SECTION 09 22 16

NON-STRUCTURAL METAL FRAMING

**** NOTE TO SPECIFIER ** Steeler Inc.; Non-structural metal framing products.**
.
This section is based on the products of Steeler Inc., which is located at:
10023 Martin Luther King Jr. Way S.
Seattle, WA 98178
Toll Free Tel: 800-275-2279
Tel: 206-725-2500
Fax: 206-725-1700
Email: request info (sales@steeler.com)
Web: www.steeler.com
[Click Here] for additional information.
Created in 1974 by Founder and President Matt Surowiecki in Seattle, Washington. STEELER is the only continuously operated Steel Stud manufacturer that has been in business in the U.S.A. since 1974 without being sold or declaring bankruptcy. STEELER steel framing products are engineered from prime-grade steel to meet the maximum seismic ratings and to comply with the International Building Code and the related ASTM code requirements for each product.
STEELER, Inc., products are engineered to meet the AISI "Specifications for the Design of Cold Formed Steel Structural Members".
Exclusive manufacturer of STEELER-Designed, high-quality construction screws. STEELER screws meet or exceed all the specifications as stated in ASTM C1002 and ASTM C954.
Manufacturer of steel studs, track, joists, custom brake shapes (up to 32 ft.), STEELER Engineered Slide Clips, ShaftWall Studs, CRC/DWC, Resilient Channel, Black Track, Slip Track, Deflection Track, Corner Bead and Hanger Wire.
Distributor of drywall products including gypsum wallboard, drywall mud, cornerbeads, finishing products and many other accessories. STEELER also carries the highest quality tools and replacement parts in the industry. Uniquely organized to provide 12 product lines to the Drywall Industry. Customer-Focused Service has expanded STEELER to multiple locations in the Western United States and Canada. Capable of producing ten million pounds of custom steel framing monthly.

PART 1 GENERAL

1.1 SECTION INCLUDES

**** NOTE TO SPECIFIER ** Delete items below not required for project.**

A. Non-Structural Cold Formed Metal Drywall Studs and Track.

B. Area Separation and Shaftwall Framing.

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.**

A. Section 05 40 00 - Cold-Formed Metal Framing

B. Section 06 10 00 - Rough Carpentry.

C. Section 07 21 26 - Blown Insulation.

D. Section 07 84 53 - Building Perimeter Firestopping .

E. Section 09 21 16.23 - Gypsum Board Shaft Wall Assemblies.

1.3 REFERENCES

**** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.**

A. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

B. ASTM A 780 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.

C. ASTM A 1003 - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members.

D. ASTM C 645- Standard Specification for Nonstructural Steel Framing Members.

E. ASTM C 754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.

F. ASTM C 954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness

G. ASTM C 1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs

H. ASTM C 1513 - Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections.

I. ASTM E 90 - Standard Test Method for Lavatory Measurements of Airborne Sound Transmission Loss of Building Partitions and Elements.

J. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

K. ASTM E 413 - Classification for Rating Sound Insulation.

L. AISI North American Specification for the Design of Cold-Formed Steel Structural Members.

M. AWS D1.3 - Structural Welding Code - Sheet Steel.

N. U.L. Classification - United States and Canada.

O. UL 263 - Fire Tests of Building Materials

P. CAN/ULC S101 Standard Methods of Fire Endurance Tests of Building Construction and Materials.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

**** NOTE TO SPECIFIER ** Delete references from paragraphs below that are not actually required; add others as required. All structural framing components and related accessories shall be as published by STEELER technical literature, code requirements and load and span tables. Load carrying applications are design dependent and should be reviewed by a design professional familiar with the system and the requirements of the project.**

A. Design steel in accordance with American Iron and Steel Institute Publication S100 "Specification for the Design of Cold-Formed Steel Structural Members", except as otherwise shown or specified.

