



307B SW Market St., Lee's Summit, Missouri 64063 | 816.249.2270 | www.collinsandwebb.com

RESERVE AT BLACKWELL - BUILDING H

SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

PERMIT DOCUMENTS

17 JAN 2024

COLLINS WEBB #: 21075



- Type H Addresses:**
- 660 SE. Wood Ln.
 - 640 SE. Wood Ln.
 - 624 SE. Wood Ln.
 - 616 SE. Wood Ln.
 - 608 SE. Wood Ln.
 - 562 SE. Wood Ln.
 - 554 SE. Wood Ln.
 - 546 SE. Wood Ln.
 - 530 SE. 5th Ter.
 - 518 SE. 5th Ter.
 - 510 SE. 5th Ter.

OWNER

GRIFFIN RILEY PROPERTY GROUP
21 SE 29TH TERRACE
LEE'S SUMMIT, MO 64082
P: 816.366.7900
www.griffinriley.com

ARCHITECT

COLLINS | WEBB ARCHITECTURE
307B SW MARKET STREET
LEE'S SUMMIT, MISSOURI 64063
P: 816.249.2270
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ELECTRICAL ENGINEER

ENGINEERED BUILDING SOLUTIONS, LLC
P: 913.735.5654
www.ebsolutionskc.com

STRUCTURAL ENGINEER

STAND STRUCTURAL ENGINEERING INC.
8234 ROBINSON STREET
OVERLAND PARK, KS 662074
P: 913.214.2169
www.stand-sei.com

CIVIL ENGINEER

SCHLAGEL ASSOCIATES
14920 W. 107TH STREET
LENEXA KS, 66215
P: 913.492.5158
www.Schlagelassociates.com



ARCHITECTURAL ABBREVIATIONS

A AND	E EAST	ID INSIDE DIAMETER	PA PUBLIC ADDRESS	SPKLR SPRINKLER
AC ANGLE	EA EACH	N INCH	PB PART	SPKR SPEAKER
ACU ANCHOR BOLT	EDR EQUIPMENT DRAWING	NC NON-CIRCULAR	PCB PARTICLE BOARD	SQ SQUARE
ACT ACoustical CEILING TILE	EG EDGE GUARD	INCL INCLUDE, INCLUDING	PEX PRIVATE TELEPHONE EXCHANGE	SS SANITARY SEWER
ACP ACoustical CEILING PANEL	EFS EXTERIOR INSULATION FINISH SYSTEM	INFO INFORMATION	PCF POUNDS PER CUBIC FOOT	SSK SERVICE SINK
ACS PNL ACCESS PANEL	EJ EXPANSION JOINT	INSL INSULATION	PDI POUNDS PER CUBIC INCH	ST STREET
AD AREA DRAIN	EL ELEVATION	NTR NUT	PERF PERFORATED	ST STREET
ADL ADDITIONAL	ELAST ELASTOMERIC	INV INVERT	PERM PERMITTER	STA STATION
ADH ADHESIVE	EQ EQUAL	INT INTERVENOUS TRACK	PERP PERPENDICULAR	STG STAIRCASE
ADJ ADJUSTABLE	EQV EQUIVALENT		PI POINT OF INTERSECTION	STC SOUND TRANSMISSION COEFFICIENT
ADU ABOVE FINISH GRADE	EQUL EQUALLY SPACED		PLM PLASTIC LAMINATE	STD STANDARD
AF ABOVE FINISH GRADE	EQUP EQUIPMENT		PLAS PLASTER, PLASTIC	STL STEEL
AFS ABOVE FINISH SLAB	EQVA EQUIVALENT		PLB PLUMBING	STP STOP
AGR AGGREGATE	ES ELECTRICAL PANEL BOARD		PLF POUNDS PER LINEAR FOOT	STR STRUCTURE
AL ALUMINUM	EPDM ETHYLENE PROPYLENE DIENE MONOMER		PLYVD PLYWOOD	SUSP SUSPENDED
ALT ALTERNATE	EQ SP ELECTRIC WATER COOLER		PLNEU PNEUMATIC	SUSP CLG SUSPENDED CEILING
ALU ALUMINUM	EST ESTIMATED(D)		PNL PANEL BOARD	SVCS SERVICE
ARCH ARCHITECTURAL	EQAL EQUIVALENT		PNL PT PORTABLE	SW SOUTHWEST
ASPH ASPHALT	ESCAL ESCALATOR		PP PUSH PLATE	SYMM SYMMETRIC
AVG AVERAGE	EST ESTIMATED		PR PARTS PER MILLION	SYST SYSTEM
	EWIC ELECTRIC WATER COOLER		PRC PRECAST	
	EX EXISTING		PREP PREPARATION	
	EXB EXISTING BRICK		PREFAB PREFABRICATION	
	EXJ EXPANSION JOINT		PRKG PARKING	
	EXR EXTERIOR		PROJ PROJECT	
	EXR2 EXISTING BRICK		PROP PROPERTY	
	EXR3 EXISTING BRICK		PSF POUNDS PER SQUARE FOOT	
	EXR4 EXISTING BRICK		PTS POUNDS PER SQUARE INCH	
	EXR5 EXISTING BRICK		PT POINT, PAINT / PAINTED	
	EXR6 EXISTING BRICK		PTD POINT, PAINT / PAINTED	
	EXR7 EXISTING BRICK		PTN PARTITION	
	EXR8 EXISTING BRICK		PTS POINT, PAINT / PAINTED	
	EXR9 EXISTING BRICK		LG LENGTH	
	EXR10 EXISTING BRICK		LN LINEAR	
	EXR11 EXISTING BRICK		LL LEAD LINED	
	EXR12 EXISTING BRICK		LTP LOW POINT	
	EXR13 EXISTING BRICK		LT LIGHT	
	EXR14 EXISTING BRICK		LT WT LIGHT WEIGHT	
	EXR15 EXISTING BRICK		LTV LIGHT TUBING	
	EXR16 EXISTING BRICK		LVR LOUVER	
	EXR17 EXISTING BRICK		LW LEAD WEIGHT	
	EXR18 EXISTING BRICK		LX LENGTH	
	EXR19 EXISTING BRICK		LAB LABORATORY	
	EXR20 EXISTING BRICK		LAM LAMINATE LAMINATION	
	EXR21 EXISTING BRICK		LAV LAVATORY	
	EXR22 EXISTING BRICK		LB LBS	
	EXR23 EXISTING BRICK		LED LIGHT EMITTING DIODE	
	EXR24 EXISTING BRICK		LF LINEAR FOOT	
	EXR25 EXISTING BRICK		FAS FIRE ALARM STATION	
	EXR26 EXISTING BRICK		FB FIRE ALARM	
	EXR27 EXISTING BRICK		FA FIRE ALARM	
	EXR28 EXISTING BRICK		FAB FIRE ALARM BOX	
	EXR29 EXISTING BRICK		FAL FIRE ALARM	
	EXR30 EXISTING BRICK		FAN FAN COIL UNIT	
	EXR31 EXISTING BRICK		FCD FIRE DEPARTMENT CONNECTION	
	EXR32 EXISTING BRICK		FDN FOUNDATION	
	EXR33 EXISTING BRICK		FE FIRE EXTINGUISHER CABINET	
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	EXR177 EXISTING BRICK		FE FIRE EXTINGUIS	

BUILDINGS H

GENERAL INFORMATION:
 NO. OF STORIES = 2
 ACTUAL BUILDING HT. = 22' - 9"
 BASEMENT = NO
 LIVING AREA = 1,320 SF
 GARAGE AREA = 406 SF
 COVERED PORCH AREA = 16 SF
 USE = SINGLE-FAMILY
 STANDPIPE/SPRINKLER = NOT REQ'D
 SMOKE DETECTORS = REQ'D PER 2018 IRC SECTION R314.1

WALL PRIORITY LEGEND

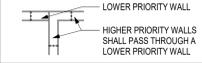
NOTE: THIS LEGEND IS FOR GRAPHIC REPRESENTATION ONLY.

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)

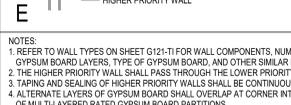
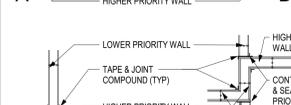
TWO HOUR FIRE BARRIER (2FB) INCLUDES THE FOLLOWING:
 • TWO HOUR SHAFT ENCLOSURE (2SE)
 ONE HOUR FIRE BARRIER (1FB) INCLUDES THE FOLLOWING:
 • ONE HOUR SHAFT ENCLOSURE (1SE)

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



INTERSECTION OF RATED WALLS



NOTES:

- REFER TO WALL TYPES ON SHEET G121-T1 FOR WALL COMPONENTS, NUMBER OF GYPSUM BOARD LAYERS, TYPE OF GYPSUM BOARD, AND OTHER SIMILAR INFO.
- THE HIGHER PRIORITY WALL SHALL PASS THROUGH THE LOWER PRIORITY WALL.
- TAPING AND SEALING OF HIGHER PRIORITY WALLS SHALL BE CONTINUOUS.
- ALTERNATE LAYERS OF GYPSUM BOARD SHALL OVERLAP AT CORNER INTERSECTIONS OF MULTILAYERED RATED GYPSUM BOARD PARTITIONS.

WALL TYPE NOTES:

- DRYWALL PARTITIONS SHOULD BE CONSTRUCTED IN ACCORDANCE WITH ASTM E487 - STANDARD PRACTICE FOR INSTALLING SOUND ISOLATING GYPSUM BOARD PARTITIONS AND ASTM C916 - STANDARD PRACTICE FOR USE OF SEALANTS IN ACoustICAL APPLICATIONS. ALL SOUND BARRIER PARTITIONS SHOULD EXTEND FROM FLOOR TO STRUCTURE UNLESS STATED OTHERWISE. METAL STUDS SHALL BE RIGIDLY ATTACHED ONLY AT HEAD AND FOOT. STRUCTURAL CROSS BRACING MUST NOT RIGIDLY CONNECT TO THE WALL.
- RE: LIFE SAFETY PLANS) FOR RATED WALL LOCATIONS.
- RE: WALL TYPE DETAIL SHEET FOR TYPICAL WALL DETAILS AND ADDITIONAL WALL TYPE INFORMATION.
- FOR TYPICAL TOP OF WALL CONDITIONS AT JOISTS AND BEAMS, REFER TO THE CLOSURE DETAILS ON THE WALL TYPE DETAILS SHEET.
- 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.
- 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.
- PROVIDE AND INSTALL ALL STIFFENERS, BRACINGS, BACK-UP PLATES AND SUPPORTING BRACKETES REQUIRED FOR THE INSTALLATION OF ALL CASEWORK AND OF ALL FLOOR MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL OR LABORATORY EQUIPMENT.
- 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 OF 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 MATERIALS.
- THERE SHALL BE NO BACK-TO-BACK ELECTRICAL, TELEPHONE, OR OTHER OUTLETS, EXCEPT WHERE SPECIFICALLY SHOWN.
- WALL BASE IS NOT SHOWN ON ALL WALL TYPES FOR CLARITY. REFER TO FINISH SCHEDULE.
- PROVIDE GLASS-MAT, WATER RESISTANT BACKING BOARD AT ALL WET LOCATIONS.
- 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.
- PROVIDE AND INSTALL BLOCKING REQUIRED FOR ALL A.V. EQUIPMENT. O.C. TO COORDINATE WITH CONSULTANT FOR FINAL LOCATIONS AND SIZE REQUIREMENTS.
- 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.
- MUD AND TAPE ALL 1ST AND 2ND LAYER GYP. BOARD JOINTS. PROVIDE 3RD LAYER FINISH PER GENERAL NOTES: FLOOR PLAN.
- PROVIDE HORIZONTAL LATERAL BRACING WIRE WELDED TO STUD FOR ALL WALLS, AT APPROPRIATE GAGE AND SPACING SPECIFIED BY SUPPLIER.

FIRE & SMOKE RESISTIVE LEGEND DEFINITIONS

FIRE WALLS (FW)

DEFINITION:
 A FIRE RATED WALL THAT IS CONTINUOUS VERTICALLY FROM FOUNDATION TO ROOF TO SEPARATE CONSTRUCTION INTO SEPARATE BUILDINGS.

USE:
 FIRE WALLS SERVE TO CREATE SEPARATE BUILDINGS FOR THE FOLLOWING REASONS:
 • CONSTRUCTION TYPE VARIES FROM ONE BUILDING TO ANOTHER.
 • COMPLIANCE WITH MAXIMUM ALLOWABLE AREA REQUIREMENTS.
 • TO SEPARATE BUILDINGS WITH DIFFERENT LEVELS OF FIRE PROTECTION.
 • TO ADDRESS A PROPERTY LINE DEFINING DIFFERENT OWNERSHIP.

SPECIAL CONSIDERATIONS:
 • THE FIRE WALL REQUIRES SUFFICIENT STRUCTURAL STABILITY UNDER FIRE CONDITIONS TO ALLOW THE COLLAPSE OF CONSTRUCTION ON EITHER SIDE WITHOUT COLLAPSE OF THE WALL.
 • OPENINGS ARE REQUIRED TO BE PROTECTED.
 • OPENINGS ARE LIMITED BASED ON A PERCENTAGE OF WALL LENGTH.
 • EXTENDING THE FIRE WALL THROUGH THE ROOF WITH A PARAPET IS REQUIRED FOR SOME CONSTRUCTION CLASSIFICATIONS.
 • THE REQUIRED FIRE RATING OF A FIRE WALL IS BASED ON OCCUPANCY GROUPS AND CLASS OF CONSTRUCTION.
 • HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.

FIRE BARRIERS (FB)

DEFINITION:
 A FIRE RATED WALL CONSTRUCTED TO RESTRICT THE SPREAD OF FIRE. CONTINUITY SHALL BE MAINTAINED FROM TOP OF FLOOR TO UNDERSIDE OF THE FLOOR OR ROOF DECK ABOVE.

USE:
 FIRE BARRIERS HAVE THE FOLLOWING APPLICATIONS:
 • TO CREATE HORIZONTAL EXITS.
 • TO SEPARATE EXIT PASSAGeways.
 • OCCUPANCY SEPARATIONS.
 • TO SEPARATE INCIDENTAL USE AREAS.
 • ISOLATION OF HAZARDS.
 • TO SEPARATE ROOMS WITH DIFFERENT LEVELS OF FIRE PROTECTION.
 • SMOKE BARRIERS AND SHAFT ENCLOSURES ARE FIRE BARRIERS. SEE ADDITIONAL REQUIREMENTS.

SPECIAL CONSIDERATIONS:
 • WITHIN SOME CONSTRUCTION CLASSIFICATIONS, CONSTRUCTION THAT PROVIDES STRUCTURAL SUPPORT OF A FIRE BARRIER IS REQUIRED TO BE OF THE SAME HOURLY FIRE RATING AS THE FIRE BARRIER, OR BETTER.
 • OPENINGS ARE REQUIRED TO BE PROTECTED.
 • HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.

SHAFT ENCLOSURES (SE)

DEFINITION:
 A SHAFT ENCLOSURE IS A FIRE BARRIER FORMING THE BOUNDARY OF A VERTICAL SHAFT.

USE:
 PROTECT OPENINGS IN FIRE RATED FLOOR/CEILING ASSEMBLIES.

SPECIAL CONSIDERATIONS:
 • PENETRATIONS IN SHAFT ENCLOSURES ARE PROHIBITED UNLESS NECESSARY FOR THE FUNCTION OF THE SHAFT. WHERE ALLOWED, OPENINGS ARE REQUIRED TO BE PROTECTED.
 • DUCT PENETRATIONS REQUIRE COMBINATION SMOKE AND FIRE DAMPERS EXCEPT FOR EXISTING CONDITIONS THAT ARE GRANDFATHERED.
 • HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH, CLOSER, AND PERIMETER SMOKE SEALS.

FIRE PARTITIONS (FP)

DEFINITION:
 A FIRE RATED PARTITION THAT IS USED FOR THE APPLICATIONS LISTED BELOW. IT SHALL BE CONTINUOUS FROM TOP OF FLOOR TO UNDERSIDE OF A FIRE-RATED FLOOR/CEILING OR ROOF/CEILING ASSEMBLY, WHERE ALLOWED BY CODE. EXCEPTION: A FIRE PARTITION SHALL BE ALLOWED TO TERMINATE AT THE UPPER MEMBRANE OF A FIRE RATED CEILING.

USE:
 FIRE PARTITIONS ARE USED IN CERTAIN OCCUPANCIES TO DO THE FOLLOWING:
 • SEPARATE DWELLING UNITS.
 • SEPARATE SLEEPING SPACES.
 • SEPARATE CORRIDORS FROM ADJACENT SPACES.
 • SEPARATE ELEVATOR LOBBIES.
 • SEPARATE TENANT SPACES IN COVERED MALL BUILDINGS.

SPECIAL CONSIDERATIONS:
 • OPENINGS ARE REQUIRED TO BE PROTECTED.
 • HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.

BEARING WALLS (BW)

DEFINITION:
 AN INTERIOR OR EXTERIOR WALL DESIGNED TO SUPPORT FLOOR OR ROOF LOADS. A BEARING WALL IS FIRE-RATED ONLY TO MAINTAIN THE INTEGRITY OF ITSELF AS A FIRE RATED STRUCTURAL ELEMENT. THE WALL DOES NOT SERVE AS A FIRE SEPARATION FROM ONE SIDE TO THE OTHER SIDE.

USE:
 A VERTICAL, LOAD BEARING STRUCTURAL ELEMENT.

SPECIAL CONSIDERATIONS:
 • DOORS AND WINDOWS ARE NOT REQUIRED TO BE RATED.
 • HVAC DUCT PENETRATIONS ARE NOT REQUIRED TO BE FIRE-DAMPED.
 • PLUMBING, ELECTRICAL, SPRINKLER SYSTEM, AND CABLE PENETRATIONS ARE REQUIRED TO BE FIRE-STOPPED WITH FIRE SEALANT AT BOTH SIDES, FOR WALLS CONSTRUCTED OF HOLLOW CMU OR STUD FRAMING.

GENERAL NOTES

- THE FOLLOWING INFORMATION SERVES TO PROVIDE BUILDING OWNERS WITH CONCISE DEFINITIONS OF WALL TYPES RELATED TO LIFE SAFETY ISSUES. THIS INFORMATION IS NOT MEANT TO BE A SUBSTITUTE FOR APPLICABLE BUILDING CODES.
- WHEN A WALL HAS MORE THAN ONE CLASSIFICATION, THE MOST RESTRICTIVE REQUIREMENTS FOR EACH CLASSIFICATION SHALL APPLY.
- FOR NEW CONSTRUCTION, PERIMETER SMOKE-SEALS MAY BE REQUIRED AT FIRE RATED DOORS IN CERTAIN OCCUPANCIES.

GENERAL DESCRIPTION

PROJECT NAME: BLACKWELL RESERVE (SINGLE-FAMILY HOMES)
 PROJECT LOCATION: LEE'S SUMMIT, MISSOURI
 COUNTY: JACKSON
 COLLINS WEBB ARCHITECTURE
 3078 SW MARKET STREET
 LEE'S SUMMIT, MISSOURI 64063

APPLICABLE CODES:
 2018 INTERNATIONAL RESIDENTIAL CODE
 2018 INTERNATIONAL PLUMBING CODE
 2018 INTERNATIONAL MECHANICAL CODE
 2018 INTERNATIONAL FUEL GAS CODE
 2018 INTERNATIONAL FIRE CODE
 2017 NATIONAL ELECTRICAL CODE
 ICCANCS A117-1.2009, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

FIRE EXTINGUISHERS

- PROVIDE PORTABLE FIRE EXTINGUISHERS IN OCCUPANCIES AND LOCATIONS AS REQUIRED BY THE FIRE PREVENTION CODE.
- PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED, INSPECTED, AND MAINTAINED IN ACCORDANCE WITH NFPA 10, STANDARD FOR PORTABLE FIRE EXTINGUISHERS.

CEILING HEIGHT NOTES: (IRC R305)

- HABITABLE SPACE, HALLWAYS, BATHROOMS, TOILET ROOMS, LAUNDRY ROOMS AND PORTIONS OF BASEMENTS CONTAINING THESE SPACES SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7'-0" A.F.F.
- PORTIONS OF BASEMENTS THAT DO NOT CONTAIN HABITABLE SPACE, HALLWAYS, BATHROOMS, TOILET ROOMS AND LAUNDRY ROOMS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 6'-0" A.F.F.

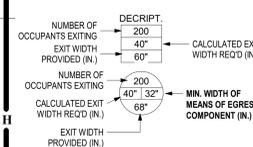
EXCEPTIONS: BEAMS, GIRDERS, DUCTS, OR OTHER OBSTRUCTIONS MAY PROJECT TO WITHIN 6'-0" OF THE FINISHED FLOOR.

FIRE SPRINKLER NOTE: (IRC R302)

- FIRE SPRINKLER NOT REQUIRED IF EXTERIOR WALLS OF DWELLINGS ARE SEPARATED BY FIVE FEET OR MORE IF WALL IS UNRATED. IF WALL IS RATED (1 HR) NO SEPARATION IS REQUIRED.

FIRE RESISTIVE LEGEND

- 3FW 3FW 3FW 3FW 3 HOUR FIRE WALL
- 2FW 2FW 2FW 2FW 2 HOUR FIRE WALL
- 2FB 2FB 2FB 2FB 2 HOUR FIRE BARRIER
- 1FB 1FB 1FB 1FB 1 HOUR FIRE BARRIER
- 2S 2S 2S 2S 2 HOUR SHAFT ENCLOSURE
- 1SE 1SE 1SE 1SE 1 HOUR SHAFT ENCLOSURE
- 1FP 1FP 1FP 1FP 1 HOUR FIRE PARTITION
- 0.5FP 0.5FP 0.5FP 0.5FP 0.5 HOUR FIRE PARTITION
- 0.5X 0.5X 0.5X 0.5X 0.5 HOUR CORRIDOR PARTITION
- SB SB SB SB 1 HOUR SMOKE BARRIER
- 2BW 2BW 2BW 2BW 2 HOUR BEARING WALL
- 1BW 1BW 1BW 1BW 1 HOUR BEARING WALL

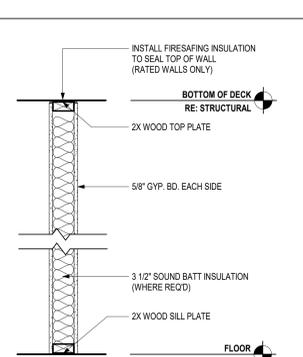


- F.E.C. FIRE RISER CABINET
- F.A.C.P. FIRE ALARM CONTROL PANEL
- F.F.C. FIRE DEPARTMENT CONNECTION
- K.B. KNOX BOX
- AR AREA OF RESCUE ASSISTANCE
- ACCESSIBLE EGRESS COMPONENT
- EGRESS PATH
- FE-1 INDICATES FIRE EXTINGUISHER CABINET(FE) LOCATION WITH 75'-0" RADIUS COVERAGE AREA. SEE SPECIFICATIONS FOR FE TYPE.
- FE-2K INDICATES KITCHEN BAR FIRE EXTINGUISHER (FE) LOCATION WITH 75'-0" RADIUS COVERAGE AREA. SEE SPECIFICATIONS FOR FE TYPE.
- FE-3 INDICATES TEMPORARY WALL HUNG FIRE EXTINGUISHER (FE) LOCATION WITH 75'-0" RADIUS COVERAGE AREA. SEE SPECIFICATIONS FOR FE TYPE.

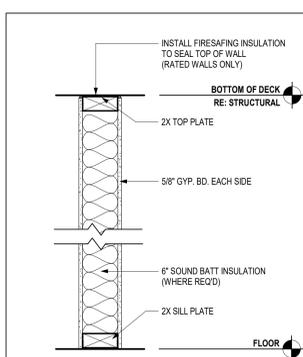
- DOOR RATING LEGEND (REFER TO DOOR SCHEDULE)**
- 20 MIN. DOOR
 - 45 MIN. DOOR
 - 90 MIN. DOOR

GENERAL NOTES: FIREBLOCKING PER SECTION R302.11:

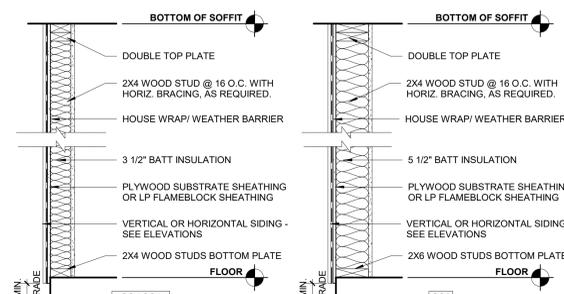
- IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS:
 - VERTICALLY AT THE CEILING AND FLOOR LEVELS. 1.2 HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET.
 - AT INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS.
 - IN CONCEALED SPACES BETWEEN FUR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
 - AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL. MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THE ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E198 REQUIREMENTS.
 - FOR THE FIREBLOCKING OF CHIMNEYS AND FIREPLACES. SEE SECTION R1003.19.
 - FIREBLOCKING OF CORNICES OF A TWO-FAMILY DWELLING IS REQUIRED AT THE LINE OF DWELLING UNIT SEPARATION.
- R302.11.1 FIREBLOCKING MATERIALS EXCEPT AS PROVIDED IN SECTION R302.11, ITEM 4, FIREBLOCKING SHALL CONSIST OF THE FOLLOWING MATERIALS:
 - TWO-INCH NOMINAL LUMBER.
 - TWO THICKNESSES OF 1/2-INCH NOMINAL LUMBER WITH BROKEN LAP JOINTS.
 - ONE THICKNESS OF 2X2-INCH WOOD STRUCTURAL PANELS WITH JOINTS BACKED BY 2X2-INCH WOOD STRUCTURAL PANELS.
 - ONE THICKNESS OF 3/4-INCH PARTICLEBOARD WITH JOINTS BACKED BY 3/4-INCH PARTICLEBOARD.
 - ONE-HALF-INCH GYPSUM BOARD.
 - ONE-QUARTER-INCH CEILING-BASED MILLBOARD, BATTLES OR BLANKETS OF MINERAL WOOL OR GLASS FIBER OR OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO BE SECURELY RETAINED IN PLACE.
 - CELLULOSE INSULATION INSTALLED AS TESTED IN ACCORDANCE WITH ASTM E119 OR UL 263, FOR THE SPECIFIC APPLICATION.



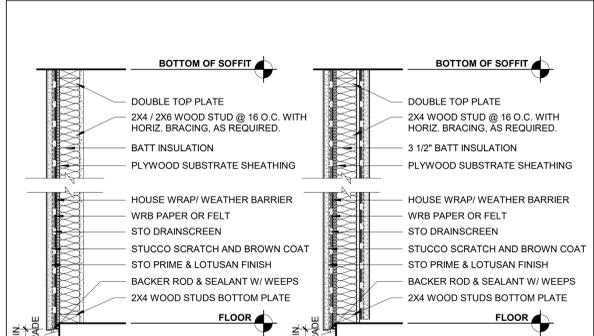
TYPE	WALL DESCRIPTION
AA	• 2X4 WOOD STUD @ 16\"/>
AA1	• 2X4 WOOD STUD @ 16\"/>
AA2	• 2X4 WOOD STUD @ 16\"/>



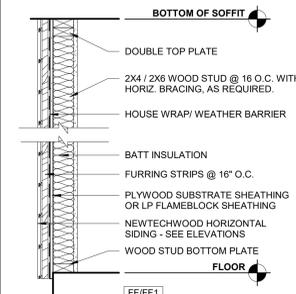
TYPE	WALL DESCRIPTION
BB	• 2X6 WOOD STUD @ 16\"/>
BB1	• 2X6 WOOD STUD @ 16\"/>
BB2	• 2X6 WOOD STUD @ 16\"/>



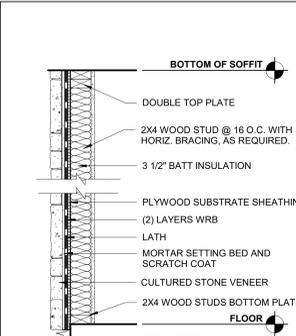
TYPE	WALL DESCRIPTION (ALL WALLS 2X4, EXCEPT BASEMENT WALLS TO BE 2X6)
CC	• 2X4 WOOD STUD @ 16\"/>
CC1	• 2X4 WOOD STUD @ 16\"/>
CC2	• 2X6 WOOD STUD @ 16\"/>



TYPE	WALL DESCRIPTION
DD	• 2X4 WOOD STUD @ 16\"/>
DD1	• 2X6 WOOD STUD @ 16\"/>
DD2	• 2X4 WOOD STUD @ 16\"/>



TYPE	WALL DESCRIPTION
FF	• 2X4 WOOD STUD @ 16\"/>
FF1	• 2X6 WOOD STUD @ 16\"/>



TYPE	WALL DESCRIPTION
EE	• 2X4 WOOD STUD @ 16\"/>
EE1	• 2X6 WOOD STUD @ 16\"/>



PERMIT DOCUMENTS

RESERVE AT BLACKWELL - BUILDING H
 SE SHENANDOAH DRIVE
 LEE'S SUMMIT, MO 64063

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REVISION DATES:



G111
 ISSUE DATE: 17 JAN 2024
 COLLINS WEBB #: 21075

LIFE SAFETY INFORMATION

SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

GENERAL REQUIREMENTS APPLICABLE TO ALL MATERIALS FOR THE PROJECT:

- 1. NO SUBSTITUTIONS OF MATERIALS WITHOUT COMPLETION OF A SUBSTITUTION REQUEST FORM & APPROVAL OF SUBSTITUTIONS BY BOTH ARCHITECT & OWNER PROJECT MANAGER. FORM CAN BE REQUESTED FROM ARCHITECT.
2. A CONDENSED SET PROVIDED FOR THE PROJECT. STRICT ADHERENCE TO MANUFACTURER REQUIREMENTS AND INSTALLATION ARE REQUIRED TO BE FOLLOWED WITH SECTIONS PROVIDED WITHIN. IF REQUIRED THE ARCHITECT WILL ISSUE ADDITIONAL SECTIONS TO PROVIDE CLARITY TO PRODUCTS OR INSTALLATION REQUIREMENTS.

DIVISION 1 - GENERAL REQUIREMENTS

- 1. SEE ADMINISTRATIVE SPECIFICATION FOR GENERAL REQUIREMENTS RELATED TO ADMINISTRATION OF THIS CONTRACT.
2. THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED IN THE PROJECT SHALL BE REQUIRED TO OBTAIN AND PAY FOR ALL NECESSARY LICENSES AS REQUIRED BY ANY LAW OR AGENCIES HAVING JURISDICTION (AHJ) OVER THE PROJECT.

B. BUILDING PERMITS

- 1. THE GENERAL CONTRACTOR WILL PAY FOR ALL PERMITS REQUIRED BY ANY AGENCY HAVING JURISDICTION (AHJ) OVER THE PROJECT FOR ALL WORK TO BE PERFORMED BY THE GENERAL CONTRACTOR.

C. UTILITY FEES

- 1. THE CONTRACTOR SHALL PAY THE NECESSARY FEES TO CONNECT TO EXISTING UTILITIES AT THE PROPERTY LINE OR ADJACENT STREETS AND RIGHT OF WAY AS SPECIFIED, NECESSARY AND/OR INCLUDED IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL PAY ALL UTILITY COSTS (BILLS) DURING CONSTRUCTION UNTIL OWNER TAKES POSSESSION OF THE FACILITY OR THE FACILITY IS CERTIFIED AS SUBSTANTIALLY COMPLETE.

D. PROTECTION OF FINISHED WORK

- 1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT FINISHED SURFACES. PROTECTION FOR FINISHES SUCH AS DOORS, WALLS AND FLOORS SHOULD BE PROVIDED AS REQUIRED. ANY DAMAGES TO THESE AREAS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE.

E. GENERAL CONDITIONS

- 1. ANY DISCREPANCY OR CONFLICT WITHIN OR BETWEEN DRAWINGS AND ANY DISCREPANCY OR CONFLICT BETWEEN ANY DRAWING AND ANY SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
2. THE GENERAL CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING UTILITIES AND OWNERS ATTENTION AND CLARIFIED DURING THE BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE COSTLY OR DIFFICULT MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH ARCHITECT'S INTERPRETATION.
3. THE GENERAL CONTRACTOR SHALL KEEP A COMPLETE SET OF DOCUMENTS ON THE PROJECT SITE AT ALL TIMES FOR REFERENCE DURING CONSTRUCTION.
4. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILLS AND ATTENTION. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS AND METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
5. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER ALL JOB SITE SAFETY PROCEDURES AND POLICIES. THE GENERAL CONTRACTOR SHALL HAVE A SAFETY COORDINATOR AND BE RESPONSIBLE FOR ALL SAFETY TRAINING WITH ALL JOB SITE PERSONNEL, INCLUDING ALL SUB CONTRACTOR PERSONNEL.
6. WHETHER THE ARCHITECTS OR THE OWNERS INSPECTION NOR FAILURE TO INSPECT SHALL RELIEVE THE CONTRACTOR OF ANY OBLIGATION HEREUNDER. IF ANY WORK FAILS TO CONFORM TO THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY REMEDY AND/OR REPLACE THE SAME AT THE CONTRACTOR'S EXPENSE. NO ACCEPTANCE OR PAYMENT BY THE OWNER OR ARCHITECT SHALL CONSTITUTE A WAIVER OF THE FOREGOING AND NOTHING HEREIN SHALL EXCLUDE OR LIMIT ANY WARRANTIES IMPLIED BY LAW.
7. THE GENERAL CONTRACTOR SHALL CONDUCT ITS OPERATIONS AS NOT UNREASONABLY INTERFERE WITH TRAFFIC ON PUBLIC HIGHWAYS ADJACENT OR NEAR TO THE PROJECT SITE.
8. DO NOT SCALE DRAWINGS.

F. PROJECT REQUIREMENTS

- 1. THE GENERAL CONTRACTOR REPRESENTS THAT IT POSSESSES THE SKILLS REQUIRED FOR THE WORK, ASSUMES THE RESPONSIBILITIES OF AN EMPLOYER FOR PERFORMANCE OF THE WORK, AND ACTS AS AN EMPLOYER OF ONE OR MORE CONTRACTORS BY PAYING WAGES, DIRECTING ACTIVITIES AND PERFORMING OTHER SIMILAR FUNCTIONS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE WORK OF EACH TRADE IN THE WORK PERFORMED.
2. THE GENERAL CONTRACTOR SHALL PROVIDE AND MAINTAIN IN GOOD WORKING ORDER, THE FOLLOWING ITEMS FOR USE BY THE PROJECT SUPERINTENDENT DAILY DURING THE ENTIRE DURATION OF THE PROJECT:
A. LAPTOP WITH INTERNET ACCESS.
B. DIGITAL CAMERA WITH DATE STAMP CAPABILITY AND WITH PROPER CABLES TO ATTACH TO LAPTOP.
C. EMAIL ACCESS THROUGH LAPTOP.
D. A PRINTER/SCANNER/FAX MACHINE WITH PROPER CABLES TO ATTACH TO LAPTOP.
E. CELL PHONE.
F. PROJECT INTERNET CONNECT BASED SITE FOR MANAGEMENT OF PROJECT INFORMATION. SITE WILL BE USED FOR SUBMITTAL OF SHOP DRAWINGS, RFPS & PHOTOS. THERE SHALL BE PROCURE OR EQUAL FUNCTIONALITY.
3. THE GENERAL CONTRACTOR SUPERINTENDENT ASSIGNED TO THIS PROJECT, AND THIS SUPERINTENDENT SHALL BE ON SITE EVERY DAY WHILE IS ANY CONSTRUCTION ON THIS PROJECT. THE SUPERINTENDENT SHALL BE REACHABLE BY PHONE DURING NORMAL BUSINESS HOURS. ONCE ASSIGNED, THE SUPERINTENDENT SHALL BE RESPONSIBLE FOR MONITORING THE WORK OF EACH TRADE IN THE WORK PERFORMED, UNLESS SPECIFICALLY REQUESTED TO BE REPLACED BY OWNER.
4. THE SUPERINTENDENT WILL BE REQUIRED TO PROVIDE PHOTOGRAPHS (VIA EMAIL USING A DIGITAL CAMERA) TO THE OWNER & ARCHITECT EACH WEEK SHOWING THE PROGRESS OF CONSTRUCTION. THE GENERAL CONTRACTOR IS ENCOURAGED TO TAKE PHOTOS SEVERAL TIMES EACH WEEK TO HELP MAINTAIN WARM UP OF CONSTRUCTION PROGRESS. RECORD UNCOVERED CONDITIONS, RECORD CONDITION AND AMOUNTS OF VENDOR GOODS UPON RECEIPT. RECORD PROTECTION THAT VARIES FROM THE CDS (AS PART OF THE AS-BUILTS). ALL PHOTOS WILL HAVE A DATE STAMP.

G. INSPECTIONS/OBSERVATIONS

- 1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OVERSEE CONSTRUCTION OF THE PROJECT, CONTINUALLY CHECKING THE WORK, MATERIALS, AND WORKMANSHIP PROVIDED BY ALL OF HIS TRADESMEN, SUBCONTRACTORS AND SUPPLIERS. EXCELLENCE IN QUALITY OF CONSTRUCTION CAN ONLY BE ACHIEVED IF THE CONTRACTOR ENFORCES HIGH STANDARDS OF RESPONSIBILITY. THE GENERAL CONTRACTOR CANNOT DELEGATE HIS RESPONSIBILITY TO THE SUBCONTRACTOR. THE GENERAL CONTRACTOR SHALL MONITOR THE WORK OF EACH TRADE IN THE WORK PERFORMED.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE AND SCHEDULE ALL AGENCIES HAVING JURISDICTION (AHJ) INSPECTIONS NECESSARY TO OBTAIN THE CERTIFICATE OF OCCUPANCY (CERTIFICATE OF COMPLIANCE). PRIOR TO THE DATE OF THE AGENCY INSPECTION THE GENERAL CONTRACTOR SHOULD INSPECT THE PROJECT TO INSURE THE CONSTRUCTION COMPLETES WITH THE AGENCY REQUIREMENTS. SCHEDULING FINAL INSPECTIONS WITH AGENCY REPRESENTATIVES WHEN THE PROJECT IS NOT COMPLETE MUST BE AVOIDED. COPIES OF FINAL INSPECTIONS MUST BE PROVIDED TO OWNER & AVAILABLE TO ARCHITECT.
3. PRIOR TO REQUESTING THE SUBSTANTIAL COMPLETION INSPECTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OWN PRE-SUBSTANTIAL COMPLETION INSPECTION OF THE CONSTRUCTION FOR QUALITY OF CONSTRUCTION AND THE CONSTRUCTION DOCUMENTS. THE AS-BUILTS MUST BE MAINTAINED ON-SITE IN THE GENERAL CONTRACTOR'S OFFICE AND WILL NOT BE USED FOR ANY OTHER PURPOSE. SINCE THE OWNER WILL OWN AND OPERATE THE FACILITY, IT IS IMPERATIVE THAT ALL PARTIES MAINTAIN ACCURATE INFORMATION REGARDING THE ACTUAL CONSTRUCTION OF THE PROJECT.
4. ALL DEVIATIONS FROM THE CONTRACT SET OF DRAWINGS MUST BE NOTED ON THE AS-BUILTS IN RED WITH CLOUDS FOR CLEAR IDENTIFICATION. THE OWNER WILL REVIEW THE AS-BUILTS FOR ACCURACY AND COMPLETENESS MONTHLY. DURING THE PAYMENT APPLICATION REVIEW PROCESS, FAILURE TO POST CHANGES TO THE PROJECT ON THE AS-BUILTS AS IDENTIFIED DURING THE ON-SITE MONTHLY REVIEW WILL BE CAUSE TO SUSPEND PAYMENT UNTIL RECTIFIED. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENFORCE THE TIMELY POSTING OF AS-BUILT CHANGES WITH THE SUBCONTRACTORS.
5. THE GENERAL CONTRACTOR SUPERINTENDENT
A. MECHANICAL CONTRACTOR
B. ELECTRICAL CONTRACTOR
C. PLUMBING CONTRACTOR
D. PAINTING CONTRACTOR
E. FLOORING CONTRACTOR
6. ITEMS TO BE SUBMITTED PRIOR TO THE REQUEST FOR THE CERTIFICATE OF SUBSTANTIAL COMPLETION AND OWNER ARCHITECT OBSERVATION OF ITEMS TO BE COMPLETED AND CORRECTED.
A. GENERAL CONTRACTOR'S PUNCH LISTS
B. HVAC TEST AND BALANCE REPORT
C. SPRINKLER SYSTEM ACCEPTANCE INSPECTION REPORT
D. COPY OF VIDEO OF COMPLETED SEWER SYSTEM
7. THE REVIEW AND ORGANIZED MANNER THROUGHOUT THE BUILDING INSPECTING EACH SPACE OR ROOM. THE PUNCH LIST GENERATED BY THE SUBSTANTIAL COMPLETION INSPECTOR TOUR IS TO BE PREPARED BY THE CONTRACTOR, ALONG WITH THE PUNCH LIST, THE ARCHITECT SHALL PREPARE THE CERTIFICATE OF SUBSTANTIAL COMPLETION.
8. IMMEDIATELY AFTER RECEIPT OF THE PUNCH LIST, THE GENERAL CONTRACTOR AND SUBCONTRACTORS ARE EXPECTED TO BEGIN CORRECTION OF THE OUTSTANDING ITEMS AFTER COMPLETION OF PUNCHLIST. THE CONTRACTOR SHALL NOTIFY OWNER & ARCHITECT IN WRITING THAT FULL LIST OF ITEMS TO BE COMPLETED AND OR CORRECT IS FINALIZED.

H. RECORD CLOSE-OUT DOCUMENTS

- 1. THE OWNER REQUIRES THE GENERAL CONTRACTOR AND SUBCONTRACTORS TO MAINTAIN AN ACCURATE, CURRENT SET OF RECORD DOCUMENTS (AS-BUILTS) AS CONSTRUCTION PROGRESSES. ALL PERTINENT INFORMATION RELATING TO THE PROJECT MUST BE TIMELY MAINTAINED ON THE AS-BUILTS. THE AS-BUILTS MUST BE MAINTAINED ON-SITE IN THE GENERAL CONTRACTOR'S OFFICE AND WILL NOT BE USED FOR ANY OTHER PURPOSE. SINCE THE OWNER WILL OWN AND OPERATE THE FACILITY, IT IS IMPERATIVE THAT ALL PARTIES MAINTAIN ACCURATE INFORMATION REGARDING THE ACTUAL CONSTRUCTION OF THE PROJECT.
2. ALL DEVIATIONS FROM THE CONTRACT SET OF DRAWINGS MUST BE NOTED ON THE AS-BUILTS IN RED WITH CLOUDS FOR CLEAR IDENTIFICATION. THE OWNER WILL REVIEW THE AS-BUILTS FOR ACCURACY AND COMPLETENESS MONTHLY. DURING THE PAYMENT APPLICATION REVIEW PROCESS, FAILURE TO POST CHANGES TO THE PROJECT ON THE AS-BUILTS AS IDENTIFIED DURING THE ON-SITE MONTHLY REVIEW WILL BE CAUSE TO SUSPEND PAYMENT UNTIL RECTIFIED. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENFORCE THE TIMELY POSTING OF AS-BUILT CHANGES WITH THE SUBCONTRACTORS.
3. WITHIN THIRTY (30) DAYS AFTER THE FINAL PROJECT SUBSTANTIAL COMPLETION, THE GENERAL CONTRACTOR SHALL COMPLETE ALL CLOSE-OUT DOCUMENTS AND SUBMIT THEM TO THE OWNER FOR REVIEW. IF THE CONTRACTOR FAILS TO COMPLETE ITS REQUIREMENTS WITHIN THIS TIMELINE NOTED ABOVE THE CONTRACTOR MAY BE SUBJECT TO ADDITIONAL ADMINISTRATION FEES.

I. AS-BUILT DOCUMENTS

- 1. THE CATEGORIES LISTED BELOW SHOULD BE SUBMITTED AT THE SAME TIME:
A. A GLOSS WITH ALL PHOTOS TAKEN DURING CONSTRUCTION.
B. CHANGE ORDERS AND ALL ADDENDA ATTACHED AND POSTED TO THE AS-BUILT DRAWINGS.
C. AS-BUILT DRAWINGS: ONE HARD COPY TO REMAIN ON SITE AND IN-PLANT TUBE, ONE ELECTRONIC COPY TO BE SENT WITH CLOSE-OUT PAPERWORK.
D. MATERIALS SELECTION DATA - PROVIDE ALL APPROVED SUBMITTALS.
E. OPERATION AND MAINTENANCE MANUALS: PROVIDE MANUALS BOXED AND BOUND. THIS ITEM IS OF SIGNIFICANT IMPORTANCE TO MSJ FUTURE MAINTENANCE ACTIVITIES.
F. ALL HVAC TEST AND BALANCE REPORTS.
G. RELEASE OF LIEN (FORM 708), PAYMENT OF DEBT (AA FORM 708).
H. WARRANTIES, CERTIFICATES, AFFIDAVITS.
I. ALL INFORMATION INCLUDED IN THIS CATEGORY WILL BE ORIGINAL IN ONE (1) COPY AND BOUND TO IN A STUDY THREE-RING BINDER WITH THE OUTSIDE READING GENERAL CLOSE-OUT DOCUMENTS TO INCLUDE AN INDEX OF THE CONTENTS. ALL AA DOCUMENTS WILL BE FUNDED, (WITH RED LETTERING ON THE BOTTOM OF THE FORM) AND NOTARIZED. IF THE ELECTRONIC VERSION IS USED A COPY WITH ORIGINAL SIGNATURES WILL BE SUBMITTED. THE GENERAL CONTRACTOR WILL HAVE SEPARATE TABS IDENTIFYING EACH BY NAME. THE GENERAL CONTRACTOR WILL LIST EACH SUBCONTRACTOR ALPHABETICALLY AND WILL CHECK TO INSURE THAT A RELEASE OF LIEN - AIA FORM 708A AND A PAYMENT OF DEBT - AIA FORM 708B IS INCLUDED FOR HIMSELF AND EACH SUBCONTRACTOR. THE GENERAL CONTRACTOR WILL INCLUDE A CONSENT OF SURETY - AIA FORM G07. IN ADDITION, THE GENERAL CONTRACTOR WILL INCLUDE BEHIND TAB THE FOLLOWING INFORMATION:
A. A LIST OF NAMES, BUSINESS ADDRESSES, PHONE NUMBERS AND EMAIL ADDRESSES FOR THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR.
B. AN ANNOTATED COPY OF THE SUBSTANTIAL COMPLETION PUNCH LIST INDICATING ACTION TAKEN ON EACH ITEM.
C. WARRANTIES, CERTIFICATES AND AFFIDAVITS SHALL BE INCLUDED FOR ANY EQUIPMENT, MATERIALS OR SYSTEMS COMBINED WITH ALL OF THE ABOVE INFORMATION AND PLACED BEHIND THE TAB OF THE CONTRACTOR THAT ISSUED IT.

J. FINAL CLOSE-OUT OF THE PROJECT

- 1. WITHIN THIRTY (30) DAYS AFTER THE FINAL PROJECT SUBSTANTIAL COMPLETION, THE GENERAL CONTRACTOR SHALL COMPLETE ALL CLOSE-OUT DOCUMENTS AND SUBMIT THEM TO THE OWNER FOR REVIEW. IF THE CONTRACTOR FAILS TO COMPLETE ITS REQUIREMENTS WITHIN THIS TIMELINE NOTED ABOVE THE CONTRACTOR MAY BE SUBJECT TO ADDITIONAL ADMINISTRATION FEES.
2. THE CATEGORIES LISTED BELOW SHOULD BE SUBMITTED AT THE SAME TIME:
A. A GLOSS WITH ALL PHOTOS TAKEN DURING CONSTRUCTION.
B. CHANGE ORDERS AND ALL ADDENDA ATTACHED AND POSTED TO THE AS-BUILT DRAWINGS.
C. AS-BUILT DRAWINGS: ONE HARD COPY TO REMAIN ON SITE AND IN-PLANT TUBE, ONE ELECTRONIC COPY TO BE SENT WITH CLOSE-OUT PAPERWORK.
D. MATERIALS SELECTION DATA - PROVIDE ALL APPROVED SUBMITTALS.
E. OPERATION AND MAINTENANCE MANUALS: PROVIDE MANUALS BOXED AND BOUND. THIS ITEM IS OF SIGNIFICANT IMPORTANCE TO MSJ FUTURE MAINTENANCE ACTIVITIES.
F. ALL HVAC TEST AND BALANCE REPORTS.
G. RELEASE OF LIEN (FORM 708), PAYMENT OF DEBT (AA FORM 708).
H. WARRANTIES, CERTIFICATES, AFFIDAVITS.
I. ALL INFORMATION INCLUDED IN THIS CATEGORY WILL BE ORIGINAL IN ONE (1) COPY AND BOUND TO IN A STUDY THREE-RING BINDER WITH THE OUTSIDE READING GENERAL CLOSE-OUT DOCUMENTS TO INCLUDE AN INDEX OF THE CONTENTS. ALL AA DOCUMENTS WILL BE FUNDED, (WITH RED LETTERING ON THE BOTTOM OF THE FORM) AND NOTARIZED. IF THE ELECTRONIC VERSION IS USED A COPY WITH ORIGINAL SIGNATURES WILL BE SUBMITTED. THE GENERAL CONTRACTOR WILL HAVE SEPARATE TABS IDENTIFYING EACH BY NAME. THE GENERAL CONTRACTOR WILL LIST EACH SUBCONTRACTOR ALPHABETICALLY AND WILL CHECK TO INSURE THAT A RELEASE OF LIEN - AIA FORM 708A AND A PAYMENT OF DEBT - AIA FORM 708B IS INCLUDED FOR HIMSELF AND EACH SUBCONTRACTOR. THE GENERAL CONTRACTOR WILL INCLUDE A CONSENT OF SURETY - AIA FORM G07. IN ADDITION, THE GENERAL CONTRACTOR WILL INCLUDE BEHIND TAB THE FOLLOWING INFORMATION:
A. A LIST OF NAMES, BUSINESS ADDRESSES, PHONE NUMBERS AND EMAIL ADDRESSES FOR THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR.
B. AN ANNOTATED COPY OF THE SUBSTANTIAL COMPLETION PUNCH LIST INDICATING ACTION TAKEN ON EACH ITEM.
C. WARRANTIES, CERTIFICATES AND AFFIDAVITS SHALL BE INCLUDED FOR ANY EQUIPMENT, MATERIALS OR SYSTEMS COMBINED WITH ALL OF THE ABOVE INFORMATION AND PLACED BEHIND THE TAB OF THE CONTRACTOR THAT ISSUED IT.

