DEEDED LEGAL DESCRIPTION: DEEDED LEGAL DESCRIPTION:
Part of the Southeast Quarter of the Northeast Quarter and part of the Northeast Quarter of the Northeast Quarter of Section 29. Township 1 South, Range 14 West, City of Bryant, Saline County, Arkansas, more particularly described as follows: Commencing at the Southeast corner of said Southeast Quarter Northeast Quarter; thence North 02 deg. 25 min. 15 sec. East along the East line thereof for 996.18 feet to the Point of Beginning being on the North right-of-way line of the Springhill Overpass extension road; thence North 70 deg. 09 min. 58 sec. West for 74.13 feet; thence North 80 deg. 18 min. 33 sec. West for 132.10 feet; thence North 77 deg. 52 min. 35 sec. West for 75.62 feet; thence North 02 deg. 25 min. 53 sec. East for 468.89 feet to the South right-of-way line of Interstate #30; thence North 69 deg. 26 min. 48 sec. East for 300.00 feet to the East line of said Northeast Quarter Northeast Quarter; thence South 02 deg. 25 min. 09 sec. West for 637.63 feet to the Point of Beginning, containing 3.49 acres, more or less INTERSTATE 30 3.49 ACRES 53"E 468.89F ζ.) Γα 802 11 EXISTING BUILDING FIELD RKANSAS CONSDIENT. PHOPOSED PARKING BUILDING nam J. Wataon Signature D. 07-27-23 118.00FT +7 GEFT BUILDING LIN EXISTING 25FT EASEMENT E OF AUTHO BEARINGS BASED ON EAST LINE FROM ORIGINAL DEED WATSON CH SHEAFF AVE & SCALE SURVEYING LLC No. 3955 ARKANSAS, Description Symbol STORM DRAIN 51 SEWER (3) COMPUTED I hereby certify that the hereon plat and described survey was completed under my supervision to the best of my professional knowledge and ability. REBAR FENCE (X) LINE CENTER LINE Brian J. Watson BRIAN J. WATSON PROPERTY LINE P.L.S. #1864 PTSOV No investigation or other search was performed for easements or other records that an accurate and current title search may disclose

PLOT PLAN

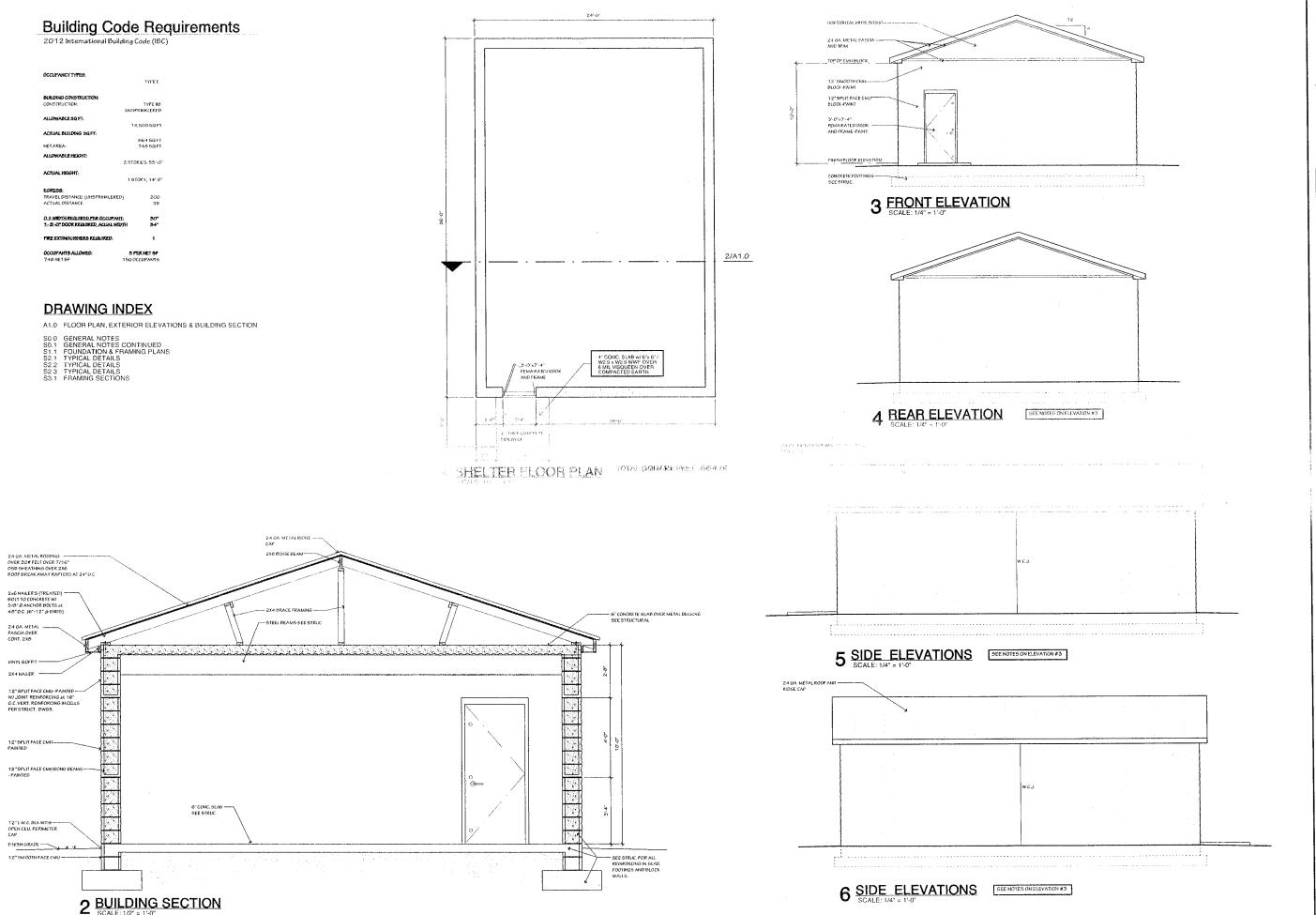
FOR THE USE AND BENEFIT OF

DESTINED TO WIN

0700 HMY. 32

DATE: 27 JULY 2023 SCALE: 1IN.=70FT. JOB#23-134

DRAWN BY: BW



HUGHES ARCHITECTURAL

DESIGNS

1202 N STATE LINE AVE
SUITE #102

TEXARKANA AR 71854

SUITE #102
TEXARKANA, AR 71854
501-827-2448
milchaelhughes72s77@gniail.com

New Storm Shelter Facility for Arkansas Christian Academy Bryant, Arkansas

Professional Stamps:

Professional stamps:

Floor Plan, Exterior Elev'e & Bldg Section

Date: 12-04-2023
Sheet Number:

GENERAL NOTES

n case of conflict between the General Notes below and the Specifications, the more rigid equirement shall govern unless amended in writing by the Structural Engineer of Record. DESIGN DATA

