

ADD2095
 A-5
 CD: 11/17/67
 4.77 ACRES

**APPROVED
 Plan Review**

02/28/2020 10:45:19 AM

dsdrangel

EPC Planning & Community
 Development Department



ANY APPROVAL GIVEN BY
 EL PASO COUNTY
 DOES NOT OBLIATE THE NEED
 TO COMPLY WITH APPLICABLE
 FEDERAL, STATE, OR LOCAL
 LAWS AND/OR REGULATION

Planning & Community Development Department approval is contingent upon compliance with all applicable notes on the recorded plat.

An access permit must be granted by the Planning & Community Development Department prior to the establishment of any driveway onto a County road.

Diversion of blockage of any drainage way is not permitted without approval of the Planning & Community Development Department

**Not Required
 BESQCP**

02/28/2020 10:45:32 AM

dsdrangel

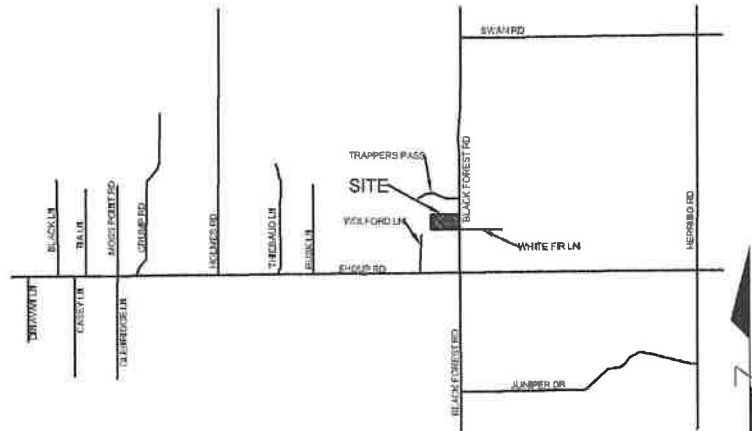
EPC Planning & Community
 Development Department



It is the owner's responsibility to coordinate with easement holders to avoid impact to utilities that may be located in the easements.

PLOT AND DESC PLAN

12740 BLACKFOREST ROAD



VICINITY MAP
 1:2000

LEGEND

- EROSION CONTROL BLANKET (FINAL)
- SEEDING & MULCHING (FINAL)
- SEDIMENT CONTROL LOG (INITIAL, INTERM & FINAL)
- SILT FENCE (INITIAL, INTERM & FINAL)
- VEHICLE TRACKING CONTROL (INTERM)
- CONCRETE WASHOUT AREA (INTERM)
- STABILIZED STAGING AREA (INITIAL & INTERM)

NOTES:

1. ANY LAND DISTURBANCE BY ANY OWNER, DEVELOPER, BUILDER, CONTRACTOR, OR OTHER PERSON SHALL COMPLY WITH THE BASIC GRADING, EROSION & STORMWATER QUALITY CONTROL REQUIREMENTS & GENERAL PROHIBITIONS NOTED IN THE DRAINAGE CRITERIA MANUAL VOLUME II.
2. NO CLEARING, GRADING, EXCAVATION, FILLING, OR OTHER LAND DISTURBING ACTIVITIES SHALL BE PERMITTED UNTIL SIGNOFF & ACCEPTANCE OF THE GRADING PLAN & EROSION & STORMWATER QUALITY CONTROL PLAN IS RECEIVED FROM THE EROD.
3. THE INSTALLATION OF THE FIRST LEVEL OF TEMPORARY EROSION CONTROL FACILITIES & BMPs SHALL BE INSTALLED & INSPECTED PRIOR TO ANY EARTH DISTURBANCE OPERATIONS TAKING PLACE. CALL CITY STORMWATER INSPECTIONS, 303-5860, 48 HOURS PRIOR TO CONSTRUCTION.
4. SEDIMENT (MUD & DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF THE SIZE OF THE SITE, SHALL BE CLEANED IMMEDIATELY.
5. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (21) CALENDAR DAYS AFTER FINAL GRADING OR FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. DISTURBED AREAS & STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DOORMAT FOR LONGER FOR THIRTY (30) DAYS SHALL ALSO BE MULCHED WITHIN TWENTY-ONE (21) DAYS OF INTERM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERM STATE FOR MORE THAN SIXTY (60) DAYS SHALL ALSO BE SEED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES & BMPs SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
7. THE GRADING & EROSION CONTROL PLAN WILL BE SUBJECT TO RE-REVIEW & RE-ACCEPTANCE BY EROD SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN TWELVE (12) MONTHS OF THE CITY ENGINEER'S ACCEPTANCE OF THE PLAN, A CHANGE IN PROPERTY OWNERSHIP, OR PROPOSED GRADING REVISIONS.
8. THE PLAN SHALL NOT SUBSTANTIALLY CHANGE THE DEPTH OF COVER, OR ACCESS EXISTING UTILITY LINES. ACCEPTANCE OF THIS PLAN DOES NOT CONSTITUTE APPROVAL TO GRADE IN ANY UTILITY EASEMENT OR RIGHT OF WAY. APPROVALS TO GRADE WITHIN UTILITY EASEMENTS MUST BE OBTAINED FROM THE APPROPRIATE UTILITY COMPANY. IT IS NOT PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH ON ANY COLORADO SPRINGS UTILITY EASEMENT OR UTILITY RIGHT-OF-WAY WITHOUT THEIR WRITTEN APPROVAL. THE PLAN SHOULD NOT INCREASE OR DIVERT WATER TOWARDS UTILITY FACILITIES. ANY CHANGES TO THE EXISTING UTILITY FACILITIES TO ACCOMMODATE THE PLAN MUST BE APPROVED BY THE AFFECTED UTILITY OWNER PRIOR TO IMPLEMENTING THE PLAN. THE COST TO RELOCATE OR PROTECT EXISTING UTILITIES OR TO PROVIDE INTERIM ACCESS IS THE APPLICANT'S EXPENSE.
9. ANY AREA WHERE VEGETATION IS REMOVED BY VEHICLE TRAFFIC OR STAGING WILL BE SEED AND MULCHED.
10. ANY ADDITIONAL EROSION CONTROLS DEEMED NECESSARY BY THE COLORADO SPRINGS EROSION CONTROL INSPECTOR WILL BE INSTALLED PER THE INSPECTOR'S DIRECTION.
11. ALL DISTURBED SOIL OUTSIDE OF BUILDING FOOTPRINT WILL BE SEED AND MULCHED IN ACCORDANCE WITH DOUGLAS COUNTY CRITERIA UNLESS SURFACED WITH GRAVEL, CONCRETE OR OTHER IMPERVIOUS MATERIAL.
12. ANY CREATED SLOPES STEEPER THAN 4H:1V WILL BE PROTECTED BY EROSION CONTROL BLANKET, SEEDING AND MULCHING.
13. GRADED SLOPES SHALL NOT BE STEEPER THAN 3H:1V.
14. A MINIMUM SLOPE OF 10% AND A MAXIMUM SLOPE OF 33% IN THE FIRST 10 FEET AWAY FROM THE FOUNDATION WALLS AND WINDOW WELLS SHALL BE ESTABLISHED FOR PERVIOUS SURFACES. ALL OTHER DISTURBED AREAS SHALL HAVE A MINIMUM OF 2% SLOPE.
15. THIS PLOT PLAN IS FOR THE DESIGN OF GRADING AND DRAINAGE SURROUNDING THE BARN. IT IS NOT TO BE USED FOR FOUNDATION DIMENSIONS, OR CONSTRUCTION OF THE BARN EXCEPT FOR ESTABLISHING THE TOP OF FOUNDATION GRADE.
16. THE EXISTING TOPOGRAPHIC SURVEY USED FOR THIS PROJECT WAS COMPLETED BY RAMPART SURVEYS, LLC. ON 07-08-2019. THE ACCURACY OF THIS SURVEY HAS NOT BEEN VERIFIED & IS NOT THE RESPONSIBILITY OF 2N CIVIL, LLC.
17. SIDING TO REMAIN 6" ABOVE FINISHED GRADE.

"THIS STORMWATER MANAGEMENT PLAN HAS BEEN PLACED IN THE CITY OF COLORADO SPRINGS FILE FOR THIS PROJECT AND HAS BEEN DETERMINED TO COMPLY WITH THE APPLICABLE CITY OF COLORADO SPRINGS STORMWATER MANAGEMENT CRITERIA. ADDITIONAL STORMWATER MANAGEMENT, EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED OF THE OWNER OR HIS/HER AGENTS, DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED."

"REVIEW OF THIS PLAN BY THE CITY OF COLORADO SPRINGS SHALL NOT IMPLY THAT IT HAS BEEN REVIEWED FOR COMPLIANCE WITH THE REQUIREMENTS SET FORTH BY THE STATE OF COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY."

"SEE APPROVED STORMWATER MANAGEMENT PLAN DESIGN DRAWING# (SITE PLAN) FOR SITE SPECIFIC BEST MANAGEMENT PRACTICES."

PROJECT OWNER/DEVELOPER SIGNATURE BLOCK
 I HAVE REVIEWED THE INFORMATION CONTAINED WITHIN THE STORMWATER MANAGEMENT PLAN AND ACCEPT RESPONSIBILITY FOR THE REQUIREMENTS SET FORTH.

PERMITTEE/APPLICATION _____ DATE _____

PLAN PREPARER SIGNATURE BLOCK
 I ACKNOWLEDGE MY RESPONSIBILITY FOR THE PREPARATION OF THE STORMWATER MANAGEMENT PLAN.

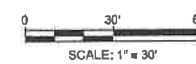
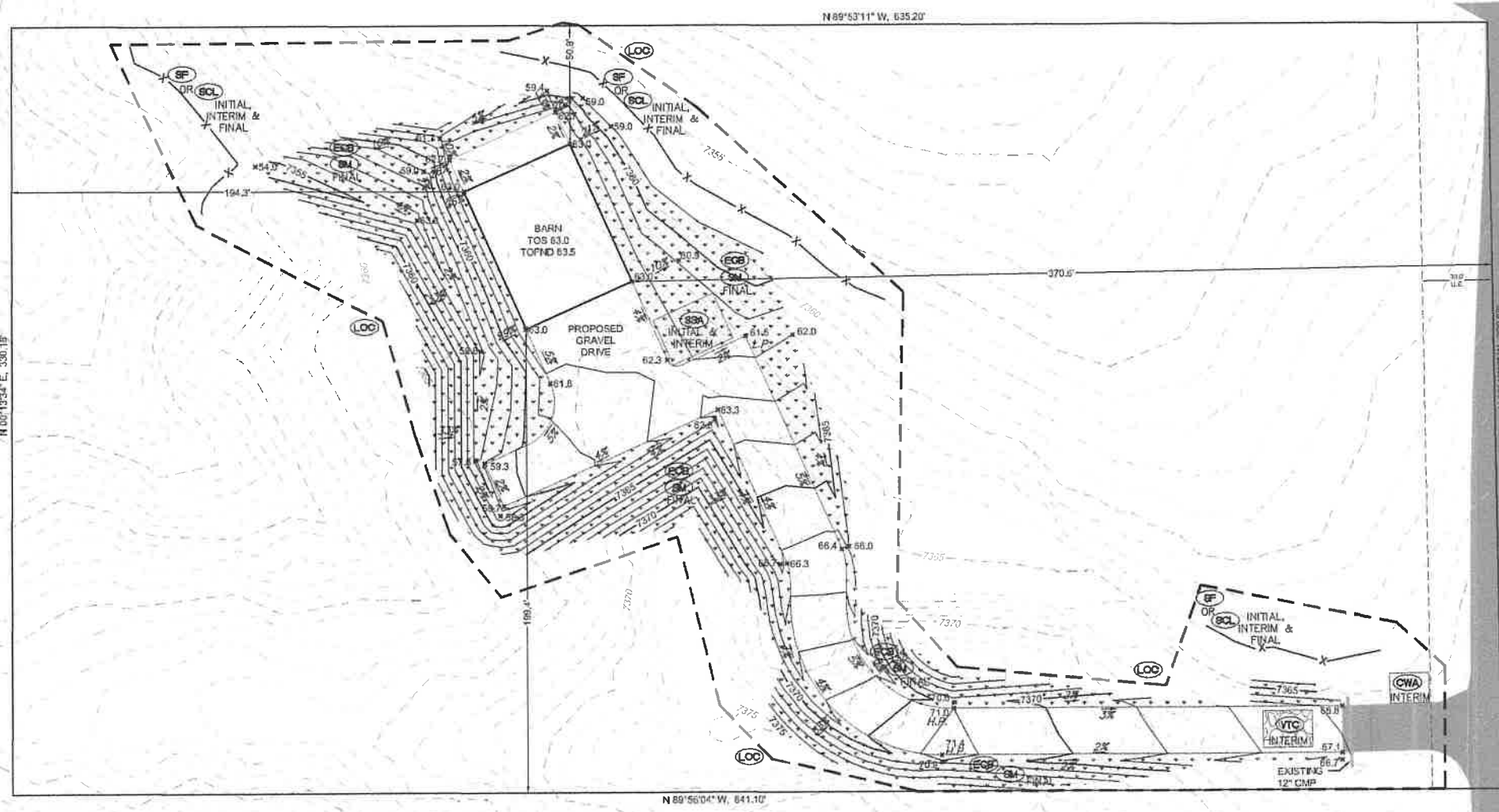
CO PROFESSIONAL ENGINEER _____ DATE _____
 RYAN ECHELE, P.E.



Approved For One Year From This Date

City Engineer _____ Date _____

Water Department _____ Date _____



PREPARED FOR:
 HARVEY FREEMAN

PLOT AND DESC PLAN
 12740 BLACKFOREST ROAD
 COLORADO SPRINGS, CO

BY: DATE:

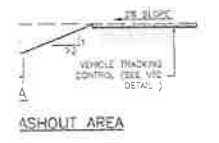
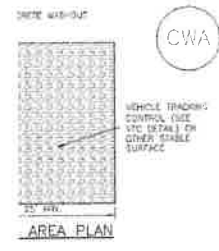
REVISIONS:

- 1.
- 2.
- 3.
- 4.

PROJECT NUMBER: 19015
 ISSUED DATE: 1/9/2020
 DESIGNED BY: JMK
 REVIEWED BY: ROE

PLOT AND DESC PLAN

) **MM-1**



ASHOUT AREA

IF ANY NATURAL DRAINAGE PATHWAY OR WELLS OR DRINKING WATER SOURCES OR ONLY PERMEABLE SOILS EXIST ON SITE, 12\"/>

ITE PLACEMENT ON SITE.

ITE IS AT LEAST 8\"/>

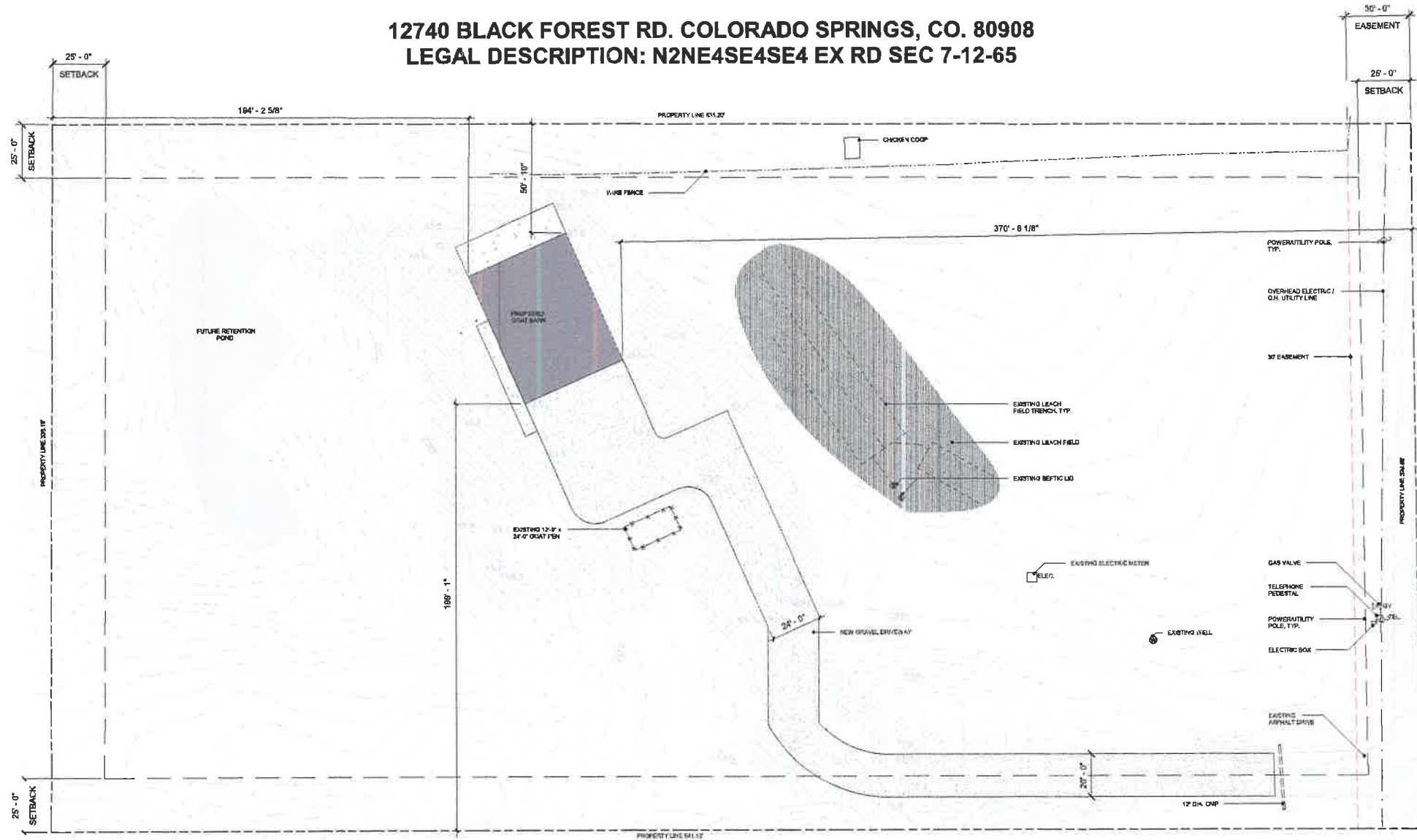
ITE SHALL HAVE MINIMUM HEIGHT OF 1\"/>

ENTRANCE AT THE DUAL AND

LOCATION OF THE CWA TO OPERATORS

CONSTRUCTION

12740 BLACK FOREST RD. COLORADO SPRINGS, CO. 80908
 LEGAL DESCRIPTION: N2NE4SE4SE4 EX RD SEC 7-12-65



1 SITE PLAN
 1" = 30'-0"

CODE DATA			
ZONING	A-5 (AGRICULTURAL)	FIRE SPRINKLED:	NO
EXISTING USE:	VACANT COMMERCIAL LOT	ALLOWABLE AREA:	UNLIMITED (SEC. 507)
PROPOSED USE:	AGRICULTURAL STRUCTURE	ACTUAL BUILDING AREA:	3,280 SF FIRST FLOOR PLUS 1,410 SF LOFT DK
OCCUPANCY(S)	U	TOTAL OCCUP. LOAD:	15
BUILDING HEIGHT:	30' ALLOWED (TABLE 504.3) ACTUAL BUILDING HEIGHT = 28'-11"	LOT AREA	4.77 ACRES (<1 ACRE DISTURBED)
NUMBER OF STORIES:	2 STORIES ALLOWED (TABLE 504.4) ACTUAL NUMBER OF STORIES = 2	AREA INCREASE - SETBACK:	NOT USED
CONSTRUCTION:	TYPE II-B		

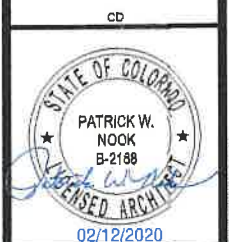
SHEET INDEX		
ARCHITECTURAL		
A1	SITE PLAN	02/12/2020
A2	FIRST FLOOR PLAN	02/12/2020
A3	LOFT PLAN	02/12/2020
A4	ELEVATIONS	02/12/2020
A5	ELEVATIONS	02/12/2020
A6	FOUNDATION PLAN	02/12/2020
A7	SECTION 1	02/12/2020
A8	SECTION 2	02/12/2020
A9	SECTION 3	02/12/2020
CIVIL		
1 OF 3	PLAT AND DESC PLAN	02/12/2020
2 OF 3	PLAT AND DESC PLAN	02/12/2020
ELECTRICAL		
E-1	ELECTRICAL SPECIFICATIONS	02/12/2020
E-2	ELECTRICAL COM-CHECK	02/12/2020
E-3	ELECTRICAL PLANS	02/12/2020
STRUCTURAL		
S-1	GENERAL STRUCTURAL NOTES	02/12/2020
S-2	GENERAL STRUCTURAL NOTES	02/12/2020
S-3	SPECIAL INSPECTIONS	02/12/2020
S-4	SCHEDULES	02/12/2020
S-5	FOUNDATION PLAN	02/12/2020
S-6	TYP CONCRETE DETAILS	02/12/2020
S-7	FOUNDATION DETAILS	02/12/2020



BLACK FOREST BARN
 12740 BLACK FOREST RD COLORADO SPRINGS, CO 80908

PROJECT CODE:		
ISSUE DATE:	02/12/2020	
CD		
REVISIONS		
DATE	NO.	DESCRIPTION

DRAWINGS PREPARED FOR:
 ROB HADDOCK



SHEET NUMBER	
SITE PLAN	
SHEET NUMBER	A1

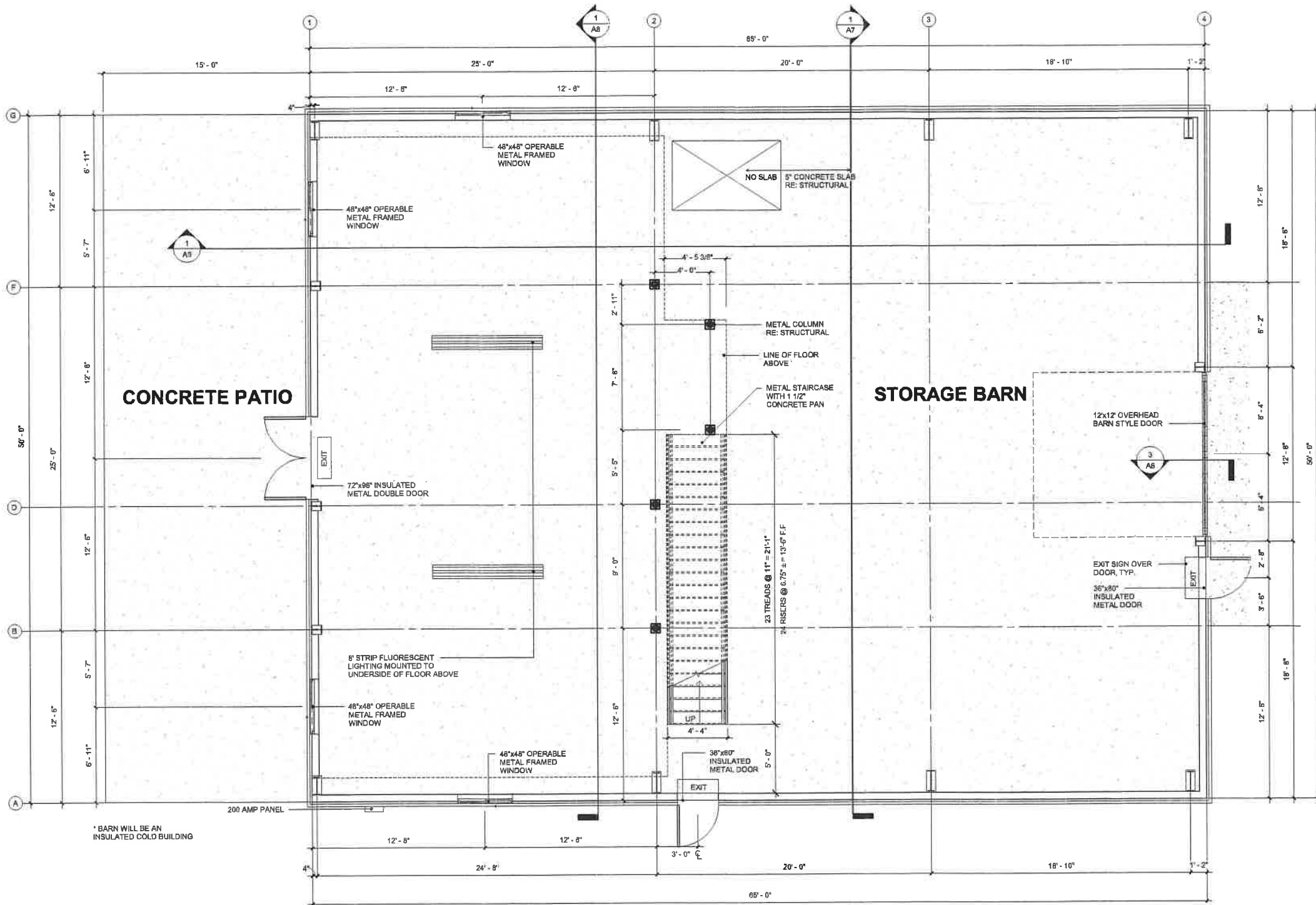




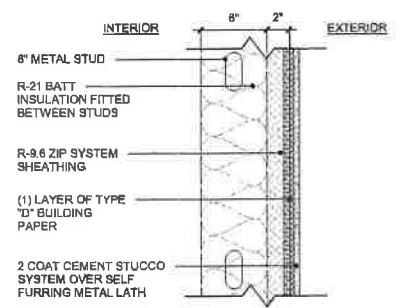
Architects & Planners, Inc.
4545 S. SYRACUSE SUITE 320
DENVER, CO

BLACK FOREST BARN

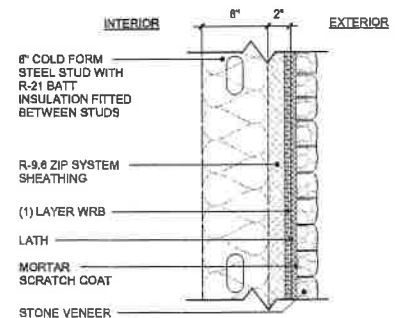
12740 BLACK FOREST RD COLORADO
SPRINGS, CO 80908



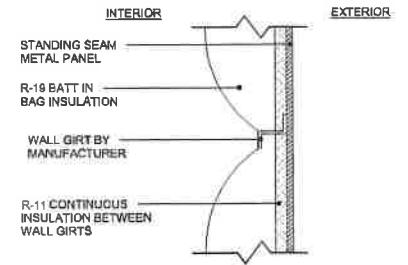
1 FIRST FLOOR PLAN
1/4" = 1'-0"



EXTERIOR WALL - CEMENT STUCCO



EXTERIOR WALL - STONE VENEER



EXTERIOR WALL - METAL PANEL

2 WALL ASSEMBLIES
1/2" = 1'-0"

PROJECT CODE:
ISSUE DATE: 02/12/2020
CD

REVISIONS		
DATE	NO.	DESCRIPTION

DRAWINGS PREPARED FOR:
ROB HADDOCK

CD



SHEET NUMBER
FIRST FLOOR PLAN

SHEET NUMBER
A2

C:\Users\jurbant\Documents\BFD - Black Forest Barn\Barnhouse 2018_jurbant\BFD.rvt 2/12/2020 3:34:27 PM COPYRIGHT © PWN ARCHITECTS AND PLANNERS, INC.



BLACK FOREST BARN

12740 BLACK FOREST RD COLORADO SPRINGS, CO 80908

Table with project information: PROJECT CODE, ISSUE DATE (02/06/2020), BUILDING PERMIT, REVISIONS table.

DRAWINGS PREPARED FOR: PWN ARCHITECTS & PLANNERS, INC.



SHEET NUMBER GENERAL STRUCTURAL NOTES SHEET NUMBER S0.2

GENERAL STRUCTURAL NOTES

APPLY UNLESS NOTED OTHERWISE

1.0 STRUCTURAL ENGINEERING GENERAL REQUIREMENTS:

BUILDING CODE:

2015 EDITION OF THE INTERNATIONAL BUILDING CODE / ASCE/SEI 7-10 WITH PIKE PEAK REGIONAL BUILDING CODE AMENDMENTS.

DESIGN CRITERIA / LOADS:

ALL COMPONENTS REQUIRING DESIGN BY THE CONTRACTOR AND THEIR SUBCONTRACTORS SHALL USE THE DESIGN CRITERIA DEFINED BELOW. ALL FORCES AND PRESSURES LISTED BELOW SHALL BE THE MINIMUM PERMISSIBLE UNLESS SUBSTANTIATING CALCULATIONS USING THE DESIGN CRITERIA SHOWN ARE PROVIDED TO THE LEFFLER GROUP FOR REVIEW AND ACCEPTANCE PRIOR TO FABRICATION.

RISK CATEGORY = II

FLOOR: TYPICAL FLOOR LIVE LOAD = 125 PSF (REDUCIBLE), EXCEPT AS FOLLOWS: LOBBY, CORRIDOR AND STAIR LIVE LOAD = 100 PSF (NON-REDUCIBLE)

ROOF: ROOF LIVE LOAD = 20 PSF (NON-REDUCIBLE) SUPERIMPOSED DEAD LOAD ON ROOF STRUCTURE = 4 PSF.

SNOW: GROUND SNOW LOAD, Pg = 57 PSF ROOF SNOW LOAD, P = 40 PSF (NON-REDUCIBLE) SNOW DRIFT PER ASCE-7 (Cp = 1 Ct = 1 Cs = 1) IMPORTANCE FACTOR, I = 1.0

WIND DESIGN DATA: RISK CATEGORY = II ULTIMATE DESIGN WIND SPEED, Vult = 130 MPH (3 SEC. GUST) EQUIVALENT NOMINAL DESIGN WIND SPEED, Vasd = 101 MPH (3 SEC. GUST, USING I = 1.0) EXPOSURE C MEAN ROOF HEIGHT USED FOR DESIGN, h = 24 FT Kd = 0.85 Kzt = 1.0 INTERNAL PRESSURE COEFFICIENT, Gcpi = -0.18

SEISMIC DESIGN DATA: RISK CATEGORY = II SEISMIC IMPORTANCE FACTOR, Ie = 1.0 Ss = 0.185, Si = 0.059 SITE CLASS: D SDS = 0.197 SD1 = 0.094 SEISMIC DESIGN CATEGORY B BASIC SEISMIC FORCE RESISTING SYSTEM = STEEL N° SPECIFICALLY DESIGNED FOR SEISMIC DESIGN BASE SHEAR, V = 8.2K SEISMIC RESPONSE COEFFICIENT, STRENGTH DESIGN, Cs = 0.066 RESPONSE MODIFICATION FACTOR, R = 3 ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE

COORDINATION:

THESE DRAWINGS ARE A SCHEMATIC REPRESENTATION OF THE STRUCTURAL SYSTEM AND REQUIREMENTS FOR THE PROJECT, AND ARE ONLY A PORTION OF THE COMPLETE CONTRACT DOCUMENTS. THE STRUCTURAL SYSTEMS REQUIRE CAREFUL COORDINATION BETWEEN ALL STRUCTURAL COMPONENTS AND MATERIALS SHOWN IN THESE STRUCTURAL DRAWINGS, AND CAREFUL COORDINATION OF INFORMATION SHOWN ON OTHER DISCIPLINES' DRAWINGS IN ORDER TO BE CONSTRUCTED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OPERATIONS WITH ALL SUBCONTRACTORS AND OTHER RELATED ENTITIES TO ENSURE EFFICIENT AND ORDERLY INSTALLATION OF EACH PART OF THE WORK. EACH CONTRACTOR SHALL COORDINATE ITS OPERATIONS WITH THE OPERATIONS OF OTHER CONTRACTORS FOR PROPER INSTALLATION, CONNECTION AND OPERATION.

EXISTING CONDITIONS:

CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. ANY VARIANCE FROM CONDITIONS SHOWN ON THESE DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

SHOP DRAWINGS/SUBMITTALS:

SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS IN ADDITION TO ITEMS REQUIRED BY ARCHITECTURAL SPECIFICATIONS. THE STRUCTURAL SHOP DRAWINGS REVIEW IS INTENDED TO HELP THE ENGINEER VERIFY THE DESIGN CONCEPT. THE CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTAL. ITEMS NOT IN ACCORDANCE WITH CONTRACT DOCUMENTS SHALL BE IDENTIFIED UPON HIS REVIEW AND REVISED PRIOR TO FORWARDING TO ARCHITECT. THE STRUCTURAL SHOP DRAWINGS WILL BE RETURNED FOR RESUBMITTAL IF A CURSORY REVIEW SHOWS MAJOR ERRORS WHICH SHOULD HAVE BEEN FOUND BY THE CONTRACTOR'S CHECKING.

VERIFY ALL DIMENSIONS WITH ARCHITECT AND ALL FINISHED GRADE WITH CIVIL DRAWINGS.

ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DOCUMENTS SHALL BE CLOUDED BY MANUFACTURER OR FABRICATOR. ANY OF THE AFOREMENTIONED WHICH ARE NOT CLOUDED OR FLAGGED BY SUBMITTING PARTIES, SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW, UNLESS NOTED ACCORDINGLY.

THE ENGINEER HAS THE RIGHT TO APPROVE OR DISAPPROVE ANY CHANGES TO CONTRACT DOCUMENTS AT ANY TIME BEFORE OR AFTER SHOP DRAWINGS REVIEW.

THE SHOP DRAWINGS DO NOT REPLACE THE CONTRACT DOCUMENTS. ITEMS OMITTED OR SHOWN INCORRECTLY AND ARE NOT FLAGGED BY THE STRUCTURAL ENGINEER OR ARCHITECT ARE NOT TO BE CONSIDERED CHANGES TO CONTRACT DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE ITEMS ARE CONSTRUCTED TO CONTRACT DOCUMENTS.

THE ADEQUACY OF ENGINEERING DESIGNS AND LAYOUT PERFORMED BY OTHERS RESTS WITH THE DESIGNING OR SUBMITTING AUTHORITY.

REVIEWING IS INTENDED ONLY AS AN AID TO THE CONTRACTOR IN OBTAINING CORRECT SHOP DRAWINGS. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR.

REPRODUCTION OF ANY PORTION OF THE CONTRACT DOCUMENTS FOR USE IN SUBMITTALS IS NOT PERMITTED AND MAY RESULT IN REJECTION.

DEFERRED SUBMITTALS: (PER GOVERNING BUILDING CODE)

FOR THE PURPOSES OF THIS SECTION, DEFERRED SUBMITTALS ARE DEFINED AS THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF THE APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.

DEFERRAL OF ANY SUBMITTAL ITEMS SHALL HAVE PRIOR APPROVAL OF THE BUILDING OFFICIAL. THE ARCHITECT OR ENGINEER OF RECORD SHALL LIST THE DEFERRED SUBMITTALS ON THE PLANS AND SHALL SUBMIT THE DEFERRED SUBMITTAL DOCUMENTS FOR REVIEW BY THE BUILDING OFFICIAL.

SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

DEFERRED SUBMITTAL ITEMS:

PRE-ENGINEERED METAL BUILDING

GENERAL REQUIREMENTS:

ENTIRE CONTRACT DOCUMENTS SHALL BE USED TO BUILD BUILDING. SOME CRITICAL ITEMS REQUIRED BY OTHER DISCIPLINES MAY NOT BE SHOWN ON STRUCTURAL DRAWING (I.E. WALL, FLOOR AND ROOF OPENING, ARCHITECTURAL, MECHANICAL AND PLUMBING LOADS, SUPPORT PLATES ETC.). IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO PERFORM CAREFUL COORDINATION BETWEEN TRADES DURING CONSTRUCTION.

WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. SPECIFIC DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER TYPICAL DETAILS AND GENERAL STRUCTURAL NOTES. BRING ALL DISCREPANCIES TO THE ATTENTION OF THE ENGINEER IMMEDIATELY UPON DISCOVERY.

DO NOT SCALE DRAWINGS FOR THE PURPOSE OF ESTABLISHING DIMENSIONS OF ANY KIND.

ALL PROPRIETARY ITEMS, MATERIALS AND COMPONENTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, GUIDELINES AND/OR RECOMMENDATIONS.

ITEMS SHOWN BY OTHER DISCIPLINES WITH REFERENCE TO STRUCTURAL DRAWINGS BUT NOT SHOWN ON THESE STRUCTURAL DOCUMENTS SHALL BE CONSIDERED DESIGN BUILT ITEMS AND COSTS REQUIRED FOR THESE ITEMS SHALL BE INCLUDED IN CONTRACTOR'S PRICING EXERCISES AND BID. CONTRACTOR SHALL SUBMIT DESIGN BY OTHERS FOR REVIEW.

THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THEREON, NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS.

CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED CONSTRUCTION. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDA.

ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION. SHOW PENETRATIONS AND BLOCKOUT LOCATIONS ON SHOP DRAWINGS AND OTHER SUBMITTALS PRIOR TO ENGINEER'S REVIEW.

OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. IF HE CHOOSES AN OPTION, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES AND SHALL COORDINATE ALL DETAILS.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON PLANS, BUT APPLY UNLESS NOTED OTHERWISE. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.

DETAILS INDICATED AS TYPICAL (I.E., TYP) APPLY TO ALL SIMILAR CONDITIONS.

SOME DETAILS ARE DEFINED AS TYPICAL TO THE PROJECT AND NOT NECESSARILY CUT OR CALLED OUT ON PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO APPLY AND COORDINATE THESE DETAILS WITH CONDITIONS DEFINED THROUGHOUT THE CONTRACT DOCUMENTS AS REQUIRED.

ALL DIMENSIONS SHOWN (INCLUDING ELEVATIONS) ON STRUCTURAL DRAWINGS ARE TO ASSIST CONTRACTOR IN VERIFICATION.

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION - RESOLVE ANY DISCREPANCY WITH THE ARCHITECT. CONTRACTOR SHALL COORDINATE ALL FINISHED GRADE ELEVATIONS SHOWN IN CIVIL DRAWINGS WITH MINIMUM FOOTING DEPTHS SHOWN IN STRUCTURAL DRAWINGS - NOTIFY ENGINEER OF ANY DISCREPANCY PRIOR TO START OF CONSTRUCTION.

ANY ENGINEERING DESIGN, PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW, SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE STATE OF THE PROJECT.

SUPPLIER OF ENGINEERED STRUCTURAL COMPONENTS (I.E. STEEL JOISTS, STAIRS, PRECAST ITEMS) SHALL BE RESPONSIBLE FOR COMPLETE DESIGN AND SHALL USE ENTIRE CONTRACT DOCUMENTS TO INCLUDE ALL LOADS AND DETAIL REQUIREMENTS FROM ALL DISCIPLINES. SUPPLIER SHALL PROVIDE ADDITIONAL MATERIAL REQUIRED TO MEET ALL THEIR REQUIREMENTS FOR INSTALLATION (I.E. WIDER BEARING PLATES, SHIMS, ERECTION BOLTS ETC.).

STRUCTURAL STEEL SUPPLIER SHALL FURNISH BOLTS FOR OSM CONNECTIONS.

SPECIAL INSPECTION:

THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS OR AGENCIES WHO SHALL PROVIDE INSPECTIONS DURING CONSTRUCTION FOR THE ITEMS LISTED BELOW. THE CONTRACTOR SHALL COOPERATE WITH THE SPECIAL INSPECTOR AND SHALL FURNISH TOOLS, EQUIPMENT AND ASSISTANCE AS REQUESTED. THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AT LEAST 24 HOURS PRIOR TO EXPECTED TIME FOR OPERATIONS REQUIRING TESTING OR INSPECTION SERVICES. THE INSPECTOR SHALL FAMILIARIZE HIMSELF WITH ALL APPLICABLE PORTIONS OF THE CONTRACT DOCUMENTS PERTAINING TO THE AREA OF INVESTIGATION PRIOR TO PERFORMING SERVICES. COMPENSATION FOR SPECIAL INSPECTION SERVICES SHALL BE PROVIDED BY THE OWNER.

THE LEFFLER GROUP IS NOT THE SPECIAL INSPECTOR, AND SHALL NOT PERFORM THESE SERVICES.

INSPECTION BY THE OWNER OR OWNER'S AGENT DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

PER IBC SECTION 1704, SPECIAL INSPECTION IS REQUIRED FOR THE ITEMS DEFINED IN THE SPECIAL INSPECTION MATRIX FOR EACH TYPE OF CONSTRUCTION IN THESE STRUCTURAL CONSTRUCTION DOCUMENTS.

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR: A) THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATION.

B) THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE ENGINEER OR ARCHITECT OF RECORD. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE DESIGN AUTHORITY AND THE BUILDING OFFICIAL.

C) UPON COMPLETION OF THE WORK THE SPECIAL INSPECTOR SHALL COMPLETE AND SIGN THE APPROPRIATE FORMS CERTIFYING THAT TO THE BEST OF THEIR KNOWLEDGE THE WORK IS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE.

ALL TEST & INSPECTION REPORTS SHALL BE COPIED TO THE STRUCTURAL ENGINEER WITHIN 3 DAYS OF INSPECTION OR TEST.

SITE VISITS:

THE STRUCTURAL ENGINEER OF RECORD SHALL MAKE PERIODIC VISITS TO THE SITE TO OBSERVE GENERAL COMPLIANCE WITH THE APPROVED STRUCTURAL PLANS, SPECIFICATIONS AND CHANGE ORDERS. THE ENGINEER SHALL SUBMIT A STATEMENT IN WRITING TO THE BUILDING DEPARTMENT STATING THAT SITE VISITS HAVE BEEN MADE, AND THAT TO THE BEST OF THEIR KNOWLEDGE, ANY DEFICIENCIES NOTED HAVE BEEN CORRECTED. THE OWNER'S TESTING AGENCY SHALL ALSO SUBMIT A FINAL REPORT AS REQUIRED IN SECTION 1704 OF THE 2012 IBC.

