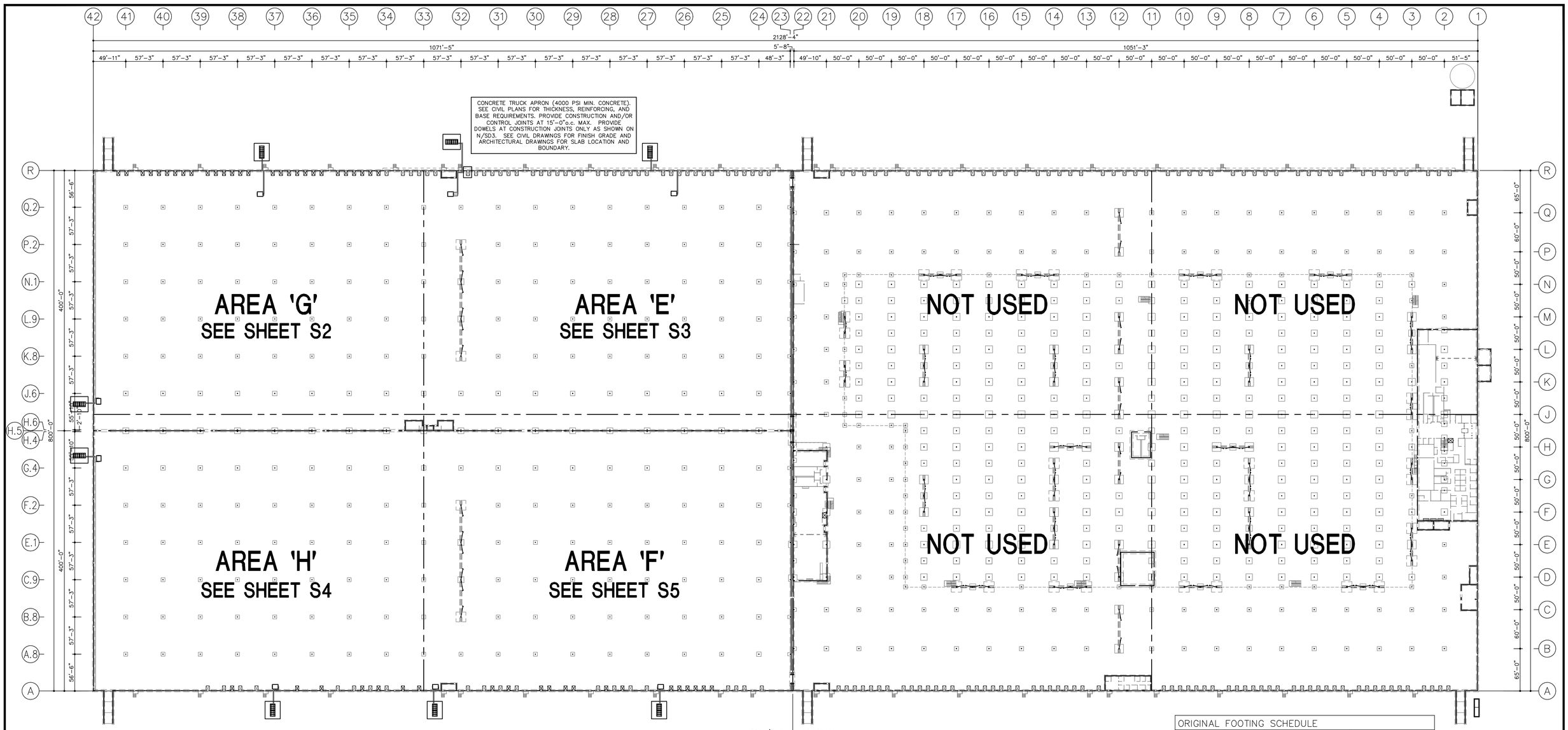

CONCRETE TRUCK APRON (4000 PSI MIN. CONCRETE). SEE CIVIL PLANS FOR THICKNESS, REINFORCING, AND BASE REQUIREMENTS. PROVIDE CONSTRUCTION AND/OR CONTROL JOINTS AT 15'-0"o.c. MAX. PROVIDE DOWELS AT CONSTRUCTION JOINTS ONLY AS SHOWN ON N/SD3. SEE CIVIL DRAWINGS FOR FINISH GRADE AND ARCHITECTURAL DRAWINGS FOR SLAB LOCATION AND BOUNDARY.

ORIGINAL SLAB-ON-GRADE NOTES: (REINF.)

1. BUILDING SLAB:
   A) STRENGTH (f'c) = SEE SHEET SD1.
   B) CLASS 5 FLOOR SLAB PER A.C.I. 302.1R-04 TABLE 2.1, ANTICIPATED USE TO BE INDUSTRIAL VEHICULAR TRAFFIC - PNEUMATIC AND MODERATELY SOFT SOLID WHEELS.
   C) THICKNESS:
      1) PROCESS AREA (AREA A, B, C, AND D): 6" MIN THICK WITH #3 AT 18"o.c. (ALT: 18x18 D8.3xD8.3 GRADE 80 DEFORMED WELDED WIRE REINFORCING) LOCATED 2" FROM TOP OF SLAB. SAW-CUT JOINTS AT 15'-0"o.c. MAX. PROVIDE SLAB CONTROL JOINTS WITH DOWEL BASKETS AT 125 ft. ON CENTER MAX. EACH WAY (OR CONSTRUCTION JOINT). STOP SLAB REINFORCING AT CONTROL JOINTS WITH DOWELS. SEE J/SD2 FOR ADDITIONAL INFORMATION.
      2) HOTEL/RACK AREA (AREA E, F, G, AND H):
         a) AT RACK AISLES: SUPER FLAT SLAB POURED IN STRIPS. 8" MIN. THICK WITH #5 AT 7"o.c. LONG DIRECTION OF SLAB POUR & #4 AT 12"o.c. SHORT DIRECTION OF POUR, LOCATED 2" FROM TOP OF SLAB. (COORDINATE JOINTS WITH RACK LAYOUT). Fr = 80 MIN OVERALL ALONG LENGTH OF RACK AISLES. PROVIDE DIAMOND SHAPED LOAD PLATE DOWELS PER A/SD2 AT CONSTRUCTION JOINTS (NO ROUND DOWELS).
         b) AT SPEED BAY SLAB: 8" MIN. THICK WITH #4 AT 12"o.c. EACH WAY LOCATED 2" FROM TOP OF SLAB. SAW-CUT JOINTS AT 20'-0"o.c. MAX. AT SPEED BAY SLAB ADJACENT TO SUPER FLAT SLAB, POUR SPEED BAY SLAB AFTER SUPER FLAT SLAB. DELAY POUR OF SPEED BAY SLAB AS LONG AS POSSIBLE AFTER POURING SUPER FLAT SLAB.
   D) SUB-BASE: PROVIDE 6" OF COMPACTED TYPE II AGGREGATE BASE BELOW SLAB.
   E) SUBGRADE: UPPER 12" (MIN.) OF SLAB SUBGRADE SHALL BE UNIFORMLY COMPACTED TO 95% RELATIVE COMPACTION. SEE SOILS REPORT FOR ADDITIONAL INFORMATION. (SUBGRADE MODULUS k=150 PCI PER SOILS REPORT).
   F) VAPOR RETARDING LAYER: AT AREAS TO RECEIVE FLOOR COVERING, INSTALL VAPOR RETARDING LAYER ON TOP OF AGGREGATE SUB-BASE, DIRECTLY BELOW CONCRETE SLAB. SEE ARCHITECTURAL PLANS FOR VAPOR RETARDING LAYER THICKNESS AND LOCATIONS.
2. BUILDING SLAB IS NOT DESIGNED TO SUPPORT CRANE LOADS, CONCRETE MIXING TRUCKS, OR OTHER SPECIFIC CONSTRUCTION LOADINGS. IF SUCH LOADS OCCUR DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO UPGRADE THE SLAB THICKNESS AND PROVIDE ADDED REINFORCING AS REQUIRED. ANY DAMAGE CAUSED TO THE SLAB SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE PER THE OWNER'S REQUEST.
3. SEE SHEET SD1 FOR GENERAL NOTES, CONCRETE NOTES, MIX DESIGN RECOMMENDATIONS ETC., SHEET SD1A FOR REQUIRED TESTS AND INSPECTIONS, AND SHEET SD2 FOR TYPICAL DETAILS. DETAILS AND SECTIONS SHOWN ONCE SHALL APPLY TO ALL OTHER SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.

ORIGINAL FOUNDATION NOTES:

1. SEE SHEET SD1 FOR GENERAL NOTES, SHEET SD1A FOR REQUIRED TESTS AND INSPECTIONS, AND SHEET SD2 FOR TYPICAL DETAILS. DETAILS AND SECTIONS REFERENCED ONCE SHALL APPLY TO ALL OTHER SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
2. REFER TO ARCH'L AND CIVIL ENGINEER'S DRAWINGS FOR LOCATION OF VAPOR RETARDING LAYER/BARRIER, CURBS, EXTERIOR SLABS, DRAINAGE, TRASH ENCLOSURES, RAMPS, WALKS, ETC.
3. SEE PANEL ELEVATIONS FOR DEPTH OF PANEL BOTTOMS BELOW FINISH FLOOR.
4. SEE DETAIL D/SD2 FOR REINFORCING AT FOOTING STEPS WHERE APPLICABLE.
5. FOOTINGS SHALL BE LOCATED ON CENTER LINE OF WALL, PILASTER, OR COLUMN UNLESS OTHERWISE NOTED.
6. SEE SOILS REPORT FOR ALL SITE AND SUBGRADE PREPARATION.
7. SEE R/SD9 FOR LIGHT POLE FOOTING DETAIL.
8. LEGEND:
   - X'-X" ← DESIGNATES PAD FOOTING SIZE.
   - △ DESIGNATES PRECAST CONCRETE PANEL NUMBER AND VIEW SIDE OF PANEL. SEE PANEL ELEVATION DRAWINGS.

ORIGINAL FOOTING SCHEDULE

SIZE	MIN. THK.	REINFORCING	REMARKS
5'-0" x 10'-0"	24"	(5) #5 LONGITUDINAL T & B (9) #5 TRANSVERSE T & B	
6'-0" SQ.	18"	(6) #6 EACH WAY	
6'-6" SQ.	20"	(7) #6 EACH WAY	
6'-6" x 10'-0"	24"	(6) #5 LONGITUDINAL T & B (9) #5 TRANSVERSE T & B	
7'-0" SQ.	20"	(7) #6 EACH WAY	
8'-6" SQ.	24"	(8) #7 EACH WAY	
9'-0" SQ.	26"	(9) #7 EACH WAY	
9'-3" SQ.	36"	(9) #8 EACH WAY TOP & BOTTOM	
9'-6" SQ.	28"	(10) #9 EACH WAY TOP & BOTTOM	
9'-9" SQ.	42"	(10) #9 EACH WAY TOP & BOTTOM	
10'-0" SQ.	24"	(9) #5 EACH WAY TOP & BOTTOM	PAD FOOTING AT COLUMN & DBL. MFL WALL ONLY.
10'-0" SQ.	30"	(9) #8 EACH WAY	BUILDING COLUMN FOOTING
10'-0" x 13'-0"	26"	(10) #5 LONGITUDINAL T & B (13) #5 TRANSVERSE T & B	
10'-0" x 20'-0"	26"	(18) #5 LONGITUDINAL T & B (9) #5 TRANSVERSE T & B	
11'-0" SQ.	32"	(10) #8 EACH WAY	
13'-6" SQ.	44"	(13) #9 EACH WAY TOP & BOTTOM	
15'-0" SQ.	48"	(15) #9 EACH WAY TOP & BOTTOM	
16'-0" SQ.	54"	(16) #9 EACH WAY TOP & BOTTOM	

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CHECKED BY:	KEI

RENOVATE EXISTING FACILITY FOR
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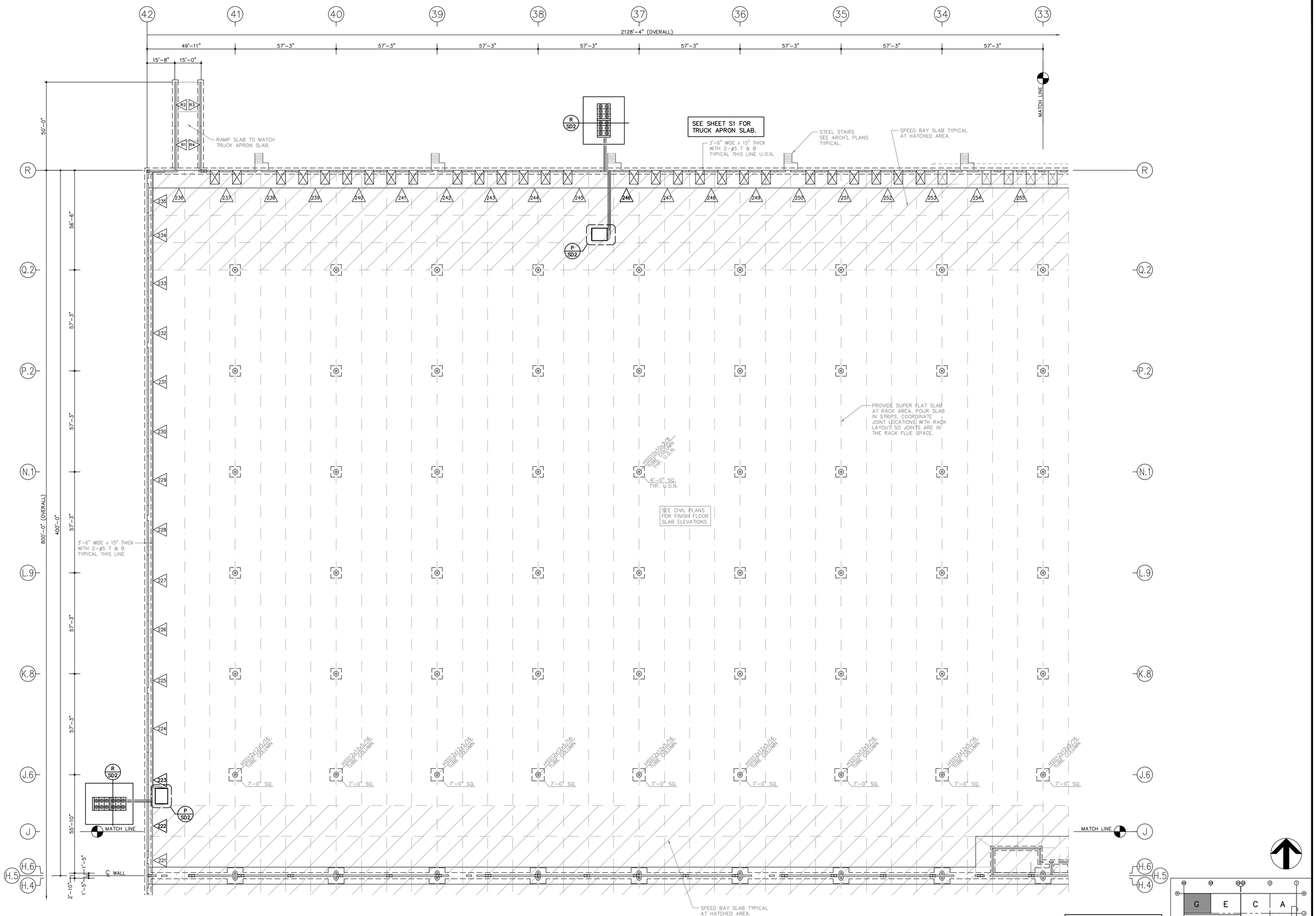
OVERALL FOUNDATION PLAN

H.M. JOB No. 19034
KEI JOB No. 19-060.01
SHEET NUMBER **S1**



SEE SHEET S100 FOR SLAB-ON-GRADE NOTES, FOUNDATION NOTES, AND PAD FOOTING SCHEDULE.

KEY PLAN
N.T.S.

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SHAFTER, CA

H.M. JOB No. 19034
KEI JOB No. 19-060.01
SHEET NUMBER **S2**

FOUNDATION PLAN - AREA 'G'

33 32 31 30 29 28 27 26 25 24 23 22

2128'-4" (OVERALL)

57'-3" | 57'-3" | 57'-3" | 57'-3" | 57'-3" | 57'-3" | 57'-3" | 57'-3" | 57'-3" | 48'-3"

5'-8" | 1'-10" | 2'-0" | 1'-10"

℄ COLUMN

MATCH LINE

F.O.W. MATCH LINE

F.O.W.

R SD2

M SD2

P SD2

SEE SHEET S1 FOR TRUCK APRON SLAB.

10'-0" WIDE CLOSURE STRIP

SPEED BAY SLAB TYPICAL AT HATCHED AREA.

3'-6" WIDE x 15" THICK WITH 2-#5 T & B TYPICAL U.O.N.

STEEL STAIRS SEE ARCH'L PLANS TYPICAL

255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278

137 138 139 140 141 142 143 144 145 146 147 148 149 150

R Q.2 P.2 N.1 L.9 K.8 J.6 J H.6 H.5 H.4

Q Q.2 P P.2 N.3 N.1 N M.5 M L.9 L.5 L K.8 K.5 K J.6 J.5 J H.6 H.4

800'-0" (OVERALL)

400'-0"

56'-6" | 57'-3" | 57'-3" | 57'-3" | 57'-3" | 55'-10" | 2'-10"

1'-5" | 1'-5"

℄ WALL

MATCH LINE

W14x176 WIDE FLANGE COL.

15'-0" SQ.

9'-3" SQ.

HSS10x10x3/8 TUBE COLUMN TYP. U.O.N.

6'-0" SQ. TYP. U.O.N.

HSS12x12x5/16 TUBE COLUMN

7'-0" SQ.

5'-0" x 10'-0"

4'-11" TYP. THIS LINE U.O.N.

6'-6" WIDE x 18" THICK WITH 5-#5 T & B TYPICAL THIS LINE

6'-0" MIN. CLOSURE STRIP

SEE CIVIL PLANS FOR FINISH FLOOR SLAB ELEVATIONS

PROVIDE SUPER FLAT SLAB AT RACK AREA. POUR SLAB IN STRIPS. COORDINATE JOINT LOCATIONS WITH RACK LAYOUT SO JOINTS ARE IN THE RACK FLUE SPACE.

SPEED BAY SLAB TYPICAL AT HATCHED AREA.

SEE SHEET S100 FOR SLAB-ON-GRADE NOTES, FOUNDATION NOTES, AND PAD FOOTING SCHEDULE.

KEY PLAN N.T.S.