**** NOTE TO SPECIFIER ** A 5 PSF minimum design lateral load is required for interior walls by most building codes. Also the 0.7 wind load reduction factor does not apply to the 5 psf minimum design lateral load. Shaftwall framing minimum design lateral load is typically 5 to 15 PSF.**

B. Design loads: Design and size components as calculated in accordance with local code.

C. Design framing systems to withstand design loads without deflections greater than the following:

**** NOTE TO SPECIFIER ** Delete items below not required for project.**

1. Interior Non-Load Bearing Walls: Lateral deflection of: L/120.
2. Interior Non-Load Bearing Walls: Lateral deflection of: L/180.
3. Interior Non-Load Bearing Walls: Lateral deflection of: L/240.
4. Interior Non-Load Bearing Walls: Lateral deflection of: L/360.

D. Design framing system to accommodate deflection of primary building structure and construction tolerances.

**** NOTE TO SPECIFIER ** Delete the following paragraphs if not required for the project.**

E. Seismic Loads: Design and size components to withstand seismic loads and sway displacement as calculated in accordance with local code.

**** NOTE TO SPECIFIER ** Retain paragraph below if framing is part of fire resistant rated assemblies. Indicate design designations of specific assemblies on Drawings.**

F. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-structural steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 or UL 263.
   1. Construct fire-resistance-rated partitions in compliance with tested assembly requirements indicated on the Drawings.
   2. Rated assemblies to be substantiated from applicable testing using the proposed products, by Contractor.
   3. Both metal framing and wallboard manufacturers must submit written confirmation that they accept the other manufacturer's product as a suitable component in the assembly. Acceptance is as follows:
      a. If installation of both products is proper, no adverse effect will result in the performance of one manufacturer's product by the other's products.
      b. Combining products can be substantiated by required assembly tests.

**** NOTE TO SPECIFIER ** Retain paragraph below where framing is part of STC-rated**

assemblies. Indicate design designations of specific assemblies on Drawings.

G. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

1.5 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

C. Shop Drawings:
1. Submit shop drawings showing plans, sections, elevations, layouts, profiles and product component locations, including anchorage, bracing, fasteners, accessories and finishes.
2. Show connection details with screw types and locations and other fastener requirements.

**** NOTE TO SPECIFIER ** Delete the following paragraphs if LEED is not applicable. Steeler products are manufactured at two locations, Seattle, WA and Newark, CA.**

D. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
1. Product Data for Credit MR 2 (1-2 points): For products being recycled, documentation of total weight of project waste diverted from landfill.
2. Product Data for Credit MR 4 (1-2 points): For products having recycled content, documentation including percentages by weight of post consumer and pre-consumer recycled content
   a. Include statement indicating costs for each product having recycled content.
3. Product Data for Credit MR 5 (1-2 points): Submit data, including location and distance from Project of material manufacturer and point of extraction, harvest or recovery for main raw material.
   a. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.

**** NOTE TO SPECIFIER ** Delete selection samples if colors have already been selected.**

E. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

F. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

G. Evaluation Reports: Submit evaluation reports certified under an independent third party inspection program administered by an agency accredited by International Accreditation Service (IAS). ICC-ESESR-2054 is applicable.

H. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

B. Installer Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.

**** NOTE TO SPECIFIER ** Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.**

C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   1. Finish areas designated by Architect.
   2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
   3. Refinish mock-up area as required to produce acceptable work.

D. Contractor shall provide effective, full time quality control over all fabrication and erection complying with the pertinent codes and regulations of government agencies having jurisdiction.

E. Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, and installation instructions.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver products in manufacturer's unopened packaging.

B. Protect and store products in manufacturer's unopened packaging until ready for installation per requirements of AISI's "Code of Standard Practice".

1.8 SEQUENCING

A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.9 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Steeler Inc., which is located at: 10023 Martin Luther King Jr. Way S. ; Seattle, WA 98178; Toll Free Tel: 800-275-2279; Tel: 206-725-2500; Fax: 206-725-1700; Email: request info (sales@steeler.com); Web: www.steeler.com

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.**

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 MATERIALS

A. Cold-Formed Steel: Complying with ASTM A653/A653M or ASTM A1003/A1003M

Specifications from Grade 33 to Grade 80 with material thicknesses from 16 mils (0.0166 inches) to 118 mils (0.1180 inches). Grade 33 minimum (Fy=33 ksi, yield strength) for thicknesses from 16 to 43 mils. Grade 50 minimum (Fy=50ksi, yield strength) for thicknesses from 54 to 118 mils. For material strength greater than 33 ksi, members shall be marked legibly in the web identifying the material yield strength.

