## GENERAL REQUIREMENTS

**DEFERRED SUBMITTALS**
- Component drawings and plans
- Shop drawings
- Safety plans
- Post-construction reports

**SCHEDULE OF SPECIAL INSPECTIONS**

<table>
<thead>
<tr>
<th>Special Inspection</th>
<th>Inspecting Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Protection</td>
<td>Fire Department</td>
</tr>
<tr>
<td>Plumbing</td>
<td>Building Official</td>
</tr>
<tr>
<td>Electrical</td>
<td>Building Official</td>
</tr>
</tbody>
</table>

**CONCRETE REINFORCEMENT**

- Use approved concrete reinforcing bars
- Use certified concrete admixtures
- Use certified concrete mix designs

**STRUCTURAL STEEL**

- Use certified steel grades
- Use certified steel connections

**SOILS AND FOUNDATIONS**

- Use certified soil test results
- Use certified foundation designs

**COMPONENTS AND CLADDING PRESSURES (PSF)**

<table>
<thead>
<tr>
<th>Component</th>
<th>Pressure (PSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof</td>
<td>10</td>
</tr>
<tr>
<td>Floor</td>
<td>15</td>
</tr>
</tbody>
</table>

## DESIGN CRITERIA

- Use approved design criteria
- Use certified design calculations

## POST-INSTALLED ANCHORS (IN CONCRETE AND MASONRY)

- Use certified anchor designs
- Use certified anchor installations

## CAST-IN-PLACE CONCRETE

- Use certified concrete test results
- Use certified concrete mix designs

## STEEL FLOOR AND ROOF DECK

- Use certified steel deck designs
- Use certified steel deck installations

## STRUCTURAL GENERAL NOTES

**NOTE:** The design and construction of this building shall be in accordance with the applicable codes and standards. The Contractor shall be responsible for verifying the accuracy of all information provided in this document. Any discrepancies between the general notes, specifications, plan/details or reference documents shall be verified by the Contractor. The Contractor shall verify all dimensions and conditions at the site. The Subcontractor shall review and verify the plans and specifications prior to the start of the work.

**SPECIFICATIONS:**

- Use approved specifications
- Use certified specification documents

**INSTRUMENTS:**

- Use certified instruments
- Use certified instrument calibration

**PERMITS:**

- Use certified permits
- Use certified permit documents

**RECORDS:**

- Use certified records
- Use certified record documents

**ARCHIVE:**

- Use certified archive
- Use certified archive documents

**REMOVAL:**

- Use certified removal
- Use certified removal documents
REINFORCED UNIT MASONRY

- BRICK WALLS: CONSULT ACI 530-13/ASCE 5-13/TMS 402-16 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES". HEREIN REFERENCED AS CONTROL AND EXPANSION JOINTS:

1. ACI 530-13/ASCE 5-13/TMS 402-16 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES". HEREIN REFERENCED AS 2. MORTAR: NO MORTAR TESTING IS REQUIRED.
3. BRICK INDUSTRY ASSOCIATION (BIA) "TECHNICAL NOTES"

- CONTROL AND EXPANSION JOINTS: PLACE ANCHORS WITHIN 12" OF OPENING. BRICK VENEER SHALL BE DESIGNED AND DETAILED BY THE ARCHITECT/CONTRACTOR

MASONRY REINFORCING STEEL:

- STEEL LINTELS SHALL BE ASTM A36 AND SHALL HAVE A CORROSION-RESISTANT GALVANIZED COATING, CONFORM TO ASTM A951 AND IBC SECTION 2103.4.

- MASONRY COVER (INCLUDING GROUT AND BLOCK WALL) AT MASONRY FACE

CONCRETE MASONRY UNITS

- PCF) UNITS. PROVIDE 2000 PSI. COMPRESSIVE STRENGTH TO ACHIEVE MASONRY ASSEMBLY STRENGTH INDICATED ABOVE

COLD-FORMED STEEL FRAMING

- ALL STEEL SHALL BE PAINTED GRAY, UNLESS NOTED OTHERWISE, ON THE DRAWINGS OR IN THE SPECIFICATIONS.

- FABRICATION AND HANDLING: HANDLING, AND ERECTION SHALL BE CAREFULLY FOLLOWED BY THE SSE (SJI SUPPLIER) TO PROVIDE GUIDANCE

USE FINE GROUT EXCEPT WHERE PERMITTED BY TMS402 TABLE 1.16. 1. FINE GROUT REQUIRED FOR 4" AND 6" CMU.