G E C A H F D B

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CHECKED BY: KEI

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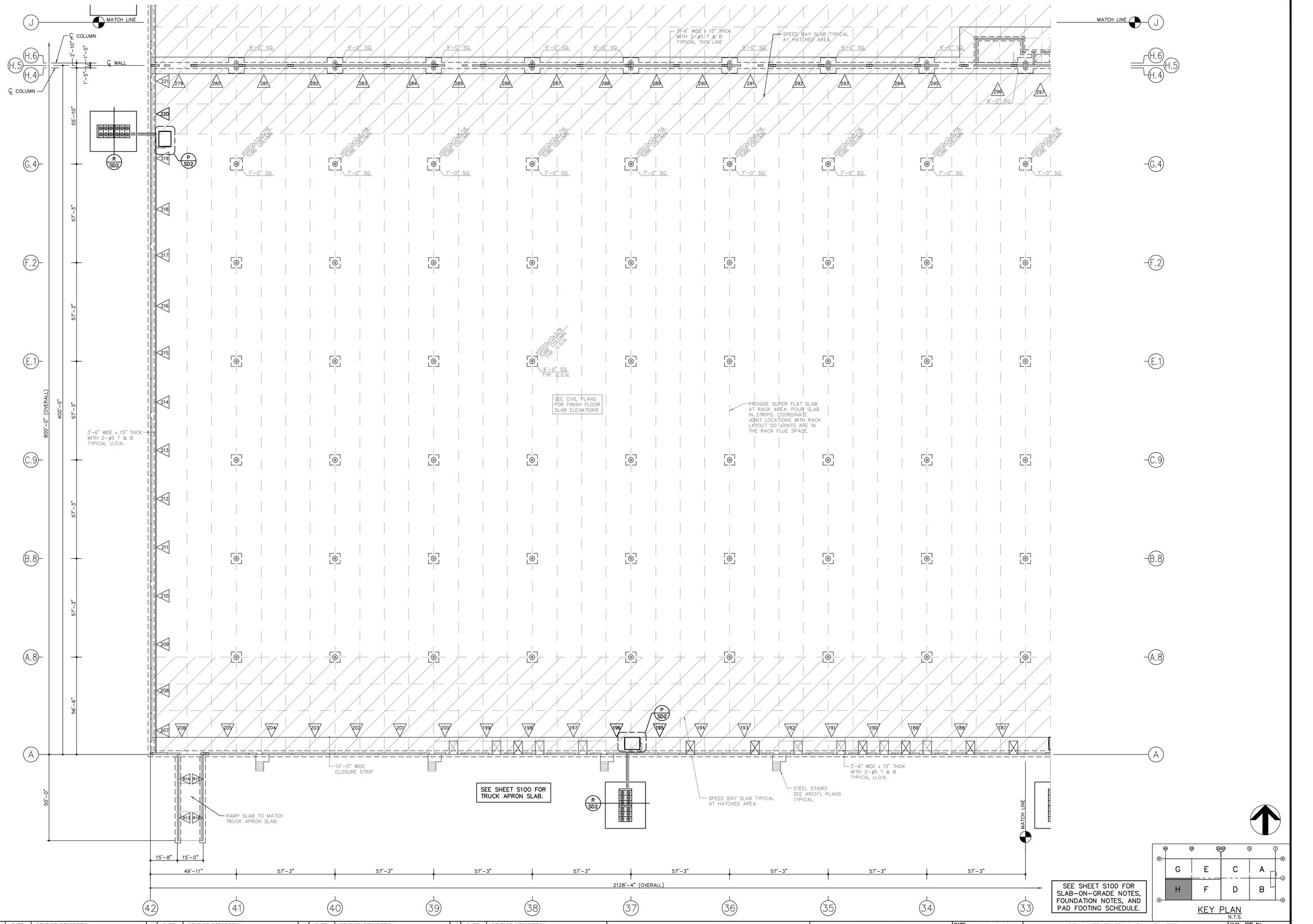
FOUNDATION PLAN - AREA 'E'

H.M. JOB No. 19034
KEI JOB No. 19-060.01
SHEET NUMBER **S3**



SEE SHEET S100 FOR SLAB-ON-GRADE NOTES, FOUNDATION NOTES, AND PAD FOOTING SCHEDULE.

KEY PLAN
N.T.S.

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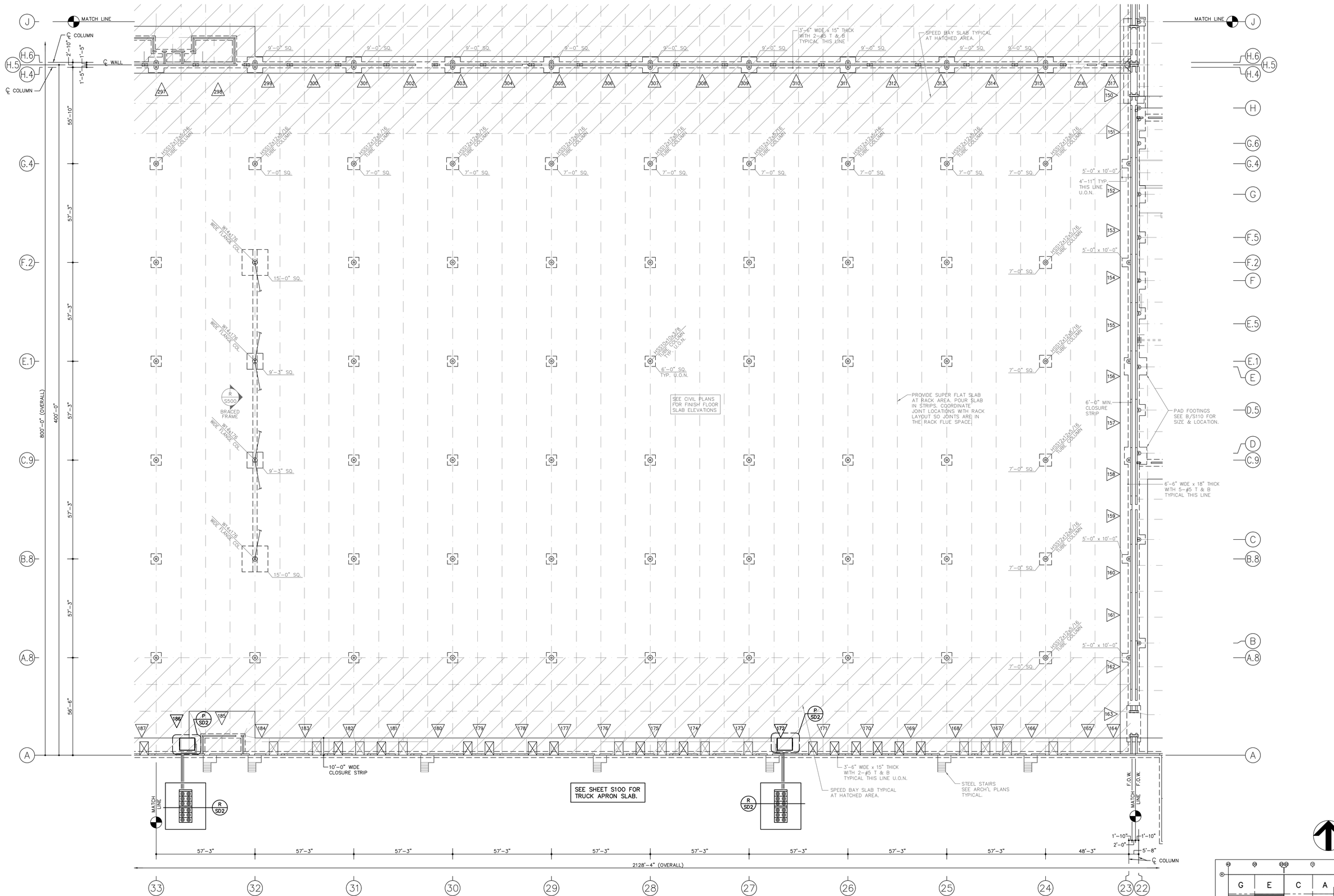
FOUNDATION PLAN - AREA 'H'

H.M. JOB No. 19034
KEI JOB No. 19-060.01
SHEET NUMBER **S4**



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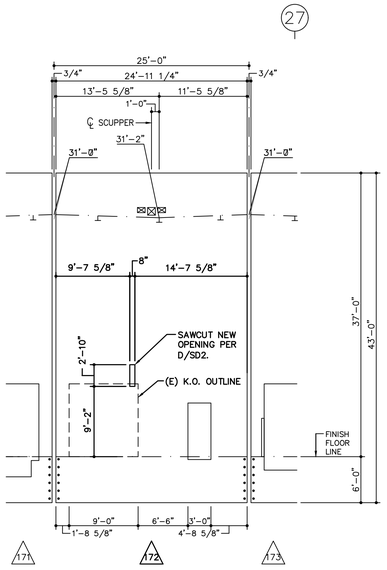
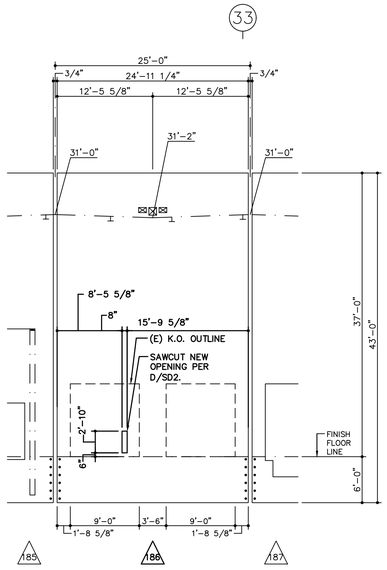
FOUNDATION PLAN - AREA 'F'

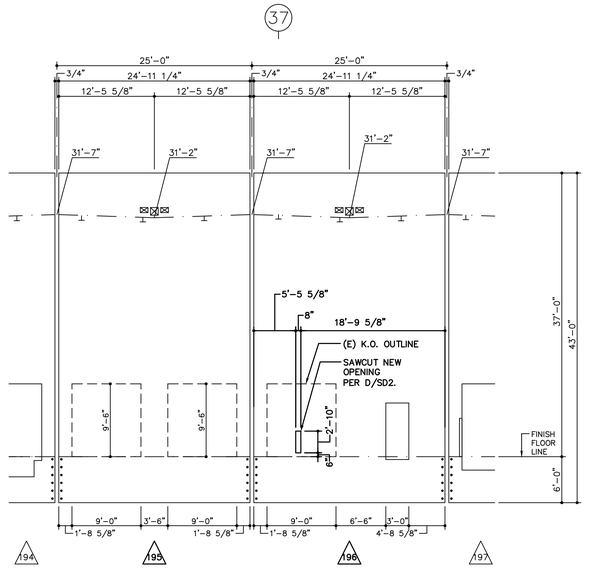
H.M. JOB No. 19034
KEI JOB No. 19-060.01
SHEET NUMBER **S5**



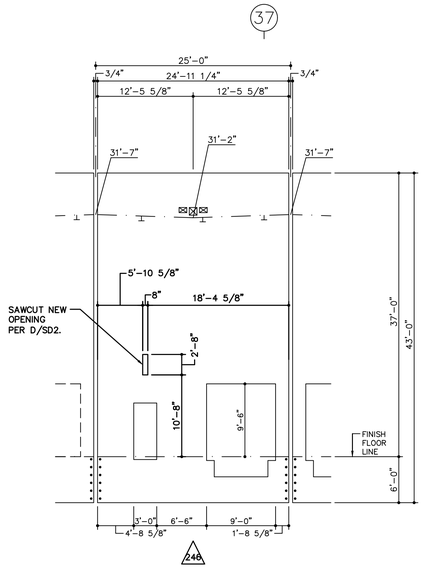
EXISTING PARTIAL SOUTH WALL – 10" THICK



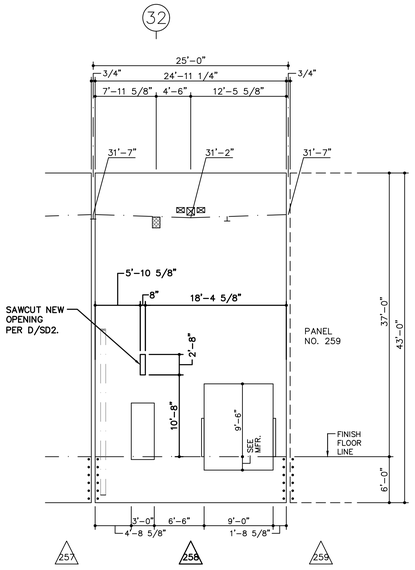
ORIGINAL PARTIAL SOUTH WALL – 10" THICK



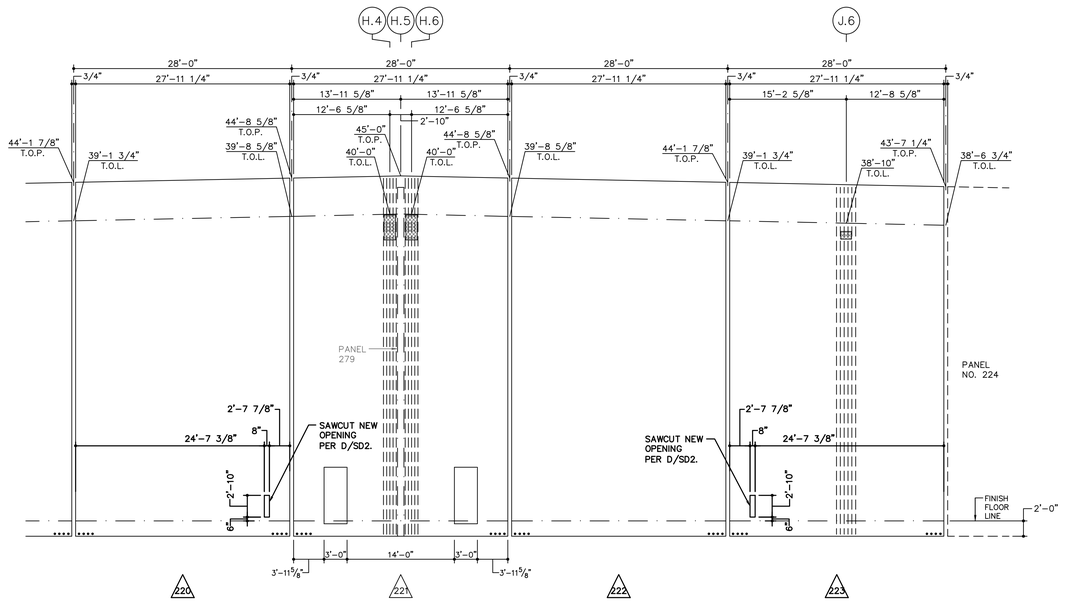
ORIGINAL PARTIAL SOUTH WALL – 10" THICK



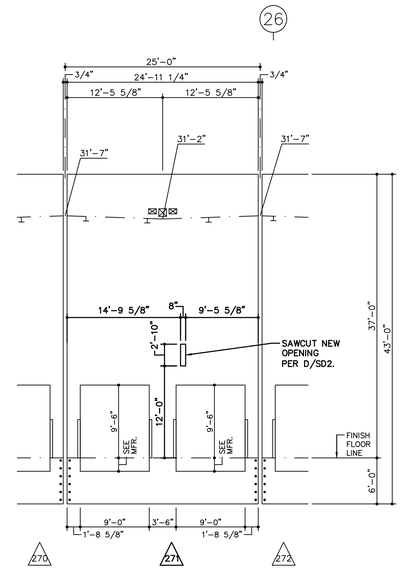
ORIGINAL PARTIAL NORTH WALL – 10" THICK



ORIGINAL PARTIAL NORTH WALL – 10" THICK



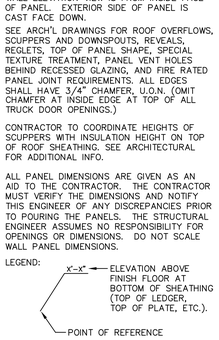
ORINGINAL PARTIAL WEST WALL – 10" THICK



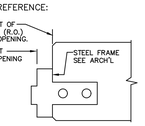
ORIGINAL PARTIAL NORTH WALL – 10" THICK

ORIGINAL PRECAST PANEL NOTES:

1. SEE SHEET SD1 FOR GENERAL NOTES, SHEET SD1A FOR REQUIRED TESTS AND INSPECTIONS, AND SHEET SD2 FOR TYPICAL DETAILS. DETAILS AND SECTIONS REFERENCED ONCE SHALL APPLY TO ALL OTHER SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
2. SEE DETAIL E/SD3 FOR PANEL SETTING PAD AND PANEL SHIM REQUIREMENTS.
3. SEE DETAILS B/SD4 AND D/SD4 FOR TYPICAL PANEL REQUIREMENTS. REINFORCE FUTURE KNOCKOUTS AS OPENINGS WHERE OCCUR. SEE E/SD3 FOR TYPICAL SETTING PAD.
4. SEE FOUNDATION PLAN AND D/SD4 FOR PANEL DOWEL SIZE AND SPACING, TYPICAL UNLESS OTHERWISE NOTED.
5. WALL ELEVATION VIEW IS FROM INSIDE FACE OF PANEL. EXTERIOR SIDE OF PANEL IS CAST FACE DOWN.
6. SEE ARCH'L DRAWINGS FOR ROOF OVERFLOWS, SCUPPERS AND DOWNSPOUTS, REVEALS, REGLETS, TOP OF PANEL SHAPE, SPECIAL TEXTURE TREATMENT, PANEL VENT HOLES BEHIND RECESSED GLAZING, AND FIRE RATED PANEL JOINT REQUIREMENTS. ALL EDGES SHALL HAVE 3/4" CHAMFER, U.O.N. (OMIT CHAMFER AT INSIDE EDGE AT TOP OF ALL TRUCK DOOR OPENINGS.)
7. CONTRACTOR TO COORDINATE HEIGHTS OF SCUPPERS WITH INSULATION HEIGHT ON TOP OF ROOF SHEATHING. SEE ARCHITECTURAL FOR ADDITIONAL INFO.
8. ALL PANEL DIMENSIONS ARE GIVEN AS AN AID TO THE CONTRACTOR. THE CONTRACTOR MUST VERIFY THE DIMENSIONS AND NOTIFY THIS ENGINEER OF ANY DISCREPANCIES PRIOR TO POURING THE PANELS. THE STRUCTURAL ENGINEER ASSUMES NO RESPONSIBILITY FOR OPENINGS OR DIMENSIONS. DO NOT SCALE WALL PANEL DIMENSIONS.
9. LEGEND:



DIMENSION REFERENCE:



SCALE: 1/8" = 1'-0"

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PANEL ELEVATIONS

H.M. JOB No. 19034
KEI JOB No. 19-060.01
SHEET NUMBER **S6**

GENERAL REQUIREMENTS:

1. DESIGN CRITERIA:
   DESIGN CODE: 2010 CALIF. BUILDING CODE (2009 IBC)
   SEISMIC DESIGN CATEGORY = D
   S_S = 1.063 S_{DS}= 0.722
   S_1 = 0.389 S_{D1}= 0.421
   SITE CLASS = D
   SEISMIC IMPORTANCE FACTOR I_E = 1.5 (OWNER REQUIREMENT)
   WIND SPEED–85 M.P.H. (3–SEC. GUST)
   WIND EXPOSURE – C
   WIND IMPORTANCE FACTOR I_W = 1.15 (OWNER REQUIREMENT)
2. ALL MATERIALS AND WORK PERFORMED SHALL CONFORM WITH THE REQUIREMENTS OF THE GOVERNING BUILDING CODES AND BUILDING ORDINANCES.
3. CONSTRUCTION AND MATERIALS SHALL COMPLY WITH AND BE INSTALLED IN ACCORDANCE WITH ALL THE REQUIREMENTS OF ALL LEGALLY CONSTITUTED PUBLIC AUTHORITIES HAVING JURISDICTION, INCLUDING ALL COUNTY AND LOCAL ORDINANCES, AND THE SAFETY ORDERS OF THE STATE INDUSTRIAL ACCIDENT COMMISSION, OSHA.
4. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES.
5. SEE ARCHITECT'S SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS, IF APPLICABLE.
6. WHERE A SECTION OR TYPICAL DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. ANY REFERENCE TO THE WORDS APPROVED, OR APPROVAL IN THESE DOCUMENTS SHALL BE HERE DEFINED TO MEAN GENERAL ACCEPTANCE OR REVIEW AND SHALL NOT RELIEVE THE CONTRACTOR AND/OR HIS SUB–CONTRACTORS OF ANY LIABILITY IN FURNISHING THE REQUIRED MATERIALS OR LABOR SPECIFIED.
8. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES, INCLUDING, BUT NOT LIMITED TO BRACING AND SHORING. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVES OF THE ARCHITECT OR ENGINEER SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES. ANY SUPPORT SERVICES PERFORMED BY THE ARCHITECT OR ENGINEER DURING THE CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ARCHITECT OR ENGINEER, WHETHER OF MATERIAL OR WORK, AND FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DOCUMENTS, DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.
9. NO CHANGES ARE TO BE MADE TO THESE PLANS WITHOUT THE KNOWLEDGE AND WRITTEN CONSENT OF THIS ENGINEER. ALL MATERIALS SHALL BE FURNISHED AS SHOWN HEREIN UNLESS EQUAL ALTERNATES ARE APPROVED IN WRITING BY THE OWNER AND THIS ENGINEER.
10. THE OWNER SHALL HAVE THE RIGHT TO MAKE CERTAIN CHANGES IN THE WORK AND THE CONTRACT AMOUNT SHALL BE ADJUSTED ACCORDINGLY. HOWEVER, THE GENERAL CONTRACTOR SHALL NOT PROCEED WITH ANY CHANGES WITHOUT THE WRITTEN APPROVAL OF THE OWNER.
11. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL WORK, INCLUDING THAT OF ALL SUB–TRADES.
12. GENERAL CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY ALL GRADES, DIMENSIONS, AND CONDITIONS PRIOR TO BIDDING AND COMMENCING CONSTRUCTION. ALL DIMENSIONS CONTROLLED BY EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE.
13. GENERAL CONTRACTOR SHALL NOTIFY ENGINEER AND ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES FOUND WITHIN THE CONTRACT DOCUMENTS.
14. CONNECTIONS OF ALL ITEMS SUPPORTED BY THE STRUCTURE ARE THE RESPONSIBLITY OF THE DISCIPLINES WHO ARE MAKING THESE ATTACHMENTS. THESE ATTACHMENTS SHALL BE DESIGNED TO RESIST ALL GRAVITY, WIND, SEISMIC, THERMAL LOADS, ETC. SPRINKLER PIPING SHALL BE SUPPORTED AND BRACED PER APPLICABLE CODES. SUSPENDED CEILING SYSTEMS OF ACOUSTICAL TILE OR LAY–IN PANELS SHALL BE SUPPORTED AND BRACED PER CBC. ALL RACKING SYSTEMS SHALL BE SELF–SUPPORTING UNDER SEPARATE PERMIT WITHOUT ANY CONNECTION TO THIS STRUCTURE.
15. CONCRETE SLAB–ON–GRADE HAS NOT BEEN DESIGNED FOR CONSTRUCTION LOADS, BRACE LOADS, OR SPECIFIC OCCUPANT LOADS BY THE STRUCTURAL ENGINEER.
16. VIBRATIONAL EFFECTS OF MECHANICAL EQUIPMENT HAVE NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER.

