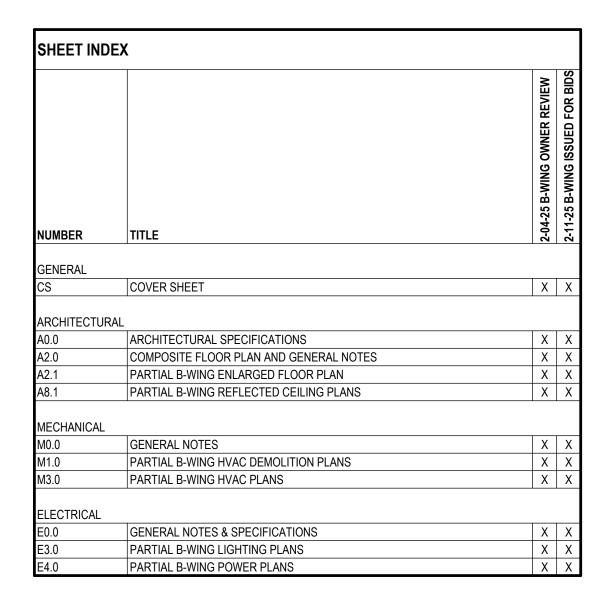
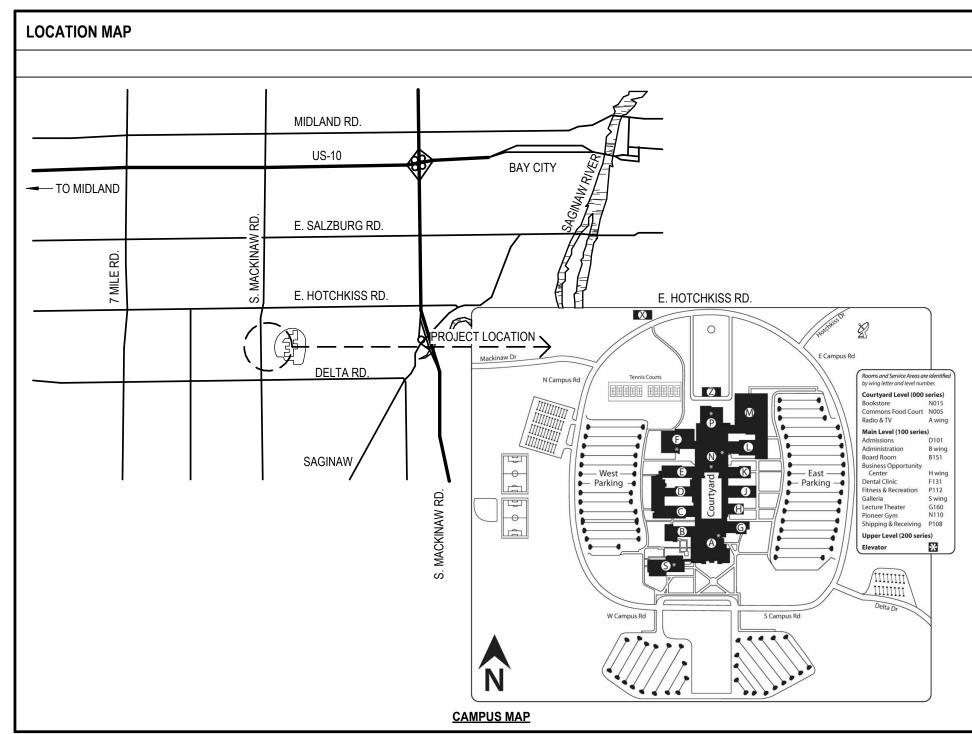
# DELTA COLLEGE

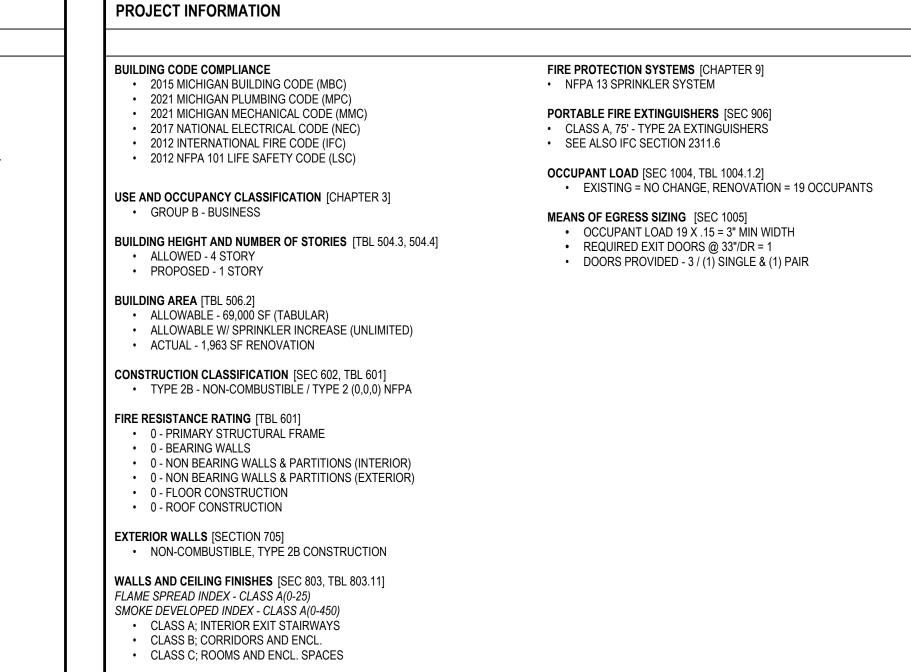
# B-WING RENOVATIONS

# 1961 DELTA ROAD UNIVERSITY CENTER, MICHIGAN 48710











DELTA COLLEGE B-WING RENOVATIONS

COVER SHEET

NS DATE

IEW 2-04-25

BIDS 2-11-25

STATUS / REVISIONS
B-WING OWNER REVIEW
B-WING ISSUED FOR BIDS

CK'D BY: ZIRNIS

I. DZIRNIS
DES'D BY:
C. TUCKER
DRAWN BY:

C. TUCKER

PROJ #: 24-0543-0248

SHEET

1.2 INFORMATIONAL SUBMITTALS

A. PROPOSED PROTECTION MEASURES: SUBMIT REPORT, INCLUDING DRAWINGS, THAT INDICATES THE MEASURES PROPOSED FOR PROTECTING INDIVIDUALS AND PROPERTY, FOR ENVIRONMENTAL PROTECTION, FOR DUST CONTROL AND, FOR NOISE CONTROL. INDICATE PROPOSED LOCATIONS AND CONSTRUCTION OF

B. SCHEDULE OF SELECTIVE DEMOLITION ACTIVITIES: INDICATE THE FOLLOWING: 1. DETAILED SEQUENCE OF SELECTIVE DEMOLITION AND REMOVAL WORK, WITH STARTING AND ENDING DATES FOR EACH ACTIVITY. ENSURE OWNER'S ON-

2. INTERRUPTION OF UTILITY SERVICES. INDICATE HOW LONG UTILITY SERVICES WILL BE INTERRUPTED.

COORDINATION FOR SHUTOFF, CAPPING, AND CONTINUATION OF UTILITY 4. COORDINATION OF OWNER'S CONTINUING OCCUPANCY OF PORTIONS OF EXISTING SITE AND OF OWNER'S PARTIAL OCCUPANCY OF COMPLETED WORK.

SEE SECTION 010100, SUMMARY OF WORK. INVENTORY: SUBMIT A LIST OF ITEMS TO BE REMOVED AND SALVAGED AND DELIVER

TO OWNER PRIOR TO START OF DEMOLITION. D. PRE-DEMOLITION PHOTOGRAPHS OR VIDEO: SUBMIT BEFORE WORK BEGINS.

SITE OPERATIONS ARE UNINTERRUPTED.

A. NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS BEFORE PROCEEDING WITH SELECTIVE DEMOLITION.

B. HAZARDOUS MATERIALS: IT IS NOT EXPECTED THAT HAZARDOUS MATERIALS WILL BE ENCOUNTERED IN THE WORK. 1. IF SUSPECTED HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT

DISTURB; IMMEDIATELY NOTIFY ARCHITECT AND OWNER. HAZARDOUS MATERIALS WILL BE REMOVED BY OWNER UNDER A SEPARATE CONTRACT. . STORAGE OR SALE OF REMOVED ITEMS OR MATERIALS ON-SITE IS NOT PERMITTED D. UTILITY SERVICE: MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN IN SERVICE

1. MAINTAIN FIRE-PROTECTION FACILITIES IN SERVICE DURING SELECTIVE

DEMOLITION OPERATIONS. E. ARRANGE SELECTIVE DEMOLITION SCHEDULE SO AS NOT TO INTERFERE WITH OWNER'S OPERATIONS.

AND PROTECT THEM AGAINST DAMAGE DURING SELECTIVE DEMOLITION

A. EXISTING WARRANTIES: REMOVE, REPLACE, PATCH, AND REPAIR MATERIALS AND SURFACES CUT OR DAMAGED DURING SELECTIVE DEMOLITION, BY METHODS AND WITH MATERIALS AND USING APPROVED CONTRACTORS SO AS NOT TO VOID EXISTING WARRANTIES.

2.1 PERFORMANCE CRITERI A. REGULATORY REQUIREMENTS: COMPLY WITH GOVERNING EPA NOTIFICATION REGULATIONS BEFORE BEGINNING SELECTIVE DEMOLITION. COMPLY WITH HAULING AND DISPOSAL REGULATIONS OF AUTHORITIES HAVING JURISDICTION.

B. STANDARDS: COMPLY WITH ASSE A10.6 AND NFPA 241.

A. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED AND CAPPED BEFORE STARTING

SELECTIVE DEMOLITION OPERATIONS. B. REVIEW RECORD DOCUMENTS OF EXISTING CONSTRUCTION PROVIDED BY OWNER. OWNER DOES NOT GUARANTEE THAT EXISTING CONDITIONS ARE SAME AS THOSE INDICATED IN RECORD DOCUMENTS.

C. SURVEY EXISTING CONDITIONS AND CORRELATE WITH REQUIREMENTS INDICATED TO DETERMINE EXTENT OF SELECTIVE DEMOLITION REQUIRED. D. WHEN UNANTICIPATED MECHANICAL, ELECTRICAL, OR STRUCTURAL ELEMENTS THAT

CONFLICT WITH INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, INVESTIGATE AND MEASURE THE NATURE AND EXTENT OF CONFLICT. PROMPTLY SUBMIT A WRITTEN REPORT TO ARCHITECT. E. ENGAGE A PROFESSIONAL ENGINEER TO PERFORM AN ENGINEERING SURVEY OF

CONDITION OF SITE TO DETERMINE WHETHER REMOVING ANY ELEMENT MIGHT RESULT IN STRUCTURAL DEFICIENCY OR UNPLANNED COLLAPSE OF ANY PORTION OF STRUCTURE OR ADJACENT STRUCTURES DURING SELECTIVE BUILDING

1. PERFORM SURVEYS AS THE WORK PROGRESSES TO DETECT HAZARDS RESULTING FROM SELECTIVE DEMOLITION ACTIVITIES.

SURVEY OF EXISTING CONDITIONS: RECORD EXISTING CONDITIONS BY USE OF MEASURED DRAWINGS, PRECONSTRUCTION PHOTOGRAPHS, PRECONSTRUCTION VIDEOTAPES, AND TEMPLATES.

1. INVENTORY AND RECORD THE CONDITION OF ITEMS TO BE REMOVED AND SALVAGED. PROVIDE PHOTOGRAPHS OR VIDEO OF CONDITIONS THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY SALVAGE OPERATIONS.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

SERVICES/SYSTEMS

A. EXISTING SERVICES/SYSTEMS TO REMAIN: MAINTAIN SERVICES/SYSTEMS INDICATED TO REMAIN AND PROTECT THEM AGAINST DAMAGE.

 COMPLY WITH REQUIREMENTS FOR EXISTING SERVICES/SYSTEMS INTERRUPTIONS SPECIFIED IN DIVISION 01 SECTION "SUMMARY."

B. EXISTING SERVICES/SYSTEMS TO BE REMOVED, RELOCATED, OR ABANDONED: LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS SERVING AREAS TO BE SELECTIVELY DEMOLISHED.

1. OWNER WILL ARRANGE TO SHUT OFF INDICATED SERVICES/SYSTEMS WHEN REQUESTED BY CONTRACTOR.

2. ARRANGE TO SHUT OFF UTILITIES WITH UTILITY COMPANIES. 3. IF SERVICES/SYSTEMS ARE REQUIRED TO BE REMOVED, RELOCATED, OR ABANDONED, PROVIDE TEMPORARY SERVICES/SYSTEMS THAT BYPASS AREA

4. DISCONNECT, DEMOLISH, AND REMOVE FIRE-SUPPRESSION SYSTEMS, PLUMBING, AND HVAC SYSTEMS, EQUIPMENT, AND COMPONENTS INDICATED ON DRAWINGS TO BE REMOVED.

OF SELECTIVE DEMOLITION AND THAT MAINTAIN CONTINUITY OF

a. PIPING TO BE REMOVED: REMOVE PORTION OF PIPING INDICATED TO BE REMOVED AND CAP OR PLUG REMAINING PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL.

b. PIPING TO BE ABANDONED IN PLACE: DRAIN PIPING AND CAP OR PLUG PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL. c. EQUIPMENT TO BE REMOVED: DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT.

d. EQUIPMENT TO BE REMOVED AND REINSTALLED: DISCONNECT AND CAP SERVICES AND REMOVE, CLEAN, AND STORE EQUIPMENT; WHEN APPROPRIATE, REINSTALL, RECONNECT, AND MAKE EQUIPMENT

e. EQUIPMENT TO BE REMOVED AND SALVAGED: DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT AND DELIVER TO OWNER.

f. DUCTS TO BE REMOVED: REMOVE PORTION OF DUCTS INDICATED TO BE REMOVED AND PLUG REMAINING DUCTS WITH SAME OR COMPATIBLE DUCTWORK MATERIAL.

g. DUCTS TO BE ABANDONED IN PLACE: CAP OR PLUG DUCTS WITH SAME OR COMPATIBLE DUCTWORK MATERIAL AND LEAVE IN PLACE.

A. SITE ACCESS AND TEMPORARY CONTROLS: CONDUCT SELECTIVE DEMOLITION AND DEBRIS-REMOVAL OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, WALKWAYS, AND OTHER ADJACENT OCCUPIED AND USED

1. COMPLY WITH REQUIREMENTS FOR ACCESS AND PROTECTION SPECIFIED IN DIVISION 01 SECTION "TEMPORARY FACILITIES AND CONTROLS." B. TEMPORARY FACILITIES: PROVIDE TEMPORARY BARRICADES AND OTHER

PROTECTION REQUIRED TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT BUILDINGS AND FACILITIES TO REMAIN. 1. PROVIDE PROTECTION TO ENSURE SAFE PASSAGE OF PEOPLE AROUND SELECTIVE DEMOLITION AREA AND TO AND FROM OCCUPIED PORTIONS OF

2. PROVIDE TEMPORARY WEATHER PROTECTION, DURING INTERVAL BETWEEN SELECTIVE DEMOLITION OF EXISTING CONSTRUCTION ON EXTERIOR SURFACES AND NEW CONSTRUCTION, TO PREVENT WATER LEAKAGE AND DAMAGE TO STRUCTURE AND INTERIOR AREAS.

3. PROTECT WALLS, CEILINGS, FLOORS, AND OTHER EXISTING FINISH WORK THAT ARE TO REMAIN OR THAT ARE EXPOSED DURING SELECTIVE DEMOLITION OPERATIONS.

4. COMPLY WITH REQUIREMENTS FOR TEMPORARY ENCLOSURES, DUST CONTROL, HEATING, AND COOLING SPECIFIED IN DIVISION 01 SECTION "TEMPORARY FACILITIES AND CONTROLS."

### 024119 SELECTIVE DEMOLITION (CONT)

3.4 SELECTIVE DEMOLITION, GENERAL

A. GENERAL: DEMOLISH AND REMOVE EXISTING CONSTRUCTION ONLY TO THE EXTENT REQUIRED BY NEW CONSTRUCTION AND AS INDICATED. USE METHODS REQUIRED TO COMPLETE THE WORK WITHIN LIMITATIONS OF GOVERNING REGULATIONS AND AS

1. PROCEED WITH SELECTIVE DEMOLITION SYSTEMATICALLY, FROM HIGHER TO

LOWER LEVEL. 2. NEATLY CUT OPENINGS AND HOLES PLUMB, SQUARE, AND TRUE TO DIMENSIONS REQUIRED. USE CUTTING METHODS LEAST LIKELY TO DAMAGE CONSTRUCTION TO REMAIN OR ADJOINING CONSTRUCTION. USE HAND TOOLS OR SMALL POWER TOOLS DESIGNED FOR SAWING OR GRINDING, NOT HAMMERING AND CHOPPING, TO MINIMIZE DISTURBANCE OF ADJACENT

3. CUT OR DRILL FROM THE EXPOSED OR FINISHED SIDE INTO CONCEALED SURFACES TO AVOID MARRING EXISTING FINISHED SURFACES.

4. DO NOT USE CUTTING TORCHES UNTIL WORK AREA IS CLEARED OF FLAMMABLE MATERIALS. AT CONCEALED SPACES, SUCH AS DUCT AND PIPE INTERIORS, VERIFY CONDITION AND CONTENTS OF HIDDEN SPACE BEFORE STARTING FLAME-CUTTING OPERATIONS. MAINTAIN FIRE WATCH AND PORTABLE FIRE-SUPPRESSION DEVICES DURING FLAME-CUTTING OPERATIONS

5. MAINTAIN ADEQUATE VENTILATION WHEN USING CUTTING TORCHES.

6. REMOVE DECAYED, VERMIN-INFESTED, OR OTHERWISE DANGEROUS OR UNSUITABLE MATERIALS AND PROMPTLY DISPOSE OF OFF-SITE. 7. REMOVE STRUCTURAL FRAMING MEMBERS AND LOWER TO GROUND BY METHOD SUITABLE TO AVOID FREE FALL AND TO PREVENT GROUND IMPACT

OR DUST GENERATION. 8. LOCATE SELECTIVE DEMOLITION EQUIPMENT AND REMOVE DEBRIS AND MATERIALS SO AS NOT TO IMPOSE EXCESSIVE LOADS ON SUPPORTING

WALLS FLOORS OR FRAMING 9. DISPOSE OF DEMOLISHED ITEMS AND MATERIALS PROMPTLY. SITE ACCESS AND TEMPORARY CONTROLS: CONDUCT SELECTIVE DEMOLITION AND DEBRIS-REMOVAL OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, WALKWAYS, AND OTHER ADJACENT OCCUPIED AND USED

FACILITIES. B. REMOVED AND SALVAGED ITEMS:

> 1. CLEAN SALVAGED ITEMS. 2. PACK OR CRATE ITEMS AFTER CLEANING. IDENTIFY CONTENTS OF

3. STORE ITEMS IN A SECURE AREA UNTIL DELIVERY TO OWNER. 4. TRANSPORT ITEMS TO OWNER'S STORAGE AREA ON-SITE.

5. PROTECT ITEMS FROM DAMAGE DURING TRANSPORT AND STORAGE. C. REMOVED AND REINSTALLED ITEMS: 1. CLEAN AND REPAIR ITEMS TO FUNCTIONAL CONDITION ADEQUATE FOR

INTENDED REUSE. 2. PACK OR CRATE ITEMS AFTER CLEANING AND REPAIRING. IDENTIFY CONTENTS OF CONTAINERS. 3. PROTECT ITEMS FROM DAMAGE DURING TRANSPORT AND STORAGE.

4. REINSTALL ITEMS IN LOCATIONS INDICATED. COMPLY WITH INSTALLATION REQUIREMENTS FOR NEW MATERIALS AND EQUIPMENT. PROVIDE CONNECTIONS, SUPPORTS, AND MISCELLANEOUS MATERIALS NECESSARY TO MAKE ITEM FUNCTIONAL FOR USE INDICATED.

D. EXISTING ITEMS TO REMAIN: PROTECT CONSTRUCTION INDICATED TO REMAIN AGAINST DAMAGE AND SOILING DURING SELECTIVE DEMOLITION. WHEN PERMITTED BY ARCHITECT, ITEMS MAY BE REMOVED TO A SUITABLE, PROTECTED STORAGE LOCATION DURING SELECTIVE DEMOLITION, CLEANED AND REINSTALLED IN THEIR ORIGINAL LOCATIONS AFTER SELECTIVE DEMOLITION OPERATIONS ARE COMPLETE

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS A. CONCRETE SLABS-ON-GRADE: SAW-CUT PERIMETER OF AREA TO BE DEMOLISHED,

THEN BREAK UP AND REMOVE B. CONCRETE: DEMOLISH IN SECTIONS. CUT CONCRETE FULL DEPTH AT JUNCTURES WITH CONSTRUCTION TO REMAIN AND AT REGULAR INTERVALS USING POWER-

DRIVEN SAW, THEN REMOVE CONCRETE BETWEEN SAW CUTS. C. MASONRY: DEMOLISH IN SMALL SECTIONS. CUT MASONRY AT JUNCTURES WITH CONSTRUCTION TO REMAIN, USING POWER-DRIVEN SAW, AND THEN REMOVE MASONRY BETWEEN SAW CUTS.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. GENERAL: EXCEPT FOR ITEMS OR MATERIALS INDICATED TO BE RECYCLED, REUSED SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN OWNER'S PROPERTY, REMOVE DEMOLISHED MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN AN EPA-APPROVED LANDFILL

 DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE 2. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.