B. Galvanized Coating: Comply with ASTM A1003/1003M and ASTM A653/A653M. Material thicknesses from 16 to 30 mils have a minimum G40 coating and material thicknesses 33 mils to 118 mils have a minimum G60 coating. G90 coating is a special order and is available for some material thicknesses.

C. Markings: Provide studs and track with legible and easily read product marking stamped on the web of each section. Repeat marking throughout the length of each member at a maximum spacing of feet on center. Product marking shall include:
1. ICC number, as applicable.
2. Manufacturer's identification.
3. Minimum delivered uncoated steel thickness.
4. Protective coating designator.
5. Minimum yield strength.

**** NOTE TO SPECIFIER ** Review STEELER Inc Metal Framing technical literature, code requirements and limiting wall height tables for interior non-structural applications. Drywall framing is not permitted in load bearing non- structural applications with an axial load greater than 200 lbs or in exterior applications with a transverse load greater than 10 PSF. Select from the following product criteria as required for the project requirements. Lateral and axial load carrying applications, including fixtures, cabinetry and other equipment in interior uses, are design dependent, and all designs should be reviewed by a competent design professional familiar with the system and the requirements of the specific project. Custom sizes and lengths are available along with the standard sizes and lengths.**

2.3 COMPONENTS

A. General Requirements:
1. Physical properties and load tables have been calculated in conformance with the NASPEC for the Design of Cold-Formed Steel Structural Members, unless noted otherwise.
2. Drywall framing members have a protective coating conforming to ASTM spec A 653/A 653M, G-40 min, or equivalent corrosion resistance.
3. Reference ASTM A 1003/A 1003 M table 1 for the universe of allowable coatings for light gauge steel framing.
4. Drywall framing members are marked with product information per the requirements of ASTM C 645 section 14.
5. Drywall framing, nonstructural 25 gauge, 22 gauge and 20 gauge, are not permitted in load bearing applications with axial load greater than 200 lbs or exterior applications with a transverse load greater than 10 psf in accordance with ASTM C 645 section 3.2.2.

B. Non-structural C-Studs: Cold-formed galvanized steel C-studs, STEELER drywall studs as per ASTM C645 for conditions indicated below:
1. Flange Length: As indicated on Drawings.

****NOTE TO SPECIFIER** Delete size not required.**

2. Flange Length: 1-1/4 inches (32 mm).
3. Flange Length: 1-7/16 inches (37mm).
4. Flange Length: 1-5/8 inches (41 mm).

****NOTE TO SPECIFIER** Delete depths not required.**

5. Web Depth: As indicated on Drawings.
6. Web Depth: 1-5/8 inches (41 mm).
7. Web Depth: 2-1/2 inches (64 mm).
8. Web Depth: 3-5/8 inches (92 mm).
9. Web Depth: 4 inches (102 mm).
10. Web Depth: 5-1/2 inches (140 mm).
11. Web Depth: 6 inches (152 mm).
12. Web Depth: 8 inches (203 mm).
13. Minimum Design Thickness: As indicated on Drawings.

**** NOTE TO SPECIFIER **** Select the metal design thickness required and delete those not required. If more than one is used, identify the application or location for each on the Drawings or on the schedule at the end of this Section.**

14. Minimum Base-Metal Thickness: 0.0179 inches (0.45 mm).
15. Minimum Base-Metal Thickness: 0.0235 inches (0.60 mm).
16. Minimum Base-Metal Thickness: 0.0269 inches (0.68 mm).
17. Minimum Base-Metal Thickness: 0.0296 inches (0.75 mm).

