

GENERAL NOTES AND DETAILS

**D01) GENERAL**

**D01-1 GENERAL INFORMATION**

- THE INFORMATION PRESENTED ON THESE DRAWINGS HAS BEEN DESIGNED AND ANALYZED IN ACCORDANCE WITH THE 2015 NATIONAL BUILDING CODE OF CANADA. CONSTRUCTION IS TO BE PERFORMED IN ACCORDANCE WITH THIS AND ALL OTHER APPLICABLE CODES.
  - 1.1 CONCRETE STRUCTURE DESIGNED IN ACCORDANCE WITH CSA A23.3-14
  - 1.2 STEEL STRUCTURE DESIGNED IN ACCORDANCE WITH CAN/CSA-S16-14
- GUARDRAILS/HANDRAILS SHALL BE DESIGNED AND CERTIFIED BY THE FABRICATOR'S PROFESSIONAL ENGINEER LICENSED IN ONTARIO IN ACCORDANCE WITH LOADS PROVIDED IN (4.1.5, 15.3, 4.6.4 AND 3.4.6.5 OF THE 2015 NATIONAL BUILDING CODE OF CANADA. STAMPED SHOP DRAWINGS TO BE SUBMITTED. IN ADDITION, GLASS IN GUARDS SHALL COMPLY WITH "SUPPLEMENTARY STANDARD SB-17".
- THE ROOF HAS BEEN DESIGNED FOR THE REQUIRED STORM WATER FLOW RESTRICTION IN ACCORDANCE WITH 2015 NATIONAL BUILDING CODE OF CANADA REQUIREMENTS.
- CONTRACTOR IS TO VERIFY/COORDINATE ALL DIMENSIONS/PENETRATIONS WITH ARCHITECTURAL/MECHANICAL/ELECTRICAL DRAWINGS PRIOR TO CONSTRUCTION. REPORT INCONSISTENCIES BEFORE PROCEEDING WITH WORK. ANY OPENINGS NOT INDICATED ON STRUCTURAL DRAWINGS ARE TO BE APPROVED BY DEPARTMENTAL REPRESENTATIVE IN WRITING PRIOR TO CONSTRUCTION.
- LADDERS SHALL BE DESIGNED AND CERTIFIED BY THE FABRICATOR'S PROFESSIONAL ENGINEER LICENSED IN ONTARIO IN ACCORDANCE WITH LOADS PROVIDED IN PART 4 AND PART 3 OF THE 2015 NATIONAL BUILDING CODE OF CANADA. STAMPED SHOP DRAWINGS TO BE SUBMITTED.
- STEEL STAIRS SHALL BE DESIGNED AND CERTIFIED BY THE FABRICATOR'S PROFESSIONAL ENGINEER LICENSED IN ONTARIO IN ACCORDANCE WITH LOADS PROVIDED IN PART 4 AND PART 3 OF THE 2015 NATIONAL BUILDING CODE OF CANADA. STAMPED SHOP DRAWINGS TO BE SUBMITTED.
- SEISMIC RESTRAINT OF ARCH/MEMBRANE ELEMENTS NOT NOTED ON THE DRAWINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR'S ENGINEER. RESTRAINT DETAILS ARE TO BE DEVELOPED IN ACCORDANCE WITH THE 2015 NBCC. CONTRACTOR'S ENGINEER IS RESPONSIBLE FOR THE DESIGN AND DETAILING OF SEISMIC RESTRAINTS AND ISOLATIONS AS REQUIRED BY SPECIFICATIONS INCLUDING THE VERIFICATION THAT THE EXISTING/NEW STRUCTURE IS CAPABLE OF SAFELY SUPPORTING THE IMPOSED LOADS IN ACCORDANCE WITH THE 2015 NBCC. NO ELEMENTS MAY BE CONSTRUCTED WITHOUT WRITTEN CONFIRMATION OF THESE CONDITIONS BY CONTRACTOR'S ENGINEER.
- NO FOUNDATION ELEMENTS ARE TO BE CONSTRUCTED UNTIL WRITTEN APPROVAL OF THE BEARING SURFACES AND PRESSURES IS PROVIDED BY A GEOTECHNICAL ENGINEER THROUGH ON-SITE INVESTIGATION. FAILURE TO COMPLETE THIS WORK COULD RESULT IN THE REMOVAL/REINSTATEMENT OF ANY ALL FOUNDATION ELEMENTS AT CONTRACTORS OWN COST.
- CONTRACTOR TO PROVIDE PRE-ENGINEERED SHORING AS REQUIRED TO ACCOMMODATE THE CONTRACTOR'S CONSTRUCTION ACTIVITIES AND TO PREVENT DAMAGE TO ANY ADJACENT PROPERTY. ALL CONSTRUCTION ACTIVITIES TO BE LIMITED TO THE LIMITS OF THE CONSTRUCTION SITE AND ALL DAMAGE TO EXISTING PROPERTIES MUST BE REINSTATED.
- CONTRACTOR IS REQUIRED TO SUBMIT CONDUIT AND SLEEVING SHOP DRAWINGS FOR ALL FLOORS/ROOFS/WALLS/COLUMNS PRIOR TO THE ERECTION/CONSTRUCTION/FABRICATION OF ANY OF THESE ELEMENTS. THE DRAWINGS ARE TO CLEAR SIZES OF OPENINGS/SLEEVES/CONDUITS IN PLAN (FLOORS/ROOFS/COLUMNS) AND ELEVATION (WALLS/BEAMS). THE COORDINATION OF THE VARIOUS DISCIPLINES/SUBTRADES TO ENSURE ALL ITEMS ARE CLEARLY INDICATED IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. DRAWINGS ARE TO BE SUBMITTED A MINIMUM OF 4 WEEKS PRIOR TO THE CONSTRUCTION OF THE AFFECTED ELEMENT.

**D01-2 GRAVITY LOADS:**

**IMPORTANCE FACTORS:**  
 SNOW: Is ULS = 1.0, SLS = 0.9  
 WIND: Wc ULS = 1.0, SLS = 0.75  
 SEISMIC: Is ULS = 1.0

**SNOW LOAD PARAMETERS:**  
 S = Is [S<sub>g</sub>(C<sub>w</sub>C<sub>e</sub>C<sub>d</sub>C<sub>g</sub>) + S<sub>r</sub>]  
 S<sub>r</sub> = 0.4 kPa (1/50)  
 C<sub>w</sub> = VARIES  
 C<sub>e</sub> = 1.0  
 C<sub>d</sub> = 1.0

**DESIGN LOADS**

REFER TO PLANS

**D01-3 LATERAL LOADING DATA:**

**SEISMIC FORCE RESISTING SYSTEM (SFRS):**

SFRS: SYSTEM & CONNECTIONS: (2015 NBCC CLAUSE 4.1.8.9.4, 1.8.10)  
 LATERAL LOAD RESISTING SYSTEM: CONVENTIONAL CONSTRUCTION: SHEAR WALLS  
 R<sub>d</sub> = 1.5  
 R<sub>o</sub> = 1.3  
 CSA STANDARD: CAN/CSA A23.3-14  
 APPLICABLE CLAUSE(S): 21.6

SFRS: DIAPHRAGMS & CONNECTIONS: (2015 NBCC CLAUSE 4.1.8.15)  
 CSA STANDARD: CAN/CSA A23.3-14  
 APPLICABLE CLAUSE(S): 21.5

SFRS: SYSTEM FOUNDATIONS: (2015 NBCC CLAUSE 4.1.8.16)  
 CSA STANDARD: CAN/CSA A23.3-14  
 APPLICABLE CLAUSE(S): 21.10

CONFIRMATION: FOUNDATIONS HAVE BEEN DESIGNED TO RESIST THE LATERAL FORCES APPLIED TO THE SFRS IN ACCORDANCE WITH THE 2015 NBCC INCLUDING ALL APPLICABLE AMPLIFICATION FACTORS.

**SEISMIC IMPORTANCE FACTOR:** (2015 NBCC CLAUSE 4.1.8.5)

I<sub>e</sub> = 1.0

REFERENCE CITY: OTTAWA

SITE CLASS: THE NOTED SITE CLASSIFICATION FOR SEISMIC SITE RESPONSE AND SHEAR STRENGTH PARAMETERS INDICATED ARE AS REPORTED IN THE GEOTECHNICAL REPORT: EP168-123367 BY: STANTEC DATED: MARCH, 2015

A  B  C  D  E  F (SITE SPECIFIC SPECTRUM: )

PGA: 0.304 PGV: 0.208

**RESPONSE SPECTRUM DATA**

**5% DAMPED SPECTRAL RESPONSE ACCELERATION VALUES FOR REFERENCE CITY:** (2015 NBCC SUPPLEMENTARY STANDARD SB-1)

S <sub>a</sub> (0.2)	= 0.474
S <sub>a</sub> (0.5)	= 0.252
S <sub>a</sub> (1.0)	= 0.124
S <sub>a</sub> (2.0)	= 0.058
S <sub>a</sub> (5.0)	= 0.014
S <sub>a</sub> (10.0)	= 0.0056

**DESIGN SPECTRAL RESPONSE ACCELERATION VALUES (DSRAV):** (2015 NBCC CLAUSE 4.1.8.4)

CLASS 'C': (F<sub>a</sub> = 1.00; F<sub>v</sub> = 1.00)

S <sub>a</sub> (0.2)	= 0.474
S <sub>a</sub> (0.5)	= 0.252
S <sub>a</sub> (1.0)	= 0.124
S <sub>a</sub> (2.0)	= 0.058
S <sub>a</sub> (5.0)	= 0.014
S <sub>a</sub> (10.0)	= 0.0056

SYSTEM RESTRICTION VALUE: If F<sub>a</sub>S<sub>a</sub>(0.2) = 0.474 ≥ 0.35  YES (DYNAMIC ANALYSIS REQUIRED)  NO (STATIC ANALYSIS MAY BE USED)

**PERIOD DATA:**

EMPIRICAL PERIOD: (2015 NBCC CLAUSE 4.1.8.11(3)) (a),(b),(c)

T<sub>EMPIRICAL,NS</sub> = 0.20 sec  
 T<sub>EMPIRICAL,EW</sub> = 0.20 sec

MODAL PERIOD: (2015 NBCC CLAUSE 4.1.8.11(3)(4) AND 4.1.8.3(8))

T<sub>MODAL,NS</sub> = 0.056 sec  
 T<sub>MODAL,EW</sub> = 0.053 sec

**DESIGN PERIODS/MODE & MOMENT FACTORS:** (2015 NBCC CLAUSE 4.1.8.11(5))

20 ≤  $\frac{S_{a2}}{S_{a1}}$  ≤ 34 ≤ 40

T<sub>DESIGN,NS</sub> = 0.056 sec M<sub>v</sub> = 1.0 J = 1.0  
 T<sub>DESIGN,EW</sub> = 0.053 sec M<sub>v</sub> = 1.0 J = 1.0

**DESIGN FUNDAMENTAL PERIOD BASED DSRAV:** (2015 NBCC CLAUSE 4.1.8.11(2))

S<sub>T,NS</sub> = 0.474  
 S<sub>T,EW</sub> = 0.474

**IRREGULARITY REVIEW:** (2015 NBCC CLAUSE 4.1.8.6)

- |                            |   |
|----------------------------|---|
| 1. VERTICAL STIFFNESS:     | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| 2. WEIGHT:                 | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| 3. VERTICAL GEOMETRIC:     | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| 4. IN PLANE DISCONTINUITY: | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| 5. OUT OF PLANE:           | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| 6. WEAK STOREY:            | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| 7. TORSIONAL:              | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| B <sub>10</sub> = 1.8      |   |
| B <sub>10</sub> = 1.9      |   |
| 8. NON-ORTHOGONAL:         | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |

CONCLUSION: BUILDING IS  REGULAR  IRREGULAR  
 DYNAMIC ANALYSIS:  REQUIRED  NOT REQUIRED  
 DYNAMIC PROCEDURE: METHOD:  MODAL RESPONSE SPECTRUM  NUMERICAL INTEGRATION TIME HISTORY  N/A

TORSIONAL ECCENTRICITY:  ≥ 0.10 D<sub>rx</sub> (4.1.8.11(10a)), B ≤ 1.7 EQUIV. STATIC FORCE PROCEDURE  
 ≥ 0.10 D<sub>rx</sub> (4.1.8.12(4a)), B ≥ 1.7  
 ≥ 0.05 D<sub>rx</sub> (4.1.8.12(4b)), B < 1.7, 3-D DYNAMIC ANALYSIS

STRUCTURAL SEPARATION:  THE ADJACENT STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14(1) OF THE 2015 N.B.C.C.  
 N/A

BUILDING WEIGHT FOR SEISMIC DESIGN: W = 21,000 KN

BASE SHEARS/MOMENTS:  
 V<sub>static</sub> = S(T<sub>1</sub>)M<sub>1</sub>E<sub>w</sub>(R<sub>d</sub>R<sub>o</sub>) = W \* 0.16 = 3360 KN

**STATIC MAXIMUM/MINIMUM VALUES:**

NORTH-SOUTH: (↑)  
 V<sub>max</sub> = S(4.0)M<sub>1</sub>E<sub>w</sub>(R<sub>d</sub>R<sub>o</sub>) = W \* 0.0154 = 325 KN  
 V<sub>max</sub> =  $\frac{2}{3}$  S(0.2)E<sub>w</sub>(R<sub>d</sub>R<sub>o</sub>) = W \* 0.162 = 3,405 KN  GOVERNS  
 V<sub>max</sub> = S(0.5)E<sub>w</sub>(R<sub>d</sub>R<sub>o</sub>) = W \* 0.129 = 2,713 KN  GOVERNS

EAST-WEST: (←→)  
 V<sub>max</sub> = S(4.0)M<sub>1</sub>E<sub>w</sub>(R<sub>d</sub>R<sub>o</sub>) = W \* 0.0154 = 325 KN  
 V<sub>max</sub> =  $\frac{2}{3}$  S(0.2)E<sub>w</sub>(R<sub>d</sub>R<sub>o</sub>) = W \* 0.162 = 3,405 KN  GOVERNS  
 V<sub>max</sub> = S(0.5)E<sub>w</sub>(R<sub>d</sub>R<sub>o</sub>) = W \* 0.129 = 2,713 KN  GOVERNS

SEISMIC LOADS		
EQUIVALENT STATIC (ES) FORCE PROCEDURE 2015 NBCC CLAUSE 4.1.8.11(1)(10)	DYNAMIC ANALYSIS (DY) PROCEDURE (1)(3) (INITIAL SCALING FACTOR) 2015 NBCC CLAUSE 4.1.8.12(1)-(5)	DESIGN (D) LOADS (2)
NORTH-SOUTH: (↑)	NORTH-SOUTH: (↑)	NORTH-SOUTH: (↑)
V <sub>static</sub> = W * 0.16 = 3328 KN M <sub>static</sub> = 17,400 KN·m	V <sub>static</sub> = 2810 KN M <sub>static</sub> = 15,810 KN·m MPMR = 97 %	V <sub>static</sub> = 3230 KN M <sub>static</sub> = 18,000 KN·m
NON-ORTHOGONAL EFFECTS HAVE BEEN CONSIDERED IN ACCORDANCE WITH 2015 NBCC CLAUSE 4.1.8.9 (c)		
<input type="checkbox"/> YES <input checked="" type="checkbox"/> N/A		
EAST-WEST: (←→)	EAST-WEST: (←→)	EAST-WEST: (←→)
V <sub>static</sub> = W * 0.16 = 3328 KN M <sub>static</sub> = 17,400 KN·m	V <sub>static</sub> = 2880 KN M <sub>static</sub> = 16,000 KN·m MPMR = 97 %	V <sub>static</sub> = 3230 KN M <sub>static</sub> = 18,000 KN·m
NON-ORTHOGONAL EFFECTS HAVE BEEN CONSIDERED IN ACCORDANCE WITH 2015 NBCC CLAUSE 4.1.8.9 (c)		
<input type="checkbox"/> YES <input checked="" type="checkbox"/> N/A		

**D01-3.1 WIND:**

WIND: NORTH-SOUTH: (↑)  
 q = 0.41 kPa  
 (1 IN 50 YEARS)  
 I<sub>w</sub> = 1.0 (ULS)  
 I<sub>w</sub> = 0.75 (SLS)

EAST-WEST: (←→)  
 V<sub>base</sub> = 140 KN  
 M<sub>base</sub> = 750 KN·m  
 V<sub>base</sub> = 170 KN  
 M<sub>base</sub> = 900 KN·m

**D01-4 SHOP DRAWINGS**

- SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL WORK AND ANY WORK AFFECTING THE STRUCTURE TO THE DEPARTMENTAL REPRESENTATIVE. OBTAIN DEPARTMENTAL REPRESENTATIVE'S APPROVAL BEFORE PROCEEDING WITH THE FABRICATION.
- EACH OF THE FOLLOWING SHOP DRAWINGS MUST BEAR THE SIGNATURE AND STAMP OF A QUALIFIED PROFESSIONAL DEPARTMENTAL REPRESENTATIVE REGISTERED IN THE PROVINCE. (PLUS OTHER DRAWINGS AS NOTED).
  - DRAWINGS FOR ANY TEMPORARY WORK
  - DRAWINGS FOR ANY STRUCTURAL PARTS DESIGNED BY THE CONTRACTOR'S FORCES INCLUDING EXTERIOR BUILDING ENVELOPE.
  - STRUCTURAL STEEL/JOISTS.
  - FORMWORK
- SHOP DRAWINGS MUST BE REVIEWED AND STAMPED REVIEWED BY THE CONTRACTOR BEFORE ISSUING TO THE DEPARTMENTAL REPRESENTATIVE. SHOP DRAWINGS NOT STAMPED BY THE CONTRACTOR WILL BE REJECTED. ANY DELAYS IN THE CONSTRUCTION SCHEDULE DUE TO NONCOMPLIANCE WITH THIS REQUIREMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- SUBMIT STRUCTURAL STEEL, STEEL JOIST AND STEEL DECK SHOP DRAWINGS FOR DEPARTMENTAL REPRESENTATIVE'S REVIEW BEFORE FABRICATION. ALL SHOP DRAWINGS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER IN THE PROVINCE OF ONTARIO.
- SHOP DRAWINGS ARE REVIEWED FOR CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. THIS REVIEW DOES NOT IMPLY APPROVAL OF THE DETAILED DESIGN OR QUANTITIES DESCRIBED IN THE SHOP DRAWINGS. THE RESPONSIBILITY FOR THE QUANTITIES AND DETAILED DESIGN OF THE MATERIALS AND COMPONENTS AS REQUIRED TO PROVIDE THE COMPLETE AND SATISFACTORY JOB DESCRIBED IN THE DESIGN DOCUMENTS REMAINS WITH THE CONTRACTOR.

**D01-5 DEFINITIONS**

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED IN THESE NOTES AND DRAWINGS:

@	AT (SPACING etc)	mm	MILLIMETRES
ARCH.	ARCHITECTURAL	MAX.	MAXIMUM
B	BOTTOM	MECH	MECHANICAL
BF	BRACE FRAME	MIN.	MINIMUM
BLL	BOTTOM LOWER LAYER	NF	NEAR FACE
BUL	BOTTOM UPPER LAYER	NTS	NOT TO SCALE
BP	BEAM PROCKET	OF	OUTSIDE FACE
cc	CENTRE TO CENTRE	PCO	PILE CUT-OFF
C	CENTRE LINE	PLATE	PLATE
CONT.	CONTINUOUS	SMR	STANDARD GALVANIZED LADDER
CW	CORE WALL	SMR	MASONRY REINFORCEMENTS
DWLS	DOWELS	SW	SHEARWALL
EA.	EACH	T	TOP
EE	EACH END	TLL	TOP LOWER LAYER
EF	EACH FACE	TUL	TOP UPPER LAYER
EL	ELEVATION	TOPC	TOP OF PILE CAP
ES	EACH SIDE	TYP.	TYPICAL
EW	EACH WAY	UN	UNLESS OTHERWISE NOTED
FF	FAR FACE	UL	UPPER LAYER
H	HORIZONTAL	US	UPSIDE
HDMR	HEAVY DUTY GALVANIZED TRUSS	V	VERTICAL
IF	INSIDE FACE		
LL	LOWER LAYER		
m	METRES		

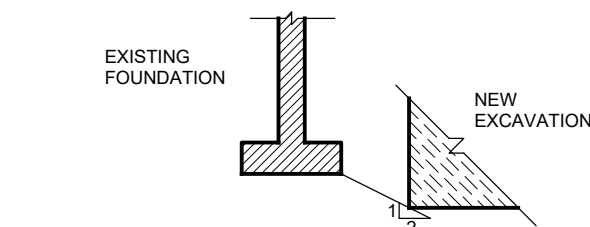
**D31) FOUNDATIONS:**

**D31-1 FOOTINGS:**

ALL FOOTINGS TO BEAR ON UNDISTURBED NATIVE MATERIAL WITH MINIMUM ALLOWABLE BEARING STRENGTHS AS NOTED AND AS APPROVED BY GEOTECHNICAL ENGINEER ON SITE.  
 REFERENCE: GEOTECHNICAL REPORT: OTT-0023352-00 DATED: JULY 21, 2016  
 REPORT AUTHOR: EXP SERVICES INC.

