

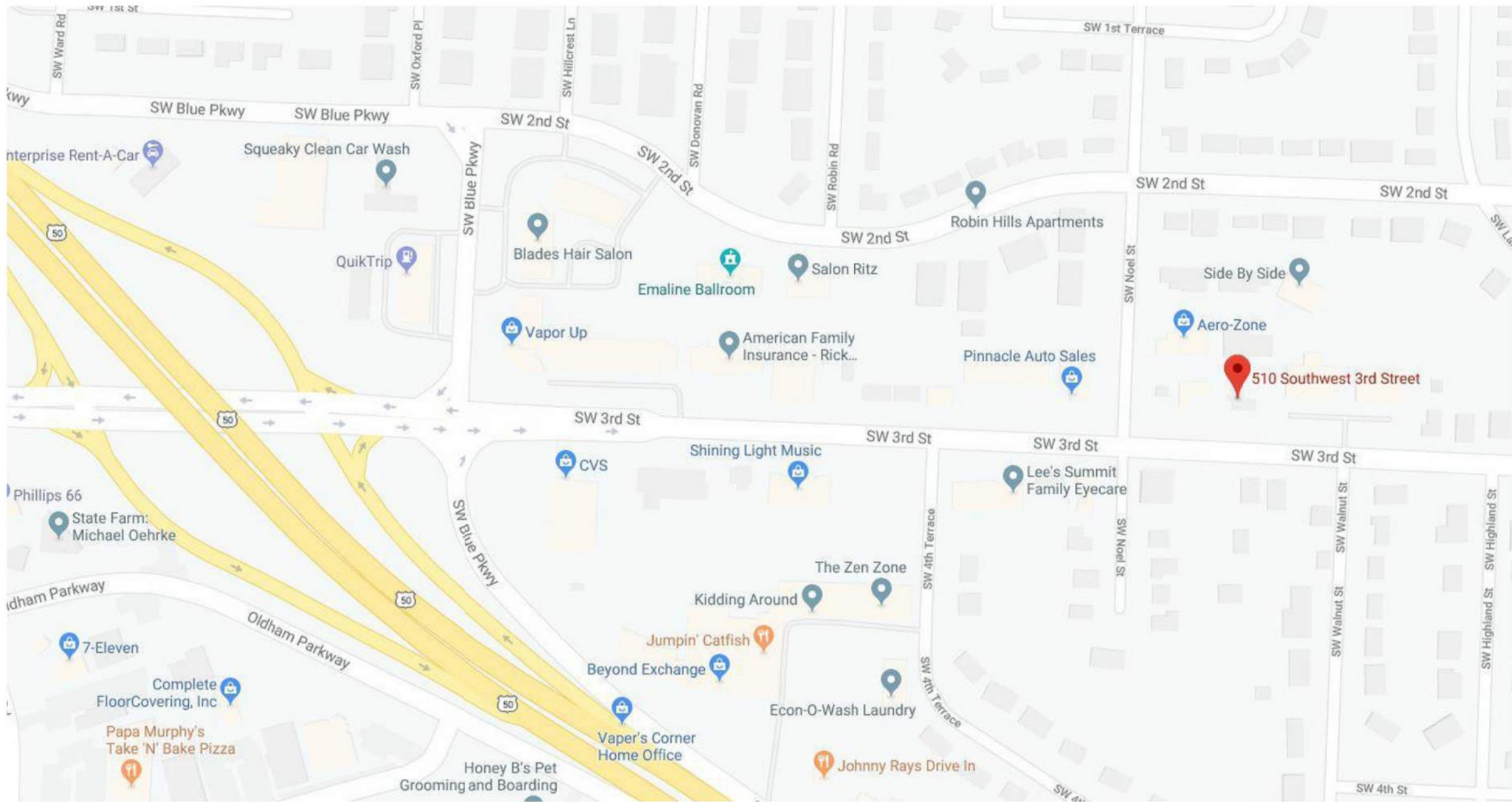
# 3RD STREET DISPENSARY - ADDITION

510 SW 3rd St., Lee's Summit, MO 64063

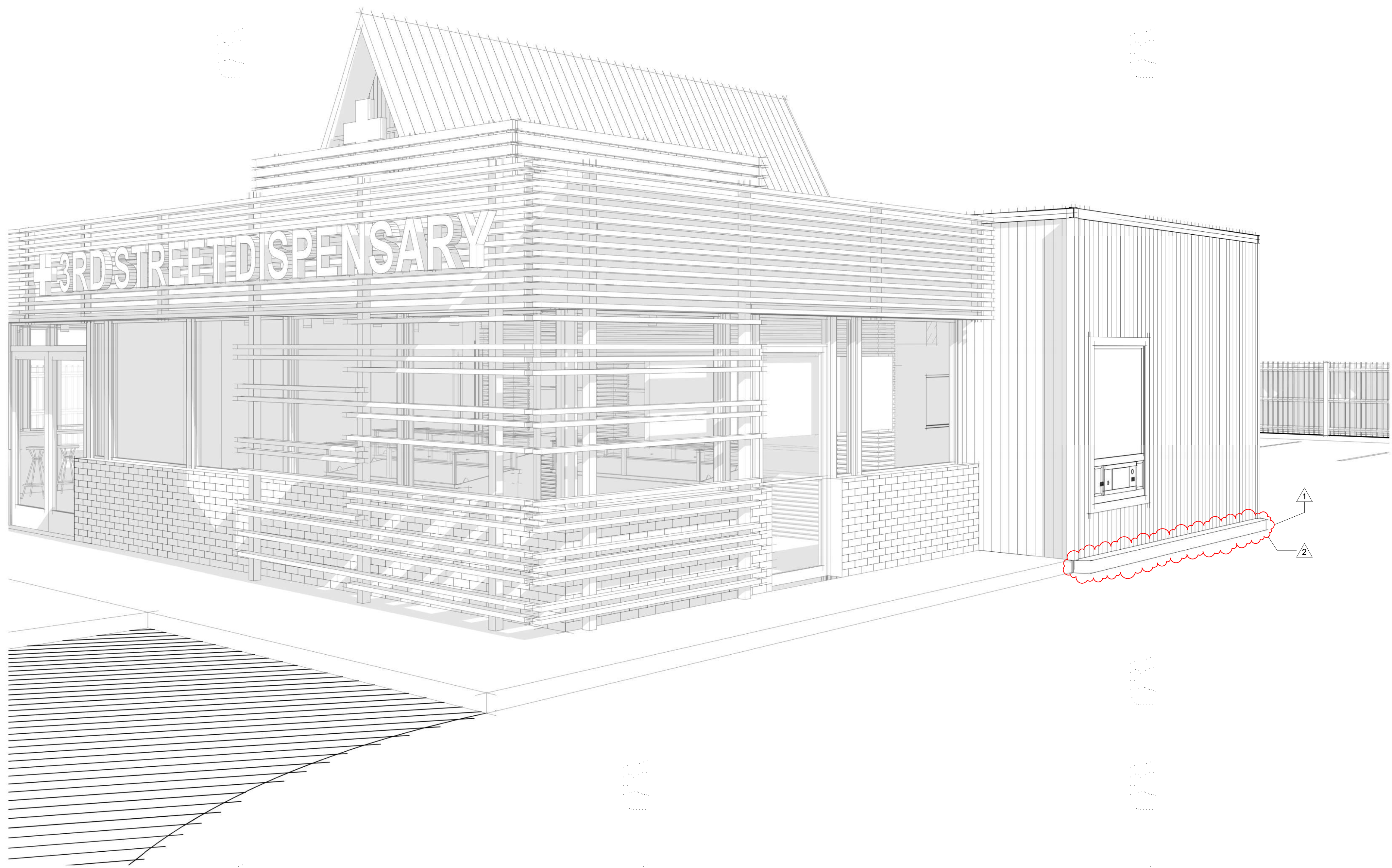
## PERMIT SET

06/10/2022

COLLINS WEBB #: 22038



VICINITY MAP



GENERAL	
SHEET NUMBER	SHEET NAME
CS	COVER SHEET
G001	GENERAL INFORMATION
G002	LIFE SAFETY PLAN AND PROJECT INFO.
STRUCTURAL	
SHEET NUMBER	SHEET NAME
S001	STRUCTURAL GENERAL NOTES
S100	FOUNDATION AND ROOF FRAMING PLAN
ARCHITECTURAL	
SHEET NO.	SHEET NAME
A100	ARCHITECTURAL SITE PLAN
A101	FIRST FLOOR PLAN AND ROOF PLAN
A201	EXTERIOR ELEVATIONS, SECTIONS, AND DETAILS
MEP	
SHEET NUMBER	SHEET NAME
E101	ELECTRICAL NOTES, SYMBOLS & ABBREVIATIONS
E102	ELECTRICAL DETAILS
E201	ELECTRICAL POWER & LIGHTING PLAN
E301	ELECTRICAL RISER DIAGRAM & SCHEDULES
E401	ELECTRICAL SPECIFICATIONS
E402	ELECTRICAL SPECIFICATIONS
M101	MECHANICAL NOTES, SYMBOLS & ABBREVIATIONS
M201	MECHANICAL FLOOR PLAN
M301	MECHANICAL SPECIFICATIONS

FINAL DEVELOPMENT PLANS	
- MISSOURI ONE CALL SYSTEM 1-800-DIG-RITE "CALL BEFORE YOU DIG."	
- THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.	
- ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT'S DESIGN AND CONSTRUCTION MANUAL.	
- "PER FEMA FIRM PANEL 29095C0417G, EFFECTIVE JANUARY 20, 2017, THE SITE IS IN ZONE X (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 1% ANNUAL CHANCE FLOODPLAIN."	

UTILITY CONTACT INFORMATION	
- ELECTRIC: EVERGY - 888-544-5275	
- WATER: LS WATER - 816-969-1950	
- GAS: SPIRE - 800-582-1234	
- PHONE: AT&T - 800-331-0500	
- FIBER: GOOGLE FIBER - 866-777-7550	

OIL/GAS WELL PRESENCE	
PER UES CONSULTING SERVICES, PHASE 1 OF THE ENVIRONMENTAL SITE ASSESSMENT DOCUMENT ON JUNE 13 <sup>TH</sup> , 2019, NO OIL/GAS WELLS ARE PRESENT WITHIN THE SITE.	

**OWNER**  
MARK WESTHUES  
MC PROPERTIES OF MISSOURI, LLC  
704 NE LAKE POINTE DR.  
LEE'S SUMMIT, MISSOURI 64064  
P: 816.215.5180  
mark@westhues.com

**ARCHITECT**  
COLLINS WEBB ARCHITECTURE  
307B SW MARKET ST.  
LEE'S SUMMIT, MISSOURI 64063  
P: 816.249.2270  
www.collinsandwebb.com

**STRUCTURAL ENGINEER**  
STAND STRUCTURAL ENGINEERING INC.  
8234 ROBINSON ST.  
OVERLAND PARK, KANSAS 66204  
P: 913.214.2169  
www.stand-sei.com

**MEP ENGINEER**  
ENGINEERED BUILDING SOLUTIONS, LLC  
11320 W 79TH STREET  
OVERLAND PARK, KS 66214  
P: 913.735.5654  
www.ebslutionskc.com

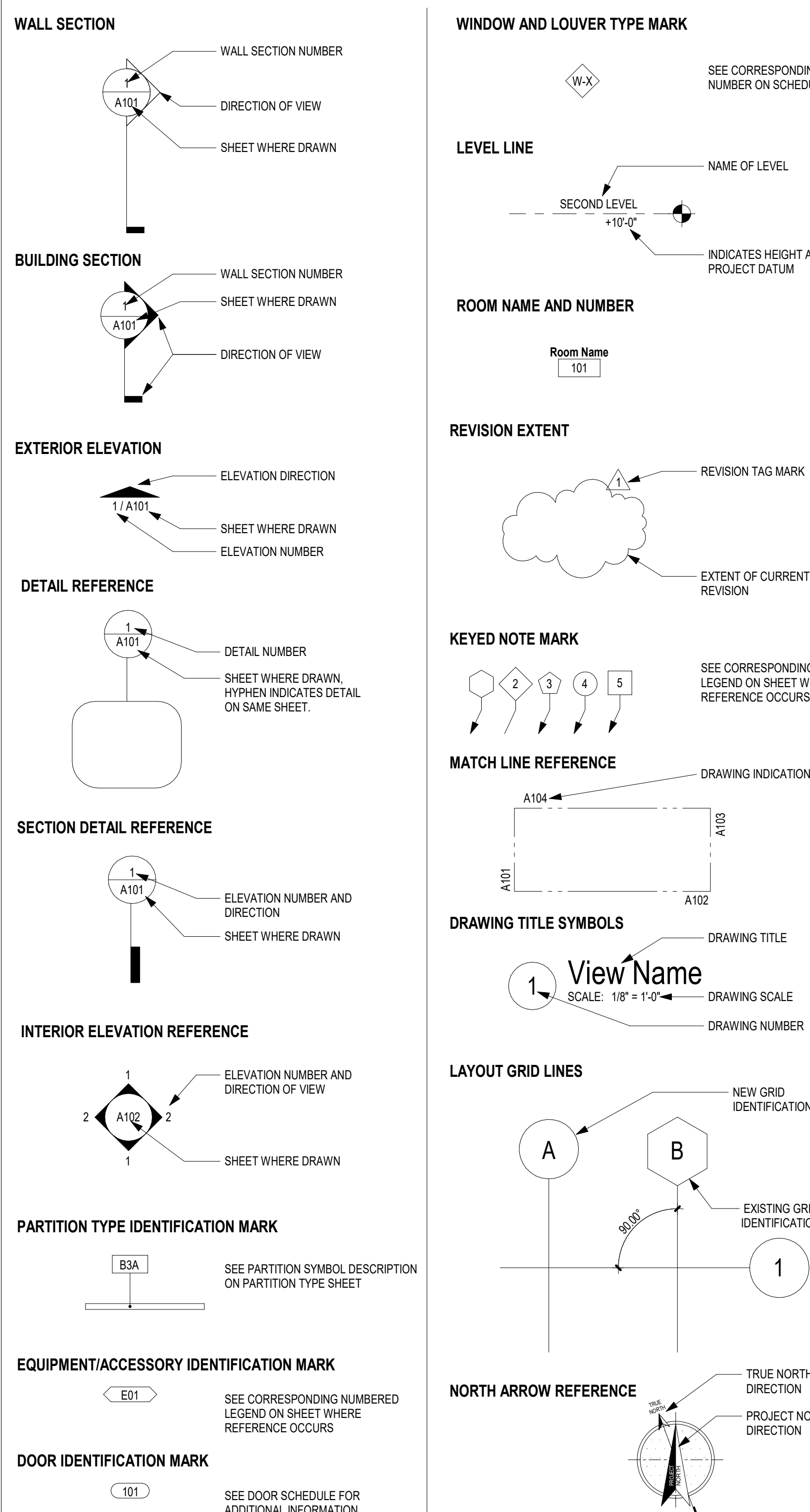
**CONTRACTOR**  
WOLF 21 INC.  
812A W 17TH ST.  
KANSAS CITY, MO 64108  
P: 913.207.3643  
www.wolf21.net



## ARCHITECTURAL ABBREVIATIONS

<b>A</b>	AND	<b>E</b>	EAST	<b>I</b>	INSIDE DIAMETER	<b>P</b>	PUBLIC ADDRESS	<b>S</b>	SPRINKLER
<	ANGLE	EA	EACH	IN	INCH	PART	PARTIAL	SKLR	SPEAKER
AB	ANCHOR BOLT	EQ	EQUIPMENT DRAWING	INCL	INCLUDE, INCLUDING	PBX	PARTICULAR BOARD	SS	SQUARE
AC	ACOUSTICAL	EFS	EXTERIOR INSULATION FINISH SYSTEM	INFO	INFORMATION	PCF	POUNDS PER CUBIC FOOT	SSK	SERVICE SINK
ACT	ACTUATOR	EJ	EXPANSION JOINT	INT	INTERIOR	PSF	POUNDS PER SQUARE INCH	STC	SOUND TRANSMISSION COEFFICIENT
ACS PNL	ACCESS PANEL	EL	ELECTRICAL	INTV	INVERT	PERF	PERFORATED	ST	STREET
AD	AREA DRAIN	ELAST	ELASTOMERIC	J	JANITOR	PERM	PERIMETER	STA	STATION
ADDL	ADDITIONAL	ELC	ELECTRIC	JST	JOIST	PERMANT	PERMANENT	STAG	STAGGERED
ADJ	ADJACENT	ELV	ELEVATOR	JT	JOINT	PERPENDICULAR	PERPENDICULAR	STOR	STORAGE
ADJ	ADJUSTABLE	EMER	EMERGENCY	K	KILOGRAM	PI	POINT OF INTERSECTION	STD	STANDARD
ADJ	ADJUSTED	ENGR	ENGINEER	KG	KITCHEN	PLAM	PLASTIC LAMINATE	STL	STEEL
AF	ABOVE FINISH FLOOR	ENCL	ENCLOSURE	KIP	KICK PLATE	PLAS	PLASTER, PLASTIC	STR	STRUCTURE
AFG	ABOVE FINISH GRADE	EPB	EDGE OF SLAB	KL	KNEE SPACE	PLBG	PLUMBING	STS	SELF-TAPPING STEEL
AFS	ABOVE FINISH SLAB	EPL	ELECTRICAL PANEL BOARD	L	LENGTH, LONG	PWF	POUNDS PER SQUARE FOOT	THRES	THRESHOLD
AGGREG	AGGREGATE	EQ	EQUAL	LAM	LAMINATE, LAMINATION	PV	POLYVINYL CHLORIDE	THRU	THROUGH
ALUM. AL	ALUMINUM	EQM	EQUIPMENT	LAV	LAVATORY	PW	PAVEMENT	TOL	TOTAL
ALT	ALTERNATE	EQ SP	EQUIVALENT	LBO	LEAD LINE	PNT. P	PANEL BOARD	TOW	TOP OF WALL
AND	AND	ES	ESCALATOR	LBO	LEAD LINE	PNT. P	PANEL BOARD	TP	TOP OF PAVEMENT
APPROX	APPROXIMATELY	EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	TPH	TOILET PAPER HOLDER
ARCH	ARCHITECT (URAL)	EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	TR	TRANS
ASPH	ASPHALT	EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	TTB	TELEPHONE TERMINAL BOARD
ASPH	AT	EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	TV	TELEVISION </td
AVG	AVERAGE	EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	TYP	TYPICAL
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	TW	TOP OF WALL
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	UC	UNDER COUNTER
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	UL	UNDERWRITERS LABORATORIES
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	UON	UNLESS OTHERWISE NOTED
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	UPS	UNINTERRUPTIBLE POWER SUPPLY
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	UR	URINAL
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	UTL	UTILITY
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	V	VACUUM
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	VB	VALVE BOX
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	VCT	VINYL COMPOSITION TILE
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	VERT	VERTICAL
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	VEST	VESTIBULE
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	RECI	RECEIPT
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	REF	REFLECTED
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	REIN	REINFORCE (D) (ING) (MENT)
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	REQD	REQUIRED
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	REQU	REQUIREMENT
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	RESIL	RESILIENT
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	RET	RETURN
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	REV	REVISION
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	RF	RESILIENT FLOORING
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	RG	RIGHT HAND
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	RHS	ROUND HEAD MACHINE SCREW
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	RHS	ROUND HEAD WOOD SCREW
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	RM	ROOM
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	RO	ROUND
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	RO	ROUGH OPENING
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	ROW	RIGHT OF WAY
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	RWL	RAIN WATER LEADER
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	S	SOUTH
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SA	SUPPLY AIR
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SB	SPLASH BLOCK
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SC	SOLID CORE
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SCH	SCHEDULE
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SCRN	SCREEN
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SD	STORM DRAIN
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SE	SOUTHEAST
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SECT	SECTION
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SEG	SEGMENT
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SEP	SEPARATION OR SEPARATE
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SEP JT	SEPARATION JOINT
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SHT	SHEET, SHEETING
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SHWR	SHOWER
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SHV	SHELVES, SHELVING
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SIM	SIMILAR
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SK	SHEET METAL SCREW
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SMS	SPEAKER
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SP	SPACE, SPACED, SPACING
		EST	ESTIMATE(D)	LBO	LEAD LINE	PNT. P	PANEL BOARD	SPEC	SPECIFICATION

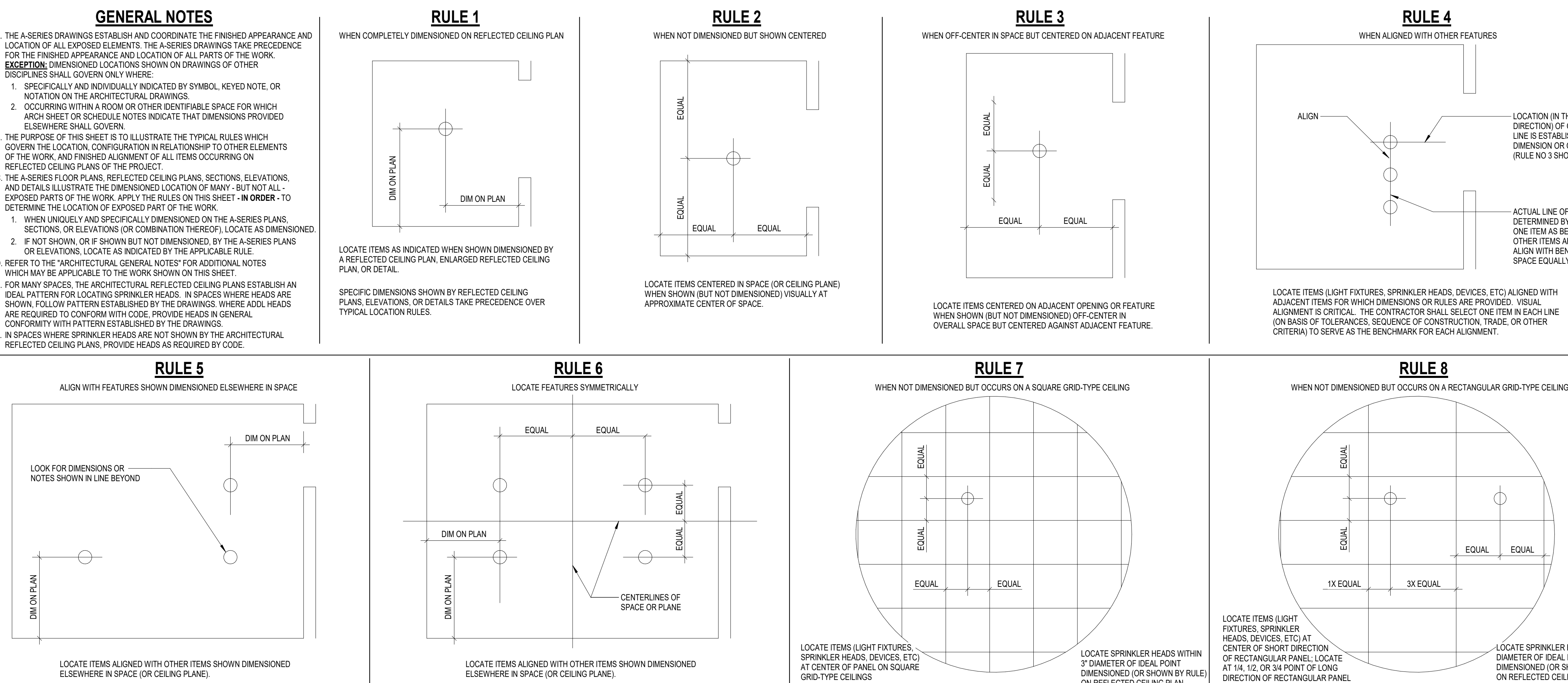
## TYPICAL ARCHITECTURAL REFERENCE SYMBOLS



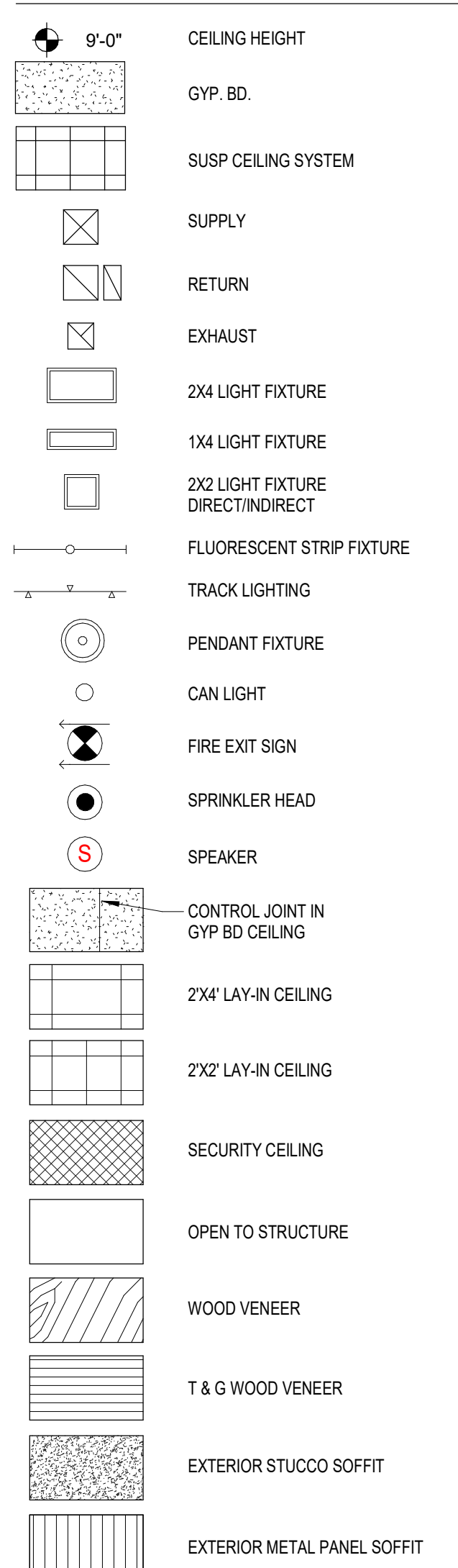
## ARCHITECTURAL DIMENSIONING CONVENTIONS

- EXCEPT WHERE DIRECTED TO PLACE ITEMS OF THE WORK AT THE "APPROXIMATE LOCATION SHOWN," DO NOT SCALE DRAWINGS FOR DIMENSIONAL INFORMATION.
  - ALL ELEMENTS OF THE DRAWINGS MAY NOT BE DRAWN TO EXACT SCALE. ALL DIMENSIONS REQUIRED ARE SHOWN (OR MAY BE DERIVED FROM THOSE SHOWN OR NOTED ON THE FLOOR PLANS, DETAIL PLANS, ELEVATIONS, SECTIONS, SCHEDULES, CONFIGURATION DETAILS, AND SPECIFICATIONS. SEE THE NOTES BELOW FOR DIMENSIONING CONVENTIONS USED ON THIS PROJECT.
  - EXCEPT WHERE SPECIFICALLY NOTED TO THE CONTRARY, ALL DIMENSIONS SHOWN ON THE ARCHITECTURAL DRAWINGS CONFORM TO THE FOLLOWING CONVENTIONS:
    - DIMENSIONS UTILIZING THE "CENTERLINE" SYMBOL ARE MEASURED TO:
      - STRUCTURAL OR DIMENSIONAL GRID LINES.
      - CENTERLINE OF CONCRETE OR CONC. MASONRY UNIT WALLS (EXCLUSIVE OF FURRING OR APPLIED FINISHES HAVING THICKNESS). REFER TO THE ARCH. PLANS AND SECTIONS, THE STRUCT. DRAWINGS, OR PARTITION SCHEDULE TO DETERMINE THE THICKNESS OF CONCRETE OR CONC. MASONRY UNIT WALLS.
      - CENTERLINE OF PARTITION ASSEMBLY (EXCLUSIVE OF ANY APPLIED FINISHES HAVING THICKNESS WHICH MAY BE ADDED TO SUCH WALLS) AT PARTITIONS FRAMED WITH METAL STUDS. REFER TO "PARTITION SCHEDULE" TO DETERMINE THICKNESS OF EACH PARTITION TYPE.
      - CENTERLINE OF DOOR, WINDOW, OR LOUVER OPENING.
      - CENTERLINE OF EQUIPMENT OR
      - CENTERLINE OF OTHER FEATURES AS INDICATED.
    - REFER TO ABBREVIATIONS LEGEND FOR SYMBOL USED TO INDICATE CENTERLINE DIMENSION.
    - DIMENSIONS UTILIZING THE "FACE OF" SYMBOL ARE MEASURED TO:
      - FACE OF CONCRETE OR CONC. MASONRY UNIT WALL (EXCLUSIVE OF APPLIED FINISHES HAVING THICKNESS OR FURRING WHICH MAY BE ADDED TO THE FACE OF SUCH WALLS).
      - FACE OF PARTITION ASSEMBLY (EXCLUSIVE OF ANY APPLIED FINISHES HAVING THICKNESS WHICH MAY BE ADDED TO SUCH WALLS) AS DEFINED BY THE PARTITION SCHEDULE. UNLESS NOTED AS A "FACE OF FINISH" OR "CLEAR" DIMENSION (SEE NOTE "C" BELOW), DIMENSIONS ARE NOT MEASURED TO THE FACE OF APPLIED FINISH. REFER TO THE "PARTITION SCHEDULE" TO DETERMINE THE THICKNESS OF EACH PARTITION TYPE.
      - INSIDE EDGE OF FINISHED DOOR OPENING. REFER TO THE DOOR SCHEDULE FOR ADDITIONAL DIMENSIONAL INFORMATION.
      - DIMENSION OR WORK POINT AS INDICATED ON RELATED ARCH DETAIL PLAN, SECTION, ELEVATION, LAYOUT OR CONFIGURATION DETAIL, OR STRUCTURAL DETAIL.
    - REFER TO ABBREVIATIONS LEGEND FOR SYMBOL USED TO INDICATE "FACE OF" DIMENSION.
    - WHERE "FACE OF FINISH" OR "CLEAR" DIMENSIONS ARE SPECIFICALLY NOTED, THE DIM IS MEASURED TO:
      - FINISH FACES AT THE MOST NARROW OR CONSTRICTED POINTS OF SECTION WHERE DIMENSION IS SHOWN, WHEN THE DIMENSION OCCURS ACROSS AN OPEN SPACE. THIS CASE, A "FACE OF FINISH" DIMENSION IS EQUIVALENT TO A "CLEAR" DIMENSION.
      - FINISH FACES AT THE WIDEST OR MOST EXPANSIVE POINTS OF THE SECTION THE DIMENSION IS SHOWN WHEN THE DIMENSION OCCURS ACROSS AN OBJECT OR GROUP OF OBJECTS.
    - WHERE "EQUAL" DIMENSIONS ARE USED ON REFLECTED CEILING PLANS TO LOCATE CEILING GRID WORK POINTS, MEASURE DIMENSIONS TO:
      - EDGE OF THE INDICATED CEILING AT THE FACE OF THE ADJACENT APPLIED FINISH MEASURED AT THE PLANE OF THE CEILING.
- NOTE NO 3 CONTINUED:**
- CAUTION: DUE TO THE POSSIBLE APPLICATION OF APPLIED FINISHES - THICKNESS OF WHICH MAY VARY - BETWEEN FLOOR AND CEILING AND IS NOT ACCOUNTED FOR EXCEPT AS INDICATED BY "TOP" OR "CLEAN" BY THE DIMENSION SHOWN ON THE FLOOR PLANS - THE CONTRACTOR MUST ADJUST, AS NECESSARY, THE FLOOR PLAN DIMENSIONS TO REFLECT THE ACTUAL DIMENSIONS FOUND AT PLANE OF THE CEILING.
- NOTE NO 4 CONTINUED:**
- WHERE DOOR OCCURS NOT ADJACENT TO A PERPENDICULAR WALL AND EITHER "DIM E" OR "DIM F" IN DIAGRAM BELOW IS 16'-0" OR LESS, LOCATE DOOR UTILIZING THE FOLLOWING MINIMUM DIMENSIONS:
    - DIMENSION A = 18 INCHES MIN.
    - DIMENSION B = 12 INCHES MIN.
    - DIMENSION C = DOOR WIDTH + 2 INCHES MINIMUM.
    - DIMENSION D = 4 INCHES MIN AT METAL FRAMED GYP BD PARTITIONS AND 6 INCHES MIN AT CONC. MASONRY UNIT WALLS.
    - DIMENSIONS E AND F = AS SHOWN ON PLANS.
    - DIMENSION G = 36 INCHES MIN.
    - DIMENSION H = 60 INCHES MIN.
- WHERE DIMENSIONS ARE NOT PROVIDED ON FLOOR PLANS TO LOCATE DOOR OPENINGS, APPLY THE FOLLOWING RULES, IN ORDER, TO DETERMINE THE LOCATION OF DOOR OPENINGS:**
- DOOR OPENINGS MAY BE DIMENSIONED ON DRAWINGS OTHER THAN THE FLOOR PLANS. REFER TO THE SECTIONS, ELEVATIONS, DETAILS, AND DOOR SCHEDULE NOTES FOR ADDITIONAL DIMENSIONAL INFORMATION.
  - WHERE THE HINGE-SIDE OF A DOOR IS SHOWN ADJACENT TO A WALL - OR WALLS - PERPENDICULAR TO THE WALL - IN WHICH THE DOOR OPENING OCCURS:
    - AT DOORS OCCURRING IN METAL FRAMED GYPSUM BOARD PARTITIONS, LOCATE THE HINGE-SIDE OF THE DOOR FINISHED OPENING 4 INCHES FROM THE FACE (EXCLUSIVE OF APPLIED FINISHES) OF THE CLOSEST PERPENDICULAR WALL OR PARTITION ASSEMBLY.
    - AT DOORS OCCURRING IN WALLS OF CONC. MASONRY UNIT CONSTRUCTION, LOCATE THE HINGE-SIDE OF THE DOOR FINISHED OPENING 10 INCHES FROM THE FACE (EXCLUSIVE OF APPLIED FINISHES) OF THE CLOSEST PERPENDICULAR WALL OR PARTITION ASSEMBLY.
  - INSIDE EDGE OF FINISHED DOOR OPENING. REFER TO THE DOOR SCHEDULE FOR ADDITIONAL DIMENSIONAL INFORMATION.
  - WHERE DOOR IS SHOWN LOCATED IN A LARGE EXPANSE OF OPEN WALL, "DIM E" AND "DIM F" IN DIAGRAM BELOW BOTH EXCEED 16'-0", PLACE DOOR AT APPROXIMATE LOCATION SHOWN WHILE MINIMIZING "CUT" OR PARTIAL CMU MODULES ADJACENT TO THE JAMBS.
  - WHERE WALLS AND/OR PARTITIONS OF UNEQUAL THICKNESS ADJ. ALIGN EXPOSED FACES, UNLESS OTHERWISE NOTED.