****NOTE TO SPECIFIER** Delete type not required.**

18. Web punched.
19. Web unpunched.

C. Non-Structural Track: Cold-formed galvanized steel T-Members, Steeler drywall runner tracks per ASTM C 645 for conditions indicated below:

****NOTE TO SPECIFIER** Delete size not required.**

1. Flange Length: As indicated on Drawings.
2. Flange Length: 1-1/4 inch (32 mm).
3. Flange Length: 1-1/2 inches (38 mm).
4. Flange Length: 2-0 inches (51 mm).
5. Web Depth: Track web to match stud web size.
6. Minimum Base-Metal Thickness: Track thickness to match wall stud thickness or as per design.

D. Traditional Flat Material (Straps):

****NOTE TO SPECIFIER** Delete thickness not required.**

1. Minimum Design Thickness: As indicated on Drawings.
2. Minimum Base-Metal Thickness: 0.0179 inches (0.45 mm).
3. Minimum Base-Metal Thickness: 0.0235 inches (0.60 mm).
4. Minimum Base-Metal Thickness: 0.0269 inches (0.68 mm).
5. Minimum Base-Metal Thickness: 0.0296 inches (0.75 mm).
6. Minimum Base-Metal Thickness: As indicated on Drawings.

****NOTE TO SPECIFIER** Delete width not required.**

7. Width: As indicated on Drawings.
8. Width: 1-1/2 inches (38 mm).
9. Width: 2 inches (51 mm).
10. Width: 4 inches (102 mm).
11. Width: 6 inches (152 mm).

E. Non-structural Elite Studs: STEELER Elite cold-formed galvanized steel studs, per ASTM C645 for conditions indicated below:

****NOTE TO SPECIFIER** Delete size not required.**

1. Flange Length: As indicated on Drawings.
2. Flange Length: 1-1/4 inches (32 mm).
3. Flange Length: 1-3/8 inches (35 mm).
4. Flange Length: 1-7/16 inches (37 mm).
5. Flange Length: 1-1/2 inches (38 mm).
6. Flange Length: 1-5/8 inches (41 mm).

****NOTE TO SPECIFIER** Delete depths not required.**

7. Web Depth: As indicated on Drawings.
8. Web Depth: 1-5/8 inches (41 mm).
9. Web Depth: 2-1/2 inches (64 mm).
10. Web Depth: 3-1/2 inches (89 mm).
11. Web Depth: 3-5/8 inches (92 mm).
12. Web Depth: 4 inches (102 mm).
13. Web Depth: 5-1/2 inches (140 mm).
14. Web Depth: 6 inches (152 mm).

**** NOTE TO SPECIFIER ** Select the metal design thickness required and delete those not required.**

15. Minimum Design Thickness: As indicated on Drawings.
16. Minimum Base-Metal Thickness: 0.0158 inches (0.40 mm).
17. Minimum Base-Metal Thickness: 0.0179 inches (0.45 mm).
18. Minimum Base-Metal Thickness: 0.0223 inches (0.57 mm).

****NOTE TO SPECIFIER** Delete type not required.**

19. Web punched.
20. Web unpunched.

F. Non-structural Elite Track: STEELER Elite cold-formed galvanized steelTrack, per ASTM C645 for conditions indicated below:

****NOTE TO SPECIFIER** Delete size not required.**

1. Flange Length: As indicated on Drawings.
2. Flange Length: 1-1/4 inches (32 mm).
3. Flange Length: 1-1/2 inches (38 mm).
4. Flange Length: 2 inches (51 mm).
5. Flange Length: As specified on Drawings.
6. Web Depth: Track web to match stud web size.
7. Minimum Base-Metal Thickness: Track thickness to match wall stud thickness or as per design.

****NOTE TO SPECIFIER** Delete type not required.**

8. Web punched.
9. Web unpunched.

**** NOTE TO SPECIFIER ** STEELER Slotted Stud™ and Track - Provides a positive attachment for overall strength and allows for vertical movement caused by normal head-of-wall and floor extension or compression. Select the designation and criteria information based upon the shape and size component required for the project. If more than one, identify the application or location where used or verify the designation and size is indicated on the Drawings. For firewall applications conform to the STEELER UL Head of Wall System for the Classification and Rating required.**

G. Slotted Deflection Studs: STEELER Slotted Stud; cold-formed galvanized steel in conformance with AISI's Specifications for Design of Cold-formed Steel Members. U.L. Classified for both the United States and Canada as Light Gauge Framing in various U.L. Head-Of-Wall Joint Systems.

