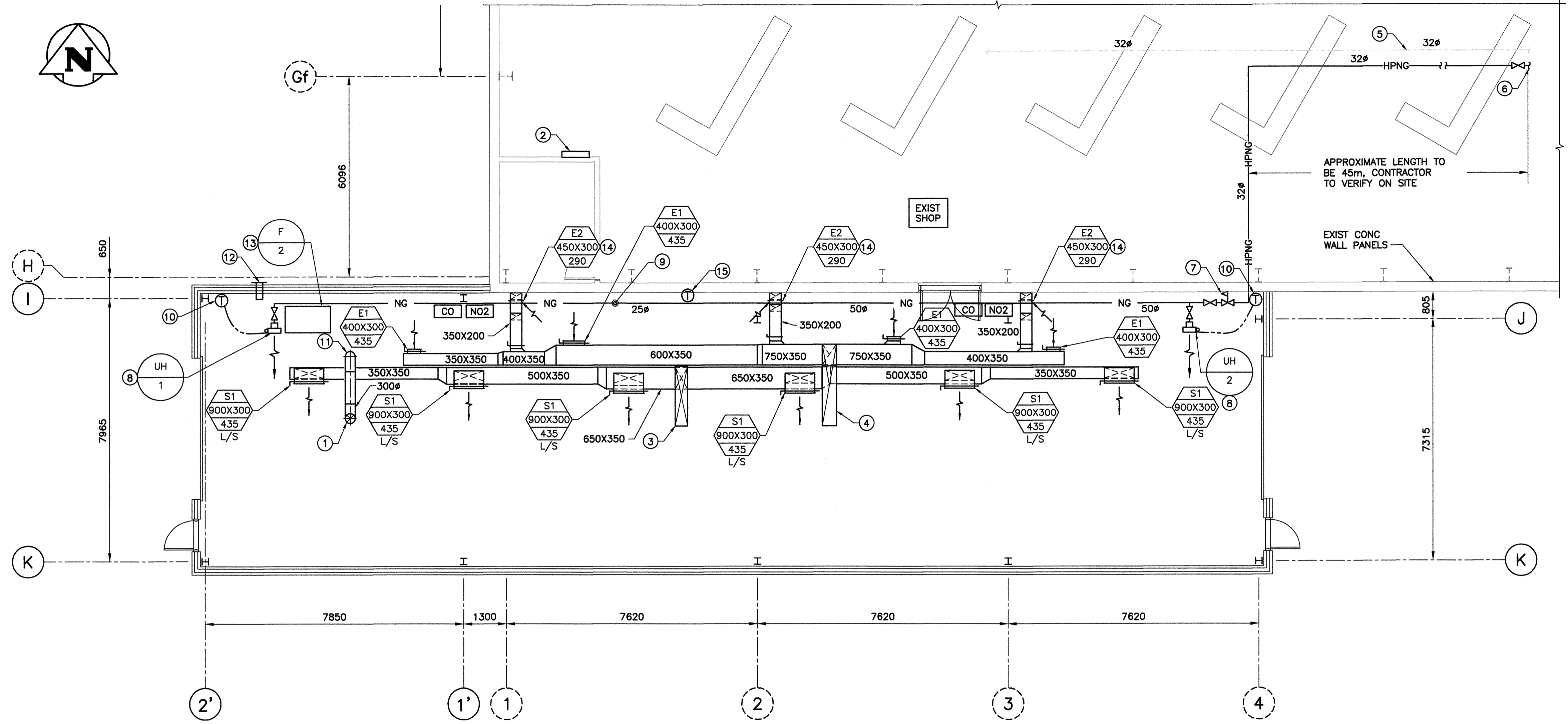
CLIENT: CITY OF WINNIPEG
TRANSIT DEPARTMENT

TETRA TECH

PROJECT NAME:
CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE
BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION:
**ROOF PLAN -
SANITARY AND STORM WATER
PIPING**

DRAWING NO: 1329720500-DWG-M0003
REV: 00



1 MAIN FLOOR PLAN - HVAC
1 : 75

DRAWING NOTES:

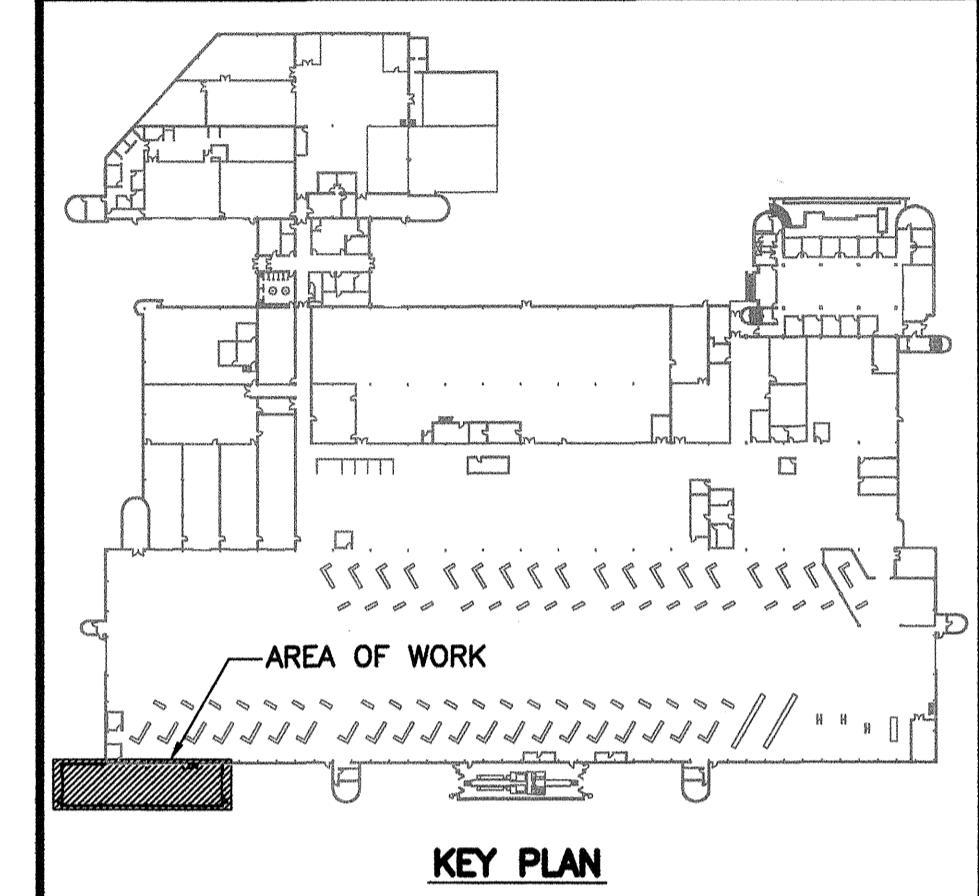
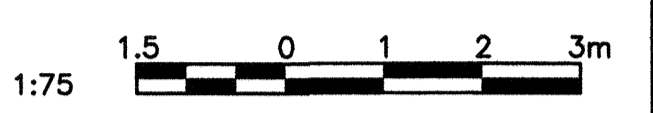
- ① 300mm BUS TAIL PIPE EXHAUST AIR DUCTWORK UP TO ROOF MOUNTED EXHAUST FAN.
- ② GAS DETECTION CONTROL PANEL. CONFIRM EXACT LOCATION WITH THE CITY.
- ③ SUPPLY AIR DUCTWORK FROM MAU-1 ON ROOF.
- ④ EXHAUST AIR DUCTWORK TO MAU-1 ON ROOF.
- ⑤ APPROXIMATE LOCATION OF EXISTING 32#mm, 34.5 kPa GAS LINE.
- ⑥ PROVIDE CONNECTION ON THE EXISTING 50mm 34.5 kPa NATURAL GAS LINE. COORDINATE EXACT TIE-IN LOCATION WITH THE CITY.
- ⑦ PROVIDE PRESSURE REDUCING VALVE, VENTED TO ATMOSPHERE AS REQUIRED.
- ⑧ GAS FIRED UNIT HEATER. PROVIDE 13#mm GAS CONNECTION. 100#mm VENT THROUGH ROOF AS PER CSA GAS CODE AND MANUFACTURER'S INSTRUCTION.
- ⑨ 50#mm GAS LINE THROUGH THE ROOF APPROXIMATELY AT THIS LOCATION.
- ⑩ THERMOSTAT 1800mm A.F.F. C/W HEAVY DUTY METAL GUARD.
- ⑪ DUCTWORK FROM 200# EXHAUST HOSES. PROVIDED BALANCER AND SUPPORT AS REQUIRED.
- ⑫ 200#mm GAS FIRED UNIT HEATER COMBUSTION AIR INTAKE AT HIGH LEVEL, C/W WIND CAP.
- ⑬ NEDERMAN WELDING EXHAUST SYSTEM. REFER TO FAN SCHEDULE FOR DETAILS. CONFIRM THE EXACT LOCATION WITH THE CITY.
- ⑭ EXHAUST GRILLE AT LOW LEVEL. REFER TO SECTION DRAWING FOR DETAILS.
- ⑮ MOUNT THERMOSTAT AT 1800 A.F.F. C/W HEAVY DUTY METAL GUARD.

LEGEND:

- ⤴— PIPE RISER DOWN
- NG— NATURAL GAS LINE
- ⊘ GATE VALVE
- ⊘ PRESSURE REDUCING VALVE
- CO CARBON MONOXIDE DETECTOR C/W HEAVY DUTY METAL GUARD AT HIGH AND LOW LEVEL
- NO2 NITROGEN DIOXIDE DETECTOR C/W HEAVY DUTY METAL GUARD AT HIGH AND LOW LEVEL
- ⊕ THERMOSTAT
- ⊘ EXHAUST AIR DUCTWORK
- ⊘ SUPPLY AIR DUCTWORK
- ⊘ SUPPLY AIR DIFFUSER (SQUARE)
- ⊘ RETURN AIR WALL TYPE OUTLET
- AHU 1 EQUIPMENT TAG
- A 300# L/S 4A SUPPLY/RETURN DIFFUSER TAG

REFERENCE DRAWINGS	
NO.	DESCRIPTION

- NOTES:**
1. REFER TO DWG 1329720500-DWG-M0007 FOR MECHANICAL SCHEDULES.
 2. REFER TO DWG 1329720500-DWG-S0003 FOR MAIN FLOOR STRUCTURAL DETAILS.
 3. REFER TO DWG 1329720500-DWG-B0002 FOR MAIN FLOOR BUILDING DETAILS.



