



Public Works
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Canada

Travaux publics
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Environment and
Climate Change
Canada

Environnement et
Changement Climatique
Canada

Architectural and
Engineering Services

Services d'architecture
et de génie

Ontario Region

Région de l'Ontario

6248 8th LINE, EGBERT, ONTARIO. CENTRE FOR ATMOSPHERIC RESEARCH EXPERIMENTS CLEAN AIR BUILDING ROOF REPLACEMENT PWGSC Proj. No.: CARE-007 (ID 2269)



Canada

LIST OF DRAWINGS

ARCHITECTURAL

- A0.0 COVER PAGE
- A1.1 SITE PLAN
- A2.1 ROOF DEMOLITION PLAN
- A2.2 ROOF RECONSTRUCTION PLAN AND DETAILS
- A3.1 INTERIOR PLANS AND DETAILS

STRUCTURAL

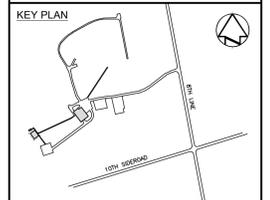
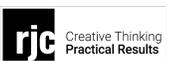
- S0.1 STRUCTURAL NOTES
- S1.1 STRUCTURAL ROOF PLAN
- S1.2 PLATFORM STRUCTURAL ROOF PLAN AND DETAILS

ELECTRICAL

- E1 ROOF DEMOLITION PLAN
- E2 ELECTRICAL ROOF PLAN

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revision	date	
06	RE-ISSUED FOR TENDER	OCT. 1/19
05	ISSUED FOR TENDER	JUL. 17/19
04	ISSUED FOR PERMIT	APR. 13/18
03	ISSUED FOR TENDER	MAR. 02/18
02	ISSUED FOR 99% DD	JAN. 29/18
01	ISSUED FOR 50% DD	OCT. 26/17

Do not scale drawings.
Verify all dimensions and conditions on site and immediately
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Detail No.	No. du détail
A	drawing no. - where detail required dessin no. - où détail exigé
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project title
titre du projet
**EGBERT ONTARIO
CENTRE FOR ATMOSPHERIC RESEARCH
EXPERIMENTS
6248 8TH LINE, EGBERT, ON, L0L 1N0
CLEAN AIR BUILDING
ROOF REPLACEMENT**

drawing title
titre du dessin
**LOCATION PLAN
AND LIST OF DRAWINGS**

drawn by
dessiné par R.C.

designed by
conçu par J.D.

approved by
approuvé par

big
offre BID project manager
administrateur de projets

project date
date du projet 2019-10-01

project no.
no. du projet CARE-007 (ID2269)

drawing no.
dessiné no. A0.0





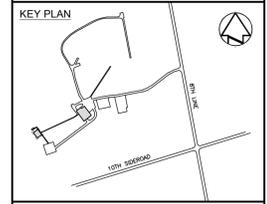
A FRONT ELEVATION



B REAR ELEVATION



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SITE PLAN

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dessiné par
R.C.

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J.D.

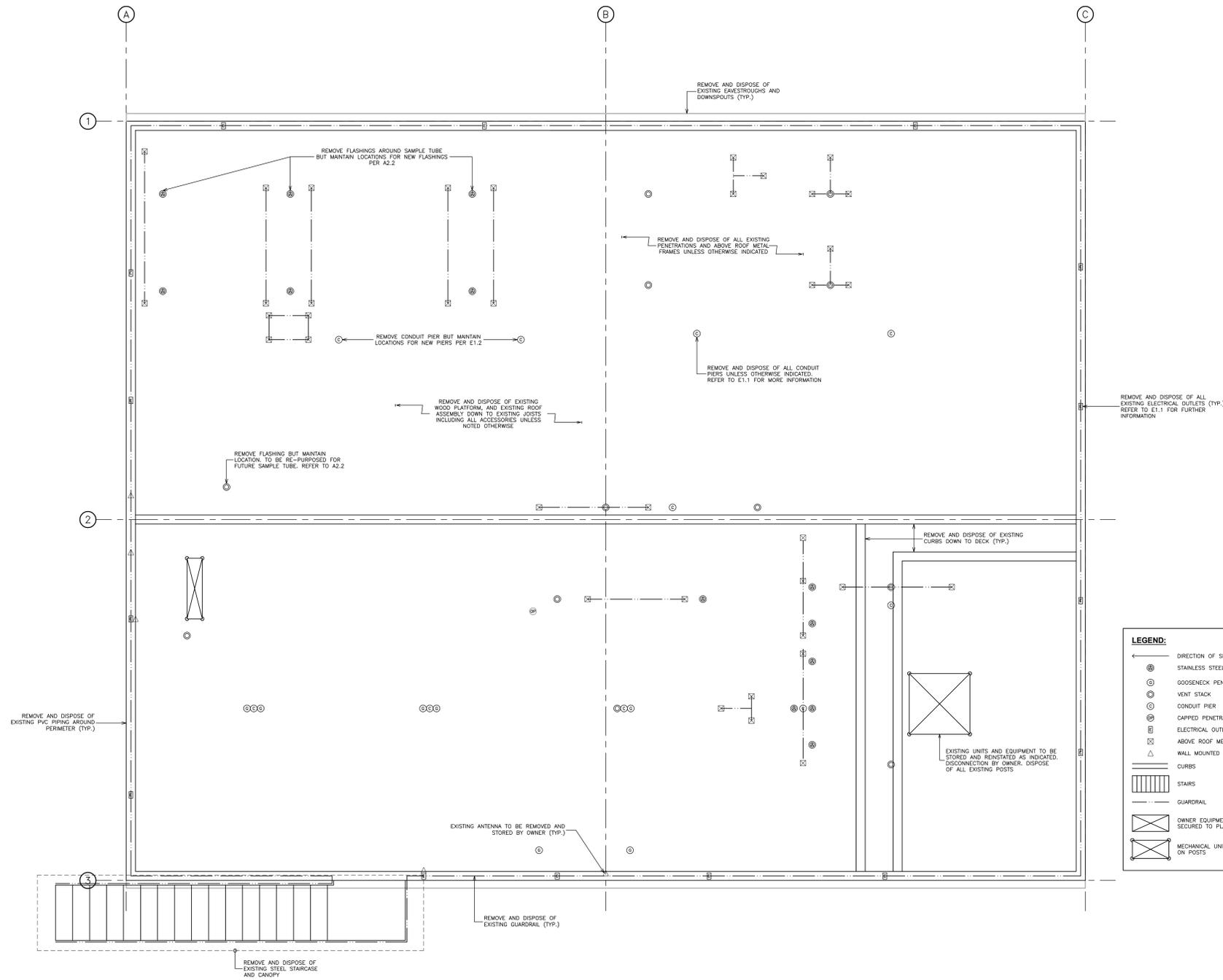
approved by
approuvé par

bid
offre
BID

project date
date du projet
2019-10-01

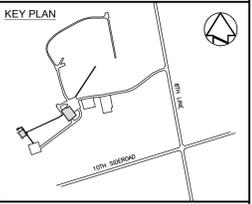
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no. du projet
CARE-007 (ID2269)

drawing no.
dessiné no.
A1.1



LEGEND:

- ← DIRECTION OF SLOPE
- ⊙ STAINLESS STEEL SAMPLE TUBE
- ⊙ GOOSENECK PENETRATION
- ⊙ VENT STACK
- ⊙ CONDUIT PIER
- ⊙ CAPPED PENETRATION
- ⊙ ELECTRICAL OUTLET
- ⊙ ABOVE ROOF METAL FRAME
- △ WALL MOUNTED ANTENNA
- ▬ CURBS
- ▬ STAIRS
- ▬ GUARDRAIL
- ⊠ OWNER EQUIPMENT SECURED TO PLATFORM
- ⊠ MECHANICAL UNIT ON POSTS



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drawing title
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ROOF DEMOLITION PLAN

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dessiné par
R.C.

designed by
conçu par
J.D.

