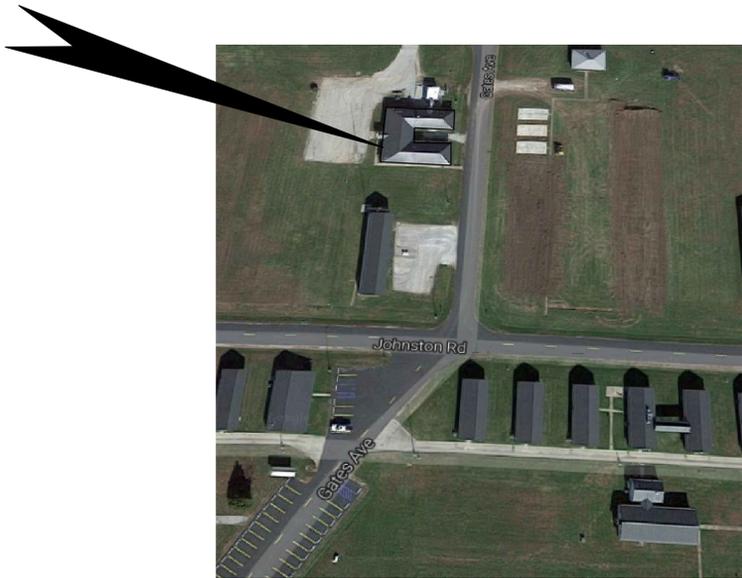


DINING FACILITY (DFAC) ADDITION CAMP CLARK BLDG 430

NEVADA, MISSOURI



 **PROJECT LOCATION**

SHEET LIST	
SHEET NO.	SHEET TITLE
G000	COVER SHEET
A-201	CANOPY ELEVATION & DETAILS
A-202	COOLER CANOPY DETAILS
S-000	STRUCTURAL GENERAL NOTES
S-001	SPECIAL INSPECTIONS & ABBREVIATIONS
S-100	FOUNDATION PLAN & TYPICAL DETAILS
S-101	CANOPY FRAMING PLAN
S-102	CANOPY ELEVATIONS & FRAMING DETAILS
G-001	MEP GENERAL NOTES
G-002	MEP SYMBOLS LEGEND
M-101	MECHANICAL PLAN AND SCHEDULES
E-101	ELECTRICAL PLANS

OWNER: STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

DEPARTMENT OF PUBLIC SAFETY
MISSOURI NATIONAL GUARD
OFFICE OF ADJUTANT GENERAL

DESIGNER: OLSSON
1301 Burlington Street, Suite 100
North Kansas City, MO 64116
MISSOURI C.O.A. #001592

PROJECT#: T1716-02

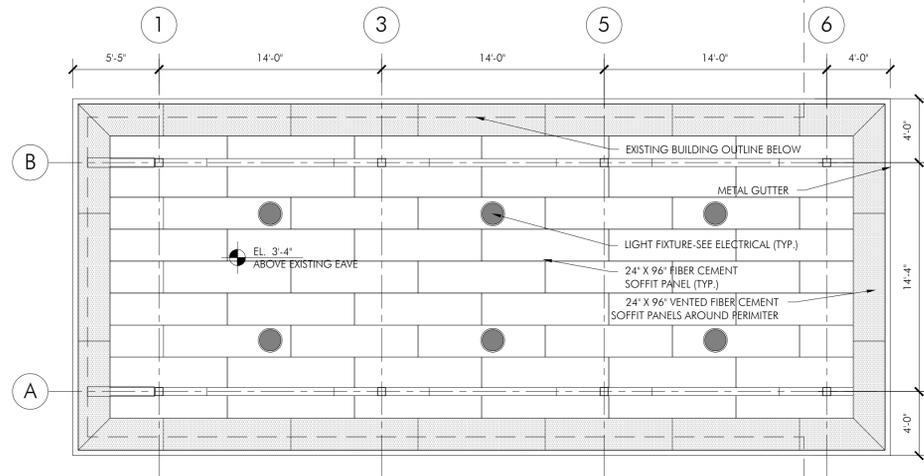
PROJECT MANAGEMENT: OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT
DESIGN AND CONSTRUCTION

SITE#: 6274

ASSET#: 8136274048

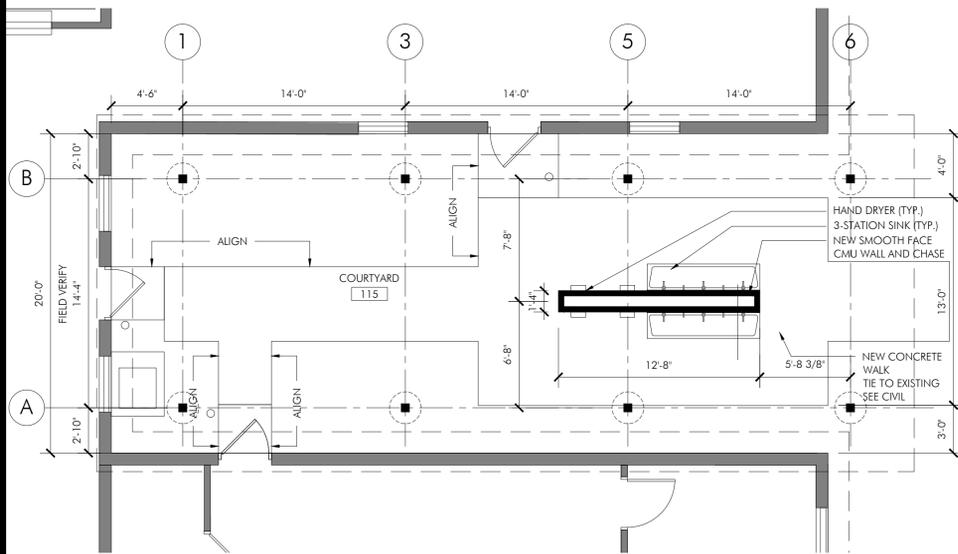
G000

SHEET NUMBER: 1 OF 12

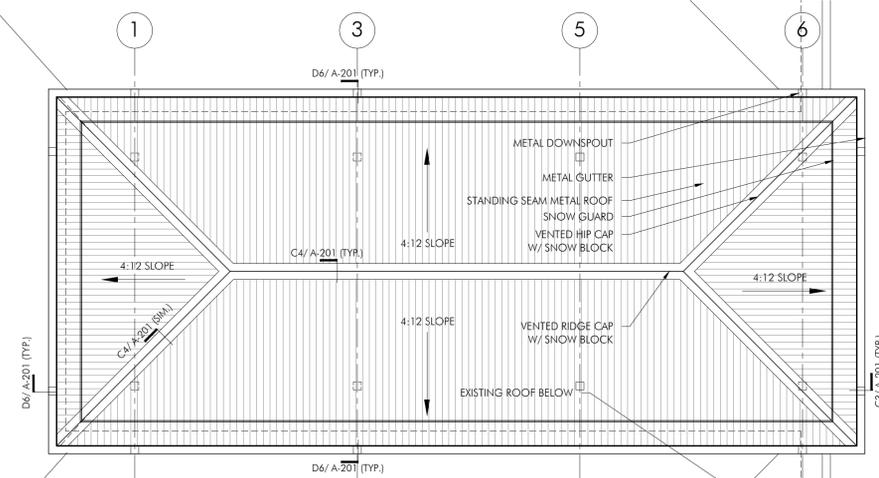


D1 CANOPY RCP
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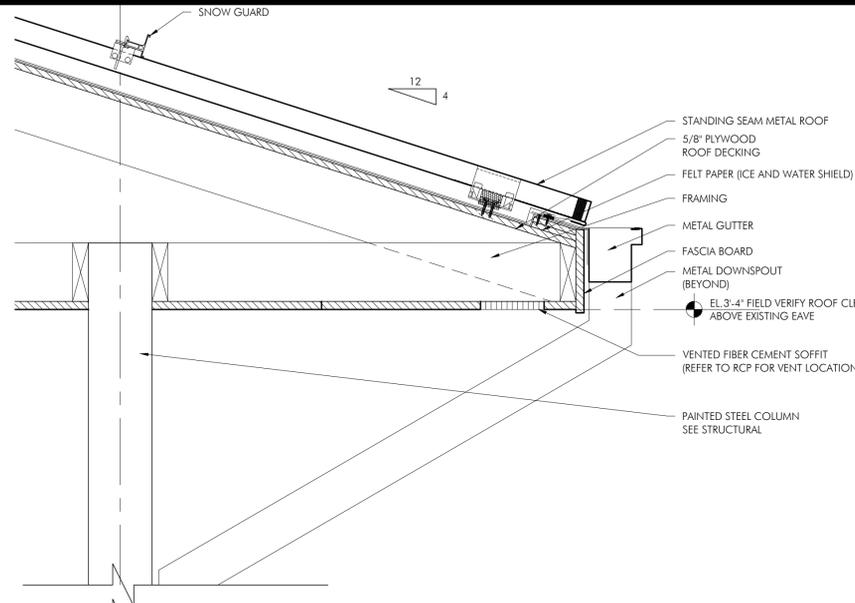
NOTE: REFER TO MEP DRAWINGS FOR LIGHT AND HEATER LOCATIONS



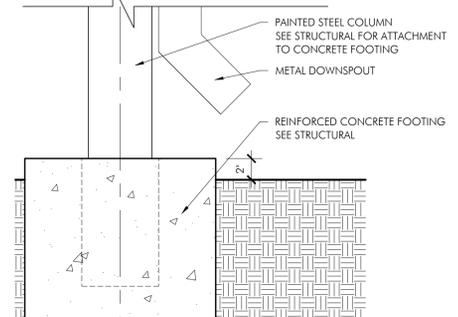
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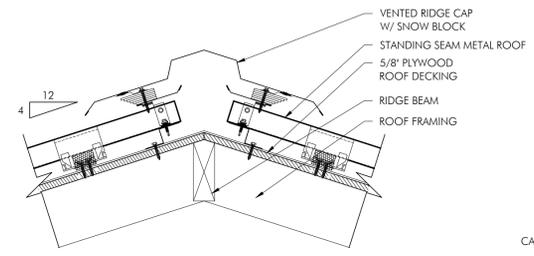
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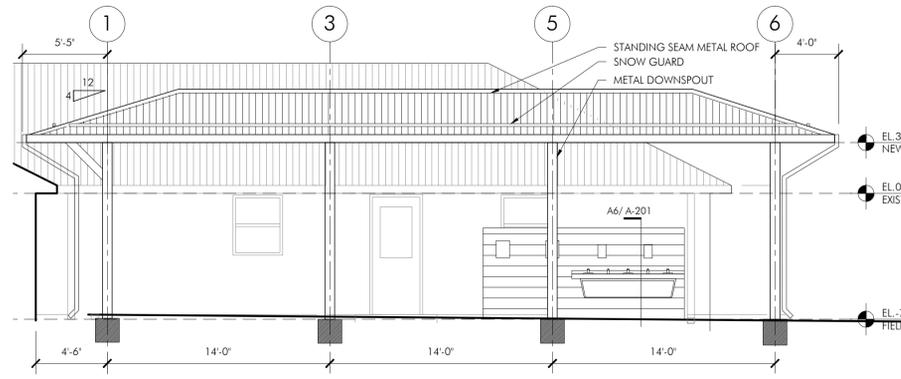
D6 CANOPY ROOF DETAIL
SCALE: 1 1/2" = 1'-0" RE:



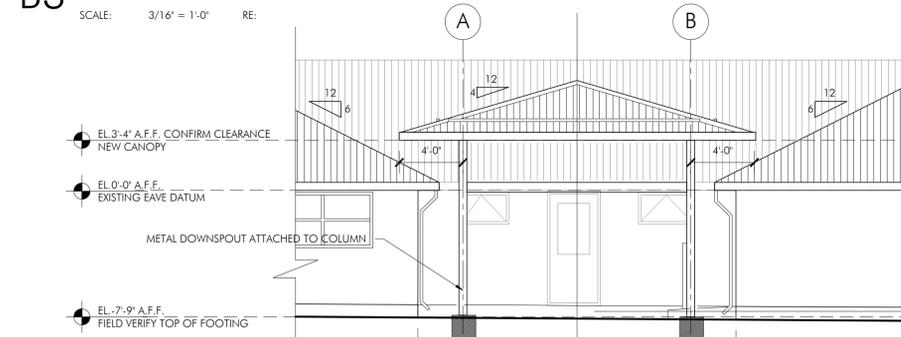
C3 CANOPY SECTION DETAIL
SCALE: 1 1/2" = 1'-0" RE:



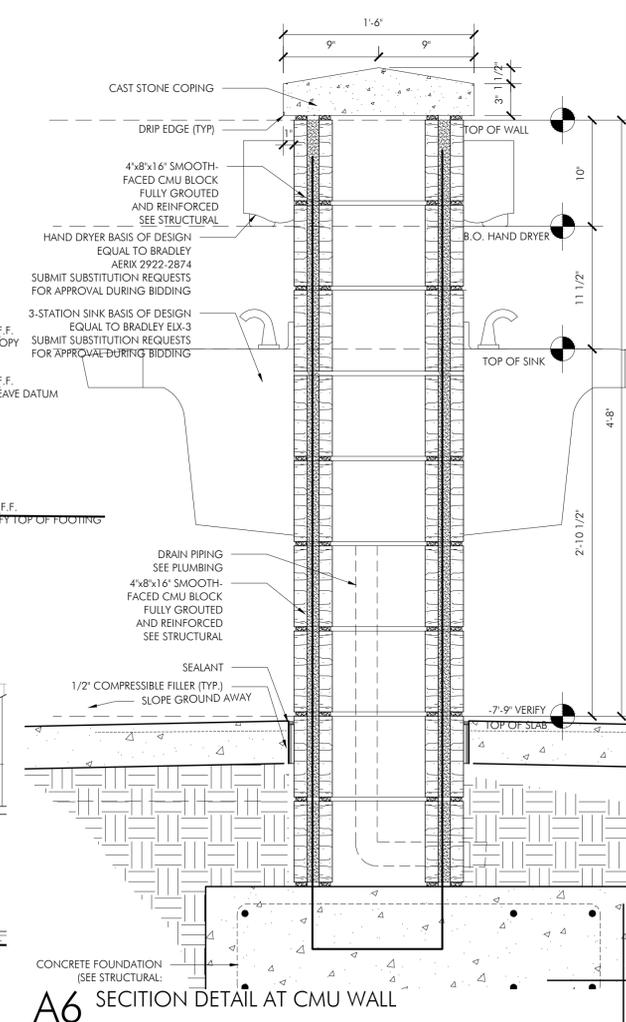
C4 CANOPY ROOF DETAIL
SCALE: 1 1/2" = 1'-0" RE:



B3 SOUTH ELEVATION
SCALE: 3/16" = 1'-0" RE:



A3 EAST ELEVATION
SCALE: 3/16" = 1'-0" RE:



A6 SECTION DETAIL AT CMU WALL
SCALE: 3/16" = 1'-0" RE:



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ARCHITECT
MICHAEL A. MCSWAIN
MISSOURI # 201600392