****NOTE TO SPECIFIER** Delete paragraph not required.**

1. Flange Length: As indicated on Drawings.
2. Flange Length: 1-5/8 inches (41 mm).

****NOTE TO SPECIFIER** Delete depths not required.**

3. Web Depth: As indicated on Drawings.
4. Web Depth: 1-5/8 inches (41 mm).
5. Web Depth: 2-1/2 inches (64 mm).
6. Web Depth: 3-1/2 inches (89 mm).
7. Web Depth: 3-5/8 inches (92 mm).

8. Web Depth: 4 inches (102 mm).
9. Web Depth: 5-1/2 inches (140 mm).
10. Web Depth: 6 inches (152 mm).

****NOTE TO SPECIFIER** Delete thickness not required.**

11. Minimum Design Thickness: As indicated on Drawings.
12. Minimum Base-Metal Thickness: 22 gauge, 0.0269 inches (0.88 mm).
13. Minimum Base-Metal Thickness: 20D gauge, 0.0296 inches (1.09 mm).

****NOTE TO SPECIFIER** Delete size not required.**

14. Standard Track Leg: 2 inches (51 mm).
15. Standard Track Leg: 2-1/2 inches (64 mm).
16. Standard Track Leg: 3 inches (76 mm).

****NOTE TO SPECIFIER** Delete slot not required.**

17. Vertical Slot: Length as required by structure deflection, one in each flange, at the head of the stud.
18. Vertical Slot: 2-1/4 inches (57 mm). One slot in each flange, at the head of the stud.
19. Minimum yield strength of 33 ksi.

H. Slotted Deflection Track: STEELER Slotted Track; cold-formed galvanized steel in conformance with AISI's Specifications for Design of Cold-formed Steel Members. U.L. Classified for both the United States and Canada as Light Gauge Framing in various U.L. Head-Of- Wall Joint Systems.

****NOTE TO SPECIFIER** Delete paragraph not required.**

1. Flange Length: As indicated on Drawings.
2. Flange Length: 2-1/2 inches (64 mm) with 1-1/2 inch (38 mm) slots every 1 inch (25 mm) o.c.

****NOTE TO SPECIFIER** Delete depths not required.**

3. Web Depth: As indicated on the Drawings.
4. Web Depth: 2-1/2 inches (64 mm).
5. Web Depth: 3-1/2 inches (89 mm).
6. Web Depth: 3-5/8 inches (92 mm).
7. Web Depth: 4 inches (102 mm).
8. Web Depth: 5-1/2 inches (140 mm).
9. Web Depth: 6 inches (152 mm).

****NOTE TO SPECIFIER** Delete thickness not required.**

10. Minimum Design Thickness: As indicated on Drawings.
11. Minimum Base-Metal Thickness: 24 gauge, 0.0235 inches (0.60 mm).
12. Minimum Base-Metal Thickness: 22 gauge, 0.0269 inches (0.68 mm).
13. Minimum Base-Metal Thickness: 20D gauge, 0.0296 inches (0.75 mm).

**** NOTE TO SPECIFIER ** Delete paragraph not required.**

14. Minimum yield strength: As indicated on Drawings.
15. Minimum yield strength of 33 ksi.

I. Hat Channel: STEELER F-Members, cold-formed galvanized steel in conformance with AISI's North American Specifications for Design of Cold-formed Steel Structural Members:

**** NOTE TO SPECIFIER ** Select the designation and criteria information based upon the shape and size component required for the project. If more than one, identify the application or location where used or verify the designation is indicated on the drawings.**

1. Gauge and size as indicated on Drawings.

****NOTE TO SPECIFIER** Delete height not required.**

2. Height: 1/2 inches (13 mm).
3. Height: 7/8 inches (22 mm).
4. Height: 1-1/2 inches (38mm)

****NOTE TO SPECIFIER** Delete thickness not required.**

5. Minimum Base-Metal Thickness: 25 gauge, 0.0179 inches (0.45 mm).
6. Minimum Base-Metal Thickness: 24 gauge, 0.0235 inches (0.60 mm).
7. Minimum Base-Metal Thickness: 22 gauge, 0.0269 inches (0.68 mm).
8. Minimum Base-Metal Thickness: 20D gauge, 0.0296 inches (0.75 mm).

