CHRISTMAN
BUILDING SINCE 1894

April 7, 2025

Kristina Jones
Broaddus & Associates
2330 Bloomdale Rd
McKinney, TX 75071

Subject: Collin County Healthcare Facility, Parking Garage, and Medical Examiners
Revised Request for Change (PCO) No. 030; RFI #111 Cast Stone in Lieu of EIFS at HCB Entrances

Dear Kristina:

Please find the attached Revised PCO No. 030. This proposal is submitted for an Add of Forty-Five Thousand and Eight Hundred and Forty-Five Dollars ($45,845), reflective of the following items:

- **Per RFI #111 response.**
- **Healthcare Facility**
  - **Add for cast stone at HCB South, North, and West entrances.**
  - **Credit for labor and materials for EIFs.**
- ***This PCO will be an add to our contract in the amount of $45,845.***

We have not proceeded with this change. Please sign the attached request for change recap indicating approval of this change.

Sincerely,

Jim Terhune Digitally signed by Jim Terhune
DN: CN=Jim Terhune, E=jim.terhune@christmanco.com, O=The Christman Company, C=US
Date: 2025.04.07 10:31:20-05'00'

Jim Terhune
Sr. Project Manager

CC: Bryan Smith , PGAL

CHRISTMAN
BUILDING SINCE 1894

Request for Change

Issue No. 030

☐ Collin County ☐ PGAL - Dallas (Addison) ☐ Project Manager ☐ Accounting

Project:	**Owner :**	**From:**
224057- Collin County Medical Campus	Collin County	The Christman Company
2300 Bloomdale Rd	2300 Bloomdale Rd; Suite 3160	130 E. John W. Carpenter Fwy. Suite 200
McKinney, TX 75071	McKinney, TX 75071	Irving, TX 75062

Issue No. 030 - RFI #111 Cast Stone in Lieu of EIFS at HCB Entrances **Amount**

Item: 1 **Healthcare Building**

Phase	Description	Abbreviation		Amount
11 -	Masonry & Cast Stone	SUBS		45,123.00
21B-	EIFS	SUBS		-2,182.00
41 -4110	Payment and Performance Bonds	OTHER		365.00
41 -4120	Builder's Risk Insurance	OTHER		34.00
60 -	Overhead & Profit	OTHER		2,183.00
99 -	General Liability Insurance	OTHER		322.00
			Subtotal Item 1	**45,845.00**
			0.00	
			Request for Change Total:	**$45,845.00**

Qualifications:

1. This Issue is ☐ Original ☑ Revised ☐ Budget Only ☐ Firm Quotation.
2. Contract time will be ☐ Increased by ☐ Decreased by ( ) work days; ☑ Other: None
3. The Christman Company ☐ has ☑ has not proceeded with the work, and this Issue must be accepted within ( ) work days.
4. Funded by ☑ Contract change ☐ Allowance ☐ Contingency ☐ Other:

Owner and/or Architect Action:

☐ Approved ☐ Proceed as described above (cost and schedule changes to be finalized under a revised Issue)
☐ Rejected ☐ Other:

Authorization:

The Owner and/or Architect hereby direct The Christman Company to proceed with the performance of the work as described above and/or in any additional documents referenced herein. It is understood that the amount of this Request for Change, if noted as "Budget Only" under Qualification 1., will be revised as necessary upon determination of final costs and included in the next Owner Change Order accordingly. If noted as "Firm Quotation" under Qualification 1., the amount of this Request will be included in the next Owner Change Order. In addition, all costs included herein may be included in the next payment application as if they had been included in an Owner Change Order or Construction Change Directive.

Architects notes, comments and references for cast stone substitution specification included in this PCO- TK

Authorized By Owner:	**Accepted By Architect**	**Submitted By Contractor:**
Collin County	PGAL - Dallas (Addison)	The Christman Company
2300 Bloomdale Rd; Suite 3160	14135 Midway Road, Suite G-200	130 E. John W. Carpenter Fwy. Suite 200
McKinney, TX 75071	Addison TX 75001	Irving, TX 75062
By:	**By:** Tim Konganda	**By:** Jim Terhune
Date:	**Date:**	**Date:**

JOLLAY

EST 1959

29737_Collin County Medical Campus - Pricing Exercise

Option 1: Change EIFS at South, West & North Elevations to Cast Stone

JOLLAY
EST 1959

Cast Stone in lieu of EIFS Review Package

Jollay Masonry, Inc.
8311 Eastpoint Dr. Suite #800
Dallas, TX 75227
Telephone: 214.642.2658
Fax: 404.297.8326

Project:	29737_Collin County Healthcare
Location:	2330 Bloomdale Rd. McKinney, TX 75071
To:	The Christman Company 130 E John Carpenter Fwy Suite 200 Irving, TX 75062
Response Required By:	At your earliest convenience.