**DFAC ADDITION, BLDG 430
CAMP CLARK TRAINING SITE
NEVADA, MO 64772**

PROJECT # T1716-02
SITE # 6274
ASSET # 8136274048

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 07-26-2019

CAD DWG FILE: _____
DRAWN BY: OA
CHECKED BY: OA
DESIGNED BY: OA

SHEET TITLE: **CANOPY
ELEVATION &
DETAILS**

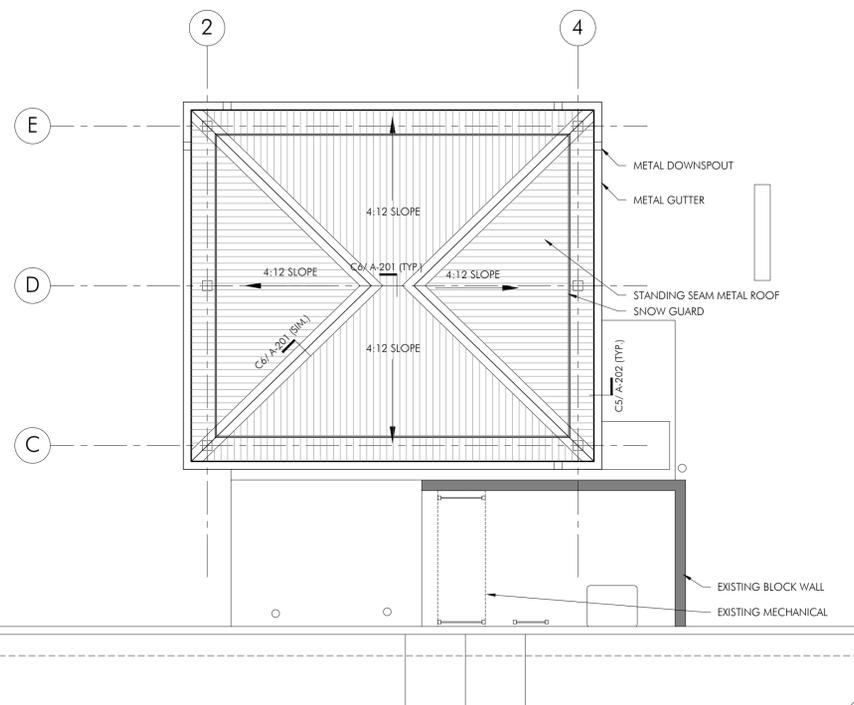
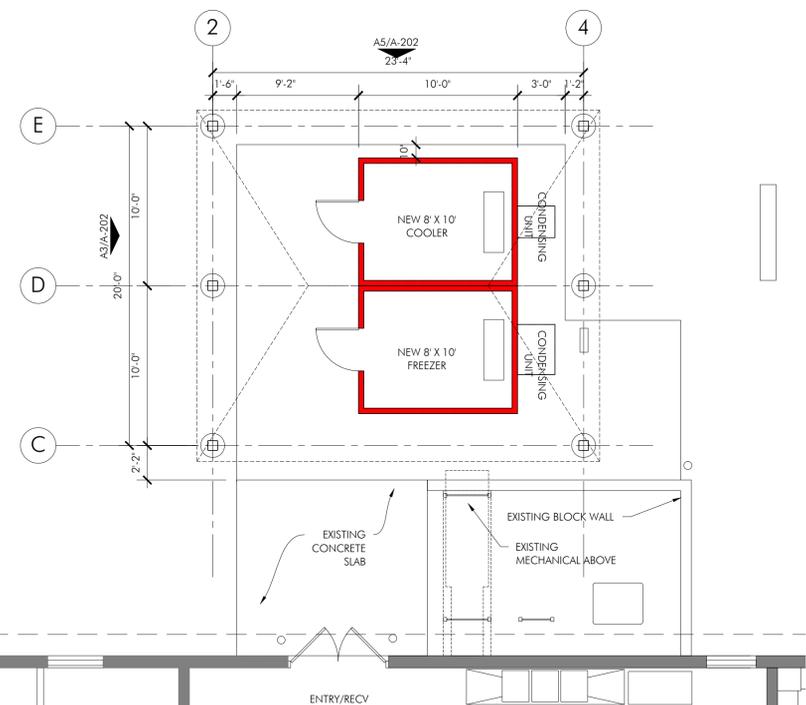
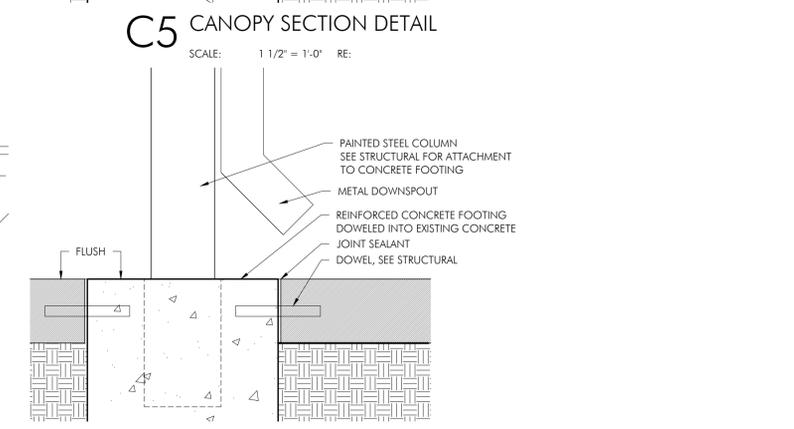
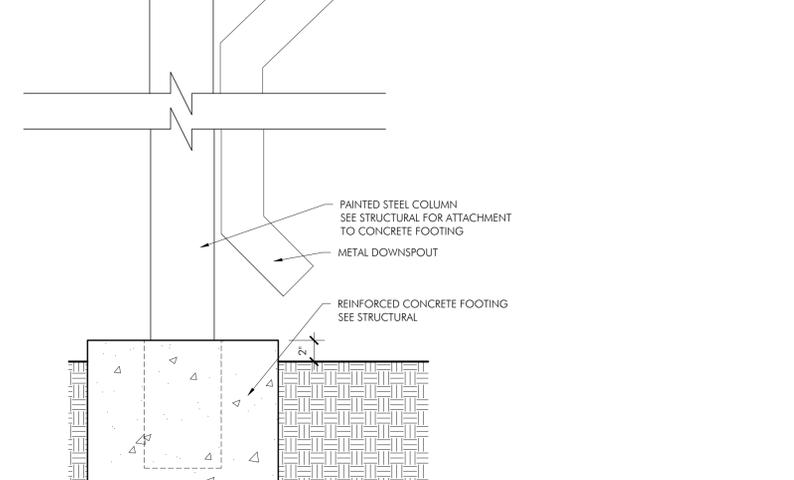
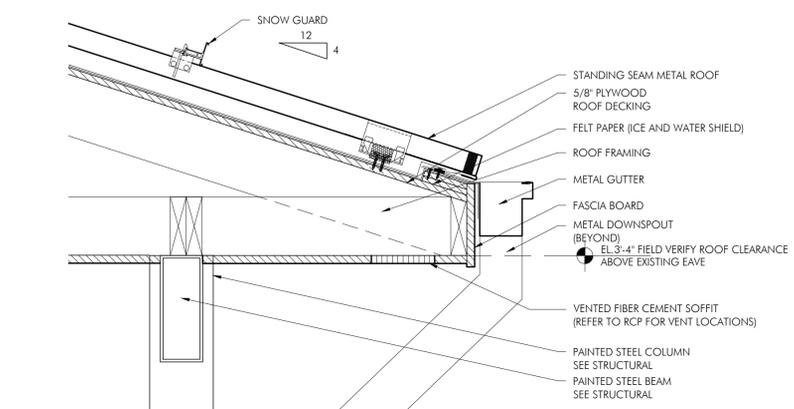
SHEET NUMBER:
A-201

2 OF 12 SHEETS

GENERAL DEMOLITION NOTES

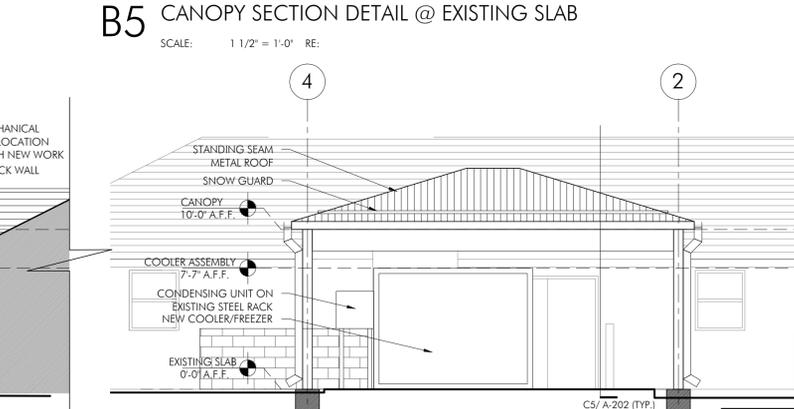
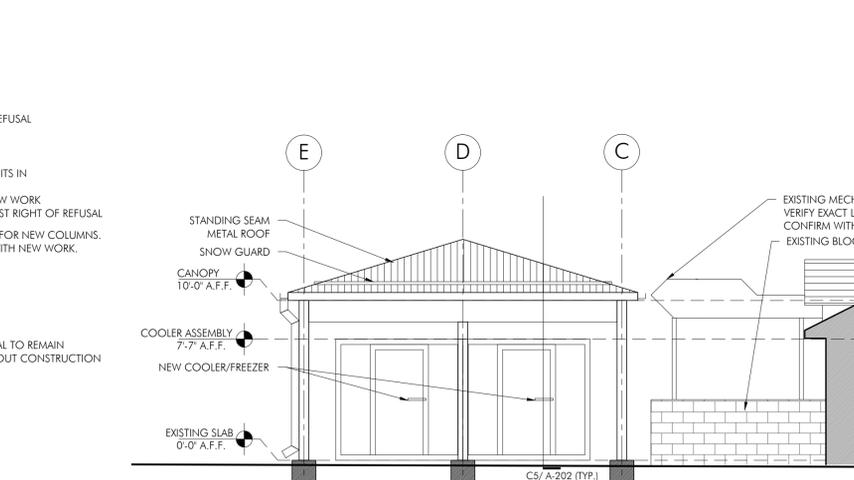
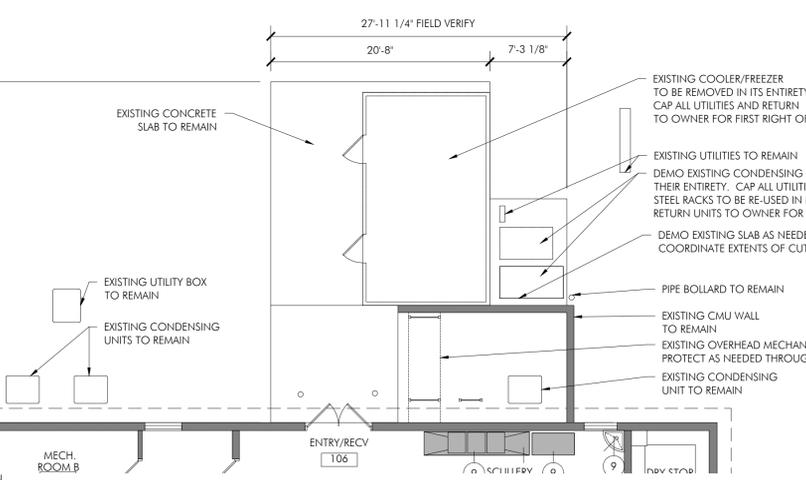
1. CONTRACTOR TO VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
2. COORDINATE EXTENT OF DEMOLITION WITH REQUIREMENTS OF NEW WORK.
3. ALL DEMO, CONSTRUCTION AND DISPOSAL TO COMPLY WITH LOCAL AND STATE CODES AND STANDARDS.
4. DO NOT SCALE DRAWINGS, FIELD VERIFY ALL DIMENSIONAL DATA PRIOR TO CONSTRUCTION. REPORT ANY VARIATION OR OMISSION TO ARCHITECT/ENGINEER IMMEDIATELY FOR CLARITY.
5. PATCH ALL DEMO WORK TO MATCH ADJACENT WORK. ALL DEMO PORTIONS SHALL BE RETURNED TO ACCEPTABLE STATE.
6. COORDINATE ALL FURNITURE, FIXTURE AND EQUIPMENT RELOCATION/STORAGE/PROTECTION WITH OWNER PRIOR TO ANY DEMOLITION WORK.

EQUIPMENT SCHEDULE - BASIS OF DESIGN				
SUBMIT SUBSTITUTION REQUESTS FOR APPROVAL				
DESCRIPTION	MANUFACTURER	MODEL NUMBER	FINISH	REMARKS
EXTERIOR WALK-IN FREEZER AIR COOLED CONDENSING UNIT LOW PROFILE UNIT COOLER	AMERIKOOLER HEATCRAFT	QF081077** BHT-02-L6CF LET-090-BE	26 GA. ACRYLUME COATED CORROSION RESISTANT STUCCO EMBOSSED GALVALUME (INTERIOR AND EXTERIOR)	8x10 OUTDOOR FREEZER WITH FLOOR, 4" THICK INSULATION (R-32) 36" x 76" FLUSH MOUNTED DOOR, 2 SUPER CAM-RISE SPRING ASSISTED HINGES DEADBOLT KEYED HANDLE LATCH, INTERIOR SAFETY RELEASE HANDLE, SPRING ACTUATED DOOR CLOSER VAPOR PROOF LIGHT FIXTURE CENTERED ON INTERIOR DOOR JAMB SMOOTH ALUMINUM FLOOR FINISH RATED AT 600LBS. FOR UNIFORM LOAD DOOR WITH TEMPERATURE REGULATING THERMOSTAT MOUNTED AND PREWIRED PRV
EXTERIOR WALK-IN COOLER AIR COOLED CONDENSING UNIT LOW PROFILE UNIT COOLER	AMERIKOOLER HEATCRAFT	QC081077** BHT-010-X6BF ADT-100-AE	26 GA. ACRYLUME COATED CORROSION RESISTANT STUCCO EMBOSSED GALVALUME (INTERIOR AND EXTERIOR)	8x10 OUTDOOR FREEZER WITH FLOOR, 4" THICK INSULATION (R-32) 36" x 76" FLUSH MOUNTED DOOR, 2 SUPER CAM-RISE SPRING ASSISTED HINGES DEADBOLT KEYED HANDLE LATCH, INTERIOR SAFETY RELEASE HANDLE, SPRING ACTUATED DOOR CLOSER VAPOR PROOF LIGHT FIXTURE CENTERED ON INTERIOR DOOR JAMB SMOOTH ALUMINUM FLOOR FINISH RATED AT 600LBS. FOR UNIFORM LOAD DOOR WITH TEMPERATURE REGULATING THERMOSTAT MOUNTED AND PREWIRED PRV



B1 COOLER CANOPY NEW WORK PLAN
SCALE: 3/16" = 1'-0"

B3 COOLER CANOPY ROOF PLAN
SCALE: 3/16" = 1'-0"



A1 COOLER DEMO PLAN
SCALE: 1/8" = 1'-0"

A3 WEST ELEVATION - COOLER CANOPY
SCALE: 3/16" = 1'-0" RE:

A5 NORTH ELEVATION - COOLER CANOPY
SCALE: 3/16" = 1'-0" RE:



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DRAWN BY: OA
CHECKED BY: OA
DESIGNED BY: OA

SHEET TITLE:
**COOLER CANOPY
DETAILS**

SHEET NUMBER:
A-202

BUILDING CODE AND STANDARDS

2015 INTERNATIONAL BUILDING CODE (IBC 2015) WITH STANDARDS AS REFERENCED IN IBC CHAPTER 35.

STRUCTURAL DESIGN LOADS:

UNIFORM (PSF)

DEAD LOAD - ACTUAL WEIGHT OF MATERIALS USED ADDING THE FOLLOWING ALLOWANCE FOR MEP ALLOWANCE FOR ROOFING SYSTEM

ROOF LIVE LOAD 20 PSF

SNOW DESIGN DATA

GROUND SNOW LOAD, P_g 20 PSF
FLAT ROOF SNOW LOAD, P_f 20 PSF
SNOW EXPOSURE FACOR, C_e 1.0
SNOW LOAD IMPORTANCE FACTOR, I_s 1.0
THERMAL FACTOR, C_t 1.0

WIND DESIGN DATA

BASIC WIND SPEED, Vult/Vas0 115 MPH/90 MPH
RISK CATEGORY II
WIND EXPOSURE C
COMPONENTS AND CLADDING (ULT. PSF)

Table with 4 columns: Zone, Interior Roof, Edge Roof, Corner Roof, Overhang, Overhang. Values range from -22.07 to -53.7.

END ZONE DISTANCE (a) 3 FT

GEOTECHNICAL DESIGN DATA

ALLOWABLE SOIL BEARING PRESSURE 2,000 PSF

MATERIAL DATA:

CONCRETE & REINFORCING

CONCRETE WEIGHT ALL CONCRETE SHALL BE NORMAL-WEIGHT UNLESS NOTED OTHERWISE.

C.I.P. CONCRETE STRENGTH (MIN f_c at 28 days) 4,500 PSI (A&E) - EXTERIOR SLABS AND FOOTINGS 8,000 PSI - GROUT FOR BASE PLATE/BEARING PLATES

MAX WATER/CEMENT RATIO 0.45 UNLESS OTHERWISE NOTED

CEMENT TYPE

AGGREGATES PORTLAND TYPE III - ASTM C150
ADMIXTURES REGULAR WEIGHT HARDROCK TYPE - ASTM C33
AIR-ENTRAINMENT ASTM C494
REINFORCING STEEL ASTM C260
WELDABLE REINFORCING STEEL ASTM A615, GRADE 60, DEFORMED
ASTM A706, GRADE 60, DEFORMED

PREFORMED EXPANSION JOINT(1/2") ASTM D1751

STEEL

HSS SQUARE AND RECTANGULAR TUBES ASTM A500 GRADE C, F_y = 50 ksi
ANCHOR RODS ASTM F1554, GRADE 36
WASHERS FOR ANCHOR RODS ASTM F304
STICK ELECTRODES AWS CLASS E70XX
AWS CLASS E6010 OR E6011 (GALV. SURFACES)

MASONRY

ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH TMS 602/ACI 530.1/ASCE 6.