DIVISION 4 - MASONRY

- 04 0500 - MASONRY VENEERS & SIMULATED STONES
A. SUBMITTALS: SHOP DRAWINGS AND CALCULATIONS INDICATING PRODUCTS TYPES AND LAYOUT, VERTICAL AND HORIZONTAL DIMENSIONS, EDGE CONDITIONS, AND CONNECTION DETAILS TO SUBSTRATES. PROVIDE GROUT TYPES AND COLOR SAMPLES.
B. BASIS OF DESIGN: CANYON LEDGE PROFILE AS MANUFACTURED BY CANYON STONE INC. MATCH THE MODULAR CONFIGURATIONS INDICATED IN THE CONSTRUCTION DOCUMENTS.
C. MATERIALS:
1. MORTAR: TYPE "N" TINTED TO A COLOR SELECTED BY THE ARCHITECT.
2. METAL LATH SHALL BE MINIMUM 2.5 LB. PAPER BACKED GALVANIZED METAL LATH (DIAMOND MESH) ATTACHED WITH 1/4" X 12" GALVANIZED METAL LATH. GALVANIZED FLASHING MAY ALSO BE USED.
3. IN WALL AND CAP FLASHING SHALL BE CARUSLE® PRE-LEADED EPDM OR COMPARABLE PRODUCTS, MANUFACTURED BY W.R. GRACE OR ALCO.
4. BUILDING FELT TO BE 15# ASPHALT IMPREGNATED BUILDING FELT OVER WEATHER BARRIER OVER WALL SHEATHING.
D. FABRICATIONS: FABRICATE ITEMS IN LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
E. BASIS OF DESIGN:
1. FLOORING CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILLS AND ATTENTION. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS AND METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
2. THE GENERAL CONTRACTOR SHALL KEEP A COMPLETE SET OF DOCUMENTS ON THE PROJECT SITE AT ALL TIMES FOR REFERENCE DURING CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILLS AND ATTENTION. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS AND METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
4. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER ALL JOB SITE SAFETY PROCEDURES AND POLICIES. THE GENERAL CONTRACTOR SHALL HAVE A SAFETY COORDINATOR AND BE RESPONSIBLE FOR ALL SAFETY TRAINING WITH ALL JOB SITE PERSONNEL, INCLUDING ALL SUB CONTRACTOR PERSONNEL.
5. WHETHER THE ARCHITECTS OR THE OWNERS INSPECTION NOR FAILURE TO INSPECT SHALL RELIEVE THE CONTRACTOR OF ANY OBLIGATION HEREUNDER. IF ANY WORK FAILS TO CONFORM TO THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY REMEDY AND/OR REPLACE THE SAME AT THE CONTRACTOR'S EXPENSE. NO ACCEPTANCE OR PAYMENT BY THE OWNER OR ARCHITECT SHALL CONSTITUTE A WAIVER OF THE FOREGOING AND NOTHING HEREIN SHALL EXCLUDE OR LIMIT ANY WARRANTIES IMPLIED BY LAW.
6. THE GENERAL CONTRACTOR SHALL CONDUCT ITS OPERATIONS AS NOT UNREASONABLY INTERFERE WITH TRAFFIC ON PUBLIC HIGHWAYS ADJACENT OR NEAR TO THE PROJECT SITE.
7. DO NOT SCALE DRAWINGS.

DIVISION 5 - METALS

- 05 0000 - METAL RAILINGS
A. SUBMITTALS:
1. PROJECT DATA AND SHOP DRAWINGS WITH PLANS ELEVATIONS AND SECTIONS INDICATING MEMBER SIZES AND LAYOUT, VERTICAL AND HORIZONTAL DIMENSIONS, EDGE CONDITIONS, AND CONNECTION DETAILS. INCLUDE DETAILS OF EQUIPMENT ASSEMBLIES, INDICATE DIMENSIONS, WEIGHTS, LOADS, REQUIRED CLEARANCES, METHOD OF FIELD ASSEMBLY, CONNECTIONS, LOCATION AND SIZE OF EACH FIELD CONNECTION, SAMPLES FOR INITIAL SELECTION FOR EACH TYPE OF EXPOSED FINISH.
2. DELEGATED DESIGN SUBMITTAL: FOR HANDRAIL AND GUARDRAIL SYSTEMS, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.
B. DESIGN: METAL RAILINGS SHALL BE DESIGNED BY FABRICATOR TO SUPPORT CODE REQUIRED LOADING AND TO MATCH THE CONFIGURATIONS INDICATED IN THE CONSTRUCTION DOCUMENTS. SEE DRAWINGS FOR REQUIRED RAILING ELEVATIONS.
C. WARRANTY: MANUFACTURER'S WARRANTY: MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF HANDRAIL AND GUARD RAIL SYSTEM THAT FAIL IN MATERIALS OR WORKMANSHIP WITH SPECIFIED WARRANTY PERIOD. WARRANTY PERIOD OF 30 YEARS.
D. BASIS OF DESIGN: DIGGER SPECIALTIES, INC., WESTBURY® ALUMINUM RAILING, TUSCANY SERIES, STYLE C10
E. ACCESSORIES:
1. GENERAL: PROVIDE MANUFACTURER'S STANDARD ACCESSORIES AS REQUIRED FOR COMPLETE RAILING SYSTEM AS INDICATED ON THE DRAWINGS AND AS REQUIRED TO COMPLY WITH PERFORMANCE REQUIREMENTS.
F. FASTENERS:
1. GENERAL: TYPE 304 STAINLESS-STEEL FASTENERS. USE EXPLODERS FASTENERS WITH FINISH MATCHING APPEARANCE, INCLUDING COLOR AND TEXTURE, OF RAILINGS.
G. FABRICATION:
1. GENERAL: FABRICATE RAILINGS TO COMPLY WITH REQUIREMENTS INDICATED FOR DESIGN, DIMENSIONS, MEMBER SIZES AND SPACING, DETAILS, FINISH, AND ANCHORAGE, BUT NOT LESS THAN THAT REQUIRED TO SUPPORT STRUCTURAL LOADS.
2. CUT, DRILL, AND PUNCH ALUMINUM CLEANLY AND ACCURATELY. REMOVE BURRS AND EASE EDGES TO A RADIUS OF APPROXIMATELY 1/32 INCH (1 MM) UNLESS OTHERWISE INDICATED. REMOVE SHARP OR ROUGH AREAS ON EXPOSED SURFACES.
3. FABRICATE CONNECTIONS THAT ARE EXPOSED TO WEATHER IN A MANNER THAT EXCLUDES WATER. PROVIDE WEEP HOLES WHERE WATER MAY ACCUMULATE.
H. FINISH:
1. POWDER-COAT FINISH: AAMA 2605 EXPLANT WITH A MINIMUM DRY FILM THICKNESS OF 1.5 MILS (0.04 MM). COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR CLEANING, CONVERSION COATING, AND APPLYING AND BAKING FINISH.
I. INSTALLATION:
1. SUPPLY COMPONENTS REQUIRED FOR ANCHORAGE FABRICATED FROM SAME MATERIAL AND FINISH AS FABRICATION UNLESS NOTED OTHERWISE. SHIM AND LEVEL FABRICATIONS AS NECESSARY. COAT CONCEALED SURFACES OF ALUMINUM FABRICATIONS IN CONTACT WITH CONCRETE, GROUT, MASONRY, WOOD, OR DISSIMILAR METALS WITH BITUMINOUS PAINT.
2. FIT EXPOSED CONNECTIONS TOGETHER TO FORM TIGHT, HAIRLINE JOINTS.
3. ROOM CUTTING, DRILLING, AND FITTING REQUIRED FOR INSTALLING RAILINGS. SET RAILINGS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION. MEASURED FROM ESTABLISHED UNITS AND LEVELS AND FREE OF RACK.
4. DO NOT WELD, CUT, OR ABRADE SURFACES OF RAILING COMPONENTS THAT ARE COATED OR FINISHED AFTER FABRICATION AND THAT ARE INTENDED FOR FIELD CONNECTION BY MECHANICAL OR OTHER MEANS WITHOUT FURTHER CUTTING OR FITTING.
5. SET POSTS PLUMB WITHIN A TOLERANCE OF 1/16 INCH IN 3 FEET.
6. CONTROL OF CORROSION: PREVENT GALVANIC ACTION AND OTHER FORMS OF CORROSION BY INSULATING METALS AND OTHER MATERIALS FROM DIRECT CONTACT WITH INCOMPATIBLE MATERIALS.
7. ADJUST RAILINGS BEFORE ANCHORING TO ENSURE MATCHING ALIGNMENT AT ABUTTING JOINTS.
8. FASTENING TO IN-PLACE CONSTRUCTION: USE ANCHORING DEVICES AND FASTENERS WHERE NECESSARY FOR SECURING RAILINGS AND FOR PROPERLY TRANSFERRING LOADS TO IN-PLACE CONSTRUCTION.
9. PROTECT FINISHES OF RAILINGS FROM DAMAGE DURING CONSTRUCTION PERIOD WITH TEMPORARY PROTECTIVE COVERINGS APPROVED BY RAILING MANUFACTURER. REMOVE PROTECTIVE COVERINGS AT TIME OF SUBSTANTIAL COMPLETION.

DIVISION 6 - PAPE AND TUBE RAILINGS

- 06 2101 - PIPE AND TUBE RAILINGS
A. SUBMITTALS:
1. PROJECT DATA AND SHOP DRAWINGS WITH PLANS ELEVATIONS AND SECTIONS INDICATING MEMBER SIZES AND LAYOUT, VERTICAL AND HORIZONTAL DIMENSIONS, EDGE CONDITIONS, AND CONNECTION DETAILS. INCLUDE DETAILS OF EQUIPMENT ASSEMBLIES, INDICATE DIMENSIONS, WEIGHTS, LOADS, REQUIRED CLEARANCES, METHOD OF FIELD ASSEMBLY, CONNECTIONS, LOCATION AND SIZE OF EACH FIELD CONNECTION, SAMPLES FOR INITIAL SELECTION FOR EACH TYPE OF EXPOSED FINISH.
2. DELEGATED DESIGN SUBMITTAL: FOR HANDRAIL AND GUARDRAIL SYSTEMS, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.
B. DESIGN: METAL TUBE RAILINGS SHALL BE DESIGNED BY FABRICATOR TO SUPPORT CODE REQUIRED LOADING AND TO MATCH THE CONFIGURATIONS INDICATED IN THE CONSTRUCTION DOCUMENTS. SEE DRAWINGS FOR REQUIRED RAILING ELEVATIONS.
C. WARRANTY: MANUFACTURER'S WARRANTY: MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF HANDRAIL AND GUARD RAIL SYSTEM THAT FAIL IN MATERIALS OR WORKMANSHIP WITH SPECIFIED WARRANTY PERIOD. WARRANTY PERIOD OF 30 YEARS.
D. BASIS OF DESIGN: DIGGER SPECIALTIES, INC., WESTBURY® ALUMINUM RAILING, TUSCANY SERIES, STYLE C10
E. ACCESSORIES:
1. GENERAL: PROVIDE MANUFACTURER'S STANDARD ACCESSORIES AS REQUIRED FOR COMPLETE RAILING SYSTEM AS INDICATED ON THE DRAWINGS AND AS REQUIRED TO COMPLY WITH PERFORMANCE REQUIREMENTS.
F. FASTENERS:
1. GENERAL: TYPE 304 STAINLESS-STEEL FASTENERS. USE EXPLODERS FASTENERS WITH FINISH MATCHING APPEARANCE, INCLUDING COLOR AND TEXTURE, OF RAILINGS.
G. FABRICATION:
1. GENERAL: FABRICATE RAILINGS TO COMPLY WITH REQUIREMENTS INDICATED FOR DESIGN, DIMENSIONS, MEMBER SIZES AND SPACING, DETAILS, FINISH, AND ANCHORAGE, BUT NOT LESS THAN THAT REQUIRED TO SUPPORT STRUCTURAL LOADS.
2. CUT, DRILL, AND PUNCH ALUMINUM CLEANLY AND ACCURATELY. REMOVE BURRS AND EASE EDGES TO A RADIUS OF APPROXIMATELY 1/32 INCH (1 MM) UNLESS OTHERWISE INDICATED. REMOVE SHARP OR ROUGH AREAS ON EXPOSED SURFACES.
3. FABRICATE CONNECTIONS THAT ARE EXPOSED TO WEATHER IN A MANNER THAT EXCLUDES WATER. PROVIDE WEEP HOLES WHERE WATER MAY ACCUMULATE.
H. FINISH:
1. POWDER-COAT FINISH: AAMA 2605 EXPLANT WITH A MINIMUM DRY FILM THICKNESS OF 1.5 MILS (0.04 MM). COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR CLEANING, CONVERSION COATING, AND APPLYING AND BAKING FINISH.
I. INSTALLATION:
1. SUPPLY COMPONENTS REQUIRED FOR ANCHORAGE FABRICATED FROM SAME MATERIAL AND FINISH AS FABRICATION UNLESS NOTED OTHERWISE. SHIM AND LEVEL FABRICATIONS AS NECESSARY. COAT CONCEALED SURFACES OF ALUMINUM FABRICATIONS IN CONTACT WITH CONCRETE, GROUT, MASONRY, WOOD, OR DISSIMILAR METALS WITH BITUMINOUS PAINT.
2. FIT EXPOSED CONNECTIONS TOGETHER TO FORM TIGHT, HAIRLINE JOINTS.
3. ROOM CUTTING, DRILLING, AND FITTING REQUIRED FOR INSTALLING RAILINGS. SET RAILINGS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION. MEASURED FROM ESTABLISHED UNITS AND LEVELS AND FREE OF RACK.
4. DO NOT WELD, CUT, OR ABRADE SURFACES OF RAILING COMPONENTS THAT ARE COATED OR FINISHED AFTER FABRICATION AND THAT ARE INTENDED FOR FIELD CONNECTION BY MECHANICAL OR OTHER MEANS WITHOUT FURTHER CUTTING OR FITTING.
5. SET POSTS PLUMB WITHIN A TOLERANCE OF 1/16 INCH IN 3 FEET.
6. CONTROL OF CORROSION: PREVENT GALVANIC ACTION AND OTHER FORMS OF CORROSION BY INSULATING METALS AND OTHER MATERIALS FROM DIRECT CONTACT WITH INCOMPATIBLE MATERIALS.
7. ADJUST RAILINGS BEFORE ANCHORING TO ENSURE MATCHING ALIGNMENT AT ABUTTING JOINTS.
8. FASTENING TO IN-PLACE CONSTRUCTION: USE ANCHORING DEVICES AND FASTENERS WHERE NECESSARY FOR SECURING RAILINGS AND FOR PROPERLY TRANSFERRING LOADS TO IN-PLACE CONSTRUCTION.
9. PROTECT FINISHES OF RAILINGS FROM DAMAGE DURING CONSTRUCTION PERIOD WITH TEMPORARY PROTECTIVE COVERINGS APPROVED BY RAILING MANUFACTURER. REMOVE PROTECTIVE COVERINGS AT TIME OF SUBSTANTIAL COMPLETION.

DIVISION 8 - WOOD AND PLASTICS

- 08 1000 - ROUGH CARPENTRY
1. PROVIDE SUFFICIENT FIRE RETARDANT TREATED WOOD BLOCKING AT ALL STUDS FOR SECURING OF WALL & CEILING ITEMS, WHETHER FURNISHED BY OWNER OR CONTRACTOR.
2. CONCEALED WOOD TO BE FIRE RETARDANT TREATED UNLESS NOTED OTHERWISE.
3. PRESERVATIVE TREATED LUMBER IS REQUIRED FOR ALL ITEMS TO REMAIN IN CONTACT WITH CONCRETE OR MASONRY TO CONFORM TO AIAA STANDARD 5.
4. PLYWOOD SHALL BE CD GRADE APA PR OR YELLOW PINE. ALL PLY-WOOD TO BE FIRE RATED WHERE WALLS ARE INDICATED AS RATED CONSTRUCTION.
5. BLOCKING SHALL BE CLOSELY FITTED, ACCURATELY SET TO REQUIRED LINES & LEVELS, SECURELY CONNECTED & RIGIDLY FIRED IN PLACE. UNITS, SCREWS, AND BOLTS AS INDICATED OR REQUIRED BY GOOD PRACTICE AND MANUFACTURER'S RECOMMENDATIONS.
6. 06 2000 - FINISH CARPENTRY
A. SUBMITTALS: SAMPLES OF FINISH MATERIALS, CATALOG CUTS OF HARDWARE, AND SHOP DRAWINGS INCLUDING DIMENSIONS, PLANS, ELEVATIONS, AND SECTIONS.
B. QUALITY STANDARD: ARCHITECTURAL WOODWORK INSTITUTES' ARCHITECTURAL WOODWORK QUALITY STANDARDS
C. MATERIALS:
1. SOFTWOOD LUMBER: MAXIMUM MOISTURE CONTENT OF 8 PERCENT; WITH VERTICAL GRAIN, OF QUALITY SUITABLE FOR SCHEDULED FINISH.
2. HARDWOOD LUMBER: MAXIMUM MOISTURE CONTENT OF 6 PERCENT; WITH VERTICAL GRAIN, OF QUALITY SUITABLE FOR SCHEDULED FINISH.
3. SHEET MATERIALS: SOFTWOOD PLYWOOD, EXPOSED TO VIEW. FACE SPECIES AS INDICATED, PLAN SAWS, MEDIUM DENSITY FIBERBOARD CORE, PS, GRADE A/B, GUEE TYPE AS RECOMMENDED FOR APPLICATION.
D. INTERIOR WOODWORK:
1. COMPLETE FABRICATION BEFORE SHIPPING TO PROJECT SITE TO MAXIMUM EXTENT FEASIBLE. DISASSEMBLE ONLY AS NEEDED FOR SHIPPING AND INSTALLING, WHERE NECESSARY FOR FITTING AT PROJECT SITE, PROVIDE FOR SCRUBING AND TRIMMING.
2. BACKCUT AND GROOVE BACKS OF FLAT MEMBERS, KEF BACKS OF RIVE, AND OTHER FLAT MEMBERS, EXCEPT WHERE ENDS WILL BE EXPOSED IN FINISHED WORK.
E. INSTALLATION:
1. DO NOT DELIVER OR INSTALL WOODWORK UNTIL BUILDING IS ENCLOSED, WET WORK IS COMPLETED, HVAC IS OPERATIONAL, AND WOODWORK IS CONDITIONED TO PREVALENT CONDITIONS OF SPACE WHERE INSTALLED. MAINTAIN TEMPERATURE BETWEEN 55° F. AND 75° F. FOR 72 HOURS BEFORE BEGINNING INSTALLATION AND FOR 12 HOURS OF PROJECT.
2. LOCATION OF PROJECT:
A. PLUMB AND SQUARE LEVEL AND PLUMB AND SHIM AS REQUIRED WITH CONCEALED SHIMS TO 8 TOLERANCE OF 1/32" AND TO COMPLY WITH REFERENCED QUALITY STANDARD FOR GRADE SPECIFIED.
B. SCORE AND CUT WOODWORK TO FIT ADJOINING WORK, SEAL CUT SURFACES, AND REPAIR DAMAGED FINISH AT CUTS.
C. INSTALL TRIM WITH MINIMUM NUMBER OF JOINTS POSSIBLE USING FULL-LENGTH PIECES TO GREATEST EXTENT POSSIBLE. STAGGER JOINTS IN ADJACENT AND RELATED MEMBERS.
D. LUMBER OR TRANSPARENT FINISH (STAINED OR CLEAR), USE PIECES MADE OF SOLID LUMBER STOCK.
E. LUMBER FOR PAINTED FINISH: AT CONTRACTOR'S OPTION, USE PIECES WHICH ARE EITHER GLUED-UP OR MADE OF SOLID LUMBER STOCK.
F. DISCARD UNITS OF MATERIAL WHICH ARE UNSOUND, WARPED, BOWED, TWISTED, IMPROPERLY TREATED, NOT ACCURATELY SEASONED OR TOO SMALL TO FABRICATE WORK WITH MINIMUM OF JOINTS OR OPTIMUM JOINTING ARRANGEMENTS, OR WHICH ARE DEFECTIVELY MANUFACTURED WITH RESPECT TO SURFACES, SIZES, OR PATTERNS.
G. FINISHES: EUROPEAN STYLE CONCEALED, FRAME-MOUNTED, SCREW-ADJUSTABLE POLISHED, STEEL WITH POLISHED FINISH.
H. FINISH WORK SHALL BE SMOOTH, FREE FROM BUBBLES, TORN MARKS, RAISED GRAIN MARKINGS, OR OTHER DEFECTS ON EXPOSED SURFACES.

DIVISION 9 - ARCHITECTURAL WOOD CASEWORK

- 09 4010 - ARCHITECTURAL WOOD CASEWORK
A. SUBMITTALS: SAMPLES OF FINISH MATERIALS, CATALOG CUTS OF HARDWARE, AND SHOP DRAWINGS INCLUDING GROUT, 1/32 INCH (1 MM) UNLESS OTHERWISE INDICATED. REMOVE SHARP OR ROUGH AREAS ON EXPOSED SURFACES.
B. BASIS OF DESIGN: ARCHITECTURAL WOODWORK INSTITUTES' ARCHITECTURAL WOODWORK QUALITY STANDARDS
C. QUALITY ASSURANCE:
1. FABRICATOR QUALIFICATIONS: COMPANY SPECIALIZING IN FABRICATING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM FIVE YEARS OF DOCUMENTED EXPERIENCE.
D. CARENETS:
1. GENERAL: STANDARD: CUSTOM GRADE, IN ACCORDANCE WITH ANIAWMAACW (A)WS OR AHMAACW (NA)WS, UNLESS NOTED OTHERWISE.
2. WOOD VENEER FACED CABINETS: CONCEALED SURFACES, MANUFACTURER'S OPTION.
3. PLASTIC LAMINATE FACED CABINETS: CUSTOM GRADE.
E. MATERIALS / ACCESSORIES / HARDWARE:
1. HARDWARE: BRASS AS INDICATED IN SCHEDULES. COMPLY WITH MANUFACTURER INSTRUCTIONS.
2. ADHESIVE: TYPE RECOMMENDED BY FABRICATOR TO SUIT APPLICATION.
3. FASTENERS: SIZE AND TYPE TO SUIT APPLICATION.
4. FASTENING TO IN-PLACE CONSTRUCTION: USE ANCHORING DEVICES AND FASTENERS WHERE NECESSARY FOR SECURING RAILINGS AND FOR PROPERLY TRANSFERRING LOADS TO IN-PLACE CONSTRUCTION.
5. PROTECT FINISHES OF RAILINGS FROM DAMAGE DURING CONSTRUCTION PERIOD WITH TEMPORARY PROTECTIVE COVERINGS APPROVED BY RAILING MANUFACTURER. REMOVE PROTECTIVE COVERINGS AT TIME OF SUBSTANTIAL COMPLETION.
6. GROMMETS: STANDARD PLASTIC, PAINED STEEL, OR RUBBER GROMMETS FOR CUT-OUTS, IN COLOR TO MATCH ADJACENT SURFACE.
7. HARDWARE: BRASS AS INDICATED IN SCHEDULES. COMPLY WITH MANUFACTURER'S STANDARD SPECIFICATIONS.
8. ADJUSTABLE SHELF SUPPORTS: STANDARD SIDE-MOUNTED SYSTEM USING RECESSED METAL SHELF STANDARDS OR MULTIPLE HOLES FOR PINS SUPPORTS AND COORDINATED SELF RESTS, POLISHED CHROME FINISH FOR MINIMAL 1 INCH SPRING ADJUSTMENTS.
9. DRAWER SLIDES: TYPE - EXTENSION TYPES AS INDICATED.
10. HINGES: EUROPEAN STYLE CONCEALED SELF-CLOSING TYPE (S) WITH POLISHED FINISH.
11. ADJUSTABLE SHELF SUPPORTS: STANDARD SIDE-MOUNTED, SCREW-ADJUSTABLE POLISHED, STEEL WITH POLISHED FINISH.
12. FINISH WORK IN ACCORDANCE WITH ANIAWMAACW (A)WS OR AHMAACW (NA)WS.
F. INSTALLATION:
1. INSTALL NO INTERIOR FINISH CARPENTRY OR MILLWORK UNTIL SPACES ARE ENCLOSED, DRY, AND CAPABLE OF BEING HEATED. MAINTAIN TEMPERATURE BETWEEN 55° F. AND 75° F. FOR 72 HOURS BEFORE BEGINNING INSTALLATION AND FOR DURATION OF PROJECT.
2. VERIFY ADEQUACY OF BACKING AND SUPPORT FRAMING.
3. VERIFY LOCATION AND SIZES OF UTILITY ROUGH-IN ASSOCIATED WITH WORK OF THIS SECTION.
4. SET AND SECURE CUSTOM CABINETS IN PLACE, ASSURING THAT THEY ARE RIGID, PLUMB, AND LEVEL.
5. USE FIXTURE ATTACHMENTS IN CONCEALED LOCATIONS FOR WALL MOUNTED COMPONENTS.
6. USE CONCEALED JOINT FASTENERS TO ALIGN AND SECURE ADJOINING CABINET UNITS.
7. CAREFULLY SCRIBE CASEWORK ABUTTING OTHER COMPONENTS, WITH MAXIMUM GAUGES OF 1/32 INCH. DO NOT USE ADDITIONAL OVERLAY TRIM FOR THIS PURPOSE.
8. SECURE CABINETS TO FLOOR USING APPROPRIATE ANGLES AND ANCHORAGES.
9. CLEAN CASEWORK, COUNTERS, SHELVES, HARDWARE, FITTINGS, AND FIXTURES.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (CONTINUED)

- 07 1300 - SHEET WATERPROOFING (CONTINUED)
D. WEATHER LAP JOINTS ON SLOPED SUBSTRATE IN DIRECTION OF DRAINAGE, AND SEAL JOINTS AND SEAMS WITH FLEXIBLE FLASHINGS. SEAL ITEMS WATER TIGHT THAT PENETRATE THROUGH WATERPROOFING MEMBRANE WITH FLEXIBLE FLASHINGS.
E. PRESERVATIVE TREATED LUMBER IS REQUIRED FOR ALL ITEMS TO REMAIN IN CONTACT WITH CONCRETE OR MASONRY TO CONFORM TO AIAA STANDARD 5.
F. INSTALLATION:
1. WEATHER LAP JOINTS ON SLOPED SUBSTRATE IN DIRECTION OF DRAINAGE, AND SEAL JOINTS AND SEAMS WITH FLEXIBLE FLASHINGS. SEAL ITEMS WATER TIGHT THAT PENETRATE THROUGH WATERPROOFING MEMBRANE WITH FLEXIBLE FLASHINGS.
2. PRESERVATIVE TREATED LUMBER IS REQUIRED FOR ALL ITEMS TO REMAIN IN CONTACT WITH CONCRETE OR MASONRY TO CONFORM TO AIAA STANDARD 5.
3. INSTALL COUNTERFLASHING OVER EXPOSED EDGES.
4. INSTALLATION OF DRAINAGE PANEL AND PROTECTION BOARD: INSTALLER TO FOLLOW MANUFACTURER'S MASTIC COATING INSTRUCTIONS.
5. UPON COMPLETION OF HORIZONTAL MEMBRANE INSTALLATION, DAM INSTALLATION AREA IN PREPARATION FOR FLOOD TESTING. FLOOD TO MINIMUM DEPTH OF 1 INCH WITH CLEAN WATER, AND AFTER 48 HOURS INSPECT FOR LEAKING WATER. LEAKING WATER TO BE STOPPED IMMEDIATELY AND REPAIR WORK WITH NEW WATERPROOFING MATERIALS AS DIRECTED BY ARCHITECT, REPEAT FLOOD TEST, AND REPAIR DAMAGE TO BUILDING, WHEN AREA IS PROVEN WATER TIGHT, DRAIN WATER AND REMOVE DAM.
6. 07 1400 - FLUID-APPLIED WATERPROOFING
A. SUBMITTALS:
1. PROJECT DATA: PROVIDE DATA FOR MEMBRANE, SURFACE CONDITIONER, FLEXIBLE FLASHINGS, JOINT COVER SHEET, AND JOINT AND CRACK SEALANTS.
2. WARRANTY:
A. MANUFACTURER WARRANTY AND INSURE THAT FORMS HAVE BEEN COMPLETED IN OWNER'S NAME AND REGISTERED WITH MANUFACTURER.
B. REFERENCE STANDARDS:
1. ASTM E1545/S1541 - STANDARD TEST METHODS FOR WATER VAPOR RETARDERS USED IN CONTACT WITH EARTH UNDER CONCRETE SLABS, ON WALLS, OR AS GROUND COVER 2008A, WITH EDITORIAL REVISION (2013).
2. NRCA (WV) - THE NRCA WATERPROOFING MANUAL 2021.
C. QUALITY ASSURANCE:
1. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SPECIFIED IN THIS SECTION, WITH NOT LESS THAN THREE YEARS DOCUMENTED EXPERIENCE.
2. INSURE QUALIFICATIONS COMPANY HAVE BEEN VERIFIED IN WORK OF THE TYPE SPECIFIED AND WITH AT LEAST THREE YEARS OF DOCUMENTED EXPERIENCE.
D. MOCK-UP:
1. CONSTRUCT MOCK-UP CONSISTING OF 100 SQ FT OF HORIZONTAL WATERPROOFED PANEL; TO REPRESENT FINISH INCLUDING INTERNAL AND EXTERNAL CORNERS, DRAINAGE PANEL, BASE FLASHINGS, CONTROL JOINTS, EXPANSION JOINTS, COUNTERFLASHINGS.
E. FIELD CONDITIONS:
1. MAINTAIN AMBIENT TEMPERATURES ABOVE 40 DEGREES F FOR 24 HOURS BEFORE AND DURING APPLICATION AND UNTIL CURED.
F. PRODUCTS:
1. COLD-APPLIED RUBBERIZED ASPHALT WATERPROOFING:
A. AIAA INDUSTRIES, INC. AIAA SYSTEM 500 (AUSSE MEMBRANE)
B. POSSIBLE STAGGER JOINTS IN ADJACENT AND RELATED MEMBERS.
C. EPDM WATERPROOFING SYSTEMS: ECOLINE/S (WWW.EPDMRESERV.COM/US).
D. COLD-APPLIED RUBBERIZED ASPHALT WATERPROOFING: RUBBERIZED ASPHALTIC COMPOUND, SUITABLE FOR INSTALLATION ON CONCRETE AND CONCRETE MASONRY.
1. COMPLY WITH ICC-ES E-2029. EVIDENCE OF COMPLIANCE INCLUDES CURRENT ICC-ES EVALUATION REPORT CTRM ICC-ES E-2029.
2. HYDROSTATIC PRESSURE RESISTANCE: WHEN TESTED IN ACCORDANCE WITH ASTM C1306/C1308L, AT LEAST 30 POUNDS PER SQUARE INCH BY THE RAPID TEST AND AT LEAST 35 POUNDS PER SQUARE INCH BY THE LONG TERM TEST.
3. LOW TEMPERATURE RESISTANCE: NO CRACKING, LOSS OF ADHESION, SPLITTING OR PINHOLE WHEN TESTED AT MINUS 15 DEGREES F IN ACCORDANCE WITH ASTM C836/C838M.
4. ADHESION TO SUBSTRATE WHEN TESTED IN ACCORDANCE WITH ASTM C836/C838M.
5. DECAY RESISTANCE: NO DECAY WHEN TESTED IN ACCORDANCE WITH ASTM E1645/E1646.
6. WET FUL SAG RESISTANCE: NO SAG OR SAG WITH PLUS MINUS 5 MILS WHEN TESTED IN ACCORDANCE WITH ASTM C836/C838M.
2. WATER-BASED ASPHALT EMULSION WATERPROOFING:
A. MAR-FLEX WATERPROOFING & BUILDING PRODUCTS, ARMORMEMBRANE 363 WATER-BASED: WWW.MAR-FLEX.COM/US.
B. DIMENSIONAL STABILIZATION & WATERPROOFING, TREMPROOF 260: WWW.TREMCOSEALANTS.COM/US.
C. W. R. MEADOWS, INC. MEL-ROL LAM: WWW.WRMEADOWS.COM/US.
D. DIMENSIONAL STABILIZATION & WATERPROOFING, TREMPROOF 260: WWW.TREMCOSEALANTS.COM/US.
E. C. W. MEADOWS, INC. MEL-ROL LAM: WWW.WRMEADOWS.COM/US.
3. SELF-ADHERING MEMBRANE:
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. PLACE BOARDS IN A METHOD TO MAXIMIZE TIGHT JOINTS, STAGGER VERTICAL JOINTS AND INTERLOCK AT CORNERS, BUTT EDGES AND INTERLOCK BOARD AND TO PROTRUSIONS, ACHIEVE A CONTINUOUS FLUSH OF INSULATION SURFACE, WITH NO GAPS IN EXCESS OF 1/16 INCH.
C. FILL GAPS GREATER THAN 1/16 INCH WITH STRIPS OR SHIMS CUT FROM THE SAME INSULATION MATERIAL.
4. CLASS FINISH:
A. REINFORCING MESH: INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. BASE COAT: INSTALL TO MINIMUM THICKNESS SPECIFIED, FOLLOWING MANUFACTURER'S INSTRUCTIONS.
C. GIVE BACKING COAT APPROXIMATELY 1/8 INCH THICKNESS.
D. FINISH COAT: APPLY FINISH COAT AFTER BASE COAT HAS DRIED NOT LESS THAN 24 HOURS, EMBED FINISH AGGREGATE, AND FINISH TO A UNIFORM TEXTURE AND COLOR.
G. ACCESSORIES:
1. SEALANT FOR JOINTS AND CRACKS IN SUBSTRATE: TYPE COMPATIBLE WITH MANUFACTURING MATERIAL AND AS RECOMMENDED BY WATERPROOFING MANUFACTURER.
H. EXAMINATION:
1. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK.
2. INSURE ALL SURFACES ARE FREE OF FROZEN WATER, DAMPNESS, LOOSE PARTICLES, CRACKS, PITS, PROJECTIONS, PENETRATIONS, OR FOREIGN MATTER DETRIMENTAL TO ADHESION OR APPLICATION OF WATERPROOFING SYSTEM.
3. SURFACES TO BE WATERPROOFED ARE SMOOTH, FREE OF HONEYCOMB OR PITTING, AND NOT DETRIMENTAL TO FULL CONTACT BOND OF WATERPROOFING MATERIALS.
4. VERIFY ITEMS THAT PENETRATE SURFACES TO RECEIVE WATERPROOFING ARE SECURELY INSTALLED.
I. PREPARATION:
1. PROTECT ADJACENT SURFACES FROM DAMAGE NOT DESIGNATED TO RECEIVE WATERPROOFING.
2. CLEAN AND PREPARE SURFACES TO RECEIVE WATERPROOFING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. VACUUM SUBSTRATE CLEAN.
3. DO NOT APPLY WATERPROOFING TO SURFACES UNACCEPTABLE TO WATERPROOFING MANUFACTURER.
4. SEAL JOINTS AND CRACKS WITH A FILLER

SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (CONTINUED)

07 8200 - SHEET METAL FLASHING AND TRIM (CONTINUED)

- E. PRODUCTS**
 - 1. FINISHED ALUMINUM: ASTM B209 (ASTM B209M), 20 GAUGE, (0.032 INCH) THICK, FLAIN FINISH
 - 2. SHOP PRE-COATED WITH MODIFIED SILICONE COATING
 - 3. FLUOROPOLYMER FINISH: SUPERIOR PERFORMANCE ORGANIC FINISH, AAMA 2604, MULTIPLE COAT, THERMALLY CURED FLUOROPOLYMER FINISH SYSTEM
 - 4. COLOR AS SELECTED BY ARCHITECT FROM MANUFACTURERS STANDARD COLORS
- F. FABRICATION**
 - 1. FORM SECTIONS TRUE TO SHAPE, ACCURATE IN SIZE, SQUARE, AND FREE FROM DISTORTION OR DEFECTS
 - 2. FORM PIECES IN LOWEST POSSIBLE LENGTHS
 - 3. HEM EXPOSED EDGES ON UNDERSIDE 1/2 INCH, MITER AND SEAM CORNERS
 - 4. FORM MATERIAL WITH FLAT LOCK SEAMS, EXCEPT WHERE OTHERWISE INDICATED; AT MOVING JOINTS, USE SEALED LAP JOINT, BAYONET TYPE OR INTERLACED HOOKED SEAMS
 - 5. FABRICATE FLASHINGS TO ALLOW TIE TO EXCEED 2 INCHES OVER ROOFING GRAVEL, RETURN AND BRAKE EDGES
- G. ACCESSORIES**
 - 1. FASTENERS: GALVANIZED STEEL, WITH SOFT NEOPRENE WASHERS
 - 2. PRIMERS: ZINC CHROMATE TYPE
 - 3. CONCEALED SEALANTS: NON-CURING BUTYL SEALANT, WITH MINIMUM MOVEMENT CAPABILITY AS APPROVED
 - 4. SEALED SEALANTS: ASTM D320, ELASTOMERIC SEALANT, WITH MINIMUM MOVEMENT CAPABILITY AS APPROVED
 - 5. RECOMMENDED BY MANUFACTURER FOR SUBSTRATES TO BE SEALED; COLOR TO MATCH ADJACENT MATERIAL
- H. INSTALLATION**
 - 1. SECURE FLASHINGS IN PLACE USING CONCEALED FASTENERS, AND USE EXPOSED FASTENERS ONLY WHERE PERMITTED
 - 2. APPLY PLASTIC CEMENT COMPOUND BETWEEN METAL FLASHING AND FELT FLASHINGS
 - 3. FIT FLASHINGS TIGHT PLATE, MAKE CORNERS SQUARE, SURFACES TRUE AND STRAIGHT IN PROFILES, AND LINES ACCURATE TO PLANES
 - 4. SEAL METAL JOINTS WATER-TIGHT

07 8100 - APPLIED FIREPROOFING

- A. SUBMITTALS**: PRODUCT DATA, PROVIDE DATA INDICATING PRODUCT CHARACTERISTICS
- B. MANUFACTURERS**:
 - 1. LIST REPORTS, REPORTS FROM REPUTABLE INDEPENDENT TESTING AGENCIES FOR PROPOSED PRODUCTS, INDICATING COMPLIANCE WITH SPECIFIED CRITERIA, CONDUCTED UNDER CONDITIONS SIMILAR TO THOSE ON PROJECT, AS FOLLOWS:
 - A. BOND STRENGTH
 - B. BOND IMPACT
 - C. COMPRESSIVE STRENGTH
 - D. FIRE TESTING USING SUBSTRATE MATERIALS SIMILAR THOSE ON PROJECT
 - 2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES
 - 3. MANUFACTURER'S QUALIFICATION STATEMENT
- C. WARRANTY**:
 - 1. CORRECT DEFECTIVE WORK WITHIN A TWO YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION
 - 2. INCLUDE COVERAGE FOR DAMAGE TO REMAIN FREE FROM CRACKING, CHECKING, DUSTING, FLAKING, SPALLING, SEPARATION, AND BLISTERING
 - 3. REINSTALL OR REPAIR FAILURES THAT OCCUR WITHIN WARRANTY PERIOD

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- A. SUBMITTALS**: PRODUCT DATA, PROVIDE DATA INDICATING PRODUCT CHARACTERISTICS
- B. MANUFACTURERS**:
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 - A. BOND STRENGTH
 - B. BOND IMPACT
 - C. COMPRESSIVE STRENGTH
 - D. FIRE TESTING USING SUBSTRATE MATERIALS SIMILAR THOSE ON PROJECT
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 - 1. CORRECT DEFECTIVE WORK WITHIN A TWO YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION
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- B. MANUFACTURERS**:
 - 1. LIST REPORTS, REPORTS FROM REPUTABLE INDEPENDENT TESTING AGENCIES FOR PROPOSED PRODUCTS, INDICATING COMPLIANCE WITH SPECIFIED CRITERIA, CONDUCTED UNDER CONDITIONS SIMILAR TO THOSE ON PROJECT, AS FOLLOWS:
 - A. BOND STRENGTH
 - B. BOND IMPACT
 - C. COMPRESSIVE STRENGTH
 - D. FIRE TESTING USING SUBSTRATE MATERIALS SIMILAR THOSE ON PROJECT
 - 2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES
 - 3. MANUFACTURER'S QUALIFICATION STATEMENT
- C. WARRANTY**:
 - 1. CORRECT DEFECTIVE WORK WITHIN A TWO YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION
 - 2. INCLUDE COVERAGE FOR DAMAGE TO REMAIN FREE FROM CRACKING, CHECKING, DUSTING, FLAKING, SPALLING, SEPARATION, AND BLISTERING
 - 3. REINSTALL OR REPAIR FAILURES THAT OCCUR WITHIN WARRANTY PERIOD

07 8100 - APPLIED FIREPROOFING

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- B. MANUFACTURERS**:
 - 1. LIST REPORTS, REPORTS FROM REPUTABLE INDEPENDENT TESTING AGENCIES FOR PROPOSED PRODUCTS, INDICATING COMPLIANCE WITH SPECIFIED CRITERIA, CONDUCTED UNDER CONDITIONS SIMILAR TO THOSE ON PROJECT, AS FOLLOWS:
 - A. BOND STRENGTH
 - B. BOND IMPACT
 - C. COMPRESSIVE STRENGTH
 - D. FIRE TESTING USING SUBSTRATE MATERIALS SIMILAR THOSE ON PROJECT
 - 2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES
 - 3. MANUFACTURER'S QUALIFICATION STATEMENT
- C. WARRANTY**:
 - 1. CORRECT DEFECTIVE WORK WITHIN A TWO YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION
 - 2. INCLUDE COVERAGE FOR DAMAGE TO REMAIN FREE FROM CRACKING, CHECKING, DUSTING, FLAKING, SPALLING, SEPARATION, AND BLISTERING
 - 3. REINSTALL OR REPAIR FAILURES THAT OCCUR WITHIN WARRANTY PERIOD

07 4110 - ROOFING MATERIALS & ACCESSORIES

- A. SUBMITTALS**: PROVIDE DATA ON SHAPE OF COMPONENTS, MATERIALS AND FINISHES, ANCHOR TYPES AND LOCATIONS
- B. SHOP DRAWINGS**: INDICATE CONFIGURATION AND DIMENSION OF COMPONENTS, ADJACENT CONSTRUCTION, REPAIR OR REPLACE COMPONENTS OF SYSTEMS THAT FAIL IN MATERIALS OR WORKSMANSHIP WITHIN SPECIFIED WARRANTY PERIOD
- C. WARRANTY**: SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF SYSTEMS THAT FAIL IN MATERIALS OR WORKSMANSHIP WITHIN SPECIFIED WARRANTY PERIOD
- D. PRODUCTS**:
 - 1. CONFIGURATION: FASCIA, CANT, AND EDGE SEQUENCE FOR ROOF MEMBRANE
 - 2. PULL-OFF RESISTANCE: TESTED IN ACCORDANCE WITH ANSI/SPRI M485-1 USING TEST METHOD RE-1 AND RE-2 TO POSITIVE AND NEGATIVE DESIGN WIND PRESSURE AS DEFINED BY APPLICABLE LOCAL BUILDING CODE
 - 3. CORNINGS: FACTORY FABRICATED TO SIZES REQUIRED; CORNERS MITERED; CONCEALED FASTENERS
 - 4. CONFIGURATION: HOLLOW CORED POLYURETHANE INSULATION, INTERIOR SPICE PIECE AT JOINTS OF SAME MATERIAL, THICKNESS, AND FINISH AS CAP, CONCEALED STAINLESS STEEL FASTENERS
 - 5. PULL-OFF RESISTANCE: TESTED IN ACCORDANCE WITH ANSI/SPRI M485-1 USING TEST METHOD RE-3 TO POSITIVE AND NEGATIVE DESIGN WIND PRESSURE AS DEFINED BY APPLICABLE LOCAL BUILDING CODE
 - 6. 24 GA. GALVALUME: MANUFACTURED WITH HYNAR 500, 2.0 MILS THICK FLUOROCARBON FINISH
 - 7. ROOF PENETRATION SEALING SYSTEMS: PREMANUFACTURED COMPONENTS AND ACCESSORIES AS REQUIRED TO PRESERVE INTEGRITY OF ROOFING SYSTEM AND MAINTAIN ROOF WARRANTY; SUITABLE FOR CONDUCITS AND ROOFING SYSTEMS TO BE INSTALLED, DESIGNED TO ACCOMMODATE EXISTING PENETRATIONS WHERE APPLICABLE
- E. FINISHES**:
 - 1. PVD (POLYVINYLIDENE FLUORIDE) COATING: SUPERIOR PERFORMANCE ORGANIC FINISH, AAMA 2605, MULTIPLE COAT, THERMALLY CURED FLUOROPOLYMER FINISH SYSTEM, COLOR AS INDICATED
- F. INSTALLATION**:
 - 1. INSTALL COMPONENTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NRCA (RM) APPLICABLE REQUIREMENTS
 - 2. SEAL JOINTS WITHIN COMPONENTS WHEN REQUIRED BY COMPONENT MANUFACTURER
 - 3. COORDINATE INSTALLATION OF COMPONENTS OF THIS SECTION WITH INSTALLATION OF ROOFING MEMBRANE AND FLASHINGS

07 8400 - FIRESTOPPING

- A. SUBMITTALS**: PRODUCT DATA, PROVIDE DATA ON PRODUCT CHARACTERISTICS, PERFORMANCE RATINGS, AND LIMITATIONS
- B. MANUFACTURERS**:
 - 1. 3M FIRE PROTECTION PRODUCTS: [HTTPS://WWW.3M.COM/3M/EN_US/0/BU/Building-Materials/Fire-Protection/](https://www.3m.com/3M/en_US/0/BU/Building-Materials/Fire-Protection/)
 - 2. HILTI, INC.: [HTTPS://WWW.HILTI.COM/EN/US/Products/Firestop-Protection](https://www.hilti.com/en/US/Products/Firestop-Protection)
- C. MATERIALS**:
 - 1. FIRESTOPPING MATERIALS: ANY MATERIALS MEETING REQUIREMENTS
 - 2. PREPARED: FORMS, INSULATION PACKING, AND ACCESSORIES: PROVIDE TYPE OF MATERIALS AS REQUIRED FOR TESTED FIRESTOPPING ASSEMBLY
 - 3. FIRE RATINGS: REFER TO DRAWINGS FOR REQUIRED SYSTEMS AND RATINGS
- D. ASSEMBLY REQUIREMENTS**:
 - 1. HEAD-OF-WALL JOINT SYSTEM FIRESTOPPING AT JOINTS BETWEEN FIRE-RATED WALL ASSEMBLIES AND NON-RATED HORIZONTAL ASSEMBLIES: USE SYSTEM THAT HAS BEEN TESTED ACCORDING TO ASTM E813 TO HAVE FIRE RESISTANCE F RATING EQUAL TO REQUIRED FIRE RATING OF FLOOR OR WALL, WHICHEVER IS GREATER
 - 2. FLOOR-TO-FLOOR, WALL-TO-WALL, AND WALL-TO-FLOOR JOINTS, EXCEPT PERIMETER, WHERE BOTH ARE FIRE-RATED: USE SYSTEM THAT HAS BEEN TESTED ACCORDING TO ASTM E1989 OR UL 2073 TO HAVE FIRE RESISTANCE F RATING EQUAL TO REQUIRED FIRE RATING OF THE ASSEMBLY IN WHICH THE JOINT OCCURS
 - 3. THROUGH PENETRATION FIRESTOPPING: USE SYSTEM THAT HAS BEEN TESTED ACCORDING TO ASTM E814 TO HAVE FIRE RESISTANCE F RATING EQUAL TO REQUIRED FIRE RATING OF PENETRATED ASSEMBLY
- E. INSTALLATION**:
 - 1. INSTALLATIONS SHALL CONFORM TO UL REQUIREMENTS OF THE ASSEMBLY WHICH FIRESTOPPING IS TO BECOME PART OF THE BUILT ASSEMBLY

