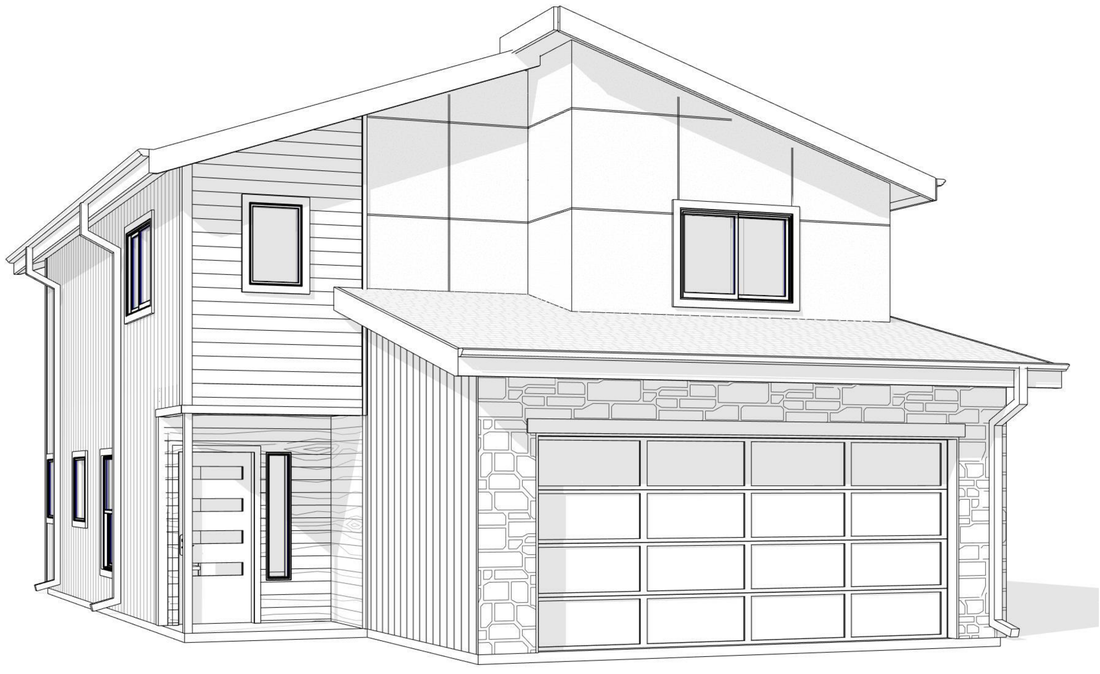
RESERVE AT BLACKWELL - J

SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

PERMIT DOCUMENTS

17 JAN 2024

COLLINS WEBB #: 21075



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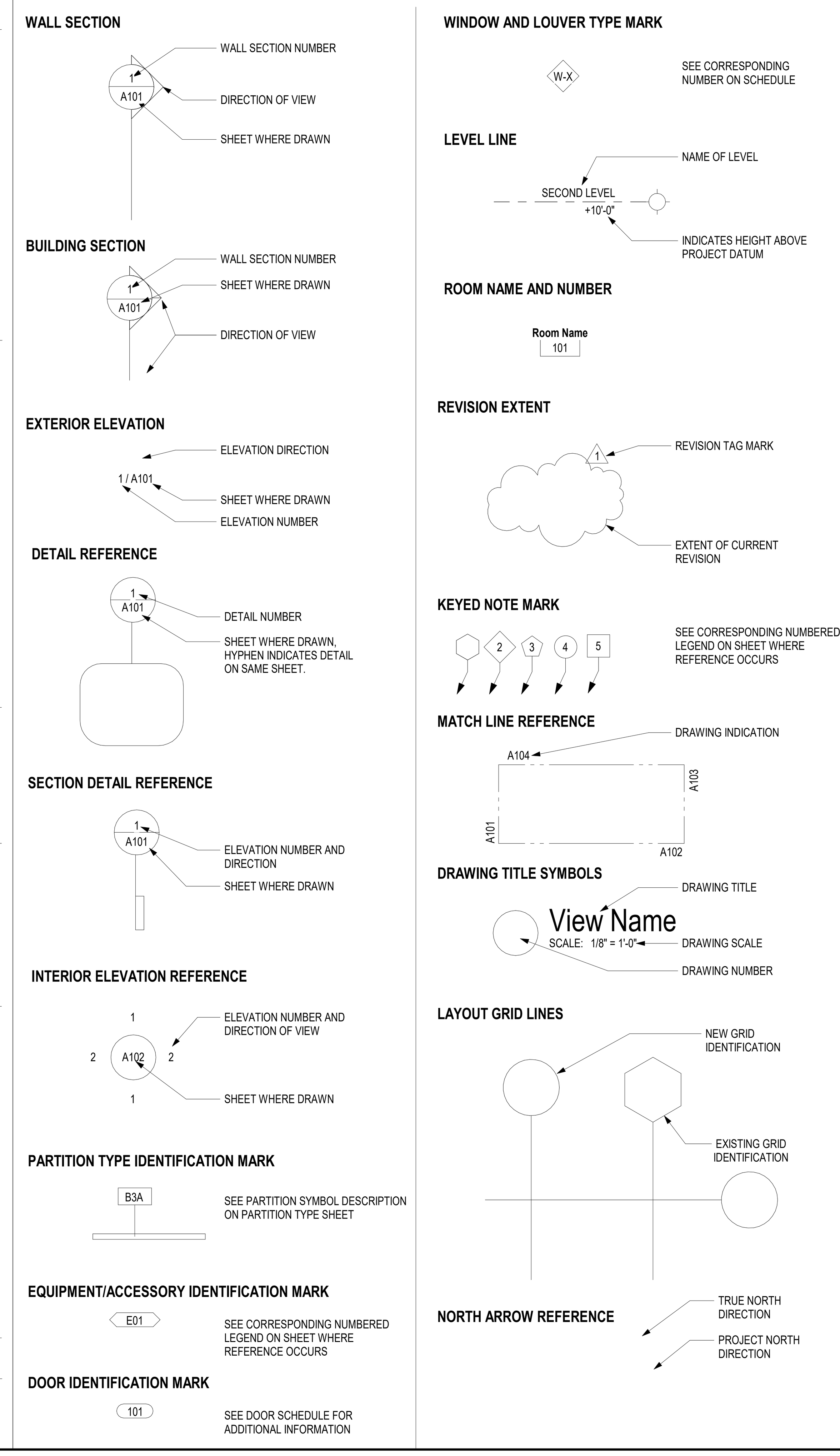
ARCHITECTURAL ABBREVIATIONS

&	AND
<	ANGLE
AB	ANCHOR BOLT
ACOUS/ACST	ACOUSTIC(AL)
ACT	ACOUSTICAL CEILING TILE
ACP	ACOUSTICAL CEILING PANEL
ACS PNL	ACCESS PANEL
AD	AREA DRAIN
ADDL	ADDITIONAL
ADH	ADHESIVE
ADJ	ADJUSTABLE
ADJ	ADJACENT
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AFS	ABOVE FINISH SLAB
AGGR	AGGREGATE
ALUM, AL	ALUMINUM
ALT	ALTERNATE
ANOD	ANODIZED
APPROX	APPROXIMATE(LY)
ARCH	ARCHITECT(URAL)
ASPH	ASPHALT
ASPH	AT
AVG	AVERAGE
BB	BULLETIN BOARD
BD	BOARD
BTWN	BETWEEN
BITUM	BITUMINOIUS
BLK / BLKG	BLOCK / BLOCKING
BLDG	BUILDING
BM	BENCHMARK
BMD	BOTTOM OF METAL DECK
BO	BOTTOM OF / BY OTHERS
BOT	BOTTOM
BOS	BOTTOM OF STEEL
BRG	BEARING
BSMT	BASEMENT
BUR	BUILT UP ROOFING SYSTEM
[	CHANNEL
CAB	CABINET
CPT	CARPET
CI	CAST IRON
CB	CATCH BASIN
CCR	CARD CONTROL READER
CSWK	CASEWORK
CCT	CUBICLE CURTAIN TRACK
CCTV	CLOSED CIRCUIT TELEVISION
CSP	COMBINATION STAND PIPE
CG	CORNER GUARD
CEM	CEMENT, CEMENTITIOUS
CER	CERAMIC
CT	CERAMIC TILE
CH BD	CHALKBOARD
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
CLO	CLOSET
CMU	CONCRETE MASONRY UNIT
CRSC	COLD ROLLED STEEL CHANNEL
CW	COLD WATER
COL	COLUMN
CNTR	COUNTER
CSK	COUNTERSUNK
CONC	CONCRETE
CONF	CONFERENCE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CJ	CONTROL JOINT
CG	CORNER GUARD
CORR	CORRUGATED, CORRIDOR
CU	CUBIC
D	DEPTH
DBL	DOUBLE
DBL ACT	DOUBLE ACTING
DEG	DEGREE
DEMO	DEMOLISH
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIAG	DIAGONAL
DIFF	DIFFUSER
DIM	DIMENSION
DIM PT	DIMENSION POINT
DISP	DISPENSER
DIST	DISTANCE
DK	DECK
DN	DOWN
DR	DRAIN, DOOR
DS	DOWNSPOUT
DSP	DRY STANDPIPE
DT	DRAPERY TRACK
DTL	DETAIL
DW	DISHWASHER
DWG / DWGS	DRAWING / DRAWINGS
E	EAST
EA	EACH
EDR	EQUIPMENT DRAWING
EG	EDGE GUARD
EIFS	EXTERIOR INSULATION FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELAST	ELASTOMERIC
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
EOS	EDGE OF SLAB
EP	ELECTRICAL PANEL
EPB	ELECTRICAL PANEL BOARD
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQ	EQUAL
EQL SP	EQUALLY SPACED
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ESCAL	ESCALATOR
EST	ESTIMATED(D)
EWC	ELECTRIC WATER COOLER
EXC	EXCAVATED
EXH	EXHAUST
EXIST, (E)	EXISTING
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
EX-BR	EXISTING BRICK
F/F	FACE TO FACE
FA	FIRE ALARM
FAS	FIRE ALARM STATION
FB	FLAT BAR
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FEC	FIRE EXTINGUISHER CABINET
FE	FIRE EXTINGUISHER
FF	FINISH FACE
FG	FINISH GRADE
FHC	FIRE HOSE CABINET
FH/FEC	FIRE HOSE / EXTINGUISHER CABINET
FHMS	FLAT HEAD MACHINE SCREW
FHWS	FLAT HEAD WOOD SCREW
FHY	FIRE HYDRANT
FIN	FINISH, FINISHED
FLAM	FLAMMABLE
FLASH	FLASHING
FLEX	FLEXIBLE
FLR	FLOOR
FLUOR	FLUORESCENT
FO	FACE OF
FRT	FIRE RETARDANT TREATMENT
FRZ	FREEZER
FSB	FOLDING SHOWER BENCH
FSTNR	FASTENER
FT	FOOT, FEET
FTG	FOOTING
FURN	FURNITURE
FXTR	FIXTURE
G	GAS
GA	GAUGE, GAGE
GAL	GALLON
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFRC	GLASS FIBER REINFORCED CONCRETE
GFRG	GLASS FIBER REINFORCED GYPSUM
GL	GLASS
GLU LAM	GLUE LAMINATED
GLZ	GLAZING
GR	GRADE OR GRADING
GVL	GRAVEL
GYP	GYPSUM
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER
H	HIGH
HB	HOSE BIBB
HC	HOLLOW CORE
HD	HEAD
HDBD	HARDBOARD
HDW, HDWR	HARDWARE
HDWD	HARDWOOD
HGT, HT	HEIGHT
HM	HOLLOW METAL
HNDRL	HANDRAIL
HORIZ	HORIZONTAL
HPT	HIGH POINT
HR	HOUR
HVAC	HEATING-VENTILATION-AIR CONDITIONING
HW	HOT WATER
ID	INSIDE DIAMETER
IN	INCH
INCAND	INCANDESCENT
INCL	INCLUDE, INCLUDING
INFO	INFORMATION
INSUL	INSULATION
INTR	INTERIOR
INV	INVERT
IVT	INTRAVENOUS TRACK
JAN	JANITOR
JST	JOIST
JT	JOINT
KG	KILOGRAM
KIT	KITCHEN
KPL	KICK PLATE
KS	KNEE SPACE
L	LENGHT, LONG
LAB	LABORATORY
LAM	LAMINATE, LAMINATION
LAV	LAVATORY
LB	POUND
LED	LIGHT EMITTING DIODE
LF	LINEAR FOOT
LG	LENGTH
LIN	LINEAR
LL	LEAD LINED
LPT	LOW POINT
LT	LIGHT
LT WT	LIGHT WEIGHT
LTG	LIGHTING
LVR	LOUVER
M	METERS
MACH	MACHINE
MATL	MATERIAL
MATV	MASTER ANTENNA TELEVISION SYSTEM
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MEDICINE CABINET
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MED	MEDIUM
MET, MTL	METAL
MEMB	MEMBRANE
MFR / MFG	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MLDG	MOLDING
MM	MILLIMETERS
MO	MASONRY OPENING
MOD	MODULE, MODULAR
MTD	MOUNTED
MTG	MOUNTING
MVBL	MOVABLE
MULL	MULLION
(N)	NEW
N	NORTH
NA	NOT APPLICABLE
NAT	NATURAL
NE	NORTHEAST
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NRC	NOICE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OA	OVERALL
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED-CONTRACTOR INSALLED
OFOI	OWNER FURNISHED-OWNER INSTALLED
OPNG	OPENING
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
OVHD	OVERHEAD
OZ	OUNCE
PA	PUBLIC ADDRESS
PART	PARTIAL
PBD	PARTICLEBOARD
PBX	PRIVATE TELEPHONE EXCHANGE
PCF	POUNDS PER CUBIC FOOT
PCI	POUNDS PER CUBIC INCH
PERF	PERFORATED
PERIM	PERIMETER
PERM	PERMANENT
PERP	PERPENDICULAR
PI	POINT OF INTERSECTION
PL	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER, PLASTIC
PLBG	PLUMBING
PLF	POUNDERS PER LINEAR FOOT
PLYWD	PLYWOOD
PNEU	PNEUMATIC
PNL	PANEL
PNL BD	PANEL BOARD
PNT, P	PAINT
PORT	PORTABLE
PP	PUSH PLATE
PPM	PARTS PER MILLION
PR	PAIR
PRCST	PRECAST
PREP	PREPARATION
PREFAB	PREFABRICATION
PRKG	PARKING
PROJ	PROJECT
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT / PTD	POINT, PAINT / PAINTED
PTN	PARTITION
PTS	PNEUMATIC TUBE STATION
PVC	POLYVINYL CHLORIDE
PVG	PAVING
PVMT	PAVEMENT
PWR	POWER
QT	QUARRY TILE
QTR	QUARTER
QTY	QUANTITY
R	RISER
RA	RETURN AIR
RAD	RADIUS
RB	RESILIENT BASE
RCP	REFLECTED CEILING PLAN
RCPT	RECEPTACLE
RD	ROOF DRAIN
RECT	RECTANGULAR
REF	REFERENCE
REFR	REFRIGERATOR
REG	REGISTER
REINF	REINFORCE (D) (ING) (MENT)
REQD	REQUIRED
REQT	REQUIREMENT
RESIL	RESILIENT
RET	RETURN
REV	REVISION
RF	RESILIENT FLOORING
RH	RIGHT HAND
RHMS	ROUND HEAD MACHINE SCREW
RHWS	ROUND HEAD WOOD SCREW
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RWL	RAIN WATER LEADER
S	SOUTH
SA	SUPPLY AIR
SB	SPLASH BLOCK
SC	SOLID CORE
SCHED	SCHEDULE
SCRN	SCREEN
SD	STORM DRAIN
SE	SOUTHEAST
SECT	SECTION
SEG	SEGMENT
SEP	SEPARATION OR SEPARATE
SEP JT	SEPARATION JOINT
SHT	SHEET, SHEETING
SHWR	SHOWER
SHV	SHELVES, SHELVING
SIM	SIMILAR
SK	SINK
SMS	SHEET METAL SCEW
SP	SPACE, SPACED, SPACING
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SPKR	SPEAKER
SQ	SQUARE
SS	SANITARY SEWER
SSK	SERVICE SINK
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STAG	STAGGERED
STC	SOUND TRANSMISSION COEFFICIENT
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
STS	SELF-TAPPING STEEL
SUSP	SUSPENDED
SUSP CLG	SUSPENDED CEILING
SVCE	SERVICE
SW	SOUTHWEST
SYMM	SYMMETRICAL
SYST	SYSTEM
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TC	TOP OF CONCRETE, TOP OF CURB
TD	TRENCH DRAIN
TEL	TELEPHONE
TEMP	TEMPORARY
THERM	THERMAL
THK	THICK, THICKNESS
THRES	THRESHOLD
THRU	THROUGH
TMPD GL	TEMPERED GLASS
TO	TOP OF
TOR	TOP OF RAILING
TOS	TOP OF STEEL
TOT	TOTAL
TOW	TOP OF WALL
TP	TOP OF PAVEMENT
TPH	TOILET PAPER HOLDER
TRANS	TRANSPARENT
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TYP	TYPICAL
TW	TOP OF WALL
UC	UNDER COUNTER
UL	UNDERWRITERS LABORATORIES
UNF	UNFINISHED
UON	UNLESS OTHERWISE NOTED
UPS	UNUNTERRUPTABLE POWER SUPPLY
UR	URINAL
UTIL	UTILITY
VAC	VACUUM
VB	VALVE BOX
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIT	VIREOUS
VP	VENT PIPE
VOL	VOLUME
VWC	VINYL WALL COVERING
W	WEST
W/	WITH
W/O	WITHOUT
W/W	WALL TO WALL
WAINS	WAINSCOT
WC	WATER CLOSET, WALL COVERING
WD	WOOD
WDW	WINDOW
WGL	WIRE GLASS
WCHR	WHEELCHAIR
WM	WIRE MESH
WO	WHERE OCCURS
WP	WATERPROOF
WPT	WORKING POINT
WR	WATER RESISTANT
WSCT	WAINSCOT
WSP	WET STANDPIPE
WT	WEIGHT
WTHPRF	WEATHERPROOF
WTRPRF	WATERPROOF
WWF	WELDED WIRE FRABRIC
WWM	WELDED WIRE MESH
XFMR	TRANSFORMER
YD	YARD

TYPICAL ARCHITECTURAL REFERENCE SYMBOLS



GENERAL

Sheet Number	Sheet Name
CS	COVER SHEET RESERVE
G001	GENERAL INFORMATION
G002	ACCESSIBILITY GUIDELINES
G111	LIFE SAFETY INFORMATION
G500	GENERAL PROJECT SPECIFICATIONS 1
G501	GENERAL PROJECT SPECIFICATIONS 2
G502	GENERAL PROJECT SPECIFICATIONS 3

STRUCTURAL

Sheet Number	Sheet Name
S001	STRUCTURAL GENERAL NOTES
S010	STRUCTURAL TYPICAL DETAILS
S011	STRUCTURAL TYPICAL DETAILS
S012	STRUCTURAL TYPICAL DETAILS
S106	FOUNDATION & FRAMING PLANS - J
S107	FRAMING SECTIONS

ARCHITECTURAL

Sheet Number	Sheet Name
A100	ARCHITECTURAL SITE PLAN
A101J	FLOOR PLANS - BUILDING J
A131	KITCHEN ENLARGED PLANS AND ELEVATIONS
A132	BATHROOM ENLARGED PLANS AND ELEVATIONS
A201J	EXTERIOR ELEVATIONS - BUILDING J
A304	EXTERIOR WALL SECTIONS
A305	EXTERIOR WALL SECTIONS + DETAILS
A351	WALL CLADDING DETAILS - STOTHERM STUCCO
A352	WALL CLADDING DETAILS - NEWTECHWOOD
A353	WALL CLADDING DETAILS - LP SMARTLAP & BATT
A354	WALL CLADDING DETAILS - ELDORADO STONE
A355	WALL CLADDING DETAILS - ELDORADO STONE 2
A501	DOOR / WINDOW SCHEDULE + DETAILS
A901	FINISH SCHEDULE + DETAILS

ELECTRIC

SHEET NUMBER	SHEET NAME
E101	ELECTRICAL NOTES, SYMBOLS, & ABBREVIATIONS
E207J	ELECTRICAL POWER & LIGHTING PLANS
E301	ELECTRICAL ONE-LINE DIARAMS & SCHEDULES
E401	ELECTRICAL SPECIFICATIONS
E402	ELECTRICAL SPECIFICATIONS

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

GENERAL NOTES

A. THE A-SERIES DRAWINGS ESTABLISH AND COORDINATE THE FINISHED APPEARANCE AND LOCATION OF ALL EXPOSED ELEMENTS. THE A-SERIES DRAWINGS TAKE PRECEDENCE FOR THE FINISHED APPEARANCE AND LOCATION OF ALL PARTS OF THE WORK. **EXCEPTION:** DIMENSIONED LOCATIONS SHOWN ON DRAWINGS OF OTHER DISCIPLINES SHALL GOVERN ONLY WHERE:
   1. SPECIFICALLY AND INDIVIDUALLY INDICATED BY SYMBOL, KEYED NOTE, OR NOTATION ON THE ARCHITECTURAL DRAWINGS.
   2. OCCURRING WITHIN A ROOM OR OTHER IDENTIFIABLE SPACE FOR WHICH ARCH SHEET OR SCHEDULE NOTES INDICATE THAT DIMENSIONS PROVIDED ELSEWHERE SHALL GOVERN.

B. THE PURPOSE OF THIS SHEET IS TO ILLUSTRATE THE TYPICAL RULES WHICH GOVERN THE LOCATION, CONFIGURATION IN RELATIONSHIP TO OTHER ELEMENTS OF THE WORK, AND FINISHED ALIGNMENT OF ALL ITEMS OCCURRING ON REFLECTED CEILING PLANS OF THE PROJECT.

C. THE A-SERIES FLOOR PLANS, REFLECTED CEILING PLANS, SECTIONS, ELEVATIONS, AND DETAILS ILLUSTRATE THE DIMENSIONED LOCATION OF MANY - BUT NOT ALL - EXPOSED PARTS OF THE WORK. APPLY THE RULES ON THIS SHEET **- IN ORDER -** TO DETERMINE THE LOCATION OF EXPOSED PART OF THE WORK.
   1. WHEN UNIQUELY AND SPECIFICALLY DIMENSIONED ON THE A-SERIES PLANS, SECTIONS, OR ELEVATIONS (OR COMBINATION THEREOF), LOCATE AS DIMENSIONED.
   2. IF NOT SHOWN, OR IF SHOWN BUT NOT DIMENSIONED, BY THE A-SERIES PLANS OR ELEVATIONS, LOCATE AS INDICATED BY THE APPLICABLE RULE.

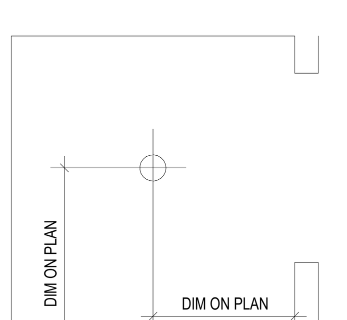
D. REFER TO THE "ARCHITECTURAL GENERAL NOTES" FOR ADDITIONAL NOTES WHICH MAY BE APPLICABLE TO THE WORK SHOWN ON THIS SHEET.

E. FOR MANY SPACES, THE ARCHITECTURAL REFLECTED CEILING PLANS ESTABLISH AN IDEAL PATTERN FOR LOCATING SPRINKLER HEADS. IN SPACES WHERE HEADS ARE SHOWN, FOLLOW PATTERN ESTABLISHED BY THE DRAWINGS. WHERE ADDL HEADS ARE REQUIRED TO CONFORM WITH CODE, PROVIDE HEADS IN GENERAL CONFORMITY WITH PATTERN ESTABLISHED BY THE DRAWINGS.

F. IN SPACES WHERE SPRINKLER HEADS ARE NOT SHOWN BY THE ARCHITECTURAL REFLECTED CEILING PLANS, PROVIDE HEADS AS REQUIRED BY CODE.

RULE 1

WHEN COMPLETELY DIMENSIONED ON REFLECTED CEILING PLAN

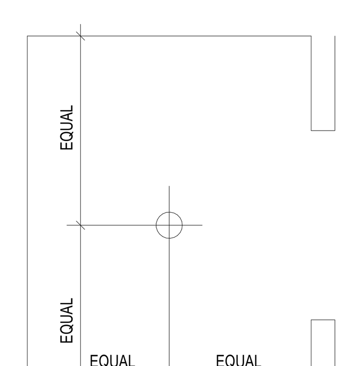


LOCATE ITEMS AS INDICATED WHEN SHOWN DIMENSIONED BY A REFLECTED CEILING PLAN, ENLARGED REFLECTED CEILING PLAN, OR DETAIL.

SPECIFIC DIMENSIONS SHOWN BY REFLECTED CEILING PLANS, ELEVATIONS, OR DETAILS TAKE PRECEDENCE OVER TYPICAL LOCATION RULES.

RULE 2

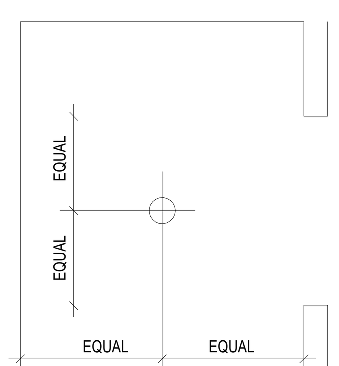
WHEN NOT DIMENSIONED BUT SHOWN CENTERED



LOCATE ITEMS CENTERED IN SPACE (OR CEILING PLANE) WHEN SHOWN (BUT NOT DIMENSIONED) VISUALLY AT APPROXIMATE CENTER OF SPACE.

RULE 3

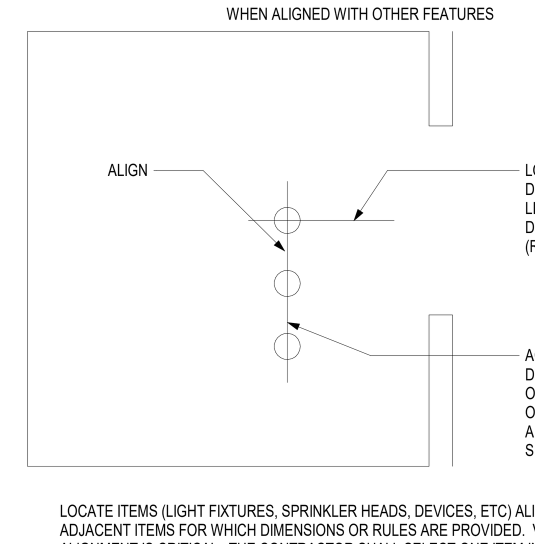
WHEN OFF-CENTER IN SPACE BUT CENTERED ON ADJACENT FEATURE



LOCATE ITEMS CENTERED ON ADJACENT OPENING OR FEATURE WHEN SHOWN (BUT NOT DIMENSIONED) OFF-CENTER IN OVERALL SPACE BUT CENTERED AGAINST ADJACENT FEATURE.

RULE 4

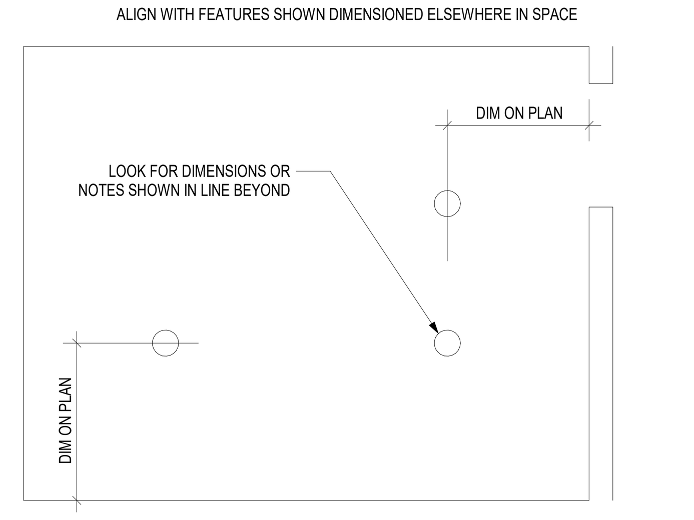
WHEN ALIGNED WITH OTHER FEATURES



LOCATE ITEMS (LIGHT FIXTURES, SPRINKLER HEADS, DEVICES, ETC) ALIGNED WITH ADJACENT ITEMS FOR WHICH DIMENSIONS OR RULES ARE PROVIDED. VISUAL ALIGNMENT IS CRITICAL. THE CONTRACTOR SHALL SELECT ONE ITEM IN EACH LINE (ON BASIS OF TOLERANCES, SEQUENCE OF CONSTRUCTION, TRADE, OR OTHER CRITERIA) TO SERVE AS THE BENCHMARK FOR EACH ALIGNMENT.

RULE 5

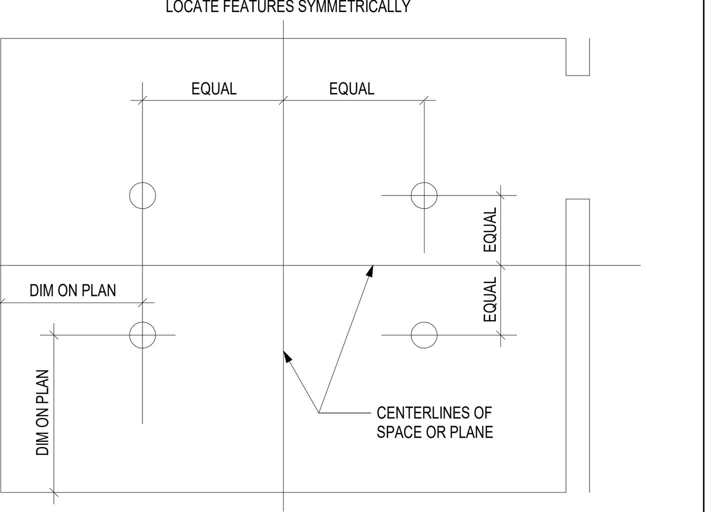
ALIGN WITH FEATURES SHOWN DIMENSIONED ELSEWHERE IN SPACE



LOCATE ITEMS ALIGNED WITH OTHER ITEMS SHOWN DIMENSIONED ELSEWHERE IN SPACE (OR CEILING PLANE).

RULE 6

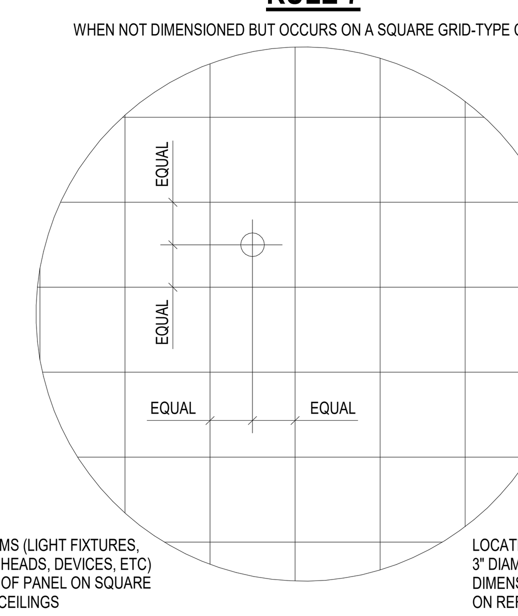
LOCATE FEATURES SYMMETRICALLY



LOCATE ITEMS ALIGNED WITH OTHER ITEMS SHOWN DIMENSIONED ELSEWHERE IN SPACE (OR CEILING PLANE).

RULE 7

WHEN NOT DIMENSIONED BUT OCCURS ON A SQUARE GRID-TYPE CEILING

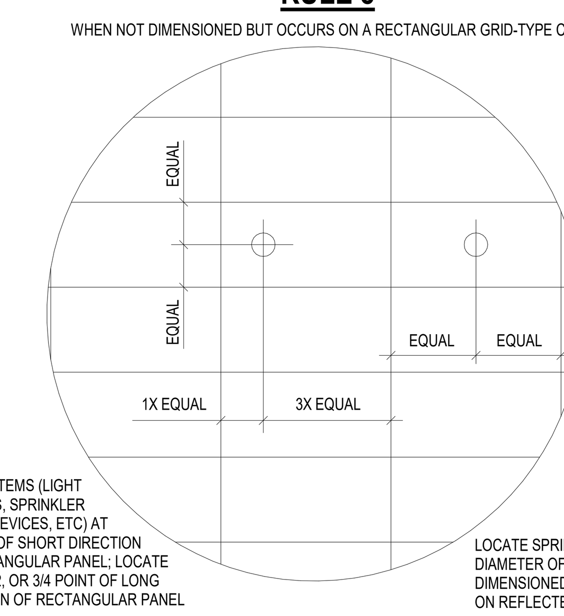


LOCATE ITEMS (LIGHT FIXTURES, SPRINKLER HEADS, DEVICES, ETC) AT CENTER OF PANEL ON SQUARE GRID-TYPE CEILINGS

LOCATE SPRINKLER HEADS WITHIN 3" DIAMETER OF IDEAL POINT DIMENSIONED (OR SHOWN BY RULE) ON REFLECTED CEILING PLAN.

RULE 8

WHEN NOT DIMENSIONED BUT OCCURS ON A RECTANGULAR GRID-TYPE CEILING



LOCATE ITEMS (LIGHT FIXTURES, SPRINKLER HEADS, DEVICES, ETC) AT CENTER OF SHORT DIRECTION OF RECTANGULAR PANEL; LOCATE AT 1/4, 1/2, OR 3/4 POINT OF LONG DIRECTION OF RECTANGULAR PANEL

LOCATE SPRINKLER HEADS WITHIN 3" DIAMETER OF IDEAL POINT DIMENSIONED (OR SHOWN BY RULE) ON REFLECTED CEILING PLAN.

MATERIALS LEGEND:

- EARTH / COMPACT FILL
- GRAVEL / GRANULAR FILL
- CONCRETE
- SAND/ MORTAR/ PLASTER/ CUT STONE
- BRICK
- CONCRETE MASONRY UNIT
- STONE (ELEVATION)
- CAST STONE
- STEEL/ METAL
- FINISH WOOD
- CONT. FIRE RETARDANT WOOD BLOCKING/ ROUGH FRAMING
- DISCONTINUOUS FIRE RETARDANT WOOD BLOCKING / SHIM
- FIRE RETARDANT PLYWOOD
- BATT INSULATION
- ROOF INSULATION
- RIGID INSULATION
- MASONRY INSULATION
- EIFS (ELEVATION)
- FIRE PROOFING
- FIRE STOPPING
- ACOUSTICAL TILE
- GYPSUM BOARD
- METAL / WALL PANELS

GENERAL INFORMATION NOTES:

2. UNLESS OTHERWISE INDICATED, ALL MATERIALS AND EQUIPMENT ON THE DRAWINGS IS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
3. COORDINATE ALL CONSTRUCTION PRIOR TO BEGINNING WORK AND SUBMIT PROPOSED WORK SCHEDULE TO THE OWNER & ARCHITECT FOR APPROVAL.
4. CONTRACTOR SHALL COORDINATE THE WORK OF ALL TRADES, SECURE AND PAY FOR ALL PERMITS, FEES, TAXES, INSPECTIONS & TESTING REQUIRED FOR COMPLETE RELATED WORK. THE GENERAL CONTRACTOR SHALL ALSO BE IN CHARGE OF THE OPERATION FROM THE TIME OF COMMENCEMENT UNTIL THE COMPLETION OF WORK AND TO WHOM ALL ORDERS AND DIRECTIONS SHALL BE GIVEN.
5. ALL TRADES SHALL BE RESPONSIBLE TO READ ALL DRAWINGS, DETAILS, & PLANS ASSOCIATED WITH ALL PACKAGES INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING ASSOCIATED WITH THIS PROJECT TO ENSURE PROPER COORDINATION. IF ANY CONFLICTS EXIST, THAT TRADE SHALL NOTIFY THE CONTRACTOR OF THE SAME PRIOR TO CONSTRUCTION WHO SHALL IN TURN NOTIFY THE G.C.
7. ALL MATERIALS SHOWN OR CALLED FOR ON THESE CONSTRUCTION DOCUMENTS TO BE NEW AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
8. THE GENERAL CONTRACTOR SHALL SUPPLY DETAILED COMPARISON OF SUBSTITUTION ITEMS REQUESTED FOR ARCHITECT APPROVAL. COMPARISON INFORMATION SHALL INCLUDE & NOT LIMITED TO SIGNIFICANT PRODUCT QUALITIES WHICH MAY ALTER VISUAL AND/OR PERFORMANCE OF A PRODUCT INCLUDING WEIGHT, SIZE, DURABILITY, & SPECIFIC FEATURES & REQUIREMENTS OF SUCH PRODUCT.
14. ELECTRICAL CONTRACTOR TO PROVIDE ALL SMOKE DETECTORS, EXIT SIGNS, EMERGENCY LIGHT AND FIRE ALARM SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES.
1. ALL CONTRACTORS AND THEIR SUPERVISORY PERSONNEL SHALL REVIEW THE GENERAL AND SUPPLEMENTARY CONDITIONS TO THE CONTRACT.
2. ALL WORK SHALL CONFORM WITH APPLICABLE BUILDING CODES, REGULATIONS AND ORDINANCES.
3. CONTRACTOR AND/OR OWNER SHALL OBTAIN ALL REQUIRED BUILDING AND OCCUPANCY PERMITS.
4. CONTRACTOR SHALL BECOME FULLY ACQUAINTED WITH CONDITIONS RELATED TO THE WORK.
5. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCES OF CONSTRUCTION AND THE SAFETY OF ALL CONSTRUCTION PERSONNEL AND VISITORS.
6. DRAWINGS CONTAINED IN THIS SET SHALL NOT BE REPRODUCED FOR SHOP DRAWINGS. COPIES OF THESE DRAWINGS SUBMITTED AS SHOP DRAWINGS WILL BE REJECTED AND RETURNED TO THE CONTRACTOR.
7. EACH INSTALLER MUST EXAMINE SUBSTRATE AND/OR CONDITIONS UNDER WHICH THE WORK WILL BE INSTALLED AND REPORT TO THE CONTRACTOR IN WRITING ANY CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY EXECUTION OF THAT INSTALLERS WORK. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED. COMMENCING WITH INSTALLATION SHALL CONSTITUTE ACCEPTANCE OF THE SUBSTRATE AND/OR CONDITIONS.
8. DO NOT SCALE DRAWINGS: FOLLOW WRITTEN DIMENSIONS AND NOTES. CONTACT ARCHITECT FOR CLARIFICATIONS, IF REQUIRED.
9. DIMENSIONS SHOWN ON THE FLOOR PLAN ARE TO THE FACE OF STUD/STRUCTURE (FOS), FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FOC), AND COLUMN GRID LINES, UNLESS OTHERWISE NOTED OR INDICATED.
10. NOTE: WALL THICKNESSES ARE ACTUAL DIMENSIONS. REFER TO WALL TYPES SHEET FOR THICKENSSES.
11. ALL MASONRY WALL THICKNESSES ACTUAL DIMENSIONS REFER TO WALL TYPES SHEET.
12. "TYPICAL", AS USED IN THESE DOCUMENTS, SHALL MEAN THAT THE CONDITION OR DIMENSION IS REPRESENTATIVE OF, OR THE SAME, FOR SIMILAR CONDITIONS THROUGHOUT.
13. IF THERE IS A DISCREPANCY BETWEEN SMALL SCALE AND LARGE SCALE DRAWINGS, (PLAN, SECTION, & DETAIL DRAWINGS, ETC.) - CONTACT ARCHITECT FOR CLARIFICATION. FOR BIDDING PURPOSES: THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS SHALL GOVERN. FOR CLARIFICATIONS DURING CONSTRUCTION: THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS, AS INDICATED BY THE ARCHITECT, SHALL GOVERN.
14. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS - CONTACT ARCHITECT FOR CLARIFICATION. FOR BIDDING PURPOSES: THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS SHALL GOVERN. FOR CLARIFICATIONS DURING CONSTRUCTION: THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS, AS INDICATED BY THE ARCHITECT, SHALL GOVERN.
15. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS SHALL BE REPORTED TO THE ARCHITECT IN WRITING FOR RESOLUTION, PRIOR TO PROCEEDING WITH THE WORK.
16. ANY AND ALL DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT IN WRITING FOR RESOLUTION, PRIOR TO PROCEEDING WITH THE WORK. IN THESE INSTANCES: NO CHANGE ORDERS OR EXTENSIONS OF TIME WILL BE ALLOWED OR ACCEPTED FOR PROCEEDING WITH THE WORK WITHOUT THE ARCHITECT'S WRITTEN DIRECTION AND APPROVAL. ALSO - CONTRACTOR MUST REPAIR AND/OR REPLACE ANY UNAUTHORIZED WORK, AS INDICATED BY THE ARCHITECT, AT NO ADDITIONAL COST TO THE OWNER.
17. ALL DISSIMILAR METAL MATERIALS SHALL BE ISOLATED WITH AN APPROVED NONMETAL ISOLATION MATERIAL.
18. OPEN EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALL PANELS, AND AT PENETRATIONS OF UTILITIES THROUGH THE BUILDING ENVELOPE, ETC. – SHALL BE SEALED, CAULKED, FLASHED OR WEATHER-STRIPPED AS REQUIRED FOR COMPATIBILITY WITH ADJACENT MATERIALS & TO ELIMINATE AIR LEAKAGE AND WATER ENTRY.
19. PROVIDE SEALANT AND/OR CAULKING BETWEEN DISSIMILAR ADJOINING INTERIOR MATERIALS. (I.E. WINDOW SILLS TO GYP. BD., ACT CEILINGS TO MASONRY WALLS, ETC.)
20. DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALL SHOWN OR LOCATED 4 INCHES FROM FINISH WALL TO FINISH JAMB, ALWAYS ALLOWING A MINIMUM OF 18" FROM THE PULL SIDE OF THE DOOR TO THE INTERSECTING WALL.
21. CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES AND THEIR SERVICE CONNECTIONS WITH THE PROPER UTILITY COMPANY.
23. CONTRACTOR SHALL COORDINATE SIZE, LOCATIONS AND NUMBER OF ALL ROOF OPENINGS AND ROOF ACCESSORIES WITH ALL OTHER TRADES. REFER TO THE ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS.
24. LOCATIONS AND SIZES OF ALL CONCRETE MECHANICAL AND ELECTRICAL PADS SHALL BE COORDINATED BY THE MECHANICAL AND ELECTRICAL CONTRACTORS, WITH THE SELECTED EQUIPMENT MANUFACTURER/SUPPLIER; AND ARE TO BE APPROVED BY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
25. EXCEPT AT FIRE-RATED PARTITIONS, ALL WALL AND COLUMN GYPSUM BOARD FACING SHALL BE HELD AT 5/8 INCH BELOW STRUCTURE, UNLESS DETAILED OR NOTED OTHERWISE.
28. ALL CEILING HEIGHTS AS SHOWN ON PLANS AND DETAILS ARE FROM SLAB OR TILE FLOOR (FINISHED FLOOR) TO FINISH CEILING.
29. PROVIDE INDEPENDENT FRAMING & ATTACHMENTS TO THE STRUCTURE – ADEQUATE TO SUPPORT THE CEILING SYSTEM, LIGHT FIXTURES, DUCTS, DIFFUSERS, SPRINKLER PIPING AND BUS DUCTS.
30. ALL CLOSETS AND ALCOVES WITHOUT A SPACE IDENTIFICATION NUMBER SHALL HAVE THE SAME FINISHES AS ADJOINING SPACES.
31. CONTRACTOR TO INSTALL WOOD BLOCKING AND PLYWOOD AS REQUIRED FOR THE MOUNTING OF ALL TOILET ACCESSORIES, MILLWORK/ CASEWORK, HANDRAILS, FIRE EXTINGUISHERS, WALL SPEAKERS, POSTER CASES, TELEVISIONS, ELECTRICAL PANELS, FIRE ALARMS, MEP ITEMS, AND AV EQUIPMENT, ETC.
32. REFER TO SPECIFICATIONS FOR ALL REQUIRED TESTING AND INSPECTIONS.
33. ANY/ ALL PROPRIETARY PRODUCTS DESCRIBED AND/OR DRAWN IN THE DOCUMENTS (BUT NOT SPECIFIED) ARE TO MEET THE MANUFACTURER'S STANDARD CRITERIA WHICH IS NOT LIMITED TO THE FOLLOWING: PERFORMANCE REQUIREMENTS, QUALITY ASSURANCE REQUIREMENTS, APPLICABLE CODES AND INDUSTRY STANDARDS, FABRICATION, ASSEMBLY, HANDLING, DELIVERY, STORAGE, INSTALLATION, OPERATION, ADJUSTMENTS, ETC. PROVIDE THE MANUFACTURER'S STANDARD WARRANTY AND STANDARD FINISH WARRANTY. PROVIDE PRODUCT DATA, SHOP DRAWINGS, SAMPLES, AND MAINTENANCE DATA AS REQUIRED. REFER TO DIVISION 01 SPEC. SECTIONS WHICH ALSO APPLY - SUCH AS SUBSTITUTION PROCEDURES, SUBMITTAL PROCEDURES, QUALITY REQUIREMENTS, REFERENCES, EXECUTION, AND CLOSEOUT PROCEDURES. NOTE: ANY SUBSTITUTIONS MUST MEET THE DESIGN INTENT, AS WELL AS THE CRITERIA DESCRIBED ABOVE.
34. PROVIDE MINIMUM WARRANTY PERIOD OF 18 MONTHS FROM SUBSTANTIAL COMPLETION ON ALL PRODUCTS/ SERVICES.

