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TO: All Bidders

FROM: Rita Kirkland

DATE: June 15, 2021

SUBJECT: Bid Addendum No. 3

RFB NUMBER: 21-003550

DATE ISSUED: May 7, 2021

PROJECT: INTERIOR RENOVATION – JULIA DAVIS BRANCH

Addendum #3 dated June 15, 2021 includes, Bid Reading details, response to Product Substitution Request, Changes to Drawings, including Changes to Specifications and Additional Specification.

BID READING: Bids will read aloud via virtual live stream at 2:15pm on Friday, June 18, 2021. To access the live-streamed event, visit <https://youtu.be/-kNVER3fXXI>.

GENERAL ITEMS

1. Product Substitution Request:
 - a. Bidder requested Product Substitution Request as listed under Specification Section 09 84 33 – SOUND ABSORBING WALL UNITS
 1. Manufacturer: G&S Acoustics
 2. Proposed Substitution: Melody mScores Panel
 3. Accepted as noted in attached Substitution Request Form.
2. Request for Information (RFI)
 - a. None

CHANGES TO DRAWINGS

1. Drawing A-601 – DOOR, ROOM FINISH AND MATERIAL SCHEDULE:
 - a. MODIFIED DETAILS 3A, 3B AND 3C: LAMINATED SHEET METAL FLASHING NOTED
 - b. Louver Type – LV-1 & LV-2 – MODIFIED PRODUCT MODEL IN Drawing.
 1. Basis of Design: Ruskin, Model No. ELC-445D, 4" deep, drainable, combination louver and motorized damper, 24V Actuator.
 2. HVAC sub-contractor to coordinate installation requirements for the louver with General Contractor prior to purchasing the louver.

Mission Statement

The St. Louis Public Library will provide learning resources and information services that support and improve individual, family, and community life.

CHANGES TO SPECIFICATIONS

1. MODIFIED Section 09 84 33 - SOUND-ABSORBING WALL UNITS
 - a. Section 2.2, Paragraph B, Item 5. Item a. Product Substitution Request: G&S Acoustics; Melody, mScores-Canvas (MSC) product accepted as noted.
 - b. Section 2.2, Paragraph A MODIFIED to state the following "Manufacturer's standard panel construction with finish edges and face material."
 - c. Section 2.2, Paragraph C CLARIFIED as Basis of Design Material Information:
 1. Core Layer: Manufacturer's standard
 2. Flammability: Class A Rating per ASTM E84
 3. Edge Construction: Manufacturer's standard
 4. Edge Profile: Manufacturer standard squared.
 5. Corner Detail in Elevation: Square with continuous edge profile indicated.
 6. Reveals between Panels: Flush reveals
 7. Acoustical Performance: Sound absorption NRC 0.85 to 1.05 according to ASTM C423 for mounting according to ASTM E795.
 8. Nominal 2 inches (51 mm)
 9. Sheet Size: Up to 4' x 8', varying panel sizes, shapes and pattern to be coordinated with Architect, TBD.
 10. Color: TBD.
 11. Finish: Satin latex painted HPC.

ADDITIONAL SPECIFICATIONS

1. ADDED SECTION 07 62 00 – SHEET METAL FLASHING AND TRIM.

I have read and understand the preceding addendum and said changes are reflected in the Request for Bid. The bidder addendum should be included with your response packet.

COMPANY _____

BIDDER'S SIGNATURE _____

TITLE _____

DATE _____

**SUBSTITUTION
REQUEST**
(After the Bidding Phase)

Project: Julia Davis Branch Library

Substitution Request Number: 1

From: ☐ G&S Acoustics

To: _____

Date: 6/9/21

A/E Project Number: _____

Re: Substitution Request to Sonex Classic Panels

Contract For: _____

Specification Title: Sound Absorbing Wall Units

Description: Sonex

Section: 098433 Page: 2

Article: 2.2/B1

Proposed Substitution: Melody – mScores Panel

Manufacturer: G&S Acoustics Address: 3555 Scarlet Oak Blvd St. Louis, MO Phone: 314-336-2145

Trade Name: ☐ _____ Model No.: Melody mScores

Installer: G&S Acoustics Address: 3555 Scarlet Oak Blvd St. Louis, MO Phone: 314-336-2145

History: ☒ New product ☐ 2-5 years old ☐ 5-10 years old ☐ More than 10 years old

Differences between proposed substitution and specified product: ☐ Melody mScores constructed from recycled polyester and are more abuse resistant than that of the specified Sonex foam product. Melody mScores panels come in 48"x96" sheets and would require less seam than the specified Sonex panels which only comes in 24"x48" sizes.

X ☐ Point-by-point comparative data attached -

Reason for not providing specified item: Alternate Manufacturer.

Similar Installation:

Project: Joann Alexie School Architect: _____

Address: 801 S. Snyder Dr. Owner: Joann A Alexie Memorial School

Atmautluak, AK Date Installed: 8/14/20

Proposed substitution affects other parts of Work: X ☒ No ☐ Yes; explain _____

Savings to Owner for accepting substitution: ☐ _____ (\$☐ _____).

Proposed substitution changes Contract Time: ☒ No ☐ Yes [Add] [Deduct] ☐ _____ days.

Supporting Data Attached: ☐ Drawings ☒ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

SUBSTITUTION REQUEST

(Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: Brian Shuh

Signed by: Brian Shuh

Firm: G&S Acoustics

Address: 3555 Scarlet Oak Blvd.

St. Louis, MO 63122

Telephone: (636) 225-8800

Attachments: Product Data Sheets

A/E's REVIEW AND ACTION

- ☐ Substitution approved - Make submittals in accordance with Specification Section 01330.
☒ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: ☐

Date: December 18, 2020

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☒ A/E ☐ _____

**SUBSTITUTION APPROVED AS CANVAS MR-2, 2" (5PCF) PAINTED (MSCORES - CANVAS)
FOR CLEANABILITY AND MOLD RESISTANCE.**

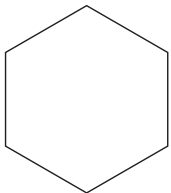
PANEL SIZE(S), PATTERN, COLOR(S) AND SHAPES TO BE COORDINATED WITH OWNER.

Melody mScores are **recycled polyester, sound-absorbing wall panels**, which feature full wall applications, shape clusters, and individual shapes. Melody mScores create an acoustically comfortable environment. Melody mScores are tackable, and come in six standard shapes. A wide variety of custom shapes are offered. mScores are available in 5 colors, White in 1" and 2" thick. Colors Black, Silver, Pewter and Khaki are available in 1" thick only.

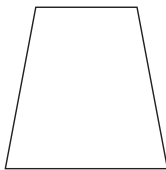
Custom Full Wall Application



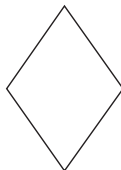
Standard Individual Shapes



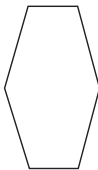
MS-Hex



MS-Trip



MS-Rhom



MS-Poly



MS-Runway

SOUND ABSORPTION

Hz	125	250	500	1000	2000	4000	N.R.C.
MS-1	.12	.26	.64	.90	1.09	1.12	.70
MS-2	.32	.66	1.06	1.19	1.20	1.22	1.05

Note: NRC based on Type A Mounting.