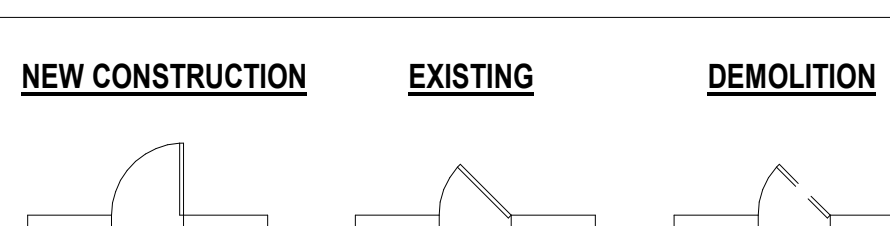
## TYPICAL RULES FOR DETERMINING REFLECTED CEILING PLAN LOCATIONS, DIMENSIONS, AND CONFIGURATIONS



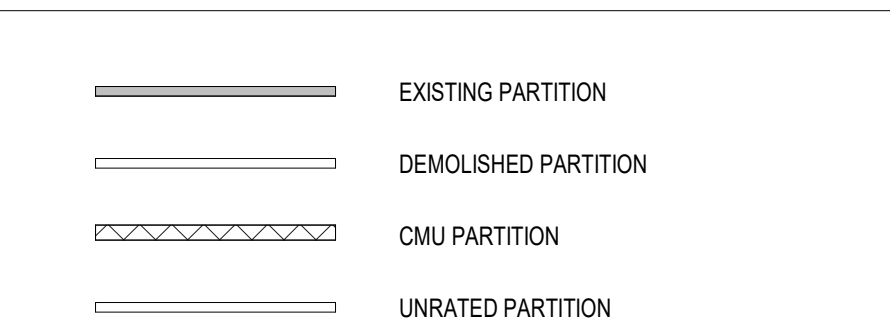
## REFLECTED CEILING PLAN SYMBOLS:



## TYP DOOR LEGEND



## WALL TYPE LEGEND



## GENERAL INFORMATION NOTES:

- ALL CONTRACTORS AND THEIR SUPERVISORY PERSONNEL SHALL REVIEW THE GENERAL AND SUPPLEMENTARY CONDITIONS TO THE CONTRACT.
- ALL WORK SHALL CONFORM WITH APPLICABLE BUILDING CODES, REGULATIONS AND ORDINANCES. THE CONTRACTOR AND/OR OWNER SHALL OBTAIN ALL REQUIRED BUILDING AND OCCUPANCY PERMITS.
- CONTRACTOR SHALL BECOME FULLY ADJACENT WITH CONDITIONS RELATED TO THE WORK.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCES OF CONSTRUCTION AND THE SAFETY OF ALL CONSTRUCTION PERSONNEL AND VISITORS.
- DRAWINGS CONTAINED IN THIS SET SHALL NOT BE REPRODUCED FOR SHOP DRAWINGS. COPIES OF THESE DRAWINGS SUBMITTED AS SHOP DRAWINGS WILL BE REJECTED AND RETURNED TO THE CONTRACTOR.
- WHEN AN INSTALLER MUST EXAMINE SUBSTRATE AND CONDITIONS UNDER WHICH THE WORK WILL BE INSTALLED AND REPORT TO THE CONTRACTOR'S SUPERVISOR. ANY CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY EXECUTION OF THAT INSTALLATION WORK DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED, COMMENCING WITH INSTALLATION SHALL CONSTITUTE ACCEPTANCE OF THE SUBSTRATE AND CONDITIONS.
- DO NOT SCALE DRAWINGS. FOLLOW WRITTEN DIMENSIONS AND NOTES. CONTACT ARCHITECT FOR CLARIFICATIONS IF REQUIRED.
- DIMENSIONS SHOWN ON THE FLOOR PLAN ARE TO THE FACE OF GYP. BOARD WALL (FOG) FACE OF MASONRY (FOM), FACE OF CONCRETE WALL OR COLUMN. GRID LINES, UNLESS OTHERWISE NOTED OR INDICATED NOTE, WALL THICKNESSES ARE ACTUAL DIMENSIONS. REFER TO WALL TYPES SHEET FOR THICKNESSES.
- ALL MASONRY WALL THICKNESSES ACTUAL DIMENSIONS REFER TO WALL TYPES SHEET.
- "TYPICAL" AS USED IN THESE DOCUMENTS, SHALL MEAN THAT EITHER "DIM A" EQUALS "DIM C" OR "DIM B" EQUALS "DIM D".
- IF THERE IS A DISCREPANCY BETWEEN SMALL SCALE AND LARGE SCALE DRAWINGS (PLAN, SECTION, & DETAIL DRAWINGS, ETC.) - CONTACT ARCHITECT FOR CLARIFICATION. FOR BIDDING PURPOSES, THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS SHALL GOVERN FOR CLARIFICATIONS DURING CONSTRUCTION. THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS, AS INDICATED BY THE ARCHITECT, SHALL GOVERN.
- ANY DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS - CONTACT ARCHITECT FOR CLARIFICATION. FOR BIDDING PURPOSES, THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS SHALL GOVERN FOR CLARIFICATIONS DURING CONSTRUCTION. THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS, AS INDICATED BY THE ARCHITECT, SHALL GOVERN.
- ANY DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS SHALL BE REPORTED TO THE ARCHITECT IN WRITING FOR RESOLUTION. PRIOR TO PROCEEDING WITH THE WORK.
- ANY AND ALL DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT IN WRITING FOR RESOLUTION. PRIOR TO PROCEEDING WITH THE WORK. IN THESE INSTANCES, NO CHANGE ORDERS OR EXTENSIONS OF TIME WILL BE ALLOWED OR ACCEPTED FOR PROCEEDING WITH THE WORK WITHOUT THE ARCHITECT'S WRITTEN DIRECTION AND APPROVAL. ALSO - CONTRACTOR MUST REPAIR AND/OR REPLACE ANY UNAUTHORIZED WORK AS INDICATED BY THE ARCHITECT. AT NO ADDITIONAL COST TO THE OWNER.
- ALL DISMISSAL METAL MATERIALS SHALL BE ISOLATED WITH AN APPROVED NONMETAL ISOLATION MATERIAL. OPEN EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALL PANELS, AND AT FENESTRATIONS SHALL BE SEALED, CALKED, FLASHED OR WEATHER-STRIPPED AS REQUIRED FOR COMPATIBILITY WITH ADJACENT MATERIALS & TO ELIMINATE AIR LEAKAGE AND WATER ENTRY.
- PROVIDE SEALANT AND/OR CAULKING BETWEEN DISMISSAL ADJOINING INTERIOR MATERIALS. (I.E. WINDOW SILLS TO GYP. BD. ACT. CEILINGS TO MASONRY WALLS, ETC.)
- DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALL SHOWN OR LOCATED 4 INCHES FROM FINISH WALL TO FINISH LAMB. ALSO ALLOWING A MINIMUM OF 18" FROM THE PULL SIDE OF THE DOOR TO THE INTERSECTING WALL.
- VERIFY THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES AND THEIR SERVICE CONNECTIONS WITH THE PROPER UTILITY COMPANY.
- CONTRACTOR SHALL COORDINATE SIZE, LOCATION, AND NUMBER OF ALL ROOF OPENINGS AND ROOF ACCESSORIES WITH ALL OTHER TRADES. REFER TO THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.
- LOCATIONS AND SIZES OF ALL CONCRETE MECHANICAL AND ELECTRICAL PADS SHALL BE COORDINATED BY THE MECHANICAL AND ELECTRICAL CONTRACTORS WITH THE SELECTED EQUIPMENT MANUFACTURERS/SUPPLIER AND ARE TO BE APPROVED BY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- EXCEPT AT FIRE-RATED PARTITIONS, ALL WALL AND COLUMN GYPSUM BOARD FACING SHALL BE HELD AT 8 INCH BELOW STRUCTURE, UNLESS DETAILED OR NOTED OTHERWISE.
- AT ALL TELECOMMUNICATION ROOMS, PROVIDE 3/4" X 8'-0" HIGH FIRE-RETARDANT-TREATED WOOD SHEATHING OR PROVIDE PLYWOOD OVER NON-COMBUSTIBLE SHEATHING. BOTTOM TO BE LOCATED AT A+6" F. VERIFY LENGTHS AND LOCATIONS WITH ELECTRICAL DRAWINGS.
- GLASS DOORS, ADJACENT PANELS AND ALL GLAZED OPENINGS WITHIN 1'-0" OF THE FLOOR, AND WITHIN A 24-INCH ARC OF EITHER VERTICAL EDGE OF A DOOR, ETC. SHALL BE SAFETY GLAZING AS APPROVED FOR IMPACT BY APPLICABLE BUILDING CODES, AND SHALL BE LABELED AS SUCH.
- ALL CEILING HEIGHTS AS SHOWN ON PLANS AND DETAILS ARE FROM 8'-0" TO THE FLOOR (FINISHED FLOOR) TO FINISH CEILING.
- PROVIDE INDEPENDENT FRAMING & ATTACHMENTS TO THE STRUCTURE - ADEQUATE TO SUPPORT THE CEILING SYSTEM, LIGHT FIXTURES, DUCTS, DIFFUSERS, SPRINKLER PIPING AND BUS DUCTS.
- ALL CLOSETS AND ALCOVES WITHOUT A SPACE IDENTIFICATION NUMBER SHALL HAVE THE SAME FINISHES AS ADJOINING SPACES.
- CONTRACTOR TO INSTALL WOOD BLOCKING AND PLYWOOD AS REQUIRED FOR THE MOUNTING OF ALL TOILET ACCESSORIES, MILLWORK CASEWORK, HANDRAILS, FIRE EXTINGUISHERS, WALL SPEAKERS, POSTER CASES, TELEVISIONS, ELECTRICAL PANELS, FIRE ALARMS, MFP ITEMS, AND AV EQUIPMENT, ETC.
- REFER TO SPECIFICATIONS FOR ALL REQUIRED TESTING AND INSPECTIONS.
- ANY ALL PROPRIETARY PRODUCTS DESCRIBED AND/OR DRAWN IN THE DOCUMENTS (BUT NOT SPECIFIED) ARE TO MEET THE MANUFACTURER'S STANDARD CRITERIA WHICH IS NOT LIMITED TO THE FOLLOWING: PERFORMANCE REQUIREMENTS, QUALITY ASSURANCE REQUIREMENTS, APPLICABLE CODES AND INDUSTRY STANDARDS, FABRICATION, ASSEMBLY, HANDLING, DELIVERY, STORAGE, INSTALLATION, OPERATION, ADJUSTMENTS, ETC. PROVIDE THE MANUFACTURER'S STANDARD WARRANTY AND STANDARD FINISH WARRANTY. PROVIDE PRODUCT DATA, SHOP DRAWINGS, SAMPLES, AND MAINTENANCE DATA AS REQUIRED. REFER TO DIVISION 01 SPEC. SECTIONS WHICH ALSO APPLY - SUCH AS SUBSTITUTION PROCEDURES, SUBMITTAL PROCEDURES, QUALITY REQUIREMENTS, REFERENCES, EXECUTION, AND CLOSEOUT PROCEDURES. NOTE: ANY SUBSTITUTIONS MUST MEET THE DESIGN INTENT, AS WELL AS THE CRITERIA DESCRIBED ABOVE.
- PROVIDE MINIMUM WARRANTY PERIOD OF 18 MONTHS FROM SUBSTANTIAL COMPLETION ON ALL PRODUCTS/ SERVICES.

**3RD STREET DISPENSARY - ADDITION**

510 SW 3rd St., Lee's Summit, MO 64063

**PERMIT SET**

**COLLINS WEBB ARCHITECTURE**

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**PROFESSIONAL SEAL**

**G001**

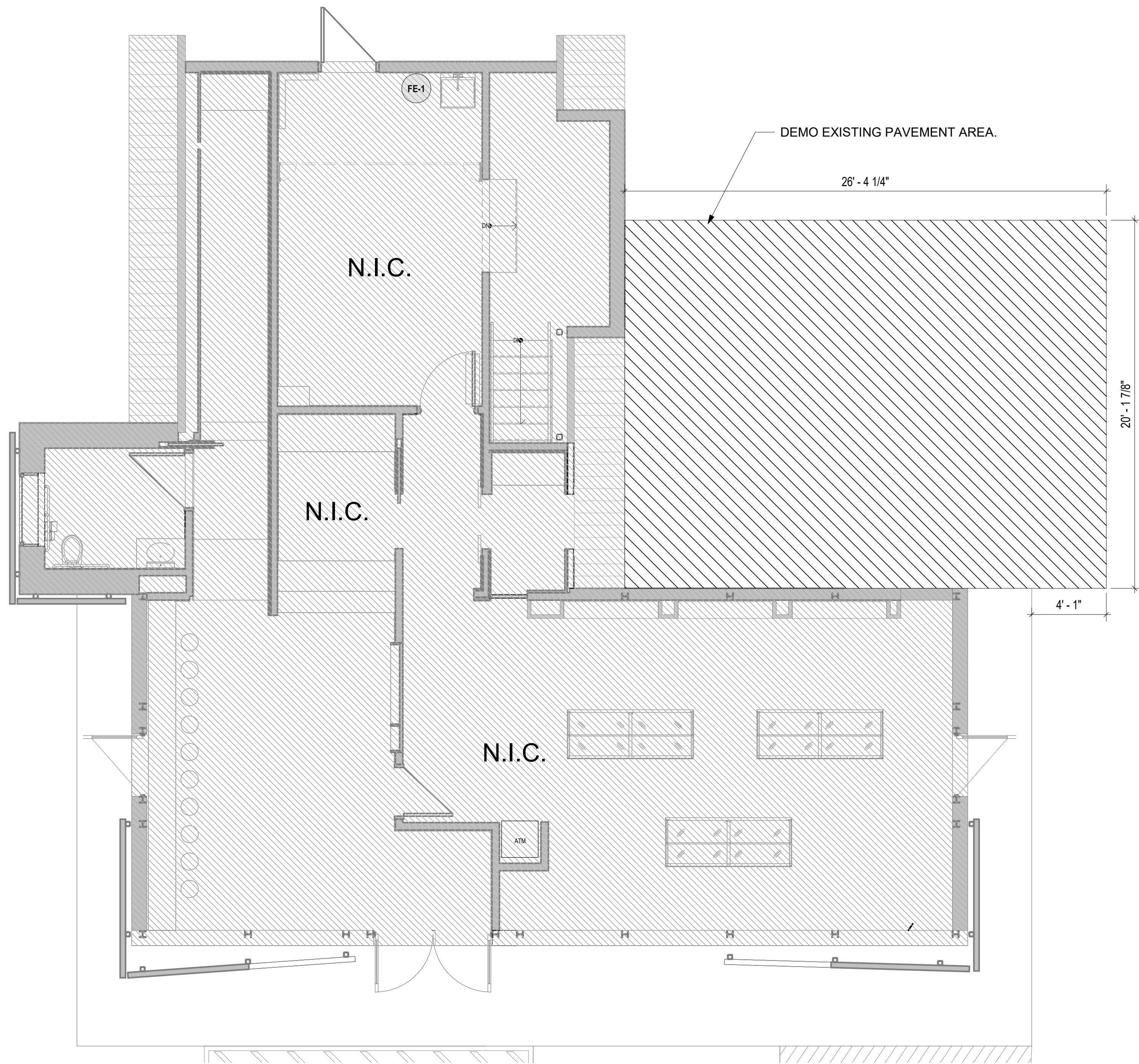
ISSUE DATE: 06/10/2022  
COLLINS WEBB #: 22038

**GENERAL INFORMATION**

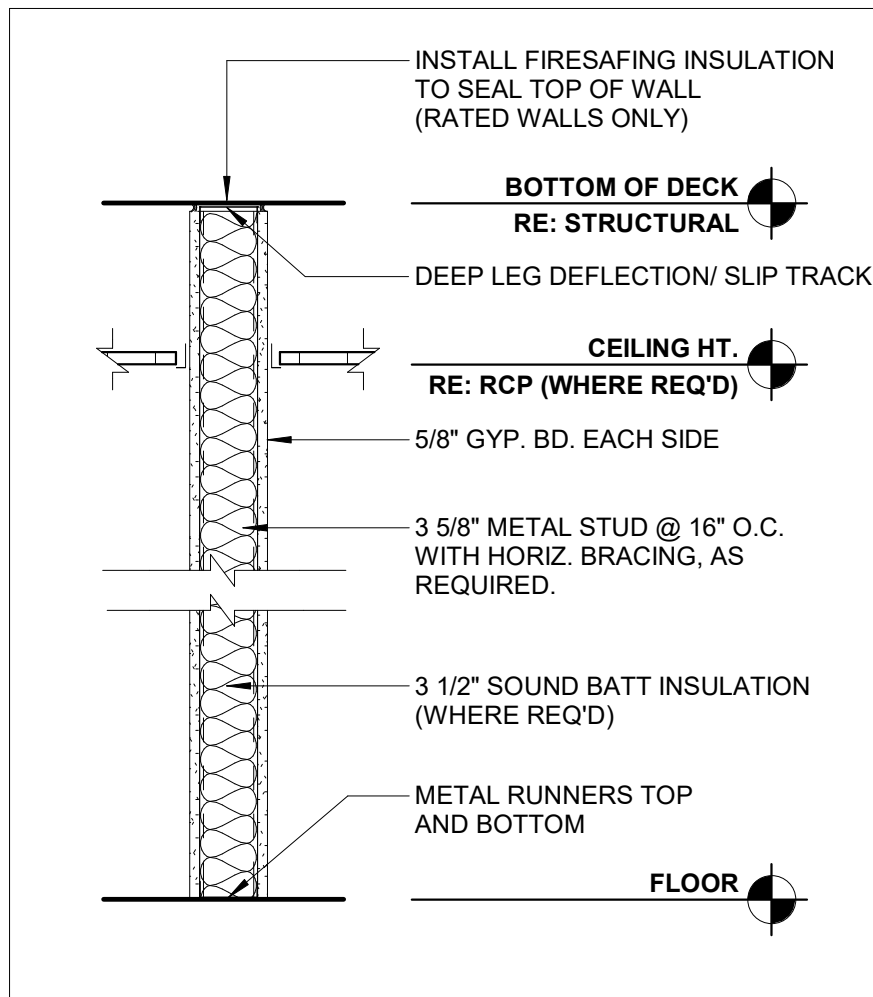
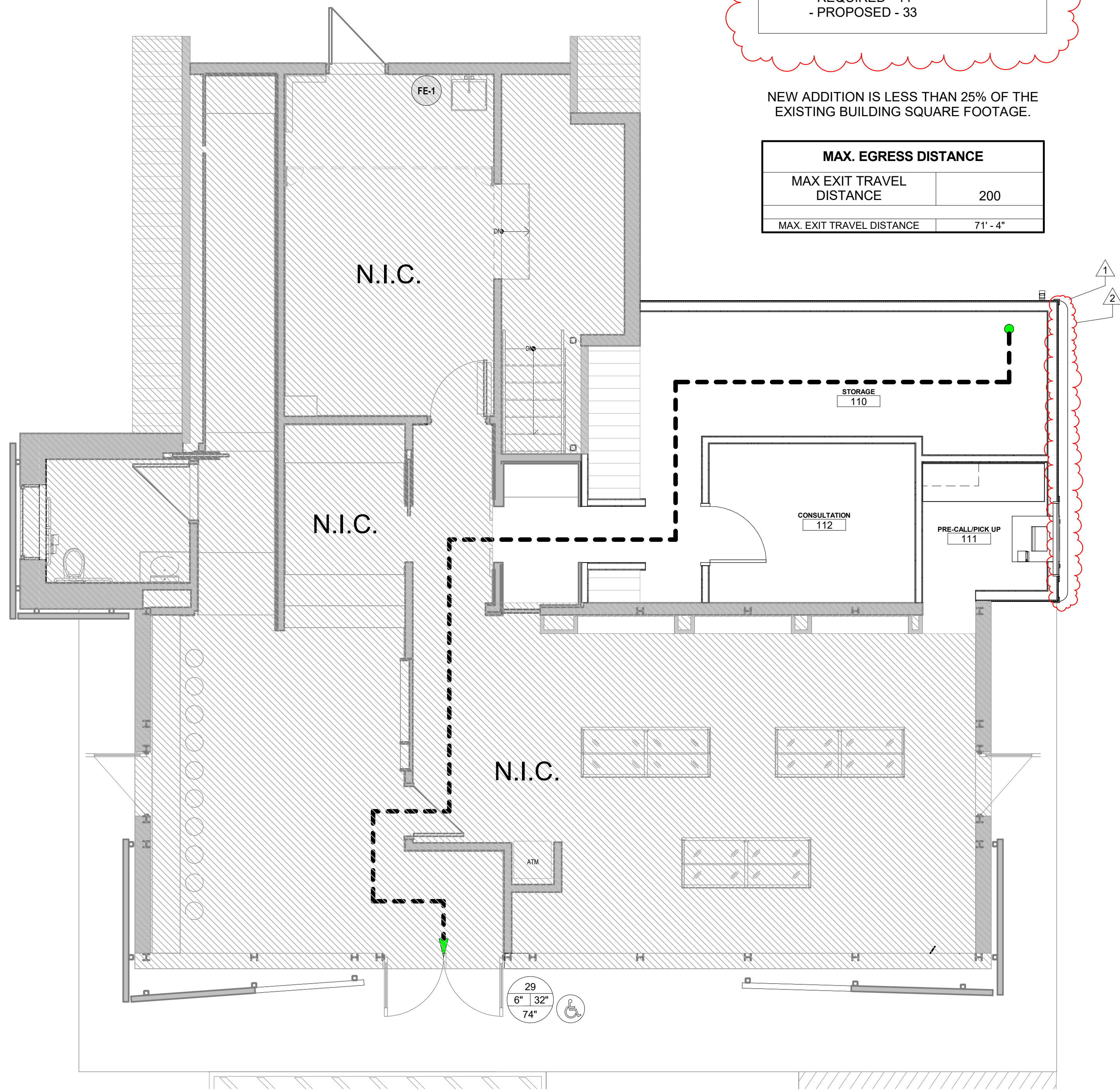


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A12 OVERALL - DEMO PLAN  
1/4" = 1'-0"



A6 OVERALL - LIFE SAFETY PLAN  
1/4" = 1'-0"



WALL TYPE A	
TYPE	WALL DESCRIPTION
A	3-1/2" WOOD STUD @ 16" O.C. TO DECK ABOVE 3/8" TYPE 'X' GYP. BD. EACH SIDE SOUND BATT INSULATION NON RATED

**WALL PRIORITY LEGEND**

**NOTE: THIS LEGEND IS FOR GRAPHIC REPRESENTATION ONLY.**

FOUR HOUR FIRE WALL (4FW)  
THREE HOUR FIRE WALL (3FW)  
TWO HOUR FIRE WALL (2FW)  
FOUR HOUR FIRE BARRIER (4FB)  
THREE HOUR FIRE BARRIER (3FB)

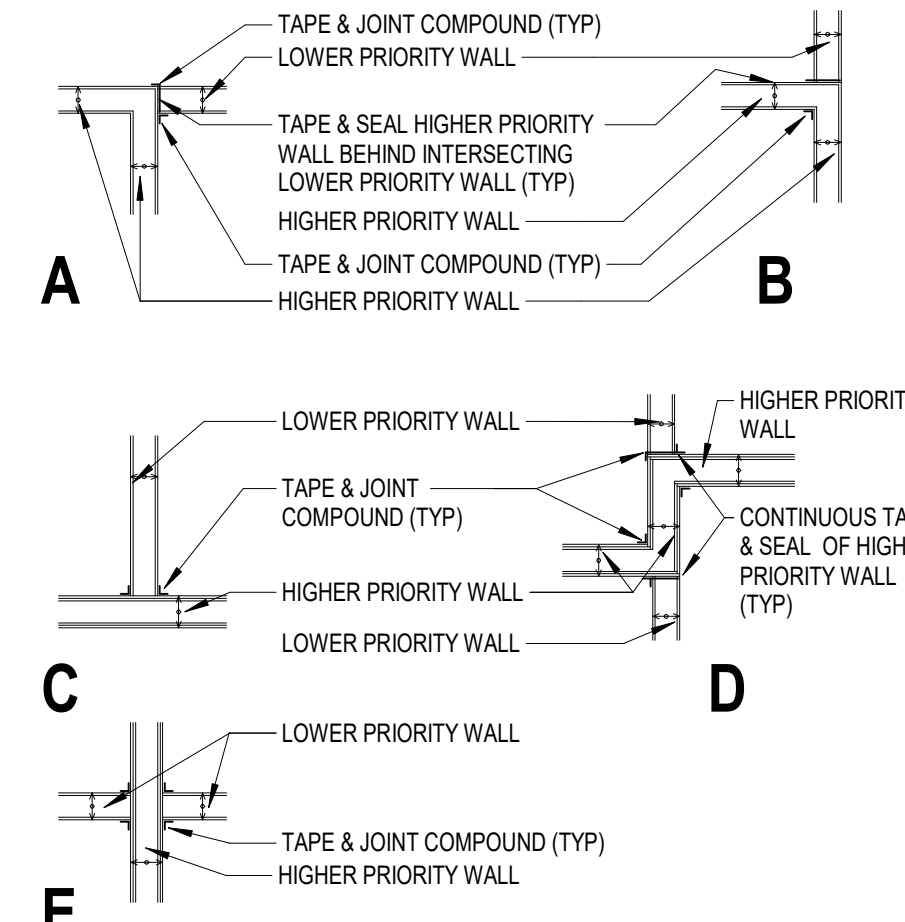
TWO HOUR FIRE BARRIER (2FB) (INCLUDES THE FOLLOWING)  
• TWO HOUR SHAFT ENCLOSURE (2SE)  
• ONE HOUR FIRE BARRIER (1FB) (INCLUDES THE FOLLOWING)  
• ONE HOUR SHAFT ENCLOSURE (1SE)

SMOKE TIGHT PARTITION (X) (INCLUDES THE FOLLOWING)  
• SMOKE TIGHT PARTITION TO SMOKE TIGHT CEILING (XC)  
• SMOKE TIGHT PARTITION WITHIN PLENUM ABOVE CEILING (XP)  
• SMOKE TIGHT PARTITION SEPARATION OF INTERSTITIAL SPACES (XI)

**DETAIL ABUTMENT OF DISSIMILAR WALL**

LOWER PRIORITY WALL

HIGHER PRIORITY WALLS  
SHALL PASS THROUGH A  
LOWER PRIORITY WALL



**NOTES:**

1. THE HIGHER PRIORITY WALL SHALL PASS THROUGH THE LOWER PRIORITY WALL.
2. TAPING AND SEALING OF HIGHER PRIORITY WALLS SHALL BE CONTINUOUS.
3. ALTERNATE LAYERS OF GYPSUM BOARD SHALL OVERLAP AT CORNER INTERSECTIONS OF MULTI-LAYERED RATED GYPSUM BOARD PARTITIONS.

GENERAL DESCRIPTION	
PROJECT NAME: 3RD STREET DISPENSARY - ADDITION PROJECT LOCATION: 510 SW 3RD ST., LEE'S SUMMIT, MO, 64063	
ARCHITECT: COLLINS WEBB ARCHITECTURE 307B SW MARKET STREET LEE'S SUMMIT, MISSOURI 64063	
APPLICABLE CODES: 2018 INTERNATIONAL BUILDING CODE 2018 INTERNATIONAL PLUMBING CODE 2018 INTERNATIONAL MECHANICAL CODE 2018 INTERNATIONAL FUEL GAS CODE 2018 INTERNATIONAL FIRE CODE 2017 NATIONAL ELECTRICAL CODE ICC/ANSI A117.1-2009, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES	
CODE INFORMATION	TABLE/SECTION/REFERENCE
BUILDING/PROJECT USE: CONSTRUCTION TYPE OCCUPANCY CLASSIFICATION BASE ALLOWABLE AREA ACTUAL TENANT AREA (GROSS) NUMBER OF STORIES	(NO CHANGE) VB (NO CHANGE) (NO CHANGE) 6,000 SF 2,095 SF 1
FIRE RESISTIVE REQUIREMENTS	
PRIMARY FRAME NON-BEARING WALLS BEARING WALLS INT./EXT. FLOOR CONSTRUCTION CEILING/ROOF CORRIDORS	TABLE 601 TABLE 601 TABLE 601 TABLE 601 TABLE 601 TABLE 1018.1
FIRE EXTINGUISHERS	
1. PROVIDE PORTABLE FIRE EXTINGUISHERS IN OCCUPANCIES AND LOCATIONS AS REQUIRED BY THE FIRE CODE. SEE PLANS FOR SUGGESTED LOCATIONS. NOTIFY ARCHITECT OF ANY PROPOSED RELOCATION OR IF A CONFLICT IS ENCOUNTERED.	
2. PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED, INSPECTED, AND MAINTAINED IN ACCORDANCE WITH NFPA 10, STANDARD FOR PORTABLE FIRE EXTINGUISHERS.	
CEILING HEIGHT NOTES: (IBC 1207)	
1. ALL MEANS OF EGRESS TO HAVE A MINIMUM CEILING HEIGHT OF 7'-6" A.F.F., NOR SHALL HAVE ANY PROJECTION FROM THE CEILING BE LESS THAN 6'-8" A.F.F. 2. OCCUPIED SPACES, HABITABLE SPACES AND CORRIDORS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7'-6" A.F.F. 3. BATHROOMS, TOILET ROOMS, KITCHENS, STORAGE ROOMS AND LAUNDRY ROOMS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7'-0" A.F.F.	
INTERIOR FINISHES	
GROUP A EXIT ENCLOSURES LOBBIES & CORRIDORS ALL OTHER SPACES TEXTILES SMOKE DEVELOPED	MAX. FLAME SPREAD CLASS A CLASS A CLASS B CLASS A (0-25) 0-450
	803.13 IBC 803.13 IBC 803.13 IBC IBC 803.1.2 IBC 803.1.2

GENERAL EXITING REQUIREMENTS		TABLE/SECTION/REFERENCE
EXIT TRAVEL DISTANCE DEAD END CORRIDOR COMMON PATH OF TRAVEL MIN. CORRIDOR WIDTH	200 FEET 20 FEET - GROUP M 75' IF OCC. < 50 44", OR 36" IF OCC. < 50	TABLE 1017.2 IBC SECTION 1020.4 IBC SECTION 1006.2.1 IBC SECTION 1020.2 IBC
POSTING OF OCCUPANT LOAD		
EVERY ROOM OR SPACE THAT IS AN ASSEMBLY OCCUPANCY SHALL HAVE THE OCCUPANT LOAD OF THE ROOM OR SPACE POSTED IN A CONSPICUOUS PLACE, NEAR THE MAIN EXIT OR EXIT ACCESS DOORWAY FROM THE ROOM OR SPACE. POSTED SIGNS SHALL BE OF AN APPROVED LEGIBLE PERMANENT DESIGN AND SHALL BE MAINTAINED BY THE OWNER OR AUTHORIZED AGENT.		
EXIT REQUIREMENTS		TABLE/SECTION/REFERENCE
A. REQUIRED CAPACITY		1005.1 1005.1
1. STAIRS - 0.3" / PERSON 2. OTHER COMPONENTS - 0.2" / PERSON		
B. MINIMUM NUMBER		1006.3.1 1006.3.1 1006.3.1
1. OCCUPANT LOAD OF 1-500 PERSONS - 2 EXITS PER STORY 2. OCCUPANT LOAD OF 501-1000 PERSONS - 3 EXITS PER STORY 3. OCCUPANT LOAD OF MORE THAN 1000 PERSONS - 4 EXITS PER STORY		
OCCUPANT LOAD		TABLE/SECTION/REFERENCE
STORAGE - ADDITION CONSULT - ADDITION STORAGE AREAS (NO CHANGE) BACK OF HOUSE (NO CHANGE) RETAIL FLOOR (NO CHANGE) TOTAL:	2 OCC 1 OCC 4 OCC 4 OCC 18 OCC 29 OCCUPANTS	TABLE 1004.1.2
EXITS REQUIRED EXITS PROVIDED	1 EXITS 2 EXITS	TABLE 1006.3.2


**LAND USE SCHEDULE:**

- LOT AREA: 18,726 GROSS SQ.FT.
- TOTAL FLOOR AREA:
  - EXISTING - 1,698 GROSS SQ.FT.
  - PROPOSED - 397 GROSS SQ.FT.
  - TOTAL - 2,095 GROSS SQ.FT.
- FLOOR AREA RATIO:
  - EXISTING - .09%
  - TOTAL - .11%
- NUMBER OF PARKING SPACES:
  - REQUIRED - 11
  - PROPOSED - 33

NEW ADDITION IS LESS THAN 25% OF THE EXISTING BUILDING SQUARE FOOTAGE.

MAX. EGRESS DISTANCE	
MAX EXIT TRAVEL DISTANCE	200
MAX. EXIT TRAVEL DISTANCE	71' - 4"

FIRE RESISTIVE LEGEND	
NUMBER OF OCCUPANTS EXITING EXIT WIDTH PROVIDED (IN.)	DESCRIPT. 200 40" 60" CALCULATED EXIT WIDTH REQ'D (IN.)
NUMBER OF OCCUPANTS EXITING CALCULATED EXIT WIDTH REQ'D (IN.)	200 40" 32" 68" MIN. WIDTH OF MEANS OF EGRESS COMPONENT (IN.)
ACCESSIBLE EGRESS COMPONENT	
FE-1	INDICATES FIRE EXTINGUISHER CABINET(FE) LOCATION WITH 75'-0" RADIUS COVERAGE AREA. SEE SPECIFICATIONS FOR FE TYPE.
WALL TYPE NOTES:	
1. RE: LIFE SAFETY PLANS) FOR RATED WALL LOCATIONS. 2. RE: WALL TYPE DETAIL SHEET FOR TYPICAL WALL DETAILS AND ADDITIONAL WALL TYPE INFORMATION. 3. FOR TYPICAL TOP-OF-WALL CONDITIONS AT JOISTS AND BEAMS, REFER TO THE CLOSURE DETAILS ON THE WALL TYPE DETAILS SHEET. 4. COORDINATE METAL STUD GAUGE WITH PRE-APPROVED EQUIPMENT ANCHORAGE WHERE A DISCREPANCY OCCURS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN. 5. WHERE "ACOUSTIC SEALANT" IS INDICATED ON WALL TYPES, PROVIDE ACOUSTIC (SOUND) SEALANT ABOVE TOP TRACK, UNDER BOTTOM TRACK, AND AT ALL PENETRATIONS (BOTH SIDES). 6. WHERE "FIRE-RATED SEALANT" IS INDICATED ON WALL TYPES, PROVIDE FIRE-RATED SEALANT ABOVE TOP TRACK, UNDER BOTTOM TRACK, AT ALL PENETRATIONS (BOTH SIDES), AND AS REQUIRED BY FIRE RATING UL NUMBER. 7. EXTEND FIRE-RATED WALL CONSTRUCTION BEHIND RECESSED OR BUILT-IN EQUIPMENT, SUCH AS FIRE EXTINGUISHER CABINETS (FEC), ELECTRICAL WATER COOLERS (EWC), ELECTRICAL PANELS, ETC., UNLESS NOTED OTHERWISE. 8. PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BACK-UP PLATES AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK AND OF ALL FLOOR MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL OR LABORATORY EQUIPMENT. 9. WHERE HVAC OR OTHER MECHANICAL, ELECTRICAL AND PLUMBING ITEMS PENETRATE PARTITIONS, STUDS SHALL BE BRACED AND FRAMED TO STRUCTURE AS REQUIRED TO PROVIDE ADEQUATE SUPPORT. ALL PENETRATIONS THROUGH ACOUSTICAL AND FIRE RATED WALLS SHALL BE SEALED TO PROVIDE FIRE, SMOKE AND/OR ACOUSTICAL ISOLATION OF SPACES WITH APPROPRIATE ACOUSTICAL/ FIRESTOP MATERIAL. 10. THERE SHALL BE NO BACK-TO-BACK ELECTRICAL, TELEPHONE, OR OTHER OUTLETS, EXCEPT WHERE SPECIFICALLY SHOWN. 11. WALL BASE IS NOT SHOWN ON ALL WALL TYPES FOR CLARITY. REFER TO FINISH SCHEDULE. 12. PROVIDE GLASS-MAT, WATER RESISTANT BACKING BOARD AT ALL WET LOCATIONS. 13. EXCEPT AT FIRE-RATED PARTITIONS, ALL WALL AND COLUMN GYPSUM BOARD FACING SHALL BE HELD AT 5/8 INCH BELOW STRUCTURE, UNLESS NOTED OR SHOWN OTHERWISE. 14. PROVIDE AND INSTALL BLOCKING REQUIRED FOR ALL A.V. EQUIPMENT. O.C. TO COORDINATE WITH TI CONSULTANT FOR FINAL LOCATIONS AND SIZE REQUIREMENTS. 15. COMPRESSIBLE FILLER - ACCEPTABLE MATERIALS WOULD BE FIBERGLASS INSULATION OR FIRESTOPPING. VOIDS TO BE COMPLETELY FILLED AND A FIRESTOP SEALANT OVER ANY ENDS. THIS IS TYPICAL FOR ALL ACOUSTICAL WALL ASSEMBLIES WHERE "COMPRESSIBLE FILLER" IS CALLED FOR. THERE CAN BE NO VOIDS IN THE INSTALLATION. 16. MUD AND TAPE ALL 1ST AND 2ND LAYER GYP. BOARD JOINTS. PROVIDE 3RD LAYER FINISH PER GENERAL NOTES: FLOOR PLAN. 17. PROVIDE A MIN. MSG-12 STUD FOR ALL VERTICAL LONG SPAN WALL TYPES. 18. PROVIDE HORIZONTAL LATERAL BRACING WIRE WELDED TO STUD FOR ALL WALLS, AT APPROPRIATE GAGE AND SPACING SPECIFIED BY SUPPLIER. 19. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS - CONTACT ARCHITECT FOR CLARIFICATION. 20. FOR BIDDING PURPOSES, THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS SHALL GOVERN. FOR CLARIFICATIONS DURING CONSTRUCTION, THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS, AS INDICATED BY THE ARCHITECT, SHALL GOVERN.	



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3RD STREET DISPENSARY - ADDITION

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REVISION DATES:

1	City Comments	07/05/22
2	City Comments	07/19/22

PROFESSIONAL SEAL

G002

ISSUE DATE: 06/10/2022  
COLLINS WEBB #: 22038

LIFE SAFETY PLAN AND PROJECT INFO.



