



Addendum # 1

Bid Opportunity: 23-7360-RFT - Crestview Public School Library, Gym, and Vestibules Renovation. New Universal Washroom & Room Renumbering

Closing Date: Wednesday, March 29, 2023 2:00 PM

The following issued by the Board shall form part of the Bid / Proposal Solicitation document. The revisions and additions noted herein along with any attachments shall be read in conjunction with all other related documents. This Addendum shall, take precedence over the previously issued documents where differences occur. Receipt of this addendum must be acknowledged in the Bidding System, bids&tenders.

If you have already submitted a Bid / Proposal, it will be automatically withdrawn as a result of this addendum. You must resubmit the Bid / Proposal acknowledging all addenda and revising your Bid / Proposal to comply with all addenda.

Question 1:

W1 window has a hatch on it, is this to represent window film?

Answer 1:

Windows will not have film on glass surface. Disregard hatch on window type W1

Question 2:

Please provide a specification for the recessed floor mats shown on A2.3

Answer 2:

Please remove recessed floor mats and/or floor grilles from the project. Refer to drawing AR1 attached to this addendum. The area where existing floor mats are located will be filled with new Terrazzo finish. Please refer to Section 09410 Terrazzo Poured-in-Place attached with this Addendum.

Question 3:

Please provide a specification for the coat racks.

Answer 3:

Refer to attached Specification Section 11170. Refer also for drawing AW007 in the Waterloo Region District School Board Millwork Standards provided as part of the tender package for coat rack placement information.

Question 4:

Curious to know if you will look at any alternative sport flooring products for this project?

I do have some history working with your district, spent a fair bit of time working with your team years ago on the Vsport product approvals. Am now working as factory rep for Responsive and Action floor systems.

Our Active Pro - 7mm is comparable to both the Tarkett and Vsport products, by composition, performance, surface layer texture and warranty. The info sheet is attached, samples etc could be forwarded at your request. We have a qualified dealer installer based in Southern Ontario, but are also willing and able to give direct pricing to capable flooring contractors who are looking at the resilient scope and want to package it up. I do not believe Advantage or Caliber will price

their materials to anybody, so this option might deliver some additional value to the project by giving you more competition.

Please review, let me know if I can do anything more to assist?

Take care,

Answer 4:

The Board will not be reviewing alternate products during the tender process. You are welcome to approach the Facilities Services Department as to be considered for future products.

Question 5:

Hi is this for Prequalified Contractors only?

Answer 5:

Yes, this tender is for Prequalified Contractors only.

Our posted tender documents include Vendors of Record for General Contractors only. For any other type of service, the general contractor will employ subcontractors and sub-consultants e.g. mechanical, electrical, boilers, HVAC etc. to complete specific tasks.

Question 6:

Electrical Allowances and Fees Item 1.2.2 Electrical Contractor shall be responsible for coordinating a service agreement with the local electrical utility. Please Clarify

Answer 6:

Please delete this note from the electrical Specs. This will not be required due to the scope of this project.

Question 7:

Electrical Identified Prices Section 26 01 14 This Alternate Price doesn't seem to appear on the GC Tender form. Please clarify.

Answer 7:

Section 26 01 14 can be removed from the Specifications.

Question 8:

Electrical Supplemental Tender Form Section 26 01 13, If there is no name bid electrical contractor as part of the tender, then shouldn't this Form be submit at time of awarded contract. Please clarify

Answer 8:

Yes, it would be required at time of contract. Electrical Supplementary Tender Form Section 26 01 13 can be removed from the Specifications.

ATTACHEMENTS

- Waterloo Region District School Board Exterior Window” Design Brief for Reference
- Waterloo Region District School Board “Special Ed.” Design Brief for Reference

AMENDMENT TO ARCHITECTURAL DRAWINGS

Please provide roll down curtains to new windows. Refer to drawing AR2 attached to this Addendum.

AMENDMENT TO ARCHITECTURAL SPECIFICATIONS**SECTION 00 21 13 INSTRUCTIONS TO BIDDERS****Item 7: Anticipated Project Schedule. Tender Timetable**

Closing Date and Time ...CHANGE CLOSING DATE for the Tender Form from March 29th to **March 30th 2023**. The time of closing remains 2:00:00 pm.

The new closing date is March 30th at 2:00 pm.

Section 09650 PART 2 PRODUCTS Item 2.1.2 Sheet Flooring. Delete “IQ Granit...” and replace by ‘IQ OPTIMA’ as manufactured by Tarkett.

Section 09650 PART 2 PRODUCTS Item 2.1.2.1 Delete “Colour: Granit ACORN 0428” and replace with **“Colour to be selected by Architect”**

Section 09650 PART 2 PRODUCTS Item 2.1.2.2 Delete and replace by

“Alternates: SPHERA ELEMENT, as manufactured by Forbo, ACCORD, as manufactured by Gerflor, 2000 PUR as manufactured by Polyflor.”

AMMENDMENT TO CASH ALLOWANCE.

Include \$4000.00 additional cash allowance for Roller Blinds, to be installed in the two (2) new library windows and quiet room single (1) window.

INFORMATION/ REVISIONS INITIATED BY THE BOARD

SPECIFICATIONS

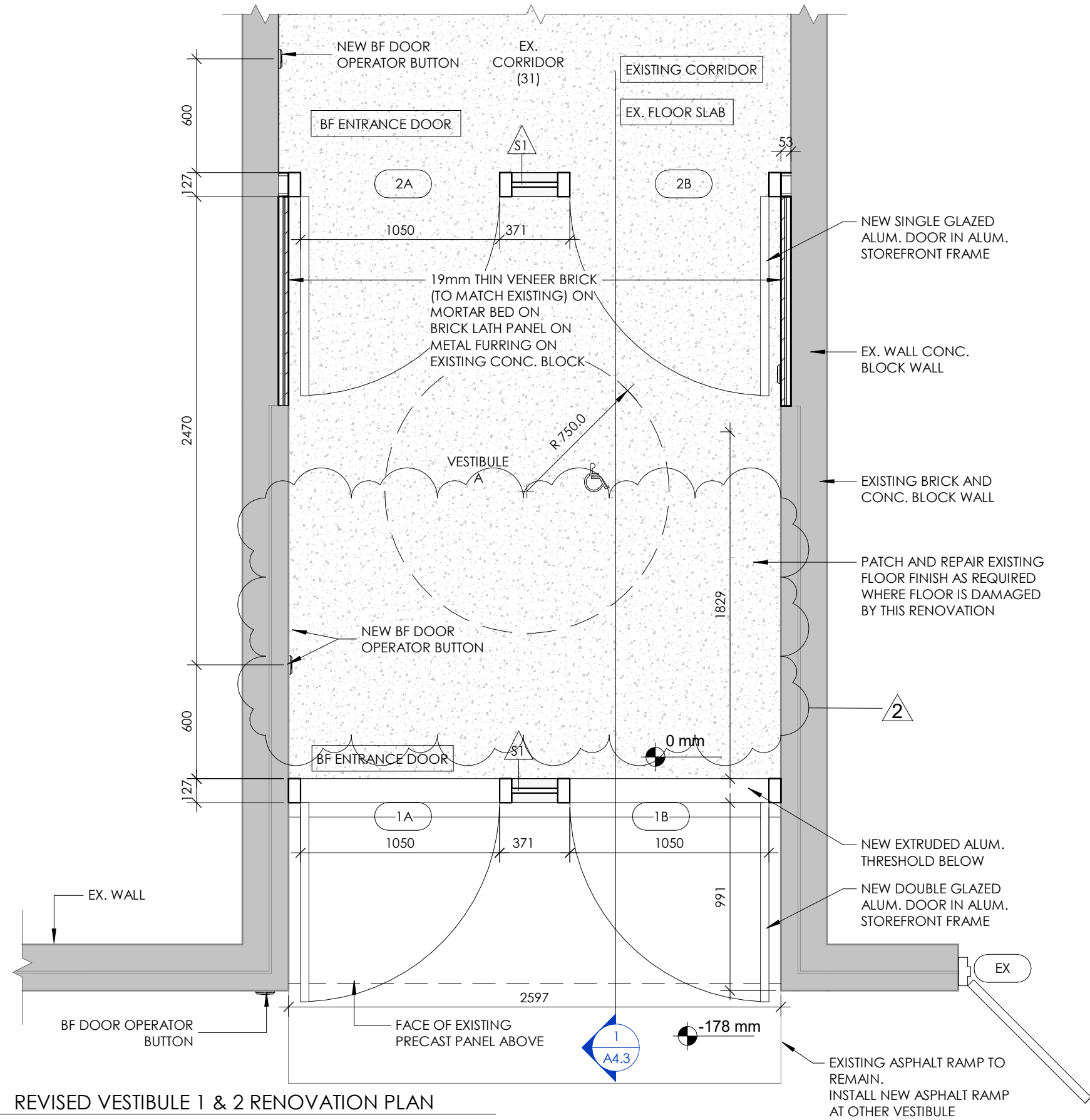
1. Section 00 73 13 Terms and Conditions

1. ADD Article 29 as follows:

29. Delay Claims

The contractor shall be responsible for all deliverables including lead times. The contractor shall include in their bid price any costs associated with an extended schedule beyond the stated substantial completion date due to delayed deliveries of items. Costing is to be inclusive of any after-hours work required due to the school being occupied by staff and students during the school year until completion.

The board will not accept or consider any "delay claim" requests for delayed deliverables outlined in the tender documents.



1
AR1

REVISED VESTIBULE 1 & 2 RENOVATION PLAN



(1 : 25)

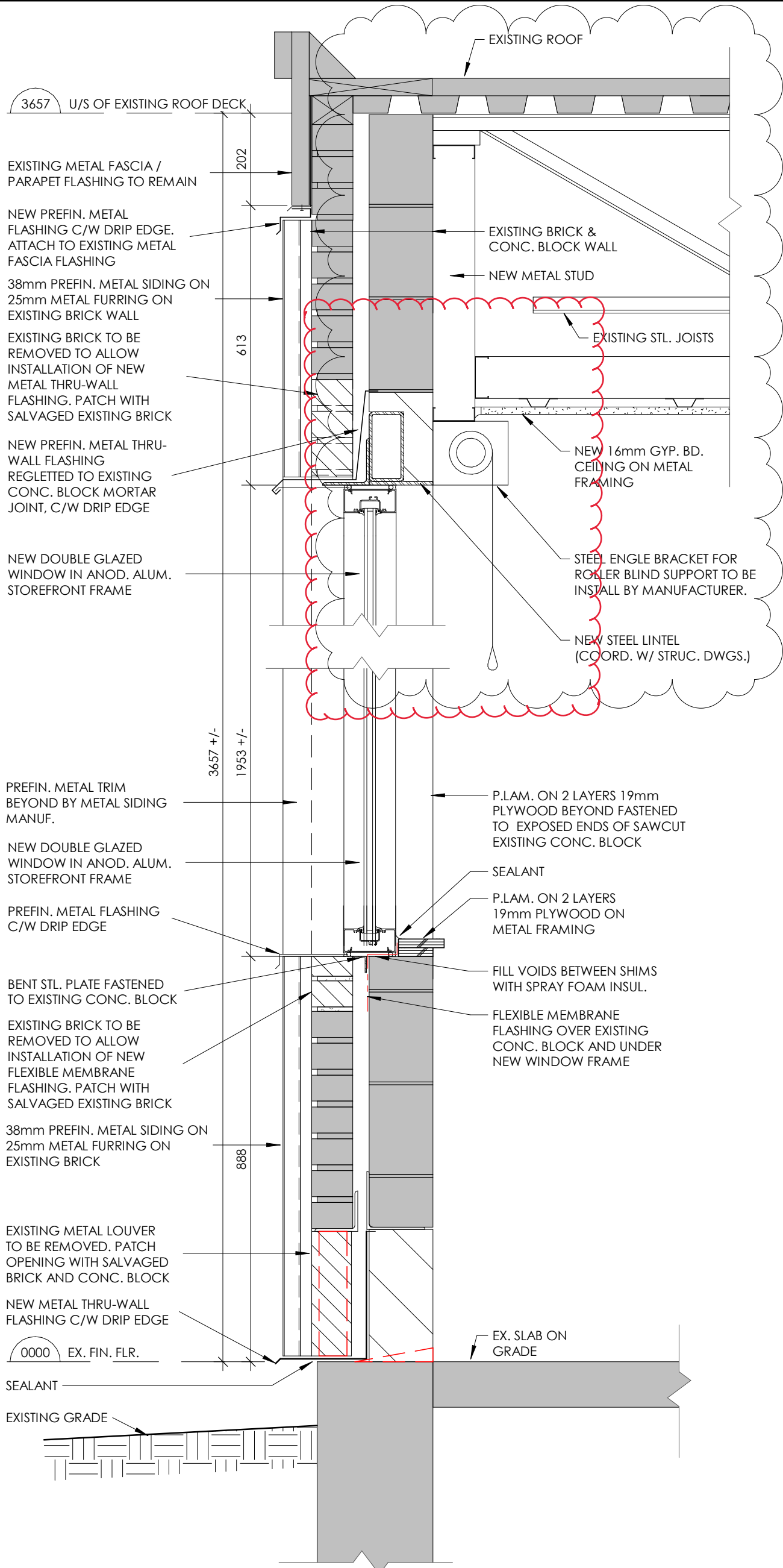
AR1

DESCRIPTION

Date:	03/15/23	Scale:	1 : 25
DWG. REF. NO.:		ISSUED FOR:	ADDENDUM 1
Project NO.:	22057		

+VVG ARCHITECTS
THE VENTIN GROUP LTD

RENOVATION



1 WALL SECTION DETAIL - LIBRARY WINDOW
AR2 1 : 10

DESCRIPTION

Date:	03/16/23	Scale:	1 : 10
DWG. REF. NO.:		ISSUED FOR:	ADDENDUM 1
Project NO:	22057		

RENOVATION

PART 1 - GENERAL

1. GENERAL REQUIREMENTS

1. Division One, General Requirements, is a part of this Section and shall apply as if repeated here.

2. QUALIFICATIONS

1. The Company performing the work of this Section shall be a member of the Terrazzo, Tile and Marble Association of Canada.

3. SAMPLES

1. Submit 4" x 6" (100 mm x 150 mm) samples of each colour and type of terrazzo intended for use on this project. Colours to match the following standard terrazzo plate numbers: Terrazzo 1 Plate No. 751G, Terrazzo 2 Plate No. 752G, Terrazzo 3 Plate No. 743G, and Terrazzo 4 Plate No. 746G.
2. Final colours of terrazzo to be selected by Architect.
3. See drawings for quantity of four colours to be used to create floor patterns as indicated on drawings.

4. MAINTENANCE MANUAL

1. Provide the Owner three brochures containing Maintenance and Stain Removal instructions approved by the Terrazzo, Tile and Marble Association of Canada.

5. SPECIAL PROTECTION

1. Prohibit traffic on terrazzo floors during installation and for a minimum of 24 hours after installation.
2. Protect newly ground floors from damage and staining.
3. Protect finished corners exposed to construction operations and traffic.
4. Before final acceptance of the work all damaged or defective work of this Section shall be made good and the entire work cleaned down and waxed in an approved manner so that it shall be turned over in perfect condition in all respects.