- CONCRETE MASONRY UNITS

- STEEL STUDS: STEEL STUDS SHALL BE AS SPECIFIED IN THE STEEL STUD MANUFACTURER’S ASSOCIATION ICC EVALUATION REPORT ER-4943P AND OF THE SIZE AND PROFILE AS SHOWN ON THE

- HORIZONTAL REINFORCING (BOND BEAMS) PER PLANS AND DETAILS

- FASTENERS TO CONCRETE: POWDER ACTUATED FASTENERS

- COPPER HEAD SCREWS, WITH MINIMUM 3/4" EXPOSED THREADS. CONNECTIONS SHALL NOT BE STRIPPED. SCREWS SHALL BE INSTALLED A MINIMUM OF 3/8" FROM

- FASTENERS TO STEEL:

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- EXPANDED METAL SHEET: EXPANDED METAL SHEET SHALL BE USED AS SHOWN ON THE

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PLAN LOADING

ROOF DEAD LOAD, 20 PSF

ROOF LIVE / SNOW LOAD, 20 / 30 PSF

SNOW DRIFT SURCHARGE
(IN ADDITION TO SNOW LOAD)

FLOOR STORAGE DEAD LOAD, 45 PSF

FLOOR STORAGE LIVE LOAD, 125 PSF

PER PLAN

0 PSF

REF PLAN

WIND UPLIFT LOAD, (PER PLAN) PSF

NOTES:
1. REF. TO LOAD SHEET IMPOSED LOADINGS, DRIFT WIDTH, ETC.

LOADING IN THIS AREA DETERMINED BY OTHERS

SNOW SURCHARGE LOADING

1. JOIST SUPPLIER TO SIZE JOISTS AS NECESSARY TO SUPPORT MECHANICAL RTU LOADS.

2. CONFIRM RTU WEIGHTS AND LOCATIONS WITH MECHANICAL DRAWINGS. MECHANICAL DRAWINGS GOVERN.

NET UPLIFT = 11 PSF

NOTE:
1. NET UPLIFT LOADS ARE BASED ON ASD LOAD COMBINATION: 0.6W + 0.6D

NET UPLIFT = 14 PSF

NET UPLIFT = 15 PSF

NET UPLIFT = 21 PSF

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SCALE: 1/16" = 1'-0"
CONTINUOUS FOOTING SCHEDULE

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ISOLATED FOOTING SCHEDULE

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SOILS PREPARATION AND SLAB BASE

MIN. REQUIREMENTS FOR ANCHOR BOLTS IN CONCRETE

GENERAL NOTES

E.8

E.9
GENERAL NOTES
1. CONTRACTOR SHALL ASSURE PROPER CONCRETE CLEARANCES AROUND REINFORCING STEEL PER THE STRUCTURAL
NOTES.
2. T.O.F. AS INDICATED IN THE PLANS REFERS TO THE TOP OF THE CONTINUOUS CONCRETE FOOTING, NOT THE EMBEDMENT.
3. SPECIFIED REINFORCING BARS SHALL BE EQUALLY SPACED IN THE CONTINUOUS FOOTING.

FOOTINGS BELOW METAL BUILDING COLUMNS ARE SIZED BASED ON ASSUMED LOADING. FOOTINGS SHALL BE EITHER
ISOLATED OR CONTINUOUS.

1. CONTRACTOR SHALL ENSURE THAT THE FOUNDATION CURBING OR RELATED DETAILS ARE AS INDICATED.

FOUNDATIONS:
1. CONTRACTOR SHALL ASSURE PROPER CONCRETE CLEARANCES AROUND REINFORCING STEEL PER THE STRUCTURAL
NOTES.
2. T.O.F. AS INDICATED ON THE PLANS REFERS TO THE TOP OF THE ISOLATED CONCRETE FOOTING, NOT THE EMBEDMENT.
3. SPECIFIED REINFORCING BARS SHALL BE EQUALLY SPACED IN THE ISOLATED FOOTING.

SPECIFIED FOUNDATION CURBING OR RELATED DETAILS ARE AS INDICATED.

FOOTING SIZES HAVE BEEN VERIFIED BY THE E.O.R. OR METAL BLDG MANUFACTURER. CONTRACTOR SHALL ENSURE
THAT THE FOUNDATION CURBING OR RELATED DETAILS ARE AS INDICATED.