03. Abbreviation Schedule	
Abbreviation	Abbreviation Name
+	PLUS OR MINUS
ADDNL	ADDITIONAL
ADJ	ADJACENT
ASSESS	ARCHITECTURALLY EXPOSED
STR	STRUCTURAL STEEL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AR	ANCHOR ROD
ARCH	ARCHITECT OR ARCHITECTURAL
B	BOTTOM OF
BW	BETWEEN
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRG	BEARING
BWP	BRACED WALL PANEL
CFS	COLD FORMED STEEL
CHKD	CHECKED
CP	CAST IN PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CTR	CENTER
Ø	DIA OF REINF BAR, DIA OF BOLT
DBA	DEFORMED BAR ANCHOR
DIA or Ø	DIAMETER
DIAG	DIAGONAL
DIR	DIRECTION
DWL	DOWEL
EA	EACH
EE	EXTENDED END
EJ	EXPANSION JOINT
ELEV	ELEVATION
ENGR	ENGINEER
EOJ	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
EXT	EXTERIOR
FDN	FOUNDATION
FLG	FLANGE
FLR	FLOOR
FS	FAR SIDE
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
INSIDE	INSIDE FACE
INT	INTERIOR
JST	JOIST
K	KIPS (1000 LBS)
LCE	COMPRESSION EMBEDMENT LENGTH
LCS	COMPRESSION LAP SLICE LENGTH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LTE	TENSION EMBEDMENT LENGTH
LTS	TENSION LAP SLICE LENGTH
LW	LIGHTWEIGHT
MFCR	MANUFACTURER
MTL	METAL
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NIS	NOT TO SCALE
OC	ON CENTER
OF	OUTSIDE FACE
OPP	OPPOSITE
OVS	OVERSIZED
PIC	PRECAST
PAF	POWDER ACTUATED FASTENER
PAR	PARALLEL
PEMB	PRE-ENGINEERED METAL BUILDING
PEN	PENETRATION
PERP	PERPENDICULAR
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
RC	REINFORCED CONCRETE
RE	REFER TO
REINF	REINFORCING
REQD	REQUIRED
RF	RIGID FRAME
SC	SLIP CRITICAL
SDS	SELF DRILLING SCREW
SM	SIMILAR
SLV	SHORT LEG VERTICAL
SOG	SLAB ON GRADE
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STR	STRUTS
STL	STEEL
SW	SHEAR WALL
SYM	SYMMETRIC
T&B	TOP AND BOTTOM
TOP OF	TOP OF
TRANS	TRANSVERSE
Typ	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WTH	WITH
WO	WITHOUT
WF	WIDE FLANGE
WP	WORK POINT
WWR	WELDED WIRE REINFORCEMENT

STRUCTURAL DESIGN CRITERIA (2018 IRC AND ASCE 7-16):

- BUILDING OCCUPANCY RISK CATEGORY II.
- LIVE LOADS (UNIFORM (PSF) / POINT LOADS (KIPS)):
  - ROOF.....20 PSF / 300K
- ROOF SNOW LOAD:
  - GROUND SNOW LOAD (Pg).....20 PSF
  - FLAT ROOF SNOW LOAD (Pi).....15.4 PSF W/ DRIFT
  - MIN UNIFORM ROOF SNOW LOAD (Pni).....20 PSF (NO DRIFT OR RAIN)
  - RAIN ON SNOW CATEGORY (Prs).....3.0 PSF
  - SNOW EXPOSURE FACTOR (Ce).....1.0 EXPOSURE B & C
  - SNOW LOAD IMPORTANCE FACTOR (Is).....1.0
  - THERMAL FACTOR (T).....1.1 (just above freezing)
  - SLOPE FACTOR (Cs).....1.0 (for ¼ per foot roof)
- WIND DESIGN DATA:
  - BASIC WIND SPEED (3 SEC GUST).....115 MPH
  - ASD WIND SPEED (VASD).....30 MPH
  - WIND IMPORTANCE FACTOR (Iw).....1.0
  - WIND EXPOSURE.....B
  - GROUND ELEVATION ABOVE SEA LEVEL.....1,000 FT
  - DIRECTIONAL FACTOR (Kd).....0.85
  - INTERNAL PRESSURE COEFF.....0.18
  - COMPONENTS AND CLADDING WIND (ULTIMATE 1.0W) PRESSURES (BASED ON TRIB 10 S.F., EXP. B. MAY BE REDUCED FOR COMPONENTS WITH LARGER TRIB PER BLDG CODE):
    - WALLS AT CORNERS & EDGES.....+21 / -28 PSF
    - ALL OTHER MAIN WALL CONDITIONS.....+21 / -23 PSF
    - ROOF CORNERS.....+8 / -26 PSF
    - ROOF EDGES.....+8 / -26 PSF
    - ALL OTHER MAIN ROOF CONDITIONS.....+8 / -22 PSF

- EARTHQUAKE DESIGN DATA:
  - SEISMIC IMPORTANCE FACTOR (Ie).....1.0
  - MAPPED SPECTRAL RESP ACCEL (Sa / Sd1).....2.12 / 0.07
  - SITE CLASS.....D
  - SPECTRAL RESPONSE COEFF (Ss / Sd1).....0.13 / 0.11
  - SEISMIC DESIGN CATEGORY (SDC).....1
  - SEISMIC FORCE RESISTING SYSTEM.....R=5, WOOD
  - DESIGN BASE SHEAR.....0.8 K (ELF AND ASD)
  - SEISMIC RESPONSE COEFF (Cs).....0.03
  - ANALYSIS PROCEDURE.....ELF

STRUCTURAL GENERAL NOTES:

- DESIGN AND CONSTRUCTION SHALL CONFORM TO THE "INTERNATIONAL BUILDING CODE, 2018 EDITION" AS AMENDED BY THE CITY OF (LEE SUMMIT, MO). REFER TO THE SPECIAL STRUCTURAL INSPECTION NOTES FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING WORK.
- IF DISCREPANCIES EXIST BETWEEN STRUCTURAL PLANS, ARCHITECTURAL PLANS, OTHER PLANS, OR SPECIFICATIONS, THE CONTRACTOR OR SUBCONTRACTOR SHALL PROVIDE A WRITTEN REQUEST FOR CLARIFICATION FROM THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
- THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTORS RESPONSIBILITY TO EXECUTE AND DETERMINE FINAL ERECTION PROCEDURES, SEQUENCING AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYING OR TIE DOWNS WHICH MIGHT BE NECESSARY.
- THE STRUCTURE AND FOUNDATIONS ARE NOT DESIGNED FOR FUTURE EXPANSION.
- FABRICATORS AND SUPPLIERS SHALL CLEARLY NOTE AND HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS, WHICH DO NOT COMPLY WITH THE CONTRACT DOCUMENTS.
- COLUMNS, BEAMS, JOISTS, OR TRUSSES SHALL NOT BE FIELD CUT OR TRIMMED FOR ANY REASON WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
- HOLES, PIPES, SLEEVES, ETC. NOT SHOWN ON THE DRAWINGS MUST BE REVIEWED BY THE ARCHITECT/ENGINEER BEFORE PLACEMENT THROUGH STRUCTURAL MEMBERS.
- IF MECHANICAL AND ELECTRICAL EQUIPMENT SIZES, WEIGHTS, OR LOCATIONS DO NOT COINCIDE WITH EQUIPMENT SHOWN ON THE PLANS, COORDINATE ADJUSTMENTS WITH THE ARCHITECT.
- NO AREA OF THE STRUCTURE SHALL BE LOADED WITH CONSTRUCTION MATERIALS OR EQUIPMENT THAT EXCEEDS FINAL DESIGN CRITERIA.
- BEAMS, COLUMNS, WALLS AND FOOTING CENTERS SHALL BE CENTERED UNDER SUPPORTING MEMBERS (TYPICAL UNLESS NOTED OTHERWISE).
- TYPICAL DETAILS ARE SHOWN ON SHEETS DESIGNATED "SD00". THE INCLUDED "TYPICAL" DETAILS MAY OR MAY NOT BE CUT / REFERENCED ON PLANS OR SECTIONS, BUT ARE TO BE USED AS APPLICABLE.

EARTHWORK AND FOUNDATIONS:

- ALL FOOTINGS SHALL BEAR A MINIMUM DEPTH BELOW GRADE OF 3'-0" ON FIRM NATIVE MATERIALS, COMPACTED OR ENGINEERED FILL CAPABLE OF SUPPORTING AN ALLOWABLE BEARING PRESSURE OF 1,500 PSF PER THE PRESUMPTIVE VALUES IN IRC. DEEPEN FOOTINGS AND REMOVE ALL FILL BACKFILL TO GRADE SOILS WITH ENGINEERED FILL AS REQUIRED TO PROVIDE THIS MINIMUM DEPTH AND SUITABLE BEARING.
- UNDERCUT THE PAD TO A DEPTH OF 18-INCHES BELOW BOTTOM OF FLOOR SLAB ELEVATION AND REPLACE WITH LOW-VOLUME-CHANGE MATERIALS PER THE ARCHITECT'S REPORT.
- FILL PLACEMENT, COMPACTION, AND SOIL BEARING TESTS SHALL BE PERFORMED BY A GEOTECHNICAL ENGINEER PRIOR TO INSTALLING FOOTINGS TO ENSURE DESIGN ALLOWABLE BEARING VALUES AND SLAB SUBGRADE REQUIREMENTS ARE SATISFIED. IF ACTUAL SITE CONDITIONS DO NOT SATISFY THESE REQUIREMENTS, COORDINATE ADJUSTMENTS WITH ARCHITECT/ENGINEER/GEOTECHNICAL ENGINEER.
- SURFACE WATER SHALL NOT BE ALLOWED TO STAND ADJACENT TO OR DRAIN TOWARDS THE FOUNDATION AND SLAB SUBGRADES UNDER ANY CIRCUMSTANCES. PAVEMENTS OR GRADED SOILS AT THE PERIMETER OF THE BUILDING, EXCEPT AS REQUIRED AT EXITS OR AS NOTED, SHALL BE SLOPED AWAY AT 5% OR 6" MIN FOR THE FIRST TEN FEET AND AS REQUIRED TO PROVIDE POSITIVE DRAINAGE.
- FOOTINGS MAY BE POURED TO MEET LINES OF EXCAVATIONS PROVIDING VERTICAL LINES OF EXCAVATIONS CAN BE MAINTAINED DURING CONCRETE PLACEMENT.
- FOUNDATION WALL BACKFILL SHALL NOT BE UNBALANCED BY MORE THAN TWO FEET ON EITHER SIDE AT ANY TIME. BASEMENT WALL AND RESTRAINED RETAINING WALL BACKFILL SHALL NOT BE PLACED, UNLESS THE WALL IS ADEQUATELY BRACED. RETAINING WALL AND BASEMENT WALL BACKFILL SHALL BE FREE DRAINING GRANULAR BACKFILL ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.

CONCRETE REINFORCING STEEL:

- SUBMIT SHOP DRAWINGS FOR REBAR. ALL REINFORCING BARS SHALL MEET ASTM A615 GRADE 60.
- ALL MESH SHALL MEET ASTM A-185: LAP A MINIMUM OF 8" OR ONE FULL MESH, WHICHEVER IS GREATER.
- REINFORCING BAR QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY.
- CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE ¾" CLEAR FOR SLABS, 2" CLEAR FOR FORMED SURFACES AND 3" CLEAR FOR FOOTINGS (TYPICAL UNLESS NOTED).
- CONTRACTOR SHALL VERIFY THAT ALL REINFORCEMENT, SLAB DOWELS, INSERTS, SLEEVES AND EMBEDDED ITEMS ARE PROPERLY LOCATED AND RIGIDLY SECURED PRIOR TO CONCRETE PLACEMENT. "WET STICKING" DOWELS WILL NOT BE ALLOWED.
- REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST A.C.I. DETAILING MANUAL, BY A QUALIFIED AND EXPERIENCED FIRM AND PERSON. PLACE AND SUPPORT REINFORCEMENT WITH ACCESSORIES. MAXIMUM SPACING - 48" CENTERS (PLASTIC-TIPPED LEGS FOR EXPOSED SURFACES). USE 3" SBP SUPPORTS AT ALL FOOTINGS.
- ALL STRUCTURAL ADHESIVE SHALL BE SIMPSON SET 3G OR HILTI HY-200 R OR EQUIVALENT. ALL STRUCTURAL ADHESIVE SHALL BE INSTALLED PER THE MANUFACTURER'S REQUIREMENTS. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL WITH APPROPRIATE ICBO EVALUATION REPORTS.

CAST IN PLACE CONCRETE:

- SUBMIT PROPOSED MIXED DESIGNS OF EACH TYPE FOR REVIEW. REQUIRED MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS:
  - a. FOOTING AND GRADE BEAM CONCRETE.....4000 PSI
  - b. SLAB ON GRADE AND STRUC SLAB ABOVE GRADE.....4000 PSI
- ALL CONCRETE MIX DESIGNS SHALL HAVE WATER TO CEMENT RATIOS LESS THAN 0.52 (0.45 FOR MOISTURE SENSITIVE FLOORING), WITH A MAXIMUM #640 FINE TO COARSE AGGREGATE RATIO. CONCRETE MIX DESIGNS THAT DO NOT CONFORM TO THE ABOVE STANDARD AND/OR CONTAIN WATER REDUCING LATANCE AREAS SHALL BE SUBMITTED WITH APPROPRIATE TEST DATA PER A.C.I. ALL CONCRETE SHALL BE IN CONFORMANCE WITH THE A.C.I. 301 STANDARD THAT IS REFERENCED IN THE BUILDING CODE AT THE TIME OF PERMITTING THE PROJECT..
- EXTERIOR CONCRETE (FLOOR SLABS, WALLS, ETC) SHALL HAVE 6.5% (PLUS/MINUS 1.5%) ENTRAINED AIR.
- CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" (VERIFY WITH ARCHITECT).
- NO ALUMINUM SHALL BE EMBEDDED IN ANY CONCRETE.
- NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE
- THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE CONTRACTOR
- ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE SAME REINFORCING AS SIMILAR SECTIONS OR AREAS.
- CONSTRUCTION JOINTS IN GRADE BEAMS, CONTINUOUS FOOTINGS, AND WALLS THAT DO NOT CHANGE DIRECTION SHALL BE SPACED NO GREATER THAN 60'-0". INTERMEDIATE CONTROL JOINTS SHALL BE SPACED AT 25'-0" MAX FOR WALLS. CONTROL JOINTS IN WALLS SHALL ALSO BE LOCATED 15'-0" FROM CORNERS AND AT CHANGES IN WALL THICKNESS

- WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 6 HRS OLD), CLEAN EXISTING SURFACE OF LATANCE AND FOREIGN MATERIAL AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO ¼" AMPLITUDE.

- SLABS ON GRADE SHALL BE 4" THICK MINIMUM ON 4" OF GRANULAR FILL. REINF SLAB WITH 6 X 6 W2 1xW2 1 WWR OR #3 BARS @ 18" OC EA WAY. PLACE REINF IN UPPER 1/3 OF SLAB THICKNESS. AT INTERIOR SLABS, A 10 MIL VAPOR BARRIER SHALL BE PLACED BETWEEN THE CONCRETE AND GRANULAR BASE AND CARE SHOULD BE TAKEN DURING CURING TO PREVENT SLAB CURLING. THIS NOTE SHALL BE TYPICAL UNLESS NOTED OTHERWISE

- SAW CUT JOINTS OR KEYS CONTROL JOINTS IN SLABS ON GRADE SHALL BE SPACED TO DIVIDE THE SLAB INTO PANELS NOT TO EXCEED 225 SQUARE FEET. THE LONGER DIMENSION OF EACH PANEL SHALL NOT EXCEED THE SHORTER DIMENSIONS BY MORE THAN 40%. JOINTS SHALL BE LOCATED AT COLUMN CENTERLINES WHERE POSSIBLE. SPACING BETWEEN JOINTS SHALL NOT EXCEED 15 FEET. CONTRACTOR SHALL SUBMIT JOINT LAYOUT TO ARCHITECT FOR APPROVAL. REFER TO TYPICAL DETAILS.

- REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED #3 BAR DIAMETERS (2'-6" MIN) EXCEPT AS NOTED AND PROVIDE CORNER BARS OF SAME SIZE AND SPACING.

- MINIMUM CONCRETE WALL REINFORCING (WALL 10" OR GREATER) SHALL BE #5 AT 10" CENTERS EACH WAY, EACH FACE
- MINIMUM REINFORCING AROUND CONCRETE WALL OPENINGS 2'-0" OR GREATER (TYPICAL UNLESS NOTED): 2-#5, EXTEND REINF 2'-0" PAST OPENINGS. PROVIDE 2-#5 X 4'-0" DIAGONAL BARS AT CORNERS

- CONTRACTOR SHALL COORDINATE ALL CURING COMPOUNDS WITH FLOOR FINISH REQUIREMENTS TO ENSURE COMPATIBILITY.

- FOUNDATION CONTRACTOR TO ENSURE PROPER ANCHOR ROD PROJECTION AND THAT ANCHOR RODS ARE HELD SECURELY IN POSITION PRIOR TO CONCRETE PLACEMENT. INSTALL ANCHOR RODS TO THE STRICT DIMENSIONAL TOLERANCES PER ASRC REQUIREMENTS. STRUCTURAL STEEL COLUMN ANCHOR RODS SHALL BE SET WITH A RIGID TEMPLATE.

- AGGREGATES AND/OR CONCRETE MIXES SHALL BE CERTIFIED TO BE FREE OF AND ELIMINATE DAMAGE OF CONCRETE DUE TO ALKALI-SILICA REACTION OR ALKALI-AGGREGATE REACTIONS WHEN EXPOSED TO SOILS AND/OR AN EXTERIOR ENVIRONMENT.

- ALL CONCRETE MIX DESIGNS EXPOSED TO AN EXTERIOR ENVIRONMENT SHALL MEET THE REQUIREMENTS OF THE KANSAS CITY METRO MATERIALS BOARD (KCMMB) OR THE JOHNSON COUNTY CONCRETE BOARD (JCCB).

- ANY CONCRETE WALLS EXPOSED TO VIEW OR TO BE FORMED WITH A FORM LINER SHALL BE CONSIDERED "ARCHITECTURAL CONCRETE" PER ACI 301 CHAPTER 6. A MOCKUP SHALL BE MADE AND REVIEWED FOR ACCEPTANCE BY THE ARCHITECT AND OR THE CLIENT FOR CONFORMANCE WITH FINISH INTENT. THE IN-PLACE CONCRETE SHOULD BE REVIEWED AT SEVERAL INTERVALS DURING CONSTRUCTION TO CONFIRM THAT THE FINISH IS MATCHING THE APPROVED MOCKUP STANDARD FOR FINISH. THE INTERVALS SHALL BE DETERMINED BY THE ARCHITECT.

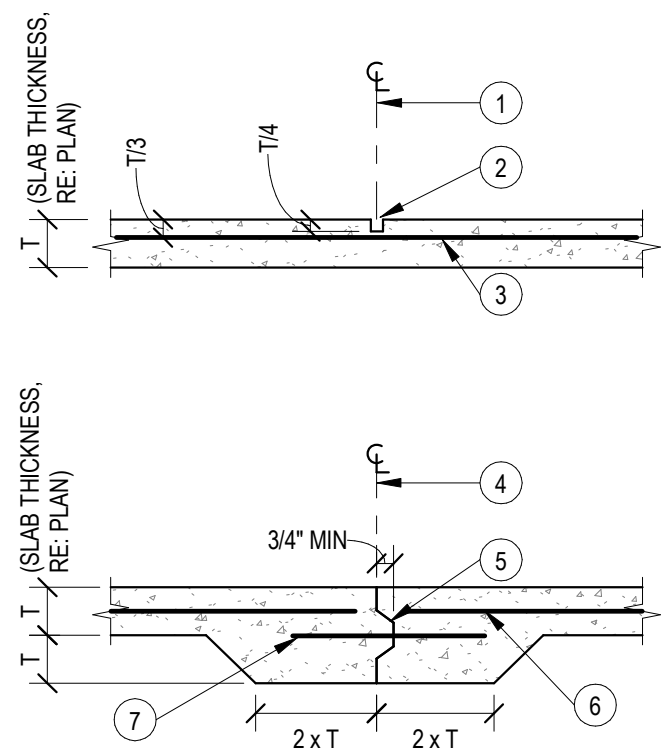
WOOD:

- FRAMING MATERIAL: ALL WOOD FRAMING SHALL MEET OR EXCEED THE FOLLOWING:
  - A. NOMINAL STRUCTURAL LUMBER: DOUG. FIR - NO 2 OR BETTER, KILN-DRIED, MIN Fb = 900 PSI, MIN E = 1400 KSI.
  - B. EXPOSED TO WEATHER: NOMINAL STRUCT LUMBER - PRESS TREATED NO 2 OR BETTER, MIN Fb = 1000 PSI, MIN E = 1300 KSI
- ALL LUMBER IN DIRECT CONTACT WITH CONCRETE OR MASONRY, SUCH AS SILL PLATES AND BEARING PLATES BELOW BEAMS POCKETED IN CMU, SHALL BE TREATED LUMBER.
- WOOD SHEATHING:
  - A. ROOF SHEATHING SHALL BE 15/32" OR 12" WITH AN APA SPAN RATING OF 3216, EXPOSURE 1, MINIMUM 2 SPAN. FASTEN WITH 10d COMMON NAILS AT 6" CENTERS AT ALL PANEL EDGES AND 12" CENTERS MAXIMUM AT INTERMEDIATE FRAMING MEMBERS (IN THE FIELD). USE PLYCLIPS AT MIDSPAN.
  - B. WALL SHEATHING FOR EXTERIOR WALLS SHALL BE 7/16" WITH AN APA SPAN RATING OF 2416, UNLESS NOTED OTHERWISE. ALL PANEL EDGES SHALL BE BACKED WITH 2-INCH NOMINAL OR WIDER FRAMING. FASTEN WITH 6d COMMON NAILS AT 6" OC MAXIMUM AT ALL TOP PLATES, BLOCKING, BOUNDARIES AND 10" OC MAXIMUM IN THE FIELD.
- ALL WOOD SHEATHING TO BE STAGGERED 4X8 SHEETS, ORIENTED PERPENDICULAR TO SUPPORTING MEMBERS.
- PROVIDE 1/8" GAP AT ALL SHEATHING PANEL EDGES AND END JOINTS UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. DUE TO CONSTRUCTION CONDITIONS, TEMPORARY EXPANSION JOINTS MAY BE REQUIRED IN FLOOR/ROOF SHEATHING.
- ALL HEADERS IN EXTERIOR OR INTERIOR BEARING WALLS SPANNING MORE THAN 3'-8" SHALL BE SUPPORTED ON DOUBLE STUDS UNLESS NOTED.
- MINIMUM NAILING SHALL CONFORM TO IRC TABLE 2304.10.1 USE COMMON NAILS EXCEPT WHERE NOTED. ALL FASTENERS (BOLTS, SCREWS, NAILS, ETC) IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT DIP GALVANIZED.
- LIGHT GAUGE WOOD FRAMING CONNECTORS AS NOTED ON THE PLANS FOR WOOD JOISTS, COLUMNS, BEAMS AND TRUSSES SHALL BE "STRONG-TIE" CONNECTORS BY THE SIMPSON CO. OR REVIEWED EQUIVALENT. CONNECTORS IN DIRECT CONTACT WITH PRESSURE TREATED LUMBER SHALL HAVE "ZMAX" G185 HOT DIP GALVANIZED COATING OR REVIEWED EQUIVALENT.
- CONNECTORS IN DIRECT CONTACT WITH PRESSURE TREATED LUMBER SHALL HAVE "ZMAX" G185 HOT DIP GALVANIZED COATING OR REVIEWED EQUIVALENT.
- STAINLESS STEEL FASTENERS, ANCHOR BOLTS, LIGHT GAUGE CONNECTORS, ETC. MAY BE SUBSTITUTED FOR HOT DIP GALVANIZED MATERIALS AT THE CONTRACTORS OPTION.
- PROVIDE UPLIFT CONNECTORS AT EACH ROOF JOISTS TO WALL CONNECTIONS PER IRC.

- STUDS SHALL BE CONTINUOUS BETWEEN EACH DIAPHRAGM LEVEL. EXTERIOR WALL STUDS AT GROUND FLOOR SHALL BE BRACED BY KICKERS AND/OR STRUCTURAL CEILING FRAMING.

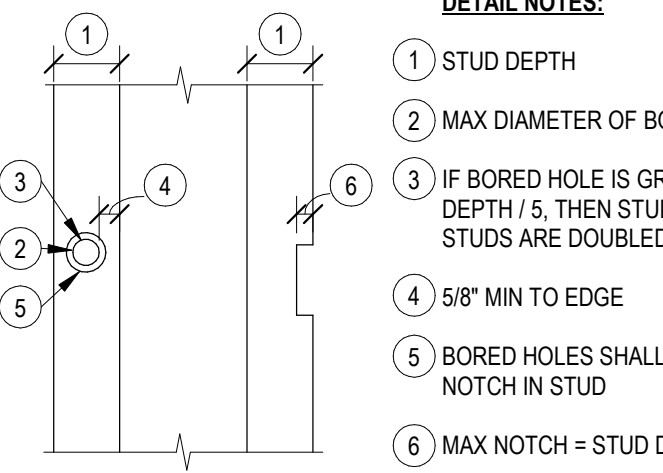
- TYPICAL SILL ANCHOR RODS SHALL BE GALVANIZED 1/2" DIAMETER EMBEDDED 7" MIN INTO CONCRETE, SPACED NO FURTHER THAN 3'-0" OC. AND SHALL OCCUR WITHIN 12" OF THE ENDS OF A SILL PLATE. SPACE ANCHOR RODS MORE CLOSELY TOGETHER AT SHEAR WALLS AS SHOWN ON THE DRAWINGS. EACH SILL PLATE SHALL HAVE A MINIMUM OF 2 ANCHOR RODS. PROVIDE 2" SQUARE PLATE WASHERS AND NUTS.

- SUBSTITUTIONS OF SPECIFIED WOOD MEMBERS SHALL NOT BE MADE WITHOUT REVIEW OF THE ARCHITECT/ENGINEER.



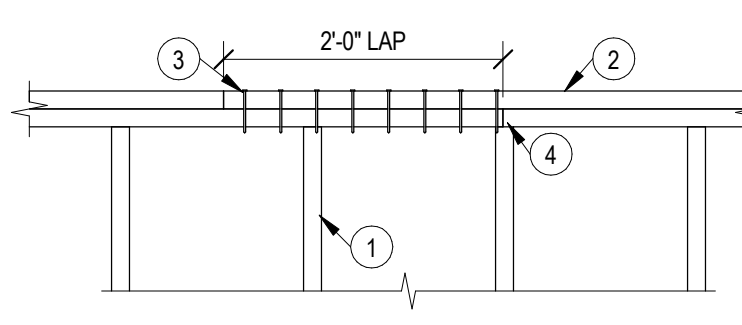
7 SLAB ON GRADE CONTROL JOINTS

3/4" = 1'-0"



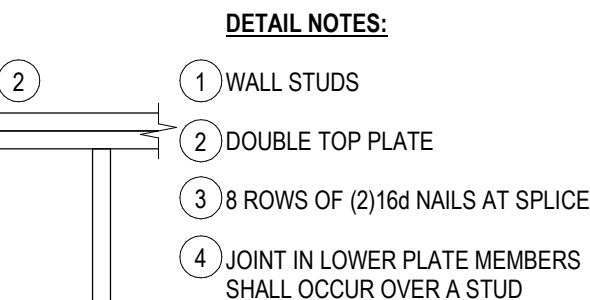
6 BORED HOLE & NOTCHES - VERT FRAMING

3/4" = 1'-0"



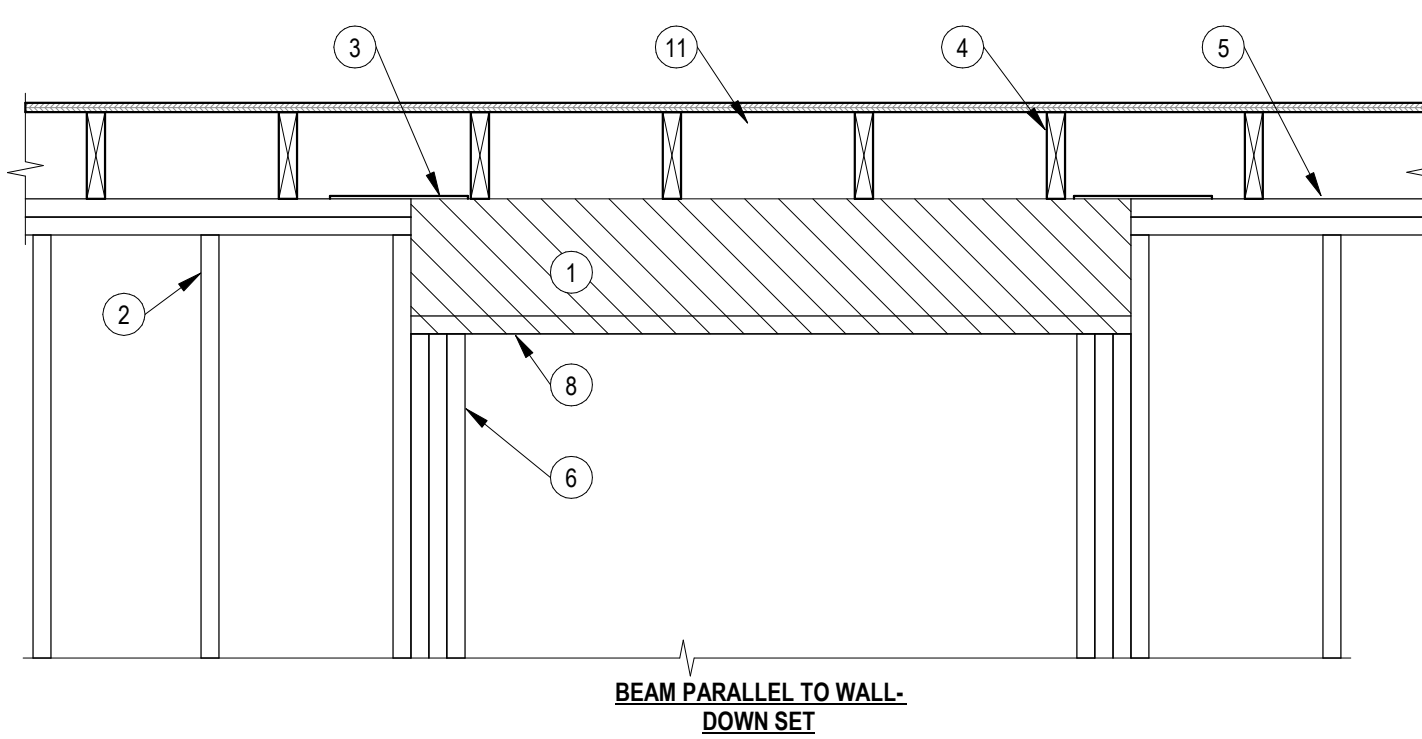
5 TOP PLATE SPLICE

3/4" = 1'-0"



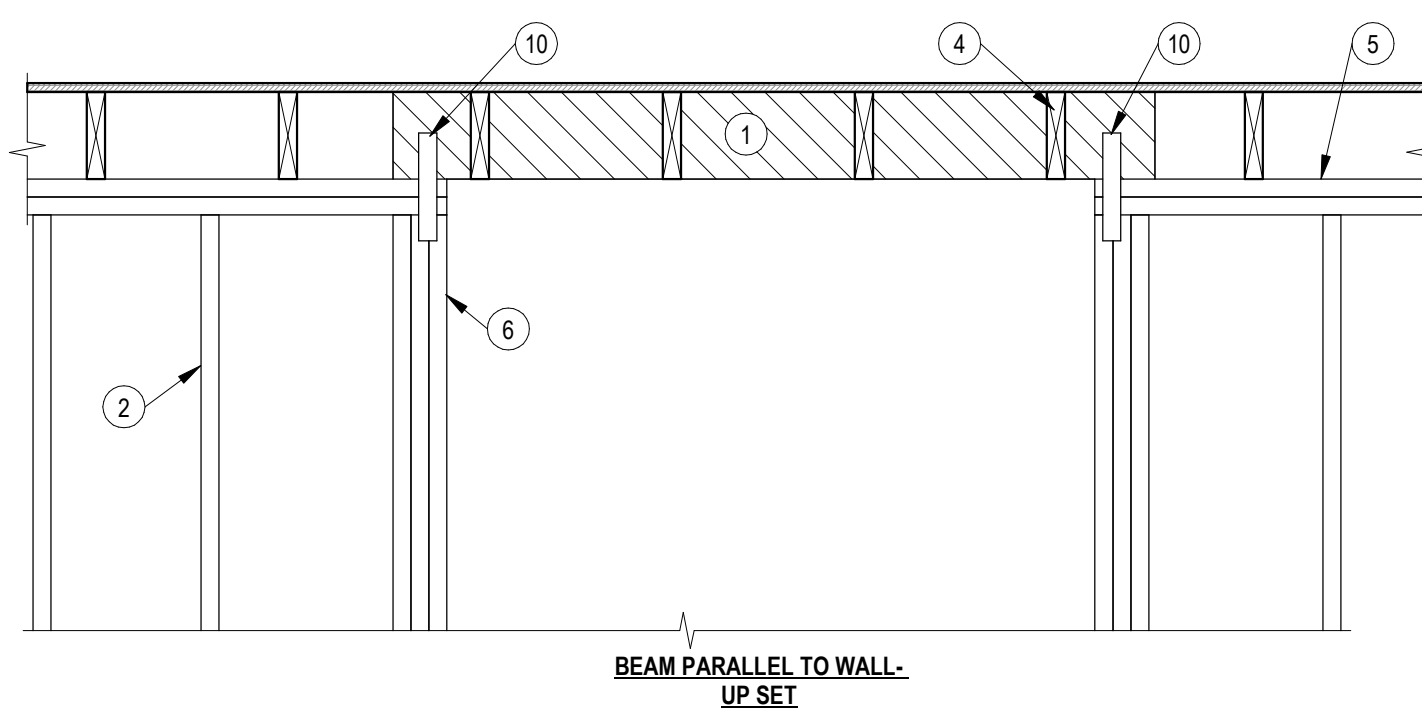
3 EDGE FRAMING DETAIL

1 1/2" = 1'-0"



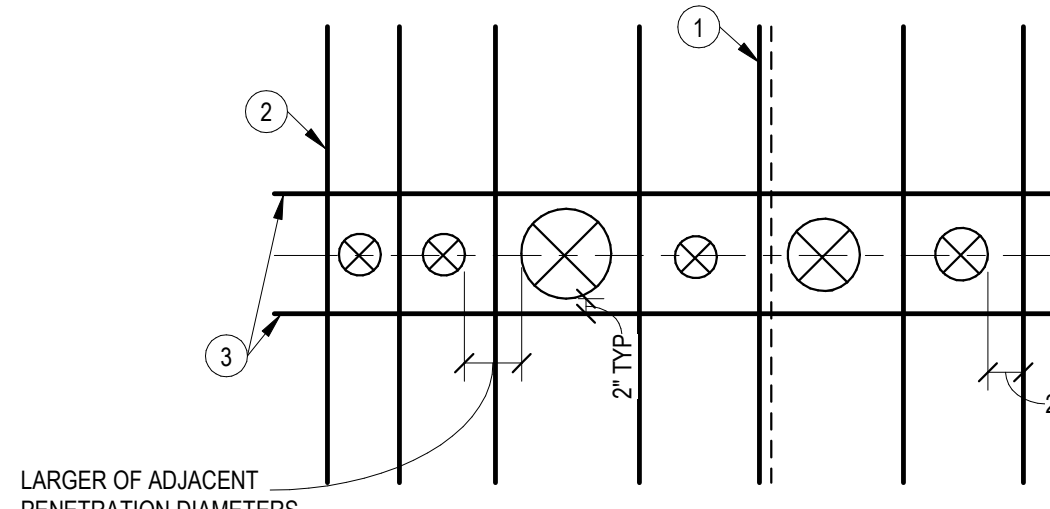
2 BORED HOLE & NOTCHES - HORIZ FRAMING

3/4" = 1'-0"



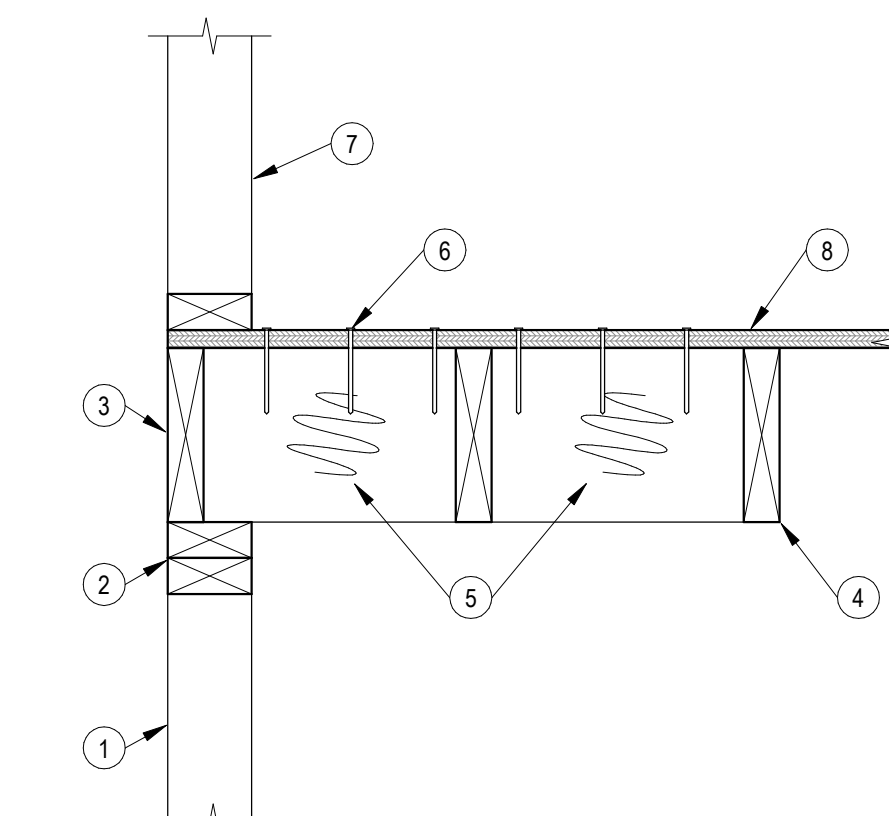
1 BEAM BEARING CONDITIONS

3/4" = 1'-0"