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PERMIT DOCUMENTS

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SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB II
NUMBER A-2016004008
ARCHITECT
3-28-24

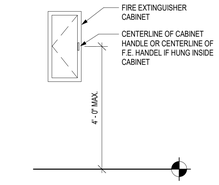
PROFESSIONAL SEAL

G001

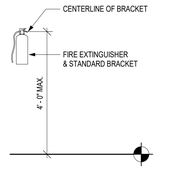
ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

GENERAL INFORMATION

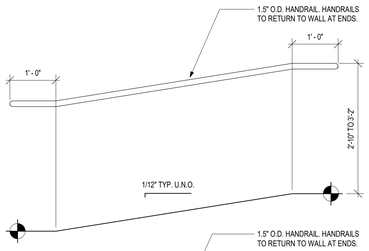
3/27/2024 4:20:38 PM



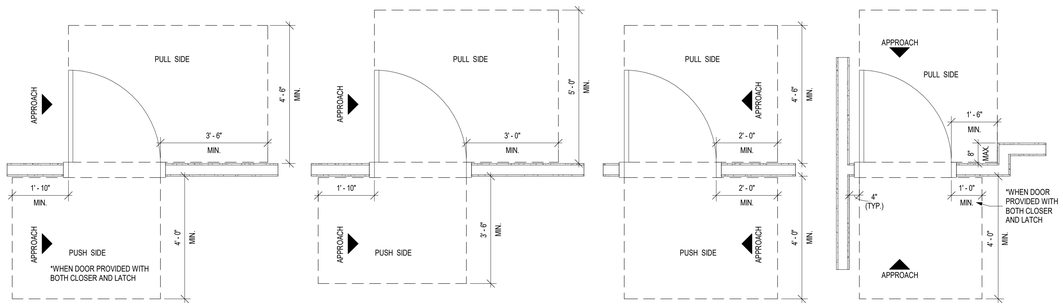
J10 FE CABINET
1/2" = 1'-0"



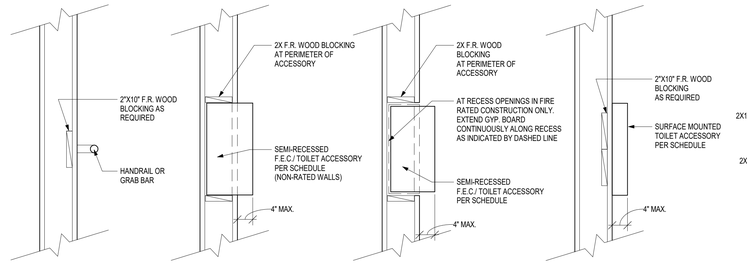
G10 FIRE EXTINGUISHER
1/2" = 1'-0"



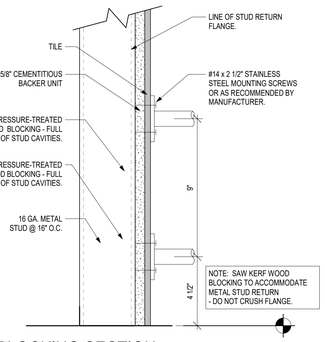
G9 HANDRAIL @ STAIRS AND RAMPS
3/4" = 1'-0"



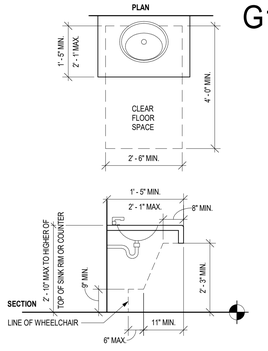
J6 TYP. DOOR APPROACH CLEARANCES
1/2" = 1'-0"



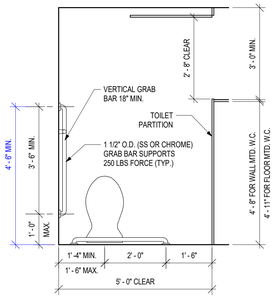
G6 TYP. BLOCKING DETAILS
3/4" = 1'-0"



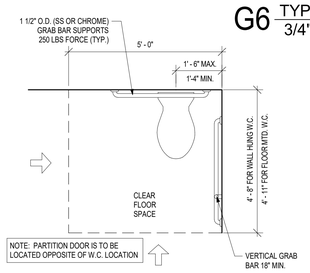
G2 BLOCKING SECTION
3" = 1'-0"



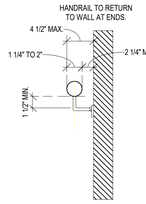
E12 SINK IN COUNTER CLEARANCES
1/2" = 1'-0"



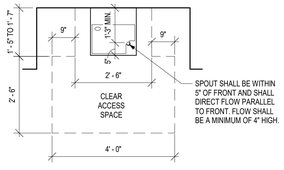
E10 ACCESSIBLE TOILET STALL
1/2" = 1'-0"



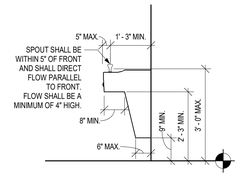
E8 ACCESSIBLE CLEAR FLOOR SPACE
1/2" = 1'-0"



E6 HANDRAIL CLEARANCES
1 1/2" = 1'-0"



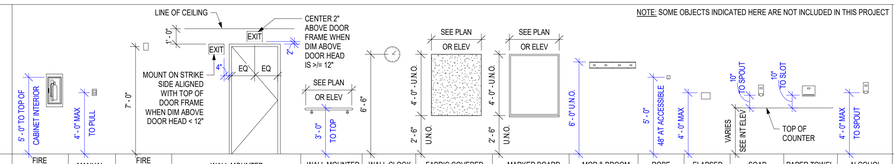
E4 E.W.C. - CLEAR SPACE
1/2" = 1'-0"



E2 E.W.C. - SECTION
1/2" = 1'-0"

MISCELLANEOUS ACCESSORY TYPICAL MOUNTING HEIGHTS

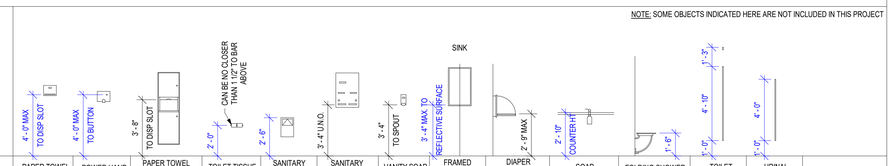
NOTE: SOME OBJECTS INDICATED HERE ARE NOT INCLUDED IN THIS PROJECT



FINISH FLOOR															
ACCESSORY TYPE	FIRE EXTINGUISHER CABINET	MANUAL FIRE PULL	FIRE STROBE/LIGHT/ AUDIBLE ALARM	WALL MOUNTED EXIT SIGN	WALL MOUNTED HANDRAIL	WALL CLOCK	FABRIC COVERED TACK BOARD	MARKER BOARD	MOP & BROOM HOLDER	ROBE HOOK	ELAPSED TIME CLOCK	SOAP DISPENSER	PAPER TOWEL DISPENSER	ALCOHOL DISPENSER
COMMENTS	SEMI RECESSED	SURFACE MOUNTED	SURFACE MOUNTED	WALL MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED

TOILET ACCESSORY TYPICAL MOUNTING HEIGHTS

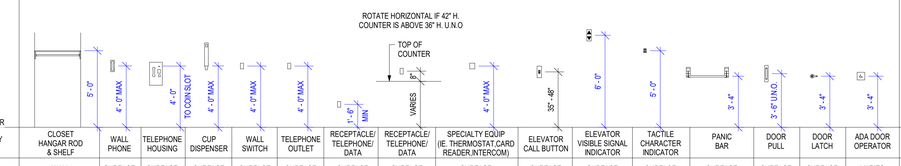
NOTE: SOME OBJECTS INDICATED HERE ARE NOT INCLUDED IN THIS PROJECT



FINISH FLOOR												
ACCESSORY TYPE	PAPER TOWEL DISPENSER	POWER HAND DRYER	PAPER TOWEL DISPENSER & TRASH RECEPTACLE	TOILET TISSUE DISPENSER	SANITARY NAPKIN DISPOSAL	SANITARY NAPKIN DISPENSER	VANITY SOAP DISPENSER	FRAMED VANITY MIRROR	DIAPER CHANGING STATION	SOAP DISPENSER	FOLDING SHOWER SEAT	TOILET PARTITION	URINAL SCREEN
COMMENTS	SURFACE MOUNTED	SURFACE MOUNTED	SEMI RECESSED	SURFACE MOUNTED	SURFACE MOUNTED	RECESSED & SURFACE	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	COUNTERTOP MOUNTED	SURFACE MOUNTED	WALL MOUNTED	WALL MOUNTED

MISCELLANEOUS ACCESSORY TYPICAL MOUNTING HEIGHTS

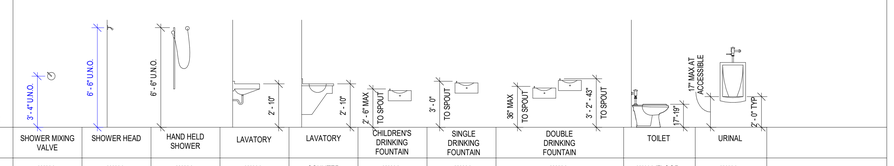
NOTE: SOME OBJECTS INDICATED HERE ARE NOT INCLUDED IN THIS PROJECT



FINISH FLOOR																	
ACCESSORY TYPE	CLOSET HANGAR ROD & SHELF	WALL PHONE	TELEPHONE HOUSING	CUP DISPENSER	WALL SWITCH	TELEPHONE OUTLET	RECEPTACLE/ TELEPHONE/ DATA	RECEPTACLE/ TELEPHONE/ DATA	SPECIALTY EQUIP (IE. THERMOSTAT,CARD READER,INTERCOM)	ELEVATOR CALL BUTTON	ELEVATOR VISIBLE SIGNAL INDICATOR	TACTILE CHARACTER INDICATOR	PANIC BAR	DOOR PULL	DOOR LATCH	ADA DOOR OPERATOR
COMMENTS	WALL MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	VARIES

PLUMBING FIXTURE TYPICAL MOUNTING HEIGHTS

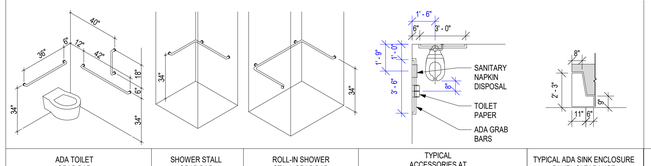
NOTE: SOME OBJECTS INDICATED HERE ARE NOT INCLUDED IN THIS PROJECT



FINISH FLOOR									
ACCESSORY TYPE	SHOWER MIXING VALVE	SHOWER HEAD	HAND HELD SHOWER	LAVATORY	LAVATORY	CHILDREN'S DRINKING FOUNTAIN	SINGLE DRINKING FOUNTAIN	DOUBLE DRINKING FOUNTAIN	TOILET	URINAL
COMMENTS	WALL MOUNTED	WALL MOUNTED	WALL MOUNTED	WALL MOUNTED	COUNTER MOUNTED	WALL MOUNTED	WALL MOUNTED	WALL MOUNTED	WALL/FLOOR MOUNTED	WALL MOUNTED

GRAB BAR TYPICAL MOUNTING HEIGHTS & TOILET ACCESSORY PLANS

NOTE: SOME OBJECTS INDICATED HERE ARE NOT INCLUDED IN THIS PROJECT



ADA TOILET GRAB BAR	SHOWER STALL GRAB BAR	ROLL-IN SHOWER STALL GRAB BAR	TYPICAL ACCESSORIES AT ACCESSIBLE TOILET	TYPICAL ADA SINK ENCLOSURE PANEL CLEARANCE
SURFACE MOUNTED	SURFACE MOUNTED	SURFACE MOUNTED	NOTE: SANITARY NAPKIN DISPOSAL AT WOMEN'S & UNISEX ONLY	

A11 TYP. MOUNTING HEIGHTS Copy 1
1/4" = 1'-0"

GENERAL NOTES: ACCESSIBILITY GUIDELINES

1. NOTE: ALL DIMENSIONS ARE MEASURED FROM FLOOR, UNLESS NOTED OR SHOWN OTHERWISE.
2. ADA UNOBSTRUCTED REACH RANGES: ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
3. ELEVATORS: STANDARD CALL BUTTONS: 35" TO 48" TO C.L. & PROTRUDE 1" MAX. ADA CALL BUTTONS: 42" TO C.L. (TYP.) & 48" MAX. (3/4" SMALLEST DIM.). ADA VISIBLE SIGNALS: 72" MIN. TO C.L. (2 1/2" SMALLEST DIM.). TACTILE SIGNAL ON HOISTWAY: 60" TO BASE OF CHARACTERS W/ TACTILE STAR & 2" HIGH CHARACTERS.
4. DOOR HARDWARE (TO CENTER OF HARDWARE): STANDARD MOUNTING HEIGHTS: PUSH PLATES = 42", PULL HANDLES = 42", KNOBS/ LEVERS = 40", PANIC EXIT = 42" CENTERLINE OF BAR, KICKPLATES: WIDTH = DOOR WIDTH MINUS 2", CENTER, HEIGHT = 16" FROM B.O. DOOR. THRESHOLDS: STANDARD = 1/2" MAX. AT EXT. SLIDING DOORS = 3/4" MAX., ADA HARDWARE = 34" MIN. TO 48" MAX.
5. DRINKING FOUNTAINS & EWC'S (TO SPOUT): STANDARD = 40" TYP., 42" MAX. ADA =36" MAX. (27" MIN. CLEAR KNEE SPACE)
6. COUNTERTOPS (TO SINK RIM/ COUNTERTOP): ADA = 28" MIN. TO 34" MAX.
7. WATER CLOSETS (TO TOP OF SEAT): STANDARD = 14" TO 15", ADA (TO TOP OF SEAT) = 17" TO 19". ADA FLUSH CONTROLS = 44" MAX.
8. URINALS (TO RIM): STANDARD = 24" MAX. ADA =17" MAX. ADA FLUSH CONTROLS = 44" MAX.
9. LAVATORIES (TO SINK RIM/ COUNTERTOP): STANDARD = 36" MAX. ADA = 34" MAX. (29" MIN. CLEAR KNEE SPACE)
10. MIRRORS (TO B.O. REFLECTIVE SURFACE): STANDARD = VARIES. ADA = 40" MAX.
11. GRAB BARS - ADA (TO TOP OF BAR): WATER CLOSETS = 33" MIN. TO 36" MAX. SHOWERS = 33" MIN. TO 36" MAX. (FROM B.O.SHOWER). BATHTUBS: TOP BAR = 33" MIN. TO 36" MAX. BOT. BAR = 9" ABOVE T.O. TUB
12. SHOWER HEADS (FROM FLOOR TO HEAD): STANDARD = 72" TO 84". ADA = SPRAY UNIT W/ HOSE 60" LONG MIN. ADA = FIXED SHOWER HEAD = 48" AFF.
13. SHOWER CONTROLS (TO CONTROL AREA): STANDARD = 48" MAX. (TO TOP). ADA = 38" MIN. TO 48" MAX.
14. SHOWER ROD (FROM FLOOR TO C.L.): STANDARD = 78" MAX.
15. TOILET ROOM PARTITIONS: TOILETS = 12" TO BOT. & 70" TO TOP. URINALS = 18" TO BOT. & 60" TO TOP
16. TOILET PAPER DISPENSERS (TO C.L. OF OUTLET): STANDARD = 24". ADA = 19" MIN. TO 24" MAX.
17. WALL MOUNTED SOAP DISPENSERS (TO C. L. OF PUSH BUTTON): STANDARD = 40". ADA = VARIES. RE: OBSTRUCTED AND UNOBSTRUCTED REACH RANGES. ADA SIDE REACH = 46" MAX. ABOVE SINK IN COUNTER.
18. PAPER TOWEL DISPENSER/ WASTE RECEPTACLE (TO TOWEL SLOT): STANDARD = 40" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
19. WARM AIR HAND DRYER (TO PUSH SWITCH): STANDARD = 44" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
20. SANITARY NAPKIN DISPENSER (TO C.L. OF COIN SLOT): STANDARD = 40" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
21. SANITARY NAPKIN DISPOSAL (TO TOP OF UNIT): STANDARD = 28" MAX. ADA = 19" MIN. TO 24" MAX. (TO OPNG.)
22. TOILET SEAT COVER DISPENSERS (TO OPNG.): STANDARD = 40" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
23. SHELVES: ADA = 48" MAX.
24. COAT HOOKS: STANDARD = 68". ADA = 48" MAX.
25. CHALKBOARDS, TACKBOARDS,& MARKERBOARDS: STANDARD = 32" TO 39" (TO B.O. BOARD OR CHALKTRAY). STANDARD = 80" (RECOMMENDED, TO T.O. BOARD)
26. THERMOSTATS & CONTROL DEVICES (TO TOP): ADA FORWARD REACH = 48" MAX. ADA SIDE REACH = 48" MAX.
27. LIGHT SWITCHES & CARD READERS (TO C.L.): LOCATE 6" FROM DOOR JAMB. ADA = 48" MAX.
28. CONVENIENCE RECEPTACLES – ELECTRICAL/ TELEPHONE/ DATA (TO C.L.): STANDARD = 18". ADA = 15" MIN.
29. EXIT LIGHTS - WALL MOUNTED: 2" MIN. BELOW CEILING. 2" MIN. ABOVE DOOR FRAME. EQUAL SPACE FROM CEILING TO TOP OF FRAME.
30. FIRE EXTINGUISHERS (TO TOP, U.N.O.): GROSS WT. 40 LBS. OR LESS = 60" MAX. GROSS WT. MORE THAN 40 LBS. = 42" MAX. ADA = 40" MAX. (B.O. CABINET)
31. FIRE ALARM PULL STATIONS (TO LEVER): STANDARD = 48" MAX. ADA FORWARD REACH = 48" MAX. ADA SIDE REACH = 48" MAX.
32. SMOKE AND/OR HEAT DETECTORS: STANDARD = CEILING HEIGHT
33. HORN/ SPEAKER/ VISUAL SIGNALS: STANDARD = 80" AFF. OR 6" BELOW CEILING - WHICHEVER IS LOWER.
34. ROOM SIGNAGE (TO C.L.): STANDARD = 60" HIGH AFF. & WITHIN 18" OFLATCH SIDE OF DOOR

CWA ARCHITECTURE
collins|webb
3078 SW Market St., Lee's Summit, Missouri 64063 | 816.249.2270 | www.collinswebb.com

PERMIT DOCUMENTS

RESERVE AT BLACKWELL - BUILDING J

SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB II
NUMBER A-2016040098
2-29-24
ARCHITECT

PROFESSIONAL SEAL

G002

ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

ACCESSIBILITY GUIDELINES

1/17/2024 3:13:32 PM

BUILDINGS J

GENERAL INFORMATION:
NO. OF STORIES = 2
ACTUAL BUILDING HT. = 22' - 7"
BASEMENT = NO
LIVING AREA = 1,653 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.*

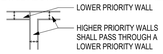
FOUR HOUR FIRE WALL (**4FW**)
THREE HOUR FIRE WALL (**3FW**)
TWO HOUR FIRE WALL (**2FW**)
FOUR HOUR FIRE BARRIER (**4FB**)
THREE HOUR FIRE BARRIER (**3FB**)

TWO HOUR FIRE BARRIER (**2FB**) *(INCLUDES THE FOLLOWING)*
- TWO HOUR SHAFT ENCLOSURE (**2SE**)

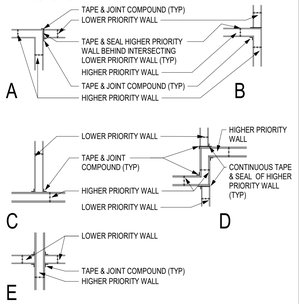
ONE HOUR FIRE BARRIER (**1FB**) *(INCLUDES THE FOLLOWING)*
- ONE HOUR SHAFT ENCLOSURE (**1SE**)

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

WALL TYPE NOTES:

1. DRYWALL PARTITIONS SHOULD BE CONSTRUCTED IN ACCORDANCE WITH ASTM E497 - STANDARD PRACTICE FOR INSTALLING SOUND ISOLATING GYPSUM BOARD PARTITIONS, AND ASTM C919 - 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 BOTH METAL STUD WALLS.
2. RE: LIFE SAFETY PLAN(S) FOR RATED WALL LOCATIONS.
3. RE: WALL TYPE DETAIL SHEET FOR TYPICAL WALL DETAILS AND ADDITIONAL WALL TYPE INFORMATION.
4. FOR TYPICAL TOP OF WALL CONDITIONS AT JOISTS AND BEAMS, REFER TO THE CLOSURE DETAILS ON THE WALL TYPE DETAILS SHEET.
5. 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.
6. 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.
7. PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BACK-UP PLATES AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK AND OF ALL FLOOR MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL OR LABORATORY EQUIPMENT.
8. WHERE HVAC OR OTHER MECHANICAL, ELECTRICAL AND PLUMBING ITEMS PENETRATE PARTITIONS: STUDS SHALL BE BRACED AND FRAMED TO STRUCTURE AS REQUIRED TO PROVIDE ADEQUATE SUPPORT. ALL PENETRATIONS THROUGH ACOUSTICAL AND FIRE RATED WALLS SHALL BE SEALED TO PROVIDE FIRE, SMOKE, AND/OR ACOUSTICAL ISOLATION OF SPACES WITH APPROPRIATE ACOUSTICAL/ FIRESTOP MATERIAL.
9. THERE SHALL BE NO BACK-TO-BACK ELECTRICAL, TELEPHONE, OR OTHER OUTLETS, EXCEPT WHERE SPECIFICALLY SHOWN.
10. WALL BASE IS NOT SHOWN ON ALL WALL TYPES FOR CLARITY. REFER TO FINISH SCHEDULE.
11. PROVIDE GLASS-MAT, WATER RESISTANT BACKING BOARD AT ALL WET LOCATIONS.
12. 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.
13. PROVIDE AND INSTALL BLOCKING REQUIRED FOR ALL A.V. EQUIPMENT. G.C. TO COORDINATE WITH TI CONSULTANT FOR FINAL LOCATIONS AND SIZE REQUIREMENTS.
14. 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.
15. MUD AND TAPE ALL 1ST AND 2ND LAYER GYP. BOARD JOINTS. PROVIDE 3RD LAYER FINISH PER GENERAL NOTES: FLOOR PLAN.
16. 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-DAMPERED.
- 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

1. 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.
2. WHEN A WALL HAS MORE THAN ONE CLASSIFICATION, THE MOST RESTRICTIVE REQUIREMENTS FOR EACH CLASSIFICATION SHALL APPLY.
3. 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
307B SW MARKET STREET
LEES SUMMIT, MISSOURI 64063

APPLICABLE CODES:
2018 INTERNATIONAL RESIDENTAIL CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL FIRE CODE
2017 NATIONAL ELECTRICAL CODE
ICC/ANSI A117.1-2009, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

FIRE EXTINGUISHERS

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

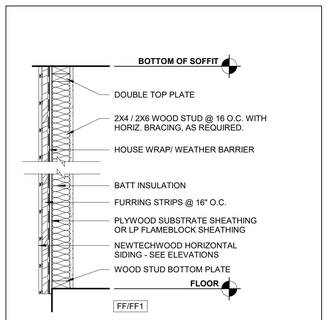
CEILING HEIGHT NOTES: (IRC R305)

1. 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.
2. 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'-8" A.F.F.

EXCEPTIONS: BEAMS, GIRDERS, DUCTS, OR OTHER OBSTRUCTIONS MAY PROJECT TO WITHIN 6'-4" OF THE FINISHED FLOOR.

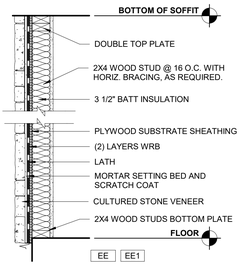
FIRE SPRINKLER NOTE: (IRC R302)

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



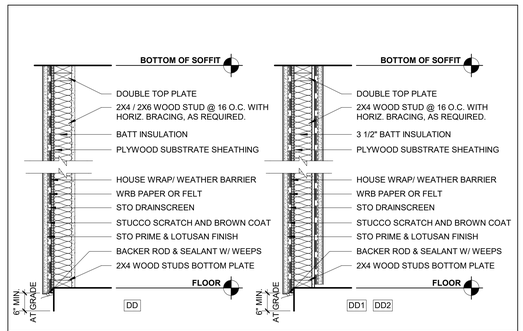
WALL TYPE FF

TYPE	WALL DESCRIPTION
FF	• 2X4 STUD @ 16" O.C. • 1/2" TYPE "X" GYP. BD. ONE SIDE • 3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL • HOUSE WRAP/ WEATHER BARRIER • EXT. NEWTECHWOOD HORIZONTAL SIDING WITH SUBSTRATE SHEATHING: INSTALL PER MFR DETAILS • NON RATED
FF1	• 2X6 STUD @ 16" O.C. • 1/2" TYPE "X" GYP. BD. ONE SIDE •5-1/2" BATT INSUL. TO FULL HEIGHT OF WALL • HOUSE WRAP/ WEATHER BARRIER • EXT. NEWTECHWOOD HORIZONTAL SIDING WITH SUBSTRATE SHEATHING: INSTALL PER MFR DETAILS • NON RATED



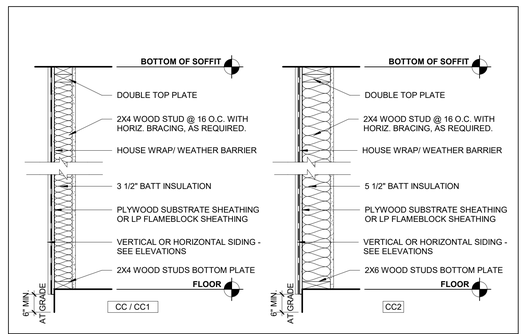
WALL TYPE EE

TYPE	WALL DESCRIPTION
EE	• 2X4 STUD @ 16" O.C. • 1/2" TYPE "X" GYP. BD. ONE SIDE • 3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL • HOUSE WRAP/ WEATHER BARRIER • MORTAR SETTING BED AND SCRATCH COAT. • CULTURED STONE VENEER - ELDORADO STONE - CUT COARSE STONE - SEASHELL: INSTALL PER MFR DETAILS • NON RATED
EE1	• 2X6 STUD @ 16" O.C. • 1/2" TYPE "X" GYP. BD. ONE SIDE • 3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL • HOUSE WRAP/WEATHER BARRIER • MORTAR SETTING BED AND SCRATCH COAT. • CULTURED STONE VENEER - ELDORADO STONE - CUT COARSE STONE - SEASHELL: INSTALL PER MFR DETAILS • NON RATED



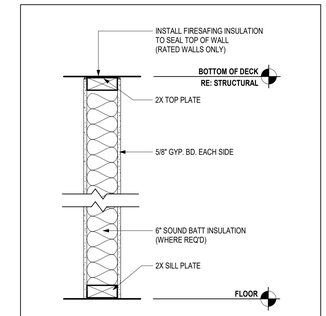
WALL TYPE DD

TYPE	WALL DESCRIPTION
DD	• 2X4 STUD @ 16" O.C. • 1/2" TYPE "X" GYP. BD. ONE SIDE • 3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL • 1-SIDED SUBSTRATE SHEATHING • HOUSE WRAP/ WEATHER BARRIER • CODE COMPLIANT WRB PAPER OR FELT • DRAINAGE MAT - STO DRAINSCREEN® • CODE COMPLIANT SELF-FURRED GALVANIZED DIAMOND MESH METAL LATHE • STUCCO SCRATCH COAT - STOPOWERWALL® STUCCO • STUCCO BROWN COAT - STOPOWERWALL® STUCCO • PRIMER COATING - STOPRIME® • FINISH - STOLIT® LOTUSAN - COLOR 37203 • NON RATED
DD1	• 2X6 STUD @ 16" O.C. • 5-1/2" BATT INSUL. TO FULL HEIGHT OF WALL • 1-SIDED SUBSTRATE SHEATHING - BOTH SIDES • HOUSE WRAP/ WEATHER BARRIER - BOTH SIDES • CODE COMPLIANT WRB PAPER OR FELT - BOTH SIDES • DRAINAGE MAT - STO DRAINSCREEN® - BOTH SIDES • CODE COMPLIANT SELF-FURRED GALVANIZED DIAMOND MESH METAL LATHE - BOTH SIDES • STUCCO SCRATCH COAT - STOPOWERWALL® STUCCO - BOTH SIDES • STUCCO BROWN COAT - STOPOWERWALL® STUCCO - BOTH SIDES • PRIMER COATING - STOPRIME® - BOTH SIDES • FINISH - STOLIT® LOTUSAN - COLOR 37203 - BOTH SIDES • NON RATED
DD2	• 2X4 STUD @ 16" O.C. • 3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL • 1-SIDED SUBSTRATE SHEATHING - BOTH SIDES • HOUSE WRAP/ WEATHER BARRIER - BOTH SIDES • CODE COMPLIANT WRB PAPER OR FELT - BOTH SIDES • DRAINAGE MAT - STO DRAINSCREEN® - BOTH SIDES • CODE COMPLIANT SELF-FURRED GALVANIZED DIAMOND MESH METAL LATHE - BOTH SIDES • STUCCO SCRATCH COAT - STOPOWERWALL® STUCCO - BOTH SIDES • STUCCO BROWN COAT - STOPOWERWALL® STUCCO - BOTH SIDES • PRIMER COATING - STOPRIME® - BOTH SIDES • FINISH - STOLIT® LOTUSAN - COLOR 37203 - BOTH SIDES • NON RATED



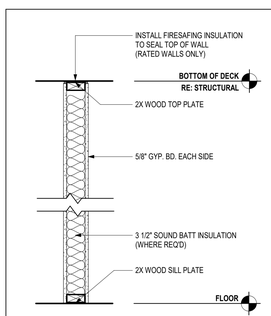
WALL TYPE CC

TYPE	WALL DESCRIPTION (ALL WALLS 2X4, EXCEPT BASEMENT WALLS TO BE 2X6)
CC	•2X4 STUD @ 16" O.C. • 1/2" TYPE "X" GYP. BD. ONE SIDE •3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL •HOUSE WRAP/ WEATHER BARRIER • EXT. VERTICAL SIDING WITH SUBSTRATE SHEATHING: INSTALL PER MFR DETAILS • NON RATED
CC1	•2X4 STUD @ 16" O.C. • 1/2" TYPE "X" GYP. BD. ONE SIDE •3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL •FIRE RATED SEALANT AT ALL PENETRATIONS •HOUSE WRAP/ WEATHER BARRIER • EXT. HORIZONTAL OR VERTICAL SIDING WITH FIRE RATED SUBSTRATE SHEATHING: INSTALL PER MFR DETAILS • 1 HOUR RATED AT BOTH SIDES
CC2	• 2X6 STUD @ 16" O.C. •5/8" TYPE "X" GYP. BD. ONE SIDE •5-1/2" BATT INSUL. TO FULL HEIGHT OF WALL •HOUSE WRAP/ WEATHER BARRIER • EXT. HORIZONTAL SIDING WITH SUBSTRATE SHEATHING: INSTALL PER MFR DETAILS • NON RATED



WALL TYPE BB

TYPE	WALL DESCRIPTION
BB	• 2X6 WOOD STUD @ 16" O.C. TO DECK ABOVE • 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE • BATT INSUL. • NON RATED
BB1	• 2X6 WOOD STUD @ 16" O.C. TO DECK ABOVE • 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE • NO SOUND BATT INSUL. • FIRE-RATED SEALANT AT FLOOR, DECK, & ALL PENETRATIONS • 1-HR RATED RE: UL # U314
BB2	• 2X6 WOOD STUD @ 16" O.C. TO DECK ABOVE • 2 LAYERS - 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE • NO SOUND BATT INSUL. • FIRE-RATED SEALANT AT FLOOR, DECK, & ALL PENETRATIONS • 2-HR RATED RE: UL # U301

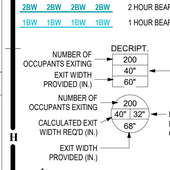


WALL TYPE AA

TYPE	WALL DESCRIPTION
AA	• 2X4 WOOD STUD @ 16" O.C. TO DECK ABOVE • 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE • NO SOUND BATT INSUL. • NON RATED
AA1	• 2X4 WOOD STUD @ 16" O.C. TO DECK ABOVE • 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE • NO SOUND BATT INSUL. • FIRE-RATED SEALANT AT FLOOR, DECK, & ALL PENETRATIONS • 1-HR RATED RE: UL # U314
AA2	• 2X4 WOOD STUD @ 16" O.C. TO DECK ABOVE • 2 LAYERS - 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE • NO SOUND BATT INSUL. • FIRE-RATED SEALANT AT FLOOR, DECK, & ALL PENETRATIONS • 2-HR RATED RE: UL # U301

FIRE RESISTIVE LEGEND

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



X" FROM ROOM OR LEVEL
X = CLEAR WIDTH OF OPENING IN INCHES

F.E.C. FIRE RISER CABINET

F.A.C.P. FIRE ALARM CONTROL PANEL

FDC **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:

1. IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS:
   1.1 VERTICALLY AT THE CEILING AND FLOOR LEVELS.
   1.2 HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET.
2. AT INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS.
3. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
4. 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 THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E136 REQUIREMENTS.
5. FOR THE FIREBLOCKING OF CHIMNEYS AND FIREPLACES, SEE SECTION R1003.19.
6. 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.

1. TWO-INCH NOMINAL LUMBER.
2. TWO THICKNESSES OF 1-INCH NOMINAL LUMBER WITH BROKEN LAP JOINTS.
3. ONE THICKNESS OF 23/32-INCH WOOD STRUCTURAL PANELS WITH JOINTS BACKED BY 23/32-INCH WOOD STRUCTURAL PANELS.
4. ONE THICKNESS OF 3/4-INCH PARTICLEBOARD WITH JOINTS BACKED BY 3/4-INCH PARTICLEBOARD.
5. ONE-HALF-INCH GYPSUM BOARD.
6. ONE-QUARTER-INCH CEMENT-BASED MILLBOARD.
7. BATTS OR BLANKETS OF MINERAL WOOL OR GLASS FIBER OR OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO BE SECURELY RETAINED IN PLACE.
8. CELLULOSE INSULATION INSTALLED AS TESTED IN ACCORDANCE WITH ASTM E119 OR UL 263, FOR THE SPECIFIC APPLICATION.

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BLACKWELL RESERVE AT BUILDING J

PERMIT DOCUMENTS

SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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LIFE SAFETY INFORMATION

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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 SUBSTITUTION BY BOTH ARCHITECT & OWNER PROJECT MANAGER. FORM CAN BE REQUESTED FROM ARCHITECT.
2. A CONDENSED SET OF SPECIFICATIONS ARE PROVIDED FOR THE PROJECT. STRICT ADHEARANCE 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. 1 SEE ADMINISTRATIVE SPECIFICATION FOR GENERAL REQUIREMENTS RELATED TO ADMINISTATION OF THIS CONTRACT.

A. CONTRACTOR LICENSES
1. 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 PREFORMED 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 IN 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. NOTWITHSTANDING, DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ARCHITECT'S 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.
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 TO HOLD REGULARLY SCHEDULED SAFETY TRAINING WITH ALL JOB SITE PERSONNEL, INCLUDING ALL SUB CONTRACTOR PERSONNEL.
5. NEITHER THE ARCHITECT'S OR THE OWNERS INSPECTION NOR FAILURE TO INSPECT SHALL RELIEVE THE CONTRACTOR OF ANY OBLIGATION HEREUNDER. IF ANY WORK FAILS TO CONFORM TO THE CONTRACT 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 SO CONDUCT ITS OPERATIONS AS NOT TO UNREASONABLY INTERFERE WITH TRAFFIC ON PUBLIC THOROUGHFARES ADJACENT OR NEAR TO THE PROJECT SITE.
7. 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 EMPLOYEES BY PAYING WAGES, DIRECTING ACTIVITIES AND PERFORMING OTHER SIMILAR FUNCTIONS. THE GENERAL CONTRACTOR IS AN INDEPENDENT CONTRACTOR, FREE TO DETERMINE THE MANNER IN WHICH THE WORK IS 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 THE LAPTOP.
D. A PRINTER/SCANNER/FAX MACHINE WITH PROPER CABLES TO ATTACH TO LAPTOP.
E. CELL PHONE.
F. PROJECT INTERNET CLOUD BASED SITE FOR MANAGEMENT OF PROJECT INFORMATION. SITE WILL BE USED FOR SUBMITTAL OF SHOP DRAWINGS, RFI'S & PHOTOS. SITE SHALL BE PROCORE OR EQUAL FUNCTIONALITY.
3. THE GENERAL CONTRACTOR SHALL HAVE A CONSTRUCTION SUPERINTENDENT ASSIGNED TO THIS PROJECT, AND THIS SUPERINTENDENT SHALL BE ON SITE EVERY DAY THERE IS ANY CONSTRUCTION ON THIS PROJECT. THE SUPERINTENDENT SHALL BE REACHABLE BY PHONE DURING NORMAL BUSINESS HOURS. ONCE ASSIGNED, THE SUPERINTENDENT SHALL NOT BE REMOVED OR REPLACED WITHOUT WRITTEN APPROVAL FROM OWNER & ARCHITECT, 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 FRIDAY BY NOON CST, SHOWING THE PROGRESS OF CONSTRUCTION. THE GENERAL CONTRACTOR IS ENCOURAGED TO TAKE PHOTOS SEVERAL TIMES EACH WEEK TO HELP MAINTAIN PROOF OF CONSTRUCTION PROGRESS, RECORD UNCOVERED CONDITIONS, RECORD CONDITION AND AMOUNTS OF VENDOR GOODS UPON RECEIPT, AND RECORD CONSTRUCTION THAT VARIES FROM THE CD'S (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 INSPECTING 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 ACCEPTABILITY. THE GENERAL CONTRACTOR CANNOT DELEGATE HIS RESPONSIBILITY TO THE SUBCONTRACTORS, BUT MUST CONTINUALLY MONITOR THE WORK OF EACH TRADE ON THE PROJECT.
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 THAT CONSTRUCTION COMPLIES 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 & ARCHITECT AS THEY ARE AVAILABLE.
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 COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
4. THE FOLLOWING PEOPLE SHOULD BE IN ATTENDANCE FOR THE SUBSTANTIAL COMPLETION INSPECTION:
A. GENERAL CONTRACTOR
B. GENERAL CONTRACTOR SUPERINTENDENT
C. MECHANICAL CONTRACTOR
D. ELECTRICAL CONTRACTOR
E. PLUMBING CONTRACTOR
F. PAINTING CONTRACTOR
H. FLOORING CONTRACTOR
5. ITEMS TO BE SUBMITTED AS A PREREQUISITE 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
6. THE REVIEW TEAM SHOULD PROCEED IN AN ORGANIZED MANNER THROUGHOUT THE BUILDING INSPECTING EACH SPACE OR ROOM. THE PUNCH LIST GENERATED BY THE SUBSTANTIAL COMPLETION INSPECTION TOUR IS TO BE PREPARED BY THE CONTRACTOR. ALONG WITH THE PUNCH LIST, THE ARCHITECT SHALL PREPARE THE "CERTIFICATE OF SUBSTANTIAL COMPLETION."
7. 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 WRITTING THAT FULL LIST OF ITENMS 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.
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.

I. FINAL CLOSE-OUT OF THE PROJECT
1. WITHIN THIRTY (30) CALENDAR DAYS AFTER THE FINAL PROJECT SUBSTANTIAL COMPLETION, THE GENERAL CONTRACTOR SHALL COMPILE 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 ADDITONAL ADMINISTATION FEES.

J. CLOSE-OUT DOCUMENTS
1. THE CATEGORIES LISTED BELOW SHOULD BE SUBMITTED AT THE SAME TIME.
A. A DISK 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 PLAN TUBE; ONE ELECTRONIC COPY TO BE SENT WITH CLOSE-OUT PAPERWORK.
D. MATERIALS SELECTION DATA - PROVIDE ALL APPROVED SUBMITTALS.
E. OPERATION AND MAINTENANCE MANUALS (O&M) - PROVIDE O&M MANUALS BOXED AND BOUND. THIS ITEM IS OF SIGNIFICANT IMPORTANCE TO MSI FUTURE MAINTENANCE ACTIVITIES.
F. ALL HVAC TEST AND BALANCE REPORTS.
H. RELEASE OF LIEN (AIA FORM 706A), PAYMENT OF DEBT (AIA FORM 706),
I. WARRANTIES, CERTIFICATES, AFFIDAVITS:
2. ALL INFORMATION INCLUDED IN THIS CATEGORY WILL BE FURNISHED IN ONE (1) COPY AND BOUND IN A STURDY THREE-RING BINDER WITH A LABEL ON THE OUTSIDE READING "GENERAL CLOSE-OUT DOCUMENTS" TO INCLUDE AN INDEX OF THE CONTENTS. ALL AIA DOCUMENTS WILL BE ORIGINAL (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 AND EACH SUBCONTRACTOR 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 G706A AND A "PAYMENT OF DEBT-AIA FORM G706 IS INCLUDED FOR HIMSELF AND EACH SUBCONTRACTOR. THE GENERAL CONTRACTOR WILL INCLUDE A "CONSENT OF SURETY" - AIA FORM G707. IN ADDITION, THE GENERAL CONTRACTOR WILL INCLUDE BEHIND HIS TAB THE FOLLOWING INFORMATION:
A. A LIST OF NAMES, BUISNESS ADDRESSES, PHONE NUMBERS AND EMAIL ADRESSES 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 0550 - 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 1-1/4" TYPE S-12 GALVANIZED NAILS. GALVANIZED FLASHING MAY ALSO BE USED.
3. IN WALL AND CAP FLASHING SHALL BE CARLISLE "PRE-KLEENED" 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.

C. FABRICATIONS: FABRICATE ITEMS IN LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.

F. INSTALLATION:
1. FOLLOW MANUFACTURER RECOMMENDED INSTALLATION INSTRUCTIONS TO MAINTAIN WARRANTY.
2. APPLY MORTAR 1/2" TO 3/4" THICK TO PREPARED SURFACE AREA USING A PLASTERER'S OR MASON'S TROWEL AND LAY SIMULATED STONE UNITS LEVEL AND TRUE TO LINE IN FULL BEDS OF MORTAR. ALL JOINTS MUST BE COMPLETELY FILLED. APPLY ONLY ENOUGH MORTAR TO ALLOW STONES TO BE SET BEFORE MORTAR BEGINS TO HARDEN.
3. ALL JOINTS IN SIMULATED STONE WORK SHALL NOT EXCEED AN AVERAGE OF 1/2" IN WIDTH.
4. RETAIN 1/2" DEEP X 1/4" WIDE SEALANT JOINTS AT PERIMETER OF EXTERIOR DOORS, WINDOW FRAMES AND OTHER WALL OPENINGS.
5. DO NOT ALLOW MORTAR DROPPINGS TO HARDEN ON EXPOSED SURFACES.
6. WALLS SHALL BE COVERED WITH 15 LB. BUILDING FELT AND GALVANIZED METAL LATH SHALL BE INSTALLED PRIOR TO APPLICATION OF THE MORTAR BASE. MORTAR BASE MAY BE APPLIED DIRECTLY TO MASONRY BACK-UP.

DIVISION 5 - METALS

05 5000 - METAL RAILINGS
A. SUBMITTALS:
PRODUCT DATA AND SHOP DRAWINGS WITH PLANS ELEVATIONS AND SEECTIONS 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, COMPONENTS, AND LOCATION AND SIZE OF EACH FIELD CONNECTION. SAMPLES FOR INITIAL SELECTION: FOR EACH TYPE OF EXPOSED FINISH.
1. 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 WITHIN SPECIFIED WARRANTY PERIOD. WARRANTY PERIOD OF 30 YEAR.

D. BASIS OF DESIGN: DIGGER SPECIALTIES, INC.; WESTBURY® ALUMINUM RAILING, TUSCANY SERIES. STYLE C10

E. ACCESSORIES:
1. GENERAL: PROVIDE MANUFACTURE'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 FASTNERS. PROVIDE EXPOSED 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 APPROX. 1/32 INCH (1 MM) UNLESS OTHERWISE INDICATED. REMOVE SHARP OR ROUGH AREAS ON EXP 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 EXCEPT WITH A MINIMUM DRY FILM THICKNESS OF 1.5 MILS (0.04 MM). COMPLY WITH COATING 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. PERFORM CUTTING, DRILLING, AND FITTING REQUIRED FOR INSTALLING RAILINGS. SET RAILINGS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION; MEASURED FROM ESTABLISHED LINES AND LEVELS AND FREE OF RACK.
1.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.
2.SET POSTS PLUMB WITHIN A TOLERANCE OF 1/16 INCH IN 3 FEET.
4.CONTROL OF CORROSION: PREVENT GALVANIC ACTION AND OTHER FORMS OF CORROSION BY INSULATING METALS AND OTHER MATERIALS FROM DIRECT CONTACT WITH INCOMPATIBLE MATERIALS.
5. ADJUST RAILINGS BEFORE ANCHORING TO ENSURE MATCHING ALIGNMENT AT ABUTTING JOINTS.
6. FASTENING TO IN-PLACE CONSTRUCTION: USE ANCHORAGE DEVICES AND FASTENERS WHERE NECESSARY FOR SECURING RAILINGS AND FOR PROPERLY TRANSFERRING LOADS TO IN-PLACE CONSTRUCTION.
7.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 5 - METALS

05 5213 - PIPE AND TUBE RAILINGS
A. SUBMITTALS:
PRODUCT DATA AND SHOP DRAWINGS WITH PLANS ELEVATIONS AND SEECTIONS 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, COMPONENTS, AND LOCATION AND SIZE OF EACH FIELD CONNECTION. SAMPLES FOR INITIAL SELECTION: FOR EACH TYPE OF EXPOSED FINISH.
1. 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. FIELD CONDITIONS:
1. FIELD MEASUREMENTS: VERIFY ACTUAL LOCATIONS OF WALLS AND OTHER CONSTRUCTION CONTIGUOUS WITH METAL FABRICATIONS BY FIELD MEASUREMENTS BEFORE FABRICATION.

D. PERFORMANCE REQUIREMENTS:
1. A. DELEGATED DESIGN: ENGAGE A QUALIFIED PROFESSIONAL ENGINEER,TO DESIGN RAILINGS, INCLUDING ATTACHMENT TO BUILDING CONSTRUCTION.
B. STRUCTURAL PERFORMANCE: RAILINGS, INCLUDING ATTACHMENT TO BUILDING CONSTRUCTION, SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND THE FOLLOWING LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS INDICATED:
2. HANDRAILS AND TOP RAILS OF GUARDS:
A. UNIFORM LOAD OF 50 LBF/ FT. (0.73 KN/M) APPLIED IN ANY DIRECTION.
B. CONCENTRATED LOAD OF 200 LBF (0.89 KN) APPLIED IN ANY DIRECTION.
C. UNIFORM AND CONCENTRATED LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.

E. FASTENERS:
1. FASTENERS FOR ANCHORING RAILINGS TO OTHER CONSTRUCTION: SELECT FASTENERS OF TYPE, GRADE, AND CLASS REQUIRED TO PRODUCE CONNECTIONS SUITABLE FOR ANCHORING RAILINGS TO OTHER TYPES OF CONSTRUCTION INDICATED AND CAPABLE OF WITHSTANDING DESIGN LOADS.

F. MISCELLANEOUS MATERIALS:
1. METAL SURFACES, GENERAL: PROVIDE MATERIALS WITH SMOOTH SURFACES, WITHOUT SEAM MARKS, ROLLER MARKS, ROLLED TRADE NAMES, STAINS, DISCOLORATIONS, OR BLEMISHES.
2. BRACKETS, FLANGES, AND ANCHORS: CAST OR FORMED METAL OF SAME TYPE OF MATERIAL AND FINISH AS SUPPORTED RAILS UNLESS OTHERWISE INDICATED.
3. PIPE: ASTM A 53/A 53M, TYPE F OR TYPE S, GRADE A, STANDARD WEIGHT (SCHEDULE 40), UNLESS ANOTHER GRADE AND WEIGHT ARE REQUIRED BY STRUCTURAL LOADS.

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.
4. WELDED CONNECTIONS: USE FULLY WELDED JOINTS FOR PERMANENTLY CONNECTING RAILING COMPONENTS. COMPLY WITH REQUIREMENTS FOR WELDED CONNECTIONS IN "FABRICATION" ARTICLE WHETHER WELDING IS PERFORMED IN THE SHOP OR IN THE FIELD.

H. FINISH:
1. FOR NONGALVANIZED-STEEL RAILINGS, PROVIDE NONGALVANIZED FERROUS-METAL FITTINGS, BRACKETS, FASTENERS, AND SLEEVES; HOWEVER, GALVANIZE ANCHORS TO BE EMBEDDED IN EXTERIOR CONC OR MASONRY.
2. PREPARATION FOR SHOP PRIMING: PREPARE UNCOATED FERROUS-METAL SURFACES TO COMPLY WITH SSPC-SP 3, "POWER TOOL CLEANING."
3. PRIMER APPLICATION: APPLY SHOP PRIMER TO PREPARED SURFACES OF RAILINGS UNLESS OTHERWISE INDICATED. COMPLY WITH REQUIREMENTS IN SSPC-PA 1, "SHOP, FIELD, AND MAINTENANCE PAINTING OF STEEL," FOR SHOP PAINTING. PRIMER NEED NOT BE APPLIED TO SURFACES TO BE EMBEDDED IN CONC OR MAS.

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 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. PERFORM CUTTING, DRILLING, AND FITTING REQUIRED FOR INSTALLING RAILINGS. SET RAILINGS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION; MEASURED FROM ESTABLISHED LINES AND LEVELS AND FREE OF RACK.
1.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.
2.SET POSTS PLUMB WITHIN A TOLERANCE OF 1/16 INCH IN 3 FEET.
4.CONTROL OF CORROSION: PREVENT GALVANIC ACTION AND OTHER FORMS OF CORROSION BY INSULATING METALS AND OTHER MATERIALS FROM DIRECT CONTACT WITH INCOMPATIBLE MATERIALS.
5. ADJUST RAILINGS BEFORE ANCHORING TO ENSURE MATCHING ALIGNMENT AT ABUTTING JOINTS.
6. FASTENING TO IN-PLACE CONSTRUCTION: USE ANCHORAGE DEVICES AND FASTENERS WHERE NECESSARY FOR SECURING RAILINGS AND FOR PROPERLY TRANSFERRING LOADS TO IN-PLACE CONSTRUCTION.
7.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 - WOOD AND PLASTICS

06 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 IS 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 AWPA STANDARD 5.
4.PLYWOOD SHALL BE CD GRADE APA FIR 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 FIXED IN PLACE, USING NAILS, SCREWS, &/OR BOLTS AS INDICATED OR REQUIRED BY GOOD PRACTICE AND MANUFACTURER'S RECOMMENDATIONS.

06 2000 - FINISH CARPENTRY
A. SUBMITTALS: SAMPLES OF FINISH MATERIALS, CATALOG CUTS OF HARDWARE, AND SHOP DRAWINGS INCLUDING DIMENSIONED PLANS, ELEVATIONS, AND SECTIONS.

B. QUALITY STANDARD: ARCHITECTURAL WOODWORK INSTITUTE'S "ARCHITECTURAL WOODWORK QUALITY STANDARDS"

C. MATERIALS:
1. SOFTWOOD LUMBER: MAXIMUM MOISTURE CONTENT OF 6 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, PLAIN SAWN, MEDIUM DENSITY FIBERBOARD CORE; PS 1 GRADE A-B, GLUE 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 SCRIBING AND TRIMMING.
2. BACKOUT AND GROOVE BACKS OF FLAT MEMBERS, KERF BACKS OF OTHER WIDE, FLAT MEMBERS, EXCEPT WHERE ENDS WILL BE EXPOSED IN FINISHED WORK.

F. INSTALLATION:
1. DO NOT DELIVER OR INSTALL WOODWORK UNTIL BUILDING IS ENCLOSED, WET WORK IS COMPLETED, HVAC IS OPERATING, AND WOODWORK IS CONDITIONED TO PREVAILING CONDITIONS OF SPACE WHERE INSTALLED. MAINTAIN TEMPERATURE BETWEEN 55 F. AND 75 F. FOR 72 HOURS BEFORE BEGINNING INSTALLATION AND FOR DURATION OF PROJECT.
2. INSTALL WOODWORK LEVEL AND PLUMB AND SHIM AS REQUIRED WITH CONCEALED SHIMS TO 8 TOLERANCE OF 1 "/96" AND TO COMPLY WITH REFERENCED QUALITY STANDARD FOR GRADE SPECIFIED.
3. SCRIBE AND CUT WOODWORK TO FIT ADJOINING WORK, SEAL CUT SURFACES, AND REPAIR DAMAGED FINISH AT CUTS.
4. INSTALL TRIM WITH MINIMUM NUMBER OF JOINTS POSSIBLE USING FULL-LENGTH PIECES TO GREATEST EXTENT POSSIBLE. STAGGER JOINTS IN ADJACENT AND RELATED MEMBERS.
5. LUMBER FOR TRANSPARENT FINISH (STAINED OR CLEAR): USE PIECES MADE OF SOLID LUMBER STOCK.
6. LUMBER FOR PAINTED FINISH: AT CONTRACTOR'S OPTION, USE PIECES WHICH ARE EITHER GLUED-UP OR MADE OF SOLID LUMBER STOCK.
7. DISCARD UNITS OF MATERIAL WHICH ARE UNSOUND, WARPED, BOWED, TWISTED, IMPROPERLY TREATED, NOT ADEQUATELY 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.
8. INSTALL THE WORK PLUMB, LEVEL, TRUE AND STRAIGHT WITH NO DISTORTIONS. SHIM AS REQUIRED USING CONCEALED SHIMS.
9. SCRIBE AND CUT WORK TO FIT ADJOINING WORK, AND REFINISH CUT SURFACES OR REPAIR DAMAGED FINISH AT CUTS.
10. SAND WORK SMOOTH AND SET EXPOSED NAILS AND SCREWS.
11. APPLY WOOD FILLER IN EXPOSED NAIL AND SCREW INDENTATIONS.
12. FINISH WORK SHALL BE SMOOTH, FREE FROM ABRASION, TOOL MARKS, RAISED GRAIN MARKINGS, OR SIMILAR DEFECTS ON EXPOSED SURFACES.

06 4100 - ARCHITECTURAL WOOD CASEWORK
A. SUBMITTALS: SAMPLES OF FINISH MATERIALS, CATALOG CUTS OF HARDWARE, AND SHOP DRAWINGS INCLUDING DIMENSIONED PLANS, ELEVATIONS, AND SECTIONS. INDICATE COMPONENT PROFILES, FASTENING METHODS, JOINTING DETAILS, AND ACCESSORIES.
1. SCALE OF DRAWINGS: 1-1/2 INCH TO 1 FOOT, MINIMUM.
2. PROVIDE THE INFORMATION REQUIRED BY AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS).
3. SAMPLES: SUBMIT ACTUAL SAMPLES OF ARCHITECTURAL CABINET CONSTRUCTION, MINIMUM 12 INCHES SQUARE, ILLUSTRATING PROPOSED CABINET, COUNTERTOP, AND SHELF UNIT SUBSTRATE AND FINISH.

B. QUALITY STANDARD: ARCHITECTURAL WOODWORK INSTITUTE'S "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. CABINETS:
1. QUALITY STANDARD: CUSTOM GRADE, IN ACCORDANCE WITH AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS), UNLESS NOTED OTHERWISE.
2. WOOD VENEER FACED CABINET: CONCEALED SURFACES: MANUFACTURER'S OPTION.
3. PLASTIC LAMINATE FACED CABINETS: CUSTOM GRADE.