MASONRY STRENGTH (f_m AT 28 DAYS) 1,900 PSI

CONCRETE MASONRY UNITS (CMU)

CMU STRENGTH 2,350 PSI (BASED ON NET AREA)
MORTAR TYPE ASTM C270, TYPE S BELOW GRADE, TYPE N ABOVE GRADE, PROPORTION METHOD

GROUT TYPE

GROUT STRENGTH (AT 28 DAYS) ASTM C476 - MAX. AGGREGATE SIZE = 3/8"
HORIZONTAL WIRE REINFORCING 2,000 PSI
ASTM A615, LADDER-TYPE AT 16" O.C
VERTICALLY IN 10 FT. LENGTHS
9 GAGE WIRE PER ASTM A1064
INTERIOR WALLS: MILL GALVANIZE PER EXTERIOR WALLS: HOT DIP GALVANIZED PER ASTM A 153 CLASS B-2

VERTICAL WALL REINFORCEMENT

CONTINUOUS BOND BEAM REINFORCING (1) #5 AT 32" OC; FULL HEIGHT UNLESS OTHERWISE NOTED
CONTRACTION JOINT KEY (2) #4 BARS CONTINUOUS RUBBER SHEAR KEY WITH DUROMETER HARDNESS OF 80 MIN PVC SHEAR KEY WITH DUROMETER HARDNESS OF 85 MIN

WOOD

SAWN LUMBER SPF, HEM FIR, OR DOUGLAS FIR - STUD GRADE
STUDS AND BLOCKING SPF #1/#2, HEM FIR #2, OR DOUG FIR #2
ROOF AND FLOOR JOISTS ALL SAWN LUMBER SHALL BE IDENTIFIED WITH GRADE MARK BY AN ENTITY COMPLYING WITH DOC PS 20

WOOD FASTENERS

NAILS AND STAPLES ASTM F1667
BOLTS, LAG SCREWS ANSIA/ASME STANDARD B18.2.1
WOOD SCREWS ANSIA/ASME STANDARD B18.6.1
FASTENERS FOR TREATED WOOD ASTM A 153 OR ASTM B 695, CLASS 55 MINIMUM
JOIST HANGERS ASTM D1747
PREFAB ROOF TRUSS CONN PLATES ASTM A 446 SHEET STEEL GALV PER ASTM A525 G60

STRUCTURAL CONCRETE

- 1. CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF:
A. ACI 301 - "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
B. ACI 302 - "RECOMMENDED PRACTICE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION"
C. ACI 304 - "ACI MANUAL OF CONCRETE INSPECTION"
D. ACI 311 - "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE"
E. ACI 315 - "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"
F. ACI 318 - "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
G. ACI 347 - "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK"
2. CONCRETE MIX FOR INTERIOR CONCRETE SLABS-ON-GRADE SHALL ADHERE TO THE FOLLOWING CRITERIA:
A. FLY ASH MAY REPLACE 15% OF PORTLAND CEMENT MAXIMUM.
a. DO NOT USE POZZOLANS IN MIXES FOR FINISHED FLOOR SLABS.
B. AGGREGATE SHALL BE WELL GRADED WITH 1-1/2" MAXIMUM DIAMETER.
C. THE MIX SHALL CONTAIN NO ADMIXTURES THAT EXACERBATE SHRINKAGE.
3. FLY ASH MAY REPLACE 25% OF PORTLAND CEMENT MAXIMUM IN STRUCTURAL SLABS SHALL
4. CURE SPECIFIC CONCRETE ELEMENTS AS INDICATED BELOW:
A. SLAB-ON-GRADE: MOISTURE-RETAINING COVER CURING.
B. STRUCTURAL SLABS: MOISTURE-RETAINING COVER CURING.
5. LABORATORY TEST REPORTS OR MATERIAL CERTIFICATES FOR CONCRETE MATERIALS AND MIX DESIGN TEST DATA, IN CONFORMANCE WITH ACI STANDARDS, SHALL BE SUBMITTED FOR REVIEW FOR EACH TYPE OF CONCRETE TO BE USED. EACH SUBMITTED MIX DESIGN SHALL IDENTIFY THE APPLICATION FOR WHICH THE MIX WILL BE USED.

- 6. THE CONTRACTOR SHALL SUBMIT CHECKED, DETAILED REINFORCEMENT SHOP DRAWINGS SHOWING THE LOCATIONS AND DETAILING OF ALL FOOTINGS, WALLS, PIERS, BEAMS, COLUMNS, SLABS, CONSTRUCTION JOINTS, CONTROL JOINTS, ETC, PRIOR TO FABRICATION. DETAILS SHALL INCLUDE BAR SIZES, LAPS, SPACING, AND PLACEMENT.
7. WELDED WIRE FABRIC SHALL BE LAPPED TWO PANELS AT EDGES AND ENDS, AND TIED SECURELY.
8. THE MINIMUM CONCRETE COVER FOR CAST-IN-PLACE (NON-PRESTRESSED) CONCRETE SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
A. CONCRETE CAST AGAINST/PERMANENTLY EXPOSED TO EARTH: 3"
B. CONCRETE EXPOSED TO EARTH OR WEATHER: 2"
a. NO 6 THROUGH NO 18 BARS
b. NO 5 BAR, W31 OR D31 WIRE, AND SMALLER 1 1/2"
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
a. SLABS, WALLS, JOISTS:
- NO 14 AND NO 18 BARS 1 1/2"
- NO 11 BAR AND SMALLER 3/4"
b. BEAMS, COLUMNS:
- PRIMARY REINFORCEMENT 1 1/2"
c. TIES, STIRRUPS, SPIRALS 1 1/2"
9. PROVIDE LAP SPLICES AS INDICATED BELOW UNLESS OTHERWISE NOTED IN THE DRAWINGS.

Table with 4 columns: BAR SIZE, SPLICE LENGTH TOP BARS*, SPLICE LENGTH OTHER BARS. Values range from #3 to #10.

*TOP BAR CONDITION OCCURS WHERE HORIZONTAL REINFORCEMENT IS PLACED SUCH THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE SPLICE.

- 10. ALL HOOKS SHALL BE "STANDARD" PER ACI SPECIFICATIONS.
11. CONTINUOUS TOP AND BOTTOM BARS SHALL BE SPLICED AS FOLLOWS:
A. TOP BARS: AT MID SPAN
B. BOTTOM BARS: CENTERED OVER SUPPORT
12. MECHANICAL COUPLERS CAPABLE OF SUSTAINING 125% OF THE BAR ULTIMATE TENSILE CAPACITY MAY BE USED IN LIEU OF LAP SPLICES.
13. CORNER BARS MATCHING HORIZONTAL BARS SHALL BE PROVIDED AT ALL WALL CORNERS AND INTERSECTIONS.

- 14. ELECTRICAL CONDUITS AND PLUMBING PIPES IN ELEVATED STRUCTURAL SLABS SHALL BE PLACED BETWEEN THE TOP AND BOTTOM LAYERS OF REINFORCEMENT AND SHALL NOT HAVE AN OUTSIDE DIAMETER GREATER THAN ONE-THIRD THE SLAB THICKNESS. CROSSOVERS OF CONDUITS AND/OR PIPES SHALL NOT BE PERMITTED. THE CENTER-TO-CENTER DISTANCE BETWEEN CONDUITS AND/OR PLUMBING PIPES SHALL NOT BE LESS THAN THREE TIMES THE LARGEST CONDUIT OR PIPE DIAMETER OR WIDTH. NO CONDUITS SHALL BE PLACED WITHIN 12" OF A COLUMN FACE.

SHOP DRAWINGS

- 1. ALL SHOP DRAWING SUBMITTALS SHALL BE AS DESCRIBED IN THE PROJECT SPECIFICATIONS OR IN THESE NOTES.
2. SHOP DRAWINGS AND RELATED MATERIALS PREPARED BY SUPPLIERS AND SUBCONTRACTORS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE STRUCTURAL ENGINEER.
3. THE GENERAL CONTRACTOR SHALL REVIEW ALL SUBMISSIONS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS, MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION, TECHNICAL CONTENT, COORDINATION OF TRADES, DIMENSIONAL ACCURACY, SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO, ALL OF WHICH ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
4. THE GENERAL CONTRACTOR SHALL APPROVE AND SO STAMP EACH SUBMISSION.
5. SHOP SUBMITTALS SHALL BE SUBMITTED IN A DIGITAL FORMAT. MULTIPLE COPIES OF DRAWINGS WILL NOT BE MARKED-UP WITH REVIEW COMMENTS.
6. THE STRUCTURAL DRAWINGS SHALL NOT BE USED AS BACKGROUNDS FOR THE PRODUCTION OF ANY SHOP DRAWINGS THAT ARE SUBMITTED FOR REVIEW.
7. ANY DEVIATIONS FROM THE ORIGINAL DESIGN OR DESIGN CRITERIA AS SPECIFIED ON THE "FOR CONSTRUCTION" DESIGN DOCUMENTS OF THE PROJECT SHALL BE BOLDLY NOTED ON THE SHOP DRAWINGS THAT ARE SUBMITTED FOR APPROVAL.
8. ALL CHANGES TO RESUBMITTED SHOP DRAWINGS SHALL BE BUBBLED.

STRUCTURAL STEEL

- 1. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDING AND BRIDGES".
2. THE STEEL FABRICATOR/ERECTOR SHALL DOCUMENT ANY CONSTRUCTION RELATED DISCREPANCIES AND SHALL FURNISH SAID INFORMATION IN THE FORM OF DETAILED SKETCHES TO THE STRUCTURAL ENGINEER FOR REVIEW. THERE SHALL BE RESOLUTION TO THE NOTED DISCREPANCIES PRIOR TO FABRICATION OF ANY NEW STRUCTURAL ELEMENTS.
3. THE FABRICATOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW, ENGINEERED AND CHECKED DRAWINGS SHOWING FABRICATION DETAILS, FIELD ASSEMBLY DETAILS, AND ERECTION DIAGRAMS FOR ALL STRUCTURAL STEEL ELEMENTS.
4. ALL BEAMS AND JOISTS SHALL BE FABRICATED WITH THE NATURAL CAMBER UP.
5. THE FOLLOWING INFORMATION IS PRESENTED AS REQUIRED BY AISC 330 SECTION 3.1:
A. ALL SHEAR CONNECTIONS, UNLESS SPECIFICALLY DETAILED, SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER EMPLOYED BY THE FABRICATOR FOR THE BEAM END REACTIONS SHOWN ON THE FRAMING PLANS (OPTION 3 PER AISC 330 SECTION 3.1.1 (3)).
B. ALL END REACTIONS ARE LISTED AT FACTORED LEVELS AND CONNECTIONS SHALL BE DESIGNED USING LRFD METHODS.
C. ALL MOMENT CONNECTIONS AND SPECIAL SHEAR CONNECTIONS HAVE BEEN DESIGNED BY THE EOR AND ARE INCLUDED IN THESE DRAWINGS. (OPTION 1 PER AISC 330 SECTION 3.1.1 (3)).
D. FABRICATOR SHALL SUBMIT REPRESENTATIVE SAMPLES OF THE REQUIRED SUBSTANTIATING CONNECTION INFORMATION EARLY IN THE CONNECTION DESIGN PROCESS FOR REVIEW BY THE EOR.
a. INFORMATION SHALL INCLUDE A SKETCH OF THE CONNECTION AND CALCULATIONS DETERMINING CONNECTION LIMIT STATE VALUES. THE GOVERNING LIMIT STATE SHALL BE HIGHLIGHTED.
b. EOR SHALL RESPOND IN WRITING CONFIRMING THAT THE SUBMITTED REPRESENTATIVE SAMPLES ARE CONSISTENT WITH THE REQUIREMENTS IN THE CONTRACT DOCUMENTS, OR SHALL ADVISE WHAT MODIFICATIONS ARE REQUIRED TO BRING THE REPRESENTATIVE SAMPLES INTO COMPLIANCE WITH THE REQUIREMENTS IN THE CONTRACT DOCUMENTS.
c. THE LICENSED PROFESSIONAL ENGINEER IN RESPONSIBLE CHARGE OF THE CONNECTION DESIGN SHALL REVIEW AND CONFIRM IN WRITING AS PART OF THE SUBSTANTIATING CONNECTION INFORMATION, THAT THE SHOP AND ERECTION DRAWINGS PROPERLY INCORPORATE THE CONNECTION DESIGNS.
6. ALL WELDING SHALL BE PERFORMED BY CERTIFIED/QUALIFIED WELDERS AND SHALL CONFORM TO THE LATEST EDITION OF AWS D1.1 "STRUCTURAL WELDING CODE - STEEL".
7. ALL BOLTED STEEL CONNECTIONS SHALL UTILIZE HIGH STRENGTH BOLTS IN BEARING-TYPE CONNECTIONS, UNLESS OTHERWISE NOTED. TENSION-CONTROLLED BOLTS (T/C BOLTS) MAY BE USED AT THE ERECTOR'S DISCRETION.
8. BOLTS ARE TO BE TIGHTENED, AT A MINIMUM, TO THE "SNUG TIGHT" CONDITION, UNLESS NOTED AS "PRETENSIONED" OR "SLIP CRITICAL".
9. BOLTS DESIGNATED AS "PRETENSIONED" OR "SLIP CRITICAL" ARE TO BE TIGHTENED IN ACCORDANCE WITH AN APPROVED METHOD OUTLINED IN THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.
10. THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER. REFER TO ARCHITECTURAL DRAWINGS FOR MISCELLANEOUS STEEL NOT SHOWN ON STRUCTURAL DRAWINGS.
11. ALL STEEL INDICATED ON THE ARCHITECTURAL DRAWINGS TO BE ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) SHALL CONFORM TO THE AESS REQUIREMENTS OF THE AISC CODE OF STANDARD PRACTICE.

WOOD STRUCTURAL PANELS

- 1. ALL WOOD STRUCTURAL PANELS SHALL CONFORM TO THE REQUIREMENTS OF DOC PS 1 OR DOC PS 2 AS APPROPRIATE FOR THEIR TYPE AND USE.
2. ORIENTED STRAND BOARD (OSB) SHALL BE PROVIDED FOR ALL WOOD STRUCTURAL PANELS INDICATED HEREIN. PLYWOOD MAY BE SUBMITTED AS AN ALTERNATE MATERIAL PENDING APPROVAL OF THE ENGINEER.
3. PROVIDE FIRE-RETARDANT TREATED WOOD STRUCTURAL PANELS AS INDICATED IN THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
4. ROOF SHEATHING SHALL BE 15/32" APA 32/16 SPAN RATED EXPOSURE 1 SHEATHING MINIMUM.
A. LATERAL LOAD RESISTING DIAPHRAGM HAS BEEN DESIGNED AS AN UNBLOCKED DIAPHRAGM. PROVIDE TONGUE AND GROOVE DECKING OR ROOF CLIPS AT UNSUPPORTED SHEATHING EDGES TYPICAL.
B. SHEATHING SHALL BE ATTACHED TO SUPPORTING MEMBERS WITH 8@COMMON NAILS AT 6" OC AT ALL PANEL EDGES AND AT 12" OC IN INTERMEDIATE SUPPORTS.
C. INSTALL WITH FACE GRAIN PERPENDICULAR TO SUPPORTING MEMBERS AND OFFSET END JOINTS 4'-0" TYPICAL.
5. FLOOR SHEATHING SHALL BE 23/32" APA 48/24 SPAN RATED EXPOSURE 1 TONGUE AND GROOVE DECKING MINIMUM.
A. LATERAL LOAD RESISTING DIAPHRAGM HAS BEEN DESIGNED AS AN UNBLOCKED DIAPHRAGM. PROVIDE TONGUE AND GROOVE DECKING OR ROOF CLIPS AT UNSUPPORTED SHEATHING EDGES TYPICAL.
B. SHEATHING SHALL BE ATTACHED TO SUPPORTING MEMBERS WITH 8@COMMON NAILS AT 6" OC AT ALL PANEL EDGES AND AT 12" OC IN INTERMEDIATE SUPPORTS. FLOOR SHEATHING SHALL ALSO BE GLUED TO SUPPORTING MEMBERS WITH AN APPROPRIATE CONSTRUCTION ADHESIVE.
C. INSTALL WITH FACE GRAIN PERPENDICULAR TO SUPPORTING MEMBERS AND OFFSET END JOINTS 4'-0" TYPICAL.
6. WALL SHEATHING (OTHER THAN AS INDICATED FOR SHEAR WALLS) SHALL BE 15/32" APA 32/16 SPAN RATED EXPOSURE 1 SHEATHING MINIMUM.
A. SHEATHING SHALL BE ATTACHED TO SUPPORTING MEMBERS WITH 8@COMMON NAILS AT 12" OC AT ALL PANEL EDGES AND 12" OC IN INTERMEDIATE SUPPORTS.
B. INSTALL WITH FACE GRAIN PERPENDICULAR TO SUPPORTING MEMBERS AND OFFSET END JOINTS 4'-0" TYPICAL.
7. PROVIDE EXTERIOR GRADE WOOD STRUCTURAL PANELS IN ANY LOCATION PERMANENTLY EXPOSED TO THE EXTERIOR ENVIRONMENT WITHOUT FINISH, VENEER OR OTHER PROTECTION APPLIED.