4 REINF @ SLAB PENETRATIONS

3/4" = 1'-0"



3 EDGE FRAMING DETAIL

1 1/2" = 1'-0"

DETAIL NOTES:

- ARRANGE PRIMARY SLAB BARS TO PASS BY PENETRATIONS. DO NOT TERMINATE SLAB BARS AT PENETRATIONS
- (1) #5 x 5'-0" TAB @ ENDS & IN BTWN ALL PENETRATIONS
- (1) #5 x 5'-0" TAB EA SIDE
- ALIGN PENETRATIONS WHERE POSSIBLE

NOTES:

DETAIL DOES NOT APPLY FOR PENETRATIONS LARGER THAN 12" IN DIAMETER. SEE TYP SLAB OPENING DETAIL FOR SUCH PENETRATIONS

DETAIL NOTES:

- STUD WALLS, RE-PLAN AND GENERAL NOTES
- DOUBLE TOP PLATE
- 2x RIM JOIST
- FLOOR JOISTS PARALLEL TO WALL, RE-PLAN FOR SIZE AND SPACING
- PROVIDE BLOCKING IN THE FIRST TWO JOIST SPACES NEXT TO RIM JOIST. MATCH FLOOR JOISTS SIZE & SPACE @ 4'-0" OC MAX
- NAIL SHEATHING TO BLOCKING
- STUD WALL ABOVE
- WOOD FLOOR SHEATHING, RE. GENERAL NOTES

DETAIL NOTES:

- MAX DIMENSION = JOIST DEPTH / 4
- MAX DIMENSION = JOIST DEPTH / 3
- MAX DIMENSION = JOIST DEPTH / 6
- JOIST DEPTH
- MAX DIMENSION = JOIST DEPTH / 3
- SQUARE HOLES AND NOTCHES NOT RECOMMENDED
- HOLES MAY BE ANYWHERE ALONG THE LENGTH OF THE SPAN MINUS 1'-0" ON EA END. HOLE EDGES SHALL BE 2" FROM TOP OF JOIST OR BOTTOM OF JOIST. THEY SHALL ALSO BE 2" FROM ANY OTHER HOLE OR NOTCH

DETAIL NOTES:

- WOOD BEAM, PER PLAN
- WALL STUDS
- IF TOP PLATE IS INTERRUPTED USE SIMPSON LSTA9 STRAP OR EQUIVALENT
- WOOD JOISTS, RE: PLAN
- DOUBLE 2x TOP PLATE
- MIN 3 STUDS TO SUPPORT BEAM UNO ON PLAN
- FACE MOUNT JOIST HANGER
- COORD BOT OF BEAM ELEV W/ ARCH REQUIREMENTS
- 12" OSB SPACERS AS REQD
- SIMPSON LSTA9 STRAP EA SIDE
- WHEN BEAM IS DOWNSET PROVIDE 2x FULL HT BLOCKING BTWN FLOOR JOISTS



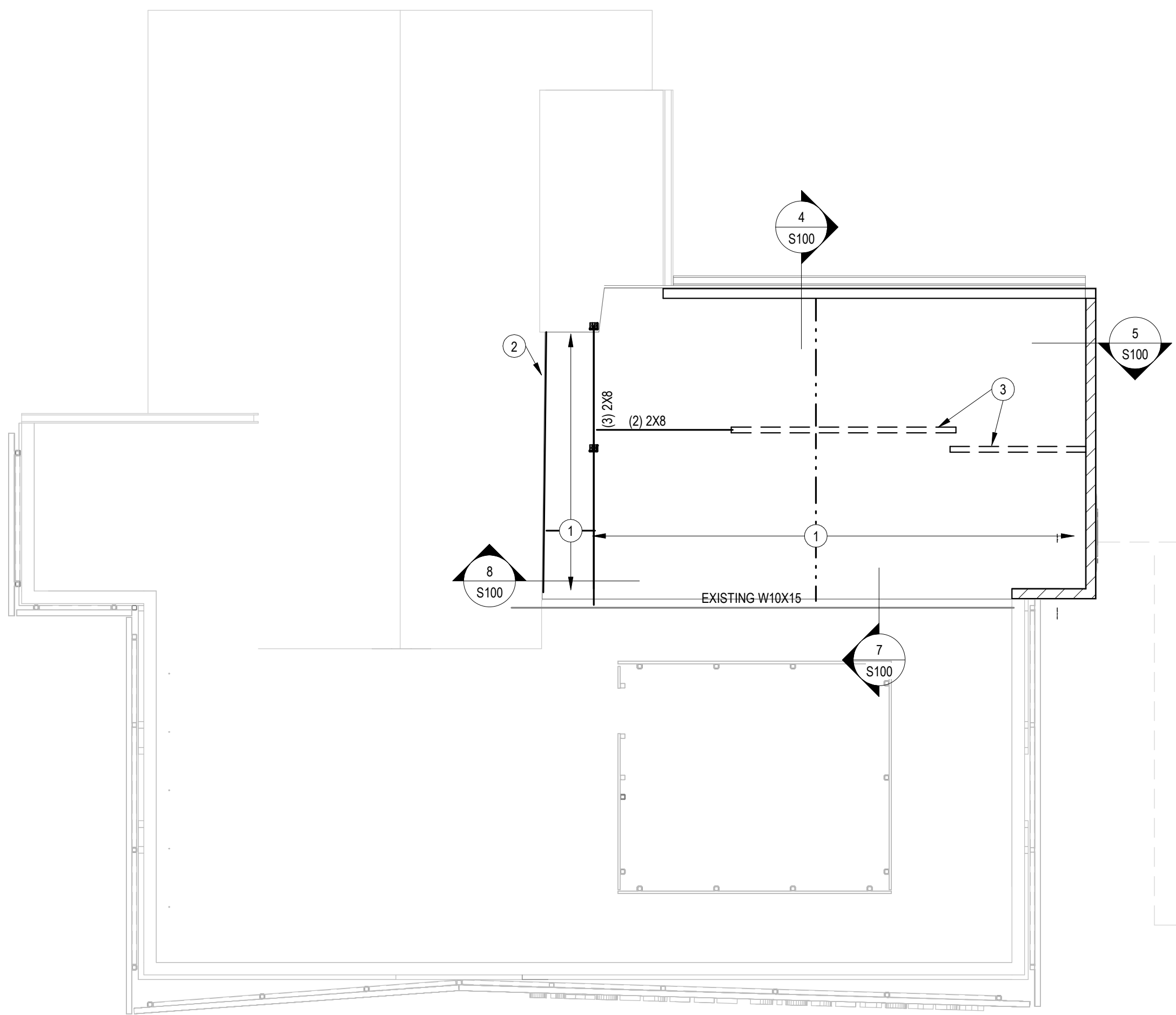
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2

## ROOF FRAMING PLAN

3/16" = 1'-0"



### PLAN NOTES:

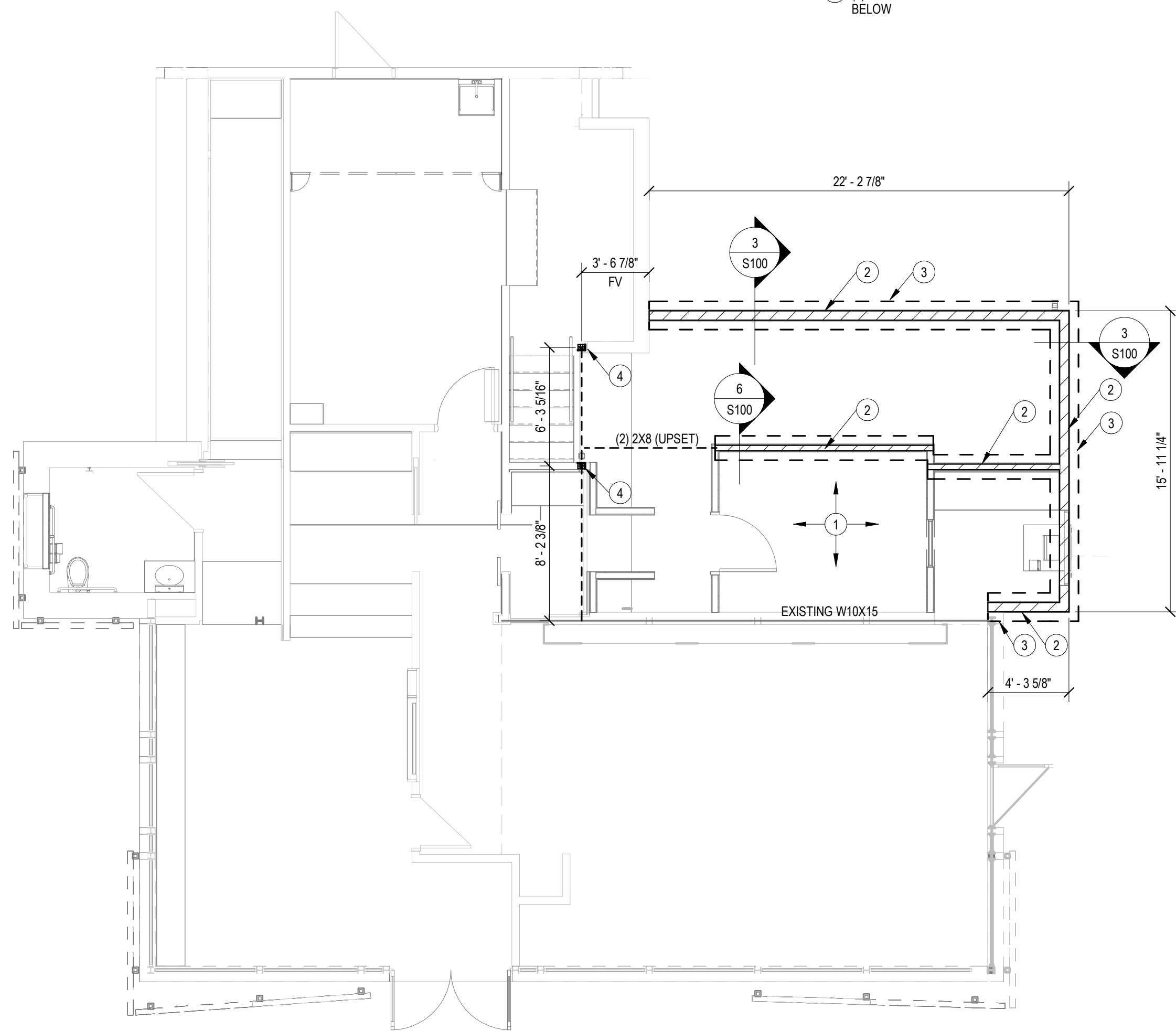
- 2x8 @ 16" ROOF JOISTS
- 2x8 LEDGER FOR SUPPORT OF ROOF JOISTS. FASTEN TO STUDS W/ (2) 1/4"x3" SDS SCREWS AT EA STUD. IN ADDITION, PROVIDE (1) FASTENMASTER HEADLOK SCREW x 2 7/8" LONG @ EVERY OTHER STUD
- LOAD BEARING WALL BELOW



1

## FOUNDATION PLAN

3/16" = 1'-0"

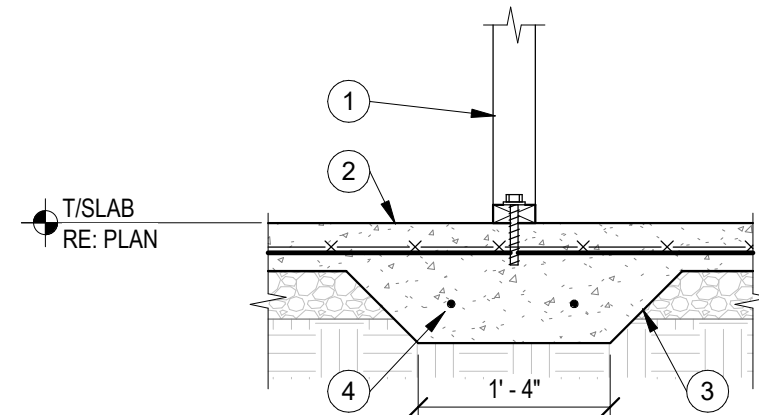


### PLAN NOTES:

- 4" CONCRETE SLAB ON GRADE. RE: GENERAL NOTES FOR REINFORCING, GRANULAR FILL, VAPOR BARRIER AND JOINTING REQUIREMENTS
- 2x6 @ 16" OC
- 16" WIDE x 3'-0" DEEP TRENCH FOOTING. REINF W/ (2)#4 TOP & BOT AND #3 TIES @ 24" OC
- 3/4"x4" STUD PACK. FV THAT STUD PACK LANDS ON EXISTING CONCRETE WALL BELOW

### DETAIL NOTES:

- TRENCH FOOTING. RE: PLAN FOR SIZE & REINF. RE: ARCH FOR INSULATION REQUIREMENTS
- SOG. RE: PLAN FOR SIZE & REINF
- WALL. RE: PLAN FOR SIZE & SPACING
- SHEATHING. RE: GENERAL NOTES
- #4 DWL (2'-0"x2'-0") @ 24" OC & #4 CONT
- SILL PL TO MATCH STUD WALL SIZE

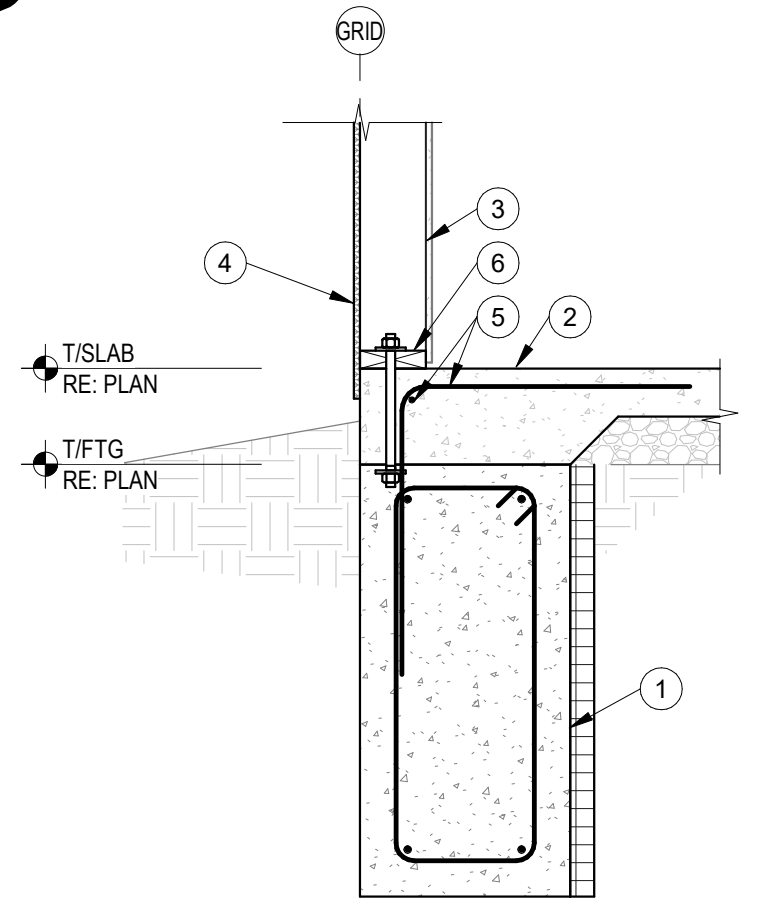


### DETAIL NOTES:

- INTERIOR LOAD BEARING WALL. ATTACH TO FLOOR W/ 1/2"x4" SCREW ANCHORS AT 4' OC MAX
- SLAB ON GRADE. RE: PLAN. RUN SLAB REINF CONT THROUGH THICKENED SLAB
- 16"x10" THICKENED SLAB. UNO. POUR MONOLITHICALLY WITH SLAB ON GRADE
- (2) #4 CONT @ BOTTOM OF THICKENED SLAB. UNO

## THICKENED SLAB

3/4" = 1'-0"

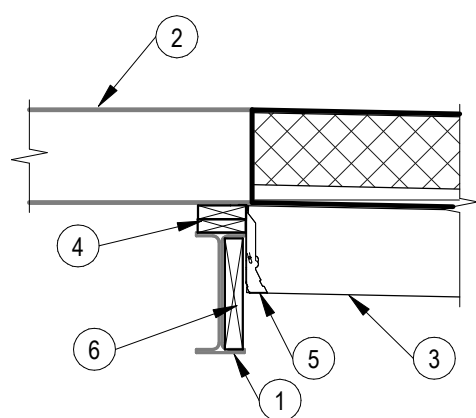


## TRENCH FTG SHEATHING

3/4" = 1'-0"

### SECTION NOTES:

- EXISTING STL BEAM
- EXISTING ROOF
- 2X8 ROOF JOISTS
- 2X TOP PL W/ PLYWOOD SHIMS ON TOP TO MATCH JOIST SEAT DEPTH
- JB28 SIMPSON STRONG-TIE CONNECTION
- PACKOUT EXISTING STL BEAM WITH 2X

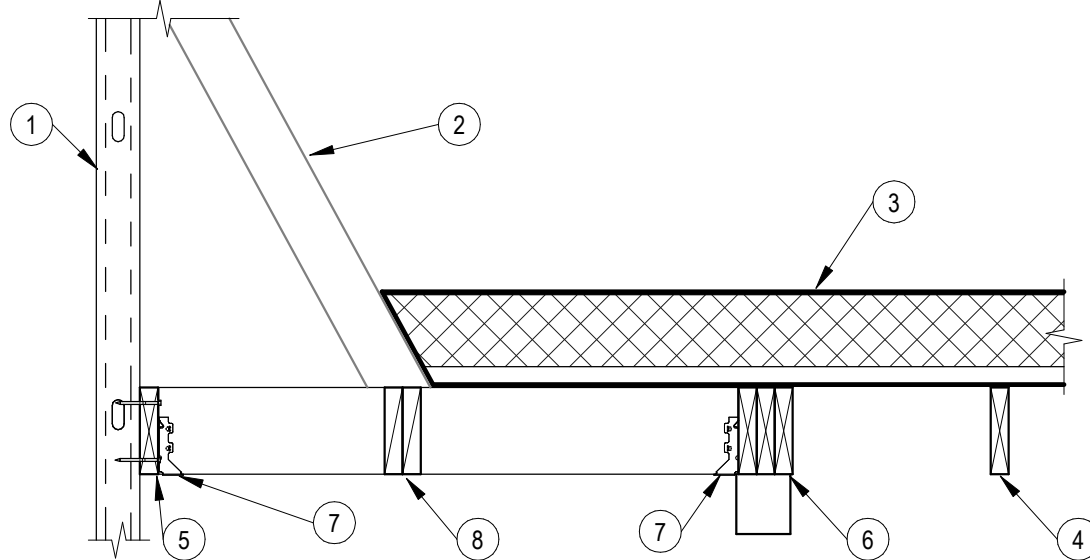


## SECTION

3/4" = 1'-0"

### SECTION NOTES:

- EXISTING WALL
- EXISTING A-FRAME ROOF
- NEW ROOF RE-ARCH
- ROOF JOISTS RE: PLAN
- LEDGER RE: PLAN
- BUILT-UP WOOD BEAM RE: PLAN
- SIMPSON STRONG-TIE LUS26
- PROVIDE (2)2X BLOCKING BETWEEN JOISTS



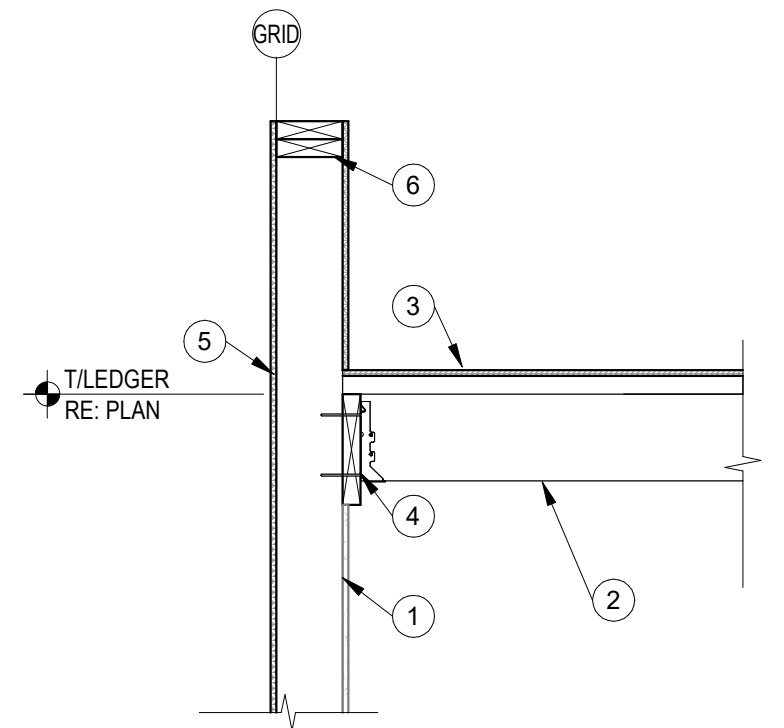
8

## SECTION

3/4" = 1'-0"

### DETAIL NOTES:

- 2x WALL. RE: PLAN
- JOIST RE: PLAN
- SHEATHING RE: PLAN
- 2x LEDGER
- FINISH. RE: ARCH
- DOUBLE 2x TOP PL

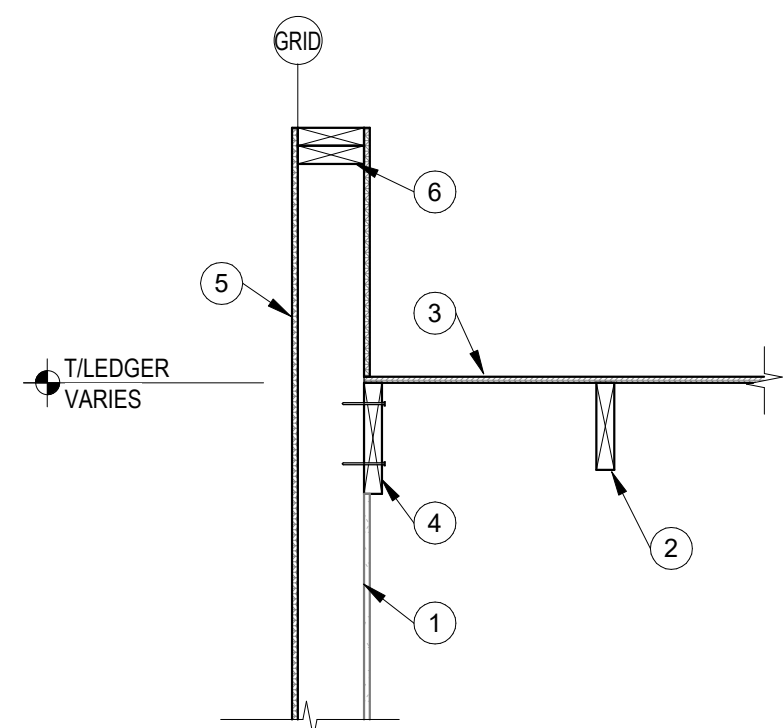


## STUD PERPENDICULAR

3/4" = 1'-0"

### DETAIL NOTES:

- 2x WALL. RE: PLAN
- JOIST RE: PLAN
- SHEATHING RE: PLAN
- 2x LEDGER
- FINISH. RE: ARCH
- DOUBLE 2x TOP PL



## STUD PARALLEL

3/4" = 1'-0"

### SHEET NOTES:

- REFERENCE SHEET S00x FOR STRUCTURAL GENERAL NOTES. REVIEW NOTES & DETAILS FOR APPLICABILITY.
- SEE ARCHITECTURAL DRAWING FOR DETAILS & DIMENSIONS NOT SHOWN.
- REFER TO S00x FOR TYPICAL DETAILS.
- TOP OF SLAB ELEVATION = 100'-0" UNO +/- TO MATCH EXISTING.
- TOP OF TRENCH FOOTING ELEVATION = 99'-4" UNO. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 3'-0" MIN BELOW GRADE. DEEPEN FOOTINGS AS REQUIRED. GRADE IS GENERALLY 6" BELOW FINISH FLOOR ELEVATION.
- SPREAD FOOTINGS DENOTED ON PLAN BY "F.x.x". REFER TO SCHEDULE ON THIS SHEET FOR SIZE AND REINFORCING.



PROFESSIONAL SEAL

S100

ISSUE DATE: 06/10/2022  
COLLINS WEBB #: 22197

FOUNDATION AND ROOF FRAMING PLAN

3RD STREET DISPENSARY - ADDITION

510SW 3rd ST., Lee's Summit, MO 64063

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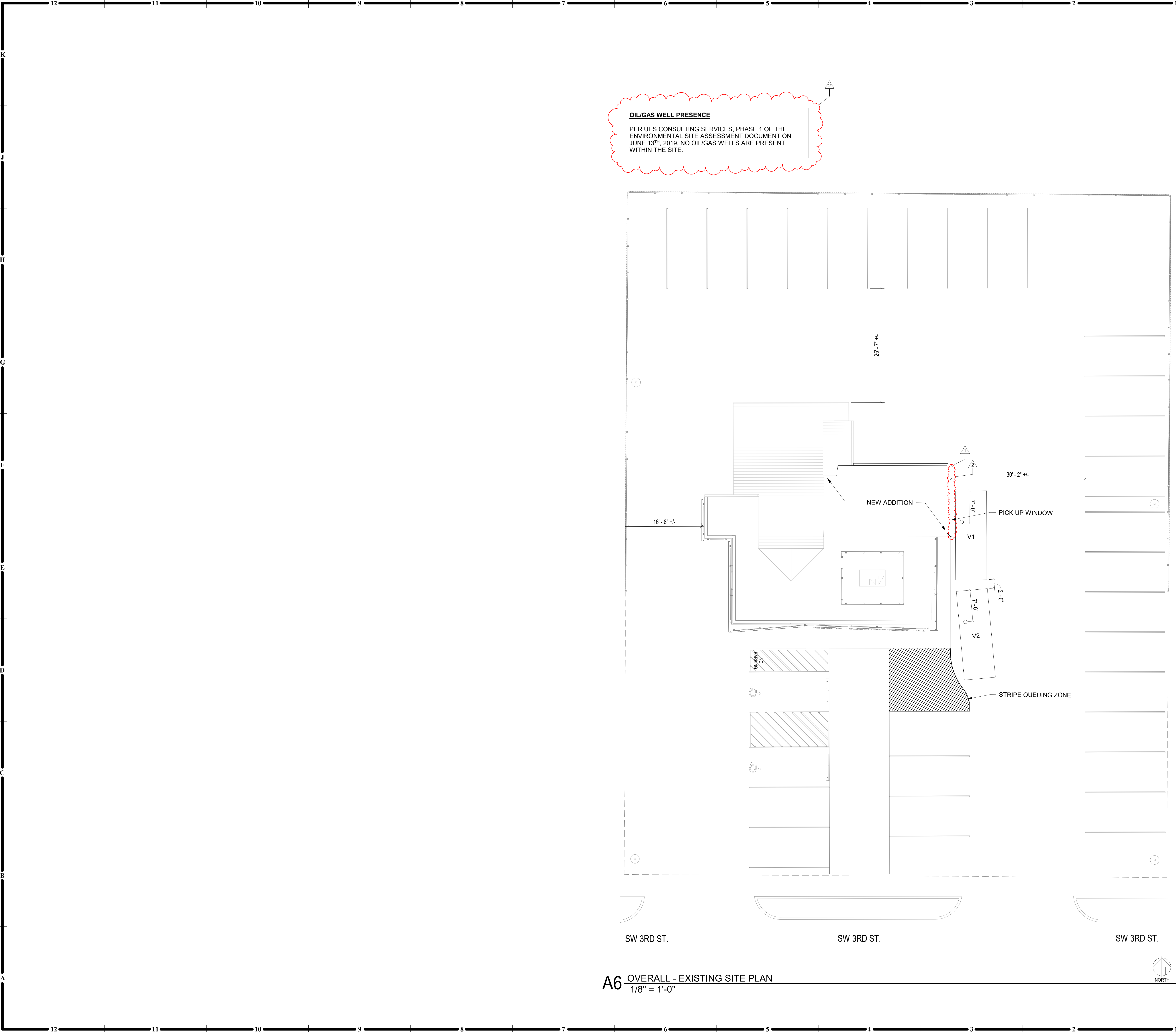
REVISION DATES:

collins webb ARCHITECTURE  
307B SW Market St., Lee's Summit, Missouri 64063 | 816.249.2270 | www.collinswebb.com

PERMIT SET



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**OIL/GAS WELL PRESENCE**  
PER UES CONSULTING SERVICES, PHASE 1 OF THE ENVIRONMENTAL SITE ASSESSMENT DOCUMENT ON JUNE 13<sup>TH</sup>, 2019, NO OIL/GAS WELLS ARE PRESENT WITHIN THE SITE.

**A6** OVERALL - EXISTING SITE PLAN  
1/8" = 1'-0"

**GENERAL NOTES**  
**ARCHITECTURAL SITE:**

1. SHEET FOR REFERENCE ONLY.

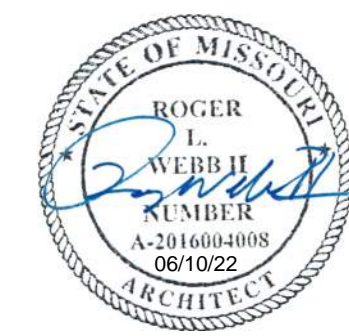


**3RD STREET DISPENSARY - ADDITION**  
510 SW 3rd St., Lee's Summit, MO 64063

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REVISION DATES:

1	City Comments	07/05/22
2	City Comments	07/19/22



PROFESSIONAL SEAL

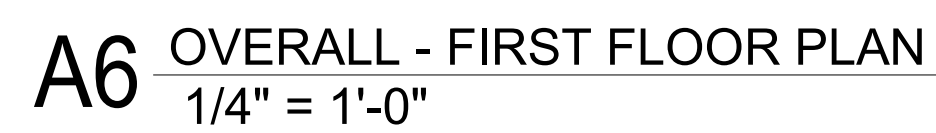
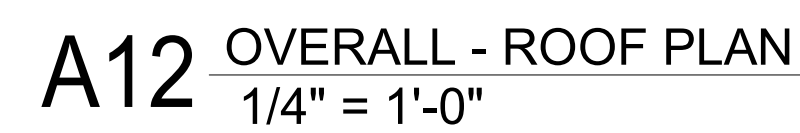
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ISSUE DATE: 06/10/2022  
COLLINS WEBB #: 22038