3. REMOVE DEBRIS FROM ELEVATED PORTIONS OF BUILDING BY CHUTE, HOIST, OR OTHER DEVICE THAT WILL CONVEY DEBRIS TO GRADE LEVEL IN A CONTROLLED DESCENT.

B. BURNING: DO NOT BURN DEMOLISHED MATERIALS. C. DISPOSAL: TRANSPORT DEMOLISHED MATERIALS OFF OWNER'S PROPERTY AND LEGALLY DISPOSE OF THEM.

# 054000 COLD FORMED METAL FRAMING

A. MANUFACTURERS UNMANS INCORPORATE

2. CLARK STEEL FRAMING

DAI F/INCOR

MARINO/WARE DIETRICH INDUSTRIES, INC.

B. STUDS: ASTM A446, SHEET STEEL 'C' CHANNEL SHAPE, SOLID WEB, MINIMUM 18-GAGE, SIZE AS NOTED ON DRAWINGS, GALVANIZED TO G-60 COATING CLASS. YIELD STRENGTH OF 33,000 PSI.

C. STUD TRACK: FORMED STEEL, CHANNEL SHAPED; SAME WIDTH AND GAGE AS STUD, SOLID WEB, GALVANIZED TO G-60 COATING CLASS.

A. BRACING, FURRING, BRIDGING, PLATES, GUSSETS, KICKERS, STIFFENERS, CLIPS: FORMED STEEL, THICKNESS, SAME AS STUD OR DETERMINED FOR CONDITIONS ENCOUNTERED; SAME FINISH AS FRAMING MEMBERS.

B. SCREWS: ASTM A123, HOT DIP GALVANIZED TO 1.25-OZ./SQ. FT., SELF-DRILLING,

C. ANCHORAGE DEVICES: POWER DRIVEN, POWER ACTUATED OR DRILLED EXPANSION JOINT AS REQUIRED RELATIVE TO SUB-STRATA.

D. WELDING: IN ACCORDANCE WITH AWS D1.1 OR D1.3.

E. TOUCH-UP PRIMER FOR GALVANIZED SURFACES: SSPC-PAINT 20 WITH DRY FILM CONTAINING MINIMUM OF 94 PERCENT ZINC DUST BY WEIGHT.

A. FABRICATE ASSEMBLIES OF SIZES AND PROFILES REQUIRED; WITH FRAMING

MEMBERS FITTED, REINFORCED AND BRACED. B. FIT AND ASSEMBLE IN LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE,

FABRICATED ASSEMBLIES TO PREVENT DAMAGE OR DISTORTION.

READY FOR INSTALLATION. REINFORCE, STIFFEN, AND BRACE FRAMING ASSEMBLIES TO WITHSTAND HANDLING, DELIVERY, AND ERECTION STRESSES. LIFT

### 072100 BUILDING INSULATION

1.1 INSULATION MATERIAL A. SOUND ATTENUATION BATT INSULATION: ASTM C665, TYPE 1, PREFORMED GLASS FIBER BATT FRICTION FIT, CONFORMING TO THE FOLLOWING:

1. THERMAL RESISTANCE R OF 11 FOR 3-1/2 INCHES. 2. BATT SIZE: UNFACED 16" X REQ'D OR 24" X REQ'D. THICKNESS AS INDICATED ON THE DRAWINGS. COORDINATE SIZE (WIDTH X HEIGHT) WITH STUD SPACING AND HEIGHT ON DRAWINGS.

A. TYPE AS RECOMMENDED BY INSULATION MANUFACTURER FOR PARTICULAR

SUBSTRATE

A. TO MEET MANUFACTURERS REQUIREMENTS FOR FULL SYSTEM INSTALLATION. B. TAPE: POLYETHYLENE SELF-ADHERING TYPE, MESH REINFORCED.

C. INSULATION FASTENERS: IMPALE CLIP OF GALVANIZED STEEL. ADHERED OR MECHANICALLY FASTENED AS RECOMMENDED BY MANUFACTURER.

078443 FIRESTOPPING

A. MANUFACTURERS: 3M BRAND FIRE BARRIER PRODUCTS OR APPROVED

FOUIVALENT.

B. SEALANTS: 3M BRAND FIRE BARRIER CP25 CAULK. C. COMPOSITE SHEET: 3M BRAND FIRE BARRIER FS-195 WRAP/STRIP AND CS-195 COMPOSITE SHEET.

D. SEALING SYSTEMS: 3M BRAND FIRE BARRIER 79W SERIES PENETRATION SEALING

E. INTERDAM: FIREDAM 150 CAULK. F. PUTTY: 3M BRAND FIRE BARRIER MOLDABLE PUTTY.

G. SPONGE: 3M BRAND FIRE BARRIER SPONGE.

H. UNLESS NOTED OTHERWISE SEAL ALL PENETRATIONS IN RATED WALLS, CEILINGS &

### 079200 JOINT SEALER

1.1 SYSTEM DESCRIPTION A. COLORS: MANUFACTURER'S STANDARD HIGH PERFORMANCE COLOR, AS SELECTED BY ARCHITECT/ENGINEER.

B. COMPATIBILITY: PROVIDE MATERIALS, INCLUDING PRIMERS WHERE REQUIRED, SELECTED FOR COMPATIBILITY WITH EACH OTHER AND WITH SUBSTRATES IN EACH JOINT SYSTEM; CONFIRM REQUIREMENTS WITH MANUFACTURER.

C. GENERAL CHARACTERISTICS: PROVIDE TYPE, GRADE, CLASS, HARDNESS AND SIMILAR CHARACTERISTICS OF MATERIAL AS INDICATED OR, WHERE NOT INDICATED, TO COMPLY WITH MANUFACTURER'S RECOMMENDATIONS RELATIVE TO EXPOSURE, TRAFFIC, WEATHER CONDITIONS, AND OTHER FACTORS OF THE JOINT SYSTEM FOR BEST POSSIBLE OVERALL PERFORMANCE. EXCEPT AS OTHERWISE INDICATED, JOINT SEALERS ARE REQUIRED TO PERMANENTLY MAINTAIN AIRTIGHT AND WATERPROOF SEALS, WITHOUT FAILURES IN JOINT MOVEMENT ACCOMMODATION, COHESION, ADHESION (WHERE APPLICABLE), MIGRATION, STAINING, AND OTHER PERFORMANCE AS SPECIFIED.

D. PROVIDE FIRE-RATED CAULKING AT CONTROL JOINTS LOCATED IN FIRE-RATED

A. ACRYLIC EMULSION LATEX: SINGLE COMPONENT, NON-STAINING, NON-BLEEDING, NON-SAGGING, COLOR AS SELECTED.

 ELONGATION CAPABILITY: 2 TO 5 PERCENT SERVICE TEMPERATURE RANGE: 2 TO 160 DEGREES F.

 SHORE A HARDNESS RANGE: 15 TO 40 B. ACRYLIC SEALANT: SINGLE COMPONENT, SOLVENT CURING, NON-STAINING, NON-BLEEDING, NON-SAGGING, CAPABLE OF CONTINUOUS WATER IMMERSION, COLOR

 ELONGATION CAPABILITY: 7.5 TO 12 PERCENT SERVICE TEMPERATURE RANGE: -13 TO 180 DEGREES F

 SHORE A HARDNESS RANGE: 25 TO 50 C. POLYURETHANE SEALANT: SINGLE COMPONENT, CHEMICAL CURING, NON-STAINING, NON-BLEEDING, CAPABLE OF CONTINUOUS WATER IMMERSION, NON-

SAGGING TYPE; COLOR AS SELECTED. ELONGATION CAPABILITY: 25 PERCENT SERVICE TEMPERATURE RANGE: -40 TO 180 DEGREES F.

 SHORE A HARDNESS RANGE: 20 TO 35 D. SILICONE SEALANT: SINGLE COMPONENT, FUNGUS RESISTANT CHEMICAL CURING,

NON-SAGGING, NON-STAINING, NON-BLEEDING; COLOR AS SELECTED. ELONGATION CAPABILITY: 25 PERCENT SERVICE TEMPERATURE RANGE: -65 TO 180 DEGREES F.

SHORE A HARDNESS RANGE: 15 TO 35

A. PRIMER: NON-STAINING TYPE, RECOMMENDED BY SEALANT MANUFACTURER TO SUIT APPLICATION.

B. JOINT CLEANER: NON-CORROSIVE AND NON-STAINING TYPE, RECOMMENDED BY SEALANT MANUFACTURER; COMPATIBLE WITH JOINT FORMING MATERIALS.

C. JOINT BACKING: ASTM D1056; ROUND, CLOSED CELL POLYETHYLENE FOAM ROD; OVERSIZED 30 TO 50 PERCENT LARGER THAN JOINT WIDTH.

D. BOND BREAKER: PRESSURE SENSITIVE TAPE RECOMMENDED BY SEALANT MANUFACTURER TO SUIT APPLICATION.

# 081113 HOLLOW METAL FRAMES

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED. INCLUDE CONSTRUCTION DETAILS, MATERIAL DESCRIPTIONS, CORE DESCRIPTIONS, HARDWARE

REINFORCEMENTS, PROFILES, ANCHORS, FIRE-RESISTANCE RATING, AND FINISHES. B. DOOR HARDWARE SUPPLIER IS TO FURNISH TEMPLATES, TEMPLATE REFERENCE NUMBER AND/OR PHYSICAL HARDWARE TO THE STEEL DOOR AND FRAME SUPPLIER IN ORDER TO PREPARE THE DOORS AND FRAMES TO RECEIVE THE FINISH

7. DETAILS OF MOLDINGS, REMOVABLE STOPS, AND GLAZING.

COMPATIBLE WITH SUBSTRATE AND FIELD-APPLIED COATINGS.

8. DETAILS OF CONDUIT AND PREPARATIONS FOR POWER, SIGNAL, AND

CONTROL SYSTEMS.

C. SHOP DRAWINGS: INCLUDE THE FOLLOWING: ELEVATIONS OF EACH DOOR DESIGN. 2. DETAILS OF DOORS, INCLUDING VERTICAL AND HORIZONTAL EDGE DETAILS

AND METAL THICKNESSES. 3. FRAME DETAILS FOR EACH FRAME TYPE, INCLUDING DIMENSIONED PROFILES AND METAL THICKNESSES.

4. LOCATIONS OF REINFORCEMENT AND PREPARATIONS FOR HARDWARE DETAILS OF ANCHORAGES, JOINTS, FIELD SPLICES, AND CONNECTIONS. DETAILS OF ACCESSORIES.

<u>081113 HOLLOW METAL FRAMES</u>

1.2 PROJECT CONDITIONS A. FIELD MEASUREMENTS: VERIFY ACTUAL DIMENSIONS OF OPENINGS BY FIELD MEASUREMENTS BEFORE FABRICATION.

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE STEEL DOORS AND FRAMES FROM A SDI CERTIFIED MANUFACTURER:

CECO DOOR PRODUCTS (C).

CURRIES COMPANY (CU).

1.4 HOLLOW METAL FRAMES A. GENERAL: COMPLY WITH ANSI/SDI A250.8 AND WITH DETAILS INDICATED FOR TYPE

B. INTERIOR FRAMES: FABRICATED FROM COLD-ROLLED STEEL SHEET THAT COMPLIES WITH ASTM A 1008/A 1008M.

1. FABRICATE FRAMES WITH MITERED OR COPED CORNERS. PROFILE AS INDICATED ON DRAWINGS 2. FRAMES: MINIMUM 16 GAUGE (0.053-INCH -1.3-MM) THICK STEEL SHEET.

3. MANUFACTURERS BASIS OF DESIGN: A. CECO DOOR PRODUCTS (C) - SU SERIES. B. CURRIES COMPANY (CU) - M SERIES. C. FIRE RATED FRAMES: FABRICATE FRAMES IN ACCORDANCE WITH NFPA 80, LISTED

AND LABELED BY A QUALIFIED TESTING AGENCY, FOR FIRE-PROTECTION RATINGS D. HARDWARE REINFORCEMENT: FABRICATE ACCORDING TO ANSI/SDI A250.6 TABLE 4 WITH REINFORCEMENT PLATES FROM SAME MATERIAL AS FRAMES.

1.5 FRAME ANCHORS

A. JAMB ANCHORS: 1. STUD WALL TYPE: DESIGNED TO ENGAGE STUD AND NOT LESS THAN 0.042

INCH THICK 2. COMPRESSION TYPE FOR DRYWALL SLIP-ON (KNOCK-DOWN) FRAMES: ADJUSTABLE COMPRESSION ANCHORS

B. FLOOR ANCHORS: FLOOR ANCHORS TO BE PROVIDED AT EACH JAMB, FORMED FROM A60 METALLIC COATED MATERIAL, NOT LESS THAN 0.042 INCHES THICK. C. MORTAR GUARDS: FORMED FROM SAME MATERIAL AS FRAMES, NOT LESS THAN 0.016 INCHES THICK.

A. FABRICATE HOLLOW METAL WORK TO BE RIGID AND FREE OF DEFECTS, WARP, OR BUCKLE. ACCURATELY FORM METAL TO REQUIRED SIZES AND PROFILES, WITH MINIMUM RADIUS FOR THICKNESS OF METAL. WHERE PRACTICAL, FIT AND ASSEMBLE UNITS IN MANUFACTURER'S PLANT. WHEN SHIPPING LIMITATIONS SO DICTATE, FRAMES FOR LARGE OPENINGS ARE TO BE FABRICATED IN SECTIONS FOR SPLICING OR SPLINING IN THE FIELD BY OTHERS.

B. TOLERANCES: FABRICATE HOLLOW METAL WORK TO TOLERANCES INDICATED IN ANSI/SDI A250.8 C. HOLLOW METAL FRAMES:

1. SHIPPING LIMITATIONS: WHERE FRAMES ARE FABRICATED IN SECTIONS DUE

TO SHIPPING OR HANDLING LIMITATIONS, PROVIDE ALIGNMENT PLATES OR ANGLES AT EACH JOINT, FABRICATED OF SAME THICKNESS METAL AS 2. WELDED FRAMES: WELD JOINTS CONTINUOUSLY THROUGH FULL THROAT

WIDTH OF FRAMES, INCLUDING RABBETS, SOFFITS, AND STOPS; GRIND, FILL, DRESS, AND MAKE SMOOTH, FLUSH, AND INVISIBLE a. WELDED FRAMES ARE TO BE PROVIDED WITH TWO STEEL SPREADERS TEMPORARILY ATTACHED TO THE BOTTOM OF BOTH JAMBS TO SERVE AS A BRACE DURING SHIPPING AND HANDLING. SPREADER BARS ARE FOR BRACING ONLY AND ARE NOT TO BE USED TO SIZE THE FRAME

OPFNING 3. HIGH FREQUENCY HINGE REINFORCEMENT: PROVIDE HIGH FREQUENCY HINGE REINFORCEMENTS AT DOOR OPENINGS 48-INCHES AND WIDER WITH MORTISE BUTT TYPE HINGES AT TOP HINGE LOCATIONS. 4. CONTINUOUS HINGE REINFORCEMENT: PROVIDE WELDED CONTINUOUS 12

GAUGE STRAPS FOR CONTINUOUS HINGES SPECIFIED IN HARDWARE SETS IN

DIVISION 08 SECTION "DOOR HARDWARE".

5. PROVIDE COUNTERSUNK, FLAT- OR OVAL-HEAD EXPOSED SCREWS AND BOLTS FOR EXPOSED FASTENERS UNLESS OTHERWISE INDICATED FOR REMOVABLE STOPS, PROVIDE SECURITY SCREWS AT EXTERIOR LOCATIONS. 6. MORTAR GUARDS: PROVIDE GUARD BOXES AT BACK OF HARDWARE MORTISES IN FRAMES AT ALL HINGES AND STRIKE PREPS REGARDLESS OF

GROUTING REQUIREMENTS. 7. FLOOR ANCHORS: WELD ANCHORS TO BOTTOM OF JAMBS AND MULLIONS WITH AT LEAST FOUR SPOT WELDS PER ANCHOR. 8. JAMB ANCHORS: PROVIDE NUMBER AND SPACING OF ANCHORS AS FOLLOWS:

a. MASONRY TYPE: LOCATE ANCHORS NOT MORE THAN 18 INCHES FROM TOP AND BOTTOM OF FRAME. SPACE ANCHORS NOT MORE THAN 32 INCHES ON-CENTER AND AS FOLLOWS: a. TWO ANCHORS PER JAMB UP TO 60 INCHES HIGH.

B. THREE ANCHORS PER JAMB FROM 60 TO 90 INCHES HIGH. C. FOUR ANCHORS PER JAMB FROM 90 TO 120 INCHES HIGH D. FOUR ANCHORS PER JAMB PLUS 1 ADDITIONAL ANCHOR PER JAMB FOR EACH 24 INCHES OR FRACTION THEREOF ABOVE 120 INCHES HIGH.

b. STUD WALL TYPE: LOCATE ANCHORS NOT MORE THAN 18 INCHES FROM TOP AND BOTTOM OF FRAME. SPACE ANCHORS NOT MORE THAN 32 INCHES O.C. AND AS FOLLOWS: a. THREE ANCHORS PER JAMB UP TO 60 INCHES HIGH.

C. FIVE ANCHORS PER JAMB FROM 90 TO 96 INCHES HIGH. D. FIVE ANCHORS PER JAMB PLUS 1 ADDITIONAL ANCHOR PER JAMB FOR EACH 24 INCHES OR FRACTION THEREOF ABOVE 96 INCHES HIGH.

B. FOUR ANCHORS PER JAMB FROM 60 TO 90 INCHES HIGH.

E. TWO ANCHORS PER HEAD FOR FRAMES ABOVE 42 INCHES WIDE AND MOUNTED IN METAL STUD PARTITIONS. 9. DOOR SILENCERS: EXCEPT ON WEATHERSTRIPPED OR GASKETED DOORS, DRILL STOPS TO RECEIVE DOOR SILENCERS. SILENCERS TO BE SUPPLIED BY

FRAME MANUFACTURER REGARDLESS IF SPECIFIED IN DIVISION 08 SECTION "DOOR HARDWARF" 10. BITUMINOUS COATING: WHERE FRAMES ARE FULLY GROUTED WITH AN APPROVED PORTLAND CEMENT BASED GROUT OR MORTAR, COAT INSIDE OF FRAME THROAT WITH A WATER BASED BITUMINOUS OR ASPHALTIC EMULSION COATING TO A MINIMUM THICKNESS OF 3 MILS DFT, TESTED IN ACCORDANCE WITH UL 10C AND APPLIED TO THE FRAME UNDER A 3RD PARTY INDEPENDENT

FOLLOW-UP SERVICE PROCEDURE.

11. HARDWARE PREPARATION: FACTORY PREPARE HOLLOW METAL WORK TO RECEIVE TEMPLATE MORTISED HARDWARE; INCLUDE CUTOUTS, REINFORCEMENT, MORTISING, DRILLING, AND TAPPING ACCORDING TO THE DOOR HARDWARE SCHEDULE AND TEMPLATES FURNISHED AS

SPECIFIED IN DIVISION 08 SECTION "DOOR HARDWARE." A. LOCATE HARDWARE AS INDICATED, OR IF NOT INDICATED, ACCORDING TO ANSI/SDI A250.8. B. REINFORCE DOORS AND FRAMES TO RECEIVE NON-TEMPLATE,

c. COMPLY WITH APPLICABLE REQUIREMENTS IN ANSI/SDI A250.6 AND ANSI/DHI A115 SERIES SPECIFICATIONS FOR PREPARATION OF HOLLOW METAL WORK FOR HARDWARE. d. COORDINATE LOCATIONS OF CONDUIT AND WIRING BOXES FOR

ELECTRICAL CONNECTIONS WITH DIVISION 26 SECTIONS.

A. PRIME FINISHES: DOORS AND FRAMES TO BE CLEANED, AND CHEMICALLY TREATED

COMPATIBLE WITH SUBSTRATE AND FIELD-APPLIED COATINGS.