2.0 FOUNDATIONS:

GEOTECHNICAL REPORT BY ENTECH ENGINEERING, INC.; JOB NO. 191487 DATED 10-18-19.

THE FOUNDATION AND FLOOR SLAB SYSTEMS SHOWN ON THE STRUCTURAL DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS. THE FOLLOWING FOUNDATION AND SLAB MOVEMENTS HAVE BEEN ESTIMATED BY THE GEOTECHNICAL ENGINEER USING THE DESIGN CRITERIA PRESENTED IN THE SOILS REPORT:

- TOTAL SETTLEMENT OF FOOTINGS = 1"
- DIFFERENTIAL SETTLEMENT OF FOOTINGS = 1/2"

ALL RISKS ASSOCIATED WITH THESE DESIGN REQUIREMENTS HAVE BEEN FULLY EVALUATED AND ACCEPTED BY THE OWNER.

THE SLAB-ON-GRADE HAS NOT BEEN DESIGNED TO ACT AS A FLOOR DIAPHRAGM.

PERIMETER FOUNDATION DRAINS AND UNDERSLAB DRAINS ARE NON-STRUCTURAL ITEMS RELATED TO SOIL PERFORMANCE AND WATER TRANSPORT AWAY FROM THE BUILDING. THESE ITEMS ARE NOT THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER AND ARE NOT DEFINED OR SHOWN IN THE STRUCTURAL DRAWINGS. REFER TO OTHER DISCIPLINES' DRAWINGS AND THE GEOTECHNICAL REPORT FOR REQUIREMENTS.

SPREAD FOOTINGS SHALL BEAR ON SOILS AS DEFINED IN THE SOILS REPORT, 30 INCHES MINIMUM BELOW FINISHED GRADE AT EXTERIOR FOOTINGS; 12 INCHES MINIMUM BELOW GRADE AT INTERIOR FOOTINGS. FINISHED GRADE IS DEFINED AS TOP OF SLAB FOR INTERIOR FOOTINGS AND LOWEST ADJACENT GRADE WITHIN 5 FEET FOR PERIMETER FOOTINGS. DESIGN SOIL BEARING VALUE = 2,400 PSF. SOIL BEARING VALUES HAVE NOT BEEN INCREASED 33% FOR SEISMIC OR WIND LOADING. FOUNDATION EXCAVATIONS SHALL BE INSPECTED BY SOILS ENGINEER PRIOR TO PLACEMENT OF CONCRETE.

EQUIVALENT FLUID PRESSURE USED FOR WALL DESIGN = 45 PCF FOR "ACTIVE" CONDITION, AND 200 PCF (ASSUMED) FOR "PASSIVE" CONDITION.

FOUNDATION SUBMITTALS:

THE FOLLOWING ITEMS SHALL BE SUBMITTED FOR REVIEW FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIRED SUBMITTALS.

MIX DESIGNS
STEEL REINFORCEMENT SHOP DRAWINGS
WELDING CERTIFICATES
MATERIAL TEST REPORTS
MATERIAL CERTIFICATES

FIELD QUALITY CONTROL TEST AND INSPECTION REPORTS
COLD-WEATHER AND HOT-WEATHER PROCEDURES

3.0 CONCRETE:

ALL CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF ACI 301, UNLESS MORE STRINGENT REQUIREMENTS ARE DEFINED ELSEWHERE IN THE CONTRACT DOCUMENTS.

CONCRETE DEFINED ON THE STRUCTURAL DRAWINGS SHALL HAVE THE FOLLOWING PROPERTIES:

Table with concrete properties: USE, FOOTINGS, WALLS, SLABS ON GROUND (INTERIOR), SLABS ON GROUND (EXTERIOR). Columns include WTN f'c, 28 DAY MAX SLUMP, MAX w/c RATIO, AIR CONTENT, CEMENT TYPE.

* SPECIFIED AIR CONTENT IS TOTAL CONCRETE AIR CONTENT (ENTRAPPED + ENTRAINED).

** PAVING AND EXTERIOR PLAYWORK - REFER TO ARCHITECTURAL/CIVIL DRAWINGS AND SPECIFICATIONS.

MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT THAT SLABS ON GRADE NEED BE VIBRATED ONLY AROUND UNDER-FLOOR DUCTS, ETC. IF PLASTICIZER IS USED, A HIGHER FINAL SLUMP MAY BE ALLOWED UPON STRUCTURAL ENGINEER'S APPROVAL. CAST CLOSURE POUR AROUND COLUMNS AFTER COLUMN DEAD LOAD IS APPLIED. UNLESS APPROVED OTHERWISE IN WRITING BY THE ARCHITECT, ALL CONCRETE SLABS ON GRADE SHALL BE BOUND BY CONTROL JOINTS (KEYED OR SAW CUT), SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED 144 SQUARE FEET. KEYED CONTROL JOINTS NEED ONLY OCCUR AT EXPOSED EDGES DURING POURING, ALL OTHER JOINTS MAY BE SAW CUT. REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFIC JOINT LOCATIONS.

FLY ASH ADDITIVES USED IN PLAYWORK OR ARCHITECTURALLY EXPOSED CONCRETE ARE NOT PERMITTED.

FLY ASH - IF PERMITTED, SHALL BE LIMITED TO 20% OF CEMENTITIOUS MATERIALS.

NET STABBING OF ANY EMBEDDED ITEM OR BOLT IS STRICTLY PROHIBITED.

REINFORCING STEEL:

ASTM A615 (Fy = 60 KSI) DEFORMED BARS FOR ALL BARS. ALL GRADE 60 REINFORCING TO BE WELDED OR FIELD BENT SHALL BE ASTM A706. WELDED WIRE FABRIC PER ASTM A185, WIRE PER ASTM A82. NO TACK WELDING OF REINFORCING BARS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE WITH THE STRUCTURAL ENGINEER. LATEST ACI CODE AND DETAILING MANUAL APPLY. CLEAR CONCRETE COVERAGES AS FOLLOWS:

- CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
EXPOSED TO EARTH OR WEATHER
#6 OR LARGER 2"
#5 AND SMALLER 1 1/2"
COLUMNS (TO TIES) 1 1/2"
BEAMS (TO STIRRUPS) 1 1/2"
FLAT SLAB 3/4"

ALL OTHERS PER LATEST EDITION OF ACI 318.

LAP SPLICES IN CONCRETE:

LAP SPLICES, UNLESS NOTED OTHERWISE, SHALL BE CLASS 'B' TENSION LAP SPLICES PER LATEST EDITION OF ACI 318. LAP SPLICES IN CONCRETE COLUMNS SHALL BE STANDARD COMPRESSION LAP SPLICES. STAGGER SPLICES A MINIMUM OF ONE LAP LENGTH. LAPS IN WELDED WIRE FABRIC SHALL BE MADE SO THAT THE OVERLAP, MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET, IS NOT LESS THAN THE SPACING OF CROSS WIRES PLUS 2 INCHES. ALL WELDED WIRE FABRIC SHALL BE CHAINED TO ENSURE PROPER CLEARANCES.

ABBREVIATIONS table listing symbols and their meanings for structural elements like AFF, ALT, ANCHOR BOLT, etc.

SHEET INDEX table listing sheet numbers (S0.2, S0.3, S0.6, S0.7, S1.1, S3.0, S3.1) and their descriptions (GENERAL STRUCTURAL NOTES, SPECIAL INSPECTIONS, SCHEDULES, FOUNDATION PLAN, TYP CONCRETE DETAILS, FOUNDATION DETAILS).

GENERAL STRUCTURAL NOTES - CONTINUED

APPLY UNLESS NOTED OTHERWISE

ALL SPLICE LOCATIONS SUBJECT TO APPROVAL BY THE STRUCTURAL ENGINEER. UNLESS NOTED, LAP TOP BARS AT MID-SPAN AND BOTTOM BARS OVER SUPPORT. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT ALL CORNERS AND INTERSECTIONS PER TYPICAL DETAILS. REINFORCING BAR SPACING GIVEN ARE MAXIMUM ON CENTERS. ALL BARS PER CRSI SPECIFICATIONS AND HANDBOOK. DOWEL ALL VERTICAL REINFORCING TO FOUNDATION WITH STANDARD 90-DEGREE HOOKS UNLESS NOTED OTHERWISE. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE. CONCRETE COLUMN DOWEL EMBEDMENT SHALL BE A STANDARD COMPRESSION DOWEL WITH EMBEDMENT LENGTH ACCORDING TO THE LATEST EDITION OF THE ACI 318.

POST INSTALLED ANCHORS TO CONCRETE:

THE INSTALLATION OF POST INSTALLED ANCHORS SHALL BE INSPECTED IN ACCORDANCE WITH SECTION 1.3 OF ACI 318, AND THE GOVERNING BUILDING CODE. ANCHORS SHALL BE INSTALLED BY QUALIFIED PERSONNEL IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (PITI). THE FOLLOWING INSTALLATION CONDITIONS ARE REQUIRED:

NORMAL WEIGHT CONCRETE WITH A MIN $f'c = 2500$ PSI AND MAX $f'c = 8000$ PSI.
CONCRETE AT TIME OF ANCHOR INSTALLATION SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 2500 PSI.

ADHESIVE ANCHORS:

THE INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL ONLY BE PERFORMED BY PERSONNEL CERTIFIED BY THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM. REFER TO THE SPECIAL INSPECTIONS MATRIX FOR ADDITIONAL TESTING AND INSPECTION REQUIREMENTS. THE FOLLOWING INSTALLATION CONDITIONS ARE REQUIRED:

ANCHORS SHALL MEET THE REQUIREMENTS OF ACI 308.4
ANCHORS SHALL BE INSTALLED IN HOLES DRILLED WITH A ROTARY IMPACT DRILL OR ROCK DRILL. CORE DRILLING IS NOT PERMITTED.
CONCRETE AT TIME OF ANCHOR INSTALLATION SHALL HAVE A MINIMUM AGE OF 21 DAYS.
CONCRETE TEMPERATURE AT TIME OF ANCHOR INSTALLATION SHALL BE AT LEAST 50 DEGREES F.
DRY USE CONDITION - UNSATURATED CONCRETE, INSTALLATION HOLE CONTAINS NO WATER.

ACCEPTABLE ADHESIVES:
HILTI HIT-HY 200 MAX ADHESIVE
SIMPSON SET-XP ADHESIVE
DEWALT AC208+ ADHESIVE
DEWALT/POWERS PURE110+ ADHESIVE

TORQUE-CONTROLLED EXPANSION ANCHORS:

REFER TO SPECIAL INSPECTION MATRIX FOR TESTING AND INSPECTION REQUIREMENTS.

ACCEPTABLE TORQUE-CONTROLLED EXPANSION ANCHORS:

HILTI KWIK BOLT-TZ
SIMPSON STRONG-BOLT 2
DEWALT/POWERS POWER-STUD-S02

CONCRETE SUBMITTALS:

THE FOLLOWING ITEMS SHALL BE SUBMITTED FOR REVIEW FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIRED SUBMITTALS.

SHOP DRAWINGS: SUBMIT SHOP DRAWINGS FOR FABRICATION, BENDING AND PLACEMENT OF REINFORCEMENT STEEL. COMPLY WITH ACI DETAILING MANUAL, SP-66, AND PROVIDE 1/4" = 1'-0" SCALE ELEVATIONS OF ALL WALLS, BEAMS, GRADE BEAMS, STEM WALLS, TIE BEAMS, CORE WALLS AND OTHER VERTICAL WORK. SHOW ALL OPENINGS IN VERTICAL WORK, SLABS AND BEAMS; ALL POCKETS IN BEAMS AND WALLS; TOP AND BOTTOM ELEVATIONS OF MEMBERS; SECTIONS THROUGH COLUMNS, PILASTERS AND BEAMS; PLAN VIEW OF ALL WALLS AND BEAM/JOIST INTERSECTIONS; PLACING SEQUENCE FOR MULTIPLE LAYERS OF REINFORCING STEEL; LOCATIONS OF ALL CONSTRUCTION JOINTS. ALL OPENINGS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO SUBMITTING DRAWINGS FOR REVIEW. SHOW SPECIAL REINFORCEMENT AT OPENINGS.

WELDING DESIGNS
STEEL REINFORCEMENT SHOP DRAWINGS
WELDING CERTIFICATES
MATERIAL TEST REPORTS
MATERIAL CERTIFICATES
FIELD QUALITY CONTROL TEST AND INSPECTION REPORTS
COLD-WEATHER AND HOT-WEATHER PROCEDURES

S.D. METALS:

STRUCTURAL STEEL:

ALL WORK SHALL CONFORM TO THE LATEST EDITION OF AISC MANUAL OF STEEL CONSTRUCTION, AND LATEST EDITION OF AISI D1.1, UNLESS MORE STRINGENT REQUIREMENTS ARE DEFINED ELSEWHERE IN THE CONTRACT DOCUMENTS. THE LEFFLER GROUP CONSULTING STRUCTURAL ENGINEERS IS THE ENGINEER OF RECORD. UNLESS AN ACTIVITY OR DUTY IS SPECIFICALLY IDENTIFIED AS BEING PERFORMED BY THE PROJECT STRUCTURAL ENGINEER OF RECORD IN OSHA SUBPART R, IT WILL NOT BE PERFORMED BY THE ENGINEER. IT IS TO BE PERFORMED BY OTHERS.

ALL STRUCTURAL STEEL SHALL BE ASTM A992 ($F_y = 50$ KSI). ALL CHANNELS, ANGLES, AND PLATES SHALL BE ASTM A36 ($F_y = 36$ KSI). ALL PIPE STEEL SHALL BE ASTM A501 ($F_y = 36$ KSI) OR ASTM A53, TYPE E OR S, GRADE B ($F_y = 35$ KSI). ALL TUBE STEEL SHALL BE ASTM A500 ($F_y = 46$ KSI). ALL ANCHOR RODS SHALL BE ASTM F1554, GRADE 36 UNLESS NOTED OTHERWISE.

ALL REFERENCE TO HEADED STUDS SHALL BE HIGH STRENGTH HEADED STUDS. ATTACHMENT OF HEADED STUDS SHALL CONFORM TO ALL REQUIREMENTS OF THE LATEST EDITION OF THE "RECOMMENDED PRACTICES FOR STUD WELDING" AND THE "STRUCTURAL WELDING CODE" PUBLISHED BY AWS.

ALL BOLTS, ANCHOR BOLTS, EXPANSION BOLTS, ETC. SHALL BE INSTALLED WITH STEEL WASHERS AT FACE OF WOOD OR AT SLOTTED HOLES IN STEEL SECTIONS.

ALL WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES. CERTIFICATES SHALL BE THOSE ISSUED BY AN ACCEPTED TESTING AGENCY. ALL WELDING DONE BY E70 SERIES LOW HYDROGEN RODS UNLESS NOTED OTHERWISE. FOR GRADE 60 REINFORCING BARS, USE E90 SERIES. ALL WELDING PER LATEST AMERICAN WELDING SOCIETY STANDARDS, (EXCEPT STEEL JOISTS AND JOIST GIRDERS SHALL COMPLY WITH SJI STANDARDS). SHOP WELDS AND FIELD WELDS SHALL BE SHOWN ON THE SHOP DRAWINGS SUBMITTED FOR REVIEW. ALL FULL (COMPLETE) PENETRATION WELDS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY.

FILLET WELD SIZES SHOWN IN CONTRACT DOCUMENTS ARE THE FILLET WELD LEG SIZE. GROOVE WELD SIZES SHOWN IN CONTRACT DOCUMENTS ARE THE REQUIRED WELD SIZE "(E)".

THE ENGINEER SHALL BE COMPENSATED FOR ANY ANALYSIS, RE-DESIGN AND/OR REVIEW OF CONNECTIONS NOT CONFORMING TO THE CONTRACT DOCUMENTS, WHETHER MADE BY THE CONTRACTOR, THEIR SUBCONTRACTOR(S), FABRICATOR, DETAILER OR ERECTOR.

CONTRACTOR SHALL NOT RECEIVE ADDITIONAL COMPENSATION FOR DETAILING, FABRICATION, ERECTION OR SCHEDULE IMPACTS AS A RESULT OF INCORRECT DETAILING IN THE SHOP DRAWINGS.

DRYPACK:

DRYPACK SHALL BE 5,000 PSI NON-SHRINK GROUT, FIVE STAR OR EQUIVALENT. INSTALL DRYPACK UNDER BEARING PLATES BEFORE FRAMING MEMBER IS INSTALLED. AT COLUMNS, INSTALL DRYPACK UNDER BASE PLATES AFTER COLUMN HAS BEEN PLUMBED BUT PRIOR TO FLOOR OR ROOF INSTALLATION.

COLD FORMED STRUCTURAL STEEL FRAMING:

ALL COLD-FORMED STEEL FRAMING SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE LATEST EDITION OF "SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" BY THE AMERICAN IRON AND STEEL INSTITUTE.

ALL PROPRIETARY ITEMS, MATERIALS AND COMPONENTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, GUIDELINES AND/OR RECOMMENDATIONS.

STEEL FOR 12, 14 AND 16 GAGE STUDS, JOISTS, TRACKS AND FOR ALL DIAGONAL TENSION STRAPS SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI. STEEL FOR ALL 18 AND 20 GAGE STUDS, JOISTS, AND TRACKS, AND FOR ALL GAGES OF ACCESSORIES AND BRIDGING SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI. STEEL SHALL BE 60 GALVANIZED <PAINTED>. STEEL SHEET FOR ALL STRUCTURAL FRAMING SHOWN IN THESE DRAWINGS SHALL CONFORM TO ASTM A 1003/A 1003M, STRUCTURAL GRADE, TYPE H, METALLIC COATED.

UNLESS SPECIFICALLY NOTED ELSEWHERE WITHIN THESE ENGINEERED COLD FORMED METAL FRAMING SHOP DRAWINGS, THE FOLLOWING SHALL APPLY AS A MINIMUM. ALL STUDS SHALL BE SECURELY SEATED FOR FULL END BEARING ON TOP AND BOTTOM TRACK. UNLESS NOTED OTHERWISE, PROVIDE DOUBLE STUDS AT ALL JAMBS, CORNERS, INTERSECTIONS, BEAM BEARINGS AND JOIST BEARINGS. BRIDGING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION WITH THE FOLLOWING MINIMUM REQUIREMENTS.

BRIDGING SHALL BE STEEL CHANNEL MADE FROM ASTM A1003/A1003M, STRUCTURAL GRADE, TYPE H, METALLIC COATED STEEL SHEET, OF SAME GRADE AND COATING DESIGNATION USED FOR FRAMING MEMBERS.

PROVIDE WALL BRIDGING AS NOTED ON THE DRAWINGS. SOLID BLOCKING SHALL BE INSTALLED IN LIEU OF BRIDGING WHERE NOTED ON THE DRAWINGS.

PROVIDE SOFFIT AND JOIST BRIDGING AS NOTED ON THE DRAWINGS. SOLID BLOCKING SHALL BE INSTALLED IN LIEU OF BRIDGING WHERE NOTED ON THE DRAWINGS.

BRIDGING CLIPS TO PROVIDE ATTACHMENT TO STUD WEB AND WRAP AROUND THE BRIDGING CHANNEL. BRIDGING ACCESSORIES SHALL BE FORMED FROM STRUCTURAL QUALITY STEEL WITH MINIMUM YIELD STRENGTH OF 50 KSI AND HAVE MINIMUM PROTECTIVE COATING COMPLYING WITH ASTM A1003/A1003M (OR ASTM A653/A653M). ALL STRUCTURAL FRAMING ACCESSORIES SHALL BE FORMED FROM STRUCTURAL QUALITY STEEL WITH MINIMUM YIELD STRENGTH OF 50 KSI AND HAVE MINIMUM PROTECTIVE COATING EQUAL TO ASTM A1003 0-80 GALVANIZED COATING.

WHEN REQUIRED, DEFLECTION CONNECTIONS SHALL ALLOW FOR POSITIVE ATTACHMENT TO STRUCTURE AND STUD WEB AND SHALL PROVIDE FRICTIONLESS, VERTICAL MOVEMENT. CONNECTION PRODUCTS ARE REQUIRED TO HAVE A VALID ICC ES REPORT OR EQUIVALENT COMPLYING WITH ICC ACCEPTANCE CRITERIA AC208. ALL STRUCTURAL FRAMING ACCESSORIES SHALL BE FORMED FROM STRUCTURAL QUALITY STEEL WITH MINIMUM YIELD STRENGTH OF 50 KSI AND HAVE MINIMUM PROTECTIVE COATING COMPLYING WITH ASTM 1003/A1003M (OR ASTM A653/A653M).

RIGID CONNECTIONS FOR ATTACHMENT OF METAL FRAMING TO METAL FRAMING AND TO THE PRIMARY STRUCTURE SHALL BE FORMED FROM STRUCTURAL QUALITY STEEL WITH MINIMUM YIELD STRENGTH OF 50 KSI AND HAVE MINIMUM PROTECTIVE COATING EQUAL TO COMPLYING WITH ASTM 1003/A1003M (OR ASTM A653/A653M).

ALL MEMBERS TO BE MANUFACTURED BY A MEMBER OF "STEEL STUD MANUFACTURERS ASSOCIATION" (SSMA), OR APPROVED EQUAL.

PONDER ACTUATED FASTENERS (PAF'S) SHALL BE HILTI X-U 0.157" DIA. OR APPROVED EQUAL. RE: DETAILS FOR EMBED INTO CONCRETE; RE: MFR FOR REQ'D EMBED. IN STEEL.

ALL SCREENS TO BE #10 U.N.O., SCREENS ATTACHED PER MFR. INSTRUCTIONS AND SHALL PENETRATE 3 THREAD MINIMUM BEYOND THE ATTACHED MATERIAL.

ALL WELDING SHALL BE PERFORMED BY WELDERS EXPERIENCED IN LIGHT GAGE STRUCTURAL STEEL FRAMING WORK.

DO NOT NOTCH FLANGES OF JOISTS OR STUDS.

HEADERS, JAMBS, STUDS, JOISTS, RAFTERS, KICKERS AND GIRTS SHALL BE INSTALLED IN ONE-PIECE LENGTHS WITH NO SPLICES PERMITTED UNLESS SPECIFICALLY NOTED OTHERWISE IN THESE DRAWINGS.

PRE-ENGINEERED BUILDING DESIGN CRITERIA:

- PRE-ENGINEERED BUILDING MANUFACTURER SHALL BE RESPONSIBLE FOR THE ENTIRE DESIGN OF THE STEEL SUPERSTRUCTURE, ROOF, DECK, FASCIAS, SUPPORT, BRACING, LATERAL ANALYSIS AND ALL RELATED WORK.
- THE ENTIRE SUPERSTRUCTURE, INCLUDING THE ROOF DECK, SHALL BE DESIGNED IN ACCORDANCE WITH THE BUILDING CODE. WIND UPLIFT PRESSURES FOR ENCLOSED AND UNENCLOSED BUILDING AREAS SHALL BE CONSIDERED IN ACCORDANCE WITH THE CODE.
- THE PRE-ENGINEERED BUILDING SHALL BE DESIGNED TO SUPPORT SELF WEIGHT PLUS SUPERIMPOSED DEAD, LIVE, WIND OR SEISMIC LOADING, WHICHEVER COMBINATION PRODUCES THE MOST SEVERE CONDITION, IN ACCORDANCE WITH THE LATEST RECOMMENDATIONS OF THE METAL BUILDING MANUFACTURERS ASSOCIATION. CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS AND SHOP DRAWINGS FOR REVIEW PRIOR TO MANUFACTURE.
- CALCULATIONS AND SHOP DRAWINGS SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROJECT LOCATION AND SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW ALL INFORMATION INCLUDING, BUT NOT LIMITED TO, DIMENSIONS, MEMBER SIZES AND PROPERTIES, FRAMING PLANS, SECTIONS AND ALL PERTINENT DETAILS.
- STEEL PURLIN TYPE AND SPACING AND STEEL DECK SELECTION SHALL BE THE OPTION OF THE PRE-ENGINEERED BUILDING MANUFACTURER WITH APPROVAL OF ARCHITECT.
- PRE-ENGINEERED BUILDING MANUFACTURER SHALL DESIGN AND SUPPLY ALL REQUIRED SUB-FRAMING FOR OPENINGS, INCLUDING FRAMING TO SUPPORT THE WEIGHT OF MECHANICAL EQUIPMENT.

PERFORMANCE SPECIFICATION FOR STAIRS DESIGN:

STAIRS SHALL BE DESIGNED FOR SELF WEIGHT PLUS A LIVE LOAD EQUAL TO 100 PSF. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH DESIGN CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE GOVERNING JURISDICTION OF THE PROJECT, SUBMITTED FOR REVIEW PRIOR TO MANUFACTURE.

METALS SUBMITTALS:

THE FOLLOWING ITEMS SHALL BE SUBMITTED FOR REVIEW FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIRED SUBMITTALS.

METALS SUBMITTALS:

THE FOLLOWING ITEMS SHALL BE SUBMITTED FOR REVIEW FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIRED SUBMITTALS.

PRODUCT DATA
SHOP DRAWINGS
STRUCTURAL STEEL
COLD-FORMED METAL FRAMING (PLANS AND ELEVATIONS)
METAL STAIRS
WELDING PROCEDURE SPECIFICATIONS AND PROCEDURE QUALIFICATION RECORDS
QUALIFICATION DATA FOR QUALIFIED INSTALLER, FABRICATOR, PROFESSIONAL ENGINEER, TESTING AGENCY
WELDING CERTIFICATES
MILL TEST REPORTS
PRODUCT TEST REPORTS
SOURCE QUALITY CONTROL REPORTS
PRE-ENGINEERED METAL BUILDING DRAWINGS AND CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN COLORADO

INFORMATION ON DRAWINGS

PLAN LEGEND

SYMBOL	DESCRIPTION	REMARKS
	DETAIL CUTS SHOWN ON PLANS	
	CONCRETE WALL UNO	SEE PLANS AND SCHEDULES FOR REINFORCING
	8" MASONRY WALL UNO	OTHER SIZES ARE DIMENSIONED ON PLANS.
	12" MASONRY WALL UNO	OTHER SIZES ARE DIMENSIONED ON PLANS.
	STUD WALL UNO	SEE GSM, PLANS, AND SCHEDULES FOR SIZE AND SPACING OF STUDS.
	MECHANICAL EQUIPMENT	SEE PLANS FOR UNIT WEIGHTS.
	OPENING IN FRAMING	SEE NOTE #4.
	INDICATES EXTENTS OF MEMBER	SEE PLANS.



BLACK FOREST BARN
12740 BLACK FOREST RD COLORADO
SPRINGS, CO 80908

PROJECT CODE:

ISSUE DATE: 02/06/2020

BUILDING PERMIT

REVISIONS

DATE	NO.	DESCRIPTION
12/20/19	0	FOUNDATION PERMIT

DRAWINGS PREPARED FOR:
PWN ARCHITECTS & PLANNERS, INC.

BUILDING PERMIT



SHEET NUMBER
GENERAL
STRUCTURAL
NOTES

SHEET NUMBER
S0.3

SPECIAL STRUCTURAL INSPECTIONS					
MATERIAL	VERIFICATION AND INSPECTION TASK	FREQUENCY		REFERENCED STANDARD	IBC REFERENCE
		CONTINUOUS	PERIODIC		
SOILS (RE: IBC TABLE 1705.6)	1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	---	X		
	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	---	X		
	3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS.	---	X		
	4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL.	X	---		
	5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	---	X		
CONCRETE (RE: IBC TABLE 1705.3)	1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.	---	X	ACI318: 3.5, 7.1-7.7	1910.4
	2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1704.3, ITEM 5B.	---	---	AWS D1.4 ACI318: 3.5, 2	
	3. INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED, OR WHERE STRENGTH DESIGN IS USED.	X	---	---	1908.5, 1909.1
	4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	---	X	ACI318: 3.8.6, 8.1.3, 21.2.8	1909.1
	5. VERIFYING USE OF REQUIRED DESIGN MIX.	---	X	ACI318: CH. 4, 5.2-5.4	1904.2, 1910.2, 1910.3
	6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TEST, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---	ASTM C 172 ASTM C 31 ACI318: 5.6, 5.8	1910.10
	7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	---	ACI318: 5.9, 5.10	1910.6, 1910.7, 1910.8
	8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X	ACI318: 5.11-5.13	1910.9
	9. INSPECTION OF PRESTRESSED CONCRETE:				
	A. APPLICATION OF PRESTRESSING FORCES.	X	---	ACI 318: 18.20 ACI 318: 18.18.4	
	B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORCE-RESISTING SYSTEM.	X	---		
	10. ERECTION OF PRECAST CONCRETE MEMBERS.	---	X	ACI318: CH. 16	
11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POSTTENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	---	X	ACI 318: 6.2		
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X	ACI 318: 6.1.1		

SPECIAL STRUCTURAL INSPECTIONS					
MATERIAL	VERIFICATION AND INSPECTION TASK	FREQUENCY		REFERENCED STANDARD	IBC REFERENCE
		CONTINUOUS	PERIODIC		
POST INSTALLED ANCHORS	1. EPOXY ANCHORS A) ALL EPOXY BOLTS TO HAVE I.C.C. RATING FOR MATERIAL INTO WHICH INSTALLATION TAKES PLACE. ALL EPOXY BOLTS ARE SUBJECT TO THE FOLLOWING SPECIAL INSPECTION AND TESTING. B) VERIFY ANCHOR TYPE, DIMENSIONS, BASE MATERIAL TYPE & STRENGTH, HOLE DIMENSIONS, HOLE CLEANING PROCEDURES, ANCHOR SPACING, EDGE DISTANCES, BASE MATERIAL THICKNESS, ANCHOR EMBEDMENT, AND TIGHTENING TORQUE. C) LOAD TEST THE FIRST 10% OF EACH TYPE OF BOLT TO 150% RECOMMENDED ALLOWABLE WORKING LOAD IN TENSION. IF AT ANYTIME THE NUMBER OF REJECTED BOLTS EXCEEDS 10%, TEST 100% OF REMAINING BOLTS UNTIL NOT MORE THAN 10% FAIL LOAD TEST. COSTS FOR ADDITIONAL TESTING BEYOND THE FIRST 10% OF ANY BOLT TYPE SHALL BE BORNE BY THE CONTRACTOR.				
	2. EXPANSION ANCHORS A) ALL EXPANSION BOLTS TO HAVE I.C.C. RATING FOR MATERIAL INTO WHICH INSTALLATION TAKES PLACE. ALL EXPANSION BOLTS ARE SUBJECT TO THE FOLLOWING SPECIAL INSPECTION AND TESTING. B) VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, BASE MATERIAL TYPE & STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCES, ANCHOR SPACING, BASE MATERIAL THICKNESS, AND TIGHTENING TORQUE.		X		

NOTE: THIS TABLE IS NOT COMPREHENSIVE. ALL TESTING AND INSPECTION REQUIREMENTS DEFINED ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS ARE REQUIRED. CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS AND BRING ANY DISCREPANCIES TO THE ENGINEER'S ATTENTION PRIOR TO BEGINNING THE WORK.

PROJECT CODE:		
ISSUE DATE: 02/06/2020		
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DATE	NO.	DESCRIPTION
12/2019	0	FOUNDATION PERMIT

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SPECIAL
INSPECTIONS

SHEET NUMBER

S0.6

PROJECT CODE:
ISSUE DATE: 02/06/2020
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ACI TENSION LAP SPLICE LENGTHS

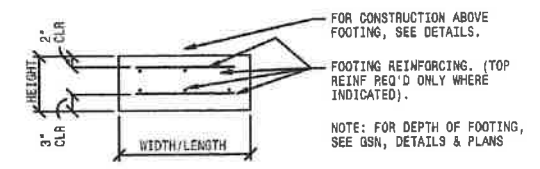
BAR SIZE	LAP CLASS	$f'c = 3,000$ PSI OR LESS				$f'c = 4,000$ PSI				$f'c = 5,000$ PSI OR LESS			
		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
		CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	A	22	32	17	25	19	28	15	22	17	25	13	19
	B	28	42	22	32	24	36	19	28	22	33	17	25
#4	A	29	43	22	33	25	37	19	29	22	33	17	26
	B	37	56	29	43	32	48	25	37	29	43	22	33
#5	A	36	54	28	41	31	47	24	36	28	42	22	32
	B	47	70	36	54	40	60	31	47	36	54	28	42
#6	A	43	64	33	50	37	56	29	43	33	50	28	39
	B	56	84	43	64	48	72	37	56	43	65	33	50
#7	A	63	94	46	72	54	81	42	63	49	73	37	56
	B	81	122	63	94	70	106	54	81	63	94	49	73
#8	A	72	107	55	82	62	93	49	71	55	83	43	64
	B	93	139	72	107	80	121	62	93	72	108	56	83
#9	A	81	121	62	93	70	105	54	81	63	94	48	72
	B	105	157	81	121	91	136	70	105	81	122	63	94
#10	A	91	136	70	105	79	118	61	91	70	105	54	81
	B	118	177	91	136	102	153	79	118	91	137	70	105
#11	A	101	151	78	116	87	131	67	101	78	117	60	90
	B	131	196	101	151	113	170	87	131	101	152	78	117
#14	N/A	121	181	93	139	105	157	81	121	94	140	72	108
#18	N/A	161	241	124	186	139	209	107	161	125	187	96	144

NOTE:
1. TABULATED VALUES ARE BASED ON GRADE 60 REINFORCING BARS AND NORMAL WEIGHT CONCRETE.
2. TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS ARE CALCULATED PER ACI 318-11, SECTIONS 12.2 AND 12.16, RESPECTIVELY. TABULATED VALUES FOR BEAMS OR COLUMNS ARE BASED ON TRANSVERSE REINFORCEMENT AND CONCRETE COVER MEETING MINIMUM CODE REQUIREMENTS. LENGTHS ARE IN INCHES.
3. CASES 1 AND 2, WHICH DEPEND ON THE TYPE OF STRUCTURAL ELEMENT, CONCRETE COVER, AND THE CENTER-TO-CENTER SPACING OF THE BARS, ARE DEFINED AS:
BEAMS OR COLUMNS: CASE 1: COVER AT LEAST $1.0d$ AND C.-C. SPACING AT LEAST $2.0d$. CASE 2: COVER LESS THAN $1.0d$ OR C.-C. SPACING LESS THAN $2.0d$.
ALL OTHERS: CASE 1: COVER AT LEAST $1.0d$ AND C.-C. SPACING AT LEAST $3.0d$. CASE 2: COVER LESS THAN $1.0d$ OR C.-C. SPACING LESS THAN $3.0d$.
4. LAP SPLICE LENGTHS ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS: CLASS A = $1d$ AND CLASS B = $1.3d$ (ACI 318-11, SECTION 12.15.1). ACI 318-11 DOES NOT ALLOW LAP SPLICES OF #14 OR #18 BARS. THE TABULATED VALUES FOR THOSE BAR SIZES ARE THE TENSION DEVELOPMENT LENGTHS.
5. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
6. FOR LIGHTWEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.
7. FOR EPOXY-COATED BARS, MULTIPLY THE TABULATED VALUES BY ONE OF THE FOLLOWING FACTORS:
CONCRETE COVER AND SPACING TOP BARS OTHER BARS
COVER < $3.0d$ OR C.-C. SPACING < $7.0d$ 1.7/1.3=1.31 1.50
COVER > $3.0d$ AND C.-C. SPACING > $7.0d$ 1.20 1.20

ISOLATED FOOTING SCHEDULE (F)

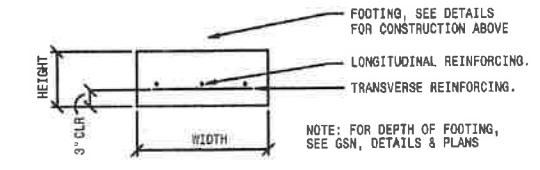
MARK	THICKNESS	DIMENSIONS		REINFORCING	COMMENTS
		WIDTH	LENGTH		
F1A	1'-0"	3'-0"	3'-0"	#5 AT 12" OC EW BOT	---
F1B	1'-0"	3'-0"	3'-0"	#5 AT 12" OC EW T&B	---
F2A	1'-0"	3'-6"	3'-6"	#5 AT 12" OC EW BOT	---
F2B	1'-0"	3'-6"	3'-6"	#5 AT 12" OC EW T&B	---
F3	1'-0"	4'-0"	4'-0"	#5 AT 12" OC EW T&B	---

NOTE: "A" AFTER ISOLATED FTG NAME INDICATES BOT ONLY REBAR. "B" AFTER ISOLATED FTG NAME INDICATES REBAR TOP AND BOT.



WALL FOOTING SCHEDULE (WF)

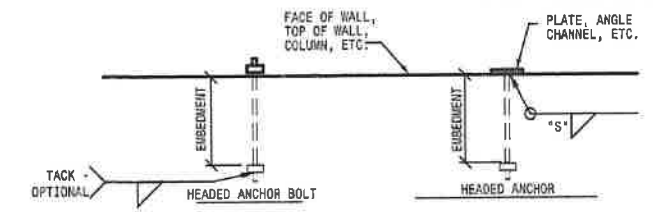
MARK	DIMENSIONS		REINFORCING		REMARKS
	THICKNESS	WIDTH	LONGITUDINAL	TRANSVERSE	
WF1	1'-0"	1'-4"	(3) #5 CONT BOT	#4 AT 16" OC	---

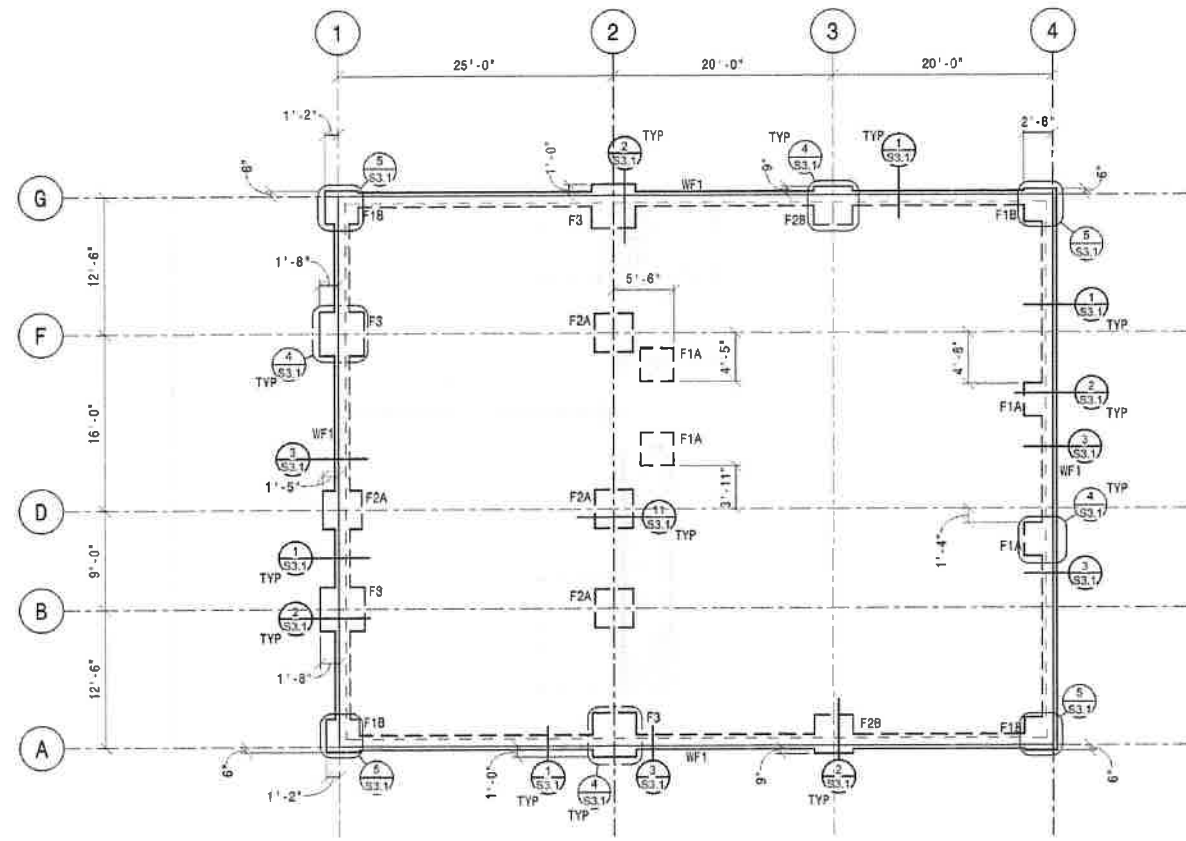


TYPICAL ANCHOR BOLT EMBEDMENT SCHEDULE

BOLT DIAMETER (d)	VERT BOLT EMBEDMENT LENGTH	HORIZ BOLT EMBEDMENT LENGTH	HEADED STUD FILLET WELD SIZE, "S"
1/2"	7"	4"	1/4"
5/8"	7"	4"	5/16"
3/4"	7"	5"	5/16"
7/8"	8"	6"	5/16"
1"	9"	7"	3/8"
1 1/8"	10"	8"	---
1 1/4"	11"	9"	---

NOTES:
1. PROVIDE C.I.P. ANCHORS AND C.I.P. ANCHOR BOLTS PER THIS SCHEDULE UNLESS NOTED ON PLANS OR DETAILS.
2. AT 'ANCHORS' USE 3/16" FILLET WELD("S").
3. THICKNESS OF DRYPACK DOES NOT APPLY TOWARDS EMBEDMENT.
4. UNLESS NOTED OTHERWISE, HEADED BOLTS SHALL BE USED AT ALL ANCHOR LOCATIONS EXCEPT THE FOLLOWING WHERE HOOKED ANCHORS MAY BE USED:
- SHEAR WALLS (EXCLUDING HOLD-DOWNS)
- BEAM/JOIST BEARING PLATES ON CONCRETE OR MASONRY
- EXTERIOR WOOD AND METAL STUD WALLS BOTTOM ATTACHMENT TO FOUNDATION
5. HEADED ANCHOR BOLTS MAY BE CONSTRUCTED USING BOND-BROKEN ROD MATERIAL WITH A NOT TACK WELDED TO THE THREADS ON THE EMBEDDED END OF THE ANCHOR.