approved by
approuvé par

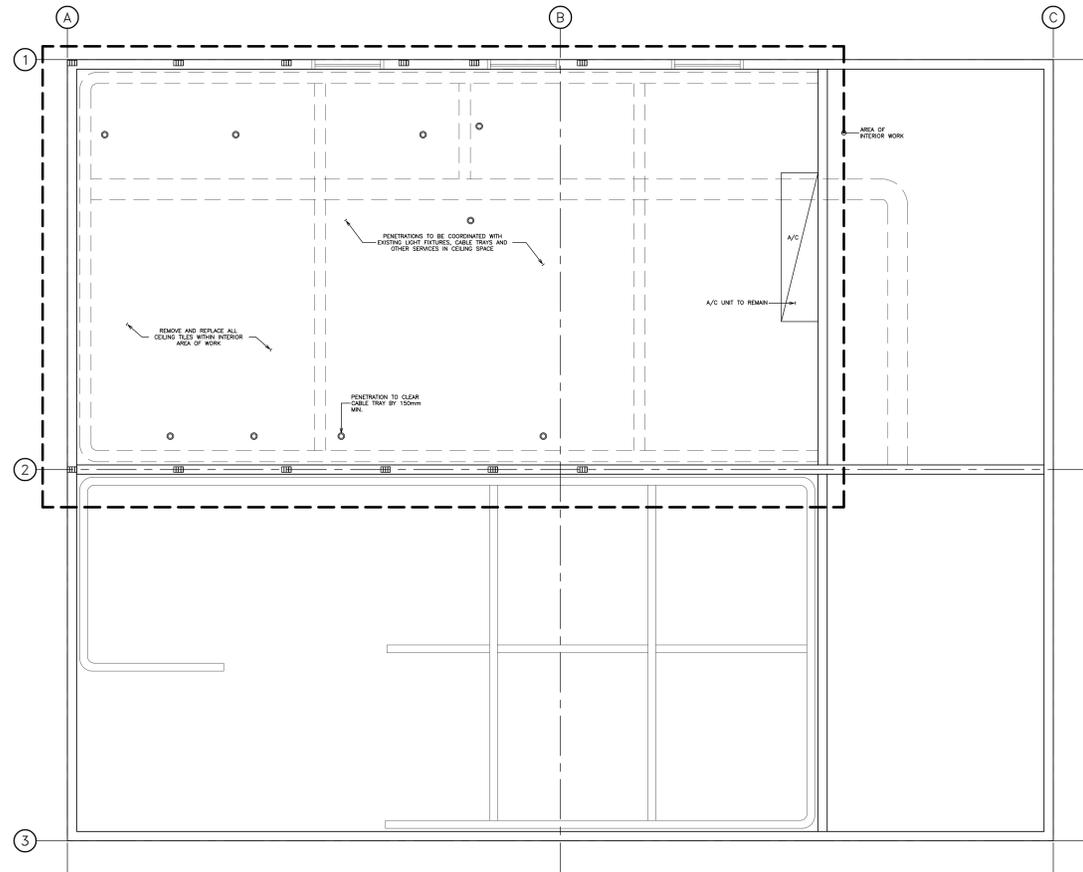
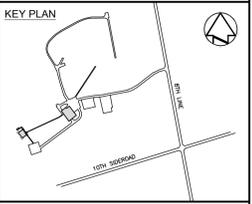
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project manager
administrateur de projets

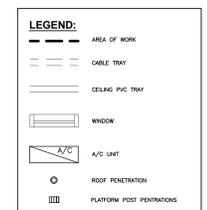
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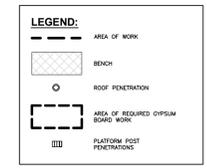
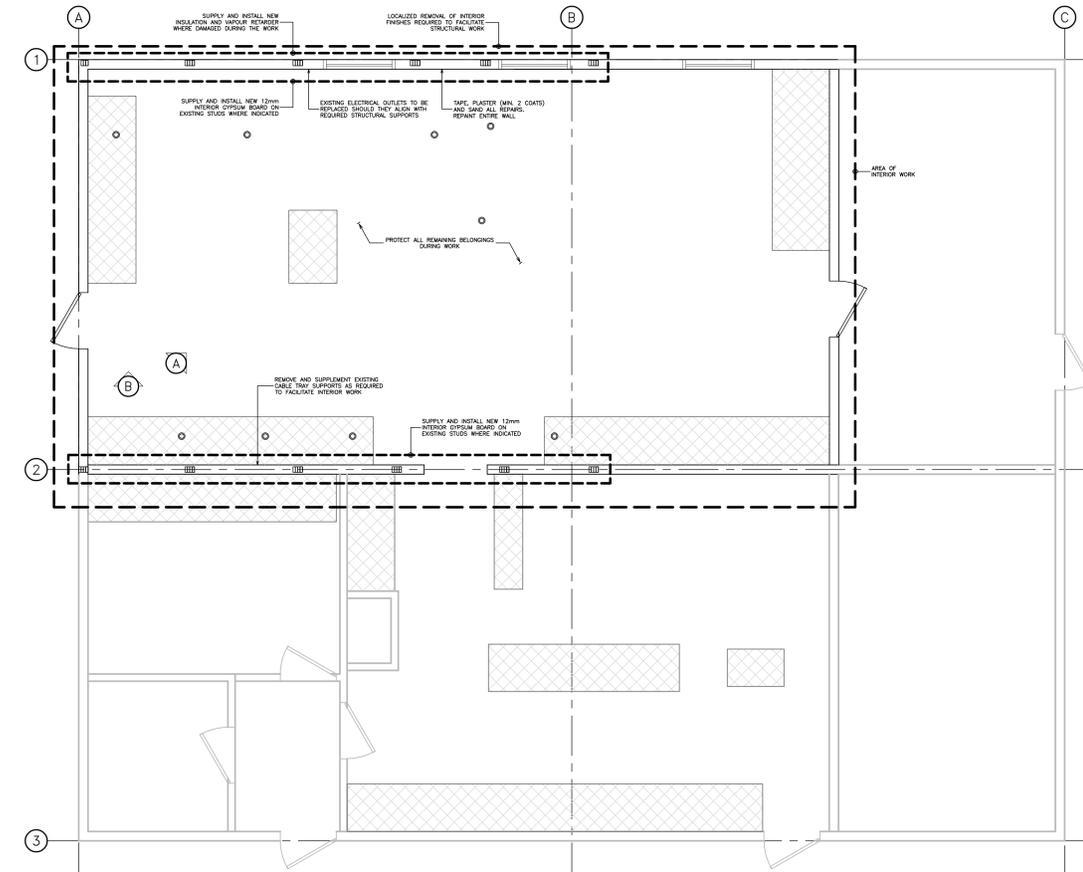
drawing no.
dessiné no.
A2.1



NOTES:
1. ROOF PENETRATIONS SHOWN FOR BENEFIT OF CONTRACTOR. LOCATIONS MAY VARY SLIGHTLY BASED ON SITE CONDITIONS. IT IS CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL SITE CONDITIONS.



2 REFLECTED CEILING PLAN
A3.1 1:40



1 INTERIOR BENCH LAYOUT
A3.1 1:40



A



B

3 TYPICAL VIEWS OF INTERIOR AREA OF WORK
A3.1 1:2



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6248 8TH LINE, EGBERT, ON, L0L 1N0
CLEAN AIR BUILDING ROOF REPLACEMENT

INTERIOR PLANS AND DETAILS

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designed by conçu par	J.D.
approved by approuvé par	
big office	BID
project manager administrateur de projets	
project date date du projet	2019-10-01
project no. no. du projet	CARE-007 (ID2269)
drawing no. dessiné no.	A3.1

DRAWINGS

- 1. THE USE OF THESE DRAWINGS IS LIMITED TO THAT IDENTIFIED IN THE REVISIONS COLUMN. DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED 'ISSUED FOR CONSTRUCTION' IN THE REVISIONS COLUMN.
2. THE INFORMATION ON THESE DRAWINGS SHALL NOT BE USED FOR ANY OTHER PROJECT OR WORKS. THE INFORMATION ON THESE DRAWINGS APPLIES SOLELY TO THIS PROJECT.
3. THE DRAWINGS DO NOT SHOW COMPONENTS THAT MAY BE NECESSARY FOR CONSTRUCTION SAFETY. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR SAFETY AND ABOUT THE JOB SITE DURING CONSTRUCTION, AND THE DESIGN AND ERECTION OF ALL TEMPORARY STRUCTURES, FORMWORK, FALSE WORK, SHORING, ETC. REQUIRED TO COMPLETE THE WORK.

GENERAL

- 1. SECTION MARK SHOWN THUS MEANS SECTION #4 ON DRAWING S-3.
2. THE GENERAL CONTRACTOR SHALL REVIEW ALL THE DRAWINGS AND CHECK DIMENSIONS BEFORE CONSTRUCTION. REPORT DISCREPANCIES BETWEEN STRUCTURAL AND OTHER DISCIPLINES DRAWINGS FOR CLARIFICATION.
3. CONCRETE WORK SHALL CONFORM TO CAN/CSA-A23.1, CAN/CSA-A23.2, CAN/CSA-A23.3 AND REFERENCED DOCUMENTS.
4. STRUCTURAL STEEL WORK SHALL CONFORM TO CAN/CSA-S16 AND REFERENCED DOCUMENTS.
5. DO NOT CUT OR DRILL ANY OPENINGS IN STRUCTURAL MEMBERS WITHOUT WRITTEN PERMISSION OF DEPARTMENT REPRESENTATIVE.
6. ABBREVIATIONS:

Table of abbreviations for structural elements and materials, including terms like MOMENT CONNECTION, ANCHOR BOLT, STRUCTURAL STEEL, etc., with corresponding symbols and codes.