MORTISED AND SURFACE MOUNTED DOOR HARDWARE

TO INSURE MAXIMUM FINISH PAINT ADHESION. SURFACES OF THE DOOR AND FRAME EXPOSED TO VIEW TO RECEIVE A FACTORY APPLIED COAT OF RUST INHIBITING 1. SHOP PRIMER: MANUFACTURER'S STANDARD, FAST-CURING, LEAD AND CHROMATE FREE PRIMER COMPLYING WITH ANSI/SDI A250.10 ACCEPTANCE

CRITERIA; RECOMMENDED BY PRIMER MANUFACTURER FOR SUBSTRATE; AND

081426 HIGH PRESSURE P-LAM DOORS

A. SHOP DRAWINGS: ILLUSTRATE PRODUCTS, INSTALLATION, AND RELATIONSHIP TO ADJACENT CONSTRUCTION.

B. PRODUCT DATA: MANUFACTURER'S DESCRIPTIVE DATA AND PRODUCT ATTRIBUTES FOR DOORS.

C. SAMPLES.

1.2 MANUFACTURERS A. MASONITE

E. EAGLE DOOR

B. OREGON DOOR C. VT INDUSTRIES, INC. D. OSHKOSH DOOR COMPANY

1.3 MATERIALS

1. SOLID, NON-FIRE RATED & 20 MINUTE FIRE-RATED 5-PLY BONDED CONSTRUCTION. B. CORE TYPE:

A. PREMIUM GRADE, FLUSH WOOD DOORS: WDMA I.S.1A

E. CROSSBAND: 1/8" HIGH DENSITY FIBERBOARD (HDF).

1. PARTICLEBOARD, GRADE LD-2 OR BETTER, HEAVY DUTY, NO ADDED UREA FORMALDEHYDE OR MINERAL TYPE.

1. HIGH PRESSURE DECORATIVE PLASTIC LAMINATE, COMPLYING WITH NEMA LD-3, GRADE HGS:

a. MANUFACTURER & PATTERN/COLOR: "NEVAMAR S6018T" b. FINISH: MATCH EXISTING (FIELD VERIFY). D. VERTICAL EDGES: PLASTIC LAMINATE TO MATCH FACES.

F. TYPE-1 PVA (WATER BASED) ADHESIVE. 1.4 ACCESSORIES

A. DOOR HARDWARE. B. GLASS AND GLAZING ACCESSORIES.

C. GLAZING BEADS: 1. NON-FIRE RATED DOORS: FORMED METAL, WITH MANUFACTURERS STANDARD BEIGE POWDER COAT.

2. ACOUSTICAL RATING - 38 STC OPERABLE

FOR THROUGH-BOLTING.

3. DOOR THICKNESS: 1-3/4" INCHES.

A. FABRICATION: TO WDMA I.S.1A 1. STILES AND RAILS BONDED TO CORE AND ABRASIVE PLANED FOR UNIFORM THICKNESS PRIOR TO APPLICATION OF FACES.

A. SURFACE-MOUNTED CLOSERS: TOP RAIL BLOCKING. CLOSERS THROUGH-BOLTED; BLOCKING NOT REQUIRED. b. EXIT DEVICES: BLOCKING AT BOTH STILES FOR ATTACHMENT WITHOUT NEED

4. ACOUSTICAL RATING - 38 STC OPERABLE.

BLOCKING:

A. MANUFACTURER'S LIFE OF ORIGINAL INSTALLATION WARRANTY PROVIDING FOR REPLACEMENT OF ANY DOOR EXHIBITING:

 DFI AMINATION. 2. WARP OR TWIST OF 1/4 INCH OR MORE IN ANY 3- '6" X 7'-0" SECTION OF DOOR 3. TELEGRAPHING OF ANY PART OF CORE ASSEMBLY THROUGH FACE TO CAUSE SURFACE VARIATION OF 1/100 INCH OR MORE IN A 3 INCH SPAN.

4. DEFECTS WHICH MAY IMPAIR OR AFFECT PERFORMANCE OF DOOR FOR ITS INTENDED PURPOSE. B. REPLACEMENT INCLUDES INSTALLATION OF DOOR AND HARDWARE.

A. MEETS OR EXCEEDS INDUSTRY STANDARDS OF WDMA I.S.1-A, WI SECTION 12 AWI

SECTION 1300 CUSTOM GRADE (A GRADE FACES), AWI SECTION 1300 PREMIUM GRADE (AA GRADE FACES) 1.8 INSTALLATION

A. INSTALL DOORS IN ACCORDANCE WITH MANUFACTURER 'S INSTRUCTIONS AND

APPROVED SHOP DRAWINGS. B. SEAL FIELD CUT SURFACES. C. INSTALL DOOR HARDWARE AS SPECIFIED IN HARDWARE SECTION.

1.1 FLAT GLASS MATERIALS A. MANUFACTURERS:

 LIBBEY-OWENS-FORD. 2. PPG INDUSTRIES. GE GLASS. HORDIS.

OR EQUAL. B. TEMPERED GLASS (TYPE FG-C): FLOAT TYPE, FULLY TEMPERED, CONFORMING TO

ANSI Z97.1, 1/4 INCH THICK MINIMUM. 1.2 GLAZING COMPOUNDS

A. MANUFACTURERS:

 TREMCO, INC. 2. MORTON THIOKOL, INC. OR EQUAL.

B. MODIFIED OIL (TYPE GC-A): NON-HARDENING, KNIFE GRADE CONSISTENCY; GRAY

C. BUTYL SEALANT (TYPE GC-B): SINGLE COMPONENT; SHORE A HARDNESS OF 10-20 BLACK COLOR; NON-SKINNING. D. ACRYLIC SEALANT (TYPE GC-C): SINGLE COMPONENT, SOLVENT CURING, CURED

SHORE A HARDNESS OF 15-25; NON-BLEEDING.

SAGGING TYPE; CURED SHORE A HARDNESS OF 15-25. F. POLYURETHANE SEALANT (TYPE GC-E): SINGLE COMPONENT, CHEMICAL OR SOLVENT CURING, NON-STAINING, NON-BLEEDING, NON-SAGGING TYPE, SHORE A HARDNESS **RANGE 20 TO 35.** G. SILICONE SEALANT (TYPE GC-F): SINGLE COMPONENT, SOLVENT CURING; CAPABLE

E. POLYSULPHIDE SEALANT (TYPE GC-D): TWO COMPONENT, CHEMICAL CURING, NON-

OF WATER IMMERSION WITHOUT LOSS OF PROPERTIES; NON-BLEEDING AND NON-

STAINING; CURED SHORE A HARDNESS OF 15-25.

1.3 GLAZING ACCESSORIES A. SETTING BLOCKS: NEOPRENE OR EPDM; 80 - 90 SHORE A DUROMETER HARDNESS. B. SPACER SHIMS: NEOPRENE; 50 - 60 SHORE A DUROMETER HARDNESS, SELF-ADHESIVE ON ONE FACE.

SPACING DEVICE, CLOSED CELL POLYVINYL CHLORIDE FOAM, MAXIMUM WATER ABSORPTION BY VOLUME OF 2 PERCENT, AND DESIGNED FOR COMPRESSION OF 25 PERCENT TO AFFECT AN AIR AND VAPOR SEAL. D. GLAZING SPLINES: RESILIENT POLYVINYL CHLORIDE EXTRUDED SHAPE TO SUIT

C. GLAZING TAPE: PREFORMED BUTYL COMPOUND WITH INTEGRAL RESILIENT TUBE

092900 GYPSUM BOARD SYSTEM

GLAZING CHANNEL RETAINING SLOT.

1.1 GYPSUM BOARD SYSTEMS A. MANUFACTURERS:

REQUIREMENTS OF GA201 AND GA216.

PRODUCTS, NATIONAL GYPSUM COMPANY, UNITED STATES GYPSUM. B. STUDS AND TRACKS: REFER TO SECTION 054000 - COLD FORMED METAL C. FURRING, FRAMING, AND ACCESSORIES: ANSI/ASTM C645, GALVANIZED SHEET

D. FASTENERS: ANSI/ASTM C646 HARD SCREWS. COMPLY WITH ADDITIONAL

E. ALL GYPSUM BOARD TYPES: 5/8 INCH THICK, MAXIMUM PERMISSIBLE LENGTH;

STEEL, 25 GAGE. PROFILES AS INDICATED ON DRAWINGS.

H. GYPSUM BACKING TYPE: ANSI/ASTM C442; SQUARE EDGES.

AMERICAN GYPSUM, CERTAINTEED CORPORATION, GEORGIA-PACIFIC, BUILDING

ENDS SQUARE CUT, TAPERED EDGES; UNLESS NOTED OTHERWISE IN THE FOLLOWING PARAGRAPHS. F. STANDARD TYPE: ANSI/ASTM C36. PAPER BACKED. G. FIRE RATED TYPE: ANSI/ASTM C36: FIRE RESISTIVE, UL RATED, TYPE 'X'.

095110 SUSPENDED ACOUSTIC CEILING

1.1 SUSPENSION SYSTEM

A. MANUFACTURERS: USG – DONN DX/DXL SUSPENSION SYSTEMS 2. DONN ACOUSTICAL SUSPENSION SYSTEMS 3. ARMSTRONG - SUSPENSION SYSTEMS

4. CHICAGO METALLIC CORPORATION

B. EXPOSED GRID: ASTM C635, HEAVY DUTY, NON-FIRE RATED, HORIZONTAL CEILINGS USE STANDARD 15/16" EXPOSED `T' CONFIGURATION; COMPONENTS DIE CUT AND INTERLOCKING.

C. ACCESSORIES: STABILIZER BARS, CLIPS, SPLICES, EDGE MOLDINGS, HOLD DOWN CLIPS, AND ACCESSORIES REQUIRED FOR SUSPENDED GRID SYSTEM

D. GRID MATERIALS: COMMERCIAL QUALITY COILED ROLLED STEEL WITH GALVANIZED COATING. IN DAMP AREAS, LOCKER ROOMS, ETC., GRID SHALL BE ALUMINUM. E. GRID FINISH: STANDARD WHITE COLOR, BAKED ENAMEL

F. SUPPORT CHANNELS AND HANGERS: GALVANIZED STEEL, SIZE AND TYPE TO SUIT

1.2 ACOUSTIC UNITS

APPLICATION.

A. MANUFACTURERS 1. UNITED STATES GYPSUM: RADAR CLIMA PLUS, SQ EDGE - #2210, CLASS A., 2 'X 2'

X 5/8", .55 NRC, .84 REFLECTANCE, WHITE. CELOTEX: EQUALS TO ABOVE. ARMSTRONG: EQUALS TO ABOVE

<u>099000 PAINTING</u>

A. MANUFACTURERS OF PAINT MATERIALS LISTED BELOW SHALL DETERMINE TYPE

AND QUALITY OF PAINT MATERIALS TO BE USED AS HEREINAFTER SPECIFIED. MATERIALS APPLIED TO ANY ONE SURFACE (PRIMERS, SEALERS, UNDERCOATERS, FINISHES, ETC.) SHALL BE BY THE SAME MANUFACTURER UNLESS OTHERWISE SPECIFIED. COMPATIBILITY OF MATERIALS SHALL BE RESPONSIBILITY OF PAINT

AND BRUSHING PROPERTIES, CAPABLE OF DRYING OR CURING FREE OF STREAKS C. ACCESSORY MATERIALS: LINSEED OIL, SHELLAC, TURPENTINE, PAINT THINNERS

B. COATINGS: READY MIXED, EXCEPT FIELD CATALYZED COATINGS, OF GOOD FLOW

AND OTHER MATERIALS REQUIRED TO ACHIEVE THE FINISHES SPECIFIED, SHALL BE

OF THE HIGHEST QUALITY AND BEAR IDENTIFYING LABELS ON THE CONTAINERS.

1.2 FINISHES - MATCH OWNER'S STANDARDS - SEE SCHEDULE BELOW.

1.3 EXAMINATION AND PREPARATION

A. VERIFY THAT SUBSTRATE CONDITIONS ARE READY TO RECEIVE WORK. 1. INFORM ARCHITECT IN WRITING IF CONDITIONS FOR NEW WORK ARE

2. NEW SUBSTRATE SHALL BE PROPERLY PRIMED/PREPARED FOR FINISH WORK 3. EXISTING SUBSTRATE SHALL BE CLEANED; BE FREE OF FOREIGN MATERIAL WHICH WOULD AFFECT PERFORMANCE/APPEARANCE OF NEW FINISH.

4. EXISTING AREAS OF CRACKED, CRAZED OR PEELING PAINT SHALL BE

THOROUGHLY REMOVED AS REQUIRED WITH METHOD ACCEPTABLE TO

SUBSTRATE. AREAS SHALL BE PRIMED/PREPARED AS REQUIRED FOR NEW

MOISTURE METER. DO NOT APPLY FINISHES UNLESS MOISTURE CONTENT WITHIN

5. COMMENCEMENT OF WORK INDICATES ACCEPTANCE OF CONDITIONS OF SUBSTRATE AND BECOMES RESPONSIBILITY OF THIS TRADE. B. MEASURE MOISTURE CONTENT OF POROUS SURFACES USING AN ELECTRONIC

MANUFACTURERS ACCEPTABLE LEVELS. C. CORRECT MINOR DEFECTS AND CLEAN SURFACES WHICH AFFECT WORK OF THIS

WITH SOLVENT. APPLY COAT OF ETCHING PRIMER.

D. PREPARATION OF MATERIALS SHALL BE IN STRICT ACCORDANCE WITH

MANUFACTURER'S WRITTEN DIRECTIONS. E. GYPSUM BOARD SURFACES: LATEX FILL MINOR DEFECTS. SPOT PRIME DEFECTS AFTER REPAIR F. GALVANIZED SURFACES: REMOVE SURFACE CONTAMINATION AND OILS AND WASH

G. CONCRETE AND UNIT MASONRY SURFACES SCHEDULED TO RECEIVE PAINT FINISH: REMOVE FOREIGN MATTER. REMOVE OIL AND GREASE WITH A SOLUTION OF TRI-SODIUM PHOSPHATE, RINSE WELL AND ALLOW TO DRY H. UNCOATED FERROUS SURFACES: REMOVE SCALE BY WIRE BRUSHING OR

SANDBLASTING; WASH CLEAN WITH SOLVENT. APPLY TREATMENT OF PHOSPHORIC ACID SOLUTION, PRIME PAINT AFTER REPAIRS. I. SHOP PRIMED STEEL SURFACES: SAND AND SCRAPE TO REMOVE LOOSE PRIMER AND RUST, FEATHER EDGES; CLEAN SURFACES WITH SOLVENT. PRIME BARE STEEL

J. INTERIOR WOOD ITEMS SCHEDULED TO RECEIVE PAINT FINISH: WIPE SURFACE CLEAN; SEAL KNOTS, PITCH STREAKS, AND SAPPY SECTIONS WITH SEALER. FILL NAIL HOLES AND CRACKS AFTER PRIMER HAS DRIED; SAND BETWEEN COATS.

1.4 APPLICATION A. APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. EMPLOY SKILLED MECHANICS. B. SAND TRANSPARENT FINISHES LIGHTLY BETWEEN COATS TO ACHIEVE REQUIRED

C. WHERE CLEAR FINISHES ARE REQUIRED, TINT FILLERS TO MATCH WOOD. D. BACK PRIME INTERIOR AND EXTERIOR WOODWORK SCHEDULED TO RECEIVE PAINT FINISH WITH PRIMER PAINT. E. BACK PRIME INTERIOR WOODWORK SCHEDULED TO RECEIVE STAIN OR VARNISH FINISH WITH GLOSS VARNISH REDUCED 25 PERCENT WITH MINERAL SPIRITS. F. PAINT MATERIALS SHALL BE APPLIED ONLY IN WEATHER OF LOW HUMIDITY.

TEMPERATURE RANGES, SUITABLE FOR FORMATION OF GOOD, DURABLE FILMS. NO MATERIAL SHALL BE APPLIED AT TEMPERATURE LESS THAN 65 DEGREES F. OR IN DAMP, RAINY OR FROSTY WEATHER, UNTIL BUILDING INTERIOR HAS DRIED.

1.5 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

BAND AND IDENTIFY WITH FLOW ARROWS, NAMES, AND NUMBERING. B. PAINT SHOP PRIMED EQUIPMENT. C. REMOVE UNFINISHED LOUVERS, GRILLES, COVERS, AND ACCESS PANELS AND PAINT SEPARATELY. PAINT DAMPERS EXPOSED BEHIND LOUVERS, GRILLES, CONVECTOR AND BASEBOARD CABINETS TO MATCH FACE PANELS.

A. COLOR CODE ITEMS IN ACCORDANCE WITH REQUIREMENTS INDICATED. COLOR

D. PRIME AND PAINT INSULATED AND EXPOSED PIPES, INSULATED AND EXPOSED

ARE PREFINISHED. PAINT EXPOSED VENT STACKS ON METAL ROOF. E. PAINT INTERIOR SURFACES OF AIR DUCTS, CONVECTORS, AND BASEBOARD HEATING CABINETS THAT ARE VISIBLE THROUGH GRILLES AND LOUVERS WITH ONE COAT OF FLAT BLACK PAINT, TO LIMIT OF SIGHT LINE.

F. PAINT EXPOSED CONDUIT AND ELECTRICAL EQUIPMENT OCCURRING IN FINISHED

H. REPLACE ELECTRICAL PLATES, HARDWARE, LIGHT FIXTURE TRIM, AND FITTINGS

DUCTS, HANGERS, BRACKETS, COLLARS AND SUPPORTS, EXCEPT WHERE ITEMS

REMOVED PRIOR TO FINISHING. A. AS WORK PROCEEDS, PROMPTLY REMOVE SPILLED, SPLASHED, OR SPATTERED

G. PAINT BOTH SIDES AND EDGES OF PLYWOOD BACKBOARDS.

1.7 SCHEDULE - INTERIOR SURFACES (UNLESS NOTED OTHERWISE)

1. ONE COAT ZINC CHROMATE OR ZINC RICH PRIMER.

A. CONCRETE, CONCRETE MASONRY, CEMENT PLASTER ONE COAT BLOCK FILLER. ONE COAT PRIMER SEALER ALKYD. 3. TWO COATS LATEX EGGSHELL ENAMEL.

AREAS, EXCEPT PRE-FINISHED SURFACES.

TWO COATS LATEX EGGSHELL ENAMEL. C. STEEL - PRIMED 1. TOUCH-UP WITH ORIGINAL PRIMER. 2. TWO COATS LATEX EGGSHELL ENAMEL.

B. FERROUS METAL - UNPRIMED

D. STEEL - GALVANIZED

TWO COATS LATEX EGGSHELL ENAMEL. E. PLASTER, GYPSUM BOARD ONE COAT VINYL LATEX PRIMER SEALER. 2. TWO COATS LATEX EGGSHELL ENAMEL.

ONE COAT ZINC CHROMATE PRIMER.