NOTES:
3. SPECIFIED REINFORCING BARS SHALL BE EQUALLY SPACED IN THE CONTINUOUS FOOTING.
2. T.O.F. AS INDICATED IN THE PLANS REFERS TO THE TOP OF THE CONTINUOUS CONCRETE FOOTING, NOT THE EMBEDMENT.
1. CONTRACTOR SHALL ASSURE PROPER CONCRETE CLEARANCES AROUND REINFORCING STEEL PER THE STRUCTURAL
NOTES.
FLOOR DRAIN, TYP. #6 HAIRPIN WITH 12'-0" LEGS, 90 DEGREE BEND, TYP.

6" SLAB ON GRADE WITH #5 AT 12" O.C. LONGITUDINAL AND #5 AT 18" O.C. TRANSVERSE CENTERED IN SLAB THICKNESS

FFE = 100'-0"

TRANSITION FROM 6" SLAB TO 4" SLAB ON GRADE

4" SLAB ON GRADE WITH #5 AT 12" O.C. LONGITUDINAL AND #5 AT 18" O.C. TRANSVERSE CENTERED IN SLAB THICKNESS

FFE = 100'-0"

HAIRPINS SHALL NOT EXTEND INTO GARAGE AREA SLAB
VAULT ROOF - CONCRETE OVER STEEL DECK

1. DECK SHALL BE MANUFACTURED BY VULCRAFT OR AN APPROVED EQUIVALENT.
2. ANY FASTENER SUBSTITUTIONS SHALL BE APPROVED BY E.O.R.

DECK TYPE: VULCRAFT 22 GA. 2VLI DECK
FINISH: 36/4, 18" O.C AT PERIMETER
SUPPORT ATTACHMENT: #10 TEK SCREWS AT 12" O.C. MAX
ATTACHMENT PATTERN: G60 GALVANIZED
SIDE LAP FASTENERS: * EQUALLY SPACED, NOT TO EXCEED 3'-0" O.C.

CONCRETE:
CONCRETE TYPE: f'c = 4000 PSI NORMAL WEIGHT
DEPTH:
REINFORCING: 6x6 W1.4 x W1.4 WWF LAPPED 6" MIN MID-DEPTH OF SLAB
HILTI X-EDN 19 THQ12 AT PATTERN BELOW

---

VAULT CEILING PLAN
SCALE: 3/8" = 1'-0"
### Minimum Lap Splice Length (in Inches)

**Longitudinal Bar Size**

**Compression Development Lengths Per f'c**

**Compression Lap Splice Length**

- **f'c = 3,000 PSI**
  - No. 3 (M #10): 9 in.
  - No. 4 (M #13): 12 in.
  - No. 5 (M #16): 14 in.
  - No. 6 (M #19): 17 in.
  - No. 7 (M #22): 20 in.
  - No. 8 (M #25): 22 in.
  - No. 9 (M #29): 25 in.

- **f'c = 4,000 PSI**
  - No. 10 (M #32): 28 in.

- **f'c = 5,000 PSI**
  - No. 11 (M #36): 31 in.

### Notes:

1. All dimensions shown are in inches.
2. If bar is confined by ties per Table 25.4.9.3 of ACI 318-14, multiply lap length by 0.75.
3. If concrete is lightweight, multiply lap length by 0.75.
4. If bar is epoxy coated, multiply lap length by 1.5.
5. If concrete is lightweight, multiply lap length by 0.75.

### Bar Diameters:

- #3: 0.375”
- #4: 0.500”
- #5: 0.625”
- #6: 0.750”
- #7: 0.875”
- #8: 1.000”
- #9: 1.128”

### 2015 IBC Compression Lap Splice Lengths, Ref ACI 318-14, Section 25.4.9

**Reinforcement in Center of Wall**

<table>
<thead>
<tr>
<th>Bar Size</th>
<th>Class A</th>
<th>Class B</th>
</tr>
</thead>
<tbody>
<tr>
<td>#3</td>
<td>22 in.</td>
<td>17 in.</td>
</tr>
<tr>
<td>#4</td>
<td>29 in.</td>
<td>23 in.</td>
</tr>
<tr>
<td>#5</td>
<td>36 in.</td>
<td>28 in.</td>
</tr>
<tr>
<td>#6</td>
<td>43 in.</td>
<td>34 in.</td>
</tr>
<tr>
<td>#7</td>
<td>63 in.</td>
<td>49 in.</td>
</tr>
<tr>
<td>#8</td>
<td>72 in.</td>
<td>48 in.</td>
</tr>
<tr>
<td>#9</td>
<td>81 in.</td>
<td>62 in.</td>
</tr>
</tbody>
</table>

