

GENERAL STRUCTURAL SPECIFICATIONS AND NOTES

GENERAL:

1. THE FIELD SHALL COORDINATE WITH ALL TRADE'S DESIGN NEW/EXISTING PLANS AND VERIFY ALL DIMENSIONS/SITE CONDITIONS IN FIELD BEFORE STARTING THE NEW CONSTRUCTION WORK.
2. THE CONTRACTOR IS RESPONSIBLE FOR FIT AND FINISH. NOTIFY ARCHITECT/ ENGINEER ANY DISCREPANCIES OR CONFLICTS FOUND IN DRAWINGS AND/OR FIELD CONDITIONS.
3. EXISTING UTILITIES ARE NOT SHOWN ON DRAWINGS FOR CLARITY. VERIFY ALL LOCATIONS AND ELEVATIONS OF UTILITIES AND NOTIFY OWNER/ARCHITECT/ENGINEER BEFORE BEGINNING NEW CONSTRUCTION OF ANY INTERFERENCE THAT MIGHT EXIST.
4. WHERE REFERENCE IS MADE TO VARIOUS STANDARDS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM AS NEEDED.
5. ANY OMISSIONS OR INCONSISTENCIES ON THESE DRAWINGS OR ANY VARIATIONS OR AMBIGUITIES BETWEEN THESE DRAWINGS AND ACTUAL SITE AND CONSTRUCTION CONDITIONS AND/OR REQUIREMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER/ARCHITECT/ENGINEER IN WRITING, BEFORE COMMENCEMENT OF ANY WORK EFFECTED BY SUCH VARIANCE OR INCONSISTENCIES.
6. THE ENGINEER IS ONLY RESPONSIBLE FOR CONSTRUCTION DOCUMENTS ALONG AND IS NOT LIABLE FOR ANY DAMAGES OF INJURES RESULTING FROM NEGLIGENCE, UNSAFE AND UNLAWFUL CONSTRUCTION PRACTICES AND IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS.
7. THE CONTRACTOR SHALL PAY ALL FEES, GIVE ALL NOTICES, FILE ALL NECESSARY DRAWINGS AND OBTAIN ALL PERMITS AND CERTIFICATES OF APPROVAL REQUIRED IN CONNECTION WITH ALL WORK UNDER THESE CONTRACT DOCUMENTS. HE/HER SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES, AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.
8. THE CONTRACTOR SHALL CONSTRUCT THE PROJECT IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES AND REGULATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIM/HERSELF WITH ALL CODES AND REGULATIONS PRIOR TO COMMENCEMENT OF THE WORK.
9. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES REQUIRED FOR SAFE EXECUTION AND COMPLETION OF THE WORK, AND FOR INITIATING, MAINTAINING AND SUPERVISION ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
10. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AT THE SITE AND BE RESPONSIBLE FOR THEIR ACCURACY AND CORRECTNESS. ANY DIMENSIONS THAT ARE NOT TO SCALE WILL BE NOTED AS N.T.S.
11. SUBMIT ALL SHOP DRAWINGS OR EQUIPMENT SPECIFICATIONS FOR REVIEW AND DESIGN INFO PRIOR TO FABRICATION OR ANY CONSTRUCTION.
12. ALL MANUFACTURED MATERIALS, COMPONENTS, FASTENS, ASSEMBLIES, ETC, SHALL BE HANDLED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

DESIGN LOADS:

1. BUILDING CODES: 2018 INTERNATIONAL BUILDING CODES & AMENDMENTS
2. DESIGN LOADS:

ROOF LIVE 20 PSF (REDUCIBLE AS PERMITTED)

SNOW LOAD 15 PSF GROUND

WIND LATERAL LOAD:
BASIC WIND SPEED 115 MPH (3-SEC GUST, CATEGORY II BUILDING)
EXPOSURE C

SEISMIC LOAD: Ss(%g) = 30
S1(%g) = 12
SITE CLASS B

DEAD LOADS INCLUDE ALL SELF-WEIGHTS OF THE STRUCTURAL ELEMENTS AND ATTACHMENTS.