6. SHOP DRAWINGS

1. Submit shop drawings in reproducible vellum form showing expansion joints, control joints, and divider strip locations for Architect's approval.
2. Locate joints above sawcut joints in concrete slab below. Refer to structural slab shop drawings for locations of control joints and expansion joints.
3. This shop drawing shall be co-ordinated with the concrete slab contractor and the Structural Engineer to finalize exact locations of control joints prior to concrete slab being installed and control joints cut.

PART 2 – PRODUCTS

1. MATERIALS

1. Cement: Portland Cement to CAN/CSA-A5.
2. Sand: Sharp, screened sand to CAN/CSA-A23.1.
3. Water: Clean, potable water free from oil, acids, alkali or organic matter.
4. Marble and Granite Chips: Clean and sound No. 1 and No. 2 crushed from sound marble with dust screened out. Size as per T.T.M.A.C. recommended standardization of chip sizes.
5. Colour Pigments: Non-fading mineral pigments to British Standard 1014.
6. Divider Strips: 1/8" (3 mm) x 1 1/4" (32 mm) deep except where specified otherwise, brass divider strips provided with anchorage devices.
7. Curing Compound: Type 11 non-staining to CGSB specification, 90-GP-1. Moisture retention shall not exceed 0.015 grams.
8. Cleaners, Sealers, and Floor Finish: Terrazzo, Tile and Marble Association of Canada Types 1001, 1002, 1003, 1004, 2001, 2002, and 3001 as applicable.
9. Slip Sheet: 6 mil (25 um) polyethylene film to CGSB Specification 70-GP-1, Type 1.

10. Reinforcing Mesh: 50 mm x 50 mm No. 16 x No. 16, steel mesh, electrical welded, galvanized after fabrication, conforming to CSA Standard G30.5.

2. MIXES/PROPORTIONS

1. Underbed: one part of cement to four parts sand by volume. Wet and mix thoroughly. Generally use no more than 4 gal. (18 litres) of water per bag of cement for underbed mix.
2. Standard Terrazzo Topping: 90 lb. (40 kg) bag of cement and 200 lb. (90 kg) of chips, mixed dry. Chip sizes 70% No. 2 and 30% No. 1 as directed to obtain colour and finish as approved by Architect. Mix with no more than 4 gal. (18 litres) of water per bag of cement.

3. TERRAZZO COLOURS

1. Allow for four terrazzo colours to be from the standard colour range as per 1.4 a.
2. The Architect shall finalize colour selection prior to sample submittals.
3. Cement pigment colour to match existent terrazzo.

PART 3 - EXECUTION

1. EXAMINATION OF SURFACES

1. Examine surfaces upon which the work of this section is to be installed and report any defects to the architect.

2. PREPARATION

1. Concrete slab below underbed to have a light broom finish to allow for proper bonding. Provide additional roughness to slab where required to allow for good bonding.
2. Floating Terrazzo: broom clean base slab, fill all voids with loose sand. Apply 1 ply polyethylene film over sand. Lap joints 4" (100 mm). NOTE: Make total thickness of floating terrazzo not less than 2 ½" (64 mm) thick. See Detail No. 2 in TTMAC Portland Cement Terrazzo Manual.

3. INSTALLATION

1. Underbed: Apply over prepared substrate and screed level making allowances for applicable terrazzo topping. Permit underbed to cure minimum 24 hours prior to receiving terrazzo topping.

2. Divider Strips
 - .1 Set divider strips while underbed is semi-plastic. Set strips accurately, straight and to exact finished floor level at approximately 30" (750 mm) o.c. both ways except where indicated otherwise and to patterns indicated on drawings. Set shelf type dividing strips at junctions of resilient flooring and terrazzo surfaces. Install applicable strips under centre line of doors, to separate terrazzo from adjacent different floor finishes.

 - .2 Provide 500 feet (150,000 mm) of straight double divider strip at control joint locations directly above concrete slab control joints. See Structural drawings for suggested locations of control joints.

 - .3 Provide curved divider strips where required to form patterns indicated on drawings.

3. Standard Terrazzo Topping to TTMAC Detail No. 2
 - .1 When underbed has sufficiently set, apply terrazzo topping, consisting of chips and cement proportioned to produce a surface showing at least 85% marble aggregate. Add integral colouring as required. Thoroughly compact topping with a 200 lb. (90 kg.) roller where possible, tamp inaccessible areas where rolling is not possible. Add dry aggregate as required to obtain a compact mass and the proportion of exposed aggregate specified. Install terrazzo topping to provide colours and patterns indicated on drawings.

 - .2 Steel trowel to true even surface exposing dividing strips. Cure for at least 6 days.

 - .3 After curing machine grind surface using No. 60 to No. 80 carborundum grit until at least 85% of aggregate exposed.

 - .4 Immediately after grinding, fill voids and pores with cement grout coloured same as original mix. Maintain moist for minimum of 24 hours.

 - .5 Final polishing shall not proceed within 72 hours after placing grout.

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Renovation. New Univ. WR &
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153 Montcalm Drive Kitchener,
Ontario
+VG Project No. 22057

- .6 Remove grout and rub to a polished surface using No. 120 carborundum grit. Clean surface using a soap emulsion and warm water. Scrub to Architect's approval. Rinse terrazzo with clean water and then dry thoroughly. Dry clean terrazzo with industrial vacuum cleaning machine, removing all traces of dust. Apply first coat of sealer as soon after cleaning as possible. Apply sealer in accordance with manufacturer's written directions, and wipe off excess sealer before it dries. Apply second coat of sealer in same manner as first, but not until all other work is complete and terrazzo has been cleaned again as previously specified above. Then apply two coats of surface finish as approved by Owner's maintenance staff TTMAC.

4. PATCHING

- .1 Remove and replace all defective or damaged work promptly and when directed by Architect.

END OF SECTION

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- .1 The General Conditions of the Contract, Supplementary Conditions, and the General Requirements of Division 1, form part of this Section, and must be read in conjunction with the requirements of this section and all related sections.
- .2 The work of this section, and related work specified in other sections shall comply with all requirements of Division 1 – General Requirements.

1.2 ENVIRONMENTAL REQUIREMENTS

- .1 Provide materials in this specification section based on but not limited to the following criteria:
 - .1 Option: Materials of this section may conform to performance standards for recycled material content (7.5% post-consumer + ½ post industrial) and distance to the job site (500 km).
 - .2 Requirement: Materials of this section and accessory materials such as adhesives used in their installation must conform to performance standards for low VOC content.
 - .3 Requirement: carpet products must meet or exceed the requirements of the Carpet and Rug Institute's Green Label Indoor Air Quality Test Program.
- .2 Refer to Section 01560 Environmental Protection for additional criteria not listed above.

1.3 SECTION INCLUDES

- .1 Provision of all labour, materials, equipment and incidental services necessary to provide carpet floor finish, including primers, mastics and leveling fillers, adhesives, carpet material, underlay, carpet base, accessories, and protection.

1.4 REFERENCES

- .1 CAN/CGSB-4.2- 92, Textile Test Methods.
- .2 CAN/CGSB-4.129- 93, Carpets for Commercial Use.
- .3 CAN/CGSB-25.20- 95, Surface Sealer Floors.

- .4 CAN/ULC-S102- M88, Surface Burning Characteristics of Building Materials and Assemblies.
- .5 CAN/ULC-S102.2- M88, Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials and Assemblies.
- .6 Carpet and Rug Institute (CRI) - Contract Carpet Manual, No.001.
- .7 Carpet and Rug Institute (CRI) - IAQ Carpet Testing Program.
- .8 ASTM D 1055- 90, Specification for Flexible Cellular Materials - Latex Foam.
- .9 ASTM E 84- 95, Test Method for Surface Burning Characteristics of Building Materials.

1.5 QUALITY ASSURANCE

- .1 Installer shall have a minimum of five (5) years documented experience in the installation of commercial carpet, and be certified by the Manufacturer. Documentation shall be submitted to the General Contractor.

1.6 SUBMITTALS

- .1 Submit control submittals in accordance with Section 01300 - Submittals.
- .2 Submit certificate to demonstrate compliance with CAN/ULC S102 and CAN/ULC S102.2.
- .3 Submit proof that carpet has been tested and passed the Indoor Air Quality (IAQ) Carpet Testing Program requirements of the Carpet and Rug Institute.
- .4 Manufacturer's Instructions: Provide to indicate special handling criteria, installation sequence, cleaning procedures.
- .5 Product Data
 - .1 Submit product data in accordance with Section 01300 – Submittals.
 - .2 Submit product data sheet for each carpet tile, adhesive, carpet protection and subfloor filler.
 - .3 Submit WHMIS MSDS - Material Safety Data Sheets acceptable to Labour Canada and Health and Welfare Canada for carpet adhesive and seam adhesive. Indicate VOC content.
- .6 Samples

- .1 Submit samples in accordance with Section 01300 - Submittals.
- .2 Submit duplicate full size pieces of each type carpet tile, duplicate pieces for each selected colour.

.7 Closeout Submittals

- .1 Submit operation and maintenance data for incorporation into manual specified in Section 01700 Project Close-Out.
- .2 Include information on recycling of carpet including manufacturer's reprocessing program. Indicate which portions of materials are recyclable.

.8 Extra Materials

- .1 Provide extra materials of carpet tile and adhesives in accordance with Section 01700 - Project Close-Out.
- .2 Provide minimum 2% of each colour, pattern and type of carpet tile. Provide in one continuous full width roll or from same dye lot.
- .3 Extra materials to be from same production run as installed materials.
- .4 Identify each package of carpet and each container of adhesive.
- .5 Deliver and store where directed by Owner.

1.7 REGULATORY REQUIREMENTS

- .1 Prequalification: tested to CAN/ULC-S102.2.
- .2 Indoor Air Quality: compliance with CRI Indoor Air Quality Program, CRI - IAQ requirements for maximum total volatile chemicals released into air. Label each carpet product with CRI -IAQ label.

1.8 DELIVERY, STORAGE AND HANDLING

- .1 Label packaged materials. For tile products indicate nominal dimensions of tile.
- .2 Store packaged materials in original containers or wrapping with manufacturer's seals and labels intact.

- .3 Store carpeting and accessories in location as directed by Owner.
- .4 Prevent damage to materials during handling and storage. Keep materials under cover and free from dampness.
- .5 Maintain temperature of store room at a minimum of 20C, for at least 24 hours immediately before the installation.

1.9 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01560 Environmental Protection.

1.10 PROJECT/SITE ENVIRONMENTAL REQUIREMENT

- .1 Moisture: ensure substrate is within moisture limits prescribed by manufacturer.
- .2 Temperature: Maintain ambient temperature of not less than 18°C from 72 hours before installation to at least 72 hours after completion of work.
- .3 Relative humidity: Maintain relative humidity between 10 and 65% RH for 48 hours before, during and 48 hours after installation.
- .4 Safety: Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials.

1.11 VENTILATION

- .1 Ventilate area of work as directed by General Contractor by use of approved portable supply and exhaust fans.
- .2 Ventilate enclosed spaces in accordance with Section 01560 Environmental Protection.
- .3 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.

1.12 EXTENDED WARRANTIES

- .1 System Warranty

- .1 Provide manufacturer's certificate warranting the specified carpet products against defects in materials and manufacture including deterioration of backing, delamination, stretching, wrinkling, fading, or other conditions detrimental to appearance or performance, for a minimum period of 10 years from the date of the Certificate of Substantial Performance. Warranty shall cover complete replacement of affected area including carpet, adhesives, and removal/installation costs.
2. Installation Warranty
 - .1 Provide a written warranty stating that carpet installation is guaranteed against defects for two (2) years from the date of the Certificate of Substantial Performance.

PART 2 - PRODUCTS

2.1 CARPET TILE

1. Carpet (CP): 1830mm x 32m roll; 678g/m² face weight, 100% solution dyed, patterned loop; pile height 4.7mm, CLASS 1.
 - a. Acceptable Material:
Cartography #04843 with Powerbond® Cushion backing, as manufactured by Tandus-Centiva;
Colour to be selected by consultant.

2.2 ACCESSORIES

- .1 Adhesive: Acrylic release type: recommended by carpet tile manufacturer; Low VOC content in accordance with CRI requirements.
- .2 Carpet protection: non-staining heavy duty kraft paper, or cardboard.
- .3 Concrete Floor Sealer/Moisture Barrier: Planiseal™ MRB, by Mapei or approved equal product.

- .4 Subfloor Filler and Patch: Portland cement based, premix latex requiring only water to produce cementitious paste; "Planipatch®" by Mapei or approved equal product.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Examine substrates for defects and determine level of preparation required prior to commencement of installation.
- .2 Report any major defects such as cracks greater than 1.5mm in width, and variations in elevation greater than 6mm in 3m in any direction or excessive moisture content in concrete slabs.
- .3 Ensure concrete floors are dry by using test methods recommended by flooring manufacturer, and exhibit negative alkalinity, carbonization or dusting.
- .4 Moisture test results shall meet or exceed the flooring manufacturer's warranty requirements but in no instance shall exceed 0.4kg/100m²/24 hours. Alkali readings shall be 5 to 9.

3.2 PREPARATION

- .1 Remove ridges and bumps.
- .2 Apply sub-floor filler/patch to low spots and cracks to achieve floor level to a tolerance of 1:500. Allow to cure.
- .3 Where moisture tests result in values higher than those specified above, apply floor sealer/moisture barrier to concrete floor surface prior to installation. Re-test moisture levels.
- .4 Prepare floor surfaces in accordance with Contract Carpet Manual, Standard for Installation of Textile Floorcovering Materials No.001.
- .5 Pre-condition carpeting following manufacturer's printed instructions.
- .6 Install resilient base before proceeding with carpeting.

3.3 INSTALLATION

- .1 Install in accordance with manufacturer's printed instructions and in accordance with Contract Carpet Manual, Standard for Installation of Textile Floorcovering Materials No.001.
- .2 Install carpeting after finishing work is completed but before demountable office partitions and telephone and electrical pedestal outlets are installed.
- .3 Finish installation to present smooth wearing surface free from conspicuous seams, burring and other faults.
- .4 Use material from same dye lot. Ensure colour, pattern and texture match within any one visual area.
- .5 Cut and fit neatly around architectural, mechanical, electrical and telephone outlets, and furniture fitments, around perimeter of rooms into recesses, and around projections.
- .6 Cut and install carpet tile in pan type floor access covers.
- .7 Carpet Tile:
 - .1 Apply acrylic release type adhesive and install carpet tile in accordance with manufacturer's written instructions.
 - .2 Lay tiles with butt seams.

3.4 PROTECTION OF FINISHED WORK

- .1 Vacuum carpet clean immediately after completion of installation. Protect traffic areas.
- .2 Prohibit traffic on carpet until adhesive is cured.
- .3 **Install carpet protection to satisfaction of Architect.**

END OF SECTION

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

1. Division One, General Requirements, is a part of this Section and shall apply as if repeated here.

1.2 SHOP DRAWINGS

1. Submit shop drawings in sepia form in accordance with GC3.11 CCDC-2 2008.
2. Before shop drawings and fabrication is started, take critical measurements of the site to facilitate installation and fitting of work.

1.3 SAMPLES

1. Submit samples of colour and finish approval by the Architect.

1.4 RELATED WORK SPECIFIED ELSEWHERE

1. Masonry - Section 04200
2. Painting - Section 09900

PART 2 PRODUCTS

2.1 SHELVES

1. Four ¾" (19 mm) O.D. square 18 gauge (1.2 mm) steel tubes closed and protected with form fitting plastic end caps. Supply one shelf per unit equal to Architectural School Products Model STL 1001.