DEFINITIONS

- A. SPECIALTY STRUCTURAL ENGINEER: A STRUCTURAL ENGINEER REGISTERED AND LICENSED TO PRACTICE BY THE PROFESSIONAL ENGINEERING ASSOCIATION HAVING JURISDICTION IN THE AREA WHERE THE STRUCTURE IS TO BE BUILT AND WHO IS RESPONSIBLE FOR THE DESIGN AND FIELD REVIEW OF:
- STRUCTURAL ELEMENTS DESIGNED BY THE CONTRACTOR OR SUBCONTRACTORS, SUCH AS OPEN WEB STEEL JOISTS, PRECAST DOUBLE TEES, PRECAST PLANKS, STRUCTURAL STEEL CONNECTIONS, LIGHT WOOD FRAME ROOF TRUSSES, ETC.
- SECONDARY STRUCTURAL ELEMENTS AND NON-STRUCTURAL ELEMENTS. SEE ALSO "NON-STRUCTURAL ELEMENTS" GENERAL NOTES.
C. CONTINUOUS: FULL TENSION SPlice AND TENSION DEVELOPMENT LENGTH.
D. EMBEDMENT: UNLESS NOTED OTHERWISE COMPRESSION EMBEDMENT MEANS A COMPRESSION DEVELOPMENT LENGTH AND TENSION EMBEDMENT MEANS A TENSION DEVELOPMENT LENGTH AS PER CAN/CSA-A23.3 AND AS SHOWN ON THESE GENERAL NOTES DRAWINGS.
E. GENERAL CONTRACTOR: FOR THE PURPOSES OF THESE DRAWINGS, THE USE OF THE TERM "CONTRACTOR" OR "GENERAL CONTRACTOR" SHALL REFER TO THE PRIME FIRM OR COMPANY RESPONSIBLE FOR CONSTRUCTION OF THE PROJECT AND THE COORDINATION OF TRADES AND SUBCONTRACTORS. THIS MAY BE THE GENERAL CONTRACTOR, OR A CONSTRUCTION MANAGER.

DESIGN LOADS

- 1. SPECIFIED UNIFORM LOADS kPa (SEE ALSO PLANS)
A. EQUIPMENT PLATFORM + STAIRS - BASED ON A GROUND SNOW LOAD OF ---- 2.5 PLUS A RAIN LOAD OF ---- 0.4 AND AN IMPORTANCE FACTOR OF 1+ = 1.0 ULS, 0.9 SLS
B. EQUIPMENT PLATFORM + STAIRS ---- 3.6
CONTRACTORS CONSTRUCTION LOADS MUST NOT EXCEED THE ABOVE DESIGN LOADS. DESIGN LOADS MAY ONLY BE APPLIED AFTER CONCRETE REACHES ITS DESIGN STRENGTH.
SUPERIMPOSED DEAD LOADS (S.D.L.) ARE NON-STRUCTURE DEAD LOADS DUE TO ARCHITECTURAL TOPPING, FINISHES, PARTITIONS, ROOFING MATERIALS, PAVES, SILL, ETC.
STRUCTURAL DEAD LOADS (D.L.) ARE DUE TO THE WEIGHT OF THE STRUCTURE ITSELF. THEY VARY WITH THE STRUCTURAL SYSTEM.
2. UNLESS NOTES OTHERWISE, SPECIFIED CONCENTRATED LOADS ARE:
A. ROOFS - 1.3 kN
3. WIND UPLIFT LOADS ON STEEL PLATFORM SHALL BE 1 kPa NET FACTORED UNLESS NOTED OTHERWISE.
4. SEISMIC AND WIND DESIGN:
THE LATERAL SYSTEM FOR THIS PROJECT CONSISTS OF MOMENT FRAMES AND IS DESIGNED FOR THE FOLLOWING EARTHQUAKE FACTORS:
So (0.2) = 0.108 Pa = 0.063
So (0.5) = 0.077 Ia = 1.0
So (1.0) = 0.048 R = 1.5
So (2.0) = 0.025 R = 1.3
AND THE FOLLOWING WIND LOADS AND FACTORS:
q50 = 0.36 kPa, Ia = 1.0 ULS, 0.75 SLS

DESIGN CODE

- 1. THE COMPLETED EQUIPMENT PLATFORM AND STAIRS SHOWN ON THE STRUCTURAL DRAWINGS HAS BEEN DESIGNED IN SUBSTANTIAL ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA, 2015.

RENOVATIONS

- 1. THE CONTRACT DOCUMENTS ARE BASED ON ASSUMED AS-BUILT DIMENSIONS FOR THE EXISTING BUILDING STRUCTURE AND ASSUMPTIONS MADE DURING THE DESIGN. THE CONTRACTOR SHALL IMMEDIATELY INFORM THE DEPARTMENT REPRESENTATIVE OF ANY ACTUAL VARIATIONS FROM THE ASSUMED CONDITIONS.
2. MINOR MODIFICATIONS TO SUBMITTALS OF +/- 2" WILL BE REQUIRED TO THE WORK INDICATED ON THESE DRAWINGS TO REFLECT ACTUAL SITE CONDITIONS. THE CONTRACTOR WILL COORDINATE WITH THE DEPARTMENT REPRESENTATIVE IN THIS REGARD. MINOR MODIFICATIONS WILL BECOME THE RESPONSIBILITY OF THE CONTRACTOR AND WILL NOT RESULT IN A CHANGE IN THE CONTRACT PRICE.
3. ENSURE THAT ALL NECESSARY JOB DIMENSIONS ARE TAKEN AND ALL TRADES ARE COORDINATED FOR THE PROPER EXECUTION OF THE WORK. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS OF SUCH DIMENSIONS AND FOR COORDINATION.
4. PRIOR TO FABRICATION OF ANY STRUCTURAL MEMBERS, THE CONTRACTOR SHALL COMPLETE THIS SITE REVIEW OF CRITICAL "TIE-IN" DIMENSIONS AND CONFIRM ALL DIMENSIONS TO ENSURE PROPER FIT OF NEW WORK TO EXISTING. REPORT ANY DISCREPANCIES TO DEPARTMENT REPRESENTATIVE PRIOR TO STARTING WORK.
5. COMMENCEMENT OF CONSTRUCTION OR ANY PART THEREOF CONSTITUTES ACCEPTANCE OF EXISTING CONDITIONS AND MEANS DIMENSIONS AND ELEVATIONS HAVE BEEN CONSIDERED, VERIFIED AND ARE ACCEPTABLE.
6. ANY OPENINGS THAT ARE NOT SHOWN OR INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE REPORTED TO DEPARTMENT REPRESENTATIVE FOR REVIEW. THESE OPENINGS MAY NOT BE ALLOWED, MAY HAVE TO BE MOVED, OR MAY REQUIRE ADDITIONAL STRUCTURAL WORK AND DETAILING. DO NOT PROCEED WITH THESE OPENINGS WITHOUT WRITTEN PERMISSION FROM DEPARTMENT REPRESENTATIVE.
7. UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, THE CORING OR CUTTING OF OPENINGS AND HOLES SHOWN ON THE STRUCTURAL DRAWINGS THROUGH THE EXISTING STRUCTURE SHALL NOT CUT ANY REINFORCING BARS. THE CONTRACTOR SHALL LOCATION, SIZE, LENGTH, ORIENTATION AND POSITION OF EXISTING REINFORCING AND PROVIDE DEPARTMENT REPRESENTATIVE WITH HARD COPIES OF SUCH FOR REVIEW IN THE WORTHY OF THE HOLES AND SLEEVES TO BE CUT OR CORED, AND THE HOLES AND SLEEVES SHALL BE LOCATED TO AVOID CUTTING OF REINFORCING BARS WHERE THIS IS NOT POSSIBLE. IT SHALL BE REPORTED TO DEPARTMENT REPRESENTATIVE FOR REVIEW.
8. NEW OPENINGS TO BE CUT THROUGH EXISTING FLOOR SLAB OR WALLS SHALL BE CLEARLY MARKED OUT BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY DEPARTMENT REPRESENTATIVE ONCE THE MARKING OUT HAS BEEN COMPLETED SO THAT DEPARTMENT REPRESENTATIVE CAN REVIEW THE PROPOSED LOCATIONS OF ALL NEW OPENINGS. DO NOT PROCEED WITH CUTTING OF NEW OPENINGS WITHOUT THE APPROVAL OF THE DEPARTMENT REPRESENTATIVE.
9. UNLESS NOTED OTHERWISE ON THE DRAWINGS NEW STRAIGHT SIDED OPENINGS THROUGH EXISTING SLABS AND WALLS SHALL BE SAWN WITH NO OVERCUTS. USE CORED HOLES AT THE CORNERS. JACKHAMMERING SHALL NOT BE PERMITTED. REFER TO THE DETAILS AND PROCEDURES INDICATED ON THE STRUCTURAL DRAWINGS FOR THE NEW OPENINGS. ALTERNATIVES TO THE ABOVE PROCEDURES WILL BE REVIEWED BY DEPARTMENT REPRESENTATIVE PRIOR TO THE START OF DEMOLITION OR CONSTRUCTION.
10. UNLESS NOTED OTHERWISE AT ALL LOCATIONS WHERE NEW CONCRETE WILL BE IN CONTACT WITH EXISTING CONCRETE SURFACES, THE EXISTING CONCRETE SURFACES IS TO BE COMPLETELY CLEANED AND ROUGHENED BY HYDROBLASTING, BRUSH HAMMERING, (OR APPROVED EQUAL) TO AN AMPLITUDE OF X.
11. CONTRACTOR TO ENSURE THAT UNDERGROUND OR IN-SLAB SERVICES ARE NOT DAMAGED THROUGH DEMOLITION, SAWN CUTTING, HOLE AUGURING, OR OTHER CONSTRUCTION ACTIVITIES. SEE SPECIFICATION FOR TESTING/LOADING REQUIREMENTS.
12. FASTENING TO EXISTING MATERIALS:
UNLESS NOTED OTHERWISE, THE FOLLOWING REQUIREMENTS APPLY TO ALL CONNECTIONS BETWEEN EXISTING AND NEW MATERIALS:
A. USE ONLY PRODUCTS AS SPECIFIED UNLESS ALTERNATES HAVE BEEN PRE-APPROVED BY DEPARTMENT REPRESENTATIVE IN WRITING.