E. MATERIALS / ACCESSORIES / HARDWARE:
1. LAMINATES 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. BOLTS, NUTS, WASHERS, LAGS, PINS, AND SCREWS: OF SIZE AND TYPE TO SUIT APPLICATION; GALVANIZED OR CHROME-PLATED FINISH IN CONCEALED LOCATIONS AND STAINLESS STEEL OR CHROME-PLATED FINISH IN EXPOSED LOCATIONS.
5. CONCEALED JOINT FASTENERS: THREADED STEEL.
6. GROMMETS: STANDARD PLASTIC, PAINTED METAL, OR RUBBER GROMMETS FOR CUT-OUTS, IN COLOR TO MATCH ADJACENT SURFACE.
7. HARDWARE: BHMA A156.9, TYPES AS RECOMMENDED BY FABRICATOR FOR QUALITY GRADE SPECIFIED.
8. ADJUSTABLE SHELF SUPPORTS: STANDARD SIDE-MOUNTED SYSTEM USING RECESSED METAL SHELF STANDARDS OR MULTIPLE HOLES FOR PIN SUPPORTS AND COORDINATED SELF RESTS, POLISHED CHROME FINISH, FOR NOMINAL 1 INCH SPACING ADJUSTMENTS.
9. DRAWER SLIDES: TYPE: EXTENSION TYPES AS INDICATED.
10. HINGES: EUROPEAN STYLE CONCEALED SELF-CLOSING TYPE,[<>] STEEL WITH POLISHED FINISH.
11. SOFT CLOSE ADAPTER: CONCEALED, FRAME-MOUNTED, SCREW-ADJUSTABLE DAMPER ; STEEL WITH POLISHED FINISH.
12. FINISH WORK IN ACCORDANCE WITH AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS).

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 GAPS 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

07 1300 - SHEET WATERPROOFING
A. SUBMITTALS:
1. PRODUCT DATA: PROVIDE DATA FOR MEMBRANE.
2.PROVIDE SHOP DRAWINGS: INDICATE SPECIAL JOINT OR TERMINATION CONDITIONS AND CONDITIONS OF INTERFACE WITH OTHER MATERIALS.
3. CERTIFICATE: CERTIFY THAT PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.

B. SURFACE BURNING CHARACTERISTICS:
1. FLAME SPREAD INDEX: 25 OR LESS
2. SMOKE DEVELOPED INDEX: 50 OR LESS IN EXPOSED AREAS AND PLENUMS; 450 OR LESS WHERE CONCEALED.

C. FIELD CONDITIONS:
1. MAINTAIN AMBIENT TEMPERATURES ABOVE 40 DEGREES F FOR 24 HOURS BEFORE AND DURING APPLICATION AND UNTIL LIQUID OR MASTIC ACCESSORIES HAVE CURED.

D. WARRANTY:
1. CONTRACTOR SHALL CORRECT DEFECTIVE WORK WITHIN A FIVE YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION; REMOVE AND REPLACE MATERIALS CONCEALING WATERPROOFING AT NO EXTRA COST TO OWNER.

E. BASIS OF DESIGN:
1. W.R. MEADOWS, INC; MEL-ROL: WWW.WRMEADOWS.COM

F. MATERIALS:
1. SELF-ADHERED MODIFIED BITUMINOUS SHEET MEMBRANE: LOCATION: LOCATIONS AS IDENTIFIED IN DRAWINGS.
2. ROLLED,SELF-ADHERED MODIFIED BITUMINOUS SHEET MEMBRANE: THICKNESS: 60 MIL, 0.060 INCH, MINIMUM. THICKNESS: 60 MIL, 0.060 INCH, MINIMUM. CARRIER FILM: 4 MILS, POLYMERIC MEMBRANE:56 MILS, SHEET WIDTH: 36 INCH, MINIMUM.
3. SEAMING MATERIALS: AS RECOMMENDED BY MEMBRANE MANUFACTURER.
4. MEMBRANE SEALANT: AS RECOMMENDED BY MEMBRANE MANUFACTURER.
5. TERMINATION BARS: ALUMINUM; COMPATIBLE WITH MEMBRANE AND ADHESIVES.
6. SURFACE CONDITIONER: COMPATIBLE WITH MEMBRANE.
7. ADHESIVES: AS RECOMMENDED BY MEMBRANE MANUFACTURER.
8. THINNER AND CLEANER: AS RECOMMENDED BY ADHESIVE MANUFACTURER, COMPATIBLE WITH SHEET MEMBRANE.

G. ACCESSORIES:
1. SEALANT FOR CRACKS AND JOINTS IN SUBSTRATES: RESILIENT ELASTOMERIC JOINT SEALANT COMPATIBLE WITH SUBSTRATES AND WATERPROOFING MATERIALS.
2. PROTECTION BOARD: PROVIDE TYPE CAPABLE OF PREVENTING DAMAGE TO WATERPROOFING DUE TO BACKFILLING AND CONSTRUCTION TRAFFIC.

H. INSTALLATION:
1. DO NOT INSTALL INSULATION ADHESIVES WHEN TEMPERATURE OR WEATHER CONDITIONS ARE DETRIMENTAL TO SUCCESSFUL INSTALLATION. DO NOT APPLY WATERPROOFING TO SURFACES UNACCEPTABLE TO MEMBRANE MANUFACTURER.
2. CLEAN AND PREPARE SURFACES TO RECEIVE WATERPROOFING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS; VACUUM SUBSTRATE CLEAN.
3. FILL NON-MOVING JOINTS AND CRACKS WITH A FILLER COMPATIBLE WITH WATERPROOFING MATERIALS.SEAL MOVING CRACKS WITH SEALANT AND NON-RIGID FILLER, USING PROCEDURES RECOMMENDED BY SEALANT AND WATERPROOFING MANUFACTURERS.
4. INSTALL MEMBRANE WATERPROOFING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NRCA (WM) APPLICABLE REQUIREMENTS.
5. SELF-ADHERING MEMBRANE: REMOVE RELEASE PAPER LAYER, AND ROLL OUT ONTO SUBSTRATE WITH A MECHANICAL ROLLER TO PROVIDE FULL CONTACT BOND.
6. OVERLAP EDGES AND ENDS, MINIMUM 3 INCHES, SEAL PERMANENTLY WATERPROOF BY METHOD RECOMMENDED BY MANUFACTURER, AND APPLY UNIFORM BEAD OF SEALANT TO JOINT EDGE.
7. REINFORCE MEMBRANE WITH MULTIPLE THICKNESS OF MEMBRANE MATERIAL OVER JOINTS, WHETHER JOINTS ARE STATIC OR DYNAMIC.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (CONTINUED)

07 1300 - SHEET WATERPROOFING (CONTINUED)
8. WEATHER LAP JOINTS ON SLOPED SUBSTRATE IN DIRECTION OF DRAINAGE, AND SEAL JOINTS AND SEAMS.
9. FLEXIBLE FLASHINGS: SEAL ITEMS WATERTIGHT THAT PENETRATE THROUGH WATERPROOFING MEMBRANE WITH FLEXIBLE FLASHINGS.
10. SEAL MEMBRANE AND FLASHINGS TO ADJOINING SURFACES. INSTALL TERMINATION BAR ALONG EDGES. INSTALL COUNTERFLASHING OVER EXPOSED EDGES.
11. INSTALLATION OF DRAINAGE PANEL AND PROTECTION BOARD. INSTALLER TO FOLLOW MANUFACTURERS INSTALLATION PROCEDURES.
12. 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 LEAKS. IF LEAKING IS FOUND, REMOVE WATER, REPAIR LEAKING AREAS WITH NEW WATERPROOFING MATERIALS AS DIRECTED BY ARCHITECT; REPEAT FLOOD TEST, AND REPAIR DAMAGE TO BUILDING. WHEN AREA IS PROVEN WATERTIGHT, DRAIN WATER AND REMOVE DAM.

07 1400 - FLUID-APPLIED WATERPROOFING
A. SUBMITTALS:
1. PRODUCT DATA: PROVIDE DATA FOR MEMBRANE, SURFACE CONDITIONER, FLEXIBLE FLASHINGS, JOINT COVER SHEET, AND JOINT AND CRACK SEALANTS.
2. WARRANTY:
SUBMIT MANUFACTURER WARRANTY AND ENSURE THAT FORMS HAVE BEEN COMPLETED IN OWNER'S NAME AND REGISTERED WITH MANUFACTURER.

B. REFERENCE STANDARDS:
1. ASTM E154/E154M - 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 (WM) - 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. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING 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 FINISHED WORK 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. AVM INDUSTRIES, INC; AVM SYSTEM 500 (AUSSIE MEMBRANE): WWW.AVMINDUSTRIES.COM/#SLE.
B. EPRO WATERPROOFING SYSTEMS; ECOLINE-S: WWW.EPROSERV.COM/#SLE.

COLD-APPLIED RUBBERIZED ASPHALT WATERPROOFING: RUBBERIZED ASPHALTIC COMPOUND, SUITABLE FOR INSTALLATION ON CONCRETE AND CONCRETE MASONRY.
1. COMPLYING WITH ICC-ES AC29; EVIDENCE OF COMPLIANCE INCLUDES CURRENT ICC-ES EVALUATION REPORT CITING ICC-ES AC29.
2. HYDROSTATIC PRESSURE RESISTANCE: WHEN TESTED IN ACCORDANCE WITH ASTM C1306/C1306M, AT LEAST 50 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 PINHOLES WHEN TESTED AT MINUS 15 DEGREES F IN ACCORDANCE WITH ASTM C836/C836M.
4. ADHESION: NO SEPARATION WHEN TESTED IN ACCORDANCE WITH ASTM C836/C836M.
5. DECAY RESISTANCE: NO DECAY WHEN TESTED IN ACCORDANCE WITH ASTM E154/E154M.
6. WET FILM SAG RESISTANCE: NO SAG OR SAG WITHIN PLUS/MINUS 5 MILS WHEN TESTED IN ACCORDANCE WITH ASTM C836/C836M.

2. WATER-BASED ASPHALT EMULSION WATERPROOFING:
A. MAR-FLEX WATERPROOFING & BUILDING PRODUCTS; ARMORMEMBRANE 363 WATER-BASED: WWW.MAR-FLEX.COM/#SLE.
B. TREMCO COMMERCIAL SEALANTS & WATERPROOFING; TREMPROOF 260: WWW.TREMCOSEALANTS.COM/#SLE.
C. W.R. MEADOWS, INC; MEL-ROL LM: WWW.WRMEADOWS.COM/#SLE
1. CURED THICKNESS: 60 MILS, 0.060 INCH, MINIMUM.
2. SUITABLE FOR INSTALLATION OVER CONCRETE SUBSTRATES.
3. ELONGATION: 1000 PERCENT, MEASURED IN ACCORDANCE WITH ASTM D412.
4. PEEL ADHESION: ACCORDING TO ASTM D412, FOR THE FOLLOWING SUBSTRATES.
5. ADHESION: GREATER THAN 150 PSI, MEASURED IN ACCORDANCE WITH ASTM D4541.

G. ACCESSORIES:
1. SEALANT FOR JOINTS AND CRACKS IN SUBSTRATE: TYPE COMPATIBLE WITH WATERPROOFING MATERIAL AND AS RECOMMENDED BY WATERPROOFING MANUFACTURER.

H. EXAMINATION:
1. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK.
2. VERIFY SUBSTRATE SURFACES ARE FREE OF FROZEN MATTER, DAMPNESS, LOOSE PARTICLES, CRACKS, PITS, PROJECTIONS, PENETRATIONS, OR FOREIGN MATTER DETRIMENTAL TO ADHESION OR APPLICATION OF WATERPROOFING SYSTEM.
3. VERIFY THAT SUBSTRATE SURFACES 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. FILL NON-MOVING JOINTS AND CRACKS WITH A FILLER COMPATIBLE WITH WATERPROOFING MATERIALS.
5. SEAL MOVING CRACKS WITH SEALANT AND NON-RIGID FILLER, USING PROCEDURES RECOMMENDED BY SEALANT AND WATERPROOFING MANUFACTURERS.
6. PREPARE BUILDING EXPANSION JOINTS AT LOCATIONS AS INDICATED ON DRAWINGS.
7. INSTALL CANT STRIPS AT INSIDE CORNERS.

J. INSTALLATION:
1. INSTALL WATERPROOFING TO SPECIFIED MINIMUM THICKNESS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND NRCA (WM) APPLICABLE REQUIREMENTS.
2. APPLY PRIMER OR SURFACE CONDITIONER AT A RATE RECOMMENDED BY MANUFACTURER, AND PROTECT CONDITIONER FROM RAIN OR FROST UNTIL DRY.
3. AT JOINTS AND CRACKS LESS THAN 1/2 INCH IN WIDTH INCLUDING JOINTS BETWEEN HORIZONTAL AND VERTICAL SURFACES, APPLY 12 INCH WIDE STRIP OF JOINT COVER SHEET.
4. APPLY EXTRA THICKNESS OF WATERPROOFING MATERIAL AT CORNERS, INTERSECTIONS, AND ANGLES.
5. SEAL MEMBRANE AND FLASHINGS TO ADJOINING SURFACES.

07 2100 - THERMAL INSULATION
A. SUBMITTALS: PRODUCT DATA FOR EACH TYPE OF INSULATION SPECIFIED.

B. SURFACE BURNING CHARACTERISTICS:
1. FLAME SPREAD INDEX: 25 OR LESS
2. SMOKE DEVELOPED INDEX: 50 OR LESS IN EXPOSED AREAS AND PLENUMS; 450 OR LESS WHERE CONCEALED.

C. INSULATION PRODUCTS:
1. MINERAL FIBER OR GLASS FIBER BLANKET INSULATION: TYPE I, UNFACED WHERE SPECIFIED WITH SEPARATE VAPOR BARRIER.FIBERS MANUFACTURED FROM GLASS, SLAG WOOL, OR ROCK WOOL. FLEXIBLE PREFORMED BATT OR BLANKET, COMPLYING WITH ASTM C665; FRICTION FIT.SEE DRAWINGS FOR SPECIFIC TYPES.
A. FLAME SPREAD INDEX: 25 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84.
B. SMOKE DEVELOPED INDEX: 450 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84.
C. COMBUSTIBILITY: NON-COMBUSTIBLE, WHEN TESTED IN ACCORDANCE WITH ASTM E136, EXCEPT FOR FACING, IF ANY.
2. BOARD INSULATION: BOARD INSULATION AT CAVITY WALL CONSTRUCTION, EXTERIOR WALL BEHIND [RATED AND ACOUSTIC CONDITIONS] WALL FINISH, AND INTERIOR WALL WITH FACER PROVIDING EXPOSED FINISH.
A. EXPANDED POLYSTYRENE (EPS) BOARD INSULATION: COMPLIES WITH ASTM C578.
1. FLAME SPREAD INDEX (FSI): CLASS A - 0 TO 25, WHEN TESTED IN ACCORDANCE WITH ASTM E84.
2. SMOKE DEVELOPED INDEX (SDI): 450 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84.
3. BOARD SIZE: 48 INCH BY 96 INCH.
4. BOARD THICKNESS: 1-1/2 INCH.
5. TYPE AND COMPRESSIVE RESISTANCE: TYPE XI, 5 PSI (35 KPA), MINIMUM.
6. TYPE AND WATER ABSORPTION: TYPE XI, 4.0 PERCENT BY VOLUME, MAXIMUM, BY TOTAL IMMERSION.

D. ACCESSORIES:
1. VAPOR RETARDER: 6 MIL POLYETHYLENE AT CONCEALED AREAS (FLAME SPREAD/SMOKE DEVELOPED: 25/450), FOIL/SCRIM AT PLENUMS AND EXPOSED AREAS (FLAME SPREAD/SMOKE DEVELOPED: 25/50). PROVIDE WHERE INDICATED IN DRAWINGS.
2. TAPE: REINFORCED POLYETHYLENE FILM WITH ACRYLIC PRESSURE SENSITIVE ADHESIVE. APPLICATION: SEALING OF INTERIOR CIRCULAR PENETRATIONS, SUCH AS PIPES OR CABLES.

E. INSTALLATION:
1. DO NOT INSTALL INSULATION ADHESIVES WHEN TEMPERATURE OR WEATHER CONDITIONS ARE DETRIMENTAL TO SUCCESSFUL INSTALLATION.
2. INSTALL INSULATION IN AREAS AND IN THICKNESSES INDICATED OR REQUIRED TO PRODUCE R-VALUES WHERE INDICATED. CUT AND FIT TIGHTLY AROUND OBSTRUCTIONS AND FILL VOIDS WITH INSULATION.
3. INSTALL IN EXTERIOR WALL AND CEILING SPACES WITHOUT GAPS OR VOIDS. DO NOT COMPRESS INSULATION.
4. TRIM INSULATION NEATLY TO FIT SPACES. INSULATE MISCELLANEOUS GAPS AND VOIDS.
5. EXTEND VAPOR RETARDER TO EXTREMITIES OF AREAS TO BE PROTECTED FROM VAPOR TRANSMISSION. SECURE IN PLACE WITH ADHESIVES OR OTHER ANCHORAGE AS RECOMMENDED BY MANUFACTURER. LOCATE SEAMS AT FRAMING MEMBERS, OVERLAP AND SEAL WITH SUITABLE TAPE (DUCT TAPE IS NOT SUITABLE).
6. DO NOT PERMIT INSTALLED INSULATION TO BE DAMAGED PRIOR TO ITS CONCEALMENT.

07 2500 - WEATHER BARRIERS
A. SUBMITTALS: PRODUCT DATA: PROVIDE DATA ON MATERIAL CHARACTERISTICS. SHOP DRAWINGS: PROVIDE DRAWINGS OF SPECIAL JOINT CONDITIONS.

B. MOCK-UP: INSTALL AIR BARRIER, VAPOR RETARDER, AND WATER-RESISTIVE BARRIER MATERIALS IN MOCK-UP.

C. PRODUCTS: AIR BARRIER, FLUID APPLIED: VAPOR PERMEABLE, ELASTOMERIC WATERPROOFING.

D. BASIS OF DESIGN: BASF CORPORATION; MASTERSEAL AWB 665:

E. ACCESSORIES:
1. SEALANTS, TAPES, AND ACCESSORIES FOR SEALING WEATHER BARRIER AND SEALING WEATHER BARRIER TO ADJACENT SUBSTRATES: AS SPECIFIED OR AS RECOMMENDED BY WEATHER BARRIER MANUFACTURER.
2. FLEXIBLE FLASHING: SHEATHING FABRIC SATURATED WITH AIR BARRIER COATING AND COMPLYING WITH THE APPLICABLE REQUIREMENTS OF ICC-ES AC148.
3. LIQUID FLASHING: ONE PART, FAST CURING, NON-SAG, ELASTOMERIC, GUN GRADE, TROWELABLE LIQUID FLASHING.

F. PREPARATION:
1. VERIFY THAT SURFACES AND CONDITIONS ARE READY TO ACCEPT THE WORK OF THIS SECTION.
2. REMOVE PROJECTIONS, PROTRUDING FASTENERS, AND LOOSE OR FOREIGN MATTER THAT MIGHT INTERFERE WITH PROPER INSTALLATION.
3. CLEAN AND PRIME SUBSTRATE SURFACES TO RECEIVE ADHESIVES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (CONTINUED)

07 2500 - WEATHER BARRIERS (CONTINUED)
G. INSTALLATION:
1. INSTALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. AIR BARRIERS: INSTALL CONTINUOUS AIR TIGHT BARRIER OVER SURFACES INDICATED, WITH SEALED SEAMS AND WITH SEALED JOINTS TO ADJACENT SURFACES.
3. PREPARE SUBSTRATE IN MANNER RECOMMENDED BY COATING MANUFACTURER; TREAT JOINTS IN SUBSTRATE AND BETWEEN DISSIMILAR MATERIALS AS RECOMMENDED BY MANUFACTURER.
4. MASTIC COATING: INSTALL BY TROWEL OR ROLLER TO MINIMUM THICKNESS OF 1/4 INCH; USE SHEET SEAL TO JOIN TO ADJACENT CONSTRUCTION, SEAL AIR TIGHT WITH SEALANT.
5. USE FLASHING TO SEAL TO ADJACENT CONSTRUCTION AND TO BRIDGE JOINTS.
6. INSTALL FLASHING OVER SILLS, COVERING ENTIRE SILL FRAME MEMBER, EXTENDING AT LEAST 5 INCHES ONTO WEATHER BARRIER AND AT LEAST 6 INCHES UP JAMBS; MECHANICALLY FASTEN STRETCHED EDGES.
7. AT OPENINGS TO BE FILLED WITH FRAMES HAVING NAILING FLANGES, SEAL HEAD AND JAMB FLANGES USING A CONTINUOUS BEAD OF SEALANT COMPRESSED BY FLANGE AND COVER FLANGES WITH SEALING TAPE AT LEAST 4 INCHES WIDE; DO NOT SEAL SILL FLANGE.
8. AT OPENINGS TO BE FILLED WITH NON-FLANGED FRAMES, SEAL WEATHER BARRIER TO EACH SIDE OF OPENING FRAMING, USING FLASHING AT LEAST 9 INCHES WIDE, COVERING ENTIRE DEPTH OF FRAMING.
9. AT HEAD OF OPENINGS, INSTALL FLASHING UNDER WEATHER BARRIER EXTENDING AT LEAST 2 INCHES BEYOND FACE OF JAMBS; SEAL WEATHER BARRIER TO FLASHING.
10. AT INTERIOR FACE OF OPENINGS, SEAL GAP BETWEEN WINDOW/DOOR FRAME AND ROUGH FRAMING, USING JOINT SEALANT OVER BACKER ROD.

07 4020 - EXTERIOR INSULATION AND FINISH SYSTEMS
A. SUBMITTALS: PRODUCT DATA: PROVIDE DATA ON SYSTEM MATERIALS, PRODUCT CHARACTERISTICS, PERFORMANCE CRITERIA,
1. SHOP DRAWINGS: INDICATE WALL AND SOFFIT JOINT PATTERNS, JOINT DETAILS, AND MOLDING PROFILES
2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES.

B. MOCK- UP:
1.CONSTRUCT MOCK-UP OF TYPICAL EIFS APPLICATION ON SPECIFIED SUBSTRATE, SIZE AS INDICATED ON DRAWINGS, AND INCLUDING FLASHINGS, JOINTS, AND EDGE CONDITIONS.
2. MOCK-UP MAY REMAIN AS PART OF THE WORK.

C. FIELD CONDITIONS:
1. DO NOT PREPARE MATERIALS OR APPLY EIFS UNDER CONDITIONS OTHER THAN THOSE DESCRIBED IN THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. DO NOT PREPARE MATERIALS OR APPLY EIFS DURING INCLEMENT WEATHER UNLESS AREAS OF INSTALLATION ARE PROTECTED. PROTECT INSTALLED EIFS AREAS FROM INCLEMENT WEATHER UNTIL DRY.

D. WARRANTY:
1. PROVIDE MANUFACTURER'S STANDARD MATERIAL WARRANTY, COVERING A PERIOD OF NOT LESS THAN 5 YEARS.

E. PRODUCTS:
1. EXTERIOR INSULATION AND FINISH SYSTEM: DRAINAGE TYPE; REINFORCED FINISH COATING ON FLAT-BACKED INSULATION BOARD ADHESIVE-APPLIED DIRECTLY TO WATER-RESISTIVE COATING OVER SUBSTRATE;PROVIDE A COMPLETE SYSTEM THAT HAS BEEN TESTED TO SHOW COMPLIANCE WITH THE FOLLOWINGCHARACTERISTICS; INCLUDE ALL COMPONENTS OF SPECIFIED SYSTEM AND SUBSTRATE(S) IN TESTED SAMPLES.
2. FIRE CHARACTERISTICS:
A. FLAMMABILITY: PASS, WHEN TESTED IN ACCORDANCE WITH NFPA 285.
B. IGNITIBILITY: NO SUSTAINED FLAMING WHEN TESTED IN ACCORDANCE WITH NFPA 268.

F. MATERIALS:
1. FINISH COATING TOP COAT: WATER-BASED, AIR CURING, ACRYLIC OR POLYMER-BASED FINISH WITH INTEGRAL COLOR AND TEXTURE.
2. REINFORCING MESH: BALANCED, OPEN WEAVE GLASS FIBER FABRIC, TREATED FOR COMPATIBILITY AND IMPROVED BOND WITH COATING, WEIGHT, STRENGTH, AND NUMBER OF LAYERS AS REQUIRED TO MEET REQUIRED SYSTEM IMPACT RATING.
3. EXTRUDED POLYSTYRENE (XPS) BOARD INSULATION: COMPLIES WITH ASTM C578, WITH NATURAL SKIN SURFACES.
4. WATER-RESISTIVE BARRIER COATING: FLUID-APPLIED AIR AND WATER BARRIER MEMBRANE; APPLIED TO SHEATHING; FURNISHED OR APPROVED BY EIFS MANUFACTURER.

G. ACCESSORY MATERIALS
1. INSULATION ADHESIVE: TYPE REQUIRED BY EIFS MANUFACTURER FOR PROJECT SUBSTRATE.

H. INSTALLATION:
1. GENERAL: INSTALL IN ACCORDANCE WITH EIFS MANUFACTURER'S INSTRUCTIONS AND ASTM C1397.
2. WATER RESISTIVE BARRIER: APPLY BARRIER COATING AS RECOMMENDED BY COATING MANUFACTURER; PRIME SUBSTRATE AS REQUIRED BEFORE APPLICATION.
3. INSULATION:
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 ENDS TIGHT TO ADJACENT BOARD AND TO PROTRUSIONS. ACHIEVE A CONTINUOUS FLUSH INSULATION SURFACE, WITH NO GAPS IN EXCESS OF 1/16
C. FILL GAPS GREATER THAN 1/16 INCH WITH STRIPS OR SHIMS CUT FROM THE SAME INSULATION MATERIAL.
4. CLASS PM FINISH:
A. REINFORCING MESH: INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. BASE COAT: INSTALL TO MINIMUM THICKNESS SPECIFIED, FOLLOWING MANUFACTURER'S INSTRUCTIONS. LEAVE BASE COAT IN CONDITION SUITABLE TO RECEIVE FINISH COAT.
C. 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.

07 4643 - ENGINEERED SIDING
A. SUBMITTALS: PRODUCT DATA, AND SAMPLES OF LOCATIONS FOR EACH TYPE OF SIDING

B. BASIS OF DESIGN:
1. VERTICAL SIDING, LP SMARTSIDE PANEL SIDING. CEDAR TEXTURE PANEL.
2. HORIZONTAL SIDING, LP SMARTSIDE LAP SIDING. CEDAR TEXTURE LAP.
3. SOFFIT, VENTED / NONVENTED, LP SMARTSIDE SOFFIT. CEDAR TEXTURE.

C. ACCESSORY MATERIALS
1. EXTERIOR TRIM SHALL BE LOUISIANA-PACIFIC SMARTSIDE TRIM-FASCIA TREATED ENGINEERED WOOD TRIM OR APPROVED EQUAL, UNLESS OTHERWISE INDICATED, IN SIZES INDICATED ON THE DRAWINGS.
2. CELLULAR PVC TRIM SHALL BE AS MANUFACTURED BY AZEK BUILDING PRODUCTS OR APPROVED EQUAL. GLUED-UP MEMBERS SHALL BE GLUED WITH MANUFACTURER'S STANDARD ADHESIVE TO CREATE A CHEMICAL BOND AND CUT TO SHAPES INDICATED.

D. INSTALLATION
1. GENERAL: INSTALL PRODUCTS IN ACCORDANCE WITH THE LATEST INSTALLATION GUIDELINES OF THE MANUFACTURER AND ALL APPLICABLE BUILDING CODES AND OTHER LAWS, RULES, REGULATIONS AND ORDINANCES. REVIEW ALL MANUFACTURER INSTALLATION, MAINTENANCE INSTRUCTIONS, AND OTHER APPLICABLE DOCUMENTS BEFORE INSTALLATION.

07 3113 - ASPHALT SHINGLES & ACCESSORIES
A. SUBMITTALS: PRODUCT DATA, AND SAMPLES OF EACH PRODUCT AND COLOR OPTIONS.

B. WARRANTY: STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE ASPHALT SHINGLES THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
1. MATERIAL WARRANTY PERIOD: 30 YEARS FROM DATE OF SUBSTANTIAL COMPLETION, PRORATED, WITH FIRST FIVE YEARS NONPRORATED.
2. ALGAE-DISCOLORATION WARRANTY PERIOD: ASPHALT SHINGLES WILL NOT DISCOLOR 10 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

C. BASIS OF DESIGN: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE TIMBERLINE 30 SHINGLES AS MANUFACTURED BY GAF ROOFING PRODUCTS OR APPROVED EQUAL WITH GRANULES TREATED TO RESIST ALGAE DISCOLORATION. COLOR SHALL BE SELECTED BY THE ARCHITECT.

D. MATERIALS:
1. LAMINATED-STRIP ASPHALT SHINGLES: ASTM D 3462, LAMINATED, MULTI-PLY OVERLAY CONSTRUCTION, GLASS-FIBER REINFORCED, MINERAL-GRANULE SURFACED, AND SELF-SEALING.
2. FELT: ASTM D 226, TYPE I, ASPHALT-SATURATED ORGANIC FELTS, NONPERFORATED.
3. SELF-ADHERING SHEET UNDERLAYMENT, POLYETHYLENE FACED: ASTM D 1970/D 1970M, MINIMUM OF 40-MIL- (1.0-MM-) THICK, SLIP-RESISTING, POLYETHYLENE-FILM-REINFORCED TOP SURFACE LAMINATED TO SBS-MODIFIED ASPHALT ADHESIVE, WITH RELEASE BACKING; COLD APPLIED. PREFERED PRODUCT GRACE CONSTRUCTION PRODUCTS, ICE AND WATER SHIELD

E. ACCESSORIES:
1. ASPHALT ROOFING CEMENT: ASTM D 4586, TYPE II, ASBESTOS FREE.
2. ROOFING NAILS: ASTM F 1667; ALUMINUM OR HOT-DIP GALVANIZED-STEEL WIRE SHINGLE NAILS, MINIMUM 0.120-INCH DIAMETER, BARBED SHANK, SHARP-POINTED, WITH A MINIMUM 3/8-INCH DIAMETER FLAT HEAD AND OF SUFFICIENT LENGTH TO PENETRATE AT LEAST 1/8 INCH THROUGH THE ROOF SHEATHING. WHERE NAILS ARE IN CONTACT WITH METAL FLASHING, USE NAILS MADE FROM SAME METAL AS FLASHING.
3. FELT UNDERLAYMENT NAILS: ALUMINUM, STAINLESS-STEEL, OR HOT-DIP GALVANIZED-STEEL WIRE WITH LOW-PROFILE CAPPED HEADS OR DISC CAPS, 1-INCH MINIMUM DIAMETER.
4. FABRICATE SHEET METAL FLASHING AND TRIM TO COMPLY WITH RECOMMENDATIONS IN SMACNA'S "ARCHITECTURAL SHEET METAL MANUAL" THAT APPLY TO DESIGN, DIMENSIONS, METAL, AND OTHER CHARACTERISTICS OF THE ITEM. PREFERED MATERIALS:SHEET METAL: PREFINISHED ALUMINUM.

F. INSTALLATION:
1.INSTALL ASPHALT SHINGLES ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, RECOMMENDATIONS IN ARMA'S "RESIDENTIAL ASPHALT ROOFING MANUAL," AND ASPHALT SHINGLE RECOMMENDATIONS IN NRCA'S "THE NRCA ROOFING AND WATERPROOFING MANUAL."
2. INSTALL STARTER STRIP ALONG LOWEST ROOF EDGE, CONSISTING OF AN ASPHALT SHINGLE STRIP AT LEAST 7 INCHES WIDE WITH SELF-SEALING STRIP FACE UP AT ROOF EDGE. INSTALL STARTER STRIP ALONG RAKE EDGE.
3. EXTEND ASPHALT SHINGLES 3/8 INCH OVER FASCIA AT EAVES AND RAKES.
4. INSTALL FIRST AND REMAINING COURSES OF ASPHALT SHINGLES STAIR-STEPPING DIAGONALLY ACROSS ROOF DECK WITH MANUFACTURER'S RECOMMENDED OFFSET PATTERN AT SUCCEEDING COURSES, MAINTAINING UNIFORM EXPOSURE.
5. FASTEN ASPHALT SHINGLE STRIPS WITH ROOFING NAILS LOCATED ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. WHEN AMBIENT TEMPERATURE DURING INSTALLATION IS BELOW 50 DEG F, SEAL ASPHALT SHINGLES PER APPROVED MANUFACTURER INSTALLATION RECOMMENDATIONS.
6. HIP AND RIDGE CAP SHINGLES: MAINTAIN SAME EXPOSURE OF HIP AND RIDGE CAP SHINGLES AS ROOFING SHINGLE EXPOSURE. LAP RIDGE CAP SHINGLES TO SHED WATER AWAY FROM DIRECTION OF PREVAILING WINDS. FASTEN WITH ROOFING NAILS OF SUFFICIENT LENGTH TO PENETRATE SHEATHING.

07 6200 - SHEET METAL FLASHING AND TRIM
A. STANDARDS
FABRICATED SHEET METAL ITEMS, INCLUDING FLASHINGS, COUNTERFLASHINGS, AND OTHER ITEMS INDICATED IN SCHEDULE.

- AAMA 611 - VOLUNTARY SPECIFICATION FOR ANODIZED ARCHITECTURAL ALUMINUM 2014 (2015 ERRATA).
- ASTM C920 - STANDARD SPECIFICATION FOR ELASTOMERIC JOINT SEALANTS 2018.
- CDA A4050 - COPPER IN ARCHITECTURE - HANDBOOK CURRENT EDITION.
- SMACNA (ASMM) - ARCHITECTURAL SHEET METAL MANUAL 2012.

B. SUBMITTALS
1. SHOP DRAWINGS: INDICATE MATERIAL PROFILE, JOINTING PATTERN, JOINTING DETAILS, FASTENING METHODS, FLASHINGS, TERMINATIONS, AND INSTALLATION DETAILS.

C. QUALITY ASSURANCE
1. PERFORM WORK IN ACCORDANCE WITH SMACNA (ASMM) AND CDA A4050 REQUIREMENTS AND STANDARD DETAILS, EXCEPT AS OTHERWISE INDICATED.

D. DELIVERY, STORAGE, AND HANDLING
1. STACK MATERIAL TO PREVENT TWISTING, BENDING, AND ABRASION, AND TO PROVIDE VENTILATION. SLOPE METAL SHEETS TO ENSURE DRAINAGE.
2. PREVENT CONTACT WITH MATERIALS THAT COULD CAUSE DISCOLORATION OR STAINING.

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PROFESSIONAL SEAL

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GENERAL PROJECT SPECIFICATIONS 1

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SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (CONTINUED)

07 6200 - SHEET METAL FLASHING AND TRIM (CONTINUED)

E. PRODUCTS
PRE-FINISHED ALUMINUM: ASTM B209 (ASTM B209M); 20 GAGE, (0.032 INCH) THICK; PLAIN FINISH SHOP PRE-COATED WITH MODIFIED SILICONE COATING.
1. FLUOROPOLYMER COATING: HIGH PERFORMANCE ORGANIC FINISH, AAMA 2604; MULTIPLE COAT, THERMALLY CURED FLUOROPOLYMER FINISH SYSTEM.
2. COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.

F. FABRICATION
1. FORM SECTIONS TRUE TO SHAPE, ACCURATE IN SIZE, SQUARE, AND FREE FROM DISTORTION OR DEFECTS.
2. FORM PIECES IN LONGEST 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 LAPPED, BAYONET-TYPE OR INTERLOCKING HOOKED SEAMS.
5. FABRICATE FLASHINGS TO ALLOW TOE TO EXTEND 2 INCHES OVER ROOFING GRAVEL. RETURN AND BRAKE EDGES.

G. ACCESSORIES
1. FASTENERS: GALVANIZED STEEL, WITH SOFT NEOPRENE WASHERS.
2. PRIMER: ZINC CHROMATE TYPE.
3. CONCEALED SEALANTS: NON-CURING BUTYL SEALANT.
4. EXPOSED SEALANTS: ASTM C920; ELASTOMERIC SEALANT, WITH MINIMUM MOVEMENT CAPABILITY AS
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 FLASHINGS AND FELT FLASHINGS.
3. FIT FLASHINGS TIGHT IN PLACE; MAKE CORNERS SQUARE, SURFACES TRUE AND STRAIGHT IN PLANES, AND LINES ACCURATE TO PROFILES.
4. SEAL METAL JOINTS WATERTIGHT.

07 8100 - APPLIED FIREPROOFING
A. SUBMITTALS: PRODUCT DATA: PROVIDE DATA INDICATING PRODUCT CHARACTERISTICS.
1. TEST 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 TESTS USING SUBSTRATE MATERIALS SIMILAR THOSE ON PROJECT.

2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES.
3. MANUFACTURER'S QUALIFICATION STATEMENT.

B. FIELD CONDITIONS:
1. DO NOT APPLY FIREPROOFING WHEN TEMPERATURE OF SUBSTRATE MATERIAL AND SURROUNDING AIR IS BELOW 40 DEGREES F OR WHEN TEMPERATURE IS PREDICTED TO BE BELOW SAID TEMPERATURE FOR 24 HOURS AFTER APPLICATION.
2. PROVIDE VENTILATION IN AREAS TO RECEIVE FIREPROOFING DURING APPLICATION AND 24 HOURS AFTERWARD, TO DRY APPLIED MATERIAL.
3. PROVIDE TEMPORARY ENCLOSURE TO PREVENT SPRAY FROM CONTAMINATING AIR.

C. WARRANTY:
1. CORRECT DEFECTIVE WORK WITHIN A TWO YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION.
A. INCLUDE COVERAGE FOR FIREPROOFING TO REMAIN FREE FROM CRACKING, CHECKING, DUSTING, FLAKING, SPALLING, SEPARATION, AND BLISTERING.
B. REINSTALL OR REPAIR FAILURES THAT OCCUR WITHIN WARRANTY PERIOD.

D. MANUFACTURERS:
1. GCP APPLIED TECHNOLOGIES : WWW.GCPAT.COM/FIREPROOFING
2. ISOLATEK INTERNATIONAL CORP : WWW.ISOLATEK.COM
3. SOUTHWEST FIREPROOFING PRODUCTS COMPANY : WWW.SFRM.COM.

E. MATERIALS:
1. PROVIDE ASSEMBLIES AS INDICATED ON DRAWINGS.
2. PROVIDE FIRE RESISTANCE RATINGS FOR FOLLOWING BUILDING ELEMENTS AS REQUIRED BY LOCAL BUILDING CODE:
A. PRIMARY STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, AND TRUSSES: [1 HOUR].
B. BEARING WALLS, INTERIOR: [1 HOUR].
C. FLOOR CONSTRUCTION, INCLUDING SUPPORTING BEAMS AND JOISTS: [1 HOUR].
D. ROOF CONSTRUCTION, INCLUDING SUPPORTING BEAMS AND JOISTS: [1HOUR].

F. MATERIALS: APPLIED FIREPROOFING MATERIAL FOR INTERIOR APPLICATIONS, CONCEALED: MANUFACTURER'S STANDARD FACTORY MIXED MATERIAL, WHICH WHEN COMBINED WITH WATER IS CAPABLE OF PROVIDING INDICATED FIRE RESISTANCE, AND COMPLYING WITH FOLLOWING REQUIREMENTS:
1. COMPOSITION: GYPSUM-BASED; NOT MINERAL-FIBER-BASED.
2. BOND STRENGTH: 150 POUNDS PER SQUARE FOOT, MINIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM E736/E736M WHEN SET AND DRY.
3. DRY DENSITY: AS REQUIRED BY FIRE RESISTANCE DESIGN.
4. COMPRESSIVE STRENGTH: 8.33 POUNDS PER SQUARE INCH, MINIMUM.
5. EFFECT OF IMPACT ON BONDING: NO CRACKING, SPALLING OR DELAMINATION, WHEN TESTED IN ACCORDANCE WITH ASTM E760/E760M.
6. CORROSIVITY: NO EVIDENCE OF CORROSION, WHEN TESTED IN ACCORDANCE WITH ASTM E937/E937M.
7. SURFACE BURNING CHARACTERISTICS: MAXIMUM FLAME SPREAD INDEX OF 0 (ZERO) AND MAXIMUM SMOKE DEVELOPED INDEX OF 0 (ZERO), WHEN TESTED IN ACCORDANCE WITH ASTM E84.

G. ACCESSORIES:
1. PRIMER ADHESIVE: OF TYPE RECOMMENDED BY APPLIED FIREPROOFING MANUFACTURER.
2. OVERCOAT: AS RECOMMENDED BY MANUFACTURER OF APPLIED FIREPROOFING MATERIAL.
3. METAL LATH: EXPANDED METAL LATH; MINIMUM WEIGHT OF 1.7 PSF, GALVANIZED FINISH.
4. WATER: CLEAN, POTABLE.

H. INSTALLATION:
1. VERIFY THAT SURFACES ARE READY TO RECEIVE FIREPROOFING.
2. VERIFY THAT DUCTS, PIPING, EQUIPMENT, OR OTHER ITEMS THAT WOULD INTERFERE WITH APPLICATION OF FIREPROOFING HAVE NOT BEEN INSTALLED.
3. VERIFY THAT VOIDS AND CRACKS IN SUBSTRATE HAVE BEEN FILLED.
4. VERIFY THAT PROJECTIONS HAVE BEEN REMOVED WHERE FIREPROOFING WILL BE EXPOSED TO VIEW AS A FINISH MATERIAL.
5. PERFORM TESTS AS RECOMMENDED BY FIREPROOFING MANUFACTURER IN APPLICATIONS WHERE ADHESION OF FIREPROOFING TO SUBSTRATE IS IN QUESTION.
6. REMOVE INCOMPATIBLE MATERIALS THAT COULD EFFECT BOND BY SCRAPING, BRUSHING, SCRUBBING, OR SANDBLASTING.
7. PREPARE SUBSTRATES TO RECEIVE FIREPROOFING IN STRICT ACCORDANCE WITH INSTRUCTIONS OF FIREPROOFING MANUFACTURER.
8. APPLY FIREPROOFING MANUFACTURER'S RECOMMENDED BONDING AGENT ON PRIMED STEEL.
9. INSTALL METAL LATH OVER STRUCTURAL MEMBERS AS INDICATED OR AS REQUIRED BY UL ASSEMBLY DESIGN NUMBERS.
10. APPLY FIREPROOFING IN UNIFORM THICKNESS AND DENSITY AS NECESSARY TO ACHIEVE REQUIRED RATINGS.
11. INSPECT INSTALLED FIREPROOFING AFTER APPLICATION AND CURING FOR INTEGRITY, PRIOR TO ITS CONCEALMENT.
12. ENSURE THAT ACTUAL THICKNESSES, DENSITIES, AND BOND STRENGTHS MEET REQUIREMENTS FOR SPECIFIED RATINGS AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION (AHJ).
13. REMOVE EXCESS MATERIAL, OVERSPRAY, DROPPINGS, AND DEBRIS.
14. REMOVE FIREPROOFING FROM MATERIALS AND SURFACES NOT REQUIRED TO BE FIREPROOFED.

07 4113 - 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, REQUIRED CLEARANCES AND TOLERANCES, AND OTHER AFFECTED WORK.

C. WARRANTY: SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF SYSTEMS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
1. WARRANTY PERIOD: TWO YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

D. PRODUCTS:
A. ROOF EDGE FLASHINGS: FACTORY FABRICATED TO SIZES REQUIRED; CORNERS MITERED; CONCEALED FASTENERS.
1. CONFIGURATION: FASCIA, CANT, AND EDGE SECUREMENT FOR ROOF MEMBRANE.
2. PULL-OFF RESISTANCE: TESTED IN ACCORDANCE WITH ANSI/SPRI/FM 4435/ES-1 USING TEST METHODS RE-1 AND RE-2 TO POSITIVE AND NEGATIVE DESIGN WIND PRESSURE AS DEFINED BY APPLICABLE LOCAL BUILDING CODE.
B. COPINGS: FACTORY FABRICATED TO SIZES REQUIRED; CORNERS MITERED; CONCEALED FASTENERS.
1. CONFIGURATION: CONCEALED CONTINUOUS HOLD DOWN CLEAT AT BOTH LEGS; INTERNAL SPLICE PIECE AT JOINTS OF SAME MATERIAL, THICKNESS, AND FINISH AS CAP; CONCEALED STAINLESS STEEL FASTENERS.
2. PULL-OFF RESISTANCE: TESTED IN ACCORDANCE WITH ANSI/SPRI/FM 4435/ES-1 USING TEST METHOD RE-3 TO POSITIVE AND NEGATIVE DESIGN WIND PRESSURE AS DEFINED BY APPLICABLE LOCAL BUILDING CODE.
3. 24 GA. GALVALUME WITH KYNAR 500, 2.0 MILS THICK FLOUROCARBON FINISH.
C. ROOF PENETRATION SEALING SYSTEMS: PREMANUFACTURED COMPONENTS AND ACCESSORIES AS REQUIRED TO PRESERVE INTEGRITY OF ROOFING SYSTEM AND MAINTAIN ROOF WARRANTY; SUITABLE FOR CONDUITS AND ROOFING SYSTEM TO BE INSTALLED; DESIGNED TO ACCOMMODATE EXISTING PENETRATIONS WHERE APPLICABLE.

E. FINISHES:
A. PVDF (POLYVINYLIDENE FLUORIDE) COATING: SUPERIOR PERFORMANCE ORGANIC FINISH, AAMA 2605; MULTIPLE COAT, THERMALLY CURED FLUOROPOLYMER FINISH SYSTEM; COLOR AS INDICATED.

F. INSTALLATION:
A. INSTALL COMPONENTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NRCA (RM) APPLICABLE REQUIREMENTS.
B. SEAL JOINTS WITHIN COMPONENTS WHEN REQUIRED BY COMPONENT MANUFACTURER.
C. COORDINATE INSTALLATION OF COMPONENTS OF THIS SECTION WITH INSTALLATION OF ROOFING MEMBRANE AND BASE 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/P/C/BUILDING-MATERIALS/FIRE-PROTECTION/
2. HILTI, INC : HTTPS://WWW.HILTI.COM/C/CLS_FIRESTOP_PROTECTION_7131

C. MATERIALS:
1. FIRESTOPPING MATERIALS: ANY MATERIALS MEETING REQUIREMENTS.
2. PRIMERS, SLEEVES, FORMS, INSULATION, PACKING, STUFFING, 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 E2837 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 E1966 OR UL 2079 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 9200 - 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, JOINT LOCATION, AND DESIGNATION.
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 TEMPERATURE CONDITIONS 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 920, TYPE S; GRADE NS, CLASS 25; USES NT, G, A, AND O; FORMULATED WITH FUNGICIDE.
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. ACOUSTICAL SEALANT FOR EXPOSED INTERIOR JOINTS: NONSAG, PAINTABLE, NONSTAINING, LATEX SEALANT COMPLYING WITH ASTM C 834.
5. ACOUSTICAL SEALANT FOR CONCEALED JOINTS: NONDRYING, NONHARDENING, NONSKINNING, NONSTAINING, GUNNABLE, SYNTHETIC-RUBBER SEALANT RECOMMENDED FOR SEALING INTERIOR CONCEALED JOINTS TO REDUCE TRANSMISSION OF AIRBORNE SOUND.
6. EXTERIOR CONCRETE PANELS, NATURAL STONES, MASONRY, ALUMINUM CURTAINWALLS, METAL PANELS AND WINDOW PERIMETERS.
BASIS OF DESIGN PRODUCTS:
A. TREMCO INCORPORATED; SPECTREM 1.
B. DOW CORNING CORPORATION; 790.
C. PECORA CORPORATION; 890NST.
7. 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.
8. FIRESTOP SEALANTS:INSTALL AT FIRE RATED ASSEMBLIES AND AS DIRECTED WITHIN UL REFERENCES
BASIS OF DESIGN PRODUCTS:
A. HILTI
B. 3M

E. 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 INDICATED 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 PRODUCING 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.

F. 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 OILY RESIDUES OR OTHER SUBSTANCES CAPABLE OF STAINING OR HARMING JOINT SUBSTRATES AND ADJACENT NONPOROUS SURFACES IN ANY WAY, AND FORMULATED TO PROMOTE OPTIMUM ADHESION OF SEALANTS TO JOINT SUBSTRATES.
3. 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.
4. MASKING TAPE: NONSTAINING, NONABSORBENT MATERIAL COMPATIBLE WITH JOINT SEALANTS AND SURFACES ADJACENT TO JOINTS.

G. INSTALLATION: COMPLY WITH ASTM C 1193; ASTM C 919 FOR ACOUSTICAL JOINTS; AND AS FOLLOWS:
1. REMOVE ALL LOOSE MATERIAL, CLEAN AND PRIME JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, AND PROTECT ADJACENT SURFACES.
2. INSTALL BOND-BREAKER TAPE WHERE JOINT BACKINGS ARE NOT USED.
3. INSTALL SEALANT TOOLED CONCAVE, FREE OF AIR POCKETS, FOREIGN EMBEDDED MATTER, RIDGES, AND SAGS, AND PROTECT UNTIL FULLY CURED. SEALANT WITH DUST AND DEBRIS EMBEDDED IN SURFACE SHALL BE CAUSE FOR REJECTION.

DIVISION 8 - OPENINGS

08 0671 - DOOR HARDWARE
A. SUBMITTALS: PRODUCT DATA AND HARDWARE SCHEDULE INDICATING HARDWARE ITEM, FINISH, AND QUANTITY LOCATED ON EACH DOOR WITH DOOR AND HARDWARE SET NUMBERING CORRESPONDING TO THOSE USED IN CONSTRUCTION DOCUMENTS. REFER TO ARCHITECTURAL PLANS AND HARDWARE SCHEDULES PROVIDED.
1. HARDWARE SUPPLIER SHALL SUBMIT FOUR COPIES OF FINAL HARDWARE SCHEDULE AT EARLIEST POSSIBLE DATE PARTICULARLY WHERE ACCEPTANCE OF HARDWARE SCHEDULE MUST PRECEDE FABRICATION OF OTHER WORK WHICH IS CRITICAL IN THE PROJECT CONSTRUCTION SCHEDULE. INCLUDE WITH SCHEDULE SHOP DRAWINGS OF OTHER WORK AFFECTED BY BUILDERS HARDWARE, AND OTHER INFORMATION ESSENTIAL TO THE COORDINATE REVIEW OF HARDWARE SCHEDULE.
2. KEYING SCHEDULE. SUBMIT SEPARATE DETAILED SCHEDULE INDICATING CLEARLY HOW THE OWNER'S FINAL INSTRUCTIONS ON KEYING OF LOCKS HAS BEEN FULFILLED. ALL KEYING SHALL BE COORDINATED WITH THE OWNER.