2.2 BRACKETS

1. Two-piece heavy duty die cast aluminum designed with an integral backplate that provides a sure grip fastening. All screw fasteners shall colour match bracket finish.

2.3 DOVETAIL

1. Mounting shall be heavy gauge extruded aluminum engineered for a slide fitting vertical adjustment of one full shelf with length to suit. Spacing as per manufacturer's standard but shall not exceed 1016mm (40").

2.4 COAT HOOKS

1. Manufacturer's standard double prong moulded ABS high-impact plastic formed

to be non-turning, positive gripping and adjustable. Supply and install one hook per every 6" of length of shelf (a min. of 18 hooks per shelf length). Two colours to be selected by Architect from manufacturer's standard colour range.

2.5 FINISHES

1. Shelves, brackets and channel mounts shall be baked on enamel on rust proofed steel. Colour to be selected by Architect from manufacturer's standard colour range.

2.6 MANUFACTURERS

1. Unit shall be equal to:
 1. Architectural School Products Model STL 1001.
 2. Approved equal by Vogel-Peterson or Global School Products Inc.

PART 3 EXECUTION

3.1 INSTALLATION

1. Channel mounts and brackets spaced as per manufacturer's standard but shall not exceed 40" (1000mm).
2. Install units where indicated on drawings.
3. Height of shelves to be as instructed by the Architect.

END OF SECTION



Waterloo Region District School Board

DESIGN BRIEF FOR EXTERIOR WINDOWS, ENTRANCE & CURTAIN WALL SYSTEMS

For:

Waterloo Region District School Board

Prepared:

March 2015

Δ Updated as notes by WRDSB October 19, 2015

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Design Brief for Exterior Windows, Entrance & Curtain Wall Systems

This Design Brief is to provide the design consultant a parameter for the design for the building envelop closures and access points.

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1 Design Parameters

Design parameters are to meet the latest Ontario Building Code Compendium SB-10 prescriptive method for Energy Conservation for all building envelope and access point closures and shall follow the WRDSB requirements outlined in this document. An Energy Assessment Analysis for retrofit projects may be required at the request of the WRDSB.

a) Maximum Ratio Glazing vs. Building Envelope

- Overall building vertical fenestration-to-wall-ratio (FWR) shall not exceed 25%. The method of calculating the FWR shall match that required for demonstrating compliance with OBC energy provisions. Areas of vertical fenestration ratio exceeding the 25% requires WRDSB approval at the design stage.
- Exterior spandrel glazing area ratio shall not exceed 7.5% of the overall building vertical surface area. (All exterior spandrel glazing within a glazing system shall have an insulated back pan.)
- Vision glass area in teaching spaces should be targeted at 10% of the floor area of the room. Vision glass area for Child Care rooms shall be a minimum of 10% of the floor area of the room.

b) Skylights

- The use of skylights is not permitted in new construction by the WRDSB. Clerestory fenestration is an acceptable option in lieu of skylights.

2 Framing

Exterior Fenestration:

- Thermally broken extruded aluminum framing.
- Non-thermally broken hollow metal framing kept to a minimum and shall be used at exterior entrances for the following spaces: Shipping & Receiving, Storage Room, Utility Room. The non-thermally broken hollow metal frames shall be filled solid with spray foam insulation.
- Locate thermal break of the aluminum framing in line with the exterior building envelope insulation space to obtain maximum thermal resistance at the transition.
- Suggested classroom window sill heights: 800mm A.F.F. to allow millwork positioning below the window sill at ground floor levels and 1000mm A.F.F. at upper floors.

Suggested kindergarten window sill height: 400mm A.F.F.

Where snow build-up may occur at exterior wall locations where there is typically no snow removal carried out, a minimum 400mm sill height above finished grade shall be provided.

2 Framing (cont'd.)

Δ *Window sills – prefinished extruded aluminum, as shown on drawings, colour and finish to match exterior finish of window frames. **Site-fabricated bend aluminum plates/sheet sills are not acceptable.***

1. *Drip deflectors (end dams, rounded cap) at all ends*
2. *Joint covers where sills are not continuous lengths, and at mitres*
3. *Align intermediate joints with mullions*

4. *Round off all protruding edges and corners*
 5. *Precast concrete window sills preferred, if possible*
- All fenestration above roof levels shall have a minimum sill height of 500mm above the finished roof below.
 - All spandrel glazing shall have sealed insulated metal back pans to maximize insulation value. (Minimum R value of the insulated back pan shall be R-14 or the full depth of the back frame in which the spandrel panel is installed in, but in no case less than R-14)
 - All framing shall be secured with stainless steel fasteners and sealed to the building envelop opening perimeters to form a continuous barrier.
 - All exterior doors aluminum entrance doors shall be thermally broken door frames.

3 Glazing

a) Glazing Types and Locations

The following glazing types shall be provided at the following locations:

- Exterior entrance doors and sidelight glazing, Sliding doors, Exterior ground floor glazing, Exterior glazing above ground floor :
Outer Light Glass: 6mm (1/4") Tempered Glass
Inner Light Glass: 6mm (1/4") Tempered Glass
- Exterior and interior glazing not protected by a guard and below guard height adjacent to a minimum 600mm grade differential: Glazing shall be designed to withstand the loads on guards as per Division B, Section 4 and SB-13 of the O.B.C.
- Interior doors and sidelight glazing: 6mm tempered clear vision glass
- Fire rated glazing: 5mm (3/16") minimum thick Firelite safety premium grade (impact resistant) glass, conforming to CAN/CGSB - 12.11-M90, ASTM E2010, CAN 4 S-104 and CAN 4 S-106 and thickness required by manufacturer for fire rating required in the assembly in which the glazing is installed.
- No Georgian Wire Glazing shall be used for interior/exterior glazing applications.
- Insulating units conforming to CAN/CGSB - 12.8 - M90 and
 - IGUs shall be double-glazed.
 - IGUs shall include an argon-filled inter-pane gap (minimum 90% argon). The gap thickness shall be approximately 12.7 mm (0.50 inches).
 - IGUs shall include low-e coating on surface #2. (low-e on surface 3 for tinted glazing)
 - Center-of-glass U-value shall not exceed 1.53 W/m²/°C (0.27 btu/hr/ft²/°F) (NFRC or CSA rating).
 - Center-of-glass SHGC shall not exceed 0.40 (NFRC or CSA rating).
 - Center-of-glass VT (visible transmittance) shall not be less than 0.60 (NFRC or CSA rating).

The low-e coating products listed below are examples of products that will typically meet all the above requirements for U-value, SHGC, and VT (when used in an IGU with argon fill).

- PPG Solarban 60
- Guardian Sunguard SuperNeutral 68
- Cardinal LoE²-270

3 Glazing

a) Glazing types and Locations (cont'd.)

- Glass tinting is recommended for all new facilities & all wholesale glass replacement projects. Glass tinting for partial re-glazing projects to be reviewed with School Board project coordinator.
- Spandrel Glass Panels: 6mm (1/4") tempered glass with opaci-coat back . (Spandrel glazing requires a sealed insulated metal back pan with min R-14 insulating value)
- Translucent Insulated Glazing Units :
Acid-etched application on glass surface 3
Glass Outer Lite – 6mm tempered glass
Inner Lite – 6mm clear tempered glass
Acid-etched texture & tinting, if required, to be confirmed to maximize natural light transmission.
- Consult the WRDSB to identify areas where high impact glazing may be required i.e. near play areas, sport areas or known high vandalized areas. Suggest 10mm (3/8") thick tempered exterior or interior glazing pane. Thick glazing pane to be installed on the side of direction of impact.

b) Maximum Glazing Panels

It is recommended that the maximum glazing panel sizes shall be kept within the following limits:

- For all types of glass 1220 x 2440mm (48" x 96") – The dimension in only one direction may exceed 1220mm (48")

4 Operable Windows

- Operable Windows: Recommended for all teaching spaces, meeting rooms, administration/staff areas or where constant supervision is available. The operable vent area shall be a min. of 1% of the floor area in which the vent is located.
- Operable Window Type: Slider windows preferred in buildings without air conditioning.
Slider window operation shall be located within 1200mm (4'-0") above the finished floor. Provide slider stop on operable windows located on upper floor levels to prevent opening the vent more than 100mm (4").

4 Operable Windows (cont'd.)

- Alternate Operable Window Type: Awning window type (top hinged, out swinging) preferred in buildings with air conditioning.

All out swinging operators shall be minimum 2100mm (6'-11") above exterior grade with crank operation at maximum 1200mm above finished floor or have a maximum outswing operation of 100mm (4") with the vent projection not extending beyond the exterior window sill projection, whichever is less.

- Insect screens on all operable windows.

5 Hardware

- All hardware to be supplied under Hardware Allowance.
- Exterior doors with continuous weather stripping and maximum 12.7mm (1/2") high thresholds.
- Exterior doors: Roton concealed leaf geared hinges.
- Interior doors: stainless steel ball bearing hinges.
- Locking and security to be coordinated with School Board hardware expert.
- All entrance hardware operators shall be compatible with accessibility devices and security operation.

6 Blinds

- All teaching and administration spaces to receive manual rolling blinds at all exterior windows.
- Automatic operated rolling blinds to be provided at all high ceiling spaces exceeding 3000mm (10'-0").
- Rolling blinds to be 1% open weave flame retardant fabric for teaching spaces and libraries and 3% for administration areas.
- Δ *Cassette design shall be a one piece aluminum extruded box closed on all four sides, top, back, sides and bottom return. Cassette sections to be square profile. Cassette section with internal groove to accommodate a self-cleaning brush to insure fabric maintenance as well as a gap brush on top back side of cassette to provide for a light seal.*
- Δ *Finish clear anodized aluminum or custom painted in colour section by Consultant.*
- Δ *Operating chain (manual shades) shall be no. 10 qualified heavy duty stainless steel bead chain 90 lb. load test formed in a continuous loop with stops at highest and lowest positions to prevent over winding and unrolling.*

7 Installation, Inspection & Testing

- Installation shall be in accordance with ASTM E2112 – "Standard Practice for Installation of Exterior Windows, Doors & Skylights"
- The cost of inspection and testing will be paid out of an allowance specified.
- Inspection and Testing Companies for trades will be selected from competitive bids obtained by the General Contractor for review and recommendation.
- Provide full size mock-up of typical window installation within wall opening at start of construction for review and approval.
- Provide inspection and testing reports prepared by independent Inspection and Testing Agency of the building envelope components (air-barrier, insulation,

flashing, transition membranes, etc.) tied to the fenestration including a blower door test in accordance with ASTM E783 – “Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors”

Suggested intervals of inspection at following stages of installation:

- Air/vapour barrier window perimeter installation.
- Window frame installation.
- Window perimeter seal to wall installation.
- Glass installation.
- Provide thermography testing of all fenestration during the first heating season after Substantial Completion.

8 Maintenance

- All maintenance within the warranty period, pertaining to the operation of the components specified, shall be included in the tender amount.
- Maintenance and Operation Manuals shall be submitted for the components supplied and installed to the School Board upon completion of the project.

9 Warranty

The following warranties are to be provided and shall include labour and materials:

- Aluminum Windows, Entrance Framing & Doors 5 years
- Glazing 10 years

△ 10 LIST OF APPROVED VENDORS

Acceptable Manufacturers

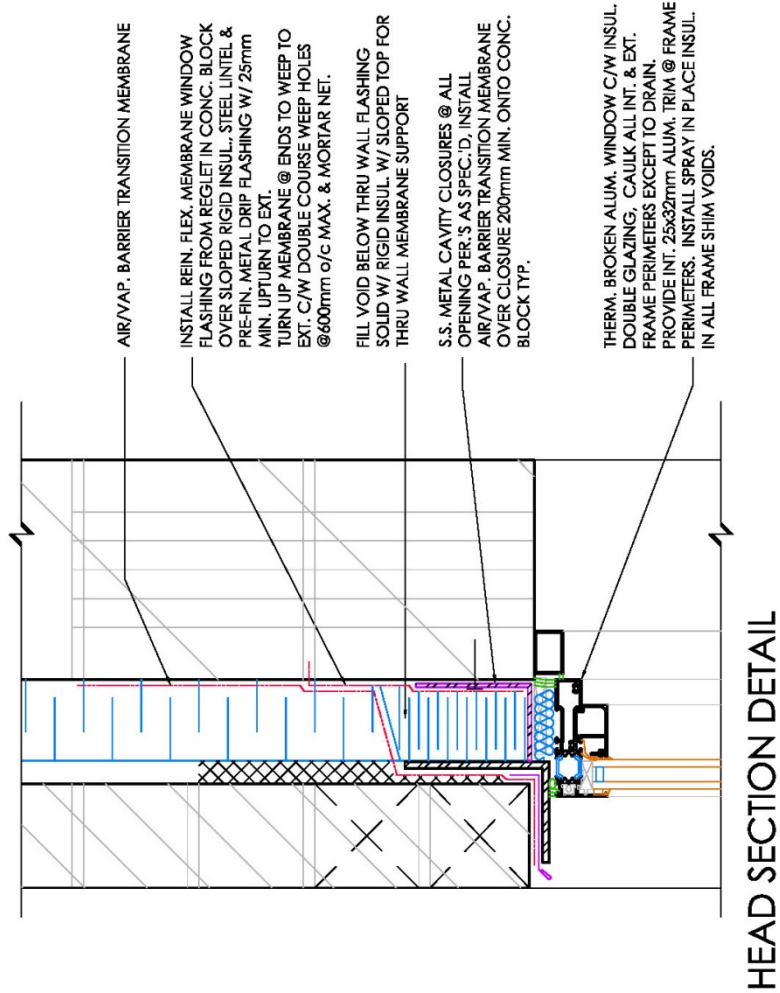
- *Kawneer Company Inc*
- *Alumicor Ltd.*
- *Sherwood Windows Group*
- *Aerloc Industries Ltd.*

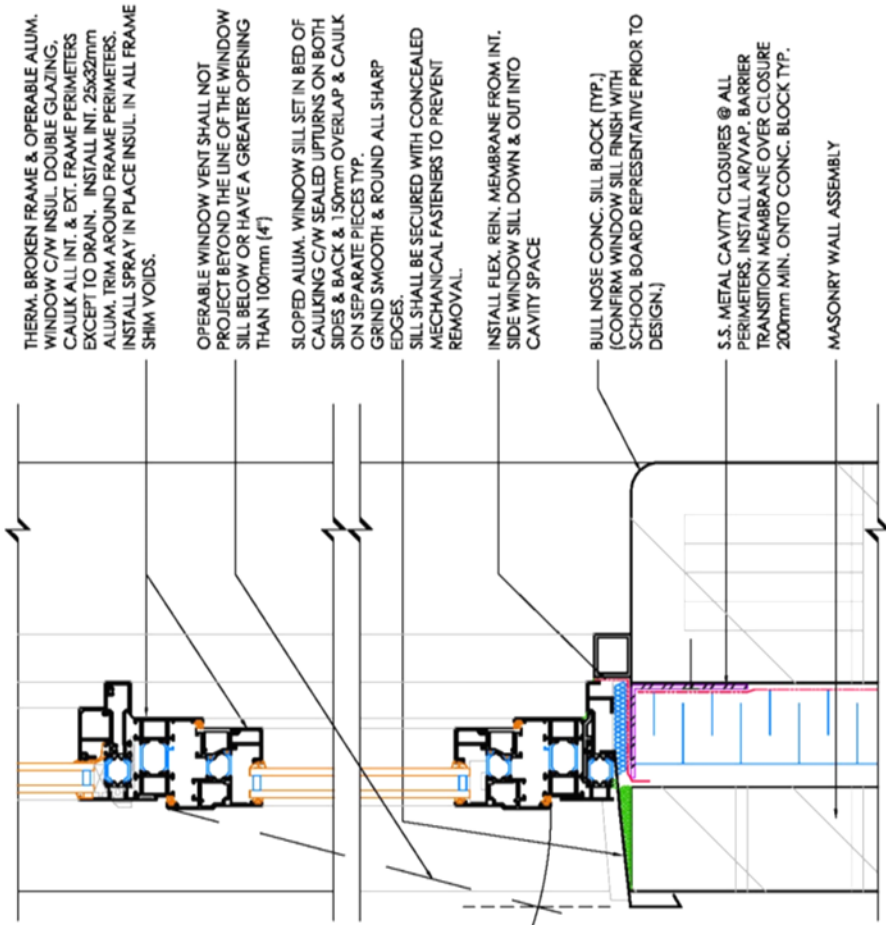
Installers

- *See record of vendor list from purchasing*

Not to be modified without approval from Board

11. Typical Opening Details





THERM. BROKEN FRAME & OPERABLE ALUM. WINDOW C/W INSUL. DOUBLE GLAZING, CAULK ALL INT. & EXT. FRAME PERIMETERS EXCEPT TO DRAIN. INSTALL INT. 25x32mm ALUM. TRIM AROUND FRAME PERIMETERS. INSTALL SPRAY IN PLACE INSUL. IN ALL FRAME SHIM VOIDS.

