

## **ADDENDUM No. 10**

**Project Number: R.038348.011**

**Page 1 of 8**

**The following changes in the bid documents are effective immediately. This addendum will form part of the contract documents.**

### **SPECIFICATIONS**

#### **1 Section 01 74 00 – Cleaning**

Add the following section:

1.4.2.5 Proof of thermal destruction meeting foam manufacturer's recommended disposal requirements shall be provided.

#### **2 Add Section 04 05 12 – Masonry Mortar and Grout.**

#### **3 Add Section 04 22 00 – Concrete Unit Masonry.**

#### **4 Add Section 07 11 00 – Bituminous Damp-proofing.**

#### **5 Section 07 81 00 – Applied Fireproofing**

.1 Item 3.3.2, delete the following table:

Location	Rating	ULC Rating
Roof Decks	2 hour	ULC BXUVC.F816

.2 Replace table of 3.3.2 with revised table as follows:

Location	Rating	ULC Rating
Roof Decks and Supports	2 hour	ULC BXUVC.F816

#### **6 Section 09 67 23 – Resinous High-Build Epoxy Floor Coating:**

.1 Delete the following reference:

1.1.2 – Section 03 35 10 Concrete Floor Finishing. (Note that concrete floor finish is specified in Section 03 30 00 – Cast-in-place Concrete.)

.2 Add the following item:

2.1.2.1: Quartz Silica Sand: 50-80 size grit, type as recommended by manufacturer.

.3 Add the following item:

3.2.5: For area identified to have textured surface:

- .1 Apply primer, 2 layers of epoxy flooring. Upon application of second layer of epoxy, broadcast silica sand to provide textured finish. After 24 hours remove excess sand. Apply topcoat. Follow manufacturer's instructions."

**SPECIFICATIONS (CONT'D)**

**7 Section 09 91 23 – Painting:**

Delete the following section:

**3.6 – Mechanical / Electrical Equipment**

- .1 Paint finished area exposed conduits, piping, hangers, ductwork and other mechanical and electrical equipment with colour and finish to match adjacent surfaces, where indicated.
- .2 Other unfinished areas: leave exposed conduits, piping, hangers, ductwork, and other mechanical and electrical equipment in original finish and touch up scratches and marks.
- .3 Touch up scratches and marks on factory painted finishes and equipment with paint as supplied by manufacturer of equipment.
- .4 Do not paint over nameplates.
- .5 Keep sprinkler heads free of paint.
- .6 Paint fire protection piping.
- .7 Paint disconnect switches for fire alarm system and exit light systems in red enamel.
- .8 Paint natural gas piping.
- .9 Paint both sides and edges of backboards for telephone and electrical equipment before installation. Leave equipment in original finish except for touch-up as required, and paint conduits, mounting accessories and other unfinished items.
- .10 Do not paint interior transformers and substation equipment.

Replace with New Item 3.6 as follows:

**3.6 – Painting Schedule**

1. Painting of mechanical and electrical conduits, piping, hangers, ductwork, and other mechanical and electrical equipment as per Mechanical and Electrical specifications.
2. Paint all new doors and frames. Assume 1 colour for doors and a second colour for frames.
3. Paint all new gypsum board. Assume a colour for ceilings and another for walls.
4. Paint all existing paintable surfaces affected by work to make good including but not restricted to:
  - a. Concrete columns where metal platforms, stairs removed.
  - b. Existing concrete block where metal platforms, stairs removed.
  - c. Modified steel elements in hangar space.
  - d. Colours to match existing or adjacent surfaces.
5. Do not paint new concrete walls.
6. Paint new concrete block at door infill to match adjacent walls.

**SPECIFICATIONS (CONT'D)**

**8 Section 03 30 00 – Cast-In-Place Concrete**

Delete the following section:

**2.2 – MIXES**

**.1 Concrete Mixes.**

- .1 Proportion of normal density concrete in accordance with CSA-A23.1, to give the following properties for all concrete exterior to the building.
  - .1 Cement: use Type GU of GUb cement.
  - .2 Minimum compressive strength at 28 days: 35 MPa
  - .3 Nominal size of coarse aggregate: 20mm
  - .4 Air Entrainment 5 to 8%
  - .5 Class of Exposure: C-1
  - .6 Slump at time and point of discharge: 75 mm.
- .2 Proportion of normal density concrete in accordance with CSA-A23.1, to give the following properties for all interior concrete.
  - .1 Cement: use Type GU of GUb cement.
  - .2 Minimum compressive strength at 28 days: 30 MPa
  - .3 Nominal size of coarse aggregate: 20mm
  - .4 Slump at time and point of discharge: 75 mm.
- .3 Use of calcium chloride or admixtures containing calcium chloride, not permitted.

Replace with the following section:

**2.2 – MIXES**

**.1 Concrete Mixes.**

- .1 Proportion of normal density concrete in accordance with CSA-A23.1-14, to give the following properties for all concrete exterior to the building and all concrete for the storage tank.
  - .1 Cement: use Type GU of GUb cement.
  - .2 Minimum compressive strength at 28 days: 35 MPa
  - .3 Nominal size of coarse aggregate: 20mm
  - .4 Air Entrainment 5 to 8%
  - .5 Class of Exposure: C-1
  - .6 Slump at time and point of discharge: 75 mm.
- .2 Proportion of normal density concrete in accordance with CSA-A23.1-14, to give the following properties for all perimeter foundation walls.
  - .1 Cement: use Type GU of GUb cement.
  - .2 Minimum compressive strength at 28 days: 25 MPa
  - .3 Nominal size of coarse aggregate: 20mm
  - .4 Class of Exposure: F-2
  - .5 Air Entrainment: 4-7%
  - .6 Slump at time and point of discharge: 75 mm.

**SPECIFICATIONS (CONT'D)**

**8 Section 03 30 00 – Cast-In-Place Concrete (Suite)**

Replace with the following section: (Suite)

**2.2 – MIXES (Suite)**

**.1 Concrete Mixes. (Suite)**

- .3 Proportion of normal density concrete in accordance with CSA-A23.1-14, to give the following properties for exterior slab on grade and all exterior non-structural concrete such as curbs and sidewalks.
  - .1 Cement: use Type GU of GUb cement.
  - .2 Minimum compressive strength at 28 days: 32 MPa
  - .3 Nominal size of coarse aggregate: 20mm
  - .4 Class of Exposure: C-2
  - .5 Air Entrainment: 5-8%
  - .6 Slump at time and point of discharge: 75 mm
- .4 Proportion of normal density concrete in accordance with CSA-A23.1-14, to give the following properties for all concrete to be used in hanger slab on grade repairs.
  - .1 Cement: use Type GU of GUb cement.
  - .2 Minimum compressive strength at 28 days: 35 MPa
  - .3 Nominal size of coarse aggregate: 20mm
  - .4 Class of Exposure: N
  - .5 Slump at time and point of discharge: 75 mm.
  - .6 Provide High Early Strength Addmixture
- .5 Proportion of normal density concrete in accordance with CSA-A23.1-14, to give the following properties for all other concrete including footings and interior slab on grade and walls above grade for the horizontal addition
  - .1 Cement: use Type GU of GUb cement.
  - .2 Minimum compressive strength at 28 days: 25 MPa
  - .3 Nominal size of coarse aggregate: 20mm
  - .4 Class of Exposure: N
  - .5 Slump at time and point of discharge: 75 mm
- .6 Use of calcium chloride or admixtures containing calcium chloride, not permitted.

**9 Section 10 44 00 – Fire Protection Specialties**

Delete the following section:

**2.1 – Multi-Purpose Dry Chemical Extinguishers:**

- .1 Stored pressure rechargeable type with hose and shut-off nozzle, ULC labelled for A, B and C class protection.
  - .1 Size: 23 kg (50 lbs.)
  - .2 Brass hose fittings
  - .3 Live swivel on discharge valve
  - .4 Brass valve chrome plated
  - .5 Heavy duty steel cylinder
  - .6 Rubber wheeled free-standing carriage and hose rack
  - .7 CAN/ULC Bilingual (English/French)
  - .8 Large instruction Pictogram
  - .9 Identified CAN/ULC-S508 rated



**SPECIFICATIONS (CONT'D)**

**9 Section 10 44 00 – Fire Protection Specialties (Suite)**

Replace with:

**2.1 – CO<sub>2</sub> Fire Extinguishers:**

- .1 CO<sub>2</sub> Stored pressure rechargeable type with hose and shut-off nozzle, ULC labelled for BC.
- .1 Size: 23 kg (50 lbs)
- .2 Brass hose fittings
- .3 Live swivel on discharge valve
- .4 Brass valve chrome plated
- .5 Heavy duty steel cylinder
- .6 Rubber wheeled free-standing carriage and hose rack
- .7 CAN/ULC Bilingual (English/French)
- .8 Large instruction Pictogram
- .9 Identified CAN/ULC-10BC rated

**10 Section 21 13 00.01 – Aircraft Hanger High-Expansion Foam Fire-Suppression Systems**

Delete the following section:

**2.5 – High-Expansion Foam System Bladder Tanks:**

- .1 Per NFPA (Fire) 409 Main and Reserve bladder tanks shall be required. Tanks shall be a horizontal cylindrical steel ASME coded pressure rated vessel with a UL approved bladder shaped to conform to the inner pressure vessel configuration. Tanks shall be designed for a working pressure of 12.1 bar and hydrostatically tested to at least 17.6 bar. The tanks interior shall be coated with a high build epoxy sealer for additional corrosion resistance. The bladder tanks shall be UL listed or FM approved together with the type of concentrate and proportioners being used in the system. The Bladder tanks is to have a minimum 3,407 L capacity to provide sufficient foam concentrate for the time specified when the system is discharging foam solution at total discharge flow. The bladder tank shall be complete with all necessary outlets and supports such as two welded saddles for horizontal bladder tanks or four welded legs for vertical bladder tanks. Associated trim on the bladder tank shall include bronze pipe and fittings, four bronze ball valves, minimum of 25mm, for concentrate and water vents and drains with secured nameplate depicting the valve name and operating position, and a clear PVC sight gauge. The bladder tanks, proportioners and foam concentrate shall be the product of a single manufacturer.

**SPECIFICATIONS (CONT'D)**

**10 Section 21 13 00.01 – Aircraft Hanger High-Expansion Foam Fire-Suppression Systems (Suite)**

Replace with:

**2.5– High-Expansion Foam System Bladder Tanks:**

- .1 Per NFPA (Fire) 409 Main and Reserve bladder tanks shall be required. Tanks shall be a horizontal cylindrical steel ASME coded pressure rated vessel with a UL approved bladder shaped to conform to the inner pressure vessel configuration. Tanks shall be designed for a working pressure of 12.1 bar and hydrostatically tested to at least 17.6 bar. The tanks interior shall be coated with a high build epoxy sealer for additional corrosion resistance. The bladder tanks shall be UL listed or FM approved together with the type of concentrate and proportioners being used in the system. Refer to schedule for tank sizes. The bladder tank shall be complete with all necessary outlets and supports such as two welded saddles for horizontal bladder tanks or four welded legs for vertical bladder tanks. Associated trim on the bladder tank shall include bronze pipe and fittings, four bronze ball valves, minimum of 25mm, for concentrate and water vents and drains with secured nameplate depicting the valve name and operating position, and a clear PVC sight gauge. The bladder tanks, proportioners and foam concentrate shall be the product of a single manufacturer.

**11 Section 21 13 13 – Wet Pipe Sprinkler Systems**

- .1 Delete the following items:

**3.6.8.1.2**

Provide valves and operating accessories with 1 coat of red alkyd gloss enamel applied to minimum dry film thickness of 1.0 mil.

**3.6.8.2.1**

Provide primed surfaces with one coat of red alkyd gloss enamel applied to minimum dry film thickness of 1.0 mil in pipe chases, mechanical equipment room, and spaces where walls or ceiling are not painted or not constructed of a prefinished material.

- .2 Replace with:

**3.6.8.1.2**

Provide valves and operating accessories with 1 coat of **black** alkyd gloss enamel applied to minimum dry film thickness of 1.0 mil.

**3.6.8.2.1**

Provide primed surfaces with one coat of **black** alkyd gloss enamel applied to minimum dry film thickness of 1.0 mil in pipe chases, mechanical equipment room, and spaces where walls or ceiling are not painted or not constructed of a prefinished material.

## **ADDENDUM No. 10**

**Project Number: R.038348.011**

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### **SPECIFICATIONS (CONT'D)**

#### **12 Section 22 13 16.13 – Sanitary Waste and Vent Piping**

- .1 Add the following section:
  - 3.1.2: All below slab sanitary piping and pumped sanitary piping, with the exception of concrete effluent piping, shall be schedule 40 cast iron pipe.

### **DRAWINGS**

#### **1 Reference Attached Sketch ADD-M1-SK1**

- 1. Provide exterior fuel oil fill platform at new fill station outside of main fire pump room. Refer to attached sketch ADD-M1-SK1 for details.

#### **2 Reference Attached Drawing S102**

- 1. Section A-A/S102 has been revised, refer to the clouded areas on S102 for more information.
- 2. The reinforcing labels for the indicated rebars have been revised to B1.
- 3. The indicated rebars should be dimensionless, and they are spaced at 500 o/c with 600mm lap each end.
- 4. Bars are to alternate length @ 250 o/c, effective spacing of 250 o/c.
- 5. Section A-A/S102 has been revised.

#### **3 Reference Attached Drawing S103**

- 1. The concrete Strength for footings / walls has been added to drawing S103.

#### **4 Reference Attached Drawing S301**

- 1. A new plan detail and section have been added to drawing S301.

#### **5 Reference Attached Drawing A-001:**

- .1 Add third item to Drawing Legend for epoxy floor, textured area as shown.
- .2 Add hatch to area in south-west quadrant of hangar for textured area as shown.

#### **6 Reference Attached Drawing A-004:**

- .1 Delete Note 2 Reference Marker on plan where shown at door sills. Note 1 & Note 2 only to be referenced to shaded areas bounded by dashed lines for cutting slab to install drains or drain pipes.

#### **7 Reference Attached Drawing A-009:**

- .1 Revise General Note #1 on drawings to read: "Coordinate work on this drawing with Structural and Mechanical Drawings".

## **ADDENDUM No. 10**

**Project Number: R.038348.011**

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### **DRAWINGS (CONT'D)**

#### **8 Reference Attached Drawing A-011:**

- .1 Partial Building Section 2/A.011: Add spray fireproofing to underside of roof structure, covering steel as shown.
- .2 Section Detail 6/A.011: Add spray fireproofing to underside of roof structure, covering steel as shown.

#### **9 Reference Attached Drawing A-011A:**

- .1 Revise Roof Type R1 to add applied spray fireproofing.
- .2 Section Details 3 to 5/A.001A: Add spray fireproofing to underside of roof structure, covering steel as shown.

#### **10 Reference Attached Drawing A-12:**

- .1 Detail 7/A.012:
  - i. Dampproof membrane to stop at bottom of footing. Delete part of dampproof membrane under footing and slab.

#### **11 Reference Attached Drawing A-14:**

- .1 Delete Reference to Note 8 and Note 8 from drawing. Ceiling is not concrete, has applied fireproofing to steel deck and structure, and does not require painting.

Enclosures: Sketch ADD-M1-SK1 and Drawings S102, S103, S301, A-001, A-004, A-009, A-011, A-011A, A-12, A-13, and A-14.

**END OF ADDENDUM No. 10**



PUMP ROOM / SALLE DE POMPAGE

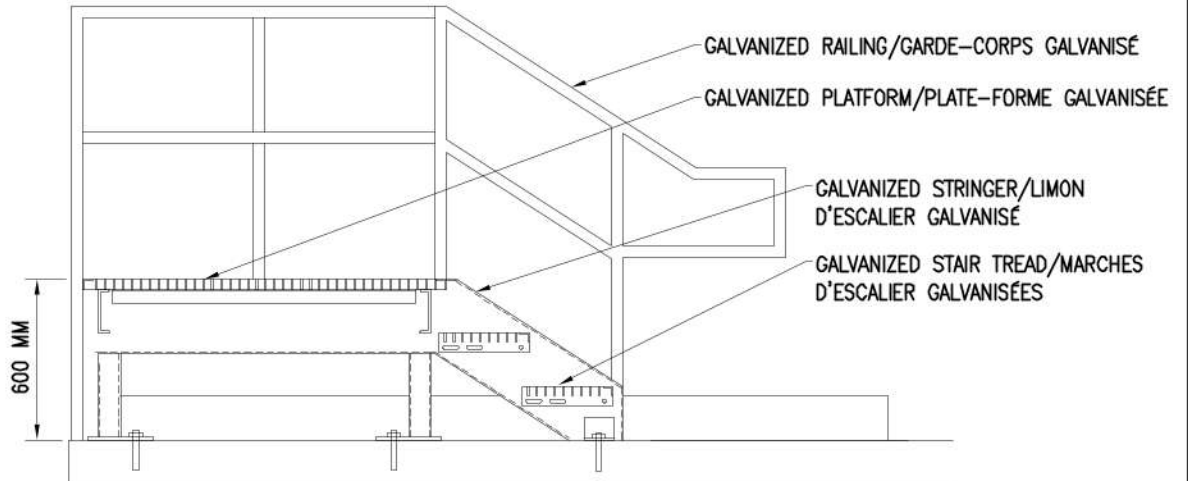
FUEL OIL FILL PORT/STATION DE  
REMPLISSAGE DE CARBURANT

NEW REFILL PLATFORM / NOUVELLE  
PLATEFORME DE RECHARGE

PLAN VIEW / VUE DE PLAN



FUEL OIL FILL PORT/STATION DE  
REMPLISSAGE DE CARBURANT



GALVANIZED RAILING/GARDE-CORPS GALVANISÉ

GALVANIZED PLATFORM/PLATE-FORME GALVANISÉE

GALVANIZED STRINGER/LIMON  
D'ESCALIER GALVANISÉ

GALVANIZED STAIR TREAD/MARCHES  
D'ESCALIER GALVANISÉES

600 MM



NEW REFILL PLATFORM / NOUVELLE PLATEFORME DE RECHARGE

ADD-M1-SK1

N.T.S.



Public Works and  
Government Services  
Canada

Travaux publics et  
Services gouvernementaux  
Canada

designed by: MP/RL date:

drawn by: MP/LS

approved by: RL

project no.: 2016-622 no. du projet:

dwg no.: ADD-M1-SK1 dessin no.:

HANGAR T-58 - 200 COMET PRIVATE, OTTAWA, ON.

FIRE SUPPRESSION SYSTEM / SYSTÈME DE  
SUPPRESSION D'INCENDIE

Drawing title: NEW REFILL PLATFORM / NOUVELLE  
PLATEFORME DE RECHARGE  
scale: N.T.S.