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	DD	JS	TS	

REVISIONS/ISSUE: DRAFTING ENGINEERING

SEAL:

APEGM
Certificate of Authorization
TETRA TECH WEI Inc.
No. 5313 Date: April 30, 2014

DESIGNED BY: TS	PREPARED BY: EV	REVIEWED BY: JS
AUTHORIZED BY:	DATE: 13.11.20	SCALE: AS NOTED

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SUB-CONSULTANTS:

CLIENT:

PROJECT NAME:
CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION

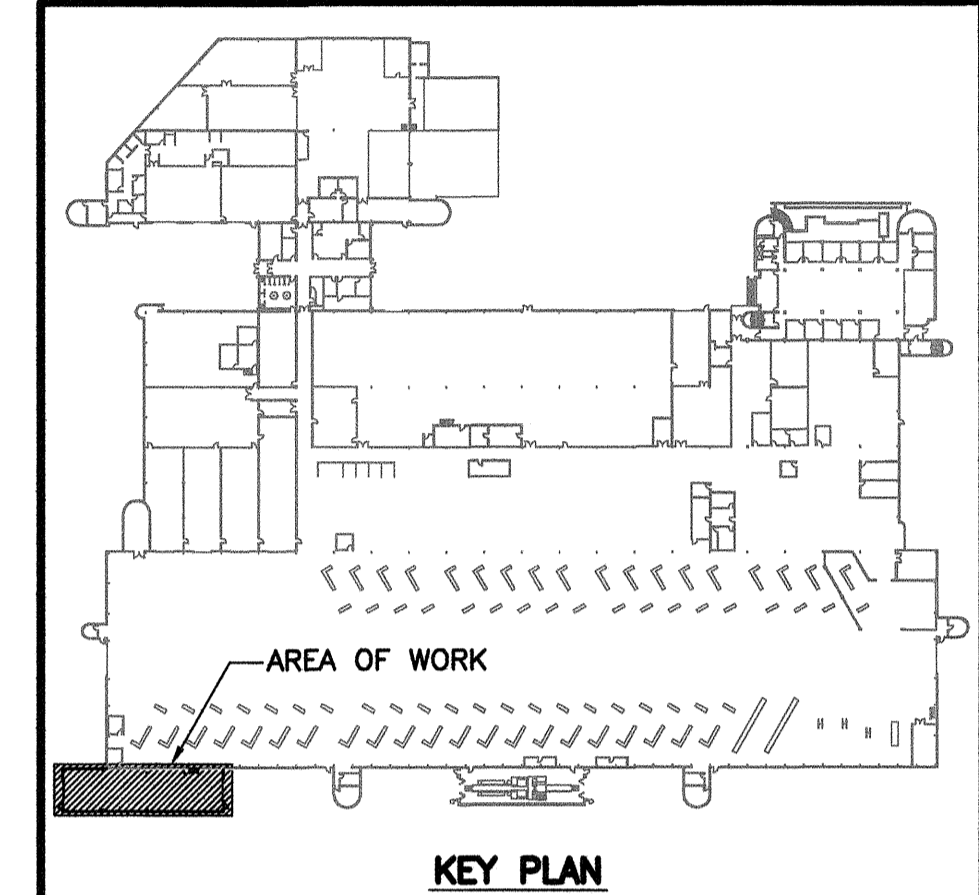
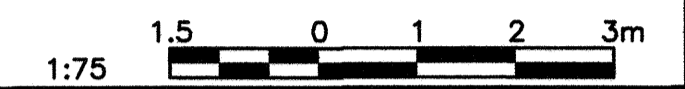
DRAWING DESCRIPTION:
MAIN FLOOR PLAN
HVAC

DRAWING NO: 1329720500-DWG-M0004	REV: 00
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REFERENCE DRAWINGS	
NO.	DESCRIPTION

NOTES:

1. LOCATIONS OF MAU-1 AND F-1 ARE APPROXIMATE. COORDINATE EXACT LOCATION ON SITE WITH ALL SUBTRADES.
2. REFER TO DWG. 1329720500-DWG-M0007 FOR MECHANICAL SCHEDULES.
3. REFER TO DWG. 1329720500-DWG-S0003 FOR MAIN FLOOR STRUCTURAL DETAILS.
4. REFER TO DWG. 1329720500-DWG-B0002 FOR MAIN FLOOR BUILDING DETAILS.
5. REFER TO DRAWING 1329720500-DWG-M0004 FOR LEGEND.



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZED
00	14.01.17	ISSUED FOR CONSTRUCTION	DD	JS	TS	TS

REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY:	PREPARED BY:	REVIEWED BY:
TS	EV	JS
AUTHORIZED BY:	DATE:	SCALE:
	13.11.20	AS NOTED

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SUB-CONSULTANTS:

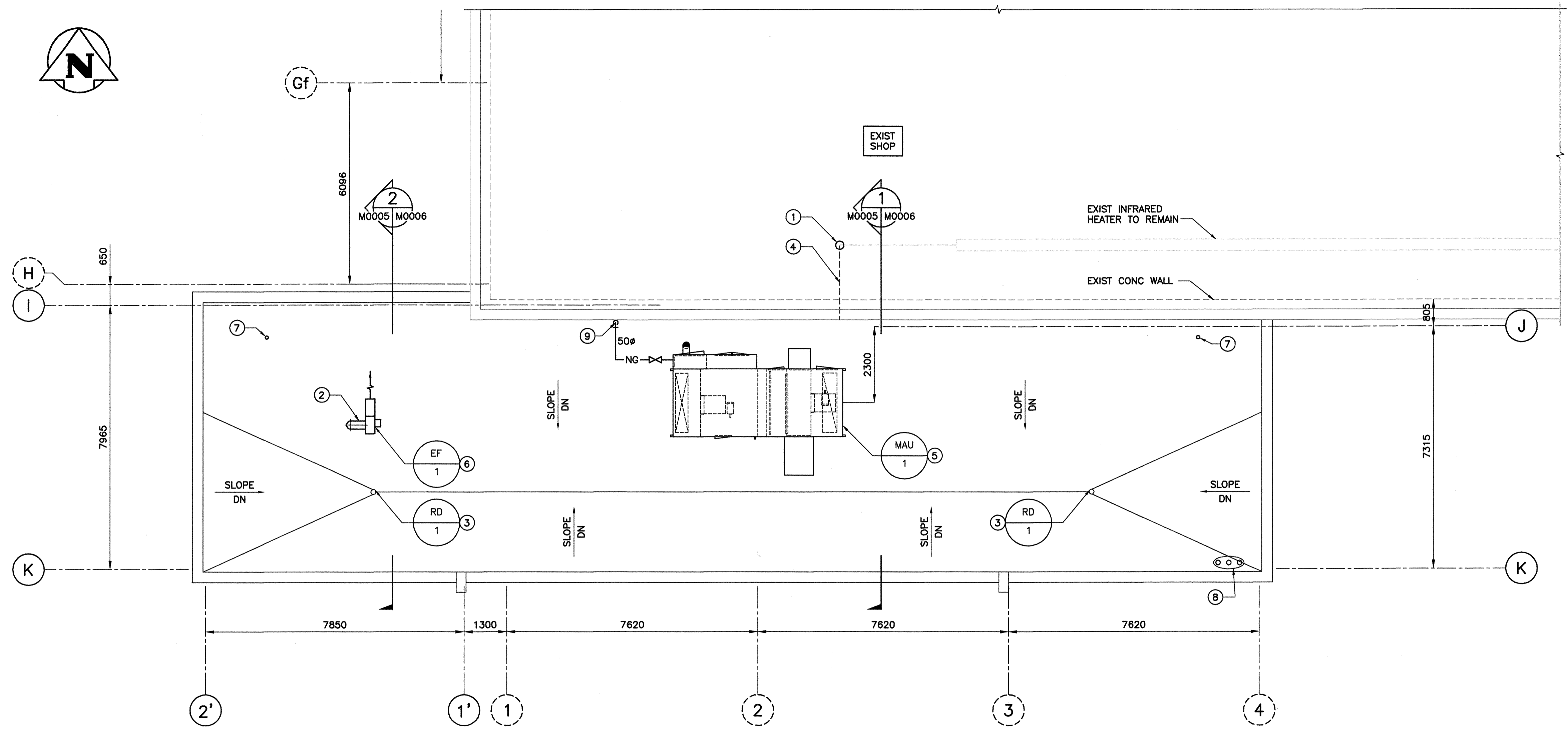
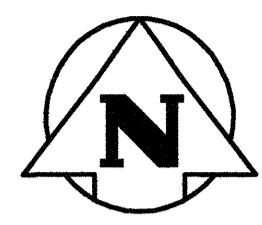
CLIENT: CITY OF WINNIPEG
TRANSIT DEPARTMENT

TETRA TECH

PROJECT NAME:
CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE
BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION:
ROOF PLAN - HVAC

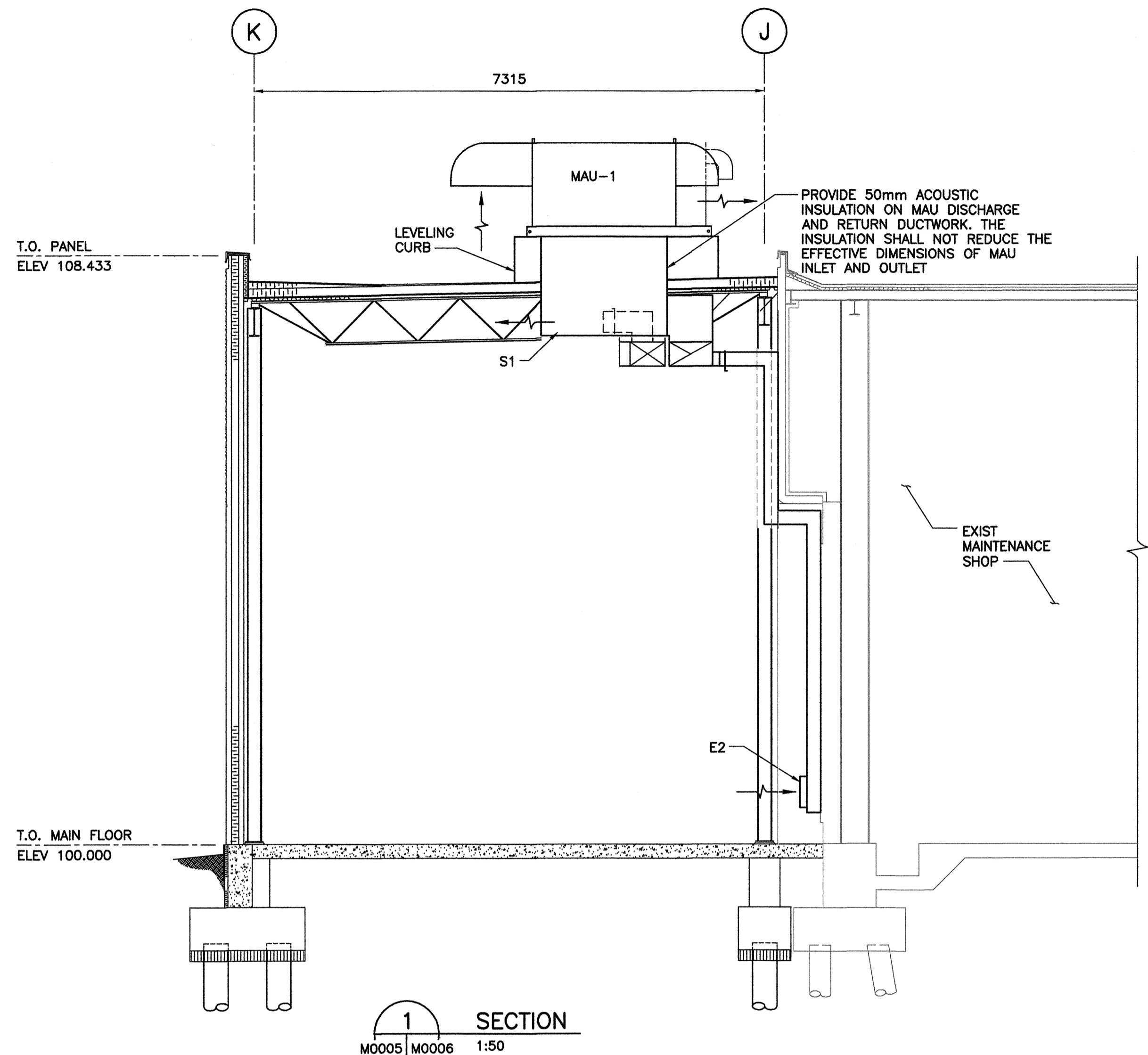
DRAWING NO: 1329720500-DWG-M0005	REV: 00
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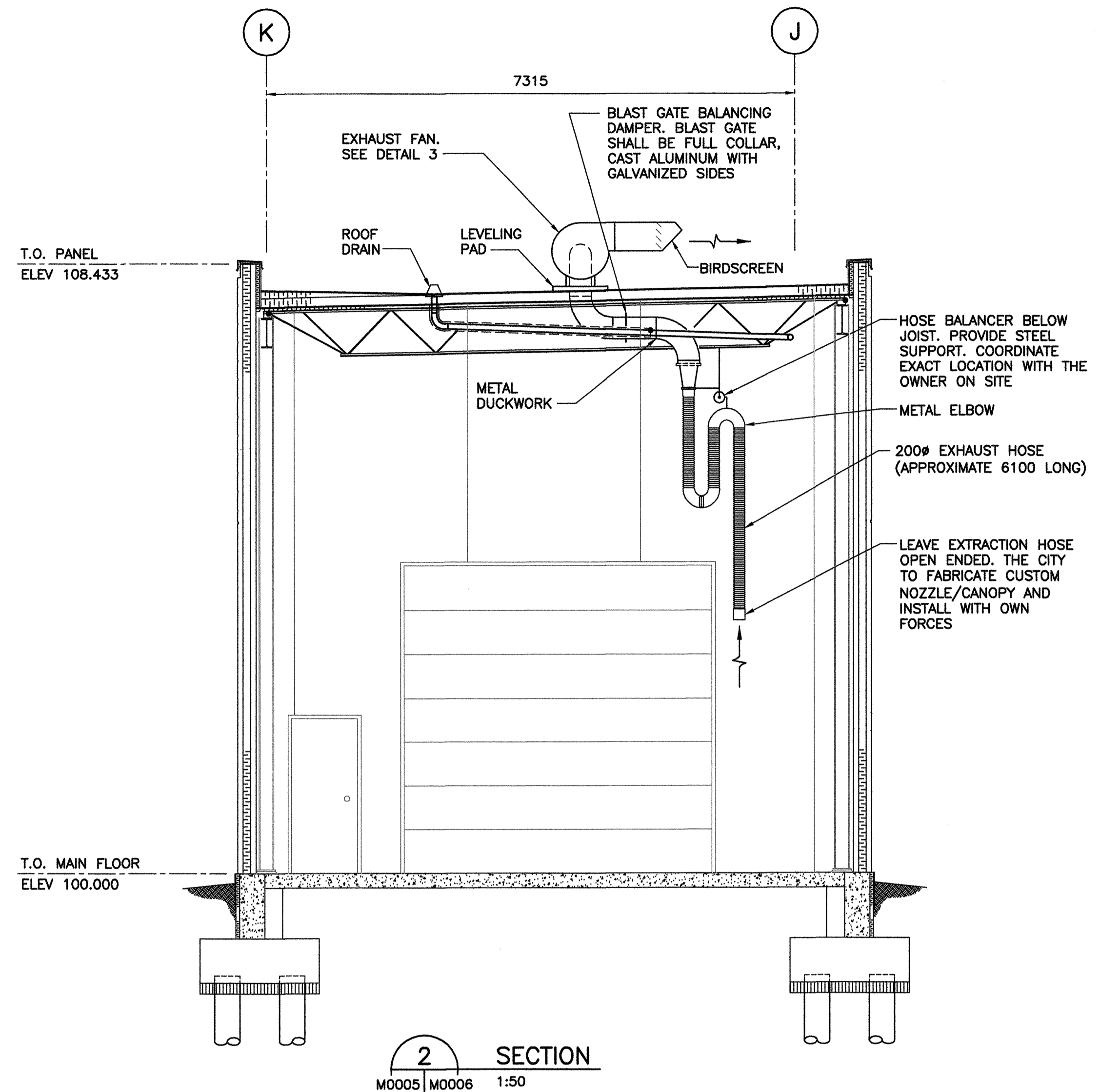
1 ROOF PLAN - MECHANICAL
1 : 75

