

A. GENERAL

1. WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND DESIGN NOTES, THEY SHALL BE THE LATEST EDITIONS OR REVISION, UNLESS NOTED OTHERWISE.
2. READ STRUCTURAL DOCUMENTS IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND ALL OTHER CONTRACT DOCUMENTS.
3. BEFORE PROCEEDING WITH THE WORK, CHECK ALL DIMENSIONS SHOWN ON THE STRUCTURAL DOCUMENTS WITH SITE CONDITIONS AND THOSE SHOWN ON ARCHITECTURAL, MECHANICAL AND ELECTRICAL DOCUMENTS AND REPORT DISCREPANCIES TO THE CONSULTANT.
4. PROVIDE LABOUR, MATERIALS, PLANT AND EQUIPMENT TO COMPLETE ALL STRUCTURAL WORK INDICATED ON THE CONTRACT DOCUMENTS.
5. CARRY OUT CONSTRUCTION OPERATIONS, INCLUDING THE INSTALLATION OF TEMPORARY GUYING AND SHORING REQUIRED, ENSURING THAT THE EXISTING STRUCTURE OR MEMBERS ALREADY ERCTED ARE NOT LOADED IN EXCESS OF THEIR SAFE LOAD CARRYING CAPACITY.

B. REFERENCE STANDARDS/CODES AND ACTS

1. CONFORM WITH THE ONTARIO BUILDING CODE 2020 (OBC), AND ANY APPLICABLE ACTS OF ANY AUTHORITY HAVING JURISDICTION, AND THE FOLLOWING:
1. CAN/CSA-S16

DESIGN OF STEEL STRUCTURES.

2. S136

COLD FORMED STEEL STRUCTURAL MEMBERS.

3. CAN/CSA G40.20/G40.21

STRUCTURAL QUALITY STEEL.

4. CAN9-A371

MASONRY CONSTRUCTION FOR BUILDINGS.
2. ALL STANDARDS AND PUBLICATIONS REFERENCED BY THE STANDARDS NOTED ABOVE ARE TO APPLY.
3. WHERE THERE ARE DIFFERENCES BETWEEN THE DOCUMENTS AND THE STANDARDS, CODES AND ACTS, THE MOST STRINGENT SHALL GOVERN.

C. QUALIFICATIONS

1. ANY ORGANIZATION UNDERTAKING TO WELD UNDER THIS CONTRACT SHALL BE CERTIFIED BY THE CANADIAN WELDING BUREAU UNDER REQUIREMENTS OF DIVISION 1 OR DIVISION 2.1 OF W47.1.
2. SHOP DRAWINGS

D. SUBMITTALS

1. SUBMIT FOR REVIEW BY THE CONSULTANT, DETAILED SHOP DRAWINGS FOR ALL TEMPORARY AND PERMANENT STRUCTURAL WORK INCLUDING, BUT NOT LIMITED TO: CONCRETE FORMWORK; REINFORCING STEEL; STRUCTURAL STEEL, INCLUDING JOISTS, STEEL DECK, AND TEMPORARY SHORING; LIGHTWEIGHT STEEL; AND PROPRIETARY WOOD PRODUCTS, INCLUDING JOISTS AND BEAMS.
2. THE SCALE OF THE DRAWINGS SHALL BE SUCH THAT THE DETAILS OF THE STRUCTURAL WORK ARE CLEARLY SHOWN, AND IN NO CASE SMALLER THAN 1:50.
3. THE STRUCTURAL DRAWINGS SHALL NOT BE REPRODUCED, IN WHOLE OR IN PART, FOR USE AS SHOP DRAWINGS.
4. EACH DRAWING SUBMITTED FOR CONCRETE FORMWORK; STRUCTURAL STEEL, INCLUDING JOISTS, STEEL DECK, AND TEMPORARY SHORING; AND PROPRIETARY WOOD PRODUCTS; INCLUDING JOISTS AND BEAMS. SHALL BEAR THE SEAL AND SIGNATURE OF A QUALIFIED PROFESSIONAL ENGINEER LICENSED BY THE AUTHORITY HAVING JURISDICTION.
5. CONTRACTOR SHALL ALLOW FOR A 5 WORKING DAY TURN AROUND TIME FOR STRUCTURAL CONSULTANT TO REVIEW THE SHOP DRAWINGS.
6. CALCULATIONS: SUBMIT CALCULATIONS, BEARING THE SEAL AND SIGNATURE OF PROFESSIONAL ENGINEER LICENSED BY THE AUTHORITY HAVING JURISDICTION, FOR STRUCTURAL WORK, IF REQUESTED BY THE CONSULTANT.
2. MILL TEST REPORTS: MAKE AVAILABLE TO THE CONSULTANT COPIES OF ALL MILL TEST REPORTS COVERING CHEMICAL AND PHYSICAL PROPERTIES OF MATERIALS USED.
3. CONCRETE MIX DESIGNS: SUBMIT ALL CONCRETE MIX DESIGNS FOR REVIEW. DESCRIBE IN DETAIL ON THE MIX DESIGN SUMMARY THE LOCATION(S) WHERE EACH MIX IS TO BE PLACED IN THE STRUCTURE.

4. AS-BUILT DRAWINGS: MARK ON A COMPLETE SET OF REPRODUCIBLE AS-BUILT DRAWINGS ANY CHANGES, ADDITIONS, OR DELETIONS THAT OCCUR DURING CONSTRUCTION AS A RESULT OF THE CONTRACTOR'S WORK, CHANGE OF ORDERS OR FOR ANY OTHER REASON.

E. MATERIALS

1. PROVIDE ONLY NEW STRUCTURAL MATERIALS IN ACCORDANCE WITH THE REFERENCE STANDARDS AND THE FOLLOWING, UNLESS OTHERWISE NOTED.
1. REINFORCEMENT: CONFORM TO CSA G30 SERIES, FY = 400 MPa FOR ALL REINFORCEMENT. ALL REINFORCEMENT IS TO BE BLACK EXCEPT WHERE THE SUFFIX C IS USED TO DESIGNATE EPOXY COATED REINFORCEMENT.
2. WELDED WIRE FABRIC: CONFORM TO CSA G30 SERIES, GRADE 386, IN FLAT SHEETS.
3. STRUCTURAL STEEL:
1. STRUCTURAL WIDE FLANGE AND WELDED WIDE FLANGE SHAPES (W, WWF) TO CONFORM TO CAN/CSA-G40.20/G40.21 GRADE 350W.

2. ANGLES AND CHANNELS (L, C) TO CONFORM TO CAN/CSA-G40.20/G40.21 GRADE 300W.

3. HOLLOW STRUCTURAL SECTIONS (HSS) TO CONFORM TO ASTM A500 GRADE C.
4. SHOP PAINT/PRIMER:
1. ENSURE THAT THE SHOP PRIMER OR PAINT IS COMPATIBLE WITH SPRAY FIREPROOFING AND/OR THE TOP COAT PAINT SYSTEM SPECIFIED, WHERE APPLICABLE.

2. SHOP PAINT: TO CISC/CPMA 1-73A OR SSPC PAINT 15.

3. SHOP PRIMER: TO CISC/CPMA STANDARD 2-75.
5. INORGANIC ZINC-RICH PRIMER: ZINC CLAD II AS SUPPLIED BY SHERWIN-WILLIAMS COMPANY (2 TO 4 MILS DRY FILM THICKNESS), OR APPROVED EQUIVALENT.
6. ORGANIC ZINC-RICH PRIMER: ZINC GLAD 200 AS SUPPLIED BY SHERWIN-WILLIAMS COMPANY (3 TO 5 MILS DRY FILM THICKNESS), OR APPROVED EQUIVALENT.
7. EPOXY PAINT: MACROPOXY 646 FAST CURE EPOXY AS SUPPLIED BY SHERWIN-WILLIAMS COMPANY (4 TO 6 MILS DRY FILM THICKNESS) OR APPROVED EQUIVALENT.
8. ZINC-RICH TOUCH-UP PAINT: ZINC CLAD 5 AS SUPPLIED BY SHERWIN-WILLIAMS COMPANY) OR APPROVED EQUIVALENT.
9. HOT DIP GALVANIZING: CONFORM TO CSA G164, MINIMUM ZINC COATING OF 600 g/m².
10. STRUCTURAL BOLTS SHALL CONFORM TO ASTM F3125 (GRADES A325, F1852, A490 AND F2280), NUTS SHALL CONFORM TO ASTM A563. WASHERS SHALL CONFORM TO ASTM F436.
11. STEEL DECK: CONFORM TO ASTM A653M GRADE A OR B, MINIMUM STEEL CORE THICKNESS OF 0.76 mm. ACTUAL STEEL CORE THICKNESS IS TO BE DETERMINED BY THE SUPPLIER'S ENGINEER AND SHALL SATISFY ALL REQUIRED DESIGN CRITERIA. PROTECTIVE COATING- WIPE COATED STEEL DESIGNATION ZF075.
12. NON-SHRINK GROUT: PREMIXED COMPOSITION OF NON-METALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING AGENTS, OF FLOWABLE CONSISTENCY AND CAPABLE OF ACHIEVING A COMPRESSIVE STRENGTH AT 28 DAYS OF AT LEAST 35 MPa
13. BLOCK: CONFORM TO CAN3-A165 SERIES, MINIMUM COMPRESSIVE STRENGTH = 15.0 MPa (MIN.) BASED ON NET AREA.
14. MORTAR: CONFORM TO CSA A179 TYPE 5 FOR LOADBEARING WALLS UNLESS NOTED.
15. MASONRY GROUT: CONFORM TO CSA A179, 15 MPa MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS, 250 mm SLUMP, MAXIMUM AGGREGATE SIZE 10 mm.