OPERABLE WINDOW VENT SHALL NOT PROJECT BEYOND THE LINE OF THE WINDOW SILL BELOW OR HAVE A GREATER OPENING THAN 100mm (4")

SLOPED ALUM. WINDOW SILL SET IN BED OF CAULKING C/W SEALED UPTURNS ON BOTH SIDES & BACK & 150mm OVERLAP & CAULK ON SEPARATE PIECES TYP. GRIND SMOOTH & ROUND ALL SHARP EDGES.

SILL SHALL BE SECURED WITH CONCEALED MECHANICAL FASTENERS TO PREVENT REMOVAL.

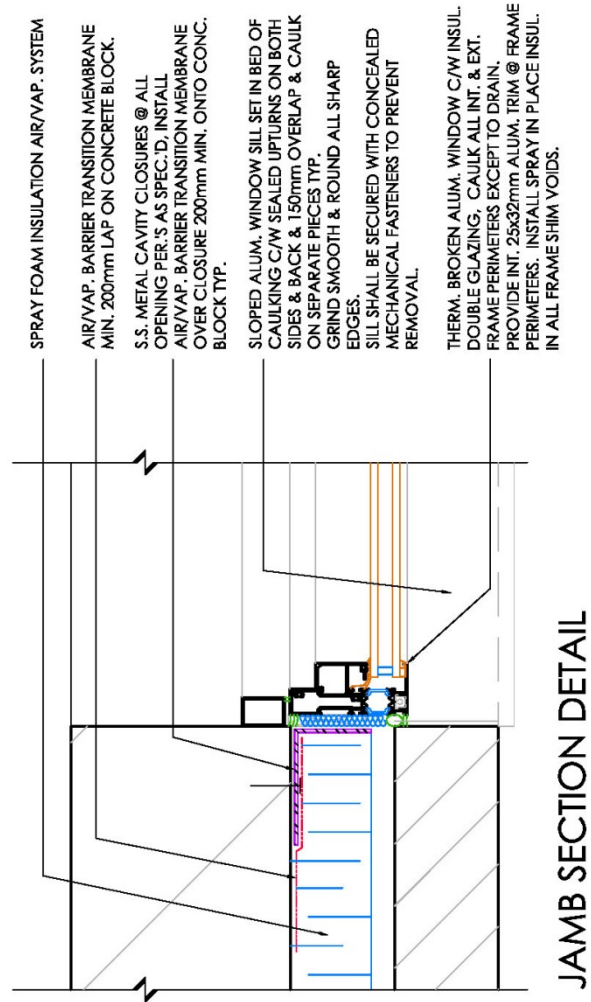
INSTALL FLEX. REIN. MEMBRANE FROM INT. SIDE WINDOW SILL DOWN & OUT INTO CAVITY SPACE

BULL NOSE CONC. SILL BLOCK (TYP.) [CONFIRM WINDOW SILL FINISH WITH SCHOOL BOARD REPRESENTATIVE PRIOR TO DESIGN.]

S.S. METAL CAVITY CLOSURES @ ALL PERIMETERS, INSTALL AIR/VAP. BARRIER TRANSITION MEMBRANE OVER CLOSURE 200mm MIN. ONTO CONC. BLOCK TYP.

MASONRY WALL ASSEMBLY

SILL SECTION DETAIL



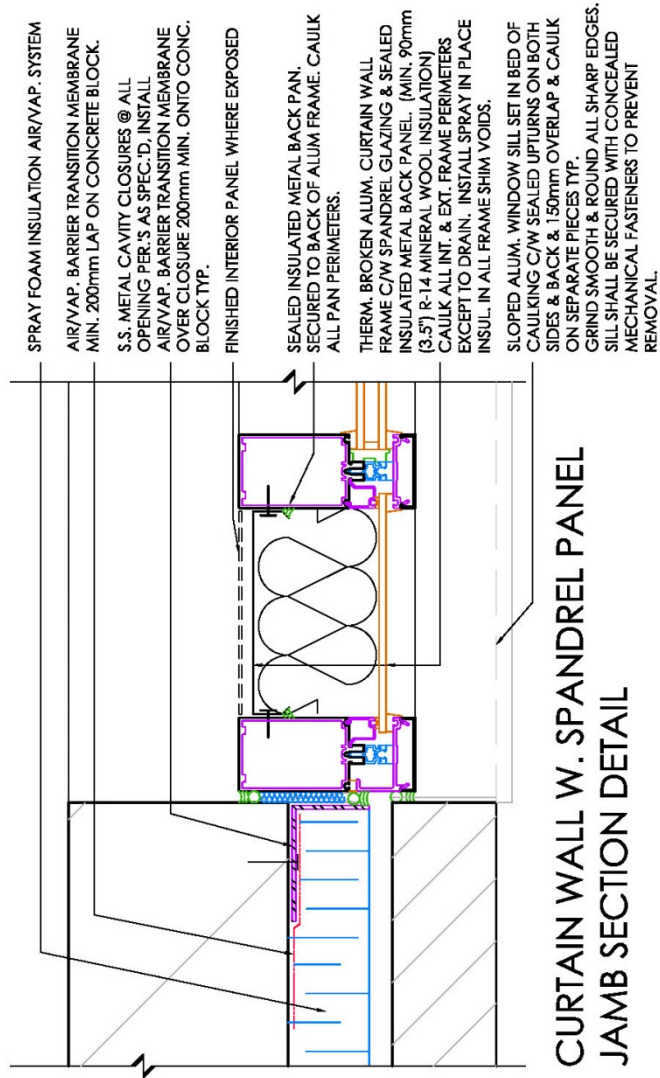


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SPECIAL NEEDS WASHROOM

1. FUNCTION & OCCUPANCY

a) Function:

- To provide a separate individual washroom designed to cater to individuals with special needs or those requiring assistance.
- To be placed in close proximity to any Special Education Classrooms, centrally located, on ground floor and in proximity to an exit.
- Every school requires one Special Needs Washroom. Schools that have a Developmental Education Classroom require two Special Needs Washrooms (one within the classroom and one off the public corridor).

b) Functional Floor Area:

- Target area of 10 sq.m (107 sq.ft)
- Designed to meet OBC barrier free spatial requirements.

2. ACCESS & CIRCULATION

a) Doors:

- Main entrance door to be from public corridor.
- Main entrance doors to be 1000mm wide.
- Provide automatic door opener c/w “aid assistance alarm” wired to the School’s Main Office.

3. WORK SURFACES & STORAGE

a) Cabinets & Countertops:

- Provide millwork cabinet with open shelving below and lockable cabinet above. Refer to proposed elevation drawings included in this design brief.

4. FINISHES

a) Walls:

- All walls to be concrete block with glazed ceramic tile.
- Provide one main ceramic tile colour and account for two accent colours.

b) Floors & Base:

- Porcelain tile flooring c/w porcelain base. Porcelain tile to be slip resistant.
- Floors to slope in two directions (towards floor drains).

c) Ceilings:

- 610mm x 1220mm acoustic ceiling tile c/w metal suspension system.
- Acoustic ceiling tile to be “Dune” by Armstrong.

5. OTHER FIXTURES

a) Barrier Free Lift:

- To be a fixed, ceiling lift with 4 way function (up/down/left/right)
- Minimum 200kg lifting capacity
- Track system: ‘J’ shape or ‘X –Y’ Gantry system
- Barrier Free Lift, powered by A/C, Lift charger unit powered by D/C

The preferred Structure of lift system is the concrete block wall mounted design.

- **Wall Mount:** Provide (one) 1 barrier free lift. **Model 9130009 BHM Voyager Duo 4FB** (Refer to typical connection detail into Concrete Block). Supply and installation of lift to be paid for via cash allowance (carried by General Contractor). Lift to come complete with harness.

If it is not feasible to use the wall mounted system due to site conditions and structure, refer to the alternative systems below:

- **Ceiling Mount:** Provide (one) 1 barrier free lift. **Model 9130009 BHM Voyager Duo 4FB** (Refer to connection details into Concrete, Steel and Wood construction). Supply and installation of lift to be paid for via cash allowance (carried by General Contractor). Lift to come complete with harness.
- **Wall Post Support:** Provide (one) 1 barrier free lift. **Model 9130009 BHM Voyager Duo 4FB as supplied by Motion Specialties or equivalent** (Refer to connection details into Concrete Block and Metal Stud construction). Supply and installation of lift to be paid for via cash allowance (carried by General Contractor). Lift to come complete with harness.

b) Change Table:

- Board to provide electric change table. Contractor to install outlet. Refer to electrical requirements.

c) Washroom accessories:

- Supply and install one (1) 400mm x 600mm tamperproof mirror. Mirror to be mounted maximum 1000mm A.F.F.
 - Board to supply paper towel dispensers, toilet paper dispensers and soap dispenser. General contractor to install. Accessories shall be mounted so any dispensing height is between 900–1200mm
 - General Contractor to supply and install grab bars as per OBC.
 - Board to supply “Versa Frame” handrail to be installed on one side of toilet (*optional*).
 - Supply and install hinkel hook on back of door.
- d) Garbage Disposal:
- Board to provide portable garbage container

6. MECHANICAL REQUIREMENTS

- a) Operating Temperature: 18 to 22 degrees Celsius

7. ELECTRICAL REQUIREMENTS

- a) Power Requirements:

- Provide power outlet for change table
- Provide power outlet located near ceiling for barrier free lift.
- Provide automatic hand dryer (quiet model)

- b) Lighting:

- Indirect fluorescent lighting to be T8 or T5
- Provide occupancy sensors.
- Provide wall mounted emergency lighting.

8. PLUMBING REQUIREMENTS

- a) Sinks:

- Barrier Free Wall hung sink to be installed as per OBC.
- Sink to be “Murro Universal Design Wall–Hung Basin” by American Standard or approved equal. Model #0954 000. Sink to be complete with “Shroud/Knee Contact Guard: 0059 020”

- b) Faucet:

- Provide hands–free faucet at Washroom sink with automatic tempering valve.

- Faucet to be “Electronic Faucet – 591T 4” Cast Lavatory” by Delta Commercial or approved equal. Faucet to be hardwired. Outlet to be “Vandal Resistant 0.5 USGPM Flow Control Non–Aerating Spray Outlet”.
- c) Drains:
 - Provide two (2) floor drains. One in future shower area. One central in the room.
- d) Water Closets:
 - Provide one (1) barrier free size toilet. Water closet to have automatic flush and auto sensor.
 - Water closet to be “Madera 419mm Height Elongated Flushometer 6L Toilet” by American Standard or approved equal. Model #3461 160.
 - Flush valve to be “Electronic Exposed TECK Flush Valves” by Delta Commercial. Model #81T221BT. Flush valve to be hardwired.
- e) Shower:
 - Provide rough–in piping for shower head and controls. Provide blank plate cover.

LIFE SKILLS CLASSROOM

1. FUNCTION & OCCUPANCY

- a) Function:
 - Classroom provided at intermediate (grade 7/8) and senior (grade 9–12) levels to serve intellectually exceptional students who require development of fundamental living skills that lead to employability.
 - Provide intensive support regarding social and emotional needs
 - Classroom to be placed on ground floor.
- b) Functional Floor Area:
 - Target area of 70 sq.m (750 sq.ft).
- c) Population:
 - One (1) Teacher, 2–3 E.A’s, 12–16 students per classroom.

2. ACCESS & CIRCULATION

a) Doors:

- Main entrance to classroom via main corridor.
- Main entrance doors to be 1000mm wide.
- Provide rough-in for automatic door opener.
- No direct exterior doors are to be provided.

b) Windows:

- Minimum 10% of floor area
- Operable windows required
- Proposed window sill height to be 800mm A.F.F to allow millwork to be positioned under window. Board to verify height.

3. WORK SURFACES & STORAGE

a) Cabinets & Countertops:

- Provide countertop, lower cabinets (lockable) c/w sink and upper cabinets. Countertop to be 915mm A.F.F. Refer to WRDSB Millwork Standards AW102, AW105, AW109 and AW052
- Countertops to be complete with post formed drip edge both sides.
- Provide p.lam cover around range exhaust duct.

b) Open Shelving:

- Provide open adjustable shelving to be 700mm A.F.F.
- Length to be determined on a project by project basis.

c) Teacher's Closet:

- Provide 2 lockable Teacher's closets (915mm x 825mm x 2200mm)
- Refer to WRDSB Millwork Standards AW321 and AW325. Provide one of each.

d) Coat Racks & Lockers:

- Provide lockers in corridor.

4. FINISHES

a) Walls:

- All walls to be painted concrete block to Board standards.
 - Latex block filler
 - Latex water based epoxy
- Each classroom to have two (2) colour accent walls.

b) Floors & Base:

- Vinyl composite tile (VCT) flooring c/w 100mm rubber base.
- c) Ceilings:
- 610mm x 1220mm acoustic ceiling tile c/w metal suspension system.
 - Acoustic ceiling tile to be “Dune” by Armstrong.

5. OTHER FIXTURES

a) Blinds & Drapes:

- Board standard manual roller blinds at exterior windows. Cash allowance to be carried in contract for this work. General Contractor to install.

b) White & Tack Boards:

Whiteboards:

- Provide minimum one (1) 1200mm x 2400mm c/w map rails and marker trays. To be mounted 800mm A.F.F.

Tackboards:

- Provide minimum three (3) 1200mm x 2400mm. To be mounted 800mm A.F.F.
- Provide one (1) 900mm x 900mm to be hung adjacent the main entrance door.
- Provide additional tackboards where possible.

c) Accessories:

- Board to supply paper towel dispensers and soap dispensers. General contractor to install.

d) Garbage Disposal:

- Board to provide portable garbage container

e) Appliances:

- Board to provide all kitchen appliances (stove, fridge, dishwasher, microwave, washer & dryer). General Contractor to move and install.