DRAWING NOTES:

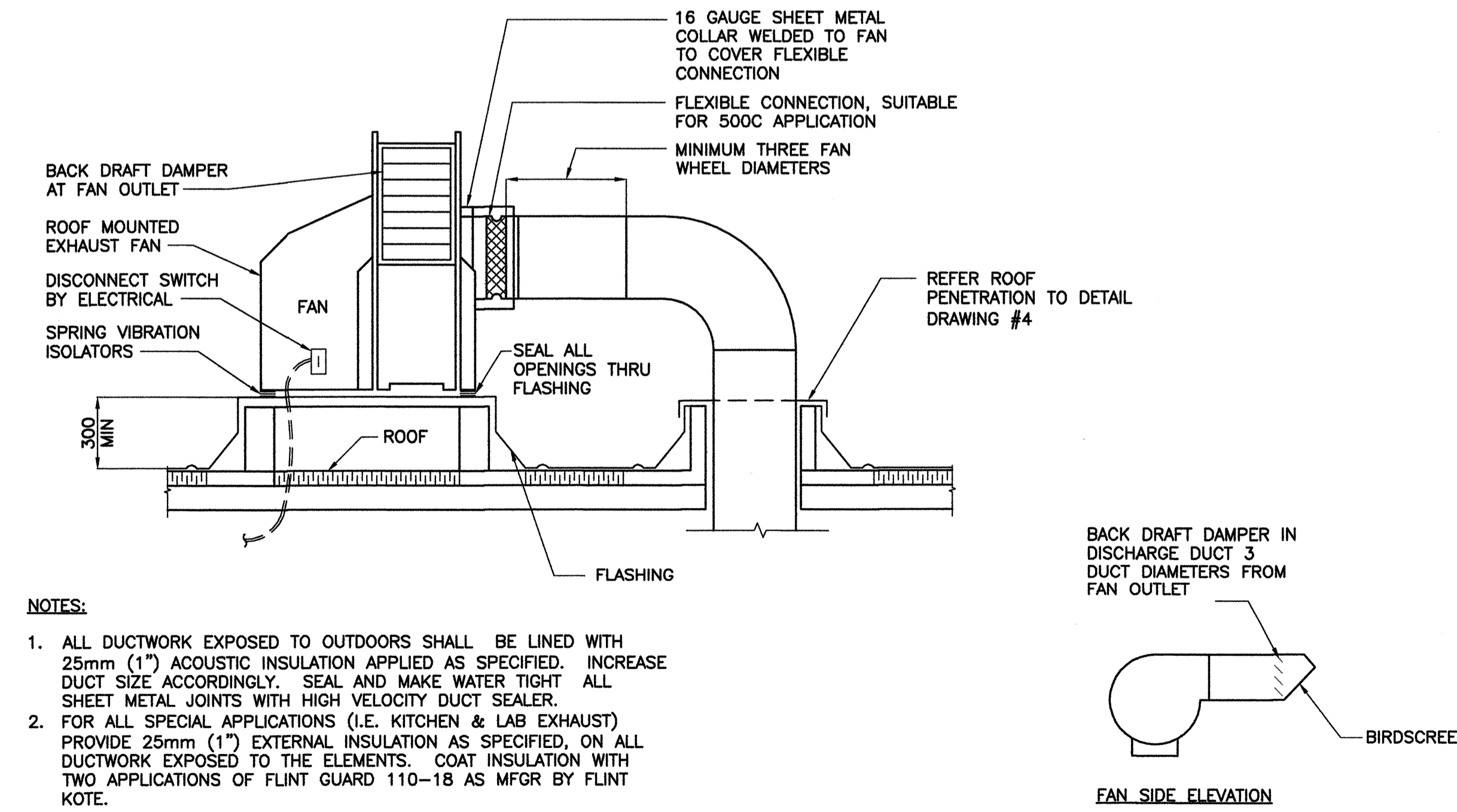
1. PROVIDE TYPE "B" VENT THROUGH EXISTING ROOF AS PER CSA GAS CODE AND MANUFACTURERS INSTRUCTION.
2. 200Ø BUS TAIL PIPE EXHAUST AIR DUCTWORK THROUGH ROOF.
3. CONTROL FLOW ROOF DRAIN.
4. EXIST INFRARED HEATER VENT DUCTWORK TO BE REMOVED.
5. NEW GAS FIRED MAKEUP AIR UNIT MOUNTED ON CURB. COORDINATE WITH STRUCTURAL DRAWINGS FOR EXACT LOCATION.
6. ROOF MOUNTED EXHAUST FAN C/W WEATHER HOOD.
7. GAS FIRED UNIT HEATER VENT THROUGH ROOF.
8. SANITARY VENT THROUGH ROOF.
9. NATURAL GAS LINE UP FROM LINE BELOW. PROVIDE "C-PORT" SUPPORT AS REQUIRED.