- B. ON SITE TRAINING - THE CONTRACTOR SHALL RETAIN A MANUFACTURER'S REPRESENTATIVE TO PROVIDE ON-SITE ANCHOR INSTALLATION TRAINING FOR ALL PROPRIETARY PRODUCTS SPECIFIED. THE CONTRACTORS PERSONNEL MUST BE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
C. THE CONTRACTOR IS TO RETAIN A THIRD PARTY MATERIALS TESTING AGENCY EXPERIENCED WITH THE INSTALLATION OF ANCHORS TO PROVIDE AN ONGOING REVIEW OF ON-SITE QUALITY CONTROL. REVIEWS TO ENSURE THAT ANCHORS ARE BEING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED SPECIFICATIONS AND INSTALLATION PROCEDURES. QUALITY ASSURANCE REPORTS FROM THE TESTING AGENCY ARE TO BE SUBMITTED TO DEPARTMENT REPRESENTATIVE AFTER EACH SITE VISIT. AT THE END OF THE PROJECT, THE TESTING AGENCY IS TO PROVIDE A LETTER SIGNED BY A REGISTERED ENGINEER STATING THAT THE GENERAL INSTALLATION OF ANCHORS FOR THE PROJECT IS IN ACCORDANCE WITH THE RECOMMENDED INSTALLATION PRACTICE AS SPECIFIED BY THE MANUFACTURER.
D. A REPRESENTATIVE SAMPLE OF ANCHORS IS TO BE TESTED FOR EACH TYPE OF ANCHOR SPECIFIED. TESTING SHALL BE CARRIED OUT BY A TESTING AGENCY APPROVED AND PAID FOR BY THE OWNER. ANCHORS WHICH FAIL THE LOAD TEST SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S COST IF THE FAILURE RATE EXCEEDS 1 IN 10 FOR A TYPE OF ANCHOR. ALL ANCHORS ARE TO BE TESTED.
13. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND ABOUT THE JOB SITE DURING CONSTRUCTION, AND THE DESIGN AND ERECTION OF ALL TEMPORARY STRUCTURES, FORMWORK, FALSEWORK, SHORING, BRACING, ETC., REQUIRED TO COMPLETE THE WORK (SUBMIT SHORING DRAWINGS SEALED BY A SPECIALTY STRUCTURAL ENGINEER).

EXCAVATIONS

- 1. DESIGN AND FIELD REVIEW OF EXCAVATION, SHORING, AND BACKFILL IS NOT DONE BY DEPARTMENT REPRESENTATIVE.

FOUNDATIONS

- 1. FOOTINGS ARE BEING DESIGNED FOR THE FOLLOWING BEARING RESISTANCE:
A. STAR FOUNDATIONS: ULS: 150 kPa. SLS: 100 kPa
2. BEARING SURFACES MUST BE APPROVED BY THE SOILS ENGINEER IMMEDIATELY BEFORE FOOTING CONCRETE IS PLACED. THE DEPARTMENT REPRESENTATIVE IS NOT RESPONSIBLE FOR CONFIRMING BEARING CAPACITIES OF SOILS.
3. FOOTINGS MAY HAVE TO BE LOWERED TO ACCOMMODATE MECHANICAL OR ELECTRICAL SERVICES. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ELEVATIONS OF SAME. FOOTINGS ARE NOT TO BE UNDERMINED BY EXCAVATIONS FOR SERVICES, PITS, ETC.
4. FOOTING ELEVATIONS, IF SHOWN, ARE FOR PRICE ESTIMATING PURPOSES ONLY, ARE NOT FINAL AND MAY VARY ACCORDING TO SITE CONDITIONS OR AS REQUIRED BY SERVICES. ALL FOOTINGS MUST BE TAKEN TO A BEARING LAYER APPROVED BY THE SOILS ENGINEER.
5. BEARING SURFACES MUST BE PROTECTED FROM FREEZING BEFORE AND AFTER FOOTINGS ARE POURED.

CONCRETE

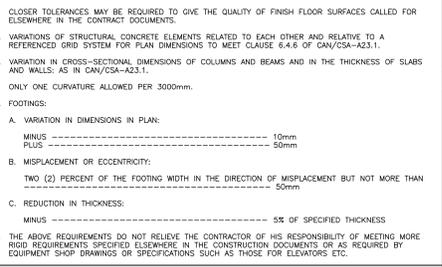
Table with 4 columns: ELEMENT, COMPRESSION STRENGTH (MPa) AT 28 DAYS, EXPOSURE CLASS, COMMENT. Includes STAR FOUNDATIONS with 25 MPa strength and F-2 exposure class.

CONCRETE CONSTRUCTION TOLERANCES

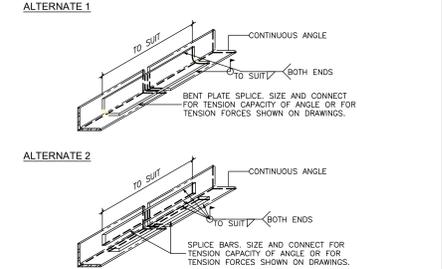
- (TOLERANCES AS PER CAN/CSA-A23.1 CLAUSE 6.4.2, EXCEPT AS NOTED BELOW.)
CLOSER TOLERANCES SHALL BE MAINTAINED WHERE ARCHITECTURAL DETAILS OR OTHERS REQUIRE.
WHERE ANY DEVIATION OCCURS, AND IT IS ACCEPTABLE TO THE DEPARTMENT REPRESENTATIVE AND ARCHITECT, THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTMENT OF OTHER BUILDING ELEMENTS TO ACCOMMODATE SUCH DEVIATION. COSTS FOR REMEDIAL WORK FOR DEVIATIONS NOT ACCEPTED SHALL BE BORNE BY THE CONTRACTOR.
1. VARIATION FROM THE PLUMB:
A. IN THE LINES AND SURFACES OF COLUMNS, PIERS, WALLS AND IN ARRISES: 0.25% OF HEIGHT (1 IN 400), MAXIMUM 40mm OVER THE ENTIRE HEIGHT OF THE STRUCTURE.
ONLY ONE CURVATURE ALLOWED PER 3000mm.
THE TOLERANCE CURVATURE IS THE MAXIMUM VARIATION FROM A PLUMB LINE.
ALL MEASUREMENTS SHALL BE TO THE SAME SIDE OF THE PLUMB LINE.
B. UNLESS SPECIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS - THE TOLERANCES FOR EXPOSED CORNER COLUMNS, CONTROL JOINT GROOVES, AND OTHER CONSPICUOUS LINES SHALL BE: (SEE ALSO ELEVATOR SHOP DRAWINGS ETC)
0.125% OF HEIGHT (1 IN 800), MAXIMUM 20mm.
ONLY ONE CURVATURE ALLOWED PER 6000mm.
MAXIMUM VARIATION IN WINDOW BAYS 0.2% OF OPENING.
2. UNLESS SPECIFIED ELSEWHERE, FLOOR FINISHES SHALL BE CLASS A "INSTITUTIONAL AND COMMERCIAL FLOOR" ± 8mm PER 3000mm.
ONLY ONE CURVATURE ALLOWED IN 3000mm.
CLOSER TOLERANCES MAY BE REQUIRED TO GIVE THE QUALITY OF FINISH FLOOR SURFACES CALLED FOR ELSEWHERE IN THE CONTRACT DOCUMENTS.
3. VARIATIONS OF STRUCTURAL CONCRETE ELEMENTS RELATED TO EACH OTHER AND RELATIVE TO A REFERENCED GRID SYSTEM FOR PLAN DIMENSIONS TO MEET CLAUSE 6.4.6 OF CAN/CSA-A23.1.
4. VARIATION IN CROSS-SECTIONAL DIMENSIONS OF COLUMNS AND BEAMS AND IN THE THICKNESS OF SLABS AND WALLS: AS IN CAN/CSA-A23.1.
ONLY ONE CURVATURE ALLOWED PER 3000mm.
5. FOOTINGS:
A. VARIATION IN DIMENSIONS IN PLAN:
MINUS ----- 10mm
PLUS ----- 50mm
B. MISPLACEMENT OR ECCENTRICITY:
TWO (2) PERCENT OF THE FOOTING WIDTH IN THE DIRECTION OF MISPLACEMENT BUT NOT MORE THAN ----- 50mm
C. REDUCTION IN THICKNESS:
MINUS ----- 5% OF SPECIFIED THICKNESS
6. THE ABOVE REQUIREMENTS DO NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY OF MEETING MORE RIGID REQUIREMENTS SPECIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS OR AS REQUIRED BY EQUIPMENT SHOP DRAWINGS OR SPECIFICATIONS SUCH AS THOSE FOR ELEVATORS ETC.