CORE

1" (7 pcf) and 2" (5 pcf) Recycled Polyester, Tackable

SIZES

Custom sizes and shapes up to 4' x 8'

MOUNTING

Adhesive

FINISH*

White 1" and 2"

Silver, Pewter, Khaki and Black in 1" only

EDGES

Square

CLEANING

Bleach-Cleanable (10:1)

Water-Based/Solvent (WS)

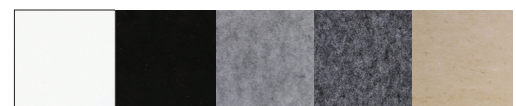
Mold & Fungal Resistant (ASTM C1338)

FLAMMABILITY

All components have a Class "A" rating per ASTM E84

*Also available in fabric wrapped (mScores-Rap), painted (mScores-Canvas) and printed (mScores-Image)

COLORS



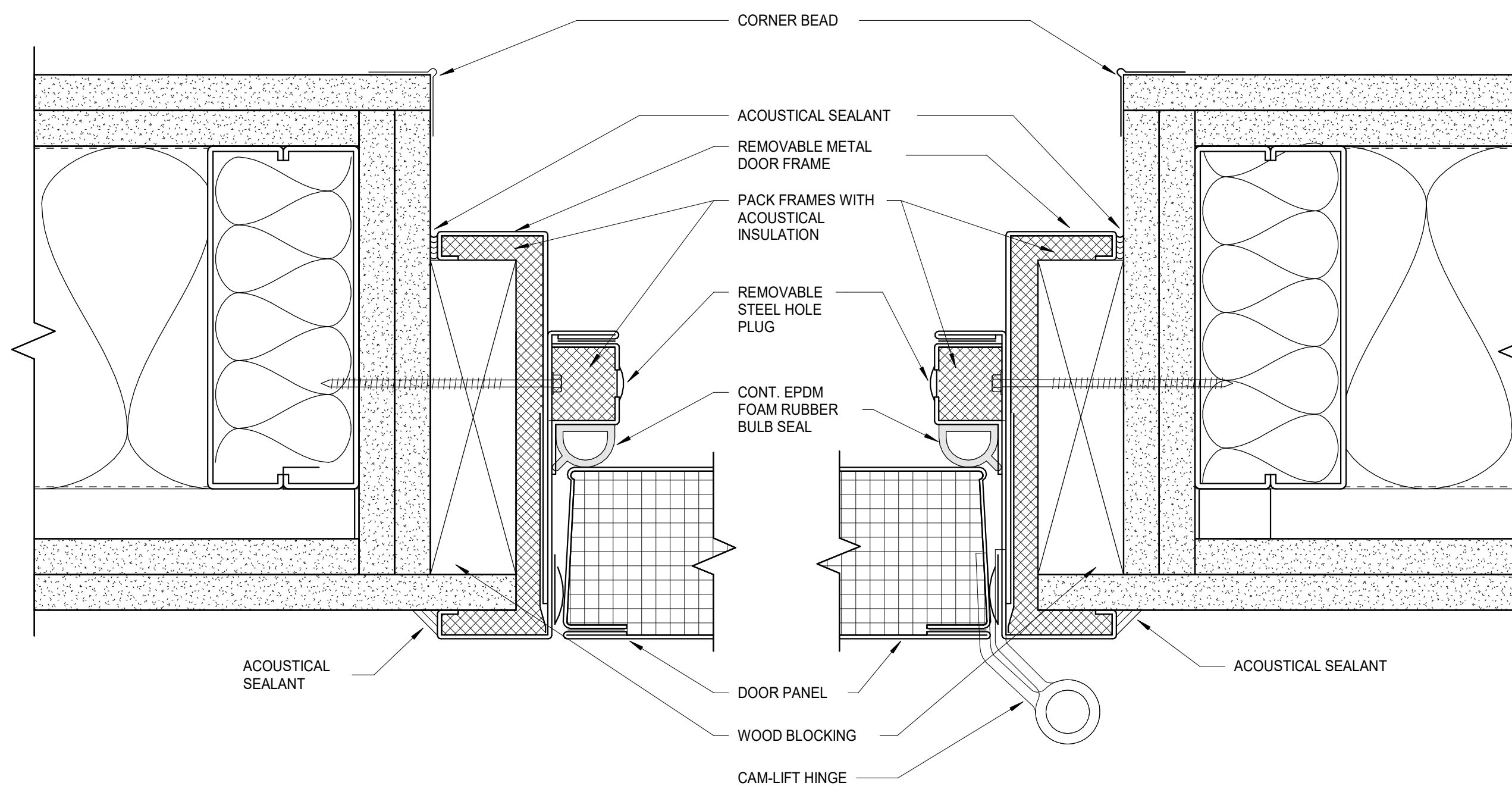
White
1" & 2"