FOUNDATION PLAN

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

FOUNDATION PLAN NOTES:

1. ELEVATIONS SHOWN ON PLAN ARE BASED ON DATUM ELEVATION SPECIFIC TO THE PROJECT. RE: ARCH/CIVIL DRAWINGS FOR ACTUAL U.S.G.S. ELEVATIONS AND BENCHMARK LOCATION. TO CONC = 100'-0" UNO.
2. CONCRETE SLAB ON GRADE IS 5" THICK REINFORCED WITH #3 AT 18" OC EW CENTERED IN SLAB UNO.
3. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
4. TOP OF FOOTING SHOWN AS (XX'-XX"). FOOTING ELEVATIONS SHOWN ARE MAXIMUMS AND MAY NEED TO BE LOWERED DUE TO SOIL CONDITIONS. VERIFY CHANGES WITH ENGINEER OF RECORD.
5. WF1, WF2, ETC - AS SHOWN ON PLAN INDICATES CONTINUOUS WALL FOOTING, SEE SCHEDULE FOR SIZE AND REINFORCING.
6. PROVIDE KEYS CONSTRUCTION JOINTS IN WALLS, GRADE BEAMS AND SLABS IN STRICT ACCORDANCE WITH THE REQUIREMENTS SHOWN IN THESE DOCUMENTS. HORIZONTAL REINFORCING SHALL BE CONTINUOUS THROUGH VERTICAL KEYS CONTROL JOINTS.
7. F1, F2, ETC - AS SHOWN ON PLAN INDICATES ISOLATED FOOTING, SEE SCHEDULE FOR SIZE AND REINFORCING.
8. VERIFY EXACT LOCATION OF DEPRESSED SLABS WITH ARCHITECTURAL DRAWINGS.
9. FOR SIDEWALK LOCATION AND DETAILS, SEE ARCHITECTURAL DRAWINGS.
10. VERIFY EXACT SIZE AND LOCATION OF OPENINGS WITH ARCHITECTURAL DRAWINGS.



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PROJECT CODE:

ISSUE DATE: 02/06/2020

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REVISIONS

DATE	NO.	DESCRIPTION
12/2019	0	FOUNDATION PERMIT

DRAWINGS PREPARED FOR:
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SHEET NUMBER

FOUNDATION PLAN

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S1.1

PROJECT CODE:
ISSUE DATE: 02/06/2020
BUILDING PERMIT

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DATE	NO.	DESCRIPTION
12/2019	0	FOUNDATION PERMIT

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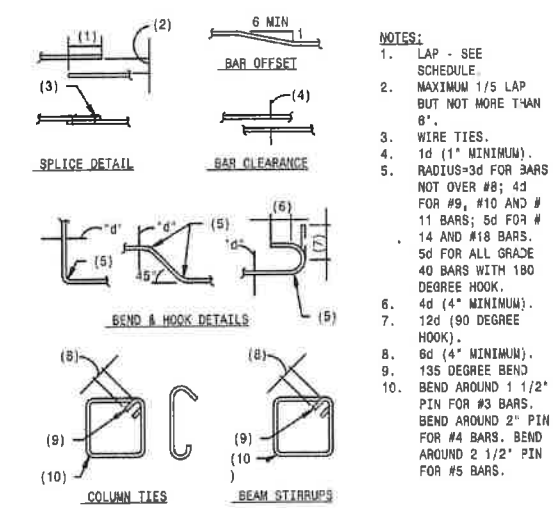
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SHEET NUMBER
TYP CONCRETE DETAILS

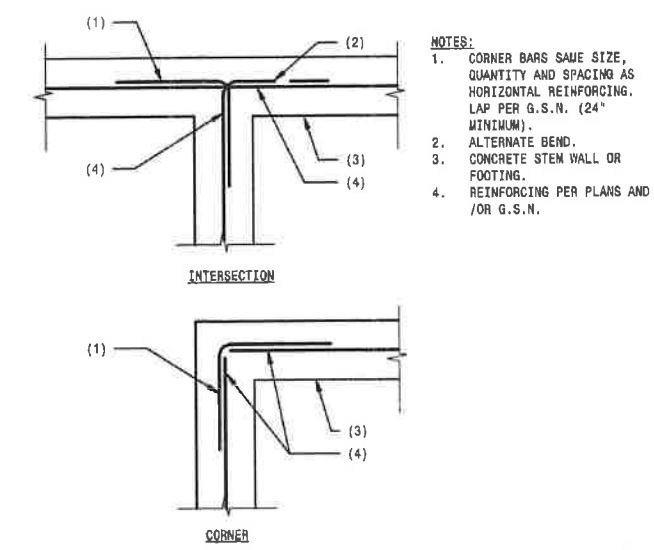
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S3.0



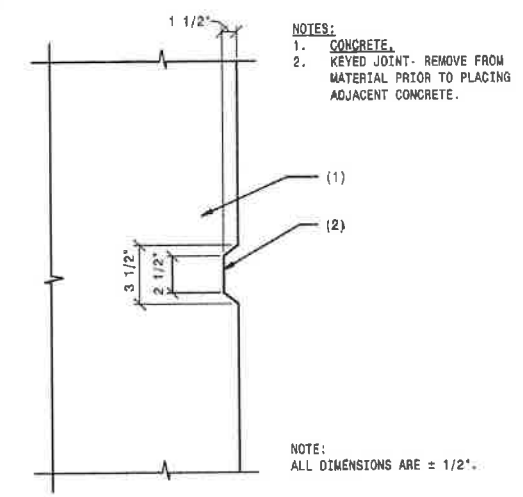
- NOTES:
- LAP - SEE SCHEDULE.
 - MAXIMUM 1/5 LAP BUT NOT MORE THAN 8".
 - WIRE TIES.
 - 1d (1" MINIMUM).
 - RADIUS=3d FOR BARS NOT OVER #8; 4d FOR #9, #10 AND #11 BARS; 5d FOR #14 AND #18 BARS. 5d FOR ALL GRADE 40 BARS WITH 180 DEGREE HOOK.
 - 4d (4" MINIMUM).
 - 12d (90 DEGREE HOOK).
 - 8d (4" MINIMUM).
 - 135 DEGREE BEND
 - BEND AROUND 1 1/2" PIN FOR #3 BARS. BEND AROUND 2" PIN FOR #4 BARS. BEND AROUND 2 1/2" PIN FOR #5 BARS.

1 **TYPICAL CONCRETE REINFORCING BAR DETAILS**
THIS DETAIL IS TYPICAL TO THE PROJECT AND IS NOT NECESSARILY CUT OR CALLED OUT ON PLANS. NO SCALE



- NOTES:
- CORNER BARS SAME SIZE, QUANTITY AND SPACING AS HORIZONTAL REINFORCING. LAP PER G.S.N. (24" MINIMUM).
 - ALTERNATE BEND.
 - CONCRETE STEM WALL OR FOOTING.
 - REINFORCING PER PLANS AND /OR G.S.N.

2 **PLAN - CORNER REINFORCING IN CONCRETE FOOTING AND / OR STEM WALL**
NO SCALE

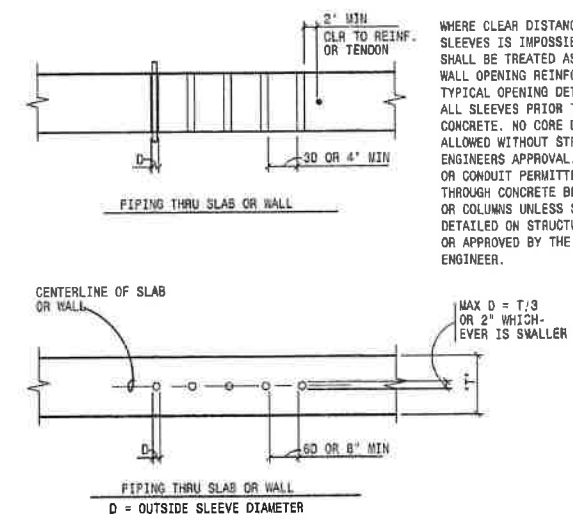


- NOTES:
- CONCRETE.
 - KEYED JOINT- REMOVE FROM MATERIAL PRIOR TO PLACING ADJACENT CONCRETE.

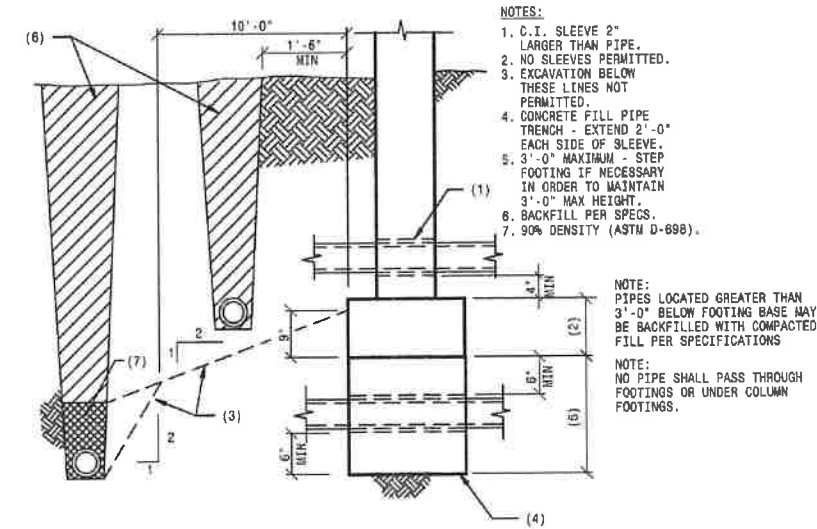
NOTE: ALL DIMENSIONS ARE = 1/2".

3 **TYPICAL KEY IN CONCRETE**
THIS DETAIL IS TYPICAL TO THE PROJECT AND IS NOT NECESSARILY CUT OR CALLED OUT ON PLANS. NO SCALE

NOTE:
WHERE CLEAR DISTANCE BETWEEN SLEEVES IS IMPOSSIBLE THIS AREA SHALL BE TREATED AS A SLAB OR WALL OPENING REINFORCED AS PER TYPICAL OPENING DETAILS. PRESET ALL SLEEVES PRIOR TO POURING CONCRETE. NO CORE DRILLING ALLOWED WITHOUT STRUCTURAL ENGINEERS APPROVAL. NO PIPING OR CONDUIT PERMITTED IN OR THROUGH CONCRETE BEAMS, JOISTS OR COLUMNS UNLESS SPECIFICALLY DETAILED ON STRUCTURAL DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.



4 **PIPING AND CONDUIT IN OR THRU SLAB OR WALL**
THIS DETAIL IS TYPICAL TO THE PROJECT AND IS NOT NECESSARILY CUT OR CALLED OUT ON PLANS. NO SCALE

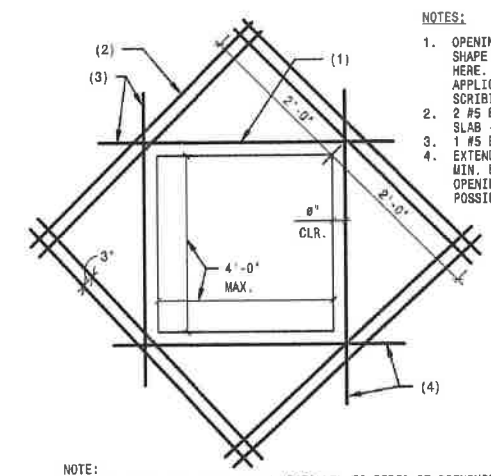


- NOTES:
- C.I. SLEEVE 2" LARGER THAN PIPE.
 - NO SLEEVES PERMITTED.
 - EXCAVATION BELOW THESE LINES NOT PERMITTED.
 - CONCRETE FILL PIPE TRENCH - EXTEND 2'-0" EACH SIDE OF SLEEVE.
 - 3'-0" MAXIMUM - STEP FOOTING IF NECESSARY IN ORDER TO MAINTAIN 3'-0" MAX HEIGHT.
 - BACKFILL PER SPECS.
 - 90% DENSITY (ASTM D-698).

NOTE: PIPES LOCATED GREATER THAN 3'-0" BELOW FOOTING BASE MAY BE BACKFILLED WITH COMPACTED FILL PER SPECIFICATIONS

NOTE: NO PIPE SHALL PASS THROUGH FOOTINGS OR UNDER COLUMN FOOTINGS.

5 **PIPE THROUGH FOOTING AND TRENCH**
THIS DETAIL IS TYPICAL TO THE PROJECT AND IS NOT NECESSARILY CUT OR CALLED OUT ON PLANS. NO SCALE

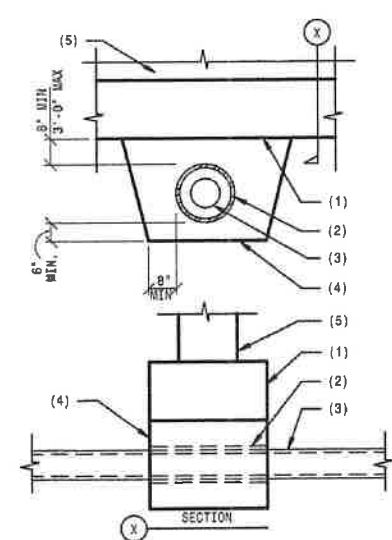


- NOTES:
- OPENING MAY HAVE ANY SHAPE OTHER THAN SHOWN HERE. FOR REINFORCING APPLICATION, USE CIRCUMSCRIBING RECTANGLE.
 - 2 #5 BARS AT CENTER OF SLAB - TYP.
 - 1 #5 BAR AT TOP.
 - EXTEND TRIMMER BARS 2'-6" MIN. BEYOND SIDES OF OPENING OR AS FAR AS POSSIBLE AND HOOK.

NOTE: PROVIDE EXTRA BARS (NOT SHOWN) PARALLEL TO SIDES OF OPENINGS, EQUAL TO AREAS OF INTERRUPTED SLAB BARS. EXTEND FULL LENGTH OF SPAN OR OF TOP BARS AS APPLICABLE. THIS DETAIL IS TYPICAL AT OPENINGS UP TO 4'-0" MAX. DIMENSIONS EXCEPT AS SHOWN OTHERWISE.

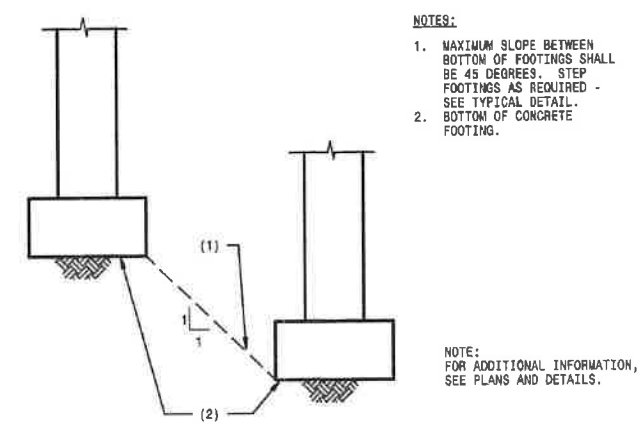
6 **TYPICAL OPENING IN CONCRETE SLAB**
THIS DETAIL IS TYPICAL TO THE PROJECT AND IS NOT NECESSARILY CUT OR CALLED OUT ON PLANS. NO SCALE

- NOTES:
- CONCRETE FOOTING.
 - SLEEVE - RE: MECH'L DWG'S.
 - PIPE OR CONDUIT.
 - LEAN CONC. FILL TO BE PLACED BEFORE FOOTING IS POURED - FORM SAME AS FOOTING AND POUR FULL WIDTH OF PIPE TRENCH.
 - WALL.



NOTE: NO PIPE SHALL PASS THRU FOOTINGS OR UNDER COLUMN FOOTINGS.

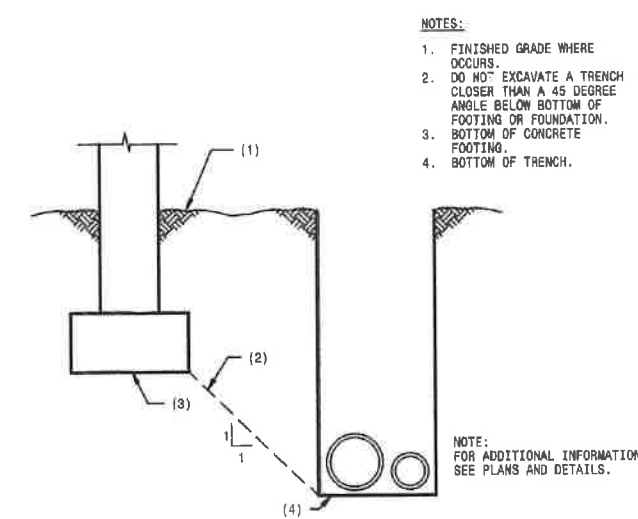
7 **PIPE PASSING UNDER WALL FOOTING IN SHALLOW TRENCH**
THIS DETAIL IS TYPICAL TO THE PROJECT AND IS NOT NECESSARILY CUT OR CALLED OUT ON PLANS. NO SCALE



- NOTES:
- MAXIMUM SLOPE BETWEEN BOTTOM OF FOOTINGS SHALL BE 45 DEGREES. STEP FOOTINGS AS REQUIRED - SEE TYPICAL DETAIL.
 - BOTTOM OF CONCRETE FOOTING.

NOTE: FOR ADDITIONAL INFORMATION, SEE PLANS AND DETAILS.

8 **MAXIMUM SLOPE BETWEEN ADJACENT FOOTING**
THIS DETAIL IS TYPICAL TO THE PROJECT AND IS NOT NECESSARILY CUT OR CALLED OUT ON PLANS. NO SCALE



- NOTES:
- FINISHED GRADE WHERE OCCURS.
 - DO NOT EXCAVATE A TRENCH CLOSER THAN A 45 DEGREE ANGLE BELOW BOTTOM OF FOOTING OR FOUNDATION.
 - BOTTOM OF CONCRETE FOOTING.
 - BOTTOM OF TRENCH.

NOTE: FOR ADDITIONAL INFORMATION, SEE PLANS AND DETAILS.

9 **TRENCH PARALLEL TO FOUNDATION**
THIS DETAIL IS TYPICAL TO THE PROJECT AND IS NOT NECESSARILY CUT OR CALLED OUT ON PLANS. NO SCALE



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PROJECT CODE:

ISSUE DATE: 02/08/2020

BUILDING PERMIT

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DATE	NO.	DESCRIPTION
12/20/18	0	FOUNDATION PERMIT

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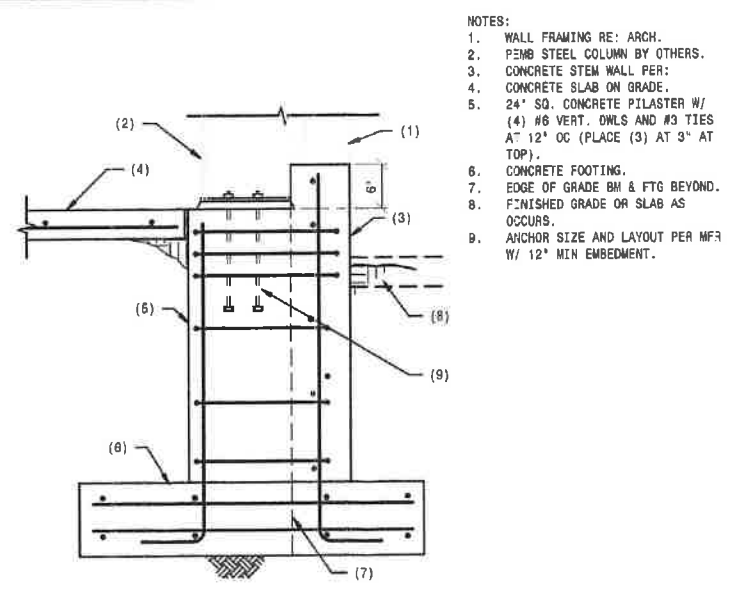


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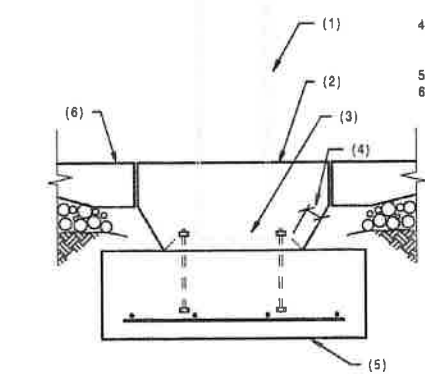
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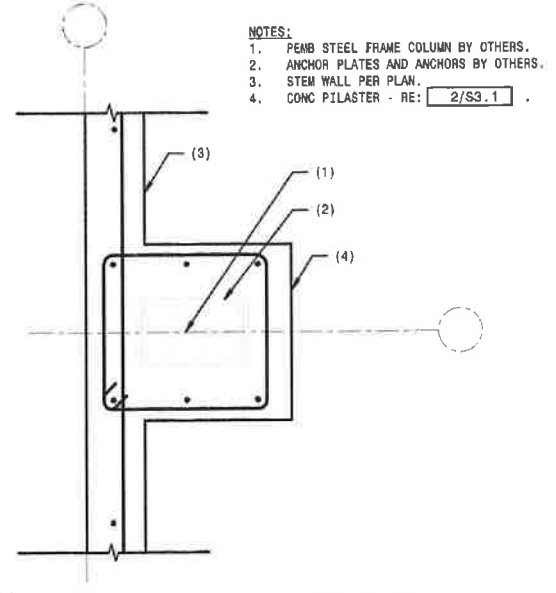
9 STEEL COLUMN AT EXTERIOR GARAGE WALL NO SCALE

- NOTES:
1. WALL FRAMING RE: ARCH.
 2. PEMB STEEL COLUMN BY OTHERS.
 3. CONCRETE STEM WALL PER:
 4. CONCRETE SLAB ON GRADE.
 5. 24" SQ. CONCRETE PILASTER W/ (4) #6 VERT. DWLS AND #3 TIES AT 12" OC (PLACE (3) AT 3" AT TOP).
 6. CONCRETE FOOTING.
 7. EDGE OF GRADE BM & FTG BEYOND.
 8. FINISHED GRADE OR SLAB AS OCCURS.
 9. ANCHOR SIZE AND LAYOUT PER MFR W/ 12" MIN EMBEDMENT.



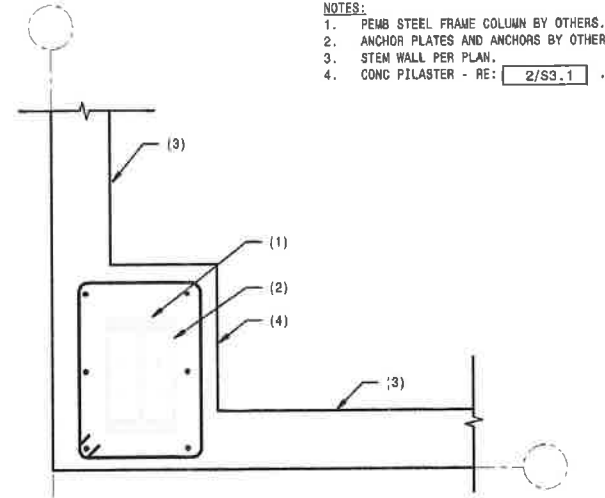
11 INTERIOR STEEL COLUMN FOOTING NO SCALE

- NOTES:
1. STEEL COLUMN - BY OTHERS.
 2. CONCRETE CLOSURE POUR AROUND COLUMN.
 3. STEEL BASE PLATE (BY OTHERS) WITH DOUBLE NUTS OVER 1 1/2" DRYPACK.
 4. 3" MINIMUM CONCRETE COVER AROUND ALL STEEL BELOW GRADE.
 5. CONCRETE FOOTING.
 6. CONCRETE SLAB ON GRADE.



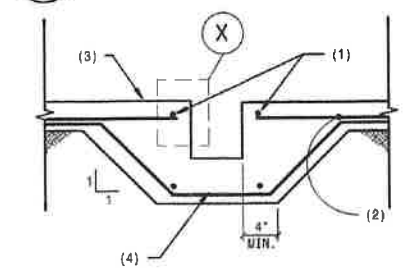
4 PERIMETER COLUMN FRAME BASE NO SCALE

- NOTES:
1. PEMB STEEL FRAME COLUMN BY OTHERS.
 2. ANCHOR PLATES AND ANCHORS BY OTHERS.
 3. STEM WALL PER PLAN.
 4. CONC PILASTER - RE: 2/S3.1



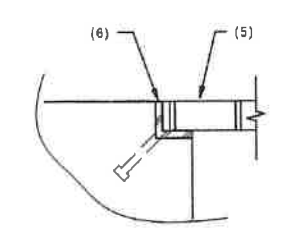
5 CORNER COLUMN FRAME BASE NO SCALE

- NOTES:
1. PEMB STEEL FRAME COLUMN BY OTHERS.
 2. ANCHOR PLATES AND ANCHORS BY OTHERS.
 3. STEM WALL PER PLAN.
 4. CONC PILASTER - RE: 2/S3.1



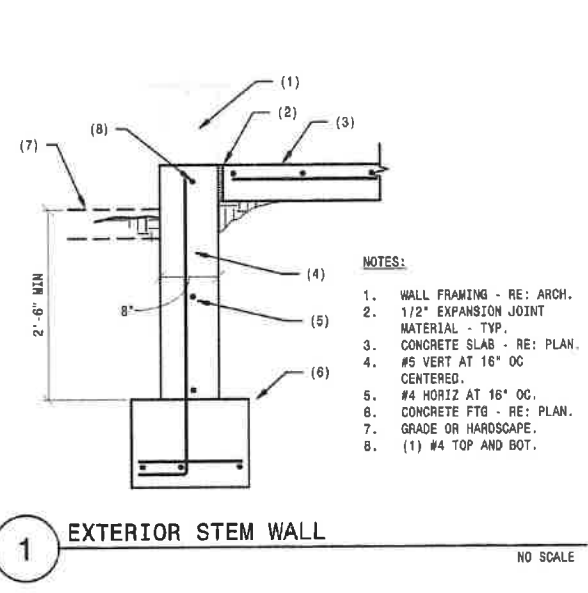
6 CONCRETE SLAB AT TRENCH NO SCALE

- NOTES:
1. (1) #5 CONT. (4 LOCS SHOWN)
 2. LAP MIN 24".
 3. CONCRETE SLAB.
 4. CONT REINF - TYP.



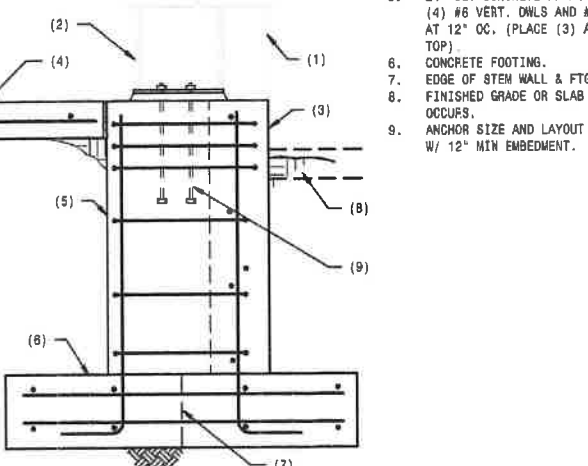
X TYPICAL GRATING SUPPORT

- GRATING NOTES:
5. GRATING BY OHIO GRATINGS, INC. OR EQUAL. SUPPLIER TO DESIGN GRATING TO SUPPORT 2000# LIVE LOAD OVER 4 POINT LOADS. SUBMIT PRODUCT AND DESIGN DATA PRIOR TO CONSTRUCTION.
 6. L2X2X3/16 MIN X CONT W/ 3/8" DIA X 4' LONG HDAS AT 12" OC (HDG) INCREASE ANGLE VERT LEG AS REQ'D TO MATCH GRATE THICKNESS.



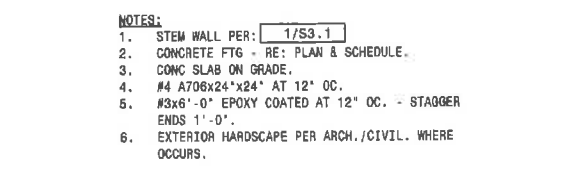
1 EXTERIOR STEM WALL NO SCALE

- NOTES:
1. WALL FRAMING - RE: ARCH.
 2. 1/2" EXPANSION JOINT MATERIAL - TYP.
 3. CONCRETE SLAB - RE: PLAN.
 4. #5 VERT AT 16" OC CENTERED.
 5. #4 HORIZ AT 16" OC.
 6. CONCRETE FTG - RE: PLAN.
 7. GRADE OR HARDSCAPE.
 8. (1) #4 TOP AND BOT.



2 STEEL COLUMN AT EXTERIOR WALL NO SCALE

- NOTES:
1. WALL FRAMING RE: ARCH.
 2. PEMB STEEL COLUMN BY OTHERS.
 3. CONCRETE STEM WALL PER:
 4. CONCRETE SLAB ON GRADE.
 5. 24" SQ. CONCRETE PILASTER W/ (4) #6 VERT. DWLS AND #3 TIES AT 12" OC. (PLACE (3) AT 3" AT TOP).
 6. CONCRETE FOOTING.
 7. EDGE OF STEM WALL & FTG BEYOND.
 8. FINISHED GRADE OR SLAB AS OCCURS.
 9. ANCHOR SIZE AND LAYOUT PER MFR W/ 12" MIN EMBEDMENT.



3 FOUNDATION AT THRESHOLD NO SCALE

- NOTES:
1. STEM WALL PER: 1/S3.1
 2. CONCRETE FTG - RE: PLAN & SCHEDULE.
 3. CONC SLAB ON GRADE.
 4. #4 A706X24"X24" AT 12" OC.
 5. #3X6'-0" EPOXY COATED AT 12" OC. - STAGGER ENDS 1'-0".
 6. EXTERIOR HARDSCAPE PER ARCH./CIVIL. WHERE OCCURS.



Mechanical
Electrical
Plumbing

7881 LEWIS COURT
ARVADA, CO 80005

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BLACK FOREST BARN
12740 BLACK FOREST ROAD
COLORADO SPRINGS, CO

Total Passed Walls = 5/5

Interior Lighting PASSED: Design 87% better than code

Interior Lighting Compliance Statement
Compliance Statement: The proposed interior lighting design represented in this document is compliant with the building plans specifications and other calculations submitted with this permit application. The proposed interior lighting system has been designed to meet the 2015 IBC requirements in EDP/Chapter 41.1.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name: Title _____ Signature _____ Date _____

Project Title: Black Forest Barn
Data Filename: \\ANGEL\PCUsers\jacob on Corton Job 2020\Colorado Comfort\Colorado Springs\12740 Black Forest Rd. Black Forest Barn\2020-01-15 10:16am\Comcheck\2020-01-15 Barn.cck

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Black Forest Barn
Data Filename: \\ANGEL\PCUsers\jacob on Corton Job 2020\Colorado Comfort\Colorado Springs\12740 Black Forest Rd. Black Forest Barn\2020-01-15 10:16am\Comcheck\2020-01-15 Barn.cck

Section #	Reugh-In Electrical Inspection	Compliant?	Comments/Assumptions
4.004.0	Lighting circuits installed to conform with the lighting load by at least 50%.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
4.005.01	Occupancy sensors installed in required spaces.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
4.005.02	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
4.005.02.1	Automatic controls to shut off all building lighting installed in all buildings.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
4.005.02.2	Daylight sensors provided with individual controls that control the lights independent of general area lighting.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
4.005.02.3	Primary subdivided in each one may provide with separate lighting controls.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
4.005.02.4	Entrained spaces with dual the area under skylights and ceiling monitors are equipped with separate lighting controls.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
4.005.02.5	Separate walking control devices for specific uses installed per approved lighting plans.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
4.005.02.6	Additional interior lighting power allowed for special functions per the approved lighting plans which automatically controlled and separated from general lighting.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
4.005.03	Exit signs do not exceed 5 watts per foot.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

Project Title: Black Forest Barn
Data Filename: \\ANGEL\PCUsers\jacob on Corton Job 2020\Colorado Comfort\Colorado Springs\12740 Black Forest Rd. Black Forest Barn\2020-01-15 10:16am\Comcheck\2020-01-15 Barn.cck

Section #	Final Inspection	Compliant?	Comments/Assumptions
4.005.01	Furnished OAH instructions for systems and equipment to the building owner or designated representative.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
4.005.02	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans. Outstanding prohibited waste are less than or equal to allowed.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Interior Lighting Fixture schedule for values.
4.005.02.1	Furnished as-built drawings for specific power systems within 90 days of system acceptance.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
4.005.03	Lighting systems have been tested to ensure proper installation, adjustment, programming, and operation.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

Project Title: Black Forest Barn
Data Filename: \\ANGEL\PCUsers\jacob on Corton Job 2020\Colorado Comfort\Colorado Springs\12740 Black Forest Rd. Black Forest Barn\2020-01-15 10:16am\Comcheck\2020-01-15 Barn.cck

DRAWN BY: JAF/RE
CHECKED BY: JAF

REVISIONS:

No.	Description	Date

ISSUE RECORD:

No.	Description	Date
1	ISSUED FOR PERMIT/CONST.	01-18-20

SEE: COMMENTS
ELECTRICAL COM-CHECK

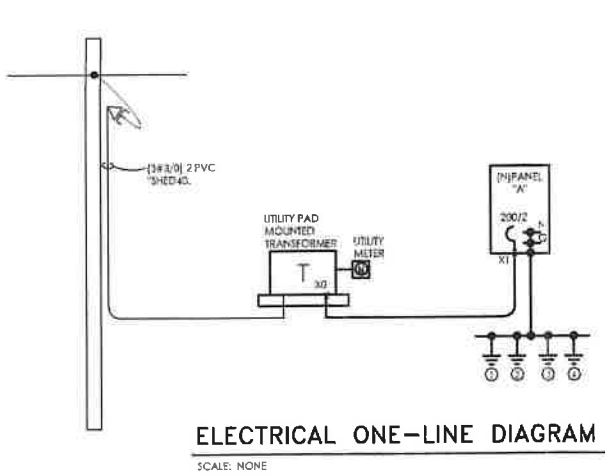


PROJECT NO: _____
DATE: _____
DRAWING NO: **E-1**

ELECTRICAL LEGEND

*ALL SYMBOLS ARE UNLESS OTHERWISE NOTED ON THESE SHEETS

ABBREVIATIONS	LIGHTING	POWER
AC ADJUSTABLE CONTROLLER	SHADED LIGHT FIXTURES INDICATE LAMPS OPERATED ON EMERGENCY POWER. SEE DRAWING NOTES.	WALL MOUNTED SINGLE RECEPTACLE
ADA AMERICAN WITH DISABILITIES ACT	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	20' SPACED SINGLE RECEPTACLE WALL / CEILING FLOOR
AFS ARCHIVE PHOTO STORAGE	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	GROUNDING FOR WIRE RECEPTACLE WALL / CEILING FLOOR
AIW AIRCRAFT CIRCUIT INTERRUPTER	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	SPECIAL PURPOSE OUTLET WALL / CEILING FLOOR
BC BOARD COVER PLATE	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	DEDICATED 20A FLOOR RECEPTACLE WALL / CEILING FLOOR
BE BATTERY	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	GROUNDING BAR
EC ELECTRICAL CONNECTION	SURFACE MOUNT 2'x4' FLUORESCENT LIGHT FIXTURE	FLOOR CORE DRILL
EPD EMERGENCY PHOTO DISPLAY	SURFACE MOUNT 2'x4' FLUORESCENT LIGHT FIXTURE	ARMORED CORE DRILL WITH RATED PLUG AND APPROPRIATE FLOOR HARDWARE (SEE NOTE)
GC GENERAL CONTRACTOR	SURFACE MOUNT 2'x4' FLUORESCENT LIGHT FIXTURE	CORE DRILL WITH RATED FLOOR PENETRATION AND DEVICES AS INDICATED
SI SAFETY	SURFACE MOUNT 2'x4' FLUORESCENT LIGHT FIXTURE	POWER POLE
HP HONEYWELL	SURFACE MOUNT 2'x4' FLUORESCENT LIGHT FIXTURE	SURFACE MOUNT WIRE MESH OUTLET ASSEMBLY (SEE NOTE)
MC MECHANICAL CONTRACTOR	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	VIEW ELECTRICAL PANEL: SURFACE MOUNT / RECESSED MOUNT
RF RF	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	REMOVED ELECTRICAL PANEL: SURFACE MOUNT / RECESSED MOUNT
NC NOT IN CONTRACT	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	CONDUIT / DATA EQUIPMENT GROUPS AND RACKS. MIN. 18" REGULATED GROUNDING WIRE UPLIFT
RE RECESSED	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	SINGLE PUSH BUTTON
TO TO BE DETERMINED	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	EMERGENCY POWER OFF BUTTON
TR TRUCK	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	NON-RATED DISCONNECT SWITCH
UTS UNDERSTANDING	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	RATED DISCONNECT SWITCH
UP UNDER FLOOR	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	STARTER
UNO UNDESIRABLE OTHERWISE	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	COMBINATION STARTER/DISCONNECT
WR WEATHERPROOF	RECESSED 2'x4' FLUORESCENT LIGHT FIXTURE	120V LINE VOLTAGE BREAKER
GENERAL	SWITCHING	FIRE ALARM
DETAIL NOTE SYMBOL	BUILDING STANDARD SWITCH, 120V OR 277V AS REQUIRED. WHEN PROVIDED SUBSTITUTES ADJUSTMENT TO SWITCH INDICATED. CONTROL OF FIXTURES WITH MATCHING SUBSCRIPT LETTER.	SMOKE DETECTOR
RELOCATE EXISTING DEVICE	TWO-POLE WALL SWITCH	THERMAL DETECTOR
NEARBY EXISTING ITEMS INDICATED BY WORK TO BE DONE	DRAWER SWITCH	DIRTY DETECTION
EXISTING DEVICES TO REMAIN	THREE (3) WAY WALL SWITCH	MANUAL PULL STATION
EXISTING DEVICES TO BE REMOVED	KEY SWITCH	RETRACTABLE PHONE JACK
CONDUIT	CHANGED SWITCHES	FIRE ALARM BELL
PIPE CONDUIT CONCEALED IN WALL OR CEILING	GANGED THREE WAY SWITCHES	FIRE ALARM BELL AND SMOKE LIGHT
CONDUIT RUN TURNED UP	THERMAL OVERLOAD MOTOR SWITCH	FIRE ALARM BELL WITH SMOKE LIGHT
CONDUIT RUN TURNED DOWN	LOW VOLTAGE SWITCH	FIRE ALARM BELL
CONDUIT RUN CONCEALED	EXPLOSION PROOF SWITCH	MAGNETIC DOOR HOLD-OPEN
CONDUIT RUN CONCEALED	EXPLOSION PROOF SWITCH	FIRE ALARM CONTROL PANEL
CONDUIT RUN CONCEALED	EXPLOSION PROOF SWITCH	FIRE ALARM ANNUNCIATOR PANEL
CONDUIT RUN CONCEALED	EXPLOSION PROOF SWITCH	MAN FLOW SWITCH
CONDUIT RUN CONCEALED	EXPLOSION PROOF SWITCH	FLOOR SWITCH
CONDUIT RUN CONCEALED	EXPLOSION PROOF SWITCH	TAMPER SWITCH
CONDUIT RUN CONCEALED	EXPLOSION PROOF SWITCH	
COMMUNICATION	ONE-LINE DIAGRAM	
COMMUNICATION NETWORK DATA OUTLET: WALL / CEILING FLOOR	GROUND CONNECTION	
DATA OUTLET: WALL / CEILING FLOOR	SERVICE HEAD	
TELEPHONE CABLE: WALL / CEILING FLOOR	MOTOR	
TELEPHONE CABLE: 4 FEET & 8 FEET	FLOOR GENERATOR	
COAXIAL CABLE TV OUTLET	TRANSFORMER	
ADDITIONAL JUNCTION BOX	FRAG HIGH VOLTAGE TRANSFORMER	
	ELECTRICAL PANEL	
	ADDITIONAL TRANSFORMER SWITCH	
SECURITY	MANUAL RESET SWITCH	
CARD READER	CIRCUIT BREAKER	
DIGITAL KEYPAD	FLOOR SWITCH	
SECURITY CAMERA		
MODULAR FURNITURE SERVICE POINTS		
WALL MOUNTED JUNCTION BOX: FLOOR / CEILING		
WALL MOUNTED JUNCTION BOX: FLOOR / CEILING		
FLOOR MOUNTED JUNCTION BOX: FLOOR		
WALL MOUNTED JUNCTION BOX: FLOOR / CEILING		



- GROUNDING SCHEDULE:**
- 1#2 TO BUILDING STEEL.
 - 1#4 TO 3/4" DIA. GROUND ROD.
 - 1#2 WITH IN 5'-0" OF THE MAIN ENTRANCE COLD WATER PIPE.
 - 1#2 CU GROUND, CONNECTED TO FOUNDATION STEEL (UPPER GROUND).
- ALL GROUNDS SHALL BE INSTALLED AND CONNECTED PER N.E.C., ARTICLE 250 REQUIREMENTS.