F. EXECUTION

1. STRUCTURAL STEEL
1. PROVIDE MINIMUM LENGTH OF BEARING OF 200 mm FOR ALL STEEL BEAMS BEARING ON MASONRY AND CONCRETE AND A MINIMUM 100 mm ON ALL STRUCTURAL STEEL, UNLESS NOTED OTHERWISE.
2. CENTRE BEARING PLATES UNDER BEAMS UNLESS NOTED OTHERWISE.
3. BEARING PLATE DIMENSION GIVEN FIRST INDICATES SIDE PARALLEL TO BEAM WEB.
4. FORCES INDICATED ARE FACTORED UNLESS NOTED OTHERWISE.
5. WHERE MOMENT CONNECTIONS ARE CALLED FOR BUT VALUES ARE NOT INDICATED, DESIGN CONNECTIONS FOR FULL MOMENT CAPACITY OF THE SMALLER MEMBER JOINED.
6. PROVIDE WELDED STIFFENER PLATES ON BOTH SIDES OF THE WEB OF THE BEAMS AT POINTS OF CONCENTRATED LOAD INCLUDING BEAMS SUPPORTING COLUMNS OR RUNNING OVER TOP OF COLUMNS, UNLESS SHOWN BY DESIGN, THAT STIFFENERS ARE NOT REQUIRED.
7. LENGTH FOR ANCHOR RODS, STRAP ANCHORS AND SIMILAR DEVICES IS GIVEN FOR THE STRAIGHT LENGTH WITHOUT HOOK. PROVIDE A 75 mm HOOK FOR ALL ANCHOR RODS AND A 50 mm HOOK FOR ALL STRAP ANCHORS. TYPICAL UNLESS NOTED OTHERWISE.
8. UNLESS OTHERWISE NOTED, THE FABRICATOR'S ENGINEER SHALL DESIGN AND BE SOLELY RESPONSIBLE FOR ALL CONNECTIONS BETWEEN ALL STEEL MEMBERS INCLUDING, BUT NOT LIMITED TO: COLUMNS, BEAMS, GIRDS, TRUSSES AND BRACES, AND BETWEEN SUCH MEMBERS AS SPANDREL ANGLES AND BEAMS, HANGERS, STIFFENERS, ETC., AND THEIR SUPPORTING MEMBERS BE THEY STEEL OR CONCRETE.
9. PROVIDE ADEQUATE SUPPORT AND ENSURE ADEQUATE BEARING IS PROVIDE FOR STEEL DECK AT CONNECTIONS, COLUMNS OR OTHER IRREGULARITIES, OR AREAS WHERE DETAILING OF STRUCTURAL STEEL RESULTS IN LOSS OF SUPPORT FOR THE DECK.
10. PROVIDE SLOTTED HOLES AND SLIP-CRITICAL BOLTED CONNECTIONS TO CONNECT NEW STEEL TO EXISTING WORK.
11. DESIGN ALL BEAM CONNECTIONS FOR THE FACTORED VERTICAL SHEAR FORCE NOTED ON PLAN, WHERE NO FORCE IS INDICATED, DESIGN CONNECTIONS FOR A VERTICAL SHEAR FORCE OF 75 kN (50kN FOR C150 AND C100 SECTIONS). IN ADDITION, A MINIMUM OF TWO BOLTS ARE TO BE USED IN ALL BEAM CONNECTIONS.
12. UNLESS OTHERWISE NOTED, THE FABRICATOR'S ENGINEER SHALL ALSO DESIGN AND BE RESPONSIBLE FOR SPECIFYING STIFFENERS, DOUBLER PLATES AND THE LIKE, REQUIRED TO MAINTAIN THE LOCAL STRENGTH AND STABILITY OF A MEMBER AND WHERE THESE STIFFENERS AND DOUBLER PLATES BECOME AN INTEGRAL PART OF THE CONNECTION OR WHERE THEY AFFECT THE CONNECTION OF OTHER STEEL FRAMING MEMBERS. TYPICAL EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO: CRANKED SECTIONS, MOMENT CONNECTIONS BETWEEN COLUMNS AND BEAMS, CONNECTIONS TO HOLLOW STRUCTURAL SECTIONS, AND THE LIKE. WHERE CONNECTIONS ARE EXPOSED TO VIEW, THE DETAILING OF STIFFENERS, DOUBLER PLATES AND THE LIKE IS SUBJECT TO REVIEW BY THE ARCHITECT.
13. UNLESS OTHERWISE NOTED, THE DESIGN OF ALL BEAMS AND GIRDS IS BASED ON THE ASSUMPTION THAT FASTENER HOLES THROUGH FLANGES WILL NOT EXCEED 15% OF THE GROSS FLANGE AREA. IF THE AREA OF HOLES EXCEEDS 15%, THE MEMBER SIZE SHALL BE ALTERED OR REINFORCED ACCORDINGLY.
14. PAINT ALL STRUCTURAL STEEL TO REQUIREMENTS OF CISC/CPMA 2-75. TOUCH UP ALL FIELD WELDS.
15. ALL STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE GALVANIZED IN ACCORDANCE WITH CSA G164. TOUCH UP ALL WELDS AND DAMAGED GALVANIZING WITH ZINC-RICH PRIMER.
16. ALL WELDS SHALL CONFORM TO CSA STANDARD W59.
17. ALL WELDS EXPOSED TO VIEW SHALL BE GROUND SMOOTH.
18. UNLESS A REINFORCED MASONRY OR CONCRETE LINTEL IS SHOWN, PROVIDE LOOSE STEEL LINTELS IN ACCORDANCE WITH REQUIREMENTS OF DOCUMENTS OVER DOORWAYS, OTHER OPENINGS AND RECESSES, INCLUDING THOSE FOR MECHANICAL OR ELECTRICAL SERVICES, IN MASONRY WALLS OR PARTITIONS.
19. DO NOT SPICE STRUCTURAL STEEL SECTIONS WITHOUT PRIOR APPROVAL OF THE CONSULTANT. ALL SPLICES SHALL DEVELOP THE FULL CAPACITY OF THE SECTION AND ARE TO BE TESTED BY NON DESTRUCTIVE METHODS, BY AN INDEPENDENT INSPECTION AND TESTING COMPANY, AT THE CONTRACTOR'S EXPENSE.

20. SEE ARCHITECTURAL DRAWINGS FOR FIREPROOFING REQUIREMENTS. CONFIRM COMPATIBILITY OF FIREPROOFING MATERIAL WITH STEEL PLATE.

21. CONNECTIONS:

1. USE TYPES OF SHOP OR FIELD CONNECTIONS SHOWN ON THE DOCUMENTS, OR IN THE ABSENCE OF SUCH INFORMATION, USE THE MOST APPROPRIATE TYPE OF CONNECTIONS GIVEN THE APPLIED LOADS AND THE ARRANGEMENT OF MEMBERS.

2. DESIGN CONNECTIONS TO SAFELY WITHSTAND THE COMBINED PRIMARY EFFECTS OF AXIAL FORCE, SHEAR, MOMENT AND TORQUE AND ANY SECONDARY EFFECTS DUE TO WELDING.

3. SHEAR CONNECTIONS SHALL NOT BE LESS THAN ONE HALF THE DEPTH OF THE CONNECTED MEMBER.

4. WHERE NO AXIAL FORCE IS SHOWN FOR BEAM TO COLUMN CONNECTIONS, CONNECT BEAMS FRAMING INTO COLUMNS SUCH THAT THE COMBINED CAPACITIES OF THE CONNECTION ARE ABLE TO RESIST A TOTAL HORIZONTAL FORCE OF 2% OF THE FACTORED AXIAL LOAD IN THE COLUMN, IN ANY DIRECTION.

5. UNLESS NOTED OTHERWISE, THE DESIGN OF ALL BEAMS AND GIRDS IS BASED ON THE ASSUMPTION THAT FASTENER HOLES THROUGH FLANGES WILL NOT EXCEED 15% OF THE GROSS FLANGE AREA. IF THE AREA OF HOLES EXCEEDS 15%, THE MEMBER SIZE SHALL BE ALTERED OR REINFORCED ACCORDINGLY.

6. DESIGN BRACING MEMBER CONNECTIONS FOR FIELD ADJUSTABILITY TO ACCOMMODATE MAXIMUM CONSTRUCTION TOLERANCES AND TO ACHIEVE BRACING PRELOADS WHERE SPECIFIED.

7. DESIGN CONNECTIONS FOR FASTENING TOGETHER DOUBLE ANGLES USED TO RESIST COMPRESSION, TENSION, OR BENDING IN SUCH A WAY THAT THE SLENDERNESS RATIO OF ANY COMPONENT, BASED ON ITS LEAST RADIUS OF GYRATION AND THE DISTANCE BETWEEN INTERCONNECTIONS, SHALL NOT EXCEED THAT OF THE BUILT-UP MEMBER, AS A MINIMUM, PROVIDE 2 BATONS OR SPACERS ALONG THE LENGTH OF ALL MEMBERS CONSISTING OF DOUBLE ANGLES.

8. THE FOLLOWING TYPES OF CONNECTIONS ARE TO BE DESIGNED AS SLIP-CRITICAL CONNECTIONS:
1. CONNECTIONS THAT UTILIZE OVERSIZED HOLES;

2. CONNECTIONS THAT UTILIZE SLOTTED HOLES, EXCEPT THOSE WHERE THE APPLIED LOAD IS NORMAL TO THE LONG DIMENSION OF THE SLOT.

3. CONNECTIONS SUBJECT TO FATIGUE OR FREQUENT LOAD REVERSAL; AND

4. CONNECTIONS WHERE SLIPPAGE CANNOT BE TOLERATED, INCLUDING;

5. ALL MOMENT CONNECTIONS (UNLESS END PLATE TYPE MOMENT CONNECTIONS ARE USED);

6. CONNECTIONS WHERE WELDS AND BOLTS SHARE IN TRANSMITTING SHEAR FORCES AT A COMMON FAYING SURFACE.
9. DESIGN AND PROVIDE END BEARING CONNECTIONS OF INCLINED MEMBERS SUCH THAT THE BEARING PLANE BETWEEN THE INCLINED MEMBERS AND THEIR SUPPORTING MEMBERS IS HORIZONTAL.
10. DESIGN ALL BEAM CONNECTIONS FOR THE FACTORED VERTICAL SHEAR FORCE NOTED ON PLAN, WHERE NO FORCE IS INDICATED, DESIGN THE CONNECTION FOR A VERTICAL SHEAR FORCE OF 75kN (50kN FOR C150 AND C100 SECTIONS). IN ADDITION, A MINIMUM OF TWO BOLTS ARE TO BE USED IN ALL BEAM CONNECTIONS.
11. BOLTS IN THE FOLLOWING TYPES OF CONNECTIONS ARE TO BE PRETENSIONED IN ACCORDANCE WITH THE REQUIREMENTS OF S16:
1. SLIP-CRITICAL CONNECTIONS,

2. CONNECTIONS GOVERNED BY SEISMIC REQUIREMENTS,

3. CONNECTIONS WHERE BOLTS ARE SUBJECT TO TENSILE LOADS.

4. CONNECTIONS USING OVERSIZED OR SLOTTED HOLES UNLESS SPECIFICALLY DESIGNED TO ACCOMMODATE MOVEMENT.

22. PROVIDE CAMBER TO BEAMS, GIRDS AND TRUSSES AS SHOWN ON THE PLANS. CAMBERS SHOWN ARE FOR ERCTED IN-PLACE CONDITION OF MEMBERS BEFORE INSTALLATION OF STEEL DECK.
23. UNLESS NOTED OTHERWISE ON THE DRAWINGS, PROVIDE A 10 mm CAP PLATE FOR ALL HOLLOW BUILT-UP MEMBERS. PROVIDE CONTINUOUS SEAL WELD AROUND CAP PLATE.
24. SEAL ALL HOLLOW BUILT-UP MEMBERS EXPOSED TO WEATHER WITH CONTINUOUS SEAL WELDS, INCORPORATING STRUCTURAL WELDS WHERE SHOWN OR REQUIRED.

25. WHERE MASONRY WALLS ARE SHOWN BUILT INTO THE STRUCTURAL STEEL COLUMNS AND BEAMS, PROVIDE AND INSTALL MASONRY. ANCHORS ON COLUMNS AT 600 mm ON CENTRES AND ANCHORS ON BEAMS AT 1500 mm ON CENTRES.
26. SET OUT BEAMS TO BE CENTRED ON GRIDS AND EQUALLY SPACED BETWEEN, WITHIN EACH BAY AS SHOWN ON PLANS, UNLESS NOTED OTHERWISE OR DIMENSIONED ON PLANS OR SECTIONS.

2. MASONRY

1. WHERE DOWELS, ANCHOR RODS, ETC. ARE SHOWN PROJECTING INTO MASONRY, BUILD THESE TIGHTLY INTO MASONRY VOIDS WITH MASONRY GROUT.
2. BENEATH STEEL AND CONCRETE BEAMS, JOISTS AND TRUSSES PROVIDE A MINIMUM DEPTH OF 400 mm 100% SOLID MASONRY UNITS PROJECTING A MINIMUM OF 200 mm BEYOND THE EDGES OF BEARING PLATES, UNLESS NOTED OTHERWISE.
3. BENEATH STEEL, CONCRETE OR REINFORCED MASONRY LINTELS, PROVIDE A MINIMUM DEPTH OF 200 mm 100% SOLID MASONRY UNITS PROJECT A MINIMUM LENGTH OF 200 mm BEYOND THE END OF THE LINTEL, UNLESS NOTED OTHERWISE.
4. BENEATH SLABS OR STEEL DECK, PROVIDE A MINIMUM DEPTH OF 200 mm OF 100% SOLID MASONRY UNITS.
5. WHERE A CHANGE IN THICKNESS OF MASONRY OCCURS, GROUT SOLID, OR USE SOLID UNITS FOR A HEIGHT OF 200 mm IN THE THICKER PORTION AT THE CHANGE.
6. BUILD MASONRY TIGHTLY INTO WEBS OF ALL WALL BEARING STEEL BEAMS AT THEIR POINTS OF BEARING.
7. BUILD MASONRY TIGHTLY INTO WEBS OF ALL STEEL COLUMNS, UNLESS NOTED OTHERWISE.
8. BUILD MASONRY TIGHTLY AROUND JOIST SHOES.
9. FULLY GROUT BLOCK CELLS AT PARAPETS.
10. MAINTAIN SUPPORT OF MASONRY LINTELS FOR A MINIMUM OF SEVEN DAYS OR UNTIL SUFFICIENT STRENGTH IS GAINED TO SAFELY SUPPORT LOADS IMPOSED.
11. PROVIDE LINTELS OVER ALL OPENINGS OR RECESSES IN MASONRY WALLS, INCLUDING THOSE FOR MECHANICAL OR ELECTRICAL SERVICES OR EQUIPMENT.
12. SEE TYPICAL DETAIL M1 FOR LINTEL SIZES FOR NON-LOAD BEARING MASONRY WALLS [AND VENEER].
13. REFER TO ARCHITECTURAL DRAWINGS FOR TYPES OF LINTELS TO BE PROVIDED.

