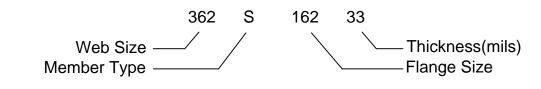
# Saint Luke Church & Academy

# Chicago, Illinois

### 1.00 PRODUCT IDENTIFICATION

1.01 The American Iron and Steel Institute standards are used in this package. Any manufacturer whose product geometries meets or exceed AISI standards are acceptable.



1.02 The last two numbers indicate the steel thickness:

. The last two hambers indicate the steel thickness.				
Gage	Design	Minimum	AISI	Color Coding
20	0.0346"	0.0329"	33 mils	White
18	0.0451"	0.0428"	43 mils	Yellow
16	0.0566"	0.0538"	54 mils	Green
14	0.0713"	0.0677"	68 mils	Orange
12	0.1017"	0.0966"	97 mils	Red

1.03 Basis of Design Material for this project by:



West Chester, OH 45069 Phone: 513-870-1100

## 2.00 STUD FRAMING

- 2.01 All field cutting of studs must be done by sawing, shearing, or plasma cutting. Other torch cutting methods of cold-formed members are unacceptable.
- 2.02 No notching or coping of studs is allowed, unless stated within this drawing package.
- 2.03 Splicing of wall study is not allowed, unless otherwise stated within this drawing package.
- 2.04 Framing fabricator is to ensure punch out alignment when assembling lateral bracing and field cutting studs to length. Lateral bracing must be installed at the time the wall is erected. Failure to install bracing at this time may compromise the structural integrity of the building.
- 2.05 Design assumes condition to be in final location and stablized. Temporary bracing (by others) or other means of stabilization may be required until framing is in its stable and final condition.
- 2.06 Spandrel wall studs framing above a window, and having connections to the top and bottom of the same beam, or having a single connection to a beam, and a kicker to another structural element, may require slip connections at the head of the window. In such situations, the engineer of record shall verify that the window system is designed accordingly.
- 2.07 Use minimum of three studs at the corner of all exterior walls.
- 2.08 Use minimum of three studs at the intersection of all load bearing walls (exterior/or interior).
- 2.09 Joist or roof member must bear directly over stud. If not, a structural member (designed accordingly) is required on top of runner track for proper bearing and anchorage.
- 2.10 Studs from floor above must bear directly over joists. If not, a structural member (designed accordingly) is required on top of joist for proper bearing.
- 2.11 All headers/built-up beams are to be constructed with UNPUNCHED material only!
- 2.12 Splicing of headers is not allowed, unless otherwise stated within this drawing package.
- 2.13 If additional holes are required in the metal studs or joists, contact a licensed professional engineer for guidance before cutting holes.
- 2.14 Per the AISI Standard for Cold-Formed Framing Wall Design, the maximum allowable gap (measured between the web of the stud and the web of the track) for a stud seated in a track is 1/4" for non-axial load bearing conditions and 1/8" for axial load bearing conditions (U.N.O.). Pressure should be applied to nest the studs into the tracks until the tolerances listed above are achieved. Failure to do so could result in serviceability problems in the future.

# 3.00 JOIST AND RAFTER

- 3.01 Joist or rafter member must bear directly over stud. If not, a structural member (designed accordingly) is required on top of runner track for proper bearing and anchorage.
- 3.02 All splice requirements for joists and rafters must be determined through engineering analysis.
- 3.03 All field holes must be reinforced. No notching or coping of joists or rafters is allowed unless stated in this shop drawing package.
- 3.04 Joist or rafter bridging must be installed at the time the floor or roof is erected. Failure to install bracing at this time may compromise the structural integrity of the building.

#### 4.00 SUBMITTAL

- 4.01 This drawing package is being submitted for approval only. Any materials ordered or constructed based on this drawing package prior to final approval from the Architect and Engineer-of-Record is at the risk of the Framing Contractor. Framing Contractor is advised to obtain final approved drawing package prior to ordering material and/or construction. CDES is not responsible for Framing Contractor proceeding without a final approved drawing package.
- 4.02 Drawings submitted without an engineers signature and seal are preliminary and for review only. Preliminary drawings should not be submitted for approval. It is intended that the preliminary drawing be reviewed by the Framing Contractor and returned with comments prior to finalizing a signed and sealed approval drawing package for approval. If an unsigned and sealed drawing package is mistakenly submitted for approval, please notify CDES.
- 4.03 Submittal process is as follows: CDES shall submit this drawing package for approval. The Framing Contractor is responsible for submission to the relevant parties per his contract requirements. Upon returned submittal from all relevant parties, Framing Contractor shall forward a copy of this drawing package with comments and approvals to CDES. Failure to follow this process completely and in a timely manner, releases CDES from any and all claims and design
- 4.04 For all conditions listed herein and/or required for this project, it is the General Contractor's, Architect's, and the EOR's responsibility to mark drawings according to actual design requirements, coordination with other Work, and differing field conditions that exist at time of initial creation of this drawings package.
- 4.05 The contents of this shop drawing submittal show the intended application of cold formed components and the connections of these components to each other and to the primary structure. The construction methodology chosen, field framed or shop fabricated, is a decision that is made by others and not by CDES. If the option for shop fabrication or panelization should be chosen as the construction methodology, any and all drawings related to fabrication of such panels should be considered as a separate submittal from this shop drawing package.

#### 5.00 CONNECTIONS

- 5.01 All screw connections are based on NASPEC section E4, which outlines the AISI specification provisions for screw connections.
- 5.02 For screws a minimum of 1.5 x screw diameter clearance must be maintained from all edges of the steel members. A minimum of 3.0 x screw diameter on-center spacing must be maintained between adjacent screws.
- 5.03 Power driven fastener systems, expansion anchor systems, masonry screw systems, and adhesive anchor systems connections are based on literature published by ITW Ramset. Please refer to manufacturer's literature for fastener requirements (e.g. spacing, edge distance, base material thickness, etc.). Alternate manufacturer's fasteners of comparable specifications and load capacities are acceptable.
- 5.04 If required, all welded connections are to be performed in accordance with the latest version of AWS D1.3 specifications for Welding Sheet Steel in Structures. Consult AWS D19.0 Welding Zinc Coated Steel and ANSI standard Z49.1 for information regarding safe welding procedures.
- 5.05 Minimum weld throat thickness (t) must match or exceed the base steel thickness of the thinnest connected part unless noted otherwise.
- 5.06 In welding, the zinc coating on steel framing will be burned away; therefore, a zinc rich paint must be applied to the weld area to provide corrosion resistance.
- 5.07 Framing design assumes all cladding is uniformly laterally attached to each framing member and is limited to a uniform distribution of load to the framing member. The design does not include review of the effects of local forces resulting from the attachment of any cladding (brick ties, attachment clips, etc.).
- 5.08 All window and door units are assumed to apply load to the surrounding metal framing uniformly unless differing information is provided.
- 5.09 Drift connection necessity to allow for primary structure movement is the responsibility of the Engineer-of-Record. If the contract documents do not indicate this requirement, this drawing package will not include drift connections.