ARCHITECTURAL SITE PLAN

PERMIT SET





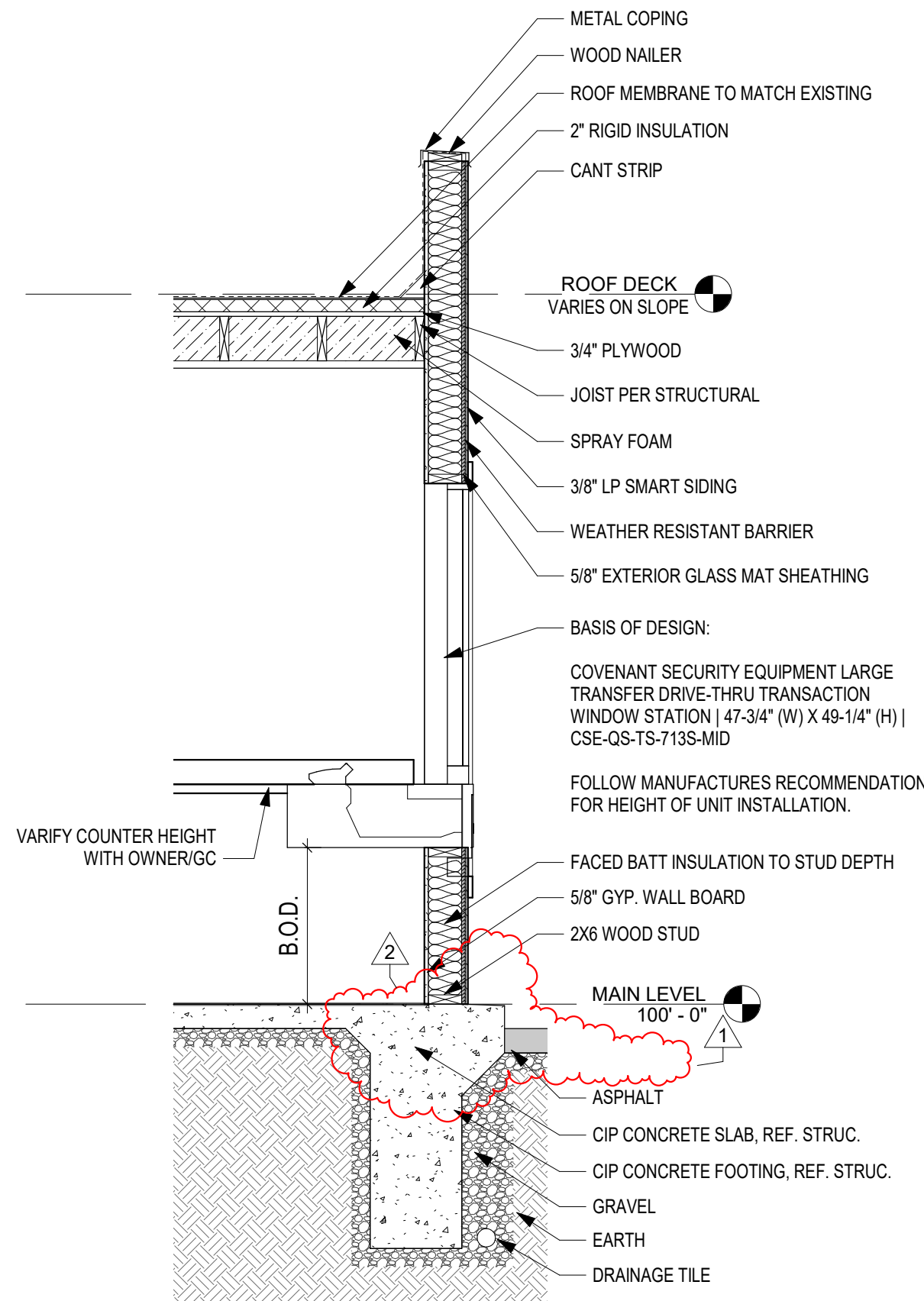
## FIRST FLOOR PLAN AND ROOF PLAN

## PERMIT SET

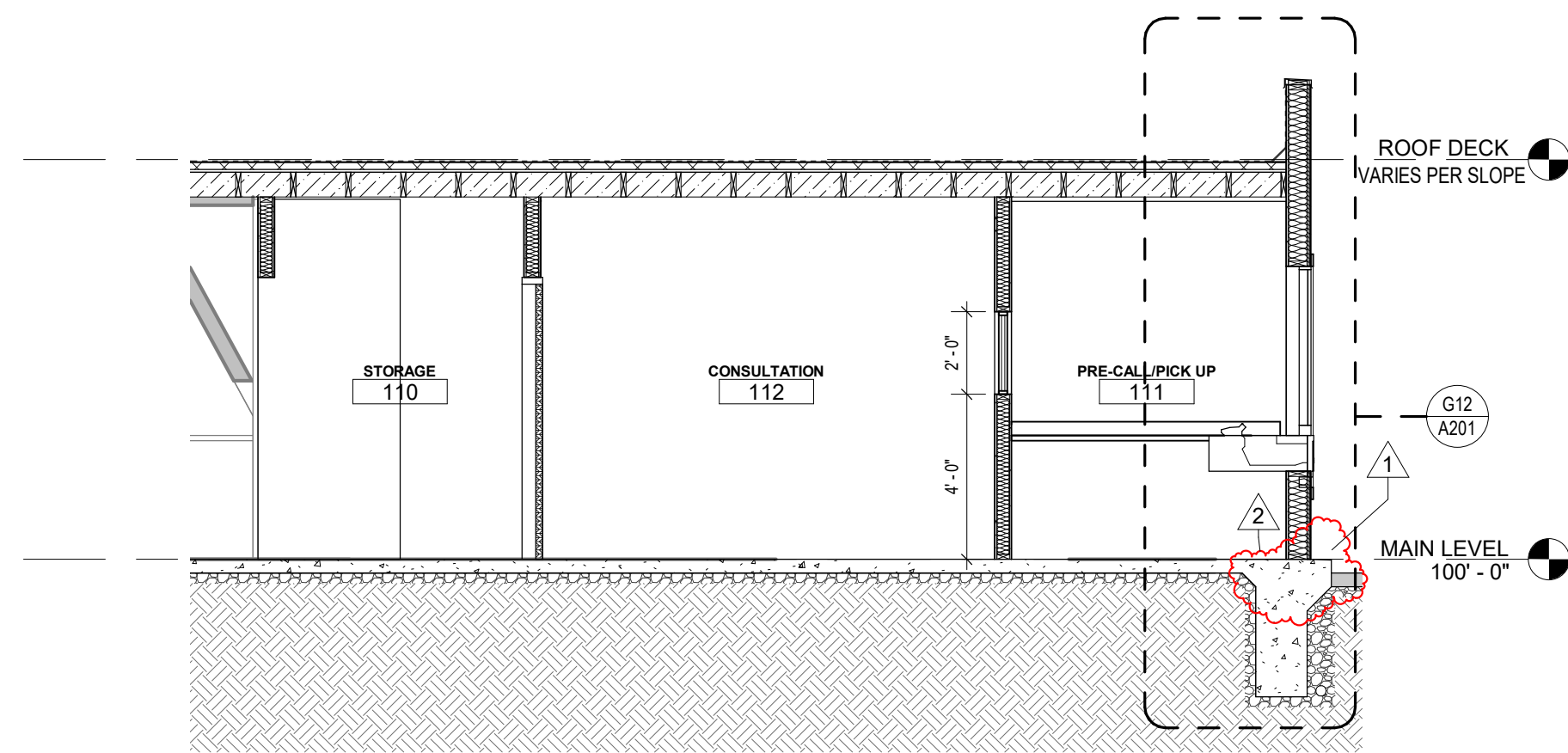
307B SW Market St., Lee's Summit, Missouri 64063 | 816.249.2270 |  
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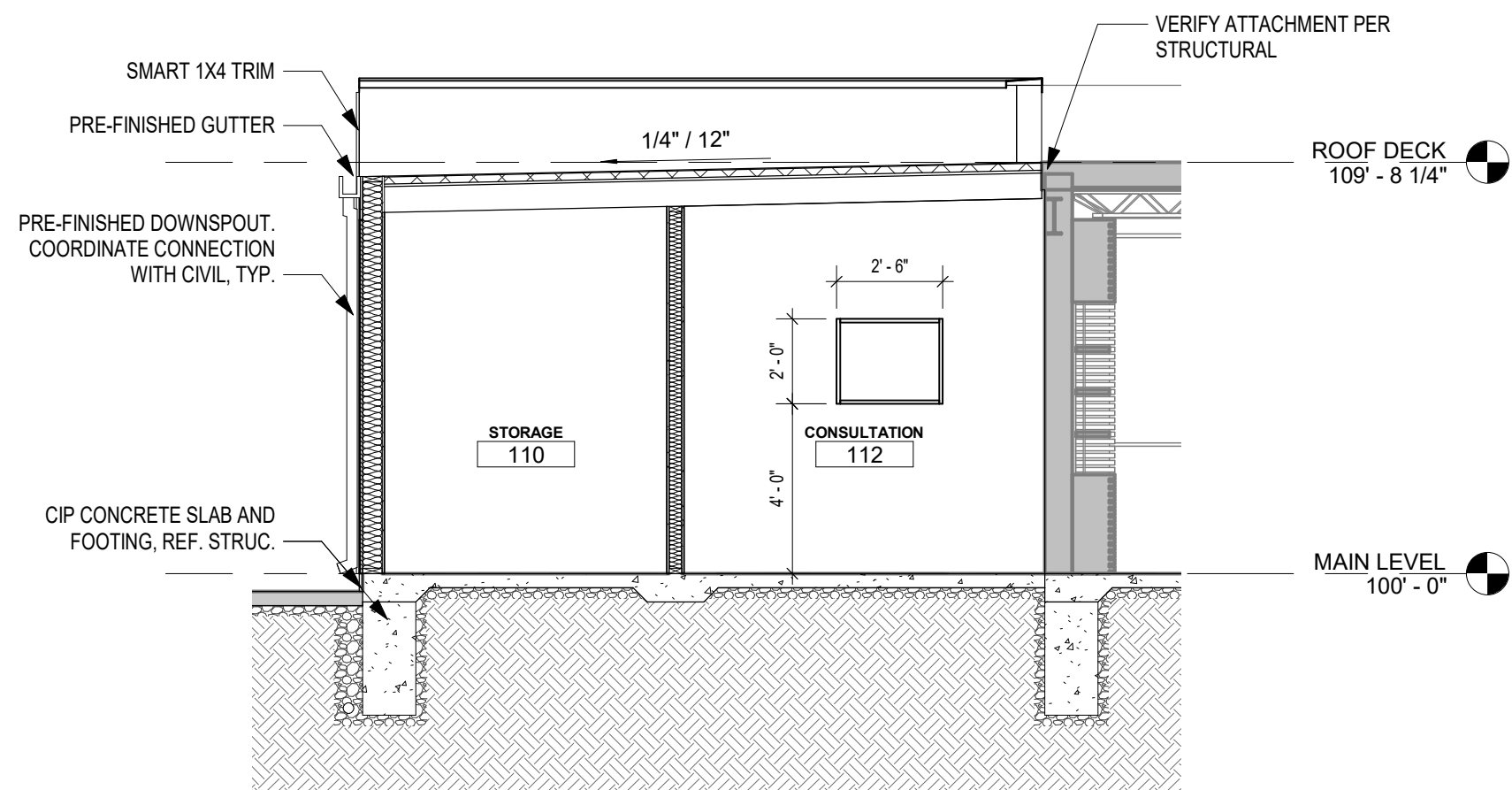
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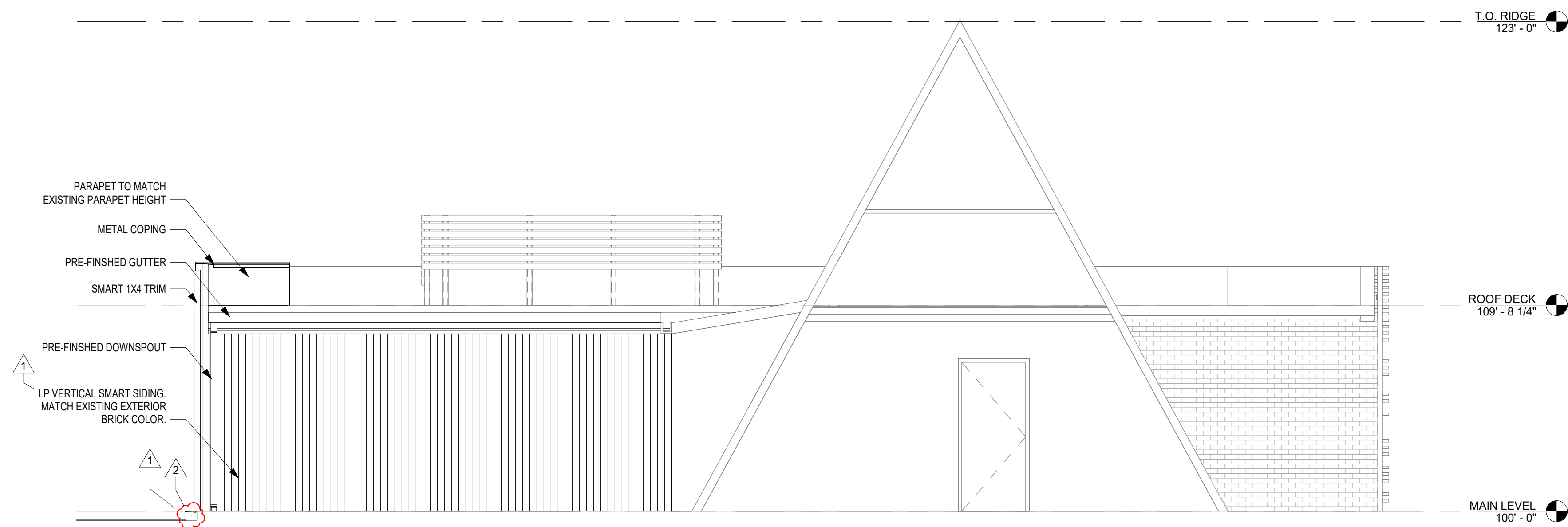
**G12** DETAIL - DRIVE-THRU WINDOW  
1/2" = 1'-0"



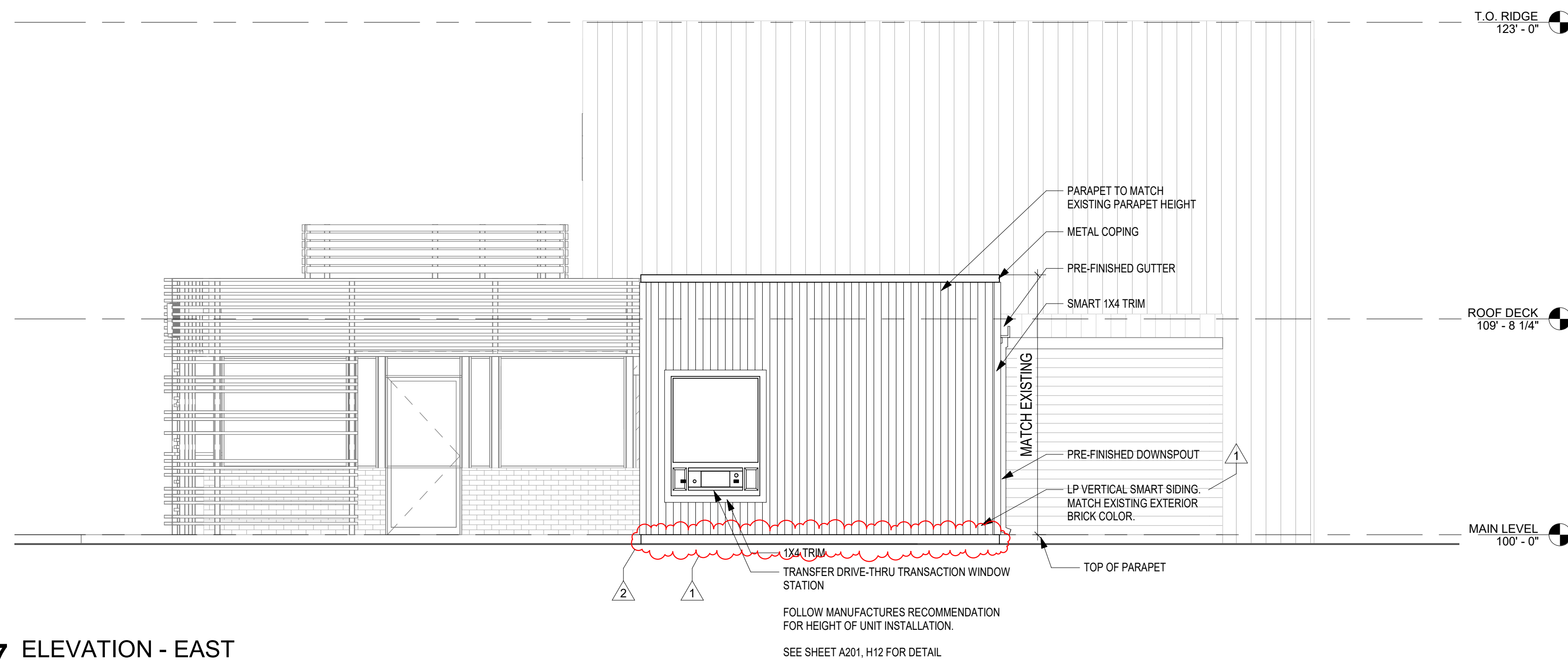
**E12** SECTION - EAST TO WEST  
1/4" = 1'-0"



**A12** SECTION - NORTH TO SOUTH  
1/4" = 1'-0"



**E7** ELEVATION - NORTH  
1/4" = 1'-0"



**A7** ELEVATION - EAST  
1/4" = 1'-0"

**GENERAL NOTES  
EXTERIOR ELEVATIONS:**

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. DIMENSIONS SHOWN ON THE EXTERIOR ELEVATIONS ARE TO THE FACE OF STUD WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FCO), AND COLUMN GRID LINES, UNLESS OTHERWISE NOTED OR INDICATED.
3. RE: THE WINDOW TYPES SHEET FOR ALL EXTERIOR WINDOW TYPES AND GLASS TYPES.



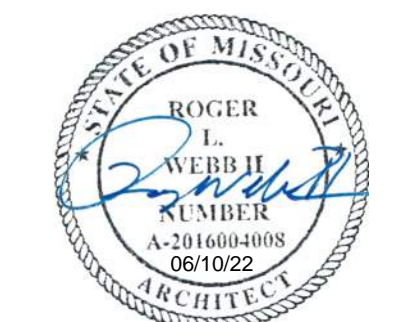
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REVISION DATES:		
1	City Comments	07/05/22
2	City Comments	07/19/22



PROFESSIONAL SEAL

**A201**

ISSUE DATE: 06/10/2022  
COLLINS WEBB #: 22038

EXTERIOR ELEVATIONS,  
SECTIONS, AND DETAILS

PERMIT SET






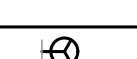



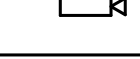

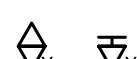
ELECTRICAL ABBREVIATIONS

AC	ALTERNATING CURRENT	KCM	THOUSAND CIRCULAR MILLS
AHU	AIR HANDLING UNIT	KVA	KILOVOLT-AMPERES (1000 VOLT-AMPERES)
A, OR AMPS	AMPERES	KV	KILOVOLT (1000 VOLTS)
AFC	ABOVE FINISH COUNTER	KW	KILOWATTS (1000 WATTS)
AFCI	ARC FAULT CIRCUIT INTERRUPTER	KWH	KILOWATT HOURS
AFF	ABOVE FINISHED FLOOR	MLO	MAIN LUGS ONLY
		MCB	MAIN CIRCUIT BREAKER
AIC	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL)	MM	MICROWAVE (COORD MTS HT W/ ARCHITECT)
ATS	AUTOMATIC TRANSFER SWITCH	NC	NOT IN CONTRACT
BCP	BUILDING CONTROL POWER (FOR HVAC/BUILDING CONTROLS)	NEC	NATIONAL ELECTRICAL CODE
		NC	NORMALLY CLOSED
BTG	BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT	NO	NORMALLY OPEN
BTFF	BRANCH TO FIXTURE, FURNISH AND INSTALL RECEPTACLE	NF	NOT FUSED
C	CONDUIT ("E.C." IS EMPTY CONDUIT)	OCF	OWNER FURNISHED CONTRACTOR INSTALLED
CF	CEILING FAN	OCFO	OWNER FURNISHED OWNER INSTALLED
CM	COFFEE MAKER	PNL	PANEL
CT	COOKTOP	PH OR Ø	PHASE
D	DEDICATED CIRCUIT	P	POLE
DCD	DUPLEX CONVENIENCE OUTLET	PVC	POLYVINYL CHLORIDE
DP	DISPOSER	RF	REFRIGERATOR
DW	DISHWASHER	RG	RANGE
DY	DRYER	SPD	SURGE PROTECTIVE DEVICE
EMT	ELECTRICAL METALLIC TUBING	T	TAMPERPROOF RECEPTACLE
EF	EXHAUST FAN	TL	TIMECLOCK
ER	EXISTING TO BE REMOVED	TB	TELEPHONE TERMINAL BOARD
ETP	ELECTRONIC TRAP PRIMER	TV	TELEVISION RECEPTACLE
EW	ELECTRIC WATER COOLER (WATER-COOLED DRINKING FOUNTAIN)	UC	UNDERCOUNTER REFRIGERATOR (OR ICE MACHINE)
EX	EXISTING	UF	UNDERFLOOR
FLEX	FLEXIBLE CONDUIT	UG	UNDERGROUND
FCU	FAN COIL UNIT	UL	UNDERWRITERS LABORATORIES
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	U.N.O.	UNLESS NOTED OTHERWISE
GFI	GROUND FAULT INTERRUPTER	V	VOLTS
GFP	GROUND FAULT INTERRUPTER PROTECTED	VA	VOLT-AMPERES
GRD	GROUND	VD	VENDING MACHINE (24" AFF)
H	HORIZONTAL MOUNT (RECEPTACLE)	VFD	VARIABLE FREQUENCY DRIVE
HD	VENTILATION HOOD	W	WATTS
HP	HORSEPOWER	WA	WASHER
HT	HEAT TRACE POWER (PROVIDE W/ 20A/1P GFI BREAKER)	WD	WASHING DRAWER
HVAC	HEATING, VENTILATING, & AIR CONDITIONING	WO	WALL OVEN
HZ	HERTZ	WP	WEATHERPROOF
IG	ISOLATED GROUND (DUPLEX RECEPTS. - NEMA 5-20(RIG))	WPI/R	WEATHERPROOF/WEATHER RESISTANT
KA	KILOAMPERE (1000 AMPERES)	WUNT	DISCONNECT PROVIDED WITH UNIT

GENERAL ELECTRICAL NOTES

1. DO NOT SCALE FROM THESE DRAWINGS.
2. REFER TO ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND ELECTRICAL DEVICES.
3. COORDINATE EACH LIGHT FIXTURE INSTALLATION(S) W/ ACTUAL CEILING TO BE FURNISHED.
4. ALL BRANCH CIRCUITS W/IO CONDUCTOR & CONDUIT INDICATIONS SHALL BE ROUTED TO 20A-1P BREAKER W/ 2H/2, 1H/2E/3, 3/4" C.
5. INDIVIDUAL COMPONENTS OF THIS LIGHT FIXTURE SCHEDULE SHALL NOT BE INTERPRETED SEPARATELY FROM THE ENTIRE SCHEDULE. THAT IS, THE ENTIRE FIXTURE SPECIFICATION INCLUDING ALL COLUMNS IN THE LIGHT FIXTURE SCHEDULE AND ALL SUPPORTING INFORMATION IN THESE DOCUMENTS. ANY CONFLICT BETWEEN MODEL NUMBERS AND OTHER COLUMNS OF THE SCHEDULE SHALL BE IDENTIFIED IN WRITING TO THE ARCHITECT. IN THE CASE OF A CONFLICT, CONTRACTOR SHALL BASE BID ON THE MORE EXPENSIVE INTERPRETATION.
6. ALL CIRCUITS (LIGHTING AND POWER) SHALL BE PROVIDED WITH DEDICATED NEUTRALS UNLESS NOTED OTHERWISE. WHERE NEUTRALS ARE INDICATED TO BE SHARED, MULTIWIRE BRANCH CIRCUITS SHALL BE PROVIDED WITH 2P OR 3P BREAKERS AS REQUIRED PER NEC 210.4.
7. ELECTRICAL EQUIPMENT (PANELBOARDS, TRANSFORMERS, DISTRIBUTION EQUIPMENT, ETC.) IS SHOWN TO SCALE ON THE FLOOR PLANS.
8. SWITCHBOARDS SHOWN ON PLANS WITH BACKS AGAINST A WALL SHALL BE FRONT ACCESSIBLE ONLY. EQUIPMENT REQUIRING REAR ACCESS WILL NOT BE ACCEPTABLE.
9. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE EQUIPMENT THAT WILL FIT IN THE SPACES ALLOWED FOR ON THE PLANS AND COMPLY WITH ALL THE CODE REQUIRED CLEARANCES.
10. IF THE ELECTRICAL CONTRACTOR PROVIDES EQUIPMENT THAT DOES NOT FIT IN THE SPACES INDICATED, OR THAT WILL NOT LEAVE THE REQUIRED CODE CLEARANCES, OR EQUIPMENT REQUIRING CHANGES IN THE DESIGN INDICATED ON THESE DRAWINGS, HE SHALL PAY ALL COSTS INVOLVED TO CORRECT THE INSTALLATION.
11. ELECTRICAL CONTRACTOR TO LABEL ALL DEVICES (RECEPTACLES, SWITCHES, PANELBOARDS, DISCONNECTS, ETC.) WITH CIRCUIT NUMBER AND PANELBOARD DESIGNATION. RECEPTACLES, SWITCHES, AND SIMILAR DEVICES TO HAVE PRE-PRINTED, SELF-ADHESIVE LABEL.
12. PANELBOARDS, DISCONNECT SWITCHES, AND SIMILAR DEVICES TO HAVE ENGRAVED, SELF-ADHESIVE, LAMINATED ACRYLIC LABEL (BLACK W/ WHITE LETTERING).

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION	MOUNTING	SYMBOL	DESCRIPTION	MOUNTING	SYMBOL	DESCRIPTION	MOUNTING
	LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE - SEE SCHEDULE)	CEILING		20A - 125V/2P/3W GROUNDING SIMPLEX RECEPTACLE (NEMA 5-20R)	WALL - 15" AFF		PANELBOARD 208Y/120V, 3Ø 4W (REFERENCE PANEL SCHEDULES)	
	DIRECTIONAL/WALL/WASHER LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE - SEE SCHEDULE)	CEILING		20A - 125V/2P/3W GROUNDING DUPLEX RECEPTACLE (NEMA 5-20R)	WALL - 15" AFF U.N.O.		PANELBOARD 480Y/277V, 3Ø 4W (REFERENCE PANEL SCHEDULES)	
	LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE - SEE SCHEDULE)	WALL		20A - 125V/2P/3W GROUNDING DUPLEX RECEPTACLE (NEMA 5-20R)	WALL - 6" ABOVE FINISHED COUNTER U.N.O.		DISTRIBUTION PANEL (REFERENCE PANEL SCHEDULES)	
	LIGHT FIXTURE ON EMERGENCY (LETTER INDICATES FIXTURE TYPE - SEE SCHEDULE)	CEILING/WALL		20A - 125V/2P/3W GROUNDING QUAD-PLEX RECEPT. (NEMA 5-20R)	WALL - 15" AFF		DRY TYPE TRANSFORMER	
	FLUORESCENT STRIP LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE - SEE SCHEDULE)	CEILING/ SUSPENDED		SPLIT RECEPTACLE. TOP OUTLET WIRED NOT. BOTTOM OUTLET SWITCHED. (NEMA 5-20R)	WALL - 15" AFF		JUNCTION BOX	WALL - AS NOTED CEILING
	FLUORESCENT LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE - SEE SCHEDULE)	CEILING		SPECIAL PURPOSE OUTLET (NEMA CONFIG. AS NOTED)	WALL - 15" AFF U.N.O./CEILING		NON-FUSED DISCONNECT SWITCH U.N.O. (E.G. 8040 INDIC. 80A SWITCH+40A FUSES)	
	FLUORESCENT LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE - SEE SCHEDULE)	WALL		20A - 125V/2P/3W GROUNDING SIMPLEX RECEPTACLE (NEMA 5-20R)	FLOOR - FLUSH		MOTOR STARTER	
	FLUORESCENT LIGHT FIXTURE ON EMERGENCY (LETTER INDICATES FIXTURE TYPE - SEE SCHEDULE)	CEILING		20A - 125V/2P/3W GROUNDING DUPLEX RECEPTACLE (NEMA 5-20R)	FLOOR - FLUSH		COMBINATION MOTOR STARTER/ DISCONNECT SWITCH	
	FLUORESCENT LIGHT FIXTURE ON EMERGENCY (LETTER INDICATES FIXTURE TYPE - SEE SCHEDULE)	WALL		20A - 125V/2P/3W GROUNDING QUADPLEX RECEPT. (NEMA 5-20R)	FLOOR - FLUSH		ENCLOSED CIRCUIT BREAKER	
	FLUORESCENT STRIP LIGHT FIXTURE ON EMERGENCY (LETTER INDICATES FIXTURE TYPE - SEE SCHEDULE)	CEILING/ SUSPENDED		20A - 125V/2P/3W GROUNDING DUPLEX RECEPTACLE (NEMA 5-20R)	CEILING - FLUSH		MANUAL MOTOR SWITCH ("P" INDICATES PILOT LIGHT)	
	BATTERY PACK EMERGENCY TWO HEAD LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE - SEE SCHEDULE)	WALL - 9'-0" AFF		MULTI-OUTLET ASSEMBLY			MOTOR (# INDICATES HORSEPOWER)	
	EXIT LIGHT (ARROW(S) AS INDICATED, SHADE INDICATES FACE, LETTER INDICATES FIXTURE TYPE - SEE SCHEDULE)	CEILING/WALL		POKE-THRU, 4" CORE. WIREMOLD RC4 SERIES W/ COM75 ADAPTER, OR EQUAL, W/ 2-DUPLEX RECEPTS & 4-4RJ45 DATA/COMM PORTS - COORD. W/ LV CONSULTANT.	FLOOR - FLUSH		CONDUIT IN OR UNDER FLOOR/GRADE	
	SINGLE POLE SWITCH 20A (120/277V)	WALL - 48" AFF		POKE-THRU, 4" CORE. WIREMOLD 4FF SERIES OR EQUAL, FOR POWER AND DATA FURNITURE FEED, DATA FEED TO ACCOMMODATE MINIMUM OF 10 CAT6 CABLES.	FLOOR - FLUSH		CONDUIT EXPOSED	
	THREE WAY SWITCH 20A (120/277V)	WALL - 48" AFF		POKE-THRU, 3" CORE. WIREMOLD RC7AFF SERIES W/ COM55 ADAPTOR OR EQUAL, FOR POWER AND DATA FURN. FEED (TYP. SINGLE SERVICE).	FLOOR - FLUSH		CONDUCTOR HOME RUN - (H) HOT, (N) NEUTRAL, (G) EQUIPMENT GROUND, & (I) ISOLATED GROUND	
	FOUR WAY SWITCH 20A (120/277V)	WALL - 48" AFF		POKE-THRU, 3" CORE. WIREMOLD RC7AFF SERIES W/ COM55 ADAPTOR OR EQUAL, FOR POWER AND DATA FURN. FEED (TYP. SINGLE SERVICE).	FLOOR - FLUSH		EQUIPMENT CONNECTION	
	KEY OPERATED SWITCH	WALL - 48" AFF		POKE-THRU, 3" CORE. WIREMOLD RC39A2 SERIES OR EQUAL, FOR LARGE CAPACITY DATA FURNITURE FEED, TO ACCOMMODATE MINIMUM OF 20 CAT6 CABLES.	FLOOR - FLUSH		CONDUIT IN CEILING OR WALL	
	DOOR SWITCH	WALL		POKE-THRU, 3" CORE. WIREMOLD RC39A2 SERIES OR EQUAL, FOR LARGE CAPACITY DATA FURNITURE FEED, TO ACCOMMODATE MINIMUM OF 20 CAT6 CABLES.	FLOOR - FLUSH		SECURITY CAMERA OUTLET (PAN/TILT/ZOOM)	CEILING/WALL
	PILOT LIGHT SWITCH	WALL - 48" AFF		POKE-THRU, 6" CORE. WIREMOLD 4FF SERIES OR EQUAL, FOR POWER AND DATA FURNITURE FEED, TO ACCOMMODATE MINIMUM OF 10 CAT6 CABLES.	FLOOR - FLUSH		SECURITY CAMERA OUTLET (FIXED)	CEILING/WALL
	TIME SWITCH	WALL		POKE-THRU, 6" CORE. WIREMOLD 6ATCPV SERIES OR EQUAL, ANY STYLE POKE-THRU. COORDINATE POKE- THRU REQUIREMENTS W/ LV CONSULTANT.	FLOOR - FLUSH		SECURITY DOOR STATUS CONTACTS	
	DIMMER SWITCH (SIZE AS REQUIRED)	WALL - 48" AFF		POKE-THRU, 6" CORE. WIREMOLD 6ATCPV SERIES OR EQUAL, ANY STYLE POKE-THRU. COORDINATE POKE- THRU REQUIREMENTS W/ LV CONSULTANT.	FLOOR - FLUSH		ELECTRICAL LOCK	
	OCCUPANCY SENSOR/SENSOR EQUIPMENT (LETTER INDICATES SENSOR TYPE - SEE SCHEDULE)	CEILING/WALL		WIREMOLD RFB4 SERIES FLOOR BOX, OR EQUAL, W/ 2-DUPLEX RECEPTS, COORDINATE DATA/COMM REQUIREMENTS W/ LV CONSULTANT.	FLOOR - FLUSH		PUSH BUTTON	
	LOW-VOLTAGE CONTROL STATION	WALL - 48" AFF		WIREMOLD 880S SERIES FLOOR BOX, OR EQUAL, 2 OR 3 GANG BOXES AS REQUIRED. COORDINATE DATA/COMM REQUIREMENTS W/ LV CONSULTANT.	FLOOR - FLUSH			
	PHOTOELECTRIC CELL			WIREMOLD 880S SERIES FLOOR BOX, OR EQUAL, FOR FURNITURE FEED. COORDINATE DATA/COMM REQUIREMENTS W/ LV CONSULTANT.	FLOOR - FLUSH			
	CARD READER (VERIFY JUNCTION BOX REQUIREMENTS)							
	POWER PACK	ACCESSIBLE CEILING		WIREMOLD 880S SERIES FLOOR BOX, OR EQUAL, FOR FURNITURE FEED. COORDINATE DATA/COMM REQUIREMENTS W/ LV CONSULTANT.	FLOOR - FLUSH			
	DATA, TELEPHONE, OR COMBO TELEDATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	WALL - 15" AFF						
	DATA, TELEPHONE, OR COMBO TELEDATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	FLOOR						
	TELEPHONE TERMINAL BACKBOARD	WALL						
	CLOCK OUTLET	WALL - AS NOTED OR REF. ARCH. DWGS.						
	TELEVISION OUTLET	WALL						
	TELEVISION OUTLET	FLOOR						
	SPEAKER OUTLET (#4) INDICATES TYPE-ZONE	CEILING						

1. ALL ELECTRICAL SYMBOLS NOT NECESSARILY USED.
2. (a,b,c...) INDICATES SWITCHING SCHEME TO RELATED FIXTURES.



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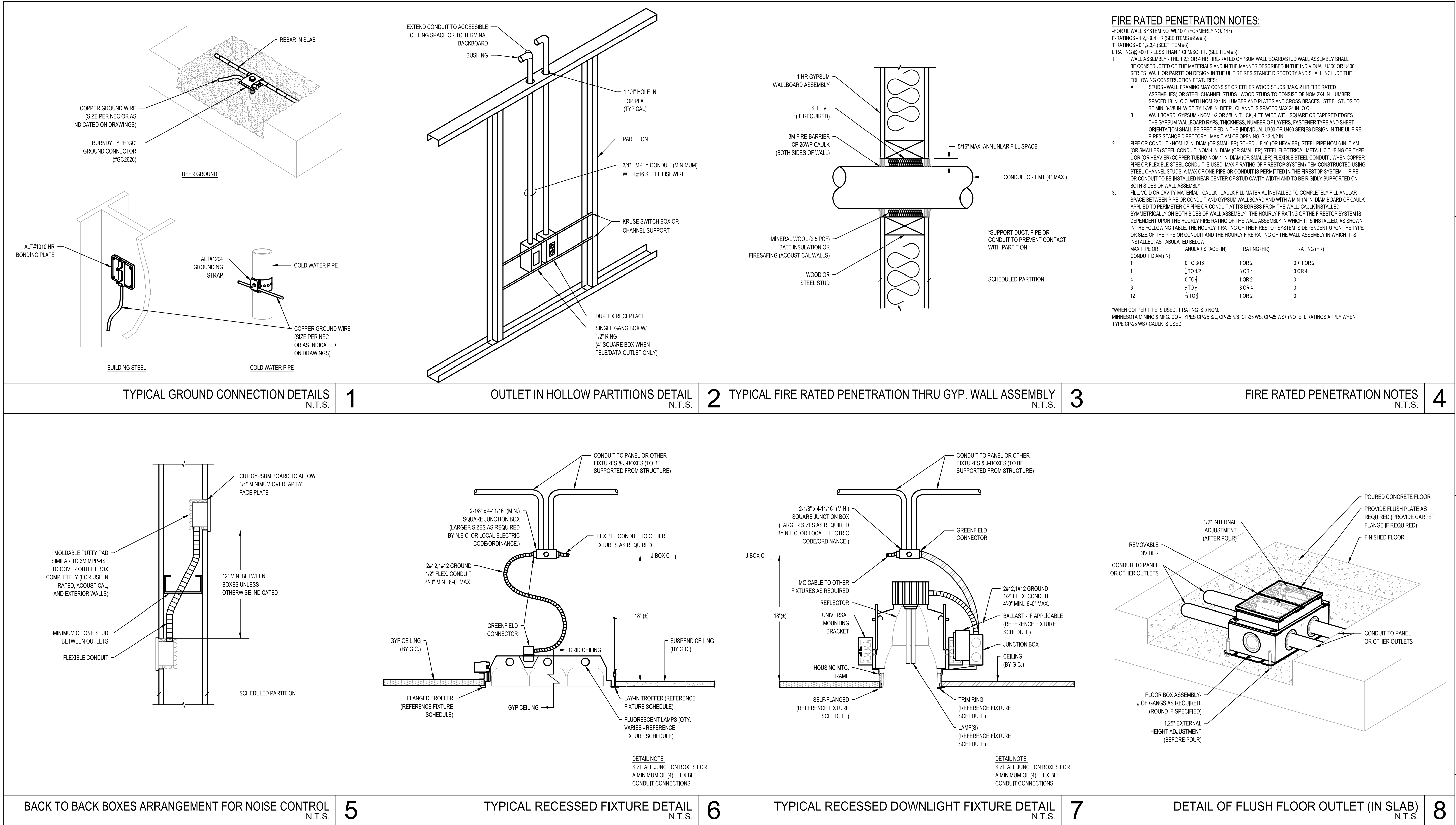
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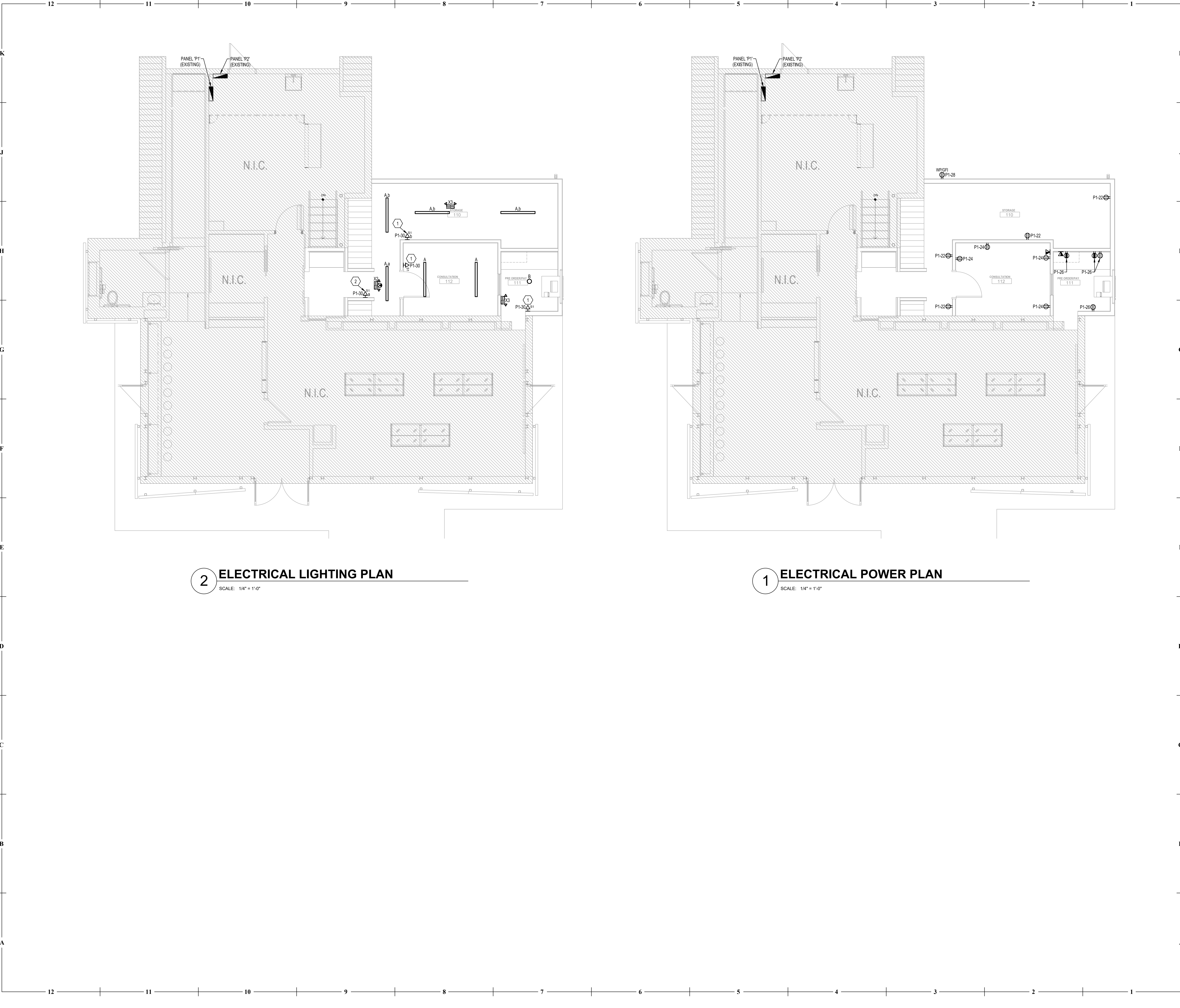
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ELECTRICAL NOTES,  
SYMBOLS &  
ABBREVIATIONS










**2 ELECTRICAL LIGHTING PLAN**  
SCALE: 1/4" = 1'-0"

**1 ELECTRICAL POWER PLAN**  
SCALE: 1/4" = 1'-0"

- GENERAL NOTES**  
(NOT ALL NOTES APPLY)
1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
  2. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
  3. PROVIDE AND INSTALL 3/4" CONDUIT AND PULL STRINGS FROM TELEPHONE DATA OUTLETS TO ABOVE ACCESSIBLE CEILING. VERIFY EXACT REQUIREMENTS WITH TELEPHONE EQUIPMENT SUPPLIER AND/OR TENANT.
  4. ALL RECEPTACLES AND COVER PLATES TO BE STAINLESS STEEL.
- KEYED NOTES:**
1. LIGHTING CONTROL INTENT FOR THIS ZONE IS FOR FIXTURES TO BE MANUAL 'ON' / AUTO 'OFF' WITH MANUAL OVERRIDE AVAILABLE VIA THE WALL SWITCH.
  2. LIGHTING CONTROL INTENT FOR THIS ZONE IS FOR FIXTURES TO BE AUTO 'ON' / AUTO 'OFF' WITH MANUAL OVERRIDE AVAILABLE VIA THE WALL SWITCH.



