

**APPLICATION FOR A CERTIFICATE OF APPROPRIATENESS FOR  
A SIGN IN A SPECIAL PROVISION SIGN DISTRICT (SPSD)**

**UPTOWN SPECIAL PURPOSE DISTRICT**

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**CASE NUMBER:** SIGN-25-001727

**DATE FILED:** October 24th, 2025

**LOCATION:** 2323 CEDAR SPRINGS RD  
(SOUTHEAST ELEVATION)

**SIZE OF REQUEST:** 435 sq. ft.

**COUNCIL DISTRICT:** 14

**ZONING:** PD-193, PDS-146

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**APPLICANT:** Josephine Gonzales of Pattison ID

**OWNER:** 23 Springs, LP

**OWNER REP.:** Sidley Austin TX (LLP)

**REQUEST:** An application for a Certificate of Appropriateness by Josephine Gonzales of Pattison ID, for a 435-square-foot LED illuminated channel letter sign reading 'SIDLEY' at 2323 CEDAR SPRINGS RD (SOUTHEAST ELEVATION).

**SUMMARY:** The applicant proposes to install a 435-square-foot LED illuminated channel sign, eight inch white front lit channel letters with white polycarbonate faces, to be mounted to an engineered metal stringer system.

**STAFF RECOMMENDATION:** Approval.

**SSDAC RECOMMENDATION:** Approval.

**BACKGROUND:**

- The subject site is located in Uptown Special Purpose District and is zoned PD-193, PDS-146, Oak Lawn Special Purpose District.  
These regulations are established in: [Sec. 51A-7.1100](#) (Specific details included below).
- The applicant proposes to install a 435-square-foot LED illuminated channel sign, eight inch white front lit channel letters with white polycarbonate faces, to be mounted to an engineered metal stringer system.
  - The sign is composed of 8" aluminum channel letters, painted PMS 7469 Sidley Blue with white polycarbonate faces and mounted to a metal stringer system with a backer panel.
  - Sign elements are constructed entirely of metal, plastic, and LED lighting. The overall height of the sign will not exceed 10-feet.
- This is the only application under review by this body for this site. This sign is to be located on Cedar Springs Road.
- Construction of the proposed sign is in accordance with SPSD regulations and meets the requirements of the Dallas City Code per Sec. 51A-7.1100.

**51A-7.1102 PURPOSE.**

The purpose of this division is to regulate both the construction of new signs and the alterations of existing signs with a view towards enhancing, preserving and developing the unique character of this district. The general objectives of this division include those listed in Section 51A-7.101 as well as aesthetic considerations to insure that signs are appropriate to the architecture of the district, do not obscure significant architectural features of its buildings, and lend themselves to the developing character of the area. (Ord. Nos. 19649; 20037)

**51A-7.1104 SPECIAL PROVISIONS FOR ALL SIGNS.**

(a) Pursuant to the authority of Section 51A-7.503 of this article, the rules relating to the erection of all signs in the Uptown Sign District are expressly modified as follows:

- (1) No illuminated sign may contain flashing or moving elements or change its brightness, except as otherwise provided in this division.
- (2) Except as provided in this paragraph, signs may be illuminated by fluorescent back lighting or indirect lighting. Signs in the 23 Springs subdistrict may also be illuminated by LED.
- (3) The use of neon or single incandescent bulbs is allowed.
- (4) The use of fiberglass as a sign material is allowed.
- (5) Except as provided in this subsection, the use of plastic as an exterior face of a sign is prohibited. Plastic may be used as a backing for routed letters in a sign can or as decorative ornaments.
- (6) For signs located within the 23 Springs subdistrict, plastic may be used for faces of individual channel letters. Channel letters must be either visually trim capless or use metal fabricated trim caps. No plastic trim caps are allowed.
- (7) The use of fluorescent color on a sign is prohibited.
- (8) No sign or part of a sign may move or rotate, with the exception of a wind device, the motion of which is not restricted.

*Plastic faces will be used in conjunction with fabricated metal retainers.*

**51A-7.1105 SPECIAL PROVISIONS FOR ATTACHED SIGNS.**

(7) Attached upper level signs in the 23 Springs subdistrict may exceed 30 square feet in effective area per sign with the following restrictions:

- (A) signs within the top 50 feet of the top of building may not exceed a cumulative effective area of 450 square feet;
- (B) signs below 50 feet from the top of the facade may not exceed a cumulative effective area of 100 square feet;
- (C) signs must be spaced vertically at least 260 feet apart;
- (D) signs must be spaced horizontally at least 150 feet apart; and
- (E) the combined effective area of all signs may not exceed five percent of the total area of the facade.

*This upper level sign is the only sign in the upper 50-feet and does not exceed 450 square-feet. This sign is spaced vertically 275-feet from the nearest sign.*

**51A-7.505 PERMIT PROCEDURES FOR SPECIAL PROVISION SIGN DISTRICTS.**

(B) **Factors the committee shall consider.** In reviewing an application, the committee shall first consider whether the applicant has submitted sufficient information for the committee to make an informed decision. If the committee finds the proposed sign to be consistent with the special character of the special provision sign district, the committee shall make a recommendation of approval to the city plan commission. **The committee shall consider the proposed sign in terms of its appropriateness to the special provision sign district with particular attention to the effect of the proposed sign upon the economic structure of the special provision sign district and the effect of the sign upon adjacent and surrounding premises without regard to any consideration of the message conveyed by the sign.** After consideration of these factors, the committee shall recommend approval or denial of the application and forward that recommendation to the city plan commission.

(6) **Decision by the commission.** Upon receipt of a recommendation by the committee, the commission shall hold a public hearing to consider the application. At least 10 days before the hearing, notice of the date, time, and place of the hearing, the name of the applicant, and the location of the proposed sign must be published in the official newspaper of the city and the building official shall serve, by hand-delivery or mail, a written notice to the applicant that contains a reference to this section, and the date, time, and location of this hearing. A notice sent by mail is served by depositing it properly addressed and postage paid in the United States mail. In addition, if the application is for a detached sign or for an attached sign that has more than 100 square feet of effective area, the applicant must post the required number of notification signs in accordance with Section 51A-1.106. **In making its decision, the commission shall consider the same factors that were required to be considered by the committee in making its recommendation.** If the commission approves the application, it shall forward a certificate of appropriateness to the building official within 15 days after its approval. If the commission denies the application, it shall so inform the building official in writing. Upon receipt of the written denial, the building official shall so advise the applicant within five working days of the date of receipt of the written notice.

**Property Ownership**

23 Springs, LP  
5601 Granite PKWY, Suite 1200  
Plano, TX 75024

Officer names: Bill Brown, President  
Ace Roman, CFO  
Carson Dennis, Director of Investments

**Tenant Ownership**

Sidley Austin TX (LLP)  
One South Dearborn  
Chicago, IL 60603

Officer names: Timothy Bergen, Executive Director  
Stephen Dempsey, Director of Administration

**SSDAC Action:**

**November 20, 2025**

**MOTION:** It was moved to approve:

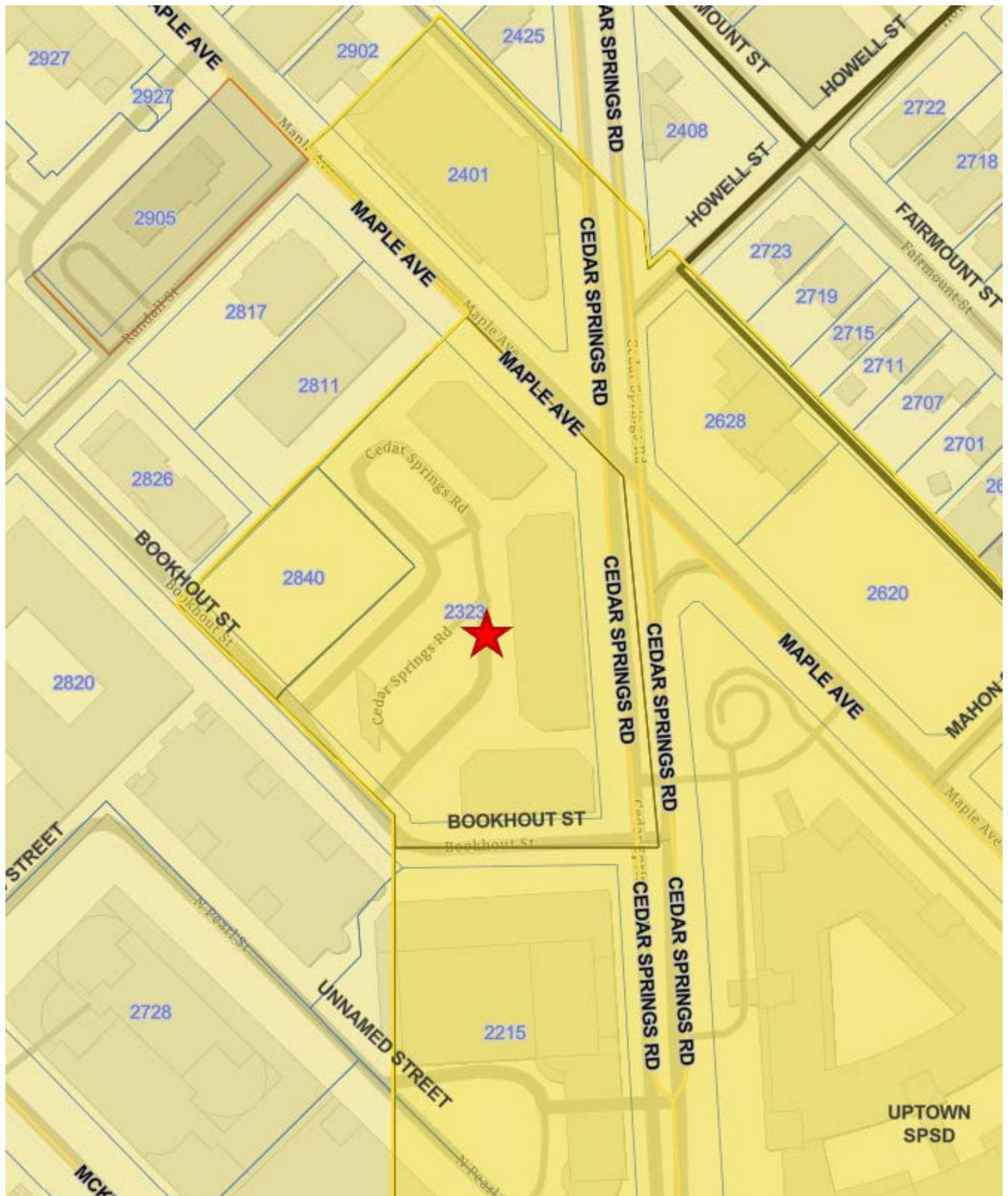
An application for a Certificate of Appropriateness by Josephine Gonzales of Pattison ID, for a 435-square-foot LED illuminated channel letter sign reading 'SIDLEY' at 2323 CEDAR SPRINGS RD (SOUTHEAST ELEVATION).