07 8200 - JOINT SEALANTS

- A. SUBMITTALS**: PRODUCT DATA AND SCHEDULE OF LOCATIONS FOR EACH TYPE OF SEALANT SUBMITTED
- B. JOINT SEALANT SCHEDULE**: INCLUDE THE FOLLOWING INFORMATION:
 - 1. JOINT SEALANT APPLICATION, JOINTS, JOINTS AND/OR REVISIONS
 - 2. JOINT SEALANT MANUFACTURER AND PRODUCT NAME
 - 3. JOINT SEALANT FORMULATION
 - 4. JOINT SEALANT COLOR
- C. ENVIRONMENTAL LIMITATIONS**: DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS WHEN AMBIENT AND SUBSTRATE TEMPERATURES AND HUMIDITIES ARE OUTSIDE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR ARE BELOW 40 deg F (4.4 deg C)
- D. COMPATIBILITY**: PROVIDE JOINT SEALANTS, JOINT FILLERS, AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER SERVICE AND APPLICATION CONDITIONS
- E. JOINT SEALANTS**:
 - 1. COLORS OF EXPOSED JOINT SEALANTS AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE
 - 2. INTERIOR JOINTS IN CERAMIC TILE AND OTHER HARD SURFACES IN KITCHENS, TOILET ROOMS, AND AROUND PLUMBING FIXTURES, SINGLE COMPONENT, MILDEW/RESISTANT SILICONE SEALANT, ASTM C 820, TYPE S, GRADE NS, CLASS 25; USES NT, G, A, AND D, FORMULATED WITH FLUOROCURE
 - 3. INTERIOR JOINTS AROUND PERIMETERS OF DOORS AND FRAMES: LATEX SEALANT, SINGLE COMPONENT, NONSAG, MILDEW-RESISTANT, PAINTABLE, ACRYLIC EMULSION SEALANT COMPLYING WITH ASTM C 834
 - 4. ACQUACUL SEALANT FOR EXPOSED INTERIOR JOINTS: NONSAG, PAINTABLE, NONSTAINING, LATEX BASED SEALANT WITH ASTM C 834
 - 5. ACQUACUL SEALANT FOR CONCEALED JOINTS: NONDRYING, NONHARDENING, NONSKINKING, NONSTAINING, GUNNABLE, SYNTHETIC RUBBER SEALANT RECOMMENDED FOR SEALING INTERIOR CONCEALED JOINTS TO RESIST TRANSMISSION OF AIRBORNE SOUND
 - 6. EXTERIOR CONCRETE PANELS, NATURAL STONES, MASONRY, ALUMINUM CURTAIN WALLS, METAL PANELS AND WINDOW PERIMETERS
- F. BASIS OF DESIGN PRODUCTS**:
 - 1. TREMCO INCORPORATED, SPECTREM 1
 - 2. DOW CORNING CORPORATION, 790
 - 3. TROPICOR CORPORATION, BR-800
 - 4. EXTERIOR JOINTS IN HORIZONTAL TRAFFIC SURFACES: ISOLATION AND CONTRACTION JOINTS IN CAST-IN-PLACE CONCRETE SLABS: URETHANE JOINT SEALANT, MULTICOMPONENT, NONSAG, TRAFFIC GRADE, CLASS 25
 - 5. FIRE STOP SEALANTS: INSTALL AT FIRE RATED ASSEMBLIES AND AS DIRECTED WITH UL REFERENCES
- G. BASIS OF DESIGN PRODUCTS**:
 - 1. HILTI
 - 2. 3M
- H. JOINT SEALANT BACKING**:
 - 1. GENERAL: PROVIDE SEALANT BACKINGS OF MATERIAL THAT ARE NONSTAINING; ARE COMPATIBLE WITH JOINT SUBSTRATES, SEALANTS, PRIMERS, AND OTHER JOINT FILLERS; AND ARE APPROVED FOR APPLICATIONS SPECIFIED BY SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING
 - 2. CYLINDRICAL SEALANT BACKINGS: ASTM C 1330, TYPE C, CLOSED-CELL MATERIAL WITH A SURFACE SKIN, AND OF SIZE AND DENSITY TO CONTROL SEALANT DEPTH AND OTHERWISE CONTRIBUTE TO PRODUING OPTIMUM SEALANT PERFORMANCE
 - 3. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT MANUFACTURER FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT; PROVIDE SELF-ADHESIVE TAPE WHERE APPLICABLE
- I. MISCELLANEOUS MATERIALS**:
 - 1. PRIMER: MATERIAL RECOMMENDED BY JOINT-SEALANT MANUFACTURER WHERE REQUIRED FOR ADHESION OF SEALANT TO JOINT SUBSTRATES INDICATED, AS DETERMINED FROM PRECONSTRUCTION JOINT-SEALANT SUBSTRATE TESTS AND FIELD TESTS
 - 2. CLEANERS FOR NONPOROUS SURFACES: CHEMICAL CLEANERS ACCEPTABLE TO MANUFACTURERS OF SEALANTS AND SEALANT BACKING MATERIALS, FREE OF OIL RESIDUES OR OTHER SUBSTANCES CAPABLE OF STAINING OR HARMING JOINT SUBSTRATES
 - 3. FORMULATED TO PROMOTE OPTIMUM ADHESION OF SEALANTS TO JOINT SUBSTRATES
 - 4. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT MFR. FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT
 - 5. MASKING TAPE: NONSTAINING, NONABSORBENT MATERIAL COMPATIBLE WITH JOINT SEALANTS AND SURFACES ADJACENT TO JOINTS
- J. INSTALLATION**: COMPLY WITH ASTM C 1193, ASTM C 919 FOR ACQUACUL JOINTS, AND AS FOLLOWS:
 - 1. REMOVE ALL LOOSE MATERIALS, CLEAN AND WASH JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, AND PROVIDE ADJACENT SURFACES
 - 2. INSTALL BOND-BREAKER TAPE WHERE JOINT BACKINGS ARE NOT USED
 - 3. INSTALL SEALANT TOOLS TO CONCAVE, FREE OF AIR POCKETS, FOREIGN EMBEDDED MATTER, RIDGES, AND SAGS, AND PROTECT UNTIL FULLY CURED; SEALANT WITH DUST AND DEBRIS EMPLOYED SHALL BE CAUSE FOR REJECTION

07 8200 - JOINT SEALANTS

- A. SUBMITTALS**: PRODUCT DATA AND SCHEDULE OF LOCATIONS FOR EACH TYPE OF SEALANT SUBMITTED
- B. JOINT SEALANT SCHEDULE**: INCLUDE THE FOLLOWING INFORMATION:
 - 1. JOINT SEALANT APPLICATION, JOINTS, JOINTS AND/OR REVISIONS
 - 2. JOINT SEALANT MANUFACTURER AND PRODUCT NAME
 - 3. JOINT SEALANT FORMULATION
 - 4. JOINT SEALANT COLOR
- C. ENVIRONMENTAL LIMITATIONS**: DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS WHEN AMBIENT AND SUBSTRATE TEMPERATURES AND HUMIDITIES ARE OUTSIDE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR ARE BELOW 40 deg F (4.4 deg C)
- D. COMPATIBILITY**: PROVIDE JOINT SEALANTS, JOINT FILLERS, AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER SERVICE AND APPLICATION CONDITIONS
- E. JOINT SEALANTS**:
 - 1. COLORS OF EXPOSED JOINT SEALANTS AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE
 - 2. INTERIOR JOINTS IN CERAMIC TILE AND OTHER HARD SURFACES IN KITCHENS, TOILET ROOMS, AND AROUND PLUMBING FIXTURES, SINGLE COMPONENT, MILDEW/RESISTANT SILICONE SEALANT, ASTM C 820, TYPE S, GRADE NS, CLASS 25; USES NT, G, A, AND D, FORMULATED WITH FLUOROCURE
 - 3. INTERIOR JOINTS AROUND PERIMETERS OF DOORS AND FRAMES: LATEX SEALANT, SINGLE COMPONENT, NONSAG, MILDEW-RESISTANT, PAINTABLE, ACRYLIC EMULSION SEALANT COMPLYING WITH ASTM C 834
 - 4. ACQUACUL SEALANT FOR EXPOSED INTERIOR JOINTS: NONSAG, PAINTABLE, NONSTAINING, LATEX BASED SEALANT WITH ASTM C 834
 - 5. ACQUACUL SEALANT FOR CONCEALED JOINTS: NONDRYING, NONHARDENING, NONSKINKING, NONSTAINING, GUNNABLE, SYNTHETIC RUBBER SEALANT RECOMMENDED FOR SEALING INTERIOR CONCEALED JOINTS TO RESIST TRANSMISSION OF AIRBORNE SOUND
 - 6. EXTERIOR CONCRETE PANELS, NATURAL STONES, MASONRY, ALUMINUM CURTAIN WALLS, METAL PANELS AND WINDOW PERIMETERS
- F. BASIS OF DESIGN PRODUCTS**:
 - 1. TREMCO INCORPORATED, SPECTREM 1
 - 2. DOW CORNING CORPORATION, 790
 - 3. TROPICOR CORPORATION, BR-800
 - 4. EXTERIOR JOINTS IN HORIZONTAL TRAFFIC SURFACES: ISOLATION AND CONTRACTION JOINTS IN CAST-IN-PLACE CONCRETE SLABS: URETHANE JOINT SEALANT, MULTICOMPONENT, NONSAG, TRAFFIC GRADE, CLASS 25
 - 5. FIRE STOP SEALANTS: INSTALL AT FIRE RATED ASSEMBLIES AND AS DIRECTED WITH UL REFERENCES
- G. BASIS OF DESIGN PRODUCTS**:
 - 1. HILTI
 - 2. 3M
- H. JOINT SEALANT BACKING**:
 - 1. GENERAL: PROVIDE SEALANT BACKINGS OF MATERIAL THAT ARE NONSTAINING; ARE COMPATIBLE WITH JOINT SUBSTRATES, SEALANTS, PRIMERS, AND OTHER JOINT FILLERS; AND ARE APPROVED FOR APPLICATIONS SPECIFIED BY SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING
 - 2. CYLINDRICAL SEALANT BACKINGS: ASTM C 1330, TYPE C, CLOSED-CELL MATERIAL WITH A SURFACE SKIN, AND OF SIZE AND DENSITY TO CONTROL SEALANT DEPTH AND OTHERWISE CONTRIBUTE TO PRODUING OPTIMUM SEALANT PERFORMANCE
 - 3. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT MANUFACTURER FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT; PROVIDE SELF-ADHESIVE TAPE WHERE APPLICABLE
- I. MISCELLANEOUS MATERIALS**:
 - 1. PRIMER: MATERIAL RECOMMENDED BY JOINT-SEALANT MANUFACTURER WHERE REQUIRED FOR ADHESION OF SEALANT TO JOINT SUBSTRATES INDICATED, AS DETERMINED FROM PRECONSTRUCTION JOINT-SEALANT SUBSTRATE TESTS AND FIELD TESTS
 - 2. CLEANERS FOR NONPOROUS SURFACES: CHEMICAL CLEANERS ACCEPTABLE TO MANUFACTURERS OF SEALANTS AND SEALANT BACKING MATERIALS, FREE OF OIL RESIDUES OR OTHER SUBSTANCES CAPABLE OF STAINING OR HARMING JOINT SUBSTRATES
 - 3. FORMULATED TO PROMOTE OPTIMUM ADHESION OF SEALANTS TO JOINT SUBSTRATES
 - 4. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT MFR. FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT
 - 5. MASKING TAPE: NONSTAINING, NONABSORBENT MATERIAL COMPATIBLE WITH JOINT SEALANTS AND SURFACES ADJACENT TO JOINTS
- J. INSTALLATION**: COMPLY WITH ASTM C 1193, ASTM C 919 FOR ACQUACUL JOINTS, AND AS FOLLOWS:
 - 1. REMOVE ALL LOOSE MATERIALS, CLEAN AND WASH JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, AND PROVIDE ADJACENT SURFACES
 - 2. INSTALL BOND-BREAKER TAPE WHERE JOINT BACKINGS ARE NOT USED
 - 3. INSTALL SEALANT TOOLS TO CONCAVE, FREE OF AIR POCKETS, FOREIGN EMBEDDED MATTER, RIDGES, AND SAGS, AND PROTECT UNTIL FULLY CURED; SEALANT WITH DUST AND DEBRIS EMPLOYED SHALL BE CAUSE FOR REJECTION

07 8200 - JOINT SEALANTS

- A. SUBMITTALS**: PRODUCT DATA AND SCHEDULE OF LOCATIONS FOR EACH TYPE OF SEALANT SUBMITTED
- B. JOINT SEALANT SCHEDULE**: INCLUDE THE FOLLOWING INFORMATION:
 - 1. JOINT SEALANT APPLICATION, JOINTS, JOINTS AND/OR REVISIONS
 - 2. JOINT SEALANT MANUFACTURER AND PRODUCT NAME
 - 3. JOINT SEALANT FORMULATION
 - 4. JOINT SEALANT COLOR
- C. ENVIRONMENTAL LIMITATIONS**: DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS WHEN AMBIENT AND SUBSTRATE TEMPERATURES AND HUMIDITIES ARE OUTSIDE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR ARE BELOW 40 deg F (4.4 deg C)
- D. COMPATIBILITY**: PROVIDE JOINT SEALANTS, JOINT FILLERS, AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER SERVICE AND APPLICATION CONDITIONS
- E. JOINT SEALANTS**:
 - 1. COLORS OF EXPOSED JOINT SEALANTS AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE
 - 2. INTERIOR JOINTS IN CERAMIC TILE AND OTHER HARD SURFACES IN KITCHENS, TOILET ROOMS, AND AROUND PLUMBING FIXTURES, SINGLE COMPONENT, MILDEW/RESISTANT SILICONE SEALANT, ASTM C 820, TYPE S, GRADE NS, CLASS 25; USES NT, G, A, AND D, FORMULATED WITH FLUOROCURE
 - 3. INTERIOR JOINTS AROUND PERIMETERS OF DOORS AND FRAMES: LATEX SEALANT, SINGLE COMPONENT, NONSAG, MILDEW-RESISTANT, PAINTABLE, ACRYLIC EMULSION SEALANT COMPLYING WITH ASTM C 834
 - 4. ACQUACUL SEALANT FOR EXPOSED INTERIOR JOINTS: NONSAG, PAINTABLE, NONSTAINING, LATEX BASED SEALANT WITH ASTM C 834
 - 5. ACQUACUL SEALANT FOR CONCEALED JOINTS: NONDRYING, NONHARDENING, NONSKINKING, NONSTAINING, GUNNABLE, SYNTHETIC RUBBER SEALANT RECOMMENDED FOR SEALING INTERIOR CONCEALED JOINTS TO RESIST TRANSMISSION OF AIRBORNE SOUND
 - 6. EXTERIOR CONCRETE PANELS, NATURAL STONES, MASONRY, ALUMINUM CURTAIN WALLS, METAL PANELS AND WINDOW PERIMETERS
- F. BASIS OF DESIGN PRODUCTS**:
 - 1. TREMCO INCORPORATED, SPECTREM 1
 - 2. DOW CORNING CORPORATION, 790
 - 3. TROPICOR CORPORATION, BR-800
 - 4. EXTERIOR JOINTS IN HORIZONTAL TRAFFIC SURFACES: ISOLATION AND CONTRACTION JOINTS IN CAST-IN-PLACE CONCRETE SLABS: URETHANE JOINT SEALANT, MULTICOMPONENT, NONSAG, TRAFFIC GRADE, CLASS 25
 - 5. FIRE STOP SEALANTS: INSTALL AT FIRE RATED ASSEMBLIES AND AS DIRECTED WITH UL REFERENCES
- G. BASIS OF DESIGN PRODUCTS**:
 - 1. HILTI
 - 2. 3M
- H. JOINT SEALANT BACKING**:
 - 1. GENERAL: PROVIDE SEALANT BACKINGS OF MATERIAL THAT ARE NONSTAINING; ARE COMPATIBLE WITH JOINT SUBSTRATES, SEALANTS, PRIMERS, AND OTHER JOINT FILLERS; AND ARE APPROVED FOR APPLICATIONS SPECIFIED BY SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING
 - 2. CYLINDRICAL SEALANT BACKINGS: ASTM C 1330, TYPE C, CLOSED-CELL MATERIAL WITH A SURFACE SKIN, AND OF SIZE AND DENSITY TO CONTROL SEALANT DEPTH AND OTHERWISE CONTRIBUTE TO PRODUING OPTIMUM SEALANT PERFORMANCE
 - 3. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT MANUFACTURER FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT; PROVIDE SELF-ADHESIVE TAPE WHERE APPLICABLE
- I. MISCELLANEOUS MATERIALS**:
 - 1. PRIMER: MATERIAL RECOMMENDED BY JOINT-SEALANT MANUFACTURER WHERE REQUIRED FOR ADHESION OF SEALANT TO JOINT SUBSTRATES INDICATED, AS DETERMINED FROM PRECONSTRUCTION JOINT-SEALANT SUBSTRATE TESTS AND FIELD TESTS
 - 2. CLEANERS FOR NONPOROUS SURFACES: CHEMICAL CLEANERS ACCEPTABLE TO MANUFACTURERS OF SEALANTS AND SEALANT BACKING MATERIALS, FREE OF OIL RESIDUES OR OTHER SUBSTANCES CAPABLE OF STAINING OR HARMING JOINT SUBSTRATES
 - 3. FORMULATED TO PROMOTE OPTIMUM ADHESION OF SEALANTS TO JOINT SUBSTRATES
 - 4. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT MFR. FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT
 - 5. MASKING TAPE: NONSTAINING, NONABSORBENT MATERIAL COMPATIBLE WITH JOINT SEALANTS AND SURFACES ADJACENT TO JOINTS
- J. INSTALLATION**: COMPLY WITH ASTM C 1193, ASTM C 919 FOR ACQUACUL JOINTS, AND AS FOLLOWS:
 - 1. REMOVE ALL LOOSE MATERIALS, CLEAN AND WASH JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, AND PROVIDE ADJACENT SURFACES
 - 2. INSTALL BOND-BREAKER TAPE WHERE JOINT BACKINGS ARE NOT USED
 - 3. INSTALL SEALANT TOOLS TO CONCAVE, FREE OF AIR POCKETS, FOREIGN EMBEDDED MATTER, RIDGES, AND SAGS, AND PROTECT UNTIL FULLY CURED; SEALANT WITH DUST AND DEBRIS EMPLOYED SHALL BE CAUSE FOR REJECTION

07 8200 - JOINT SEALANTS

- A. SUBMITTALS**: PRODUCT DATA AND SCHEDULE OF LOCATIONS FOR EACH TYPE OF SEALANT SUBMITTED
- B. JOINT SEALANT SCHEDULE**: INCLUDE THE FOLLOWING INFORMATION:
 - 1. JOINT SEALANT APPLICATION, JOINTS, JOINTS AND/OR REVISIONS
 - 2. JOINT SEALANT MANUFACTURER AND PRODUCT NAME
 - 3. JOINT SEALANT FORMULATION
 - 4. JOINT SEALANT COLOR
- C. ENVIRONMENTAL LIMITATIONS**: DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS WHEN AMBIENT AND SUBSTRATE TEMPERATURES AND HUMIDITIES ARE OUTSIDE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR ARE BELOW 40 deg F (4.4 deg C)
- D. COMPATIBILITY**: PROVIDE JOINT SEALANTS, JOINT FILLERS, AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER SERVICE AND APPLICATION CONDITIONS
- E. JOINT SEALANTS**:
 - 1. COLORS OF EXPOSED JOINT SEALANTS AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE
 - 2. INTERIOR JOINTS IN CERAMIC TILE AND OTHER HARD SURFACES IN KITCHENS, TOILET ROOMS, AND AROUND PLUMBING FIXTURES, SINGLE COMPONENT, MILDEW/RESISTANT SILICONE SEALANT, ASTM C 820, TYPE S, GRADE NS, CLASS 25; USES NT, G, A, AND D, FORMULATED WITH FLUOROCURE
 - 3. INTERIOR JOINTS AROUND PERIMETERS OF DOORS AND FRAMES: LATEX SEALANT, SINGLE COMPONENT, NONSAG, MILDEW-RESISTANT, PAINTABLE, ACRYLIC EMULSION SEALANT COMPLYING WITH ASTM C 834
 - 4. ACQUACUL SEALANT FOR EXPOSED INTERIOR JOINTS: NONSAG, PAINTABLE, NONSTAINING, LATEX BASED SEALANT WITH ASTM C 834
 - 5. ACQUACUL SEALANT FOR CONCEALED JOINTS: NONDRYING, NONHARDENING, NONSKINKING, NONSTAINING, GUNNABLE, SYNTHETIC RUBBER SEALANT RECOMMENDED FOR SEALING INTERIOR CONCEALED JOINTS TO RESIST TRANSMISSION OF AIRBORNE SOUND
 - 6. EXTERIOR CONCRETE PANELS, NATURAL STONES, MASONRY, ALUMINUM CURTAIN WALLS, METAL PANELS AND WINDOW PERIMETERS
- F. BASIS OF DESIGN PRODUCTS**:
 - 1. TREMCO INCORPORATED, SPECTREM 1
 - 2. DOW CORNING CORPORATION, 790
 - 3. TROPICOR CORPORATION, BR-800
 - 4. EXTERIOR JOINTS IN HORIZONTAL TRAFFIC SURFACES: ISOLATION AND CONTRACTION JOINTS IN CAST-IN-PLACE CONCRETE SLABS: URETHANE JOINT SEALANT, MULTICOMPONENT, NONSAG, TRAFFIC GRADE, CLASS 25
 - 5. FIRE STOP SEALANTS: INSTALL AT FIRE RATED ASSEMBLIES AND AS DIRECTED WITH UL REFERENCES
- G. BASIS OF DESIGN PRODUCTS**:
 - 1. HILTI
 - 2. 3M
- H. JOINT SEALANT BACKING**:
 - 1. GENERAL: PROVIDE SEALANT BACKINGS OF MATERIAL THAT ARE NONSTAINING; ARE COMPATIBLE WITH JOINT SUBSTRATES, SEALANTS, PRIMERS, AND OTHER JOINT FILLERS; AND ARE APPROVED FOR APPLICATIONS SPECIFIED BY SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING
 - 2. CYLINDRICAL SEALANT BACKINGS: ASTM C 1330, TYPE C, CLOSED-CELL MATERIAL WITH A SURFACE SKIN, AND OF SIZE AND DENSITY TO CONTROL SEALANT DEPTH AND OTHERWISE CONTRIBUTE TO PRODUING OPTIMUM SEALANT PERFORMANCE
 - 3. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT MANUFACTURER FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT; PROVIDE SELF-ADHESIVE TAPE WHERE APPLICABLE
- I. MISCELLANEOUS MATERIALS**:
 - 1. PRIMER: MATERIAL RECOMMENDED BY JOINT-SEALANT MANUFACTURER WHERE REQUIRED FOR ADHESION OF SEALANT TO JOINT SUBSTRATES INDICATED, AS DETERMINED FROM PRECONSTRUCTION JOINT-SEALANT SUBSTRATE TESTS AND FIELD TESTS
 - 2. CLEANERS FOR NONPOROUS SURFACES: CHEMICAL CLEANERS ACCEPTABLE TO MANUFACTURERS OF SEALANTS AND SEALANT BACKING MATERIALS, FREE OF OIL RESIDUES OR OTHER SUBSTANCES CAPABLE OF STAINING OR HARMING JOINT SUBSTRATES
 - 3. FORMULATED TO PROMOTE OPTIMUM ADHESION OF SEALANTS TO JOINT SUBSTRATES
 - 4. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT MFR. FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT
 - 5. MASKING TAPE: NONSTAINING, NONABSORBENT MATERIAL COMPATIBLE WITH JOINT SEALANTS AND SURFACES ADJACENT TO JOINTS
- J. INSTALLATION**: COMPLY WITH ASTM C 1193, ASTM C 919 FOR ACQUACUL JOINTS, AND AS FOLLOWS:
 - 1. REMOVE ALL LOOSE MATERIALS, CLEAN AND WASH JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, AND PROVIDE ADJACENT SURFACES
 - 2. INSTALL BOND-BREAKER TAPE WHERE JOINT BACKINGS ARE NOT USED
 - 3. INSTALL SEALANT TOOLS TO CONCAVE, FREE OF AIR POCKETS, FOREIGN EMBEDDED MATTER, RIDGES, AND SAGS, AND PROTECT UNTIL FULLY CURED; SEALANT WITH DUST AND DEBRIS EMPLOYED SHALL BE CAUSE FOR REJECTION

DIVISION 8 - OPENINGS (CONTINUED)

- 08 0671 - DOOR HARDWARE (CONTINUED)**
 - C. HARDWARE SCHEDULE (CONTINUED)**

SET #1: GARAGE	
1 EACH HINGE	8B81 4 X 4
1 EACH STOREDOR LOCK	SP4 4 X 4
1 EACH CLOSER	7101 PA
1 EACH SMOKE GASKET	5200
1 EACH THRESHOLD	425E
1 EACH WALL STOP	WB26
- SET #2: CLOSET BFDLD DOORS**
 - 1 EACH DUMMY TRIM
- SET #3: CLOSET BYPASS SLIDING DOORS**
 - 1 EACH DUMMY TRIM

08 1115 - HOLLOW METAL DOORS AND FRAMES

- A. SUBMITTALS**: PRODUCT DATA AND SHOP DRAWINGS WITH DETAILS OF EACH OPENING, SHOWING ELEVATIONS, GLAZING, FRAME PROFILES, AND ANY INDICATED FINISH REQUIREMENTS
- B. HOLLOW METAL DOOR AND FRAME MANUFACTURERS**:
 - 1. CECO DOOR, AN ASSA ABLOY GROUP COMPANY: WWW.ASSAABLOY.COM
 - 2. LEA FONTANE INC.: WWW.LEAFONTANE.COM
 - 3. REBLIC DOORS, AN ALLEGION BRAND: WWW.REBLICDOOR.COM
 - 4. STEELCRAPT, AN ALLEGION BRAND: WWW.ALLEGION.COM
- C. SOUND-RATED HOLLOW METAL DOORS AND FRAMES**:
 - 1. OVERLY DOOR COMPANY: WWW.OVERLY.COM
- D. DESIGN CRITERIA**:
 - 1. STEEL USED FOR FABRICATION OF DOORS AND FRAMES SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING SUBSTRATE TEMPERATURES AND HUMIDITIES ARE OUTSIDE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR ARE BELOW 40 deg F (4.4 deg C)
 - 2. INTERIOR JOINTS IN CERAMIC TILE AND OTHER HARD SURFACES IN KITCHENS, TOILET ROOMS, AND AROUND PLUMBING FIXTURES, SINGLE COMPONENT, MILDEW/RESISTANT SILICONE SEALANT, ASTM C 820, TYPE S, GRADE NS, CLASS 25; USES NT, G, A, AND D, FORMULATED WITH FLUOROCURE
 - 3. INTERIOR JOINTS AROUND PERIMETERS OF DOORS AND FRAMES: LATEX SEALANT, SINGLE COMPONENT, NONSAG, MILDEW-RESISTANT, PAINTABLE, ACRYLIC EMULSION SEALANT COMPLYING WITH ASTM C 834
 - 4. ACQUACUL SEALANT FOR EXPOSED INTERIOR JOINTS: NONSAG, PAINTABLE, NONSTAINING, LATEX BASED SEALANT WITH ASTM C 834
 - 5. ACQUACUL SEALANT FOR CONCEALED JOINTS: NONDRYING, NONHARDENING, NONSKINKING, NONSTAINING, GUNNABLE, SYNTHETIC RUBBER SEALANT RECOMMENDED FOR SEALING INTERIOR CONCEALED JOINTS TO RESIST TRANSMISSION OF AIRBORNE SOUND
 - 6. EXTERIOR CONCRETE PANELS, NATURAL STONES, MASONRY, ALUMINUM CURTAIN WALLS, METAL PANELS AND WINDOW PERIMETERS
- E. HOLLOW METAL DOOR**:
 - 1. EXTERIOR DOORS: THERMALLY INSULATED
 - A. BASED ON SDI STANDARDS: ANSISD A250 8 (SDI-100)
 - B. LEVEL 1 - STANDARD-QUALITY
 - C. PHYSICAL PERFORMANCE LEVEL C, 250.00 CYCLES, IN ACCORDANCE WITH ANSISD A250.4
 - 2. MODEL 1 - FULL FLUSH
 - 3. DOOR FACE METAL THICKNESS: 20 GAUGE,

SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

09 600 - RESILIENT FLOORING AND WALL BASE

A. SUBMITTALS: PRODUCT DATA AND (1) SAMPLES OF EACH TILE AND BASE SPECIFIED FOR VERIFICATION PURPOSES.

B. BASIS OF DESIGN:
1. METROFLOOR/KONECTO PLANK, PROJECT 54012 OR APPROVED EQUAL.

C. ATTIC STOCK: FURNISH ONE (1) BOX FOR EACH 50 BOXES OR FRACTION THEREOF OF EACH TYPE OF FLOOR TILE AND 20' OF EACH COLOR AND TYPE OF WALL BASE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.

D. RESILIENT TILE PRODUCTS: PROVIDE FLOOR TILE IN TYPE AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS COMPLYING WITH THE FOLLOWING:

E. RESILIENT WALL BASE: ASTM TYPE TS (RUBBER, VULCANIZED THERMOSET) 1/8" THICK FURNISHED IN COLES IN STYLES AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS WITH JOB-FORMED INSIDE AND OUTSIDE CORNERS.

F. INSTALLATION ACCESSORIES:

- 1. LEVELING AND PATCHING COMPOUNDS: LATEX/MODIFIED, PORTLAND CEMENT, OR BLENDED HYDRAULIC CEMENT-BASED FORMULATION PROVIDED OR APPROVED BY FLOORING MANUFACTURER TO SUIT RESILIENT PRODUCTS AND SUBSTRATE CONDITIONS.
2. ADHESIVES: WATER-RESISTANT TYPE RECOMMENDED BY MANUFACTURER TO SUIT RESILIENT PRODUCTS AND SUBSTRATE CONDITIONS. SPREAD UNO ENOUGH ADHESIVE TO PERMIT INSTALLATION OF MATERIALS BEFORE INITIAL SET.
3. MOLDINGS, TRANSITION AND EDGE STRIPS: SAME MATERIAL AS FLOORING.

G. INSTALLATION:

- 1. PREPARE CONCRETE SUBSTRATES PER ASTM F 710. VERIFY THAT SUBSTRATES ARE DRY AND FREE OF CURING COMPOUNDS, SEALERS AND HARDENERS.
2. LAY OUT TILES 50 WIDTHS AT OPPOSITE EDGES OF ROOM ARE EQUAL AND NOT LESS THAN HALF-WIDTH.
3. LAY TILES IN PATTERNS INDICATED WITH GRAIN DIRECTION ALTERNATING IN ADJACENT TILES, UNLESS NOTED OTHERWISE.
4. CLEAN, SEAL, AND WAX RESILIENT FLOORING IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS.

H. WALL BASE AND ACCESSORY INSTALLATION:

- 1. CONFIRM THAT SOLID BACKING IS PROVIDED BEHIND ALL WALL BASE. AREAS WHERE GYPSUM BOARD IS HELD MORE THAN 1/2" ABOVE SLAB SHALL BE FILLED IN PRIOR TO BASE INSTALLATION.
2. INSTALL WALL BASE WITH MANUFACTURERS' RECOMMENDED ADHESIVE IN MAXIMUM LENGTHS POSSIBLE. APPLY TO WALLS, COLUMNS, PLASTERS, CASEWORK, AND OTHER PERMANENT FIXTURES.
3. INSTALL TRANSITION STRIPS WHERE FLOORING MATERIALS MEET OR WHERE EDGE OF TILE IS EXPOSED AS INDICATED IN THE FINISH SCHEDULE.

09 813 - TILE CARPETING

A. SUBMITTALS: PRODUCT DATA AND SAMPLES OF EACH CARPET PRODUCT INDICATED. SUBMIT ACTUAL TILE SAMPLES OF EACH CARPET REQUIRED.

B. WARRANTY: PROVIDE SPECIAL PROJECT WARRANTY, SIGNED BY CONTRACTOR, INSTALLER AND MANUFACTURER (CARPET MILL), AGREEING TO REPAIR OR REPLACE DEFECTIVE MATERIALS AND WORKSMANSHIP OF CARPETING WORK DURING 1-YEAR WARRANTY PERIOD FOLLOWING SUBSTANTIAL COMPLETION. ATTACH COPIES OF PRODUCT WARRANTIES.

C. ATTIC STOCK: FURNISH FULL-WIDTH CARPET EQUAL TO 5% OF EACH TYPE AND COLOR CARPET INSTALLED, PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.

D. PRODUCTS: PROVIDE CARPET IN PATTERNS AND COLORS AND WITH BACKINGS AS INDICATED IN THE CONSTRUCTION DOCUMENTS WITH CRITICAL RADIANT FLUX CLASSIFICATION CLASS 1, NOT LESS THAN 65 W/50, CM PER ASTM E 648. ORDER ALL MATERIALS FROM THE SAME FACTORY DYE LOT.

E. INSTALLATION ACCESSORIES:

- 1. TROUBLEABLE LEVELING AND PATCHING COMPOUNDS: LATEX/MODIFIED, HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR RECOMMENDED BY CARPET MANUFACTURER.
2. ADHESIVES: WATER-RESISTANT, MILDEW-RESISTANT, NONSTAINING TYPE TO SUIT PRODUCTS AND SUBFLOOR CONDITIONS INDICATED, THAT COMPLIES WITH FLAMMABILITY REQUIREMENTS FOR INSTALLED CARPET AND IS RECOMMENDED OR PROVIDED BY CARPET MANUFACTURER.

F. INSTALLATION: FOR CARPET TILE COMPLY WITH CR1 104, SECTION 13 "CARPET MODULES (TILES)".

1. GENERAL: COMPLY WITH CRIS "CR CARPET" INSTALLATION STANDARDS AND WITH CARPET MANUFACTURERS' WRITTEN INSTALLATION INSTRUCTIONS FOR PREPARING SUBSTRATES.
2. USE TROUBLEABLE LEVELING AND PATCHING COMPOUNDS, ACCORDING TO MANUFACTURERS' WRITTEN INSTRUCTIONS, TO FILL CRACKS, HOLES, DEPRESSIONS, AND PROTRUSIONS IN SUBSTRATES. FILL OR LEVEL CRACKS, HOLES AND DEPRESSIONS 1/8 INCH WIDE OR WIDER, AND PROTRUSIONS MORE THAN 1/32 INCH, UNLESS MORE STRINGENT REQUIREMENTS ARE REQUIRED BY MANUFACTURERS' WRITTEN INSTRUCTIONS.
3. BROOM AND VACUUM CLEAN SUBSTRATES TO BE COVERED IMMEDIATELY BEFORE INSTALLING CARPET.
4. LAY CARPET TILE IN PATTERN AS INDICATED IN CONSTRUCTION DOCUMENTS AND 50 WIDTHS AT OPPOSITE EDGES OF ROOM ARE EQUAL AND NOT LESS THAN HALF-WIDTH.

5. TRIM: CARPET NEATLY AND TIGHT TO WALLS AND AROUND INTERFERTIONS.
6. INSTALL PATTERN PARALLELS TO WALLS AND BORDERS UNLESS OTHERWISE INDICATED.
7. DO NOT BRIDGE BUILDING EXPANSION JOINTS WITH CARPET.
8. CUT AND FIT CARPET TO BUTT TIGHTLY TO VERTICAL SURFACES. PERMANENT FIXTURES, AND BUILT-IN FURNITURE INCLUDING CABINETS, PIPES, OUTLETS, EDGES, THRESHOLDS, AND NOSINGS. BIND OR SEAL CUT EDGES AS RECOMMENDED BY CARPET MANUFACTURER.

9. EXTEND CARPET INTO TOE SPACES, DOOR REVEALS, CLOSETS, OPEN-BOTTOMED OBSTRUCTIONS, REMOVABLE FLANGES, ALCOVES, AND SIMILAR OPENINGS.

10. MAINTAIN REFERENCE MARKERS, HOLES, AND OPENINGS THAT ARE IN PLACE OR MARKED FOR FUTURE CUTTING BY REPEATING ON CARPET AS MARKED ON SUBFLOOR. USE NONPERMANENT, NONSTAINING MARKING DEVICE.

11. PROTECT CARPET AGAINST DAMAGE FROM CONSTRUCTION OPERATIONS AND PLACEMENT OF EQUIPMENT AND FIXTURES DURING THE REMAINDER OF CONSTRUCTION PERIOD. USE PROTECTION METHODS RECOMMENDED IN WRITING BY CARPET MANUFACTURER.

12. INSTALL TRANSITION STRIPS AT CARPET TERMINATIONS AS SPECIFIED ON THE CONSTRUCTION DOCUMENTS.

09 816 - SHEET CARPETING

A. SUBMITTALS: PRODUCT DATA AND SAMPLES OF EACH CARPET PRODUCT INDICATED. SUBMIT 18" X 27" SAMPLES OF EACH CARPET REQUIRED, AND 6" LENGTHS OF EXPOSED EDGE STRIPPING.

B. WARRANTY: PROVIDE SPECIAL PROJECT WARRANTY, SIGNED BY CONTRACTOR, INSTALLER AND MANUFACTURER (CARPET MILL), AGREEING TO REPAIR OR REPLACE DEFECTIVE MATERIALS AND WORKSMANSHIP OF CARPETING WORK DURING 1-YEAR WARRANTY PERIOD FOLLOWING SUBSTANTIAL COMPLETION. ATTACH COPIES OF PRODUCT WARRANTIES.

C. ATTIC STOCK: FULL-SIZE UNITS EQUAL TO 5 PERCENT OF AMOUNT INSTALLED FOR EACH TYPE INDICATED, BUT NOT LESS THAN 10 SQ. YD.

D. PRODUCTS:

- A. APARTMENT UNIT CARPET SHALL BE SUPPLIED AND INSTALLED UNDER AN ALLOWANCES OF \$8.00/SQUARE YARD FOR THE PURCHASE AND DELIVERY OF THE CARPET MATERIAL ONLY.
1. COSTS FOR THE PAD ACCESSORIES, TAXES, LABOR, ETC. ARE NOT INCLUDED IN THE ALLOWANCES STATED ABOVE BUT SHALL BE INCLUDED IN THE BID PRICE FOR A COMPLETE INSTALLATION.
B. CARPET PAD SHALL BE 1/2" - 3/4" DENSITY REDOND PAD AS REQUIRED FOR A COMPLETE INSTALLATION.

E. INSTALLATION ACCESSORIES:

- 1. TROUBLEABLE LEVELING AND PATCHING COMPOUNDS: LATEX/MODIFIED, HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR RECOMMENDED BY CARPET MANUFACTURER.
2. ADHESIVES: WATER-RESISTANT, MILDEW-RESISTANT, NONSTAINING TYPE TO SUIT PRODUCTS AND SUBFLOOR CONDITIONS INDICATED, THAT COMPLIES WITH FLAMMABILITY REQUIREMENTS FOR INSTALLED CARPET AND IS RECOMMENDED OR PROVIDED BY CARPET MANUFACTURER.
3. SEAM ADHESIVE: HOT MELT ADHESIVE TAPE OR SIMILAR PRODUCT RECOMMENDED BY CARPET MANUFACTURER FOR SEALING AND TAPING SEAMS AND BUTTING CUT EDGES AT THICK TO FORM SECURE SEAMS AND TO PREVENT PILE LOSS AT SEAMS.
4. TACKLESS CARPET STRIPPING: WATER-RESISTANT PLUVOG STRIPS, 3/8" THICK WITH ANGULAR PINS PROTRUDING FROM TOP DESIGNED TO GRIP AND HOLD STRETCHED CARPET AT THE BACKING. PROVIDE STRIPPING WITH 2 ROWS OF PINS.
5. CARPET EDGE GUARD: EXTRUDED ALUMINUM BEND-DOWN TYPE EDGE GUARD, WITH CONCEALED GRIPPER TEETH AND MINIMUM 1-1/2" WIDE PUNCHED ANCHORAGE FLANGE AND MINIMUM 5/8" WIDE FACE.

F. INSTALLATION:

1. GENERAL: COMPLY WITH CRIS "CR CARPET" INSTALLATION STANDARDS AND WITH CARPET MANUFACTURERS' WRITTEN INSTALLATION INSTRUCTIONS FOR PREPARING SUBSTRATES.
2. USE TROUBLEABLE LEVELING AND PATCHING COMPOUNDS, ACCORDING TO MANUFACTURERS' WRITTEN INSTRUCTIONS, TO FILL CRACKS, HOLES, DEPRESSIONS, AND PROTRUSIONS IN SUBSTRATES. FILL OR LEVEL CRACKS, HOLES AND DEPRESSIONS 1/8 INCH WIDE OR WIDER, AND PROTRUSIONS MORE THAN 1/32 INCH, UNLESS MORE STRINGENT REQUIREMENTS ARE REQUIRED BY MANUFACTURERS' WRITTEN INSTRUCTIONS.
3. BROOM AND VACUUM CLEAN SUBSTRATES TO BE COVERED IMMEDIATELY BEFORE INSTALLING CARPET.
4. UNIT INSTALLATION, STRETCH-IN INSTALLATION WITH PAD.
5. COMPLY WITH CARPET MANUFACTURERS' WRITTEN INSTRUCTIONS AND SHOP DRAWINGS FOR SEAM LOCATIONS AND DIRECTION OF CARPET; MAINTAIN UNIFORMITY OF CARPET DIRECTION AND LAY OF PILE AT DOORWAYS, CENTER SEAMS UNDER THE DOOR IN CLOSED POSITION.

**6. INSTALL PATTERN PARALLELS TO WALLS AND BORDERS UNLESS OTHERWISE INDICATED.
7. DO NOT BRIDGE BUILDING EXPANSION JOINTS WITH CARPET.
8. CUT AND FIT CARPET TO BUTT TIGHTLY TO VERTICAL SURFACES. PERMANENT FIXTURES, AND BUILT-IN FURNITURE INCLUDING CABINETS, PIPES, OUTLETS, EDGES, THRESHOLDS, AND NOSINGS. BIND OR SEAL CUT EDGES AS RECOMMENDED BY CARPET MANUFACTURER.
9. EXTEND CARPET INTO TOE SPACES, DOOR REVEALS, CLOSETS, OPEN-BOTTOMED OBSTRUCTIONS, REMOVABLE FLANGES, ALCOVES, AND SIMILAR OPENINGS.
10. MAINTAIN REFERENCE MARKERS, HOLES, AND OPENINGS THAT ARE IN PLACE OR MARKED FOR FUTURE CUTTING BY REPEATING ON CARPET AS MARKED ON SUBFLOOR. USE NONPERMANENT, NONSTAINING MARKING DEVICE.
11. PROTECT CARPET AGAINST DAMAGE FROM CONSTRUCTION OPERATIONS AND PLACEMENT OF EQUIPMENT AND FIXTURES DURING THE REMAINDER OF CONSTRUCTION PERIOD. USE PROTECTION METHODS RECOMMENDED IN WRITING BY CARPET MANUFACTURER.**

09 900 - PAINTING AND COATING

A. SUBMITTALS: PRODUCT DATA AND THREE (3) DRAW-DOWN SAMPLES OF EACH COLOR AND SHEEN SPECIFIED.

B. ATTIC STOCK: FURNISH ONE (1) GALLON OF EACH PAINT COLOR AND SHEEN, IN CONTAINERS, PROPERLY LABELED AND SEALED.

C. PRODUCTS: PROVIDE MANUFACTURERS' BEST QUALITY PAINTS OF COLOR AND SHEEN AS INDICATED IN THE CONSTRUCTION DOCUMENTS THAT ARE FORMULATED AND RECOMMENDED BY MANUFACTURER FOR APPLICATION INDICATED. PROVIDE MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH SUBSTRATES.

D. PAINT SYSTEMS:

- 1. ALL PAINT, STAIN, AND VARNISH SHALL BE PRODUCTS OF DEVOE, KVAL, SHERWIN WILLIAMS, PPG INDUSTRIES, PRATT & LAMBERT OR APPROVED EQUAL.
2. ALL MATERIAL SHALL BE OF THE STANDARD RESIDENTIAL GRADE OF THE TYPES DESIGNATED.
3. ALL MATERIAL SHALL BE DELIVERED TO THE JOB SITE IN THE ORIGINAL, UNOPENED, LABELED CONTAINERS. COLORS NOT SPECIFICALLY CALLED FOR IN THE PAINT SCHEDULE WILL BE SELECTED BY THE ARCHITECT.

09 900 - PAINTING AND COATING (CONTINUED)

E. APPLICATION / INSTALLATION:

- 1. EQUIPMENT: APPLY COATINGS BY BRUSH, ROLLER, SPRAY, OR OTHER APPLICATORS ACCORDING TO COATING MANUFACTURERS' WRITTEN INSTRUCTIONS. WHEN SPRAYED, EXTERIOR COATINGS SHALL BE BACK-ROLLED FOLLOWING SPRAY APPLICATION. USE ROLLERS FOR FINISH COAT ON INTERIOR WALLS AND CEILING.
2. PIGMENTED (OPAQUE) FINISHES: COMPLETELY COVER SURFACES TO PROVIDE A SMOOTH, OPAQUE SURFACE OF UNIFORM APPEARANCE. PROVIDE A FINISH FREE OF CLOUSTHS, SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, RUNS, SAGS, ROPEINESS, OR OTHER SURFACE IMPERFECTIONS.
3. APPLY PRODUCTS PER MANUFACTURER RECOMMENDED GUIDELINES. PRODUCT COVERAGE MINIMUM ONE COAT OF PRIMER AND TWO FINAL COATS ON MATERIALS APPLY PRODUCTS TO MATERIALS APPROVED BY MANUFACTURER PRODUCT DATA SHEETS.

A. Exterior Work:

1. ALL EXTERIOR GALVANIZED METAL FLASHINGS, CONNECTORS, ETC. ONE COAT COMMERCIAL METAL ETCH. ONE COAT EXTERIOR METAL PRIMER. TWO COATS EXTERIOR SEMI-GLOSS METAL PAINT.

2. ALL EXPOSED STEEL FRAMES, ANGLES, ETC. TWO COATS SEMI-GLOSS METAL PAINT (PRIME COAT CHAINMILLS, BEAMS, ETC. SURFACES THAT ARE NOT PRIMED).

3. ALL EXPOSED MISC. FERROUS METAL ITEMS INCLUDING RAILS, PLATES, ANGLES, BOLTS, GRATES, CONDUITS, POSTS, PIPING, ETC. TWO COATS SEMI-GLOSS METAL PAINT (PRIME COAT SURFACES THAT ARE NOT PRIMED).

4. ALL UNPRIMED EXTERIOR MILLWORK, TRIM, SMOOTH WOOD MATERIALS, ETC. PRIME AND BACK LATEX PRIMER. TWO COATS OF EXTERIOR LATEX SATIN OR SEMI-GLOSS PAINT.

5. PRIMED MILLWORK AND TRIM. TOUCH-UP PRIMER. TWO COATS OF EXTERIOR 100% SATIN OR SEMI-GLOSS ACRYLIC LATEX PAINT.

6. ROUGH SAWN TRIM, BEAMS, COLUMNS, ETC. ONE COAT PRIMER. TWO COATS EXTERIOR HEAVY BODDED STAIN.

7. PRIMED METAL ENTRY DOORS, FRENCH DOORS AND METAL FRAMES, GARAGE DOORS. PATCH DENIS, TOUCH UP PRIMER. TWO COATS OF OIL BASE SEMI-GLOSS PAINT INSIDE AND OUTSIDE.

8. ANY OTHER PAINTING REQUIRED BY THE DRAWINGS. TWO COATS TO MATCH ADJACENT SURFACES.

B. INTERIOR WORK:

1. GYPSUM BOARD WALLS EXCEPT IN KITCHENS, BATHROOMS, LAUNDRIES AND COMMON AREA CORRIDORS, UNLESS SCHEDULED FOR WALLCOVERING. ONE COAT OF PRIME LATEX PAINT AND ONE FINISH COAT OF LATEX EGG-SHELL WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)

2. GYPSUM BOARD WALLS IN KITCHENS. ONE COAT OF EPOXY COMPATIBLE PRIMER PAINT AND ONE FINISH COAT OF EPOXY EGG-SHELL WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)

3. GYPSUM BOARD WALLS IN COMMON AREA CORRIDORS. ONE COAT OF PRIME LATEX PAINT AND ONE FINISH COAT OF SCRUBABLE LATEX FLAT WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)

4. GYPSUM BOARD CEILING. TWO COATS OF LATEX FLAT PAINT. TWO COATS OF CLASS I VAPOR RETARDER PAINT AT CEILING ADJACENT TO ATTICS.

5. DOOR CASINGS, BASE, WOOD, MILL-WORK, ETC. (PRE-PRIMED.) ONE PRIME COAT OF LATEX PAINT. ONE COAT LATEX PAINT AND ONE FINISH COAT OF LATEX SEMI-GLOSS PAINT.

6. PRIMED HARDWOOD DOORS. ONE COAT OF LATEX PAINT AND ONE FINISH COAT OF LATEX SEMI-GLOSS PAINT.

7. ALL MISCELLANEOUS FERROUS METAL, INCLUDING GRILLES, REGRISTS, ETC. TWO COATS METAL PAINT TO MATCH ADJACENT SURFACES, UNLESS FACTORY PREFINISHED W/P.

8. ANY OTHER PAINTING WORK REQUIRED BY THE DRAWINGS. FINISH TO MATCH SIMILAR CONDITIONS.

09 3000 - TILING

A. SUBMITTALS: PRODUCT DATA FOR SETTING AND GROUTING MATERIALS AND THREE (3) SAMPLES OF EACH TILE SPECIFIED FOR VERIFICATION PURPOSES.

B. ATTIC STOCK: FURNISH 2% OF EACH TYPE OF CERAMIC TILE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.

C. BASIS OF DESIGN: SEE DRAWING SCHEDULES.

D. TILE: COMPLY WITH STANDARD GRADE REQUIREMENTS IN ANSI A137.1 "SPECIFICATIONS FOR CERAMIC TILE FOR PRODUCTS AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS".

E. INSTALLATION MATERIALS:

- 1. THIN SET MORTAR.
A. TYPICAL INTERIOR INSTALLATIONS: LATEX/POLYMER MODIFIED PORTLAND CEMENT COMPLYING WITH ANSI A108 AND ANSI 118.4.
B. GROUT/UNSAVED FOR JOINTS 1/16" WITH OR LESS, SANDED FOR JOINTS GREATER THAN 1/16" IN COLOR INDICATED IN SCHEDULE OR TO BE SELECTED BY ARCHITECT AND OWNER.
A. TYPICAL INTERIOR INSTALLATIONS: STANDARD CEMENT GROUT WITH INTEGRAL STAIN INHIBITORS (TIC ACCORDING TO CR 104).
3. SETTING BED ACCESSORIES: ANSI 108.14.