- IGN DATA sign Codes (All latest editions unless noted otherwise.) International Building Codes (IBC 2021) Arkansas Fire Prevention Code 2007 Edition (IBC 2012) with Amendments. American Society of Civil Engineers (ASCE 7–16) Minimum Design Loads for Buildings
- and Other Structures
 American Concrete Institute (ACI)
- American Institute of Steel Construction (AISC)
- American Meding Society (AWS)

 American Iron and Steel Institute Specifications for the Design of Cold Formed Steel Structural Members (AISI)

65 psf 127 psf of wall area

100 psf (Not reducible)

100 psf

2000 lbs 20 psf of wall area (Reducible per code)

ASIM A615. GR 60

ASTM A706, GR 60

ASTM A185 (Plain)

ASTM C33, ASTM C330

- National Design Specification for Wood Construction (ANSI/AF&PA NDS-2018) Steel Deck Institute (SDI)
- Standard for the Design and Construction of Storm Shelters (2020 ICC 500)
- Safe Rooms for Tornadoes and Hurricanes (2021 FEMA P-361
- Design Loads (IBC & ASCE7)
 Dead Load Design Data
 - Floor Exterior CMU Wall
- Lobby (1st Floor)
 Floor Concentrated
 Office
 Partition Load
 Slob—On—Grade
 Live Roof Load Design Data
 Roof (Sloped)
 Roof (Flot) Roof (Flot)
- Wind Design Data Risk Category
- Risk Category
 Velocity
 Wind Exposure Category
 Internal Pressure Coefficient, GC_{pt}
 now Design Data
 Importance Factor for Snow, 1_e
 Ground Snow Load, P_e
 Exposure Coefficient C_e
 Thermal Factor C_e
 Flat Roof Snow Load P_e 0.55±

- 9.1 psf (Use min 11 psf w/ Rain on Snow
- Seismic Criteria

- Seismic Design Category Basic Seismic Force Resisting System A.7 Specially Reinforced Masonry Shear
- Design Base Shear
- Judge Shear Seismic Response Coefficient, Co Response Modifications Factor, Re Analysis Procedure Lood Design Oata Nood Design Class Flood Zone

is Wat Getica

Concrete Reinferring - Dar Flypicall - Concrete Reinforcing - Bar (Weldable)

- Concrete Reinforcing - Welded Wire Fabric

Aggregate Concrete Mix Criteria Class Use Category F S W C

I. FTG/FDN/PC 0 0 0 0 3500 145 III. Interior Slob 1 0 0 0 4000 III. Exterior Slob 1 0 0 0 4000 V. All Other 0 0 0 0 4000 n o o o 4000 145

Reference ACI 318 Chapter 4 For Additional Information Regarding Durability Category

F'c. PSI WT, PCF AGG, IN AE. %

Concrete Mix Design Shall Be Submitted For Each Class in Accordance With The Procedure Outlined in ACI 301, Standard Specification For Structural Concrete. Documentation Submitted Shall Include The Mix Data, For Additional Submittal Requirements, Reference ACI 301, For Requirements On The Use Of Admixtures And Limits On The Water/Cementitious Materials Ratio For Durability, Reference The Project Manual/Specifications And ACI 318, Building Code Requirements For Structural Concrete

- Design Compressive Strength (F'm= 2000 PSI)
 Concrete Masonry Units
 Reinforcing Steel (UNO): ASTM A615, GR 60 Bar Reinforcing (Typical
- Bar Reinforcing (Weldable) ASTM A706, GR 60 ASTM A951 Grout (F'c= 3000 PSI, 8"-11" Slump) - Mortar, Type S ASTM C270 or
- Non-Shrink Grout Under Plates (F'c=8000 PSI) ASTM C1107, GR A

Structural Steel

- Structural Shapes (UNO)
- Wide Flange
 Channels, Angles and Plotes
 Hollow Structural Sections ASTM A992 or ASTM A572 ASTM A36 or ASTM A572
- HSS, (Fy = 46 KSI) Pipe, (Fy = 35 KSI) ASTM A53, GR C
- Bolls And Fasteners (UNO) ASTM A325 ASTM F1554 Grade 55 (Weldahle
- Structural/Anchor Rods
 Headed Shear Studs
 3. Design Soil Bearing Pressures Footings on natural soils or compacted structural fill are designed for a minimum
- soil bearing pressure of 1,800 psf.
- soil bearing pressure of 1,800 psf. If the soil at the footing bearing elevations shown is of questionable bearing value, the Engineer or Architect shall be notified immediately. After footing excavations are completed and before placing concrete, the excavated areas shall be inspected and approved by the Owner selected independent testing

GENERAL INFORMATION

- All columns shall be centered on grid lines unless noted otherwise.
- All column footings shall be centered on columns unless noted otherwise.

 All wall footings shall be centered on walls unless noted otherwise.
- Unless otherwise noted or detailed, concrete pads for mechanical equipment shall be 4" thick (minimum) and reinforced with #3 @ 12" oc each way centered
- ubstitution of expansion anchors for embedded anchors shall not be permitted Weights of mechanical equipment shown on the structural plans are for units specified by the Mechanical Engineer. Contractor shall verify weights and any substitutions that result in increased weight shall be approved by the Structural
- Backfill both sides of all foundation and retaining walls equally until low side is u Bockfill both sides of all roundation and retaining wails equitily until low side to finish grade. Do not backfill any walls until concrete has reached its spe 28-day compressive strength.

 Permanent stability of the building and components is not provided until the
- erection is completed as shown on the contract drawings, "Temporary supports, such as temporary guys, braces, folsework, cribbing or other elements required for the erection operation will be determined, furnished and installed by the erector
- 10. The Contractor shall be responsible for Verifying all existing conditions. The
- Contractor shall be responsible for coordinating architectural,, structural, mechanical, and electrical details and dimensions. Any Discrepancies between such details and dimensions shall be reported to the EOR prior to proceeding with the work.
- The Contractor shall be responsible for erection procedure and sequence to insure the integrity of the building and it's component parts during construction.

SUBMITTALS

- Review of shop drawings and other submittals by the Structural Engineer does not relieve the Contractor of the responsibility to review and check shop drawings before submitting to the Structural Engineer. The Contractor remains solely responsible for errors and omissions associated with the preparation of shop drawings as they pertoin to member sizes, details, and dimensions specified in the Contract Documents. All shop drawings must be stamped by the Contractor prior to submittal.
- submittol.