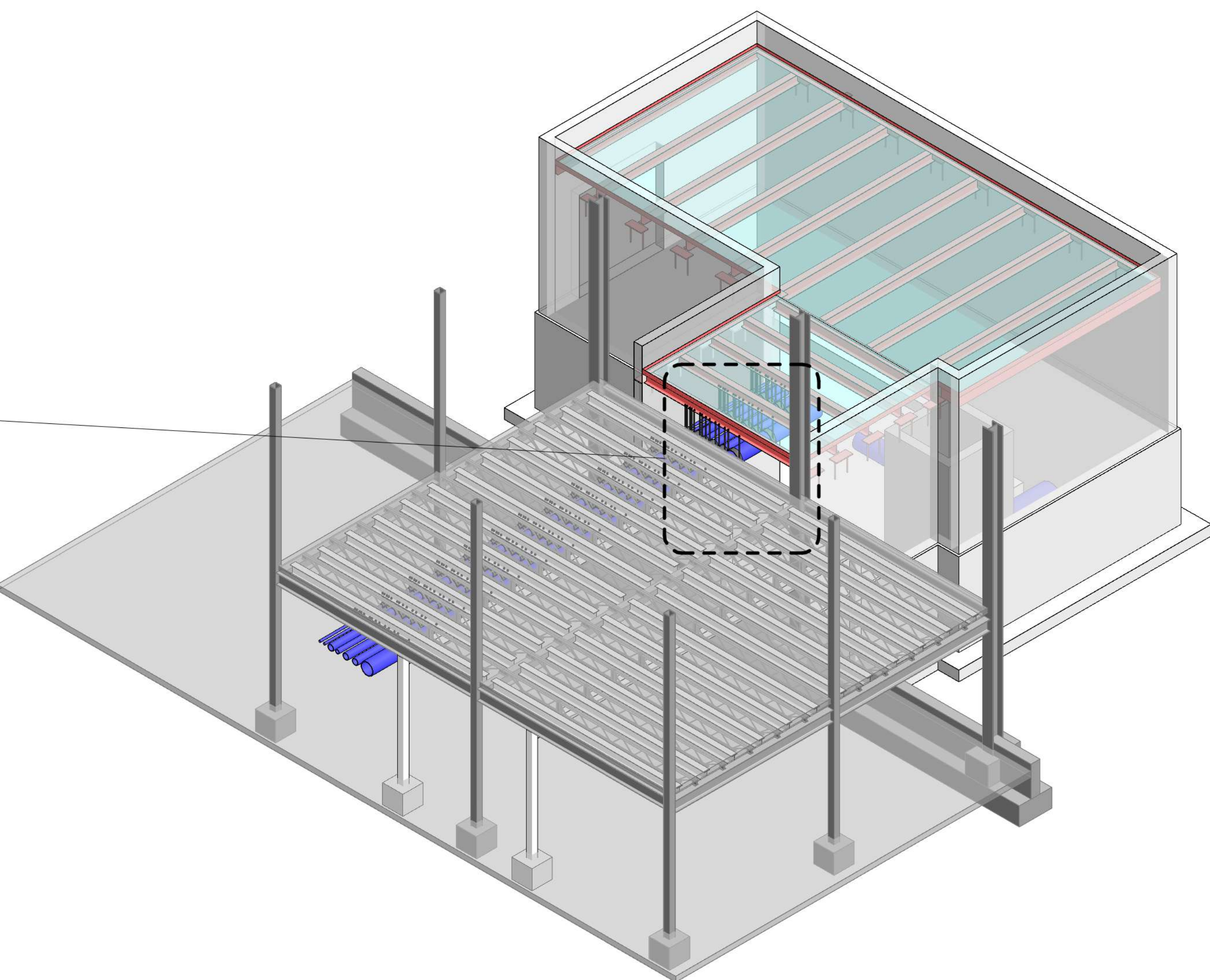
date: 2021-MAR-10

revisions:

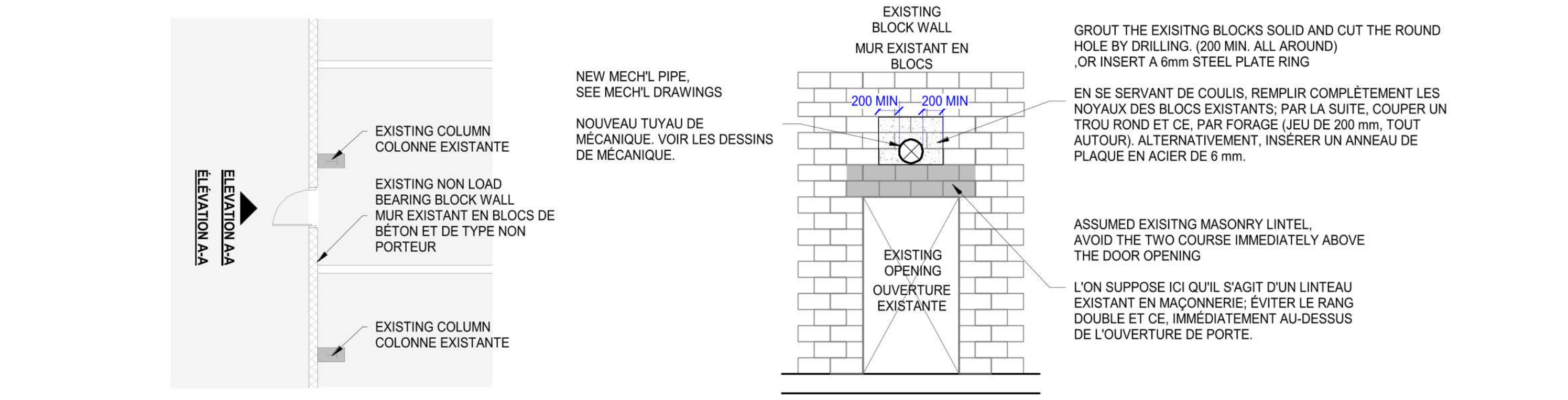
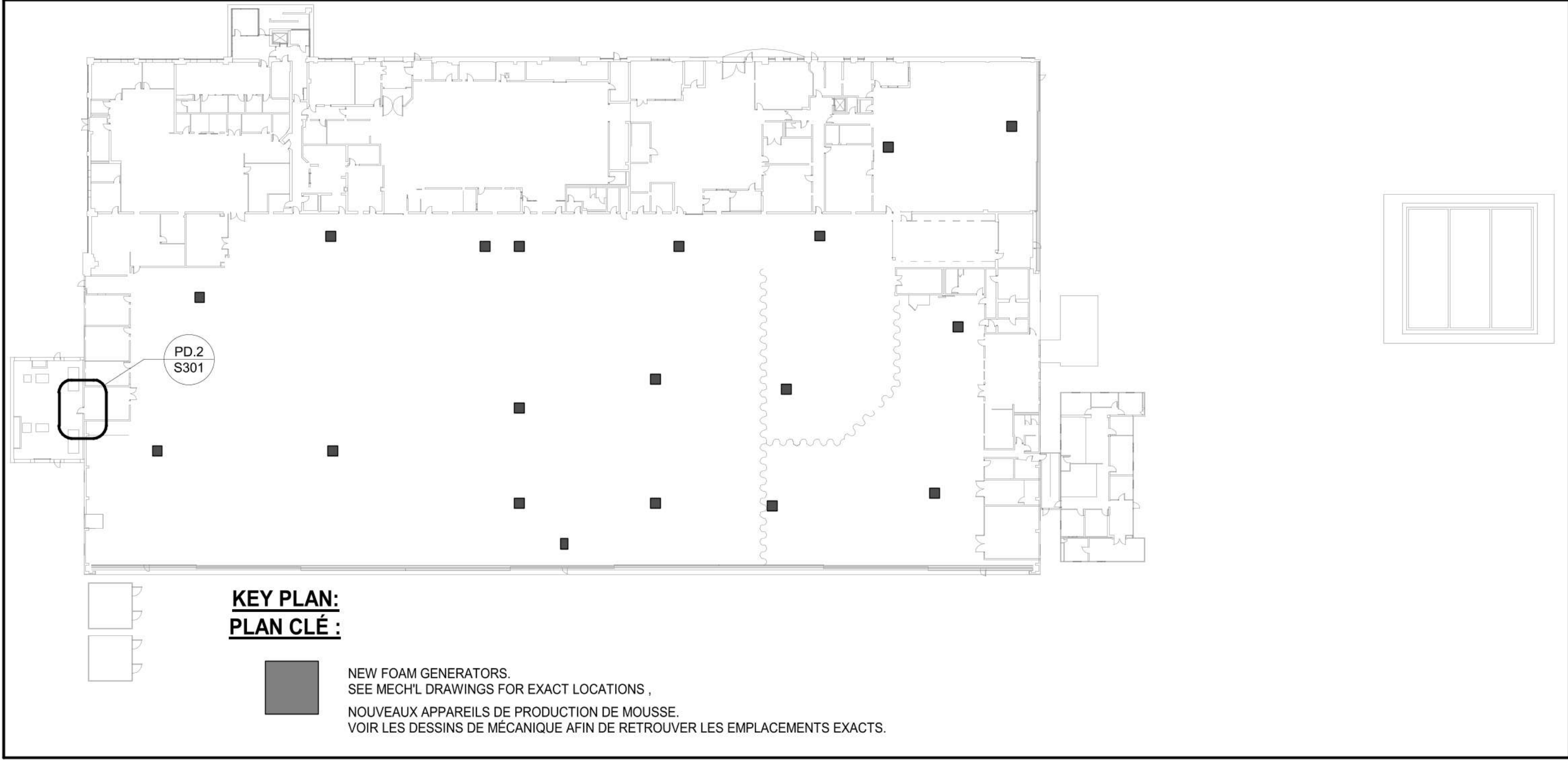




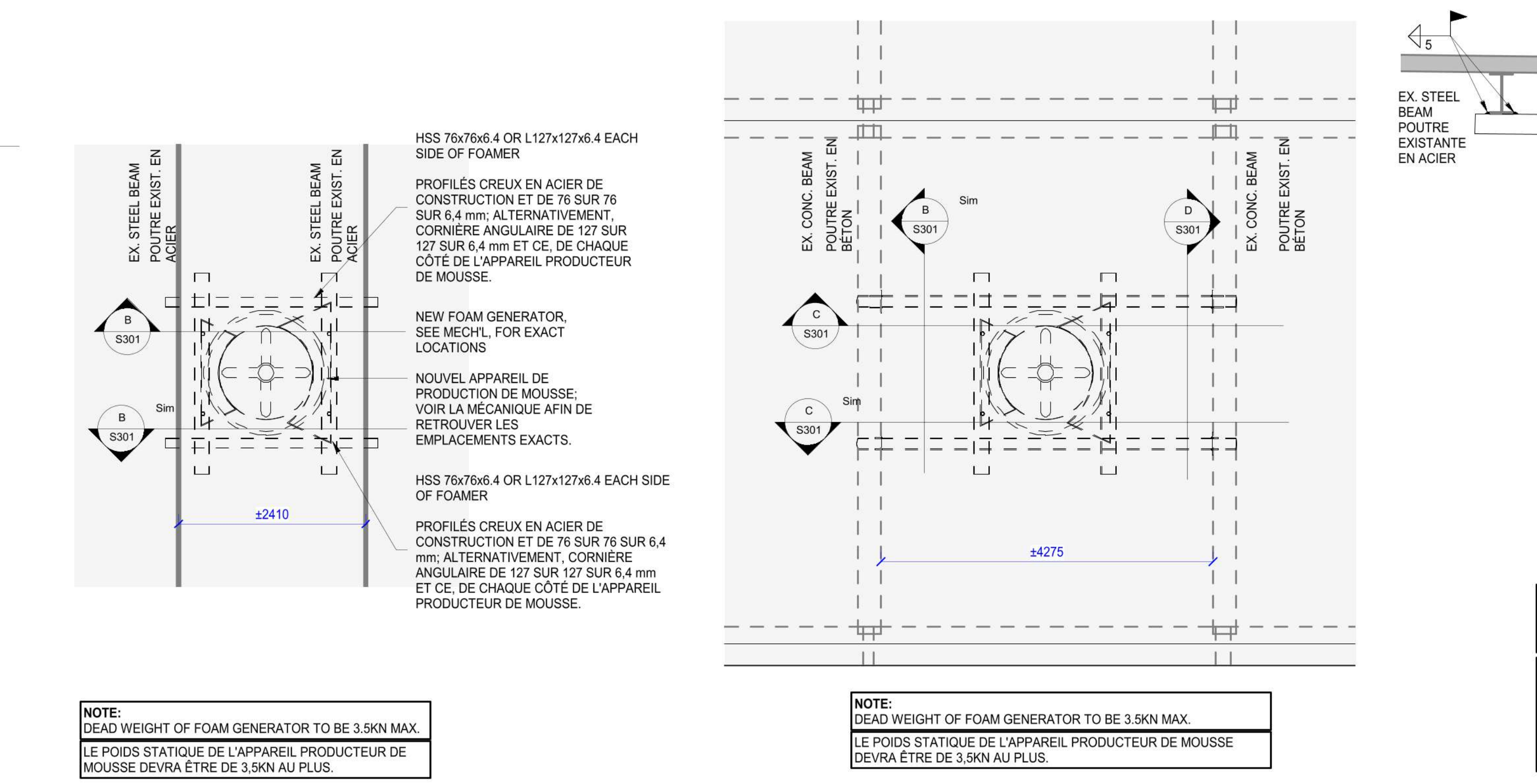




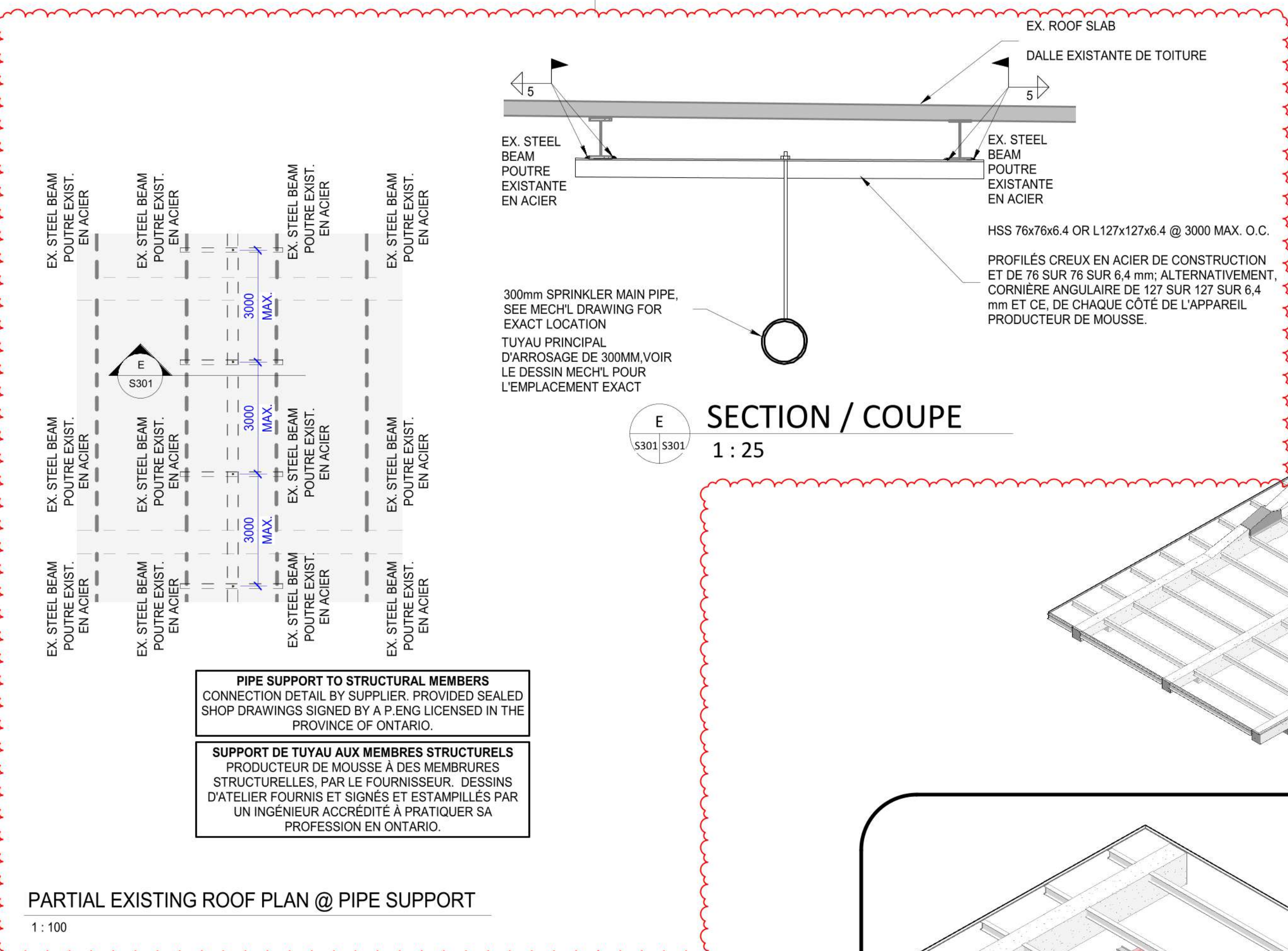
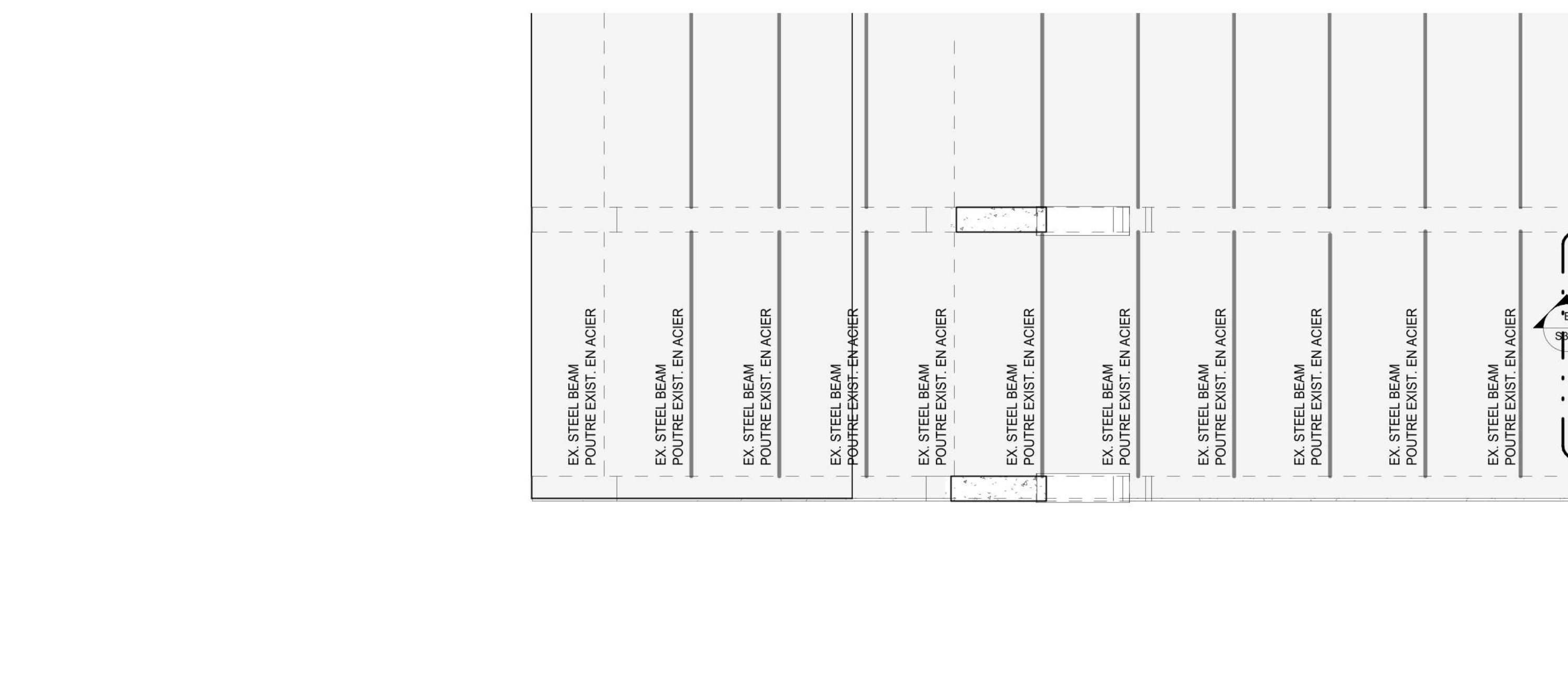