ADDITIONAL SAFETY NOTES:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SITE SAFETY. THE FOLLOWING REQUIREMENTS ARE NOT INTENDED TO BE A COMPLETE LIST, BUT ARE ADDITIONAL SAFETY REQUIREMENTS FOR THE CONTRACTOR. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE FOLLOWING ITEMS:

1. THE STRUCTURE SHOWN IN THESE DRAWINGS IS STRUCTURALLY SOUND ONLY IN ITS COMPLETE FORM. THE DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND HAS NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE PRIOR TO THE APPLICATION OF ALL WALLS, AND ROOF & FLOOR SHEATHING. THE CONTRACTOR SHALL PROVIDE THE NECESSARY BRACING TO PROVIDE STABILITY PRIOR TO THE APPLICATION OF THE AFORE–MENTIONED MATERIALS.
2. AN ERECTION PLAN IS REQUIRED FOR MOST CONSTRUCTION PHASES. CONTRACTOR SHALL DETERMINE ALL CONSTRUCTION PHASES WHICH REQUIRE ERECTION PLANS ACCORDING TO ALL APPLICABLE SAFETY REGULATIONS. A CERTIFIED COPY OF SUCH ERECTION PLANS SHALL REMAIN ON THE CONSTRUCTION SITE AT ALL TIMES.
3. TEMPORARY LOADING DURING CONSTRUCTION SHALL NOT OVERLOAD DESIGN VALUES. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL TRADES OF SUCH DESIGN VALUES. THE USE OF ATV TYPE MATERIAL HANDLING EQUIPMENT IS PROHIBITED FROM USE ON WOOD ROOFS AND ELEVATED FLOORS.
4. THE CONTRACTOR SHALL PROVIDE ATTACHED VISIBLE PLATES INDICATING THE DESIGN LOADS IN ALL SPACES AS REQUIRED BY APPLICABLE SAFETY REGULATIONS. THE OCCUPANT OF THE BUILDING SHALL BE RESPONSIBLE FOR KEEPING THE ACTUAL LOAD BELOW THE ALLOWABLE LIMITS.
5. CONTRACTOR SHALL DETERMINE IF A CALOSHA PERMIT IS REQUIRED, IF SO, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SUCH PERMIT.
6. THE LACK OF A HIGH GUARDRAIL AT BUILDING PARAPETS, FLOOR OPENING, & ROOF OPENINGS DOES NOT MEET CURRENT LABOR CODE FOR AN OCCUPIED SPACE. THIS ENGINEER RECOMMENDS THE USE OF GUARDRAILS AT STATED LOCATIONS. IF GUARDRAILS ARE NOT USED THE CONTRACTOR SHALL ACCEPT FULL RESPONSIBILITY. IN ADDITION, THE CONTRACTOR SHALL PROVIDE CLEARLY LEGIBLE SIGNS AT THESE LOCATIONS STATING "CAUTION: NO GUARDRAIL".
7. ALL TEMPORARY FLOOR AND ROOF OPENINGS LACKING GUARDRAILS SHALL BE ADEQUATELY COVERED AND DESIGNED TO RESIST CONSTRUCTION TRAFFIC LOADS.
8. CONTRACTOR SHALL VERIFY THAT ALL SKYLIGHTS ARE DESIGNED TO WITHSTAND THE LOADS REQUIRED BY THE CBC.
9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH THE EXECUTION OF THIS WORK.
10. MATERIALS USED IN THIS DESIGN MAY BE HAZARDOUS TO ONES HEALTH. THE CONTRACTOR SHALL ACCEPT ALL RESPONSIBILITY AND SHALL POST SUCH WARNING DURING CONSTRUCTION.
11. THE CONTRACTOR, DURING CONSTRUCTION, AND THE OWNER, DURING OCCUPANCY, SHALL ASSUME ALL RESPONSIBILITY FOR PROPER ROOF MAINTENANCE TO INSURE PROPER ROOF DRAINAGE.

FOUNDATION:

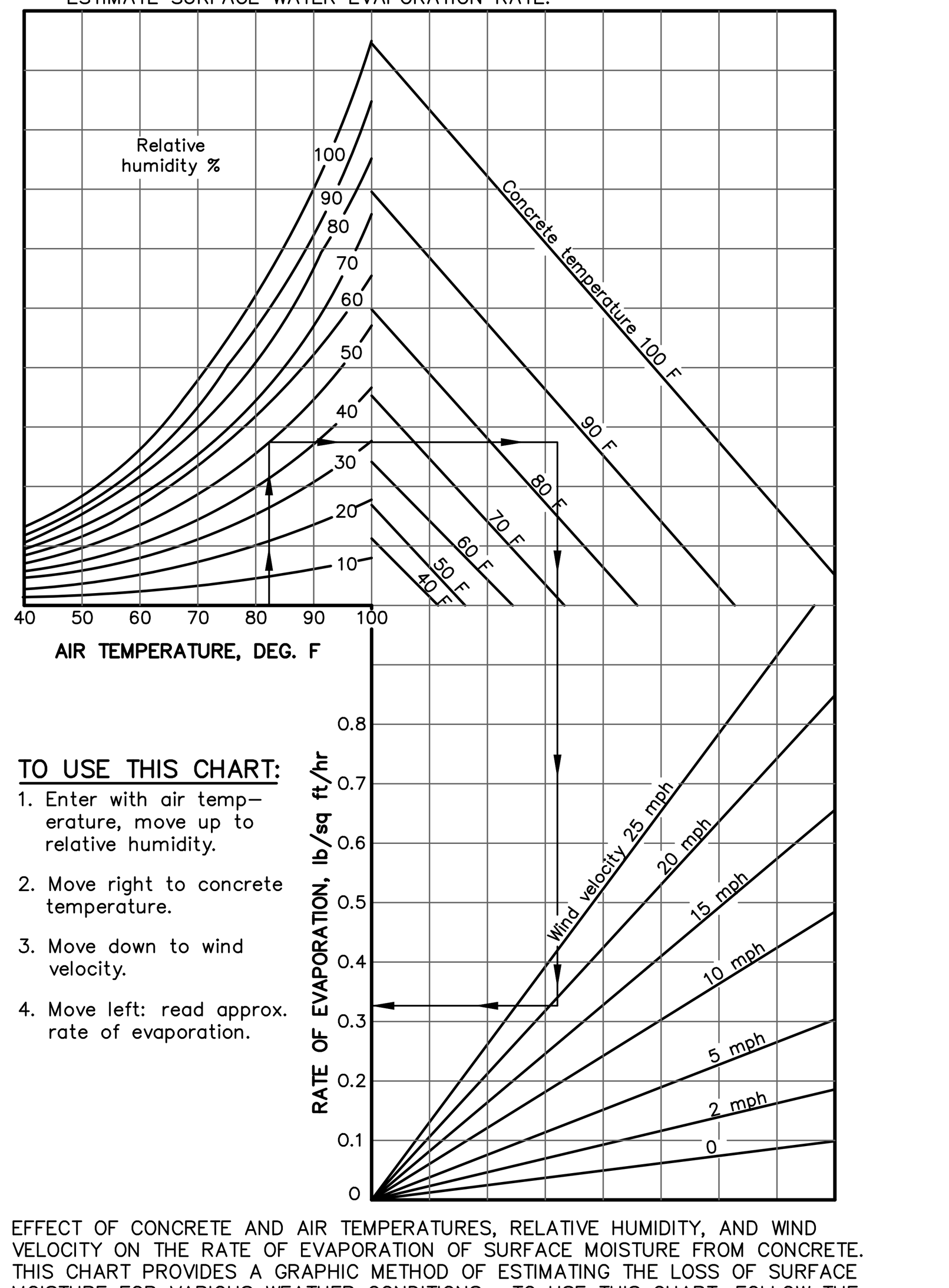
1. EXCAVATE FOR FOUNDATIONS TO THE DEPTHS SHOWN ON THE DRAWINGS BELOW COMPACTED EARTH. SEE GEOTECHNICAL REPORT FOR PAD AND FOOTING OVER–EXCAVATION AND COMPACTION REQUIREMENTS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING NECESSARY TO SUPPORT CUT AND/OR FILL BANKS DURING EXCAVATION, AND FOR FORMING AND PLACEMENT OF CONCRETE. GENERAL CONTRACTOR AND CONCRETE SUB–CONTRACTOR SHALL REVIEW AND FAMILIARIZE THEMSELVES WITH THE GEOTECHNICAL REPORT.
3. ALL FILLING AND BACKFILLING SHALL BE OBSERVED AND TESTED BY THE GEOTECHNICAL ENGINEER PRIOR TO FORMING. ALL FOOTING EXCAVATIONS SHALL BE OBSERVED AND TESTED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING ANY REINFORCING IN THE EXCAVATED TRENCHES.
4. THE GEOTECHNICAL REPORT IN ITS ENTIRETY SHALL BE INCLUDED AS PART OF THE CONTRACT DOCUMENTS. FOR RECOMMENDED SOIL BEARING PRESSURE, FOUNDATION MATERIAL AND SITE GRADING, SEE GEOTECHNICAL REPORT BY:
   PROFESSIONAL SERVICE INDUSTRIES, INC. (PSI)
   PSI REPORT No. 0559657   DATED 3/28/12
   DESIGN SOIL BEARING VALUE = 3500 PSF.
   (SUBGRADE MODULUS k=150 PCI).

REINFORCING STEEL:

1. REINFORCING STEEL NO. 3 OR LARGER SHALL CONFORM TO ASTM A615 GRADE 60 UNLESS OTHERWISE NOTED.
2. ALL WELDED REINFORCING STEEL SHALL CONFORM TO ASTM A706 GRADE 60, AND FABRICATED IN ACCORDANCE WITH AWS D1.4. WELDING SHALL BE PERFORMED BY BUILDING DEPARTMENT APPROVED CERTIFIED WELDERS USING LOW HYDROGEN E80XX ELECTRODES. ALL FIELD WELDING SHALL BE CONTINUOUSLY INSPECTED BY A REGISTERED DEPUTY INSPECTOR. WELDING OF CROSS BARS (TACK WELDING) SHALL NOT BE PERMITTED EXCEPT AS AUTHORIZED OR DIRECTED BY THIS ENGINEER.
3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 GRADE 65 FOR PLAIN WIRE AND ASTM A1064 GRADE 80 FOR DEFORMED WIRE.
4. BARS SHALL BE CLEAN OF MUD, OIL OR OTHER COATINGS LIKELY TO IMPAIR BONDING.
5. ALL REINFORCING, ANCHOR BOLTS, AND OTHER INSERTS SHALL BE SECURED IN PLACE PRIOR TO PLACING CONCRETE OR GROUTING MASONRY.
6. REINFORCING STEEL SHALL BE SPLICED AS SHOWN OR NOTED. SPLICES AT OTHER LOCATIONS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER. ALL VERTICAL WALL REINFORCEMENT SHALL BE CONTINUOUS BETWEEN SPLICE LOCATIONS SHOWN IN THE DETAILS. WELDED WIRE FABRIC SHALL LAP ONE MESH WIDTH MIN.
7. REINFORCING BARS SHALL NOT BE RE–BENT WITHOUT APPROVAL OF STRUCTURAL ENGINEER. BENDS SHALL BE MADE COLD.
8. REINFORCING SHALL HAVE THE FOLLOWING MINIMUM CONCRETE COVER:
   A. CONCRETE CAST AGAINST EARTH .... 3"
   B. SLAB ON GRADE .... 2" FROM TOP
   C. CAST–IN–PLACE WALLS: .... 1 1/2"(#5 AND SMALLER)
      2" (#6 AND LARGER)
   D. INTERIOR COLUMNS AND BEAMS .... 1 1/2"
   E. PRECAST CONCRETE WALL PANELS .... 3/4" (#11 AND SMALLER)
9. SEE SHEET SD2 FOR TYPICAL DETAILS INVOLVING REINFORCING HOOKS, SPLICES, WELDING, ETC.
10. REINFORCING STEEL SHOP DRAWINGS WILL NOT BE REVIEWED BY THIS ENGINEER.

BUILDING SLAB ON GRADE:

1. ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO CBC CHAPTER 19 AND TO ALL REQUIREMENTS OF ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS BELOW.
2. SEE "CONCRETE" NOTES THIS SHEET FOR ADDITIONAL INFORMATION.
3. MIX DESIGN REQUIREMENTS:
   A. THE CONCRETE SUPPLIER MUST BEAR THE TOTAL RESPONSIBILITY THAT THE MIX DESIGNS WILL ATTAIN THE REQUIRED STRENGTH AND ACCEPTABLE SHRINKAGE CHARACTERISTICS. ACCEPTANCE OF MIX DESIGN BY THIS ENGINEER WILL BE BASED ONLY ON CONFORMANCE OF SPECIFIED DESIGN STRENGTH, DESIGN SLUMP, AND AGGREGATE SIZE.
   B. SEE TABLE UNDER "CONCRETE" NOTES THIS SHEET FOR CONCRETE STRENGTH REQUIREMENT.
   C. CONCRETE SLUMP FROM WATER SHALL BE DESIGNED TO 4 INCHES. ALL ALL CONCRETE WITH SLUMPS IN EXCESS OF 5 INCHES SHALL BE REJECTED AND SHALL NOT BE USED (UNLESS PLASTICIZING ADMIXTURES ARE INCLUDED IN THE MIX DESIGN).
   D. CONCRETE MIX SHALL BE DESIGNED UTILIZING THE GREATEST AMOUNT OF 1–1/2 INCH MAXIMUM SIZE AGGREGATE AND LOWEST POSSIBLE PERCENTAGE OF SAND CONSISTANT WITH GOOD WORKABILITY AND AGGREGATE GRADING.
4. FINISH: FLOOR SLABS SHALL BE FINISHED WITH A SMOOTH, DENSE BURNISHED FINISH.
   A. FLOOR FLATNESS NUMBERS OF NOT LESS THAN F_F–50 SPECIFIED OVERALL VALUE, AND F_F–30 MINIMUM LOCAL VALUE.
   B. FLOOR LEVELNESS NUMBERS NOT LESS THAN F_L–35 SPECIFIED OVERALL VALUE, AND F_L–21 MINIMUM LOCAL VALUE.
   C. SLAB THICKNESS SHALL BE WITHIN THE FOLLOWING TOLERANCE: PLUS 3/8" AND MINUS 1/4".
5. SEE FOUNDATION PLAN FOR JOINT AND CLOSURE STRIP LOCATIONS. CHANGES TO CLOSURE STRIPS AND JOINT LOCATIONS SHALL BE SUBMITTED TO ENGINEER PRIOR TO PLACING CONCRETE.
6. CURING: APPLY AS SOON AS FEASIBLE AFTER FINISHING OPERATIONS WITHOUT MARRING SURFACES, AND IN ANY CASE, ON THE SAME DAY. WET CURE ALL INTERIOR FLOOR SLABS WITH A PROTECTIVE WET COVERING FOR A PERIOD OF AT LEAST 7 DAYS AFTER PLACING COVER.
7. VAPOR RETARDING LAYER: SEE THE ARCHITECTURAL DRAWINGS AND/OR SOILS REPORT FOR REQUIREMENTS, THICKNESS, AND LOCATION OF UNDERLYING VAPOR RETARDING OR BARRIER LAYER BELOW THE SLAB (IF APPLICABLE) AND ANY GRANULAR BASE REQUIREMENTS BELOW THE VAPOR RETARDING/BARRIER LAYER.
   A. AT MOISTURE SENSITIVE FLOORING: ALTERNATE CURING METHODS MAY BE DESIRED BY THE ARCHITECT TO REDUCE WATER VAPOR TRANSMISSION AT AREAS WITH MOISTURE SENSITIVE FLOORING. UNLESS OTHERWISE NOTED, THE SLAB ON GRADE SHOULD BE CAST DIRECTLY ON TOP OF THE VAPOR RETARDING/BARRIER LAYER.
   B. AT EXPOSED CONCRETE SLAB WITHOUT FLOORING: UNLESS OTHERWISE NOTED PROVIDE 4" OF COMPACTED MANUFACTURED SAND FILL ABOVE THE VAPOR RETARDING/BARRIER LAYER. MANUFACTURED SAND TO HAVE A UNIFORM DISTRIBUTION OF PARTICLE SIZES RANGING FROM NO. 4 SIEVE TO THE NO. 200 SIEVE. FILL ABOVE THE VAPOR RETARDING/BARRIER LAYER TO BE DRY AT THE TIME CONCRETE IS PLACED (UNLESS SEVERE DRYING CONDITIONS EXIST).
8. HOT WEATHER CONCRETING: COMPLY WITH THE RECOMMENDATIONS OF SECTION 11.5.2, ACI 302.1R–15 REGARDING PLACING OF CONCRETE DURING HOT WEATHER.
   A. WHEN AIR TEMPERATURE IS ABOVE 80° F, THE GUIDELINES FOR PROTECTING THE CONCRETE FROM PLASTIC SHRINKAGE CRACKING AND CRAZE CRACKING, BY PROVIDING A TEMPERATURE CONTROLLED MIX AND PROTECTING THE CONCRETE SURFACE FROM RAPID WATER EVAPORATION AS DESCRIBED IN ACI 305R, SHALL APPLY.
   B. WHEN THE RATE OF EVAPORATION EXCEEDS 0.2 POUNDS PER SQUARE INCH PER HOUR, THE CONTRACTOR SHALL TAKE THE NECESSSARY PRECAUTIONS AGAINST PLASTIC SHRINKAGE CRACKING AS DESCRIBED IN ACI 305R. SEE SURFACE WATER EVAPORATION TABLE BELOW TO ESTIMATE SURFACE WATER EVAPORATION RATE.



TO USE THIS CHART:
1. Enter with air temperature, move up to relative humidity.
2. Move right to concrete temperature.
3. Move down to wind velocity.
4. Move left: read approx. rate of evaporation.

EFFECT OF CONCRETE AND AIR TEMPERATURES, RELATIVE HUMIDITY, AND WIND VELOCITY ON THE RATE OF EVAPORATION OF SURFACE MOISTURE FROM CONCRETE. THIS CHART PROVIDES A GRAPHIC METHOD OF ESTIMATING THE LOSS OF SURFACE MOISTURE FOR VARIOUS WEATHER CONDITIONS. TO USE THIS CHART, FOLLOW THE FOUR STEPS OUTLINED ABOVE. IF THE RATE OF EVAPORATION APPROACHES 0.2 LB/FT²/HR, PRECAUTIONS AGAINST PLASTIC SHRINKAGE CRACKING ARE NECESSARY.