Black
1" Only

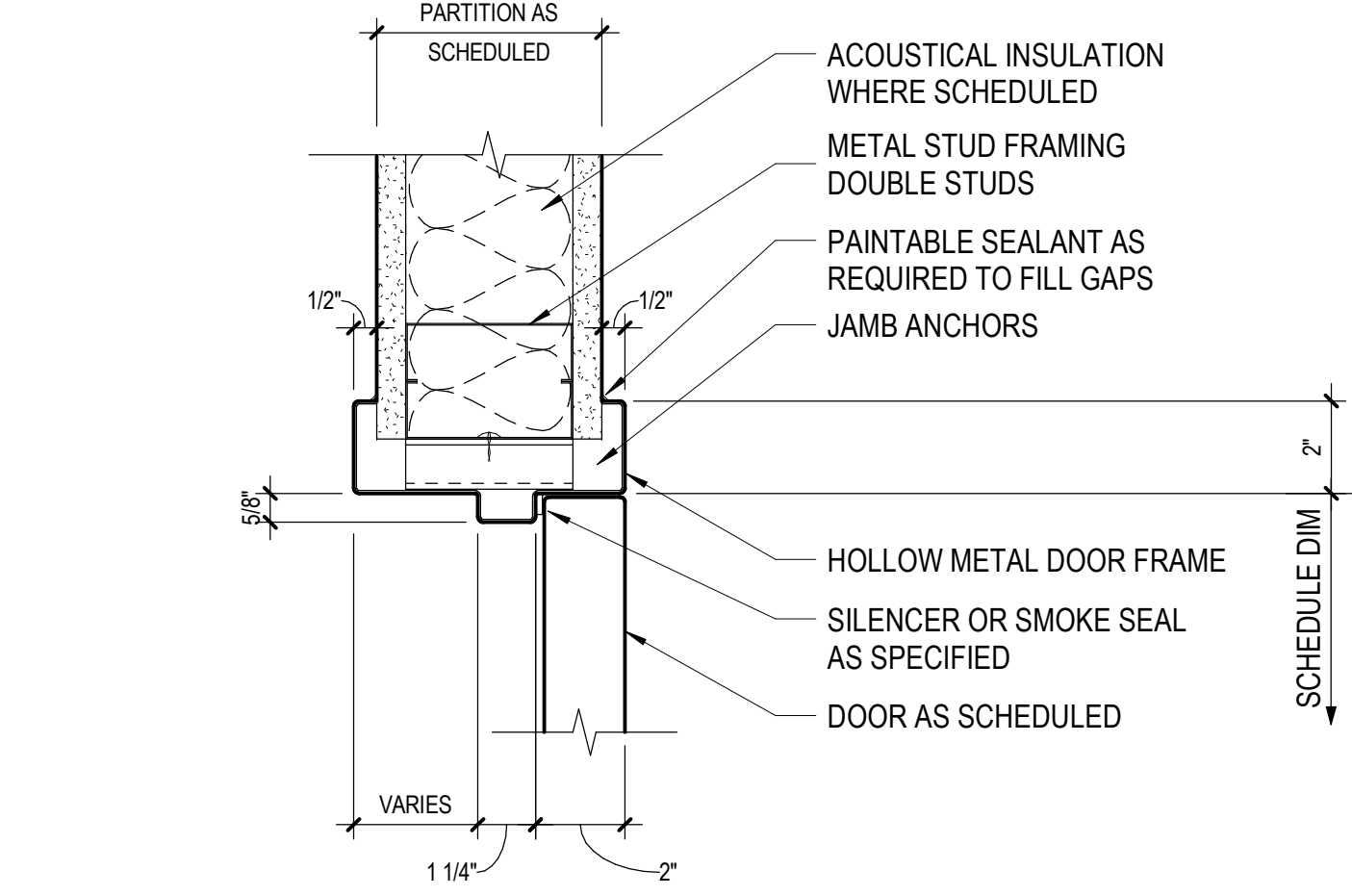
Silver
1" Only

Pewter
1" Only

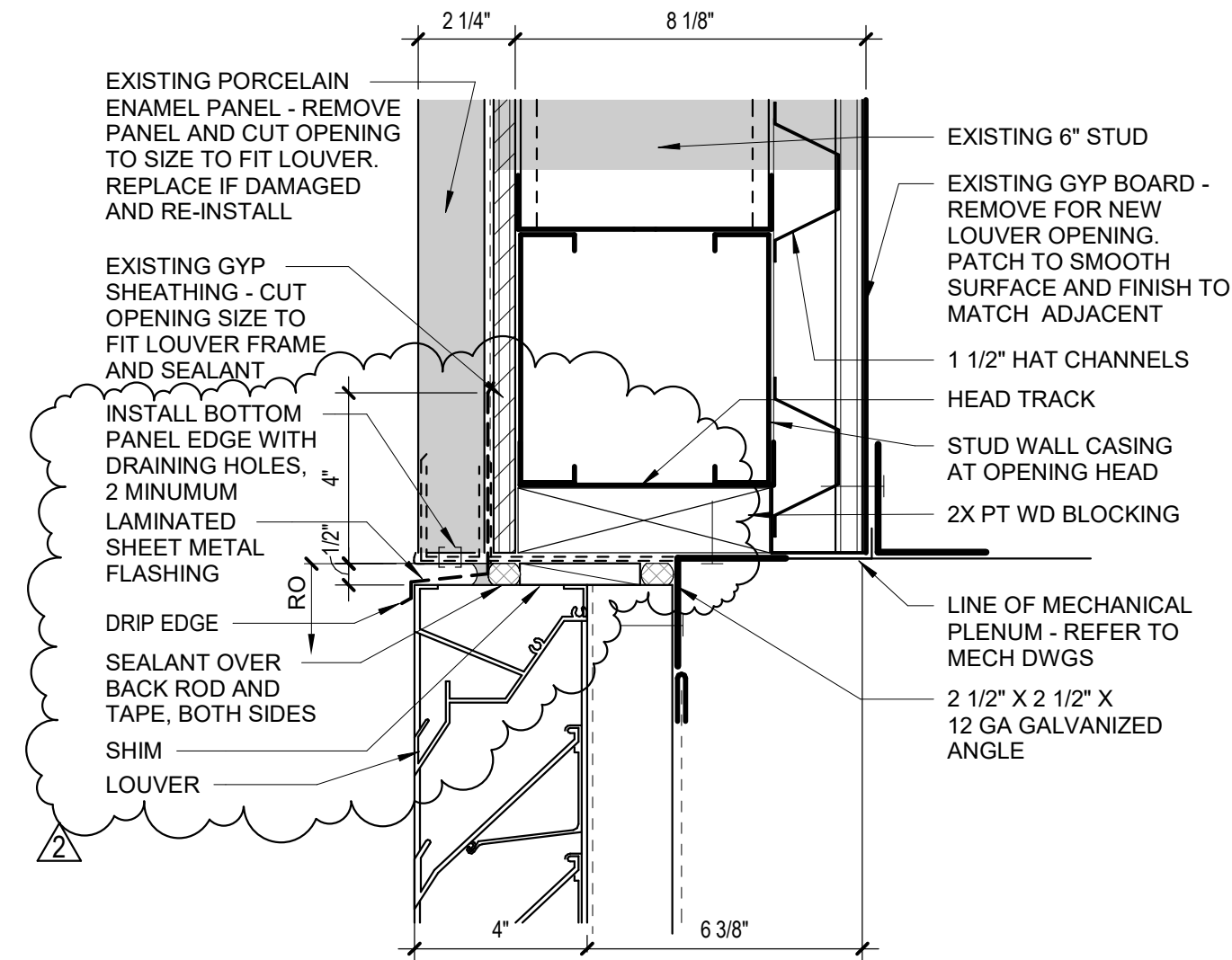
Khaki
1" Only



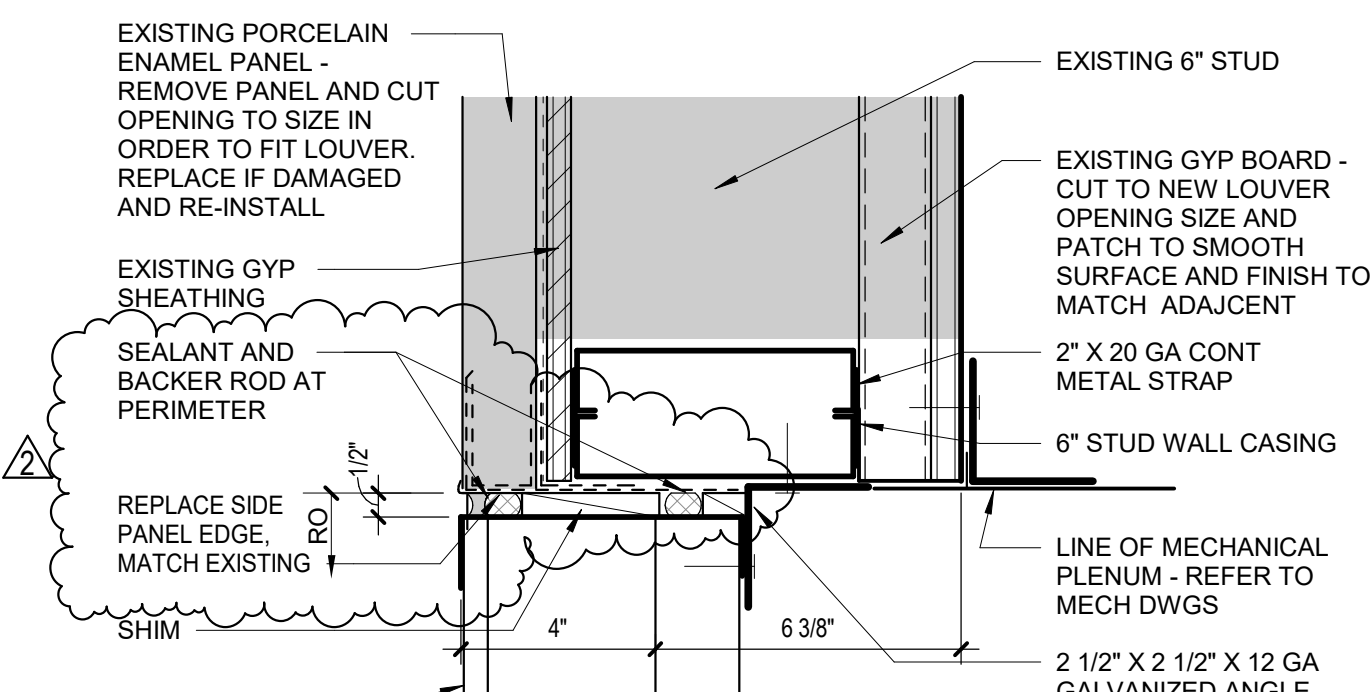
1
A-601
DOOR HM - HEAD AT METAL FRAMED GYP. BD. WALL - UNDER 48" WIDE
3" = 1'-0"



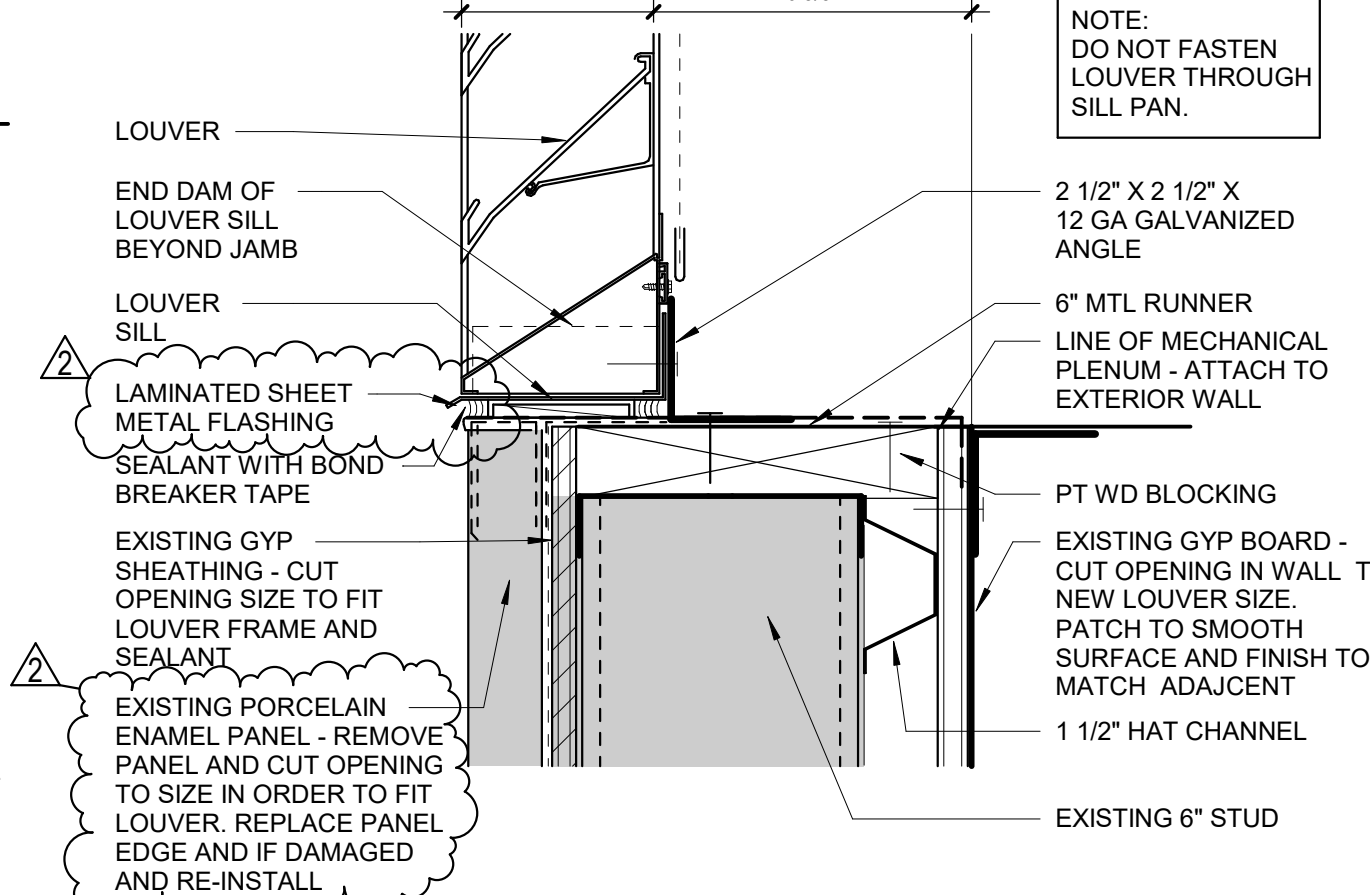
2
A-601
DOOR HM - JAMB AT METAL FRAMED GYPSUM BOARD WALL
3" = 1'-0"



