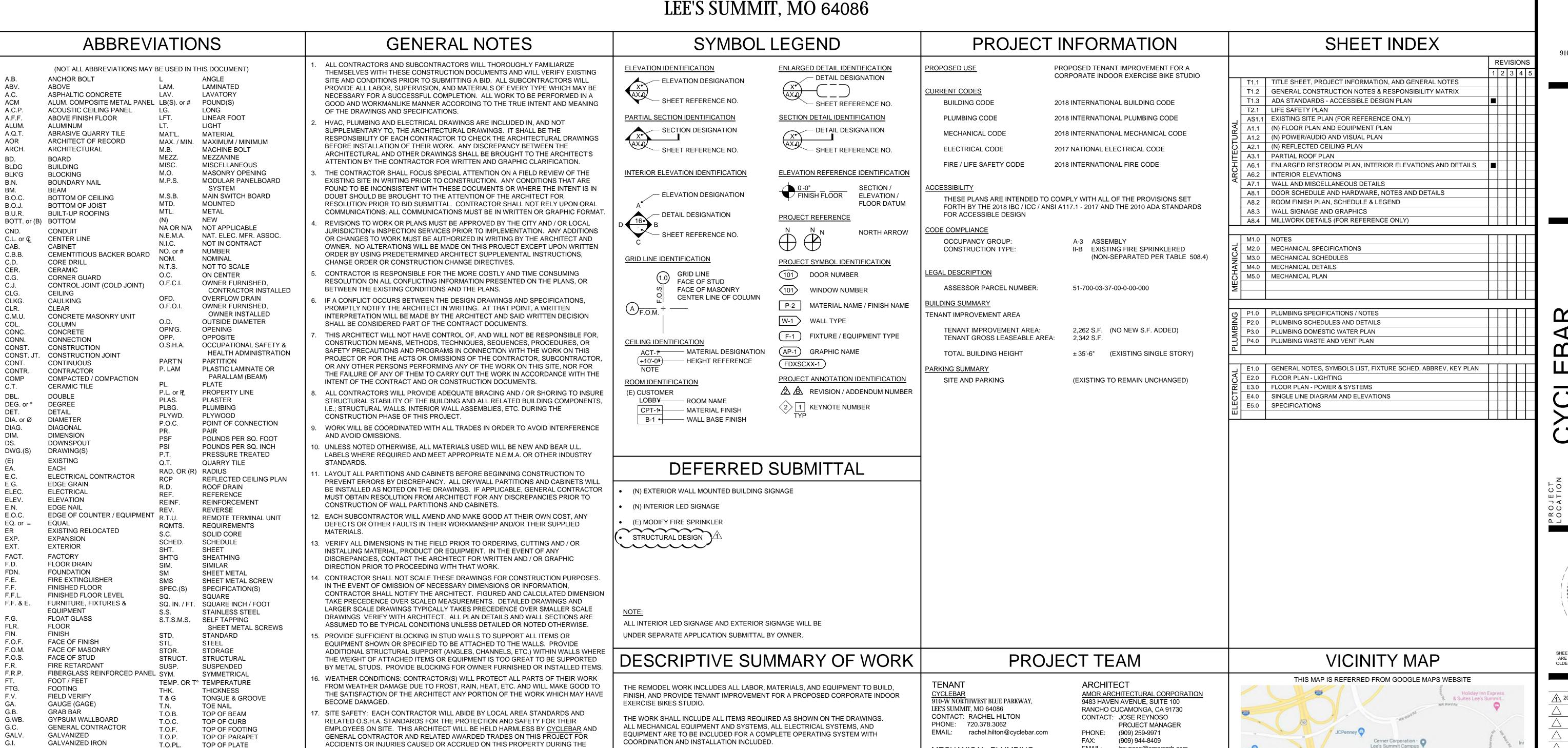
INTERIOR TENANT IMPROVEMENT 910-W NORTHWEST BLUE PARKWAY,



NEW FINISHES (PAINT, FLOORING, GRAPHICS, ETC.)

NEW FIXTURES

NEW PARTITION WALLS

(E) RESTROOM ADD (N) FINISHES

EMAIL:

EMAIL:

PHONE:

EMAIL:

MECHANICAL, PLUMBING

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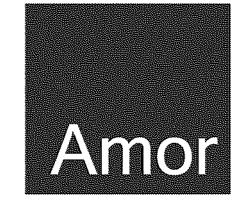
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910-W NORTHWEST BLUE PARKWAY,

CONSULTANT

| INFORM | NOTES

STAMP NUMBER A-201200403

SHEETS BEARING THIS SEAL AND WET SIGNATURE ARE AUTHENTICATED. RESPONSIBILITY FOR AL ARE DISCLAIMED.

REVISIONS 2020-04-13 PLAN CHECK CORRECTION DATE 2020.04.13 PROJECT NUMBER A2276

e Parkway

SHEET NUMBER

FLASHED IN SUCH A MANNER AS TO MAKE THEM WATERPROOF.

FLUSH AND OCCUR AT CENTERLINE OF DOORS TYPICALLY.

PRE / ACTUAL / POST CONSTRUCTION PHASES OF THIS PROJECT.

END OF EACH WORKING DAY.

PAINT (UNLESS NOTED OTHERWISE).

CONTRACTORS WILL BE RESPONSIBLE FOR REMOVAL AND ACCOUNT FOR QUANTITY

19. TRANSITION OF DIFFERENT FLOORING MATERIALS AT DOORWAYS SHALL SHALL BE

20. PAINT ALL WALL SURFACES, DOOR FRAMES, WINDOW FRAMES, BULKHEADS AND

OF DEBRIS ACCUMULATED BY EACH TRADE. HOWEVER, EACH TRADE WILL KEEP THE

CEILINGS IN ROOMS WHERE INDICATED ON ROOM FINISH SCHEDULE. PAINT BEHIND

ALL MOVEABLE ITEMS ADJACENT TO WALLS RECEIVING PAINT AND RELOCATE ITEMS.

ALL NEW PAINTING SHALL INCLUDE (1) ONE COAT PRIMER AND (2) TWO COATS OF

21. ALL WEATHER - EXPOSED SURFACES SHALL HAVE A WEATHER RESISTIVE BARRIER TO

PROTECT THE INTERIOR WALL COVERING AND EXTERIOR OPENINGS SHALL BE

JOB SITE CLEAN AND SAFE AT ALL TIMES, ALONG W/ A BROOM / VACUUM FINISH AT THE

TOP OF PLATE

TOP OF SLAB

TOP OF WALL

TYPICAL

VERT. OR (V) VERTICAL

TOP OF SHEATHING

VERIFY IN FIELD

WITH, WITHOUT

WATER CLOSET

WATER HEATER

WATER RESISTANT

WELDED WIRE FABRIC

WELDED WIRE MESH

WALK-IN BOX

WOOD

WEIGHT

VENT THROUGH ROOF

VINYL WALL COVERING

UNLESS NOTED OTHERWISE

UNDERWRITERS LABORATORY

T.O.S.

T.O.W.

T.S.

TYP.

U.L.

V.I.F.

V.T.R.

V.W.C.

W/C

WD.

WH

W.R.

WT.

WWF.

WWM.

W/ or W/O

U.N.O.

GLUE-LAMINATED BEAM

HOSE BIBB

HUB DRAIN

HARDWARE

HEADER

HANGER

HEIGHT

r H HORIZONTAL

HDR.

HDW.

HGR.

HGT. or H

HORIZ.

INSUL

JT. OR JNT.

HOLLOW CORE

HOLLOW METAL

INSIDE DIAMETER

IN EXAMPLE

INSULATION

INTERIOR

INVERTED

JOINT

JOIST

INCH / INCHES

HIGH STRENGTH BOLT

IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO VERIFY IF THE EXISTING FIRE ALARM / BURGLAR ALARM SYSTEM NEEDS TO BE MODIFIED IN ORDER TO ACCOMMODATE THE RENOVATION SPACE. THIS INCLUDES ALL AFFECTED AREAS TO INCLUDE MAIN LOBBY AND ADJACENT ROOMS. IF REQUIRED, THE CONTRACTOR MUST SUBMIT FIRE ALARM / BURGLAR ALARM SYSTEM SHOP DRAWINGS. ALL COSTS AND FEES SHOULD BE INCLUDED IN THE CONTRACTOR'S BID PROPOSAL TO THE OWNER. AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN APPROVAL AND SIGN-OFF FOR THE MODIFIED FIRE ALARM / BURGLAR ALARM SYSTEM BY ANY JURISDICTIONAL REQUIREMENTS.

ENTRANCES AND EXITS

- ALL ENTRANCES AND ALL EXTERIOR GROUND FLOOR EXIT DOORS TO BUILDING AND FACILITIES SHALL BE MADE ACCESSIBLE OR REMAIN ACCESSIBLE.
- EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
- MANUALLY OPERATED EDGE OR SURFACE MOUNTED FLUSH BOLTS AND SURFACE BOLTS ARE PROHIBITED. WHEN EXIT DOORS ARE USED IN PAIRS AND APPROVED AUTOMATIC FLUSH BOLTS ARE USED, THE DOOR LEAF HAVING THE AUTOMATIC FLUSH BOLTS SHALL HAVE NO DOOR KNOBS OR SURFACE MOUNTED HARDWARE. THE UNLATCHING OF ANY LEAF SHALL NOT REQUIRE MORE THAN ONE OPERATION.
- LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, PANIC BARS, PUSH-PULL ACTIVATION BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE. LOCKED EXIT DOORS SHALL OPERATE AS ABOVE IN EGRESS DIRECTION.
- NEW HAND ACTIVATED DOOR OPENING HARDWARE SHALL MATCH EXISTING DOORS (WHERE APPLIES,) LEVER MUST BE CENTERED BETWEEN 34" MIN. AND 44" MAX. ABOVE THE FLOOR.
- EVERY DOORWAY LOCATED WITHIN AN ACCESSIBLE PATH OF TRAVEL SHALL BE OF A SIZE AS TO PERMIT THE INSTALLATION OF A DOOR NOT LESS THAN 3'-0" IN WIDTH AND NOT LESS THAN 6'-8" IN HEIGHT. WHEN INSTALLED, EXIT DOORS SHALL BE CAPABLE OF OPENING SO THAT THE CLEAR WIDTH OF THE EXIT IS NOT LESS THAN 32".
- THERE SHALL BE A LEVEL AND CLEAR FLOOR OR LANDING ON EACH SIDE OF A DOOR. THE LEVEL AREA SHALL HAVE A LENGTH IN THE DIRECTION OF DOOR SWING OF AT LEAST 60" (5'-0") AND THE LENGTH OPPOSITE THE DIRECTION OF DOOR SWING OF 48" (4'-0") AS MEASURED AT RIGHT ANGLE TO THE PLANE OF THE DOOR IN THE CLOSED POSITION.
- FLOOR OR LANDING SHALL BE NOT MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY.
- DOORS SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. WHERE NARROW FRAME DOORS ARE USED, A 10" HIGH (KICK PLATE) SMOOTH PANEL SHALL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.
- 10. MAXIMUM EFFORT TO OPERATED DOORS SHALL NOT EXCEED 5 POUNDS FOR EXTERIOR DOORS AND 5 POUNDS FOR INTERIOR DOORS. SUCH PUSH OR PULL EFFORT BEING APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. COMPENSATION DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS. WHEN FIRE DOORS ARE REQUIRED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY BE INCREASED TO THE MAXIMUM ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY NOT TO EXCEED 15 POUNDS
- 11. DOORS WITH CLOSING DEVICES TO CLOSE SLOWER THAN 5 SECONDS WHEN OPEN TO 70° OR MORE.

DEMOLITION (WHERE APPLIES)

GENERAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, HAULING AWAY, AND RECYCLING OF ALL DEMOLISHED ITEMS TO INCLUDE WALL PARTITIONS, CEILINGS, DOORS AND FRAMES, MILLWORK, CONVEYOR SYSTEM, FLOORING, SIGNAGE, ETC. ON-SITE DUMPSTERS ARE NOT ALLOWED TO BE USED FOR CONSTRUCTION DUMPING. (RECYCLE AND / OR SALVAGE FOR REUSE A MINIMUM OF 65% OF THE NON-HAZARDOUS CONSTRUCTION AND DEMOLITION WASTE.

GENERAL RESPONSIBILITIES

- GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL CONTACT INFORMATION REGARDING THE PROJECT SITE TO INCLUDE NAMES AND TELEPHONE NUMBERS. CONTACTS SHOULD INCLUDE STORE MANAGER, LANDLORD / PROPERTY MANAGER, CITY BUILDING INSPECTORS, FIRE DEPARTMENT INSPECTORS, ETC. THIS MUST BE DONE AT LEAST (2) TWO WEEKS PRIOR TO START OF CONSTRUCTION SO THAT G.C. CAN GAIN ACCESS TO ALL AREAS OF THE SITE AND COMPLETE ALL NECESSARY INSPECTIONS FOR THE PROJECT.
- THE GENERAL CONTRACTOR SHALL PROVIDE STORAGE CONTAINERS, IF NECESSARY, TO RECEIVE CONSTRUCTION ITEMS SUCH AS MILLWORK, CONVEYOR SYSTEM, CART, ETC. G.C. SHALL, UPON RECEIVING OF OWNER FURNISHED ITEMS. REPORT ALL DAMAGED OR MISSING PARTS OR COMPONENTS TO THE ARCHITECT IMMEDIATELY. G.C. MUST COORDINATE FOR THE DELIVERY OF OWNER FURNISHED ITEMS TO BE PLACED IN THE G.C.'S DESIGNATED STORAGE CONTAINER LOCATION (2) TWO DAYS PRIOR TO START OF INSTALLATION OF THESE ITEMS.
- IT IS THE INTENT OF THE TENANT TO SALVAGE AND RECYCLE AS MUCH OF THE EXISTING MATERIALS AT THE JOBSITE AS POSSIBLE. FOR THE EXISTING MILLWORK, GENERAL CONTRACTOR SHALL PHYSICALLY VERIFY IF THE FIXTURES ARE STILL IN GOOD OR REASONABLE CONDITION FOR REUSE AT OTHER TENANT FACILITIES. G.C. SHALL INFORM THE TENANT OF HIS ANALYSIS. IF IT IS VERIFIED THAT THE FIXTURES ARE SO DAMAGED THAT IT WOULD NOT BE WORTH SALVAGING, THEN THE FIXTURES WOULD BE DEMOLISHED. IF THE FIXTURES ARE SALVAGEABLE WHEN DISCONNECTED FROM ITS CURRENT LOCATION, THEN THE G.C. SHALL MOVE THEM INTO THE EXISTING WAREHOUSE AT A LOCATION DETERMINED WITH THE TENANT AND / OR STORE MANAGER. THE TENANT SHALL PICK THE FIXTURES UP AT A LATER TIME FOR STORAGE AND FUTURE REUSE. FOR OTHER MATERIALS, THE G.C. SHALL PROVIDE AN ALTERNATE PRICE IN THE PROJECT BID FORM TO THE TENANT TO RECYCLE THESE MATERIALS (I.E., CEILING TILES, DRYWALL, DOORS, FLOORING, ETC.) THE TENANT SHALL INFORM THE G.C. WHETHER TO RECYCLE THE MATERIALS OR TO HAUL AWAY TO THE LOCAL LANDFILL
- THE G.C. IS RESPONSIBLE FOR MATERIALS AND LABOR REQUIRED FOR ANY ALTERATIONS TO FIRE SPRINKLERS, ELECTRICAL EQUIPMENT, PLUMBING, EMERGENCY & EXISTING LIGHTING, ALARM AND MECHANICAL SYSTEMS AS REQUIRED TO COMPLETE THE PROJECT AND OBTAIN FINAL INSPECTIONS.
- ANY DISCREPANCIES BETWEEN THESE DOCUMENTS AND THE ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH ANY WORK.
- THE GENERAL CONTRACTOR SHALL REVIEW ALL DOCUMENTS AND VERIFY ALL DIMENSIONS AND FIELD CONDITIONS AND SHALL CONFIRM THAT WORK IS CONSTRUCTIBLE AS SHOWN. ANY CONFLICTS OR OMISSIONS, ETC., SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT FOR CLARIFICATION PRIOR TO THE PERFORMANCE OF ANY WORK IN QUESTION.
- DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN ALL PARTITION LOCATIONS. ALL DOOR AND OPENING LOCATIONS SHALL BE SHOWN ON FLOOR PLAN. IN CASE OF CONFLICT, NOTIFY THE ARCHITECT OF RECORD. FLOOR PLAN BY ARCHITECT OF RECORD SUPERSEDES OTHER PLANS. ALL DIMENSIONS MARKED "CLEAR" SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF ALL FINISHES INCLUDING CARPET, PAD, CERAMIC TILE, VINYL COMPOSITE TILE, ETC.
- ALL INTERIOR DIMENSIONS ARE TO THE FACE OF NEW STUD, UNLESS NOTED OTHERWISE. COLUMN CENTER LINE (OR GRID LINES) ARE SHOWN FOR DIMENSIONING. VERIFY EXACT LOCATIONS IN FIELD (AS
-). $\;\;$ THE GENERAL CONTRACTOR SHALL MARK LOCATIONS OF PARTITIONS AND DOORS FOR REVIEW BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. REVIEW WILL BE FOR DESIGN INTENT. SUB-CONTRACTOR SHALL COORDINATE AND VERIFY ALL CONDITIONS TO ENSURE PROPER FIT.
- 10. THE GENERAL CONTRACTOR IS RESPONSIBLE TO FOLLOW <u>OWNER's GROUP RULES AND REGULATIONS.</u> WHEN THE G.C. ACCEPTS DELIVERY OF ALL ITEMS NOTED ON PLANS WHETHER IN CONTRACT OR NOT IN CONTRACT, (S)HE SHALL BE RESPONSIBLE FOR LOSS AND/OR DAMAGE TO THESE ITEMS
- 11. THE GENERAL CONTRACTOR SHALL MAINTAIN, FOR THE ENTIRE DURATION OF THE WORK, ALL EXITS, EXIT / EGRESS LIGHTING, FIRE PROTECTION DEVICES AND ALARMS IN CONFORMANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
- 12. ALL SAW CUTTING AND CORING LOCATIONS SHALL BE REVIEWED IN FIELD BY THE GENERAL CONTRACTOR AND COORDINATED WITH THE OWNER'S REPRESENTATIVE PRIOR TO CUTTING / CORING.
- 13. DURING ALL PHASES OF WORK, DO NOT DISTURB THE DELIVERIES AND FUNCTIONS OF <u>ALL</u> ADJACENT
- AND NEIGHBORING TENANTS. 14. PROVIDE PORTABLE FIRE EXTINGUISHER(S) IN ACCORDANCE WITH NFPA 10, WITH U.L. LABEL AND A RATING OF NOT LESS THAN 2-A WITH 75 FEET OF TRAVEL DISTANCE TO ALL POSITIONS OF STORE AND /
- OR AS DIRECTED BY THE FIRE DEPARTMENT FIELD INSPECTOR. 15. $\,$ ALL EXTERIOR BUILDING SIGNAGES SHALL BE SUBMITTED UNDER SEPARATE PERMIT APPLICATION FOR REVIEW AND APPROVAL AS REQUIRED BY LOCAL AUTHORITIES. EXTERIOR SIGNAGES ARE NOT WITHIN

THE SCOPE OF BUILDING DEPARTMENT APPROVAL.

ELECTRICAL, AND MECHANICAL APPROVALS.

- 16. PRIOR TO COMMENCEMENT OF ANY WORK THE OWNER OR OWNER'S REPRESENTATIVE SHALL ENGAGE LICENSED DESIGN PROFESSIONAL(S) TO PROVIDED ALL REQUIRED DOCUMENTATION FOR REVIEW. AND RECEIVE APPROVAL BY THE LOCAL AUTHORITIES HAVING JURISDICTION. INCLUDING BUT NOT LIMITED TO STRUCTURAL VERIFICATION AND DESIGN, BUILDING, FIRE, LIFE SAFETY, HEALTH, PLUMBING,
- 17. $\,$ IF REQUIRED BY LOCAL JURISDICTION SPRINKLER, LIFE SAFETY, AND FIRE ALARM SYSTEMS ARE TO BE DESIGNED AND SUBMITTED FOR REVIEW AND APPROVAL BY LOCALLY LICENSED DESIGN PROFESSIONAL. THE DESIGN OF ALL SYSTEM(S) MUST COMPLY TO ALL FEDERAL, NATIONAL, STATE, AND LOCAL CODES AND ORDINANCES.
- 18. EXISTING ENERGY MANAGEMENT SYSTEM (VERIFY IN FIELD) TO REMAIN IN STORE AND BE FULLY FUNCTIONAL AND OPERATIONAL AT COMPLETION OF REMODEL PROJECT.

FINISHES

GYPSUM WALLBOARD (WHERE APPLIES)

1. PROVIDE GYPSUM WALLBOARD, STEEL FRAMING COMPONENTS, AND ACCESSORIES ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS GYPSUM ASSOCIATION'S FIRE RESISTANCE DESIGN MANUAL. PRODUCTS SPECIFIED HEREIN ARE AS MANUFACTURED BY U.S. GYPSUM ASSOCIATION. EQUIVALENT PRODUCTS OF OTHER MANUFACTURERS WILL BE CONSIDERED PROVIDED THEY MEET THOSE ESTABLISHED STANDARDS. MAKE APPROPRIATE SUBMITTAL FOR ANY

GENERAL CONSTRUCTION NOTES

ARCHITECT WILL NOT REIMBURSE CONTRACTOR OR SUB-CONTRACTOR FOR CITY OR STATE LICENSE FEES WHICH MAY BE REQUIRED TO PERFORM WORK.

- . UNLESS NOTED OTHERWISE (E.G. SPECIAL WALL COVERING AREAS) ALL GYPSUM WALLBOARD SHALL BE TAPED, SMOOTH, AND PAINTED.
- B. VERIFY ANY SPECIAL FINISH AREA PRIOR TO COMMENCING WORK.

PAINTING

- 1. SEE FINISH SCHEDULE FOR ALL PAINT PRODUCTS AND SPECIFICATIONS.
- 2. THE WORK INCLUDES, BUT IS NOT LIMITED TO FURNISHING OF MATERIALS AND EQUIPMENT, AND COMPLETION OF PAINTING AND PAINTER'S FINISH ON EXPOSED SURFACES AS REQUIRED TO COMPLETE FINISHING OF THE WORK INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE OF MATERIALS AND APPLICATION WITH GOVERNING AGENCIES (LOCAL STATE AND FEDERAL) IN CONNECTION WITH THIS PROJECT.
- 4. THE FOLLOWING EXPOSED SURFACES ARE TO BE PAINTED: A. UNLESS NOTED OTHERWISE, ALL GYPSUM WALLBOARD NOT COVERED BY OTHER MATERIALS.
- B. ALL EXISTING WALLBOARD TO A MIN. OF 6" ABOVE ROOM CEILING. TYPICAL, UNLESS NOTED OTHERWISE ON ROOM FINISH SCHEDULE.
- C. ALL METAL IN IMPROVED AREAS NOT PRE-FINISHED PRIOR TO INSTALLATION.
- D. ALL WOOD SURFACES, TRIM, OR PIECES NOT PRE-FINISHED PRIOR TO INSTALLATION. (DO NOT PAINT INTERIOR ELEMENTS NORMALLY CONCEALED SUCH AS STRUCTURAL COMPONENTS AND
- A. PAINTED PRODUCTS SHALL BE MANUFACTURED BY APPROVED OR SCHEDULED PRODUCT. B. ACCESSORY MATERIALS SUCH AS TURPENTINE / THINNER / UNSEED OIL SHALL BE APPROVED BY THE COATING MANUFACTURER.
- C. THE NUMBER OF COATS IS TO BE THREE (3) MINIMUM. ADDITIONAL COATS SHALL BE APPLIED AT NO ADDITIONAL COST IF NECESSARY TO COMPLETELY HIDE BASE MATERIALS, PRODUCE UNIFORM COLOR, AND PROVIDE SATISFACTORY FINISH RESULTS.
- D. APPLICATION AND SURFACE PREPARATION SHALL BE DONE ACCORDING TO MANUFACTURER'S WRITTEN SPECIFICATIONS AND APPLICATION INSTRUCTIONS. ALL FINISHES SHALL BE APPLIED EVENLY AND BE FREE OF RUNS, SAGS, SKIPS, CRAWLS, AND / OR DEFECTS.

THE CONTRACTOR SHALL PROTECT HIS OWN WORK, AND ADJACENT EXISTING WORK AND

- MATERIALS, WITH SUITABLE COVERINGS OR MASKINGS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CLEANING THE AREA OF HIS WORK AS WELL AS REMOVAL OF ALL EXCESS MATERIAL (EITHER FROM ADJACENT SURFACES OR EXTRA MATERIALS). CONTRACTOR TO PAINT, REPAIR OR REPLACE ANY BUILDING OR ELECTRICAL COMPONENTS DURING CONSTRUCTION AT HIS OWN EXPENSE.
- F. SURFACES TO BE PAINTED SHALL BE FREE OF OIL GREASE, LOOSE PAINT, OR OTHER FOREIGN MATERIAL.
- 6. CONTRACTOR TO VERIFY FINISHES ON SIGNAGE WITH THE ARCHITECT.

CABINET WORK

5. MATERIALS

- 1. MAKE ALL FINISHED WORK PER THE DETAILED DRAWINGS.
- 2. TAKE SUCH FIELD MEASUREMENTS AS MAY BE REQUIRED.
- 3. ALL FINISHED CABINET MATERIALS TO BE AS CALLED OUT PER THE CONSTRUCTION DOCUMENTS.
- 4. PLASTIC LAMINATE FINISHING SHALL CONFORM TO REQUIREMENTS OF ARCHITECTURAL WOODWORK INSTITUTE. "QUALITY STANDARDS" FOR "CUSTOM" GRADE AND NOTES CONTAINED HEREIN.
- INSTALLATION INSTALL UNITS LEVEL AND PLUMB WITH TIGHT JOINTS BETWEEN ANY MULTIPLE UNITS. SCRIBE TO WALL AND OTHER SURFACES AS REQUIRED. ADJUST ALL DRAWERS, DOORS AND MOVABLE PARTS TO OPERATE EASILY AND SMOOTHLY WITHOUT BINDING.
- 6. ALL DRAWERS TO BE FULL EXTENSION SIDES WITH A 75 LBS. LOAD CAPACITY.
- 7. MILLWORK CONTRACTOR IS TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- THE GENERAL CONTRACTOR AND MILLWORK CONTRACTOR ARE TO COORDINATE AND INSTALL ALL REQUIRED BLOCKING, ANGLE BRACES, SUPPORTS, ETC., TO SUFFICIENTLY SUPPORT ALL COUNTERS.
- COUNTERTOP FINISHES TO BE PER FINISH SCHEDULE AND / OR SHOP DRAWINGS
- CABINET FACES TO BE PER FINISH SCHEDULE AND / OR SHOP DRAWINGS 10.HARDWARES TO BE AS CALLED OUT PER PLANS AND SCHEDULES. (TYPICAL)

ELECTRICAL - IN ACCORDANCE TO DETAIL 12 / T1.3

- 1. BOTTOM OF ELECTRICAL OUTLET J-BOXES SHALL BE INSTALLED NOT LESS THAN 15" ABOVE THE FINISHED FLOOR OR WORKING PLATFORM.
- 2. THE TOP OF THE J-BOX OF CONTROLS OR SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES, OR COOLING, HEATING AND VENTILATING EQUIPMENT SHALL NOT BE MORE THAN 48" ABOVE THE FINISHED FLOOR OR WORKING
- 3. THE TOP OF FIRE ALARM INITIATING DEVICES (BOXES) SHALL BE LOCATED 48" ABOVE THE LEVEL OF THE FINISHED FLOOR, WORKING PLATFORM, GROUND SURFACE OR SIDEWALK.
- 4. THE INSTALLATION OF FIRE ALARM EQUIPMENT AND SYSTEMS IN ANY OCCUPANCY WITHIN THE SCOPE OF THESE REGULATIONS SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE LOCAL, STATE & FEDERAL CODES AND REGULATIONS.
- 5. (WHERE APPLIES,) GENERAL CONTRACTOR TO SUPPLY (N) PANEL SCHEDULES FOR ALL ELECTRICAL PANELS PRIOR TO COMPLETION OF THE REMODEL.

HAZARDS AND PROTRUDING OBJECTS - IN ACCORDANCE TO DETAIL 8 / T1.3

- 1. OBJECTS PROJECTING FROM WALLS WITH THEIR LEADING EDGES ABOVE 27" AND BELOW 80" ABOVE THE FINISHED FLOOR SHALL PROTRUDE NO MORE THAN 4" INTO WALKS, HALLS, CORRIDORS, PASSAGEWAYS,
- 2. OBJECTS MOUNTED WITH THEIR LEADING EDGES AT OR BELOW 27" ABOVE THE FINISHED FLOOR MAY PROTRUDE ANY AMOUNT INTO WALKS, HALLS, CORRIDORS, PASSAGE WAYS OR AISLES. ANY OBSTRUCTION THAT OVERHANGS A PEDESTRIAN WAY SHALL BE A MINIMUM OF 80" ABOVE THE WALKING SURFACE AS MEASURED FROM THE BOTTOM OF THE OBSTRUCTION.
- 3. FREESTANDING OBJECTS MOUNTED ON POSTS OR PYLONS MAY OVERHANG 12" MAXIMUM FROM 27" TO 80" ABOVE THE GROUND OR FINISHED FLOOR.
- 4. PROTRUDING OBJECTS SHALL NOT REDUCE THE CLEAR WIDTH OF AN ACCESSIBLE ROUTE OR
- 5. WALKS, HALLS, CORRIDORS, PASSAGEWAYS, AISLES OR OTHER CIRCULATION SPACES SHALL HAVE 80" (INCHES) MINIMUM CLEAR HEAD ROOM.
- 6. CONTRACTOR TO CONTACT ARCHITECT IF ROOF PENETRATIONS ARE DEEMED NECESSARY. ANY ROOF PENETRATIONS MUST BE COMPLETED BY LANDLORD APPROVED ROOFING CONTRACTOR.

- 1. THE SIGNAGE AT THE STOREFRONT WILL BE CONTRACTED DIRECTLY BY THE GENERAL CONTRACTOR. THE G.C. MUST PROVIDE ANY AND ALL REQUIRED J-BOXES AS WELL AS ACCESS PANELS TO ALL SIGNAGE AS NECESSARY. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH ITS SIGN CONTRACTOR AND MAKING SURE THE JOB IS DONE ON TIME. FULLY DETAILED SHOP DRAWINGS MUST BE SUBMITTED TO THE ARCHITECT FOR REVIEW. THESE ARCHITECTURAL PLANS ONLY SHOW LIMITED DESIGN DETAILS AND ARE NOT ADEQUATE FOR CONSTRUCTION OF THE SIGN. SEE SIGN SHOP DRAWINGS. SIGN DRAWINGS WILL BE PREPARED BY OTHERS AND ARE UNDER SEPARATE PERMIT.
- 2. BARRIER LAWS FOR THE PHYSICALLY HANDICAPPED ARE MINIMUM GUIDELINES. SHOULD THERE BE A CONFLICT BETWEEN THESE MINIMUM REQUIREMENTS AND WHAT IS CALLED FOR ON THE DRAWINGS, THE CONTRACTOR IS TO INFORM THE ARCHITECT FOR WRITTEN AND/OR GRAPHIC CLARIFICATION PRIOR TO PROCEEDING WITH WORK SO AFFECTED.

FIRE SPRINKLER SYSTEM (WHERE APPLIES)

IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO VERIFY IF THE EXISTING FIRE SPRINKLER SYSTEM NEEDS TO BE MODIFIED IN ORDER TO ACCOMMODATE THE RENOVATION SPACE. THIS INCLUDES ALL AFFECTED AREAS TO INCLUDE MAIN LOBBY AND ADJACENT ROOMS. IF REQUIRED, THE CONTRACTOR MUST SUBMIT FIRE SPRINKLER SHOP DRAWINGS AND OBTAIN A FIRE SPRINKLER PERMIT FROM THE LOCAL FIRE DEPARTMENT AND / OR BUILDING DEPARTMENT. ALL COSTS AND FEES SHOULD BE INCLUDED IN THE CONTRACTOR'S BID PROPOSAL TO THE OWNER. AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN AN INSPECTION FOR APPROVAL AND SIGN-OFF FOR THE MODIFIED FIRE SPRINKLER SYSTEM BY THE FIRE DEPARTMENT AND BUILDING INSPECTOR.