REINFORCED MASONRY

- 1. PLACING CONCRETE MASONRY UNITS:
A. USE RUNNING BOND. FULLY BOND CORNERS BY OVERLAPPING OF UNITS. BOND WALL INTERSECTIONS WITH CORROSION-RESISTANT 1'-8"x4" STRAP ANCHORS SPACED AT 24" OC VERTICALLY.
B. PLACE CONTINUOUS HORIZONTAL JOINT REINFORCEMENT EVERY SECOND BED JOINT. PLACE REINFORCEMENT AT FIRST AND SECOND JOINTS ABOVE AND BELOW OPENINGS. LAP SPLICES 6" MINIMUM.
C. MAINTAIN FLUSH FACE ON EXPOSED MASONRY SURFACES.
D. FACE SHELLS: FULLY MORTARED.
E. WEBS: FULLY MORTARED IN PIERS, PILASTERS, STARTING COURSE AT FOUNDATION OR FLOOR LEVEL AND WHERE ADJACENT CELLS OR CAVITIES ARE TO BE GROUDED.
F. HEAD SHELLS: MORTARED FROM EACH FACE EQUAL TO THE FACE SHELL THICKNESS.
G. KEEP VERTICAL CELLS THAT ARE TO BE GROUDED ALIGNED AND FREE FROM OBSTRUCTIONS AND MORTAR FINIS.
H. DO NOT LAY DAMAGED UNITS.
I. PERFORM JOB SITE CUTTING WITH PROPER TOOLS TO PROVIDE STRAIGHT AND TRUE UNCHIPPED EDGES.
J. TOOL JOINTS WHEN MORTAR IS THUMB PRINT HARD TO FORM CONCAVE JOINTS.
K. COVER TOP OF UNFINISHED MASONRY WORK.
2. GROUING:
A. VERIFY REINFORCEMENT IS PROPERLY PLACED AND SECURED IN POSITION PRIOR TO GROUING.
B. ALL BOND BEAMS SHALL BE GROUDED SOLID.
C. FULLY GROUT CELLS AT EACH SIDE OF OPENINGS AND CONTROL JOINTS WITH (1) #5 BAR PLACED IN CENTER OF CELL, UNLESS OTHERWISE SHOWN ON DRAWINGS.
D. PLACE GROUT IN LIFTS NOT EXCEEDING 8'-0". CONSOLIDATE AT TIME OF PLACEMENT BY RODDING OR VIBRATING FOLLOWED BY RECONSOLIDATION LATER BEFORE PLASTICITY IS LOST.
E. IF TOTAL HEIGHT OF GROUT PLACEMENT IS TO EXCEED 8'-0", PLACE GROUT IN 4'-0" LIFTS. IF GROUING IS STOPPED FOR MORE THAN ONE HOUR BETWEEN LIFTS, FORM A HORIZONTAL CONSTRUCTION JOINT BY STOPPING THE POUR 4" BELOW THE TOP OF THE CONCRETE MASONRY UNIT.
3. HOT AND COLD WEATHER CONDITIONS:
A. COLD WEATHER: CONFORM TO THE REQUIREMENTS OF ACI/ASCE 530 WHEN THE AMBIENT TEMPERATURE FALLS BELOW 40°F.
B. HOT WEATHER: WHEN AIR TEMPERATURE EXCEEDS 90°F DO NOT SPREAD MORTAR BED MORE THAN 4'-0" AHEAD OF MASONRY. SET MASONRY UNITS WITHIN ONE MINUTE OF SPREADING MORTAR.

- 4. SEALANTS:
A. INTERIOR JOINTS: ONE COMPONENT POLYURETHANE APPLIED OVER BACKER ROD.
B. EXTERIOR JOINTS: MULTICOMPONENT POLYURETHANE OR TWO COMPONENT POLYSULFIDE SEALANT APPLIED OVER BACKER ROD IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
C. FIRE-STOP SEALANT: FYRE-SIL MFG BY TREMCO.
D. BACKER ROD: ROUND CLOSED CELL POLYETHYLENE.
E. MINERAL WOOL: 6 LBS PER CUBIC FOOT DENSITY COMPRESSED INTO PLACE. DO NOT USE FIBERGLASS BATTS.
5. CONSTRUCTION PRECAUTIONS:
A. ADEQUATELY BRACE ALL WALLS DURING CONSTRUCTION.
B. IF INTERIOR WALLS ARE CONSTRUCTED PRIOR TO ENCLOSURE OF STRUCTURE, PROVIDE ADEQUATE TEMPORARY BRACING. REMOVE BRACING AFTER STRUCTURE IS ENCLOSED.
C. DO NOT EMBED ALUMINUM CONDUIT, PIPE OR ACCESSORIES IN MASONRY.

WOOD

- 1. ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE APPLICABLE BUILDING CODE AND THE ANSIA/AF&PA NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS), CURRENT EDITION.
2. SEE NAILING SCHEDULE, TABLE 2304.8.1 OF THE INTERNATIONAL BUILDING CODE FOR NAILING NOT SPECIFICALLY CALLED OUT ON THE DRAWINGS. USE COMMON NAILS UNLESS OTHERWISE NOTED.
3. ALL JOISTS SHALL BE SPRUCE-PINE-FIR #2 OR BETTER WITH 19% MAXIMUM MOISTURE CONTENT.
4. ALL TOP PLATES AND SILL PLATES SHALL BE SPRUCE-PINE-FIR #2 OR BETTER WITH 19% MAXIMUM MOISTURE CONTENT.
5. ALL STUDS AND BLOCKING MATERIAL SHALL BE SPRUCE-PINE-FIR #2 OR BETTER WITH 19% MAXIMUM MOISTURE CONTENT.
6. WOOD PLATES, SILLS, AND SLEEPERS IN CONTACT WITH CONCRETE OR MASONRY SHALL BE MADE OF PRESSURE TREATED WOOD. ANCHOR SILL PLATES TO FOUNDATION OR FLOOR SLAB WITH 1/2 INCH DIAMETER TREATED RODS POST INSTALLED AT 4'-0" OC MAX USING HILTI HIT-HY 200 EPOXY. NON LOAD BEARING PARTITION WALLS MAY BE SET WITH POWDER ACTIVATED FASTENERS AT 1'-0" ON CENTER MAXIMUM. ALL WALLS AND WALL SEGMENTS SHALL HAVE AT LEAST 2 ANCHORS.
7. WOOD COLUMNS AND POSTS IN CONTACT WITH CONCRETE, MASONRY, OR EXPOSED TO WEATHER SHALL BE MADE OF PRESSURE TREATED WOOD AND PLACED ON AN APPROVED COLUMN BASE CONNECTOR.
8. ALL WALL SUPPORTED SPANNING ELEMENTS (JOISTS, TRUSSES, PRE-ENGINEERED I-JOISTS, ETC.) MUST BE LOCATED DIRECTLY OVER STUDS. WHERE THESE ELEMENTS MISS STUDS, AN ADDITIONAL STUD MUST BE ADDED BELOW TO AVOID BENDING FAILURE OF THE TOP PLATE.
9. ALL EXTERIOR WALLS ARE CONSIDERED TO BE UNBLOCKED SHEAR WALLS UNLESS OTHERWISE NOTED.
10. ALL LAMINATED VENEER LUMBER (LVL) IS TO HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES.
A. E = 1,900,000 PSI
B. Fv = 285 PSI
C. Fb = 2600 PSI
11. ALL PARALLEL STRAND LUMBER (PSL) MEMBERS ARE TO HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES:
A. COLUMNS:
a. E = 1,800,000 PSI
b. Fv = 190 PSI
c. Fb = 2400 PSI
B. BEAMS:
a. E = 2,000,000 PSI
b. Fv = 290 PSI
c. Fb = 2900 PSI
12. ALL GLULAM MEMBERS ARE TO HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES.
A. E = 1,800,000 PSI
B. Fv = 300 PSI
C. Fb = 2400 PSI

WOOD ROOF TRUSSES

- 1. TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THESE SPECIFICATIONS AND WHERE ANY APPLICABLE DESIGN FEATURE IS NOT SPECIFIED HEREIN, DESIGN SHALL BE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF LATEST EDITION OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS) OF THE AMERICAN FOREST AND PAPER ASSOCIATION (AF&PA), AND DESIGN SPECIFICATIONS FOR METAL PLATE CONNECTED WOOD TRUSSES (ANSI/TPI 1) OF THE TRUSS PLATE INSTITUTE (TPI), AND THE APPLICABLE BUILDING CODE.
2. MANUFACTURER SHALL FURNISH DESIGN DRAWINGS BEARING SEAL AND REGISTRATION NUMBER OF A CIVIL OR STRUCTURAL ENGINEER LICENSED IN STATE WHERE TRUSSES ARE TO BE INSTALLED. DRAWINGS SHALL BE APPROVED BY THE ENGINEER PRIOR TO FABRICATION.
3. TRUSS DESIGN DRAWINGS SHALL INCLUDE AS MINIMUM INFORMATION:
A. SPAN, DEPTH OR SLOPE AND SPACING OF TRUSSES
B. REQUIRED BEARING WIDTH
C. DESIGN LOADS, FORCES, STRESSES AND DEFLECTION RATIOS
D. CONNECTION REQUIREMENTS FOR:
a. TRUSSES TO TRUSS GIRDERS
b. TRUSS PLY TO PLY
c. FIELD SPLICES
4. LUMBER USED FOR TRUSS MEMBERS SHALL MACHINE STRESS RATED (MSR) IN ACCORDANCE WITH THE VALUES OF LUMBER RULES WRITING AGENCIES APPROVED BY THE BOARD OF REVIEW OF AMERICAN LUMBER STANDARDS COMMITTEE. LUMBER SHALL BE IDENTIFIED BY GRADE MARK OF A LUMBER INSPECTION BUREAU OR AGENCY APPROVED BY THAT BOARD, AND SHALL BE AS SHOWN ON DESIGN DRAWINGS.
5. MOISTURE CONTENT OF LUMBER SHALL BE NO GREATER THAN 19 PERCENT AT TIME OF FABRICATION.
6. ADJUSTMENT OF VALUES FOR DURATION OF LOAD OR CONDITIONS OF USE SHALL BE IN ACCORDANCE WITH NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION (NDS).
7. FIRE RETARDANT TREATED (FRT) LUMBER, IF APPLICABLE, SHALL MEET SPECIFICATIONS OF TRUSS DESIGN. USE CATEGORY UCLFA AS SPECIFIED BY THE AMERICAN WOOD PROTECTION ASSOCIATION SECTION 2303.2 OF THE INTERNATIONAL BUILDING CODE FROM THE INTERNATIONAL CODE COUNCIL, AND ANSITPI 1, PAR 6.4.9 AND NDS PAR 2.3.4. LUMBER TREATER SHALL SUPPLY CERTIFICATE OF COMPLIANCE INCLUDING SPECIFIED DESIGN VALUES AND USE CONDITIONS, INCLUDING MINIMUM ACCEPTABLE GALVANIZING LEVEL FOR GALVANIZED STEEL FASTENERS USED WITH THEIR FRT LUMBER.
8. METAL CONNECTOR PLATES SHALL BE NOT LESS THAN .0356 INCHES IN THICKNESS (20 GAGE) AND SHALL MEET OR EXCEED ASTM A653 GRADE 37, AND SHALL BE HOT DIPPED GALVANIZED ACCORDING TO ASTM A653. COATING DESIGNATION G60. DESIGN VALUES SHALL BE DETERMINED IN ACCORDANCE WITH ANSITPI 1.
9. TRUSSES SHALL BE FABRICATED IN A PROPERLY EQUIPPED MANUFACTURING FACILITY OF A PERMANENT NATURE. TRUSSES SHALL BE MANUFACTURED BY EXPERIENCED WORKMEN USING PRECISION CUTTING, JIGGING AND PRESSING EQUIPMENT MEETING REQUIREMENTS OF ANSITPI 1, SECTION 3. TRUSS MEMBERS SHALL BE ACCURATELY CUT TO LENGTH ANGLE AND TRUE TO LINE TO ASSURE PROPER FITTING JOINTS WITHIN TOLERANCES SET FORTH IN ANSITPI 1, CHAPTER 3, AND PROPER FIT WITH OTHER WORK.
10. TRUSSES SHALL BE HANDLED AND STORED DURING FABRICATION, DELIVERY, AND AT JOBSITE SO AS NOT TO BE SUBJECTED TO EXCESSIVE BENDING.
11. TRUSSES SHALL BE HANDLED DURING INSTALLATION IN ACCORDANCE WITH LATEST VERSION OF BUILDING COMPONENT SAFETY INFORMATION (BCSI 1) FROM TPI, AND ANSITPI 1. INSTALLATION SHALL BE CONSISTENT WITH GOOD WORKMANSHIP AND GOOD BUILDING PRACTICES AND SHALL BE RESPONSIBILITY OF TRUSS INSTALLER.
12. TRUSSES SHALL BE SET AND SECURED LEVEL AND PLUMB, AND IN CORRECT LOCATION. TRUSSES SHALL BE HELD IN CORRECT ALIGNMENT UNTIL SPECIFIED PERMANENT BRACING IS INSTALLED.
13. CUTTING AND ALTERING OF TRUSSES IS NOT PERMITTED.
14. CONCENTRATED LOADS SHALL NOT BE PLACED ATOP TRUSSES UNTIL ALL SPECIFIED BRACING HAS BEEN INSTALLED AND DECKING IS PERMANENTLY NAILED IN PLACE. SPECIFICALLY AVOID STACKING FULL BUNDLES OF DECKING OR OTHER HEAVY MATERIALS ONTO UNSHEATHED TRUSSES. ERECTION BRACING IS ALWAYS REQUIRED. PROFESSIONAL ADVICE SHOULD ALWAYS BE SOUGHT TO PREVENT TOPPLING OF TRUSSES DURING INSTALLATION.
15. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND FURNISHING THE MATERIALS USED FOR INSTALLATION AND PERMANENT BRACING.

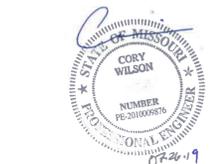


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PROFESSIONAL ENGINEER CORY WILSON MISSOURI PE # 2010009876

DFAC ADDITION, BLDG 430 CAMP CLARK TRAINING SITE NEVADA, MO 64772

PROJECT # T1716-02
SITE # 6274
ASSET # 8136274048

REVISION: DATE:
REVISION: DATE:
REVISION: DATE:
ISSUE DATE: 07-26-2019

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CHECKED BY: OA
DESIGNED BY: OA

SHEET TITLE:
STRUCTURAL GENERAL NOTES

SHEET NUMBER:

S-000

4 OF 12 SHEETS



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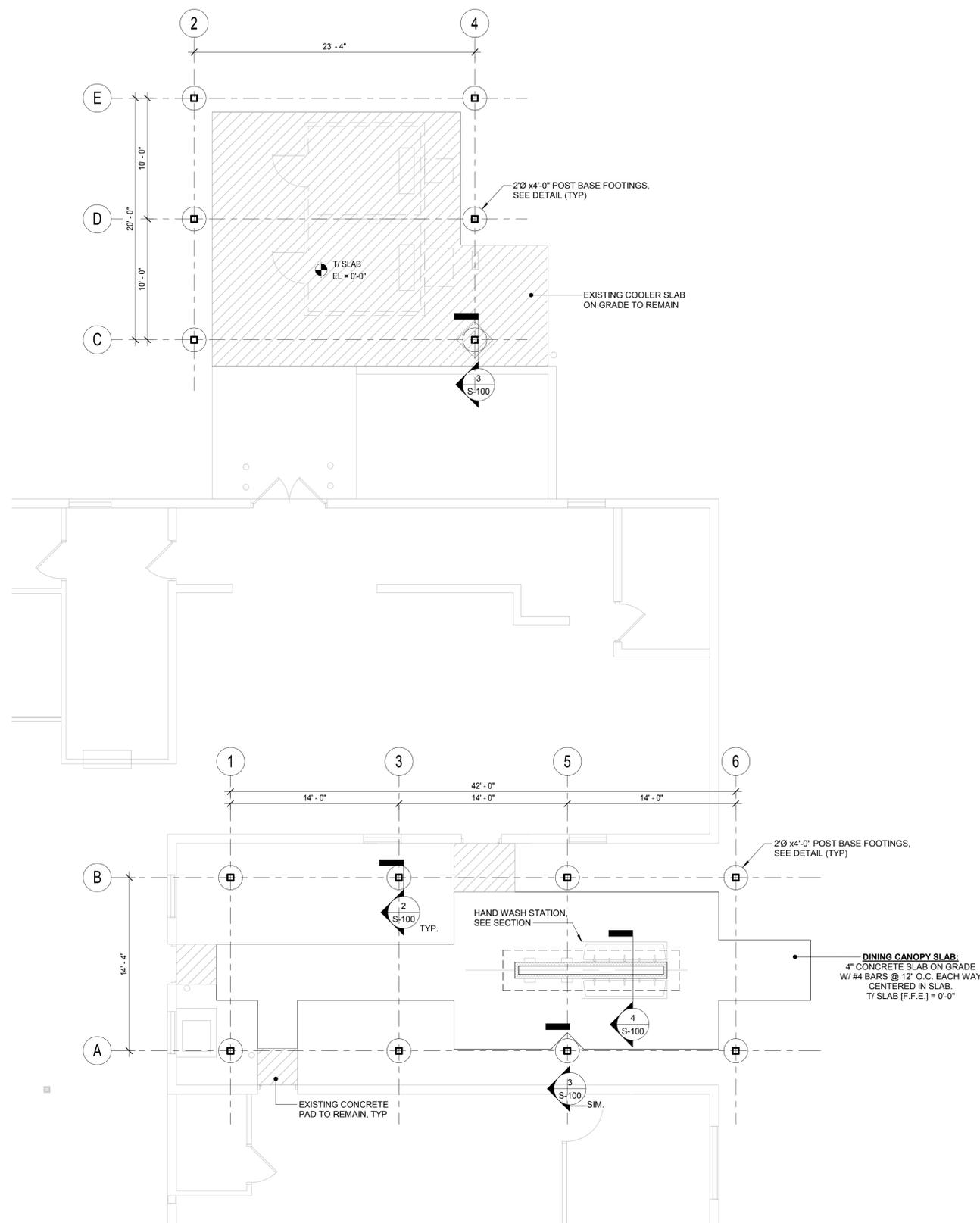
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SHEET TITLE:
**FOUNDATION PLAN &
TYPICAL DETAILS**