## 6.00 STEEL FRAMED TRUSSES

- 6.01 All trusses are to be constructed using UNPUNCHED material. Splice requirements are to be determined through engineering analysis.
- 6.02 Truss bracing shall be installed at the time the roof is erected. Failure to install bracing at this time may compromise the structural integrity of the building.
- 6.03 Roof diaphragm design is the responsibility of the engineer of record.
- 6.04 When fabricating, handling, transporting, and erecting metal trusses, care should be taken so that members and/or connection plates do not kink, and do not experience permanent deformation and/or buckling.
- 6.05 It is the responsibility of the truss installer to properly receive, unload, store, handle, install and properly brace, temporarily and permanently, steel trusses to protect life and property. It is assumed that the truss installer has sufficient experience and knowledge in this regard. If seeking more information about truss installation, the installer is referred to HIB-91 which is published by TPI (phone: 608-833-5900). Since HIB-91 is for wood trusses, the installer will have to draw on past experience and knowledge to adapt the TPI recommendations to steel trusses. Additional information may be obtained from Steel Truss & Component Association (STCA) @ www.steeltruss.org or phone (608)268-1031.

#### 7.00 GENERAL

- 7.01 Design performed in accordance with the AISI "Specification for the Design of Cold Formed Steel Structural Members".
- 7.02 Dimensions shown in this shop drawing package are for design reference only. Contract Drawings should be used in determining exact distances and all conditions should be field verified before erection. Plan view layout and/or Elevation in this drawing package are for general conformance only. Framing Contractor is directed to the Contract Drawings for specific section callouts, façade requirements, and any other details not shown herein. ClarkDietrich Engineering Services (CDES) is not responsible for additional requirements or similar section references that conflict with the Contract Drawings.
- 7.03 CDES does not assume any responsibility for the adequacy of the primary structure and foundation design.
- 7.04 Contents of this drawing package show the intended application of cold-formed components. Framing Contractor is to refer to the project contract documents for additional construction assembly requirements.
- 7.05 All connections shall be complete as per the plans and specifications at the time of installation. Failure to promptly complete connections may compromise the structural integrity of the building.
- 7.06 Unless noted otherwise, gravity load of brick over windows is assumed to be supported by others. The cold-formed framing is not designed to support these loads.
- 7.07 Precautions must be taken to avoid construction loads exceeding design live loads. Construction loads have not been considered in these recommendations.
- 7.08 CDES's recommendations are minimum requirements of AISI member sizes that are adequate for the given loading conditions as specified in the Design Assumptions; heavier gauges may be substituted.
- 7.09 Unless noted otherwise in this drawing package, CDES interprets all concrete and roof edge angles to be structural with a minimum thickness of 0.25-in. Fastener and connection performance is based on this interpretation.
- 7.10 CDES interprets all concrete to be at least 3000-psi, unless noted otherwise in this drawing package or in the accompanying calculation set.
- 7.11 CDES interprets specifications that have a requirement for a specialty engineer to provide shop drawings that include signed and sealed calculations and drawings by a Professional Engineer, to mean that the Architect and EOR are giving CDES design responsibility for the cold-formed metal framing. Should the Architect and/or EOR mark-up CDES's design in a manner that is not consistent with given design limitations, standards, and/or CDES's recommendations, then CDES is released from design responsibility and liability for this project.
- 7.12 Conflicting or missing information on the Contract Drawings will be noted in this drawing package for clarification during the review and approval process. Any information that is not noted herein as conflicting or missing does not relieve all reviewing parties from providing such information. CDES is not responsible to note all conflicting or missing information and does not purport to have included all conditions that are in conflict or missing in this drawing package. The Framing Contractor is advised to completely review the Contract Drawings and compare to this drawing package for conflicting and/or missing information prior to ordering material and/or construction.
- 7.13 For specific requirements and warranty information on systems or materials connected and appurtenant to the cold-formed framing including but limited to windows, caulking and flashing, refer to manufacturer's data. The integrity of the building envelope, including but not limited to siding, flashing, fasteners, etc, to prevent water penetration and or damage, is not the responsibility of CDES. CDES assumes no responsibility for the proper construction and/or function of the total architectural assembly.
- 7.14 Calculations and shop drawings included in this technical recommendation do not take into consideration the overall lateral stability of the structure. It is the responsibility of others to design the shearwalls, diaphragm, and all relevant connections to complete the building load path.

# 8.00 FASTENERS & CONNECTORS

CONNECTOR SUBSTRATE		DESCRIPTION	PRODUCT	
SCREWS	METAL TRACK	#10-16 x 5/8" PAN HEAD	BUILDEX "TEKS" COMPASS "DARTS" GRABBER SELF DRILLING	
	STUD-TO- STUD	#10-16 x 5/8" HEX HEAD	BUILDEX "TEKS" COMPASS "DARTS" GRABBER SELF DRILLING	
	METAL-TO- STRUC. STEEL	#12-24 x 1-1/4" HEX HEAD, #5 TIP	BUILDEX "TEKS" HILTI KWIK-PRO	
	WOOD FRAMING OR PLYWOOD	#14-20 x 2-3/4" PHILLIPS FLAT HEAD, #4 WINGS	BUILDEX "TEKS" HILTI KWIK-PRO	
P.D.F.'s	CONCRETE OR GROUTED CMU	0.145"ø x 1−1/4"	ITW RAMSET 1500 SERIES	
	STRUCTURAL STEEL	0.145"ø x 1/2"	ITW RAMSET 1500 SERIES KNURLED	

\*\* PRODUCTS BY OTHER MANUFACTURERS MAY BE ACCEPTABLE, PLEASE CONTACT OUR OFFICE OR SUBMIT PRODUCT DATA.

# DESIGN ASSUMPTIONS

Chicago, Illinois Location: Chicago Building Code 2009 Design Based on:

NOTE: ARCH/E.O.R. PLEAŚE VERIFY.