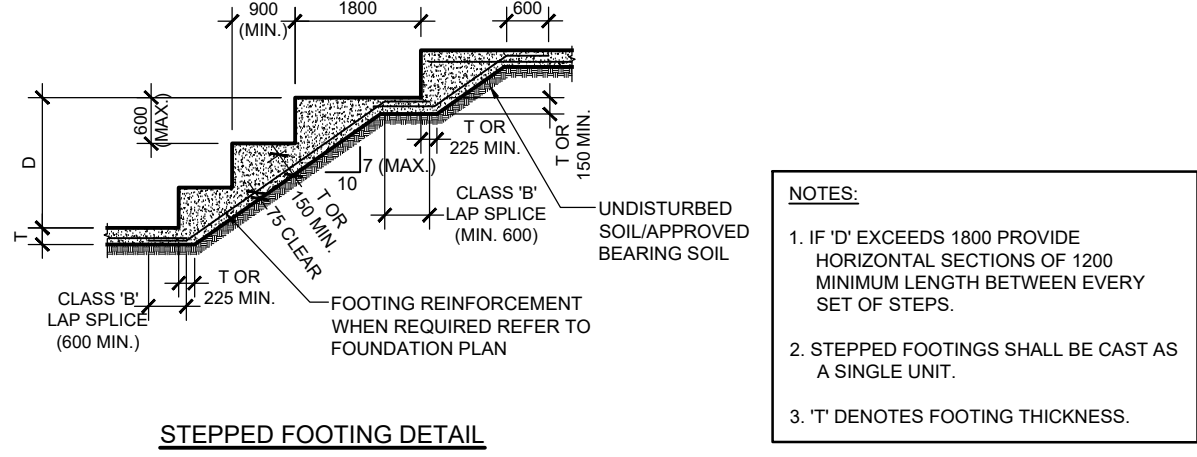
**D31-2 PROTECT LATERAL STABILITY OF BEARING STRATA UNLESS NOTED:**

UNLESS OTHERWISE OUTLINED IN GEOTECHNICAL REPORT DO NOT EXCAVATE BELOW A LINE EXTENDING DOWNWARD FROM ANY BEARING STRATA AT A SLOPE OF 1 VERTICAL TO 2 HORIZONTAL. ADJUST FOOTING AND TRENCH ELEVATIONS TO MEET THIS REQUIREMENT (SEE DIAGRAM).



**D31-3 FOOTINGS STEPS:**

LOCATIONS OF FOOTING STEPS TO BE APPROVED BY DEPARTMENTAL REPRESENTATIVE IN WRITING PRIOR TO CONSTRUCTION.



NOTES:  
 1. IF 'D' EXCEEDS 1800 PROVIDE HORIZONTAL SECTIONS OF 1200 MINIMUM LENGTH BETWEEN EVERY SET OF STEPS.  
 2. STEPPED FOOTINGS SHALL BE CAST AS A SINGLE UNIT.  
 3. 'T' DENOTES FOOTING THICKNESS.

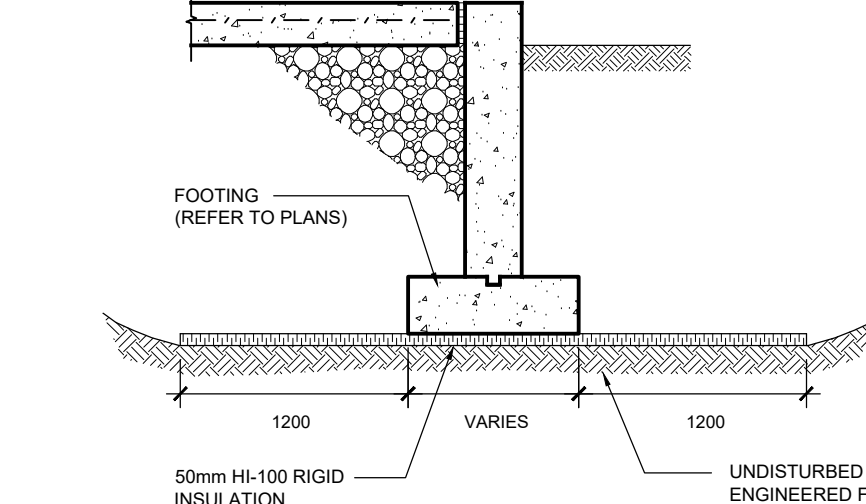
**D31-4 MINIMUM FROST COVER REQUIREMENTS:**

(NOTE: INCREASE DEPTHS AS REQUIRED BY GEOTECHNICAL REPORT/DEPARTMENTAL REPRESENTATIVE)

- @ HEATED BUILDINGS: 1800mm
- @ HEATED BUILDING (SNOW CLEARED): 1800mm
- @ ISOLATED AREAS: 1800mm

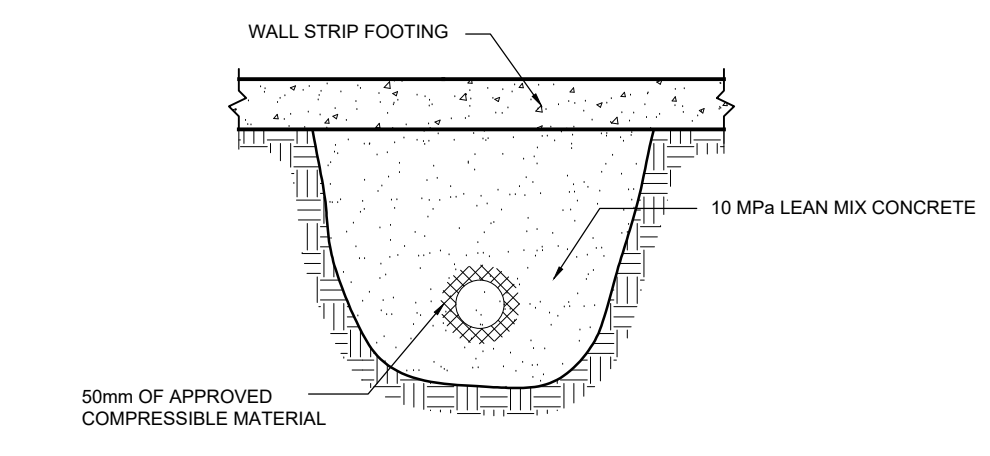
**D31-5 ALTERNATE FROST COVER DETAIL**

(NOTE: ONLY TO BE USED AFTER WRITTEN APPROVAL BY DEPARTMENTAL REPRESENTATIVE / (WHERE GEOTECHNICAL REPORT REQUIRES MORE SOIL COVER/EXTENTS OF INSULATION, SOILS REPORT GOVERNS)



**D31-6 PIPE CROSSING BELOW STRIP FOOTING:**

(NOTE: LOCATIONS WHERE PIPES CROSS BELOW FOOTINGS ARE TO BE APPROVED BY DEPARTMENTAL REPRESENTATIVE IN WRITING PRIOR TO CONSTRUCTION. DEPARTMENTAL REPRESENTATIVE RESERVES THE RIGHT TO RELOCATE PIPES AS REQUIRED OR LOWER FOOTINGS TO SUIT.)



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plan-référence		key plan	
L'entrepreneur doit vérifier les dimensions des dessins et les conditions de chantier avant de débiter les travaux. Aviser les professionnels de toutes divergences aux documents de construction. Ne pas mesurer sur les dessins.		soceau stamp	
1	Issued For Tender	June 12, 2018	
no.	description	date	
REVISION			

projet	projet
PROJECT BUILDING A	

dessin drawing			
General Notes and Details			
conception	conception	no. dossier	project no.
B. J.		14-0072B	
dessiné	drawn	fichier DAO	CAD file
S.H.			
approuvé	approved	dossier client	client file
B. J.		7207528	
échelle	scale	imprimé	plot date
AS SHOWN		27/06/2017	
no. page	sheet number		rev
S000			

**D03) CONCRETE**

**D03-1 CONCRETE COVER (CLEAR TO REINFORCING):**

US FOOTINGS, PILE CAPS, GRADE BEAMS (AGAINST SOIL)	75mm
FOOTINGS, PILE CAPS, GRADE BEAMS (SIDES & TOP)	50mm
WALLS	40mm
SLABS	25mm U/N
BEAMS (TO STIRRUPS)	40mm (TO STIRRUPS)
COLUMNS	40mm (TO TIES)
BALCONIES	40mm (TO TOP STEEL)

PROVIDE 32mm COVER FOR BOTTOM STEEL FOR SLAB ABOVE 3HR. FIRE RATED AREAS. PROVIDE 50mm COVER FOR COLUMN TIES IN 3HR. FIRE RATED AREAS.

**D03-2 SLAB AND WALL OPENINGS:**

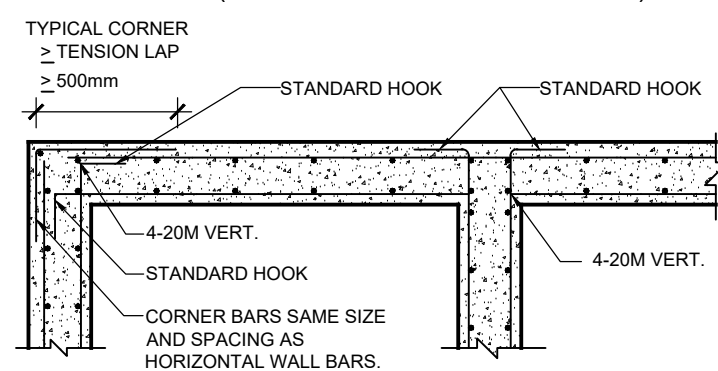
- DISPLACE BARS LATERALLY AT SLAB OPENINGS. D.O.N.O.T.C.U.T. PLACE HALF OF DISPLACED BARS EACH SIDE OF OPENING AND INFILL BETWEEN WITH BARS OF MATCHING SIZE & SPACING.
- PROVIDE 1-15M TOP AND BOTTOM MINIMUM ADDITIONAL REINFORCEMENT AROUND SLAB OPENINGS 300x300 OR LARGER (UNLESS NOTED). EXTEND 24 BAR DIAMETER (600mm MIN.) BEYOND CORNERS.
- PROVIDE THE FOLLOWING MINIMUM ADDITIONAL REINFORCEMENT AROUND WALL OPENINGS 300x300 OR LARGER (UNLESS NOTED). EXTEND 24 BAR DIAMETER BEYOND CORNERS EACH WAY.  
200 WALLS: 1-20M  
250 WALLS: 2-20M E.F.  
300 OR THICKER WALLS: 2-20M
- SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL OPENINGS TO THOSE INDICATED.
- PROVIDE OPENINGS IN WALLS AND SLABS AS SHOWN ON STRUCTURAL DRAWINGS OR OTHERWISE REQUIRED BY VARIOUS TRADES. DEPARTMENTAL REPRESENTATIVE'S APPROVAL MUST BE OBTAINED FOR LOCATIONS AND SIZES OF OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS. ALL OPENINGS MUST BE FORMED BEFORE THE SLAB OR WALL IS POURED. DO NOT CUT ANY OPENINGS. AFTER CONCRETING, UNLESS SPECIFICALLY AUTHORIZED BY THE DEPARTMENTAL REPRESENTATIVE.
- PROVIDE SLEEVES IN SLABS OR WALLS FOR MECHANICAL PIPING AND AVOID OPENINGS WHERE POSSIBLE. DEPARTMENTAL REPRESENTATIVE'S APPROVAL MUST BE OBTAINED FOR ANY CONCENTRATION OF SLEEVES IN COLUMN BAND AND AROUND COLUMN. SLEEVING DRAWINGS MUST BE SUBMITTED FOR APPROVAL MINIMUM OF TWO WEEKS PRIOR TO POURING OF CONCRETE.

**D03-3 MINIMUM WALL REINFORCING:**

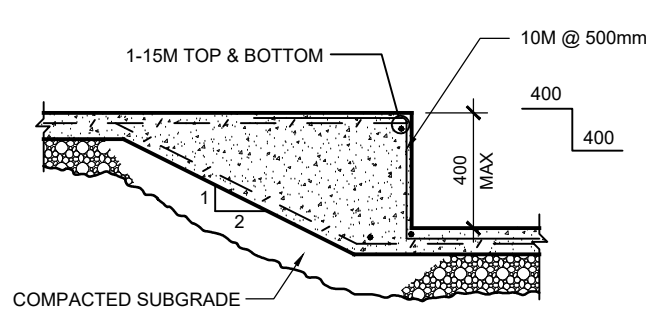
UNLESS OTHERWISE NOTED PROVIDE:

WALL THICKNESS	VERTICAL BARS (0.025Ag)	HORIZONTAL BARS (0.025Ag)	VERTICAL EACH END
150mm	10M @ 250	10M @ 250	1-15M
200mm	15M @ 400	15M @ 400	1-20M
250mm	10M @ 300 EF	10M @ 300 EF	2-20M
300mm	10M @ 250 EF	10M @ 450 EF	2-25M
350mm	15M @ 400 EF	15M @ 400 EF	2-25M
400mm	15M @ 400 EF	15M @ 400 EF	2-25M

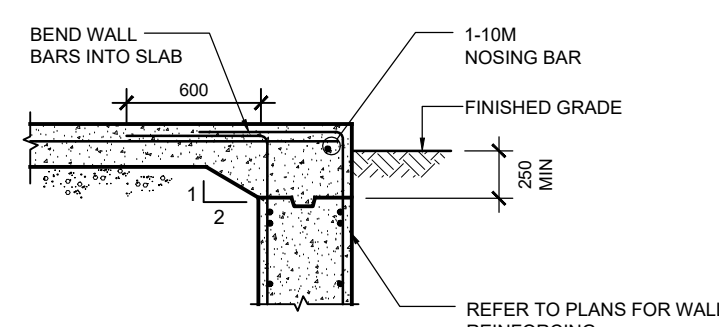
**D03-4 HORIZONTAL WALL STEEL DETAIL AT CORNERS U/N: (NON-SHEAR WALL LOCATIONS)**



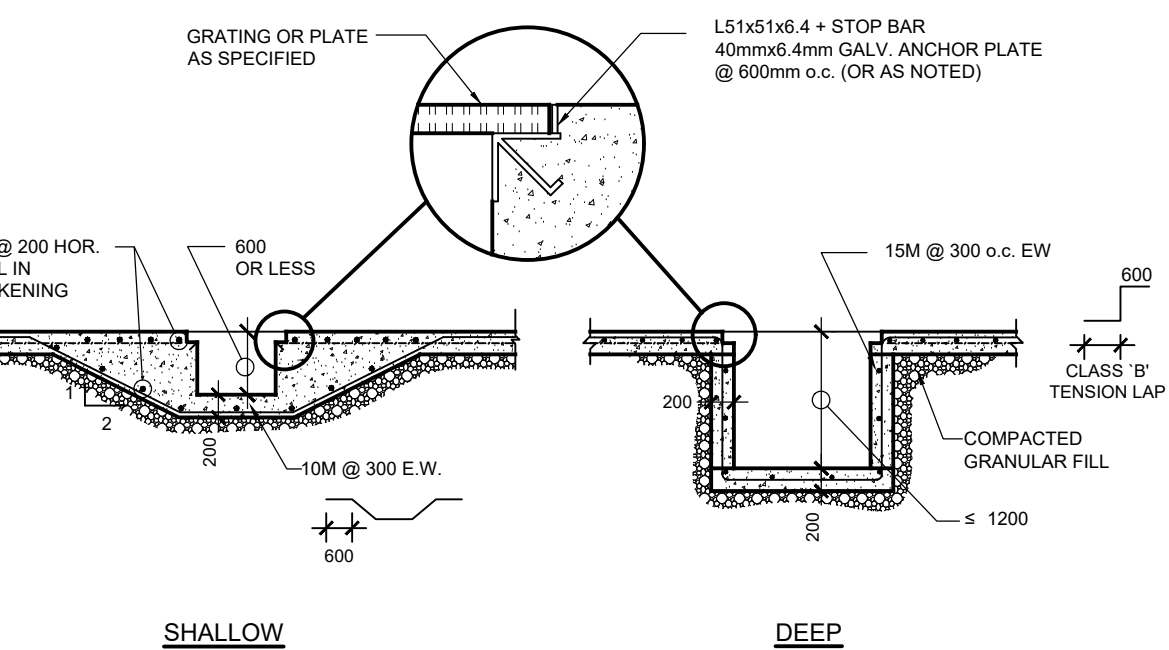
**D03-5 SLAB ON GRADE ELEVATION CHANGE U/N:**



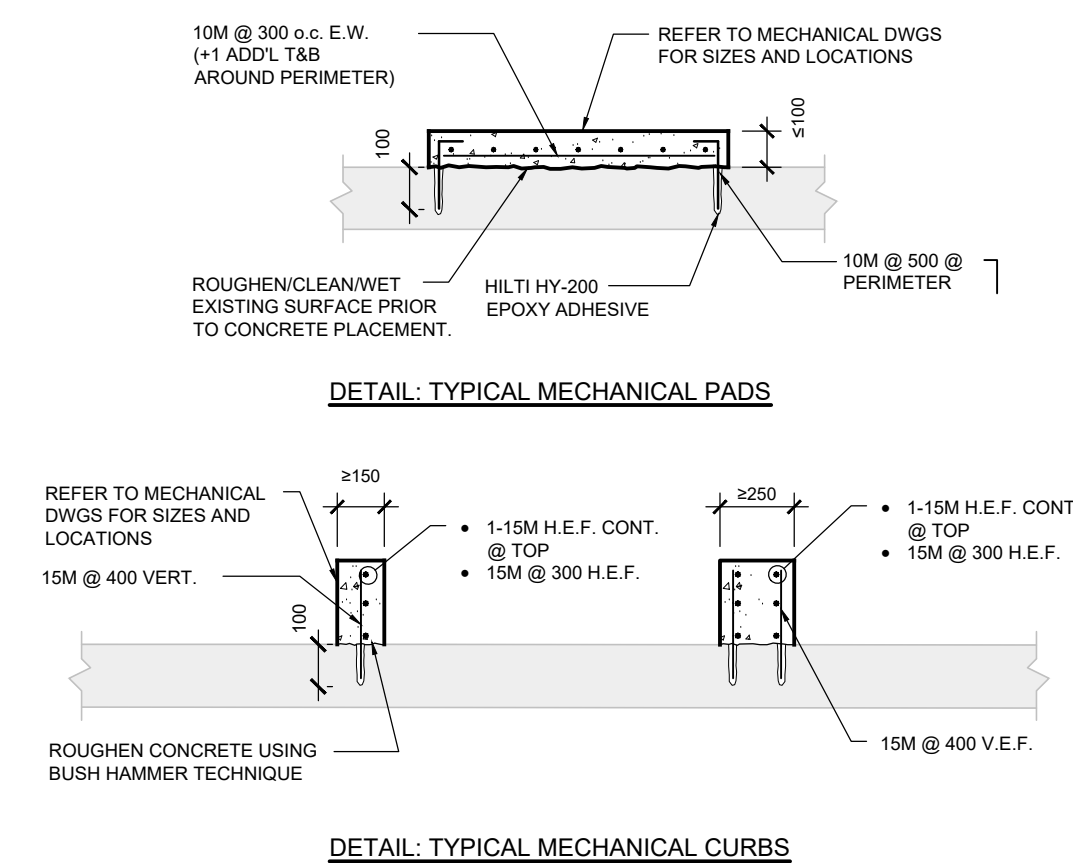
**D03-6 SLAB ON GRADE AT DOORS:**



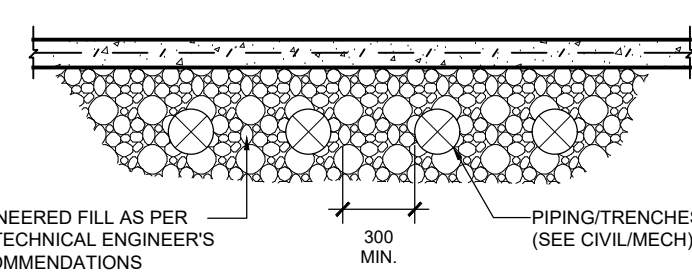
**D03-7 PITS/TRENCHES, PADS AND CURBS U/N:**