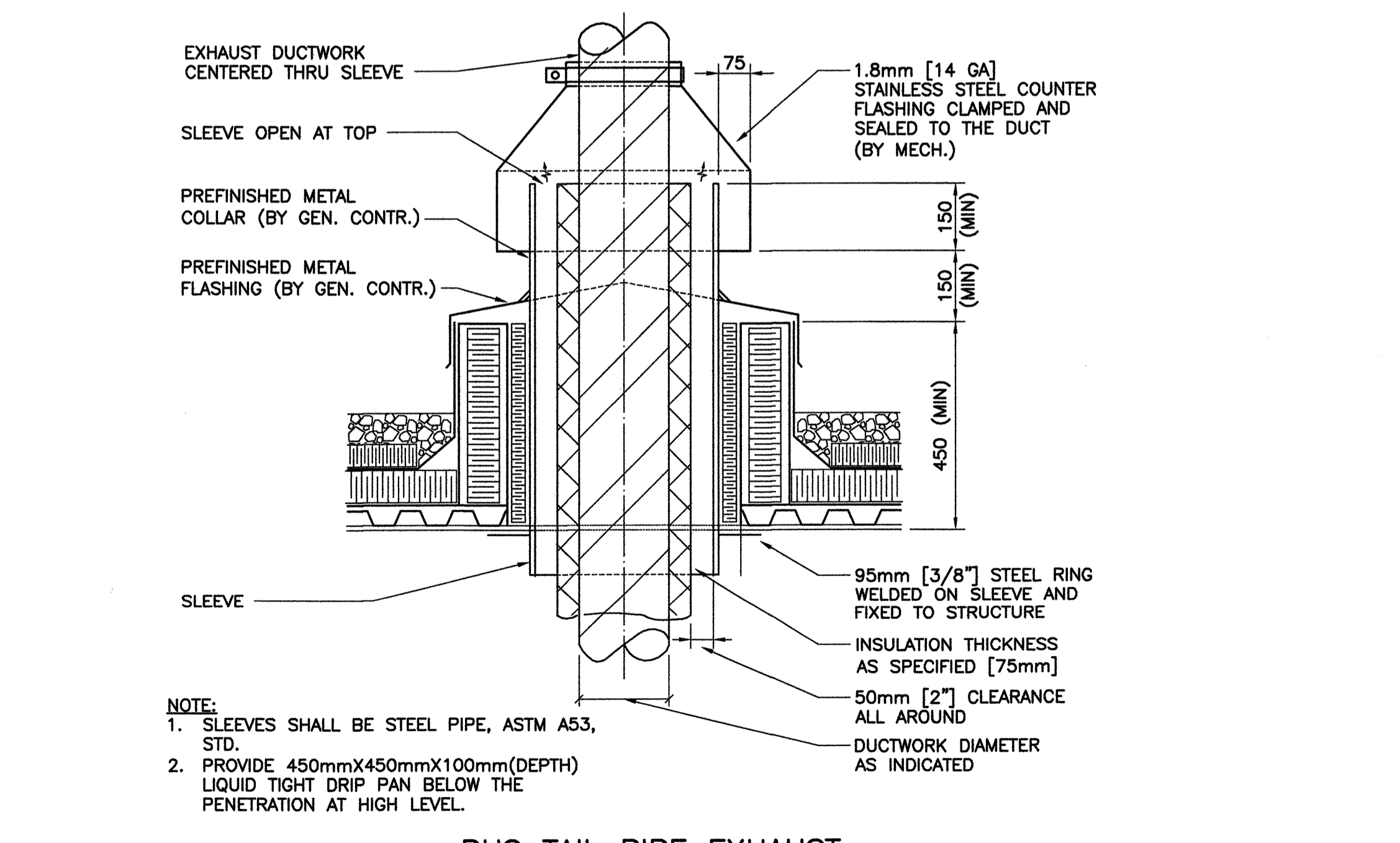
1 SECTION
M0005 M0006 1:50



2 SECTION
M0005 M0006 1:50



3 ROOF MOUNTED EXHAUST FAN DETAIL
N.T.S.

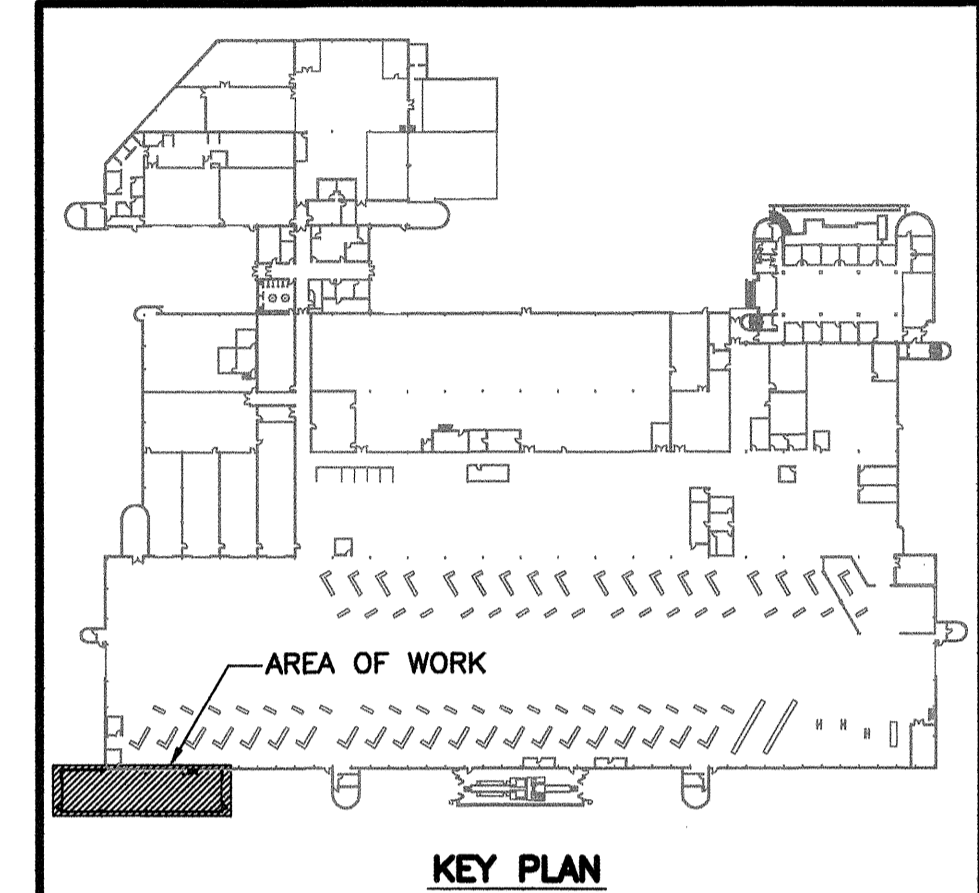
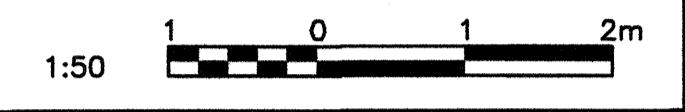


4 BUS TAIL PIPE EXHAUST DUCTWORK THROUGH ROOF
N.T.S.

REFERENCE DRAWINGS

NO.	DESCRIPTION

- NOTES:**
- REFER TO DWG 1329720500-DWG-M0007 FOR MECHANICAL SCHEDULES.
 - REFER TO DWG 1329720500-DWG-S0003 FOR MAIN FLOOR STRUCTURAL DETAILS.
 - REFER TO DWG 1329720500-DWG-B0002 FOR MAIN FLOOR BUILDING DETAILS.
 - REFER TO DWG 1329720500-DWG-M0004 FOR LEGEND.



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	DD	SS	TS	JS

DESIGNED BY: TS PREPARED BY: EV REVIEWED BY: JS

AUTHORIZED BY: [Signature] DATE: 13.11.20 SCALE: AS NOTED

PROVINCE OF MANITOBA
T. SUN
Member
33181
REGISTERED PROFESSIONAL ENGINEER

APECM
Certificate of Authorization
TETRA TECH WBI Inc.
No. 6919 Date April 30, 2014

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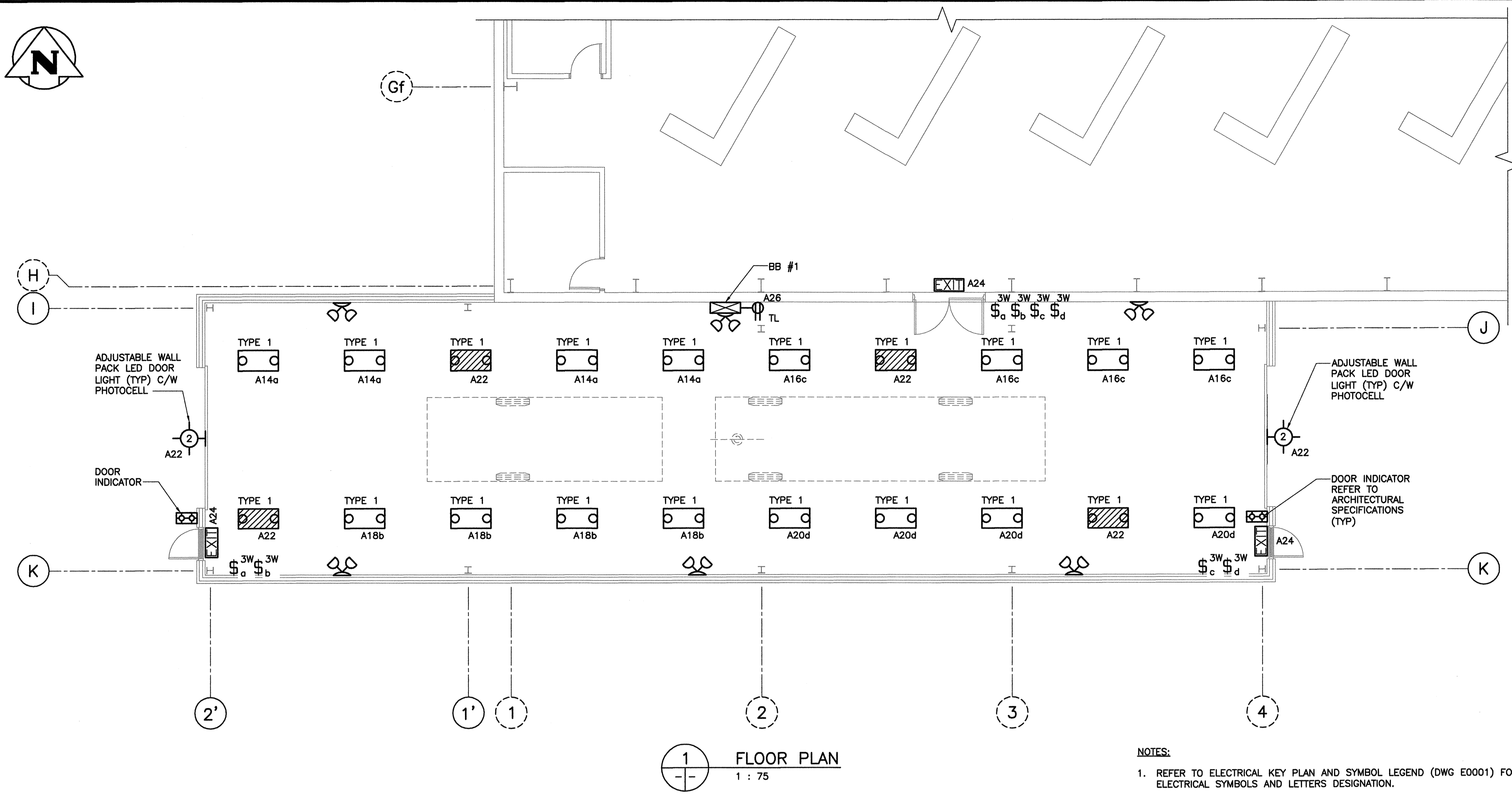
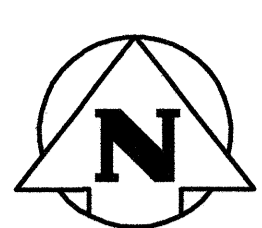
CLIENT:
Winnipeg CITY OF WINNIPEG
TRANSIT DEPARTMENT

TETRA TECH

PROJECT NAME:
CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE
BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION:
MECHANICAL SECTIONS

DRAWING NO.	REV.
1329720500-DWG-M0006	00



1 FLOOR PLAN
1 : 75

LUMINAIRE SCHEDULE (all equipment to be MB Hydro Power Smart Approved)						
TYPE	MANUFACTURER	MODEL #	MOUNTING	LAMP	VOLTAGE	COMMENTS
1	VISIONEERING	FHBV648T5H054P UNIV-VF1	CHAIN SUSPENDED FROM CLG	FLUORESCENT	120V	CONFIRM BUILDING HEIGHT AND SUSPENSION LENGTH
2	LITHONIA	CSXW-LED-30C-700-40K-TFTM-120-BBW-PE-DBLXD	WALL MOUNTED	LED	120V	LUMINAIRE TO BE FULL CUT OFF C/W PHOTOCELL

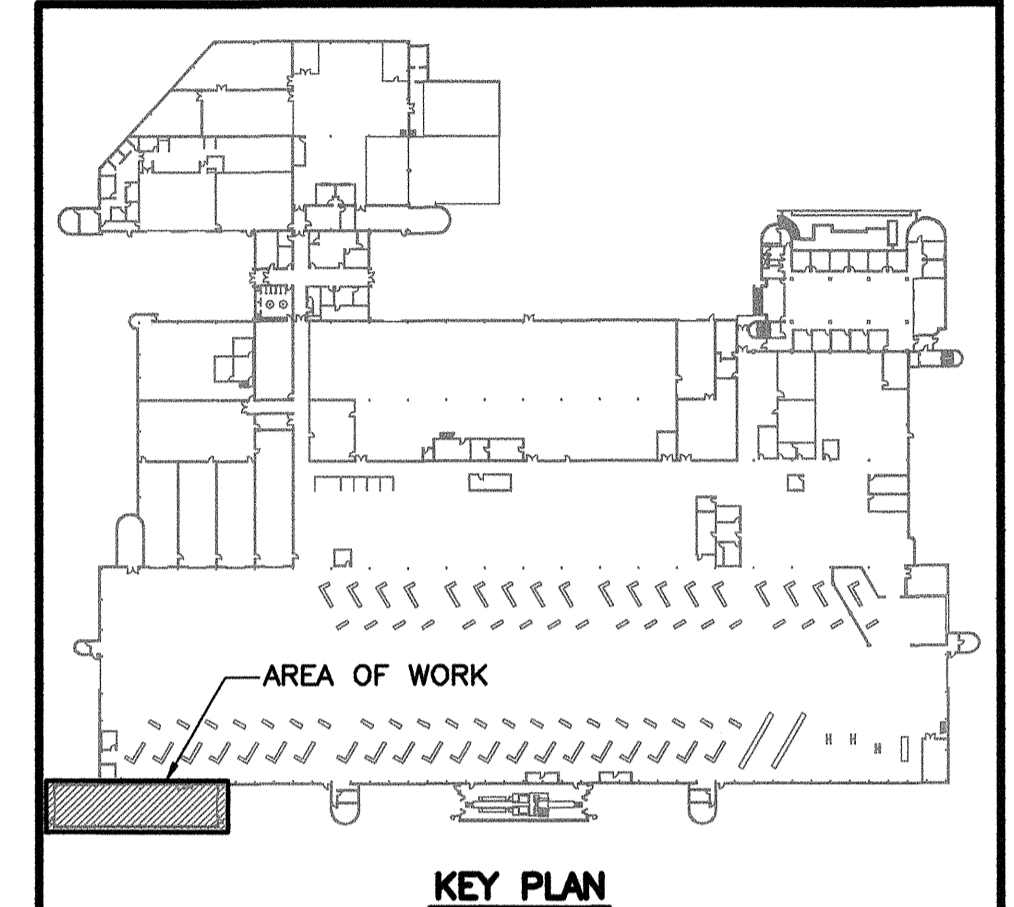
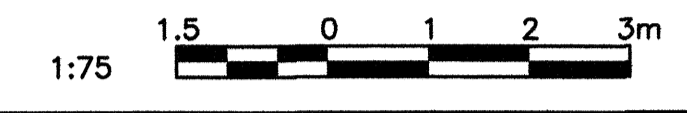
- NOTES:**
- ALL FLUORESCENT LAMPS SHALL BE C/W FULLY ELECTRONIC BALLASTS.
 - ELECTRICAL SUBCONTRACTOR SHALL SUBMIT "POWER SMART PROGRAM" APPLICATION TO MANITOBA HYDRO ON BEHALF OF THE CITY OF WINNIPEG. ALL HYDRO REBATES SHALL BE ADDRESSED AND RETURNED TO THE CITY OF WINNIPEG AND A COPY TO THE CONTRACT ADMINISTRATOR.