14. REINFORCED MASONRY:

1. CELLS TO BE REINFORCED SHALL BE KEPT CLEAN OF MORTAR DROPPINGS.

2. GROUT FOR REINFORCED CELLS, BOND BEAMS, LINTELS AND CELLS CONTAINING DOWELS, ANCHOR BOLTS AND INSERTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION C, MATERIALS.

3. PROVIDE MINIMUM 2-15M VERTICALS FULL HEIGHT AT ALL WALL ENDS, CORNERS, INTERSECTIONS AND OPENINGS UNLESS NOTED OTHERWISE.

4. PROVIDE 1-15M VERTICAL FULL HEIGHT EACH SIDE OF CONTROL JOINTS.

5. PROVIDE DOWELS FROM FOUNDATIONS TO MATCH VERTICAL WALL REINFORCEMENT.

6. PROVIDE CLASS 'B' TENSION LAP LENGTH FOR ALL VERTICAL REINFORCEMENT, INCLUDING DOWELS.

7. PROVIDE A MINIMUM 300 mm LAP FOR WIRE LADDER OR MESH REINFORCEMENT.

8. PROVIDE CLEANOUTS AT THE BASE OF THE WALL TO VERIFY PROPER PLACEMENT OF GROUT AND PLACE GROUT IN MAXIMUM 3000 mm LIFTS. IF NO CLEANOUTS ARE PROVIDED, LIMIT POUR HEIGHT TO 1500 mm.

9. WHEN GROUTING IS STOPPED FOR A PERIOD OF HOUR OR LONGER EXCEPT AT THE TOP OF THE WALL, FORM A CONSTRUCTION JOINT BY STOPPING THE GROUT POUR A MINIMUM OF 25 mm BELOW THE UPPERMOST UNIT.

10. EMBEDDED ITEMS ARE NOT TO INTERFERE WITH THE INTEGRITY OF THE MASONRY WALL OR LOCATION OF REINFORCEMENT. PROVIDE FULLY GROUTED LINTEL BEAMS FOR CONDUTIS AND PIPES RUNNING HORIZONTALLY WITHIN WALL.

11. PROVIDE ADEQUATE TEMPORARY BRACING TO MASONRY WALLS UNTIL PERMANENT HORIZONTAL STRUCTURES ARE INSTALLED AND CAN ADEQUATELY BRACE THE WALLS.
15. FILL ALL MASONRY PIERS LESS THAN 800 mm IN WITH SOLID WITH MASONRY GROUT.

3. LIGHTWEIGHT STRUCTURAL STEEL STUDS

1. LIGHTWEIGHT STEEL FRAMING INCLUDES AXIAL LOAD BEARING WALL STUDS, LATERAL LOAD BEARING WALL STUDS AND FLOOR JOISTS.
2. ALL COLD FORM STEEL STUDS, JOIST, CHANNEL BRIDGING, ANGLES, STRAPS, PLATES AND ASSOCIATED CONNECTION HARDWARE ARE TO BE SUPPLIED BY BAILEYS METAL PRODUCTS INC (UNLESS NOTED OTHERWISE) OR APPROVED EQUIVALENT.
3. ALL COLD FORM STEEL INSTALLATIONS TO BE ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
4. COLD FORM STEEL FRAMING TO FOLLOW THE FOUR PART UNIVERSAL DESIGNATOR SYSTEM WHICH IDENTIFIES DEPTH, FLANGE, WIDTH, MEMBER TYPE AND MATERIAL THICKNESS.
- MEMBER DEPTH IN 1/100ths INCHES.

THIS 600 MEANS 600/100 = 6"

FLANGE WIDTH IN 1/100ths INCHES.

THIS 162 MEANS 162/100 = 1.62"

600 S 162 - 54

STYLE:

S = STUD OR JOIST SECTIONS

T = TRACK SECTIONS

U= CHANNEL SECTIONS

F = FURRING CHANNEL SECTIONS

MATERIAL THICKNESS IN 1/100ths INCHES.

THIS 54 MEANS 54/1000 = 0.054"
1. MINIMUM THICKNESS NOTED IS EXCLUSIVE OF COATINGS AND REPRESENTS 95% OF THE DESIGN THICKNESS.
2. ALL STRUCTURAL STEEL STUDS AND JOISTS TO BE MINIMUM 0.838 mm THICK UNLESS NOTED OTHERWISE.
3. FOR MATERIAL THICKNESS 1.143 mm OR THINNER, MINIMUM YIELD STRENGTH TO BE 225 MPa. FOR MATERIAL THICKNESS 1.372 mm OR THICKER, MINIMUM YIELD STRENGTH TO BE 345 MPa.
5. STEEL STUDS SHALL HAVE A MINIMUM COATING OF Z180 GALVANIZING IN ACCORDANCE WITH ASTM-A653/A653M. OTHER COATINGS PROVIDING EQUAL OR BETTER CORROSION PROTECTION MAY BE USED.
6. MINIMUM THICKNESS FOR BRIDGING CHANNELS SHALL BE 1.087 mm, UNLESS NOTED OTHERWISE.

7. MINIMUM THICKNESS FOR CLIP ANGLES SHALL BE 1.367 mm UNLESS NOTED OTHERWISE.

8. CORING OR CUTTING OF COLD FORMED STEEL STUDS AND JOISTS ARE TO BE REVIEWED BY ENGINEER PRIOR TO CUTTING. CUTTING OF COLD FORM STEEL FRAMING MEMBERS SHALL BE BY SAW OR SHEAR, NOT TOUCH OR MANUAL CUTTING IS PERMITTED.
9. SPACE WALL STUDS AT 400 mm MAXIMUM UNLESS NOTED OTHERWISE. SPACE FLOOR JOISTS AT 400 mm MAXIMUM UNLESS NOTED OTHERWISE.
10. FOR STUD WALLS, TRACK SECTIONS TO MATCH STUD GAUGE THICKNESS UNLESS NOTED OTHERWISE.
11. FOR STUD WALLS, ANCHOR TOP AND BOTTOM TRACK TO THE STRUCTURE AT MAXIMUM SPACING OF 800 mm ON CENTRE UNLESS NOTED OTHERWISE.
12. STUD WALLS TO BE COMPLETE WITH CONTINUOUS CHANNEL BRIDGING TO BE INSTALLED PER MANUFACTURERS SPECIFICATIONS. MAXIMUM VERTICAL SPACING OF CHANNEL BRIDGING NOT TO BE EXCEED 1200 mm.
13. MAXIMUM FLEXURAL DEFLECTIONS UNDER SPECIFIED LIVE / WIND LOADS SHALL BE LIMITED TO THE FOLLOWING: FLOOR JOISTS / WALL STUDS, L/360 UNLESS NOTED OTHERWISE.
14. CONNECTIONS BETWEEN LIGHT STEEL FRAMING MEMBERS SHALL BE BY BOLTS, WELDING OR SHEET METAL SCREWS.
15. ALL SHEET METAL SCREWS TO BE PANHEAD SELF TAPPING, SELF DRILLING STEEL METAL SCREWS UNLESS NOTED OTHERWISE. SHEET METAL SCREWS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.008 mm ZINC. OTHER COATINGS PROVIDING EQUAL OR BETTER CORROSION PROTECTION MAY BE USED.
16. PENETRATION OF SHEET METAL SCREWS BEYOND JOINED MATERIALS SHALL NOT BE LESS THAN 3 EXPOSED THREADS.
17. SHEET METAL SCREWS COVERED BY SHEATHING MATERIALS SHALL HAVE A LOW PROFILE HEADS.
18. INSTALL CONCRETE ANCHORS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
19. ENSURE THAT CONNECTED PARTS ARE IN CONTACT. PROVIDE CLAMPING BEFORE WELDING OR INSTALLING SCREWS AS REQUIRED.
20. ALLOW FOR APPROPRIATE END ECCENTRICITIES IN THE DESIGN OF AXIAL LOAD BEARING MEMBERS.
21. ALL COLD FORM STEEL INSTALLATIONS TO BE REVIEWED BY CONSULTANT PRIOR TO CLOSING IN STUDS FORM VIEW. PROVIDE CONSULTANT WITH MINIMUM 48 HOURS NOTICE TO SCHEDULE REVIEW.

4. POST-INSTALLED ANCHORS

1. EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES AS PROVIDED BY HILTI (CANADA) CORPORATION.
1. ANCHORAGE TO CONCRETE

1. ADHESIVE ANCHORS FOR CONCRETE USE:

1. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HIT-Z ROD FOR FAST CURE APPLICATIONS.

2. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM FOR FAST CURE APPLICATIONS.

3. HILTI HIT-RE 500-SD EPOXY ADHESIVE ANCHORING SYSTEM FOR SLOW CURE APPLICATIONS.

4. HILTI HIT-RE 500 EPOXY ADHESIVE ANCHORING SYSTEM FOR SLOW CURE APPLICATIONS.

5. STEEL ANCHOR ELEMENT SHALL BE HILTI HIS-N INTERNALLY THREADED INSERTS, HILTI HAS-E CONTINUOUSLY THREADED ROD, OR CONTINUOUSLY DEFORMED STEEL REBAR.

2. MEDIUM DUTY MECHANICAL ANCHORS FOR CONCRETE USE:

1. HILTI KWIK HUS EZ AND KWIK HUS EZ-I CONCRETE ANCHORS.

2. HILTI KWIK BOLT-TZ EXPANSION ANCHORS.

3. HILTI KWIK BOLT-3 EXPANSION ANCHORS.

3. HEAVY DUTY MECHANICAL ANCHORS FOR CONCRETE USE:

1. HILTI HDA UNDERCUT ANCHORS.

2. HILTI HSL-3 EXPANSION ANCHORS.

2. REBAR DOWELING INTO CONCRETE

1. ADHESIVE ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:

1. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM WITH CONTINUOUSLY DEFORMED REBAR.

2. HILTI HIT-RE 500-SD EPOXY ADHESIVE ANCHORING SYSTEM WITH CONTINUOUSLY DEFORMED REBAR.

3. HILTI HIT-RE 500 EPOXY ADHESIVE ANCHORING SYSTEM WITH CONTINUOUSLY DEFORMED REBAR.

3. ANCHORAGE TO SOLID GROUTED MASONRY

1. ADHESIVE ANCHORS USE:

1. HILTI HIT-HY 270 MASONRY ADHESIVE ANCHORING SYSTEM.

2. STEEL ANCHOR ELEMENT SHALL BE HILTI HAS-E CONTINUOUSLY THREADED ROD OR CONTINUOUSLY DEFORMED STEEL REBAR.

2. MECHANICAL ANCHORS USE:

1. HILTI KWIK HUS-EZ SCEW ANCHOR.

2. HILTI KWIK BOLT-3 EXPANSION ANCHORS.

4. ANCHORAGE TO HOLLOW / MULTI-WYTHE MASONRY

1. ADHESIVE ANCHORS USE:

1. HILTI HIT-HY 270 MASONRY ADHESIVE ANCHORING SYSTEM.

2. STEEL ANCHOR ELEMENT SHALL BE HILTI HAS-E CONTINUOUSLY THREADED ROD OR CONTINUOUSLY DEFORMED STEEL REBAR.

2. THE APPROPRIATE SIZE SCREEN TUBE SHALL BE USED PER ADHESIVE MANUFACTURER'S RECOMMENDATION.

2. ANCHOR CAPACITY USED IN DESIGN HAS BEEN BASED ON THE TECHNICAL DATA PUBLISHED BY HILTI. SUBSTITUTION REQUESTS FOR ALTERNATE ANCHORS MUST BE APPROVED IN WRITING BY THE CONSULTANT PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE ALTERNATIVE ANCHOR IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED FOR COMPLIANCE WITH THE RELEVANT BUILDING CODE. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.