CONCRETE:

1. ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO IBC CHAPTER 19 AND TO ALL REQUIREMENTS OF ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, EXCEPT AS MODIFIED BY THE THE SUPPLEMENTAL REQUIREMENTS BELOW.
2. MIX DESIGN REQUIREMENTS:
   A. CONCRETE MIX TO BE PLACED SHALL BE DESIGNED USING THE APPROPRIATE CEMENT TYPE, MAXIMUM WATER/CEMENT RATIOS, MINIMUM COMPRESSIVE STRENGTHS (f'c), AND MAXIMUM SIZE AGGREGATE LISTED IN THE TABLE BELOW FOR THE SULFATE EXPOSURE AT THE SITE. SULFATE EXPOSURE AT THE SITE SHALL BE OBTAINED FROM THE PROJECT'S SOILS REPORT.

SULFATE EXPOSURE	CEMENT TYPE	MAXIMUM WATER/ CEMENT	f'c MIN @ 28 DAYS U.O.N.		
			S.O.G.	FOUND.	WALLS*
S0 – NOT APPLICABLE (0.00–0.10% BY WEIGHT)	II	N.A.	4000	3000	4000*
S1 – MODERATE (0.10–0.20% BY WEIGHT)	II	0.50	4000	4000	4000
S2 – SEVERE (0.20–2.00% BY WEIGHT)	V	0.45	4500	4500	4500
S3 – VERY SEVERE (OVER 2.00% BY WEIGHT)	V+ POZZOLAN OR SLAG	0.45	4500	4500	4500
AGGREGATE: LARGEST SIZE REQUIRED IN GRADATION			1 1/2"	1 1/2"	1"

   * SEE PANEL ELEVATIONS FOR PANELS WITH SPECIAL MINIMUM COMPRESSIVE STRENGTH (f'c.) REQUIREMENTS.
   B. IF FLY ASH IS USED IN A CONCRETE MIX DESIGN, ADMIXTURES TO COMPENSATE FOR THE STRENGTH RETARDING AFFECTS OF FLY ASH MUST BE INCLUDED IN THE CONCRETE MIX DESIGN.
   C. PROVIDE A UNIFORM GRADATION OF COARSE TO FINE AGGREGATE TO CONFORM TO ASTM C33 AND SHALL NOT BE DETERIOUSLY REACTIVE WHEN WETTED OR IN CONTACT WITH MOIST GROUND.
   D. CONCRETE SLUMP FROM WATER SHALL BE DESIGNED TO 4 INCHES. ALL CONCRETE WITH SLUMPS IN EXCESS OF 5 INCHES SHALL BE REJECTED AND NOT USED (UNLESS PLASTICIZING ADMIXTURES ARE INCLUDED IN THE MIX DESIGN)
   E. THE CONCRETE SUPPLIER MUST BEAR THE TOTAL RESPONSIBILITY THAT THE MIX DESIGNS WILL ATTAIN THE REQUIRED STRENGTH AND ACCEPTABLE SHRINKAGE CHARACTERISTICS. ACCEPTANCE OF MIX DESIGN WILL BE BASED ONLY ON CONFORMANCE OF SPECIFIED DESIGN STRENGTH AND DESIGN SLUMP.
3. PIPE MAY PASS THROUGH STRUCTURAL CONCRETE IN SLEEVES, BUT SHALL NOT BE EMBEDDED THEREIN. SLEEVES SHALL BE WRAPPED WITH EXPANSION JOINT FILLER MATERIAL TO ALLOW CONCRETE TO CURE WITHOUT RESTRAINT. PIPES OR CONDUITS EXCEEDING ONE–THIRD THE SLAB OR WALL THICKNESS SHALL NOT BE IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED. SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LOCATION OF SLEEVES, ACCESSORIES, ETC.
4. ALL REINFORCING STEEL, WIRE MESH, ANCHOR BOLTS, HOLDOWN ANCHORS, AND OTHER INSERTS SHALL BE SECURED IN POSITION AND INSPECTED BY THE BUILDING OFFICIAL PRIOR TO PLACING CONCRETE.
5. LOCATION OF CONSTRUCTION OR POUR JOINTS NOT SPECIFIED IN THESE DRAWINGS MUST BE REVIEWED BY THE STRUCTURAL ENGINEER.
6. REFER TO ARCHITECTURAL DRAWINGS FOR MOLDS, GROOVES, ORNAMENTS, OR ACCESSORIES REQUIRED TO BE CAST IN CONCRETE, AND FOR LOCATIONS OF FLOOR FINISHES AND SLAB DEPRESSIONS.
7. NO CONSTRUCTION TRAFFIC SHALL BE ALLOWED ON ANY CONCRETE FLAT WORK UNTIL CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF 1800 PSI – 7 DAYS MINIMUM.

PRECAST CONCRETE WALL PANELS:

1. SEE "CONCRETE" NOTES FOR ADDITIONAL INFORMATION REGARDING PRECAST CONCRETE REQUIREMENTS.
2. WALL PANELS SHALL BE TROWELLED SMOOTH UNLESS OTHERWISE NOTED AND FREE FROM AIR POCKETS AND SEGREGATED AREAS.
3. CONCRETE CONTRACTOR SHALL FURNISH DESIGN AND BE RESPONSIBLE FOR PICK–UP POINTS, STRONGBACKS AND ANY ADDITIONAL STEEL REQUIRED TO LIFT PANELS WITHOUT CRACKING. DESIGN SECTION SHALL REMAIN TENSION–CONTROLLED (ACI 318 SEC. 10.3.4) IF REINFORCEMENT IS ADDED. PANELS SHALL ONLY BE ERECTED BEYOND 10 DAYS AFTER CASTING AND AFTER THE PANEL LIFT ENGINEER HAS ACCEPTED THE CONCRETE STRENGTH FROM CYLINDER TESTS.
4. CASTING SURFACE: A RIGID CONCRETE OR WOOD CASTING SURFACE SHALL BE USED. CONTRACTOR TO APPLY A NON–SURFACE RETARDING BOND BREAKER TO CONCRETE SURFACE PRIOR TO CASTING PANELS TO ALLOW FREE RELEASE OF PANEL DURING LIFTING. BOND BREAKER SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
5. ALL ANCHOR BOLTS, EMBEDS, AND OTHER CONNECTIONS BETWEEN WORK PERFORMED BY THE ROOFING CONTRACTOR AND WORK BY OTHER TRADES SHALL BE LOCATED AND SET BY CONCRETE CONTRACTOR. CONCRETE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURATE PLACEMENT OF SAME IN ACCORDANCE WITH PLANS AND DETAILS.
6. ALL TOPS OF COLUMNS AND WALLS SHALL BE ADEQUATELY BRACED BY CONCRETE CONTRACTOR UNTIL ROOF SHEATHING IS COMPLETED AND FASTENED IN PLACE. CONCRETE CONTRACTOR SHALL PROPERLY SACK ALL WALL LIFT POINT POCKETS.
7. CONCRETE SUB–CONTRACTOR SHALL CHECK AND VERIFY ALL PANEL DIMENSIONS, LEDGER HEIGHTS, ANCHOR BOLT LOCATIONS, AND OPENING SIZES AND LOCATIONS FOR TILT–UP PANELS PRIOR TO POURING CONCRETE AND SHALL BE RESPONSIBLE FOR ANY ERRORS. IF ANY DISCREPANCIES APPEAR ON THE PLANS PROMPTLY NOTIFY ARCHITECT AND STRUCTURAL ENGINEER.

STRUCTURAL STEEL:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST REVISED EDITION OF THE AISC STEEL CONSTRUCTION MANUAL, WHICH INCLUDES THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360), THE CODE OF STANDARD PRACTICE AND THE AWS STRUCTURAL WELDING CODE. IDENTIFY AND PROTECT STRUCTURAL STEEL PER CBC 2203.
2. STRUCTURAL STEEL SHOP DRAWINGS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATION.
3. MATERIAL SPECIFICATIONS:
   W – SHAPES
   ASTM A992
   C–, S–, M–, ANGLE SHAPES, BARS AND PLATES:
   ASTM A36
   BENT PLATE LEDGERS:
   ASTM A36 REQUIRED (GRADE 50 OR DUAL GRADE NOT ACCEPTABLE)
   PIPE COLUMNS (S.P.C.)
   ASTM A53, GRADE B Fy=35KSI
   RECTANGULAR AND SQUARE TUBE STEEL (HSS)
   ASTM A500, GRADE B Fy=46KSI
   ROUND TUBE STEEL (HSS)
   ASTM A500, GRADE B Fy=42KSI
4. GROUTING OF COLUMN BASE PLATES: BASE PLATES SHALL BE DRYPACKED OR GROUTED WITH "FIVE–STAR" NON–SHRINK GROUT OR EQUAL. MINIMUM COMPRESSIVE STRENGTH SHALL BE 4000 PSI AT 28 DAYS. ALL SURFACES SHALL BE PROPERLY CLEANED OF FOREIGN MATERIAL PRIOR TO THE GROUTING OPERATION.
5. WELDING SHALL BE ACCOMPLISHED BY PREQUALIFIED SMAW, FCAW, OR SAW WELDING PROCESSES USING 70 KSI MINIMUM ELECTRODES WITH A CHARPY V–NOTCH TOUGHNESS OF 20 FT–LBF AT MINUS 20 DEGREES F AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER CERTIFICATION. IT IS THE RESPONSIBILITY OF THE FABRICATOR/ERECTOR TO CHOOSE AN ELECTRODE THAT BEST SUITS THEIR EQUIPMENT AND THE SKILLS OF THEIR WELDERS FOR THE APPROPRIATE WELD TYPE AND POSITION. LOW HYDROGEN ELECTRODES SHALL BE USED AND KEPT DRY, AND PARENT METALS SHALL BE PREHEATED IN ACCORDANCE WITH AWS REQUIREMENTS.
6. ALL WELDING SHALL BE UNDER CONTINUOUS SPECIAL INSPECTION BY A REGISTERED SPECIAL INSPECTOR, EXCEPT WELDING DONE IN A BUILDING DEPARTMENT APPROVED FABRICATOR'S SHOP IN ACCORDANCE WITH CBC 1704.2.5 OR WHERE NOTED IN SCHEDULE OF SPECIAL INSPECTIONS FOR STEEL. WELDING SHALL BE PERFORMED BY AWS OR LA CITY CERTIFIED WELDERS. WELDERS SHALL HAVE LIGHT GAUGE STEEL CERTIFICATION WHEN WELDING LIGHT GAUGE STEEL.
7. FULL PENETRATION/COMPLETE JOINT PENETRATION WELDED CONNECTIONS (100%) AT MOMENT FRAMES, BRACED FRAMES, AND ALL FULL PENETRATION/COMPLETE JOINT PENETRATION FIELD WELDS SHALL HAVE ULTRASONIC TESTING FOR COMPLIANCE WITH AISC 341–10 CHAPTER J. ULTRASONIC TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING AGENCY THAT HAS BEEN INSPECTED BY THE NATIONAL STANDARDS. TESTING INSPECTIONS SHALL BE QUALIFIED BY ASNT BUREAU OF RECOMMENDED PRACTICE SNT–TC–A1. PROVIDE PROPER SURFACE PREP. AND BACKUP PLATES AS REQUIRED PER AISC AND AWS.
8. SHOP AND FIELD WELD DESIGNATIONS ARE SHOWN AS AN AID TO THE CONTRACTOR. THE CONTRACTOR SHALL DECIDE WHETHER SHOP OR FIELD WELDING IS APPROPRIATE, INCLUDE THE APPROPRIATE COSTS IN HIS BID, AND INDICATE HIS DESIRE IN THE SHOP DRAWINGS.
9. WELDED STUDS SHALL BE ASTM A108 NELSON SHEAR CONNECTOR STUDS (ICC ESR 2856) AND ARE AUTOMATICALLY END WELDED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS IN ORDER TO PROVIDE COMPLETE FUSION TO THE BASE METAL. STUD LENGTHS INDICATED ARE AFTER–WELD LENGTHS. INSTALL ONTO UNPAINTED SURFACES.
10. ALL SHOP AND FIELD BOLTED CONNECTIONS SHALL BE IN ACCORDANCE WITH ASTM A307 USING UNFINISHED AMERICAN STANDARD REGULAR BOLTS, UNLESS OTHERWISE NOTED
11. NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THRU STRUCTURAL STEEL MEMBERS. BOLT HOLES SHALL CONFORM TO AISC SPECIFICATION, AND SHALL BE STANDARD HOLES UNLESS OTHERWISE NOTED. NO CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT PRIOR CONSENT OF THIS ENGINEER.
12. HIGH STRENGTH BOLTS WHERE INDICATED IN THE PLANS OR DETAILED SHALL CONFORM TO A.S.T.M. A325 OR A490, AND BE PROVIDED WITH HARDENED WASHERS CONFORMING TO A.S.T.M. F436. SLIP–CRITICAL TYPE BOLTS (A325–SC OR A490–SC) SHALL BE TWIST–OFF–TYPE TENSION–CONTROL BOLT ASSEMBLY IN COMFORMANCE WITH ASTM F1852 OR F2280. CONTACT SURFACES SHALL BE CLEAN MILL SCALE OR CLASS A QUALIFIED COATINGS.

FRAMING LUMBER:

1. ALL VISUALLY GRADED FRAMING LUMBER SHALL CONFORM TO THE GRADING RULES SET FORTH BY THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB) OR THE WESTERN WOOD PRODUCTS ASSOCIATION (WWPA). EACH PIECE SHALL BEAR THE GRADE STAMP OF AN APPROVED GRADING AGENCY, EXCEPT EXPOSED LUMBER SHALL BEAR NO MARKINGS WHICH WILL BE VISIBLE AFTER INSTALLATION.
2. FRAMING LUMBER SHALL BE DOUGLAS FIR–LARCH, UNLESS OTHERWISE NOTED. 4x AND SMALLER SAWN LUMBER SHALL HAVE A MOISTURE CONTENT NOT MORE THAN 19% AT TIME OF FABRICATION. THE FOLLOWING GRADES SHALL BE THE MINIMUM ACCEPTABLE GRADES, UNLESS OTHERWISE NOTED:
   ITEM — MINIMUM GRADE
   STUDS:
   2" THICK, 4" WIDE (STUD HT.=8'–1" MAX.)..STUD GRADE
   2" THICK, 4" TO 8" WIDE .... NO. 2
   PANELIZED ROOF RAFTERS
   2" THICK, 4" WIDE .... NO. 1
   2" THICK, 6" AND WIDER .... NO. 2
   3" THICK, 4" AND WIDER .... NO. 2
   4" THICK, 4" AND WIDER .... NO. 2
   STRUCTURAL JOISTS AND LIGHT FRAMING:
   2" TO 4" THICK, 4" AND WIDER .... NO. 1
   BEAMS AND STRINGERS:
   5" AND THICKER, 6" AND WIDER .... NO. 1
   POST AND TIMBERS:
   5" X 5" AND LARGER .... NO. 1
3. MAXIMUM STUD HEIGHT SCHEDULE AT INTERIOR NON–BEARING WALLS (LATERALLY UNSUPPORTED HEIGHT):
   2 X 4 AT 16" o.c .... 14' – 0"
   2 X 6 AT 16" o.c .... 28' – 0"
   2 x 8 AT 16" o.c .... 35' – 0" U.O.N.
   MAXIMUM CEILING JOIST SPANS SHALL BE PER IBC SPAN TABLES. PROVIDE BLOCKING AT 8'–0" o.c.
4. STRUCTURAL PLYWOOD SHALL CONFORM TO U.S. PRODUCT STANDARD PS 1–09. STRUCTURAL USE PANELS (INCLUDES OSB) SHALL CONFORM TO PS 2–10. APA GRADE STAMP SHALL BE PROVIDED ON ALL SHEATHING. SHEATHING SHALL BE EXPOSURE 1 (EXTERIOR GLUE). INSTALL WITH FACE GRAIN ACROSS SUPPORTS EXCEPT WHERE NOTED ON PLANS OR DETAILS. PROVIDE GAPS AT ALL EDGES AS RECOMMENDED BY APA. GAPS PROPERLY SPACED INITIALLY, BUT CLOSE DURING CONSTRUCTION NEED NOT BE SAWCUT. ROOF AND FLOOR SHEATHING AND SHEAR WALL PANELS SHALL BE IN PLACE AND INSPECTED BY THE BUILDING OFFICIAL PRIOR TO COVERING.
5. ALL GLUE LAMINATED MEMBERS AS SHOWN ON PLANS SHALL BE IN ACCORDANCE WITH AITC A190.1.
   A.I.T.C. OR A.P.A. INSPECTION CERTIFICATES SHALL BE FURNISHED WITH EACH BEAM. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW. GLUE LAMINATED MEMBERS SHALL BE OF INDUSTRIAL APPEARANCE WITH EXTERIOR GLUE. THE FOLLOWING DOUGLAS FIR SPECIES COMBINATIONS SHALL BE USED:
   SIMPLE SPAN BEAMS 24F–V4; CANTILEVERED BEAMS 24F–V8
6. FRAMING HARDWARE SHALL BE SIMPSON "STRONG TIE" OR EQUAL, UNLESS OTHERWISE NOTED. SUBSTITUTIONS SHALL BEAR ICC ESR APPROVAL. ALL FLUSH WOOD TO WOOD CONNECTORS SHALL BE MADE WITH "SIMPSON" METAL HANGERS AS FOLLOWS, UNLESS OTHERWISE NOTED:
   2 X 4, 6, & 8 MEMBERS ...."U" SERIES
   2 X 10, 12, 14, & 16 MEMBERS ...."HU" SERIES
   4 X & LARGER ...."HUTF" SERIES
   POST TO BEAM.........."PC" SERIES
7. NAILING SCHEDULE, TYPICAL UNLESS OTHERWISE NOTED ON DRAWINGS:
   CONNECTION — COMMON NAILS
   JOIST TO SILL OR GIRDER, TOE NAIL ....3 –8d
   BRIDGING TO JOIST, TOE NAIL, EACH END ....2 –8d
   SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL..........16d @ 16" o.c.
   TOP PLATE TO STUD, END NAIL ....2 – 16d
   STUD TO SOLE PLATE .... 4 – 8d TOE NAILS OR 2 – 16d END NAILS
   DOUBLE STUD, FACE NAIL ....16d @ 24" o.c.
   DOUBLE TOP PLATES, FACE NAIL..........16d @ 16" o.c.
   TOP PLATES, LAPS & INTERSECTIONS, FACE NAIL.......... 2 – 16d
   CONT. HEADER, 2 PIECES, FACE NAIL ALONG EDGES.....16d @ 16" o.c.
   CEILING JOISTS TO PLATE, TOE NAIL..........3 – 8d
   CONT. HEADER TO STUD, TOE NAIL ....4 – 8d
   CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL.....3 – 16d
   CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL.......3 – 16d
   RAFTER TO PLATE, TOE NAIL..........3 – 8d
   1 X BRACE TO EACH STUD & PLATE, FACE NAIL..........2 – 8d
   BUILT–UP CORNER STUDS..........16d @ 24" o.c.
   BUILT–UP MEMBERS (2 MEMBERS) 16d @ 16" o.c. TOP & BOTTOM STAGGERED
   BUILT–UP MEMBERS (3 OR MORE MEMBERS)..........1/2" THRU BOLTS 24" o.c. STAGGERED
   ADDITIONAL NAILING NOTES:
   A. ALL NAILS SHALL BE COMMON NAILS IN CONFORMANCE WITH ASTM F1667 UNLESS OTHERWISE SPECIFIED ON DRAWINGS, SINKERS SHALL NOT BE SUBSTITUTED UNLESS SPECIFICALLY APPROVED BY THIS ENGINEER.
   B. ALL NAILS EXPOSED TO THE WEATHER SHALL BE GALVANIZED.
   C. TOE NAILS SHALL BE DRIVEN AT AN ANGLE OF 30 DEGREES TO THE PIECE SURFACE AND BE STARTED AT 1/3 THE LENGTH FROM THE EDGE OF THE PIECE.
8. WOOD SCREWS SHALL BE IN CONFORMANCE WITH A.N.S.I. B18.6.1.
9. BOLTS AND LAG SCREWS SHALL CONFORM TO A.N.S.I. B18.2.1. ALL BOLTS THRU WOOD SHALL HAVE STANDARD CUT WASHERS EXCEPT WHERE METAL SIDE PLATES ARE SPECIFIED. BOLT HOLES SHALL BE BORED 1/32" TO 1/16" LARGER THAN THE BOLT DIAMETER, UNLESS OTHERWISE NOTED. LAG SCREWS SHALL BE PREDRILLED WITH A HOLE HALF THE SCREW DIAMETER. ALL BOLTS SHALL BE RETIGHTENED PRIOR TO APPLICATION OF PLASTER, PLYWOOD, ETC.
10. ALL WOOD BEARING ON CONCRETE OR MASONRY IF LESS THAN 4'–0" ABOVE GRADE SHALL BE PRESSURE TREATED DOUGLAS FIR.
11. PROVIDE 2 X SOLID BLOCKING AT ALL JOIST AND RAFTER BEARING LOCATIONS, UNLESS HUNG IN AN ICC ESR APPROVED METAL HANGER.
12. STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, ETC. UNLESS SPECIFICALLY NOTED OR DETAILED.
13. LVL LUMBER (LAMINATED VENEER LUMBER) SHALL BE:
   A. "MICROLLAM" BY TRUS JOIST/WEYERHAEUSER (ICC ESR 1387)
      GRADE: 1.9E DF/LP/WH OR GREATER, Fb= 2600 PSI, E= 1,900,000 PSI
   B. "REDLAM" LVL BY REDBUILT (ICC ESR 2993)
      GRADE: 2.0E, SG=0.50, Fb = 2900 PSI, E= 2,000,000 PSI
   C. ICC APPROVED EQUAL.
14. LSL OR "TIMBER STRAND" LUMBER (LAMINATED STRAND LUMBER) SHALL BE TRUS JOIST/WEYERHAEUSER (ICC ESR 1387) OR ICC APPROVED EQUAL GRADE: 1.55E OR GREATER, Fb= 2325 PSI E= 1,550,000 PSI MIN
15. PSL OR "PARALLAM" LUMBER (PARALLEL STRAND LUMBER) SHALL BE TRUS JOIST/WEYERHAEUSER (ICC ESR 1387) OR ICC APPROVED EQUAL SPECIES/GRADE: DF 2.0E Fb= 2900 PSI E=2,000,000 PSI

OPEN WEB STEEL JOIST/GIRDER NOTES:

1. PRE–FABRICATED AND PRE–ENGINEERED OPEN WEB STEEL JOISTS SHALL BE ENGINEERED, FABRICATED, AND VERIFIED IN ACCORDANCE WITH THE CBC 2207. THE MANUFACTURER SHALL DESIGN JOISTS AND GIRDERS FOR UNIFORM LOADS PLUS ADDITIONAL CONCENTRATED LOADS, AXIAL LOADS, AND BENDING LOADS NOTED ON THE FRAMING PLANS. ALIGN JOIST PANEL POINTS TO FACILITATE DUCT PASSAGE WHERE REQUIRED BY ARCHITECT OR MECHANICAL ENGINEER. THE ENGINEERED JOIST AND GIRDER DESIGN IS THE SOLE RESPONSIBILITY OF THE MANUFACTURER. CONTRACTOR SHALL ERECT JOISTS AND GIRDERS IN CONFORMANCE WITH ALL REQUIREMENTS OF THE SJI, OSHA, AND THE MANUFACTURER'S RECOMMENDATIONS.
2. JOISTS/GIRDERS SHALL BE PAINTED WITH GRAY PRIMER UNLESS OTHERWISE SPECIFIED BY THE OWNER AND ARCHITECT.
3. STEEL JOIST AND GIRDER MANUFACTURER SHALL SUBMIT PLACEMENT DRAWINGS FOR THE STRUCTURAL ENGINEER'S REVIEW. MANUFACTURER SHALL INCLUDE CERTIFICATION THAT JOISTS COMPLY WITH CBC SECTION 2207. STEEL JOIST PLACEMENT PLANS DO NOT REQUIRE THE SEAL AND SIGNATURE OF THE JOIST MANUFACTURER'S REGISTERED DESIGN PROFESSIONAL (CBC SECTION 2207.4)
4. WOOD NAILERS WHERE SPECIFIED IN DETAILS SHALL BE OF DOUGLAS FIR.
5. STEEL JOIST AND GIRDER MANUFACTURER SHALL DESIGN TRUSS CHORDS ALLOWING FOR #14 SCREW ATTACHMENT HOLES WHICH MAY OCCUR AT ANY JOIST OR GIRDER.
6. STEEL JOISTS FALLING AT A COLUMN LINE AND JOISTS EACH SIDE OF THE COLUMN LINE WHERE NO JOIST FALLS EXACTLY AT A COLUMN LINE ARE TO BE PROVIDED WITH (2) 3/4"ø ERECTION BOLTS AS DETERMINED BY JOIST/GIRDER MANUFACTURER WITH SHORT SLOTTED HOLES IN THE JOIST BEARING SEAT ANGLES.
7. ALL JOIST BEARING SEATS SHALL BE MIN. 1/4" THICK. WHERE STEEL JOIST OR GIRDER SLOPE EXCEEDS 1/4" PER FOOT, PROVIDE SLOPED BEARING SEAT. THE FOLLOWING JOIST SEAT DEPTHS AND SEAT BEARING LENGTHS SHALL BE UTILIZED UNLESS OTHERWISE NOTED ON PLANS. SMALLER BEARING LENGTHS SHALL BE CHECKED BY MANUFACTURER FOR SHORT BEARING CONDITION.

JOIST TYPE	SEAT DEPTH (WOOD DECK)	SEAT DEPTH (STEEL DECK)	BEARING LENGTH
K – SERIES	3"	2 1/2"	3"
LH – SERIES	3"	5"	4"
GIRDER	7 1/2"	7 1/2"	4"

8. DEFLECTION CRITERIA FOR DESIGN
   ROOF TOTAL LOAD = L/180   ROOF LIVE LOAD = L/240
   FLOOR TOTAL LOAD = L/360   FLOOR LIVE LOAD = L/480

SHOP DRAWING REVIEW:

1. THIS ENGINEER WILL REVIEW CONTRACTOR'S SHOP DRAWINGS AND RELATED SUBMITTALS WITH RESPECT TO THE ABILITY OF THE DETAILED WORK, WHEN COMPLETE, TO BE A PROPERLY FUNCTIONING INTEGRAL ELEMENT OF THE OVERALL STRUCTURAL SYSTEM DESIGNED BY THIS ENGINEER. APPROVAL OF THE SHOP DRAWINGS WILL BE FOR SIZE AND ARRANGEMENT OF THE MEMBERS AND CONNECTIONS ONLY AND SHALL IN NO WAY REMOVE THE RESPONSIBILITY OF DESIGN, DETAILING, AND FABRICATION FROM THE SUBCONTRACTOR.
2. BEFORE SUBMITTING A SHOP DRAWING OR ANY RELATED MATERIAL TO THIS ENGINEER, CONTRACTOR SHALL: REVIEW EACH SUCH SUBMISSION FOR CONFORMANCE WITH THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATIONS OF CONSTRUCTION, AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO, ALL OF WHICH ARE THE SOLE RESPONSIBILITY OF CONTRACTOR; AND APPROVE EACH SUCH SUBMISSION BEFORE SUBMITTING IT. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY CHANGES OR DELAYS CAUSED BY PREMATURELY SUBMITTING SHOP DRAWINGS. THIS ENGINEER'S SHOP DRAWING REVIEW AND STAMP DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE SAME SHOP DRAWINGS. THIS ENGINEER SHALL ASSUME THAT NO SHOP DRAWING OR RELATED SUBMITTAL COMPRISES AN INTENTIONAL VARIATION UNLESS CONTRACTOR ADVISES THIS ENGINEER OTHERWISE VIA A WRITTEN INSTRUMENT WHICH IS ACKNOWLEDGED BY THIS ENGINEER IN WRITING.
3. THE SHOP DRAWINGS AND RELATED MATERIAL (IF ANY) CALLED FOR ARE INDICATED WITHIN THE GENERAL AND MATERIAL NOTES ON THIS SHEET. THE CONTRACTOR SHALL ALLOW (10) WORKING DAYS FOR THIS ENGINEER TO PERFORM THE REVIEW. THIS ENGINEER WILL RETURN SHOP DRAWINGS AND RELATED MATERIALS WITH COMMENTS PROVIDED THAT EACH SUBMISSION HAS BEEN CALLED FOR AND IS STAMPED BY CONTRACTOR AS INDICATED ABOVE. THIS ENGINEER WILL RETURN WITHOUT COMMENT MATERIAL NOT CALLED FOR.

DEFERRED SUBMITTALS:

1. CERTAIN PORTIONS OF THIS PROJECT ARE PRE–ENGINEERED SPECIALTY ITEMS THAT ARE DESIGNED/ENGINEERED BY THE MANUFACTURER OR OTHERS, AND ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AS ALLOWED BY CBC 107.3.4.1.
2. DEFERRED SUBMITTALS LISTED BELOW SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW PRIOR TO BUILDING DEPARTMENT SUBMISSION AND PRODUCT INSTALLATION.
3. DEFERRED SUBMITTAL ITEMS:
   ____
   ____
   ____

ABBREVIATIONS:

APA .... AMERICAN PLYWOOD ASSOCIATION
A.B. .... ANCHOR BOLT
ABV .... ABOVE
A/C .... AIR CONDITIONING
A.C. .... ASPHALTIC CONCRETE
ALT .... ALTERNATE
& .... AND
A.I.S.C. .... AMERICAN INSTITUTE OF STEEL CONSTRUCTION
A.S.T.M. .... AMERICAN STANDARDS OF TESTING AND MATERIALS
A.I.T.C. .... AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
ARCH'L .... ARCHITECTURAL
@ .... AT
BLK .... BLOCK
BLKG .... BLOCKING
BM .... BEAM
B.N. .... BOUNDARY NAILING
C .... CAMBER
CBC .... CALIFORNIA BUILDING CODE
CL, ℄ .... CENTER LINE
C.C. .... CENTER TO CENTER
CLG .... CEILING
C.J. .... CEILING JOIST
CONC .... CONCRETE
CONT .... CONTINUOUS
C.P.J. .... COMPLETE JOINT PENETRATION WELD
D OR d .... NAIL PENNY SIZE
DBL .... DOUBLE
DF .... DOUGLAS FIR
DFPT .... DOUGLAS FIR PRESSURE TREATED
DIA .... DIAMETER
DIM .... DIMENSION
(E) .... EXISTING
E.F. .... EACH FACE
ELEV .... ELEVATION
EQ .... EQUAL
EQUIP. .... EQUIPMENT
ETC. .... ETCETERA
E.W. .... EACH WAY
E.N. .... EDGE NAIL
EXT .... EXTERIOR
FIN .... FINISH
FLR .... FLOOR
F.F. .... FINISH FLOOR
F.O.S. .... FACE OF STUD
F.O.W. .... FACE OF WALL
F.P. .... FULL PENETRATION WELD
FT. (') .... FOOT
FTG .... FOOTING
F.G. .... FINISH GRADE
F.S. .... FARSIDE
GA .... GAUGE
GALV. .... GALVANIZED
G.L.B. .... GLUE LAMINATED BEAM
HDR .... HEADER
HORIZ .... HORIZONTAL
IBC .... INTERNATIONAL BUILDING CODE
ICC .... INTERNATIONAL CODE COUNCIL
INFO. .... INFORMATION
INT. .... INTERIOR
IN. (") .... INCHES
JST .... JOIST
LDGR .... LEDGER
L.L.H. .... LONG LEG HORIZONTAL
L.L.V. .... LONG LEG VERTICAL
MAT'L .... MATERIAL
MAX .... MAXIMUM
MECH'L .... MECHANICAL
MTL .... METAL
MFR .... MANUFACTURER
MIN .... MINIMUM
(N) .... NEW
N.I.C. .... NOT IN CONTRACT
N.T.S. .... NOT TO SCALE
N.C. .... NO CAMBER
N.S. .... NEAR SIDE
o.c. .... ON CENTER
O.D. .... OUTSIDE DIAMETER
O.H. .... OPPOSITE HAND
OPNG .... OPENING
R.R. .... ROOF RAFTER
R.C. .... REVERSE CAMBER
REINF. .... REINFORCING
RWD .... REDWOOD
SHTG .... SHEATHING
S.M. .... SPRINKLER MAIN
SQ .... SQUARE
STD .... STANDARD
SPECS .... SPECIFICATION
S.S. .... SELECT STRUCTURAL
SYM. .... SYMMETRICAL
T.B. .... TOP OF BEAM
T.C. .... TOP OF CONCRETE
T&G .... TONGUE AND GROOVE
T.L., T.O.L. .... TOP OF LEDGER
T.N., T.O.N. .... TOP OF NAILER
T.O.S. .... TOP OF STEEL
T.W., T.O.W. .... TOP OF WALL
TYP. .... TYPICAL
U.O.N. .... UNLESS OTHERWISE NOTED
VERT .... VERTICAL
W.C.L.A. .... WEST COAST LUMBER ASSOCIATION
WD .... WOOD
W/ .... WITH
W.W.F. .... WELDED WIRE FABRIC

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REGISTERED PROFESSIONAL ENGINEER DAVID ROBERT KRAMER S.E. 2309 EXP. 3–31–15 STRUCTURAL STATE OF CALIFORNIA

Sep 27 2019

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GENERAL NOTES

H.M. JOB No. 19034
KEI JOB No. 19–060.01
SHEET NUMBER SD1

SOIL AND FOUNDATIONS:

TABLE 1704.7
REQUIRED VERIFICATION AND INSPECTION OF SOILS

APPLICABLE	VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTION			NOTES
		CONTINUOUS	PERIODIC	OTHER (1)	
■	1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIRED BEARING CAPACITY.		X		
■	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		X		
■	3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.		X		
■	4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X			
■	5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X		

STEEL:

SECTION 1704.2
REQUIRED VERIFICATION AND INSPECTION OF STEEL FABRICATORS

APPLICABLE	VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION			NOTES
		CONTINUOUS	PERIODIC	OTHER (1)	
■	1. INSPECT FABRICATOR'S QUALITY CONTROL PROCEDURES.			X	
■	2. SPECIAL INSPECTION OF SHOP FABRICATION. EXCEPTION: SPECIAL INSPECTION OF SHOP FABRICATION IS NOT REQUIRED WHERE THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL IN ACCORDANCE WITH SECTION 1704.2.2 PRIOR TO START OF FABRICATION. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL.			X	SEE WELDING INSPECTION REQUIREMENTS FOR ADDITIONAL INFORMATION.

TABLE 1704.3
REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

APPLICABLE	VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION			NOTES
		CONTINUOUS	PERIODIC	OTHER (1)	
■	1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS:				
	A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		X		
	B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.		X		
■	2. INSPECTION OF HIGH-STRENGTH BOLTING:				
	A. SNUG-TIGHT JOINTS.		X		
	B. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION.		X		
	C. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	X			
■	3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
	A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.		X		
	B. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		X		
	C. MANUFACTURER'S CERTIFIED TEST REPORTS.		X		
■	4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:				
	A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.		X		
	B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.		X		
■	5. INSPECTION OF WELDING:				
	A. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
	1) COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS.	X			
	2) MULTIPASS FILLET WELDS	X			
	3) SINGLE-PASS FILLET WELDS > 5/16"	X			
	4. PLUG AND SLOT WELDS	X			
	5) SINGLE-PASS FILLET WELDS ≤ 5/16"		X		
	6) FLOOR AND ROOF DECK WELDS.		X		
	B. REINFORCING STEEL:				
	1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.		X		
	2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	X			
	3) SHEAR REINFORCEMENT.	X			
	4) OTHER REINFORCING STEEL.		X		
□	6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS:				
	A. DETAILS SUCH AS BRACING AND STIFFENING.		X		
	B. MEMBER LOCATIONS.		X		
	C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.		X		

SECTION 1704.3
REQUIRED VERIFICATION AND INSPECTION FOR STEEL ELEMENTS

APPLICABLE	VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION			NOTES
		CONTINUOUS	PERIODIC	OTHER (1)	
□	1. WELDED STUDS WHEN USED FOR STRUCTURAL DIAPHRAGMS.		X		
■	2. WELDING OF COLD-FORMED SHEET STEEL FRAMING MEMBERS.		X		
■	3. WELDING OF STAIRS AND RAILING SYSTEMS		X		

SECTION 1707.2
REQUIRED VERIFICATION AND INSPECTION FOR STRUCTURAL STEEL

APPLICABLE	VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION			NOTES
		CONTINUOUS	PERIODIC	OTHER (1)	
■	SPECIAL INSPECTION FOR WELDING IN ACCORDANCE WITH AISC 341.	X			

SECTION 1707.4
REQUIRED VERIFICATION AND INSPECTION FOR COLD-FORM FRAMING

APPLICABLE	VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION			NOTES
		CONTINUOUS	PERIODIC	OTHER (1)	
□	1. INSPECTION OF SCREW ATTACHMENTS, BOLTING, ANCHORING, AND OTHER FASTENING OF COMPONENTS WITHIN THE SEISMIC-FORCE-RESISTING SYSTEM INCLUDING DECK, STRUTS, BRACES, AND HOLD-DOWNS.		X		
□	2. INSPECTION OF METAL DECK SEAM ATTACHMENT.		X		

SECTION 1708.3
SPECIAL INSPECTION FOR SEISMIC RESISTANCE

APPLICABLE	VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION			NOTES
		CONTINUOUS	PERIODIC	OTHER (1)	
■	STRUCTURAL STEEL: – INVOKE THE QUALITY ASSURANCE PLAN (QAP) REQUIREMENTS IN AISC 341.			X	

(1) "OTHER" COLUMN DENOTES AN ACTIVITY THAT IS EITHER A ONE-TIME ACTIVITY OR ONE WHOSE FREQUENCY IS DEFINED IN SOME OTHER MANNER.

POST INSTALLED ANCHORS IN CONCRETE OR MASONRY:

ICC ESR REQUIREMENTS
VERIFICATION AND ACCEPTANCE OF POST-INSTALLED ANCHORS

APPLICABLE	VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION			NOTES
		CONTINUOUS	PERIODIC	OTHER (1)	
■	1. INSPECT THE INSTALLATION OF EXPANSION ANCHORS, ADHESIVE/EPOXY ANCHORS, AND OTHER POST INSTALLED ANCHORS IN CONCRETE OR MASONRY FOR ANCHOR SIZE AND GRADE, EMBEDMENT, AND COMPLIANCE WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS.	X			

(1) "OTHER" COLUMN DENOTES AN ACTIVITY THAT IS EITHER A ONE-TIME ACTIVITY OR ONE WHOSE FREQUENCY IS DEFINED IN SOME OTHER MANNER.

STATEMENT OF SPECIAL INSPECTIONS, 2009 IBC (STRUCTURAL ONLY)

THIS STATEMENT OF SPECIAL INSPECTIONS IS SUBMITTED IN FULFILLMENT OF THE STRUCTURAL REQUIREMENTS OF IBC SECTIONS 1704 AND 1705 AND SUMMARIZES THE SPECIAL INSPECTIONS AND TESTS REQUIRED FOR THE STRUCTURAL PORTIONS OF THIS PROJECT. ADDITIONAL TESTS AND INSPECTIONS MAY BE CALLED FOR AT THE DISCRETION OF THE BUILDING OFFICIAL. NON-STRUCTURAL ITEMS THAT MAY REQUIRE SPECIAL INSPECTION ARE ALSO LISTED, HOWEVER, THEIR APPLICABILITY ARE DETERMINED BY OTHERS (ARCHITECT, MECHANICAL, ELECTRICAL, ETC.).

THIS STATEMENT INCLUDES:
- SCHEDULE OF SPECIAL INSPECTIONS AND TESTS APPLICABLE TO THIS PROJECT:

  ■ SPECIAL INSPECTIONS PER SECTIONS 1704 AND 1705
  □ SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE
  □ SPECIAL INSPECTIONS FOR WIND RESISTANCE

THIS STATEMENT DOES NOT INCLUDE:
- LIST OF THE TESTING AGENCIES AND INSPECTORS RETAINED TO CONDUCT THESE TESTS AND INSPECTIONS. THE OWNER OR OWNER'S REPRESENTATIVE SHALL SUBMIT A LIST OF TESTING AGENCIES AND SPECIAL INSPECTORS TO THE BUILDING OFFICIAL.

SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, THIS STATEMENT, AND IBC SECTIONS 1704, 1705, 1707, AND 1708. NO LESS THAN IBC MINIMUM REQUIREMENTS SHALL BE OBSERVED.

THE SCHEDULE OF SPECIAL INSPECTIONS SUMMARIZES THE SPECIAL INSPECTIONS AND TESTS REQUIRED FOR THE STRUCTURAL PORTION OF WORK. INSPECTORS SHALL REFER TO THE APPROVED PLANS AND SPECIFICATIONS FOR ADDITIONAL DETAILED SPECIAL INSPECTION AND TESTING REQUIREMENTS.

INTERIM REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL, THE ARCHITECT, AND KRAMER ENGINEERING, INC. IN ACCORDANCE WITH IBC SECTION 1704.1.2. ADDITIONALLY, INTERIM REPORTS SHALL BE FURNISHED AT THE OWNER'S REQUEST.

A FINAL REPORT OF SPECIAL INSPECTIONS DOCUMENTING REQUIRED SPECIAL INSPECTIONS, TESTING AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED PRIOR TO ISSUANCE OF A CERTIFICATE OF USE AND OCCUPANCY.

THE OWNER RECOGNIZES HIS OR HER OBLIGATION TO ENSURE THAT THE CONSTRUCTION COMPLIES WITH THE APPROVED PERMIT DOCUMENTS AND TO IMPLEMENT THIS PROGRAM OF SPECIAL INSPECTIONS. IN PARTIAL FULFILLMENT OF THESE OBLIGATIONS, THE OWNER WILL RETAIN AND DIRECTLY PAY FOR THE SPECIAL INSPECTIONS AS REQUIRED IN IBC SECTION 1704.1.

THIS STATEMENT HAS BEEN DEVELOPED WITH THE UNDERSTANDING THAT THE BUILDING OFFICIAL WILL PERSONALLY OR BY DELEGATION:
- REVIEW AND APPROVE THE QUALIFICATIONS OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE INSPECTIONS.
- MONITOR SPECIAL INSPECTION ACTIVITIES ON THE JOB SITE TO CONFIRM THAT THE SPECIAL INSPECTORS ARE QUALIFIED AND ARE PERFORMING THEIR DUTIES AS CALLED FOR IN THIS STATEMENT OF SPECIAL INSPECTION.
- REVIEW SUBMITTED INSPECTION REPORTS, CONFIRMING RESOLUTION OF DISCREPANCIES AS THE WORK PROGRESSES.
- PERFORM INSPECTIONS AS REQUIRED BY THE LOCAL BUILDING CODE.

TESTING AGENCIES AND INSPECTORS

TESTING AGENCIES AND SPECIAL INSPECTORS CONDUCTING TESTS AND INSPECTION ON THIS PROJECT SHALL BE SELECTED AND RETAINED BY THE OWNER, OR A DESIGNATED REPRESENTATIVE. THE OWNER OR OWNER'S REPRESENTATIVE SHALL SUBMIT A LIST OF TESTING AGENCIES AND SPECIAL INSPECTORS TO THE BUILDING OFFICIAL.

SCHEDULE OF SPECIAL INSPECTIONS | C

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KRAMER ENGINEERING, INC.
3002 Dow Avenue, Suite 136
Tustin, CA. 92780
Tel: 714.838.6222
www.kramerengineeringinc.com

REGISTERED PROFESSIONAL ENGINEER
DAVID ROBERT KRAMER
S.E. 2309
EXP. 3-31-15
STRUCTURAL
STATE OF CALIFORNIA

[illegible]

Sep 27 2019

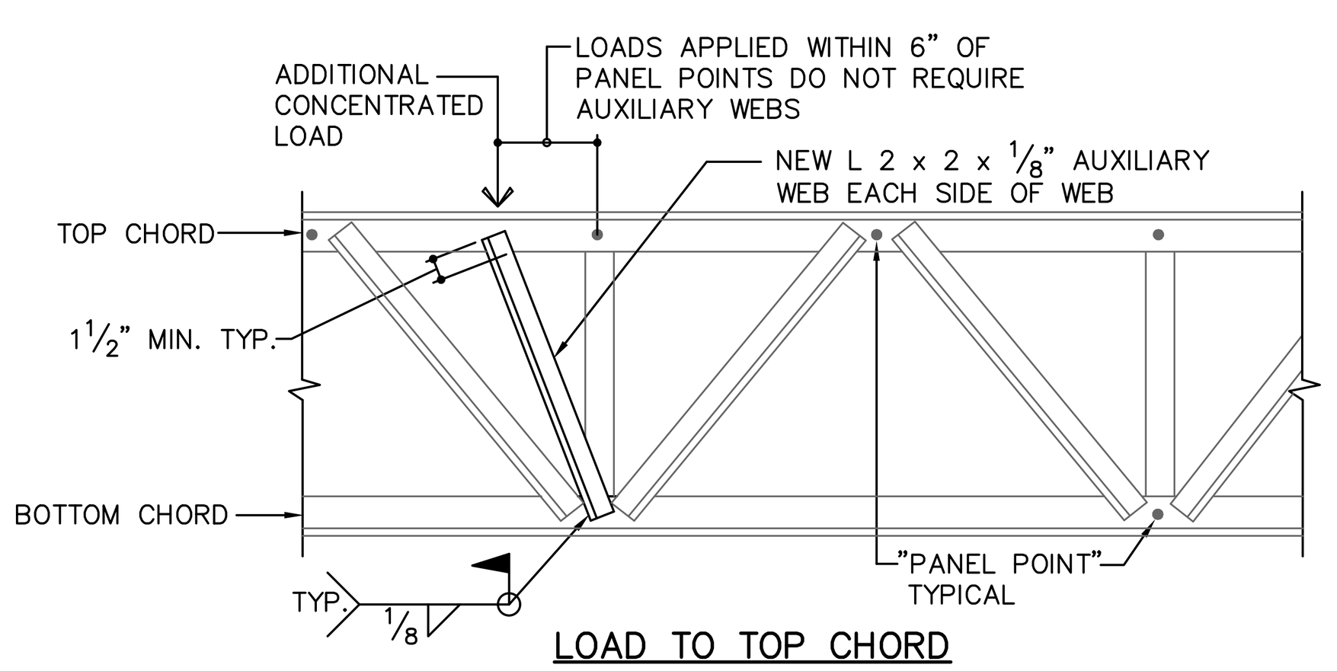
Architects/Engineers, Inc.
50 Security Drive • Jackson, Tennessee 38305
Telephone:(731)664-6330 Fax:(731)664-6339

DATE:	9-10-19
SCALE:	NONE
DRAWN BY: KEI	CHECKED BY: KEI

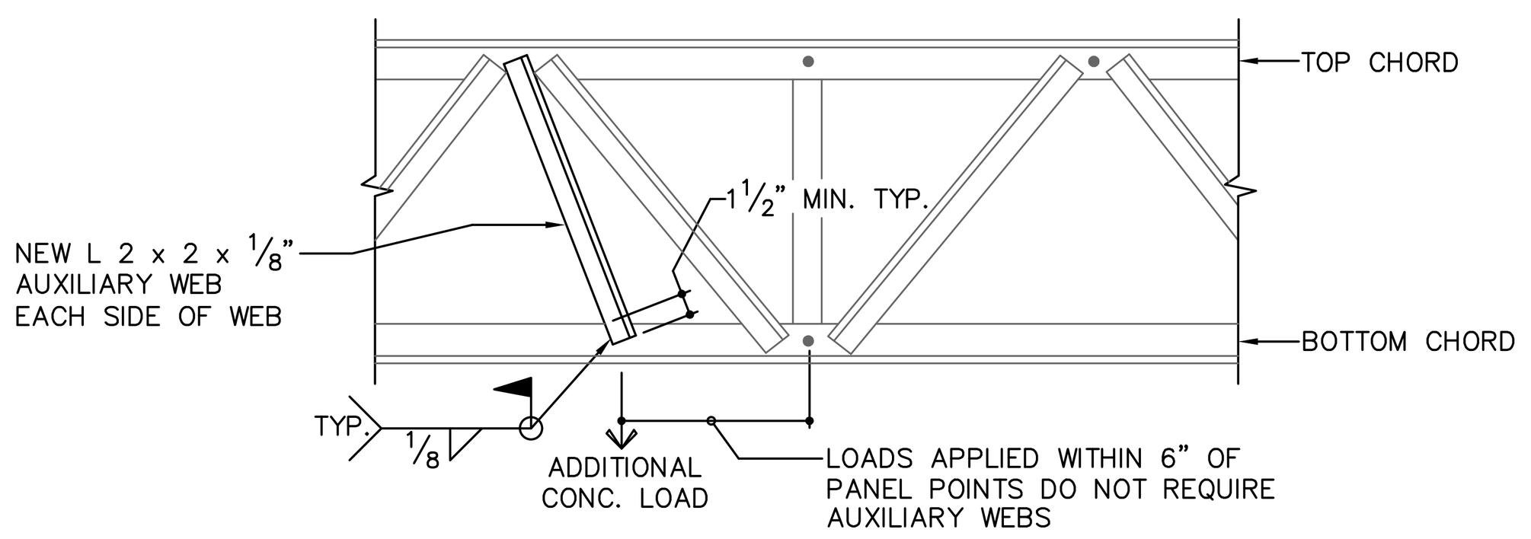
RENOVATE EXISTING FACILITY FOR
ROSS DISTRIBUTION CENTER
SHAFTER, CA

SPECIAL INSPECTIONS

H.M. JOB No. 19034
KEI JOB No. 19-060.01
SHEET NUMBER
SD1A



LOAD TO TOP CHORD



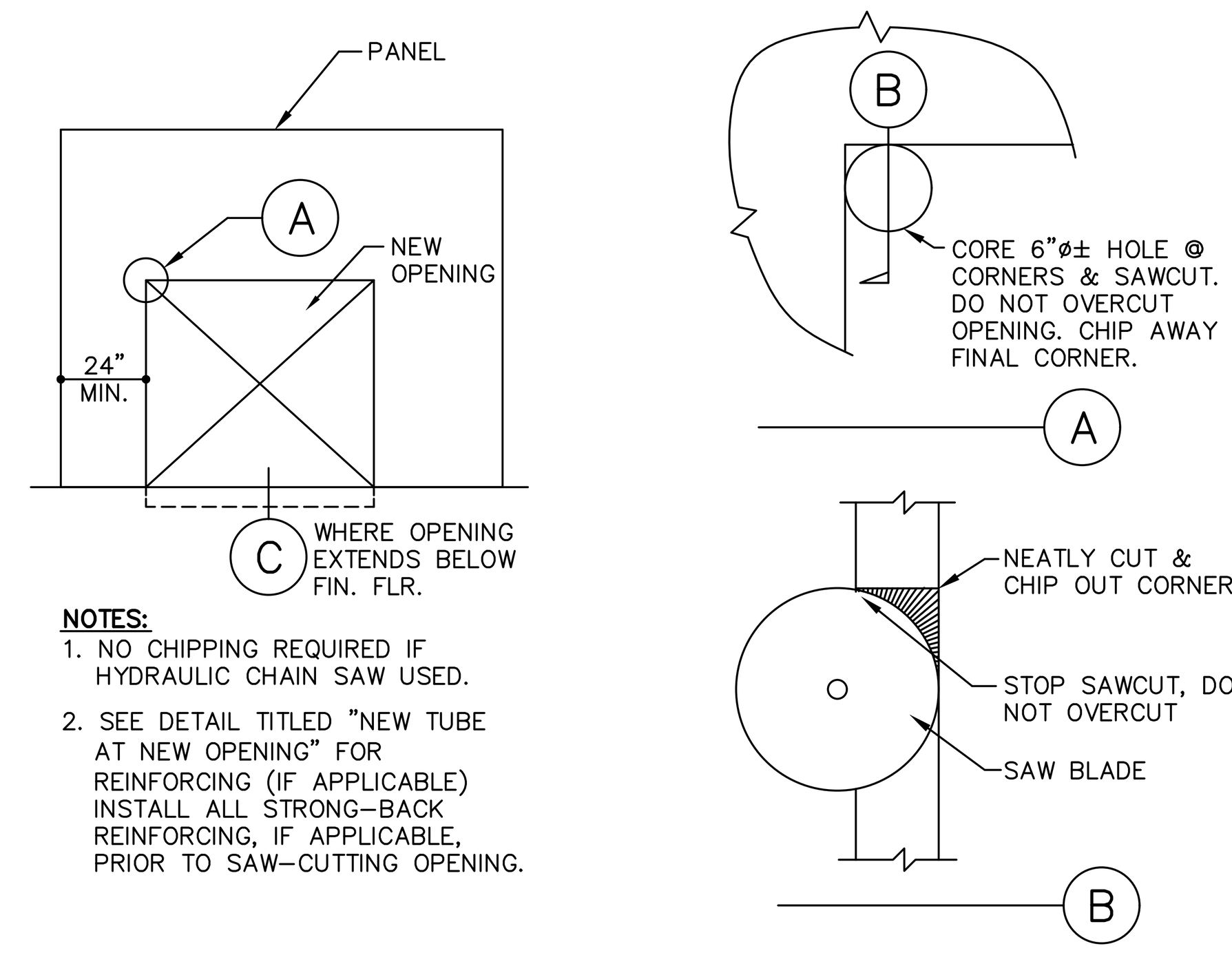
LOAD TO BOTTOM CHORD

NOTE:
1. NOTIFY THIS ENGINEER IF EXISTING STEEL TRUSS CONFIGURATION CONFLICTS WITH THE ADDITION OF THE AUXILIARY WEB MEMBERS AS SHOWN.
2. NEW ANGLES TO BE ASTM A36 STEEL.
3. FIELD WELDING TO HAVE SPECIAL INSPECTION.

FIELD INSTALLED AUXILIARY WEBS FOR CONCENTRATED LOADS | E

B

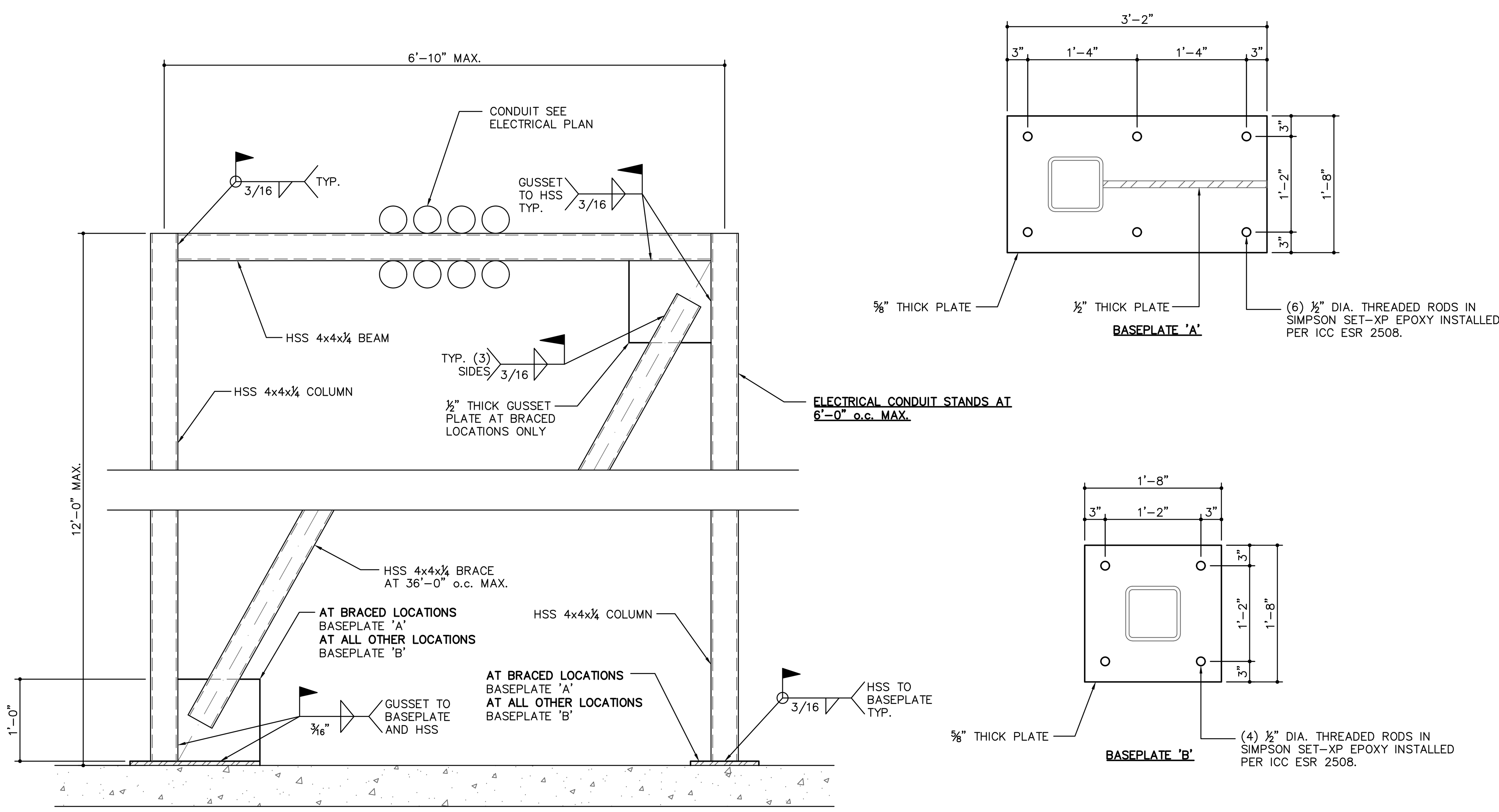
C



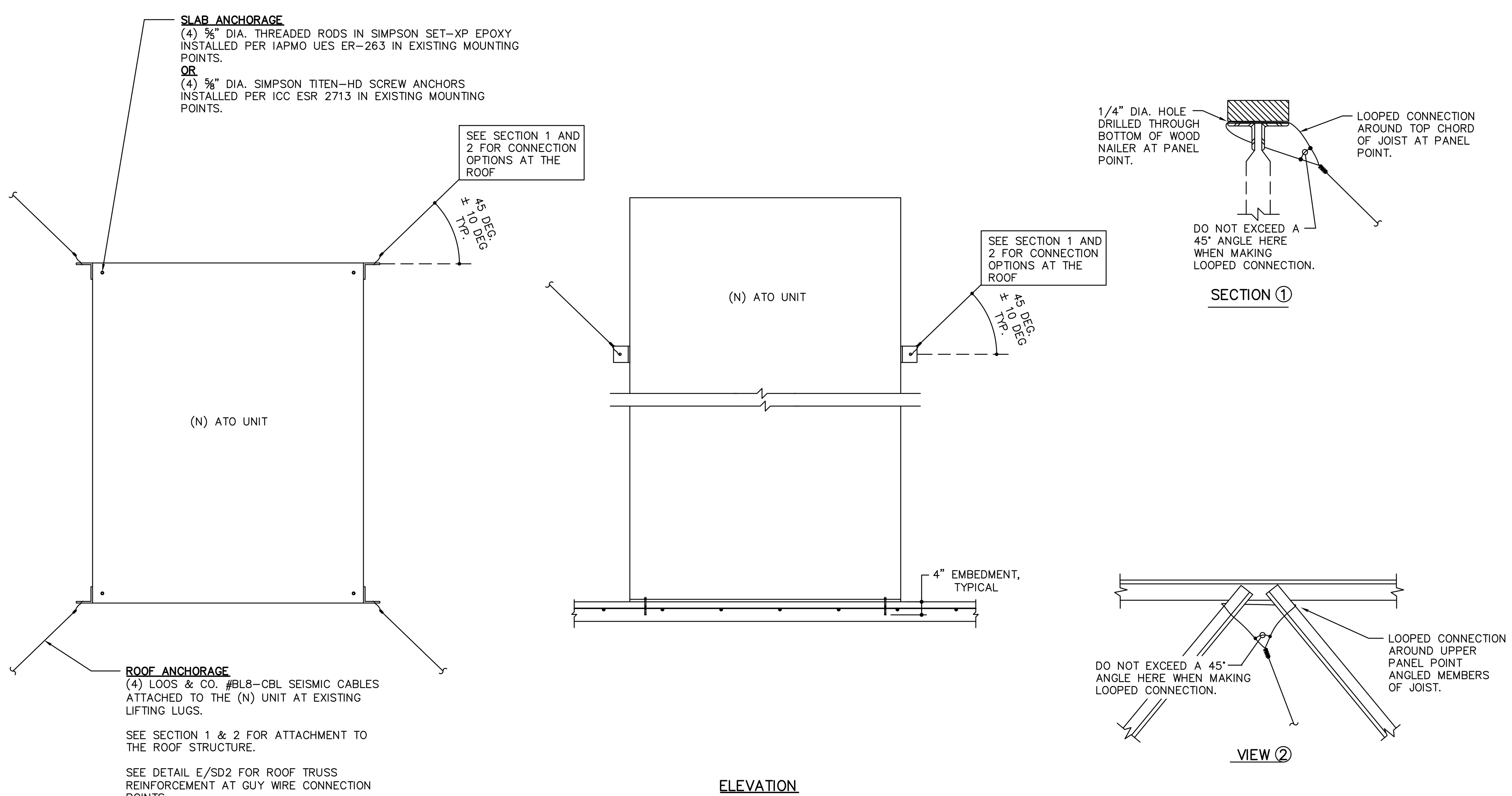
NOTES:
1. NO CHIPPING REQUIRED IF HYDRAULIC CHAIN SAW USED.
2. SEE DETAIL TITLED "NEW TUBE AT NEW OPENING" FOR REINFORCING (IF APPLICABLE) INSTALL ALL STRONG-BACK REINFORCING, IF APPLICABLE, PRIOR TO SAW-CUTTING OPENING.