6. MECHANICAL REQUIREMENTS

a) Operating Temperature: 18 to 22 degrees Celsius

b) Controls: Thermostat located adjacent the main entrance door.

c) Supply and install exhaust hood for stove and dryer exhaust vent.

7. ELECTRICAL REQUIREMENTS

a) Power & Data Requirements:

- Provide minimum of three (3) data and power locations within the classroom. Power outlets to be located adjacent data drops.
 - Provide additional power outlets throughout.
 - Provide power outlet (located near ceiling) for soundfield system.
 - Provide power outlets above countertop.
 - Provide power outlet for microwave, fridge, stove, dishwasher, washer and dryer.
 - Provide P.A. system, speakers and telephone. Cash allowance to be carried by General Contractor for this work.
 - Board to provide wall mounted battery operated clock. Contractor to install.
- b) Lighting:
- Indirect fluorescent lighting to be T8 or T5
 - Provide occupancy and daylight sensors.
 - Provide perimeter classroom lights on separate switch
- c) Sound:
- School to provide Sound Field System if required.
 - Where required, Sound Field System to be “FrontRow (Phonic Ear)” or approved equal.

8. PLUMBING REQUIREMENTS

- a) Sinks:
- Provide one (1) stainless steel double sink
 - Provide one (1) stainless steel single sink c/w side mounted bubbler (*for hand washing*).
 - Bubbler to be “Model 5017LF” by Haws.
- b) Faucet:
- Provide gooseneck faucet with hot and cold controls at double sink
 - Provide gooseneck faucet with single electronic faucet hardware with automatic tempering valve at hand washing sink.
- c) Drains:
- Provide floor drain near washer and dryer.
- d) Grease Interceptor:

- Provide grease interceptor
- e) Dishwasher:
 - Provide plumbing for dishwasher

DEVELOPMENTAL EDUCATION CLASSROOM

1. FUNCTION & OCCUPANCY

a) Function:

- Classroom provided at primary (grade JK–8) and senior (grade 9–12) levels to serve students whom are moderately to profoundly developmentally challenged and are usually programmed for in congregated classrooms.
- Students may be medically complex, have severe behavioural issues and require a variety of equipment. These students require a totally individualized alternate program.
- Classroom to be placed on ground floor in close proximity to main office.

b) Functional Floor Area:

- Target area of 93 sq.m (1000 sq.ft) including Special Needs Washroom and Calming Area.
 - Calming Area to be minimum 2438mm X 2438mm
- c) Population:
- One (1) Teacher, two (2) E.A's, one (1) nurse, 10 students per classroom.

2. ACCESS & CIRCULATION

a) Doors:

- Main entrance to classroom via main corridor.
- Main entrance doors to be 1000mm wide and equipped with automatic door opener.
- May require direct exterior doors (project by project basis).
- Special Needs Washroom door to be located away from kitchen area.

b) Windows:

- Minimum 10% of floor area
- Operable windows required
- Proposed window sill height to be 800mm A.F.F to allow millwork to be positioned under window. Board to verify height.

3. WORK SURFACES & STORAGE

a) Cabinets & Countertops:

- Provide countertop, lower cabinets (lockable) c/w sink and upper cabinets. Countertop to be 915mm A.F.F. Refer to WRDSB Millwork Standards AW102, AW105, 109 and AW052
- Countertops to be complete with post formed drip edge both sides.

b) Open Shelving:

- Provide open adjustable shelving to be 700mm A.F.F.
- Length to be determined on a project by project basis.

c) Teacher's Closet:

- Provide 2 lockable Teacher's closets (915mm x 825mm x 2200mm)
- Refer to WRDSB Millwork Standards AW321 and AW325. Provide one of each.

d) Coat Racks & Lockers:

- Provide area for coats and boots in the classroom.

4. FINISHES

a) Walls:

- All walls to be painted concrete block to Board standards.
 - Latex block filler
 - Latex water based epoxy
 - Each classroom to have two (2) colour accent walls.
- b) Floors & Base:
- Resilient sheet flooring (sports flooring) c/w rubber base.
Flooring to be “Omnisport 5.0” by Tarkett Sports or “Taraflex Sport Plus” by Gym-Con.
 - Provide insulation under concrete slab in Classroom area.
- c) Ceilings:
- 610mm x 1220mm acoustic ceiling tile c/w metal suspension system.
 - Acoustic ceiling tile to be “Dune” by Armstrong.

5. OTHER FIXTURES

- f) Blinds & Drapes:
- Board standard manual roller blinds at exterior windows. Cash allowance to be carried in contract for this work. General Contractor to install.

g) White & Tack Boards:

Whiteboards:

- Provide two (2) 2400mm x 1200mm c/w map rail and marker tray. To be mounted 800mm A.F.F.

Tackboards:

- Provide minimum two (2) 1200mm x 2400mm. To be mounted 800mm A.F.F.
- Provide one (1) 900mm x 900mm to be hung adjacent the main entrance door.
- Provide additional tackboards where possible.

h) Accessories:

- Board to supply paper towel dispensers and soap dispensers. General contractor to install.

i) Garbage Disposal:

- Board to provide portable garbage container

j) Appliances:

- Board to provide all kitchen appliances (stove, fridge, dishwasher, microwave, washer & dryer). General Contractor to move and install.

6. MECHANICAL REQUIREMENTS

- a) Operating Temperature: 18 to 22 degrees Celsius
- b) Controls: Thermostat located adjacent the main entrance door.
- c) Supply and install exhaust hood for stove and dryer exhaust vent.

7. ELECTRICAL REQUIREMENTS

- a) Power & Data Requirements:
 - Provide minimum of three (3) data and power locations within the classroom. Power outlets to be located adjacent data drops.
 - Provide additional power outlets throughout.
 - Provide power outlet (located near ceiling) for soundfield system.
 - Provide power outlets above countertop.
 - Provide power outlet for microwave, fridge, stove, dishwasher, washer and dryer.
 - Provide P.A. system, speakers and telephone. Cash allowance to be carried by General Contractor for this work.
 - Board to provide wall mounted battery operated clock. Contractor to install.

- b) Lighting:
 - Students may be sensitive to light.
 - Provide 60hzt lights. Preferably up lighting. The intent is to provide more natural lighting.
 - Provide occupancy and daylight sensors. Lights may require a dimmer switch (*project by project basis*).
 - Provide perimeter classroom lights on separate switch
- c) Sound:
 - School to provide Sound Field System if required.
 - Where required, Sound Field System to be “FrontRow (Phonic Ear)” or approved equal.

8. PLUMBING REQUIREMENTS

a) Sinks:

- Provide one (1) stainless steel double sink
- Provide one (1) stainless steel single sink c/w side mounted bubbler (*for hand washing*).
- Bubbler to be “Model 5017LF” by Haws.

b) Faucet:

- Provide gooseneck faucet with hot and cold controls at double sink
- Provide gooseneck faucet with single electronic faucet hardware with automatic tempering valve at hand washing sink.

c) Drains:

- Provide floor drain near washer and dryer.

d) Grease Interceptor:

- Provide grease interceptor

e) Dishwasher:

- Provide plumbing for dishwasher

SPECIAL EDUCATION RESOURCE TEACHER (SERT) CLASSROOM

1. FUNCTION & OCCUPANCY

a) Function:

- Classroom provides a room to support individual students as well as small groups of students; it is used as an assessment room, as well as a meeting place for parents, teachers, and other professionals.
- This room is also used as a multi-purpose room.

b) Functional Floor Area:

- Minimum area of 70 sq.m (750 sq.ft).

c) Population:

- Varies.

2. ACCESS & CIRCULATION

a) Doors:

- Main entrance to classroom via main corridor.
- Main entrance doors to be 1000mm wide

b) Windows:

- Minimum 10% of floor area
- Operable windows required
- Proposed window sill height to be 800mm A.F.F to allow millwork to be positioned under window. Board to verify height.

3. WORK SURFACES & STORAGE

a) Cabinets & Countertops:

- Provide countertop, lower cabinets (lockable) c/w sink and upper cabinets. Countertop to be 915mm A.F.F. Refer to WRDSB Millwork Standards AW105, AW102 and AW052
- Countertops to be complete with post formed drip edge both sides.

b) Open Shelving:

- Provide open adjustable shelving to be 700mm A.F.F.
- Target aggregate length of 5m. Provide more if room configuration allows.

c) Teacher's Closet:

- Provide 2 lockable Teacher's closets (915mm x 825mm x 2200mm)
- Refer to WRDSB Millwork Standards AW321 and AW325. Provide one of each.

4. FINISHES

a) Walls:

- All walls to be painted concrete block to Board standards.
 - Latex block filler
 - Latex water based epoxy
- Each classroom to have two (2) colour accent walls.

b) Floors & Base:

- Vinyl composite tile (VCT) flooring c/w 100mm rubber base.

c) Ceilings:

- 610mm x 1220mm acoustic ceiling tile c/w metal suspension system.
- Acoustic ceiling tile to be "Dune" by Armstrong.

5. OTHER FIXTURES

a) Blinds & Drapes:

- Board standard manual roller blinds at exterior windows. Cash allowance to be carried in contract for this work. General Contractor to install.

b) White & Tack Boards:

Whiteboards:

- Provide two (2) 2400mm x 1200mm c/w map rail and marker tray. To be mounted 800mm A.F.F.

Tackboards:

- Provide two (2) 2400mm x 2400mm hung on both sides of whiteboards located along teaching wall. To be mounted 800mm A.F.F.
- Provide two (2) 2400mm x 1200mm to be hung above millwork. To be mounted 1000mm A.F.F.
- Provide one (1) 900mm x 900mm to be hung adjacent the main entrance door.
- Provide additional tackboards where possible.

c) Accessories:

- Board to supply paper towel dispenser and soap dispenser. General contractor to install.

d) Garbage Disposal:

- Board to provide portable garbage container

6. MECHANICAL REQUIREMENTS

a) Operating Temperature: 18 to 22 degrees Celsius

b) Controls: Thermostat located adjacent the main entrance door.

7. ELECTRICAL REQUIREMENTS

a) Power & Data Requirements:

- Provide minimum of eight (8) data and power locations within the classroom. Power outlets to be located adjacent data drops.
- Provide additional power outlets throughout.
- Provide power outlet (located near ceiling) for soundfield system.
- Provide P.A. system, speakers and telephone. Cash allowance to be carried by General Contractor for this work.

- Board to provide wall mounted battery operated clock. Contractor to install.
 - b) Lighting:
 - Students may be sensitive to light.
 - Provide 60hzt lights. Preferably up lighting (the intent is to provide more natural lighting).
 - Provide occupancy and daylight sensors. Lights may require a dimmer switch (*project by project basis*).
 - Provide perimeter classroom lights on separate switch
 - c) Sound:
 - School to provide Sound Field System if required.
 - Where required, Sound Field System to be “FrontRow (Phonic Ear)” or approved equal.
 - d) Smartboard:
 - Provide empty conduit with blank cover for future smartboard. To be located on teaching wall.
8. PLUMBING REQUIREMENTS
- a) Sinks:
 - Provide one (1) Stainless steel single sink c/w side mounted bubbler.
 - Bubbler to be “Model 5017LF” by Haws.
 - b) Faucet:
 - Provide gooseneck faucet with hot and cold controls

APPENDIX A

FLOOR PLANS & INTERIOR ELEVATIONS

Fixed Ceiling Lift Voyager Duo

The Voyager Duo is a fixed ceiling lift that offers a dual lifting capacity:

- 220 lb (100 kg) or
- 440 lb (200 kg)

With a BHM sling, it is intended for people whose pathology requires an assistance with mobility by offering a partial or total support according to the need.

# Product	Description	Market
9130209	Voyager Duo - 2 Directions	North America & United Kingdom
9130009	Voyager Duo - 4 Directions	North America & United Kingdom

√ = Included / o = Optional

# Part	Description	9130209	9130009
1a	700-13800 Hand Control - 2 Way	√	
1b	700-13820 Hand Control - 4 Way		√
2	700-15501 Charger	√	√
3	700.05491 Carry Bar	√	√
4	700-19511 Key/ Lifting capacity of 440lb (200kg)	o	o
5	700-05580 4-point Spreader Bar	o	o



Features	
Weight	28 lb / 12.7 kg / 2 st
Lifting capacity	100 kg / 220 lb / 14.75 st or 200 kg / 440 lb / 31.49 st
Soft start & stop movement	
Return to charge function on handset	

Safety Features	
Emergency lowering device	Manual & electric
Device for emergency stop of the mechanism	Helps to prevent freefalls
Emergency Stop Pull Cord	

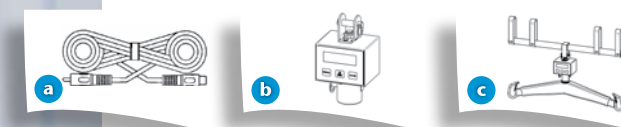
Technical Specifications	
UL STD 2601-1 / ISO 10535 / CSA C22.2 No. 601.1 - M90 / IEC 60601-1	
Vertical displacement speed	3.5 cm/sec (1.4 in/sec) at 200 kg / 440 lb / 31.49 st
Horizontal displacement speed programmable	10, 15, 20 or 25 cm/sec (3.9, 5.9, 7.9 or 9.8 in/sec) Default : 20 cm/sec (7.9 in/sec)

Battery Specifications	
Rechargeable sealed lead acid	(2X) 12VDC, 5Ah
Side rail mounting, position anywhere, charging system	
Battery capacity with load of 91 kg/ 200 lb/ 14.33 st	Up to 120 transfers
Low battery warning indicator	Visual & audible
Charger input – 90-240 Vac, 50-60 Hz, 57-70 VA	
Charge indicator	Visual

Strap Specifications	
Length	2,3 m (90.6 in)
Automatically stops unit if twisted	

Unit Construction	
Frame – steel	
Cover – fire retardant plastic	

Suggested Slings / Harness / Stretchers		
Total support/ Semi-reclined position	Partial support/ Stand position	
√ Hammock /Hammonk 6	Band	
√ Quick Fit	√	Walking
√ Hygienic	Total transfer	
√ Combi	Chest	
	Bariatric	
Total support/ Lay-down position	Partial support/ Lay-down position	
√ Universal stretcher	√	Repositioning
√ Morgue	√	Limb sling



Accessories		
a	402.15508	Charger extension - 2 m (78 in)
b1	700.00510	Scale Unit (North America) 363 kg (800 lb)
b2	700.00530	Scale Unit - Class III / 300 kg / 662 lb / 47.24 st (Europe & United Kingdom)
c	700.05720	Scale Unit and adaptor / 350 kg (770 lb) (North America)

BHM Voyager Duo Lift (or comparable fixed lift)

Dual lifting capacity (440lbs or 220 lbs)
2 point spreader bar
Side rail charging system (charge lift anywhere along track)
Soft start and stop movement
Return to charge function on handset
Emergency lowering device (manual and electric)
Santopren tactile handset buttons
IP44 handset
Secondary controls mounted on lift
Double centrifugal emergency brake system
Emergency stop pull cord
Anti-crush feature stops lift when no strap tension is detected
Current limiter and emergency stopping device
Vertical displacement speed of 2.4in/sec
Programmable horizontal displacement speeds
(2) 12 VDC, 5.0 Ah rechargeable sealed lead acid batteries
Low battery warning indicator (visual and audible)
Charger input: 100-240 VAC
Charger output: 28.1 VDC, 1 amp max.
Visual colour charger indicator
Service indicator light (indicates when service is required)
Strap length: 90.6"
Strap tested for 6000 lbs weight capacity
61 dbA noise level max.
Fire retardant, ABS plastic cover
Steel frame
Compliant with EMI Standards, CAN/CSA-C22.2, CSA-Z323.5.98, IEC 60601-1, UL 60601-1, ANS ISO 10535