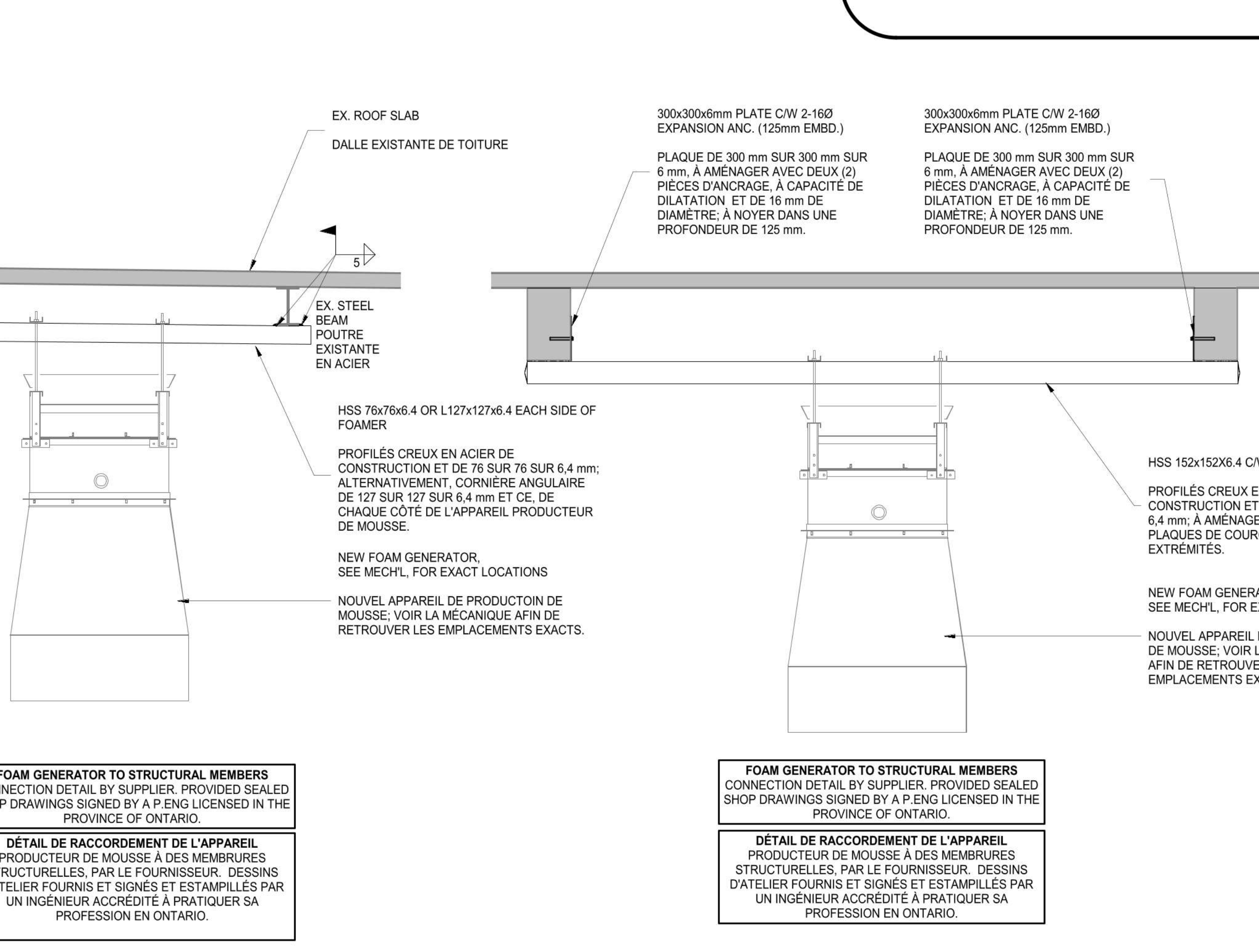
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**1 : 100**



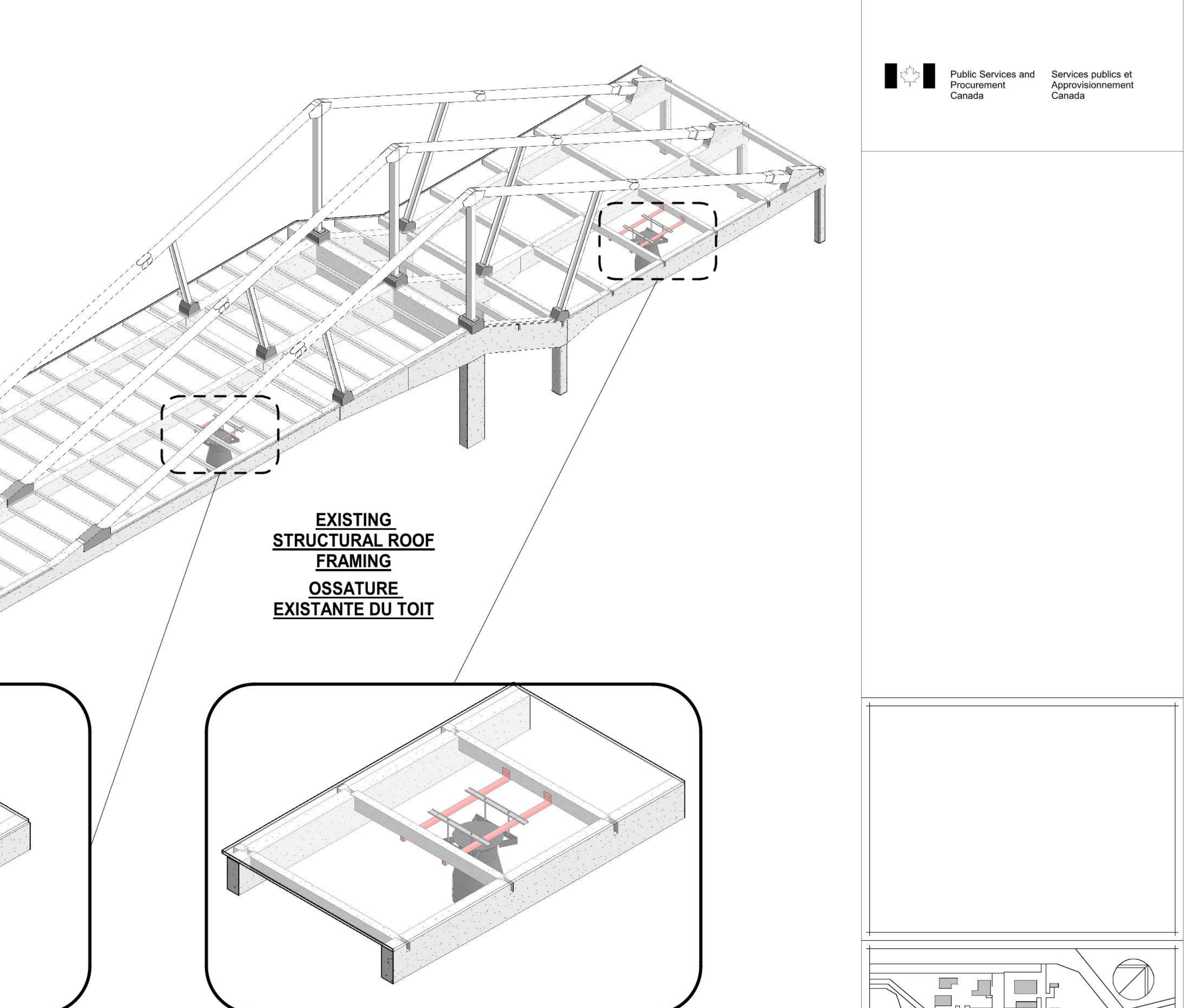
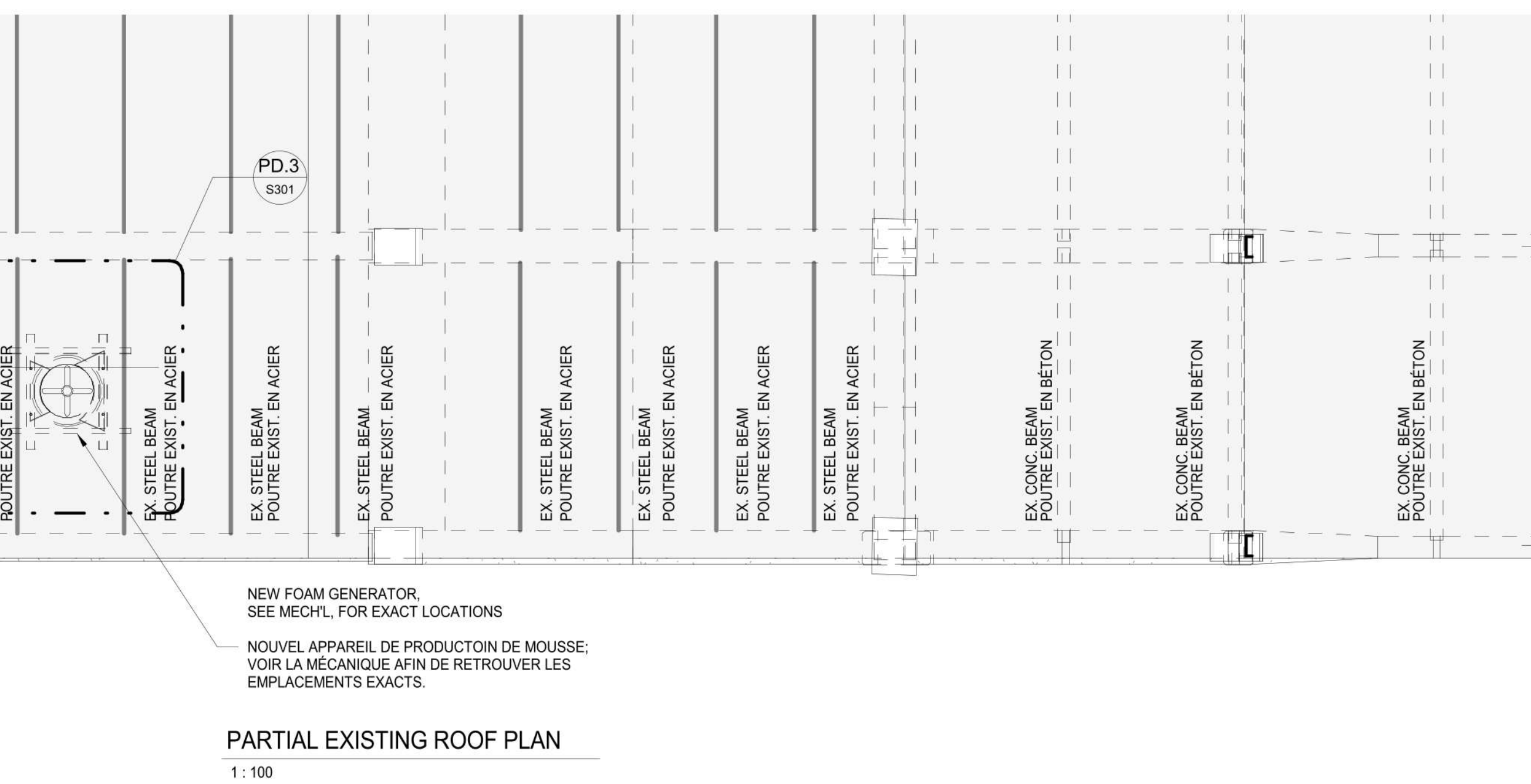
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**1 : 50**



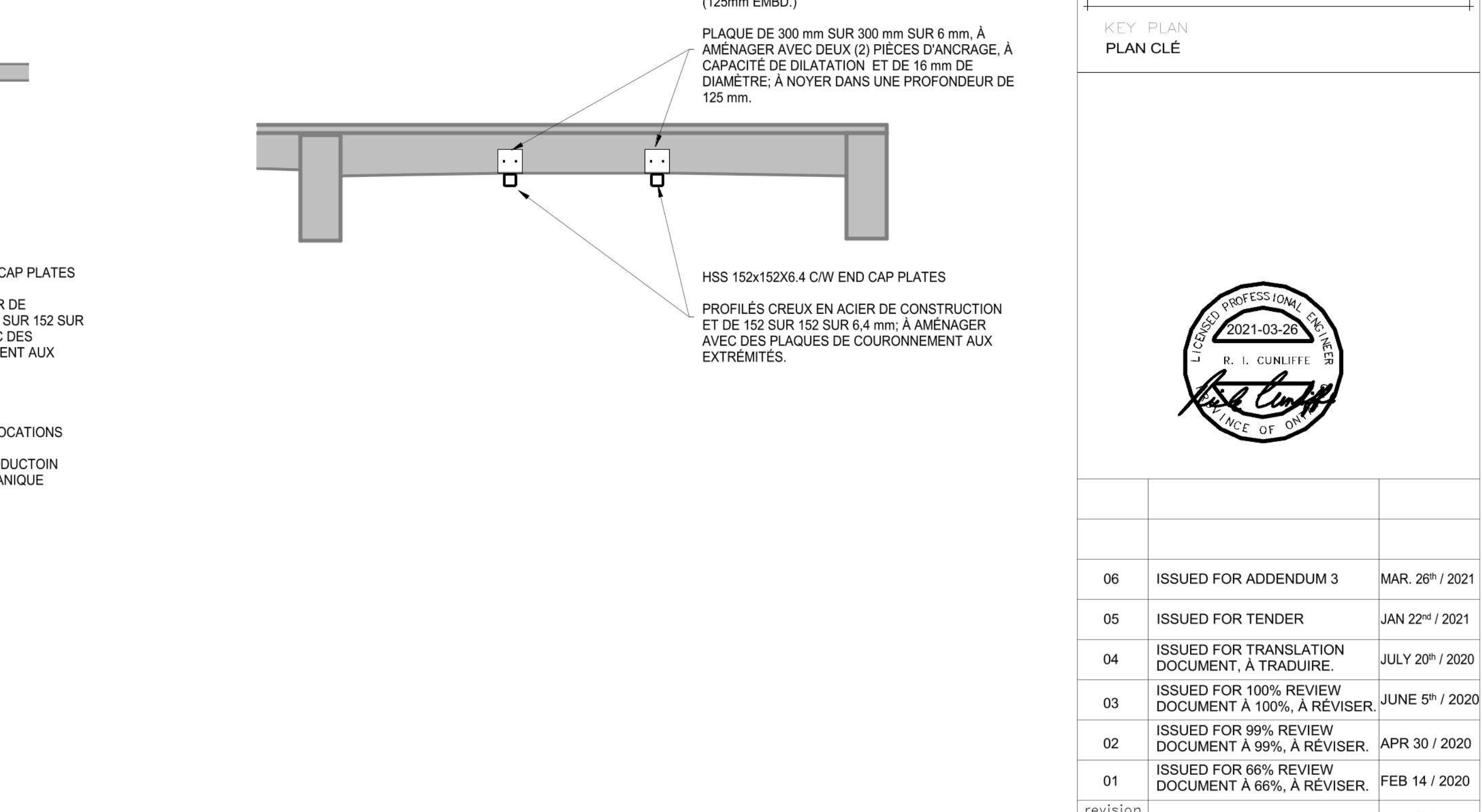
**SECTION / COUPE**  
**1 : 25**



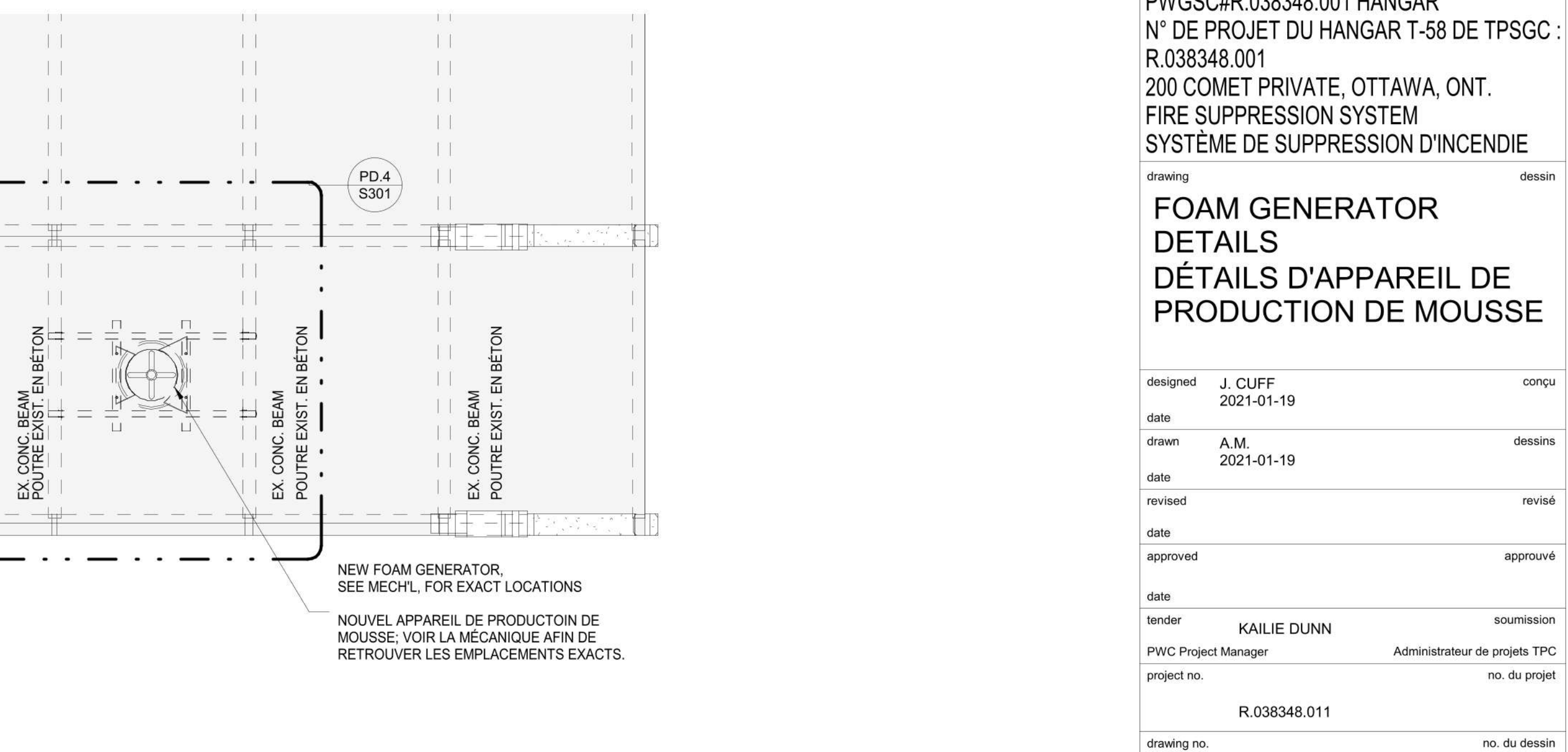
**SECTION / COUPE**  
**1 : 25**



**SECTION / COUPE**  
**1 : 25**



**SECTION / COUPE**  
**1 : 50**



Public Services and Procurement Canada / Services publics et Approvisionnement Canada