GENERAL CONTRACTOR TO PERFORM A LINE JETTING OF ALL PLUMBING LINES AFTER NEW WORK IS COMPLETE. GENERAL CONTRACTOR MUST SUPPLY CERTIFICATE OF INVOICE WITH CLOSE OUT PACKAGE.

1. CODES

ALL WORK SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES. NOTHING SHOWN IN THESE DRAWINGS SHALL BE CONSTRUED AS PERMISSION TO VIOLATE ANY GOVERNING CODES.

2. PERMITS

- A. THE GENERAL CONTRACTOR (G.C.) WILL PAY FOR ALL APPLICABLE BUILDING AND SIGNAGE PERMIT AND ANY LOCAL JURISDICTION FEES OR ASSESSMENTS AS APPLICABLE. HOWEVER, THE GENERAL CONTRACTOR SHALL INCORPORATE ALL MECHANICAL, ELECTRICAL, PLUMBING (M.E.P.) AND CIVIL PERMITS AS NECESSARY IN HIS / HER BID PROPOSAL TO THE OWNER. THE M.E.P. AND CIVIL PERMITS WILL NOT BE PAID BY THE ARCHITECT. THE G.C. WILL PHYSICALLY PULL THE BUILDING PERMIT AND THE SIGNAGE PERMIT. THE G.C. MUST COORDINATE WITH HIS / HER SUBCONTRACTORS TO ENSURE THEIR APPLICABLE PERMITS ARE PULLED. THE G.C. AND ALL SUBCONTRACTORS PERFORMING WORK ON SITE MUST OBTAIN THEIR MUNICIPALITY BUSINESS LICENSES AT THEIR EXPENSE PRIOR TO START OF CONSTRUCTION. NOT HAVING ALL SUBCONTRACTOR BUSINESS LICENSES PAID FOR AT THE MUNICIPALITY MAY PREVENT THE PROJECT FROM FINAL LOCAL JURISDICTION APPROVAL AND SIGN-OFF.
- B. THERE MAY BE INSTANCES WHERE THERE ARE OUTSTANDING PLAN CHECK FEES THAT HAVE NOT BEEN PAID. THE G.C. WILL COORDINATE WITH THE APPROPRIATE MUNICIPALITY PLANNING AND / OR BUILDING DEPARTMENT AND DETERMINE ANY OUTSTANDING FEES. THE G.C. WILL NOTIFY THE ARCHITECT AND RECEIVE APPROVAL PRIOR TO PAYING THESE OUTSTANDING FEES. THIS WILL ALLOW THE G.C. TO NOT BE DELAYED IN PULLING THE BUILDING PERMIT.
- C. THE GENERAL CONTRACTOR WILL BE RESPONSIBLE TO HIRE HIS / HER OWN SIGNAGE SUBCONTRACTOR FOR THE PROJECT.

3. CONSTRUCTION DOCUMENTS

- A. THE INTENTION OF THESE DOCUMENTS IS TO INCLUDE ALL LABOR, MATERIALS, SERVICES, EQUIPMENT AND TRANSPORTATION NECESSARY FOR THE COMPLETE AND PROPER EXECUTION OF THE WORK INDICATED ON THE DRAWINGS OR REASONABLY INFERRED THESE FROM. THE ARCHITECT WILL IN NO WAY BE RESPONSIBLE FOR HOW THE FIELD WORK IS PERFORMED, SAFETY IN, OR ABOUT, THE JOB SITE METHODS OF PERFORMANCE OR TIMELINES IN THE PERFORMANCE, OF THE WORK. IF DISCREPANCIES EXIST BETWEEN PLANS OF DIFFERENT SCALES, THE LARGER SCALE PLAN TYPICALLY WILL GOVERN. NOTIFY ARCHITECT FOR A WRITTEN OR GRAPHIC CLARIFICATION OF SUCH DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.
- B. ALL ARCHITECT CLARIFICATIONS WILL BE WRITTEN AND / OR GRAPHIC VIA ARCHITECTURAL SUPPLEMENTAL INSTRUCTIONS, CHANGE ORDERS OR CONSTRUCTION DIRECTIVES.

- A. ALL BIDDERS PRIOR TO SUBMITTAL OF BIDS SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH THE ARCHITECTS' PLANS & EXISTING CONDITIONS AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCY OR OMISSIONS OF ANY INFORMATION NECESSARY FOR COMPLETION OF THEIR SCOPE OF WORK.
- B. ALL TRADES SHALL FURNISH ALL LABOR, EQUIPMENT, MATERIALS AND SERVICES REQUIRED TO PERFORM ALL WORK NECESSARY, INDICATED OR REASONABLY INFERRED OR REQUIRED BY ANY APPLICABLE CODE TO COMPLETE THEIR SCOPE OF WORK FOR A COMPLETE AND PROPERLY FINISHED JOB.
- C. CONTRACTORS PRIOR TO BIDDING SHALL GUARANTEE THAT ALL OTHER SUB-BIDDEES OR SUB-CONTRACTORS SHALL BE GIVEN COMPLETE FULL SETS OF PLANS TO INSURE THAT THEY HAVE INCLUDED ALL ITEMS NECESSARY TO COMPLETE THEIR WORK. ANY ITEM MISSED BY THESE SUBCONTRACTORS IN THEIR BIDS SHALL BE ABSORBED BY THE GENERAL CONTRACTOR AT HIS OR HER OWN EXPENSE AND IN NO WAY WILL AFFECT ANY ADDITIONAL COST OVER AND ABOVE THE FINAL BID.
- D. ALL TRADES SHALL PROVIDE BIDS ACCORDING TO THE PLANS AND SPECIFICATIONS. ANY ALTERNATE SHALL BE SUBMITTED TO THE OWNER (IN WRITING) FOR APPROVAL PRIOR TO ACCEPTANCE OF BID.

- A. PRIOR TO COMMENCING, THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS AND VERIFY CONDITIONS AT THE SITE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. CONTRACTOR SHALL VERIFY w/ THE PROPER UTILITY COMPANY OR OTHER AGENCY OR COMPANY THE LOCATIONS OF ALL EXISTING BELOW GRADE UTILITIES AND THEIR SERVICE CONNECTION PRIOR TO THE COMMENCEMENT OF WORK.
- B. NO CONTRACTOR OR SUB-CONTRACTOR IS TO START ANY WORK UNTIL A THOROUGH EXAMINATION OF ALL THE EXISTING CONDITIONS IS PERFORMED. IF FOR ANY REASON A SATISFACTORY JOB IS IMPOSSIBLE, IT SHALL BE IMMEDIATELY REPORTED TO THE PROJECT SUPERINTENDENT AND ARCHITECT FOR WRITTEN OR GRAPHIC CLARIFICATION BEFORE PROCEEDING WITH THE JOB.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FOR SELECTING FABRICATION PROCESSES, FOR TECHNIQUES OF ASSEMBLY, FOR COORDINATION OF HIS WORK WITH THAT OF OTHER TRADES AND FOR PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.
- D. CONTRACTOR TO VERIFY AND ENSURE AVAILABILITY AND TIMELY DELIVERY OF SPECIFIED OR SUBSTITUTED PRODUCTS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ARCHITECT OF POSSIBLE CHANGES TO CONSTRUCTION DOCUMENTS OR ANY CONSTRUCTION DELAY DUE TO NON AVAILABILITY OR LATE DELIVERY OF MATERIALS. CONTRACTOR (& NOT THE ARCHITECT) IS RESPONSIBLE FOR NON AVAILABILITY OR LATE DELIVERY OF PRODUCTS DURING CONSTRUCTION.
- E. ANY CONTRACTOR PRIOR TO INSTALLATION OR PROCUREMENT OF MATERIALS SHALL NOTIFY ARCHITECT OF PROBLEMS IF ANY. FAILURE TO DO SO SHALL MEAN THAT ALL NECESSARY CORRECTIVE MEASURE, DOCUMENTATION, ETC. SHALL BE DONE BY THAT CONTRACTOR AT HIS OWN EXPENSE AND TIME.
- F. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE BUILDING LINES AND LEVELS. THE CONTRACTOR SHALL COMPARE CAREFULLY THE LINES AND LEVELS SHOWN ON THE DRAWINGS WITH EXISTING LEVELS FOR THE CONSTRUCTION OF THE WORK AND SHALL BRING TO THE ARCHITECT'S ATTENTION OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.
- G. PROVIDE ALL NECESSARY BACKING AND FRAMING FOR ALL WALL MOUNTED ITEMS, LIGHT FIXTURES AND ALL OTHER ITEMS REQUIRED.

- A. THE DESIGN PROFESSIONAL (DP) SHALL CONSULT WITH THE CLIENT REGARDING THE PROBABLE SERVICES REQUIRED TO COMPLY WITH BUILDING CODES AND AMERICANS with DISABILITIES ACT (ADA). THE DP IS NOT AN ATTORNEY NOR SHOULD THE DP'S RENDERING AN OPINION OF PROBABLE SERVICES REQUIREMENTS BE CONSIDERED EQUIVALENT TO A LEGAL INTERPRETATION OF ADA. THE DP'S OPINION WILL BE BASED SOLELY ON HIS / HER OWN EXPERIENCE AND KNOWLEDGE. THIS REQUIRES THE DP TO MAKE A CERTAIN NUMBER OF ASSUMPTIONS AS TO THE TYPES OF DISABILITIES COVERED BY ADA. THE DEGREE OF ACCESS THAT IS READILY ACHIEVABLE AND WHAT CONSTITUTES 'READILY ACCESSIBLE AND USABLE'. GIVEN THE ASSUMPTIONS WHICH MUST BE MADE THE DP CANNOT AND DOES NOT GUARANTEE THE ACCURACY OF HIS / HER OPINION AS TO FULL COMPLIANCE AND IN RECOGNITION OF THAT FACT, THE CLIENT WAIVES ANY CLAIM AGAINST THE DP RELATIVE TO THE ADEQUACY OF THE OPINION TO FULLY COMPLY WITH BUILDING CODES AND ADA REQUIREMENTS.
- B. THE ARCHITECT WHO SIGN THESE PLANS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE SHALL NOT BE HELD RESPONSIBLE FOR DAMAGES RESULTING FROM CHANGES OR USES NOT AUTHORIZED OR APPROVED BY THE ARCHITECT. THE SIGNING OF THESE DOCUMENTS WILL NOT IMPOSE A LEGAL DUTY OR RESPONSIBILITY TO OBSERVE THE CONSTRUCTION AND / OR INSTALLATION OF THE FIXED WORKS SUBJECT TO THESE DOCUMENTS.
- C. ALL BRACING NECESSARY FOR CONSTRUCTION PURPOSES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- D. THE DESIGN ADEQUACY AND SAFETY OF THE ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC, SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE PRIOR TO THE APPLICATION OF ALL SHEAR WALLS, ROOF AND FLOOR DIAPHRAGMS AND FINISH MATERIALS. THE CONTRACTOR SHALL PROVIDE THE NECESSARY BRACING TO PROVIDE STABILITY PRIOR TO THE APPLICATION OF THE AFOREMENTIONED MATERIALS. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.

7. INTENTION

UNLESS NOTED OTHERWISE, THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT & TRANSPORTATION NECESSARY FOR COMPLETE AND PROPER EXECUTION OF THE WORK.

NO SUBSTITUTION SHALL BE MADE WITHOUT THE ARCHITECT'S APPROVAL.

THE OWNER OR ARCHITECT MAY ORDER EXTRA WORK OR MAKE CHANGES BY ALTERING, ADDING TO, OR DEDUCTING FROM THE WORK. THE CONTRACT SUM BEING ADJUSTED ACCORDINGLY.

ALL TRADES SHALL FURNISH ALL LABOR, EQUIPMENT, MATERIALS AND PERFORM ALL WORK NECESSARY.

REASONABLY INFERRED OR REQUIRED BY ANY CODE OR REGULATION ADOPTED BY LOCAL JURISDICTION.

TO COMPLETE THEIR SCOPE OF WORK FOR A COMPLETE AND PROPERLY FINISHED JOB.

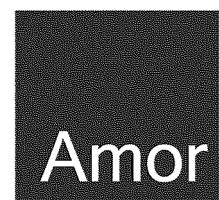
11. CUTTING AND PATCHING ALL TRADES SHALL DO THEIR OWN CUTTING, FITTING, PATCHING, ETC. TO MAKE THE SEVERAL PARTS COME TOGETHER PROPERLY AND FIT IT TO RECEIVE OR BE RECEIVED BY WORK OF OTHER TRADES.

THE CONTRACTOR SHALL CLEANUP, REMOVE AND RECYCLE IN A LEGAL MANNER AND NOT DISPOSE IN LANDFILL ALL DEBRIS AND WASTE ATTRIBUTED TO THE JOB.

13. (AS-BUILT) DRAWINGS

GENERAL CONTRACTOR TO KEEP AN ACCURATE RECORD OF CHANGES IN FIELD AND SUBMIT A COMPLETE SET OF AS-BUILT DRAWINGS TO THE ARCHITECT FOR HIS / HER REVIEW AND TO THE OWNER. FOREMAN TO HAVE AN ACCURATE FLOOR PLAN AND PROJECT SCHEDULE ON-SITE AT ALL TIMES.

RESPONSIBILITY MATRIX							
	۵		FRO	CHS	G.	.C.	NOTE: CB. PACK. CYCLEBAR PACKAGE FRCHS FRANCHISEE
	NOT REQ'D	EXISTING	FURNISH	ALL	FURNISH	ALL	
DESCRIPTION	NOT	EXIS	FUR	INSTALL	FUR	INSTALL	REMARKS
DIVISION 01 - GENERAL REQUIREMENTS							
1. BUILDING PERMITS			0				PERMITS & FEES PAID BY G.C.
2. THIRD PARTY INSPECTION					0	+-	ANY 3RD PARTY INSPECTION REQUIRED BY CITY
A. TEST AND BALANCE					0	0	
TEMPORARY UTILITIES FINAL CLEAN UP					0	0	
5. INSURANCE					0	0	
6. PROTECTION OF ALL FINISHED SURFACES					0	0	BOTH OWNER AND GENERAL CONTRACTOR
7. TEMPORARY LABOR					0	0	
8. DUMPSTER					0	0	
9. STORAGE CONTAINER					0	0	G.C. TO COORDINATE AND PROVIDE STORAGE CONTAINER FOR OWNER FURNISHED ITEMS
DW/GON OA MAGONINY							DURING LAST 2 WEEKS OF CONSTRUCTION
DIVISION 04 - MASONRY 1. COUNTERTOPS	<u> </u>	ĺ			0	0	UTILITY ROOM ONLY. OPTIONAL
DIVISION 05 - METALS							OTIENT ROOM ONET. OF HONAL
1. RETAIL BUNKERS SLAT WALL			0			0	
DIVISION 06 - WOOD & PLASTICS							
1. WOOD FRAMING - STUDS, BACKING					0		
2. WOOD CARPENTRY - CASEWORK, MILLWORK						0	G.C. IS RESPONSIBLE FOR RECEIVING, STORING, AND PROTECTING ALL MILLWORK ON SITE. SEE
							MILLWORK SHEET FOR SPECIFIC SIZES AND UNIT DETAILS.
A. RECEPTION DESK (LOBBY)			0			0	G.C. TO SET IN PLACE
B. RECEPTION BACK BAR			0			0	G.C. TO SET IN PLACE
C. SHOE & TOWEL BIN			0			0	G.C. TO SET IN PLACE
D. SHOE CUBBY			0			0	G.C. TO SET IN PLACE
E. REFRIGERATION STATION			0			0	G.C. TO SET IN PLACE
F. LOCKERS (MODULAR UNITS. PRE-FAB. BASE FRAMING ARE INSTALLED BY GC)			0			0	
G. VANITIES (RESTROOMS) DIVISION 07 - THERMAL AND MOISTURE					0	0	WHERE APPLICABLE
					0	0	
ROOFING PENETRATIONS INSULATION (INTERIOR WALLS)					0	0	
3. INSULATION (ROOF DECK)					0	0	
DIVISION 08 - OPENINGS							PREFERRED VENDOR
1. INTERIOR DOORS & FRAMES					0	0	
2. HOLLOW METAL FRAMES					0	0	
3. DOOR HARDWARE					0	0	
4. ENTRANCES AND STOREFRONT (IF REQ'D)					0	0	
MIRRORS REAR SERVICE DOOR					0	0	G.C. TO BRING REAR DOOR TO PROPER WORKING
DIVISION 09 - FINISHES							C.C. TO BRING REAR BOOK TO FROI ER WORKING
1. VINYL FLOORING			0			0	
2. TILE FLOORING			0			0	
3. FLOOR PROTECTION					0	0	G.C. TO PROTECT FLOORING FROM DAMAGES
DIVISION 10 - SPECIALTIES	-	1			_	_	
1. GRAB BARS					0	0	DV FD OUG
2. HAND TOWEL DISPENSERS IN RSTR. & B.O.H.3. TOILET PAPER DISPENSERS					0	0	BY FRCHS. BY FRCHS.
4. SANITARY NAPKIN DISPOSALS (WOMEN'S)					0	0	BTT NOTICE
5. RESTROOM & EXERCISE ROOM MIRRORS					0	0	1/4" MIRROR W/ SAFETY BACK @ EXERCISE ROOM
6. ADA & HC TACTILE SIGNS PER CODE					0	0	
A. FIRE EXTINGUISHERS					0	0	
7. ALL SPECIALTY SIGNAGE PER CODE					0	0	
DIVISION 11 - EQUIPMENT		1	_				
WORKOUT EQUIPMENT			0	0			
2. SPEAKERS DIVISION 12 - FURNISHINGS						0	
1. BENCHES			0			0	G.C. TO ASSEMBLE UPON DELIVERY
							i i i i i i i i i i i i i i i i i i i
2. SIGNAGE A. EXTERIOR SIGNAGE	\vdash		0	0	\vdash		
B. LOBBY SIGNAGE			0	0			
C. STUDIO SIGNAGE			0	0			
D. WALL GRAPHICS			0	0			
3. STORAGE ROOM SHELVING			0			0	G.C. TO INSTALL FRCHS. SELECTED SHELVING
DIVISION 22 - PLUMBING	_	1	1				
WATER CLOSET & LAVATORY / HANDSINK WASHER / DRYER / REFRIGERATOR			0		0	0	
WASHER / DRYER / REFRIGERATOR MOP BASIN (w/ BACK FLOW PREVENTOR)					0	0	
4. WATER FOUNTAIN					0	0	
5. FLOWATER			0			0	
DIVISION 23 - HEATING, VENTILATING, AND AIR CON	DITI	ONII	NG (HVA			
THERMOSTATS AND REMOTE SENSORS RTU'S					0	0	
RTU'S RTU FILTER & CHANGE AT CONSTRUCTION					0	0	
TURN OVER TO FRANCHISEE	1				Ĺ		
		ı	1		_		
DIVISION 26 - ELECTRICAL		1			0	0	
DIVISION 26 - ELECTRICAL 1. LIGHT FIXTURES					0	0	
DIVISION 26 - ELECTRICAL 1. LIGHT FIXTURES 2. LIGHT FIXTURE LIGHT BULBS (LAMPS)							
DIVISION 26 - ELECTRICAL 1. LIGHT FIXTURES 2. LIGHT FIXTURE LIGHT BULBS (LAMPS) A. FIRE ALARM SYSTEM (IF REQUIRED)							
DIVISION 26 - ELECTRICAL 1. LIGHT FIXTURES 2. LIGHT FIXTURE LIGHT BULBS (LAMPS)						0	
DIVISION 26 - ELECTRICAL 1. LIGHT FIXTURES 2. LIGHT FIXTURE LIGHT BULBS (LAMPS) A. FIRE ALARM SYSTEM (IF REQUIRED) DIVISION 27 - COMMUNICATION					0	0	
DIVISION 26 - ELECTRICAL 1. LIGHT FIXTURES 2. LIGHT FIXTURE LIGHT BULBS (LAMPS) A. FIRE ALARM SYSTEM (IF REQUIRED) DIVISION 27 - COMMUNICATION 1. TELEPHONE/INTERNET ROUGH IN & CABLING			0	0	.		
DIVISION 26 - ELECTRICAL 1. LIGHT FIXTURES 2. LIGHT FIXTURE LIGHT BULBS (LAMPS) A. FIRE ALARM SYSTEM (IF REQUIRED) DIVISION 27 - COMMUNICATION 1. TELEPHONE/ INTERNET ROUGH IN & CABLING 2. INTERIOR RECESSED ACCESS PANEL			0	0	.		
DIVISION 26 - ELECTRICAL 1. LIGHT FIXTURES 2. LIGHT FIXTURE LIGHT BULBS (LAMPS) A. FIRE ALARM SYSTEM (IF REQUIRED) DIVISION 27 - COMMUNICATION 1. TELEPHONE/INTERNET ROUGH IN & CABLING 2. INTERIOR RECESSED ACCESS PANEL A. TELEPHONE EQUIPMENT INSTALLATION			0	0	0	0	
DIVISION 26 - ELECTRICAL 1. LIGHT FIXTURES 2. LIGHT FIXTURE LIGHT BULBS (LAMPS) A. FIRE ALARM SYSTEM (IF REQUIRED) DIVISION 27 - COMMUNICATION 1. TELEPHONE/ INTERNET ROUGH IN & CABLING 2. INTERIOR RECESSED ACCESS PANEL A. TELEPHONE EQUIPMENT INSTALLATION B. TELEPHONE BACKER BOARD AT DEMARK 3. AUDIO VISUAL SYSTEM 4. PRE-WIRE FOR AUDIO VISUAL			0	0	0	0	SEE AUDIO VISUAL PREPARATION PLAN
DIVISION 26 - ELECTRICAL 1. LIGHT FIXTURES 2. LIGHT FIXTURE LIGHT BULBS (LAMPS) A. FIRE ALARM SYSTEM (IF REQUIRED) DIVISION 27 - COMMUNICATION 1. TELEPHONE/ INTERNET ROUGH IN & CABLING 2. INTERIOR RECESSED ACCESS PANEL A. TELEPHONE EQUIPMENT INSTALLATION B. TELEPHONE BACKER BOARD AT DEMARK 3. AUDIO VISUAL SYSTEM		EDI	0		0	0	SEE AUDIO VISUAL PREPARATION PLAN



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CONSULTANT

STAMP NUMBER

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REVISIONS DATE 2020.04.13 PROJECT NUMBER

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SCALE

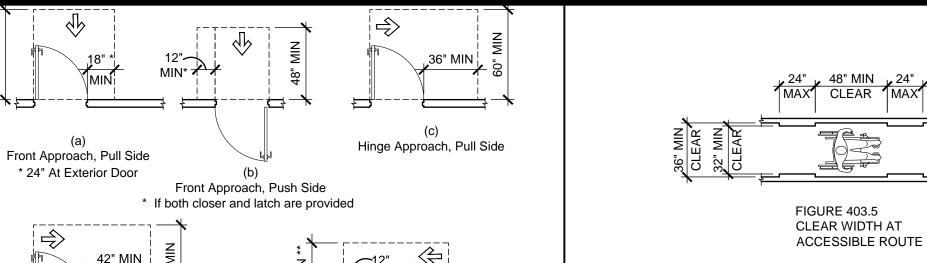
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2020-04-13 PLAN CHECK CORRECTION DATE 2020.04.13

SHEET NUMBER



Hinge Approach, Pull Side Hinge Approach, Push Side

FIGURE 404.2.5 NOTE:
THE DISTANCE BETWEEN TWO HINGED OR PIVOTED DOORS IN SERIES AND GATES IN SERIES SHALL BE 48" MINIMUM U.N.O. PLUS WIDTH OF DOORS OR GATES SWINGING INTO THE SPACE ACCESSIBLE DOORS SCALE MIN IN A SERIES N.T.S.

60" MIN.

WHERE BOTH VISUAL AND TACTILE CHARACTERS ARE REQUIRED AT SIGNS, EITHER ONE SIGN WITH BOTH VISUAL AND TACTILE CHARACTERS, OR TWO SEPARATE SIGNS, ONE WITH VISUAL, AND ONE WITH TACTILE CHARACTERS. SHALL BE PROVIDED.

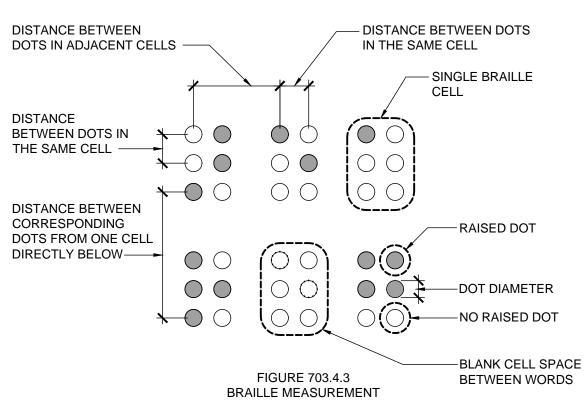
∕60" MIN.\

RAISED CHARACTERS SHALL BE DUPLICATED IN BRAILLE. RAISED CHARACTERS SHALL BE 1/32 INCH (0.8 MM) MINIMUM ABOVE THEIR BACKGROUND. CHARACTERS SHALL BE UPPERCASE CHARACTERS SHALL BE SANS SERIF. CHARACTERS SHALL NOT BE ITALIC. OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS. CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 55 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I". CHARACTER HEIGHT MEASURED VERTICALLY FROM THE BASELINE OF THE CHARACTER SHALL BE 5/8 INCH (16 MM) MINIMUM, AND 2 INCH MAXIMUM. THE STROKE WIDTH SHALL BE 15 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I' MEASURED AT THE TOP SURFACE OF THE CHARACTER, AND 30 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I" MEASURED AT THE BASE OF THE CHARACTER. CHARACTER SPACING SHALL BE MEASURED BETWEEN THE TWO CLOSEST POINTS OF ADJACENT RAISED CHARACTERS WITHIN A MESSAGE, EXCLUDING WORD SPACES. SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE 1/8 INCH (3.2 MM) MINIMUM MEASURED AT THE TOP SURFACE OF THE CHARACTERS, 1/16 INCH MINIMUM MEASURED AT THE BASE OF THE CHARACTERS AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM. CHARACTERS SHALL BE SEPARATED FROM RAISED BORDERS AND DECORATIVE ELEMENTS 3/8 INCH (9.5 MM) MINIMUM. SPACING BETWEEN THE BASELINES OF SEPARATE LINES OF RAISED CHARACTERS WITHIN A MESSAGE SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT MAXIMUM OF THE RAISED CHARACTER HEIGHT.

TABLE 703.4.3 BRAILLE DIMENSIONS

MEASUREMENT RANGE	MINIMUM IN INCHES MAXIMUM IN INCHES
DOT BASE DIAMETER	0.059 TO 0.063
DISTANCE BETWEEN TWO DOTS IN THE SAME CELL	0.090 TO 0.100
DISTANCE BETWEEN CORRESPONDING DOTS IN ADJACENT CELLS ¹	0.241 TO 0.300
DOT HEIGHT	0.025 TO 0.037
DISTANCE BETWEEN CORRESPONDING DOTS FROM ONE CELL DIRECTLY BELOW ¹	0.395 TO 0.400

1. MEASURED CENTER TO CENTER

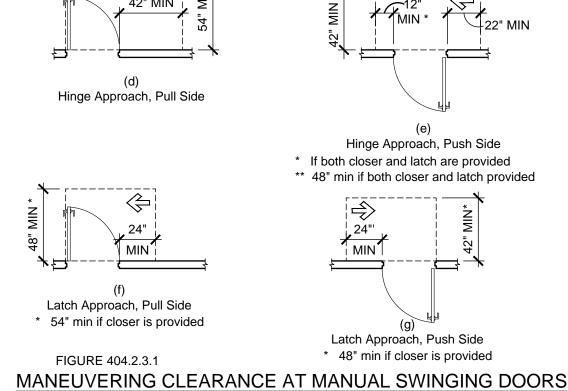


BRAILLE SHALL BE CONTRACTED (GRADE 2)

SIGNS / BRAILLE

- BRAILLE DOTS SHALL HAVE A DOMED OR ROUNDED SHAPE AND SHALL COMPLY WITH TABLE 703.3.1. THE INDICATION OF AN UPPERCASE LETTER OR LETTERS SHALL ONLY BE USED BEFORE THE FIRST WORD OF SENTENCES, PROPER NOUNS AND NAMES, INDIVIDUAL LETTERS OF THE ALPHABET, INITIALS, AND ACRONYMS
- BRAILLE SHALL BE POSITIONED BELOW THE CORRESPONDING TEXT. IF TEXT IS MULTI-LINED, BRAILLE SHALL BE PLACED BELOW THE ENTIRE TEXT. BRAILLE SHALL BE SEPARATED 3/8 INCH (9.5 MM) MINIMUM FROM ANY OTHER TACTILE CHARACTERS AND 3/8 INCH (9.5 MM) MINIMUM FROM RAISED BORDERS AND DECORATIVE ELEMENTS.

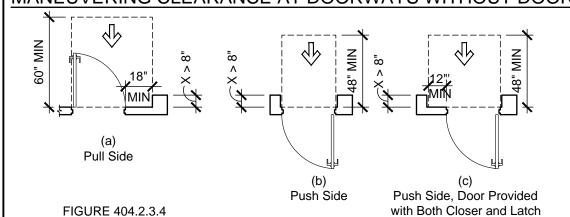
N.T.S.



MANEUVERING CLEARANCE AT DOORWAYS WITHOUT DOORS

Side Approach

Front Approach



MANEUVERING CLEARANCE AT RECESSED DOORS

TYPE OF	USE	MINIMUM MANEUVERING CLEARANCE		
APPROACH DIRECTION	DOOR OR GATE	PERPENDICULAR TO DOORWAY	PARALLEL TO DOORWAY (beyond latch side unless noted)	
FRONT	PULL	60 INCHES	18 INCHES	
FRONT	PUSH	48 INCHES	0 INCHES 3	
HINGE	PULL	60 INCHES	36 INCHES	
HINGE	PULL	54 INCHES	42 INCHES	
HINGE	PUSH	42 INCHES ¹	22 INCHES ^{3, 4}	
LATCH	PULL	48 INCHES ²	24 INCHES	
LATCH	PUSH	42 INCHES ²	24 INCHES	

- ADD 6" IF CLOSER AND LATCH ARE PROVIDED. TABLE 404.2.3.1 ADD 6" IF CLOSER IS PROVIDED.

Front Approach

BEYOND POCKET / HINGE SIDE.

 ADD 12" BEYOND LATCH IF CLOSER AND LATCH ARE PROVIDED 4. BEYOND HINGE SIDE

MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS

DOOR HARDWARE: HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERABLE PARTS ON DOORS SHALL BE 34 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE

THE FINISH FLOOR OR GROUND DOORWAYS SHALL HAVE A CLEAR OPENING WIDTH OF 32 INCHES MINIMUM

ACCESSIBLE DOOR

CLEARANCES

FORWA N.T.S.

Stop or Latch Approach Pocket or Hinge Approach

SCALE

FIGURE 404.2.3.3 MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS

MANEUVERING CLEARANCE AT DOORWAYS WITHOUT DOORS

	MINIMUM MANEUVERING CLEARANCE				
APPROACH DIRECTION	PERPENDICULAR TO DOORWAY	PARALLEL TO DOORWAY (beyond stop or latch side unless noted)			
FROM FRONT	48 INCHES	0 INCHES			
FROM NON-LATCH SIDE	42 INCHES	22 INCHES ¹			
FROM LATCH SIDE	42 INCHES	24 INCHES			
	•	TABLE 404.2.3.2			

ACCESSIBLE DOOR SCALE N.T.S.