Wind Load: Components and Cladding

Components & Cladding = 25.0 psf Away from Corners 30.0 psf At Corners 40.0 psf At Parapet Main Wind Force = 20.0 psf Roof Net Uplift = 10.0 psf

**Gravity Loads** Wall Dead Load = Roof Dead Load = Roof Live Load =

Snow Loads

Snow Load =

**Deflection Criteria** Exterior Walls =

This Drawing Package is based on Contract Drawing Set:

- Architectural Drawings: Revision: 7

- Structural Drawings: Revision: 8 Dated: 7/8/2013 12.0 psf

15.0 psf 30.0 psf

25.0 psf + Drifting Snow

L/360

Dated: 3/25/2013

(Arch/EOR/GC: Please confirm this is the latest set)

8.02 The following are examples of ClarkDietrich Building Systems Connector identification used herein:

Support Clip & Clip Angle Product Identification S 54 5 LEG LENGTH MATERIAL THICKNESS. CLIP LENGTH -

Support Clip Leg Lengths -S = 1-1/2" x 1-1/2" E = 1-1/2" x 4" Clip Angle Leg Lengths -U = 1-1/2" x 1-1/2" X = 2"  $\times 2$ "

All slide clips, support clips and clip angles are 50ksi., unless noted otherwise.

# **SHEET INDEX**

LSF-1.0 LSF-2.0 LSF-3.0 to 3.1 LSF-4.0 to 4.1 LSF-4.10 LSF-5.0 to 5.1

GENERAL NOTES FRAMING PLANS WALL SECTIONS **OPENING FRAMING** SHEARWALL FRAMING FRAMING DETAILS

McDonough, GA 30253 Crown Point, IN 46307 780 James P. Casey Road

20 Mansell Court East, Suite 350E Roswell, GA 30076

330 Greenwood Place

262 Rutherford Road, Suite 104 Carlsbad, CA 92008

toll free 877.832.3206 fax 877.832.3208

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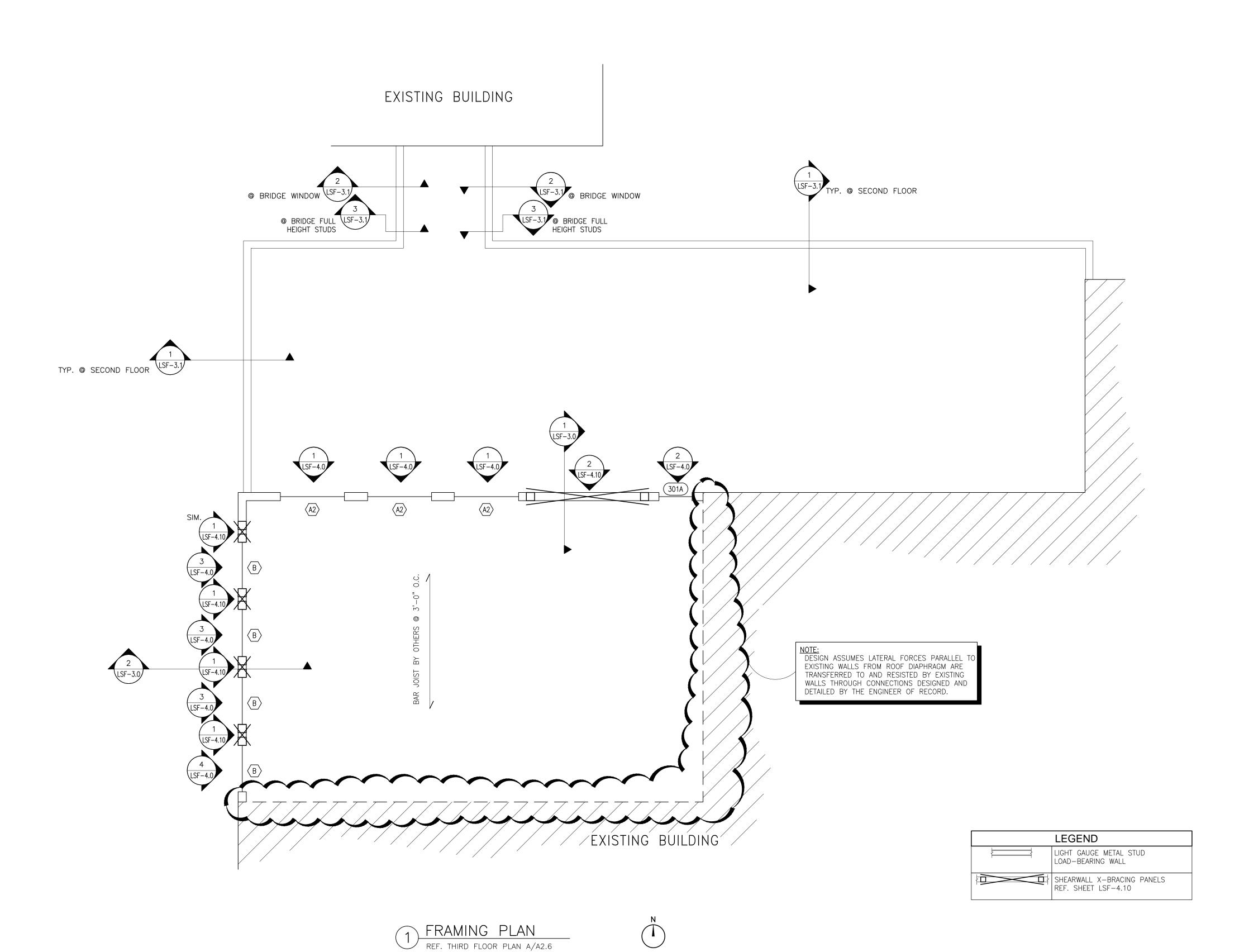
Prepared For: The Levy Company CDES Project Manager Matt Mancl, P.E. (t) (877) 832-3206 (f) (877) 832-3208 ClarkDietrich Sales: Rich Satler

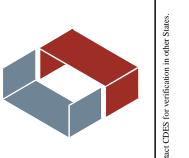
(t) (847) 922-5968 (f) (708) 326-4907

Drawn: Engineer: Reviewed: JGH | JGH | CAC

11/27/2013 Project Number: 2415132236-0

**GENERAL NOTES** & SHEET INDEX





CDES Office Locations: 20 Mansell Court East, Suite 350B Roswell, GA 30076

> 330 Greenwood Place McDonough, GA 30253

2100 North Main Street, Suite 304 Crown Point, IN 46307 780 James P. Casey Road

2262 Rutherford Road, Suite 104 Carlsbad, CA 92008

toll free 877.832.3206 fax 877.832.3208

Prepared For:
The Levy Company
3925 Commercial Avenue
Northbrook, Illinois
(t) (847) 564-8950
(f) (847) 564-2987
Randy Brill

CDES Project Manager: Matt Mancl, P.E. (t) (877) 832-3206 (f) (877) 832-3208 matt.mancl@clarkdietrich.com