FOUNDATION AND EARTHWORK FOR OUTDOOR DINING OPEN STRUCTURE:

1. NO NEW FOUNDATION AND EARTHWORK WORK IS PROPOSED AT THIS TENANT FINISH-OUT IMPROVEMENT PROJECT.

STRUCTURAL STEEL:

1. NEW STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, ERECTED, AND PAINTED IN ACCORDANCE WITH AISC "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" BY APPROVED LICENSED FABRICATOR SHOP, AND APPROVED BY THE CITY BUILDING OFFICIALS.
2. MATERIAL SPECIFICATIONS (ASTM DESIGNATIONS):

2.1. STRUCTURAL STEEL – CHANNEL, ANGLE, & PLATE, A36

2.2. STEEL PIPE, A53 TYPE E GRADE B

2.3. HSS MEMBERS, A500 (GRADE B)

2.4. BOLTS, A325N

2.5. WELDING, E-70XX PROCESS
3. ALL SHOP AND FIELD WELDING OF STRUCTURAL STEEL SHALL BE MADE BY THE ELECTRIC SHIELDED ARC PROCESS OR SUBMERGED ARC PROCESS IN CONFORMITY WITH AISC SPECIFICATIONS AND AWS "STRUCTURAL WELDING CODE D1.1 (LATEST EDITION) AND PERFORMED BY CERTIFIED WELDERS ONLY. ELECTRODES SHALL BE E-70 LOW HYDROGEN TYPE (FOR SHIELDED ARC PROCESS) OR SAW-2 TYPE (FOR SUBMERGED ARC PROCESS).
4. THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS OF ALL STEEL FOR PROJECT ARCHITECT/ENGINEER'S REVIEW & APPROVAL BEFORE FABRICATION. SHOP DRAWINGS SHALL INCLUDE WELDING PROCEDURES, TESTING PROGRAMS FOR WELDING, COATING MATERIAL, AND ERECTION SEQUENCE.
5. ALL BOLTS SHALL BE INSTALLED AND INSPECTED IN ACCORDANCE WITH OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A490 BOLTS, AS APPROVED BY THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS INSTITUTE OF STEEL CONSTRUCTION. LOAD INDICATOR WASHERS SHALL BE USED AS THE APPROVED DIRECT TENSION INDICATING WASHER (ASTM F959) AND SHALL BE AS FOLLOWS:

5.1. THE ASSEMBLY SHALL BE FITTED INTO PLACE AND THE NUT INSTALLED. HARDENED ROUND WASHERS SHALL BE USED UNDER THE NUT TO REDUCE FRICTIONAL RESISTANCE.

5.2. SUFFICIENT BOLTS IN THE JOINT SHALL BE SNUGGLED TO DRAW THE CONNECTING MEMBERS INTO CLOSE CONTACT, THEN ALL BOLTS SHALL BE TIGHTENED UNTIL THE AVERAGE GAP BETWEEN THE FACE OF THE LOAD INDICATOR WASHER AND THE UNDERSIDE OF THE BOLT HEAD IS REDUCED TO AT LEAST 0.015 INCH.

5.3. TIGHTENING SHALL PROGRESS SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT TO ITS FREE EDGES UNTIL THE LOAD INDICATOR WASHERS ON ALL BOLTS ARE CLOSED TO AT LEAST THE REQUIRED GAP. THE GAP MAY BE CHECKED WITH A FEELER GAUGE. COMPLETE CLOSURE OF THE GAP SHOULD BE AVOIDED, BUT IS NOT NECESSARILY REASON FOR REJECTION.
6. ALL STRUCTURAL STEEL, EXCEPT EMBEDDED ITEMS, SHALL BE PAINTED WITH ONE SHOP COAT OF RUST INHIBITIVE PAINT. FOR EXTERIOR CONDITION, CONSULT WITH STEEL MANUFACTURER OR A LOCAL ARCHITECT FOR MINIMUM WEATHER PROTECTION REQUIREMENTS AT THIS SITE IN ACCORDING TO CURRENT LOCAL BUILDING CODES.

MISCELLANEOUS:

1. WHEREVER THE EXISTING SITE CONDITIONS ARE FOUND TO BE DIFFERENT FROM THE CONSTRUCTION PLANS, THE CLIENT/ARCHITECT AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY SO ANY ADJUSTMENTS CAN BE MADE.
2. WORK SHALL BE DONE IN ACCORDANCE WITH PLANS, SPECIFICATIONS AND APPLICABLE REPORTS AND SHALL MEET CODES, RULES AND REGULATIONS OF THE GOVERNING AGENCIES HAVING JURISDICTION (CITY, STATE, NATIONAL AND UTILITY COMPANIES). REFER TO SPECIFICATIONS AND DRAWINGS FOR MATERIALS, CONDITIONS AND WORKMANSHIP.
3. IF PLANS AND SPECIFICATIONS DIFFER FROM REQUIRED MINIMUM STANDARDS SET FOR IN ORDINANCES OF THE GOVERNING AGENCIES, ORDINANCES SHALL GOVERN.
4. ANY DISAGREEMENT BETWEEN THE PLANS, SPECIFICATIONS AND THE ORDINANCES OF THE GOVERNING AGENCIES, ATTENTION MUST BE CALLED TO SAME BEFORE SIGNING OF THE CONTRACT. AFTER THE CONTRACT HAS BEEN SIGNED, THE CONTRACTOR IS RESPONSIBLE FOR HAVING ALL WORK MEET WITH THE REQUIREMENTS OF THE GOVERNING ORDINANCES. NO EXTRA TO THE CONTRACT WILL BE GRANTED TO CORRECT ANY DISCREPANCY EXISTING BETWEEN THE WORK AND THE ORDINANCES.
5. CONTRACTOR SHALL NOTIFY THE CLIENT/ARCHITECT AND/OR ENGINEER AT LEAST 24 HOURS IN ADVANCE OF CONSTRUCTION ROUGH-FRAMING OBSERVATION AND VERIFICATION.
6. CONTRACTOR SHALL COORDINATE THIS WORK AND WORK OF OTHER TRADES. THE OWNER AND THE CONTRACTOR REMAIN SOLELY RESPONSIBLE THE INTEGRITY OF THE BUILDING ENVELOPE, THE COMPATIBILITY OF THE FINISH MATERIALS, AND STRICT COMPLIANCE WITH THE MINIMUM DESIGN STANDARDS BY BUILDING CODES, ORDINANCES, REGULATORY AGENCIES, UTILITY COMPANIES, AND THE PROJECT PLANS.

NO.	PHASE	INDEX TO DRAWINGS				12/28/2021					
1	ONE	S-0	GENERAL STRUCTURAL SPECIFICATIONS & NOTES			<input checked="" type="checkbox"/>					
2		S-1	ROOF FRAMING RENOVATION PLAN			<input checked="" type="checkbox"/>					
3		S-2	FRAMING SECTIONS AND DETAILS			<input checked="" type="checkbox"/>					
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		PROJECT DEVELOPMENT:									
		1) REVIEW OF ARCHITECTURAL RENOVATION PLANS FOR THE SUBJECT TENANT FINISH-OUT IMPROVEMENT PROJECT.					PRELIMINARY	REVIEW SET	PERMIT SET	REVISION 1	REVISION 2
		2) REVIEW OF AVAILABLE DOCUMENTS, FIELD PHOTOGRAPHS, AND OTHER RELATED DRAWINGS.									
		3) PREPARE STRUCTURAL RENOVATION DESIGN AND CONSTRUCTION DRAWINGS IN ACCORDING TO CURRENT LOCAL BUILDING CODE OR THE 2018 INTERNATIONAL BUILDING CODE (IBC).									



PANDA RESTAURANT GROUP INC.
1683 Walnut Grove Ave.
Rosemead, California 91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

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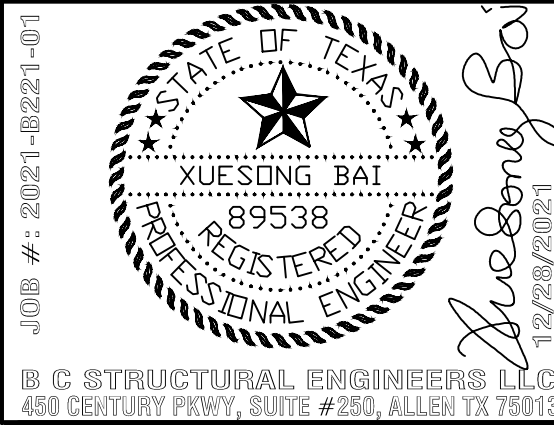
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PANDA PROJECT #:
ARCH PROJECT #:



GARY WANG
& ASSOCIATES, INC.
1000 Corporate Center Dr., Ste. 550
Monterey Park, CA 91754
TEL: (626) 288-6898 FAX: (626) 768-7101
http://www.garywang.com



B. C. STRUCTURAL ENGINEERS LLC
450 CENTURY PARK, SUITE #250, ALLEN TX 75015

PANDA EXPRESS
SPACE 8126
EXCHANGE FOOD COURT
FT LEONARD WOOD, MO

S-0

GENERAL NOTES

BID SET (NOT FOR CONSTRUCTION) DATE: 2022/01/18

CALCULATIONS AND VERIFICATIONS:

AS-BUILT ROOF JOIST = 24K4
JOIST WEIGHT = 7.8 PLF (LISTED)
JOIST SPAN = 35 FEET (ACTUALLY 35' - 0.33)
ALLOWABLE DEFLECTION, $\Delta = L/360 = 1.16667"$ OR $L/240 = 1.7335"$

ALLOWABLE UNIFORM LOAD UNDER $L/360$ DEFLECTION = 242 PLF (LISTED)

APPROXIMATE GROSS MOMENT OF INERTIA (NOT ADJUSTED FOR SHEAR DEFORMATION, $I = 26.767 \times (242 \text{ PLF}) \times (35')^3 / (10 \times 6) = 278 \text{ IN}^4$ PER GIVEN EQUATION.

DESIGN LIVE LOAD = 20 PSF ROOF
DESIGN DEAD LOAD = 10 PSF (ESTIMATED ALL ATTACHMENTS)

JOIST SPACING = 4.75 +/- FEET
SO, TOTAL EXISTING UNIFORM LOAD ON JOISTS, $w = (20 + 10) \times 4.75 + 7.8 = 151 \text{ PLF}$

THIS REQUIRES $I_w = 151 \text{ IN}^4$ ($L/360$) OR 102 IN^4 ($L/240$)

IN ADDITION, THE MAXIMUM ADDED-ON POINT LOAD FROM ROOF-TOP DEVICES, $P = 640\#$

THIS REQUIRES (MAXIMUM AT CENTER OF THE SPAN), $I_p = 30 \text{ IN}^4$

THEREFORE, TOTAL CAPACITY REQUIRES $= I_w + I_p = 181 \text{ IN}^4$ (UNDER THE $\Delta = L/360$)

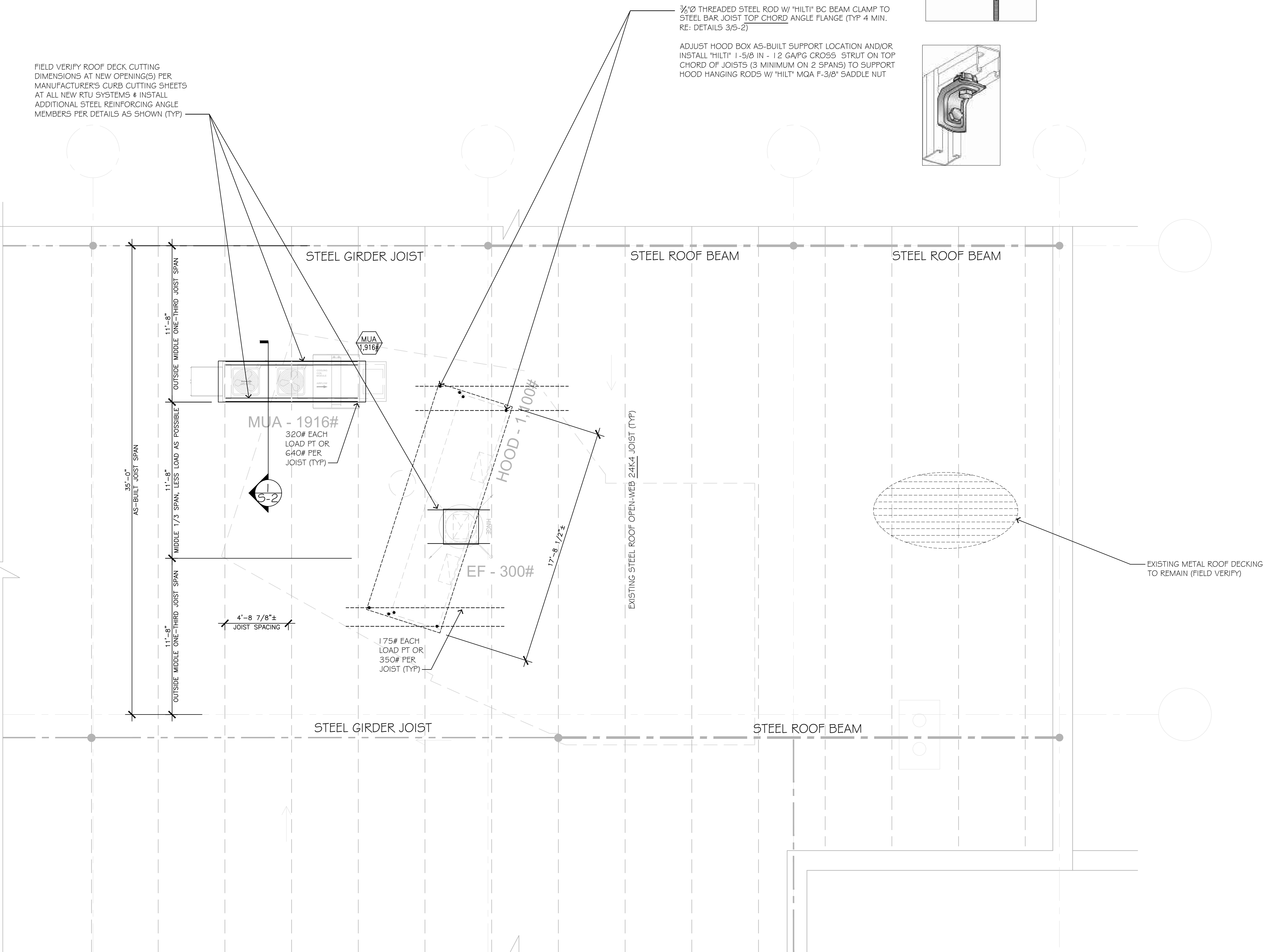
THIS NUMBER IS LESS THAN THE ESTIMATED VALUE OF 278 IN^4 BASED UPON GIVEN EQUATION. SO, THE AS-BUILT OF ROOF STEEL OPEN-WEB JOISTS WILL BE CAPABLE OF HANDLING THE ADDITIONAL ROOF-TOP EQUIPMENT LOADS AS SHOWN LOCATIONS AND SCALES.

IN ADDITION, PER THE JOIST LOADING TABLE, THE SAFE UNIFORMLY-DISTRIBUTED LOAD-CARRYING CAPACITY OF EXISTING 24K4 JOIST IS 164 PLF WHILE THE ESTIMATED LOAD PER THE IBC CODE MINIMUM DESIGN LOADS IS APPROXIMATELY 151 PLF, WHICH IS CLOSE TO THE CAPACITY. SO, THE FIELD WILL NEED TO HAVE THE NEW ROOF-TOP EQUIPMENT INSTALLED OUTSIDE MIDDLE ONE-THIRD JOIST SPAN AND ALSO ADD SOME ADDITIONAL STEEL REINFORCING ANGLES TO TRANSFER THE ADDED-ON POINT LOADS AS WIDELY AS POSSIBLE THRU THE CHORDS AND/OR WEBS OF THE JOIST. REFER TO SECTIONS AND DETAILS.

1

ROOF RENOVATION FRAMING PLAN FOR NEW ROOF-TOP EQUIPMENT ON EXISTING STEEL JOIST SYSTEM

SCALE: 1/4"=1'-0"



PLAN NOTES:

1. FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITION OF THE SPACE/BUILDING PRIOR TO ANY NEW CONSTRUCTION.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, DETAILS, AND NOTES/SPECIFICATIONS FOR THE PROJECT AND BUILDING INFORMATION.
3. REFER TO STRUCTURAL GENERAL NOTES FOR MATERIALS.
4. REFER TO TENANT FINISH-OUT MECHANICAL DRAWINGS TO VERIFY ALL ROOF-TOP EQUIPMENT DATA.