SIDE REACH

POST MOUNTED PROTRUDING OBJECTS

PROTRUDING OBJECTS

SCALE

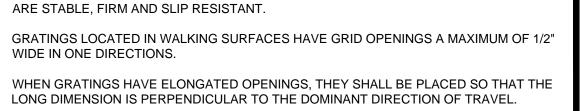
SIGN

LIMITED

IMITED

DRINKING FOUNTAIN

3/8" = 1'-0"



ALL NEW CONSTRUCTION MUST COMPLY WITH DIMENSIONS AS DENOTED ON THESE CONSTRUCTION DOCUMENTS AND WITH THE ICC / ANSI A117.1 2009 AND IBC 2015. DIMENSIONS WITHIN A SPECIFIED DIMENSIONAL "RANGE" MUST BE LESS-THAN THE MAXIMUM DIMENSIONAL RANGE OR GREATER THAN THE MINIMUM DIMENSIONAL RANGE. IN OTHER WORDS, NEW CONSTRUCTION SHALL NOT BE EQUAL TO EITHER THE MAXIMUM OR MINIMUM DIMENSIONS, BUT SHALL BE LESS THAN THE MAXIMUM AND GREATER THAN CARPET OR CARPET TILE SHALL BE SECURELY ATTACHED AND SHALL HAVE A FIRM THE MINIMUM. MAXIMUM SLOPES FOR NEW RAMPS SHALL BE 1 VERTICAL TO 13 HORIZONTAL MAXIMUM. DESIGN INTENT OF THE ARCHITECT IS TO PROVIDE REASONABLE DIMENSIONAL TOLERANCES, ENSURE COMPLIANCE WITH THE ADA, AND TO SIMPLIFY AND EXPEDITE THE CONSTRUCTION PROCESS. CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR NON-COMPLIANCE WITH THIS NOTICE. CONTRACTOR

ACCESSIBILITY NOTES

GROUND AND FLOOR SURFACES ALONG ACCESSIBLE ROUTES AND IN ACCESSIBLE

ROOMS AND SPACES INCLUDING FLOORS, WALKS, RAMPS, STAIRS AND CURB RAMPS

INTERIOR DOOR CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90-DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO AN OPEN POSITION OF 12-DEGREES SHALL BE 5 SECONDS MINIMUM.

TO NOTIFY THE ARCHITECT PRIOR TO BIDDING OF ANY QUESTIONS OR CONCERNS

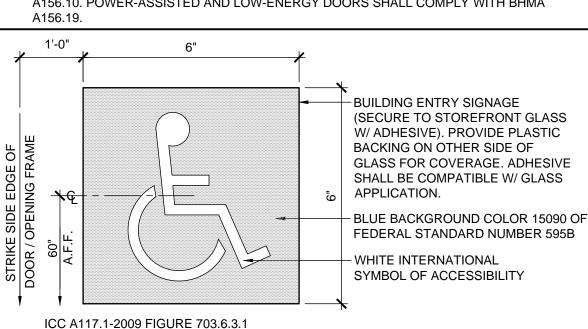
INTERIOR DOOR SPRING HINGES SHALL BE ADJUSTED SO THAT FROM THE OPEN POSITION OF 70-DEGREES. THE DOOR SHALL MOVE TO THE CLOSED POSITION IN 1.5-SECONDS MINIMUM.

RELATING TO THIS MATTER.

DOOR OPENING FORCE. THE FORCE FOR PUSHING OR PULLING OPEN INTERIOR SWINGING EGRESS DOORS, OTHER THAN FIRE DOORS, SHALL NOT EXCEED 5 POUNDS (22 N). FOR REQUIRED FIRE DOORS, THE DOOR LATCH SHALL RELEASE WHEN SUBJECTED TO A 15-POUND (67 N) FORCE. THE DOOR SHALL BE SET IN MOTION WHEN SUBJECTED TO A 30-POUND (133 N) FORCE. THE DOOR SHALL SWING TO A FULL-OPEN POSITION WHEN SUBJECTED TO A 15-POUND (67 N) FORCE.

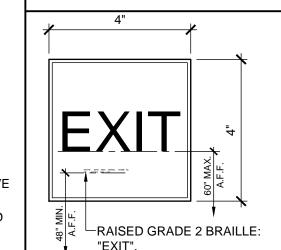
TEST DOORS FOR DOOR OPENING FORCE AND CLOSING SPEED WITH AIR CONDITIONING AND OTHER FORMS OF MECHANICAL PRESSURIZATION TURNED ON AND ALSO WHEN TURNED OFF.

POWER-OPERATED DOORS. WHERE MEANS OF EGRESS DOORS ARE OPERATED BY POWER, SUCH AS DOORS WITH A PHOTOELECTRIC-ACTUATED MECHANISM TO OPEN THE DOOR UPON THE APPROACH OF A PERSON, OR DOORS WITH POWER-ASSISTED MANUAL OPERATION, THE DESIGN SHALL BE SUCH THAT IN THE EVENT OF POWER FAILURE, THE DOOR IS CAPABLE OF BEING OPENED MANUALLY TO PERMIT MEANS OF EGRESS TRAVEL OR CLOSED WHERE NECESSARY TO SAFEGUARD MEANS OF EGRESS THE FORCES REQUIRED TO OPEN THESE DOORS MANUALLY SHALL NOT EXCEED THOSE SPECIFIED IN SECTION 1010.1.3, 2015 IBC, EXCEPT THAT THE FORCE TO SET THE DOOR IN MOTION SHALL NOT EXCEED 50 POUNDS (220 N). THE DOOR SHALL BE CAPABLE OF SWINGING FROM ANY POSITION TO THE FULL WIDTH OF THE OPENING IN WHICH SUCH DOOR IS INSTALLED WHEN A FORCE IS APPLIED TO THE DOOR ON THE SIDE FROM WHICH EGRESS IS MADE. FULL-POWER-OPERATED DOORS SHALL COMPLY WITH BHMA A156.10. POWER-ASSISTED AND LOW-ENERGY DOORS SHALL COMPLY WITH BHMA A156.19.



INTERNATIONAL SYMBOL OF ACCESSIBILITY

SCALE **BUILDING ENTRY SIGN** N.T.S. TACTILE EXIT SIGN



TACTILE EGRESS SIGNAGE (SECURE TO STOREFRONT GLASS W/ ADHESIVE). PROVIDE PLASTIC BACKING OVER OTHER SIDE OF GLASS FOR COVERAGE. ADHESIVE SHALL BE COMPATIBLE w/ GLASS APPLICATION.

	SCALE	11	TOE & KNEE CLEARANCE
ARD REACH	N.T.S.	11	I I OE & KINEE CLEARAINCE

FIGURE 303.3

FIGURE 303.2

FIGURE 302.2

TRIM SHALL COMPLY WITH 303, CHANGES IN LEVEL.

BEVELED WITH A SLOPE NOT STEEPER THAN 1:2.

FLOOR/GROUND

SURFACE

36" MIN

FIGURE 305.7

APPROACH

NOTES:

ALCOVE FORWARD

CARPET PILE HEIGHT

SHALL HAVE A LEVEL LOOP, TEXTURED LOOP, LEVEL CUT PILE, OR LEVEL

CUT/UNCUT PILE TEXTURE. PILE HEIGHT SHALL BE 1/2" MAXIMUM IN HEIGHT.

EXPOSED EDGES OF CARPET SHALL BE FASTENED TO FLOOR SURFACES AND

2. CHANGES IN LEVEL OF 1/4" HIGH MAXIMUM SHALL BE PERMITTED TO BE VERTICAL.

3. CHANGES IN LEVEL BETWEEN 1/4" HIGH AND 1/2" HIGH MAXIMUM SHALL BE

60" MIN

FIGURE 305.7

APPROACH

ALCOVE PARALLEL

1. THE TURNING SPACE SHALL BE A T-SHAPED SPACE WITHIN A 60" SQUARE

SECTION 306 ONLY AT THE END OF EITHER THE BASE OR ONE ARM.

2. ALCOVES SHALL BE 36" WIDE MINIMUM WHERE THE DEPTH EXCEEDS 24".

3. ALCOVES SHALL BE 60" WIDE MINIMUM WHERE THE DEPTH EXCEEDS 15".

FIGURE 306.2

FIGURE 306.3

KNEE CLEARANCE

TOE CLEARANCE

MANEUVERING

CLEARANCE

(a) elevation

MINIMUM WITH ARMS AND BASE 36" WIDE MINIMUM. EACH ARM OF THE T SHALL

BE CLEAR OF OBSTRUCTIONS 12" MINIMUM IN EACH DIRECTION AND THE BASE

BE PERMITTED TO INCLUDE KNEE AND TOE CLEARANCE COMPLYING WITH

SHALL BE CLEAR OF OBSTRUCTIONS 24" MINIMUM. THE TURNING SPACE SHALL

CUSHION, PAD, OR BACKING OR NO CUSHION OR PAD. CARPET OR CARPET TILE

SHALL HAVE TRIM ON THE ENTIRE LENGTH OF THE EXPOSED EDGE. CARPET EDGE

SCALE

N.T.S.

FIGURE 304.3 (b)

TURNING SPACE

SCALE

N.T.S.

T- SHAPED

12" MIN

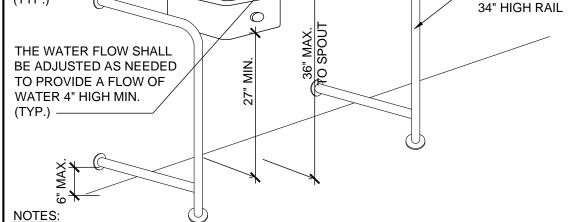
BEVELED CHANGE IN LEVEL

VERTICAL CHANGE IN LEVEL

N.T.S.

BUILDING EXIT SIGN DRINKING FOUNTAIN SHALL BE 18" MIN. & 19" MAX. IN DEPTH. SEE DET. 7/ THIS SHEET

	N.T.S.	
_	ANDARD HEIGH UNTAIN	Γ
	1 1/2" DIA 34" HIGH	



DRINKING FOUNTAIN(S) SHALL COMPLY WITH ALL APPLICABLE COM CHECK PROVISIONS (BUBBLER HEIGHT, ETC.) THE SPOUT SHALL BE LOCATED 15" MIN. FROM THE WALL, AND 5" MAX. FROM THE FRONT EDGE OF THE UNIT, INCLUDING BUMPERS. THE DRINKING FOUNTAIN BUBBLER SHALL BE ACTIVATED BY A MANUALLY OPERATED SYSTEM OR AN ELECTRONICALLY CONTROLLED DEVICE NOT REQUIRING A FORCE

3. WHERE SPOUTS ARE LOCATED LESS THAN 3" OF THE FRONT OF THE UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 30 DEGREES MAXIMUM. WHERE SPOUTS ARE LOCATED BETWEEN 3" AND 5" MAXIMUM FROM THE FRONT OF THE UNIT, THE ANGLE

SCALE

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FOR TOE & KNEE CLEARANCES. (TYP.)

OF THE WATER STREAM SHALL BE 15 DEGREES MAXIMUM.

ELEMENT WHICH IS LESS THAN 48" WIDE, CLEAR WIDTH SHALL BE 42" MINIMUM APPROACHING THE TURN, 48" MINIMUM AT THE TURN AND 42" MINIMUM LEAVING THE TURN. 3. WHERE THE CLEAR WIDTH AT THE TURN IS 60" MINIMUM COMPLIANCE WITH NOTE 2 SHALL NOT BE REQUIRED. 4. AN ACCESSIBLE ROUTE WITH A CLEAR WIDTH LESS THAN 60" SHALL PROVIDE PASSING SPACES AT INTERVALS OF 200' MAXIMUM. PASSING SPACES SHALL BE EITHER: 60" MINIMUM BY 60" MINIMUM; OR, AN INTERSECTION OF TWO WALKING SURFACES PROVIDING A T-SHAPED SPACE COMPLYING WITH FIGURE 304.3.2 WHERE THE BASE AND ARMS OF THE T-SHAPED SPACE EXTEND 48" MINIMUM BEYOND INTERSECTION. **CLEAR WIDTHS**

42" MIN 42" MIN CLEAR

X < 48"

FIGURE 403.5.1

CLEAR WIDTH AT TURN

1. THE CLEAR WIDTH SHALL BE PERMITTED TO BE REDUCED TO 32" MINIMUM

SEGMENTS ARE SEPARATED BY SEGMENTS THAT ARE 48" LONG MINIMUM

FOR A LENGTH OF 24" MAXIMUM PROVIDED THAT REDUCED WIDTH

2. WHERE THE ACCESSIBLE ROUTE MAKE A 180 DEGREE TURN AROUND AN

180 degree turn

AND 36" WIDE MINIMUM.

SCALE N.T.S. >20"-25"

180 degree turn

(Exception)

FIGURE 308.2.1 FIGURE 308.2.2 UNOBSTRUCTED

OBSTRUCTED HIGH FORWARD REACH

FORWARD REACH

MAX

FIGURE 308.3.1

DEPTH OF 24" MAXIMUM

NOTES: 1. WHERE A FORWARD REACH IS UNOBSTRUCTED, THE HIGH FORWARD REACH SHALL BE 48" MAXIMUM AND THE LOW FORWARD REACH SHALL BE

WHERE A HIGH FORWARD REACH IS OVER AN OBSTRUCTION, THE CLEAR FLOOR SPACE SHALL EXTEND BENEATH THE ELEMENT FOR A DISTANCE NOT LESS THAN THE REQUIRED REACH DEPTH OVER THE OBSTRUCTION. THE HIGH FORWARD REACH SHALL BE 48" MAXIMUM WHERE THE REACH

15" MINIMUM ABOVE THE FINISH FLOOR OR GROUND.

DEPTH IS 20" MAXIMUM. WHERE THE REACH DEPTH EXCEEDS 20", THE HIGH FORWARD REACH SHALL BE 44" MAXIMUM AND THE REACH DEPTH SHALL BE 25" MAXIMUM.

NOTES:

SPACE UNDER AN ELEMENT BETWEEN THE FINISH FLOOR OR GROUND AND 9" ABOVE THE FINISH FLOOR OR GROUND SHALL BE CONSIDERED TOE CLEARANCE. 2. SPACE UNDER AN ELEMENT BETWEEN 9" AND 27" ABOVE FINISH FLOOR OR GROUND SHALL BE CONSIDERED KNEE CLEARANCE.

FIGURE 307.2

 $\frac{4"}{MAX}$

LIMITS OF PROTRUDING OBJECTS

> 10"-24" MAX

MAX FIGURE 308.3.2

UNOBSTRUCTED SIDE REACH OBSTRUCTED HIGH SIDE REACH 1. WHERE A CLEAR FLOOR SPACE COMPLYING WITH SECTION 305 ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE EDGE OF THE CLEAR FLOOR

BE 48" MAXIMUM AND THE LOW SIDE REACH SHALL BE 15" MINIMUM. PARALLEL APPROACH TO AN ELEMENT AND THE HIGH SIDE REACH IS OVER AN OBSTRUCTION, THE HEIGHT OF THE OBSTRUCTION SHALL BE 34" MAXIMUM ABOVE THE FLOOR AND THE DEPTH OF THE OBSTRUCTION SHALL BE 24" MAXIMUM. THE HIGH SIDE REACH SHALL BE 48" MAXIMUM ABOVE THE FLOOR FOR A REACH DEPTH OF 10" MAXIMUM. WHERE THE REACH DEPTH EXCEEDS 10". THE

SPACE IS 10 INCHES MAXIMUM FROM THE ELEMENT, THE HIGH SIDE REACH SHALL

HIGH SIDE REACH SHALL BE 46" MAXIMUM ABOVE THE FLOOR FOR A REACH

(b) └─ POST

X ≥12"

PROJECT NUMBER A2276

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CYCLEB INTERIOR TENANT IMP

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WILLIAM A.

NUMBER
A-2012004034

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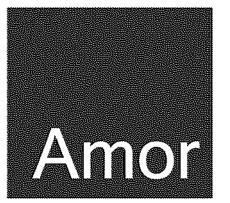
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T2.1

GENERAL NOTES

- GENERAL (E) SURFACE DRAINAGE PATTERN, INCLUDING (E) ROOF DRAINAGE LOAD TRANSFERRED TO GROUND LEVEL, IS TO REMAIN AS IS.
- THIS IS A CONCEPTUAL SITE PLAN. UNLESS OTHERWISE NOTED, ALL ELEMENTS AND
- VEHICULAR ACCESS DRIVES MUST BE PROVIDED AND MAINTAINED SERVICEABLE
- CONTRACTOR SHALL ERECT AND MAINTAIN BARRICADES, WARNING SIGNS AND TRAFFIC CONES PER LOCAL REQUIREMENTS. ACCESS TO DRIVEWAYS TO BE MAINTAINED AT ALL TIMES. ALL TRAFFIC CONTROL MEASURES SHALL BE APPROVED AND IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITY.
- ALL MATERIALS AND WORKMANSHIP FOR PUBLIC FACILITIES TO CONFORM TO CITY STANDARD CONSTRUCTION SPECIFICATIONS.
- PUBLIC AND SURROUNDING RIGHT-OF-WAY AREA OF THE STREET PRIOR TO USE BY
- THE SITE SHALL BE KEPT FREE OF FIRE HAZARDS FROM THE START OF
- THE G.C. SHALL IMPLEMENT A BEST MANAGEMENT PRACTICE STORMWATER FOR ALL
- THE G.C. IS RESPONSIBLE TO VERIFY ALL UNDERGROUND UTILITIES PRIOR TO
- 10. G.C. TO VERIFY ANY ABRUPT CHANGE IN LEVEL EXCEEDING 1/2" EXISTING CONCRETE SLAB/ASPHALT TRANSITION FROM ENTRY TO PUBLIC WAY/ ACCESS. G.C. TO PROVIDE
- 11. SITE & PARKING ARE EXISTING TO REMAIN UNCHANGED.
- 12. NEW AND EXISTING BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY, CONTRASTING WITH THEIR BACKGROUND, PER LOCAL ORDINANCES.
- 13. THE G.C. IS RESPONSIBLE TO FIELD VERIFY AND LOCATE ALL WET AND DRY UTILITIES CONNECTION POINTS PRIOR TO ANY DEMOLITION OR CONSTRUCTION. (I.E. GAS,



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50'-9 1/2"

(E) ADJACENT TENANT

"VACANT" (N.I.C.)

< W-6 ∣

14

CYCLE THEATER 108

45 EXERCISE

42'-9 1/2"

(N) FLOOR PLAN AND EQUIPMENT PLAN

50'-9 1/2"

(MW-8)

38'-3 1/2"

- SEE REFLECTED CEILING PLAN FOR SOFFIT AND LIGHTING INFORMATION.
- NOTIFY ARCHITECT IMMEDIATELY OF ANY INCONSISTENCIES OR DISCREPANCIES WITH PLANS IN RELATION TO EXISTING FIELD CONDITIONS.
- WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALE ON THE CONSTRUCTION DOCUMENTS. DO NOT EVER SCALE DRAWINGS.
- DIMENSIONS ARE FROM THE FACE OF FINISHED WALL (GWB) TO FACE OF FINISHED WALL (GWB), UNLESS OTHERWISE NOTED ON PLANS.
- ALL MANUFACTURED ARTICLES, MATERIALS AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, CLEANED AND CONDITIONED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS AND/OR INSTRUCTIONS.
- 6. ALL WORK SHALL BE EXECUTED IN A MANNER ACCEPTABLE TO THE ARCHITECT, OWNER, AND LANDLORD UNLESS NOTED OTHERWISE. THE GENERAL CONTRACTOR SHALL PROVIDE AND PAY ALL LABOR, MATERIALS EQUIPMENTS, TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY, TRANSPORTATION AND OTHER SERVICES AND FACILITIES NECESSARY FOR PROPER AND TIMELY EXECUTION OF WORK.
- 7. THE CONTRACTOR WARRANT TO THE OWNER AND TO THE ARCHITECT THAT ALL MATERIALS AND EQUIPMENT FURNISHED UNDER THE CONTRACT ARE NEW UNLESS OTHERWISE SPECIFIED, AND THAT ALL WORKS SHALL BE AS SPECIFIED AND FREE OF
- 8. ALL OUTSIDE CORNERS AT DRYWALL PARTITION AND FURRING TO HAVE METAL CORNER BEADS SPACKLE AND SMOOTH.

(E) HALLWAY (N.I.C.)

W-2

W-2

(MW-6)

COMMUNITY AREA

102

(E) ADJACENT

TENANT

"NOTHING BUNDT CAKES"

(N.I.C.)

(W-6

- 9. PROVIDE DIAGONAL BRACING TO STRUCTURE ABOVE ALL NEW DOORS, GLAZING HEADS AND JAMBS AS REQUIRED TO MAKE ASSEMBLY RIGID.
- 10. THE GENERAL CONTRACTOR (G.C.) IS RESPONSIBLE FOR THE FINAL CLEAN UP OF THE AREA OF WORK AND AREA AFFECTED BY CONSTRUCTION; TO INCLUDE BUT NOT LIMITED TO FLOORS, MILLWORK, FIXTURES, ETC. FOLLOWING THE INSTALLATION OF
- 11. THE GENERAL CONTRACTOR SHALL COORDINATE THE LOCATIONS FOR THE WALL MOUNTED TELEVISIONS AND GRAPHIC SIGNAGE TO PROVIDE BLOCKING FOR
- 12. ALL WET / PLUMBING WALLS ARE TO BE PROVIDED w/ MOISTURE RESISTANT GYPSUM BOARD. PROVIDE CEMENT BACKER BOARD WHEN TILE IS IN USED.

MEN'S RESTROOM

105 W-5

9

PL-3

PL-4

103

W-1

104

(E) ADJACENT

TENANT

(N.I.C.)

WOMEN'S RESTROOM 106

(FM-2)

FM-1

(MW-4)

BE-2

W-4

- 13. ALL PLUMBING WALLS ARE TO BE 6" METAL STUD FRAMING. PROVIDE REQUIRED BLOCKING FOR WALL MOUNTED FIXTURES, GRAB BARS, SHELVING, CABINETRY, ETC.
- 14. THERE SHALL BE NO PENETRATIONS TO A DEMISING WALL, U.O.N. IF PENETRATIONS ARE TO BE NOTED, THEN ALL PENETRATIONS INCLUDING CONDUITS, PIPES,
- DUCTWORK, ETC. SHALL BE UL RATED PER CURRENT CODE REQUIREMENTS. 15. NO PLUMBING IS ALLOWED IN DEMISING WALLS. FURRED OUT AS REQUIRED.
- 16. ALL (E) DEMISING WALLS FOR TENANT SEPARATION ARE NOT TO BE DISTURBED OR MODIFIED IN ANY WAY.
- WALL TYPES W-0 (E) INTERIOR WALL TO REMAIN
- W-1 (E) EXTERIOR WALL TO REMAIN
- W-2 (E) DEMISING WALL TO REMAIN
- (N) 6" x 20GA. METAL STUDS @ 16" O.C. w/ 5/8" GYPSUM BD. ON EACH SIDE
- ADD ADDITIONAL 5/8" GYPSUM BOARD ON THEATER SIDE W-4 (N) 3 5/8" x 20GA. METAL STUDS @ 12" O.C. w/ 5/8" GYPSUM BD. ON EACH SIDE $\frac{8}{100}$
- (N) DEMISING WALL 6" X 20GA. METAL STUDS @ 16" O.C. W/ (1) LAYER OF (N) DEMISING WALL 6 A 200A. WILL TALL STODE 6 TO S.C. W. (1) = 100 W-5 > 5/8" TYPE 'X' GYPSUM BD. ON ADJACENT TENANT SIDE (BY OTHERS) AND (A7.1) (1) LAYER OF 5/8" TYPE 'X' GYP. BD. ON CYCLEBAR SIDE, FULL HEIGHT.
- (N) SOUND WALL, 3 5/8" x 20GA. METAL STUDS @ 12" O.C. w/ (2) 5/8" GYPSUM (20) BD. ON ONE SIDE, 2 1/2" AIR GAP, AND (1) 5/8" GYPSUM BD. ON DEMISING WAL $\overline{A7.1}$
- PROVIDE 5/8" WATER AND MOLD RESISTANT GYPSUM BOARD WHERE PLUMBING
- WALLS OCCUR, TYP. PROVIDE 5/8" TYPE "X" GYP. BOARD WHERE DEMISING WALLS OCCUR, TYP. • ALL WALLS TO RECEIVE 5/8" GYP. BOARD, (U.N.O.).

LEGEND

- 1 DAY PROGRAMMABLE THERMOSTAT, MOUNT T-STAT AT 48" A.F.F., SENSOR AT 96" A.F.F.
- FIRE EXTINGUISHER UNIT. MOUNT HANDLE AT 48" A.F.F. MAX.
- ELECTRICAL PANEL

REF QT

- SEE DOOR SCHEDULE ON SHEET A8.1
- REMOTE DETECTOR TEST STATION, MOUNTED 84" A.F.F. REMOTE DETECTOR TEST STATION,

MOUNTED 84" A.F.F. ABOVE T-STAT

EQUIPMENT LIST	(FIX
DESCRIPTION	

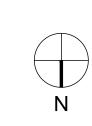
AF-1	1	SUBWOOFER	TBD	
AV-1	1	AV EQUIPMENT	TBD	
BE-1	2	SEATING BENCH	60" L x 20" W x 17" H	MOVABLE
BE-2	1	ADA SEATING BENCH	60" L x 20" W x 17" H	FLOOR MOUNTED
EQ-1	45	EXERCISE BIKE		
EQ-2	1	INSTRUCTION STATION ACCESSO	RY	
MW-1	1	FRONT DESK	CUT SHEET 1 ON SHEE	ET A8.4
MW-2	1	CABINET	CUT SHEET 2 ON SHEE	ET A8.4
MW-3	1	SHOE CUBBY	CUT SHEET 3 ON SHEE	ET A8.4
MW-4	1	REFRIGERATION STATION	CUT SHEET 4 ON SHEE	ET A8.4
MW-5	1	TOWEL BOX	CUT SHEET 5 ON SHEE	ET A8.4
MW-6	1	LOCKER CABINET	CUT SHEET 6 ON SHEE	ET A8.4
MW-7	-			
MW-8	1	SLAT WALL	96" L x 96" H	
MW-9	8	MIRROR	48" x 72" H PER PIECE	
PL-1	1	MOP BASIN w/ BACKFLOW PREVE	NTER	TBD
PL-2	1	ELEC. TANK WATER HEATER	30 GALLON	SEE DETAIL 9/A8.4
PL-3	1	WASHER	4.5 CU. FT. CAPACITY	STACKED
PL-4	1	DRYER	7.3 CU. FT.	STACKED
TV-1	2	48" TV	TBD	
TV-2	2	65" TV	TBD	
FM-1	1	ADA COMPLIANT WATER DISPENS	ER	SEE DETAIL 12/A8.1

KEYNOTES

1 (E) DOOR TO REMAIN. SEE DOOR AND HARDWARE NOTES

1 HIGH LOW DRINKING FOUNTAIN TBD

- 2 (E) FIXED STOREFRONT WINDOW TO REMAIN
- 3 (N) DOOR AND FRAME. SEE DOOR SCHEDULE
- 4 | (N) TRANSITION STRIP. SEE FINISH SCHEDULE
- (N) TRAINER'S PLATFORM. ALL FRAMING MUST RUN PARALEL TO WALL $\frac{9}{A8.1}$ TO RUN ELECTRICAL TO INSTRUCTION STATION
- 6 (N) WALL-MOUNTED FIRE EXTINGUISHER UNIT. MOUNT HANDLE AT +4'-0" AFF. MAX.
- 7 PROVIDE (N) THERMOSTAT @ +4'-0" MAX. A.F.F.
- 8 (N) ELECTRICAL PANEL. SEE ELECTRICAL DRAWINGS
- 9 (N) FLOOR DRAIN. SEE PLUMBING DRAWINGS
- |10| PROVIDE REMOTE DETECTOR TEST STATION, MOUNTED 84" A.F.F. ABOVE T-STAT
- PROVIDE 1-DAY PROGRAMMABLE THERMOSTAT AND SENSOR. MOUNT T-STAT @ 48" AFF SENSOR @ 96" HIGH
- 12 PROVIDE (N) OCCUPANCY SIGNAGE PER $\begin{pmatrix} 4 \\ T1.3 \end{pmatrix}$
- [13] ADD (N) MULL-IT-OVER TRIM CLOSURE PIECES AT END WALL PLATE, OR EQUAL.
- 14 (E) STRUCTURAL COLUMN TO REMAIN



1/4" = 1'-0"

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 \circ α O

SEE DETAIL 4/T1.3

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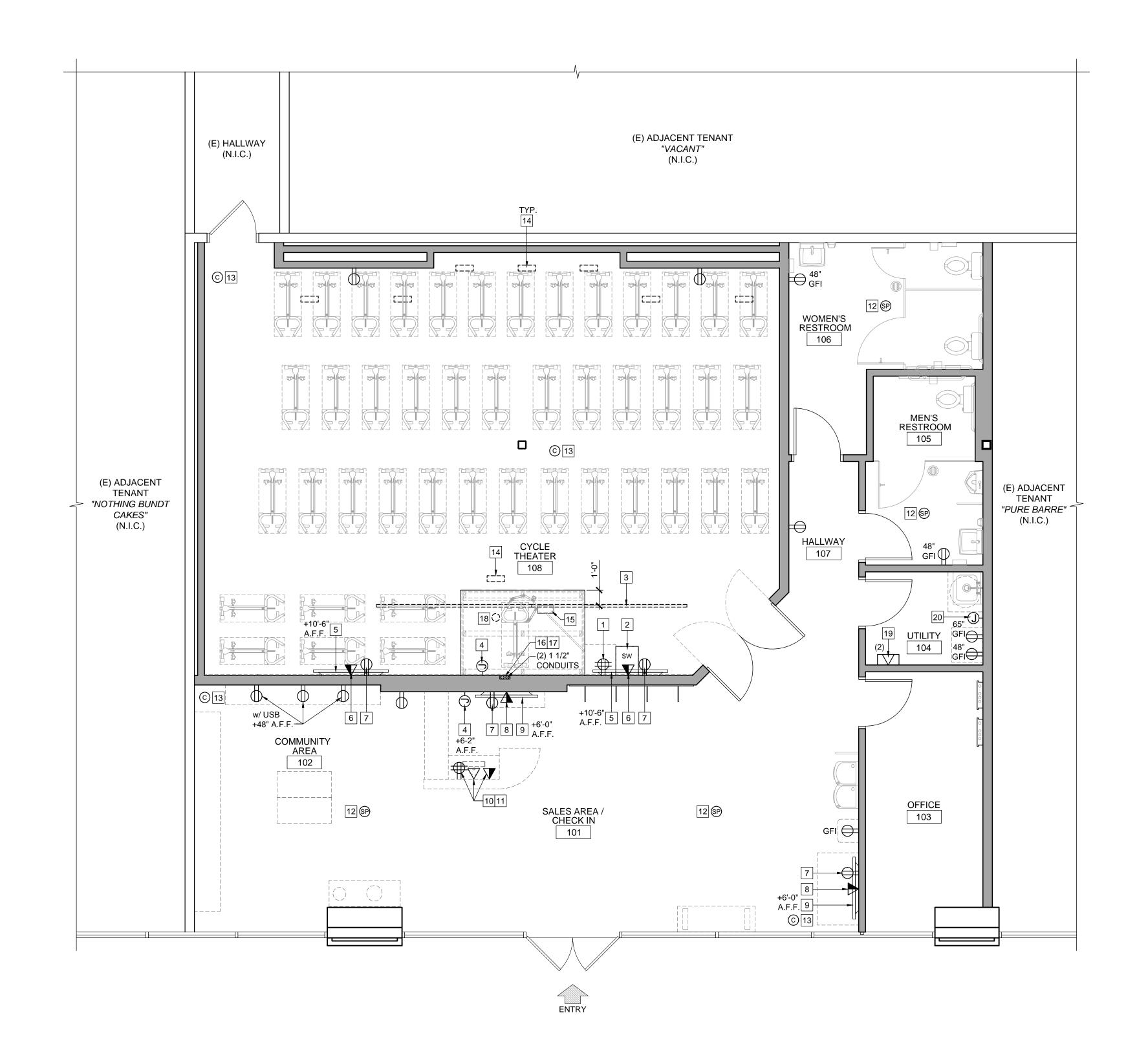
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(N) POWER / AUDIO AND VISUAL PLAN

VERIFY IN FIELD DURING CONSTRUCTION. 6. ALL AV LINES PULLED OUT AND RAN BACK TO THE AV RACK.

J-BOX. (SIGNAGE UNDER SEPARATE PERMIT)

PLANS IN RELATION TO EXISTING FIELD CONDITIONS.

