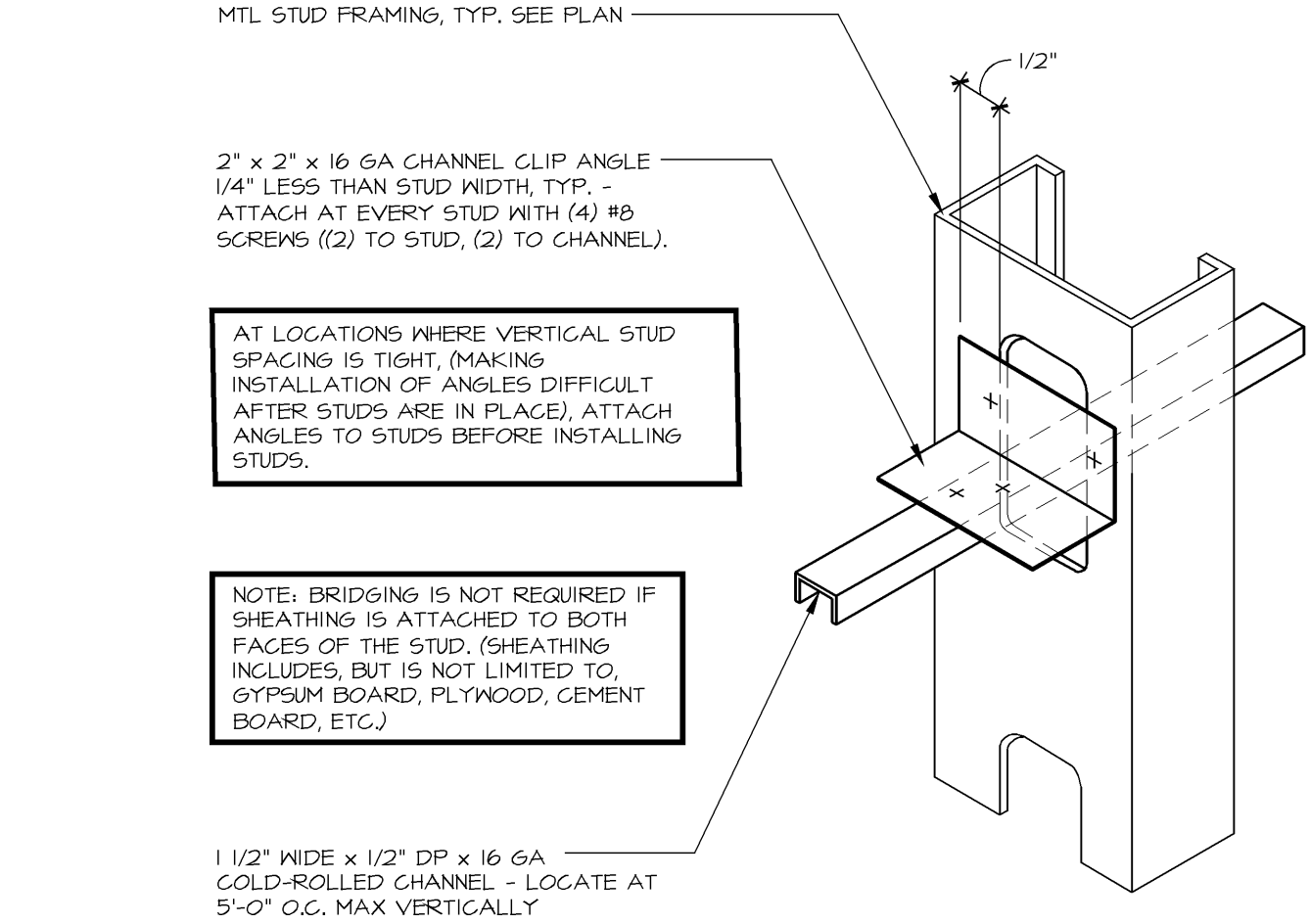


LIGHT GAGE FRAMING - CROSS REFERENCE GUIDE			
MIL. THICKNESS - GAGE NUMBER CROSS REFERENCE			
25 GA. ----- 18 MIL	16 GA. ----- 54 MIL		
22 GA. ----- 27 MIL	14 GA. ----- 48 MIL		
20 GA. ----- 33 MIL	12 GA. ----- 47 MIL		
18 GA. ----- 43 MIL			
EXAMPLE CROSS REFERENCE:			
3 5/8", 18 GA STRUCTURAL METAL STUD = 362 S 162 - 43 METAL STUD			
STUD (S=STUD) DEPTH (T=TRACK) #3.625" #3 5/8"	FLANGE WIDTH #1.625" #1 5/8"	STUD THICKNESS #43 MIL (18 GA.)	
TYPICAL STRUCTURAL STUDS AND TRACKS			
FORMER STANDARD DESIGNATION		NEW SSMA DESIGNATION (STEEL STUD MANUFACTURERS ASSOCIATION)	
2 1/2", 20 GA. STUD w/ 1 5/8" FLANGE		250S162-33	
2 1/2", 18 GA. STUD w/ 1 5/8" FLANGE		250S162-43	
3 5/8", 20 GA. STUD w/ 1 5/8" FLANGE		362S162-33	
3 5/8", 18 GA. STUD w/ 1 5/8" FLANGE		362S162-43	
6", 20 GA. STUD w/ 1 5/8" FLANGE		600S162-33	
6", 18 GA. STUD w/ 1 5/8" FLANGE		600S162-43	
8", 18 GA. STUD w/ 1 5/8" FLANGE		800S162-43	
8", 16 GA. STUD w/ 1 5/8" FLANGE		800S162-54	
10", 18 GA. STUD w/ 1 5/8" FLANGE		1000S162-43	
10", 16 GA. STUD w/ 1 5/8" FLANGE		1000S162-54	
12", 16 GA. STUD w/ 1 5/8" FLANGE		1200S162-54	