**D03-7 PITS/TRENCHES, PADS AND CURBS U/N: (CONTD)**



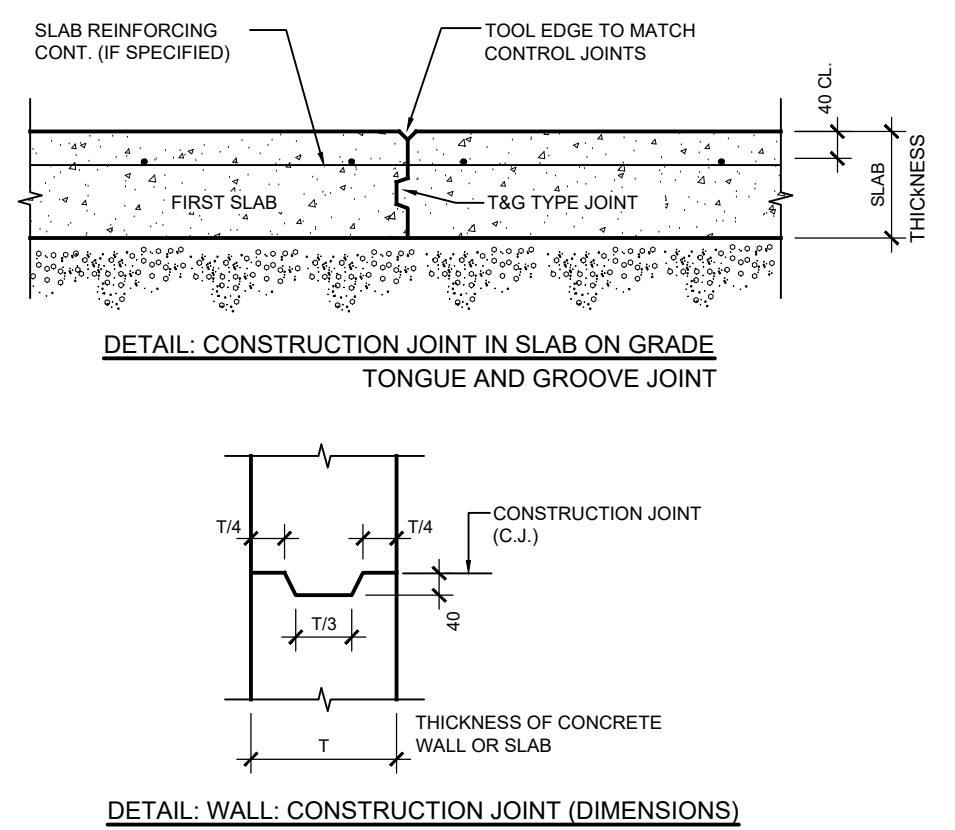
**D03-8 UNDERSLAB/UNDERGROUND PIPING TRENCHES**



**D03-9 SLAB ON GRADE NOTES:**

- SLAB ON GRADE TO BE PLACED ON COMPACTED GRANULAR MATERIAL IN STRICT ACCORDANCE WITH THE SOILS REPORT. COMPACTION TESTS ON FILL MATERIAL TO BE CARRIED OUT PRIOR TO SLAB ON GRADE PLACEMENT.
- PROVIDE APPROVED PREFORMED KEVED CONTROL JOINTS OR SAW CUTS (WITHIN 24 HOURS) AND FILL WITH APPROVED MASTIC JOINT FILLER (SEE TYPICAL DETAILS).
- BREAK BOND AT SURFACES OF CONTACT WITH OTHER CONCRETE (USE ASPHALT WATERPROOFING, HEAVY DUTY POLYETHYLENE OR SAND LAYER).
- PROVIDE 10mm ASPHALT IMPREGNATED FIBRE BOARD AND CAULKING AROUND ALL COLUMNS AND ALONG ALL WALLS.
- PROVIDE POLY FIBRE REINFORCING TYPICAL UNLESS OTHERWISE NOTED.
- PROVIDE CIRCULAR OR RECTANGULAR POCKETS AROUND COLUMNS. PLACE CONCRETE IN POCKET 2 WEEKS AFTER SLAB IS CONSTRUCTED.
- DO NOT PLACE SLAB ON GRADE IN ONE CONTINUOUS POUR IN LENGTHS EXCEEDING 30m IN EITHER DIRECTION.
- SUBMIT FOR REVIEW LAYOUT DRAWING WITH CONSTRUCTION JOINT LOCATIONS AND SAWCUT PATTERN.
- MAINTAIN MINIMUM SPECIFIED THICKNESS AT ALL DEPRESSIONS AND CHANGES IN ELEVATIONS.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT AND LOCATIONS OF ALL FINISHES AND DEPRESSIONS.

**D03-10 CONSTRUCTION JOINTS**



**D03-11 CONCRETE MIXES**

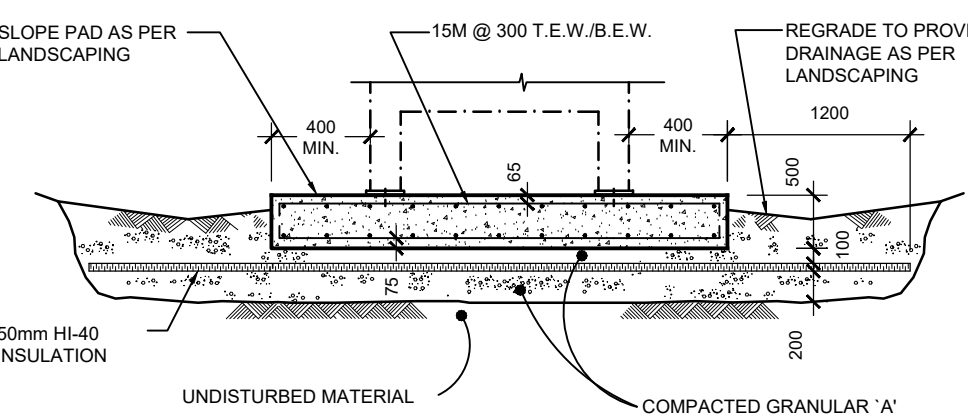
PROPORTION NORMAL DENSITY CONCRETE IN ACCORDANCE WITH CANCSA-A23.1, TO GIVE THE FOLLOWING QUALITY FOR ALL CONCRETE AS INDICATED UNLESS OTHERWISE NOTED ON PLANS/SECTIONS/SCHEDULES.

LOCATION	28 DAY STRENGTH	CLASS OF EXPOSURE	TYPE OF CONCRETE
SLAB ON GRADE: GRIDS 1-2:	25 MPa	N	NORMAL
SLAB ON GRADE: GRIDS 2-5:	20 MPa	N	RF
FOOTINGS: ALL:	25 MPa	N	NORMAL
FOUNDATION WALLS: GRIDS 8/E/F:	25 MPa	N	NORMAL
FOUNDATION WALLS: GRIDS 2/5/A/F:	25 MPa	N	NORMAL
BELOW RF SLAB ON GRADE:	25 MPa	N	F-2
ABOVE RF SLAB ON GRADE:	20 MPa	N	RF
WALLS ABOVE GRADE (INCL. BEAM):	20 MPa	N	RF
COLUMNS: GRIDS 11/5:	25 MPa	N	NORMAL
COLUMNS: GRIDS 3/4:	20 MPa	N	RF
COLUMNS: GRIDS 5/5:	35 MPa	C-1	NORMAL
SUSPENDED SLABS:			
GRIDS 2-5:	20 MPa	N	RF
GRIDS 0/5/2:	25 MPa	N	N (EXCEPT RF BAND)
GRIDS 5-5-5 (CANOPY):	25 MPa	N	N (EXCEPT RF BAND)
PARAPETS (ABOVE SUSP. SLAB):	25 MPa	N	NORMAL
EXTERIOR PADS:	35 MPa	C-1	NORMAL

\*NOTE: ALL CONCRETE EXPOSED TO EXTERIOR CONDITIONS TO HAVE MINIMUM 6% TO 8% AIR ENTRAINMENT. REFER TO CSA A23.1(09) FOR AIR CONTENT REQUIREMENTS.

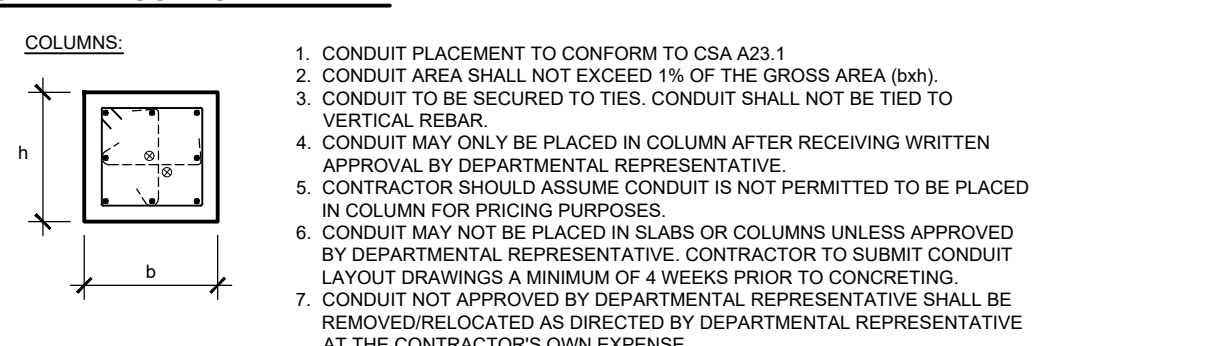
- READY-MIXED CONCRETE AND CONCRETE PROPORTIONS SHALL BE IN ACCORDANCE WITH CSA A23.1 AND AS FOLLOWS:
- MINIMUM ALLOWABLE COMPRESSIVE STRENGTH SHALL BE 20 MPa (TYPE RF) AT 28 DAYS OF AGE, UNLESS OTHERWISE NOTED OR SHOWN.
  - PROVIDE CERTIFICATION THAT MIX PROPORTIONS SELECTED WILL PRODUCE CONCRETE OF SPECIFIED QUALITY AND YIELD AND THAT STRENGTH WILL COMPLY WITH CANCSA-A23.1(09).
  - USE OF CALCIUM CHLORIDE NOT PERMITTED.
  - DO NOT CHANGE CONCRETE MIX WITHOUT PRIOR APPROVAL OF CONSULTANT. SHOULD CHANGE IN MATERIAL SOURCE BE PROPOSED, NEW MIX DESIGN TO BE APPROVED BY CONSULTANT.

**D03-12 EXTERIOR EQUIPMENT PADS**



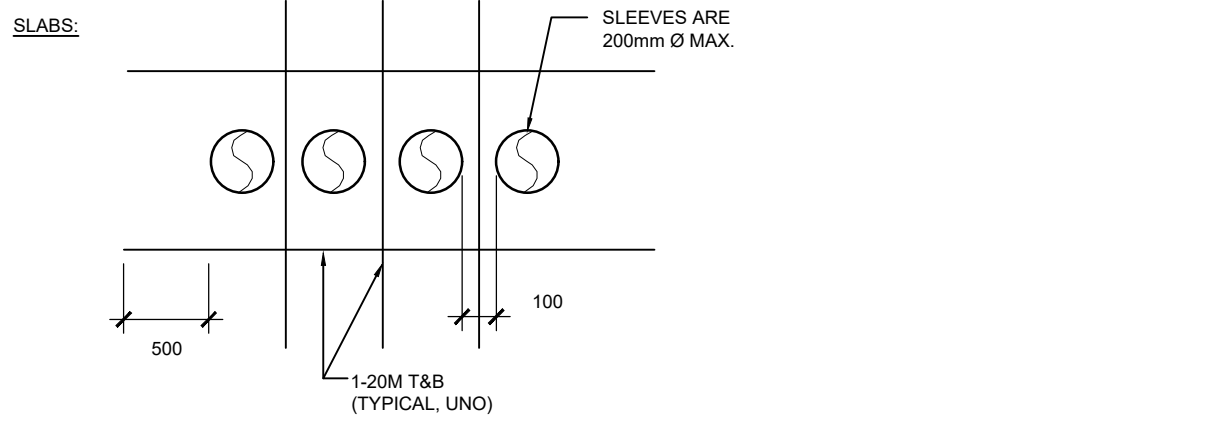
NOTE: PROVIDE EXTERIOR PADS AS REQUIRED. REFER TO ARCH/LANDSCAPE DWGS FOR LOCATIONS/DIMENSIONS.

**D03-13 EMBED CONDUIT AND PIPE**

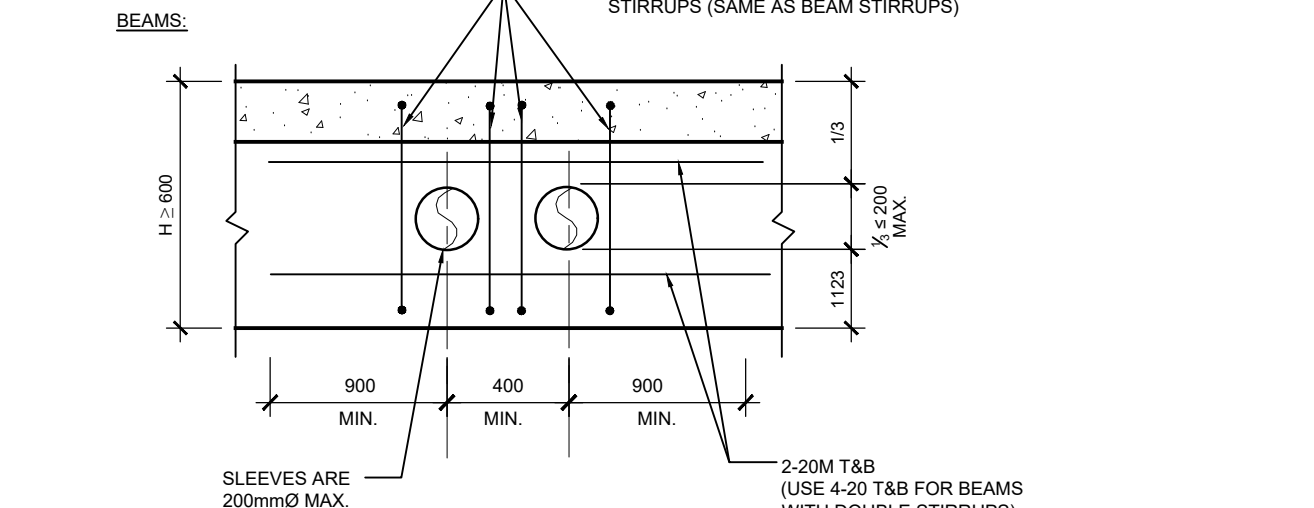


- COLUMNS:**
- CONDUIT PLACEMENT TO CONFORM TO CSA A23.1
  - CONDUIT AREA SHALL NOT EXCEED 1% OF THE GROSS AREA (b<sup>2</sup>h)
  - CONDUIT TO BE SECURED TO TIES. CONDUIT SHALL NOT BE TIED TO VERTICAL REBAR.
  - CONDUIT MAY ONLY BE PLACED IN COLUMN AFTER RECEIVING WRITTEN APPROVAL BY DEPARTMENTAL REPRESENTATIVE.
  - CONTRACTOR SHOULD ASSUME CONDUIT IS NOT PERMITTED TO BE PLACED IN COLUMN FOR PRICING PURPOSES.
  - CONDUIT MAY NOT BE PLACED IN SLABS OR COLUMNS UNLESS APPROVED BY DEPARTMENTAL REPRESENTATIVE. CONTRACTOR TO SUBMIT CONDUIT LAYOUT DRAWINGS A MINIMUM OF 4 WEEKS PRIOR TO CONCRETING.
  - CONDUIT NOT APPROVED BY DEPARTMENTAL REPRESENTATIVE SHALL BE REMOVED/RELOCATED AS DIRECTED BY DEPARTMENTAL REPRESENTATIVE AT THE CONTRACTOR'S OWN EXPENSE.
- SLABS AND WALLS:**
- CONDUIT SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL.
  - CONDUIT SHALL NOT BE TIED TO REBAR.
  - CONDUIT SHALL ALWAYS RUN PARALLEL OR PERPENDICULAR TO COLUMN LINES.
  - CROSSING OF CONDUIT SHALL BE DONE AT 90° ANGLES.
  - CONDUIT MAY NOT BE PLACED IN SLABS OR WALLS UNLESS APPROVED BY DEPARTMENTAL REPRESENTATIVE. CONTRACTOR TO SUBMIT CONDUIT LAYOUT DRAWINGS A MINIMUM OF 4 WEEKS PRIOR TO CONCRETING.
  - CONDUIT NOT APPROVED BY DEPARTMENTAL REPRESENTATIVE SHALL BE REMOVED/RELOCATED AS DIRECTED BY DEPARTMENTAL REPRESENTATIVE AT THE CONTRACTOR'S OWN EXPENSE.

**D03-14 SLEEVES THROUGH SLABS AND BEAMS**



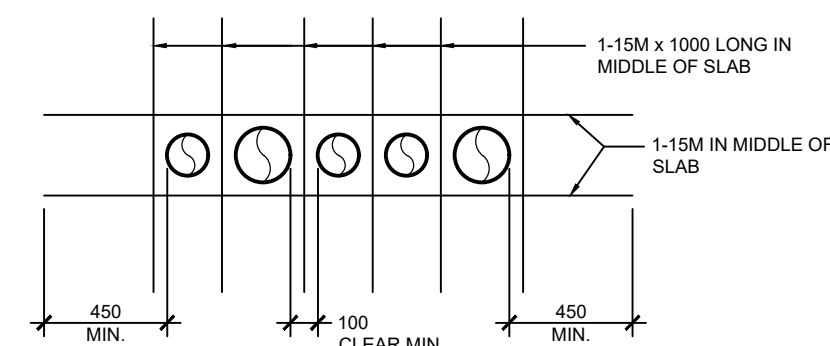
- SLEEVES SHALL NOT BE PLACED NEAR COLUMNS, CAPITALS, OR DROP PANELS, UNLESS DEPARTMENTAL REPRESENTATIVE IS NOTIFIED.
- INCREASE BAR LENGTHS BY 20% FOR EPOXY REBAR.
- INFORM DEPARTMENTAL REPRESENTATIVE IF ANY SLEEVES EXCEED 200mmØ.
- ALL SLEEVES SHALL BE COORDINATED WITH SUB-CONTRACTORS AND BE INDICATED ON REBAR SHOP DRAWINGS.
- SLEEVE MAY NOT BE PLACED IN SLABS OR WALLS UNLESS APPROVED BY DEPARTMENTAL REPRESENTATIVE. CONTRACTOR TO SUBMIT SLEEVE LAYOUT DRAWINGS A MINIMUM OF 4 WEEKS PRIOR TO CONCRETING.
- SLEEVE NOT APPROVED BY DEPARTMENTAL REPRESENTATIVE SHALL BE REMOVED/RELOCATED AS DIRECTED BY DEPARTMENTAL REPRESENTATIVE AT THE CONTRACTOR'S OWN EXPENSE.



- SLEEVES SHALL NOT BE PLACED IN BEAMS UNLESS DEPARTMENTAL REPRESENTATIVE IS NOTIFIED.
- INCREASE BAR LENGTHS BY 20% FOR EPOXY REBAR.
- INFORM DEPARTMENTAL REPRESENTATIVE IF ANY SLEEVES EXCEED 200mmØ.
- ALL SLEEVES SHALL BE COORDINATED WITH SUB-CONTRACTORS AND BE INDICATED ON REBAR SHOP DRAWINGS.
- SLEEVE MAY NOT BE PLACED IN SLABS OR WALLS UNLESS APPROVED BY DEPARTMENTAL REPRESENTATIVE. CONTRACTOR TO SUBMIT SLEEVE LAYOUT DRAWINGS A MINIMUM OF 4 WEEKS PRIOR TO CONCRETING.
- SLEEVE NOT APPROVED BY DEPARTMENTAL REPRESENTATIVE SHALL BE REMOVED/RELOCATED AS DIRECTED BY DEPARTMENTAL REPRESENTATIVE AT THE CONTRACTOR'S OWN EXPENSE.

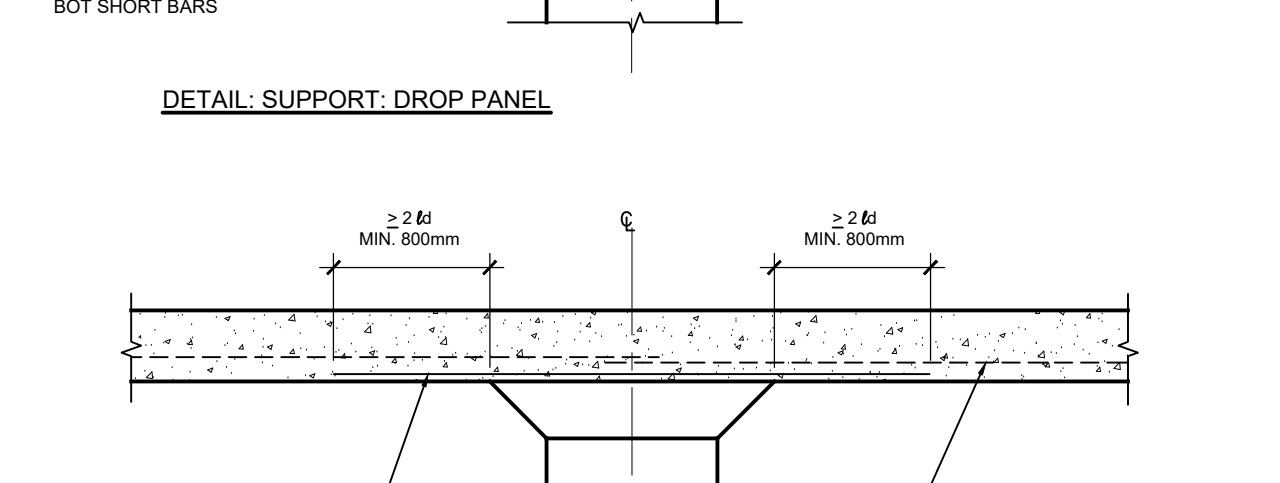
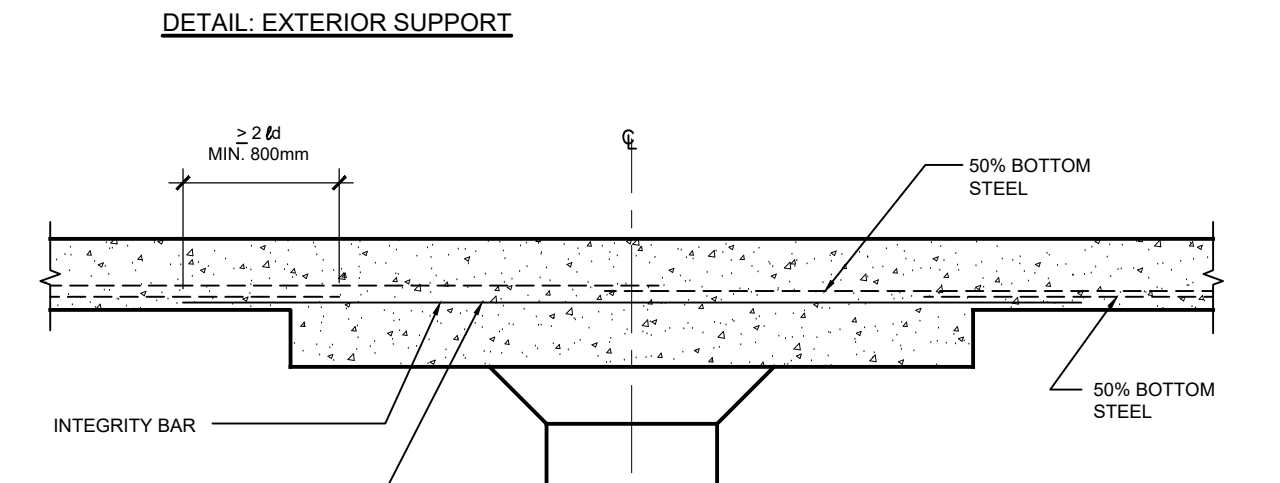
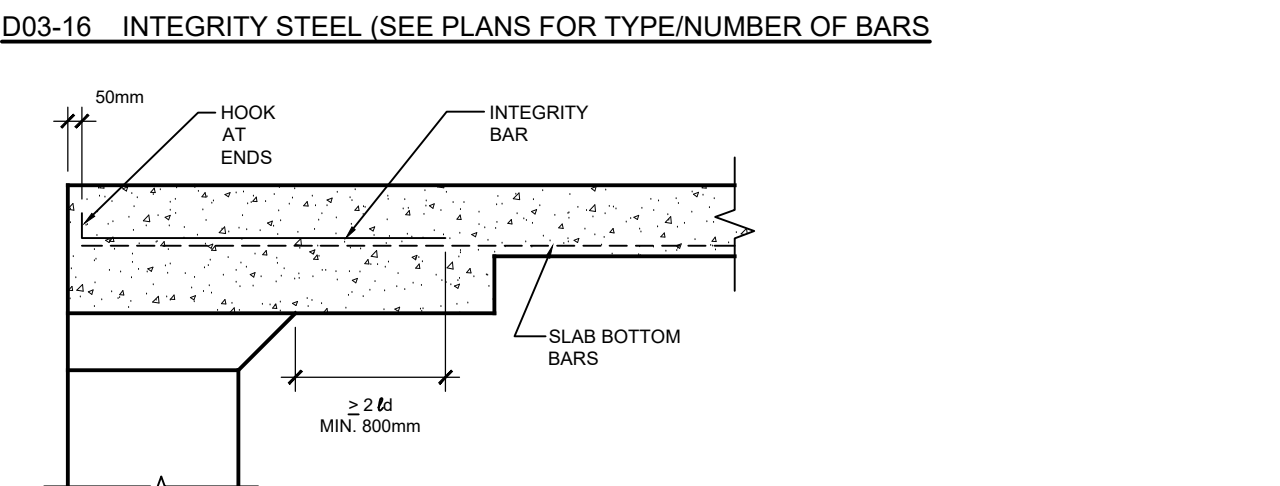
**D03-15 TYPICAL TRIMMING DETAIL OF OPENING IN SLAB/WALLS (U/N)**

- SLAB AND WALL OPENINGS:**
- DISPLACE BARS LATERALLY AT SLAB OPENINGS. D.O.N.O.T.C.U.T. PLACE HALF OF DISPLACED BARS EACH SIDE OF OPENING AND INFILL BETWEEN WITH BARS OF MATCHING SIZE & SPACING.
  - PROVIDE 3-15M @ 150mm o.c. TOP AND BOTTOM MINIMUM ADDITIONAL REINFORCEMENT AROUND SLAB OPENINGS 300x300 OR LARGER (UNLESS NOTED). EXTEND 24 BAR DIAMETER (600mm MIN.) BEYOND CORNERS.
  - PROVIDE THE FOLLOWING MINIMUM ADDITIONAL REINFORCEMENT AROUND WALL OPENINGS 300x300 OR LARGER (UNLESS NOTED). EXTEND 24 BAR DIAMETER BEYOND CORNERS EACH WAY.  
200 WALLS: 1-20M  
250 WALLS: 2-20M E.F.  
300 OR THICKER WALLS: 2-20M E.F.
  - SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL OPENINGS TO THOSE INDICATED.
  - PROVIDE OPENINGS IN WALLS AND SLABS AS SHOWN ON STRUCTURAL DRAWINGS OR OTHERWISE REQUIRED BY VARIOUS TRADES. DEPARTMENTAL REPRESENTATIVE'S APPROVAL MUST BE OBTAINED FOR LOCATIONS AND SIZES OF OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS. ALL OPENINGS MUST BE FORMED BEFORE THE SLAB OR WALL IS POURED. DO NOT CUT ANY OPENINGS. AFTER CONCRETING, UNLESS SPECIFICALLY AUTHORIZED BY THE DEPARTMENTAL REPRESENTATIVE.
  - PROVIDE SLEEVES IN SLABS OR WALLS FOR MECHANICAL PIPING AND AVOID OPENINGS WHERE POSSIBLE. DEPARTMENTAL REPRESENTATIVE'S APPROVAL MUST BE OBTAINED FOR ANY CONCENTRATION OF SLEEVES IN COLUMN BAND AND AROUND COLUMN. SLEEVING DRAWINGS MUST BE SUBMITTED FOR APPROVAL MINIMUM OF TWO WEEKS PRIOR TO POURING OF CONCRETE.



**D03-16 INTEGRITY STEEL (SEE PLANS FOR TYPE/NUMBER OF BARS)**

- TRIMMING NOTES:**
- SEE STRUCTURAL PLANS FOR APPROX. SIZE AND LOCATION OF OPENINGS AND ARCH./MECH/ELECT. DRAWINGS FOR EXACT DIMENSIONS.
  - IF OPENINGS LARGER THAN 300mm WIDE ARE REQUIRED AND ARE NOT SPECIFICALLY NOTED ON THE DRAWINGS THE DEPARTMENTAL REPRESENTATIVE MUST BE INFORMED SO PROPER DETAILS CAN BE SUPPLIED.
  - UNLESS OTHERWISE NOTED OPENINGS SMALLER THAN 200x200 DO NOT REQUIRE TRIMMER BARS.



GENERAL NOTES AND DETAILS

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plan-répre	key plan
L'entrepreneur doit vérifier les dimensions des dessins et les conditions de chantier avant de débiter les travaux. Aviser les professionnels de toutes divergences aux documents de construction. Ne pas mesurer sur les dessins.	soceau stamp
1	Issued For Tender June 12, 2018
no.	description date
REVISION	

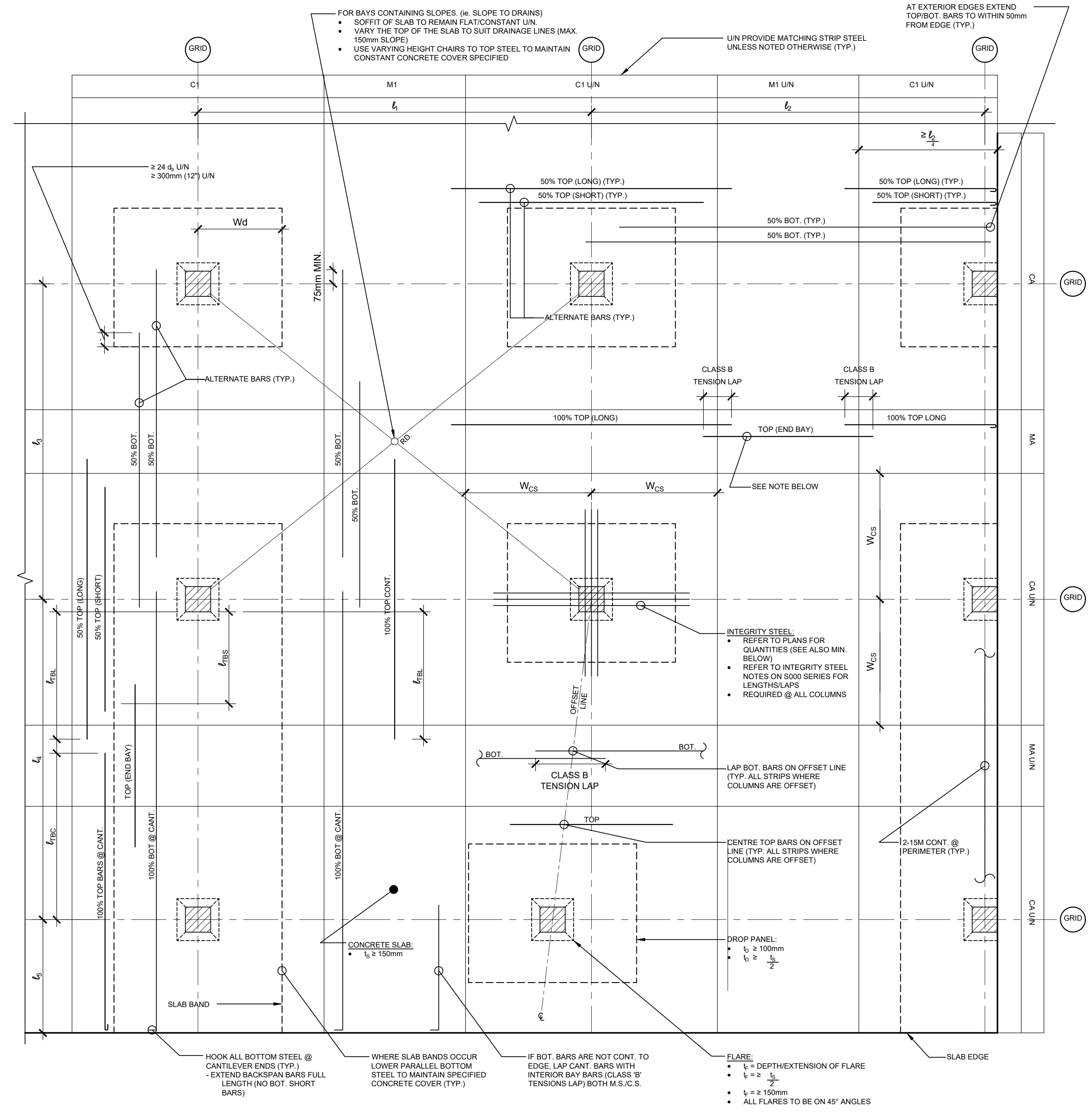
projet project

**PROJECT BUILDING A**

General Notes and Details			
conception	conception	no. dossier	project no.
B.J.		14-0072B	
dessiné	drawn	fichier DAO	CAD file
S.H.			
approuvé	approved	dossier client	client file
B.J.		7207528	
échelle	scale	imprimé	plot date
AS SHOWN		27/06/2017	
no. page	sheet number		rev
<b>S001</b>			

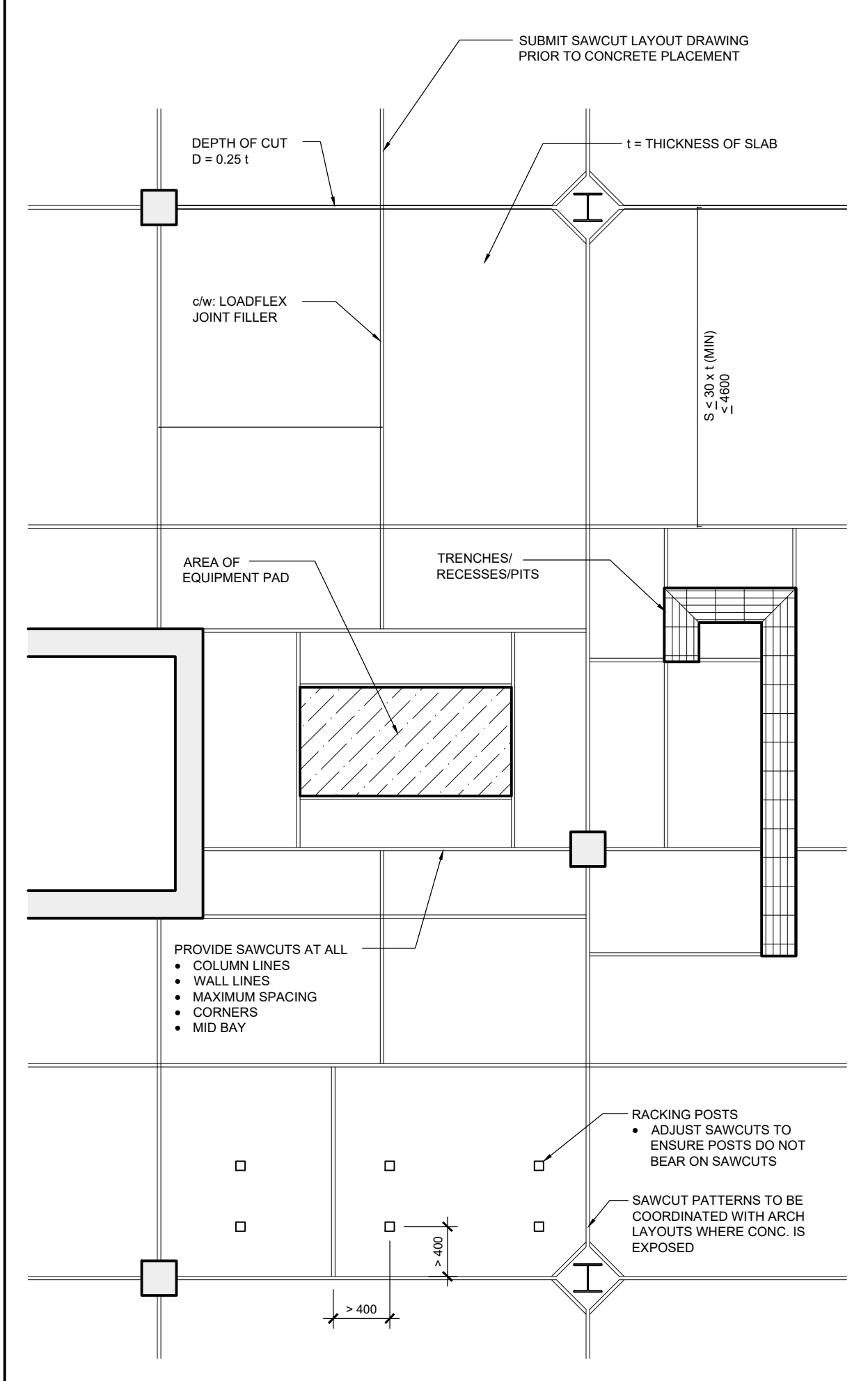
GENERAL NOTES AND DETAILS

D03-17: CONCRETE SLAB/REBAR NOTES



DETAIL: TYPICAL COLUMN STRIP/MIDDLE STRIP LAYOUT

D07) TYPICAL DETAILS:



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Fax: (613) 860-1870  
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plan-repère key plan

L'entrepreneur doit vérifier les dimensions des dessins et les conditions de chantier avant de débiter les travaux.  
Aviser les professionnels de toutes divergences aux documents de construction.  
Ne pas mesurer sur les dessins.



no.	description	date
1	Issued For Tender	June 12, 2018

projet project

**PROJECT BUILDING A**

dessin drawing		General Notes and Details	
conception	conception	no. dossier	project no.
B.J.		14-0072B	
dessiné	drawn	fichier DAO	CAD file
S.H.			
approuvé	approved	dossier client	client file
B.J.		7207528	
échelle	scale	imprimé	plot date
AS SHOWN		27/06/2017	
no. page	sheet number	rev	

**S002**

GENERAL NOTES AND DETAILS

FOOTING SCHEDULE		
MARK	SIZE	REINFORCING
F1	2000x2000x450	12-20M B.E.W. SLS 1000 kPa ULS 1000 kPa
F2	1500x1500x400	12-15M B.E.W. SLS 1000 kPa ULS 1000 kPa
F3	500x300 STRIP FOOTING	3-15M BOT. CONT. SLS 1000 kPa ULS 1000 kPa
F4	2000x800	20M @ 100 BLL TRANS 20M @ 100 BUL LONG 20M @ 100 TUL TRANS 20M @ 100 TLL LONG SLS 1000 kPa ULS 1000 kPa
F5	1000x500	15M @ 200 BLL TRANS 15M @ 200 BUL LONG SLS 1000 kPa ULS 1000 kPa

**NOTES:**

- PROVIDE 75mm COVER TO BOTTOM REINFORCEMENT (TYP.).
- QUALIFIED GEOTECHNICAL DEPARTMENTAL REPRESENTATIVE TO REVIEW ALL BEARING SURFACES PRIOR TO CONCRETE PLACEMENT.
- ALL FOOTINGS TO BEAR ON UNDISTURBED SOIL WITH AN ALLOWABLE BEARING CAPACITY AS SHOWN ABOVE.

CONCRETE COLUMN SCHEDULE		
CC1	CC2	
	800x800 16-25M VERT. 2-10M TIES @ 200o.c. (MAX.)	
600x600 12-25M VERT. 3-10M TIES @ 200o.c. (MAX.)		

**NOTES:**

- PROVIDE FOOTING DOWELS TO MATCH VERTICAL REINFORCING.
- PROVIDE TIE GROUPS AS NOTED IN DETAIL 'A' U/N. PROVIDE ADDITIONAL TIE GROUPS AS PER DETAIL 'A'.
- BEND VERTICAL BARS INTO SLAB WHERE COLUMNS TERMINATE.
- FOOTING AND BOTTOM OF COLUMN ELEVATIONS TO BE ESTABLISHED FROM PLANS AND GEOTECHNICAL REPORT. COLUMNS ARE TO BE TERMINATED SUCH THAT THEY ARE FOUNDED ON UNDISTURBED NATIVE MATERIAL (WITH APPROPRIATE FROST COVER) OR CAISSONS APPROVED BY GEOTECHNICAL DEPARTMENTAL REPRESENTATIVE ON SITE. REFER ALSO TO GEOTECHNICAL REPORT.
- ALL COLUMN CORNERS TO RECEIVE 45° CHAMFER.

HIGH ROOF EL. VARIES  
(106.500 H.P. 7 104.975)

LOW ROOF  
EL. 103.875

GROUND  
EL. 100.000 (DATUM)

**CONCRETE COLUMN SCHEDULE: NOTES & DETAILS**

**A** DETAIL: TYPICAL COLUMN REQUIREMENTS U/N  
SCALE: N.T.S.

**B** DETAIL: TIES: 12 BAR ARRANGEMENT  
SCALE: N.T.S. (3 TIES)

**C** DETAIL: TIES: 16 BAR ARRANGEMENT  
SCALE: N.T.S. (2 TIES)

**D** DETAIL: COLUMN/SLAB INTERFACE AT GRIDS 3/4  
SCALE: N.T.S.

**COLUMN NOTES:**

- PROVIDE FOOTING DOWELS TO MATCH VERTICAL REINFORCING.
- REFER TO PLANS FOR ADDITIONAL DETAILS/NOTES.
- PROVIDE TIE GROUPS AS NOTED IN DETAIL A U/N.
- BEND VERTICAL BARS INTO SLAB WHERE COLUMNS TERMINATE.
- FOOTING AND BOTTOM OF COLUMN ELEVATIONS TO BE ESTABLISHED FROM PLANS AND GEOTECHNICAL REPORT.
- ALL TIES TO BE CLOSED. NO HAIR PINS ALLOWED.

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plan-référence key plan

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Aviser les professionnels de toutes divergences aux documents de construction.  
Ne pas mesurer sur les dessins.

scale stamp

**REGISTERED PROFESSIONAL ENGINEER**  
B. A. JOHNSON  
PROVINCE OF ONTARIO

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**PROJECT BUILDING A**

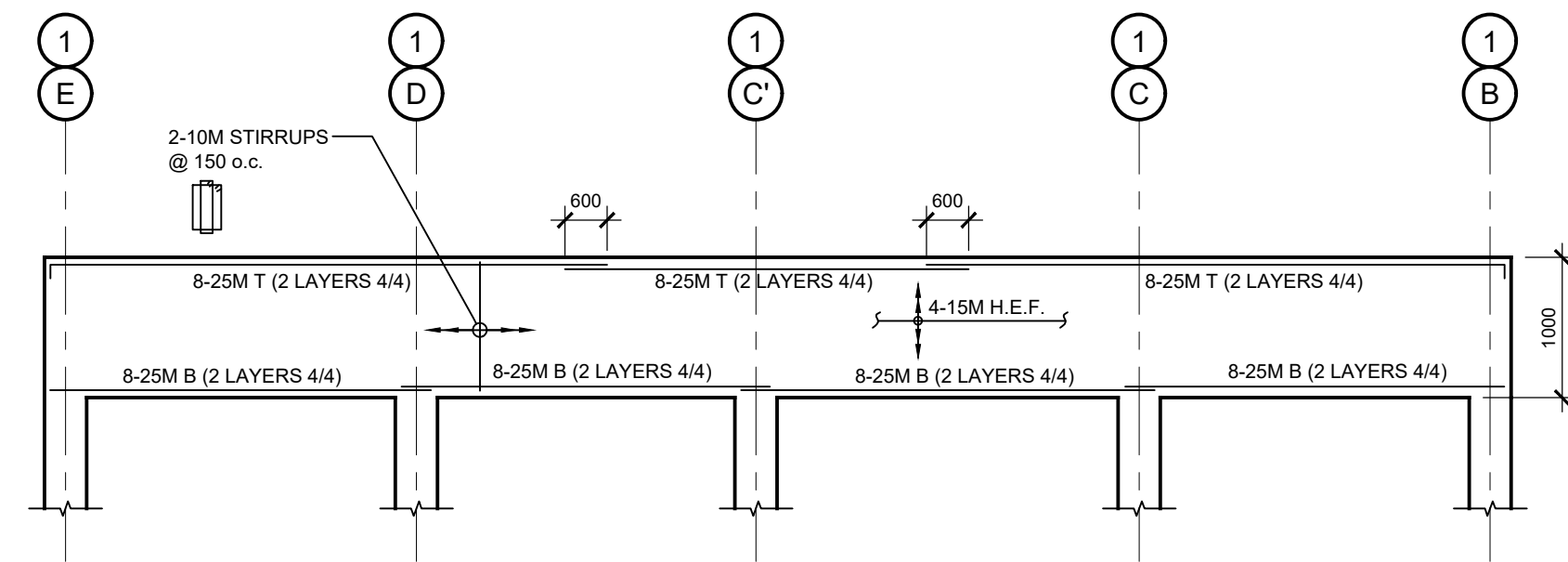
dessin drawing

**Schedules**

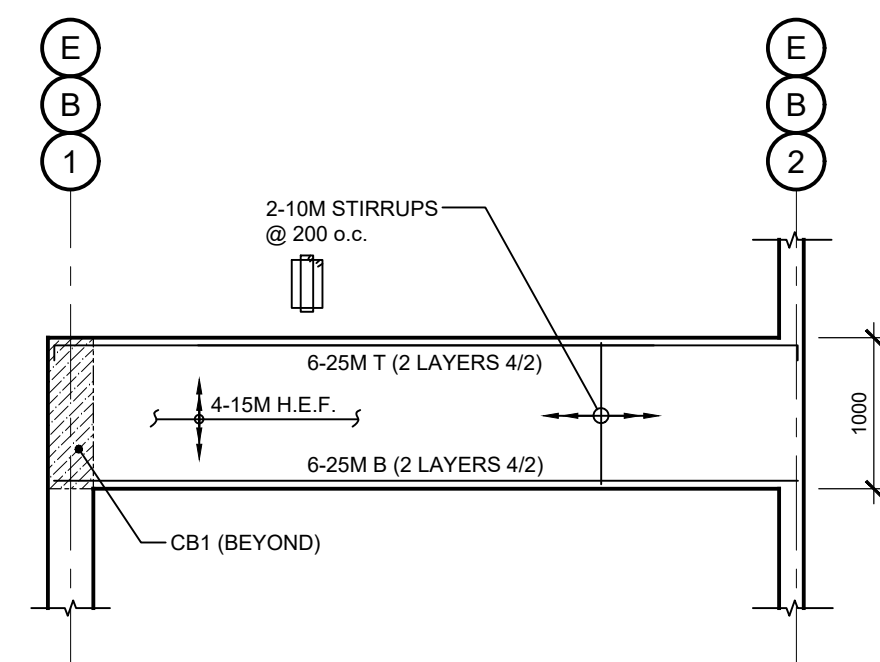
conception	conception	no. dossier	project no.
B.J.	drawn	14-0072B	
dessiné	drawn	fichier DAO	CAD file
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approuvé	approved	dossier client	client file
B.J.		7207528	
échelle	scale	imprimé	plot date
AS SHOWN		27/06/2017	
no. page	sheet number	rev	

**S003**

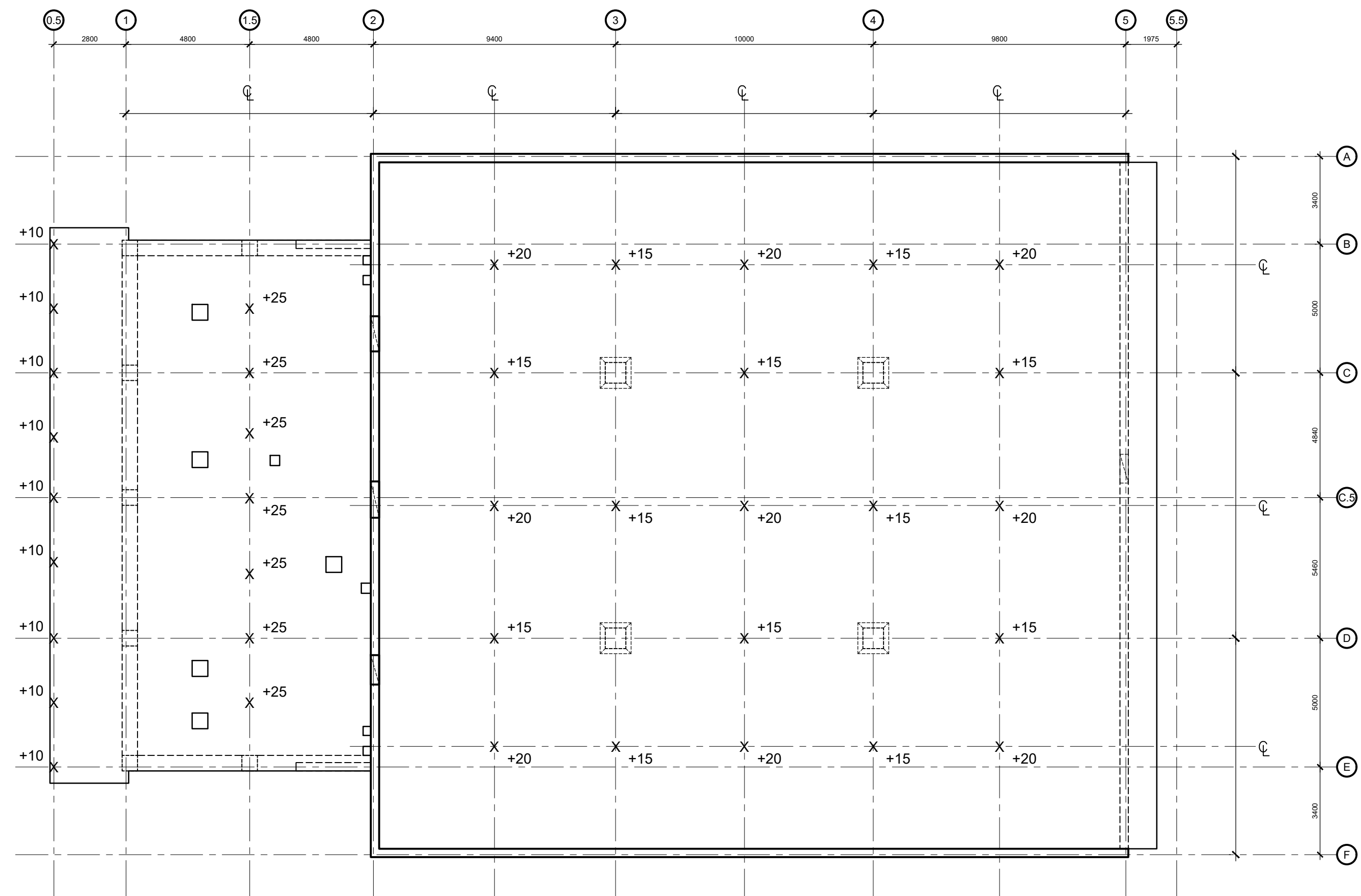
### CONCRETE BEAM SCHEDULE (H x W)



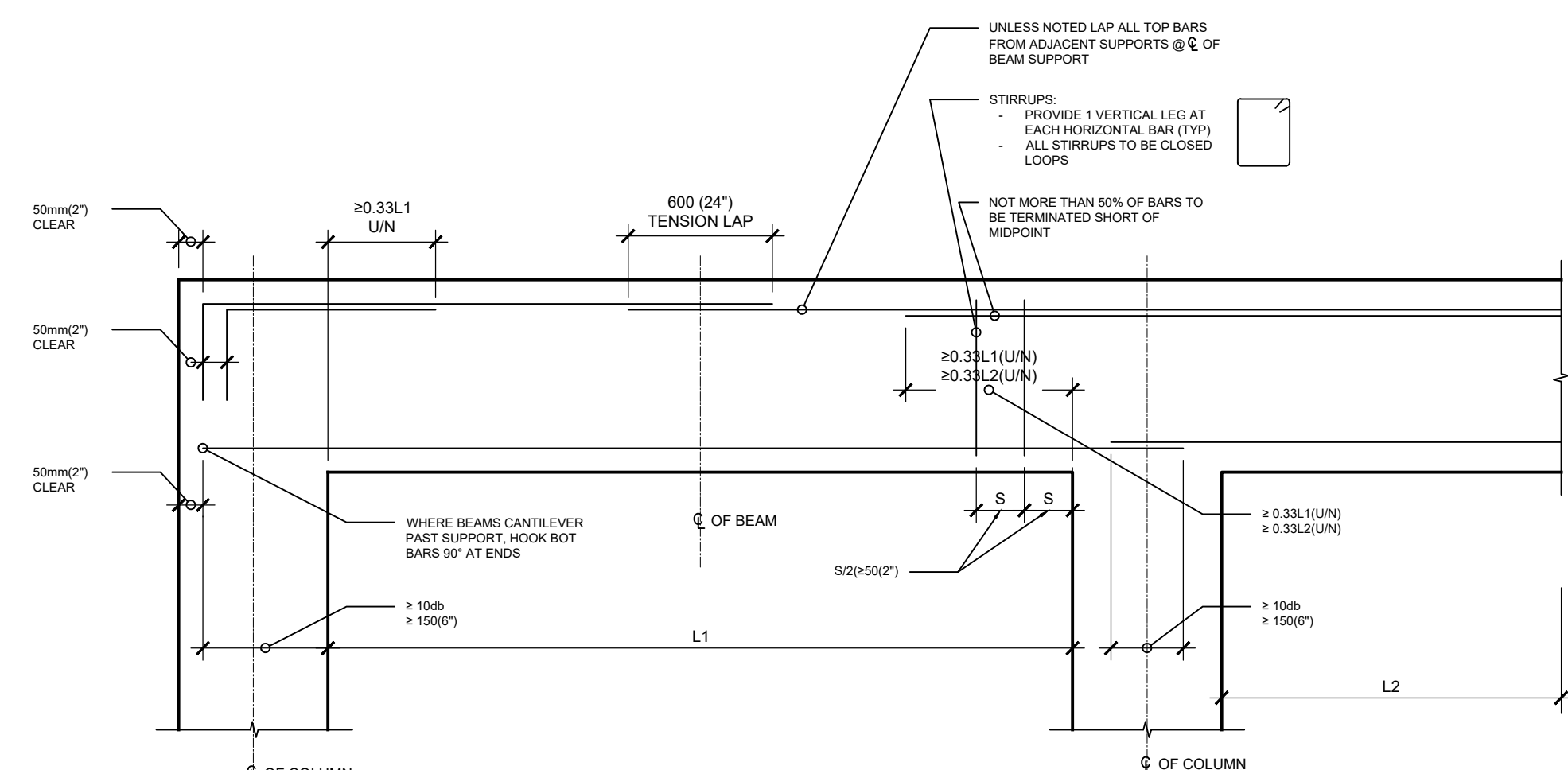
**C** ELEVATION: CB1: 1000x600  
S004 SCALE: N.T.S.



**D** ELEVATION: CB2: 1000x600  
S004 SCALE: N.T.S.



**B** CAMBER DIAGRAM  
S004 SCALE: N.T.S.



**A** SECTION: TYPICAL BEAM REINFORCEMENT (U/N IN SCHEDULE)  
S004 SCALE: N.T.S.

### LEGEND: DRAWING NOTES

<p>① 200mm CONCRETE SLAB ON GRADE c/w: 15M @ 300 E.W. (MID-HEIGHT)</p> <p>② 500mm CONCRETE SLAB ON GRADE c/w: 15M @ 200 T.E.W. 15M @ 200 B.E.W.</p> <p>③ RAISED FLOOR (REFER TO ARCH. DRAWINGS)</p> <p>④ ENGINEERED FILL AS PER GEOTECHNICAL REPORT</p> <p>⑤ ALL FOOTINGS TO BEAR ON UNDISTURBED BEDROCK. GEOTECHNICAL DEPARTMENTAL REPRESENTATIVE TO APPROVE PRIOR TO CONCRETE PLACEMENT</p> <p>⑥ 1800mm MIN. FROST COVER (REFER TO GEOTECHNICAL REPORT)</p> <p>⑦ CLADDING (REFER TO ARCH. DRAWINGS)</p> <p>⑧ DOWELS TO MATCH WALL VERTICALS. BEND INTO TOP OF SLAB (TYP.) 900 900</p> <p>⑨ 150mm CONCRETE SLAB ON GRADE c/w: 152x152 MW18.7x18.7</p> <p>⑩ 40mm DEEP SAWCUTS c/w: FLEXIBLE JOINT FILLER</p> <p>⑪ RECESS FOR FLOOR GRILL (REFER TO ARCH. DRAWINGS)</p> <p>⑫ REFER TO COLUMN SCHEDULE FOR REINFORCING</p> <p>⑬ REFER TO WALL SCHEDULES FOR REINFORCING</p> <p>⑭ DUCTING (REFER TO MECH. DRAWINGS AND SPECS)</p> <p>⑮ REFER TO PLANS FOR SLAB REINFORCING / LAYOUT OF STEEL</p> <p>⑯ 10mm BITUMINOUS BOND BREAKER</p> <p>⑰ BAND OF RF CONCRETE</p>	<p>⑱ FW1: 175mm CONCRETE FOUNDATION WALL c/w: • 15M @ 400 VERT. • DWLS • 15M @ 300 HOR. (CONT.) • 2-15M HOR. ADD'L AT TOP</p> <p>⑲ PRE-ENGINEERED CFC FRAMING @ 300 o.c. (MAX.) • CONTRACTOR'S ENGINEER TO DESIGN / DETAIL / CERTIFY ALL FRAMING / CONNECTORS / DETAILS</p> <p>⑳ PARAPET BEYOND</p> <p>㉑ REFER TO SLAB REINFORCING NOTE 7 FOR REBAR AROUND OPENINGS (TYP.)</p> <p>㉒ HSS 152x102x9.5 (GALV.) POSTS @ 1500 o.c. (MAX.)</p> <p>㉓ HSS 152x102x9.5 (GALV.) HOR. AT TOP AND BOTTOM</p> <p>㉔ PRE-FABRICATED SCREEN (REFER TO ARCH.)</p> <p>㉕ HSS 102x102x9.5 (GALV.) KICKERS AT EACH POST</p> <p>㉖ 300x200x12 B<sub>2</sub> (GALV.) c/w: 4-16mm Ø ANCHORS</p> <p>㉗ ALL MEMBER ENDS TO BE CAPPED / ALL WELDS GROUND SMOOTH (TYP.)</p> <p>㉘ REFER TO SCHEDULES FOR BEAM REBAR / LAYOUT</p> <p>㉙ SNOW DRIFT AT PARAPET</p> <p>㉚ OFFSET BASEPLATE ON COLUMN TO ENSURE 150mm EDGE DISTANCE TO BOLTS</p> <p>㉛ PROVIDE DOWELS / SHEAR KEY IN COLUMNS AS PER COLUMN SCHEDULE (TYPICAL ALL COLUMNS ON GRIDS ③ AND ④)</p> <p>㉜ REFER TO ARCH/MECH/ELECT DOCUMENTS FOR ADDITIONAL EMBEDDED ELEMENTS/PENETRATIONS TO BE CAST INTO CONCRETE (TYP.)</p>
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plan-repère key plan  
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Ne pas mesurer sur les dessins.

no.	description	date
1	Issued For Tender	June 12, 2018

REVISION

projet project

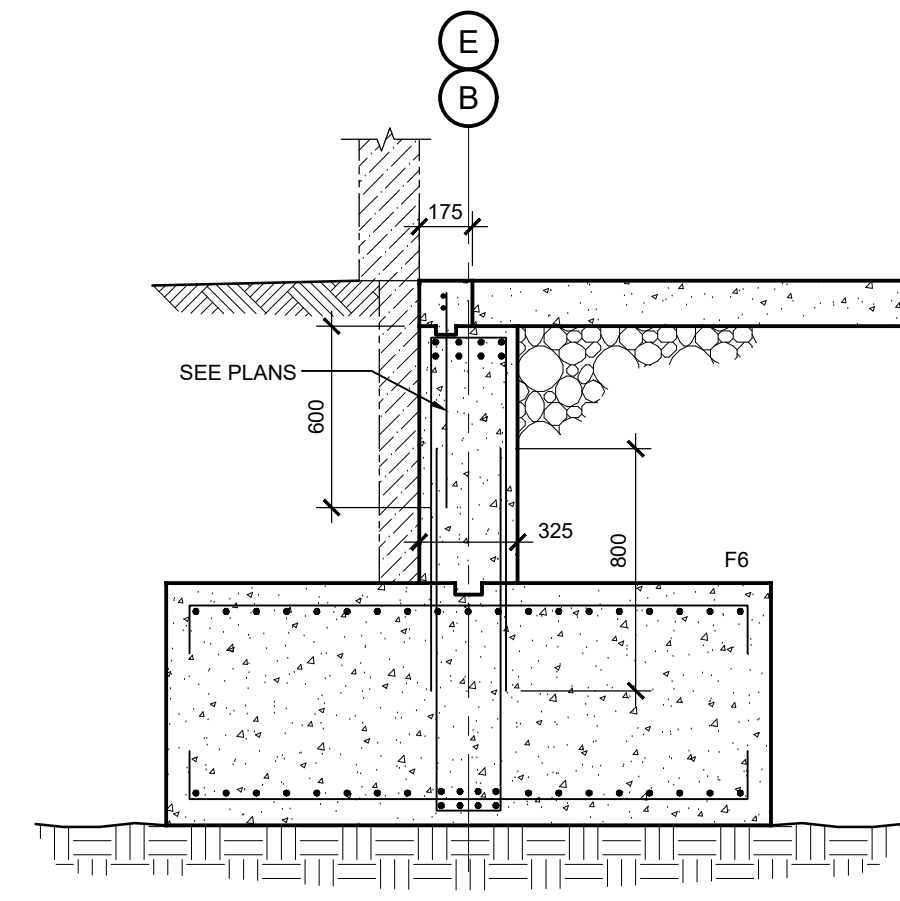
## PROJECT BUILDING A

dessin drawing

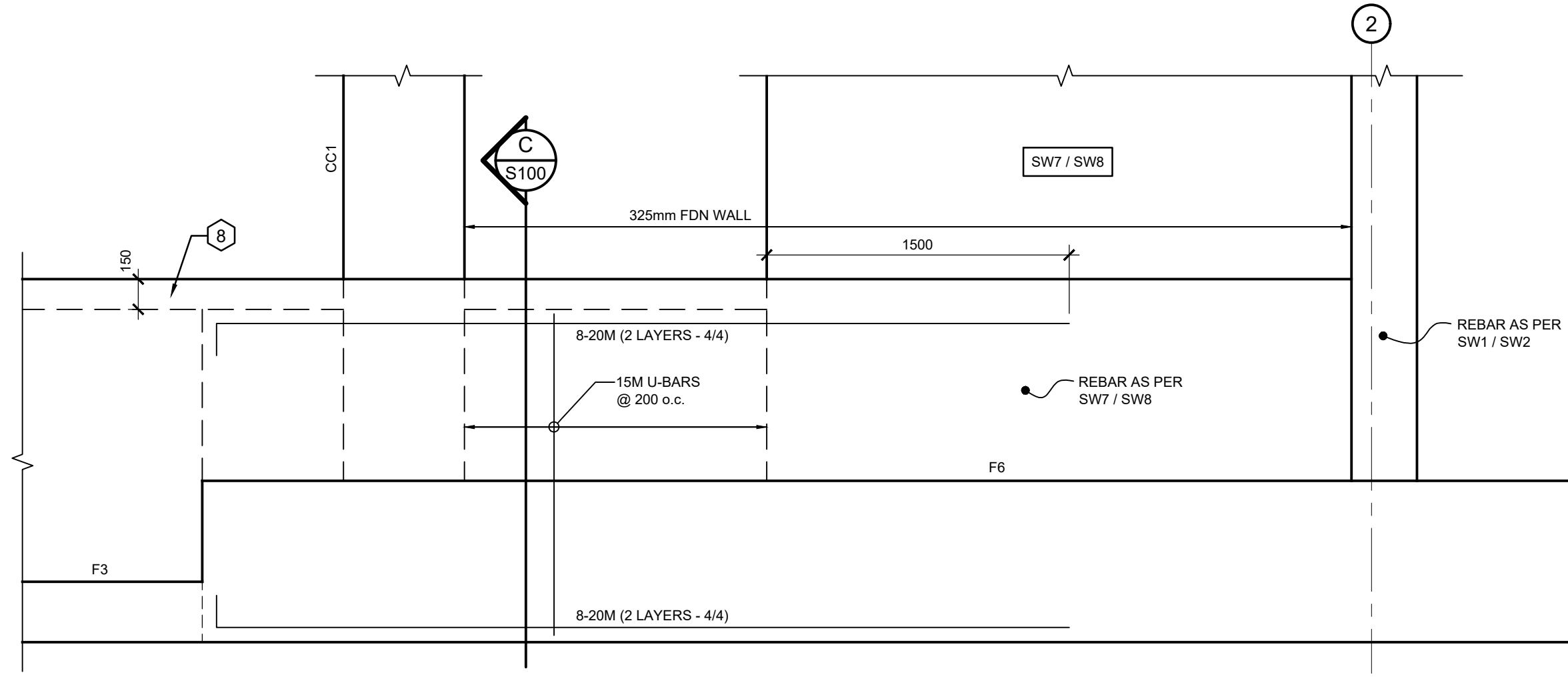
### Concrete Beam Schedule / Camber Diagrams / Drawing Notes

conception	conception	no. dossier	project no.
B.J.		14-0072B	
dessiné	drawn	fichier DAO	CAD file
S.H.			
approuvé	approved	dossier client	client file
B.J.		7207528	
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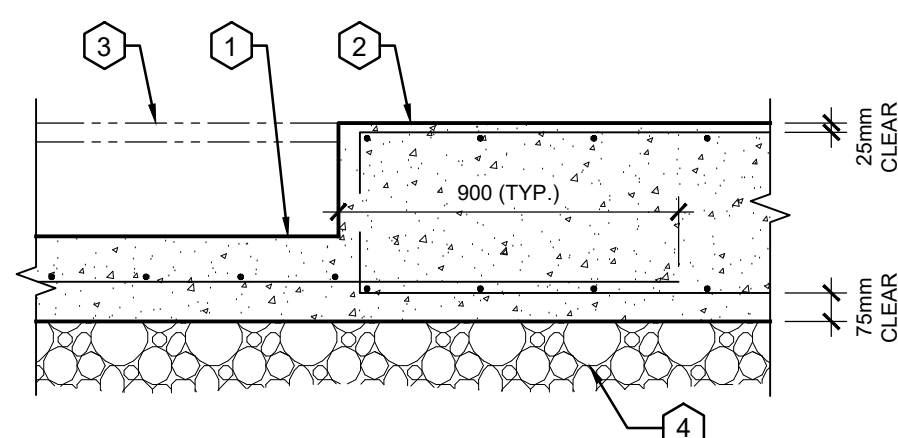
# S004