F. INSTALLATION METHODS: COMPLY WITH TILE INSTALLATION STANDARDS IN ANSI'S "SPECIFICATIONS FOR THE INSTALLATIONS OF CERAMIC TILE" AND TCAS "HANDBOOK FOR CERAMIC TILE INSTALLATION" THAT APPLY TO THE MATERIALS AND METHODS INDICATED BELOW.

G. TERMINATIONS:

- 1. WHERE CUT TILE IS SPECIFIED AS THE TOP COURSE ON WALL HANGING OVER WALL BASE WITH AN EXPOSED TOP EDGE, THE FACTORY EDGE SHALL BE USED AS THE EXPOSED EDGE.
H. CONJUNCTS: IF NOT ADDRESSED ON DRAWINGS, WHERE ELECTRICAL, DEVICES OR TOILET ACCESSORIES STRADDLE THE TRANSITION FROM THE TOP EDGE OF WAINSCOT WALL TILE TO GYPSUM BOARD SUBSTRATE, CONTACT ARCHITECT FOR RESOLUTION.

I. GROUT JOINTS:

- 1. JOINT SIZE: SET TILE WITH THE SMALLEST GROUT JOINT ACHIEVABLE AND AS RECOMMENDED BY THE MFR. BASED ON THE TILE PRODUCT AND SUBSTRATE CONDITIONS, UNLESS NOTED OTHERWISE.
2. ALL JOINTS SHALL BE CLEAN AND FREE OF GROUT.
3. ALL JOINTS SHALL BE GRANITE AS SELECTED BY THE OWNER WITH SQUARE BEADS AND MATCHING SIZE AND BACKSPASHES, TOP AND BOTTOM EXPOSED EDGES SHALL BE SLIGHTLY EASED.
4. FINISH: POLISHED.
5. WATER-CLEANABLE EPOXY ADHESIVE: ANSI A118.3. WATER-CLEANABLE EPOXY GROUT: ANSI A118.3. CHEMICAL RESISTANT WATER-CLEANABLE TILE SETTING AND GROUTING EPOXY.
6. SEALANT FOR JOINTS: MILDEW-RESISTANT CARBON-STEEL WIRE: ASTM A 641 (A 641 M), CLASS 1 ZINC COATING, 50% TEMPER WITH A YIELD STRENGTH AT LEAST THREE (3) TIMES THE HANGER DESIGN LOAD (ASTM C 635, TABLE 1, DIRECT HUNG), BUT NOT MORE THAN 1/32" DIAMETER WIRE.
7. GROMMETS: 2 INCH ROUNO GROMMETS BY DOUG MCGUKET & COMPANY, INC. OR APPROVED EQUAL.

E. STONE FABRICATION:

- 1. SELECT MATERIAL FOR INTENDED USE TO PREVENT FABRICATED UNITS FROM CONTAINING CRACKS, SEAMS, AND STARTS THAT COULD IMPAIR STRUCTURAL INTEGRITY OR FUNCTION.
2. FABRICATE STONE COUNTERTOPS BY SIZES AND SHAPES REQUIRED TO COMPLY WITH REQUIREMENTS INDICATED.
3. GENERAL: COMPLY WITH RECOMMENDATIONS IN MMS "DIMENSION STONE DESIGN MANUAL, V.1".
4. NOMINAL THICKNESS: PROVIDE THICKNESS INDICATED, BUT NOT LESS THAN 3/4" (EXCEPT APARTMENT UNIT BATHROOM COUNTERTOPS SHALL BE NOT LESS THAN 2CM). GAGE BACKS TO PROVIDE UNITS OF IDENTICAL THICKNESS.
5. SPLASHES: PROVIDE 3/4" INCH THICK BACKSPASHES AND END SPLASHES UNLESS OTHERWISE INDICATED.
6. JOINTS: FABRICATE COUNTERTOPS WITHOUT JOINTS WHEREVER POSSIBLE.
7. CUTOUTS & HOLES: UNDERCOUNTER FIXTURES: MAKE CUTOUTS FOR UNDERCOUNTER FIXTURES IN SHOP USING TEMPLATE OR FRITTER FURNISHED BY FIXTURE MANUFACTURER. FOR CUTOUTS TO SMOOTH. EVEN CURVES.
8. HOLE MOUNTED FIXTURES: PREPARE COUNTERTOPS IN SHOP FOR FIELD CUTTING OPENINGS FOR COUNTER MOUNTED FIXTURES. MARK TOPS FOR CUTOUTS AND DRILL HOLES AT CORNERS OF CUTOUT LOCATIONS. MAKE CORNER HOLES OF LARGEST RADIUS PRACTICAL.
9. FITTINGS: DRILL COUNTERTOPS IN SHOP FOR PLUMBING FITTINGS, UNDERCOUNTER SINK DISPENSERS, AND SIMILAR ITEMS.

F. INSTALLATION:

1. GENERAL: INSTALL COUNTERTOPS OVER PLYWOOD SUBTOPS WITH FULL SPREAD OF WATER-CLEANABLE EPOXY ADHESIVE.
2. GENERAL: INSTALL COUNTERTOPS BY ADHERING TO SUPPORTS WITH FULL-CLEANABLE EPOXY ADHESIVE.
3. SET STONE TO COMPLY WITH REQUIREMENTS INDICATED. SHIM AND ADJUST STONE TO LOCATIONS INDICATED, WITH UNIFORM JOINTS OF WIDTHS INDICATED AND WITH EDGES AND FACES ALIGNED ACCORDING TO ESTABLISHED RELATIONSHIPS.
4. SPACE JOINTS WITH 1/16" INCH GAP FOR FILLING WITH SEALANT. USE TEMPORARY SHIMS TO ENSURE UNIFORM SPACING. CLAMP UNITS TO TEMPORARY BRACKS, SUPPORTS, OR EACH OTHER TO ENSURE THAT COUNTERTOPS ARE PROPERLY ALIGNED AND JOINTS ARE OF SPECIFIED WIDTH.
5. COMPLETE CUTOUTS NOT FINISHED IN SHOP. MASK AREAS OF COUNTERTOPS ADJACENT TO CUTOUTS TO PREVENT DAMAGE WHILE CUTTING. USE POWER SAWS WITH DIAMOND BLADES TO CUT STONE. MAKE CUTOUTS TO ACCURATELY FIT ITEMS TO BE INSTALLED, AND AT RIGHT ANGLES TO FINISHED SURFACES UNLESS BEVELING IS REQUIRED FOR CLEARANCE. EASE EDGES SLIGHTLY TO PREVENT SHIPPNG.
6. INSTALL BACKSPASHES AND END SPLASHES BY ADHERING TO WALL WITH WATER-CLEANABLE EPOXY ADHESIVE. LEAVE 1/16" INCH GAP BETWEEN COUNTERTOP AND SPLASHES FOR FILLING WITH SEALANT.
7. GROUT JOINTS TO COMPLY WITH ANSI 108.10. REMOVE TEMPORARY SHIMS BEFORE GROUTING.
8. POLISH SURFACE AT SEAM. ASSURE THAT FILLER IS NON-YELLOWING.
9. ASSURE THAT SEAMS ARE SMOOTH LEVEL AND TIGHT. SEAMS SHALL BE FILLED ENTIRELY SO FLUSH WITH COUNTERTOP. POLISH SURFACE AT SEAM. ASSURE THAT FILLER IS NON-YELLOWING.
10. CLEANING CLEAN COUNTERTOPS AS WORK PROGRESSES. REMOVE ADHESIVE, GROUT, MORTAR, AND SEALANT SMears IMMEDIATELY. CLEAN STONE COUNTERTOPS NO FOWER THAN SIX DAYS AFTER COMPLETION OF INSTALLATION, USING CLEAN WATER AND SOFT RAGS. DO NOT USE WIRE BRUSHES, ACOYD TYPE CLEANING AGENTS, CLEANING COMPOUNDS WITH CAUSTIC OR HARSH FILTERS, OR OTHER MATERIALS OR METHODS THAT COULD DAMAGE STONE.
11. SEALER APPLICATION: APPLY STONE SEALER TO COMPLY WITH STONE PRODUCERS AND SEALER MANUFACTURERS WRITTEN INSTRUCTIONS.

12. SEALER APPLICATION: APPLY STONE SEALER TO COMPLY WITH STONE PRODUCERS AND SEALER MANUFACTURERS WRITTEN INSTRUCTIONS.

DIVISION 10 - SPECIALTIES

10 2000 TOILET AND BATH ACCESSORIES

A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES: FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES.

B. SUBMITTALS:

- 1. PRODUCT DATA: MANUFACTURERS DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:
2. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS.
3. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.
4. INSTALLATION METHODS.

C. INSTALLATION:

1. INSTALLER MUST EXAMINE SUBSTRATES: PREVIOUSLY INSTALLED INSERTS AND ANCHORAGES NECESSARY FOR MOUNTING OF TOILET ACCESSORIES, AND OTHER CONDITIONS UNDER WHICH INSTALLATION IS TO OCCUR, AND MUST NOTIFY CONTRACTOR IN WRITING OF CONDITIONS DETERMINAL TO PROPER AND TIMELY COMPLETION OF WORK. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN MANNER ACCEPTABLE TO INSTALLER.
2. INSTALL ACCESSORIES ACCORDING TO RESPECTIVE MANUFACTURERS' WRITTEN INSTRUCTIONS, USING FASTENERS APPROPRIATE TO SUBSTRATE INDICATED AND RECOMMENDED BY UNIT MANUFACTURER.
3. INSTALL UNITS LEVEL, PLUMB, AND FIRMLY ANCHORED IN LOCATIONS AND AT HEIGHTS INDICATED. ADHESIVE JOINTS TO SUBSTRATE ARE NOT PERMITTED.
4. MOUNTING HEIGHTS SHALL BE AS RECOMMENDED BY THE ACCESSORY MANUFACTURER AND AT HEIGHTS RECOMMENDED BY USER FOR PHYSICALLY HANDICAPPED TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT.
5. GRAB BARS: INSTALL TO WITHSTAND A DOWNWARD LOAD OF AT LEAST 250 LBS. WHEN TESTED ACCORDING TO ASTM F 446.
6. ADJUST ACCESSORIES FOR PROPER OPERATION AND VERIFY THAT MECHANISMS FUNCTION SMOOTHLY.
7. CLEAN AND POLISH ALL EXPOSED SURFACES AFTER REMOVING PROTECTIVE COATINGS.

10 3000 SOLID PLASTIC TOILET COMPARTMENTS

A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES: FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES.

B. PRODUCTS: BASIS OF DESIGN: ECLIPSE TOILET PARTITIONS AS MANUFACTURED BY AND SUPPLIED BY SCRANTON 1. STYLE: FLOOR MOUNTED OVERHEAD-BRACED TOILET COMPARTMENTS.
2. DOORS AND PANELS: HIGH DENSITY POLYETHYLENE (HDPE), FABRICATED FROM SEQ CHAPTER 1 EXTRUDED POLYMER RESINS, FORMING SINGLE THICKNESS PANEL.
A. WATERPROOF AND NONABSORBENT, WITH SELF-LUBRICATING SURFACE, RESISTANT TO MARKS BY FINGERS, PENCILS, MARKERS, AND OTHER WRITING INSTRUMENTS.
B. THICKNESS: 1 INCH (25 MM).
C. EDGES: SHIP-LAP.
3. PANEL COLOR: TRADITIONAL SERIES 1: SHALE - ORANGE PEEL.
4. DOORS AND PANELS: HIGH PRIVACY: HEIGHT: 62 INCHES (1575 MM) HIGH AND MOUNTED AT 8 TO 14 INCHES (203 TO 356 MM) ABOVE THE FINISHED FLOOR.

C. SUBMITTALS:

- 1. PRODUCT DATA: MANUFACTURERS DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:
2. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS.
3. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.
4. INSTALLATION METHODS.
5. SHOP DRAWINGS: PROVIDE LAYOUT DRAWINGS AND INSTALLATION DETAILS WITH LOCATION AND TYPE OF HARDWARE REQUIRED.
6. SELECTION SAMPLES: FOR EACH FINISH PRODUCT SPECIFIED, TWO COMPLETE SETS OF COLOR CHIPS REPRESENTING MANUFACTURERS' FULL RANGE OF AVAILABLE COLORS AND PATTERNS.

D. POSTS, RAILS AND HARDWARE:

- 1. METAL POSTS: 3/8 INCHES (102 MM) HIGH, HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, FASTENED TO FOOT WITH STAINLESS STEEL TAMPER RESISTANT SCREW.
2. HIDDEN SHOE FOOT: ONE-PIECE MOLDED POLYETHYLENE INVISIBLE SHOE INSERTED INTO METAL POST AND SECURED TO METAL POST WITH STAINLESS STEEL TAMPER RESISTANT SCREW.
3. HEADRAL CAP AND CORNER CAP: ONE-PIECE MOLDED POLYETHYLENE SECURED TO METAL POST WITH STAINLESS STEEL TAMPER RESISTANT SCREW. ADJUSTABLE TO LEVEL, HEADRAL, TO FINISHED FLOOR.
4. WALL BRACKETS: CONTAIN HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, INSERTED INTO SLOTTED PANEL AND FASTENED TO WALL WITH STAINLESS STEEL TAMPER RESISTANT SCREWS.
5. HEADRAL: HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, SECURED TO WALL WITH STAINLESS STEEL TAMPER SCREWS.
6. DOOR HARDWARE:
A. HINGES: EDGE-MOUNTED HELIX STYLE STAINLESS STEEL CONTINUOUS HINGE. CLOSING DEGREE: 5 DEGREES. COMES TO A FULL CLOSE ON ITS OWN HEIGHT.
B. OCCUPANCY INDICATOR LATCH AND HOUSING: MATERIAL: SATIN STAINLESS STEEL. OCCUPANCY INDICATORS: GREEN FOR OCCUPIED AND RED NOT OCCUPIED. SLIDE BOLT AND BUTTION.
C. LOCK: MATERIAL: CHROME PLATED ZAMAK.
EQUIP WITH SECOND DOOR PULL AND DOOR STOP.
D. DOOR PULLS: CHROME PLATED ZAMAK.

E. INSTALLATION:

- 1. CLEAN SURFACES THOROUGHLY PRIOR TO INSTALLATION.
2. INSTALL IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS AND APPROVED SHOP DRAWINGS.
3. INSTALL PARTITIONS RIGID, STRAIGHT, PLUMB, AND LEVEL.
4. LOCATE BOTTOM EDGE OF DOORS AND PANELS 1 INCHES ABOVE FINISHED FLOOR.
5. CLEARANCE AT VERTICAL EDGES OF DOORS SHALL BE UNIFORM TOP TO BOTTOM AND SHALL NOT EXCEED 3/8 INCH (9.5 MM).
6. NO EVIDENCE OF CUTTING, DRILLING, AND/OR PATCHING SHALL BE VISIBLE ON THE FINISHED WORK.
7. FINISHED SURFACES SHALL BE CLEANED AFTER INSTALLATION AND BE LEFT FREE OF IMPERFECTIONS.
8. ADJUST DOORS AND LATCHES TO OPERATE CORRECTLY.
9. PROTECT INSTALLED PRODUCTS UNTIL COMPLETION OF PROJECT.
10. TOUCH-UP, REPAIR OR REPLACE DAMAGED PRODUCTS BEFORE SUBSTANTIAL COMPLETION.

10 4000 - FIRE PROTECTION SPECIALTIES

A. REFERENCE CONSTRUCTION DRAWINGS: FOR TYPE, SIZE AND LOCATIONS OF FIRE EXTINGUISHERS AND CABINETS.

DIVISION 11 - EQUIPMENT

11 3000 - APPLIANCES

A. REFERENCE CONSTRUCTION DRAWINGS: FOR QUANTITY, AND LOCATION OF APPLIANCES TO BE FURNISHED BY OWNER.

12 3601 STONE COUNTERTOPS

A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES: FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES.

B. SUBMITTALS: INCLUDE PLANS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK:

- 1. PRODUCT DATA: FOR EACH STONE, STONE ACCESSORY, AND MANUFACTURED PRODUCT.
2. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.
3. SAMPLES: FOR EACH STONE TYPE INDICATED.

C. FIELD CONDITIONS:

1. FIELD MEASUREMENTS: VERIFY DIMENSIONS OF CONSTRUCTION TO RECEIVE STONE COUNTERTOPS BY FIELD MEASUREMENTS BEFORE FABRICATION.
D. PRODUCTS:
1. SOURCE LIMITATIONS FOR STONE: OBTAIN STONE FROM A SINGLE QUARRY WITH RESOURCES TO PROVIDE MATERIALS OF CONSISTENT QUALITY IN APPEARANCE AND PHYSICAL PROPERTIES.
2. QUARTZ: MATERIAL STANDARD: COMPLY WITH ASTM C 615.
3. ALL COUNTERTOPS SHALL BE GRANITE AS SELECTED BY THE OWNER WITH SQUARE BEADS AND MATCHING SIZE AND BACKSPASHES, TOP AND BOTTOM EXPOSED EDGES SHALL BE SLIGHTLY EASED.
4. FINISH: POLISHED.
5. WATER-CLEANABLE EPOXY ADHESIVE: ANSI A118.3. WATER-CLEANABLE EPOXY GROUT: ANSI A118.3. CHEMICAL RESISTANT WATER-CLEANABLE TILE SETTING AND GROUTING EPOXY.
6. SEALANT FOR JOINTS: MILDEW-RESISTANT CARBON-STEEL WIRE: ASTM A 641 (A 641 M), CLASS 1 ZINC COATING, 50% TEMPER WITH A YIELD STRENGTH AT LEAST THREE (3) TIMES THE HANGER DESIGN LOAD (ASTM C 635, TABLE 1, DIRECT HUNG), BUT NOT MORE THAN 1/32" DIAMETER WIRE.
7. GROMMETS: 2 INCH ROUNO GROMMETS BY DOUG MCGUKET & COMPANY, INC. OR APPROVED EQUAL.

E. STONE FABR

Abbreviation	Abbreviation Name
+	PLUS OR MINUS
ADDL	ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURALLY EXPOSED 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
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTIGUOUS
CTR	CENTER
db	DIA OF REIN BAR, DIA OF BOLT
DBA	DEFORMED BAR ANCHOR
DIA or Ø	DIAMETER
DAG	DIAGONAL
DIR	DIRECTION
DWL	DOWEL
EA	EACH
EE	EXTENDED END
EJ	EXPANSION JOINT
ELEV	ELEVATION
ENGR	ENGINEER
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
EXT	EXTERIOR
FN	FOUNDATION
FLG	FLANGE
FLR	FLOOR
FS	FACE 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
IF	INSIDE FACE
INT	INTERIOR
JST	JOIST
K	KIPS (1000 LBS)
LCE	COMPRESSION EMBEDMENT LENGTH
LCS	COMPRESSION LAP SPICE LENGTH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LTE	TENSION EMBEDMENT LENGTH
LTS	TENSION LAP SLICE LENGTH
LW	LIGHTWEIGHT
MFCR	MANUFACTURER
MTL	METAL
NC	NOT IN CONTRACT
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OF	OUTSIDE FACE
OPP	OPPOSITE
OVS	OVERSIZED
PC	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
SCS	SELF DRILLING SCREW
SIM	SIMILAR
SLV	SHORT LEG VERTICAL
SOG	SLAB ON GRADE
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STR	STIRRUPS
STL	STEEL
SW	SHEAR WALL
SYM	SYMMETRIC
T&B	TOP AND BOTTOM
TI	TOP OF
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WI	WITH
W/O	WITHOUT
WF	WIDE FLANGE
WP	WORK POINT
WWR	WELDED WIRE REINFORCEMENT

STRUCTURAL GENERAL NOTES

DESIGN CRITERIA:

1. LIVE LOADS (UNIFORM (PSF) / POINT LOADS (KIPS))
 - ROOF..... 20 PSF / 1.0 K
 - ELEVATED FLOORS..... 40 PSF / 1.0 K
 - ELEVATED GARAGE FLOORS..... 50 PSF / 2.0 K
2. GROUND SNOW LOAD (Pg)..... 20 PSF
3. BASIC WIND SPEED (3 SEC GUST)..... 115 MPH
4. DECK GUARD RAIL LOAD..... 200# CONCENTRATED LOAD
 - BASIC WIND SPEED (3 SEC GUST)..... 115 MPH
 - APPLIED IN ANY DIRECTION
5. PREFABRICATED WOOD ROOF TRUSS DESIGN CRITERIA:
 - TOP CHORD DEAD LOAD..... 15 PSF
 - TOP CHORD ROOF LIVE LOAD..... 20 PSF
 - BOT CHORD DEAD LOAD..... 10 PSF
 - BOT CHORD LIVE LOAD..... 20 PSF OVER GARAGES
 - LIVE LOAD DEFLECTION CRITERIA..... MIN OF L/240
 - TOTAL LOAD DEFLECTION CRITERIA..... MIN OF L/240

AREA	MIN DEAD LOAD	MIN LIVE LOAD
BALCONIES (EXTERIOR) AND DECKS	10	40
CEILING JOISTS W/ STORAGE (SCUTTLE ACCESS ONLY)	10	10
CEILING JOISTS - ATTICS W/ STORAGE (DOOR OR PULL DOWN LADDER ACCESS)	10	20
ROOMS - NON SLEEPING	15	40
SLEEPING ROOMS	15	30
ROOF - LIGHT ROOF COVERING	15	20
ROOF - HEAVY ROOF COVERING (CONCRETE/TILT/SLATE)	20	20

STRUCTURAL GENERAL NOTES:

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE INTERNATIONAL RESIDENTIAL CODE, 2018 EDITION. CONSULT WITH THE LOCAL JURISDICTION FOR INSPECTION REQUIREMENTS
2. CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.
3. 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.
4. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO EXECUTE AND DETERMINE FINAL ERECTION PROCEDURES, SEQUENCING AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION.
5. FABRICATORS AND SUPPLIERS SHALL CLEARLY NOTE AND HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS, WHICH DO NOT COMPLY WITH THE CONTRACT DOCUMENTS.
6. BEAMS, COLUMNS, WALLS, AND FOOTING CENTERS SHALL BE CENTERED UNDER SUPPORTING MEMBERS (TYPICAL UNLESS NOTED OTHERWISE).

EARTHWORK AND FOUNDATIONS:

1. PRESUMPTIVE ALLOWABLE BEARING PRESSURE = 1,500 PSF (PER THE IRC). ALL FOOTINGS AND FOUNDATIONS SHALL BEAR ON NATIVE UNDISTURBED SOIL. NOTIFY ENGINEER IF FILL IS ENCOUNTERED BELOW FOOTING BEARING LOCATIONS.
2. ALL PERIMETER AND EXTERIOR FOOTINGS SHALL EXTEND AT LEAST 3" BELOW FINAL ADJACENT GRADE. DEEPEN FOOTINGS AS REQUIRED TO PROVIDE THIS MINIMUM BOTTOM OF FOOTING.
3. SURFACE WATER SHALL NOT BE ALLOWED TO STAND ADJACENT TO OR DRAIN TOWARDS THE FOUNDATION 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 2% OR 6" MIN FOR THE FIRST TEN FEET.
4. FOOTINGS MAY BE POURED TO NEAT LINES OF EXCAVATIONS PROVIDING VERTICAL LINES OF EXCAVATIONS CAN BE MAINTAINED DURING CONCRETE PLACEMENT.
5. FOUNDATION CONTRACTOR TO ENSURE PROPER ANCHOR ROD PROJECTION AND THAT ANCHOR RODS ARE HELD SECURELY IN POSITION PRIOR TO CONCRETE PLACEMENT. STRUCTURAL STEEL COLUMN ANCHOR RODS SHALL BE SET WITH A TEMPLATE.
6. 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.
7. SOIL CONDITIONS AT THE TIME OF CONSTRUCTION SHOULD BE EVALUATED BY THE CONTRACTOR. SOIL THAT IS TOO DRY OR TOO WET MAY BE SUBJECT TO EXCESSIVE SHRINKING OR SWELLING. IN ADDITION, SOME ON-SITE SOILS MAY BE UNSUITABLE FOR BACK FILL. CONSULT WITH A GEOTECHNICAL ENGINEER AS NEEDED FOR SITE PREP REQUIREMENTS.

PRE-FABRICATED WOOD ROOF TRUSS NOTES:

1. THE WOOD FLOOR TRUSS MANUFACTURER SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER'S REVIEW. THE SHOP DRAWINGS SHALL INCLUDE PLACING PLANS OF ALL TRUSSES CLEARLY LABELED. DETAILS OF TRUSS CONNECTIONS AND ANCHORAGES, DETAILS OF METAL CONNECTORS USED AT JOINTS, AND ENGINEERING DESIGN DATA. THE ENGINEERING DESIGN FOR EACH TYPE OF TRUSS SHALL INCLUDE: TRUSS LOCATION IDENTIFICATION, ALL LOADINGS AND REACTIONS, WOOD SPECIES AND STRESS GRADES, MEMBER STRESSES, JOINT CONNECTIONS, CONFIGURATION, TRUSS TO TRUSS CONNECTIONS, BRACING FOR LATERAL STABILITY OF THE COMPLETED FRAMING SYSTEM, AND THE PROFESSIONAL ENGINEER'S SEAL OF THE PERSON RESPONSIBLE FOR THE DESIGN OF THE TRUSS/STRUSS SYSTEM.
2. THE CONTRACTOR SHALL FURNISH A COPY OF THE PREFAB TRUSS SHOP DRAWINGS TO BUILDING OFFICIAL FOR THEIR RECORDS.
3. TRUSS MEMBERS AND COMPONENTS SHALL NOT BE FIELD CUT, NOTCHED, DRILLED, OR ALTERED IN ANY WAY WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER RESPONSIBLE FOR THE TRUSS DESIGN.

CONCRETE AND MASONRY REINFORCING STEEL:

1. ALL REINFORCING BARS SHALL MEET ASTM A615 GRADE 40.
1. ALL MESH SHALL MEET ASTM A-185: LAP A MINIMUM OF 8" OR ONE FULL MESH, WHICHEVER IS GREATER.
2. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE 1" CLEAR FOR SLABS, 2" CLEAR FOR FORMED SURFACES AND 3" CLEAR FOR FOOTINGS (TYPICAL UNLESS NOTED OTHERWISE).
4. 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.

CAST IN PLACE CONCRETE:

1. CONCRETE CONSTRUCTION SHALL ADHERE TO THE RECOMMENDATIONS AND REQUIREMENTS OF ACI 302 - "REQUIREMENTS FOR RESIDENTIAL CONCRETE CONSTRUCTION" (UNLESS NOTED OTHERWISE).
2. REQUIRED MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS:
 - a. FOOTING AND GRADEBEAM CONCRETE..... 3,500 PSI
 - b. FOUNDATION WALL CONCRETE..... 4,000 PSI
 - c. INTERIOR SOG..... 3,500 PSI
 - d. EXTERIOR SLAB ON GRADE AND GARAGE FLOOR SLABS, 4,000 PSI
3. EXTERIOR CONCRETE (FLOOR SLABS, WALLS, ETC) INCLUDING GARAGE FLOORS SHALL HAVE 6% (PLUS/MINUS 1%) EXTRAINED AIR.
4. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" (VERIFY WITH ARCHITECT).
5. NO ALUMINUM SHALL BE EMBEDDED IN ANY CONCRETE.
6. NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE.
7. THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE CONTRACTOR.
8. ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE SAME REINFORCING AS SIMILAR SECTIONS OR AREAS.
9. CONSTRUCTION JOINTS IN GRADE BEAMS, CONTINUOUS FOOTINGS, AND WALLS THAT DO NOT CHANGE DIRECTION SHALL BE SPACED NO GREATER THAN 60". INTERMEDIATE CONTROL JOINTS SHALL BE SPACED AT 20" OF MAX FOR WALLS. CONTROL JOINTS IN WALLS SHALL ALSO BE LOCATED 15'-0" FROM CORNERS AND AT CHANGES IN WALL THICKNESS.
10. WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 8 HRS OLD), CLEAN EXISTING SURFACE OF LAITANCE AND FOREIGN MATERIAL, AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO 1/4" AMPLITUDE.
11. SLABS ON GRADE SHALL BE 4" THICK MIN ON 6" OF GRANULAR FILL. REINF SLAB WITH 6 x 6 W2, WWR, #3 BARS AT 18" OC, OR #4 BARS AT 24" OC (UNLESS NOTED OTHERWISE). ALL REINF SHALL BE PLACED IN UPPER 1/3 OF SLAB THICKNESS. AT INTERIOR SLABS, AN 8 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.
12. SAW CUT JOINTS OR KEVED CONSTRUCTION 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.
13. REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED S3 BAR DIAMETERS (2'-6" MIN) EXCEPT AS NOTED AND PROVIDE CORNER BARS OF SAME SIZE AND SPACING.
14. MINIMUM REINFORCING AROUND CONCRETE WALL OPENINGS 2'-0" OR GREATER (TYPICAL UNLESS NOTED OTHERWISE): (2) #5, EXTEND REINF 2'-0" PAST OPENINGS. PROVIDE (2) #5 x 4'-0" DIAGONAL BARS AT CORNERS.
15. MINIMUM REINFORCING IN PERIMETER STEM WALL SHALL BE #4 VERTS @ 16" OC WITH STD HOOKS INTO FOOTING AND #4 HORIZ @ 16" OC MAX. IN FOOTING PROVIDE (2) #4 CONTINUOUS W/ #4 TRANSVERSE @ 16" OC MAX.
16. MINIMUM REINFORCING IN ROUND PIERS SHALL BE (5) #3 VERTS W/ #3 TIES AT 16" OC MAX.

1. STRUCTURAL STEEL SHAPES AND PLATE MATERIAL REQUIREMENTS (TYPICAL UNLESS NOTED OTHERWISE):
 - a. WIDE FLANGE SHAPES - ASTM A992 (FY = 50 KSI MIN.)
 - b. CHANNELS, ANGLES, AND PLATES - ASTM A36 (FY = 36 KSI MIN)
 - c. RECTANGULAR HSS - ASTM A500, GR. B (FY = 46 KSI)
 - d. ANCHOR RODS - ASTM F1554 (FY = 36 KSI MIN)
 - e. ROUND PIPE - ASTM A53, GRB (FY=35 KSI MIN)
2. STRUCTURAL STEEL SHALL BE NEW AND MEET THE 15TH EDITION AISC "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS AND BRIDGES", AND THE "CODE OF STANDARD PRACTICES FOR STEEL BUILDINGS AND BRIDGES", EXCLUDING SECTION 4.4.1.B.
3. WELDING SHALL CONFORM TO THE CURRENT AND APPLICABLE AWS STANDARDS AND BE COMPLETED BY AN AWS CERTIFIED WELDER
 - a. AWS D1.1 - STRUCTURAL WELDING CODE - STEEL
 - b. AWS D1.3 - STRUCTURAL WELDING CODE - SHEET STEEL
 - c. AWS D1.6 - STRUCTURAL WELDING CODE - STAINLESS STEEL
4. WELD SIZES SHALL BE INCREASED TO MEET THE REQUIRED EFFECTIVE THROAT WIDTH IF GAPS EXIST AT THE FAYING SURFACE.
5. NO COLUMN OR BEAM SPLICES, UNLESS CLEARLY INDICATED ON THE STRUCTURAL DRAWINGS, WILL BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
6. GROUT WHERE INDICATED ON PLANS AT BASE PLATES SHALL BE NON-METALLIC NON-SHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 6,000 PSI AT 28 DAYS CONFORMING TO ASTM C1107.
7. ALL POST INSTALLED ANCHORS WHERE NOTED SHALL BE MANUFACTURED BY Hilti, Inc. OR SIMPSON STRONG-TIE AND BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL WITH APPROPRIATE ICBO EVALUATION REPORTS.

STRUCTURAL STEEL:

1. THE DRAWING SET IS CONSIDERED TO BE "BUILDERS PLANS" WHEREBY SOME ASPECTS OF THE PROJECT'S REQUIREMENTS ARE LEFT TO THE CONTRACTOR TO UNDERSTAND AND IMPLEMENT, AS SUCH IT IS A REQUIREMENT THAT THE CONTRACTOR (BUILDER) BE COMPETENT IN RESIDENTIAL CONSTRUCTION AND HAVE A THOROUGH UNDERSTANDING OF THE APPLICABLE INTERNATIONAL RESIDENTIAL CODES (IRC). THE CONTRACTOR IS RESPONSIBLE FOR MEETING THE REQUIREMENTS OF THE BUILDING CODE WHETHER EXPLICITLY STATED OR NOT. IF ADDITIONAL DETAIL OR GUIDANCE IS NEEDED BY THE CONTRACTOR OR HOMEOWNER, A WRITTEN REQUEST FOR SUCH GUIDANCE MAY BE SUBMITTED TO THE ENGINEER.
2. REFER TO THE IRC FOR ALL REQUIREMENTS NOT SPECIFICALLY STATED IN THE PLANS. THIS INCLUDES FIRE RATINGS, LIGHTING AND VENTILATION, SANITATION, GLAZING, GARAGES, SMOKE ALARMS AND CARBON MONOXIDE ALARMS, MEANS OF EGRESS, AND PROTECTION AGAINST DECAY AND TERMITES.
3. CONTRACTOR SHALL ENSURE THAT ALL MECHANICAL, ELECTRICAL, AND PLUMBING IS DESIGNED AND INSTALLED TO MEET THE REQUIREMENTS OF THE APPLICABLE IRC.
4. EGRESS WINDOWS SHALL COMPLY WITH SECTION 310 OF THE IRC.
5. WALL COVERINGS SHALL BE WATER-RESISTANT AND COMPLY WITH SECTION 703.2 OF THE IRC.
6. WINDOWS SHALL HAVE FALL PROTECTION PER IRC 312.2.
7. PROVIDE CARBON MONOXIDE DETECTORS PER IRC SECTION R315.
8. ALL NEW CONSTRUCTION SHALL COMPLY WITH THE ENERGY CONSERVATION CODE AS LISTED IN CHAPTER 11 OF THE IRC. THIS INCLUDES:
 - WALLS - INSULATE WITH R-13 MIN
 - ATTICS - INSULATE WITH R-49 MIN (EXCEPTION: R-38 FOR VAULTED CEILINGS); USE 6" OF RIGID INSULATION (R90) IN VAULTED CEILINGS
 - FLOORS OVER UNCONDITIONED SPACE - INSULATE WITH R-19 MIN
 - CRAWL SPACE WALLS - INSULATE WITH R-10 MIN
 - BASEMENT WALLS - R-19 CAVITY OR R-10 CONTINUOUS
 - SLABS SHALL BE R-10 FOR A DEPTH OF 2'-0"
 - DUCTWORK OUTSIDE OF CONDITIONED SPACES - R-8 MIN
 - WINDOWS SHALL HAVE A "U" VALUE OF 0.35 OR BETTER
9. ALL EXTERIOR DOORS INCLUDING THE DOOR LEADING FROM THE GARAGE TO THE DWELLING UNIT SHALL INCORPORATE THE PHYSICAL SECURITY REQUIREMENTS OF THE LOCAL JURISDICTION AS REQUIRED.
10. THE THERMAL ENVELOPE OF THE BUILDING IS REQUIRED TO BE SEALED PER IRC SECTION N102.4.1 AND TABLE N102.4.1.1.
11. ALL DUCTS, AIR HANDLERS, FILTER BOXES, AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED PER IRC SECTION N103.2.2.

WOOD:

1. FRAMING MATERIAL:
 - A. NOMINAL STRUCTURAL LUMBER - NO 2 OR BETTER, KD D. FIR, MIN Fb = 900 PSI, MIN E = 1,400 KSI;
 - B. EXPOSED NOMINAL STRUCT LUMBER - PRESS TREATED NO 2 OR BETTER, MIN Fb = 1,000 PSI, MIN E = 1,300 KSI;
 - C. MICRO LAM LVL (LAMINATED VENEER LUMBER) BEAMS SHALL MEET TRUS JOIST SPECIFICATIONS: MINIMUM Fb = 2,600 PSI AND MINIMUM E = 1,900 KSI.
 - D. TIMBERSTRAND LSL (LAMINATED STRAND LUMBER) BEAMS SHALL MEET TRUS JOIST SPECIFICATIONS: MINIMUM Fb = 2,600 PSI AND MINIMUM E = 1,700 KSI.
 - E. GLULAM FRAMING: 24F-V4 DOUGLAS FIR, ARCHITECTURAL FINISH (COORD W/ ARCH).
2. SUBSTITUTIONS OF SPECIFIED WOOD MEMBERS SHALL NOT BE MADE WITHOUT REVIEW OF THE ARCHITECT/ENGINEER.
3. WOOD SHEATHING:
 - A. ROOF SHEATHING SHALL BE 7/16" WITH AN APA SPAN RATING OF 3216, EXPOSURE 1, MINIMUM 2 SPAN, FASTEN PER THE CHART ON THIS PAGE. IF ROOF RAFTER SPACING IS 24" OR GREATER THEN USE PL NOLPS AT MIDSPAN.
 - B. FLOOR SHEATHING SHALL BE TONGUE AND GROOVE, EXPOSURE 1, MINIMUM 2 SPAN, FASTENED WITH APA APPROVED ADHESIVE AND PER THE CHART ON THIS PAGE.
 - WHEN CLEAR DISTANCE BETWEEN FLOOR JOISTS OR FLOOR TRUSSES IS 16" OR LESS USE 3/4" SHEATHING WITH AN APA SPAN RATING OF 4824.
 - WHEN CLEAR DISTANCE BETWEEN FLOOR JOISTS OR FLOOR TRUSSES IS GREATER THAN 16" USE 7/8" SHEATHING WITH AN APA SPAN RATING OF 6032.
 - C. 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 8# COMMON NAILS AT 6" OC MAXIMUM AT ALL TOP PLATES, BLOCKING, BOUNDARIES AND 10" OC MAXIMUM IN THE FIELD.
4. ALL WOOD SHEATHING TO BE STAGGERED 4x8" SHEETS ORIENTED PERPENDICULAR TO SUPPORTING MEMBERS.
5. 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.
6. ALL HEADERS IN EXTERIOR OR INTERIOR BEARING WALLS SPANNING MORE THAN 3'-8" SHALL BE SUPPORTED ON DOUBLE STUDS UNLESS NOTED OTHERWISE.
7. LIGHT GAUGE WOOD FRAMING CONNECTORS AS NOTED ON THE PLANS FOR WOOD JOISTS, COLUMNS, BEAMS AND TRUSSES SHALL BE STRONG-TIE CONNECTED BY CONTROL JOINTS OR REVIEWED EQUIVALENT. CONNECTORS IN DIRECT CONTACT WITH PRESSURE TREATED LUMBER SHALL HAVE ZMAX G185 HOT DIP GALVANIZED COATING OR REVIEWED EQUIVALENT.
8. STAINLESS STEEL FASTENERS, ANCHOR BOLTS, LIGHT GAUGE CONNECTORS, ETC. MAY BE SUBSTITUTED FOR HOT DIP GALVANIZED MATERIALS AT THE CONTRACTOR'S OPTION.
9. ALL RAFTER AND CEILING JOIST CONNECTIONS SHALL COMPLY WITH IRC SECTION 602. PROVIDE UPLIFT CONNECTIONS AT ROOF TO WALL CONNECTIONS PER IRC SECTION 802.11.
10. STUDS SHALL BE CONTINUOUS FROM FLOOR TO ROOF DIAPHRAGM PER IRC SECTION 602.3. WALL STUDS SHOULD NOT BE INTERRUPTED AT GABLE WALLS UNLESS BRACED BY A CEILING. WALLS EXTENDING HIGHER THAN TYPICAL SINGLE FLOOR PLATFORM FRAMING, SHALL BE CONTINUOUS (NOT INTERRUPTED) TO NEXT FLOOR ELEVATION OR ROOF.
11. SILL ANCHOR RODS SHALL BE 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. EACH SILL PLATE SHALL HAVE A MINIMUM OF 2 ANCHOR RODS. PROVIDE 2" SO PLATE WASHERS AND NUTS.
12. PROVIDE FULL DEPTH 2x BLOCKING BETWEEN JOISTS OVER ALL INTERIOR LOAD BEARING WALLS AND AT DOWNSET GRIDERS.
13. PROVIDE SOLID BLOCKING IN FLOOR FRAMING BELOW LOAD BEARING WALLS AND POINT LOADS ABOVE. BELOW POINT LOADS BLOCKING AREA SHOULD MATCH SIZE OF POST ABOVE.

1. THE GARAGE FLOOR SHALL SLOPE TOWARD THE GARAGE DOOR.
2. NEW GARAGE DOOR SHALL BE A 20 MINUTE OR 1-38" SOLID WOOD DOOR BETWEEN THE HOUSE AND GARAGE.
- 1/2" GYP BOARD SHALL BE USED ON WALLS BETWEEN GARAGE AND HOUSE. 5/8" TYPE-X GYP BOARD SHALL BE USED ON THE GARAGE CEILING.

GARAGE:

1. THE GARAGE FLOOR SHALL SLOPE TOWARD THE GARAGE DOOR.
2. NEW GARAGE DOOR SHALL BE A 20 MINUTE OR 1-38" SOLID WOOD DOOR BETWEEN THE HOUSE AND GARAGE.
- 1/2" GYP BOARD SHALL BE USED ON WALLS BETWEEN GARAGE AND HOUSE. 5/8" TYPE-X GYP BOARD SHALL BE USED ON THE GARAGE CEILING.

GENERAL NOTES:

1. THE DRAWING SET IS CONSIDERED TO BE "BUILDERS PLANS" WHEREBY SOME ASPECTS OF THE PROJECT'S REQUIREMENTS ARE LEFT TO THE CONTRACTOR TO UNDERSTAND AND IMPLEMENT, AS SUCH IT IS A REQUIREMENT THAT THE CONTRACTOR (BUILDER) BE COMPETENT IN RESIDENTIAL CONSTRUCTION AND HAVE A THOROUGH UNDERSTANDING OF THE APPLICABLE INTERNATIONAL RESIDENTIAL CODES (IRC). THE CONTRACTOR IS RESPONSIBLE FOR MEETING THE REQUIREMENTS OF THE BUILDING CODE WHETHER EXPLICITLY STATED OR NOT. IF ADDITIONAL DETAIL OR GUIDANCE IS NEEDED BY THE CONTRACTOR OR HOMEOWNER, A WRITTEN REQUEST FOR SUCH GUIDANCE MAY BE SUBMITTED TO THE ENGINEER.
2. REFER TO THE IRC FOR ALL REQUIREMENTS NOT SPECIFICALLY STATED IN THE PLANS. THIS INCLUDES FIRE RATINGS, LIGHTING AND VENTILATION, SANITATION, GLAZING, GARAGES, SMOKE ALARMS AND CARBON MONOXIDE ALARMS, MEANS OF EGRESS, AND PROTECTION AGAINST DECAY AND TERMITES.
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 - ATTICS - INSULATE WITH R-49 MIN (EXCEPTION: R-38 FOR VAULTED CEILINGS); USE 6" OF RIGID INSULATION (R90) IN VAULTED CEILINGS
 - FLOORS OVER UNCONDITIONED SPACE - INSULATE WITH R-19 MIN
 - CRAWL SPACE WALLS - INSULATE WITH R-10 MIN
 - BASEMENT WALLS - R-19 CAVITY OR R-10 CONTINUOUS
 - SLABS SHALL BE R-10 FOR A DEPTH OF 2'-0"
 - DUCTWORK OUTSIDE OF CONDITIONED SPACES - R-8 MIN
 - WINDOWS SHALL HAVE A "U" VALUE OF 0.35 OR BETTER
9. ALL EXTERIOR DOORS INCLUDING THE DOOR LEADING FROM THE GARAGE TO THE DWELLING UNIT SHALL INCORPORATE THE PHYSICAL SECURITY REQUIREMENTS OF THE LOCAL JURISDICTION AS REQUIRED.
10. THE THERMAL ENVELOPE OF THE BUILDING IS REQUIRED TO BE SEALED PER IRC SECTION N102.4.1 AND TABLE N102.4.1.1.
11. ALL DUCTS, AIR HANDLERS, FILTER BOXES, AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED PER IRC SECTION N103.2.2.