3. INSTALL ANCHORS PER THE MANUFACTURER WRITTEN INSTRUCTIONS.

4. OVERHEAD ADHESIVE ANCHORS MUST BE INSTALLED USING THE HILTI PROFIT SYSTEM.

5. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE CONSULTANT MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.

6. ANCHOR CAPACITY IS DEPENDANT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN STRICT ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.

7. EXISTING REINFORCEMENT IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE EXISTING REINFORCEMENT AT THE LOCATIONS OF THE CONCRETE ANCHORS, BY HILTI FERROSCAN, HILTI PS 1000, GPR, X-RAY, CHIPPING OR OTHER MEANS.

5. ALTERATIONS AND/OR CONNECTIONS TO EXISTING STRUCTURE

1. PROPOSED SCHEDULE OF WORK TO BE COORDINATED WITH ALL SUBTRADES, THE CONSULTANT AND OWNER.

2. PROPOSED SEQUENCE OF WORK TO BE SUBMITTED TO THE CONSULTANT FOR REVIEW PRIOR TO START OF WORK.

3. INSPECT THE EXISTING BUILDING AND BECOME THOROUGHLY FAMILIAR WITH THE EXISTING CONDITIONS. DETAIL SHOWN ARE BASED ON INFORMATION AVAILABLE FROM EXISTING BUILDING DRAWINGS ONLY:

A. STRUCTURAL DRAWINGS BY FARAKS AND BARRON.

B. STRUCTURAL DRAWINGS DATED 15 APRIL 2010 BY HALCROW VOLLES

C. ARCHITECTURAL DRAWINGS BY BREGMAN AND HAMANN.

D. ARCHITECTURAL DRAWINGS DATED 9 APRIL 2010 BY QUADRANGLE ARCHITECTS.

4. PRIOR TO PROCEEDING WITH THE WORK, DETERMINE THE EXACT FOUNDING ELEVATIONS OF EXISTING FOOTINGS ADJACENT TO THE NEW WORK. REPORT THESE FINDINGS TO THE CONSULTANT.

5. PRIOR TO FABRICATION OF STRUCTURAL STEEL, OPEN UP ALL AREAS WHERE CONNECTIONS ARE TO BE MADE TO EXISTING WORK AND TAKE FIELD MEASUREMENTS. MODIFY METHODS FOR CONNECTING TO SUIT SITE CONDITIONS FOUND AND TO THE APPROVAL OF THE CONSULTANT. CARRY OUT LOCAL REPAIRS TO THE EXISTING WORK AS NECESSARY AND AS DIRECTED BY THE CONSULTANT.

6. SHORE EXISTING WORK AS REQUIRED UNTIL ALL NEW WORK HAS BEEN COMPLETED AND REVIEWED BY THE CONSULTANT.

7. PROVIDE SLOTTED HOLES AND FRICTION TYPE BOLTED CONNECTIONS TO CONNECT NEW STEEL TO EXISTING WORK.

8. SHORE FLOORS AS REQUIRED TO SUPPORT CRANES, HOISTS AND OTHER CONSTRUCTION EQUIPMENT.

9. DO NOT CUT CONCRETE REINFORCEMENT UNLESS REVIEWED AND APPROVED BY THE CONSULTANT.

10. WHERE REQUIRED TO AVOID CUTTING EXISTING REINFORCEMENT, MODIFY THE LAYOUT OF NEW THROUGH BOLTS, EXPANSION ANCHORS AND OTHER ANCHORING DEVICES.

11. MAKE GOOD THE EXISTING WORK.

6. CUTTING AND CORING OF EXISTING STRUCTURE

1. PRIOR TO CUTTING AND CORING ANY OPENINGS IN THE EXISTING BUILDING, PROVIDE THE CONSULTANT WITH A SLEEVING DRAWING INDICATING THE SIZE AND LOCATION OF OPENING RELATIVE TO BUILDING GRID LINES. EXISTING OPENINGS IN THE VICINITY OF THE NEW OPENING MUST ALSO BE SHOWN.

2. ALL DIMENSIONS PROVIDED TO THE CONSULTANT ARE TO BE CONFIRMED WITH THE APPROPRIATE CONTRACTOR (MECHANICAL OR ELECTRICAL) PRIOR TO CUTTING/CORING.

3. ANY REVISIONS TO THE DIMENSIONS BY THE CONSULTANT MUST BE REVIEWED BY THE APPROPRIATE CONTRACTOR PRIOR TO CUTTING/CORING.

4. EXISTING REINFORCEMENT AND EMBEDDED SERVICES MUST BE LOCATED PRIOR TO CUTTING/CORING. THIS REINFORCEMENT IS TO BE LOCATED BY A POSITIVE MEANS, I.E. X-RAYING, LOCAL CHIPPING OF SLAB- WHERE PERMITTED BY THE CONSULTANT-, USE OF COVER METER).

5. AFTER REINFORCEMENT AND EMBEDDED SERVICES HAS BEEN LOCATED IN THESE AREAS, NOTIFY CONSULTANT WHO WILL REVIEW AND APPROVE LOCATION PRIOR TO CUTTING/CORING. MAKE ANY NECESSARY ADJUSTMENTS TO THE HOLE LOCATION AS DIRECTED BY THE CONSULTANT.

6. FOR ANY OPENINGS WHICH ARE TO BE SAWCUT INTO THE EXISTING STRUCTURE, PRE-DRILL THE CORNERS USING A 100 mm DIAMETER CORE DRILL. DO NOT OVERCUT CORNERS OF OPENING.

7. ALL PRICES FOR CUTTING/CORING ARE TO INCLUDE ANY COSTS ASSOCIATED WITH X-RAYING, CHIPPING, ETC.

8. FOR ANY AREAS WHERE REINFORCEMENT IS CUT, THE CONTRACTOR IS TO INDICATE THE DIRECTION AND LAYER OF REINFORCEMENT ON THE AS-BUILT SLEEVING DRAWINGS.

9. FOR LARGE OPENINGS THROUGH A FLOOR AREA, ADDITIONAL REINFORCEMENT OF THE SLAB MAY BE REQUIRED. THE CONSULTANT WILL ISSUE ADDITIONAL DETAILS AS REQUIRED.

G. QUALITY CONTROL

1. GENERAL

1. IMPLEMENT A SYSTEM OF QUALITY CONTROL TO ENSURE THAT THE MINIMUM STANDARDS SPECIFIED HEREIN ARE ATTAINED.

2. BRING TO THE ATTENTION OF THE CONSULTANT ANY DEFECTS IN THE WORK OR DEPARTURES FROM THE CONTRACT DOCUMENTS, WHICH MAY OCCUR DURING CONSTRUCTION. THE CONSULTANT WILL DECIDE UPON CORRECTIVE ACTION AND GIVE RECOMMENDATIONS IN WRITING.

3. THE CONSULTANT'S GENERAL REVIEW DURING CONSTRUCTION AND INSPECTION AND TESTING BY INDEPENDENT INSPECTION AND TESTING AGENCIES REPORTING TO THE CONSULTANT ARE BOTH UNDERTAKEN TO INFORM THE OWNER/CLIENT OF THE CONTRACTOR'S PERFORMANCE AND SHALL IN NO WAY AUGMENT THE CONTRACTOR'S QUALITY CONTROL OR RELIEVE THE CONTRACTOR OF CONTRACTUAL RESPONSIBILITY.

2. NOTIFICATION

1. PRIOR TO COMMENCING SIGNIFICANT SEGMENTS OF THE WORK, GIVE THE CONSULTANT AND INDEPENDENT INSPECTION AND TESTING COMPANIES APPROPRIATE NOTIFICATION (MINIMUM 24 HOURS) SO AS TO AFFORD THEM REASONABLE OPPORTUNITY TO REVIEW THE WORK. FAILURE TO MEET THIS REQUIREMENT MAY BE CAUSE FOR THE CONSULTANT TO CLASSIFY THE WORK AS DEFECTIVE.

3. INSPECTION AND TESTING

1. THE OWNER WILL APPOINT AN INDEPENDENT INSPECTION AND TESTING COMPANY TO MAKE INSPECTIONS OR PERFORM TESTS AS THE OWNER DIRECTS. THE INDEPENDENT INSPECTION AND TESTING COMPANIES SHALL BE RESPONSIBLE ONLY TO THE OWNER AND SHALL MAKE ONLY SUCH INSPECTIONS OR TESTS AS THE OWNER MAY DIRECT. AUTHORIZED INSPECTION AND TESTING SHALL BE PAID FOR BY THE OWNER.

2. WHERE MINIMUM INSPECTION AND TESTING PERCENTAGES STATED HEREIN ARE LESS THAN 100%, THE INTENT OF THIS SPECIFICATION IS MINIMUM NUMBER OF THE VARIOUS ASSEMBLIES/MEMBERS. IN OTHER WORDS GIVEN AN INSPECTION AND TESTING FREQUENCY OF 20%, THE INSPECTION AND TESTING FIRM IS TO INSPECT, SAMPLE OR TEST 20% OF ALL SAMPLES RATHER THAN 100% OF ONLY 20% OF THE

3. ENSURE MATERIALS USED ARE IN CONFORMANCE WITH THOSE SPECIFIED ON THE CONTRACT DOCUMENTS AND REVIEWED SHOP DRAWINGS.

4. TESTING IN GENERAL SHALL CONFORM TO CSA S16 AND W59. ACCEPTANCE CRITERIA FOR WELDING TO BE FOR STATICALLY LOADED.

5. CONFIRM THAT THE FABRICATOR AND ERECTOR ARE CERTIFIED TO CSA-W47.1 DIVISION 1 OR 2.1 AND THAT WELDERS ARE PROPERLY QUALIFIED.

6. OBTAIN COPIES OF ALL WELDING PROCEDURES AND REVIEW FOR CONFORMANCE TO CWB REQUIREMENTS, STEEL MANUFACTURERS REQUIREMENTS AND STANDARD PRACTICE.

7. NON-DESTRUCTIVE TESTING OPERATORS TO HAVE LEVEL II QUALIFICATIONS AS A MINIMUM.

8. RANDOMLY CHECK AND RECORD STRUCTURAL STEEL MEMBER SIZES: ±10%OF TOTAL NUMBER OF COLUMNS AND ±5% OF TOTAL NUMBER OF BEAMS AND GIRDS.

9. REVIEW ALL SNUG TIGHT BOLTED CONNECTIONS TO DETERMINE THAT PLATES ARE IN CONTACT. CHECK 10% ± OF BOLTS FOR SNUGNESS, INCLUDING ANCHOR BOLTS.

10. REVIEW STRUCTURAL STEEL AND CONFIRM THAT THE STEEL HAS BEEN SUPPLIED BY AN ACCEPTABLE SOURCE, IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATIONS. CONFIRM THAT THE SOURCE OF THE SECTIONS IS CLEARLY IDENTIFIED WITH RAISED LETTERING EMBOSSED ON AT LEAST ONE FACE OF THE SECTIONS, OR BY OTHER ACCEPTABLE MEANS.