FAULT CURRENT AND VOLTAGE DROP CALCULATIONS

Maximum Available Fault Current (I_{sc}):
I_{sc} = (I_{sc} x M)
Where M = 1 / [(1+K) + (L x I_{sc}) / (C x X + E)]

Point	Fault Location	Length, feet	Conductors size	Cu (1) Al (2)	Phase	Voltage	Value	Previous fault value	Fault value, A	Point	Load, A	Voltage Drop, %
A	Service Transformer Secondary Winding per Xcel Energy								14,800	A		
B	Panel A	238	4/0	1	1	240	1.6673	14,800	7,871	B	240	3.94

Name: *A* Date:

Surf. Area	Panel Status	Vol. Phase Wire	Panel Information
2400	RELOCATED NEW EXISTING	240/120 3	Bus Rating: 225 A Bus Breaker: 200 A Bus Fusing: 10,000

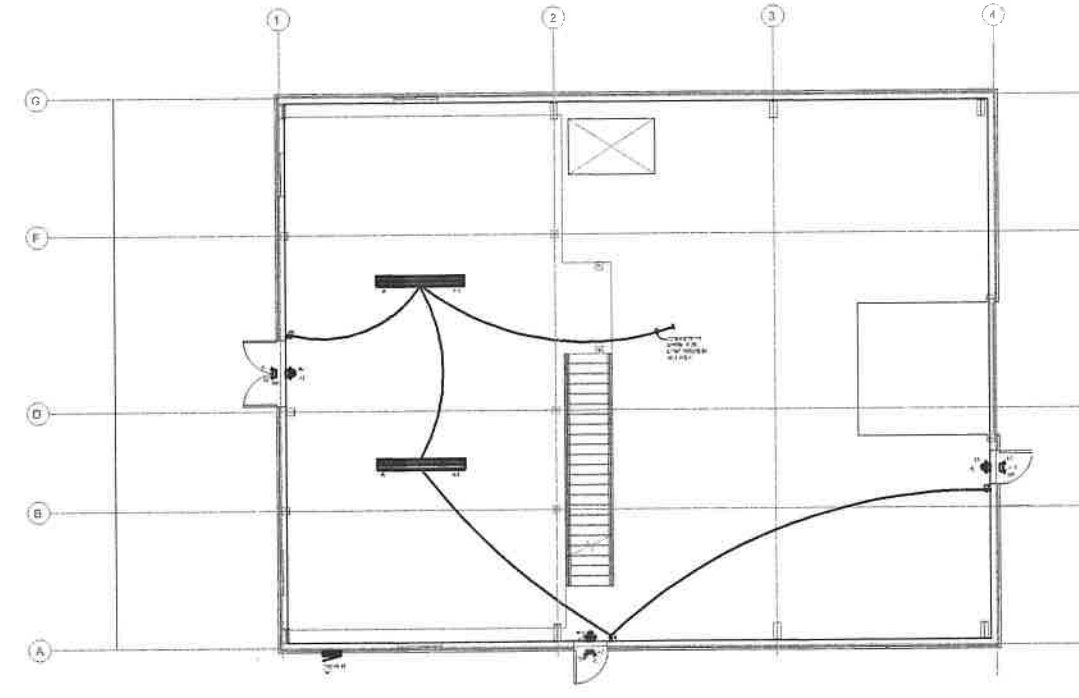
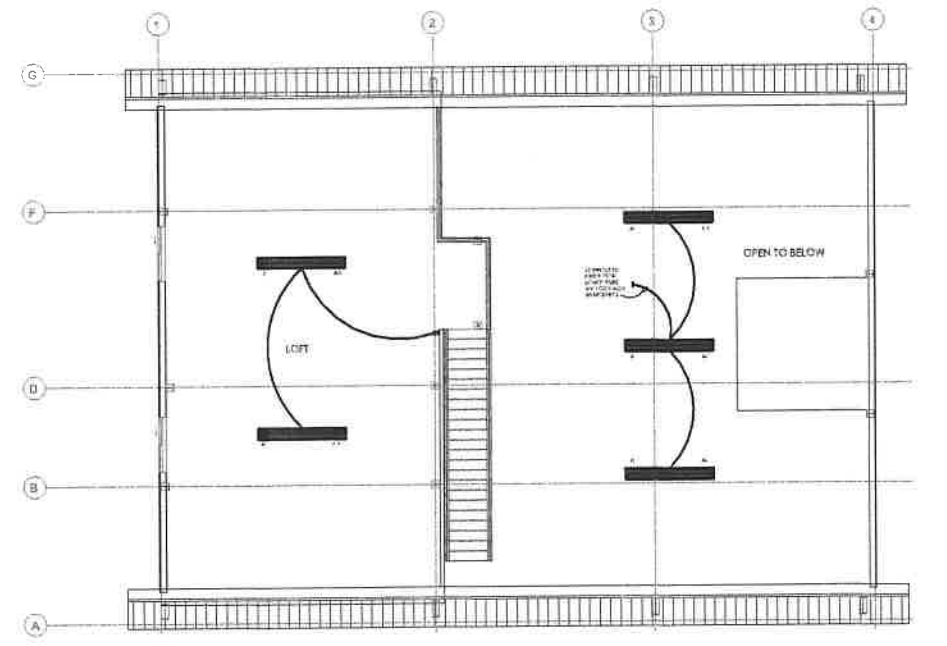
Code	Description	Units	Rate	Value	Phase	Load Summary
1	Lighting	811	100%	811	011	VA
2	Panel for 20,000	1	100%	1	011	VA
3	Motor	1	100%	1	011	VA
4	Hand	1	100%	1	011	VA
5	Other	1	100%	1	011	VA
6	Sub Total	814	100%	814	011	VA

Panel A: 240/120 3
Bus Rating: 225 A
Bus Breaker: 200 A
Bus Fusing: 10,000

Panel A: 240/120 3
Bus Rating: 225 A
Bus Breaker: 200 A
Bus Fusing: 10,000

LUMINAIRE SCHEDULE

TYPE	LAMPS	DESCRIPTION	MOUNTING	WATTS	MANUFACTURER/CAT. NO.	NOTES
A	LED	8' LED LENSED STRIP LIGHT	CHAIN HUNG OR SURFACE	83	METALUX-CAT. #85LSTP11040DD-UNV	
X	LED	EXIT SIGN WITH GREEN LETTERS / WHITE BACKGROUND AND EMERGENCY 90-MINUTE BATTERY PACK. PROVIDE DIRECTIONAL ARROWS AS INDICATED ON LIGHTING PLAN.	AS INDICATED ON PLAN	5W	SELECTED BY OWNER (OR SURE-LITES: APX SERIES)	
X1	LED	COMBINATION EXIT SIGN WITH GREEN LETTERS / WHITE BACKGROUND AND EMERGENCY 90-MINUTE BATTERY. TWIN HEAD EMERGENCY LIGHT FIXTURE. PROVIDE DIRECTIONAL ARROWS AS INDICATED ON LIGHTING PLAN.	WALL MOUNTED OR CEILING	15	SELECTED BY OWNER (OR SURE-LITES: APX SERIES)	
X2	W/FIXTURE	90-MINUTE, WALL MOUNTED EMERGENCY BATTERY PACK WITH TWO LED LAMP HEADS.	WALL +60" AFF OR CEILING	10	SELECTED BY OWNER (OR SURE-LITES: APEL SERIES)	



COLORADO COMFORT CONSULTING ENGINEERS, INC.
Mechanical Electrical Plumbing
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ARVADA, CO 80005
PH: 303-958-8111
FAX: 1-866-929-7403
EMAIL: DesEng1@Comcast.net

BLACK FOREST BARN
12740 BLACK FOREST ROAD
COLORADO SPRINGS, CO

DESIGN BY: JAF/RE
CHECKED BY: JAF

REVISIONS:

No.	Description	Date
1	ISSUED FOR PERMIT/CONST.	01-18-20

ISSUE RECORD:

No.	Description	Date
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SHEET CONTENTS:

ELECTRICAL PLANS



PROJECT NO:
DATE:
DRAWING NO:
E-2

GENERAL NOTES

1.1 Fabrication shall be in accordance with R.G.B. standard practices in compliance with the applicable sections, relating to design requirements and allowable stresses of the latest edition of the "AWS Structural Welding Code D1.1 and D1.3". R.G.B. manufacturing procedures are certified by:

Reference	Certification numbers
Houston	R.G.B. #456

MATERIALS	ASTM DESIGNATION	MIN. YIELD STRENGTH	MIN. TENSILE STRENGTH
Hot Rolled Steel Shapes (W, S, C & L)	A572/A529	Fy = 50 KSI	
Hot Rolled Steel Shapes (W)	A992	Fy = 50 KSI	
Round Structural Tubing (HSS)	A500	Fy = 42 KSI	
Square/Rect. Structural Tubing (HSS)	A500	Fy = 48 KSI	
Structural Steel Web Plate	A572/A1011	Fy = 55 KSI	
Structural Steel Flange Plates/Bars	A529/A572	Fy = 55 KSI	
Cold Formed Light Gage	A653/A1011	Fy = 55 KSI	
Roof and Wall Sheets	A792/A853	Fy = 50, 80 KSI	
Cable Braces	A476	Extra High Strength	
Red Brace	A36	Fy = 36 KSI	
Machine Bolts & Nuts	A307	Fu = 80 KSI	
High Strength Bolts (1" and less)	A325-TYPE 1	Fu = 120 KSI	
High Strength Bolts (>1" to 1 1/2")	A325-TYPE 1	Fu = 109 KSI	
Anchor Bolts (if supplied)	A36/A307/F1554 Gr.36	Fu = 58-80 KSI	

1.3 **PRIMER**
Shop primer paint is a rust inhibitive primer which meets the end performance of Federal Specification SSPC No. 15 and is R.G.B. Red or Gray Oxide color. This primer is not intended for long term exposure to the elements. R.G.B. is not responsible for any deterioration of the shop primer paint as a result of improper handling and/or jobsite storage. R.G.B. shall not be responsible for any field applied paint and/or coatings. (Section 6.5 AISC Code of Standard Practice, 14th Edition). Nominal thickness of primer will be 1 mil unless otherwise specified in contract documents.

1.4 **GALVANIZED OR SPECIAL COATINGS:**
See Contract Documents

1.5 **ALL BOLTS ARE 1/2" x 0'-1" A307 (snug-tightened) EXCEPT:**
a) Eave strut connection - 1/2" x 0'-1 1/4" A307 without washer (unless noted otherwise)
b) Endwall rafter splice - 5/8" x 0'-1 3/4" A325-N with washer
c) Endwall column to rafter connection - 1/2" x 0'-1 1/4" A325-N without washer
d) Main frame moment splice connections - A325-N with washer.
SEE CROSS SECTION for dimensions.
NOTE: One (01) washer is supplied on main frame moment splice and to A325 bolts unless noted otherwise on drawing

1.6 **A325 BOLT TIGHTENING REQUIREMENTS**
All high strength bolts are A325-N unless specifically noted otherwise. Structural bolts shall be tightened by the nut or calibrated wrench methods in accordance with the 14th Edition AISC/RCS "Specification For Structural Joints using ASTM A325 or A490 Bolts". Washers are supplied separately from High Strength Bolts, however, assembly with washers are required before erection. Installation inspection is recommended and be based on Section 9.1 and 9.2 of AISC/RCS.
Snug-tight is permitted EXCEPT for the following conditions:
a) Building located in high seismic areas; Seismic Design Categories D, E, F
b) Building supporting cranes
c) Building supporting machinery that creates vibration, impact or stress reversal
d) Connections using ASTM A490
e) Connections using slip-critical condition
f) or as prohibited in the contracts/specifications

1.7 **CLOSURE STRIPS ARE FURNISHED FOR APPLICATION:**
INSIDE - Under roof panels at eave
OUTSIDE - Between endwall panels and rake trim
- Under continuous ridge vent skirts

1.8 **ERECTION NOTE:**
All bracing, strapping, & bridging shown and provided by R.G.B. for this building is required and shall be installed by the erector as a permanent part of the structure. If additional bracing is required for stability during erection, it shall be the erector's responsibility to determine the amount of such bracing and to procure and install as needed.

1.9 **ERECTION AND UNLOADING NOT BY R.G.B.**

1.10 **SHORTAGES**
Any claims or shortages by buyer must be made to R.G.B. within five (5) working days after delivery, or such claims will be considered to have been waived by the customer and disallowed.

1.11 **CORRECTIONS OF ERRORS AND REPAIRS (MBMA 6.10)**
Claims for correction of alleged misfits will be disallowed unless R.G.B. shall have received prior notice thereof and allowed reasonable inspection of such misfits. The correction of minor misfits by the use of drift pins to draw the components into line, moderate amounts of reaming, chipping and cutting, and the replacement of minor shortages of material are a normal part of erection and are not subject to claim. No part of the Building may be returned for alleged misfits without the prior approval of R.G.B.

BUYER/END USE CUSTOMER RESPONSIBILITIES

- 2.1 It is the responsibility of the BUYER/END USE CUSTOMER to obtain appropriate approvals and secure necessary permits from City, County, State, or Federal Agencies as required, and to advise/release R.G.B. to fabricate upon receiving such.
- 2.2 Rigid Global Buildings (hereafter referred to as R.G.B.) standard specifications apply unless stipulated otherwise in the Contract Documents. R.G.B. design, fabrication, quality criteria, standards, practices, methods and tolerances shall govern the work with any other interpretations to the contrary notwithstanding. It is understood by both Parties that the BUYER/END USE CUSTOMER is responsible for clarification of Inclusions or exclusions from the architectural plans and/or specifications.
- 2.3 In case of discrepancies between R.G.B. structural steel plans and plans for other trades, R.G.B. plans shall govern. (Section 3 AISC Code of Standard Practices, 14th Edition)
- 2.4 Approval of R.G.B. drawings and calculations indicates that R.G.B. has correctly interpreted and applied the Contract Documents. This approval constitutes the contractor's acceptance of the R.G.B. design concepts, assumptions, and loading. (Section 4 AISC Code 14th Edition and MBMA 3.3.3)
- 2.5 Once the BUYER/END USE CUSTOMER has signed R.G.B. Approval Package and the project is released for fabrication, changes shall be billed to the BUYER/END USE CUSTOMER including material, engineering and other costs. An additional fee may be charged if the project must be moved from the fabrication and shipping schedule.



DRAWING PACKAGE

SALES NO.	65915	JOB NO.	142272	BUILDING	A
CUSTOMER	BLACK FOREST LLC				
END USER	BLACK FOREST LLC				
END USE	BARN				
STREET	12740 BLACK FORREST RD.				
CITY ST ZIP	COLORADO SPRINGS, CO 80908				
COUNTY	EL PASO				

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING AS INDICATED:

DESIGN LOADS:

Design Code	:	IBC 15
Dead Load (psf)	:	Metal building structure only by RGB
Collateral Load (psf)	:	4 (SEE NOTES)
Wind Load		
Ultimate Design Wind Speed	:	Vult (3 sec. gust) = 130 mph
Nominal Design Wind Speed	:	Vasd (3 sec. gust) = 100.700
Risk Category	:	II - Normal
Wind Exposure	:	C
Internal Pressure Coefficient, GCPI	:	0.180 / -0.180
Design Wind Pressure For Wall	:	Based on Nominal Design Wind Speed
Components Wind Pressure (psf)	:	+ 20.34
Components Wind Suction (psf)	:	- 22.38
Claddings Wind Pressure (psf)	:	+ 23.94
Claddings Wind Suction (psf)	:	- 25.92
Enclosure	:	Closed
Live Load		
Primary Framing (psf)	:	20.00
Trib. Area Reduction	:	No
Secondary Framing (psf)	:	20.00
Snow Load		
Ground Snow Load, Pg (psf)	:	57.000
Roof Snow Load, Pf (psf)	:	40
Sloped Roof Snow Load, Ps (psf)	:	40
Snow Exposure Factor, Ce	:	1.000
Snow Importance Factor, Is	:	1.000
Thermal Factor, Ct	:	1.000
Sloped Factor, Cs	:	1.000
Seismic Load		
Seismic Importance Factor, Ie	:	1.00
Seismic Occupancy Category	:	II - Normal
Site Class	:	D
Mapped Spectral Response Acceleration	:	Ss = 0.185 :S1 = 0.059
Spectral Response Coefficients	:	Sds = 0.197 :Sd1 = 0.094
Seismic Design Category	:	B
Basic Force Resisting Systems Used	:	Steel System Not Specifically Detailed For Seismic Resistance
	:	Rigid Frames
	:	Braced Frames
Total Design Base Shear, V (kips)	:	8.18
Response Modification Factors, R	:	3.00
Seismic Response Coefficient, Cs	:	0.066
Analysis Procedure Used	:	Equivalent Lateral Force Procedure
Rainfall Intensity (in/hr)	:	4.000
Other Loads/Requirements		

BUILDING DESCRIPTION:

Width (ft)	:	50
Length (ft)	:	65
Eave Ht. at BSW (ft)	:	12
Eave Ht. at FSW (ft)	:	12
Roof Slope at BSW	:	24.0:12
Roof Slope at FSW	:	24.0:12
Bay Spacing (ft)	:	1 at 25 2 at 20
COVERING AND TRIMS:		
Roof Panels & Trims		
Panel Type	:	24 Ga. PT (16")
Panel Color	:	S3000 Standard
Trim Colors		
Eave Trim	:	S2000 Standard
Eave Gutter	:	N/A
Gable Trim	:	S3000 Standard
Wall Panel & Trims		
Panel Type	:	BY OTHERS
Panel Color	:	BY OTHERS
Trim Colors		
Corner Trims	:	BY OTHERS
Opening Trims	:	BY OTHERS
Downspouts	:	N/A
Base Trim	:	N/A
Mas. Flash	:	N/A
Special Requirements	:	NONE

DESIGN and DETAIL REQUIREMENTS: MEZZANINE INFORMATION

SIZE	=	25' x 50' WITH LANDING
DEAD	=	10 PSF
FLOOR LIVE	=	125 PSF
TOP OF PLYWOOD DECK	=	13'-6"
FLOOR LIVE	=	125 PSF
	:	4 PSF COLLATERAL LOAD FOR SOLAR PANELS (IF ANY), MECHANICAL DUCTS (IF ANY), AND LIGHTINGS, NO CEILINGS / SPRINGERS / OTHER MECHANICAL MECHANICAL LOADS / ETC.
	:	ASSUMED WEIGHT OF METAL ROOF LINER PANEL BY OTHERS TO BE 1.5 PSF OF LESS.
	:	24 Ga. PLATINUM - 16" ROOF WITH QUAD-LOK ROOF SYSTEM.

FOR PERMIT

2.6 The BUYER/END USE CUSTOMER is responsible for overall project coordination. All interface, compatibility, and design considerations concerning any materials not furnished by R.G.B. and R.G.B. steel system are to be considered and coordinated by the BUYER/END USE CUSTOMER. Specific design criteria concerning this interface between materials must be furnished before release for fabrication or R.G.B. assumptions will govern (Section 4 and Commentary, AISC Code of Standard Practice, 14th Edition)

2.7 It is the responsibility of the BUYER/END USE CUSTOMER to ensure that R.G.B. plans comply with the applicable requirements of any governing building authorities. The supplying of sealed engineering data and drawings for the metal building system does not imply or constitute an agreement that R.G.B. or its design engineers are acting as the engineer of record for the construction project. These drawings are only to certify the design of the structural components furnished by R.G.B.

2.8 The BUYER/END USE CUSTOMER is responsible for setting of anchor bolts and location of steel in accordance with R.G.B. "For Construction" drawings only. Temporary supports such as guys, braces, falsework, cribbing or other elements required for the erection operation shall be determined furnished and installed by the erector. No items should be purchased from a preliminary set of drawings, including anchor bolts. Use only final "FOR CONSTRUCTION DRAWINGS" for this use. (Section 7 AISC Code of Standard Practice, 14th Edition.)

2.9 Rigid Global Buildings is responsible for the design of the anchor bolt to permit the transfer of forces between the base plate and the anchor bolt in shear, bearing and tension, but is not responsible for the transfer of anchor bolt forces to the concrete, anchor bolt embedment or the adequacy of the anchor bolt in relation to the concrete. Unless otherwise provided in the Order Documents, R.G.B. does not design and is not responsible for the design, material and construction of the foundation or foundation embedments. The END USE CUSTOMER should assure himself that adequate provisions are made in the foundation design for loads imposed by column reactions of the building, other imposed loads, and bearing capacity of the soil and other conditions of the building site. It is recommended that the anchorage/anchor bolt embedment and foundation of the building be designed by a Registered Professional Engineer experienced in the design of such structures. (Chapter IV Section 3.2.2 Metal Building Systems Manual 2012 Edition)

2.10 Normal erection operations include the corrections of minor misfits by moderate amounts of reaming, chipping, welding or cutting, and the drawing of elements into line through the use of drift pins. Errors which cannot be corrected by the foregoing means or which require major changes in member configuration are to be reported immediately to R.G.B. by the BUYER/END USE CUSTOMER, to enable whoever is responsible either to correct the error or to approve the most efficient and economic method of correction to be used by others. (Section 7 AISC Code of Standard Practice, 14th Edition)

2.11 Neither the fabricator nor the BUYER/END USE CUSTOMER will cut, drill or otherwise alter his work, or the work of other trades, to accommodate other trades, unless such work is clearly specified in the contract documents. Whenever such work is specified, the BUYER/END USE CUSTOMER is responsible for furnishing complete information as to materials, size, location and number of alterations prior to preparation of shop drawings. (Section 7 AISC Code of Standard Practice, 14th Edition)

2.12 **WARNING:** In no case should Galvalume steel panels be used in conjunction with lead or copper. Both lead and copper have harmful corrosive effects on the Galvalume alloy coating when they are in contact with Galvalume steel panels. Even run-off from copper flashing, wiring, or tubing onto Galvalume should be avoided.

2.13 **SAFETY COMMITMENT:** Rigid Global Buildings has a commitment to manufacture quality building components that can be safely erected. However, the safety commitment and job site practices of the erector are beyond the control of R.G.B. It is strongly recommended that safe working conditions and accident prevention practices be the top priority of any job site. Local, State, and Federal safety and health standards should always be followed to help insure workers safety. Make certain all employees know the safest and most productive way of erecting a building. Emergency procedures should be known to all employees. Daily meetings highlighting safety procedures are also recommended. The use of hard hats, rubber sole shoes for roof work, proper equipment for handling material, and safety nets where applicable, are recommended.

2.14 Roof drainage systems (gutter, downspouts, etc.) must be free of any obstruction to ensure smooth operation at any given time.

2.15 It is recommended by Factory Mutual (Reference: B2.44) that roofs be cleared of snow when half of the maximum snow depth is reached. The maximum snow depth can be estimated based on the design snow load and the density of snow and/or ice buildup. See Chart below.

ROOF SNOW LOAD (IN PSF)	EQUIVALENT SNOW HEIGHT AT ROOF (IN INCHES)	RECOMMENDED SNOW HEIGHT WHEN SNOW REMOVAL SHOULD START (IN INCHES)
20	16.60	8.30
30	17.90	8.95
40	19.20	9.60
50	20.50	10.25
60	21.80	10.90
70	23.10	11.55
80	24.40	12.20

NOTE:
For Snow/Ice Removal Procedure, Refer to Metal Building System Manual 2012 Edition, Section A8.4, Page A-59

SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT RIGID GLOBAL ENGINEER IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEM AS FURNISHED BY RIGID IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN RIGID ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED.



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Before erecting your building, please see the Rigid Erection & Safety Manual at rigidbuilding.com/document-library

UNLOADING, HANDLING AND STORING OF MATERIALS

STRUCTURAL

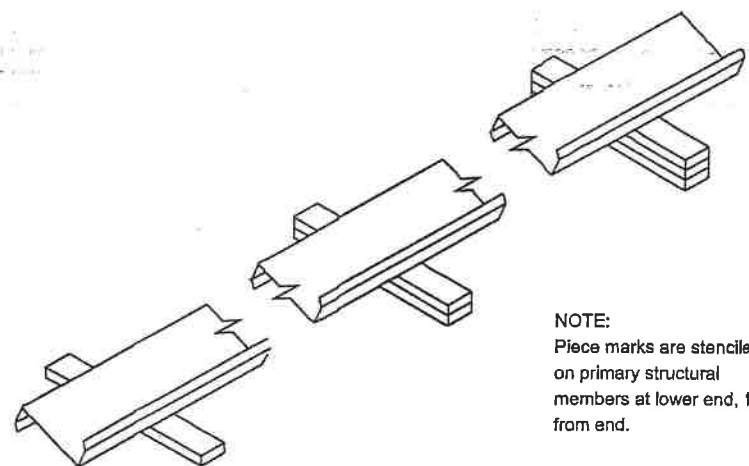
A great amount of time and trouble can be saved if the building site is according to a pre-arranged plan. Proper location and handling of components will eliminate unnecessary handling.

Inspect all shipments prior to releasing the tie-downs for loads that may have shifted during transit, **REMEMBER, SAFETY FIRST!**

Blocking under the columns and rafters protects the splice plates and the slab from damage during the unloading process. It also facilitates the placing of slings or cables around the members for later lifting and allows members to be bolted together into sub-assemblies while on the ground. Extra care should always be exercised in the unloading operations to prevent injuries from handling the steel and to prevent damage to materials and the concrete slabs.

If water is allowed to remain for extended periods in bundles of primed parts such as girts, purlins etc., the pigment will fade and the paint will gradually soften, reducing the bond to the steel. Therefore, upon receipt of a job, all bundles of primed parts should be stored at an angle to allow any trapped water to drain away and permit air circulation for drying. Puddles of water should not be allowed to collect and remain on columns, rafters or beams for the same reason.

All Primer should be touched up as required before erection!



WALLS AND ROOF PANELS

RIGID's wall and roof panels including color coated, galvalume and galvanized, provide excellent service under widely varied conditions. All unloading and erection personnel should fully understand that these panels are quality merchandise which merit cautious care in handling.

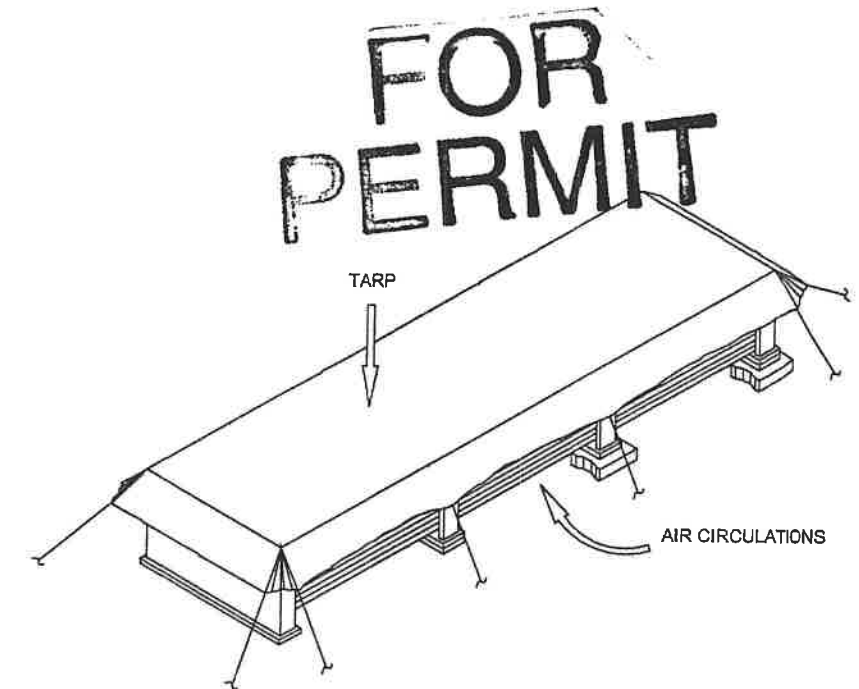
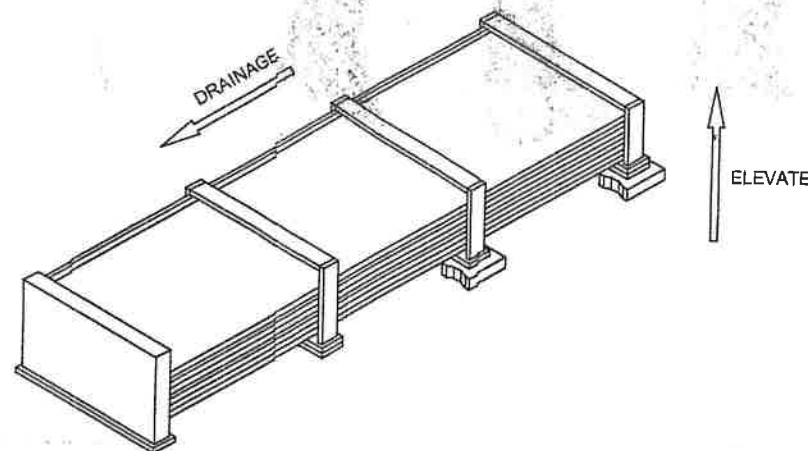
Under no circumstances should panels be handled roughly. Packages of sheets should be lifted off the truck with extreme care taken to insure that no damage occurs to ends of the sheets or to side ribs. The packages should be stored off the ground sufficiently high to allow air circulation underneath the packages. This avoids ground moisture and deters people from walking on the packages. One end of the package should always be elevated to encourage drainage in case of rain.

All stacked metal panels are subject, to some degree, to localized discoloration or stain when water is trapped between their closely nested surfaces. RIGID exercises extreme caution during fabricating and shipping operations to insure that all panel stock is kept dry. However, due to climatic conditions, water formed by condensation of humid air can be trapped between stacked sheets. Water can also be trapped between stacked sheets when exposed to rain. This discoloration caused by trapped moisture is often called wet storage stain.

The stain is usually superficial and has little effect on the appearance or service life of the panels as long as it is not permitted to remain on the panels. However, moisture in contact with the surface of the panels over an extended period can severely attack the finish and reduce the effective service life. Therefore, it is imperative that all panels be inspected for moisture upon receipt of the order. If moisture is present, dry the panels at once and store in a dry, warm place.

CAUTION: Care should always be taken when walking on panels. Use safety lines and nets when necessary! Panels are slippery. Oil or wax applied to the roof and wall panels for protection against weather damage will make them a very slippery surface. Wipe dry any oil that has puddled from bundles stored on a slope. Dew, frost, or other forms of moisture greatly increase the slipperiness of the panels. Always assume panel surface is slippery and act accordingly. Think safety!!

Use wood blocking to elevate and slope the panels in a manner that will allow moisture to drain. Wood blocking placed between bundles will provide additional air circulation. Cover the stacked bundles with a tarp or plastic cover leaving enough opening at the bottom for air to circulate.



When handling or uncrating the panels, lift, rather than slide, them apart. Burred edges may scratch the coated surfaces when sheets are slid over one another. Never allow panels to be walked on while on the ground.

Rough and improper handling of a panel is inexcusable and a prime example of poor job supervision.

NOTE:

Use gloves when handling metal panels to prevent hand injuries. Be aware, of the dangers of handling panels on a windy day. A large panel can catch enough wind to knock a worker off his feet, even at ground level!! **Safety first!!**

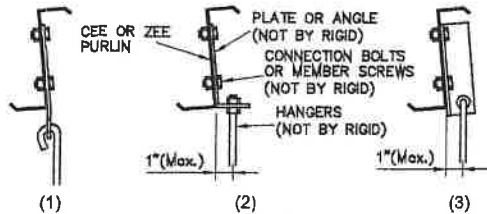
GENERAL NOTE:

1. OIL CANNING OF PANELS IS NOT A CAUSE OF REJECTION.
2. EXTREME CARE MUST BE EXERCISED DURING THE ERECTION OF ROOF PANELS AND TRIMS. FOOT TRAFFIC MAY RESULT IN PERMANENT PANEL DISTORTION AND FINISH ABRASION.

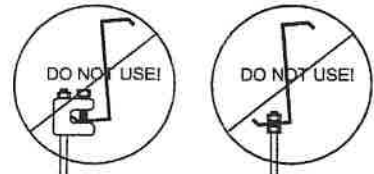
SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT RIGID GLOBAL ENGINEER IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEM AS FURNISHED BY RIGID IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN RIGID ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED.

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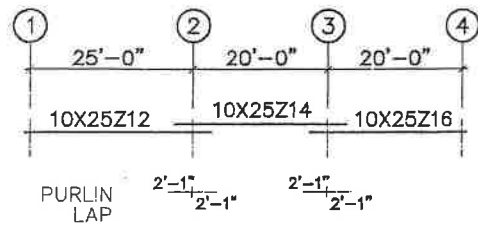
HANGERS ON CEE OR ZEE PURLINS MUST ATTACH TO THE WEB ONLY. HANGERS MUST BE LOCATED SO THAT THE SUPPORTED LOAD DOES NOT EXCEED THAT SPECIFIED IN THE CONTRACT DOCUMENTS. SUGGESTED DETAILS ARE AS SHOWN ABOVE.



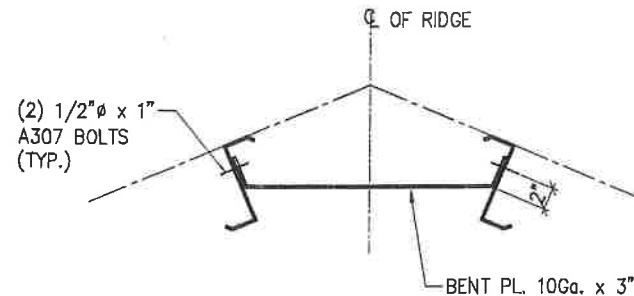
DO NOT USE C-CLAMPS OR ANY OTHER HANGER ATTACHED TO THE FLANGE OF THE PURLIN. IT REDUCES THE CAPACITY OF THE PURLIN AND PRODUCE SECONDARY STRESSES.

1 TYP. COLLATERAL LOAD CONNECTION DETAIL

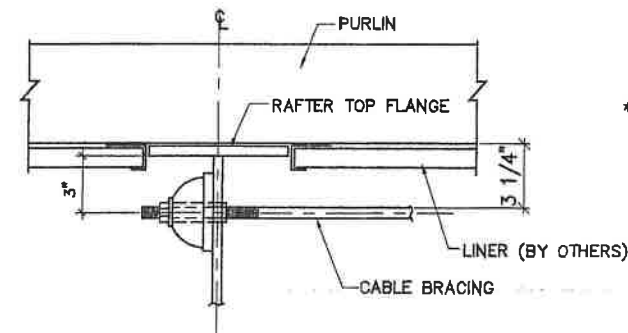
SF38



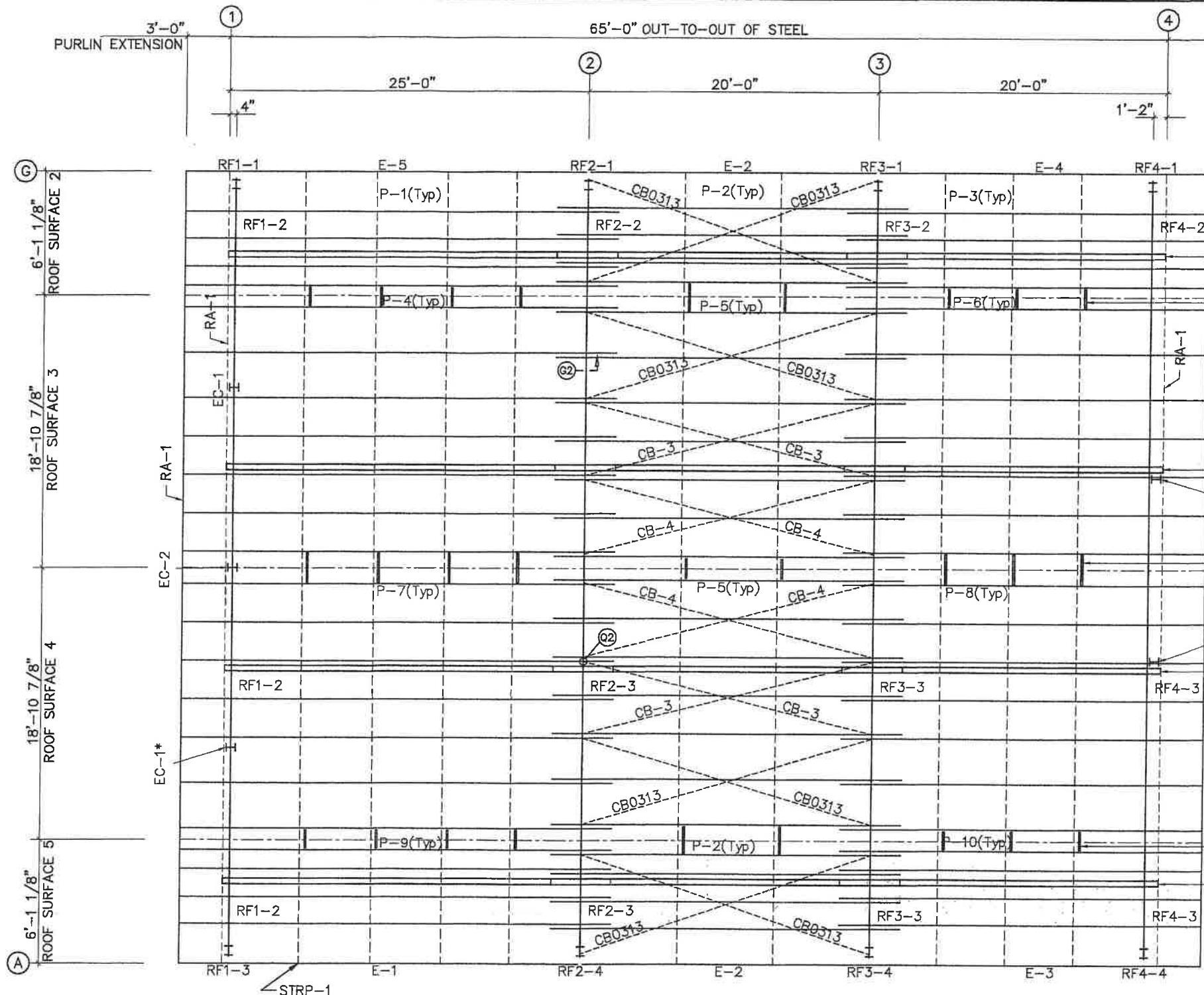
DETAIL "A"
HORIZONTAL PURLIN SIZES



TYPICAL RIDGE TIE DETAIL



CABLE BRACING TO RAFTER DETAIL



ROOF FRAMING PLAN

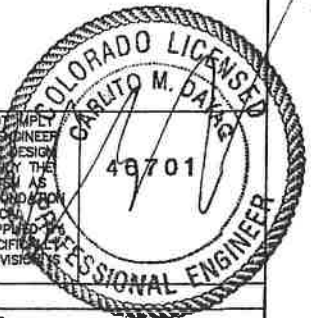
** SEE SH. E-13 TO E-16 FOR CONNECTION DETAILS.

(4) 1/2" x 1" A307 BOLTS @ EACH PURLIN CLIP

MEMBER TABLE	
ROOF PLAN	
MARK	PART
P-1	10x25Z14
P-2	10x25Z14
P-3	10x25Z16
P-4	10x25Z12
P-5	10x25Z14
P-6	10x25Z14
P-7	10x25Z12
P-8	10x25Z14
P-9	10x25Z14
P-10	10x25Z16
E-1	L10ES12
E-2	L10ES12
E-3	L10ES12
E-4	L10ES12
E-5	L10ES12
CB-1	CB0250
CB-2	CB0250
CB-3	CB0250
CB-4	CB0250
CB-5	CB0250

FOR PERMIT

HORIZONTAL PURLIN (REFER DETAIL "A")
RIDGE-TIES (TYP.)
HORIZONTAL PURLIN (REFER DETAIL "A")
RIDGE-TIES (TYP.)
HORIZONTAL PURLIN (REFER DETAIL "A")
RIDGE-TIES (TYP.)