Refer spec. 07 62 00 - stainless steel flashing at cast stomne accents

C. Stainless Steel Sheet: ASTM A240/A240M, Type 304, dead soft, fully annealed; with smooth, flat surface.
1. Finish: ASTM A480/A480M, No. 2D (dull, cold rolled).
a. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
b. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.
1) Run grain of directional finishes with long dimension of each piece.
2) When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

Documentation included within this request:

Cost Impact: $45,122.49

Pricing exercise includes changing EIFS to Cast Stone at the storefront locations on the South, West & North Elevations at the Healthcare Facility and its impact to our scope of work per our contract documents.

In regards to our review of the above change management item, we have come up with a net scope impact of **$45,122.49.** If areas are wrongly interpreted, please notify Jollay Masonry so we can work as a team to reconcile scope in a manner fair to all. Please note that no landscape scope has been included.

Additional Clarifications:

1. Price excludes furnishing & installing radius lintel.
2. New design to be coordinated with design team/GC.

GC Note: No additional costs associated with exclusions.

If you need further clarification in regards to the items we have addressed, do not hesitate to contact me directly. We appreciate the opportunity and thank you for the business.

Shop drawings to include minimum requirements for modified design to anchor cast stone on arched steel lintel with securely anchored cast stone accent per cast stone manufacturer's requirements as specified by the Cast Stone Institute design recommendations, SMACNA and Masonry Institute recommendations for a water-tight installation, including separation of materials to prevent stains from efflorescence. Include structural engineering calculations for steel lintel and cast stone accent, with structural support to wall assembly and structure. See attached details and notes.

Regards,

Joseph Juneau

Joseph Juneau
Project Manager
Jollay Masonry, Inc.

January 24th, 2025

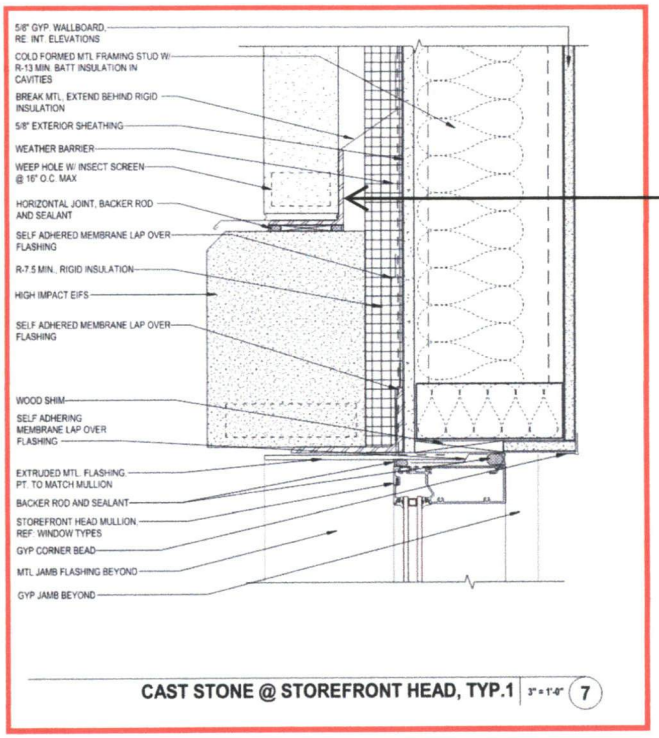
COR#02_Collin_County_EIFS to Cast Stone_Rev2_20250328

JOLLAY
EST 1959

29737_Collin County Medical Campus_COR#2										
General Cost										Subtotals
#	Description	Sheet	LF	HT	SF/Units	Type	Add/Deduct	UNIT COST	COST	Amounts
1	Added Cast Stone in lieu of EIFS on the North, South & West Elevation at the Healthcare Facility (unit size - 1'Tall x 5" thick x 3' long)									
1a	Materials	See attached.	210	1		Cast Stone	ADD	LS	$ 10,039.20	$ 10,039.20
1b	Labor	See attached.	210	1		Cast Stone	ADD	LS	$ 20,285.28	$ 20,285.28
1c	Equipment	See attached.	210	1		Cast Stone	ADD	LS	$ 1,610.00	$ 1,610.00
1d	Accessories	See attached.	210	1		Cast Stone	ADD	LS	$ 4,302.47	$ 4,302.47
1e	Engineering	See attached.	210	1		Cast Stone	ADD	LS	$ 3,000.00	$ 3,000.00
										$ 39,236.95
	Overhead & Profit 15%									$ 5,885.54
	Complete Change Order Cost									$ 45,122.49

Design change if cast stone is selected to be installed in lieu of EIFS at South, North & West elevations at the storefront.