 Shop Drawings: The Contractor shall submit for Structural Engineer review shap drawings for the following items. Items marked (*) shall have shap drawings seeled by a Professional Engineer registered in the state in which the project is located. Items marked (#) shall be submitted for Structural Engineer's record only. A. Structural Steel (*)
- B. Steel Deck
- Concrete Mix Design

FOUNDATIONS

- All soil preparation shall be in accordance with the recommendations given in the referenced Geolechnical Report.
- Strip area of all grovel, surface vegetation, topsoil, and any debris. Remove all existing structures, foundations, and below grade site features. After stripping an making required cuts, exposed subgrade should be compacted. Overexcavate and stabilize any soft or unstable areas discovered by proof rolling.
- The Geotechnical Engineer shall be present during proof rolling and shall inspect the subgrade prior to any fill operations. All compacted fill shall be continuously inspected by the Owner's selected independent testing laboratory.
- To the soil of the bearing elevations shown is at questionable bearing value the Structural Engineer of Record or Architect shall be notified immediately. All 6th material under structure shall ecopyly with requirements stated in Geotechnica. Report which are ellicated in 14th otherwise.
- After fainting excussions are completed and peture plusing concrete, the companies should be improved and companies of the Companies Spagness of Section

CAST-IN-PLACE CONCRETE

No.6 bar and larger

- Arrangement and bending of reinforcing steel shall be in accordance with ACI Detailing Manual, latest edition.
- Reinforcing steel shall be new and oil bars shall be deformed
- Reinforcing Bars: ASTM A615 Grade 60 and ASTM A706 Grade 60 for weldable
- Unless noted otherwise, bar laps shall be Class B tension laps and shall be lapped unless noted unterwise, our logs shall be class to tension help our distinct outpred with minimum lengths as shown in Typical Details, where spikes are required in reinforcing. Shorter lops may be acceptable if appealing locations of alternate lops are shown on the reinforcement placement adwings and acclusions are submitted by a Registered Professional Engineer, licensed to practice in the state in which the project is globally and the attendant lop lengths.
- project is necessary justifying the alternate rap lengths.

 Provide suitable wire spacers, chairs, ties, etc. for supporting reinforcing steel in the proper position while placing concrete. Do not "wet stick" dowels.
 - All Welded Wire Fabric (WWF): ASTM A185. Minimum lap and embedment to be the greater of one cross wire spacing plus 2" or 6".
 - white an one cross were specing plus 2 of 6. Minimum concrete protective covering for reinforcement at surfaces not exposed directly to the ground shall be $\frac{1}{\lambda}^{*}$ for slabs, joists, and walls and $1\frac{1}{\lambda}^{*}$ for beam stirrups, column ties, or spirals unless noted otherwise.
- strrups, column ties, or sprials unless noted otherwise. Before placing concrete, clean reinforcement for foreign particles or coatings. Place, support, and secure reinforcement against displacement. For cost—in-place concrete, provide cover as shown below, unless noted otherwise an drawings, and as specified in ACI 318, building code requirements for structural concrete. Required cover, Inches Application (condition

Cast against and permanently exposed to earth	3*		
Exposed to earth or weather:			
No.6 through No. 19 bors	2"		
No.5 bar, W31 or D31 wire, and smaller	1½"		

- Not exposed to weather or in contact with ground: Slab, walls, joints: No. 14 and No. 18 bars No. 11 bar and smaller Beam, columns: Primary reinforcements, ties, stirrups, spirals 135" Shells, folded plate members:
- No.5 bar, W31 or D31 wire, and smaller December 2. Locations and sizes of openings, sleeves, etc. required for other trades must be verified by these trades before placing concrete.

 10. All slots, sleeves, trenches, and other embedded items shall be set and secured.
- and stots, steeves, territors, on other embedder terms small be set and sector against movement before the concrete is placed. See Architectural, Electrical, Mechanical, Plumbing, and Vender drowings for sizes and locations. Coordinate locations, spocings, and sizes with the Structural Engineer of Record prior to
- Conduits and pipes embedded in concrete slobs may be no larger than K_0 of the slob thickness (based on the maximum outside diameter) and shall have a center-lo-center spacing no less than three (3) conduit diameters. Regardless of diameter, the minimum clear spacing between conduits or reinforcing shall be one
- 12. No more than four conduits may be placed adjacent to each other without prior approval in writing from the Structural Engineer of Record.

 13. No aluminum conduits, devices, or factures may be embedated into the concrete so that the aluminum is in direct contact with the concrete.

 14. Corner bors shall be provided for all harbonal reinforcing bors at the intersections and corners of all strip foolings, beams, and walls unless noted otherwise. Corner
- bors shall be of the same size and grade as the horizontal reinforcing they connect. Minimum lab lengths shall be as indicated with the Typical fieldie unless For stabs-con-grade, provide saw-cut control pilots on intervals of 15° of the rock
- renforcing shelf phoen in rechiber and drivel in a greenhold homelror to einforcing exists, bee schedules, rechier ander and Gerent Notes for actual
- Detail reinforcement in occordance with ACI 315. Reinforcement shall not be welded
- Betail reinforcement in accordance with ACL 315. Reinforcement shall not be well unless noted or approved by the Structural Engineer.
 Pedestal, Column and Wall Vertical Reinforcing: Dowel to foundation with hooked bars of same size and spacing as vertical reinforcing, terminale top of reinforcement with hooked bar of some size and spacing as vertical reinforcing.
 Beam Horizontal Reinforcing: Terminate each end with standard.
- Closed Tie and Stirrup Reinforcing: Terminate each end with standard hook.
- Concrete design and detailing shall conform to the requirements of ACI 318 and ACI 301, latest editions.
- ACI 301, latest editions.

 2. Contractor shall provide reinforcing shop drowings which adequately depict the reinforcing bor sizes and placement. Written description of reinforcement without adequate sections, elevations and details is not acceptable.

 24. Submit written reports of each proposed mix design for each class of concrete with concrete cylinder test results at least 15 days prior to start of work.
- 25. All concrete that will be exposed to the weather shall have air entrainment All structural concrete exposed to view to be smooth formed finished with ½" chamfers at all exposed edges.

ACI lap splice length (inches) F'C = 3000 PSI F'C = 3500 PSI F'C = 4000 PSI TOP BARS OTHER BARS TOP BARS OTHER BARS TOP BARS OTHER BARS CASE ICASE 40 | 60 | 37 | 37 | 70 | 106 | 54 | 54 | 80 | 121 | 62 | 91 | 136 | 7'

#11	131	196	101	151	122	183	94	141	113	170	87	131
2.0	F	'C = 4	500 PS	I	F	'C = 5	000 PS	i i	F	C = 6	000 PS	1
BAR	TOP	BARS	OTHER	BARS	TOP	BARS	OTHER	BARS	TOP	BARS	OTHER	BARS
Bize	CASE 1	CASE 2										
#3	23	35	18	27	22	33	17	25	20	30	16	23
#4	31	46	24	35	29	43	22	33 .	26	40	20	31
#5	38	57	30	45	36	54	28	42	33	49	25	38
#6	46	69	35	53	43	64	33	50	40	59	31	46
#7	67	100	52	77	63	94	49	73	58	86	44	66
#8	76	115	59	88	72	108	55	83	66	98	51	76
#9	86	129	67	100	81	122	63	94	74	111	57	85
#10	97	145	75	112	91	137	70	105	83	125	64	96
#11	107	161	83	124	101	152	78	117	93	139	71	107

CAST-IN-PLACE CONCRETE CONT.