B. PRODUCTS: REFER TO HARDWARE SCHEDULE AND ARCHITECTURAL DRAWINGS.
1. STRIKES. PROVIDE MANUFACTURER'S STANDARD WROUGHT BOX STRIKE FOR EACH LATCH OR LOCK BOLT, WITH CURVED LIP EXTENDED TO PROTECT FRAME. FINISH TO MATCH HARDWARE SET. PROVIDE STANDARD (OPEN) STRIKE PLATES FOR INTERIOR DOORS WHERE WOOD DOOR FRAMES ARE USED.
2. IN GENERAL, HARDWARE FINISH SHALL BE US15 (SATIN NICKEL) UNLESS SPECIFIED DIFFERENTLY ON HARDWARE SCHEDULE.
3. SUPPLY CAL ROYAL HDFS3 FLEXIBLE DOOR STOPS IN THE APARTMENT DWELLING UNITS. USE 2 IVHP-23 HINGE STOPS WHERE FLEXIBLE STOPS CANNOT BE USED.
4. SUPPLY OUT SWINGING EXTERIOR DOORS WITH NON REMOVABLE PINS.

C. INSTALLATION:
1. MOUNT HARDWARE UNITS AT HEIGHTS INDICATED IN "RECOMMENDED LOCATIONS FOR BUILDERS HARDWARE FOR STANDARD STEEL DOORS AND FRAMES" BY THE DOOR AND HARDWARE INSTITUTE, EXCEPT AS SPECIFICALLY INDICATED OR REQUIRED TO COMPLY WITH GOVERNING REGULATIONS, AND EXCEPT AS MAY BE OTHERWISE DIRECTED BY ARCHITECT. MOUNT HARDWARE IN UNITS DESIGNATED FOR USE BY THE HANDICAPPED AT HEIGHTS RECOMMENDED FOR USE BY THE HANDICAPPED.
2. INSTALL EACH HARDWARE ITEM IN COMPLIANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. WHEREVER CUTTING AND FITTING IS REQUIRED TO INSTALL HARDWARE ONTO OR INTO SURFACES WHICH ARE LATER TO BE PAINTED OR FINISHED IN ANOTHER WAY, COORDINATE REMOVAL, STORAGE AND
REINSTALLATION OR APPLICATION OF SURFACE PROTECTIONS WITH FINISHING WORK SPECIFIED IN THE DIVISION 9 SECTIONS. DO NOT INSTALL SURFACE MOUNTED ITEMS UNTIL FINISHES HAVE BEEN COMPLETED ON THE SUBSTRATE.
3. SET UNITS LEVEL, PLUMB AND TRUE TO LINE AND LOCATION. ADJUST AND REINFORCE THE ATTACHMENT SUBSTRATE AS NECESSARY FOR PROPER INSTALLATION AND OPERATION.
4.DRILL AND COUNTERSINK UNITS WHICH ARE NOT FACTORY PREPARED FOR ANCHORAGE FASTENERS. SPACE FASTENERS AND ANCHORS IN ACCORDANCE WITH INDUSTRY STANDARDS.
5.METAL THRESHOLDS SHALL BE SET IN A SOLID BED OF NON STAINING THIOKOL BASE CAULKING.
6. ADJUST AND CHECK EACH OPERATING ITEM OF HARDWARE AND EACH DOOR, TO ENSURE PROPER OPERATION OR FUNCTION OF EVERY UNIT. REPLACE UNITS WHICH CANNOT BE ADJUSTED TO OPERATE FREELY AND SMOOTHLY AS INTENDED FOR THE APPLICATION MADE.
7.FINAL ADJUSTMENT: WHEREVER HARDWARE INSTALLATION IS MADE MORE THAN ONE MONTH PRIOR TO ACCEPTANCE OR OCCUPANCY OF A SPACE OR AREA, RETURN TO THE WORK DURING THE WEEK PRIOR TO ACCEPTANCE OR OCCUPANCY, AND MAKE FINAL CHECK AND ADJUSTMENT OF ALL HARDWARE ITEMS IN SUCH SPACE OR AREA. CLEAN OPERATING ITEMS AS NECESSARY TO RESTORE PROPER FUNCTION AND FINISH OF HARDWARE AND DOORS. ADJUST DOOR CONTROL DEVICES TO COMPENSATE FOR FINAL OPERATION OF HEATING AND VENTILATING EQUIPMENT.

C. HARDWARE SCHEDULE

SET #1. UNIT ENTRY DOORS

1 EACH HINGE	BB81 4 X 4
2 EACH SPRING HINGES	SP81 4 X 4
1 EACH ENTRANCE LOCK	SD116 MEM
1 EACH SINGLE CYLINDER DEADBOLT	KV116
1 EACH DOOR VIEWER	DD01-180UL

SET #2. PATIO DOORS

1 EACH HINGE	BB81 4 X 4
2 EACH SPRING HINGES	SP81 4 X 4
1 EACH ENTRANCE LOCK	SD116 MEM
1 EACH SINGLE CYLINDER DEADBOLT	KV116

SET #3. SINGLE SWING CLOSET DOORS

3 EACH HINGES	BB81 4 X 4
1 EACH PASSAGE LATCH	SD126 MEM

SET #4. BATHROOM / BEDROOM DOORS

3 EACH HINGES	BB81 4 X 4
1 EACH PRIVACY LOCK	SD176 MEM

SET #5. PAIR SWING LAUNDRY DOORS

6 EACH HINGES	BB81 4 X 4
2 EACH DUMMY TRIM	SD211 MEM
2 EACH BALL CATCH	DIB1

BALANCE OF HARDWARE BY DOOR SUPPLIER

DIVISION 8 - OPENINGS (CONTINUED)

08 0671 - DOOR HARDWARE (CONTINUED)

C. HARDWARE SCHEDULE (CONTINUED)

SET #6. GARAGE

3 EACH HINGES	BB81 4-1/2X 4-1/2
1 EACH STOREROOM LOCK	SD115 MEM
1 EACH CLOSER	7101-PA
1 EACH SMOKE GASKET	5050
1 EACH THRESHOLD	425E
1 EACH WALL STOP	WB26

SET #7. CLOSET BIFOLD DOORS
BULK HARDWARE TO BE PROVIDED BY MANUFACTURER
1 EACH DUMMY TRIM

SET #8. CLOSET BYPASS SLIDING DOORS
BULK HARDWARE TO BE PROVIDED BY MANUFACTURER
1 EACH DUMMY TRIM

08 1113 - 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.ASSAABLOYDSS.COM.
2. DE LA FONTAINE INC: WWW.DELAFONTAINE.COM
3. REPUBLIC DOORS, AN ALLEGION BRAND: WWW.REPUBLICDOOR.COM
4. STEELCRAFT, 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 REQUIREMENTS; GALVANNEALED STEEL CONFORMING TO ASTM A653/A653M, COLD-ROLLED STEEL CONFORMING TO ASTM A1008/A1008M, OR HOT-ROLLED PICKLED AND OILED (HRPO) STEEL CONFORMING TO ASTM A1011/A1011M, COMMERCIAL STEEL (CS) TYPE B FOR EACH.
2. TYPICAL DOOR FACE SHEETS: FLUSH.
3. GLAZED LIGHTS: NON-REMOVABLE STOPS ON NON-SECURE SIDE; SIZES AND CONFIGURATIONS AS INDICATED ON DRAWINGS. STYLE: MANUFACTURERS STANDARD.
4. HARDWARE PREPARATIONS, SELECTIONS AND LOCATIONS: COMPLY WITH NAAMM HMMA 830 AND NAAMM HMMA 831 OR BHMA A156.115 AND ANSI/SDI A250.8 (SDI-100) IN ACCORDANCE WITH SPECIFIED REQUIREMENTS.
5. ZINC COATING FOR TYPICAL INTERIOR AND/OR EXTERIOR LOCATIONS: PROVIDE METAL COMPONENTS ZINC-COATED (GALVANIZED) AND/OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A653/A653M, WITH MANUFACTURER'S STANDARD COATING THICKNESS, UNLESS NOTED OTHERWISE FOR SPECIFIC HOLLOW METAL DOORS AND FRAMES.
6. HOLLOW METAL PANELS: SAME CONSTRUCTION, PERFORMANCE, AND FINISH AS DOORS.
7. COMBINED REQUIREMENTS: IF A PARTICULAR DOOR AND FRAME UNIT IS INDICATED TO COMPLY WITH MORE THAN ONE TYPE OF REQUIREMENT, COMPLY WITH THE SPECIFIED REQUIREMENTS FOR EACH TYPE; FOR INSTANCE, AN EXTERIOR DOOR THAT IS ALSO INDICATED AS BEING SOUND-RATED MUST COMPLY WITH THE REQUIREMENTS SPECIFIED FOR EXTERIOR DOORS AND FOR SOUND-RATED DOORS; WHERE TWO REQUIREMENTS CONFLICT, COMPLY WITH THE MOST STRINGENT.

E. HOLLOW METAL DOOR:
1. EXTERIOR DOORS: THERMALLY INSULATED.
A. ASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100).
B. LEVEL 1 - STANDARD-DUTY.
C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; IN ACCORDANCE WITH ANSI/SDI A250.4.
D. MODEL 1 - FULL FLUSH.
E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH, MINIMUM.
F. DOOR CORE MATERIAL: MANUFACTURERS STANDARD CORE MATERIAL/CONSTRUCTION AND IN COMPLIANCE WITH REQUIREMENTS.
G. DOOR THICKNESS: 1-3/4 INCH, NOMINAL.
H. TOP CLOSURES FOR OUTSWINGING DOORS: FLUSH WITH TOP OF FACES AND EDGES.
I. WEATHERSTRIPPING: REFER TO SECTION 08 7100.
J. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED.

2. INTERIOR DOORS, NON-FIRE RATED:
A. BASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100).
B. LEVEL 1 - STANDARD-DUTY.
C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; IN ACCORDANCE WITH ANSI/SDI A250.4.
D. MODEL 1 - FULL FLUSH.
E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH, MINIMUM.
F. DOOR THICKNESS: 1-3/4 INCH, NOMINAL.
G. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED.

3. FIRE-RATED DOORS:
A. BASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100).
B. LEVEL 1 - STANDARD-DUTY.
C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; IN ACCORDANCE WITH ANSI/SDI A250.4.
D. MODEL 1 - FULL FLUSH.
E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH, MINIMUM.
F. FIRE RATING: AS INDICATED ON DOOR SCHEDULE, TESTED IN ACCORDANCE WITH UL 10C AND NFPA 252 ("POSITIVE PRESSURE FIRE TESTS").
G. TEMPERATURE-RISE RATING (TRR) ACROSS DOOR THICKNESS: IN ACCORDANCE WITH LOCAL BUILDING CODE AND AUTHORITIES HAVING JURISDICTION.
H. PROVIDE UNITS LISTED AND LABELED BY UL (DIR) OR ITS (DIR). ATTACH FIRE RATING LABEL TO EACH FIRE RATED UNIT.
I. SMOKE AND DRAFT CONTROL DOORS (INDICATED WITH LETTER "S" ON DRAWINGS AND/OR DOOR SCHEDULE): SELF-CLOSING OR AUTOMATIC CLOSING DOORS IN ACCORDANCE WITH NFPA 80 AND NFPA 105, WITH FIRE-RESISTANCE-RATED WALL CONSTRUCTION RATED THE SAME OR GREATER THAN THE FIRE-RATED DOORS, AND THE FOLLOWING;
1.MAXIMUM AIR LEAKAGE: 3.0 CFM/SQ FT OF DOOR OPENING AT 0.10 INCH W.G. PRESSURE, WHEN TESTED IN ACCORDANCE WITH UL 1784 AT BOTH AMBIENT AND ELEVATED TEMPERATURES.
2. GASKETING: PROVIDE GASKETING OR EDGE SEALING AS NECESSARY TO ACHIEVE LEAKAGE LIMIT.
3. LABEL: INCLUDE THE "S" LABEL ON FIRE-RATING LABEL OF DOOR.
J. DOOR CORE MATERIAL: MANUFACTURERS STANDARD CORE MATERIAL/CONSTRUCTION IN COMPLIANCE WITH REQUIREMENTS.
K. DOOR THICKNESS: 1-3/4 INCH, NOMINAL.
L. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED.

F. HOLLOW METAL FRAMES:
1.COMPLY WITH STANDARDS AND/OR CUSTOM GUIDELINES AS INDICATED FOR CORRESPONDING DOOR IN ACCORDANCE WITH APPLICABLE DOOR FRAME REQUIREMENTS.
2. INTERIOR DOOR FRAMES, NON-FIRE RATED: FACE WELDED TYPE. FRAME FINISH: FACTORY FINISHED.
A. FULL LENGTH STOPS
B. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINIMUM.
3. DOOR FRAMES, FIRE-RATED: FACE WELDED TYPE. FIRE RATING: SAME AS DOOR, LABELED.
A. FULL LENGTH STOPS
B. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINIMUM.
4. SOUND-RATED DOOR FRAMES: FULL PROFILE/CONTINUOUSLY WELDED TYPE.
A. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINIMUM.
5. FRAMES FOR WOOD DOORS: COMPLY WITH FRAME REQUIREMENTS IN ACCORDANCE WITH CORRESPONDING DOOR.
6. BORROWED LITES GLAZING FRAMES: CONSTRUCTION AND FACE DIMENSIONS TO MATCH DOOR FRAMES, AND AS INDICATED ON DRAWINGS.
7. FRAMES IN MASONRY WALLS: SIZE TO SUIT MASONRY COURSING WITH HEAD MEMBER 4 INCH HIGH TO FILL OPENING WITHOUT CUTTING MASONRY UNITS.
8. FRAMES WIDER THAN 48 INCHES: REINFORCE WITH STEEL CHANNEL FITTED TIGHTLY INTO FRAME HEAD, FLUSH WITH TOP.

G. FINISHES:
1.PRIMER: RUST-INHIBITING, COMPLYING WITH ANSI/SDI A250.10, DOOR MANUFACTURER'S STANDARD.

H. ACCESSORIES:
1. GLAZING: AS INDICATED IN DRAWINGS OR AS SPECIFIED.
2. REMOVABLE STOPS: FORMED SHEET STEEL, SHAPE AS INDICATED ON DRAWINGS, MITERED OR BUTTED CORNERS; PREPARED FOR COUNTERSINK STYLE TAMPER PROOF SCREWS.
3. SILENCERS: RESILIENT RUBBER, FITTED INTO DRILLED HOLE; PROVIDE THREE ON STRIKE SIDE OF SINGLE DOOR, THREE ON CENTER MULLION OF PAIRS, AND TWO ON HEAD OF PAIRS WITHOUT CENTER MULLIONS.
4. TEMPORARY FRAME SPREADERS: PROVIDE FOR FACTORY- OR SHOP-ASSEMBLED FRAMES.

E. INSTALLATION:
1.INSTALL DOORS AND FRAMES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RELATED REQUIREMENTS OF SPECIFIED DOOR AND FRAME STANDARDS OR CUSTOM GUIDELINES INDICATED.
2. INSTALL PREFINISHED FRAMES AFTER PAINTING AND WALL FINISHES ARE COMPLETE.
3. INSTALL FIRE RATED UNITS IN ACCORDANCE WITH NFPA 80.
4. COORDINATE FRAME ANCHOR PLACEMENT WITH WALL CONSTRUCTION.

08 1416 - FLUSH WOOD DOORS
A. SUBMITTALS: PRODUCT DATA, PREFINISHED DOOR SKIN SAMPLES, AND DOOR SCHEDULE INDICATING DOOR AND FRAME SIZES. TYPES, ELEVATIONS, DETAILS, AND HARDWARE WITH DOOR AND HARDWARE NUMBERING CORRESPONDING TO THOSE USED IN CONSTRUCTION DOCUMENTS.

B. BASIS OF DESIGN: LINCOLN PARK, MASONITE, LE CHATEAU COLLECTION. HOLLOW CORE DOORS OR APPROVED EQUAL

C. DOORS: 1-3/8" THICK PREHING. SIZES, SPECIES, AND DESIGNS AS INDICATED COMPLYING WITH WDMA I.S.1-A
1. GRADE: PREMIUM
2. VENEER MATCHING: BOOK AND RUNNING
3. PAIR MATCHING AND SET MATCHING
4. CONSTRUCTION:
A.INTERIOR VENEER: FIVE OR SEVEN PLY, STRUCTURAL COMPOSITE LUMBER CORES.
5. SIZES AS INDICATED IN DRAWINGS

D. FABRICATION AND FINISHING:
1. FACTORY FIT DOORS TO SUIT FRAME OPENINGS TO COMPLY WITH REFERENCED STANDARD. COMPLY WITH NFPA 80 FOR FIRE-RESISTANCE RATED DOORS.
2. FACTORY MACHINE DOORS FOR HARDWARE THAT IS NOT SURFACE APPLIED.
3. CUT AND TRIM OPENINGS TO COMPLY WITH REFERENCED STANDARDS.
4. LITE KITS: MATCHING WOOD STOPS
5. FACTORY FINISH DOORS FOR TRANSPARENT FINISH WITH STAIN AND MANUFACTURER'S STANDARD FINISH COMPARABLE TO AWI, SYSTEM TR-4, CONVERSION VARNISH OR AWI SYSTEM TR-6, CATALYZED POLYURETHANE.

E. INSTALLATION:
1. COMPLY WITH WDMA'S "HOW TO STORE, HANDLE, FINISH, INSTALL, AND MAINTAIN WOOD DOORS" ALIGNED AND FITTED IN FRAMES WITH UNIFORM CLEARANCES.
2. SET IN TWO PIECE W.P. SPLIT JAMB FRAMES WITH 1X4 WOOD CASING.

08 1613 - FIBERGLASS DOORS
A. SUBMITTALS: PRODUCT DATA, PREFINISHED DOOR SKIN SAMPLES, AND DOOR SCHEDULE INDICATING DOOR AND FRAME SIZES. TYPES, ELEVATIONS, DETAILS, AND HARDWARE WITH DOOR AND HARDWARE NUMBERING CORRESPONDING TO THOSE USED IN CONSTRUCTION DOCUMENTS.

B. DOORS: BASIS OF DESIGN: JELD-WEN- FIBERGLASS DOOR SERIES.LOW- E GLAZING. PROVIDE SIZES, AND DESIGNS AS INDICATED IN ELEVATIONS

DIVISION 8 - OPENINGS (CONTINUED)

08 3100 - ACCESS DOORS AND PANELS
A. SUBMITTALS: PRODUCT DATA.

B. PRODUCTS: PRIME-PAINTED FLUSH, UNINSULATED ACCESS DOORS FOR WALLS AND CEILINGS WITH TRIMLESS FRAME AND SCREWDRIVER OPERATED LOCK FLUSH WITH FINISHED SURFACE. FIRE-RATED, SELF-LATCHING. AUTOMATIC CLOSING AT FIRE-RATED WALLS OR CEILINGS.

C. INSTALLATION: INSTALL FLUSH TO FINISHED DRYWALL SURFACE WITH FRAME TAPED AND SANDED FLUSH WITH WALL OR CEILING SURFACE AND FINISH TO MATCH ADJACENT SURFACE.

08 3613 - SECTIONAL DOORS
A. SUBMITTALS: PRODUCT DATA, AND COLOR SAMPLES. DOOR SCHEDULE INDICATING DOOR AND FRAME SIZES. TYPES, ELEVATIONS, DETAILS, AND HARDWARE WITH DOOR AND HARDWARE NUMBERING CORRESPONDING TO THOSE USED IN CONSTRUCTION DOCUMENTS.

B. BASIS OF DESIGN:
1. C.H.I OVERHEAD DOORS. 5602 SHORELINE, CARRIAGE HOUSE DESIGNS. SQUARE TOP, NUMBER #32, COLOR WHITE.
2. WIND LOAD RATING: 115 MPH PER OCAL CODE REQUIREMENTS.
3. WINDOW DESIGN, STOCKTON, GLASS- FAUX.

C. ELECTRIC OPERATOR
1. DOORS SHALL BE COMPLETE WITH ALL HARDWARE AND LIFTMASTER 3265, 1/2 HP CHAIN DRIVE GARAGE DOOR OPENER OR APPROVED EQUAL. OPERATOR SHALL HAVE A WALL MOUNTED MULTI‐ FUNCTION CONTROL PANEL AND TWO HAND‐ HELD ROLLING CODE TRANSMITTERS. SUPPLY AND INSTALL DOOR JAMB KEYPAD. GARAGE DOOR JAMBS SHALL HAVE PHOTOCELLS AT EACH SIDE OF EACH GARAGE DOOR. PROVIDE TIMERS FOR DOORS TO AUTOMATICALLY CLOSE IF LEFT OPEN FOR AN EXTENDED PERIOD OF TIME.

D. INSTALLATION:
1. INSTALL DOOR ASSEMBLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. ANCHOR TO ADJACENT CONSTRUCTION WITHOUT DISTORTION OR STRESS.
3. SECURELY BRACE DOOR TRACKS SUSPENDED FROM STRUCTURE. SECURE TRACKS TO STRUCTURAL MEMBERS ONLY.
4. FIT AND ALIGN DOOR ASSEMBLY INCLUDING HARDWARE, LEVEL AND PLUMB, TO PROVIDE SMOOTH OPERATION.
5. POSITION HEAD AND JAMB WEATHERSTRIPPING TO CONTACT DOOR SECTIONS WHEN CLOSED; SECURE IN POSITION.
6. MAKE WIRING CONNECTIONS BETWEEN POWER SUPPLY AND OPERATOR AND BETWEEN OPERATOR AND CONTROLS.
7. INSTALL ELECTRIC GARAGE DOOR OPENERS IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS. INSTALLATION SHALL INCLUDE GARAGE DOOR SILENCER ISOLATION PADS.

08 4313 - ALUMINUM FRAMED STOREFRONTS
A. SUBMITTALS: PRODUCT DATA: PROVIDE COMPONENT DIMENSIONS, DESCRIBE COMPONENTS WITHIN ASSEMBLY, ANCHORAGE AND FASTENERS, GLASS AND INFILL, DOOR HARDWARE, INTERNAL DRAINAGE DETAILS.
1. HARDWARE SCHEDULE: COMPLETE ITEMIZATION OF EACH ITEM OF HARDWARE TO BE PROVIDED FOR EACH DOOR, CROSS-REFERENCED TO DOOR IDENTIFICATION NUMBERS IN CONTRACT DOCUMENTS.
2. SHOP DRAWINGS: INDICATE SYSTEM DIMENSIONS, FRAMED OPENING REQUIREMENTS AND TOLERANCES, AFFECTED RELATED WORK, EXPANSION AND CONTRACTION JOINT LOCATION AND DETAILS, AND FIELD WELDING REQUIRED.

B. WARRANTY: WARRANTY: SUBMIT MANUFACTURER WARRANTY AND ENSURE FORMS HAVE BEEN COMPLETED IN OWNER'S NAME AND REGISTERED WITH MANUFACTURER.
1. CORRECT DEFECTIVE WORK WITHIN A FIVE YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION.
2. PROVIDE FIVE YEAR MANUFACTURER WARRANTY AGAINST FAILURE OF GLASS SEAL ON INSULATING GLASS UNITS, INCLUDING INTERPANE DUSTING OR MISTING. INCLUDE PROVISION FOR REPLACEMENT OF FAILED UNITS.
3. PROVIDE FIVE YEAR MANUFACTURER WARRANTY AGAINST EXCESSIVE DEGRADATION OF EXTERIOR FINISH. INCLUDE PROVISION FOR REPLACEMENT OF UNITS WITH EXCESSIVE FADING, CHALKING, OR FLAKING.

C. BASIS OF DESIGN: KAWNEER_ ENCORE-MEDIUM STILE , ANODIZED.VERIFY FINISH WITH OWNER.
1. OTHER MANUFACTURERS: PROVIDE EITHER THE PRODUCT IDENTIFIED AS "BASIS OF DESIGN" OR AN EQUIVALENT PRODUCT.

D. MATERIALS:
1. ALUMINUM-FRAMED STOREFRONT: FACTORY FABRICATED, FACTORY FINISHED ALUMINUM FRAMING MEMBERS WITH INFILL, AND RELATED FLASHINGS, ANCHORAGE AND ATTACHMENT DEVICES.
2. ALUMINUM FRAMING MEMBERS: TUBULAR ALUMINUM SECTIONS[<>], DRAINAGE HOLES AND INTERNAL WEEP DRAINAGE SYSTEM.
3. EXTRUDED ALUMINUM: ASTM B221 (ASTM B221M).
4. STRUCTURAL STEEL SECTIONS: ASTM A36/A36M; SHOP PRIMED.
5. FASTENERS: STAINLESS STEEL.
6. CONCEALED FLASHINGS: STAINLESS STEEL, 26 GAGE, 0.0187 INCH MINIMUM THICKNESS.
7. SEALANT FOR SETTING THRESHOLDS: NON-CURING BUTYL TYPE.
8. GLAZING GASKETS: TYPE TO SUIT APPLICATION TO ACHIEVE WEATHER, MOISTURE, AND AIR INFILTRATION REQUIREMENTS.

E. FINISHES:
1. CLASS I COLOR ANODIZED FINISH: AAMA 611 AA-M12C22A44 ELECTROLYTICALLY DEPOSITED COLORED ANODIC COATING NOT LESS THAN 0.7 MILS THICK. COLOR AS SELECTED BY OWNER & ARCHITECT.

F. HARDWARE:
1. FOR EACH DOOR, INCLUDE WEATHERSTRIPPING, SILL SWEEP STRIP, AND THRESHOLD.
2. OTHER DOOR HARDWARE: STOREFRONT MANUFACTURER'S STANDARD TYPE TO SUIT APPLICATION.
A. FINISH ON HAND-CONTACTED ITEMS: POLISHED CHROME.
B. FOR EACH DOOR, INCLUDE BUTT HINGES, PIVOTS, PUSH HANDLE, PULL HANDLE, EXIT DEVICE, NARROW STILE HANDLE LATCH, AND CLOSER. COORDINATE ADA PUSH BUTTON LOCATION.

G. INSTALLATION:
1. VERIFY DIMENSIONS, TOLERANCES, AND METHOD OF ATTACHMENT WITH OTHER WORK.
2. VERIFY THAT WALL OPENINGS AND ADJOINING AIR AND VAPOR SEAL MATERIALS ARE READY TO RECEIVE WORK OF THIS SECTION.
3. INSTALL WALL SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
4. ATTACH TO STRUCTURE TO PERMIT SUFFICIENT ADJUSTMENT TO ACCOMMODATE CONSTRUCTION TOLERANCES AND OTHER IRREGULARITIES.
5. ALIGN ASSEMBLY PLUMB AND LEVEL, FREE OF WARP OR TWIST. MAINTAIN ASSEMBLY DIMENSIONAL TOLERANCES, ALIGNING WITH ADJACENT WORK.
6. PROVIDE THERMAL ISOLATION WHERE COMPONENTS PENETRATE OR DISRUPT BUILDING INSULATION.
7. INSTALL SILL FLASHINGS. TURN UP ENDS AND EDGES; SEAL TO ADJACENT WORK TO FORM WATER TIGHT DAM.
8. WHERE FASTENERS PENETRATE SILL FLASHINGS, MAKE WATERTIGHT BY SEATING AND SEALING FASTENER HEADS TO SILL FLASHING.
9. PACK FIBROUS INSULATION IN SHIM SPACES AT PERIMETER OF ASSEMBLY TO MAINTAIN CONTINUITY OF THERMAL BARRIER.
10. SET THRESHOLDS IN BED OF SEALANT AND SECURE.
11. INSTALL HARDWARE USING TEMPLATES PROVIDED. ADJUST OPERATING HARDWARE AND SASH FOR SMOOTH OPERATION.
12. WASH DOWN SURFACES WITH A SOLUTION OF MILD DETERGENT IN WARM WATER, APPLIED WITH SOFT, CLEAN WIPING CLOTHS, AND TAKE CARE TO REMOVE DIRT FROM CORNERS AND TO WIPE SURFACES CLEAN.
13. PROTECT INSTALLED PRODUCTS FROM DAMAGE UNTIL DATE OF SUBSTANTIAL COMPLETION.

08 5313 - VINYL WINDOWS
A. SUBMITTALS: THE CONTRACTOR SHALL PREPARE, AND SUBMIT TO THE ARCHITECT FOR APPROVAL, COMPLETE SHOP DRAWINGS FOR ALL WORK INCLUDED IN THIS SECTION, AND SHALL NOT PROCEED WITH FABRICATION AND DELIVERY PRIOR TO RECEIVING SUCH APPROVAL.

B. BASIS OF DESIGN: VINYL CASEMENT WINDOWS- BASIS OF DESIGN: MI 3500 VINYL SINGLE- HUNG WINDOWS.

C. INSTALLATION: ALL WINDOWS SHALL BE SET TRUE, PLUMB, LEVEL AND IN STRICT ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS.

08 8000 - GLAZING
A. SUBMITTALS: PRODUCT DATA ON INSULATING GLASS UNIT, GLAZING UNIT, AND [SPANDREL] GLAZING TYPES: PROVIDE STRUCTURAL, PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS, SIZE LIMITATIONS, SPECIAL HANDLING AND INSTALLATION REQUIREMENTS.
1. PRODUCT DATA ON GLAZING COMPOUNDS AND ACCESSORIES: PROVIDE CHEMICAL, FUNCTIONAL, AND ENVIRONMENTAL CHARACTERISTICS, LIMITATIONS, SPECIAL APPLICATION REQUIREMENTS, AND IDENTIFY AVAILABLE COLORS.
2. SAMPLES: SUBMIT TWO SAMPLES [12] BY [12] INCH IN SIZE OF GLASS UNITS.

B. WARRANTY: WARRANTY DOCUMENTATION: SUBMIT MANUFACTURER WARRANTY AND ENSURE THAT FORMS HAVE BEEN COMPLETED IN OWNER'S NAME AND REGISTERED WITH MANUFACTURER.
1. INSULATING GLASS UNITS: PROVIDE A FIVE (5) YEAR MANUFACTURER WARRANTY TO INCLUDE COVERAGE FOR SEAL FAILURE, INTERPANE DUSTING OR MISTING, INCLUDING PROVIDING PRODUCTS TO REPLACE FAILED UNITS

C. STOREFRONT GLAZING BASIS OF DESIGN: GUARDIAN -SUNGUARD _ SNX 62/27 _COATED GLASS, CLEAR. WITH .24 U-VALUE ARGON FILLED.

D. QUALITY STANDARDS:
1. SAFETY GLASS: CATEGORY II MATERIALS COMPLYING WITH TESTING REQUIREMENTS IN 16 CFR 1201 AND ANSI Z97.1.
2. GLAZING PUBLICATIONS: WHERE APPLICABLE, COMPLY WITH WITH THE PUBLISHED RECOMMENDATIONS OF THE FOLLOWING:
A. GANA PUBLICATIONS: "GLAZING MANUAL" AND "LAMINATED GLASS DESIGN GUIDE".
B. SIGMA PUBLICATIONS: SIGMA TM-3000, "VERTICAL GLAZING GUIDELINES".

E. GLASS:
1. FLOAT GLASS: ASTM C 1036, TYPE I, QUALITY q3
2. HEAT-TREATED FLOAT GLASS: ASTM C 1048, TYPE I, QUALITY q3, HEAT STRENGTHENED OR FULLY TEMPERED WHERE INDICATED AND WHERE REQUIRED BY CODE OR INSTALLATION CONDITIONS.
3. MIRROR GLASS: ASTM C 1036, TYPE I, CLASS 1, QUALITY q1, SILVER COATED PER FS DDM411C, 6.0mm THICK, WITH EDGES FLAT POLISHED.

F. FABRICATED GLASS PRODUCTS:
1. SEALED INSULATING-GLASS UNITS: PREASSEMBLED UNITS COMPLYING WITH ASTM E 774 FOR CLASS CBA UNITS WITH TWO SHEETS OF GLASS SEPARATED BY A 1/2-INCH DEHYDRATED SPACE FILLED WITH AIR. EXTERIOR GLASS COLOR TO MATCH EXISTING. INTERIOR GLASS SHALL BE CLEAR.

G. INSTALLATION:
1. COMPLY WITH COMBINED RECOMMENDATIONS OF MANUFACTURERS OF GLASS, SEALANTS, GASKETS, AND OTHER GLAZING MATERIALS, UNLESS MORE STRINGENT REQUIREMENTS ARE CONTAINED IN GANA'S "GLAZING MANUAL".
2. SET GLASS LITES IN EACH SERIES WITH UNIFORM PATTERN, DRAW, BOW, AND SIMILAR CHARACTERISTICS.
3. AFTER GLASS INSTALLATION IS COMPLETE, REMOVE GLAZING MATERIALS AND LABELS FROM FINISHED SURFACES, AND THOROUGHLY CLEAN GLASS AND ADJACENT FRAMING AND SURFACES. REPEAT AS NECESSARY PRIOR TO FINAL WALK-THROUGH.

DIVISION 8 - OPENINGS (CONTINUED)

08 8100 - MIRRORS
A. SUBMITTALS: FOR EACH TYPE OF PRODUCT INDICATED.THE CONTRACTOR SHALL PREPARE, AND SUBMIT TO THE ARCHITECT FOR APPROVAL, COMPLETE SHOP DRAWINGS: INCLUDE MIRROR ELEVATIONS, EDGE DETAILS, MIRROR HARDWARE, AND ATTACHMENTS TO OTHER WORK. WARRANTY: SAMPLE OF SPECIAL WARRANTY.

B. QUALITY ASSURANCE: VINYL CASEMENT WINDOWS- BASIS OF DESIGN: MI 3500 VINYL SINGLE- HUNG WINDOWS.
1. GLAZING PUBLICATIONS: COMPLY WITH GANA'S "GLAZING MANUAL" AND "MIRRORS, HANDLE WITH EXTREME CARE: TIPS FOR THE PROFESSIONAL ON THE CARE AND HANDLING OF MIRRORS."
2.SAFETY GLAZING PRODUCTS: FOR MIRRORS, PROVIDE PRODUCTS COMPLYING WITH TESTING REQUIREMENTS IN 16 CFR 1201 FOR CATEGORY II MATERIALS.
3. PRECONSTRUCTION MIRROR MASTIC COMPATIBILITY TEST: SUBMIT MIRROR MASTIC PRODUCTS TO MIRROR MANUFACTURER FOR TESTING TO DETERMINE COMPATIBILITY OF MASTIC WITH MIRROR BACKING AND SUBSTRATES ON WHICH MIRRORS ARE INSTALLED.

C. WARRANTY: SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MIRROR MANUFACTURER AGREES TO REPLACE MIRRORS THAT DETERIORATE WITHIN SPECIFIED WARRANTY PERIOD. DETERIORATION OF MIRRORS IS DEFINED AS DEFECTS DEVELOPED FROM NORMAL USE THAT ARE NOT ATTRIBUTED TO MIRROR BREAKAGE OR TO MAINTAINING AND CLEANING MIRRORS CONTRARY TO MANUFACTURER'S WRITTEN INSTRUCTIONS. DEFECTS INCLUDE DISCOLORATION, BLACK SPOTS, AND CLOUDING OF THE SILVER FILM.
1. WARRANTY PERIOD: FIVE YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

D. BASIS OF DESIGN: SILVERED FLAT GLASS MIRRORS
1. GLASS MIRRORS, GENERAL: ASTM C 1503; MANUFACTURED USING COPPER FREE, LOW LEAD MIRROR COATING PROCESS.
2. CLEAR GLASS: MIRROR GLAZING QUALITY; ULTRACLEAR (LOW IRON) FLOAT GLASS WITH A MINIMUM 91 PERCENT VISIBLE LIGHT TRANSMISSION. NOMINAL THICKNESS: 1/4 INCH.
3. TEMPERED CLEAR GLASS: MIRROR GLAZING QUALITY, FOR BLEMISH REQUIREMENTS; AND COMPLY WITH ASTM C 1048 FOR KIND FT, CONDITION A, TEMPERED FLOAT GLASS BEFORE SILVER COATING IS APPLIED. NOMINAL THICKNESS: 1/4 INCH.

E. MIRROR HARDWARE: TOP AND BOTTOM ALUMINUM J CHANNELS: ALUMINUM EXTRUSIONS WITH A RETURN DEEP ENOUGH TO PRODUCE A GLAZING CHANNEL TO ACCOMMODATE MIRRORS OF THICKNESS INDICATED AND IN LENGTHS REQUIRED TO COVER BOTTOM AND TOP EDGES OF EACH MIRROR IN A SINGLE PIECE. FINISH: CLEAR BRIGHT ANODIZED.

1. TOP AND BOTTOM MIRROR MOUNTING CLIPS: #277 MIRROR CLIPS AS MANUFACTURED BY KNAPE & VOGT OR APPROVED EQUAL.
2. FASTENERS: FABRICATED OF SAME BASIC METAL AND ALLOY AS FASTENED METAL AND MATCHING IT IN FINISHED COLOR AND TEXTURE WHERE FASTENERS ARE EXPOSED.

F. INSTALLATION: GENERAL: EXAMINE SUBSTRATES, OVER WHICH MIRRORS ARE TO BE MOUNTED, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH INSTALLATION TOLERANCES, SUBSTRATE PREPARATION, AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
A. VERIFY COMPATIBILITY WITH AND SUITABILITY OF SUBSTRATES, INCLUDING COMPATIBILITY OF MIRROR MASTIC WITH EXISTING FINISHES OR PRIMERS.
B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED AND SURFACES ARE DRY.

1.INSTALL MIRRORS TO COMPLY WITH MIRROR MANUFACTURER'S WRITTEN INSTRUCTIONS AND WITH REFERENCED GANA PUBLICATIONS. MOUNT MIRRORS ACCURATELY IN PLACE IN A MANNER THAT AVOIDS DISTORTING REFLECTED IMAGES.
2. INSTALL WALL MOUNTED ANNEALED GLASS MIRRORS IN THE APARTMENT UNITS WITH MIRROR CLIPS. ATTACH MIRROR HARDWARE SECURELY TO MOUNTING SURFACES WITH MECHANICAL FASTENERS INSTALLED WITH
3. ANCHORS OR INSERTS AS APPLICABLE. INSTALL FASTENERS SO HEADS DO NOT IMPOSE POINT LOADS ON BACKS OF MIRRORS.
4. PROTECT MIRRORS FROM BREAKAGE AND CONTAMINATING SUBSTANCES RESULTING FROM CONSTRUCTION OPERATIONS.
5. MAINTAIN ENVIRONMENTAL CONDITIONS THAT WILL PREVENT MIRRORS FROM BEING EXPOSED TO MOISTURE FROM CONDENSATION OR OTHER SOURCES FOR CONTINUOUS PERIODS OF TIME.
6. WASH EXPOSED SURFACE OF MIRRORS NOT MORE THAN FOUR DAYS BEFORE DATE SCHEDULED FOR INSPECTIONS THAT ESTABLISH DATE OF SUBSTANTIAL COMPLETION. WASH MIRRORS AS RECOMMENDED IN WRITING BY MIRROR MANUFACTURER.

DIVISION 9 - FINISHES

09 2116 - GYPSUM BOARD ASSEMBLIES
A. STEEL FRAMING MEMBERS: COMPLY WITH ASTM C754 IN DEPTHS AND GAGES AS INDICATED IN THE CONSTRUCTION DRAWINGS AND AS FOLLOWS:
1. STEEL SHEET COMPONENTS: COMPLY WITH ASTM C645 WITH MANUFACTURER'S STANDARD CORROSION-RESISTANT ZINC COATING.
2. TIE WIRE: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER. .0625" DIAMETER OR DOUBLE STRAND OF .0475" DIAMETER WIRE.
3. WIRE HANGERS: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER. .0162" DIAMETER.

B. PANEL PRODUCTS:PROVIDE IN THICKNESS AND TYPE INDICATED IN THE CONSTRUCTION DRAWINGS IN MAXIMUM LENGTHS AVAILABLE TO MINIMIZE END-TO-END BUTT JOINTS AND AS FOLLOWS:
1. GYPSUM WALLBOARD: ASTM C 36, TYPE 'X' WITH TAPERED EDGES, SAG-RESISTANT TYPE FOR CEILING SURFACES.
2. WATER-RESISTANT GYPSUM BACKING BOARD: ASTM C 630, TYPE 'X' ON ALL TOILET ROOM AND SHOWER ROOM WALLS, BEHIND ALL PLUMBING FIXTURES, AND AS INDICATED.

C. ACCESSORIES:
1. TRIM: ASTM 1047, FORMED FROM GALVANIZED OR ALUMINUM COATED STEEL SHEET, ROLLED ZINC, OR PLASTIC
a. OUTSIDE CORNERS: PROVIDE CORNER BEAD UNLESS NOTED OTHERWISE
b. EXPOSED PANEL EDGES: PROVIDE LC-BEAD (J-BEAD) UNLESS NOTED OTHERWISE; USE TEAR-AWAY BEAD WHERE GYP. BD. MEETS WINDOW FRAMES OR CEILING GRID.
c. CONTROL JOINTS: PROVIDE WHERE INDICATED OR APPROXIMATELY 30'-0" MAX. CONTACT ARCHITECT FOR LOCATIONS IF NOT INDICATED.
2. SOUND-ATTENUATION BLANKETS: ASTM C 665, TYPE I (UNFACED)
3. ACOUSTICAL SEALANT: COMPLY WITH ASTM C 834, NONSAG, PAINTABLE, NONSTAINING LATEX.

D. INSTALLATION:
1. FRAMING: COMPLY WITH ASTM C 754 AND ASTM C 840 AND WITH U.S. GYPSUM'S "GYPSUM CONSTRUCTION HANDBOOK" ISOLATE FRAMING FROM BUILDING STRUCTURE TO PREVENT TRANSFER OF LOADING IMPOSED BY STRUCTURAL MOVEMENT AND PROVIDE BRACING AS NECESSARY FOR PROPER SUPPORT WHETHER INDICATED OR NOT.
2. GYPSUM PANELS AND FINISH: COMPLY WITH ASTM C 840 AND GA-216. ISOLATE GYPSUM BOARD ASSEMBLIES FROM ABUTTING STRUCTURAL AND MASONRY WORK AND FINISH AS FOLLOWS:
A. LEVEL 1 (EMBED TAPE AT JOINTS): AT CONCEALED AREAS UNLESS A HIGHER LEVEL IS INDICATED OR REQUIRED FOR FIRE-RESISTANCE-RATED ASSEMBLY.
B. LEVEL 2 (EMBED TAPE AND APPLY SEPARATE FIRST COAT OF JOINT COMPOUND TO TAPE. FASTENERS, AND TRIM FLANGES AND SAND SMOOTH AFTER EACH COAT): AT SUBSTRATES BEHIND TILE.
C. LEVEL 4 (EMBED TAPE AND APPLY SEPARATE FIRST, FILL, AND FINISH COATS OF JOINT COMPOUND TO TAPE, FASTENERS, AND TRIM FLANGES AND SAND SMOOTH AFTER EACH COAT): AT ALL WALLS RECEIVING FLAT, EGGSHELL, OR SATIN SHEEN PAINT OR WALLCOVERING)
D. LEVEL 5 (EMBED TAPE, APPLY SEPARATE FIRST, FILL, AND FINISH COATS OF JOINT COMPOUND TO TAPE, FASTENERS, AND TRIM FLANGES, AND APPLY THIN SKIM COAT OF JOINT COMPOUND OVER ENTIRE SURFACE AND SAND SMOOTH AFTER EACH COAT): AT ALL WALLS RECEIVING SEMI-GLOSS OR GLOSS SHEEN PAINT, AND ALL GYPSUM BOARD CEILINGS)

09 2216 - NON-STRUCTURAL METAL FRAMING
A. SUBMITTALS: SHOP DRAWINGS: INDICATE PREFABRICATED WORK, COMPONENT DETAILS, STUD LAYOUT, FRAMED OPENINGS, ANCHORAGE TO STRUCTURE, ACOUSTIC DETAILS, TYPE AND LOCATION OF FASTENERS, ACCESSORIES, AND ITEMS OF OTHER RELATED WORK. DESCRIBE METHOD FOR SECURING STUDS TO TRACKS, SPLICING, AND FOR BLOCKING AND REINFORCEMENT OF FRAMING CONNECTIONS.
1. PRODUCT DATA: PROVIDE MANUFACTURER'S DATA ON PARTITION HEAD TO STRUCTURE CONNECTORS, SHOWING COMPLIANCE WITH REQUIREMENTS.
2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES AND PERIMETER CONDITIONS REQUIRING SPECIAL ATTENTION.

B. MANUFACTURERS:
1. CLARKDIETRICH BUILDING SYSTEMS: WWW.CLARKDIETRICH.COM.
2. CEMCO: WWW.CEMCOSTEEL.COM.
3. JAIMES INDUSTRIES: WWW.JAIMESIND.COM
4. STEEL CONSTRUCTION SYSTEMS: WWW.STEELCONSYSTEMS.COM

C. FRAMING MATERIALS:
1. FIRE RATED ASSEMBLIES: COMPLY WITH APPLICABLE CODE AND AS FOLLOWS:
A. TOP OF FIRE RATED PARTITIONS: LISTED ASSEMBLY BY UL, NO. [ON DRAWINGS]; [1 AND 2] HOUR RATING.
B. FIRE RATED SHAFT WALL REQUIREMENTS: LISTED ASSEMBLY BY UL, NO. [ON DRAWINGS]; [1] HOUR RATING.

2. NON-LOADBEARING FRAMING SYSTEM COMPONENTS: ASTM C645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO COMPLY WITH ASTM C754 FOR THE SPACING INDICATED, WITH MAXIMUM DEFLECTION OF WALL FRAMING OF L/240 AT 5 PSF.
A. TRACKS AND RUNNERS: SAME MATERIAL AND THICKNESS AS STUDS, BENT LEG RETAINER NOTCHED TO RECEIVE STUDS WITH PROVISION FOR CRIMP LOCKING TO STUD. STUDS: C SHAPED WITH FLAT OR FORMED WEBS WITH KNURLED FACES.
B. CEILING CHANNELS: C SHAPED.
C. FURRING: HAT-SHAPED SECTIONS, MINIMUM DEPTH OF 7/8 INCH.
D. CONTRACTOR TO PROVIDE BRACING AS REQUIRED TO COMPLETE SYSTEM.
F. WHERE INDICATED IN DRAWINGS, SHAFT WALL STUDS AND ACCESSORIES: ASTM C645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO COMPLY WITH ASTM C754 AND SPECIFIED PERFORMANCE REQUIREMENTS.
G. CEILING HANGERS: TYPE AND SIZE AS SPECIFIED IN ASTM C754 FOR SPACING REQUIRED.
H. PARTITION HEAD TO STRUCTURE CONNECTIONS: PROVIDE MECHANICAL ANCHORAGE DEVICES THAT ACCOMMODATE DEFLECTION USING SLOTTED HOLES, SCREWS AND ANTI-FRICTION BUSHINGS, PREVENTING ROTATION OF STUDS WHILE MAINTAINING STRUCTURAL PERFORMANCE OF PARTITION.
I. FIT, REINFORCE, AND BRACE FRAMING MEMBERS TO SUIT DESIGN REQUIREMENTS.

D. INSTALLATION:
1.COMPLY WITH REQUIREMENTS OF ASTM C754.
2.VERIFY EXISTING CONDITIONS BEFORE STARTING WORK.
3. VERIFY THAT ROUGH-IN UTILITIES ARE IN PROPER LOCATION.
4.EXTEND PARTITION FRAMING TO STRUCTURE WHERE INDICATED AND TO CEILING IN OTHER LOCATIONS.
5. PARTITIONS TERMINATING AT CEILING: ATTACH CEILING RUNNER SECURELY TO CEILING TRACK IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
6.PARTITIONS TERMINATING AT STRUCTURE: ATTACH TOP RUNNER TO STRUCTURE, MAINTAIN CLEARANCE BETWEEN TOP OF STUDS AND STRUCTURE, AND CONNECT STUDS TO TRACK USING SPECIFIED MECHANICAL DEVICES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS; VERIFY FREE MOVEMENT OF TOP OF STUD CONNECTIONS; DO NOT LEAVE STUDS UNATTACHED TO TRACK.
7.FIT RUNNERS UNDER AND ABOVE OPENINGS; SECURE INTERMEDIATE STUDS TO SAME SPACING AS WALL STUDS.
8. ALIGN STUD WEB OPENINGS HORIZONTALLY.
9. SECURE STUDS TO TRACKS USING CRIMPING METHOD. DO NOT WELD.
10. STUD SPLICING IS NOT PERMISSIBLE.
11. FABRICATE CORNERS USING A MINIMUM OF THREE STUDS.
12. DOUBLE STUD AT WALL OPENINGS, DOOR AND WINDOW JAMBS, NOT MORE THAN 2 INCHES FROM EACH SIDE OF OPENINGS.
13. BRACE STUD FRAMING SYSTEM RIGID.
14. COORDINATE ERECTION OF STUDS WITH REQUIREMENTS OF DOOR FRAMES; INSTALL SUPPORTS AND ATTACHMENTS.
15. COORDINATE INSTALLATION OF BUCKS, ANCHORS, AND BLOCKING WITH ELECTRICAL, MECHANICAL, AND OTHER WORK TO BE PLACED WITHIN OR BEHIND STUD FRAMING.
16. BLOCKING: USE WOOD BLOCKING SECURED TO STUDS. PROVIDE BLOCKING FOR SUPPORT OF PLUMBING FIXTURES, WALL CABINETS, TOILET ACCESSORIES, HARDWARE, AND OPENING FRAMES.

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REVISION DATES:

PROFESSIONAL SEAL

G501

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COLLINS WEBB #: 21075

GENERAL PROJECT
SPECIFICATIONS 2

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SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

09 6500 - 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. METROFLOR,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 COILS 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 ONLY 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 SO 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 MANUFACTURER'S 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 MANUFACTURER'S RECOMMENDED ADHESIVE IN MAXIMUM LENGTHS POSSIBLE. APPLY TO WALLS, COLUMNS, PILASTERS, 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 6813 - 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 WORKMANSHIP 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 I, NOT LESS THAN 0.45 W/SQ. CM PER ASTM E 648. ORDER ALL MATERIALS FROM THE SAME FACTORY DYE LOT.