GLAZING:

1. GLAZING IN HAZARDOUS LOCATIONS SHALL BE APPROVED SAFETY GLAZING MATERIALS PER IRC SECTION R308.



PERMIT DOCUMENTS

Reserve at Blackwell - BUILDING H

SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

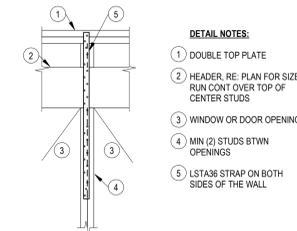
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REVISION DATES:
3 CITY COMMENT 3/5/2025



PROFESSIONAL SEAL 01/12/24

S001
ISSUE DATE: 01/12/2024
COLLINS WEBB #: 23090



3 STRAP BETWEEN OPENINGS
3/4" = 1'-0"

DIM LUMBER - FACE MOUNTED HANGER SCHEDULE

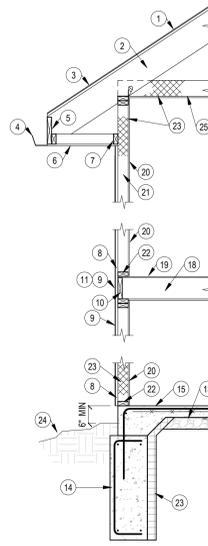
MARK	HANGER	FACE NAILS	JOIST NAILS	CAPACITY (LB)
H110	LUS210	(8) 10d x 1 1/2"	(4) 10d x 1 1/2"	1,032
H210	LUS210-2	(8) 10d	(8) 10d	1,537
H220	HU210-2	(18) 10d	(10) 10d	2,251
H230	HHUS210-2	(30) 10d	(10) 10d	4,738
H310	LUS210-3	(8) 10d	(8) 10d	1,537
H320	HHUS210-3	(30) 10d	(10) 10d	4,738
H330	HGUS210-3	(46) 10d	(16) 10d	7,644
H410	HU210-4	(18) 10d	(8) 10d	2,253
H420	HHUS210-4	(30) 10d	(10) 10d	4,733
H430	HGUS210-4	(46) 10d	(16) 10d	7,644

ENG LUMBER - FACE MOUNTED HANGER SCHEDULE

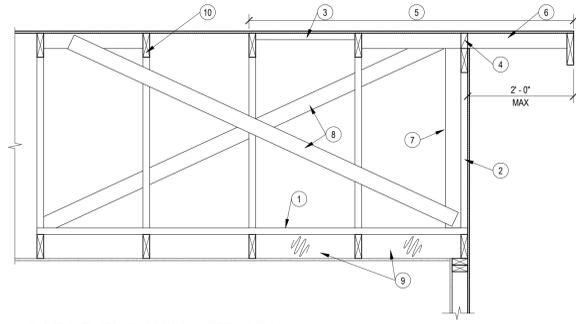
MARK	HANGER	FACE NAILS	JOIST NAILS	CAPACITY (LB)
H1	HU9	(18) 10d x 1 1/2"	(6) 10d x 1 1/2"	1,715
H21	HUS410	(8) 10d	(8) 10d	1,785
H22	HHUS410	(30) 10d	(10) 10d	4,754
H23	HGUS410	(46) 10d	(16) 10d	7,644
H31	HUB10	(18) 10d	(8) 10d	2,251
H32	HHUS50/10	(30) 10d	(10) 10d	4,754
H33	HGUS50/10	(46) 10d	(16) 10d	7,644
H41	HU410	(18) 10d	(8) 10d	2,251
H42	HHUS7.25/10	(30) 10d	(10) 10d	4,754
H43	HGUS7.25/10	(46) 10d	(16) 10d	7,644

HANGER SCHEDULE NOTES:
1. ALL HANGER DESIGNATIONS ARE BASED ON SIMPSON STRONG TIE, D, FIR
2. IF HANGER DESIGNATION IS FOLLOWED BY (16) ON PLANS, USE 16d NAILS IN LIEU OF 10d
3. NAILS: 10d = 0.148" DIA x 3" LONG, 16d = 0.162" DIA x 3.5" LONG, 10d x 1 1/2" = 0.148" DIA x 1 1/2" LONG

LEGEND
H 2 2 D
D= DIM LUMBER
*= ENG LUMBER
DESIGNATION

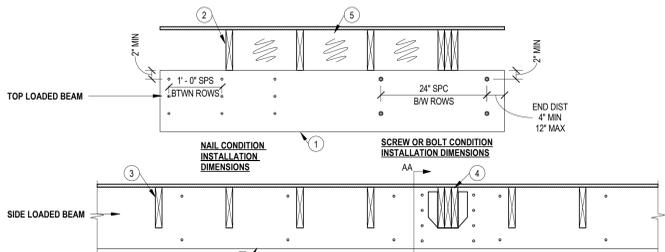


1 WD-102 TYPICAL WALL SECTION
1/2" = 1'-0"



7 GABLE END WALL TRUSS
3/4" = 1'-0"

- DETAIL NOTES:**
- 2x4 @ 4'-0" OC FASTEN TO EA TRUSS BOT CHORD W/ (2) 16d NAILS
 - GABLE TRUSS PER TRUSS SUPPLIER
 - BLOCK SHEATHING EDGES WITHIN 4'-0" OF GABLE TRUSS
 - BLOCKING BETWEEN EA OUTRIGGER, FASTEN TO GABLE TOP CHORD W/ 10d TOE NAILS @ 9" OC
 - FASTEN SHEATHING TO FRAMING @ 3" OC ON EDGE AND 6" OC IN FIELD W/ 8d NAILS
 - 2x4 OUTRIGGER @ 24" OC
 - L-REIN. ON GABLE VERTS AS SPECIFIED BY TRUSS SUPPLIER
 - Z6 BRACE AT EA STRONG BACK
 - PROVIDE BLOCKING AT FIRST TWO TRUSS BAYS @ 4'-0" OC
 - TRUSSES RE: PLAN

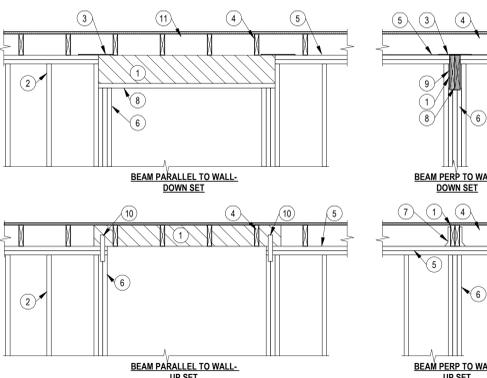


6 BUILT-UP ENGR LUMBER BEAM
3/4" = 1'-0"

FASTENER OPTIONS

FASTENER	BM DEPTH	2-PLY	3-PLY	4-PLY
10d (0.128"x3") NAILS	7.25" TO 14"	3 @ 12" OC	3 @ 12" OC EA SIDE	NOT ALLOWED
14" OR GREATER	14" OR GREATER	4 @ 12" OC	4 @ 12" OC EA SIDE	NOT ALLOWED
1/2" DIA THRU BOLTS	7.25" OR GREATER	2 @ 24" OC	2 @ 24" OC	2 @ 16" OC
STRUCTURAL SCREW	7.25" OR GREATER	2 @ 24" OC	2 @ 24" OC EA SIDE	2 @ 16" OC EA SIDE

- DETAIL NOTES:**
- MULTI-PLY LVL, LSL, OR PSL GIRDER MEMBER, FOR 2-PLY MEMBERS, FASTENERS MAY BE INSTALLED FROM ONE SIDE. FOR 3-PLY MEMBERS, FASTENERS SHOWN SHALL BE INSTALLED ON EA SIDE (2 ROWS @ 24" + 4" TOTAL SCREWS, TWO EA SIDE). REFER TO TABLE FOR FASTENER REQUIREMENTS
 - FLOOR JOISTS, RE: PLAN, TOP LOADED CONDITION
 - FLOOR JOISTS, RE: PLAN, SIDE LOADED CONDITION. PROVIDE FACE MOUNTED OR TOP FLANGE MOUNTED HANGERS ATTACHED TO GIRDER PER MFCR REQUIREMENTS
 - AT HEAVY LOADED BEAM HANGER LOCATIONS, PROVIDE (4) STRUCTURAL SCREWS EA SIDE OF HANGER. SCREWS SHALL PENETRATE ALL PLYS @ 25" MIN FOR 2-PLY, 5" MIN FOR 3-PLY. THIS SHALL BE TYPED UNO
 - WHEN BEAM IS DOWNSET PROVIDE 2x FULL HEIGHT BLOCKING BTWN FLOOR JOISTS
- NOTES:**
- ALL GIRDER MEMBERS SHALL BE FULL LENGTH BTWN SUPPORTS UNO
 - SCREWS INSTALLED IN OPPOSITE FACE SHALL BE STAGGERED FROM NEAR FACE SCREWS BY 2" (+, -)
 - EXCESSIVELY WARPED OR CURVED LVL SHOULD NEVER BE FORCED INTO ALIGNMENT BY USE OF CLAMPS, SCREWS OR BOLTS AS SPLITTING MAY OCCUR
 - IF COUNTERSINKING SCREWS OR BOLTS IS REQUIRED, USE A SPADE BIT TO CREATE THE COUNTERSINK PRIOR TO INSTALLING THE FASTENER
 - BOLTS SHALL MEET OR EXCEED ASTM A307
 - STRUCTURAL SCREWS MAY BE ONE OF THE FOLLOWING PRODUCTS: 14" SIMPSON STRONG TIE SDS, WS SCREWS BY USP, OR TRUSSLOK SCREWS BY FASTENMASTER



5 BEAM BEARING CONDITIONS
1/2" = 1'-0"

EXTERIOR WALL - WOOD HEADER SCHEDULE*

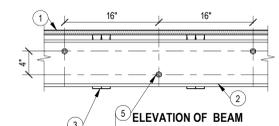
MARK	MEMBERS	MAX SPAN	JAMB MEMBERS
H206	(2) 2x6	3'-6"	2x4 1 KING 1 TRIMMER
H208	(2) 2x6	4'-6"	2x4 1 KING 1 TRIMMER
H210	(2) 2x10	5'-9"	2x4 2 KING 2 TRIMMER
H212	(2) 2x12	6'-9"	2x4 2 KING 2 TRIMMER
HLVL	(2) 1.75"x11.875" LVL	13'-0"	2x4 3 KING 2 TRIMMER

INTERIOR WALL - WOOD HEADER SCHEDULE

MARK	MEMBERS	MAX SPAN	JAMB MEMBERS
H206	(2) 2x6 NON LD BRG	4'-0"	2x4 1 KING 1 TRIMMER
H208	(2) 2x6	3'-6"	2x4 1 KING 2 TRIMMER
H210	(2) 2x10	4'-3"	2x4 2 KING 2 TRIMMER
H212	(2) 2x12	5'-0"	2x4 2 KING 2 TRIMMER
HLVL	(2) 1.75"x11.875" LVL	10'-0"	2x4 3 KING 2 TRIMMER

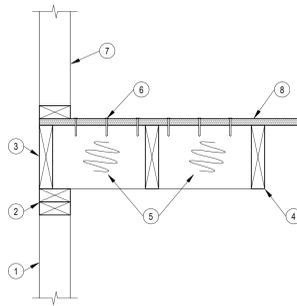
- DETAIL NOTES:**
- WOOD HEADER, RE: SCHEDULE. FOR EXTERIOR WALLS W/ DECK ON THE OUTSIDE USE THE INTERIOR WALL CHART. ALL HEADERS SHALL BE NAILED TOGETHER AT 16" OC MAX. PROVIDE PLYWOOD FILLER AS REED TO MATCH STUD THICKNESS
 - TRIMMER STUDS, RE: SCHEDULE
 - KING STUDS, RE: SCHEDULE
 - PROVIDE STUD UNDER SILL END OR SIMPSON A35 CLIP ANGLE

4 HEADER SCHEDULE
1/2" = 1'-0"

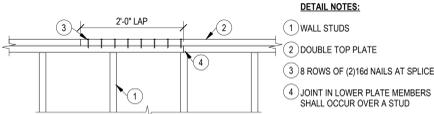


- DETAIL NOTES:**
- WOOD FLOOR SHEATHING, RE: GENERAL NOTES
 - WF STEEL BEAM PER PLAN
 - 2x FLOOR JOISTS PER PLAN
 - SIMPSON JOIST HANGERS RE: PLAN
 - 1/2" x THRU BOLTS @ 16" OC STAGGER AND SPACE AS SHOWN IN ELEVATION. COORDINATE BOLT LOCATIONS TO AVOID INTERFERENCE WITH JOIST HANGERS
 - PACK WEB WITH 2xS EA SIDE OF BEAM WEB. PLANE 2xS AS REED TO FIT INTO BEAM WEB

12 RZ305 - UPSET WF STL BM
1" = 1'-0"

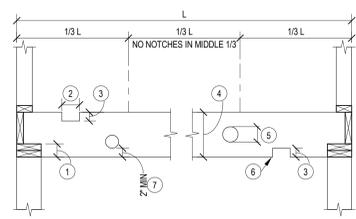


11 EDGE FRAMING DETAIL
1 1/2" = 1'-0"



10 TOP PLATE SPLICE
3/4" = 1'-0"

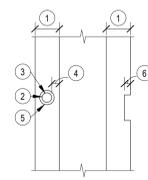
- DETAIL NOTES:**
- WALL STUDS
 - DOUBLE TOP PLATE
 - 8 ROWS OF (2) 16d NAILS AT SPLICE
 - JOINT IN LOWER PLATE MEMBERS SHALL OCCUR OVER A STUD

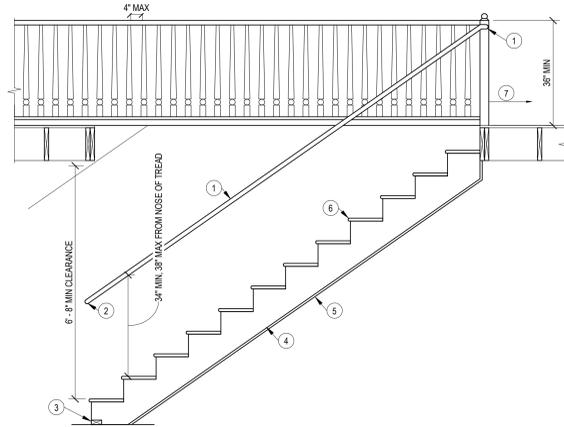


9 BORED HOLE & NOTCHES - HORIZ FRAMING
3/4" = 1'-0"

- DETAIL NOTES:**
- STUD DEPTH
 - MAX DIAMETER OF BORED HOLE = STUD DEPTH / 2 1/2
 - IF BORED HOLE IS GREATER THAN STUD DEPTH / 2 1/2 & LESS THAN 3" STUD DEPTH / 5, THEN STUD MUST BE DOUBLED & NO MORE THAN TWO SUCCESSIVE STUDS ARE DOUBLED & BORED
 - 5/8" MIN TO EDGE
 - BORED HOLES SHALL NOT BE LOCATED IN THE SAME CROSS SECTION OF CUT OR NOTCH IN STUD
 - MAX NOTCH = STUD DEPTH / 4
 - 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

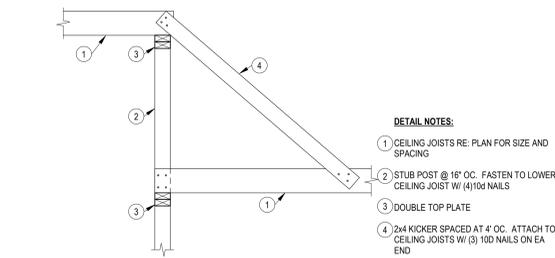
8 BORED HOLE & NOTCHES - VERT FRAMING
3/4" = 1'-0"





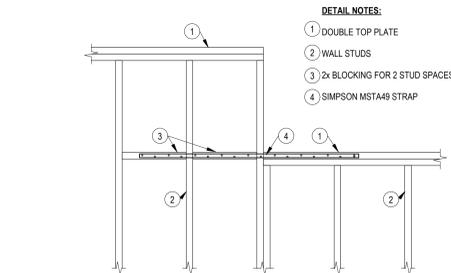
- DETAIL NOTES:**
- 1 DIAMETER OF HANDRAIL FROM 1 1/4" TO 2"
 - 2 RETURN HANDRAILS TO POST OR WALL
 - 3 PRESSURE TREATED PLATE
 - 4 2x12 STRINGERS @ 16" OC MAX
 - 5 MIN 1/2" GYP BOARD UNDER STAIRS
 - 6 IF RISERS ARE SOLID, NOSING IS REQUIRED. 3/4" TO 1 1/4"
 - 7 AT LANDING PROVIDE 36" MIN OF CLEARANCE
- NOTES:**
- A. MIN STAIR WIDTH IS 36"
- B. GUARD RAILS ARE REQD ALONG STAIRS WITH 3 OR MORE RISERS AND FLOOR OPENINGS WHERE ELEV DIFFERENCE IS GREATER THAN 30"
- C. ALL STAIR CONSTRUCTION SHALL SATISFY CODE REQUIREMENTS

9 WOOD STAIRS
1/2" = 1'-0"



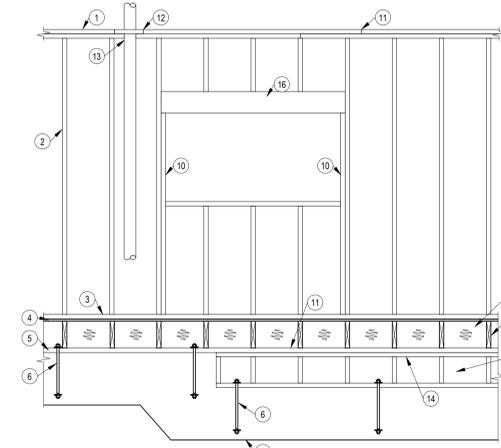
- DETAIL NOTES:**
- 1 CEILING JOISTS RE: PLAN FOR SIZE AND SPACING
 - 2 STUB POST @ 16" OC. FASTEN TO LOWER CEILING JOIST W/ (4) 10d NAILS
 - 3 DOUBLE TOP PLATE
 - 4 2x4 KICKER SPACED AT 4' OC. ATTACH TO CEILING JOISTS W/ (3) 10d NAILS ON EA END

8 RZ210A - CEILING STEP DETAIL
3/4" = 1'-0"



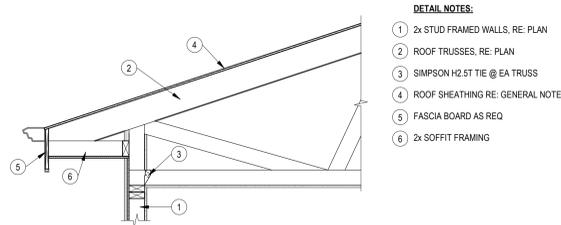
- DETAIL NOTES:**
- 1 DOUBLE TOP PLATE
 - 2 WALL STUDS
 - 3 2x BLOCKING FOR 2 STUD SPACES
 - 4 SIMPSON MST449 STRAP

7 RZ203B - STEPPED TOP PLATE
3/4" = 1'-0"



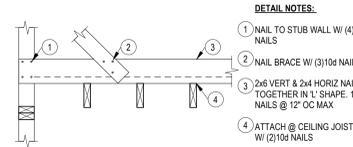
- DETAIL NOTES:**
- 1 SINGLE OR DOUBLE TOP PLATE
 - 2 WALL STUDS
 - 3 BOTTOM PLATE
 - 4 WOOD FLOOR SHEATHING, RE: GENERAL NOTES
 - 5 TREATED SILL PLATE
 - 6 1/2" @ ANCHOR RODS, RE: GENERAL NOTES
 - 7 FOUNDATION WALL CRIPPLE STUDS
 - 8 FLOOR JOISTS
 - 9 SOLID BLOCKING OR CONT RIM JOIST
 - 10 JACK STUDS OR TRIMMERS
 - 11 STAGGER JOINTS 24" OC OR USE SPLICE PLATES
 - 12 CUT PLATE TIED WITH 16 GA STEEL STRAP
 - 13 FIRELOCK AROUND PIPE
 - 14 (2) 2x PLATE
 - 15 CONCRETE STEPPED WALL
 - 16 HEADER, RE: PLAN OR HEADER SCHEDULE

6 STEPPED WALL FRAMING ELEVATION
1/2" = 1'-0"



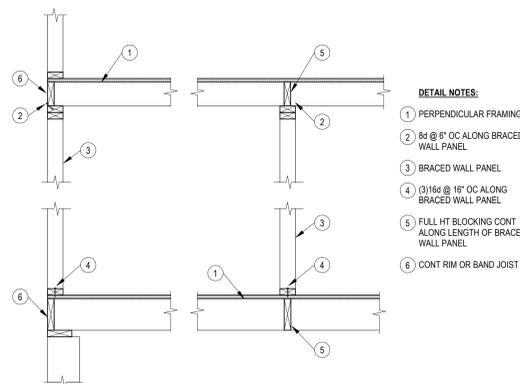
- DETAIL NOTES:**
- 1 2x STUD FRAMED WALLS, RE: PLAN
 - 2 ROOF TRUSSES, RE: PLAN
 - 3 SIMPSON H2 ST TIE @ EA TRUSS
 - 4 ROOF SHEATHING RE: GENERAL NOTES
 - 5 FASCIA BOARD AS REQ
 - 6 2x SOFFIT FRAMING

10 TYPICAL RAISED HEEL TRUSS BRG
3/4" = 1'-0"



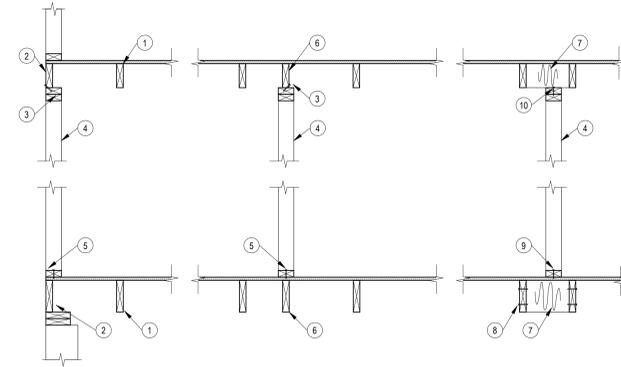
- DETAIL NOTES:**
- 1 NAIL TO STUB WALL W/ (4) 10d NAILS
 - 2 NAIL BRACE W/ (3) 10d NAILS
 - 3 2x4 VERT & 2x4 HORIZ NAILED TOGETHER IN L-SHAPE. 10d NAILS @ 12" OC MAX
 - 4 ATTACH @ CEILING JOISTS W/ (2) 10d NAILS

5 RZ210B - CEILING STEP DETAIL
3/4" = 1'-0"



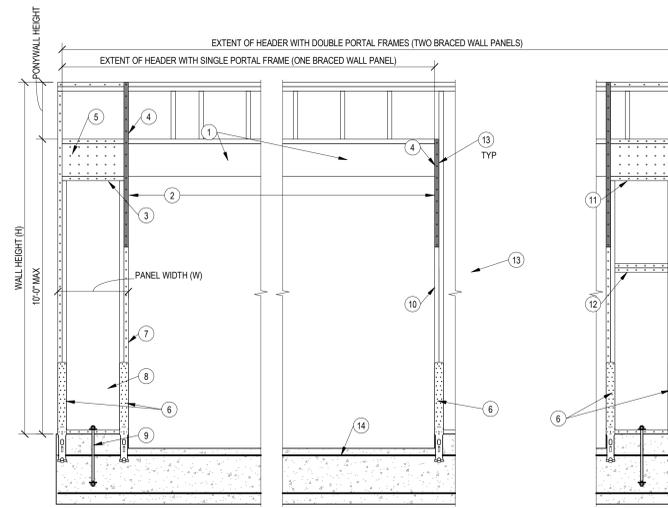
- DETAIL NOTES:**
- 1 PERPENDICULAR FRAMING
 - 2 8d @ 6" OC ALONG BRACED WALL PANEL
 - 3 BRACED WALL PANEL
 - 4 (3) 1/4" @ 16" OC ALONG BRACED WALL PANEL
 - 5 FULL HT BLOCKING CONT ALONG LENGTH OF BRACED WALL PANEL
 - 6 CONT RIM OR BAND JOIST

4 BWP CONN PERP TO FRAMING
3/4" = 1'-0"



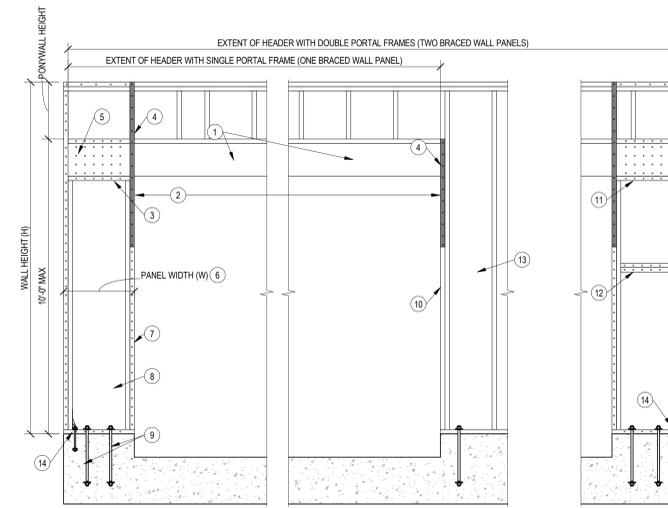
- DETAIL NOTES:**
- 1 FRAMING ORIENTED PARALLEL TO BRACED WALL PANEL
 - 2 CONT RIM OR END JOIST
 - 3 8d @ 6" OC ALONG BRACED WALL PANEL
 - 4 BRACED WALL PANEL
 - 5 (3) 1/4" @ 16" OC ALONG BRACED WALL PANEL
 - 6 ADDITIONAL FRAMING MEMBER DIRECTLY BELOW BRACED WALL PANEL
 - 7 FULL HEIGHT BLOCKING @ 16" OC ALONG BRACED WALL
 - 8 (2) 1/4" NAILS @ EA BLOCKING MEMBER
 - 9 (3) 1/4" NAILS @ EA BLOCKING MEMBER
 - 10 TOE NAIL (3) 8d NAILS @ EA BLOCKING MEMBER

3 BWP CONN PAR TO FRAMING
3/4" = 1'-0"



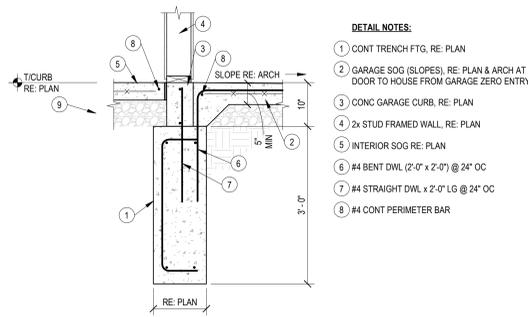
- DETAIL NOTES:**
- 1 MINIMUM 3" x 11 1/4" NET HEADER
 - 2 SPAN = 6'-0" TO 18'-0"
 - 3 FASTEN TOP PLATE TO HEADER WITH TWO ROWS OF 16d SINKER NAILS AT 3" OC TYP
 - 4 2500# STRAP ON OPPOSITE SIDE OF SHEATHING
 - 5 FASTEN SHEATHING TO HEADER WITH 8d COMMON OR GALVANIZED BOX NAILS IN 3" GRID PATTERN AS SHOWN AND 3" OC IN ALL FRAMING (STUDS, BLOCKING, AND SILLS) TYP
 - 6 MIN 3500 LB STRAP-TYPE HOLD-DOWNS (EMBED INTO CONCRETE AND NAILED INTO FRAMING)
 - 7 MIN 2x4 FRAMING
 - 8 MIN 7/16" THICKNESS WOOD STRUCTURAL PANEL SHEATHING ATTACHED USING 8d COMMON OR GALV BOX NAILS @ 3" OC IN ALL FRAMING, TYP
 - 9 MIN (1) 5/8" @ ANCHOR RODS WITH 2" x 2" x 3/16" PLATE WASHER
 - 10 MIN DOUBLE 2x4 DOUBLE POST
 - 11 TYPICAL PORTAL FRAME CONSTRUCTION
 - 12 FOR A PANEL SPLICE (IF NEEDED), PANEL EDGES SHALL BE BLOCKED AND OCCUR WITHIN 24" OF MID-HEIGHT. ONE ROW OF TYP SHEATHING-TO-FRAMING NAILING IS REQUIRED. IF 2x4 BLOCKING IS USED, THE 2x4S MUST BE NAILED TOGETHER WITH (3) 16d SINKERS
 - 13 FASTEN KING STUD TOP HEADER W/ (6) 16d SINKERS
 - 14 MIN REIN. OF FND, ONE #4 BAR TOP & BOT OF FTG. LAP BARS 15" MIN

2 RZ206C - PFH DETAIL
1/2" = 1'-0"



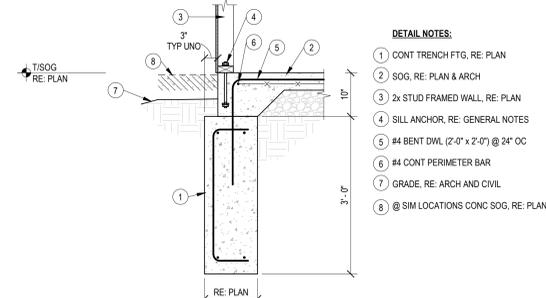
- DETAIL NOTES:**
- 1 MINIMUM 3" x 11.25" NET HEADER
 - 2 SPAN = 6'-0" TO 18'-0"
 - 3 FASTEN TOP PLATE TO HEADER WITH TWO ROWS OF 16d SINKER NAILS AT 3" OC TYP
 - 4 1000# STRAP OPPOSITE SHEATHING
 - 5 FASTEN SHEATHING TO HEADER WITH 8d COMMON OR GALVANIZED BOX NAILS IN 3" GRID PATTERN AS SHOWN AND 3" OC IN ALL FRAMING (STUDS, BLOCKING, AND SILLS) TYP
 - 6 REFER TO PANEL WIDTH SCHEDULE
 - 7 MIN 2x4 FRAMING
 - 8 MIN 7/16" THICKNESS WOOD STRUCTURAL PANEL SHEATHING
 - 9 MIN (2) 1/2" ANCHOR RODS WITH 2" x 2" x 3/16" PLATE WASHER
 - 10 MIN DOUBLE 2x4 DOUBLE POST
 - 11 TYPICAL PORTAL FRAME CONSTRUCTION
 - 12 FOR A PANEL SPLICE (IF NEEDED), PANEL EDGES SHALL BE BLOCKED AND OCCUR WITHIN 24" OF MID-HEIGHT. ONE ROW OF TYP SHEATHING-TO-FRAMING NAILING IS REQUIRED. IF 2x4 BLOCKING IS USED, THE 2x4S MUST BE NAILED TOGETHER WITH (3) 16d SINKERS
 - 13 BRACED WALL LINE CONTINUOUSLY SHEATHED WITH WOOD STRUCTURAL PANELS
 - 14 AT CONDITIONS THAT REQ 800# HOLD DOWN DEVICE USE SIMPSON DTTZ-SDS2.5 INSTALLED W/ (8) 1/4" x 2 1/2" SDS FASTENERS, 1/2" @ ANCHOR RODS (5" MIN EMBED), & SIMPSON ATXP ADHESIVE

1 RZ206B - CS-PF
1/2" = 1'-0"



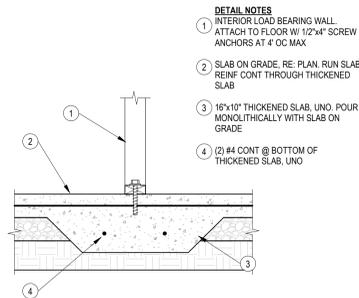
- DETAIL NOTES:**
- 1 CONT TRENCH FTG, RE: PLAN
 - 2 GARAGE SOG (SLOPES), RE: PLAN & ARCH AT DOOR TO HOUSE FROM GARAGE ZERO ENTRY
 - 3 CONC GARAGE CURB, RE: PLAN
 - 4 2x STUD FRAMED WALL, RE: PLAN
 - 5 INTERIOR SOG RE: PLAN
 - 6 #4 BENT DWL (2'-0" x 2'-0") @ 24" OC
 - 7 #4 STRAIGHT DWL x 2'-0" LG @ 24" OC
 - 8 #4 CONT PERIMETER BAR

6 TYPICAL GARAGE HOUSE WALL
3/4" = 1'-0"



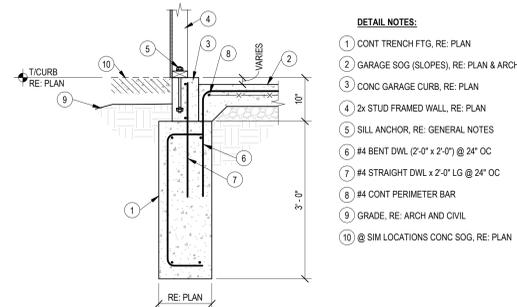
- DETAIL NOTES:**
- 1 CONT TRENCH FTG, RE: PLAN
 - 2 SOG, RE: PLAN & ARCH
 - 3 2x STUD FRAMED WALL, RE: PLAN
 - 4 SILL ANCHOR, RE: GENERAL NOTES
 - 5 #4 BENT DWL (2'-0" x 2'-0") @ 24" OC
 - 6 #4 CONT PERIMETER BAR
 - 7 GRADE, RE: ARCH AND CIVIL
 - 8 @ SIM LOCATIONS CONC SOG, RE: PLAN

4 TYPICAL SLAB FTG
3/4" = 1'-0"



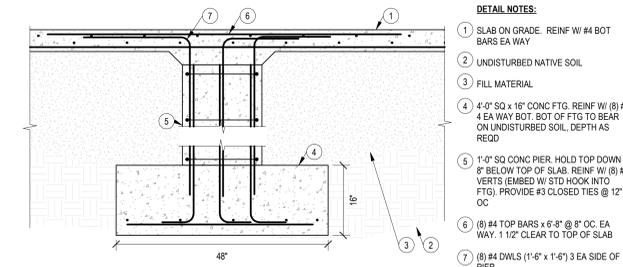
- DETAIL NOTES:**
- 1 INTERIOR LOAD BEARING WALL, ATTACH TO FLOOR W/ 1/2"x4" SCREW ANCHORS AT 4' OC MAX
 - 2 SLAB ON GRADE, RE: PLAN, RUN SLAB REINF CONT THROUGH THICKENED SLAB
 - 3 16x10" THICKENED SLAB, UNO, POUR MONOLITHICALLY WITH SLAB ON GRADE
 - 4 (2) #4 CONT @ BOTTOM OF THICKENED SLAB, UNO

5 RZ108 - THICKENED SLAB
1" = 1'-0"



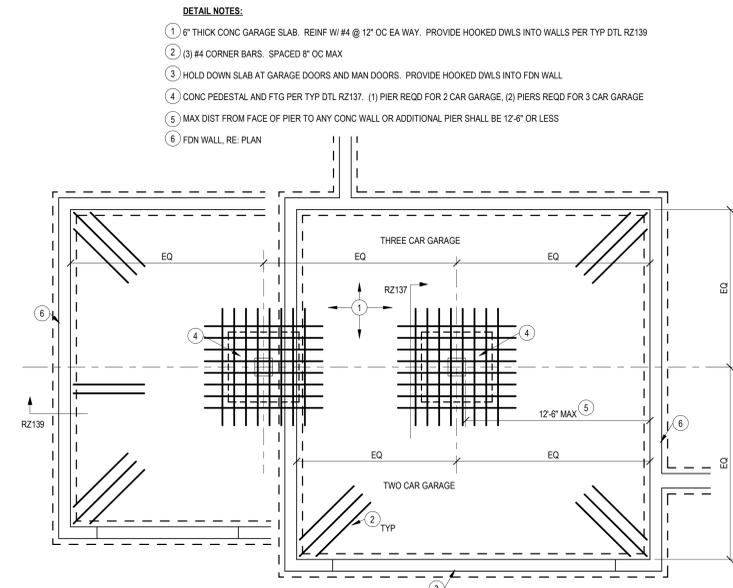
- DETAIL NOTES:**
- 1 CONT TRENCH FTG, RE: PLAN
 - 2 GARAGE SOG (SLOPES), RE: PLAN & ARCH
 - 3 CONC GARAGE CURB, RE: PLAN
 - 4 2x STUD FRAMED WALL, RE: PLAN
 - 5 SILL ANCHOR, RE: GENERAL NOTES
 - 6 #4 BENT DWL (2'-0" x 2'-0") @ 24" OC
 - 7 #4 STRAIGHT DWL x 2'-0" LG @ 24" OC
 - 8 #4 CONT PERIMETER BAR
 - 9 GRADE, RE: ARCH AND CIVIL
 - 10 @ SIM LOCATIONS CONC SOG, RE: PLAN

3 TYPICAL GARAGE FTG
3/4" = 1'-0"



- DETAIL NOTES:**
- 1 SLAB ON GRADE, REINF W/ #4 BOT BARS EA WAY
 - 2 UNDISTURBED NATIVE SOIL
 - 3 FILL MATERIAL
 - 4 4'-0" SQ x 16" CONC FTG, REINF W/ (8) #4 EA WAY BOT, BOT OF FTG TO BEAR ON UNDISTURBED SOIL, DEPTH AS REQD
 - 5 1'-0" SQ CONC PIER, HOLD TOP DOWN 8" BELOW TOP OF SLAB, REINF W/ (8) #4 VERTS (EMBED W/ STD HOOK INTO FTG), PROVIDE #3 CLOSED TIES @ 12" OC
 - 6 (8) #4 TOP BARS x 6'-8" @ 8" OC EA WAY, 1 1/2" CLEAR TO TOP OF SLAB
 - 7 (8) #4 DWLS (1'-6" x 1'-6") 3 EA SIDE OF PIER

2 RZ137 - GARAGE PIER
3/4" = 1'-0"

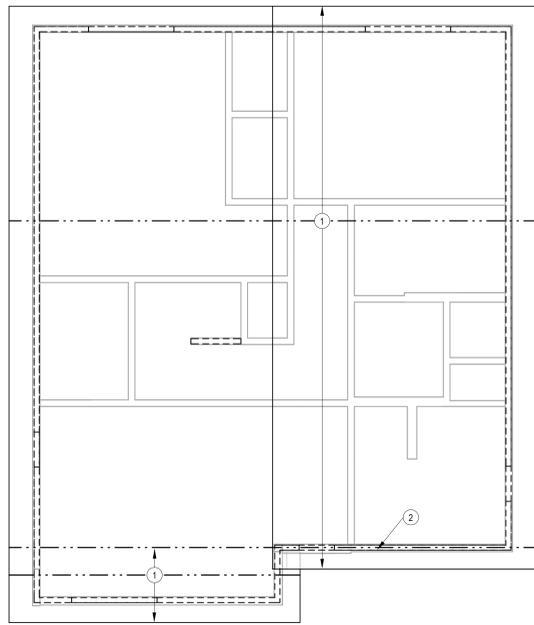


- DETAIL NOTES:**
- 1 6" THICK CONC GARAGE SLAB, REINF W/ #4 @ 12" OC EA WAY, PROVIDE HOOKED DWLS INTO WALLS PER TYP DTL RZ139
 - 2 (3) #4 CORNER BARS, SPACED 8" OC MAX
 - 3 HOLD DOWN SLAB AT GARAGE DOORS AND MAN DOORS, PROVIDE HOOKED DWLS INTO FDN WALL
 - 4 CONC PEDESTAL AND FTG PER TYP DTL RZ137. (1) PIER REQD FOR 2 CAR GARAGE, (2) PIERS REQD FOR 3 CAR GARAGE
 - 5 MAX DIST FROM FACE OF PIER TO ANY CONC WALL OR ADDITIONAL PIER SHALL BE 12'-6" OR LESS
 - 6 FDN WALL, RE: PLAN

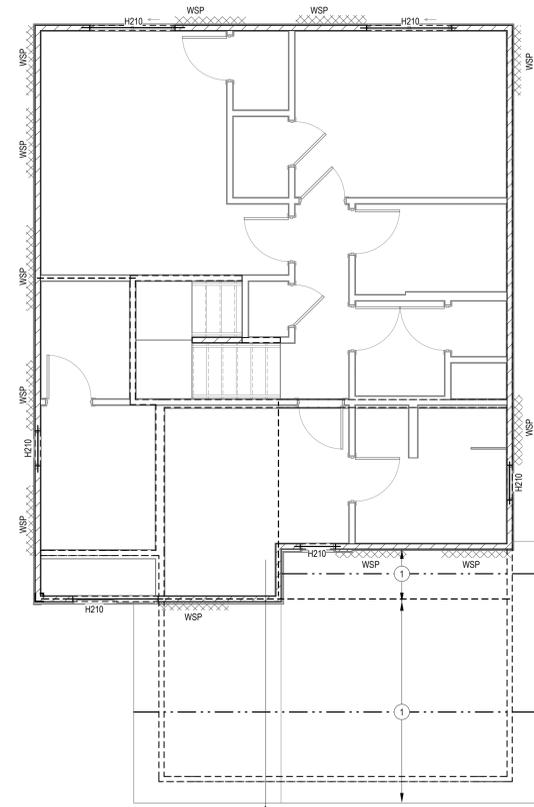
1 RZ136 - GARAGE SLAB ON FILL
1/4" = 1'-0"

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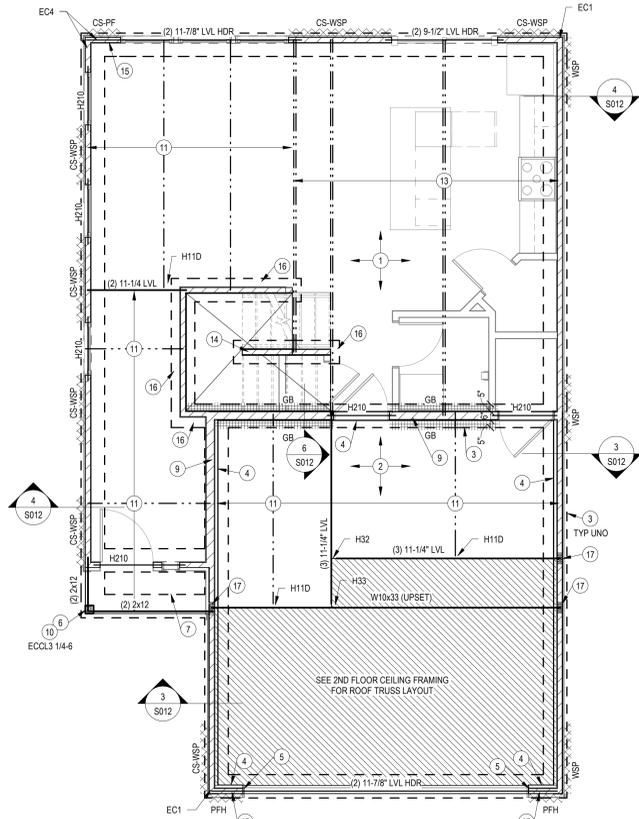
3 ROOF FRAMING PLAN
1/4" = 1'-0"



2 2ND FLOOR WALL/LOW ROOF FRAMING PLAN
1/4" = 1'-0"



1 FOUNDATION AND 2ND FLOOR FRAMING PLAN
1/4" = 1'-0"



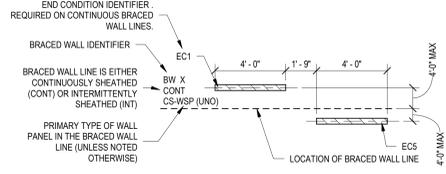
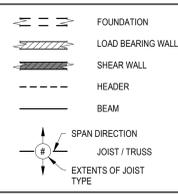
BRACED WALL PANEL LEGEND:

- WSP: WOOD STRUCTURAL PANEL. PANEL THICKNESS AND NAILING REQUIREMENTS IN GENERAL NOTES MEET BRACED WALL REQUIREMENTS.
- GB: GYP BOARD. 1/2" GYP BOARD EA SIDE OF WALL. NAILS OR SCREWS PER GENERAL NOTES MAY BE USED. MAX FASTENER SPACING = 4" FOR BOTH EDGES AND FIELD FASTENERS.
- PF3: PORTAL FRAME GARAGE, RE: TYP DETAIL RZ-206A FOR REQUIREMENTS.
- CS-PF: CONTINUOUSLY SHEATHED PORTAL FRAME. CONSTRUCT SIMILAR TO TYP DETAIL RZ-206A EXCEPT THAT ALL SURFACES SHALL BE CONTINUOUSLY SHEATHED.
- CS-WSP: CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANEL.
- EC-#: END CONDITION FOR CONTINUOUSLY SHEATH WALL PANEL.

END CONDITIONS (CONTINUOUSLY SHEATHED)

- EC1: PROVIDE RETURN PANEL AT THE END OF THE WALL. MIN RETURN PANEL LENGTH = 24".
- EC2: PROVIDE SIMPSON DTT2Z HOLDDOWN AT CORNER. FASTEN TO STUDS W/ (8) SIMPSON SDS SCREWS AND ANCHOR TO CONCRETE W/ 1/2" DIA SIMPSON TITEN HD SCREW ANCHOR 1/4" MIN EMBED (6" OVERALL LENGTH). WHERE HOLDDOWN IS REQUIRED BETWEEN FLOORS, PROVIDE DTT2Z ABOVE AND BELOW FLOOR AND FASTEN TO WALL STUDS. CONNECT TOGETHER WITH 1/2" DIAMETER THREADED ROD.
- EC3: 48" WIDE BRACED WALL PANEL AT THE END OF THE WALL. NO RETURN PANEL IS REQUIRED.
- EC5: SIMILAR TO EC2, EXCEPT HOLDDOWN DOES NOT OCCUR AT CORNER, BUT MAY BE UP TO 10'-0" AWAY FROM A CORNER.

FRAMING LEGEND



SHEET NOTES

- A. REFER TO SHEET S001 FOR STRUCTURAL GENERAL NOTES.
- B. REFER TO S010-S012 FOR TYPICAL STRUCTURAL DETAILS.
- C. ALL WOOD HEADERS IN PERIMETER WALLS AND INTERIOR LOAD BEARING WALLS NOT SPECIFICALLY CALLED OUT SHALL BE SELECTED FROM THE HEADER SCHEDULE ON TYPICAL DETAIL SHEETS.
- D. ALL WOOD BEAMS SHALL BEAR ON A MINIMUM OF (3) 2x4 STUDS OR SHALL ATTACH TO INTERSECTING WOOD BEAMS WITH A SIMPSON HUGS410 OR BETTER UNO.
- E. ALL MULTI-PLY ENGINEERING LUMBER BEAMS ARE DESIGNATED BY NUMBER OF PLYS AND DEPTH (EX: (3) 14" LVJ). THE PLYS SHALL BE 1.75" WIDTH UNLESS NOTED OTHERWISE, AND STRENGTH SHALL BE PER THE GENERAL NOTES. BEAMS SHALL BE FASTENED TOGETHER PER THE TYPICAL DETAILS.
- F. REFER TO ARCHITECTURAL SHEETS FOR ALL DIMENSIONS.
- G. ALL STEEL BEAMS IN 1ST FLOOR FRAMING SHALL BE DOWNSET UNLESS NOTED OTHERWISE. ALL OTHER BEAMS IN 1ST FLOOR FRAMING SHALL BE UPSET, UNLESS NOTED OTHERWISE.
- H. ALL WALLS SHALL BE 2x4 @ 16" OC UNLESS NOTED OTHERWISE. ALL EXTERIOR WALLS ARE LOAD BEARING.
- I. REFER TO SHEET S011 FOR BRACED WALL INFORMATION & DETAILS.
- J. BEAM HANGERS ARE DENOTED ON PLANS AS "HXX" REFER TO SCHEDULE ON S010 FOR REQUIREMENTS. WHERE NOT CALLED OUT, CONTACT ENGINEER OR USE HEAVIEST HANGER FOR NUMBER OF PLYS IN BEAM BEING SUPPORTED.
- K. SPECIFIC BEAMS CALLED OUT ON PLANS SHALL BE LOCATED UNDER THE LOAD BEARING ELEMENTS ABOVE.
- L. PROVIDE DOUBLE FLOOR JOIST UNDER ALL WALLS PARALLEL W/ JOIST.
- M. T/TS ELEVATION = 99'-2"
T/SOG ELEVATION = 100'-0"
TRUSS BRG = RE: ARCH
- N. ANCHOR RODS SHALL BE PLACED IN TO THE TOP OF THE FOUNDATION WALLS PER THE GENERAL NOTES
- O. PLANS SHOWN ARE FOR PROTOTYPE BUILDING. RE: ARCH AND SITE PLAN FOR LOCATIONS, VARIATIONS, GRADING CONDITIONS, ETC.
- P. BRACED WALL ARE SHOWN ON PLAN RE: BRACED WALL LEGEND ON THIS SHEET AND BRACED WALL DETAILS ON S011

FDN PLAN NOTES:

- 1) 4" THICK MIN SLAB ON GRADE, RE: GENERAL NOTES FOR REINF, VAPOR BARRIER AND JOINTING REQMNTS. SLAB SHALL BE INSTALLED OVER PROPERLY COMPACTED SUITABLE FILL.
- 2) 5" THICK MIN GARAGE SLAB ON GRADE, RE: GENERAL NOTES FOR REINF, VAPOR BARRIER AND JOINTING REQMNTS. SLAB SHALL BE INSTALLED OVER PROPERLY COMPACTED SUITABLE FILL.
- 3) 18" WIDE TRENCH FTG REINF W/ (2) #5 CONT TOP & BOT BARS & #4 C-SHAPED TIES @ 24" OC
- 4) 6" WIDE CONC GARAGE CURB REINF W/ A CONT #5 TOP & BOT
- 5) RECESS GARAGE CURB FOR DOOR OPENING
- 6) 6x6 WOOD COLUMN. BASE CONNECTION: SIMPSON ABU6Z OR EQUIV
- 7) 6" THICK PORCH SLAB REINF W/ #4 @ 12" OC EA WAY & #4 BENT DOWELS (2'-0" x 2'-0") INTO TRENCH FTG
- 8) 4" THICK PATIO SLAB REINF W/ #4 @ 12" OC EA WAY. PROVIDE 12" THICKENED SLAB EDGE REINF W/ (2) #4 CONT BOT BAR. RE: ARCH FOR PATIO EXTENTS
- 9) 2x6 STUD FRAMED WALL @ 16" OC
- 10) PROVIDE EITHER A SIMPSON POST CAP PER PLAN OR NOTCH TOP OF COLUMN FOR BEAM BEARING & INSTALL WITH (4) FASTENMASTER LEDGERLOK SCREWS
- 11) 2x12 @ 16" OC. PROVIDE FULL DEPTH BLOCKING @ MID SPAN OF SPANS OVER 16'-0"
- 12) 2x12 @ 12" OC. PROVIDE FULL DEPTH BLOCKING @ MID SPAN OF SPANS OVER 16'-0"
- 13) (2) 2x12 @ 16" OC. PROVIDE FULL DEPTH BLOCKING @ MID SPAN OF SPANS OVER 16'-0"
- 14) FULL HEIGHT STUD FRAMED WALL FROM SOG TO TRUSS BEARING. PROVIDE STUD BAY BLOCKING @ 4'-0" UP ENTIRE WALL
- 15) EXTEND HEADER TO END OF BRACED WALL PANEL
- 16) THICKENED SLAB BELOW WALL RE: TYPICAL DETAIL S012
- 17) (5) 2x4 BRG STUD PACK BELOW BEAM

SECOND FLOOR CEILING FRAMING PLAN

- 1) ROOF TRUSSES BY TRUSS SUPPLIER PROVIDE SIMPSON H2.5T @ EA TRUSS BRG. RE: GENERAL NOTES FOR DESIGN CRITERIA & ARCH FOR ADDITIONAL INFO
- 2) STRUCTURAL FASCIA TO MATCH DEPTH OF OTHER FASCIA BOARDS, 2x8 MIN
- 3) 2x6 LEDGERS (1) TOP & (1) BOT ATTACHED W/ SD WOOD SCREWS @ 16" OC STAGGERED
- 4) CANTILEVER ROOF TRUSSES BY TRUSS SUPPLIER. RE: GENERAL NOTES FOR DESIGN CRITERIA & ARCH FOR ADDITIONAL INFO

ROOF FRAMING PLAN

- 1) ROOF TRUSSES BY TRUSS SUPPLIER PROVIDE SIMPSON H2.5T @ EA TRUSS BRG. RE: GENERAL NOTES FOR DESIGN CRITERIA & ARCH FOR ADDITIONAL INFO
- 2) TRANSITION GABLE END ROOF TRUSS BY TRUSS SUPPLIER. RE: GENERAL NOTES FOR DESIGN CRITERIA & ARCH FOR ADDITIONAL INFO

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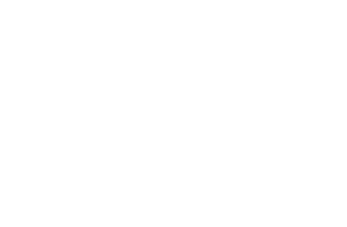
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S105
ISSUE DATE: 01/12/2024
COLLINS WEBB #: 23090

FOUNDATION & FRAMING PLANS - H

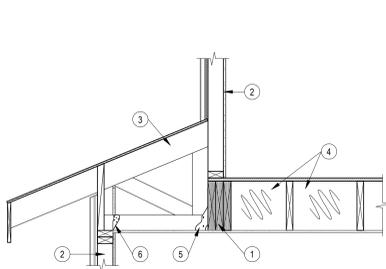


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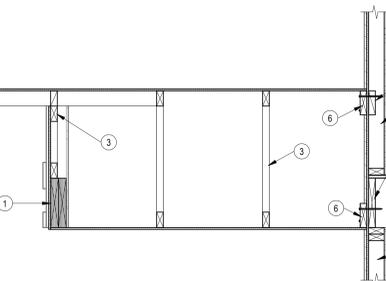
- DETAIL NOTES:**
- 1 LVL BEAM, RE: PLAN
 - 2 ROOF TRUSSES, RE: PLAN
 - 3 SIMPSON H2.5T TIE @ EA TRUSS
 - 4 ROOF SHEATHING RE: GENERAL NOTES

9 SECTION @ ENTRY ROOF BLDG G
3/4" = 1'-0"



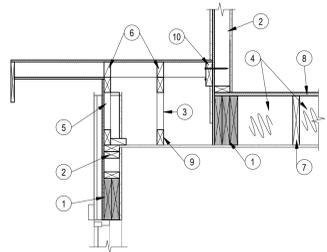
- DETAIL NOTES:**
- 1 LVL BEAM, RE: PLAN
 - 2 2x STUD FRAMED WALLS, RE: PLAN
 - 3 ROOF TRUSSES, RE: PLAN
 - 4 PROVIDE FULL DEPTH BLOCKING @ 2'-0" OC FOR FIRST TWO JOIST BAYS
 - 5 SIMPSON THA29 HANGER
 - 6 SIMPSON H2.5T TIE @ EA TRUSS

8 SECTION @ LOW ROOF BLDG E & F
3/4" = 1'-0"



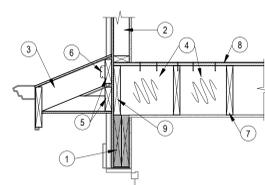
- DETAIL NOTES:**
- 1 WOOD BEAM, RE: PLAN
 - 2 2x STUD FRAMED WALLS, RE: PLAN
 - 3 ROOF TRUSSES, RE: PLAN
 - 4 GABLE END TRUSS, RE: TYPICAL DETAIL 7/5010
 - 5 BLOCKING BETWEEN STUD BAY @ LEDGER LOCATION
 - 6 2x6 CONT. LEDGER ATTACHED WITH LEDGRLOK SCREWS @ 16" OC STAGGERED
 - 7 WOOD FLOOR JOIST, RE: PLAN
 - 8 FLOOR SHEATHING RE: GENERAL NOTES
 - 9 RIM JOIST