TYPICAL SAWCUT OPENING IN CONCRETE PANEL | D

F

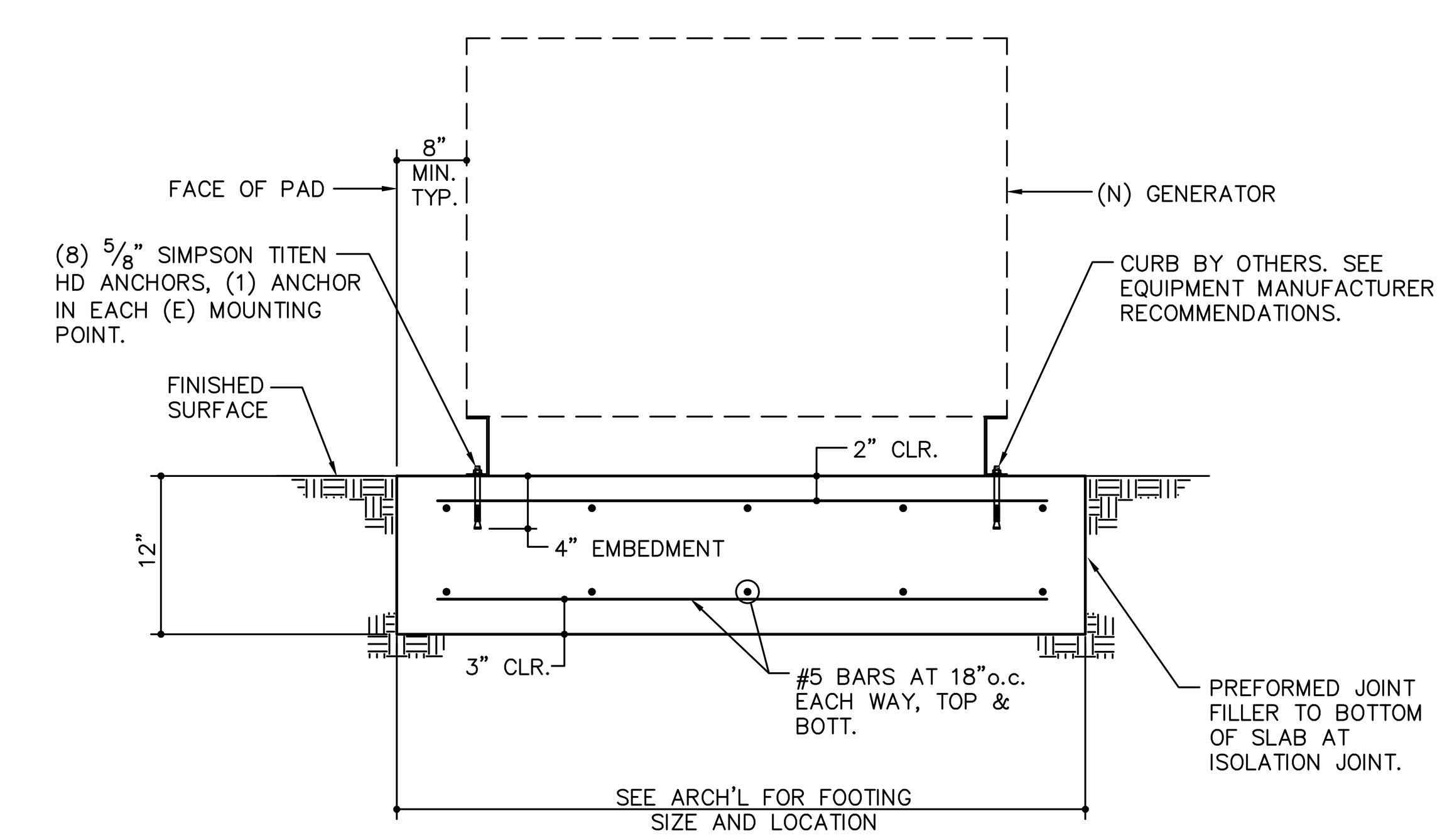

6'-10" MAX.
CONDUIT SEE ELECTRICAL PLAN
3/16 TYP.
GUSSET TO HSS TYP. 3/16
HSS 4x4x¼ BEAM
TYP. (3) SIDES 3/16
HSS 4x4x¼ COLUMN
½" THICK GUSSET PLATE AT BRACED LOCATIONS ONLY
ELECTRICAL CONDUIT STANDS AT 6'-0" o.c. MAX.
12'-0" MAX.
HSS 4x4x¼ BRACE AT 36'-0" o.c. MAX.
AT BRACED LOCATIONS BASEPLATE 'A' AT ALL OTHER LOCATIONS BASEPLATE 'B'
HSS 4x4x¼ COLUMN
AT BRACED LOCATIONS BASEPLATE 'A' AT ALL OTHER LOCATIONS BASEPLATE 'B'
1'-0"
3/16" GUSSET TO BASEPLATE AND HSS
3/16 HSS TO BASEPLATE TYP.
3'-2"
3" 1'-4" 1'-4" 3"
3" 1'-2" 3" 1'-8"
⅝" THICK PLATE
½" THICK PLATE
(6) ½" DIA. THREADED RODS IN SIMPSON SET-XP EPOXY INSTALLED PER ICC ESR 2508.
BASEPLATE 'A'
1'-8"
3" 1'-2" 3"
3" 1'-2" 3" 1'-8"
⅝" THICK PLATE
(4) ½" DIA. THREADED RODS IN SIMPSON SET-XP EPOXY INSTALLED PER ICC ESR 2508.
BASEPLATE 'B'

ELEVATED CONDUIT SUPPORT | M


SLAB ANCHORAGE
(4) ⅝" DIA. THREADED RODS IN SIMPSON SET-XP EPOXY INSTALLED PER IAPMO UES ER-263 IN EXISTING MOUNTING POINTS.
OR
(4) ⅝" DIA. SIMPSON TITEN-HD SCREW ANCHORS INSTALLED PER ICC ESR 2713 IN EXISTING MOUNTING POINTS.
SEE SECTION 1 AND 2 FOR CONNECTION OPTIONS AT THE ROOF
45 DEG. ± 10 DEG TYP.
(N) ATO UNIT
ROOF ANCHORAGE
(4) LOOS & CO. #BL8-CBL SEISMIC CABLES ATTACHED TO THE (N) UNIT AT EXISTING LIFTING LUGS.
SEE SECTION 1 & 2 FOR ATTACHMENT TO THE ROOF STRUCTURE.
SEE DETAIL E/SD2 FOR ROOF TRUSS REINFORCEMENT AT GUY WIRE CONNECTION POINTS.
PLAN VIEW
(N) ATO UNIT
SEE SECTION 1 AND 2 FOR CONNECTION OPTIONS AT THE ROOF
45 DEG. ± 10 DEG TYP.
4" EMBEDMENT, TYPICAL
ELEVATION
1/4" DIA. HOLE DRILLED THROUGH BOTTOM OF WOOD NAILER AT PANEL POINT.
LOOPED CONNECTION AROUND TOP CHORD OF JOIST AT PANEL POINT.
DO NOT EXCEED A 45° ANGLE HERE WHEN MAKING LOOPED CONNECTION.
SECTION ①
DO NOT EXCEED A 45° ANGLE HERE WHEN MAKING LOOPED CONNECTION.
LOOPED CONNECTION AROUND UPPER PANEL POINT ANGLED MEMBERS OF JOIST.
VIEW ②

A.T.O. UNIT ANCHORAGE (SLAB & ROOF) | P

Q


FACE OF PAD
8" MIN. TYP.
(N) GENERATOR
(8) 5/8" SIMPSON TITEN HD ANCHORS, (1) ANCHOR IN EACH (E) MOUNTING POINT.
CURB BY OTHERS. SEE EQUIPMENT MANUFACTURER RECOMMENDATIONS.
FINISHED SURFACE
2" CLR.
4" EMBEDMENT
12"
3" CLR.
#5 BARS AT 18"o.c. EACH WAY, TOP & BOTT.
PREFORMED JOINT FILLER TO BOTTOM OF SLAB AT ISOLATION JOINT.
SEE ARCH'L FOR FOOTING SIZE AND LOCATION

CU UNIT FOOTING | R

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[illegible]

Sep 27 2019

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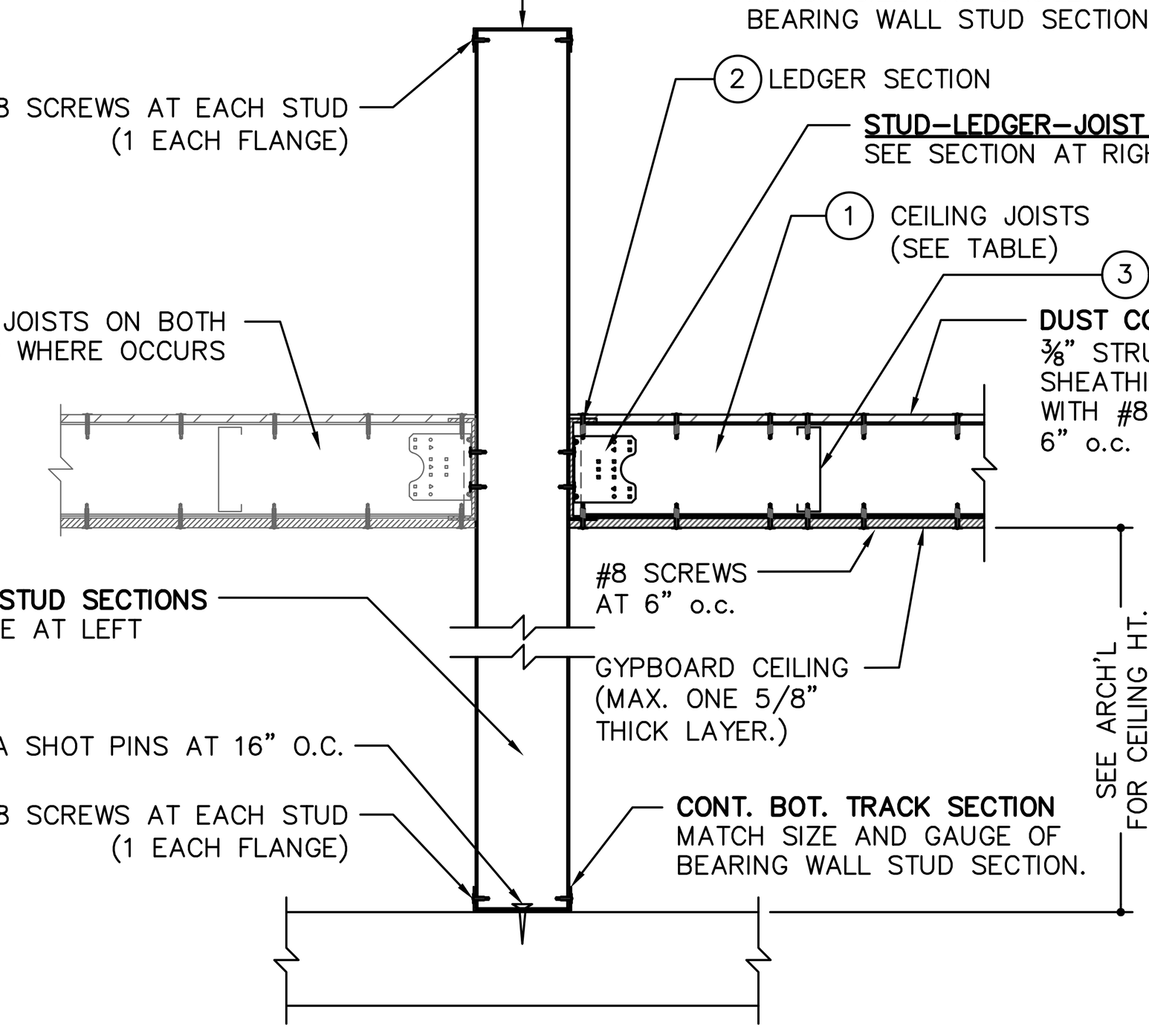
Telephone:(731)664-6330 Fax:(731)664-6339

DATE: 9-10-19		RENOVATE EXISTING FACILITY FOR	H.M. JOB No. 19034
SCALE: NONE		ROSS DISTRIBUTION CENTER	KEI JOB No. 19-060.01
DRAWN BY: KEI	CHECKED BY: KEI	SHAFTER, CA	SHEET NUMBER
		CONSTRUCTION DETAILS	SD2

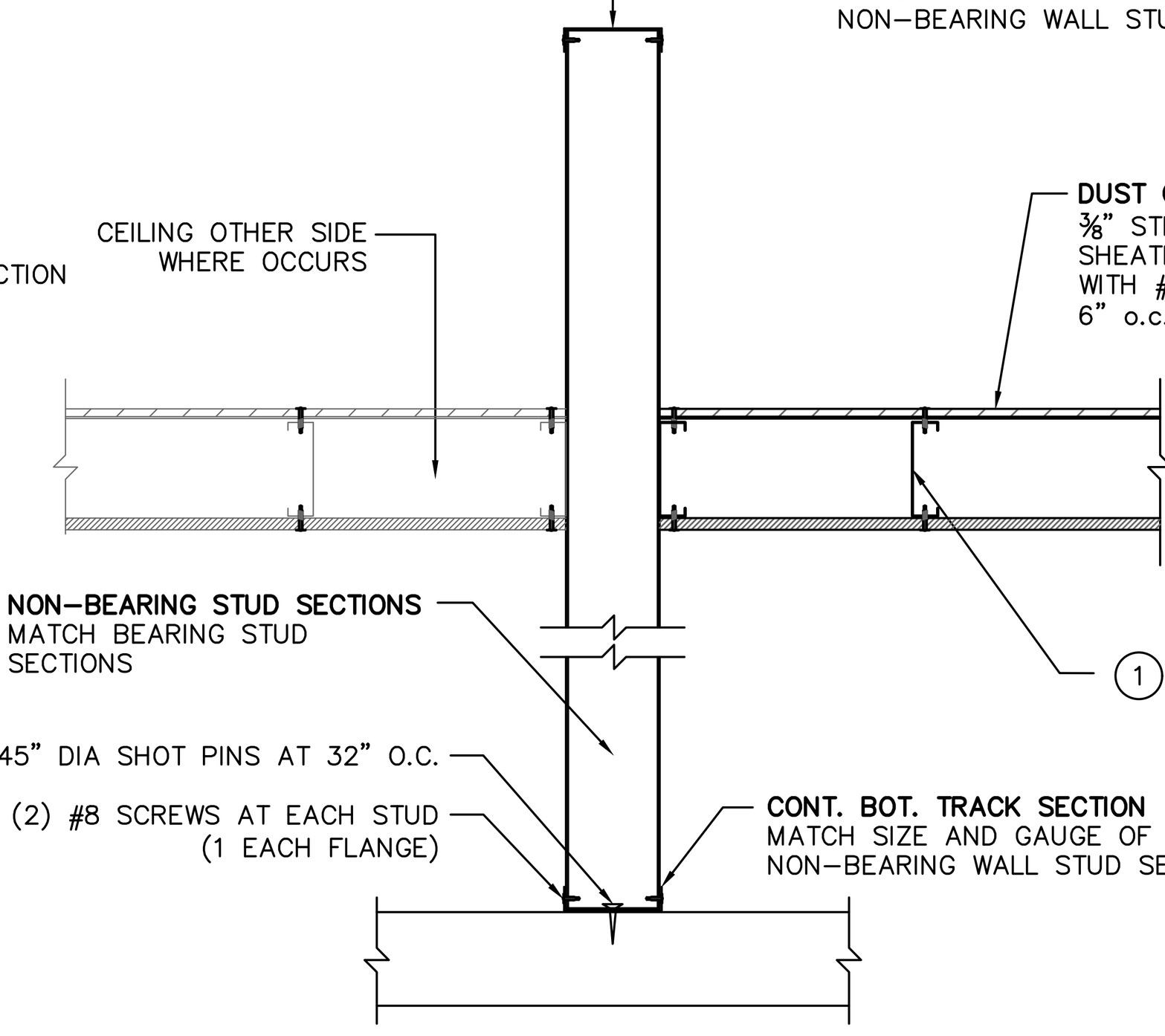
NOTES:
1. STEEL STUDS SHALL BE MANUFACTURED BY A SSMA MEMBER IN CONFORMANCE WITH SSMA "CODE COMPLIANCE CERTIFICATION PROGRAM" (2016 CBC).
2. STEEL STUDS SHALL BE OF 33 KSI STEEL EXCEPT 16 GA. (54 MIL) AND THICKER SHALL BE 50 KSI STEEL (YIELD STRENGTH).
3. EQUAL SIZE JOISTS WITH WIDER FLANGES MAY BE SUBSTITUTED FOR THE TYPE CALLED OUT IN THE SCHEDULE.
4. STUD TRACKS SHALL BE UNPUNCHED STUDS OF THE SAME GAUGE AS THE STUD, U.N.O.
5. JOIST SPANS LISTED IN THE TABLE ABOVE ARE FOR 1 LAYER OF 5/8" OR THINNER GYPBOARD.
6. CEILING IS NOT DESIGNED AS AN ACCESSIBLE SPACE.
7. CEILING IS NOT DESIGNED FOR ANY STORAGE LOADING.