3A
A-601
LOUVER HEAD DETAIL
3" = 1'-0"

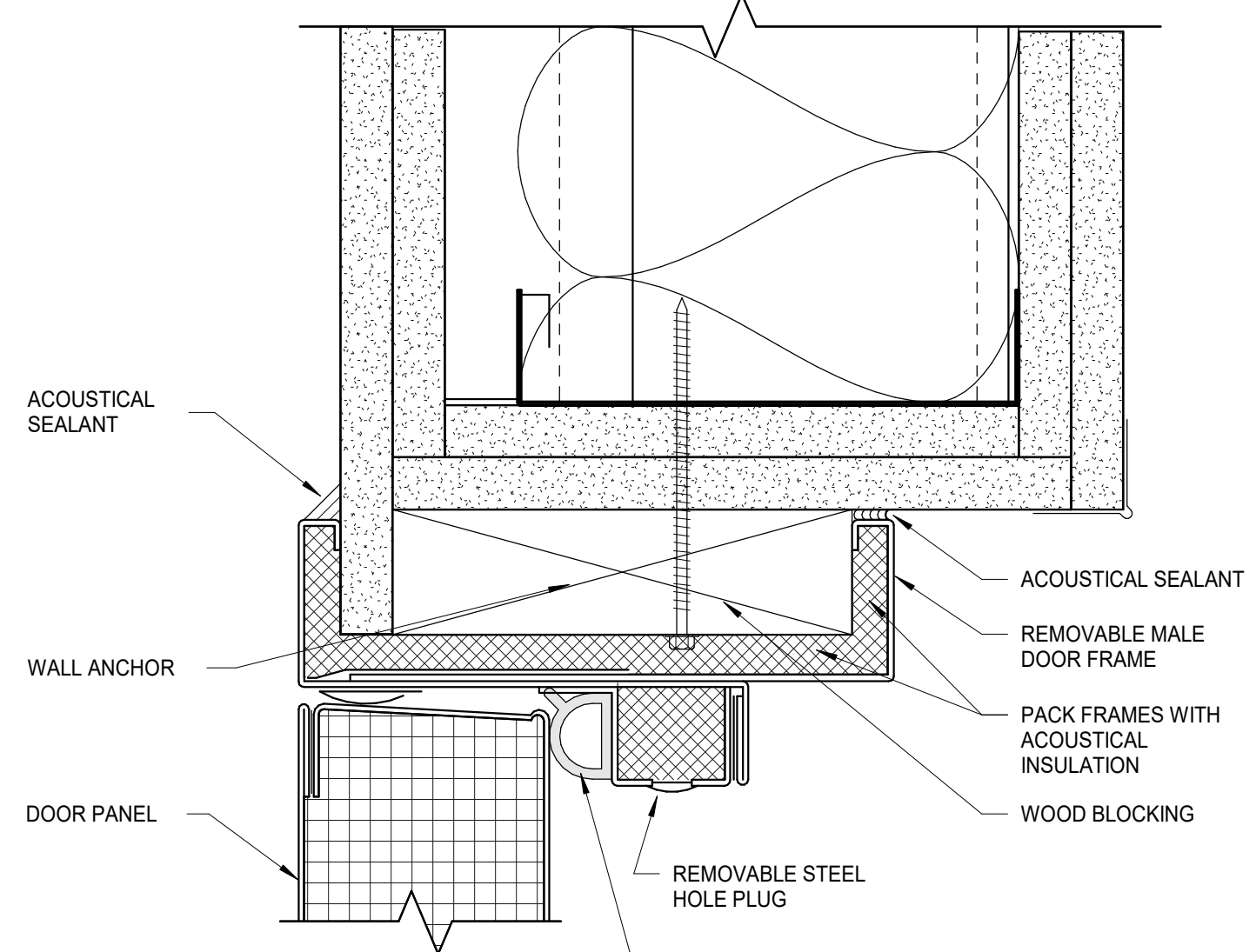


3B
A-601
LOUVER JAMB DETAIL
3" = 1'-0"

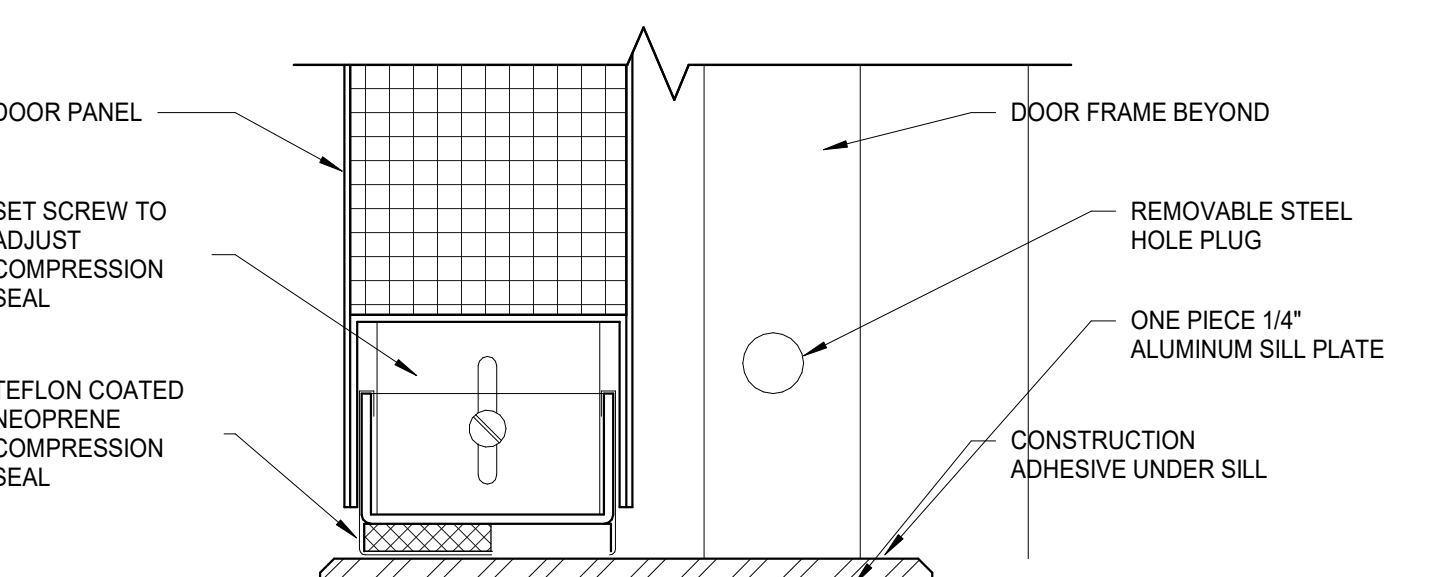


3C
A-601
LOUVER SILL DETAIL
3" = 1'-0"