12", 12 GA. STUD w/ 1 5/8" FLANGE		1200S162-47	
1 5/8", 22 GA. TRACK w/ 1 1/4" LEG		162T125-27	
1 5/8", 20 GA. TRACK w/ 1 1/4" LEG		162T125-33	
2 1/2", 20 GA. TRACK w/ 1 1/4" LEG		250T125-33	
2 1/2", 20 GA. TRACK w/ 2" LEG		250T200-33	
2 1/2", 18 GA. TRACK w/ 1 1/4" LEG		250T125-43	
2 1/2", 18 GA. TRACK w/ 2" LEG		250T200-43	
3 5/8", 20 GA. TRACK w/ 1 1/4" LEG		362T125-33	
3 5/8", 20 GA. TRACK w/ 2" LEG		362T200-33	
3 5/8", 18 GA. TRACK w/ 1 1/4" LEG		362T125-43	
3 5/8", 18 GA. TRACK w/ 2" LEG		362T200-43	
6", 20 GA. TRACK w/ 1 1/4" LEG		600T125-33	
6", 20 GA. TRACK w/ 2" LEG		600T200-33	
6", 18 GA. TRACK w/ 1 1/4" LEG		600T125-43	
6", 18 GA. TRACK w/ 2" LEG		600T200-43	
TYPICAL HAT (FURRING) CHANNELS			
7/8", 25 GA. FURRING CHANNEL		087F125-18	
7/8", 22 GA. FURRING CHANNEL		087F125-27	
LIGHT GAGE FRAMING SCREW CONNECTIONS			
UNLESS NOTED, LIGHT GAGE FRAMING CONNECTIONS SHALL BE MADE USING #8 SCREWS. SEE DETAIL J-502.1 FOR DIAGONAL BRACING CONNECTIONS.			
AT LOCATIONS WHERE SHEATHING MATERIAL IS PLACED AGAINST THE SCREW HEADS OF LIGHTGAGE METAL FRAMING CONNECTIONS, PANCAKE HEAD SCREWS SHALL BE USED SO THAT THE SHEATHING MATERIAL REMAINS STRAIGHT AND SMOOTH.			