- Tabulated values are based on grade 60 bars and normal weight concrete. Cases 1 and 2, which depend on the type of structural element, concrete cover, and the center-to-center spacing of the bars, are defined as:
- Reams or columns:

 Case 1: Cover at lease 1.0 db and C.C. spacing of at least 2.0 db.
 Case 2: Cover less than 1.0 db and C.C. spacing less than 2.0 db.
- All others:
 Case 1: Cover at lease 1.0 db and C.C. spacing of at least 3.0 db
 Case 2: Cover less than 1.0 db and C.C. spacing less than 3.0 db.
- Top bars are horizontal beam and slab bars with more than 12" of concrete below For lightweight aggregate concrete, multiply the tabulated values by 1.3.
- factors: Concrete cover and spacing Top bars Other Cover < 3.0 DB or C.C. spacing < 7.0 DB 1.7/1.3 = 1.31 1.50
- Cover > 3.0 DB or C.C. spacing > 7.0 DB 1.20 1.20
- Bar development length = tap spliced length/ 1.3.
 - Lap all wire mesh cross wires one cross wire spacing plus 2", typical.

CONCRETE MASONRY

- For product material specifications, reference the structural notes, material & component design criteria and the project specification. Submit documentation demonstrating compliance with the specified strength of Submit documentation demonstrating compliance with the specified strength of missorry. Fin, in accordance with the (prism test method or the unit strength method) as autilized in the TMS 402/602-16, Building Code Requirements for Mosonry Structures, and the applicable building code. Submit product and test data as specified for level 1 quality assurance. This sholl include verification of Fin both prior to construction and during as well as verification of materials and proportions for concrete masenry units, mortar and grout construction for every 5000 square
- et of masonry placed.
- feet of masonry placed.

 Submit reinforcing shop drowings showing placement of all reinforcement and embedments and the reinforcing fabrication dimensions and details.

 Place concrete units such that the vertical cells to be grouted are aligned and provided unobstructed openings for grout placement. Face shells of bed joints shall be fully mortared, webs shall be fully mortared in all courses of piers, columns and pilasters, in the starting course on foundations, when necessary to confine grout or loose—fill insulation and when otherwise noted. Head joints are to be mortared a minimum distance from each face equal to the face shell thickness of the unit. Unless otherwise required, solidly fill Collor pints less than 3/4" wide with mortar Unless otherwise required, solidly fill collar joints less than 3/4" wide with mortal
- Place reinforcement and embedments in accordance with the drawings. Maintain a clear distance between the reinforcing bors and any face of masonry unit or former clear distance between the reinforcing bars and any tace of masonry unit or formed surface of not less than 1/2 unless noted otherwise. Where reinforcing bar are spliced, provide a minimum lap as shown in chart below or a mechanical splice that provides 125% of the bar capacity. Tolerances for placement of reinforcing bars shall be +/-1/2 inch perpendicular to the face of the masonry unit and within 2-inches along the length of the wall unless note otherwise. Reinforcement shall be tied in place or otherwise supported to prevent displacement during grouting.
- Place grout within 1 1/2 hours from introducing water in the mixture and prior to initial set. Grout pour height shall conform to the requirements as outlined in TM initial set, frost spoir regint shall contain to the requirements by durined in Ima-402/602-16, Specification for Masonry Structures, for grout type and grout space dimensions. In no case shall grout lift exceed 4 feet in height. Consolidate pours by mechanical wibration and reconsolidate by mechanical vibration after hillfol water loss and settlement has occurred. So and settlement has occurred.
- Provide Joint reinforcement in every used joint to which on center) for stack done every other joint (66-inch on center) for running bond masonry placement. Placement, that logaridation whose reverby 6 riseless and one entherhold in mortal, eith
- a offennen, positive jords as supering edit shoulds, prevident within 4-3est norm, at cook should of each weight on tribitations on at a movement. Which feet before orders otherwise on charles.
- Frowide a bond beam with $2 \neq \emptyset$ continuous bors where shown on the drakings and at minimum, at the tops of all masonity walls and at all slab or beam bearing locations where the wall is not already gouted sail below the bearing. Extend the bond beam a minimum of 2-feet beyond the end of the bearing condition. Frovide a bond beam with 2-#5 continuous bers where sho
- Provide jamb reinforcing for every masonry opening shown on drawings, as a minimum, for steel lintel beams provide 1-#5 vertical in first cell adjacent to the minimum, for steel Intel beams provide 1-#5 vertical in first cell adjacent to the bearing location form the top of footing for the full height of the wall. For mosonry lintels, provide 1-#5 vertical in the first cell adjacent to the opening, from the top of the footing for the full height of the wall.

 At beam bearing locations, reinforce each cell below the bearing plate with typical vertical reinforcing to the top of the footing unless noted otherwise.

CONCRETE MASONRY CONT.

- At mosonry control joints, reinforce the first cell either side of the joint with the typical wall reinforcing specified on the drawings. Also, at ends of walls, reinforce the last cell with the typical wall reinforcing specified. Horizontal joint reinforcing shall be discontinuous at control joints. Bond beam reinforcing shall be discontinuous across central joints.
- 14. All cells containing reinforcing bars shall be fully grouted.
- 15. All expansion bolts placed in museury are to be Hilli Kwik Bott III or approved equal All expansion botts placed in musorry are to be Hill Kwik Bott III or approved equal are to be installed in grounded cells in accordance with the manufacturer's recommendations and inspected by the special inspector. All post-installed anchors shall be installed in the presence of the special inspector. All post installed dawds placed in masonry are to be set in Hill HIT-HY 70 adhesive or approved equal are to bed installed in accordance with the
- manufacturer's recommendations and inspected by the special inspector. All post-installed anchors shall be installed in the presence of the special inspector
- All mechanical anchors shall be installed in accordance with the product namenancial anchors shall be installed in the installed in the product of manufacturer's recommendations and the installation shall be inspected by the special inspector. Individual products shall be submitted to the architect/engineer for approval prior to installation. All post-installed anchors shall be installed in the presence of the special inspector.
- 18. When the ambient temperature falls below 40F or the temperature of the masonry When the ombient temperature rais below vol. the temperature or the indisonry units is below 40°F, comply with the provisions of TMS 60°C, Section 1.8°C, Specification for Masonry Structures, for cold weather construction.
 When the ombient temperature exceeds 90°F, comply with the provisions of TMS 60°C, Section 1.8°D, Specification for Masonry Structures, for hot weather construction.
- 20. Brick Ties: (for stud bockup)

There shall be a minimum of one brick tie for every 2.67 sq. ft. of wall area. These shall be spaced at a maximum of 18-inches on center. Ties shall be of a minimum 9 GA. corrosion resistant wire and shall be of an adjustable type such as DINFO-WAIL adjustable 0/A 213 or equal. Corrugated galvanited sharet tiles are not acceptable. All ties must be attached through the sheathing to the studs per manufacturer's recommendations.