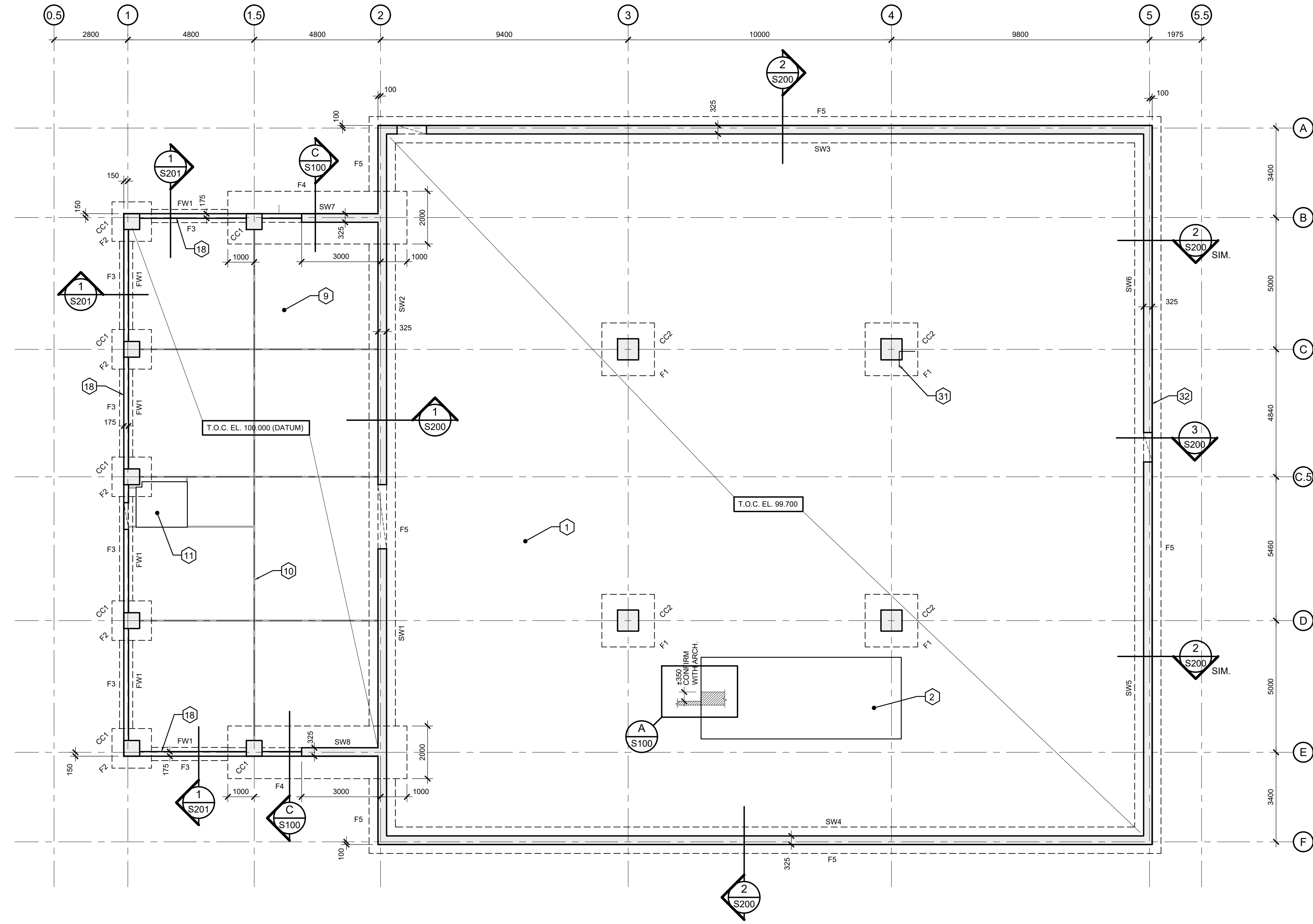
**C SECTION: FOUNDATION WALL AT SW7 / SW8**  
S100 SCALE 1:25



**B ELEVATION: FOUNDATION WALL REINFORCING AT SW7/SW8**  
S100 SCALE 1:25



**A DETAIL: SLAB STEP**  
S100 SCALE 1:20



**PLAN: FOUNDATION/GROUND FLOOR**  
SCALE: 1:100

CE Dessin n'est pas à l'échelle si les marqueurs ne sont pas alignés avec la règle.

THIS DRAWING IS NOT TO SCALE IF THIS RULER DOES NOT MEASURE CORRECTLY.



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plan-référence key plan

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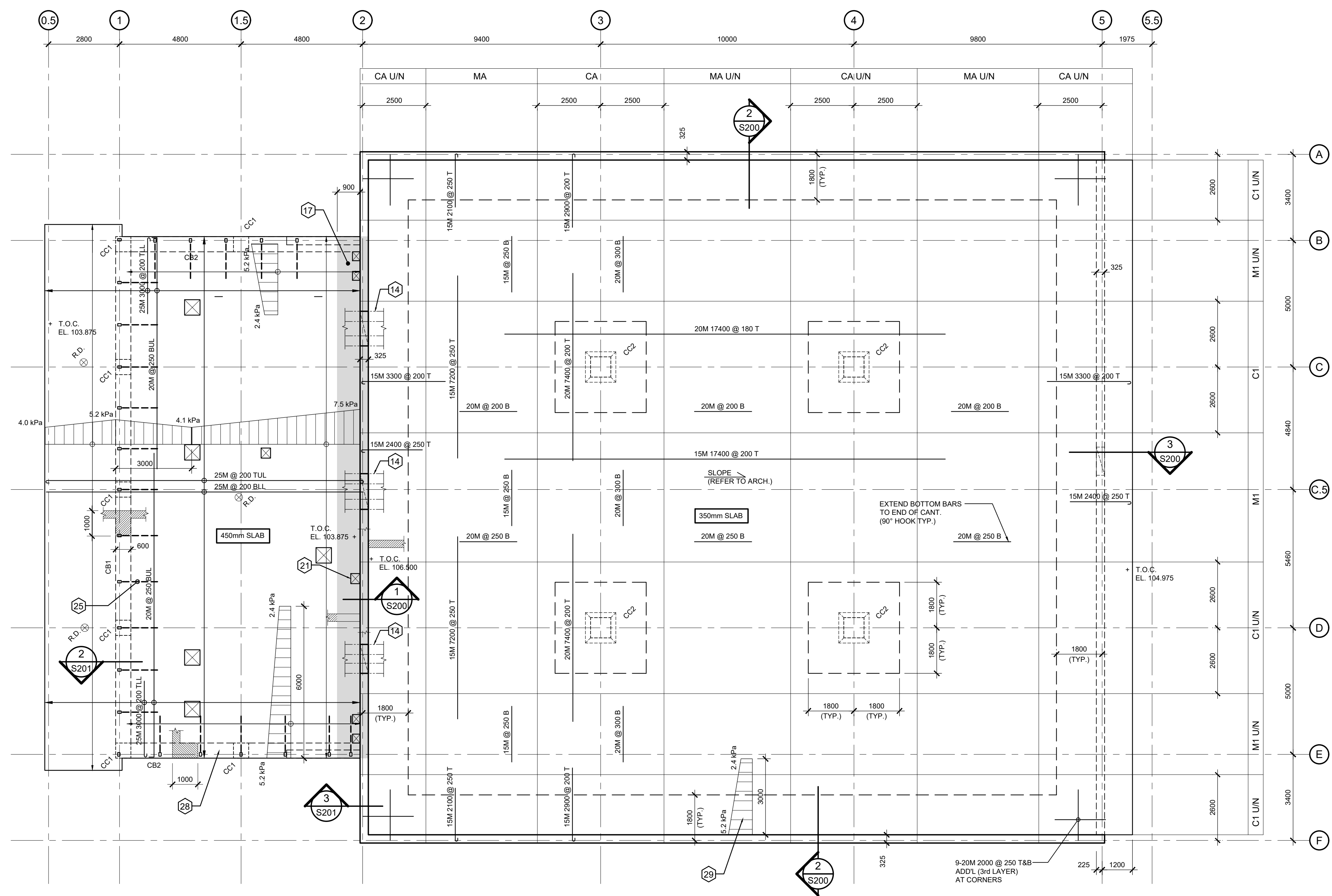
no.	description	date
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projet project  
**PROJECT BUILDING A**

dessin drawing  
**Plan:  
Foundation/Ground Floor**

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**S100**



**ROOF PLAN**  
SCALE / ÉCHELLE: 1:100

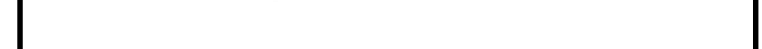
- CONCRETE SLAB/REBAR NOTES:**
- COVER:** BOT. = 25mm CLEAR TO BLL U/N  
TOP = 25mm CLEAR TO TUL U/N
  - REINFORCING STEEL LAYOUT:**  
BUL — BLL |  
TLL — TUL |
  - MINIMUM REINFORCING U/N NOTED ON PLANS:**  
BOT: CS: 20M @ 300mm (+ HOOK AT CANTILEVER ENDS)  
MS: 15M @ 250mm (+ HOOK AT CANTILEVER ENDS)  
TOP TYPICAL: CS: 20M 7400 @ 200 T  
MS: 15M 7200 @ 250 T  
TOP SLAB ENDS: CS: 15M 2800 @ 200 T (+ HOOK AT DISCONTINUOUS ENDS)  
MS: 15M 2100 @ 250 T (+ HOOK AT DISCONTINUOUS EDGE)
  - INTEGRITY STEEL @ COLUMNS:**  
(OVER WIDTH OF COLUMN CAP)  
PROVIDE ADDITIONAL BOTTOM STEEL AT ALL COLUMNS U/N.  
  
INTERIOR COL: 8-20M B.E.W.
  - FLAT SLAB GEOMETRY U/N:**  
SLAB: 350mm/450mm U/N  
DROPS: 3600x3600x200 U/N  
SLAB BANDS: 200mm  
FLARES: 300mm  
CONCRETE: 20 MPa U/N
  - DESIGN LOADS:**  
**HIGH ROOF:**  
DEAD: 350mm CONCRETE: 8.50 kPa  
200 DROPS: 1.00 kPa  
ROOFING: 0.60 kPa  
CEILING: 0.25 kPa  
MECH.: 0.50 kPa  
10.85 kPa  
LIVE: ROOF: 1.00 kPa  
SNOW: 2.32 kPa (+ DRIFT AS SHOWN ON PLAN)  
  
**LOW ROOF:**  
DEAD: 450mm CONCRETE: 10.80 kPa  
ROOFING: 0.60 kPa  
CEILING: 0.25 kPa  
MECH.: 0.50 kPa  
12.15 kPa  
LIVE: ROOF: 1.00 kPa  
SNOW: 2.32 kPa (+ DRIFT AS SHOWN ON PLAN)
  - TYPICAL DETAIL: OPENINGS (U/N)**  
  
PROVIDE 1-15Mx200(32") LONG ADDL @ CORNERS  
TERMINATE AFFECTED STEEL @ FACE OF OPENING  
TERMINATE AFFECTED STEEL @ FACE OF OPENING  
PROVIDE EQUIVALENT AREA OF STEEL (BASED ON TERMINATED BARS) E.S. OF OPENING @ 1/2 SPACING (MIN. 2-15M#8)  
PROVIDE 1-15Mx200(32") LONG ADDL @ CORNERS  
TERMINATE AFFECTED STEEL @ FACE OF OPENING (GIVE HOOK)  
BARS ARE TO EXTEND FULL LENGTH NOTED ON DRAWINGS (MIN. 1200mm (4'-0") FROM FACE OF OPENING)  
PROVIDE 3-20M @ 150(6") ADDL E.S. OF OPENING (EXTEND 1200mm (4'-0") PAST EDGE)
  - SLEEVING/CONDUIT**  
CONTRACTOR IS REQUIRED TO SUBMIT SLEEVING AND CONDUIT DRAWINGS (IN-SLAB) TO DEPARTMENTAL REPRESENTATIVE FOR REVIEW A MINIMUM OF 20 WORKING DAYS PRIOR TO CONCRETE PLACEMENT. DRAWINGS ARE TO DETAIL AND DIMENSION ALL ELEMENTS PASSING THROUGH / IN SLAB. ANY SLEEVING / OPENINGS / IN SLAB ELEMENTS NOT INDICATED ON REVIEWED DRAWINGS MAY BE REMOVED BY DEPARTMENTAL REPRESENTATIVE ON SITE AT CONTRACTOR'S OWN EXPENSE. NO CONCRETE IS TO BE PLACED PRIOR TO RECEIVING WRITTEN APPROVAL OF DEPARTMENTAL REPRESENTATIVE. SEE ALSO 3000 SERIES OF DRAWINGS FOR DETAILS. DURING SHOP DRAWING REVIEW DEPARTMENTAL REPRESENTATIVE MAY REMOVE ANY / ALL CONDUIT FROM SLAB NOT DEEMED SATISFYING TYPICAL REQUIREMENTS AT NO ADDITIONAL COST TO THE PROJECT.
  - SLAB BAND REINFORCEMENT:**  
WHERE SLAB BANDS ARE PRESENT LOWER BOTTOM BARS THAT ARE PARALLEL TO BOTTOM OF BAND.



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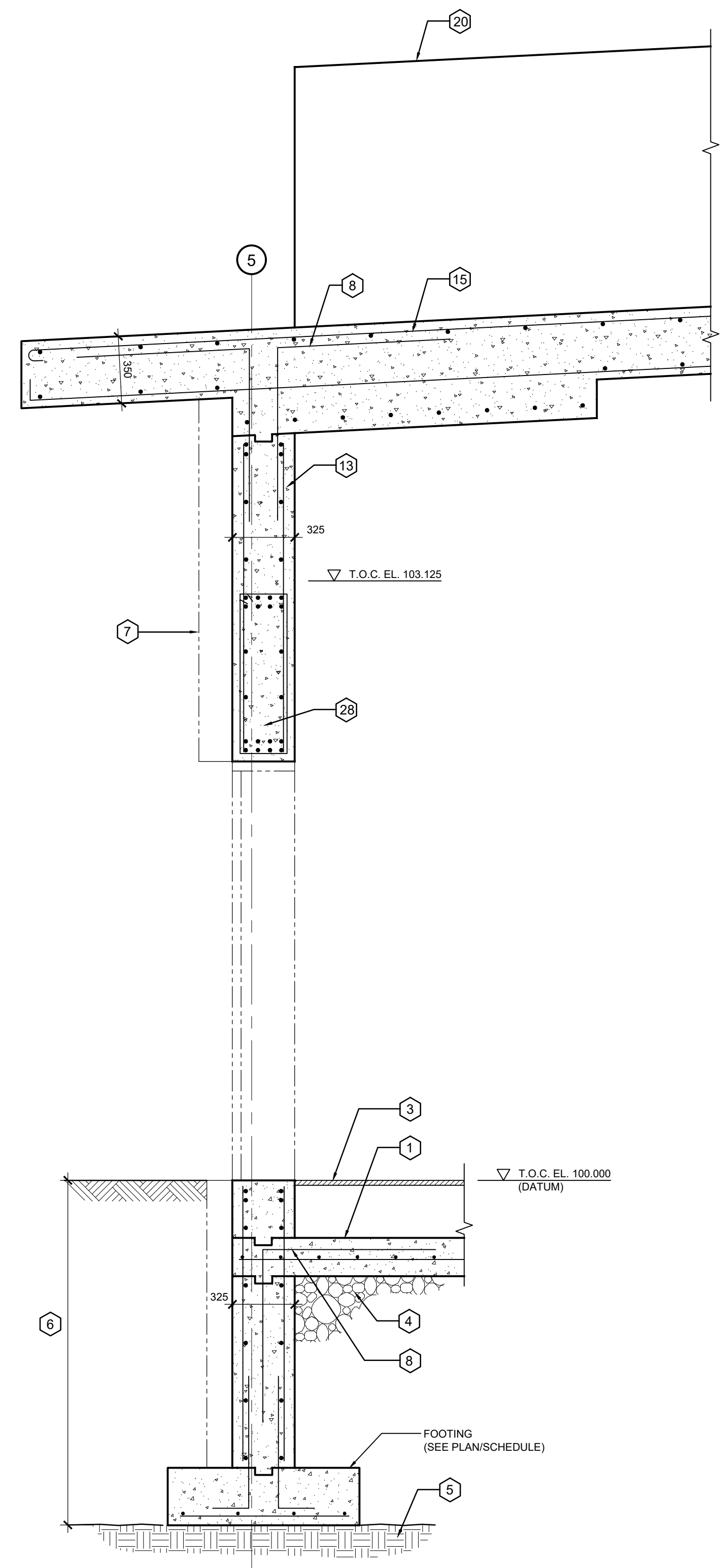
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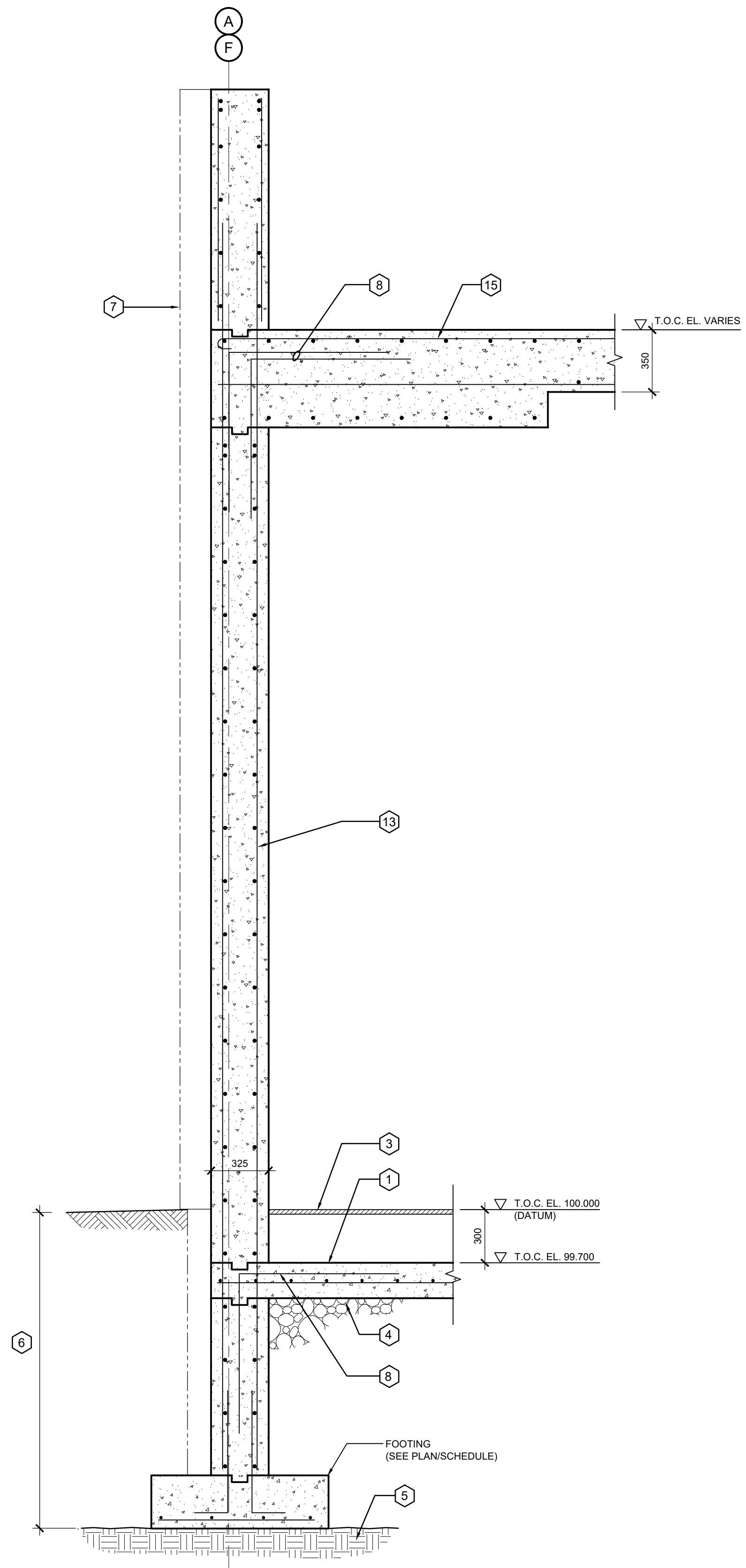
plan-répre	key plan
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1	Issued For Tender
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	June 12, 2018
	date
REVISION	