(C) CAMERA (SP) SPEAKER

<u>CEILING</u>

TELEVISION LOCATION - PROVIDE (1) DUPLEX OUTLET AND DATA DROP AS NOTED. VERIFY MOUNTING HEIGHTS WITH TENANT IN FIELD

GENERAL NOTES

2. THE GENERAL CONTRACTOR SHALL COORDINATE THE LOCATIONS FOR THE WALL MOUNTED TELEVISIONS AND GRAPHIC SIGNAGE TO PROVIDE BLOCKING FOR

3. TV HEIGHT IS MEASURED TO CENTER OF MOUNTING BRACKET. GC TO MAKE SURE RECEPTACLES FOR TV MUST BE PLACED BEHIND TV, NOT TO BE VIEWED BY PUBLIC.

4. GC TO COORDINATE w/ SIGNAGE VENDOR FOR LOCATION AND HEIGHT OF SIGNAGE

5. AV LIGHTS PROVIDED AND INSTALLED BY AV CONTRACTORS. EXACT LOCATION TO BE

LEGEND

NOTIFY ARCHITECT IMMEDIATELY OF ANY INCONSISTENCIES OR DISCREPANCIES WITH

120V, 20A DUPLEX OUTLET MOUNTED 18" A.F.F. (U.N.O.)

120V, 20A DUPLEX OUTLET (DIMENSION DENOTES MOUNTING HEIGHT)

120V, 20A QUAD OUTLET (DIMENSION DENOTES MOUNTING HEIGHT)

 (\mathbf{J}) JUNCTION BOX



TELEPHONE JACK

SUBWOOFER LOCATION (ON FLOOR) SUPPLIED /INSTALLED BY A/V CONTRACTOR. VERIFY MOUNTING LOCATIONS WITH TENANT IN FIELD

AUDIBLE / VISUAL SIGNAL CONNECTED TO SMOKE DETECTOR, INSTALL IN LOCATION VISIBLE AT ALL TIMES OF OCCUPANCY

KEYNOTES

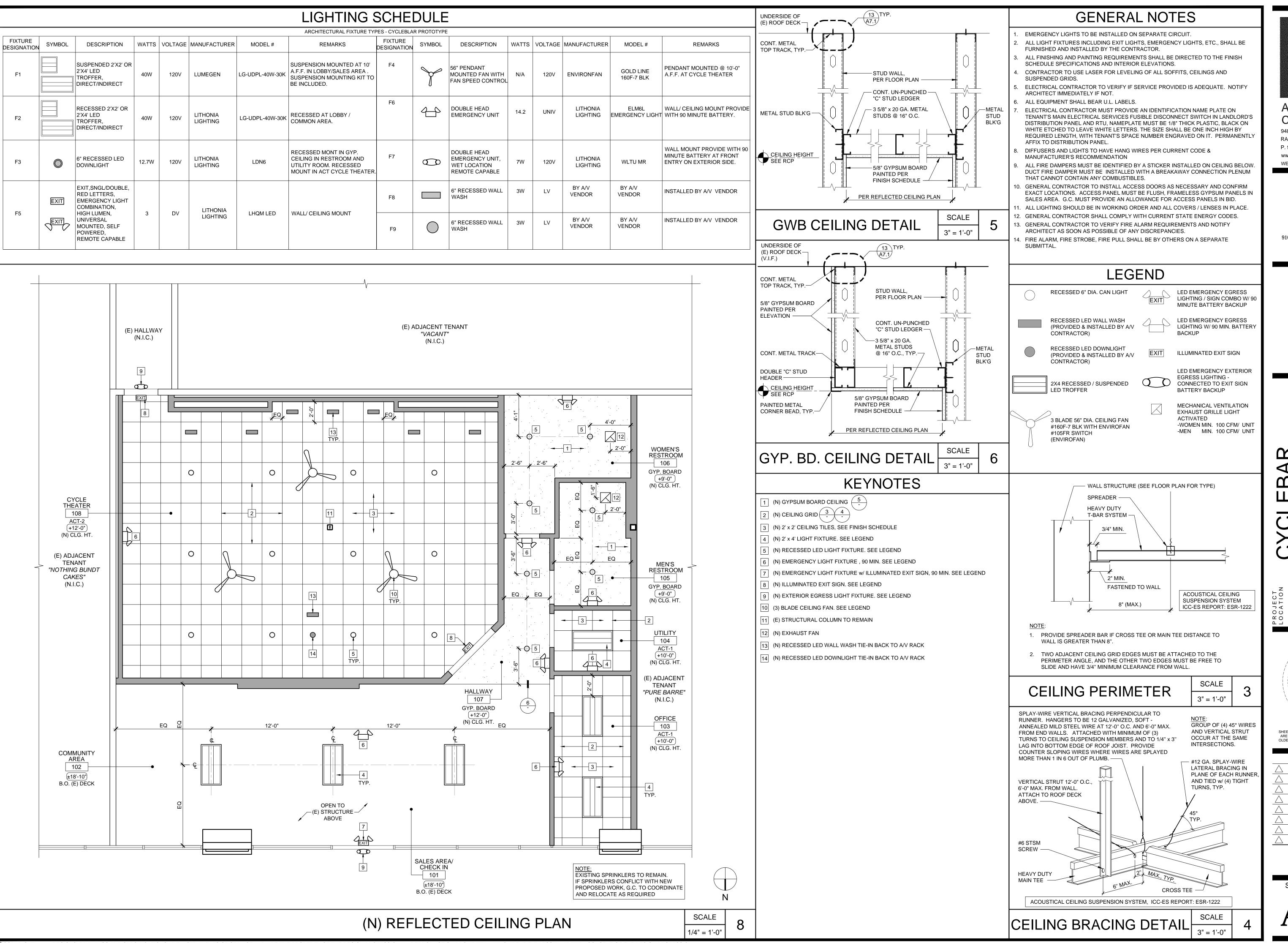
- 1 | PROVIDE (2) 20 AMP CIRCUITS VIA (2) QUAD OUTLETS FOR A/V RACK
- 2 SUBWOOFER, SUPPLIED AND INSTALLED BY AV CONTRACTOR
- (2) 10 FEET UNISTRUT METAL CHANNEL @ 6 INCHES ABOVE CEILING LEVEL 12 INCHES OFF FROM FRONT OF STAGE TO SUSPEND SPEAKERS.
- PROVIDE J-BOX FOR SIGNAGE. GC TO COORDINATE W/ VENDOR FOR LOCATION
- (2) 65" T.V., INCLUDING BRACKET AND 36"x36"x5/8" WOOD BACKING INSIDE THE WALL 5 | FOR SUPPORT AT EACH DISPLAYS. CENTERED ON DUPLEX/DATA WALL PLATES, SEE
- ELEVATIONS FOR BRACKET MOUNTING HEIGHT (2) CAT6 PLENUM TERMINATED W / KEYSTONE JACKS LOCATED NEXT TO THE POWER 6 OUTLET, LABELED AND RAN BACK TO THE AV RACK WITH 15' OF SLACK AT EACH OF THE
- 7 (2) USB POWER OUTLET RATED 2.5 AMP LOCATED AT EACH OF THE DISPLAYS
- (2) CAT6 TERMINATED W/ KEYSTONE JACK PLATE LOCATED NEXT TO POWER OUTLET, LABELED AND RAN BACK TO THE AV RACK AT EACH OF THE TWO DISPLAYS
- (2) 48" T.V., INCLUDING BRACKET AND 36"x36"x5/8" WOOD BACKING INSIDE THE WALL FOR SUPPORT AT EACH DISPLAYS. CENTERED ON DUPLEX/DATA WALL PLATES, SEE
- ELEVATIONS FOR BRACKET MOUNTING HEIGHT
- $_{
 m l}$ (3) CAT6 PLENUM TERMINATED W / KEYSTONE JACKS LOCATED AT COMPUTER LOCATION $^{ extstyle e$
- 11 (1) 15 AMP CIRCUIT AT FRONT DESK VIA 1 QUAD RECEPTACLE.
- (1) PER EACH SPEAKER LOCATION 16/2 SPEAKER CABLE W / 15FT OF SLACK PROTRUDING THROUGH SHEETROCK LABELED AND RAN BACK TO THE AV RACK AT EACH OF THE (4) SPEAKER LOCATIONS
- (4) CAT6 PLENUM LABELED AND RAN BACK TO THE AV RACK FOR CCTV CAMERA LOCATIONS
- (N) RECESSED LED WALL WASH ON CEILING TIE-IN BACK TO A/V RACK BY AV CONTRACTOR
- 15 AV FLOOR BOX INSTALLED AT INSTRUCTOR STAGE
- 16 (2) CAT6 FROM DMARC TO THE AV RACK WITH 15FT OF SLACK
- GC PROVIDED AV CABLING PROTRUDING FROM WALL, VIA DOUBLE GANG PLASTER RING, NEXT TO ELECTRICAL OUTLETS W / 15FT OF SLACK AND CORRECTLY LABELED ON BOTH ENDS
- (N) RECESSED LED DOWNLIGHT ON CEILING TIE-IN BACK TO A/V RACK BY AV CONTRACTOR
- 19 (2) CABLE MODEM LOCATION, RUN TO A/V RACK
- 20 PROVIDE J-BOX FOR WATER HEATER

NOTE: SEE ELECTRICAL SHEETS FOR

ADDITIONAL INFORMATION

1/4" = 1'-0"

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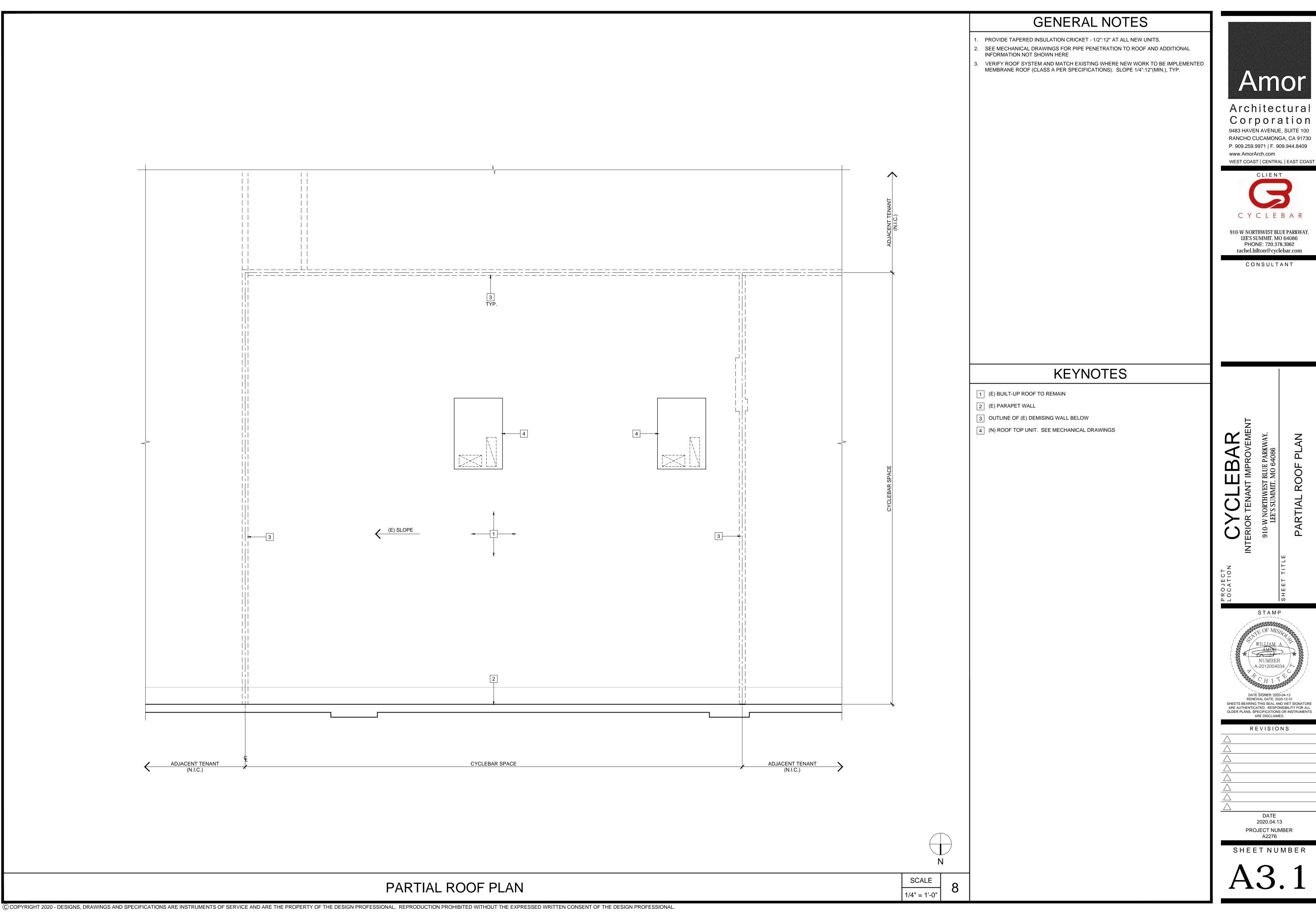
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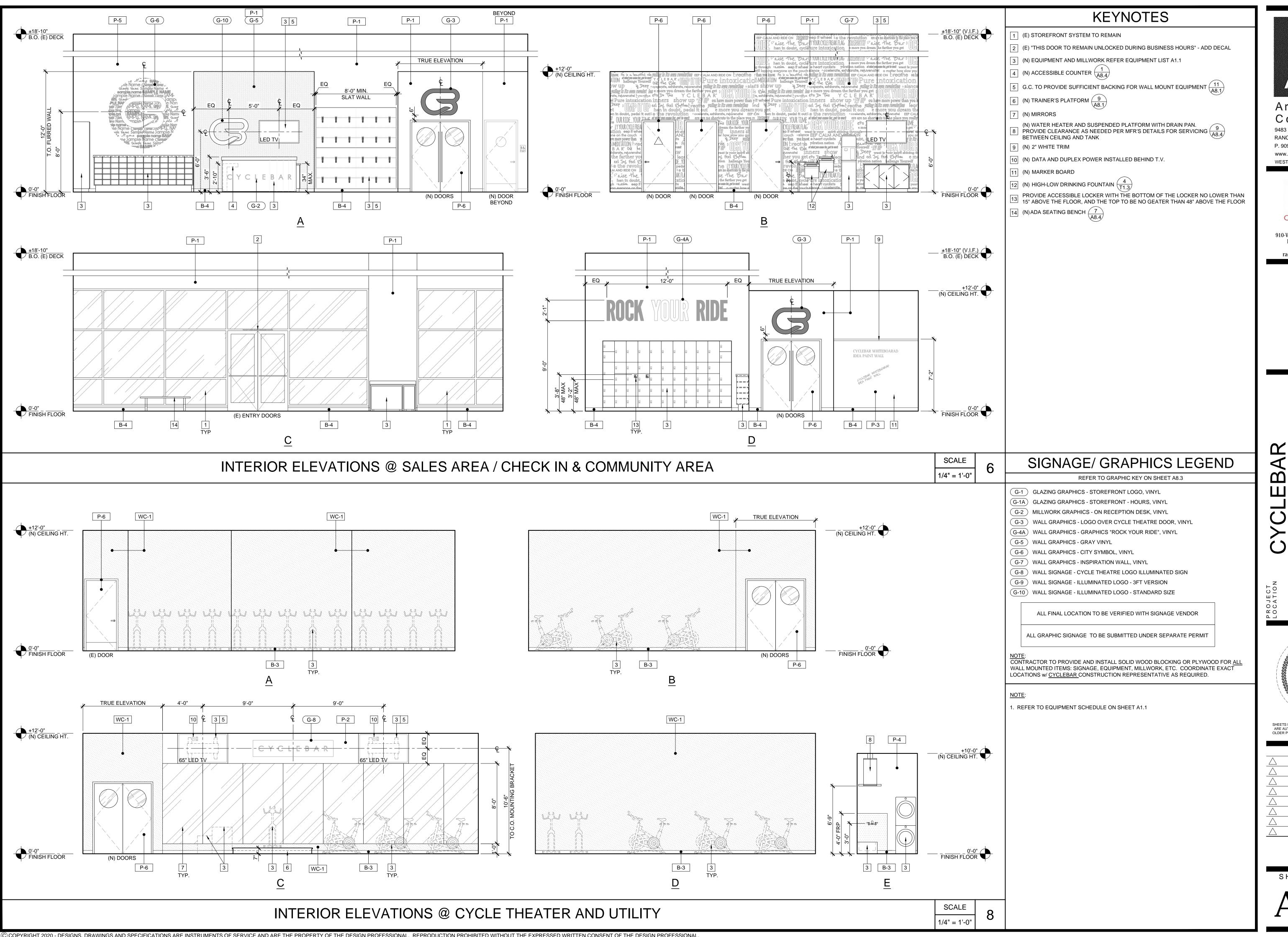
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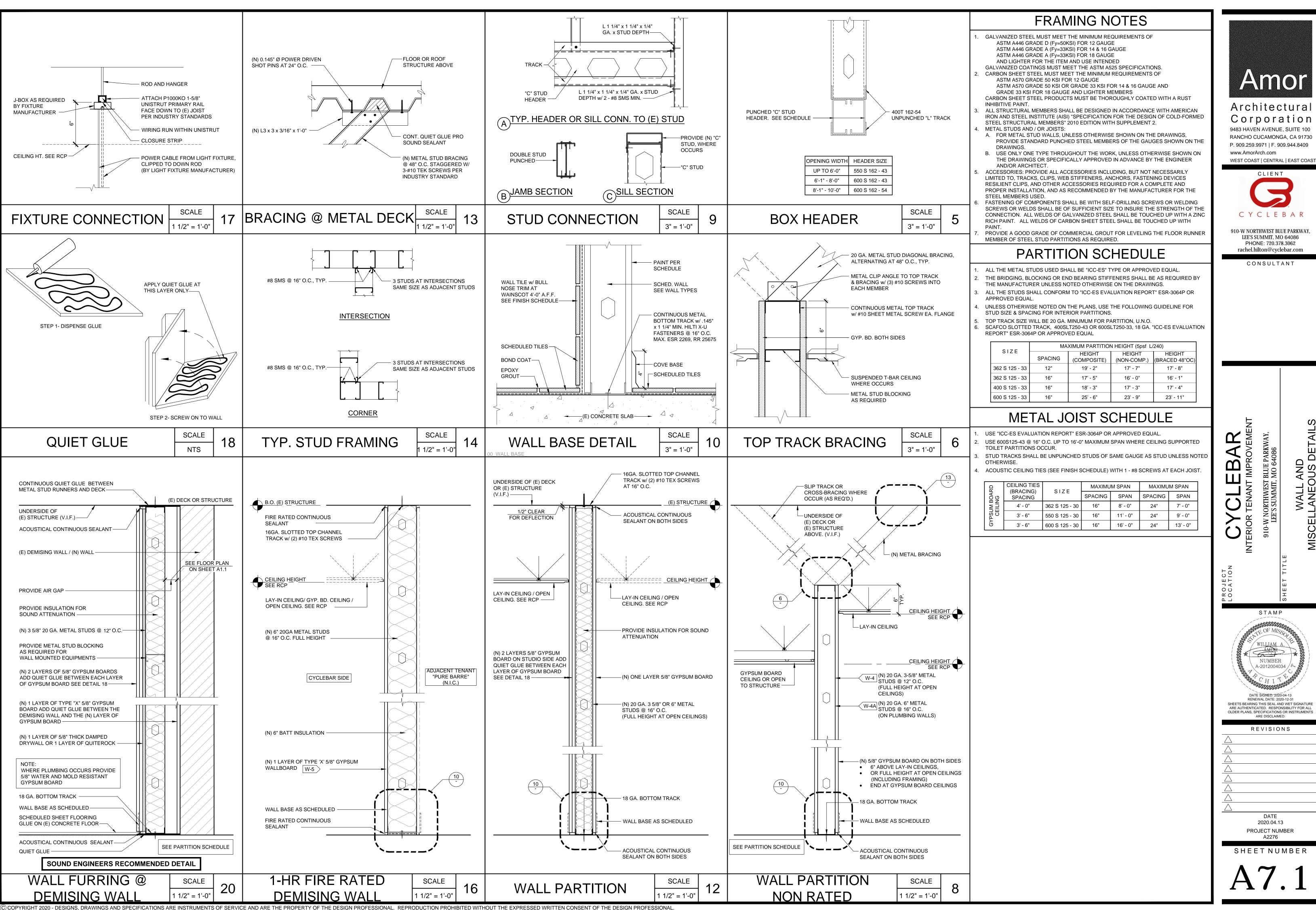
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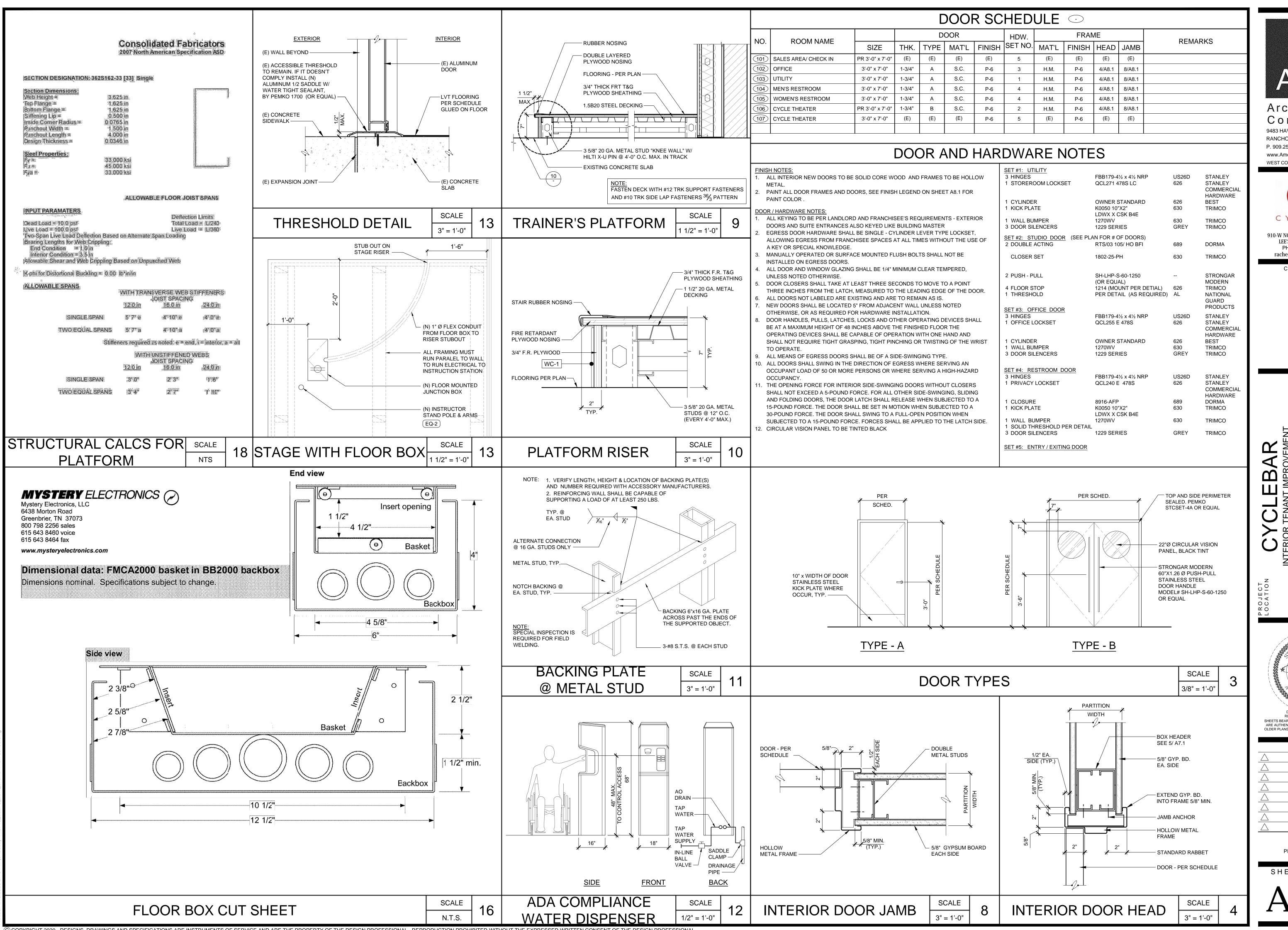
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REMARKS

(NUMBERS REFER TO NOTES BELOW)

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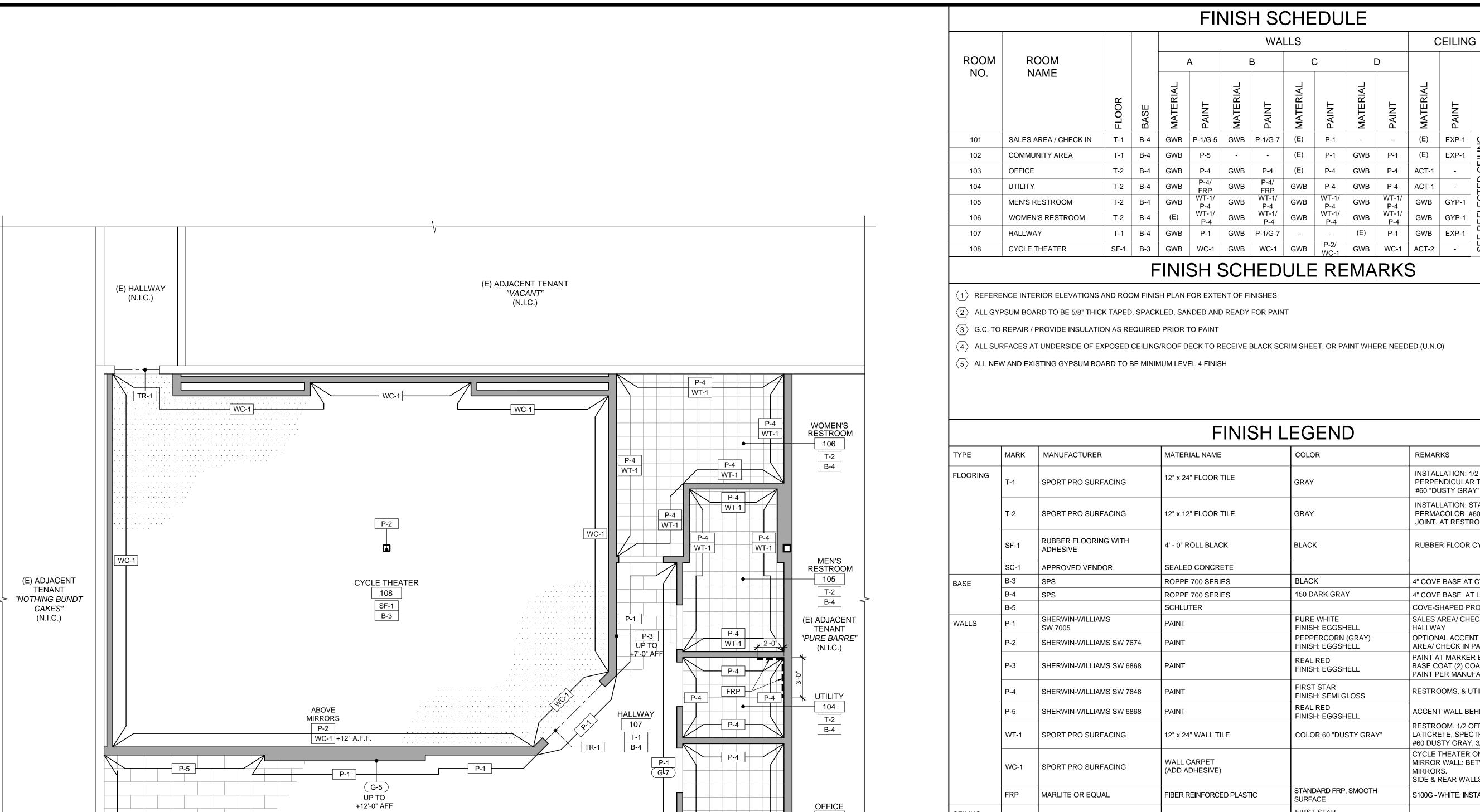
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SHEET NUMBER



			FINISH L	LEGEND	
TYPE	MARK	MANUFACTURER	MATERIAL NAME	COLOR	REMARKS
FLOORING	T-1	SPORT PRO SURFACING	12" x 24" FLOOR TILE	GRAY	INSTALLATION: 1/2 OFFSET PATTERN LAY TILE PERPENDICULAR TO ENTRY. LATICRETE, PERMACOLOR #60 "DUSTY GRAY" 3/16" GROUT JOINT. COMMON AREA
	T-2	SPORT PRO SURFACING	12" x 12" FLOOR TILE	GRAY	INSTALLATION: STACKED PATTERN. LATICRETE, PERMACOLOR #60 "DUSTY GRAY" 3/16" GROUT JOINT. AT RESTROOM/ CHANGING RM
	SF-1	RUBBER FLOORING WITH ADHESIVE	4' - 0" ROLL BLACK	BLACK	RUBBER FLOOR CYCLE THEATER
	SC-1	APPROVED VENDOR	SEALED CONCRETE		
BASE	B-3	SPS	ROPPE 700 SERIES	BLACK	4" COVE BASE AT CYCLE THEATER
	B-4	SPS	ROPPE 700 SERIES	150 DARK GRAY	4" COVE BASE AT LOBBY, RESTROOM & SHOWER
	B-5		SCHLUTER		COVE-SHAPED PROFILE
WALLS	P-1	SHERWIN-WILLIAMS SW 7005	PAINT	PURE WHITE FINISH: EGGSHELL	SALES AREA/ CHECK IN, COMMUNITY AREA & HALLWAY
	P-2	SHERWIN-WILLIAMS SW 7674	PAINT	PEPPERCORN (GRAY) FINISH: EGGSHELL	OPTIONAL ACCENT WALL COLOR IN THE SALES AREA/ CHECK IN PAINT ABOVE MIRROR
	P-3	SHERWIN-WILLIAMS SW 6868	PAINT	REAL RED FINISH: EGGSHELL	PAINT AT MARKER BOARD. BASE COAT (2) COATS SW6868. TOP COAT CLEAR PAINT PER MANUFACTURER'S RECOMMENDATIONS
	P-4	SHERWIN-WILLIAMS SW 7646	PAINT	FIRST STAR FINISH: SEMI GLOSS	RESTROOMS, & UTILITY ROOM
	P-5	SHERWIN-WILLIAMS SW 6868	PAINT	REAL RED FINISH: EGGSHELL	ACCENT WALL BEHIND LOCATION STAMP GRAPHIC
	WT-1	SPORT PRO SURFACING	12" x 24" WALL TILE	COLOR 60 "DUSTY GRAY"	RESTROOM. 1/2 OFFSET PATTERN 48" AFF. LATICRETE, SPECTRALOCK EPOXY GROUT COLOR #60 DUSTY GRAY, 3/16" GROUT JOINT
	WC-1	SPORT PRO SURFACING	WALL CARPET (ADD ADHESIVE)		CYCLE THEATER ONLY MIRROR WALL: BETWEEN TOP OF BASE AND BOTTOM OF MIRRORS. SIDE & REAR WALLS: FULL HEIGHT TO CEILING
	FRP	MARLITE OR EQUAL	FIBER REINFORCED PLASTIC	STANDARD FRP, SMOOTH SURFACE	S100G - WHITE. INSTALL w/ PVC TRIM
CEILING	GYP-1	SHERWIN-WILLIAMS SW 7646	PAINT	FIRST STAR FINISH: SEMI GLOSS	RESTROOMS, & UTILITY ROOM
	GYP-2	SHERWIN-WILLIAMS SW 7005	PAINT	PURE WHITE FINISH: EGGSHELL	HALLWAY
	EXP-1	SHERWIN-WILLIAMS 6991	PAINT	BLACK MAGIC	SEMI GLOSS - OPEN CEILING AT SALES AREA/ CHECK IN
	ACT-1	ARMSTRONG	FINE FISSURED TEGULAR TILES OR APPROVED EQUAL	WHITE	2' x 2' ACOUSTIC SUSPENDED CEILING (MIN. CLASS C) GRID: STANDARD 15/16" STEEL (WHITE FINISH)
	ACT-2	ARMSTRONG	FINE FISSURED TILES OR APPROVED EQUAL	BLACK FINISH	2' x 2' ACOUSTIC SUSPENDED CEILING (MIN. CLASS C) GRID: STANDARD 15/16" STEEL (BLACK FINISH)
TRANSITIONS	TR-1	SCHLUTER SCHIENE AE 125	SCHLUTER SCHIENE AE 125		TILE TO RUBBER
	TR-2	SCHLUTER			T-1 TO SC-1 (SEALED CONCRETE)
	TR-3	ROPPE 196	ROPPE 196	BLACK	TILE TO CONCRETE
	TR-4	SCHLUTER SCHIENE AE 125	SCHLUTER SCHIENE AE 125		TERMINATION OF WT-1, BASE