ELECTRICAL SYMBOL LEGEND

	2'x4' FLUORESCENT LUMINAIRE TYPE 1		DUPLEX RECEPTACLE WITH GROUND FAULT WP DENOTES WEATHER-PROOF		N NEW ITEM
	2'x4' FLUORESCENT LUMINAIRE TYPE 1 ON NIGHTLIGHT/UNCONTROLLED CIRCUIT		220V/1Ø RECEPTACLE		R RELOCATED ITEM
	WALL MOUNTED LUMINAIRE TYPE 2		DISCONNECT SWITCH		TL TWIST LOCK
	DOUBLE HEAD EMERGENCY LUMINAIRE C/W BATTERY BANK		JUNCTION BOX		CEILING MOUNTED VOICE/DATA
	REMOTE WALL MOUNTED DOUBLE HEAD EMERGENCY LUMINAIRE		MOTOR CONNECTION C/W DISCONNECT SWITCH		DUPLEX VOICE/DATA OUTLET
	SINGLE FACE WALL MOUNTED EXIT SIGN		120/208V, 3-PHASE, 4-WIRE SURFACE MOUNTED ELECTRICAL POWER PANEL		FIRE ALARM BELL 254mm
	TWO POLE TOGGLE SWITCH		FIRE ALARM PULLSTATION		STROBE LIGHT
	SINGLE GANG TOGGLE SWITCH CONTROLLING CIRCUIT		SMOKE DETECTOR MOISTURE TYPE		CARD READER
	3 WAY SWITCH		EXISTING ITEM TO REMAIN		MANUAL MOTOR STARTER
	DUPLEX RECEPTACLE		ITEM TO BE MOVED		DOOR OPENER INDICATOR
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP		ROUTER Wi-Fi		F.A. ISOLATION MODULE
			30A 208V/3-PHASE WELDER		SPEAKER FOR PUBLIC ADDRESS
			WHISTLE HORN		TRANSFORMER
			POWER DIRECT CONNECTION		

- NOTES:**
- REFER TO ELECTRICAL KEY PLAN AND SYMBOL LEGEND (DWG E0001) FOR ELECTRICAL SYMBOLS AND LETTERS DESIGNATION.
 - ALL MATERIAL SHALL BE NEW AND BE CSA APPROVED OR ULC LISTED
 - ALL WIRING SHALL BE IN CONDUIT, & MINIMUM #12 AWG COPPER
 - ALL INTERIOR WIRING IN CEILING SPACE IN DRY AREAS SHALL BE AC90 (ARMORED) CABLE OR RW90 WIRE INSTALLED IN EMT AND RGS CONDUIT. ALL EMT AND RGS CONDUIT SHALL INCLUDE A DEDICATED INSULATED GREEN GROUND WIRE.
 - ALL WIRING AND CONDUITS SHALL BE THREADED RGS SURFACE IN CONCRETE WALLS. RGS CONDUIT ON WALL TO BE WITH STAND OFFS TO AVOID ACCUMULATION OF DIRT BETWEEN CONDUIT AND WALL JOINTS AND FITTINGS TO BE WATERTIGHT.
 - ELECTRICAL SUBCONTRACTOR IS RESPONSIBLE FOR SEALING ALL PENETRATIONS THROUGH FIRE RATED WALLS AND ASSEMBLIES WITH RATED FIRE STOP RATED EQUAL TO THAT OF THE ADJACENT MATERIALS. ALL FIRE STOP MATERIALS AND INSTALLATION SHALL CONFORM TO UL 1479 AND ASTM E-814-10
 - ALL CIRCUITING IS FOR GROUPING PURPOSES ONLY. ELECTRICAL CONTRACTOR TO ENSURE PANELS ARE PROPERLY BALANCED.
 - ALL CIRCUITS SHOULD HAVE A SEPARATE GROUND.
 - ALL "NIGHT LIGHT" LUMINAIRES ARE ENERGIZED 24 HOURS WITHOUT LIGHTING CONTROL.
 - PROVIDE A MINIMUM OF 100 HOURS OF BURN-OUT TIME FOR ALL LUMINAIRES.
 - PROVIDE EXTRA LENGTH OF COILED ELECTRICAL CONDUCTOR PER EACH LUMINAIRE FOR POTENTIAL RELOCATION. ALL LUMINAIRE WIRING TO BE DONE IN CONDUIT.
 - ALL LUMINAIRES BALLAST AND LAMPS SHALL BE APPROVED UNDER THE MANITOBA HYDRO POWER SMART PROGRAM AND APPROVED BY LUMINAIRES MANUFACTURER FOR WARRANTY PURPOSES. ELECTRICAL CONTRACTOR TO PROVIDE LAMP CUT SHEETS WITH SHOP DRAWING OF EACH LUMINAIRE FOR APPROVAL.
 - REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DETAILS.
 - NOT ALL ELECTRICAL DEVICES ARE SHOWN ON WALLS BEING MODIFIED OR AFFECTED BY RENOVATION. IN ADDITION TO ITEMS SHOWN, REMOVE AND RELOCATE ALL ELECTRICAL DEVICES ON WALLS AND PORTIONS OF THE BUILDING BEING AFFECTED WITH RENOVATION/ADDITION. THIS NOTE ALSO APPLIES TO DRAWING 1329720500-DWG-E0002.
 - FINAL LIGHTING LUMINAIRES LOCATIONS TO BE COORDINATED ON SITE BASED ON OPTIMAL BUS LOCATION SO TASKS CAN BE PERFORMED ACCORDINGLY. CONFIRM ON SITE.
 - PROVIDE GROUNDED EXTENSION CORDS FOR EQUIPMENT AND TEMPORARY LIGHTS REQUIRED FOR ELECTRICAL WORK.

NO.	DESCRIPTION



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	HA	HC	HC	

SEAL

PERMIT STAMP

DESIGNED BY:	PREPARED BY:	REVIEWED BY:
HC	BM/HA	HC
AUTHORIZED BY:	DATE:	SCALE:
	13.11.15	AS NOTED

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CLIENT: CITY OF WINNIPEG
TRANSIT DEPARTMENT

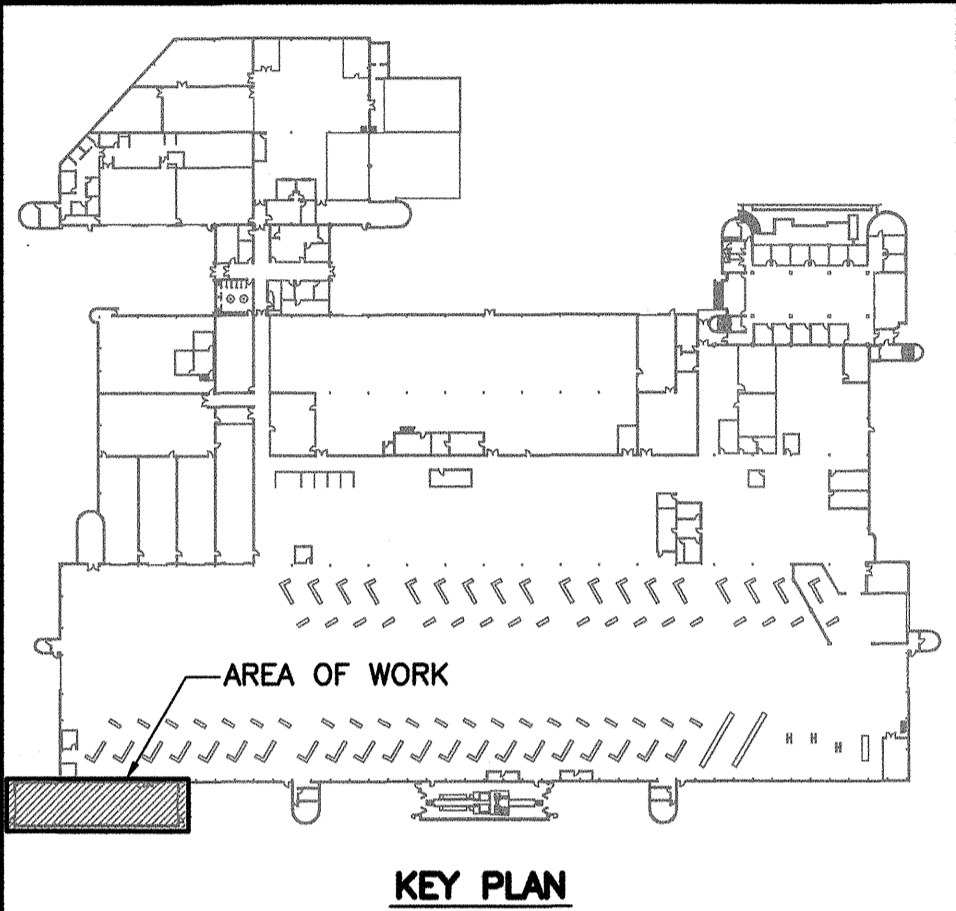
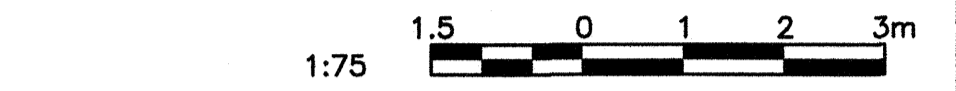
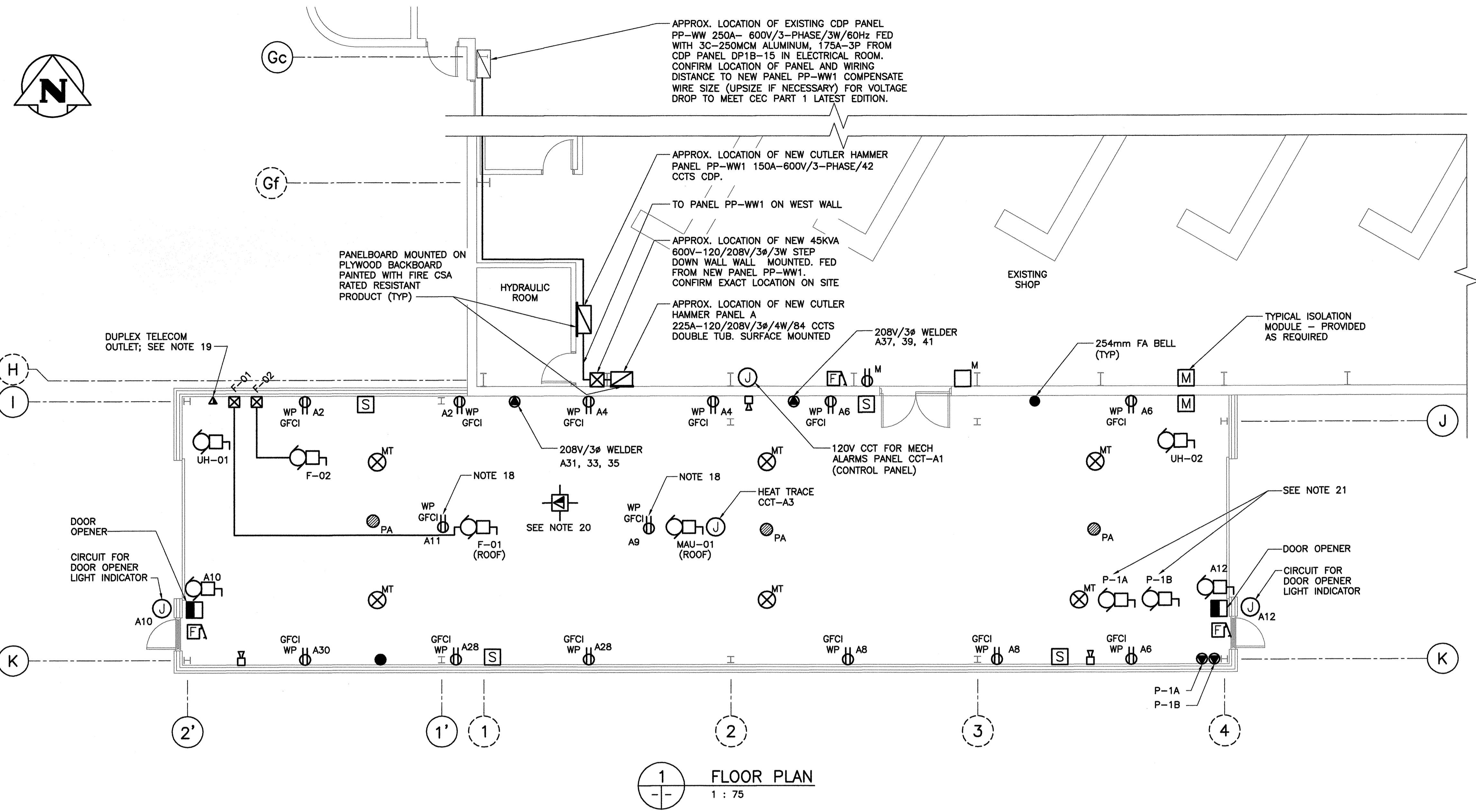
TETRA TECH