1. AS A MINIMUM, CHECK THE FOLLOWING:

1. MEMBERS ARE FABRICATED TO SPECIFIED TOLERANCES;

2. LOCATION OF ALL HOLES, CUTS, FITTINGS;

3. CHECK COMPATIBILITY OF PRIMER PAINT WITH INTUMESCENT PAINT WHERE APPLICABLE;

4. RECORD ALL MEMBERS TO BE SPLICED, NO MEMBER SHALL BE SPLICED UNLESS SPECIFICALLY NOTED ON A REVIEWED SHOP DRAWING;

2. CHECK BY INSTRUMENT, A MINIMUM OF 25% OF THE STAIR STRINGER IN THE BUILDING FOR PLUMBNESS, ALIGNMENT, AND ELEVATION.

3. CHECK INDIVIDUAL PIECES OF THE FRAME FOR TWISTING, SQUEEING AND LOCAL DAMAGE AND TO ENSURE THAT THE SPECIFIED TOLERANCES DO NOT EXCEED THE LIMITS SPECIFIED IN S16.

4. ENSURE THAT SURFACES FOR FRICTION CONNECTIONS ARE FREE FROM PAINT, OIL OR OTHER DELETERIOUS SUBSTANCES.

5. CHECK ALL MEMBERS MOMENT CONNECTIONS FOR COMPLIANCE WITH REVIEWED SHOP DETAILS.

11. WELDING

1. VISUALLY INSPECT ALL FIELD WELDS INCLUDING WELDS TO EXISTING STRUCTURE FOR:

1. SIZE, LENGTH AND PROFILE, CRACKS, SLAG REMOVAL, PENETRATION, AND FUSION.

2. ON A SAMPLING BASIS, INSPECT FIELD WELDS FOR:

1. WORK AND WELDER QUALIFICATION, JOINT PREPARATION, CLEANING, FIT UP AND ALIGNMENT, ELECTRODES, PREHEAT, AND DISTORTION.

12. DEFECTIVE MATERIALS AND WORK

1. WHERE EVIDENCE EXISTS THAT DEFECTIVE WORK HAS OCCURRED OR THAT WORK HAS BEEN CARRIED OUT INCORPORATING DEFECTIVE MATERIALS, THE CONSULTANT MAY HAVE TESTS, INSPECTIONS OR SURVEYS PERFORMED, ANALYTICAL CALCULATIONS OF STRUCTURAL STRENGTH MADE, AND THE LIKE, IN ORDER TO HELP DETERMINE WHETHER THE WORK MUST BE CORRECTED OR REPLACED. TESTS, INSPECTIONS, SURVEYS, OR CALCULATIONS CARRIED OUT UNDER THESE CIRCUMSTANCES WILL BE MADE AT THE CONTRACTOR'S EXPENSE, REGARDLESS OF THEIR RESULTS, WHICH MAY BE SUCH THAT, IN THE CONSULTANT'S OPINION, THE WORK MAY BE ACCEPTABLE.

2. ALL TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE, EXCEPT WHERE THIS WOULD, IN THE CONSULTANT'S OPINION, CAUSE UNDUE DELAY OR GIVE RESULTS NOT REPRESENTATIVE OF THE REJECTED MATERIAL IN PLACE. IN THIS CASE, THE TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH THE STANDARDS GIVEN BY THE CONSULTANT.

3. MATERIALS OR WORK, WHICH FAIL TO MEET SPECIFIED REQUIREMENTS, MAY BE REJECTED BY THE CONSULTANT WHENEVER FOUND AT ANY TIME PRIOR TO FINAL ACCEPTANCE OF THE WORK REGARDLESS OF PREVIOUS INSPECTION. IF REJECTED, DEFECTIVE MATERIALS OR WORKMANSHIP SHALL BE IMMEDIATELY REMOVED AND REPLACED OR REPAIRED TO THE SATISFACTION OF THE CONSULTANT, AT NO EXPENSE TO THE OWNER.

University of Toronto
UNIVERSITY PLANNING,
DESIGN & CONSTRUCTION

Design & Engineering






255 McCaul Street, 4th

This drawing is the property of the University of Toronto, and must be returned upon completion of the work. All information shown on this drawing is for use on this specific project. Contractor must verify all dimensions on the job and report any discrepancies to the Architect before proceeding with the work.

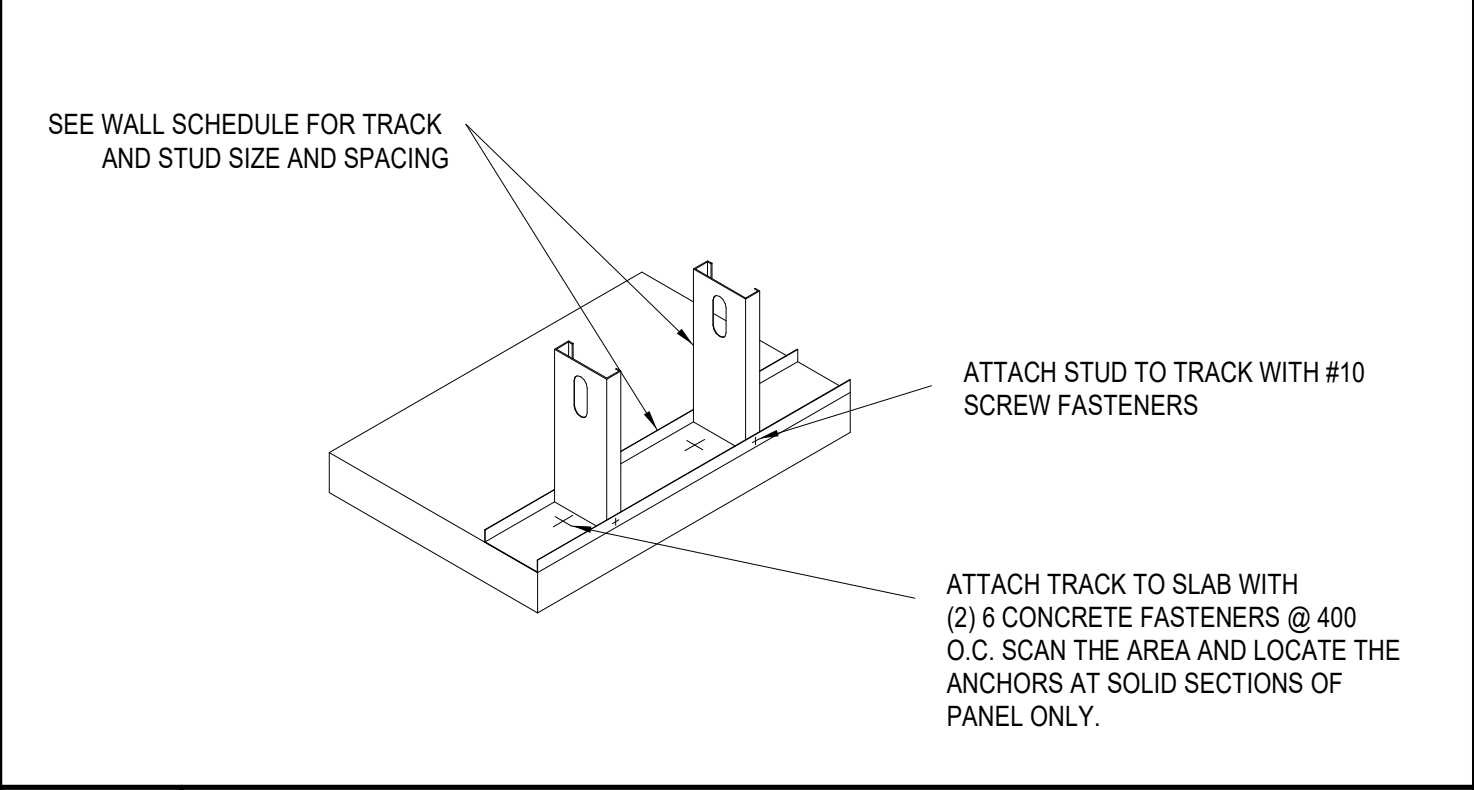


TYPICAL DETAIL LIST		
DETAIL No.	DETAIL TITLE	DRAWING No.
GENERAL		
G1	ABBREVIATIONS AND SYMBOLS	S010
G2	STRUCTURE LEGEND	S010
PROJECT DETAILS		
PD1	BOTTOM TRACK CONNECTION TO SLAB	S010
PD2	BRIDGING DETAILS	S010
PD3	CFS HEADER TO JAMB CONNECTION	S010
PD4	TOP TRACK CONNECTION TO STRUCTURE	S010

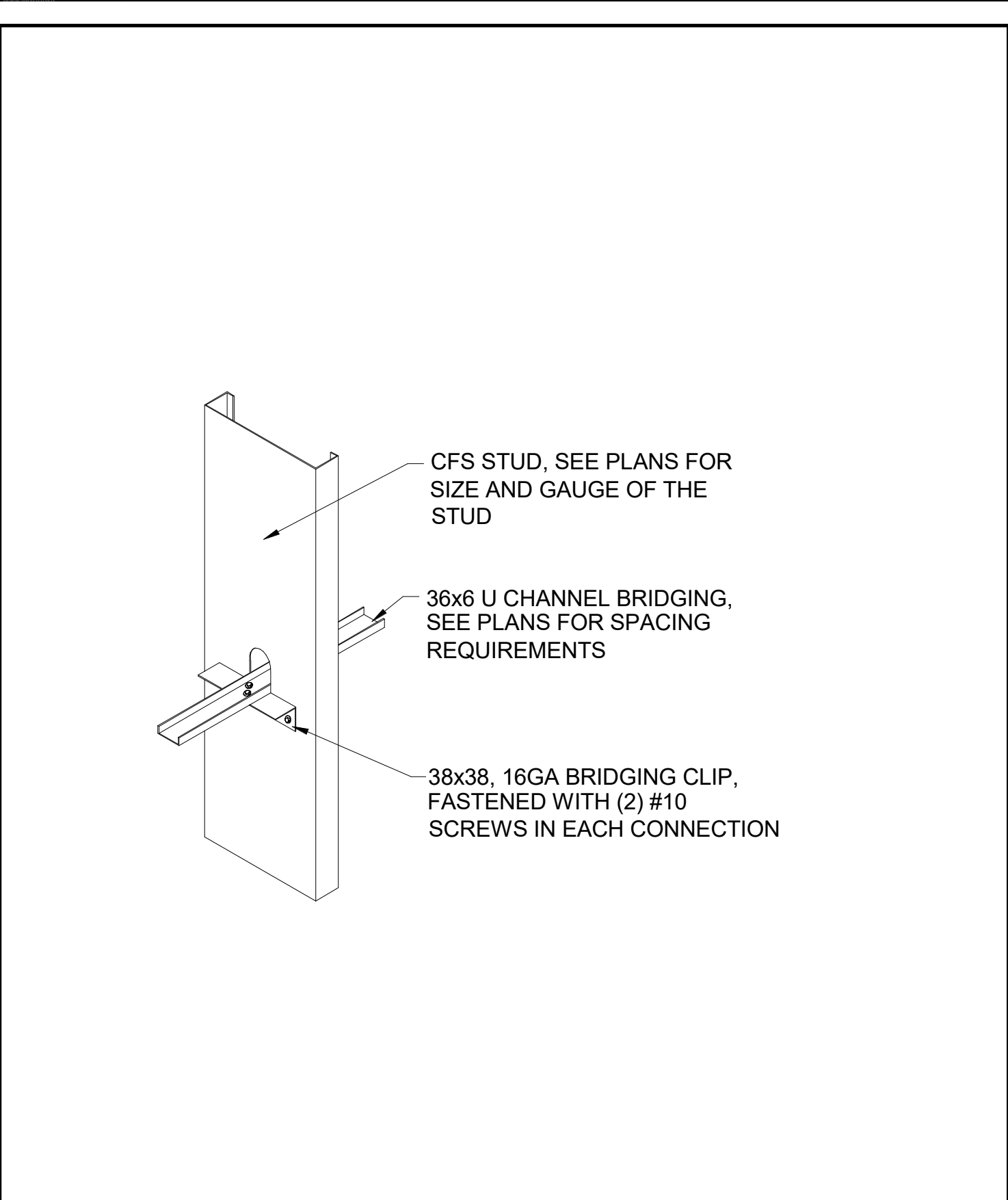
[illegible]