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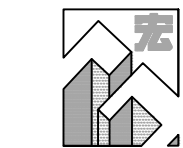
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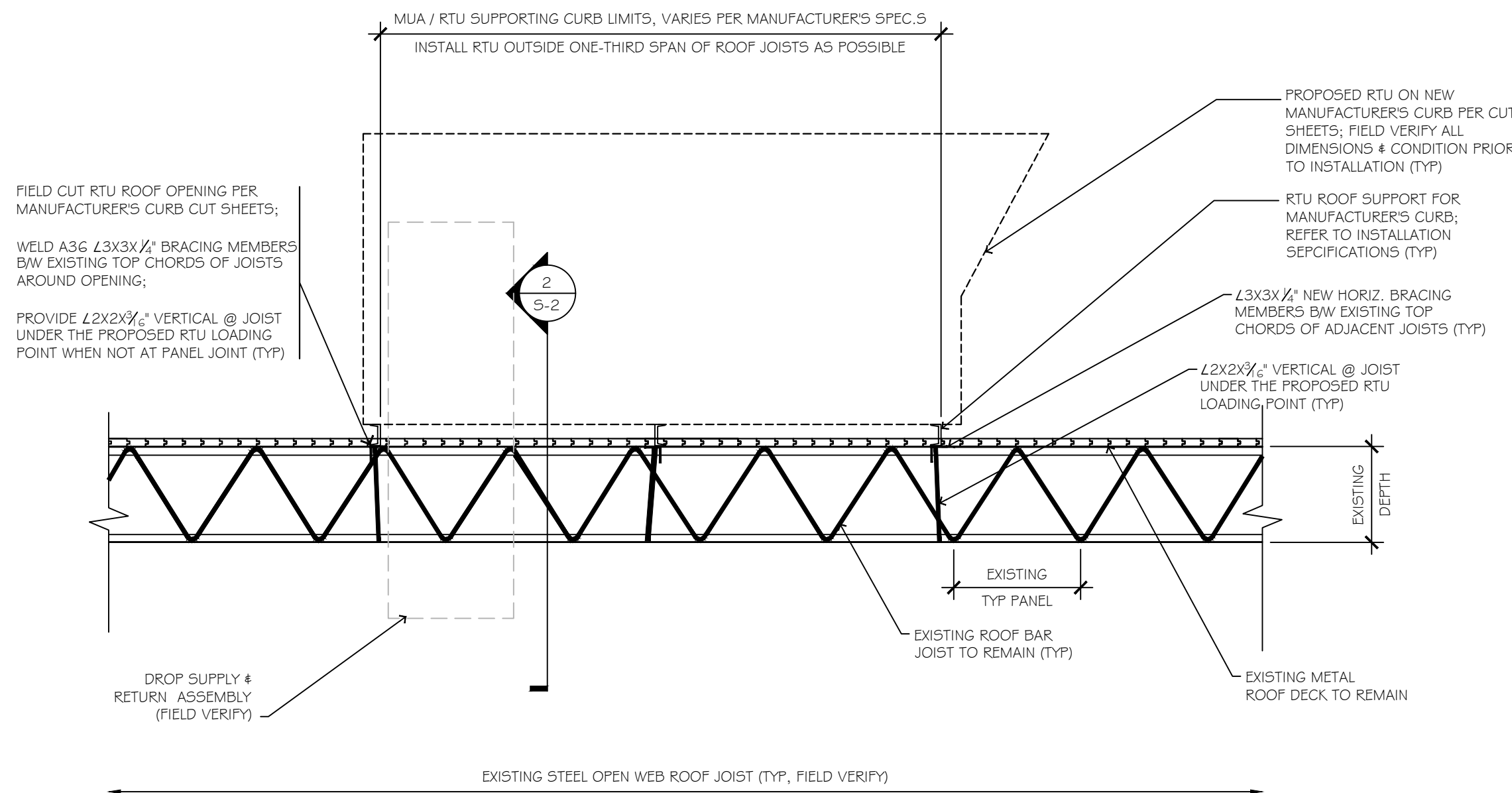
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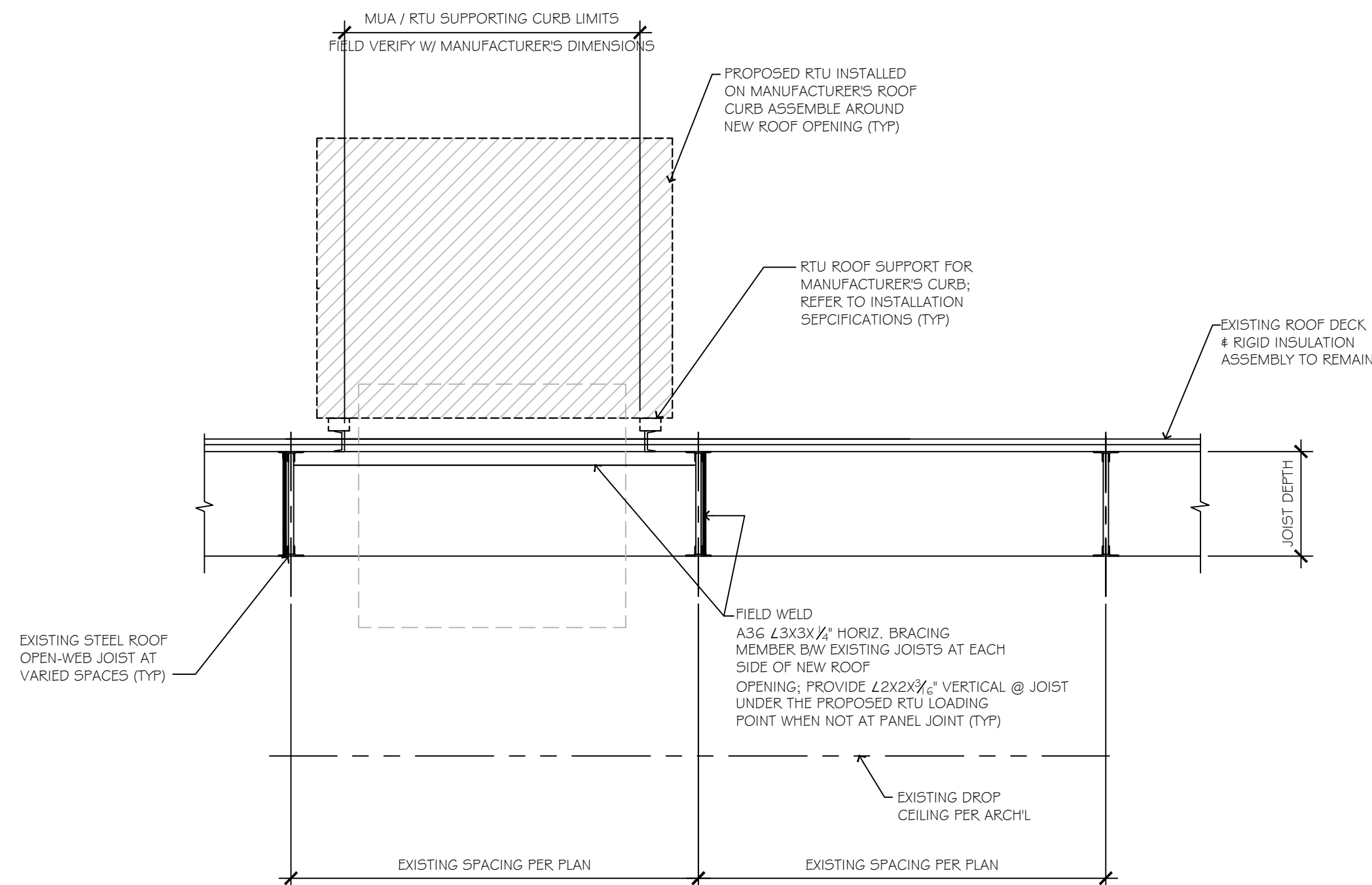
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FRAMING
RENOVATION PLAN