J. Z Channel Purlin and Furring: STEELER Z-Members cold-formed galvanized steel:

****NOTE TO SPECIFIER** Delete height not required.**

1. Height: As indicated on the Drawings.
2. Height: 1 inch (25.4 mm).
3. Height: 1-1/4 inches (31.8 mm).
4. Height: 1-1/2 inches (38.1 mm).
5. Height: 2 inches (50.8 mm).
6. Height: 2-1/2 inches (63.5 mm).
7. Height: 3-1/2 inches (88.9 mm).
8. Height: 4 inches (101.6 mm).

****NOTE TO SPECIFIER** Delete thickness not required.**

9. Flange Length: As indicated on Drawings.
10. Flange Length: 1 inch (25.4 mm).
11. Flange Length: 1-1/4 inches (31.75 mm).
12. Flange Length: 1-1/2 inches (38.10 mm).
13. Flange Length: 2 inches (50.80 mm).
14. Flange Length: 2-1/2 inches (63.50 mm).
15. Flange Length: 3 inches (76.20 mm).
16. Flange Length: 3-1/2 inches (88.9 mm).

****NOTE TO SPECIFIER** Delete paragraph not required.**

17. With Lips.
18. Without Lips.

K. U Channel: STEELER U-Members, Cold-formed galvanized steel:

**** NOTE TO SPECIFIER ** Select the designation and criteria information based upon the shape and size component required for the project. If more than one, identify the application or location where used or verify the designation is indicated on the drawings.**

1. U-Channel assembly as indicated on Drawings.

****NOTE TO SPECIFIER** Delete depth not required.**

2. Web Depth: 1/2 inch (13 mm).
3. Web Depth: 7/8 inches (22 mm).
4. Web Depth: 1-1/2 inches (38 mm).

****NOTE TO SPECIFIER** Delete length not required.**

5. Leg Length: As indicated on Drawings.
6. Leg Length: 1/2 inch (13 mm).

****NOTE TO SPECIFIER** Delete thickness not required.**

7. Minimum Base-Metal Thickness: As indicated on Drawings.
8. Minimum Base-Metal Thickness: 20D gauge, 0.0296 inches (0.75 mm).

**** NOTE TO SPECIFIER ** Shaftwall Studs and J Track are used in the construction of shaftwalls and stairwalls. Select the designation and criteria information based upon the shape and size component required for the project. If more than one, identify the application or location where used or verify the designation is indicated on the Drawings.**

L. Shaftwall Studs and Track: STEELER C-H Studs and J-Track, cold-formed galvanized steel, approved for the use intended based on current UL Design Numbers:

****NOTE TO SPECIFIER** Select the designation and criteria information based upon the shape and size component required for the project. UL Certifications are available at**

www.ul.com, or copies are available upon request. If more than one, identify the application or location where used or verify the designation is indicated on the Drawings.

1. STEELER C-H Studs Design Number/Rating:
   a. U428/2 hour: 2-1/2 inch (64 mm) C-H Shaped Studs, 1-1/2 inch (38 mm) flange. Minimum thickness 25 GA.
   b. U429/2 hour: 2-1/2 inch (64 mm) C-H Shaped Studs, 1-1/2 inch (38 mm) flange. Minimum thickness 25 GA.
   c. U438/2 hour: 2-1/2 inch (64 mm) C-H Shaped Studs, 1-1/2 inch (38 mm) flange. Minimum thickness 25 GA.
   d. U459/2 hour: 2-1/2 inch (64 mm) C-H Shaped Studs, 1-1/2 inch (38 mm) flange. Minimum thickness 20 GA.
   e. U467/2 hour: 2-1/2 inch (64 mm) C-H Shaped Studs, 1-1/2 inch (38 mm) flange. Minimum thickness 25 GA.
   f. U469/1 hour: 2-1/2 inch (64 mm) C-H Shaped Studs, 1-1/2 inch (38 mm) flange. Minimum thickness 25 GA.
   g. U492/2 hour: 4 inch (102 mm) C-H Shaped Studs, 1-1/2 inch (38 mm) flange. Minimum thickness 25 GA.
2. STEELER J-Track
   a. Designation and size as indicated on Drawings.