SYMBOLS		
@	AT	 SLAB CHANGE LOCATION
◀	CENTRE LINE	
⌵	DOUBLE ANGLE	 BOREHOLE/MONITORING WELL
└─┘	MOMENT CONNECTION	
L	SINGLE ANGLE	 CHANGE IN SPAN SYSTEM
▼	VERTICAL CONTROL JPOINT IN MAGCON/CONCRETE WALLS	
	BEAM ELEVATION FROM PLAN DATUM	
	STEPPED-DOWN FOOTING	
⬇	WORK POINT	

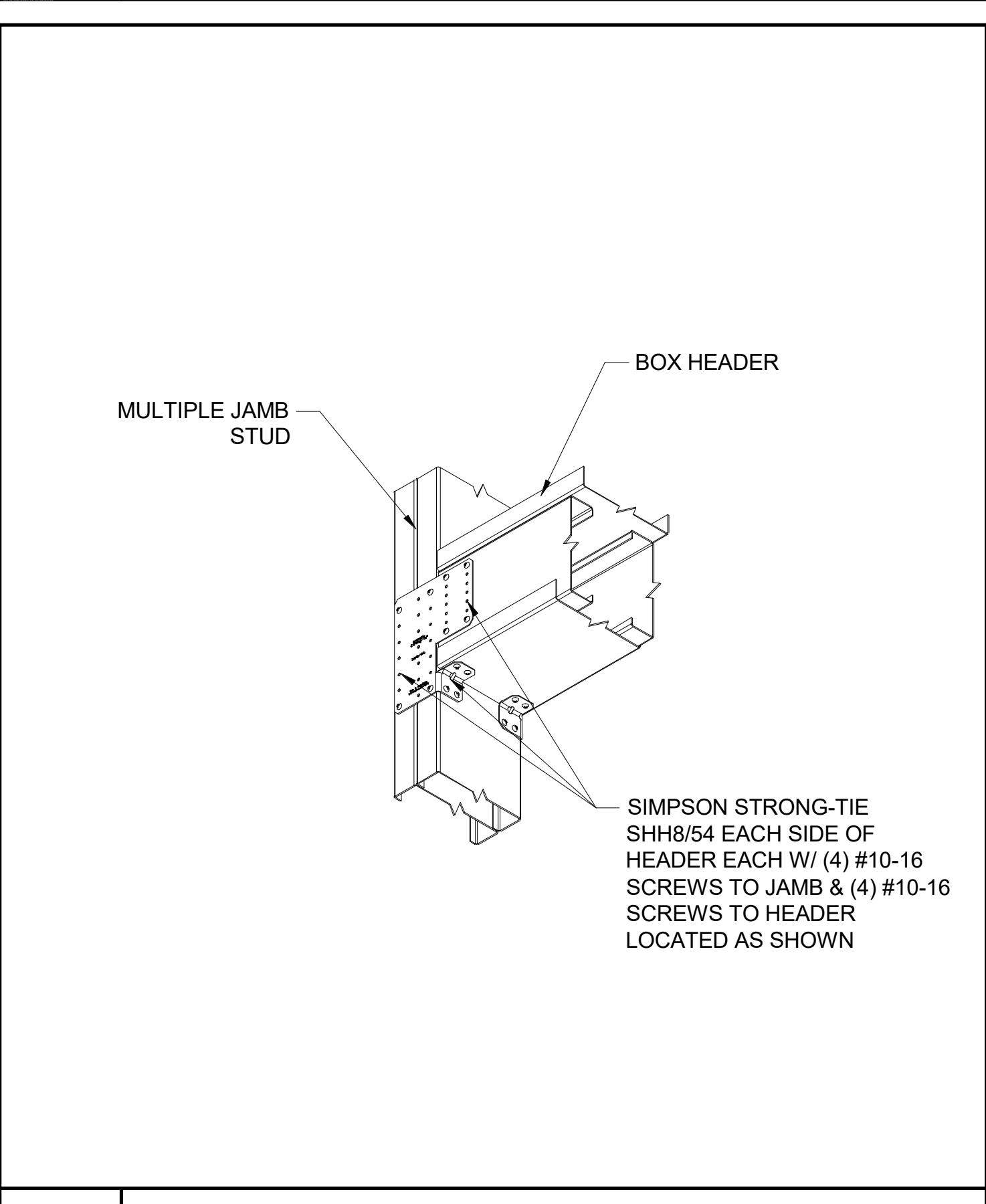
SHADING/HATCHING	INDICATIVE OF
NEW	EXISTING
	CONCRETE / MASONRY / WOOD STRUCTURE BELOW
	CONCRETE STRUCTURE ABOVE
	CONCRETE UPRIGHTED BEAMS AND CURBS
	CONCRETE IN SECTION
	MASONRY WALL ABOVE AND IN SECTION
	WOOD SHEAR WALL ABOVE
	WOOD LOAD BEARING WALL ABOVE
	CONCRETE COLUMN ABOVE
	LONG DIMENSION OF COLUMN INDICATED THUS
G2	STRUCTURE LEGEND



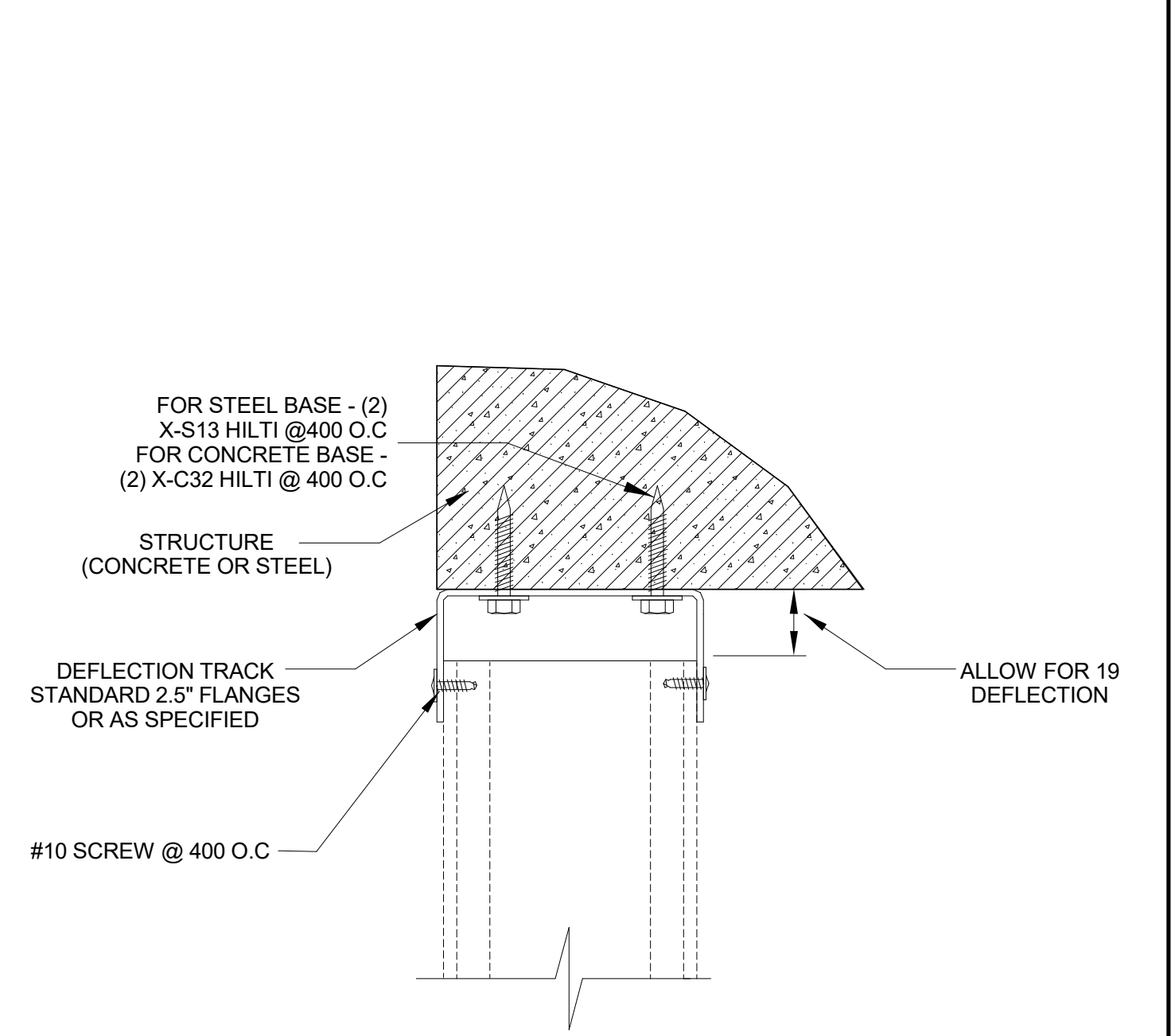
PD1	BOTTOM TRACK CONNECTION TO SLAB
-----	---------------------------------



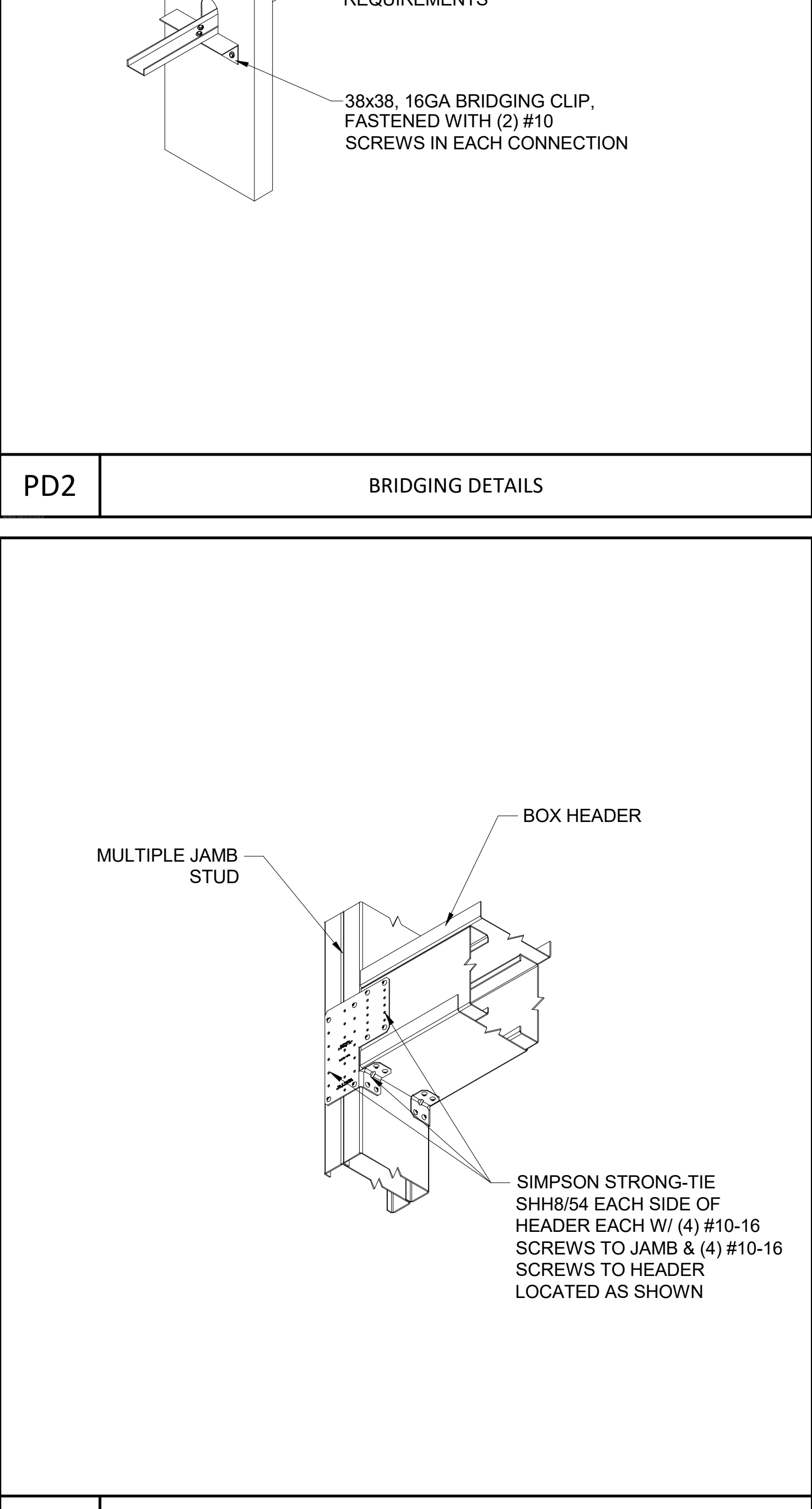
PD2	BRIDGING DETAILS
-----	------------------