1.8 SCHEDULE – COLORS 1. WALLS - ICI #2001 ANTIQUE WHITE

2. HM FRAMES - ICI #408 GREAT SMOKIE MOUNTAIN 3. HM DOORS - ICI #369 TOMORROWS TAUPE 4. CEILINGS, FASCIA, SOFFIT, TRANSOMS - ICI #2013 WHITE HIGH HIDING

<u></u>

(J) >

ЮÓ Ž ш ELTA-WIN  $\Box$ 

> S RC

CHCK'D BY:

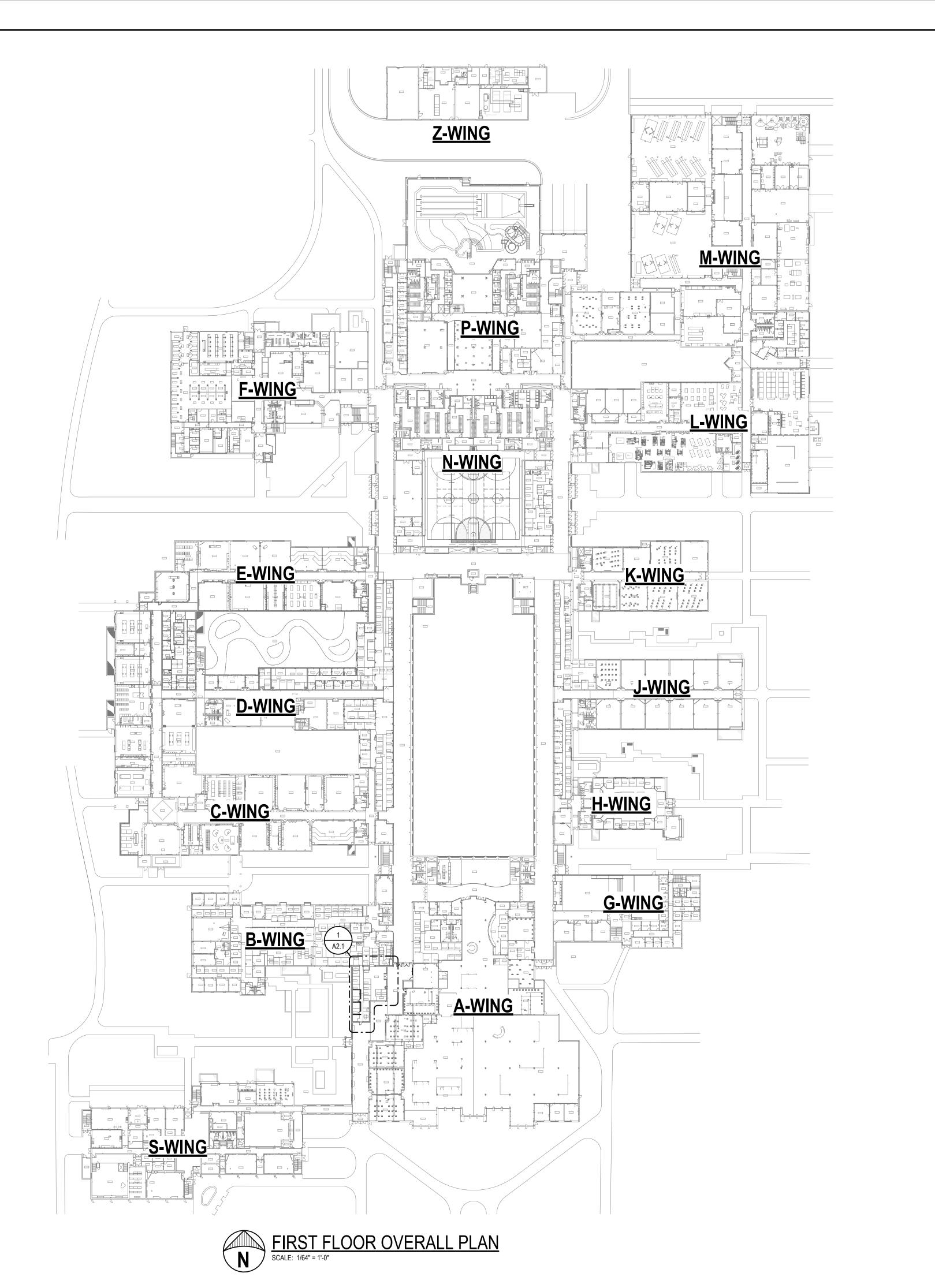
I. DZIRNIS

DES'D BY:

C. TUCKER

DRAWN BY:

C. TUCKER



# **GENERAL NOTES**

SYMBOL LEGEND

101

SYMBOL DESCRIPTION

WALL PARTITION TYPE

WINDOW TYPE

**DEMOLITION NOTE** 

CONSTRUCTION NOTE

DIRECTION OF SLOPE

SECTION REFERENCE

DETAIL REFERENCE

NEW COLUMN LINE

RIGID INSULATION

PLYWOOD

WOOD

BATT INSULATION

⟨ ii ⟩ EXISTING COLUMN LINE

MATERIAL LEGEND

SYMBOL DESCRIPTION

CMU

GYP BOARD

EXTERIOR ELEVATION REFERENCE

INTERIOR ELEVATION REFERENCE

DOOR NUMBER

- 1. GENERAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A BID ON THIS PROJECT TO BECOME FAMILIAR WITH EXISTING CONDITIONS. ANY EXISTING CONDITIONS FOUND AT VARIANCE WITH THE DRAWINGS MUST BE IMMEDIATELY REPORTED TO THE OWNER'S PROJECT REPRESENTATIVE & ARCHITECT.
- 2. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT APPLICABLE CODES, ORDINANCES AND STANDARD SPECIFICATIONS OF ALL LOCAL GOVERNING AGENCIES HAVING JURISDICTION.
- 3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED FOR CONSTRUCTION OF THIS PROJECT.
- 4. THE CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES IT SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION.
- 5. THE CONTRACTOR WILL BE HELD SOLELY LIABLE FOR ANY CLAIMS RESULTING FROM ACCIDENTS OR DAMAGES CAUSED BY ITS FAILURE TO COMPLY WITH TRAFFIC AND PUBLIC SAFETY REGULATIONS DURING THE CONSTRUCTION PERIOD.
- 6. ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS AND IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL REPLACE OR REPAIR ANY WORK OR MATERIAL FOUND TO BE DEFECTIVE UPON WRITTEN NOTICE FROM OWNER'S PROJECT REPRESENTATIVE. FOR A PERIOD OF 1 YEAR FROM DATE OF WRITTEN ACCEPTANCE FROM OWNER'S PROJECT REPRESENTATIVE.
- 7. THE CONTRACTOR SHALL CONFINE ITS ACTIVITIES TO THE PROJECT SITE UNDER DEVELOPMENT OR POINTS OF ACCESS WITH THE CONSENT OF THE
- 8. ALL CONSTRUCTION METHODS AND OPERATIONS SHALL BE PERFORMED IN SUCH A MANNER AS TO PROTECT ALL ADJACENT BUILDING ELEMENTS. ANY ELEMENTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE SOLE EXPENSE OF THE CONTRACTOR.

ACOUSTICAL CEILING TILE

ABOVE FINISHED FLOOR

**ADJACENT** 

ALTERNATE ALUMINUM

ANODIZED

**ASSEMBLY** 

BLOCKING

BARRIER FREE

### **ABBREVIATIONS**

A.C.T.

A.F.F.

ADJ ALT ALUM

ANOD

ASSBLY

BLKG

B.F.

BRG	BEARING
BTWN	BETWEEN
C.B.	CATCH BASIN
C.T.	CERAMIC TILE
CABS	CABINETS
CJ	CONTROL JOINT
CLG	CEILING CONCRETE MASONRY UNIT
CMU COL	COLUMN
CONC	CONCRETE
CONT	CONTINOUS
C. TOP	COUNTERTOP
CPT	CARPET
E.I.F.S.	EXTERIOR INSULATION FINISH SYSTI
E.J.	EXPANSION JOINT
EA	EACH
ELEV	ELEVATION
E.T.R.	EXISTING TO REMAIN
EX	EXISTING
F.E.C.	FIRE EXTINGUISHER CABINET
F.V.	FIELD VERIFY
FDN	FOUNDATION
FIN	FINISH
FLR GA	FLOOR GAUGE
GALV	GALVANIZED
GYP	GYPSUM, GYPSUM DRYWALL
GYP BD	GYPSUM BOARD
HM	HOLLOW METAL
HORIZ	HORIZONTAL
INSUL	INSULATION
LOC	LOCATION(S)
LT	LIGHT
LVT	LUXURY VINYL TILE
M.T.	MARBLE THRESHOLD
MAS	MASONRY
MATL	MATERIAL MEMBRANE
MEMB MFR	MANUFACTURER
MIN	MINIMUM
MTL	METAL
MTD	MOUNTED
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NONCOMB	NONCOMBUSTIBLE
O.C.	ON CENTER
O.H.	OVERHANG
PNL	PANEL
PLAM	PLASTIC LAMINATE
PF	PRE-FINISH(ED)
P.T. PLYWD	PORCELAIN TILE PLYWOOD
SIM	SIMILAR
SLD SURFC	
S.S.	STAINLESS STEEL
STR	STRUCTURAL
S.A.P.	SUSPENDED ACOUSTICAL PANEL
S.A.T.	SUSPENDED ACOUSTICAL TILE
SCHD	SCHEDULE
SIM	SIMILAR
SHTHG	SHEATHING
T.O.	TOP OF
TYP	TYPICAL
U.G.	UNDERGROUND
U.N.O.	UNLESS NOTED OTHERWISE
V.B.	VAPOR BARRIER

VAPOR BARRIER
VERIFY IN FIELD
VINYL COMPOSITION TILE
WINDOW
WITH
WOOD

VCT WDW W/ WD



ELTA C  $\Box$   $\dot{\Box}$ GENERAL AND

COLLEGE RENOVATIONS

FLOOR PLAN COMPOSITE F NOTES

STATUS / REVISIONS	B-WING OWNER REVIEW	B-WING ISSUED FOR BIDS				
NO.						
CH	ICK' )ZIF	D B	Y:			
		BY CKE				
C.	TU(	CKE	R			

DRAWN BY: C. TUCKER

PROJ#: 24-0543-0248

SHEET

ROOM FI	NISH SCHEDULE									
		FLOOR		CEILING		WALLS				
ROOM NO.	ROOM NAME	FINISH	BASE	MATERIAL	FINISH	NORTH	EAST	SOUTH	WEST	COMMENTS
B100	OPEN OFFICE AREA	EX/CPT	EX/VB	EX SAT	EX	Р	Р	Р	Р	1, 2, 3, 4, 5, 6
B101	OFFICE	EX/CPT	VB	SAT-1	PF	Р	Р	Р	Р	1, 5, 6

### **COMMENTS**

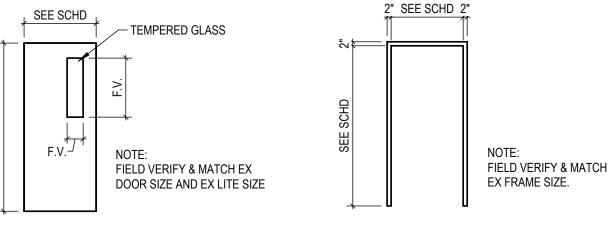
- 1. PROTECT ALL CARPETING AS REQUIRED DURING CONSTRUCTION.
- 3. PATCH & REPAIR ALL EXISTING DRYWALL WALLS PRIOR TO PAINTING. DO NOT PAINT EX BRICK.
- 4. PROVIDE NEW VINYL BASE AT ALL NEW WALLS, CUT BACK EXISTING AS REQUIRED.
- 6. ALL VINYL BASE TO BE SUPPLIED BY OWNER & INSTALLED BY CONTRACTOR.

DOOR AN	ID FRAI	ME SCH	IEDULE	1								
			DOOR					FRAME				
		SIZE										
DOOR NO.	W	HT	THK	TYPE	MTL	FIN	TYPE	MTL	FIN	HDWR	RATING	COMMENTS
B101	3'-0"	7'-0"	1 3/4"	NL	PLAM	PF	HM1	НМ	Р	1	-	1, 2, 3, 4
B102	3'-0"	7'-0"	1 3/4"	NL	PLAM	PF	HM1	НМ	Р	1	-	1. 2. 3. 4

## **COMMENTS**

- 1. FIELD VERIFY & MATCH EX DOOR & FRAME SIZES.
- 2. FIELD VERIFY & MATCH EX NARROW LITE SIZE.

1 EA OFFICE LOCK 9K37AB 15D 53 626 1 EA WALL STOP WS447 626



• VON DUPRIN 98/35A

# DOOR LOCKSET CYLINDERS

KEYED TO EXISTING BEST SYSTEM. PROVIDE CYLINDERS TO OWNER FOR KEYING.

# **AUTO DOOR CLOSURES**

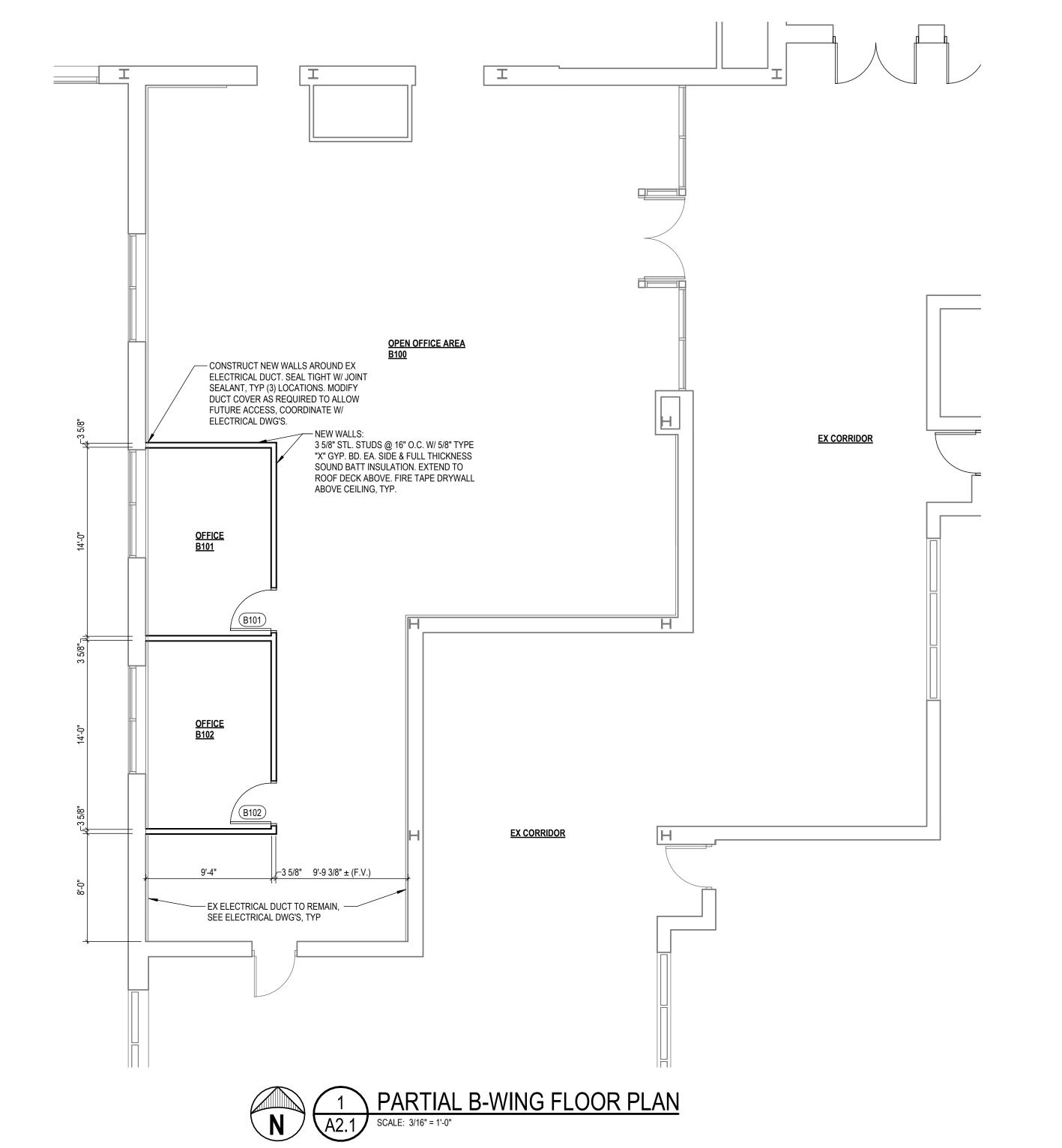
DOOR HINGES

CORBIN, CHECKMATE, GLYNN JOHNSON, IVES

# PLATE - 12" TALL)

PAMKO/ RIXSON, NGP, DORBIN, HAGER

IVES



FLOOR **ENLARGE** 

DELTA COLLEGE B-WING RENOVATIONS

**B-WING PARTIAL** 

CHCK'D BY: I. DZIRNIS

DES'D BY: C. TUCKER DRAWN BY:

C. TUCKER PROJ#: 24-0543-0248

SHEET

B102 OFFICE

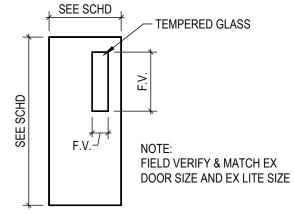
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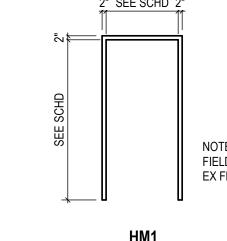
2. MODIFY EX CEILING GRID SYSTEM AS REQUIRED AT NEW WALLS.

5. CUT EXISTING CARPET AS REQUIRED FOR NEW WALL INSTALLATION.

TEMPERED GLAZING. 4. MATCH EX DOOR HARDWARE, COORDINATE KEYING REQUIREMENTS WITH OWNER.

HARDWARE SET NO. 1 3 EA HINGE 5BB1HW 5 X4.5 652 IVE BES





# **DOOR TYPES**

# MATERIAL ABBREVIATIONS

ACT ALUM ANOD C.M.U. CONC CPT C.T. E.T.R. CONCRETE CARPET CERAMIC TILE EXISTING TO REMAIN **EXISTING** EX EXP EXPOSED STRUCTURE STANDARD FACTORY PANEL F.R.P. FIBERGLASS REINFORCED PANEL GYP GYPSUM BOARD

H.M. **HOLLOW METAL** H.S. HIGH SPEED ROLLING INSULATED STEEL DOOR LVT LUXURY VINYL TILE M.S. MANUFACTURER'S STANDARD SPEC O.H. OVERHEAD PAINT(ED)

PRE-FIN PRE-FINISHED QUARRY TILE R.B. RUBBER BASE SEALED CONCRETE STL STEEL S.A.T. SUSPENDED ACOUSTICAL TILE S.GYP SUSPENDED GYPSUM BOARD VARIES V.B. VINYL BASE

VINYL COMPOSITION TILE

# MATERIAL DESCRIPTIONS

WOOD

P (PAINT)SEE ARCHITECTURAL SPECIFICATIONS ON

VCT WD

ACT (ACOUSTICAL CEILING TILE) MATCH EXISTING

### SEE ARCHITECTURAL SPECIFICATIONS ON SHEET A0.0 FOR NEW CEILINGS.

SHEET A0.0

V.B. (VINYL BASE) SUPPLIED BY OWNER & INSTALLED BY CONTRACTOR

 COMMERCIAL GRADE (4") MANUFACTURER - VPI COLOR - #40 SANDSTONE

STRAIGHT BASE AT CARPET

FLOORING AREAS.

COVE BASE AT RESILIENT TILE OR SHEET

# LOCKSETS & LATCHSETS CYLINDRICAL TYPE BY BEST W/ 2 3/4" BACKSET. BEST 93K

DOOR HARDWARE

FRAME TYPES

TRIM BEST 15K

MASTER AND GRANDMASTER CYLINDER CORES

### CYLINDERS TO BE INSTALLED BY CONTRACTOR AFTER KEYING BY OWNER.

# LCN 4110 SERIES, SURFACE MOUNTED

STANLEY, LAWRENCE, MCKINNEY, HAGER

# RIXSON "ROTON" BY HAGER, PEMKO, IVES

MISCELLANEOUS HARDWARE:

DOOR / WALL STOPS

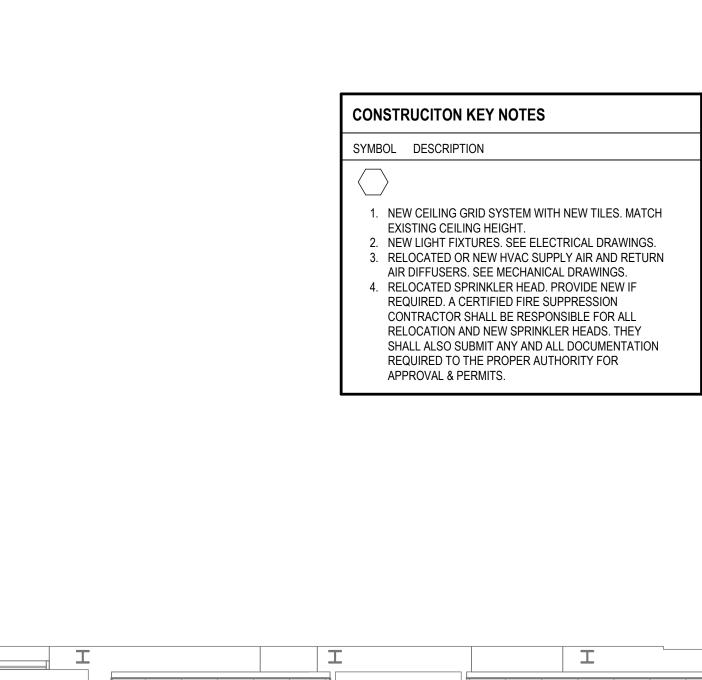
**PUSH PLATES & PULLS** CIPCO, BBW, ROCKWOOD