7 SECTION @ ROOF ENTRY BLDG E1 & F1
3/4" = 1'-0"



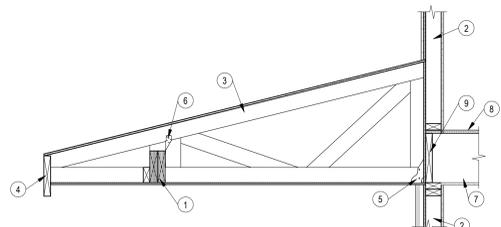
- DETAIL NOTES:**
- 1 LVL BEAM, RE: PLAN
 - 2 2x STUD FRAMED WALLS, RE: PLAN
 - 3 ROOF TRUSSES, RE: PLAN
 - 4 PROVIDE FULL DEPTH BLOCKING @ 2'-0" OC FOR FIRST TWO JOIST BAYS
 - 5 GABLE END TRUSS RE: 7/5010
 - 6 BLOCKING BETWEEN OUTRIGGERS
 - 7 WOOD FLOOR JOIST, RE: PLAN
 - 8 FLOOR SHEATHING RE: GENERAL NOTES
 - 9 HOLD DOWN TRUSS FOR OUTRIGGER
 - 10 2x6 LEDGER ATTACHED W/ LEDGERLOK SCREWS @ 16" OC STAGGERED

6 SECTION @ ROOF BLDG E2 & F2
3/4" = 1'-0"



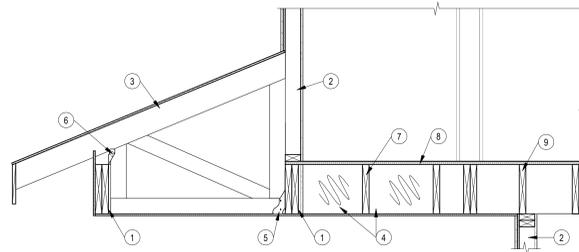
- DETAIL NOTES:**
- 1 LVL BEAM, RE: PLAN
 - 2 2x STUD FRAMED WALLS, RE: PLAN
 - 3 ROOF TRUSSES, RE: PLAN
 - 4 PROVIDE FULL DEPTH BLOCKING RE: TYPICAL DETAILS
 - 5 WOOD LEDGER, RE: PLAN
 - 6 SIMPSON GA1 ANGLE INSTALLED W/ SD CONNECTOR SCREWS
 - 7 WOOD FLOOR JOIST, RE: PLAN
 - 8 FLOOR SHEATHING RE: GENERAL NOTES
 - 9 RIM JOIST

5 CANT ROOF OVER GARAGE BLDG E & F
3/4" = 1'-0"



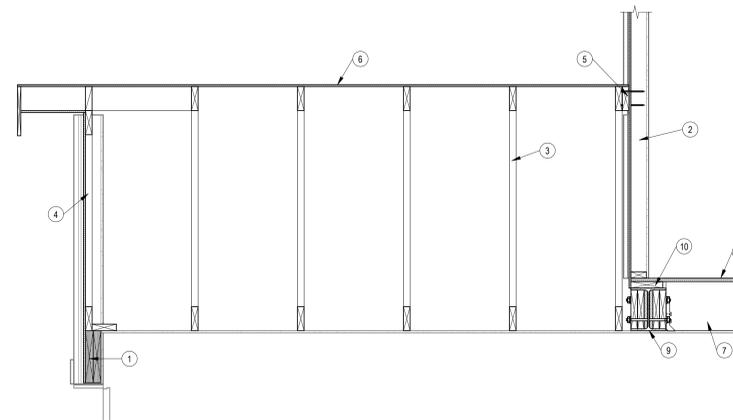
- DETAIL NOTES:**
- 1 WOOD BEAM, RE: PLAN
 - 2 2x STUD FRAMED WALLS, RE: PLAN
 - 3 ROOF TRUSSES, RE: PLAN
 - 4 STRUCTURAL FASCIA RE: PLAN
 - 5 SIMPSON THA29 HANGER
 - 6 SIMPSON H2.5T TIE @ EA TRUSS
 - 7 WOOD FLOOR JOIST, RE: PLAN
 - 8 FLOOR SHEATHING RE: GENERAL NOTES
 - 9 RIM JOIST

4 SECTION @ ENTRY ROOF BLDG E2 & F2
3/4" = 1'-0"



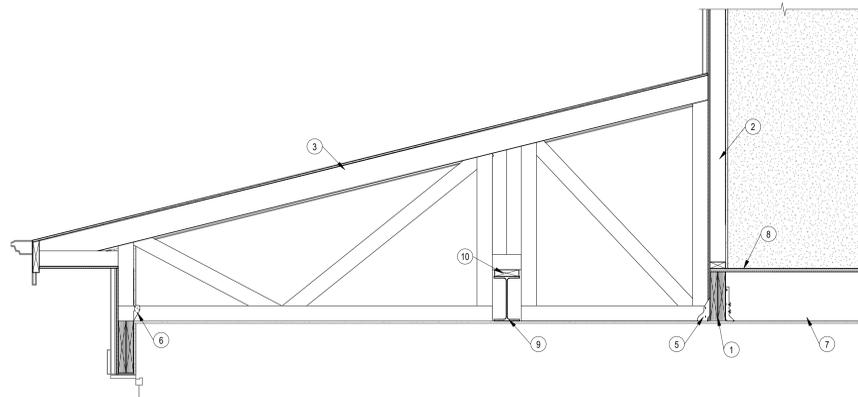
- DETAIL NOTES:**
- 1 WOOD BEAM, RE: PLAN
 - 2 2x STUD FRAMED WALLS, RE: PLAN
 - 3 ROOF TRUSSES, RE: PLAN
 - 4 PROVIDE FULL DEPTH BLOCKING @ 2'-0" OC FOR FIRST TWO JOIST BAYS
 - 5 SIMPSON THA29 HANGER
 - 6 SIMPSON H2.5T TIE @ EA TRUSS
 - 7 WOOD FLOOR JOIST, RE: PLAN
 - 8 FLOOR SHEATHING RE: GENERAL NOTES
 - 9 RIM JOIST

3 SECTION @ ROOF ENTRY FRAMING BLDG E1 & F1
3/4" = 1'-0"



- DETAIL NOTES:**
- 1 LVL BEAM, RE: PLAN
 - 2 2x STUD FRAMED WALLS, RE: PLAN
 - 3 ROOF TRUSSES, RE: PLAN
 - 4 GABLE END TRUSS, RE: 7/5010
 - 5 2x6 LEDGER ATTACH W/ LEDGERLOK SCREWS @ 16" OC
 - 6 ROOF SHEATHING, RE: GENERAL NOTES
 - 7 WOOD FLOOR JOIST, RE: PLAN
 - 8 FLOOR SHEATHING RE: GENERAL NOTES
 - 9 PACKED OUT WF STEEL BEAM RE: PLAN AND TYPICAL DETAIL 12/5010
 - 10 2x NAILER ATTACH TO STEEL BEAM WITH EITH SELF TAPPING SCREWS OR PAF @ 12" OC

2 SECTION @ LOW ROOF BLDG H
3/4" = 1'-0"



- DETAIL NOTES:**
- 1 LVL BEAM, RE: PLAN
 - 2 2x STUD FRAMED WALLS, RE: PLAN
 - 3 ROOF TRUSSES, RE: PLAN
 - 4 PROVIDE FULL DEPTH BLOCKING RE: TYPICAL DETAILS
 - 5 SIMPSON THA29 HANGER
 - 6 SIMPSON H2.5T TIE @ EA TRUSS
 - 7 WOOD FLOOR JOIST, RE: PLAN
 - 8 FLOOR SHEATHING RE: GENERAL NOTES
 - 9 WF STEEL BEAM RE: PLAN
 - 10 2x NAILER ATTACH TO STEEL BEAM WITH EITH SELF TAPPING SCREWS OR PAF @ 12" OC

1 SECTION @ LOW ROOF BLDG J
3/4" = 1'-0"

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1 ARCHITECTURAL SITE PLAN
1/4" = 1'-0"



- Type H Addresses:**
- 660 SE. Wood Ln.
 - 640 SE. Wood Ln.
 - 624 SE. Wood Ln.
 - 616 SE. Wood Ln.
 - 608 SE. Wood Ln.
 - 562 SE. Wood Ln.
 - 554 SE. Wood Ln.
 - 546 SE. Wood Ln.
 - 530 SE. 5th Ter.
 - 518 SE. 5th Ter.
 - 510 SE. 5th Ter.

GENERAL NOTES - FURNITURE & EQUIPMENT PLANS:
 1. RE: CIVIL DRAWINGS - FOR ADDITIONAL SITE INFORMATION AND DETAILS.
 2. RE: SHEET AG002 - FOR TYPICAL MOUNTING HEIGHTS.
 3. RE: SHEET AG003 - FOR DETAILED PLANS OF EACH SPECIFIED A-TYPE UNIT.



REUNION AT BLACKWELL - BUILDING H
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A100
 ISSUE DATE: 24 AUGUST 2023
 COLLINS WEBB #: 21075

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A12 ROOF PLAN - BUILDING H
1/4" = 1'-0"

A8 2ND FLOOR - BUILDING H
1/4" = 1'-0"

A4 1ST FLOOR - BUILDING H
1/4" = 1'-0"

**GENERAL NOTES:
FLOOR PLANS**

1. SEE GENERAL ARCHITECTURAL SHEETS FOR ADDITIONAL NOTES AND DETAILS THAT ARE APPLICABLE.
2. ARCHITECTURAL ELEVATION 100'-0"
3. DIMENSIONS SHOWN ON THE FLOOR PLAN ARE TO THE FACE OF STUD (FOS), FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FCO), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
4. NOTE: WALL THICKNESSES ARE ACTUAL DIMENSIONS AND PER WALL TYPES. SEE GENERAL SHEETS.
5. DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALL SHOWN OR LOCATED 4 INCHES FROM FINISH WALL TO HINGE SIDE OF THE DOOR, ALWAYS ALLOWING A MINIMUM OF 18" FROM THE PULL SIDE (STRIKE SIDE) OF THE DOOR TO THE INTERSECTING WALL, OR OTHER PROTRUDING OBJECTS.
6. ALL ALCOVES WITHOUT A SPACE IDENTIFICATION NUMBER SHALL HAVE THE SAME FINISHES AS THE ADJOINING SPACES.
7. RE: FINISH LEGEND, FINISH SCHEDULE AND SPECIFICATIONS FOR DOOR AND DOOR FRAME FINISHES.
8. STAIR ENCLOSURES, SHAFT WALLS, EXIT PASSAGEWAYS AND EXTERIOR WALLS TO BE COORDINATED FOR PHASE OF WORK PER MATRIX AND PROJECT SCOPING.

**GENERAL NOTES:
ROOF PLANS**

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. DIMENSIONS SHOWN ON THE ROOF PLAN ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FCO), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
3. PROVIDE 1/2" FT. TAPERED INSULATION AT ALL ROOF CURBS AND AT EQUIPMENT WHICH EXCEEDS 18 INCHES IN WIDTH.

ROOF PLAN LEGEND

- ← SLOPE DIRECTION
- ▨ AREA WHERE ROOF PENETRATIONS ARE NOT ALLOWED PER IRC 2018, R302.2.4 EXCEPTION.
- - - LEVEL 01 COMMON WALLS TO UNDERSIDE OF SHEATHING PER DETAIL A11G003
- - - EXTENTS OF RIDGE VENTS ALLOWED BETWEEN COMMON WALLS
- - - EXTENTS OF CONTINUOUS SOFFIT VENTS ALLOWED BETWEEN COMMON WALLS =
- ▨ SINGLE ROOF
- ▨ STANDING SEAM METAL ROOF

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- 3 CITY COMMENT 3/5/2025



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A101H

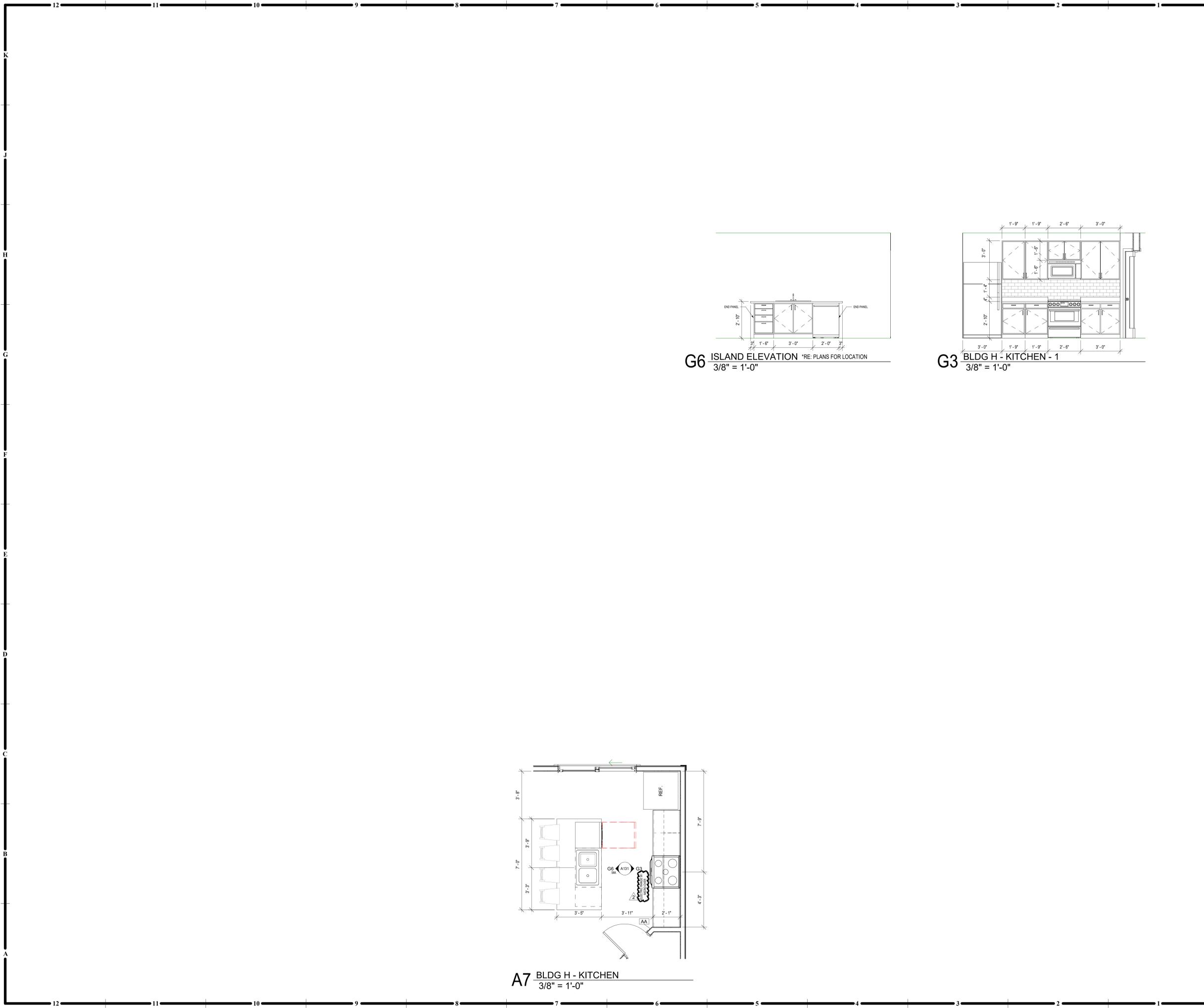
ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

FLOOR PLANS - BUILDING H



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A7 BLDG H - KITCHEN
3/8" = 1'-0"

G6 ISLAND ELEVATION *RE: PLANS FOR LOCATION
3/8" = 1'-0"

G3 BLDG H - KITCHEN - 1
3/8" = 1'-0"



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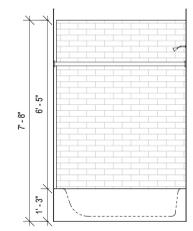
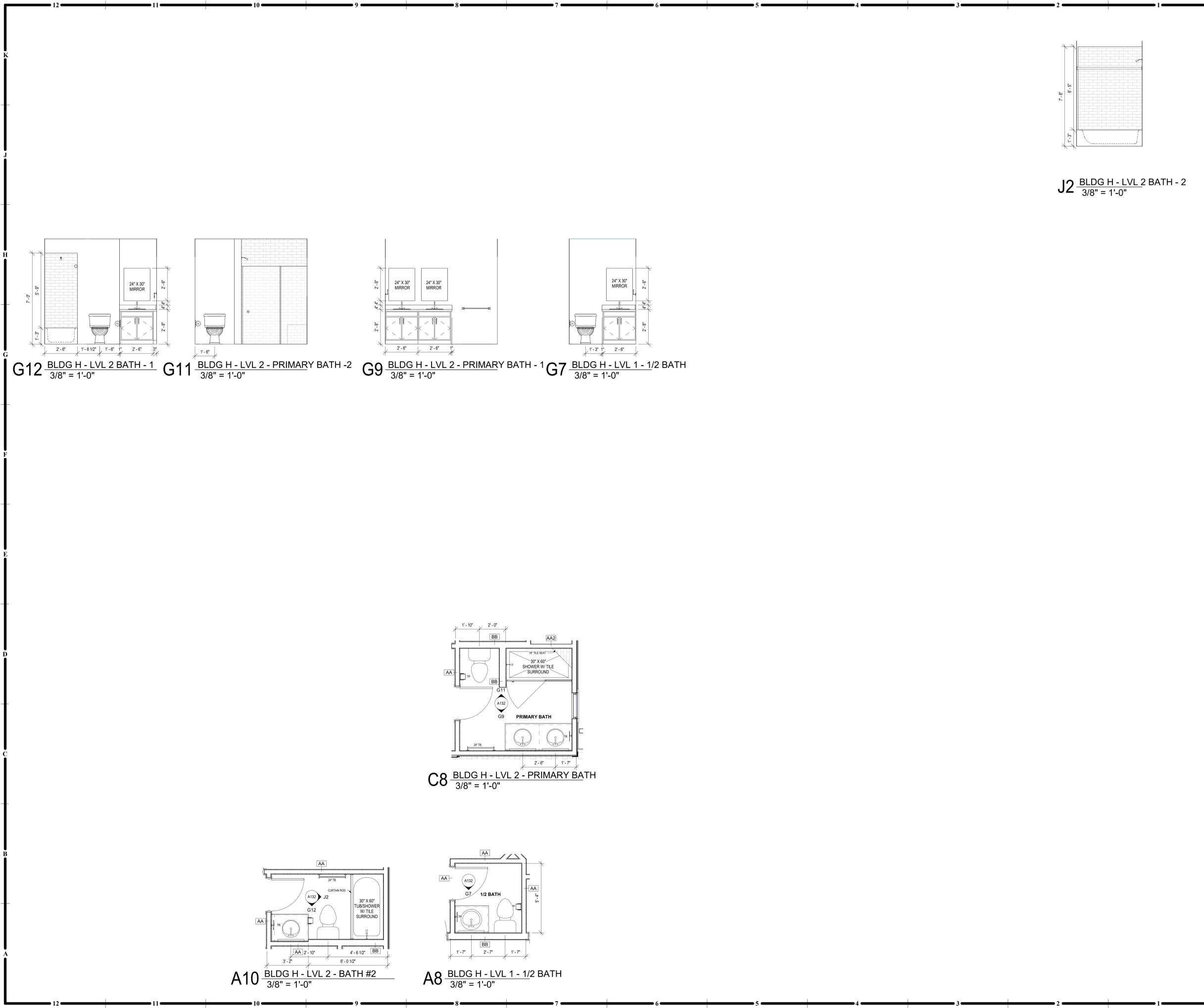
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A131
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COLLINS WEBB #: 21075

KITCHEN ENLARGED PLANS AND ELEVATIONS

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J2 BLDG H - LVL 2 BATH - 2
3/8" = 1'-0"

G12 BLDG H - LVL 2 BATH - 1
3/8" = 1'-0"

G11 BLDG H - LVL 2 - PRIMARY BATH - 2
3/8" = 1'-0"

G9 BLDG H - LVL 2 - PRIMARY BATH - 1
3/8" = 1'-0"

G7 BLDG H - LVL 1 - 1/2 BATH
3/8" = 1'-0"

C8 BLDG H - LVL 2 - PRIMARY BATH
3/8" = 1'-0"

A10 BLDG H - LVL 2 - BATH #2
3/8" = 1'-0"

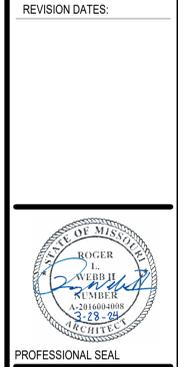
A8 BLDG H - LVL 1 - 1/2 BATH
3/8" = 1'-0"



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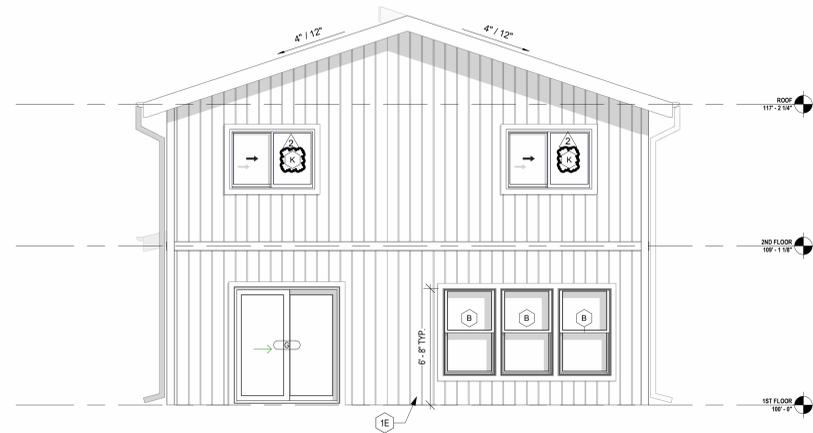


A132
ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

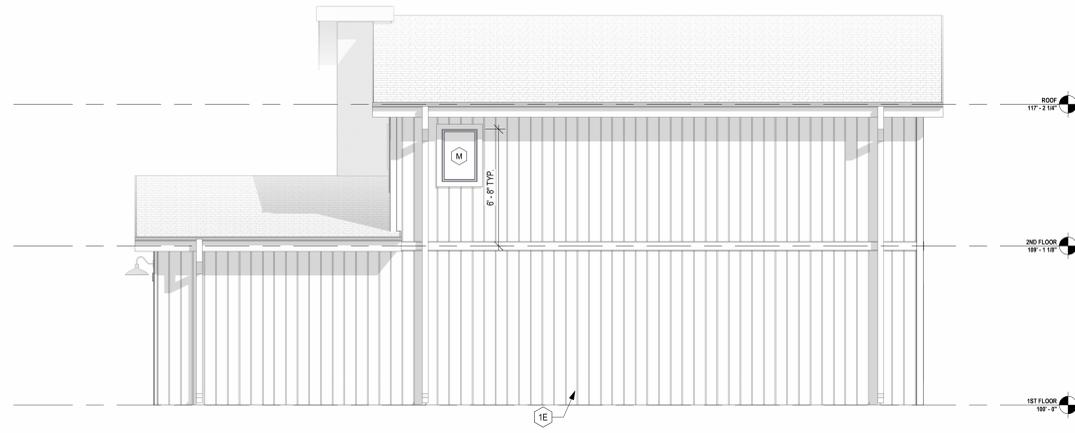
BATHROOM ENLARGED PLANS
AND ELEVATIONS

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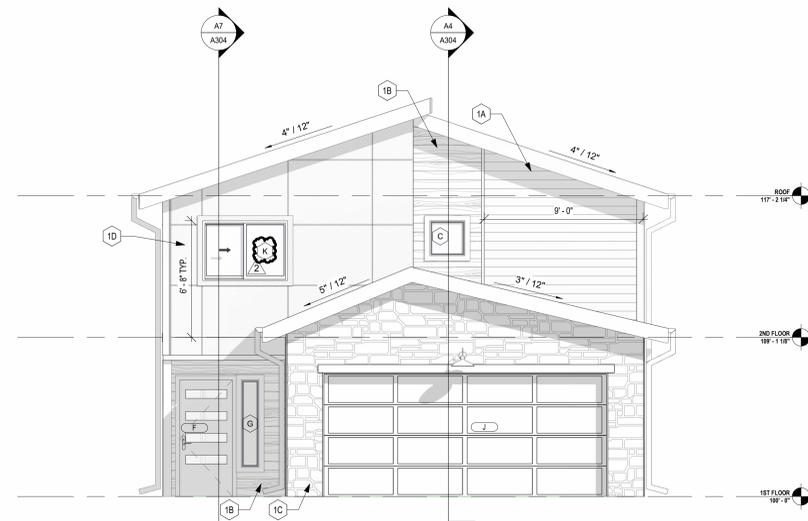
E12 ELEVATION - H - REAR
1/4" = 1'-0"



E6 ELEVATION - H - RIGHT
1/4" = 1'-0"



A12 ELEVATION - H - LEFT
1/4" = 1'-0"



A5 ELEVATION - H - FRONT
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 EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FCO), FACE OF STUD, AND COLUMN GRID LINES, UNLESS OTHERWISE NOTED OR INDICATED.
3. RE THE WINDOW TYPES SHEET FOR ALL EXTERIOR WINDOW TYPES AND GLASS TYPES.
4. PROVIDE ALL BLOCKING AND POWER AS REQUIRED FOR EXTERIOR SIGNAGE.

KEY NOTES
EXTERIOR ELEVATIONS:

MARK	DESCRIPTION
1A	6" LAP SIDING - WHITE - SEE EXTERIOR MATERIAL LEGEND BELOW.
1B	6" LAP SIDING - BROWN - SEE EXTERIOR MATERIAL LEGEND BELOW.
1C	CULTURED STONE VENEER - SEE EXTERIOR MATERIAL LEGEND BELOW.
1D	EXTERIOR STUCCO SYSTEM. SEE EXTERIOR MATERIAL LEGEND BELOW.
1E	6" BATT SIDING - WHITE - SEE EXTERIOR MATERIAL LEGEND BELOW.
2A	ARCHITECTURAL ASPHALT SHINGLES.
2B	ARCHITECTURAL STANDING SEAM METAL ROOF.
3A	PREFINISHED ALUMINUM GUTTER. RE: EXT. FINISH LEGEND.
3B	PREFINISHED ALUMINUM DOWNSPUT WITH SPASH BLOCKS. RE: EXT. FINISH LEGEND.
4A	1X4 TRIM BOARD.
4B	1X6 TRIM BOARD.
5A	LIGHT FIXTURE. RE: ELECTRICAL.
6A	CONCRETE FOUNDATION. PAINT WITH EXTERIOR CONCRETE PAINT. RE: EXT. FINISH LEGEND.
7A	ROOF VENT.
7B	POST FOR ROOF STRUCTURE. RE: STRUCT.
8A	ALUMINUM DOOR. RE: DOOR SCHEDULE.
8B	VINYL WINDOW SYSTEM. BASIS OF DESIGN: MI 3500 SERIES.
8C	VINYL DOOR. RE: DOOR SCHEDULE.
8D	GARAGE OVERHEAD DOOR. RE: DOOR SCHEDULE.

EXTERIOR ELEVATION MATERIALS

- STO CRACK DEFENSE STUCCO SYSTEM - TEXTURE: FINE - GRAY DAWN
- NEW TECH WOOD - ALL WEATHER SIDING - BRAZILIAN (PE (P))
- LP SMARTSIDE LAP SIDING - SMOOTH FINISH - SNOWSCAPE WHITE
- EL DORADO STONE (SIMULATED)- CUT COARSE STONE VENEER - SEASHELL
- LP SMARTSIDE VERTICAL SIDING- CEDAR TEXTURE PANEL - SNOWSCAPE WHITE

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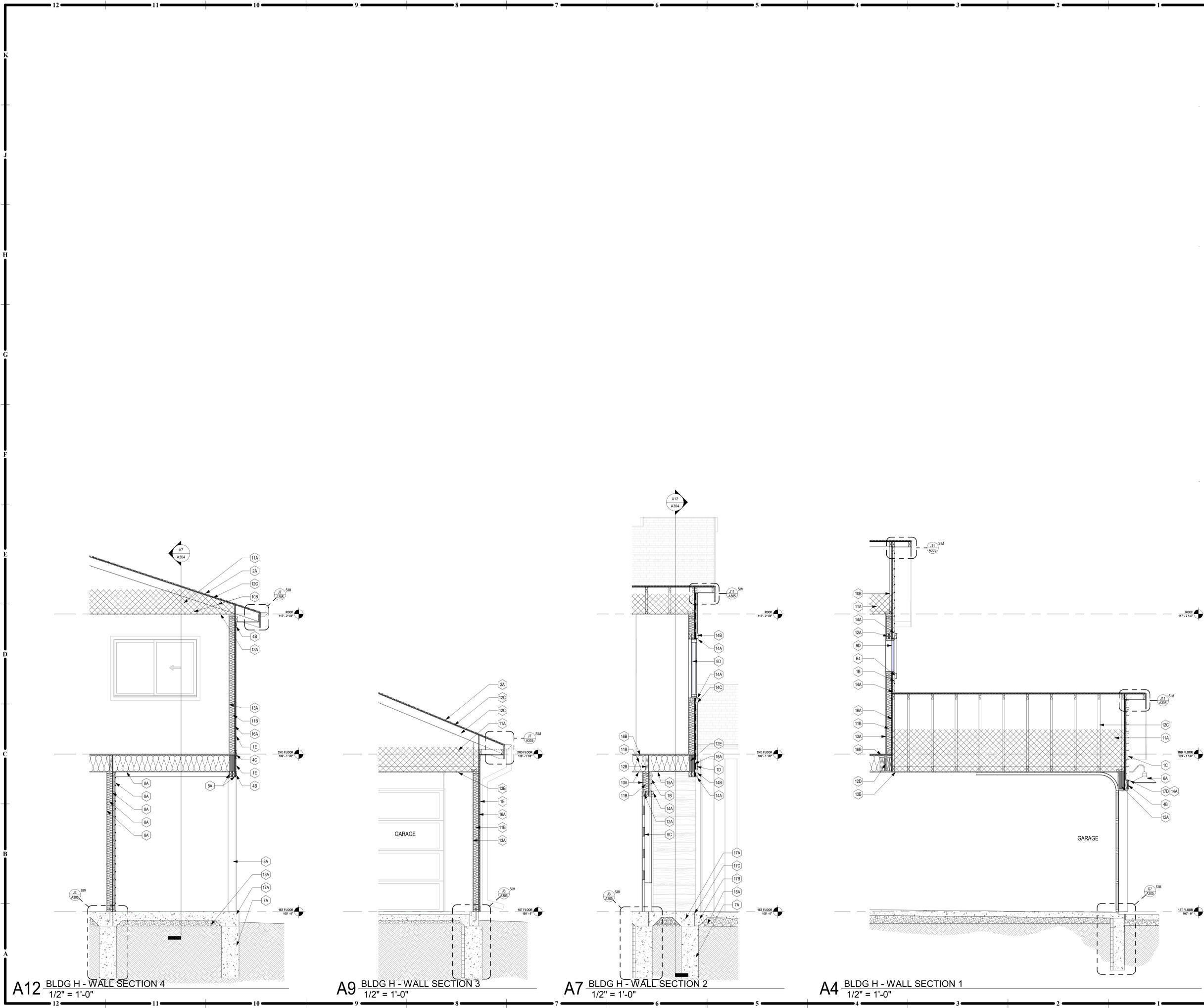
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EXTERIOR ELEVATIONS - BUILDING H



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**GENERAL NOTES:
EXTERIOR WALL SECTIONS/
DETAILS**

1. RE: SHEET 001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: FLOOR PLANS, ROOF PLAN AND ELEVATIONS FOR SECTION CUT LOCATIONS.
3. ALL WINDOW AND DOOR OPENING DIMENSIONS ARE ROUGH OPENING DIMENSIONS, UNLESS NOTED OTHERWISE.
4. DIMENSIONS SHOWN ON THE WALL SECTIONS ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FORM FACE OF CONCRETE WALLS' FOOT), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
5. PAINT ALL EXPOSED STEEL, INCLUDING STEEL LINTELS, ETC. (TYP.)

**KEY NOTES
WALL SECTIONS:**

MARK	DESCRIPTION
1A	6" LP SMARTSIDE LAP SIDING OVER HOUSE WRAP - WHITE. RE: MFR. FOR INSTALLATION DETAILS
1B	NEW TECH WOOD - ALL WEATHER SIDING - BROWN. RE: MFR. FOR INSTALLATION DETAILS
1C	CULTURED STONE VENEER - RE: MFR. FOR INSTALLATION DETAILS
1D	STUCCO FINISH SYSTEM - RE: MFR. FOR INSTALLATION DETAILS
1E	SMARTSIDE VERTICAL SIDING OVER HOUSE WRAP - WHITE. RE: MFR. FOR INSTALLATION DETAILS
2A	ARCHITECTURAL ASPHALT SHINGLES OVER FELT PAPER AND ICE DAM (AT FASCIA EDGES)
3A	PREFINISHED ALUMINUM GUTTER, RE: EXT. FINISH LEGEND
3B	PREFINISHED ALUMINUM DOWNSPUT WITH SPASH BLOCKS, RE: EXT. FINISH LEGEND
4A	FASCIA BOARD
4B	1X4 TRIM BOARD
4C	1X6 TRIM BOARD
5A	ROOF VENT.
6A	LIGHT FIXTURE, RE: ELECTRICAL
7A	CONCRETE FOUNDATION, RE: STRUCTURAL
7B	CONCRETE CURB (@ GARAGE), RE: STRUCT.
8A	POST FOR ROOF STRUCTURE, RE: STRUCT.
8B	TREATED WOOD JOIST SYSTEM, RE: STRUCT.
8C	TREATED WOOD BEAM SYSTEM, RE: STRUCT.
9A	DECORATIVE INSULATED METAL PANEL OVERHEAD DOOR, RE: DOOR SCHEDULE
9B	FIBERGLASS DOOR, RE: DOOR SCHEDULE
9C	DECORATIVE WOOD ENTRY DOOR, RE: DOOR SCHEDULE
9D	WHITE VINYL WINDOW SYSTEM, BASIS OF DESIGN: MI 3500 SERIES
10A	ROOF SHEATHING, RE: STRUCT.
10B	ROOF STRUCTURE, RE: STRUCT.
11A	MIN. R-38 BATT INSULATION
11B	R-15 BATT INSULATION
11C	WEATHER RESISTANT PVC SOFFIT VENT, COLOR: WHITE
11D	2" RIGID INSULATION
12A	2X WOOD HEADER, RE: STRUCT.
12B	RIM BOARD, RE: STRUCT.
12C	ENGINEERED TRUSS SYSTEM, RE: STRUCT.
12D	STEEL BEAM, RE: STRUCT.
12E	LVL WOOD BEAM, RE: STRUCT.
13A	1/2" GYPSUM BOARD
13B	5/8" TYPE 'X' GYPSUM BOARD (GARAGE CEILINGS)
14A	PREFINISHED ALUMINUM FLASHING
14B	FLANGED WINDOW/DOOR HEAD DETAIL PER MFR'S SPECS
14C	FLANGED WINDOW-SILL DETAIL PER MFR'S SPECS
15A	SOFFIT PANEL TO MATCH SIDING MATERIAL, RE: ROOF PLANS FOR CONDITIONS WHERE RATED PLYWOOD OCCURS
16A	1/2" FIRE RATED PLYWOOD SHEATHING, RE: PLAN FOR CONDITIONS WHERE RATED PLYWOOD OCCURS
16B	3/4" SUBFLOOR SHEATHING
17A	CONCRETE PAD, RE: STRUCT.
17B	4" CONCRETE SIDEWALK, RE: STRUCT.
17C	1/2" EXPANSION JOINT
17D	BACKER ROD AND SEALANT
17E	CONCRETE DRIVEWAY, RE: CIVIL
18A	GRAVEL BASE
18B	EARTH FILL
19A	SILL PLATE ANCHOR, RE: STRUCT.
19B	2X TREATED SILL PLATE



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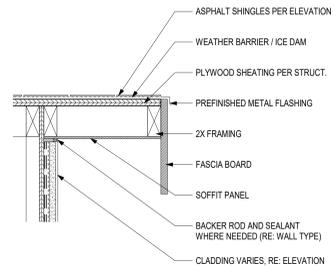


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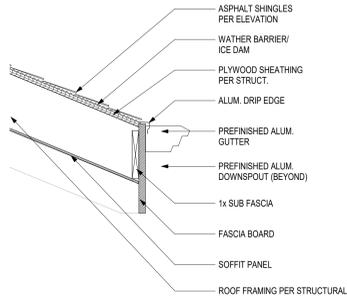
A304
ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

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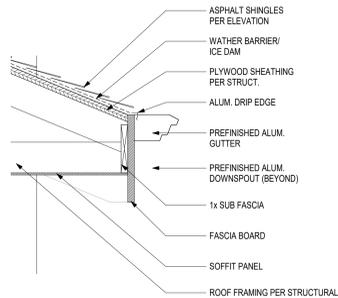
EXTERIOR WALL SECTIONS



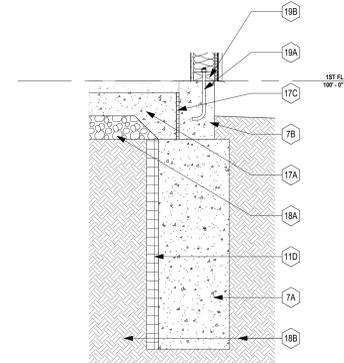
J11 DETAIL - ROOF RAKE
1 1/2" = 1'-0"



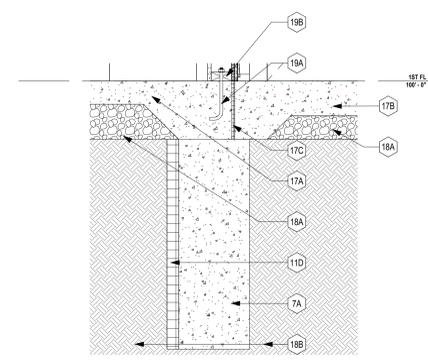
J9 DETAIL - ROOF EAVE 2
1 1/2" = 1'-0"



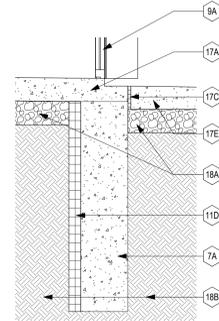
J7 DETAIL - ROOF EAVE 1
1 1/2" = 1'-0"



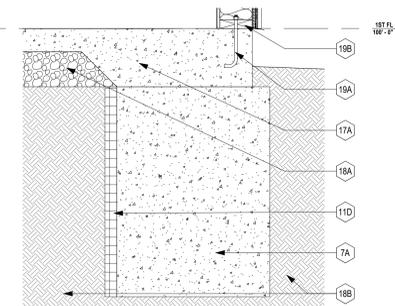
J5 BLDG E1 - SECTION 6 - Callout 1
1" = 1'-0"



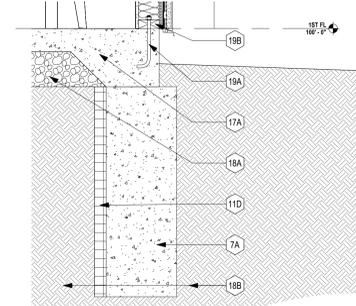
J3 BLDG E1 - SECTION 3 - Callout 1
1" = 1'-0"



G7 BLDG E1 - SECTION 7 - Callout 1
1" = 1'-0"



G5 BLDG E1 - SECTION 5 - Callout 1
1" = 1'-0"



G3 BLDG E1 - SECTION 1 - Callout 1
1" = 1'-0"

**GENERAL NOTES:
EXTERIOR WALL SECTIONS/
DETAILS**

1. RE: SHEET 001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: FLOOR PLANS, ROOF PLAN AND ELEVATIONS FOR SECTION CUT LOCATIONS.
3. ALL WINDOW AND DOOR OPENING DIMENSIONS ARE TO FACE UNLESS NOTED OTHERWISE.
4. DIMENSIONS SHOWN ON THE WALL SECTIONS ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FROM FACE OF CONCRETE WALLS' FOOT), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
5. PAINT ALL EXPOSED STEEL, INCLUDING STEEL LINTELS, ETC. (TYP.)

**KEY NOTES
WALL SECTIONS:**

MARK	DESCRIPTION
1A	6" LP SMARTSIDE LAP SIDING OVER HOUSE WRAP - WHITE - RE: MFR. FOR INSTALLATION DETAILS
1B	NEW TECH WOOD - ALL WEATHER SIDING - BROWN - RE: MFR. FOR INSTALLATION DETAILS
1C	CULTURED STONE VENEER - RE: MFR. FOR INSTALLATION DETAILS
1D	STUCCO FINISH SYSTEM - RE: MFR. FOR INSTALLATION DETAILS
1E	SMARTSIDE VERTICAL SIDING OVER HOUSE WRAP - WHITE - RE: MFR. FOR INSTALLATION DETAILS
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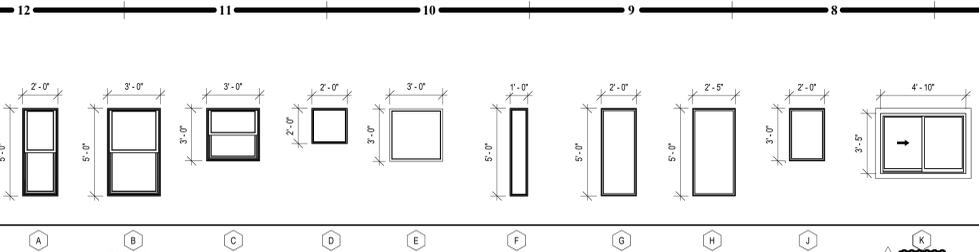


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**EXTERIOR WALL SECTIONS +
DETAILS**

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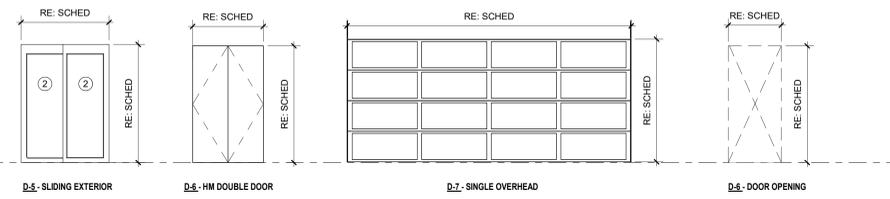
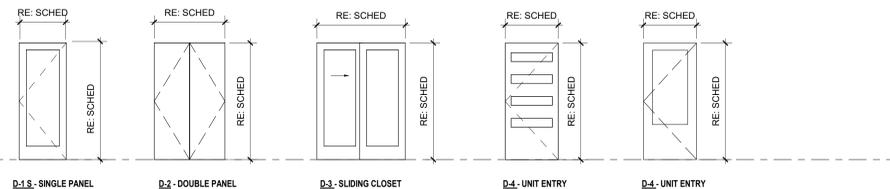


WINDOW SCHEDULE GENERAL NOTES:

- GENERAL CONTRACTOR TO VERIFY ALL WINDOW & DOOR SIZES PRIOR TO ORDERING.
- FOR MODEL NO. 3050, INCORPORATE A SINGLE BALANCE IN TOP HOLE TO MEET EGRESS REQUIREMENTS OF 5.7 SQUARE FEET.
- WINDOWS BASIS OF DESIGN MI 3500 SINGLE HUNG WINDOW.
- PROVIDE SAFETY GLAZING AT HAZARDOUS LOCATIONS PER IRC SECTION R308. RE: GLASS TYPE LEGEND AND WINDOW ELEVATIONS.
- OPERABLE WINDOWS WITH SILL MORE THAN 72" ABOVE FINISH GRADE & LESS THAN 36" A.F.F. SHALL BE EQUIPPED WITH WINDOW OPENING CONTROL DEVICE AS PER IRC SECTION R312.2.1.
- ALL WINDOW HEAD HEIGHTS ARE 6'-8" A.F.F. UNLESS NOTED OTHERWISE.
- REFER TO DETAILS A3, A8, AND A11 ON SHEET A501 FOR TYPICAL HEAD, JAMB, AND SILL DETAILS.
- REFER TO ELEVATIONS FOR WINDOW GRID LOCATIONS.
- SAFETY GLAZING REQ'D IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL THE FOLLOWING CONDITIONS:
 - THE EXPOSED AREA OF AN INDIVIDUAL PANEL IS LARGER THAN 9 SQFT
 - THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18 INCHES ABOVE THE FLOOR.
 - THE TOP EDGE OF THE GLAZING IS MORE THAN 36 INCHES ABOVE THE FLOOR
 - ONE OR MORE WALKING SURFACES ARE WITHIN 36 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE GLAZING.

DOOR SCHEDULE REMARKS:

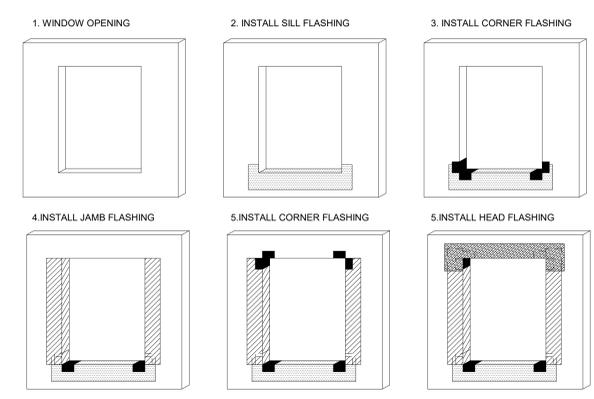
- PROVIDE EACH ENTRY DOOR WITH PEEPHOLE WITH A 180 DEGREE VIEWER AND A DEADBOLT LOCK
- WEATHERSTRIP ALL EXTERIOR DOORS
- PROVIDE SAFETY GLAZING AT HAZARDOUS LOCATIONS PER IRC SECTION R308. SEE PLAN FOR LOCATIONS.
- SAFETY GLAZING REQUIRED AT DOORS WHEN:
 - GLAZING IS WITHIN 24" OF EITHER SIDE OF THE DOOR IN A CLOSED POSITION.
 - GLAZING IS ON A WALL LESS THAN 180 DEGREES FROM THE PLANE OF THE DOOR IN A CLOSED POSITION AND WITHIN 24" OF THE HINGE SIDE OF AN IN-SWING DOOR.
- CONTRACTOR TO CONFIRM PROPER SWING WITH UNIT AND BUILDING LAYOUT PLANS.
- REFERENCE SPEC ON G SERIES SHEETS FOR HARDWARE TYPES.
- ALL DOORS LEADING TO GARAGE FROM LIVING SPACE MUST BE PROVIDED WITH A SELF-CLOSING CLOSER.



NOTE: SOME SYMBOLS MAY NOT BE USED IN THIS DRAWING OR PROJECT

DOOR SCHEDULE										
DOOR NO.	LOCATION	WIDTH	HEIGHT	DOOR TYPE	DOOR MAT.	DOOR FINISH	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	REMARKS
A	Interior	3'-0"	6'-8"	D-1	SCWD	PAINT	C2/A501	WD	PAINT	
B	Interior	2'-6"	6'-8"	D-1	SCWD	PAINT	C2/A501	WD	PAINT	
C	Interior	2'-4"	6'-8"	<varies>	SCWD	PAINT	C2/A501	WD	PAINT	
D	Interior	5'-0"	6'-8"	D-2	SCWD	PAINT	C2/A501	WD	PAINT	
F	Exterior	3'-0"	6'-8"	D-4	FIBERGLASS	PAINT	A2/A501	WD	PAINT	
G	Exterior	6'-0"	6'-8"	D-5	METAL / GLASS	MANUF.	C2/A501	WD	PAINT	
H	Exterior	2'-0"	6'-8"	<varies>	HM	PAINT	C2/A501	WD	PAINT	
J	Exterior	16'-0"	7'-0"	D-7	INSUL. METAL	PAINT	D2/A501	WD	PAINT	
K	Interior	3'-0"	6'-8"	D-8	N/A	N/A	C2/A501	WD	PAINT	
L	Interior	2'-6"	6'-8"	D-8	N/A	N/A	C2/A501	WD	PAINT	
M	Interior	2'-8"	6'-8"	D-8	N/A	N/A	C2/A501	WD	PAINT	

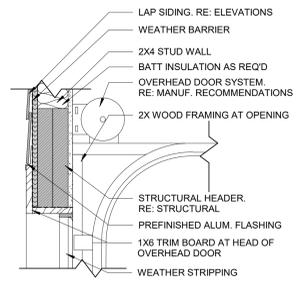
GLASS TYPE LEGEND	
DESIGNATION NUMBER	DESCRIPTION
1	TEMPERED GLASS COLOR: CLEAR



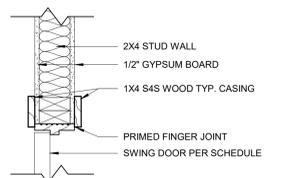
NOTES:

- SURFACES SHALL BE CLEAN AND DRY AND PRIMED WITH CONTACT ADHESIVE.
- FLASHING SHALL BE A MIN. OF 3" WIDE. THE FLASHING SHALL WRAP INTO WINDOW OPENING GREATER THAN THE DEPTH OF THE WINDOW AND OUT ONTO THE WALL A MIN. OF 3".
- THE SEQUENCE FLASHING INSTALLATION TO PROVIDE SHINGLED OVERLAPS. OVERLAPS SHALL BE A MIN. OF 2".
- INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- DO NOT SCALE DRAWINGS.