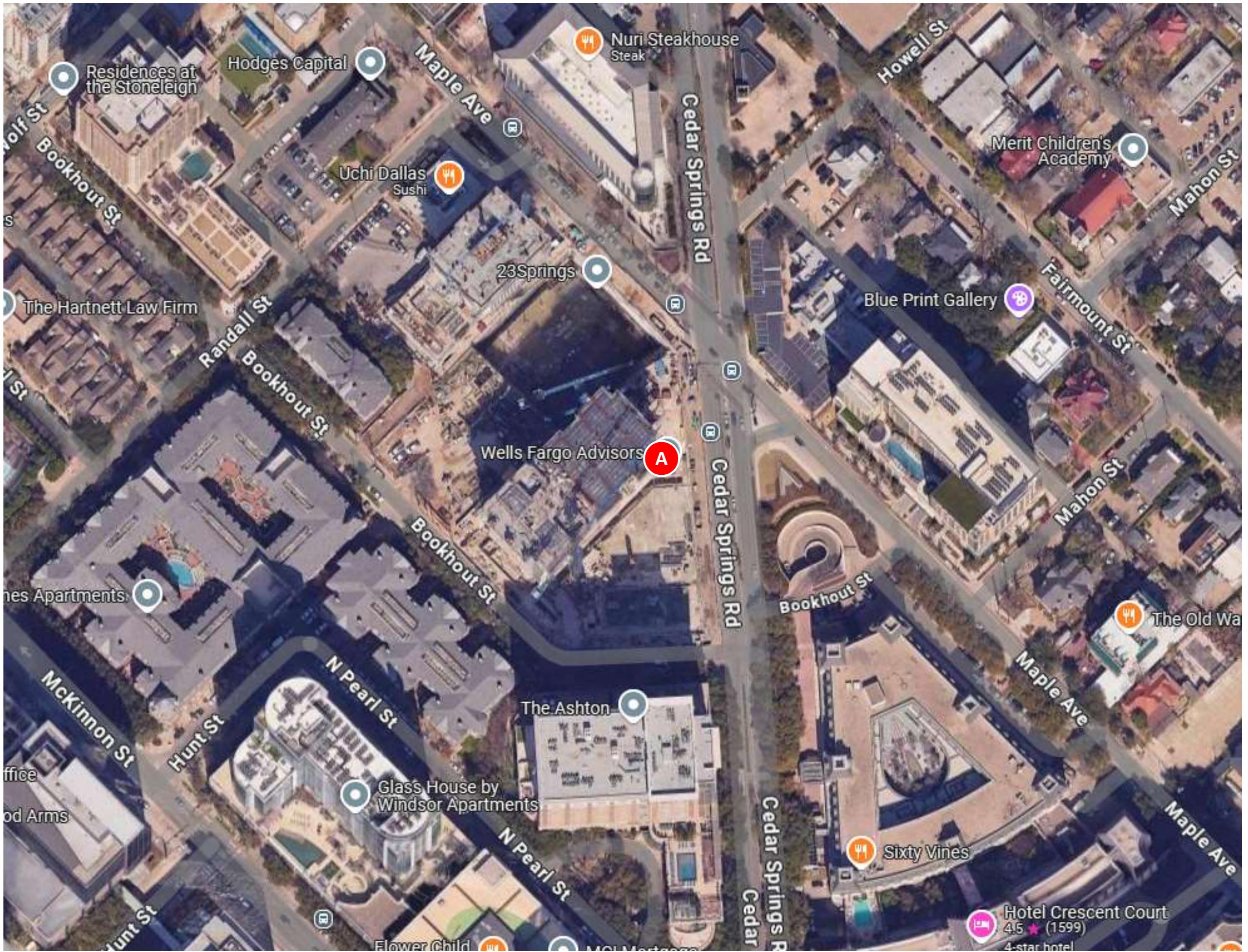
Maker: Dumas  
Second: Hardin  
Result: Carried: 3 to 0

For: 3 - Peadon, Dumas, and Hardin  
Against: 0 - none  
Absent: 2 - Murphy and Hall  
Conflict: 0 - none

Speakers: none







SITE VIEW

Project ID  
0429994Ar4

SIDLEY

2323 CEDAR SPRINGS RD,  
DALLAS, TEXAS

Date: 6/4/2025

Contact: RICHARD BROWN

Designer: ES

Sign Item

SITE PLAN

Scale: NTS

Revision Note

R1 RFF 06.25.25 revd a colors &amp; specs &amp; added opt 2

R2-AC-8/7/25: add OPT 1, rev color callouts

R3-LDB-09/04/25: Removed OPT 1 &amp; 3; lowered installation placement, changed color of background panel to match existing mullions.

R4 JMC 9/30/25: REVISED SIGN A

Information Required  
for Production

Customer Approval

Signature \_\_\_\_\_

MM/DD/YYYY \_\_\_\_\_

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It is the Customer's responsibility to ensure that the sign installation location is suitable to accept and support the installation of the signs being ordered. Notify Pattison ID immediately if further details are required.

Pattison

1.866.635.1110  
pattisonid.com



Project ID  
**0429994Ar4**

**SIDLEY**

2323 CEDAR SPRINGS RD,  
DALLAS, TEXAS

Date: 6/4/2025

Contact: RICHARD BROWN

Designer: ES

**Sign Item**

**A - CONCEPT ART**

Scale: NTS

**Revision Note**

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R2-AC-8/7/25: add OPT 1, rev color callouts

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R4 JMC 9/30/25: REVISED SIGN A

**Information Required for Production**

**Customer Approval**

Signature \_\_\_\_\_

MM/DD/YYYY \_\_\_\_\_

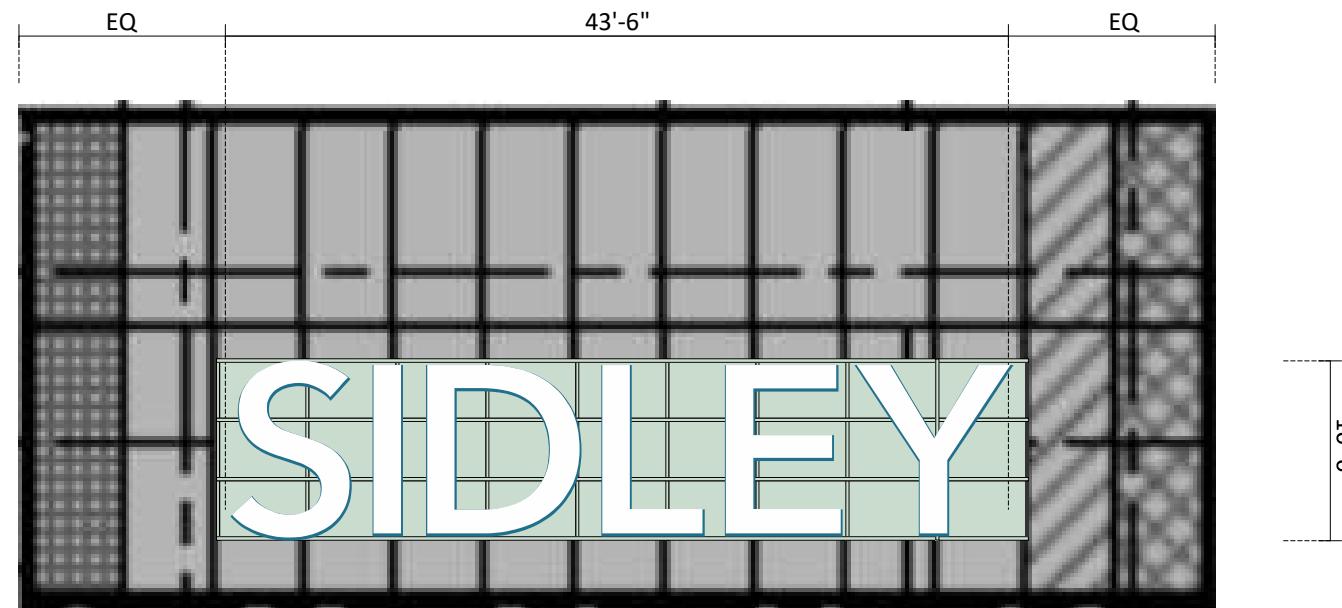
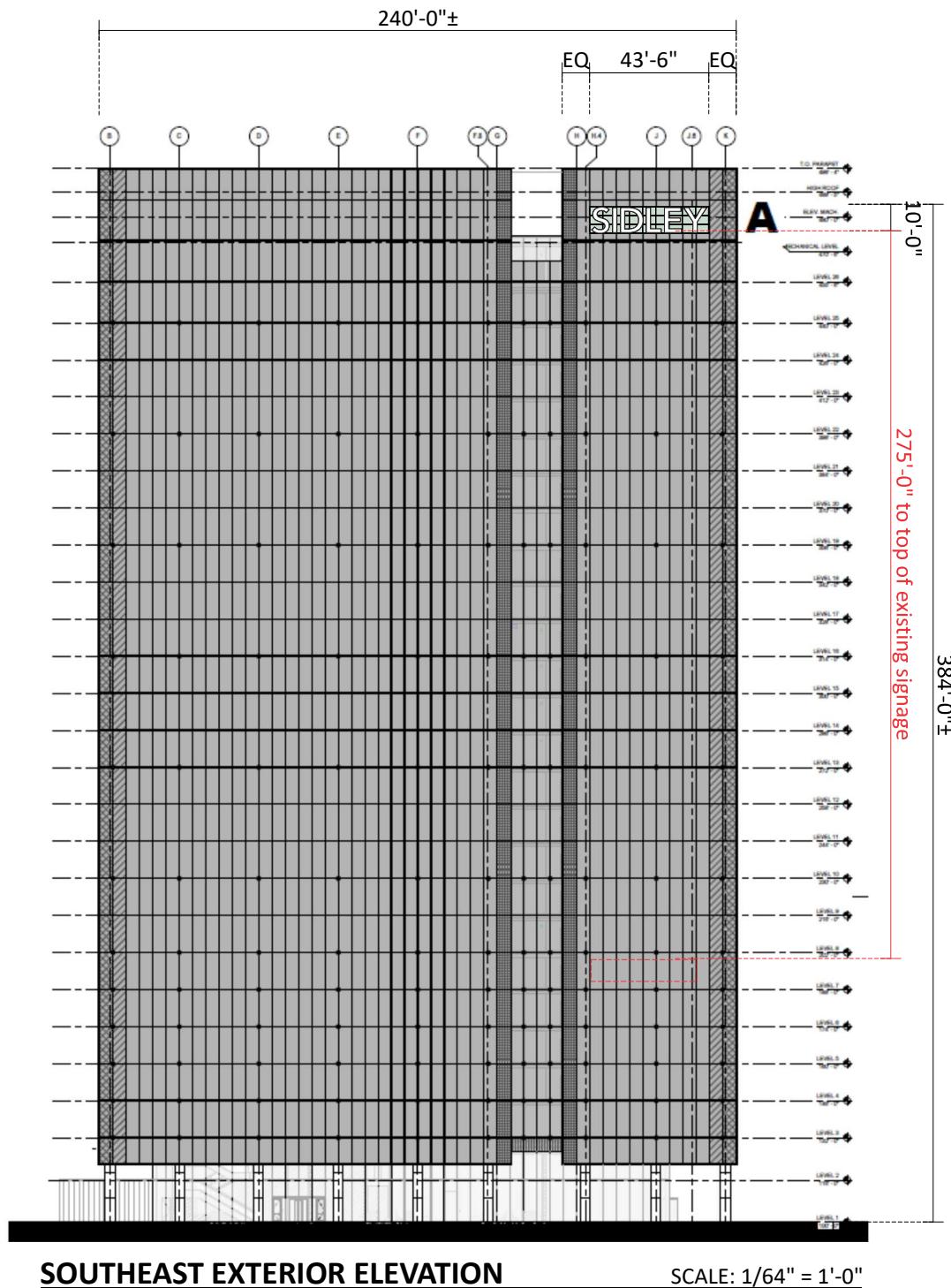
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**Project ID**  
**0429994Ar4**