PROJECT NAME:
CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE
BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION:
ELECTRICAL
PARTIAL MAIN FLOOR PLAN
LIGHTING

DRAWING NO: 1329720500-DWG-E0001	REV: 00
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NO.	DESCRIPTION



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	HA	HC	HC	

PROVINCE OF MANITOBA
H.A. CANAS
Member
22882
REGISTERED PROFESSIONAL ENGINEER

APEGM
Certificate of Authorization
TETRA TECH WEI Inc.
No. 5313 Date: April 30, 2014

DESIGNED BY: HC	PREPARED BY: BM/HA	REVIEWED BY: HC
AUTHORIZED BY: [Signature]	DATE: 13.11.15	SCALE: AS NOTED

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CLIENT: **CITY OF WINNIPEG TRANSIT DEPARTMENT**

TETRA TECH

PROJECT NAME: CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION: ELECTRICAL PARTIAL MAIN FLOOR PLAN

DRAWING NO: 1329720500-DWG-E0002	REV: 00
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NOTES:

- REFER TO ELECTRICAL KEY PLAN AND SYMBOL LEGEND DWG E0001 FOR ELECTRICAL SYMBOL SCHEDULE AND LETTERS DESIGNATION
- ELECTRICAL SUBCONTRACTOR TO CONFIRM EXPANDABILITY AND CAPACITY OF EXISTING FIRE ALARM SYSTEM. INCLUDE ALL COSTS FOR PROGRAMMING, EXPANSION AND MODIFICATIONS TO COMPLY WITH DESIGN AND APPLICABLE CODES TO MAKE THE SYSTEM OPERATIONAL.
- ELECTRICAL SUBCONTRACTOR TO SUPPLY, INSTALL WIRE AND CONNECT NEW FIRE ALARM DEVICES TO EXISTING ZONES. COORDINATE LOCATIONS WITH MECHANICAL SUBCONTRACTOR AND TRADES INVOLVED. NEW FIRE ALARM DEVICES TO MATCH EXISTING IN ALL RESPECTS.
- MOUNTING HEIGHT OF DEVICES AND SPACING BETWEEN HVAC DIFFUSERS AND FIRE ALARM DEVICES TO BE AS PER CAN/ULC-S524 LATEST EDITION.
- ALL DEVICES TO HAVE DEDICATED GROUNDING.
- ELECTRICAL SUBCONTRACTOR TO PROVIDE ALL WIRING AND RELAYS REQUIRED TO INTERLOCK MECHANICAL AND FIRE ALARM SYSTEMS.
- INCLUDE ALL COSTS FOR FIRE ALARM TESTING, VERIFICATION AND REPLACEMENT OF EXISTING DEVICES NOT PERFORMING WITHIN THE AREA OF RENOVATION.
- TESTING AND VERIFICATION TO INCLUDE MAIN NOTIFIER FIRE ALARM PANEL (LOCATED AT THE MAIN ENTRANCE), DEVICES, LOOPS AND ZONES AFFECTED BY THIS RENOVATION/ADDITION.
- ELECTRICAL CONTRACTOR TO PROVIDE WALL AND CEILING MOUNTED FRAME STRUCTURALLY CAPABLE TO ACCOMMODATE TRANSFORMER. CONFIRM SIZE AND WEIGHT PREVIOUS TO INSTALLATION.
- REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DETAILS.
- ELECTRICAL CONTRACTOR TO WIRE NEW PANELS AND TELECOM SERVICES USING PORTIONS EXISTING CABLE TRAY (NEW POWER WIRING TO BE RUN IN UNDERSIDE OF CABLE TRAY) AND ADD SECTIONS AS NECESSARY. APPROXIMATE DISTANCE BETWEEN EXISTING PANEL PP-WW AND NEW PANEL PP-WW1 IS 200 FT. CONFIRM WITH PANEL MANUFACTURER HARDWARE AVAILABILITY FOR PANEL PP-WW TO ACCOMMODATE NEW 125A BREAKER FOR NEW PANEL PP-WW1.
- ALL TELECOM CONDUITS TO BE 27mm MIN UNLESS NOTED OTHERWISE.
- ELECTRICAL SUBCONTRACTOR SHALL CONTACT THE CONTRACT ADMINISTRATOR FOR A PHYSICAL INSPECTION OF THE CONDUIT SYSTEM PRIOR TO THE PLACEMENT OF CABLING. INSPECTION SHALL BE CONDUCTED AT THE SAME TIME AS A SITE MEETING.
- ALL TELECOM OUTLET LOCATIONS TO BE CONFIRMED ON SITE AND APPROVED BY THE CITY OF WINNIPEG. ALL PHONE SYSTEMS TO BE DONE BY MTS. THE ELECTRICAL SUBCONTRACTOR TO HIRE MTS, COORDINATE WORK IN ADVANCE TO MEET ALL THE CITY OF WINNIPEG REQUIREMENTS AND CARRY ALL COSTS ASSOCIATED TO A COMPLETE AND OPERATIONAL SYSTEM.
- THE CITY OF WINNIPEG SHALL SUPPLY, INSTALL AND TERMINATE ALL DATA AND NETWORKING WIRING AND SUPPLY AND INSTALL ALL ACTIVE EQUIPMENT (COMPUTERS, SWITCHES, ROUTER, TELEPHONES, ETC.)
- ELECTRICAL SUBCONTRACTOR TO INCLUDE 3/4" EMT EMPTY CONDUIT FOR ADDITIONAL SPEAKERS FOR PUBLIC ADDRESS SYSTEM AND RELOCATE ANY EXISTING CONFLICTING SPEAKERS AS PER CITY OF WINNIPEG DESIGNATED LOCATIONS. SPEAKERS TO BE ADDED TO EXISTING 800 WATTS AMPLIFIER. SPEAKERS, WIRING AND CONNECTIONS BY THE CITY OF WINNIPEG. CONFIRM HEAD EQUIPMENT CAPACITY AND ADVISE IF UPGRADE IS REQUIRED BEFORE PRICING THE PROJECT.
- ELECTRICAL SUBCONTRACTOR TO ADD WHISTLE HORNS FOR WORK SHIFTS AND BREAKS. ELECTRICAL SUBCONTRACTOR TO PROVIDE ADDITIONAL 3/4" EMT EMPTY CONDUIT FOR ADDITIONAL DEVICES AS INDICATED BY THE CITY OF WINNIPEG. THE CITY OF WINNIPEG TO PROVIDE ALL WIRING, TERMINATIONS AND ADDITIONAL DEVICES.
- EQUIPMENT MAINTENANCE RECEPTACLE (FOR ROOF MOUNTED EQUIPMENT):
PROVIDE AND INSTALL WEATHERPROOF DUPLEX RECEPTACLE CSA CONFIGURATION 5-20R, PROTECTED WITH A GFCI CLASS A CIRCUIT BREAKER 15A-1P. DEDICATED CIRCUIT A9, A11 TO BE WIRED WITH 2-#12 RW90+C CONDUCTORS IN 27mm EMT CONDUIT.
• RECEPTACLE TO BE LOCATED WITHIN 7.5m OF THE ROOF TOP ELECTRICAL EQUIPMENT AND MINIMUM OF 750mm ABOVE FINISHED ROOF.
• RECEPTACLE TO BE PROTECTED FROM MECHANICAL DAMAGE.
• UPDATE PANEL BOARDS DIRECTORY AND AS-BUILT DRAWINGS TO BE INCORPORATED IN O&M MANUALS.
- DUPLEX TELECOM OUTLET. PROVIDE ALL CABLES, TERMINATIONS AND CONNECTIONS TO MAKE JACKS OPERATIONAL.

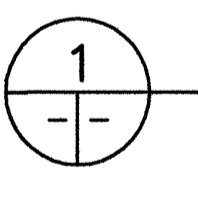
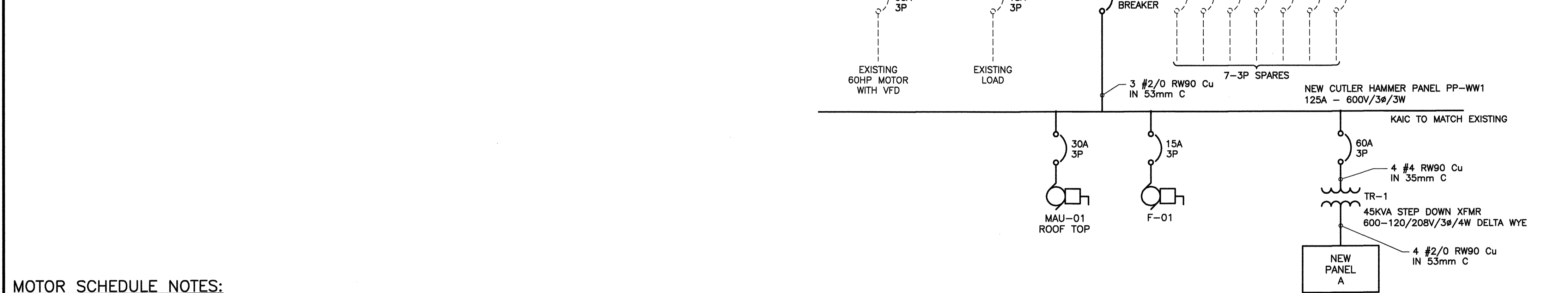
- SUPPLY CEILING MOUNTED TELECOMMUNICATIONS OUTLET FOR OWNERS' SUPPLIED AND INSTALLED ACCESS POINT (FOR WI-FI) CONFIRM EXACT LOCATION WITH CITY OF WINNIPEG IT DEPARTMENT. ELECTRICAL CONTRACTOR TO PROVIDE ALL CONDUIT, WIRING, JACKS, COVERPLATES AND TERMINATIONS TO MAKE SYSTEM OPERATIONAL. COORDINATE ACTIVATION WITH CITY OF WINNIPEG IT DEPARTMENT.
- INSTALL ISOLATION MODULES AS PER CAN/ULC-S524 LATEST EDITION.