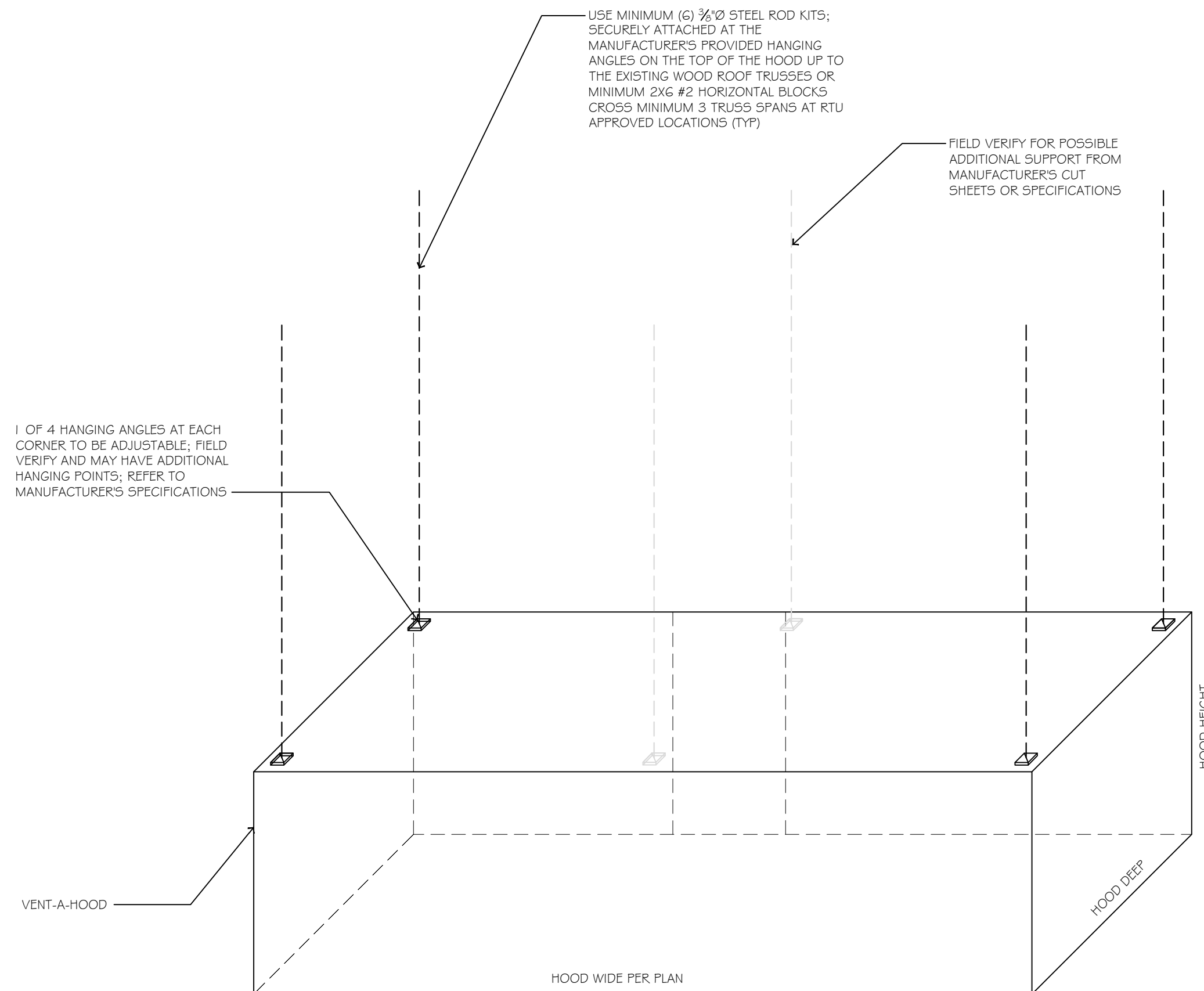
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1 SECTION - PARALLEL TO JOIST
SCALE: 1/2" = 1'-0"