### Rebar Compression Lap Splice Schedule

For the full schedule, please refer to the attached document or the original source.
COLD FORMED STEEL STUDS (INTERIOR NON-BEARING)

<table>
<thead>
<tr>
<th>WALL HEIGHTS UP TO 30' TALL</th>
<th>WALL HEIGHTS FROM 31' TO 50' TALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>4'-0&quot; TO 8'-0&quot;</td>
<td>4'-0&quot; TO 8'-0&quot;</td>
</tr>
<tr>
<td>8'-1&quot; TO 12'-0&quot;</td>
<td>12'-1&quot; TO 16'-0&quot;</td>
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<tr>
<td>16'-1&quot; TO 20'-0&quot;</td>
<td>20'-1&quot; TO 24'-0&quot;</td>
</tr>
<tr>
<td>24'-1&quot; TO 28'-0&quot;</td>
<td>28'-1&quot; TO 32'-0&quot;</td>
</tr>
<tr>
<td>32'-1&quot; TO 36'-0&quot;</td>
<td>36'-1&quot; TO 40'-0&quot;</td>
</tr>
</tbody>
</table>

**NOTES:**
1. CONTRACTOR MAY MAKE SUBSTITUTIONS ONLY AFTER APPROVAL BY THE EOR.
2. WHERE HEADER OR JAMB SIZES ARE NOT SPECIFIED IN THESE TABLES OR IN PLAN VIEW, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE EOR TO SUPPLY THE APPROPRIATE HEADER AND JAMB SIZES.

**SCREWED OPTION A (PLAN):**
- Concrete shall reach a compressive strength of 2,500 psi prior to installation of bottom track using P.A.F.
- Studs have been sized to resist a lateral horizontal load of 5 psf per IBC Section 1607.14 with a limiting deflection of L/24.
- Studs shall be cut 3/4" short to allow deck to deflect.
- See note #5 below.

**WELDED OPTION A (PLAN):**
- Full height jamb stud wall.
- Header at edge of opening per detail above.
- Steel roof deck.
- Steel stud to be cut 3/4" short to allow deck to deflect.
- Equiv. with 2 1/4" slotted deflection track or to be ClarkDietrich MaxTrak.

**JAMB SCREWED OPTION B (PER PLAN):**
- Attach each jamb stud to base of wall at edge of opening per detail above.
- Studs (typ.) per plan.
- Studs (SSMA designation) per plan per plan.
- Cold formed metal headers and jambs (interior non-bearing).

**COLD FORMED STEEL DETAILS**

**TOP TRACK DETAIL**
- Steel header per schedule.
- Cold formed steel header.
- Header at edge of opening per detail above.

**JAMB STUD ATTACHMENT**
- Steel jamb studs.
- Steel stud to be cut 3/4" short to allow deck to deflect.
- Equiv. with 2 1/4" slotted deflection track or to be ClarkDietrich MaxTrak.

**STUD WALL PER PLAN**
- Steel stud wall.
- Steel stud wall per plan.
- Steel stud wall per plan per plan.

**WELDED OPTION B (PER PLAN):**
- Welded option b per plan.
- Welded option b per plan.
- Welded option b per plan.

**ATTACHMENT (3) #10 1 1/4"x1 1/4"x16 ga. x 1/2"**
(2) 800S200-68 (2) 600S162-68
(2) 600S162-54 (2) 600S162-43
3 3/8" wide stud walls

**STUD WALL PER PLAN**
- Steel stud wall.
- Steel stud wall per plan.
- Steel stud wall per plan per plan.

**WELDED OPTION A (PER PLAN):**
- Welded option a per plan.
- Welded option a per plan.
- Welded option a per plan.

**JAMB WELDED OPTION B**
- Jamb welded option b.
- Jamb welded option b.
- Jamb welded option b.

**SCREWED OPTION B (PER PLAN):**
- Screwed option b per plan.
- Screwed option b per plan.
- Screwed option b per plan.

**FULL HEIGHT STUD WALLS**
- Full height jamb stud wall.
- Full height stud wall.
- Full height stud wall.

**HEADER AT EDGE OF OPENING**
- Header at edge of opening per detail above.

**COLD FORMED STEEL HEADERS AND JAMBS (INTERIOR NON-BEARING):**

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7. WHERE HEADER OR JAMB SIZES ARE NOT SPECIFIED IN THESE TABLES OR IN PLAN VIEW, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE EOR TO SUPPLY THE APPROPRIATE HEADER AND JAMB SIZES.
6. Half of total number of #10 tek screws shall be installed both sides of header.