BHM Kwiktrak (or comparable track)

Nominal 90mm, 140mm or 180mm H-shaped aluminum extrusion
Designed to carry vertical service loads up to 1000 lbs
Comprised of straight, curves and connection features for single or room covering configurations
Unique pin locking design for track connections
Unique butterfly track brackets
Fail safe track endstop design
Polyester and polyurethane powder coat finish

Warranty

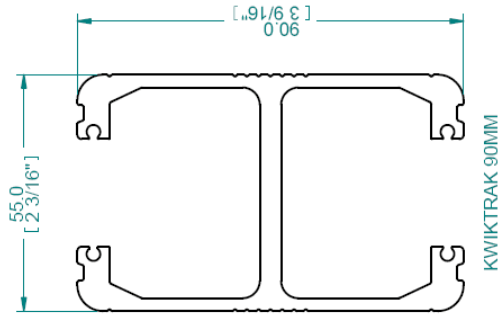
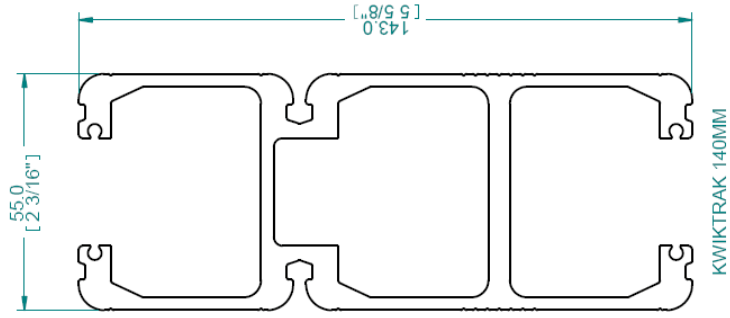
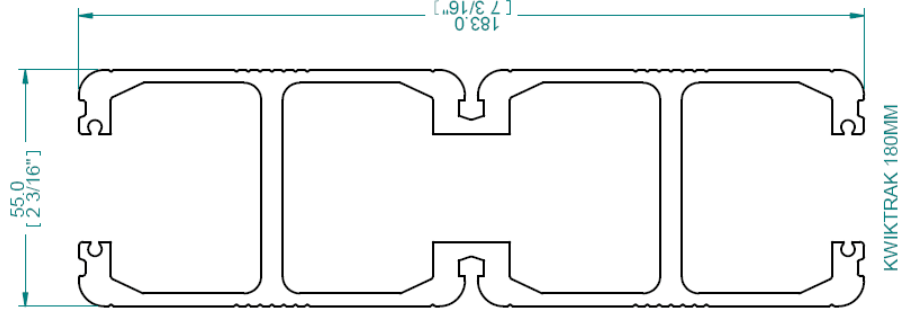
All components including accessories – 1 year
Batteries – 3 months

Manufacturer's Website (BHM Medical Inc)

www.bhm-medical.com

Tracks

KWIKTRAK DIMENSION

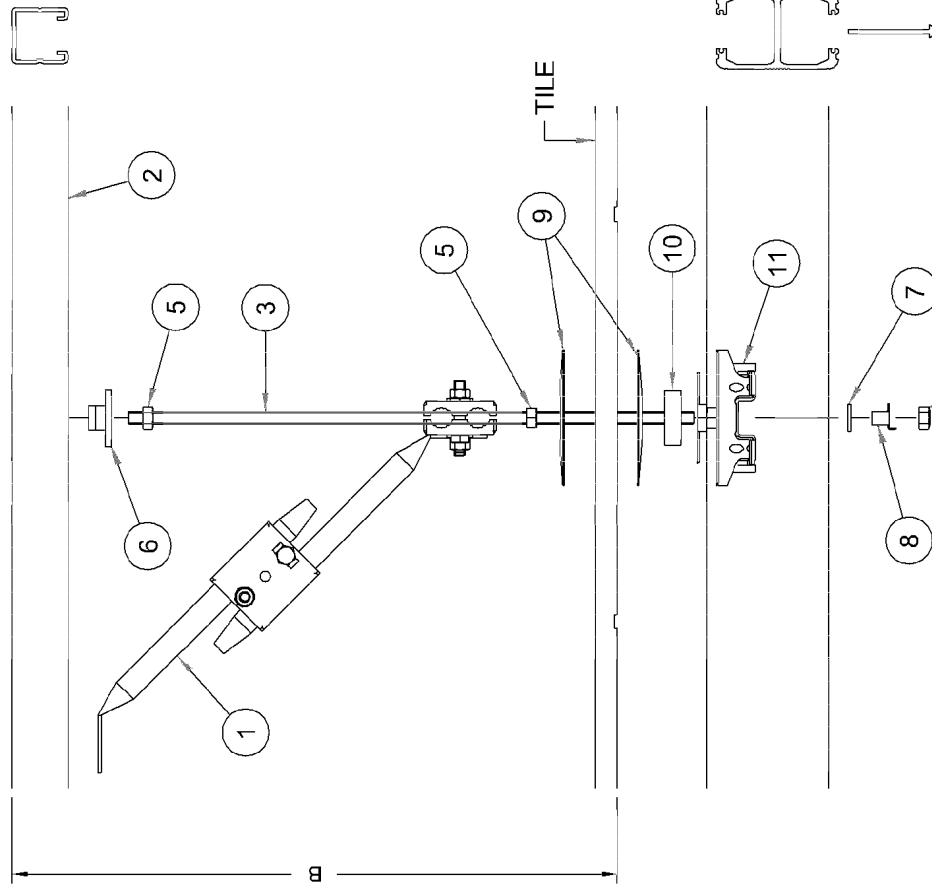
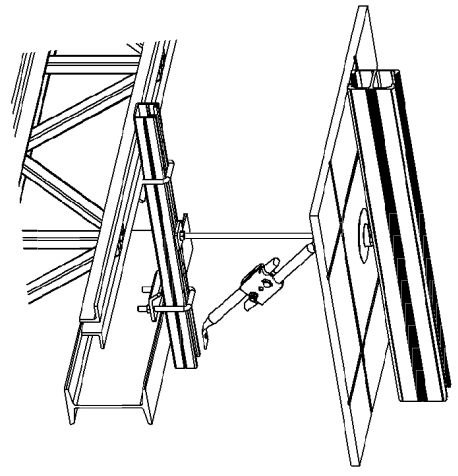


KWIKTRAK DIMENSION.dft

1 / 1

- ALL HARDWARE INCLUDED.
(ACCORDING TO STRUCTURE)

SUGGESTED TYPICAL INSTALLATION



MAXIMUM DEAD
AND LIVE LOAD:
295 KG [650 LBS]

NOTE:
* - REFER TO HILTI SPECIFICATIONS.
** - REFER TO LATERAL BRACE REQUIREMENTS.

Item #	Part #	Description	Qty
1	---	ADJUSTABLE LATERAL BRACE **	-
2	---	HILTI STRUT *	-
3	000.00394	THREADED ROD 3/8-16 X 10' ZINC	-
4	000.00402	LOCKNUT STOVER 3/8-16 ZINC	1
5	000.00405	NUT 3/8-16 ZINC	2
6	000.00424	HILTI STRUT SADDLE NUT 3/8-16	1
7	000.04430	FLAT WASHER M10 ZINC	1
8	000.04435	TAB WASHER M10	1
9	200.11140	CEILING PLATE ø100MM	2
10	200.11170	12MM KWIKTRAK BRACKET SHIM	1
11	700.11100	TRACK BRACKET KWIKTRAK	1

CUSTOMER APPROVAL: _____ DATE: _____

QUANTITY OF ROOM: _____

NOTE:
THE STRUCTURAL ENGINEER ON RECORD
OF THE BUILDING IS RESPONSIBLE FOR
VERIFYING THE ADEQUACY OF THE
STRUCTURE TO SUPPORT THE LOAD.

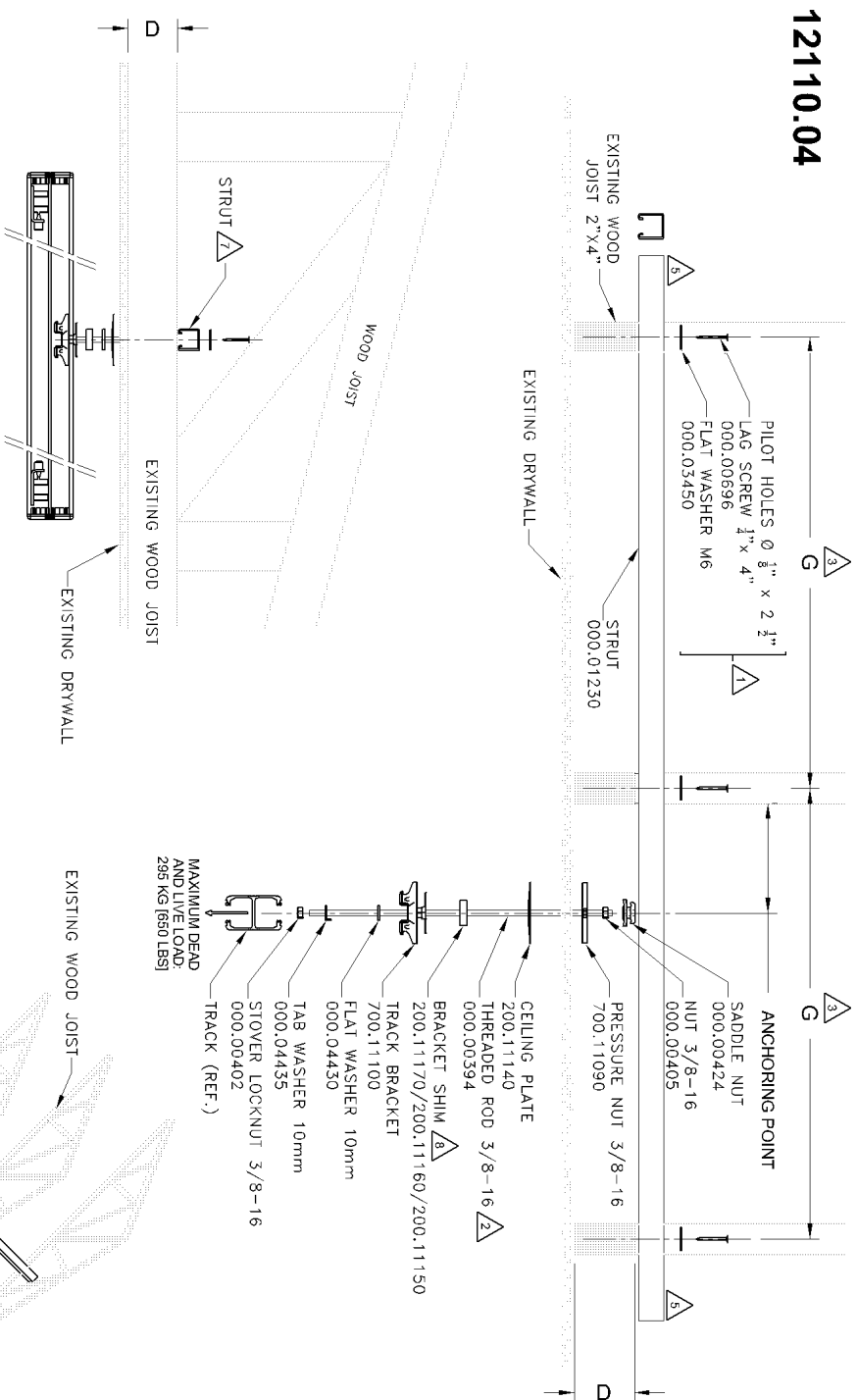
SAFE WORKING LOAD BELOW MOTOR 1000LBS [455KG]
MINIMUM STRUCTURE CAPACITY 1250LBS [570KG]

DATE CREATED (M/D/Y) : 12/15/2006

DRAWN BY: aharchaoui SCALE: NOT TO SCALE

REFERENCE #: QC-XXXX PAGE: 4 / 10

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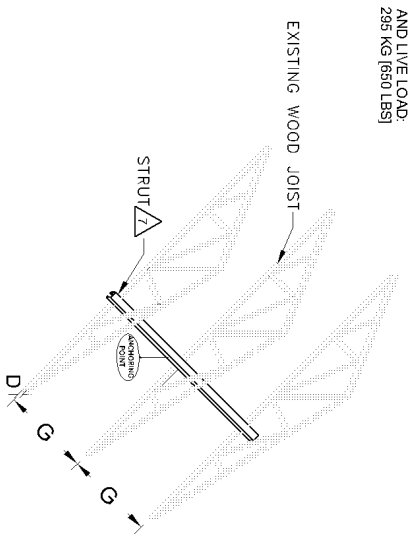


Part#	Description	Qty
000.00696	LAG SCREW 1/4" x 4"	3
000.03450	FLAT WASHER M6	3
000.01230	STRUT	0.5
000.00424	SADDLE NUT	1
000.00405	NUT 3/8-16	1
700.11090	PRESSURE NUT 3/8-16	1
200.11140	CEILING PLATE	1
000.00994	THREADED ROD 3/8-16 X 10" ZINC	-
200.11150	BRACKET SHIM 1.5mm	1
200.11160	BRACKET SHIM 3mm	2
200.11170	BRACKET SHIM 7mm	2
700.11100 / 700.111005	TRACK BRACKET / TRACK BRACKET FOR JOINT	1
000.04430	FLAT WASHER 10mm	1
000.04435	TAB WASHER 10mm	1
000.00402	STOVER LOCKNUT 3/8-16	1

MAXIMUM SPAN OF STRUT "G"			
LOAD BHM PART	HILLTI PART	440 lbs	600 lbs
000.01230	HS-158-12	42"	31"
			23"
			19"

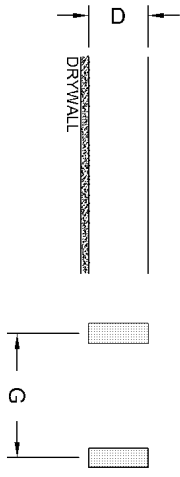
NOTE: POSITIONING OF ACCESS DOOR MAY VARY, DUE TO OBSTACLES ON CEILING, JOIST POSITIONING. INSTALLER WILL FINALIZE POSITIONING, UNLESS OTHERWISE STIPULATED IN CONTRACT.