2 CROSS SECTION
SCALE: 1/2" = 1'-0"



A TYPE I VENT-A-HOOD SUPPORT DETAILS
SCALE: 1/2" = 1'-0"

PLAN NOTES:

1. INSTALL NEW ROOF TOP MUA UNIT OR RTUs OVER AVAILABLE FRAMING BEAM OR GIRDER TRUSSES AND/OR COLUMN OR OUTSIDE MIDDLE ONE-THIRD JOIST/TRUSS SPAN AS POSSIBLE. COORDINATE WITH LANDLORD'S ROOFING CONTRACTOR FOR THE LOCATIONS PER THE LANDLORD'S SPECIFICATIONS AND/OR MECHANICAL ZONE AS SHOWN ON ORIGINAL ROOF STRUCTURAL FRAMING PLAN.
2. CUT ROOF DECK AS REQUIRED PER CURRENT LOCAL BUILDING CODES.
3. INSTALL INTERIOR BLOCKING AND REINFORCING MEMBERS AS NEEDED PER LOCAL BUILDING CODES AND JOB SITE CONDITION.
4. REFER TO MANUFACTURER'S CUT SHEETS OR SPECIFICATIONS FOR REQUIRED ROOF BUILT-UP CURB, RUBBER END CAPS, AND SEALING REQUIREMENTS.
5. ALL MECHANICAL WORK IS SUBJECT TO CITY INSPECTION AND APPROVAL.



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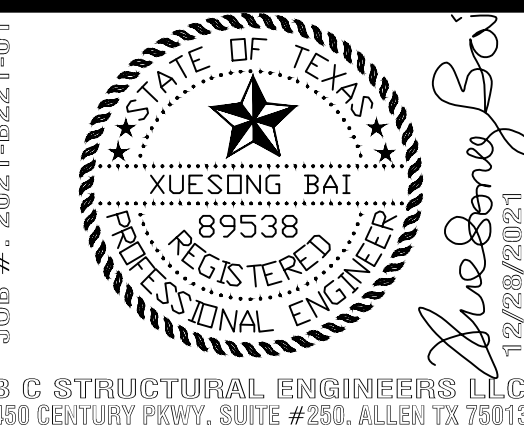
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ROOF FRAMING
DETAILS

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