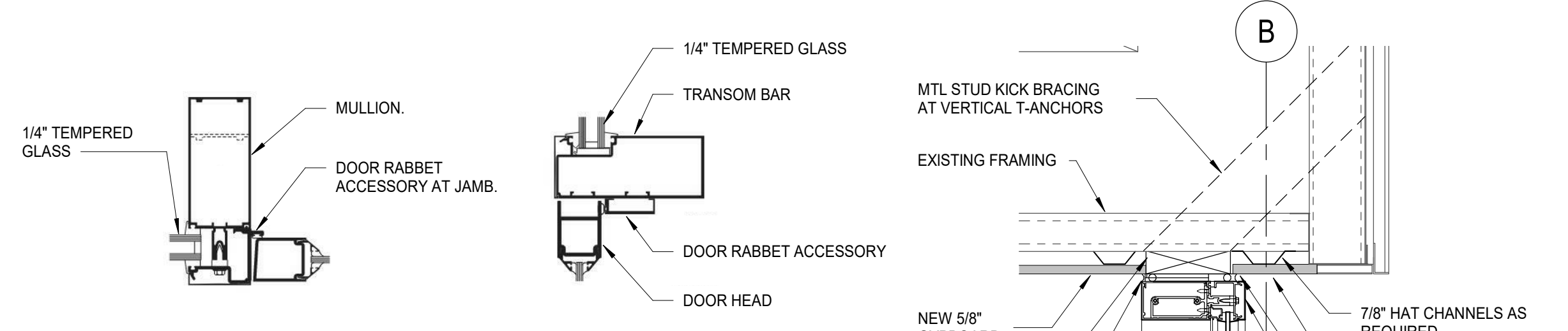
5
A-601
STC DOOR JAMBS
6" = 1'-0"



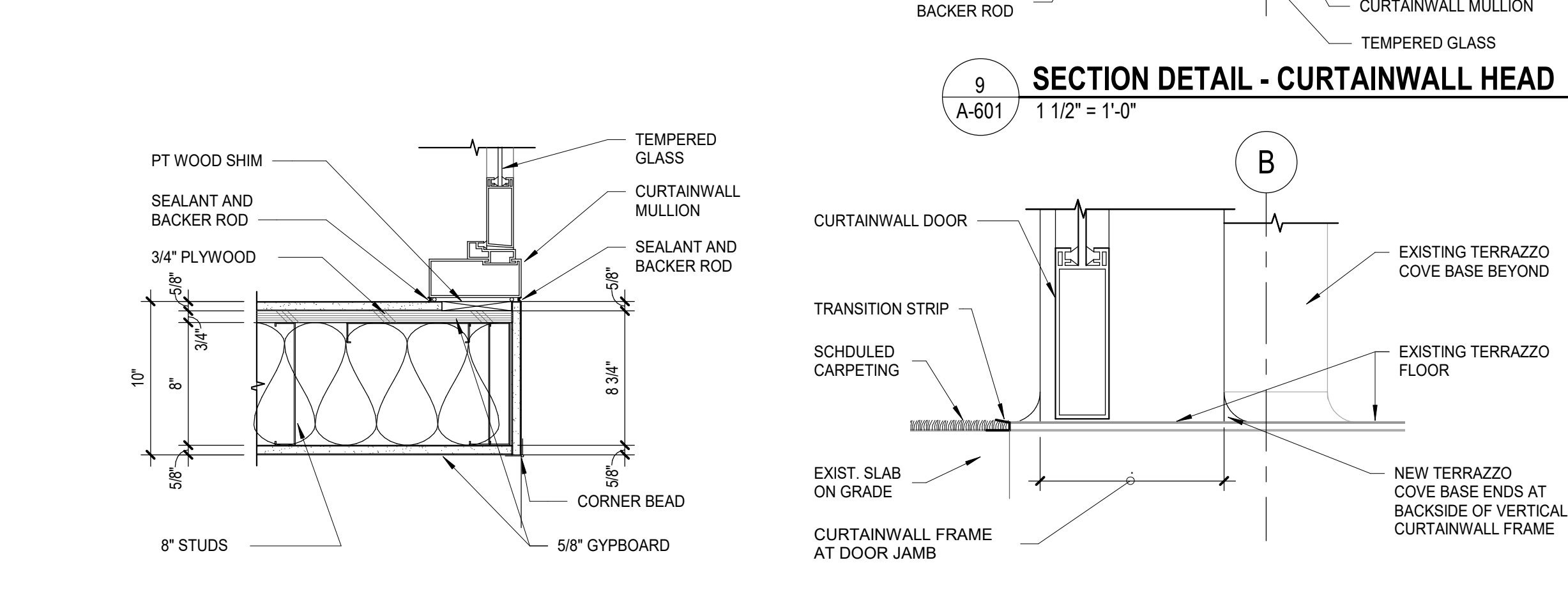
6
A-601
STC DOOR HEAD
6" = 1'-0"



7
A-601
STC DOOR SILL
6" = 1'-0"



8
A-601
CURTAINWALL DOOR JAMB AND HEAD
3" = 1'-0"



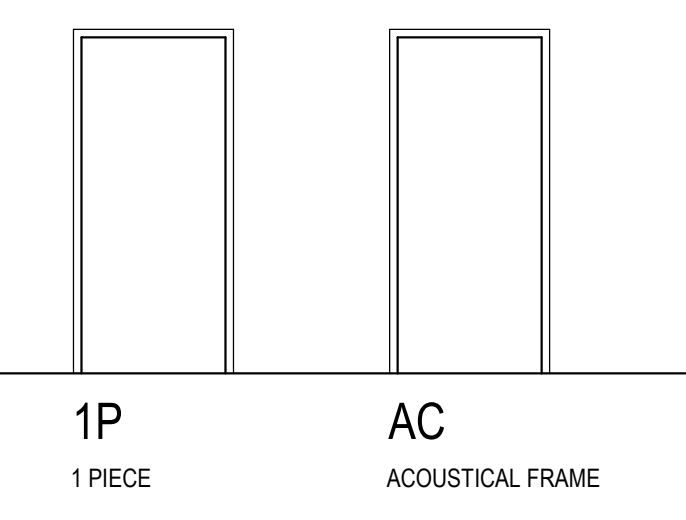
9
A-601
SECTION DETAIL - CURTAINWALL HEAD
1 1/2" = 1'-0"

10
A-601
PLAN DETAIL - END OF WALL
1 1/2" = 1'-0"

11
A-601
SECTION DETAIL - DOOR SILL
3" = 1'-0"

OPENING SCHEDULE													
DOOR NO.	ROOM	TYPE	WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	JAMB	HEAD	SILL
125A	DIGITAL SKILLS PATHWAY	FORM	3'-0"	7'-0"	2 1/4"	ALUMI EL	PT	CW	AL	PT	AL - 3/8" A601	ST A601	-
125B	STORAGE	FORM	3'-0"	7'-0"	2 1/4"	ALUMI EL	PT	CW	AL	PT	AL - 3/8" A601	ST A601	-
126	DIGITAL BRIDGE	FG	3'-0"	7'-0"	2 1/4"	ALUMI EL	PT	CW	AL	PT	AL - 3/8" A601	ST A601	-
126A	DIGITAL BRIDGE	FG	3'-0"	7'-0"	2 1/4"	ALUMI EL	PT	CW	AL	PT	AL - 3/8" A601	ST A601	-
127	STORAGE ROOM	AC	3'-0"	7'-0"	2 1/4"	ALUMI EL	PT	AC	HM	PT	ST A601	ST A601	-
128	STORAGE ROOM	AC	3'-0"	7'-0"	2 1/4"	ALUMI EL	PT	AC	HM	PT	ST A601	ST A601	-
129	STORAGE ROOM	AC	3'-0"	7'-0"	2 1/4"	ALUMI EL	PT	AC	HM	PT	ST A601	ST A601	-
130	STORAGE ROOM	AC	3'-0"	7'-0"	2 1/4"	ALUMI EL	PT	AC	HM	PT	ST A601	ST A601	-
131	STORAGE ROOM	AC	3'-0"	7'-0"	2 1/4"	ALUMI EL	PT	AC	HM	PT	ST A601	ST A601	-
132	STORAGE ROOM	AC	3'-0"	7'-0"	2 1/4"	ALUMI EL	PT	AC	HM	PT	ST A601	ST A601	-
133	STORAGE ROOM	AC	3'-0"	7'-0"	2 1/4"	ALUMI EL	PT	AC	HM	PT	ST A601	ST A601	-
134	STORAGE ROOM	AC	3'-0"	7'-0"	2 1/4"	ALUMI EL	PT	AC	HM	PT	ST A601	ST A601	-