PD3	CFS HEADER TO JAMB CONNECTION
-----	-------------------------------



PD4	TOP TRACK CONNECTION TO STRUCTURE
-----	-----------------------------------



PD3	CFS HEADER TO JAMB CONNECTION
-----	-------------------------------

3	ISSUED FOR TENDER	2026-04-14
2	ISSUED FOR PERMIT	2026-03-04
1	CLASS A COST ESTIMATE	2026-02-26
REV.	DESCRIPTION	DATE

KEY PLAN (NTS)	SEAL
----------------	------

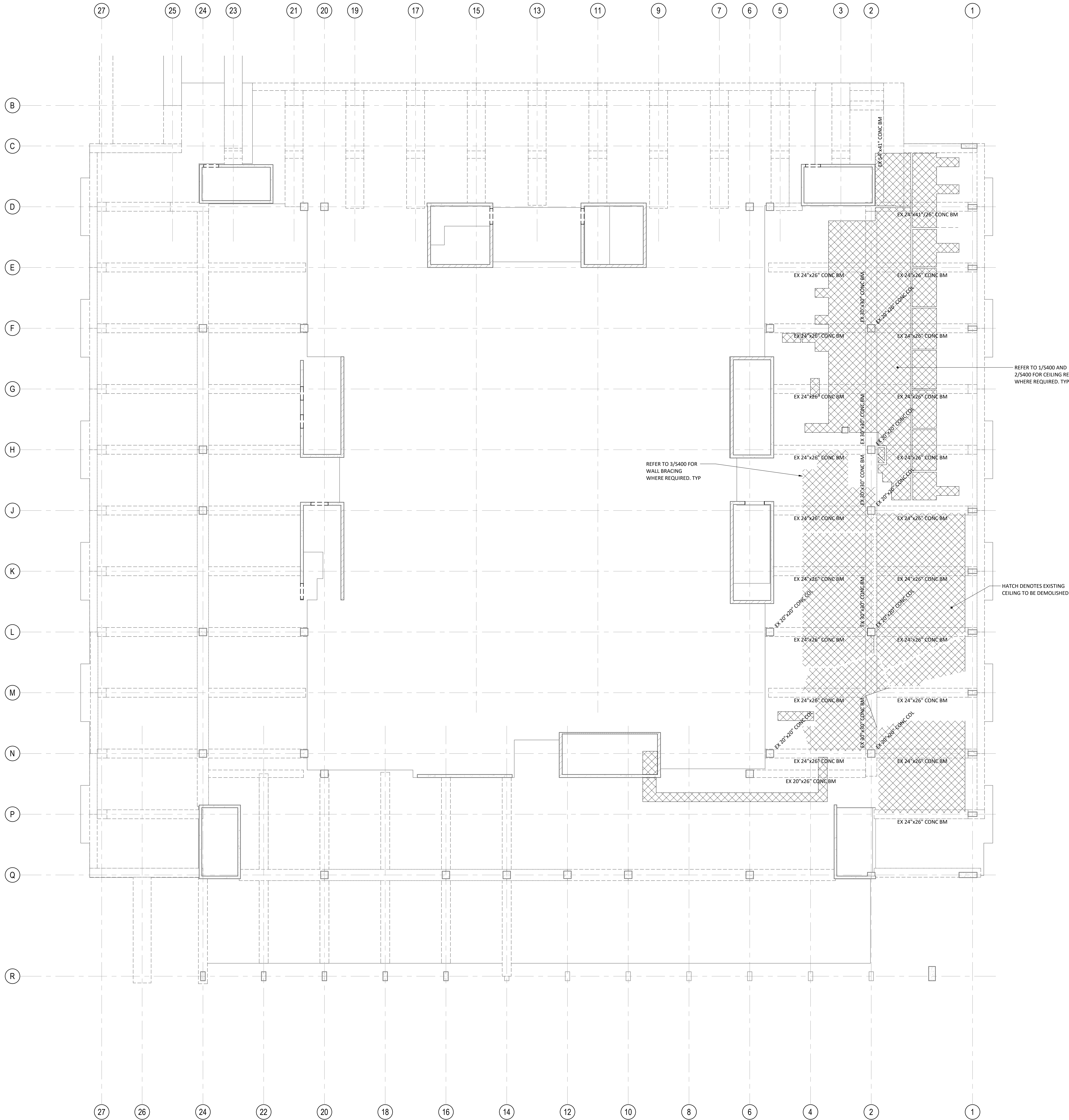
PROJECT TITLE:
UNIVERSITY OF TORONTO
**33 URSULA FRANKLIN
MATHEMATICS
RELOCATION PROJECT**

33 URSULA FRANKLIN ST.
DRAWING SHEET TITLE
TYPICAL DETAILS

DRAWN BY: SL	SCALE: N/A
REVIEWED BY: BS	DATE CREATED: 2026/02/04
UNIVERSITY PROJECT NUMBER	NORTH POINT

DRAWING NUMBER	REV. NUMBER
S010	3

2026-04-14 9:38:45 AM

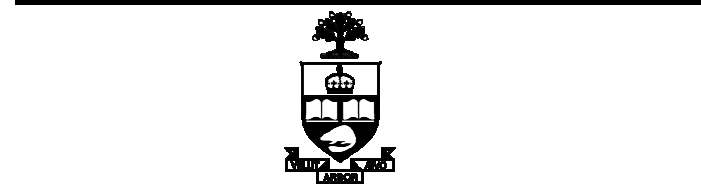


LEVEL 2 RCP

1:100

NOTES:

- ALL EXISTING STRUCTURAL INFORMATION HAS BEEN TAKEN FROM EXISTING STRUCTURAL DRAWINGS PREPARED BY MARANI, ROUNTHWAITE & DICK DATED AUGUST 1968.
- EXISTING LIVE LOAD AS PER EXISTING DRAWING ARE 4.8 KPa.
- ALL DIMENSIONS TO BE FIELD VERIFIED PRIOR TO COMMENCEMENT OF WORK.
- TEMPORARILY RELOCATE AND MAKE GOOD ALL EXISTING UTILITIES IMPACTED BY THE NEW WORK.
- COORDINATE ALL MECHANICAL, LIGHTING, HVAC, SUSPENDED CEILINGS, ETC.
- IT IS ASSUMED THAT ALL EXISTING STRUCTURE IS IN GOOD CONDITION AND PER THE EXISTING DRAWINGS. CONTRACTOR IS TO NOTIFY ENTUITIVE IF STRUCTURE IS DIFFERENT THAN NOTED.
- REFER TO ARCHITECTURAL DRAWINGS FOR THE AREA OF THE WORK.
- DETAILS PROVIDED ARE PRELIMINARY AND CHANGES MIGHT BE REQUIRED DUE TO SITE CONDITION.
- ALL EXISTING-TO-REMAIN PARTITION WALLS RENDERED UNSUPPORTED BY THE REMOVAL OF THE CEILING SHALL BE LATERALLY BRACED TO THE UNDERSIDE OF THE STRUCTURE ABOVE AS PER 3/5400.
- NEW WALL SUPPORTS SHALL ALLOW FOR THE VERTICAL DEFLECTION OF THE FLOOR/ROOF ABOVE WITHOUT TRANSFERRING AXIAL LOAD TO THE PARTITION WALL (EG., USE OF DEFLECTION TRACKS OR SLOTTED CLIPS).
- NEW CEILING SUPPORT SYSTEMS IS DESIGNED TO CARRY THE DEAD LOAD OF THE ASSEMBLY PLUS A MINIMUM INCIDENTAL LIVE LOAD OF 0.24 KPa (5 psl) UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL ENSURE THE STABILITY OF ALL EXISTING WALLS DURING THE DEMOLITION PHASE. TEMPORARY SHORING OR BRACING SHALL BE PROVIDED WHERE NECESSARY UNTIL PERMANENT SUPPORTS ARE INSTALLED.



University of Toronto
UNIVERSITY PLANNING,
DESIGN & CONSTRUCTION

Design & Engineering
255 McCaul Street, 4th Floor, Toronto, Ontario M5T 1W7

This drawing is the property of the University of Toronto, and must be returned upon completion of the work. All information shown on this drawing is for use on this specific project. Contractor must verify all dimensions on the job and report any discrepancies to the Architect before proceeding with the work.

ENTUITIVE
120 Bremner Boulevard, 4th Floor
Toronto, ON M5J 0A8 Canada
+1 416 477 5832



3	ISSUED FOR TENDER	2026-04-14
2	ISSUED FOR PERMIT	2026-03-04
1	CLASS & COST ESTIMATE	2026-02-26
REV.	DESCRIPTION	DATE

KEY PLAN (NTS) SEAL

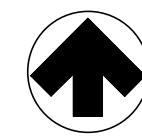
PROJECT TITLE:
UNIVERSITY OF TORONTO
**33 URSULA FRANKLIN
MATHEMATICS
RELOCATION PROJECT**

33 URSULA FRANKLIN ST.
DRAWING SHEET TITLE:
LEVEL 2 RCP

DRAWN BY: SL SCALE: 1:100
REVIEWED BY: BS DATE CREATED: 2026/02/04

UNIVERSITY PROJECT NUMBER NORTH POINT
EN025-02670

DRAWING NUMBER REV. NUMBER
S200 3





255 McCaul Street, 4th Floor, Toronto, Ontario M5T 1W

ENTUITIVE

120 Bremner Boulevard, 4th Floor
Toronto, ON M5J 0A8 Canada
+1 416 477 5832



1 : 100

NOTES

1. ALL EXISTING STRUCTURAL INFORMATION HAS BEEN TAKEN FROM EXISTING STRUCTURAL DRAWINGS PREPARED BY MARANI, ROUNTHWAITE & DICK DATED AUGUST 1968.
2. EXISTING LIVE LOAD AS PER EXISTING DRAWINGS ARE 4.0 K/PA.
3. ALL DIMENSIONS TO BE FIELD VERIFIED PRIOR TO COMMENCEMENT OF WORK.
4. TEMPORARILY RELOCATE AND MAKE GOOD ALL EXISTING UTILITIES IMPACTED BY THE NEW WORK.
5. COORDINATE ALL MECHANICAL, LIGHTING, HVAC, SUSPENDED CEILING, ETC. WITH THE NEW WORK.
6. IT IS ASSUMED THAT ALL EXISTING STRUCTURE IS IN GOOD CONDITION AND PER THE EXISTING DRAWINGS. CONTRACTOR IS TO NOTIFY INTUITIVE IF STRUCTURE IS DIFFERENT THAN NOTED.
7. REFER TO ARCHITECTURAL DRAWINGS FOR THE AREA OF THE WORK.
8. DETAILS PROVIDED ARE PRELIMINARY AND CHANGES MUST BE REQUIRED DUE TO SITE CONDITION.
9. ALL EXISTING-TO-REMAIN PARTITION WALLS RENDERED UNSUPPORTED BY THE REMOVAL OF THE CEILING SHALL BE LATEROALLY BRACED TO THE UNDISTURBED EXISTING STRUCTURE ABOVE.
10. NEW WALL SUPPORTS SHALL ALLOW FOR THE VERTICAL DEFLECTION OF THE FLOOR/ROOF ABOVE WITHOUT TRANSFERRING AXIAL LOAD TO THE PARTITION WALL (E.G., USE OF DEFLECTION TRACKS OR FLOOR JOISTS).
11. EXISTING WALLS SUPPORTING EXISTING ROOF SHALL BE REINFORCED TO MEET THE HEAD LOAD OF THE ASSEMBLY PLUS A MINIMUM INCHIAL LIVE LOAD OF 0.24 K/PA (PSF) UNLESS OTHERWISE NOTED.
12. CONTRACTOR SHALL ENSURE PROPER PROTECTION OF ALL EXISTING WALLS DURING THE DEMOLITION PHASE. TEMPORARY SHORING OR BRACING SHALL BE PROVIDED WHERE NECESSARY UNTIL PERMANENT SUPPORTS ARE INSTALLED.