There shall be a minimum of one brick tie for every 2.67 sq. ft. of wall area. These shall be spaced at a maximum of 18--inches vertical. Ties shall be a minimum of 3/16" diameter corrosion resistant wire. Corrugated galvanized sheet ties are not acceptable.

> CMU Lap Splice Lengths Reinforcement Off-Centered 2 Bor Per Core

MINIMUM	1 LAP SP	LICE LENG	TH (INCHE	IS)
BAR SIZE	8" CMU	10" CMU	12" CMU	16" CN
#3	19	19	19	19
#4	34	34	34	34
#5	45	45	45	45
#6	54	54	54	54
#7	63	63	63	63
#8	N/P	72	72	72
#9	N/P	N/P	82	82

JUZP - Not Ferretten

OMPOSITE BEAMS

- centerline of beams per manufacturer's recommendation. Headed stud connectors, after installation, shall extend not less than W_2 above the top of steel deck and not more than $X_2^{\prime\prime}$ below the finished surface of the concrete.
- Headed stud shear connectors shall be $\frac{1}{2}$ " $\phi x 5\frac{1}{2}$ " long (before welding) at spacing designated (18" oc mox) unless noted otherwise. besignized to be into billies into determining the state of the state of lateral concrete cover except for connectors installed in the ribs of formed steel deck. Minimum distance from the base of the rib to the base of the stud shall be X" in ribbed, formed steel deck
- onless noted otherwise.

 The minimum center-to-center spacing of stud connectors shall be six times the stud diameter olong the longitudinal axis of the beam and four times the stud diameter transverse to the longitudinal axis of the beam. In formed steel decks oriented perpendicular to the longitudinal axis of the beam, the minimum center-to-center spacing shall be four times the stud diameter in any direction.

6. Study may not be installed on the flanges of beams that are less than 0.4 times

the stud diameter unless they are directly over the web. Should deck loyout and stud spacing cause a conflict with this requirement, contact the Structural Engineer of Record for a resolution prior to installation of the shear studs.

HUGHES ARCHITECTURAL DESIGNS

1202 N STATE LINE AVE SUITE #102 TEXARKANA, AR 71854

501-627-2448 nichaelhughes72s77@gmad.co

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ARKANSAS

No.10449 DATE SIGNED: OR 3rd PARTY REVIE

REGISTERED ROFESSION. ENGINEER

Sheet Title: General Notes

Sheet Number:

S0.0

LIVE OAK ENGINEERING

- STEEL DECK
 All deck shall be furnished and installed per the requirements of the Steel Deck Institute (SDI). The Contractor shall follow all recommended practices in the SDI
- manual.

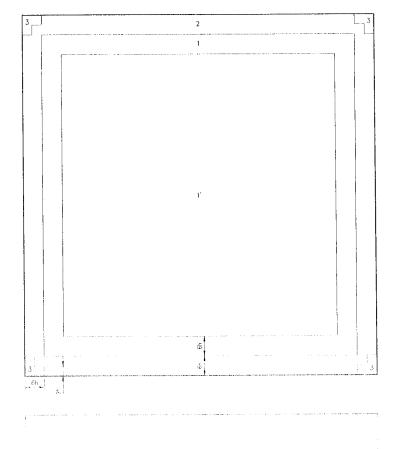
 2. Steel Deck, galvanized steel deck unless noted otherwise on the drawings.
- 3. Where steel deck is part of a roted assembly, supply all deck and components, which comply with requirements of Underwriters Laboratories (UL) for each type of assembly, specified, reference plans and specifications. Where deck is to receive sproy fireproofing, finishes shall be compatible with fireproofing material and comply with UL assembly requirements. Before the fireproofing material is applied, the deck surface to be treated shall be free of rust, scale, oil, or other contaminants or elements which will impair bond.
- 4. The deck shall be fostened to supporting steel as shown on the drawing.
- Alternate fastening options using mechanical fasteners, powder-actuated, or screws may be considered, if submitted by the Contractor. Alternate systems and documentation certifying that the proposed system provides at least the same uplift and diaphragm shear resistance as the system and pottern specified must be submitted to the Engineer.
- Provide a 2" minimum bearing and a 4" lap at the splice point of all pieces of

- Provide a 2" minimum bearing and a 4" lap at the splice point of all pieces of deck.
 Where possible, all decking shall be 3-span continuous, minimum. Decking specified on this project assumes a 3-span condition unless noted otherwise. The Contractor shall provide heavier gauge deck, as required, for one or two span conditions to meet equivalent load capacity of the specified deck under a 3-span condition.
 Steel roof deck shall not be used to support load from plumbing HVAC ducts, light fixtures, orchitectural elements, or equipment of any kind unless specifically noted.
 Honging any loads directly from steel roof deck shall be avoided whenever possible. Nevertheless, normal suspended acoustical ceilings with a lotal weight per wire not exceeding 50 lbs may be hung from the steel roof deck in cases where hanging loads from the deck cannot be avoided. If possible, the attachment should be staggered to further distribute the load. If load is directly supported by the deck, tabs or other build-in devices should be provided for hanging referenced loads.
 Where deck ribs are cut at penetrations, provide deck support angles or deck stiffeners as required.
 Supply 8" wide, minimum, lates matching deck gauge or heavier for all ridge,
- 11. Supply 8" wide, minimum, plates matching deck gauge or heavier for all ridge, valley, and change in deck direction locations, which do not fall over a supporting member at least 4" wide.