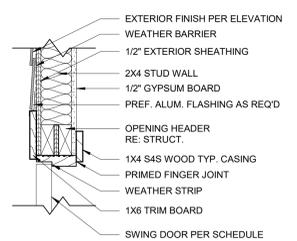
H3 WINDOW FLASHING SEQUENCE
1/2" = 1'-0"



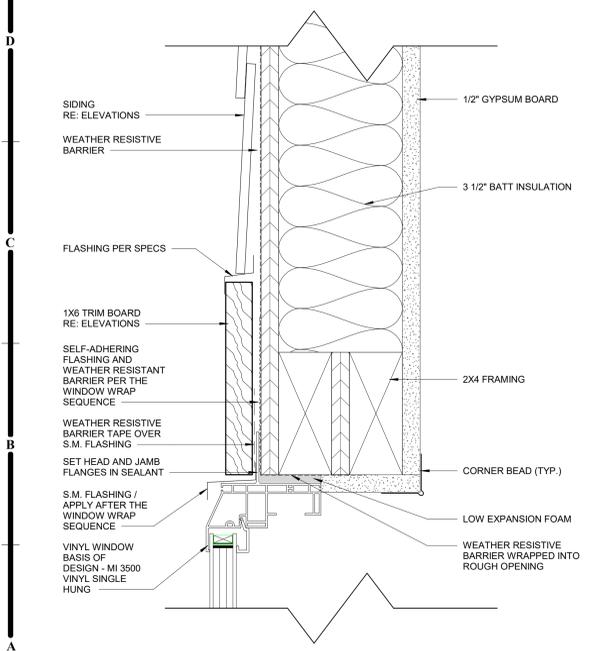
D2 DETAIL - WOOD HEAD GARAGE
1 1/2" = 1'-0"



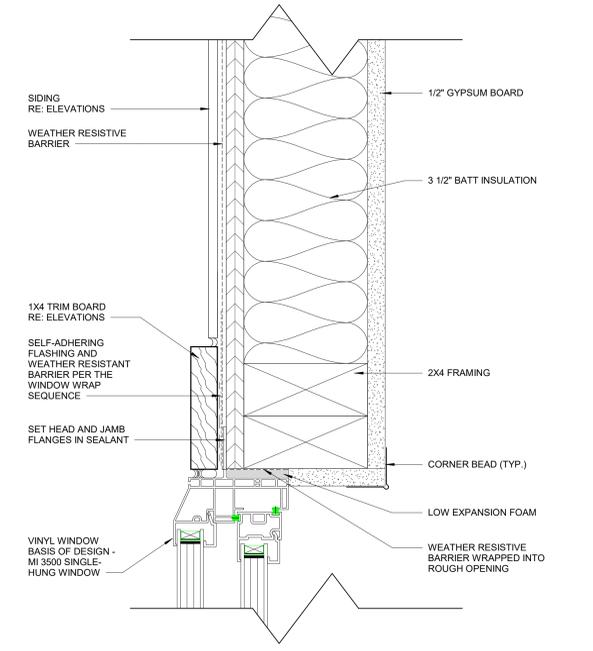
C2 DETAIL - WOOD HEAD
1 1/2" = 1'-0"



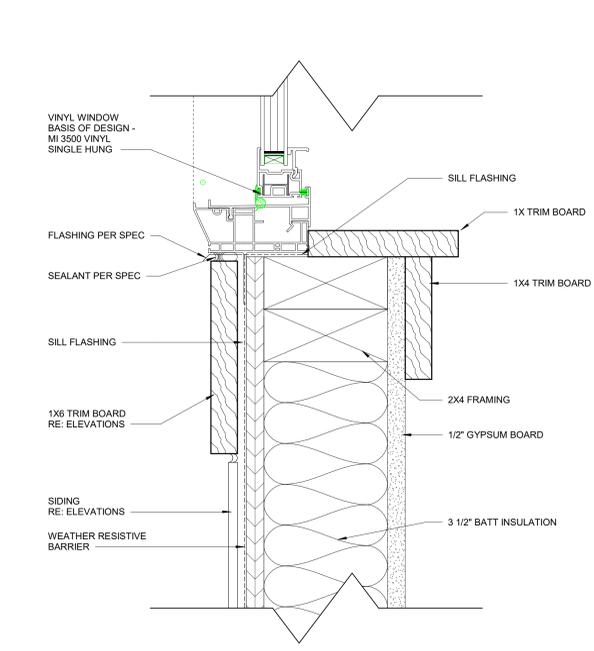
A2 DETAIL - WOOD HEAD
1 1/2" = 1'-0"



A12 DETAIL - WINDOW HEAD
6" = 1'-0"



A9 DETAIL - WINDOW JAMB
6" = 1'-0"



A6 DETAIL - WINDOW SILL
6" = 1'-0"

GENERAL NOTES: DOOR SCHEDULE

- HM REFERS TO HOLLOW METAL
- AL REFERS TO ALUMINUM
- WD REFERS TO WOOD
- SCWD REFERS TO SOLID CORE WOOD
- ALL EXTERIOR ALUMINUM DOORS & FRAMES ARE TO BE FINISHED TO MATCH ADJACENT ALUMINUM WINDOW FRAME. UNO
- FOR FINISH COLOR DESIGNATION FOR INTERIOR DOOR AND FRAMES, REFER TO FINISH LEGEND.
- REFER TO SPECIFICATION FOR DOOR HARDWARE SET DESIGNATIONS.
- 2 HOUR FIRE BARRIED DOORS = 90 MINUTE RATING
- 1 HOUR FIRE BARRIED DOORS = 45 MINUTE RATING
- 1 HOUR SMOKE BARRIER = 20 MINUTE RATING
- PROTECT ALL DOORS & FRAMES FROM DAMAGE THROUGHOUT CONSTRUCTION PHASES.
- ALL EGRESS DOORS TO BE PROVIDED WITH PANIC HARDWARE

GENERAL NOTES: WINDOW TYPES / GLASS TYPES

- RE. SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
- ALL WINDOW TYPES ARE ALUMINUM STOREFRONT, UNLESS NOTED OTHERWISE.
- ALL DIMENSIONS ARE TO ROUGH OPENING AND TO TOP OR BOTTOM OF MULLION, UNLESS NOTED OR SHOWN OTHERWISE.
- ALL OPENINGS ARE TO BE FIELD VERIFIED, AND NOTED AS SUCH ON SHOP DRAWINGS, PRIOR TO ARCHITECT'S REVIEW.
- GLASS DOORS, ADJACENT PANELS AND ALL GLAZED OPENINGS WITHIN 1'-6" 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.
- REFER TO SPECIFICATIONS FOR GLAZING & FRAME PRODUCT INFORMATION.



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A501
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DOOR / WINDOW SCHEDULE + DETAILS

FINISH LEGEND										
Silverspot Approved	TYPE ORDERING	FLOOR / WALL / CEILING	BUILDING TYPE	SYMBOL	MATERIAL	MANUFACTURER	TYPE	COLOR	TYP. AREA / REMARKS	
RESERVE FLOOR FINISH	x	A	FLOOR FINISH	RESERVE	C1	CARPET TILE (23oz, 18"X36")	MANNINGTON COMMERCIAL	AGAINST THE GRAIN / HAND SCRAPPED	14300 CARVED	INSTALLATION METHOD: VERTICAL ASHLAR
WALL BASE		B	WALL BASE	RESERVE	MB1	METAL BASE - DECORATIVE PLATE STEEL (1/8"X6"H, BAR HEIGHT)			BLACK (EP5)	CONCIERGE, LOUNGE / BAR
WALL FINISH		C	WALL FINISH	RESERVE	EP1	PAINT - EPOXY	SHERWIN WILLIAMS	SATIN ENAMEL	SW 7674 PEPPERCORN	HM DOOR FRAMES, PORT GLASS WINDOW FRAMES
MILLWORK / CASEWORK	x	D	MILLWORK / CASEWORK	RESERVE	PL1	PLASTIC LAMINATE	WILSONART	PREMIUM GLOSS LINE W/ AEMON SCRATCH RESISTANCE FINISH	8214K-28 PHANTOM CHARCOAL	ELEVATOR CABS
WALL PROTECTION		E	WALL PROTECTION	RESERVE	CG1	CORNER GUARD - ALUMINUM (3/4" X 3/4")		FULL HEIGHT	BLACK	HIGH PROFILE AREAS. SEE FINISH FLOOR PLANS FOR LOCATIONS
CEILING FINISH	x	F	CEILING FINISH	RESERVE	ACT1	VINYL-FACED CEILING TILE (2x4')	CERTAINTED CEILINGS	VINYL SHIELD A, 1100-CRF-1	WHITE	KITCHEN, SERVICE, DRY GOODS, TRASH

GENERAL NOTE:
FINISH MATERIALS TO BE PROCURED FROM OWNER SELECTED / SPECIFIED VENDOR, AS LISTED ABOVE. ALTERNATES OR SUBSTITUTIONS WILL NOT BE ACCEPTED.

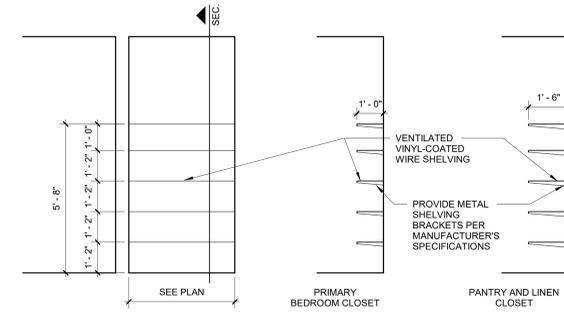
ROOM FINISH SCHEDULE						
ROOM NAME	FLOORS			Wall Finish	CASEWORK COUNTERTOP	REMARKS
	FLOOR	WALL BASE	CEILING FINISH			
RESERVE						
1/2 BATH	TILE	TB1	P2	P1	QUARTZ	
BATH #2	TILE	TB1	P2	P1	QUARTZ	
BEDROOM #2	CPT	WB	P2	P1		
BEDROOM #3	CPT	WB	P2	P1		
BEDROOM #4	CPT	WB	P2	P1		
CLO.	MATCH ADJACENT FLOORING	WB	P2	P1		
CORR.	CPT	WB	P2	P1		
DINING	LVT	WB	P2	P1		
GARAGE	SMOOTH CONC	NONE	TAPE + MUD	TAPE + MUD		
KITCHEN	LVT	WB	P2	P1	QUARTZ	
LAUNDRY	LVT	WB	P2	P1		
LIVING ROOM	LVT	WB	P2	P1		
LOFT	CPT	WB	P2	P1		
MECH	SMOOTH CONC	NONE	TAPE + MUD	TAPE + MUD		
PANTRY	LVT	WB	P2	P1		
PRIMARY BATH	TILE	TB1	P2	P1	QUARTZ	
PRIMARY BEDROOM	CPT	WB	P2	P1		
WALK-IN	CPT	WB	P2	P1		
SINGLE FAMILY						
1/2 BATH						
BATH #2						
BATHROOM #2						
BEDROOM #2						
BEDROOM #3						

**GENERAL NOTES:
INTERIOR FINISHES**

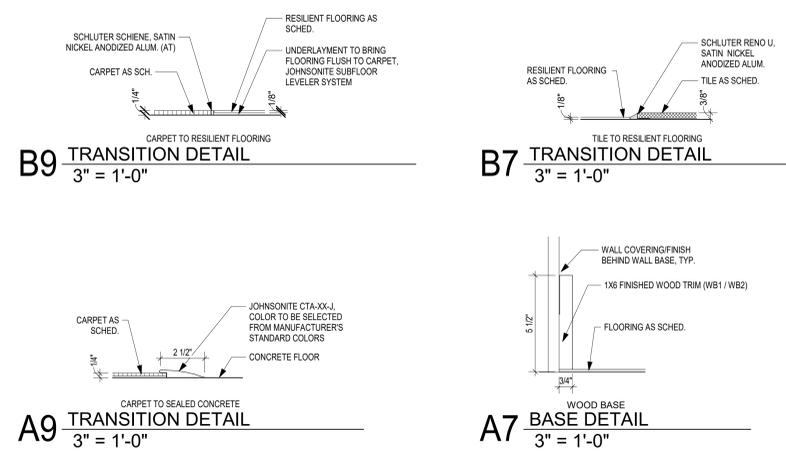
- RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE
- RE: G002 FOR ACCESSIBILITY GUIDELINES
- RE: A900 SERIES SHEETS FOR ADDITIONAL CEILING FINISH INFORMATION
- RE: A700 SERIES SHEETS FOR ADDITIONAL WALL FINISH CLARIFICATION
- RE: A900 SERIES SHEETS FOR ADDITIONAL FLOOR FINISH & WALL PROTECTION INFORMATION
- ALL AUDITORIUM WALLS TO RECEIVE WALL CARPET, WC1. ARE TO BE PRIMED: PART 5, A MINIMUM OF 8" ABOVE TOP OF WALL CARPET
- HOLLOW METAL FRAMES SHALL RECEIVE SEMI-GLOSS FINISH WHERE WALL COLOR IS DIFFERENT ON EACH SIDE OF THE HOLLOW METAL FRAME. PAINT FRAME TO MATCH CORRIDOR WALL, UNLESS NOTED OTHERWISE
- CONTINUE WALL FINISH AS SCHEDULED BEHIND EQUIPMENT
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CASEWORK FABRICATION AND INSTALLATION
- ALL EXPOSED CASEWORK SURFACES SHALL BE FINISHED PLASTIC LAMINATE AS SCHEDULED, U.N.O.
- ALL PLASTIC LAMINATE DOOR AND DRAWERS TO RECEIVE 1MM PVC EDGEBAND AND ALL COUNTERTOPS TO RECEIVE 3MM PVC EDGEBANDING
- ALL BACKSPLASH MATERIAL SHALL MATCH COUNTERTOP MATERIAL
- WHERE TWO MODULAR TILES (PORCELAIN, MARBLE, OR QUARRY) OF VARYING THICKNESSES MEET, THE SETTING-BED FOR THE THINNER TILE SHALL BE BUILT UP TO ENSURE THAT THE FACES OF THE DIFFERENT TILES ARE FLUSH
- AT ALL EXPOSED OUTSIDE EDGES OF MARBLE TILE, (T1), PROVIDE BALLNOSE POLISHED EDGES, RE: DETAIL J70000
- TRANSITION ALL WALL FINISHES/COLOR CHANGES AT INSIDE CORNERS, UNLESS NOTED OTHERWISE (U.N.O.)
- TRANSITION WALL BASE AT INSIDE CORNERS, U.N.O.
- INSTALL METAL TRANSITION STRIP WHERE WALL TILE MEETS PAINTED DYP. BS. WALL IN ALL VERTICAL AND/OR HORIZONTAL CONDITIONS, U.N.O.

ROOM FINISH SCHEDULE REMARKS:

- AREAS WITH MULTIPLE DESIGNATED FINISHES, RE: FINISH FLOOR PLANS & INTERIOR ELEVATIONS FOR ADDITIONAL CLARIFICATION
- PROVIDE FULL HEIGHT WALL TILE AT WET WALL. RE: INTERIOR ELEVATIONS
 - PROVIDE WALL TILE TO 6'-0" AFF ON ALL WALLS IN ROOMSPACE. RE: INTERIOR ELEVATIONS
 - PROVIDE FRP FULL HEIGHT
 - PROVIDE FRP TO 3'-0" AFF
 - PROVIDE FRP AT INSIDE OF BAR DIE WALL
 - PROVIDE PLYWOOD PANELS FULL HEIGHT (ABOVE WALL BASE) AT WALLS DESIGNATED PER FINISH FLOOR PLANS
 - PROVIDE CAULK JOINT BETWEEN EDGE OF STAIR AND/OR AUDITORIUM RISER AND HORIZONTAL FINISH. CAULK JOINT COLOR TO MATCH LVT AND SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS. JOINT SHOULD BE 1/8" OR LESS AND BE FINISHED PER SPECIFICATIONS
 - PROVIDE WALL TILE TO 5'-0" AFF AT WET WALL
 - RE: INTERIOR ELEVATIONS
 - PROVIDE FULL HEIGHT WALL TILE ON ALL WALLS IN ROOMSPACE. RE: INTERIOR ELEVATIONS
 - PROVIDE LEVEL 4 FINISH FOR ALL WALLS TO RECEIVE WC2, WC3, AND WC4
 - PROVIDE LEVEL 5 FINISH FOR ALL WALLS TO RECEIVE WC1 AND WC2
 - PROVIDE LEVEL 3 FINISH FOR ALL WALLS TO RECEIVE WALL CARPET, WC1. PROVIDE WC1 ALONG PERIMETER OF ALL AUDITORIUM WALLS & KNEE WALLS, WITH THE EXCEPTION OF THE SCREEN WALL. RE: INTERIOR ELEVATIONS FOR SPECIFIC HEIGHTS
 - PROVIDE FULL HEIGHT WALL CARPET, WC1/WC2 AS SPECIFIED, ALONG PERIMETER OF ALL WALLS. RE: FINISH FLOOR PLANS FOR SPECIFIC LOCATIONS

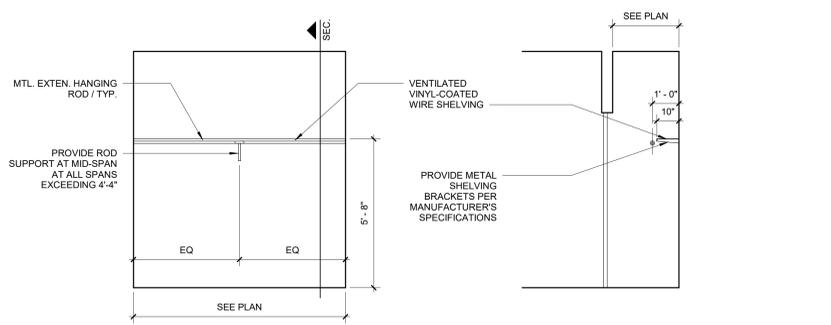


ELEVATION SECTION
RE: PLANS FOR LOCATIONS
C3 SHELVING DETAIL / 2 SIDE WALLS
3/8" = 1'-0"



A9 TRANSITION DETAIL
3" = 1'-0"

A7 BASE DETAIL
3" = 1'-0"



ELEVATION SECTION
A5 1 ROD / 1 SHELF DETAIL
3/8" = 1'-0"



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FINISH SCHEDULE + DETAILS

PERMIT DOCUMENTS

ELECTRICAL ABBREVIATIONS

AC	ALTERNATING CURRENT
AHU	AIR HANDLING UNIT
A OR AMPS	AMPERES
AFC	ABOVE FINISH COUNTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFB	ABOVE FINISHED FLOOR
AC	AMPERES INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
BTC	BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT
C	CONDUIT (E.C. IS EMPTY CONDUIT)
CF	CEILING FAN
CM	COFFEE MAKER
CT	COOKTOP
D	DEDICATED CIRCUIT
DDO	DUPLEX CONVENIENCE OUTLET
DP	DISPOSAL
DW	DISHWASHER
DY	DRYER
EMT	ELECTRICAL METALLIC TUBING
EF	EXHAUST FAN
EW	ELECTRIC WATER COOLER (WATER-COOLED DRINKING FOUNTAIN)
EX	EXISTING
FCU	FAN COOL UNIT
GFI/GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT INTERRUPTER PROTECTED
GRD	GROUND
H	HORIZONTAL MOUNT (RECEPTACLE)
HD	VENTILATION HOOD
HP	HORSEPOWER
HT	HEAT TRACE POWER (PROVIDE W/ 20A 1P GFI BREAKER)
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
Hz	HERTZ
IG	ISOLATED GROUND (DUPLEX RECEPTS - NEMA 5-20RIG)
KCM	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT-AMPERES (1000 VOLT-AMPERES)
KW	KILOWATTS (1000 WATTS)
MLO	MAN LUGS ONLY
MCB	MAIN CIRCUIT BREAKER
MW	MICROWAVE (COORD M/G H/T W/ ARCHITECT)
NIC	NOT IN CONTRACT
NEC	NATIONAL ELECTRICAL CODE
NF	NOT FUSED
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
PNL	PANEL
PH OR Ø	PHASE
P	POLE
PVC	POLYVINYL CHLORIDE
RF	REFRIGERATOR
RG	RANGE
SPD	SURGE PROTECTIVE DEVICE
T	TAMPERPROOF RECEPTACLE
TB	TELEPHONE TERMINAL BOARD
TV	TELEVISION RECEPTACLE
UC	UNDERCOUNTER REFRIGERATOR (OR ICE MACHINE)
UL	UNDERWRITERS LABORATORIES
U.N.O.	UNLESS NOTED OTHERWISE
V	VOLTS
VA	VOLT-AMPERES
VD	VENDING MACHINE (24" AFF)
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
WA	WASHER
WD	WASHING DRAWER
WO	WALL OVEN
WP	WEATHERPROOF
WPWR	WEATHERPROOF/WEATHER RESISTANT
WUNT	DISCONNECT IS SUPPLIED WITH THE UNIT

GENERAL ELECTRICAL NOTES

- COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, REQUIREMENTS OF THE AHJ AND ALL LOCAL & STATE CODES.
- DO NOT SCALE FROM THESE DRAWINGS.
- REFER TO ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND ELECTRICAL DEVICES.
- ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRINGS AND BUSHINGS.
- ALL JUNCTION BOXES SHALL HAVE A COVER.
- COORDINATE EACH LIGHT FIXTURE INSTALLATION(S) W/ ACTUAL CEILING TO BE FURNISHED.
- ALL BRANCH CIRCUITS WITHOUT A CONDUCTOR & CONDUIT INDICATED SHALL BE ROUTED TO A 20A-1P BREAKER W/ 20A 1P NIB/2.3AFC.
- ALL BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG AND ALL CONDUIT SHALL NOT BE SMALLER THAN 3/4" UNLESS SPECIFICALLY NOTED OTHERWISE.
- 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.
- ALL CIRCUITS (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT GROUND.
- ALL FIXTURES SHALL BE SUPPORTED FROM EACH CORNER (INDEPENDENT OF THE SUSPENDED CEILING) WITH 1/2 GAUGE WIRE CONNECTED TO STRUCTURAL SYSTEM OF BUILDING. THE INSTALLATION SHALL MEET OR EXCEED THE SEISMIC REQUIREMENTS OF LOCAL AND NATIONAL CODES.
- ELECTRICAL DEVICE MOUNTING HEIGHTS: UNO.
PANELBOARDS: 7'0" AFF TO TOP OF PANEL.
SWITCHES: 48" AFF TO CENTER OF SWITCH.
RECEPTACLES: 18" AFF TO CENTER OF RECEPTACLE.
TELEDATA OUTLETS: 48" AFF TO CENTER OF RECEPTACLE.
APARTMENT LOADCENTERS: PER ANSI A117.1 REQUIREMENTS (VERIFY WITH LOCAL INSPECTOR).
- ELECTRICAL EQUIPMENT (PANELBOARDS, TRANSFORMERS, DISTRIBUTION EQUIPMENT, ETC.) IS SHOWN TO SCALE ON THE FLOOR PLANS.
- THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING EQUIPMENT THAT WILL FIT WITHIN THE SPACES SHOWN ON THE PLANS AND COMPLYING WITH ALL CODE REQUIRED CLEARANCES.
- 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.
- PANELBOARDS, DISCONNECT SWITCHES, AND SIMILAR DEVICES TO HAVE ENGRAVED, SELF-ADHESIVE, LAMINATED ACRYLIC LABEL (BLACK W/ WHITE LETTERING).
- PROVIDE TYPE-WRITTEN PANELBOARD SCHEDULES FOR ALL ELECTRICAL PANELBOARDS.

ELECTRICAL SYMBOLS

LIGHTING FIXTURES/DEVICES			POWER EQUIPMENT/DEVICES		
SYMBOL	DESCRIPTION	MOUNTING	SYMBOL	DESCRIPTION	MOUNTING
○A	DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING	▨	SWITCHBOARD OR DISTRIBUTION PANEL REFER TO PANEL SCHEDULES	
⊙A	DIRECTIONAL DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING	⊘	DRY-TYPE TRANSFORMER REFER TO PLANS FOR KVA RATING	
⊙A	WALL MOUNTED LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL	▬	120/208V, 3Ø, 4W PANELBOARD REFER TO PANEL SCHEDULES	
▬A	LINEAR LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING OR SUSPENDED	▬	277/480V, 3Ø, 4W PANELBOARD REFER TO PANEL SCHEDULES	
□A	2X4 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING	⊙	JUNCTION BOX	WALL OR CEILING
□A	2X2 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING	30/200	FUSED SAFETY SWITCH (E.G. 30/200 INDICATES A 30A, 3-POLE SWITCH WITH 20A FUSES)	
▨	HATCHING ON FIXTURE INDICATES FIXTURE TO HAVE EMERGENCY BACK-UP		30/200	NON-FUSED SAFETY SWITCH (E.G. 30/200 INDICATES A 30A, 3-POLE SWITCH WITHOUT FUSES)	
⊕G	TWO HEAD EMERGENCY LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING	SM	MOTOR RATED SWITCH	
⊕X	EMERGENCY EXIT SIGN. PROVIDE ARROWS AS INDICATED. SHADING INDICATES FACE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING	⊘	MOTOR	
S	SINGLE POLE SWITCH 20A (120/277V)	WALL - 48" AFF	⊖	NEMA 5-20R SIMPLEX RECEPTACLE	WALL - 18" AFF
S ₃	THREE WAY SWITCH 20A (120/277V)	WALL - 48" AFF	⊖	NEMA 5-20R DUPLEX RECEPTACLE	WALL - 18" AFF
S ₄	FOUR WAY SWITCH 20A (120/277V)	WALL - 48" AFF	⊖	NEMA 5-20R DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER	WALL - 6" ABOVE FINISHED COUNTER U.N.O.
⊕	WALL BOX DIMMER SWITCH	WALL - 48" AFF	⊕	NEMA 5-20R QUAD-PLEX RECEPTACLE	WALL - 18" AFF
⊕X	CEILING OR WALL MOUNTED OCCUPANCY SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL OR CEILING	⊕	NEMA 5-20R SPLIT RECEPTACLE. TOP OUTLET WIRED HOT. BOTTOM OUTLET SWITCHED.	WALL - 18" AFF OR CEILING
⊕X	LOW-VOLTAGE CONTROL STATION (LETTER INDICATES CONTROL STATION TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL - 48" AFF	⊕	SPECIAL PURPOSE RECEPTACLE REFER TO PLANS FOR NEMA CONFIGURATION	WALL - 18" AFF OR CEILING
⊕X	PHOTOCELL SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	FIELD VERIFY	⊕USB	NEMA 5-20R - DUPLEX RECEPTACLE WITH USB PORTS SIMILAR TO HUBBELL FUS8204CSW	WALL - 18" AFF
⊕	POWERPACK (LETTER INDICATES POWERPACK TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	ACCESSIBLE CEILING	⊕	NEMA 5-20R DUPLEX RECEPTACLE MOUNTED ON CEILING	CEILING - FLUSH
⊕	CARD READER (VERIFY EXACT REQUIREMENTS)		⊕	HUBBELL CPM SERIES FLOOR BOX (OR EQUAL) WITH (1) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
⊕	DATA, TELEPHONE, OR COMBO TELEDATA OUTLET PROVIDE PULLSTRINGS IN CONDUIT TO ACCESSIBLE CEILING	WALL - 18" AFF	⊕	HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) WITH (1) DUPLEX RECEPTACLE AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
⊕	DATA, TELEPHONE, OR COMBO TELEDATA OUTLET PROVIDE PULLSTRINGS IN CONDUIT TO ACCESSIBLE CEILING	FLOOR OR CEILING	⊕	HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VENDOR	FLOOR - FLUSH
⊕	TELEVISION OUTLET	WALL OR CEILING	⊕	HUBBELL S1PTFF SERIES 4" POKE-THRU (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VENDOR	FLOOR - FLUSH
⊕	SPEAKER OUTLET	FIELD VERIFY	⊕	HUBBELL S1TR SERIES 6" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION AND AV CONNECTION CAPABILITY	FLOOR - FLUSH
⊕	TELEPHONE TERMINAL BOARD	WALL	⊕	CONDUIT IN OR UNDER FLOORGRADE	
⊕	SECURITY CAMERA OUTLET	FIELD VERIFY	⊕	CONDUCTOR HOME RUN - (H) HOT, (N) NEUTRAL, (E) EQUIPMENT GROUND, & (I) ISOLATED GROUND	
⊕	PUSH BUTTON		⊕	EQUIPMENT CONNECTION	
			⊕	CONDUIT IN CEILING OR WALL	

NOTE: NOT ALL SYMBOLS MAY BE USED.

FIRE ALARM DEVICES

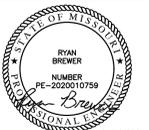
SYMBOL	DESCRIPTION	MOUNTING
⊕	HEAT DETECTOR	CEILING
⊕	SMOKE DETECTOR	WALL/CEILING
⊕	COMBINATION SMOKE/CARBON MONOXIDE DETECTOR	WALL/CEILING



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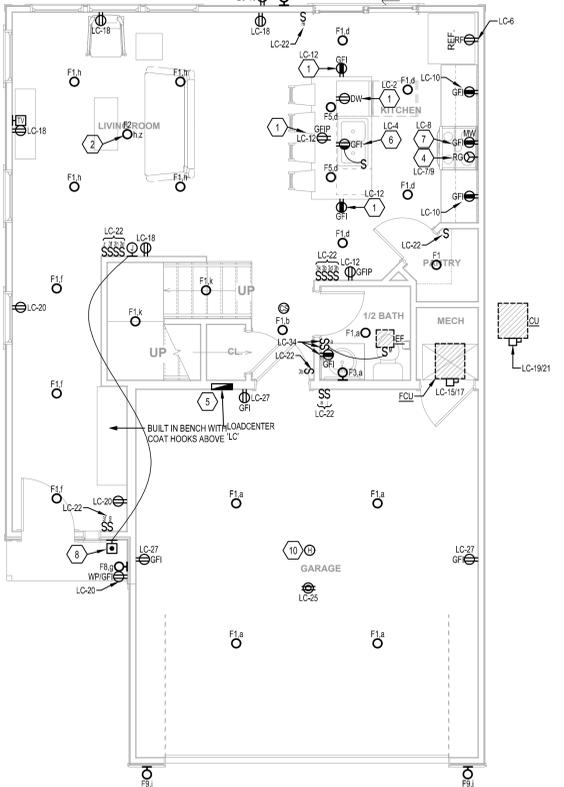
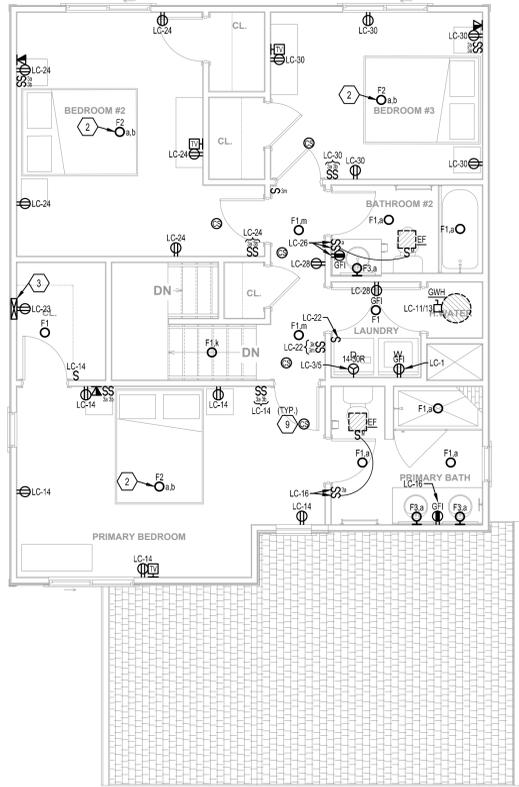
ELECTRICAL NOTES, SYMBOLS & ABBREVIATIONS

GENERAL NOTES
(NOT ALL NOTES APPLY)

- REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
- REFERENCE SHEET E102 FOR ELECTRICAL DETAILS.
- COORDINATE ALL MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
- ALL 120V-15 AMP AND 20 AMP DWELLING UNIT CIRCUITS SERVING OUTLETS OR DEVICES SHALL BE PROVIDED WITH A COMBINATION TYPE AFCI CIRCUIT BREAKER PER NEC 210.12(A).
- ALL 15 AMP AND 20 AMP, 120V AND 250V NON-LOCKING RECEPTACLES IN DWELLING UNITS SHALL BE LISTED AS TAMPER-RESISTANT TYPE PER NEC 406.12.
- RECEPTACLES IN KITCHENS, PANTRIES, BREAKFAST ROOMS, DINING ROOMS AND SIMILAR AREAS SHALL COMPLY WITH NEC 210.52(B) & (C).
- PROVIDE AND INSTALL 3/4" CONDUIT AND PULL STRINGS FROM SUPPLIER EXACT REQUIREMENTS WITH TELEPHONE EQUIPMENT SUPPLIER AND/OR OWNER.
- VERIFY SPACING & LOCATIONS OF RECEPTACLES WITHIN DWELLING UNITS WITH LOCAL ELECTRICAL INSPECTOR PRIOR TO INSTALLATION. PROVIDE ADDITIONAL RECEPTACLES IF REQUIRED.
- COORDINATE EXACT LOCATION AND CONNECTION REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH MECHANICAL AND PLUMBING DRAWINGS/SUB-CONTRACTORS PRIOR TO ROUGH-IN.
- PROVIDE CABLING (OR CONDUIT PATHWAY FROM ALL TV AND DATA CONNECTIONS BACK TO STRUCTURED MEDIA CENTER AS REQUIRED. COORDINATE ALL TELEDATA REQUIREMENTS WITH OWNER AND TELEDATA SERVICE PROVIDER PRIOR TO ROUGH-IN.

KEYED NOTES:

- COORDINATE EXACT MOUNTING LOCATION OF RECEPTACLE WITH MILLWORK AND COUNTER ELEVATIONS AS REQUIRED.
- CEILING MOUNTED FAN WITH LIGHT KIT. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
- PROVIDE STRUCTURED MEDIA CENTER FOR TELEDATA SERVICE TO DWELLING UNIT. ROUTE (1) 1-1/4" EMPTY CONDUIT WITH PULL STRINGS FROM STRUCTURED MEDIA CENTER TO TELEDATA DEMARCATION POINT ON DWELLING EXTERIOR. COORDINATE ALL TELEDATA SERVICE REQUIREMENTS WITH OWNER AND TELEDATA SERVICE PROVIDER PRIOR TO ROUGH-IN.
- RECEPTACLE CONNECTION FOR ELECTRIC RANGE. FIELD VERIFY EXACT RECEPTACLE CONFIGURATION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. IF UNIT IS TO BE HARD-WIRED, PROVIDE A LOCKABLE CIRCUIT BREAKER IN THE LOAD CENTER AS REQUIRED TO SERVE AS EQUIPMENT DISCONNECTING MEANS.
- DWELLING UNIT LOAD CENTER. REFER TO PANEL SCHEDULE (THIS SHEET) AND RISER DIAGRAM ON SHEET E401 FOR ADDITIONAL INFORMATION.
- PROVIDE HALF-SWITCHED RECEPTACLE FOR GARAGE DISPOSAL POWER. COORDINATE EXACT LOCATION OF SWITCH WITH MILLWORK AND COUNTER ELEVATIONS AS REQUIRED. IN HANDICAP ACCESSIBLE UNITS, SWITCH LOCATION TO BE PER ADA REQUIREMENTS.
- RECEPTACLE FOR COMBINATION MICROWAVE & EXHAUST HOOD. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN. IN HANDICAP ACCESSIBLE UNITS WHERE MICROWAVE SITS ON COUNTER, PROVIDE A SWITCHED RECEPTACLE ABOVE THE RANGE FOR EXHAUST HOOD POWER CONTROL AND LOCATE SWITCH PER ADA REQUIREMENTS.
- LOW-VOLTAGE DOOR BELL SYSTEM. FIELD LOCATE LOW-VOLTAGE TRANSFORMER AND CONNECT TO NEAREST RECEPTACLE CIRCUIT. PROVIDE ALL LOW-VOLTAGE WIRING BETWEEN PUSH BUTTON, TRANSFORMER AND CHIME FOR A COMPLETE AND OPERATIONAL SYSTEM.
- 120V COMBINATION SMOKE CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP. ALL DETECTORS SHALL BE INTERCONNECTED AND INSTALLED PER IRC 314 AND 315, AS WELL AS NFPA 72 AND 74. WHERE NECESSARY, PROVIDE ADDITIONAL DEVICES TO MEET CODE MINIMUM COVERAGE REQUIREMENTS. FIELD VERIFY EXACT LOCATION OF DETECTORS TO AVOID CLOSE PROXIMITY TO HVAC GRILLES AND DIFFUSERS.
- 120V RATE-OF-RISE HEAT DETECTOR WITH BATTERY BACKUP. ALL DETECTORS SHALL BE INTERCONNECTED AND INSTALLED PER IRC 314 AND 315, AS WELL AS NFPA 72 AND 74. ONLY PROVIDE HEAT DETECTORS WHERE REQUIRED BY LOCAL CODE.



1 ELECTRICAL POWER AND LIGHTING PLANS
SCALE: 1/4" = 1'-0"

TYPICAL UNIT LOAD CENTER 'LC'											
125A, MLO, 120/240V, 1Ø, 3W+EG (REF. ONE-LINE DIAGRAM)											
NOTES	CONDUCTORS	DESCRIPTION	TYPE	AMP/P		AMP/P	TYPE	DESCRIPTION	CONDUCTORS	NOTES	
1.2	2#12, 1#12EG, 3/4"C.	WASHER	DFCI	20/1	1	2	20/1	DFCI	DISHWASHER (DW)	2#12, 1#12EG, 3/4"C.	1.2
6	3#10, 1#10EG, 3/4"C.	DRYER (NEMA 14-30R)		30	3	4	20/1	AFCI	DISPOSAL (DP)	2#12, 1#12EG, 3/4"C.	1.2
					2	5	20/1	DFCI	REFRIGERATOR (RF)	2#12, 1#12EG, 3/4"C.	1.2
6	3#8, 1#10EG, 3/4"C.	ELECTRIC RANGE (NEMA 14-50R)		50	7	8	20/1	AFCI	MICROWAVE (MW)	2#12, 1#12EG, 3/4"C.	1.2
					9	10	20/1	AFCI	KIT SMALL APPL CKT#1 (COUNTER GFCI'S)	2#12, 1#12EG, 3/4"C.	1.2, 3
4.6	2#10, 1#10EG, 3/4"C.	WATER HEATER 'EWH'		30	11	12	20/1	AFCI	KIT SMALL APPL CKT#2 (WHERE APPLICABLE)	2#12, 1#12EG, 3/4"C.	1.2, 3
					2	13	20/1	AFCI	BEDROOM #1 RCPTS & LTS	2#12, 1#12EG, 3/4"C.	1.2
4.6	2#8, 1#10EG, 3/4"C.	FAN COIL UNIT 'FCU-1'	HACR	45	15	16	20/1	AFCI	BATHROOM #1 RCPTS AND EF	2#12, 1#12EG, 3/4"C.	1.2
					2	17	20/1	AFCI	GENERAL RCPTS (6 RCPTS/CKT MAX)	2#12, 1#12EG, 3/4"C.	1.2
5.6	2#10, 1#10EG, 3/4"C.	CONDENSING UNIT 'CU-1'	HACR	25	19	20	20/1	AFCI	GENERAL RCPTS (6 RCPTS/CKT MAX)	2#12, 1#12EG, 3/4"C.	1.2
					2	21	20/1	AFCI	GENERAL LIGHTING (KITCHEN, LIVING, DINING)	2#12, 1#12EG, 3/4"C.	1
1.2	2#12, 1#12EG, 3/4"C.	STRUCTURED MEDIA CENTER	AFCI	20/1	23	24	20/1	AFCI	BEDROOM #2 RCPTS & LTS	2#12, 1#12EG, 3/4"C.	1.2
1.2	2#12, 1#12EG, 3/4"C.	GARAGE DOOR OPENER	AFCI	20/1	25	26	20/1	AFCI	BATHROOM #2 RCPTS AND EF	2#12, 1#12EG, 3/4"C.	1.2
1.2	2#12, 1#12EG, 3/4"C.	GARAGE RCPTS & LTS	AFCI	20/1	27	28	20/1	AFCI	GENERAL RCPTS (6 RCPTS/CKT MAX)	2#12, 1#12EG, 3/4"C.	1.2
1.2	2#12, 1#12EG, 3/4"C.	SMOKE & HEAT DETECTORS	AFCI	20/1	29	30	20/1	AFCI	BEDROOM #3 RCPTS & LTS	2#12, 1#12EG, 3/4"C.	1.2
		SPACE ONLY			31	32	20/1	AFCI	SPACE		
		SPACE ONLY			33	34	20/1	AFCI	BATHROOM #3 RCPTS AND EF	2#12, 1#12EG, 3/4"C.	1.2
		SPACE ONLY			35	36			SPACE ONLY		
		SPACE ONLY			37	38			SPACE ONLY		
		SPACE ONLY			39	40			SPACE ONLY		

NOTES:
 1. ALL 120V-15, 15 AMP AND 20 AMP DWELLING UNIT CIRCUITS SERVING OUTLETS OR DEVICES SHALL BE PROVIDED WITH A COMBINATION TYPE AFCI CIRCUIT BREAKER PER NEC 210.12(A).
 2. ALL 120V AND 250V, 15 AMP AND 20 AMP NON-LOCKING RECEPTACLES IN DWELLING UNITS SHALL BE LISTED AS TAMPER-RESISTANT TYPE PER NEC 406.12.
 3. RECEPTACLES IN KITCHENS, PANTRIES, BREAKFAST ROOMS, DINING ROOMS AND SIMILAR AREAS SHALL COMPLY WITH NEC 210.52(B) & (C).
 4. PROVIDE NON-FUSED DISCONNECT SWITCH FOR UNIT.
 5. PROVIDE NEMA 3R FUSED DISCONNECT SWITCH FOR UNIT.
 6. VERIFY EXACT CONNECTION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.

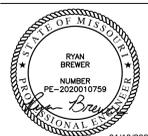
BREAKER TYPES: AFCI - ARC FAULT CIRCUIT INTERRUPTER, GFCI - GROUND FAULT CIRCUIT INTERRUPTER, DFCI - DUAL FUNCTION ARC FAULT/GROUND FAULT CIRCUIT INTERRUPTER

WHERE ALLOWED BY LOCAL AHJ, TYPE 'NM' CABLING MAY BE USED. INCREASE WIRE SIZES SHOWN IN LOADCENTER SCHEDULE AS REQUIRED TO ENSURE AMPACITY RATING OF 'NM' CABLING MEETS (OR EXCEEDS) THE RATING OF THE OVERCURRENT PROTECTION FOR THE CIRCUIT.

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E201H
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 COLLINS WEBB #:

ELECTRICAL POWER & LIGHTING PLANS
BUILDING H



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Single-Family Dwelling Load Calculation			
Unit Type:	UNIT TYPE 'H'	Unit Square Footage:	1420
1	General Lighting and Receptacle Load - NEC 220.84(C)(1) Note: Do not include open porches, garages, unused or unfinished spaces not adaptable for future use. Square Footage = 1,420 sf VA Unit Load = 3 VA/sf		4260
2	Small Appliance Branch Circuits - NEC 220.84(C)(2) At least two small appliance branch circuits must be included per NEC 210.11(C)(1) Quantity of Small Appliance Circuits = 2 x 1500 VA (E.a.)		3000
3	Laundry Branch Circuits - NEC 220.52B and NEC 220.84(C)(2) At least one laundry branch circuit must be included per NEC 210.11(C)(2) Quantity of Laundry Circuits = 1 x 1500 VA (E.a.)		1500
4	Fastened-In-Place Appliances - NEC 220.53 and NEC 220.84(C)(3)(4) Use the nameplate rating. Do not include electric ranges, clothes dryers, space-heating equipment, or air-conditioning. Appliances Load: #1 Refrigerator 1200 #2 Microwave 1200 #3 Dishwasher 684 #4 Garbage Disposal 684 #5 Water Heater 4500 #6 Garage Door Opener 1200		9984
5	Clothes Dryer - NEC 220.54 Use the larger of 5,000 watts or the nameplate rating. Dryer Type Electric		5000
6	Ranges, Ovens, Cooktops, and Other Household Cooking Appliances Over 1,750 Watts - NEC T220.55 Note: Do not include gas appliances which are under 1,750 watts. Cooking Appliances Load: #1 Electric Range 9000		8000
7	General Connected Load - Subtotal of Items 1-6		31744
8	General Demand Load - First 10 KVA at 100% plus Remainder at 40% - NEC 220.82(B) Calculation (10000 KVA + 8698 KVA) = 18698		18698
9	HVAC System (Compare heat & A/C, exclude the smaller of the two) NEC 220.18(A) and NEC 220.84(C)(5) Air handling unit to be included for both scenarios. Heat pumps shall include the compressor and maximum amount of electric heating that can operate simultaneously with the compressor. HVAC Units Load: #1 D/X Unit w/ Condenser 1080 #2 0 #3 0		8580
10	Total General Connected Load - Total of Items 7 & 9		40324
11	Total General Demand Load - Total of Items 8 & 9		27278
13	Minimum Amperes Divide the total VA by the voltage Supply Voltage 240/120V-1Ph		113.7
14	Minimum Size Service and/or Feeder - NEC 240.6(A)		125

Single-Family Dwelling Load Calculation			
Unit Type:	UNIT TYPES 'E' & 'F'	Unit Square Footage:	1495
1	General Lighting and Receptacle Load - NEC 220.84(C)(1) Note: Do not include open porches, garages, unused or unfinished spaces not adaptable for future use. Square Footage = 1,495 sf VA Unit Load = 3 VA/sf		4485
2	Small Appliance Branch Circuits - NEC 220.84(C)(2) At least two small appliance branch circuits must be included per NEC 210.11(C)(1) Quantity of Small Appliance Circuits = 2 x 1500 VA (E.a.)		3000
3	Laundry Branch Circuits - NEC 220.52B and NEC 220.84(C)(2) At least one laundry branch circuit must be included per NEC 210.11(C)(2) Quantity of Laundry Circuits = 1 x 1500 VA (E.a.)		1500
4	Fastened-In-Place Appliances - NEC 220.53 and NEC 220.84(C)(3)(4) Use the nameplate rating. Do not include electric ranges, clothes dryers, space-heating equipment, or air-conditioning. Appliances Load: #1 Refrigerator 1200 #2 Microwave 1200 #3 Dishwasher 1200 #4 Garbage Disposal 684 #5 Water Heater 4500 #6 Garage Door Opener 1200		9984
5	Clothes Dryer - NEC 220.54 Use the larger of 5,000 watts or the nameplate rating. Dryer Type Electric		5000
6	Ranges, Ovens, Cooktops, and Other Household Cooking Appliances Over 1,750 Watts - NEC T220.55 Note: Do not include gas appliances which are under 1,750 watts. Cooking Appliances Load: #1 Electric Range 9000		8000
7	General Connected Load - Subtotal of Items 1-6		31969
8	General Demand Load - First 10 KVA at 100% plus Remainder at 40% - NEC 220.82(B) Calculation (10000 KVA + 8788 KVA) = 18788		18788
9	HVAC System (Compare heat & A/C, exclude the smaller of the two) NEC 220.18(A) and NEC 220.84(C)(5) Air handling unit to be included for both scenarios. Heat pumps shall include the compressor and maximum amount of electric heating that can operate simultaneously with the compressor. HVAC Units Load: #1 D/X Unit w/ Condenser 1080 #2 0 #3 0		8580
10	Total General Connected Load - Total of Items 7 & 9		40549
11	Total General Demand Load - Total of Items 8 & 9		27368
13	Minimum Amperes Divide the total VA by the voltage Supply Voltage 240/120V-1Ph		114.0
14	Minimum Size Service and/or Feeder - NEC 240.6(A)		125

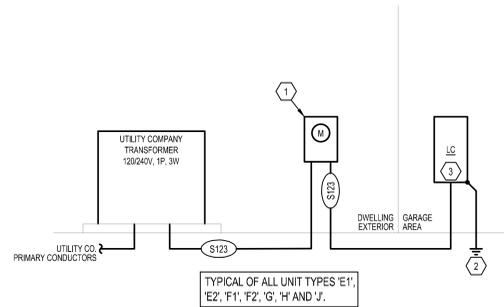
Single-Family Dwelling Load Calculation			
Unit Type:	UNIT TYPE 'J'	Unit Square Footage:	1685
1	General Lighting and Receptacle Load - NEC 220.84(C)(1) Note: Do not include open porches, garages, unused or unfinished spaces not adaptable for future use. Square Footage = 1,685 sf VA Unit Load = 3 VA/sf		5055
2	Small Appliance Branch Circuits - NEC 220.84(C)(2) At least two small appliance branch circuits must be included per NEC 210.11(C)(1) Quantity of Small Appliance Circuits = 2 x 1500 VA (E.a.)		3000
3	Laundry Branch Circuits - NEC 220.52B and NEC 220.84(C)(2) At least one laundry branch circuit must be included per NEC 210.11(C)(2) Quantity of Laundry Circuits = 1 x 1500 VA (E.a.)		1500
4	Fastened-In-Place Appliances - NEC 220.53 and NEC 220.84(C)(3)(4) Use the nameplate rating. Do not include electric ranges, clothes dryers, space-heating equipment, or air-conditioning. Appliances Load: #1 Refrigerator 1200 #2 Microwave 1200 #3 Dishwasher 684 #4 Garbage Disposal 684 #5 Water Heater 4500 #6 Garage Door Opener 1200		9984
5	Clothes Dryer - NEC 220.54 Use the larger of 5,000 watts or the nameplate rating. Dryer Type Electric		5000
6	Ranges, Ovens, Cooktops, and Other Household Cooking Appliances Over 1,750 Watts - NEC T220.55 Note: Do not include gas appliances which are under 1,750 watts. Cooking Appliances Load: #1 Electric Range 9000		8000
7	General Connected Load - Subtotal of Items 1-6		32539
8	General Demand Load - First 10 KVA at 100% plus Remainder at 40% - NEC 220.82(B) Calculation (10000 KVA + 9016 KVA) = 19016		19016
9	HVAC System (Compare heat & A/C, exclude the smaller of the two) NEC 220.18(A) and NEC 220.84(C)(5) Air handling unit to be included for both scenarios. Heat pumps shall include the compressor and maximum amount of electric heating that can operate simultaneously with the compressor. HVAC Units Load: #1 D/X Unit w/ Condenser 1080 #2 0 #3 0		8580
10	Total General Connected Load - Total of Items 7 & 9		41119
11	Total General Demand Load - Total of Items 8 & 9		27596
13	Minimum Amperes Divide the total VA by the voltage Supply Voltage 240/120V-1Ph		115.0
14	Minimum Size Service and/or Feeder - NEC 240.6(A)		125

Single-Family Dwelling Load Calculation			
Unit Type:	UNIT TYPE 'G'	Unit Square Footage:	1205
1	General Lighting and Receptacle Load - NEC 220.84(C)(1) Note: Do not include open porches, garages, unused or unfinished spaces not adaptable for future use. Square Footage = 1,205 sf VA Unit Load = 3 VA/sf		3615
2	Small Appliance Branch Circuits - NEC 220.84(C)(2) At least two small appliance branch circuits must be included per NEC 210.11(C)(1) Quantity of Small Appliance Circuits = 2 x 1500 VA (E.a.)		3000
3	Laundry Branch Circuits - NEC 220.52B and NEC 220.84(C)(2) At least one laundry branch circuit must be included per NEC 210.11(C)(2) Quantity of Laundry Circuits = 1 x 1500 VA (E.a.)		1500
4	Fastened-In-Place Appliances - NEC 220.53 and NEC 220.84(C)(3)(4) Use the nameplate rating. Do not include electric ranges, clothes dryers, space-heating equipment, or air-conditioning. Appliances Load: #1 Refrigerator 1200 #2 Microwave 1200 #3 Dishwasher 1200 #4 Garbage Disposal 684 #5 Water Heater 4500 #6 Garage Door Opener 1200		9984
5	Clothes Dryer - NEC 220.54 Use the larger of 5,000 watts or the nameplate rating. Dryer Type Electric		5000
6	Ranges, Ovens, Cooktops, and Other Household Cooking Appliances Over 1,750 Watts - NEC T220.55 Note: Do not include gas appliances which are under 1,750 watts. Cooking Appliances Load: #1 Electric Range 9000		8000
7	General Connected Load - Subtotal of Items 1-6		31099
8	General Demand Load - First 10 KVA at 100% plus Remainder at 40% - NEC 220.82(B) Calculation (10000 KVA + 8440 KVA) = 18440		18440
9	HVAC System (Compare heat & A/C, exclude the smaller of the two) NEC 220.18(A) and NEC 220.84(C)(5) Air handling unit to be included for both scenarios. Heat pumps shall include the compressor and maximum amount of electric heating that can operate simultaneously with the compressor. HVAC Units Load: #1 D/X Unit w/ Condenser 1080 #2 0 #3 0		8580
10	Total General Connected Load - Total of Items 7 & 9		39679
11	Total General Demand Load - Total of Items 8 & 9		27020
13	Minimum Amperes Divide the total VA by the voltage Supply Voltage 240/120V-1Ph		112.6
14	Minimum Size Service and/or Feeder - NEC 240.6(A)		125

HVAC DESIGN TO BE COMPLETED BY OTHERS. LOADS SHOWN IN FEEDER CALCULATION ARE ASSUMED VALUES AND SHOULD BE VERIFIED WITH ACTUAL HVAC SYSTEM TO BE INSTALLED. NOTIFY ENGINEER IF ACTUAL LOADS ARE GREATER THAN THOSE SHOWN IN THE CALCULATIONS.