BEARING STUD(1) SECTIONS @ 16" o.c.	TOP & BOT. TRACK SECTION	BLOCKING AT 48" o.c.	CEILING JOIST MAX HT.	
			LEDGER ONE SIDE	LEDGER BOTH SIDES
365S162–33	362T150–43	365S162–33	13'–0"	10'–0"
600S162–43	600T150–43	600S162–33	24'–0"	21'–0"
800S162–43	800T150–43	800S162–33	28'–0"	24'–0"
1000S162–54	1000T150–54	1000S162–43	36'–0"	32'–0"

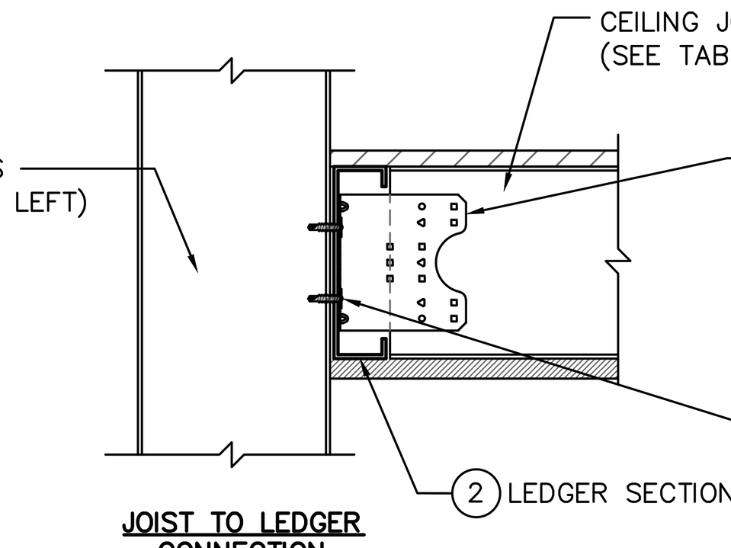
(1) BEARING STUD GAUGE MUST MEET OR EXCEED THE GAUGE OF THE CEILING JOIST.



PERPENDICULAR TO CEILING JOISTS



PARALLEL TO CEILING JOISTS

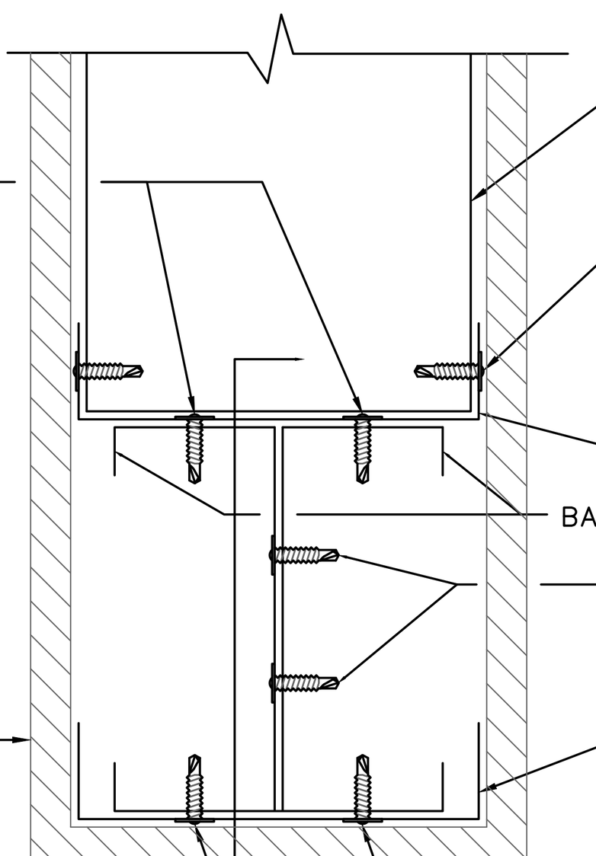


JOIST TO LEDGER CONNECTION

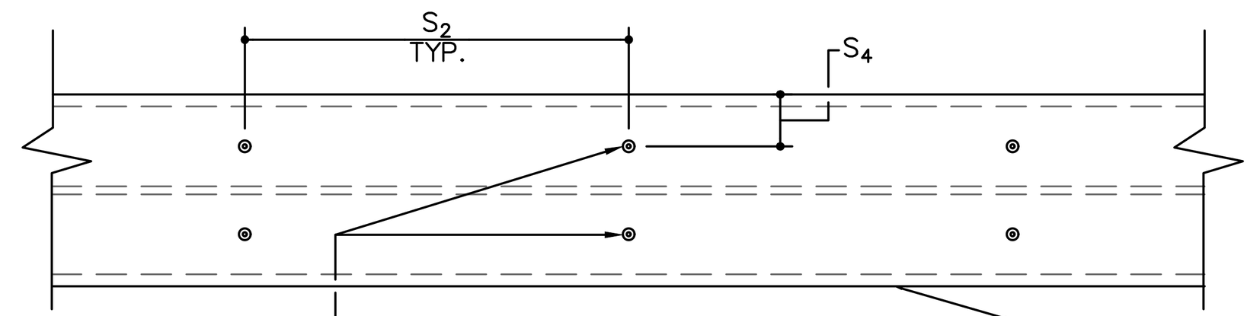
SEE M/SD3 FOR FRAMING AT TYPICAL OPENINGS IN METAL STUD WALL

JOIST MAXIMUM SPAN	(1) CEILING JOIST SECTION & SPACING	(2) LEDGER SECTION	(3) BLOCKING SECTION
11'–0"	600S162–33 @ 16" o.c.	600S162–43	600S162–33 @ 96" o.c.
17'–6"	600S162–43 @ 16" o.c.	600S162–43	600S162–33 @ 96" o.c.
20'–0"	800S162–43 @ 16" o.c.	800S162–43	800S162–33 @ 96" o.c.
33'–0"	1000S162–54 @ 16" o.c.	1000S162–54	1000S162–43 @ 96" o.c.
48'–0"	1200S162–68 @ 16" o.c.	1200S162–68	1200S162–54 @ 96" o.c.

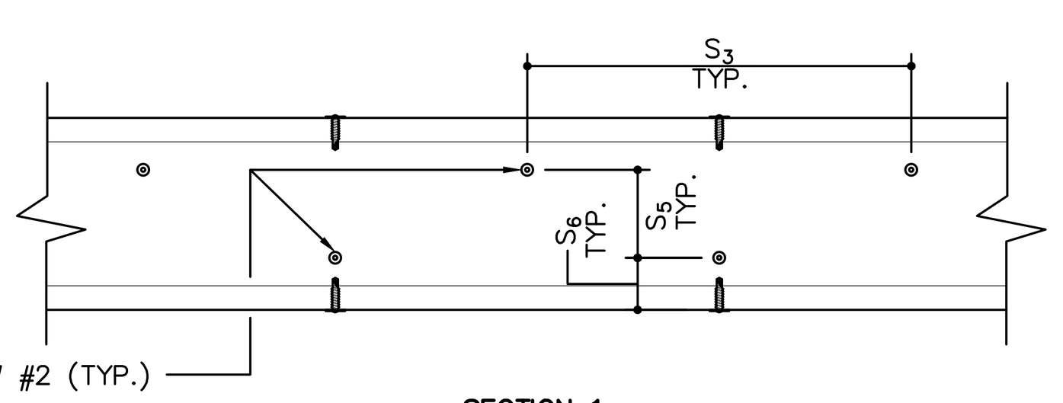
DUST COVER & HARD LID CEILING ON JOISTS WITH LEDGER – NO ACCESS
D



MAIN CROSS SECTION



PLAN VIEW (ABOVE OR BELOW)

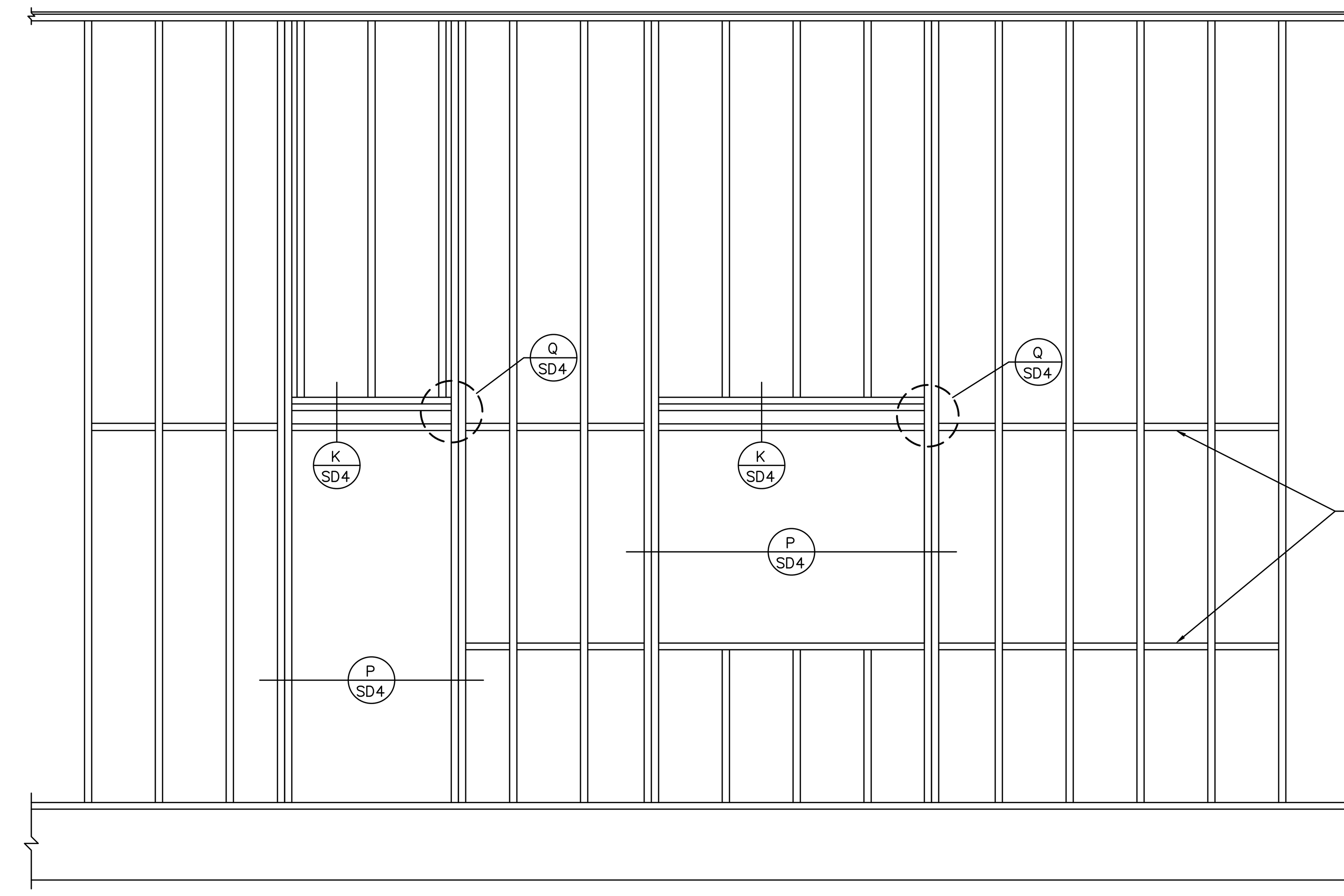


SECTION 1

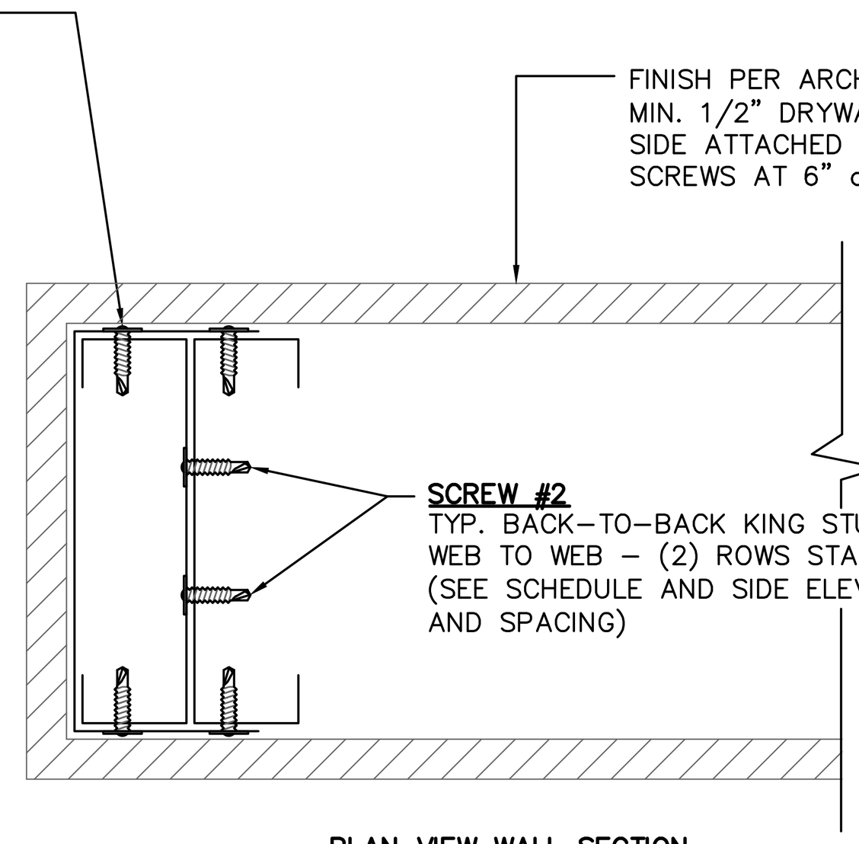
BUILT–UP HEADER SCHEDULE

HEADER SPAN	HEADER SECTIONS	TRACK SECTION	SCREW #1	SCREW #2	SCREW #3	S_2	S_3	S_4	S_5	S_6
UP TO 3'–3"	(2) 600S250–43	600T150–43	#8	#8	#8	12" o.c.	12" o.c.	1–1/2"	3"	1 1/2"
3'–4" TO 7'–3"	(2) 600S250–54	600T150–54	#8	#8	#8	12" o.c.	12" o.c.	1–1/2"	3"	1 1/2"
7'–4" TO 9'–0"	(2) 800S250–68	600T150–54	#8	#8	#8	12" o.c.	12" o.c.	1–1/2"	4"	2"

BUILT–UP HEADER SECTION
K



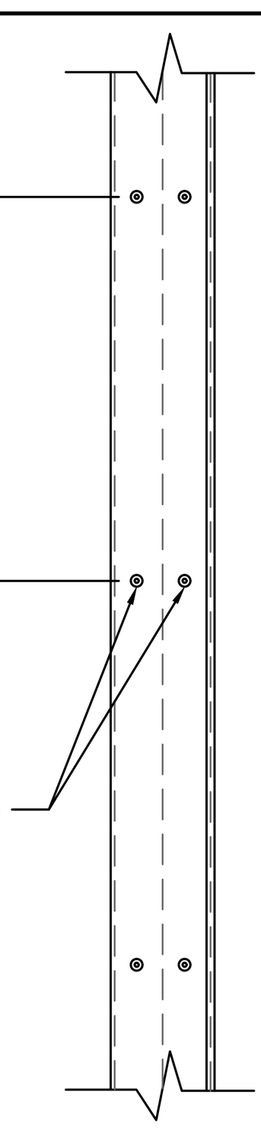
TYP. OPENING FRAMING IN METAL STUD WALL
M



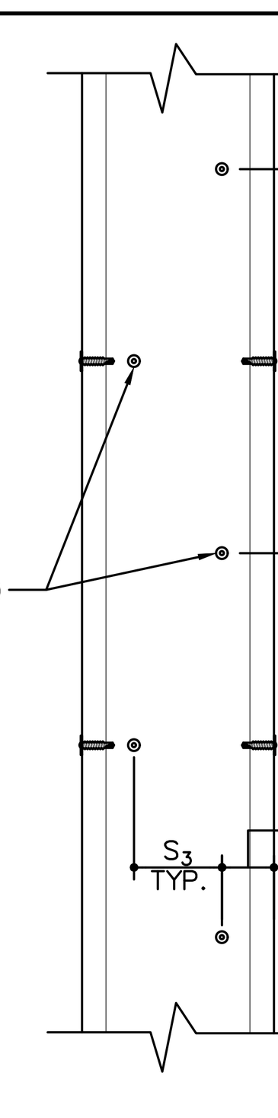
PLAN VIEW WALL SECTION

BUILT–UP KING STUD SCHEDULE

KING SECTIONS	TRACK SECTION	SCREW #1	SCREW #2	SCREW #3	S_1	S_2	S_3	S_4
(2) 600S162–43	600T300–43	#8	#8	#8	12" o.c.	12" o.c.	3"	1 1/2"

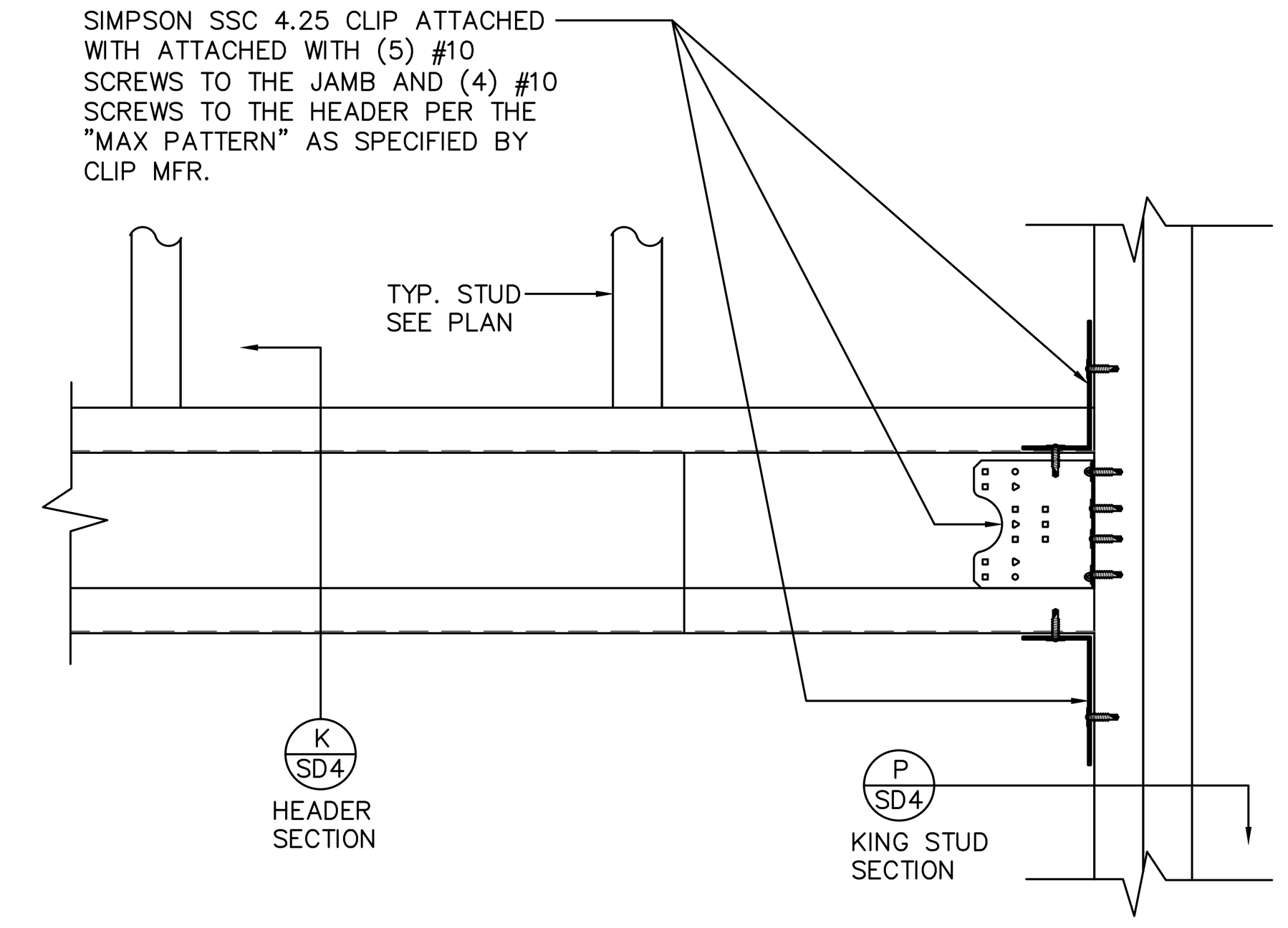


FRONT ELEVATION



SIDE ELEVATION

BUILT–UP KING STUD SECTION
P



HEADER TO KING STUD CONNECTION
Q

R

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