BLACK

BLACK

CITY SCAPE FINISH: EGGSHELL

TERMINATION OF WC-1

PLATFORM NOSING

ALL DOORS

ROPPE 158

ROPPE 1

TR-5

TR-6

DOORS

ROPPE 158

SHERWIN-WILLIAMS SW 7067

ROPPE 1

OFFICE 103 T-2 B-4

ABOVE P-4

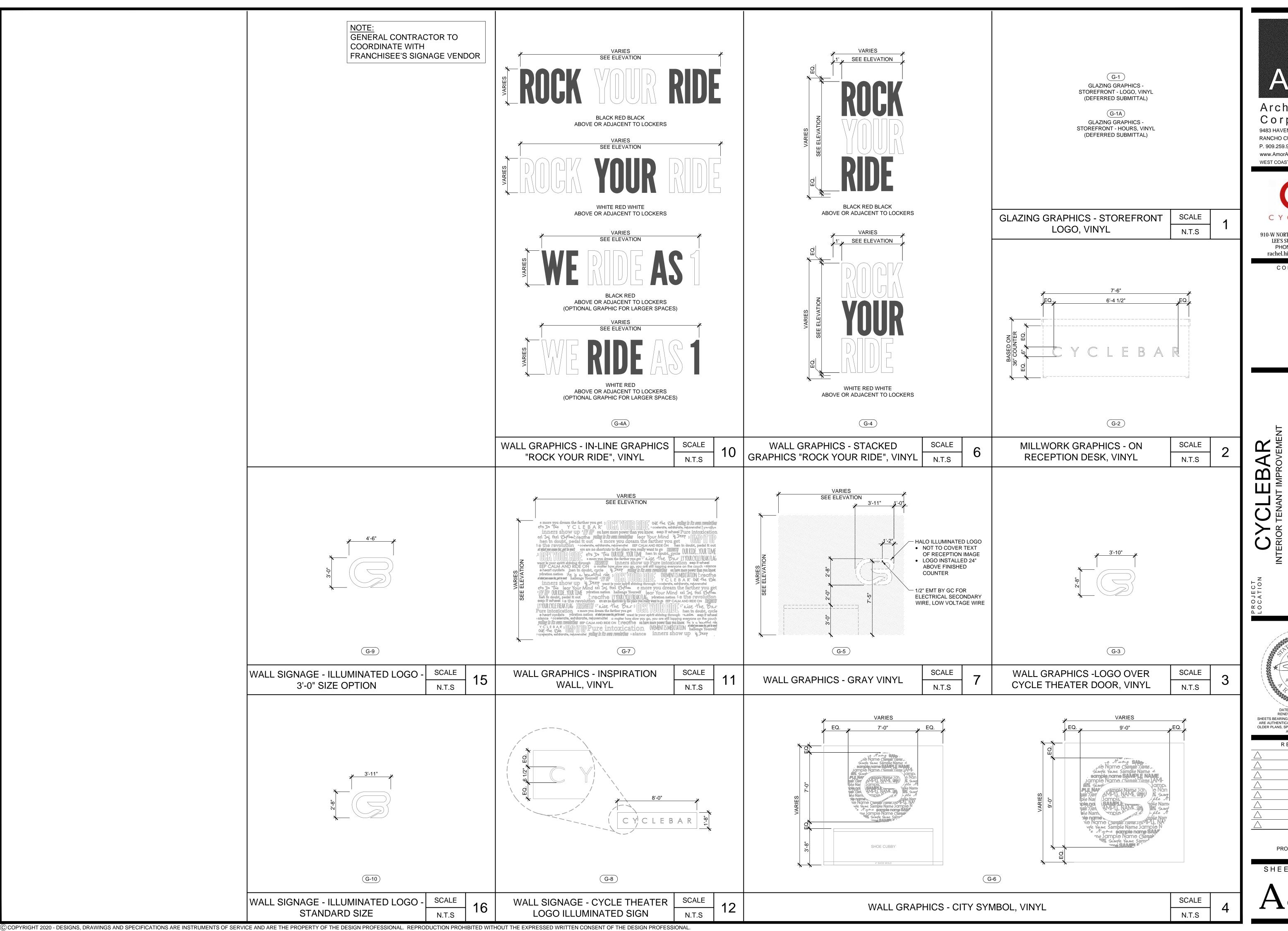
ROOM FINISH PLAN

SALES AREA / CHECK IN 101 T-1 B-4

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ABOVE

COMMUNITY AREA 102 T-1 B-4



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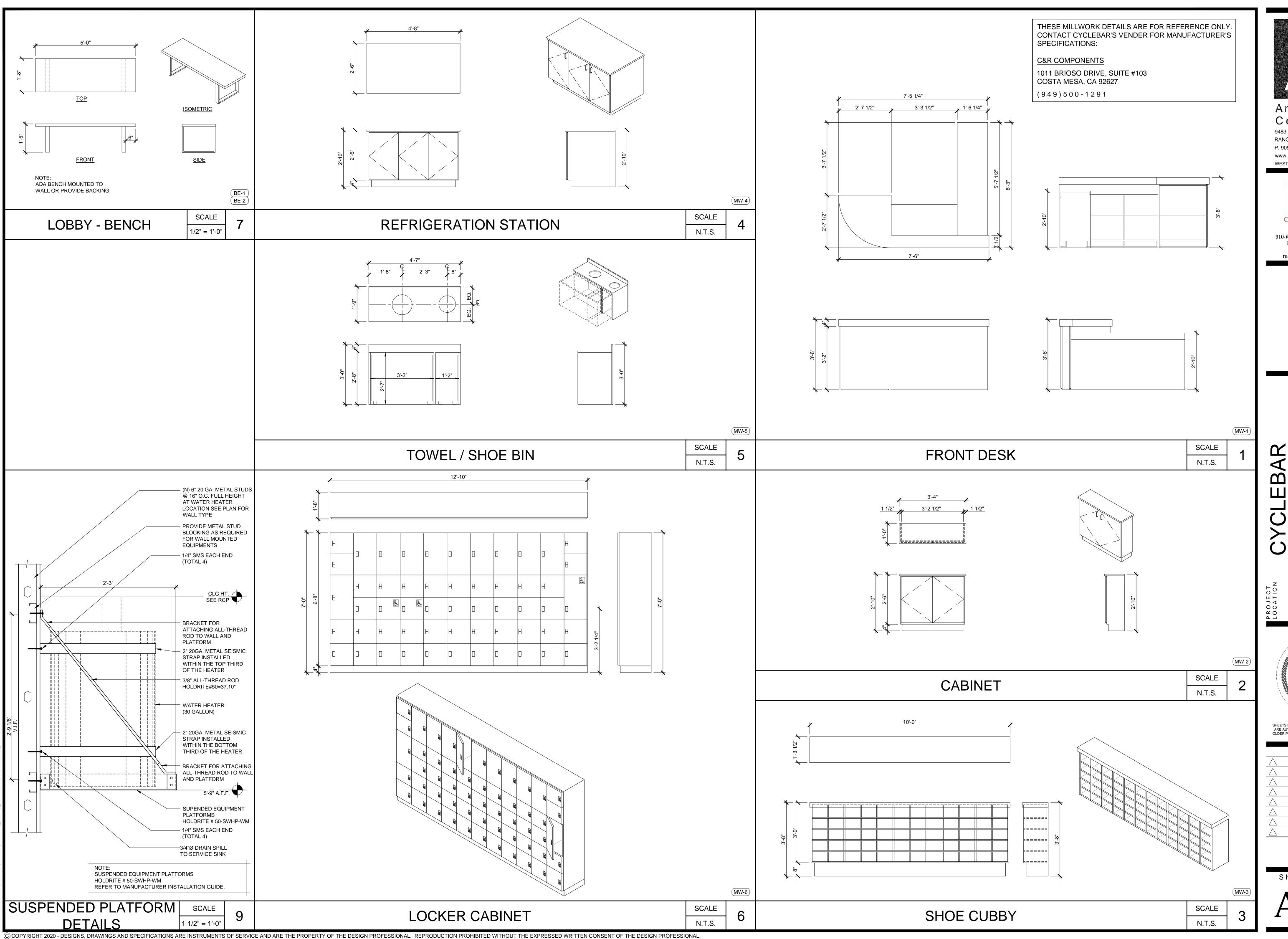
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DATE 2020.04.13
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SHEELNUMBER

A. TAB SPECIALISTS QUALIFICATIONS: CERTIFIED BY AABC.

1. TAB FIELD SUPERVISOR: EMPLOYEE OF THE TAB SPECIALIST AND CERTIFIED BY AABC.

2. TAB TECHNICIAN: EMPLOYEE OF THE TAB SPECIALIST AND CERTIFIED BY AABC AS A TAB TECHNICIAN.

1.2 GENERAL PROCEDURES FOR TESTING AND BALANCING

A. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM ACCORDING TO THE PROCEDURES CONTAINED IN AABC'S "NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE".

B. CUT INSULATION, DUCTS, PIPES, AND EQUIPMENT CABINETS FOR INSTALLATION OF TEST PROBES TO THE MINIMUM

EXTENT NECESSARY FOR TAB PROCEDURES.

1. AFTER TESTING AND BALANCING, PATCH PROBE HOLES IN DUCTS WITH SAME MATERIAL AND THICKNESS AS USED TO CONSTRUCT DUCTS.

3. INSTALL AND JOIN NEW INSULATION THAT MATCHES REMOVED MATERIALS. RESTORE INSULATION, COVERINGS, VAPOR BARRIER, AND FINISH.

C. MARK EQUIPMENT AND BALANCING DEVICES, INCLUDING DAMPER—CONTROL POSITIONS, VALVE POSITION INDICATORS, FAN—SPEED—CONTROL LEVERS, AND SIMILAR CONTROLS AND DEVICES, WITH PAINT OR OTHER SUITABLE, PERMANENT IDENTIFICATION MATERIAL TO SHOW FINAL SETTINGS.

D. TAKE AND REPORT TESTING AND BALANCING MEASUREMENTS IN INCH-POUND UNITS.

1.3 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

A. PREPARE TEST REPORTS FOR BOTH FANS AND OUTLETS. OBTAIN MANUFACTURER'S OUTLET FACTORS AND RECOMMENDED TESTING PROCEDURES. CROSS—CHECK THE SUMMATION OF REQUIRED OUTLET VOLUMES WITH REQUIRED FAN VOLUMES.

B. PREPARE SCHEMATIC DIAGRAMS OF SYSTEMS' "AS-BUILT" DUCT LAYOUTS.

C. FOR VARIABLE-AIR-VOLUME SYSTEMS, DEVELOP A PLAN TO SIMULATE DIVERSITY.

D. DETERMINE THE BEST LOCATIONS IN MAIN AND BRANCH DUCTS FOR ACCURATE DUCT—AIRFLOW MEASUREMENTS.

E. CHECK AIRFLOW PATTERNS FROM THE OUTDOOR—AIR LOUVERS AND DAMPERS AND THE RETURN— AND EXHAUST—AIR DAMPERS THROUGH THE SUPPLY—FAN DISCHARGE AND MIXING DAMPERS.

F. LOCATE START-STOP AND DISCONNECT SWITCHES, ELECTRICAL INTERLOCKS, AND MOTOR STARTERS.

C VEDICY THAT MOTOR CTARTERS ARE FOLLORED WITH PROPERTY CITED THERMAL PROTECTION

G. VERIFY THAT MOTOR STARTERS ARE EQUIPPED WITH PROPERLY SIZED THERMAL PROTECTION.

H. CHECK DAMPERS FOR PROPER POSITION TO ACHIEVE DESIRED AIRFLOW PATH.

I. CHECK FOR AIRFLOW BLOCKAGES.

J. CHECK CONDENSATE DRAINS FOR PROPER CONNECTIONS AND FUNCTIONING.

K. CHECK FOR PROPER SEALING OF AIR-HANDLING-UNIT COMPONENTS.

L. VERIFY THAT AIR DUCT SYSTEM IS SEALED AS SPECIFIED.

1.4 PROCEDURES FOR CONSTANT-VOLUME AIR SYSTEMS

A. ADJUST FANS TO DELIVER TOTAL INDICATED AIRFLOWS WITHIN THE MAXIMUM ALLOWABLE FAN SPEED LISTED BY FAN MANUFACTURER.

1. MEASURE TOTAL AIRFLOW.

A. SET OUTSIDE—AIR, RETURN—AIR, AND RELIEF—AIR DAMPERS FOR PROPER POSITION THAT SIMULATES MINIMUM OUTDOOR—AIR CONDITIONS.

B. WHERE DUCT CONDITIONS ALLOW, MEASURE AIRFLOW BY PITOT-TUBE TRAVERSE. IF NECESSARY, PERFORM MULTIPLE PITOT-TUBE TRAVERSES TO OBTAIN TOTAL AIRFLOW.

C. WHERE DUCT CONDITIONS ARE NOT SUITABLE FOR PITOT-TUBE TRAVERSE MEASUREMENTS, A COIL TRAVERSE MAY BE

D. IF A RELIABLE PITOT—TUBE TRAVERSE OR COIL TRAVERSE IS NOT POSSIBLE, MEASURE AIRFLOW AT TERMINALS AND CALCULATE THE TOTAL AIRFLOW.

2. MEASURE FAN STATIC PRESSURES AS FOLLOWS:

A. MEASURE STATIC PRESSURE DIRECTLY AT THE FAN OUTLET OR THROUGH THE FLEXIBLE CONNECTION.

B. MEASURE STATIC PRESSURE DIRECTLY AT THE FAN INLET OR THROUGH THE FLEXIBLE CONNECTION.

C. MEASURE STATIC PRESSURE ACROSS EACH COMPONENT THAT MAKES UP THE AIR-HANDLING SYSTEM.

D. REPORT ARTIFICIAL LOADING OF FILTERS AT THE TIME STATIC PRESSURES ARE MEASURED.

3. REVIEW RECORD DOCUMENTS TO DETERMINE VARIATIONS IN DESIGN STATIC PRESSURES VERSUS ACTUAL STATIC PRESSURES. CALCULATE ACTUAL SYSTEM-EFFECT FACTORS. RECOMMEND ADJUSTMENTS TO ACCOMMODATE ACTUAL CONDITIONS.

4. OBTAIN APPROVAL FROM ENGINEER FOR ADJUSTMENT OF FAN SPEED HIGHER OR LOWER THAN INDICATED SPEED. COMPLY WITH REQUIREMENTS IN HVAC SECTIONS FOR AIR—HANDLING UNITS FOR ADJUSTMENT OF FANS, BELTS, AND PULLEY SIZES TO ACHIEVE INDICATED AIR—HANDLING—UNIT PERFORMANCE.

5. DO NOT MAKE FAN-SPEED ADJUSTMENTS THAT RESULT IN MOTOR OVERLOAD. CONSULT EQUIPMENT MANUFACTURERS ABOUT FAN-SPEED SAFETY FACTORS. MODULATE DAMPERS AND MEASURE FAN-MOTOR AMPERAGE TO ENSURE THAT NO OVERLOAD OCCURS. MEASURE AMPERAGE IN FULL-COOLING, FULL-HEATING, ECONOMIZER, AND ANY OTHER OPERATING MODE TO DETERMINE THE MAXIMUM REQUIRED BRAKE HORSEPOWER.

B. ADJUST VOLUME DAMPERS FOR MAIN DUCT, SUBMAIN DUCTS, AND MAJOR BRANCH DUCTS TO INDICATED AIRFLOWS.

1. MEASURE AIRFLOW OF SUBMAIN AND BRANCH DUCTS.

2. ADJUST SUBMAIN AND BRANCH DUCT VOLUME DAMPERS FOR SPECIFIED AIRFLOW.

3. RE-MEASURE EACH SUBMAIN AND BRANCH DUCT AFTER ALL HAVE BEEN ADJUSTED.

C. ADJUST AIR INLETS AND OUTLETS FOR EACH SPACE TO INDICATED AIRFLOWS.

1. SET AIRFLOW PATTERNS OF ADJUSTABLE OUTLETS FOR PROPER DISTRIBUTION WITHOUT DRAFTS.

2. MEASURE INLETS AND OUTLETS AIRFLOW.

ADJUST EACH INLET AND OUTLET FOR SPECIFIED AIRFLOW.
 RE-MEASURE EACH INLET AND OUTLET AFTER THEY HAVE BEEN ADJUSTED.

D. VERIFY FINAL SYSTEM CONDITIONS.

1. RE-MEASURE AND CONFIRM THAT MINIMUM OUTDOOR, RETURN, AND RELIEF AIRFLOWS ARE WITHIN DESIGN.

READJUST TO DESIGN IF NECESSARY.

2. RE-MEASURE AND CONFIRM THAT TOTAL AIRFLOW IS WITHIN DESIGN.

3. RE-MEASURE ALL FINAL FAN OPERATING DATA, RPMS, VOLTS, AMPS, AND STATIC PROFILE.

4. MARK ALL FINAL SETTINGS.

5. TEST SYSTEM IN ECONOMIZER MODE. VERIFY PROPER OPERATION AND ADJUST IF NECESSARY.

6. MEASURE AND RECORD ALL OPERATING DATA.

7. RECORD FINAL FAN-PERFORMANCE DATA.

1.5 TOLERANCES

A. SET HVAC SYSTEM'S AIRFLOW RATES AND WATER FLOW RATES WITHIN THE FOLLOWING TOLERANCES:

1. SUPPLY, RETURN, AND EXHAUST FANS AND EQUIPMENT WITH FANS: PLUS OR MINUS 10 PERCENT.

2. AIR OUTLETS AND INLETS: PLUS OR MINUS 10 PERCENT.

3. HEATING-WATER FLOW RATE: PLUS OR MINUS 10 PERCENT.

4. COOLING-WATER FLOW RATE: PLUS OR MINUS 10 PERCENT.

B. MAINTAINING PRESSURE RELATIONSHIPS AS DESIGNED SHALL HAVE PRIORITY OVER THE TOLERANCES SPECIFIED ABOVE.

I. PROVIDE MATERIALS AND EQUIPMENT AND PERFORM LABOR TO INSTALL COMPLETE AND OPERATIONAL MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED PER APPLICABLE LOCAL BUILDING CODES (IBC, IMC, IPC, ETC.), AMMENDMENTS, OTHER GOVERNING CODES AND ORDINANCES AS APPLICABLE.

2. CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.

3. INSTALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.

4. PROVIDE VIBRATION ISOLATION FOR MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE AND A VIBRATION FREE INSTALLATION.

5. COORDINATE CONSTRUCTION OF MECHANICAL WORK WITH ALL OTHER TRADES SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.

6. LEAKAGE / PRESSURE TESTS SHALL BE COMPLETED BEFORE ANY DUCTWORK INSULATION IS APPLIED.

7. PROVIDE ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE DAMPERS, VALVES, SMOKE DETECTORS AND OTHER CONCEALED MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE PROVIDED TO GENERAL CONTRACTOR FOR INSTALLATION. CONTRACTOR SHALL COORDINATE LOCATION.

8. TESTING, ADJUSTING AND BALANCING AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). TESTING, ADJUSTING AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH THE AABC STANDARDS.

9. COORDINATE EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE DUCT TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE DUCT DIMENSIONS BEFORE FABRICATION.

10. MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN DETAILS FOR DUCTWORK AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. OTHER TRADES SHALL NOT SHARE SUPPORTS.

11. ROUND DUCT CAN BE INSTALLED IN LIEU OF RECTANGULAR AND VICE VERSA AS LONG AS IT HAS EQUIVALENT DUCT DIMENSIONS PER THE ASHRAE FUNDAMENTALS HANDBOOK.

12. DUCTWORK AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH GENERAL CONTRACTOR. ATTACHMENTS TO STEEL BAR JOISTS, TRUSSES OR JOIST GIRDERS SHALL BE AT PANEL POINTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS. WELDING TO STRUCTURAL MEMBERS SHALL NOT BE PERMITTED. THE USE OF C—CLAMPS SHALL NOT BE PERMITTED.

13. OPENINGS IN FIRE WALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE SEALED WITH FIRE STOPPING WITH A PRODUCT SIMILAR TO 3M OR APPROVED

14. SUPPORTS, SEISMIC RESTRAINTS, BRACING AND ANCHORING OF DUCTWORK,
PIPING AND EQUIPMENT IS REQUIRED IN ACCORDANCE WITH THE
REQUIREMENTS OF APPLICABLE CODES AND STANDARDS. (DELEGATED DESIGN

15. THE LOCATIONS OF ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT 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 CONTRACTING OFFICER OF RECORD BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.

16. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS FOR CONSTRUCTION. WHERE THE WORD "PROVIDE" OR NEW" IS USED SHALL BE UNDERSTOOD TO MEAN "THE CONTRACTOR SHALL FURNISH AND INSTALL". EQUIPMENT AND MATERIALS PROVIDED SHALL BE NEW AND FREE FROM DEFECTS. NO SALVAGED OR REFURBISHED OR USED EQUIPMENT OR MATERIAL WILL BE ACCEPTED.

17. LOCATIONS AND SIZES OF WALL AND ROOF OPENINGS SHALL BE COORDINATED WITH OTHER TRADES INVOLVED.

18. AIR CONDITIONING CONDENSATE DRAIN LINES FROM EACH HVAC UNIT SHALL BE PIPED FULL SIZE FROM THE UNIT DRAIN OUTLET, WITH "P" TRAP AND PIPED TO NEAREST DRAIN. INSULATE INTERIOR LINES WHERE CONDENSATE CAN OCCUR. REFER TO PLUMBING DRAWINGS.

19. PROVIDE AND INSTALL LOW VOLTAGE (50V OR LESS) WIRING AND CONDUIT NEEDED FOR MECHANICAL SYSTEM OPERATION. THIS SHALL INCLUDE WIRING FOR ANY SENSOR, THERMOSTAT, VALVE, DAMPER, SPLIT SYSTEM (REMOTE AIR—COOLED CONDENSER), ETC. CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE.

20. SUBMIT DETAILED DUCTWORK SHOP DRAWINGS TO ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL BE COMPLETE WITH TOP AND BOTTOM DIMENSIONS, INCLUDING SUPPORTS, SEISMIC ATTACHMENT DETAILS AND LOCATIONS. SHOP DRAWINGS SHALL BE APPROVED BEFORE ANY MATERIALS ARE ORDERED OR CONSTRUCTION IS STARTED.

21. SCHEDULED EQUIPMENT IS THE BASIS OF DESIGN. IF THE CONTRACTOR SUBMITS ON OTHER APPROVED MANUFACTURERS OR MODEL NUMBERS, THE CONTRACTOR WILL FULLY COORDINATE EQUIPMENT REQUIREMENTS WITH

OTHER TRADES AND SHALL INCUR ANY RELATED COSTS.

22. MAINTAIN A SAFE WORKING ENVIRONMENT AT THE CONSTRUCTION SITE AND SURROUNDING AREAS.

23. ACCURATE "AS—BUILT" DRAWINGS SHALL BE MAINTAINED DURING
CONSTRUCTION AND SUBMITTED FOR APPROVAL UPON COMPLETION OF
INSTALLATION. INDICATE DUCT AND EQUIPMENT SIZES AND LOCATIONS.

24. SHEET METAL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST SMACNA DESIGN AND CONSTRUCTION STANDARDS.

25. PERFORM WORK IN A COMPLETE AND WORKMANLIKE MANNER IN CONFORMANCE WITH CODES, AND MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO PROVIDE A COMPLETE AND WORKING SYSTEM.

26. TRAVERSE JOINTS FOR SUPPLY DUCTS SHALL BE SEALED WITH APPROVED MASTIC.

27. EQUIPMENT DESIGNED TO BE FIXED IN POSITION SHALL BE SECURELY FASTENED IN PLACE.

28. CONTRACTOR SHALL NOTE THE CRITICAL SPACE AVAILABLE ABOVE CEILINGS. PROVIDE TRANSITION PIECES AND BEAM BOXES AT CROSSOVERS, UNDER BEAMS, OVER/UNDER PIPES AS REQUIRED TO ACCOMMODATE TO ACCOMMODATE DUCTS WITHIN SPACE AVAILABLE. PROVIDE EQUIVALENT DUCT SIZE TO THE DIAMETER SHOWN COORDINATE CLOSELY WITH OTHER SECTIONS TO REDUCE NECESSITY OF TRANSITION TO A MINIMUM. NO ADDITIONAL COSTS WILL BE PAID FOR ANY REQUIRED TRANSITIONS, BEAM BOXES OR OTHER SPECIAL CHANGE SHAPE PIECES.

29. NO WATER PIPING IS ALLOWED ABOVE THE ELECTRICAL ROOM, TELEPHONE SWITCH ROOM AND DATA/COMMUNICATION ROOM.

30. UPON COMPLETION OF WORK, CONTRACTOR SHALL CLEAN AND REMOVE ALL DEBRIS ASSOCIATED WITH HIS/HER WORK AND DISPOSE OF IT. AREA SHALL BE LEFT IN A CONDITION ACCEPTABLE TO OWNER.

31. DUCT SMOKE DETECTORS SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN RECOMMENDATIONS AND SHALL BE TIED—IN TO THE BUILDING FIRE ALARM SYSTEM. CONNECTION TO FIRE ALARM FOR SUPERVISION ONLY.

32. ALL REQUEST FOR ACCESS OR CONNECTIONS MUST BE MADE IN WRITING IN ADVANCE OF WORK ACTIVITY THROUGH THE BUILDING MANAGER. CONTRACTOR COORDINATE DURATION OF REQUEST REQUIRED.

33. ALL SYMBOLS SHOWN ON SYMBOL LIST ARE NOT NECESSARILY USED ON THIS PROJECT.

DEMOLITION NOTES

THESE DOCUMENTS WERE PREPARED PER AVAILABLE AS—BUILT DOCUMENTS. FIELD VERIFY ALL EXISTING CONDITIONS (SIZE, LOCATION, ETC.) PRIOR TO BEGINNING DEMOLITION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN CONTRACT DOCUMENTS AND EXISTING CONDITIONS.

DEMOLITION OR INTERRUPTION TO EXISTING SERVICES SHALL BE MINIMIZED AND COORDINATED WITH THE OWNER'S REPRESENTATIVE.

PATCH AND REPAIR AREAS, PIPING, DUCTWORK, ETC., EXISTING OR NEW, DAMAGED AS A RESULT OF THE DEMOLITION WORK. REPAIR TO MATCH EXISTING CONDITIONS.

BEFORE DEMOLITION AND REMOVAL OF DUCTWORK OR PIPING, VERIFY HVAC EQUIPMENT CONNECTED ONLY SERVES THE AREA INCLUDED IN THE CURRENT PHASE OF DEMOLITION. ONCE CONFIRMED, DUCTWORK OR PIPING SHALL BE REMOVED TO THE POINTS INDICATED ON PLANS, UNLESS NOTED OTHERWISE.

REMOVE ASSOCIATED HANGERS, SUPPORTS, AND ANCHORS OF DEMOLISHED EQUIPMENT, DUCTWORK OR DEVICES.

PROVIDE TEMPORARY OR PERMANENT CAPS FOR EXISTING PIPING. NO PIPING SHALL BE LEFT OPEN ENDED.

PROVIDE TEMPORARY OR PERMANENT MECHANICALLY FASTENED SHEET METAL CAPS FOR REMAINING DUCTWORK OPENINGS. SEAL AIRTIGHT PER SMACNA GUIDELINES.

REPAIR AND OR REPLACE INSULATION REMOVED OR DAMAGED AS A RESULT OF DEMOLITION

DEMOLISHED MATERIAL SHALL BE PROMPTLY REMOVED FROM PROJECT SITE AND DISPOSED OF IN AN EPA-APPROVED MANNER. EQUIPMENT OR DEVICES IN FAIR CONDITION SHALL BE REVIEWED WITH THE OWNER FOR POSSIBLE SALVAGE PRIOR TO DISPOSAL.

CONTRACTOR BIDDING NOTES

DESIGN DRAWINGS ARE SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

2. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

3. BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

FIRE LIFE SAFETY NOTES

1. THE ELECTRICAL CONTRACTOR SHALL INTERCONNECT ALL FANS AND AC UNITS WITH THE BUILDING LIFE SAFETY SYSTEM FOR UNIT SHUT DOWN UPON A SIGNAL FROM THE LIFE SAFETY SYSTEM.

2. WHERE DUCT MOUNTED SMOKE DETECTORS FOR FANS AND AC UNITS ARE REQUIRED, THE HVAC CONTRACTOR SHALL FURNISH AND INSTALL THE SMOKE DETECTORS, THE ELECTRICAL CONTRACTOR PROVIDE ALL WIRING AND CONDUIT TO SIGNAL THE LIFE SAFETY SYSTEM. THE LIFE SAFETY SYSTEM SHALL SHUT DOWN THE EXHAUST FANS OR AC UNITS AS DESCRIBED IN NOTE #1.

3. ALL SMOKE DETECTORS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION AND SHALL BE COMPATIBLE WITH WITH THE BASE BUILDING STANDARDS

4. EACH SINGLE SYSTEM PROVIDING HEATING OR COOLING AIR IN EXCESS OF 2000 CFM SHALL BE EQUIPPED WITH A SMOKE DETECTOR/AUTOMATIC SHUT—OFF.

1. MECHANICAL DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT MANY OFFSETS, BENDS, ELBOWS, SPECIAL FITTINGS, AND EXACT LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, AND RELATED APPURTENANCES ARE NOT INDICATED. THE CONTRACTOR SHALL CAREFULLY STUDY THE DRAWINGS AND VERIFY ACTUAL FIELD CONDITIONS IN ORDER TO DETERMINE THE BEST METHODS, EXACT LOCATION, ROUTING, AND OBSTRUCTIONS, WORK BY OTHER TRADES, ETC. WHICH AFFECT THE INSTALLATION OF HIS (HER) WORK.

2.PRIOR TO BID, THE CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO ASSURE THAT ALL DUCTWORKS, PIPING, AND EQUIPMENT WILL IT IN THE EXISTING BUILDING AREAS. ALL CUTTING, PATCHING, RELOCATION OF EXISTING WORK, AND THE TRANSPORTATION OF ALL NECESSARY MATERIALS AND EQUIPMENT TO THE INDICATED SITE LOCATION SHALL ALSO BE INCLUDED IN THE BID.

3.IF FIELD ALTERATIONS TO DUCT SYSTEMS HAVE TO BE MADE DUE TO JOB SITE CONDITIONS, THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER, SHALL PREPARE HIS (HER) OWN SHOP AND INSTALLATION DRAWINGS AND SUBMIT TO THE ARCHITECT / ENGINEER FOR APPROVAL PRIOR BEGINNING OF

4.COORDINATE ALL LOCATION OF GRILLES, REGISTERS, AND SIDEWALL REGISTERS W/ ARCHITECTURAL, STRUCTURAL, AND ELECTRICAL ELEMENTS. THE CONTRACTOR IS ALSO REQUIRED TO COORDINATE ALL MECHANICAL UNIT LOCATIONS WITH OTHER GENERAL TRADES.

5.IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO PAY FOR ALL NECESSARY PERMITS AND FEES AND OBTAIN APPROVALS PRIOR TO INSTALLATION.

6.ALL WORK SHALL COMPLY WITH ALL (APPLICABLE) FEDERAL, STATE, AND LOCAL JURISDICTION CODES. WHERE THE PLANS SHOW MORE RESTRICTIVE REQUIREMENTS, THE PLANS SHALL GOVERN AND NOTHING ON THESE PLANS SHALL BE INTERPRETED AS AUTHORITY TO VIOLATE ANY CODE AND/OR REGULATIONS.

7.SCOPE OF WORK CONSISTS OF FURNISHING LABOR, MATERIALS AND EQUIPMENT FOR THE INSTALLATION. THE WORK ALSO INCLUDES PLACING INTO OPERATION COMPLETE AND OPERABLE HEATING, VENTILATING AND AIR CONDITIONING (HVAC) SYSTEMS AS SPECIFIED AND SHOWN ON PLANS. THIS INCLUDES, BUT NOT LIMITED TO: HVAC UNITS, EXHAUST FANS, DUCTLESS SPLIT—SYSTEMS, DUCTWORK, AIR DISTRIBUTION, CONTROLS AND ACCESSORIES.