project	project
<b>PROJECT BUILDING A</b>	

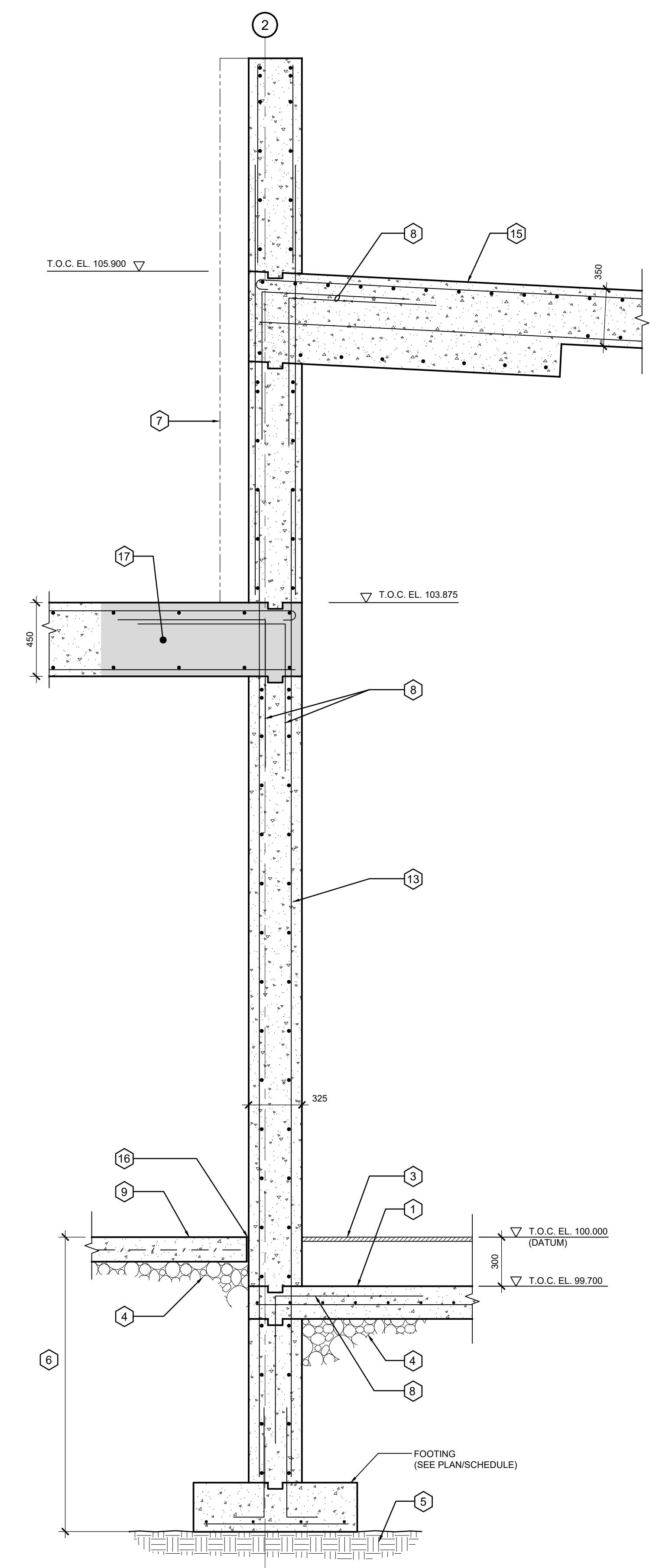
dessin	drawing		
<b>Roof Plan</b>			
conception	conception	no. dossier	project no.
B.J.		14-0072B	
dessiné	drawn	fichier DAO	CAD file
S.H.			
approuvé	approved	dossier client	client file
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no. page	sheet number		rev
<b>S101</b>			



3 SECTION: EXTERIOR WALL / FOUNDATION AT REAR CANOPY  
S200 SCALE: 1:20



2 SECTION: EXTERIOR WALL/FOUNDATION  
S200 SCALE: 1:20



1 SECTION: WALL FRAMING AT GRID 2: ABOVE LOW ROOF  
S200 SCALE: 1:20



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PROFESSIONAL ENGINEER  
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(613) 591-1533



plan-référence key plan  
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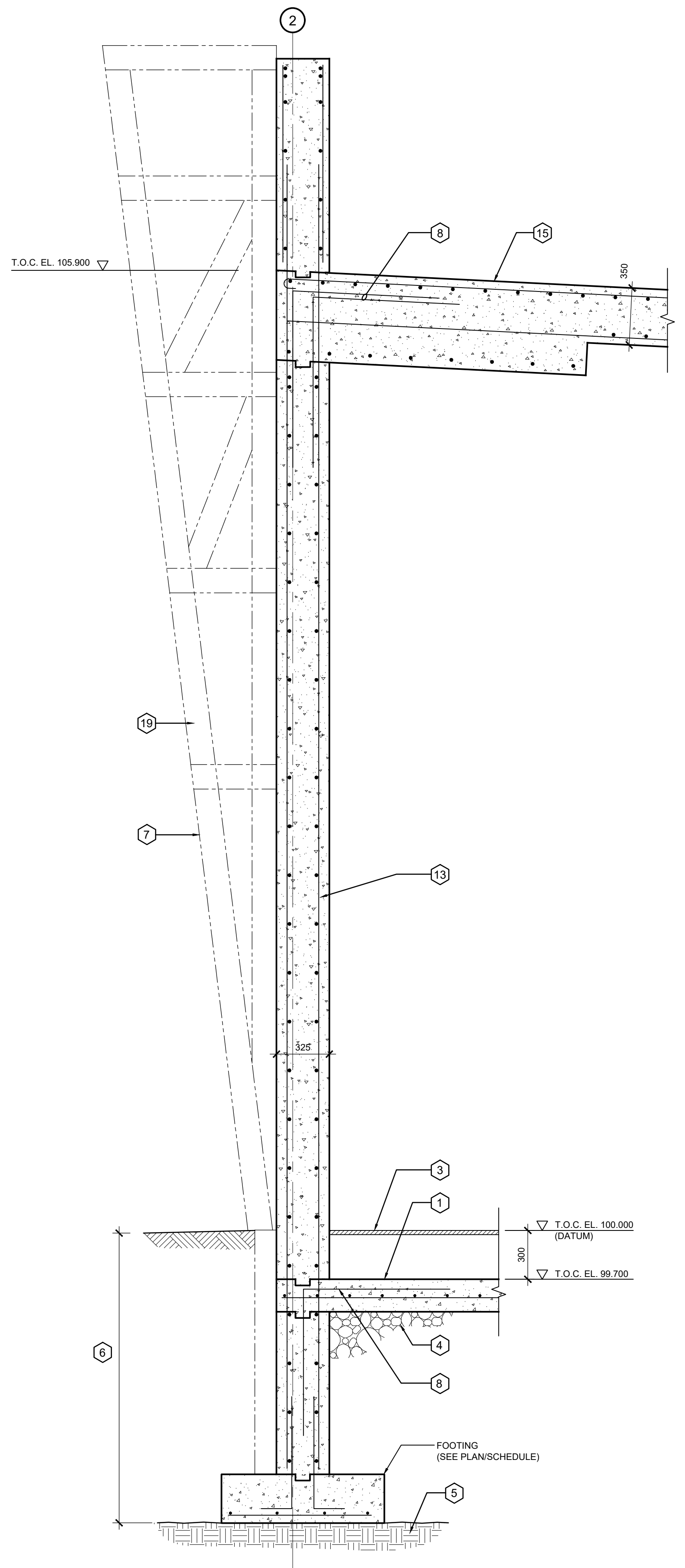
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projet project  
**PROJECT BUILDING A**

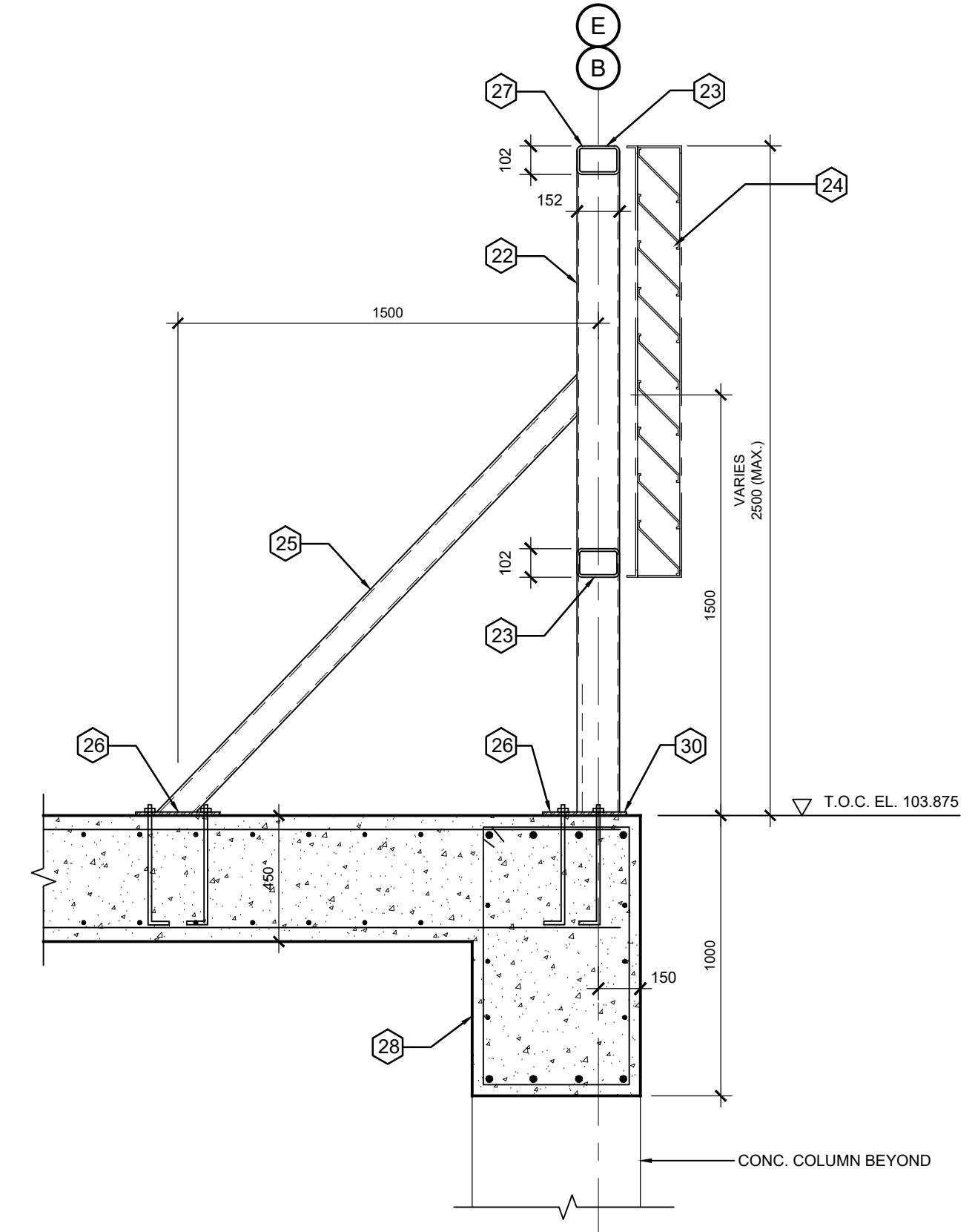
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**S200**

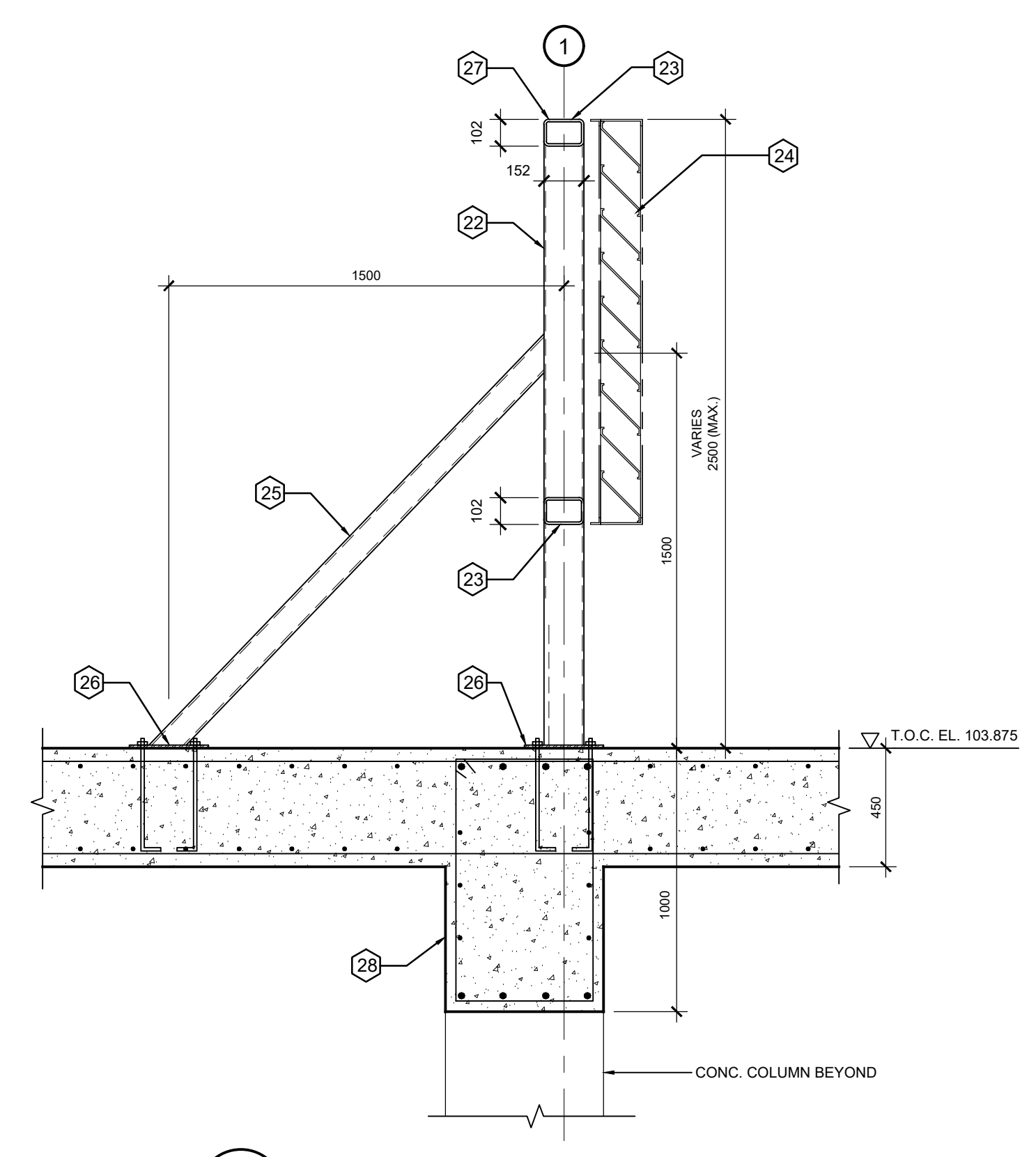




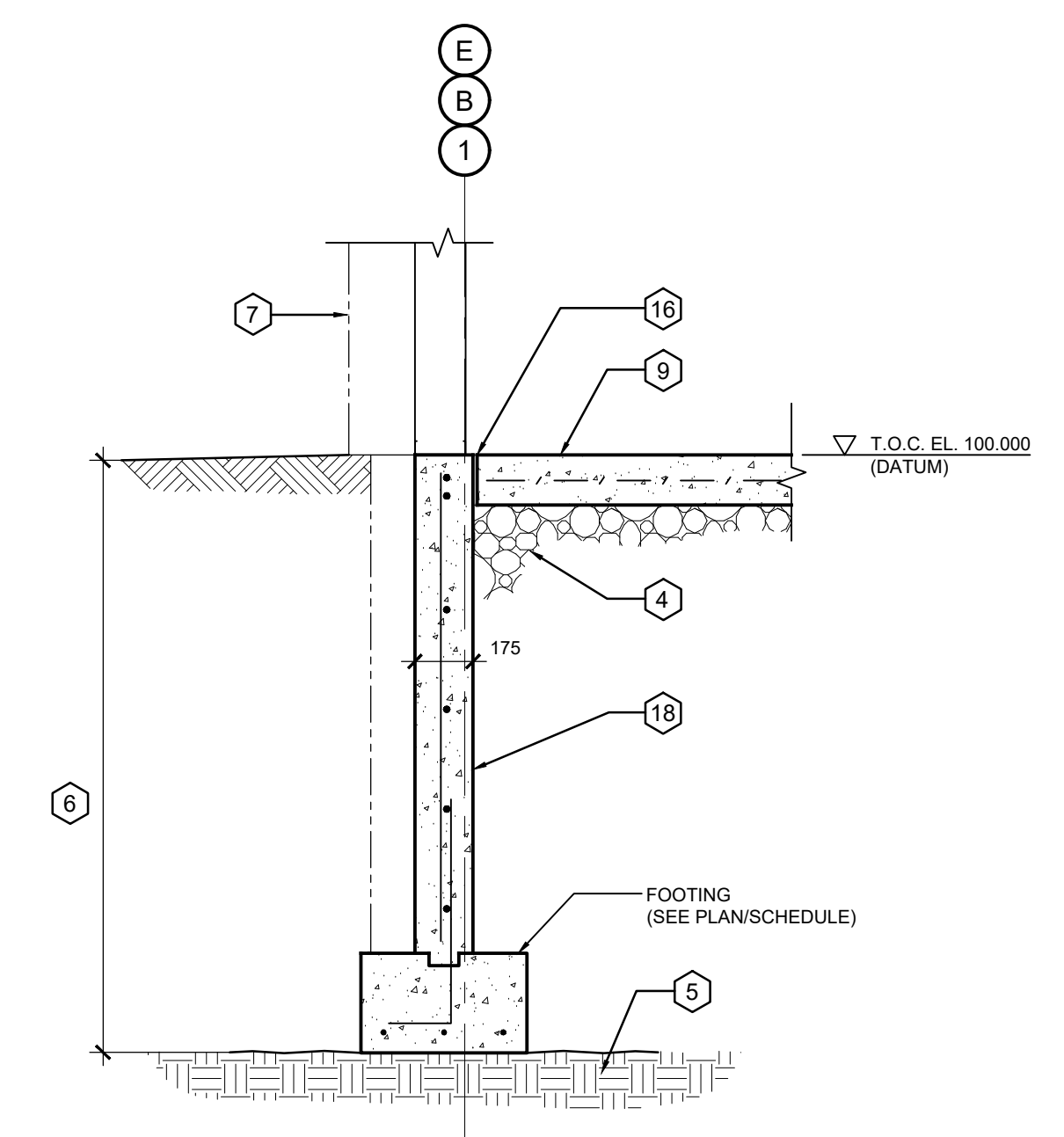
**3** SECTION: WALL FRAMING AT GRID 2: FULL HEIGHT  
S201 SCALE: 1:20



**2A** SECTION: MECHANICAL SCREEN FRAMING AT EDGE  
S201 SCALE: 1:20

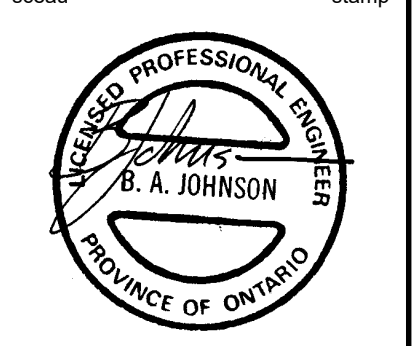


**2** SECTION: MECHANICAL SCREEN FRAMING  
S201 SCALE: 1:20



**1** SECTION: FOUNDATION WALL  
S201 SCALE: 1:20

plan-référence key plan  
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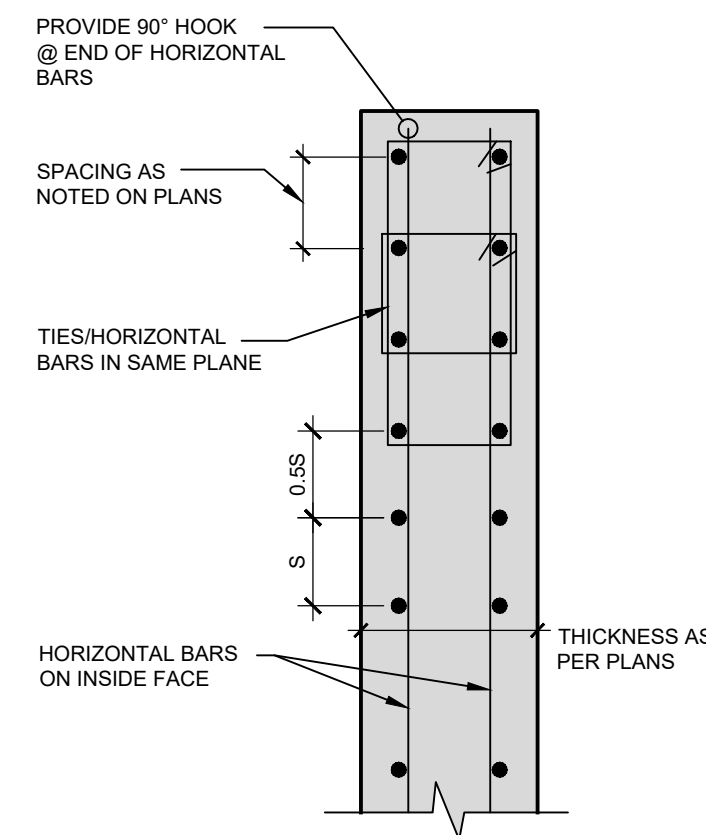
dessin drawing  
**Sections & Details**