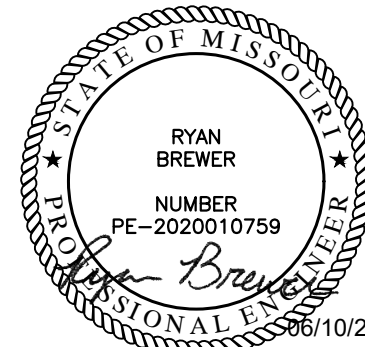
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# 3RD STREET DISPENSARY - ADDITION

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## E201

ISSUE DATE: 10 JUNE, 2022  
COLLINS WEBB #: 22038

**PERMIT SET**

**ELECTRICAL  
POWER &  
LIGHTING PLAN**



- ## GENERAL NOTES

1. THIS RISER DIAGRAM REPRESENTS (AS ACCURATELY AS POSSIBLE) THE ELECTRICAL DISTRIBUTION SYSTEM. FIELD VERIFY ALL SIZES OF EQUIPMENT, CONDUCTORS, FUSES, ETC. ALL EQUIPMENT AND CONDUCTORS ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.



SCALE: NO SCALE

FIXT. TYPE	DESCRIPTION & MANUFACTURER OPTIONS	LAMPS		FIXT. VOLT	TOTAL WATTS	FINISH	REMARKS/MOUNTING	NOTES
		NO.	TYPE					
A	4' Lensed LED Strip Fixture	1	LED	UNV	42W	Standard	Surface (Ceiling)	2
	Mfr LITHONIA 42LIN SERIES							
B	Owner Provided Light Fixture	1	LED	UNV	TBD	Coord w/ Architect	Verify	
	Mfr TO BE DETERMINED							
X2	Combination LED Exit Sign and Emergency Light Fixture, Universal Mount, Emergency Battery Pack, Provide Arrows as Indicated.	1	LED	UNV	2W	Standard	Wall/Ceiling/Pendant	1
	Mfr [V]BNLITE#CXCOM-R-U-W DUAL LITE#VC-U-R-W							
X3	LED Emergency Light w/ (2) 2-Watt Adjustable LED Heads and Emergency Battery Backup	2	LED	UNV	5W	White	Surface (Wall/Ceiling)	1
	Mfr [V]BNLITE#TCL-4-W DUAL LITE#RD-4D-42L							

NOTES:

1. Circuit Emergency Battery Packs and Exit Signs to Local Lighting Circuit Ahead of Any Means of Control for Proper Operation.
2. Provide Lensed LED Strip Fixture Similar to Existing Lensed LED Strips in Facility.

FIXTURE TAG	MANUFACTURER	MODEL #	SETTINGS	DESCRIPTION	NOTES
S1	SENSOR SWITCH	WSX SERIES	ON: REFER TO PLAN OFF: REFER TO PLAN	WALL MOUNT OCCUPANCY SENSOR LINE VOLTAGE - SINGLE RELAY	1

**NOTES:**  
 1. COORDINATE ALL MODEL NUMBERS WITH MANUFACTURER PRIOR TO ORDERING. PROVIDE DEVICES TO MEET CONTROL INTENT INDICATED ON THE DRAWINGS.

**NOTES:**

1. COORDINATE ALL MODEL NUMBERS WITH MANUFACTURER PRIOR TO ORDERING. PROVIDE DEVICES TO MEET CONTROL INTENT INDICATED ON THE DRAWINGS

[illegible]

# PANEL P2 (EXISTING)

VOLTAGE/PHASE: 240V/1Ø/3Ø  
BAY SURFNAME: 128A  
BAY SURFNAME: 128A K05

APC VALUE EXISTING  
AC RATED: 1000A  
VOLTAGE/PHASE: 240V/1Ø/3Ø

GROUPS: 80-PHASE (128-122)  
ISOLATED SHROUD BAY NO  
NO (SERIAL IN-TRANCE RATED) NO

LINE	TYPE	ENERGY	HEAT	WELL	COOL	DESCRIPTION	GROUP	1	2	3	4	5	6	7
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
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P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
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P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34
P200	P201	10	3	30	3	3	2	34	2	34	2	34	2	34

BRANCH/CKT RATING (A)	WIRE SIZE (KMG)	MAXIMUM BRANCH CIRCUIT LENGTHS (FT)				
		120V	208V	240V	277V	480V
20A	12	50	100	110	150	250
	10	100	175	200	250	425
	8	150	275	325	375	675
	6	250	450	550	625	1000
	4	500	900	1100	1250	2000
30A	10	50	100	125	150	275
	8	100	175	200	250	400
	6	150	300	350	400	700
	4	275	500	575	650	1000

NOTES:

1. PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.
2. CONDUCTOR SIZES ARE BASED ON MAXIMUM OF 7 CURRENT CARRYING COPPER CONDUCTORS IN A SINGLE STEEL CONDUIT. LIMITS FOR CONDUCTOR LENGTHS SHOWN ARE BASED ON A MAXIMUM OF 3 PERCENT VOLTAGE DROP TO COMPLY WITH THE NEC FOR CIRCUITS LOADED GREATER THAN 64% OF BRANCH BREAKER RATING. THE CONTRACTOR SHALL PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

WIRE SIZES CALLED OUT IN PANEL SCHEDULES DO NOT ACCOUNT FOR VOLTAGE DROP. CONTRACTOR TO INCREASE WIRE SIZES AS REQUIRED UTILIZING VOLTAGE DROP TABLE PROVIDED.



ISSUE DATE: \_\_\_\_\_  
COLLINS WEBB #: \_\_\_\_\_



18000 - ELECTRICAL

GENERAL

DESCRIPTION

DIVISION 16 OF THE SPECIFICATIONS COVERS ALL ELECTRICAL WORK FOR THE PROJECT. WORK SHALL INCLUDE LABOR, MATERIAL AND ACCESSORIES NECESSARY TO ACCOMPLISH THE WORK AS SPECIFIED AND SHOWN ON THE DRAWINGS, INCLUDING CONNECTION AND CHECKOUTS OF EQUIPMENT FURNISHED BY OTHERS (OTHER TRADES, THE OWNER AND OTHER CONTRACTORS), AND TO ALL EQUIPMENT ITEMS AND AS INDICATED ON DRAWINGS OR AS REQUIRED.

THE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS INCLUDING THE GENERAL CONDITIONS, INCLUDING ALL SUPPLEMENTS ISSUED THERETO, INSTRUCTIONS TO BIDDERS, AND OTHERS PERTINENT DOCUMENTS ISSUED BY THE ARCHITECT ARE A PART OF THESE SPECIFICATIONS AND ELECTRICAL DRAWINGS. THIS TRADE SHALL CONSULT THEM FOR INSTRUCTIONS WHICH APPLY. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL LAYOUT AND WORK INCLUDED. ELECTRICIAN SHALL FOLLOW DRAWINGS IN LAYOUT OF THE ELECTRICAL WORK AND CONSULT THE DRAWINGS AND LAYOUTS OF OTHER TRADES TO VERIFY LOCATION AND SPACES IN WHICH WORK WILL BE INSTALLED.

CODES, PERMITS, INSPECTION AND COMMISSIONING

INSTALLATION SHALL COMPLY WITH ALL LAWS APPLYING TO ELECTRICAL WORK IN EFFECT, INCLUDING THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (N.E.C.), THE NATIONAL ELECTRICAL SAFETY CODE, ALL LOCAL GOVERNING CODES AND ORDINANCES, WITH THE REGULATIONS OF THE SERVING ELECTRICAL UTILITY COMPANY. PROVIDE ALL REQUIRED PERMITS AND INCLUDE THE COST OF SAME IN THE COST OF THE PROJECT. OBTAIN AND PAY FOR (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ALL REQUIRED INSPECTIONS AND REVIEWS. PROVIDE FOR AND PAY ALL EXPENSES (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ASSOCIATED WITH LIGHTING AND LIGHTING CONTROLS COMMISSIONING. ALL COMMISSIONING DOCUMENTATION SHALL BE CERTIFIED AND GIVEN TO OWNER AND DESIGN PROFESSIONAL.

QUALITY ASSURANCE

THE FOLLOWING INDUSTRY STANDARDS AS APPLICABLE TO ELECTRICAL WORK SHALL APPLY TO THE WORK OF THIS DIVISION EXCEPT THAT, WHERE THE REQUIREMENTS OF THESE SPECIFICATIONS ARE MORE THAN THE LISTED STANDARD, THESE SPECIFICATIONS SHALL TAKE PRECEDENCE:

UL - UNDERWRITERS' LABORATORIES

NEMA - NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION  
NECA - NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION  
ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE  
ASTM - AMERICAN SOCIETY OF TESTING MATERIALS.

ALL MATERIALS SHALL BE NEW, UL LISTED AND LABELED WHERE LABELED MATERIALS ARE AVAILABLE, UNDAMAGED AND FREE OF DEFECTS AT TIME OF INSTALLATION. MATERIALS OR EQUIPMENT DAMAGED IN SHIPMENT OR OTHERWISE DAMAGED PRIOR TO OR DURING INSTALLATION SHALL NOT BE REPAIRED AT THE JOB SITE, BUT SHALL BE REPLACED WITH NEW MATERIALS. WHEN THE MANUFACTURER'S NAME APPEARS IN THESE SPECIFICATIONS AND DRAWINGS, IT SHALL BE CONSTRUED THAT THE MANUFACTURER HAS TO MEET THE FULL REQUIREMENTS OF THE SPECIFICATIONS AND DRAWINGS.

SUBMITTALS

SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT TO THE ARCHITECT FOR ENGINEER'S REVIEW ELECTRONICALLY OR HARD COPIES, INCLUDE SUFFICIENT INFORMATION TO INDICATE COMPLETE COMPLIANCE WITH SPECIFICATIONS. PROVIDE SUBMITTALS AS EARLY AS REQUIRED TO SUPPORT THE PROJECT SCHEDULE. ALLOW ONE WEEK FOR ENGINEER REVIEW TIME. THE ENGINEER'S SUBMITTAL REVIEWS WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN DIMENSIONS, DETAILS, SIZE OF MEMBERS, OR QUANTITIES, OR FOR OMITTING COMPONENTS OR FITTINGS, OR FOR NOT COORDINATING ITEMS WITH ACTUAL BUILDING CONDITIONS AND/OR OTHER TRADES.

OWNER RECORDS

ACCUMULATE DURING THE PROGRESS OF THE JOB, THE FOLLOWING DATA IN DUPLICATE, AND PREPARE IN A NEAT BROCHURE OR PACKET FOLDER TO BE TURNED OVER TO THE OWNER AT SUBSTANTIAL COMPLETION. RECORD DRAWINGS PER ABOVE.

ALL WARRANTIES, GUARANTEES, AND MANUFACTURER'S DIRECTION ON EQUIPMENT & MATERIAL FURNISHED.

COMPLETE PLAIN ENGLISH STEP-BY-STEP OPERATING INSTRUCTIONS FOR THE ELECTRICAL SYSTEM. ONE COPY OF THE INSTRUCTIONS SHALL BE FRAMED AND POSTED AS DIRECTED ON THE PREMISES.

CERTIFIED LIGHTING AND LIGHTING CONTROLS COMMISSIONING AS REQUIRED BY CURRENTLY ADOPTED ENERGY CODE REQUIREMENTS.

MANUFACTURERS' NAMES AND CATALOG NUMBERS

IN SOME INSTANCES, SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURERS NAME AND MODEL OR CATALOG NUMBERS. USE OF NAMES AND CATALOG NUMBERS DOES NOT INDICATE THAT THE EQUIPMENT SPECIFIED IS NECESSARILY AN "OFF THE SHELF" ITEM. VARIANCES MAY BE DUE TO REQUIREMENT OF DESIRED FINISH, MATERIAL OR OTHER MODIFICATION.

IN THE CASE OF PANELBOARDS, SAFETY SWITCHES AND OTHER EQUIPMENT REQUIRING WIRE AND CABLE TERMINATIONS, ASCERTAIN THAT LUG SIZES AND WIRING GUTTERS OR WIRING SPACE ALLOWED IS PROPER FOR THE WIRES AND CABLES CONTAINED THEREIN.

WHEN APPROVAL IS GIVEN FOR THE USE OF EQUIPMENT DEFERRING FROM THAT SHOWN ON DRAWINGS IN REGARD TO FOUNDATIONS, SPACE FOR PIPING, OUTWORK, WIRING, INSULATION, ETC. CHANGES REQUIRED TO ACCOMPLISH SUCH DIFFERENCES SHALL BE ACCOMPLISHED AT NO COST TO THE OWNER.

PROTECTION OF EQUIPMENT

ELECTRICAL EQUIPMENT SHALL BE PROTECTED FROM THE WEATHER. IN PARTICULAR, DRIPPING OR SPLASHING WATER, AT ALL TIMES DURING SHIPMENT, STORAGE AND CONSTRUCTION, MANUFACTURERS RECOMMENDATIONS WITH REGARD TO STORAGE, PROTECTION, AND HANDLING SHALL BE FOLLOWED.

SHOULD ANY APPARATUS BE SUBJECTED TO POSSIBLE INJURY DUE TO WATER, IT SHALL BE THOROUGHLY DRIED AND PUT THROUGH A DIELECTRIC TEST, AT THE EXPENSE OF THE CONTRACTOR, TO ASCERTAIN THE SUITABILITY OF THE APPARATUS OR IT SHALL BE REPLACED WITHOUT ADDITIONAL COST TO THE OWNER.

DAMAGED OR DEFECTIVE EQUIPMENT: INSPECT ALL ELECTRICAL EQUIPMENT AND MATERIALS PRIOR TO INSTALLATION. INSTALLATION OR PLACEMENT INTO SERVICE OF DAMAGED MATERIALS WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER IS PROHIBITED. REPLACE OR REPAIR TO NEW CONDITION AS CERTIFIED BY THE MANUFACTURER, AND TEST DAMAGED EQUIPMENT IN COMPLIANCE WITH INDUSTRY STANDARDS AT NO ADDITIONAL COST TO THE OWNER. EQUIPMENT REQUIRED FOR THE TESTING SHALL BE PROVIDED BY THE CONTRACTOR.

WORKING CLEARANCE

THE SIZE OF ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON DIMENSIONS OF A PARTICULAR MANUFACTURER. (GENERALLY THE FIRST NAMED), WHILE OTHER MANUFACTURERS MAY BE ACCEPTABLE. IT IS THE RESPONSIBILITY OF THE TRADE TO DETERMINE IF THE EQUIPMENT PROPOSED WILL FIT IN THE ALLOCATED SPACE.

INSTALL ALL EQUIPMENT IN A MANNER TO PERMIT ACCESS TO ALL SURFACES. MAINTAIN PROPER CLEARANCE TO MEET ALL SAFETY AND OPERATING CODES, PARTICULARLY N.E.C. INCLUDE ALL REQUIREMENTS DICTATED BY OPERATION, CONTROL, ADJUSTMENT, MAINTENANCE AND POSSIBLE REPLACEMENT OF EQUIPMENT IN DETERMINING CLEARANCE.

SHOULD THERE BE APPARENT VIOLATIONS OF N.E.C. CLEARANCE, NOTIFY THE ARCHITECT-ENGINEER BEFORE PROCEEDING WITH CONNECTION OR PLACEMENT OF EQUIPMENT.

COORDINATION

INSTALLATION STUDIES ARE REQUIRED TO COORDINATE THE ELECTRICAL WORK WITH THE WORK OF OTHER TRADES. PREPARE COORDINATION DRAWINGS AT ACCURATE SCALE WHERE SEVERAL ELEMENTS OF ELECTRICAL OR COMBINED MECHANICAL/STRUCTURAL/ELECTRICAL WORK MUST BE SEQUENCED AND POSITIONED WITH PRECISION IN ORDER TO FIT INTO THE AVAILABLE SPACE.

SHOW THE ACTUAL PHYSICAL DIMENSIONS REQUIRED FOR PROPER INTEGRATION OF EQUIPMENT WITH BUILDING SYSTEMS.

PROVIDE APPROVED SHOP DRAWINGS TO ALL REQUIRED DISCIPLINES AND VERIFY FINAL ELECTRICAL CHARACTERISTICS BEFORE ROUGHING POWER FEEDS TO ANY EQUIPMENT. WHEN ELECTRICAL DATA ON APPROVED SHOP DRAWINGS DIFFERS FROM CONTEMPLATED DESIGN, MAKE NECESSARY ADJUSTMENTS TO THE WIRING, DISCONNECTS, AND BRANCH-CIRCUIT PROTECTION FOR THE EQUIPMENT ACTUALLY INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

DAMAGE FROM INTERFERENCE CAUSED BY INADEQUATE COORDINATION SHALL BE RECTIFIED AT NO ADDITIONAL COST TO THE OWNER.

WORKMANSHIP

ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.

ANY MATERIAL ITEMS OR WORK NOT SHOWN ON THE DRAWINGS, BUT MENTIONED IN THESE SPECIFICATIONS OR VISA-VERSA, OR ANY ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS, ARE READY FOR OPERATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.

THIS TRADE SHALL DO OR HAVE DONE BY COMPETENT TRADESMEN ALL CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF THIS WORK. NO CUTTING IN CONSTRUCTIVE PARTS OF THE BUILDING LIKELY TO IMPAIR ITS STRENGTH SHALL BE DONE WITHOUT THE ARCHITECT-ENGINEER'S WRITTEN APPROVAL.

EXCAVATION AND BACKFILL

EXCAVATION, TRENCHING AND BACKFILLING ARE SPECIFIED IN SECTION EXCAVATION - TRENCHING AND BACKFILLING FOR UTILITIES. CONDUIT IS TO BE INSTALLED AS SPECIFIED FOR PIPELINES. CONDUIT INSTALLED BENEATH FLOOR SLAB SHALL BE A MINIMUM OF 6" BELOW SLAB. BACKFILL OVER CONDUIT SHALL BE COMPACTED AS FOR SLAB BEDDING MATERIAL. REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF CONDUIT (PIPE) PENETRATION OR EXTERIOR FOOTINGS. COMPLETE INSTALLATION SHALL CONFORM TO N.E.C.

PENETRATIONS

COORDINATE SLEEVE SELECTION AND APPLICATION WITH SELECTION AND APPLICATION OF FIRE-STOPPING SPECIFIED IN ARCHITECTURAL SPECIFICATIONS.

ROOFS: COORDINATE ALL ROOF PENETRATIONS WITH ENGINEER, OWNER, AND AS APPLICABLE, THE ROOFING CONTRACTOR PROVIDING A ROOF WARRANTY. KEEP ALL RACEWAY PENETRATIONS WITHIN MECHANICAL EQUIPMENT CURBS WHEREVER POSSIBLE. COORDINATE WITH DIVISION 15. FLASH AND COUNTERFLASH ALL OPENINGS THROUGH ROOF, AND/OR PROVIDE PRE-FABRICATED MOLDED SEALS COMPATIBLE WITH THE ROOF CONSTRUCTION INSTALLED, OR AS REQUIRED BY THE ENGINEER, OWNER, OR ROOFING CONTRACTOR. ALL ROOF PENETRATIONS SHALL BE LEAKTIGHT AT THE TERMINATION OF THE WORK AND SHALL NOT VOID ANY NEW OR EXISTING ROOF WARRANTIES.

WALLS AND FLOORS - SLEEVES FOR RACEWAYS AND CABLES: STEEL PIPE SLEEVES: ASTM A 53/A 53M, SIZE E, GRADE B, SCHEDULE 40, GALVANIZED STEEL, PLAIN ENDS AND DRP RINGS.

CAST IRON PIPE SLEEVES: CAST OR FABRICATED "WALL PIPE," EQUIVALENT TO DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL SATERSTOP, UNLESS OTHERWISE INDICATED.

FIRESTOPPING: FIRE RESISTANT THROUGH PENETRATION SEALANTS - TWO PART, FOAMED-IN-PLACE, SILICONE SEALANT FORMULATED FOR USE IN THROUGH-PENETRATION FIRE-STOPPING AROUND CABLES, RACEWAYS, AND CABLE TRAY PENETRATIONS THROUGH FIRE-RATED WALLS AND FLOORS. SEALANTS AND ACCESSORIES SHALL HAVE FIRE-RESISTANCE RATINGS INDICATED, AS ESTABLISHED BY TESTING IDENTICAL ASSEMBLIES IN ACCORDANCE WITH ASTM E 814, BY UNDERWRITERS' LABORATORIES, INC. OR OTHER NRTL ACCEPTABLE TO AIA.

ACCEPTABLE MANUFACTURERS: -HLTI, INC., 3M CORP. RECTORSEAL, SPECIFY TECHNOLOGY INC., UNITED STATES GYPSUM COMPANY.

ELECTRICAL SERVICE

SERVICE SHALL BE AS SHOWN ON DRAWINGS.

PROVIDE SECONDARY SERVICE INTO THE BUILDING WITH CONDUIT AND WIRING AS SHOWN ON THE PLANS, INCLUDING, BUT NOT LIMITED TO, UNDERGROUND RACEWAYS AND CABLES AND SECONDARY CONNECTIONS TO UTILITY TRANSFORMERS AS REQUIRED BY SERVING ELECTRICAL UTILITY COMPANY. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY PRIOR TO BID.

PROVIDE ALL REQUIRED GROUNDING FOR A COMPLETE SERVICE ENTRANCE GROUNDING SYSTEM. PERMANENTLY AND EFFECTIVELY GROUND AND BOND THE ELECTRICAL INSTALLATION IN A THOROUGH AND EFFICIENT MANNER, AND IN CONFORMANCE (AT A MINIMUM) WITH N.E.C. OR THESE DOCUMENTS, WHERE THEY EXCEED CODE REQUIREMENTS. USE BARE OR INSULATED CONDUCTORS, AS SPECIFIED HEREIN, AND OTHER MATERIALS INDICATED ON THE DRAWINGS.

PROVIDE ALL NECESSARY ENCLOSURES REQUIRED BY THE OWNER FOR THE UTILITY COMPANY METERING. REFER TO DRAWINGS FOR MINIMUM REQUIREMENTS. COORDINATE WITH UTILITY COMPANY PRIOR TO BID FOR ALL REQUIREMENTS.

PRODUCTS

GENERAL

ALL EQUIPMENT OF A PARTICULAR KIND, SUCH AS WIRING DEVICES AND PANELBOARDS AND ALL LIGHTING FIXTURES OF THE SAME TYPE, SHALL BE THE PRODUCT OF THE SAME MANUFACTURER.

PROVIDE ACCESS PANELS FOR ALL EQUIPMENT AND DEVICES REQUIRING SUCH PANELS. SIZE AS REQUIRED FOR PROPER ACCESS AND MAINTENANCE, MINIMUM ACCEPTABLE IS 12 IN BY 12 IN CLEAR OPENING WHERE HAND ACCESS ONLY IS REQUIRED.

PROVIDE LABELS FOR EACH MOTOR CONTROLLER, SAFETY SWITCH, RELAY, PANELBOARD, CONTACTOR, TIMER, CONTROL DEVICE, METER AND CIRCUIT BREAKER. LABELS SHALL BE LAMINATED, PHENOLIC STRIPS 1/16" THICK, AND ENGRAVED TO SHOW BLACK LETTERS ON A WHITE BACKGROUND NOT LESS THAN 1/4" HIGH. SIZE STRIPS TO PROPERLY FIT MANUFACTURER'S BRACKETS AND BE LEGIBLE. WHERE MANUFACTURER'S BRACKETS ARE NOT PROVIDED, MOUNT LABELS WITH PROPER SCREWS, OR AN APPROVED ADHESIVE.

RACEWAYS

CONDUIT, RIGID STEEL: GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.1. FITTINGS SHALL BE PIPE THREADED, MALLEABLE IRON. CONNECTORS SHALL BE INSULATED THROAT TYPE.

CONDUIT, PVC: POLYVINYLCHLORIDE SCHEDULE 40 PIPE SPECIFICALLY MANUFACTURED AND LABELED (UL STANDARD 651) FOR USE AS ELECTRICAL CONDUIT. FITTINGS SHALL BE EITHER SOCKET WELDED TYPE OR PIPE THREADED WITH INSULATED THROAT.

CONDUIT, FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED SPIRALLY WOUND STEEL STRIP WITH GALVANIZED OR SHERADIZED FITTINGS, LISTED TYPE UL-L. FITTINGS SHALL BE OF THE SQUEEZE TYPE WITH INSULATED THROATS.

CONDUIT, LIQUIDTIGHT FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED SPIRALLY WOUND STEEL STRIP WITH OVERALL JACKET OF LIQUID TIGHT PVC. UL LISTED. FITTINGS SHALL BE STEEL, OR MALLEABLE IRON INSULATED THROAT, WATER-TIGHT.

ELECTRIC METALLIC TUBING: GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.3. FITTINGS 1/2 INCH THROUGH 2 INCH CONDUCTOR FOR NO. 10 AWG AND SMALLER; CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL FEEDER CONDUCTORS NO 8 AWG AND LARGER, STRANDED, TYPE THHN-2 OR XHHW-2 INSULATION.

CONDUCTORS AND CABLES

GENERAL: SERVICE (LATERALS AND) PANELBOARD FEEDERS SHALL BE OF ANNEALED (SOFT) COPPER COMPLYING WITH ICA S-95-658NEMA WC70; SOLID CONDUCTOR FOR NO. 10 AWG AND SMALLER; CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL BRANCH CIRCUIT CONDUCTORS NO 8 AWG AND LARGER; STRANDED, TYPE THHN-2 OR XHHW-2 INSULATION. ALL CONDUCTORS, NO 10 AWG AND SMALLER, USED FOR POWER AND LIGHTING CIRCUITS; SOLID COPPER, TYPE THHN-2 INSULATION (WET OR DAMP LOCATIONS, OR IN CONDUIT BELOW GRADE OR SLAB); TYPE THHN INSULATION (DRY LOCATIONS ONLY ABOVE GRADE), OR DUAL RATED TYPE THHN/THWN-2. ALL BRANCH CIRCUIT WIRING SHALL NOT BE SMALLER THAN NO 12 AWG. IF NO CONDUCTOR SIZE IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE CONDUCTORS AND CONDUIT SIZED PER NFPA 70 AND BASED ON THE INDICATED BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE RATING AND NUMBER OF POLES. WHERE NO CIRCUIT SIZE (CONDUCTORS AND OVERCURRENT PROTECTIVE DEVICE) IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE THREE NO 12 AWG CONDUCTORS IN 3/4" RACEWAY, AND A 20A SINGLE POLE CIRCUIT BREAKER.

CONDUCTOR INSULATION TYPES: 90-DEGREE C-RATED, TYPE THHN/THWN-2 OR XHHW-2 COMPLYING WITH ICA S-95-658NEMA WC70, AS APPLICABLE. THE ROOFING CONTRACTOR PROVIDING A ROOF WARRANTY. KEEP ALL RACEWAY PENETRATIONS WITHIN MECHANICAL EQUIPMENT CURBS WHEREVER POSSIBLE. COORDINATE WITH DIVISION 15. FLASH AND COUNTERFLASH ALL OPENINGS THROUGH ROOF, AND/OR PROVIDE PRE-FABRICATED MOLDED SEALS COMPATIBLE WITH THE ROOF CONSTRUCTION INSTALLED, OR AS REQUIRED BY THE ENGINEER, OWNER, OR ROOFING CONTRACTOR. ALL ROOF PENETRATIONS SHALL BE LEAKTIGHT AT THE TERMINATION OF THE WORK AND SHALL NOT VOID ANY NEW OR EXISTING ROOF WARRANTIES.

COLORS FOR 208/120V CONDUCTORS  
PHASE A: BLACK  
PHASE B: RED  
PHASE C: BLUE  
NEUTRAL: WHITE  
EQUIPMENT GROUND: GREEN  
ISOLATED GROUND: GREEN WITH YELLOW STRIPE

COLORS FOR 480/277V CONDUCTORS  
PHASE A: BROWN  
PHASE B: ORANGE  
PHASE C: YELLOW  
NEUTRAL: WHITE  
EQUIPMENT GROUND: GREEN

UNLESS NOTED OTHERWISE, SPECIAL PURPOSE CONDUCTORS AND CABLES, SUCH AS LOW VOLTAGE CONTROL AND SHIELDED INSTRUMENTATION WIRING, SHALL BE AS RECOMMENDED BY THE SYSTEM EQUIPMENT MANUFACTURER.

CONTROL WIRING: STRANDED COPPER CONDUCTORS, 600V INSULATION, OF THE PROPER TYPE, SIZE AND NUMBER AS REQUIRED TO ACCOMPLISH SPECIFIED FUNCTION. MINIMUM SIZE, NO. 14 AWG UNLESS NOTED OTHERWISE.

MC TYPE CABLE CAN BE USED IF ACCEPTED BY LOCAL AUTHORITY AND GOVERNING CODES FOR WHPs FROM JUNCTION BOX TO LIGHT FIXTURES ONLY. TYPE MC CABLE: 600V, UNJACKETED, ANSI E119 AND E914, UL STANDARDS 44 OR 83 (AS APPLICABLE), AND 1569, NFPA TO ARTICLE 330; ALUMINUM OR GALVANIZED STEEL INTERLOCKED ARMOR, THHN- OR XHHW-INSULATED CONDUCTORS; COLOR CODE: ICEA METHOD 1, WITH GREEN INSULATED GROUNDING CONDUCTOR.

PROVIDE A DEDICATED EQUIPMENT-GROUNDING CONDUCTOR, OR BONDING JUMPER, AS APPLICABLE, IN ALL BRANCH CIRCUITS AND FEEDERS, SIZED IN ACCORDANCE WITH NFPA 70, UNLESS INDICATED AS LARGER ON THE DRAWINGS.

PROVIDE A DEDICATED NEUTRAL (WHERE REQUIRED) AND DEDICATED GROUNDING CONDUCTOR FOR EACH CIRCUIT.

VOLTAGE DROP IN BRANCH CIRCUITS SHALL NOT EXCEED 2%.

GFCI CIRCUITS: DO NOT USE MULTI-CONDUCTOR CIRCUITS, WITH A SHARED NEUTRAL FOR ANY GFCI CIRCUIT BREAKER OR RECEPTACLE CIRCUIT. BRANCH CIRCUITS FED FROM GFCI CIRCUIT BREAKERS, LIMIT THE ONE-WAY CONDUCTOR LENGTH TO 100 FEET BETWEEN THE PANELBOARD AND THE MOST REMOTE RECEPTACLE OR LOAD ON THE GFCI CIRCUIT.

BOXES

OUTLET BOXES: GALVANIZED PRESSED STEEL WITH GALVANIZED STEEL EXTENSION RINGS OR PLASTER RINGS OR THE RINGS TO PROVIDE EXPOSED SURFACE FLUSH WITH WALL OR CEILING FINISH. PROVIDE ALL CEILING OUTLET BOXES WITH "NO-BOLT" OR THROUGH AND LOCKNOTTED TYPE FIXTURE STUDS.

JUNCTION AND PULL BOXES: FABRICATE IN ACCORDANCE WITH NEMA AND N.E.C. STANDARDS AND REQUIREMENTS INSOFAR AS MATERIAL, GAUGES, DIMENSIONS, AND FABRICATION METHODS. BOXES SHALL BEAR THE UL LABEL. WHERE BOXES ARE NOT SIZED ON THE DRAWINGS, THEY SHALL BE SIZED IN ACCORDANCE WITH N.E.C. REQUIREMENTS. FINISH IN STANDARD GRAY ENAMEL, WITH SIDES AND BACK SPOT-WELDED IN POSITION AND THE REMOVABLE SCREW COVER MOUNTED WITH BRASS MACHINE SCREWS.

WIRING DEVICES

SWITCHES: HEAVY DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE-POLE, DOUBLE-POLE, THREE-POLE, OR FOUR-WAY AS NOTED ON DRAWINGS OR AS REQUIRED FOR THE SWITCHING ARRANGEMENTS IN EACH SPACE. HUBBELL #HBL122" OR EQUAL. COORDINATE SWITCH COLORS WITH COVERPLATES AS DESCRIBED BELOW UNDER PLATES". SINGLE RECEPTACLE, 20 AMPERE, 120 VOLT, SPECIFICATION GRADE, HUBBELL #5382" OR EQUAL.

RECEPTACLES: THREE WIRE GROUNDING TYPE, 120 VOLT, RATED, SPECIFICATION GRADE 20 AMPERES DUPLEX (UNLESS NOTED OTHERWISE ON DRAWINGS. HUBBELL #5382" OR EQUAL. COORDINATE RECEPTACLE COLOR WITH COVERPLATE AS DESCRIBED BELOW UNDER PLATES". SINGLE RECEPTACLE, 20 AMPERE, 120 VOLT, SPECIFICATION GRADE, HUBBELL #5382" OR EQUAL.

DUST AND MOISTURE RESISTANT, MELAMINE BODY, GRAY NYLON FACE BACKED BY FABRIC REINFORCED NEOPRENE GASKET SLIT TO PROVIDE WIPING ACTION ON CAP BLADES. PASS & SEYMOUR #5307 OR APPROVED EQUAL. GROUND FAULT CIRCUIT INTERRUPTER, NYLON FACE CLASS A, NEMA 5-20R, SPECIFICATION GRADE, HUBBELL #GF-5382" OR EQUAL.

CORROSION RESISTANT, SIMILAR AND APPROVED EQUAL, TO STANDARD RECEPTACLE, EXCEPT FABRICATED FROM YELLOW MELAMINE PLASTIC WITH YELLOW NYLON FACE AND EXPOSED METAL PARTS FINISHED TO RESIST CORROSION, (NEMA 5-15R + HUBBELL #520M61).

ISOLATED GROUND, DUPLEX OR SIMPLEX THREE WIRE GROUNDING TYPE, SPECIFICATION GRADE, ORANGE FACE, GROUND CONTACT FULLY ISOLATED FROM STRAP AND EQUIPPED WITH SCREW TERMINAL. HUBBELL #IG-5382" OR EQUAL.

RECEPTABLES, SPECIAL PURPOSE: SPECIAL PURPOSE OUTLETS SHALL BE AS SCHEDULED ON DRAWINGS.

PLATES: PROVIDE PLATES FOR ALL OUTLET BOXES. PLATES SHALL BE OF SUITABLE CONFIGURATION FOR THE NUMBER AND TYPE OF DEVICES SERVED, SHALL BE ONE PIECE, SHALL OVERLAP OUTLET BOX EDGE AND ROOM SURFACES, AND SHALL BE SMOOTH FINISH NYLON TYPE OF SAME MANUFACTURER AS THE WIRING DEVICES. VERIFY DESIRED MATERIALS AND COLORS WITH ARCHITECT PRIOR TO INSTALLATION.

STANDARD INTERIOR: IVORY FINISHED ON LIGHT COLORED WALLS - COORDINATE ALL COLORS WITH ARCHITECT

INTERIOR DAMP LOCATIONS: STAINLESS STEEL.

EXTERIOR LOCATIONS: FOR UNATTENDED WET LOCATIONS, PROVIDE IN-USE NEMA 3R, UL LABELED PLATES MOLDED FROM A CLEAR HIGH IMPACT ULTRAVIOLET STABILIZED POLYCARBONATE MATERIAL FOR EASY VERIFICATION THAT COROS ARE PLUGGED IN AND THAT THE GFCI IS FUNCTIONING. COVER PLATES SHALL BE BY THE SAME MANUFACTURER AS THE WIRING DEVICES; COMPLYING WITH NFPA 70 408.4 (A) OR (B) REQUIREMENTS FOR ATTENDED OR UNATTENDED USE AS APPLICABLE.

ACCEPTABLE MANUFACTURERS: HUBBELL, PASS & SEYMOUR, LEVITON AND COOPER.

CABINETS AND ENCLOSURES

FURNISH AND INSTALL FLUSH CABINETS AND ENCLOSURES AS SHOWN ON THE PLANS AND AS HEREIN SPECIFIED. UNIT SHALL BE PROVIDED WITH DEAD FRONT SUB PANEL, RECESSED AS REQUIRED, TO HOUSE CONTROLS. DOOR SHALL BE PROVIDED WITH CONCEALED HINGES AND FLUSH KEY OPERATED LOCK. DOOR AND TRIM SHALL BE PRIME PAINTED FOR FIELD PAINTING TO MATCH WALL FINISHES. PROVIDE KNOCK-OUTS, LOUVERS AND IDENTIFICATION ENGRAVING AS REQUIRED TO MEET FIELD CONDITIONS. EXACT BACKBOX SIZE TO BE COORDINATED WITH EQUIPMENT SUPPLIER.

CIRCUIT DISCONNECTS

SAFETY SWITCHES: SAFETY SWITCHES SHALL CONSIST OF A BOX, FRONT COVER, AND CIRCUIT PROTECTOR DEVICE ALL MANUFACTURED AND ASSEMBLED IN ACCORDANCE WITH NEMA STANDARDS

THE BOX SHALL BE FABRICATED FROM CODE GAUGE GALVANIZED SHEET STEEL IN ACCORDANCE WITH UL LISTING AND LABEL. THE CIRCUIT PROTECTOR DEVICE SHALL BE HEAVY DUTY, QUICK-MAKE, QUICK-BREAK FUSED OR UNFUSED SWITCH RATED FOR MOTOR CIRCUITS AND/OR SERVICE ENTRANCE DUTY. IF REQUIRED, UNITS SHALL BE FURNISHED FOR SURFACE OR FLUSH MOUNTING WITH EITHER GENERAL PURPOSE OR RAINWHTG ENCLOSURES, AS REQUIRED. FUSED UNITS SHALL BE FURNISHED COMPLETE WITH PROPER FUSES.