TYPICAL TENSION SPlice FOR ANGLES

ALTERNATE 1



ALTERNATE 2



EMBEDMENT / DEVELOPMENT LENGTHS AND SPlice LENGTHS

- BASED ON CAN/CSA-A23.3
WHERE EMBEDMENT OR SPlice ARE DIMENSIONED ON THE DRAWINGS, SUCH DIMENSION SHALL APPLY.
WHERE THE DRAWINGS INDICATE A COMPRESSION EMBEDMENT, IT IS A COMPRESSION EMBEDMENT LENGTH AND IT SHALL BE AS NOTED BELOW.
WHERE NO EMBEDMENT OR EMBEDMENT TYPE IS CALLED FOR ON THESE DRAWINGS, IT SHALL BE A TENSION EMBEDMENT, EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION EMBEDMENT.
WHERE NO SPlice OR SPlice TYPE IS CALLED FOR ON THESE DRAWINGS, IT SHALL BE A TENSION SPlice, EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION SPlice.
IN TABLES BELOW, EMBEDMENT LENGTHS ARE SHOWN WITHOUT BRACKETS, AND SPlice LENGTHS ARE SHOWN IN BRACKETS.
ALL LENGTHS ARE FOR fy = 400 MPa REBAR.
ALL TENSION SPlice LENGTHS ARE CLASS "B" (1.34).

COMPRESSION EMBEDMENT AND SPlice LENGTHS

Table with 4 columns: CONCRETE STRENGTH, FUNCTION, REBAR DESIGNATION, and values for 20 MPa and 25 MPa concrete strengths.

TENSION EMBEDMENT AND SPlice LENGTHS

- TENSION EMBEDMENT REFERS TO THE LENGTH REQUIRED TO PROVIDE A "TENSION DEVELOPMENT LENGTH" AS DEFINED IN CAN/CSA-A23.3-04 CLAUSE 12.3.2.
- SPlice LENGTH REFERS TO THE MINIMUM LAP LENGTH REQUIRED FOR A CLASS "B" TENSION SPlice (1.34) AS PER CAN/CSA-A23.3-04 CLAUSE 12.15.

TENSION EMBEDMENT AND SPlice CONDITIONS

- TENSION EMBEDMENT AND SPlice LENGTHS CONFORMING TO CAN/CSA-A23.3-04 TABLE 12.1 (0.45*fy*As/1.4*fc) ARE TO BE AS PER THE FOLLOWING TABLE FOR:
- COLUMNS
- BEAM AND GIRDER TOP AND BOTTOM BARS.
- SLAB BAND TOP BARS.
- TWO WAY SLAB TOP AND BOTTOM BARS.
- ONE WAY SLAB TOP AND BOTTOM BARS.
- ONE WAY BAND BOTTOM BARS.
- DISTRIBUTED AND PERIPHERAL DISTRIBUTED REINFORCING.
- SEE ALSO NOTES ON TOP BARS AND EPOXY COATED REINFORCEMENT.
- MEMBERS WHICH DO NOT SATISFY THE ABOVE CONDITIONS SHALL HAVE TENSION EMBEDMENTS AND SPlices AS PER CASE 2 TABLE BELOW.

Table with 4 columns: CONCRETE STRENGTH, FUNCTION, REBAR DESIGNATION, and values for 20 MPa, 25 MPa, 30 MPa, 35 MPa, 40 MPa, 45 MPa, 50 MPa, 55 MPa, 60 MPa, and 65 MPa & GREATER concrete strengths.

- NOTES:
- "TOP BAR" VALUES ARE 1.3 TIMES THE ABOVE LENGTHS. "TOP BAR" APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300mm OR MORE OF CONCRETE BELOW THE BAR.
- INCREASE THESE TABLE LENGTHS BY 1.5 TIMES FOR EPOXY COATED REINFORCEMENT. INCREASE THESE TABLE LENGTHS BY 1.7 TIMES FOR EPOXY COATED TOP REINFORCEMENT.

STRUCTURAL STEEL

- 1. DESIGN FORCES INDICATED ON DRAWINGS FOR STRUCTURAL STEEL WORK ARE FACTORED FORCES UNLESS NOTED OTHERWISE. FORCES ARE VERTICAL SHEAR FORCES U.N.O.
METRIC
A. FORCES ----- kN
B. MOMENTS ----- kN-m
C. LINE LOADS ----- kN/m
D. DISTRIBUTED LOADS ----- kPa
SEE "GENERAL NOTES - LOADS" FOR DEFINITIONS AND VALUES OF LIVE LOAD, DEAD LOAD AND SUPERIMPOSED DEAD LOAD. SEE ALSO TABLES FOR OTHER LOAD/FORCE REQUIREMENTS.
2. FILLET WELDS SHALL BE 5mm MINIMUM U.N.O.
3. BOLTS SHALL BE A325 19mm Ø MINIMUM U.N.O.
4. BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF TWO BOLTS IN EACH CONNECTED PIECE AND BE DESIGNED AS BEARING CONNECTIONS, U.N.O.
5. CONNECTION DETAILS SHOWN ON THE STRUCTURAL DRAWINGS SHALL NOT BE ALTERED BY THE CONTRACTOR WITHOUT WRITTEN APPROVAL FROM THE DEPARTMENT REPRESENTATIVE.
6. THIS SYMBOL: MEANS BEAM IS MOMENT CONNECTED THROUGH SUPPORTING BEAM OR COLUMN. PROVIDE FULL STRENGTH MEMBER CONNECTION U.N.O.
7. UNLESS NOTED OTHERWISE, DO NOT OVERSIZE HOLES IN STEEL TO FIT ANY ANCHOR LOCATIONS. FOR COLUMN BASE PLATE HOLES, UNLESS NOTED OTHERWISE ON DRAWINGS, FOLLOW STANDARD PRACTICE WHICH IS TO USE SLIGHTLY OVERSIZED HOLES. USE 6mm OVERSIZED HOLE DIAMETER FOR COLUMN ANCHOR ROHS UP TO INCLUDING 27mm DIAMETER AND 12mm OVERSIZED HOLE DIAMETER FOR COLUMN ANCHOR ROHS GREATER THAN 27mm DIAMETER.
8. UNLESS NOTED OTHERWISE ALL CONNECTIONS FOR BEAMS AND GIRDERS SHALL BE DESIGNED FOR A SHEAR BASED ON THE MEMBER'S FULL TENSILE RESISTANCE CAPACITY RELATED TO A UNIFORM LOAD ON A SINGLE SUPPORTED SPAN.
9. ALL EXTERIOR EXPOSED STRUCTURAL STEEL (I.E. FRAMING MEMBERS AND METAL GRATING) TO BE HOT-DIPPED GALVANIZED.
10. UNLESS NOTED OTHERWISE ALL CONNECTIONS FOR BEAMS AND GIRDERS SHALL BE DESIGNED FOR A SHEAR BASED ON THE MEMBER'S FULL TENSILE RESISTANCE CAPACITY RELATED TO A UNIFORM LOAD ON A SINGLE SUPPORTED SPAN.