EMERGENCY LIGHTING SCHEDULE					
TYPE	DESIGN	MANUFACTURER	CATALOGUE NO.	VOLTS	REMARKS
EXIT SIGN	E-1	LUMACELL	LER3-500-WH-120	120V	4X RATED EXIT SIGN
EMERGENCY HEADS	-	LUMACELL	MQM-2-LD13	24VDC	MICRO LIGHT SERIES, C/W 24V-4W LED LAMP. CSA CERTIFIED.
BATTERY UNITS	BB1	LUMACELL	RG24S-144-2-LD13	120V 24V	SUPPLY VOLTAGE: 120VAC OUTPUT VOLTAGE: 24VDC OPERATING TIME: 30 MINUTES BATTERY: SEALED, MAINTENANCE FREE. CHARGER: SOLID STATE, MULTI-RATE, VOLTAGE/CURRENT REGULATED, INVERSE TEMP. COMPENSATED, SHORT CIRCUIT PROTECTED, MODULAR CONSTR. SOLID STATE TRANSFER, LOW VOLTAGE DISC. SIGNAL LIGHTS "LED". HEAD: C/W TWO ADJUSTABLE EMERG. LTG. HEADS. MOUNTING: C/W T.L. RECEPTACLE, AND MOUNTING SHELF.

NEW PANEL A C/W BUILT-IN TVSS											LOCATION: SOUTH-WEST WALL EXIST. SHOP MOUNTING: SURFACE					
120/208 VOLT, 3 PHASE, 4 WIRE											225 AMP MAINS			POWER: NORMAL		
DESCRIPTION	LOAD (W)	BREAKER	CCT	A	B	C	CCT	BREAKER	LOAD (W)	DESCRIPTION						
MECH ALARMS PNL	300	15A-1P	1				2	20A-1P	500	GENERAL RECS						
HEAT TRACE MUA-1	100	15A-1P	3				4	20A-1P	500	GENERAL RECS						
UH-1	70	15A-1P	5				6	20A-1P	500	GENERAL RECS						
UH-2	70	15A-1P	7				8	20A-1P	500	GENERAL RECS						
ROOF MAINT. REC	250	15A-1P	9				10	20A-1P	500	DOOR OPENER						
ROOF MAINT. REC	250	15A-1P	11				12	20A-1P	500	DOOR OPENER						
F-02	720	20A-3P	13				14	20A-1P	1440	LIGHTING						
			15				16	20A-1P	1440	LIGHTING						
			17				18	20A-1P	1440	LIGHTING						
P-1A	360	15A-3P	19				20	20A-1P	1440	LIGHTING						
			21				22	20A-1P	1440	NIGHT LIGHTS						
			23				24	20A-1P	24	EXIT SIGNS						
P-1B	360	15A-3P	25				26	15A-1P	72	EMT LTG.						
			27				28	20A-1P		GENERAL RECS						
			29				30	20A-1P		GENERAL RECS						
WELDER	860	30A-3P	31				32									
			33				34									
			35				36									
WELDER	860	30A-3P	37				38									
			39				40									
			41				42									
			43				44									
			45				46									
			47				48									
			49				50									
			51				52									
			53				54									
			55				56									
			57				58									
			59				60									

NEW PANEL PP-WW1												LOCATION: MAINT. GARAGE MOUNTING: SURFACE					
347/600V/3Ø/3W												225 AMP MAINS			POWER: NORMAL		
DESCRIPTION	LOAD (W)	BREAKER	CCT	A	B	C	CCT	BREAKER	LOAD (W)	DESCRIPTION							
EXISTING			1				2										
EXISTING			3				4			EXISTING							
EXISTING			5				6										
EXISTING			7				8										
MAU-01		30A-3P	9				10	60A-3P	4500	TR-1							
			11				12										
			13				14										
F-01		15A-3P	15				16			EXISTING							
			17				18			EXISTING							
			19				20			EXISTING							
SPARE			21				22			EXISTING							
SPARE			23				24			EXISTING							
SPARE			25				26			EXISTING							
SPARE			27				28			EXISTING							
SPARE			29				30			EXISTING							
SPARE			31				32			EXISTING							
SPARE			33				34			EXISTING							
SPARE			35				36			EXISTING							
SPARE			37				38			EXISTING							
SPARE			39				40			EXISTING							
SPARE			41				42			EXISTING							

REFERENCE DRAWINGS	
NO.	DESCRIPTION



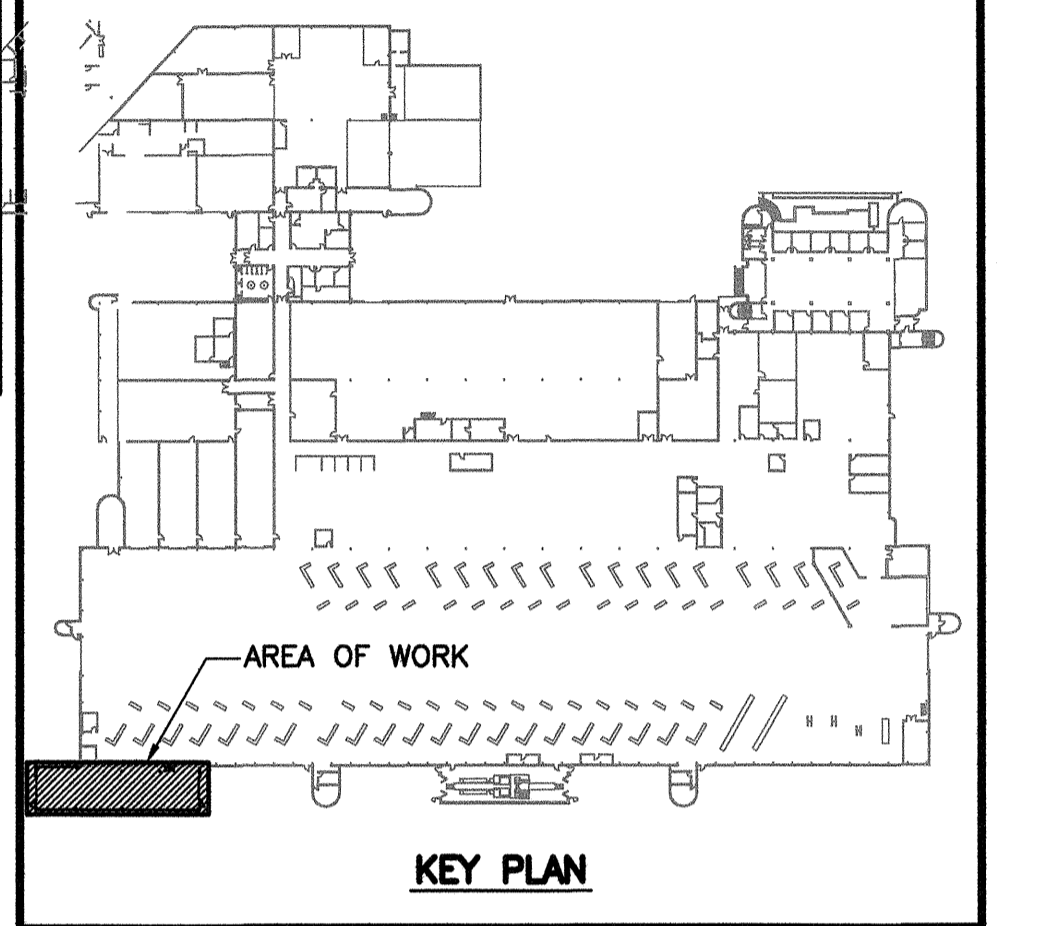
PARTIAL SINGLE LINE DISTRIBUTION
N.T.S.

- NOTES:
- GIVE ADEQUATE NOTICE (MIN 72 HRS) TO THE CITY OF WINNIPEG OF ANY POWER OUTAGE REQUIRED FOR THIS WORK. SCHEDULE OUTAGES TO PROVIDE LEAST INTERFERENCE WITH OTHER WORK.

MOTOR SCHEDULE NOTES:

- ELECTRICAL SUBCONTRACTOR SHALL REFER TO MECHANICAL DRAWINGS FOR ALL NEW AND EXISTING MOTOR LOCATIONS. CONFIRM ALL ELECTRICAL RATINGS AND SIZES PRIOR TO SUPPLYING AND INSTALLING OF WIRING AND CIRCUIT BREAKERS AS PER MECHANICAL SHOP DRAWINGS. REPORT ANY DISCREPANCIES OR SUBSTITUTIONS PRIOR TO INSTALLATION.
- ALL CONTROL WIRING FOR MECHANICAL ITEMS SHALL BE PROVIDED BY MECHANICAL CONTROLS SUBCONTRACTOR. REFER TO MECHANICAL SPECIFICATIONS.
- PROVIDE DISCONNECT SWITCHES FOR ALL EQUIPMENT AS REQUIRED BY CODE. PROVIDE WEATHERPROOF DISCONNECTS AS REQUIRED ON ROOF AND WET AREAS.
- ALL DEVICES TO HAVE RIVETED LAMACOID NAMEPLATES.
- ELECTRICAL SUBCONTRACTOR TO PROVIDE ALL MECHANICAL INTERLOCK WIRING.
- NOT ALL MECHANICAL EQUIPMENT MAY BE SHOWN ON THIS DRAWING. CONFIRM MECHANICAL EQUIPMENT LIST, AMPERAGE, LOCATIONS, ACCESSORIES AND CONTROLS REQUIREMENTS WITH MECHANICAL SUBCONTRACTOR AND MECHANICAL DRAWINGS.

MOTOR SCHEDULE																						
MOTOR No	HP	KW	AMP	DESCRIPTION	LOCATION	VOLTS / Ø	PACKAGE UNIT	STARTER & ACCESSORIES				FEEDER		BREAKER	CIRCUIT	F/A SHUT DN.	CONTROL				REMARKS	
								TYPE	FUNCTION	PL	PB	HOA	WIRE				CONDUIT	WITH	DEVICE	SUPP. BY		WIRED BY
MAU-1	-	-	19.10	ROOF TOP UNIT	ROOF	600/3	X	MAG	FVNR	-	-	X	3#6 RW90 CU+G	35mm	30A-3P	WW1 7, 9, 11	X		MECH	MECH		
F-01	5.0	-	-	BUS TAIL EXHAUST	ROOF	600/3	X	MAN	-	-	-		3#10 RW90 CU+G	27mm	20A-3P	WW1 13, 15, 17	X		MECH	MECH		
F-02	2.0	-	-	WELDING EXHAUST	MAIN FLOOR	208/3	X	MAN	-	-	-		3#10 RW90 CU+G	27mm	20A-3P	A 13, 15, 17			MECH	MECH	PLUG	
P-1A	1.0	-	-	SANITARY PUMP	SUMP PIT	208/3	-	-	-	-	-		3#12 RW90 CU+G	27mm	15A-3P	A 19, 21, 23			MECH	MECH		
P-1B	1.0	-	-	SANITARY PUMP	SUMP PIT	208/3	-	-	-	-	-		3#12 RW90 CU+G	27mm	15A-3P	A 25, 27, 29			MECH	MECH		
UH-01	-	-	6.3	UNIT HEATER	MAIN FLOOR	120/1	X	MAN	-	-	-		2#12 RW90 CU+G	27mm	15A-1P	A 5			MECH	MECH		
UH-02	-	-	6.3	UNIT HEATER	MAIN FLOOR	120/1	X	MAN	-	-	-		2#12 RW90 CU+G	27mm	15A-1P	A 7			MECH	MECH		
HEAT TRACE	-	0.1	-	ON MUA-1	ROOF	120/1	-	-	-	-	-		2#12 RW90 CU+G	27mm	15A-1P	A 3			MECH	MECH		
ALARMS	-	FRAC	-	ON GAS DET. PNL	WALL	120/1	-	-	-	-	-		2#12 RW90 CU+G	27mm	15A-1P	A 1			MECH	MECH	CONFIRM EXACT LOCATION ON SITE	



NO.	DATE	DESCRIPTION	PREPARED	REVIEWED	DESIGN	APPROVED
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SEAL:

PERMIT STAMP:

DESIGNED BY:	PREPARED BY:	REVIEWED BY:
HC	BM/HA	HC
AUTHORIZED BY:	DATE:	SCALE:
	13.11.15	AS NOTED

CITY OF WINNIPEG TRANSIT DEPARTMENT

PROJECT NAME: CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE BUS MAINTENANCE ADDITION

DRAWING DESCRIPTION: ELECTRICAL SCHEDULES

DRAWING NO: 1329720500-DWG-E0003

REV: 00

ELECTRICAL SPECIFICATION CONT.