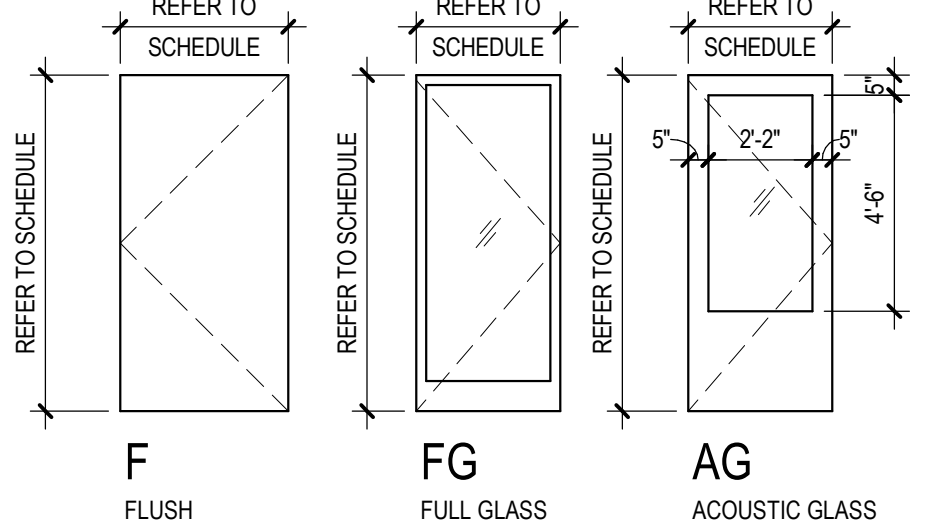
FRAME TYPE



DOOR FRAME TYPES

SCALE: 1/4" = 1'-0"

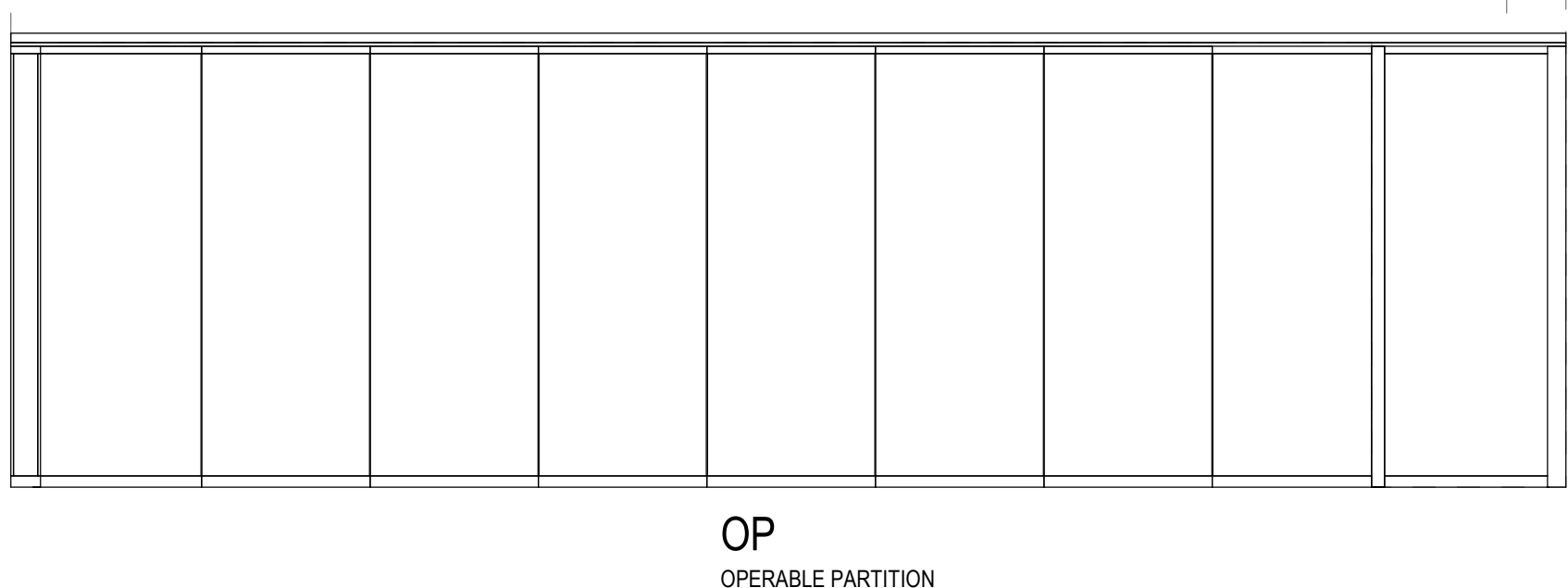
PANEL TYPE



DOOR PANEL TYPES

SCALE: 1/4" = 1'-0"

BASIS OF DESIGN: RUSKIN ELC-4450
COMBINATION LOUVER AND MOTORIZED DAMPER, 24V ACTUATOR
LOUVER - LV-1 & LV-2
SCALE: 1/2" = 1'-0"