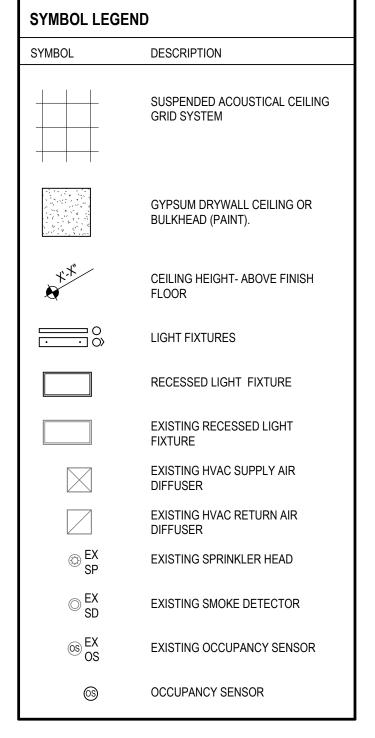
### KICK PLATES CIPCO, BBW, ROCKWOOD (1/8" ALUM DIAMOND

THRESHOLDS

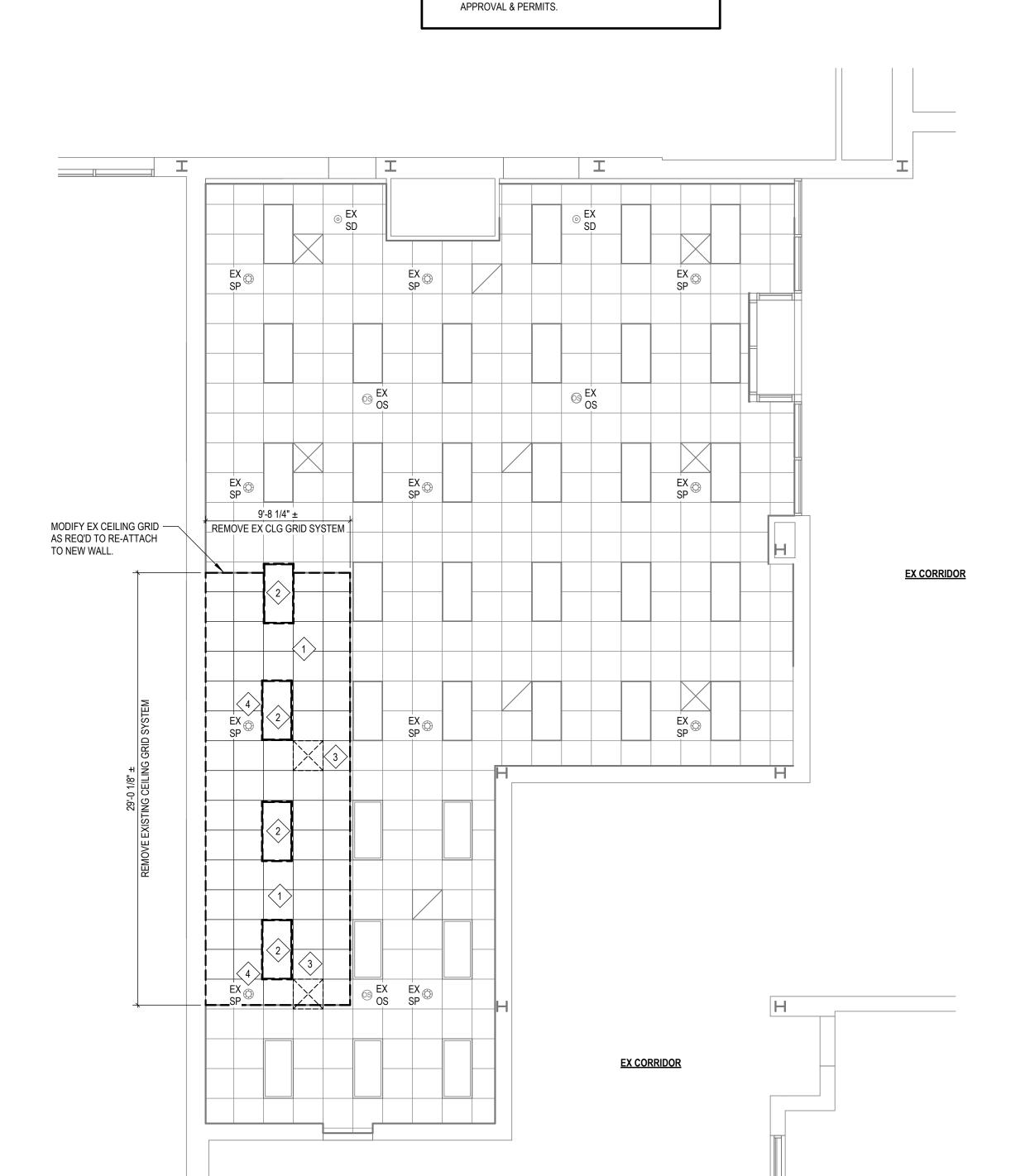
### MAGNETIC DOOR HOLDERS YALE, NORTON

COORDINATORS





NOTE: SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION



**DEMOLITION KEY NOTES** 

1. REMOVE EXISTING CEILING GRID SYSTEM AS

REPAIR EX WALLS AS REQUIRED PRIOR TO

HEIGHT TO MATCH EXISTING CEILING HEIGHT.

AIR DIFFUSERS AS REQUIRED FOR NEW WALL CONSTRUCTION. SEE MECHANICAL DRAWINGS.

2. REMOVE EXISTING LIGHTING AS REQUIRED FOR NEW

WALL CONSTRUCTION. SEE ELECTRICAL DRAWINGS.

3. REMOVE / RELOCATE EXISTING SUPPLY AIR & RETURN

4. RELOCATE EXISTING SPRINKLER HEADS AS REQUIRED

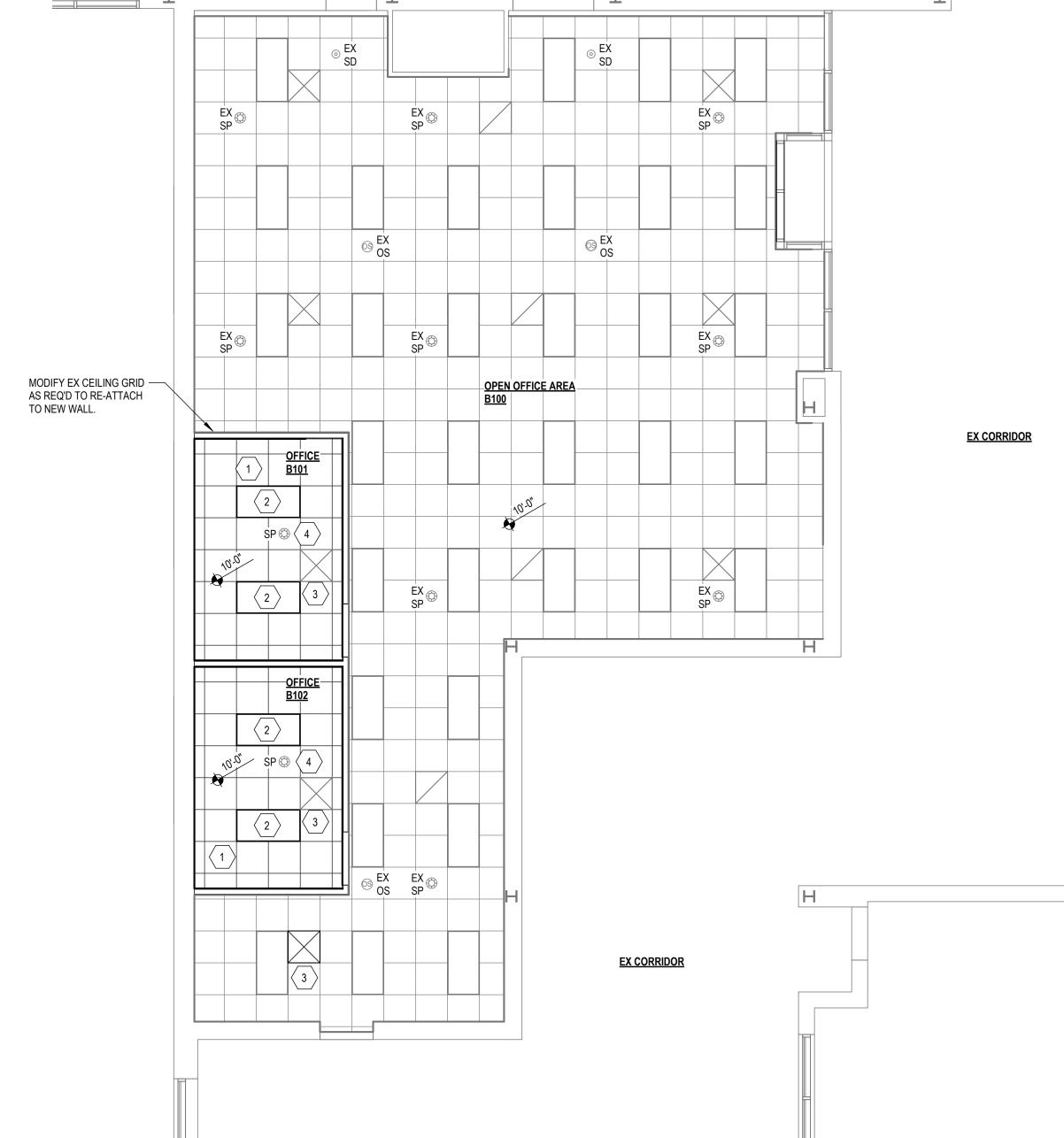
FOR PROPER COVERAGE. ADD ADDITIONAL HEADS IF NECESSARY. A CERTIFIED FIRE SUPPRESSION CONTRACTOR SHALL BE RESPONSIBLE FOR ALL

RELOCATION AND NEW SPRINKLER HEADS. THEY SHALL ALSO SUBMIT ANY AND ALL DOCUMENTATION REQUIRED TO THE PROPER AUTHORITY FOR

REQUIRED FOR NEW WALL CONSTRUCTION. PATCH &

INSTALLING NEW CEILING GRID SYSTEM. NEW CEILING

SYMBOL DESCRIPTION



PARTIAL B-WING REFLECTED CEILING PLAN
SCALE: 3/16" = 1'-0"

PARTIAL B-WING REFLECTED CEILING DEMO PLAN
SCALE: 3/16" = 1'-0"

DELTA COLLEGE B-WING RENOVATIONS

CEILIN Ш

PARTIAL B-WING REFLECT PLANS

PROJ #: 24-0543-0248

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# **MECHANICAL GENERAL NOTES**

- ALL MECHANICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH HVAC DESIGN MANUAL, LOCAL ORDINANCES, AND LAWS AND SHALL BE OF SIMILAR QUALITY, MATERIAL, AND INSTALLATION METHODOLOGY AS SIMILAR WORK IN EXISTING FACILITY. FOR PURPOSES OF THIS DESIGN, THE CODES FOR THE STATE OF MICHIGAN WERE USED AS THE BASIS.
- ALL INSULATION SHALL BE PRESUMED ASBESTOS CONTAINING MATERIAL (PACM) UNLESS OTHERWISE INDICATED OR LABELED. THE CONTRACTOR SHALL ABATE ALL ASBESTOS BY APPROVED METHODS. CONSULT WITH THE OWNER'S REPRESENTATIVE REGARDING LOCATION AND EXTEND OF PACM PRIOR TO THE WORK.
- HAZARDOUS MATERIALS ARE PRESENT IN CONSTRUCTION TO BE SELECTIVELY DEMOLISHED. A REPORT ON THE PRESENCE OF HAZARDOUS MATERIALS IS ON FILE FOR REVIEW AND USE. EXAMINE REPORT TO BECOME AWARE OF LOCATIONS WHERE HAZARDOUS MATERIALS ARE PRESENT.
- A. HAZARDOUS MATERIAL REMEDIATION IS SPECIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS.
- B. DO NOT DISTURB HAZARDOUS MATERIALS OR ITEMS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS EXCEPT UNDER PROCEDURES SPECIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS.
- C. IF THE CONTRACTOR OR ANY SUBCONTRACTORS SUSPECT UNANTICIPATED HAZARDOUS MATERIALS ARE PRESENT, THE CONTRACTOR IS TO STOP ALL WORK AFFECTING SAID MATERIALS AND NOTIFY THE ENGINEER.
- 4. CEILING CONTRACTOR SHALL FURNISH AND INSTALL HINGED STEEL ACCESS PANELS FOR ALL ABOVE CEILING DAMPERS, VAV BOXES, FILTERS, BALANCING VALVES, AND ISOLATION VALVES IN GYPSUM CEILINGS. PANELS SHALL BE KEYED FOR ACCESS BY MAINTENANCE STAFF ONLY, AND FINISHED WITH WHITE BAKED-ON ENAMEL. MECHANICAL CONTRACTOR SHALL CONSOLIDATE ABOVE CEILING ACCESS REQUIREMENTS TO LIMIT PANELS TO NO MORE THAN 25'. MECHANICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY ACCESS PANELS AS A RESULT FROM PLAN DEVIATION/ALTERATION, COORDINATE QUANTITY AND LOCATION OF ADDITIONAL ACCESS PANELS WITH CEILING CONTRACTOR.
- 5. A 'TAB' IS REQUIRED FOR THE WORK. EQUIPMENT SHOP DRAWINGS WILL NOT BE REVIEWED PRIOR TO RECEIPT OF THE EXISTING SYSTEM 'TAB'.
- MECHANICAL CONTRACTOR SHALL MEASURE SYSTEM FLOWS BEFORE SYSTEM ALTERATIONS AND ADJUST SYSTEM TO ACHIEVE PRE-CONSTRUCTION VALUES. VALUES BEFORE AND AFTER THE WORK SHALL BE RECORDED AND SUPPLIED TO THE OWNER'S REPRESENTATIVE.

- 7. IF COMPLIANCE WITH TWO OR MORE DIFFERING STANDARDS, REQUIREMENTS, DRAWINGS OR SPECIFICATIONS, OR ANY COMBINATION THEREOF, IS SPECIFIED AND THESE ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE MOST STRINGENT REQUIREMENT. THE MOST STRINGENT REQUIREMENT WILL BE THE BETTER QUALITY OR GREATER QUANTITY OF WORK, AND WILL TYPICALLY BE THE MORE EXPENSIVE OPTION. REFER UNCERTAINTIES AND REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, TO ENGINEER FOR A DECISION BEFORE PROCEEDING.
- 8. DESIGN DOCUMENTS MUST BE REPRODUCED IN THEIR ENTIRETY. INCLUDING ALL PLANS, SPECIFICATIONS, AND FRONT END DOCUMENTS.
- 9. FAILURE TO REVIEW AND COMPLY WITH A FULL SET OF CONTRACT DOCUMENTS WILL NOT BE ACCEPTED AS A VALID REASON FOR FAILURE TO MEET THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.
- 10. ALL ABOVE CEILING SYSTEMS AND COMPONENTS (INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, ETC.) SHALL BE COORDINATED SUCH THAT THE SYSTEMS ARE PROPERLY INTEGRATED IN THE SPACE PROVIDED ABOVE CEILING AT THE CEILING HEIGHTS NOTED. IT IS THE RESPONSIBILITY OF EACH CONTRACTOR TO COORDINATE PATHWAYS WITHIN THE SPACE PROVIDED. CEILING HEIGHTS WILL NOT BE MODIFIED.
- 11. COORDINATE LOCATIONS OF ALL DEVICES WITH ARCHITECTURAL AND ELECTRICAL PRIOR TO ROUGH-IN. ALL CONFLICTS WITH FINISHES. ADJACENT CONSTRUCTION, AND CONSTRUCTION DOCUMENTS ARE TO GENERATE AN REI FROM THE MECHANICAL CONTRACTOR TO THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING AND COMPLETION OF WORK.
- 12. CONTRACTOR SHALL FURNISH AND INSTALL BEVELED OR TAPERED TAKEOFFS AT ALL CONNECTIONS OF DUCT RUNOUTS TO TRUNKS. ALL FITTINGS SHALL BE IN ACCORDANCE WITH SMACNA.
- 13. CONTRACTOR SHALL FURNISH AND INSTALL MANUAL BALANCING DAMPERS AT ALL SUPPLY, RETURN, AND EXHAUST TRUNK BRANCHES AND RUNOUTS.
- 14. CONTRACTOR SHALL FURNISH AND INSTALL TEMPERATURE SENSORS FOR EQUIPMENT AWAY FROM HEAT PRODUCING EQUIPMENT U.N.O.
- 15. MECHANICAL CONTRACTOR SHALL COORDINATE EQUIPMENT INSTALLATION WITH ROOFING CONTRACTOR OR ROOFING MANUFACTURER TO AVOID DAMAGE TO ROOFING SYSTEM.
- CAP, INSULATED (EQUIVALENT TO ROOF) FOR ALL DEMOLISHED ROOF PENETRATIONS. 17. ALL MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH COMBINATION

16. MECHANICAL CONTRACTOR SHALL PROVIDE WATER PROOF SHEET METAL

- MOTOR STARTERS COMPATIBLE WITH CONTROLS SYSTEM. COORDINATE WITH CONTROLS AND ELECTRICAL CONTRACTORS.
- 18. UNLESS OTHERWISE INDICATED, ROOF OPENINGS MADE IN EXISTING ROOF STRUCTURE SHALL BE SUPPORTED ON ALL EDGES BY L4X4X1/4 FOR SPANS OF 5'-0 OR LESS; AND BY C8X11.5 FOR SPANS BETWEEN 5'-0" AND 10'-0". SPANS EXCEEDING 10'-0" SHALL REQUIRE SECTIONS APPROVED BY THE ENGINEER. CONNECTIONS SHALL BE WELDED IN ACCORDANCE WITH AWS D1.1 AND AISC, OR MINIMUM 2-BOLT CONNECTIONS ACCORDING TO AISC.

- 15. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS. AS SPECIFIED AND AS REQUIRED BY CODE.
- 16. CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
- 17. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
- 18. PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE.

EQUIPMENT OR PIPING INSULATION IS APPLIED.

- 19. ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL
- 20. LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH THE STRAIGHT SECTION OF PIPE AND DOWNSTREAM AS RECOMMENDED BY THE MANUFACTURER FOR GOOD ACCURACY.
- 21. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
- 22. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL PIPING DIMENSIONS BEFORE FABRICATION.
- 23. ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND DIVISION 26 OF THE SPECIFICATION.
- 24. CONCRETE HOUSEKEEPING PADS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE THE SIZE AND LOCATION OF CONCRETE HOUSEKEEPING PADS WITH THE GENERAL CONTRACTOR.
- 25. WHEN MECHANICAL WORK (HVAC, PLUMBING, SHEET METAL, FIRE PROTECTION, ETC.) IS SUBCONTRACTED, IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE SUBCONTRACTORS AND THE ASSOCIATED CONTRACTS. WHEN DISCREPANCIES ARISE PERTAINING TO WHICH CONTRACTOR PROVIDES A PARTICULAR ITEM OF THE MECHANICAL CONTRACT OR WHICH CONTRACTOR PROVIDES FINAL CONNECTIONS FOR A PARTICULAR ITEM OF THE MECHANICAL CONTRACT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE MECHANICAL CONTRACTOR, WHOSE DECISION SHALL BE FINAL.

- 28. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.
- 29. ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN DETAILS FOR PIPING AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
- 30. ALL PIPING, AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. ALL ATTACHMENTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS SHALL BE AT PANEL POINTS. PROVIDE CONCENTRIC BEAM CLAMPS MEETING MSS STANDARDS. WELDING TO STRUCTURAL MEMBERS SHALL NOT BE PERMITTED. THE USE OF C-CLAMPS SHALL NOT BE
- 31. MECHANICAL EQUIPMENT, AND PIPING SHALL NOT BE SUPPORTED FROM A METAL DECK.
- 32. ALL ROOF-MOUNTED EQUIPMENT CURBS FOR EQUIPMENT PROVIDED BY THE MECHANICAL CONTRACTOR SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
- 33. LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.
- CONDUIT, ETC., SHALL BE FIRE STOPPED WITH A PRODUCT SIMILAR TO 3M OR AN APPROVED EQUAL.
- 35. REFER TO TYPICAL DETAILS FOR PIPING, AND EQUIPMENT INSTALLATION.

34. ALL OPENINGS IN FIRE WALLS DUE TO DUCTWORK, PIPING.

- 36. INSTALL PIPING SO ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
- IN SERVICE WHEN EQUIPMENT OR PIPING ON THE EQUIPMENT SIDE OF THE VALVE IS REMOVED. 38. ALL BALANCING VALVES AND BUTTERFLY VALVES SHALL BE

PROVIDED WITH POSITION INDICATORS AND THE MAXIMUM

37. ALL VALVES SHALL BE INSTALLED SO THAT THE VALVE REMAINS

- ADJUSTABLE STOPS (MEMORY STOPS). 39. PROVIDE CHAINWHEEL OPERATORS FOR ALL VALVES 4" AND UP IN EQUIPMENT ROOMS MOUNTED GREATER THAN 7'0" ABOVE FLOOR LEVEL; CHAIN SHALL EXTEND TO 6'0" ABOVE FLOOR
- 40. ALL VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE THE FULL SIZE OF THE PIPE BEFORE REDUCING IN SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS.