- NOTES:**
- 1. SHALL BE VALIDATED BY THE STRUCTURAL ENGINEER ON RECORD OF THE BUILDING. SCREWS SHALL BE LOCATED AT THE CENTER OF WOODEN JOIST.
 - 2. THREADED ROD LENGTH MUST BE DETERMINE ON SITE. THE THREADED ROD MUST EXCEED THE SADDLE NUT BY 1/4"
 - 3. IF THE SPAN VARIES BETWEEN TRUSSES, THE MAXIMUM SPAN SHALL BE USED TO DETERMINE APPROPRIATE STRUT TYPE.
 - 4. CLIENT MUST ALLOW APPROPRIATE ACCESS FOR INSTALLATION.
 - 5. THE STRUT SHALL EXCEED THE TRUSSES BY 2" MINIMUM.
 - 6. A STRUT SHALL NOT BE USED TO SUPPORT TWO DIFFERENT LIFTS.
 - 7. THE POSITION OF THE STRUT ON THE TRUSSES SHALL BE VALIDATED BY THE STRUCTURAL ENGINEER ON RECORD OF THE BUILDING. THIS ENGINEER SHALL ALSO EVALUATE IF THE TRUSSES NEEDS TO BE REINFORCED.
 - 8. APPROPRIATE COMBINATION OF SHIMS SHALL BE DETERMINE DURING INSTALLATION



- ALL HARDWARE INCLUDED. (ACCORDING TO STRUCTURE)

- EXISTING STRUCTURE:
WOOD TRUSS
 $3 \frac{1}{2}'' \leq D < 6''$ ($102\text{mm} \leq D < 152\text{mm}$)
 $G \leq 24''$ ($G \leq 609\text{mm}$)



REQUIRED ACCESS:

CUSTOMER APPROVAL: _____ DATE: _____

QUANTITY OF ROOM: _____

NOTE:
 THE STRUCTURAL ENGINEER ON RECORD OF THE BUILDING IS RESPONSIBLE FOR VERIFYING THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE LOAD.

SAFE WORKING LOAD BELOW MOTOR MINIMUM STRUCTURE CAPACITY 750 LBS [340 KG]

DATE CREATED (M/D/Y): 11/24/2006

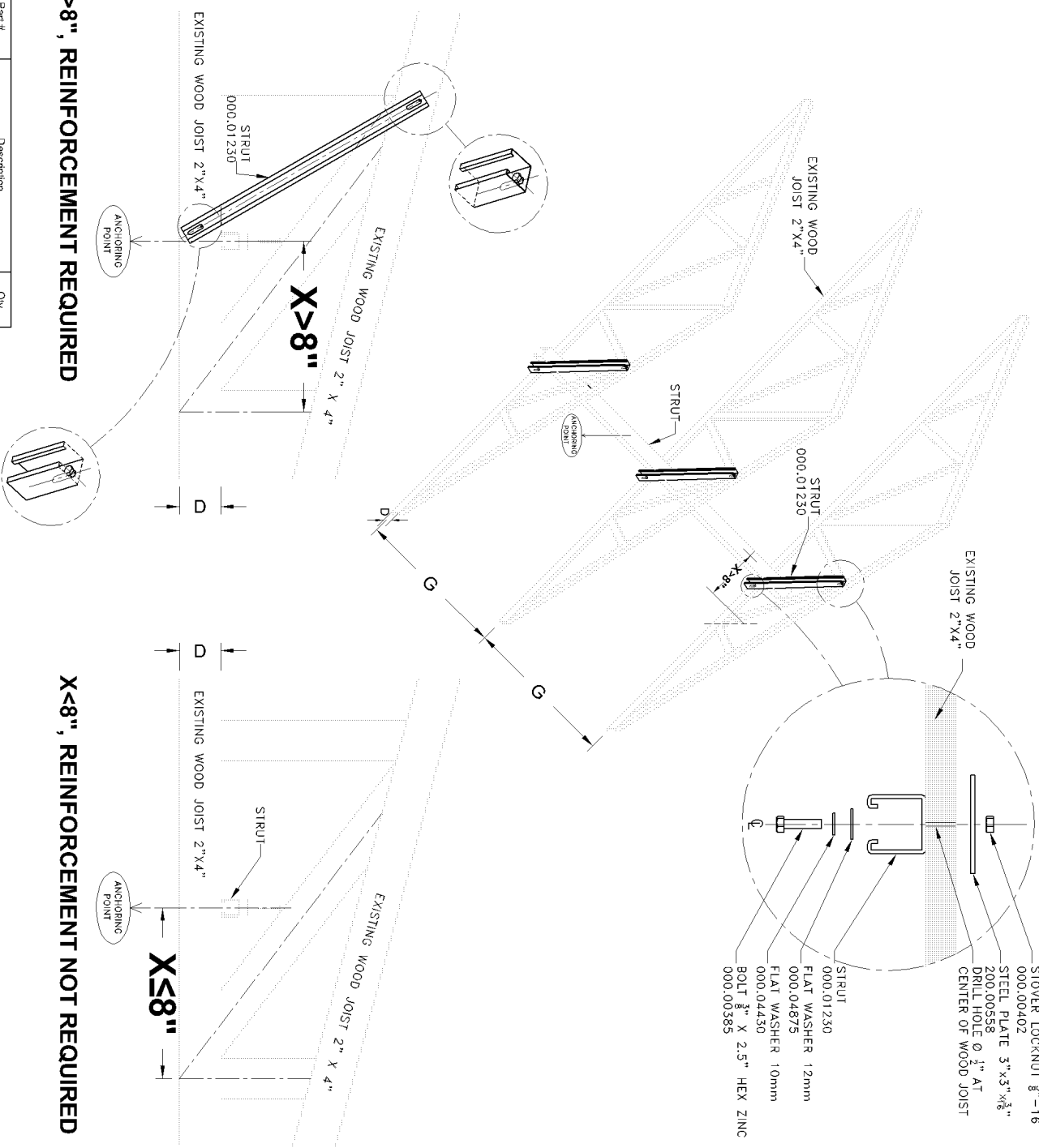
DRAWN BY: aharchaoui
 SCALE: NOT TO SCALE
 REFERENCE #: QC-XXXX
 PAGE: 2 / 18

PROPOSED REINFORCEMENT FOR 2"x4" WOOD JOIST STRUCTURE

- ALL HARDWARE INCLUDED.
(ACCORDING TO STRUCTURE)

- EXISTING STRUCTURE:
WOOD TRUSS
 $3\frac{1}{2}'' \leq D < 6''$ (102mm $\leq D < 152$ mm)
 $G \leq 24''$ ($G \leq 609$ mm)


ACCESS REQUIRED : 



X > 8", REINFORCEMENT REQUIRED

X < 8", REINFORCEMENT NOT REQUIRED

Part #	Description	Qty
000.00402	STOVER LOCKNUT 3/8"-16	6
200.00558	STEEL PLATE 3"x3"x3/8"	6
000.01230	STRUT	1,5
000.04875	FLAT WASHER 12mm	6
000.04430	FLAT WASHER 10mm	6
000.00385	BOLT 3/8" X 2.5" HEX ZINC	6

 - CLIENT MUST ALLOW APPROPRIATE ACCESS FOR INSTALLATION.
 APPROXIMATE STRUT LENGTH.
 (DO NOT CUT STRUT BEFORE INSTALLATION)

CUSTOMER: _____ DATE: _____
 APPROVAL: _____

QUANTITY OF ROOM: _____
NOTE:
 THE STRUCTURAL ENGINEER ON RECORD OF THE BUILDING IS RESPONSIBLE FOR VERIFYING THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE LOAD.

SAFE WORKING LOAD BELOW MOTOR 600LBS [272KG]
 MINIMUM STRUCTURE CAPACITY 750LBS [340KG]

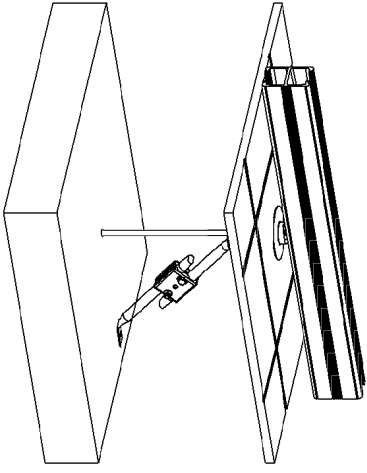
DATE CREATED (M/D/Y) : 11/24/2006

DRAWN BY : aharchaoui SCALE : NOT TO SCALE
 REFERENCE # : QC-XXXX PAGE : 6 / 18

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- ALL HARDWARE INCLUDED.
(ACCORDING TO STRUCTURE)

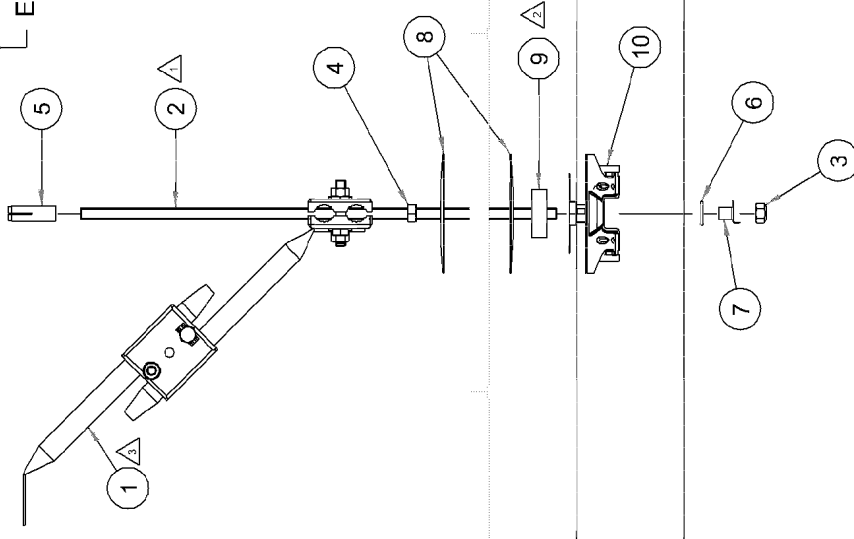
SUGGESTED TYPICAL INSTALLATION



EXISTING CONCRETE 3000 PSI

EXISTING TILE

MAXIMUM DEAD
AND LIVE LOAD:
295 KG [650 LBS]



NOTES:

- △ - THREADED ROD LENGHT MUST BE DETERMINE ON SITE. THE THREADED ROD MUST EXCEED THE SADDLE NUT BY 4"
- △ - APPROPRIATE COMBINATION OF SHIMS SHALL BE DETERMINE DURING INSTALLATION
- △ - REFER TO LATERAL BRACE REQUIREMENTS (*)

CUSTOMER
APPROVAL: _____ DATE: _____

QUANTITY OF ROOM: _____

NOTE:
THE STRUCTURAL ENGINEER ON RECORD
OF THE BUILDING IS RESPONSIBLE FOR
VERIFYING THE ADEQUACY OF THE
STRUCTURE TO SUPPORT THE LOAD.

SAFE WORKING LOAD BELOW MOTOR 600LBS [272KG]
MINIMUM STRUCTURE CAPACITY 750LBS [340KG]

DATE CREATED (M/D/Y) : 12/15/2006

DRAWN BY : aharchaoui

SCALE :

NOT TO SCALE

REFERENCE # : QC-xxxxx

PAGE :

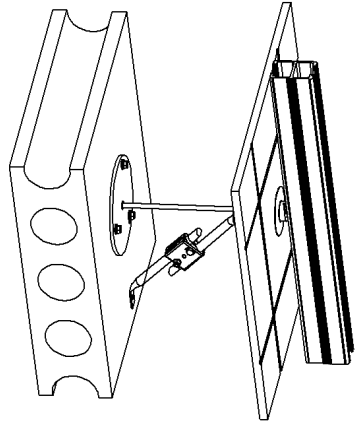
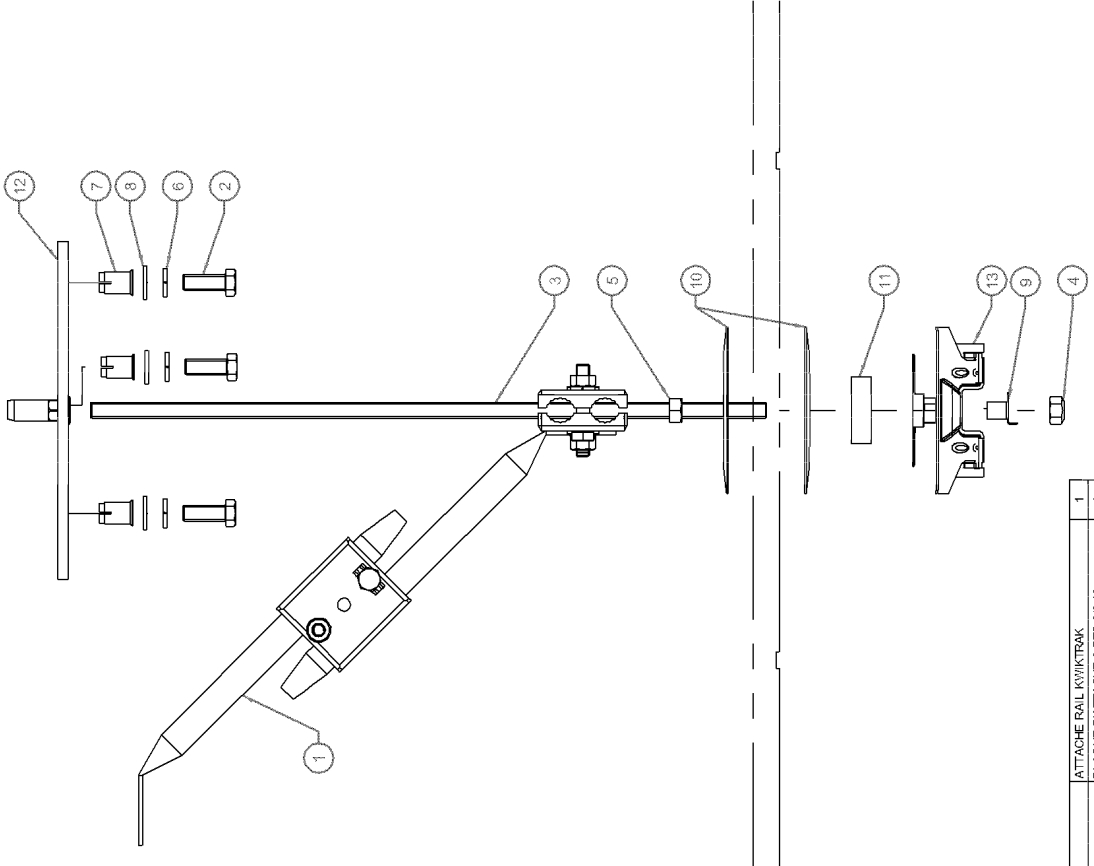
3 / 9

Item #	Part #	Description	Qty
1	700.11350/700.11360	ADJUSTABLE LATERAL BRACE **	*
2	000.00394	THREADED ROD 3/8-16 X 10' ZINC	-
3	000.00402	LOCKNUT STOVER 3/8-16 ZINC	1
4	000.00405	NUT 3/8-16 ZINC	1
5	000.00423	CONCRETE ANCHOR HDI 3/8-16	1
6	000.04430	FLAT WASHER M10 ZINC	1
7	000.04435	TAB WASHER M10	1
8	200.11140	CEILING PLATE ø100MM	2
9	200.11170	12MM KWIKTRAK BRACKET SHIM	1
10	700.11100	TRACK BRACKET KWIKTRAK	1

31210.02

NOTES:

- THIS DRAWING IS VALID ONLY WITH THE USE OF REFERENCE DOCUMENT AN4-INS-027-1 (GENERAL INSTALLATION NOTES).
DESSIN VALIDE UNIQUEMENT AVEC L'UTILISATION CONJOINTE DU DOCUMENT AN4-ING-027-1 (NOTES GENERALES D'INSTALLATION).