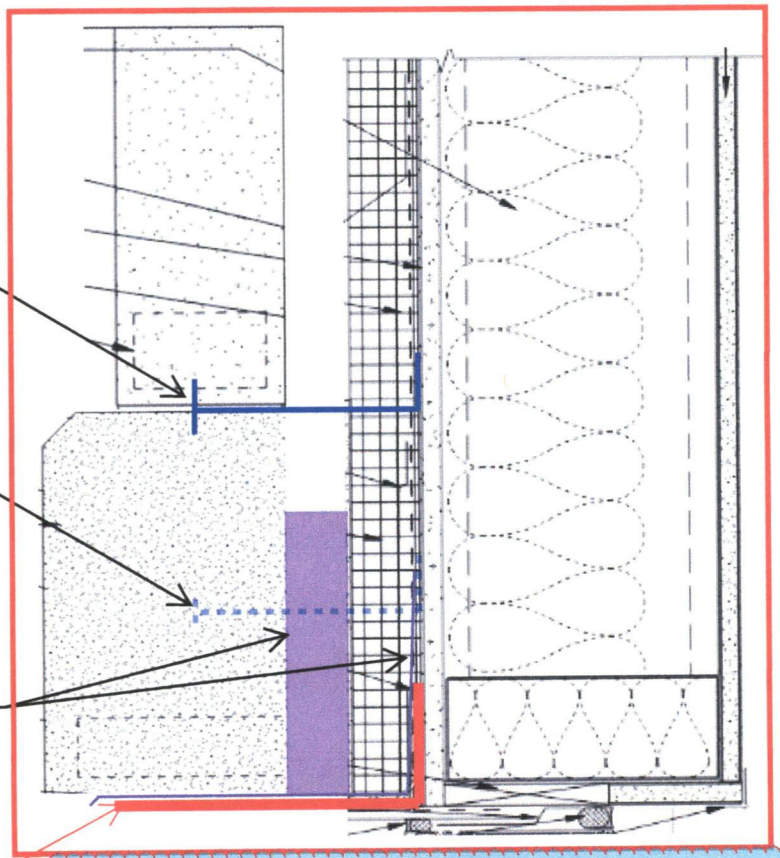
Current Detail



This lintel & break metal flashing would be removed. The wall cavity accessories would be shifted down to sit on the lintel. See image below.

Proposed change order to include cost credits for labor, materials and equipment, including steel lintel and associated flashing.

Proposed Detail



Bed joint anchors

Head joint anchors

Mortar net, flashing, termination bar, drip edge

Refer to Dtl. 12/ HC A0.35 for typ. flashing details. Use Stainless steel flashing at cast stone accent.

Shop drawings to include minimum requirements for modified design to anchor cast stone on **arched steel lintel** with securely anchored cast stone accent per cast stone manufacturer's requirements as specified by the Cast Stone Institute design recommendations, SMACNA and Masonry Institute recommendations for a water-tight installation, including separation of materials to prevent stains from efflorescence. Include structural engineering calculations for steel lintel with structural support to wall assembly and structure.

EXTERIOR MATERIALS LEGEND

MARK	DESCRIPTION
SB-1	BURNISHED BLOCK
BR-1	BRICK - MEDIUM
CS-1	CAST STONE VENEER
EF-1	EIFS LINTEL
MTL-1	METAL PANEL SOFFIT

KEYNOTE LEGEND

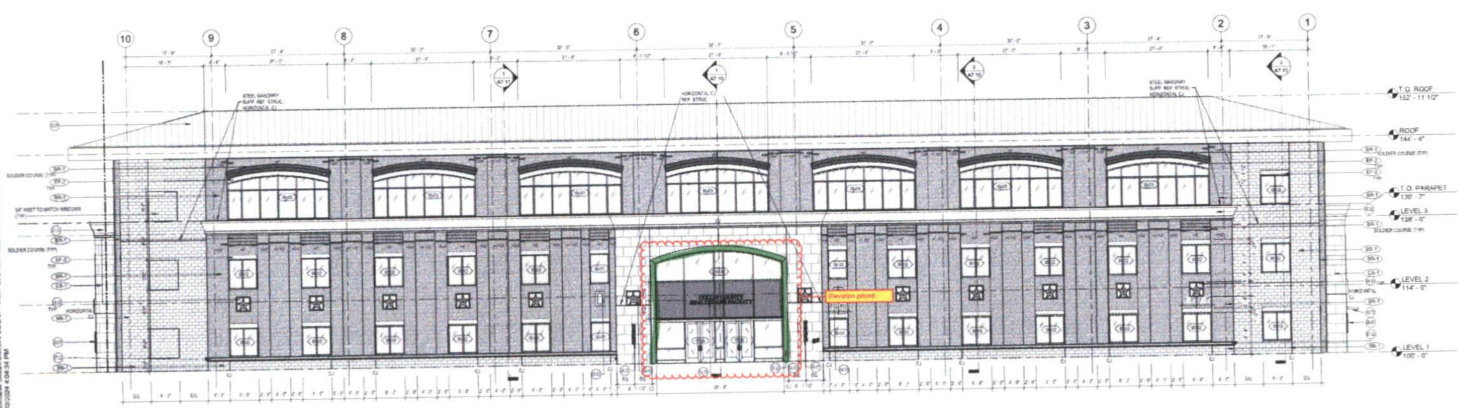
NOTE: KEYNOTE NUMBERING IS FOR ORGANIZATIONAL PURPOSES ONLY AND NOT INTENDED TO REFERENCE A SPECIFIC CSI DIVISION