**SIDLEY**  
2323 CEDAR SPRINGS RD,  
DALLAS, TEXAS

Date: 6/4/2025  
Contact: RICHARD BROWN  
Designer: ES

**Sign Item**  
**A - ELEVATION**  
Scale: AS NOTED

**Revision Note**

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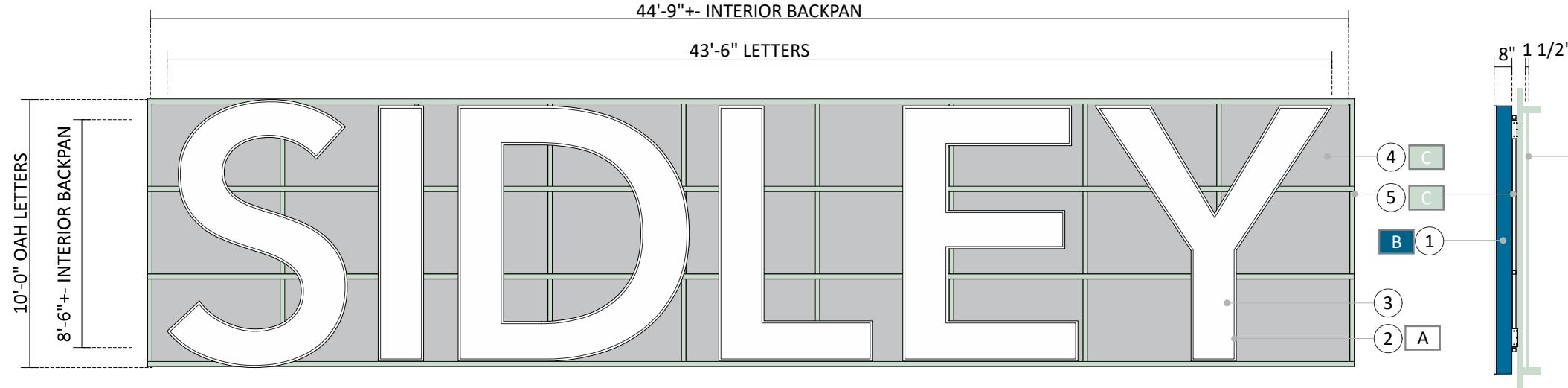
**Information Required for Production**

**Customer Approval**

Signature \_\_\_\_\_  
MM/DD/YYYY \_\_\_\_\_

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**A CHANNEL LETTERS DETAIL**

SCALE: 3/16" = 1'-0"

SQ FT: 435

NOTE: THE PROPOSED FORMED ALUMINUM BACKPAN PANEL WILL BE ONLY INSTALLED AT SIDLEY'S DISCRETION  
IF THEY ARE CONCERNED FOR LIGHT WASHOUT

**SIDE VIEW**


SIMULATED NIGHT VIEW

**MFG/INSTALL (1) ONE SET  
FACE LIT CHANNEL LETTERS**
**# Description:**

1. 8" DEEP ALUM. CHANNEL LETTERS - PAINTED RETURNS &  $\frac{1}{4}$ " ALUM. LETTER BACKS

2. 1" ALUM. PAINTED RETAINERS

3. #7328 WHITE POLYCARBONATE FACES - WHITE GE TETRAMAX LED ILLUMINATION MOUNT TO STRINGER SYSTEM, HARDWARE FINISHED TO MATCH WINDOW MULLIONS - ELECTRICAL LOCATION & ROUTE TBD

4. .090 FORMED ALUM. BACKPAN PANEL 1 1/2" DEEP PAINTED ON BOTH SIDES TO MATCH WINDOW MULLIONS (COLOR TBD) MOUNTED INSIDE THE BUILDING - THIS BACKPAN WILL BLOCK LIGHT WITHIN THE BUILDING AND WON'T AFFECT LEGIBILITY OF THE LETTERS AT NIGHT

5. STRINGER SYSTEM- PAINTED TO MATCH WINDOW MULLIONS (COLOR TBD)

**Colors:**

A AKZONOBEL WHITE

B PMS 7469 C SIDLEY BLUE (SATIN FINISH)

C PAINT TO MATCH BUILDING MULLIONS (TBD)

**Project ID  
0429994Ar4**
**SIDLEY**  
2323 CEDAR SPRINGS RD,  
DALLAS, TEXAS

Date: 6/4/2025

Contact: RICHARD BROWN

Designer: ES

**Sign Item**
**CHANNEL LETTERS**

Scale: 3/16" = 1'-0"

**Revision Note**

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R4 JMC 9/30/25: REVISED SIGN A

**Information Required  
for Production**
**Customer Approval**

Signature \_\_\_\_\_

MM/DD/YYYY \_\_\_\_\_

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Pattison

1.866.635.1110  
pattisonid.com

## Sign Item

## MOUNTING DETAIL

scale:  $\frac{1}{4}'' = 1'-0''$

## Revision Note

1 RFF 06.25.25 revd a colors  
specs & added opt 2

2-AC-8/7/25: add OPT 1, rev  
color callouts

3-LDB-09/04/25: Removed  
PT 1& 3; lowered installation  
placement, changed color of  
background panel to match  
existing mullions.

4 JMC 9/30/25: REVISED SIGN

## Information Required for Production

## Customer Approval

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**Signature**

MM/DD/YYYY

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866.635.1110  
[attisonid.com](http://attisonid.com)

## Sign Item

## SECTION VIEW

Scale: AS NOTED

## Revision Note

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Information Required  
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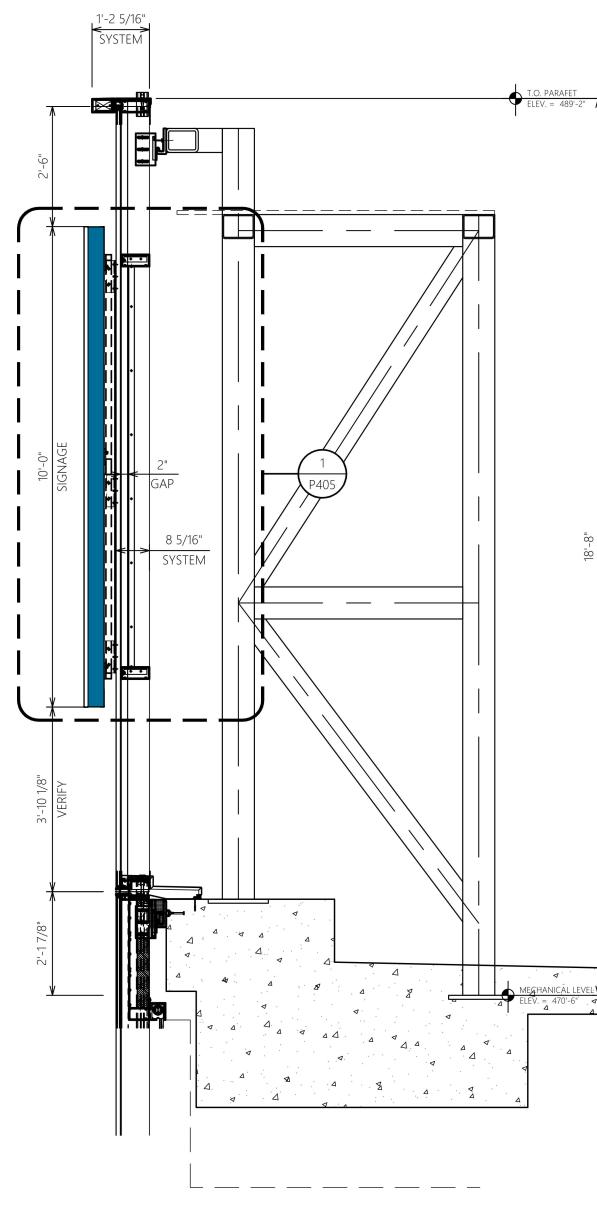
## Customer Approval