#### BRIDGING DETAIL

N.T.S.	M
-	-

#### STRUCTURAL NOTES:

##### A. GENERAL

- THE FRAMING IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER CONSTRUCTION IS FULLY COMPLETED. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING CONSTRUCTION.
- THE CONTRACTOR IS SOLELY RESPONSIBLE TO FOLLOW ALL APPLICABLE SAFETY CODES, BUILDING CODES AND GOVERNING REGULATIONS WITH JURISDICTION OVER THE CONSTRUCTION SITE DURING ALL PHASES OF CONSTRUCTION.
- ANY FRAMING SHOWN ON DRAWINGS THAT SUPPORTS EQUIPMENT (WHETHER SUPPORTED ABOVE OR SUSPENDED BELOW), DESIGN LOADS, AND STRUCTURAL MEMBERS IN ANY MANNER RELATED TO HVAC REQUIREMENTS IS BASED ON EQUIPMENT DESIGNED, SHOWN AND/OR SPECIFIED IN THE CONSTRUCTION DOCUMENTS. ALL REQUIRED FRAMING MAY NOT BE SHOWN. USING THE DETAILS PROVIDED ON THE STRUCTURAL DRAWINGS, THE GENERAL CONTRACTOR AND SUB-CONTRACTORS AND/OR EACH PRIME CONTRACTOR MUST COORDINATE AND INSTALL THE ACTUAL FRAMING REQUIRED FOR THE EQUIPMENT TO BE INSTALLED, AND INCLUDE COSTS FOR ALL REQUIRED FRAMING IN THE BID. IF THE CONTRACTOR REQUESTS AND RECEIVES APPROVAL TO SUBSTITUTE EQUIPMENT, THE CONTRACTOR MUST ALSO INSTALL THE FRAMING REQUIRED FOR THE SUBSTITUTED EQUIPMENT AS WELL. WITHOUT ADDITIONAL COST TO THE PROJECT, INCLUDING ANY AND ALL FEES REQUIRED BY THE ARCHITECT AND/OR ENGINEERS TO RE-DESIGN AND REVISE THE CONSTRUCTION DOCUMENTS.
- SHOULD ANY OF THE DETAILED INSTRUCTIONS SHOWN ON THE PLANS CONFLICT WITH THESE STRUCTURAL NOTES, OR WITH EACH OTHER, THE STRICTEST PROVISION SHALL GOVERN.
- CONTROLLING BUILDING CODE: 2009 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (2009 INTERNATIONAL BUILDING CODE INCORPORATED BY REFERENCE)

##### 6. DESIGN CRITERIA

###### a. FLOOR LIVE LOADS

AREA (SQ. FT.) UNIFORM (PSF) CONCENTRATED (POUNDS)

DETAIL 100 1,000

b. ROOF LOADS

1. DESIGN ROOF LIVE LOAD (MINIMUM) 20 PSF

2. ROOF SNOW LOADS

a. GROUND SNOW LOAD 25 PSF

b. FLAT-ROOF SNOW LOAD 21 PSF

c. SNOW EXPOSURE FACTOR 1.1

d. SNOW LOAD IMPORTANCE FACTOR 1.0

e. THERMAL FACTOR 1.0

c. SEISMIC DESIGN CRITERIA

1. SEISMIC IMPORTANCE FACTOR 1.25

2. OCCUPANCY CATEGORY II

3. MAPPED SPECTRAL RESPONSE ACCELERATIONS

a. SHORT PERIODS 0.160

b. 1 SECOND PERIOD 0.053

4. SITE CLASS D (ASSUMED)

5. SPECTRAL RESPONSE COEFFICIENTS

a. DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS 0.171

b. DESIGN SPECTRAL RESPONSE ACCELERATION AT 1 SECOND PERIOD 0.065

6. SEISMIC DESIGN CATEGORY B

d. ALL FRAMING MEMBERS HAVE BEEN DESIGNED TO MEET THE CODE MINIMUM LIVE LOAD AND TOTAL LOAD DEFLECTION CRITERIA.

7. COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. SEE THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS NOT SHOWN. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE INTENDED TO ALIGN, NOT SUPERSEDE, THOSE SHOWN ON THE ARCHITECTURAL DRAWINGS. DO NOT SCALE THE DRAWINGS. DRAWINGS MAY NOT BE TO SCALE.