NUMBER	DESCRIPTION
04.72	CAST STONE MEDALLION
[illegible]	STEEL COLUMN, REF. STRUCTURAL
[illegible]	STANDING SEAM METAL ROOF
[illegible]	EIFS LINTEL
[illegible]	HIGH IMPACT EIFS CORNICE
[illegible]	REVERSED CHANNEL LETTERS, REF. SIGNAGE
[illegible]	ALUMINUM CANOPY
[illegible]	NOT USED
[illegible]	WALL SCONCE LIGHT FIXTURE, REF. ELECTRICAL

GENERAL EXT. ELEV. NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
2. CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY DISCREPANCY, INACCURACY OR CONFLICTING INFORMATION BEFORE EXECUTION OF WORK.
3. DO NOT SCALE DIMENSIONS FROM DRAWINGS. ANY UNKNOWN DIMENSION SHALL BE OBTAINED FROM DESIGN PROFESSIONALS VIA REQUEST FOR INFORMATION (RFI).
4. CONTRACTOR SHALL FIELD COORDINATE LOCATION, SIZE AND TYPE OF BLOCKING FOR INSTALLATION OF SIGNAGE, PLUMBING FIXTURES, MILLWORK, ETC. ALL CONCEALED WOOD SHALL BE FIRE RETARDANT TREATED (F.R.T.).
5. ALL SHAFTS PENETRATING SLAB SHALL BE RATED 2HR.
6. ALL ROOF SLOPES SHALL BE 1/4" PER FOOT U.N.O.
7. VERIFY ALL EXTERIOR PAINT COLORS WITH OWNER PRIOR TO PURCHASE.
8. STUCCO CONTROL JOINTS (CJ) SHOWN FOR ARCHITECTURAL PURPOSES. PROVIDE ADDITIONAL CONTROL JOINTS AS REQUIRED NOT EXCEEDING AREA LIMITATIONS AND MAXIMUM HEIGHT / LENGTH OF STUCCO SURFACES AS SPECIFIED. COORDINATE LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.
9. FINISHES, TRIM, DECORATIVE ELEMENTS ETC. SHALL WRAP ALL ELEVATIONS OF WALLS, COLUMNS ETC. WHEN ALL ELEVATIONS OF ARCHITECTURAL FEATURES ARE NOT PROVIDED IN THE CONSTRUCTION DOCUMENTS.

EAST ELEVATION 2



WEST ELEVATION 1

CLIENT

COLLIN COUNTY
2300 BLOOMDALE ROAD, SUITE 3100
T (972)647-6340

ARCHITECT

PGAL, Inc.
14135 Midway Rd.
Suite G-250
Addison, TX 75001
T: (214) 647 8441
www.pgal.com

CONSULTANT

REGISTRATION

DRAWING HISTORY

PROJECT NAME
COLLIN COUNT HEALTHCARE, PARKING GARAGE, & MEDICAL EXAM FACILITIES

PROJECT LOCATION
2330 Bloomdale Rd.
McKinney, TX 75071

PROJECT NUMBER
1006549.00

SHEET TITLE
BUILDING ELEVATIONS - EXTERIOR

VOLUME 2
HEALTHCARE FAC

SHEET NUMBER
HC-A6.0

EXTERIOR MATERIALS LEGEND

MARK	DESCRIPTION
BB-1	BURNISHED BLOCK
BR-1	BRICK - MEDIUM
CS-1	CAST STONE VENEER
EF-2	EIFS LINTEL
MTL-1	METAL PANEL SOFFIT

KEYNOTE LEGEND

NOTE: KEYNOTE NUMBERING IS FOR ORGANIZATIONAL PURPOSES ONLY AND NOT INTENDED TO REFERENCE A SPECIFIC CSI DIVISION

NUMBER	DESCRIPTION
[illegible]	CAST STONE MEDALLION
07.21	STANDING SEAM METAL ROOF
07.22	EIFS LINTEL
07.23	HIGH IMPACT EIFS CORNICE
10.71	ALUMINUM CANOPY
10.72	NOT USED
[illegible]	DECORATIVE ROOF DRAIN DOWNSPOUT NOZZLE WITH BRONZE FINISH, REF. PLUMBING
[illegible]	WALL SCONCE LIGHT FIXTURE, REF. ELECTRICAL
[illegible]	MULLION MOUNTED LIGHT REF. ELECTRICAL

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5. ALL SHAFTS PENETRATING SLAB SHALL BE RATED 2HR.
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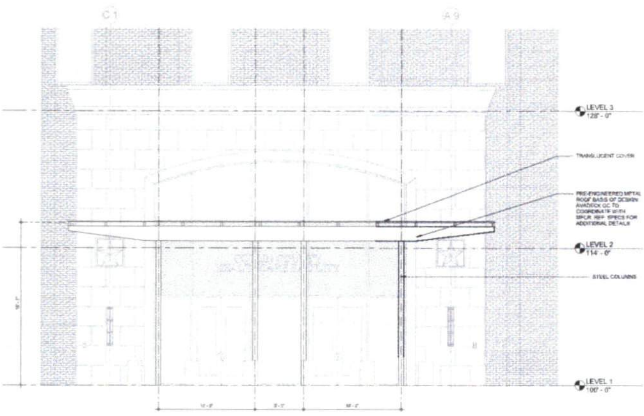
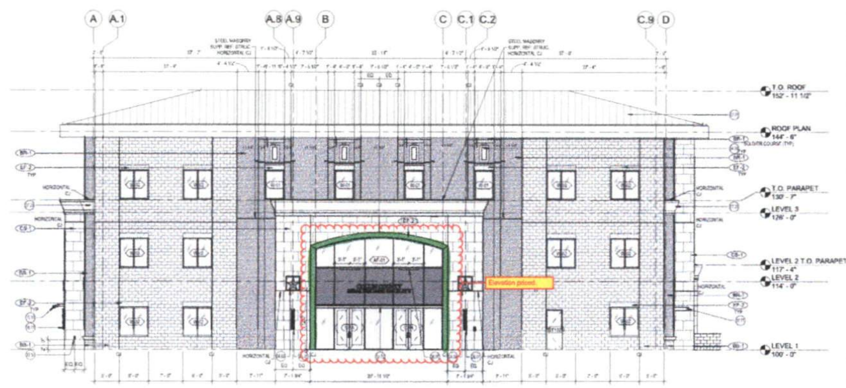
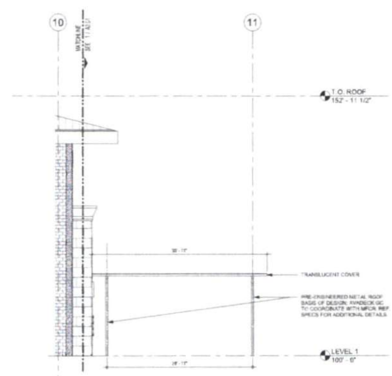


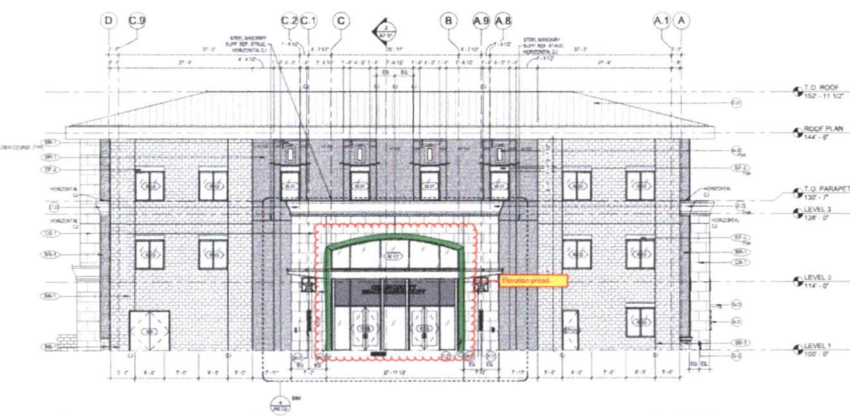
PORTE COCHERE ENLARGED NORTH ELEVATION (4)



SOUTH ELEVATION (2)



EAST ELEVATION - CANOPY (3)



NORTH ELEVATION (1)

CLIENT

COLLIN COUNTY
2300 BLOOMDALE ROAD, SUITE 3100
T (972)547-5340

ARCHITECT

PGAL, Inc
14135 Midway Rd.
Suite G-200
Addison, TX 75001
T (214) 647 8441
www.pgal.com

CONSULTANT

REGISTRATION

DRAWING HISTORY

PROJECT NAME
COLLIN COUNTY HEALTHCARE, PARKING GARAGE, & MEDICAL EXAM FACILITIES

PROJECT LOCATION
2330 Bloomdale Rd.
McKinney, TX 75071

PROJECT NUMBER
1006549.00

SHEET TITLE
BUILDING ELEVATIONS - EXTERIOR

VOLUME 2
HEALTHCARE FAC

SHEET NUMBER
HC-A6.02

Collin County Medical Campus
CHANGE ORDER REQUEST

Contractor: The Christman Company
Subcontractor: DMG Plaster & Stucco
Date: 1/28/2025
Subcontractor COR Number: _____
Change Order Document / RFI: _____

Description of Change: Change South, West, and North elevation curtain wall EIFS lintel to cast stone

Direct Labor Subtotal:	$	(1,560.00)
Material Subtotal:	$	(622.11)
Equipment Subtotal:	$	-
Vendor/Subcontracts Subtotal:	$	-
Total Direct Cost:	$	(2,182.11)

Onsite Man-hours: -44

GC Note: Man hours are less than the cast stone due to the cast stone being more labor intensive than the EIFs.

Total Change Amount: $ (2,182)

Schedule Impact: n/a additional work days are requested.
Schedule Impact Description:

Exclusions:

Subcontractor Change Proposal / Cost Breakdown Form

Date: 1/28/2025

Architect Name:

Contractor Name: The Christman Company

Subcontractor Name: DMG Plaster & Stucco

Project Name: Collin County Medical Campus

DMG Job Number :

GC Job Number:

Reference Change Proposal Request Number: 0

(Check One)

Initiated By: Owner/Architect ☐

GC ☐

Subcontractor ☐

Brief Description of Proposed Change:

Change South, West, and North elevation curtain wall EIFS lintel to cast stone

Item/Description	Quantity	Unit	Unit Cost	Amount		
				Material	Labor	Equip/Sub
Labor						
Superintendent	0	HR	$90.00		$0.00	
General Foreman	0	HR	$70.00		$0.00	
Foreman	0	HR	$55.00		$0.00	
Journeyman	-24	HR	$40.00		-$960.00	
Apprentice	0	HR	$33.00		$0.00	
Laborerer	-20	HR	$30.00		-$600.00	
Scaffold Builder	0	HR	$35.00		$0.00	
Forklift Operator	0	HR	$37.00		$0.00	
Material						
EPS	-213	LF	$1.00	-$213.00		
Base Coat	-2	EA	$55.00	-$110.00		
Reinforcing Mesh Heavy	-0.5	EA	$290.00	-$145.00		
Reinforcing Mesh 4.5 oz	-0.5	EA	$132.00	-$66.00		
Tools/Equipment						
Forklift	0	DAY	$245.00			$0.00
Scaffold	0	SF	$1.25			$0.00
Misc. Equipment (ie. mixers, saws, etc.)	0	DAY	$140.00			$0.00
Misc. Tools	0	DAY	$25.00			$0.00
Fuel		DAY	$85.00			$0.00
Sub Contract						
		LS				$0.00
			Sub Totals:	-$534.00	-$1,560.00	$0.00
			Sales Tax:	-$88.11		$0.00
			Sub Totals:	-$622.11	-$1,560.00	$0.00

GC TO COORDINATE SUBSTITUTION TO SPECIFICATIONS AND CAST STONE WITH CAST STONE INSTITUTE STANDARDS. COORDINATE MORTAR TYPE AND COMPATIBILITY OF MATERIALS, INCLUDING

DESIGN TIPS – TECHNICAL BULLETIN #47

FLASHING, WEEP HOLES AND RELATED ANCHORAGE [1 of 8]

Proper flashing and weep holes are essential elements in exterior masonry walls. Together, they provide a means to control moisture in a wall. If not addressed, moisture can have damaging effects on exterior walls. Excessive moisture within masonry can lead to crazing, efflorescence and spalling in some cases. Improper flashing can lead to moisture in the interior of a building. An effective system to deal with exterior moisture penetration is necessary for a properly functioning Cast Stone wall.

A drainage wall, also known as a cavity wall, is the most effective solution for a Cast Stone wall exposed to the elements.

THE DRAINAGE WALL

A drainage wall has five essential elements.

- Exterior wythe of masonry
- A clear cavity, or air space, of at least 1 inch
- An interior wythe of masonry or other backing material
- • Flashing at all interruptions in the drainage cavity
- • Weep holes at all flashing locations. Recommended spacing of 24 in. o.c.

The exterior wythe provides first resistance against moisture penetration. Cast Stone should be laid with full joints in mortar meeting the requirements of ASTM C 270, Type N mortar. (See Bulletin #42.) Care should be taken when laying the stone to ensure the cavity behind this wythe stays clear. A tapered bed joint can help minimize mortar droppings and protrusions into the drainage cavity. A minimum 1 in. cavity or air space is recommended. Cavities of 2 in. or more are easier to keep clear of mortar and debris. Cavities over 4 in. may require special ties and anchors. When insulation is specified, the clear space of the cavity is measured from the outer face of the insulation to the back of the exterior wythe. (See Detail 4.)

Through-wall flashing and weep holes should be used at the base of the drainage wall and at all interruptions in the cavity, such as at window heads and relieving angles. Flashing must be continuous and properly lapped and sealed at the base of the wall and at relieving angles. When flashing is used over openings, such as at windows, end dams are required. (See Detail 1.) Weep holes direct water from the drainage cavity to the outside. Open head joints of at least 1 in. in height are recommended. Open weep hole joints provide the best drainage. They should be spaced no more than 24 in. apart. Rope wicks can also be used, but weep holes should be placed closer together, at 16 in. o.c., since this type does not drain as quickly. Plastic tubes are not recommended because they are easily clogged by mortar or by insects. In stones over 24 in. in length, a 3/8 in. wide by 1 in. high notch through the base of the stone is recommended for drainage. Unnecessarily long lengths of stone are discouraged because adequate drainage between weep holes can be a problem. Moisture retained in the wall can lead to crazing of the Cast Stone.