E. INSTALLATION ACCESSORIES:
1.TROWELABLE 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 CRI 104, SECTION 13 "CARPET MODULES (TILES)".
1. GENERAL: COMPLY WITH CRI'S "CRI CARPET INSTALLATION STANDARD" AND WITH CARPET MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PREPARING SUBSTRATES.
2. USE TROWELABLE LEVELING AND PATCHING COMPOUNDS, ACCORDING TO MANUFACTURER'S 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 MANUFACTURER'S WRITTEN INSTRUCTIONS.
3.BROOM AND VACUUM CLEAN SUBSTRATES TO BE COVERED IMMEDIATELY BEFORE INSTALLING CARPET.
4.LAY CARPET TILE IN PATTERN AS INDICATED ON CONSTRUCTION DOCUMENTS AND SO WIDTHS AT OPPOSITE EDGES OF ROOM ARE EQUAL AND NOT LESS THAN HALF-WIDTH.
5.TRIM CARPET NEATLY AND TIGHT TO WALLS AND AROUND INTERRUPTIONS.
6.INSTALL PATTERN PARALLEL 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, EDGINGS, 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 6816 - 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 WORKMANSHIP 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" - 6# DENSITY REBOND PAD AS REQUIRED FOR A COMPLETE INSTALLATION.

E. INSTALLATION ACCESSORIES:
1.TROWELABLE 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 BACKING TO FORM SECURE SEAMS AND TO PREVENT PILE LOSS AT SEAMS.
4. TACKLESS CARPET STRIPPING: WATER RESISTANT PLYWOOD 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 CRI'S "CRI CARPET INSTALLATION STANDARD" AND WITH CARPET MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PREPARING SUBSTRATES.
2. USE TROWELABLE LEVELING AND PATCHING COMPOUNDS, ACCORDING TO MANUFACTURER'S 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 MANUFACTURER'S 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 MANUFACTURER'S 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 PARALLEL 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, EDGINGS, 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 9000 - 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 MANUFACTURER'S 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, KWAL, 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 9000 - PAINTING AND COATING (CONTINUED)

E. APPLICATION / INSTALLATION:
1. EQUIPMENT: APPLY COATINGS BY BRUSH, ROLLER, SPRAY, OR OTHER APPLICATORS ACCORDING TO COATING MANUFACTURER'S WRITTEN INSTRUCTIONS. WHEN SPRAYED, EXTERIOR COATINGS SHALL BE BACK-ROLLED FOLLOWING SPRAY APPLICATION. USE ROLLERS FOR FINISH COAT ON INTERIOR WALLS AND CEILINGS.
2. PIGMENTED (OPAQUE) FINISHES: COMPLETELY COVER SURFACES TO PROVIDE A SMOOTH, OPAQUE SURFACE OF UNIFORM APPEARANCE. PROVIDE A FINISH FREE OF CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, RUNS, SAGS, ROPINESS, 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 MANUFCTURER 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 CHANNELS, POSTS, RAILINGS, 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. SEMI-GLOSS PAINT.	PRIME AND BACK LATEX PRIMER. TWO COATS OF EXTERIOR LATEX SATIN OR
5. PRIMED MILLWORK AND TRIM.	TOUCH-UP PRIME. 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 BODIED STAIN.
7. PRIMED METAL ENTRY DOORS, FRENCH DOORS AND METAL FRAMES, GARAGE DOORS.	PATCH DENTS, 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 EGGSHELL WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.) ONE WALL IN EACH APARTMENT UNIT LIVING SPACE AND EACH BEDROOM SHALL BE PAINTED ACCENT COLORS.
2. GYPSUM BOARD WALLS IN KITCHENS, BATHROOMS AND LAUNDRIES UNLESS SCHEDULED FOR WALLCOVERING OR TILE.	ONE COAT OF EPOXY COMPATABLE PRIMER PAINT AND ONE FINISH COAT OF EPOXY EGGSHELL 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 CEILINGS.	TWO COATS OF LATEX FLAT PAINT. TWO COATS OF CLASS II VAPOR RETARDER PAINT AT CEILINGS 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, REGISTERS, ETC.	TWO COATS METAL PAINT TO MATCH ADJACENT SURFACES UNLESS FACTORY PREFINISHED WHITE
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 A108.5 AND ANSI 118.4.
2. GROUT:UNSANDED FOR JOINTS 1/16" WIDTH 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 (TEC ACCUCOLOR XT, OR EQUAL)
3. SETTING BED ACCESSORIES: ANSI A 108.1A

F. INSTALLATION METHODS: COMPLY WITH TILE INSTALLATION STANDARDS IN ANSI'S "SPECIFICATIONS FOR THE INSTALLATIONS OF CERAMIC TILE" AND TCA'S "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 WAINSCOTING OR WALL BASE WITH AN EXPOSED TOP EDGE, THE FACTORY EDGE SHALL BE USED AS THE EXPOSED EDGE.

H. CONFLICTS: 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. TILE PATTERN: LAY TILE IN PATTERNS AS INDICATED IN THE CONSTRUCTION DOCUMENTS. ALIGN JOINTS WHERE ADJOINING TILES ON FLOOR, BASE, WALLS, AND TRIM ARE THE SAME SIZE, UNLESS INDICATED OTHERWISE.
3. INSTALLATION: INSTALL GROUT PER MANUFACTURER'S INSTRUCTIONS, EXERCISING CARE TO AVOID REMOVAL OF GROUT COLOR BY USE OF EXCESS WATER DURING INSTALLATION. FADED OR CHALKY GROUT SHALL BE CAUSE FOR REJECTION.
4. SEALER: AFTER FULLY CURED, GROUT SHALL BE SEALED WITH TWO (2) COATS OF COMMERCIAL QUALITY PENETRATING SILICONE SEALER.

09 5100 - ACOUSTICAL CEILINGS

A. SUBMITTALS: PRODUCT DATA ONLY

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

C. ACOUSTICAL TILE PRODUCTS: PROVIDE CEILING TILE IN TYPE AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS COMPLYING WITH ASTM E 1264, CLASS A MATERIALS, TESTED PER ASTM E 84.

D. SUSPENSION SYSTEM: PROVIDE HEAVY DUTY, DIRECT-HUNG, SUSPENSION SYSTEMS AS INDICATED IN THE CONSTRUCTION DOCUMENTS COMPLYING WITH ASTM C 635. FURNISH ALUMINUM GRID IN SHOWERS, KITCHENS, AND OTHER HIGH-HUMIDITY AREAS.
1. ATTACHMENT DEVICES: SIZE FOR FIVE (5) TIMES THE DESIGN LOAD INDICATED IN ASTM C 635, TABLE 1, DIRECT HUNG UNLESS OTHERWISE INDICATED.
2. WIRE HANGERS, BRACES, AND TIES: ZINC-COATED CARBON-STEEL WIRE; ASTM A 641/ (A 641 M), CLASS 1 ZINC COATING, SOFT TEMPER WITH A YIELD STRENGTH AT LEAST THREE (3) TIMES THE HANGER DESIGN LOAD (ASTM C 635, TABLE 1, DIRECT HUNG), BUT NOT LESS THAN 0.135" DIAMETER WIRE.
3. SEISMIC STRUTS: MANUFACTURER'S STANDARD PRODUCT DESIGNED TO ACCOMMODATE SEISMIC FORCES.
4. HOLD-DOWN CLIPS: PROVIDE HOLD-DOWN CLIPS ON CEILING TILE IN ENTRANCE VESTIBULES, COMPUTER ROOMS EMPLOYING DRY CHEMICAL FIRE-SUPPRESSION SYSTEMS, AND OTHER AREAS AS INDICATED.

F. INSTALLATION: COMPLY WITH ASTM C 636 AND CISCA'S "CEILING SYSTEMS HANDBOOK".
1. SEQUENCE WORK TO ENSURE ACOUSTICAL CEILINGS ARE NOT INSTALLED UNTIL BUILDING IS ENCLOSED, SUFFICIENT HEAT IS PROVIDED, DUST GENERATION ACTIVITIES HAVE TERMINATED, AND OVERHEAD WORK IS COMPLETED, TESTED, AND APPROVED.
2. INSTALL CEILING GRID AS INDICATED TO BE SYMMETRICAL ABOUT BOTH AXES OF EACH ROOM USING NOT LESS THAN HALF-SIZE TILE UNLESS INDICATED OTHERWISE ON THE REFLECTED CEILING PLAN.
3. SUPPORT SUSPENSION SYSTEM INDEPENDENTLY OF DUCTS, PIPES, AND CONDUITS.
4. SUPPORT FIXTURE LOADS USING SUPPLEMENTARY HANGERS LOCATED WITHIN 6" OF EACH CORNER OR SUPPORT FIXTURES INDEPENDENTLY.
5. PROVIDE MATCHING PERIMETER MOLDING INSTALLED IN BEAD OF ACOUSTICAL SEALANT AT ALL LOCATIONS WHERE CEILING INTERSECTS VERTICAL SURFACES. USE MATCHING PRE-FORMED CLOSURES AT ROUND OR CURVED OBSTRUCTIONS.
6. FIELD-CUT EDGES SHALL MATCH PROFILE OF FACTORY EDGES.

DIVISION 10 - SPECIALTIES

10 2800 TOILET AND BATH ACCESSORIES

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

B. SUBMITTALS
1. PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:
2. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS.
3. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.
4. INSTALLATION METHODS.

B. 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 DETRIMENTAL 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. I NSTALL UNITS LEVEL, PLUMB, AND FIRMLY ANCHORED IN LOCATIONS AND AT HEIGHTS INDICATED. ADHESIVE INSTALLATIONS ARE NOT PERMITTED.
3. MOUNTING HEIGHTS SHALL BE AS RECOMMENDED BY THE ACCESSORY MANUFACTURER AND AT HEIGHTS RECOMMENDED BY USE FOR PHYSICALLY HANDICAPPED TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT.
4. GRAB BARS: INSTALL TO WITHSTAND A DOWNWARD LOAD OF AT LEAST 250 LBF, WHEN TESTED ACCORDING TO ASTM F 446.
5. ADJUST ACCESSORIES FOR PROPER OPERATION AND VERIFY THAT MECHANISMS FUNCTION SMOOTHLY.
6. 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 PENS, PENCILS, MARKERS, AND OTHER WRITING INSTRUMENTS.
B. THICKNESS: 1 INCH (25 MM).
C. EDGES: SHIPLAP.
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: MANUFACTURER'S 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 MANUFACTURER'S FULL RANGE OF AVAILABLE COLORS AND PATTERNS.

D. POSTS, RAILS AND HARDWARE:
1. METAL POSTS: 82.75 INCHES (2102 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. HEADRAIL CAP AND CORNER CAP: ONE-PIECE MOLDED POLYETHYLENE SECURED TO METAL POST WITH STAINLESS STEEL TAMPER RESISTANT SCREW; ADJUSTABLE TO LEVEL HEADRAIL TO FINISHED FLOOR.
4. WALL BRACKETS: CONTINUOUS HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, INSERTED INTO SLOTTED PANEL AND FASTENED TO PANELS WITH STAINLESS STEEL TAMPER RESISTANT SCREWS.
5. HEADRAIL: 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 WEIGHT.
B.OCCUPANCY INDICATOR LATCH AND HOUSING: MATERIAL: SATIN STAINLESS STEEL. OCCUPANCY INDICATORS: GREEN FOR OCCUPIED AND RED NOT OCCUPIED. SLIDE BOLT AND BUTTON.
C.COAT HOOK AND DOOR BUMPER COMBINATION: MATERIAL: CHROME PLATED ZAMAK. HANDICAP DOOR: 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 MANUFACTURER'S INSTRUCTIONS AND APPROVED SHOP DRAWINGS.
3. INSTALL PARTITIONS RIGID, STRAIGHT, PLUMB, AND LEVEL.
4. LOCATE BOTTOM EDGE OF DOORS AND PANELS ___ 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 4400 - 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 3661 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 EDGES AND MATCHING SIDE AND BACKSPLASHES. 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 COUNTERTOPS: MILDEW‐ RESISTANT JOINT SEALANT: MILDEW RESISTANT, SINGLE COMPONENT, NONSAG, NEUTRAL CURING, SILICONE. COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.
7. GROMMETS: 2 INCH ROUND GROMMETS BY DOUG MOCKETT & 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 IN SIZES AND SHAPES REQUIRED TO COMPLY WITH REQUIREMENTS INDICATED.
3. GENERAL: COMPLY WITH RECOMMENDATIONS IN MIA'S "DIMENSION STONE DESIGN MANUAL VI."
4. NOMINAL THICKNESS: PROVIDE THICKNESS INDICATED, BUT NOT LESS THAN 3 CM (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 BACKSPLASHES 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 PATTERN FURNISHED BY FIXTURE MANUFACTURER. FORM CUTOUTS TO SMOOTH, EVEN CURVES.
8. COUNTER 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 SOAP 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 WATER 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 BRACING, 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 SNIPPING.
6. INSTALL BACKSPLASHES 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. USE TEMPORARY SHIMS TO ENSURE UNIFORM SPACING.
7. GROUT JOINTS TO COMPLY WITH ANSI A108.10. REMOVE TEMPORARY SHIMS BEFORE GROUTING. TOOL GROUT UNIFORMLY AND SMOOTHLY WITH PLASTIC TOOL.
8. APPLY SEALANT TO JOINTS AND GAPS SPECIFIED FOR FILLING WITH SEALANT; COMPLY WITH SECTION 079200 "JOINT SEALANTS." REMOVE TEMPORARY SHIMS BEFORE APPLYING SEALANT.
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 FEWER THAN SIX DAYS AFTER COMPLETION OF INSTALLATION, USING CLEAN WATER AND SOFT RAGS. DO NOT USE WIRE BRUSHES, ACID TYPE CLEANING AGENTS, CLEANING COMPOUNDS WITH CAUSTIC OR HARSH FILLERS, OR OTHER MATERIALS OR METHODS THAT COULD DAMAGE STONE.
11.SEALER APPLICATION: APPLY STONE SEALER TO COMPLY WITH STONE PRODUCER'S AND SEALER MANUFACTURER'S WRITTEN INSTRUCTIONS.

12 3661 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 FROM A SINGLE SOURCE TO PROVIDE MATERIALS OF CONSISTENT QUALITY IN APPEARANCE AND PHYSICAL PROPERTIES.

E. COUNTERTOPS
1. QUALITY STANDARD: PREMIUM GRADE, IN ACCORDANCE WITH AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS), UNLESS NOTED OTHERWISE.
2. QUALITY STANDARD: SEFA 3 FOR LABORATORY WORKSURFACES.
3. PLASTIC LAMINATE COUNTERTOPS: HIGH-PRESSURE DECORATIVE LAMINATE (HPDL) SHEET BONDED TO SUBSTRATE.
A. LAMINATE SHEET: NEMA LD 3, GRADE HGS, 0.048 INCH NOMINAL THICKNESS.
B. EXPOSED EDGE TREATMENT: AS NOTED , SUBSTRATE BUILT UP TO MINIMUM 1-1/4 INCH THICK; COVERED WITH MATCHING LAMINATE.
C. BACK AND END SPLASHES: SAME MATERIAL, SAME CONSTRUCTION.
D. FABRICATE IN ACCORDANCE WITH AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS), SECTION 11 - COUNTERTOPS, CUSTOM GRADE.

MANUFACTURERS:
1. REFER TO FINISH LEGEND.

4. NATURAL QUARTZ AND RESIN COMPOSITE COUNTERTOPS: SHEET OR SLAB OF NATURAL QUARTZ AND PLASTIC RESIN OVER CONTINUOUS SUBSTRATE.
A. FLAT SHEET THICKNESS: 1-1/4 INCH, MINIMUM.
B. NATURAL QUARTZ AND RESIN COMPOSITE SHEETS, SLABS AND CASTINGS: COMPLYING WITH ISFA 3-01 AND NEMA LD 3; ORTHOPHTHALIC POLYESTER RESIN, MINERAL FILLER, AND PIGMENTS; HOMOGENOUS, NON-POROUS AND CAPABLE OF BEING WORKED AND REPAIRED USING STANDARD WOODWORKING TOOLS; NO SURFACE COATING; COLOR AND PATTERN CONSISTENT THROUGHOUT THICKNESS.

MANUFACTURERS:
1. REFER TO FINISH LEGEND FOR SOLID SURFACE AND CORIAN QUARTZ DESCRIPTIONS, MANUFACTURERS, PRODUCT NUMBERS, COLORS, SIZES AND CONTACT INFORMATION.

C. FACTORY FABRICATE COMPONENTS TO THE GREATEST EXTENT PRACTICAL IN SIZES AND SHAPES INDICATED; COMPLY WITH THE MIA DIMENSION STONE DESIGN MANUAL.
D. FINISH ON EXPOSED SURFACES: POLISHED.
E. COLOR AND PATTERN: AS INDICATED ON DRAWINGS.

F. INSTALLATION:
1. SECURELY ATTACH COUNTERTOPS TO CABINETS OR SUPPORTS USING CONCEALED FASTENERS. MAKE FLAT SURFACES LEVEL; SHIM WHERE REQUIRED.
2. ATTACH PLASTIC LAMINATE COUNTERTOPS USING SCREWS WITH MINIMUM PENETRATION INTO SUBSTRATE BOARD OF 5/8 INCH.
3. SEAL JOINT BETWEEN BACK/END SPLASHES AND VERTICAL SURFACES.
4. GENERAL: INSTALL COUNTERTOPS OVER PLYWOOD SUBTOPS WITH FULL SPREAD OF WATER CLEANABLE EPOXY ADHESIVE.
5. GENERAL: INSTALL COUNTERTOPS BY ADHERING TO SUPPORTS WITH WATER CLEANABLE EPOXY ADHESIVE.
6. 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.
7. SPACE JOINTS WITH 1/16‐ INCH GAP FOR FILLING WITH SEALANT. USE TEMPORARY SHIMS TO ENSURE UNIFORM SPACING. CLAMP UNITS TO TEMPORARY BRACING, SUPPORTS, OR EACH OTHER TO ENSURE THAT COUNTERTOPS ARE PROPERLY ALIGNED AND JOINTS ARE OF SPECIFIED WIDTH.
8. 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 SNIPPING.
9. INSTALL BACKSPLASHES 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. USE TEMPORARY SHIMS TO ENSURE UNIFORM SPACING.
10. GROUT JOINTS TO COMPLY WITH ANSI A108.10. REMOVE TEMPORARY SHIMS BEFORE GROUTING. TOOL GROUT UNIFORMLY AND SMOOTHLY WITH PLASTIC TOOL.
11. APPLY SEALANT TO JOINTS AND GAPS SPECIFIED FOR FILLING WITH SEALANT; COMPLY WITH SECTION 079200 "JOINT SEALANTS." REMOVE TEMPORARY SHIMS BEFORE APPLYING SEALANT.
12. 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."
13. CLEANING: CLEAN COUNTERTOPS AS WORK PROGRESSES. REMOVE ADHESIVE, GROUT, MORTAR, AND SEALANT SMEARS IMMEDIATELY. CLEAN STONE COUNTERTOPS NO FEWER THAN SIX DAYS AFTER COMPLETION OF INSTALLATION, USING CLEAN WATER AND SOFT RAGS. DO NOT USE WIRE BRUSHES, ACID TYPE CLEANING AGENTS, CLEANING COMPOUNDS WITH CAUSTIC OR HARSH FILLERS, OR OTHER MATERIALS OR METHODS THAT COULD DAMAGE STONE.
14. SEALER APPLICATION: APPLY STONE SEALER TO COMPLY WITH STONE PRODUCER'S AND SEALER MANUFACTURER'S WRITTEN INSTRUCTIONS.

DIVISION 32 - EXTERIOR IMPROVEMENTS

32 3113 - FENCES, GATES & HARDWARE

A. REFERENCE CONSTRUCTION DRAWINGS FOR QUANTITY, AND LOCATIONS

B.SUBMITTALS: THE CONTRACTOR SHALL PREPARE, AND SUBMIT TO THE ARCHITECT FOR APPROVAL, COMPLETE SHOP DRAWINGS FOR ALL WORK INCLUDED.PROVIDE PRODUCT DATA IN THE FORM OF MANUFACTURER'S TECHNICAL DATA, SPECIFICATIONS, AND INSTALLATIONS FOR FENCE, POSTS, GATE UPRIGHTS, POST CAPS, GATES, GATE HARDWARE AND ACCESSORIES.VERIFY LAYOUT INFORMATION FOR FENCES AND GATES SHOWN ON THE DRAWINGS IN RELATION TO THE PROPERTY SURVEY AND EXISTING STRUCTURES. VERIFY DIMENSIONS BY FIELD MEASUREMENTS. PROVIDE SAMPLES IN THE FORM OF 3" LENGTHS OF ACTUAL PRODUCT USED.

C. WARRANTY: LIFETIME NON-PRORATED LIMITED TRANSFERABLE WARRANTY APPLIES TO ORIGINAL HOMEOWNER/CONSUMER, OR 30 YEAR NON-PRORATED LIMITED WARRANTY APPLIES TO COMMERCIAL APPLICATIONS.

D. BASIS OF DESIGN: DIGGER SPECIALTIES INC.(DSI), POLYVINYL FENCE SYSTEMS. TRI-MAX II, HEIGHT -72"

E. MATERIALS:
1. POSTS, RAILS, PICKETS, GATE UPRIGHTS, POST CAPS, AND ACCESSORIES SHALL BE OF HIGH IMPACT, ULTRA VIOLET (U.V.) RESISTANT, RIGID PVC, AND SHALL COMPLY WITH ASTM D 1784, CLASS 14344B.
2.FENCE POSTS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED AND PRE-ROUTED TO RECEIVE RAILS AT SPACING INDICATED. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES.
3.RAILS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED PRE-ROUTED TO RECEIVE PICKETS AT SPACING INDICATED.
PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES.
4. PICKETS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES. PICKET SPACING FULL PRIVACY.
5.GATE UPRIGHTS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED WITH ALUMINUM U CHANNEL INSERT. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES.
6. POST CAPS: MOLDED, ONE PIECE. CROSS SECTION TO MATCH POST OR GATE SECTION. PROVIDE MINIMUM THICKNESS REQUIREMENTS. CONFIGURATION: FLAT OR FOUR-SIDED AS REQUIRED FOR INSTALLATION TO TOP OF POSTS AND GATE. ACCESSORIES: MANUFACTURERS' STANDARD GATE BRACE, SCREW CAPS, RAIL END REINFORCERS, AND OTHER ACCESSORIES AS REQUIRED.
7. STIFFENER CHANNELS, GALVANIZED STEEL STRUCTURAL CHANNEL. CONFIGURE CHANNELS FOR CONCEALED INSTALLATION WITHIN PVC RAILS WITH PRE-DRILLED HOLES FOR DRAINAGE. ALUMINUM EXTRUDED CHANNEL AVAILABLE UPON REQUEST. CROSS SECTION: 1.775 X 1.700 GALVANIZED STEEL CHANNEL THICKNESS: 0.040 GAUGE (MINIMUM).
8. FASTENERS AND ANCHORAGE: STAINLESS STEEL. ALL FASTENERS TO BE CONCEALED OR COLORED HEADS TO MATCH. PROVIDE SIZES AS RECOMMENDED BY FENCE MANUFACTURER.
9. PVC CEMENT: AS RECOMMENDED BY FENCE MANUFACTURER.

F. HARDWARE:
1. GENERAL: PROVIDE HARDWARE AND ACCESSORIES FOR EACH GATE ACCORDING TO THE FOLLOWING REQUIREMENTS:
2. HINGES: COLOR- BLACK, SIZE AND MATERIAL TO SUIT GATE SIZE, NON LIFT-OFF TYPE, SELF CLOSING, GLASS FILLED NYLON WITH ADJUSTER PLATE, OFFSET TO PERMIT 120 DEGREE GATE OPENING. PROVIDE ONE PAIR OF HINGES FOR EACH GATE.
3. LATCH: FINISH TO MATCH HINGE. MANUFACTURERS' STANDARD SELF LATCHING, GLASS FILLED NYLON AND STAINLESS STEEL COMPOSITION SINGLE OR DUAL ACCESS GRAVITY LATCH. PROVIDE ONE LATCH PER GATE.
4. HARDWARE: FINISH TO MATCH HINGE.STAINLESS STEEL. PROVIDE SIZES AS RECOMMENDED BY FENCE MANUFACTURER.

G. CONCRETE:
1. CONCRETE: PROVIDE CONCRETE CONSISTING OF PORTLAND CEMENT PER ASTM C 150, AGGREGATES PER ASTM C 33, AND POTABLE WATER. MIX MATERIALS TO OBTAIN CONCRETE WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2000 PSI. USE AT LEASE FOUR SACKS OF CEMENT PER CUBIC YARD, 1-INCH MAXIMUM SIZE AGGREGATE, 3-INCH MAXIMUM SLUMP. USE ½ INCH MAXIMUM SIZE AGGREGATE IN POST WHERE REQUIRED.
2. PACKAGES CONCRETE MIX: MIX DRY-PACKAGED NORMAL-WEIGHT CONCRETE CONFORMING TO ASTM C 387 WITH CLEAN WATER TO OBTAIN A 2 TO 3 INCH SLUMP.

H. INSTALLATION:
1. INSTALL FENCE IN COMPLIANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. DURING INSTALLATION, PVC COMPONENTS SHALL BE CAREFULLY HANDLED AND STORED TO AVOID CONTACT WITH ABRASIVE SURFACES.
INSTALL COMPONENTS IN SEQUENCE AS RECOMMENDED BY FENCE MANUFACTURER.
A. INSTALL FENCING AS INDICATED ON THE DRAWINGS PROVIDED.
B. VARIATIONS FROM THE INSTALLATION INDICATED MUST BE APPROVED.
C. VARIATIONS FROM THE FENCE AND GATE INSTALLATION INDICATED AND ALL COSTS FOR REMOVAL AND REPLACEMENT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
D. ALLOW MINIMUM 72 HOURS TO LET CONCRETE SET-UP BEFORE OPENING GATES.
E. CLEANING, REMOVE ALL TRACES OF DIRT AND SOILED AREAS.

collins | webb ARCHITECTURE
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REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB II
NUMBER A-2016004008
3-28-24
ARCHITECT

PROFESSIONAL SEAL

G502

ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

GENERAL PROJECT
SPECIFICATIONS 3

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03_Abbreviation Schedule	
Abbreviation	Abbreviation Name
+/-	PLUS OR MINUS
ADDNL	ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AR	ANCHOR ROD
ARCH	ARCHITECT OR ARCHITECTURAL
B/	BOTTOM OF
B/W	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	CONTINUOUS
CTR	CENTER
db	DIA OF REINF BAR, DIA OF BOLT
DBA	DEFORMED BAR ANCHOR
DIA or Ø	DIAMETER
DIAG	DIAGONAL
DIR	DIRECTION
DWL	DOWEL
EA	EACH
EE	EXTENDED END
EJ	EXPANSION JOINT
ELEV	ELEVATION
ENGR	ENGINEER
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
EXT	EXTERIOR
FDN	FOUNDATION
FLG	FLANGE
FLR	FLOOR
FS	FAR SIDE
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
IF	INSIDE FACE
INT	INTERIOR
JST	JOIST
K	KIPS (1000 LBS)
LCE	COMPRESSION EMBEDMENT LENGTH
LCS	COMPRESSION LAP SPLICE LENGTH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LTE	TENSION EMBEDMENT LENGTH
LTS	TENSION LAP SLICE LENGTH
LW	LIGHTWEIGHT
MFCR	MANUFACTURER
MTL	METAL
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OF	OUTSIDE FACE
OPP	OPPOSITE
OVS	OVERSIZED
P/C	PRECAST
PAF	POWDER ACTUATED FASTENER
PAR	PARALLEL
PEMB	PRE-ENGINEERED METAL BUILDING
PEN	PENETRATION
PERP	PERPENDICULAR
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
RC	REINFORCED CONCRETE
RE:	REFER TO
REINF	REINFORCING
REQD	REQUIRED
RF	RIGID FRAME
SC	SLIP CRITICAL
SDS	SELF DRILLING SCREW
SIM	SIMILAR
SLV	SHORT LEG VERTICAL
SOG	SLAB ON GRADE
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STIR	STIRRUPS
STL	STEEL
SW	SHEAR WALL
SYM	SYMMETRIC
T&B	TOP AND BOTTOM
T/	TOP OF
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/	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 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
   10 PSF EVERYWHERE EXCEPT GARAGES
   -- LIVE LOAD DEFLECTION CRITERIA:.....MIN OF L/360
   -- TOTAL LOAD DEFLECTION CRITERIA:.....MIN OF L/240

AREA	MIN DEAD LOAD	MIN LIVE LOAD
BALCONIES (EXTERIOR) AND DECKS	10	40
CEILING JOISTS W/O 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/TILE/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'-0" 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 5% 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 ENGINEERS SEAL OF THE PERSON RESPONSIBLE FOR THE DESIGN OF THE TRUSSES/TRUSS 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.

2. ALL MESH SHALL MEET ASTM A-185: LAP A MINIMUM OF 8" OR ONE FULL MESH, WHICHEVER IS GREATER.

3. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE ¾" 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 332 - "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%) ENTRAINED 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'-0". INTERMEDIATE CONTROL JOINTS SHALL BE SPACED AT 25'-0" MAX FOR WALLS. CONTROL JOINTS IN WALLS SHALL ALSO BE LOCATED 15'-0" FROM CORNERS AND AT CHANGES IN WALL THICKNESS.

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 ¼" AMPLITUDE.

11. SLABS ON GRADE SHALL BE 4" THICK MIN ON 6" OF GRANULAR FILL. REINF SLAB WITH 6 x 6-W2.1xW2.1 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 KEYED 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 53 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.

STRUCTURAL STEEL:

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.

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. MICROLLAM 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 32/16, EXPOSURE 1, MINIMUM 2 SPAN, FASTEN PER THE CHART ON THIS PAGE. IF ROOF RAFTER SPACING IS 24" OR GREATER THEN USE PLYCLIPS 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 48/24.
   --WHEN CLEAR DISTANCE BETWEEN FLOOR JOISTS OR FLOOR TRUSSES IS GREATER THAN 16" USE 7/8" SHEATHING WITH AN APA SPAN RATING OF 60/32.
C. WALL SHEATHING FOR EXTERIOR WALLS SHALL BE 7/16" WITH AN APA SPAN RATING OF 24/16, UNLESS NOTED OTHERWISE. ALL PANEL EDGES SHALL BE BACKED WITH 2 INCH NOMINAL OR WIDER FRAMING. FASTEN WITH 8d 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 4'x8' 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" CONNECTORS BY THE SIMPSON CO. OR REVIEWED EQUIVALENT. CONNECTORS IN DIRECT CONTACT WITH PRESSURE TREATED LUMBER SHALL HAVE "ZMAX" G185 HOT DIP GALVANIZED COATING OR REVIEWED EQUIVALENT.

8. STAINLESS STEEL FASTENERS, ANCHOR BOLTS, LIGHT GAUGE CONNECTORS, ETC. MAY BE SUBSTITUTED FOR HOT DIP GALVANIZED MATERIALS AT THE CONTRACTORS OPTION.

9. ALL RAFTER AND CEILING JOIST CONNECTIONS SHALL COMPLY WITH IRC SECTION 802.3. PROVIDE UPLIFT CONNECTORS 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" SQ PLATE WASHERS AND NUTS.

12. PROVIDE FULL DEPTH 2x BLOCKING BETWEEN JOISTS OVER ALL INTERIOR LOAD BEARING WALLS AND AT DOWNSET GIRDERS

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.

GARAGE

1. THE GARAGE FLOOR SHALL SLOPE TOWARD THE GARAGE DOOR.

2. NEW GARAGE DOOR SHALL BE A 20 MINUTE OR 1-3/8" SOLID WOOD DOOR BETWEEN THE HOUSE AND GARAGE.

3. 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.

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 8" OF RIGID INSULATION (R40) IN VAULTED CEILINGS
-- FLOORS OVER UNCONDITIONED SPACE - INSULATE WITH R-19 MIN
-- CRAWL SPACE WALLS - INSULATE WITH R-10 MIN
-- BASEMENT WALLS - R-13 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 N1102.4.1 AND TABLE N1102.4.1.1.

11. ALL DUCTS, AIR HANDLERS, FILTER BOXES, AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED PER IRC SECTION N1103.2.2.

GLAZING

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

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REVISION DATES:

STATE OF MISSOURI
JOHN E. FUNK
NUMBER E-2000173299
REGISTERED PROFESSIONAL ENGINEER

01/12/24

PROFESSIONAL SEAL

S001

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

STRUCTURAL GENERAL NOTES

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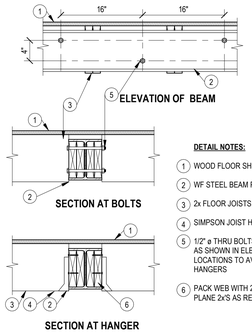
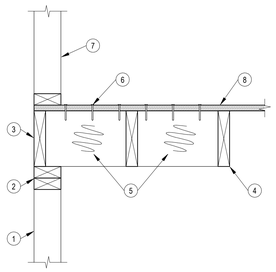


DETAIL NOTES:

1. WOOD FLOOR SHEATHING, RE:GENERAL NOTES
2. WF STEEL BEAM PER PLAN
3. 2x FLOOR JOISTS PER PLAN
4. SIMPSON JOIST HANGERS RE: PLAN
5. 1/2" ø THRU BOLTS @ 16" OC STAGGER AND SPACE AS SHOWN IN ELEVATION. COORDINATE BOLT LOCATIONS TO AVOID INTERFERANCE WITH JOIST HANGERS
6. PACK WEB WITH 2x'S EA SIDE OF BEAM WEB. PLANE 2x'S AS REQD TO FIT INTO BEAM WEB

12 RZ305 - UPSET WF STL BM

1" = 1'-0"

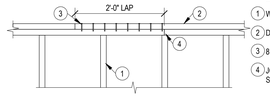


DETAIL NOTES:

1. STUD WALLS, RE: PLAN AND GENERAL NOTES
2. DOUBLE TOP PLATE
3. 2x RIM JOIST
4. FLOOR JOISTS PARALLEL TO WALL, RE: PLAN FOR SIZE AND SPACING
5. PROVIDE BLOCKING IN THE FIRST TWO JOIST SPACES NEXT TO RIM JOIST. MATCH FLOOR JOISTS SIZE & SPACE @ 4'-0" OC MAX
6. NAIL SHEATHING TO BLOCKING
7. STUD WALL ABOVE
8. WOOD FLOOR SHEATHING, RE: GENERAL NOTES

11 EDGE FRAMING DETAIL

1 1/2" = 1'-0"

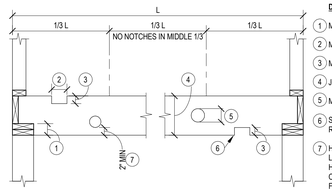


DETAIL NOTES:

1. WALL STUDS
2. DOUBLE TOP PLATE
3. 8 ROWS OF (2)16d NAILS AT SPLICE
4. JOINT IN LOWER PLATE MEMBERS SHALL OCCUR OVER A STUD

10 TOP PLATE SPLICE

3/4" = 1'-0"

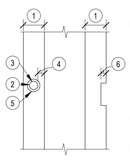


DETAIL NOTES:

1. MAX DIMENSION = JOIST DEPTH / 4
2. MAX DIMENSION = JOIST DEPTH / 3
3. MAX DIMENSION = JOIST DEPTH / 6
4. JOIST DEPTH
5. MAX DIMENSION = JOIST DEPTH / 3
6. SQUARE HOLES AND NOTCHES NOT RECOMMENDED
7. 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

9 BORED HOLE & NOTCHES - HORIZ FRAMING

3/4" = 1'-0"

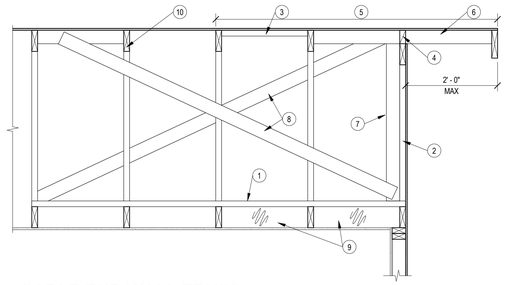


DETAIL NOTES:

1. STUD DEPTH
2. MAX DIAMETER OF BORED HOLE = STUD DEPTH / 2 1/2
3. IF BORED HOLE IS GREATER THAN STUD DEPTH / 21/2 & LESS THAN 3 * STUD DEPTH / 5, THEN STUD MUST BE DOUBLED & NO MORE THAN TWO SUCCESSIVE STUDS ARE DOUBLED & BORED
4. 5/8" MIN TO EDGE
5. BORED HOLES SHALL NOT BE LOCATED IN THE SAME CROSS SECTION OF CUT OR NOTCH IN STUD
6. MAX NOTCH = STUD DEPTH / 4

8 BORED HOLE & NOTCHES - VERT FRAMING

3/4" = 1'-0"

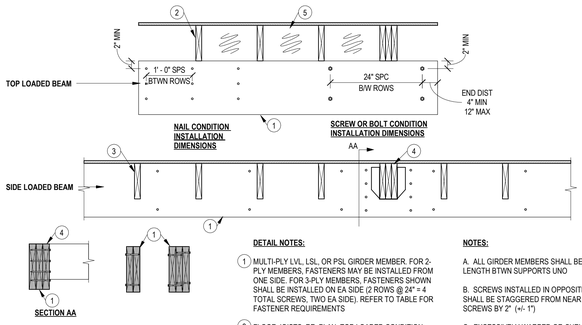


DETAIL NOTES:

1. 2x4 @ 4'-0" OC FASTEN TO EA TRUSS BOT CHORD W/ (2) 16d NAILS.
2. GABLE TRUSS PER TRUSS SUPPLIER
3. BLOCK SHEATHING EDGES WITHIN 4'-0" OF GABLE TRUSS
4. BLOCKING BETWEEN EA OUTRIGGER, FASTEN TO GABLE TOP CHORD W/ 10d TOE-NAILS @ 6" OC
5. FASTEN SHEATHING TO FRAMING @ 3" OC ON EDEGE AND 6" OC IN FIELD W/ 8d NAILS
6. 2x4 OUTRIGGER @ 24" OC
7. L-REINF. ON GABLE VERTS AS SPECIFIED BY TRUSS SUPPLIER
8. 2x6 BRACE AT EA STRONG BACK
9. PROVIDE BLOCKING AT FIRST TWO TRUSS BAYS @ 4'-0" OC
10. TRUSSES RE: PLAN

7 GABLE END WALL TRUSS

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
10d (0.128"x3") NAILS	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:

1. 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
2. FLOOR JOISTS, RE: PLAN. TOP LOADED CONDITION
3. FLOOR JOISTS, RE: PLAN. SIDE LOADED CONDITION. PROVIDE FACE MOUNTED OR TOP FLANGE MOUNTED HANGERS ATTACHED TO GIRDER PER MFCR REQUIREMENTS
4. AT HEAVY LOADED BEAM HANGER LOCATIONS, PROVIDE (4) STRUCTURAL SCREWS EA SIDE OF HANGER. SCREWS SHALL PENETRATE ALL PLYS (3.25" MIN FOR 2 PLY, 5" MIN FOR 3 PLY). THIS SHALL BE TYP UNO
5. WHEN BEAM IS DOWNSET PROVIDE 2x FULL HEIGHT BLOCKING BTWN FLOOR JOISTS

NOTES:

A. ALL GIRDER MEMBERS SHALL BE FULL LENGTH BTWN SUPPORTS UNO

B. SCREWS INSTALLED IN OPPOSITE FACE SHALL BE STAGGERED FROM NEAR FACE SCREWS BY 2" (+/- 1")

C. EXCESSIVELY WARPED OR CURVED LVL SHOULD NEVER BE FORCED INTO ALIGNMENT BY USE OF CLAMPS, SCREWS OR BOLTS AS SPLITTING MAY OCCUR

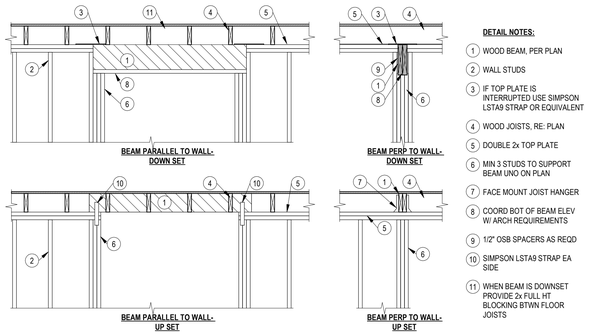
D. IF COUNTERSINKING SCREWS OR BOLTS IS REQUIRED, USE A SPADE BIT TO CREATE THE COUNTERSINK PRIOR TO INSTALLING THE FASTENER

E. BOLTS SHALL MEET OR EXCEED ASTM A307

F. STRUCTURAL SCREWS MAY BE ONE OF THE FOLLOWING PRODUCTS: 1/4"ø SIMPSON STRONG TIE SDS, WS SCREWS BY USP, OR TRUSSLOK SCREWS BY FASTENMASTER

6 BUILT-UP ENGR LUMBER BEAM

3/4" = 1'-0"

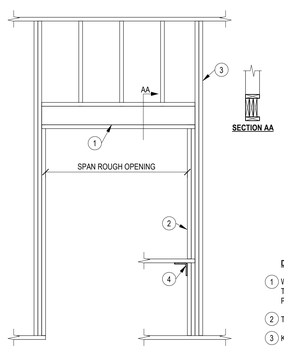


DETAIL NOTES:

1. WOOD BEAM, PER PLAN
2. WALL STUDS
3. IF TOP PLATE IS INTERRUPTED USE SIMPSON LSTA9 STRAP OR EQUIVALENT
4. WOOD JOISTS, RE: PLAN
5. DOUBLE 2x TOP PLATE
6. MIN 3 STUDS TO SUPPORT BEAM UNO ON PLAN
7. FACE MOUNT JOIST HANGER
8. COORD BOT OF BEAM ELEV W/ ARCH REQUIREMENTS
9. 1/2" OSB SPACERS AS REQD
10. SIMPSON LSTA9 STRAP EA SIDE
11. WHEN BEAM IS DOWNSET PROVIDE 2x FULL HT BLOCKING BTWN FLOOR JOISTS

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) 2x8	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) 2x8	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

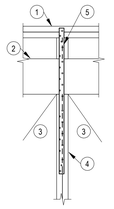
* IF THERE IS A DECK @ THE EXTERIOR WALL USE THE INTERIOR WALL SCHEDULE

DETAIL NOTES:

1. 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 REQD TO MATCH STUD THICKNESS
2. TRIMMER STUDS, RE: SCHEDULE
3. KING STUDS, RE: SCHEDULE
4. PROVIDE STUD UNDER SILL END OR SIMPSON A35 CLIP ANGLE

4 HEADER SCHEDULE

1/2" = 1'-0"



DETAIL NOTES:

1. DOUBLE TOP PLATE
2. HEADER, RE: PLAN FOR SIZE. RUN CONT OVER TOP OF CENTER STUDS
3. WINDOW OR DOOR OPENING
4. MIN (2) STUDS BTWN OPENINGS
5. LSTA36 STRAP ON BOTH SIDES OF THE WALL

3 STRAP BETWEEN OPENINGS

3/4" = 1'-0"

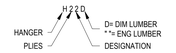
DIM LUMBER - FACE MOUNTED HANGER SCHEDULE				
MARK	HANGER	FACE NAILS	JOIST NAILS	CAPACITY (LB)
H11D	LUS210	(8) 10d x 1 1/2"	(4) 10d x 1 1/2"	1,032
H21D	LUS210-2	(8) 10d	(6) 10d	1,537
H22D	HU210-2	(18) 10d	(10) 10d	2,251
H23D	HHUS210-2	(30) 10d	(10) 10d	4,738
H31D	LUS210-3	(8) 10d	(6) 10d	1,537
H32D	HHUS210-3	(30) 10d	(10) 10d	4,738
H33D	HGUS210-3	(46) 10d	(16) 10d	7,644
H41D	HU210-4	(18) 10d	(8) 10d	2,253
H42D	HHUS210-4	(30) 10d	(10) 10d	4,733
H43D	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	HU610	(18) 10d	(8) 10d	2,251
H32	HHUS5.50/10	(30) 10d	(10) 10d	4,754
H33	HGUS5.50/10	(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:

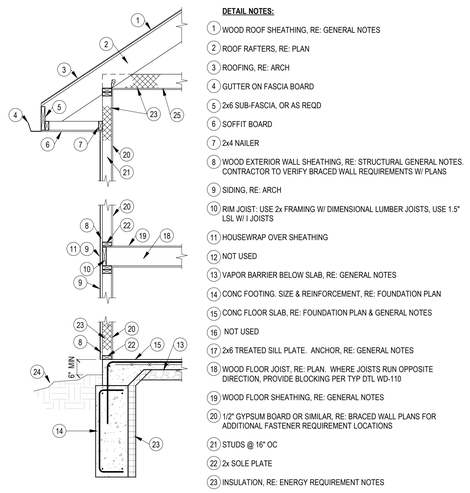
1. ALL HANGER DESIGNATIONS ARE BASED ON SIMPSON STRONG TIE, D. FIR
2. IF HANGER DESIGNATION IS FOLLOWED BY (16d) ON PLANS, USE 16d NAILS IN LIEU OF 10d.
3. NAILS: 10d = 0.148" DIA x 3" LONG, 16d = 0.162" DIA x 3.5" LONG, 10d x 1 1/2" = 0.148" DIA x 1 1/2" LONG

LEGEND



2 HANGER SCHEDULE

3/4" = 1'-0"



DETAIL NOTES:

1. WOOD ROOF SHEATHING, RE: GENERAL NOTES
2. ROOF RAFTERS, RE: PLAN
3. ROOFING, RE: ARCH
4. GUTTER ON FASCIA BOARD
5. 2x6 SUB-FASCIA, OR AS REQD
6. SOFFIT BOARD
7. 2x4 NAILER
8. WOOD EXTERIOR WALL SHEATHING, RE: STRUCTURAL GENERAL NOTES. CONTRACTOR TO VERIFY BRACED WALL REQUIREMENTS W/ PLANS
9. SIDING, RE: ARCH
10. RIM JOIST: USE 2x FRAMING W/ DIMENSIONAL LUMBER JOISTS, USE 1.5" LSL W/ I JOISTS
11. HOUSEWRAP OVER SHEATHING
12. NOT USED
13. VAPOR BARRIER BELOW SLAB, RE: GENERAL NOTES
14. CONC FOOTING. SIZE & REINFORCEMENT, RE: FOUNDATION PLAN
15. CONC FLOOR SLAB, RE: FOUNDATION PLAN & GENERAL NOTES
16. NOT USED
17. 2x6 TREATED SILL PLATE. ANCHOR, RE: GENERAL NOTES
18. WOOD FLOOR JOIST, RE: PLAN. WHERE JOISTS RUN OPPOSITE DIRECTION, PROVIDE BLOCKING PER TYP DTL WD-110
19. WOOD FLOOR SHEATHING, RE: GENERAL NOTES
20. 1/2" GYPSUM BOARD OR SIMILAR, RE: BRACED WALL PLANS FOR ADDITIONAL FASTENER REQUIREMENT LOCATIONS
21. STUDS @ 16" OC
22. 2x SOLE PLATE
23. INSULATION, RE: ENERGY REQUIREMENT NOTES
24. GRADE
25. CEILING JOISTS, RE: PLAN (2x6 MIN)

1 WD-102 TYPICAL WALL SECTION

1/2" = 1'-0"

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REVISION DATES:

STATE OF MISSOURI
JOHN E. FUNK
NUMBER E-2000173299
REGISTERED PROFESSIONAL ENGINEER
01/12/24

PROFESSIONAL SEAL

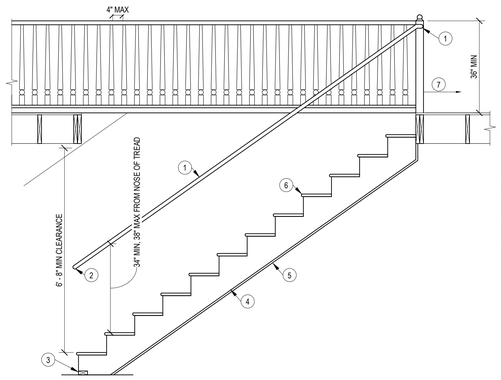
S010

ISSUE DATE: 01/12/2024

COLLINS WEBB #: 23090

STRUCTURAL TYPICAL DETAILS

1/12/2024 9:06:42 AM



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

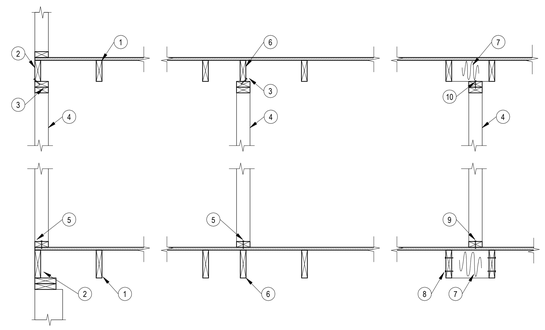
NOTES:

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

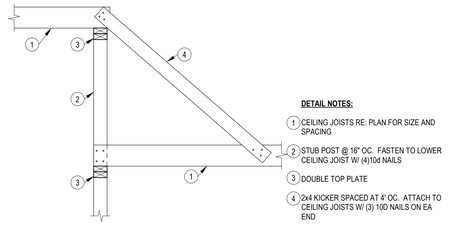
9 WOOD STAIRS
1/2" = 1'-0"



DETAIL NOTES:

1. 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)16d @ 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) 16d NAILS @ EA BLOCKING MEMBER
9. (3)16d NAILS @ EA BLOCKING MEMBER
10. TOE NAIL (3) 8d NAILS @ EA BLOCKING MEMBER

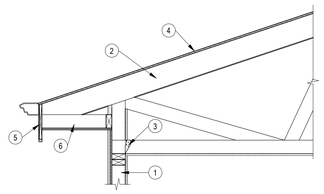
3 BWP CONN PAR TO FRAMING
3/4" = 1'-0"



DETAIL NOTES:

1. 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

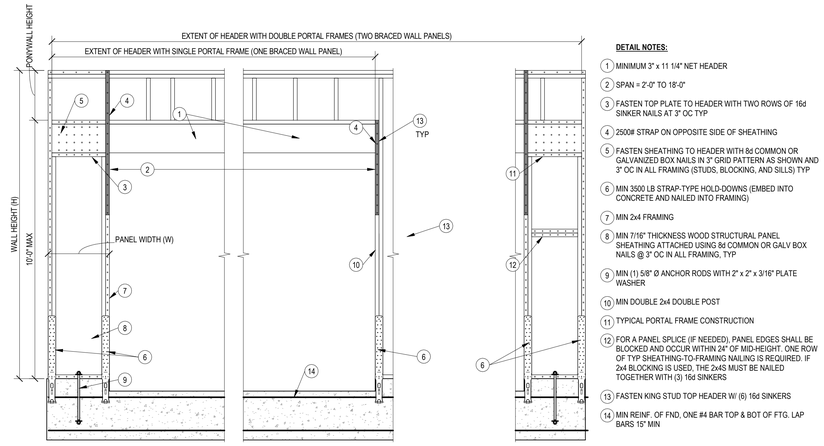
8 RZ210A - CEILING STEP DETAIL
3/4" = 1'-0"