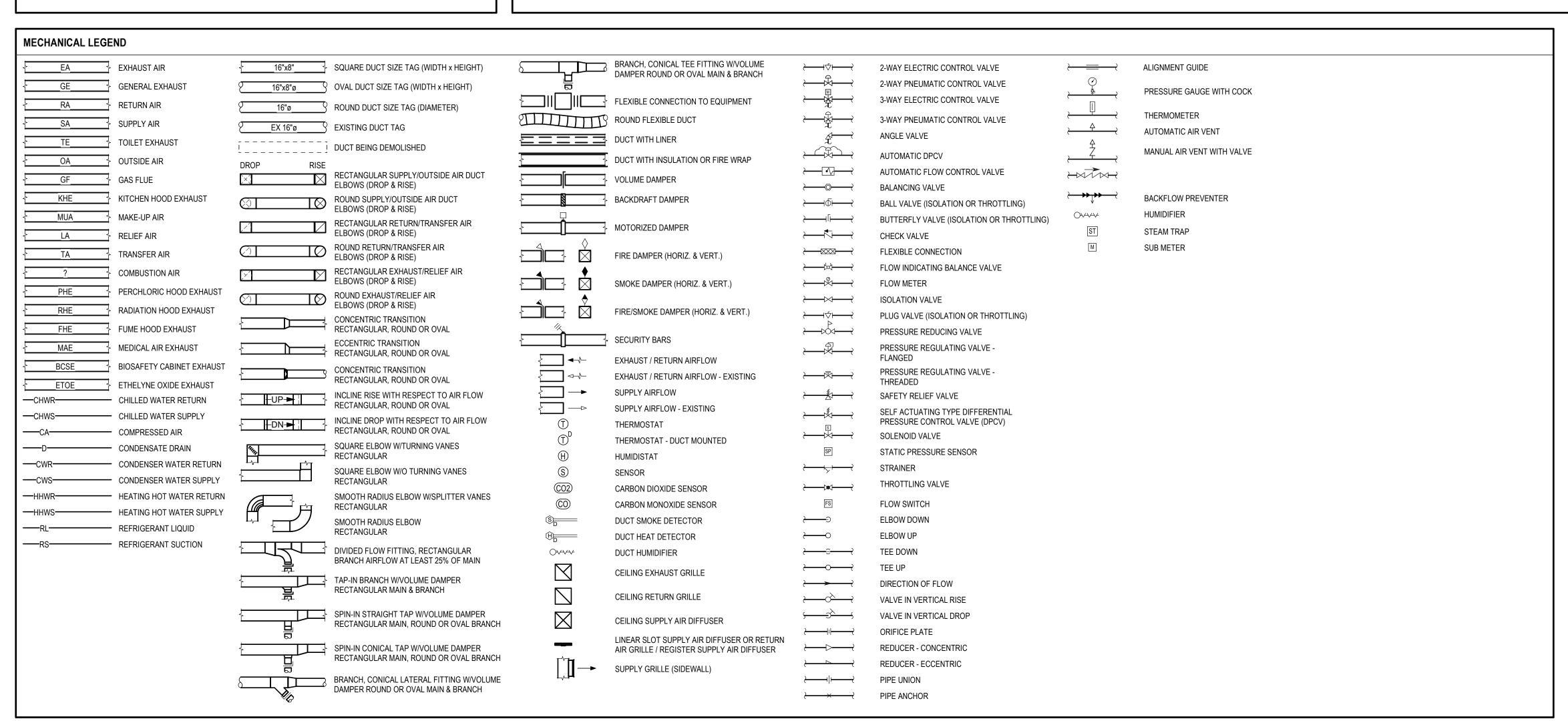
LEVEL. PROVIDE S-HOOKS TO STORE CHAIN.

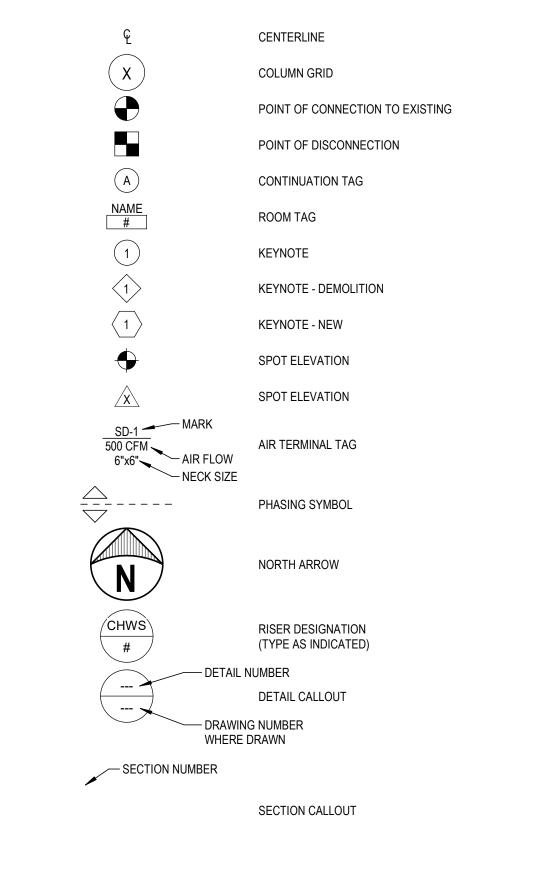
- 42. UNIONS AND/OR FLANGES SHALL BE INSTALLED AT EACH PIECE OF EQUIPMENT, IN BYPASSES, AND IN LONG PIPING RUNS (100 FT. OR MORE) TO PERMIT DISASSEMBLY FOR ALTERATION AND
- 43. INSTALL ALL EQUIPMENT LEVEL AND PLUMB. PROVIDE BLOCKING
- 44. DUCT CONSTRUCTION SHALL COMPLY WITH THE LATEST VERSION OF SMACNA CONSTRUCTION STANDARDS FOR THE SPECIFIC PRESSURE CLASSIFICATIONS INDICATED BELOW. ALL 90 DEGREE ELBOWS.
- 45. INSTALL DUCTWORK AS CLOSE AS POSSIBLE TO UNDERSIDE OF BEAMS AND/OR JOISTS.
- 46. ALL DUCTWORK SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.

AND HARDWARE AS REQUIRED.

- 47. PROVIDE DUCTWORK TO TERMINAL AIR DEVICES AT SCHEDULED INLET SIZE UNLESS OTHERWISE INDICATED.
- 48. PAINT FLAT BLACK THE INSIDE OF ALL DUCTWORK VISIBLE THROUGH DIFFUSERS, GRILLES AND REGISTERS.
- 49. UNLESS NOTED OTHERWISE, ALL ROOF MOUNTED EQUIPMENT SHALL BE INSTALLED 10' FROM ANY ROOF EDGE. CONTRACTOR

IS RESPONSIBLE FOR PROPER PLACEMENT TO AVOID ROOF EDGE GUARDS. IF EQUIPMENT CANNOT BE PLACED 10' FROM TH ROOF EDGE, CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY TO ASSIST WITH LOCATING THE EQUIPMENT ON THE ROOF.





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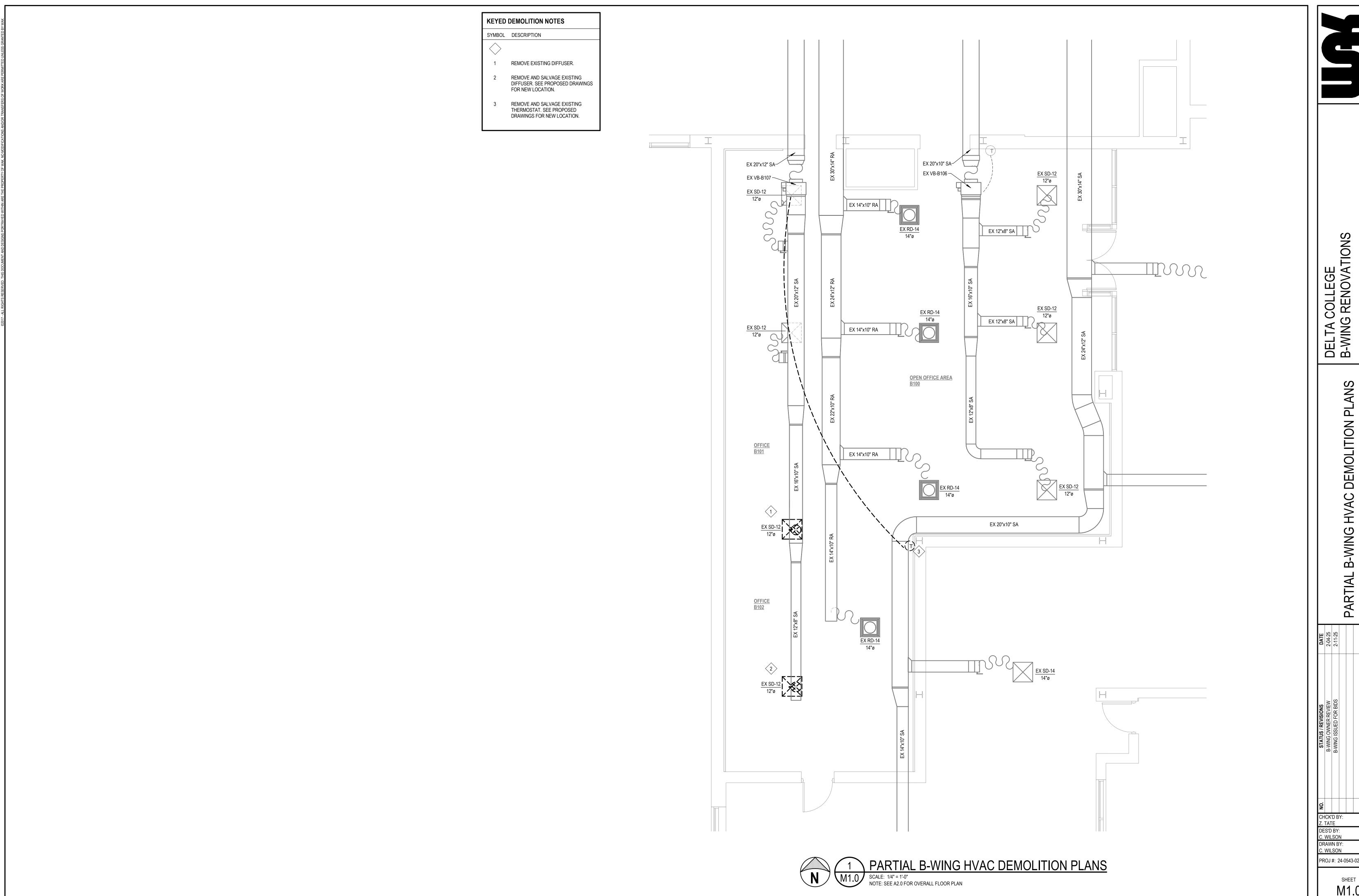
CHCK'D BY:

Z. TATE

DES'D BY: C WILSON

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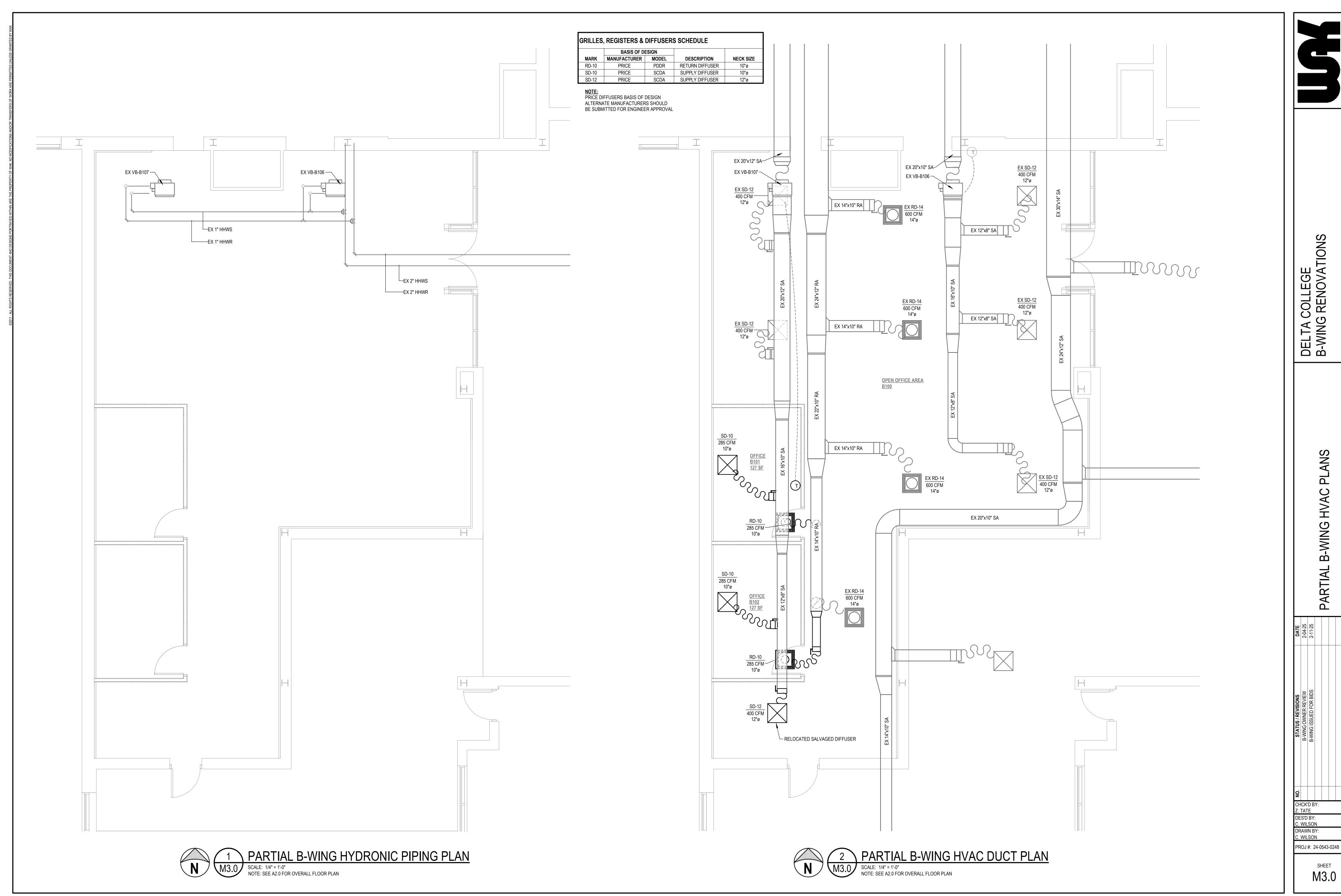
C. WILSON



**MOLITION PLANS** 

PARTIAL B-WING HVAC DE

CHCK'D BY: Z. TATE



M3.0

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

### 1.2 SUBMITTALS A. PRODUCT DATA FOR:

- WIRING DEVICES
- LIGHTING FIXTURES
- 3. POWER DISTRIBUTION EQUIPMENT 4. LIGHTING CONTROLS

### 1.3 QUALITY ASSURANCE

A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES; LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING

### AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE. B. COMPLY WITH UL 467 FOR GROUNDING AND BONDING MATERIALS AND EQUIPMENT.

- D. COMPLY WITH NECA 1, INCLUDING THE MOUNTING HEIGHTS LISTED IN THAT STANDARD, UNLESS OTHERWISE NOTED.
- E. COMPLY WITH APPLICABLE PORTIONS OF NECA1, NEMA PB 1.1, AND NEMA PB 2.1 FOR INSTALLATION OF ENCLOSED SWITCHES AND F. SOURCE LIMITATIONS: OBTAIN EACH TYPE OF PRODUCT, EQUIPMENT, AND WIRING DEVICES AND ASSOCIATED WALL PLATE THROUGH ONE SOURCE FROM A SINGLE MANUFACTURER. SO FAR AS THEY ARE AVAILABLE, OBTAIN ALL PRODUCTS, EQUIPMENT, AND WIRING

# 1.4 COORDINATION

A. COORDINATE ARRANGEMENT, MOUNTING, AND SUPPORT OF ELECTRICAL EQUIPMENT

C. RECEPTACLES FOR OWNER-FURNISHED EQUIPMENT: MATCH PLUG CONFIGURATIONS.

DEVICES AND ASSOCIATED WALL PLATES FROM A SINGLE MANUFACTURER AND ONE SOURCE.

- TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS THAT REDUCE HEADROOM ARE INDICATED.
- 2. TO PROVIDE FOR EASE OF DISCONNECTING THE EQUIPMENT WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS. 3. TO ALLOW RIGHT OF WAY FOR PIPING AND CONDUIT INSTALLED AT REQUIRED SLOPE.
- 4. SO CONNECTING RACEWAYS, CABLES, WIREWAYS, CABLE TRAYS, AND BUSWAYS WILL BE CLEAR OF OBSTRUCTIONS AND OF THE WORKING AND ACCESS SPACE OF OTHER EQUIPMENT.
- B. COORDINATE IDENTIFICATION NAMES, ABBREVIATIONS, COLORS, AND OTHER FEATURES WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS, SHOP DRAWINGS, MANUFACTURER'S WIRING DIAGRAMS, AND THE OPERATION AND MAINTENANCE MANUAL, AND WITH THOSE REQUIRED BY CODES, STANDARDS, AND 29 CFR 1910.145. USE CONSISTENT DESIGNATIONS THROUGHOUT PROJECT.

# PART 2 - PRODUCTS

- 2.1 GROUNDING PRODUCTS
- A. BONDING CONDUCTOR: NO. 6 AWG INSULATED COPPER, STRANDED CONDUCTOR. B. WELDED CONNECTORS: EXOTHERMIC-WELDING KITS OF TYPES RECOMMENDED BY KIT MANUFACTURER FOR MATERIALS BEING
- JOINED AND INSTALLATION CONDITIONS.

### C. GROUND RODS: COPPER-CLAD STEEL 3/4 INCH BY 10 FEET.

A. RACEWAY MATERIALS

- 2.2 RACEWAYS AND WIREWAYS
- RIGID STEEL CONDUIT (RMC): ANSI C80.1. EMT: ANSI C80.3.
- 3. LFMC: FLEXIBLE STEEL CONDUIT WITH PVC JACKET.
- 4. FITTINGS FOR CONDUIT (INCLUDING ALL TYPES AND FLEXIBLE AND LIQUIDTIGHT), EMT, AND CABLE. NEMA FB 1: LISTED FOR TYPE AND SIZE RACEWAY WITH WHICH USED, AND FOR APPLICATION AND ENVIRONMENT IN WHICH INSTALLED. SURFACE RACEWAY: WIREMOLD SERIES 500/700 ONE PIECE RACEWAY
- 6. METAL WIREWAYS DESCRIPTION: SHEET METAL SIZED AND SHAPED AS INDICATED, NEMA 250, TYPE 1 OR 3R, UNLESS OTHERWISE INDICATED. WIREWAY COVERS: SCREW-COVER TYPE OR AS INDICATED.
- 7. SHEET METAL OUTLET AND DEVICE BOXES: NEMA OS 1.
- 8. SMALL SHEET METAL PULL AND JUNCTION BOXES: NEMA OS 1.
- CABINETS
- A. NEMA 250, TYPE 1, GALVANIZED-STEEL BOX WITH REMOVABLE INTERIOR PANEL AND REMOVABLE.
- B. HINGED DOOR IN FRONT COVER WITH FLUSH LATCH AND CONCEALED HINGE. C. KEY LATCH TO MATCH PANELBOARDS.

### 2.3 CABLES AND WIRING MATERIALS

- A. CONDUCTOR INSULATION: COMPLY WITH NEMA WC 70 FOR TYPES THW AND THHN-THWN.
- B. MULTICONDUCTOR CABLE: COMPLY WITH NEMA WC 70 FOR METAL-CLAD CABLE, TYPE MC WITH GROUND WIRE.
- C. FEEDERS: COPPER, STRANDED
- D. BRANCH CIRCUITS: COPPER, STRANDED, MINIMUM 12 AWG. E. EXPOSED OR CONCEALED FEEDERS AND BRANCH CIRCUITS: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY
- F. CLASS 1 CONTROL CIRCUITS: TYPE THHN-THWN, IN RACEWAY. G. CLASS 2 CONTROL CIRCUITS: TYPE THHN-THWN, IN RACEWAY, OR POWER-LIMITED CABLE, CONCEALED IN BUILDING FINISHES.

# 2.4 IDENTIFICATION MATERIALS

- A. COLOR-CODING CONDUCTOR TAPE: COLORED, SELF-ADHESIVE VINYL-TAPE NOT LESS THAN 3 MILS THICK BY 1 TO 2 INCHES WIDE B. MARKER TAPES: VINYL OR VINYL-CLOTH, SELF-ADHESIVE WRAPAROUND TYPE, WITH CIRCUIT IDENTIFICATION LEGEND MACHINE
- PRINTED BY THERMAL TRANSFER OR EQUIVALENT PROCESS. C. SELF-ADHESIVE, ENGRAVED, LAMINATED ACRYLIC OR MELAMINE LABEL. ADHESIVE BACKED, WITH WHITE LETTERS ON A DARK-GRAY

# BACKGROUND. MINIMUM LETTER HEIGHT SHALL BE 3/8 INCH.

### A. PROVIDE PRODUCTS BY ONE OF THE FOLLOWING MANUFACTURERS 1. COOPER WIRING DEVICES: A DIVISION OF COOPER INDUSTRIES, INC.