8.CONTRACTOR SHALL INSPECT ANY EXISTING DUCTWORK FOR DEFECTS AND REPORT TO THE ARCHITECT / ENGINEER AND THE OWNER ANY DEFICIENCIES FOUND PRIOR TO PERFORMING ANY WORK. CONTRACTOR SHALL CLEAN ALL EXISTING DUCTWORK, GRILLES, REGISTERS AND DIFFUSERS PRIOR TO INSTALLING THE NEW WORK.

9.HVAC UNIT FLEXIBLE DUCT CONNECTIONS SHALL BE A MINIMUM OF 6 INCHES LONG, HOLD IN-PLACE WITH HEAVY METAL BANDS, AND SECURELY ATTACHED TO PREVENT ANY LEAKAGE AT THE CONNECTION POINTS. FLEXIBLE CONNECTIONS SHALL BE FABRICATED FROM APPROVED FLAME PROOF FABRIC CONFORMING TO NFPA 90A. ASBESTOS CLOTH IS NOT ACCEPTABLE.

10. THE CONTRACTOR SHALL FURNISH AND INSTALL ACCESS DOORS AND / OR ACCESS PANELS AS NECESSARY TO SERVICE CONTROL EQUIPMENT. ALL ACCESS DOOR AND PANELS LOCATIONS SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO INSTALLATION.

11. CONTRACTOR SHALL PROVIDE ALL AIR TEMPERATURE CONTROLS INCLUDING WIRING, TUBING AND THERMOSTATS (WITH LOCKING COVERS) AND ALL MISCELLANEOUS APPURTENANCES TO MEET THE INTENT OF THESE DOCUMENTS.

ABOUT ALL AIR CONDITION UNITS, ELECTRICAL AND CONTROL EQUIPMENT TO PERMIT READY AND SAFE OPERATION, EXAMINATION, AND MAINTENANCE.

13. ALL DUCTS, PLENUMS, FLASHING, EQUIPMENT AND WORKS EXPOSED TO THE

12. ALL ACCESS AND WORKING SPACE MUST BE PROVIDED AND MAINTAINED

WEATHER MUST BE WATERTIGHT AND PROTECTED.

14. HANGER FOR SUSPENDED EQUIPMENT AND DUCTWORK SHALL BE SWAY
BRACED IN (2) TWO DIRECTIONS PER "GUIDELINES" FOR SEISMIC RESTRAINTS OF

15. ALL INSULATION MATERIALS SHALL HAVE A FLAME SPREAD RATING OF NO MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NO MORE THAN 50.

MECHANICAL EQUIPMENT AS REQUIRED PER SMACNA.

16. VERIFY EXACT LOCATION OF ALL THERMOSTATS, CONTROL PANELS, AND REMOTE SENSORS BEFORE ROUGH—IN. COORDINATE WITH ARCHITECTURAL PLANS FOR EXACT LOCATION. INSTALL ALL WALL—MOUNTED THERMOSTAT AT +4'-0" MAX. ABOVE FINISH FLOOR.

17. PERFORM PRE-READING AIR BALANCE REPORT AFTER AIR DIFFUSERS INSTALLATION. BALANCE ALL SUPPLY DIFFUSERS, RETURN AND EXHAUST AIR DEVICES AS REQUIRED. AIR BALANCE SHALL BALANCE WITH ALL SUPPLY DIFFUSERS, RETURN AND EXHAUST AIR DEVICES. AIR BALANCE SHALL BE PERFORMED BY AN INDEPENDENT CONTRACTOR OR A CERTIFIED MEMBER OF A.A.B.C. OR N.E.E.B. SUBMIT A COMPLETE CERTIFIED TEST AND AIR BALANCE REPORT FOR FINAL REVIEW AND APPROVAL.

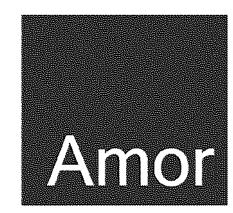
18. PROVIDE EXTRACTORS AT ALL SUPPLY AIR DUCTS "T" CONNECTIONS AND MANUAL VOLUME DAMPERS IN ALL SUPPLY AIR AND RETURN AIR BRANCH DUCTS TO DIFFUSERS AND REGISTERS.

19. PRIOR INSTALLATION OF ROOFTOP UNITS, COORDINATE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT LOCATION, OPENING DETAILS, AND ADDITIONAL CONSTRUCTION REQUIREMENTS.

20.ALL OUTSIDE AIR INTAKES SHALL BE LOCATED AT A MINIMUM OF 10 FEET AWAY FROM ANY PLUMBING VENT, EXHAUST, AND FLUE OUTLETS.

21. INSTALLATIONS OF AESTHETICS ARE A VERY IMPORTANT COMPONENT OF THIS PROJECT. INSTALLATION OF MECHANICAL WORK SHALL BE OF THE HIGHEST QUALITY AND PROFESSIONAL CRAFTSMANSHIP POSSIBLE.

22.PREPARE ALL FINAL AS—BUILT DRAWINGS AT THE END OF THE PROJECT COMPLETION AND SUBMIT TO ARCHITECT AND ENGINEER (AS REQUIRED) FOR RECORD.



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SECTION 15001 - BASIC MECHANICAL REQUIREMENTS

- A. GENERAL CONDITIONS 1. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND ALL OTHER SPECIFICATION SECTIONS,
- APPLY TO THIS AND THE OTHER SECTIONS OF DIVISION 15000. 2. THE CONTRACTOR FOR THIS DIVISION OF WORK IS REQUIRED TO READ THE SPECIFICATIONS AND REVIEW DRAWINGS FOR ALL DIVISIONS OF WORK AND IS RESPONSIBLE FOR THE COORDINATION OF THEIR WORK AND THE WORK OF THEIR SUBCONTRACTORS WITH ALL DIVISIONS OF WORK. IT IS THIS CONTRACTORS RESPONSIBILITY TO PROVIDE THEIR SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS.
- 3. THIS CONTRACTOR IS RESPONSIBLE FOR SCHEDULING THE COMPLETION AND INSPECTION OF THEIR WORK AND THE WORK OF THEIR SUBCONTRACTORS TO COMPLY WITH THE SCHEDULE AND THE PROJECT COMPLETION DATE.
- 4. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTAL OF BID TO DETERMINE CONDITIONS AFFECTING THE WORK. ANY ITEMS WHICH ARE NOT COVERED IN THE BID DOCUMENTS OR ANY PROPOSED SUBSTITUTIONS SHALL BE LISTED SEPARATELY AND QUALIFIED IN THE CONTRACTORS BID. SUBMITTAL OF BID SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. FAILURE TO VISIT THE SITE DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY IN PERFORMANCE
- 5. REFER TO RESPONSIBILITY SCHEDULE FOR INFORMATION IN REGARD TO RESPONSIBILITY OF WORK OR ITEMS WHICH MAY AFFECT BID.

SECTION 15002 - GENERAL REQUIREMENTS

- 1. THIS CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE A COMPLETE MECHANICAL SYSTEM AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS. ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE LANDLORD OR TENANT SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. CLOSELY COORDINATE THE ENTIRE INSTALLATION WITH THE
- LANDLORD AND THE TENANT PROJECT MANAGER, AS REQUIRED. 2. DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN ON DRAWINGS, OR SHOWN ON DRAWINGS BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS. IF NOT OTHERWISE DIRECTED, INSTALLATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE WORK DESCRIBED IN THE SPECIFICATIONS IS IN CONFLICT WITH THE WORK SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL SUPPLY THE GREATER QUANTITY, QUALITY AND COST VIA THE BID AND CONTACT THE ENGINEER
- FOR CLARIFICATION ON DIRECTION PRIOR TO INSTALLATION. 3. WHERE THE DRAWINGS OR SPECIFICATIONS CALL FOR ITEMS WHICH EXCEED CODES OR THE LANDLORD'S TENANT CRITERIA, THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING THE SYSTEM WITH THE MORE STRINGENT REQUIREMENTS AS DESIGNED AND DESCRIBED ON THESE DRAWINGS, UNLESS SPECIFICALLY NOTED OTHERWISE
- 4. ALL MECHANICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING, AND REPAIRING. THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING ACCESS PANELS FOR SUFFICIENT SERVICE ACCESS TO ALL EQUIPMENT.
- 5. ALL WORK SHALL BE PERFORMED IN A NEAT PROFESSIONAL MANNER USING GOOD ENGINEERING AND CONSTRUCTION PRACTICES.
- 6. UNLESS SPECIFICALLY NOTED OTHERWISE, MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW, UNDERWRITERS LABORATORIES LISTED AND LABELED AND SIZED IN CONFORMITY WITH REQUIREMENTS OF STATE AND LOCAL CODES, WHICHEVER IS MORE STRINGENT.
- SECTION 15003 CODES 1. ALL WORK SHALL CONFORM TO THE LANDLORDS' CRITERIA, THE STATE'S, COUNTY'S, CITY'S AND LOCAL CODES AND ORDINANCES, SAFETY AND HEALTH CODES, NFPA CODES, ENERGY CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. THIS CONTRACTOR SHALL INQUIRE INTO AND COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. THIS CONTRACTOR SHALL INCLUDE ANY CHANGES REQUIRED BY CODES IN THE BID AND IF THESE CHANGES ARE NOT INCLUDED IN THE BID, THEY MUST BE QUALIFIED AS A SEPARATE LINE ITEM IN THE BID. AFTER CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE ISSUES SHALL BE REIMBURSED BY TENANT TO THE CONTRACTOR.

SECTION 15004 - LICENSES, PERMITS, INSPECTIONS & FEES

- 1. THIS CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS, INSPECTIONS, AND FEES REQUIRED OR RELATED TO THEIR WORK. 2. FURNISH TO TENANT'S PROJECT MANAGER ALL CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.
- SECTION 15005 TRADE NAMES, MANUFACTURERS AND SHOP DRAWINGS 1. WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS. THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM FOR THE BASE BID. MANUFACTURERS CONSIDERED AS AN EQUAL OR BETTER IN ALL ASPECTS TO THAT SPECIFIED WILL BE SUBJECT TO APPROVAL IN WRITING BY TENANT'S PROJECT MANAGER THROUGH PRIOR SHOP DRAWING SUBMITTAL PROCESS, FOR ACCEPTANCE. THE USE OF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
- 2. MECHANICAL CONTRACTOR SHALL SUBMIT ONLY SUBSTITUTION REQUESTS TO TENANT'S PROJECT MANAGER FOR APPROVAL. SUBMISSIONS SHALL BE MADE EARLY ENOUGH IN PROJECT TO ALLOW FOUR (4) WORKING DAYS FOR TENANT'S PROJECT MANAGER'S REVIEW WITHOUT CAUSING DELAYS OR CONFLICTS TO THE JOB'S PROGRESS. SUBMITTALS SHALL BEAR THE STAMP OF GENERAL CONTRACTOR AND THE SUB-CONTRACTOR SHOWING THAT THEY HAVE REVIEWED AND CONFIRMED THAT THE SUBMITTALS ARE IN CONFORMANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS OR INDICATE WHERE EXCEPTIONS HAVE BEEN TAKEN.

SECTION 15006 - GUARANTEE

1. THIS CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORK PROVIDED UNDER THEIR CONTRACT AND SHALL MAKE GOOD, REPAIR OR REPLACE AT THEIR OWN EXPENSE, ANY DEFECTIVE WORK, MATERIAL, OR EQUIPMENT WHICH MAY BE DISCOVERED WITHIN A PERIOD OF 12 MONTHS FROM THE DATE OF ACCEPTANCE (IN WRITING) OF THE INSTALLATION BY TENANT'S PROJECT MANAGER. EXTENDED WARRANTIES ARE AS SPECIFIED WITH INDIVIDUAL EQUIPMENT.

SECTION 15007 - RECORD DRAWINGS

- A. THIS CONTRACTOR SHALL MAINTAIN ONE COPY OF DRAWINGS ON THE JOB SITE TO RECORD DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS: LOCATION OF CONCEALED PIPING VALVES AND DUCTS.
- REVISIONS, ADDENDUMS, AND CHANGE ORDERS. SIGNIFICANT DEVIATIONS MADE NECESSARY BY FIELD CONDITIONS. APPROVED EQUIPMENT SUBSTITUTIONS, AND CONTRACTOR'S COORDINATION WITH OTHER
- B. AT COMPLETION OF THE PROJECT AND BEFORE FINAL APPROVAL, THE CONTRACTOR SHALL MAKE ANY FINAL CORRECTIONS TO DRAWINGS AND CERTIFY THE ACCURACY OF EACH PRINT BY SIGNATURE THEREON. ONE COPY OF THE MOST RECENT SET OF DRAWINGS WITH TEMPERATURE CONTROL DRAWINGS INCLUDED SHALL BE DELIVERED TO TENANT'S PROJECT MANAGER.

SECTION 15008 - DISCREPANCIES IN DOCUMENTS DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN ON DRAWINGS, OR SHOWN ON DRAWINGS BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS. IF NOT OTHERWISE DIRECTED, INSTALLATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE WORK DESCRIBED IN THE SPECIFICATIONS IS IN CONFLICT WITH THE WORK SHOWN

ON THE DRAWINGS, THE CONTRACTOR SHALL SUPPLY THE GREATER

QUANTITY, QUALITY AND COST VIA THE BID AND CONTACT THE ENGINEER

SECTION 15009 DEMOLITION 1. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE DEMOLITION OF EXISTING WORK AND THE DEMOLITION PROVIDED BY THE GENERAL CONTRACTOR. COORDINATE WITH THE GENERAL CONTRACTOR ANY

FOR CLARIFICATION ON DIRECTION PRIOR TO INSTALLATION.

EXISTING EQUIPMENT REQUIRED TO BE LEFT INTACT. 2. EACH CONTRACTOR SHALL VERIFY SCOPE OF WORK WITH THE GENERAL CONTRACTOR FOR THE REMOVAL OF ALL EXISTING FIRE PROTECTION, PLUMBING FIXTURES, PIPING, HVAC UNITS, REFRIGERANT RECAPTURE EXHAUST FANS, ETC. AND ASSOCIATED ROOF CURBS NOT BEING REUSED ON THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE. CONTRACTOR MUST VERIFY WITH THE LANDLORD ALL PRESUMED ABANDONED EQUIPMENT, PIPES, DUCTWORK, AND EQUIPMENT PRIOR TO REMOVAL. ROOF CURBS SHALL BE REMOVED AND THE ROOF PATCHED. ALL EXTRANEOUS ITEMS IN THE SPACE OR ON THE ROOF NOT APPLICABLE TO THE NEW WORK MUST BE REMOVED AND ROOF/WALL/FLOOR PATCHED/REPAIRED TO MATCH EXISTING STRUCTURE. EXISTING ABANDONED PIPES, DUCTS, OR EQUIPMENT IN THE FLOOR, EMBEDDED IN CONCRETE, OR OTHERWISE INACCESSIBLE ARE TO BE CUT OFF AND SEALED BELOW OR WITHIN FLOOR OR WALL LEVEL WHEN THEY ARE NOT TO BE REUSED IN THIS PROJECT. IF REQUIRED BY LANDLORD OR CODES, ABANDONED PIPING AND/OR DUCTWORK MUST BE REMOVED TO POINT OF ORIGIN. CONFIRM THE EXTENT OF DEMOLITION WITH THE GENERAL CONTRACTOR AND TENANT PRIOR TO BID AND INCLUDE IN BID PROPOSAL AS DIRECTED BY THE GENERAL CONTRACTOR AND TENANT.

SECTION 15010 - CUTTING AND PATCHING

- 1. THE CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING AS REQUIRED FOR THE INSTALLATION OF THE WORK UNDER THIS SPECIFICATION. NO CUTTING OF THE STRUCTURE SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE LANDLORD AND ARCHITECT OR ENGINEER. 2. PATCHING SHALL BE OF THE SAME WORKMANSHIP, MATERIAL AND FINISH AND SHALL MATCH ACCURATELY ALL SURROUNDING CONSTRUCTION IN A MANNER SATISFACTORY TO THE ARCHITECT AND TENANT'S PROJECT
- MANAGER. 3. EXISTING UTILITIES, ETC. THAT ARE DAMAGED DURING THE CONSTRUCTION PERIOD, WHETHER OR NOT DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AND LEFT IN A CONDITION SUITABLE TO THE LANDLORD AND TENANT'S PROJECT MANAGER.
- SECTION 15011 SLEEVES 1. THIS CONTRACTOR SHALL PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH IT'S RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2" ABOVE THE FLOOR. CONTRACTOR MUST COORDINATE THROUGH THE LANDLORD ANY CORE DRILLING OR CUTTING OF OPENINGS IN
- MASONRY FLOORS OR WALLS. 2. ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS AND/OR FLOORS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RTV" FOAM, "3M" FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THEIR FIRE RATING.
- 3. SLEEVES IN BEARING AND MASONRY WALLS, FLOORS, AND PARTITIONS SHALL BE STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS, OR FOR CONCEALED VERTICAL PIPING, SLEEVES SHALL BE NO. 22 U.S.G. GALVANIZED STEEL MINIMUM.

SECTION 15012 - HANGERS

- 1. HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS ANGLE IRON. BANDS, C-CLAMPS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK. 2. HANGERS SHALL BE FASTENED TO BUILDING STEEL, CONCRETE, OR
- MASONRY, BUT NOT TO PIPING. HANGING FROM METAL DECK IS NOT PERMITTED. HANGERS MUST BE ATTACHED TO UPPER CHORD OF BAR JOIST. WHERE INTERFERENCES OCCUR, AND IN ORDER TO SUPPORT DUCTWORK OR PIPING. THE CONTRACTOR MUST INSTALL TRAPEZE TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, AND OTHER EQUIPMENT. HANGER TYPES AND INSTALLATION METHODS ARE ALSO SUBJECT TO LANDLORD CRITERIA.
- 3. HANGERS FOR ALL INSULATED PIPING SHALL BE SIZED AND INSTALLED FOR THE OUTER DIAMETER OF INSULATION. INSTALL 6" LONG SPLIT CIRCLE GALVANIZED SADDLE BETWEEN THE HANGER AND THE PIPE INSULATION.
- 4. HANGERS AND PIPING OF DISSIMILAR METALS SHALL BE DI-ELECTRICALLY

DIVISION 15500 - HEATING, VENTILATING, AIR CONDITIONING

SECTION 15501 - SUMMARY OF WORK

- A. THIS CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, ETC. NECESSARY FOR, REASONABLY IMPLIED AND INCIDENTAL TO, THE FURNISHING, INSTALLATION, COMPLETION AND TESTING OF ALL THE WORK FOR THE HVAC SYSTEMS AS CALLED FOR IN THE SPECIFICATIONS, SHOWN ON DRAWINGS AND AS REQUIRED BY JOB CONDITIONS, TO INCLUDE, BUT NOT BE LIMITED TO THE
- FOLLOWING: 1. (2) NEW GAS HEAT/ELEC. COOLING ROOFTOP UNIT WITH ALL ASSOCIATED CONTROLS AND COMPONENTS AS SPECIFIED ON PLANS, (3) NEW GENERAL EXHAUST FANS, NEW SUPPLY, RETURN AND EXHAUST DUCTWORK WITH ALL
- CONTROLS AND ACCESSORIES SPECIFIED. 2. THE AIR DEVICES AS NOTED ON THE PLANS SHALL BE PURCHASED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING, RECEIVING, VERIFYING QUANTITIES AND INSPECTING FOR DAMAGE AND FILING OF ANY CLAIM FORMS. REFER TO RESPONSIBILITY SCHEDULE AND AIR
- DEVICE SCHEDULE ON PLANS. 3. ALL MATERIALS SHALL BE NEW AND SHALL FIT THE SPACE AVAILABLE.
- VERIFY ALL DIMENSIONS AT THE SITE. 4. ALL VALVES, DAMPERS, ETC. SHALL BE SO LOCATED AND INSTALLED TO PERMIT ACCESS FOR SERVICE WITHOUT DAMAGE TO BUILDING OR FINISHED

SECTION 15502 - MATERIALS A. REFER TO PLANS FOR SCHEDULES OF EQUIPMENT. ALL EQUIPMENT SHALL BE

SEALER OR EQUAL.

- COMPLETE IN EVERY RESPECT WITH ALL DEVICES, APPURTENANCES, AND ACCESSORIES PROVIDED TO MEET THE DESIGN INTENT AND OPERATION OF THE SYSTEMS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ALL AIR CONDITIONING EQUIPMENT MUST BE TRAPPED IN ACCORDANCE WITH MANUFACTURERS DATA.
- B. METAL DUCTWORK NO FIBERGLASS DUCT ALLOWED 1. EXCEPT AS OTHERWISE INDICATED, FABRICATE AND INSTALL RECTANGULAR AND ROUND DUCTWORK WITH GALVANIZED STEEL, IN ACCORDANCE WITH
- SMACNA "HVAC DUCT CONSTRUCTION STANDARDS" OF THE LATEST EDITION. 2. INSTALL TURNING VANES IN ALL RIGHT ANGLE ELBOWS IN ALL DUCTS. 3. INSTALL RIGID ROUND AND RECTANGULAR METAL DUCT WITH SUPPORT
- SYSTEMS INDICATED IN SMACNA STANDARDS. PROVIDE SWAY AND SEISMIC BRACING AS REQUIRED BY STATE AND LOCAL CODES OR BY LANDLORD. 4. ALL JOINTS AND SEAMS SHALL BE SEALED WITH UNITED MCGILL DUCT
- 4.A. ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS, AND CONNECTIONS IN DUCTWORK MUST BE SECURELY SEALED USING WELDMENTS; MECHANICAL FASTENERS WITH SEALS, GASKETS, OR MASTICS; MESH AND MASTIC SEALING SYSTEMS; OR TAPES. TAPES AND MASTICS MUST BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A OR UL 181B. ALL LONGITUDINAL AND TRANSVERSE JOINTS, SEAMS AND CONNECTIONS OF SUPPLY AND RETURN DUCTS OPERATING AT STATIC PRESSURES LESS THAN OR EQUAL TO 2" W.G. SHALL BE SECURELY FASTENED AND SEALED WITH WELDS GASKETS, MASTICS (ADHESIVES), MASTIC-PLUS-EMBEDDED FABRIC SYSTEMS OR TAPES INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION
- INSTRUCTIONS. 4.B. MECHANICAL FASTENERS AND SEALS, MASTICS, OR GASKETS MUST BE USED WHEN CONNECTING DUCTS TO FANS AND OTHER AIR DISTRIBUTION EQUIPMENT
- 5. ALL DUCTWORK SHALL BE INSTALLED WITH INSIDE CLEAR DIMENSIONS AS NOTED ON DRAWINGS. WHERE DUCTWORK SIZE IN LARGER THAN CONNECTED DEVICE SMOOTH DUCT TRANSITIONS SHALL BE INSTALLED JUST PRIOR TO DEVICE CONNECTION.
- C. MEDIUM PRESSURE DUCT 1. WHERE DUCTWORK IS SPECIFICALLY NOTED AS MEDIUM PRESSURE, IT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA STANDARDS FOR A PRESSURE RATING OF 4 INCHES WATER COLUMN MINIMUM OR LARGER AS REQUIRED BY LANDLORD
- 2. ALL GAUGES AND REINFORCEMENT MUST MEET WITH THE LATEST EDITION OF SMACNA STANDARDS FOR MEDIUM PRESSURE DUCT AND WITH THE LANDLORD'S CRITERIA
- 3. CONNECTIONS TO THE LANDLORD'S MEDIUM PRESSURE DUCTWORK SHALL BE MADE WITH "LO-LOSS" SADDLE TEE TAPS BY UNITED MCGILL CORP., OR AS OTHERWISE REQUIRED BY THE LANDLORD
- 4. ALL OTHER ITEMS FROM METAL DUCTWORK SPECIFICATION SECTION APPLY TO THIS SECTION, WITH THE EXCEPTION THAT ALL MEDIUM PRESSURE DUCTWORK MUST BE WRAPPED INSULATION, NOT LINED.
- D. FLEXIBLE COLLARS AT EQUIPMENT SHALL BE PROVIDED IN ALL CONNECTIONS BETWEEN VIBRATING EQUIPMENT AND DUCTS OR CASINGS. FLEXIBLE CONNECTIONS SHALL CONSTRUCTED OF NEOPRENE-COATED FLAMEPROOF FABRIC. PROVIDE ADEQUATE JOINT FLEXIBILITY TO ALLOW FOR MOVEMENT AND PREVENT THE TRANSMISSION OF VIBRATION.
- FLEXIBLE AIR DUCT AT AIR DEVICES SHALL BE MIN. R-5 INSULATED CLASS 1 AND RATED FOR THE OPERATING PRESSURE OF THE SYSTEM. DUCT CONSTRUCTION MATERIAL MUST ADHERE TO LOCAL CODES AND LANDLORD'S
- REQUIREMENTS. F. PROVIDE MANUAL LOCKING QUADRANT VOLUME CONTROL DAMPERS WITH HANDLE OPERATORS IN EACH BRANCH DUCT AND AS SHOWN ON PLANS TO FACILITATE AIR BALANCING. ALL RECTANGULAR DAMPERS IN OUTSIDE AIR, RELIEF AIR, OR RETURN AIR DUCTS ARE TO BE OF OPPOSED BLADE TYPE
- G. PROVIDE PRIMARY FIRE DAMPERS WHERE INDICATED OR REQUIRED BY CODES. FIRE DAMPERS SHALL BE UL LABELED. FIRE DAMPERS SHALL HAVE THE BLADES OUT OF THE AIRSTREAM AND A 165 F FUSIBLE LINK, TYPE B, AS MINIMUM.
- H. DUCTWORK INSULATION 1. INSTALL INSULATION PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES. INSULATION MUST COMPLY WITH NFPA 90A.
- 2. DUCT SIZES SHOWN ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS. 3. ALL JOINTS MUST BE TAPED SO THAT NO INSULATION FIBER IS VISIBLE EXTEND DUCTWORK INSULATION WITHOUT INTERRUPTION THROUGH WALLS, FLOORS, AND SIMILAR PENETRATIONS.
- 4. ALL SUPPLY AIR DUCTWORK IN UNCONDITIONED/INDIRECTLY CONDITIONED SPACE (INCLUDING CONCEALED DIFFUSER BACKS) SHALL BE EXTERNALLY INSULATED WITH 1 1/2" THICK, 1-1/2 LB. DENSITY (R=4.8) DUCT WRAP WITH VAPOR BARRIER. VAPOR BARRIER IS TO BE MAINTAINED THROUGHOUT
- 5. ALL SUPPLY AIR DUCTWORK IN DIRECTLY CONDITIONED SPACE: NONE
- REQUIRED. 6. RETURN DUCTS (WITHIN 3' OF FIRST CHANGE IN DUCT DIRECTION)
- FLEXIBLE GLASS FIBER DUCT LINER: 1/2 INCH THICK 7. ALL ROUND, MEDIUM PRESSURE AND OUTSIDE AIR DUCTWORK SHALL BE EXTERNALLY INSULATED WITH A MINIMUM OF 2" THICK, 1 LB. DENSITY (R=6.0) DUCT WRAP WITH VAPOR BARRIER. VAPOR BARRIER IS TO BE MAINTAINED THROUGHOUT DUCT SYSTEM.

I. TESTING, ADJUSTING, AND BALANCING

1. CONTRACTOR SHALL BALANCE, ADJUST & TEST EQUIPMENT TO PROVIDE DESIGN AIR QUANTITIES AND ASSURE PROPER OPERATION OF SYSTEMS. CONTRACTOR SHALL SUBMIT COPIES OF BALANCE/TEST REPORT TO OWNER FOR REVIEW PRIOR TO COMPLETION OF PROJECT. IF A CERTIFIED TEST AND BALANCE REPORT IS REQUIRED BY LANDLORD, CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS WITH LANDLORD AND LOCAL AUTHORITY HAVING JURISDICTION, CONTRACT DIRECTLY WITH AN APPROVED TESTING AND BALANCING AGENCY, AND PROVIDE COMPLETE REPORT TO OWNER AND LANDLORD.

- 2. IF REQUIRED BY THE LANDLORD OR THE LOCAL AUTHORITY HAVING JURISDICTION THE BALANCE REPORT SHALL BE ON THE AABC NATIONAL STANDARD REPORT FORMS OR THE NEBB CERTIFIED REPORT FORMS AS PUBLISHED IN THEIR MOST CURRENT EDITIONS AND SHALL INCLUDE AS A MINIMUM THE FOLLOWING INFORMATION:
- 2.A. AABC OR NEBB CERTIFICATION NUMBER AND SIGNATURE OF BALANCING CONTRACTOR.
- 2.B. COPY OF A CERTIFICATE OF CONFORMANCE WITH NATIONAL STANDARDS
- FOR THIS PROJECT. 2.C. INSTRUMENTATION LIST WITH LAST CALIBRATION DATES.
- 2.D. MAKE AND MODEL NUMBERS OF ALL HVAC EQUIPMENT TESTED. AIR CFM AND STATIC PRESSURE READINGS (DISCHARGE AND SUCTION) AS MEASURED BY PITOT TUBE DUCT TRAVERSE AT THE UNIT
- 2.E. MOTOR NAMEPLATE DATA WITH ACTUAL FIELD VOLTAGE AND AMPERAGE READINGS FOR EACH LEG.
- 2.F. MOTOR AND FAN RPMS, SHEAVE SIZES AND BELT SIZES. 2.G. OUTSIDE, RETURN, MIXED AND SUPPLY AIR TEMPERATURES AND VOLUMES SHALL BE MEASURED AT FULL COOLING WITH MINIMUM OUTSIDE AIR. RETURN/RELIEF/SMOKE EVACUATION AIRFLOW SHALL BE BALANCED AND MEASUREMENTS RECORDED BY PITOT DUCT TRAVERSE AT FULL ECONOMIZER AND POWER EXHAUST.
- 2.H. MAKE AND MODEL NUMBERS OF ALL AIR DISTRIBUTION EQUIPMENT. 2.I. FINAL BALANCED AIR VOLUMES AT ALL OUTLETS (INCLUDING RETURNS
- WHERE DUCTED). 2.J. INDEXED PLAN WITH DIFFUSER AND RETURN LOCATIONS. ALSO INDICATE IF DIFFUSER IS 3-WAY OR 2-WAY.
- 2.K. FINAL BALANCED GPM AT ALL UNITS FOR CHILLED/HOT/CONDENSER WATER WHEN APPLICABLE.
- 2.L. CHILLED/HOT/CONDENSER ENTERING AND LEAVING WATER
- TEMPERATURES WHEN APPLICABLE. 2.M. PRESSURE DROP THROUGH COILS AND CONTROL VALVES WHEN APPLICABLE.
- 3. IF REQUIRED BY THE LANDLORD OR THE LOCAL AUTHORITY HAVING JURISDICTION THE GENERAL CONTRACTOR SHALL ARRANGE FOR THE TEST AND BALANCE A MINIMUM OF TWO WEEKS PRIOR TO THE REQUIRED DATE AFTER RETURNING TABC'S "START UP CHECK LIST". ALL WORK SHALL BE COMPLETED PRIOR TO SCHEDULING AIR BALANCE. IN ADDITION, THE BALANCE CONTRACTOR WILL INSPECT AND PREPARE A FINAL PUNCH LIST. THE HVAC CONTRACTOR SHALL REPAIR OR REPLACE ANY DEFECTIVE MATERIALS, EQUIPMENT OR WORKMANSHIP PRIOR TO TENANT'S FINAL WALK THRU AND BEFORE FINAL PAYMENT WILL BE MADE.
- 4. FOUR COPIES OF THE BALANCE REPORT SHALL BE SUBMITTED TO TENANT
- AND FOUR COPIES TO THE LANDLORD FOR APPROVAL 5. OPERATION AND MAINTENANCE DOCUMENTATION MUST BE PROVIDED TO THE OWNER THAT INCLUDES AT LEAST THE FOLLOWING INFORMATION: 5.A. EQUIPMENT CAPACITY (INPUT AND OUTPUT) AND REQUIRED
 - MAINTENANCE ACTIONS. 5.B. EQUIPMENT OPERATION AND MAINTENANCE MANUALS.
- 5.C. HVAC SYSTEM CONTROL MAINTENANCE AND CALIBRATION INFORMATION INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCE DESCRIPTIONS; DESIRED OR FIELD-DETERMINED SET POINTS MUST BE PERMANENTLY RECORDED ON CONTROL DRAWINGS, AT CONTROL DEVICES, OR, FOR DIGITAL CONTROL SYSTEMS, IN PROGRAMMING
- COMMENTS. 5.D. COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE. ALL PIPING SHALL WITHSTAND AIR PRESSURE TESTING PER GOVERNING PLUMBING CODE.