ABBREVIATIONS AB - Anchor boltts ADDL - Additional

ADDL -	-	Additional	MAS	-	Masonry
		Above finish floor	MATL	-	Material
ALT -		Alternate	MAX	-	Maximum
ARCH -		Architect, Architectural	MECH		Mechanical
				_	
B/		Back of	MFR	-	Manufacturer
BLDG	-	Building(s)	MIN		Minimum
BLK -	-	Block(s)	MISC	-	Miscellaneous
BM -		Beam(s)	мо		Masonry opening
BOF		Bottom of footing elevation	мРН	-	Miles per hour
BOT	~	Bottom	MTL	-	Metol
BRDG	-	Bridging	N	_	North
BRNG		Bearing	NIC	_	Not-in-contract
		Brick(s)	NOM	_	Nominal
		Between	NS		Neor side
BUR	-	Built-up roof	NSG	-	Non~shrink grout
CJ		Control joint, Contraction	NTS	-	Not-to-scale
		joint, Construction joint	NUM	_	Number
CL		Centerline	00	_	On-center
CLG		Ceiling	OD		Outside diameter, Outside
			OU	_	
CLR		Clear			dimension
	-	Concrete mosonry unit(s)	OH	~	Opposite hand, Overhead
COL	-	Column(s)	OPNG	-	Opening(s)
CONC	-	Concrete	OPP		Opposite
CONN		Connection(s)	PAR		Parollel
CONST		Construction	PC		Precast, Precast concrete
	-	Continue, Continuous	PDF	*	Power driven fastener
CTRD	_	Centered	PL.		Plate, Property line
DBA		Dowel bar anchor, Deformed	PLF	-	Pounds per linear foot
		bar anchor	PLYWD	_	Plywood
DBL		Double	PNL		
	-			_	Ponel
		Diameter	PROJ	~	Project, Projection
	-	Diagonal	PSF	-	Pounds per square fool
DIM	_	Dimension	PSI	-	Pounds per square inch
		Drawing	PTD	_	Painted
			PVMT	_	Pavement
		Drowings			
		Dowel(s)	QTY	**	Quantity
E/		Edge of, End of	R		Radius
-/					
		Each	RAD	-	Radius
EB	-	Expansion bolt(s)	RD		Roof drain
EBC		Extended bottom chord	REBAR	_	Reinforcing bar
				_	
		Each face	REF		Reference
		Exterior insulated finish system	REINF	-	
EJ		Expansion joint			Reinforcement
		Elevation	REQD		Required
		Electrical	REV		
					Revise, Revision
ELEV		Elevator	RH		Right hand
		Elevator		-	Right hand
ELEV ENG		Elevator Engineer(ed)	RH RO	-	Right hand Rough opening
ELEV ENG EO	-	Elevator Engineer(ed)	RH RO S	-	Right hand Rough opening South
ELEV ENG EO EXP	-	Elevator Engineer(ed) Equal Expansion	RH RO	-	Right hand Rough opening South Slotted connection, Siip
ELEV ENG EO EXP EOM E	-	Elevator Engineer(ed) Equal Expansion Equipment	RH RO S SC	-	Right hand Rough opening South Slotted connection, Slip connection
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LT WT ~ Lightweight





ULT. ROOF WIND PRESSURE (PSF)									
	ZONE 1'		ZONE 1		ZONE 2		ZONE 3		
AREA	+	-	+	-	+	-	+	-	
10SF	115.6	-197.2	115.6	-306.0	115.6	-387.6	115.6	-510.0	
20SF	108.8	-197.2	108.8	-292.4	108.8	-367.2	108.8	-469.2	
50SF	103.4	-197.2	103.4	-265.2	103.4	-340.0	103.4	-414.8	
100SF	102.0	-197.2	102.0	-251.6	102.0	-312.8	102.0	-360.4	
200SF	102.0	-176.8	102.0	-238.0	102.0	-292.4	102.0	-319.6	
500SF	102.0	-149.6	102.0	-210.8	102.0	-265.2	102.0	-265.2	
1000SF		_	-	-		-			

ULT. OVERHANG WIND PRESSURE (PSF)						
AREA	ZONE 1'	ZONE 1	ZONE 2	ZONE 3		
TOP & BOTTOM SURFACES COMBINED						
10SF	-306.0	-306.0	-387.6	-510.0		
20SF	-302.0	-302.0	-360.4	-462.4		
50SF	-295.8	-295.8	-319.6	-387.6		
100SF	-292.4	-292.4	-292.4	-340.0		
200SF	-251.6	-251.6	-258.4	-292.4		
500SF	-210.8	-210.8	-224.4	-224.4		

a= 5.6ft 0.2h= 3.33ft 0.6h= 10ft

ULT. WALL WIND PRESSURE (PSF)					ULT	. PARAPE	T WIND	PRESSU	RE (PSF))		i
	ZONE	ZONE 4 ZONE 5		ZONE 4&2e		ZONE 4&2n		ZONE 4&3r		ZONE 5&3e		
WIND AREA	WIN	LEE	WIN	LEE	WIN	LEE	WIN	LEE	WIN	LEE	WIN	LEE
10SF	189.8	-202.0	189.8	-238.7	434.6	-324.4	557.0	-324.4	630.4	-324.4	557.0	- 361.1
20SF	183.6	-195.9	183.6	-225.3	428.4	-310.9	498.2	-310.9	557.0	-310.9	498.2	- 341.5
50SF	175.1	-187.3	175.1	-208.1	314.6	-293.8	419.9	293.8	461.5	-293.8	419.9	-315.8
100SF	167.7	-180.0	167.7	-195.9	228.9	-281.6	359.9	-281.6	388.0		359.9	-296.2
200SF	161.6	-173.8	161.6	182.4	222.8	-268.1	301.1	-268.1	381.9	-268.1	301.1	-276.7
500SF	153.0	-165.3	153.0	-165.3	214.2	-250.9	275.4	-250.9	275.4	- 250.9	275.4	-251.0

FOR WALLS: WIN IS WINDWARD FACE

LEE IS LEEWARD FACE

FOR PARAPETS: WIN IS CASE A = p1+p2

LEE IS CASE B = p3+p4





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michaelhughas 72977 marrad son

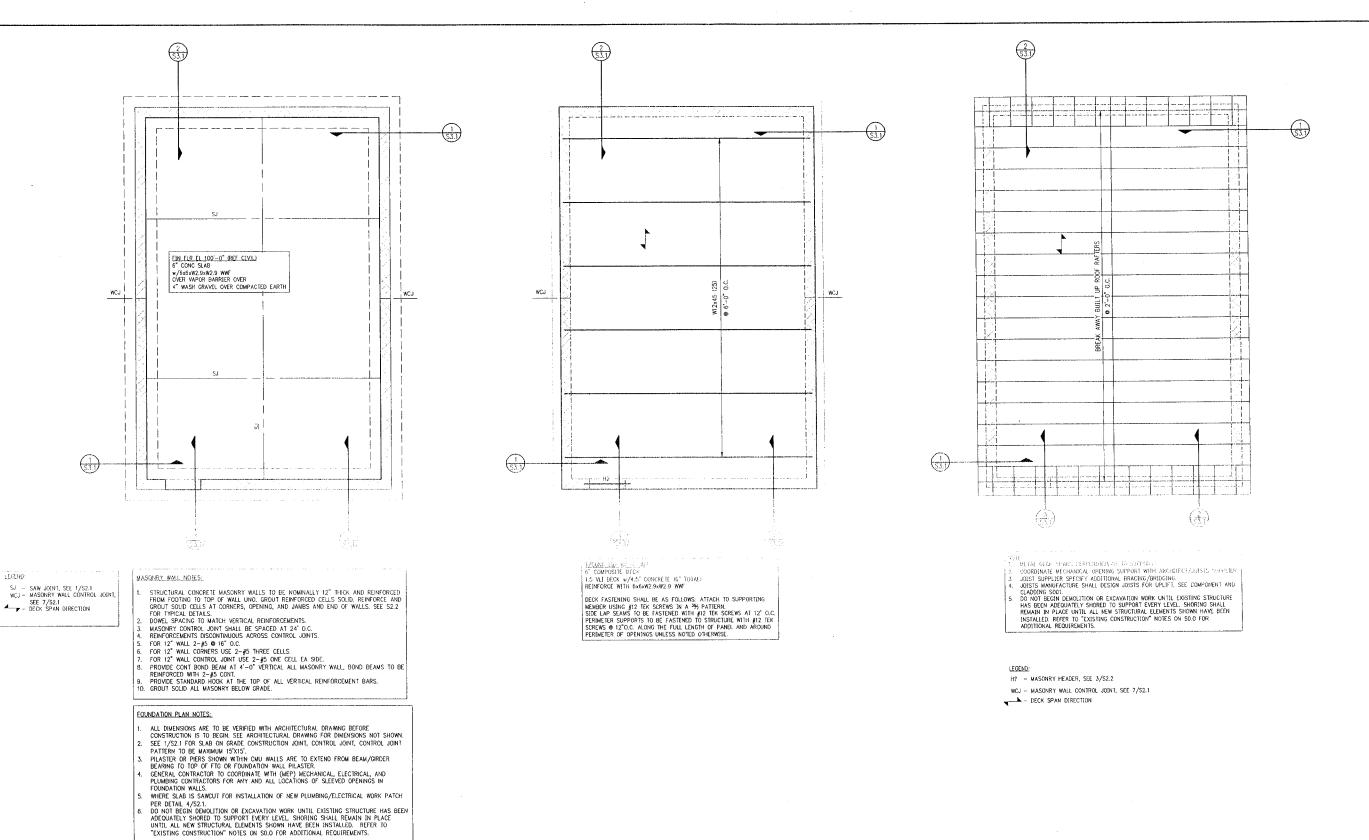
netter Facility for: Christian Academy New Storm She **Arkansas** (Bryant, Arkansa