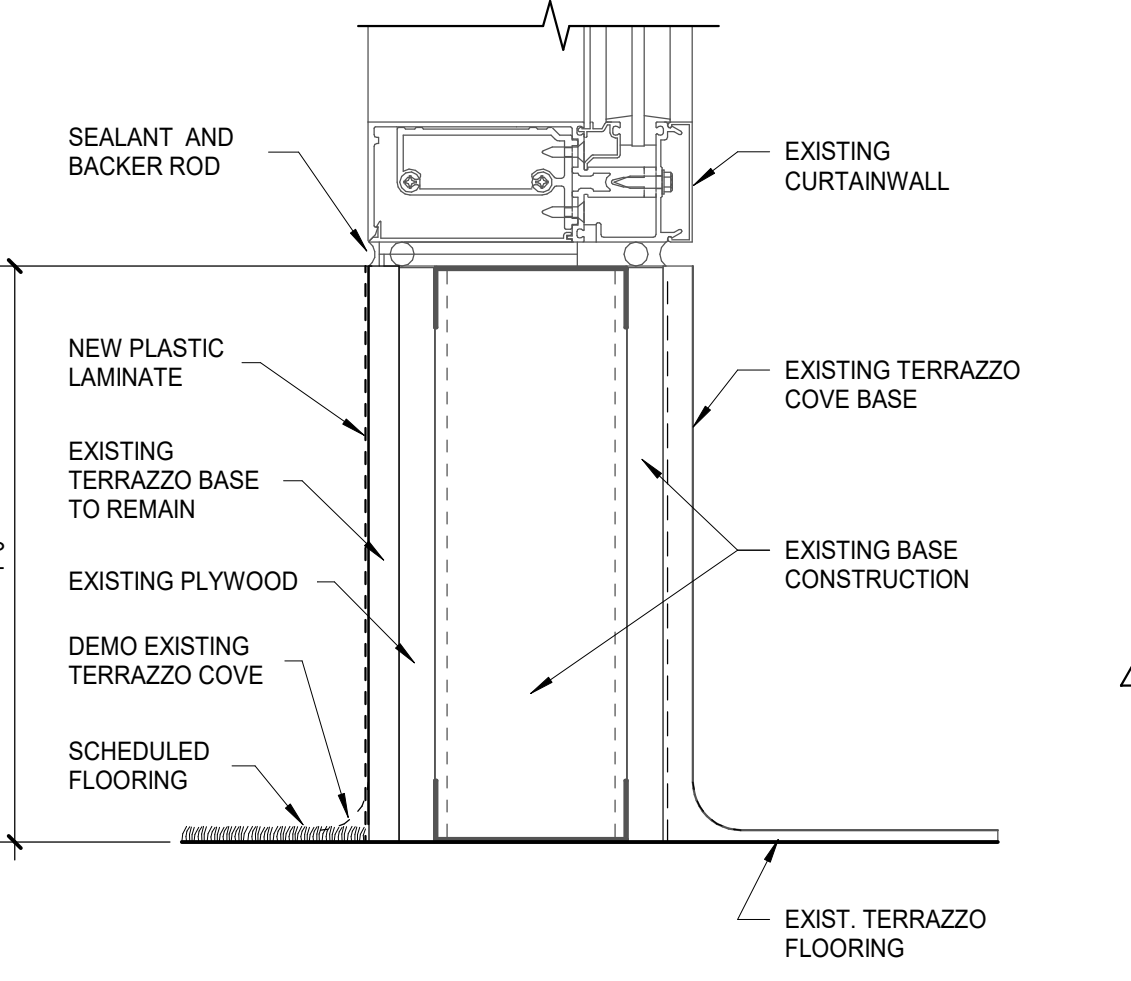


FINISH MATERIALS LEGEND

CODE	MATERIAL	MANUFACTURER	STYLE	NUMBER	DESCRIPTION
FLOORING					
Carpet Tile					
CPT1	CARPET TILE	MOHAWK GROUP	NUTOPIA MATRIX	12BY36 - GT413	URBAN TERRAIN - CAPTIVATE 945
CPT2	CARPET TILE	MOHAWK GROUP	SMART CITY	12BY36 - GT430	URBAN MOBILITY - GREEN LINE 946
CPT3	CARPET TILE	MOHAWK GROUP	VISUAL EDGE	12BY36 - GT496	ANGLED PERCEPTION - METAL GREY 979
FLOOR FINISHING ACCESSORIES					
Rubber Finishing					
RB1	RUBBER BASE	JOHNSONITE	MATCH EXISTING		4" HIGH RUBBER COVE BASE, COLOR: BLACK BROWN (SEE PLANS FOR LOCATIONS)
WALL FINISHES					
Paint					
PT1	PAINT	SHERWIN WILLIAMS	EGGSHELL	SW 6525	COLOR: RAREFIED AIR
PT2	PAINT	SHERWIN WILLIAMS	EGGSHELL	SW 6925	COLOR: ENVY GREEN
PT3	PAINT	SHERWIN WILLIAMS	EGGSHELL	SW 6241	COLOR: ALEUTIAN BLUE
PT4	PAINT	SHERWIN WILLIAMS	EGGSHELL	SW 7674	COLOR: PEPPERCORN
PT5	PAINT	SHERWIN WILLIAMS	EGGSHELL	SW 7757	COLOR: HIGH RELECTIVE WHITE
PT6	PAINT	SHERWIN WILLIAMS	SEMI-GLOSS	MATCH EXISTING	COLOR: TBD (HOLLOW METAL DOOR FRAMES)
PT7	PAINT	SHERWIN WILLIAMS	EGGSHELL	MATCH EXISTING	COLOR: TBD
ACOUSTICAL PANEL SYSTEMS					
AP1	ACOUSTICAL PANEL	SONEX	CLASSIC		24" x 48" WALL PANEL (SOUND ROOMS) THICKNESS: 2" COLOR: MEDIUM GREY TYPE: WILTEC MELAMINE
CEILING MATERIALS					
Acoustic Ceiling Tile					
ACT1	ACOUSTICAL CEILING TILE	ARMSTRONG	ULTIMA HIGH NRC	REGULAR	24" x 24", EXPOSED GRID 24" x 24" (SOUND ROOMS), GASKETED GRID THICKNESS: 2" TILE TYPE: TARTAN COLOR: LIGHT GREY
ACT2	ACOUSTICAL CEILING TILE	SONEX	HARMONI		
MISCELLANEOUS					
Plastic Laminate					
PL1	PLASTIC LAMINATE				12" FLOOR BASE TO MATCH EXISTING (SEE PLANS AND ELEVATIONS FOR LOCATIONS)

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	NORTH	SOUTH	EAST	WEST	CEILING	COMMENTS
125	DIGITAL SKILLS PATHWAY	GP1	PL1	FP	PT1	PT1	PT1	EX P15	
125A	STORAGE	GP1	PL1	FP	PT1	PT1	PT1	EX P15	
126	DIGITAL BRIDGE	GP1	PL1	FP	PT1	PT1	PT1	EX P15	
126A	PASSAGE	GP1	PL1	FP	PT1	PT1	PT1	EX P15	
127	STORAGE RM	GP1	PL1	FP	PT1	PT1	PT1	EX P15	
128	STORAGE RM	GP1	PL1	FP	PT1	PT1	PT1	EX P15	
129	STORAGE RM	GP1	PL1	FP	PT1	PT1	PT1	EX P15	
130	STORAGE RM	GP1	PL1	FP	PT1	PT1	PT1	EX P15	
131	STORAGE RM	GP1	PL1	FP	PT1	PT1	PT1	EX P15	
132	STORAGE RM	GP1	PL1	FP	PT1	PT1	PT1	EX P15	
133	STORAGE RM	GP1	PL1	FP	PT1	PT1	PT1	EX P15	
134	STORAGE RM	GP1	PL1	FP	PT1	PT1	PT1	EX P15	
135	STORAGE RM	GP1	PL1	FP	PT1	PT1	PT1	EX P15	



12
A-601
SECTION DETAIL - FLOOR BASE FINISH
3" = 1'-0"

DOOR AND FRAME SCHEDULE ABBREVIATIONS

(REFER TO DOOR DETAILS SHEET FOR DOOR STYLE DESIGNATIONS)

ALUM	ALUMINUM
CW	CURTAINWALL
DAC	DELAYED-ACTION CLOSER
DC	DOOR CONTACT (NO CREDENTIAL READER)
DI	DOOR INTERFACE
GL	GLASS
HM	HOLLOW METAL
PLAM	PLASTIC LAMINATE
PT	PAINTED
SG	SAFETY GLAZING
SS	STAINLESS STEEL
ST	STEEL
WD	WOOD



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v 314.492.5093
http://www.wa-architectsinc.com



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v 314.588.0600
http://www.webb-engineering.com

OWNER

ST. LOUIS PUBLIC LIBRARY
1301 OLIVE STREET
ST. LOUIS, MO 63103
v 314.241.2288
http://www.spl.org



PROJECT NAME:
The Creative Experience at Julia Davis Library
JULIA DAVIS BRANCH INTERIOR RENOVATION
ST. LOUIS PUBLIC LIBRARY
4415 Natural Bridge Avenue, St. Louis, MO 63115

SCALE:

CONSTRUCTION DOCUMENTS

ISSUE / REVISION SCHEDULE

NO.	DATE	DESCRIPTION
	03/30/2021	95% CD REVIEW SET
	05/04/2021	100% BID SET
1	05/14/2021	ISSUED FOR PERMIT - ADDENDUM #1
2	06/15/2021	ADDENDUM #3

PROJECT NO:	20002.00	ISSUE DATE:	06/15/2021
SCALE:	As indicated	DRAWN BY:	JR
		CHECKED BY:	CH

DOOR, ROOM FINISH + MATERIAL SCHEDULES

SHEET:

A-601

SECTION 09 84 33 - SOUND-ABSORBING WALL UNITS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes shop-fabricated, sound-absorbing acoustical panel units tested for acoustical performance.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For unit assembly and installation.
- C. Samples: For each exposed product and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

- A. Product certificates.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: Units shall comply with "Surface-Burning Characteristics" or "Fire Growth Contribution" Subparagraph below, or both, as determined by testing identical products by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - 1. Surface-Burning Characteristics: Comply with ASTM E84 or UL 723; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less.
 - 2. Fire Growth Contribution: Comply with acceptance criteria of local code and authorities having jurisdiction when tested according to NFPA 265 Method B Protocol or NFPA 286.