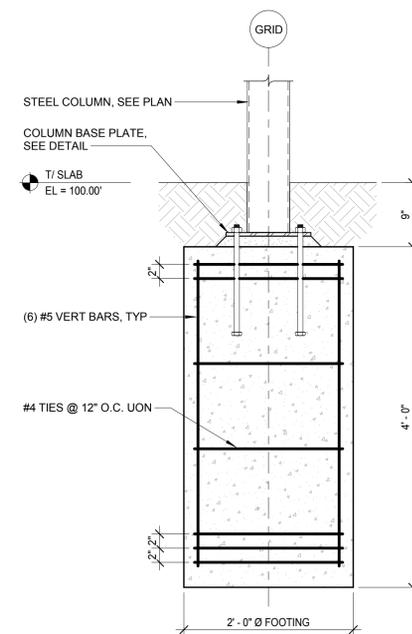
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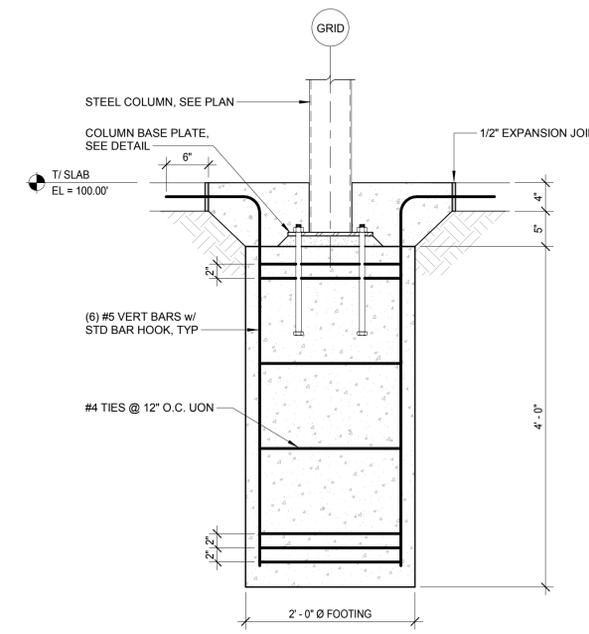
6 OF 12 SHEETS



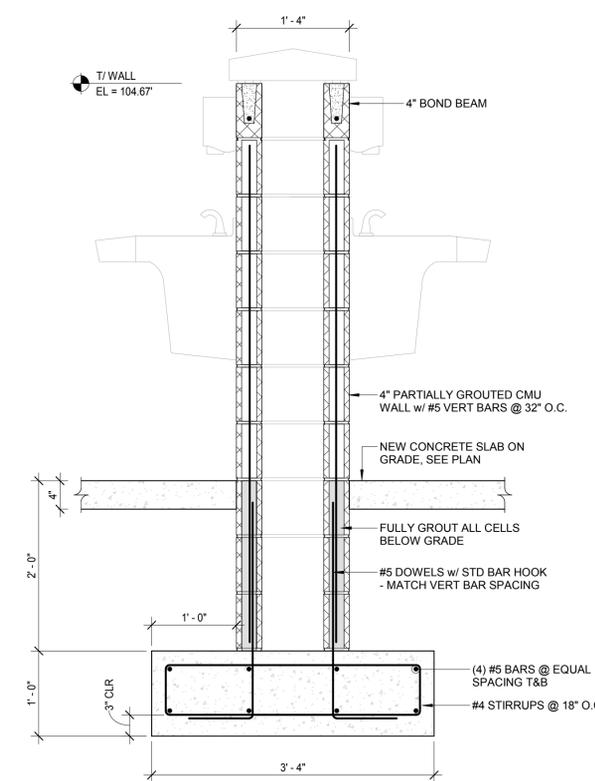
1 FOUNDATION PLAN
SCALE = 3/16" = 1'-0"



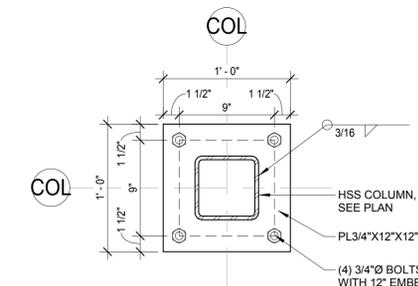
2 TYP. POST BASE FOOTING
SCALE = 1" = 1'-0"



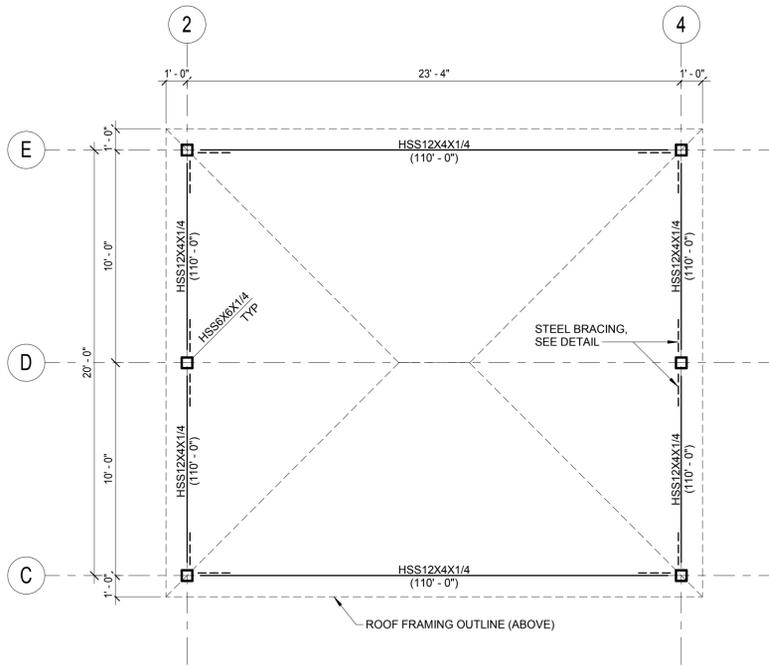
3 POST BASE FOOTING @ EXIST. SLAB
SCALE = 1" = 1'-0"



4 SECTION @ HANDWASH STATION
SCALE = 1" = 1'-0"

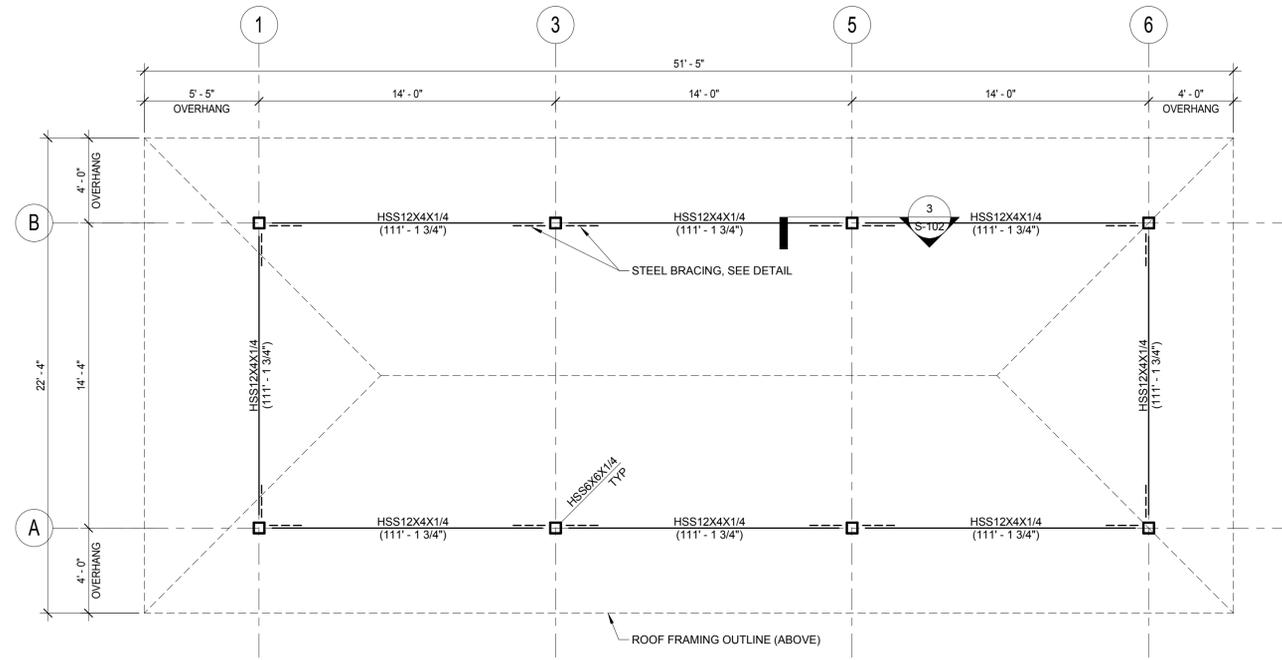


5 COLUMN BASEPLATE DETAIL
SCALE = 1 1/2" = 1'-0"



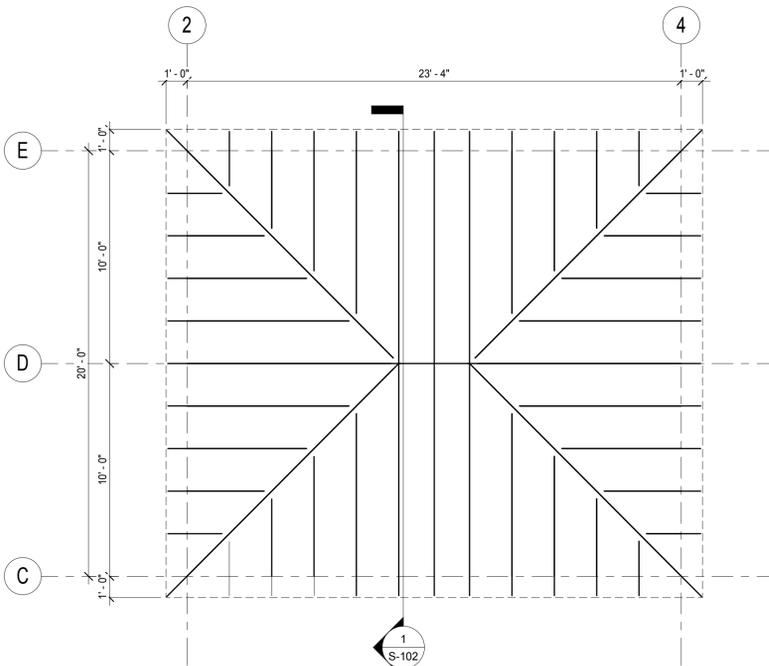
1 STEEL FRAMING PLAN - COOLER CANOPY

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



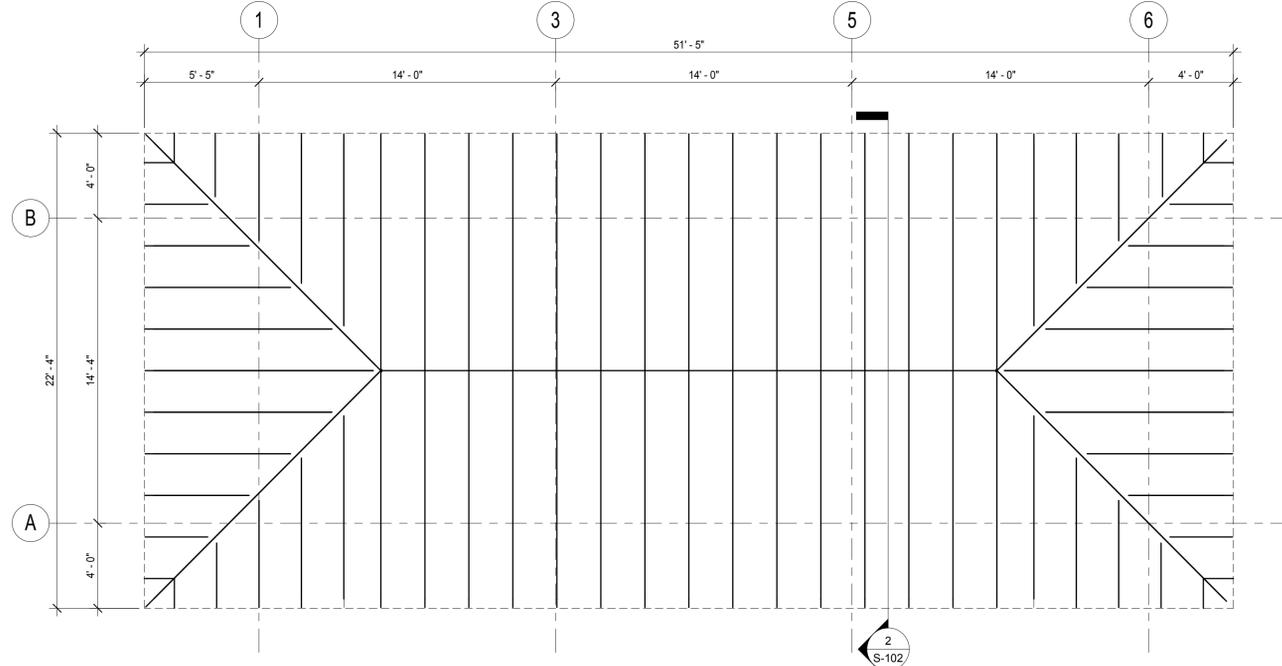
2 STEEL FRAMING PLAN - DINING CANOPY

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



3 ROOF FRAMING PLAN - COOLER CANOPY

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



4 ROOF FRAMING PLAN - DINING CANOPY

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



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NEVADA, MO 64772

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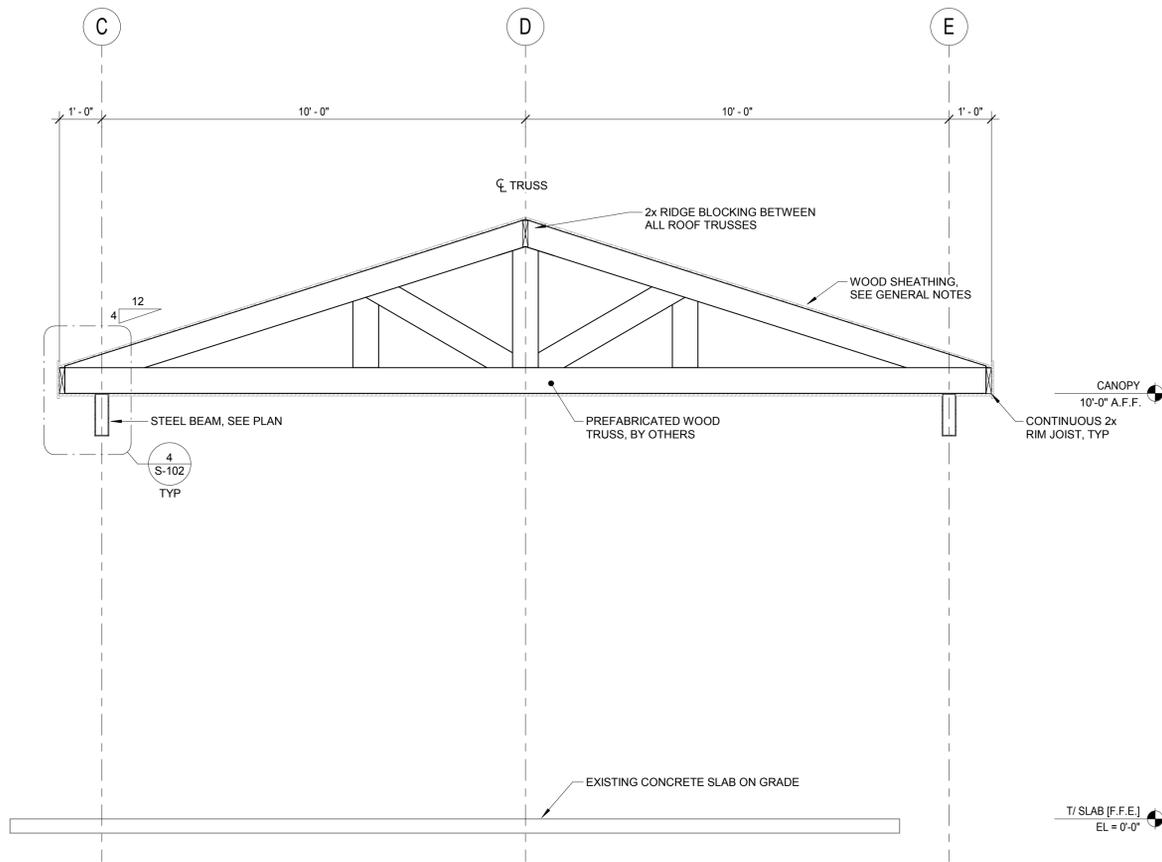
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SHEET TITLE:
**CANOPY FRAMING
PLAN**