8. EXISTING BUILDINGS: INSTALL TEMPORARY SUPPORTS AND OTHER MEASURES AS REQUIRED TO PREVENT DAMAGE TO THE EXISTING BUILDING DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION AND FINAL CLEARANCE OF REQUIRED NEEDLES, SHORING, UNDERPINNING OR BRACING OF THE EXISTING BUILDING. FIELD VERIFY ALL EXISTING DIMENSIONS, ELEVATIONS AND CONDITIONS WHICH AFFECT THE NEW CONSTRUCTION PRIOR TO THE START OF WORK. EXISTING CONDITIONS SHOWN ON THE DRAWINGS ARE BASED ON THE ORIGINAL CONSTRUCTION DRAWINGS AND/OR OTHER AVAILABLE LIMITED INFORMATION PROVIDED BY THE OWNER AND/OR ARCHITECT AND HAVE NOT BEEN CONFIRMED, ARE NOT GUARANTEED AND MAY CONFLICT WITH THE NEW WORK REQUIRED. FIELD VERIFY THAT THE EXISTING FRAMING AFFECTED BY THE NEW WORK IS IN SOUND CONDITION AND DOES NOT DISPLAY VISIBLE SIGNS OF DISTRESS OR DETERIORATION OR HAS BEEN PREVIOUSLY MODIFIED OR ALTERED. IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE NEW WORK. BASED ON THE REPORTED FIELD CONDITIONS, THE ARCHITECT WILL SUBMIT SUPPLEMENTAL INSTRUCTIONS FOR ALL WORK (NEW OR EXISTING) REQUIRING MODIFICATION.

- ARCHITECTURAL ITEMS OR PREFABRICATED ITEMS SHOWN ON THE STRUCTURAL DRAWINGS ARE REFERENCED FOR GENERAL COORDINATION PURPOSES ONLY.
- TYPICAL REFERENCED ARCHITECTURAL ITEMS INCLUDE BUT MAY NOT BE LIMITED TO: DRAINS, DRAIN TILES, FINISHES, DOORS, WINDOWS, AND ITEMS FOR THERMAL AND MOISTURE PROTECTION. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR MATERIAL REQUIREMENTS, PLACEMENT AND EXACT LOCATION OF SUCH ITEMS.
- TYPICAL REFERENCED PREFABRICATED ITEMS INCLUDE BUT MAY NOT BE LIMITED TO: STAIRS, HANDRAILS, CURTAIN WALL/SUPPLEMENT SYSTEMS, PARTINGS, AND PREFABRICATED FRAMING. SUCH SYSTEMS SHALL BE DESIGNED, FURNISHED AND INSTALLED AS REQUIRED BY OTHER PORTIONS OF THE CONTRACT DOCUMENTS.

##### B. STRUCTURAL STEEL

- ALL STEEL CONSTRUCTION SHALL COMPLY WITH THE LATEST, ADOPTED EDITIONS OF THE STANDARDS AND MATERIAL SPECIFICATIONS REFERENCED HEREIN.

##### 2. REFERENCE STANDARDS

- AISI/AISC 360, "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC. (AISC).
- AISC 303, "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC. (AISC).
- AWS D1.1, "STRUCTURAL WELDING CODE" BY THE AMERICAN WELDING SOCIETY (AWS).

##### 3. MATERIALS

- ROLLED SHAPES (M, S, C AND MC), ANGLES, PLATES AND BARS: Fy = 36 KSI, ASTM A36.
- TENSORED RODS: ASTM A36, Fy = 36 KSI.
- NUTS: ASTM A563.
- WASHERS: ASTM F436.
- ELECTRODES: SERIES E70.

##### C. LIGHT GAGE FRAMING

- THE DESIGN, FABRICATION AND INSTALLATION OF ALL GOLD-FORMED STEEL FRAMING SHALL CONFORM TO THE LATEST, ADOPTED EDITIONS OF THE STANDARDS AND MATERIAL SPECIFICATIONS REFERENCED HEREIN.

##### 2. REFERENCE STANDARDS

- NAS, "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF GOLD-FORMED STEEL STRUCTURAL MEMBERS" BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI).
- AWS D1.3, "STRUCTURAL WELDING CODE-SHEET STEEL" BY THE AMERICAN WELDING SOCIETY (AWS).

##### 3. MATERIALS

- STUDS, HEADERS, JOISTS, TRACKS AND ACCESSORIES: ASTM A693.
- MINIMUM YIELD STRESS = 33 KSI FOR MATERIAL 18 GA. AND LIGHTER.
- MINIMUM YIELD STRESS = 50 KSI FOR MATERIAL 16 GA. AND HEAVIER.
- MINIMUM YIELD STRESS = 33 KSI FOR TRACKS AND ACCESSORIES.
- GALVANIZED COATING THICKNESS: 60 ZINC COATING.