DETAIL NOTES:

1. 2x STUD FRAMED WALLS, RE: PLAN
2. ROOF TRUSSES, RE: PLAN
3. SIMPSON H2.5T 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"

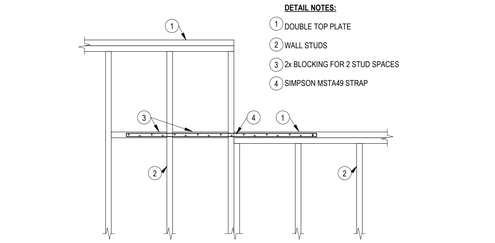


DETAIL NOTES:

1. MINIMUM 3" x 11 1/4" NET HEADER
2. SPAN = 2'-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" Ø 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 REINF. OF FND, ONE #4 BAR TOP & BOT OF FTG. LAP BARS 15" MIN

*REFERENCE IRC FIGURE R602.10.6.2

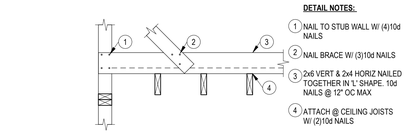
2 RZ206C - PFH DETAIL
1/2" = 1'-0"



DETAIL NOTES:

1. DOUBLE TOP PLATE
2. WALL STUDS
3. 2x BLOCKING FOR 2 STUD SPACES
4. SIMPSON MSTA49 STRAP

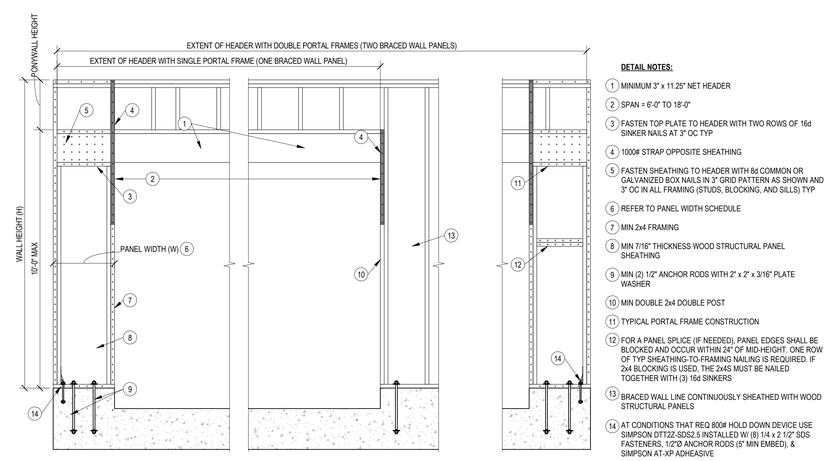
7 RZ203B - STEPPED TOP PLATE
3/4" = 1'-0"



DETAIL NOTES:

1. NAIL TO STUB WALL W/ (4)10d NAILS
2. NAIL BRACE W/ (3)10d NAILS
3. 2x6 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"

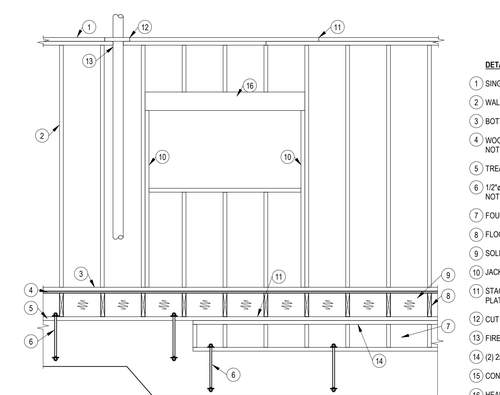


DETAIL NOTES:

1. 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 9003# HOLD DOWN DEVICE USE SIMPSON DTT2Z-SDS2.5 INSTALLED W/ (6) 1/4 x 2 1/2" SDS FASTENERS, 1/2"Ø ANCHOR RODS (5" MIN EMBED), & SIMPSON AT-XP ADHEASIVE

*REFERENCE IRC FIGURE R602.10.6.4

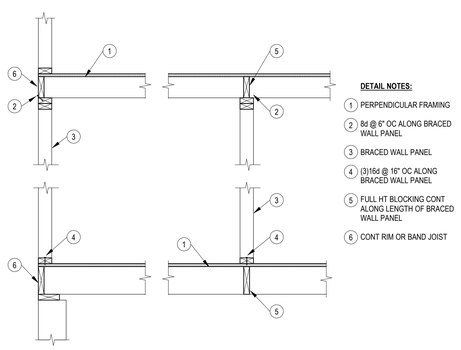
1 RZ206B - CS-PF
1/2" = 1'-0"



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"ø 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. FIREBLOCK 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. PERPENDICULAR FRAMING
2. 8d @ 6" OC ALONG BRACED WALL PANEL
3. BRACED WALL PANEL
4. (3)16d @ 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"

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REVISION DATES:

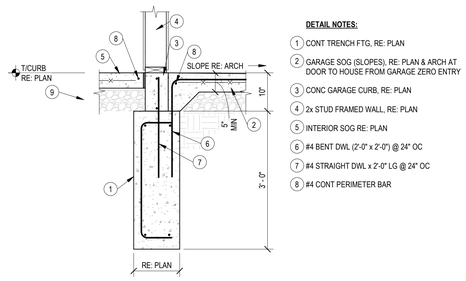
STATE OF MISSOURI
JOHN E. FUNK
NUMBER E-2000173299
REGISTERED PROFESSIONAL ENGINEER
01/12/24
PROFESSIONAL SEAL

S011

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

STRUCTURAL TYPICAL DETAILS

1/12/2024 9:06:44 AM

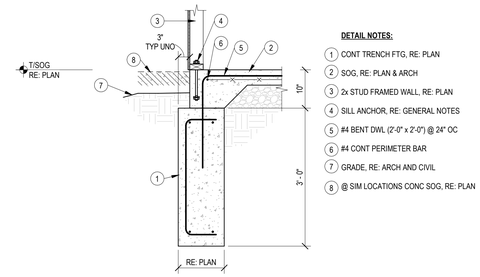


DETAIL NOTES:

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"

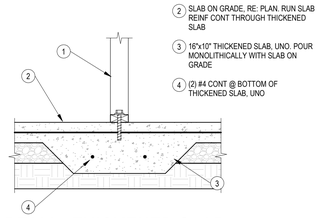


DETAIL NOTES:

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"

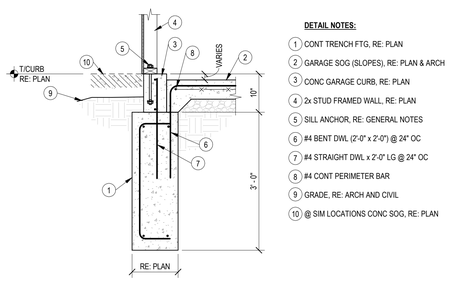


DETAIL NOTES

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. 16"x10" 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"

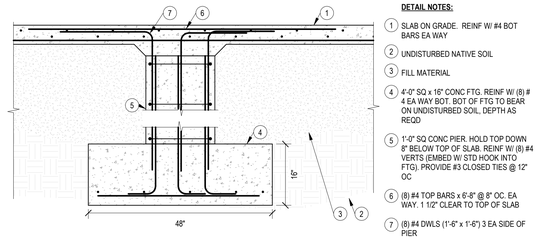


DETAIL NOTES:

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:

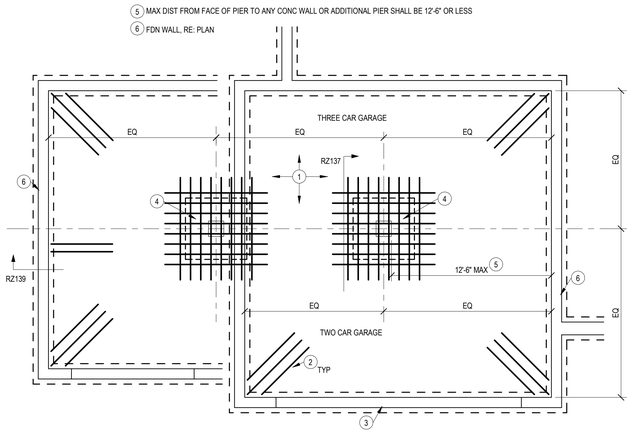
1. SLAB ON GRADE. REINF W/ #4 BOT BARS EA WAY
2. UNDISTURBED NATIVE SOIL
3. FILL MATERIAL
4. 4'-0" SQ x 16" CONC FTG. REINF W/ (8) # 4 EA WAY BOT. BOT OF FTG TO BEAR ON UNDISTURBED SOIL, DEPTH AS REQD
5. 1'-0" SQ CONC PIER. HOLD TOP DOWN 8" BELOW TOP OF SLAB. REINF W/ (8) #4 VERTS (EMBED W/ STD HOOK 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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REVISION DATES:

STATE OF MISSOURI
JOHN E. FUNK
NUMBER E-2000173299
REGISTERED PROFESSIONAL ENGINEER
01/12/24

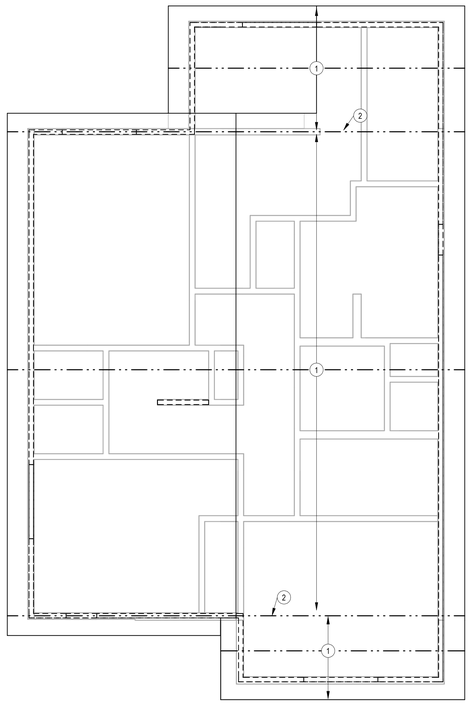
PROFESSIONAL SEAL

S012

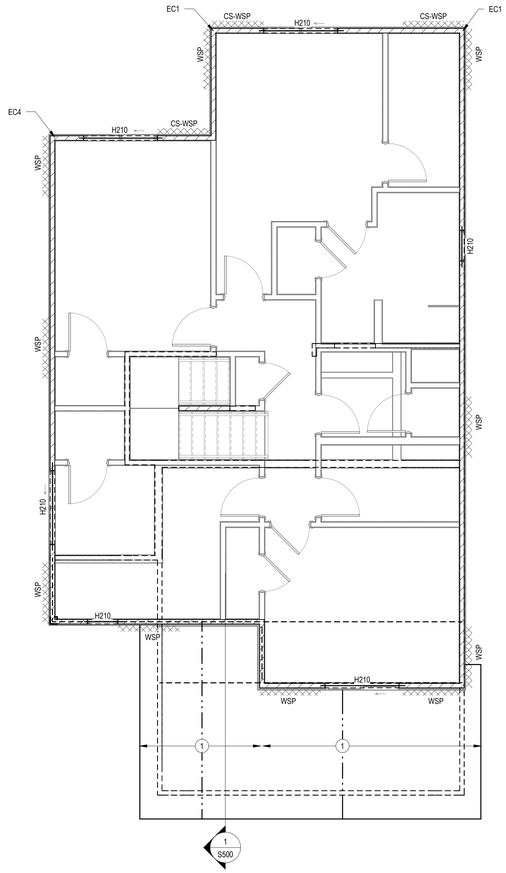
ISSUE DATE: 01/12/2024
COLLINS WEBB #: 23090

STRUCTURAL TYPICAL DETAILS

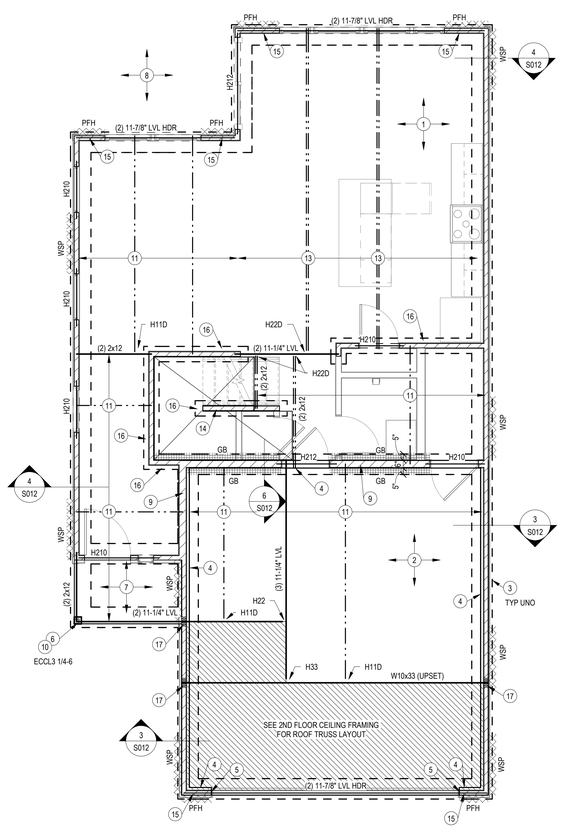
1/12/2024 9:06:45 AM



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"

FRAMING LEGEND

- FOUNDATION
- LOAD BEARING WALL
- SHEAR WALL
- HEADER
- BEAM
- SPAN DIRECTION
- JOIST / TRUSS
- EXTENTS OF JOIST TYPE

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" LVL). 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 USED 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/FTG 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. 16" 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 ABU66Z 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" THICKEND 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" OC UP ENTIRE WALL
15. EXTEND HEADER TO END OF BRACED WALL PANEL
16. THICKEND SLAB BELOW WALL RE: TYPICAL DETAIL 5/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. 2x 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 SUPPLER, 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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REVISION DATES:

STATE OF MISSOURI
JOHN E. FUNK
NUMBER E-2000172399
REGISTERED PROFESSIONAL ENGINEER
01/12/24
PROFESSIONAL SEAL

S106

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

FOUNDATION & FRAMING PLANS - J

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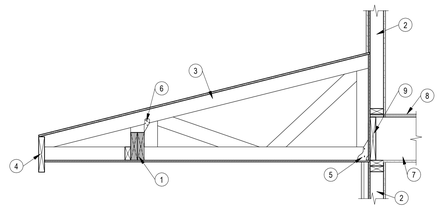
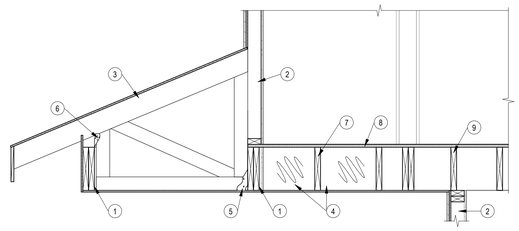


DETAIL NOTES:

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"

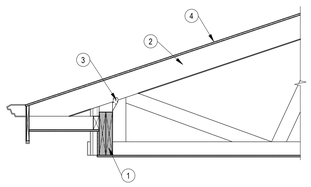


DETAIL NOTES:

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"

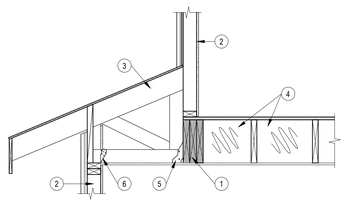


DETAIL NOTES:

1. LVL BEAM, RE: PLAN
2. 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"

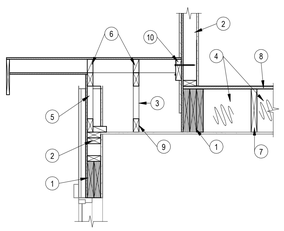


DETAIL NOTES:

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"

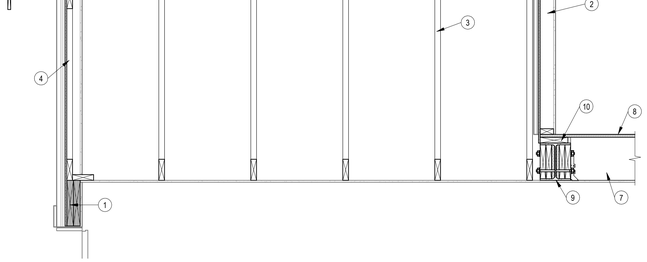


DETAIL NOTES:

1. 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/S010
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"

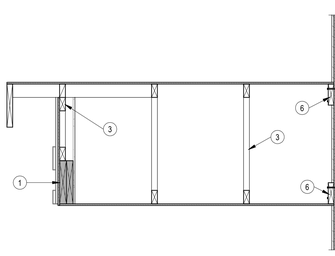


DETAIL NOTES:

1. LVL BEAM, RE: PLAN
2. 2x STUD FRAMED WALLS, RE: PLAN
3. ROOF TRUSSES, RE: PLAN
4. GABLE END TRUSS, RE: 7/S010
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/S010
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"

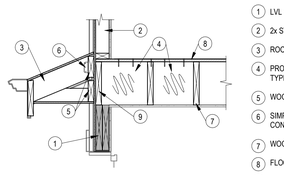


DETAIL NOTES:

1. WOOD BEAM, RE: PLAN
2. 2x STUD FRAMED WALLS, RE: PLAN
3. ROOF TRUSSES, RE: PLAN
4. GABLE END TRUSS, RE: TYPICAL DETAIL 7/S010
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"

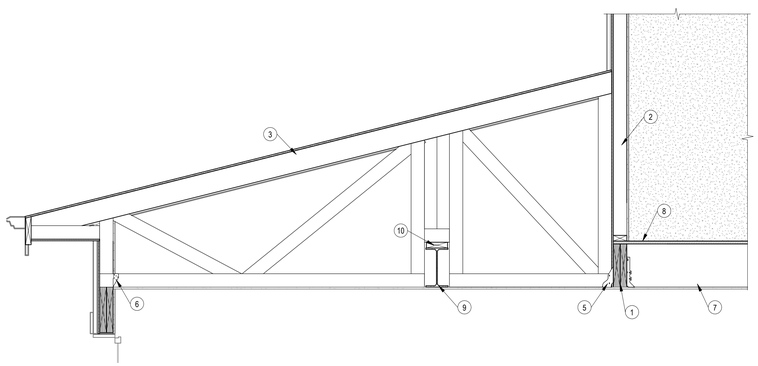


DETAIL NOTES:

1. LVL BEAM, RE: PLAN
2. 2x STUD FRAMED WALLS, RE: PLAN
3. ROOF TRUSSES, RE: PLAN
4. PROVIDE FULL DEPTH BLOCKING 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. 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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REVISION DATES:

STATE OF MISSOURI
JOHN E. FUNK
NUMBER E-2000173299
REGISTERED PROFESSIONAL ENGINEER
01/12/24

PROFESSIONAL SEAL

S500

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

FRAMING SECTIONS

1/12/2024 9:06:50 AM

SITE PLAN KEY

Building Type J

NORTH

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

GENERAL NOTES – FURNITURE & EQUIPMENT PLANS:

1. RE: CIVIL DRAWINGS - FOR ADDITIONAL SITE INFORMATION AND DETAILS.
2. RE: SHEET G002 - FOR TYPICAL MOUNTING HEIGHTS.
3. RE: SHEET AG003 - FOR DETAILED PLANS OF EACH SPECIFIED A-TYPE UNIT.

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REUNION AT BLACKWELL - BUILDING J

SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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REVISION DATES:

STATE OF MISSOURI
ROGER J. WEBB II
NUMBER A-2016040008
3-29-24
ARCHITECT

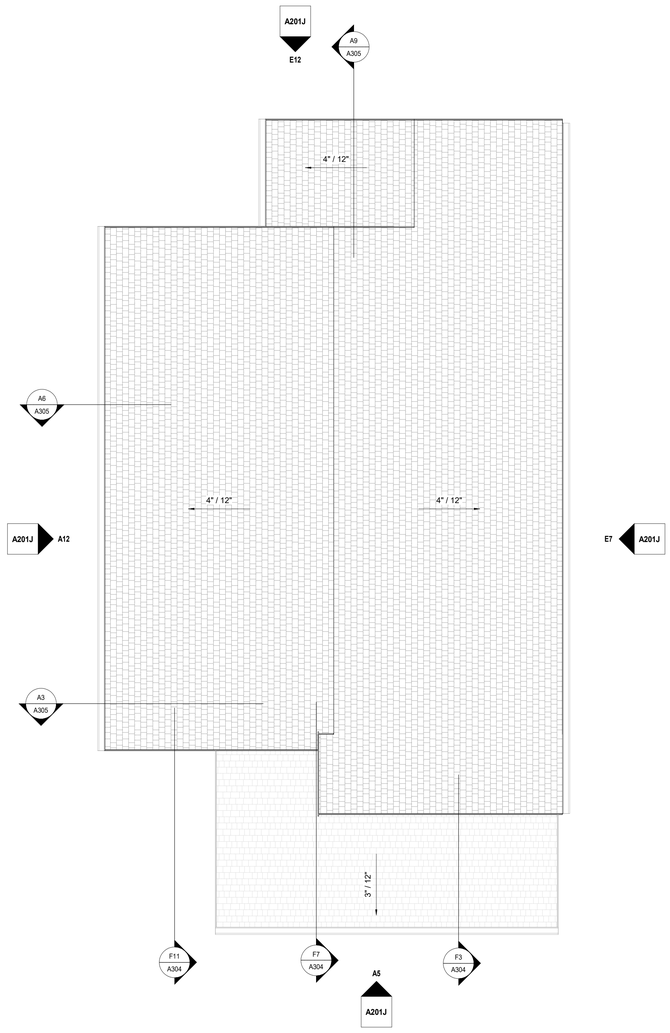
PROFESSIONAL SEAL

A100

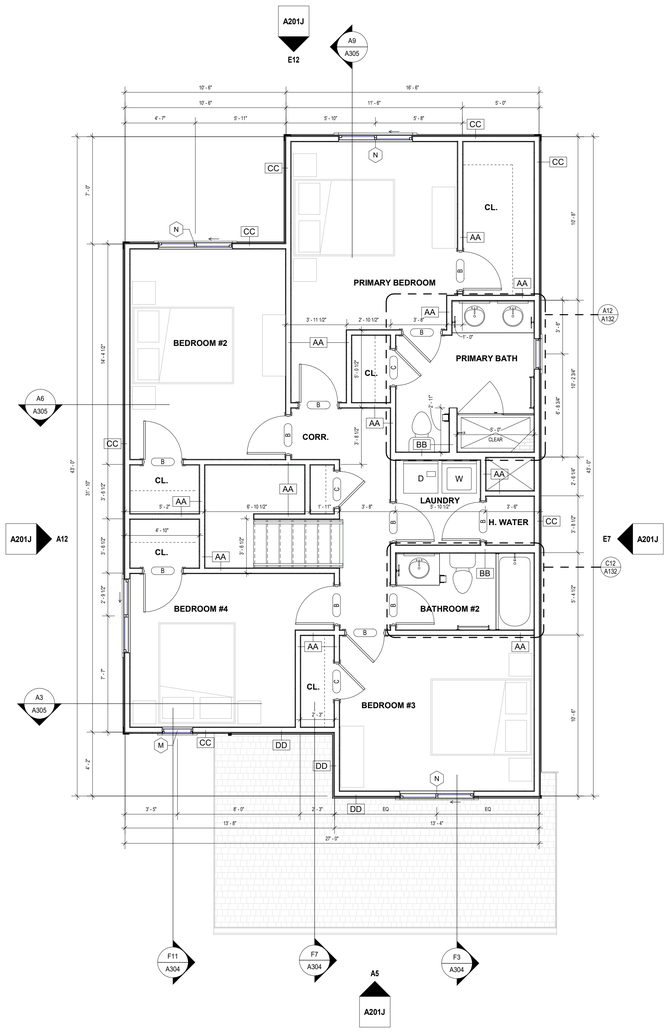
ISSUE DATE: 24 AUGUST 2023
COLLINS WEBB #: 21075

ARCHITECTURAL SITE PLAN

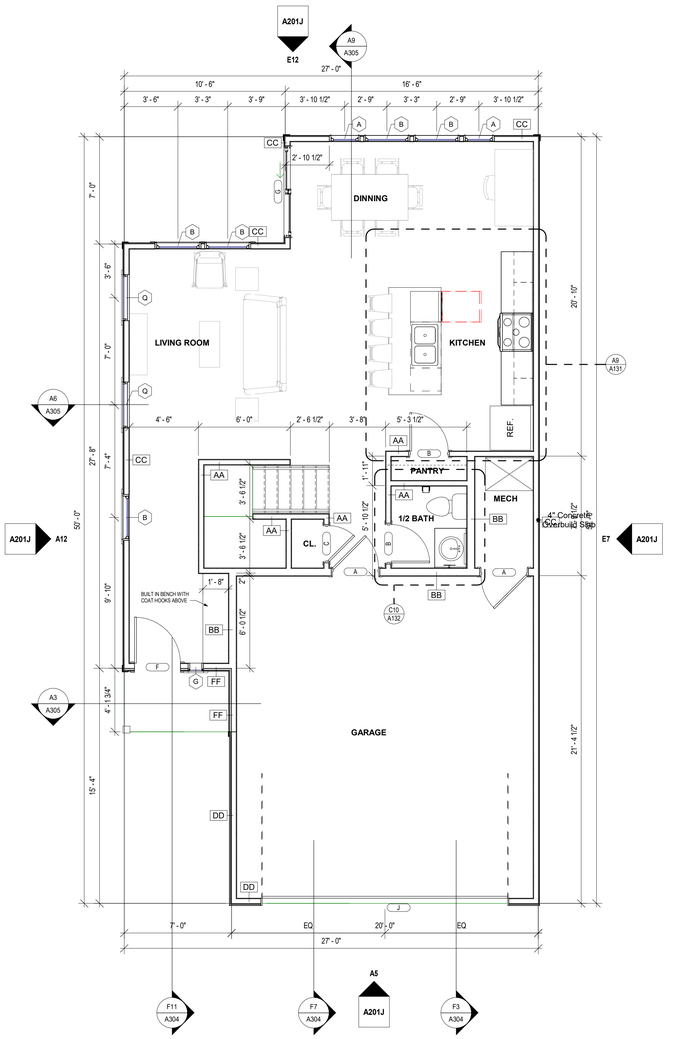
8/23/2023 2:30:50 PM



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



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



A5 1ST FLOOR - BUILDING J
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 OFSTUD (FOS), FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FOC), 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 PASSAGE WAYS 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 (FOC), 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 A11/G003
- EXTENTS OF RIDGE VENTS ALLOWED BETWEEN COMMON WALLS
- EXTENTS OF CONTINUOUS SOFFIT VENTS ALLOWED BETWEEN COMMON WALLS.=
- SHINGLE ROOF
- STANDING SEAM METAL ROOF

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RESERVE AT BLACKWELL - BUILDING J

SE SHENANDOAH DRIVE
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A101J

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FLOOR PLANS - BUILDING J

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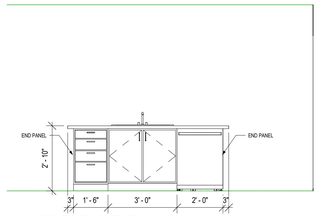
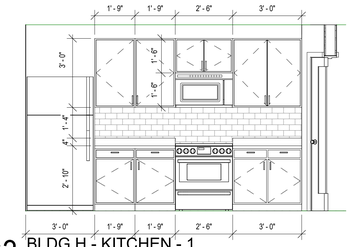
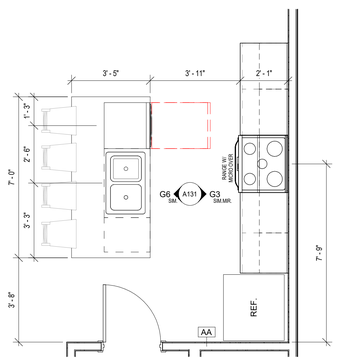


G6 ISLAND ELEVATION *RE: PLANS FOR LOCATION
3/8" = 1'-0"



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



A9 BLDG J - KITCHEN
3/8" = 1'-0"

1/17/2024 3:13:42 PM

RESERVE: AT BLACKWELL - BUILDING J

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A131

ISSUE DATE: 17 JAN 2024
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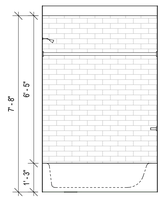
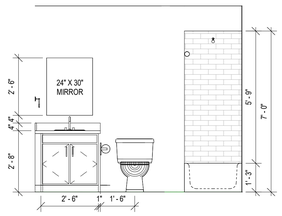
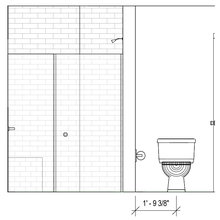
KITCHEN ENLARGED PLANS AND ELEVATIONS



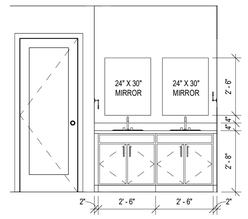
J11 BLDG J - LVL 2 BATH - 2
3/8" = 1'-0"



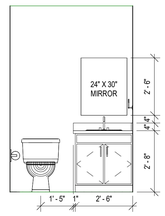
J10 BLDG J - LVL 2 BATH - 1
3/8" = 1'-0"



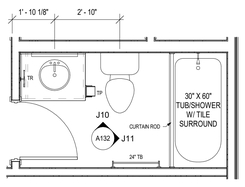
J8 BLDG J - LVL 2 - PRIMARY BATH - 2
3/8" = 1'-0"



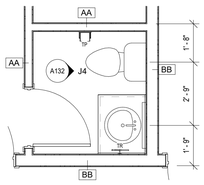
J6 BLDG J - LVL 2 - PRIMARY BATH - 1
3/8" = 1'-0"



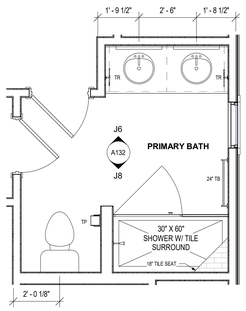
J4 BLDG J - LVL 1 - 1/2 BATH
3/8" = 1'-0"



C12 BLDG J - LVL 2 - BATH #2
3/8" = 1'-0"



C10 BLDG J - LVL 1 - 1/2 BATH
3/8" = 1'-0"



A12 BLDG J - LVL 2 - PRIMARY BATH
3/8" = 1'-0"

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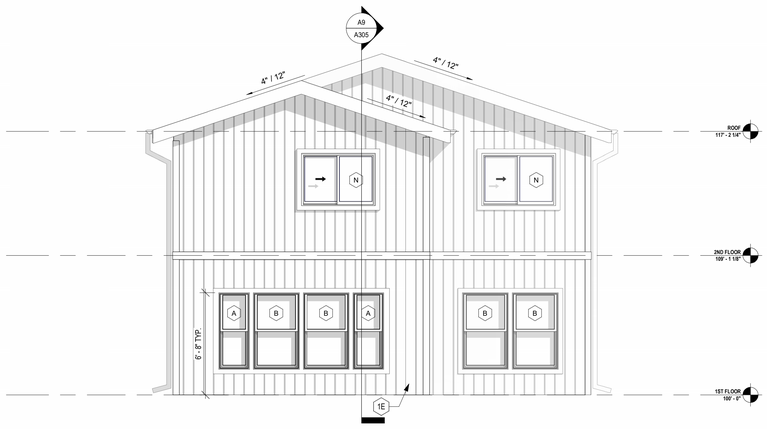
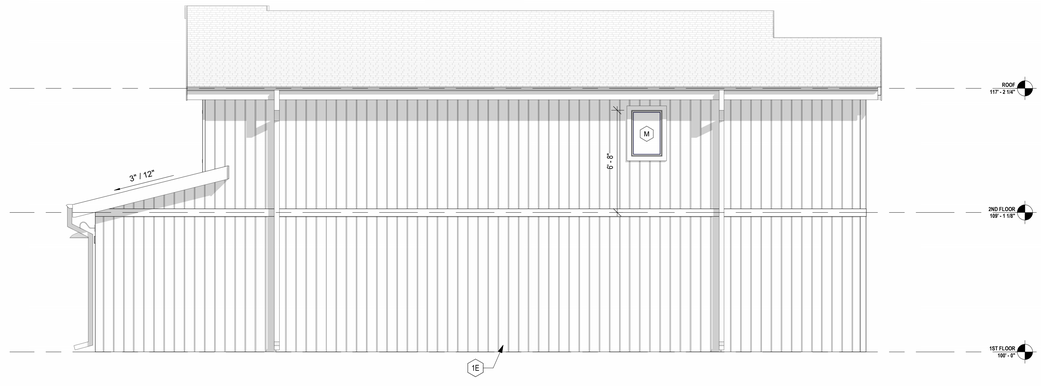
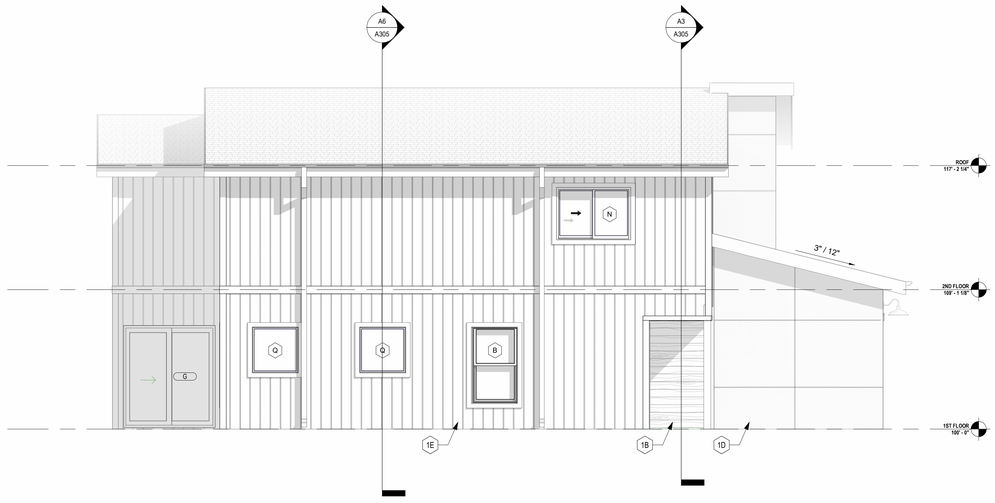
BATHROOM ENLARGED PLANS
AND ELEVATIONS



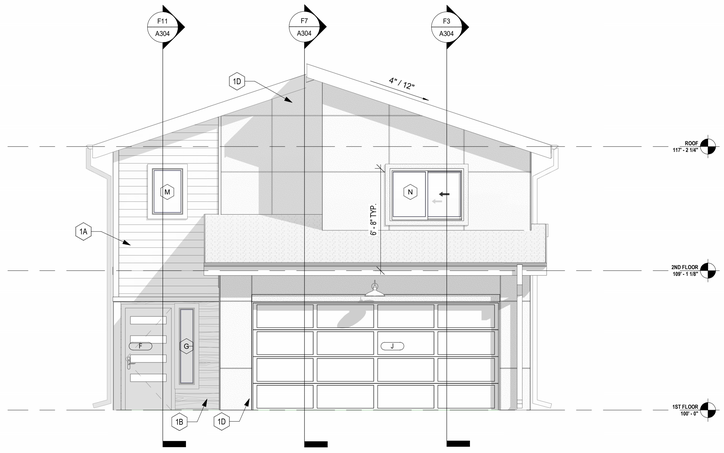
E12 ELEVATION - J - REAR
1/4" = 1'-0"



E7 ELEVATION - J - RIGHT
1/4" = 1'-0"



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



A5 ELEVATION - J - 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 (FOC), 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 IPE (IP)
- 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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EXTERIOR ELEVATIONS - BUILDING J

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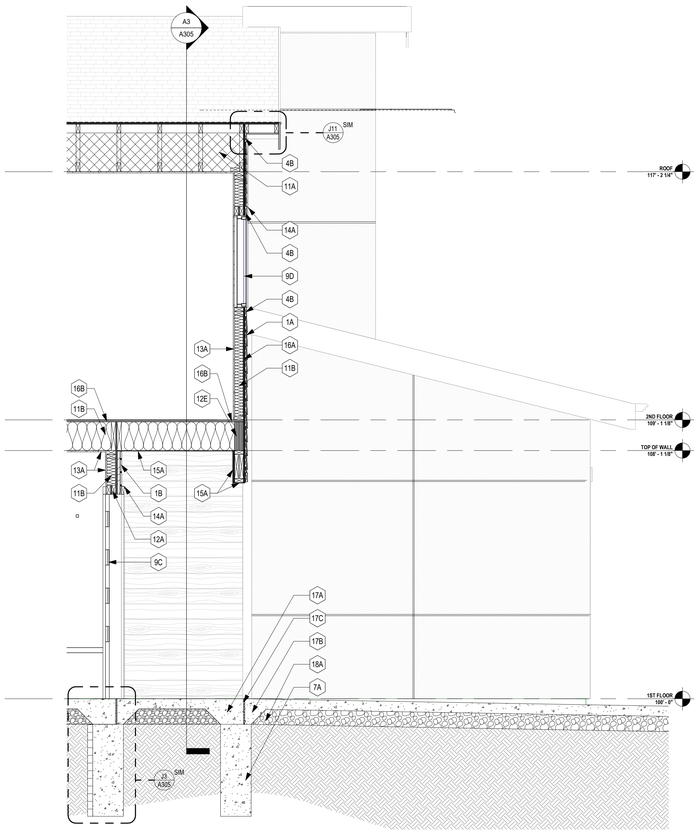
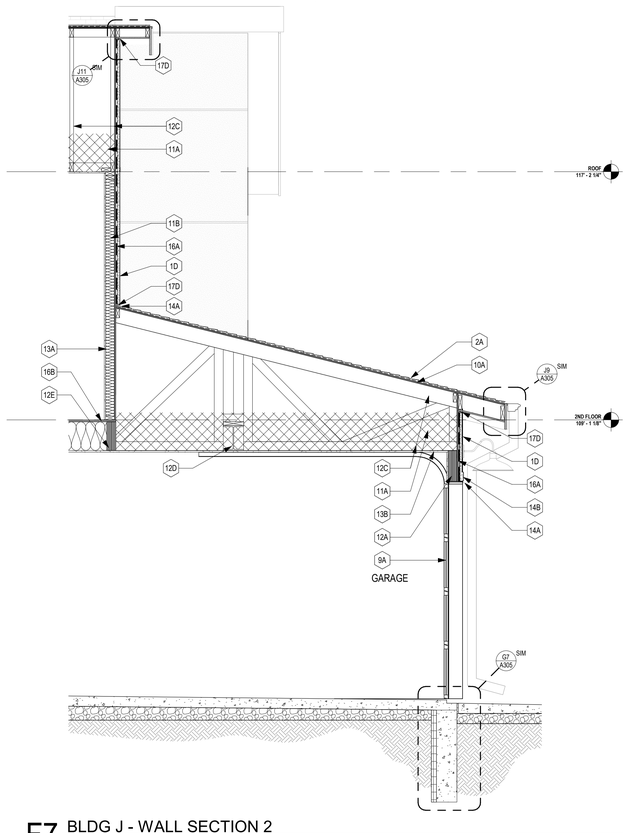
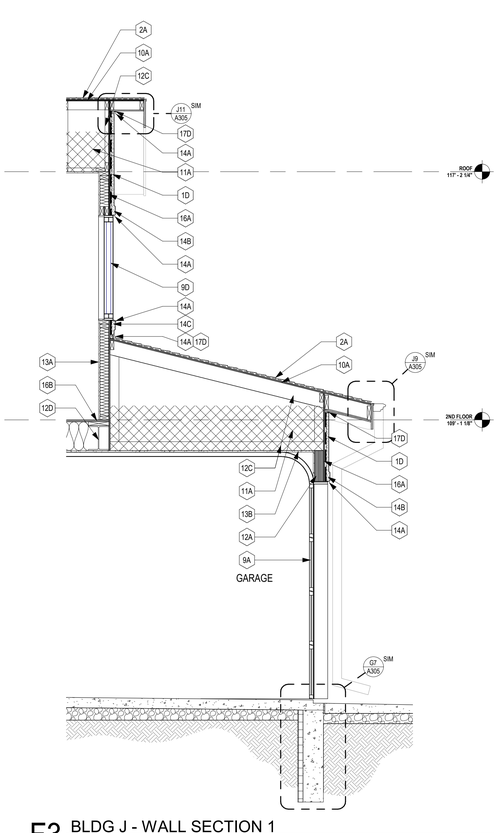


F11 BLDG J - WALL SECTION 7
1/2" = 1'-0"



F7 BLDG J - WALL SECTION 2
1/2" = 1'-0"



F3 BLDG J - WALL SECTION 1
1/2" = 1'-0"

GENERAL NOTES: EXTERIOR WALL SECTIONS/ DETAILS

1. RE: SHEET G001 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 (FOM), FACE OF CONCRETE WALLS (FOC), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
5. PAINT ALL EXPOSED STEEL, INCLUDING STEEL LINTELS, ETC. (TYP.)

test

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 FASCHIA 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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EXTERIOR WALL SECTIONS

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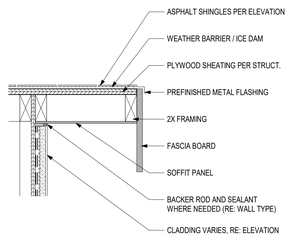
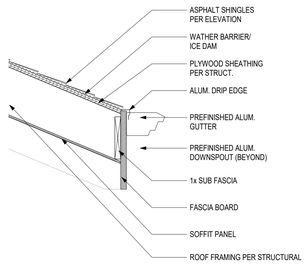
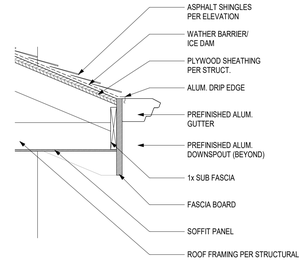


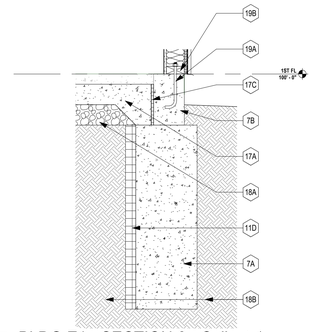
J11 DETAIL - ROOF RAKE
1 1/2" = 1'-0"



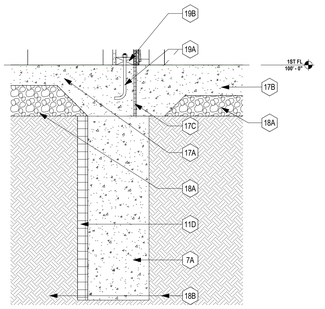
J9 DETAIL - ROOF EAVE 2
1 1/2" = 1'-0"



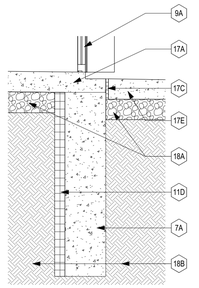
J7 DETAIL - ROOF EAVE 1
1 1/2" = 1'-0"



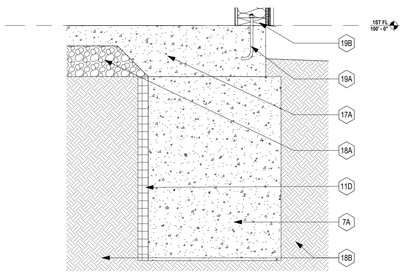
J5 BLDG E1 - SECTION 6 - Callout 1
1" = 1'-0"



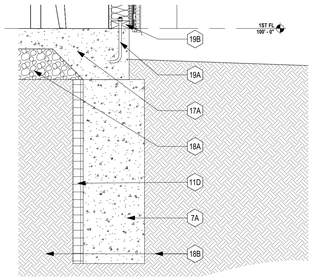
J3 BLDG E1 - SECTION 3 - Callout 1
1" = 1'-0"



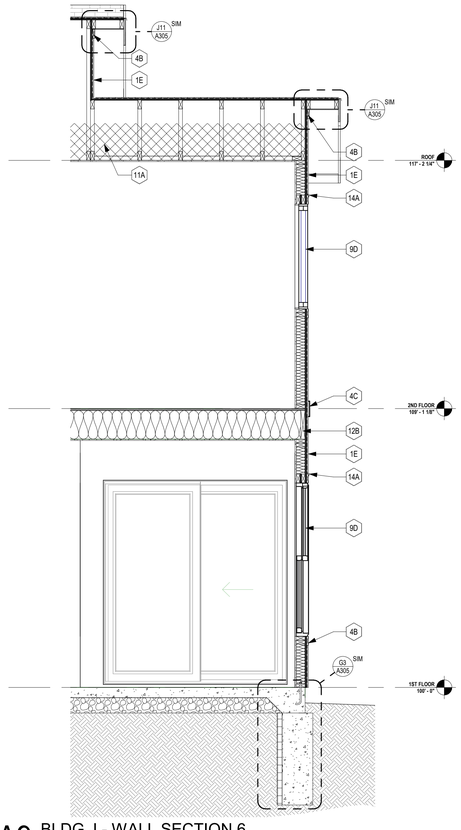
G7 BLDG E1 - SECTION 7 - Callout 1
1" = 1'-0"



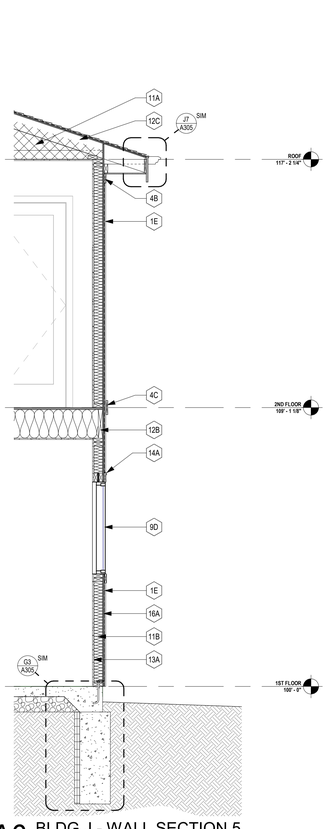
G5 BLDG E1 - SECTION 5 - Callout 1
1" = 1'-0"



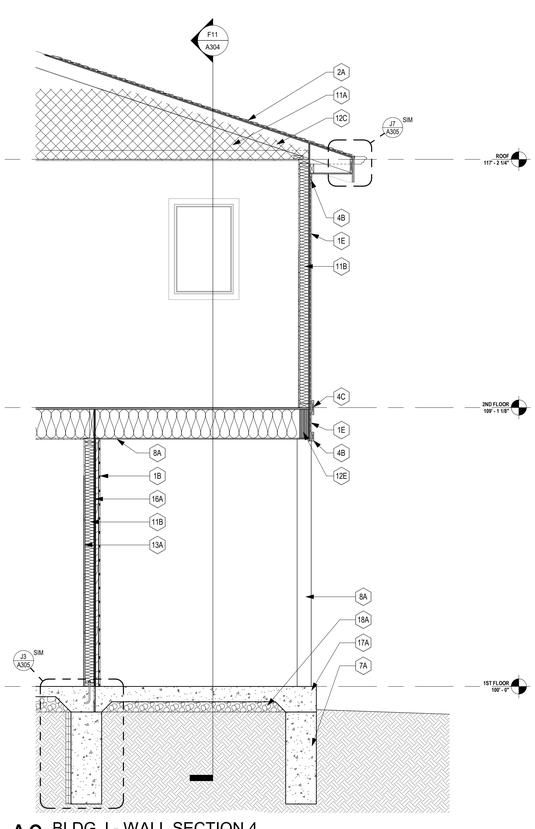
G3 BLDG E1 - SECTION 1 - Callout 1
1" = 1'-0"



A9 BLDG J - WALL SECTION 6
1/2" = 1'-0"



A6 BLDG J - WALL SECTION 5
1/2" = 1'-0"



A3 BLDG J - WALL SECTION 4
1/2" = 1'-0"

GENERAL NOTES: EXTERIOR WALL SECTIONS/ DETAILS

1. RE: SHEET G001 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 (FOM), FACE OF CONCRETE WALLS (FOC), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
5. PAINT ALL EXPOSED STEEL, INCLUDING STEEL LINTELS, ETC. (TYP.)

test

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 FASCHIA 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

collins|webb ARCHITECTURE
8078 SW Market St., Lee's Summit, Missouri 64063 | 816.249.2270 | www.collinswebb.com

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RESERVE AT BLACKWELL - BUILDING J

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REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB
NUMBER A-2016040895
3-29-24
ARCHITECT

PROFESSIONAL SEAL

A305

ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

EXTERIOR WALL SECTIONS + DETAILS

1/17/2024 3:15:35 PM

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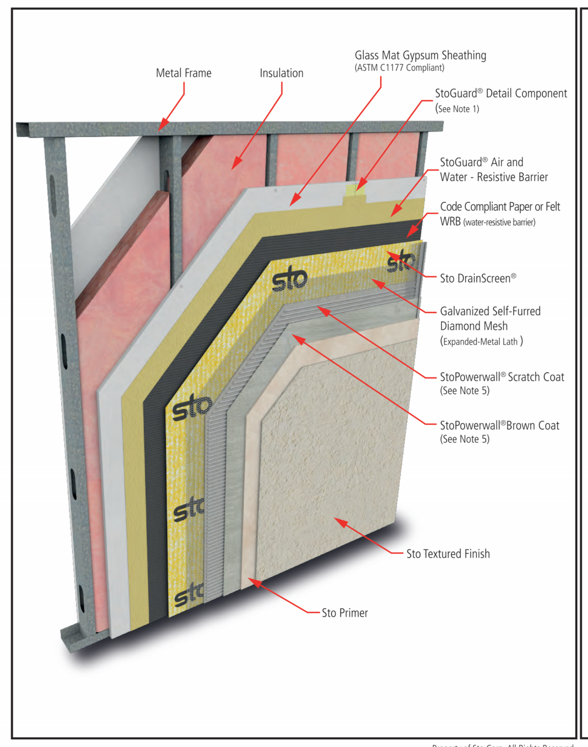
StoPowerwall® DrainScreen®
System Components