- 2. HUBBELL INCORPORATED: WIRING DEVICE-KELLEMS. 3. LEVITON MFG. COMPANY, INC.
- 4. PASS & SEYMOUR/LEGRAND: WIRING DEVICES & ACCESSORIES.
- B. GFCI DUPLEX RECEPTACLES: STRAIGHT BLADE, FEED-THROUGH TYPE. COMPLY WITH NEMA WD 1, NEMA WD 6, UL 498, AND UL 943, CLASS A, AND INCLUDE INDICATOR LIGHT THAT IS LIGHTED WHEN DEVICE IS TRIPPED.
- C. SNAP SWITCHES: COMPLY WITH NEMA WD 1 AND UL 20, 120/277V, 20A.
- D. WALL PLATES: SINGLE AND COMBINATION TYPES TO MATCH CORRESPONDING WIRING DEVICES.
- 1. PLATE-SECURING SCREWS: METAL WITH HEAD COLOR TO MATCH PLATE FINISH. 2. MATERIAL: SMOOTH, HIGH-IMPACT THERMOPLASTIC.
- 3. WET OR DAMP-LOCATION, WEATHERPROOF COVER PLATES: NEMA 250, COMPLYING WITH TYPE 3R WEATHER-RESISTANT, DIE-CAST

# 2.6 POWER DISTRIBUTION EQUIPMENT

- A. PROVIDE PRODUCTS BY ONE OF THE FOLLOWING MANUFACTURERS:
- SQUARE-D/GROUP SCHNEIDER COMPANY

ALUMINUM WITH LOCKABLE COVER.

- 2. EATON CORPORATION CUTLER HAMMER. B. FUSIBLE SWITCH. 600A AND SMALLER: NEMA KS 1. TYPE HD. WITH CLIPS OR BOLT PADS TO ACCOMMODATE SPECIFIED FUSES.
- LOCKABLE HANDLE WITH CAPABILITY TO ACCEPT TWO PADLOCKS. AND INTERLOCKED WITH COVER IN CLOSED POSITION.
- C. MANUAL MOTOR CONTROLLER: NEMA ICS 2, GENERAL PURPOSE, CLASS A, WITH "QUICK-MAKE, QUICK-BREAK" TOGGLE OR PUSHBUTTON ACTION, AND MARKED TO SHOW WHETHER UNIT IS "OFF", "ON", OR "TRIPPED."
- 1. OVERLOAD RELAY: AMBIENT-COMPENSATED TYPE WITH INVERSE-TIME CURRENT CHARACTERISTICS AND NEMA ICS 2, CLASS 10
- TRIPPING CHARACTERISTICS. RELAYS SHALL HAVE HEATERS AND SENSORS IN EACH PHASE, MATCHED TO NAMEPLATE, FULL-LOAD CURRENT OF SPECIFIC MOTOR TO WHICH THEY CONNECT AND SHALL HAVE APPROPRIATE ADJUSTMENT FOR DUTY CYCLE. D. PANELBOARDS:

# 1. COMPLY WITH NEMA PB 1 AND NFPA 70

- 2. RATED FOR ENVIRONMENTAL CONDITIONS AT INSTALLED LOCATION: A. INDOOR DRY AND CLEAN LOCATIONS: NEMA 250, TYPE 1
- B. OUTDOOR LOCATIONS: NEMA 250, TYPE 3R
- C. WET OR DAMP INDOOR LOCATIONS: NEMA 250, TYPE 4 D. INDOOR LOCATIONS SUBJECT TO DUST, FALLING DIRT, AND DRIPPING NONCORROSIVE LIQUIDS: NEMA 250, TYPE 12
- INCOMING MAIN LOCATIONS: CONVERTIBLE BETWEEN TOP AND BOTTOM
- PHASE, NEUTRAL, AND GROUND BUSES: HARD-DRAWN COPPER, 98 PERCENT CONDUCTIVITY. 5. CONDUCTOR CONNECTORS: SUITABLE FOR USE WITH CONDUCTOR MATERIAL AND SIZES.
- A. MATERIAL: HARD-DRAWN COPPER, 98 PERCENT CONDUCTIVITY. B. MAIN AND NEUTRAL LUGS: MECHANICAL TYPE, WITH A LUG ON THE NEUTRAL BAR FOR EACH POLE IN THE PANELBOARD.
- C. GROUND LUGS AND BUS-CONFIGURED TERMINATORS: MECHANICAL TYPE, WITH A LUG ON THE BAR FOR EACH POLE IN THE
- D. FEED-THROUGH LUGS: MECHANICAL TYPE, SUITABLE FOR USE WITH CONDUCTOR MATERIAL. LOCATE AT OPPOSITE END OF BUS FROM INCOMING LUGS OR MAIN DEVICE.
- E. SUBFEED (DOUBLE) LUGS: MECHANICAL TYPE SUITABLE FOR USE WITH CONDUCTOR MATERIAL. LOCATE AT SAME END OF BUS
- AS INCOMING LUGS OR MAIN DEVICE. E. TRANSFORMERS:

# 1. COMPLY WITH 10 CFR 431 (DOE 2016) EFFICIENCY LEVELS.

- 2. MARKED AS COMPLIANT WITH DOE 2016 EFFICIENCY LEVELS BY AN NRTL.
- 3. COIL MATERIAL: COPPER. 4. ENCLOSURE: VENTILATED, NEMA 250, TYPE 2: CORE AND COIL SHALL BE ENCAPSULATED WITHIN RESIN COMPOUND.
- 5. TAPS FOR TRANSFORMERS: TWO 2.5 PERCENT TAPS ABOVE AND TWO 2.5 PERCENT TAPS BELOW NORMAL FULL CAPACITY. 6. INSULATION CLASS: 220 DEG C, UL-COMPONENT-RECOGNIZED INSULATION SYSTEM WITH A MAXIMUM OF 115 DEG C RISE ABOVE 40
- DEG C AMBIENT TEMPERATURE. 7. GROUNDING: PROVIDE GROUND-BAR KIT OR A GROUND BAR INSTALLED ON THE INSIDE OF THE TRANSFORMER ENCLOSURE.

A. SEE LIGHTING FIXTURE SCHEDULE ON THE DRAWINGS FOR PRODUCT SPECIFICATIONS.

A. BASIS OF DESIGN IS ACUITY CONTROLS. ALTERNATES MUST BE REVIEWED FOR APPROVAL DURING BIDDING. SEE REQUIREMENTS OF

### PART 3 - EXECUTION

- 3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION
- A. EQUIPMENT: INSTALL TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS OF BOTH ELECTRICAL EQUIPMENT AND OTHER NEARBY INSTALLATIONS. CONNECT IN SUCH A WAY AS TO FACILITATE FUTURE DISCONNECTING WITH MINIMUM INTERFERENCE WITH OTHER ITEMS IN THE VICINITY.
- B. RIGHT OF WAY: GIVE TO PIPING SYSTEMS INSTALLED AT A REQUIRED SLOPE.

- 3.2 GROUNDING APPLICATIONS A. INSTALL INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH ALL FEEDERS AND BRANCH CIRCUITS. INSULATION SHALL BE RATED AT 600V OR AS APPROVED BY AUTHORITY HAVING JURISDICTION.
- B. CONDUCTORS: INSTALL SOLID CONDUCTOR FOR NO. 10 AWG AND SMALLER, AND STRANDED CONDUCTORS FOR NO. 8 AWG AND LARGER, UNLESS OTHERWISE INDICATED.
- C. METAL POLES FOR SIGNS SUPPORTING OUTDOOR LIGHTING FIXTURES: INSTALL GROUNDING ELECTRODE AND A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO GROUNDING CONDUCTOR INSTALLED WITH BRANCH-CIRCUIT CONDUCTORS.

### 3.3 APPLICATION OF IDENTIFICATION SYSTEMS

- A. BRANCH-CIRCUIT CONDUCTOR IDENTIFICATION: WHERE THERE ARE CONDUCTORS FOR MORE THAN THREE BRANCH CIRCUITS IN SAME JUNCTION OR PULL BOX, USE COLOR-CODING CONDUCTOR TAPE. IDENTIFY EACH UNDERGROUND CONDUCTOR ACCORDING TO SOURCE AND
- B. EQUIPMENT IDENTIFICATION LABELS: ON EACH UNIT OF EQUIPMENT, INSTALL UNIQUE DESIGNATION LABEL THAT IS CONSISTENT WITH WIRING DIAGRAMS, SCHEDULES, AND OPERATION AND MAINTENANCE MANUAL. APPLY LABELS TO DISCONNECT SWITCHES AND PROTECTION EQUIPMENT. CENTRAL OR SYSTEM. SYSTEMS INCLUDE POWER, LIGHTING, CONTROL, COMMUNICATION, SIGNAL, MONITORING, AND ALARM SYSTEMS UNLESS EQUIPMENT IS PROVIDED WITH ITS OWN IDENTIFICATION.
- 1. LABELING INSTRUCTIONS: A. INDOOR EQUIPMENT: ADHESIVE FIELD LABEL. UNLESS OTHERWISE INDICATED, PROVIDE A SINGLE LINE OF TEXT WITH 1/2-INCH-HIGH LETTERS ON 1-1/2-INCH-HIGH LABEL. WHERE 2 LINES OF TEXT ARE REQUIRED, USE LABELS 2 INCHES HIGH.
- 2. EQUIPMENT TO BE LABELED: A. PANELBOARDS, ELECTRICAL CABINETS, AND ENCLOSURES.
- B. ACCESS DOORS AND PANELS FOR CONCEALED ELECTRICAL ITEMS. C. TRANSFORMERS.
- D. DISCONNECT SWITCHES. E. ENCLOSED CIRCUIT BREAKERS.
- F. MOTOR STARTERS
- G. PUSH-BUTTON STATIONS.
- H. CONTACTORS
- I. REMOTE-CONTROLLED SWITCHES, DIMMER MODULES, AND CONTROL DEVICES. LIGHTING CONTROL EQUIPMENT.
- C. VERIFY IDENTITY OF EACH ITEM BEFORE INSTALLING IDENTIFICATION PRODUCTS. D. LOCATION: INSTALL IDENTIFICATION MATERIALS AND DEVICES AT LOCATIONS FOR MOST CONVENIENT VIEWING WITHOUT INTERFERENCE WITH OPERATION AND MAINTENANCE OF EQUIPMENT.
- APPLY IDENTIFICATION DEVICES TO SURFACES THAT REQUIRE FINISH AFTER COMPLETING FINISH WORK. F. SELF-ADHESIVE IDENTIFICATION PRODUCTS: CLEAN SURFACES BEFORE APPLICATION, USING MATERIALS AND METHODS RECOMMENDED BY MANUFACTURER OF IDENTIFICATION DEVICE.
- G. SYSTEM IDENTIFICATION COLOR BANDING FOR RACEWAYS AND CABLES: EACH COLOR BAND SHALL COMPLETELY ENCIRCLE CABLE OR CONDUIT PLACE ADJACENT BANDS OF TWO-COLOR MARKINGS IN CONTACT, SIDE BY SIDE. LOCATE BANDS AT CHANGES IN DIRECTION, AT PENETRATIONS OF WALLS AND FLOORS, AT 50-FOOT MAXIMUM INTERVALS IN STRAIGHT RUNS, AND AT 25-FOOT MAXIMUM INTERVALS IN CONGESTED AREAS. H. COLOR-CODING FOR PHASE AND VOLTAGE LEVEL IDENTIFICATION, 600V AND LESS: USE THE COLORS LISTED BELOW FOR UNGROUNDED
- SERVICE, FEEDER, AND BRANCH-CIRCUIT CONDUCTORS.
- 1. COLOR SHALL BE FIELD APPLIED FOR CONDUCTORS OVER NO. 10 AWG.
- 2. COLORS FOR 480/277V CIRCUITS: A. PHASE A: BROWN
- B. PHASE B: ORANGE
- C. PHASE C: YELLOW 3. COLORS FOR 120/208V CIRCUITS:
- A. PHASE A: BLACK
- B. PHASE B: RED C. PHASE C: BLUE
- 4. COLORS FOR 120/240V CIRCUITS: A. PHASE A: BLACK
- 5. FIELD-APPLIED, COLOR-CODING CONDUCTOR TAPE: APPLY IN HALF-LAPPED TURNS FOR A MINIMUM DISTANCE OF 6 INCHES FROM TERMINAL POINTS AND IN BOXES WHERE SPLICES OR TAPS ARE MADE. APPLY LAST TWO TURNS OF TAPE WITH NO TENSION TO PREVENT POSSIBLE UNWINDING. LOCATE BANDS TO AVOID OBSCURING FACTORY CABLE MARKINGS.

### 3.4 INSTALLATION OF POWER CONDUCTORS AND CABLES

- A. CONCEAL CABLES IN FINISHED WALLS, CEILINGS, AND FLOORS, UNLESS OTHERWISE INDICATED.
- B. USE MANUFACTURER-APPROVED PULLING COMPOUND OR LUBRICANT WHERE NECESSARY. COMPOUND USED MUST NOT DETERIORATE CONDUCTOR OR INSULATION. DO NOT EXCEED MANUFACTURER'S RECOMMENDED MAXIMUM PULLING TENSIONS AND SIDEWALL PRESSURE
- C. USING PULLING MEANS, INCLUDING FISH TABLE, CABLE, ROPE, AND BASKET-WEAVE WIRE/CABLE GRIPS, THAT WILL NOT DAMAGE CABLES OR
- D. WIRING AT OUTLETS: INSTALL CONDUCTOR AT EACH OUTLET, WITH AT LEAST 12 INCHES OF SLACK.
- 3.5 RACEWAY INSTALLATION AND APPLICATION A. COMPLY WITH NECA 1 FOR INSTALLATION REQUIREMENTS APPLICABLE TO PRODUCTS SPECIFIED IN PART 2 EXCEPT WHERE REQUIREMENTS ON DRAWINGS OR IN THIS ARTICLE ARE STRICTER.
- B. SUPPORT RACEWAYS PER NEC NFPA-70.
- C. COMPLY WITH THE FOLLOWING INDOOR APPLICATIONS, UNLESS OTHERWISE INDICATED: . EXPOSED ON ACOUSTICAL BLOCK: METAL WIREMOLD.
- 2. EXPOSED, NOT SUBJECT TO PHYSICAL DAMAGE: EMT ABOVE 48". 3. CONCEALED IN CEILINGS AND INTERIOR WALLS AND PARTITIONS: EMT.
- 4. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, ELECTRIC SOLENOID, OR MOTOR-DRIVEN EQUIPMENT): LFMC.
- 5. DAMP OR WET LOCATIONS: RIGID STEEL CONDUIT. D. MINIMUM RACEWAY SIZE: 3/4-INCH TRADE SIZE.
- E. RACEWAY FITTINGS: COMPATIBLE WITH RACEWAYS AND SUITABLE FOR USE AND LOCATION.
- I. RIGID AND INTERMEDIATE STEEL CONDUIT: USE THREADED RIGID STEEL CONDUIT FITTINGS, UNLESS OTHERWISE INDICATED. F. COMPLETE RACEWAY INSTALLATION BEFORE STARTING CONDUCTOR INSTALLATION. G. ARRANGE STUB-UPS SO CURVED PORTIONS OF BENDS ARE NOT VISIBLE ABOVE THE FINISHED SLAB.
- H. INSTALL NO MORE THAN THE EQUIVALENT OF THREE 90-DEGREE BENDS IN ANY CONDUIT RUN EXCEPT FOR COMMUNICATIONS CONDUITS, FOR
- WHICH FEWER BENDS ARE ALLOWED. CONCEAL CONDUIT AND EMT WITHIN FINISHED WALLS, CEILINGS, AND FLOORS, UNLESS OTHERWISE INDICATED.
- RACEWAYS EMBEDDED IN SLABS: NOT ALLOWED. K. THREADED CONDUIT JOINTS, EXPOSED TO WET, DAMP, CORROSIVE, OR OUTDOOR CONDITIONS: APPLY LISTED COMPOUND TO THREADS OF
- L. RACEWAY TERMINATIONS AT LOCATIONS SUBJECT TO MOISTURE OR VIBRATION: USE INSULATING BUSHINGS TO PROTECT CONDUCTORS, INCLUDING CONDUCTORS SMALLER THAN NO. 4 AWG.
- M. INSTALL PULL WIRES IN EMPTY RACEWAYS. USE POLYPROPYLENE OR MONOFILAMENT PLASTIC LINE WITH NOT LESS THAN 200-LB TENSILE STRENGTH. LEAVE AT LEAST 12 INCHES OF SLACK AT EACH END OF PULL WIRE.
- N. FLEXIBLE CONDUIT CONNECTIONS: USE MAXIMUM OF 72 INCHES OF FLEXIBLE CONDUIT FOR RECESSED AND SEMI-RECESSED LIGHTING FIXTURES, EQUIPMENT SUBJECT TO VIBRATION, NOISE TRANSMISSION, OR MOVEMENT; AND FOR TRANSFORMERS AND MOTORS.

RACEWAY AND FITTINGS BEFORE MAKING UP JOINTS. FOLLOW COMPOUND MANUFACTURER'S WRITTEN INSTRUCTIONS.

# 1. USE LFMC IN DAMP OR WET LOCATIONS SUBJECT TO SEVERE PHYSICAL DAMAGE.

- 3.6 WIRING DEVICE INSTALLATION A. REPLACE ALL DEVICES THAT HAVE BEEN IN TEMPORARY USE DURING CONSTRUCTION OR THAT SHOW SIGNS THAT THEY WERE INSTALLED
- BEFORE BUILDING FINISHING OPERATIONS WERE COMPLETE.
- B.  $\,$  KEEP EACH WIRING DEVICE IN ITS PACKAGE OR OTHERWISE PROTECTED UNTIL IT IS TIME TO CONNECT CONDUCTORS.
- C. DO NOT REMOVE SURFACE PROTECTION, SUCH AS PLASTIC FILM AND SMUDGE COVERS, UNTIL THE LAST POSSIBLE MOMENT. D. CONNECT DEVICES TO BRANCH CIRCUITS USING PIGTAILS THAT ARE NOT LESS THAN 6 INCHES IN LENGTH.
- E. WHEN THERE IS A CHOICE, USE SIDE WIRING WITH BINDING-HEAD SCREW TERMINALS. WRAP SOLID CONDUCTOR TIGHTLY CLOCKWISE, 2/3 TO 3/4 OF THE WAY AROUND TERMINAL SCREW.
- F. USE A TORQUE SCREWDRIVER WHEN A TORQUE IS RECOMMENDED OR REQUIRED BY THE MANUFACTURER.
- G. WHEN CONDUCTORS LARGER THAN NO. 12 AWG ARE INSTALLED ON 15-A OR 20-A CIRCUITS, SPLICE NO. 12 PIGTAILS FOR DEVICE CONNECTIONS. H. TIGHTEN UNUSED TERMINAL SCREWS ON THE DEVICE. I. WHEN MOUNTING INTO METAL BOXES, REMOVE THE FIBER OR PLASTIC WASHERS USED TO HOLD DEVICE MOUNTING SCREWS IN YOKES,
- ALLOWING METAL-TO-METAL CONTACT. J. RECEPTACLE ORIENTATION: . INSTALL GROUND PIN OF VERTICALLY MOUNTED RECEPTACLES UP, AND ON HORIZONTALLY MOUNTED RECEPTACLES TO THE RIGHT.
- K. DEVICE PLATES: DO NOT USE OVERSIZED OR EXTRA-DEEP PLATES. REPAIR WALL FINISHES AND REMOUNT OUTLET BOXES WHEN STANDARD DEVICE PLATES DO NOT FIT FLUSH OR DO NOT COVER ROUGH WALL OPENING.
- L. ARRANGEMENT OF DEVICES: UNLESS OTHERWISE INDICATED, MOUNT FLUSH, WITH LONG DIMENSION VERTICAL AND WITH GROUNDING TERMINAL OF RECEPTACLES ON TOP. GROUP ADJACENT SWITCHES UNDER SINGLE, MULTIGANG WALL PLATES.

A. CONDUCT PRE-INSTALLATION MEETING WITH THE SUPPLIER, PROGRAMMER, INSTALLER, AND OWNER TO REVIEW THE SYSTEM.

# 3.7 PANELBOARD INSTALLATION

- A. INSTALL PANELBOARDS AND ACCESSORIES ACCORDING TO NEMA PB 1.1.
- B. MOUNT TOP OF TRIM 74 INCHES ABOVE FINISHED FLOOR, UNLESS OTHERWISE INDICATED. C. MOUNT PLUMB AND RIGID WITHOUT DISTORTION OF BOX. MOUNT RECESSED PANELBOARDS WITH FRONTS UNIFORMLY FLUSH WITH WALL FINISH.
- D. INSTALL FILLER PLATES IN UNUSED SPACES. E. ARRANGE CONDUCTORS IN GUTTERS INTO GROUPS AND BUNDLE AND WRAP WITH WIRE TIES AFTER COMPLETING LOAD BALANCING.