FEEDER SCHEDULE				
TTHN/THWN COPPER CONDUCTORS W/ EG CONDUCTOR XHHW ALUMINUM CONDUCTORS W/ EG CONDUCTOR				
CONDUCTORS & GROUND				AMPS
CODE	SETS	CONDUCTORS	REWAYE	
S123	-	3#1 (CU)	1-1/2"	130

NOTES:
1. ALL CONDUCTORS AMPACITY BASED ON THE NEC TABLE 310-16 FOR CONDUCTORS W/ 75°C INSULATION.
2. ALL RACEWAY SIZES (EMT/RMC/PVC 40) BASED ON THE NEC TABLE 4(CHAPTER 9), 40% FILL COLUMN.
3. ELECTRICAL CONTRACTOR TO VERIFY ALL EQUIPMENT CONDUCTOR TERMINATION TEMPERATURE RATINGS (IE, 60°C OR 75°C), ADJUST CONDUCTOR AMPACITY AND CONDUIT SIZES ACCORDINGLY.
4. VERIFY MAXIMUM NO. OF SETS OF SERVICE ENTRANCE CONDUCTORS ALLOWED W/ UTILITY CO.
5. EQUIPMENT GROUNDING CONDUCTORS BASED ON T250.122. GROUND TO BE ADJUSTED PER T250.66 FOR SEPARATELY DERIVED SYSTEMS.
6. ALUMINUM FEEDERS NOT TO BE USED ON TRANSFORMER SECONDARY CONDUCTORS.



1 ELECTRICAL RISER DIAGRAM
SCALE: NO SCALE

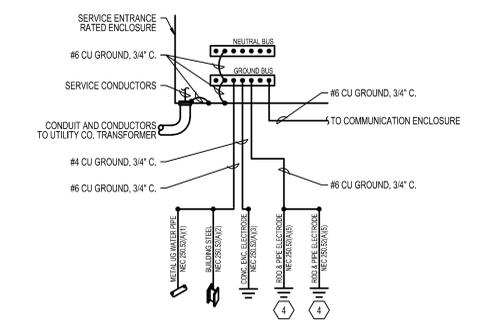
VOLTAGE DROP CHART		
VOLTAGE DROP WIRING SCHEDULE FOR 1Ø LOADCENTER FEEDERS		
FEEDER CIRCUIT RATING (AMPS)	MAX LENGTH OF FEEDER (FEET)	FEEDER WIRE (AWG) & CONDUIT SIZE (IN.)
125A	150	REFER TO FEEDER SCHEDULE
	225	(3)#10, (1)#4G - 1-1/2" C.
	300	(3)#20, (1)#4G - 2" C.
150A	150	REFER TO FEEDER SCHEDULE
	225	(3)#20, (1)#4G - 2" C.
	300	(3)#30, (1)#4G - 2" C.

NOTES:
1. PROVIDE FEEDERS FOR LOADCENTERS AS INDICATED IN THE TABLE ABOVE. THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL INSTALLED FEEDER ROUTING AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.
2. CONDUCTOR SIZES ARE BASED ON SOLID COPPER CONDUCTORS FOR WIRES SMALLER THAN #6 AND STRANDED COPPER CONDUCTORS FOR WIRES #6 AND LARGER, IN A SINGLE METAL CONDUIT.
3. LIMITS FOR CONDUCTOR LENGTH SHOWN ARE BASED ON A MAXIMUM OF 3% VOLTAGE DROP TO COMPLY WITH THE NEC FOR CIRCUITS LOADED UP TO 80% OF THE BREAKER RATING. FIELD VERIFY EXACT FEEDER LENGTHS AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

VOLTAGE DROP CHART					
BRANCH CIRCUIT VOLTAGE DROP WIRING SCHEDULE FOR 1Ø CIRCUITS					
BRANCH CIRCUIT RATING (AMPS)	WIRE SIZE (AWG)	MAXIMUM LENGTH OF BRANCH CIRCUIT (FEET)			
		120V	208V	240V	277V
20A	#12	50	90	110	200
	#10	80	150	175	300
	#8	140	230	280	550
30A	#6	215	375	430	870
	#10	50	100	110	225
	#8	80	160	180	360
#6	#6	135	250	280	560
	#4	220	400	450	910

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 SOLID COPPER CONDUCTORS FOR WIRES SMALLER THAN #6 AND STRANDED COPPER CONDUCTORS FOR WIRES #6 AND LARGER, IN A SINGLE METAL CONDUIT.
3. LIMITS FOR CONDUCTOR LENGTH SHOWN ARE BASED ON A MAXIMUM OF 3% VOLTAGE DROP TO COMPLY WITH THE NEC FOR CIRCUITS LOADED UP TO 80% OF THE BRANCH BREAKER RATING. FIELD VERIFY EXACT BRANCH CIRCUIT LENGTHS AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

UNLESS NOTED OTHERWISE, WIRE SIZES CALLED OUT IN PANEL SCHEDULES DO NOT ACCOUNT FOR VOLTAGE DROP. CONTRACTOR SHALL INCREASE WIRE SIZES AS REQUIRED UTILIZING VOLTAGE DROP TABLE PROVIDED.



2 SERVICE GROUNDING DETAIL
SCALE: NO SCALE

LIGHTING FIXTURE SCHEDULE							
FIXT. TYPE	DESCRIPTION & MANUFACTURER OPTIONS	LAMPS NO.	FIXT. VOLT	TOTAL WATTS	FINISH	REMARKS/MOUNTING	NOTES
F1	WALO ASL0K12R0300WH	1	120V	15W	Coord w/ Architect	Surface (Ceiling)	1
F2	ROYAL PACIFIC #1987-L	1	120V	18W	Coord w/ Architect	Surface (Ceiling)	1
F3	WINKA #642-77	1	120V	20W	Coord w/ Architect	Surface (Wall)	1
F5	HOMEDECORATION #743P-15	1	120V	10W	Coord w/ Architect	Pendant (Verify Ht w/ Architect)	1
F8	TERON #GRW04-CH-L18-120-120V-WAL	1	120V	30W	Coord w/ Architect	Wall (Refer Arch Elevation)	1
F9	WALVO #60-531	1	120V	10W	Standard	Wall (Refer Arch Elevation)	1

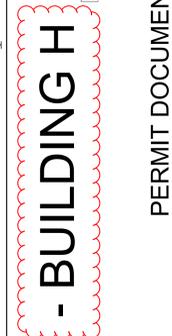
NOTES:
1. Coordinate Exact Fixture Spec, Mounting Height and Location of All Fixtures With Owner and Architect Prior to Rough-In.

GENERAL NOTES (NOT ALL NOTES APPLY)

- REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
- COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
- FIELD VERIFY ALL ELECTRICAL WORK WITH OWNER PRIOR TO START OF PROJECT.

KEYED NOTES:

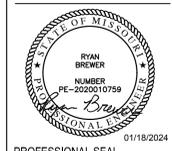
- PROVIDE METER PER UTILITY COMPANY STANDARDS. INSTALLATION SHALL MEET ALL UTILITY COMPANY REQUIREMENTS AND LOCAL CODES.
- PROVIDE A GROUNDING ELECTRODE SYSTEM COMPLIANT WITH IRC SECTION 3606. REFER TO DETAIL 2 (THIS SHEET) FOR ADDITIONAL INFORMATION.
- PROVIDE SERVICE ENTRANCE RATED, 125A MAIN CIRCUIT BREAKER LOAD CENTER, REFER TO PANEL SCHEDULE ON E201 SHEET(S) FOR ADDITIONAL INFORMATION.
- REFER TO NEC 250.53 FOR ADDITIONAL INFORMATION.



RESERVE AT BLACKWELL - BUILDING H
SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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REVISION DATES:
3 CITY COMMENT 3/5/2025



E301
ISSUE DATE: 18 JAN 2024
COLLINS WEBB #:

ELECTRICAL ONE-LINE DIAGRAM & SCHEDULES

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 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 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 CONSIDERED 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, OMISSIONS, 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 MANUFACTURERS DIRECTION ON EQUIPMENT & MATERIAL FURNISHED.

COMPLETE PLAIN ENGLISH STEP-BY-STEP OPERATING INSTRUCTIONS FOR THE ELECTRICAL SYSTEM. ONE COPY OF THESE 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 OUTLETS OR WIRING SPACE ALLOWED IS PROPER FOR THE WIRES AND CABLES CONTAINED THEREIN.

WHEN APPROVAL IS GIVEN FOR THE USE OF EQUIPMENT DIFFERING FROM THAT SHOWN ON DRAWINGS IN REGARD TO FOUNDATIONS, SPACE FOR PIPING, DUCTWORK, 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. MANUFACTURER'S 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, CONTRACT-ADJUST, MAINTENANCE AND OCCASIONAL 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/STRUCTURALELECTRICAL 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 AND 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 PIPES. CONDUIT INSTALLED BENEATH FLOOR SLABS 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 OF EXTERIOR FOOTINGS. COMPLETE INSTALLATION SHALL CONFORM TO I.E.C.

PENETRATIONS

COORDINATE SLEEVE SELECTION AND APPLICATION WITH SELECTION AND APPLICATION OF FIRE-STOPPING SPECIFIED IN ARCHITECTURAL SPECIFICATIONS, AND AS APPLICABLE, THE ROOFING CONTRACTOR PROVIDING A ROOF WARRANTY, KEEP ALL RACEWAY PENETRATIONS WITHIN MECHANICAL EQUIPMENT CURBS WHEREVER POSSIBLE. COORDINATE WITH SECTION 15. FLASHING 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 TERMINATING 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 53A 53M, TYPE E, GRADE B, SCHEDULE 40, GALVANIZED STEEL, PLAIN ENDS AND DRIP 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 AHJ. ACCEPTABLE MANUFACTURERS - HULTI, INC., 3M CORP., RECTORSREAL, 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 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 PER UL. FITTINGS SHALL BE OF THE SQUEEZE TYPE WITH INSULATED THROATS.

CONDUIT, LIQUIDTIGHT FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED, SPRALLY 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 TRADE SIZE SHALL BE COMPRESSION TYPE, MANUFACTURED FROM MALLEABLE IRON OR STEEL, AND RAIN AND/OR CONCRETE-TIGHT AS REQUIRED BY INSTALLATION. POT METAL OR DIE CAST TYPE FITTINGS ARE PROHIBITED. CONNECTORS SHALL BE INSULATED THROAT TYPE.

CONDUCTORS AND CABLES

GENERAL: SERVICE LATERALS AND PANELBOARD FEEDERS SHALL BE OF ANNEALED (SOFT) COPPER COMPLYING WITH ICSA S-95-658NEMA WC70; SOLID 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 THW-2 OR XHHW-2 INSULATION.

ALL BRANCH CIRCUITS SHALL BE ANNEALED (SOFT) COPPER COMPLYING WITH ICSA S-95-658NEMA WC70; SOLID CONDUCTOR FOR NO. 10AWG AND SMALLER, CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL BRANCH CIRCUIT CONDUCTORS NO. 8 AWG AND LARGER-STRANDED, TYPE THW-2 OR XHHW-2 INSULATION. ALL CONDUCTORS, NO. 10 AWG AND SMALLER, USED FOR POWER AND LIGHTING CIRCUITS; SOLID COPPER, TYPE THW-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/THW-2. ALL BRANCH CIRCUIT WIRING SHALL NOT BE SMALLER THAN 10 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. WIRE NUMBER OR 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/THW-2 OR XHHW-2 COMPLYING WITH ICSA S-95-658NEMA WC70.

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

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 INSTRUMENT 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 WHIPS FROM JUNCTION BOX TO LIGHT FIXTURES ONLY. TYPE MC CABLE 600V, UNJACKETED: ANSI E119 AND E814, UL STANDARDS 44 OR 33 (AS APPLICABLE), AND 1569, NFPA 70 ARTICLE 330, ALUMINUM OR GALVANIZED STEEL, INTERLOCKED ARMOR, THIN OR XHHW-INSULATED CONDUCTORS, COLOR CODE: ICSA METHOD 1, WITH GREEN INSULATED GROUNDING CONDUCTOR.

PROVIDE A DEDICATED NEUTRAL (WHERE REQUIRED) AND DEDICATED GROUNDING CONDUCTOR FOR EACH BRANCH 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 TILE RINGS TO PROVIDE EXPOSED SURFACE FLUSH WITH WALL OR CEILING FINISH. PROVIDE ALL CEILING OUTLET BOXES WITH "NO-BOLT" OR THROUGH-AND-LOOKNIGHT TYPE FIXTURE STUDS.

JUNCTION AND PULL BOXES: FABRICATE IN ACCORDANCE WITH NEMA AND N.E.C. STANDARDS AND REQUIREMENTS INSOPAR 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

DOUBLE: 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".

SWITCHES, SPECIAL PURPOSE, KEY OPERATED, HEAVY-DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE OR MULTI-POLE AS NOTED OR AS REQUIRED, HUBBELL #HBL122" OR EQUAL.

RECEPTACLES: THREE WIRE GROUNDING TYPE, 120 VOLT RATED, SPECIFICATION GRADE 20 AMPERES DUPLEX UNLESS NOTED OTHERWISE ON DRAWINGS. HUBBELL #R32 OR EQUAL. COORDINATE RECEPTACLE COLOR WITH COVERPLATE AS DESCRIBED BELOW UNDER "PLATES". SINGLE RECEPTACLE, 20 AMPERE, 120 VOLT, SPECIFICATION GRADE, HUBBELL #3581 OR EQUAL.

DUST AND MOISTURE RESISTANT, MELAMINE BODY, GRAY NYLON FACE BACKED BY FIBRIC REINFORCED NEOPRENE GASKET SLIT TO PROVIDE WIPING ACTION ON CAP BLADES. PASS & SEYMOUR #6307 OR APPROVED EQUAL. GROUND FAULT CIRCUIT INTERRUPTER, NYLON FACE CLASS A, NEMA 5-20R, SPECIFICATION GRADE, HUBBELL #6F-5322" 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 #52CM61).

ISOLATED GROUND, DUPLEX OR SIMPLY THREE WIRE GROUNDING TYPE, SPECIFICATION GRADE, ORANGE FACE, GROUND CONTACT FULLY ISOLATED FROM STRAP AND EQUIPPED WITH SCREW TERMINAL, HUBBELL #IG-5322" OR EQUAL.

RECEPTACLES, 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 AND OF THE 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 CORROSION ARE PLUGGED IN AND THAT THE GFCI IS FUNCTIONING. COVER PLATES SHALL BE OF THE SAME MANUFACTURER AS THE WIRING DEVICES. COMPLYING WITH NFPA 70 406.4 (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 DOOR 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, COVERS AND IDENTIFICATION ENGRAVING AS REQUIRED TO MEET FIELD CONDITIONS. EXACT PACKING 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 U.L. 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. SHALL BE FURNISHED FOR SURFACE OR FLUSH MOUNTING WITH EITHER GENERAL PURPOSE OR RAIN TIGHT ENCLOSURES, AS REQUIRED. FUSED UNITS SHALL BE FURNISHED COMPLETE WITH PROPER FUSES.

PANEL BOARDS

SHALL CONSIST OF BOX, INTERIOR, FRONT, AND CIRCUIT PROTECTIVE DEVICES. THE ASSEMBLY SHALL BE UL LISTED 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 BAKED 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 (5% CONDUCTIVITY) OF RECTANGULAR CROSS-SECTION. BUS BARS FOR PANELS RATED LESS THAN 600 AMPERES SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OF 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 LONG SIDE CABLES. EQUIPMENT NEUTRAL BISSING 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 LABELLED 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-6, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERES RMS SYMMETRICAL INTERRUPTING CAPACITY ON MOTOR CIRCUITS.

APPROVED MANUFACTURERS: BUSSMANN, LITTELFUSE OR FERRAZ-SHAMMUT (ALL FUSES SHALL BE OF SAME MANUFACTURER TO ENSURE SEQUENCE 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.

TIME SWITCHES

ELECTRONIC TIME SWITCHES: ELECTRONIC, SOLID STATE PROGRAMMABLE UNITS WITH ALPHANUMERIC DISPLAY; COMPLYING WITH UL517. 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, CONTACTOR 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 RUNS, EXTENDING TO PULL BOXES AND TELEPHONE BACKBOARD. FURNISH AND INSTALL RACEWAYS FOR INDIVIDUAL RATED ENCLOSURES. PROVIDE NEUTRAL AND GROUNDING AND 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 OWNER'S FINAL INTENDED FURNITURE LAYOUT. PLAN INDICATIONS SHALL NOT BE SCALED UNLESS DIRECTED. OUTLETS SHALL BE RELOCATED WITHIN ROOMS BEFORE ROUGH-IN 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 OWNER'S REPRESENTATIVES ARE PRESENT AT THE SAME TIME FOR APPROVAL OR CHANGES IN MAPS. TIME FOR ANY REQUIRED CORRECTIONS BEFORE COMPLETION OF PROJECT.

FROM EACH TELEPHONE OUTLET, PROVIDE 3/4" EMT CONDUIT CONCEALED IN WALL TO OR 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/EIE, CATEGORY A. APPROVED MANUFACTURERS: ADVANCE OR EQUAL, BY MAGNETEK, MOTOROLA OR OSRAM.

HID BALLASTS SHALL BE AUTO TRANSFORMER REACTOR, HIGH POWER FACTOR PORTED 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 OF PROPERLY CONTROLLING LIGHT FIXTURES AS INDICATED WITH THESE DRAWINGS.

CONTACTORS AND RELAYS
ALL CONTACTORS AND RELAYS SHALL BE UL LISTED AND LABELED. GENERAL PURPOSE, ELECTRICALLY HELD TYPE, IN NEMA 1 ENCLOSURES, WHERE SPEC

WIRING OF MECHANICAL EQUIPMENT

PROVIDE ALL RACEWAYS AND POWER WIRING FOR ALL DIVISION 15 EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, INCLUDING, BUT NOT LIMITED TO, PUMPS, WATER HEATERS, AND HVAC EQUIPMENT, AND ALL LINE-VOLTAGE CONTROL AND INTERLOCK WIRING NOT PROVIDED UNDER DIVISION 15. CONNECT PER MANUFACTURER'S WIRING DIAGRAMS. COORDINATE WITH DIVISION 15 FOR DISCONNECTS FURNISHED WITH EQUIPMENT, AND PROVIDE ALL DISCONNECT SWITCHES AS REQUIRED. AFTER INSTALLING WIRING, VERIFY THAT EACH MOTOR LOAD HAS THE CORRECT PHASE ROTATION.

VERIFY THE ACTUAL "MAXIMUM OVERCURRENT PROTECTION" DEVICE RATINGS AND "MINIMUM CIRCUIT AMPACITY" CONDUCTOR SIZING FOR MECHANICAL EQUIPMENT FROM THE EQUIPMENT NAMEPLATE. BASE ELECTRICAL INSTALLATIONS ON ACTUAL REQUIRED AMPERAGES, WHICH MAY VARY SOMEWHAT FROM THE CONDUCTOR AND EQUIPMENT SIZES SHOWN ON THE DRAWINGS; HOWEVER, IN NO CASE, REDUCE THE SIZE OF CONDUCTORS INDICATED ON THE DRAWINGS WITHOUT AUTHORIZATION FROM THE ENGINEER. PROVIDE PROPERLY SIZED ELECTRICAL WIRING AND EQUIPMENT WITHOUT EXTRA COST TO THE OWNER. NOTIFY THE ENGINEER OF ALL CHANGES REQUIRED IN THE ELECTRICAL INSTALLATION DUE TO EQUIPMENT VARIANCES SO THAT THE EFFECTS ON FEEDERS, BRANCH CIRCUITS, PANELBOARDS, FUSES AND CIRCUIT BREAKERS CAN BE CHECKED PRIOR TO PURCHASING AND INSTALLATION. BE RESPONSIBLE FOR COORDINATING WITH DIVISION 15 TO VERIFY THE ACTUAL AMPACITIES AND CORRECT SIZES OF ALL CONDUCTORS AND OVERCURRENT PROTECTIVE DEVICES FOR ALL EQUIPMENT, AND CORRECT OVERLOAD HEATERS FOR ALL MOTORS, WHEN STARTERS ARE PROVIDED UNDER DIVISION 16.

PROVIDE ALL RACEWAYS, POWER WIRING, AND LINE-VOLTAGE CONTROL AND INTERLOCK WIRING NOT PROVIDED UNDER DIVISION 15, FOR ALL THERMOSTATS, TEMPERATURE CONTROL DEVICES, AND CONTROLS, INCLUDING, BUT NOT LIMITED TO, NIGHT-STATS, WATER HEATER INTERLOCKS, TIME SWITCHES AND OVERRIDE TIMERS. SEE MECHANICAL DRAWINGS FOR LOCATIONS AND TEMPERATURE CONTROL DIAGRAMS. LOW-VOLTAGE CONDUCTORS FOR THERMOSTATS AND TEMPERATURE CONTROL SYSTEMS MAY BE RUN EXPOSED ABOVE FINISHED ACCESSIBLE CEILINGS, IF APPROVED AND LISTED FOR THIS PURPOSE, BUT SHALL BE INSTALLED IN CONDUIT WITHIN WALLS AND WHERE EXPOSED IN THE WORK AREAS.

EXECUTION

METHOD OF PROCEDURE

ERECT EQUIPMENT PARTS AT SUCH TIME AND IN SUCH MANNER AS TO MINIMIZE INTERFERENCES AND DELAYS IN THE EXECUTION OF THE WORK CARE SHALL BE USED IN THE ERECTION AND INSTALLATION OF ALL EQUIPMENT AND MATERIALS TO AVOID MARRING SURFACES OF THE WORK. DAMAGES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.

EQUIPMENT REQUIRING ELECTRICAL SERVICE SHALL NOT BE ENERGIZED OR PLACED IN SERVICE UNTIL ALL INTERESTED PARTIES HAVE BEEN DULY NOTIFIED AND ARE PRESENT OR HAVE WAIVED THEIR RIGHT TO BE PRESENT. WHERE EQUIPMENT TO BE PLACED IN SERVICE INVOLVES SERVICE OR CONNECTION FROM ANOTHER CONTRACTOR OR THE OWNER, NOTIFY THE OWNER IN WRITING WHEN THE EQUIPMENT WILL BE READY. THE OWNER SHALL BE NOTIFIED AS FAR IN ADVANCE AS POSSIBLE, OF THE DATE THE VARIOUS ITEMS OF EQUIPMENT WILL BE COMPLETE.

THE WORK OF THIS TRADE INCLUDES ROUGH-IN FOR AND FINAL CONNECTION AND REQUIRED TO ALL MISCELLANEOUS EQUIPMENT FURNISHED BY OTHERS, OR UNDER OTHER DIVISIONS OF THE WORK. THIS SHALL INCLUDE POWER AND CONTROL WIRING, WIRING DEVICES AND COVER PLATES FOR BUILT-IN EQUIPMENT ARE INCLUDED IN THE WORK OF THIS DIVISION. SAFETY DISCONNECTS AND OTHER MISCELLANEOUS PROTECTIVE DEVICES REQUIRED BY N.E.C. ARE INCLUDED IN THE WORK OF THIS DIVISION. DO ALL ROUGH-IN AND FINAL CONNECTIONS FROM APPROVED SHOP DRAWINGS ONLY.

COMPLIANCE WITH THE DRAWING AND ANY NOTES THEREON IS REQUIRED. PROVIDE OPENINGS THROUGH WALLS, PARTITIONS, FLOORS, AND ROOFS AS REQUIRED FOR ELECTRICAL WORK.

PROVIDE SLEEVES FOR ELECTRICAL WORK PASSING THROUGH WALLS, PARTITIONS, ROOFS, AND FLOORS. SLEEVES SHALL EXTEND THROUGH FLOORS, WALLS, AND PARTITIONS AND SHALL BE CUT FLUSH WITH EACH SURFACE UNLESS OTHERWISE SPECIFIED. FIRE WALL AND/OR FLOOR INTEGRITY SHALL BE RESTORED AFTER PENETRATION. SLEEVES IN CONCRETE AND MASONRY WALLS, CONCRETE FLOORS AND ROOFS, SHALL BE FABRICATED FROM STANDARD GALVANIZED STEEL PIPE WITH ENDS FINISHED SMOOTH, BURR FREE, WITHOUT SHARP EDGES. SLEEVES IN WALLS, ROOFS, AND FLOORS OF OTHER CONSTRUCTION AND THROUGH SUSPENDED CEILINGS SHALL BE FABRICATED FROM 22 U.S. GAUGE GALVANIZED STEEL. FLOOR SLEEVES SHALL EXTEND THREE INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. SPACE BETWEEN FLOOR SLEEVES AND PASSING CONDUIT SHALL BE FILLED WITH GROUT SEAL PACKING AND CALKED WITH WATERPROOF COMPOUND AS APPROVED. WHERE CONDUITS PASS THROUGH WATERPROOFED FLOORS OR WALLS, SLEEVES SHALL BE FABRICATED SUCH THAT WATERPROOFING CAN BE FLASHED ONTO AND AROUND THE SLEEVE.

RACEWAYS

ALL POWER AND LIGHTING CIRCUITS SHALL BE RUN IN METALLIC RACEWAYS EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE. THESE RACEWAYS SHALL BE RUN CONCEALED IN ALL FINISHED AREAS, AND WHERE RUN EXPOSED SHALL BE SQUARE TO THE BUILDING AND HELD TIGHT TO THE BUILDING CONSTRUCTION. LOW VOLTAGE, TELEPHONE, INTERCOM, MUSIC, ALARM AND SECURITY WIRING RUN ABOVE ACCESSIBLE CEILINGS SHALL BE RUN USING INSULATED, PLENUM RATED CABLE. PROVIDE LOW VOLTAGE CABLE IN CONDUIT IF REQUIRED BY LOCAL A.H.I. VERIFY ALL REQUIREMENTS PRIOR TO INSTALLATION. METALLIC CONDUIT FOR THESE SYSTEMS SHALL BE PROVIDED ONLY WHERE RUN INSIDE WALLS. THE DRAWINGS INDICATE THE REQUIRED SIZE OF ALL RACEWAYS (EXCEPT AS HEREINAFTER SPECIFIED). THE POINTS OF TERMINATION AND THE SUGGESTED ROUTING, HOWEVER, THE INSTALLER IS RESPONSIBLE FOR PROPER COORDINATION WITH BUILDING STRUCTURE AND THE WORK OF OTHER TRADES. FURNISH ALL REQUIRED BENDS, ELBOWS, FITTINGS, JUNCTION AND PULL BOXES, WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS, THAT MAY BE REQUIRED TO SATISFY CODES AND THE STANDARDS OF GOOD PRACTICE. WHERE CONDUITS FOR BOTH BRANCH AND FEEDER CIRCUITS ARE RUN CONCEALED, THEY MAY BE RUN OUT OF SQUARE TO THE BUILDING PROVIDING THE SHORTEST POSSIBLE RUN IS UTILIZED. RACEWAY SIZES ARE BASED ON THE USE OF COPPER CONDUCTORS AND N.E.C. FILL.

CONDUIT SHALL BE CONSTRUED AS ELECTRICAL RACEWAYS AND SHALL CONFORM TO THE FOLLOWING: CONCEALED IN SUSPENDED CEILINGS AND INTERIOR PARTITIONS - EMT WITH SET SCREW TYPE FITTINGS. UNDERGROUND OR BELOW INTERIOR SUBS - GRS. (NOTE: PVC CONDUIT IS PERMITTED OUTSIDE FOR PARKING AREA LIGHTING, SIGNS, ETC. ELBOWS SHALL BE GRS). EXPOSED ON BUILDING EXTERIOR - GRS.

CONDUIT BENDS SHALL BE MADE TO THE LARGEST POSSIBLE RADIUS FOR EASE IN PULLING CONDUCTORS AND TO PROVIDE A NEATLY INSTALLED APPEARANCE. EQUIPMENT AND CONDITIONS PERMITTING, POWER CONDUIT BENDS SHALL CONFORM TO THE FOLLOWING: 1-1/2 IN. - 18 IN. RADIUS; 2 IN. - 24 IN. RADIUS; 2-1/2 IN. - 24 IN. RADIUS; 3 IN. - 36 IN. RADIUS.

GRS CONDUIT SHALL BE CUT WITH POWER OR HACKSAW AND CLEANLY REAMED

TO REMOVE ALL "BURRS" AND ALL FIELD CUT THREADS SHALL BE PAINTED WITH WHITE LEAD BEFORE COUPLINGS ARE APPLIED.

EMPTY CONDUIT SYSTEMS INSTALLED FOR COMMUNICATION SYSTEMS, PUBLIC TELEPHONES, OWNER ITEMS AND OTHER SYSTEMS AS INDICATED ON DRAWINGS SHALL BE INSTALLED COMPLETE WITH NYLON PULL WIRES PROPERLY TAGGED AT BOTH ENDS FOR IDENTIFICATION.

WHERE BUILDING VENTILATION CONDITIONS ARE SUCH THAT AIR MAY FLOW CONTINUOUSLY IN CONDUITS, CAUSING CONDENSATION AND THE COLLECTION OF MOISTURE, THE CONDUITS SHALL BE SEALED AT EACH END WITH A PLIABLE X MULTIPLE CONDUITS USING CHANNEL TRAPZEZ SUPPORTS TIGHT TO STRUCTURE ABOVE. USE APPROVED SPACERS TO INSULATE FROM CONTACT WITH BUILDING. SIZE CLAMPS, INSERTS, CHANNELS AND ALL OTHER MEMBERS TO SUPPORT A LOAD EQUAL TO 200% OF THE COMBINED WEIGHT OF ALL SUPPORTED MATERIAL PLUS THE WEIGHT OF A MAN.

WHERE SEVERAL RACEWAYS ARE SUPPORTED ON A COMMON TRAPEZE HANGER, SUPPORTS SHALL BE SPACED TO ACCOMMODATE THE SMALLEST SIZE RACEWAY INCLUDED. SPACE HANGERS AS FOLLOWS: RIGID CONDUIT: 1/2 AND 3/4 IN. SIZE: 6'-0" ON CENTERS; 1 AND 1-1/4 IN. SIZE: 9'-0" ON CENTERS

ELECTRIC METALLIC TUBING: 1/2 AND 3/4 IN. SIZE: 9'-0" ON CENTERS; 1 AND 1-1/4 IN. SIZE: 6'-0" ON CENTERS.

SECURELY ATTACH HANGERS AND SUPPORTS TO CONSTRUCTION BY METHODS RECOMMENDED IN THE "NECA STANDARDS OF INSTALLATION" MANUAL. COORDINATION WITH "MECHANICAL TRADES" THE INTENT OF THE ABOVE CEILING SUPPORTS IS TO COMBINE AS MANY PIPES, CONDUITS, ETC. AS IS POSSIBLE WITHIN SAFE STRUCTURAL LIMITS. ON EACH HORIZONTAL SECTION OF A TRAPEZE HANGER, PRIOR TO SELECTING THE HORIZONTAL MEMBER, ALL TRADES, MECHANICAL AND ELECTRICAL, SHALL COORDINATE ACTUAL NUMBER OF PIPES, CONDUITS, ETC. SUCH THAT FINAL SELECTION RESULTS IN A NEATLY GROUPED, DISCIPLINED AND ACCESSIBLE INSTALLATION.

WIRING INSTALLATION

EXCEPT FOR SUCH ITEMS AS ARE NORMALLY WIRED AT THEIR POINT OF MANUFACTURE AND SO DELIVERED - AND UNLESS SPECIFICALLY NOTED TO THE CONTRARY HEREIN - THE ELECTRICAL TRADE SHALL DO ALL ELECTRICAL WIRING OF EVERY CHARACTER. IT IS THE INTENT OF THESE SPECIFICATIONS AND DRAWINGS THAT ALL SYSTEMS AND EQUIPMENT SHALL BE PROVIDED WITH ALL NECESSARY UTILITY CONNECTIONS COMPLETED TO ALLOW SAFE AND PROPER OPERATION OF SAID SYSTEMS. WHEN IT IS NECESSARY FOR TRADES PERFORMING WORK COVERED BY THIS DIVISION TO MAKE FINAL CONNECTIONS TO ITEMS OF EQUIPMENT BEING FURNISHED BY OTHERS, OR BY OTHER TRADES UNDER OTHER DIVISIONS, ALL SUCH WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS DIVISION AND ALL MATERIALS USED SHALL BE AS SPECIFIED HEREIN.

MINIMUM WIRE SIZE FOR BRANCH CIRCUITS SHALL BE #12 AWG, EXCEPT THAT HOMERUNS LONGER THAN 100 FT. LENGTH FROM THE PANEL TO THE CIRCUIT'S ELECTRICAL LOAD CENTER SHALL BE #10 AWG MINIMUM. WHERE RUNS EXCEED 150', CONTRACTOR MUST ENSURE WIRE SIZE BEING UTILIZED DOES NOT CREATE A VOLTAGE DROP GREATER THAN 3%. REQUEST PROPER WIRE SIZE PRIOR TO INSTALLATION IF A 3% VOLTAGE DROP MAY OCCUR FOR ANY BRANCH CIRCUIT WHERE MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE ENCLOSED IN THE SAME RACEWAY. CONDUCTORS ARE TO BE DERATED PER N.E.C. AND WIRE SIZE INCREASED AS REQUIRED. WHERE THE INCREASED CONDUCTOR SIZE REQUIRES INCREASE THE RACEWAY SIZE AS WELL. FOR CONTROL WIRING, USE #14 AWG MINIMUM. FOR FIXTURE WIRING, AS PERMITTED BY N.E.C., USE #18 AWG MINIMUM. FOR SIGNAL AND COMMUNICATIONS SYSTEMS USE WIRE SIZE AS SPECIFICALLY REQUIRED BY THE SYSTEM SUPPLIER.

MAKE CONNECTIONS TO TERMINALS USING PRESSURE TYPE CONNECTORS. SOLDERED JOINTS ARE PROHIBITED. ALL JOINTS IN CONDUCTORS SHALL BE MADE AT AN ACCESSIBLE LOCATION WITHIN A BOX BY TWISTING THE BARE CONDUCTOR ENDS TOGETHER AND APPLYING A WIRE CONNECTOR IN ALL SIZES UP TO THE MAXIMUM CAPACITY OF THE CONNECTOR. JOINTS SHALL BE TAPED WITH AN APPROVED ELECTRICAL TAPE. SPLICES FOR CONDUCTORS LARGER THAN #10 AWG SHALL BE MADE WITH AN APPROVED COMPRESSION (SQUEEZE) CONNECTOR INSULATED WITH NOT LESS THAN TWO LAYERS OF ELECTRICAL FILL TAPE TO 1.5 TIMES THE THICKNESS OF INSULATION, FOLLOWED BY TWO (MINIMUM) LAYERS OF HALF-LAPPED ELECTRICAL TAPE FOR MECHANICAL PROTECTION. LOCATE ALL SPLICES IN BOXES OR FITTINGS OF PROPER SIZE PER N.E.C.

IDENTIFY ALL WIRES AND CABLES WITH BRADY ADHESIVE WIRE MARKERS AT EACH BOX, PANEL, AND OUTLET. IDENTIFICATION SHALL, AS A MINIMUM, INDICATE THE PANEL AND CIRCUIT SUPPLYING THE OUTLET. AT THE PANEL END, THE LOAD SERVED AND ITS LOCATION SHALL BE INDICATED. PROVIDE A MINIMUM OF 8 IN. SLACK WIRE AT EACH OUTLET FOR MAKING CONNECTION TO THE DEVICE OR TO PROVIDE FOR A FUTURE DEVICE IN THE BOX.

BOXES

EACH BOX SHALL BE OF PROPER SIZE TO ACCOMMODATE THE DEVICE AND FUNCTION FOR WHICH IT IS SHOWN. BOXES FOR WALL DEVICES SHALL BE FURNISHED COMPLETE WITH PLASTER RING OR TILE RING ACCORDING TO WALL CONSTRUCTION WHERE REQUIRED. BOXES FOR INSTALLATION IN MASONRY WALLS SHALL BE SPECIAL SQUARE CORNER MASONRY TYPE. BOXES FOR MOUNTING OF LIGHTING FIXTURES SHALL BE FOUR INCH OCTAGON, EQUIPPED WITH 3/8 IN. "NO-BOLT" FIXTURE STUD. BOXES FOR FLOOR OUTLETS SHALL BE CONCRETE PROOF STEEL BOXES WITH ADJUSTABLE TOPS AND DEVICES AS HEREINAFTER NOTED OR SHOWN. ALL BOXES SHALL BE FURNISHED COMPLETE WITH PROPER COVER AND/OR DEVICE PLATE AND DEVICE. UNLESS OTHERWISE NOTED, PLACE OUTLET BOXES AT THE FOLLOWING HEIGHTS: BOX CENTER TO FINISH FLOOR; WALL SWITCHES 48" AND CONVENIENCE OUTLETS 18" UNLESS NOTED OTHERWISE ON DRAWINGS.

TELEPHONE, ALARM AND SIGNAL SYSTEM OUTLET BOXES SHALL BE STANDARD OUTLET BOX TYPE WHERE ONLY ONE CONDUIT ENTERS SAME. UNLESS OTHERWISE SPECIFIED OR INDICATED ON DRAWINGS, WHERE TWO OR MORE CONDUITS ENTER, BOX SHALL BE 4-11/16 IN. SQUARE MINIMUM WITH SUITABLE ADAPTER RING.

LOCATE ALL OUTLETS AS INDICATED ON DRAWINGS, HOWEVER, AT INSTALLATION INSPECT ARCHITECTURAL DRAWINGS AND LOCATE LOCAL SWITCHES ON THE STRIKE SIDE OF THE DOOR.

SYSTEM GROUNDING

EQUIPMENT, RACEWAY SYSTEMS, WIRING SYSTEM NEUTRALS, RECEPTACLES AND POWER OUTLETS, MOTORS AND MOTORIZED EQUIPMENT, SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C. ARTICLE 250.

GROUND RECEPTACLES AND POWER OUTLETS TO THE CONDUIT SYSTEM WITH A GREEN GROUNDING CONDUCTOR SIZE IN ACCORDANCE WITH N.E.C. AND CONNECTED BETWEEN THE DEVICE GROUNDING SCREW AND THE OUTLET BOX. CONNECTION TO THE BOX MAY BE A 1" CLIP OR BY A 1024 SCREW THREADED INTO A HOLE IN THE BACK OF THE BOX AND USED FOR NO OTHER PURPOSE. EQUIPMENT CONNECTED TO THE ELECTRICAL SYSTEM SHALL BE GROUNDED WITHIN INSULATED GREEN GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH N.E.C. AND INSTALLED WITHIN THE RACEWAY. CONDUITS SHALL BE CONTINUOUS BETWEEN A GROUNDING SCREW IN THE EQUIPMENT JUNCTION BOX AND A GROUND ATTACHMENT IN THE NEAREST OUTLET BOX IN THE RIGID METALLIC CONDUIT SYSTEM. THIS REQUIREMENT INCLUDES ALL FLEXIBLE CONDUIT.

GENERALLY FOR TELEPHONE AND SUPPLEMENTAL COMMUNICATION SYSTEMS NO 6 AWG CONDUCTOR TO EACH PROTECTOR CABINET, OTHER CABINET, OR DEVICE INSTALLATION SHALL BE CONSIDERED SUFFICIENT, FROM THE SERVICE GROUND (UNLESS INDICATED OTHERWISE).

GROUNDING MATERIAL:
GROUND-RODS - 1/2" DIA., 10' LONG, COPPERWELD
GROUND CONDUCTOR - SIZE AS PER N.E.C. REQUIREMENTS, SOFT DRAWN OR SOFT ANNEALED, COPPER WIRE.
JOINTS AND CONNECTIONS - MOLDED FUSION WELDING PROCESS USING PROPER MOLD AND THE NUMBER, SIZE AND TYPE CARTRIDGE FOR THE JOINT OR CONNECTION. WATERPROOF CONNECTION. SILICON BRONZE APPROVED MECHANICAL CONNECTOR DESIGNED FOR THE PIPE AND CABLE TO BE BONDED.

PANELBOARD INSTALLATION:
MOUNT PANELBOARDS WITH CENTERLINE AT 5 FT. 4IN. ABOVE FINISH FLOOR, EXCEPT THAT THE HIGHEST BREAKER HANDLE SHALL BE BELOW 8 FT. 5 IN. ABOVE FINISH FLOOR. ARRANGE BREAKERS SO THAT THE BREAKER RATING IS VISIBLE WITH THE PANEL FRONT IN PLACE.

PANEL DIRECTORIES, AS A MINIMUM, SHALL BE TYPEWRITTEN AND INDICATE BREAKER POSITION NUMBER AND EQUIPMENT SERVED. THE PANEL IDENTIFICATION SHALL BE LOCATED ON THE PANEL TRIM AND SHALL CONSIST OF A BLACK LAMINATED PHENOLIC LABEL, SCREW MOUNTED, WITH THE PANEL IDENTIFICATION MATCHING PANEL IDENTIFICATION ON DRAWINGS. LABEL ALL CONDUCTORS WITH ADHESIVE WRAP LABELS WITHIN 2 IN. OF THE CONDUIT TERMINATION PRIOR TO INSTALLATION OF TRIM.

LIGHTING FIXTURE INSTALLATION:
PROVIDE A LIGHTING FIXTURE FOR EACH AND EVERY OUTLET IN ACCORDANCE WITH TYPE DESIGNATION AND FIXTURE SCHEDULE ON THE DRAWINGS. VERIFY THE ARCHITECTURAL FINISHES AND CEILING CONSTRUCTION AND - REGARDLESS OF THE CATALOG NUMBER PREFIXES AND SUFFIXES SHOWN - PROVIDE FIXTURES WITH THE PROPER TRIM, FRAMES, SUPPORTS, AND HANGER AND OTHER MISCELLANEOUS APPURTENANCES TO PROPERLY COORDINATE WITH SAID FINISHES. REINFORCE CEILING CONSTRUCTION AS REQUIRED TO PROPERLY SUPPORT THE WEIGHT OF FIXTURES INSTALLED THEREON.

IMMEDIATELY PRIOR TO FINAL INSPECTION, THOROUGHLY CLEAN ALL FIXTURES INSIDE AND OUT, INCLUDING PLASTICS AND GLASSWARE. ADJUST TRIM TO FIT ADJACENT SURFACES. REPLACE BROKEN OR DAMAGED PARTS. INSTALL NEW LAMPS, ELECTRICALLY AND MECHANICALLY TEST THE SYSTEM FOR PROPER OPERATION.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVAL FROM LOCAL CODE AUTHORITIES AND MAKING ANY REVISIONS DIRECTED BY THEM ON EMERGENCY AND EXIT LIGHTING.

CLEANING:
THOROUGHLY CLEAN ALL FIXTURES, SWITCHES, OTHER DEVICES, PANELBOARDS, AND EQUIPMENT PROVIDED OR CONNECTED IN THIS CONTRACT. ALL SURFACES SHALL BE PROPERLY POLISHED AND SHALL BE FREE OF PAINT AND ALL OTHER DIRT OR DEBRIS. TOUCHUP OR COMPLETELY REFINISH ALL EQUIPMENT FURNISHED WITH FACTORY FINISHES THAT IS DAMAGED DURING DELIVERY OR CONSTRUCTION. PROPERLY PROTECT THE FRONTS OF ALL PANELBOARDS, SWITCHBOARDS AND SIMILAR EQUIPMENT TO PREVENT MARRING AND OTHER DEFACING.

AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY THE WORK OF THE TRADESMEN DOING ELECTRICAL WORK. AT COMPLETION OF THE WORK, REMOVE ALL RUBBISH, TOOLS, EQUIPMENT, AND SURPLUS MATERIALS. BROOM CLEAN ALL ASSIGNED SPACES PRIOR TO LEAVING THE PREMISES.

TESTING AND LOAD BALANCING

TEST ALL CIRCUITS TO ASSURE THEM TO BE FREE OF GROUNDS AND SHORTS. LIGHT AND TEST EACH LAMP. PROVE AND TEST THE AVAILABLE VOLTAGE ON THE LOAD SIDE OF EACH DISCONNECT. VERIFY PROPER OPERATION OF THE DISCONNECT. VERIFY THE PHASE SEQUENCE, VOLTAGE, AND ROTATION AT EACH MOTOR IN THE PRESENCE OF THE INSTALLER. RUN EACH MOTOR WITH ITS CONTROL AS NEARLY AS POSSIBLE UNDER OPERATING CONDITIONS FOR A SUFFICIENT LENGTH OF TIME TO DEMONSTRATE CORRECT ALIGNMENT, WIRING CAPACITY, SPEED, AND OVERALL SATISFACTORY OPERATION. CHECK THAT THE PROPER OVERLOAD HEATERS HAVE BEEN INSTALLED BY READING THE MOTOR NAMEPLATE. ADJUST THE SIZE OF THE OVERLOAD HEATER AS REQUIRED TO MATCH THE MOTOR NAMEPLATE. OPERATE ALL MAIN AND FEEDER SWITCHES AND BREAKERS.

THE VARIOUS BRANCH CIRCUITS SERVED FROM THE LIGHTING PANELBOARDS VARY IN LOADING. CAREFULLY BALANCE THE ACTUAL OPERATING LOAD ON EACH PANELBOARD WHEN ALL LOAD IS TURNED ON AND THE SYSTEM OPERATING AT 100% DEMAND. THE UNBALANCE SHALL NOT EXCEED 10%. DURING FINAL INSPECTION, FURNISH THE TEST INSTRUMENTS AND QUALIFIED PERSONNEL TO PERFORM COMPLETE TESTING. COSTS OF ALL TESTING, INCLUDING THE INCIDENT COSTS FOR RETESTING OCCASIONED BY DEFECTS AND FAILURES OF THE EQUIPMENT TO MEET THE SPECIFICATIONS, SHALL BE BORNE BY THE CONTRACTOR.

FURNISH AT THE COMPLETION OF THE PROJECT A FINAL INSPECTION CERTIFICATE FROM THE LOCAL INSPECTING AUTHORITY.

END OF SECTION 16000



RESERVE AT BLACKWELL - BUILDING H

SE SHENANDOAH DRIVE
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ELECTRICAL SPECIFICATIONS

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