WOOD FRAMING

- GENERAL
1. ANY CHANGES TO THE FRAMING SHOWN ON THESE DRAWINGS SHALL HAVE PRIOR WRITTEN APPROVAL OF DEPARTMENT REPRESENTATIVE. FRAMING CHANGES WHICH HAVE NOT BEEN SO APPROVED WILL BE REJECTED.
2. CONFIRM ALL DIMENSIONS AND OUTLINES WITH THE ARCHITECTURAL DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS, ELEVATIONS AND DETAILS.
3. ANY TIMBER NOT GRADE MARKED WILL BE REJECTED.
4. DO NOT COVER WOOD FRAMING WITH FINISHES UNTIL DEPARTMENT REPRESENTATIVE'S FRAMING REVIEW IS COMPLETE. PROVIDE 24 HOURS ADVANCE NOTIFICATION WHEN FRAMING REVIEWS ARE REQUIRED.
5. NOTCHING AND DRILLING OF STRUCTURAL ELEMENTS SHALL FOLLOW THE GUIDELINES SET FORTH IN THE BUILDING CODE PART 9 UNLESS OTHERWISE APPROVED IN WRITING BY DEPARTMENT REPRESENTATIVE.
6. ALL TIMBER ELEMENTS ARE DESIGNED FOR DRY-SERVICE CONDITIONS.
MATERIALS
1. STUDS AND BUILT-UP POSTS TO BE S-P-F #2/STUD GRADE OR BETTER.
2. POSTS AND BEAMS TO BE S-P-F #2 GRADE OR BETTER.
3. ALL DIMENSION LUMBER TO BE SURFACED FOUR SIDES ('S4S').
4. PLYWOOD TO BE DOUGLAS FIR SHEATHING GRADE.
5. O.S.B. TO CONFORM TO CSA 0325.
6. NAILS SHALL BE COMMON ROUND STEEL WIRE NAILS. NAILS ARE CALLED UP BY LENGTH AND SHALL CONFORM TO THE FOLLOWING TABLE:
LENGTH DIAMETER PENNY-WEIGHT
50 mm (2") 2.9 mm (0.113") #4
65 mm (2 1/2") 3.3 mm (0.131") #6
75 mm (3") 3.8 mm (0.148") #8
80 mm (3 1/4") 3.8 mm (0.148") #8
90 mm (3 1/2") 4.1 mm (0.162") #8
100 mm (4") 4.9 mm (0.192") #10
115 mm (4 1/2") 5.3 mm (0.207") #10
125 mm (5") 5.8 mm (0.225") #10
NOTE: SPIRAL OR PNEUMATIC NAILS MAY BE USED IF THEY CONFORM TO THE TABLE ABOVE.
7. ANCHOR BOLTS SHALL BE ASTM F1554 OR ASTM A36 OR APPROVED EQUAL. ANCHOR BOLTS SHALL BE DEFORCED, THREADED ALONG THEIR FULL LENGTH OR HOOKED 40 mm AT THE BOTTOM.
8. MOISTURE CONTENT OF ALL TIMBER ELEMENTS SHALL NOT EXCEED 19% AT THE TIME OF CONSTRUCTION OR FABRICATION.

SHRINKAGE

- 1. FRAMING DETAILS SHALL ENSURE UNIFORM VERTICAL SHRINKAGE. ADJACENT PORTIONS OF STRUCTURE SHALL BE SUPPORTED ON ROUGHLY EQUIVALENT AMOUNTS OF HORIZONTAL TIMBER (JOISTS AND SILL PLATES). DO NOT MIX KILN-DRIED AND NON-KILN DRIED JOISTS IN ANY GIVEN FLOOR.
2. FRAMING DETAILS AROUND NON-SHRINKING STRUCTURAL ELEMENTS (CONCRETE, STEEL, PARALLAMS, GULIAMS, MICROLAMMS, PLYWOOD ETC.) SHALL TAKE INTO ACCOUNT THE SHRINKAGE OF THE TIMBER. EXAMPLES:
- NO JOINTS IN SHEATHING OVER GAP
- SHRINKAGE GAP TOP AND BOTTOM
- SHRINKAGE GAP TOP AND BOTTOM
- JOISTS
- PARALLAM OR GULIUM
- PLYWOOD FULLER PLATE IN BUILT-UP BEAM.

IMPERIAL EQUIVALENTS

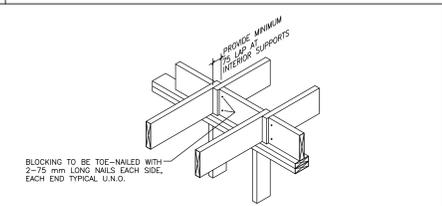
Table with 2 columns: STRUCTURAL ELEMENTS SPECIFIED IN METRIC UNITS and EQUIVALENT IMPERIAL UNITS. Includes JOISTS and SHEATHINGS.

JOISTS

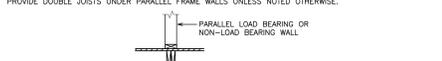
- 1. REFER TO PLAN AND JOIST SCHEDULE FOR JOIST TYPE, SIZE, AND SPACING.
2. DIMENSIONAL LUMBER JOISTS SHALL HAVE CROSS-BRIDGING OR FULL-DEPTH BLOCKING AT 1800 mm O/C ALONG THE SPAN FOR ALL SPANS GREATER THAN 3600 mm. CROSS BRIDGING SHALL CONSIST OF 38 X 88 REBAR APPROX. STEEL BRIDGING. 1x1 JOISTS SHALL BE BLOCKED AS PER MANUFACTURERS REQUIREMENTS. JOISTS SHALL HAVE FULL-DEPTH BLOCKING OVER LOAD BEARING WALLS, DROPPED BEAMS OR ADDITIONAL BLOCKING REQUIREMENTS.
3. DO NOT USE PNEUMATICALLY DRIVEN NAILS WITH JOIST HANGERS OR CONNECTING HARDWARE. NAILS FOR HARDWARE SHOULD BE AS SPECIFIED OR SUPPLIED BY MANUFACTURER.
4. DO NOT USE PNEUMATICALLY DRIVEN NAILS IN SHEAR WALL SHEATHING UNLESS THE NAILS MEET THE LENGTH AND DIAMETER OF NOTE 9 UNDER MATERIALS.

JOISTS

- 1. REFER TO PLAN AND JOIST SCHEDULE FOR JOIST TYPE, SIZE, AND SPACING.
2. DIMENSIONAL LUMBER JOISTS SHALL HAVE CROSS-BRIDGING OR FULL-DEPTH BLOCKING AT 1800 mm O/C ALONG THE SPAN FOR ALL SPANS GREATER THAN 3600 mm. CROSS BRIDGING SHALL CONSIST OF 38 X 88 REBAR APPROX. STEEL BRIDGING. 1x1 JOISTS SHALL BE BLOCKED AS PER MANUFACTURERS REQUIREMENTS. JOISTS SHALL HAVE FULL-DEPTH BLOCKING OVER LOAD BEARING WALLS, DROPPED BEAMS OR ADDITIONAL BLOCKING REQUIREMENTS.



- 3. TRIM OPENINGS IN FLOORS AND ROOFS (I.E. STAIRS, FIREPLACES, SKYLIGHTS ETC) WITH DOUBLE JOISTS UNLESS NOTED OTHERWISE.
4. PROVIDE DOUBLE JOISTS UNDER PARALLEL FRAME WALLS UNLESS NOTED OTHERWISE.



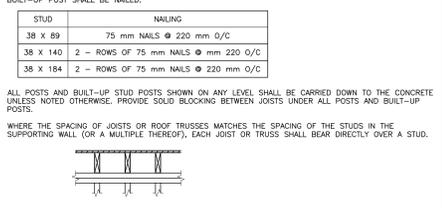
- 5. STAIRS AND STRINGERS SHALL BE FRAMED IN ACCORDANCE WITH THE BUILDING CODE PART 9, UNLESS NOTED OTHERWISE.
6. JOISTS ARE TO BE FLUSH UNLESS NOTED OTHERWISE. USE JOIST HANGERS OR FRAMING ANCHORS TO CONNECT JOISTS.



- 7. UNLESS NOTED OTHERWISE JOIST HANGERS OR FRAMING ANCHORS SHALL BE CAPABLE OF DEVELOPING THE SHEAR STRENGTH OF THE SUPPORTED MEMBER. FOR DIMENSIONAL LUMBER JOISTS, THE FOLLOWING CAPACITIES ARE REQUIRED:
JOIST SIZE REQUIRED SHEAR RESISTANCE (kN)
WORKING LOAD FACTORED LOAD
38 x 89 5.5 7.2
38 x 140 7.2 9.4
38 x 184 8.2 10.6
38 x 235 9.53 12.4
38 x 288 10.5 13.7

- FOR I-JOISTS, HANGERS SHALL BE SPECIFIED ON ENGINEERED SHOP DRAWINGS PROVIDED BY THE JOIST SUPPLIER.
WALLS
1. MAKING OF BUILT-UP STUD POSTS SHALL CONFORM TO THE FOLLOWING SCHEDULE. EACH STUD OF BUILT-UP POST SHALL BE NAILED.
STUD NAILING
38 X 89 75 mm NAILS @ 220 mm O/C
38 X 140 2 - ROWS OF 75 mm NAILS @ 220 O/C
38 X 184 2 - ROWS OF 75 mm NAILS @ 220 mm O/C

- 2. ALL POSTS AND BUILT-UP STUD POSTS SHOWN ON ANY LEVEL SHALL BE CARRIED DOWN TO THE CONCRETE UNLESS NOTED OTHERWISE. PROVIDE SOLID BRACING BETWEEN JOISTS UNDER ALL POSTS AND BUILT-UP POSTS.
3. WHERE THE SPACING OF JOISTS OR ROOF TRUSSES MATCHES THE SPACING OF THE STUDS IN THE SUPPORTING WALL (OR A MULTIPLE THEREOF), EACH JOIST OR TRUSS SHALL BEAR DIRECTLY OVER A STUD.