****NOTE TO SPECIFIER** Delete depth not required.**

   b. Depth: 2-1/2 inches (64 mm).
   c. Depth: 4 inches (102 mm).
   d. Depth: 6 inches (152 mm).

****NOTE TO SPECIFIER** Delete width not required.**

   e. Width: As indicated on Drawings.
   f. Width: 1-1/2 inch (38 mm).

****NOTE TO SPECIFIER** Delete thickness not required.**

   g. Minimum Base-Metal Thickness: 0.0179 inches (0.45 mm).
   h. Minimum Base-Metal Thickness: 0.0235 inches (0.60 mm).
   i. Minimum Base-Metal Thickness: 0.0269 inches (0.68 mm).
   j. Minimum Base-Metal Thickness: 0.0296 inches (0.75 mm).

M. Metal Trims: Cold-formed galvanized steel.

**** NOTE TO SPECIFIER ** Select the designation and criteria information based upon the shape and size component required for the project. If more than one, identify the application or location where used or verify the designation is indicated on the drawings.**

1. Type and Size as indicated on Drawings.
2. Type: J Trim.
   a. Designation: 400, 3/8 inches (9.5 mm) size, 1-1/4 inches (32 mm) leg.
   b. Designation: 401, 1/2 inch (12.7 mm) size, 1-1/4 inches (32 mm) leg.
   c. Designation: 402, 5/8 inches (15.9 mm) size, 1-1/4 inches (32 mm) leg.
3. Type: U Trim.
   a. Designation: 200A, 1/2 inch (12.7 mm) size, 1 inch (25.4 mm) leg.
   b. Designation: 200A, 5/8 inches (15.9 mm) size, 1 inch (25.4 mm) leg.
4. Type: L Trim.
   a. Designation: 200B, 1/2 inch (12.7 mm) size, 1 inch (25.4 mm) leg.
   b. Designation: 200B, 5/8 inches (15.9 mm) size, 1 inch (25.4 mm) leg.

N. Drywall Corner Bead: Cold-formed galvanized steel sheet.
1. Type and Size as indicated on Drawings.
2. Type: 103 Deluxe.
3. Flange Length: 1-1/4 inches (32 mm).

O. Flat Strap and Backing Plate: Sheet steel for blocking and bracing in length and width indicated.

1. Galvanized Sheet Steel:

****NOTE TO SPECIFIER** Delete thickness not required.**

a. Minimum Base-Metal Thickness: As indicated on Drawings.
b. Minimum Base-Metal Thickness: 0.0179 inches (0.45 mm).
c. Minimum Base-Metal Thickness: 0.0296 inches (0.75 mm).

P. Resilient Furring Channels: 1/2-inch (12.7 mm) deep, steel sheet members designed to reduce sound transmissions:
1. Provide STEELER; Resilient Channel One Leg 1-1/2 inch with minimum STC 56 rating.

Q. Fasteners: Self-drilling, self-tapping screws; steel, complying with ASTM C 1002 and ASTM C 954.

**** NOTE TO SPECIFIER ** Include the following paragraph if welded connections are specified.**

R. Touch-Up Paint: Complying with ASTM A 780 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings. Zinc rich, containing 95-percent metallic zinc.

S. Non-Hardening, Flexible Sealant: Latex acrylic.

2.4 FABRICATION

A. General: Framing components may be preassembled into panels prior to erecting.

B. Fabricate panels square, with components attached in a manner so as to prevent racking or distortion.

C. Cut all framing components squarely for attachment to perpendicular members, or as required for an angular fit against abutting members. Hold members positively in place until properly fastened.

D. Fasteners: Fasten components using self-tapping screws or welding.
1. Comply with AWS requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
2. Locate mechanical fasteners and install according to cold-formed metal framing manufacturer's instructions with screw penetrating joined members by not less than 3 exposed screw threads.