Signature \_\_\_\_\_

MM/DD/YYYY \_\_\_\_\_

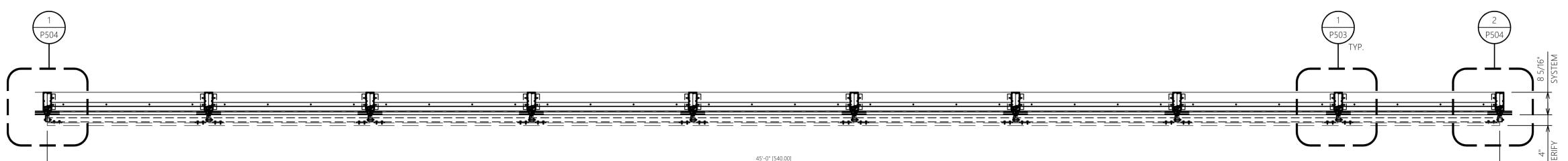
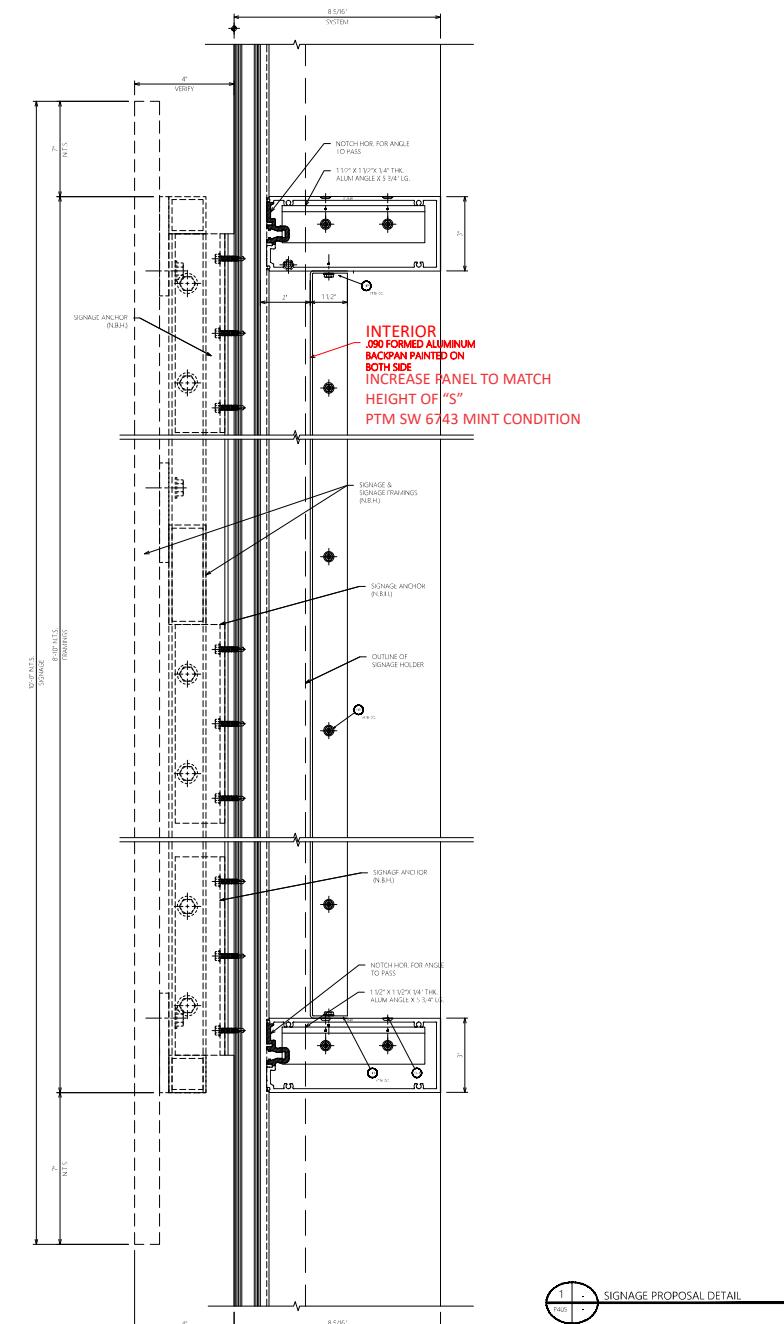
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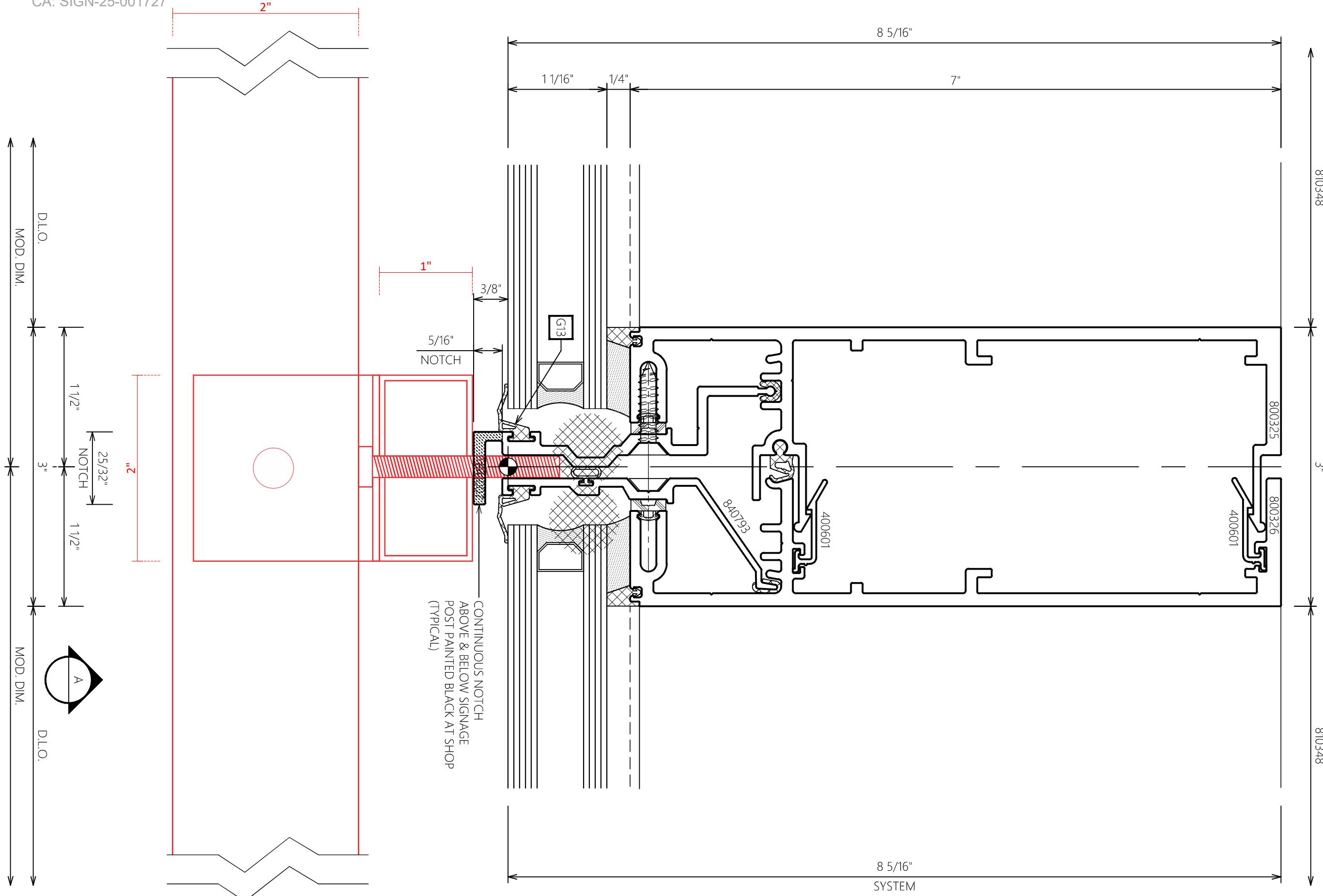
## SECTION VIEW

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



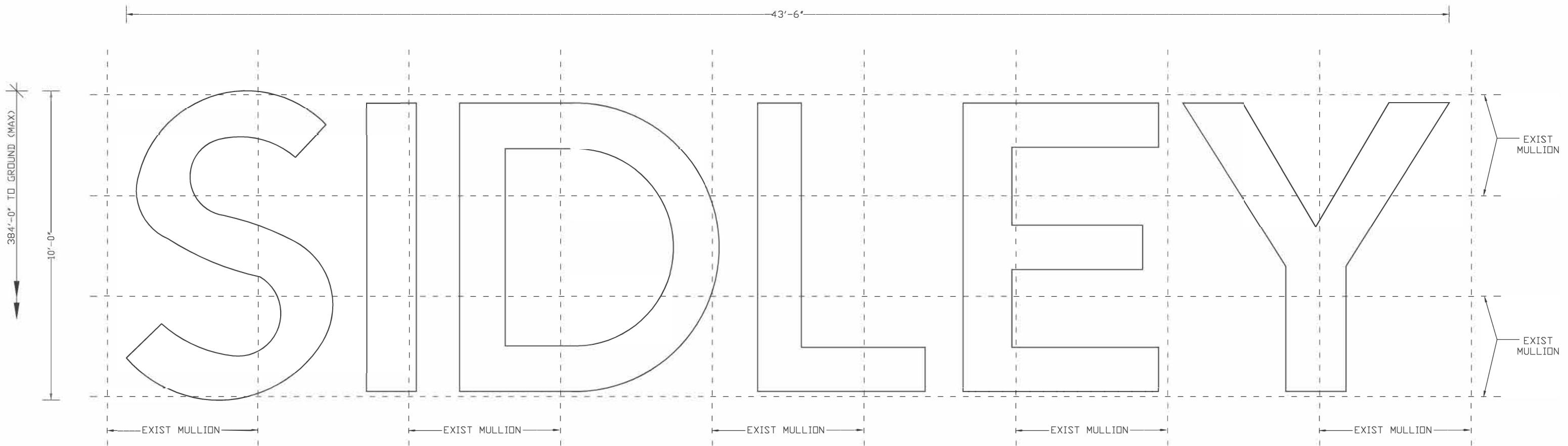
## SIGNAGE PLAN

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

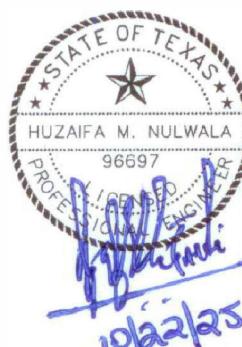


## MOUNTING HARDWARE DETAIL

SCALE: 1:1

**ELEVATION**NOTES:

1. DESIGN IS BASED ON 2024 IBC - WIND SPEED OF 115 MPH (3-SEC GUST), EXPOSURE C.
2. THIS DESIGN IS INTENDED FOR A SINGLE (1) SIGN THAT SHALL BE INSTALLED AT THE ADDRESS SHOWN AND SHALL NOT BE USED FOR MULTIPLE SIGN/S AT THIS OR ANY OTHER LOCATION/S UNLESS CERTIFIED BY A PROFESSIONAL ENGINEER.
3. ENGINEER IS NOT THE ENGINEER OF RECORD FOR THE OVERALL PROJECT AND SHALL ONLY BE RESPONSIBLE FOR THE DESIGN OF SIGN STRUCTURE SHOWN IN THIS PACKAGE. (SIGN FRAME STRUCTURE DESIGN SHALL BE PROVIDED BY OTHERS).
4. ALL HSS TUBE SECTIONS SHALL MEET ASTM A500 GRADE-B WITH MINIMUM YIELD STRESS  $F_y=46$  KSI.
5. ALL OTHER STEEL INCLUDING CONNECTION PLATES, ANGLES, ETC. SHALL MEET ASTM A36 WITH MINIMUM YIELD STRESS  $F_y=36$  KSI.
6. ALL ALUMINUM USED SHALL BE GRADE 6061-T6 OR EQUIVALENT WITH MINIMUM YIELD STRESS  $F_y=35$  KSI.
7. STRUCTURAL BOLTS SHALL CONFORM TO ASTM A325 UNLESS OTHERWISE NOTED AND SHALL BE GALVANIZED.
8. ALL STEEL WELDING SHALL BE MADE WITH E70xx ELECTRODES AND SHALL BE PERFORMED BY CERTIFIED WELDERS IN ACCORDANCE WITH AWS STANDARDS.
9. ALL ALUMINUM WELDING SHALL BE MADE WITH E40xx ELECTRODES AND SHALL BE PERFORMED BY CERTIFIED WELDERS IN ACCORDANCE AWS STANDARDS.
10. SIZE AND NUMBER OF BOLTS ARE MINIMUM RECOMMENDED AND SHALL BE INCREASED DEPENDING ON FIELD CONDITIONS TO SECURE SIGN FIRMLY ONTO EXISTING CURTAIN WALL (GLASS WALL) STRUCTURE.
11. BOLTS SHALL BE CONNECTED TO EXISTING CURTAIN WALL (GLASS WALL) STRUCTURE (FRAME) AT ALL LOCATIONS.
12. EXISTING CURTAIN WALL (GLASS WALL) STRUCTURE INFORMATION NOT PROVIDED BY SIGN CONTRACTOR.
13. ANALYSIS OF EXISTING CURTAIN WALL (GLASS WALL) STRUCTURE TO SUPPORT PROPOSED LOADS NOT IN SCOPE OF SMB ENGINEERING, LLC AND DESIGN ENGINEER AND HENCE NOT PERFORMED AND PROVIDED.
14. SMB ENGINEERING, LLC AND DESIGN ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR DAMAGE CAUSED TO EXISTING CURTAIN WALL (GLASS WALL) OR EXISTING BUILDING DUE TO ADDITION OF PROPOSED LOADS.