Sheet Title: General Notes

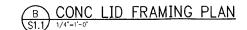
Continued

S0.1



 $\underbrace{ \overbrace{\text{S1.1}}^{\text{A}} \underbrace{\text{FOUNDATION PLAN}}_{1/4^n = 1^l - 0^l} }$

LECEND







HUGHES ARCHITECTURAL DESIGNS

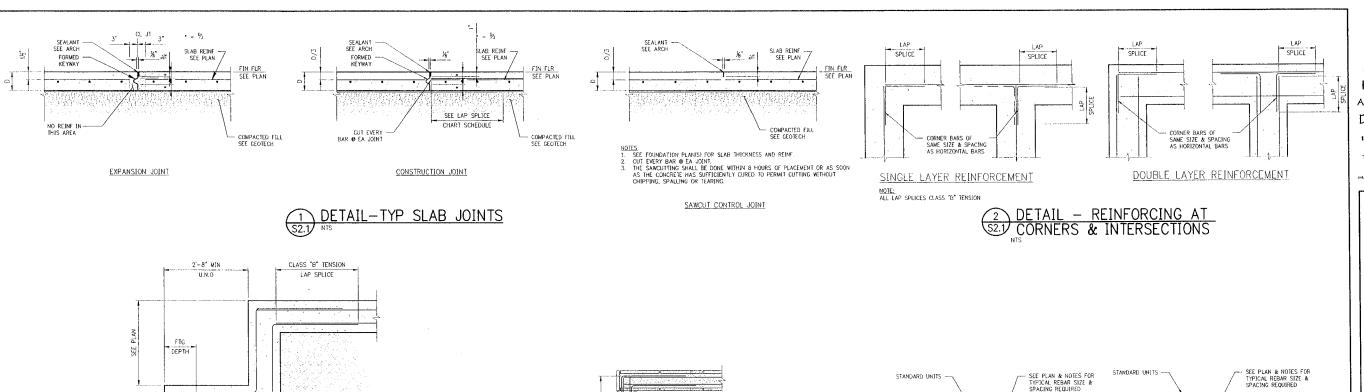
1202 N STATE LINE AVE SUITE #102 TEXARKANA, AR 71854 501-627-2448 michaelhughaa72a77@qmail.com

/ for: n Academy heiter Facility fo Christian New Storm Sheiter **Arkansas Ch** Bryant, Arkansas



Foundation & Framing Plans

S1.1





SIZE AND NUMBER AS FIG REINFORCEMENT

60 BAR DIA 24" MIN

CORNER WALLS

CORNER WALLS

STD HOOK AT END OF

END OF WALL

END OF WALL

60 BAR DIA

INTERSECTING WALLS

HORIZONTAL REINFORCEMENT

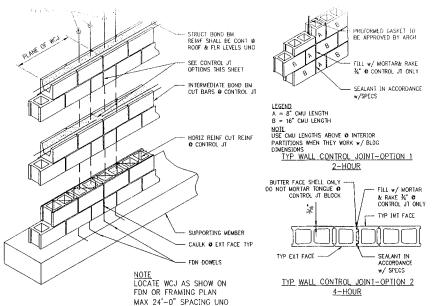
INTERSECTING WALLS

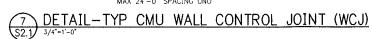
VERTICAL REINFORCEMENT

NOTES

1. REINFORCEMENT SHOWN IS IN ADDITION TO MINIMUM WALL REINFORCEMENT SHOWN IN FOUNDATION DETAILS.
2. REINFORCING TO BE CONTINUOUS FROM FOOTING TO TOP OF WALL. FILL CORES SOLID WITH GROUT AS NOTED IN THE SPECIFICATIONS OR GENERAL NOTES.

6 DETAIL-TYP CMU WALL INTERSECTIONS





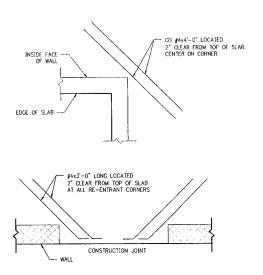


REBAR "LOCK" POSITIONER TYP & ALL VERTICAL BARS & SPACED & 48" O.C. MAX VERTICALLY

SEE PLAN & NOTES FOR TYPICAL REBAR SIZE & SPACING REQUIRED

STANDARD UNITS -

REBAR "LOCK" POSITIONER TYP & ALL VERTICAL BARS



8 DETAIL-TYP RE-ENTRANT S2.1 CORNER REINF



HUGHES ARCHITECTURAL DESIGNS

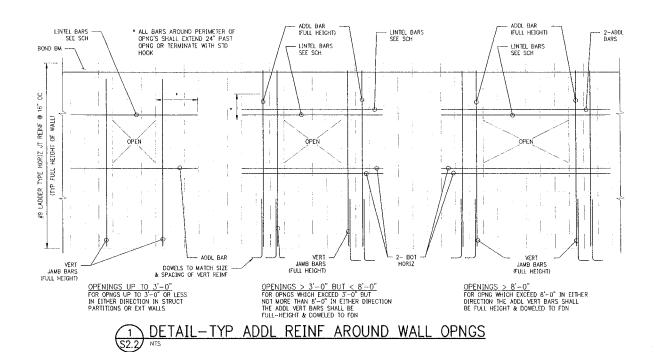
1202 N STATE LINE AVE SUITE #102 TEXARKANA, AR 71854 501-627-2448 chackughes 72577#4mail