SHEATHING

- 1. A. ROOF SHEATHING
12.5 mm PLYWOOD WITH H-CLEIPS AT UNSUPPORTED JOISTS (FLAT ROOF SLOPE 1:10) 12.5 mm TONGUE AND GROOVE PLYWOOD
2. ROOF SHEATHING WITH THE SURFACE GRAIN AT RIGHT ANGLES TO THE JOISTS. STAGGER THE JOINTS PARALLEL TO THE JOISTS.
GENERAL
1. ANY CHANGES TO THE FRAMING SHOWN ON THESE DRAWINGS SHALL HAVE PRIOR WRITTEN APPROVAL OF DEPARTMENT REPRESENTATIVE. FRAMING CHANGES WHICH HAVE NOT BEEN SO APPROVED WILL BE REJECTED.
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SHRINKAGE

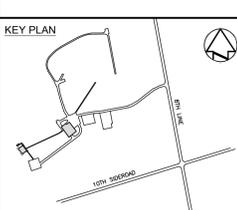
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- SHRINKAGE GAP TOP AND BOTTOM
- JOISTS
- PARALLAM OR GULIUM
- PLYWOOD FULLER PLATE IN BUILT-UP BEAM.

IMPERIAL EQUIVALENTS

Table with 2 columns: STRUCTURAL ELEMENTS SPECIFIED IN METRIC UNITS and EQUIVALENT IMPERIAL UNITS. Includes JOISTS and SHEATHINGS.

JOISTS

- 1. REFER TO PLAN AND JOIST SCHEDULE FOR JOIST TYPE, SIZE, AND SPACING.
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Revision table with columns: No., Description, Date. Includes entries for re-issued for tender, issued for permit, issued for tender, issued for 99% DD, issued for 50% DD.

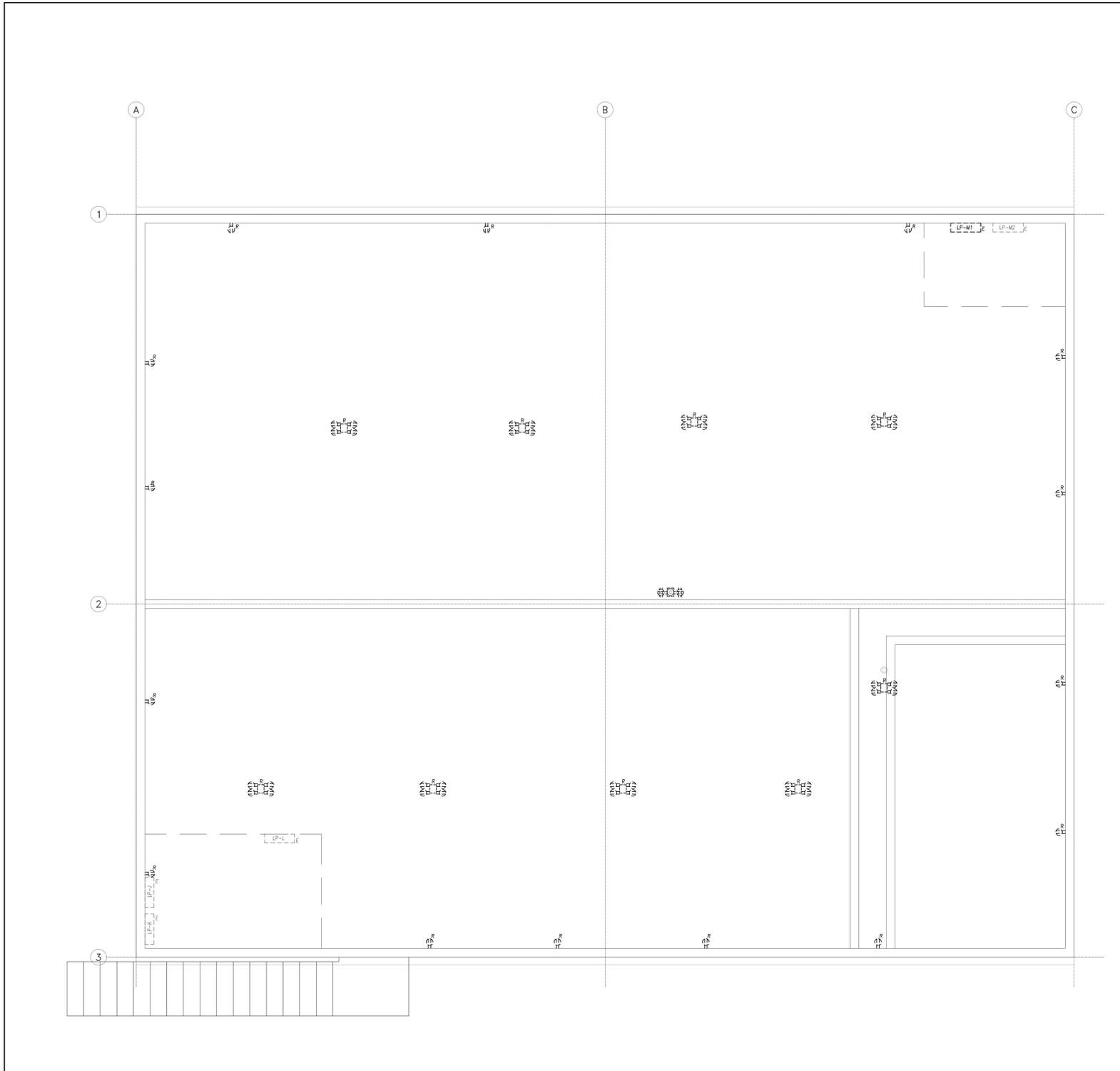
Do not scale drawings. Verify all dimensions and conditions on site and immediately notify the Departmental Representative of all discrepancies.

Detail list table with columns: Detail No., Description. Includes details A, B, and C.

EGBERT CENTRE FOR ATMOSPHERIC RESEARCH EXPERIMENTS
6248 8TH LINE, EGBERT, ON, L0L 1N0
CLEAN AIR BUILDING ROOF REPLACEMENT

STRUCTURAL NOTES

- drawn by: R.C.
designed by: J.D.
approved by: BID
project manager: BID
project date: 2019-10-01
project no.: CARE-007 (ID2269)
drawing no.: SO.1



LEGEND

POWER POLE (1/4" 15A, 120V, DUPLEX RECEPTABLES TO BE REMOVED BACK TO THE SOURCE FEEDING PANEL (ELECTRICAL CONTRACTOR TO VERIFY))

15A, 120V SPLIT DUPLEX RECEPTABLES TO BE REMOVED BACK TO THE SOURCE FEEDING PANEL (ELECTRICAL CONTRACTOR TO VERIFY)

EXISTING ELECTRICAL PANEL, LOCATED INSIDE THE BUILDING

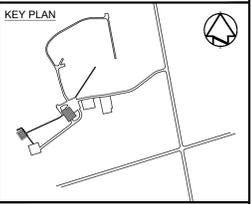
DENOTE EXISTING DEVICE TO REMAIN

DENOTE EXISTING DEVICE TO BE REMOVED, INCLUDING ASSOCIATED CONDUITS WIRING BACK TO THE SOURCE ELECTRICAL PANEL

1 ROOF PLAN-DEMOLITION ELECTRICAL LAYOUT
E-2 SCALE: 1:30

ric Creative Thinking Practical Results

Reed James Christoffersen Ltd.
 Engineers
 144 Front Street West, Suite 500
 Toronto, ON M5J 2L7 Canada
 Tel: 416-977-0330
 Fax: 416-977-1427



M&E The drawings are prepared by M&E Engineering Inc. and shall not be used without the express written consent of M&E. The contractor shall check and verify all dimensions, locations, elevations, and conditions before starting any work. M&E is not responsible for any errors or omissions in the drawings. All drawings shall be prepared in accordance with the Ontario Building Code and the Ontario Electrical Code. M&E is not responsible for any errors or omissions in the drawings. All drawings shall be prepared in accordance with the Ontario Building Code and the Ontario Electrical Code.

ME17603.DES.AM



02	ISSUED FOR PERMIT	APR. 03/18
01	ISSUED FOR REVIEW	JAN. 23/18
revision		date

Do not scale drawings. Verify all dimensions and conditions on site and immediately notify the Departmental Representative of all discrepancies.