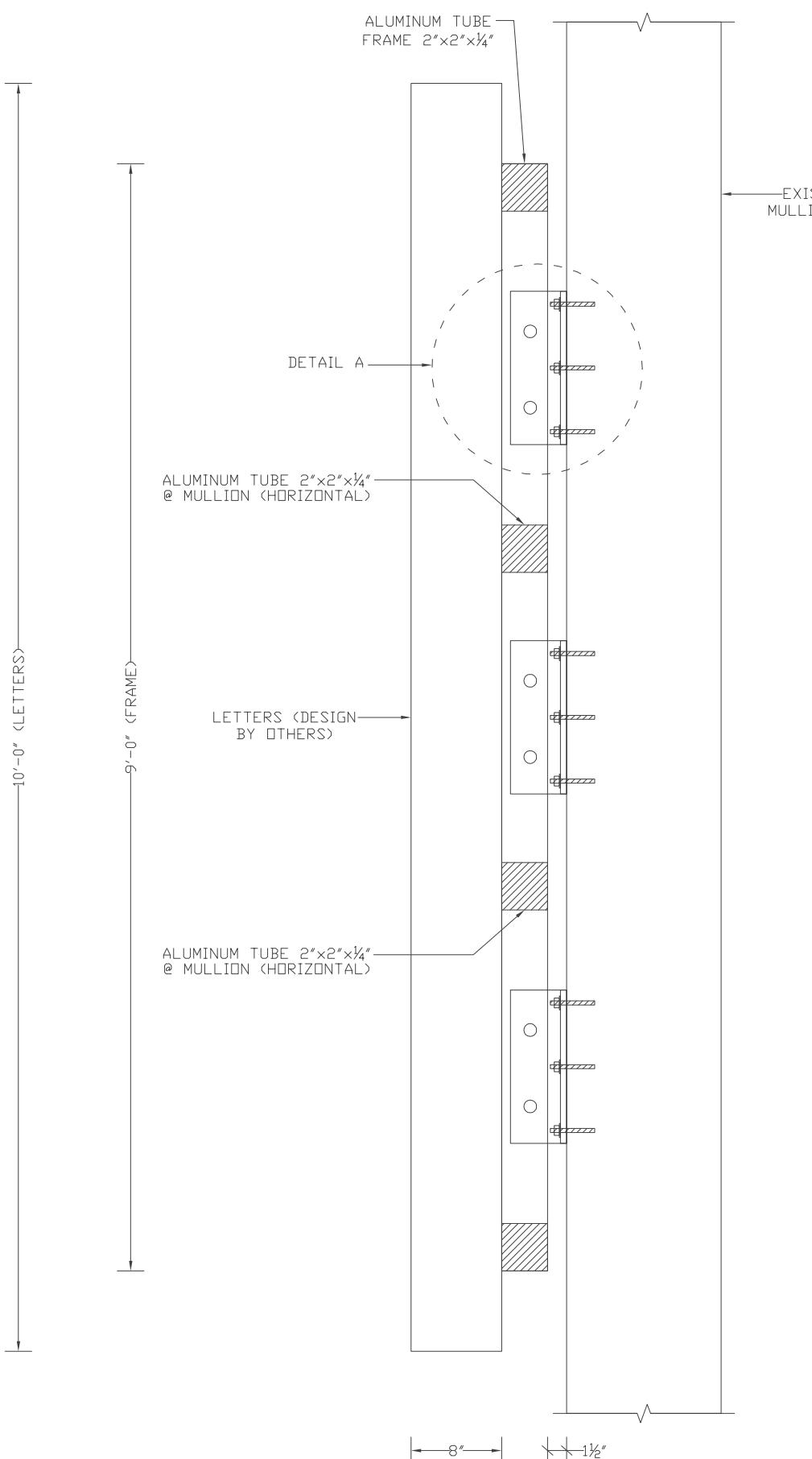
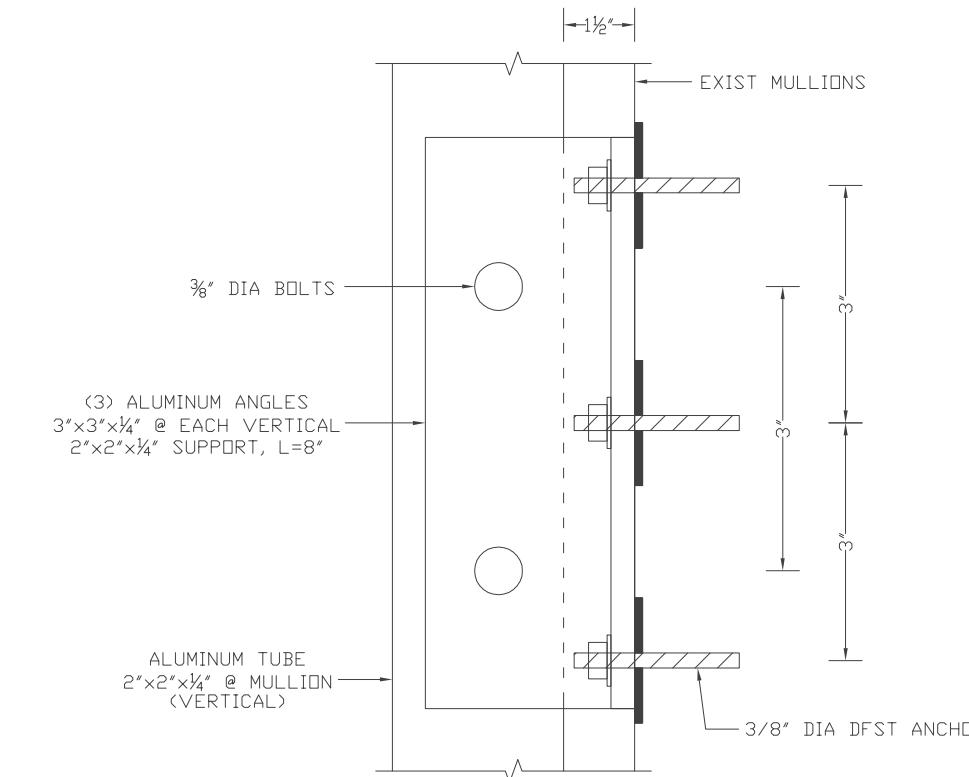
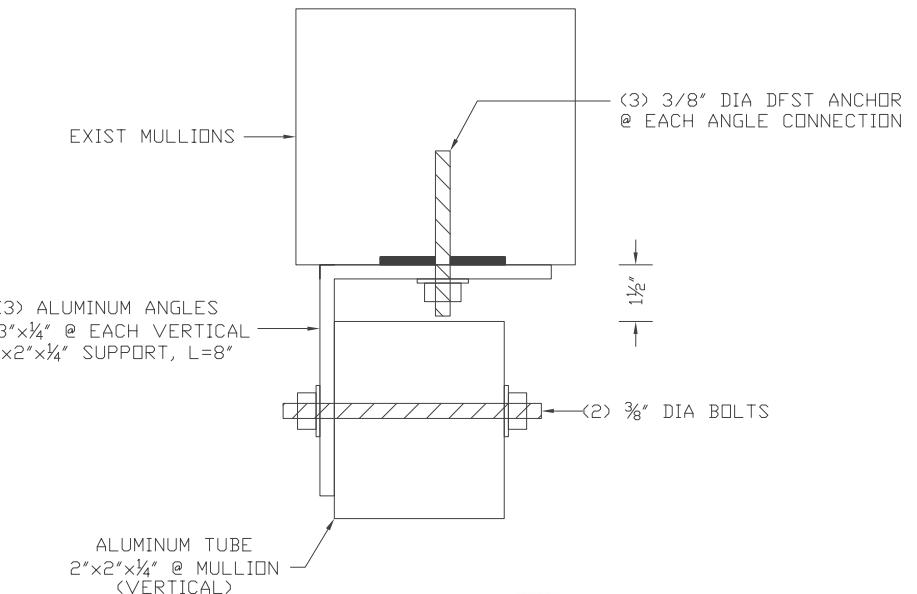
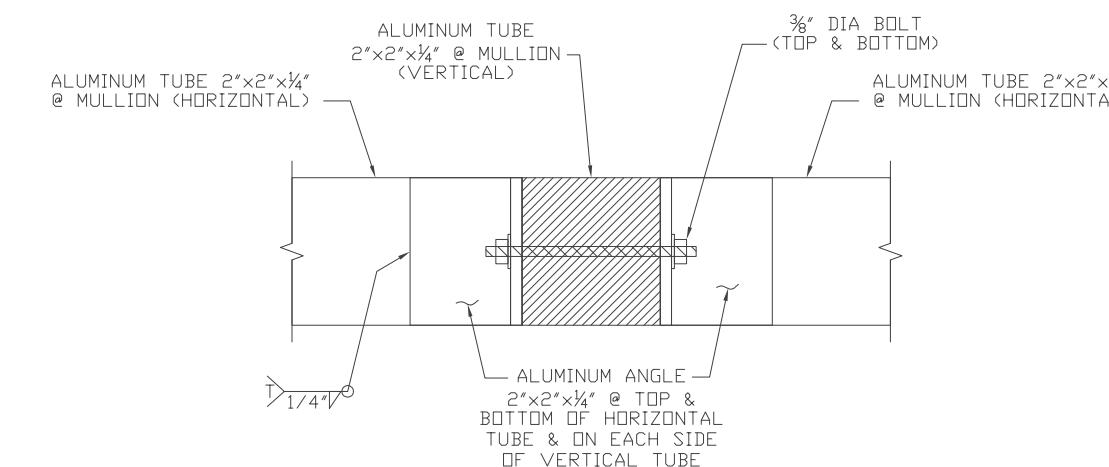
**SMB**  
**ENGINEERING, LLC**  
[WWW.SMB-ENGINEERING.COM](http://WWW.SMB-ENGINEERING.COM)  
 TEL: 832-443-7328