- ALL GOLD FORMED MEMBERS SHALL COME FROM A SINGLE MANUFACTURER. "CLARK" OR EQUAL. THE INSTALLATION SHALL COMPLY WITH THE MANUFACTURER'S RECOMMENDATIONS.

- UNLESS NOTED, ALL 3 5/8" AND 6" DEEP STUDS AND TRACKS SHALL BE "DRYWALL" STUDS WITH PROPERTIES AS SHOWN IN DETAIL R/S02.1. NOTABLE EXCEPTION: ALL 6" TRACK BRACING IN WALLS AND CEILING SHOWN IN THE ARCHITECTURAL DRAWINGS SHALL BE 18 GAGE WITH 1 1/4" FLANGE.

- INSTALL LATERAL BRACING TO PREVENT STUD ROTATION PER DETAIL M/S01.1. USE THE MANUFACTURER'S RECOMMENDATIONS FOR SPACING EXCEPT USE MAXIMUM SPACING OF 5'-0".

- INSTALL CONTINUOUS TRACKS AT TOP AND BOTTOM OF ALL HEADERS.

- TOUGH-UP ALL WELDS WITH A GALVANIZING REPAIR PAINT MEETING THE REQUIREMENTS OF SSPC-PAINT 20.

- UNLESS NOTED, WALL TRACK GAGE SHALL EQUAL WALL STUD GAGE. DEEP LEG TRACK WITH 2" FLANGE WIDTH SHALL BE USED WHERE NOTED ON DRAWINGS.

- SEE DETAIL R/S01.1 FOR LIGHT GAGE METAL FRAMING DESIGNATIONS.