- ALL HARDWARE INCLUDED.
(ACCORDING TO STRUCTURE)

CUSTOMER APPROVAL: _____ DATE: _____

QUANTITY OF ROOMS: **0**

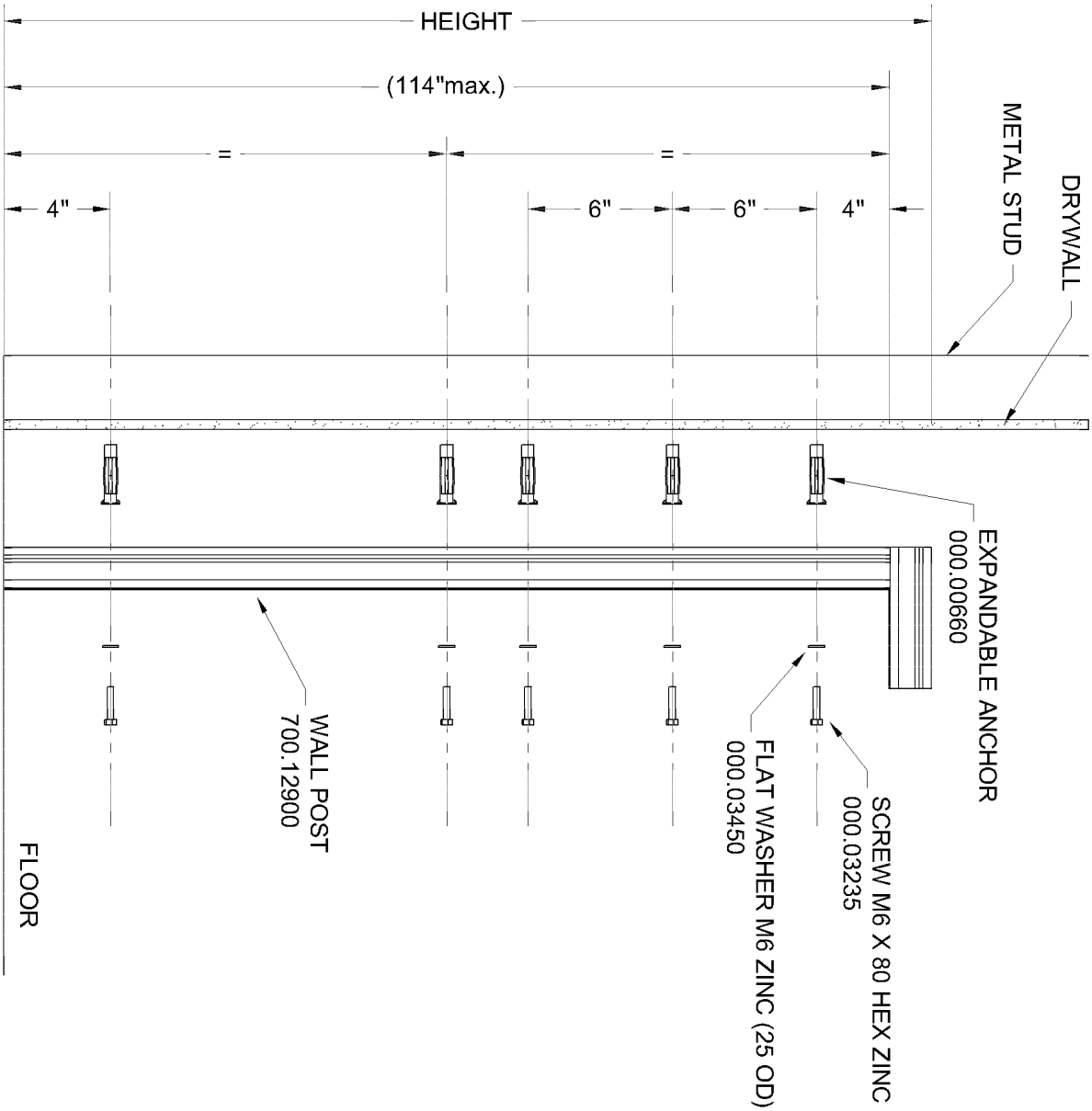
NOTE:
THE STRUCTURAL ENGINEER ON RECORD OF THE BUILDING IS RESPONSIBLE TO VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE LOAD.

SAFE WORKING LOAD BELOW LIFT: 600LBS [272KG]
WEIGHT LOAD TEST OF: 750LBS [340KG]

DATE CREATED (DD-MMM-YYYY) : DD-MMM-YYYY

DRAWN BY : login SCALE : N/A
REFERENCE # : QC-XXXXX PAGE : X / Y

Item	Drawing / Part #	Description (EN)	Description (FR)	Qty
13	700.11100	TRACK BRACKET KWIKTRAK	ATTACHE RAIL KWIKTRAK	1
12*	225.11384	FIXATION PLATE 3 PTS 3/8-16	PLAQUE D'ATTACHE 3 PTS 3/8-16	1
11	200.11170	12MM KWIKTRAK BRACKET SHIM	ESPACEUR ATTACHE KWIK 12MM	1
10	200.11140	CEILING PLATE ø100MM	PLAQUE PLAFOND ø100MM	2
9	000.04435	TAB WASHER M10, PLAIN STEEL	RONDILLE FREIN A ECROU M10	1
8	000.04430	FLAT WASHER M10, ZINC PLATED STEEL	RONDILLE PLATE M10	3
7	000.04428	CONCRETE ANCHOR HD.P 3/8-16	ANCRAGE BETON HD.P 3/8-16	3
6	000.04425	LOCK WASHER 3/8 ZINC PLATED STEEL	RONDILLE DE BLOCAGE 3/8 ZINC	3
5	000.04405	NUT 3/8-16, ZINC PLATED STEEL	ECROU 3/8-16 ZINC	1
4	000.04402	LOOKNUT STOVER 3/8-16 ZINC PLATED STEEL	ECROU AUTO BLOQUANT 3/8-16 ZINC	1
3	000.00394	THREADED ROD 3/8-16 X 10' ZINC PLATED STEEL	TIGE FILETEE 3/8-16 X 10' ZINC	AR
2	000.00357	SCREW 3/8-16 X 1 HEX ZINC	VIS 3/8-16 X 1 HEX ZINC	3
1	...	ADJUSTABLE LATERAL BRACE **	RENFORT LATERAL AJUSTABLE **	AR
		Description (EN)	Description (FR)	Qty



METAL STUD

CUSTOMER
APPROVAL:

DATE:

SAFE WORKING LOAD 600lbs/270kg
MINIMUM STRUCTURE CAPACITY 750lbs/340kg

DISTRIBUTOR:

REPRESENTATIVE:

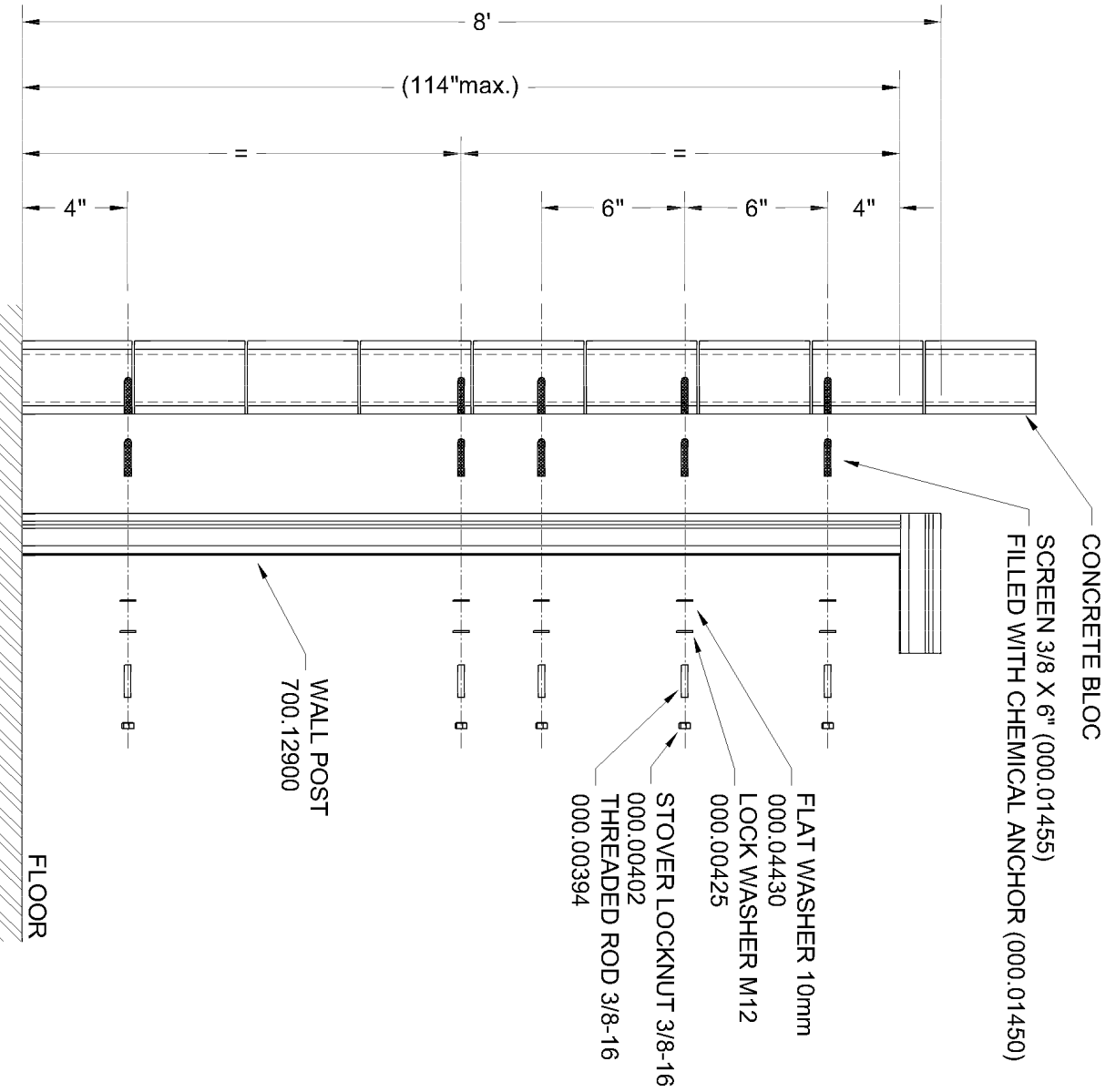
DATE:

11/13/2006

REFERENCE #:

PAGE:





CUSTOMER
APPROVAL:

DATE:

CONCRETE BLOC

SAFE WORKING LOAD 600lbs/270kg
MINIMUM STRUCTURE CAPACITY 750lbs/340kg

DISTRIBUTOR:

REPRESENTATIVE:

DATE:

11/13/2006

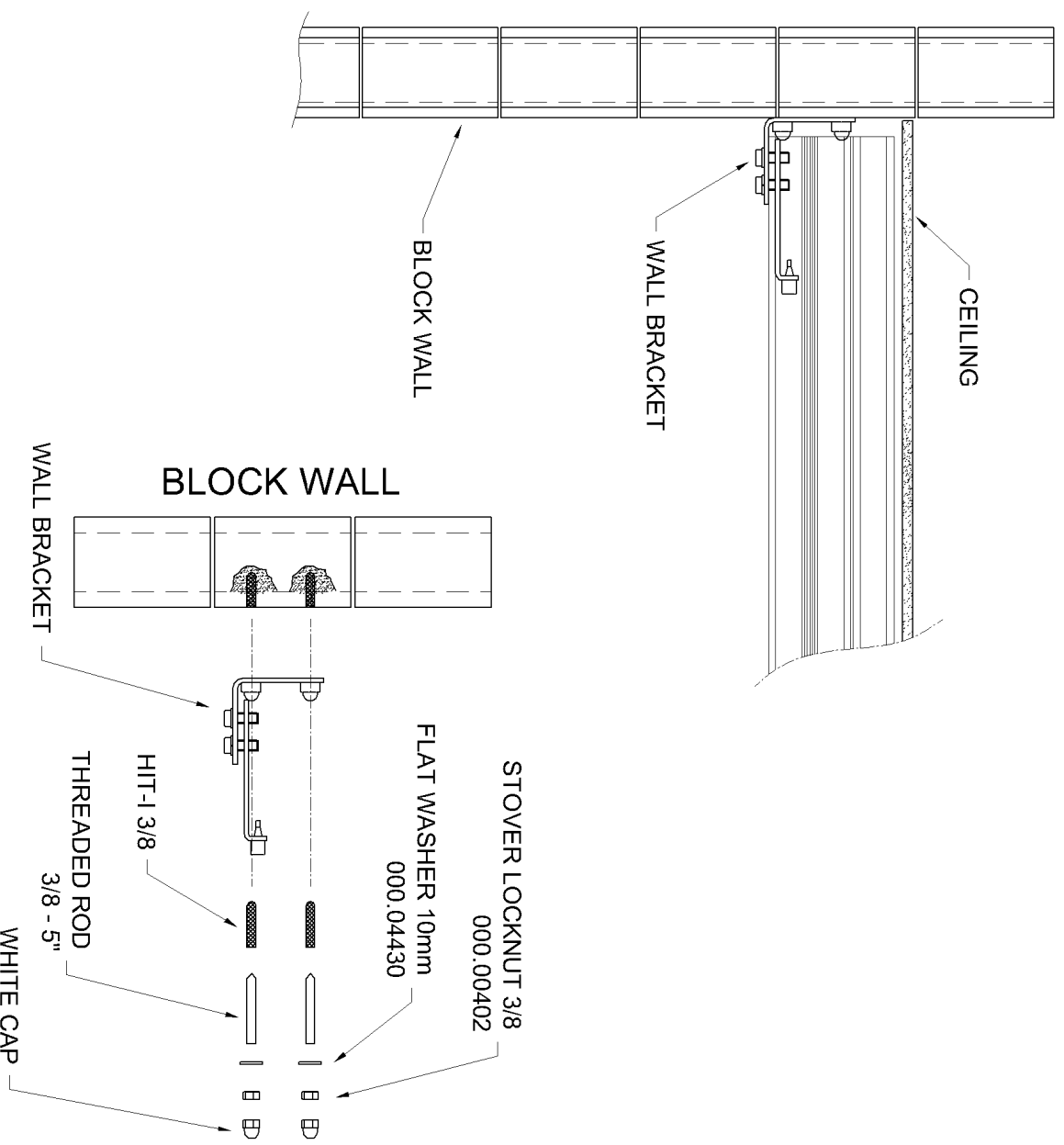
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WALL BRACKET - CONCRETE BLOCKS

- ALL HARDWARE INCLUDED.
(ACCORDING TO STRUCTURE)



CUSTOMER APPROVAL: _____ DATE: _____
 QUANTITY OF ROOM: _____

NOTE:
 THE STRUCTURAL ENGINEER ON RECORD OF THE BUILDING IS RESPONSIBLE FOR VERIFYING THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE LOAD.

SAFE WORKING LOAD BELOW MOTOR 600LBS [272KG]
 MINIMUM STRUCTURE CAPACITY 750LBS [340KG]

DATE CREATED (M/D/Y) :	12/15/2006

DRAWN BY : aharchaoui	SCALE : NOT TO SCALE
REFERENCE # : QC-XXXX	PAGE : 4 / 10