KEY PLAN / PLAN CLÉ

ISSUED FOR ADDENDUM 3 / MAR 28<sup>th</sup> / 2021

ISSUED FOR TENDER / JAN 22<sup>nd</sup> / 2021

ISSUED FOR TRANSLATION DOCUMENT, A TRADUIRE / JULY 20<sup>th</sup> / 2020

ISSUED FOR 100% REVIEW DOCUMENT A 100%, A RÉVISER / JUNE 5<sup>th</sup> / 2020

ISSUED FOR 99% REVIEW DOCUMENT A 99%, A RÉVISER / APR 30 / 2020

ISSUED FOR 60% REVIEW DOCUMENT A 60%, A RÉVISER / FEB 14 / 2020

revision / révision

date

A detail no. / no. du détail  
B location drawing no. / no. de localisation  
C drawing no. / no. du dessin

project / projet

PWGSC#R.038348.001 HANGAR  
N° DE PROJET DU HANGAR T-58 DE TPSGC : R.038348.001  
200 COMET PRIVATE, OTTAWA, ONT.  
FIRE SUPPRESSION SYSTEM  
SYSTÈME DE SUPPRESSION D'INCENDIE

drawing / dessin

FOAM GENERATOR DETAILS  
DÉTAILS D'APPAREIL DE PRODUCTION DE MOUSSE

designed / conçu

J. CUFF  
2021-01-19

drawn / dessiné

A.M.  
2021-01-19

revised / révisé

date

approved / approuvé

date

tender / soumission

KAILIE DUNN  
PWC Project Manager / Administrateur de projets TPC

project no. / no. du projet

R.038348.011

drawing no. / no. du dessin


S301









107c

NOTES GÉNÉRALES		GENERAL NOTES:	
COORDONNER LES TRAVAUX DU PRÉSENT DESSIN AVEC LA STRUCTURE ET MECANIQUE DESIGN 	1.	COORDINATE WORK ON THIS DRAWING WITH STRUCTURAL AND MECHANICAL DRAWINGS.	
LORS DU RETRAIT D'EQUIPEMENT, REMPLIR ET REPARER LES SURFACES CONCERNÉES, AUX NORMES	2.	WHERE REMOVALS OF EQUIPMENT OCCUR, PATCH AND REPAIR AFFECTED SURFACES AS REQUIRED.	
COORDONNER L'EMPLACEMENT DES OUVERTURES DÉFINITIVES DANS LA DALLE AVEC L'ENTREPRENEUR EN MECANIQUE ET CE, AVANT LE COUPAGE DE LA DALLE DE PLANCHER	3.	COORDINATE FINAL SLAB OPENING LOCATIONS WITH MECHANICAL CONTRACTOR PRIOR TO CUTTING OF FLOOR SLAB	

FRENCH	
ENLEVER LA PLÂTE-FORME EXISTANTE EN ACIER, Y COMPRIS LE GARDE-CORPS, L'ESCALIER ET LE CANNON OSCILLANT. VOIR LES ÉLEVATIONS DU DESSIN A.017. COORDONNER LES TRAVAUX SUR PLACE AVEC LA CHARPENTE.	8 REMOVE EXISTING STEEL PLATFORM C/W GUARD, STAIR, & OSCILLATING CANNON. SEE ELEVATIONS ON DRAWING A.017. COORDINATE ON SITE W/ STRUCTURAL.
COUPER ET ENLEVER LA PARTIE DE LA DALLE EXISTANTE, REPRÉSENTÉE PAR LA ZONE HACHURÉE. REMETTRE À NEUF LA ZONE SURELEVÉE EN BÉTON.	9 CUT AND REMOVE PART OF EXISTING SLAB DESIGNATED BY HATCHED AREA AND REINSTATE CONCRETE RAISED AREA.
L'EMPÂTEMENT DE LA DALLE DE COLONNE EXISTANTE EST INDIQUÉE AU MOYEN D'UNE LIGNE POINTILLÉE.	10 EXISTING COLUMN PAD FOOTING BELOW SHOWN BY DASHED LINE.
ENLEVER L'INTERCEPTEUR D'HUILE EXISTANT. REMPLIR LE CREUX DE BÉTON. VOIR LA MÉCANIQUE.	11 EXISTING OIL INTERCEPTOR TO BE REMOVED. INFILL WITH CONCRETE. - SEE MECH.
ENLEVER LA PORTE ET LE CADRE EXISTANTS, RAPELER ET OBTURER L'OUVERTURE EN DÉCOUVRANT LE BLOC DE CIMENT. RÉPARER ET REMETTRE À NEUF LA CLONSON APRÈS LES OPÉRATIONS D'ENLEVEMENT.	12 REMOVE EXIST. DOOR & FRAME. PATCH BLOCK IN OPENING WITH CONC. BLOCK. REPAIR & MAKE GOOD PARTITION FOLLOWING REMOVALS.

MÉCANIQUE.	
NOUVELLE TUYAUTERIE DE GLACAGE. SE REPORTER À LA MÉCANIQUE.	(20)
REEMPLIR LE BASSIN COLLECTEUR EXISTANT, VOIR LE DÉTAIL S/A 018 ET SE REPORTER À LA MÉCANIQUE.	(21)
BUREAUX EXISTANTS ET TRAVAUX D'ÉBÉNISTERIE, À DÉPLACER ET À RÉMONTER ET CE, SELON LES EXIGENCES DES TRAVAUX DE CONSTRUCTION.	(22)
LORSQU'ON ENLÈVE LE TUYAU AU NIVEAU DU MUR, PRÉVOIR UN COUVERTURE MURAL EN MÉTAL, UN ISOLANT ET UN REVÊTEMENT NOUVEAUX, AINSI QU'UN PANEAU DE RAFFRAÎCHISSE EN MÉTAL SUR LE REVÊTEMENT.	(23)
COLONNE EXISTANTE	(24)
ENLEVER LA FÊTRE ET LA MOULURE EXISTANTES, OBTURER L'OUVERTURE.	(25)
NEW SPRINKLER PIPING - REFER TO MECH	
INFILL EXISTING CATCH BASIN - SEE DETAIL 5 / A 018 & REFER TO MECHANICAL	
EXISTING DESKS AND MILLWORK - RELOCATE AND REINSTALL AS REQUIRED BY CONSTRUCTION	
WHERE PIPE IS REMOVED AT WALL, PROVIDE NEW METAL WALL COVER, INSULATION, SHEATHING AND PROVIDE METAL PATCH PANEL ON SIDING	
EXISTING COLUMN	
REMOVE EXISTING WINDOW AND TRIM. BLOCK IN OPENING	

	<p>A detail no. n° du détail</p> <p>B location drawing no. n° de localisation</p> <p>C drawing no. n° du dessin</p>	
project		project
HANGAR T-58		
200, PRIVÉ COMET PRIVATE, OTTAWA		
(ON)		
FIRE SUPPRESSION SYSTEM		
SYSTÈME DE SUPPRESSION D'INCENDIE		
drawing		dessin
DEMOLITION PLAN		
NORTH EAST QUADRANT		

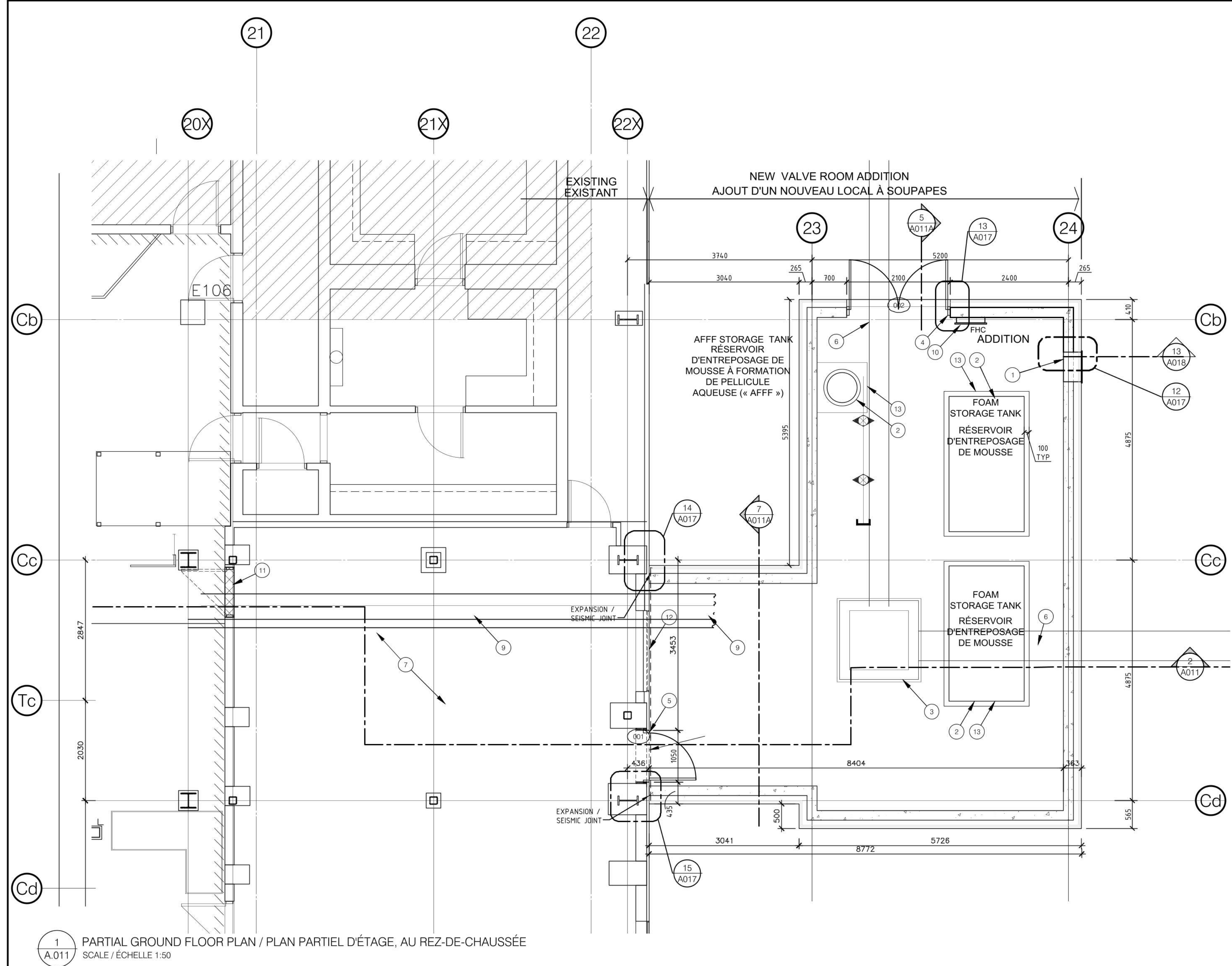
PWGSC / TPGSC A0



FOR CONTINUATION OF PLAN SEE DRAWING A.010  
VOIR LE DESSIN A.010 AFIN DE RETROUVER LA SUITE DU PLAN.