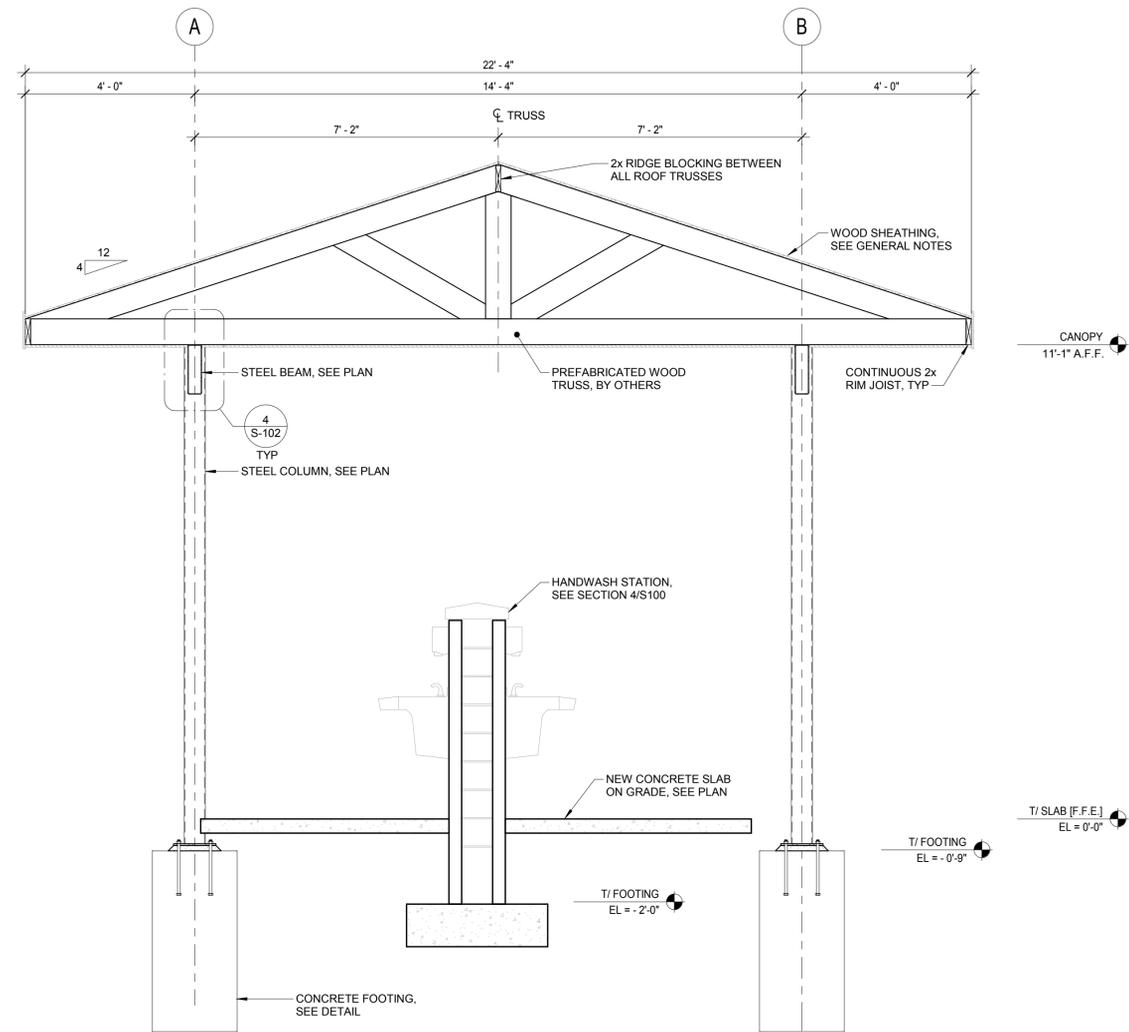
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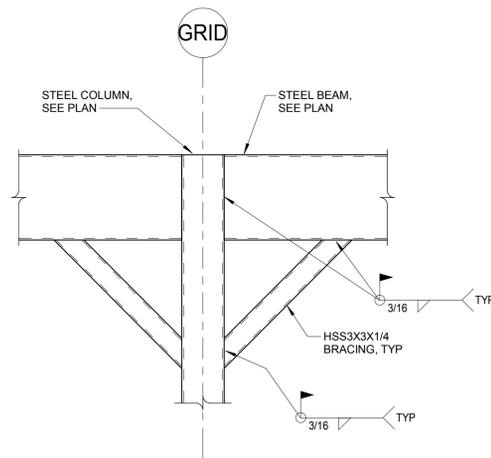
7 OF 12 SHEETS



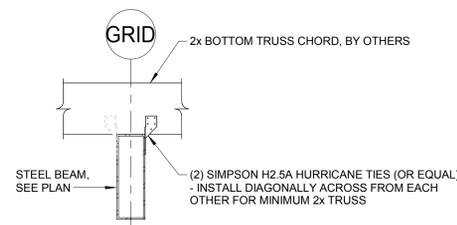
1 SECTION - COOLER CANOPY
SCALE = 1/2" = 1'-0"



2 SECTION - DINING CANOPY
SCALE = 1/2" = 1'-0"



3 STEEL BRACING @ POSTS DETAIL
SCALE = 1" = 1'-0"



4 TYPICAL HOLD DOWN DETAIL
SCALE = 1" = 1'-0"



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**CANOPY ELEVATIONS
& FRAMING DETAILS**

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S-102

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SHEET TITLE:
**MEP SYMBOLS
LEGEND**

SHEET NUMBER:

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10 OF 12 SHEETS

DUCTWORK	PIPING/PLUMBING	ELECTRICAL			
<p>SYMBOLS</p> <p>EXISTING DUCTWORK</p> <p>DUCTWORK TO BE REMOVED</p> <p>NEW DUCTWORK SIZE AS INDICATED</p> <p>90° ELBOW DOWN</p> <p>90° ELBOW UP</p> <p>SOUND ATTENUATOR, SIZE AS INDICATED</p> <p>FLEXIBLE CONNECTION</p> <p>LINED DUCTWORK</p> <p>FLEXIBLE DUCTWORK</p> <p>RECTANGULAR ECCENTRIC DUCT TRANSITION</p> <p>RECTANGULAR CONCENTRIC DUCT TRANSITION</p> <p>SQUARE TO ROUND DUCT TRANSITION</p> <p>SUPPLY AIR</p> <p>RETURN AIR</p> <p>TURNING VANES</p> <p>CONTROL DAMPER</p> <p>BACKDRAFT DAMPER</p> <p>FIRE DAMPER</p> <p>COMBINATION FIRE/SMOKE DAMPER</p> <p>MANUAL VOLUME DAMPER</p> <p>MOTOR OPERATED DAMPER</p> <p>DEVICE</p> <p>WALL MOUNTED DEVICE</p> <p>DUCT MOUNTED SMOKE DETECTOR</p> <p>ACCESS DOOR, SIZE AS INDICATED</p> <p>SUPPLY/EXHAUST AIR DEVICE DESIGNATION</p> <p>RETURN AIR DEVICE DESIGNATION</p> <p>THERMOSTAT</p>	<p>VALVES</p> <p>ANGLE VALVE</p> <p>BACKFLOW PREVENTER</p> <p>BALL VALVE</p> <p>BALANCING VALVE (2-1/2" & SMALLER)</p> <p>BALANCING VALVE (3" & LARGER)</p> <p>BUTTERFLY VALVE</p> <p>CHECK VALVE (2-1/2" & SMALLER)</p> <p>CHECK VALVE (3" & LARGER)</p> <p>CONTROL VALVE (THREE-WAY, PNEUMATIC)</p> <p>CONTROL VALVE (TWO-WAY, PNEUMATIC)</p> <p>CONTROL VALVE (TWO-WAY, MOTORIZED)</p> <p>CONTROL VALVE (THREE-WAY, MOTORIZED)</p> <p>FLEXIBLE CONNECTION (BELLOWS TYPE)</p> <p>FLEXIBLE CONNECTION (CONVOLUTE TYPE)</p> <p>FLEXIBLE CONNECTION (BRAIDED SS TYPE)</p> <p>GAS COCK</p> <p>GATE VALVE (2-1/2" & SMALLER)</p> <p>GATE VALVE (3" & LARGER)</p> <p>GLOBE VALVE (2-1/2" & SMALLER)</p> <p>GLOBE VALVE (3" & LARGER)</p> <p>GLOBE VALVE (3" & LARGER)</p> <p>PLUG VALVE</p> <p>PRESSURE REDUCING VALVE (WATER)</p> <p>PRESSURE RELIEF VALVE</p> <p>SOLENOID VALVE</p> <p>STRAINER (2-1/2" & SMALLER)</p> <p>STRAINER (3" & LARGER)</p> <p>TRIPLE DUTY VALVE</p> <p>STEAM TRAP (INVERTED BUCKET)</p> <p>STEAM TRAP (FLOAT & THERMOSTATIC)</p> <p>PRESSURE REDUCING VALVE (STEAM)</p> <p>BALANCING VALVE</p> <p>TRIPLE DUTY BALANCING VALVE</p> <p>BALL VALVE</p> <p>BUTTERFLY VALVE</p> <p>CHECK VALVE</p> <p>DIAPHRAGM VALVE</p> <p>GATE VALVE</p> <p>GAUGE COCK</p> <p>GLOBE VALVE</p> <p>NEEDLE VALVE</p> <p>PLUG VALVE</p> <p>3-WAY VALVE</p> <p>PRESSURE/TEMPERATURE RELIEF VALVE</p> <p>ANGLE VALVE</p> <p>RUPTURE DISC FOR PRESSURE/VACUUM RELIEF</p> <p>BACKFLOW PREVENTER WITH DRAIN</p> <p>AUTOMATIC AIR VENT</p> <p>MANUAL AIR VENT</p> <p>VACUUM BREAKER</p>	<p>CONTROL VALVES</p> <p>PRESSURE REGULATOR</p> <p>PRESSURE REDUCING VALVE</p> <p>SOLENOID ACTUATOR</p> <p>MOTORIZED ACTUATOR</p> <p>PNEUMATIC OPERATED ACTUATOR (CYLINDER/PISTON TYPE)</p> <p>PNEUMATIC OPERATED ACTUATOR (DIAPHRAGM TYPE)</p> <p>DIAPHRAGM VALVE PNEUMATIC OPERATED ACTUATOR</p> <p>WYE PNEUMATIC OPERATED ACTUATOR (DIAPHRAGM TYPE)</p> <p>PANEL MOUNTED SOLENOID VALVE</p> <p>REFER TO INSTRUMENT LOGIC SYMBOLS FOR TRANSDUCER TYPE</p>	<p>WIRING</p> <p>GROUND</p> <p>HOT</p> <p>NEUTRAL</p> <p>"LP1"</p> <p>2</p> <p>2.4 OR 2/4</p> <p>CONCEALED CONDUIT (BELOW FLOOR). CONTINUOUS LINE IS INDICATIVE OF CONDUIT TO BE RUN OVERHEAD.</p> <p>CONDUIT UP</p> <p>CONDUIT DOWN</p> <p>POWER</p> <p>DUPLEX RECEPTACLE; MOUNT AT 18" TO CENTER OF DEVICE AFF UNLESS OTHERWISE NOTED.</p> <p>SINGLE RECEPTACLE; MOUNT AT 18" TO CENTER OF DEVICE AFF UNLESS OTHERWISE NOTED.</p> <p>FOUR PLEX RECEPTACLE; MOUNT AT 18" TO CENTER OF DEVICE AFF UNLESS OTHERWISE NOTED.</p> <p>DUPLEX RECEPTACLE; DEVICE MOUNTED 6" ABOVE COUNTER</p> <p>HORIZONTAL DUPLEX RECEPTACLE</p> <p>GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE</p> <p>WATERPROOF RECEPTACLE</p> <p>ISOLATED GROUND RECEPTACLE</p> <p>SPECIAL-PURPOSE OUTLET. LETTER DESIGNATES TYPE. SEE SPECIAL CONNECTION SCHEDULE FOR REQUIREMENTS</p> <p>DUPLEX RECEPTACLE; PEDESTAL MOUNTED</p> <p>DUPLEX RECEPTACLE; ON EMERGENCY CIRCUIT</p> <p>FOUR PLEX RECEPTACLE; ON EMERGENCY CIRCUIT</p> <p>DUPLEX RECEPTACLE; SOLID FILL DESIGNATES WHICH RECEPTACLE IS TO BE SWITCHED.</p> <p>220V RECEPTACLE</p> <p>WALL MOUNTED JUNCTION BOX</p> <p>CEILING MOUNTED JUNCTION BOX</p> <p>FLOOR MOUNTED JUNCTION BOX</p> <p>FLOOR MOUNTED DUPLEX RECEPTACLE</p> <p>FLOOR MOUNTED FOUR PLEX RECEPTACLE</p> <p>CEILING MOUNTED DUPLEX RECEPTACLE</p> <p>CEILING MOUNTED FOUR PLEX RECEPTACLE</p> <p>ELECTRICAL DISTRIBUTION PANEL</p> <p>RECESSED MOUNTED ELECTRICAL PANEL</p> <p>SURFACE MOUNTED ELECTRICAL PANEL</p> <p>ELECTRICAL POWER TRANSFORMER</p> <p>FUSED DISCONNECT SWITCH</p> <p>NON-FUSED DISCONNECT SWITCH</p> <p>COMBINATION MAGNETIC STARTER AND DISCONNECT SWITCH</p> <p>STARTER/MOTOR CONTROLLER</p> <p>ELECTICAL MOTOR - SINGLE PHASE</p> <p>ELECTRICAL MOTOR - THREE PHASE</p> <p>RELAY</p> <p>BATTERY PACK</p> <p>MOTORIZED DAMPER</p>	<p>LIGHTING</p> <p>2x4' FLUORESCENT LIGHTING FIXTURE. 'A' INDICATES FIXTURE TYPE</p> <p>EMERGENCY FIXTURE - TYPICAL OF ALL CROSSHATCHED FIXTURES</p> <p>1'x4' FLUORESCENT LIGHTING FIXTURE. 'A' INDICATES FIXTURE TYPE</p> <p>2'x2' FLUORESCENT LIGHTING FIXTURE. 'A' INDICATES FIXTURE TYPE</p> <p>6"x48" FLUORESCENT LINEAR</p> <p>RECESSED DOWNLIGHT</p> <p>WALL WASH FIXTURE</p> <p>WALL MOUNTED FIXTURE</p> <p>FLUORESCENT STRIP LIGHT FIXTURE. 'A' INDICATES FIXTURE TYPE</p> <p>PENDANT FIXTURE. CHAIN OR STEM MOUNTED</p> <p>EMERGENCY BUGEYE FIXTURE</p> <p>CEILING MOUNTED EXIT LIGHT (EMERGENCY POWER)</p> <p>WALL MOUNTED EXIT LIGHT (EMERGENCY POWER)</p>	<p>ONE-LINE/DETAIL</p> <p>MOLDED CASE OR INSULATED CASE CIRCUIT BREAKER</p> <p>SURGE PROTECTIVE DEVICE</p> <p>INTEGRAL DISCONNECT SWITCH</p> <p>FUSE</p> <p>DISTRIBUTION TRANSFORMER</p> <p>SHIELDED DISTRIBUTION TRANSFORMER</p> <p>VFD</p> <p>COMBINATION MOTOR STARTER/DISCONNECT</p> <p>DISCONNECT SWITCH</p> <p>FUSED DISCONNECT SWITCH</p> <p>MOTOR STARTER DISCONNECT SWITCH</p> <p>MOTOR STARTER</p> <p>MOTOR</p> <p>TRANSIENT VOLTAGE SURGE SUPPRESSOR</p> <p>GROUND</p> <p>DELTA</p> <p>WYE</p>
<p>GENERAL</p> <p>NOTE DESIGNATION - DEMOLITION (ALL)</p> <p>NOTE DESIGNATION - MECHANICAL NEW WORK</p> <p>NOTE DESIGNATION - ELECTRICAL NEW WORK</p> <p>NOTE DESIGNATION - PIPING/PLUMBING NEW WORK</p> <p>REVISION FROM ORIGINAL DOCUMENT</p> <p>EQUIPMENT TAG DESIGNATION</p> <p>EQUIPMENT</p> <p>LOCATION &/OR NUMBER</p> <p>DRAWING NUMBER</p> <p>SHEET NUMBER</p> <p>SECTION CUT DESIGNATION</p> <p>REFERENCE DESIGNATION</p> <p>CONNECT TO EXISTING</p> <p>PIPE SPECIFICATION CHANGE</p> <p>DOUBLE CONTAINMENT PIPE</p> <p>INSULATED EQUIPMENT</p> <p># = THICKNESS</p> <p>XX = TYPE</p> <p>INSULATED PIPE</p> <p># = THICKNESS</p> <p>XX = TYPE</p> <p>INSULATED PIPE WITH ELECTRIC HEAT TRACING</p> <p># = THICKNESS</p> <p>XX = TYPE</p> <p>PIPE SLEEVE/PIPE PENETRATION THRU WALL</p> <p>CONNECT TO EXISTING, OPTIONAL NUMBER</p> <p>DESIGNATION</p> <p>FLOW ARROW</p> <p>SLOPE</p> <p>DIRECTION OF DOWNWARD SLOPE</p> <p>LIQUID OR AIR FLOW RATE</p> <p>LINE TYPES</p> <p>MAIN PROCESS OR UTILITY LINE</p> <p>FUTURE LINEWORK</p> <p>ASSEMBLY BOUNDARY</p> <p>SKID OR PACKAGE BOUNDARY</p> <p>SOFTWARE</p> <p>DEMOLITION</p> <p>MATCHLINE</p>	<p>FITTINGS & ACCESSORIES</p> <p>FLANGED CONNECTION/BLIND FLANGE</p> <p>FLUSH SANITARY FITTING</p> <p>PIPE CAP</p> <p>PIPE DROP/PIPE RISE</p> <p>BOTTOM OUTLET TEE</p> <p>TOP OUTLET TEE</p> <p>UNION</p> <p>SANITARY CLAMP</p> <p>HIGH PRESSURE SANITARY CLAMP</p> <p>SCREWED CONNECTION</p> <p>RESTRICTIVE ORIFICE PLATE</p> <p>QUICK CONNECT/DISCONNECT</p> <p>COMPRESSION FITTING</p> <p>INGOLD FITTING</p> <p>BEVEL SEAT FITTING</p> <p>HOSE BARB FITTING</p> <p>FLEXIBLE CONNECTOR</p> <p>ECCENTRIC REDUCER</p> <p>SPRAY BALL</p> <p>SIGHT GLASS</p> <p>STRAINER ("Y" TYPE)</p> <p>STRAINER ("Y" TYPE) WITH BLOWDOWN</p> <p>MUFFLER/SILENCER</p> <p>THERMOMETER</p> <p>SANITARY THERMOWELL</p> <p>LOCALLY MOUNTED PRESSURE (PI) OR TEMPERATURE (TI) GAUGE</p> <p>SANITARY STEAM TRAP</p> <p>THERMOSTATIC STEAM TRAP</p> <p>FLOAT & THERMOSTATIC STEAM TRAP</p> <p>INVERTED BUCKET STEAM TRAP</p> <p>PRESSURE POWERED PUMP</p> <p>FILTER</p>	<p>ANNOTATION</p> <p>BUILDING SYSTEMS</p> <p>CA COMPRESSED AIR PIPING</p> <p>CHWS CHILLED WATER SUPPLY PIPING</p> <p>CHWR CHILLED WATER RETURN PIPING</p> <p>CWFT CONDENSER WATER FROM TOWER</p> <p>CWTT CONDENSER WATER TO TOWER</p> <p>DR CONDENSATE DRAIN PIPING</p> <p>D DRAIN</p> <p>PCHWS PROCESS CHILLED WATER SUPPLY</p> <p>PCHWR PROCESS CHILLED WATER RETURN</p> <p>GCHWS GLYCOL CHILLED WATER SUPPLY</p> <p>GCHWR GLYCOL CHILLED WATER RETURN</p> <p>HPS HIGH PRESSURE STEAM</p> <p>HPC HIGH PRESSURE CONDENSATE</p> <p>HHWS HEATING HOT WATER SUPPLY</p> <p>HHWR HEATING HOT WATER RETURN</p> <p>HPS HIGH PRESSURE STEAM</p> <p>HPC HIGH PRESSURE CONDENSATE</p> <p>LPS LOW PRESSURE STEAM</p> <p>LPC LOW PRESSURE CONDENSATE</p> <p>MPS MEDIUM PRESSURE STEAM</p> <p>MPC MEDIUM PRESSURE CONDENSATE</p> <p>NG NATURAL GAS</p> <p>PC PUMPED CONDENSATE</p> <p>RV REFRIGERANT VENT</p> <p>PLUMBING</p> <p>CW COLD WATER PIPING</p> <p>ICW INDUSTRIAL COLD WATER</p> <p>NI INDIRECT WASTE OR IRRIGATION WATER</p> <p>NPW NON-POTABLE WATER</p> <p>HW HOT WATER PIPING</p> <p>HWC HOT WATER CIRCULATING PIPING</p> <p>SFT SOFT WATER</p> <p>SW STORM WATER</p> <p>TWS TEMPERED WATER SUPPLY</p> <p>TWR TEMPERED WATER RETURN</p> <p>VAC VACUUM</p> <p>V VENT</p> <p>W WASTE</p> <p>PROCESS</p> <p>AC ACETYLENE</p> <p>AW ACID WASTE</p> <p>AR ARGON</p> <p>CIPS CLEAN IN PLACE SUPPLY PIPING</p> <p>CIPR CLEAN IN PLACE RETURN PIPING</p> <p>CS CLEAN STEAM</p> <p>STM(F) FILTERED STEAM</p> <p>DI DE-IONIZED WATER</p> <p>DS DISTILLED WATER</p> <p>GN GASEOUS NITROGEN</p> <p>HE HELIUM</p> <p>HY HYDROGEN</p> <p>LN LIQUID NITROGEN</p>			