FLASHING AT BASES

Flashing and weep holes must be used at the base of a cavity (drainage) wall and at all relieving angles. Flashing should extend from the exterior face of the Cast Stone wythe into the cavity. In the case of a masonry backing wythe, the flashing should be turned up a minimum of 8 in. and extend into the masonry backing. In framed backing walls, the flashing should extend up the cavity at least 8 in. and be attached to the exterior sheathing. Building paper or other water resistant membrane on the interior wythe should overlap the top of the flashing.

Flashing is also recommended below all Cast Stone belt courses and watertables that sit on a relieving angle or occur at a change in material, i.e. stone to brick. In most cases, flashing and weep holes should be placed directly below the Cast Stone course for proper drainage of the cavity. In cases where stone and clay brick are used together in the same wythe, the flashing also serves as a bond break between the Cast Stone and the brick.

Bulletin updated March 25, 2011.

DESIGN TIPS – TECHNICAL BULLETIN #47

FLASHING, WEEP HOLES AND RELATED ANCHORAGE [2 of 8]

Because clay brick undergoes irreversible moisture expansion and Cast Stone, like other cementitious products, tends to shrink, flashing between the different courses allows horizontal movement to occur without cracking the mortar joints or units. The Brick Industry Association's Technical Notes 18 Series provides further information on this topic. Stones must be anchored, top and bottom, to the backing material when this detail is used.

FLASHING OVER OPENINGS

Cast Stone window heads and arched openings also require flashing. If the Cast Stone is supported by a relieving angle, flashing and weep holes are located below the stone course, on the relieving angle. When no relieving angle is used, as in the case of structural stone lintels, flashing should be placed directly above the stone course. In either case, proper anchorage of the stone to the backing is imperative.

FLASHING AT COPING AND CAPS

Experience has shown that Cast Stone coping perform best when the mortar bond with the masonry wall is maintained. For this reason, flashing should not extend over the full width below the Cast Stone coping. Instead, the flashing should be turned down into the drainage cavity and then out through the exterior supporting wythe below. (See Detail Plates 5, 6 &7) This prevents the potential for water to pond underneath, which can deteriorate the mortar through the freeze-thaw process. In extreme cases, even the cast stone may be damaged due to repeated cycles of freezing and thawing while critically saturated for extended periods of time. This differs from recommendations found in the Brick Industry Associations Technical Notes.

At chimney caps, step flashing from below the Cast Stone coping down through the first course of supporting masonry below the weep holes should be located in the head joints of the first course of supporting masonry. (See Detail 3.)

ANCHOR PENETRATIONS THROUGH FLASHING

The anchors for attaching Cast Stone may be required to penetrate flashing and building paper to allow a secure connection to the structure. Where this occurs, proper steps must be taken to ensure a watertight connection at the interface so that the anchor does not compromise the integrity of the flashing. Grommets, thimbles, sleeves, couplings and sealants are available for this purpose, but it is beyond the scope of this Technical Bulletin to provide specific guidance.

FLASHING MATERIALS

Flashing is a key element in a drainage wall. Poor flashing materials can become brittle over time and may allow water to penetrate the building interior. As a result, longevity and life cycle cost should be considered, in addition to first costs, when choosing a flashing material.

Flashing materials used successfully with Cast Stone include stainless steel, copper, copper laminates, EPDM, and rubberized asphalt. Polyvinyl chloride (PVC) and galvanized steel flashing should be avoided because of their questionable long-term performance. (See the Brick Industry Associations Engineering & Research Digest, "Through-Wall Flashing", for a detailed discussion.) Table 1 lists some advantages and disadvantages of each of the recommended flashing materials that must be considered in making a final selection.

Bulletin updated March 25, 2011.

DESIGN TIPS – TECHNICAL BULLETIN #47

FLASHING, WEEP HOLES AND RELATED ANCHORAGE [3 of 8]

Table 1: RECOMMENDED FLASHING MATERIALS

Material	Minimum Thickness	Advantages	Disadvantages
Stainless Steel	0.01 in. (0.25 mm)	Extremely durable, non-staining	Difficult to solder and form
Cold Rolled Copper	10 ounces/ft2 (3100 g/m2)	Durable, easily formed, easily joined	Stains adjacent masonry
EPDM	30 mils (0.8 mm)	Flexible, easy to form, easy to join, non-staining	Metal drip edge required more easily torn
Rubberized Asphalt	30 mils (0.8 mm)	Self-healing, flexible, easy to form, easy to join	Dimensional instability, incompatibility with joint sealant, metal drip edge required
Copper Laminates	5 ounces/ft2 (1500 g/m2)	Easy to from, easy to join, non-staining	Metal drip edge required, more easily torn

Table printed with permission from the Brick Industry Association Engineering & Research Digest, "Through-Wall Flashing".