PANELBOARDS SHALL CONSIST OF BOX, INTERIOR, FRONT, AND CIRCUIT PROTECTIVE DEVICES. THE ASSEMBLY SHALL BE UL LABELED AND BE LISTED FOR SERVICE. THE ASSEMBLY SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH NEMA STANDARD PB-1, THE LATEST UL STANDARD (UL-50) AND SHALL HAVE A TURNED EDGE AROUND THE FRONT FOR RIGIDITY AND FOR CLAMPING ON FRONT. PROVIDE STANDARD KNOCKOUTS ON REMOVABLE BOX ENDS. FABRICATE FROM SHEET STEEL, AND FINISH WITH BASED ON GRAY ENAMEL OVER RUST INHIBITOR. EACH FRONT SHALL HAVE A DOOR MOUNTED ON SEMI-CONCEALED HINGES WITH A CYLINDER LOCK, INDEX CARD CIRCUIT DIRECTORY MOUNTED BEHIND CLEAR PLASTIC AND HELD IN A METAL FRAME, AND CONCEALED TRIM CLAMPS FOR MOUNTING TO THE BOX. ALL LOCKS SHALL BE MASTER KEYED AND ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN.

ALL INTERIORS SHALL BE COMPLETELY FACTORY ASSEMBLED. THE DESIGN OF THE INTERIOR SHALL PERMIT REPLACEMENT OF INDIVIDUAL BRANCH BREAKERS WITHOUT DISTURBING ADJACENT UNITS AND WITHOUT MACHINE DRILLING OR TAPPING. BUS BARS FOR PANELS RATED 600 AMPERES OR MORE SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OR TIN FINISH ALUMINUM (57% CONDUCTIVITY) OF RECTANGULAR CROSS-SECTION. BUS BARS FOR PANELS RATED LESS THAN 600 AMPERES SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OR RECTANGULAR CROSS-SECTION. BUS BAR CONNECTIONS TO BRANCH CIRCUIT BREAKERS SHALL BE THE PHASE SEQUENCE TYPE AND ACCEPT BOLT-ON TYPE BREAKERS ONLY. PANELBOARD BUS STRUCTURE AND MAIN BREAKER OR MAIN LUGS SHALL BE RATED AS SCHEDULED ON DRAWING. SUCH RATINGS SHALL BE ESTABLISHED BASED ON HEAT RISE TESTS IN ACCORDANCE WITH UL STANDARDS. GROUP INCOMING CABLE LUGS AT ONE END FOR SEPARATION FROM LOAD SIDE CABLES. EQUIPMENT NEUTRAL BUSSING WITH A LUG FOR EACH BRANCH BREAKER POSITION. INTERIOR SHALL MOUNT TO BOX WITHOUT TOOLS.

BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, BOLT-ON THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKERS ONE, TWO OR THREE POLE WITH INTEGRAL CROSSBAR FOR MULTI-POLE UNITS. EQUIPPED WITH AN OVERCENTER, TRIP-FREE, TOGGLE-TYPE OPERATING ACTION AND POSITIVE HANDLE INDICATION OF BREAKER STATUS. CIRCUIT BREAKERS SHALL BE UL LISTED IN ACCORDANCE WITH UL STANDARDS.

EACH PANELBOARD, AS A COMPLETE UNIT, SHALL HAVE A SHORT CIRCUIT RATING EQUAL TO OR GREATER THAN THE INTEGRATED EQUIPMENT RATING SHOWN ON DRAWINGS. THE RATING SHALL BE ESTABLISHED BY TESTING WITH THE OVERCURRENT DEVICES MOUNTED IN THE PANELBOARD. THE SHORT CIRCUIT TESTS ON THE OVERCURRENT DEVICES ON THE STRUCTURE SHALL BE MADE SIMULTANEOUSLY BY CONNECTING THE FAULT TO EACH OVERCURRENT DEVICE WITH THE PANELBOARD CONNECTED TO ITS RATED SUPPLY VOLTAGE.

REFER TO PANELBOARD SCHEDULES FOR FULLY RATED OR SERIES-RATED REQUIREMENTS. SERIES-RATED SYSTEMS ARE NOT ALLOWED UNLESS SPECIFICALLY INDICATED ON PANELBOARD SCHEDULES. WHERE ALLOWED, SERIES-RATED SYSTEMS SHALL BE PROPERLY LABELED BY NEC REQUIREMENTS.

METHOD OF TESTING SHALL BE PER UL STANDARDS. PANELBOARDS SHALL BE MARKED WITH THEIR MAXIMUM SHORT CIRCUIT CURRENT RATING AT THE SUPPLY VOLTAGE.

APPROVED MANUFACTURERS: SQUARE-D CO. OR EQUAL BY GE, SIEMENS AND/OR Eaton.

OVERCURRENT PROTECTIVE DEVICES  
FUSES OF THE PROPER SIZE, RATING AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED IN EACH FUSIBLE DEVICE. FUSES OF 600 VOLTS AND BELOW SHALL BE UL CLASS RK-1, CURRENT-LIMITING, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERE RMS SYMMETRICAL INTERRUPTING CAPACITY ON NON-MOTOR CIRCUITS AND UL CLASS RK-5, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERES RMS SYMMETRICAL INTERRUPTING CAPACITY ON MOTOR CIRCUITS.

APPROVED MANUFACTURERS: BUSSMANN, LITTELFUSE OR FERRAZ-SHAWMUT (ALL FUSES SHALL BE OF SAME MANUFACTURER TO ENSURE SELECTIVE COORDINATION).

CIRCUIT BREAKERS: CIRCUIT BREAKERS OF THE PROPER SIZE, RATING, AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED WHERE CALLED FOR ON DRAWINGS. BREAKERS SHALL BE THERMAL-MAGNETIC MOLDED CASE WITH QUICK-MAKE, QUICK-BREAK, OVER CENTER TOGGLE TYPE MECHANISM AND TRIP-FREE HANDLE MECHANISM. THE BREAKER SHALL BE ENCLOSED IN A SUITABLE NEMA RATED ENCLOSURE. BREAKERS SHALL BE OF SAME MANUFACTURER AS THOSE IN THE PANELBOARDS.

TIMESWITCHES

ELECTRONIC TIME SWITCHES: ELECTRONIC, SOLID STATE PROGRAMMABLE UNITS WITH ALPHANUMERIC DISPLAY; COMPLYING WITH UL917, SPST, 30 AMPERE INDUCTIVE OR RESISTIVE, 240VAC, CONTACT RATING, 2 PROGRAMMABLE ON-OFF SET POINTS ON A 24-HOUR SCHEDULE, ALLOWING DIFFERENT SET POINTS FOR EACH DAY OF THE WEEK. ALLOW CONNECTION OF A PHOTOELECTRIC RELAY AS SUBSTITUTE FOR ON-OFF FUNCTION OF A PROGRAM. ASTRONOMIC TIME ON ALL CHANNELS. BATTERY BACKUP FOR SCHEDULES AND TIME CLOCK.

OUTDOOR PHOTOELECTRIC SWITCHES

SOLID STATE, WITH SPST DRY CONTACT RATED FOR 1800-VA TUNGSTEN OR 1000-VA INDUCTIVE, TO OPERATE CONNECTED RELAY, CONTACT COILS OR MICROPROCESSOR INPUT, COMPLYING WITH UL 773A.

TELEPHONE AND DATA SYSTEMS

FURNISH AND INSTALL A SYSTEM OF PROPERLY SIZED AND PROPERLY LOCATED OUTLETS WITH ASSOCIATED CONNECTING CONDUIT RINGS, EXTENDING TO PULL BOXES AND TELEPHONE BACKBOARD. FURNISH AND INSTALL RACEWAYS, FOR INCOMING SERVICE WHERE INDICATED.

OUTLET BOXES: UNLESS OTHERWISE INDICATED, ALL TELEPHONE OUTLETS AND JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO ACCOMMODATE INTERNAL TERMINAL STRIPS BY TELEPHONE CO.

OUTLET COVER PLATES: TELEPHONE OUTLET COVER PLATES SHALL MATCH THOSE SPECIFIED FOR ADJACENT WIRING DEVICES, INCLUDING THOSE WITH SPECIAL FINISHES.

RACEWAYS: MATERIALS FOR TELEPHONE RACEWAY SYSTEM WORK SHALL BE IN ACCORDANCE WITH CORRESPONDING RACEWAYS SPECIFIED HEREIN AND IN OTHER SECTIONS.

VERIFY LOCATION OF WALL OUTLETS BEFORE ROUGHING IN TO ENSURE COORDINATION WITH OWNERS FINAL INTENDED FURNITURE LAYOUT. PLAN INDICATIONS SHALL NOT BE SCALED UNLESS DIRECTED. OUTLETS SHALL BE RELOCATED WITHIN ROOMS BEFORE ROUGHAN WHERE DIRECTED BY ARCHITECT-ENGINEER WITHOUT ADDITIONAL COST TO OWNER.

TELEPHONE SERVICE CONDUIT LAYOUT SHALL HAVE THE JOB SITE APPROVAL OF AN AUTHORIZED REPRESENTATIVE OF THE TELEPHONE CO. COORDINATE WORK SO THAT BOTH TELEPHONE CO. AND OWNERS REPRESENTATIVES ARE PRESENT AT THE SAME TIME FOR APPROVAL OR CHANGES IN AMPLT TIME FOR ANY REQUIRED CORRECTIONS BEFORE COMPLETION OF PROJECT.

FROM EACH TELEPHONE OUTLET, PROVIDE 3/4" EMT CONDUIT CONCEALED IN WALL TO 6" ABOVE ACCESSIBLE CEILING OR UP TO STRUCTURE WHERE NO CEILING EXISTS, UNLESS SHOWN OTHERWISE ON DRAWINGS.

TELEPHONE TERMINAL BOARD: PRIOR TO INSTALLATION OF TELEPHONE TERMINAL BOARD, THE EXACT LOCATION SHALL BE VERIFIED WITH THE TELEPHONE CO. THE TELEPHONE TERMINAL BOARD SHALL BE PROVIDED WITH A DOUBLE DUPLEX RECEPTACLE LOCATED WHERE INDICATED ON THE DRAWINGS. THE TERMINAL BOARD SHALL BE CONSTRUCTED OF 4" X 8" X 3/4" PLYWOOD WITH TWO (2) COATS OF FLAME RETARDANT PAINT UNLESS NOTED OTHERWISE ON DRAWINGS.

LIGHTING

FIXTURES ARE SPECIFIED IN THE SCHEDULE BY MANUFACTURER'S NAME AND CATALOG NUMBER.

ALL RECESSED LIGHT FIXTURES SHALL BE PROVIDED WITH FACTORY INSTALLED THERMAL PROTECTION.

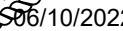
ALL LAMPS USED ON THIS PROJECT SHALL BE NEW, DELIVERED TO THE JOB SITE IN THE ORIGINAL PACKING CASES AND SLEEVES AND SHALL BE OF THE SAME MANUFACTURER.

PROVIDE FLUORESCENT FIXTURES WITH ELECTRONIC BALLASTS SUITABLE FOR OPERATION OF LAMPS SPECIFIED; TOTAL HARMONIC DISTORTION LESS THAN 20%; FREQUENCY OF OPERATION OF 20 KHZ OR GREATER WITH NO VISIBLE FLICKER; LINE TRANSIENT WITHSTAND RATINGS AS DEFINED IN ANSI/IEEE CATEGORY A, APPROVED MANUFACTURERS: ADVANCE OR EQUAL BY MAGNETEK, MOTOROLA OR OSRAM.

HD BALLASTS SHALL BE AUTO TRANSFORMER REACTOR, HIGH POWER FACTOR POTTED AND ENCASED TO MINIMIZE SOUND. APPROVED MANUFACTURERS: GE, SYLVANIA, OR OSRAM.

LED LIGHT FIXTURES ARE TO BE PROVIDED WITH COMPATIBLE DRIVER AND MUST BE COORDINATED WITH CONTROL TYPE INDICATED. CONTRACTOR IS RESPONSIBLE TO ENSURE CONTROLS ARE CAPABLE





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## ELECTRICAL SPECIFICATIONS

# 3RD STREET DISPENSARY - ADDITION

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**REVISION DATES:**

REVISION DATES

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MECHANICAL ABBREVIATIONS	
(ALPHABETICAL BY ABBREVIATION)	
ABBREVIATION	LONG FORM
ABV	ABOVE
AC OR ACU	AIR-CONDITIONING UNIT
AHAP	AS HIGH AS POSSIBLE
AHU	AIR-HANDLING UNIT
AUTO	AUTOMATIC
BLW	BELOW
C	CHILLER
CD	CONDENSATE
CF	CABINET FAN
CFM	CUBIC FEET PER MINUTE
CH	CABINET HEATER
CHP	CHILLED WATER PUMP
CLNG OR CLG	CEILING
CONC	CONCRETE
CP OR CWP	CONDENSER WATER PUMP
CS	CONDENSER WATER SUPPLY
CR	CONDENSER WATER RETURN
CRAC OR CACU	COMPUTER ROOM AIR-CONDITIONING UNIT
CRF	CHILLER ROOM EXHAUST FAN
CRU	CONDENSATE (STEAM) RETURN UNIT
CT	COOLING TOWER CELL
CTU	CONDENSATE (STEAM) TRANSFER UNIT
CU	CONDENSING UNIT
DV	CONSTANT VOLUME TERMINAL BOX
DEF	DISHWASER EXHAUST FAN
DMR	DAMPER
DN	DOWN
EA	EACH
EBH	ELECTRIC BASEBOARD HEATER
EDH	ELECTRIC DUCT-MOUNTED HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
ELH	ELECTRIC UNIT HEATER
EXH	EXHAUST
FD	FIRE DAMPER
FCU	FAN-COIL UNIT
FF	FINAL FILTER
FFCH	FORCED-FLOW CABINET HEATER
FFU	FAN FILTER UNIT
FP	FAN POWERED TERMINAL BOX
GPM	GALLONS PER MINUTE
HC	HEATING COIL
HUM	HUMIDIFIER
HWP OR HP	HEATING WATER PUMP
HX	HEAT EXCHANGER
KEF	KITCHEN (GREASE HOOD) EXHAUST FAN
KW	KILOWATTS
LD	LINEAR SUPPLY DIFFUSER
MOT	MOTORIZED
MTD	MOUNTED
MJAF	MAKE-UP AIR FAN
MJAHU	MAKE-UP AIR-HANDLING UNIT
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OPG OR OPNG	OPENING

NOT ALL ABBREVIATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

MECHANICAL ABBREVIATIONS CONT.	
(ALPHABETICAL BY ABBREVIATION)	
ABBREVIATION	LONG FORM
PF	PRE-FILTER
PLNM	PLENUM
RA	RETURN AIR
RAF	RETURN AIR FAN
RAG OR RG	RETURN AIR GRILLE
RAR OR RR	RETURN AIR REGISTER
RAS	RETURN AIR SILENCER
RE	IN REFERENCE TO
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SAF OR SF	SUPPLY AIR FAN
SAG OR SG	SUPPLY AIR GRILLE
SAR OR SR	SUPPLY AIR REGISTER
SAS	SUPPLY AIR SILENCER
SCHP	SECONDARY CHILLED WATER PUMP
SD	SMOKE DAMPER OR DETECTOR
SPCHP	SPECIAL PROCESS CHILLED WATER PUMP
TA	THROW AWAY (FILTER TYPE)
TOEF	TRUCK DOCK EXHAUST FAN
TEF	TOILET EXHAUST FAN
TRANS	TRANSITION OR TRANSFER
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VF	VENTILATION FAN
VFD	VARIABLE FREQUENCY DRIVE
V V	VARIABLE VOLUME TERMINAL BOX
WI	WITH
XFMR OR TFM	TRANSFORMER
XT OR EX	EXPANSION TANK

NOT ALL ABBREVIATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

DUCTWORK LEGEND		
(REFER TO SPECIFICATIONS SECTIONS 15B15 AND 15B20 FOR ADDITIONAL INFORMATION)		
SINGLE LINE	DESCRIPTION	DOUBLE LINE
	ROUND ELBOW DOWN	
	ROUND ELBOW UP	
	OFFSET TO CHANGE ELEVATION (AT 30° WHEN POSSIBLE. ARROW SLOPES DN, U.N.O.)	
	ROUND RADIUS ELBOW	
	90° STRAIGHT TEE	
	90° CONICAL TEE	
	45° LATERAL TAP	
	45° LATERAL CONICAL TEE	
	SIZE OR SHAPE TRANSITION	
	SPECIAL PROCESS CHILLED WATER DUCT	
	RECTANGULAR ELBOW DOWN	
	RECTANGULAR ELBOW UP	
	OFFSET TO CHANGE ELEVATION (AT 30° WHERE POSSIBLE. ARROW SLOPES DN, U.N.O.)	
	RECTANGULAR RADIUS ELBOW	
	RECTANGULAR ELBOW WITH TURNING VANES	
	SPLIT BRANCH TAKE-OFF WITH SQUARE ELBOW & SPLITTER DAMPER	
	SPLIT BRANCH TAKE-OFF WITH RADIUS ELBOW & SPLITTER DAMPER	
	SPLIT BRANCH TAKE-OFF TEE WITH STATIONARY SPLITTER DAMPER	
	BRANCH TAKE-OFF WITH 45° LEAD IN TAP	
	INSULATED LINED DUCTWORK (U.N.O.)	
	SQUARE FACED CEILING DIFFUSER 4-WAY DIRECTIONAL THROW (U.N.O.)	
	ROUND FACED CEILING DIFFUSER	
	CEILING RETURN OR EXHAUST AIR GRILLE OR REGISTER	
	SIDEALL SUPPLY GRILLE OR REGISTER	
	SUPPLY DUCT RISER	
	RETURN, EXHAUST OR OUTSIDE AIR DUCT RISER	
	MANUAL BALANCING DAMPER	
	AUTOMATIC (MOTOR-OPERATED) DAMPER	
	FIRE DAMPER	
	GRAVITY BACKDRAFT DAMPER	
	COMBINATION FIRE AND SMOKE DAMPER WITH SMOKE DETECTOR	
	SMOKE DAMPER (AUTOMATIC) WITH SMOKE DETECTOR	
	DUCT MOUNTED SMOKE DETECTOR	

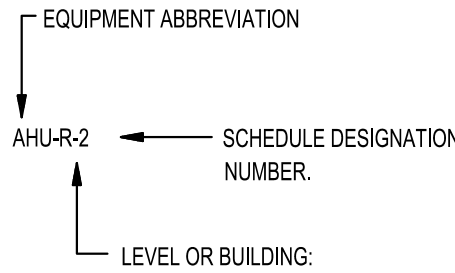
NOT ALL SYMBOLS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

STANDARD MECHANICAL SYMBOLS	
SYMBOL	DESCRIPTION
	GATE VALVE
	BALL VALVE
	GLOBE VALVE
	BUTTERFLY VALVE
	PLUG VALVE
	ANGLE VALVE
	CHECK VALVE
	AUTOMATIC CONTROL VALVE (STRAIGHT THROUGH)
	AUTOMATIC CONTROL VALVE (3-WAY)
	AUTOMATIC CONTROL VALVE (ANGLE)
	AUTOMATIC CONTROL VALVE (STRAIGHT THROUGH)
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	GAUGE COCK
	PRESSURE GAUGE WITH GAUGE COCK
	THERMOMETER
	THERMOMETER WELL
	TEST PLUG
	FLOW METER
	TEMPERATURE SENSOR
	PRESSURE SENSOR
	DIFFERENTIAL PRESSURE SWITCH
	IMMERSION THERMOSTAT
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	FLOW SWITCH
	ORIFICE
	PIPE SLEEVE THRU WALL OR FLOOR
	EXPANSION JOINT
	FLEXIBLE PIPE JOINT
	PIPE GUIDE
	ANCHOR
	STRAINER (Y-TYPE)
	STRAINER (BASKET TYPE)
	UNION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	DIRECTION OF FLOW
	DIRECTION OF SLOPE
	THERMOSTAT
	HUMIDISTAT
	FAN SPEED CONTROLLER
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	CONDENSATE DRAIN

NOT ALL SYMBOLS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

OTHER SYMBOLS	
SYMBOL	DESCRIPTION
	INDICATES CONNECTION TO EXISTING DUCT OR PIPE

### GENERAL EQUIPMENT DESIGNATION KEY:



- ### MECHANICAL GENERAL NOTES
- PRIOR TO SUBMITTING BID, VISIT THE SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND ALL OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
  - COORDINATE THE INSTALLATION OF MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. DUCTWORK AND PIPING SHALL BE ROUTED TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC.
  - TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION DURING WORK. REPAIR ANY DAMAGE CAUSED DURING CONSTRUCTION AT NO COST TO THE OWNER.
  - ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
  - NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING IS SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND SHALL MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. FIELD VERIFY FINAL LOCATIONS TO INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
  - REFER TO ARCHITECTURAL DRAWINGS FOR ALL RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. CHASE AND PENETRATIONS INTENDED FOR DUCTWORK AND PIPING SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.
  - COORDINATE LOCATION OF ROOF PENETRATIONS WITH THE EXISTING CONDITIONS AND ARCHITECTURAL DRAWINGS.
  - SEAL ALL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS. FIREPROOF ALL PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
  - COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL, AND DUCT INSTALLATION REQUIREMENTS.
  - LOCATION OF CEILING DIFFUSERS, REGISTERS, AND GRILLES SHALL BE ADJUSTED AS REQUIRED TO ACCOMMODATE FINAL CEILING AND LIGHTING LOCATIONS.
  - DUCTWORK CROSSING FIRE RATED WALL OR OTHER FIRE RATED ASSEMBLIES SHALL BE MINIMUM 26 GAUGE SHEET METAL.
  - PROVIDE FIRE AND/OR FIRE/SMOKE DAMPERS IN DUCTWORK AT CEILINGS AND WALLS AS REQUIRED BY BUILDING CODE AUTHORITY HAVING JURISDICTION. FIRE AND FIRE/SMOKE DAMPERS SHALL CONFORM TO NFPA AS APPLICABLE.
  - PROVIDE WALL AND/OR DUCT ACCESS PANELS OR DOORS FOR ACCESS TO ALL FIRE AND/OR FIRE/SMOKE DAMPERS. ACCESS PANEL OR DOOR SHALL BE MINIMUM SIZE OF 6"x6" AND SHALL BE INSTALLED WITH 12" OF DAMPER. PROVIDE A REMOVABLE DUCT SECTION WHERE DUCT SIZE IS TOO SMALL FOR A 6"x6" ACCESS DOOR.
  - THERMOSTATS AND HUMIDISTATS SHALL BE LOCATED AND SET BY MECHANICAL CONTRACTOR AND WIRED IN CONDUIT BY ELECTRICAL CONTRACTOR. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNTING HEIGHTS SHALL BE 48" AFF TO MEET ADA REQUIREMENTS UNLESS OTHERWISE NOTED ON PLANS.
  - COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH ANY WALL MOUNTED ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF ANY WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.
  - ALL BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS, AND GRILLES SHALL HAVE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR ROUND BRANCH DUCT TAKE-OFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT.
  - BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.
  - RIGID DUCTWORK INSULATION: PROVIDE R-4 MINIMUM INSULATION WRAP ON ALL CONCEALED DUCTWORK. PROVIDE R-4 MINIMUM INTERNAL DUCT LINER ON ALL EXPOSED DUCTWORK. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE DIMENSIONS. SHEET METAL SIZES SHALL INCREASE ACCORDINGLY. PROVIDE R-12 MINIMUM INSULATION ON ALL DUCTWORK INSTALLED IN UNCONDITIONED SPACES. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
  - FLEXIBLE DUCT WORK SHALL BE THERMAFLEX TYPE MKE, FLEXMASTER TYPE BM, OR APPROVED EQUAL, SHALL BE LISTED UNDER 181 AS CLASS 1 AIR DUCT AND SHALL BE PROVIDED WITH INTEGRAL R-4 MINIMUM FIBERGLASS INSULATION. FLEXIBLE DUCTWORK SHALL NOT EXCEED 150' IN LENGTH AND SHALL BE INSTALLED AND SUPPORT TO AVOID SHARP BENDS AND SAGGING.
  - WALL MOUNTED DIFFUSERS AND GRILLES SHALL BE PROVIDED WITH SUITABLE MOUNTING FRAME TO MATCH WALL CONSTRUCTION. COORDINATE WITH ARCHITECTURAL DRAWINGS.



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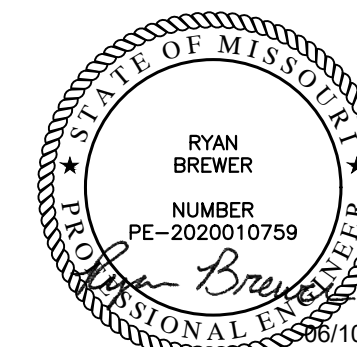
## 3RD STREET DISPENSARY - ADDITION

510 SW 3rd St., Lee's Summit, MO 64063

PERMIT SET

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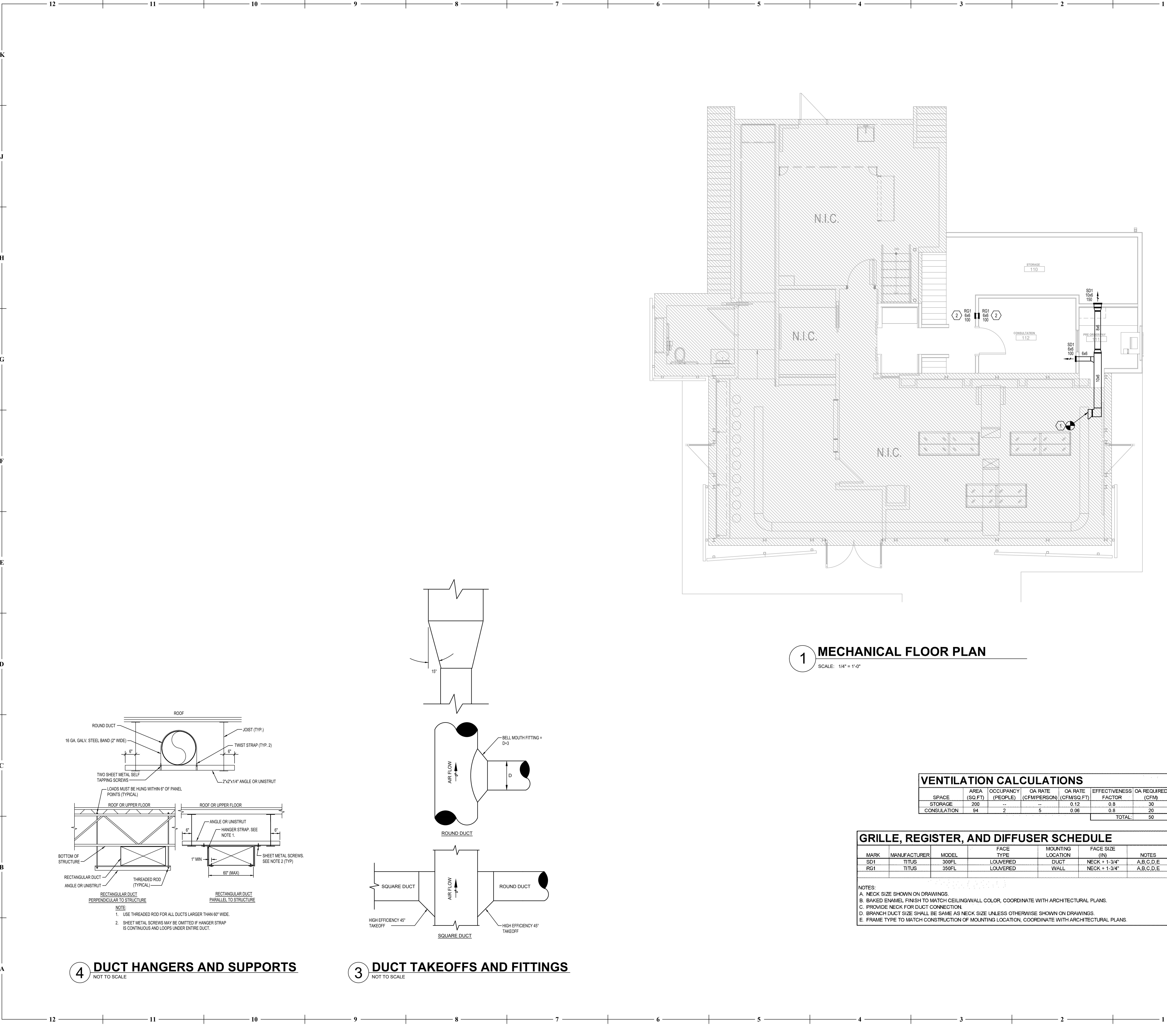
PROFESSIONAL SEAL

M101

ISSUE DATE: 10 JUNE, 2022  
COLLINS WEBB #: 22038

MECHANICAL  
NOTES, SYMBOLS  
& ABBREVIATIONS





## GENERAL NOTES

(NOT ALL NOTES APPLY)

1. REFERENCE SHEET M101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.

## KEYED NOTES:

1. CONNECT NEW SUPPLY DUCTWORK TO SERVE EXPANDED SPACE TO EXISTING SUPPLY DUCT. REBALANCE EXISTING SYSTEM AS REQUIRED. FIELD VERIFY EXACT LOCATION.

2. MOUNT GRILLE AS HIGH AS POSSIBLE.

## MECHANICAL FLOOR PLAN

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

## VENTILATION CALCULATIONS

SPACE	AREA (SQ.FT)	OCCUPANCY (PEOPLE)	OA RATE (CFM/PERSON)	OA RATE (CFM/SQ.FT)	EFFECTIVENESS FACTOR	OA REQUIRED (CFM)
STORAGE	200	--	0.12	--	0.8	30
CONSULTATION	94	2	5	0.06	0.8	20
TOTAL:						50

## GRILLE, REGISTER, AND DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	NOTES
SD1	TITUS	300FL	LOUVERED	DUCT	NECK + 1-3/4"	A,B,C,D,E
RG1	TITUS	350FL	LOUVERED	WALL	NECK + 1-3/4"	A,B,C,D,E

NOTES:

A. NECK SIZE SHOWN ON DRAWINGS.

B. BAKED ENAMEL FINISH TO MATCH CEILING/WALL COLOR, COORDINATE WITH ARCHITECTURAL PLANS.

C. PROVIDE NECK FOR DUCT CONNECTION.

D. BRANCH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.

E. FRAME TYPE TO MATCH CONSTRUCTION OF MOUNTING LOCATION, COORDINATE WITH ARCHITECTURAL PLANS.

## DUCT HANGERS AND SUPPORTS

NOT TO SCALE

## DUCT TAKEOFFS AND FITTINGS

NOT TO SCALE



**15000 - BASIC MECHANICAL REQUIREMENTS**

DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND ALL OTHER SPECIFICATION SECTIONS, APPLY TO THIS AND THE OTHER SECTIONS OF DIVISION 15.

READ THE SPECIFICATIONS AND REVIEW DRAWINGS FOR ALL DIVISIONS OF WORK AND COORDINATE AND THE WORK OF SUBCONTRACTORS WITH ALL DIVISIONS OF WORK. PROVIDE SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS.

SCHEDULE THE COMPLETION AND INSPECTION OF WORK AND THE WORK OF SUBCONTRACTORS WORK TO COMPLY WITH THE SCHEDULE AND THE PROJECT COMPLETION DATE.

VISIT THE SITE PRIOR TO SUBMITTAL OF BID TO DETERMINE CONDITIONS AFFECTING THE WORK. ANY ITEMS WHICH ARE NOT COVERED IN THE BID DOCUMENTS OR ANY PROPOSED SUBSTITUTIONS SHALL BE LISTED SEPARATELY AND QUALIFIED IN THE BID. SUBMITTAL OF BID SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. FAILURE TO VISIT THE SITE DOES NOT RELIEVE RESPONSIBILITY IN PERFORMANCE OF WORK.

READ ALL RELEVANT DOCUMENTS, BECOME FAMILIAR WITH THE JOB, SCOPE OF WORK, TYPE OF GENERAL CONSTRUCTION, AND THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS. ALSO UNDERSTAND THE PURPOSE FOR WHICH THESE DOCUMENTS HAVE BEEN PREPARED AND BECOME COGNIZANT OF ALL THE DETAILS INVOLVED. COORDINATE WORK WITH THAT OF OTHERS.

**DEFINITIONS:**

FURNISH - PURCHASE AND DELIVER TO PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT.

INSTALL - UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT.

PROVIDE - FURNISH AND INSTALL.

**GENERAL REQUIREMENTS**

PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE A COMPLETE MECHANICAL SYSTEM AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS. ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE OTHERS SHALL BE PROVIDED. CLOSELY COORDINATE THE ENTIRE INSTALLATION WITH THE ARCHITECT-ENGINEER, AS REQUIRED.

THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR BY ONE SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK, AND WHICH IS USUALLY INCLUDED IN WORK OF SIMILAR CHARACTER, SHALL BE FURNISHED AND INSTALLED AS PART OF CONTRACT.

WHERE THE DRAWINGS OR SPECIFICATIONS CALL FOR ITEMS WHICH EXCEED CODES OR THE OWNERS CRITERIA, PROVIDE THE SYSTEM WITH THE MORE STRINGENT REQUIREMENTS AS DESIGNED AND DESCRIBED ON THESE DRAWINGS, UNLESS SPECIFICALLY NOTED OTHERWISE.

ALL MECHANICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING, AND REPAIRING. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT SERVICE ACCESS TO ALL EQUIPMENT.

ALL WORK SHALL BE PERFORMED IN A NEAT PROFESSIONAL MANNER USING GOOD ENGINEERING PRACTICES.

UNLESS SPECIFICALLY NOTED OTHERWISE, MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW, UNDERWRITERS LABORATORIES LISTED AND LABELED AND SIZED IN CONFORMITY WITH REQUIREMENTS OF STATE AND LOCAL CODES, WHICHEVER IS MORE STRINGENT.

**CODES**

ALL WORK SHALL CONFORM TO THE OWNERS CRITERIA, THE STATES, COUNTY'S, CITY'S AND LOCAL CODES AND ORDINANCES, SAFETY AND HEALTH CODES, NFPA CODES, ENERGY CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. INQUIRE INTO AND COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. INCLUDE ANY CHANGES REQUIRED BY CODES IN THE BID AND IF THESE CHANGES ARE NOT INCLUDED IN THE BID, THEY MUST BE QUALIFIED AS A SEPARATE LINE ITEM IN THE BID. AFTER CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE ISSUES SHALL BE REBURSED BY THE OWNER.

**LICENSES, PERMITS, COMMISSIONING, INSPECTIONS & FEES**

OBTAIN AND PAY FOR ALL LICENSES, PERMITS, COMMISSIONING, INSPECTIONS, AND FEES REQUIRED OR RELATED TO THIS WORK.

PROVIDE TO THE OWNER/ARCHITECT A COMMISSIONING PLAN, PRELIMINARY COMMISSIONING REPORT, FINAL COMMISSIONING REPORT, AND CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

**TRADE NAMES, MANUFACTURERS AND SHOP DRAWINGS**

WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM FOR THE BASE BID. MANUFACTURERS CONSIDERED AS AN EQUAL, OR BETTER IN ALL ASPECTS TO THAT SPECIFIED WILL BE SUBJECT TO APPROVAL IN WRITING BY ARCHITECT-ENGINEER PRIOR TO BID THROUGH SHOP DRAWING SUBMITTAL PROCESS. FOR ACCEPTANCE PRIOR TO INSTALLATION, ANY CHANGES TO ELECTRICAL SERVICE, STRUCTURAL FRAMING, ETC. OR ANY OTHER MODIFICATION THAT IS REQUIRED BY THE USE OF AN ALTERNATE EQUIPMENT SHALL BE COORDINATED WITH OTHER TRADES AND SHALL INCLUDE ALL COSTS IN BID FOR THE REQUIRED CHANGES. THE USE OF THE USE OF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT NO EXPENSE TO THE OWNER.

**GUARANTEE**

GUARANTEE ALL MATERIALS AND WORK PROVIDED UNDER THIS CONTRACT AND MAKE GOOD, REPAIR OR REPLACE AT NO EXPENSE TO THE OWNER, ANY DEFECTIVE WORK, MATERIAL, OR EQUIPMENT WHICH MAY BE DISCOVERED WITHIN A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE IN WRITING OF THE INSTALLATION. EXTENDED WARRANTIES ARE AS SPECIFIED WITH INDIVIDUAL EQUIPMENT.