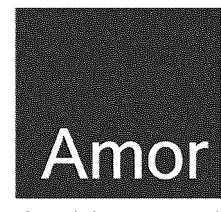
RTU-1 - GAS HEAT/ELEC. COOLING

SEQUENCE OF OPERATION: ROOFTOP UNIT. DX COOLING WITH GAS HEAT: COOLING CYCLE - OCCUPIED HOURS: UPON A RISE IN SPACE TEMPERATURE ABOVE THE OCCUPIED COOLING SETPOINT OF THE THERMOSTAT, THE REFRIGERATION SYSTEM SHALL CYCLE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE AT THE THERMOSTAT SETPOINT. THE SUPPLY FAN SHALL OPERATE

- CONTINUOUSLY AND THE OUTDOOR AIR DAMPER SHALL BE OPEN TO THE MINIMUM POSITION HEATING CYCLE - OCCUPIED HOURS: UPON A DROP IN SPACE TEMPERATURE BELOW THE OCCUPIED HEATING SETPOINT OF THE THERMOSTAT. THE GAS BURNER SHALL CYCLE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE AT THE THERMOSTAT SETPOINT. THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY
- AND THE OUTDOOR AIR DAMPER SHALL BE OPEN TO THE MINIMUM POSITION. COOLING CYCLE - UNOCCUPIED HOURS: UPON A RISE IN SPACE TEMPERATURE ABOVE THE UNOCCUPIED COOLING SETPOINT OF THE THERMOSTAT, THE REFRIGERATION SYSTEM SHALL CYCLE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE AT THE THERMOSTAT SETPOINT. THE SUPPLY FAN SHALL CYCLE AS
- REQUIRED AND THE OUTDOOR AIR DAMPER SHALL BE CLOSED. HEATING CYCLE - UNOCCUPIED HOURS: UPON A DROP IN SPACE TEMPERATURE BELOW THE UNOCCUPIED HEATING SETPOINT OF THE THERMOSTAT, THE GAS BURNER SHALL CYCLE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE AT THE THERMOSTAT SETPOINT. THE SUPPLY FAN SHALL CYCLE AS REQUIRED AND THE OUTDOOR AIR DAMPER SHALL BE CLOSED.
- ECONOMIZER CYCLE: WHEN, UPON A CALL FOR COOLING, THE OUTDOOR AIR ENTHALPY IS BELOW THE RETURN AIR ENTHALPY. THE REFRIGERATION SYSTEM OPERATION SHALL BE CONTROLLED BY THE ECONOMIZER. THE ECONOMIZER SHALL MODULATE THE OUTDOOR AIR AND RETURN AIR DAMPERS IN ORDER TO INTRODUCE UP TO 100% OUTDOOR AIR TO SATISFY THE COOLING LOAD IN THE SPACE. IF THE COOLING EFFECT OF THE OUTDOOR AIR IS NOT SUFFICIENT TO COOL THE SPACE, THE REFRIGERATION SYSTEM SHALL CYCLE AS REQUIRED TO SUPPLEMENT THE ECONOMIZER.

RTU-2 - GAS HEAT/ELEC. COOLING/CO2 SENSOR

- SEQUENCE OF OPERATION: ROOFTOP UNIT, DX COOLING WITH GAS HEAT:
- 1. COOLING CYCLE OCCUPIED HOURS: UPON A RISE IN SPACE TEMPERATURE ABOVE THE OCCUPIED COOLING SETPOINT OF THE THERMOSTAT, THE REFRIGERATION SYSTEM SHALL CYCLE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE AT THE THERMOSTAT SETPOINT. THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY AND THE OUTDOOR AIR DAMPER SHALL BE CONTROLLED BY THE DCV SYSTEM.
- HEATING CYCLE OCCUPIED HOURS: UPON A DROP IN SPACE TEMPERATURE BELOW THE OCCUPIED HEATING SETPOINT OF THE THERMOSTAT, THE GAS BURNER SHALL CYCLE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE AT THE THERMOSTAT SETPOINT. THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY AND THE OUTDOOR AIR DAMPER SHALL BE CONTROLLED BY THE DCV SYSTEM.
 - COOLING CYCLE UNOCCUPIED HOURS: UPON A RISE IN SPACE TEMPERATURE ABOVE THE UNOCCUPIED COOLING SETPOINT OF THE THERMOSTAT, THE REFRIGERATION SYSTEM SHALL CYCLE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE AT THE THERMOSTAT SETPOINT. THE SUPPLY FAN SHALL CYCLE AS REQUIRED AND THE OUTDOOR AIR DAMPER SHALL BE CLOSED.
- 4. HEATING CYCLE UNOCCUPIED HOURS: UPON A DROP IN SPACE TEMPERATURE BELOW THE UNOCCUPIED HEATING SETPOINT OF THE THERMOSTAT, THE GAS BURNER SHALL CYCLE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE AT THE THERMOSTAT SETPOINT. THE SUPPLY FAN SHALL CYCLE AS REQUIRED AND THE OUTDOOR AIR DAMPER SHALL BE CLOSED.
- ECONOMIZER CYCLE: WHEN, UPON A CALL FOR COOLING, THE OUTDOOR AIR ENTHALPY IS BELOW THE RETURN AIR ENTHALPY, THE REFRIGERATION SYSTEM OPERATION SHALL BE CONTROLLED BY THE ECONOMIZER. THE ECONOMIZER SHALL MODULATE THE OUTDOOR AIR AND RETURN AIR DAMPERS IN ORDER TO INTRODUCE UP TO 100% OUTDOOR AIR TO SATISFY THE COOLING LOAD IN THE SPACE. IF THE COOLING EFFECT OF THE OUTDOOR AIR IS NOT SUFFICIENT TO COOL THE SPACE, THE REFRIGERATION SYSTEM SHALL CYCLE AS REQUIRED TO SUPPLEMENT THE ECONOMIZER. DURING ECONOMIZER CYCLE, THE
- POWER EXHAUST FAN SHALL MODULATE TO MAINTAIN A CONSTANT NEUTRAL PRESSURE IN THE SPACE. DEMAND CONTROL VENTILATION (DCV) CYCLE: DURING OCCUPIED HOURS THE OUTSIDE AIR SHALL BE CONTROLLED BY THE DCV SYSTEM. THE DCV SYSTEM SHALL MODULATE THE OUTSIDE AIR DAMPER BETWEEN THE CLOSED POSITION AND THE MINIMUM OCCUPIED POSITION. IN THE EVENT THE ECONOMIZER CALLS FOR OUTSIDE AIR IN EXCESS OF THAT BEING PROVIDED BY THE DCV SYSTEM THE ECONOMIZER SHALL OVERRIDE THE DCV SYSTEM.



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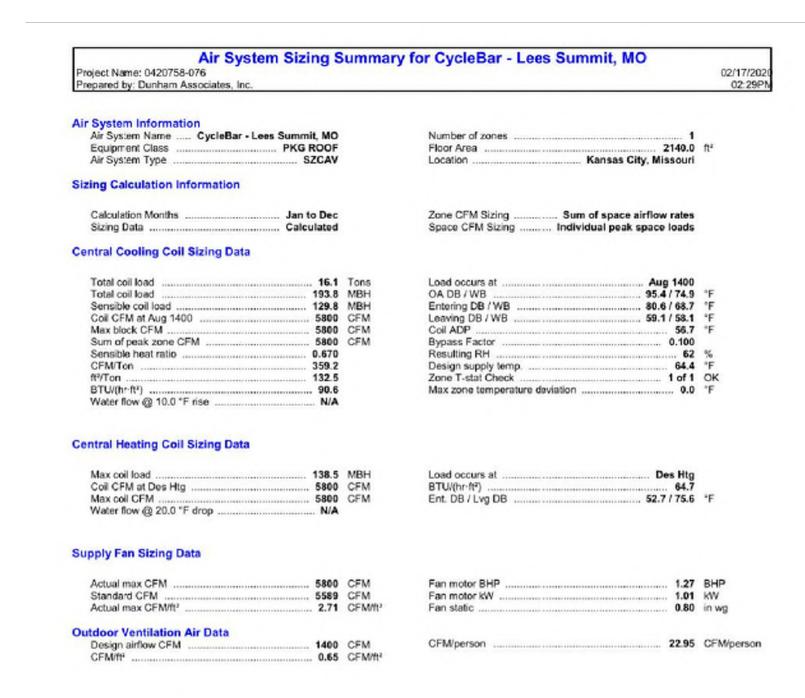
STAMP GREGORY STEINMETZ

REVISIONS DATE 2020.04.10

SHEET NUMBER

PROJECT NUMBER

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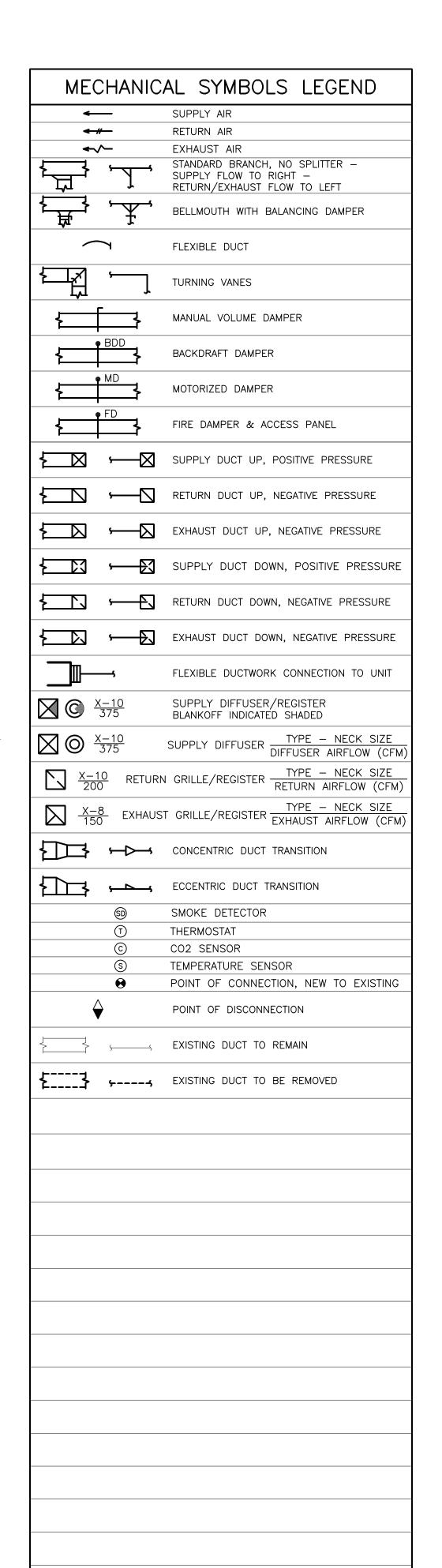


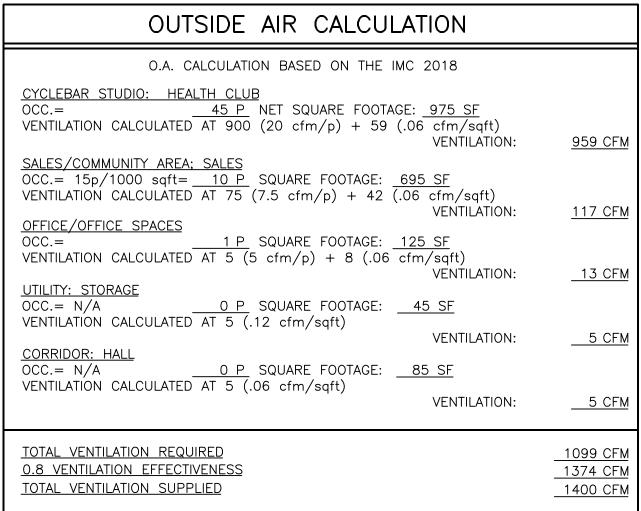
Hourly Analysis Program 5.11

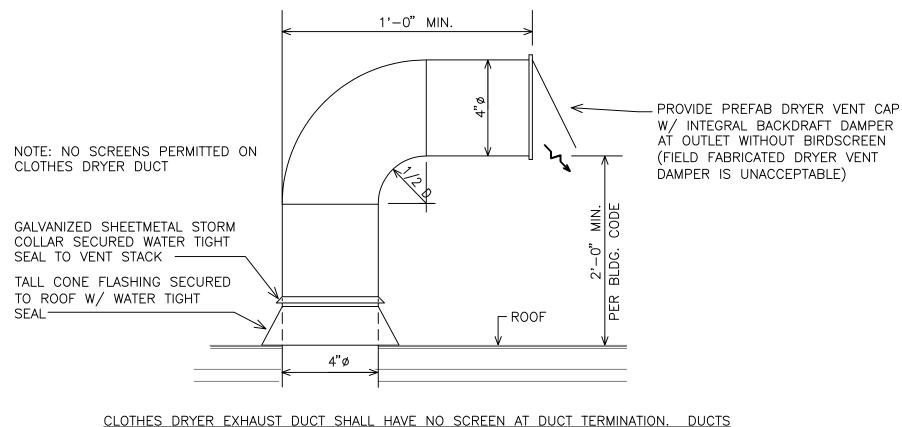
Air System Design Load Summary for CycleBar - Lees Summit, MO Prepared by: Dunham Associates, Inc.

	DES	IGN COOLING		DES	IGN HEATING		
	COOLING DATA A		HEATING DATA AT DES HTG HEATING OA DB / WB -1.0 °F / -2.5 °F				
ZONE LOADS	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)	
Window & Skylight Solar Loads	582 ft²	9420		582 ft²	-		
Wall Transmission	416 ft ^a	543		416 ft ²	2579		
Roof Transmission	2140 ft²	7797	-	2140 ft²	7553	-	
Window Transmission	582 ft ²	4954	14	582 ft ²	20661		
Skylight Transmission	0 ft²	0		O ft ²	0		
Door Loads	0 ft ²	0		O ft²	0	-	
Floor Transmission	820 ft ^a	0		820 ft²	1416		
Partitions	0 ft ²	0	-	0 ft²	0	-	
Ceiling	0 ft ²	0	-	0 ft²	0		
Overhead Lighting	910 W	2611	-	0	0		
Task Lighting	0 W	0		0	0		
Electric Equipment	0 W	0		0	0		
People	61	22234	48655	0	0	0	
Infiltration	-	1914	923	-	6650	0	
Miscellaneous	-	11500	0		0	0	
Safety Factor	0% / 0%	0	0	0%	0	0	
>> Total Zone Loads	-	60974	49578	-	38859	0	
Zone Conditioning		66873	49578		38907	0	
Plenum Wall Load	0%	0	-	0	0	-	
Plenum Roof Load	0%	0		0	0		
Plenum Lighting Load	0%	0	-	0	0		
Return Fan Load	5800 CFM	0		5800 CFM	0		
Ventilation Load	1400 CFM	28447	14358	1400 CFM	103051	0	
Supply Fan Load	5800 CFM	3440		5800 CFM	-3440		
Space Fan Coil Fans	-	0	/-	-	0		
Duct Heat Gain / Loss	0%	0	-	0%	0	-	
>> Total System Loads	-	98760	63936	-	138519	0	
Central Cooling Coil	-	129842	63936	-	.0	0	
Central Heating Coll		-31083			138519		
>> Total Conditioning	-	98760	63936	-	138519	0	
Key:		values are cig lo values are htg ic			Positive values are htg loads Negative values are clg loads		

Hourly Ana ysis Program 5.11







CLOTHES DRYER EXHAUST DUCT SHALL HAVE NO SCREEN AT DUCT TERMINATION. DUCTS SHALL NOT BE CONNECTED OR INSTALLED WITH SHEET METAL SCREWS OR OTHER FASTENERS

ENTIRE INSTALLATION OF CLOTHES DRYER EXHAUST DUCT SHALL BE IN STRICT ACCORDANCE WITH SMACNA STANDARDS AND 2018 IMC 504

DRYER VENT UP THRU ROOF DETAIL NO SCALE

DIFFUSER, GRILLE & REGISTER SCHEDULE											
EQUIP. TAG	SERVICE	MOUNTING TYPE	DESCRIPTION	ACCESSORIES	FINISH	MANUF.	MODEL NO.				
Α	SUPPLY	LAY-IN	24" X24"	OBD	SEE NOTE	TITUS	TMS				
В	SUPPLY	AS SHOWN	12"X12"	OBD	SEE NOTE	TITUS	TMS				
С	SUPPLY	DUCT MTD.	12" DIA.	OBD	SEE NOTE	TITUS	TMR				
D	RETURN	LAY-IN	24"X24"		SEE NOTE	TITUS	50F				
E	RETURN	SURFACE	36" X20"		SEE NOTE	TITUS	350RL				
F	TRANSFER	LAY-IN	24"X12"		SEE NOTE	TITUS	50F				
G	TRANSFER	SURFACE	24"X12"		SEE NOTE	TITUS	350RL				
NOTE:	ALL GRILLES, REGISTERS		MUST BE PAINTED) TO MATCH CEILIN	G TILE C	OLOR.					

CLOTHES DRYER BOOSTER FAN										
UNIT NO.	CLOTHES DRYER BOOSTER FAN MANUF.	MODEL	QTY	CFM	S.P. IN. WC.	RPM	MAX. WATTS	DRIVE	VOLTAGE	ACCESSORIES
EF-3	FANTECH	DBF4XLT-705	1	130	0.7"	2800	83	DIRECT	115/1/60	1, 2, 3, 4
ACCESS	SORIES:								-	

DB10 PRESSURE SWITCH. DBLT4W SECONDARY LINT TRAP. INTEGRAL TEMPERATURE LIMIT SWITCH.

4. WALL MOUNTED INDICATOR PANEL.

VERIFY EXACT COLOR WITH ARCHITECT.

NOTE: CLOTHES DRYER BOOSTER FAN W/ PRESSURE SWITCH AND WALL MOUNTED INDICATOR PANEL THAT INDICATES PROPER OPERATION OF THE EXHAUST FAN. PRESSURE SWITCH SHALL ENERGIZE CLOTHES DRYER BOOSTER FAN WHENEVER THE CLOTHES DRYER IS ON. AN INTEGRAL TEMPERATURE LIMIT SWITCH SHALL TURN OFF THE FAN IN CASE OF A FIRE. CLOTHES DRYER BOOSTER FAN AND ASSOCIATED PRESSURE SWITCH/ACCESSORIES ARE TO BE SUPPLIED AND INSTALLED BY TENANT'S CONTRACTOR.

CLOTHES DRYER BOOSTER IS UL LISTED PER THE DRYER EXHAUST DUCT POWER VENTILATOR (DEDPV) SUPPLEMENT TO UL STANDARD 705.

	EXHAUST FAN											
TAG	QTY	MANUFACTURER	MODEL NO.	TYPE	CFM	S.P.	WATTS	VOLTAGE	ACCESSORIES	NOTES		
EF-1	1	GREENHECK	SP-SP110	CEILING	100	0.2"	80	SEE ELEC	BACKDRAFT DAMPER	1		
EF-2	1	GREENHECK	SP-SP110	CEILING	100	0.2"	80	SEE ELEC	BACKDRAFT DAMPER	1		
NOTE: 1. TOILE	IOTE: . TOILET EXHAUST FANS SHALL BE INTERLOCKED WITH TOILET ROOM LIGHT SWITCH.											

FACTORY SUPPLIED DIFFERENTIAL ENTHALPY ECONOMIZER (LOW LEAK ECONOMIZER WITH FAULT DETECTION & DIAGNOSTICS).

					RO	OFTOP	UNIT	SCHEDULE	(GAS	HEAT/EL	EC.	COOL)				
ARK	MFG/ MODEL	DISCHARGE	TONS	ESP	CFM	OUTSIDE MIN.(CO2)	AIR CFM MAX.	ENTERING AIR CONDITIONS	GROSS COOLI	NG CAPACITY (MBH) SENSIBLE	EER (SEER)	HEATING CAP	ACITY (MBH) OUTPUT	ELECTRICAL VOLT/PH/HZ	ACCESSORIES	UNIT WEIGHT (LBS)
「U−1	CARRIER 48GCEMO6J1A6	VERTICAL	5.0	.75	2000	N/A	200	78.1°F DB/ 66.2°F WB @ 96°F AMBIENT	61.70	43.95	(16)	110/82	88/65	SEE ELECT.	1,2,3,4,5,6,7,8	790
U-2	CARRIER 48HCFE14J2A6	VERTICAL	12.5	.75	3800	200	1200	82.4°F DB/ 70.1°F WB @ 96°F AMBIENT	155.27	93.97	12.2	240/192	195/156	SEE ELECT.	1,2,3,4,5,7,8,9,10,11,12	2001

2-STAGE GAS HEATING WITH INTERMITTENT IGNITION. B. ALL UNIT WEIGHTS ARE APPROXIMATE.

CONDENSATE OVERFLOW SWITCH. INTEGRAL ANTI SHORT-CYCLE TIMER. BAROMETRIC RELIEF.

RETURN AIR SMOKE DETECTOR TWO-SPEED EVAPORATOR FAN (VFD) CONTROLLER.

10. CO2 SENSOR FOR DCV CONTROL.

11. HUMIDI-MIZER DEHUMIDIFICATION SYSTEM. 12. POWERED EXHAUST.

FACTORY SUPPLIED 14" ROOF CURB.

MEDIUM STATIC DRIVE.

WINTER START PACKAGE.

* - FRESH AIR INTAKE UPPER LIMIT - OUTDOOR AIR MOTORIZED DAMPER TO BE CONTROLLED BY CO2 SENSOR AND DCV SYSTEM. ECONOMIZER CYCLE SHALL OVERRIDE FRESH AIR INTAKE UPPER LIMIT.

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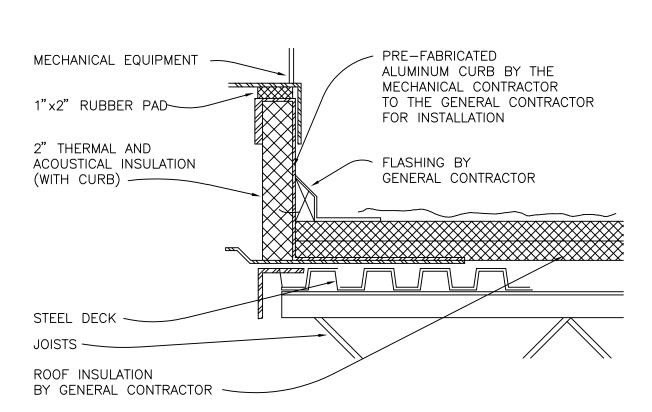
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TABLE 3.1 CODE BLOCK MECHANICAL AND PLUMBING EQUIPMENT COMPONENTS EARTHQUAKE LOAD RESISTANCE

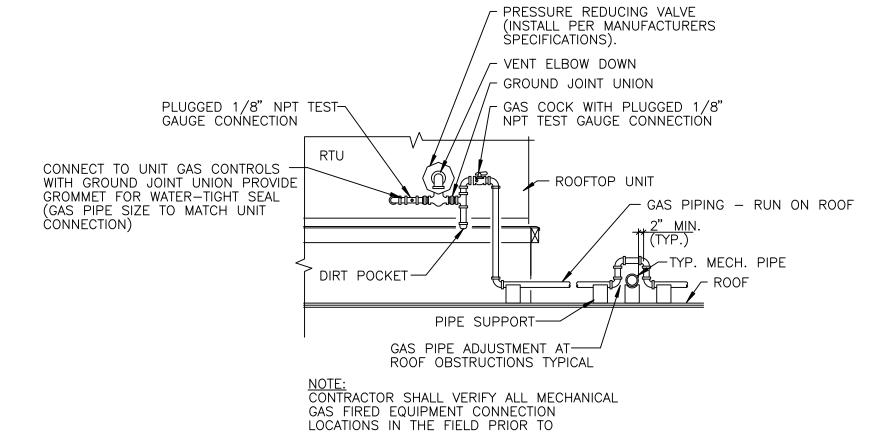
OCCUPANCY CATEGORY (II)								SEISMIC DESIGN CATEGORY (D
	ANCHOR FLOORS, RO	DOFS, ETC.	SWAY B (SEE NOTE		ANCHORAGE AN	D SWAY B	NALLY SEALED RACING DETAILS	COMMENTS
LISTING OF EQUIPMENT AND SYSTEM COMPONENTS	(SEE NOTE	1 BELOW)	(322 11312	, becomy	ON CONST. DOCUMENTS	SUBSEQUENT SUBMITTAL (SEE NOTE 2 BELOW)		
	Not Provided For Project	Provided For Project	Not Provided For Project	Provided For Project	Drawing No. or Spec. Section	Shop Drawings	Separate Permit & Plans	
FIRE PROTECTION, DETECTION & ALARM EQUIPMENT & SYSTEM COMPONENTS:								
Fire Sprinkler Piping	X		Х				X	
HAZARDOUS EQUIPMENT & SYSTEM COMPONENTS: Gas Piping less than 1" (exterior)		Х						N/A, no hazardous equipment in the project.
OTHER EQUIPMENT & SYSTEM COMPONENTS NEEDED FOR CONTINUED OPERATION OF OCCUPANCY CATEGORY IV FACILITIES OR WHOSE FAILURE COULD IMPAIR THEIR CONTINUED OPERATION								N/A, no Occupancy Category IV in the project
OTHER GENERAL EQUIPMENT & SYSTEM COMPONENTS Roof Top: RTU greater than 400 lbs. EF less than 400 Lbs. Equipment Suspended From Structure: Air Devices Ductwork Piping less than 3" Vent Piping Water Piping	X	X X X X	X	X X X X	3/M4.0 1/M4.0 2/M4.0 2/M4.0			2a. 2b.
Water Heater less than 400 Lbs.		X		X		X		1
Water Heater more than 400 Lbs.	X		Х					

- It is the basic intent of this Code Block to declare whether or not anchorage and sway bracing is being provided on the project. If so, to declare whether or not the details are shown on the plans or will be shown on a subsequent submission. If seismic restraint of a component is not required by code this should be stated in comments. If seismic restraint, which is not required by code, is being provided due to owner/designer requirements this should also be stated in the comments.
- Shop drawings need to be submitted to the County a minimum of two weeks prior to the planned installtion to allow for plan review and distribution to the inspector. Additional time may be needed if such submissions are deficient.
- 1. Table 4.4, item 1, a, Ip = 1.0, component does not weight more than 400 pounds and flexible connections are provided. 2. Table 4.4, note 2
 - a. The following sanitary drain, waste and vent pipe:
 - Schedule 40 PVC, 6 inches or less in diameter, Schedule 80 PVC, 4 inches or less in diameter, service weight and no hub vast iron, 2 inches or less in diameter b. The following water pipe:
 - Type L and M copper, 2 1/2 inches or less in diameter, Schedule 40 and 80 CPVC, 3 inches or less in diameter.
 - c. Flexible connections are not required for connections to appliances or plumbing fixtures that are mounted to walls or floors.



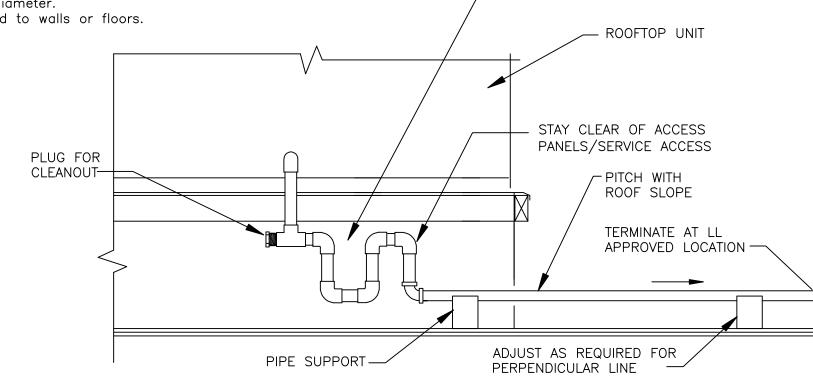
MECHANICAL EQUIPMENT CURB DETAIL

NO SCALE



INSTALLING ANY GAS PIPE MAINS OR BRANCHES.

TYPICAL RTU GAS
PIPING CONNECTION DETAIL

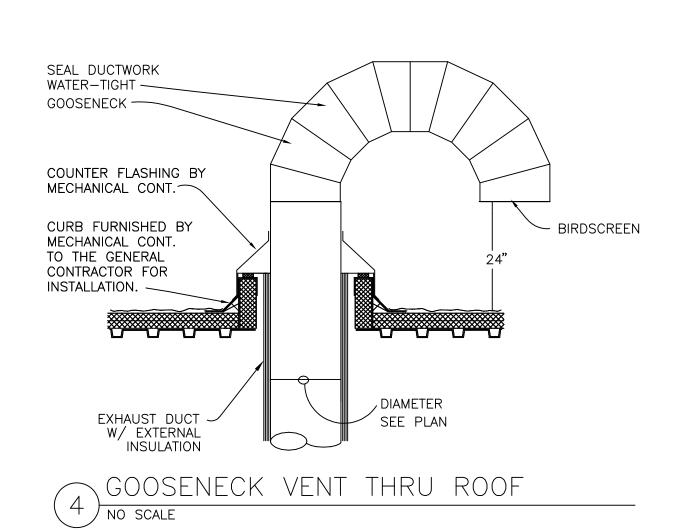


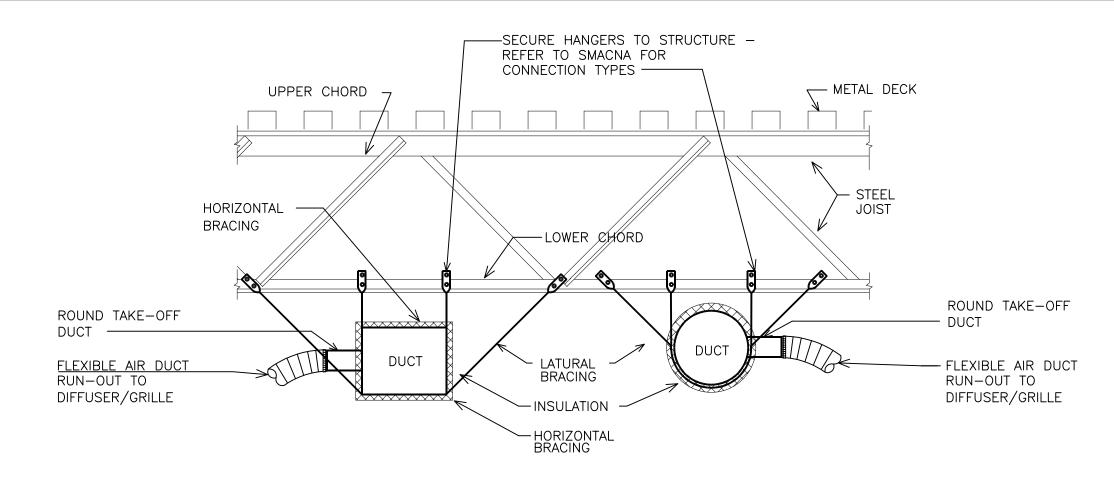
PROVIDE TRAP VENT WHERE

REQUIRED BY CODE

NOTE: CONDENSATE DRAINS MAY NOT DECREASE IN SIZE IN THE DIRECTION OF

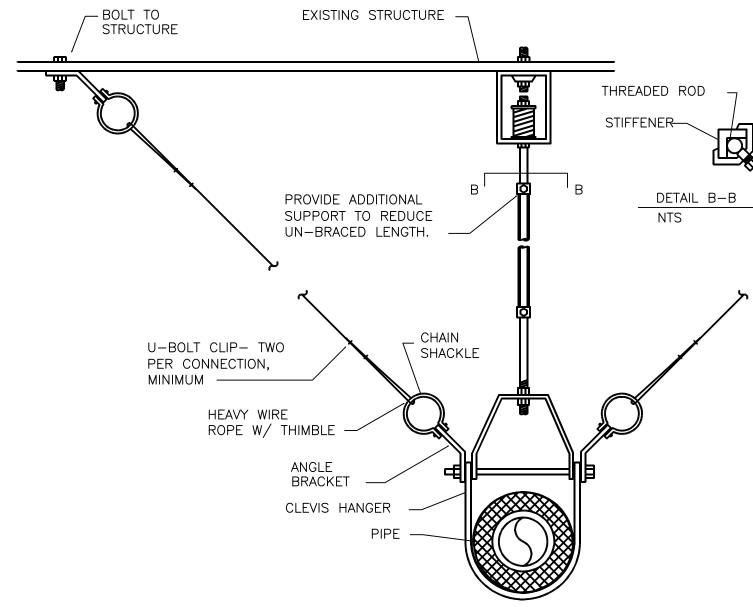
CONDENSATE PIPING DETAIL





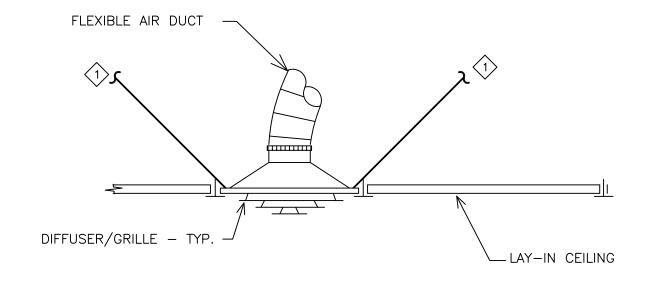
NOTE:
MECHANICAL CONTRACTOR SHALL SUPPORT NEW DUCTWORK PER LOCAL CODE.