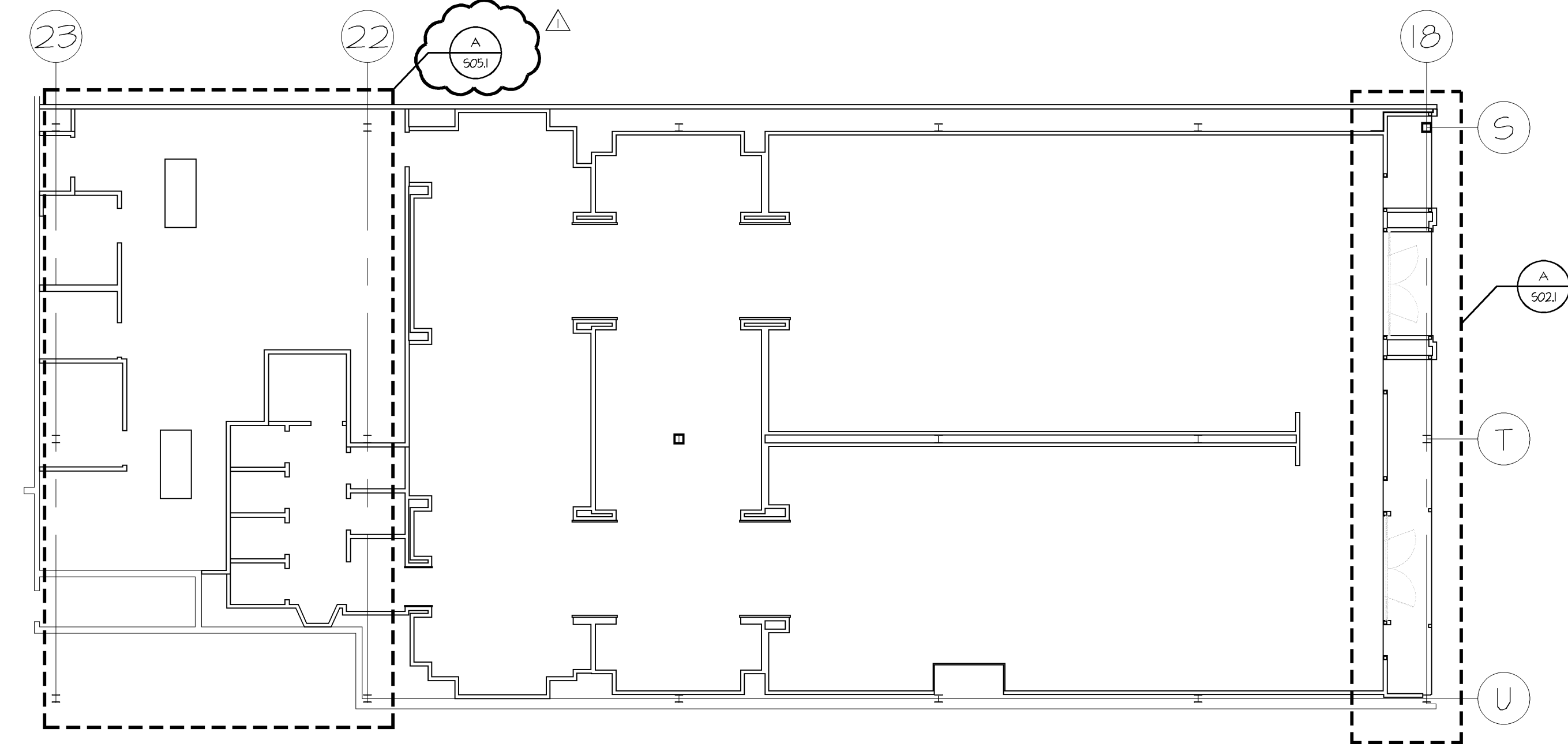
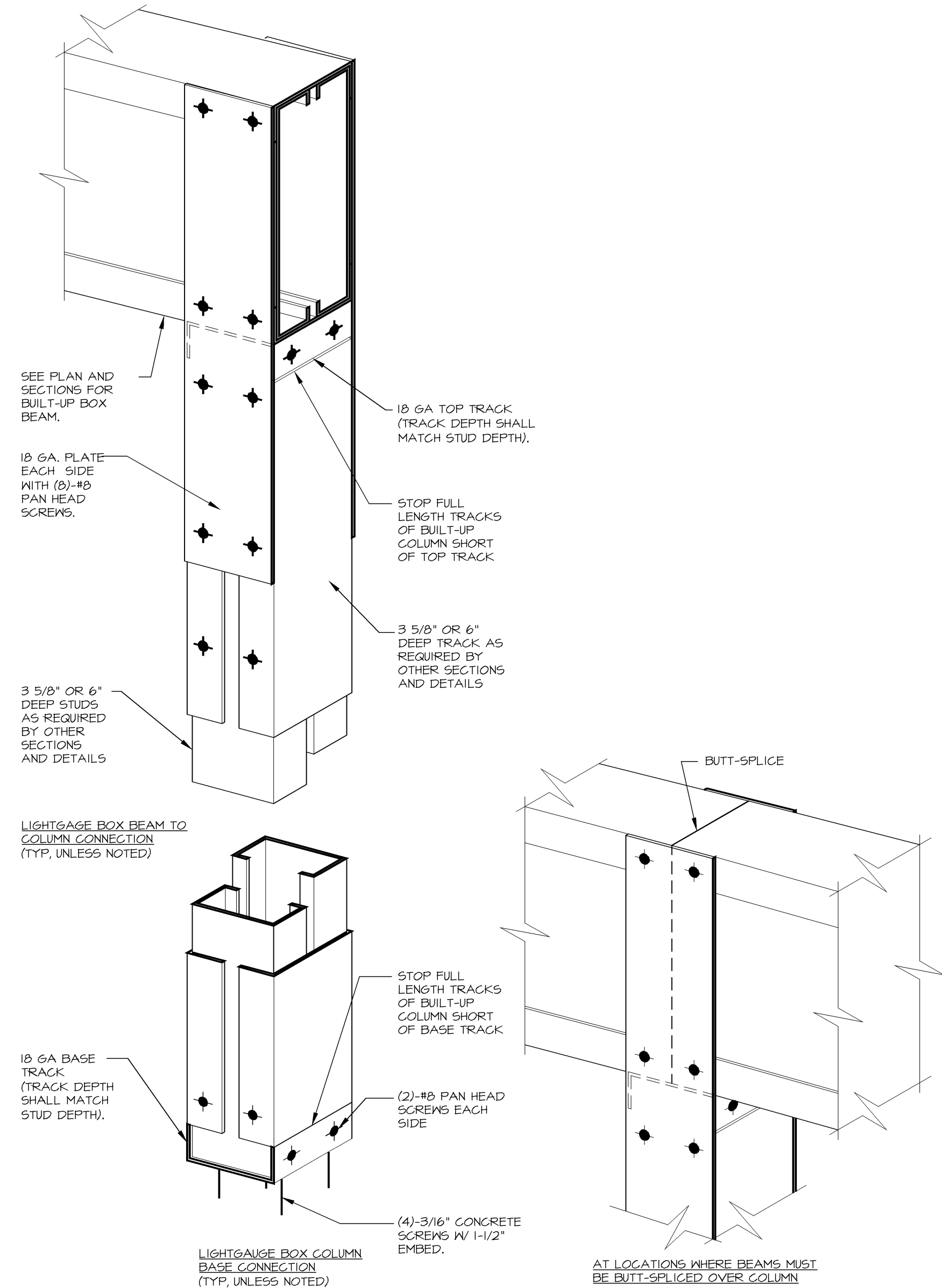
- BASE TRACKS SHALL BE SET ON SMOOTH AND LEVEL CONCRETE OR NON-SHRINK GROUT SUCH AS "MASTERSCREW 713" BY MASTER BUILDERS.