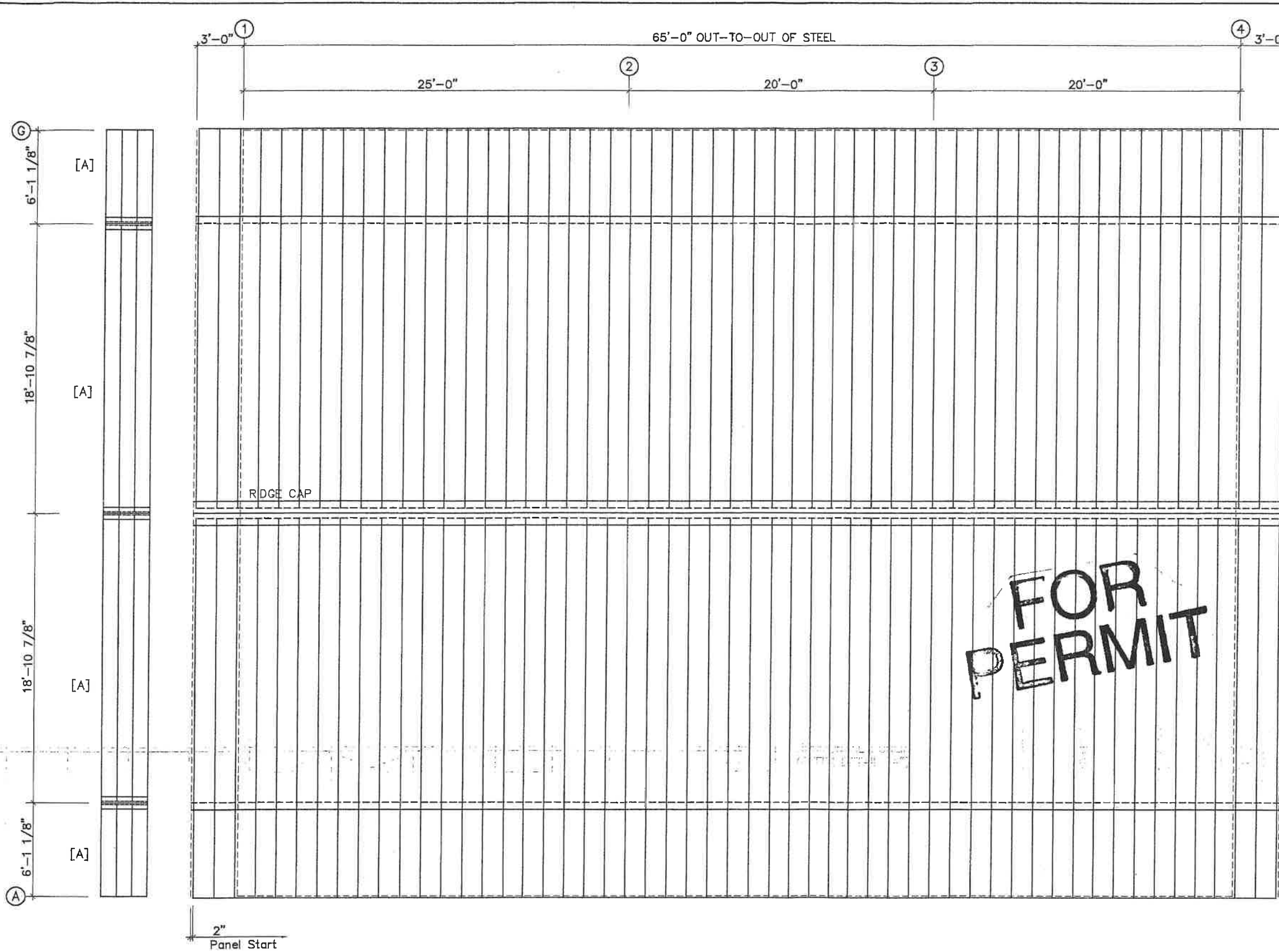


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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12-08-19	GCC	RCR	JEM
B	APPROVAL/PERMIT	01-28-20	GCC	RCR	JEM



DESCRIPTION	ROOF FRAMING
CUSTOMER	BLACK FOREST LLC
END USER	BLACK FOREST LLC
END USE	BARN
STREET	12740 BLACK FORREST RD.
CITY ST ZIP	COLORADO SPRINGS, CO 80908

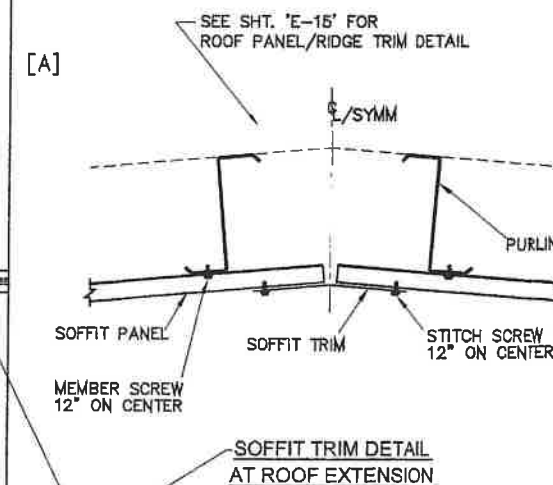


IMPORTANT NOTES:

1. OIL CANNING OF PANELS IS NOT A CAUSE OF REJECTION.
2. EXTREME CARE MUST BE EXERCISED DURING ERECTION OF ROOF PANELS AND TRIMS. FOOT TRAFFIC MAY RESULT IN PERMANENT PANEL DISTORTION AND FINISH ABRASION.

ERECTOR'S NOTE

1. INSTALLER OF STANDING SEAM ROOF PANEL MUST STUDY THE INSTALLATION MANUALS PRIOR TO INSTALLATION. MANUALS ARE PROVIDED WITH THE MATERIALS SHIPMENT BUT CAN BE REQUESTED OR DOWNLOADED FROM THE RIGID GLOBAL BUILDINGS WEBSITE AT www.rigidbuilding.com
2. FAILURE TO INSTALL THE ROOF SHEETS IN ACCORDANCE WITH THE SHEETING DIRECTIONAL ARROWS SHOWN ON THESE PLANS MAY RESULT IN IMPROPER FIT-UP OF THE OUTSIDE CLOSURES (END DAMS) AND POSSIBLY OTHER TRIM COMPONENTS WHICH COULD AFFECT THE OVERALL APPEARANCE AND WEATHER TIGHTNESS OF THE BUILDING. RIGID WILL NOT BE HELD RESPONSIBLE FOR THE CHARGES OR ADDITIONAL FIELD WORK DUE TO NOT FOLLOWING SHEETING DIRECTIONAL ARROWS AND OTHER PROCEDURES OUTLINED IN THE ERECTION MANUAL.
3. IN THE EVENT THAT A DISCREPANCY OR ERROR ARISES WITH MATERIALS SHIPPED FOR THIS PROJECT OR ON THESE ERECTION DRAWINGS, THE ERECTOR/INSTALLER MUST NOTIFY RIGID PRIOR TO CORRECTING. IF RIGID IS NOT NOTIFIED, RIGID WILL NOT HONOR BACKCHARGES BY ANY PARTY INVOLVED.
4. MEMBER SCREW AND STITCH SCREW PATTERNS AND LOCATIONS SHALL BE IN ACCORDANCE WITH ROOF AND WALL DETAILS SHOWN ON DWG.# E-15 & E-16.
5. RIGID SUPPLIES 6% OVERAGE FOR SCREWS AND ANY CLAIM ON SHORTAGE BECAUSE OF NON-COMPLIANCE WITH THE DRAWINGS SHALL NOT BE RIGID'S RESPONSIBILITY.



FOR PERMIT

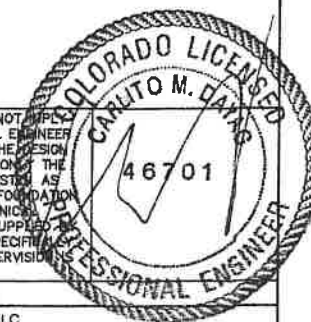
ROOF SHEETING PLAN

PANELS: 24 Ga. PLATINUM-16", STRIATED - S3000 Standard

[A] SOFFIT PANELS: 24 Ga. RFP - S3000

NOTE:
... ROOF-INSULATION ARE 'BY OTHERS'

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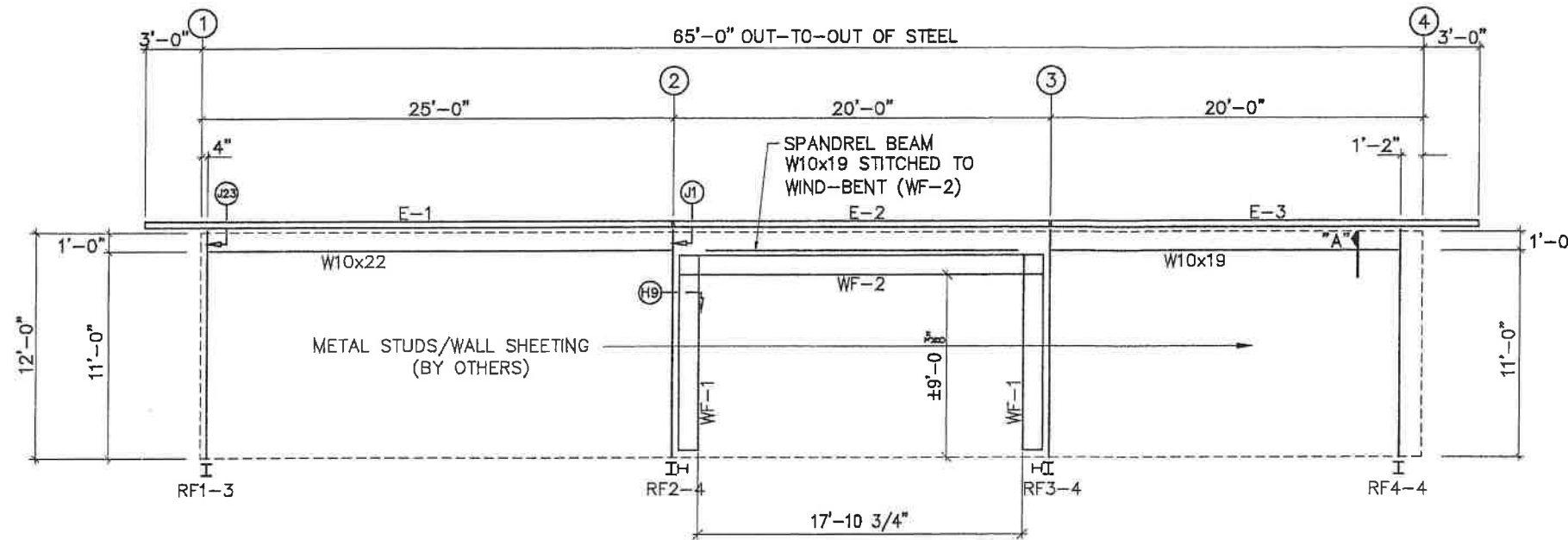
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
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B	APPROVAL/PERMIT	01-28-20	GCC	RCR	JEM



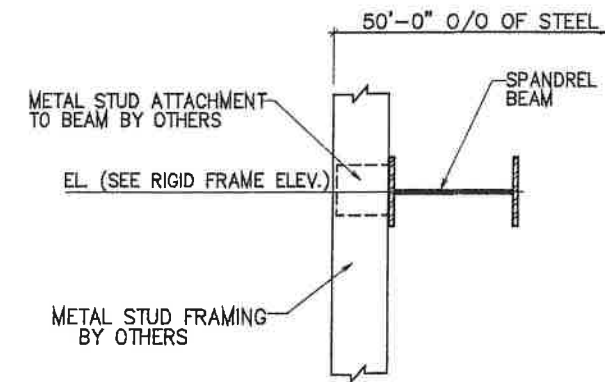
DESCRIPTION	ROOF SHEETING
CUSTOMER	BLACK FOREST LLC
END USER	BLACK FOREST LLC
END USE	BARN
BUILDING	A
STREET	12740 BLACK FORREST RD.
CITY ST ZIP	COLORADO SPRINGS, CO 80908

BOLT TABLE				
FRAME LINE A				
LOCATION	QUAN	TYPE	DIA	LENGTH
WF-1 - WF-2	8	A325	5/8"	2"
WF-1 - RF2-4	6	A325	5/8"	1 1/2"
WF-1 - RF3-4	6	A325	5/8"	1 1/2"

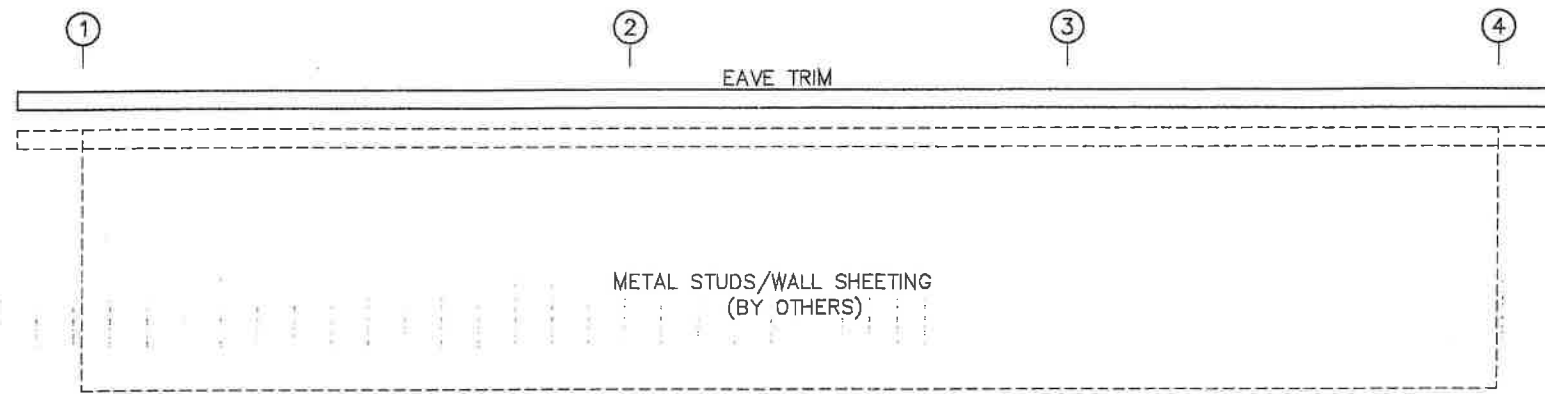
MEMBER TABLE	
FRAME LINE A	
MARK	PART
WF-1	W12642
WF-2	W12642
E-1	L10ES12
E-2	L10ES12
E-3	L10ES12



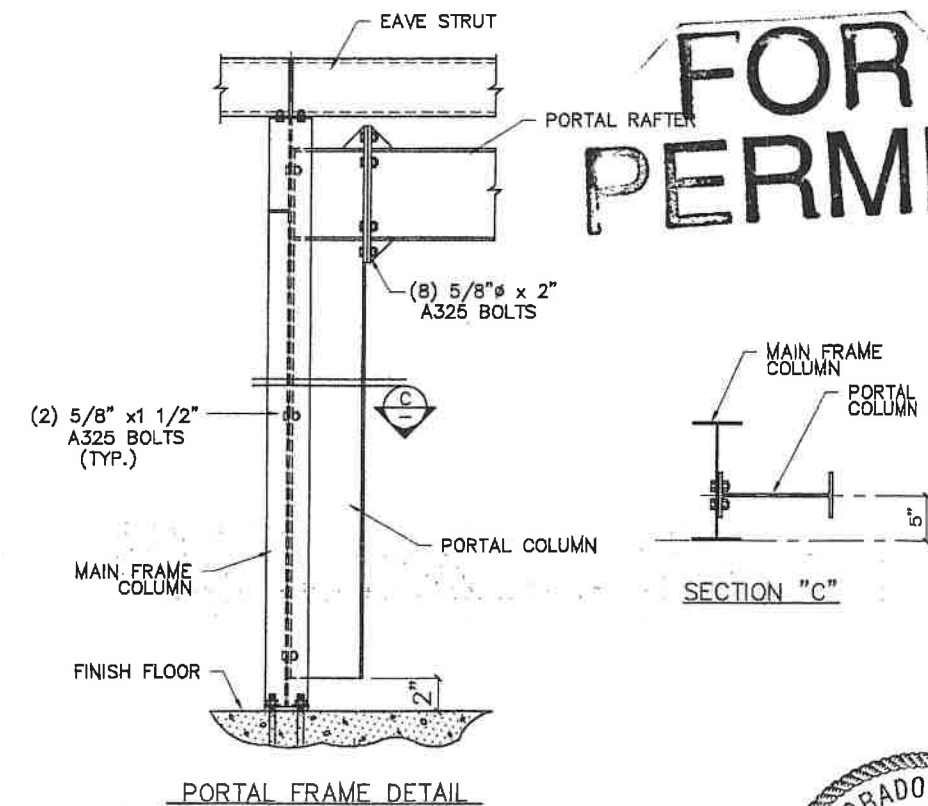
SIDEWALL FRAMING: FRAME LINE A



(A) STUD WALL FRAMING TO SPANDREL BEAM CONNECTION DETAIL

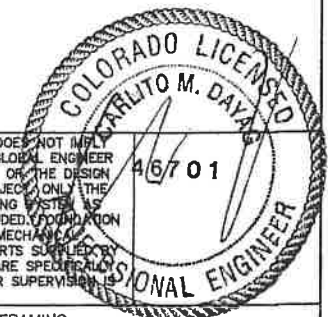


SIDEWALL SHEETING & TRIM: FRAME LINE A



PORTAL FRAME DETAIL

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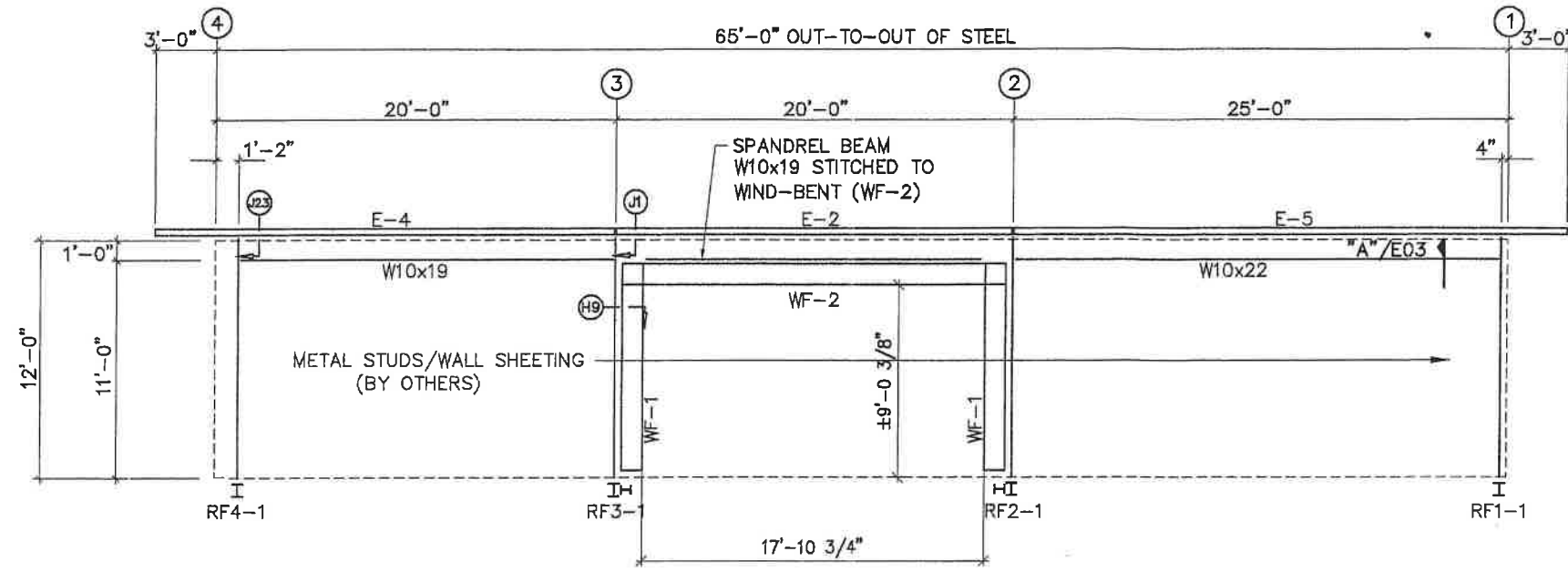
ISSUE	DESCRIPTION	DATE	DRN	CHK	DES.
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B	APPROVAL/PERMIT	01/28/20	GCC	RCR	JEM



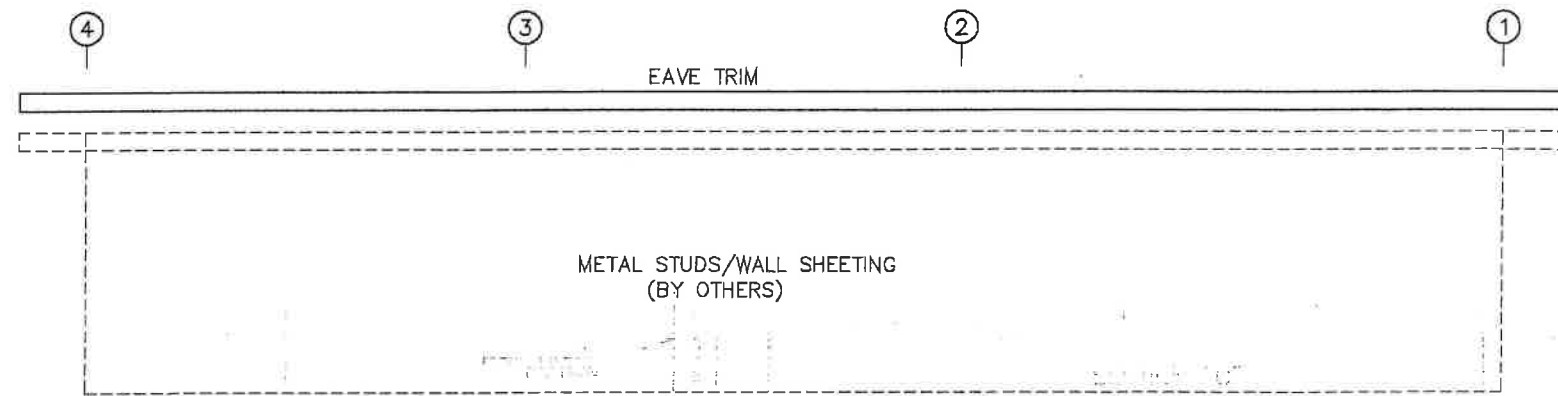
DESCRIPTION	SIDEWALL FRAMING
CUSTOMER	BLACK FOREST LLC
END USER	BLACK FOREST LLC
END USE	BARN
STREET	12740 BLACK FORREST RD.
CITY ST ZIP	COLORADO SPRINGS, CO 80908

BOLT TABLE				
FRAME LINE G				
LOCATION	QUAN	TYPE	DIA	LENGTH
WF-1 - WF-2	8	A325	5/8"	2"
WF-1 - RF3-1	6	A325	5/8"	1 1/2"
WF-1 - RF2-1	6	A325	5/8"	1 1/2"

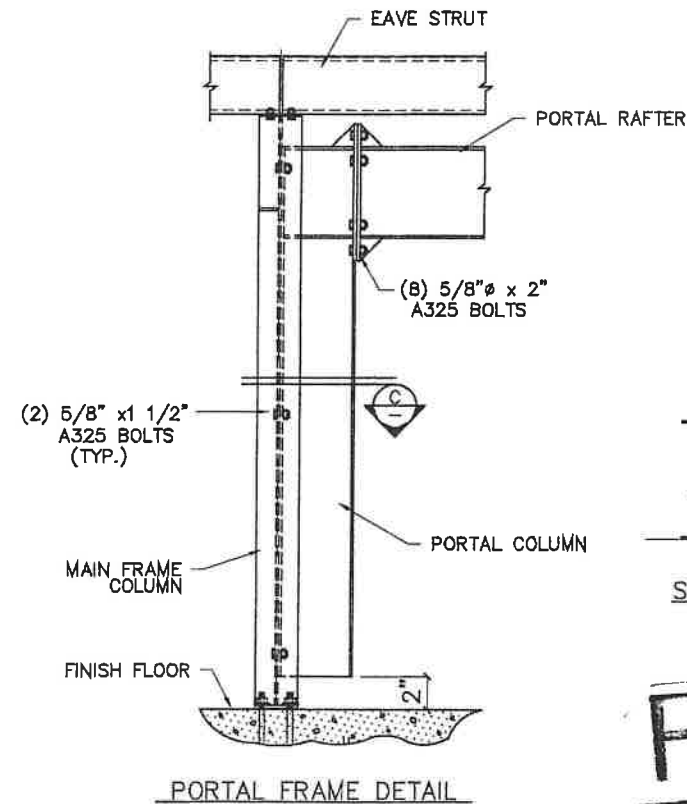
MEMBER TABLE	
FRAME LINE G	
MARK	PART
WF-1	W12642
WF-2	W12642
E-2	L10ES12
E-4	L10ES12
E-5	L10ES12



SIDEWALL FRAMING: FRAME LINE G



SIDEWALL SHEETING & TRIM: FRAME LINE G



PORTAL FRAME DETAIL

FOR PERMIT

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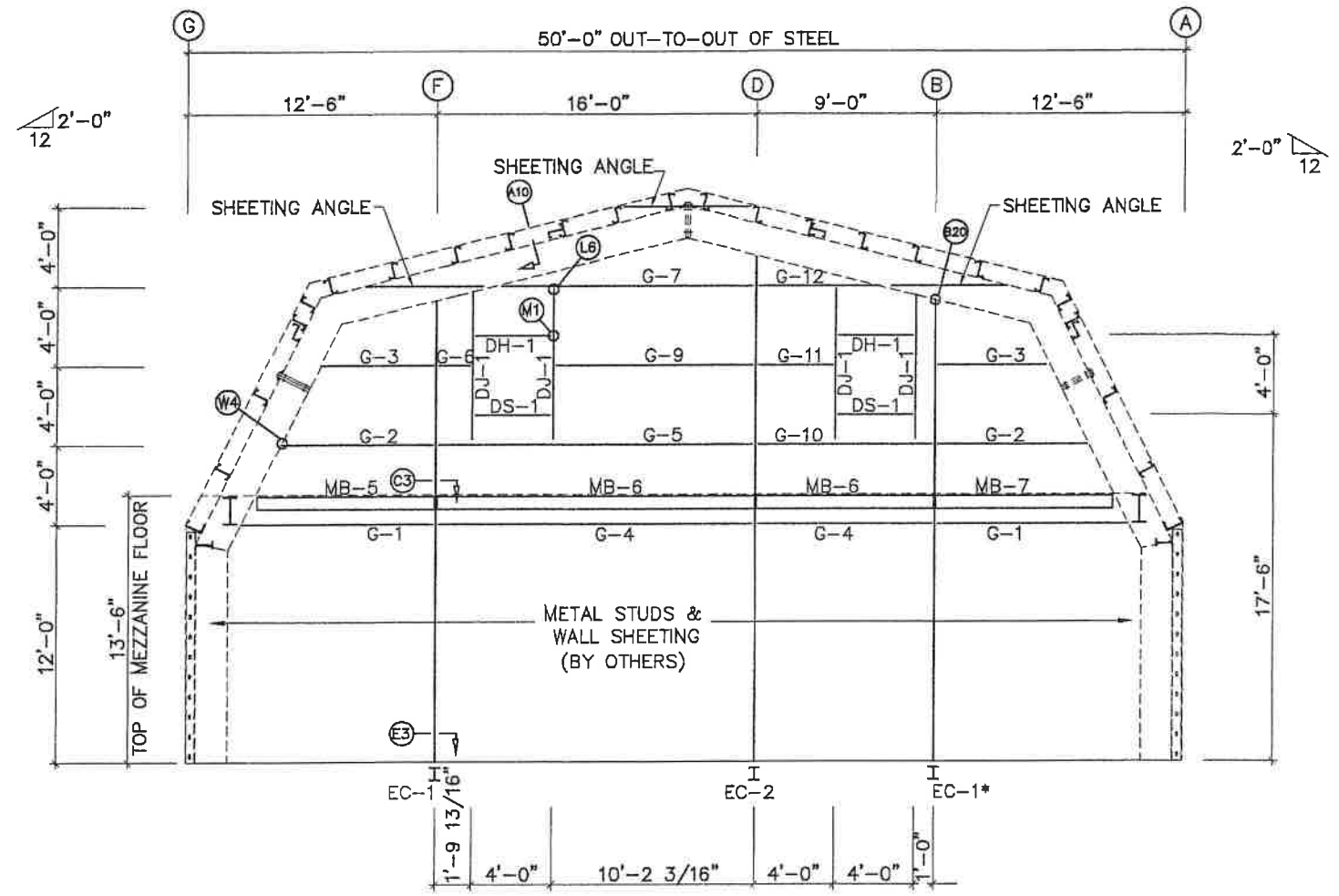
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/06/19	GGC	RCR	JEM
B	APPROVAL/PERMIT	01/28/20	GGC	RCR	JEM



DESCRIPTION	SIDEWALL FRAMING		
CUSTOMER	BLACK FOREST LLC		
END USER	BLACK FOREST LLC		
END USE	BARN	BUILDING	A
STREET	12740 BLACK FORREST RD.		
CITY ST ZIP	COLORADO SPRINGS, CO 80908		

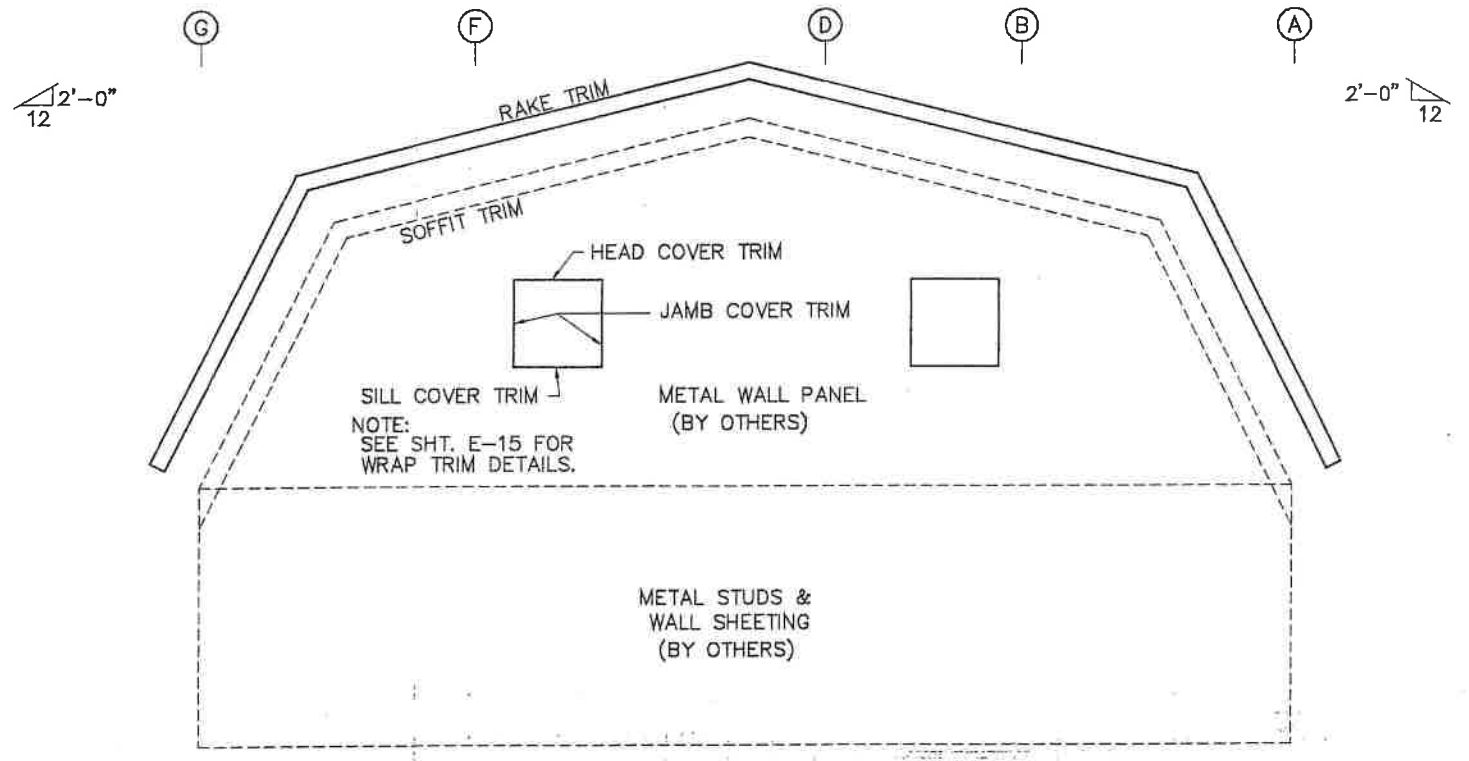
BOLT TABLE		
FRAME LINE 1		
LOCATION	QUAN	TYPE DIA LENGTH
Columns/Raf	4	A325 5/8" 1"

MEMBER TABLE	
FRAME LINE 1	
MARK	PART
EC-1	W08642
EC-2	W08642
EC-1*	W08642
DJ-1	8x25C16
DH-1	8x25C16
DS-1	8x25C16
G-1	8x25C16
G-2	8x25Z16
G-3	8x25Z16
G-4	8x25C16
G-5	8x35Z16
G-6	8x25Z16
G-7	8x35Z16
G-8	8x25Z16
G-9	8x25Z16
G-10	8x25Z16
G-11	8x25Z16
G-12	8x25Z16
MB-5	8x35xC12
MB-6	8x35xC12
MB-7	8x35xC12



ENDWALL FRAMING: FRAME LINE 1

FOR PERMIT



ENDWALL SHEETING & TRIM: FRAME LINE 1



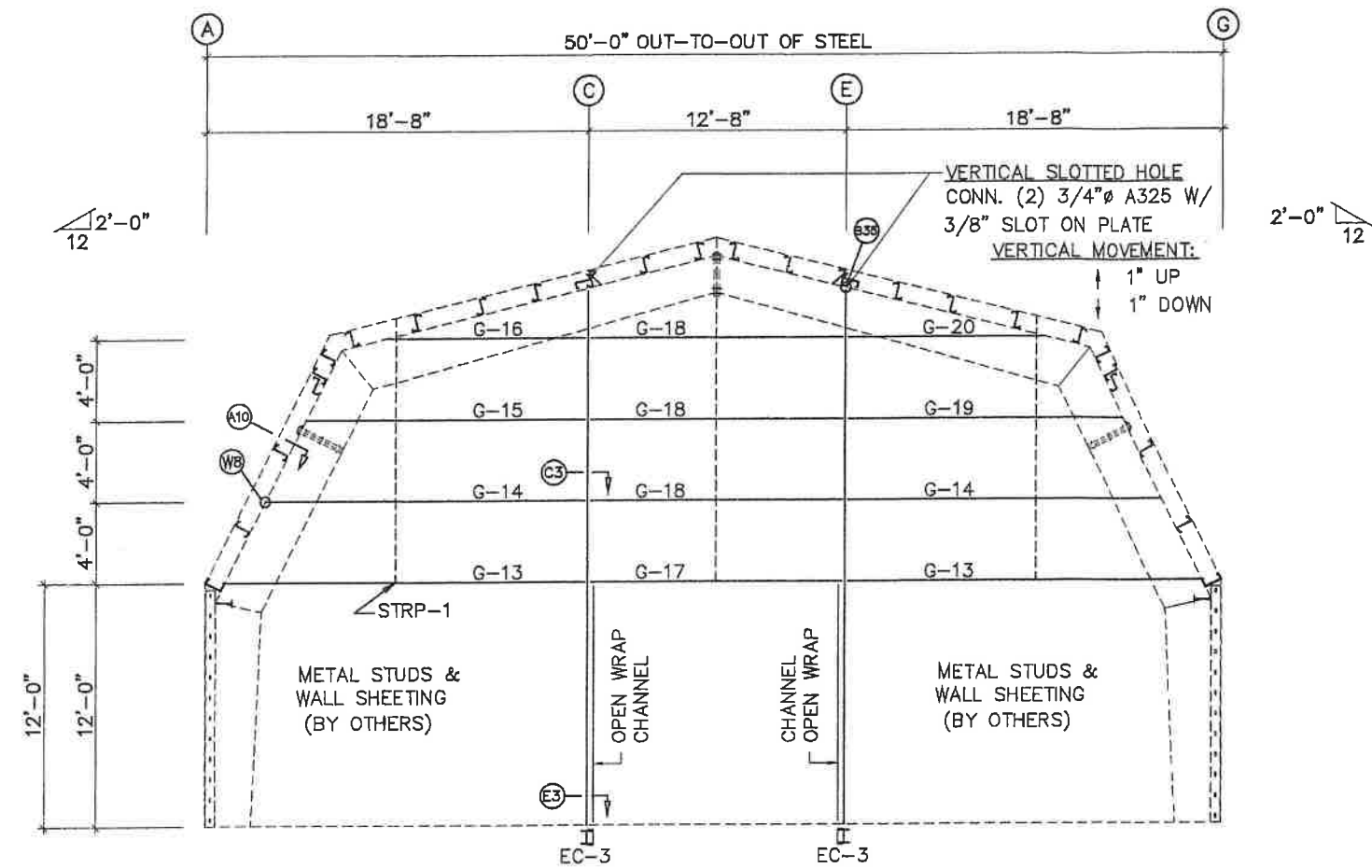
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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/06/19	GGC	RCR	JEM
B	APPROVAL/PERMIT	01/28/20	GGC	RCR	JEM

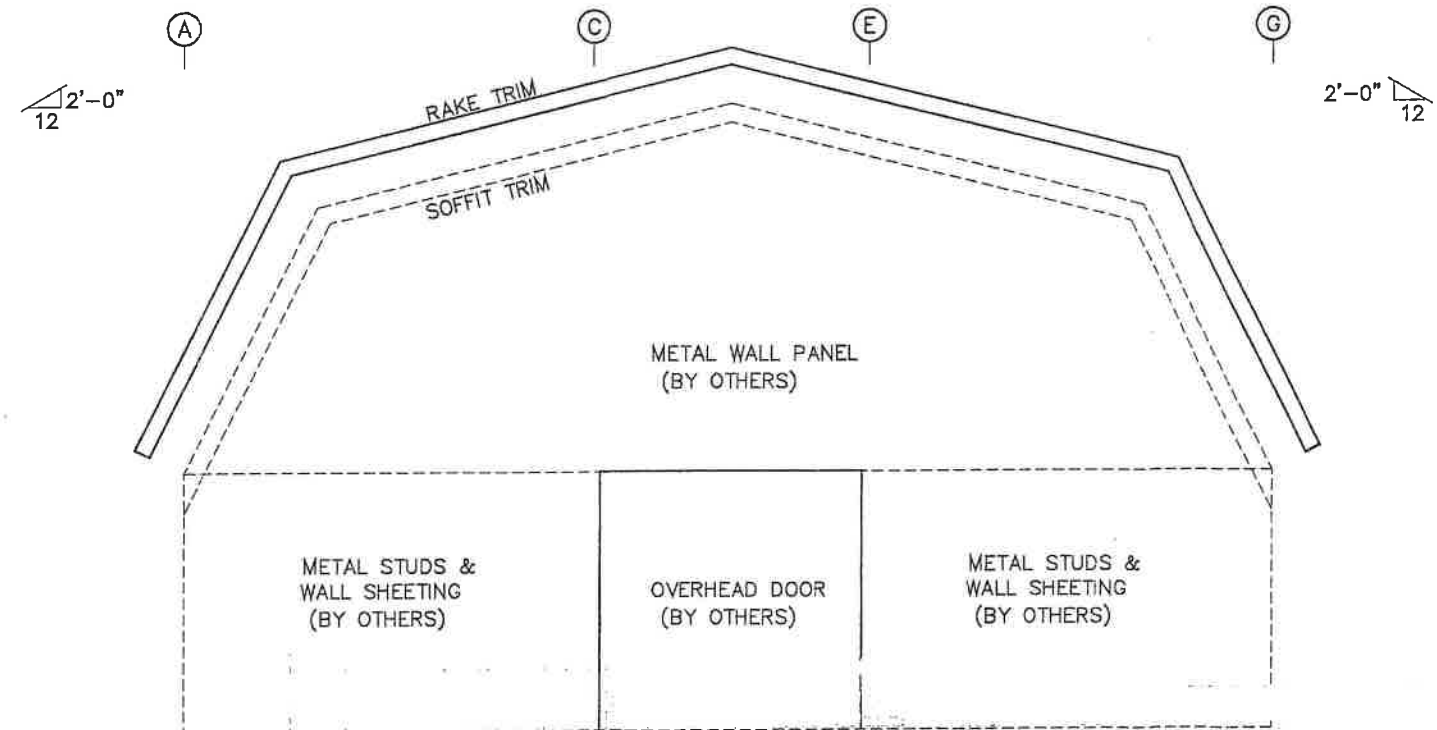


DESCRIPTION	SIDEWALL FRAMING		
CUSTOMER	BLACK FOREST LLC		
END USER	BLACK FOREST LLC		
END USE	BARN	BUILDING	A
STREET	12740 BLACK FORREST RD.		
CITY ST ZIP	COLORADO SPRINGS, CO 80908		

MEMBER TABLE	
FRAME LINE 4	
MARK	PART
EC-3	W08642
G-13	C8x11.5
G-14	8x25Z16
G-15	8x25Z16
G-16	8x25Z16
G-17	8x35C16
G-18	8x25Z16
G-19	8x25Z16
G-20	8x25Z16

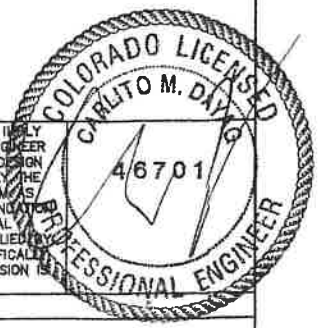


ENDWALL FRAMING: FRAME LINE 4



ENDWALL SHEETING & TRIM: FRAME LINE 4

FOR PERMIT



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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/06/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	01/28/20	GCC	RCR	JEM