GENERAL CONDITIONS

- DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. ELECTRICAL SUBCONTRACTOR SHALL PROVIDE AND INSTALL AND NECESSARY ELECTRICAL EQUIPMENT NECESSARY TO FULFILL APPLICABLE CODES, REGULATIONS, BUILDING STANDARDS AND THE BEST PRACTICES OF THE TRADE FOR INSTALLATION OF ELECTRICAL WORK.
- ALL ELECTRICAL WORK, MATERIALS AND EQUIPMENT SHALL CONFORM WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, UNDERWRITERS LABORATORIES, BOARD OF UNDERWRITERS, OSHA, NEMA, NFPA, MALL STANDARDS AND ALL AUTHORITIES HAVING JURISDICTION. THE ELECTRICAL SUBCONTRACTOR SHALL PAY FOR AND OBTAIN ALL REQUIRED PERMITS AND CERTIFICATES OF REQUIRED ORDINANCES, AND DELIVER THEM TO THE CITY OF WINNIPEG REPRESENTATIVE.
- THE ELECTRICAL SUBCONTRACTOR SHALL VISIT AND EXAMINE CAREFULLY THE AREAS AFFECTED BY THIS WORK TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND WITH DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK. THE ELECTRICAL SUBCONTRACTOR SHALL PERFORM THIS PRIOR TO SUBMITTING HIS PROPOSAL. SUBMITTING A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOUR, EQUIPMENT, OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
- UPON REVIEW OF THE DRAWINGS PRIOR TO SUBMITTING HIS PROPOSAL, THE ELECTRICAL SUBCONTRACTOR SHALL INFORM THE CONTRACT ADMINISTRATOR OF ANY DISCREPANCIES WITHIN THE DRAWINGS AND REQUEST CLARIFICATION CONCERNING THE DISCREPANCIES. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS SHOULD SUCH PROCEDURE NOT BE FOLLOWED.
- THE ELECTRICAL SUBCONTRACTOR SHALL COORDINATE THIS WORK WITH OTHER SUBCONTRACTORS WHOSE WORK MIGHT AFFECT THIS INSTALLATION. THE ELECTRICAL SUBCONTRACTOR SHALL ARRANGE ALL PARTS OF THIS WORK AND EQUIPMENT IN PROPER RELATION TO THE WORK AND EQUIPMENT OF OTHERS.
- THE ELECTRICAL SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONDUIT, OUTLET BOXES, POKE-THRU SERVICE FITTINGS REQUIRED TO FACILITATE THE INSTALLATION OF COMMUNICATION WIRING AND DEVICES.
- THE DRAWINGS INDICATE THE SIZE AND GENERAL LOCATION OF WORK. SCALED DIMENSIONS SHALL NOT BE USED. VERIFY SCALE WITH ARCHITECTURAL DRAWINGS. THE EXACT LOCATION AND ELEVATION OF ALL LIGHTING FIXTURES, SWITCHES, RECEPTACLES, ETC. SHALL BE DETERMINED FROM THE ARCHITECTS DRAWINGS.
- THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION" AS APPLICABLE, ARE PART OF THE CONTRACT.

FIRE ALARM SYSTEM

- THE WORK COVERED BY THIS SECTION OF THE SPECIFICATIONS INCLUDES THE FURNISHING OF ALL PERMITS, FEES, LABOR, EQUIPMENT, MATERIALS, AND PERFORMANCE OF ALL OPERATIONS IN CONNECTION WITH THE INSTALLATION OF THE FIRE ALARM SYSTEM AS SHOWN ON THE DRAWINGS AND AS HEREIN SPECIFIED.
- THE COMPLETE INSTALLATION SHALL CONFORM TO THE APPLICABLE SECTIONS OF NFPA-72, LOCAL CODE REQUIREMENTS AND THE NATIONAL ELECTRICAL CODE.
- EACH AND ALL ITEMS OF THE FIRE ALARM SYSTEM SHALL BE LISTED AS A PRODUCT OF A SINGLE FIRE ALARM SYSTEM MANUFACTURER.
- THE SYSTEM ALARM OPERATION SUBSEQUENT TO THE ALARM ACTIVATION OF ANY INITIATING DEVICE SHALL BE AS FOLLOWS:
 - THE APPROPRIATE INITIATING DEVICE CIRCUIT RED LED SHALL FLASH ON THE CONTROL PANEL.
 - A PULSING ALARM TONE SHALL OCCUR WITHIN THE CONTROL PANEL UNTIL SILENCED.
 - ALL ALARM INDICATING APPLIANCES SHALL SOUND AND OR DISPLAY IN A SYNCHRONIZED CONTINUOUS PATTERN UNTIL SILENCED BY THE ALARM SILENCE SWITCH.
 - A SUPERVISED SIGNAL TO NOTIFY THE LOCAL FIRE DEPARTMENT OR AN APPROVED CENTRAL STATION SHALL BE ACTIVATED.
 - THE MECHANICAL CONTROLS SHALL ACTIVATE THE AIR HANDLING SYSTEMS AS REQUIRED TO SHUTDOWN ALL FANS AND GAS SUPPLY VALVES.
- THE CONTROL PANEL SHALL RECEIVE 120 VAC POWER, VIA A DEDICATED CIRCUIT.
- THE SYSTEM SHALL BE PROVIDED WITH 24 HOUR BATTERY BACK-UP.
- THE CONTRACTOR SHALL WARRANT THE COMPLETED FIRE ALARM SYSTEM WIRING AND EQUIPMENT TO BE FREE FROM INHERENT MECHANICAL AND ELECTRICAL DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF THE COMPLETED AND CERTIFIED TEST OR FROM THE DATE OF FIRST BENEFICIAL USE.

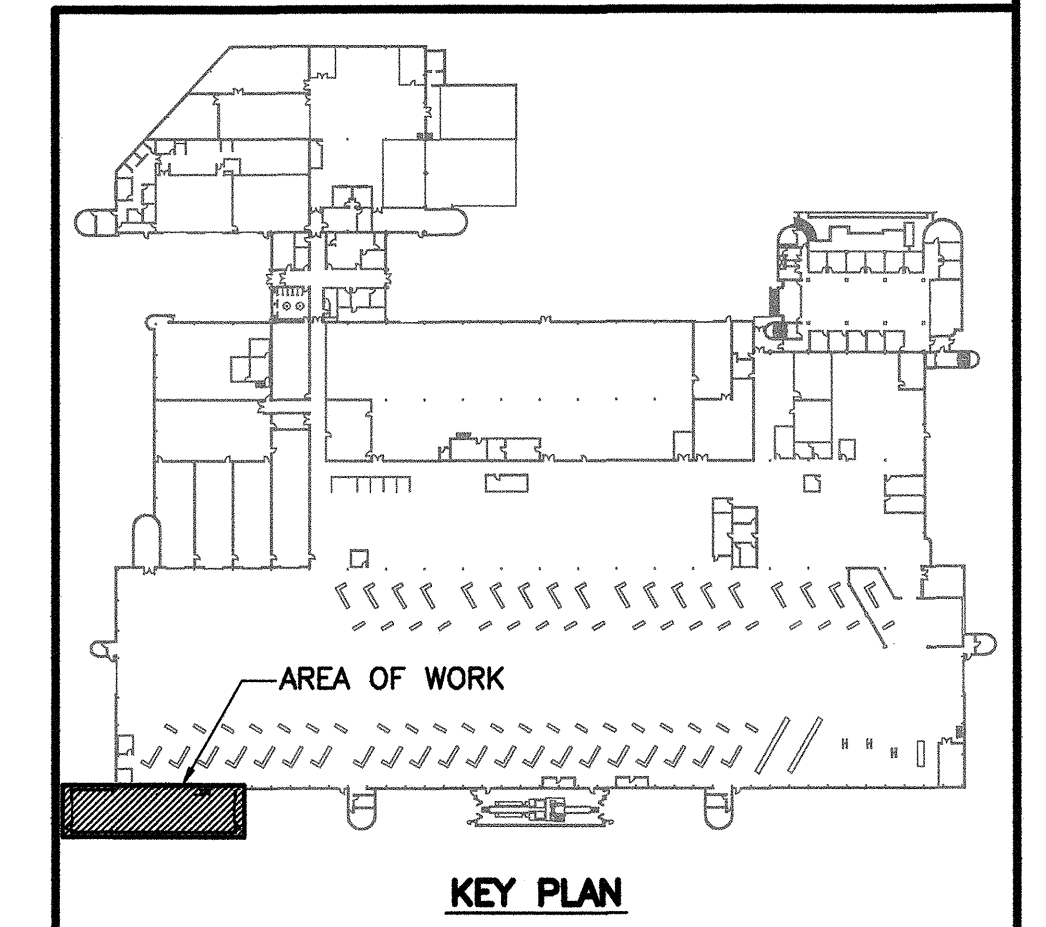
TEMPORARY POWER

- FURNISH AND INSTALL WIRING FOR ADEQUATE TEMPORARY LIGHT AND POWER FOR THE PROJECT.
- MAINTAIN THE SYSTEM IN GOOD AND ADEQUATE WORKING CONDITIONS AT ALL TIMES.
- FURNISH AND INSTALL ALL LAMPS, BREAKERS, AND FUSING, AS IS NECESSARY.
- REPLACE BURNED OUT LAMPS, DEFECTIVE BREAKERS OR BLOWN FUSES.
- MAINTENANCE FOR THE ABOVE SHALL BE BASED ON OPERATION 1/2 HOUR BEFORE THE START OF THE FIRST TRADE THROUGH 1/2 HOUR AFTER THE END OF THE LAST TRADE.
- WIRE ADEQUATE FOR ALL CONSTRUCTION NEEDS.

LIGHTING FIXTURES

- ALL FIXTURES, LAMPS AND BALLASTS ARE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
- ALL LIGHT FIXTURE MOUNTING HARDWARE SHALL MATCH AND ALL LIGHT FIXTURE MOUNTING HARDWARE SHALL MATCH AND TYPE.
- FLUORESCENT BALLASTS SHALL BE ELECTRONIC, U.L. CLASS "P" AND SHALL CONFORM TO ANSI AND UL SPECIFICATIONS. BALLASTS FOR FLUORESCENT LAMPS SHALL BE OF THE ENERGY SAVING SUPER LOW HEAT DESIGN WITH HIGH POWER FACTOR ELECTRONIC TYPE AS MANUFACTURED BY ADVANCE, UNIVERSAL, MOTOROLA OR GE. BALLASTS SHALL BE APPROVED FOR THE UTILITY COMPANY ENERGY REBATE PROGRAM.
- PROVIDE LAMPS SUITABLE FOR LIGHTING FIXTURES IN WHICH THEY ARE USED AND AS INDICATED ON THE DRAWINGS. FLUORESCENT LAMPS SHALL BE "RAPID START" AND SHALL DELIVER NOT LESS THAN 3150 LUMENS. MINIMUM CHROMATICITY OF LAMPS SHALL BE 4100 KELVIN UNLESS OTHERWISE NOTED. MINIMUM COLOR RENDERING INDEX (CRI) OF LAMPS SHALL BE 86.

REFERENCE DRAWINGS	
NO.	DESCRIPTION



NO.	DATE	DESCRIPTION	PREPARED	REVIEW	DESIGN	AUTHORIZE
00	14.01.17	ISSUED FOR CONSTRUCTION	HA	HC	HC	HC

SEAL	PERMIT STAMP

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HC	BM/HA	HC
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SUB-CONSULTANTS:

CLIENT: CITY OF WINNIPEG
TRANSIT DEPARTMENT

TETRA TECH

PROJECT NAME:
CITY OF WINNIPEG TRANSIT - FORT ROUGE GARAGE
ARTICULATING BUS MAINTENANCE ADDITION

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