**QUALITY ASSURANCE**

INDUSTRY STANDARDS AND CODES: UNLESS MODIFIED BY THESE SPECIFICATIONS, THE DESIGN, MANUFACTURER, TESTING AND METHOD OF INSTALLING ALL MATERIALS, APPARATUS AND EQUIPMENT SHALL CONFORM TO THE FOLLOWING:

1. AIR CODE FOR REFRIGERATION APPARATUS
2. ANSI B31.1 SAFETY CODE FOR MECHANICAL REFRIGERATION
3. STANDARDS OF NATIONAL FIRE PROTECTION ASSOCIATION
4. SMACNA
5. ASHRAE

**RECORD DRAWINGS**

MAINTAIN ONE COPY OF DRAWINGS ON THE JOB SITE TO RECORD DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS: LOCATION OF CONCEALED PIPING VALVES AND DUCTS, REVISIONS, ADDENDUMS, AND CHANGE ORDERS, AND SIGNIFICANT DEVIATIONS MADE.

NECESSARY BY FIELD CONDITIONS, APPROVED EQUIPMENT SUBSTITUTIONS, AND CONTRACTORS COORDINATION WITH OTHER TRADES.

AT COMPLETION OF THE PROJECT AND BEFORE FINAL APPROVAL, MAKE ANY FINAL CORRECTIONS TO DRAWINGS AND CERTIFY THE ACCURACY OF EACH PRINT BY SIGNATURE. PROVIDE A SET OF REPRODUCIBLE DRAWINGS ALONG WITH ONE SET OF BLUEPRINTS OF THE MOST RECENT SET OF DRAWINGS WITH TEMPERATURE CONTROL DRAWINGS INCLUDED SHALL BE DELIVERED TO THE ARCHITECT UPON COMPLETION OF THE WORK AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

**DISCREPANCIES AND DOCUMENTS**

DRAWINGS, PLANS, SPECIFICATIONS, AND DETAILS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS. WHERE DRAWINGS, EXISTING SITE CONDITIONS, SPECIFICATIONS OR OTHER TRADES CONFLICT OR ARE UNCLEAR, ADVISE THE ARCHITECT-ENGINEER IN WRITING, OF VARIATIONS TO CONTRACT DOCUMENTS PRIOR TO SUBMISSION OF BID. OTHERWISE, ARCHITECT-ENGINEERS INTERPRETATION OF CONTRACT DOCUMENTS OR CONDITIONS SHALL BE FINAL WITH NO ADDITIONAL COMPENSATION PERMITTED.

**PHASING REQUIREMENTS**

INCLUDE IN BID ALL NECESSARY SERVICE REQUIRED TO KEEP THE OPERATING PHASE OF THE PROJECTS HVAC, PLUMBING AND SPRINKLER SERVICE IN OPERATION. IF APPLICABLE, SCHEDULE IN WRITING WITH ARCHITECT ONE WEEK PRIOR TO ANY SHUT DOWN OF THE HVAC, PLUMBING OR FIRE PROTECTION SYSTEMS.

**DEMOLITION**

COORDINATE THE DEMOLITION OF EXISTING WORK AND THE DEMOLITION PROVIDED BY OTHER. COORDINATE ANY EXISTING EQUIPMENT REQUIRED TO BELIEF INTACT.

VERIFY SCOPE OF AND THE REMOVAL OF ALL EXISTING FIRE PROTECTION, PLUMBING FIXTURES, PIPING, HVAC UNITS, REFRIGERANT RECAPTURE, EXHAUST FANS, ETC. AND ASSURE ROOF CURBS NOT TO BE REUSED ON THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE. VERIFY ALL PRESUMED ABANDONED EQUIPMENT, PIPES, DUCTWORK, AND EQUIPMENT PRIOR TO REMOVAL. ROOF CURBS SHALL BE REMOVED AND THE ROOF PATCHED. ALL EXTRANEIOUS ITEMS IN THE SPACE OR ON THE ROOF NOT APPLICABLE TO THE NEW WORK MUST BE REMOVED AND ROOF/FLOOR PATCHED/REPAIRED TO MATCH EXISTING STRUCTURE. EXISTING ABANDONED PIPES, DUCTS, OR EQUIPMENT IN THE FLOOR, EMBEDDED IN CONCRETE, OR OTHERWISE INACCESSIBLE ARE TO BE CUT OFF AND SEALED BELOW OR ON THE FLOOR AT WALL LEVEL. WHEN THEY ARE NOT TO BE REUSED IN THIS PROJECT, ABANDONED PIPING AND/OR DUCTWORK MUST BE REMOVED TO POINT OF ORIGIN. CONFIRM THE EXTENT OF DEMOLITION PRIOR TO BID AND INCLUDE IN BID PROPOSAL.

**CUTTING AND PATCHING**

PERFORM ALL CUTTING AND PATCHING AS REQUIRED FOR THE INSTALLATION OF THE WORK UNDER THIS SPECIFICATION. NO CUTTING OF THE STRUCTURE SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OR ARCHITECT.

PATCHING SHALL BE OF THE SAME WORKMANSHIP, MATERIAL AND FINISH AND SHALL MATCH ACCURATELY ALL SURROUNDING CONSTRUCTION IN A MANNER SATISFACTORY TO THE ARCHITECT.

EXISTING UTILITIES, ETC. THAT ARE DAMAGED DURING THE CONSTRUCTION PERIOD, WHETHER OR NOT DUE TO NEGLIGENCE, SHALL BE REPAIRED OR REPLACED AND LEFT IN A CONDITION SATISFABLE TO THE ARCHITECT.

**SLEEVES**

PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2" ABOVE THE FLOOR. COORDINATE THROUGH THE ARCHITECT ANY CORE DRILLING OR CUTTING OF OPENINGS IN MASONRY FLOORS OR WALLS.

ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS AND/OR FLOORS SHALL BE FIRE SEALED WITH CALCIUM SULFATE, SILICONE RTV, FOAM, 3M FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THEIR FIRE RATING.

SLEEVES IN BEARING AND MASONRY WALLS, FLOORS, AND PARTITIONS SHALL BE STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS, OR FOR CONCEALED VERTICAL PIPING, SLEEVES SHALL BE NO. 22 U.S.G. GALVANIZED STEEL MINIMUM.

**HANGERS**

HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL, SUCH AS ANGLE, IRON, BANDS, CALUMNS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK.

HANGERS SHALL BE FASTENED TO BUILDING STEEL, CONCRETE, OR MASONRY, BUT NOT TO PIPING. HANGING FROM METAL DECK IS NOT PERMITTED. HANGERS MUST BE ATTACHED TO UPPER CHORD OR BAR JOIST, WHERE INTERFERENCES OCCUR, AND IN ORDER TO SUPPORT DUCTWORK OR PIPING, INSTALL TRAPEZOID TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, AND OTHER EQUIPMENT. HANGER TYPES AND INSTALLATION METHODS ARE ALSO SUBJECT TO LANDLORD CRITERIA.

HANGERS FOR ALL INSULATED PIPING SHALL BE SIZED AND INSTALLED FOR THE OUTER DIAMETER OF INSULATION. INSTALL FLONG SPLIT CIRCLE GALVANIZED SADDLE BETWEEN THE HANGER AND THE PIPE INSULATION.

HANGERS AND PIPING OF DISSIMILAR METALS SHALL BE DIELECTRICALLY SEPARATED.

PROVIDE SWAY AND SEISMIC BRACING WHERE REQUIRED BY CODE.

**JOB CONDITIONS**

PROTECT MATERIALS, APPARATUS AND EQUIPMENT FROM DAMAGE, MOISTURE, DIRT, DEBRIS AND WORK OF OTHER TRADES.

**OPERATION MANUALS AND INSTRUCTIONS**

PROVIDE OPERATING AND MAINTENANCE INSTRUCTIONS AT THE COMPLETION OF THE PROJECT. SUBMIT THREE HARD SOUND COPIES TO ARCHITECT.

SCHEDULE A MEETING WITH THE OWNERS REPRESENTATIVE AT THE SITE TO PROVIDE DETAILED INFORMATION ON THE OPERATING AND MAINTENANCE OF EQUIPMENT.

**SUBMITTALS**

SUBMIT WITHIN THIRTY (30) DAYS AFTER THE DATE OF NOTICE TO PROCEED AND BEFORE PURCHASING ANY MATERIALS OR EQUIPMENT. SUBMIT TO THE ARCHITECT FOR REVIEW, A COMPLETE LIST, IN SIX (6) COPIES, OF ALL MATERIALS INCORPORATED IN THE WORK. THIS LISTING SHALL BE ARRANGED BY THE ORDER OF OCCURRENCE IN THE SPECIFICATIONS, FOLLOWED BY THE ITEMS ON THE DRAWING NOT SPECIFICALLY INCLUDED IN THE SPECIFICATIONS.

AFTER THE LIST HAS BEEN PROCESSED BY THE ARCHITECT, SUBMIT COMPLETE SHOP DRAWINGS AND PRODUCT DATA OF ALL EQUIPMENT. THESE SUBMITTALS SHALL BE SUBMITTED WITHIN THIRTY (30) DAYS AFTER THE PROCESSING DATE OF THE ORIGINAL SUBMITTAL LIST. SUBMISSIONS SHALL BE MADE EARLY ENOUGH IN PROJECT TO ALLOW FOR (10) WORKING DAYS FOR REVIEW BY ARCHITECT-ENGINEER WITHOUT CAUSING DELAYS OR CONFLICTS IN THE PROJECT'S PROGRESS.

ALL SUBMITTALS SHALL BE COMPLETE AND SHALL BE IN THREE-RING, LOOSE-LEAF BINDERS, NO CONSIDERATION WILL BE GIVEN TO PARTIAL SUBMITTALS, UNLESS NOTED OTHERWISE BY ARCHITECT.

OTHERWISE BY ARCHITECT. EACH ITEM SHALL HAVE A COVER PAGE STATING PROJECT, SPECIFICATION AND PARAGRAPH REFERENCE NUMBER, OR DRAWING REFERENCE NUMBER, AND SCHEDULED EQUIPMENT IDENTIFICATION NUMBER, IF APPLICABLE.

THE REVIEW OF SUBMITTALS DOES NOT RELIEVE RESPONSIBILITY OF SHOP DRAWINGS AND INSTRUMENTS IN DETAILS, SIZES, QUANTITIES, WIRING DIAGRAM ARRANGEMENTS AND DIMENSIONS WHICH DEViate FROM THE SPECIFICATIONS, CONTRACT DRAWINGS AND/OR JOB CONDITIONS AS THEY EXIST.

IF APPARATUS OR MATERIALS ARE SUBSTITUTED FOR THOSE SPECIFIED UNDER THIS SECTION, AND SUCH SUBSTITUTIONS NECESSITATE CHANGES IN OR ADDITIONAL CONNECTIONS, PIPING SUPPORTS OR CONSTRUCTIONS, SAME SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. ASSUME COST AND ENTIRE RESPONSIBILITY THEREOF ARCHITECT'S PERMISSION TO MAKE SUCH SUBSTITUTION SHALL NOT RELIEVE FULL RESPONSIBILITY FOR WORK.

TEST AND BALANCE REPORT: SUBMIT AT FINAL INSPECTION OPERATION AND MAINTENANCE MANUALS. SUBMIT COPIES IN CONFORMANCE WITH SECTION, OPERATION AND MAINTENANCE MANUALS.

**15400 - HEATING VENTILATION AND A IR CONDITIONING**

**PRODUCTS**

ALL MATERIALS AND EQUIPMENT SHALL BE NEW, SYSTEMS SHALL FUNCTION CORRECTLY AS A WHOLE, AND IN ALL ITS PARTS, UP TO THE SPECIFIED CAPACITY. SYSTEMS OR DEVICES FAILING TO MEET PERFORMANCE REQUIREMENTS SHALL BE REPLACED, ALTERED OR REPAIRED AS REQUIRED TO BRING PERFORMANCE UP TO SPECIFIED REQUIREMENTS. WORK DAMAGED OR HARMED BY SUCH REPLACEMENTS, ALTERATIONS, OR REPAIRS SHALL BE RESTORED TO PRIOR CONDITIONS AT NO ADDITIONAL COST TO THE OWNER. WHERE MULTIPLE ITEMS OF EQUIPMENT OR MATERIALS ARE REQUIRED, THEY SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER, BEFORE ORDERING EQUIPMENT. THE PHYSICAL DIMENSIONS SHALL BE CHECKED TO VERIFY FIT IN SPACES ALLOTTED ON THE DRAWINGS. INSERTS, PIPE SLEEVES, AND SUPPORTS OF AIR CONDITIONING EQUIPMENT SHALL BE PROVIDED AS SPECIFIED. WHERE SUCH ITEMS ARE TO BE SET OR EMBEDDED IN CONCRETE, MASONRY OR SIMILAR WORK, THE ITEMS SHALL BE FURNISHED AT THE PROPER TIME FOR SETTING OR EMBEDMENT SO AS TO CAUSE NO DELAY. DUCTWORK AND EQUIPMENT ASSEMBLIES SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC. ADDITIONAL DUCTWORK AND APPURTENANCES REQUIRED FOR PROPER OPERATION OF EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.

**MANUFACTURERS NAMES AND CATALOG NUMBERS**

SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURERS NAMES AND MODEL OR CATALOG NUMBERS. THIS DOES NOT INDICATE THAT THE MATERIAL AND EQUIPMENT SPECIFIED IS NECESSARILY AN "OFF THE SHELF" ITEM. REQUIREMENTS FOR SPECIFIC FINISHES, MATERIALS OR OTHER MODIFICATIONS MAY INTRODUCE VARIANCES FROM MANUFACTURERS STANDARDS. ASCERTAIN THAT SUCH MODIFICATIONS ARE FULLY CONSIDERED.

**DIAGRAMS, NAMEPLATES AND LABELS**

EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE THE MANUFACTURERS NAME ADDRESS AND CATALOG NUMBER ON A PLATE SETTING OUTWARD IN A CONSPICUOUS PLACE. THE NAMEPLATE OF A DISTRIBUTING AGENT WILL NOT BE ACCEPTED. ALL PIECES OF EQUIPMENT, VALVES, STARTERS, DISCONNECTS, AND ALL PNEUMATIC AND ELECTRIC CONTROL DEVICES AND EQUIPMENT WHICH IS SHALL BE IDENTIFIED WITH THE FOLLOWING: LAMINATED PLATE NAMEPLATES, WITH 3/16" HIGH WHITE LAMINATED LETTERS. SIMILAR AND LIKE EQUIPMENT SHALL BE DESIGNATED WITH NUMERICAL SUFFIX (EXAMPLE: THERMOSTAT 1). THE NAMEPLATE IDENTIFICATIONS SHALL CONFORM WITH ITEMS APPEARING ON DIAGRAMS. PROVIDE A LABEL FOR THE MECHANICAL SYSTEM STATING: (NAME, ADDRESS AND PHONE NUMBER OF CONTRACTOR), LETTERS SHALL BE 1/4" HIGH AND LOCATED IN A CONSPICUOUS PLACE NEAR THE HVAC EQUIPMENT.

**EXECUTION**

**INSTALLATION AND WORKMANSHIP**

THE WORK SHALL BE PERFORMED BY QUALIFIED MECHANICS. ALL MATERIALS, APPARATUS AND EQUIPMENT SHALL BE INSTALLED IN NEAT, WORKMANLIKE MANNER. MATERIALS, DEVICES OR EQUIPMENT WHICH, IN THE OPINION OF THE ARCHITECT-ENGINEER, IS IMPROPERLY INSTALLED SHALL BE REMOVED AND REINSTALLED IN AN APPROVED MANNER AT NO ADDITIONAL COST TO THE OWNER. THE WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES, WHERE THE WORK IS DEPENDENT UPON WORK OF OTHER TRADES OR WORK ALREADY IN PLACE, SUCH OTHER WORK AND WORK IN PLACE SHALL BE EXAMINED AND SHALL BE IN PROPER CONDITION AND STATE OF COMPLETION BEFORE CONTINUING THE INSTALLATION. THE INSTALLATION OF WORK SHALL, IN GENERAL, BE AS HIGH AS POSSIBLE AND LOCATED IN ACCORDANCE WITH THE DRAWINGS. DUCTWORK INDICATED SHALL BE FOLLOWED AS ACCURATELY AS POSSIBLE. ANY NECESSARY DEVIATIONS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT-ENGINEER. THE DRAWINGS SHOWING PROPOSED CHANGES, APPROVAL, IS REQUIRED BEFORE CHANGES SHALL TAKE EFFECT.

**CUTTING AND PATCHING**

CALUMNS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK. CONCRETE OR ANY OTHER STRUCTURAL PART MUST BE APPROVED IN WRITING BY ARCHITECT-ENGINEER PRIOR TO CUTTING.

**WATERPROOFING**

DO NOT CUT OR PENETRATE WATERPROOFED SURFACES, OR WATERPROOFING MEMBRANES, WITHOUT FIRST MAKING ARRANGEMENTS FOR REPAIR BY A METHOD APPROVED BY ARCHITECT-ENGINEER.

PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, LOUVERS, CONDUIT, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DUNNAGE STEEL AS REQUIRED.

**ELECTRICAL WORK**

POWER WIRING FROM PANELS TO MOTOR CONTROLLERS AND FROM CONTROLLERS TO MOTORS IS SPECIFIED IN DIVISION 16. MOTOR STARTERS NOT SPECIFIED TO BE FURNISHED WITH THE MOTORS FROM THE FACTORY ARE SPECIFIED IN DIVISION 16. SUBMIT WIRING DIAGRAMS FOR APPROVAL AND FURNISH APPROVED DIAGRAMS TO THE ELECTRICAL CONTRACTOR FOR COORDINATION. ELECTRICAL CONTROL WIRING FOR CONNECTION OF TEMPERATURE CONTROLLERS, PUSH BUTTONS, INTERLOCKS IN MOTOR CONTROLLERS, AND LIKE ITEMS IS SPECIFIED IN THE CONTROL SECTIONS (S) IN THIS DIVISION. FURNISH ALL EQUIPMENT WITH COMPLETE INTERNAL CONTROL WIRING. ELECTRICAL WORK SPECIFIED IN THIS DIVISION SHALL CONFORM TO APPLICABLE PROVISIONS OF DIVISION 16. ALL CONTROL WIRING SHALL BE IN CONDUIT. PROVIDE MOTORS CONFORMING TO CHARACTERISTICS SHOWN ON ELECTRICAL DRAWINGS.

**ACCESS DOORS (ACCESS PANELS)**

PROVIDE ACCESS REQUIRED FOR MAINTENANCE, ADJUSTMENT, REMOVAL, AND REPAIR OF VALVES, CONTROLS, DAMPERS, EQUIPMENT AND LIKE ITEMS. PROVIDE ACCESS DOORS (ACCESS PANELS) CONFORMING TO REQUIREMENTS OF DIVISION 8 SPECIFICATIONS. PANELS SHALL BE LOCATED TO MAKE ALL ITEMS EASILY ACCESSIBLE.

**CLEAN UP**

REFER TO GENERAL CONDITIONS FOR CLEANUP. CLEAN ALL MATERIALS AND EQUIPMENT OF DIRT, DUST, PAINT, SPOTS AND STAINS, SOIL MARKS AND OTHER FOREIGN MATTER. FINAL INSPECTION

GIVE NOTICE TO THE ARCHITECT-ENGINEER THAT THE WORK IS READY FOR FINAL INSPECTION.

1. SUBMIT TEST AND BALANCE REPORT AND COMPLETE REQUIREMENTS AS NOTED.
2. SUBMIT LETTER FROM CONTROL MANUFACTURER CERTIFYING THAT CONTROLS HAVE BEEN CHECKED FOR OPERATION AND CALIBRATION, AND THAT THE SYSTEM IS OPERATING AS INTENDED.

FURNISH NECESSARY MECHANICS TO OPERATE SYSTEM, MAKE NECESSARY ADJUSTMENTS AND ASSIST WITH FINAL INSPECTION.

**INSTRUCTION OF OWNERS OPERATING PERSONNEL**

INCLUDE THE COST OF THE SERVICES OF QUALIFIED INSTRUCTORS TO INSTRUCT THE OWNERS OPERATING PERSONNEL IN THE OPERATION, ADJUSTMENT, CARE AND MAINTENANCE OF ALL HVAC EQUIPMENT AND SYSTEMS. INSTRUCTION SHALL BE PROVIDED AT A TIME APPROVED BY THE OWNER AND AFTER ALL HVAC EQUIPMENT AND SYSTEMS ARE INSTALLED, COMPLETE, ADJUSTED AND OPERATING TO SPECIFIED REQUIREMENTS. NOTIFY THE ARCHITECT-ENGINEER WHEN INSTRUCTIONS WILL BE GIVEN. QUALIFICATIONS OF INSTRUCTORS SHALL BE SUBJECT TO APPROVAL OF THE ARCHITECT-ENGINEER. ADDITIONAL REQUIREMENTS CONCERNING OPERATION AND MAINTENANCE OF MECHANICAL EQUIPMENT AND SYSTEMS MAY BE SPECIFIED IN OTHER SECTIONS. TWO COPIES OF ACKNOWLEDGMENT OF ALL REQUIRED INSTRUCTIONS TO OWNERS OPERATING PERSONNEL, SIGNED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, SHALL BE SUBMITTED TO THE ARCHITECT-ENGINEER PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT. AN ADDITIONAL COPY OF THIS ACKNOWLEDGMENT IS REQUIRED IN EACH COPY OF OPERATION AND MAINTENANCE MANUALS REQUIRED IN THE SECTION, OPERATION AND MAINTENANCE MANUALS.

**OPERATION AND MAINTENANCE MANUALS**

FURNISH THREE COPIES OF COMPLETE OPERATION AND MAINTENANCE MANUALS TO THE ARCHITECT-ENGINEER, FOR APPROVAL AND FOR THE OWNER, ON ALL EQUIPMENT AND SYSTEMS. THE MANUALS SHALL BE BOUND IN HARD-BACK, THREE RING LOOSE-LEAF BINDERS. MANUALS SHALL CONTAIN A TITLE SHEET WITH JOB NAME AND THE NAMES, ADDRESSES AND PHONE NUMBERS OF THE CONTRACTOR, SUBCONTRACTOR, CONTROL, SUBCONTRACTOR, RELATED CONTRACTORS AND MATERIAL AND EQUIPMENT SUPPLIERS.

A COPY OF ACKNOWLEDGMENT OF INSTRUCTION TO THE OWNERS OPERATING PERSONNEL IN THE OPERATION OF ALL MECHANICAL EQUIPMENT AND SYSTEMS, SIGNED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, TYPEWRITTEN OPERATING INSTRUCTIONS FOR THE OWNERS PERSONNEL, DESCRIBING HOW TO STOP AND START EACH PIECE OF EQUIPMENT, HOW TO SET THE TEMPERATURE CONTROL SYSTEM FOR NORMAL OPERATION AND NORMAL RESTARTING PROCEDURES, CAUTION AND WARNING NOTICES, APPROVED SHOP DRAWINGS, PRODUCT DATA AND PARTS AND MAINTENANCE BOOKLET FOR EACH ITEM OF MATERIAL AND EQUIPMENT FURNISHED UNDER DIVISION 15000. RECORD DRAWINGS OF ALL SYSTEMS INCLUDING ELECTRICAL AND CONTROL DIAGRAMS, TEST AND BALANCE REPORT, COPIES OF CERTIFICATES OF INSPECTION, GUARANTEES, INCLUDING EXTENDED GUARANTEES.

DELIVER THE MANUALS TO THE OWNER PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT.

**HVAC/CHRONIC PIPING**

**CONDENSATE DRAIN**

PROVIDE CONDENSATE DRAINS FOR ALL AIR CONDITIONING UNITS AND PIP AS DENOTED ON DRAWINGS. CONDENSATE DRAIN PIPING SHALL BE INSTALLED WITH TRAP AT THE COIL CONNECTION AND SHALL HAVE A MINIMUM SLOPE OF 1/8" PER FOOT TO THE RESPECTIVE AIR HANDLING UNIT FAN STATIC PRESSURE. DEPTH SHALL BE A MINIMUM OF 2".

**HVAC INSULATION**

**LOW PRESSURE DUCTWORK INSULATION**

EXTERNAL INSULATION SHALL BE R-4 MINIMUM SCHULLER TYPE SMALLTUE, FSK SPIN-GLAS OR APPROVED EQUAL WITH AN EMBOSSED ALUMINUM FOIL FACING. INTERNAL INSULATION SHALL BE R-4 MINIMUM LINER WITH A COATED AIR SIDE SURFACE TO PREVENT RESORPTION. APPLY ADHESIVE AND FASTENERS PER SMACNA AND THE MANUFACTURER. ALL TRANSVERSE EDGES TO BE COATED WITH ADHESIVE. ALL CONCEALED DUCTWORK SHALL HAVE EXTERNAL INSULATION, UNCONCEALED DUCTWORK SHALL BE INTERNALLY LINED. DUCTWORK INSTALLED IN UNCONDITIONED SPACES SHALL BE R-12 MINIMUM SCHULLER TYPE SMALLTUE, FSK SPIN-GLAS OR APPROVED EQUAL, WITH AN EMBOSSED ALUMINUM FOIL FACING.

ALL AIR SUPPLY DIFFUSERS BACKS AND NECKS, SHALL BE INSULATED WITH R-4 MINIMUM MANVILLE E-SERIES SMALLTUE, OR APPROVED EQUAL, FIBERGLASS BAKED INSULATION.

**ADHESIVES, MASTIC, SEALANTS**

ADHESIVES SHALL BE FOSTERS 85-20. STUDIED PINS SHALL BE SEALED WITH FOSTERS 30-28 ADHESIVE. ALL JOINTS, SEAMS AND BREAKS IN THE VAPOR BARRIER SHALL BE SEALED WITH FOSTERS 35-40, REINFORCED WITH A 1/4" WIDE GLASS FABRIC.

**TERMINAL HEAT TRANSFER UNITS**

**DESCRIPTION**

INSTALL AIR CONDITIONING UNITS OF THE CAPACITIES INDICATED, COMPLETE WITH GAS-FIRED HEATING SYSTEM, WHERE INDICATED ON THE DRAWINGS. UNIT SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPLICABLE ASME AND ANSI CODES AND SHALL BE LISTED BY UNDERWRITERS LABORATORIES. UNIT SHALL BE RATED IN ACCORDANCE WITH THE LATEST AIR STANDARD 21, WHERE SPECIFIED OPERATING CONDITIONS ARE OTHER THAN AIR STANDARD CONDITIONS, CAPACITIES SHALL BE INTERPOLATED FROM ARI CONDITIONS.

**MANUFACTURER**

UNITS SHALL BE FRAME LENOX, AAO OR APPROVED EQUAL.

**EXHAUST FANS**

**INLINE EXHAUST FAN**

INSTALL DIRECT DRIVE CENTRIFUGAL INLINE EXHAUST FAN BY GREENHOCK OR APPROVED EQUAL WITH GALVANIZED STEEL, HOUSING BACKWARD INCLINED ALUMINUM WHEEL, ACCESS PANELS, INTEGRAL DUCT CONNECTION FLANGES, BALL BEARING MOTORS, AND CORROSION RESISTANT FASTENERS. FAN SHALL COME INSTALLED WITH NEMA-1 TOGGLE SWITCH, MOUNTED AND WIRED. SOLID STATE SPEED CONTROLLER SHIPPED LOOSE AND PSC MOTOR.

**WATER SOURCE HEAT PUMPS**

**DESCRIPTION**

INSTALL WATER SOURCE HEAT PUMP OF CAPACITIES INDICATED MANUFACTURED BY FLORIDA HEAT PUMP, MOQUAY OR AN APPROVED EQUAL, FACTORY ASSEMBLED AND RATED ACCORDING TO ANSI/ASHRAE-1, GALVANIZED-STEEL, CASING WITH ACCESS PANELS FOR MAINTENANCE AND FILTER REPLACEMENT, KNOCKOUTS FOR ELECTRICAL AND PIPING CONNECTIONS, FLANGED DUCT CONNECTIONS AND CABINET INSULATION OF 1/2" THICK, MULTI DENSITY, COATED GLASS FIBER. THE UNIT SHALL BE DESIGNED TO OPERATE WITH ENTERING FLUID TEMPERATURES BETWEEN 50°F AND 100°F IN COOLING AND BETWEEN 50°F AND 80°F IN HEATING.

THE UNITS SHALL BE WARRANTED BY THE MANUFACTURER AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR ON ALL PARTS AND FIVE (5) YEARS ON COMPRESSOR.

REFRIGERATION CIRCUITS SHALL UTILIZE R-410A. THE UNIT SHALL CONTAIN SEALED REFRIGERANT CIRCUITS INCLUDING HERMETIC COMPRESSORS, THERMAL EXPANSION VALVE, METERING DEVICES, REFRIGERANT DRIER, FINED TUBE AIR-TO-REFRIGERANT HEAT EXCHANGERS, REFRIGERANT DESIGNED VALVES AND SERVICE PORTS. COMPRESSORS SHALL BE HIGH EFFICIENCY, REVERSING FOR HEAT PUMP DUTY, INTERNALLY SPRING ISOLATED (EXCEPT FOR SCROLL TYPE COMPRESSORS) FOR MAXIMUM SOUND ATTENUATION AND MOUNTED ON RUBBER VIBRATION ISOLATORS. COMPRESSOR MOTORS SHALL BE EQUIPPED WITH OVERLOAD PROTECTION. THE FINED TUBE COIL SHALL BE CONSTRUCTED OF LANCED ALUMINUM FINES NOT EXCEEDING 1/16" INGS PER INCH. COILS SHALL HAVE A BAKED POLYESTER ENAMEL COATING FOR PROTECTION AGAINST MOST ABORNE CHEMICALS. THE COAXIAL WATER-TO-REFRIGERANT HEAT EXCHANGERS SHALL BE CONSTRUCTED OF A CONVULATED COPPER INNER TUBE AND STEEL OUTER TUBE WITH A DESIGNED REFRIGERANT WORKING PRESSURE OF 40 PSIG AND A DESIGNED WATER SIDE WORKING PRESSURE OF NO LESS THAN 400 PSIG.

UNITS 5 TONS AND LARGER, THE FANS SHALL BE BELT DRIVEN FORWARD CURVE TYPE WITH DYNAMICALLY BALANCED WHEELS). THE FAN HOUSINGS SHALL BE REMOVABLE

FROM THE UNIT WITHOUT DISCONNECTING THE SUPPLY AIR DUCTWORK FOR SERVICING OF FAN MOTORS. MOTORS SHALL BE PERMANENTLY LUBRICATED AND HAVE THERMAL OVERLOAD PROTECTION.

UNITS SMALLER THAN 5 TONS, THE FAN SHALL BE DIRECT DRIVE CENTRIFUGAL FORWARD CURVED TYPE WITH A DYNAMICALLY BALANCED WHEEL. FAN HOUSE SHALL BE REMOVABLE FROM UNIT WITHOUT DISCONNECTING THE SUPPLY AIR DUCTWORK FOR SERVICING OF FAN MOTOR. THE MOTOR SHALL BE THREE SPEED PSC TYPE AND BE PERMANENTLY LUBRICATED AND HAVE THERMAL OVERLOAD PROTECTION.

**DUCTWORK, LOW PRESSURE, GALVANIZED STEEL**

**QUALITY ASSURANCE**

DUCTS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH "HVAC DUCT CONSTRUCTION STANDARDS" PUBLISHED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA)

**JOB CONDITIONS**

INSPECT THE DRAWINGS AND VERIFY EXISTING CONDITIONS IN THE FIELD. REPORT CONFLICTS BEFORE STARTING FABRICATION.

**DUCT MATERIAL**

WEIGHTS AND GAGES SHALL BE IN ACCORDANCE WITH TABLE 1 OF "HVAC DUCT CONSTRUCTION STANDARDS" PUBLISHED BY SMACNA. DUCT MATERIAL SHALL BE GALVANIZED STEEL.

**SPLITTER DAMPERS**

SPLITTERS SHALL BE 16 GAUGE GALVANIZED STEEL WITH HORIZONTAL AND VERTICAL DIMENSIONS SUFFICIENT TO CLOSE OFF AIR TO BRANCH. PROVIDE VENTLOK NO. 607 END BEARINGS AND VENTLOK NO. 600 DAMPER ASSEMBLY.

**VOLUME DAMPERS**

VOLUME DAMPERS SHALL BE 16 GAUGE STEEL, SINGLE BLADE UP TO 8" X 8", OPPOSED BLADE ON ALL DUCTS OVER 8" X 8". PROVIDE VENTLOK NO. 607 END BEARINGS AND VENTLOK NO. 641 SELF-CLOSING REGULATOR. DAMPER RODS SHALL BE 1/2" SQUARE BAR WITH BLADES SPECIFICALLY TWEETED TO ADJUST.

**TURNING VANES**

SQUARE AND RECTANGULAR ELBOWS SHALL CONTAIN TITLUS NO. AG-225 TURNING VANES.

**HANGERS**

IN ACCORDANCE WITH CHAPTER IV OF SMACNA.

**FLEXIBLE CONNECTIONS**

FLEXIBLE CONNECTIONS SHALL BE PROVIDED FOR EACH AIR HANDLING DEVICE TO PREVENT TRANSMISSION OF VIBRATIONS. MAKE FLEXIBLE CONNECTION A MINIMUM OF 4 INCHES WIDE OF VENTGLASS AS MADE BY VENTIFABRICS, INC.

**INSTALLATION**

GENERAL: SPLIT, DIVIDE OR TURN DUCTS AS NECESSARY TO AVOID OBSTRUCTIONS AND, IN SUCH CASES, PROVIDE AIR STREAM DEFLECTORS AND INCREASE SIZE OF DUCT TO AN EQUIVALENT AREA.

SPLITTERS: ASSEMBLY ATTACH SPLITTERS TO PIVOT ROD AND OPERATING LINKAGE, SET DAMPERS REGULARLY ON INSULATED BASE OR INSULATED DUCTWORK. VOLUME DAMPERS: PROVIDE SQUARE HEAD TYPE TEST PLUGS AS REQUIRED FOR INSERTION OF TEST APPARATUS. PROVIDE A RING AND A REMOVABLE INSULATION PLUG WHERE DUCTS ARE INSULATED.

PAINTING: PAINT INTERIOR OF DUCTWORK FLAT BLACK WHERE VISIBLE THROUGH GRILLES AND REGISTERS.

SEALING: DUCTWORK SHALL BE SEALED IN ACCORDANCE WITH SMACNA "SEAL CLASS B".

**CORRECTIONS**

REMOVE ALL DUCTWORK FOUND TO VIBRATE, CHATTER OR PULSATE AND REPLACE WITH NEW DUCTWORK.

**DUCTWORK, LOW PRESSURE, FLEXIBLE**

**DESCRIPTION**

PROVIDE WHERE INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN, FACTORY FABRICATED AND PRE INSULATED FLEXIBLE DUCTS.

**QUALITY ASSURANCE**

FLEXIBLE DUCTS, INCLUDING INSULATION AND SEALANTS, SHALL CONFORM TO THE REQUIREMENTS OF NFPA 90A AND UL STANDARD 181 FOR CLASS 1 DUCTS. PERFORMANCE DATA SHALL BE BASED ON TEST PERFORMED IN ACCORDANCE WITH AIR DIFFUSION COUNCIL, FLEXIBLE AIR DUCT TEST F02.

**LOW PRESSURE FLEXIBLE DUCTWORK**

LOW PRESSURE FLEXIBLE DUCTWORK SHALL CONSIST OF CORROSION RESISTANT SPRING STEEL HELIX BONDED TO A GLASS REINFORCED NEOPRENE INSULATE WITH A MINIMUM OF 1 INCH THICK, 1 POUND DENSITY FIBERGLASS INSULATION WHICH IS IN TURN COVERED WITH AN OUTER VAPOR BARRIER OF FIBER REINFORCED FOL SCORHRAFT LAMINATE. INSULATION SHALL HAVE A THERMAL CONDUCTIVITY (K) NO GREATER THAN 0.25 AT 75 DEGREES F. DUCT FOR LOW VELOCITY SYSTEM CONNECTORS SHALL HAVE A WORKING PRESSURE OF NOT LESS THAN 1-1/2 INCHES OF WATER GAGE AND A MAXIMUM OPERATING TEMPERATURE OF NOT LESS THAN 250 DEGREES F.

**DUCT CONNECTORS**

WHERE FLEXIBLE DUCTS CONNECT TO LOW PRESSURE DUCTS TO FORM RUNOUTS TO INDIVIDUAL OUTLETS, PLENUMS OR LOW PRESSURE TERMINALS, PROVIDE FACTORY FABRICATED FITTINGS COMPLETE WITH MANUAL BALANCING DAMPERS HAVING LOOKING QUADRANTS, WHERE LOW PRESSURE DUCTS ARE INTERNALLY INSULATED. THE FITTINGS SHALL BE FURNISHED WITH AIR EXTENSION TO PROJECT THROUGH AND PROTECT THE INSULATION, FOR CONNECTION TO EQUIPMENT. AUXILIARY SLEEVES SHALL BE PROVIDED TO ALLOW AT LEAST 2 INCHES OF SURFACE FOR CLAMPING OF FLEXIBLE DUCTWORK. SLEEVES SHALL BE SCREWED OR BOLTED TO EQUIPMENT LIP FRAME.

**CLAMPS**

PROVIDE GALVANIZED SPRING STEEL CLAMPS OR PANDUIT STRAPS AT CONNECTIONS TO DUCT FITTINGS OR DEVICES.

**MANUFACTURER**

FLEXIBLE DUCTWORK AND COMPONENTS SHALL BE AS MANUFACTURED BY GENERAL ENVIRONMENTAL CORPORATION OR APPROVED EQUAL.