2.2 SOUND-ABSORBING WALL UNITS

- A. Sound-Absorbing Wall Panel: **Manufacturer's standard panel construction with finish edges and face material.**
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Pinta Acoustic
 - a. Basis of Design: SONEX Classic Tiles
 - 2. Acoustical Panel Systems (APS, Inc.).
 - 3. Acoustical Solutions.
 - 4. Decoustics Limited; a Saint Gobain company.
 - 5. **G&S Acoustics; Melody, mScores-Canvas (MSC)**
- C. BASIS OF DESIGN MATERIAL INFORMATION
 - 1. **Core Layer: Manufacturer's standard**
 - 2. **Flammability: Class A Rating per ASTM E84**
 - 3. **Edge Construction: Manufacturer's standard**
 - 4. **Edge Profile: Manufacturer standard squared.**
 - 5. **Corner Detail in Elevation: Square with continuous edge profile indicated.**
 - 6. **Reveals between Panels: Flush reveals**
 - 7. **Acoustical Performance: Sound absorption NRC 0.85 to 1.05 according to ASTM C423 for mounting according to ASTM E795.**
 - 8. **Nominal 2 inches (51 mm)**
 - 9. **Sheet Size: Up to 4' x 8', varying panel sizes, shapes and pattern to be coordinated with Architect, TBD.**
 - 10. **Color: TBD.**
 - 11. **Finish: Satin latex painted HPC.**

2.3 MATERIALS

- A. Core Materials: Manufacturer's standard.
 - 1. Recycled Polyester
- B. Mounting Devices: Concealed on back of unit, recommended by manufacturer to support weight of unit, and as follows:

2.4 FABRICATION

- A. Standard Construction: Use manufacturer's standard construction unless otherwise indicated; with facing material applied to face, edges, and back border of dimensionally stable core; and with rigid edges to reinforce panel perimeter against warpage and damage.
- B. Dimensional Tolerances of Finished Units: Plus or minus 1/16 inch (1.6 mm).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install units in locations indicated. Unless otherwise indicated, install units with vertical surfaces and edges plumb, top edges level and in alignment with other units, faces flush, and scribed to fit adjoining work accurately at borders and at penetrations.
- B. Comply with manufacturer's written instructions for installation of units using mounting requirements indicated. Use manufacturer's required adhesive to securely support to substrate.

3.2 CLEANING

- A. Clip loose material; remove pills and extraneous materials.
- B. Clean panels on completion of installation to remove dust and other foreign materials according to manufacturer's written instructions.

END OF SECTION 09 84 33

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Sheet Metal Flashing

1.2 ACTION SUBMITTALS

A. Product Data: For each of the following

1. Underlayment materials.
2. Elastomeric sealant.

B. Shop Drawings: For sheet metal flashing and trim.

1. Include plans, elevations, sections, and attachment details.
2. Detail fabrication and installation layouts, and keyed details. Distinguish between shop- and field-assembled Work.
3. Include identification of material, thickness, weight, and finish for each item and location in Project.
4. Include details for forming, including profiles, shapes, seams, and dimensions.
5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments.
6. Include details of edge conditions including flashings
7. Include details of connections to adjoining work.

C. Samples: For each exposed product and for each color and texture specified, 12 inches (300 mm) long by actual width.

1.3 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of coping and roof edge flashing that is ANSI/SPRI/FM 4435/ES-1 tested.

B. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

1.6 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period **10** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Sheet metal flashing and trim assemblies, including cleats, anchors, and fasteners, shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.

2.2 SHEET METALS

- A. Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Aluminum Sheet: **ASTM B209** (**ASTM B209M**), alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, matte surface.

1. Factory Prime Coating: Where painting after installation is required, pretreat metal with white or light-colored, factory-applied, baked-on epoxy primer coat; minimum dry film thickness of **0.2 mil (0.005 mm)**.
 - a. Color: As selected by Owner from full range of industry colors and color densities. Match adjacent metal louver finish.
 - b. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

2.3 UNDERLAYMENT MATERIALS

- A. Felt: ASTM D226/D226M, Type II (No. 30), asphalt-saturated organic felt; nonperforated.
- B. Self-Adhering, High-Temperature Sheet Underlayment: Minimum **30 mils (0.76 mm)** thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer in accordance with underlayment manufacturer's written instructions.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ATAS International, Inc.
 - b. Carlisle WIP Products; a brand of Carlisle Construction Materials.
 - c. GCP Applied Technologies Inc.
 - d. Owens Corning.
 2. Low-Temperature Flexibility: ASTM D1970/D1970M; passes after testing at minus **20 deg F (29 deg C)** or lower.
- C. Slip Sheet: Rosin-sized building paper, **3 lb/100 sq. ft. (0.16 kg/sq. m)** minimum.

2.4 MISCELLANEOUS MATERIALS

- A. Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.

- a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
 - b. Blind Fasteners: High-strength aluminum or stainless steel rivets suitable for metal being fastened.
 - c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
- C. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape **1/2 inch (13 mm)** wide and **1/8 inch (3 mm)** thick.
- D. Elastomeric Sealant: ASTM C920, elastomeric polysulfide polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

2.5 FABRICATION, GENERAL

- A. Custom fabricate sheet metal flashing and trim to comply with details indicated and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required.
1. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
 2. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
 3. Verify shapes and dimensions of surfaces to be covered and obtain field measurements for accurate fit before shop fabrication.
 4. Form sheet metal flashing and trim to fit substrates without excessive oil-canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
 5. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- B. Fabrication Tolerances:
1. Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of **1/4 inch in 20 feet (6 mm in 6 m)** on slope and location lines indicated on Drawings and within **1/8-inch (3-mm)** offset of adjoining faces and of alignment of matching profiles.
 2. Fabricate sheet metal flashing and trim that is capable of installation to tolerances specified.
- C. Sealant Joints: Where movable, non-expansion-type joints are required, form metal in accordance with cited sheet metal standard to provide for proper installation of elastomeric sealant.
- D. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

E. Seams:

1. Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.
2. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints where necessary for strength.

2.6 WALL SHEET METAL FABRICATIONS

- A. Opening Flashings in Frame Construction: Fabricate head, sill, jamb, and similar flashings to extend **4 inches (100 mm)** beyond wall openings. Form head and sill flashing with **2-inch- (50-mm-)** high, end dams. Fabricate from the following materials:
1. Aluminum: **0.032 inch (0.81 mm)** thick.

PART 3 - EXECUTION

3.1 INSTALLATION OF UNDERLAYMENT

- A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim.
1. Install in shingle fashion to shed water.
 2. Lap joints not less than **2 inches (50 mm)**.
- B. Self-Adhering, High-Temperature Sheet Underlayment:
1. Install self-adhering, high-temperature sheet underlayment; wrinkle free.
 2. Prime substrate if recommended by underlayment manufacturer.
 3. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures.
 4. Apply in shingle fashion to shed water, with end laps of not less than **6 inches (150 mm)** staggered **24 inches (600 mm)** between courses.
 5. Overlap side edges not less than **3-1/2 inches (90 mm)**. Roll laps and edges with roller.
 6. Roll laps and edges with roller.
 7. Cover underlayment within 14 days.
- C. Install slip sheet, wrinkle free, over underlayment Insert requirement before installing sheet metal flashing and trim.
1. Install in shingle fashion to shed water.
 2. Lapp joints not less than **4 inches (100 mm)**.

3.2 INSTALLATION, GENERAL

- A. Install sheet metal flashing and trim to comply with details indicated and recommendations of cited sheet metal standard that apply to installation characteristics required unless otherwise indicated on Drawings.
 - 1. Install fasteners, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 2. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of sealant.
 - 3. Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 4. Install sheet metal flashing and trim to fit substrates and to result in watertight performance.
 - 5. Install exposed sheet metal flashing and trim with limited oil-canning, and free of buckling and tool marks.
 - 6. Do not field cut sheet metal flashing and trim by torch.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
 - 1. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Fasteners: Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- D. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- E. Seal joints as required for watertight construction.
 - 1. Use sealant-filled joints unless otherwise indicated.
 - a. Embed hooked flanges of joint members not less than 1 inch (25 mm) into sealant.
 - b. Form joints to completely conceal sealant.
 - c. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way.
 - d. Adjust setting proportionately for installation at higher ambient temperatures.
 - 1) Do not install sealant-type joints at temperatures below 40 deg F (4 deg C).
 - 2. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."

3.3 INSTALLATION OF WALL FLASHINGS

- A. Install sheet metal wall flashing to intercept and exclude penetrating moisture in accordance with cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Opening Flashings in Frame Construction: Install continuous head, sill, jamb, and similar flashings to extend **4 inches (100 mm)** beyond wall openings.

3.4 INSTALLATION TOLERANCES

- A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of **1/4 inch in 20 feet (6 mm in 6 m)** on slope and location lines indicated on Drawings and within **1/8-inch (3-mm)** offset of adjoining faces and of alignment of matching profiles.

3.5 CLEANING

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean off excess sealants.

3.6 PROTECTION

- A. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.
- B. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures, as determined by Architect.

END OF SECTION 07 62 00