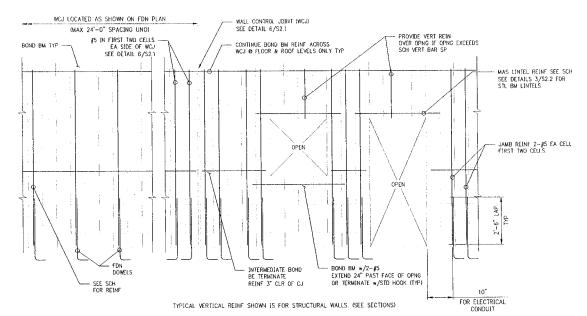
Shelter Facility for: New Storm Sh **Arkansas** Bryant, Arkans

ARKANŠAS REGISTĒRED PROFESSIONAL FOR 3rd PARTY REVIE

> Sheet Title: Typical Details

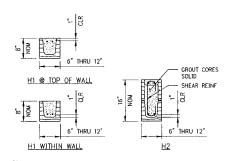
S2.1





2 DETAIL-TYP BOND BM, CONTROL JT & WALL REINF

	H	EADER SCHEDULE		
MARK	WALL	REINFORCEMENT	SHEAR REINFORCEMENT	REMARKS
H1	8"	2-#5 CONT	N/A	-
	12"	2-#5 CONT	-	
H2	8"	2-#5 CONT T&B	-	
	12*	2~#5 CONT T&B	-	-



NOTE

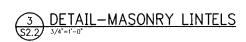
1. SEE STRUCT DWGS FOR GENERAL LOCATION OF HEADERS — SEE ARCH FOR SPECIFIC LOCATION & CLEAR SPAN.

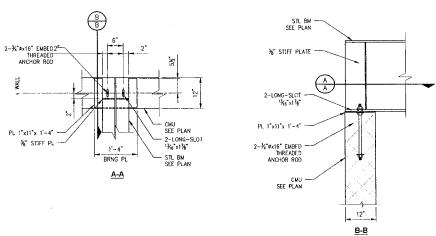
2. LINTELS SHALL SPAN CONT BTWN BRNGS EACH SIDE.

3. PROVIDE B'MINI BRNG FOR CLEAR SPAN 8'-0' OR LESS, 16'(MIN) BRNG FOR CLEAR SPAN GREATER THAN 8'-0'.

4. EXTEND BOT REINT TO END OF BRNG EACH SIDE — EXTEND TOP REINF WHERE POSSIBLE — BASIC DEVELOPMENT LENGTH — TERMINATE TOP REINF W/STD HOOK AT CONTROL JTS OR TREE EDGS.

5. PROVIDE SOLID GROUTED OF SOLID MAS JAMB UNDER LINTEL EA SIDE OF OPING FOR CLEAR SPAN GREATER THAN 6'-0'.





EXTERIOR CORRIDOR BEARING PLATE



HUGHES ARCHITECTURAL DESIGNS

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New Storm Shelter Facility for: **Arkansas Christian Academy**Bryant, Arkansas

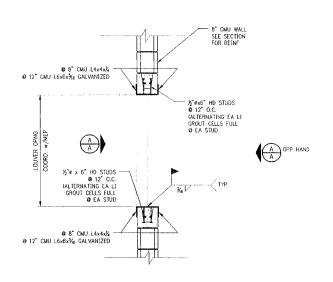


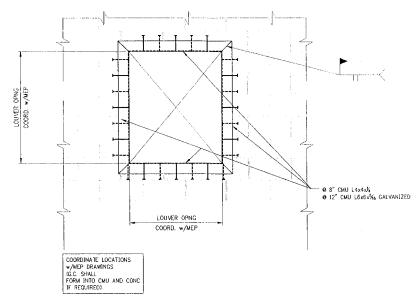
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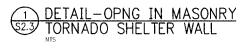
Typical Details

Sheet Number

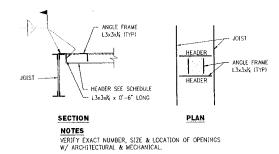
S2.2







HEADER SCHEDULE					
JOIST SPACING	SIZE				
UP TO 4'-6"	L2½×2½×½				
4'-6" TO 6'-6"	L3½x3x½-LLV				
6'-7" TO 8'-0"	L4x3x5/16-LLV				



STEEL JOIST FRAMING

2 DETAIL-TYPICAL OPENING THRU ROOF DECK \$2.3) 3/4" = 1'-0"



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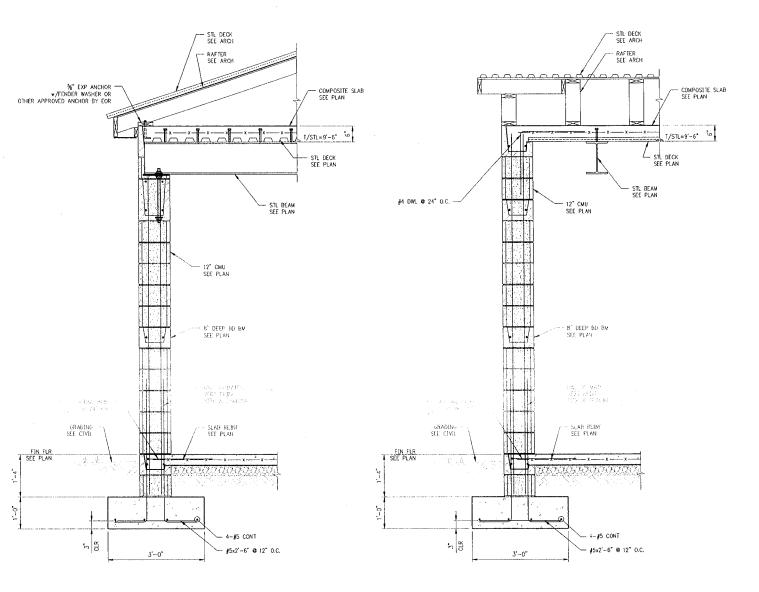
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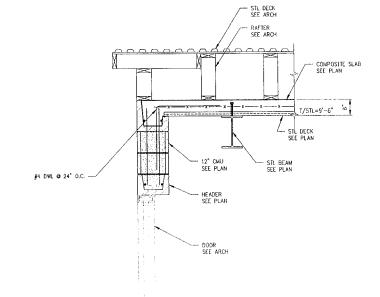
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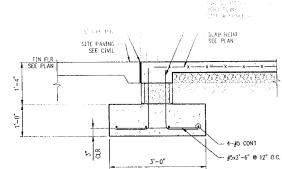
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S2.3















LIVE OAK ENGINEERING Sheet Number: 2509 7TH AVENUE SOUTH BIRMINGHAM, AL 35233 205.637.3115 LOE# 258-1

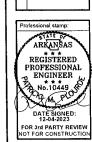


501-627-2448 michaelhughan 72 a 77 **cha**nna il co

New Storm Shelter Facility for:

Arkansas Christian Academy
Bryant, Arkansas





S3.1