Detail No.: 64s.00
Date: March 2022



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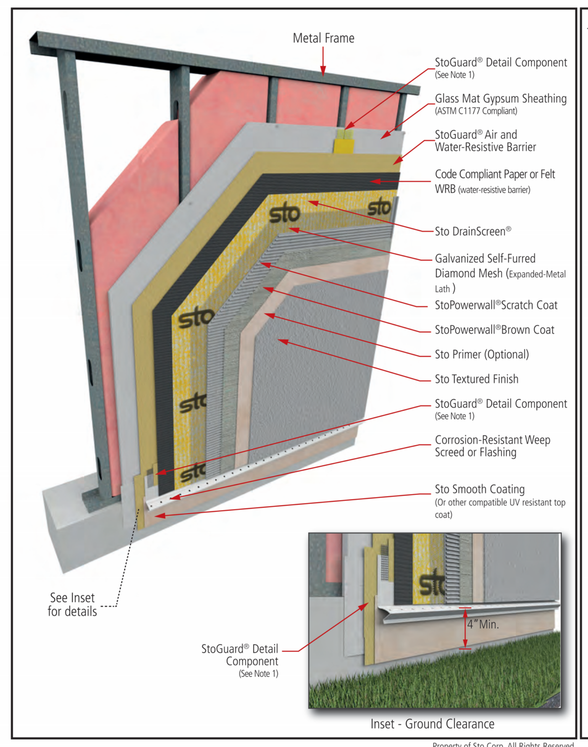
Termination at Grade: Sheathing Flush with Foundation

Detail No.: 64s.02
Date: March 2022



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StoPowerwall® DrainScreen®
Rough Opening Protection with StoGuard®Fabric

Detail No.: 64s.04F
Date: March 2022
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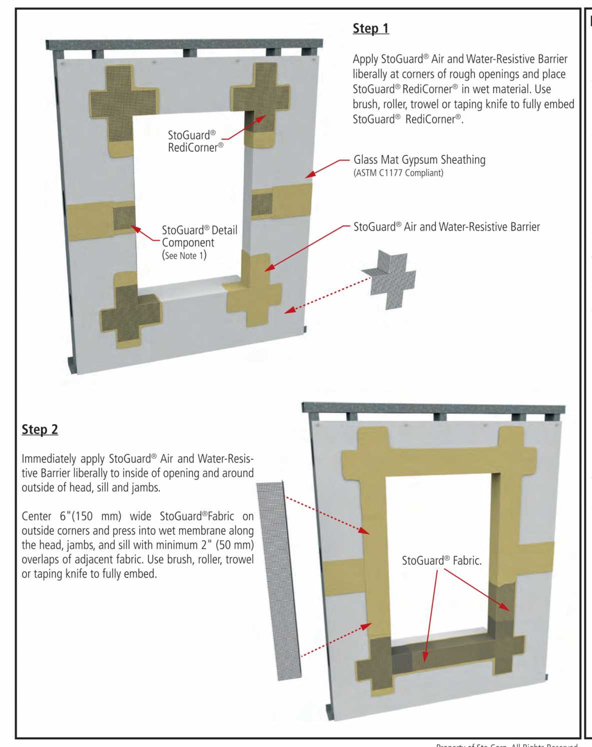

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StoPowerwall® DrainScreen®
Rough Opening Protection with StoGuard®Fabric

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Date: March 2022
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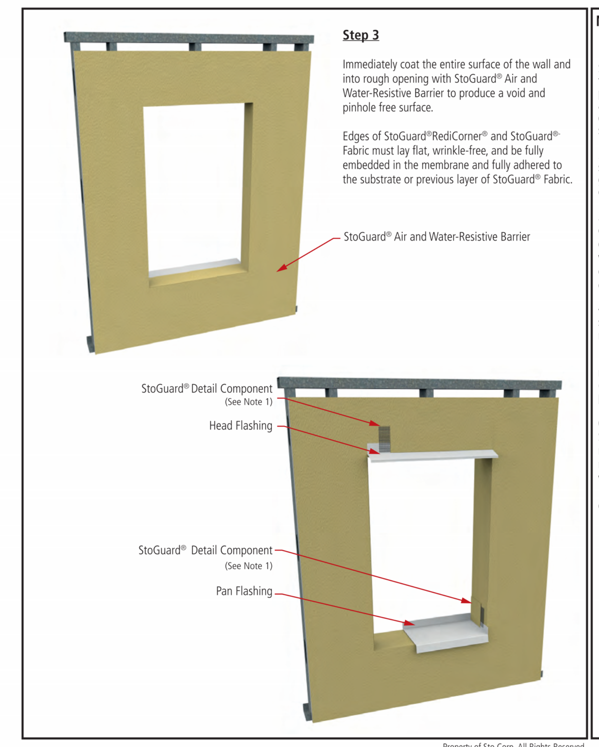

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StoPowerwall® DrainScreen®
Box Window at Sill, Jamb, and Head

Detail No.: 64s.05
Date: March 2022
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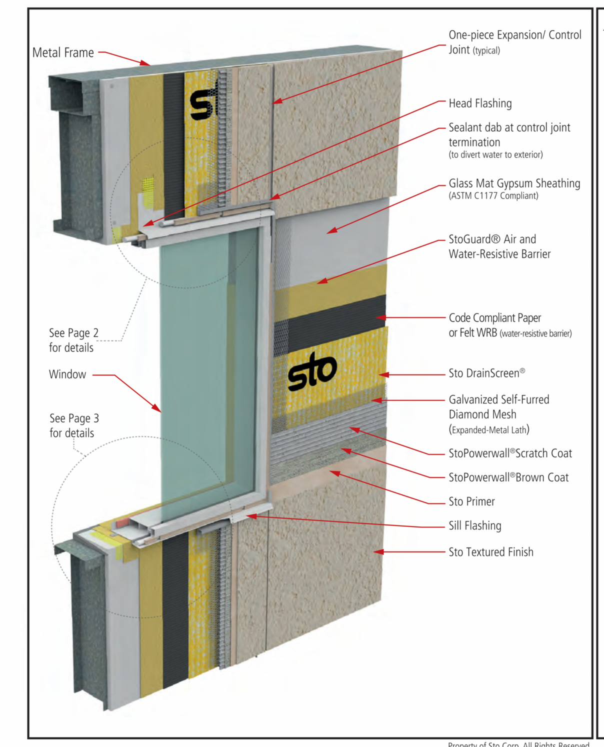

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StoPowerwall® DrainScreen®
Box Window at Head/Jamb

Detail No.: 64s.05
Date: March 2022
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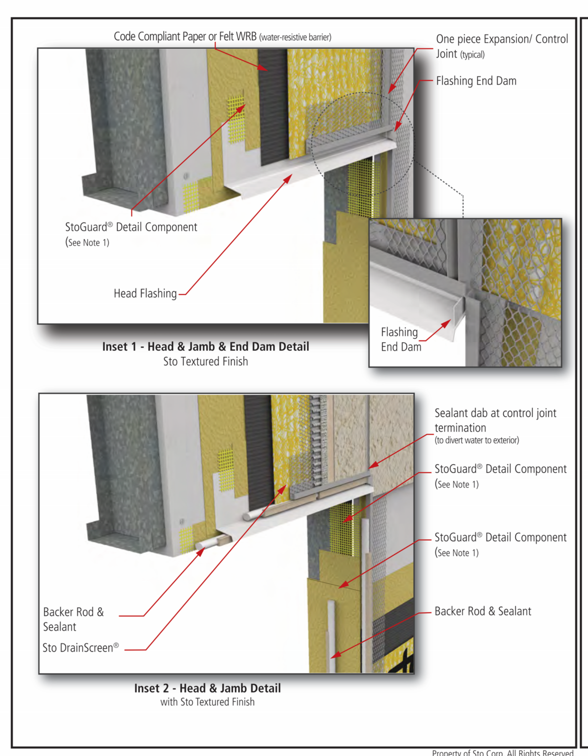

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Box Window at Sill/Jamb

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Date: March 2022
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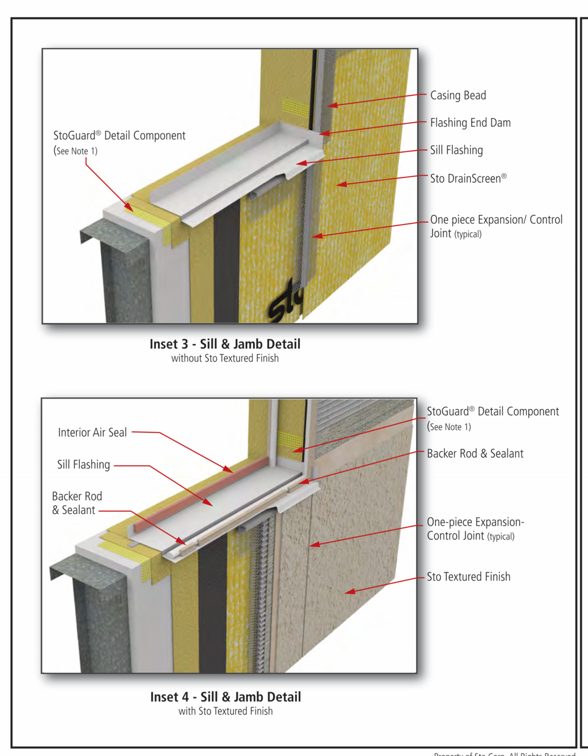

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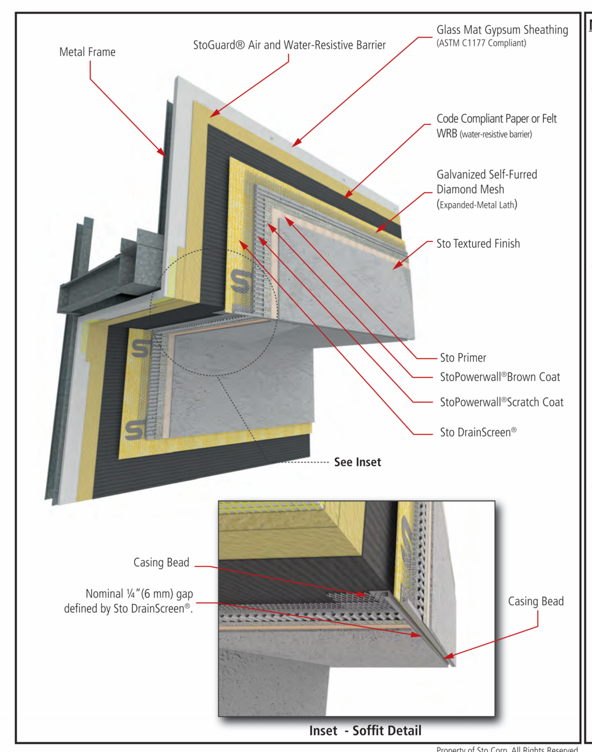
StoPowerwall® DrainScreen®
Soffit Return

Detail No.: 64s.07
Date: March 2022



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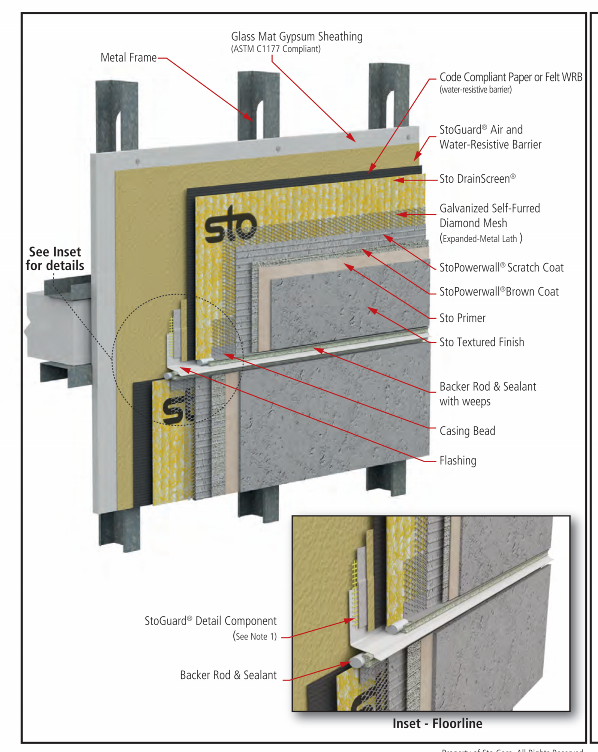
StoPowerwall® DrainScreen®
Floorline without Deflection Track

Detail No.: 64s.08
Date: March 2022



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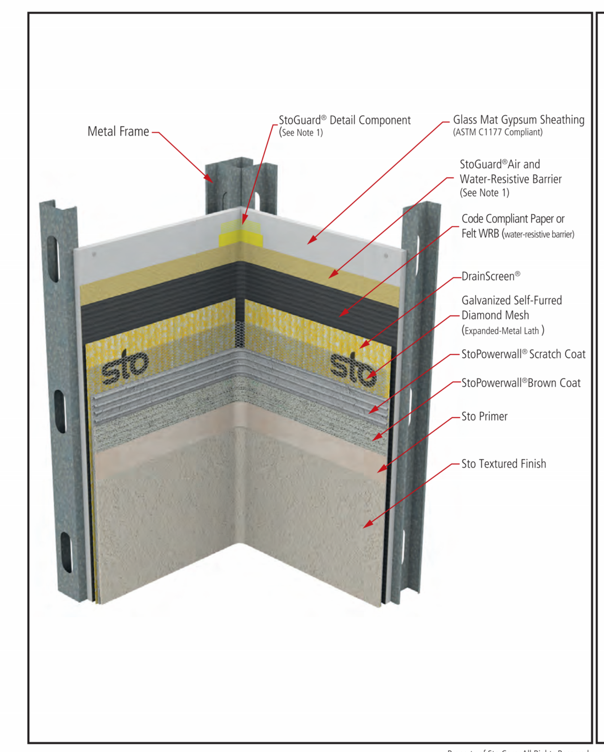
StoPowerwall® DrainScreen®
Inside Corner: Common Substrate

Detail No.: 64s.12
Date: March 2022



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5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

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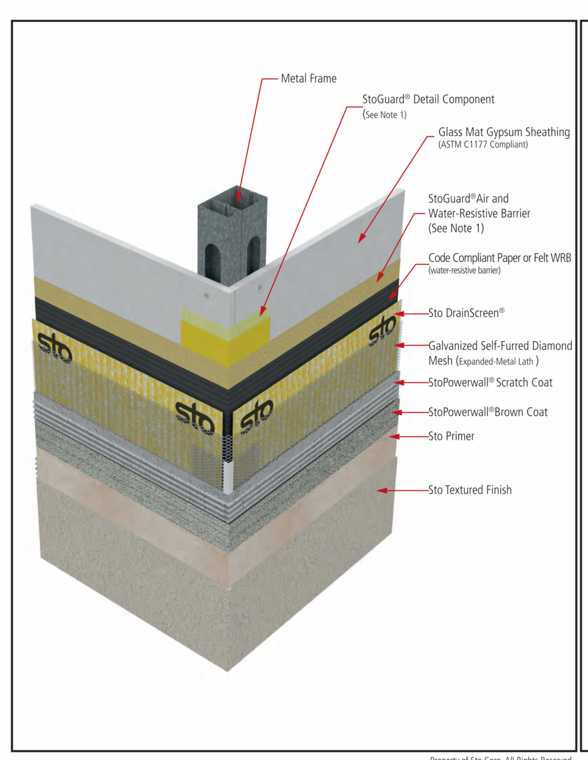
sto

StoPowerwall® DrainScreen®
Outside Corner: Common Substrate

Detail No.: 64s.14
Date: March 2022



Notes:

1. Refer to StoGuard Product Use Chart (Table 1.1) for StoGuard detail components; joint treatment, rough opening protection, backing for masonry anchors, or transitions to dissimilar materials, joints and seams in construction.
2. Refer to General Notes for specific information and design guidance on wall assembly components.
3. Glass mat gypsum sheathing in compliance with ASTM C1177, exterior grade and Exposure 1 wood based sheathing, or cementitious sheathing in compliance with ASTM C1325.
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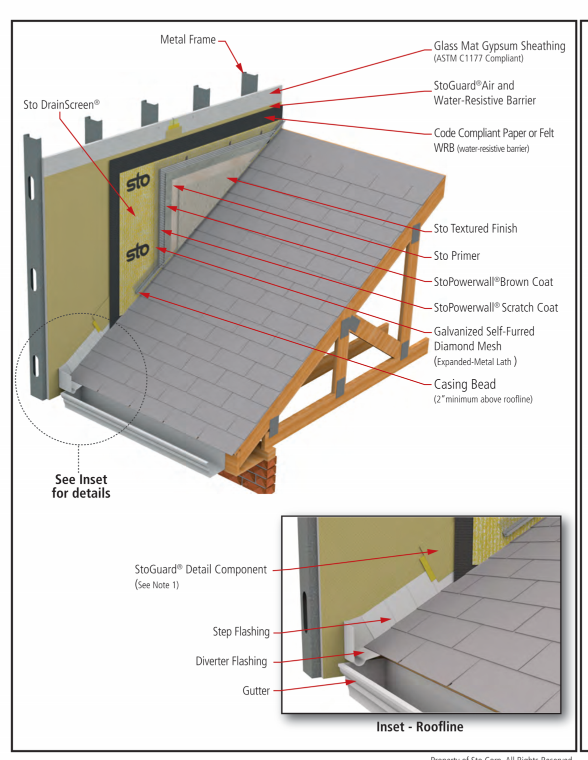
StoPowerwall® DrainScreen®
Roof / Wall Abutment

Detail No.: 64s.16
Date: March 2022



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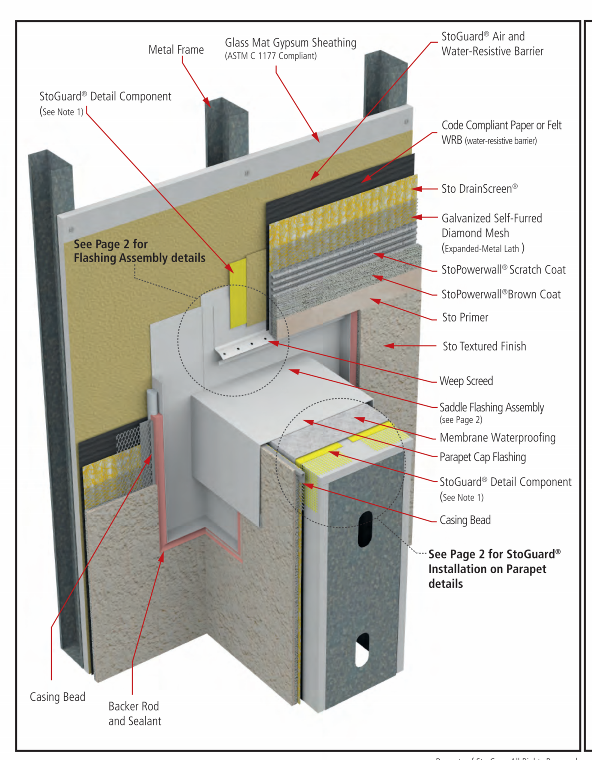
StoPowerwall® DrainScreen®
Saddle Flashing

Detail No.: 64s.17
Date: March 2022
Page 1 of 2



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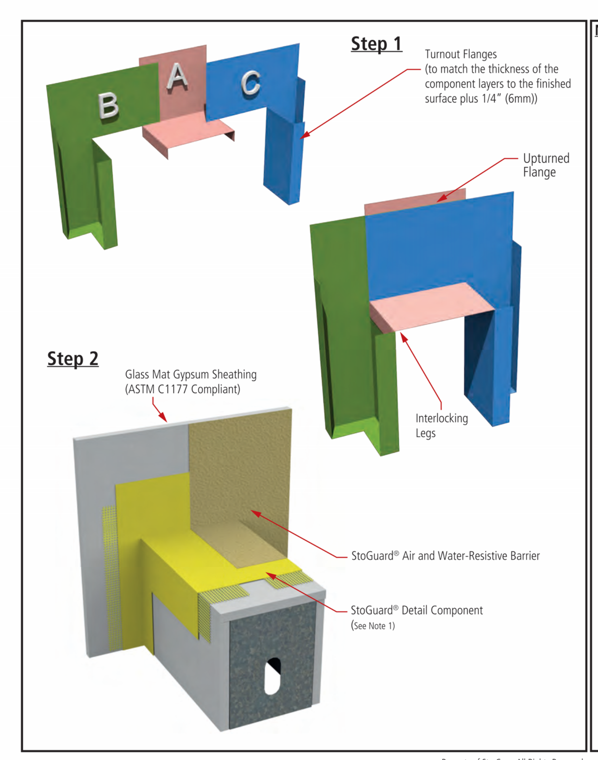
StoPowerwall® DrainScreen®
Saddle Flashing

Detail No.: 64s.17
Date: March 2022
Page 2 of 2



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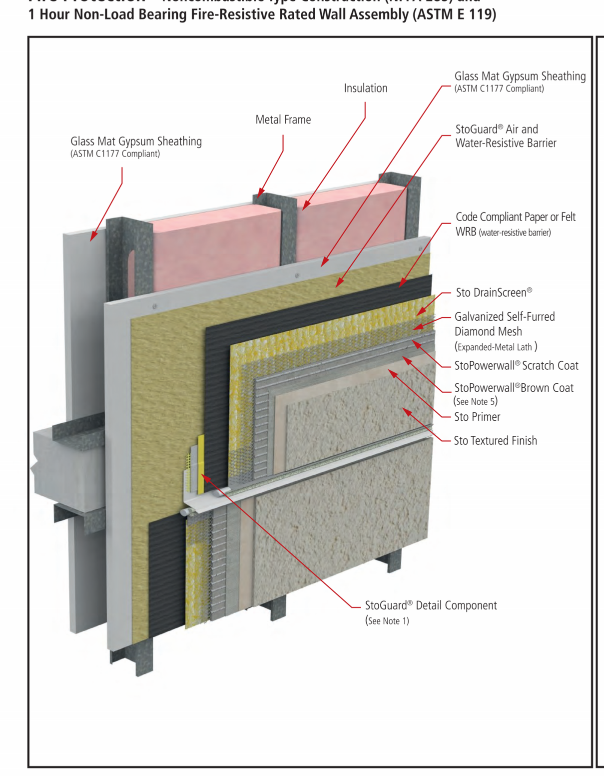
sto

Sto Powerwall® DrainScreen®
Fire Protection - Noncombustible Type Construction (NFPA 285) and 1 Hour Non-Load Bearing Fire-Resistive Rated Wall Assembly (ASTM E 119)

Detail No.: 64s.FP
Date: March 2022



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4. Minimum 2.5 lb/yd² (1.4 kg/m²) self-furred galvanized diamond mesh metal lath.
5. Stucco scratch and brown coat material in compliance with ASTM C926 and manufactured or listed by Sto Corp.
6. StoPowerwall Scratch Coat and Brown Coat minimun 3/4" (19 mm) Thick, maximun 7/8" (22 mm) Thick.
7. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

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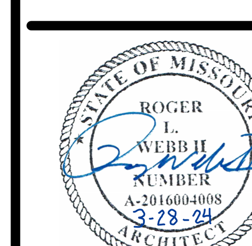

PROFESSIONAL SEAL

A351

ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

WALL CLADDING DETAILS - STOTHERM STUCCO

1/17/2024 3:15:53 PM

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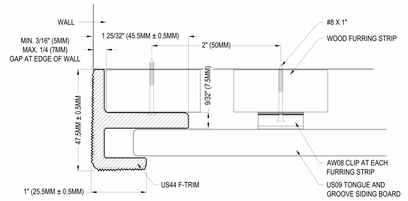

VERTICAL INSTALLATION PLAN

SPECIFICATIONS:
PROFILE: F-TRIM USED AT THE OUTERMOST EDGE OF THE WALL
WEIGHT: 0.53LB/FT

MANUFACTURERS' NOTES:
1. REFER TO MANUFACTURER'S WEBSITE FOR ALL COLOR OPTIONS

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 5467-015.

ULTRASHIELD® WALL CLADDING

US44: F-TRIM

5467-015 REVISION DATE 03/01/2022

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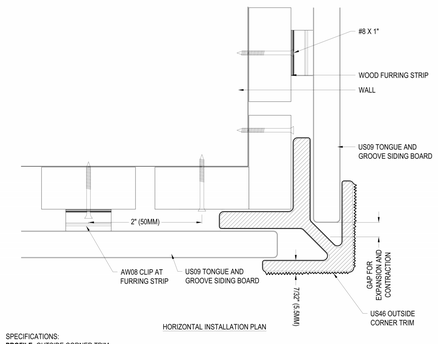

HORIZONTAL INSTALLATION PLAN

SPECIFICATIONS:
PROFILE: OUTSIDE CORNER TRIM
WEIGHT: 0.85LB/FT

MANUFACTURERS' NOTES:
1. REFER TO MANUFACTURER'S WEBSITE FOR ALL COLOR OPTIONS

NOTES:
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5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 5467-017.

ULTRASHIELD® WALL CLADDING

US46: OUTSIDE CORNER TRIM

5467-017 REVISION DATE 03/01/2022

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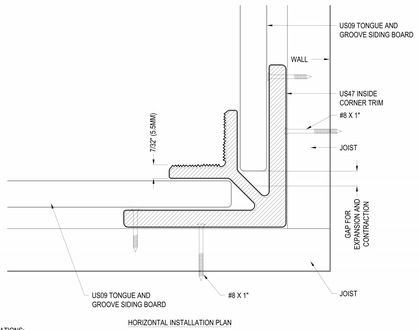

HORIZONTAL INSTALLATION PLAN

SPECIFICATIONS:
PROFILE: INSIDE CORNER TRIM
WEIGHT: 1.13LB/FT

MANUFACTURERS' NOTES:
1. REFER TO MANUFACTURER'S WEBSITE FOR ALL COLOR OPTIONS

NOTES:
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5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 5467-018.

ULTRASHIELD® WALL CLADDING

US47: INSIDE CORNER TRIM

5467-018 REVISION DATE 03/01/2022

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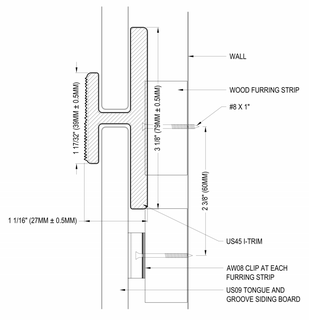

HORIZONTAL INSTALLATION SECTION

SPECIFICATIONS:
PROFILE: I TRIM USED AT THE BUTT JOINT OF TWO-COLUMN BOARDS
WEIGHT: 0.71LB/FT

MANUFACTURERS' NOTES:
1. REFER TO MANUFACTURER'S WEBSITE FOR ALL COLOR OPTIONS

NOTES:
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US45: I-TRIM

5467-016 REVISION DATE 03/01/2022

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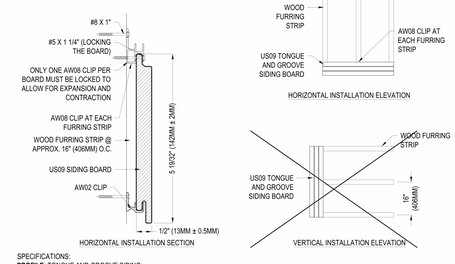
SELECT DESIRED COLOR OPTION:

- [x] BRAZILIAN IPE (IP)
- [ ] PERUVIAN TEAK (TK)
- [ ] SPANISH WALNUT (WN)
- [ ] HAWAIIAN CHARCOAL (CH)
- [ ] ROMAN ANTIQUE (AT)
- [ ] WESTMINSTER GRAY (LG)



HORIZONTAL INSTALLATION SECTION

SPECIFICATIONS:
PROFILE: TONGUE AND GROOVE SIDING
WEIGHT: 1.32LB/FT
LENGTH: 16'

MANUFACTURERS' NOTES:
1. REFER TO MANUFACTURERS' WEBSITE FOR ALL CUSTOM COLOR OPTIONS

NOTES:
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US09: TONGUE AND GROOVE SIDING BOARD

5467-014 REVISION DATE 11/08/2022

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PROFESSIONAL SEAL

A352

ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

WALL CLADDING DETAILS - NEWTECHWOOD

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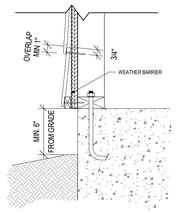
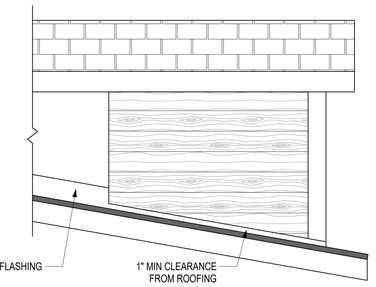
LAP

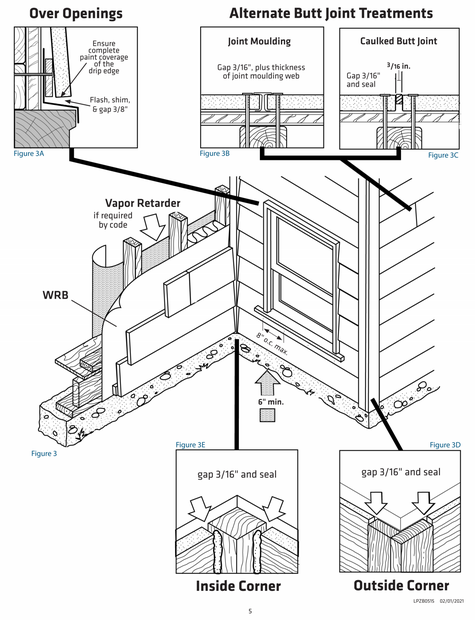


H6 LAP OVERLAP, CLEARANCE & NAILING
1 1/2" = 1'-0"



F6 LAP ROOF CLEARANCE
1" = 1'-0"

Application instructions (cont.)



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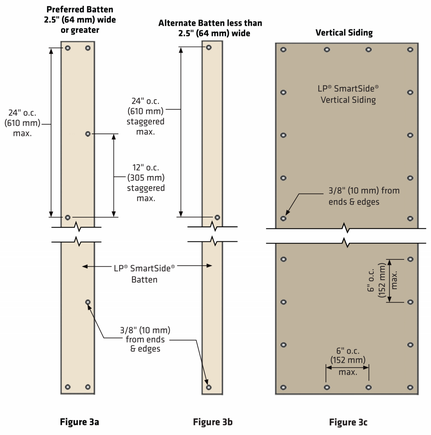

Figure 3a Figure 3b Figure 3c

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FAX (615) 986-5666
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Date Created: 03/15/2017
Last Revision: 05/13/2022

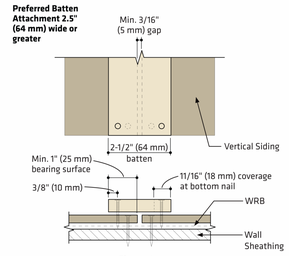

Figure 4a

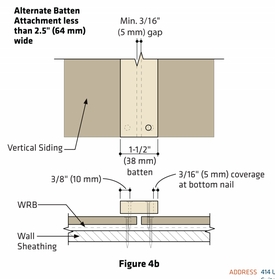

Figure 4b

ADDRESS 414 Union Street
Suite 2000 Nashville, TN
TEL (615) 986-5600
FAX (615) 986-5666
WEB www.lpcorp.com
BUILD WITH US®

Date Created: 03/15/2017
Last Revision: 05/13/2022

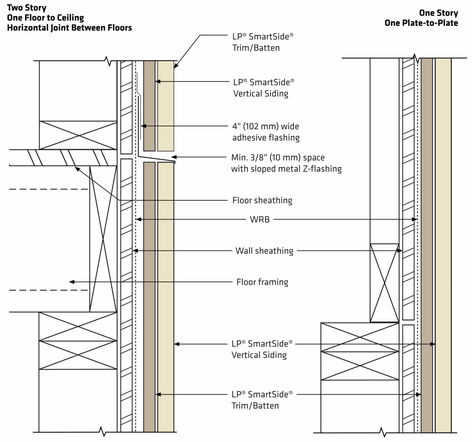

Figure 5a Figure 5b

ADDRESS 414 Union Street
Suite 2000 Nashville, TN
TEL (615) 986-5600
FAX (615) 986-5666
WEB www.lpcorp.com
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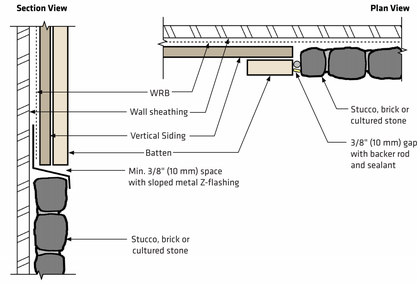

Figure 6

ADDRESS 414 Union Street
Suite 2000 Nashville, TN
TEL (615) 986-5600
FAX (615) 986-5666
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REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB
NUMBER A-7201040898
3-29-24
ARCHITECT

PROFESSIONAL SEAL

A353

ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

WALL CLADDING DETAILS - LP SMARTLAP & BATT

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Figure 3. Wall Assembly Transition

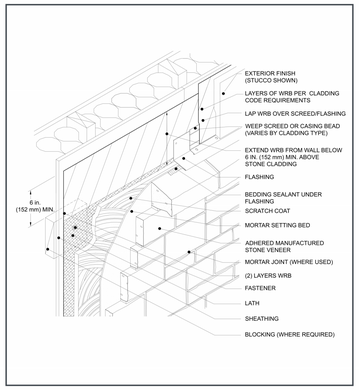


Figure 5a. Foundation Wall Base

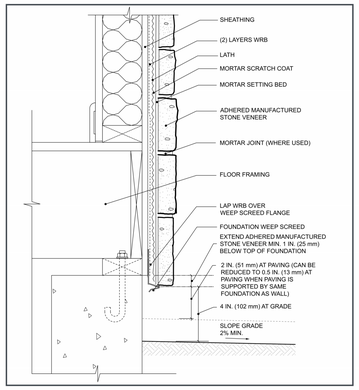
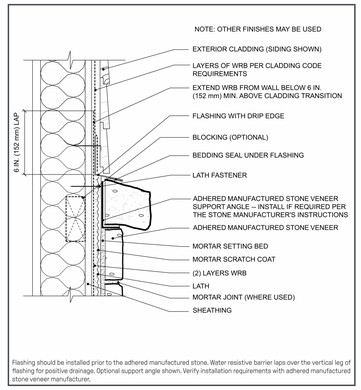


Figure 8a. Cladding Transition



Flashing should be installed prior to the adhered manufactured stone. Water resistive barrier laps over the vertical leg of flashing for positive drainage. Optional support angle shown. Verify installation requirements with adhered manufactured stone veneer manufacturer.

Figure 9a. Outside Corner

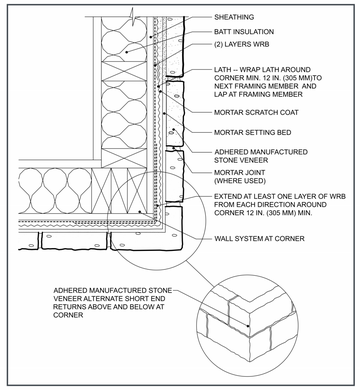


Figure 10a. Inside Corner

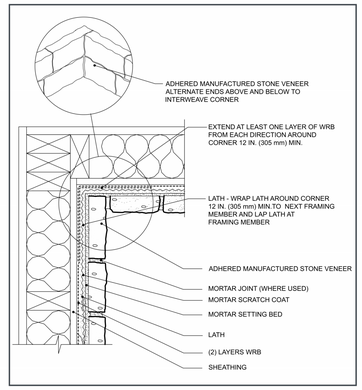


Figure 11a. Horizontal Transition

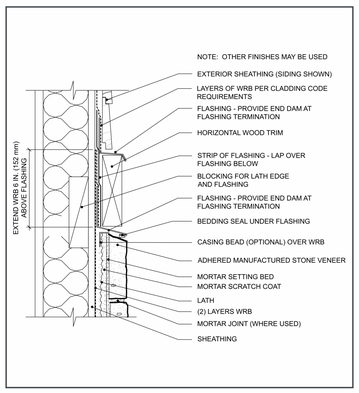


Figure 12a. Vertical Transition

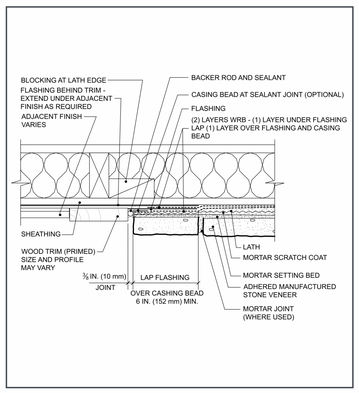
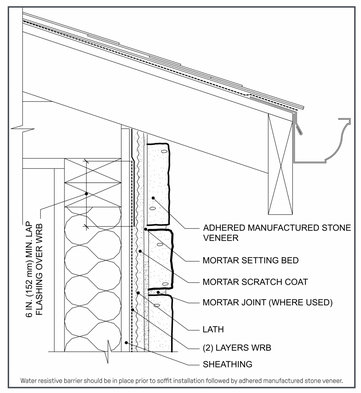


Figure 13a. Open Eave - Overhang



Water resistive barrier should be in place prior to soffit installation followed by adhered manufactured stone veneer.

Figure 15. Rake - Overhang

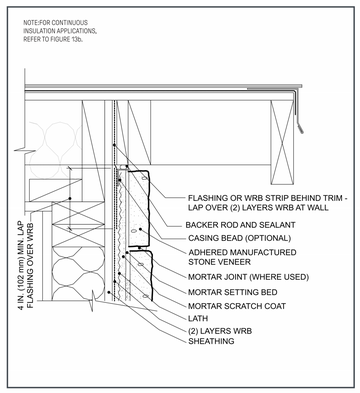


Figure 17a. Side Wall – Composition Shingles

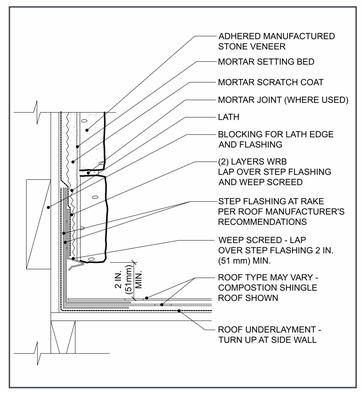
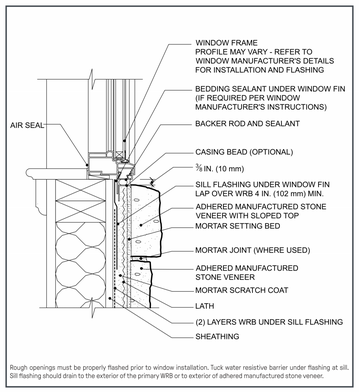
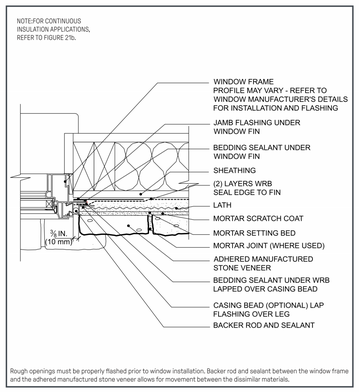


Figure 21a. Window Sill



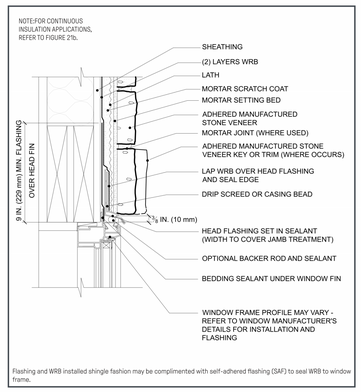
Rough openings must be properly flashed prior to window installation. Tuck water resistive barrier under flashing at sill. Sill flashing should drain to the exterior of the primary WRB or to exterior of adhered manufactured stone veneer.

Figure 22. Window Jamb



Rough openings must be properly flashed prior to window installation. Backer rod and sealant between the window frame and the adhered manufactured stone veneer allows for movement between the dissimilar materials.

Figure 23. Window Head



Flashing and WRB installed shingle fashion may be complimented with self-adhered flashing (SAF) to seal WRB to window frame.

Figure 24. Kick-Out Flashing

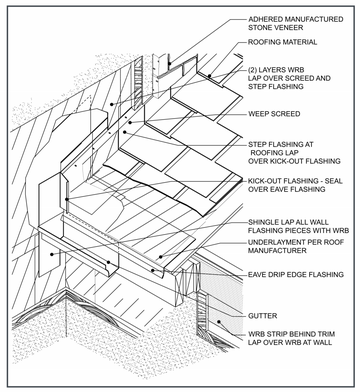
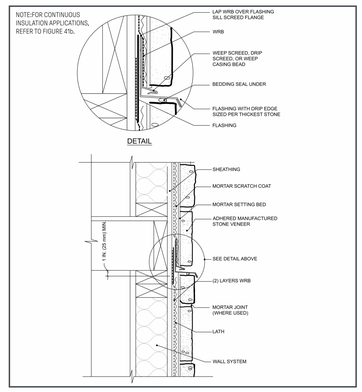


Figure 45. Wall–Section Multi-Floor Joint Detail



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A354

ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

WALL CLADDING DETAILS - ELDORADO STONE

Figure 30. Penetration Non-Flanged, with Housewrap WRB

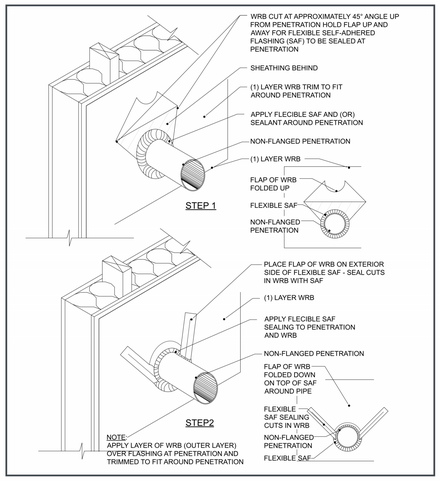
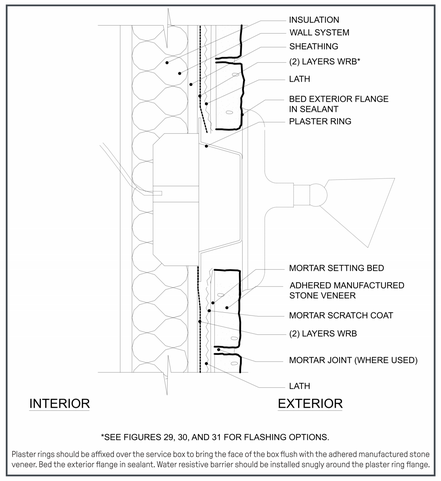


Figure 31. Penetration, Fixture



*SEE FIGURES 29, 30, AND 31 FOR FLASHING OPTIONS.

Plaster rings should be affixed over the service box to bring the face of the box flush with the adhered manufactured stone veneer. Bed the exterior flange in sealant. Water resistive barrier should be installed snugly around the plaster ring flange.

Figure 32. Penetration, Dryer Vent

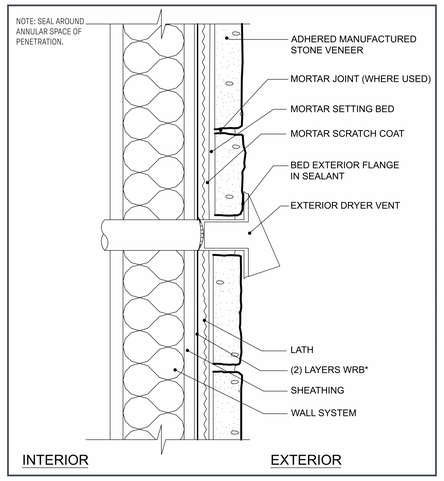


Figure 41a. Forward Mounted Commercial Window

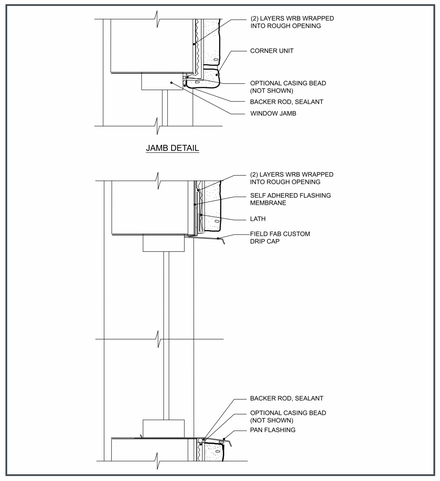


Figure 43. Commercial Storefront Window – Top View

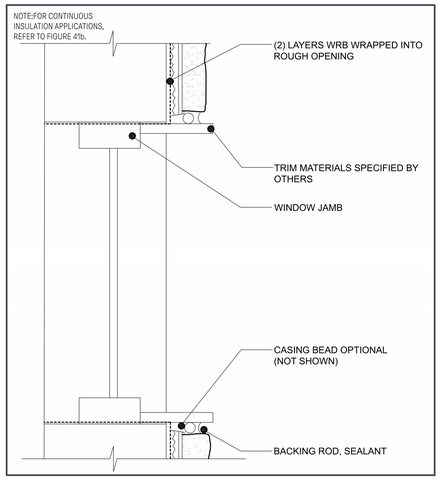
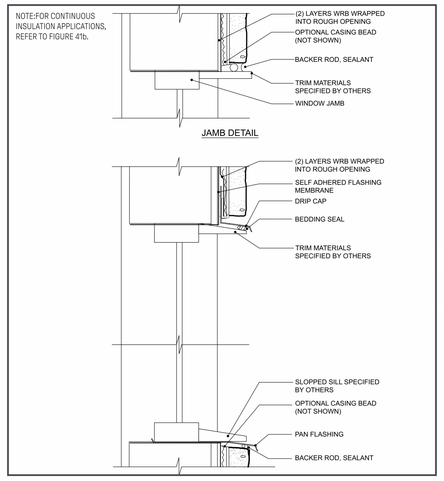


Figure 44. Commercial Storefront Window



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ROGER L. WEBB
NUMBER A-7016034008
3-29-24
ARCHITECT

PROFESSIONAL SEAL

A355

ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

WALL CLADDING DETAILS - ELDORADO STONE 2

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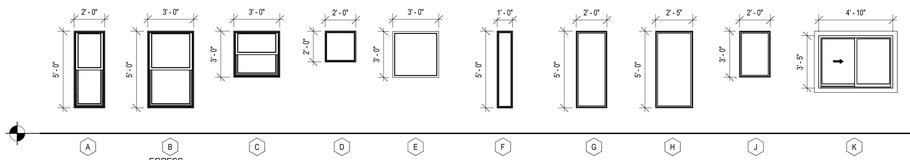
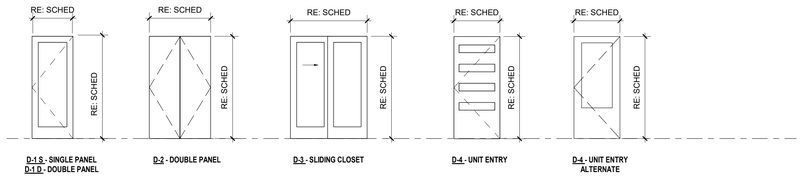


WINDOW SCHEDULE GENERAL NOTES:

1. GENERAL CONTRACTOR TO VERIFY ALL WINDOW & DOOR SIZES PRIOR TO ORDERING.
2. FOR MODEL NO. 3050, INCORPORATE A SINGLE BALANCE IN TOP HOLE TO MEET EGRESS REQUIREMENTS OF 5.7 SQUARE FEET.
3. WINDOWS BASIS OF DESIGN MI 3500 SINGLE HUNG WINDOW.
4. PROVIDE SAFETY GLAZING AT HAZARDOUS LOCATIONS PER IRC SECTION R308. RE: GLASS TYPE LEGEND AND WINDOW ELEVATIONS.
5. 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.
6. ALL WINDOW HEAD HEIGHTS ARE 6'-8" A.F.F. UNLESS NOTED OTHERWISE.
7. REFER TO DETAILS A3, A6, AND A11 ON SHEET A501 FOR TYPICAL HEAD, JAMB, AND SILL DETAILS.
8. REFER TO ELEVATIONS FOR WINDOW GRID LOCATIONS.
9. SAFETY GLAZING REQ'D IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL THE FOLLOW 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:

1. PROVIDE EACH ENTRY DOOR WITH PEEPHOLE WITH A 180 DEGREE VIEWER AND A DEADBOLT LOCK
2. WEATHERSTRIP ALL EXTERIOR DOORS
3. PROVIDE SAFETY GLAZING AT HAZARDOUS LOCATIONS PER IRC SECTION R308. SEE PLAN FOR LOCATIONS.
4. 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.
5. CONTRACTOR TO CONFIRM PROPER SWING WITH UNIT AND BUILDING LAYOUT PLANS.
6. REFERENCE SPEC ON G SERIES SHEETS FOR HARDWARE TYPES.



D-1 S - SINGLE PANEL
D-1 D - DOUBLE PANEL

D-2 - DOUBLE PANEL

D-3 - SLIDING CLOSET

D-4 - UNIT ENTRY

D-4 - UNIT ENTRY ALTERNATE

D-5 - SLIDING EXTERIOR

D-6 - HM DOUBLE DOOR

D-7 - SINGLE OVERHEAD

D-6 - DOOR OPENING

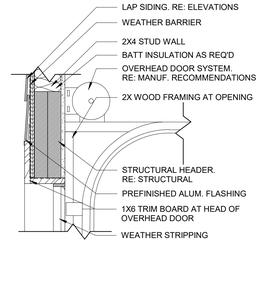
NOTE: SOME SYMBOLS MAY NOT BE USED IN THIS DRAWING OR PROJECT

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' - 8"	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	

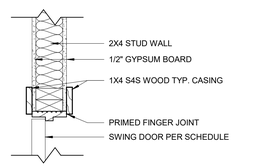
GLASS TYPE LEGEND	
DESIGNATION NUMBER	DESCRIPTION
1	TEMPERED GLASS COLOR: CLEAR

NOTES:
1. SURFACES SHALL BE CLEAN AND DRY AND PRIMED WITH CONTACT ADHESIVE.
2. FLASHING SHALL BE A MIN. OF 9" WIDE. THE FLASHING SHALL WRAP INTO WINDOW OPENING GREATER THAN THE DEPTH OF THE WINDOW AND OUT ONTO THE WALL A MIN. OF 3".
3. THE SEQUENCE FLASHING INSTALLATION TO PROVIDE SHINGLED OVERLAPS. OVERLAPS SHALL BE A MIN. OF 2".
4. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
5. DO NOT SCALE DRAWINGS.