PLUMBING FIXTURE SCHEDULE

TAG	TYPE	BASIS OF DESIGN		DESCRIPTION	ACCESSORIES	CONNECTIONS ^{1,2}			
		MANUFACTURER	MODEL			WASTE	VENT	CW	HW
WF-1	WASH FOUNTAIN	BRADLEY	ELX-3	WALL MOUNTED LAVATORY SYSTEM SHALL ACCOMDATE UP TO THREE USERS. PROVIDE A SINGLE CENTERED AT EACH STATION FOR FAUCET. WASH FOUNTAIN TOP SHALL BE CONSTRUCTED OF DURABLE TERRREON AND SHALL BE ONE SOLID SURFACE.	PROVIDE 1.0 GPM METERING FAUCET AND NO SOAP DISPENSER. FAUCET BASIS OF DESIGN IS AMERICAN STANDARD 1340.109 WITH THERMOSTATIC MIXING VALVE. PROVIDE COMBINED DRAIN ROUGH IN AND SUPPORT BRACKET. *PROVIDE AIR ADMITANCE VALVE (BASIS OF DESIGN STUDOR VENT MINI) IN LIEU OF VENT PIPING, INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	2"	*	1/2"	1/2"

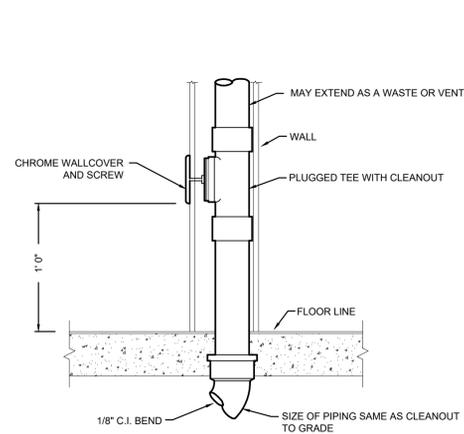
REMARKS:
 1. VERIFY ALL CONNECTIONS & MOUNTING HEIGHTS WITH CODES, MANUFACTURERS, AND PLANS.
 2. SIZES LISTED INDICATE MIN. SIZE ONLY, SEE PLUMBING RISERS AND FLOOR PLANS FOR LARGER SIZES.
 **APPROVED EQUALS WASHFOUNTAIN: BRADLEY, ACORN, WILLOUGHBY; FAUCET: AMERICAN STANDARD, SYMMONS, DELTA.

PIPING MATERIAL SCHEDULE

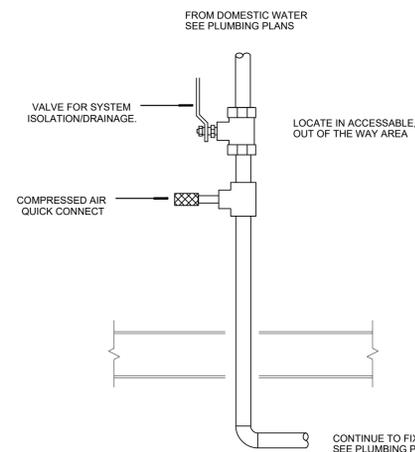
SYSTEM	PIPING							FITTINGS		MAX. WORKING		FIELD TEST	
	SIZE	TYPE	SCH	GRD	ASTM	MATERIAL	MAT.	TYPE	PRESS (PSI)	TEMP (°F)	PRESS (PSI)	TIME	
BELOW GRADE WASTE	ALL	NH	SS	--	A74	CI	CI	DR/NH	10 FT	50-180	10 FT	1 HR	
ABOVE GRADE WASTE AND VENT	ALL	NH	SS	--	A74	CI	CI	DR/NH	10 FT	50-180	10 FT	1 HR	
DOMESTIC WATER ABOVE GRADE	ALL	--	--	--	A877	PEX	--	--	120	40-180	150	1 HR	
DOMESTIC WATER BELOW GRADE *	ALL	--	--	--	A877	PEX	--	--	120	40-180	150	1 HR	
TEMPERATURE & PRESSURE RELIEF DRAIN	ALL	M	--	--	B88	CP	CP	DR/S	10 FT	40-70	10 FT	1 HR	

ATP - ARMCO TRUSS PIPE	GLV - GALVANIZED	SJ - SOLDER JOINT 95-5 TIN-ANTIMONY
BLK - BLACK	LC - LEAD CAULKING	SL - SEAMLESS STEEL
BS - BELL & SPIGOT	MI - MALLEABLE IRON	SS - STANDARD STRENGTH - SERVICE WEIGHT
CI - CAST IRON	MJ - MECHANICAL JOINT	SW - SOLVENT WELD
CP - COPPER	NG - NEOPRENE GASKET	TS - TY-SEAL
CS - CARBON STEEL	NH - NO-HUB	THRD - THREADED
CW - CONTINUOUS WELD	PE - POLYETHYLENE	VCP - VITRIFIED CLAY PIPE
DI - DUCTILE IRON	PVC - POLYVINYL CHLORIDE	WELD - WELDED
DR - DRAINAGE FITTING	S - BRAZED JOINT - SILVER BRAZING ALLOY	X4 - EXTRA HEAVY

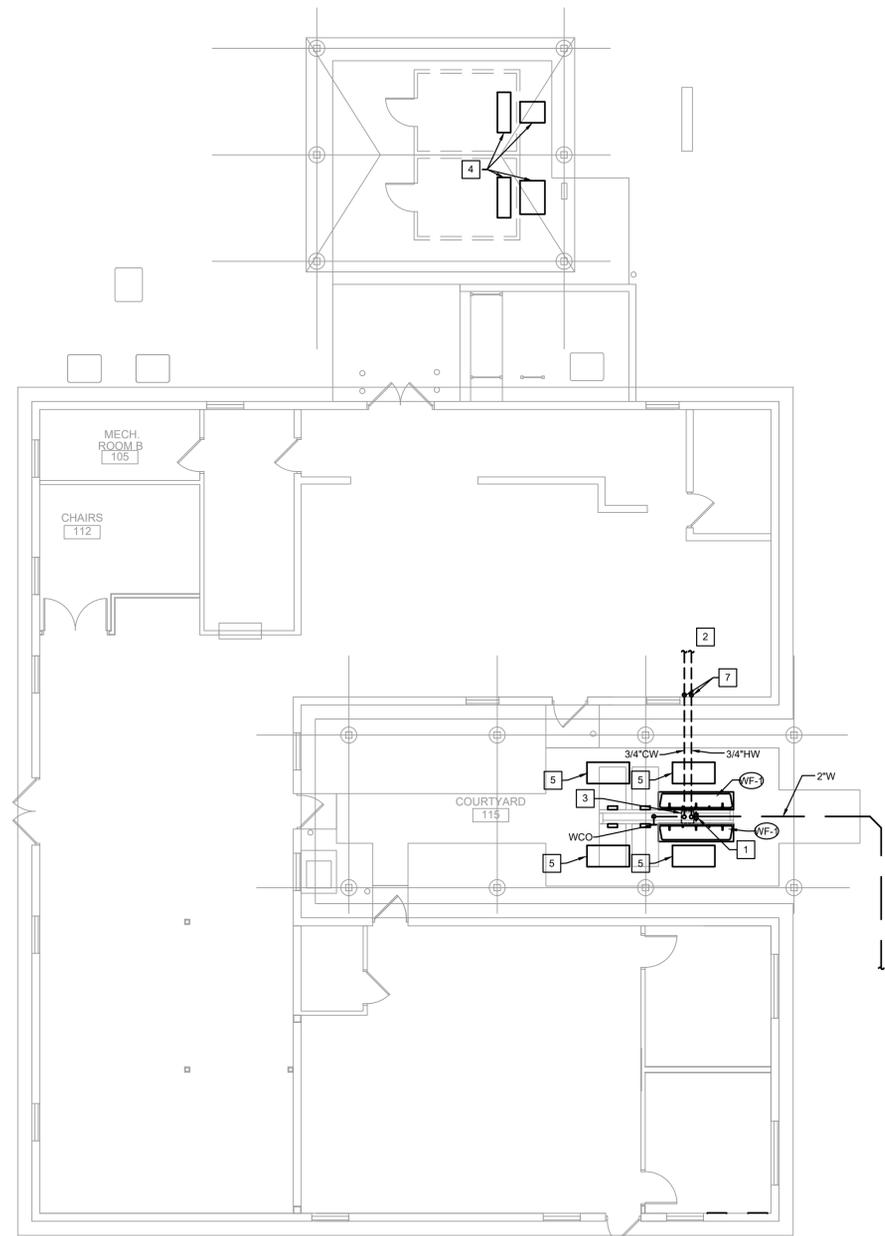
* PEX BELOW GRADE SHALL BE 3/4" HOT AND COLD PEX INSIDE A 2" PVC PIPE.



3 WALL CLEANOUT DETAIL
SCALE: NONE



2 ISOLATION/WINTERIZATION DETAIL
SCALE: NONE



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

PLAN NOTES:

- PIPE WASH FOUNTAIN USING COMBINED WASTE OPTION. ROUTE 2" WASTE BELOW GRADE AND CONNECT TO EXISTING. PROVIDE AIR ADMITTANCE VALVE. BASIS OF DESIGN IS STUDOR VENT MINI.
 - ROUTE DOMESTIC HOT AND COLD WATER BELOW GRADE. CONNECT TO EXISTING HOT AND COLD WATER IN KITCHEN AREA. PROVIDE ISOLATION VALVES AND AIR QUICK CONNECT IN EACH LINE. SEE WINTERIZATION DETAIL.
 - PROVIDE ACCESS PANEL IN ENCLOSURE BELOW WASHFOUNTAIN. INSIDE MASONRY ENCLOSURE PROVIDE 800 WATT 120 VOLT FORCED FAN ENCLOSURE HEATER. MOUNT ON UNISTRUT STAND.
 - COOLER EVAPORATOR AND CONDENSER PROVIDED WITH COOLERS. MECHANICAL CONTRACTOR SHALL INSTALL REFRIGERANT AND CONDENSATE LINES PER MANUFACTURERS RECOMMENDATIONS.
 - PROVIDE 1250 WATT RADIANT HEATING PANEL. BASIS OF DESIGN IS RADIANT ELECTRIC HEAT MODEL 1648CL. 120 VOLT, 10.4 AMP.
 - CONNECT WASTE LINE INTO EXISTING WASTE IN THIS LOCATION. VERIFY DEPTH OF EXISTING LINE IS SUFFICIENT TO MAINTAIN PROPER SLOPE.
 - PROVIDE ISOLATION VALVE AND COMPRESSED AIR WINTERIZATION PORT IN VERTICAL BEFORE PIPE GOES BELOW GRADE. SEE DETAIL.
- *FOR WINTERIZATION: CLOSE ISOLATION VALVE IN THE BUILDING. DISCONNECT HOT AND COLD DOMESTIC WATER LINES AT WASHFOUNTAINS. CONNECT AIR COMPRESSOR AT QUICK CONNECT FITTING INSIDE. LEAVE ISOLATION VALVE CLOSED UNTIL OUTDOOR FIXTURES NEED TO BE USED AGAIN.