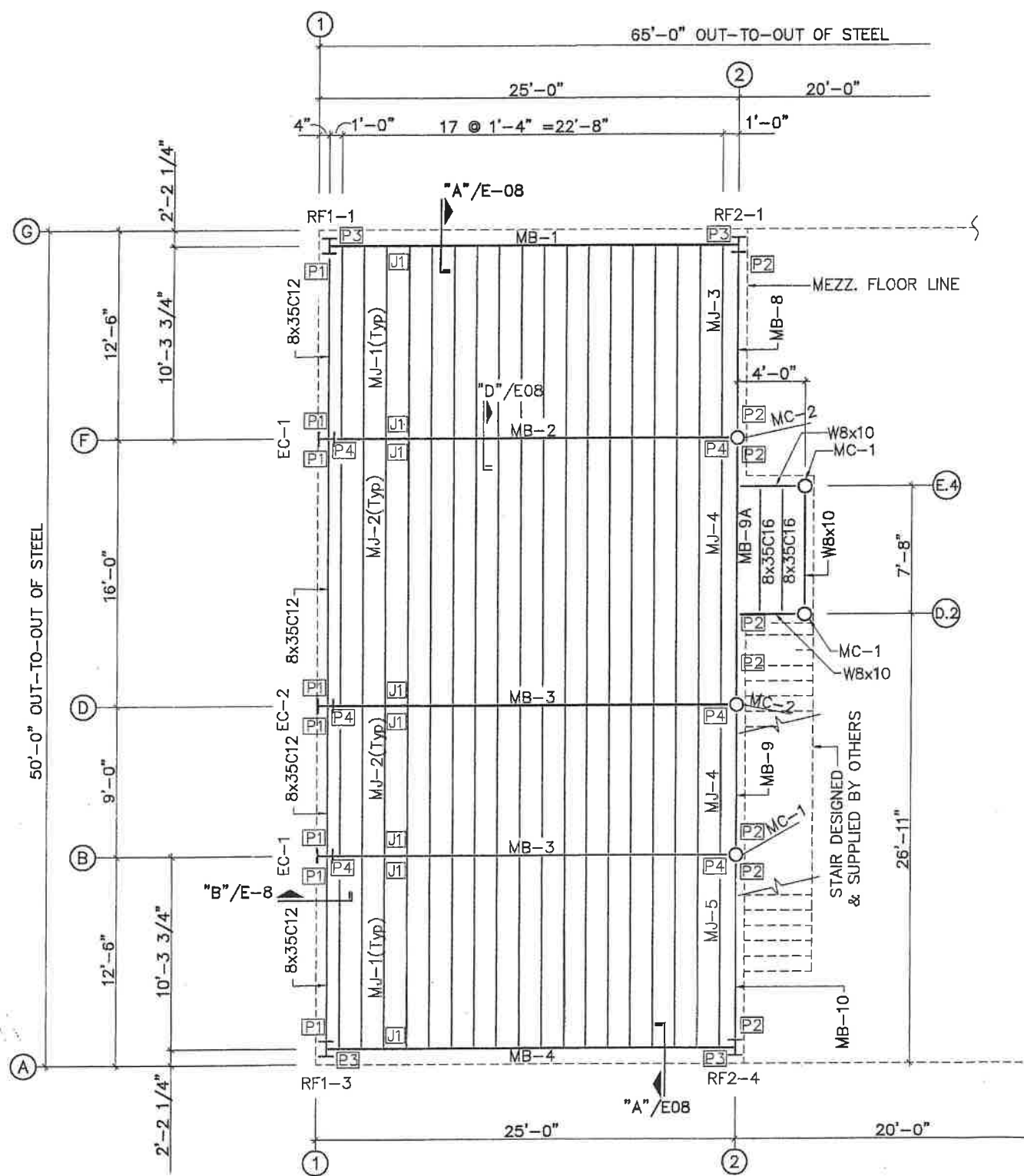


DESCRIPTION	SIDEWALL FRAMING		
CUSTOMER	BLACK FOREST LLC		
END USER	BLACK FOREST LLC		
END USE	BARN	BUILDING	A
STREET	12740 BLACK FORREST RD.		
CITY ST ZIP	COLORADO SPRINGS, CO 80908		

PERIMETER BEAM BOLT & PLATE TABLE					
ID	QUAN	TYPE	DIA	LENGTH	PLATE
P1	2	A325	1/2"		1/4"
P2	2	A325	3/4"		3/8"
P3	3	A325	3/4"		3/8"
P4	4	A325	3/4"		3/8"

JOIST BOLT TABLE				
ID	QUAN	TYPE	DIA	LENGTH
J1	2	A325	1/2"	1 1/2"

MEMBER TABLE	
MARK	PART
MB-1	W16852
MB-2	W20854
MB-3	W18863
MB-4	W16852
MB-5	W8x10
MB-6	W8x10
MB-7	W8x10
MB-8	W8x10
MB-9	W8x10
MB-9A	W10x12
MB-10	W8x10
MC-1	D450x188
MC-2	D662x125
MJ-1	8x35C16
MJ-2	8x25C16
MJ-3	8x35C16
MJ-4	8x35C12
MJ-5	8x35C16



FLOOR FRAMING & JOISTS

NOTE: DEAD = 10 PSF
 FLOOR LIVE = 125 PSF
 TOP OF FLOOR DECK = 13'-6"

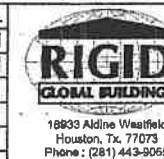
PLYWOOD DECK AND 24Ga. METAL LINER PANEL (BY OTHERS),
 FASTENED TO TOP AND BOTTOM FLANGE OF CEE - JOIST

FOR PERMIT

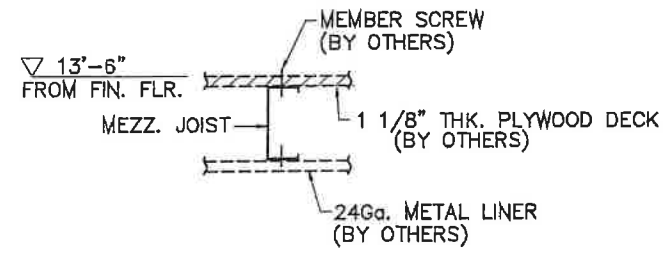
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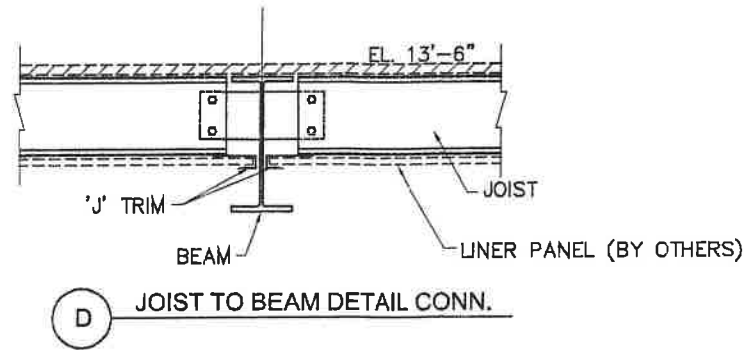
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/06/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	01/28/20	GCC	RCR	JEM



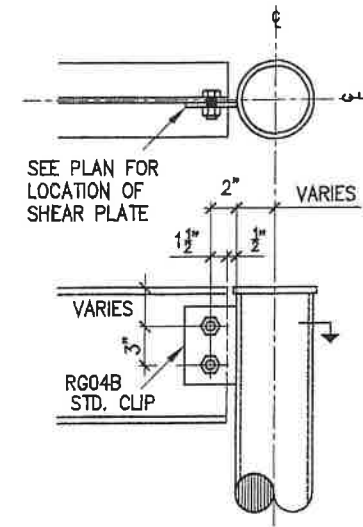
DESCRIPTION	FLOOR FRAMING & JOISTS		
CUSTOMER	BLACK FOREST LLC		
END USER	BLACK FOREST LLC		
END USE	BARN	BUILDING	A
STREET	12740 BLACK FORREST RD.		
CITY ST ZIP	COLORADO SPRINGS, CO 80908		



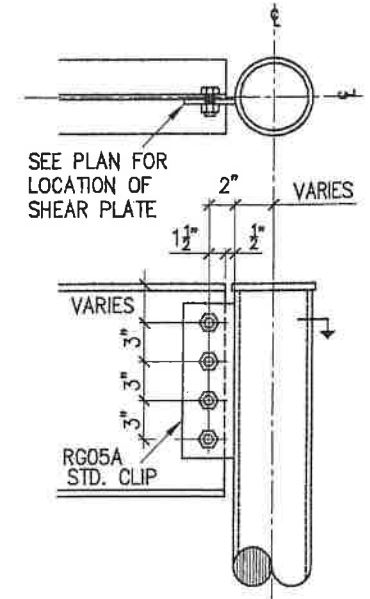
TYP. PLYWOOD TO JOIST DETAIL



D JOIST TO BEAM DETAIL CONN.

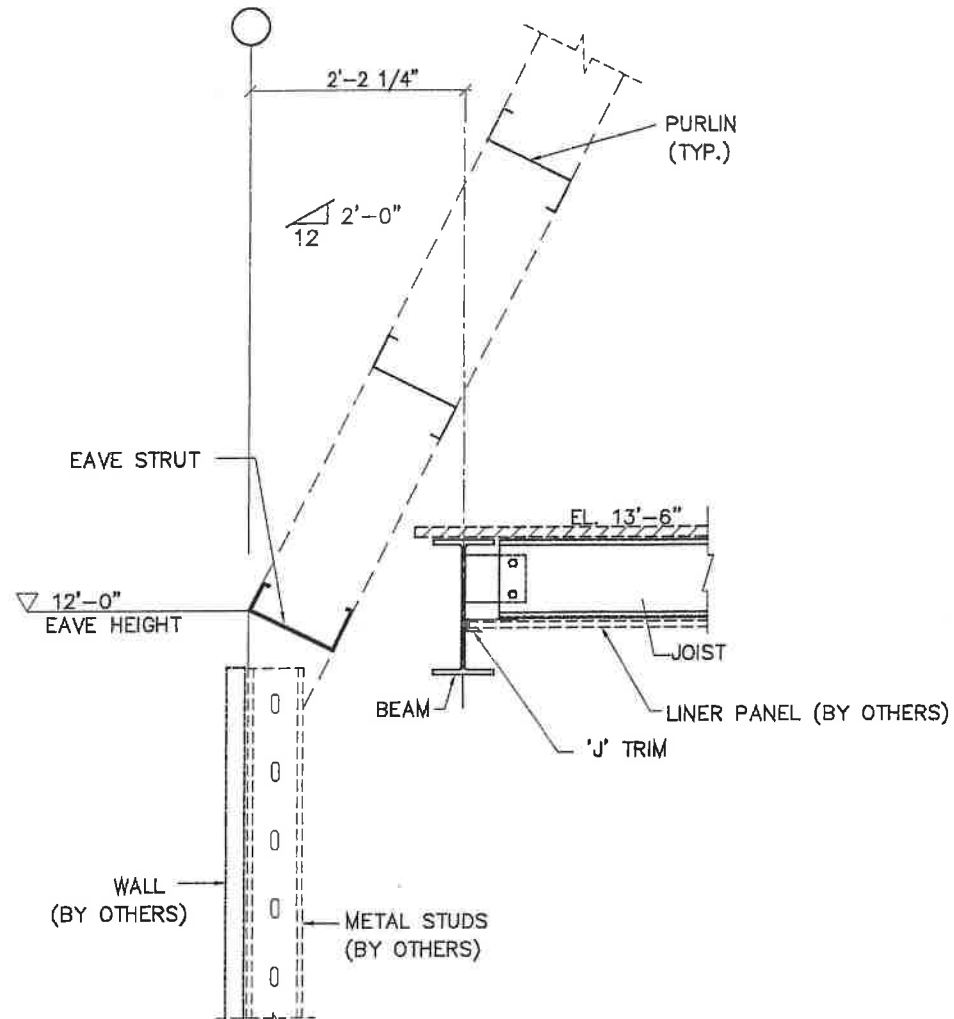


BEAM TO ROUND HSS COLUMN
(2) - 3/4" x 1/4" A325N BOLTS

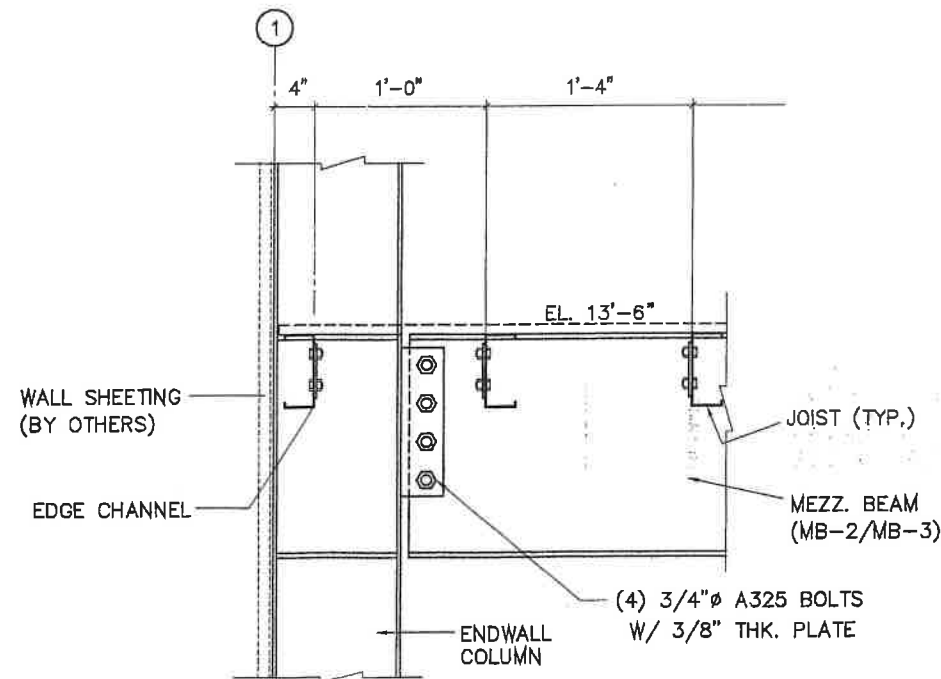


BEAM TO ROUND HSS COLUMN
(4) - 3/4" x 1/4" A325N BOLTS

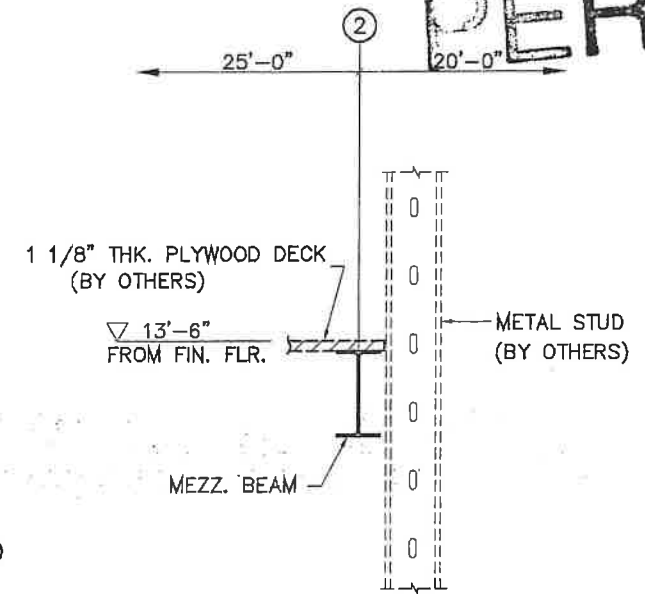
FOR PERMIT



A SECTION



B SECTION



C SECTION ALONG FRAME LINE 2

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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/06/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	01/28/20	GCC	RCR	JEM



DESCRIPTION	MEZZANINE DETAIL DRAWING		
CUSTOMER	BLACK FOREST LLC		
END USER	BLACK FOREST LLC		
END USE	BARN	BUILDING	A
STREET	12740 BLACK FORREST RD.		
CITY ST ZIP	COLORADO SPRINGS, CO 80908		

SPLICE PLATE & BOLT TABLE						CAP PLATE BOLTS									
Mark	Qty	Top	Bot	Int	Type	Dia	Length	Width	Thick	Length	Mark	Qty	Type	Dia	Length
SP-1	4	2	0		A325	0.750	2.50	8"	5/8"	1'-8 15/16"	EC-1	4	A325	0.625	1.75
SP-2	4	4	0		A325	0.625	2.00	8"	1/2"	1'-11 3/4"	EC-2	4	A325	0.625	1.75

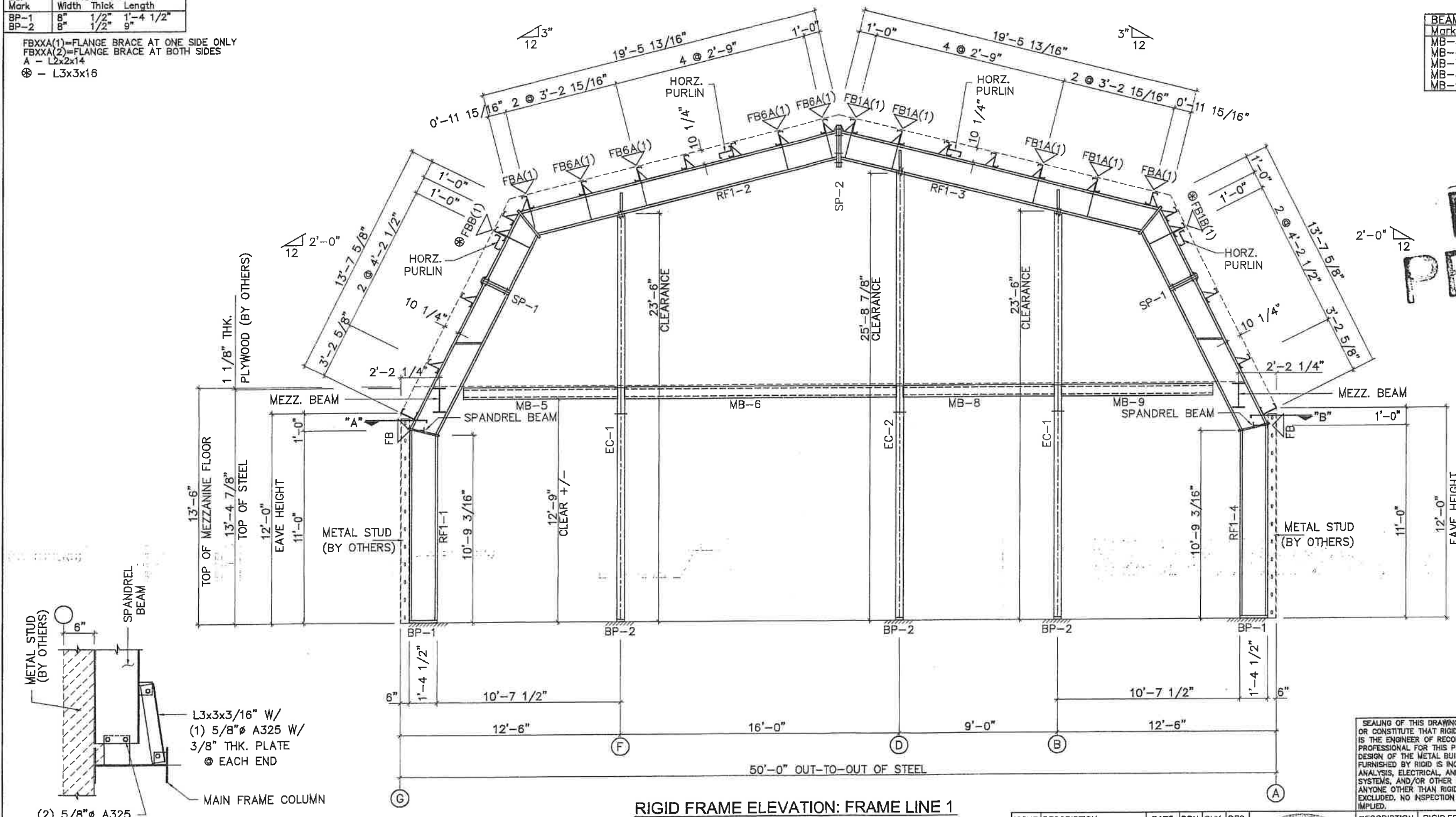
STIFFENER TABLE				
Mark	Stiff Mark	Width	Thick	Length
RF1-2	St-1	3.750	0.250	15.99
RF1-3	St-2	3.750	0.250	15.99
RF1-3	St-1	3.750	0.250	15.99

BASE PLATE TABLE				
Col Mark	Width	Thick	Length	Plate Size
BP-1	8"	1/2"	1'-4 1/2"	
BP-2	8"	1/2"	9"	

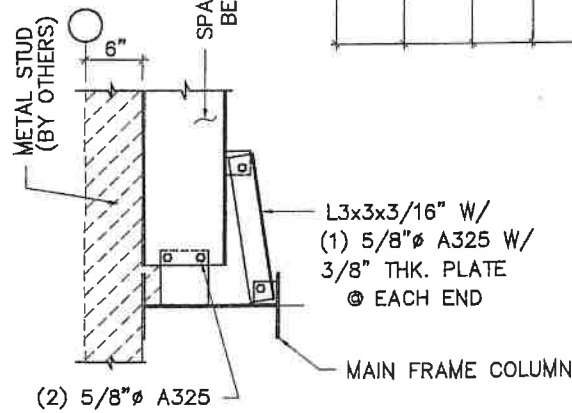
FBXXA(1)=FLANGE BRACE AT ONE SIDE ONLY
 FBXXA(2)=FLANGE BRACE AT BOTH SIDES
 A - L2x2x14
 ⊗ - L3x3x16

Mark	Web Depth		Web Plate		Outside Flange			Inside Flange		
	Start	End	Thick	Length	W	x Thk	x Length	W	x Thk	x Length
RF1-1	16.0	16.0	0.135	126.5	8	x 1/4"	x 132.5	8	x 1/4"	x 128.7
	16.0	16.0	0.188	6.0	8	x 1/4"	x 112.4	8	x 5/16"	x 108.6
RF1-2	16.0	16.0	0.135	112.4	8	x 1/4"	x 52.1	8	x 5/16"	x 44.6
	16.0	16.0	0.135	52.1	8	x 1/4"	x 225.9	8	x 1/4"	x 214.3
RF1-3	16.0	16.0	0.135	225.9	8	x 1/4"	x 225.9	8	x 1/4"	x 214.3
	16.0	16.0	0.135	52.1	8	x 1/4"	x 52.1	8	x 5/16"	x 44.6
RF1-4	16.0	16.0	0.135	112.4	8	x 1/4"	x 112.4	8	x 5/16"	x 111.4
	14.7	14.7	0.188	6.3	8	x 1/4"	x 132.5	8	x 1/4"	x 126.2
EC-1	14.7	16.0	0.135	126.2	6	x 1/4"	x 282.7	6	x 1/4"	x 282.7
EC-2	8.0	8.0	0.135	282.7	6	x 1/4"	x 309.7	6	x 1/4"	x 309.7

BEAM TABLE		
Mark	Part	Length
MB-5	8x35C12	
MB-6	8x35C12	
MB-7	8x35C12	
MB-8	8x35C12	
MB-9	8x35C12	



FOR PERMIT



SECTION "A" (AS SHOWN)
 SECTION "B" (OPP. HAND)

RIGID FRAME ELEVATION: FRAME LINE 1

ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/06/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	01/28/20	GCC	RCR	JEM



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DESCRIPTION	RIGID FRAME ELEVATION		
CUSTOMER	BLACK FOREST LLC		
END USER	BLACK FOREST LLC		
END USE	BARN	BUILDING	A
STREET	12740 BLACK FORREST RD.		
CITY ST ZIP	COLORADO SPRINGS, CO 80908		

SPLICE PLATE & BOLT TABLE										
Mark	Qty	Top	Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	2	2		A325	0.625	2.00	6"	1/2"	2'-10 7/8"
SP-2	4	4	0		A325	0.625	2.00	6"	1/2"	2'-1 13/16"

BASE PLATE TABLE			
Col	Plate Size	Width	Length
BP-1	8" x 1/2"	1'-7"	

PERIMETER BEAM BOLT & PLATE TABLE				
ID	Qty	Type	Dia	Length
P1	SEE MEZZANINE PLAN			
P2	⊙ SHEET E07			

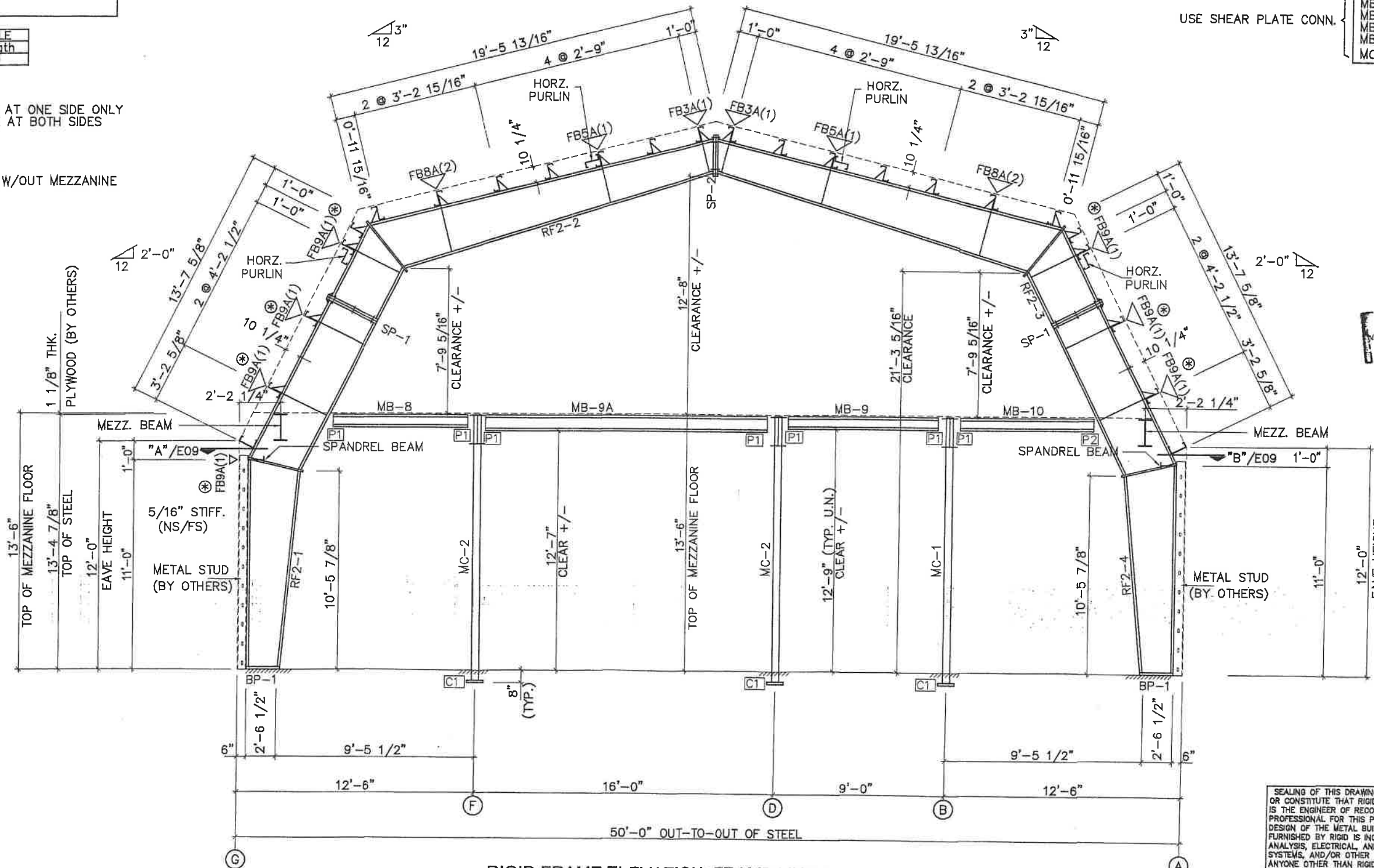
SUPPORT COLUMN BOLT TABLE				
ID	Qty	Type	Dia	Length
C1	4	GR36	0.750	1.50

MEMBER TABLE						
Mark	Web Depth		Web Plate		Outside Flange	
	Start/End	Thick	Length	W x Thk x Length	Inside Flange	
RF2-1	18.0/30.0	0.188	132.5	6 x 1/4" x 132.5	6 x 5/16" x 125.9	
	30.0/30.0	0.188	112.6	6 x 1/4" x 112.6	6 x 1/4" x 105.4	
RF2-2	30.0/30.0	0.188	52.2	6 x 1/4" x 52.2	6 x 1/4" x 38.3	
	30.0/18.0	0.250	225.9	6 x 1/4" x 225.9	6 x 1/4" x 207.7	
RF2-3	18.0/30.0	0.250	225.9	6 x 1/4" x 225.9	6 x 1/4" x 207.7	
	30.0/30.0	0.188	52.2	6 x 1/4" x 52.2	6 x 1/4" x 38.3	
RF2-4	30.0/30.0	0.188	112.6	6 x 1/4" x 112.6	6 x 1/4" x 108.2	
	28.8/18.0	0.188	132.5	6 x 1/4" x 132.5	6 x 5/16" x 123.4	

BEAM TABLE		
Mark	Part	Length
MC-1	D450x188	
MB-8	W8x10	
MB-9	W8x10	
MB-10	W8x10	
MB-9A	W10x12	
MC-2	D662x125	

FBXA(1)=FLANGE BRACE AT ONE SIDE ONLY
 FBXA(2)=FLANGE BRACE AT BOTH SIDES
 A - L2x2x14

⊙ FLANGE BRACE ⊙ SIDE W/OUT MEZZANINE



USE SHEAR PLATE CONN.

FOR PERMIT

RIGID FRAME ELEVATION: FRAME LINE 2

ISSUE	DESCRIPTION	DATE	DRN	CHK	DES.
A	APPROVAL/PERMIT	12/06/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	01/28/20	GCC	RCR	JEM



SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT RIGID GLOBAL ENGINEER IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEM AS FURNISHED BY RIGID IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN RIGID ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED.



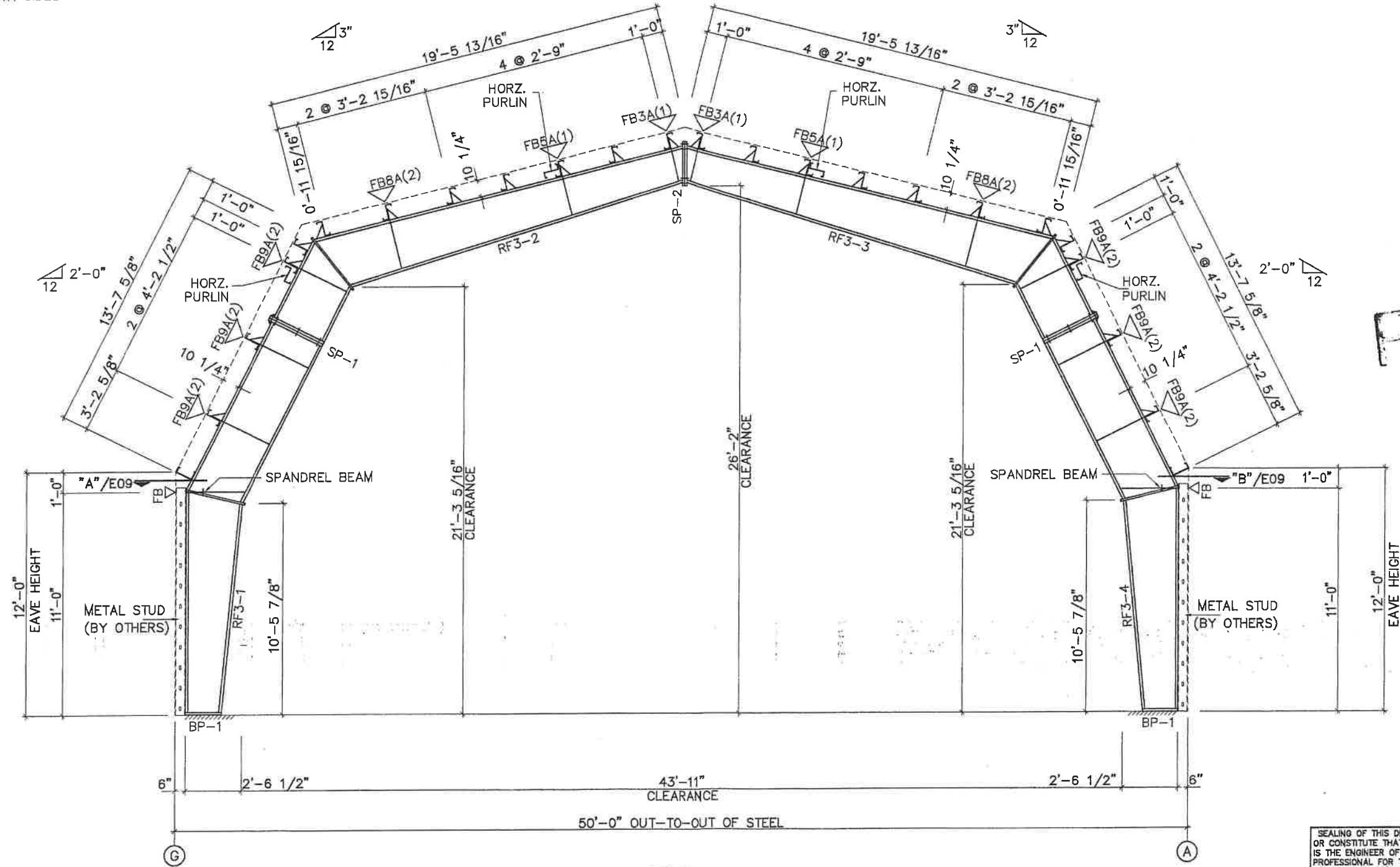
DESCRIPTION	RIGID FRAME ELEVATION		
CUSTOMER	BLACK FOREST LLC		
END USER	BLACK FOREST LLC		
END USE	BARN	BUILDING	A
STREET	12740 BLACK FORREST RD.		
CITY ST ZIP	COLORADO SPRINGS, CO 80908		

SPLICE PLATE & BOLT TABLE									
Mark	Qty		Int	Type	Dia	Length	Width	Thick	Length
	Top	Bot							
SP-1	4	2	2	A325	0.625	2.00	6"	1/2"	2'-10 7/8"
SP-2	4	4	0	A325	0.625	2.00	6"	1/2"	2'-1 13/16"

BASE PLATE TABLE			
Col Mark	Plate Size		
	Width	Thick	Length
BP-1	8"	1/2"	1'-7"

Mark	Web Depth		Web Plate		Outside Flange			Inside Flange		
	Start	End	Thick	Length	W	Thk	Length	W	Thk	Length
RF3-1	18.0	30.0	0.188	132.5	6	1/4	x 132.5	6	5/16	x 125.9
	30.0	30.0	0.188	112.6	6	1/4	x 112.6	6	1/4	x 105.4
RF3-2	30.0	30.0	0.188	52.2	6	1/4	x 52.2	6	1/4	x 38.3
	30.0	18.0	0.250	225.9	6	1/4	x 225.9	6	1/4	x 207.7
RF3-3	18.0	30.0	0.250	225.9	6	1/4	x 225.9	6	1/4	x 207.7
	30.0	30.0	0.188	52.2	6	1/4	x 52.2	6	1/4	x 38.3
RF3-4	30.0	30.0	0.188	112.6	6	1/4	x 112.6	6	1/4	x 108.2
	28.8	18.0	0.188	132.5	6	1/4	x 132.5	6	5/16	x 123.4

FBXXA(1)=FLANGE BRACE AT ONE SIDE ONLY
 FBXXA(2)=FLANGE BRACE AT BOTH SIDES
 A - L2x2x14



FOR PERMIT

RIGID FRAME ELEVATION: FRAME LINE 3



SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT RIGID GLOBAL ENGINEER IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEM FURNISHED BY RIGID IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN RIGID ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED.

ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/06/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	01/28/20	GCC	RCR	JEM



DESCRIPTION	RIGID FRAME ELEVATION		
CUSTOMER	BLACK FOREST LLC		
END USER	BLACK FOREST LLC		
END USE	BARN	BUILDING	A
STREET	12740 BLACK FOREST RD.		
CITY ST ZIP	COLORADO SPRINGS, CO 80908		

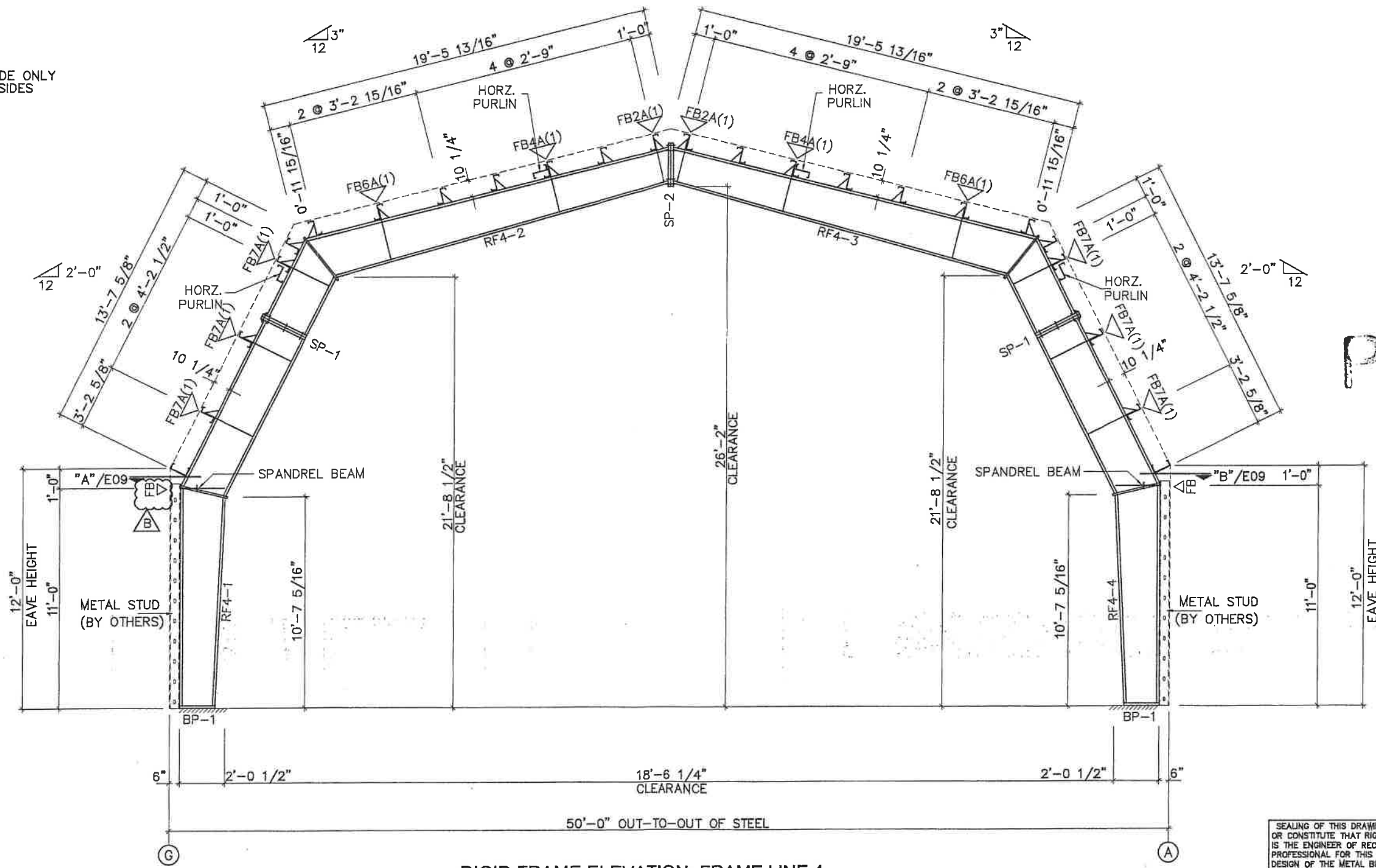
SPLICE PLATE & BOLT TABLE									
Mark	Qty		Int	Type	Dia	Length	Width	Thick	Length
	Top	Bot							
SP-1	4	2	2	A325	0.625	2.00	6"	1/2"	2'-4 7/8"
SP-2	4	4	0	A325	0.625	2.00	6"	1/2"	2'-1 13/16"

STIFFENER TABLE				
Mark	Stiff Mark	Plate Size		
		Width	Thick	Length
RF4-2	St-1	3.500	0.375	15.64
RF4-3	St-1	3.500	0.375	15.64

BASE PLATE TABLE			
Col Mark	Plate Size		
	Width	Thick	Length
BP-1	8"	1/2"	1'-6 1/2"

MEMBER TABLE								
Mark	Web Depth		Web Plate		Outside Flange		Inside Flange	
	Start/End	Thick	Length	Thick	W x Thk x Length	W x Thk x Length	W x Thk x Length	
RF4-1	18.0/24.0	0.188	132.5		6 x 1/4" x 132.5	6 x 1/4" x 126.9		
	24.0/24.0	0.188	112.6		6 x 1/4" x 112.6	6 x 1/4" x 106.8		
RF4-2	24.0/24.0	0.188	52.2		6 x 1/4" x 52.2	6 x 1/4" x 41.0		
	24.0/18.0	0.250	225.9		6 x 1/4" x 225.9	6 x 1/4" x 210.2		
RF4-3	18.0/24.0	0.250	225.9		6 x 1/4" x 225.9	6 x 1/4" x 210.2		
	24.0/24.0	0.188	52.2		6 x 1/4" x 52.2	6 x 1/4" x 41.0		
RF4-4	24.0/24.0	0.188	112.6		6 x 1/4" x 112.6	6 x 1/4" x 109.6		
	22.8/18.0	0.188	132.5		6 x 1/4" x 132.5	6 x 1/4" x 124.4		