conception	conception	no. dossier	project no.
B.J.	drawn	14-0072B	
dessiné	drawn	fichier DAO	CAD file
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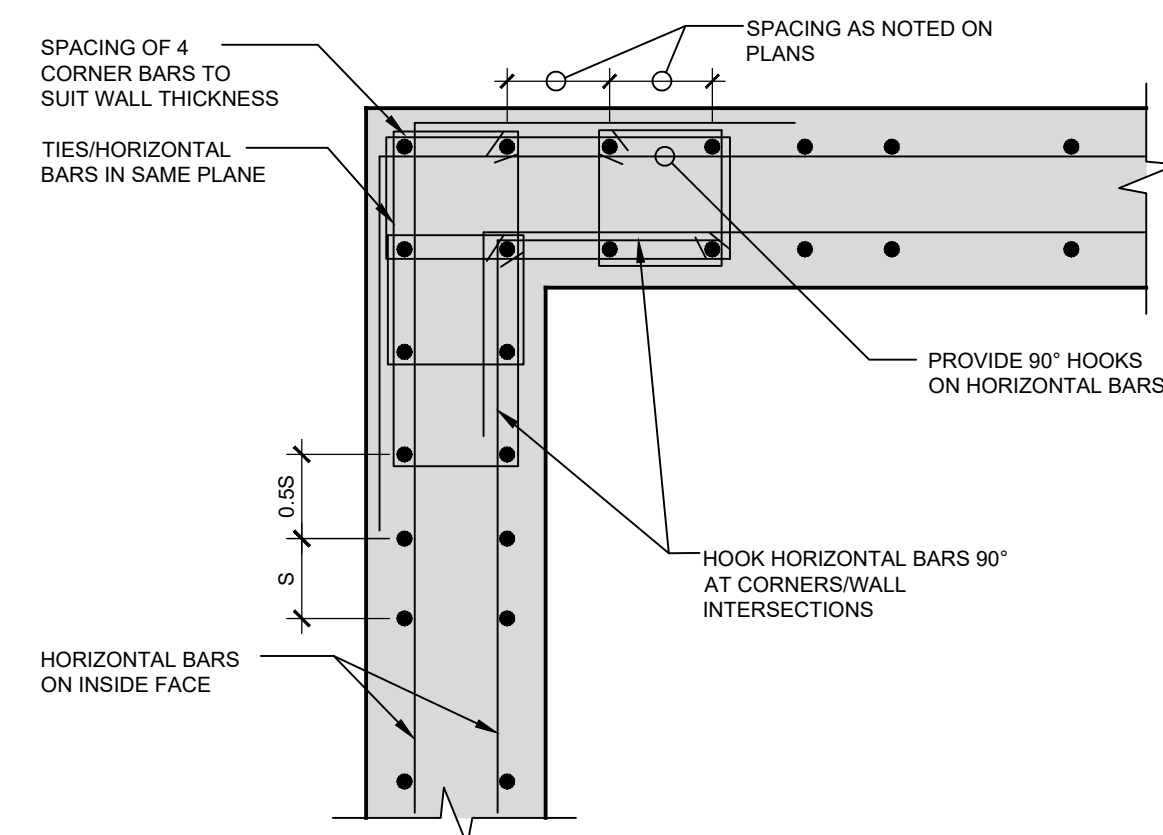
**S201**

### REINFORCING STEEL LAYOUTS AND TYPICAL SHEAR WALL DETAILS

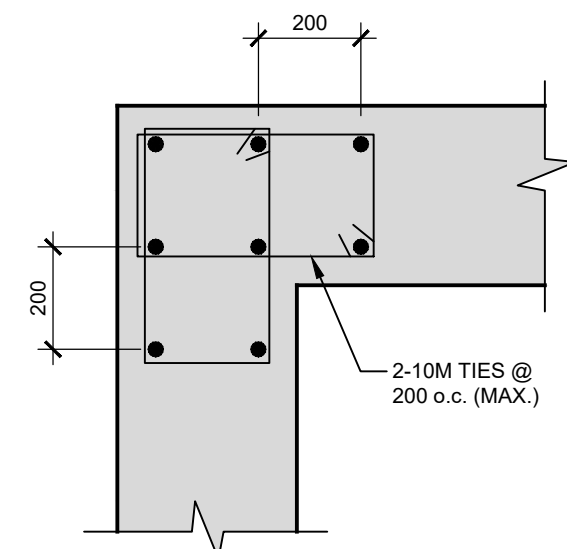
(UNLESS OTHERWISE NOTED ON SCHEDULES)



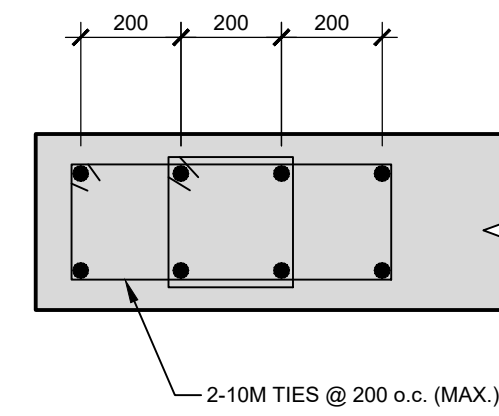
PLAN DETAIL: TYPICAL REINFORCING LAYOUT  
SCALE: N.T.S. @ WALL ENDS (Rd = 1.5)



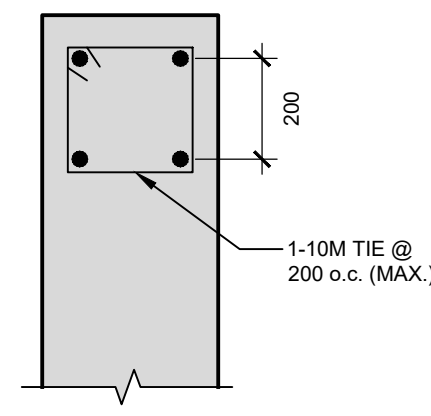
DETAIL: TYPICAL REINFORCING LAYOUT  
SCALE: N.T.S. @ WALL CORNERS (Rd=1.5)



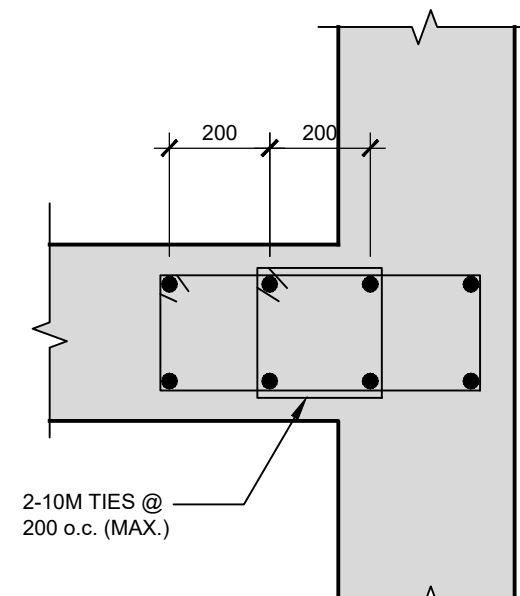
DETAIL: B1 BUNDLE: 8-25M  
SCALE: N.T.S.



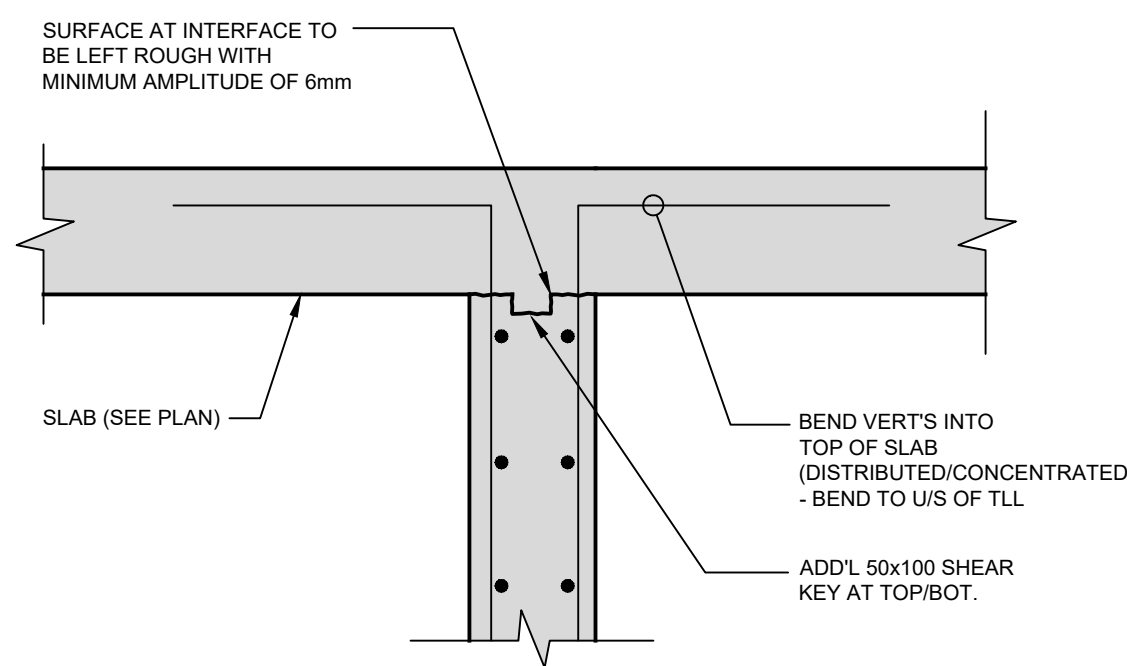
DETAIL: B2 BUNDLE: 8-25M  
SCALE: N.T.S.



DETAIL: B3 BUNDLE: 4-25M  
SCALE: N.T.S.

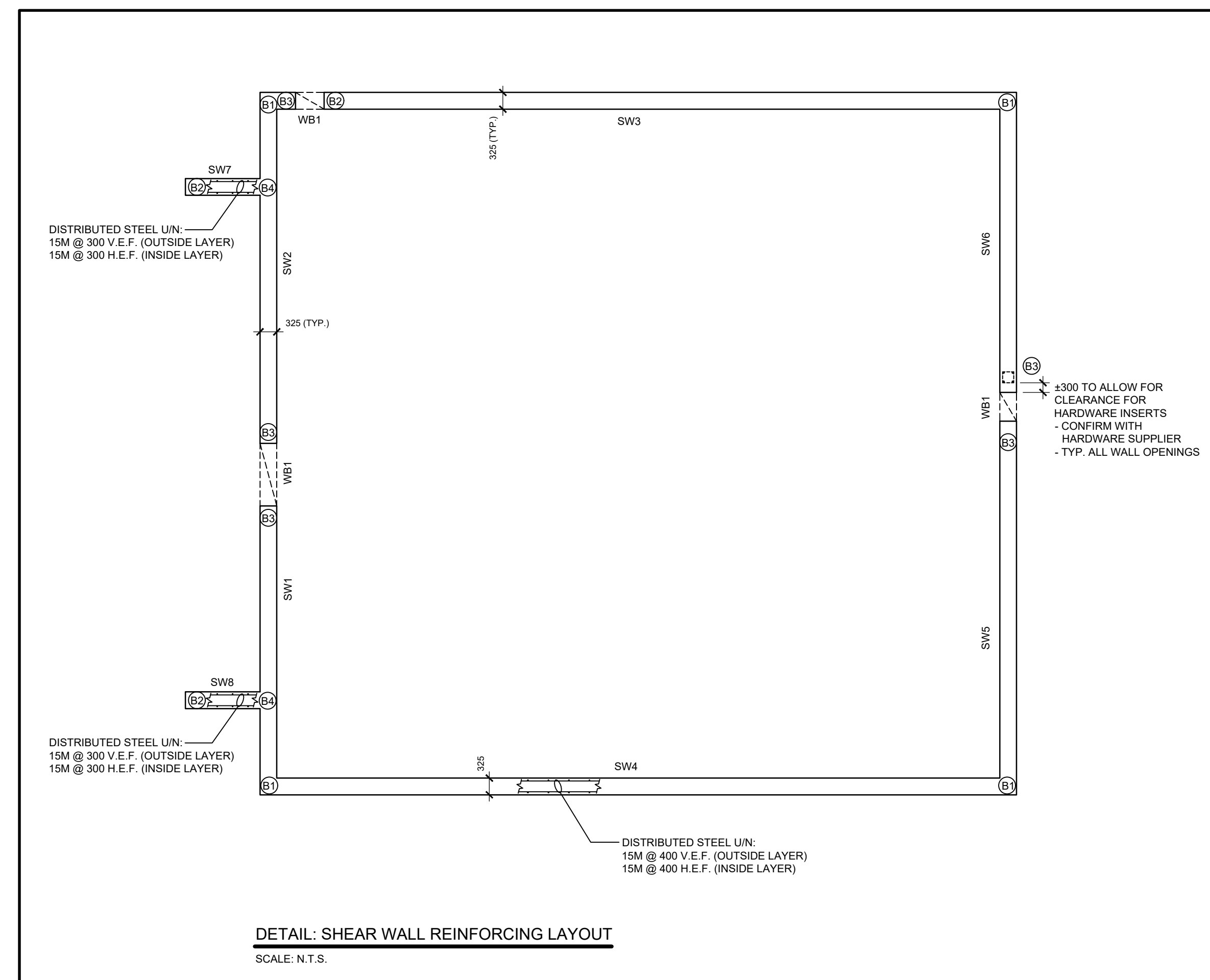


DETAIL: B4 BUNDLE: 8-25M  
SCALE: N.T.S.



DETAIL: SLAB / WALL INTERFACE  
SCALE: N.T.S.

- SHEAR WALL NOTES:**
- CONCRETE STRENGTH:  
FDN - ROOF:  $f'_c = 20 \text{ MPa}$ , TYPE RF
  - REINFORCING NOTES:  
ALL WALLS TO BE REINFORCED AS NOTED ON LAYOUT DRAWINGS.
  - GEOMETRY:  
FDN - ROOF: 325mm
  - WB1: 6-20M T (2 LAYERS - 4/2)  
6-20M B (2 LAYERS - 4/2)  
3-15M H.E.F. CONT.  
10M STIRRUP @ 75 o.c.
- EXTEND T&B BARS 1500 PAST EDGE OF OPENINGS (PROVIDE 90° HOOK WHERE EXTENSION NOT POSSIBLE) (NOTE: WHERE HARDWARE INSERTS ARE REQUIRED, OPENING "WIDTH" INCLUDE ROUGH OPENING AND INSERT EMBEDMENT)
  - CONTINUE WALL HORIZONTALS THROUGH BEAM ABOVE CONCENTRATED BARS



DETAIL: SHEAR WALL REINFORCING LAYOUT  
SCALE: N.T.S.

plan-référence key plan  
sceau stamp

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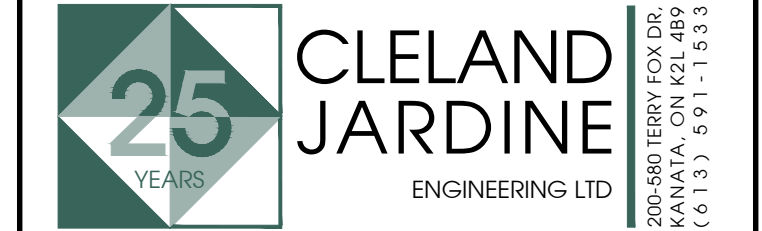
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S.H.	drawn		CAD file
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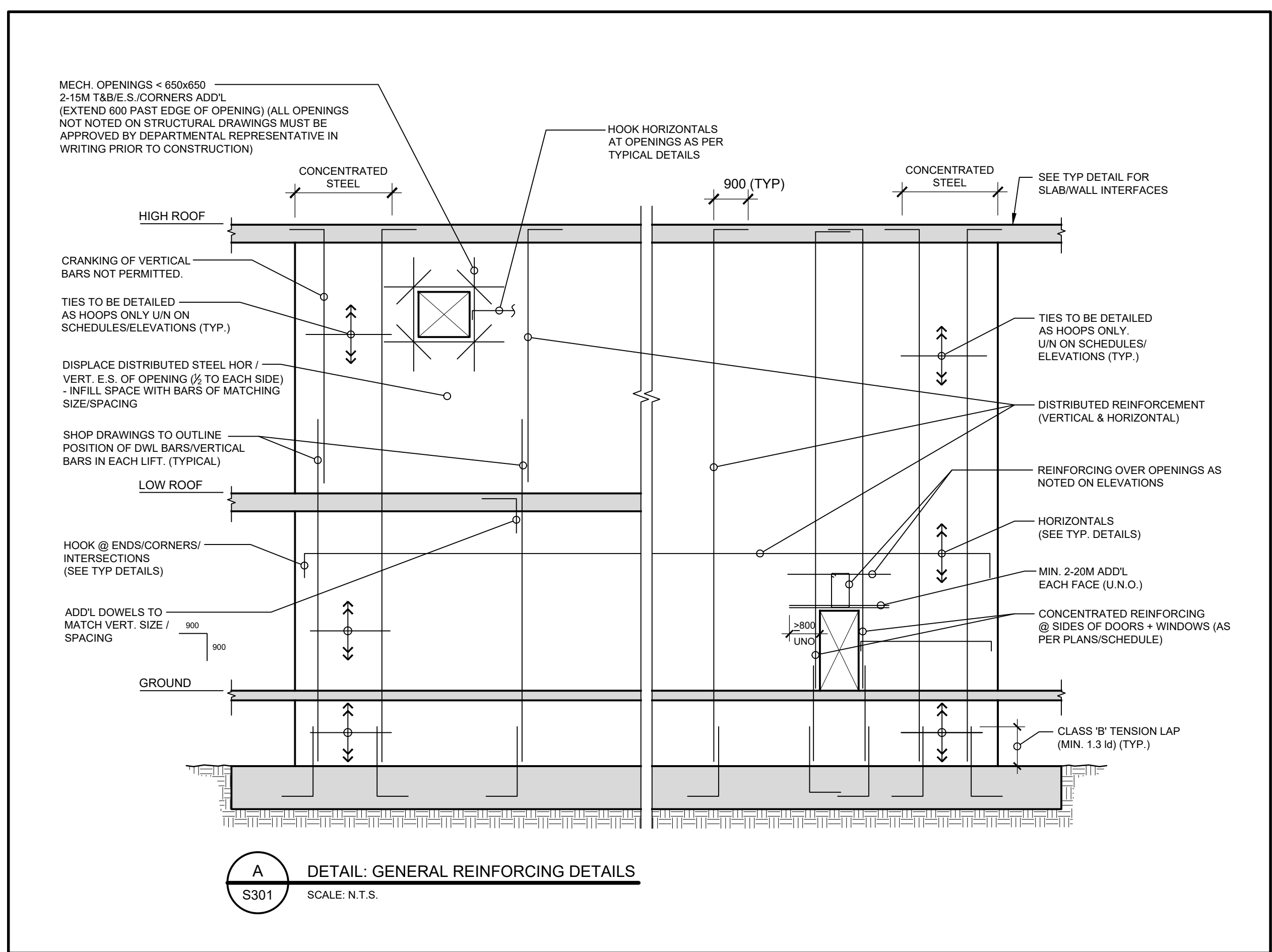
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project	project
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S301