TEXAS REGISTRATION NUMBER : F-10116

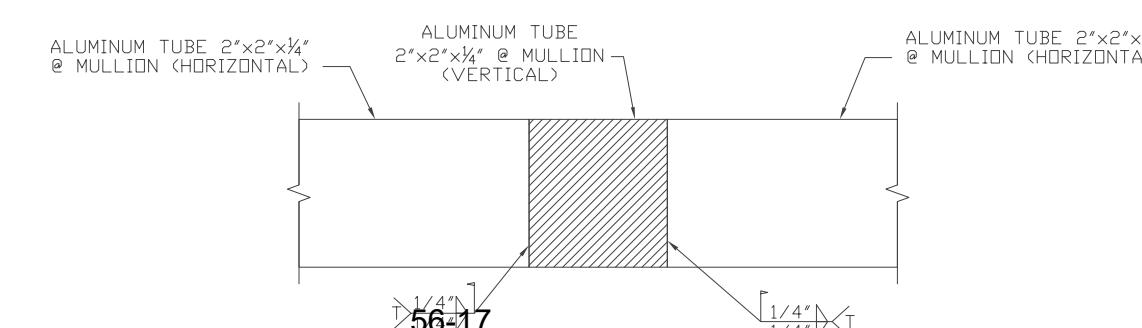
**PATTISON ID**

**SIDLEY**  
 CEDAR SPRINGS ROAD,  
 DALLAS, TX

PRJ # : 25-K077	DWG BY : HMN	SCALE : NTS
DATE : OCT 2025	REV : 0	PAGE : 1 OF 2

**SIDE VIEW****DETAIL A (SIDE VIEW)****DETAIL A (TOP VIEW)****FRAME CONNECTION DETAIL (TYP 1)**

**IMPORTANT NOTE:**  
BOLTS SHALL NOT BE CONNECTED TO EXISTING CURTAIN WALL FAÇADE (EXISTING GLASS) AT ANY LOCATION.

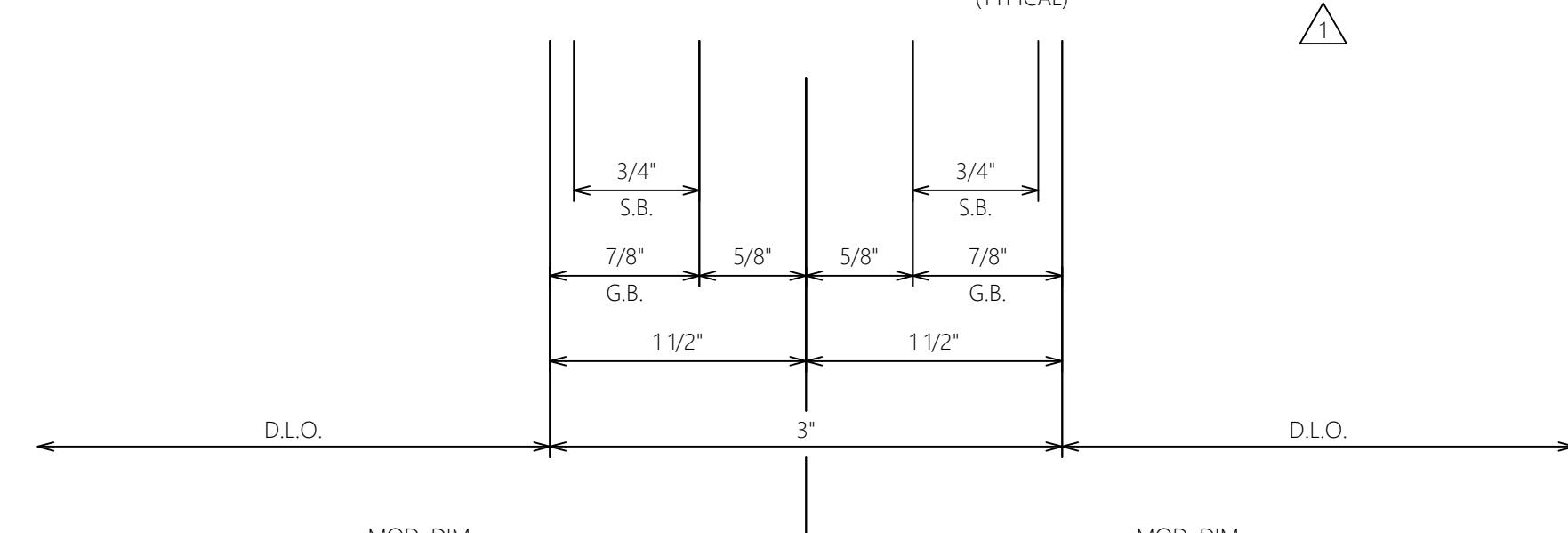
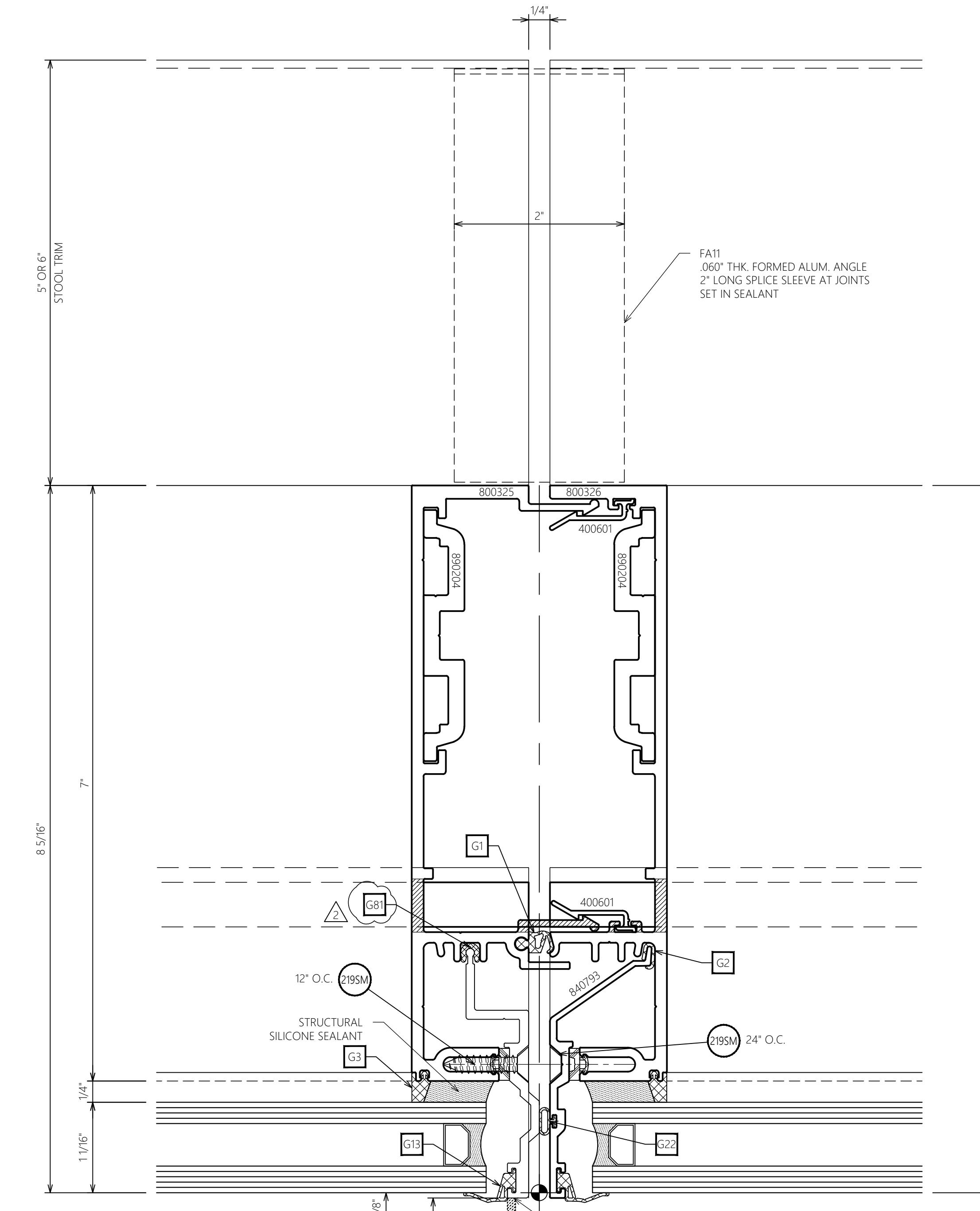
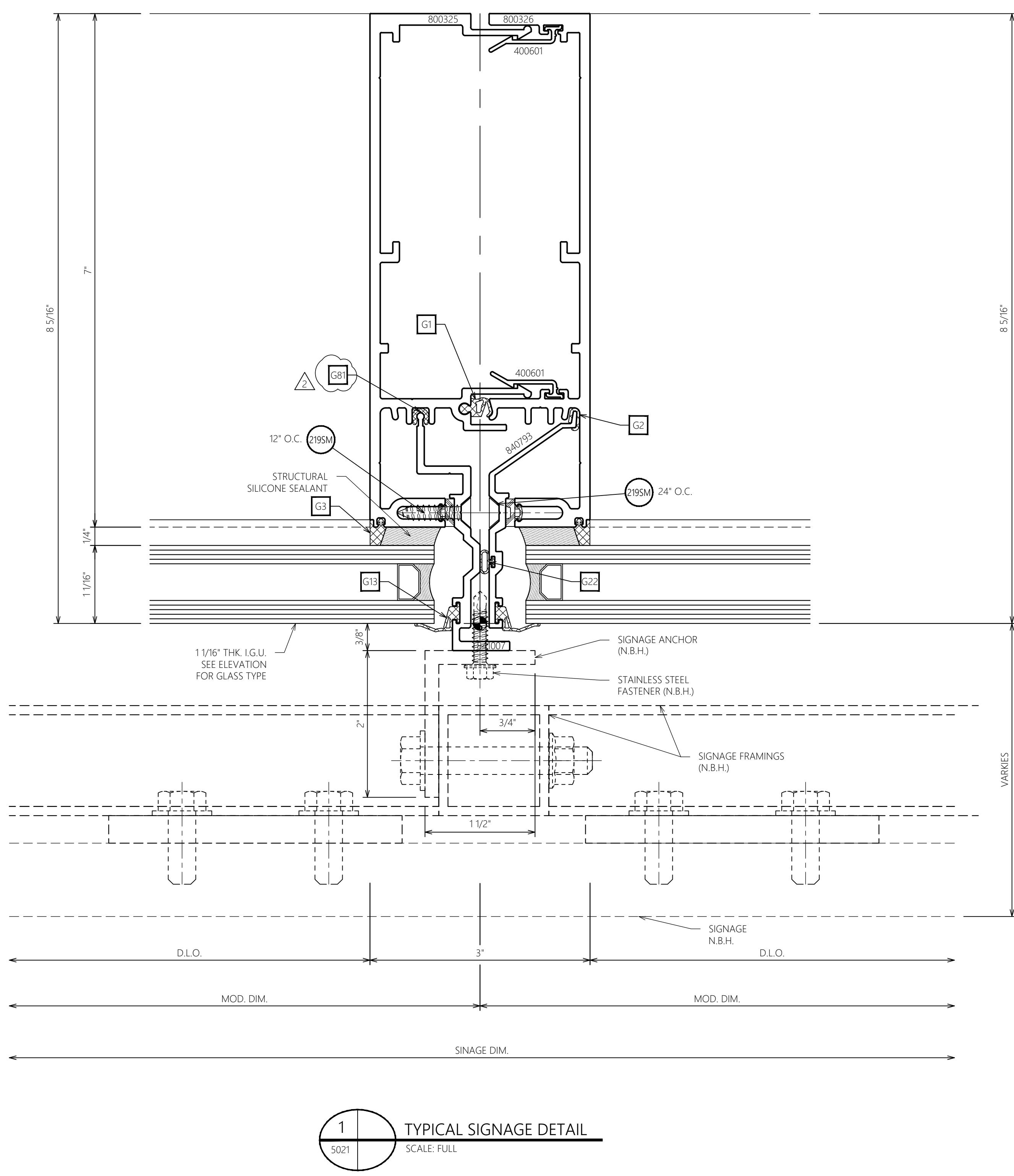
**FRAME CONNECTION DETAIL (TYP 2)**