> ClarkDietrich Sales: Rich Satler (t) (847) 922-5968 (f) (708) 326-4907 rsatler@clarkdietrich.com

Revisions

Drawn: Engineer: Reviewed: JGH JGH CAC

11/27/2013

Project Number: 2415132236-0

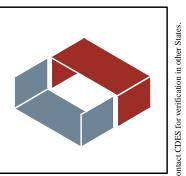
FRAMING

**PLANS** 

LSF-2.0

#### **GENERAL NOTES:**

- 1) — INDICATES LATERAL WALL BRIDGING AT 4'-0" O.C.(MAX) PER DETAIL 1/LSF-5.0 (U.N.O.).
- 2) FOR CONNECTIONS OCCURRING AT KNOCKOUTS, SEE REINFORCEMENT DETAIL 2/LSF-5.0
- 3) ALL TRACKS ARE TO BE 600T125-43 (33ksi) W/ (1) #10-16 SCREW PER STUD FLANGE PER DETAIL 3/LSF-5.0
- DIMENSIONS AND ELEVATIONS.



CDES Office Locations: 20 Mansell Court East, Suite 350B

Roswell, GA 30076 330 Greenwood Place

McDonough, GA 30253 100 North Main Street, Suite 304

Crown Point, IN 46307 780 James P. Casey Road

Bristol, CT 06010 2262 Rutherford Road, Suite 104

Carlsbad, CA 92008 toll free 877.832.3206

fax 877.832.3208

Clark Dietrich, ENGINEERING SERVICES

The Levy Company
3925 Commercial Avenue
Northbrook, Illinois
(t) (847) 564-8950
(f) (847) 564-2987
Randy Brill

CDES Project Manager: Matt Mancl, P.E. (t) (877) 832-3206 (f) (877) 832-3208 matt.mancl@clarkdietrich.com ClarkDietrich Sales: Rich Satler

(t) (847) 922-5968 (f) (708) 326-4907 rsatler@clarkdietrich.com Revisions

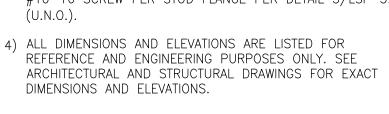
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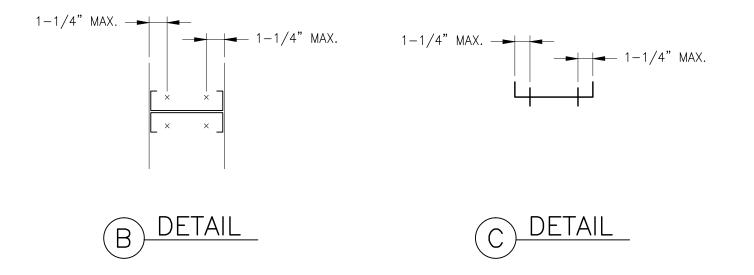
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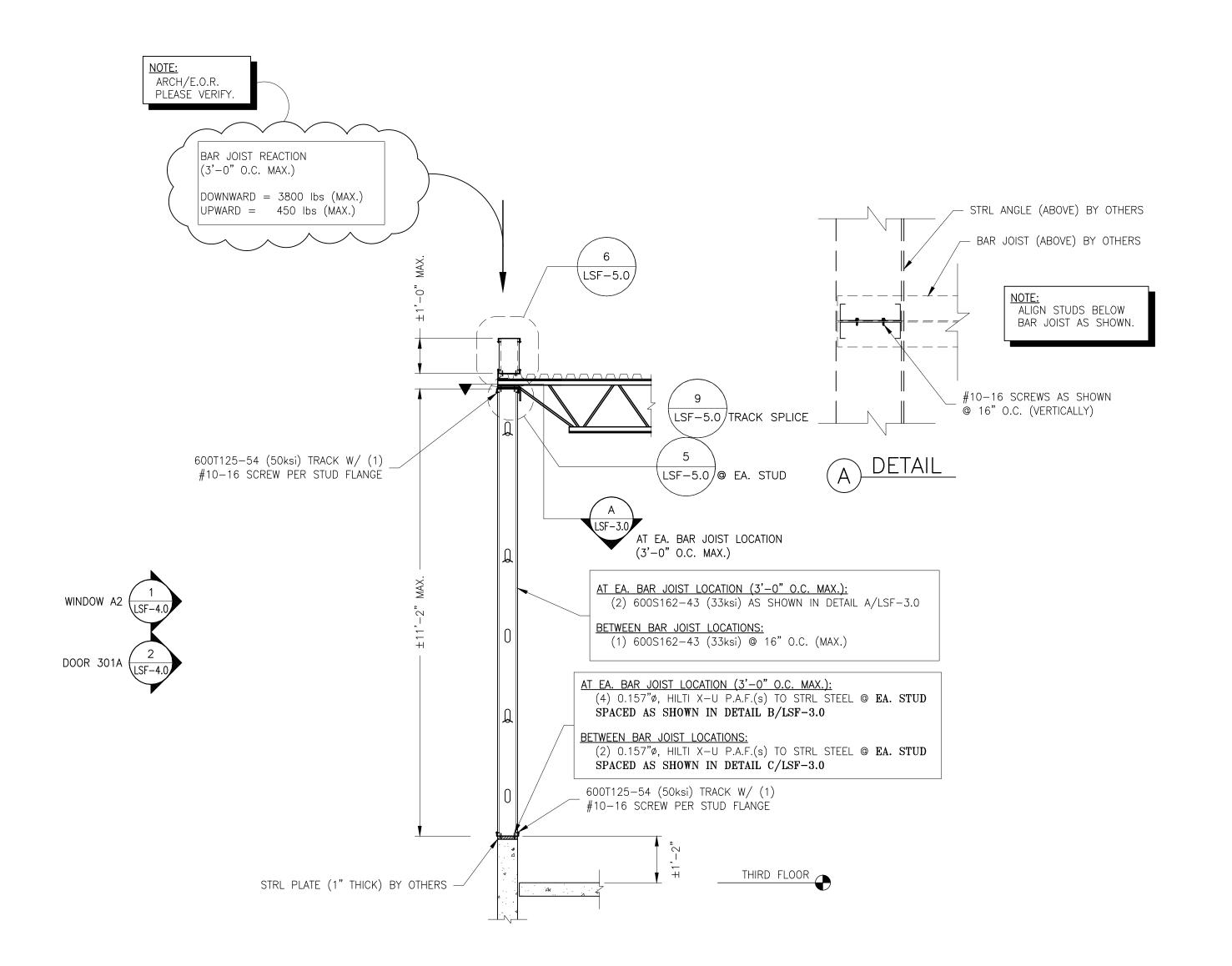
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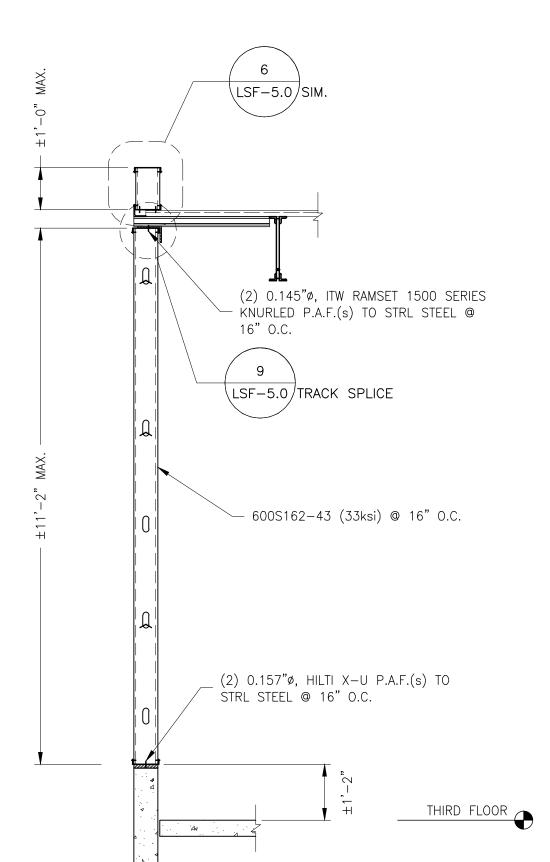
Sheet Title: WALL SECTIONS