3	ISSUED FOR TENDER	2026-04-14
2	ISSUED FOR PERMIT	2026-03-04
1	CLASS A COST ESTIMATE	2026-02-26
REV.	DESCRIPTION	DATE

KEY PLAN (NTS)	SEAL
----------------	------

PROJECT TITLE:
UNIVERSITY OF TORONTO
**33 URSULA FRANKLIN
MATHEMATICS
RELOCATION PROJECT**

33 URSULA FRANKLIN ST.
DRAWING SHEET TITLE
LEVEL 3 RCP

DRAWN BY: SL	SCALE: 1:100
REVIEWED BY: BS	DATE CREATED: 2026/02/04

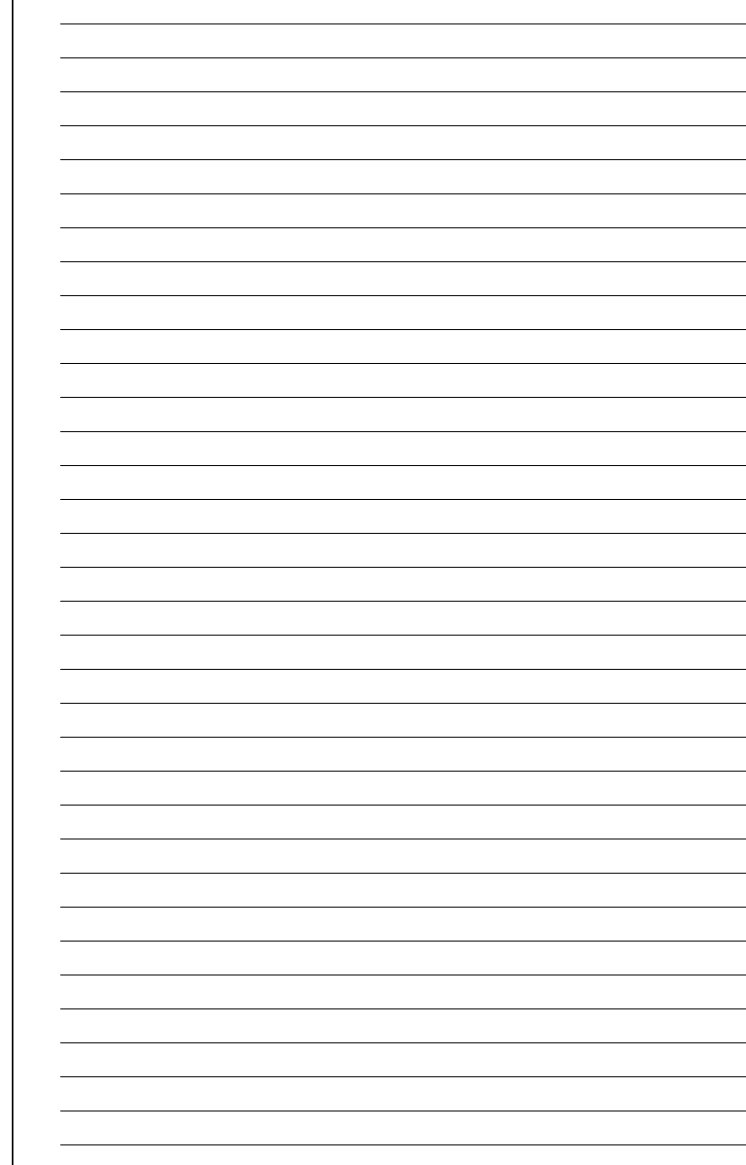
EN025-02670	
-------------	---

DRAWING NUMBER	REV. NUMBER
S201	3



255 McCaul Street, 4th Floor, Toronto, Ontario M5T 1W

ENTUITIVE
120 Bremner Boulevard, 4th Floor
Toronto, ON M5J 0A8 Canada
+1 416 477 5832

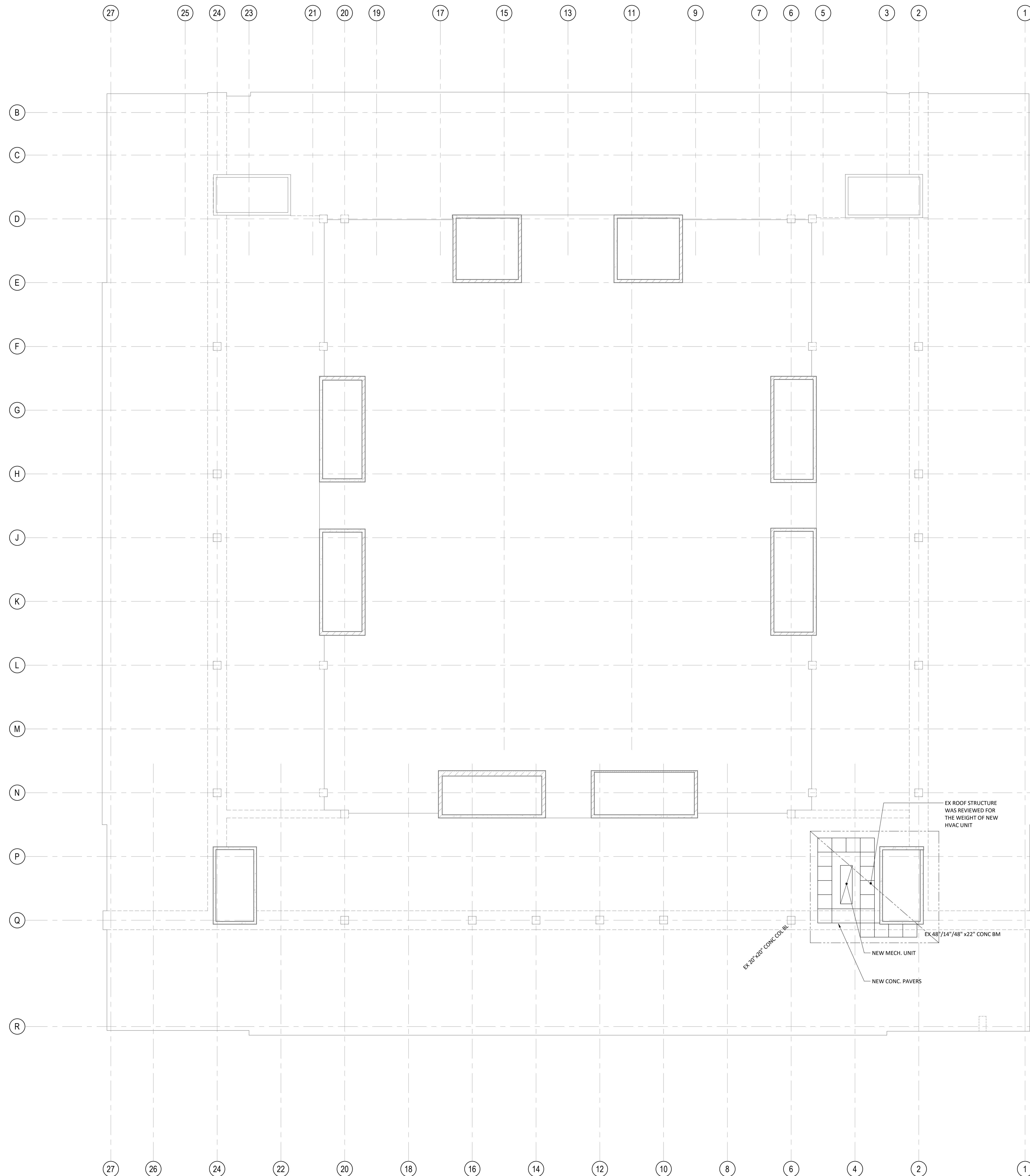


KEY PLAN (NTS)	SEAL
----------------	------

33 URSUL A FRANKLIN ST

EN025-02670	
-------------	---

DRAWING NUMBER	REV. NUMBER
S202	3



1:100

NOTES:

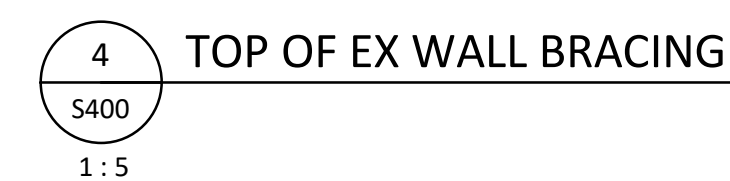
NOTES:

1. ALL EXISTING STRUCTURAL INFORMATION HAS BEEN TAKEN FROM EXISTING STRUCTURAL DRAWINGS PREPARED BY MARANI, ROUNTHWAITE & DICK DATED AUGUST 1968.
2. EXISTING LIVE LOAD AS PER EXISTING DRAWINGS ARE 4.8 k/ft²
3. ALL DIMENSIONS TO BE FIELD VERIFIED PRIOR TO COMMENCEMENT OF WORK.
4. TEMPORARILY RELOCATE AND MAKE GOOD ALL EXISTING UTILITIES IMPACTED BY THE NEW WORK.
5. COORDINATE ALL MECHANICAL, LIGHTING, HVAC, SUSPENDED CEILINGS, ETC.
6. IT IS ASSUMED THAT ALL EXISTING STRUCTURE IS IN GOOD CONDITION AND PER THE EXISTING DRAWINGS. CONTRACTOR IS TO NOTIFY ENTIRETY IF STRUCTURE IS DIFFERENT THAN NOTED.
7. REFER TO ARCHITECTURAL DRAWINGS FOR THE AREA OF THE WORK.
8. DETAILS PROVIDED ARE PRELIMINARY AND CHANGES MIGHT BE REQUIRED DUE TO SITE CONDITION.
9. CONCRETE FINISHES, FINISHES AND SPECIFICATION FOR SOIL/CLUMP CURB REQUIREMENTS.
10. A PROTECTION LAYER OF DRAINAGE MAT (IDEALLY 25mm XPS INSULATION OR HIGH DENSITY POLY BORD MAT) BE INSTALLED BETWEEN THE CONCRETE PAVERS AND THE ROOFING MEMBRANE TO PREVENT PUNCTURE AND ABRASION. REFER TO ARCHITECTURAL DWS FOR SPECIFICATIONS.
11. CONTRACTOR TO ENSURE THAT NEW EQUIPMENT CURBS AND PAVER LAYOUTS DO NOT CREATE WATER PONDING THAT TRAP WATER OR IMPEDE FLOW TO EXISTING ROOF DRAINS.



255 McCaul Street, 4th Floor, Toronto, Ontario M5T 1W

ENTUITIVE



KEY PLAN (NTS)	SEAL
----------------	------

33 URSULA FRANKLIN ST.
DRAWING SHEET TITLE
SECTIONS AND DETAILS

DRAWN BY: SL	SCALE: 1:10
REVIEWED BY: BS	DATE CREATED: 2026/02/04
UNIVERSITY PROJECT NUMBER	NORTH POINT
EN025-02670	
DRAWING NUMBER	REV. NUMBER
S400	3