**SMB**  
**ENGINEERING, LLC**  
WWW.SMB-ENGINEERING.COM  
TEL: 832-443-7328

TEXAS REGISTRATION NUMBER : F-10116

**PATTISON ID**

**SIDLEY**  
CEDAR SPRINGS ROAD,  
DALLAS, TX



# Harmon®

**Building Trust in Everything We Do.®**

**Corporate Headquarters**  
Harmon, Inc.  
1650 West 82nd Street  
Suite 1100  
Bloomington, MN 55431-1475  
Tel. 952.944.5700 Fax 952.944.5727

## Design/Engineering Locations

Cincinnati, OH - Minneapolis, MN



2095 N. Collins Blvd., Suite 100, Richardson, Texas 75080      Phone(972)644-0640      Fax(972)644-4204

## SIGNAGE ANALYSIS SUMMARY

EL ELEVATION: 3154 & 3155; DETAIL: 4217 & 5219

## LOAD

## Windload Front Reaction

$$WL_f = 100 \text{ psf} \cdot (0.6) \cdot (10 \text{ ft}) \cdot (5 \text{ ft}) \cdot (0.5)$$

$$WL_f = 1500 \text{ lbf}$$

## Assumed Deadload Reaction (Signage)

$$DL_s = (2) \cdot 250 \text{ lbf}$$

$$DL_s = 500 \text{ lbf}$$

## Deadload Reaction (Framings)

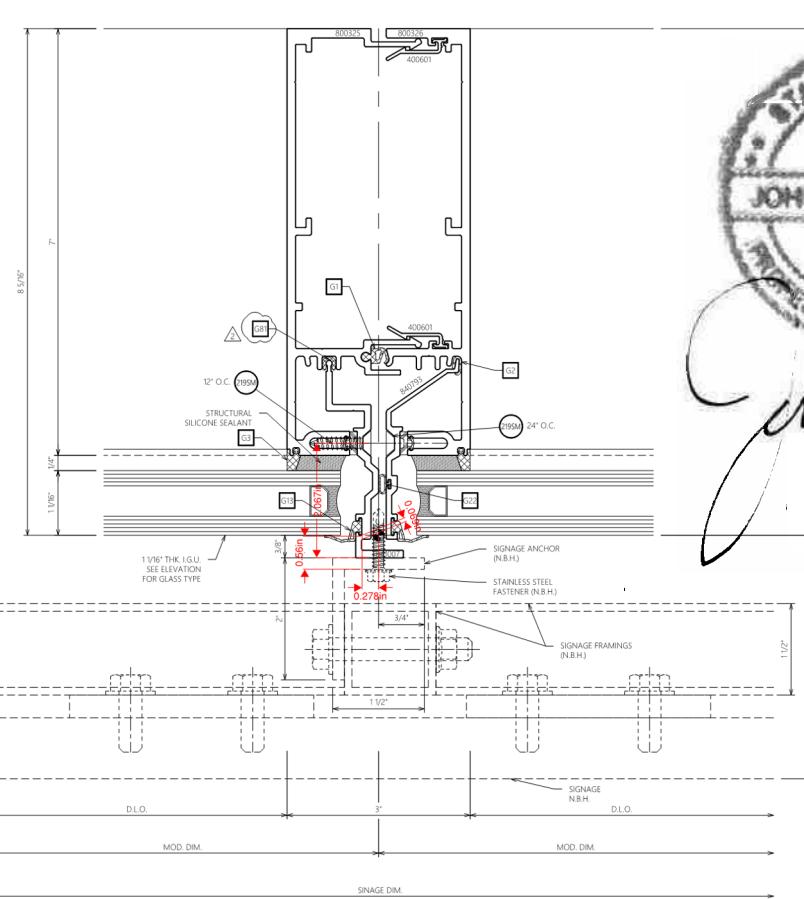
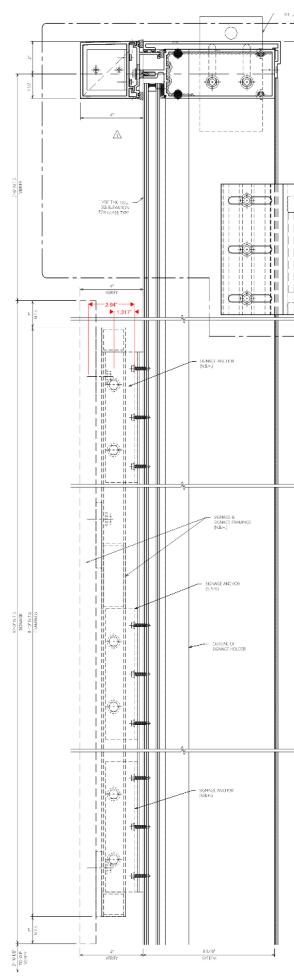
$$DL_F = (2) \cdot \left( 0.067 \frac{lb \cdot ft}{in} \right) \cdot (5 \text{ ft}) + (1) \cdot \left( 0.127 \frac{lb \cdot ft}{in} \right) \cdot (5 \text{ ft}) + (1) \cdot \left( 0.067 \frac{lb \cdot ft}{in} \right) \cdot (10 \text{ ft})$$

$$DL_f = 24 \text{ lbf}$$

### Use Deadload (Framings)

$$DL_f = 50 \text{ lbf}$$

$$DL_f = 50 \text{ lbf}$$



10/16/2025

**DEC, INC.**  
**F-3430**

R-5



2095 N. Collins Blvd., Suite 100, Richardson, Texas 75080 Phone(972)644-0640 Fax(972)644-4204

**CHECK (3) #12-14 X 1" C.W. STAINLESS STEEL ELCO BI-FLEX CONNECTING SIGNAGE ANCHOR TO FIN**

Allowable Tension  $T_{all} = 645 \text{ lbf}$  (Ref: R-8 )

Allowable Pullout  $P_{all} = 530 \text{ lbf}$  (Ref: R-23 )

Applied Tension  $T_{app} = \frac{WL_f}{3 \cdot (3)}$   $T_{app} = 167 \text{ lbf}$

Allowable Shear  $V_{all} = 373 \text{ lbf}$  (Ref: R-8 )

Applied Shear  $V_{app} = \frac{DL_s + DL_f}{3}$   $V_{app} = 183 \text{ lbf}$

Interaction  $\left(\frac{T_{app}}{T_{all}}\right)^2 + \left(\frac{V_{app}}{V_{all}}\right)^2 = 0.308 < 1$  **OK**

**CHECK (12" O.C.) #12-14 X 1" C.W. STAINLESS STEEL SMS CONNECTING FIN TO SCREW CHASE**

Allowable Shear (Downward)  $V_{yall} = \frac{892.5 \text{ lbf} - 27.5 \text{ lbf}}{3.0}$   $V_{yall} = 288 \text{ lbf}$

Applied Shear (Downward)  $V_{yapp} = \frac{DL_s + DL_f}{2}$   $V_{yapp} = 275 \text{ lbf}$  **OK**

Allowable Shear (Outward)  $V_{xall} = \frac{668.2 \text{ lbf} - 29.2 \text{ lbf}}{3.0}$   $V_{xall} = 213 \text{ lbf}$

Applied Shear (Outward)  $V_{xapp} = \frac{WL_f}{3 \cdot (2)}$   $V_{xapp} = 250 \text{ lbf}$

**CHECK BENDING ON FIN (6063-T6)**

Allowable Bending  $F_{bx} = 22.7 \text{ ksi}$  (Ref: R-5 )

Applied Bending  $F_{bx} = \frac{\frac{WL_f}{3} \cdot (0.278 \text{ in})}{12 \text{ in.} \cdot \frac{(0.069 \text{ in})^2}{6}}$   $F_{bx} = 14598 \text{ psi}$  **OK**

**Table 2-21**  
**ALLOWABLE STRESSES  $F/\Omega$  (k/in<sup>2</sup>) FOR BUILDING-TYPE STRUCTURES (UNWELDED)**

Axial Tension	Section	$F/\Omega$	6063 - T6 B221, B241, B429 0.000 to 1.000 in. thick		
axial tension stress on net effective area	D.2b	15.4			
axial tension stress on gross area	D.2a	15.2			
<u>Shear or torsion</u>					
Shear or torsion rupture	G, H.2	9.2	$F_{ty} =$	25 k/in <sup>2</sup>	
<u>Bearing</u>					
bolts or rivets on holes	J.3.6a, J.4.6	30.8	$F_{cy} =$	25 k/in <sup>2</sup>	
bolts on slots, pins on holes, flat surfaces	J.3.6b, J.6.5, J.8	20.5	$F_{tu} =$	30 k/in <sup>2</sup>	
screws in holes	J.5.5.1	20.0	$E =$	10,100 k/in <sup>2</sup>	
			$k_t =$	1	