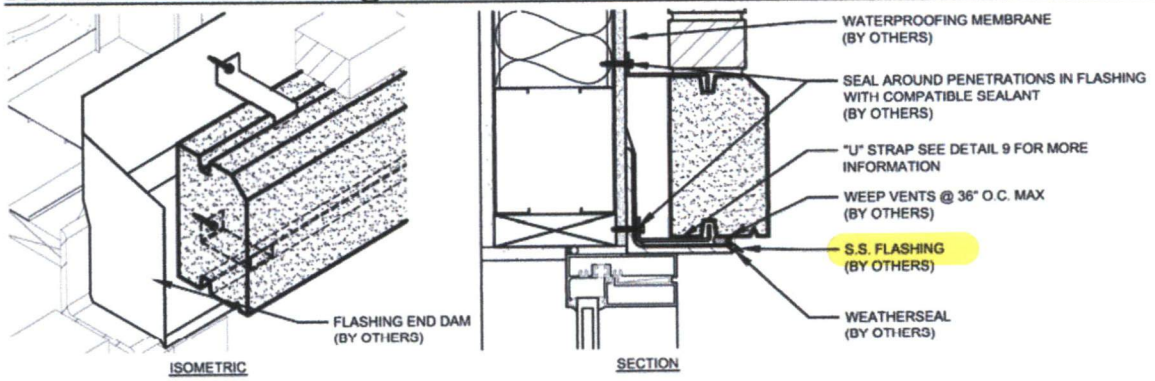
DESIGN TIPS – TECHNICAL BULLETIN #47

FLASHING, WEEP HOLES AND RELATED ANCHORAGE [4 of 8]

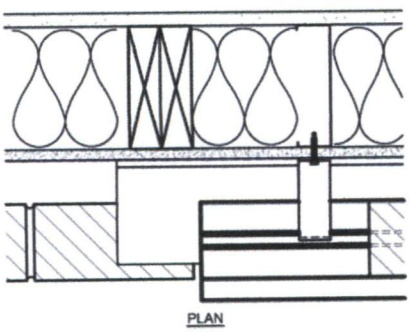
Anchoring and Flashing Details

These are typical connections recommonded by the Cast Stone Institute for similar applications. Consult your engineer for size and connection requirement before ordering anchors.

DETAIL 1-"Z" STRAP ANCHOR @ HEADER

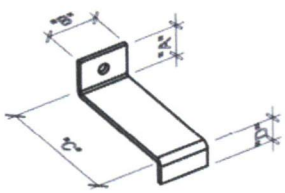


ISOMETRIC SECTION



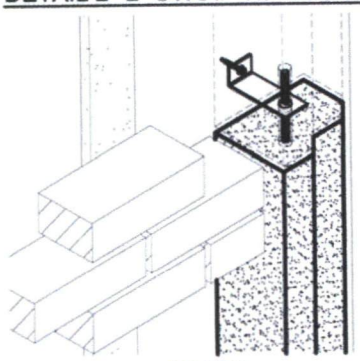
PLAN

"Z" STRAP ISOMETRIC

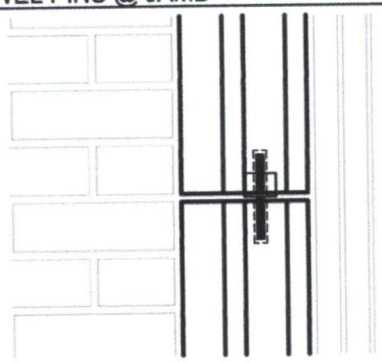


Typical "A" dimensions are 1"-2".
Typical "B" dimensions are 1"-2".
Typical "C" dimensions are from center of stone to the face of sheathing/outside face of wall structure.
Typical "D" dimensions are $\frac{3}{4}$"-1".
Typical thru hole diameter is $\frac{1}{16}$" larger than the fastner.
For example, using a $\frac{1}{4}$" self tapping metal screw the diameter would be $\frac{5}{16}$" .

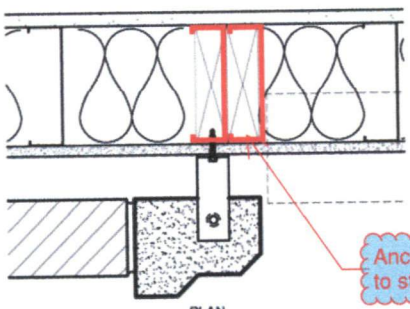
DETAIL 2-"L" STRAP W/ WELDED DOWEL PINS @ JAMB



ISOMETRIC

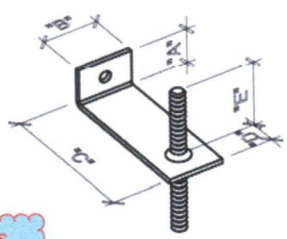


ELEVATION



PLAN

"L" STRAP W/ WELDED ALL THREAD PINS
ISOMETRIC



Typical "A" dimensions are 1"-2".
Typical "B" dimensions are 1"-2".
Typical "C" dimensions are from center of stone to the face of sheathing/outside face of wall structure.
Typical "D" dimensions are $\frac{3}{4}$"-1".
Typical thru hole diameter is $\frac{1}{16}$" larger than the fastner.
For example, using a $\frac{1}{4}$" self tapping metal screw the diameter would be $\frac{5}{16}$". Typical hole size is $\frac{1}{2}$" larger than all thread.

Bulletin updated March 25, 2011.