FBXXA(1)=FLANGE BRACE AT ONE SIDE ONLY
 FBXXA(2)=FLANGE BRACE AT BOTH SIDES
 A - L2x2x14



FOR PERMIT

RIGID FRAME ELEVATION: FRAME LINE 4

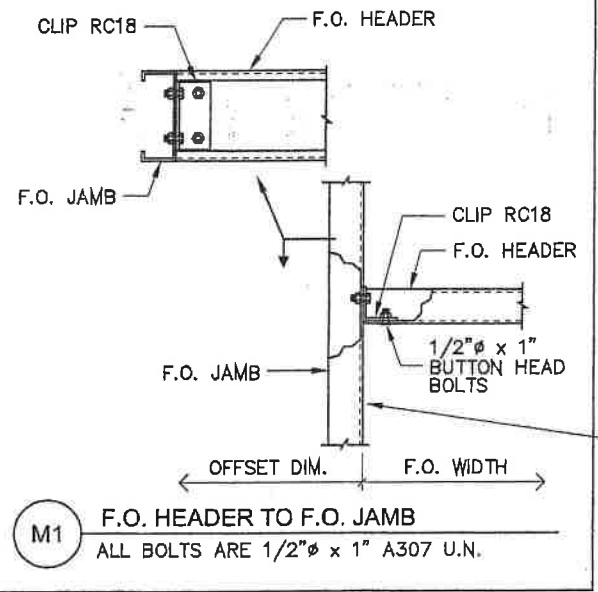
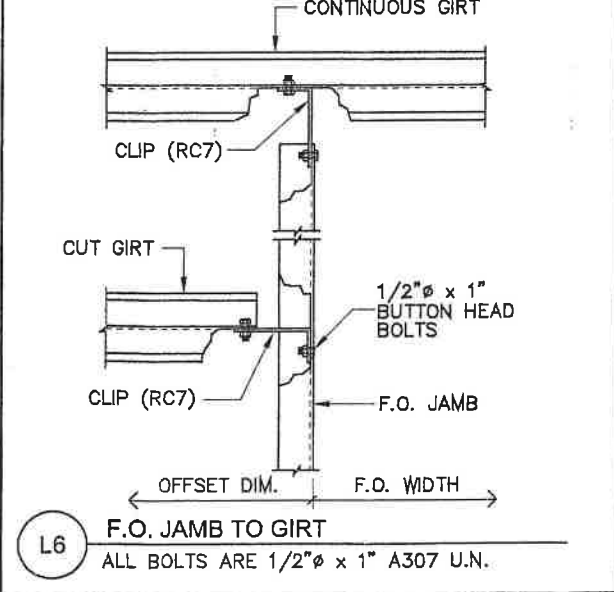
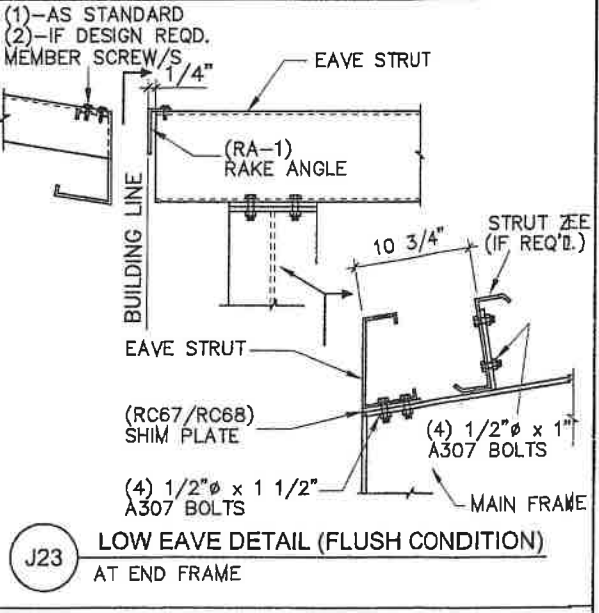
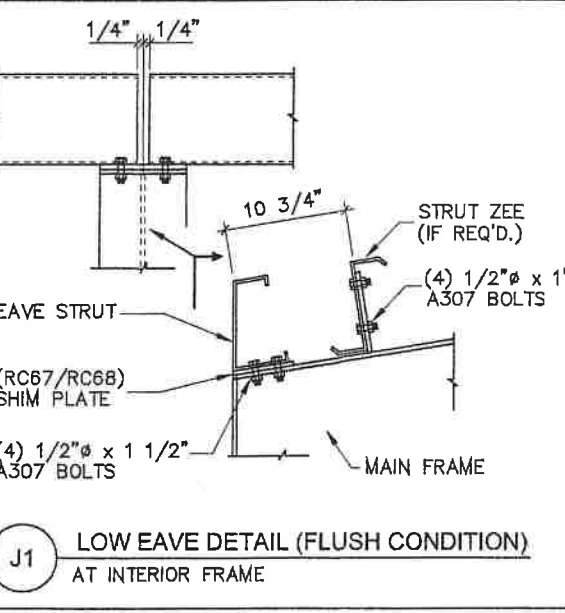
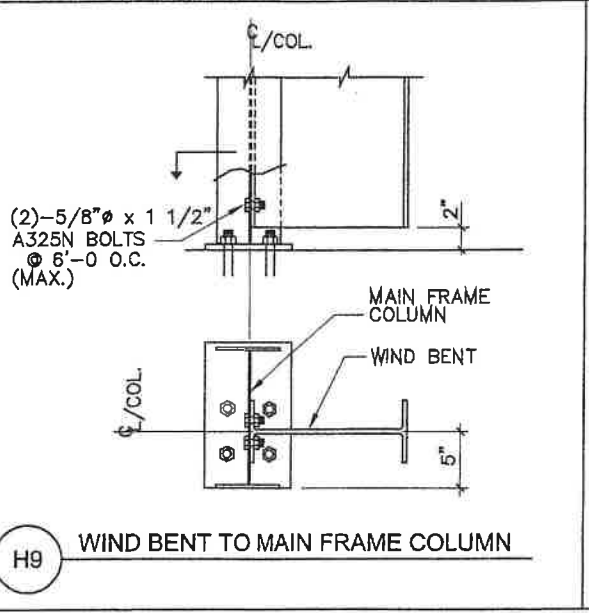
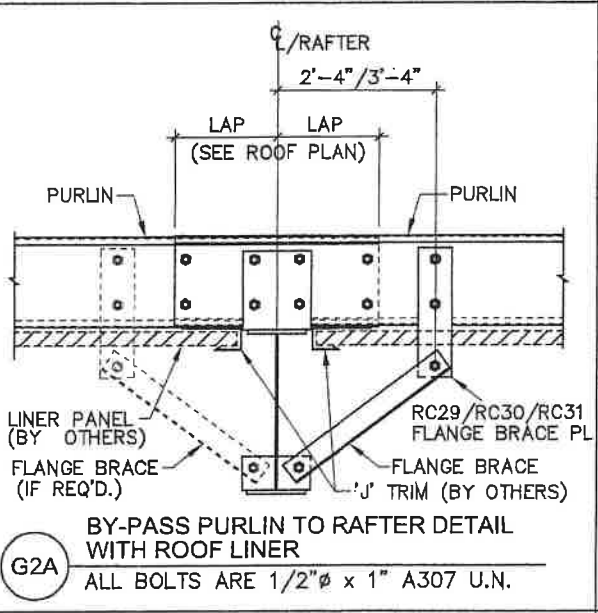
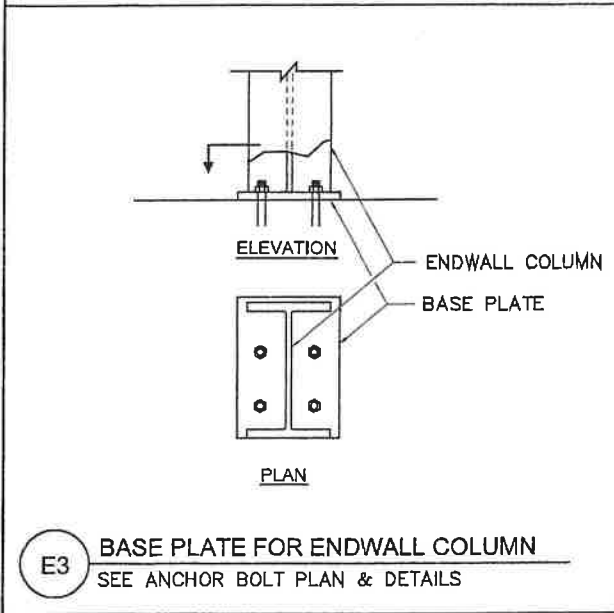
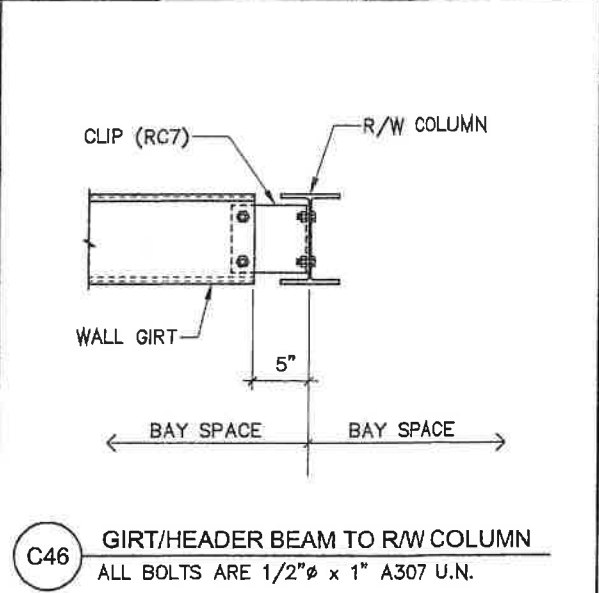
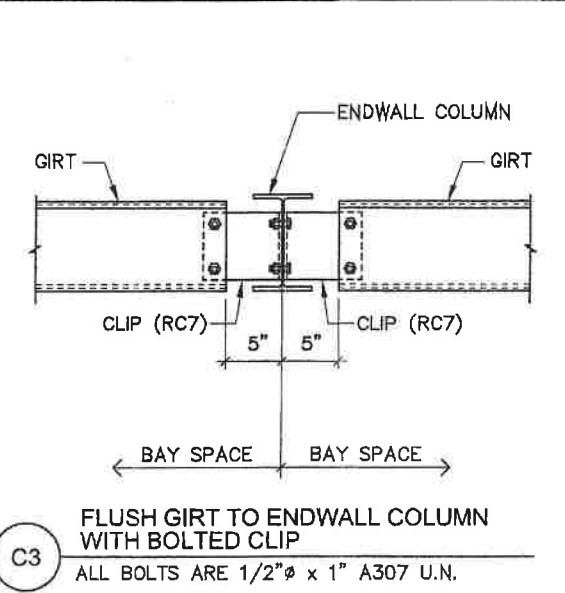
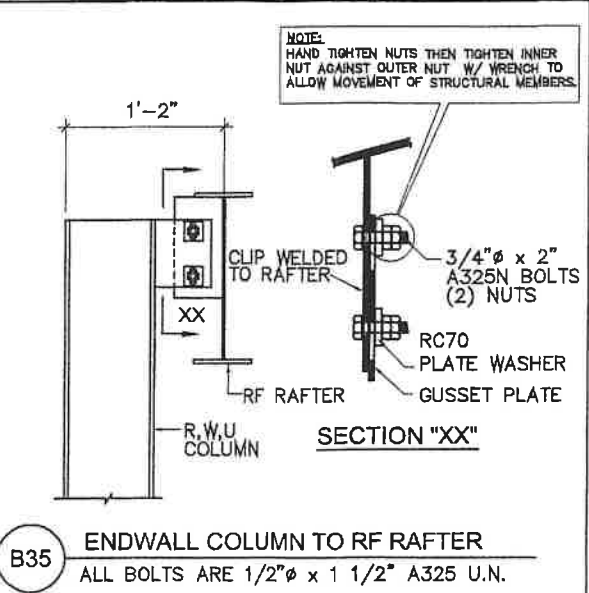
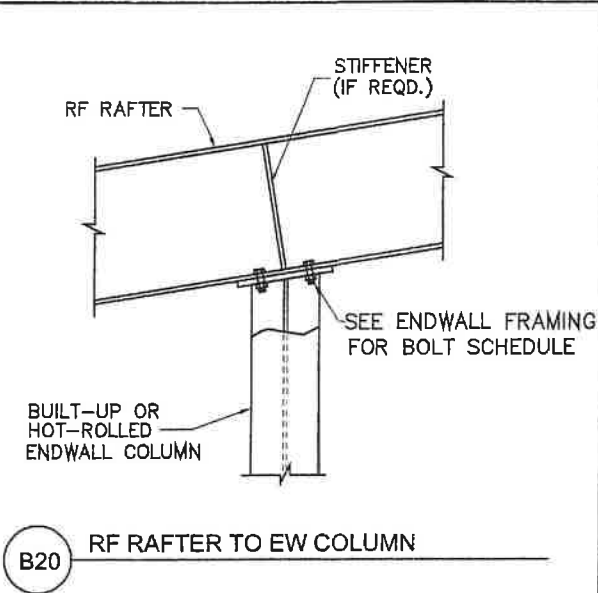
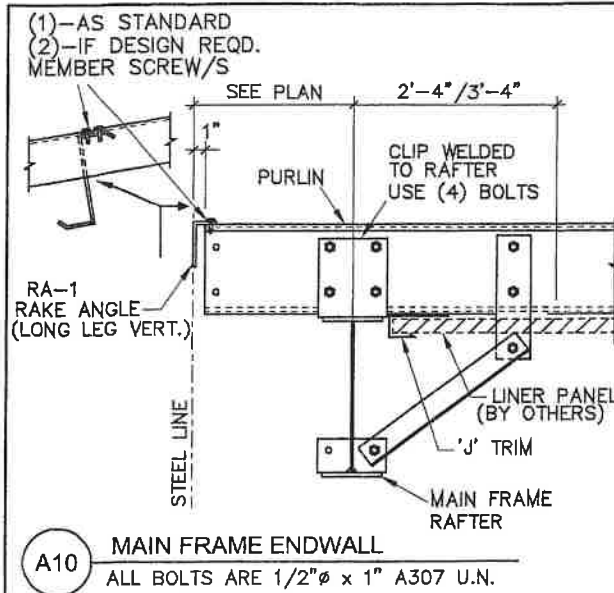


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ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/06/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	01/28/20	GCC	RCR	JEM



DESCRIPTION	RIGID FRAME ELEVATION		
CUSTOMER	BLACK FOREST LLC		
END USER	BLACK FOREST LLC		
END USE	BARN	BUILDING	A
STREET	12740 BLACK FORREST RD.		
CITY ST ZIP	COLORADO SPRINGS, CO 80908		



SEE SHT. 'E-15' FOR FRAMED OPENING WRAP TRIM DETAILS.

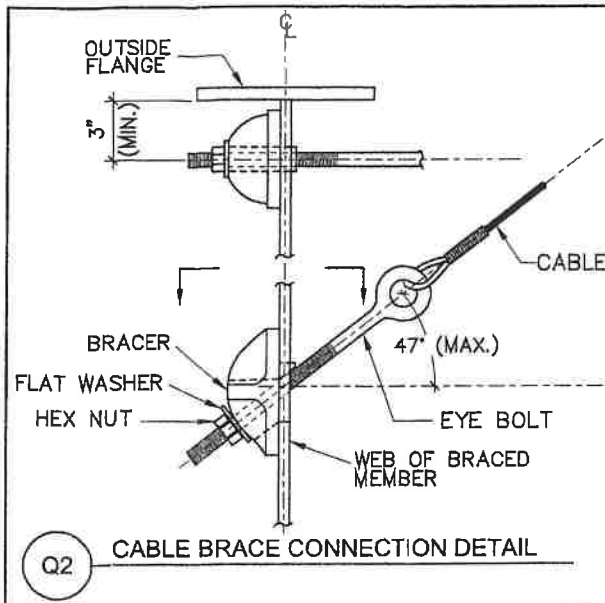
FOR PERMIT



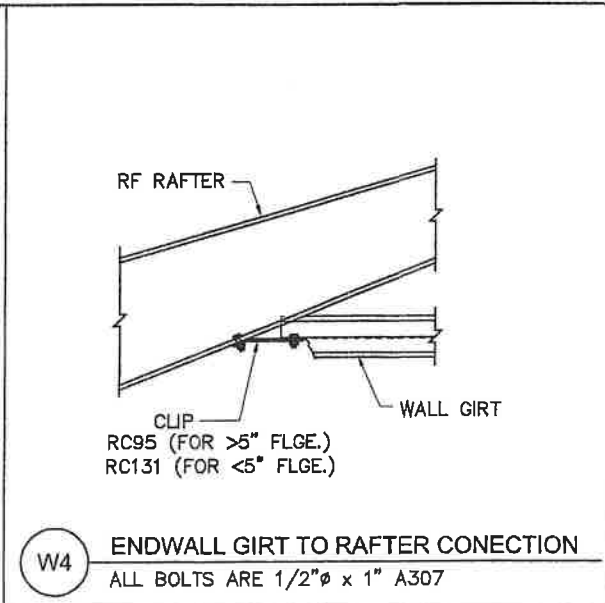
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/06/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	12/28/20	GCC	RCR	JEM



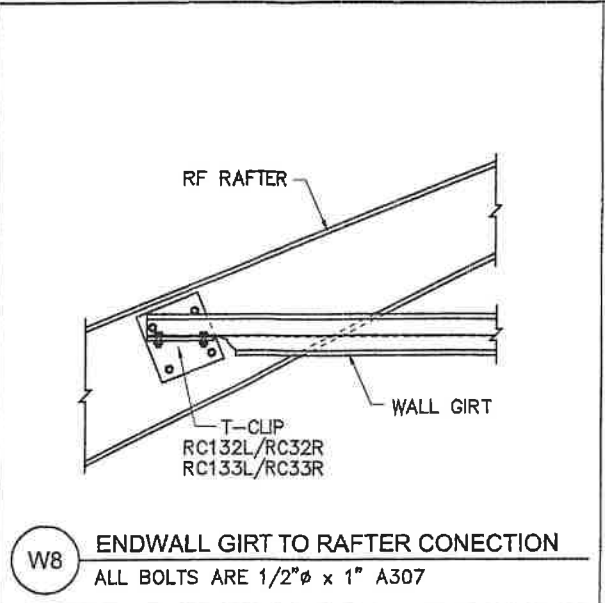
DESCRIPTION	DETAIL DRAWINGS
CUSTOMER	BLACK FOREST LLC
END USER	BLACK FOREST LLC
END USE	BARN BUILDING A
STREET	12740 BLACK FORREST RD.
CITY ST ZIP	COLORADO SPRINGS, CO 80908



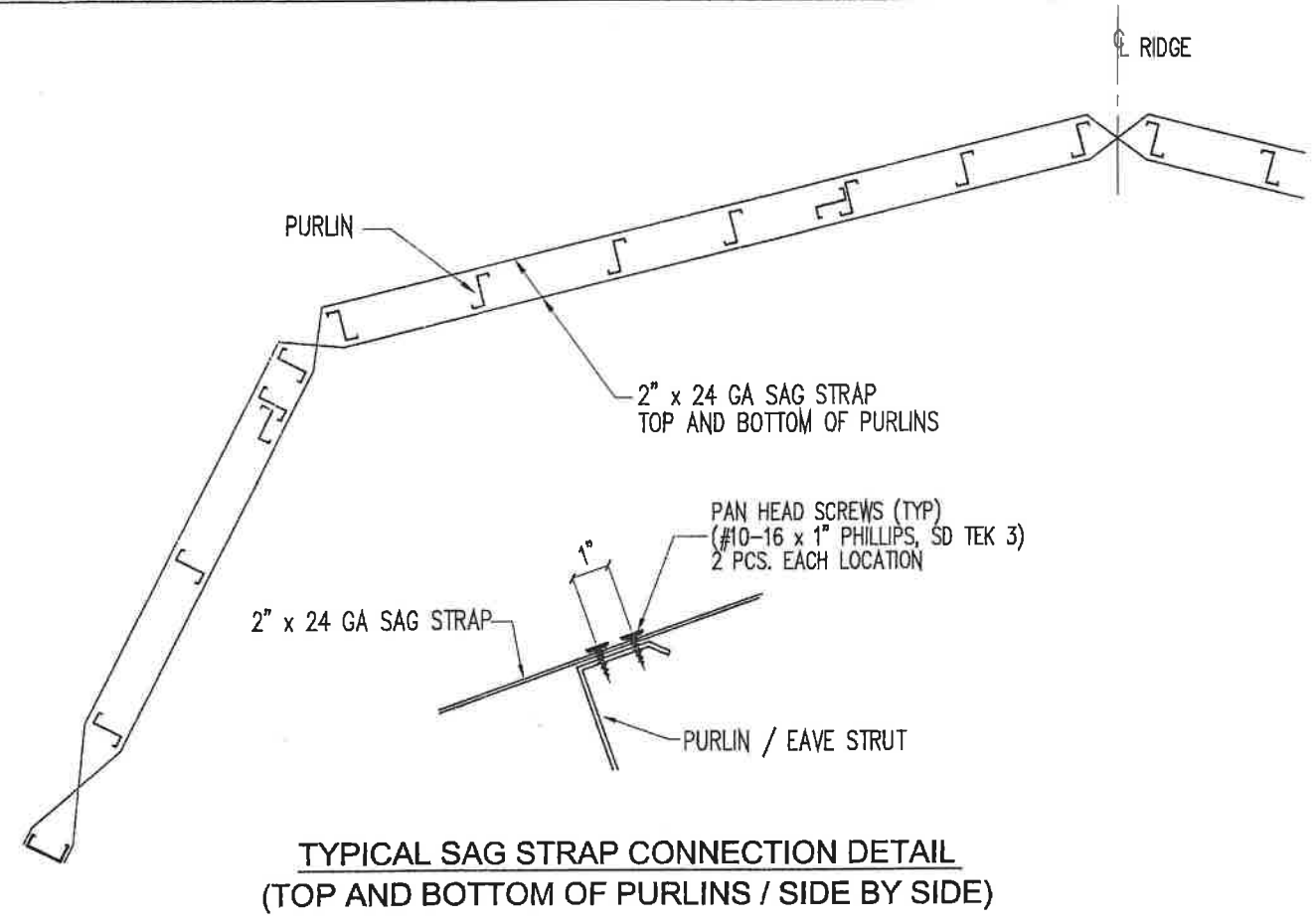
Q2 CABLE BRACE CONNECTION DETAIL



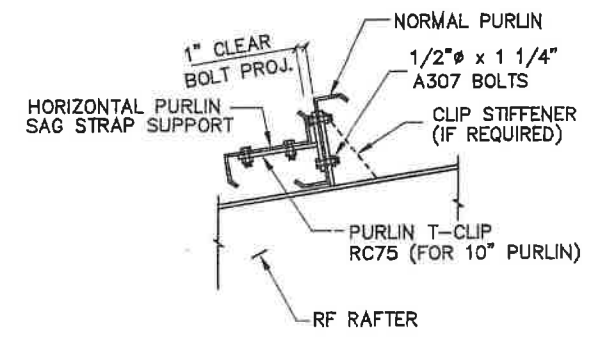
W4 ENDWALL GIRT TO RAFTER CONNECTION
ALL BOLTS ARE 1/2"φ x 1" A307



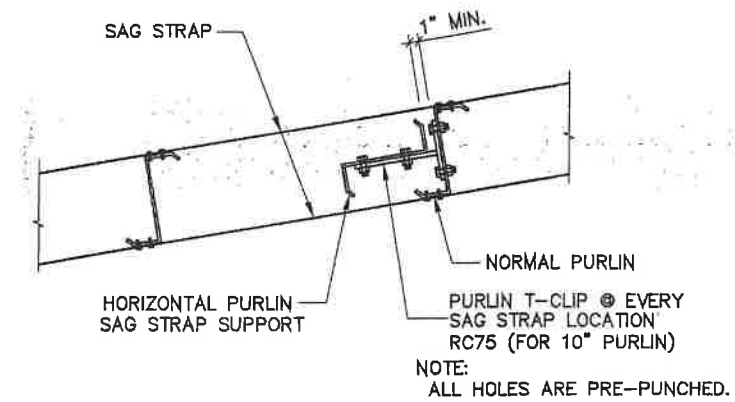
W8 ENDWALL GIRT TO RAFTER CONNECTION
ALL BOLTS ARE 1/2"φ x 1" A307



TYPICAL SAG STRAP CONNECTION DETAIL
(TOP AND BOTTOM OF PURLINS / SIDE BY SIDE)



1 HORIZONTAL PURLIN CONNECTION TO RF RAFTER
ALL BOLTS ARE 1/2"φ x 1" A307 U.N.



2 HORIZONTAL PURLIN CONNECTION TO NORMAL PURLIN
ALL BOLTS ARE 1/2"φ x 1" A307 U.N.

FOR PERMIT

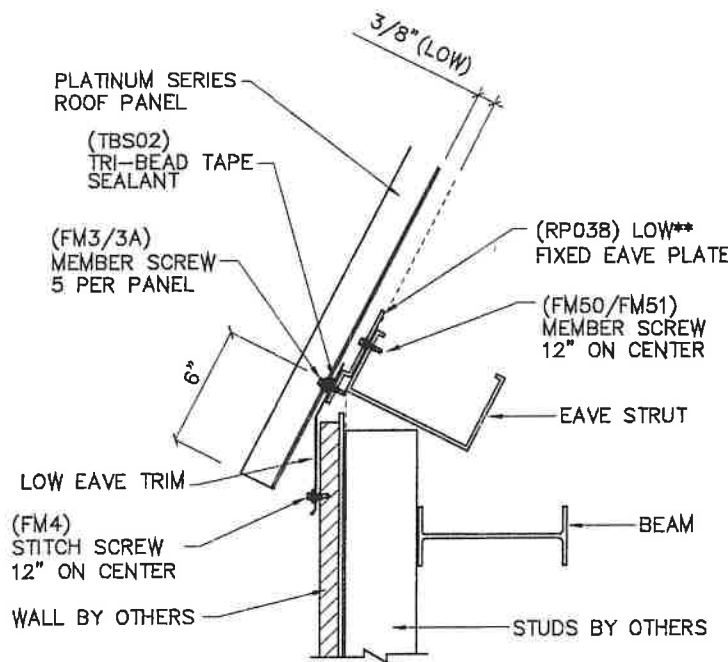


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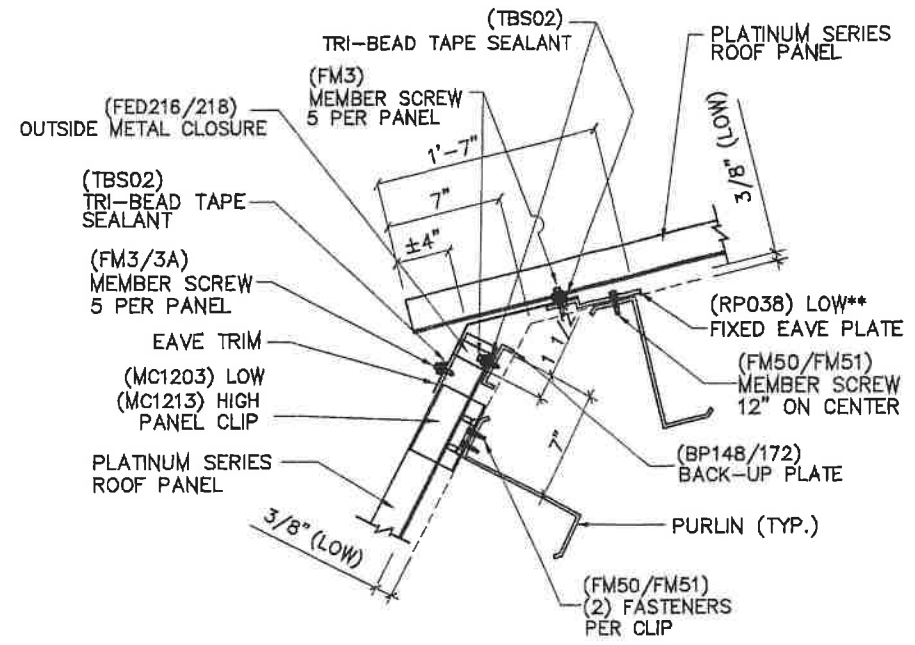
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/06/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	01/28/20	GCC	RCR	JEM



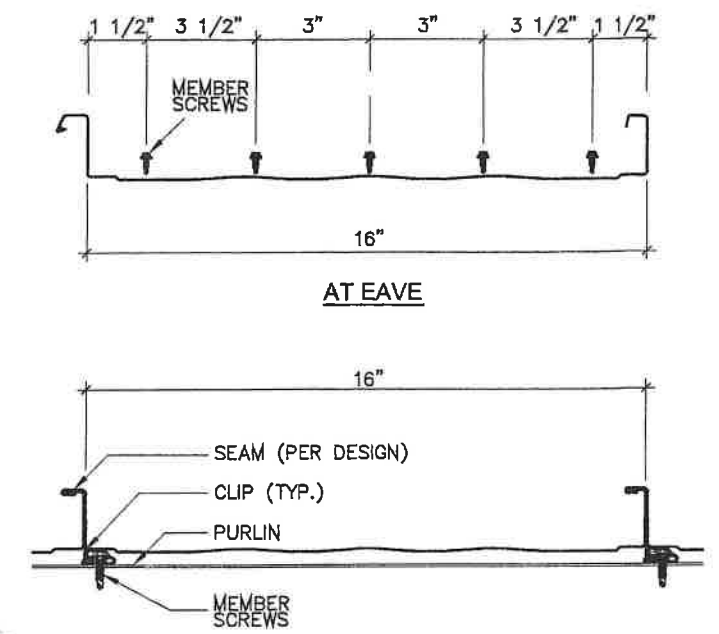
DESCRIPTION	DETAIL DRAWINGS
CUSTOMER	BLACK FOREST LLC
END USER	BLACK FOREST LLC
END USE	BARN BUILDING A
STREET	12740 BLACK FORREST RD.
CITY ST ZIP	COLORADO SPRINGS, CO 80908



1 SECTION THRU LOW EAVE - FIXED WITH EAVE TRIM

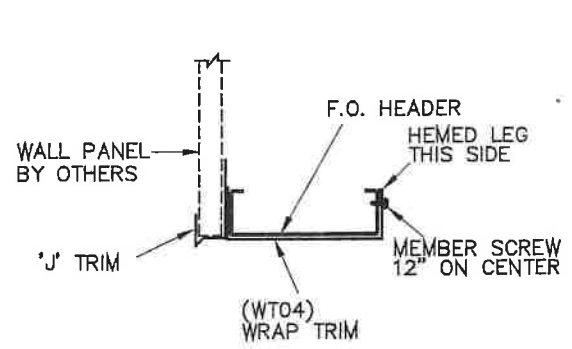


2 SECTION THRU LOW EAVE - FIXED WITH MANSARD

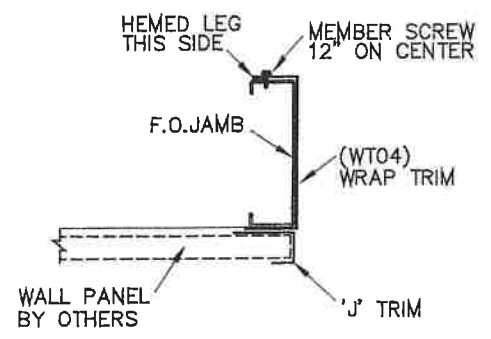


5 PLATINUM PANEL FASTENER LOCATION

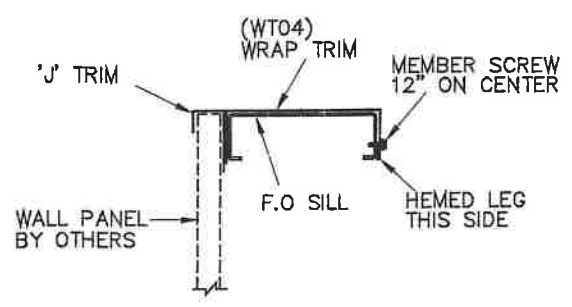
FOR PERMIT



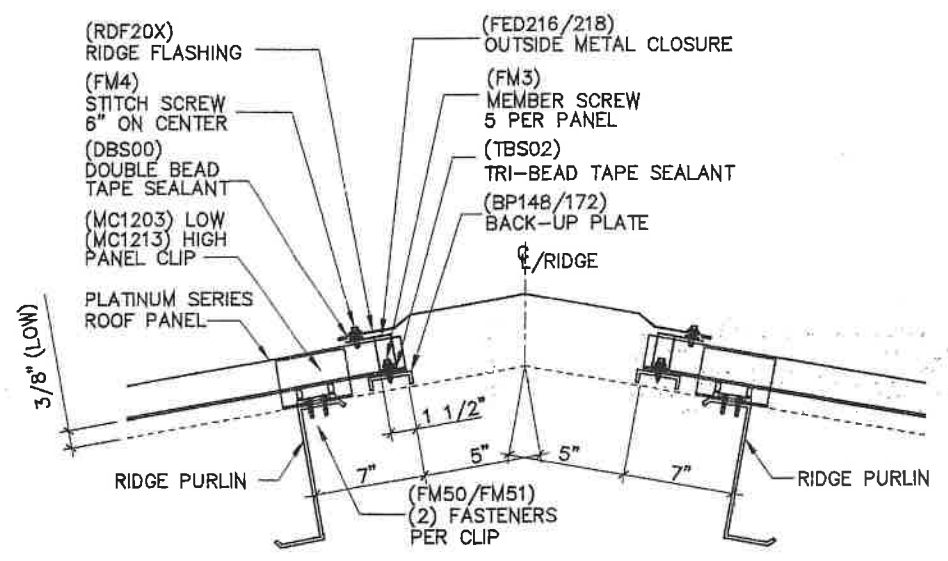
F.O. HEADER TRIM DETAIL WITH WRAP TRIM



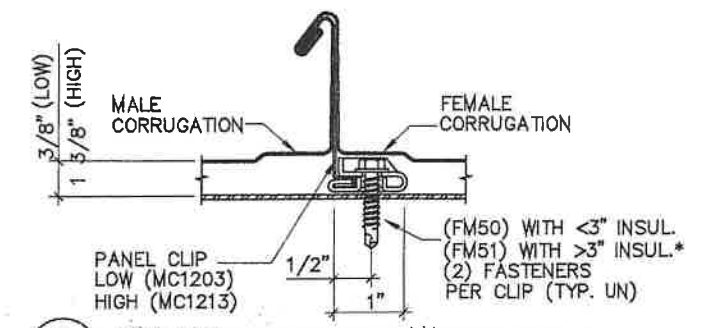
F.O. JAMB TRIM DETAIL WITH WRAP TRIM



F.O. SILL TRIM DETAIL WITH WRAP TRIM



4 SECTION THRU RIDGE - FLOATING STANDARD CLIP



6 QUAD-LOK SEAM WITH FLOATING CLIP
* SUPPLY SPECIAL LENGTH FASTENER FOR >6\"/>

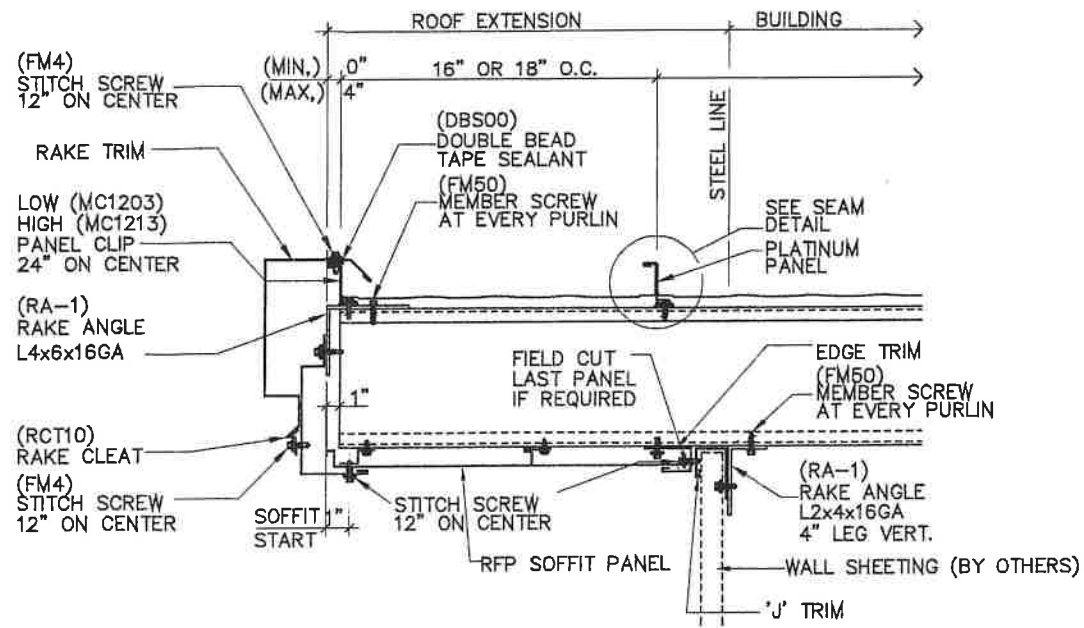
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/06/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	01/28/20	GCC	RCR	JEM



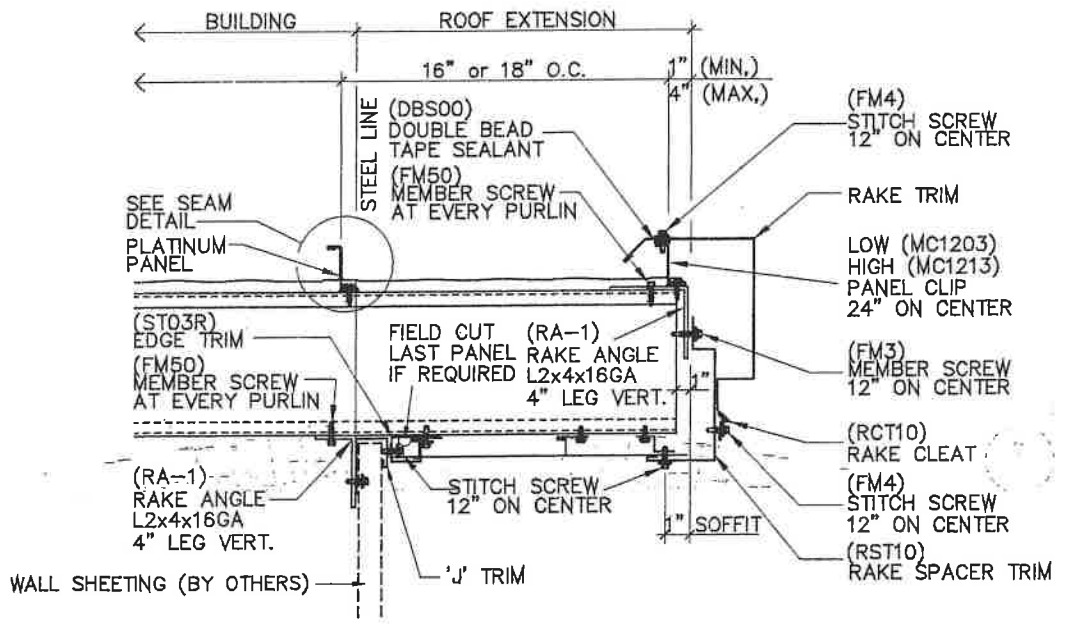
SEALING OF THIS DRAWING DOES NOT IMPLY OR CONSTITUTE THAT RIGID GLOBAL ENGINEERS IS THE ENGINEER OF RECORD OR THE DESIGN PROFESSIONAL FOR THIS PROJECT. ONLY THE DESIGN OF THE METAL BUILDING SYSTEMS FURNISHED BY RIGID IS INCLUDED. FOUNDATION ANALYSIS, ELECTRICAL, AND MECHANICAL SYSTEMS, AND/OR OTHER PARTS SUPPLIED BY ANYONE OTHER THAN RIGID ARE SPECIFICALLY EXCLUDED. NO INSPECTION OR SUPERVISION IS IMPLIED.