LSF-3.0









WALL SECTION

REF. SECTION A/LSF-5.1 SIM.

AT THIRD FLOOR CLASSROOM NON-LOAD BEARING STUD

WALL SECTION REF. SECTION A/LSF-5.1

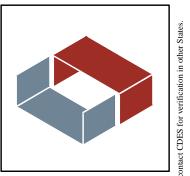
AT THIRD FLOOR CLASSROOM LOAD-BEARING STUD

#### **GENERAL NOTES:**

- 1) — INDICATES LATERAL WALL BRIDGING AT 4'-0" O.C.(MAX) PER DETAIL 1/LSF-5.0 (U.N.O.).
- 2) FOR CONNECTIONS OCCURRING AT KNOCKOUTS, SEE REINFORCEMENT DETAIL 2/LSF-5.0
- 3) ALL TRACKS ARE TO BE 600T125-43 (33ksi) W/ (1) #10-16 SCREW PER STUD FLANGE PER DETAIL 3/LSF-5.0 (U.N.O.).
- 4) ALL DIMENSIONS AND ELEVATIONS ARE LISTED FOR REFERENCE AND ENGINEERING PURPOSES ONLY. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT DIMENSIONS AND ELEVATIONS.

HANDRAIL SYSTEM BY OTHERS

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CDES Office Locations:

20 Mansell Court East, Suite 350B
Roswell GA 30076

Roswell, GA 30076 330 Greenwood Place

McDonough, GA 30253 2100 North Main Street, Suite 304

Crown Point, IN 46307
780 James P. Casey Road

Bristol, CT 06010

2262 Rutherford Road, Suite 104

Carlsbad, CA 92008 toll free 877.832.3206 fax 877.832.3208

FL COA # 29491 TX COA # F-13378

kDietrich.

VEERING SERVICES

Aurch & Academy

Clark Die Engineering Saint Luke Church &

Prepared For: The Levy Company

3925 Commercial Avenue
Northbrook, Illinois
(t) (847) 564-8950
(f) (847) 564-2987
Randy Brill

CDES Project Manager:
Matt Mancl, P.E.
(t) (877) 832-3206

Matt Mancl, P.E.
(t) (877) 832-3206
(f) (877) 832-3208
matt.mancl@clarkdietrich.com

ClarkDietrich Sales:
 Rich Satler
(t) (847) 922-5968
(f) (708) 326-4907
rsatler@clarkdietrich.com

Revisions

Drawn: Engineer: Reviewed:

JGH JGH CAC

Date:

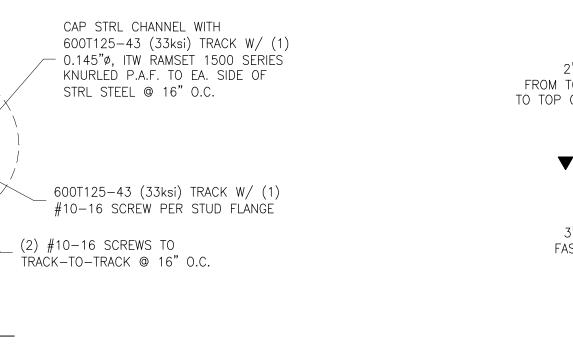
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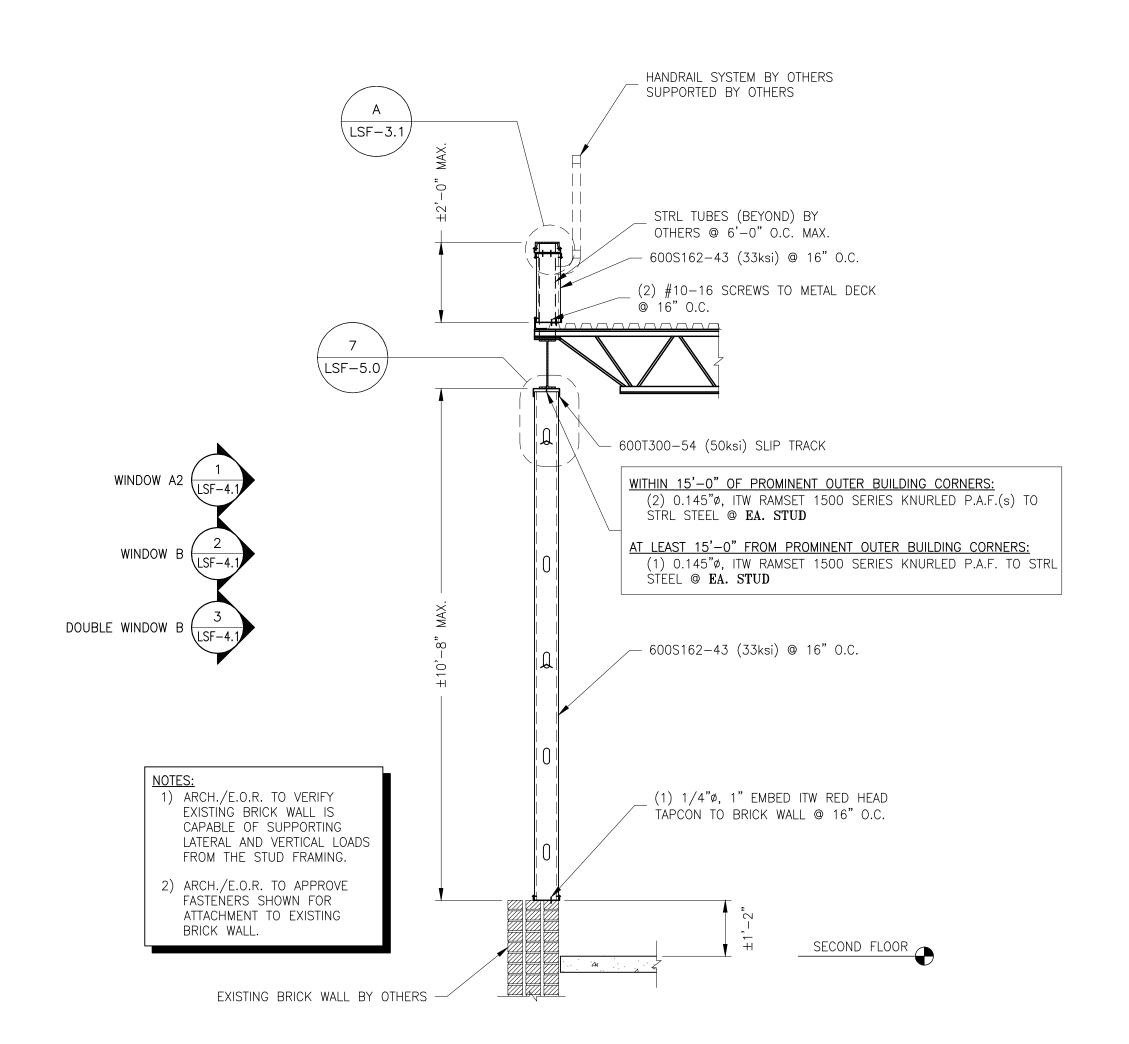
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WALL