	$\lambda$	$F/\Omega$ for $\lambda \leq \lambda_1$	$\lambda_1$	$F/\Omega$ for $\lambda_1 < \lambda < \lambda_2$	$\lambda_2$	$F/\Omega$ for $\lambda \geq \lambda_2$	
<u>Axial Compression - member buckling</u>	E.2	$kL/r$	15.2	18.2	$0.00022 \lambda^2 - 0.133\lambda + 17.5$	78	$51,352/\lambda^2$
<u>Flexure - lateral-torsional buckling</u>	F.4	see F.4.2		-	see F.4	78	$60,414/\lambda^2$
<u>Elements - Uniform Compression</u>							
flat elements supported on one edge in columns whose buckling axis is not an axis of symmetry	B.5.4.1	$b/t$	15.2	7.3	$19.0 - 0.530\lambda$	15	$2,417/\lambda^2$
flat elements supported on one edge in all other columns and all beams	B.5.4.1	$b/t$	15.2	7.3	$19.0 - 0.530\lambda$	12.6	$155/\lambda$
flat elements supported on both edges	B.5.4.2	$b/t$	15.2	22.8	$19.0 - 0.170\lambda$	39	$484/\lambda$
flat elements supported on both edges and with an intermediate stiffener	B.5.4.4	$\lambda_s$	15.2	18.2	$16.7 - 0.088\lambda$	78	$60,414/\lambda^2$
round hollow elements	B.5.4.5	$R_b/t$	15.2	31.2	$18.5 - 0.593\lambda^{1/2}$	189	$3,776/(\lambda k_n)\dagger$
flat elements - direct strength method	B.5.4.6	$\lambda_{eq}$	15.2	36.5	$19.0 - 0.106\lambda$	63	$775/\lambda$
<u>Elements - Flexural Compression</u>							
flat elements supported on both edges	B.5.5.1	$b/t$	22.7	34.7	$27.9 - 0.150\lambda$	93	$1,298/\lambda$
flat elements supported on tension edge, compression edge free	B.5.5.2	$b/t$	22.7	6.5	$27.9 - 0.810\lambda$	23	$4,932/\lambda^2$
flat elements supported on both edges and with a longitudinal stiffener	B.5.5.3	$b/t$	22.7	77.8	$27.9 - 0.067\lambda$	208	$2,910/\lambda$
pipes and round tubes	B.5.5.4	$R_b/t$	$27.7 - 1.70\lambda^{1/2}$	70.0	$18.5 - 0.593\lambda^{1/2}$	189	$3,776/(\lambda k_n)\dagger$
flat elements - direct strength method	B.5.5.5	$\lambda_{eq}$	$M_{np}/S_{xc}$	36.5	see B.5.5.5	74	$696/\lambda$
<u>Elements - Shear</u>							
flat elements supported on both edges	G.2	$b/t$	9.1	38.7	$11.5 - 0.062\lambda$	76	$38,665/\lambda^2$
flat elements supported on one edge	G.3	$b/t$	9.1	16.1	$11.5 - 0.150\lambda$	32	$6,713/\lambda^2$
pipes and round or oval tubes	G.4	$\lambda_p^*$	9.1	72.2	$15.0 - 0.081\lambda$	76	$50,264/\lambda^2$
Torsion - pipes and round or oval tubes	H.2.1	$\lambda_p^*$	9.1	38.7	$11.5 - 0.062\lambda$	76	$38,665/\lambda^2$

\* $\lambda_p = 2.9(R_b/t)^{5/8}(L/R_b)^{1/4}$

† $k_n = (1 + \lambda^{1/2}/35)^2$

TABLE 20.9: Fastener Capacity

STAINLESS STEEL - Alloy Groups 1, 2 and 3, Condition CW (UNC Threads)																	
Nominal Fastener Diameter & Threads per Inch		D		A(S) Tensile Stress Area (in <sup>2</sup> )		A(R) Thread Root Area (in <sup>2</sup> )		Allowable Shear		Allowable Bearing (lbs)		Minimum Material Thickness (lbs) to Equal Tensile Capacity of Fastener (in)		Maximum Tensile Load (lbs) for Available 3/8" Plate Thickness			
								Single (lbs)	Double (lbs)	1/8" Steel	1/8" Aluminum	A36	6063-T5	6063-T6	Steel	3/8"	3/8"
#6-32	0.1380	0.0091	0.0078	303	150	300	900	253	345	0.1335	0.2538	0.1943	303	303	6063-T5	6063-T6	
#8-32	0.1640	0.0140	0.0124	467	239	477	1,070	301	410	0.1733	0.3356	0.2466	467	467	6063-T5	6063-T6	
#10-24	0.1900	0.0175	0.0151	584	292	583	1,240	348	475	0.1872	0.3410	0.2501	584	584	6063-T5	6063-T6	
#12-24	0.2160	0.0242	0.0214	805	411	822	1,409	396	540	0.2289	>3/8"	0.3016	805	805	6063-T5	6063-T6	
1/4-20	0.2500	0.0318	0.0280	1,061	538	1,076	1,631	458	625	0.2534	>3/8"	0.3373	1,061	1,061	6063-T5	6063-T6	
5/16-18	0.3125	0.0524	0.0469	2,097	1,083	2,166	2,039	573	781	0.2867	>3/8"	2,097	1,303	1,303	6063-T5	6063-T6	
3/8-16	0.3750	0.0775	0.0699	3,100	1,614	3,228	2,447	688	938	0.3181	>3/8"	3,100	1,572	1,572	6063-T5	6063-T6	
7/16-14	0.4375	0.1063	0.0961	4,252	2,220	4,440	2,855	802	1,094	0.3442	>3/8"	4,252	1,873	1,873	6063-T5	6063-T6	
1/2-13	0.5000	0.1419	0.1292	5,676	2,984	5,968	3,263	917	1,250	>3/8"	5,642	2,140	2,140	6063-T5	6063-T6		
9/16-12	0.5625	0.1819	0.1664	7,278	3,842	7,685	3,670	1,031	1,406	>3/8"	6,444	2,444	2,444	6063-T5	6063-T6		
5/8-11	0.6250	0.2260	0.2071	9,040	4,782	9,564	4,078	1,146	1,563	>3/8"	7,148	2,711	2,711	6063-T5	6063-T6		
3/4-10	0.7500	0.3345	0.3091	11,372	6,022	12,045	4,894	1,375	1,875	>3/8"	8,612	3,266	3,266	6063-T5	6063-T6		
7/8-9	0.8750	0.4617	0.4285	15,583	8,351	16,701	5,709	1,804	2,188	>3/8"	10,158	3,853	3,853	6063-T5	6063-T6		
1-8	1.0000	0.6057	0.5630	20,444	10,970	21,940	6,525	1,833	2,500	>3/8"	11,696	4,437	4,437	6063-T5	6063-T6		

STAINLESS STEEL - Alloy Groups 1, 2 and 3, Condition CW (Spaced Threads)																	
Nominal Fastener Diameter & Threads per Inch		D		K		A(R) Thread Root Area (in <sup>2</sup> )		Allowable Shear		Allowable Bearing (lbs)		Minimum Material Thickness (lbs) to Equal Tensile Capacity of Fastener (in)		Maximum Tensile Load (lbs) for Available 3/8" Plate Thickness			
								Single (lbs)	Double (lbs)	1/8" Steel	1/8" Aluminum	A36	6063-T5	6063-T6	Steel	3/8"	3/8"
#6-20	0.1380	0.0990	0.0977	257	148	296	900	253	345	0.1191	0.1695	0.1378	257	257	6063-T5	6063-T6	
#8-18	0.1640	0.1160	0.1016	352	203	407	1,070	301	410	0.1437	0.1930	0.1567	352	352	6063-T5	6063-T6	
#10-16	0.1900	0.1350	0.1043	477	275	551	1,240	348	475	0.1528	0.2225	0.1805	477	477	6063-T5	6063-T6	
#12-14	0.2160	0.1570	0.1019	645	373	745	1,409	396	540	0.1820	0.2610	0.2115	645	645	6063-T5	6063-T6	
1/4-14	0.2500	0.1850	0.0269	896	517	1,035	1,631	458	625	0.2181	0.2994	0.2379	896	896	6063-T5	6063-T6	
5/16-12	0.3125	0.2360	0.0437	1,750	1,010	2,020	2,039	573	781	0.2859	>3/8"	2,090	1,750	1,750	6063-T5	6063-T6	
3/8-12	0.3750	0.2990	0.0702	2,809	1,622	3,243	2,447	688	938	>3/8"	>3/8"	2,773	2,017	2,017	6063-T5	6063-T6	

**NOTE II:**

1. Values are taken from AISC, ASTM, IFI, SAE and AA documents. K values for spaced threads are taken as the minimum values in IFI Fastener Handbook, 6th Ed. 2. Safety Factor used for fasteners with diameters 1/4" or less is 3.0. Safety Factor used for fasteners with diameters 5/16" or greater is 2.5.

3. Fasteners with diameters of 3/4" and greater are fabricated from different material than fasteners less than 3/4" in diameter.

4. For diameters of 3/4" and greater,  $F_y = 45,000 \text{ psi}$ . For these, tensile and shear yields govern the allowable tension and shear values (i.e.,  $0.75 F_y < F_u/SF$ ).

5. For diameters 1/4" or less,  $F_y = 33,333 \text{ psi}$ .

6. For diameters 1/4" or less,  $F_u = 40,000 \text{ psi}$ .

7. For diameters 1/4" or less,  $F_v = 19,245 \text{ psi}$ .

8. For diameters 1/4" or less,  $F_u = 23,084 \text{ psi}$ .

9. For diameters 1/4" or less,  $F_v = 19,486 \text{ psi}$ .

10. For diameters 1/4" or less,  $F_u = 33,750 \text{ psi}$ .

11. For diameters 1/4" or less,  $F_v = 19,486 \text{ psi}$ .

TABLE 22.11 (Spaced Threads)

6063-T6												
Nominal Thread Diameter & Thread Per Inch	D	Aluminum Thickness (Inches)										
		0.038	0.060	0.072	0.080	0.094	0.125	0.156	0.188	0.250	0.312	0.375
Allowable Pullout (Pounds)												
#8-18	0.1640	53	83	100	132	155	235	350	468	669	835	1004
#10-16	0.1900	61	96	116	153	180	239	372	509	775	968	1163
#12-14	0.2160	--	110	132	174	204	271	374	530	833	1100	1322
1/4-14	0.2500	--	127	152	201	236	314	433	614	964	1273	1530
5/16-12	0.3125	--	--	--	--	--	--	--	809	1334	1860	2296
3/8-12	0.3750	--	--	--	--	--	--	--	971	1601	2232	2755
6063-T6												
$F_u$ (Tensile Ultimate Strength)		30000		psi								
$F_y$ (Tensile Yield Strength)		25000		psi								

## NOTE 32:

1. Each table lists allowable pull-out (internal threads) values.  $S_F = 3.0$  for  $D \le 0.25"$ ;  $S_F = 2.5$  for  $D \ge 0.3125"$ . Fastener allowable strength (basic tension and external threads) needs to be checked separately.
2. For pilot hole sizes refer to tables 21.1 to 21.7
3. Fastener pullout not shown for aluminum thickness less than approximately 2 threads, unless tested at a lesser thickness.
4. Multiple fastener connections and embrittlement need to be checked separately.