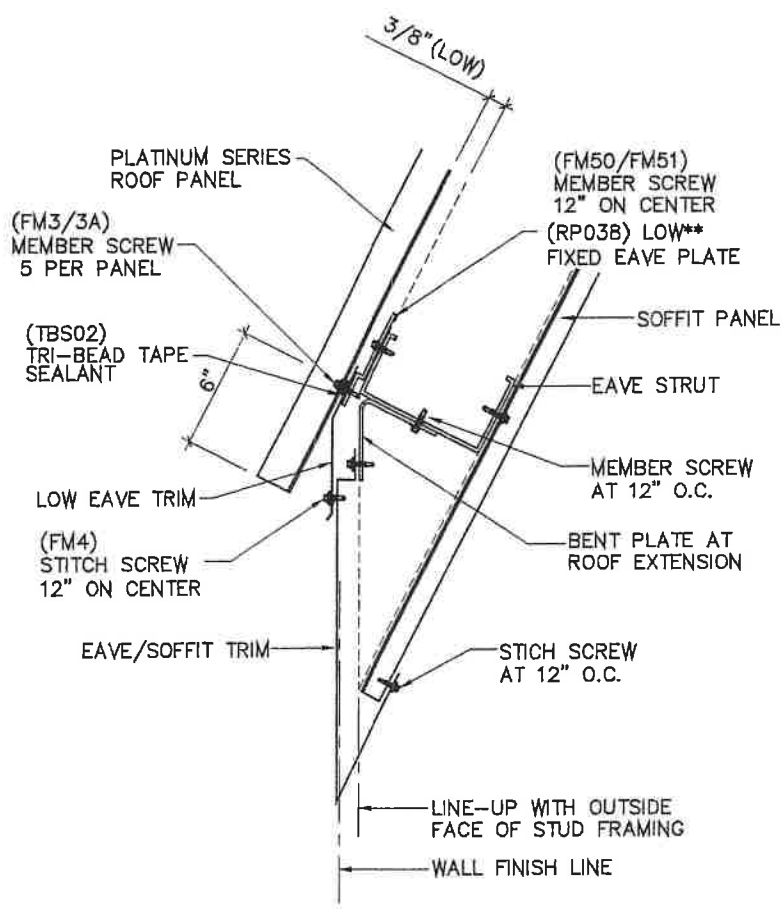
DESCRIPTION	DETAIL DRAWINGS
CUSTOMER	BLACK FOREST LLC
END USER	BLACK FOREST LLC
END USE	BARN BUILDING A
STREET	12740 BLACK FORREST RD.
CITY ST ZIP	COLORADO SPRINGS, CO 80908



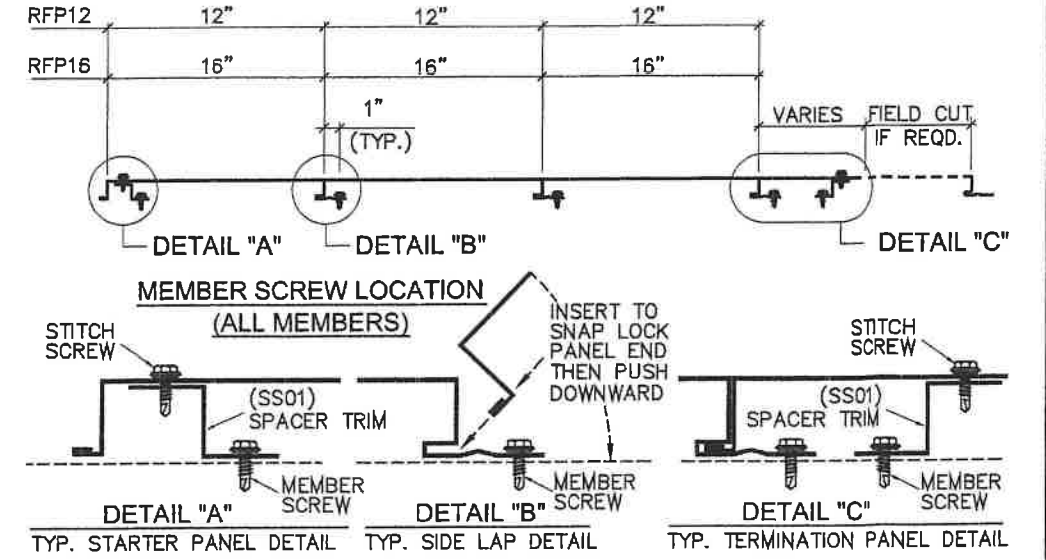
7 SECTION THRU RAKE START - FLOATING ON MODULE



8 SECTION THRU RAKE END - FLOATING ON MODULE



8 SECTION THRU LOW EAVE - FIXED WITH SOFFIT PANEL AT ROOF EXTENSION



2 "RFP12" & "RFP16" RIGID FLAT PANEL SCREW LAYOUT (SOFFIT PANEL)

FOR PERMIT

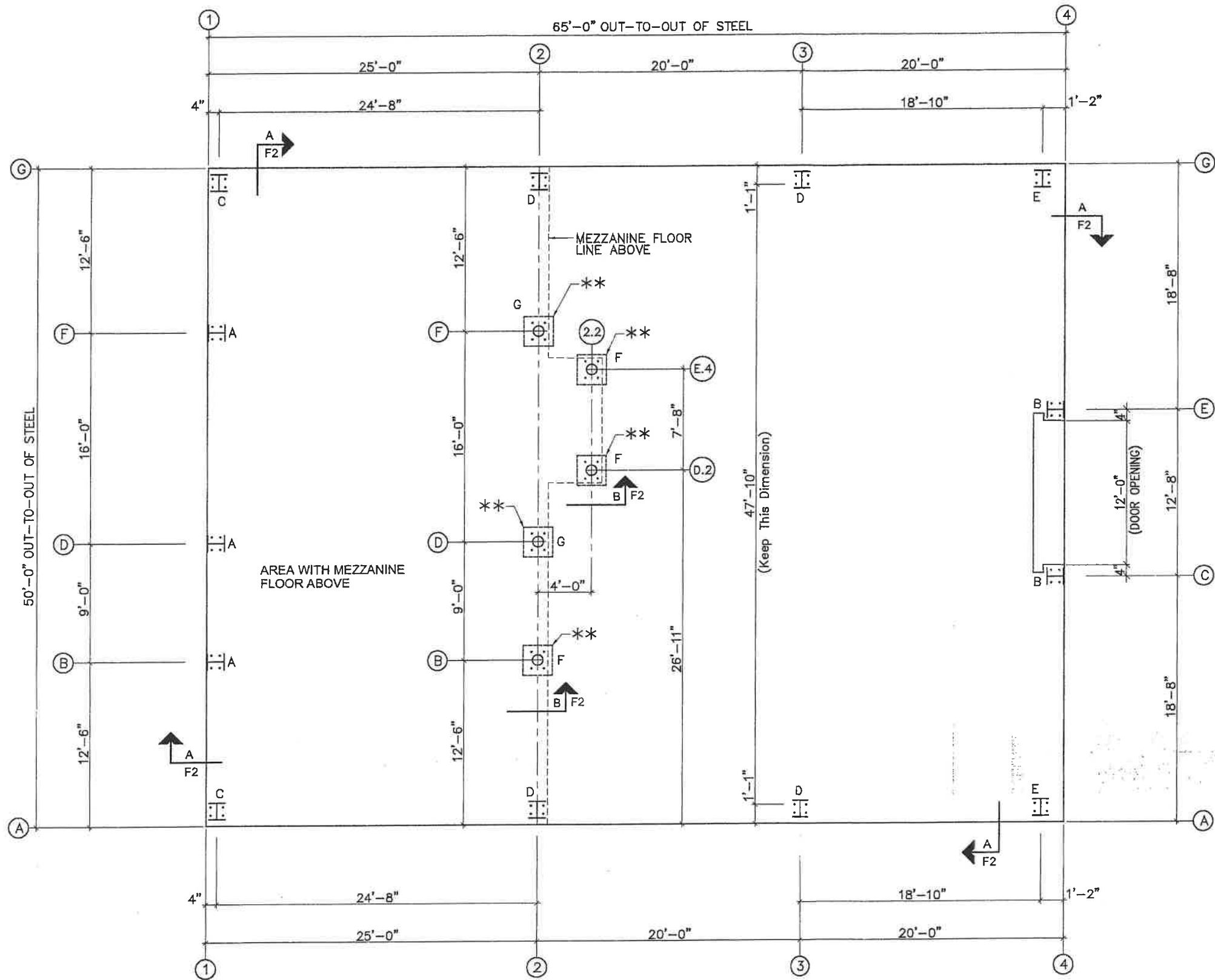


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A	APPROVAL/PERMIT	12/06/19	GCC	RCR	JEM
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DESCRIPTION	DETAIL DRAWINGS
CUSTOMER	BLACK FOREST LLC
END USER	BLACK FOREST LLC
END USE	BARN BUILDING A
STREET	12740 BLACK FORREST RD.
CITY ST ZIP	COLORADO SPRINGS, CO 80908

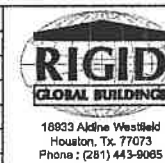


FOR PERMIT

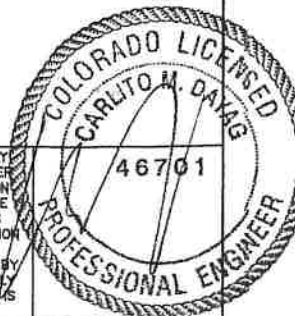
COLUMN LAYOUT PLAN

NOTE: All Base Plates @ 100'-0" (U.N.)
 ** = DENOTES BOTTOM OF BASE PLATE AT EL. = 99'-4"

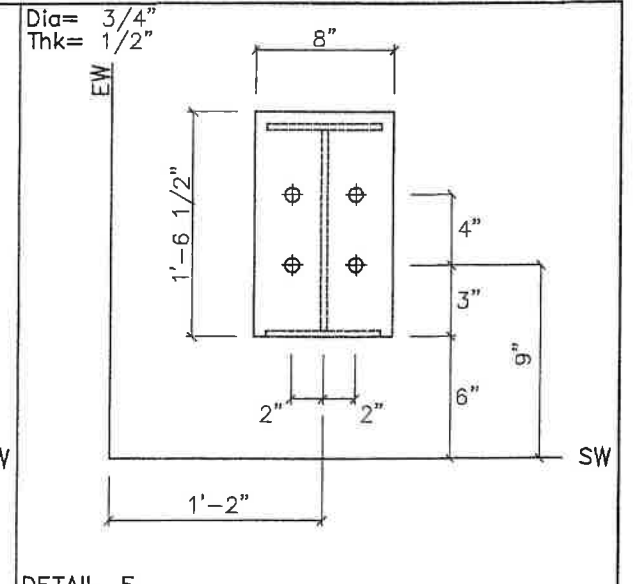
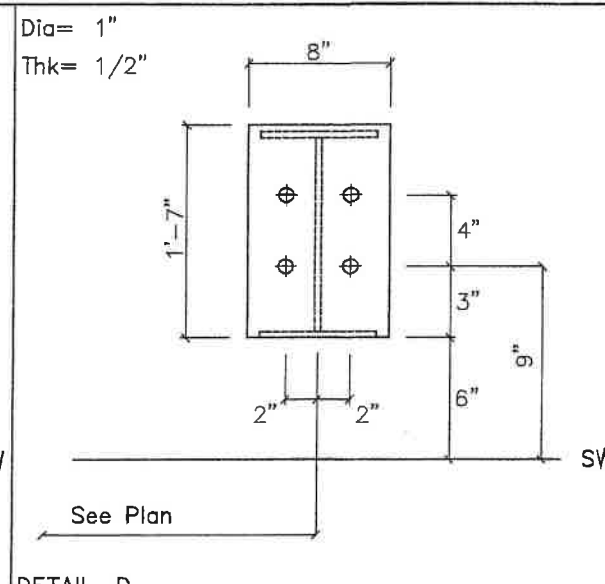
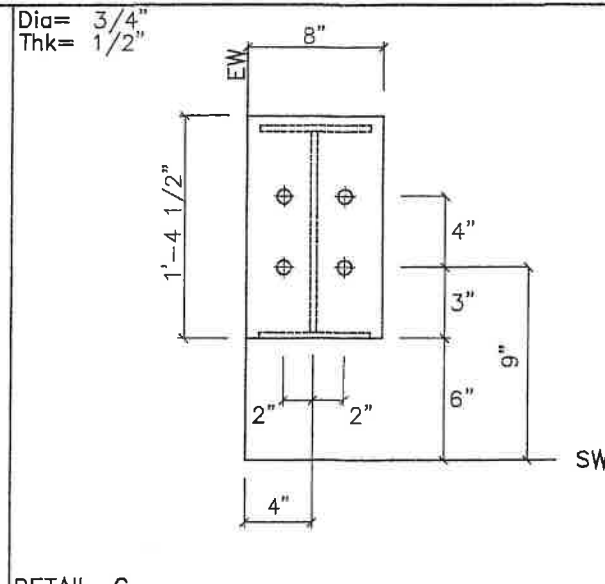
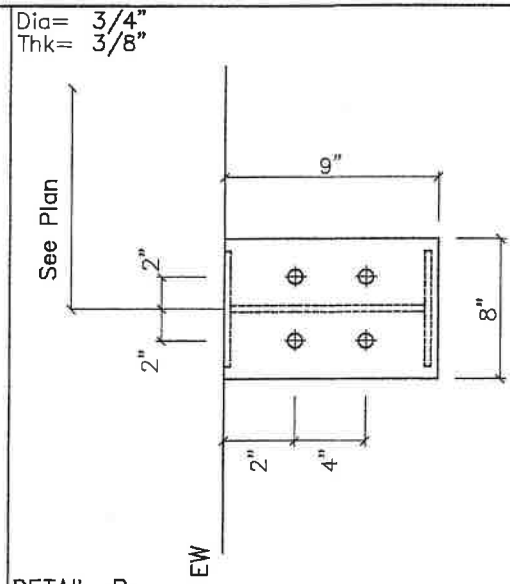
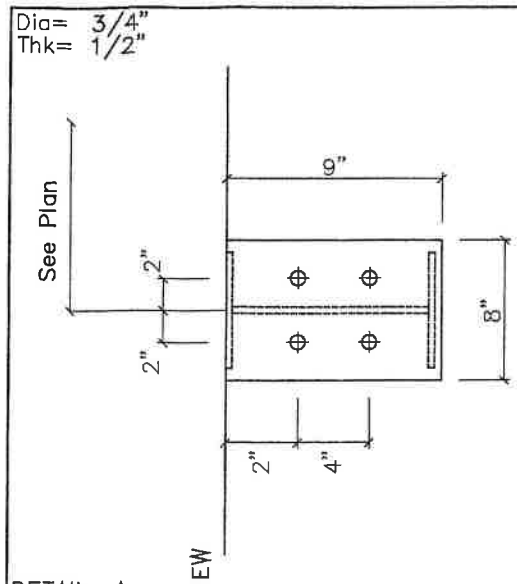
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/02/19	GGC	RCR	JEM
B	APPROVAL/PERMIT	01-28-20	GGC	RCR	JEM



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DESCRIPTION	COLUMN LAYOUT PLAN
CUSTOMER	BLACK FOREST LLC
END USER	BLACK FOREST LLC
END USE	BARN BUILDING A
STREET	12740 BLACK FORREST RD.
CITY ST ZIP	COLORADO SPRINGS, CO 80908



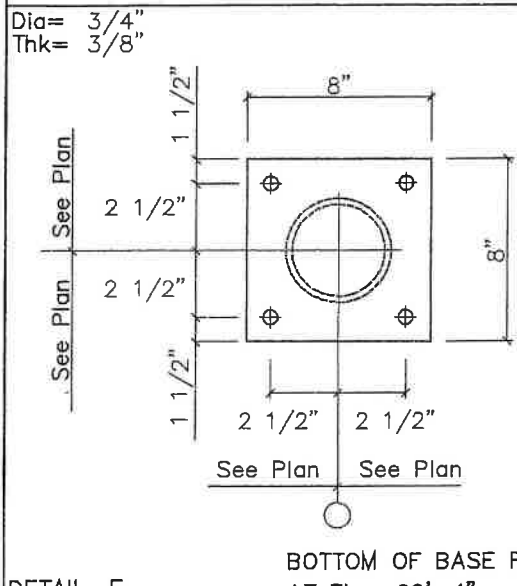
DETAIL A

DETAIL B

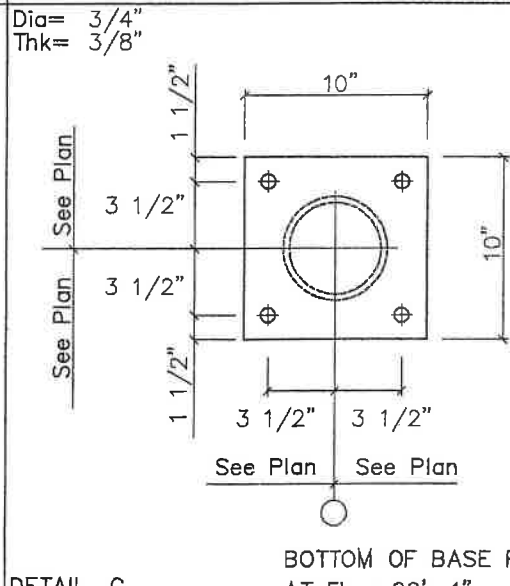
DETAIL C

DETAIL D

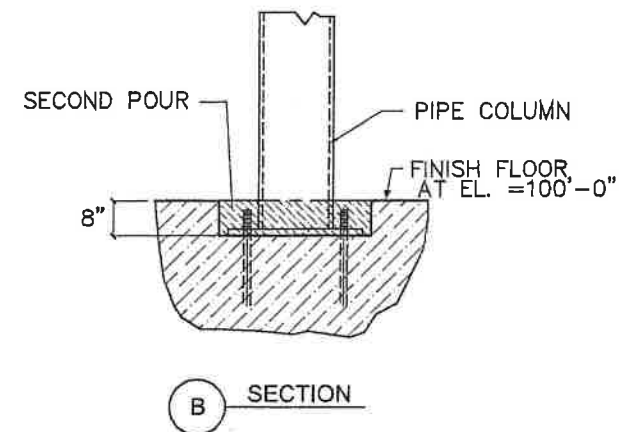
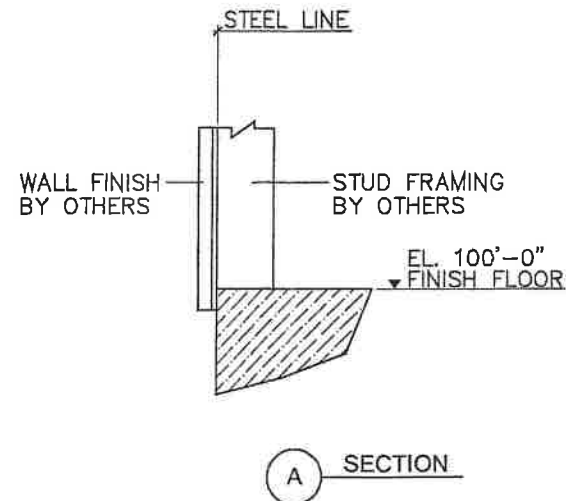
DETAIL E



BOTTOM OF BASE PLATE
AT EL. =99'-4"



BOTTOM OF BASE PLATE
AT EL. =99'-4"



FOR PERMIT

NOTE:
ONLY ANCHOR BOLTS SETTING PLAN ISSUED & STAMPED "FOR CONSTRUCTION" SHALL BE USED IN SETTING ANCHOR BOLTS. "RIGID GLOBAL BUILDINGS" SHALL NOT BE RESPONSIBLE FOR ERROR OR DISCREPANCY IF THE DRAWING USED IS NOT VALID FOR CONSTRUCTION.

QTY.	SYMBOL	DIA.	PROJ.	ANCHOR BOLT DETAIL
-	+	1/2"	1"	ANCHOR BOLT PROJECTION "PROJ." IS MEASURED FROM BOTTOM OF BASE PLATE
-	+	5/8"	2"	DETAIL OF ANCHOR BOLT AS PER THE SUPPLIER
56	+	3/4"	2 1/2"	LENGTH OF "PROJ." SHOWN IS FOR ONE NUT + ONE WASHER
-	+	7/8"	2 3/4"	NUTS & WASHERS BY SUPPLIER
16	+	1"	3"	
-	+	1 1/8"	3 1/2"	
-	+	1 1/2"	3 1/2"	

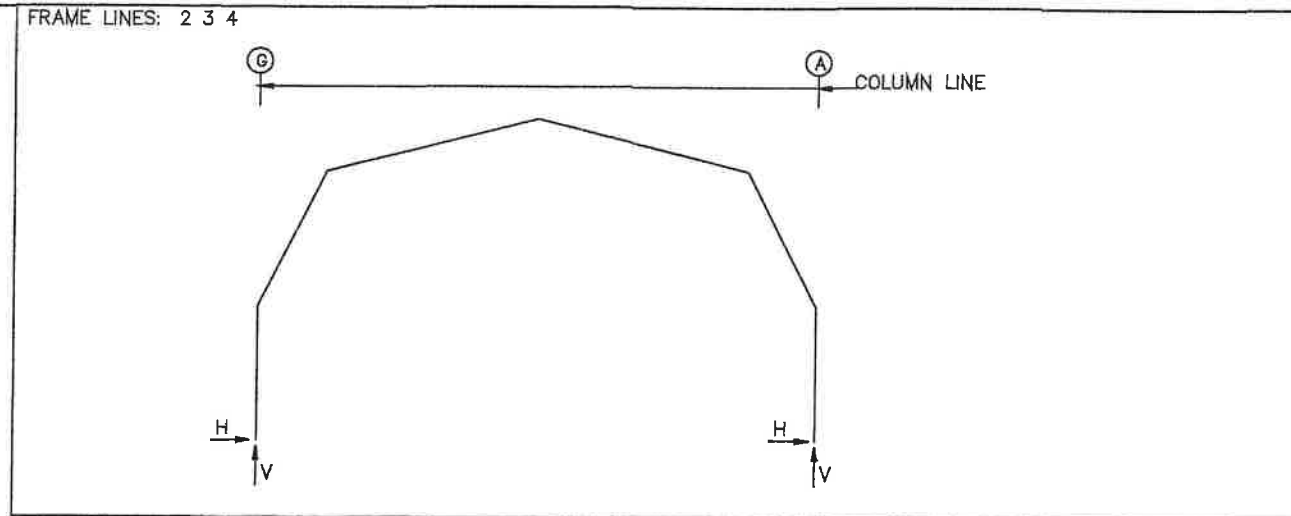
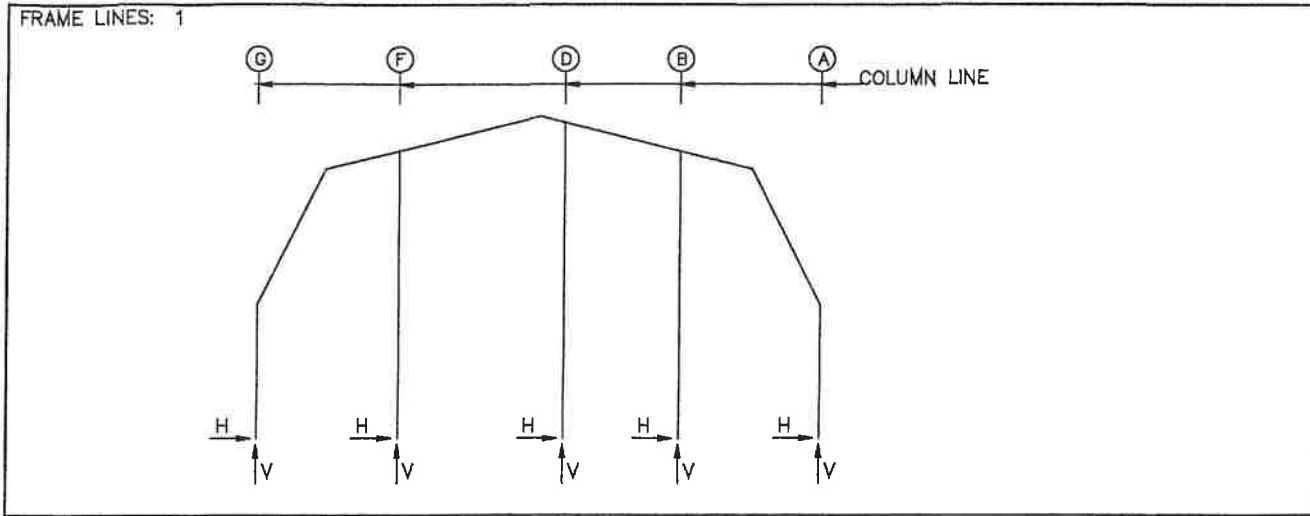
ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/02/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	01-28-20	GCC	RCR	JEM



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DESCRIPTION	ANCHOR BOLT DETAILS
CUSTOMER	BLACK FOREST LLC
END USER	BLACK FOREST LLC
END USE	BARN BUILDING A
STREET	12740 BLACK FORREST RD.
CITY ST ZIP	COLORADO SPRINGS, CO 80908



RIGID FRAME: BASIC COLUMN REACTIONS (k)

Frame Line	Column Line	Dead		Collateral		Live		Floor		Snow		Wind_Left1	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
1	G	0.2	3.6	0.1	1.5	0.3	2.0	-0.5	10.4	0.5	4.1	-7.1	-9.4
1	A	-0.2	3.8	-0.1	1.5	-0.3	2.3	0.5	10.4	-0.5	4.6	-7.5	7.1
1	F	0.0	5.4	0.0	2.0	0.0	4.6	0.0	22.0	0.0	9.2	0.0	7.6
1	D	0.0	4.7	0.0	1.7	0.0	4.4	0.0	20.6	0.0	8.8	0.0	-3.3
1	B	0.0	4.0	0.0	1.4	0.0	2.9	0.0	16.3	0.0	5.8	0.0	-15.5
Frame Line	Column Line	Wind_Right1		Wind_Left2		Wind_Right2		Wind_Long1		Wind_Long2		Seismic_Left	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
1	G	7.4	6.9	-8.2	-5.4	6.3	10.9	3.1	-5.8	0.9	-9.2	-1.4	-2.3
1	A	7.1	-10.1	-6.3	11.1	8.3	-6.1	-0.9	-9.3	-3.1	-5.8	-1.4	2.4
1	F	0.0	-15.8	0.0	8.1	0.0	-15.3	0.0	-2.7	0.0	2.4	-0.3	2.7
1	D	0.0	-5.0	0.0	-2.1	0.0	-3.8	0.0	-1.5	0.0	-1.1	-0.1	0.2
1	B	0.0	10.5	0.0	-15.4	0.0	10.6	0.0	3.2	0.0	-2.5	-0.3	-3.0
Frame Line	Column Line	Seismic_Right		MIN_SNOW		F1UNB_SL_L		F1UNB_SL_R					
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert				
1	G	1.4	2.3	0.3	2.0	0.1	0.1	0.1	0.3				
1	A	1.4	-2.4	-0.3	2.3	-0.1	0.5	-0.1	0.9				
1	F	0.3	-2.7	0.0	4.6	0.0	11.1	0.0	2.6				
1	D	0.1	-0.2	0.0	4.4	0.0	8.0	0.0	9.2				
1	B	0.3	3.0	0.0	2.9	0.0	0.2	0.0	6.9				
Frame Line	Column Line	Dead		Collateral		Live		Floor		Snow		Wind_Left1	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
2	G	1.9	7.5	1.3	4.5	4.3	11.5	-0.5	9.9	8.6	23.0	-11.5	-10.9
2	A	-1.9	7.5	-1.3	4.5	-4.3	11.5	0.5	9.9	-8.6	23.0	-6.0	-6.1
Frame Line	Column Line	Wind_Right1		Wind_Left2		Wind_Right2		Wind_Long1		Wind_Long2		Seismic_Left	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
2	G	6.0	-6.1	-12.4	-3.9	5.1	0.9	3.7	-19.6	0.7	-20.5	-1.7	-0.9
2	A	11.5	-10.9	-5.1	0.9	12.4	-3.9	-0.7	-20.5	-0.7	-19.6	-1.8	0.9
Frame Line	Column Line	Seismic_Right		Seismic_Long		MIN_SNOW		F2UNB_SL_L		F2UNB_SL_R			
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert		
2	G	1.7	0.9	0.0	-5.2	4.3	11.5	6.5	17.0	6.5	11.2		
2	A	1.8	-0.9	0.0	-5.2	-4.3	11.5	-6.5	17.0	-6.5	17.0		
Frame Line	Column Line	Dead		Collateral		Live		Snow		Wind_Left1		Wind_Right1	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
3	G	1.8	5.7	1.1	3.3	3.7	10.0	7.5	20.0	-10.0	-9.5	5.2	-5.3
3	A	-1.8	5.7	-1.1	3.3	-3.7	10.0	-7.5	20.0	-5.2	-9.5	10.0	-9.5
Frame Line	Column Line	Wind_Left2		Wind_Right2		Wind_Long1		Wind_Long2		Seismic_Left		Seismic_Right	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
3	G	-10.8	-3.4	4.4	0.8	3.2	-18.2	0.6	-18.9	-0.7	-0.3	0.7	0.3
3	A	-4.4	0.8	10.8	-3.4	-0.6	-18.9	-3.2	-18.2	-0.7	0.3	0.7	-0.3
Frame Line	Column Line	Seismic_Long		MIN_SNOW		F2UNB_SL_L		F2UNB_SL_R					
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert				
3	G	0.0	-5.2	3.7	10.0	5.7	14.8	5.7	9.8				
3	A	0.0	-5.2	-3.7	10.0	-5.7	9.8	-5.7	14.8				
Frame Line	Column Line	Dead		Collateral		Live		Snow		Wind_Left1		Wind_Right1	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
4	G	1.2	4.3	0.7	2.3	2.5	7.0	4.9	14.0	-8.3	-7.7	4.5	-4.2
4	A	-1.2	4.3	-0.7	2.3	-2.5	7.0	-4.9	14.0	-4.5	-7.7	8.3	-7.7
Frame Line	Column Line	Wind_Left2		Wind_Right2		Wind_Long1		Wind_Long2		Seismic_Left		Seismic_Right	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
4	G	-8.9	-3.5	3.9	0.1	2.3	-6.7	0.5	-7.2	-0.5	-0.3	0.5	0.3
4	A	-3.9	0.1	8.9	-3.5	-0.5	-7.2	-2.3	-6.7	-0.6	0.3	0.6	-0.3
Frame Line	Column Line	MIN_SNOW		F3UNB_SL_L		F3UNB_SL_R							
		Horiz	Vert	Horiz	Vert	Horiz	Vert						
4	G	2.5	7.0	3.6	9.8	3.6	6.5						
4	A	-2.5	7.0	-3.6	9.8	-3.6	9.8						

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)							Bolt Qty	Bolt Dia (in)	Base_Plate(in)			BOTT. OF BASE PLATE (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Width			Length	Thick		
1	G	5	4.6	7.8	12	-4.8	-1.1	4	0.750	8.000	16.50	0.500	0.0	
1	A	9	3.2	20.9	10	-4.1	-3.5	4	0.750	8.000	16.50	0.500	0.0	
1	F	8	4.8	-1.4	4	-4.7	8.0	4	0.750	8.000	8.500	0.500	0.0	
1	D	17	0.2	1.2	16	-0.2	4.9	4	0.750	8.000	8.500	0.500	0.0	
1	B	8	0.0	34.5	11	0.0	-6.3	4	0.750	8.000	8.500	0.500	0.0	
1		17	0.1	2.5	16	-0.1	2.8	4	0.750	8.000	8.500	0.500	0.0	
1		3	0.0	28.4	11	0.0	-0.2	4	0.750	8.000	8.500	0.500	0.0	
1		9	0.2	4.3	16	-0.2	0.2	4	0.750	8.000	8.500	0.500	0.0	
1		10	0.0	26.7	10	0.0	-6.9							

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)							Bolt Qty	Bolt Dia (in)	Base_Plate(in)			BOTT. OF BASE PLATE (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Width			Length	Thick		
2	G	7	12.0	33.9	12	-6.3	2.2	4	1.00	8.000	19.00	0.500	0.0	
2	A	9	11.6	37.1	15	1.6	-7.8	4	1.00	8.000	19.00	0.500	0.0	
2		13	6.3	2.2	6	-12.0	33.9	4	1.00	8.000	19.00	0.500	0.0	
2		8	-11.6	37.1	14	-1.6	-7.8							

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)							Bolt Qty	Bolt Dia (in)	Base_Plate(in)			BOTT. OF BASE PLATE (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Width			Length	Thick		
3	G	19	10.7	21.7	12	-5.4	1.4	4	1.00	8.000	19.00	0.500	0.0	
3	A	2	10.3	29.0	15	1.4	-7.9	4	1.00	8.000	19.00	0.500	0.0	
3		13	5.4	1.4	18	-10.7	21.7	4	1.00	8.000	19.00	0.500	0.0	
3		2	-10.3	29.0	14	-1.4	-7.9							

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)							Bolt Qty	Bolt Dia (in)	Base_Plate(in)			BOTT. OF BASE PLATE (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Width			Length	Thick		
4	G	19	7.6	15.2	12	-4.6	0.5	4	0.750	8.000	18.50	0.500	0.0	
4	A	2	6.8	20.6	10	-4.2	-2.1	4	0.750	8.000	18.50	0.500	0.0	
4		13	4.6	0.5	18	-7.6	15.2	4	0.750	8.000	18.50	0.500	0.0	
4		2	-6.8	20.6	11	4.2	-2.1							

FOR PERMIT



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ISSUE	DESCRIPTION	DATE	DRN	CHK	DES.
A	APPROVAL/PERMIT	12/02/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	12/28/20	GCC	RCR	JEM



18935 Aldine Westfield
Houston, TX 77073
Phone: (281) 443-9065

DESCRIPTION	REACTIONS
CUSTOMER	BLACK FOREST LLC
END USER	BLACK FOREST LLC
END USE	BARN
STREET	12740 BLACK FORREST RD.
CITY ST ZIP	COLORADO SPRINGS, CO 80908

ENDWALL COLUMN: BASIC COLUMN REACTIONS (k)

Frm Line	Col Line	Wind Press		Wind Suct		-MIN_SNOW-		E1PAT_SL_1-		E1PAT_SL_2-		E1PAT_SL_3-		E1PAT_SL_4-	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
1	F	-5.5	6.1	0.0	7.2	0.0	7.2	0.0	2.5	0.0	-0.2	0.0	6.8	0.0	4.9
1	D	-5.3	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1	B	-4.2	4.6	0.0	7.2	0.0	-0.2	0.0	0.0	2.5	0.0	1.9	0.0	4.9	

Frm Line	Col Line	E1PAT_SL_5-	
		Horz	Vert
1	F	0.0	0.4
1	D	0.0	0.0
1	B	0.0	5.3

Frm Line	Col Line	Dead Vert	Wind Press		Wind Suct	
			Horz	Vert	Horz	Vert
4	C	0.4	-6.6	7.3		
4	E	0.4	-6.6	7.3		

ENDWALL COLUMN: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(In) Qty	Dia	Base_Plate(In)			BOTT. OF BASE PLATE (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin			Width	Length	Thick	
1	F *	21	3.7	-6.7	22	-3.3	-1.5						
		3	0.0	37.5	21	3.7	-6.7						
1	D *	23	3.5	0.1	22	-3.2	1.5						
		1	0.0	22.9									
1	B *	24	2.8	-6.9	22	-2.5	-4.0						
		3	0.0	32.7	24	2.8	-6.9						
4	C	26	4.4	0.2	24	-4.0	0.2	4	0.750	8.000	9.000	0.375	0.0
		20	0.0	0.4									
4	E	26	4.4	0.2	24	-4.0	0.2	4	0.750	8.000	9.000	0.375	0.0
		20	0.0	0.4									

BUILDING BRACING REACTIONS

Wall Loc	Col Line	± Reactions(k)				Panel_Shear (lb/ft)		Note
		Wind Horz	Wind Vert	Seismic Horz	Seismic Vert	Wind	Sels	
L_EW	1							(h)
F_SW	A	2,3	3.82	8.60	2.30	5.20		(b)
R_EW	4							(h)
B_SW	G	2,3	3.82	8.60	2.30	5.20		(b)

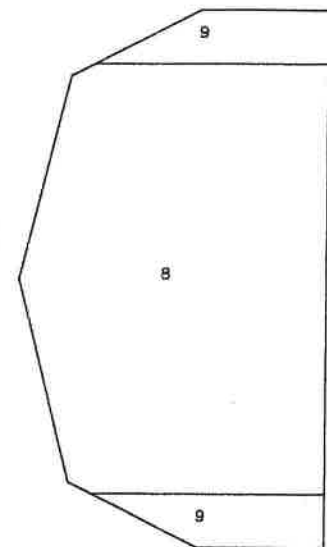
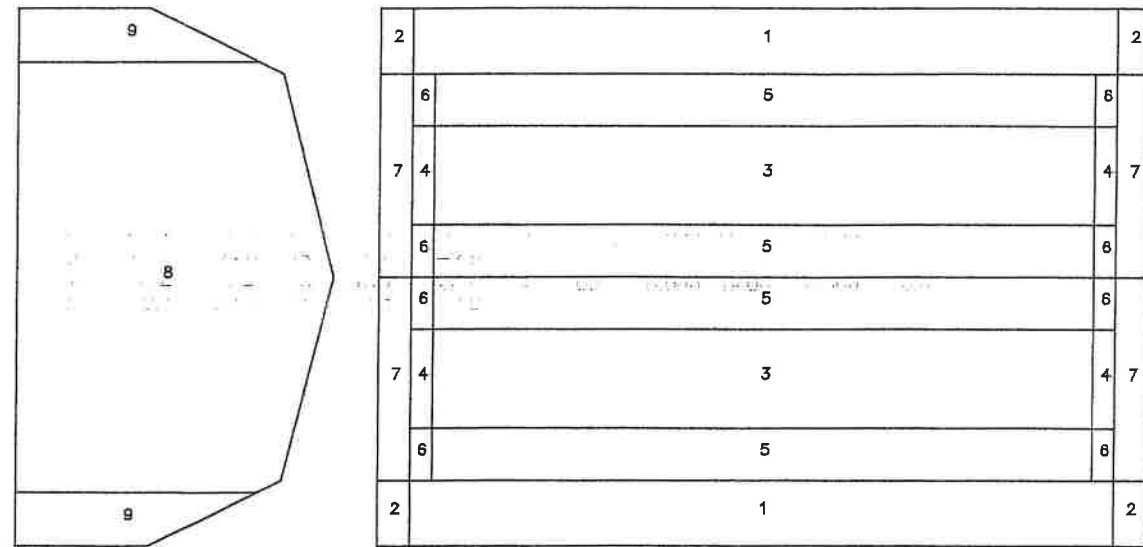
(b) Wind bent in bay, base above finish floor
(h) Rigid frame at endwall

- NOTES FOR REACTIONS**
- All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.
 - Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.
 - Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.
 - Building reactions are based on the following building data.
 - Width (ft) : 50
 - Length (ft) : 65
 - Eave Height (ft) : 12 / 12
 - Roof Slope (rise/12) : 24.0:12 / 24.0:12
 - Design Code : IBC 15
 - Enclosure : Closed
 - Dead Load (psf) : SELF WEIGHT
 - Collateral Load (psf) : 5
 - Wind Speed (mph) : 130 mph
 - Wind Importance Factor : 1.00
 - Wind Exposure : C
 - Live Load (psf) : 20.00
 - Frame Live Load (psf) : 20
 - Ground Snow Load (psf) : 57.000
 - Roof Snow Load (psf) : 40
 - Snow Exposure : 1.000
 - Snow Importance Factor : 1.000
 - Thermal Factor : 1.000
 - Seismic Importance Factor : 1.00
 - Spectral Response Accel. : Ss=0.185 ; S1=0.059
 - Spectral Response Coeff. : Sds=0.197 ; Sd1=0.094
 - Seismic Coeff. (Fa*Ss) : 0.296 ; Fa=1.600
 - Seismic Design Category : B
 - Loading conditions are:
 - 1 Dead+Collateral+Floor_Live
 - 2 Dead+Collateral+Snow+Slide_Snow
 - 3 Dead+Collateral+0.75Snow+0.75Slide_Snow+0.75Floor_Live
 - 4 Dead+0.6Wind_Left1
 - 5 Dead+0.6Wind_Right1
 - 6 Dead+Collateral+0.75Snow+0.45Wind_Left1+0.75Slide_Snow+0.75Floor_Live
 - 7 Dead+Collateral+0.75Snow+0.45Wind_Right1+0.75Slide_Snow+0.75Floor_Live
 - 8 Dead+Collateral+0.75Snow+0.45Wind_Left2+0.75Slide_Snow+0.75Floor_Live
 - 9 Dead+Collateral+0.75Snow+0.45Wind_Right2+0.75Slide_Snow+0.75Floor_Live
 - 10 0.6Dead+0.6Wind_Left1
 - 11 0.6Dead+0.6Wind_Right1
 - 12 0.6Dead+0.6Wind_Left2
 - 13 0.6Dead+0.6Wind_Right2
 - 14 0.6Dead+0.6Wind_Long1L
 - 15 0.6Dead+0.6Wind_Long2L
 - 16 0.57Dead+0.7Seismic_Left
 - 17 0.57Dead+0.7Seismic_Right
 - 18 Dead+Collateral+0.75Snow+0.45Wind_Left1+0.75Slide_Snow
 - 19 Dead+Collateral+0.75Snow+0.45Wind_Right1+0.75Slide_Snow
 - 20 1.02Dead+1.02Collateral+0.15Snow+0.53Seismic_Right+0.15Slide_Snow
 - 21 0.6Dead+0.6Wind_Right1+0.6Wind_Suction
 - 22 0.6Dead+0.6Wind_Pressure+0.6Wind_Long1L
 - 23 0.6Dead+0.6Wind_Suction+0.6Wind_Long2L
 - 24 0.6Dead+0.6Wind_Pressure+0.6Wind_Long2L
 - 25 0.6Dead+0.6Wind_Left1+0.6Wind_Suction
 - 26 0.6Dead+0.6Wind_Right2+0.6Wind_Suction

FOR PERMIT

Components & Cladding (Factored)

Zone	Width (ft)	Length (ft)	Pressure(psf)		Suction(psf)	
			Member	Panel	Member	Panel
1			14.90	16.42	-23.84	-27.98
2	13.63	3.00	13.26	16.42	-39.33	-40.42
3			14.90	16.42	-19.87	-23.92
4		2.00	14.90	16.42	-28.01	-41.85
5	5.00		14.90	16.42	-28.01	-41.85
6	5.00	2.00	14.90	16.42	-44.10	-61.94
7	19.49	3.00	13.26	16.42	-44.50	-44.48
8			20.34	23.94	-22.38	-25.92
9	5.00		20.34	23.94	-22.38	-31.88



FLOOR COLUMN REACTIONS

Frame Line	Col Line	Max_Vert Ld (k)	Dead Vert (k)	Coll Vert (k)	Live Vert (k)	Anc. Bolt Qty	Dia	Base Plate (in)			BOTT. OF BASE PLATE (in)	
								Width	Length	Thick		
2	F	1	32	2.8	0.6	28	4	0.750	10.00	10.00	0.375	-8.0
2	D	1	27	2.4	0.5	24	4	0.750	10.00	10.00	0.375	-8.0
2	B	1	22	2.0	0.5	19	4	0.750	8.000	8.000	0.375	-8.0
2.2	E.4	1	2	0.2	-	1.5	4	0.750	8.000	8.000	0.375	-8.0
2.2	D.2	1	6	0.4	-	4.8	4	0.750	8.000	8.000	0.375	-8.0

Design Calculation Wind

ISSUE	DESCRIPTION	DATE	DRN.	CHK.	DES.
A	APPROVAL/PERMIT	12/02/19	GCC	RCR	JEM
B	APPROVAL/PERMIT	01/28/20	GCC	RCR	JEM



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DESCRIPTION	REACTIONS
CUSTOMER	BLACK FOREST LLC
END USER	BLACK FOREST LLC
END USE	BARN BUILDING A
STREET	12740 BLACK FORREST RD.
CITY ST ZIP	COLORADO SPRINGS, CO 80908