	A	Detail No.
	B	No. du détail
	C	drawing no. - where detail required dessin no. - où détail exigé
		drawing no. - where detailed dessin no. - où détaillé

project title
 titre du projet

**CENTRE FOR ATMOSPHERIC RESEARCH
 EXPERIMENTS
 6248 8TH LINE, EGBERT, ON, L0L 1N0
 CLEAN AIR BUILDING
 ROOF REPLACEMENT**

drawing title
 titre du dessin

ROOF DEMOLITION PLAN

drawn by
 dessiné par **A.S.**

designed by
 conçu par **A.M.**

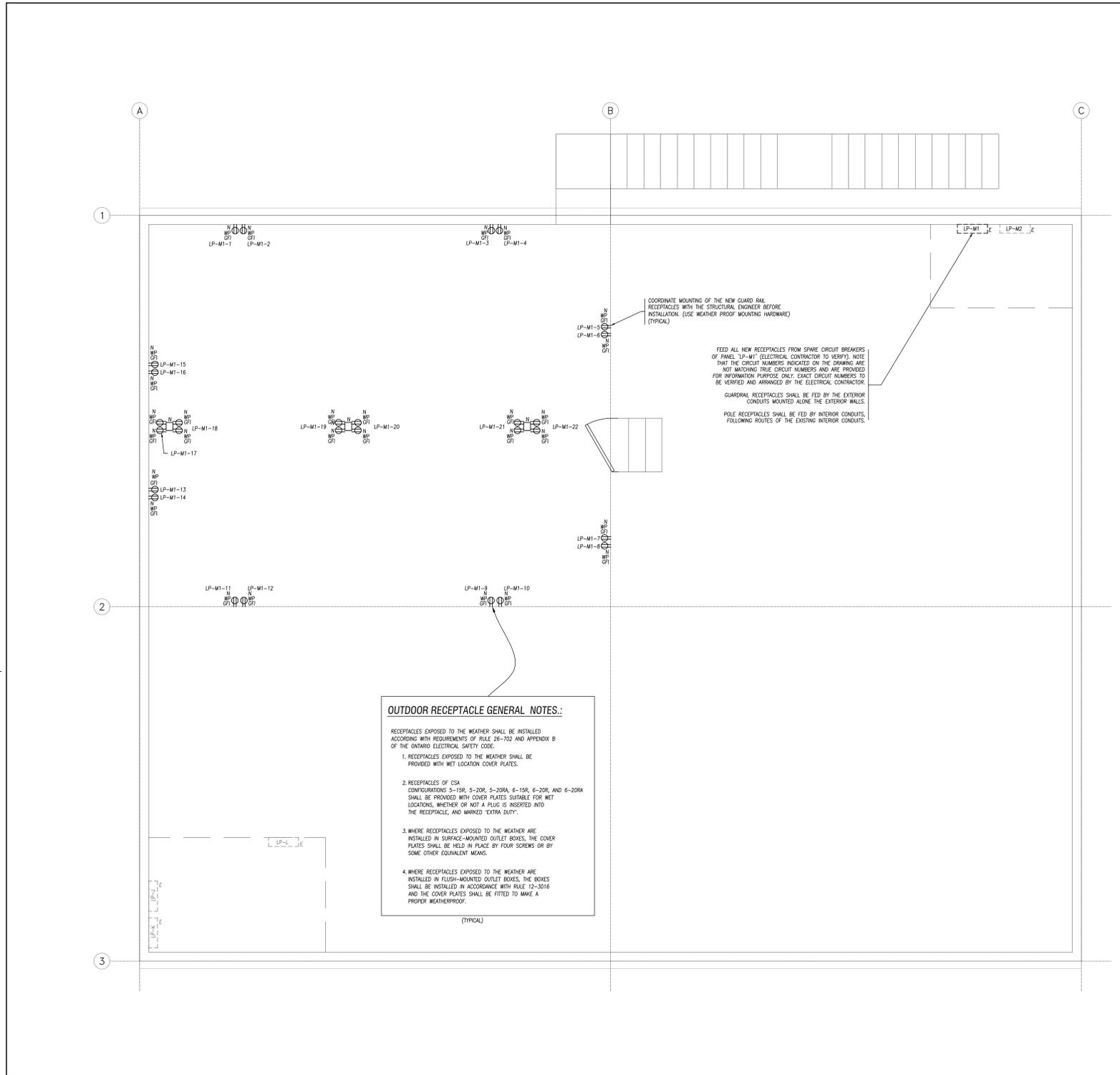
approved by
 approuvé par **APPROVED**

big office
 bureau **BID** project manager
 administrateur de projets

project date
 date du projet **2018-01-19**

project no.
 no. du projet **CARE-007 (ID2269)**

drawing no.
 dessin no. **E-1**



LEGEND

- NEW 44" POWER POLE "NO DANDY" MOD. 865-058-44-02 0/4 4# DUPLEX WEATHERPROOF GFI 15A, 120V RECEPTACLES AND HEAVY DUTY WEATHERPROOF COVERS. FEED EACH NEW POWER POLE FROM THE NEW 15A, 2-POLE CIRCUIT BREAKER INSTALLED IN SPARE SPACES OF PANEL LP-M1 (ELECTRICAL CONTRACTOR TO VERIFY). PROVIDE NEW 10 AWG RHW9 FEEDERS IN RIGID GALVANIZED STEEL CONDUITS TO SUIT. EACH SIDE OF THE POWER POLE TO BE FED FROM SEPARATE CIRCUIT.
- 2# NEW DUPLEX WEATHERPROOF GFI 15A, 120V RECEPTACLES IN DIE-CAST ALUMINUM BOXES C/W "HUBBELL-TAMARK" EXTRA-HEAVY DUTY METAL WHILE-IN-USE COVER BUBBLE-TYPE. FEED EACH GFI SPARE RECEPTACLE FROM SEPARATE CIRCUIT OF THE EXISTING 15A, 2-POLE CIRCUIT BREAKERS OF THE EXISTING PANEL LP-M1 (ELECTRICAL CONTRACTOR TO VERIFY). PROVIDE NEW 10 AWG RHW9 FEEDERS IN RIGID GALVANIZED STEEL CONDUITS TO SUIT.
- EXISTING ELECTRICAL PANEL, LOCATED INSIDE THE BUILDING.
- DENOTE EXISTING DEVICE TO REMAIN.
- DENOTE PROVIDE NEW DEVICE.
- DENOTE GROUND-FAULT INTERRUPTING DEVICE.
- DENOTE WEATHERPROOF DEVICE.

OUTDOOR RECEPTACLE GENERAL NOTES:

RECEPTACLES EXPOSED TO THE WEATHER SHALL BE INSTALLED ACCORDING WITH REQUIREMENTS OF RULE 26-702 AND APPENDIX B OF THE ONTARIO ELECTRICAL SAFETY CODE.

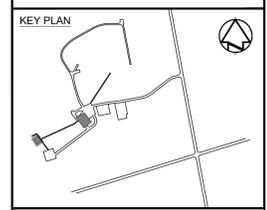
- RECEPTACLES EXPOSED TO THE WEATHER SHALL BE PROVIDED WITH WET LOCATION COVER PLATES.
- RECEPTACLES OF CSA CONFIGURATIONS 5-15R, 5-20R, 5-20RA, 6-15R, 6-20R, AND 6-20RA SHALL BE PROVIDED WITH COVER PLATES SUITABLE FOR WET LOCATIONS, WHETHER OR NOT A PLUG IS INSERTED INTO THE RECEPTACLE, AND MARKED "EXTRA DUTY".
- WHERE RECEPTACLES EXPOSED TO THE WEATHER ARE INSTALLED IN SURFACE-MOUNTED OUTLET BOXES, THE COVER PLATES SHALL BE HELD IN PLACE BY FOUR SCREWS OR BY SOME OTHER EQUIVALENT MEANS.
- WHERE RECEPTACLES EXPOSED TO THE WEATHER ARE INSTALLED IN FLUSH-MOUNTED OUTLET BOXES, THE BOXES SHALL BE INSTALLED IN ACCORDANCE WITH RULE 12-3016 AND THE COVER PLATES SHALL BE FITTED TO MAKE A PROPER WEATHERPROOF.

(TYPICAL)

1 ROOF PLAN-NEW ELECTRICAL LAYOUT
E-2 SCALE: 1:30

ric Creative Thinking Practical Results

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www.mandee.com

ME17603.DES.AM

REGISTERED PROFESSIONAL ENGINEER
A. WACHSMAN
100142698
C/E / C/E / E
PROVINCE OF ONTARIO

02	ISSUED FOR PERMIT	APR. 06/18
01	ISSUED FOR REVIEW	JAN. 23/18
revision		date

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	A Detail No. / No. du détail
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project title / titre du projet
CENTRE FOR ATMOSPHERIC RESEARCH EXPERIMENTS
6248 8TH LINE, EGBERT, ON, L0L 1N0
CLEAN AIR BUILDING ROOF REPLACEMENT

drawing title / titre du dessin
ELECTRICAL ROOF PLAN

drawn by / dessin par	A.S.
designed by / conc par	A.M.
approved by / approuvé par	APPROVED
big office	BID
project manager / administrateur de projets	
project date / date du projet	2018-01-19
project no. / no. du projet	CARE-007 (ID2269)
drawing no. / dessin no.	E-2