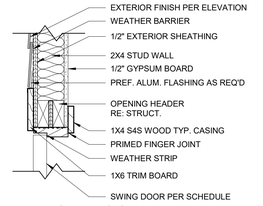
H3 WINDOW FLASHING SEQUENCE
1/2" = 1'-0"



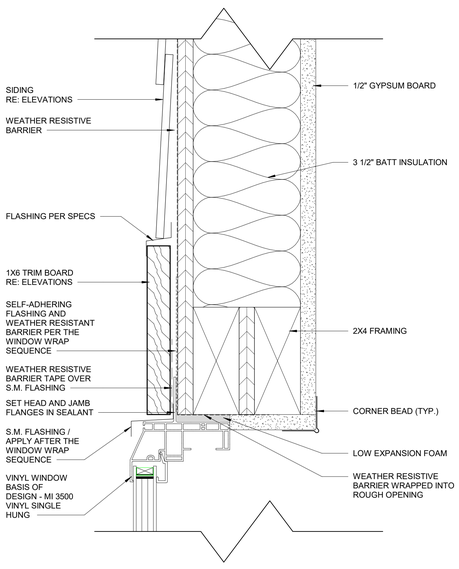
D2 DETAIL - WOOD HEAD_GARAGE
1 1/2" = 1'-0"



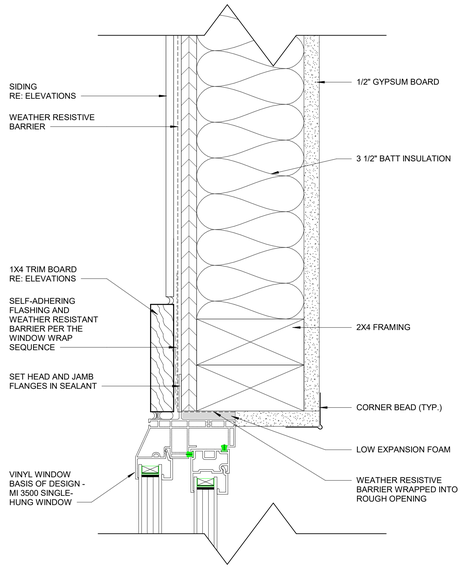
C2 DETAIL - WOOD HEAD
1 1/2" = 1'-0"



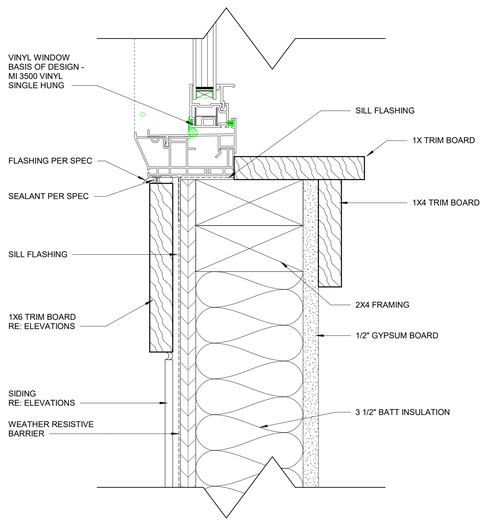
A2 DETAIL - WOOD HEAD
1 1/2" = 1'-0"



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

1. HM REFERS TO HOLLOW METAL
2. AL REFERS TO ALUMINUM
3. WD REFERS TO WOOD
4. SCWD REFERS TO SOLID CORE WOOD
5. ALL EXTERIOR ALUMINUM DOORS & FRAMES ARE TO BE FINISHED TO MATCH ADJACENT ALUMINUM WINDOW FRAME, U.N.O.
6. FOR FINISH COLOR DESIGNATION FOR INTERIOR DOOR AND FRAMES, REFER TO FINISH LEGEND.
7. REFER TO SPECIFICATION FOR DOOR HARDWARE SET DESIGNATIONS.
8. 2 HOUR FIRE BARRIED DOORS = 90 MINUTE RATING
   1 HOUR FIRE BARRIED DOORS = 45 MINUTE RATING
   1 HOUR SMOKE BARRIER = 20 MINUTE RATING
9. PROTECT ALL DOORS & FRAMES FROM DAMAGE THROUGHOUT CONSTRUCTION PHASES.
10. ALL EGRESS DOORS TO BE PROVIDED WITH PANIC HARDWARE.

GENERAL NOTES: WINDOW TYPES / GLASS TYPES

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. ALL WINDOW TYPES ARE ALUMINUM STOREFRONT, UNLESS NOTED OTHERWISE.
3. ALL DIMENSIONS ARE TO ROUGH OPENING AND TO TOP OR BOTTOM OF MULLION, UNLESS NOTED OR SHOWN OTHERWISE.
4. ALL OPENINGS ARE TO BE FIELD VERIFIED, AND NOTED AS SUCH ON SHOP DRAWINGS, PRIOR TO ARCHITECT'S REVIEW.
5. 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.
6. REFER TO SPECIFICATIONS FOR GLAZING & FRAME PRODUCT INFORMATION.

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REVISION DATES:

STATE OF MISSOURI
ROGER L. WEBB
NUMBER A-2016038908
3-29-24
ARCHITECT

PROFESSIONAL SEAL

A501

ISSUE DATE: 17 JAN 2024
COLLINS WEBB #: 21075

DOOR / WINDOW SCHEDULE + DETAILS

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FINISH LEGEND

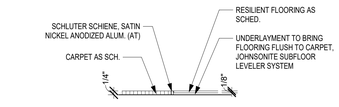
Silverspot Approved	TYPE ORDERING	FLOOR / WALL / CEILING	BUILDING TYPE	SYMBOL	MATERIAL	MANUFACTURER	TYPE	COLOR	TYP. AREA / REMARKS
.RESERVE									
FLOOR FINISH									
x	A	FLOOR FINISH	.RESERVE	C1	CARPET TILE (23oz, 18"X36")	MANNINGTON COMMERCIAL	AGAINST THE GRAIN / HAND SCRAPED	14300 CARVED	INSTALLATION 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/ AEON 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 (2'x4')	CERTAINTEED CEILINGS	VINYL SHIELD A, 1100-CRF-1	WHITE	KITCHEN, SERVICE, DRY GOODS, TRASH

GENERAL NOTE:

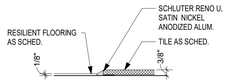
FINISH MATERIALS TO BE PROCURRED FROM OWNER SELECTED / SPECIFIED VENDOR, AS LISTED ABOVE. ALTERNATES OR SUBSTITUTIONS WILL NOT BE ACCEPTED.

ROOM FINISH SCHEDULE

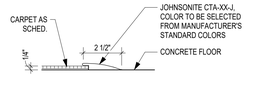
ROOM NAME	FLOORS		CEILING FINISH	Wall Finish	CASEWORK	
	FLOOR	WALL BASE			COUNTERTOP	REMARKS
.RESERVE						
1/2 BATH	TILE	TB1	P2	P1	QUARTZ	
BATH #2	TILE	TB1	P2	P1	QUARTZ	
BEDROOM #2	CPT	WB	P2	P1		
BEDROOM #3	CPT	WB	P2	P1		
BEDROOM #4	CPT	WB	P2	P1		
CLO.	MATCH ADJACENT FLOORING	WB	P2	P1		
CORR.	CPT	WB	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						



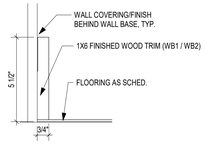
B9 TRANSITION DETAIL
3" = 1'-0"



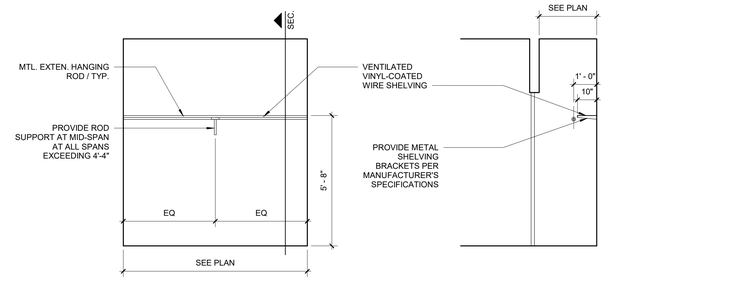
B7 TRANSITION DETAIL
3" = 1'-0"



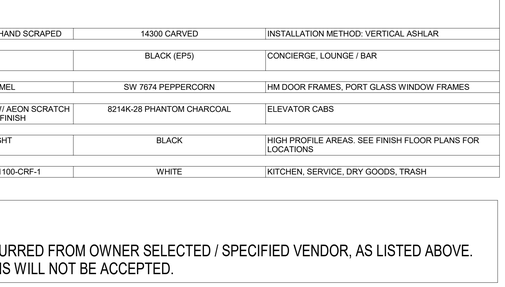
A9 TRANSITION DETAIL
3" = 1'-0"



A7 BASE DETAIL
3" = 1'-0"



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



C3 SHELVING DETAIL / 2 SIDE WALLS
3/8" = 1'-0"

GENERAL NOTES: INTERIOR FINISHES

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: G002 FOR ACCESSIBILITY GUIDELINES.
3. RE: A600 SERIES SHEETS FOR ADDITIONAL CEILING FINISH INFORMATION.
4. RE: A700 SERIES SHEETS FOR ADDITIONAL WALL FINISH CLARIFICATION.
5. RE: A900 SERIES SHEETS FOR ADDITIONAL FLOOR FINISH & WALL PROTECTION INFORMATION.
6. ALL AUDITORIUM WALLS TO RECEIVE WALL CARPET, WC1, ARE TO BE PRIMED. PAINT P5, A MINIMUM OF 6" ABOVE TOP OF WALL CARPET.
7. 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 OR SHOWN OTHERWISE.
8. CONTINUE WALL FINISH AS SCHEDULED BEHIND EQUIPMENT.
9. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CASEWORK FABRICATION AND INSTALLATION.
10. ALL EXPOSED CASEWORK SURFACES SHALL BE FINISHED PLASTIC LAMINATE AS SCHEDULED, U.N.O.
11. ALL PLASTIC LAMINATE DOOR AND DRAWERS TO RECEIVE 1MM PVC EDGEBAND AND ALL COUNTERTOPS TO RECEIVE 3MM PVC EDGEBANDING.
12. ALL BACKSPLASH MATERIAL SHALL MATCH COUNTERTOP MATERIAL.
13. 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.
14. AT ALL EXPOSED OUTSIDE EDGES OF MARBLE WALL TILE (T1) PROVIDE BULLNOSE POLISHED EDGES. RE: DETAIL J7/A904
15. TRANSITION ALL WALL FINISHES/COLOR CHANGES AT INSIDE CORNERS, UNLESS NOTED OTHERWISE (U.N.O.).
16. TRANSITION WALL BASE AT INSIDE CORNERS, U.N.O.
17. INSTALL METAL TRANSITION STRIP WHERE WALL TILE MEETS PAINTED GYP. BD. 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.

1. PROVIDE FULL HEIGHT WALL TILE AT WET WALL, RE: INTERIOR ELEVATIONS.
2. PROVIDE WALL TILE TO 6'-0" AFF ON ALL WALLS IN ROOM/SPACE. RE: INTERIOR ELEVATIONS.
3. PROVIDE FRP FULL HEIGHT.
4. PROVIDE FRP TO 3'-0" AFF.
5. PROVIDE FRP AT INSIDE OF BAR DIE WALL.
6. PROVIDE PLYWOOD PANELS FULL HEIGHT (ABOVE WALL BASE) AT WALLS DESIGNATED PER FINISH FLOOR PLANS.
7. 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.
8. PROVIDE WALL TILE TO 5'-0" AFF AT WET WALL, RE: INTERIOR ELEVATIONS.
9. PROVIDE FULL HEIGHT WALL TILE ON ALL WALLS IN ROOM/SPACE. RE: INTERIOR ELEVATIONS.
10. PROVIDE LEVEL 4 FINISH FOR ALL WALLS TO RECEIVE WC2, WC3, AND WC4.
11. PROVIDE LEVEL 5 FINISH FOR ALL WALLS TO RECEIVE WG1 AND WG2.
12. 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.
13. PROVIDE FULL HEIGHT WALL CARPET, WC1/WC2 AS SPECIFIED, ALONG PERIMETER OF ALL WALLS. RE: FINISH FLOOR PLANS FOR SPECIFIC LOCATIONS.

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COLLINS WEBB #: 21075

FINISH SCHEDULE + DETAILS

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ELECTRICAL ABBREVIATIONS

AC	ALTERNATING CURRENT
AHU	AIR HANDLING UNIT
A. OR AMPS.	AMPERES
AFC	ABOVE FINISH COUNTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AIC	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
DCO	DUPLEX CONVIENCE OUTLET
DP	DISPOSAL
DW	DISHWASHER
DY	DRYER
EMT	ELETRICAL METALLIC TUBING
EF	EXHAUST FAN
EWC	ELECTRIC WATER COOLER (WATER-COOLED DRINKING FOUNTAIN)
EX	EXISTING
FCU	FAN COIL UNIT
GFI/GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFIP	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	MAIN LUGS ONLY
MCB	MAIN CIRCUIT BREAKER
MW	MICROWAVE (COORD MTG HT. 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
TTB	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	WARMING DRAWER
WO	WALL OVEN
WP	WEATHERPROOF
WP/WR	WEATHERPROOF/WEATHER RESISTANT
W/UNIT	DISCONNECT IS SUPPLIED WITH THE UNIT

GENERAL ELECTRICAL NOTES

1. COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, REQUIREMENTS OF THE AHJ AND ALL LOCAL & STATE CODES.
2. DO NOT SCALE FROM THESE DRAWINGS.
3. REFER TO ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND ELECTRICAL DEVICES.
4. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRINGS AND BUSHINGS.
5. ALL JUNCTION BOXES SHALL HAVE A COVER.
6. COORDINATE EACH LIGHT FIXTURE INSTALLATION(S) W/ ACTUAL CEILING TO BE FURNISHED.
7. ALL BRANCH CIRCUITS WITHOUT A CONDUCTOR & CONDUIT INDICATED SHALL BE ROUTED TO A 20A-1P BREAKER W/ 3#12, 1#12EG,3/4"C.
8. ALL BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG AND ALL CONDUIT SHALL NOT BE SMALLER THAN 3/4"C, UNLESS SPECIFICALLY NOTED OTHERWISE.
9. 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 NEC210.4.
10. 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.
11. ALL FIXTURES SHALL BE SUPPORTED FROM EACH CORNER (INDEPENDENT OF THE SUSPENDED CEILING) WITH 12 GAUGE WIRE CONNECTED TO STRUCTURAL SYSTEM OF BUILDING. THE INSTALLATION SHALL MEET OR EXCEED THE SEISMIC REQUIREMENTS OF LOCAL AND NATIONAL CODES.
12. ELECTRICAL DEVICE MOUNTING HEIGHTS, UNO.

PANELBOARDS	78" AFF TO TOP OF PANEL
SWITCHES	46" AFF TO CENTER OF SWITCH
RECEPTACLES	18" AFF TO CENTER OF RECEPTACLE
TELE/DATA OUTLETS	48" AFF TO CENTER OF RECEPTACLE
APARTMENT LOADCENTERS	PER ANSI A117.1 REQUIREMENTS (VERIFY WITH LOCAL INSPECTOR)

13. ELECTRICAL EQUIPMENT (PANELBOARDS, TRANSFORMERS, DISTRIBUTION EQUIPMENT, ETC.) IS SHOWN TO SCALE ON THE FLOOR PLANS.
14. 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.
15. 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.
16. PANELBOARDS, DISCONNECT SWITCHES, AND SIMILAR DEVICES TO HAVE ENGRAVED, SELF-ADHESIVE, LAMINATED ACRYLIC LABEL (BLACK W/ WHITE LETTERING).
17. PROVIDE TYPE-WRITTEN PANELBOARD SCHEDULES FOR ALL ELECTRICAL PANELBOARDS.

ELECTRICAL SYMBOLS

LIGHTING FIXTURES/DEVICES

SYMBOL	DESCRIPTION	MOUNTING
A	DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING
A	DIRECTIONAL DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING
A	WALL MOUNTED LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL
A	LINEAR LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING OR SUSPENDED
A	2X4 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING
A	2X2 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING
	HATCHING ON FIXTURE INDICATES FIXTURE TO HAVE EMERGENCY BACK-UP	
X3	TWO HEAD EMERGENCY LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING
X1	EMERGENCY EXIT SIGN. PROVIDE ARROW(S) AS INDICATED. SHADING INDICATES FACE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING
S	SINGLE POLE SWITCH 20A (120/277V)	WALL - 48" AFF
S_3	THREE WAY SWITCH 20A (120/277V)	WALL - 48" AFF
S_4	FOUR WAY SWITCH 20A (120/277V)	WALL - 48" AFF
	WALL BOX DIMMER SWITCH	WALL - 48" AFF
V_X V_X	CEILING OR WALL MOUNTED OCCUPANCY SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL OR CEILING
X	LOW-VOLTAGE CONTROL STATION (LETTER INDICATES CONTROL STATION TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL - 48" AFF
PC X	PHOTOCELL SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	FIELD VERIFY
PP	POWERPACK (LETTER INDICATES POWERPACK TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	ACCESSIBLE CEILING

COMMUNICATION/LOW-VOLTAGE DEVICES

SYMBOL	DESCRIPTION	MOUNTING
CR	CARD READER (VERIFY EXACT REQUIREMENTS)	
	DATA, TELEPHONE, OR COMBO TELE/DATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	WALL - 18" AFF
	DATA, TELEPHONE, OR COMBO TELE/DATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	FLOOR OR CEILING
TV	TELEVISION OUTLET	WALL OR CEILING
	SPEAKER OUTLET	FIELD VERIFY
TTB	TELEPHONE TERMINAL BOARD	WALL
	SECURITY CAMERA OUTLET	FIELD VERIFY
	PUSH BUTTON	

NOTE: NOT ALL SYMBOLS MAY BE USED.

POWER EQUIPMENT/DEVICES

SYMBOL	DESCRIPTION	MOUNTING
	SWITCHBOARD OR DISTRIBUTION PANEL REFER TO PANEL SCHEDULES	
	DRY-TYPE TRANSFORMER REFER TO PLANS FOR KVA RATING	
	120/208V, 3Ø, 4W PANELBOARD REFER TO PANEL SCHEDULES	
	277/480V, 3Ø, 4W PANELBOARD REFER TO PANEL SCHEDULES	
J	JUNCTION BOX	WALL OR CEILING
30/20/3	FUSED SAFETY SWITCH (E.G. 30/20/3 INDICATES A 30A, 3-POLE SWITCH WITH 20A FUSES)	
30/NF/3	NON-FUSED SAFETY SWITCH (E.G. 30/NF/3 INDICATES A 30A, 3-POLE SWITCH WITHOUT FUSES)	
SM	MOTOR RATED SWITCH	
	MOTOR	
	NEMA 5-20R SIMPLEX RECEPTACLE	WALL - 18" AFF
	NEMA 5-20R DUPLEX RECEPTACLE	WALL - 18" AFF
	NEMA 5-20R DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER	WALL - 6" ABOVE FINISHED COUNTER U.N.O.
	NEMA 5-20R QUAD-PLEX RECEPTACLE	WALL - 18" AFF
	NEMA 5-20R SPLIT RECEPTACLE. TOP OUTLET WIRED HOT. BOTTOM OUTLET SWITCHED.	WALL - 18" AFF
	SPECIAL PURPOSE RECEPTACLE REFER TO PLANS FOR NEMA CONFIGURATION	WALL - 18" AFF OR CEILING
USB	NEMA 5-20R - DUPLEX RECEPTACLE WITH USB PORTS SIMILAR TO HUBBELL #USB20AC5W	WALL - 18" AFF
	NEMA 5-20R DUPLEX RECEPTACLE MOUNTED ON CEILING	CEILING - FLUSH
FB	HUBBELL CFB4 SERIES FLOOR BOX (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
FB	HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) WITH (1) DUPLEX RECEPTACLE AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
FB	HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VERIFY EXACT CONNECTION WITH FURNITURE VENDOR	FLOOR - FLUSH
PO	HUBBELL S1PT SERIES 4" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
PO	HUBBELL S1PTFF SERIES 4" POKE-THRU (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VERIFY EXACT CONNECTION WITH FURNITURE VENDOR	FLOOR - FLUSH
PO	HUBBELL S1R6 SERIES 6" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION AND A/V CONNECTION CAPABILITY	FLOOR - FLUSH
	CONDUIT IN OR UNDER FLOOR/GRADE	
	CONDUCTOR HOME RUN - (H) HOT, (N) NUETRAL, (E) EQUIPMENT GROUND, & ( ) ISOLATED GROUND	
	EQUIPMENT CONNECTION	
	CONDUIT IN CEILING OR WALL	

FIRE ALARM DEVICES

SYMBOL	DESCRIPTION	MOUNTING
H	HEAT DETECTOR	CEILING
S	SMOKE DETECTOR	WALL/CEILING
CS	COMBINATION SMOKE/CARBON MONOXIDE DETECTOR	WALL/CEILING

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STATE OF MISSOURI
RYAN BREWER
NUMBER PE-2020010759
PROFESSIONAL ENGINEER
01/18/2024

PROFESSIONAL SEAL

E101

ISSUE DATE: 18 JAN 2024

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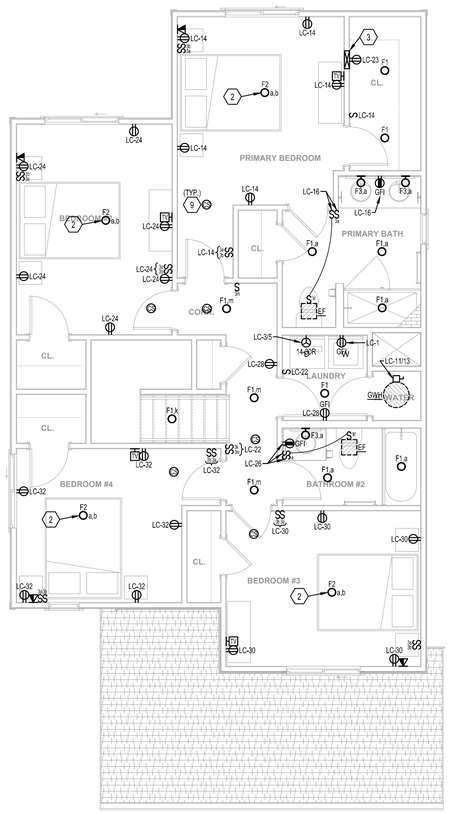
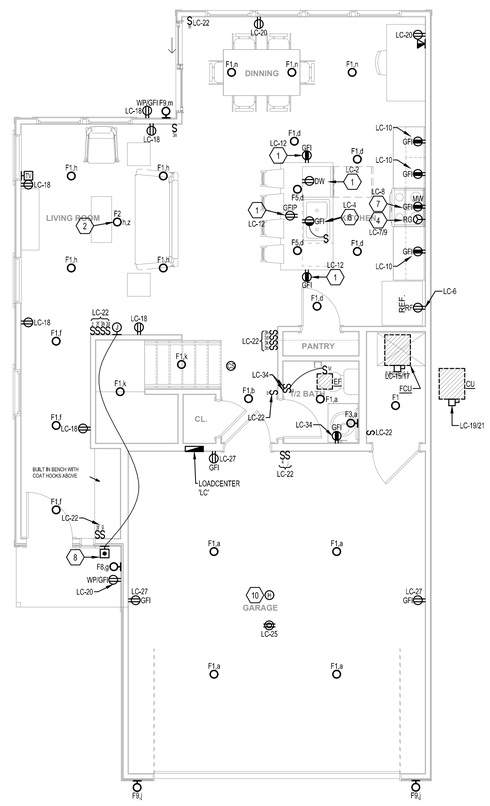
ELECTRICAL NOTES, SYMBOLS & ABBREVIATIONS





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	A	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	B	4	20/1	AFCI	DISPOSAL (DP)	2#12,1#12EG,3/4"C.	1,2
				2	5	A	6	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	B	8	20/1	AFCI	MICROWAVE (MW)	2#12,1#12EG,3/4"C.	1,2
				2	9	A	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	B	12	20/1	AFCI	KIT SMALL APPL CKT#2 (WHERE APPLICABLE)	2#12,1#12EG,3/4"C.	1,2,3
				2	13	A	14	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-*'	HACR	45	15	B	16	20/1	AFCI	BATHROOM #1 RCPTS AND EF	2#12,1#12EG,3/4"C.	1,2
				2	17	A	18	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-*'	HACR	25	19	B	20	20/1	AFCI	GENERAL RCPTS (6 RCPTS/CKT MAX)	2#12,1#12EG,3/4"C.	1,2
				2	21	A	22	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	B	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	A	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	B	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	A	30	20/1	AFCI	BEDROOM #3 RCPTS & LTS	2#12,1#12EG,3/4"C.	1,2
		SPACE ONLY			31	B	32	20/1	AFCI	BEDROOM #4 RCPTS & LTS	2#12,1#12EG,3/4"C.	1,2
		SPACE ONLY			33	A	34			SPACE ONLY		
		SPACE ONLY			35	B	36			SPACE ONLY		
		SPACE ONLY			37	A	38			SPACE ONLY		
		SPACE ONLY			39	B	40			SPACE ONLY		

NOTES:
1. ALL 120V-1Ø, 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.

GENERAL NOTES
(NOT ALL NOTES APPLY)

1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. REFERENCE SHEET E102 FOR ELECTRICAL DETAILS.
3. COORDINATE ALL MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
4. ALL 120V-1Ø, 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).
5. 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.
6. RECEPTACLES IN KITCHENS, PANTRIES, BREAKFAST ROOMS, DINING ROOMS AND SIMILAR AREAS SHALL COMPLY WITH NEC 210.52(B) & (C).
7. PROVIDE AND INSTALL 3/4" CONDUIT AND PULL STRINGS FROM TELEPHONE/DATA OUTLETS TO ABOVE ACCESSIBLE CEILING. VERIFY EXACT REQUIREMENTS WITH TELEPHONE EQUIPMENT SUPPLIER AND/OR OWNER.
8. VERIFY SPACING & LOCATIONS OF RECEPTACLES WITHIN DWELLING UNITS WITH LOCAL ELECTRICAL INSPECTOR PRIOR TO INSTALLATION. PROVIDE ADDITIONAL RECEPTACLES IF REQUIRED.
9. COORDINATE EXACT LOCATION AND CONNECTION REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH MECHANICAL AND PLUMBING DRAWINGS/SUB-CONTRACTORS PRIOR TO ROUGH-IN.
10. PROVIDE CABLING (OR CONDUIT PATHWAY) FROM ALL TV AND DATA CONNECTIONS BACK TO STRUCTURED MEDIA CENTER AS REQUIRED. COORDINATE ALL TELE/DATA REQUIREMENTS WITH OWNER AND TELE/DATA SERVICE PROVIDER PRIOR TO ROUGH-IN

KEYED NOTES:

1. COORDINATE EXACT MOUNTING LOCATION OF RECEPTACLE WITH MILLWORK AND COUNTER ELEVATIONS AS REQUIRED.
2. CEILING MOUNTED FAN WITH LIGHT KIT. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
3. PROVIDE STRUCTURED MEDIA CENTER FOR TELE/DATA SERVICE TO DWELLING UNIT. ROUTE (1) 1-1/4" EMPTY CONDUIT WITH PULLSTRING FROM STRUCTURED MEDIA CENTER TO TELE/DATA DEMARCATION POINT ON DWELLING EXTERIOR. COORDINATE ALL TELE/DATA SERVICE REQUIREMENTS WITH OWNER AND TELE/DATA SERVICE PROVIDER PRIOR TO ROUGH-IN.
4. 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.
5. DWELLING UNIT LOAD CENTER. REFER TO PANEL SCHEDULE (THIS SHEET) AND RISER DIAGRAM ON SHEET E401 FOR ADDITIONAL INFORMATION.
6. PROVIDE HALF-SWITCHED RECEPTACLE FOR GARBAGE 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.
7. 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.
8. 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.
9. 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.
10. 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 DETECTOR(S) WHERE REQUIRED BY LOCAL CODE.

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STATE OF MISSOURI
RYAN BREWER
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PROFESSIONAL ENGINEER
01/18/2024

PROFESSIONAL SEAL

E201J

ISSUE DATE: 18 JAN 2024

COLLINS WEBB #:

ELECTRICAL POWER & LIGHTING PLANS BUILDING J

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		1	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 (Ea.)		2	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 (Ea.)		3	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 equipment. Appliances / Load: #1 Refrigerator 1200 #2 Microwave 1200 #3 Dishwasher 1200 #4 Garbage Disposal 684 #5 Water Heater 4500 #6 Garage Door Opener 1200 #7		4	9984
5	**Clothes Dryer - NEC 220.54** Use the larger of 5,000 watts or the nameplate rating. Dryer Type: Electric		5	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 8000 #2 #3		6	8000
7	**General Connected Load - Subtotal of Items 1-6**		7	31744
8	**General Demand Load - First 10 KVA at 100% plus Remainder at 40% - NEC 220.82(B)** *Calculation (10000 KVA + 8698 KVA) =*		8	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 / AHU / HP or Cond / Elec. Heat / Load: #1 *D/X Unit w/ Condenser* 1080 7500 8580 #2 0 #3 0		9	8580
10	**Total General Connected Load - Total of Items 7 & 9**		10	40324
11	**Total General Demand Load - Total of Items 8 & 9**		11	**27278**
13	**Minimum Amperes** *Divide the total VA by the voltage* *Supply Voltage* ***240/120V-1Ph***		13	**113.7**
14	**Minimum Size Service and/or Feeder - NEC 240.6(A)**		14	**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		1	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 (Ea.)		2	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 (Ea.)		3	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 equipment. Appliances / Load: #1 Refrigerator 1200 #2 Microwave 1200 #3 Dishwasher 1200 #4 Garbage Disposal 684 #5 Water Heater 4500 #6 Garage Door Opener 1200 #7		4	9984
5	**Clothes Dryer - NEC 220.54** Use the larger of 5,000 watts or the nameplate rating. Dryer Type: Electric		5	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 8000 #2 #3		6	8000
7	**General Connected Load - Subtotal of Items 1-6**		7	31969
8	**General Demand Load - First 10 KVA at 100% plus Remainder at 40% - NEC 220.82(B)** Calculation (10000 KVA + 8788 KVA) =		8	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 / AHU / HP or Cond / Elec. Heat / Load: #1 *D/X Unit w/ Condenser* 1080 7500 8580 #2 0 #3 0		9	8580
10	**Total General Connected Load - Total of Items 7 & 9**		10	40549
11	**Total General Demand Load - Total of Items 8 & 9**		11	**27368**
13	**Minimum Amperes** *Divide the total VA by the voltage* *Supply Voltage* ***240/120V-1Ph***		13	**114.0**
14	**Minimum Size Service and/or Feeder - NEC 240.6(A)**		14	**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		1	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 (Ea.)		2	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 (Ea.)		3	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 equipment. Appliances / Load: #1 Refrigerator 1200 #2 Microwave 1200 #3 Dishwasher 1200 #4 Garbage Disposal 684 #5 Water Heater 4500 #6 Garage Door Opener 1200 #7		4	9984
5	**Clothes Dryer - NEC 220.54** Use the larger of 5,000 watts or the nameplate rating. Dryer Type: Electric		5	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 8000 #2 #3		6	8000
7	**General Connected Load - Subtotal of Items 1-6**		7	32539
8	**General Demand Load - First 10 KVA at 100% plus Remainder at 40% - NEC 220.82(B)** Calculation (10000 KVA + 9016 KVA) =		8	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 / AHU / HP or Cond / Elec. Heat / Load: #1 *D/X Unit w/ Condenser* 1080 7500 8580 #2 0 #3 0		9	8580
10	**Total General Connected Load - Total of Items 7 & 9**		10	41119
11	**Total General Demand Load - Total of Items 8 & 9**		11	**27596**
13	**Minimum Amperes** *Divide the total VA by the voltage* *Supply Voltage* ***240/120V-1Ph***		13	**115.0**
14	**Minimum Size Service and/or Feeder - NEC 240.6(A)**		14	**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		1	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 (Ea.)		2	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 (Ea.)		3	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 equipment. Appliances / Load: #1 Refrigerator 1200 #2 Microwave 1200 #3 Dishwasher 1200 #4 Garbage Disposal 684 #5 Water Heater 4500 #6 Garage Door Opener 1200 #7		4	9984
5	**Clothes Dryer - NEC 220.54** Use the larger of 5,000 watts or the nameplate rating. Dryer Type: Electric		5	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 8000 #2 #3		6	8000
7	**General Connected Load - Subtotal of Items 1-6**		7	31099
8	**General Demand Load - First 10 KVA at 100% plus Remainder at 40% - NEC 220.82(B)** Calculation (10000 KVA + 8440 KVA) =		8	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 / AHU / HP or Cond / Elec. Heat / Load: #1 *D/X Unit w/ Condenser* 1080 7500 8580 #2 0 #3 0		9	8580
10	**Total General Connected Load - Total of Items 7 & 9**		10	39679
11	**Total General Demand Load - Total of Items 8 & 9**		11	**27020**
13	**Minimum Amperes** *Divide the total VA by the voltage* *Supply Voltage* ***240/120V-1Ph***		13	**112.6**
14	**Minimum Size Service and/or Feeder - NEC 240.6(A)**		14	**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

THHN/THWN COPPER CONDUCTORS W/ EG CONDUCTOR
XHHW ALUMINUM CONDUCTORS W/ EG CONDUCTOR

CONDUCTORS & GROUND				AMPS
CODE	SETS	CONDUCTORS	RACEWAY	
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.

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)#1/0, (1)#4G - 1-1/2"C.
	300	(3)#2/0, (1)#4G - 2"C.
150A	150	REFER TO FEEDER SCHEDULE
	225	(3)#2/0, (1)#4G - 2"C.
	300	(3)#3/0, (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%.

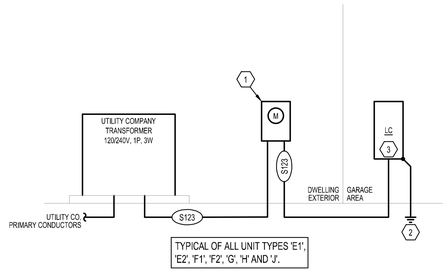
VOLTAGE DROP CHART

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	480V
20A	#12	50	90	110	125	200
	#10	80	150	175	200	350
	#8	140	230	280	320	550
	#6	215	375	430	500	870
30A	#10	50	100	110	130	225
	#8	80	160	180	210	360
	#6	135	250	280	325	560
	#4	220	400	450	525	910

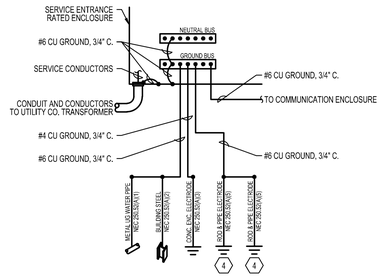
NOTES:
1. PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY 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.



1 ELECTRICAL RISER DIAGRAM

SCALE: NO SCALE



2 SERVICE GROUNDING DETAIL

SCALE: NO SCALE

LIGHTING FIXTURE SCHEDULE

FIXT. TYPE	DESCRIPTION & MANUFACTURER OPTIONS	NO.	LAMPS TYPE	FIXT. VOLT	TOTAL WATTS	FINISH	REMARKS/MOUNTING	NOTES
F1	SURFACE MOUNTED LED DOWNLIGHT, 1200 LUMEN, 3000K, WHITE FINISH M# **HALO #SLD612/8030/WH**	1	LED	120V	15W	Coord. w/ Architect	Surface (Ceiling)	1
F2	52" 5-BLADE FAN, 3 SPEED, REVERSIBLE, WITH GLOBE LIGHT KIT, BRUSHED NICKEL FINISH M# **ROYAL PACIFIC #1057-L**	1	LED	120V	15W	Coord. w/ Architect	Surface (Ceiling)	1
F3	DUAL VANITY WALL SCONCE, CHROME FINISH M# **MINKA #6542-77**	1	LED	120V	20W	Coord. w/ Architect	Surface (Wall)	1
F5	COUNTERTOP PENDANT LIGHT, CHROME FINISH M# **HOME DECORATION #7434P-15**	1	LED	120V	10W	Coord. w/ Architect	Pendant (Verify Ht w/ Architect)	1
F8	ENTRY LIGHT, FINISH BY ARCHITECT M# **TERON #GRDW24-CNL-L18-120-12CV-WAL**	1	LED	120V	36W	Coord. w/ Architect	Wall (Refer Arch Elevation)	1
F9	PATIO LIGHT, BRONZE FINISH M# **NUVO #60-531**	1	LED	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)

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

KEYED NOTES:

1. PROVIDE METER PER UTILITY COMPANY STANDARDS. INSTALLATION SHALL MEET ALL UTILITY COMPANY REQUIREMENTS AND LOCAL CODES.
2. PROVIDE A GROUNDING ELECTRODE SYSTEM COMPLIANT WITH IRC SECTION 3608. REFER TO DETAIL 2 (THIS SHEET) FOR ADDITIONAL INFORMATION.
3. PROVIDE SERVICE ENTRANCE RATED, 125A MAIN CIRCUIT BREAKER LOAD CENTER. REFER TO PANEL SCHEDULE ON E201 SHEET(S) FOR ADDITIONAL INFORMATION.
4. REFER TO NEC 250.53 FOR ADDITIONAL INFORMATION.

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PERMIT DOCUMENTS

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PROFESSIONAL ENGINEER
01/18/2024

PROFESSIONAL SEAL

E301

ISSUE DATE: 18 JAN 2024

COLLINS WEBB #:

ELECTRICAL ONE-LINE DIAGRAM & SCHEDULES

16000 - 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 FOR AND PAY ALL EXPENSES (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ASSOCIATED WITH LIGHTING AND LIGHTING CONTROLS COMMISSIONING. ALL COMMISSIONING DOCUMENTATION SHALL BE CERTIFIED AND GIVEN TO OWNER AND DESIGN PROFESSIONAL.

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

UL - UNDERWRITERS' LABORATORIES
NEMA - NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
NECA - NATIONAL ELECTRICAL CONTRACTOR'S ASSOCIATION
ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM - AMERICAN SOCIETY OF TESTING MATERIALS.

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

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

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

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

COMPLETE PLAIN ENGLISH STEP-BY-STEP OPERATING INSTRUCTIONS FOR THE ELECTRICAL SYSTEM. ONE COPY OF 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 MANUFACTURER'S NAME AND MODEL OR CATALOG NUMBERS. USE OF NAMES AND CATALOG NUMBERS DOES NOT INDICATE THAT THE EQUIPMENT SPECIFIED IN NECESSARILY AN "OFF THE SHELF" ITEM. VARIANCES MAY BE DUE TO REQUIREMENT OF DESIRED FINISH, MATERIAL OR OTHER MODIFICATION.

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

WHEN APPROVAL IS GIVEN FOR THE USE OF EQUIPMENT 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, CONTROL, ADJUSTMENT, MAINTENANCE AND POSSIBLE REPLACEMENT OF EQUIPMENT IN DETERMINING CLEARANCE.

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

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

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

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

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

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

ANY MATERIAL ITEMS OR WORK NOT SHOWN ON THE DRAWINGS, BUT MENTIONED IN THESE SPECIFICATIONS OR VISA-VERSA, OR ANY ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS 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 PIPELINES. CONDUIT INSTALLED BENEATH FLOOR SLAB SHALL BE A MINIMUM OF 6" BELOW SLAB. BACKFILL OVER CONDUIT SHALL BE COMPACTED AS FOR SLAB BEDDING MATERIAL. REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF CONDUIT (PIPE) PENETRATION OF EXTERIOR FOOTINGS. COMPLETE INSTALLATION SHALL CONFORM TO N.E.C.

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

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

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

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

FIRESTOPPING: FIRE RESISTANT THROUGH PENETRAION SEALANTS - TWO PART, FOAMED-IN-PLACE, SILICONE SEALANT FORMULATED FOR USE IN THROUGH-PENETRAION FIRE-STOPPING AROUND CABLES, RACEWAYS, AND CABLE TRAY PENETRAIONS 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 UNDERWRITER'S LABORATORIES, INC., OR OTHER NRTL ACCEPTABLE TO AHJ.
ACCEPTABLE MANUFACTURERS - HILTI, INC., 3M CORP, RECTORSEAL, SPECIFY TECHNOLOGY INC., UNITED STATES GYPSUM COMPANY.

ELECTRICAL SERVICE
SERVICE SHALL BE AS SHOWN ON DRAWINGS.

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

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

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

PRODUCTS

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

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

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

RACEWAYS
CONDUIT, RIGID STEEL; GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.L. 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-L. FITTINGS SHALL BE OF THE SQUEEZE TYPE WITH INSULATED THROATS.

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

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 ICEA S-95-658/NEMA 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 THWN-2 OR XHHW-2 INSULATION.

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

CONDUCTOR INSULATION TYPES; 90-DEGREE C-RATED, TYPE THHN/THWN-2 OR XHHW-2 COMPLYING WITH ICEA S-95-658/NEMA WC70.

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

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

UNLESS NOTED OTHERWISE, SPECIAL PURPOSE CONDUCTORS AND CABLES, SUCH AS LOW VOLTAGE CONTROL AND SHIELDED 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 83 (AS APPLICABLE), AND 1569, NFPA 70 ARTICLE 330; ALUMINUM OR GALVANIZED STEEL INTERLOCKED ARMOR; THHN- OR XHHW-INSULATED CONDUCTORS; COLOR CODE; ICEA METHOD 1, WITH GREEN INSULATED GROUDING CONDUCTOR.

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

PROVIDE A DEDICATED NEUTRAL (WHERE REQUIRED) AND DEDICATED GROUNDING CONDUCTOR FOR EACH 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 LOCKNUTTED TYPE FIXTURE STUDS.

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

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

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 #5362 OR EQUAL. COORDINATE RECEPTACLE COLOR WITH COVERPLATE AS DESCRIBED BELOW UNDER "PLATES". SINGLE RECEPTACLE, 20 AMPERE, 120 VOLT, SPECIFICATION GRADE. HUBBELL #5361 OR EQUAL.

DUST AND MOISTURE RESISTANT, MELAMINE BODY, GRAY NYLON FACE BACKED BY FABRIC REINFORCED NEOPRENE GASKET SLIT TO PROVIDE WIPING ACTION ON CAP BLADES. PASS & SEYMOUR #6307 OR APPROVED EQUAL. GROUND FAULT CIRCUIT INTERRUPTER, NYLON FACE CLASS A, NEMA 5-20R, SPECIFICATION GRADE. HUBBELL #GF-5362* 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 SIMPLEX THREE WIRE GROUNDING TYPE, SPECIFICATION GRADE, ORANGE FACE, GROUND CONTACT FULLY ISOLATED FROM STRAP AND EQUIPPED WITH SCREW TERMINAL. HUBBELL #IG-5362* 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 NYLON TYPE OF SAME MANUFACTURER AS THE WIRING DEVICES. VERIFY DESIRED MATERIALS AND COLORS WITH ARCHITECT PRIOR TO INSTALLATION.

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

INTERIOR DAMP LOCATIONS: STAINLESS STEEL.

EXTERIOR LOCATIONS: FOR UNATTENDED WET LOCATIONS, PROVIDE IN-USE NEMA 3R, UL LABELED PLATES MOLDED FROM A CLEAR HIGH IMPACT ULTRAVIOLET STABILIZED POLYCARBONATE MATERIAL FOR EASY VERIFICATION THAT CORDS ARE PLUGGED IN AND THAT THE GFCI IS FUNCTIONING. COVER PLATES SHALL BE BY THE SAME MANUFACTURER AS THE WIRING DEVICES; COMPLYING WITH NFPA 70 406.8 (A) OR (B) REQUIREMENTS FOR ATTENDED OR UNATTENDED USE AS APPLICABLE.

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

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

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

THE BOX SHALL BE FABRICATED FROM CODE GAUGE GALVANIZED SHEET STEEL IN ACCORDANCE WITH 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. UNITS SHALL BE FURNISHED FOR SURFACE OR FLUSH MOUNTING WITH EITHER GENERAL PURPOSE OR RAINTIGHT ENCLOSURES, AS REQUIRED. FUSED UNITS SHALL BE FURNISHED COMPLETE WITH PROPER FUSES.

PANELBOARDS
SHALL CONSIST OF BOX, INTERIOR, FRONT, AND CIRCUIT PROTECTIVE DEVICES. THE ASSEMBLY SHALL BE U.L. LABELED AND BE LISTED FOR SERVICE. THE ASSEMBLY SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH NEMA STANDARD PB-1. THE LATEST UL STANDARD (UL-50) AND SHALL HAVE A TURNED EDGE AROUND THE FRONT FOR RIGIDITY AND FOR CLAMPING ON FRONT. PROVIDE STANDARD KNOCKOUTS ON REMOVABLE BOX ENDS. FABRICATE FROM SHEET STEEL AND FINISH WITH 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 (57% 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 LOAD SIDE CABLES. EQUIPMENT NEUTRAL BUSSING WITH A LUG FOR EACH BRANCH BREAKER POSITION. INTERIOR SHALL MOUNT TO BOX WITHOUT TOOLS.

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

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

REFER TO PANELBOARD SCHEDULES FOR FULLY RATED OR SERIES-RATED REQUIREMENTS. SERIES-RATED SYSTEMS ARE NOT ALLOWED UNLESS SPECIFICALLY INDICATED ON PANELBOARD SCHEDULES. WHERE ALLOWED, SERIES-RATED SYSTEMS SHALL BE PROPERLY 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-5, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERES RMS SYMMETRICAL INTERRUPTING CAPACITY ON MOTOR CIRCUITS.

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

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

TIMESWITCHES
ELECTRONIC TIME SWITCHES: ELECTRONIC, SOLID STATE PROGRAMMABLE UNITS WITH ALPHANUMERIC DISPLAY; COMPLYING WITH UL917. SPST, 30 AMPERE INDUCTIVE OR RESISTIVE, 240VAC, CONTACT RATING. 2 PROGRAMMABLE ON-OFF SET POINTS ON A 24-HOUR SCHEDULE, ALLOWING DIFFERENT SET POINTS FOR EACH DAY OF THE WEEK. ALLOW CONNECTION OF A PHOTOELECTRIC RELAY AS SUBSTITUE 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 INCOMING SERVICE WHERE INDICATED.
OUTLET BOXES: UNLESS OTHERWISE INDICATED, ALL TELEPHONE OUTLETS AND JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO ACCOMMODATE INTERNAL TERMINAL STRIPS BY TELEPHONE CO.

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

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

VERIFY LOCATION OF WALL OUTLETS BEFORE ROUGHING IN TO ENSURE COORDINATION WITH 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 AMPLE TIME FOR ANY REQUIRED CORRECTIONS BEFORE COMPLETION OF PROJECT.

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

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

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

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

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

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

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

LED LIGHT FIXTURES ARE TO BE PROVIDED WITH COMPATIBLE DRIVER AND MUST BE COORDINATED WITH CONTROL TYPE INDICATED. CONTRACTOR IS RESPONSIBLE TO ENSURE CONTROLS ARE CAPABLE OF PROPERLY CONTROLLING LIGHT FIXTURES AS INDICATED WITHIN 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 SPECIFICALLY NOTED ON DRAWINGS, UNITS SHALL BE ELECTRICALLY HELD OR MOMENTARY OPERATIONAL TYPE. UNITS SHALL BE FURNISHED WITH LINE OR LOW VOLTAGE CONTROL AS NOTED AND WITH THE CORRECT NUMBER OF POLES AND CURRENT CHARACTERISTICS. WHERE LOW VOLTAGE OPERATION IS INDICATED, PROVIDE PROPER STEPDOWN TRANSFORMERS AND RECTIFIERS. APPROVED MANUFACTURERS: ASCO, OR MANUFACTURER OF APPROVED PANELBOARDS FURNISHED.

TRANSFORMERS
GENERAL PURPOSE, UL-LISTED/LABELED 150 DEGREES C TEMPERATURE RISE ABOVE 40 DEGREES C AMBIENT. INSULATING MATERIALS: EXCEED NEMA ST-020 STANDARDS, RATED FOR 220 DEGREES C, UL-COMPONENT RECOGNIZED INSULATION SYSTEM. PHASES, VOLTAGES, AND SIZES: AS INDICATED ON THE DRAWINGS. SOUND LEVEL: NOT EXCEEDING NEMA STANDARDS FOR THE SIZES INDICATED. FULL-CAPACITY PRIMARY TAPS: BELOW 25 KVA - MINIMUM OF TWO 5% (2-); 25 KVA TO 300 KVA - MINIMUM OF SIX 2.5% (2+, 4-); ABOVE 300 KVA - FOUR 2.5% (2+, 2-). TRANSFORMER CORE AND COIL ASSEMBLIES: MOUNTED ON INTEGRAL VIBRATION-ABSORBING PADS. MAKE FINAL CONDUIT CONNECTIONS TO TRANSFORMERS WITH FLEXIBLE CONDUIT, WITH AT LEAST 6" OF SLACK IN ALL DIRECTIONS. TRANSFORMER ENCLOSURES: FULLY ENCLOSED (EXCEPT FOR VENTILATION OPENINGS), NEMA 2, DRIP-PROOF, FABRICATED OF HEAVY GAUGE SHEET STEEL CONSTRUCTION. MANUFACTURERS: SQUARE D, GENERAL ELECTRIC, ACME, SIEMENS.

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ELECTRICAL
SPECIFICATIONS

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 ROUGHING-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 DUCT SEAL PACKING AND CAULKED 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 AHJ. 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 SLABS - 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 DUCT SEALING COMPOUND. ALSO SEAL ALL CONDUITS ENTERING AND LEAVING REFRIGERATED EQUIPMENT AND PROVIDE EXPANSION JOINTS PER N.E.C.

ALL CONNECTIONS TO MOTORS, SOLENOID VALVES, PRESSURE SWITCHES, LIMIT SWITCHES, AND SIMILAR APPARATUS SHALL BE FLEXIBLE CONDUIT WHERE PERMITTED. WHERE EQUIPMENT IS INSTALLED OUTDOORS OR EXPOSED TO MOISTURE, USE LIQUIDTIGHT FLEXIBLE CONDUIT WITH WATERTIGHT FITTINGS.

EQUIPMENT LEVELING, HANGERS AND SUPPORTS
SET EACH PIECE INSTALLED UNDER THIS DIVISION TRUE AND LEVEL. ADEQUATELY SUPPORT ALL RACEWAYS FROM THE STRUCTURE USING SCREW CLAMPS TO SECURE TO SAME. ARRANGE SUPPORTS TO PREVENT MOISTURE COLLECTION AND ALLOW ENTRANCE TO BOXES WITHOUT BENDS. INSTALL MULTIPLE CONDUITS USING CHANNEL TRAPEZE 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 INVOLVED. 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; 5'-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 "G" CLIP OR BY A 10/24 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. CONDUCTOR 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. WATERPIPE CONNECTION, SILICON BRONZE APPROVED MECHANICAL CONNECTOR DESIGNED FOR THE PIPE AND CABLE TO BE BONDED.

PANELBOARD INSTALLATION:
MOUNT PANELBOARDS WITH CENTERLINE AT 5 FT.-6IN. ABOVE FINISH FLOOR, EXCEPT THAT THE HIGHEST BREAKER HANDLE SHALL BE BELOW 6 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 CONDUCTOR 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 OVER 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 IS 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

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