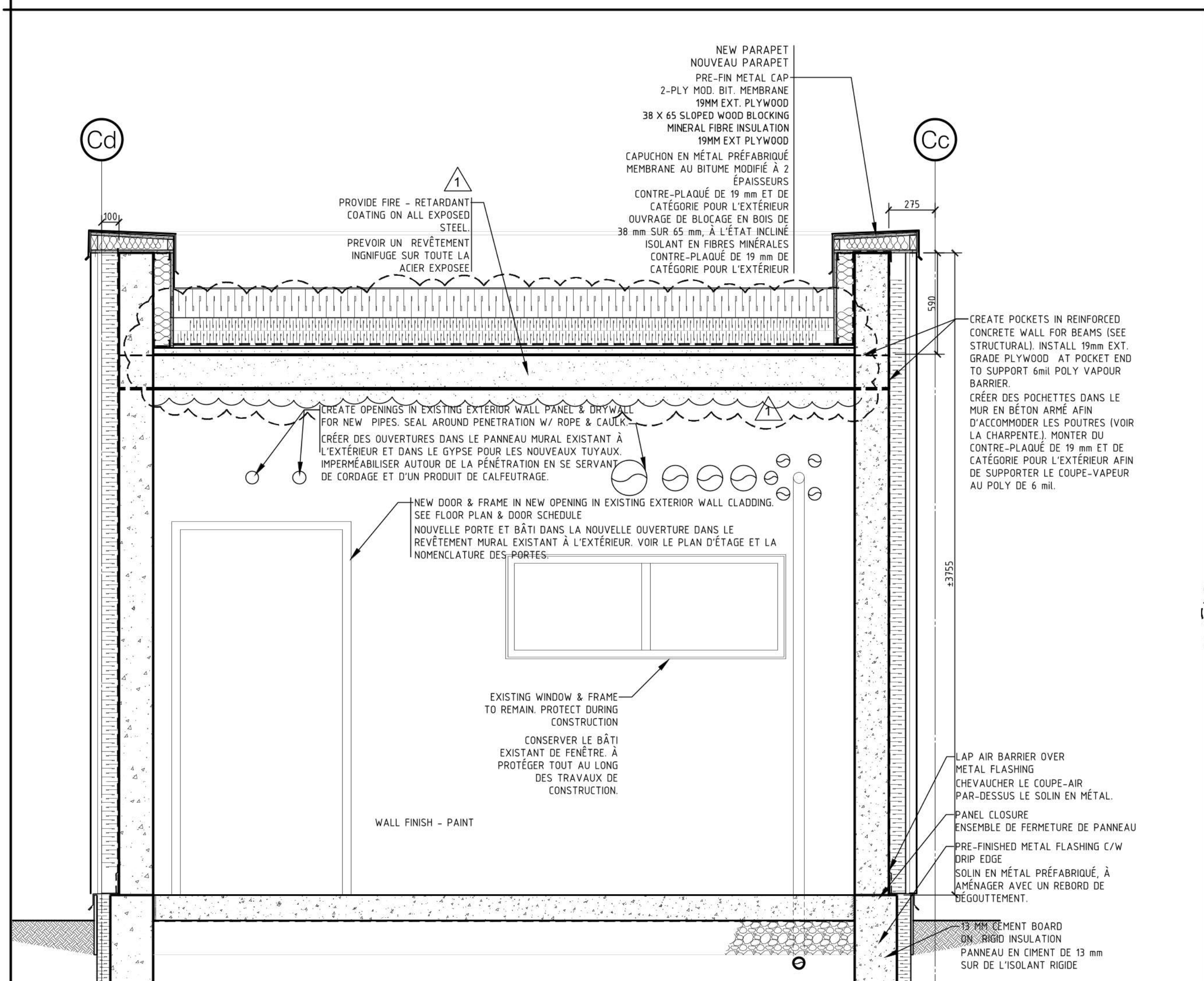




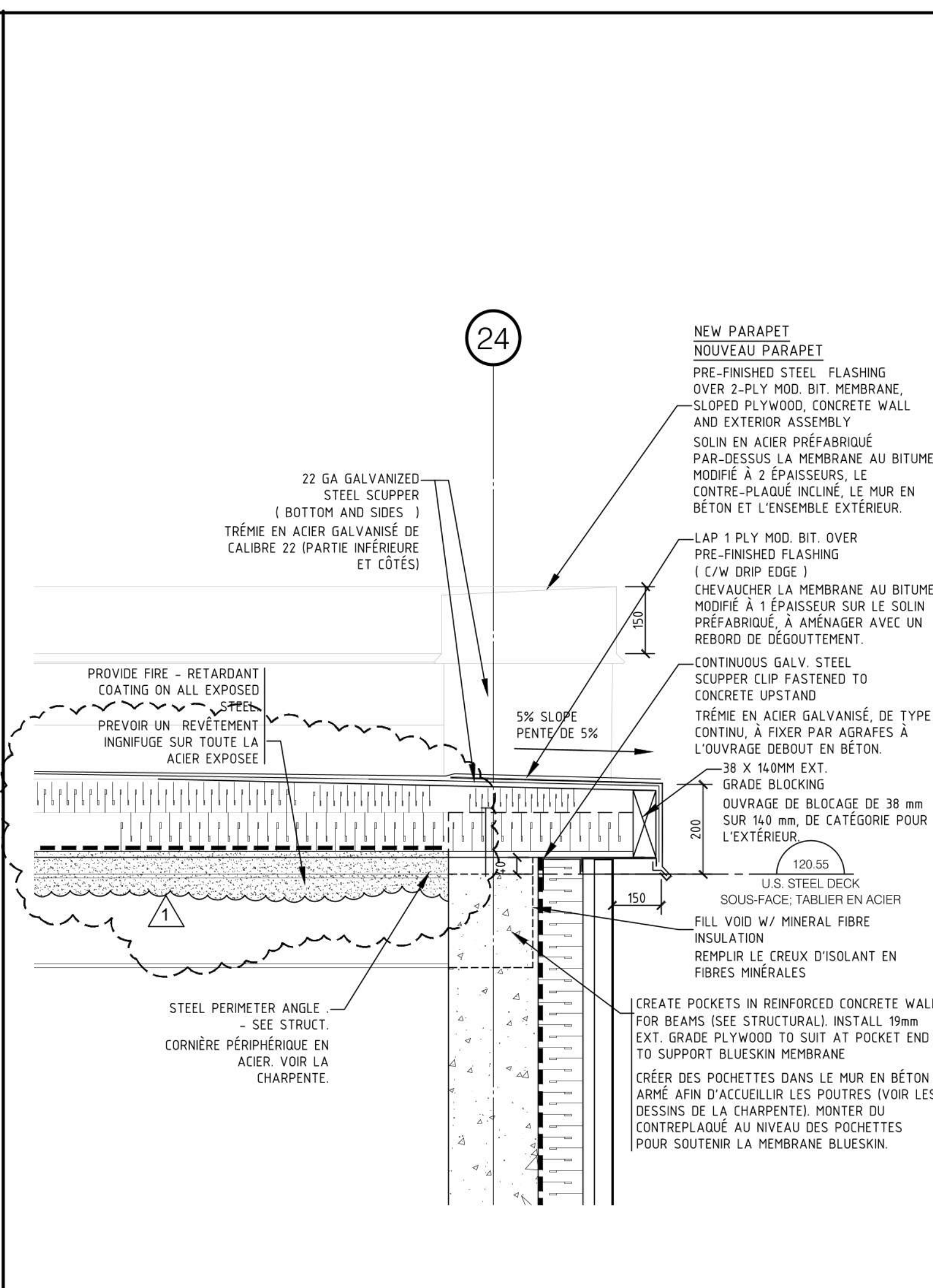


1 PARTIAL GROUND FLOOR PLAN / PLAN PARTIEL D'ÉTAGE, AU REZ-DE-CHAUSSEE  
SCALE / ÉCHELLE 1:50

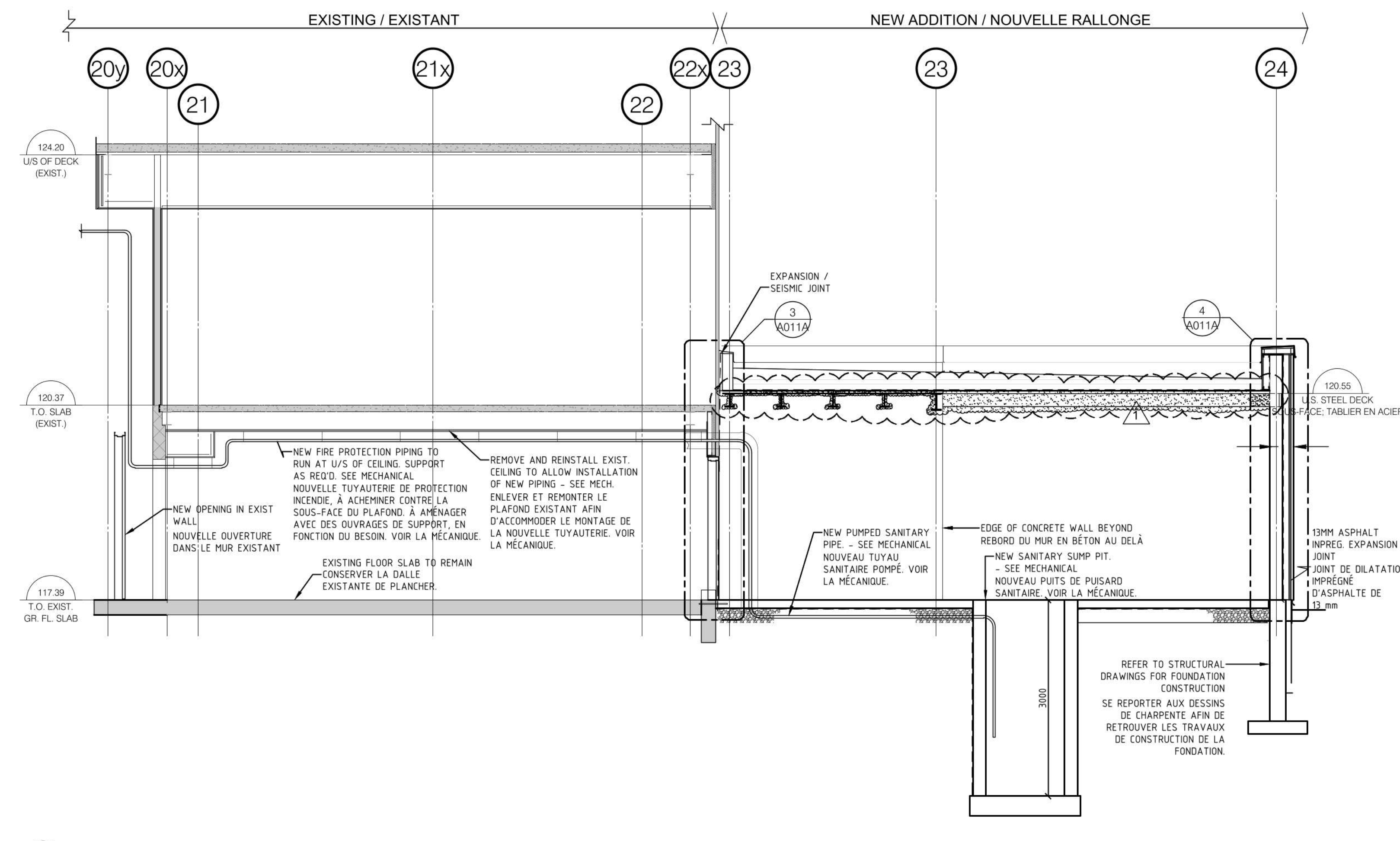
PLOT



7 LINK SECTION / COUPE DE CORRIDOR DE RACCORDEMENT  
SCALE / ÉCHELLE 1:20



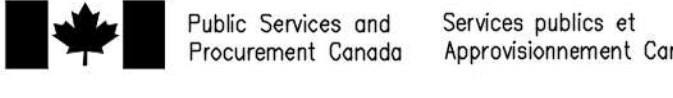
6 SECTION DETAIL - ROOF SCUPPER / DÉTAIL EN COUPE - TRÉMIE DE TOITURE  
SCALE / ÉCHELLE 1:10



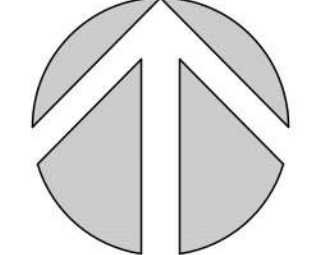


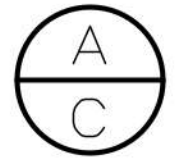


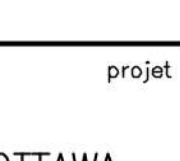
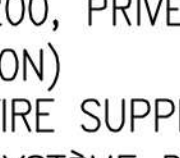

2 PARTIAL BUILDING SECTION @ EXISTING / ADDITION / COUPE PARTIELLE DU BÂTIMENT - BÂTIMENT EXISTANT ET (OU) RALLONGE  
SCALE 1:50

LÉGENDE :		LEGEND:	
CONSERVER LES MURS EXISTANTS	—	EXISTING WALLS TO REMAIN	—
ENLEVER LES MURS EXISTANTS	- - -	EXISTING WALLS TO BE REMOVED	- - -
NOUVEAUX MURS	—	NEW WALLS	—
NUMÉRO DU LOCAL	XXX	ROOM NUMBER	XXX
NOTE DU DESSIN	x	DRAWING NOTE	x
NUMÉRO DE PORTE	XXX	DOOR NUMBER	XXX
TYPE DE MUR	X	WALL TYPE	X
TYPE DE TOITURE	X	ROOF TYPE	X

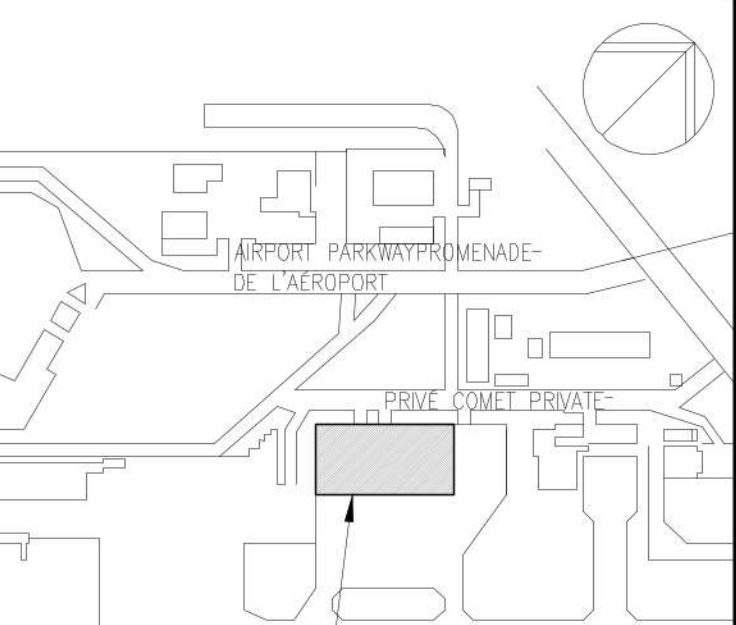
TYPES DE TOIT		ROOF TYPES	
ENSEMBLE DU TOIT DU LOCAL À SOUPAPES TOITURE AU BITUME MODIFIÉ À DEUX ÉPAGES UN PANNEAU DE PROTECTION DE 6 mm SUR DE L'ISOLANT AU POLY. À INCLINER EN FONCTION D'UNE PENTE DE 2 P. 100 SUR DE L'ISOLANT AU POLY DE 100 mm SUR OU REVÊTEMENT EN GYPSE DE 13 mm SUR UN COUPE-VAPEUR SUR UN TABLEAU EN ACIER DE 38 mm SUR DES POUTRES EN ACIER (VOIR LA CHARPENTE) PREVOIR UN REVÊTEMENT ININFUGÈ SUR TOUTE LA ACIER EXPOSÉE	R1	VALVE ROOM ROOF ASSEMBLY 2-PLY MOD. BIT. ROOFING ON 6mm PROTECTION BOARD ON 2% POLY ISO. SLOPED INSULATION ON 100mm POLY ISO. INSULATION ON VAPOR RETARDER ON 13mm GYPSUM SHEATHING ON 38mm STEEL DECK ON STEEL BEAMS (SEE STRUCTURAL) - FIRE RETARDANT COATING ON ALL EXPOSED STEEL	R1
ENSEMBLE DE MUR D'EXTÉRIEUR REVÊTEMENT EN MÉTAL DE 38 mm SUR DES SOLIVES DE 100 mm. À AMÉNAGER AVEC DE L'ISOLANT DE 75 mm DANS LES CREUX COUPE-AIR ET (OU) COUPE-VAPEUR À AUTO-ADHÉRENCE (BLUESKIN SA) SUR UN MUR EN BÉTON ARMÉ DE 200 mm (VOIR LA CHARPENTE)	W1	EXTERIOR WALL ASSEMBLY 38MM METAL SIDING ON 100MM GRTS C/W 75MM CAVITY INSULATION SELF ADHERED AIR / VAPOR BARRIER (BLUESKIN SA) ON 200MM REINFORCED CONCRETE WALL (SEE STRUCT.)	W1
ENSEMBLE DE MUR D'EXTÉRIEUR À COTE DE RÉSISTANCE AU FEU DE 2 HEURES REVÊTEMENT EN MÉTAL DE 38mm SUR DES SOLIVES DE 100 mm À AMÉNAGER AVEC DE L'ISOLANT DE FIBRES DE 75 mm COUPE-AIR/VAPEUR À AUTO-ADHÉRENCE (BLUESKIN SA) SUR UN MUR EN BÉTON ARMÉ DE 200 mm (VOIR LA CHARPENTE)	W2	EXTERIOR WALL ASSEMBLY - 2 HR. F.R.R. 38MM METAL SIDING ON 100MM GRTS C/W 75MM MINERAL FIBRE INSULATION SELF ADHERED AIR / VAPOR BARRIER (BLUESKIN SA) ON 200MM REINFORCED CONCRETE WALL (SEE STRUCT.)	W2



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revision		date	
	A detail no. n° du détail		
	B location drawing no. n° de localisation		
	C drawing no. n° du dessin		
project	le projet	project	le projet
HANGAR T-58 200, PRIVE COMET PRIVATE, OTTAWA (ON) FIRE SUPPRESSION SYSTEM SYSTÈME DE SUPPRESSION D'INCENDIE			
detailed plans, sections - plans détaillés et coupes			
designed	GORDON KRIEG	conçu	
drawn	19 JANUARY 2018	dessiné	
drawn	STAFF	dessiné	
date	19 JANUARY 2018	date	
revised		révisé	
date	08 JULY 2020	date	
approved		approuvé	
date		date	
tender	KALIE DUNN	soumission	
PWC Project Manager	Administrateur de projets TPC	n° du projet	
project no.	R.038348.011	n° du projet	
drawing no.		n° du dessin	
A.011			





AIRCRAFT SERVICE  
HANGER T-58  
D'ENTRETIEN COURANT  
D'AVION T-58

KEY PLAN  
PLAN CLÉ



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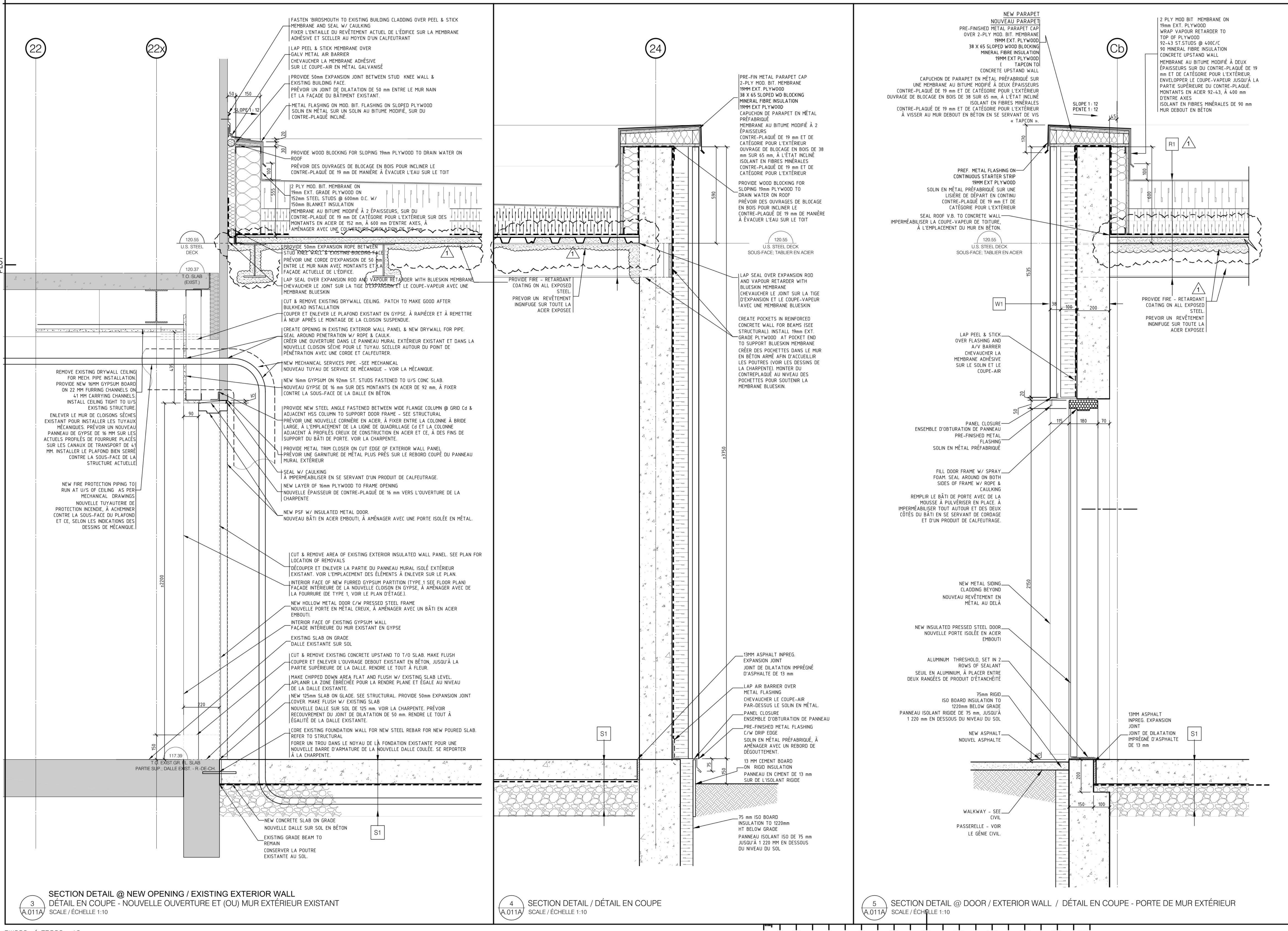
project  
HANGER T-58  
200, PRIVE COMET PRIVATE, OTTAWA  
(ON)  
FIRE SUPPRESSION SYSTEM  
SYSTÈME DE SUPPRESSION D'INCENDIE

designed  
GORDON KRIEG  
date  
19 JANUARY 2018  
drawn  
STAFF  
date  
19 JANUARY 2018  
revised  
-  
date  
08 JULY 2020  
approved  
-  
date  
-  
tender  
KALIE DUNN  
PWC Project Manager  
project no.  
R.038348.011  
drawing no.  
A.011A

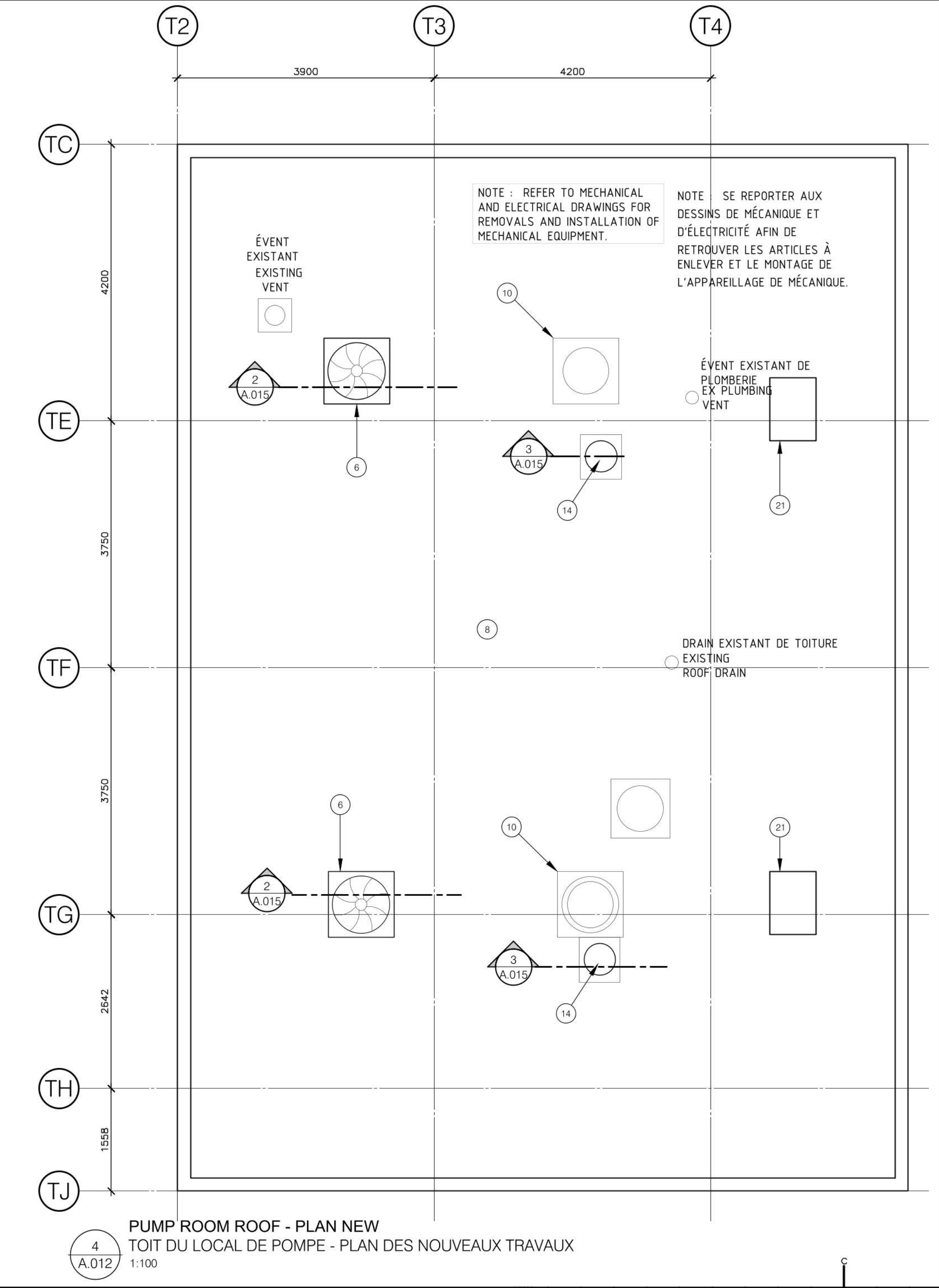
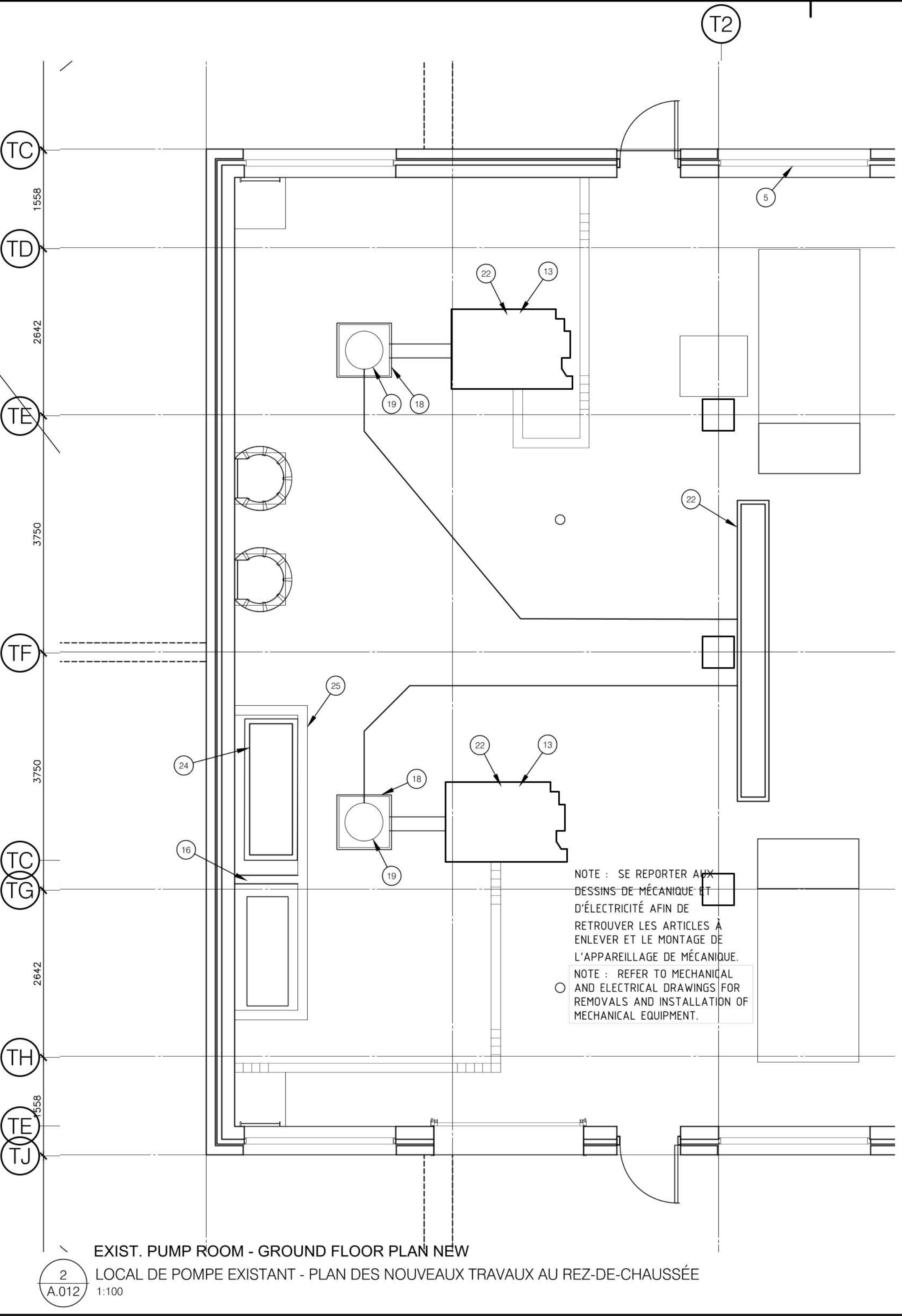
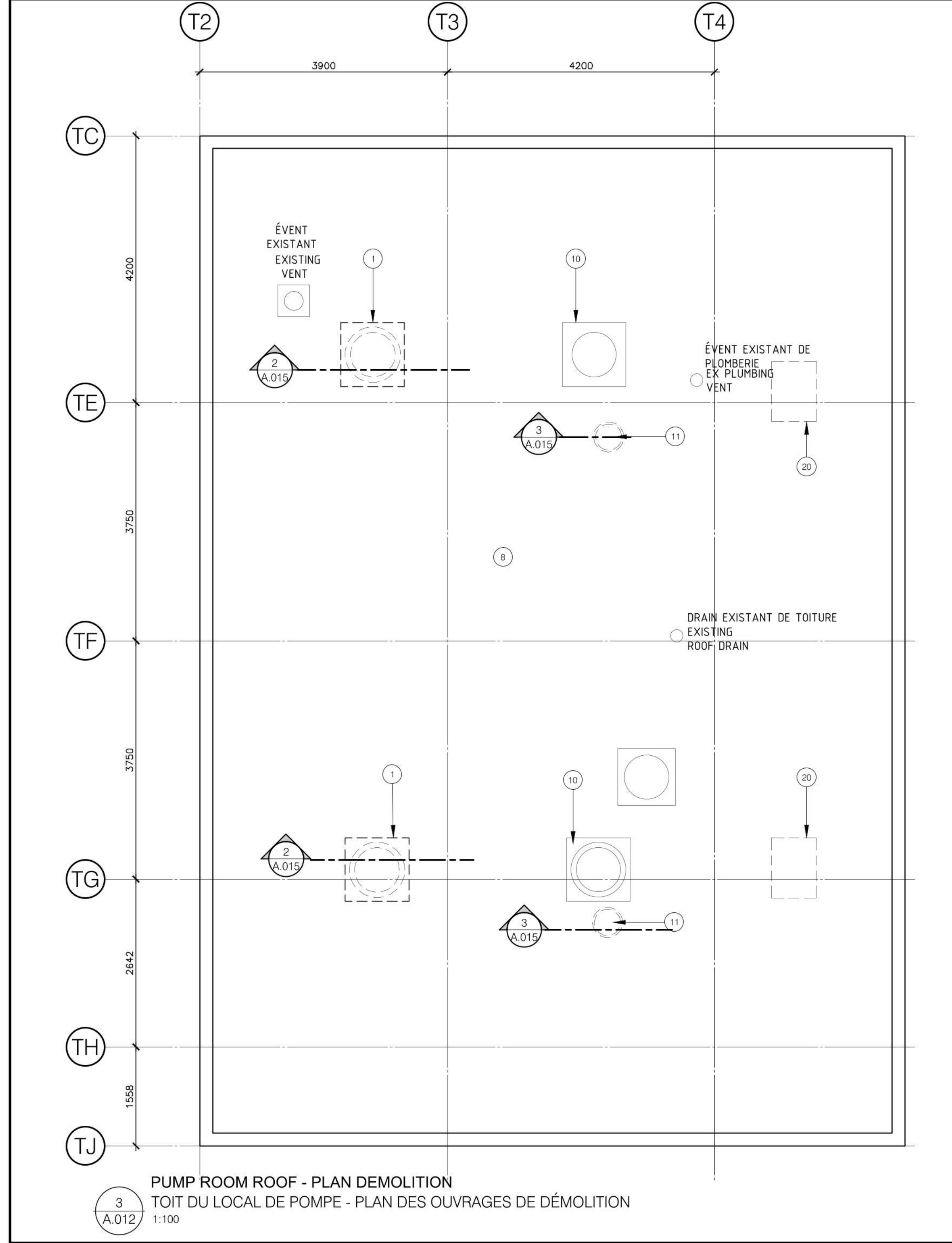
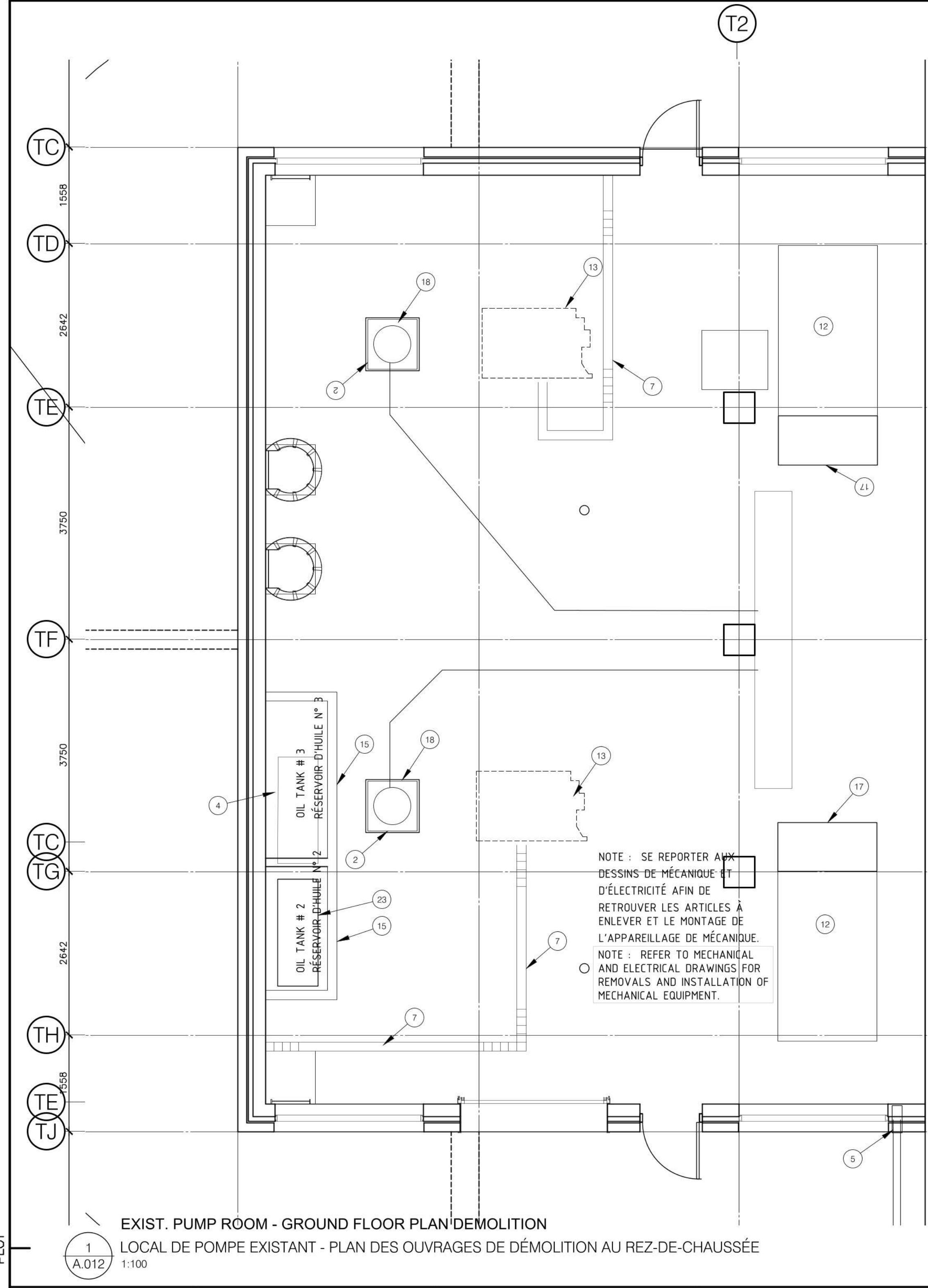
DETAILED WALL SECTIONS -  
COUPES MURALES DÉTAILLÉES

designed	GORDON KRIEG	conçu
date	19 JANUARY 2018	
drawn	STAFF	dessiné
date	19 JANUARY 2018	
revised	-	révisé
date	08 JULY 2020	
approved	-	approuvé
date	-	
tender	KALIE DUNN	soumission
PWC Project Manager	Administrateur de projets TPC	
project no.	R.038348.011	n° du projet
drawing no.	A.011A	n° du dessin

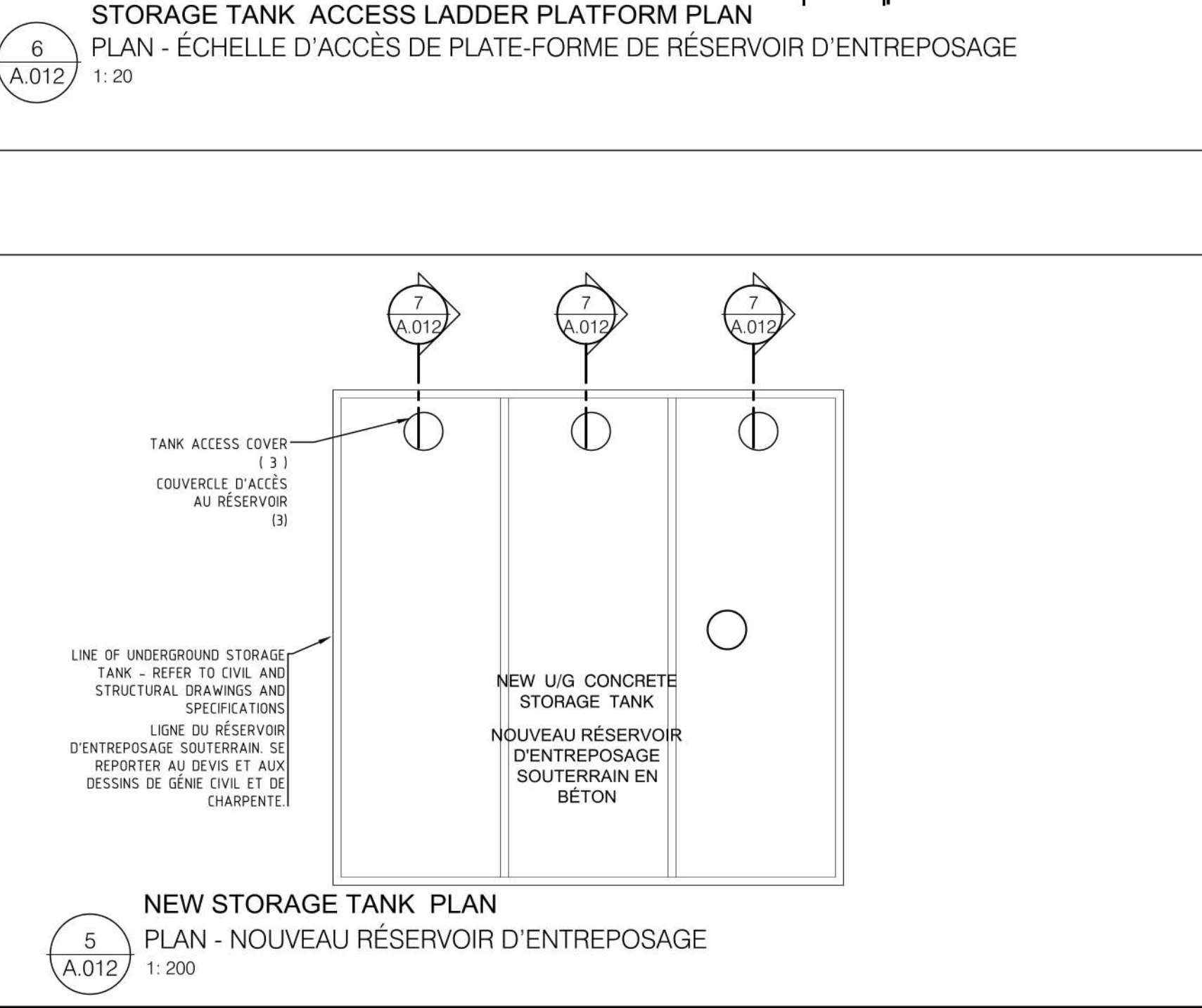
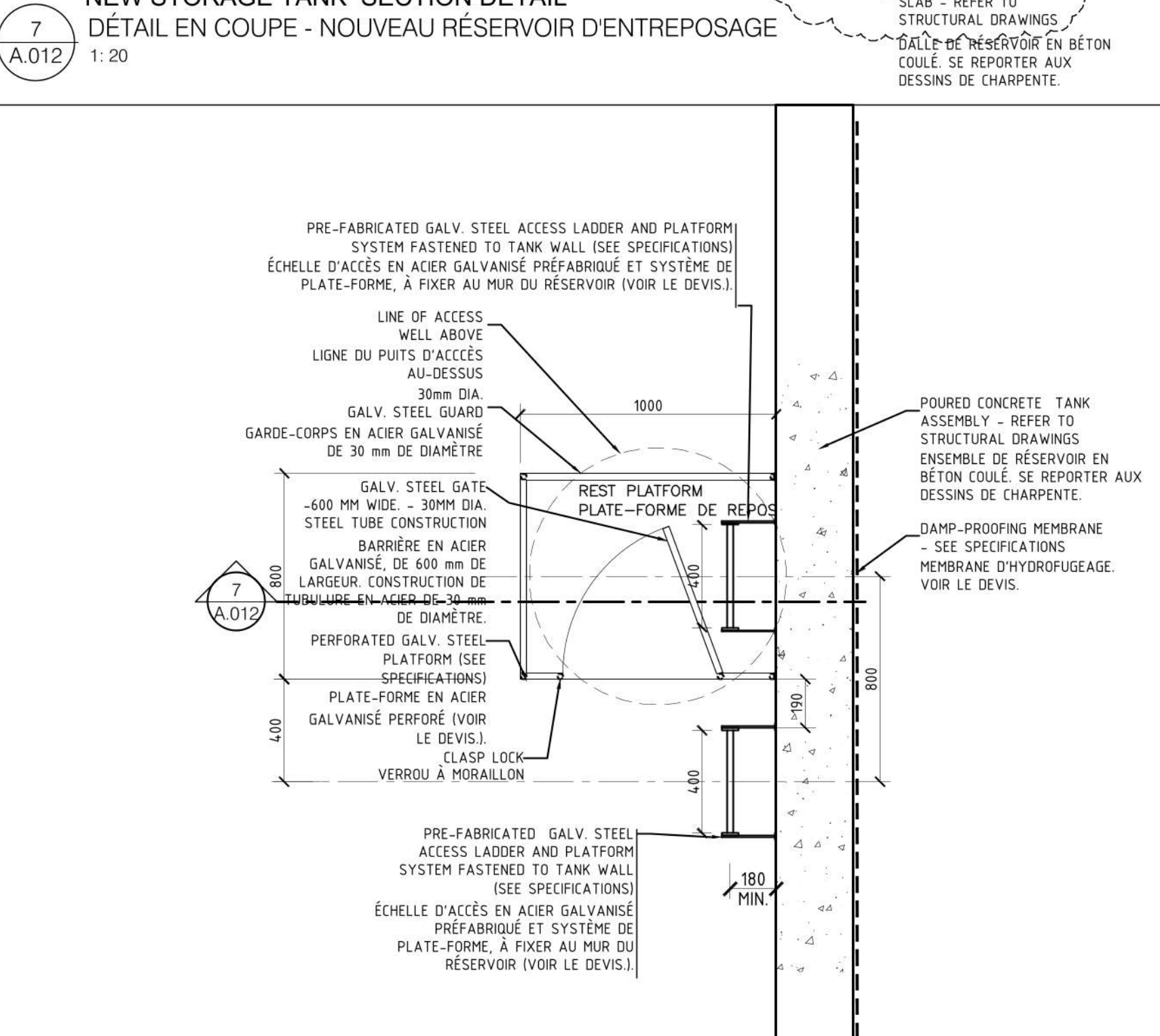
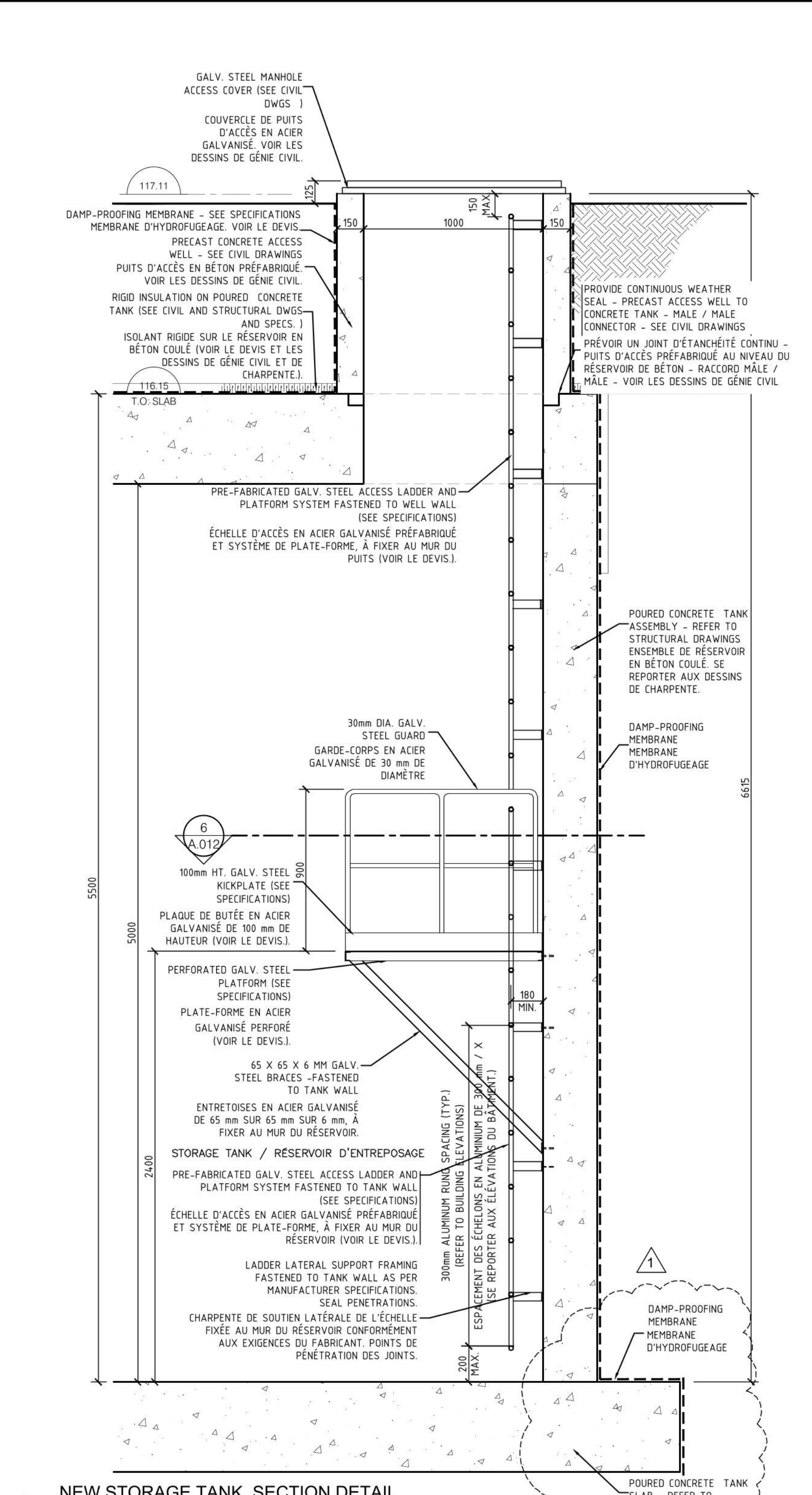
A.011A







- NOTES DU DESSIN**
- ENLEVER L'ÉVENT DE TURBINE ACTUEL ET L'ENTREPOSER EN VUE DE LE RÉINSTALLER. VOIR LES DESSINS DE MÉCANIQUE.
- ENLEVER LA POMPE EXISTANTE À LA VERTICALE. VOIR LES DESSINS DE MÉCANIQUE.
- VOIR LES DESSINS DE MÉCANIQUE ET D'ÉLECTRICITÉ AFIN DE RETROUVER LES TRAVAUX D'ENLEVEMENT DE L'APPAREILLAGE ET DES SYSTÈMES.
- ENLEVER LE RÉSERVOIR EXISTANT. VOIR LA MÉCANIQUE.
- REMPLIR ET RAPÉCER L'OUVERTURE À L'ENDROIT D'OU LA TUYAUTERIE MÉCANIQUE A ÉTÉ ENLEVÉE.
- RÉINSTALLER L'ÉVENT DE TURBINE EXISTANT SUR LA BORDURE EXISTANTE - VOIR LES DESSINS DE MÉCANIQUE.
- TRANCHÉE EXISTANTE, À AMÉNAGER AVEC UN COUVERCLE EN PLAQUE D'ACIER. REMPLACER LES CANALISATIONS DE CARBURANT. VOIR LA MÉCANIQUE.
- CONSERVER LA CONSTRUCTION DU TOIT EXISTANT, À PROTÉGER TOUT AU LONG DES TRAVAUX.
- ENLEVER LA TOITURE ET COUPER UNE OUVERTURE DANS LA DALLE DE TOITURE. VOIR LES DESSINS DE CHARPENTE.
- L'ÉVENT DE TURBINE EXISTANT DOIT RESTER EN PLACE. VOIR LES DESSINS DE MÉCANIQUE.
- ENLEVER L'ÉVENT D'ÉCHAPPEMENT DE MOTEUR EXISTANT. VOIR LES DESSINS DE MÉCANIQUE.
- CONSERVER LA DALLE EXISTANTE D'ENTRETIEN MÉNAGER.
- ENLEVER LA BASE DE LA POMPE DU MOTEUR DIESEL EXISTANT - MODIFIER LA BASE, AU BESOIN, POUR INSTALLER LES NOUVEAUX MOTEURS DIESEL.
- MONTÉ UN NOUVEL ÉVENT D'EXTRACTION. SE REPORTER AUX DESSINS DE MÉCANIQUE. VOIR LE DÉTAIL 3 / A.015.
- CONSERVER LE MUR EXISTANT DE RETENUE EN BÉTON.
- NOUVELLE PORTION DE LA DIGUE DE RETENUE - MUR EN BLOCS DE BÉTON DE 140 mm.
- COUPER ET CONSERVER UNE PARTIE DE LA DALLE EXISTANTE D'ENTRETIEN MÉNAGER ET LE, EN FONCTION DE LA GROSSEUR DU NOUVEAU RÉSERVOIR À MOUSSE.
- BASE DE LA POMPE EXISTANTE - MODIFIER LA BASE, AU BESOIN, POUR INSTALLER LA NOUVELLE POMPE À TURBINE VERTICALE.
- MONTÉ LES NOUVELLES COMPOSANTES DE MÉCANIQUE. VOIR LA MÉCANIQUE.
- ENLEVER LE CAPUCHON EXISTANT À DES FINS DE MONTAGE D'UN NOUVEAU CAPUCHON.
- MONTÉ UN NOUVEAU CAPUCHON.
- MONTÉ LA DE LA NOUVELLE TUYAUTERIE ET DE L'APPAREILLAGE DE PROTECTION INCENDIE. VOIR LES DESSINS DE MÉCANIQUE.
- RÉSERVOIR EXISTANT DE RETENUE.
- MONTÉ UN NOUVEAU RÉSERVOIR. VOIR LES DESSINS DE MÉCANIQUE.
- DRAWING NOTES**
- 1 REMOVE EXISTING TURBINE VENT & STORE FOR RE-INSTALLMENT. SEE MECH DRAWINGS.
- 2 EXISTING VERTICAL PUMP TO BE REMOVED - SEE MECHANICAL DWGS.
- 3 SEE MECHANICAL & ELECTRICAL DRAWINGS FOR REMOVAL OF EQUIPMENT & SYSTEMS.
- 4 REMOVE EXIST. TANK - SEE MECH.
- 5 INFILL AND PATCH OPENING WHERE MECHANICAL PIPING IS REMOVED.
- 6 RE-INSTALL EXISTING TURBINE VENT ON EXISTING CURB - SEE MECHANICAL DRAWINGS.
- 7 EXISTING TRENCH WITH STEEL PLATE COVER. FUEL LINES TO BE REPLACED - SEE MECH.
- 8 EXISTING ROOF CONSTRUCTION TO REMAIN. PROTECT DURING WORK.
- 9 REMOVE ROOFING & CUT OPENING IN ROOF SLAB. SEE STRUCTURAL DRAWINGS.
- 10 EXISTING TURBINE VENT TO REMAIN. SEE MECH.
- 11 REMOVE EXISTING ENGINE EXHAUST VENT. SEE MECHANICAL DRAWINGS.
- 12 EXISTING HOUSEKEEPING SLAB TO REMAIN.
- 13 EXISTING DIESEL ENGINE PUMP BASE - MODIFY THE BASE AS REQUIRED. THE INSTALLATION OF NEW DIESEL ENGINES.
- 14 INSTALL NEW ENGINE EXHAUST VENT. REFER TO MECH. DRAWINGS. SEE DETAIL 3 / A.015.
- 15 EXISTING CONCRETE CONTAINMENT WALL TO REMAIN.
- 16 NEW PORTION OF CONTAINMENT DYKE - 140 MM CONCRETE BLOCK WALL.
- 17 CUT & REMAIN PART OF EXISTING HOUSEKEEPING SLAB TO SUIT NEW SIZE OF FOAM TANK.
- 18 EXISTING PUMP BASE - MODIFY THE BASE AS REQUIRED. THE INSTALLATION OF NEW VERTICAL TURBINE PUMP.
- 19 INSTALL NEW MECHANICAL COMPONENTS. SEE MECHANICAL.
- 20 REMOVE EXISTING CAP FOR NEW CAP.
- 21 INSTALL NEW CAP.
- 22 INSTALL NEW FIRE PROTECTION PIPING AND EQUIPMENT. SEE MECHANICAL DRAWINGS.
- 23 EXISTING CONTAINMENT TANK.
- 24 INSTALL NEW TANK - SEE MECHANICAL DRAWINGS.



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19 JAN 2018

revision

date

A detail no. n° du détail

B location drawing no. n° de localisation

C drawing no. n° du dessin

A

B

C

project

project

HANGAR T-58

200, PRIVE COMET PRIVATE, OTTAWA (ON)

FIRE SUPPRESSION SYSTEM

SYSTÈME DE SUPPRESSION D'INCENDIE

designed GORDON KRIEG conçu

date 19 JANUARY 2018

drawn STAFF dessin

date 19 JANUARY 2018

revised - révisé

date 08 JULY 2020

approved - approuvé

date -

tender KALIE DUNN soumission

PWC Project Manager Administrateur de projets TPC

project no. R.038348.011

drawing no. n° du dessin

A.012

PWGSC / TPSGC A0



FOR CONTINUATION OF PLAN SEE DRAWING A.013  
VOIR LE DESSIN A.013 AFIN DE RETROUVER LA SUITE DU PLAN.

PLOT

PWGSC / TPSGC AD

0mm 20 40 60 80 100 120 140 160 180 200 mm

PARTIAL GROUND FLOOR - REFLECTED CEILING PLAN  
PLAN PARTIEL DE PLAFOND RÉFLÉCHI, AU REZ-DE-CHAUSSEE

1  
A.014  
1:100

LEGÈNDE :

SÉPARATION COUPE-FEU D'UNE HEURE

SÉPARATION COUPE-FEU DE 2 HEURES

SÉPARATION COUPE-FEU DE 4 HEURES

LA ZONE HACHURÉE INDIQUE LA ZONE DU BÂTIMENT NON INCLUSE AU CONTRAT.

LEGEND:

1 HR FIRE SEPARATION

2 HR FIRE SEPARATION

4 HR FIRE SEPARATION

HATCH AREA INDICATES BUILDING AREA NOT IN CONTRACT

NOTES GÉNÉRALES :

SE REPORTER AUX PLANS DE MÉCANIQUE ET DE CHARPENTE AFIN DE RETROUVER LES TRAVAUX DU PRÉSENT PLAN DU PLAFOND.

GENERAL NOTES:

FOR WORK ON THIS CEILING PLAN REFER TO MECHANICAL, STRUCTURAL PLANS

NOTES DU DESSIN :

NOUVELLE TUYAUTERIE DE SUPPRESSION D'INCENDIE. VOIR LA MÉCANIQUE.

NOUVEAUX APPARELS DE DÉCHARGE DE SUPPRESSION D'INCENDIE. VOIR LA MÉCANIQUE AFIN DE RETROUVER L'EMPLACEMENT ET LE DEVIS.

ENLEVER LE SYSTÈME EXISTANT DE GICLAGE. VOIR LA MÉCANIQUE.

NOUVEL ÉCRAN DE CANTONNEMENT EN ALUMINIUM. VOIR LES DESSINS A.16 ET A.17.

ENLEVER LA STRUCTURE DE MONTAGE DU RIDEAU EN ACIER ACTUEL.

ENLEVER UNE PARTIE DU PLAFOND À CARRELAGE SUSPENDU ACTUEL. ENLEVER ET RÉINSTALLER LES LUMIÈRES ACTUELLES, AU BESOIN. VOIR LES DESSINS DE MÉCANIQUE CONCERNANT LA DÉPOSE DES LUMIÈRES ET DES SYSTÈMES À L'INTÉRIEUR ET AU-DESSUS DES PLAFONDS. RÉPARER LE PLAFOND À CARRELAGE SUSPENDU.

NOUVEAU LUMINAIRE SUSPENDU. SE REPORTER AUX DESSINS D'ÉLECTRICITÉ.

DRAWING NOTES:

1 NEW FIRE-SUPPRESSION PIPING. SEE MECHANICAL

2 NEW FIRE-SUPPRESSION DISCHARGE FIXTURES. SEE MECHANICAL FOR LOCATION AND SPECIFICATIONS.

3 REMOVE EXISTING SPRINKLER SYSTEM. SEE MECHANICAL.

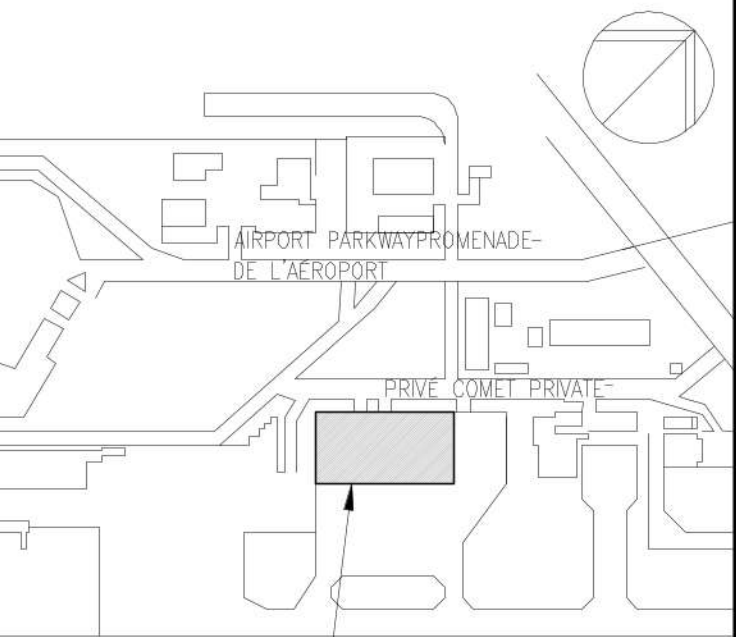
4 NEW ALUMINIUM DRAFT CURTAIN. SEE A.16 & A.17

5 REMOVE EXISTING STEEL CURTAIN MOUNTING STRUCTURE.

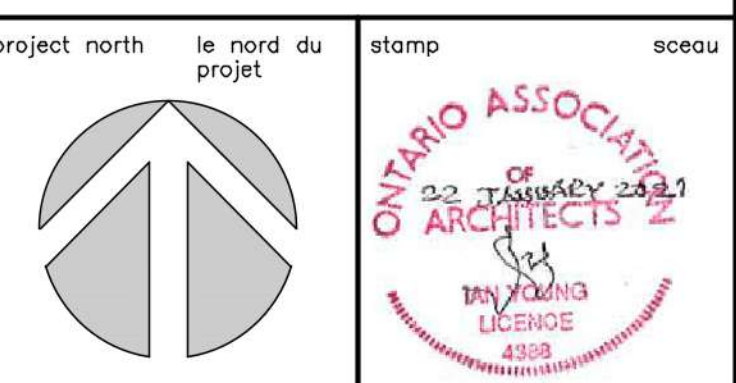
6 REMOVE PART EXISTING L.I.T. CEILING. REMOVE AND REINSTALL EXIST LIGHTING FIXTURES AS REQUIRED. SEE MECHANICAL DRAWINGS FOR REMOVAL OF FIXTURES AND SYSTEMS IN AND ABOVE CEILINGS. REINSTATE L.I.T. CEILING.