- FASTENING OF COMPONENTS SHALL BE WITH SELF-DRILLING CADMIUM PLATED OR ZINC COATED SCREWS (UNLESS NOTED). SCREWS SHALL BE OF SUFFICIENT SIZE TO ENSURE THE STRENGTH OF THE CONNECTION.

- SEE DETAIL R/S01.1 FOR ADDITIONAL SCREW REQUIREMENTS.

- SPLICES IN FRAMING COMPONENTS OTHER THAN BOTTOM WALL TRACK ARE NOT PERMITTED.

- STUDS SHALL BE INSTALLED SO THE ENDS ARE POSITIONED AGAINST THE INSIDE OF THE RUNNER TRACK WEB PRIOR TO FASTENING AND SHALL BE ATTACHED TO BOTH FLANGES OF THE UPPER AND LOWER RUNNER TRACKS, WITH (1)-#8 SCREW IN EACH FLANGE OF EACH STUD, UNLESS NOTED.



#### LIGHT GAGE METAL FRAMING

#### NOT USED

#### STRUCTURAL SPECIFICATIONS

#### NOT USED

#### TYPICAL BEAM TO COLUMN CONNECTION

#### LOCATION PLAN

3/32" = 1'-0"



**EXPRESS**  
SPRINGFIELD TOWN CENTER  
6847 SPRINGFIELD WALL  
SPACE NO. 22049  
SPRINGFIELD, VA 22150

PROJECT INFORMATION:

REVISIONS:	
1	REQUIRED BY: BUILDING DEPARTMENT
2	LANDSCAPE COMMENTS
3	
	DATE: 05/13/14
	04/09/14
	05/06/14

\* INDICATES NO REVISION TO THIS SHEET

**SHIRK & O'DONOVAN**  
CONSULTING ENGINEERS, INCORPORATED  
170 EAST WILSON BRIDGE ROAD  
WORTHINGTON, OHIO 43085-2321  
TEL: 614 434-4465

ELITE CONSTRUCTION GROUP  
LAKE JACKSON, TX  
PHONE: 979-283-0712  
NOTE: THESE PRINTS HAVE BEEN  
REDUCED BY 50 PERCENT. SCALE  
WILL BE 50 PERCENT OF WHAT IS  
NOTED ON PLANS

SHIRK & O'DONOVAN PROJECT NO. 132967

DATE ISSUED: 05/06/2014  
DESIGNED BY: JMB  
DRAWN BY: JMB  
CHECKED BY: PJOD

**STRUCTURAL SPECIFICATIONS AND NOTES**

DRAWING NUMBER:

**S01.1**

712

PKG B  
FALL 2014  
130832

NEW PACKAGE:  
DC GENERATION:  
94869 A/E PROJECT #:

SCOPE:  
ESD&C PROJECT #:

EXPRESS

SPRINGFIELD TOWN CENTER

REVISIONS:

\* INDICATES NO REVISION TO THIS SHEET

SHIRK & O'DONOVAN

ELITE CONSTRUCTION GROUP

SHIRK & O'DONOVAN PROJECT NO. 132967

DATE ISSUED: 05/06/2014

STRUCTURAL SPECIFICATIONS AND NOTES

DRAWING NUMBER:

S01.1