E. Where required, provide specified insulation in double header members and double jamb studs, which will not be accessible after erection.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. Prior to installation, inspect previous work of all other trades. Verify that all work is complete and accurate to the point where this installation may properly proceed in strict accordance with framing shop drawings.

C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install cold-formed framing in accordance with requirements of ASTM C 754.

C. Framing Installation:
1. Erect framing and panels plumb, level and square in strict accordance with approved drawings.
2. Handle and lift prefabricated panels in a manner to not cause distortion in any member.
3. Anchor runner track securely to the supporting structure. Install concrete anchors only after full compressive strength has been achieved.
4. Butt all track joints. Securely anchor abutting pieces of track to a common structural element, or splice them together.
5. Align and plumb studs, and securely attach to the flanges or webs of both upper and lower tracks.
6. Attach wall stud bridging when required in a manner to prevent stud rotation. Space bridging rows according to manufacturer's recommendations.
7. Provided temporary bracing until erection is completed.
8. Where indicated in the drawings, provide for structural vertical movement using means in accordance with manufacturer's recommendations.
9. Cut all framing components square for attachment to perpendicular members or as required for an angular fit against abutting members.

**** NOTE TO SPECIFIER ** Include the following paragraphs for shaft wall construction.**

D. Shaftwall Framing Installation:
1. Attach J-Runners plumb with one another, long leg on shaft side, at floor and structure overhead using power-driven fasteners located 2 inches (51 mm) from each end and 24 inches (610 mm) o.c. between. Cut jamb J-Runners not less than 3/8 inch (10 mm) nor more than 1/2 inch (13 mm) less than distance from floor to structure above. Position J-Runners at wall structural jambs. Do not attach to floor or overhead J-Runners.
2. Cut C-H Studs not less than 3/8 inch nor more than 1/2 inch less than distance from floor to structure above. Fit first C-H Stud over leading edge of first liner board. Install remaining liner panels and C-H Studs. Do not attach C-H Studs to J-Runners.
3. Do not splice C-H Studs. For wall heights exceeding 16 feet attach C-H studs, and jamb J-runners to floor and overhead J-Runners with two 1/2 inch screws on shaftside and one on floorside. Always fit liner panels tightly into studs or jamb runners. Always fit studs or jamb runners tightly over liner panels.
4. Corners and intersections: Position jamb J-Runners at corners and T-intersections.
5. Door openings: Install CH Studs plumb at each jamb of swinging doors. Install jamb struts plumb with long legs on shaft side at each jamb of elevator doors. Attach jamb strut studs to floor and overhead J-Runners with two 3/8 inch (10 mm) screws on shaft side and one on floor side. Attach strut studs to door jamb anchors with two 1/2 inch (13 mm) pan head screws per anchor.
6. For walls above doors miter-cut J-Runners legs and position J-Runner horizontally to fit tightly between strut studs to serve as opening head. At each jamb extend J-Runner upward into overhead J-Runner. Attach J-Runner webs

to strut stud webs with 3/8 inch (10 mm) screws spaced not more than 12 inches (305 mm) o.c., 2 inches (51 mm) above opening head, and not more than 4 inches (102 mm) from overhead J-Runner, using not less than 3 screws per jamb. Install Shaftwall Studs horizontally at not less than 24 inches (610 mm) o.c.; attach to each mitered jamb J-Runner one 3/8 inch (10 mm) screws shaft side and one floor side.

7. Provide additional liner boards, gypsum shims and fillers at elevator door frames as necessary to maintain fire integrity of the tested labeled frame construction. Construct opening in conformance with frame manufacturer's fire test report; secure copy of fire test report from frame manufacturer and maintain on site for elevator inspector.
8. Small openings: Frame openings with CH-Studs or J-Runners at jambs; frame heads and sills with J-Runners. Attach head and sill J-Runners to jambs with two 3/8 inch (10 mm) screws on shaft side and one on floor side.
9. Do not exceed allowable stresses in Shaftwall Studs, CH-studs or J-Runners.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION