Cet addenda fait partie intégrante des documents de soumission et l'entrepreneur devra indiquer sa réception sur la formule de soumission.

PARTIE 1 DEVIS ARCHITECTURE/STRUCTURE

.1 01 29 83 Paiement – Services de Laboratoire d'essaie

.1 Remplacer l'article 1.1.1 par

.1 Le **GRC** désignera le laboratoire qui effectuera les essais, et il assumera les frais de ses services, sauf pour ce qui suit.

.1 Les inspections et les essais exigés par des lois, des ordonnances, des règles, des règlements ou des consignes d'ordre public.

.2 Les inspections et les essais effectués exclusivement pour la convenance de l'Entrepreneur.

.3 Les essais, la mise au point et l'équilibrage des systèmes de manutention ainsi que des réseaux et des installations électriques et mécaniques.

.4 Les essais en usine et les certificats de conformité.

.5 Les essais qui doivent être effectués par l'Entrepreneur sous la supervision du Consultant.

.2 07 42 43 – Panneau Composite pour Façades

.1 Remplacer article 2.1.1.1 par :

.1 Parement de 0.46mm (cal 26) d'épaisseur du métal nu. Produit acceptable : Corrugué 7/8 tel que fabriqué par Vicwest ou équivalent approuvé par l'architecte. Couleur : **2624 Argent ME**.

.3 08 50 00 – Fenêtres

.1 Ajouter l'article 2.5.8 suivant :

.1 Film de sécurité pour toutes les fenêtres : conforme à la norme UL 972 et ULC-S332 :

.1 Produit acceptable : SF9 Ace Security Laminate ou équivalent approuvé par l'architecte.

.4 08 71 00 – Quincaillerie pour portes

.1 Groupe 6 : Éliminer le groupe de quincaillerie 6

.2 Groupe 6.1 : Éliminer le groupe de quincaillerie 6.1

.3 Groupe 7 : Ajouter la porte 703.1

.4 Groupe 15a : enlever la porte 404

.5 Groupe 15b : ajouter la porte 404

.6 Groupe 22 : enlever les portes 502A et 502B

.7 Ajouter le groupe 25 suivant :

.1 Groupe 25 • Porte(s) : 502A 502B

QTÉ	DESCRIPTION	FINI	MANUFACTURIER
	Cellules – porte et cadre d'acier		
1	Ensemble de rail 1300		SOUTHERN STEEL
1	Serrure morte mécanique et manuelle HM-1300AD-1 x key code instruction		SOUTHERN STEEL
1	Poignée encastrée côté extérieure 214S	626	SOUTHERN STEEL

.5 09 30 13 – Carrelages de Céramique

.1 Supprimer article 2.6.5.

.6 09 65 16 – Revêtements de sol souples en feuilles

.1 Remplacer article 2.1.1.1 par :

.1 Produits acceptables : Type 1 (**VIN**) « Melodia » par Johnsonite, 2.0mm, couleur 965 Grey Matter.

.2 Remplacer article 2.1.2 par :

.1 Plinthes souples : continues, appuyées sur le revêtement de sol, avec pièces d'extrémité et angles saillants pré-moulés :

.1 Recouvrement de plancher en feuille vinylique (**VIN**) : TA5 Colonial Grey CG de Johnsonite ou équivalent approuvé par l'architecte.

.3 Supprimer article 2.1.2.5.

.4 Supprimer article 3.4.9

PARTIE 2 DESSINS ARCHITECTURE

.1 A001 ANALYSE DE CODE / CODE ANALYSIS

.1 Ajouter à l'article 3.3.3.7

.1 5) Un corridor desservant un zone de détention cellulaires ne doit avoir aucune partie en impasse, à moins que l'aire desservie par la partie en impasse ne comporte un second moyen d'évacuation indépendant du premier.

.2 A003 DÉTAILS DE SITE / SITE DETAILS

.1 Détail 5/A003 élévation sud / South elevation

.1 Voir croquis architecturale ASK-01 : ajouter une porte pour accéder au cabanon pour clôture.

.3 A100 PLAN REZ-DE-CHAUSSÉE / GROUND FLOOR PLAN

.1 Les murs du local 404 seront construits selon les normes de *Spécifications de construction d'un Mur Mitoyen Sécuritaire (MMS)* ci-joint.

.2 Local 602 : Remplacer la note 12 indiquant les lignes diagonales de 1100mm par la note 13.

.3 Local 102 : Changer la note 6 indiquant le banc fixé au plancher par la note 16.

.4 Ajouter la note 16 : Banc "nelson platform bench - wood base" nuance "natural mapple" boulonné au plancher / bench"nelson platform bench - wood base" shade "natural mapple" bolted to floor

.4 A110 PLAN DE PLAFOND RÉFLÉCHI / REFLECTED CEILING PLAN

.1 Remplacer la note générale 7 par :

.1 Les surfaces de béton en plafond **ainsi que le pontage métallique** seront peintes sauf indication contraire / *exposed concrete slab **and steel deck** at ceiling to be painted unless otherwise indicated*

.2 Remplacer la note 4 par :

.1 **3150 dessus** du béton / *3150 **top of** concrete*

.5 A 301 COUPES DE MURS / WALL SECTIONS

.1 Assemblage de mur / wall assembly,

.1 Changer le mur type M1A pour

.1 MUR DU GARAGE - BAS / *GARAGE WALL - LOW*

.1 - BRIQUE 57mm x 92mm x 194mm / *BRICK*

.2 - ESPACE D'AIR 25mm / *AIR SPACE*

.3 - ISOLANT EN MOUSSE GICLÉ 100mm (R6/25mm) / *SPRAYED FOAM INSULATION*

.4 - BLOC DE BÉTON (VOIR PLAN CLÉ) / *CONCRETE BLOCK (SEE KEY PLAN)*

.2 Changer le mur type M1B pour

.1 MUR DU GARAGE - HAUT / *GARAGE WALL - HIGH*

.1 - PAREMENT MÉTALLIQUE / *METAL SIDING*

.2 - ESPACE D'AIR 25mm / *AIRSPACE*

.3 - ISOLANT EN MOUSSE GICLÉ 100mm (R6/25mm) / *SPRAYED FOAM INSULATION*

.4 - SOUS-ENTREMISE EN "Z" ENCOCHÉE / NOTCHED *Z-BAR*

.5 - BLOC DE BÉTON (VOIR PLAN CLÉ) / *CONCRETE BLOCK (SEE KEY PLAN)*

.3 Éliminer le mur type M1C

.2 Ajouter le plan clef se trouvant sur le croquis architecturale ASK-02.

.3 Coupe 2/A301 et 4/A301 changer le type de mur M1C pour M1A.

.6 A500 DÉTAILS – ENVELOPPE / DETAILS – ENVELOPPE

.1 Détail 6/A500 détail colonne axes D&E @ axe 8 / Column detail grid line D&E @ grid line 8.

.1 Voir croquis architecturale ASK-03.

.2 Détail 6/A500 changer le type de mur M1C pour M1A

.7 A501 DÉTAILS – ENVELOPPE / DETAILS – ENVELOPPE

.1 Détail 5/A501 changer les deux références au type de mur M1C pour M1A.

.8 A503 DÉTAILS – PORTES ET FENÊTRES / DETAILS – DOORS & WINDOW

.1 Detail 1/A503, 2/503 and 3/503

.1 Changer les notes :

"FENÊTRE SÉRIE AA 6600 DE KAWNEER COULEUR QC 56063 ORANGE / *KAWNEER SERIES AA 6600 WINDOW COLOR QC 56063 ORANGE"*

pour

*"*FENÊTRE SÉRIE AA 6600 DE KAWNEER **COULEUR QC 56063 ORANGE (EXT.) ANODIZÉ CLAIR (INT.)** / *KAWNEER SERIES AA 6600 WINDOW **COLOR QC 56063 ORANGE (EXT.), CLEAR ANODIZED (INT.)"***

.9 A601 TABLEAU DES FENÊTRES, PORTES ET CADRES / WINDOW, DOOR & FRAME SCHEDULE

.1 Bordereau des portes/Door schedule

.1 Changer le groupe de quincailleries des portes suivant :

.1	308.1	groupe 1.1
.2	308.2	groupe 2.2
.3	404	groupe 15b
.4	405	groupe 15a
.5	408	groupe 15b
.6	502A	groupe 25
.7	502B	groupe 25
.8	503	groupe 22.9
.9	507.2	groupe 22.4a
.10	513	groupe 22.4b
.11	601.2	groupe 10.1
.12	602	groupe 19.1
.13	603	groupe 19.1
.14	703.1	groupe 7
.15	704	groupe 9.1

.10 A 605 PLAN DES FINIS / FINISH PLAN

.1 Tableau des finis

.1 Local 604 : Remplacer le fini du mur nord par M3.

Fin de l'Addenda Nº A-02

- Spécifications de construction d'un Mur Mitoyen Sécuritaire (MMS)

Remarque : Les spécifications figurant dans la présente partie doivent être modifiées au besoin, et incorporées aux documents de contrat du projet par le concepteur, conformément aux exigences du client (idéalement précisées dans un EB détaillé concernant le MMS) et aux exigences générales du code et du projet.

Ossature murale (figure 1)

Étendre l'ossature des cloisons du plancher au plafond.

Lisses supérieures et inférieures :
Norme SSMA : 1- 5/8” x 6”, épaisseur 18 (600T162-43); ou
2” x 6”, épaisseur 18 (600T200-43) (option privilégiée)

Fixer les lisses d'acier supérieures et inférieures aux deux dalles à 300 mm d'entraxe à l'aide d'une fixation mécanique (de préférence expansible ou à double expansion) avec un effort de cisaillement permis publié d’au moins 600 lb (2640 N). Les vis non expansibles (p. ex., Tapcon) ne sont pas acceptables.

Poteaux :
Norme SSMA : 1- 5/8” x 6”, épaisseur 18 (600S162-43 : 33 ksi); ou
2” x 6”, épaisseur 18 (600S200-43 : 33 ksi) (option privilégiée)

Espacer les poteaux à 300 mm d'entraxe et les fixer aux lisses supérieures et inférieures au moyen de soudures ou de rivets (et non de vis).

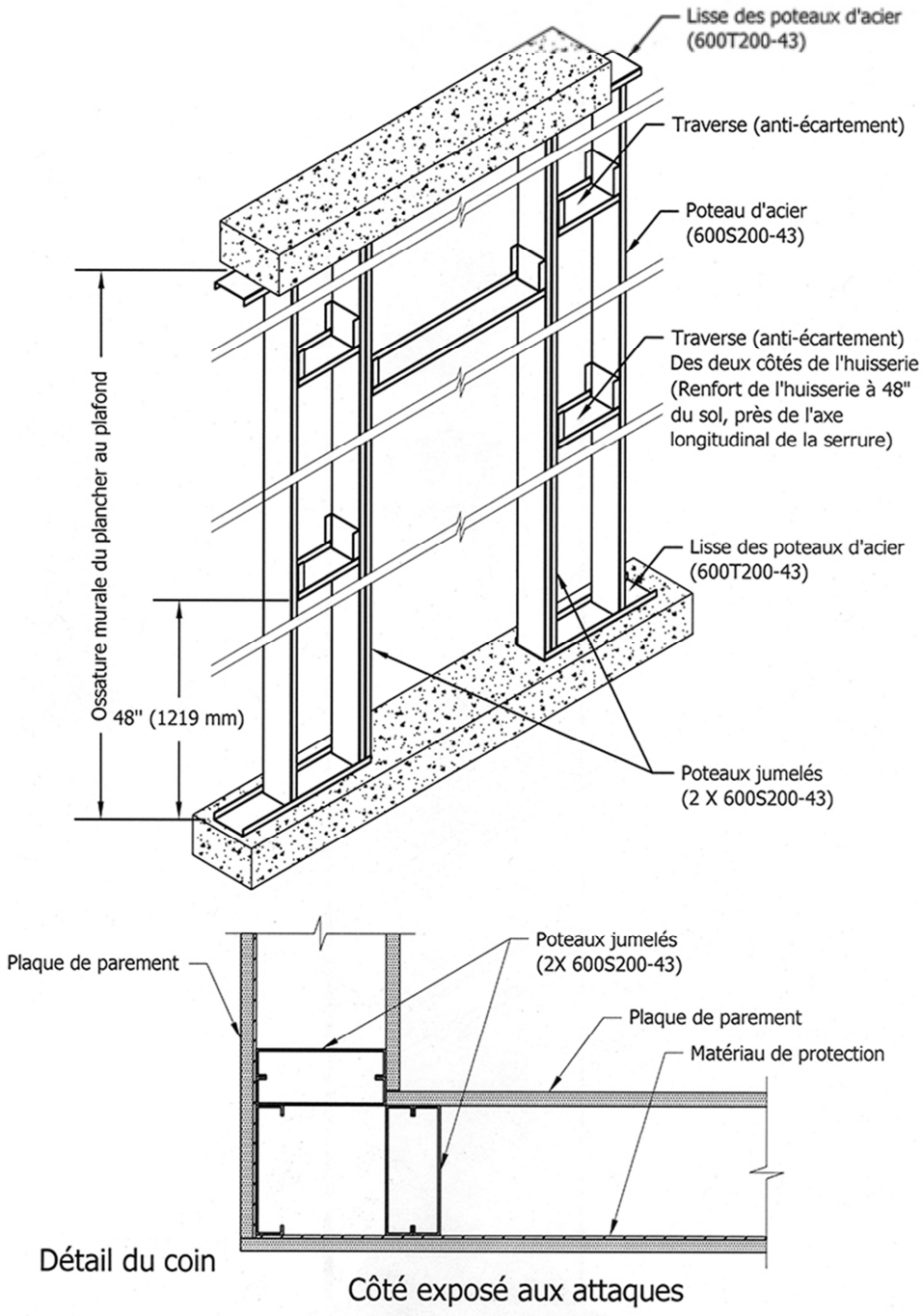
Installer des poteaux jumelés (montants de porte) à l'ouverture de l’huisserie. Installer l’huisserie conformément à HMMA 840 07, parties 3 A, B, C, D et E (sauf que les vis doivent être remplacées par des rivets d'acier).

Installer des traverses (anti-écartement) à environ 48" du bas du mur, entre les poteaux jumelés de l’huisserie et le poteau adjacent de chaque côté de l’huisserie.

Construire les coins de mur avec des poteaux jumelés.

Remarque : Il est permis de laisser un petit espace et d'utiliser des pans de cloison sèche pour consolider les sections de l’huisserie pendant l'érection du mur, pour autant que les tôles d'acier du côté exposé aux attaques soient continues et recouvrent tous les espaces.

Figure 1 : Construction du mur



Matériau de protection de mur (figures 2 à 5)

Le matériau de protection de mur peut être l'une de deux options :

Treillis métallique plat : Conforme à la norme EMMA 557-99. Style ¾-9F : épaisseur nominale du brin 0,120” (de 0,108” à 0,132”). Maille losange de 0,563” x 1,688”.
OU
Tôle d'acier : Épaisseur 16, A1008 / A1008M (laminée à froid) ou A1011/ A1011M (laminée à chaud) ou équivalent.

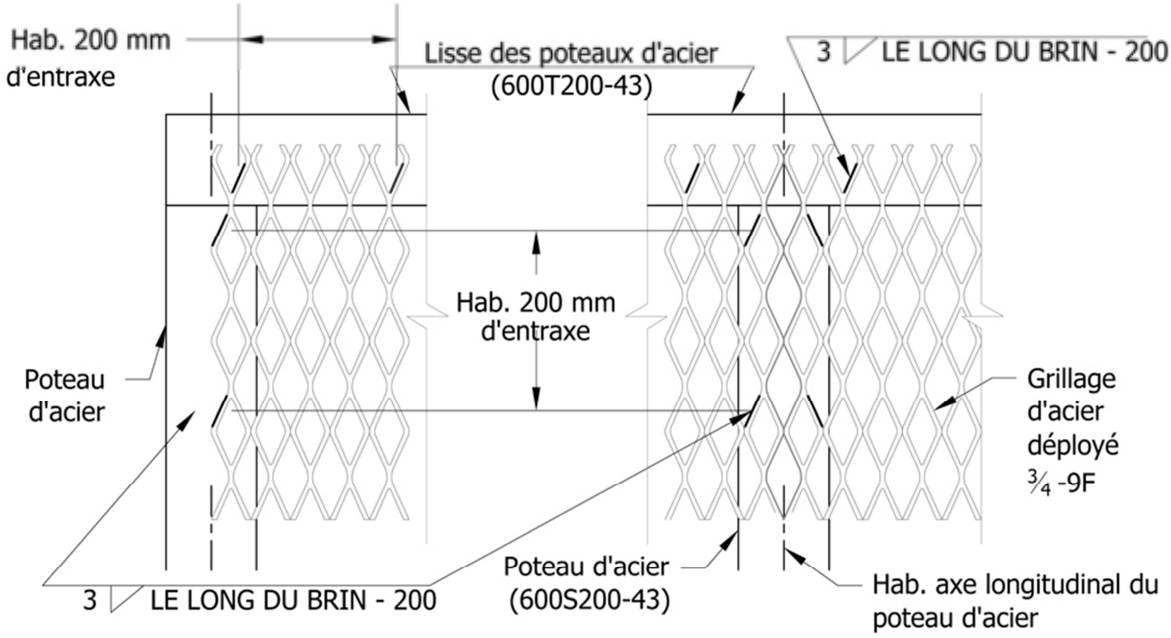
Monter sur le mur extérieur (exposé aux attaques) de la pièce. Soutenir toutes les arrêtes à l'aide de traverses, de poteaux ou de cornières. Aligner les arrêtes des tôles à chaque jointure verticale et horizontale avec l'axe longitudinal des poteaux d'acier ou de la traverse, et fixer toutes les tôles à l'aide de soudures ou de rivets.

Remarque : Les vis (y compris les « vis de sûreté ») **NE** sont **PAS** acceptables pour la fixation permanente du matériau de protection (acier ou treillis d'acier). Les vis peuvent être utilisées pour « épingler » les tôles le temps de placer les rivets ou les soudures. Il n'est pas nécessaire de retirer les vis temporaires.

Soudage (autre méthode)

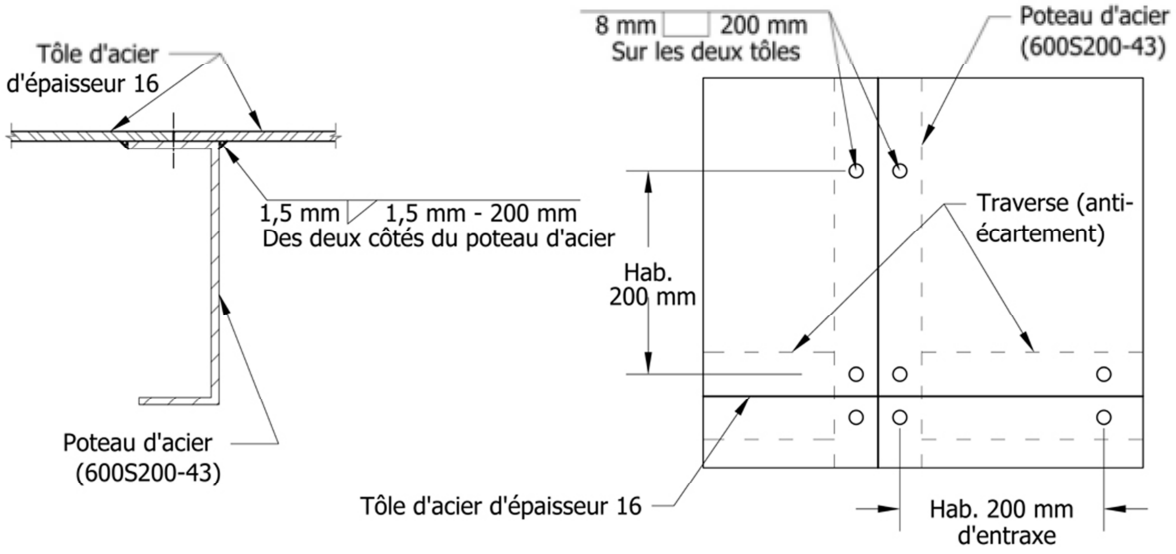
Treillis d'acier (figure 2) : Soudure d'angle de 3 mm le long du brin, à 200 mm d'entraxe

Figure 2 : Soudage du treillis d'acier



Tôle d'acier (figure 3) : Soudure d'angle de 1,5 mm d'une longueur de 15 mm, à 200 mm d'entraxe **OU** Soudure en bouchon de 8 mm à 200 mm d'entraxe

Figure 3 : Soudage des tôles d'acier

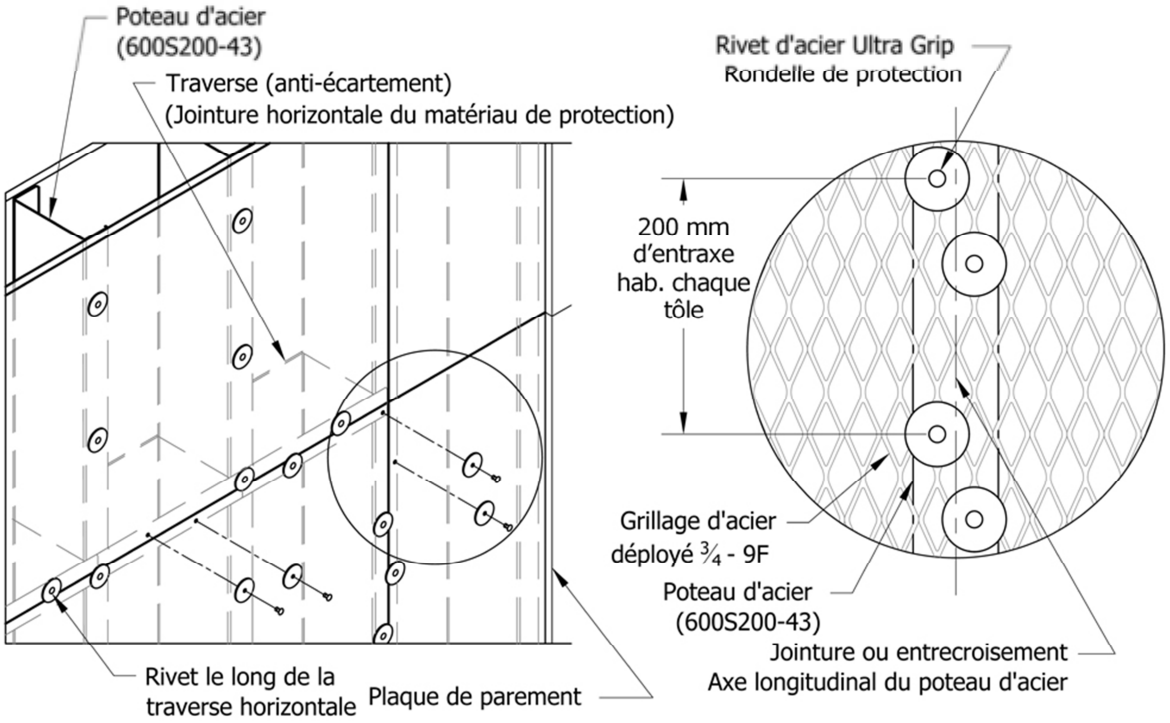


Rivets (méthode privilégiée) (figure 4) :

Tôles d'acier : Rivets d'acier de 3/16" à 200 mm d'entraxe.
Treillis d'acier : Rivets d'acier de 3/16" et rondelles de protection (DE de 1 ½", DI de 3/16") à 200 mm d'entraxe.

Matériel suggéré :
Rivets : Rivet pop d'acier de 3/16", pièce Speaneur 301-440
Rondelles : Rondelle de protection, DE de1 ½", DI de 3/16", pièce Fastenal 1133204

Figure 4 : Rivetage des tôles ou du treillis



Jointure de treillis entrecroisés (figure 5) :

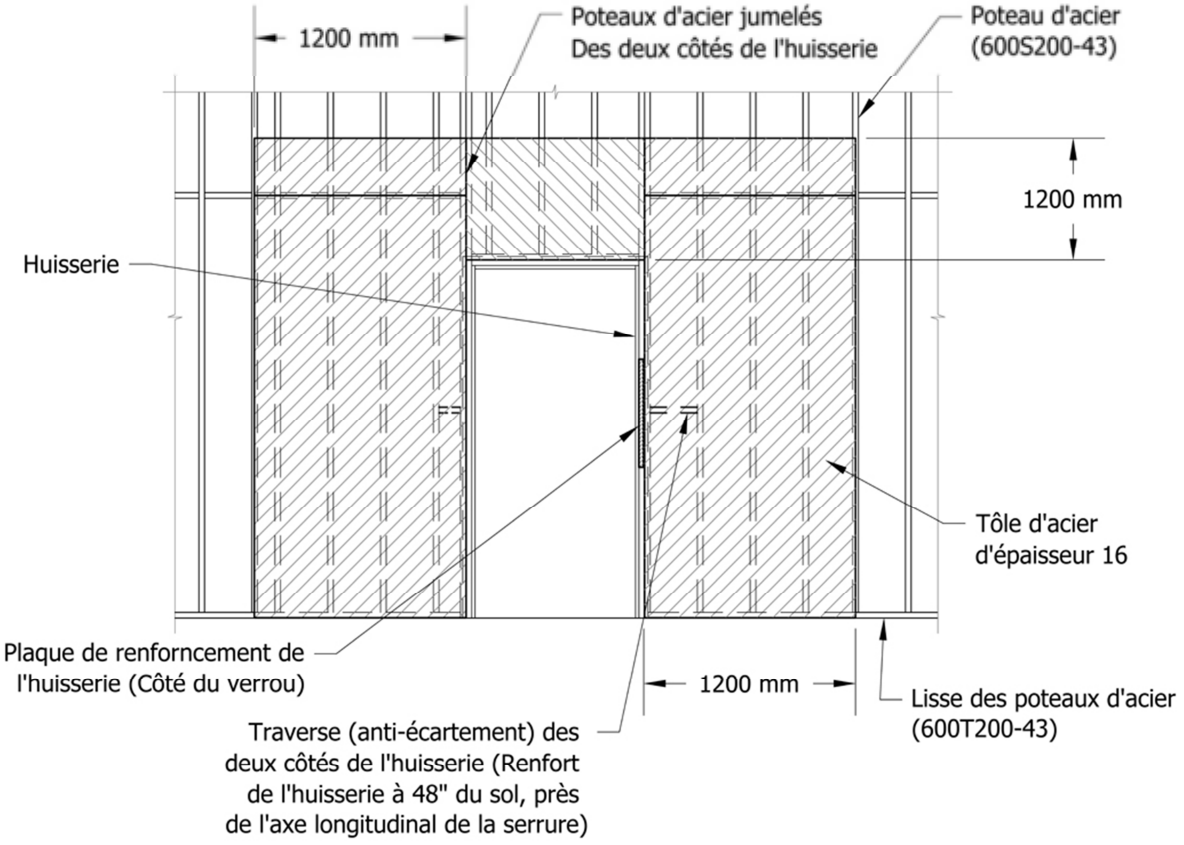
Figure 5 : Exemple de jointure de treillis entrecroisés, rivetés

Zone d'attaque critique (figure 6)

Installer la tôle d'acier d'épaisseur 16 à l'intérieur de la pièce, et l'étendre jusqu'à 1200 mm autour du bord de l'huisserie. La fixer conformément aux exigences en matière de rivets ou de soudures pour la méthode sélectionnée.

Remarque : Les perforations pour des installations techniques ou des conduits ne sont pas autorisées dans la zone d'attaque critique.

Figure 6 : Renforcement du mur de la zone d'attaque critique



Détails de finition du mur

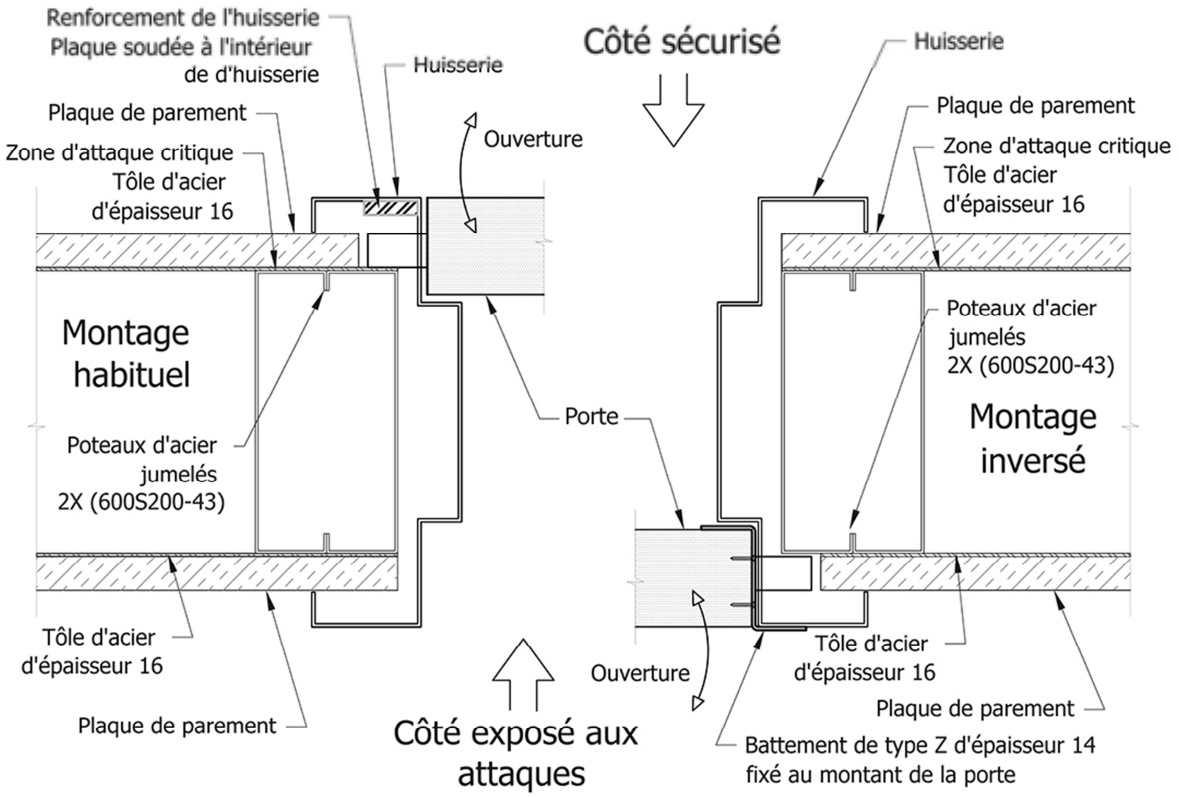
Fixer la cloison sèche des deux côtés à l'aide de vis à cloison sèche standard.

Appliquer du produit d'étanchéité résistant au feu des deux côtés, en haut et en bas de la cloison. ASTM E814 (UL1479), ASTM E1966 (UL 2079) or CAN/ ULC S115 avec une résistance au feu / fumée acceptable par l'autorité compétente en la matière (AHJ).

Peindre la surface extérieure du mur, du plancher au plafond. La peinture doit être uniforme et sans taches. Les joints ne doivent pas être visibles. Recommandé : Une couche d'apprêt ou de peinture d'impression et une couche d'alkyde et d'émail lustré CAN/ONGC-1.60

Renforcement de l'huisserie (au besoin) (figure 7) :
Fixer une tôle d'acier de 6,4 mm x 25 mm x 610 mm à l'intérieur de l'huisserie et aligner le centre de la tôle avec le pêne de serrure.

Figure 7 : Renforcement de l'huisserie



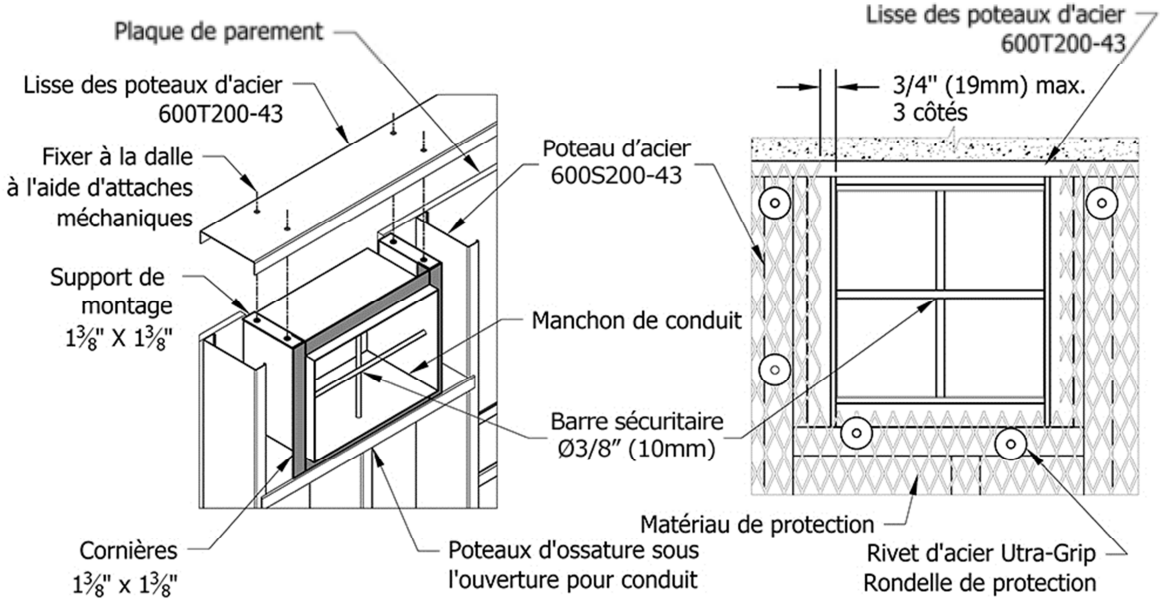
Ouvertures pour conduit de ventilation

Remarque : Lorsqu'une résistance supérieure à la coupe est requise, on peut utiliser des barres en acier résistant aux outils (classes 1 ou 2), conformément à la norme ASTM A627.

Montage au plafond : (figure 8)

1. Le manchon de conduit doit être au moins de la même épaisseur que le conduit qu'il protège.
2. La dimension générale du manchon doit être légèrement supérieure à celle du conduit.
3. Construire des cadres à l'aide de cornières en acier de 1- 3/8” x 1- 3/8” x 1/8” soudées autour du manchon de conduit (des supports de montage au plafond sont recommandés).
4. Espacer les barres sécuritaires d'acier de 3/8” Ø à 6" d'entraxe et les souder au cadre.
5. Fixer le manchon de conduit au plafond de charpente à l'aide d'attaches mécaniques.
6. Couper le matériau de protection à un maximum de ¾” du bord de l'ouverture du conduit (trois côtés).
7. Appliquer du mastic de calfeutrage résistant au feu entre le manchon du conduit et le mur fini.

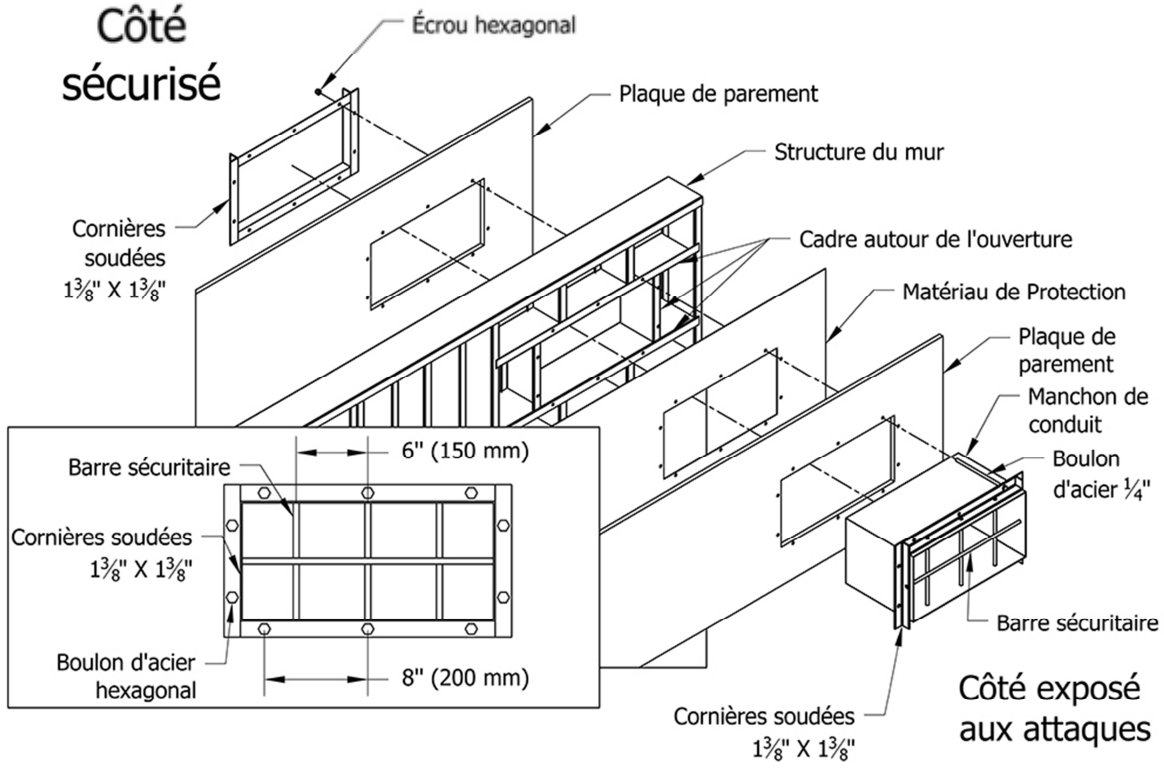
Figure 8 : Ouverture pour conduit de ventilation monté au plafond

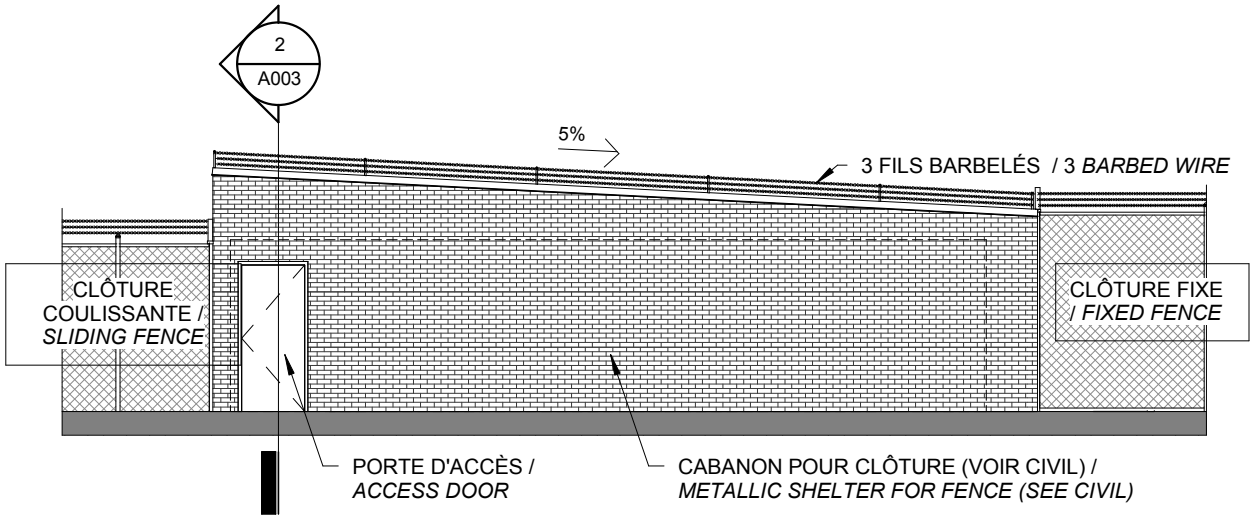


Montage en applique : (figure 9)

1. Le manchon de conduit doit être au moins de la même épaisseur que le conduit qu'il protège.
2. La dimension générale du manchon doit être légèrement supérieure à celle du conduit.
3. Construire un cadre de chaque côté du mur à l'aide de cornières en acier de 1-3/8” x 1-3/8” x 1/8” soudées autour du manchon du conduit.
4. Espacer les barres sécuritaires d'acier de 3/8” Ø à 6" d'entraxe et les souder au cadre.
5. Fixer le manchon de conduit à l'aide de boulons et d'écrous hexagonaux de ¼” de diamètre (à l'intérieur de la pièce) à 8" d'entraxe autour du manchon de conduit extérieur. La tête de boulon doit se trouver du côté exposé aux attaques et être soudée à au moins trois endroits sur les cornières.
6. Il faut utiliser un cadre autour du manchon de conduit.
7. Appliquer du mastic de calfeutrage résistant au feu entre le manchon de conduit et le mur fini.

Figure 9 : Ouverture pour conduit de ventilation monté en applique





2
ASK-01

ÉLÉVATION SUD / SOUTH ELEVATION

Scale / Échelle: 1 : 100

DFS INC.
architecture & design

Montréal, QC
Saint John, NB

400 boul. de Maisonneuve O. Bur. 500
Montréal (Quebec) H3A 1L4
T: (514) 879-1708 F: (514) 861-6219
www.dfsarch.com

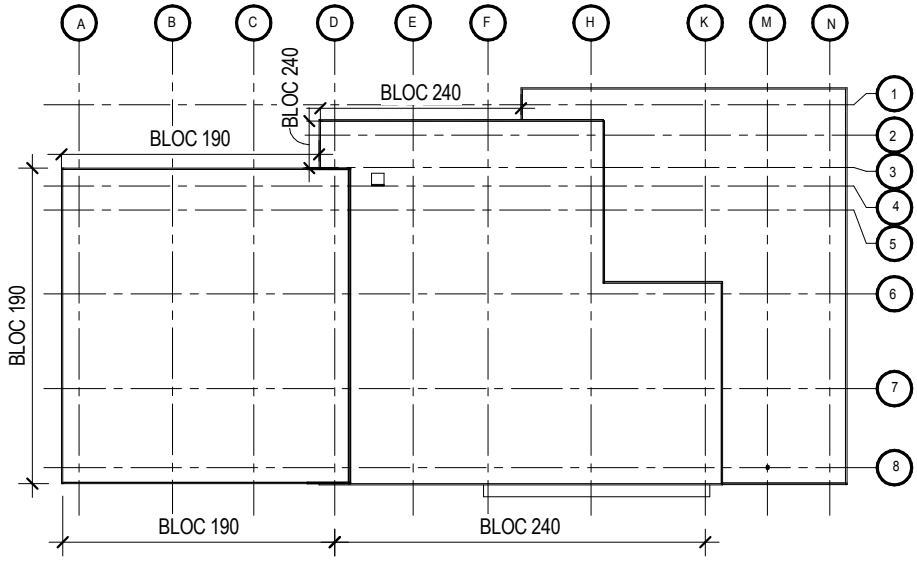
projet: Construction d'un nouveau bâtiment, Sept-Îles, Québec

titre: ÉLÉVATION SUD / SOUTH ELEVATION

purpose: Addenda A 02

no. projet:	
réf. DFS	5001
fichier:	
date:	24 Août 2016
échelle:	1 : 100

ASK-01



NOTE: ÉPAISSEUR DES BLOCS DE BÉTON DANS LES MURS EXTÉRIEURS / CONCRETE BLOC THICKNESS IN EXTERIOR WALL

1
ASK-02

PLAN-CLEF BLOC DE BÉTON / CONCRETE BLOCK KEY PLAN

Scale / Échelle: 1 : 500

DFS INC.
architecture & design
Montréal, QC
Saint John, NB
400 boul. de Maisonneuve O. Bur. 500
Montréal (Quebec) H3A 1L4
T: (514) 879-1708 F: (514) 861-6219
www.dfsarch.com

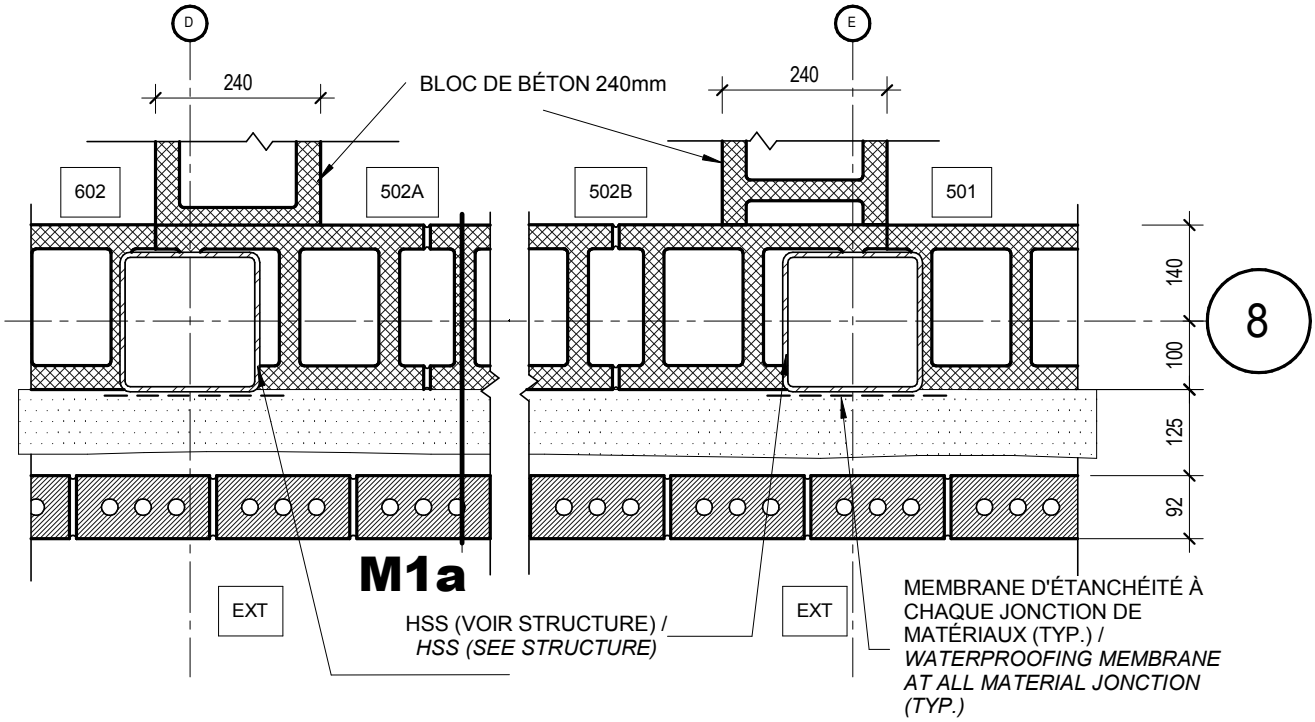
projet: Construction d'un nouveau bâtiment, Sept-Îles, Québec

titre: PLAN CLEF BLOC DE BÉTON / CONCRETE BLOCK KEY PLAN

purpose:

no. projet:	
réf. DFS	5001
fichier:	
date:	
échelle:	1 : 500

ASK-02



1
ASK-03

DÉTAIL COLONNE AXES D&E @ AXE 8 / COLUMN
DETAIL GRID LINE D&E @ GRID LINE 8
Scale / Échelle: 1 : 10

DFS INC.
architecture & design
Montréal, QC
Saint John, NB
400 boul. de Maisonneuve O. Bur. 500
Montréal (Quebec) H3A 1L4
T: (514) 879-1708 F: (514) 861-6219
www.dfsarch.com
Dans la province de Québec, les services architecturaux de DFS sont fournis par Fish Pellicer Todd architectes.

projet:	Construction d'un nouveau bâtiment, Sept-Îles, Québec
titre:	DÉT. COLONNE AXES D&E@AXE 8/COLUMN DET. GRID LINE D&E@GRID LINE 8
purpose:	

no. projet:	
réf. DFS	5001
fichier:	
date:	
échelle:	1 : 10

ASK-03

This addendum is an integral part of the tender documents and the contractor will have to indicate receipt of it in the tender form.

PART 1 ARCHITECTURAL/STRUCTURAL SPECIFICATIONS

.1 01 29 83 Payment procedures for testing laboratory services

.1 Replace article 1.1.1 by

.1 The **RCMP** will appoint and pay for services of testing laboratory except as follows:

.1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.

.2 Inspection and testing performed exclusively for Contractor's convenience.

.3 Testing, adjustment and balancing of conveying systems, mechanical and electrical equipment and systems.

.4 Mill tests and certificates of compliance.

.5 Tests specified to be carried out by Contractor under supervision of Consultant.

.2 05 41 00 – Structural Metal Stud Framing

.1 Add section to specifications

.3 07 42 43 – Composite Wall Panels

.1 Remplace article 2.1.1.1 by :

.1 Cladding: 0.46 mm (cal 26) thickness, bare metal. Acceptable product: corrugated 7/8 by Vicwest or equivalent approved by architect. Color: **2624 Argent ME**.

.4 07 52 16 – Modified Bituminous Membrane Roofing

.1 Add section to specifications

.5 08 50 00 – Windows

.1 Add following article 2.5.8:

.1 Security window film for all windows: conforming to UL 972 and ULC-S332 standard:

.1 Acceptable product: SF9 Ace Security Laminate or equivalent approved by architect.

.6 08 71 00 – Door hardware

.1 Group 6 : Remove hardware group 6
.2 Group 6.1 : Remove hardware group 6.1
.3 Group 7 : Add door 703.1
.4 Group 15a : Remove door 404
.5 Group 15b : Add door 404
.6 Group 22 : Remove doors 502A and 502B
.7 Add door hardware group 25 :
.1 Groupe 25 • Porte(s) : 502A 502B

QTÉ	DESCRIPTION	FINI	MANUFACTURIER
	Cellules – porte et cadre d'acier		
1	Ensemble de rail 1300		SOUTHERN STEEL
1	Serrure morte mécanique et manuelle HM-1300AD-1 x key code instruction		SOUTHERN STEEL
1	Poignée encastrée côté extérieure 214S	626	SOUTHERN STEEL

.7 09 30 13 – Ceramic tiling

.1 Remove article 2.6.5.

.8 09 65 16 – Resilient sheet flooring

.1 Remplacer article 2.1.1.1 par :
.1 Acceptable products: Type 1 (**VIN**) « Melodia » by Johnsonite, with built-in base, 2.0mm, color 965 Grey Matter.
.2 Remplacer article 2.1.2 par :
.1 **Resilient base: continuous, top set, complete with premoulded end stops and external corners**:
.1 Floor coverings in vinyl sheet (**VIN**): TA5 Colonial Grey CG by Johnsonite or equivalent approved by Architect
.2 Plinthes souples : continues, appuyées sur le revêtement de sol, avec pièces d'extrémité et angles saillants pré-moulés :
.1 Recouvrement de plancher en feuille vinylique (**VIN**) : TA5 Colonial Grey CG de Johnsonite ou équivalent approuvé par l'architecte.
.3 Remove article 2.1.2.5.
.4 Remove article 3.4.9

.9 09 67 00.03 – Epoxy Seamless Floor Coatings – EP2

.1 Add section to specifications

.10 09 67 00.04 – Epoxy Seamless Floor Coatings – EP4

.1 Add section to specifications

.11 09 67 00.05 – Epoxy Seamless wall covering – M%

.1 Add section to specifications

.12 09 68 16 – Sheet Carpeting

.1 Add section to specifications

PART 2 ARCHITECTURAL DRAWINGS

.1 A003 DÉTAILS DE SITE / SITE DETAILS

.1 Détail 5/A003 élévation sud / South elevation

.1 See attached architectural sketch ASK-01 : add door for fence shelter access.

.2 A100 PLAN REZ-DE-CHAUSSÉE / GROUND FLOOR PLAN

.1 Walls of room 404 are to be built according to attached *Secure demising wall (SDW) Construction specifications*

.2 Room 602 : Replace note 12 indicating the 1100mm diagonal lines for note 13.

.3 Room 102: change note 6 indicating the fixed bench for note 16.

.4 Add note 16 : Banc "nelson platform bench - wood base" nuance "natural mapple" boulonné au plancher / bench"nelson platform bench - wood base" shade "natural mapple" bolted to floor

.3 A110 PLAN DE PLAFOND RÉFLÉCHI / REFLECTED CEILING PLAN

.1 Replace general note 7 by :

.1 Les surfaces de béton en plafond **ainsi que le pontage métallique** seront peintes sauf indication contraire / *exposed concrete slab **and steel deck** at ceiling to be painted unless otherwise indicated*

.2 Replace note 4 by :

.1 **3150 dessus** du béton / *3150 **top of** concrete*

.4 A 301 COUPES DE MURS / WALL SECTIONS

.1 Assemblage de mur / wall assembly,

.1 Change wall type assembly M1A for

.1 MUR DU GARAGE - BAS / *GARAGE WALL - LOW*

.1 - BRIQUE 57mm x 92mm x 194mm / *BRICK*

.2 - ESPACE D'AIR 25mm / *AIR SPACE*

.3 - ISOLANT EN MOUSSE GICLÉ 100mm (R6/25mm) / *SPRAYED FOAM INSULATION*

.4 - BLOC DE BÉTON (VOIR PLAN CLÉ) / *CONCRETE BLOCK (SEE KEY PLAN)*

.2 Change wall type assembly M1B for

.1 MUR DU GARAGE - HAUT / *GARAGE WALL - HIGH*

.1 - PAREMENT MÉTALLIQUE / *METAL SIDING*

.2 - ESPACE D'AIR 25mm / *AIRSPACE*

.3 - ISOLANT EN MOUSSE GICLÉ 100mm (R6/25mm) / *SPRAYED FOAM INSULATION*

.4 - SOUS-ENTREMISE EN "Z" ENCOCHÉE / NOTCHED *Z-BAR*

.5 - BLOC DE BÉTON (VOIR PLAN CLÉ) / *CONCRETE BLOCK (SEE KEY PLAN)*

.3 Remove wall type assembly M1C

.2 Add key plan in attached architectural sketch ASK-02

.3 Sections 2/A301 and 4/A301 change wall type M1C for M1A.

.5 A500 DÉTAILS – ENVELOPPE / DETAILS – ENVELOPPE

.1 Detail 6/A500 détail colonne axes D&E @ axe 8 / Column detail grid line D&E @ grid line 8.

.1 See attached architectural sketch ASK-03.

.2 Detail 6/A500 change wall type M1C for M1A.

.6 A500 DÉTAILS – ENVELOPPE / DETAILS – ENVELOPPE

.1 Detail 5/A501 change both references of wall type M1C for M1A.

.7 A503 DÉTAILS – PORTES ET FENÊTRES / DETAILS – DOORS & WINDOW

.1 Detail 1/A503, 2/503 and 3/503

.1 Change notes:

"FENÊTRE SÉRIE AA 6600 DE KAWNEER COULEUR QC 56063 ORANGE / *KAWNEER SERIES AA 6600 WINDOW COLOR QC 56063 ORANGE"*

For

*"*FENÊTRE SÉRIE AA 6600 DE KAWNEER **COULEUR QC 56063 ORANGE (EXT.) ANODIZÉ CLAIR (INT.)** / *KAWNEER SERIES AA 6600 WINDOW **COLOR QC 56063 ORANGE (EXT.), CLEAR ANODIZED (INT.)"***

.8 A601 TABLEAU DES FENÊTRES, PORTES ET CADRES / WINDOW, DOOR & FRAME SCHEDULE

.1 Bordereau des portes/Door schedule

.1 Change the hardware group of the following doors:

.1	308.1	group 1.1
.2	308.2	group 2.2
.3	404	group 15b
.4	405	group 15a
.5	408	group 15b
.6	502A	group 25
.7	502B	group 25
.8	503	group 22.9
.9	507.2	group 22.4a
.10	513	group 22.4b
.11	601.2	group 10.1
.12	602	group 19.1
.13	603	group 19.1
.14	703.1	group 7
.15	704	group 9.1

.9 A 605 PLAN DES FINIS / FINISH PLAN

.1 Finish schedule

.1 Room 604 : Replace north wall finish with M3.

End of the Addendum Nº A-02

Secure Demising Wall (SDW) Construction Specifications

Wall Framing (Figure 1)

Extend wall partition framing slab to slab.

Top and Bottom Tracks:
SSMA standard: 1- 5/8" x 6", 18ga (600T162-43); OR
2" x 6", 18ga (600T200-43) (Preferred Option)

Secure top and bottom steel stud track to both slabs at 300mm oc using any expanding (preferably double expanding) mechanical fastener. Non-expanding (e.g. "Tapcon") screws are not acceptable.

Studs:
SSMA standard: 1- 5/8" x 6", 18ga (600S162-43: 33ksi); OR
2" x 6", 18ga (600S200-43: 33ksi) (Preferred Option)

Space studs at 300 mm oc and secure to the top and bottom tracks with welds or rivets (not screws).

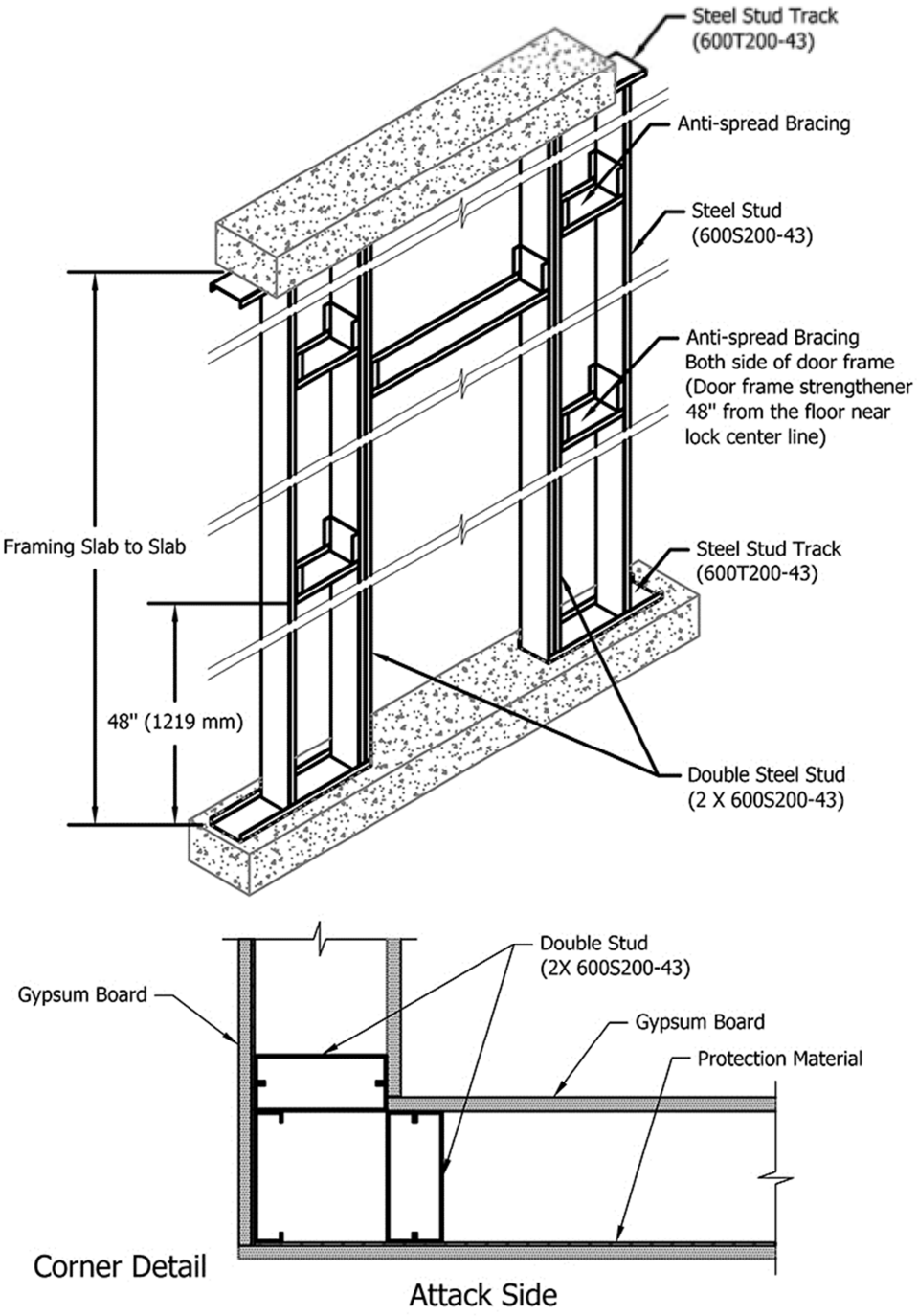
Install double (jamb) studs at the door frame opening. Install the door frame as per HMMA 840-07, part 3 A, B, C, D and E (except that screws shall be replaced with steel rivets).

Install anti-spread bracing approximately 48" from the bottom of the wall between the door frame double stud and the adjacent stud on both sides of the frame.

Construct wall corners with double studs.

Notes: Leaving a small gap and using drywall sheets to brace frame sections during wall erections is permitted provided steel sheets on the attack side are continuous over all gaps.

Figure 1: Wall Construction



Wall Protection Material (Figures 2 to 5)

Wall protection material may be one of two options:

Flattened Metal Mesh: To EMMA 557-99. Style ¾-9F: nominal strand thickness of 0.120" (0.108" to 0.132"). Diamond opening of 0.563" x 1.688".

OR
Sheet Steel: 16 Ga, A1008 / A1008M (cold rolled) or A1011/ A1011M (hot rolled) or equivalent.

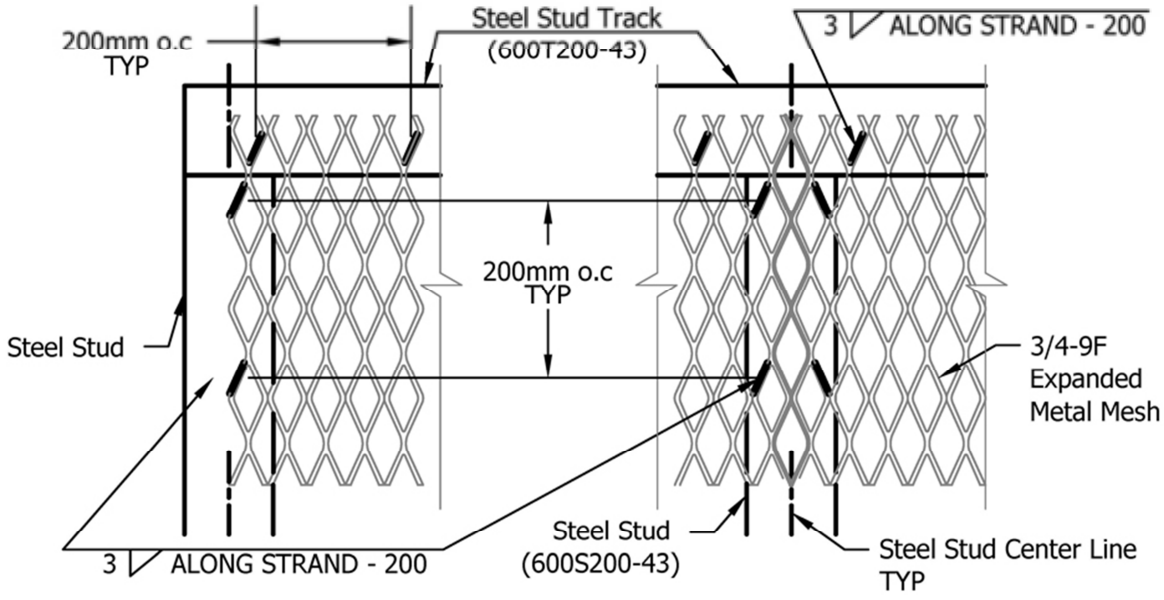
Mount on the outside (attack side) of the room. Support all edges by anti-spread bracing, studs or corners. Align the sheet edges at every vertical and horizontal seam on the centre line of the steel stud or anti-spread bracing and secure all sheets with welds or rivets.

Note: Screws (including "security screws") are **NOT** acceptable for permanently attaching the protection material (steel or steel mesh). Screws may be used to "tack' the sheets in place pending riveting or welding. Temporary screws do not need to be removed.

Welding (Alternate Method)

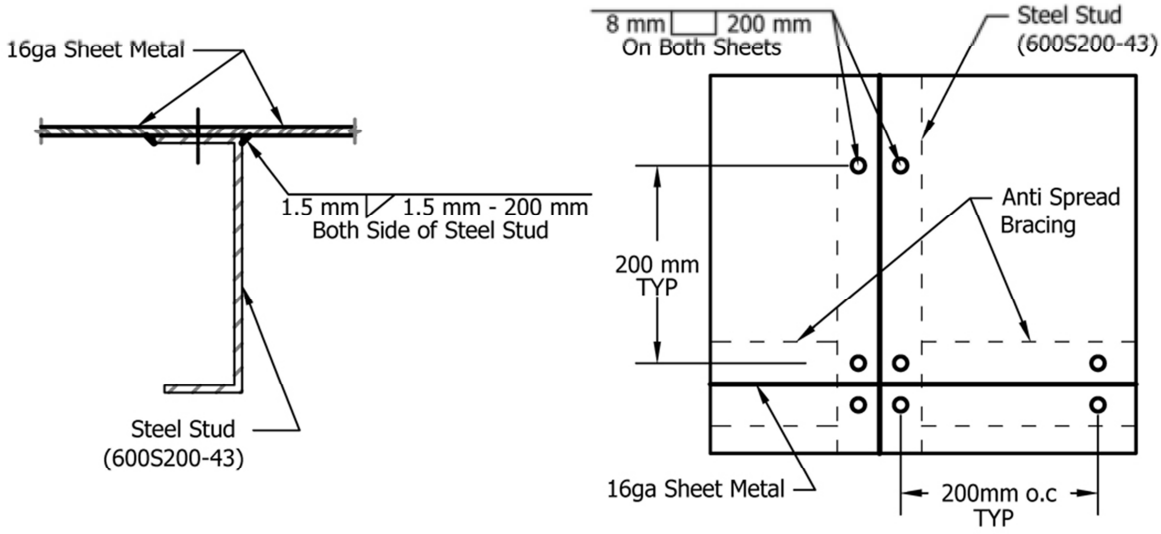
Steel mesh (Figure 2): 3mm fillet weld along the strand at 200mm oc

Figure 2: Welding Steel Mesh



Steel Sheet (Figure 3): 1.5mm fillet weld 15mm long at 200mm oc **OR** 8mm plug weld at 200mm oc

Figure 3: Welding Sheet Steel

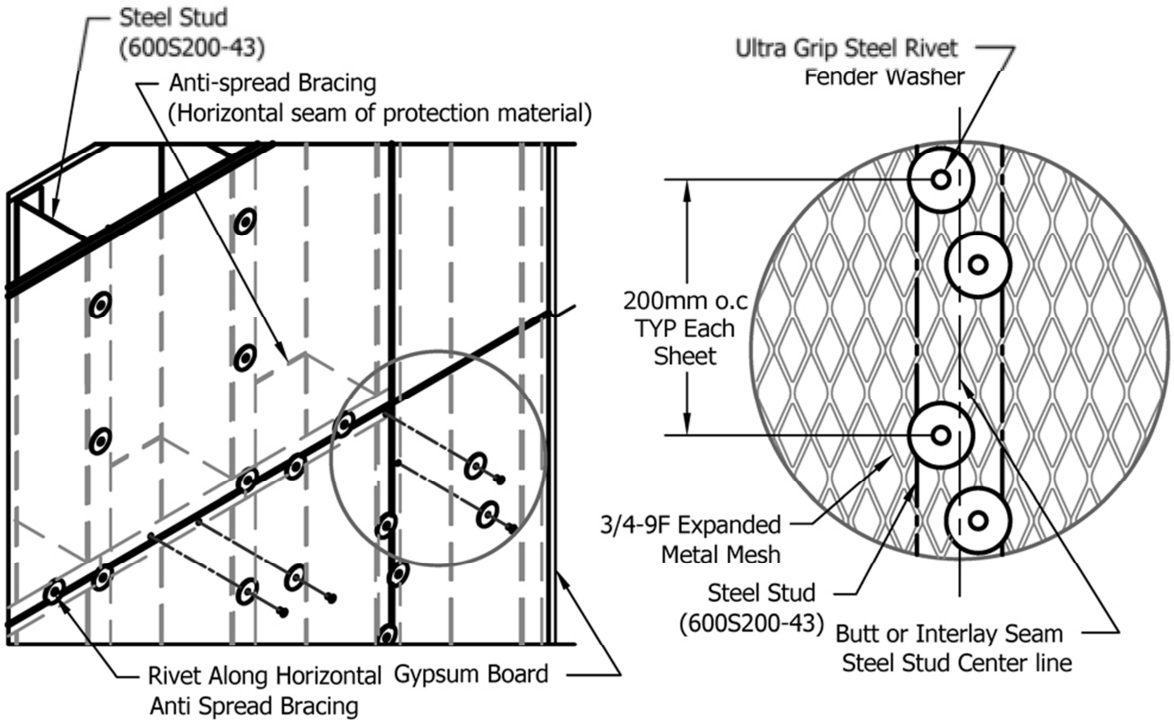


Rivets (Preferred Method) (Figure 4):

Steel sheet: 3/16" steel rivets at 200mm o.c.
Steel mesh: 3/16" steel rivets and "fender" washer (1 ½ " OD, 3/16'' ID) at 200mm o.c.

Suggested material:
Rivets: 3/16" steel pop rivet: Speaneur part #301-440
Washers: 1 ½ " OD, 3/16'' ID "fender" washer: Fastenal part #1133204

Figure 4: Riveting Sheet or Mesh



Steelmesh Interlay Seam (Figure 5):

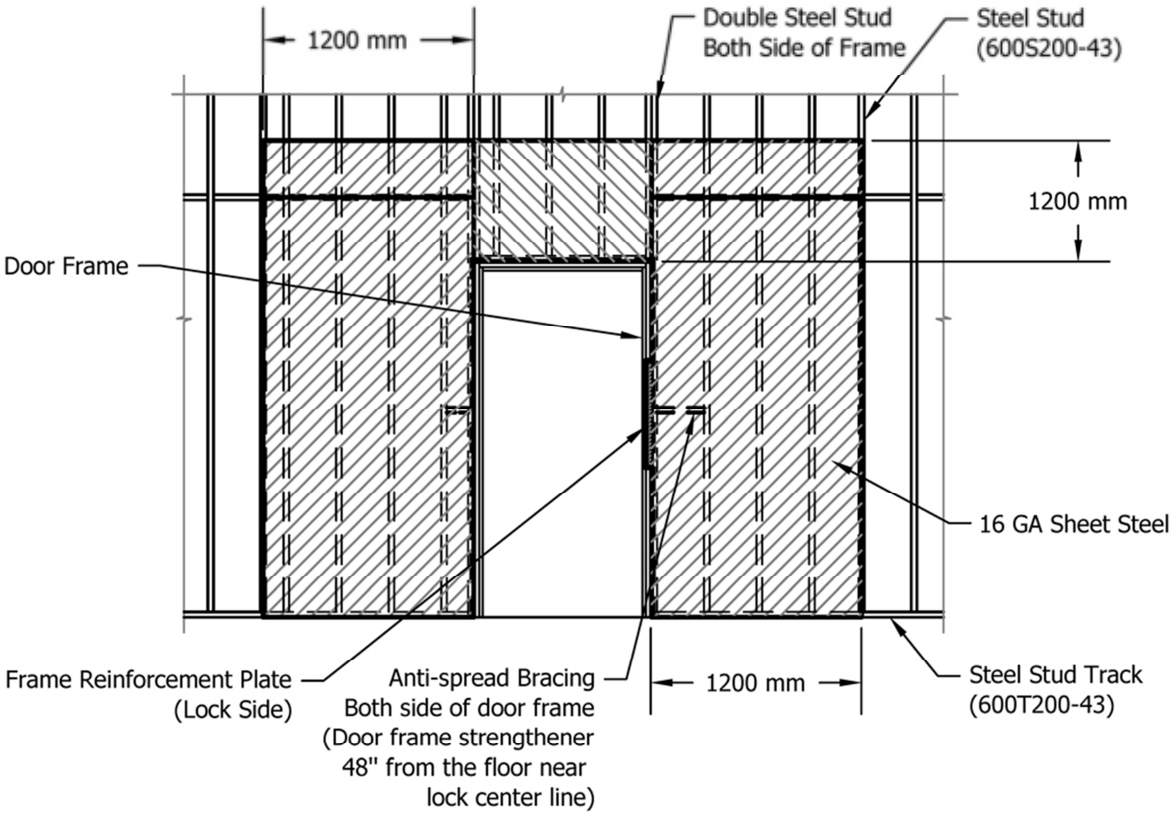
Figure 5: Example of Mesh Interlay Seam, Riveted

Critical Attack Area (Figure 6)

Install 16 ga sheet steel on the inside of the room and extend 1200 mm from the edge of the door frame. Attach as per rivet or welding requirements for selected method.

Note: Perforations for services, conduits or ducts are not permitted in the Critical Attack Area.

Figure 6: Critical Attack Area Wall Reinforcement



Wall Finishing Details

Attach drywall on both sides using standard drywall screws.

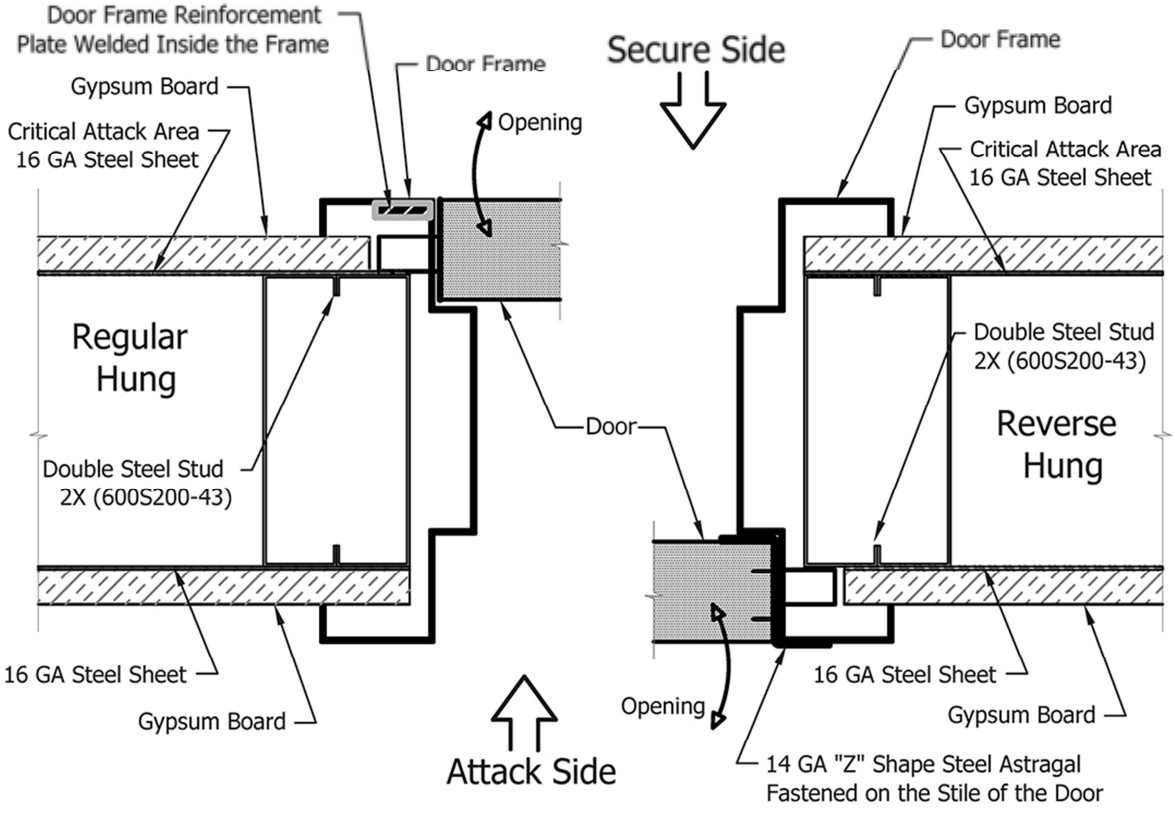
Apply fire-rated sealant continuously on both sides of the top and bottom of partition. ASTM E814 (UL1479), ASTM E1966 (UL 2079) or CAN/ ULC S115 test standards with a fire/ smoke rating acceptable to the Authority Having Jurisdiction (AHJ).

Paint exterior surface of wall slab-to-slab. Paint must be uniform and without blemishes. Joints must not be visible. Recommended: 1 coat primer/sealer and 1 coat alkyd, gloss enamel conforming to CAN/CGSB-1.60.

Frame reinforcement at Door (where appropriate) (Figure 7):

Secure a 6.4 mm x 25 mm x 610 mm steel plate inside the frame and align centre with the lock bolt.

Figure 7: Frame Reinforcement at Door



Ventilation Duct Pass-throughs

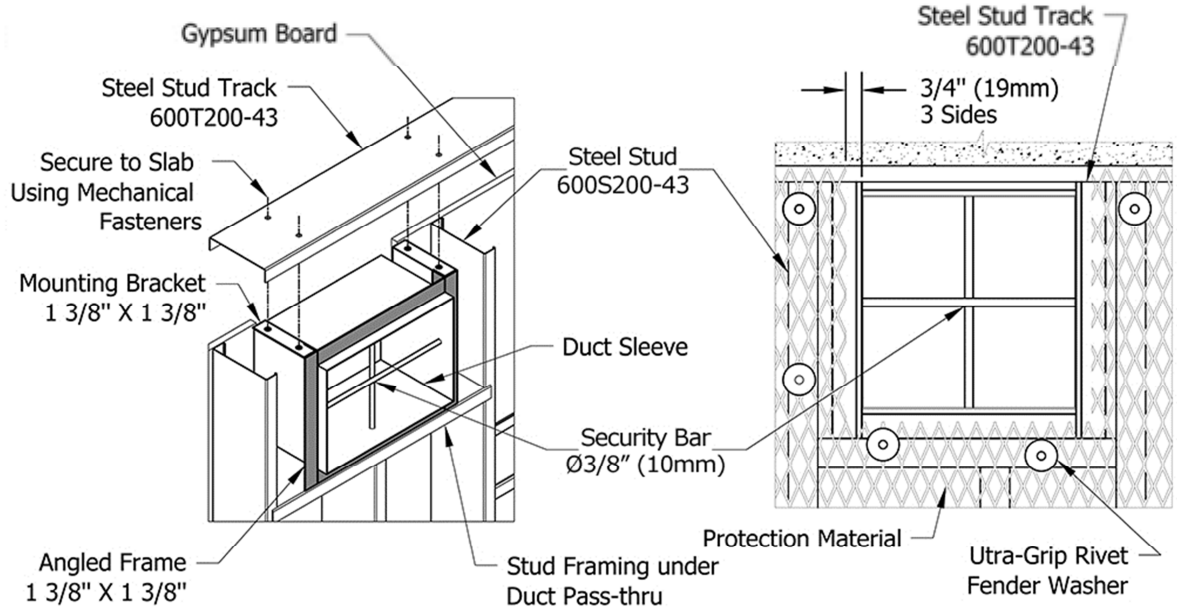
Note: Where superior resistance to cutting is required, steel bars can be specified as tool-resistant steel (grade 1 or 2) per ASTM A627.

Ceiling mount: (Figure 8)

1. The duct sleeve must be at least the same thickness as the duct passing through.
2. The overall dimension of the sleeve must be slightly greater than the duct.
3. Construct frames of 1- 3/8” x 1- 3/8” x 1/8” angle steel welded around duct sleeve (ceiling mount brackets are recommended).
4. Space 3/8” Ø steel bars at 6” oc and weld to the frame.
5. Secure the duct sleeve to the structural ceiling with mechanical fasteners.
6. Cut protection material ¾” max from the edge of the duct opening (3 sides)

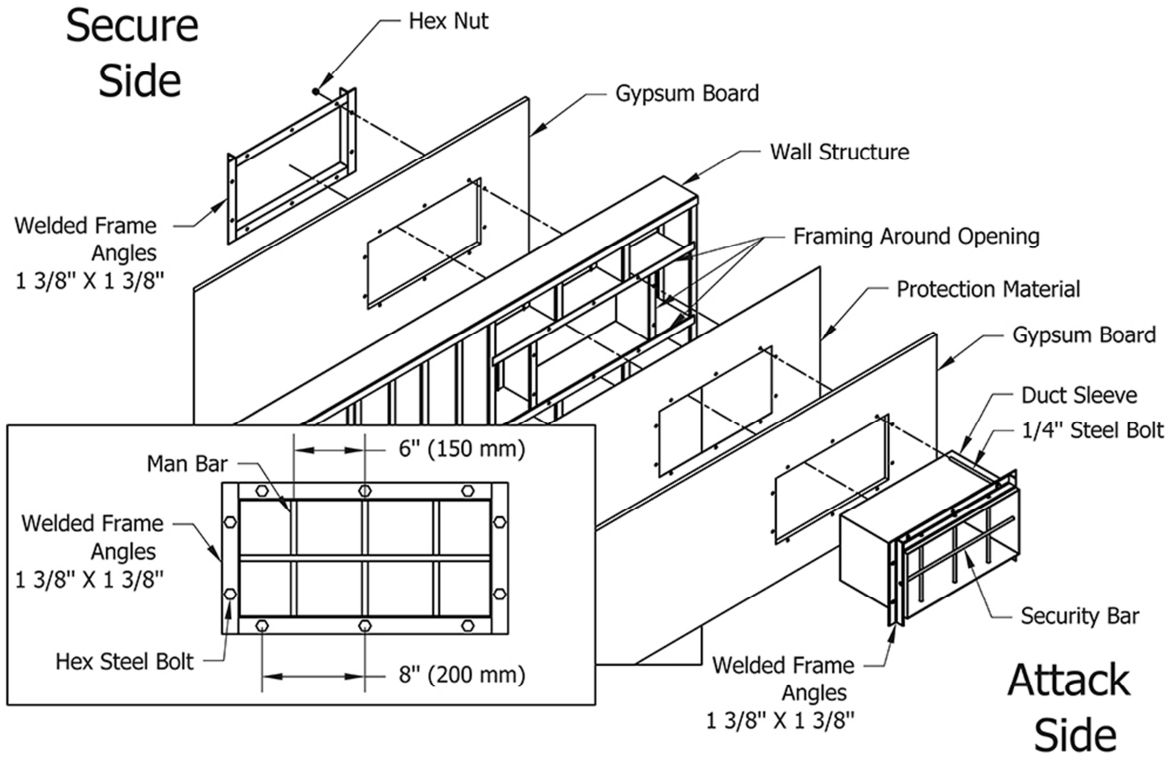
7. Apply fire-rated caulking between duct sleeve and finished wall.

Figure 8: Ceiling Mount Duct Pass-Through



Surface Mount: (Figure 9)

1. The duct sleeve must be at least the same thickness as the duct passing through.
2. The overall dimension of the sleeve must be slightly greater than the duct.
3. Construct frame on each side of the wall of 1- 3/8” x 1- 3/8” x 1/8” angle steel welded around duct sleeve.
4. Space 3/8” dia man bars at 6” oc and weld to the frame.
5. Secure duct sleeve with ¼” dia bolts and hex nuts (inside the room) at 8” oc around the outside duct sleeve. The bolt head shall be on the attack side and be welded in at least three places to the angle frame.
6. Framing around duct sleeve is required.
7. Apply fire-rated caulking between duct sleeve and finished wall.


Secure Side
Hex Nut
Gypsum Board
Wall Structure
Welded Frame Angles 1 3/8" X 1 3/8"
Framing Around Opening
Protection Material
Gypsum Board
Duct Sleeve
1/4" Steel Bolt
Man Bar
6" (150 mm)
Welded Frame Angles 1 3/8" X 1 3/8"
Hex Steel Bolt
8" (200 mm)
Security Bar
Welded Frame Angles 1 3/8" X 1 3/8"
Attack Side

Part 1 General

1.1 SECTION CONTENT

This section describes requirements relating to, without limitation, supply and installation of structural framing, comprising of jambs, bridging, bottom and top tracks, lintels, jambs and thresholds of interior openings, bracing against lateral loads, assemblies, as well as all fasteners and anchoring.

1.2 RELATED REQUIREMENTS

.1 This list of related sections intends to facilitate coordination between the various specifications sections. It does not define their scope. Contractor remains solely responsible for distribution of work.

.2 Division 1 – General Requirements

.3 Section 06 10 00 – Rough Carpentry (Abridged)

.4 Section 07 21 13 – Board Insulation

.5 Section 07 21 16 – Blanket Insulation

.6 Section 07 21 19 – Sprayed Foam Insulation

.7 Section 07 92 00 – Joint Sealants

.8 Section 08 11 00 – Metal Doors and Frames

.9 Section 09 21 16 – Gypsum Board Assemblies

.10 Division 23 – Mechanical

.11 Division 26 – Electrical

.12 Structural Drawings

1.3 REFERENCES

.1 ASTM International

.1 ASTM A653/A653M-13, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 ASTM A792/A792M-10, Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-1.181-99, Ready-Mixed Organic Zinc-Rich Coating.

.3 CSA International

.1 CAN/CSA G164 FM92 (C2003), Hot dip galvanizing of irregularly shaped objects.

.2 CSA W47.1-F03, Certification of Companies for Fusion Welding of Steel Structures.

.3 CSA W55.3- 1965 (R2003) Resistance Welding Qualification Code for Fabricators of Structural Members Used in Buildings.

.4 CSA W59-F03, Welded Steel Construction (Metal Arc Welding) Metric.

.5 CAN/CSA S136-F94 (C2001), North American Specification for the Design of Cold Formed Steel Structural Members.

.4 Canadian Sheet Steel Building Institute (CSSBI)

.1 ICTAB 50M-87, Lightweight Steel Framing Manual.

.2 CSSBI 52M-91, Lightweight Steel Framing Binder.

.3 ICTAB Fact Sheet #3 April 1994, Care and Maintenance of Prefinished Sheet Steel Building Products.

.4 CSSBI Technical Bulletin Vol. 7, No. 2 February 2004, Changing Standard Thicknesses for Canadian Lightweight Steel Framing Applications.

.5 ICTAB S5-04, Guide Specification for Wind Bearing Steel Studs.

.5 Quebec Construction Code

.6 Master Painters Institute (MPI) / Architectural Painting Specification Manual - February 2004

.1 MPI # 18, Organic Zinc Rich Primer.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit reference documents, drawings and samples in accordance with Division 1 – General Requirements.

.2 Provide reference documents, drawings and samples.

.3 Shop Drawings:

.1 Submit reference documents, drawings and samples in accordance with Division 1 – General Requirements.

.2 Submit drawings stamped and signed by a professional engineer registered or licensed to build structural framing and who is a member in good standing of the Ordre des ingénieurs du Québec (OIQ).

.3 Indicate design loads, member sizes, materials, design thickness exclusive of coatings, coating specifications, connection and bracing details, screw sizes and spacing, and anchors.

.4 Indicate locations, dimensions, openings and requirements of related work.

.5 Indicate welds by welding symbols as defined in CSA W59.

.4 Samples: submit to Consultant samples of frame components and fasteners.

.5 Certificates: prior to beginning Work, submit: two (2) certified copies of mill reports covering material properties.

1.5 CALCULATION CRITERIA

.1 Calculations will be based on limit states principles using loads and weighted resistance.

.2 Loads and load coefficients will comply with the Quebec Construction Code requirements.

.3 Design frame, its fasteners and anchorages so that they withstand, within acceptable specified limits, their own weight, the weight of windows, coatings, overloads arising from the movement of opening elements, minimum design overload and combinations of overloads arising from earthquakes, wind pressure and suction and internal pressure, overloads resulting from occupancy, and weight of the roof.

.4 Resistance and resistance coefficients will be determined in accordance with Quebec Construction Code Requirements and CAN3-S136.

.5 Specified assemblies must also comply with requirements relating to the degree of resistance to fire.

.6 Design work based on wind loads, including suctions, impacts and gusts, in accordance with applicable codes for a factor of recurrence of once in 10 years.

.7 Maximum deflection allowed for frame elements is the most severe of the two: 1/360 of the scope or 10 mm. In no way the admissible height depending on deflection must be greater than permissible height depending on resistance.

.8 Calculate bracing to prevent rotation and translational movement of the elements around their secondary axis. Take into account secondary effects of stresses due to twist between bracing lines. However, distance between struts should not be greater than 1500 mm center to center.

.9 Calculate stud ends assemblies so that they can accommodate deflection of floors and roof and therefore avoid stressing studs axially.

.10 Elements or sets must be calculated so that they respect the specified tolerances for structural assembly.

.11 Movement of the structure is to be expected. Calculate stud ends assemblies submitted to wind overloads so that they can accommodate deflection of floors and roof.

.12 Fastener types used will be bolts. Welding and metal screws.

.13 Resistance of the metal screws will be based on minimum curing values determined during manufacturer testing, multiplied by appropriate resistance coefficient, prescribed CAN3-S136.

.14 Allow, when calculating, quirks appropriate to ends of load bearing parts stressed axially.

.15 Provide for diagonally braced frame studs acting as shear walls. Drawings must indicate location of shear walls and service lateral loads.

1.6 DELIVERY, STORAGE AND HANDLING

.1 Protect steel studs during transport, storage on site and implementation in accordance with directions of ICTAB report - A few words about steel 3.

.2 Protect and handle galvanized materials so as not to damage their galvanisation.

1.7 WASTE MANAGEMENT AND DISPOSAL

.1 Sort and recycle waste in accordance with 01 74 21 – Construction/demolition waste management and disposal.

.2 Develop a waste reduction plan for work subject to this section, in accordance with 01 74 21 - Construction/demolition waste management and disposal.

.3 Retrieve and sort all the packaging materials in paper, plastic, polystyrene, corrugated cardboard and place them in appropriate bins installed on site for recycling, in accordance with the waste reduction plan.

.4 Packaging waste management: retrieve packaging waste for the purpose of recycle/ reuse and recovery of pallets, crates, padding, and other materials of packaging by their manufacturer, in accordance with waste reduction plan guidelines and with section 01 74 21 - Construction/demolition waste management and disposal.

Part 2 Products

2.1 MATERIALS

.1 Steel: to CAN/CSA S136, fabricated from steel Grade 230 or 345 steel in accordance with ASTM A653/A653M.

.2 Zinc coated steel sheet: quality to ASTM A653/A653M, with Z275 designation coating.

.3 Welding materials: to CSAW59 and certified by Canadian Welding Bureau.

.4 Screws: low profile head, self-drilling, self-tapping sheet metal screws, corrosion protected with minimum zinc coating thickness of 0.008 mm.

.5 Anchors: concrete expansion anchors or other suitable drilled type fasteners.

.6 Bolts, nuts, washers: hot dipped galvanized to CAN/CSA G164, 380 g/m^2 zinc coating.

.7 Touch up primer: zinc rich, to CAN/CGSB-1.181.

2.2 STEEL STUD DESIGNATIONS

.1 Colour code: to CSSBI Technical Bulletin 58-2004.

2.3 METAL FRAMING

.1 Steel studs: to CAN/CSA S136, fabricated from metallic coated steel, depth as indicated.

.1 Minimum steel thickness: gauge 16.

.2 Stud tracks: fabricated from same material and finish as steel studs, depth to suit.

.1 Bottom track: single piece.

.2 Top track: 2 piece telescoping.

.3 Bridging: fabricated from same material and finish as studs, 38 x 12 x 1.22 mm minimum thickness.

.4 Spacers: neoprene, appropriate dimensions.

.5 Angle clips: fabricated from same material and finish as studs, 38 x 38 mm x depth of steel stud, 1.37 mm minimum thickness.

.6 Tension straps and accessories: as recommended by manufacturer.

2.4 SOURCE QUALITY CONTROL

.1 Ensure mill reports covering material properties are reviewed by Consultant.

Part 3 Execution

3.1 GENERAL

.1 Weld in accordance with CSA W59.

.2 Certification of companies: to CSA W47.1 for fusion welding and CSA W55.3 for resistance welding.

.3 Do structural metal stud framing work to ICTAB S5.

3.2 ERECTION

.1 Erect components to requirements of reviewed shop drawings.

.2 Anchor tracks securely to structure at 800 mm on centre maximum, unless lesser spacing prescribed on shop drawings.

.3 Erect studs plumb, aligned and welded in accordance with manufacturer's recommendations securely attached with 2 screws minimum.

.4 Seat studs into bottom track and telescoping top track.

.5 Install 50 mm minimum telescoping track at top of walls where required to accommodate vertical deflection.

.1 Nest top track into deflection channel minimum of 30 mm and maximum of 40 mm.

.2 Do not fasten tracks together.

.3 Stagger joints and install neoprene spacers.

.6 Install studs at not more than 50 mm from abutting walls, openings, and each side of corners and terminations with dissimilar materials.

.7 Brace steel studs with horizontal internal bridging at 1520 mm maximum.

.1 Fasten bridging to steel clips fastened to steel studs with screws or by welding.

.8 Frame openings in stud walls to adequately carry loads by use of additional framing members and bracing as detailed on shop drawings.

.9 All elements subjected to axial loads must be aligned vertically to allow total transfer of loads up to foundations. This vertical alignment must be maintained at floor/elevation intersection.

.10 Full support must be maintained under tracks to ensure transfer of loads of axially stressed assemblies. Any irregularities should be brought to attention of the Engineer.

.11 Joists and rafters, or their stiffeners at extremities, must be mounted directly above studs subjected to axial loads, alternatively a load-sharing element must be provided for load transfer. The use of tracks as load-sharing element is not allowed.

.12 Touch up welds with coat of zinc rich primer.

3.3 ERECTION TOLERANCES

.1 Plumb: not to exceed 1/500th of member length.

.2 Camber: not to exceed 1/1000th of member length.

.3 Spacing: not more than +/- 3 mm from design spacing.

.4 Gap between end of stud and track web: not more than 4 mm.

3.4 CUTOUTS

.1 Maximum size of cutouts for services as follows:

Member Depth	Across Member Depth	Along Member Length	Centre to Centre Spacing (mm)
152	65 max.	115 max.	600 min.

.2 Limit distance centerline of last unreinforced cutout to member end less than 300 mm.

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARD(S)

.1 Submit a report, issued by a certified materials testing laboratory, attesting that the roofing system offered, was tested in accordance with CSA A 123.21-10, Standard Test Method for Dynamic Wind Uplift Resistance of Membrane Roofing Systems. Test results shall demonstrate the roofing system provides a Dynamic Uplift Resistance (DUR) of -1.1 kPa for the field of the roof, -1.5 kPa for the edge of the roof, and -3.3 kPa for the corners of the roof.

.2 Membranes must meet or exceed requirements of CGSB 37.56–M (9th Draft), *Modified bituminous membranes, prefabricated and reinforced for roofing system*].

.3 Membranes must meet or exceed requirements of ASTM D 6162, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.

.4 Membranes must meet or exceed requirements of ASTM D 6164, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.

.5 Polyisocyanurate thermal insulation boards must meet or exceed requirements of CAN/ULC S704-011, Thermal Insulation, Polyurethane and Polyisocyanurate, Boards Faced.

.6 Roofing system must meet CAN/ULC-S107-10, Test for Fire Resistance of Roofing Materials, class C.

1.2 COMPATIBILITY

.1 All waterproofing materials will be provided by same manufacturer.

1.3 TECHNICAL DOCUMENTS

.1 Submit two (2) copies of the most current technical data sheets. These documents must describe the materials' physical properties, and explanations about product installation, including, restrictions, limitations and other manufacturer recommendations.

1.4 CONTRACTOR QUALIFICATION

.1 Roofing contractors and sub-contractors must, when tendering or performing work, possess a roofing contractor operating license.

.2 Roofing contractors and sub-contractors must also be registered with SOPREMA’s PAQ + S program and provide the architect with a SOPREMA certificate to this effect before beginning any roofing work.

1.5 STORAGE AND DELIVERY

.1 All materials will be delivered and stored in their original packaging, in conformance with the requirements described in the SOPREMA Manual.

.2 At all times, materials will be adequately protected and stored in a dry and properly ventilated area, away from any welding flame or spark and sheltered from the elements or any harmful substance.

.3 Store adhesives and emulsion-based waterproofing mastics at a minimum 5 °C (41 °F).

.4 Store adhesives and solvent-based mastics at sufficient temperatures to ensure ease of application.

.5 Materials delivered in rolls will be carefully stored upright; flashing will be stored to avoid creasing, buckling, scratches or any other possible damage.

.6 Avoid material overloads which may affect the structural integrity of specific roof areas.

1.6 FIRE PROTECTION

.1 Prior to the start of work, conduct a site inspection to make sure that all procedures and proposed changes are approved to minimize the risk of fires.

.2 Respect safety measures described by the local association recommendations.

.3 At the end of each workday, use a heat detector gun to spot any smouldering or concealed fire. Job planning must be organized to ensure workers are still on location at least one hour after torch application.

.4 Never apply the torch directly to old and wood surfaces.

.5 Throughout roofing installation, maintain a clean site and have one approved ABC fire extinguisher within 6 m (20 ft) of each roofing torch. Respect all safety measures described in technical data sheets. Torches must never be placed near combustible or flammable products. Torches should never be used where the flame is not visible or cannot be easily controlled.

1.7 WARRANTIES

.1 For work subject to this section, 07 52 16 - SBS Modified Bitumen Membrane Roofing, the warranty period of 12 months is extended to 60 months.

Part 2 Products

2

2.1 VAPOUR BARRIER SUPPORT PANELS

.1 Lightweight Concrete Panel

.1 Description: Non-combustible lightweight concrete panel in in conformance with CAN/ULC-S114-05 « Standard Method of Test for Determination of Non-Combustibility in Building Materials ».

.2 Specified product: Perma Base Dek 3/8 by Unifix

2.2 VAPOUR BARRIER

.1 Modified Bitumen Vapour Barrier

.1 Description: The SBS modified bitumen membrane shall be reinforced with fibreglass mat. The upper surface is sanded, the underface is covered with a thermofusible plastic film.

.2 In conformance with: CAN/CGSB 37.56-M (9th draft).

.3 Specified product(s): ELASTOPHENE SP 2.2mm by SOPREMA.

.2 Vapour barrier continuity strip:

.1 Description: waterproofing membrane with composite reinforcement and SBS modified bitumen. The upper surface is sanded and the underface is self-adhesive.

.2 Specified product: SOPRALENE STICK ADHESIVE by SOPREMA.

2.3 INSULATION

.1 Polyisocyanurate insulation

.1 Description: Closed-cell polyisocyanurate foam insulation board laminated on both sides to a glass fiber reinforced felt facer.

.2 Specified product: SOPRA-ISO by SOPREMA

.2 Tapered Insulation Panel

.1 Description: Tapered insulation panel made of polyisocyanurate designed to create a slope to the roof system. Refer to drawings for slope percentage (%).

.2 Specified product: SOPRA-ISO by SOPREMA

2.4 MEMBRANES

.1 High-Density Polyisocyanurate Board and Base Sheet Membrane

.1 Description: Board composed of SBS modified bitumen membrane with a polyester reinforcement, factory-laminated on a HD polyisocyanurate insulation board. The board measures 0.91 m x 2.44 m (3 ft x 8 ft). The surface is covered with thermofusible plastic film. The membrane side lap is part self-adhesive and part thermofusible.

.2 Thickness: 12.7 mm (1/2 in)

.3 In conformance with: CGSB 37.56-M (9th Draft).

.4 Properties:

		MD	XD
.1	Strain energy (kN/m)	9	7
.2	Breaking strength (kN/m)	17	12.5
.3	Ultimate elongation (%)	60	65

.4	Tear resistance (N)	60	
.5	Static puncture resistance (N)	400	
.6	Dimensional stability (%)	-0.4	0.3
.7	Plastic flow (°C)	≥ 115	
.8	Cold bending at -30 °C	No cracking	
.9	Lap joint strength (kN/m)	Pass > 4 kN/m	

.5 Specified product: SOPRASMART ISO HD 180 by SOPREMA

.2 Base Sheet Membrane for Flashings and Parapets

.1 Description: Membrane composed of SBS modified bitumen and composite heavy duty reinforcement. The surface is covered with a thermofusible plastic film and the underface is covered with a release protection film. The surface shall be marked with three (3) chalk lines to ensure proper roll alignment.

.2 In conformance with: CGSB 37.56-M (9th Draft).

.3	Properties:	MD	XD
.1	Strain energy (kN/m)	7.8	7.2
.2	Breaking strength (kN/m)	15	13.5
.3	Ultimate elongation (%)	60	65
.4	Tear resistance (N)	125	
.5	Static puncture resistance (N)	560	
.6	Cold bending at -30 °C	-30	

.4 Specified product: SOPRALENE FLAM STICK by SOPREMA

.3 Colour Choices for Roofing Cap Sheet Membrane Granules

.1 For field surfaces: grey.

.2 For walkway surfaces: grey.

.4 Roofing Cap Sheet Membrane for Field Surfaces

.1 Description: Roofing membrane composed of SBS modified bitumen with a composite reinforcement and elastomeric bitumen with flame-retarding agent. The surface is protected by coloured granules. The underface is covered with a thermofusible plastic film.

.2 In conformance with: ONGC 37.56-M (9th draft).

.3	Properties:	MD	XD
.1	Strain energy (kN/m)	7.8	7.2
.2	Breaking strength (kN/m)	15	13.5
.3	Ultimate elongation (%)	60	65

.4	Tear resistance (N)	125	
.5	Static puncture resistance (N)	560	
.6	Dimensional stability (%)	0.2	0
.7	Plastic flow (°C)	≥ 110	
.8	Cold bending at -30 °C	No cracking	
.9	Lap joint strength (kN/m)	Pass > 4 kN/m	

.4 Specified Product: SOPRAPLY TRAFFIC CAP 560 by SOPREMA

.5 Roofing Cap Sheet Membrane for Flashings and Parapets

.1 Description: Roofing membrane composed of SBS modified bitumen with a composite reinforcement and elastomeric bitumen with flame-retarding agent. The surface is protected by coloured granules. The underface is covered with a thermofusible plastic film.

.2 In conformance with: ASTM D6162.

.3	Properties:	MD	XD
.1	Strain energy (kN/m)	7.8	7.2
.2	Breaking strength (kN/m)	15	13.5
.3	Ultimate elongation (%)	60	65
.4	Tear resistance (N)	125	
.5	Static puncture resistance (N)	560	
.6	Dimensional stability (%)	0.2	0
.7	Plastic flow (°C)	≥ 110	
.8	Cold bending at -30 °C	No cracking	
.9	Lap joint strength (kN/m)	Pass > 4 kN/m	

.4 Specified Product: SOPRAPLY TRAFFIC CAP 560 by SOPREMA

2.5 ACCESSORY MEMBRANES

.1 Cover Strip

.1 Description: Membrane strip 330 mm (13 in) and 240 mm (9.45 in) made of SBS modified bitumen and composite reinforcement. Both faces are covered with a plastic thermofusible film. The strip ensures water-tightness in the end laps.

.2 In conformance with: ASTM D6162.

.3 Specified product: SOPRALAP by SOPREMA.

2.6 PRIMER

.1 Primer for self-adhesive membranes

.1 Description: Composed of SBS synthetic rubber, volatile solvents, adhesive enhancing resins and volatile solvent. Used as primer to enhance the adhesion of self-adhesive membranes.

.2 Specified product: ELASTOCOL STICK by SOPREMA.

2.7 ADHESIVES

.1 Insulation adhesive

.1 Description: A highly elastomeric, two components foamable adhesive that can be applied at any temperature and sets in minutes.

.2 Specified product: DUOTACK by SOPREMA

2.8 FLAME-STOP MEMBRANE

.1 Description: Self-adhesive membrane composed of a reinforced glass mat and SBS modified bitumen designed to prevent flames from penetrating into empty spaces and openings while installing heat-welded membranes.

.2 Specified products: SOPRAGUARD tape by SOPREMA

2.9 COMPLEMENTARY WATERPROOFING PRODUCTS

.1 Waterproofing mastic

.1 Description: Multi-purpose solvent-based mastic, containing SBS modified bitumen fibres and mineral fillers.

.2 Specified product: SOPRAMASTIC by SOPREMA.

.2 Sealing product

.1 Description: Bitumen/polyurethane waterproofing mono-component resin and polyester reinforcements.

.2 Specified products: ALSAN FLASHING and FLASHING REINFORCEMENT by SOPREMA

2.10 ROOF WALKWAYS

.1 Roof membrane walkways

.1 Description: Waterproofing membrane composed of SBS modified bitumen and non-woven polyester reinforcement, used to protect membranes subjected to excessive foot traffic. The top face is covered with black granules; the underface is protected by a thermofusible plastic film.

.2 In conformance with: CGSB 37.56-M (9^{th} Draft).

.3 Specified product: SOPRAWALK by SOPREMA

Part 3 Execution

3

3.1 SURFACE EXAMINATION AND PREPARATION

.1 Surface examination and preparation must be completed in conformance with manufacturer's instructions and recommendations.

.2 Before roofing work begins, the owner's representative and roofing foreman will inspect and approve deck conditions (including slopes and wood blocking) as well as upstands and parapets, construction joints, roof drains, plumbing vents, ventilation outlets and others. If necessary, a non-conformity notice will be issued to the contractor so that required corrections can be made. The start of roofing work will mean roofing conditions are acceptable for work completion.

.3 Do not begin any work before surfaces are smooth, dry, and free of ice and debris. Use of calcium or salt is forbidden for ice or snow removal.

.4 Be sure plumbing, carpentry and all other work has been duly completed.

.5 No materials will be installed during rain or snowfall.

3.2 METHOD OF INSTALLATION

.1 Roofing work must be completed in a continuous fashion as surfaces are readied and weather conditions permit.

.2 It's preferable to seal all seams that are not covered by a cap sheet membrane in the same day. The cap sheet cannot be installed if any moisture is present at/in the base sheet seams.

.3 Ensure waterproofing conditions for roofs at all times, including protection during installation work by other trades and progressive protection as work is completed (e.g. vents, drains, etc.).

3.3 SITE PROTECTION

.1 Protect finished work to avoid damage during roof installation and material transportation. Install protective boardwalks over installed roofing materials to enable passage of people and products. Assume full responsibility for any damage.

3.4 VAPOUR BARRIER SUPPORT PANELS INSTALLATION ON STEEL DECK

.1 Adhere support panel using specified adhesive applied in continuous strips spaced 305 mm on the field surface, 305 mm on the perimeter, and 305 mm on corners.

.2 Cut boards so edges rest on centre of upper ribs. Cut straight lines with adequate tools.

.3 Where slopes change, boards will be cleanly cut (avoid breaking boards) to acquire deck shape. Place boards perpendicular to deck ribs for continuous support at extremities.

.4 Board joints will be staggered, at half-length, and perfectly butted. Joints will be sealed with heat-resistant tape in both directions to prevent any asphalt leakage in finished areas.

3.5 APPLICATION PRIMER

.1 Roofing substrates of wood, metal, concrete, and masonry or gypsum board surfaces will receive a coat of asphalt primer at a rate of 0,3 à 0,5 L/sq.m (none required for factory-painted metals). All surfaces to be primed must be free of rust, dust or any residue that may hinder adherence. Cover primed surfaces with roofing membrane as soon as possible (same day coverage for self-adhesive membranes).

3.6 INSTALLATION OF SELF-ADHESIVE VAPOUR BARRIER

.1 Primer must be dry prior installation of the vapour barrier membrane.

.2 Beginning at the bottom of the slope, without adhering the membrane, unroll onto the substrate for alignment. Do not immediately remove the silicone release sheet.

.3 Align the roll parallel to the corrugations of the steel deck. Make sure the membrane overlaps are supported along their entire length.

.4 Peel back one end of the silicone release sheet and adhere this part of the membrane to the substrate. Peel back the remaining release sheet at a 45º angle to avoid wrinkles in the membrane.

.5 Overlap adjacent membranes by 75 mm (3 in). Overlap end laps by 150 mm (6 in). Stagger end laps by at least 300 mm (12 in).

.6 When the vapour barrier is installed directly on the steel deck, place a thin sheet of metal under the end lap of the vapour barrier.

3.7 INSTALLATION OF INSULATION

.1 Adhere insulation by using specified adhesive in continuous strips spaced 305mm on the field surface, 305mm on the perimeter, and 305mm on corners.

3.8 INSTALLATION OF BOARDS and FACTORY-LAMINATED BASE SHEET

.1 Adhere base sheet board using adhesive applied in continuous strips spaced 305mm on the field surface, 305mm on the perimeter, and 305mm on corners.

3.9 BASE SHEET FLASHING INSTALLATION (SELF ADHERED)

.1 Apply base sheet flashing only after primer coat is dry.

.2 Before applying membranes, always remove the plastic film on the section to be covered if there is an overlap (inside and outside corners and field surface). For sanded base sheet membranes, apply primer for self-adhered membrane to the area to be covered at the foot of the parapets.

.3 Cut off corners at end laps to be covered by the next roll.

.4 Overlap side laps by along lines provided for this purpose, and overlap end laps by 150 mm (6 in).

.5 Position the pre-cut membrane piece. Peel back 150 mm (6 in) of the silicone release paper to hold the membrane in place at the top of the parapet.

.6 Then, gradually peel back the remaining silicone release film, pressing down on the membrane with an aluminum applicator to ensure good adhesion. Use the aluminum applicator to ensure a perfect transition between the upstand and the field surface. Smooth the entire membrane surface with a roller for full adhesion.

.7 Install a reinforcing gusset in all inside and outside corners.

.8 Always seal overlaps at the end of the workday.

.9 Avoid the formation of wrinkles, voids or fishmouths.

3.10 INSTALLATION OF REINFORCED GUSSETS

.1 Install a reinforcing gusset in all inside and outside corners.

.2 Heat-weld the gussets in place after installing base sheet membrane.

3.11 INSTALLATION OF HEAT-WELDED REINFORCEMENTS

.1 Install reinforcements specified for various roof surfaces according to the following instructions and illustrations of membrane manufacturer.

3.12 ROOFING CAP SHEET INSTALLATION (TORCH-APPLIED MEMBRANE)

.1 Begin with double-selvedge starter roll. If starter roll is not used, side laps covered in granules must be degranulated by embedding side laps in torch-heated bitumen over a 75 mm (3 in) width.

.2 Starting at drain, unroll the cap sheet membrane on the base sheet without adhering, taking care to align the first strip parallel to the edge of the roof.

.3 Cut off corners at end laps to be covered by the next roll.

.4 Overlap side laps by along lines provided for this purpose, and overlap end laps by 150 mm (6 in). Stagger end joints by a minimum of 300 mm (12 in).

.5 Weld finish layer with a propane torch on the underlayment to create a slight overflow of bitumen (3-6 mm) (0.12 in. to 0.25 in).

.6 During installation, be careful not to overheat the membrane.

.7 Avoid the formation of wrinkles, voids or fishmouths.

.8 Conserve membrane's appearance. Avoid walking over finished surfaces; use protective walkways as needed.

3.13 INSTALLATION OF HEAT-WELDED CAP SHEETS ON UPSTANDS AND PARAPETS

.1 This cap sheet must be installed in one-metre-wide strips.

.2 Overlap side laps by along lines provided for this purpose, and overlap end laps by 150 mm (6 in). The side joints must overlap and must be staggered by at least 100 mm (4 in) with respect to the joints of the cap sheet on the field surface, to avoid areas of excessive membrane thickness.

.3 Cut off corners at end laps to be covered by the next roll.

.4 Use a chalk line to draw a straight line on the field surface 150 mm (6 in) from the upstands and parapets.

.5 Use a propane torch and round-nose trowel to embed the surface granules in the layer of hot bitumen starting from the chalk line on the field surface to the bottom edge of the upstand or parapet as well as on the granulated vertical surfaces that are to be overlapped.

.6 This cap sheet will be heat-welded directly to the base sheet membrane, proceeding from bottom to top.

.7 Avoid the formation of wrinkles, voids or fishmouths.

.8 During installation, be careful not to overheat the membrane.

3.14 MEMBRANE WALKWAY INSTALLATION

.1 Install membrane walkways respecting requirements previously stipulated for cap sheet installation. Apply primer to cap sheet before installing walkways.

3.15 WATERPROOFING FOR VARIOUS DETAILS

.1 Install waterproofing membranes in conformance with various roofing details illustrated in the manufacturer’s manual instructions and recommendations.

END OF SECTION

PART 1 GENERAL

1.1 SECTION CONTENT

.1 Supply labor, materials, tools and equipment necessary for implementation of a complete resinous floor covering system as specified in this section, including surface preparation.

1.2 RELATED REQUIREMENTS

.1 Section 03 30 00 – Cast in Place Concrete

.2 Section 03 35 00 – Concrete Finishing

.3 Section 03 35 05 – Concrete Floor Hardening

1.3 ABBREVIATIONS/ ACRONYMS

.1 W.f.t. Wet Film Thickness (e.f.m.)

1.4 REFERENCES

.1 American Society for Testing and Materials (ASTM)

.1 ASTM D638-10: Standard Test Method for plastics elongation properties.

.2 ASTM D695-10: Standard Test Method for rigid plastics compression properties.

.3 ASTM D2240- 05 (2010): Standard Test Method for Rubber Property-Durometer Hardness.

.4 ASTM D2369-10e1: Standard Test Method for Volatile Content of Coatings.

.5 ASTM D4060-10: Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.

.6 ASTM D4541-09e1: Standard Test Method for extraction resistance of coats with portable adherence testing devices.

.7 ASTM F2170-11: Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

.8 ASTM F2659-10: Standard Guide for Preliminary Evaluation of Comparative Moisture Condition of Concrete, Gypsum Cement and Other Floor Slabs and Screeds Using a Non-Destructive Electronic Moisture Meter.

.2 Association canadienne de normalisation (CSA)

.1 CSA A23.1-14/A23.2-14: Concrete Materials and Methods of Concrete Construction / Test Methods and Standard Practices for Concrete.

.3 International Concrete Repair Institute (IRCI)

.1 Directive ICRI N° 310.2R-2013: Performance Specification: Deck Covering Materials, Interior, Cosmetic Polymeric.

.4 United States Department of Defense:

.1 MIL-PRF-24613A (SH) 11-2007 : Performance specifications : Polymer Covering Material.

1.5 ADMINISTRATIVE REQUIREMENTS

.1 Meeting prior to installation :

.1 Organise meeting before installation two weeks prior to beginning of work pertaining to this Section in accordance with Section 01 31 19 – Project Meetings. Request participation from all parties directly involved with work in this section, including Contractor, Engineering Consultant, the manufacturer's technical representative and all other subcontractors, in order to review;

.1 Surface preparation

.2 Primer application

.3 Installation

.4 Curing and protection

.5 Coordination with other work

1.6 SUBMISSIONS

.1 Submit specifications in accordance with section 01 33 00 – Submittal Procedures

.2 Product information: Submit manufacturer's product data sheet, including physical properties, options relative to product appearance including color, surface textures and gloss.

.3 Data sheet: Submit manufacturer's security data sheet for each product used.

.4 Samples for initial section: Submit manufacturer's color panels showing full range of available colors for each type of material for topcoat as per indications in Departmental Representative's initial section.

.5 Samples to check: Submit samples of each implemented color and material, with adequate texture to mimic real conditions, on representative substrate samples and as follows in order to be verified by Departmental Representative.

.1 Use representative colors for sample preparation and for examination purposes, submit again until desired gloss, color and texture are obtained.

.2 List materials and implementation for each layer of each sample; label each sample to identify location and implementation.

.3 Submit samples on following substrates so that their colors and textures are verified by Departmental Representative:

.1 Hard panel: Provide two (2) samples measuring 100 mm² for each color and finish

.4 Obtain written approval from Departmental Representative prior to start work of this section. Accepted samples will be used as final reference for finish approval.

1.7 CLOSURE SUBMISSIONS

.1 Install fence submissions section 01 78 00 – Documents – éléments à remettre à l'achèvement des travaux.

.2 Instructions and data relating to maintenance: Submit manufacturer's written recommendations relating to maintenance for: repair, cleaning and maintenance procedures; ensure that installer's name and details are enclosed.

1.8 QUALITY ASSURANCE

.1 Qualifications relating to the manufacturer:

.1 Manufacturer must be certified ISO 9001. All liquid materials including primers, resins, curing agents, coatings, finish coatings and sealants must be fabricated and tested in accordance with a quality control system to registered ISO 9001

.2 Qualifications relating to the applicator:

.1 Applicators: Call upon professional applicators with broad experience in the implementation of resin based floor covering systems using materials similar and comparable in magnitude to the ones described in this section, and meeting the following requirements:

.1 Applicators will have followed the floor covering manufacturer's training program for specified products.

.2 Applicators must be registered, licenced or approved in writing by the floor covering's manufacturer for specified products.

.2 Applicator's experience: Five years (5) at least in implementation similar to specified system. Applicator must submit list of five (5) projects similar in size, magnitude and complexity.

.3 Model mock-up:

.1 Build one (1) model 10 m² (100 ft²) of each type and color resinous floor covering in an acceptable place according to consulting engineer, to prove quality of finished system, compliance to manufacturer 's installation instructions and to requirements of this section in accordance with 01 45 00 - Quality Control .

.2 Provide consulting engineer with ways to analyze and accept project, obtain written approval before continuing with work.

.3 Once accepted, model will serve as minimum quality standard for rest of work of this section. The model must remain on site for duration of the work.

1.9 DELIVERY, STORAGE AND HANDLING

.1 Delivery:

.1 Deliver materials onsite in original boxes and packaging, undamaged, labelled with product name and manufacturer, batch number and manufacture date.

.2 When received, inspect products onsite to ensure they were not damaged during transport. Do not start work before delivered materials inspection.

.2 Storage:

.1 Store materials in accordance with manufacturer's written recommendations.

.2 Keep boxes and containers shut until use. Materials must be stored in dry place, protected from the elements.

.3 Do not expose materials to excessive heat or frost.

.4 Conservation: in accordance with manufacturer's written recommendations for each material used.

.3 Handling:

.1 Protect materials during handling and installation to avoid any damage or contamination.

.2 Prepare materials to use in accordance with manufacturer's written recommendations before installation.

.3 Take down batch numbers quantities of materials delivered onsite or stored.

1.10 SITE CONDITIONS

.1 Do not perform work outside temperature ranges and prescribed environmental conditions without having received agreement in writing from manufacturer:

.1 Material temperature: Precondition material for at least 24 hours between 18 & 30 °C (65 et 86 °F).

.2 Substrate and ambient temperature : Minimum/Maximum = 10/30 ˚C (50/86 ˚F).

.3 Substrate temperature must be at least 3 ˚C (5 °F) above measured dew point.

.4 Any mixing operation and implementation performed when ambient or substrate temperatures are below 18 ˚C (65 ˚F) will reduce product workability and slow down curing rate.

.5 Relative ambient humidity: maximum 85 % (during implementation and curing).

.6 Measure and confirm results of acceptable trials for relative ambient humidity, substrate and ambient temperature and dew point.

.2 Substrate Humidity

.1 Concrete substrate humidity content must be ≤ 4 % per weight, as measured with moisture meter calibrated for concrete type Tramex® CME/CMExpert.

.2 Furthermore, it is possible to perform internal relative humidity trials in accordance with ASTM F2170 and values must be ≤ 85 %.

.3 If concrete substrate humidity content is above 4 % per weight and/or if the results of the relative humidity trials exceed 85 % H.R., Departmental Representative may suggest adding humidity reduction systems or humidity tolerant primers.

.3 Provide temporary public services, particularly electricity, water, a temporary ventilation system, and lighting used by the applicator.

.4 Maintain higher ambient temperature during 48 hours prior to and following installation or complete curing. Minimum temperature 10 °C (50 °F) and maximum temperature 30 °C (85 °F). Do not apply product when temperatures are increasing (ambient and substrate).

.5 Install signalling and protection devices at site entrances to stop traffic and of other trades intervention in work area during application and curing of floor covering.

.6 Ensure that ventilation and air circulation are sufficient in work area.

1.11 WARRANTY

.1 Submit details of warranty in accordance with Section 01 78 00 – Closeout Submittals.

.2 Submit written warranty of applicator signed and issued in name of owner to ensure work of this section against defective workmanship and materials for a period of one (1) year from date of substantial work completion.

1.12 WASTE MANAGEMENT AND DISPOSAL

.1 Sort and recycle waste in accordance with 01 74 21 – Construction/demolition waste management and disposal.

.2 Develop a waste reduction plan for work subject to this section, in accordance with 01 74 21 - Construction/demolition waste management and disposal.

.3 Retrieve and sort all the packaging materials in paper, plastic, polystyrene, corrugated cardboard and place them in appropriate bins installed on site for recycling, in accordance with the waste reduction plan.

.4 Packaging waste management: retrieve packaging waste for the purpose of recycle/ reuse and recovery of pallets, crates, padding, and other materials of packaging by their manufacturer, in accordance with waste reduction plan guidelines and with section 01 74 21 - Construction/demolition waste management and disposal.

PART 2 PRODUCTS

2.1 MANUFACTURER

.1 Manufacturer (design basis). Sika Canada Inc. 601 Delmar Avenue - Pointe Claire (QC) H9R 4A9 Tel. : (514) 697-2610 / Fax. : (514) 697-3087 - Website: http://www.sika.ca

.2 Substitutions: Consulting Engineer may consider other manufacturers with similar products to the manufacturer listed above during construction period, provided they meet requirements in terms of performance and aesthetics as per above-named products. Organize bids for substitutions in accordance with Division 1 before starting work of this section.

2.2 MATERIALS

.1 Resin based floor coating: two component epoxy finish, plain colour, glossy, high solid content, free of silicone, low viscosity, self-priming, and characteristics as follows:

.1 Application Thickness :

.1 Primer : 203 µm (8 mils) (e.f.m.)

.2 Body coat: 381 µm (15 mils) (e.f.m.)

.2 Flexural Rigidity: 45 MPa (6572 lb/po²), in accordance with ASTM D638

.3 Extraction resistance: 2, 7 MPa (392 lb/po²), in accordance with ASTM D4541

.4 Hardness: 85 Shore D, in accordance with ASTM D2240

.5 VOC Content: ≤ 5 g/L, in accordance with ASTM D2369

.6 Abrasion Resistance: 120 mg loss, in accordance with ASTM D4060 (CS17/1000 cycles/1000 g)

.7 Product (design basis): Sika Canada Inc., Sikafloor® Fastflor CR®.

2.3 COLORS

.1 Colors to be choose by the architect from the standard range of colors offered by the manufacturer, except where otherwise specified.

.2 Color RAL 1011 Brown beige : in room 501, 502, 502A, 503, 504, 505, 506, 507, 508, 510, 511, 512 and 513.

2.4 COMPONENTS

.1 Self-levelling primer coat: two component epoxy finish, gloss, solid color, high solid content, low odor, low VOC content, following characteristics:

.1 Thickness:
  .1 Primer coat: 203 µm (8 mils) (e.f.m.)
  .2 Self-levelling layer: 2 032 µm (80 mils (e.f.m.)
.2 Compression Resistance: 56 MPa (8122 lb/po²), to ASTM D695
.3 Tensile strength: 7, 4 MPa (1073 lb/po²), to ASTM D638
.4 Pull out Resistance : > 2 MPa (290 lb/po²), to ASTM D4541
.5 Hardness: 76 Shore D, to ASTM D2240
.6 VOC Content: ≤ 50 g/L, to ASTM D2369
.7 Impact Resistance: 5,88 joules, to ASTM D2794
.8 Abrasion Resistance: 0,11 g loss to ASTM D4060 (CS17/1000 cycles/1000 g)
.9 Product: Sika Canada inc., Sikafloor® 261CA

.2 Load aggregates for resin: silica sand n° 70
  .1 Product (design base): Bell & MacKenzie Co. Ltd

.3 Chemical-resistant finishing coat: smooth and transparent top coat, two-component, aliphatic urethane-based, resistant to UV and non-yellowing, with following characteristics:
  .1 VOC: ≤ 240 g/L, to ASTM D2369
  .2 Abrasion resistance: 0,082 g loss, to D4060 (CS17/1000 cycles/1000 g)
  .3 Pull out resistance: > 5, 8 MPa (> 840 lb/po²), to ASTM D4541
  .4 Classification relating to spread of fires: 5, to CAN/ULC S102
  .5 Classification of smoke produced: 94, to CAN/ULC S102
  .6 Product (design base): Sika Canada inc., Sikafloor® Duochem 942

.4 Epoxy mortar for cove skirtings: three component epoxy mortar, low odor, solid color and low VOC Primer for installation of cove skirtings and vertical finishes.
  .1 Compression resistance : 41 MPa (5946 lb/po²) to 28 days, to ASTM D695
  .2 Tensile strength : 36 MPa (5221 lb/po²) to 28 days, to D638
  .3 Hardness : 83 Shore D, to ASTM D2240
  .4 VOC Content : ≤ 5 g/L, to ASTM D2369
  .5 Pull out resistance : > 1,7 MPa (246 lb/po²) with concrete break at 100 %, to ASTM D4541
  .6 Product (design base) : Sika Canada inc., Sikafloor® Morritex® Epoxy

2.5 ACCESSORIES

.1 Provide all cleaning products, cleaning cloths, sanding materials and products for final cleaning required in accordance with manufacturer's recommendations.

PART 3 EXECUTION

3.1 INSPECTION

.1 Inspect surfaces where floor covering system will be installed. Submit notice in writing to Departmental Representative and contractor if surfaces are not acceptable. Surface preparation or implementation should not be started if unacceptable conditions have not

been corrected. Do not install floor covering system over substrate treatments for mold, repairs or upgrading which are not made by same manufacturer.

.2 Surface must be clean, solid and dry.

.3 Preliminary testing :

.1 Substrate humidity :

.1 Measure and confirm acceptable result trials for substrate humidity content, relative ambient humidity, substrate, ambient and dew point temperatures.

.2 Confirm and note above results at least once every three (3) hours during implementation or more frequently when conditions change (ex.: ambient temperature increase or reduction, relative humidity increase or reduction, etc.).

.2 Substrate compression resistance must be at least 25 MPa (3625 lb/po²) at 28 days and tensile strength minimum of 1,5 MPa (218 lb/po²) during implementation.

.4 Ensure that concrete substrate is in accordance with minimal requirements specified by floor covering's manufacturer.

.5 Do not install floor covering system over soil/cement setting beds. Scrape soil/cement setting beds down to structural concrete substrate. Level or restore tilt in order to obtain slope/drainage in accordance with manufacturer's minimal requirements.

.6 Do not install floor covering system over asphalt (or bitumen) membranes, soft wood, aluminum, copper or ester and vinyl/ polyester composites reinforced with glass fibre.

.7 Install over bricks or varnished/ glazed tiles, structural frames, and steel only with manufacturer's written recommendation for appropriate methods to prepare surfaces.

3.2 SURFACE PREPARATION

.1 Prepare surface over which floor covering systems will be installed in accordance with manufacturer's written recommendations.

.2 Remove all traces of dirt, oil, grease, wax, milt, curing agents, aqueous concrete curing agents or any other surface contaminants.

.3 Remove all traces of sealant, finish and painting.

.4 All rough patches, rough areas, etc. must be treated to obtain a level surface before implementation.

.5 Remove any concrete parts in disrepair (deteriorated) thanks to appropriate mechanical methods.

.6 Concrete: Clean and prepare with sandblasting or any other equivalent mechanical means so as to obtain a textured surface, free of milt or any other contaminants. Provide CSP level in accordance with guideline ICRI N° 310-2R and manufacturer's written recommendations.

.7 Surface chemical preparation: bush hammering with acid is prohibited and will invalidate the manufacturer's warranty.

.8 Control joints and cracks: repair and treat control joints and surface cracks with standard products from the manufacturer's range in accordance with their use.

3.3 APPLICATION

.1 Mix and apply material in accordance with manufacturer's written guidelines and procedures. Respect manufacturer's recommended covering rates unless a thicker covering is specified in this section.

.2 Follow manufacturer's written recommendations relative to extremities and junctions to walls, drains, doorsteps, pillars, and floor to floor transitions.

.3 Do not apply when temperatures increase (ambient and substrate).

.4 Apply resin based floor covering carefully to avoid any overlapping, voids, marks or irregularities that could remain visible when the work is completed. Apply so as to obtain an even result when it comes to colour, gloss and texture, within limits imposed by materials and work area.

.5 Match colors and textures to samples accepted by Engineering Consultant.

.6 Build cove skirting height 100 mm (4 po), radius 25 mm (1 po) in accordance with manufacturers written guidelines. Minimum thickness should be 3 mm (1/8 po).

.7 Install L shaped rods, white alloy, or zinc based, specified heights, straight and levelled.

3.4 CLEANING

.1 Discard all waste issued from resin based floor covering implementation in accordance with environmental laws applicable in the area where work site is located and in accordance with requirements of authorities having jurisdiction.

.2 Dispose of containers at waste disposal units licensed for their recycling or disposal accordingly.

3.5 PROTECTION

.1 Protect finished floor so that other trades do not damage it.

.2 Protect other recently implemented products from humidity, condensation and any contact with water for at least 72 hours.

.3 Verify air circulation and its variations. Protect work area against dust contamination, rubble, particles and other that may produce imperfections and deficiencies in finished surface.

.4 Respect manufacturer's written recommendations relative to curing, wait times and reactivation.

END OF SECTION

PART 1 GENERAL

1.1 SUMMARY

.1 Requirements described in this section relate to, but are not limited to, the provision and installation of seamless flooring, the preparation and leveling of surfaces, as well as all related accessories.

1.2 RELATED REQUIREMENTS

.1 Division 1 – General Requirements

.2 Section 03 30 00 – Cast in Place Concrete;

.3 Section 07 92 00 – Joint Sealants

.4 Section 09 21 16 – Gypsum Board Assemblies

.5 Plumbing

.6 Electricity

.7 Structural Drawings

1.3 REFERENCE STANDARDS

.1 Any reference is made to standards of specifications produced by various organizations based on indicated edition, if no edition is specified, the last edition reviewed on the date of the contract is the one taken into account.

.2 American Society for Testing and Materials (ASTM)

.1 ASTM C884/C884M-98(2010), Standard Test Method for Thermal Compatibility Between Concrete and an Epoxy-Resin Overlay.

.2 ASTM D570-98 (2010) Standard Test Method for Water Absorption of Plastics.

.3 ASTM D635-10, Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.

.4 ASTM D638-10, Standard Test Method for Tensile Properties of Plastics.

.5 ASTM D695-10 Standard Test Method for Compressive Properties of Rigid Plastics.

.6 ASTM D2240- 05 (2010), Standard Test Method for Rubber Property-Durometer Hardness.

.7 ASTM D2369-10e1, Standard Test Method for Volatile Content of Coatings.

.8 ASTM D2794-93 (2010) Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).

.9 ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.

.10 ASTM D4060-10, Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.

.11 ASTM D4541-09e1, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.

.12 ASTM F2170-11 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

.13 ASTM F2659-10, Standard Guide for Preliminary Evaluation of Comparative Moisture Condition of Concrete, Gypsum Cement and Other Floor Slabs and Screeds Using a Non-Destructive Electronic Moisture Meter.

.14 ASTM G21-13, Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.

.3 Canadian Standards Association (CSA)

.1 CSA A23.1-14/A23.2-14 Concrete Materials and Methods of Concrete Construction / Test Methods and Standard Practices for Concrete.

.4 International Concrete Repair Institute (IRCI)

.1 ICRI Guideline No. 310.2R-2013, Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings and Polymer Overlays.

.5 Underwriters Laboratories of Canada (CAN/ULC)

.1 CAN/ULC S102-10, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

.6 United States Department of Defense

.1 MIL-PRF-24613A-11-2007, Deck Covering Materials, Interior, Cosmetic Polymeric.

1.4 ADMINISTRATIVE REQUIREMENTS

.1 Pre-application Meeting:

.1 Convene a pre-application meeting two (2) weeks before commencing the Work of this Section in accordance with Section 01 31 19 – Project Meetings. Require attendance of parties directly affecting Work of this Section, including Owner, Contractor, Consultant, Applicator, Manufacturer's technical representative and other Subcontractors affected by the Work of this Section to review the following:

.1 Surface preparation.
.2 Priming.

.2 Application
.1 Curing and protection.
.2 Coordination with other Work.

1.5 SUBMITTALS

.1 Make Submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data: Submit manufacturer's Product data, including physical properties and appearance options including: standard colours, variable surface textures and surface sheen.

.3 MSDS: Submit Manufacturer's Safety Data Sheet for each Product being used.

.4 Samples for Initial Selection: Submit manufacturer's colour charts showing the full range of colours available for each type of finish coat material indicated for Consultant's initial selection.

.5 Samples for Verification: Submit samples of each colour and material being applied, with texture to simulate actual conditions, on representative samples of the actual substrate and as follows for Consultant's verification:

.1 Use representative colours when preparing samples for review; resubmit until required sheen, colour, and texture are achieved.
.2 List of material and application for each coat of each sample; label each sample for location and application.
.3 Submit samples on the following substrates for Consultant's review of colour and texture:
.1 Hardboard: Provide two (2) 100 mm square samples for each colour and finish.
.4 Obtain written acceptance of Samples in writing from the Consultant before commencing Work of this Section. Accepted Samples shall be the final standard of acceptance of the finish.

1.6 CLOSEOUT SUBMITTALS

.1 Make Closeout Submittals in accordance with Section 01 78 00 – Closeout Submittals.

.2 Operations and Maintenance Data: Submit manufacturer's printed maintenance instructions for repair, cleaning and maintenance procedures; include name of original installer and contact information.

1.7 QUALITY ASSURANCE

.1 Manufacturer Qualifications:

.1 Manufacturer shall be certified under ISO 9001. All liquid materials, including primers, resins, curing agents, finish coats, and sealants are manufactured and tested under an ISO 9001 registered quality system.
.2 Applicator Qualifications:

.1 Applicators: Use experienced applicators having a record of successful in-service resinous flooring system applications similar in material and extent to those specified in this Section and as follows:
.1 Applicators must have completed flooring manufacturer's training program for Products specified.
.2 Applicators must be licensed, certified or approved in writing by the flooring manufacturer for the Products specified.

.2 Applicator Experience: Minimum 5 years' experience in the application of the type of system specified. Applicator shall submit a list of five (5) projects of similar size, scope and complexity.

.3 Mock-Up:

.1 Construct one 10 sq.m. (100 sq.ft.) mock-up of each type and colour of resinous flooring in location acceptable to Consultant to demonstrate quality of finished system, complying with manufacturer's installation instructions and requirements of this Section in accordance with Section 01 45 00 – Quality Control.

.2 Arrange for Consultant's review and acceptance, obtain written acceptance before proceeding with Work.

.3 Upon acceptance, mock-up shall serve as a minimum standard of quality for the balance of the Work of this Section. Mock-up shall be left in place for the duration of the Work.

1.8 DELIVERY, STORAGE AND HANDLING

.1 Delivery:

.1 Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name, manufacturer, batch or lot number and date of manufacture.

.2 Material should be delivered to job site and checked for completeness and shipping damage prior to job start.

.2 Storage:

.1 Store materials in accordance with manufacturer's written instructions.

.2 Keep containers sealed until ready for use. Material should be stored in a dry, enclosed, protected area from the elements.

.3 Do not subject material to excessive heat or freezing.

.4 Shelf life: Established based on manufacturer's written recommendation for each material being used.

.3 Handling:

.1 Protect materials during handling and application to prevent damage or contamination.

.2 Condition materials for use accordingly to manufacturer's written instructions prior to application.

.3 Record material lot numbers and quantities delivered to jobsite/storage.

1.9 SITE CONDITIONS

.1 Do not install the Work of this Section outside of the following environmental ranges without Manufacturers' written acceptance:

.1 Material Temperature: Precondition material for at least 24 hours between 18°C and 30°C (65°F and 86°F).

.2 Ambient and Substrate Temperature: Minimum/Maximum 10˚/30˚C (50˚/86˚F).

.3 Substrate temperature must be at least 3˚C (5˚F) above measured Dew Point.

.4 Mixing and Application attempted at Material, Ambient and/or Substrate Temperature conditions less than 18˚C (65˚F) will result in a decrease in Product workability and slower cure rates.

.5 Relative Ambient Humidity: maximum ambient humidity 85% (during application and curing).

.6 Measure and confirm acceptable test results for Ambient Relative Humidity, Ambient and Surface Temperature and Dew Point.

.2 Substrate Moisture:

.1 Moisture content of concrete substrate must be ≤ 4% by mass as measured with a Tramex® CME/CMExpert type concrete moisture meter.

.2 Additionally, internal concrete relative humidity tests may be conducted as per ASTM F2170 and values must be ≤ 85%.

.3 If moisture content of concrete substrate is higher than 4% by mass and / or if relative humidity test results exceed readings of 85% RH, Consultant will instruct on addition of moisture mitigation systems or moisture tolerant primers.

.3 Supply temporary utilities, including power, water, temporary ventilation and lighting for use by applicator.

.4 Maintain constant ambient room temperature for 48 hours before, during and after installation or until cured. Minimum temperature of 10°C (50°F) and maximum temperature of 30°C (85°F). Do not apply Product while ambient and substrate temperatures are rising.

.5 Erect suitable barriers and post legible signs at points of entry to prevent traffic and trades from entering the work area during application and curing period of the floor.

.6 Ensure adequate ventilation and air flow.

1.10 WARRANTY

.1 Submit Warranty information in accordance with Section 01 77 00 – Closeout Procedures.

.2 Submit Applicator's written warranty, signed and issued in the name of Owner warranting the Work of this Section against defects in materials and workmanship for a period of one (1) year from the date of Substantial Performance of the Work.

1.11 WASTE MANAGEMENT AND DISPOSAL

.1 Sort and recycle waste in accordance with 01 74 21 – Construction/demolition waste management and disposal.

.2 Develop a waste reduction plan for work subject to this section, in accordance with 01 74 21 - Construction/demolition waste management and disposal.

.3 Retrieve and sort all the packaging materials in paper, plastic, polystyrene, corrugated cardboard and place them in appropriate bins installed on site for recycling, in accordance with the waste reduction plan.

.4 Packaging waste management: retrieve packaging waste for the purpose of recycle/ reuse and recovery of pallets, crates, padding, and other materials of packaging by their manufacturer, in accordance with waste reduction plan guidelines and with section 01 74 21 - Construction/demolition waste management and disposal.

PART 2 PRODUCTS

Part 2

2.1 MANUFACTURER

.1 Basis-of-Design Manufacturer: Sika Canada Inc. 601 Delmar Avenue, Pointe-Claire, Quebec, H9R 4A9 Phone (514) 697-2610, Fax (514) 697-3087 http://www.sika.ca.

.2 Substitutions: Consultant may consider additional manufacturers having similar Products to Basis-of-Design Manufacturer listed above during the construction period, provided they meet the performance and aesthetic requirements established by the named Products. Submit requests for substitution in accordance with Section 01 25 00 – Substitution Procedures before starting any Work of this Section:

2.2 MATERIALS

1. Resinous Flooring System: two component, solid colour, high solids, silicone free, low viscosity, self-priming, smooth, glossy epoxy finish and as follows:

.1 Applied Thickness:
- .1 Prime Coat: 127 µm (5 mils) w.f.t.
- .2 Body Coat: (20 mils) w.f.t.

.2 Compressive Strength: 56 MPa (8,122 psi) in accordance with ASTM D695.
.3 Tensile Strength: 7.4 MPa (1,073 psi) in accordance with ASTM D638.
.4 Pull-off Strength: >2 MPa (290 psi) in accordance with ASTM D4541.
.5 Hardness: 76 Shore D in accordance with ASTM D2240.
.6 VOC Content: ≤ 50 g/L in accordance with ASTM D2369.
.7 Impact Resistance: 5.88 joules in accordance with ASTM D2794.
.8 Abrasion Resistance: 0.11g loss in accordance with ASTM D4060 (CS17/1000cycles/1000g).
.9 Basis-of-Design Product: Sika Canada Inc., Sikafloor® 261.

.2 Chemical-Resistant Top Coat: two-component, clear, ultra violet light-resistant, non-yellowing, smooth aliphatic urethane top coat:

.1 VOC Content: ≤ 240 g/L in accordance with ASTM D2369.
.2 Abrasion Resistance: 0.082g loss in accordance with ASTM D4060 (CS17/1000cycles/1000g).
.3 Pull-off Strength: >5.8 MPa (>840 psi) in accordance with ASTM D4541.
.4 Flame Spread Rating: 5 in accordance with CAN/ULC S102.
.5 Smoke Developed Rating: 94 in accordance with CAN/ULC S102.
.6 Basis-of-Design Product: Sika Canada Inc., Sikafloor® Duochem 942.

.3 Epoxy Cove Mortar: three-component, solid colour, low odour, low VOC, vertical grade coving and detailing mortar with primer.

.1 Compressive Strength: 41 MPa (5,946 psi) at 28 days in accordance with ASTM D695.
.2 Tensile Strength: 36 MPa (5,221 psi) at 28 days in accordance with ASTM D638.
.3 Hardness: 83 Shore D in accordance with ASTM D2240.
.4 VOC Content: ≤ 5 g/L in accordance with ASTM D2369.

.5 Pull-off Strength: > 1.7 MPa (246 psi) with 100% substrate failure in accordance with ASTM D4541.

.6 Basis-of-Design Product: Sika Canada Inc., Sikafloor® Morritex Epoxy Cove Mortar.

2.3 COLORS

.1 Colors will be choice of Architect among range of standard colors supplied by manufactrurer.

2.4 ACCESSORIES

.1 Provide all cleaning agents, cleaning cloths, sanding materials, and clean-up materials required per manufacturer's specifications.

PART 3 EXECUTION

Part 3

3.1 EXAMINATION

.1 Examine surfaces to receive flooring system. Submit Notice in Writing to Consultant, Contractor, and Owner if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected. Do not apply flooring system to substrate treatments for moisture, repair, or levelling not of the same manufacturer.

.2 Surface must be clean, sound and dry.

.3 Pre-Installation Testing:

.1 Substrate moisture:

.1 Measure and confirm acceptable conditions for Substrate Moisture Content, Ambient Relative Humidity, Ambient and Surface Temperature and Dew Point.

.2 Confirm and record above values at least once every 3 hours during installation or more frequently whenever conditions change (e.g. Ambient Temperature rise/fall, Relative Humidity increase/decrease, etc.).

.2 Concrete substrate to have a minimum compressive strength of 25 MPa (3,625 psi) at 28 days and a minimum of 1.5 MPa (218 psi) in tension at time of application.

.4 Ensure concrete substrate conforms to the minimum requirements of the flooring manufacturer.

.5 Do not apply flooring system to sand-cement setting beds. Remove sand-cement beds to structural concrete substrate. Re-level/slope as required to achieve grade and/or drainage in accordance with manufacturer's minimum requirements.

.6 Do not apply flooring system to asphaltic or bitumen membranes, soft wood, aluminum, copper or fiberglass reinforced polyester/vinyl ester composites.

.7 Apply to glazed or vitrified brick and tile, structural wood, and steel only with manufacturer's written recommendation for proper surface preparation.

3.2 SURFACE PREPARATION

.1 Prepare surface to receive flooring systems in accordance with manufacturer's written instructions.

.2 Remove dirt, oil, grease, wax, laitance, curing compounds, water-soluble concrete hardeners, and other surface contaminants.

.3 Remove sealers, finishes, and paints.

.4 All projections, rough spots, etc. should be removed and patched to achieve a level surface prior to the application.

.5 Remove unsound concrete by appropriate mechanical means.

.6 Concrete: Clean and prepare to achieve laitance-free and contaminant-free, open textured surface by shot blasting or equivalent mechanical means. Provide CSP level in accordance with ICRI Guideline No. 310-2R and manufacturer's written recommendation.

.7 Chemical Surface Preparation: Chemical surface preparation (acid etching) is unacceptable and will void manufacturer's warranty.

.8 Control Joints and Cracks: Repair and treat control joints and surface cracks utilizing manufacturer's standard materials and installation details.

3.3 APPLICATION

.1 Mix and apply material in accordance with manufacturer's written installation instructions and procedures. Apply to manufacturer's recommended coverage rates unless thicker coverage is specified in this Section.

.2 Follow manufacturer's written recommendations on terminations and connections to walls, drains, doorways, columns and floor-to-floor transitions.

.3 Do not apply while ambient and substrate temperatures are rising.

.4 Apply resinous flooring with care to ensure that no laps, voids, or other marks or irregularities are visible. Apply to achieve appearance of uniform colour, sheen and texture; all within limitations of materials and areas concerned.

.5 Match colours and textures of Consultant accepted samples.

.6 Install cove base 100 mm (4") high with 25 mm (1") radius in accordance with manufacturer's written instructions. Install cove base with a minimum 3 mm (1/8") thickness.

.7 Install L type white alloy or zinc base bead top strips at specified heights straight and level.

3.4 CLEAN UP

.1 Dispose of all waste from resinous flooring system installation in accordance with environmental legislation applicable to the Place of the Work and requirements of all authorities having jurisdiction.

.2 Dispose of empty containers at an approved waste handling facility for recycling or disposal.

3.5 PROTECTION

.1 Protect finished floor from damage by subsequent trades.

.2 Protect freshly applied Products from dampness, condensation and water for at least seventy-two (72) hours.

.3 Monitor air flow and changes in air flow. Protect against introduction of dust, debris, and particles, etc. that may result in surface imperfections and other defects.

.4 Follow manufacturer's written recommendations with respect to cure, wait time and return to service.

END OF SECTION

PART 1 GENERAL

1.1 SECTION CONTENT

.1 Requirements described in this section relate to, but are not limited to, the provision and Installation of seamless wall covering, the preparation and leveling of surfaces, as well as all related accessories.

1.2 RELATED REQUIREMENTS

.1 Division – General Requirements

.2 Section 03 30 00 – Cast in Place Concrete

.3 Section 07 92 00 – Joint Sealants

.4 Section 09 21 16 – Gypsum Board Assemblies

.5 Plumbing

.6 Electricity

.7 Structural Drawings

1.3 REFERENCES

.1 Any reference is made to standards of specifications produced by various organizations based on indicated edition, if no edition is specified, the last edition reviewed on the date of the contract is the one taken into account.

.2 American Concrete Institute (ACI)

.1 ACI 503R 93 (R1998), Use of Epoxy Compounds with Concrete.

.3 American Society for Testing and Materials International (ASTM)

.1 ASTM D635-06, Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.

.2 ASTM D2047-04, Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine

.3 ASTM D2240-05, Standard Test Method for Rubber Property-Durometer Hardness.

.4 ASTM D4060-07, Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser

.4 Health Canada / Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

1.4 SUBMISSIONS

.1 Submit specifications in accordance with Division 1 – General Requirements.

.2 Data sheet:

.1 Submit required data sheets, as well as specifications and manufacturer's documentation. Data sheets must indicate product characteristics, performance criteria, dimensions, limitations and finishing.

.2 Submit MSDS required under the terms of information system on dangerous substances used at work (WHMIS), in accordance with Division 1 - General requirements.

.3 Submit samples required in accordance with Division 1 - General requirements.

.1 Submit duplicate (2) samples 300 mm x 300 mm for each type, of each indicated color and finish.

.4 Submit manufacturer's instructions in accordance with requirements of Division 1 - General requirements.

1.5 QUALITY ASSURANCE

.1 Sole responsibility: obtain primary materials, including primers, resins, curing agents, finish or protection layers from the same manufacturer. The manufacturer must have at least ten years of proven experience in manufacturing and installation of the main materials as per described in this section. The Contractor must have completed at least five major similar projects, of a similar complexity. Only provide secondary type and source materials recommended by the manufacturer of the primary materials.

1.6 DELIVERY, STORAGE AND HANDLING

.1 Transport, store and handle materials and equipment in accordance with Division 1 - General requirements.

.2 Deliver materials and equipment to work site just before the time of their implementation.

.3 Storage: store materials and equipment inside, dry, away from heavy traffic zones.

.4 Deliver and store materials and equipment in order to protect them from damage.

.5 Keep materials and equipment in their original packaging until the time of their implementation.

.6 Deliver materials to the construction site. Before the beginning of work, the flooring contractor will verify that all materials have been delivered to the construction site and that they have not been damaged in transport.

.7 All components will be measured and packed at the factory, in terms of mixing units easy to handle, so as to eliminate any risk of error in dosage during the mixing process of the products on site. It will not be allowed in any case to perform dosage of the components onsite by weight or volume.

.8 Store materials in a closed, dry room, away from moisture. Temperature of the warehouse will be maintained between 16°C and 32°C (between 60 °F and 90 °F).

1.7 SITE CONDITIONS

.1 Temperature: Contractor will provide services, including electricity, water, heating (room temperature between 16 °C and 32 °C / 60 °F and 90 °F) and will ensure that permanent lighting is implemented. Seven days before start of work until 48 hours after their completion, ambient air temperature must not fall below 18 °C (65 °F) and temperature support must not fall below 16 °C (60 °F). During this same period, relative humidity must not exceed 40%.

.2 Humidity: ensure that humidity of the surface to be covered is within limits prescribed by the coating manufacturer.

.3 Security: comply with requirements of the information system on dangerous substances used at work when it comes to usage, handling, storage and disposal of hazardous materials (WHMIS).

.1 People who handle epoxy resins must wear respiratory protection.

.4 Ventilation

.1 Ensure continuous ventilation during and after implementation. Operate 24 hours a day during implementation. Also, make sure it is operated for seven (7) days after completion of the work.

.5 No access to other trades to location where coating will be implemented during implementation as well as during following 24 hours.

.6 Ensure that ventilation and air circulation are sufficient in work area.

1.8 PRODUCT COMPATIBILITY

.1 Submit a written attestation certifying that products used for treatment are compatible and will not affect the properties of concrete, joint sealants, as well as other materials with which they are in contact.

1.9 WASTE MANAGEMENT AND DISPOSAL

.1 Sort and recycle waste in accordance with 01 74 21 – Construction/demolition waste management and disposal.

.2 Develop a waste reduction plan for work subject to this section, in accordance with 01 74 21 - Construction/demolition waste management and disposal.

.3 Retrieve and sort all the packaging materials in paper, plastic, polystyrene, corrugated cardboard and place them in appropriate bins installed on site for recycling, in accordance with the waste reduction plan.

.4 Packaging waste management: retrieve packaging waste for the purpose of recycle/ reuse and recovery of pallets, crates, padding, and other materials of packaging by their manufacturer, in accordance with waste reduction plan guidelines and with section 01 74 21 - Construction/demolition waste management and disposal.

1.10 WORK SPECIMEN

.1 For approval and for each system, install under supervision of the manufacturer on an area of 9 square metres (100 square feet) of the surface to be covered. Finish installation on designated surface in accordance with supplied samples. Once approved, work sample will constitute standard reference with respect to appearance, color, texture, execution mode, etc., and all work will have to conform to the sample.

PART 2 PRODUCTS

2.1 SYSTEM

.1 Acceptable products:

.1 Water-based epoxy coating and wall covering, resistant to ultraviolet rays, high-solid content, low odor, available in 3 nuances (matte, satin and gloss) for wall applications by Sika or equivalent approved by Architect.

.1 Primer coat according to surface:

.1 Masonry/concrete: Sikagard® Duroplast VA or Sikagard® Duroplast EE

.2 Gypsum boards: Sikagard® Duroplast PS

.3 Standard steel: Sikagard® Cor-Pro 470.

.2 Top coat: water based epoxy coating, resistant to ultraviolet rays, high-solid content, low odor with brush or roller for a smooth finish. Acceptable: «Sikagard Duroplast 150»

.1 Matt finish for ceilings

.2 Gloss finish for walls

2.2 FILLING MORTAR

.1 Filling mortar, 100% solids, for repair of deep holes and ruts caused by erosion of coverings, and to create vertical slopes before implementation of coverings: type recommended by manufacturer.

.2 Primer: type recommended by manufacturer.

2.3 COLORS

.1 Colors to be selected by the Architect from standard range of colors offered by the manufacturer unless otherwise indicated.

.2 Color RAL 9001 Cream in rooms 501, 502A, 502B, 503, 504, 505, 506, 507, 508, 510, 511, 512 and 513.

2.4 ACCESSORIES

.1 Seals : "L" shaped according to thickness of substrate.

.2 Border elements and base seals, separation strips: manufactured on order, same material and finish as seals.

.3 Joint Sealants:

.1 Epoxy caulking, elastomeric or urethane, according to recommendations of wallcovering manufacturer.

.2 Silicone based mold-resistant sealant according to section 07 92 00 – Joint Sealants.

PART 3 EXECUTION

3.1 MANUFACTURERS INSTRUCTIONS

.1 Compliance: comply with manufacturer’s requirements, recommendations and written specifications, including all available technical sheets and instructions relating to handling, storage and implementation of products, as well as data sheets information.

3.2 INSPECTION

.1 With help of methods recommended by flooring manufacturer, make sure that concrete, or existing epoxy floors are dry and ready to receive materials prescribed in this section. Prepare a document signed by manufacturer indicating that the surface meets requirements in order to obtain a perfect installation.

.2 Ensure that surfaces receiving the coating are smooth, dry and free of defects that would hinder a durable quality application. Surfaces must be free of any curing agent, laitance, dust, dirt, grease, oil or other contaminants which could affect coating adhesion.

.3 Apply coating only once members that cross the membrane have been implemented.

.4 Application of the materials constitutes an implicit acceptance of the condition of the surfaces.

3.3 SURFACE PREPARATION

.1 Protect adjacent surfaces to prevent damage caused by spills or splatters.

.2 Clean surfaces to receive coating using steel ball jet (Blastrac), sandblasting or any other method recommended by coating manufacturer, in order to rid concrete support of material that may impair adherence, such as curing agents and laitance and to obtain recommended profile.

.3 Remove projections and all other obstacles that could hinder coating application.

.4 Pressure water rinse to remove any residue or debris, and leave to dry.

3.4 APPLICATION

.1 Preparation of materials: mix components according to covering manufacturer’s instructions.

.2 General information: apply each seamless wall covering layer following manufacturer’s guidelines to obtain a resilient monolithic surface of specified thickness, uninterrupted except where dividing strips, saw-cut joints or other joint types (if any) are indicated or prescribed.

.3 Treatment of cracks and expansion joints: repair cracks and expansion joints as directed by manufacturer. Open cracks using a grinder on half the support thickness. Fill in the spaces with an epoxy or acrylic polymer binder. Apply with a roller epoxy resin or flexible acrylic polymer over a width of 300 mm along crack, bond fiberglass cloth, and apply another layer of resin. The fiberglass cloth should be completely soaked. Watch carefully for blistering.

.4 Primer: mix primer components and apply to prepared support conforming strictly to process and rate of application indicated by manufacturer. Coordinate application of primer with application of smoothed base to ensure optimum adhesion to support.

.5 Filling mortar 100% solid: mix components and apply with a trowel in accordance with manufacturer's instructions in order to repair concrete floors. Particularly filling deep holes so as to modify slope in preparation for the implementation of a covering or coating.

.6 Smoothed base: mix components according to manufacturer’s method. Spread base evenly on support using a smoother specifically designed by manufacturer, which will be set to height specified in process. Smooth material with a stainless steel finish trowel.

.7 Grout coat: correct imperfections by lightly grinding hardened base, then vacuum to remove unbonded granulate. Mix components and apply, conforming strictly to process and rate of application indicated by manufacturer

.8 Top coat: correct imperfections by lightly sanding surface and vacuum. Mix components and apply with roller, complying strictly with application process indicated by manufacturer.

.9 Caulking: fill caulking joints with epoxy or urethane made by the manufacturer to match with coat finish.

3.5 CLEANING

.1 Clean adjacent surfaces of spattering or any other damage caused by work of this section. Use cleaning agents recommended by manufacturer of the system, according to type of substrate to clean.

3.6 CURING, PROTECTION AND FINAL CLEANING

.1 Cure epoxy wall covering according to manufacturer's directions, taking care to prevent contamination during the various implementation stages before full hardening of finished covering. Close access to location where covering has been implemented for at least 24 hours.

.2 Protect seamless wall covering from any damage or wear during construction. When temporary protection is necessary, follow manufacturer's recommendations as to choice of materials for protection and protection method. Contractor is responsible for protection and cleaning of surfaces after implementation of top coats.

.3 Final cleaning: remove temporary protection and clean epoxy wall covering prior to final inspection. Use cleaning agents and procedures recommended by manufacturer of seamless wall covering.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 American Association of Textile Chemists and Colorists (AATCC)

.1 AATCC Test Method 16-2004, Colorfastness to Light.

.2 AATCC Test Method 23-2005, Colorfastness to Burn Gas Fumes.

.3 AATCC Test Method 129-2005, Colourfastness to Ozone in the Atmosphere Under High Humidities.

.4 AATCC Test Method 134-2006, Electrostatic Propensity of Carpets.

.5 AATCC Test Method 174-2007, Antimicrobial Activity Assessment of Carpets.

.6 AATCC Test Method 175-2008, Stain Resistance: Pile Floor Coverings.

.7 AATCC Test Method 189-2007, Fluorine Content of Carpet Fibers.

.2 ASTM International

.1 ASTM D1055-09, Specification for Flexible Cellular Materials - Latex Foam.

.2 ASTM D1335-05, Standard Test Method for Tuft Bind of Pile Yarn Floor Coverings.

.3 ASTM D2661-08, Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings.

.4 ASTM D3574-08, Standard Test Methods for Flexible Cellular Materials - Slab, Bonded, and Molded Urethane Foams.

.5 ASTM D3936-05, Standard Test Method for Resistance to Delamination of the Secondary Backing of Pile Yarn Floor Covering.

.6 ASTM E84-10, Test Method for Surface Burning Characteristics of Building Materials.

.7 ASTM E648-10, Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.

.8 ASTM E662-09, Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.

.3 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-4.2 No. 22-2004, Textile Test Methods - Colourfastness to Rubbing (Crocking).

.2 CAN/CGSB-4.2 No.27.6M-2004, Textile Test Methods - Flame Resistance - Methemine Tablet Test for Textile Floor Coverings.

.3 CAN/CGSB-4.2 No.77.1-94/ISO 4919:2000, Textile Test Methods - Carpets - Determination of Tuft Withdrawal Force.

.4 CGSB 4-GP-36M-78, Carpet Underlay, Fiber Type.

.5 CAN/CGSB-4.129-93(R1997), Carpets for Commercial Use.

.4 Carpet and Rug Institute (CRI)

.1 CRI Carpet Installation Standard 2009.

.2 CRI Green Label Indoor Air Quality Testing Program.

.3 CRI Green Label Plus Indoor Air Quality Testing Program.

.5 Health Canada

.1 C.R.C., c.923-10, Hazardous Products Act - Carpet Regulations, Part II of Schedule 1.

.6 Health Canada / Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.7 National Floor Covering Association (NFCA)

.1 National Floor Covering Specification Manual 2007.

.8 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards

.1 SCAQMD Rule 1113-A2007, Architectural Coatings.

.2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.

.9 Underwriters' Laboratories of Canada (ULC)

.1 CAN/ULC-S102-07, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

.2 CAN/ULC-S102.2-07, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings and Miscellaneous Materials and Assemblies.

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 each carpet, undercushion, adhesive, carpet protection, subfloor patching compound and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Submit 2 copies of WHMIS MSDS in accordance with Sections 01 35 29.06 - Health and Safety Requirements and 01 35 43 - Environmental Procedures.

.3 Shop Drawings:

.1 Submit drawings stamped and signed by professional engineer registered or licensed in the Province of Quebec in Canada.

.2 Drawings to indicate:

.1 Seams: length, location.

.2 Nap: direction, open edges, special patterns.

.3 Cutouts: show locations where cutouts are required

.4 Carpet direction: show direction of carpet pile and pattern, location of edge moldings and edge bindings.

.4 Samples:

.1 Submit for review and acceptance of each unit.

.2 Samples will be returned to Contractor for inclusion into work.

.3 Submit duplicate 675 x 900 mm pieces of each type carpet specified, duplicate 225 x 225 mm pieces for each colour selected, divider strips 300 mm square pieces of undercushion, 150 mm lengths of carpet gripper and binder bars.

.5 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

.6 Test and Evaluation Reports:

.1 Certified test reports showing compliance with specified performance characteristics and physical properties.

.7 Manufacturer's Instructions: submit manufacturer's installation [storage] instructions.

.1 Manufacturer's Field Reports: submit manufacturer's written reports within [3] days of review, verifying compliance of Work, as described in PART 3 - FIELD QUALITY CONTROL.

.8 Qualification Statements:

.1 Compliance: to CAN/ULC-S102 and CAN/ULC-S102.2.

.2 Testing: passes testing requirements of:

.1 Green Label Plus Indoor Air Quality Testing Program.

.3 Tuft bind: meets requirements of CAN/CGSB-4.129 when tested to CAN/CGSB-4.2 No.77.1.

1.3 CLOSEOUT SUBMITTALS

.1 Submit in accordance with Section 01 78 00 - Closeout Submittals.

.2 Operation and Maintenance Data: submit operation and maintenance data for installed products for incorporation into manual.

.3 Warranty Documentation: submit warranty documents specified.

1.4 MAINTENANCE MATERIAL SUBMITTALS

.1 Extra Stock Materials: deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Section 01 78 00 - Closeout Submittals.

.1 Quantity: provide minimum 2 % of:

.1 Carpet

.2 Adhesives

.2 Delivery, storage and protection: comply with Owner's requirements for delivery and storage of extra materials.

1.5 QUALITY ASSURANCE

.1 Qualifications:

.1 Manufacturer: capable of providing field service representation during construction and approving application method.

.2 Flooring installer must meet following requirements:

.1 Experienced in performing work of this Section who has specialized in installation of work similar to that required for this project.

.2 Certified by carpet manufacturer prior to bid submission.

.3 Must not sub-contract labour without written approval of Departmental Representative.

.4 Responsible for proper product installation, including floor testing and preparation as specified and in accordance with carpet manufacturers written instructions.

1.6 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

.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, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.

.3 Store and protect carpet and adhesive in original containers or wrapping with manufacturer's seals and labels intact.

.4 Store and protect carpeting and accessories in location as directed by Departmental Representative.

.5 Store carpet and adhesive at minimum temperature of 18 degrees C and relative humidity of maximum 65% for minimum of 48 hours before installation.

.6 Prevent damage to materials during handling and storage. Keep materials under cover and free from dampness.

.7 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials.

.8 Replace defective or damaged materials with new.

.4 Develop Construction Waste Management Plan and a Waste Reduction Workplan related to Work of this Section.

.5 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, packaging materials as specified in Construction Waste Management Plan, Waste Reduction Workplan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.7 SITE CONDITIONS

.1 Ambient Conditions:

.1 Moisture: ensure substrate is within moisture limits and alkalinity limits recommended by manufacturer. Prepare moisture testing and provide report to Departmental Representative.

.2 Temperature: maintain ambient temperature of not less than 18 degrees C from 48 hours before installation to at least 48 hours after completion of work.

.3 Relative humidity: maintain between 10 and 65% for 48 hours before, during and 48 hours after installation.

.4 Ventilation:

.1 Departmental Representative will co-ordinate operation of ventilation system during installation of carpet. Ventilate area of work as directed by Consultant by use of approved portable supply and exhaust fans.

.2 Provide continuous ventilation during and after carpet application. Run ventilation system 24 hours per day during installation; provide continuous ventilation for 7 days after completion of carpet installation.

.5 Install carpet after space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete.

1.8 WARRANTY

.1 Manufacturer's warranty: submit, for Departmental Representative's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to and does not limit other rights Owner may have under Contract Documents.

.2 Warranty period: 1 year, commencing on date of substantial performance of work.

.1 Warranty covers labour, repair or replacement of defective components for 1 year after date of substantial performance.

Part 2 Products

2.1 MATERIALS

.1 Manufacturers:

.1 Ensure manufacturer has minimum 5 years' experience in manufacturing components similar to or exceeding requirements of project.

.2 By Milliken, Collection Ghost Artist, Style : Facade, couleur : FAC13-118 Obscura

.2 Description:

.1 Sealants: VOC limit 50 g/L maximum to GS-36.

.2 Primer and Sealer: in accordance with manufacturer's recommendations for surface conditions:

2.2 ACCESSORIES

.1 Base:

.1 Supple material

.2 Adhesive:

.1 Multi-purpose adhesive type: in accordance with carpet manufacturer's written instructions for direct glue down installation.

.2 On site application VOC limit: 50 g/L maximum to SCAQMD Rule 1168.

.3 Transition Mouldings:

.1 Carpet edge/reducer strip.

.4 Subfloor patching compound: Portland cement base filler, mix with latex and water to form cementitious paste.

Part 3 Execution

3.1 INSTALLERS

.1 Use experienced and qualified technicians to carry out assembly and installation of sheet carpet.

3.2 EXAMINATION

.1 Examine conditions, substrates and work to receive work of this Section, co-ordinate with Section 01 71 00 - Examination and Preparation.

.2 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for sheet carpet installation in accordance with manufacturer's written instructions.

.1 Inform Departmental Representative of unacceptable conditions immediately upon discovery.

.2 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.3 PREPARATION

.1 Subfloor Preparation:

.1 Inspect concrete and determine special care required to make it suitable for carpet.

.2 Fill and level cracks 3 mm wide or protrusions over 0.8 mm with appropriate and compatible latex patching compound.

.3 Comply with manufacturer's written recommendations for maximum patch thickness.

.4 Prime large patch areas with compatible primer.

.5 Ensure concrete substrates are cured, clean and dry.

.6 Ensure concrete substrates are free of paint, dirt, grease, oil, curing or parting agents, and other contaminates, including sealers, that interfere with the bonding of adhesive.

.7 Where powdery or porous concrete surface is encountered, apply primer compatible with adhesive to provide a suitable surface for glue-down installation.

.2 Surface Preparation: prepare surface in accordance with manufacturer's written recommendations and co-ordinate with Section 01 71 00 - Examination and Preparation.

.1 Prepare floor surfaces in accordance with CRI Carpet Installation Standard.

.3 Sheet Carpet Preparation:

.1 Pre-condition carpeting: following manufacturer's written instructions.

3.4 INSTALLATION

.1 Install sheet carpet in accordance with manufacturer's written instructions, and CRI Carpet Installation Standard and co-ordinate with Section 01 73 00 - Execution.

.2 Co-ordinate sheet carpet work with work of other trades, for proper time and sequence to avoid construction delays.

.3 Install carpeting and undercushion using minimum of pieces.

.4 Install carpet and undercushion after finishing work is completed but before demountable office partitions and telephone and electrical pedestal outlets are installed.

.5 Inspect finished installation for smooth wearing surface free from conspicuous seams, burring and other faults.

.6 Use material from same dye lot.

.1 Ensure colour, pattern and texture match within visual areas.

.2 Maintain constant pile direction.

.7 Adhesive seams and cross-joints.

.1 Ensure seams are sealed.

.8 Fit around architectural, mechanical, electrical and telephone outlets, and furniture fitments, around perimeter of rooms into recesses, and around projections.

.9 Install carpeting to underfloor duct system and to access covers.

.10 Install carpeting in pan type floor access covers.

.11 Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.

.12 Install carpet smooth and free from bubbles, puckers, and other defects.

3.5 UNDERCUSHION INSTALLATION

.1 Install undercushion fully adhered using minimum number of pieces. Secure undercushion to prevent shifting.

.2 Butt edges firmly together.

.1 Install to edge of gripper and tape top of joints.

.2 Remove bubbles and slightly stretch.

.3 Secure undercushion at projections and penetrations, and where cut to contours and ramps.

.4 Offset undercushion seams at least 300 mm from carpet seams.

3.6 SEAMS

.1 Seal edges of cut-outs with latex.

.2 Ensure visibility of carpet seams and joints are acceptable industry standards.

3.7 BASE INSTALLATION

.1 Install resilient base in accordance with Section 09 65 16 - Resilient Sheet Flooring.

3.8 SITE QUALITY CONTROL

.1 Site Tests and Inspections:

.1 Co-ordinate site test with Section 01 45 00 - Quality Control.

.2 Obtain reports within 3 days of review and submit immediately to Departmental Representative.

.2 Manufacturer's Field Services:

.1 Co-ordinate manufacturer's services with Section 01 45 00 - Quality Control. Have manufacturer review work involved in handling, installation / application, protection and cleaning of its products, and submit written reports, in acceptable format, to verify compliance of work with Contract.

.2 Manufacturer's field services: provide manufacturer's field services, consisting of product use recommendations and periodic site visits for inspection of product installation, in accordance with manufacturer's instructions.

.3 Schedule site visits:

.1 After delivery and storage of products, and when preparatory Work, or other Work, on which the Work of this Section depends, is complete but before installation begins.

.2 Twice during progress of Work at 25% and 60% complete.

.3 Upon completion of Work, after cleaning is carried out.

3.9 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.

.1 Vacuum carpets clean immediately after completion of installation.

.2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.10 PROTECTION

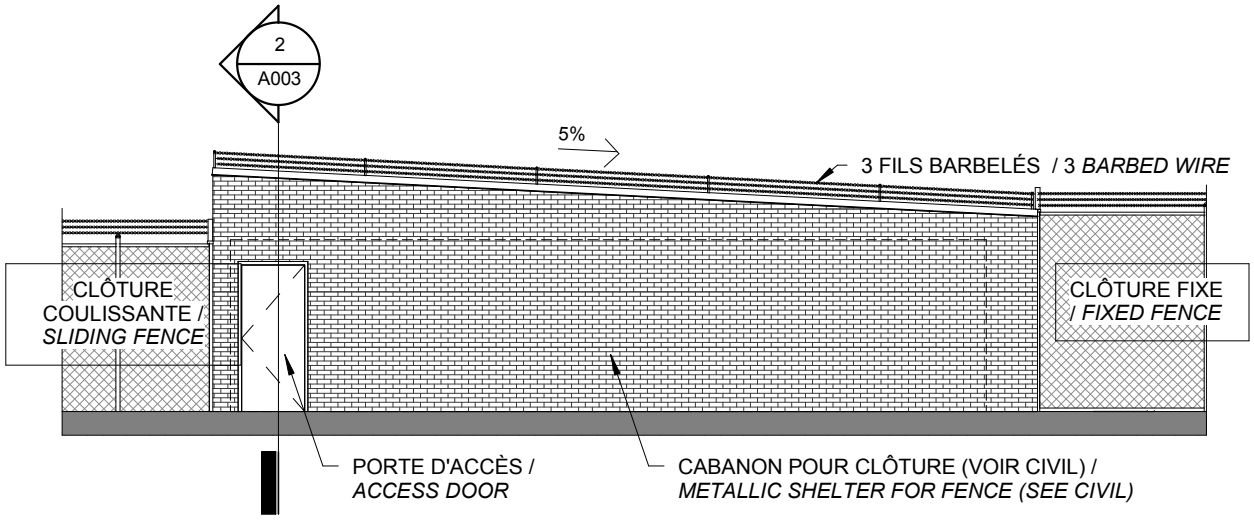
.1 Protect installed products and components from damage during construction.

.2 Prohibit traffic on carpet for period of 24 hours minimum after installation and until adhesive is completely cured.

.3 Install carpet protection to satisfaction of Departmental Representative.

.4 Repair damage to adjacent materials caused by sheet carpeting installation.

END OF SECTION



2
ASK-01

ÉLÉVATION SUD / SOUTH ELEVATION

Scale / Échelle: 1 : 100

DFS INC.
architecture & design

Montréal, QC
Saint John, NB

400 boul. de Maisonneuve O. Bur. 500
Montréal (Quebec) H3A 1L4
T: (514) 879-1708 F: (514) 861-6219
www.dfsarch.com

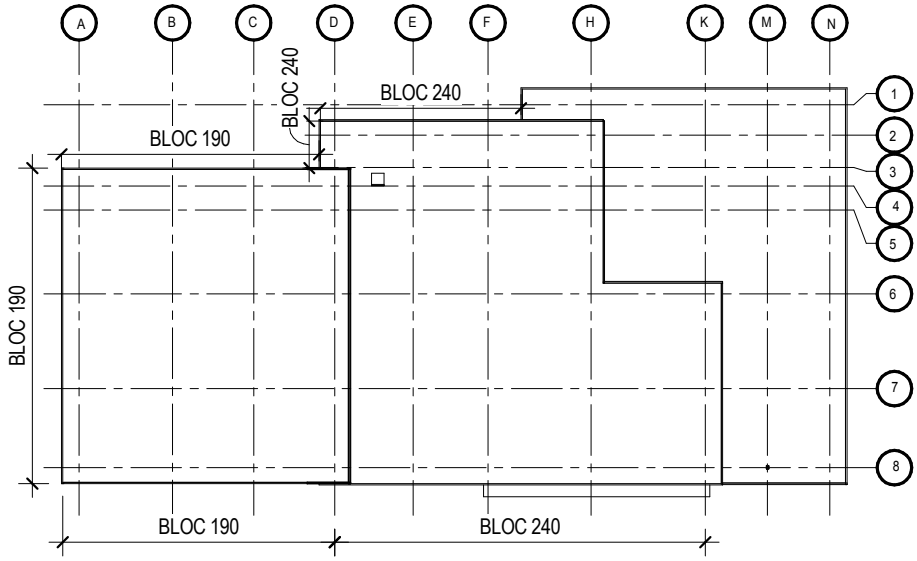
projet: Construction d'un nouveau bâtiment, Sept-Îles, Québec

titre: ÉLÉVATION SUD / SOUTH ELEVATION

purpose: Addenda A 02

no. projet:	
réf. DFS	5001
fichier:	
date:	24 Août 2016
échelle:	1 : 100

ASK-01



NOTE: ÉPAISSEUR DES BLOCS DE BÉTON DANS LES MURS EXTÉRIEURS / CONCRETE BLOC THICKNESS IN EXTERIOR WALL

1
ASK-02

PLAN-CLEF BLOC DE BÉTON / CONCRETE BLOCK KEY PLAN

Scale / Échelle: 1 : 500

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T: (514) 879-1708 F: (514) 861-6219
www.dfsarch.com

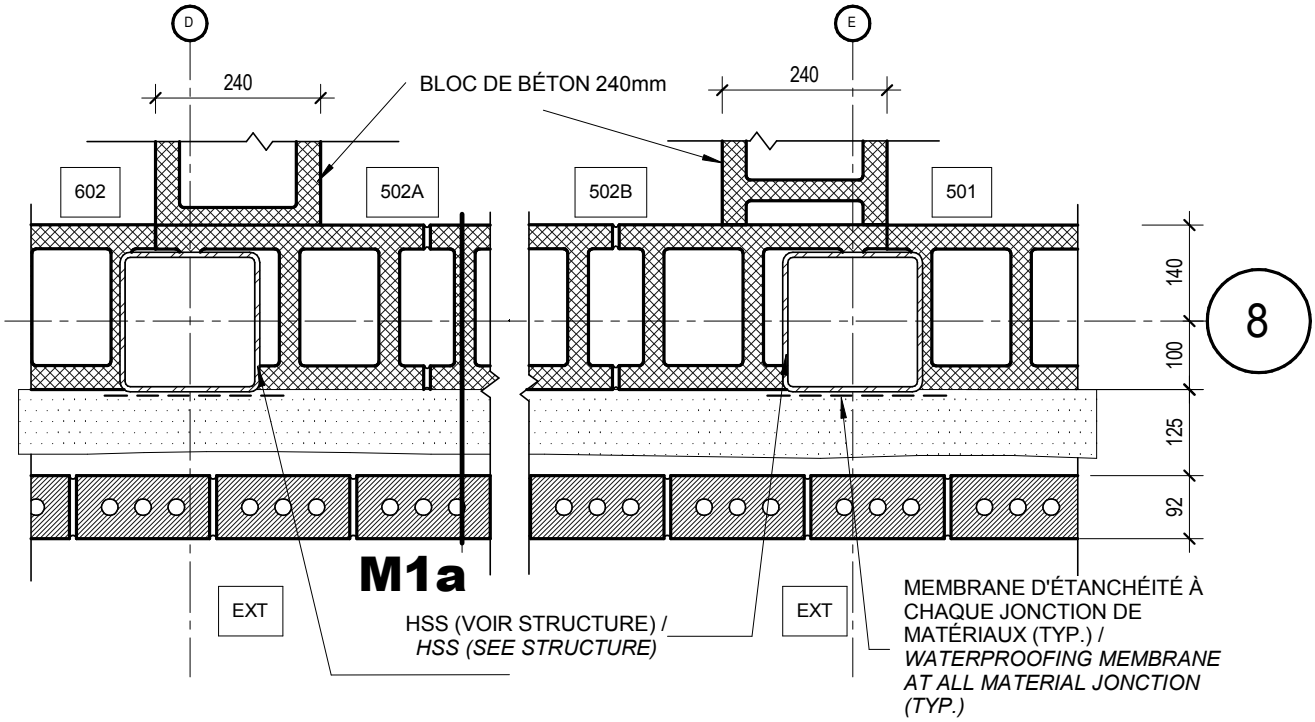
projet: Construction d'un nouveau bâtiment, Sept-Îles, Québec

titre: PLAN CLEF BLOC DE BÉTON / CONCRETE BLOCK KEY PLAN

purpose:

no. projet:	
réf. DFS	5001
fichier:	
date:	
échelle:	1 : 500

ASK-02



1
ASK-03

DÉTAIL COLONNE AXES D&E @ AXE 8 / COLUMN
DETAIL GRID LINE D&E @ GRID LINE 8
Scale / Échelle: 1 : 10

DFS INC.
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Montréal, QC
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Dans la province de Québec, les services architecturaux de DFS sont fournis par Fish Pellicer Todd architectes.

projet:	Construction d'un nouveau bâtiment, Sept-Îles, Québec
titre:	DÉT. COLONNE AXES D&E@AXE 8/COLUMN DET. GRID LINE D&E@GRID LINE 8
purpose:	

no. projet:	
réf. DFS	5001
fichier:	
date:	
échelle:	1 : 10

ASK-03

ADDENDA Nº	M02
Numéro de projet :	A000566A
Titre du projet :	Construction d'un nouveau bâtiment
Client :	
Entrepreneur :	
Date :	2016/08/23

CIMA 240, Rue Catherine, Suite 110, Ottawa ON, K2P 2G8, Tel.: (613) 860-2462 Fax: (613) 860-1870

L'addenda est composé des documents suivants et fait partie intégrante des documents d'appel d'offres.

Veiller à ce que l'addenda soit identifié sur le formulaire de soumission et que les coûts associés sont inclus dans le prix d'appel d'offres.

DESCRIPTION

Cet addenda, comprenant 2 pages et un croquis, modifie les documents contractuels comme suit:

1. DEVIS

1.1 Renommer la section 22 81 40 – Systèmes frigorifiques autonomes refroidis à l'air; pour 23 23 00 - Systèmes frigorifiques autonomes refroidis à l'air.

1.2 Section 22 42 02; ajouter; 2.12 Fontaine d'eau réfrigérée;
.1 WF-1 Accès sans obstacle, modèle murale avec station de remplissage pour les bouteilles, modèle ELKAY ezH20 ou équivalent approuvé.

1.3 Section 23 37 13 Para 2.3.3.4 se lit; Grille de 200x200 mm E.H Price MSSL ou équivalent approuvé.

1.4 Section 25 05 60 Para 1.3.3 se lit; tout capteur, actionner et contrôle associé aux boîtes de contournement doit être fourni par le fabricant des boîtes. L'installation sur le site, ainsi que le câblage, les thermostats et les verrouillages par l'entrepreneur SGÈ. Coordonner les ajustements de débit d'air avec le sous-traitant de balancement.

1.5 Section 25 30 02 supprimer le paragraphe 2.27.1.6.d

2. Plans

2.1 Plan M200

2.1.1 Ajouter des thermostats programmable 24/7 avec comptabilité BACNet dans les espaces indiqués ci-dessous. Fournir le câble de basses tensions et verrouiller les équipements de chauffage indiqué sur les plans électrique aux thermostats. Prévoir les branchements au SGÈ.

Salles: 101, 103, 303, 307, 308, 309, 310, 311, 402A, 402B, 403, 404, 407, 408, 501, 507, 509, 510, 513, 601, 602, 603.

Complet avec recouvrement inviolable pour service correctionnel de sécurité moyenne dans les espaces 501, 507, 509, 510 and 513.

2.1.2 Pour les espaces identifier ci-dessous, fournir le câblage de basse tension et verrouiller les équipements de chauffage indiqué sur les plans électrique aux thermostats des boîtes de contournement. Prévoir les branchements au SGÈ.

Salles: 102, 201, 203, 202, 204, 205, 301, 304, 306, 405, 406, 512, 701

2.2 Plan M403

2.2.1 Liste des accessoires de plomberie; WC-1, WC-2, WC-3 et WC-4; modifier D.C.W pour 18 mm.

2.2.2 Liste des accessoires de plomberie; MS-1; modifier D.C.W et D.H.W pour 18 mm

2.2.3 Remplacer 1/M03 pour MSK-06.

- FIN DE L'ADDENDA -

Délivré par: Guillaume Tremblay

Signature

ADDENDUM Nº	M02
Project Ref Number :	A000566A
Project Title :	New Building Construction
Client :	
Contractor :	
Date :	2016/08/23

CIMA 240, Catherine Street, Suite 110, Ottawa ON, K2P 2G8, Tel.: (613) 860-2462 Fax: (613) 860-1870

This document must be integrated in the contract documents and shall be read with them.

The bidders must ensure that the addendum(s) is (are) listed on the Tender Form and that the associated costs are included in the Tender Price.

DESCRIPTION

This addendum, comprising 2 pages and one sketch, modifies the contract documents as follows:

1. SPECIFICATION

1.1 Section 22 42 02; add 2.12 Refrigerated Drinking Fountain;
.1 WF-1 Barrier free wall mounted combination bottle fill station, Elkay ezH20 or approved equivalent.

1.2 Section 23 37 13 Para 2.3.3.4 shall read; E.H Price MSSL 200x200 or approved equivalent.

1.3 Section 25 05 60 Para 1.3 3 shall read: “all sensor, actuator and associated By-pass boxes controls to be supplied by boxes manufactures. Field installation including wiring, interlocks and thermostats by EMCS contractor. Coordinate air flow adjustments with balancing trade.”

1.4 Section 25 30 02 Delete para 2.27.1.6.d

2. DRAWINGS

2.1 Drawing M300

2.1.1 Add 24/7 programmable thermostats with BACNet compatibility in the spaces shown below. Provide low voltage control wiring from new thermostats to the heaters shown on the electrical drawings complete with BAS connections.

Rooms: 101, 103, 303, 307, 308, 309, 310, 311, 402A, 402B, 403, 404, 407, 408, 501, 507, 509, 510, 513, 601, 602, 603.

Complete with vandal proof cover for correctional service style medium security for spaces 501, 507, 509, 510 and 513

2.1.2 For spaces identified below, provide low voltage control wiring from heaters shown on the electrical drawings complete with BAS connections and interlock with bypass box thermostats for each zone.

Rooms: 102, 201, 203, 202, 204, 205, 301, 304, 306, 405, 406, 512, 701

2.2 Drawing M403

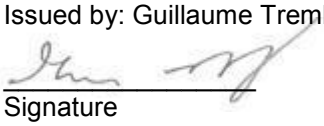
2.2.1 Plumbing accessories list; WC-1, WC-2, WC-3, WC-4; modify D.C.W to 18 mm.

2.2.2 Plumbing accessories list; MS-1; modify D.C.W and D.H.W to 18 mm.

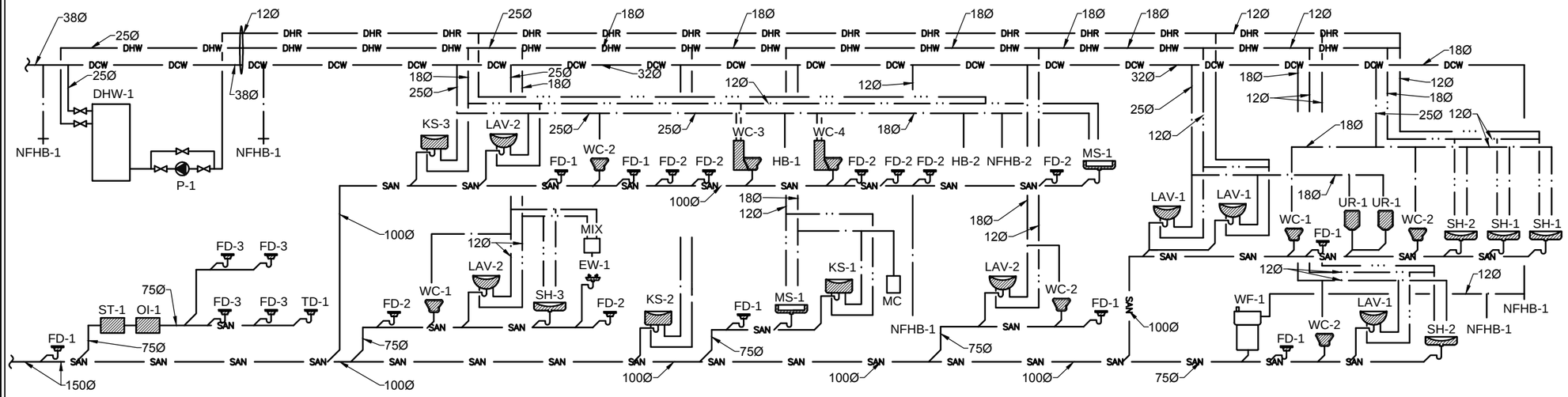
2.2.3 Replace 1/M03 by MSK-06.

- END OF ADDENDUM -

Issued by: Guillaume Tremblay



Signature



1 SCHÉMA DU DRAINAGE SANITAIRE ET DE LA TUYAUTERIE D'EAU DOMESTIQUE

M403

PAS À L'ÉCHELLE

CIMA

ISO 9001

240 Catherine Street, suite 110
Ottawa, Ontario K2P 2G8
Phone: 613-860-2462
Fax: 613-860-1870
www.cima.ca

A detail no. / n° du detail
B location drawing no. / sur dessin n°
C drawing no. / dessin n°

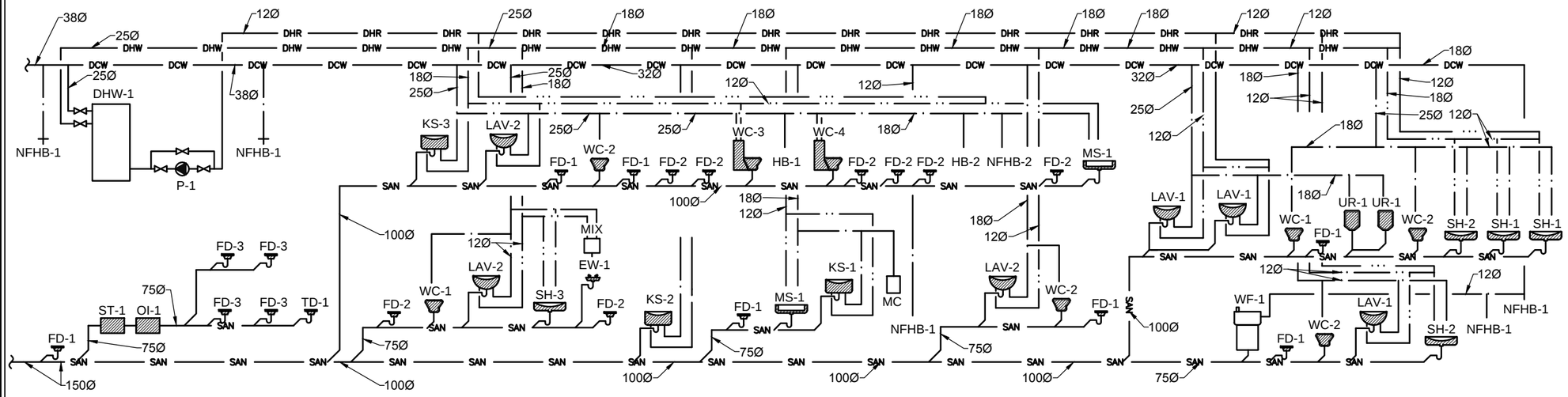
project / projet

CONSTRUCTION D'UN NOUVEAU BÂTIMENT SEPT-ÎLES, QUÉBEC

Drawn By / Dessiné par	G.T.	
Date	2016-08	(yyyy/mm/dd)
Reviewed By / Examiné par	G.T.	
Date	2016-08	(yyyy/mm/dd)
Approved By / Approuvé par	G.S.	
Date	2016-08	(yyyy/mm/dd)

Project no. / N° du projet: A000565A

Drawing no. / N° du dessin: MSK-06



1 SANITARY AND DOMESTIC WATER SCHEMATIC

M403

NOT TO SCALE

CIMA

ISO 9001

240 Catherine Street, suite 110
Ottawa, Ontario K2P 2G8
Phone: 613-860-2462
Fax: 613-860-1870
www.cima.ca

A detail no. / n° du detail
B location drawing no. / sur dessin n°
C drawing no. / dessin n°

project / projet

NEW BUILDING CONSTRUCTION
SEPT-ÎLES, QUÉBEC

Drawn By	G.T.	Dessiné par
Date	2016-08	(yyyy/mm/dd)
Reviewed By	G.T.	Examiné par
Date	2016-08	(yyyy/mm/dd)
Approved By	G.S.	Approuvé par
Date	2016-08	(yyyy/mm/dd)

Project no. / N° du projet: A000565A

Drawing no. / N° du dessin: MSK-06

CIMA
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ADDENDA N° E2

Numéro de projet :	A000566A
Titre du projet :	Construction d'un nouveau bâtiment
Client :	
Entrepreneur :	
Date :	2016/08/23

CIMA 240, Rue Catherine, Suite 110, Ottawa ON, K2P 2G8, Tel.: (613) 860-2462 Fax: (613) 860-1870

L'addenda est composé des documents suivants et fait partie intégrante des documents d'appel d'offres.

Veiller à ce que l'addenda soit identifié sur le formulaire de soumission et que les coûts associés sont inclus dans le prix d'appel d'offres.

DESCRIPTION

Cet addenda, comprenant 3 pages, modifie les documents contractuels comme suit:

DESSINS

1 E100 – Rez-de-chaussée, éclairage et sortie d'urgence

.1 Ajouter des enseignes de sortie aux endroits suivants :

.1 Pour une nouvelle porte de sortie, sur le mur aux axes D-7 dans la salle 503, alimenté du circuit 'PE1-2'.

.2 Au-dessus de la porte double dans la salle 602, alimenté du circuit 'PE1-2'.

.3 Au-dessus de la porte double dans la salle 701, alimenté du circuit `PE1-2'.

.2 Déplacer l'enseigne de sortie à la porte opposée de celle-ci dans le corridor '704'.

.3 En référence aux deux (2) appareils lumineux rouges au-dessus des deux (2) portes, à l'extérieur de la salle 304 : un modèle d'appareil acceptable : Anderson-Bolds Inc. # PWE 110-R (1 lumière rouge constante au centre seulement) ou équivalent approuvé.

2 E101 – Rez-de-chaussée, électricité et alarme incendie

.1 Clarification relatif aux thermostats indiqués sur le dessin. Tous les thermostats seront fournis, installés ainsi que le raccordement de contrôle au relais, par la division 25 à l'exception du système de chauffage au plancher indépendant des deux (2) cellules qui est par la division 26.

.2 En référence au thermostat du chauffage au planché des deux (2) cellules, inclure un couvercle à l'épreuve du vandalisme à chacun.

.3 Ajouter une alimentation électrique de 15A/115V/1ø pour nouveau ventilateur d'extraction 'EF-13' dans la salle des installations électriques '701', avec un sectionneur 30A alimenté du circuit 'PS2-22'.

.4 Ajouter une plinthe chauffante de 1kW dans la salle 403 alimenté des circuits 'PC1-29,31'.

.5 Ajouter une plinthe chauffante de 1.5kW dans la salle 307 alimenté des circuits 'PC1-29,31'.

.6 Remplacer les circuits d'alimentation indiqués du convecteur 4kW des salles 603 et 701 avec les circuits 'PC1-1,3'.

.7 Ajouter le texte '0.75kW' à la plinthe chauffante de la salle '402A' et le texte '1kW' à la plinthe chauffante de la salle '402B'.

.8 Prévoir aux exigences de raccordement de contrôle prescrites par la division 23 pour les ventilateurs suivants :

RACCORDEMENTS - LISTE DE VENTILATEURS		
TYPE	SALLE	DESCRIPTION DE RACCORD
EF-1	309	Raccord au capteur de présence avec délais sur le mur au lieu d'une minuterie
EF-2	312	Raccord d'interverrouillage avec l'interrupteur de lumière au lieu d'une minuterie
EF-3	604	Raccord au capteur de présence avec délai sur le mur au lieu d'une minuterie
EF-4	103	raccord au capteur de présence avec délai sur le mur au lieu d'une minuterie
EF-5	310	raccord de capteur de présence avec délai sur le mur au lieu d'une minuterie
EF-6	311	raccord de capteur de présence avec délai sur le mur au lieu d'une minuterie
EF-7	402B	prévoir une minuterie programmable 24/7 sur le mur
EF-8	402A	prévoir une minuterie programmable 24/7 sur le mur
EF-9	602	raccords d'interverrouillages entre le ventilateur, les volets motorisés (entrée et sortie) ainsi que le moniteur de co/no2
EF-10	601	raccords d'interverrouillages entre le ventilateur, les volets motorisés (entrée et sortie) ainsi que le moniteur de co/no2
EF-11	502	raccords d'interverrouillages entre le ventilateur, les volets motorisés (entrée et sortie) ainsi que le moniteur de co/no2
EF-12	302	raccords d'interverrouillages entre le ventilateur, les volets motorisés (entrée et sortie) ainsi que le moniteur de co/no2

.9 Prévoir une alimentation électrique de 15A/600V/1ø avec un sectionneur de 30A, alimenté des circuits 'PD1-20,22,24' pour opérateur de porte de garage de la salle '601'.

3 E200 – Plan de la toiture, électricité

.1 Prévoir une alimentation électrique de 15A/115V/1ø pour le ventilateur sur toit 'EF-11' du garage '506', avec un sectionneur à l'épreuve des intempéries de 30A alimenté du circuit 'PS2-22'.

.2 Prévoir une prise de courant de type '5-20R' à l'épreuve des intempéries avec interruption de défaut à la terre. Installée la prise à moins de 7,5m des appareils sur le toit et à 750mm au-dessus du toit fini. Raccorder à un circuit de 20A-120V indiqué pour chacun des appareils suivants :

.1 'RTU-1' sur le circuit 'PS2-26,

.2 'RTU-2' sur le circuit 'PS2-30',

.3 'RTU-3 sur le circuit 'PS2-42'.

DEVIS

1 Section 26 32 13.04 du devis :

.1 Ajouter l'article 2.3.18 avec le texte suivant :

« Réservoir de carburant incorporé sous la génératrice d'une capacité de 24 heures de fonctionnement continu. »

.2 En référence au paragraphe 2.5.1.6 : Supprimer le texte « pyromètre gaz d'échappement ».

.3 En référence au paragraphe 2.7.5 : Supprimer le sous-paragraphe « .1 » seulement.

.4 En référence au paragraphe 2.12 : Supprimer le sous-paragraphe « .7 ».

.5 En référence à la partie 2 – Produits : Ajouter le nouveau paragraphe 2.21.1 avec le texte suivant :
« Prévoir à un enceinte isolé pour abris du groupe-électrogène en conformité avec la norme C282. L'enceinte doit inclure :

.1 appareils d'éclairage,
.2 prises de courant d'entretien et chargeur d'accumulateurs,
.3 appareil de chauffage adéquat.

2 Section 26 36 23 du devis :

.1 En référence au paragraphe 2.3.2 : Remplacer le texte 'quadripolaires' avec « tripolaires »

3 En référence à l'annexe 'A', Ajouter le type d'appareil d'éclairage suivant :

.1 Type 'C1' : Philips Day-Brite Industrial #APX-8LL40-347-W-LCP ou équivalent approuvé.

- FIN DE L'ADDENDA -

Préparé par: Yvan Farmer

Signature

Sylvain Lavoie

CIMA
Partners in excellence

ADDENDUM N°	E2
Project Ref Number :	A000566A
Project Title :	New Building Construction
Client :	
Contractor :	
Date :	2016/08/23

CIMA 240, Catherine Street, Suite 110, Ottawa ON, K2P 2G8, Tel.: (613) 860-2462 Fax: (613) 860-1870

This document must be integrated in the contract documents and shall be read with them.

The bidders must ensure that the addendum(s) is (are) listed on the Tender Form and that the associated costs are included in the Tender Price.

DESCRIPTION

This addendum, comprising of 3 pages, modifies the contract documents as follows:

DRAWINGS

1 E100 – Ground Floor, Lighting and Emergency exist

.1 Add emergency exit signs at the following locations :

.1 For a new exit door, on wall at axes D-7 in room 503, fed from circuit 'PE1-2'.

.2 Above double door in room 602, fed from circuit 'PE1-2'.

.3 Above double door in room 710, fed from circuit 'PE1-2'.

.2 Relocate exit sign to opposite door in corridor 704.

.3 in reference to the two(2) red indicating lights outside of the two(2) doors of room 304 : Acceptable material : Anderson-Bolds Inc. # PWE 110-R (1 constant centered red light only) or approved equivalent.

2 E101 – Ground Floor, Power and Fire Alarm

.1 Clarification related to thermostats indicated on drawing. All thermostats will be provided, installed including control connection to relays by division 25, except for the two (2) cells independent floor heating system, provided by division 26.

.2 In reference to the two (2) cells floor heating thermostats, include a vandal-proof cover to each.

.3 Add a 15A/115V/1ø electrical connection for exhaust fan 'EF-13' in electrical room '701', with a 30A disconnect switch, fed from circuit 'PS2-22'.

.4 Add a 1kW baseboard heater in room 403, fed by circuits 'PC1-29,31'.

.5 Add a 1.5kW baseboard heater in room 307, fed by circuits 'PC1-29,31'.

.6 Replace indicated feeder circuits for 4kW convector in rooms 603 and 701 with circuits 'PC1-1,3'.

.7 Add the text '0.75kW' to the baseboard heater in room '402A' and text '1kW' to the baseboard heater in room '402B'.

.8 Provide control connection requirements prescribed by division 23 for the following fans :

CONNECTION – FAN LISTING		
TYPE	ROOM	DESCRIPTION OF CONNECTION
EF-1	309	Connect to wall mounted occupancy sensor with time delay
EF-2	312	Interlock connection with light switch
EF-3	604	Connect to wall mounted occupancy sensor with time delay
EF-4	103	Connect to wall mounted occupancy sensor with time delay
EF-5	310	Connect to wall mounted occupancy sensor with time delay
EF-6	311	Connect to wall mounted occupancy sensor with time delay
EF-7	402B	Connect to wall mounted occupancy sensor with time delay
EF-8	402A	Connect to wall mounted occupancy sensor with time delay
EF-9	602	Interlock connection between fan, intake motorised damper, exhaust motorised damper and co/no2 monitor
EF-10	601	Interlock connection between fan, intake motorised damper, exhaust motorised damper and co/no2 monitor
EF-11	502	Interlock connection between fan, intake motorised damper, exhaust motorised damper and co/no2 monitor
EF-12	302	Interlock connection between fan, intake motorised damper, exhaust motorised damper and co/no2 monitor

.9 Provide a 15A/600V/1ø electrical connection and 30A disconnect switch, fed from circuits 'PD1-20,22,24' for room '601' garage door operator.

3 E200 – Roof Plan, Power

.1 Add a 15A/115V/1ø electrical connection for root top exhaust fan 'EF-11' for garage room '506', with a 30A weatherproof disconnect switch, fed from circuit 'PS2-22'.

.2 Provide a type '5-20R' weatherproof receptacle with ground fault circuit interrupter. Install receptacle at less than 7.5m from roof top units and at 750mm above finish roof. Connect to a 20A-120V circuit indicated for each following units:

.1 'RTU-1' on circuit 'PS2-26',

.2 'RTU-2' on circuit 'PS2-30',

.3 'RTU-3' on circuit 'PS2-42'.

SPECIFICATIONS

1 Section 26 32 13.04 :

.1 Add new item 2.3.18 with the following text:
"Fuel reservoir incorporated under the generator with a 24 hours capacity of continuous run."

.2 In reference to paragraph 2.5.1.6: Delete the following text: "exhaust pyrometer".

.3 In reference to paragraph 2.7.5: Delete sub-para " .1 " only.

.4 In reference to paragraph 2.12: Delete sub-para " .7 ".

.5 In reference to part 2 – Products: Add a new paragraph 2.21.1 with the following text:
"Provide an insulated generator protection enclosure to the C282 standards. Enclosure to include:

.1 lighting fixtures,

.2 maintenance and charger receptacles,

.3 appropriate heating device.

2 Section 26 36 23 :

.1 In reference to paragraph 2.3.2: Replace the text 'Two-4 pole' with "Two-3 pole".

1 In reference to annex 'A', Add the following lighting fixture :

.1 Type 'C1' : Philips Day-Brite Industrial # APX-8LL40-347-W-LCP or approved equivalent.

- END OF ADDENDUM -

Issued by: Yvan Farmer

Signature