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DFAC ADDITION, BLDG 430
CAMP CLARK TRAINING SITE
NEVADA, MO 64772

PROJECT # T1716-02
SITE # 6274
ASSET # 8136274048

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 07-26-2019

CAD DWG FILE: MBASE_0191406
DRAWN BY: OA
CHECKED BY: OA
DESIGNED BY: OA

SHEET TITLE:
MECHANICAL PLAN

SHEET NUMBER:

M-101

11 OF 12 SHEETS

LIGHT FIXTURE SCHEDULE							
SYMBOL	TYPE	MOUNTING	DESCRIPTION, LOCATIONS & NOTES	BASIS OF DESIGN MANUFACTURER & CAT. No.	LAMPS	BALLAST	VOLTS
					QUAN./TYPE	QUAN./TYPE	
⊙	A	SURFACE	18" DIAMETER SURFACE MOUNTED LED CANOPY FIXTURE - EXTERIOR CANOPY - SEE NOTE 1 BELOW	BASIS OF DESIGN: EATON-COOPER® TT-C1-LED-E1-WQ-GM-8030-MS/DIM-L20	NA	NA	LNV
					35000 LUMENS	DRIVER	
⊙	A2	SURFACE	18" DIAMETER SURFACE MOUNTED LED CANOPY FIXTURE - EXTERIOR CANOPY	BASIS OF DESIGN: EATON-COOPER® TT-C1-LED-E1-WQ-GM-8030	NA	NA	LNV
					35000 LUMENS	DRIVER	

NOTES:
1. PROVIDE FIXTURE WITH OCCUPANCY SENSOR AND PHOTOCELL. OCCUPANCY SENSOR SHALL DIM LIGHTS WHEN UNOCCUPIED TO 50%.

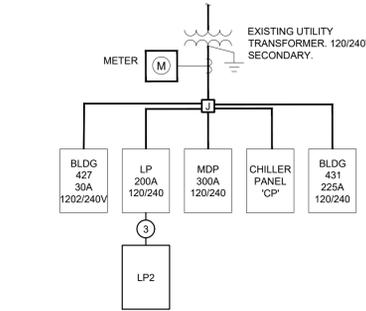
CONDUIT APPLICATION SCHEDULE			
APPLICATION	MATERIAL	FITTING TYPE (IF APPLICABLE)	NOTES
FEEDERS ABOVE GRADE	EMT	COMPRESSION	-
ALL BRANCH CIRCUITS FOR LIGHTING AND POWER	EMT	COMPRESSION	-
ALL HVAC EQUIPMENT, SUPPLY/EXHAUST FANS AND MOTORS	EMT	COMPRESSION	-
LIGHT FIXTURE WIRING LIMITED TO 5'-0" IN LENGTH	MC CABLE	-	CU ONLY
BRANCH CIRCUITS BELOW GRADE	PVC	-	1
LINE VOLTAGE THERMOSTAT CONTROL WIRING	EMT	COMPRESSION	-

NOTES:
1. TRANSITION TO EMT SHALL BE MADE PRIOR TO COMING UP FROM BELOW GRADE.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN UTILITY COMPANY REQUIREMENTS FOR PRIMARY SERVICE AND ENCASING IN CONCRETE IF REQUIRED.
3. WHERE CEILINGS EXIST, WIRING CAN BE OPEN, PLENUM-RATED WIRING IN AREAS WITHOUT A CEILING, EMT CONDUIT IS REQUIRED.

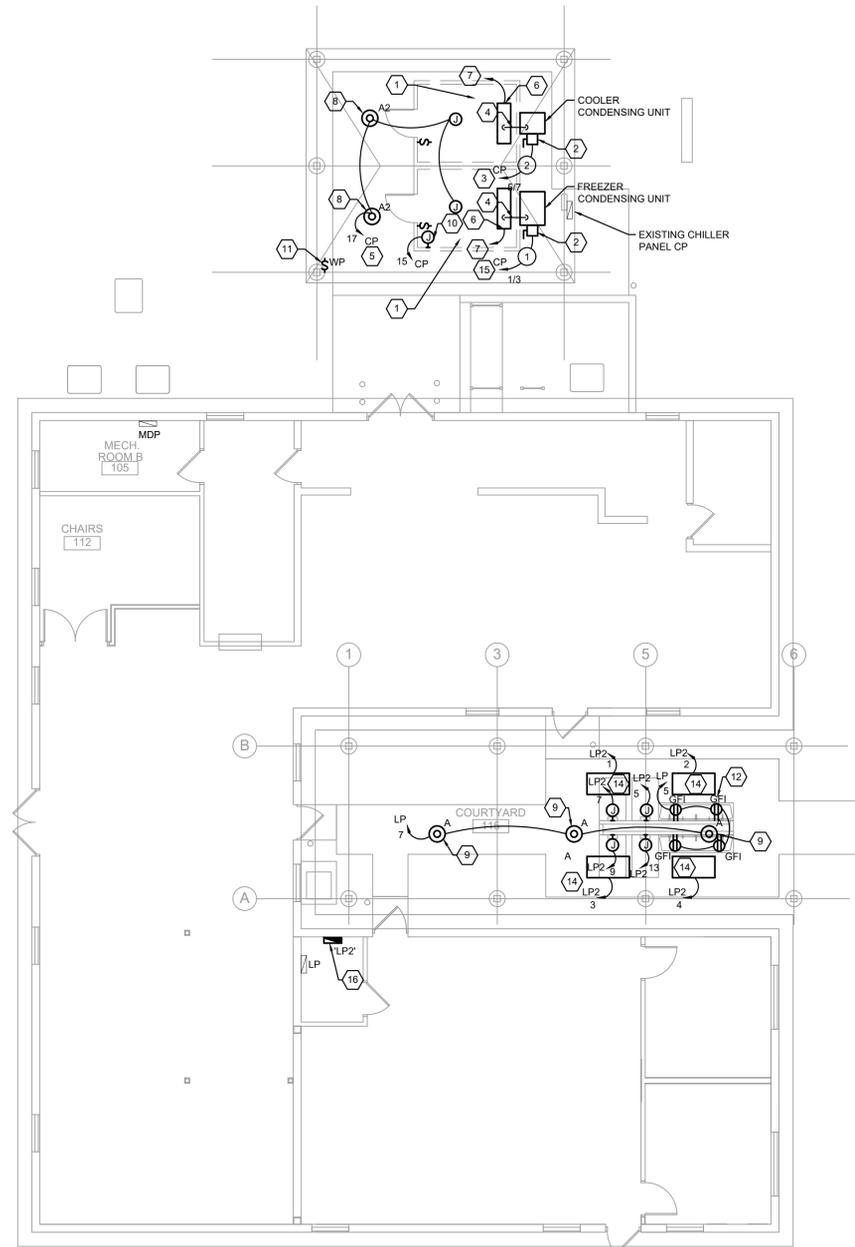
PANEL SCHEDULE															
PANEL DESIGNATION:		SERVICE:		PANEL SIZE:				PANEL OPTIONS:			MOUNTING SURFACE:		MIN. AIC: 10K		
'LP2'		120/240V-1PH-3W FED FROM: LP1		MAIN BUS: 100 AMPS W / 100 AMP MAIN CKT BREAKER				COPPER BUS, GND BUS, NEUTRAL BUS			LOCATION: ELEC RM		POLES: 18 NEMA TYPE: 1		
REV NO.	NOTE NO.	CIRC NO.	LOAD DESCRIPTION	CIRC BRKR	POLES	LOAD (VA)	PHASE LOADS (VA) A B	LOAD (VA)	POLES	CIRC BRKR	LOAD DESCRIPTION	CIRC NO.	NOTE NO.	REV NO.	
		1	HEATING PANEL	20	1	1250	2500	1250	1	20	HEATING PANEL	2			
		3	HEATING PANEL	20	1	1250	2500	1250	1	20	HEATING PANEL	4			
		5	HAND DRYER	20	1	1500	1500	1500	0	1	20	SPARE	6		
		7	HAND DRYER	20	1	1500	1500	1500	0	1	20	SPARE	8		
		9	HAND DRYER	20	1	1500	1500	1500	0	1	20	SPARE	10		
		11	HAND DRYER	20	1	1500	1500	1500	0	1	20	SPARE	12		
		13	SPACE	20	1	0	0	0	0	1	20	SPARE	14		
		15	SPACE	20	1	0	0	0	0	1	20	SPARE	16		
		17	SPACE	20	1	0	0	0	0	1	20	SPARE	18		
TOTAL CONNECTED PER PHASE (VA):				6000				6000				Diversity Factor calculated based on NEC, section 220.			
PHASE AMPERAGE (A):				50				50				NOTES:			
PANEL CONNECTED LOAD:				11 KVA											
DIVERSIFIED CONNECTED LOAD:				13.8 KVA											
FUTURE FACTOR:				125%											
MINIMUM PANEL/FEEDER SIZE (AMPS):				71 AMPS											

PANEL SCHEDULE															
PANEL DESIGNATION:		SERVICE:		PANEL SIZE:				PANEL OPTIONS:			MOUNTING SURFACE:		MIN. AIC: 10K		
'EXIST CP'		120/240V-1PH-3W FED FROM: EXIST		MAIN BUS: 100 AMPS W / 100 AMP MAIN CKT BREAKER				COPPER BUS, GND BUS, NEUTRAL BUS			LOCATION: EXTERIOR		POLES: 42 NEMA TYPE: 1		
REV NO.	NOTE NO.	CIRC NO.	LOAD DESCRIPTION	CIRC BRKR	POLES	LOAD (VA)	PHASE LOADS (VA) A B	LOAD (VA)	POLES	CIRC BRKR	LOAD DESCRIPTION	CIRC NO.	NOTE NO.	REV NO.	
		1	FREEZER CU	40	2	2100	2100	2100	0	1	20	SPACE	2		
		3		--	--	2100	2100	2100	0	1	20	SPACE	4		
		5	FRIDGE CU	40	2	2100	2100	2100	0	1	20	SPACE	6		
		7		--	--	2100	2100	2100	0	1	20	SPACE	8		
		9	EXISTING	20	1	1000	1000	1000	0	1	20	SPACE	10		
		11	EXISTING	20	1	1000	1000	1000	0	1	20	SPACE	12		
		13	EXISTING	20	1	100	100	100	0	1	20	SPACE	14		
		15	HEAT TRACE	20	1	500	500	500	0	1	20	SPACE	16		
		17	WALK IN LIGHTING	20	1	250	250	250	0	1	20	SPACE	18		
		19	SPACE	20	1	0	0	0	0	1	20	SPACE	20		
TOTAL CONNECTED PER PHASE (VA):				6000				6000				Diversity Factor calculated based on NEC, section 220.			
PHASE AMPERAGE (A):				50				50				NOTES:			
PANEL CONNECTED LOAD:				11.3 KVA								1. PROVIDE GFEP CIRCUIT BREAKER			
DIVERSIFIED CONNECTED LOAD:				12.4 KVA											
FUTURE FACTOR:				125%											
MINIMUM PANEL/FEEDER SIZE (AMPS):				63 AMPS											

PANEL SCHEDULE															
PANEL DESIGNATION:		SERVICE:		PANEL SIZE:				PANEL OPTIONS:			MOUNTING SURFACE:		MIN. AIC: 10K		
'EX LP1'		120/240V-1PH-3W FED FROM: EX MDP		MAIN BUS: 225 AMPS W / 200 AMP MAIN CKT BREAKER				COPPER BUS, GND BUS, NEUTRAL BUS			LOCATION: MECH RM A		POLES: 30 NEMA TYPE: 1		
REV NO.	NOTE NO.	CIRC NO.	LOAD DESCRIPTION	CIRC BRKR	POLES	LOAD (VA)	PHASE LOADS (VA) A B	LOAD (VA)	POLES	CIRC BRKR	LOAD DESCRIPTION	CIRC NO.	NOTE NO.	REV NO.	
		1	EXIST BATHROOM LGTS AND EF	20	1	1000	2000	1000	1	20	EXISTING RECPTS	2			
		3	EXIST HOT WATER	20	1	1000	1000	1000	0	1	20	SPARE	4		
		5	WASH UP RECPTS	20	1	540	2940	2400	2	30	WATER HEATER	6			
		7	COURTYARD LGT	20	1	200	2600	2400	--	--		8			
		9	EXISTING RECEPT	20	1	1000	1000	0	1	20	SPARE	10			
		11	SPARE	20	1	0	0	0	1	20	SPARE	12			
		13	EXISTING GRILL	50	2	4500	5500	1000	1	20	EXISTING OUTSIDE LGTS	14			
		15		--	--	4500	4500	0	1	20	SPARE	16			
		17	EXISTING RECEPT	20	1	1000	2000	1000	1	20	EXISTING LGTS	18			
		19	EXISTING RECEPT	20	1	1000	2000	1000	1	20	EXISTING RECEPT	20			
		21	PANEL LP2	100	2	5500	7900	2400	2	30	WATER HEATER	22			
		23		--	--	5500	7900	2400	--	--		24			
		25	EXISTING MESS LGTS	20	1	1000	2000	1000	1	20	EXISTING RECPTS	26			
		27	EXISTING MESS LGTS	20	1	1000	2000	1000	1	20	EXISTING RECPTS	28			
		29	EXISTING MESS LGTS	20	1	1000	2000	1000	1	20	EXISTING LGTS	30			
TOTAL CONNECTED PER PHASE (VA):				25000				20000				Diversity Factor calculated based on NEC, section 220.			
PHASE AMPERAGE (A):				208				167				NOTES:			
PANEL CONNECTED LOAD:				45.3 KVA											
DIVERSIFIED CONNECTED LOAD:				33.2 KVA											
FUTURE FACTOR:				100%											
MINIMUM PANEL/FEEDER SIZE (AMPS):				138 AMPS											



2 ELECTRICAL ONE-LINE DIAGRAM
SCALE: NONE



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

- PLAN NOTES:
- DISCONNECT AND REMOVE WIRE/CONDUIT AND DISCONNECT ASSOCIATED WITH DEMOLISHED FREEZER/COOLER CONDENSING UNIT/EVAPORATOR BACK TO SOURCE.
 - PROVIDE 30A, 2-POLE, HEAVY DUTY, NON-FUSED DISCONNECT IN NEMA 3 ENCLOSURE FOR CONDENSING UNIT.
 - CIRCUIT 240V POWER TO 20A/2P CIRCUIT BREAKER FOLLOWING DEMOLITION FOR NEW COOLER CONDENSING UNIT.
 - ROUTE CONDUIT/WIRE FROM EVAPORATING UNIT TO CONDENSING UNIT. REFER TO MANUFACTURER FOR EXACT REQUIREMENTS.
 - PROVIDE 120V POWER FOR LIGHTING AND RECEPTACLES. ROUTE HOMERUN TO 20A/1P CIRCUIT BREAKER MADE AVAILABLE FOLLOWING DEMOLITION.
 - TOGGLE TYPE DISCONNECT RATED FOR 1HP.
 - ROUTE 120V CIRCUIT FOR EVAPORATOR TO 20A/1P CIRCUIT BREAKER IN EXISTING CHILLER PANEL MADE AVAILABLE FOLLOWING DEMOLITION.
 - SURFACE MOUNT LIGHTING FIXTURE TO STRUCTURE. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION. FIXTURE SHALL BE CONTROLLED BY INTEGRAL PHOTOCELL/OCCUPANCY (TYP.)
 - SURFACE MOUNT LIGHTING FIXTURE TO STRUCTURE. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION. FIXTURE SHALL BE CONTROLLED BY INTEGRAL PHOTOCELL/OCCUPANCY (TYP.)
 - 120V POWER FOR HEAT TRACE. PROVIDE BREAKER WITH GROUND FAULT EQUIPMENT PROTECTION (GFEP) TYPE BREAKER.
 - SWITCH IN WEATHER PROOF COVER TO CONTROL LIGHTS UNDER CANOPY.
 - RECEPTACLE IN WEATHER PROOF COVER FOR ENCLOSURE HEATER EQUAL TO HOFFMAN 32FL34. (TYP.)
 - MAKE FINAL POWER CONNECTION TO 20A, 1-P, 1HP RATED TOGGLE TYPE DISCONNECT IN NEMA 3R ENCLOSURE FOR HEATING PANEL. COORDINATE WITH MANUFACTURER FOR ALL REQUIREMENTS.
 - CIRCUIT 240V POWER TO 25A/2P CIRCUIT BREAKER IN EXISTING CHILLER PANEL MADE AVAILABLE FOLLOWING DEMOLITION FOR NEW FREEZER CONDENSING UNIT.
 - PROVIDE PANEL 'LP2' VIA SUB FEED LUGS FROM EXISTING PANEL LP1. REFER TO ONE-LINE DIAGRAM AND PANELBOARD SCHEDULE FOR ADDITIONAL INFORMATION.

- FEEDER SCHEDULE:
- (2)#10 AND (1)#10 G IN 1" CONDUIT
 - (2)#12 AND (1)#12 G IN 1" CONDUIT
 - (3)#8 AND (1)#8 G IN 1.25" CONDUIT



OFFICE OF THE
ADJUTANT GENERAL
MISSOURI NATIONAL GUARD
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PROFESSIONAL ENGINEER
CORY WILSON
MISSOURI PE # 201009876

DFAC ADDITION, BLDG 430
CAMP CLARK TRAINING SITE
NEVADA, MO 64772

PROJECT # T1716-02
SITE # 6274
ASSET # 8136274048

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 07-26-2019

CAD DWG FILE: E_NBASE_0191406
DRAWN BY: OA
CHECKED BY: OA
DESIGNED BY: OA

SHEET TITLE:
ELECTRICAL PLANS

SHEET NUMBER:

E-101

12 OF 12 SHEETS