# B. PERFORM POST VISIT FOR PROGRAMMING

3.8 LIGHTING CONTROLS

- 3.9 FIELD QUALITY CONTROL A. PREPARE FOR ACCEPTANCE TESTS AS FOLLOWS:
- TEST INSULATION RESISTANCE FOR EACH PANELBOARD BUS, COMPONENT, CONNECTING SUPPLY, FEEDER, AND CONTROL CIRCUIT TEST CONTINUITY OF EACH CIRCUIT.
- B. PERFORM THE FOLLOWING FIELD TESTS AND INSPECTIONS AND PREPARE TEST REPORTS: 1. CORRECT MALFUNCTIONING UNITS ON-SITE, WHERE POSSIBLE, AND RETEST TO DEMONSTRATE COMPLIANCE; OTHERWISE, REPLACE WITH
- C. PROVIDE OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT. INCLUDE WARRANTY AND REPLACEMENT PART LIST.

# SYMBOL LEGEND

# SYMBOL DESCRIPTION

- DUPLEX RECEPTACLE, 18" A.F.F. TO TOP
- ☐ DUPLEX RECEPTACLE GFI, 18" A.F.F. TO TOP
- DUPLEX RECEPTACLE, CEILING MOUNTED
- Ď

  ☐ DUPLEX RECEPTACLE GFI, CEILING MOUNTED
- DUPLEX RECEPTACLE USB, 18" A.F.F. TO TOP
- DUPLEX RECEPTACLE, 6" ABOVE COUNTER
- DUPLEX RECEPTACLE GFI, 6" ABOVE COUNTER
- DUPLEX RECEPTACLE GFI , FLOOR MOUNTED

QUAD RECEPTACLE GFI, 18" A.F.F. TO TOP

DUPLEX RECEPTACLE, FLOOR MOUNTED

- SPECIALTY OUTLET, SEE DRAWINGS W/ MTG HT
- QUAD RECEPTACLE, 18" A.F.F. TO TOP
- QUAD RECEPTACLE, CEILING MOUNTED
- QUAD RECEPTACLE GFI, CEILING MOUNTED MOTOR SWITCH

OVERHEAD DOOR 3-BUTTON SWITCH, OPEN-

- POWER POLE
- JUNCTION BOX **FURNITURE FEED**

CLOSE-STOP

- NON-FUSED DISCONNECT
- COMBINATION MOTOR STARTER/ DISCONNECT FUSED DISCONNECT
- MOTOR STARTER SURFACE MOUNTED PANEL BOARD

MANUAL MOTOR STARTER

- RECESSED PANEL BOARD
- SWITCH, 3-POLE, 48" A.F.F. TO TOP UNO

SWITCH, 4-POLE, 48" A.F.F. TO TOP UNO

SWITCH, SINGLE POLE, 48" A.F.F. TO TOP UNO

- SWITCH, WALL BOX DIMMER, 48" A.F.F. TO TOP UNO SWITCH, LOW VOLTAGE, 48" A.F.F. TO TOP UNO (VERIFY
- W/ FIXTURE) SWITCH, LOW VOLTAGE DIMMER, 48" A.F.F. TO TOP UNO (VERIFY W/ FIXTURE)
- SWITCH, FUSED: 125V, SINGLE POLE, DUAL ELEMENT

\$K SWITCH, KEYED, 48" A.F.F. TO TOP UNO

- \$P SWITCH, PILOT LIGHT, 48" A.F.F. TO TOP UNO
- SWITCH, TIMER, 48" A.F.F. TO TOP

SWITCH, MULTI-TECH OCCUPANCY SENSOR, WALL

- SWITCH, MULTI-TECH OCCUPANCY SENSOR, CEILING
- SWITCH, EXTERIOR PHOTOCELL POWER PACK FOR OCCUPANCY SENSORS
- CONTROLS: SPEAKER (SEE SCHEDULE) CONTROLS: ADA DOOR CONTROL OPENER, COORDINATE
- WITH DOOR REQUIREMENTS CONTROLS: ADA DOOR CONTROL OPENER, COORDINATE
- WITH SECURITY, AUTO AND MANUAL CONTROL SECURITY: PAN - TILT - ZOOM CAMERA

SECURITY: CARD READER

SECURITY: DOOR CONTACT

ABOVE FINISHED FLOOR

AMERICAN WIRE GAUGE

**AUTOMATIC TRANSFER** 

CIRCUIT BREAKER

CONTROL PANEL

DISCONNECT SWITCH

ELECTRICAL METALLIC TUBING

FIRE ALARM CONTROL PANEL

ALTERNATE

ALUMINUM

**AMPERES** 

BUILDING

CIRCUIT

CONDUIT

CEILING

COPPER

DRAWING(S)

DATA

EACH

**EXISTING** 

EXTERNAL

FOOT, FEET

FINISH FLOOR

FURNITURE FEED

SECURITY: PUSH BUTTON

**ABBREVIATIONS** 

AMP OR A

ATS

BLDG

DWG

**FMT** 

EXT

FIN. FLR.

- GRC GND
- GALVANIZED RIGID CONDUIT GROUND GROUND FAULT CIRCUIT GFCI INTERUPPTER GROUND FAULT PROTECTION HAND HOLE
- HOA **BUILDING MANAGEMENT SYSTEM** INDOOR UNIT INTERMEDIATE METAL CONDUIT JUNCTION BOX KILO VOLT-AMPERES KVAR MDP MLO

NEMA

KILO VOLT-AMPERES REACTIVE LIGHTING CONTRACTOR MAIN CIRCUIT BREAKER MAIN DISTRIBUTOR PANEL MAIN LUGS ONLY MAIN SWITCH BOARD MAN HOLE MFR MANUFACTURER'S MOTOR CONTROL CENTER MCC MTD MOUNTED NATIONAL ELECTRIC CODE NEC

NATIONAL ELECTRICAL

NIGHT LIGHT

MANUFACTURER'S ASSOCIATION

N.T.S. NOT TO SCALE **OUTDOOR UNIT** OUTSIDE DIAMETER OVERLOADS-THERMAL HAND-OFF-AUTO SELECTOR SWITCH PANEL W/ INDICATION PHOTO-SWITCH

VFC

VFD

LUMINAIRE: WALL MOUNTED W/ TYPE

CIRCUIT W/ TYPE, REFER TO SCHEDULE

VOICE/ DATA OUTLET: 18" TO TOP, UNO

TELEPHONE: 18" TO TOP, UNO

AFF TO TOP UNO

DATA/ TELEPHONE: 18" TO TOP, UNO

VOICE/ DATA OUTLET: CEILING MOUNTED, UNO

VOICE/ DATA/ TV OUTLET: FLOOR MOUNTED, UNO

FIRE: MANUAL PULL STATION, WALL MOUNTED, 48" AFF TO TOP

FIRE: AUDIBLE AND VISUAL ANNUNCIATION, WALL MOUNTED, 8'-0"

FIRE: VISUAL ANNUNCIATION, WALL MOUNTED, 8'-0" AFF TO TOP

FIRE: AUDIBLE ANNUNCIATION, WALL MOUNTED, 8'-0" AFF TO TOP

FIRE: AUDIBLE AND VISUAL ANNUNCIATION, CEILING MOUNTED

FIRE: DUCT SMOKE DETECTOR, CEILING, PROVIDED / INSTALLED

FIRE: VISUAL ANNUNCIATION, CEILING MOUNTED

FIRE: AUDIBLE ANNUNCIATION, CEILING MOUNTED

FIRE: SMOKE DETECTOR, CEILING

FIRE: HEAT DETECTOR, CEILING

BY EC, MOUNTED BY MC, UNO

FIRE: TAMPER SWITCH

FIRE: MAGNETIC DOOR HOLD

FIRE: DOOR LOCK RELEASE

——UG—— UNDERGROUND ELECTRICAL W/ INCDICATOR

SITE: LIGHT, POLE, AND BASE

TRANSFORMER W/ LABEL

DEVICE OR EQUIPMENT CONNECTION

FIRE: PRESSURE SWITCH

HOME RUN W/ DIRECTION

ELECTRICAL CIRCUIT

FIRE: FLOW SWITCH

FIRE: SMOKE AND HEAT DETECTOR

FIRE ALARM: REMOTE TEST STATION

TO SCHEDULE

SCHEDULE

LUMINAIRE: RECESSED DOWNLIGHT OR PENDANT W/ TYPE, REFER

LUMINAIRE: ON EMERGENCY, LIFE SAFETY, OR LOCAL LIGHTING

LUMINAIRE: SURFACE OR RECESSED W/ TYPE, REFER TO

EXIT SIGN: CEILING MOUNTED W/ TYPE, SEE SCHEDULE

EM LIGHTS: WALL MOUNTED UNO, REFER TO SCHEDULE

REMOTE HEADS: WALL MOUNTED, REFER TO SCHEDULE

TV CONNECTION: 96" TO TOP, COAX CONNECTION, UNO

EXIT SIGN: WALL MOUNTED W/ TYPE, SEE SCHEDULE

PROGRAMMABLE LOGIC CONTROLLER PULL BOX PUSH-TO-TEST RIGID METAL COUNT SPECIFICATION SPEC SWITCH SWD SWITCHING DUTY TELEPHONE TYPICAL UNDERWRITERS LABORATORY U.N.O. UNLESS NOTED OTHERWISE

VOLT

VARIABLE FREQUENCY CONTROLLER

VARIABLE FREQUENCY DRIVE

NORMALLY CLOSED CONTACT

NORMALLY OPEN CONTACT

### **GENERAL NOTES**

THE CIRCUIT.

- 1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST ACCEPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL STATE AND LOCAL CODES.
- 2. COORDINATE THE INSTALLATION OF ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS WITH ARCHITECTURAL AND MECHANICAL PLANS, SPECIFICATIONS AND EQUIPMENT DRAWINGS. PROVIDE ALL NECESSARY EQUIPMENT POWER AND CONTROL CONNECTIONS NOT
- 3. UNLESS OTHERWISE NOTED, WHERE ELECTRICAL DEMOLITION WORK IS SHOWN, REMOVE ALL CONDUCTOR AND EXPOSED CONDUITS FROM EQUIPMENT OR OUTLET LOCATION BACK TO THE POWER SOURCE(S) FOR

PROVIDED BY OTHERS WHETHER INDICATED ON THE DRAWINGS OR NOT.

- 4. SEAL ALL WALL AND FLOOR PENETRATIONS TO MAINTAIN RATING.
- 5. BACK-TO-BACK OR THROUGH THE WALL BOXES SHALL NOT BE USED. 6. ALL LOW VOLTAGE CONDUCTORS SHALL BE STRANDED COPPER.
- 7. SPLICE CABLES OR CONDUCTORS IN OUTLET BOXES, DEVICE BOXES, PULL BOXES, JUNCTION BOXES. DO NOT SPLICE CABLES OR
- 8. RECEPTACLES INDICATED AS GROUND FAULT CIRCUIT INTERRUPTER (GFI)

CONDUCTORS IN CONDUIT BODIES.

CONTROL CONDUCTORS.

BEFORE PROCEEDING.

BIDDING OR CONSTRUCTION.

EQUIPMENT. U.N.O.

WEATHER PROOF

TRANSFORMER

XX AMPERE FUSE

XX AMPERE SWITCH

WIRE

WITH

X POLES

XF/ XFMR

XXAF

XXAS

- TYPE MUST BE GFI RECEPTACLE, NO FEED THROUGH. 9. BRANCH CIRCUITS FROM CIRCUIT BREAKER TYPE DISTRIBUTION EQUIPMENT WHICH SUPPLY MOTOR LOADS THAT ARE LESS THAN 6.0 AMP
- SHALL BE PROTECTED BY A 15 AMP CIRCUIT BREAKER. 10. FINAL CONNECTIONS TO ITEMS SUBJECT TO VIBRATION SHALL BE MADE WITH LIQUID TIGHT FLEXIBLE METAL CONDUIT. LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL NOT BE USED AS A GROUNDING CONDUCTOR.

PROVIDE A SEPARATE GREEN GROUNDING CONDUCTOR.

- 11. IN THE EVENT OF CONFLICTS BETWEEN THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS OR WITHIN THE DRAWINGS OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL BE ASSUMED TO BE CORRECT. REFER UNCERTAINTIES IN REQUIREMENTS
- TO THE ENGINEER FOR CLARIFICATION. 12. ALL BELOW GRADE LOCATIONS WITHIN BUILDINGS ARE DAMP LOCATIONS
- UNLESS OTHERWISE NOTED. 13. 120V AC CONTROL WIRING ASSOCIATED WITH MOTOR CONTROL CIRCUITS MAY BE RUN IN THE SAME RACEWAY WITH MOTOR POWER WIRING FOR CONSTANT SPEED MOTORS LESS THAN 30HP. FOR MOTORS 30HP AND GREATER OR FOR MOTORS POWERED FROM VARIABLE FREQUENCY CONTROLLERS, SEPARATE RACEWAYS SHALL BE USED FOR POWER AND
- 14. 120/240V CIRCUIT WIRING FOR ANY ROOM OR AREA MAY BE GROUPED INTO RACEWAYS AS REQUIRED UNLESS SEPARATE RACEWAYS ARE REQUIRED BY THE NEC. COMPLY WITH NEC REQUIREMENTS FOR CONDUCTOR DERATING.

15. CONDUIT PENETRATIONS OF FLOORS, LOWER LEVEL EXTERIOR WALLS OR

- WETWELL WALLS SHALL BE SLEEVED AND SEALED WITH LINKSEAL. SEE DETAILS ON MECHANICAL DRAWINGS. 16. IF COMPLIANCE WITH TWO OR MORE DIFFERING STANDARDS, REQUIREMENTS, DRAWINGS OR SPECIFICATIONS, OR ANY COMBINATION THEREOF, IS SPECIFIED AND THESE ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE MOST STRINGENT REQUIREMENT. THE MOST STRINGENT REQUIREMENT WILL BE THE BETTER QUALITY OR GREATER QUANTITY OF WORK, AND WILL TYPICALLY BE THE MORE EXPENSIVE OPTION. REFER UNCERTAINTIES AND REQUIREMENTS THAT ARE
- DIFFERENT, BUT APPARENTLY EQUAL, TO ENGINEER FOR A DECISION BEFORE PROCEEDING. 17. THE QUANTITY OR QUALITY LEVEL SHOWN OR SPECIFIED SHALL BE THE MINIMUM PROVIDED OR PERFORMED. THE ACTUAL INSTALLATION MAY COMPLY EXACTLY WITH THE MINIMUM QUANTITY OR QUALITY SPECIFIED, OR IT MAY EXCEED THE MINIMUM WITHIN REASONABLE LIMITS. TO COMPLY WITH THESE REQUIREMENTS, INDICATED NUMERIC VALUES ARE MINIMUM OR MAXIMUM, AS APPROPRIATE, FOR THE CONTEXT OF REQUIREMENTS. REFER UNCERTAINTIES TO ENGINEER FOR A DECISION
- 18. DESIGN DOCUMENTS MUST BE REPRODUCED IN THEIR ENTIRETY. INCLUDING ALL PLANS, SPECIFICATIONS, AND FRONT END DOCUMENTS.

19. ONLY COMPLETE DOCUMENT SETS ARE TO BE DISTRIBUTED TO

SUBCONTRACTORS AND SUPPLIERS OF THE CONTRACTOR DURING

20. FAILURE TO REVIEW AND COMPLY WITH A FULL SET OF CONTRACT DOCUMENTS WILL NOT BE ACCEPTED AS A VALID REASON FOR FAILURE TO MEET THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. 21. ALL ABOVE CEILING SYSTEMS AND COMPONENTS (INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, ETC.) SHALL BE COORDINATED SUCH THAT THE SYSTEMS ARE PROPERLY

INTEGRATED IN THE SPACE PROVIDED ABOVE CEILING AT THE CEILING

HEIGHTS NOTED. IT IS THE RESPONSIBILITY OF EACH CONTRACTOR TO

COORDINATE PATHWAYS WITHIN THE SPACE PROVIDED. CEILING HEIGHTS

WILL NOT BE MODIFIED. 22. EQUIPMENT SHALL BE MOUNTED 6'-0" AWAY FROM HEAT PRODUCING

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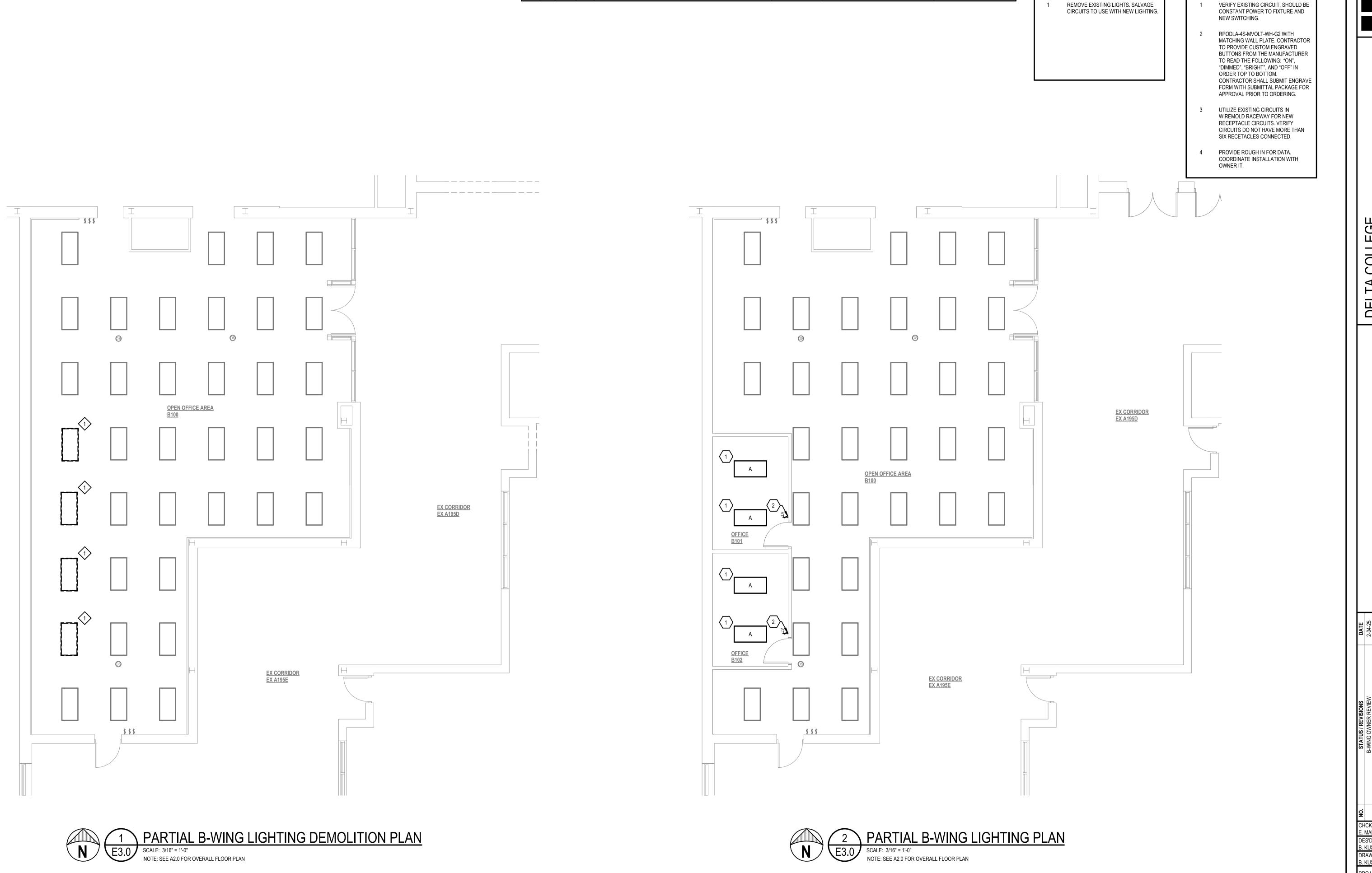
B. KUSHION PROJ #: 24-0543-0248

E. MARTER

B. KUSHION

DRAWN BY:

DES'D BY:



DESCRIPTION

LED 29.0 VA 120 V 2'x4' LED FLAT PANEL, 4,000 LUMENS, 80 CRI, 4000K, INTEGRAL SENSOR LITHONIA LIGHTING RES7PDT

LIGHTING FIXTURE SCHEDULE

LAMP

TYPE LAMP
NAME TYPE VA VOLT

**KEYED CONSTRUCTION NOTES** 

SYMBOL DESCRIPTION

KEYED DEMOLITION NOTES

SYMBOL DESCRIPTION

COMMENTS

**BASIS OF DESIGN** 

CAT. NO.

MANUFACTURER

DELTA COLLEGE B & D WING RENOVATIONS

PARTIAL B-WING LIGHTING



KEYED CONSTRUCTION NOTES

SYMBOL DESCRIPTION

DELTA COLLEGE B & D WING RENOVATIONS

**B-WING POWER**