SECTIONS
heet No.

LSF-3.1

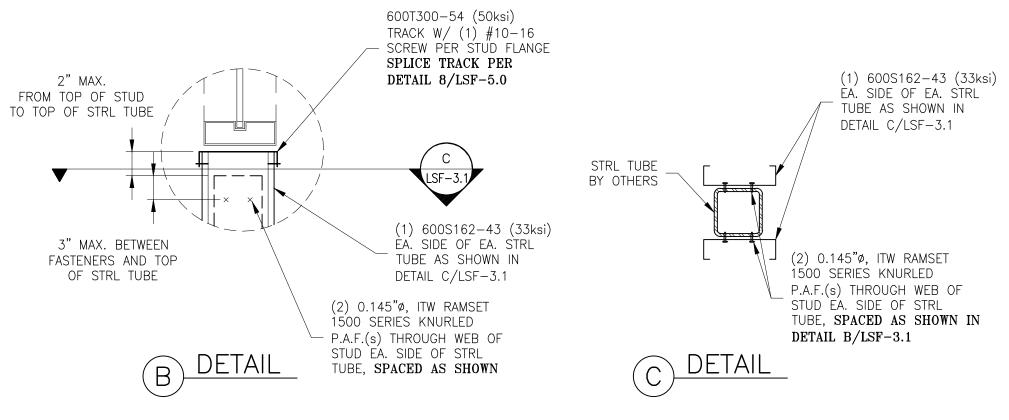


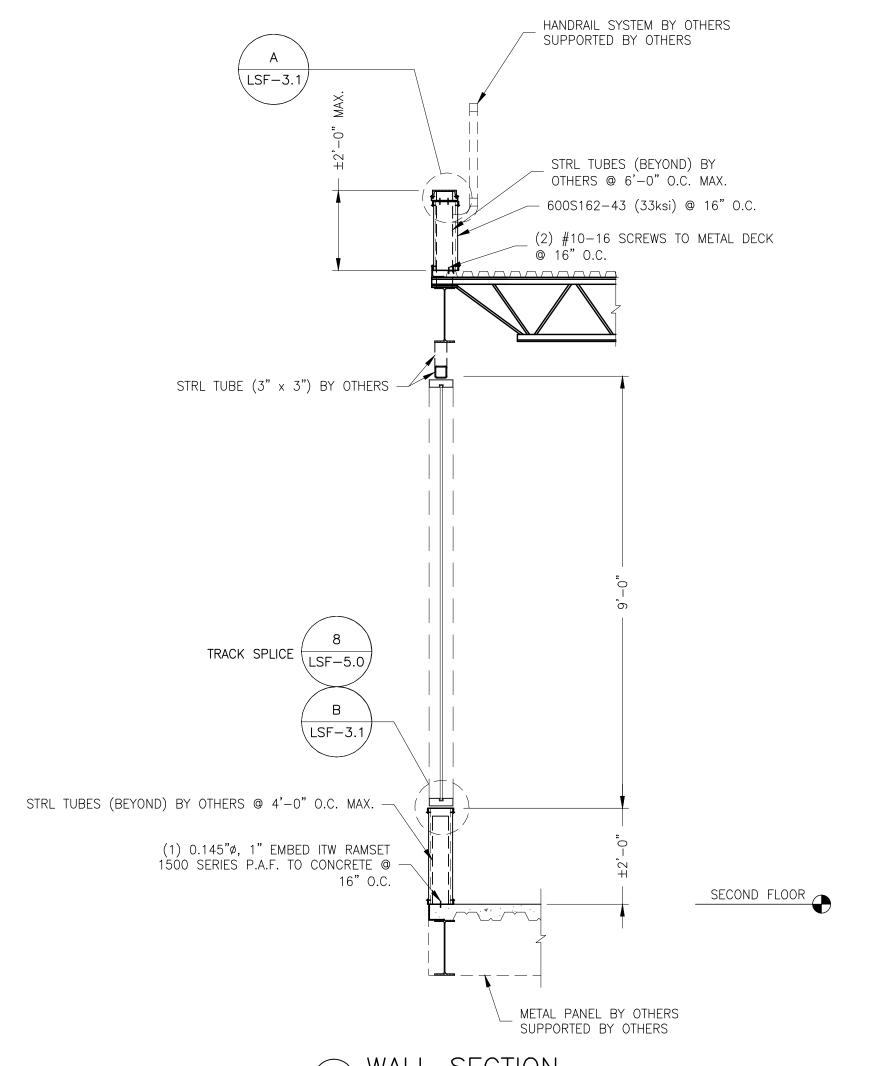


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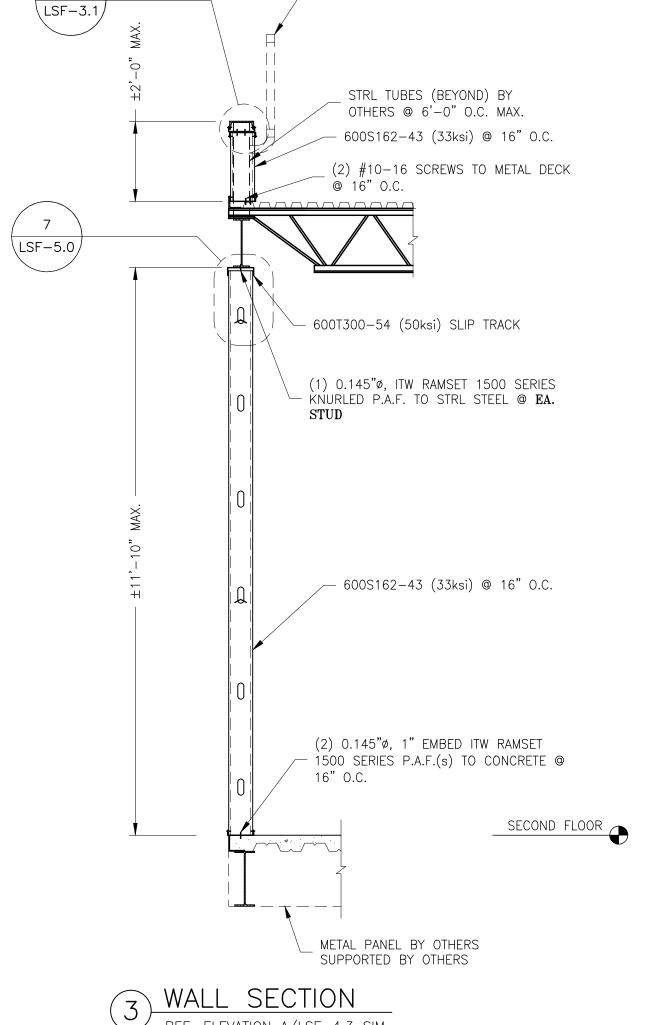
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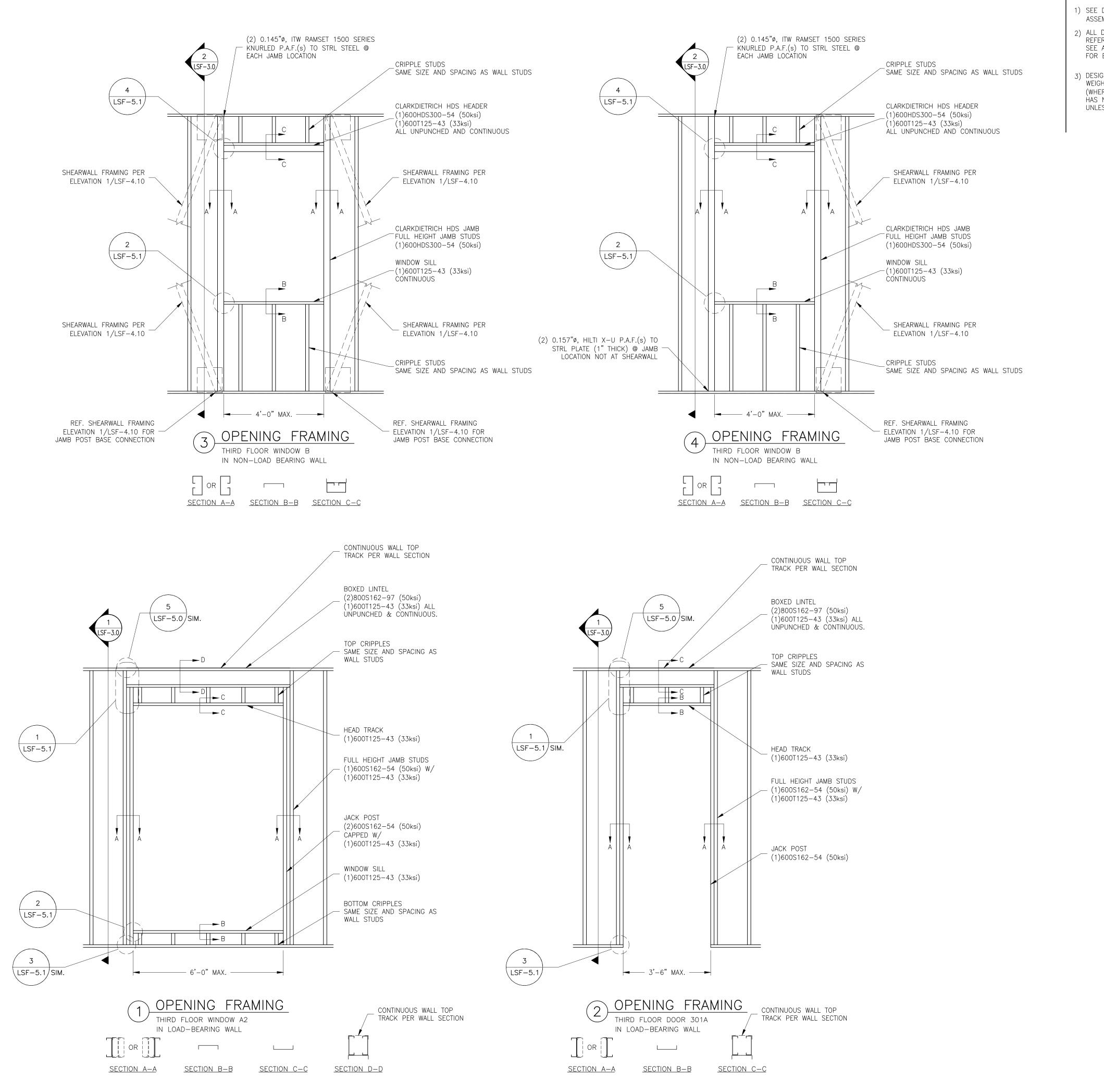






REF. ELEVATION A/LSF-4.3 SIM.

SECTION THROUGH BRIDGE FULL HEIGHT STUD



**GENERAL NOTES:** 

1) SEE DETAIL 4/LSF-5.0 FOR GENERAL JAMB ASSEMBLY INFORMATION (U.N.O.).

) ALL DIMENSIONS AND ELEVATIONS ARE LISTED FOR REFERENCE AND ENGINEERING PURPOSES ONLY. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT DIMENSIONS AND ELEVATIONS.

) DESIGN ASSUMES LOOSE LINTELS SUPPORTING THE WEIGHT OF MASONRY VENEER ACROSS THE OPENING (WHERE APPLICABLE). THE COLD-FORMED FRAMING HAS NOT BEEN DESIGNED TO SUPPORT THIS WEIGHT UNLESS SPECIFICALLY NOTED OTHERWISE.

CDES Office Locations: 20 Mansell Court East, Suite 350B

Roswell, GA 30076 330 Greenwood Place McDonough, GA 30253

100 North Main Street, Suite 304 Crown Point, IN 46307

780 James P. Casey Road Bristol, CT 06010

2262 Rutherford Road, Suite 104 Carlsbad, CA 92008

toll free 877.832.3206 fax 877.832.3208

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The Levy Company 3925 Commercial Avenue Northbrook, Illinois (t) (847) 564-8950 (f) (847) 564-2987 Randy Brill

CDES Project Manager: Matt Mancl, P.E. (t) (877) 832-3206 (f) (877) 832-3208 matt.mancl@clarkdietrich.com ClarkDietrich Sales: Rich Satler

(t) (847) 922-5968 (f) (708) 326-4907 rsatler@clarkdietrich.com Revisions

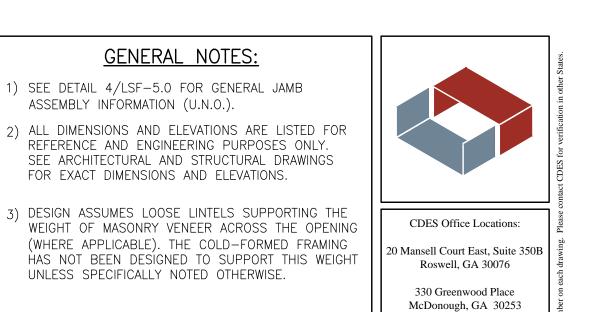
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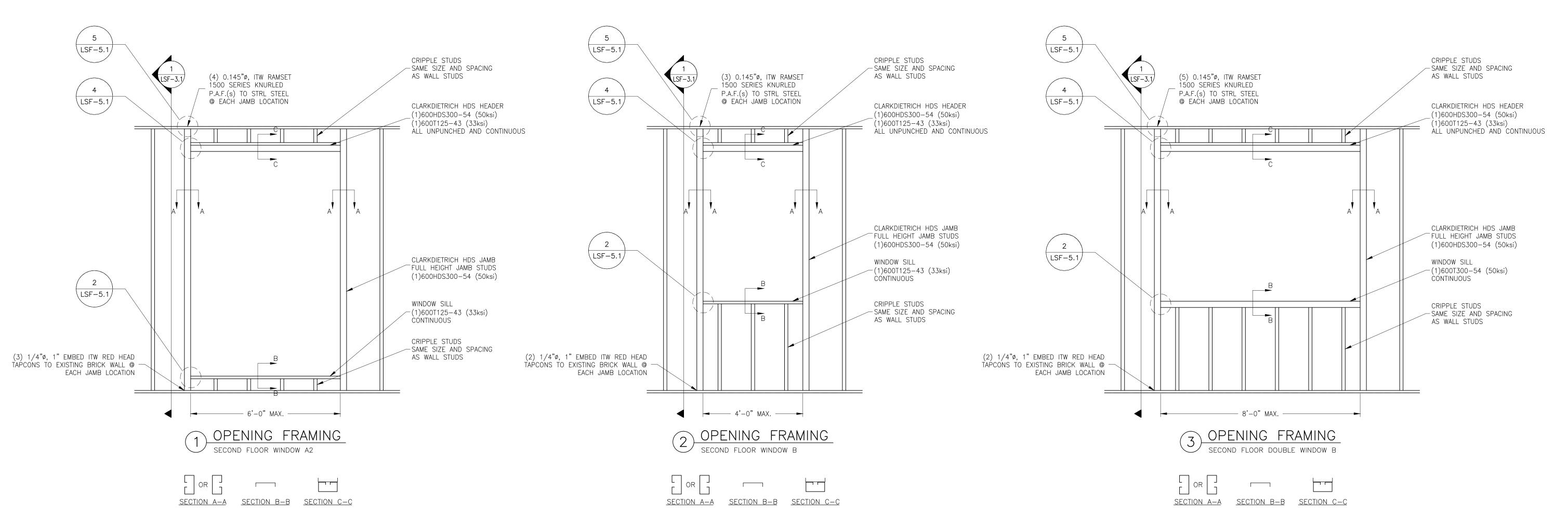
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Project Number:

2415132236-0

OPENING FRAMING





2100 North Main Street, Suite 304 Crown Point, IN 46307

780 James P. Casey Road

780 James P. Casey Road Bristol, CT 06010

Carlsbad, CA 92008

2262 Rutherford Road, Suite 104

toll free 877.832.3206 fax 877.832.3208

3378

FL COA # 29491 TX COA # F-13378

Clark Dietrich.

ENGINEERING SERVICES

Luke Church & Academy

Prepared For:
The Levy Company
3925 Commercial Avenue
Northbrook, Illinois
(t) (847) 564-8950
(f) (847) 564-2987
Randy Brill

CDES Project Manager:
Matt Mancl, P.E.
(t) (877) 832-3206
(f) (877) 832-3208
matt.mancl@clarkdietrich.com

ClarkDietrich Sales:
Rich Satler

(t) (847) 922-5968 (f) (708) 326-4907 rsatler@clarkdietrich.com

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Drawn: Engineer: Reviewed:

JGH JGH CAC

ate: 11/27/2013

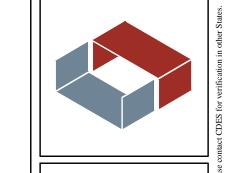
Project Number: 2/15132236-0

2415132236-0 Sheet Title:

> OPENING FRAMING

LSF-4.1

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McDonough, GA 30253

2100 North Main Street, Suite 304 Crown Point, IN 46307 780 James P. Casey Road Bristol, CT 06010

2262 Rutherford Road, Suite 104 Carlsbad, CA 92008 toll free 877.832.3206

fax 877.832.3208

Clark Dietrich



Prepared For:
The Levy Company
3925 Commercial Avenue
Northbrook, Illinois
(f) (847) 564-8950
(f) (847) 564-2987
Randy Brill

CDES Project Manager:
Matt Mancl, P.E.
(t) (877) 832-3206
(f) (877) 832-3208
matt.mancl@clarkdietrich.com ClarkDietrich Sales:
Rich Satler
(t) (847) 922-5968
(f) (708) 326-4907
rsatler@clarkdietrich.com

Revisions

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11/27/2013

Project Number:

2415132236-0

SHEARWALL

FRAMING