7 NEW SUSPENDED LIGHT FIXTURE - REFER TO ELECTRICAL DRAWINGS

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KEY PLAN  
PLAN CLÉ



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revision	date
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A detail no. n° du détail	A
B location drawing no. n° de localisation	BC
C drawing no. n° du dessin	

project  
HANGAR T-58  
200, PRIVE COMET PRIVATE, OTTAWA (ON)  
FIRE SUPPRESSION SYSTEM  
SYSTÈME DE SUPPRESSION D'INCENDIE

drawing  
PARTIAL HANGAR REFLECTED  
CEILING PLAN

PLAN PARTIEL DE PLAFOND  
RÉFLÉCHI DU HANGAR

designed GORDON KRIEG	conçu
date 19 JANUARY 2018	
drawn STAFF	dessiné
date 19 JANUARY 2018	
revised -	révisé
date 08 JULY 2020	
approved -	approuvé
date -	
tender KALIE DUNN	soumission
PWC Project Manager Administrateur de projets TPC	n° du projet
project no. R.038348.011	

drawing no.  
n° du dessin

A.014



## **PART 1 - GENERAL**

### **1.1 RELATED**

- .1 Concrete Unit Masonry: Section 04 22 00.

### **1.2 REFERENCE STANDARDS**

- .1 CSA Group
  - .1 CSA A23.1:19/A23.2:19, Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.
  - .2 CAN/CSA-A179-14, Mortar and Grout for Unit Masonry.
  - .3 CAN/CSA-A3000-18, Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).

### **1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for masonry mortar and grout and include product characteristics, performance criteria, physical size, finish and limitations.
  - .2 Manufacturers' Instructions: submit manufacturer's installation instructions.

### **1.4 QUALITY ASSURANCE**

- .1 Test Reports: submit certified test reports including sand gradation tests in accordance with CAN/CSA-A179 showing compliance with specified performance characteristics and physical properties.
- .2 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

### **1.5 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
  - .1 Store materials off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Replace defective or damaged materials with new.
  - .3 Develop Construction Waste Management Plan, Waste Reduction Workplan related to Work of this Section.

## 1.6 SITE CONDITIONS

- .1 Ambient Conditions: maintain materials and surrounding air temperature to:
  - .1 Minimum 5 degrees C prior to, during, and 48 hours after completion of masonry work.
  - .2 Maximum 32 degrees C prior to, during, and 48 hours after completion of masonry work.

## **PART 2 - PRODUCTS**

### 2.1 MATERIALS

- .1 Use same brands of materials and source of aggregate for entire project.
- .2 Mortar Cement: to CAN/CSA-A3002 and CAN/CSA-A179, Type N:
  - .1 Use low VOC products.
  - .2 Packaged Dry Combined Materials for mortar: to CAN/CSA-A179, Type N, using gray colour cement.
- .3 Aggregate: supplied by one supplier.
  - .1 Fine Aggregate: to CAN/CSA-A179, natural sand.
  - .2 Course Aggregate: to CAN/CSA-A179.
- .4 Water: clean and potable.

### 2.2 MORTAR MIXES

- .1 Mortar for interior masonry:
  - .1 Non-Load Bearing: N based on property specifications.

### 2.3 MORTAR MIXING

- .1 Use pre-blended, pre-coloured mortar prepackaged under controlled factory conditions. Ingredients batching limitations to be within 1% accuracy.
- .2 Mix mortar ingredients in accordance with CAN/CSA-A179 in quantities needed for immediate use.
- .3 Maintain sand uniformly damp immediately before mixing process.
- .4 Do not use anti-freeze compounds including calcium chloride or chloride based compounds.
- .5 Do not add air entraining admixture to mortar mix.
- .6 Use a batch type mixer in accordance with CAN/CSA-A179.
- .7 Re-temper mortar only within two hours of mixing, when water is lost by evaporation.
- .8 Use mortar within 2 hours after mixing at temperatures of 32 degrees C, or 2-1/2 hours at temperatures under 5 degrees C.

## 2.4 GROUT MIXES

- .1 Grout: Minimum compressive strength of 12.5 MPa at 28 days. Maximum aggregate size and grout slump: CAN/CSA-A179.

## 2.5 GROUT MIXING

- .1 Mix batched and delivered grout in accordance with CSA A23.1/A23.2 transit mixed.
- .2 Mix grout ingredients in quantities needed for immediate use in accordance with CAN/CSA-A179 grout.
- .3 Add admixtures in accordance with manufacturer's instructions; mix uniformly.
- .4 Do not use calcium chloride or chloride based admixtures.

## 2.6 MIX TESTS

- .1 Testing Mortar Mix:
  - .1 Test mortar to requirements in accordance with CAN/CSA-A179, for mortar based on property specification. Test during construction for:
    - .1 Compressive strength.
    - .2 Consistency.
    - .3 Mortar aggregate ratio.
    - .4 Sand/cement ratio.
    - .5 Water content and water/cement ratio.
    - .6 Air content.
    - .7 Splitting tensile strength.
- .2 Testing Grout Mix:
  - .1 Test grout to in accordance with CAN/CSA-A179, for grout based on property specification. Test during construction for:
    - .1 Compressive strength.
    - .2 Sand/cement ratio.
    - .3 Water content and water/cement ratio.
    - .4 Slump.

## PART 3 - EXECUTION PREPARATION

- .1 Apply bonding agent to existing surfaces.
- .2 Brace masonry for wet grout pressure.

## 3.2 CONSTRUCTION

- .1 Do masonry mortar and grout work in accordance with CAN/CSA-A179 except where specified otherwise.

## 3.3 MIXING

- .1 All pointing mortar can be mixed using a regular paddle mixer. Only electric motor mixers are permissible. Mixers run on hydrocarbons are not permitted, due to fumes.

- .2 Clean all mixing boards and mechanical mixing machine between batches.
- .3 Mortar must be weaker than the units it is binding.
- .4 Contractor to appoint one individual to mix mortar, for duration of project. In the event that this individual must be changed, mortar mixing must cease until the new individual is trained, and mortar mix is tested.

### 3.4 MORTAR PLACEMENT

- .1 Install mortar to manufacturer's instructions.
- .2 Install mortar to requirements of CAN/CSA-A179.
- .3 Remove excess mortar from grout spaces.

### 3.5 GROUT PLACEMENT

- .1 Install grout in accordance with manufacturer's instructions.
- .2 Install grout in accordance with CAN/CSA-A179.
- .3 Work grout into masonry cores and cavities to eliminate voids.
- .4 Do not install grout in lifts greater than 400 mm, without consolidating grout by rodding.
- .5 Do not displace reinforcement while placing grout.

### 3.6 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Remove droppings and splashings using clean sponge and water.
- .3 Clean masonry with low pressure clean water and soft natural bristle brush.
- .4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .5 Waste Management: separate waste materials for reuse, recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .6 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

-END OF SECTION-

## **PART 1 - GENERAL**

### **1.1 RELATED SECTIONS**

- .1 Masonry Mortar and Grout: Section 04 05 12.

### **1.2 REFERENCE STANDARDS**

- .1 CSA Group
  - .1 CAN/CSA-A165 Series-04 (R2014), CSA Standards on Concrete Masonry Units consists: A165.1, A165.2, A165.3.

### **1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for concrete masonry units and include product characteristics, performance criteria, physical size, finish and limitations.

### **1.4 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
  - .1 Offload concrete unit masonry packages using equipment that will not damage the surfaces.
  - .2 Do not use brick tongs to move or handle masonry.
- .3 Storage and Handling Requirements:
  - .1 Store materials off ground [indoors] in dry location] and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Do not double stack cubes of concrete unit masonry.
  - .3 Cover masonry units with non-staining waterproof membrane covering.
  - .4 Allow air circulation around units.
  - .5 Installation of wet or stained masonry units is prohibited.
  - .6 Keep concrete unit masonry in individual cardboard packaging provided by manufacturer until units are ready to be installed.
  - .7 Store and protect concrete unit masonry from nicks, scratches, and blemishes.
  - .8 Replace defective or damaged materials with new.

## **PART 2 - PRODUCTSMATERIALS**

- .1 Standard concrete block units: to CAN/CSA-A165 Series (CAN/CSA-A165.1).
  - .1 Classification: H/15
  - .2 Dimensions Nominal: 200 mm wide x 200 mm high x 400 mm long.

## 2.2 REINFORCEMENT

- .1 Reinforcement in accordance with Structural Drawings.

## 2.3 MORTAR MIXES

- .1 Mortar and mortar mixes in accordance with Section 04 05 12 - Masonry Mortar and Grout.

## 2.4 GROUT MIXES

- .1 Grout and grout mixes in accordance with Section 04 05 12 - Masonry Mortar and Grout.

## 2.5 CLEANING COMPOUNDS

- .1 Use low VOC products.
- .2 Compatible with substrate and acceptable to masonry manufacturer for use on products.
- .3 Cleaning compounds compatible with concrete unit masonry and in accordance with manufacturer's written recommendations and instructions.

## 2.6 TOLERANCES

- .1 Tolerances for standard concrete unit masonry tolerances in accordance with CAN/CSA-A165.1, supplemented as follows:
  - .1 Maximum variation between units within specific job lot not to exceed 2 mm.
  - .2 No parallel edge length, width or height dimension for individual unit to differ by more than 2 mm.
  - .3 Out of square tolerance not to exceed 2 mm.

## PART 3 - EXECUTIONPREPARATION

- .1 Protect adjacent finished materials from damage due to masonry work.

## 3.2 INSTALLATION

- .1 Concrete block units:
  - .1 Bond: running.
  - .2 Coursing height: 200 mm for one block and one joint.
  - .3 Jointing: concave where exposed or where paint or other finish coating is specified.

## 3.3 REINFORCEMENT

- .1 Install reinforcing in accordance with Structural Drawings.

## 3.4 MORTAR PLACEMENT

- .1 Place mortar in accordance with Section 04 05 12 - Masonry Mortar and Grout.



3.5            GROUT PLACEMENT

- .1      Place grout in accordance with Section 04 05 12 - Masonry Mortar and Grout.

3.6            CONSTRUCTION

- .1      Cull out masonry units, in accordance with CAN/CSA-A165 with chips, cracks, broken corners.
- .2      Construct masonry walls using running bond unless otherwise noted.
- .3      Build around frames previously set and braced. Fill behind hollow frames within masonry walls with mortar or grout and embed anchors.
- .4      Hollow Units: spread mortar setting bed from outside edge of face shells. Gauge amount of mortar on top and end of unit to create full joints, equivalent to shell thickness. Avoid excess mortar.
- .5      Ensure compacted head joints. Use full or face-shell joint as indicated.
- .6      Tamp units firmly into place.
- .7      Do not adjust masonry units after mortar has set. Where resetting of masonry is required, remove, clean and reset units in new mortar.
- .8      Tool exposed joints concave.
- .9      After mortar has achieved initial set up, tool joints.
- .10     Do not interrupt bond below or above openings.

3.7            REPAIR/RESTORATION

- .1      Upon completion of masonry, fill holes and cracks, remove loose mortar and repair defective work.

3.8            CLEANING

- .1      Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1      Leave Work area clean at end of each day.
  - .2      Standard Concrete Unit Masonry:
    - .1      Allow mortar droppings on masonry to partially dry then remove by means of trowel, followed by rubbing lightly with small piece of block. Clean wall surface with suitable brush or burlap.
- .2      Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3      Waste Management: separate waste materials for reuse, recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management.
- .4      Remove recycling containers and bins from site and dispose of materials at appropriate facility.

-END OF SECTION-

## **PART 1 - GENERAL**

### **1.1 REFERENCES**

- .1 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-37.2-M88, Emulsified Asphalt, Mineral-Colloid Type, Unfilled, for Dampproofing and Waterproofing and for Roof Coatings.
  - .2 CAN/CGSB-37.3-M89, Application of Emulsified Asphalts for Dampproofing or Waterproofing.
  - .3 CAN/CGSB-37.5-M89, Cutback Asphalt Plastic Cement.
  - .4 CGSB 37-GP-9Ma-83, Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing.
  - .5 CGSB 37-GP-11M-76(R1984), Application of Cutback Asphalt Plastic Cement.
  - .6 CGSB 37-GP-12Ma-84] Application of Unfilled Cutback Asphalt for Dampproofing.
  - .7 CGSB 37-GP-15M-76(R1984), Application of Asphalt Primer for Asphalt Roofing, Dampproofing and Waterproofing.
  - .8 CAN/CGSB-37.16-M89, Filled, Cutback, Asphalt for Dampproofing and Waterproofing.
  - .9 CAN/CGSB-37.28-M89, Reinforced Mineral Colloid Type, Emulsified Asphalt for Roof Coatings and for Waterproofing.
  - .10 CGSB 37-GP-36M-76, Application of Filled Cutback Asphalts for Dampproofing and Waterproofing.
  - .11 CGSB 37-GP-37M-77, Application of Hot Asphalt for Dampproofing or Waterproofing.
- .2 CSA International
  - .1 CAN/CSA-A123.4-04(R2008), Asphalt for Construction of Built-Up Roof Coverings and Waterproofing Systems.
- .3 Health Canada
  - .1 Workplace Hazardous Materials Information System (WHMIS)
  - .2 Material Safety Data Sheets (MSDS).

### **1.2 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for bituminous dampproofing application and include product characteristics, performance criteria, physical size, finish, and limitations.
  - .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .3 Manufacturer's Instructions: provide to indicate special handling criteria, installation sequence, cleaning procedures and protection.

### **1.3 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

- .3 Storage and Handling Requirements:
  - .1 Store materials off ground, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect dampproofing materials from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.
- .4 Develop Construction Waste Management Plan and Waste Reduction Workplan related to Work of this Section.
- .5 Packaging Waste Management: remove for reuse by manufacturer of pallets, crates, padding, packaging materials.

#### 1.4 SITE CONDITIONS

- .1 Ambient Conditions: temperature, relative humidity, moisture content.
  - .1 Apply dampproofing materials only when surfaces and ambient temperatures are within manufacturers' prescribed limits.
  - .2 Do not proceed with Work when wind chill effect would tend to set bitumen before proper curing takes place.
  - .3 Maintain air temperature and substrate temperature at dampproofing installation area above 5 degrees C for 24 hours before, during and 24 hours after installation.
  - .4 Do not apply dampproofing in wet weather.
- .2 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of asphalt, sealing compounds, primers and caulking materials.

### **PART 2 - PRODUCTS**

#### 2.1 MATERIALS

- .1 Asphalt:
  - .1 For application and curing at temperatures above 5 degrees C: to CAN/CGSB-37.2, CAN/CGSB-37.16, CAN/CGSB-37.28 [CAN/CSA-A123.4 Type 1.  
Package label or bill of lading for bulk hot liquid asphalt must indicate type, flash point, equiviscous temperature range, and final blowing temperature.
  - .2 For application and curing at temperatures above 0 degrees C but below 5 degrees C: to CAN/CGSB-37.16, CAN/CSA-A123.4 Type 1.
    - .1 Package label or bill of lading for bulk hot liquid asphalt must indicate type, flash point, equiviscous temperature range and final blowing temperature.
- .2 Sealing compound: plastic cutback asphalt cement to CAN/CGSB-37.5.
- .3 Asphalt primer: to CAN/CGSB-37.2.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for bituminous dampproofing application installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Departmental Representative.
  - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
  - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

#### **3.2 WORKMANSHIP**

- .1 Keep hot asphalt:
  - .1 Below its flash point.
  - .2 At or below its final blowing temperature.
  - .3 Within its equiviscous temperature range at place of application.

#### **3.3 PREPARATION**

- .1 Before applying dampproofing:
  - .1 Seal exterior joints between foundation walls and footings, joints between concrete floor slab and foundation and around penetrations through dampproofing with sealing compound.

#### **3.4 APPLICATION**

- .1 Do dampproofing in accordance with CGSB 37-GP-12Ma, CGSB 37-GP-36M, CGSB 37-GP-37M.
- .2 Do sealing work in accordance with CGSB 37-GP-11M.
- .3 Do priming of surface in accordance with CGSB 37-GP-15M.
- .4 Apply primer to CGSB primer standard.
- .5 Apply dampproofing in accordance with applicable CGSB application standard.

Material	Application	
CAN/CGSB-37.2	use	CAN/CGSB-37.3
CAN/CGSB-37.16	use	CGSB 37-GP-36M
CAN/CGSB-37.28	use	CAN/CGSB-37.3
CSA A123.4	use	CGSB 37-GP-37M

#### **3.5 SCHEDULE**

- .1 Apply continuous, uniform coating to entire exterior faces of foundation walls from 50 mm below finished grade level to and including tops of foundation wall footings.
- .2 Apply continuous, uniform coating to exterior side of foundation walls enclosing rooms below finished grade. Include exterior portion of interior walls where floors in adjacent rooms are at different elevations.
- .3 Apply two additional coats of dampproofing to vertical corners and construction joints for a minimum width of 230 mm on each side, and all around and for 230 mm along pipes passing through walls.

3.6            CLEANING

- .1      Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1          Leave Work area clean at end of each day.
- .2      Final Cleaning: upon completion remove surplus materials, rubbish, tools, and equipment in accordance with Section 01 74 11 - Cleaning.
- .3      Waste Management: separate waste materials for reuse and recycling.
  - .1          Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.7            PROTECTION

- .1      Protect installed products and components from damage during construction.
- .2      Repair damage to adjacent materials caused by dampproofing application.

-END OF SECTION-