1 DUCT UNDER JOISTS DETAIL (TYPICAL) W/ DUCT CONNECTIONS NO SCALE



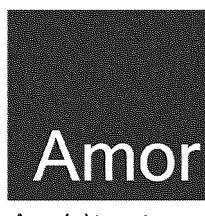
SEISMIC NOTES:

- 1. SEISMIC PIPING RESTRAINTS SHALL BE INSTALLED AT EACH HANGER AND AT EACH CHANGE OF DIRECTION.
- 2. PROVIDE FLEXIBLE JOINTS IN PIPES/HOSES AT SEISMIC BUILDING JOINTS AT PIPE CONNECTIONS TO EQUIPMENT PER FLEXIBLE JOINT MANUFACTURER RECOMMENDATIONS.
- 2 PIPE SEISMIC RESTRAINT DETAIL
 NO SCALE



POSITIVELY ATTACH #12 GA. GALVANIZED STEEL WIRE FROM THE DIFFUSER/GRILLE AND TO THE STRUCTURE ABOVE PER LOCAL CODE REQUIREMENTS.

3 CEILING DIFFUSER/GRILLE INSTALLATION DETAIL NO SCALE



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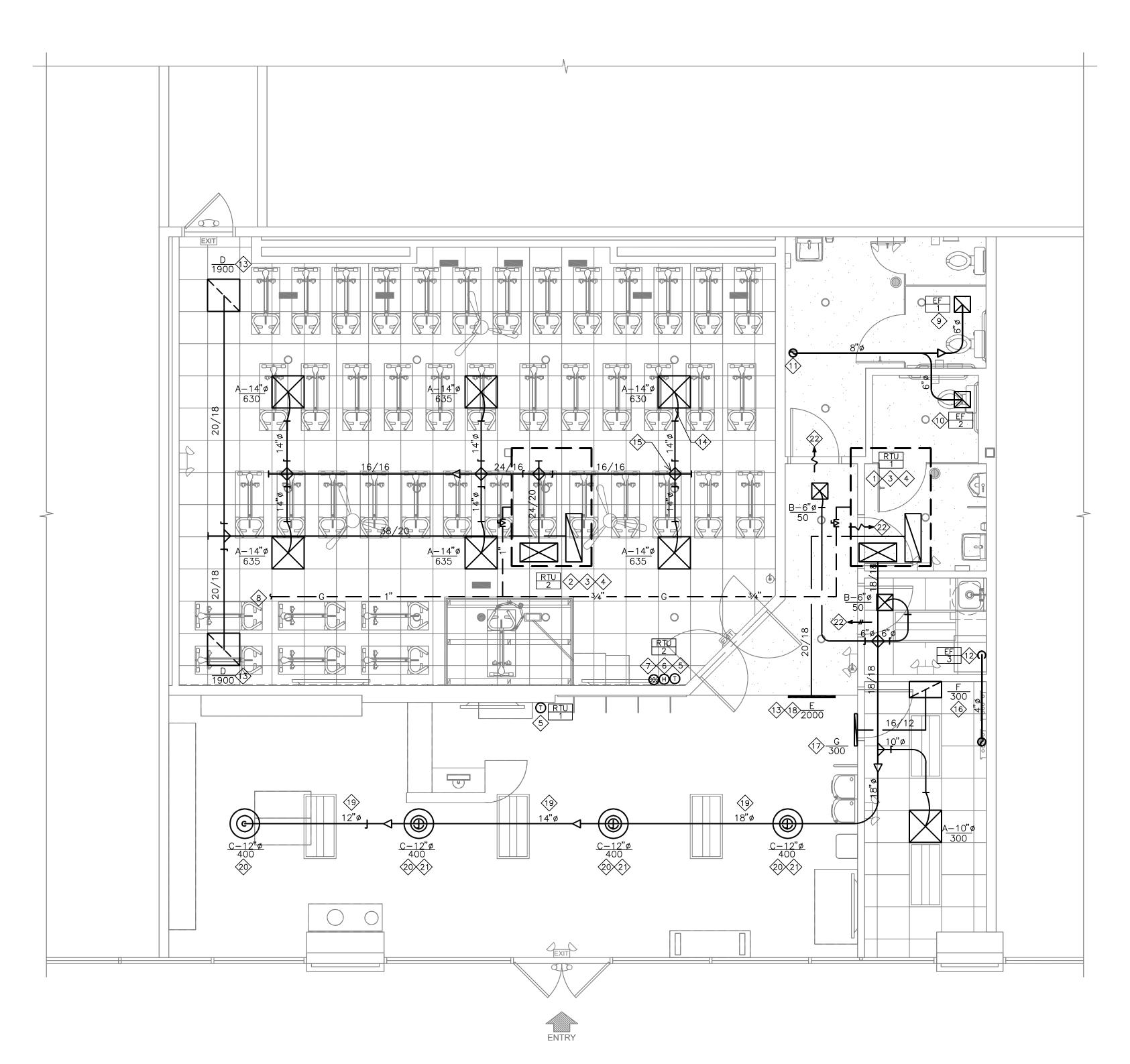
2020.04.10

PROJECT NUMBER

A2276

SHEET NUMBER

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MECHANICAL FLOOR PLAN

1/4" = 1'-0"

NOTES:

1. GAS PIPING SIZES SHOWN ON PLAN ARE PER
2018 INTERNATIONAL FUEL GAS CODE, TABLE
402.4(3), SCH 40 METALLIC PIPE, LESS THAN 2.0
PSI INLET PRESSURE, 3" W.C. PRESSURE DROP
AND 0.60 SPECIFIC GRAVITY NATURAL GAS. TOTAL
GAS DEMAND = 350,000 BTU/H (350 MBH) &
TOTAL DEVELOPED LENGTH = 200 FEET.

GAS PIPE SIZING NOTES: LANDLORD'S CONTRACTOR TO VERIFY SIZE OF GAS PIPING ACCORDING TO EXISTING PRESSURE AND AS RECOMMENDED BY EQUIPMENT MANUFACTURER, CODES, AND THE LOCAL GAS COMPANY.

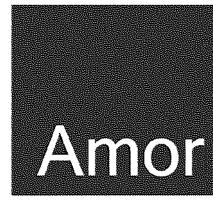
SHEET NOTES:

- 1. REFER TO SHEET M1.0 FOR GENERAL NOTES.
- 2. REFER TO SHEET M2.0 FOR MECHANICAL SPECIFICATIONS.
- 3. REFER TO SHEET M3.0 FOR SCHEDULES.
- 4. REFER TO SHEET M4.0 FOR MECHANICAL DETAILS.
- 5. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS IN FIELD PRIOR TO BID.

KEY NOTES:

- NEW GAS HEAT ROOFTOP UNIT. CONTRACTOR TO REMOVE EXISTING ROOFTOP UNIT AND PLACE NEW UNIT IN EXISTING LOCATION. RE-USE EXISTING ROOF CURB IF POSSIBLE, PROVIDE NEW IF REQUIRED. VERIFY EXACT LOCATION OF EXISTING UNIT IN FIELD, LOCATION ON DRAWINGS IS APPROXIMATE ONLY SEE SCHEDULE FOR BALANCING DETAILS.
- NEW GAS HEAT ROOFTOP UNIT. VERIFY EXACT LOCATION IN FIELD WITH LANDLORD FIELD REPRESENTATIVE. LOCATION ON DRAWINGS IS APPROXIMATE ONLY SEE SCHEDULE FOR BALANCING DETAILS.
- DUCT SMOKE DETECTOR FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR IN RETURN MAIN DUCT AND REMOTE TEST STATION WITH VISIBLE AND AUDIBLE ALARM. SMOKE DETECTOR SHALL SHUT DOWN HVAC UNIT UPON DETECTION OF SMOKE. COORDINATE FINAL LOCATION OF REMOTE TEST STATION WITH AHJ.
- ROUTE 1" CONDENSATE PIPE W/ MIN. 3" DEEP P-TRAP TO LANDLORD APPROVED LOCATION. PROVIDE ALL FITTINGS PER LOCAL CODES AND LANDLORD REQUIREMENTS. VERIFY ROUTING AND LOCATION ON SITE.
- PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT FOR CONTROL MOUNTED 4'-0"

 A.F.F. COVERED WITH CLEAR LOCKABLE BOX. THERMOSTAT SHALL HAVE
 AUTOMATIC NIGHT SET-BACK WITH 5'F DEADBAND, 2-HOUR OCCUPANT OVERRIDE,
 AND MIN. 10-HOUR BATTERY BACKUP.
- 6 PROVIDE A WALL MOUNTED HUMIDITY SENSOR FOR ROOF TOP UNIT (RTU-2) WITH DEHUMIDIFICATION SYSTEM PER MANUFACTURE'S SPECIFICATIONS AND MOUNT AT 4'-0" A.F.F..
- PROVIDE A CO2 SENSOR FOR DEMAND CONTROL VENTILATION FOR ROOF TOP UNIT (RTU-2) PER LOCAL CODE REQUIREMENTS. MOUNT AT 4'-0" A.F.F.
- 8 EXTEND 1" GAS PIPING TO EXISTING LANDLORD PROVIDERD GAS METER. PROVIDE BALL VALVE, DIRT LEG, UNION AND PRESSURE REGULATOR (AS REQUIRED) FOR EACH ROOFTOP UNIT. VERIFY PIPE ROUTING AND COORDINATE METER LOCATION WITH LANDLORD REPRESENTATIVE AND UTILITY COMPANY. GAS PIPE SIZING BASED ON TABLE 402.4(3) OF THE 2018 IFGC AND 200' OF EQUIVALENT PIPE LENGTH.
- 9 PROVIDE CEILING MOUNTED TOILET EXHAUST FAN (EF-1) AND CONNECT WITH 6" RIGID DUCT W/ BACKDRAFT DAMPER. SUPPORT FROM STRUCTURE ABOVE.
- PROVIDE CEILING MOUNTED TOILET EXHAUST FANS (EF-2) AND CONNECT WITH 6" RIGID DUCT W/ BACKDRAFT DAMPER. SUPPORT FROM STRUCTURE ABOVE.
- ROUTE 8" DIA E.A. DUCT UP THRU ROOF AND TERMINATE IN A GOOSENECK W/BIRD SCREEN 24" ABOVE ROOF. LOCATE A MINIMUM OF 10'-0" FROM O.A. INTAKES. VERIFY ROUTING AND LOCATION ON SITE.
- CONNECT 4" GALVANIZED SHEET METAL CLOTHES DRYER DUCT TO CLOTHES DRYER AND ROUTE UP ALONG WALL TO SECONDARY LINT TRAP (FANTECH MODEL DBLT 4W) MOUNTED ON WALL AT 5'-4" A.F.F. AND ROUTE CLOTHES DRYER DUCT UP ALONG WALL ABOVE CEILING TO BOOSTER FAN (EF-3). AFTER BOOSTER FAN, ROUTE 4"Ø CLOTHES DRYER DUCT UP THRU ROOF AND TERMINATE WITH PREFABRICATED CLOTHES DRYER VENT CAP WITH INTEGRAL BACKDRAFT DAMPER. TERMINATE DRYER VENT CAP A MIN. DISTANCE OF 10'-0" AWAY FROM ALL FRESH AIR INTAKES. SEE SCHEDULE ON SHEET M3.0 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- RETURN AIR GRILLE CONNECTION SHALL BE GALV. SHEET DUCT. FLEX DUCT IS NOT ACCEPTABLE (TYPICAL).
- 14 FLEX. DUCT 5'-0" MAX. LENGTH. TYPICAL FOR ALL.
- (15) VOLUME DAMPER AND SPIN-IN. TYPICAL FOR ALL.
- ROUTE 16/12 TRANSFER/MAKE-UP AIR DUCT FROM WALL MOUNTED TRANSFER GRILLE TO CEILING MOUNTED TRANSFER GRILLE AS SHOWN ON PLAN (TRANSITION AS REQUIRED).
- MOUNT TRANSFER AIR GRILLE ON WALL AS HIGH AS POSSIBLE. COORDINATE LOCATION OF GRILLE IN FIELD WITH OTHER TRADES PRIOR TO INSTALLATION.
- MOUNT RETURN AIR GRILLE ON WALL AS HIGH AS POSSIBLE. COORDINATE LOCATION OF GRILLE IN FIELD WITH OTHER TRADES PRIOR TO INSTALLATION.
- ALL EXPOSED DUCTWORK IN SALES AREA MUST BE ROUND SPIRAL. SQUARE DUCT IS NOT APPROVED. ROUND SPIRAL SHALL BE SINGLE WALL, GALVANIZED STEEL, SPIRAL LOCK SEAM CONSTRUCTION. ALL DUCTWORK AND FITTINGS SHALL BE MANUFACTURED IN ACCORDANCE WITH SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS LATEST EDITION. ALL EXPOSED ROUND DUCTWORK AND FITTINGS IN THE SALES AREA SHALL BE CLEANED OF ALL OILS AND COATINGS PRIOR TO INSTALLATION AND PROVIDED WITH A MILL PHOSPHATIZED FINISH ("PAINT GRIP", "ZINC GRIP", OR SIMILAR ETCH TREATMENT) TO ALLOW THE DUCTWORK TO BE PAINTED.
- SUPPLY AIR DIFFUSER TO BE INSTALLED SO FACE OF DIFFUSER MATCHES HEIGHT A.F.F. OF SALES AREA LIGHTING. COORDINATE WITH ARCHITECTURAL PLANS FOR LIGHTING INSTALLATION HEIGHT. (TYPICAL)
- (2) 12"Ø ROUND BOTTOM SUPPLY AIR DUCT RUNOUT WITH VOLUME DAMPER TO
- UNDERCUT DOOR BY ONE INCH TO ALLOW FOR TRANSFER AIR. VERIFY ALL REQUIREMENTS IN FIELD.



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M.
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CN=Gregory M Steinmetz, O=IdenTrust ACES Unaffiliated Individual, C=U

Date: 2020.04.13 oy=25.09-0500°.

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2020.04.10

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SHEET NUMBER

A2276

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DIVISION 15300 - FIRE PROTECTION (IF APPLICABLE)

SECTION 15301 - SUMMARY OF WORK

- A. THIS CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, ETC.
 NECESSARY FOR, REASONABLY IMPLIED AND INCIDENTAL TO, THE FURNISHING,
 INSTALLATION, COMPLETION AND TESTING OF ALL THE WORK FOR THE
 SPRINKLER SYSTEMS AS CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED
 BY JOB CONDITIONS, TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
- INSTALLATION OF NEW WET SPRINKLER SYSTEM AS REQUIRED TO PROVIDE COVERAGE IN ACCORDANCE, NFPA-13, LOCAL CODES, AND LANDLORD'S CRITERIA.
- TAPS, RISERS, LATERALS, BRANCHES, VALVES, ALARMS, SPRINKLER HEADS AND ALL COMPONENTS REQUIRED FOR A COMPLETE SYSTEM.
 DESIGN DRAWINGS, HYDRAULIC CALCULATIONS, SUBMITTALS AND APPROVALS.
- PERMITS, FEES, INSPECTIONS AND CHARGES.
 TESTS AND TEST CERTIFICATES. IT IS INTENDED THAT THE CONTRACTOR SHALL PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.
- 3. THIS FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR SUBMITTING COORDINATED DRAWINGS, HYDRAULIC CALCULATIONS, HEAD TYPES AND COLORS TO ALL AUTHORITIES HAVING JURISDICTION FOR APPROVAL. NO WORK SHALL BEGIN UNTIL ALL APPROVALS HAVE BEEN RECEIVED.

SECTION 15302 - MATERIALS

- A. SPRINKLER HEADS:

 1. ALL SPRINKLER HEADS SHALL BE NEW U.L., F.M. LISTED AND APPROVED AUTOMATIC SPRAY TYPE AS MANUFACTURED BY GRINNELL, RELIABLE, STAR,
- ALL SPRINKLER HEADS SHALL HAVE ORDINARY TEMPERATURE RATING
 UNLESS INDICATED OTHERWISE ON DRAWINGS OR REQUIRED BY LOCAL
 CODES
- 3. VERIFY HEAD TYPES AND COLORS WITH TENANT AND SUBMIT WITH SPRINKLER DRAWINGS FOR PERMIT.
- 4. LOCATIONS OF ALL HEADS SHOULD BE APPROVED BY TENANT AND THE LOCAL FIRE PROTECTION OFFICIAL BEFORE INSTALLATION.
- 1. SCHEDULE 40, BLACK STEEL PIPE, ASTM A-53 FOR FERROUS PIPING, WELDED AND SEAMLESS, ANSI B-36-10-70 FOR WROUGHT STEEL PIPE.

 2. CAST IRON OR MALLEABLE IRON SCREWED FITTINGS FOR PIPES 2 INCHES
- AND SMALLER. SCREWED OR CAST IRON FLANGED JOINTS FOR PIPES LARGER THAN 2 INCHES.

 3. GALVANIZED OR BLACK MALLEABLE IRON WITH BRASS SEAT SCREWED
- UNIONS FOR PIPES 2 INCHES AND SMALLER.

 4. VICTAULIC TYPE COUPLINGS ARE ACCEPTABLE, WHERE APPROVED BY CODE AND THE LANDLORD.
- HANGERS SHALL COMPLY WITH LANDLORD AND CODE REQUIREMENTS.
 SPRINKLER SPACING SHALL NOT EXCEED 130 SQ. FT. IN "SALES" AREAS AND 100 SQ. FT. IN "STOCK" AREAS. COMPLY WITH LANDLORD'S DESIGN CRITERIA.
- PIPE SIZING SHALL BE BASED ON NFPA ORDINARY HAZARD.

 D. ALL SPRINKLER LINES SHALL BE INSTALLED CONCEALED, AVOIDING INTERFERENCE WITH OTHER TRADES.
- E. WHERE POSSIBLE, REWORK THE EXISTING SPRINKLER SYSTEM TO MEET THE NEW REQUIREMENTS OF THIS DESIGN AND INCLUDE ALL COSTS TO RAISE OR RELOCATE EXISTING PIPING TO OBTAIN CEILING HEIGHTS SHOWN ON DRAWINGS. IN NEW CONSTRUCTION THE LANDLORD MAY PROVIDE ONLY A STUB—IN TO THE SPACE. THE CONTRACTOR SHALL CONNECT AND EXTEND NEW PIPING AS REQUIRED. VERIFY ALL REQUIREMENTS PRIOR TO BID.
- REQUIRED. VERIFY ALL REQUIREMENTS PRIOR TO BID.

 F. PROVIDE AND INSTALL A VALVED TEST CONNECTION IN AN ACCESSIBLE LOCATION FOR THE SPRINKLER SYSTEM AS REQUIRED OR REQUESTED BY THE MALL, LOCAL INSPECTOR, OR TENANT'S INSURANCE CARRIER.
- G. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE CAUSED BY LEAKS IN ANY OF THE EQUIPMENT INSTALLED BY THEM. ALL REPAIRS OR REPLACEMENT OF DAMAGES SHALL BE AT THIS CONTRACTOR'S EXPENSE.
- H. PROPERLY COMPLETED AND SIGNED "SPRINKLER CONTRACTOR'S MATERIAL AND TEST CERTIFICATES" SHALL BE FURNISHED TO THE LANDLORD, AND AUTHORITIES HAVING JURISDICTION.

DIVISION 15400 - PLUMBING

SECTION 15401 - SUMMARY OF WORK

- A. THIS CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, ETC. NECESSARY FOR, REASONABLY IMPLIED AND INCIDENTAL TO, THE FURNISHING, INSTALLATION, COMPLETION AND TESTING OF ALL THE WORK FOR THE PLUMBING SYSTEMS AS CALLED FOR IN THE SPECIFICATIONS, SHOWN ON DRAWINGS AND AS REQUIRED BY JOB CONDITIONS, TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
- 1. CONTRACTOR SHALL DETERMINE THE LOCATION OF EXISTING WATER SUPPLY AND DRAIN LINES AND MAKE PROPER CONNECTIONS, THERETO, INCLUDING VENTS.
- 2. ALL MATERIALS SHALL BE NEW AND SHALL FIT THE SPACE AVAILABLE. VERIFY ALL DIMENSIONS AT THE SITE.
- 3. ALL VALVES, CLEANOUTS, ETC. SHALL BE SO LOCATED AND INSTALLED TO PERMIT ACCESS FOR SERVICE WITHOUT DAMAGE TO BUILDING OR FINISHED MATERIALS.

SECTION 15402 MATERIALS

- A. REFER TO PLANS FOR SCHEDULES OF EQUIPMENT AND FIXTURES. AMERICAN STANDARD, KOHLER AND CRANE ARE CONSIDERED ACCEPTABLE AS EQUALS. ALL PLUMBING EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
- B. SANITARY PIPING1. CAST IRON PIPE (BELOW GRADE): ASTM A74 SERVICE WEIGHT, FITTINGS:
- CAST IRON, JOINTS: HUB-AND-SPIGOT, COMPRESSION TYPE WITH NEOPRENE GASKETS OR LEAD AND OAKUM.

 2. CAST IRON PIPE (ABOVE GRADE): CISPI 301, HUBLESS FITTINGS: CAST IRON, JOINTS: NEOPRENE GASKET AND STAINLESS STEEL CLAMP AND SHIELD
- ASSEMBLIES.
 3. ABS PIPE (BELOW GRADE): ASTM D2661, FITTINGS: ABS, JOINTS: SOLVENT
- 4. PVC PIPE (BELOW GRADE): ASTM D2665, FITTINGS: PVC, JOINTS: SOLVENT WELD WITH SOLVENT CEMENT.
- 5. COPPER TUBE (ABOVE GRADE): ASTM B88 TYPE "L", HARD TEMPER ONLY. EXCEPT THESE MATERIALS SHALL NOT BE USED TO RECEIVE THE WASTES FROM URINALS NOR WASTES FROM WATER CLOSETS IN BATTERY, FITTINGS: CAST BRONZE, OR WROUGHT COPPER, JOINTS: SOLDER, GRADE 50B.
- VENT PIPING ABOVE FLOOR 2" OR SMALLER MAY BE GALVANIZED STEEL.
 INSULATE ALL HORIZONTAL RUNS OF PIPING LOCATED IN CEILING SPACES
 OF TENANTS IN SPACES BELOW, WHEN APPLICABLE. INSULATION TO BE AS
 SPECIFIED FOR WATER PIPING.
- 8. INTERIOR CONDENSATE PIPING SHALL BE TYPE "L" HARD DRAWN COPPER TUBE WITH 95-5 TIN-ANTIMONY SOLDERED JOINTS AND WROUGHT COPPER FITTINGS WITH DIELECTRIC SEPARATION BETWEEN DISSIMILAR METALS. EXTERIOR CONDENSATE PIPING MAY BE SCHEDULE 40 PVC PIPING WITH SOLVENT WELDED FITTINGS IF APPROVED FOR USE BY THE LANDLORD.
- C. POTABLE WATER PIPING

 1. COPPER TUBING (BELOW GRADE): ASTM B88, TYPE "K" SOFT COPPER, FITTINGS: CAST COPPER ALLOY OR WROUGHT COPPER AND BRONZE, JOINTS: BCUP SILVER BRAZE.
- COPPER TUBING (ABOVE GRADE): ASTM B88, TYPE "L" HARD DRAWN WITH SWEAT JOINTS, FITTINGS: CAST COPPER ALLOY OR WROUGHT COPPER AND BRONZE, JOINTS: BCUP SILVER BRAZE.
- D. PIPING OF DISSIMILAR METALS MUST BE DI-ELECTRICALLY SEPARATED.

 E. INSULATE ALL HOT WATER, COLD WATER AND INTERIOR CONDENSATE PIPING
 WITH 1" THICK (K=0.23 @ 75 F) PIPE INSULATION WITH AN ALL SERVICE
 JACKET TO MEET LOCAL CODES AND UL FLAME SPREAD AND SMOKE DEVELOPED
 RATINGS. OWENS-CORNING OR EQUAL.
- F. INSULATE THE TRAP, SANITARY AND SUPPLY PIPES UNDER LAVATORY WITH 1/2"

 ARMSTRONG "ARMAFLEX" PIPING INSULATION OR TRUEBRO MODEL 102W WHITE
 "HANDI LAV GUARD" INSULATION KIT TO COMPLY WITH ADA REQUIREMENTS.
- G. INSTALL AIR CHAMBER SHOCK ABSORBERS IN BOTH HOT AND COLD LINES OF PIPING SYSTEM TO PREVENT NOISE AND DAMAGE DUE TO WATER HAMMER. SIOUX CHIEF 650 SERIES ALL STAINLESS STEEL, OR EQUAL. J.R. SMITH "HYDROTROLS". INSTALLED IN AN UPRIGHT POSITION.

- H. ALL BRANCH PIPING SYSTEM SHALL HAVE ACCESSIBLE SERVICE VALVE. PROVIDE SHUT OFF VALVES IN THE SUPPLY PIPING TO EVERY FIXTURE. PROVIDE ACCESS DOORS WHERE NECESSARY.
- I. INSTALL ALL NECESSARY PIPE HANGERS, SADDLES, AND CARRIERS TO PROPERLY SUPPORT ALL PIPING AND FIXTURES. HANGERS SHALL SUIT TYPE OF PIPING INSTALLED AND BE SPACED AT A MAXIMUM SPAN OF 5 FEET. PROVIDE SWAY AND SEISMIC BRACING WHERE REQUIRED BY CODES.
- J. STERILIZE WATER SYSTEM IN ACCORDANCE WITH LOCAL CODES.

 K. CLEAN—OUTS AND FLOOR DRAINS SHALL BE INSTALLED PER LOCAL CODES. ALL FLOOR DRAINS SHALL HAVE DEEP SEAL TRAPS. PROVIDE TRAP PRIMERS FOR
- FLOOR DRAINS. L. ESCUTCHEONS SHALL BE CHROME PLATED, SIZE AS REQUIRED AND PLACED AT ALL PIPE PENETRATIONS AT WALLS, FLOORS, AND CEILINGS IN FINISHED AREAS.
- M. LEAKAGE TESTS SHALL BE PER LOCAL CODES.
 N. FLASHING SHALL BE SEALED WATERTIGHT AND PERFORMED IN ACCORDANCE TO THE LANDLORD'S CRITERIA. USE A LANDLORD APPROVED ROOFING CONTRACTOR
- WHERE APPLICABLE AND INCLUDE ALL COSTS IN BID.

 O. PROVIDE WATER METER AND REMOTE READER PER LANDLORD'S CRITERIA OR LOCAL UTILITIES REQUIREMENTS IF APPLICABLE.

GENERAL NOTES

- . FURNISH, AND INSTALL COMPLETE AND PROPERLY OPERATING PLUMBING SYSTEMS AS INDICATED ON THE DRAWINGS AND BASIS OF DESIGN INCLUDING PROVIDING SUBMITTALS, SHOP DRAWINGS, COORDINATION BETWEEN TRADES AND DISCIPLINES, "AS-BUILTS", TESTING AND TEST REPORTS.
- 2. WORK SHALL COMPLY WITH ALL LOCAL CODES AND LANDLORD REQUIRENTS.
- 3. PROJECT MANUALS, PLUMBING EQUIPMENT, FIXTURES AND BUILDING STANDARDS SHALL BE PART OF THIS WORK.
- 4. SERVICE WATER HEATING EQUIPMENT SHALL BE IN COMPLIANCE WITH THE MODEL ENERGY CODE REQUIREMENTS AND LABELED.
- 5. BEFORE STARTING ANY WORK, CONTRACTOR SHALL EXAMINE THE COMPLETE SET OF DRAWINGS FOR TRADES, INCLUDING ARCHITECTURAL, HEATING-VENTILATION-AIR CONDITIONING, AND ELECTRICAL. VERIFY DIMENSIONS, SPACE REQUIREMENTS, AND POINTS OF CONNECTION TO FIXTURES AND EQUIPMENT. MAKE ANY MINOR ADJUSTMENTS NECESSARY TO AVOID CONFLICTS WITH THE BUILDING STRUCTURE AND THE WORK OF OTHER TRADES.
- 6. PLUMBING DRAWINGS AND LAYOUTS ARE DIAGRAMMATIC TO SHOW DESIGN INTENT AND FINISHED CONDITIONS. CONTRACTOR SHALL COORDINATE PIPING DESIGN CONDITION WITH OTHER TRADE. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM THOSE SHOWN ON THE DRAWINGS AND AFFECT PLUMBING WORK, INFORM THE CONTRACTING OFFICER IMMEDIATELY BEFORE PROCEEDING WITH THE WORK
- 7. THESE DRAWINGS INDICATE THE FINISHED REQUIREMENTS FOR THE PLUMBING SYSTEMS. DUE TO STRUCTURAL, MECHANICAL DUCT OR PIPING INTERFERENCE, OR FOR OTHER REASONS, THE CONTRACTOR MAY DESIRE TO INSTALL THE WORK IN A MANNER DIFFERENT FROM THAT SHOWN. SUCH CHANGES SHALL BE PRESENTED TO THE CONTRACTING OFFICER FOR APPROVAL BEFORE PROCEEDING, AND THE RECORD DRAWINGS SHALL BE ACCURATELY REVISED TO SHOW THE CHANGES AS COMPLETED.
- 8. CONTRACTOR SHALL COORDINATE WITH TRADES TO ENSURE AN UNDERSTANDING OF THE COMPLETE SCOPE OF PROJECT.
- 9. UNLESS INSTRUCTED OTHERWISE, THE CONTRACTOR SHALL OBTAIN AND PAY FOR PERMITS, LICENSES, AND FEES REQUIRED FOR INSTALLATION OF THE WORK. FURNISH FINAL CERTIFICATE OF INSPECTION TO THE OWNER OR WRITTEN EVIDENCE OF ACCEPTANCE BY INSPECTION AUTHORITIES FOR WORK INSTALLED.
- 10. IF ANY EQUIPMENT SUBMITTED BY THE CONTRACTOR IS DIFFERENT FROM THAT SPECIFIED, OR REQUIRES CHANGES IN MATERIAL OR LABOR FROM THAT REQUIRED IN THE CONTRACT DOCUMENTS AFFECTING THIS AND/OR OTHER TRADES, SUCH CHANGES SHALL BE SUBMITTED AS SHOP DRAWINGS. SUBMITTALS SHALL INDICATE CREDIT DUE TO CONTRACTING OFFICER. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PAYMENT OF CHARGES RESULTING FROM ADDITIONS OR CHANGES IN THE WORK OF OTHER TRADES NECESSARY TO ACCOMMODATE THE REQUESTED MODIFICATION. CHANGES SHALL BE SHOWN ON RECORD AND AS-BUILT DRAWINGS.
- 11. SEE ARCHITECTURAL DRAWINGS FOR EXTENT OF NEW CONSTRUCTION, FOR EXACT PLUMBING FIXTURE LOCATIONS AND QUANTITIES, EQUIPMENT, DEVICES, ETC.
- 12. CONCEALED VALVES, COCKS, WATER HAMMER ARRESTORS, PLUMBING EQUIPMENT, CONTROLS AND OTHER DEVICES REQUIRING PERIODIC ADJUSTMENT, INSPECTION, OR MAINTENANCE SHALL BE LOCATED TO BE READILY ACCESSIBLE. WHERE VALVES ARE INSTALLED WITHIN OR BEHIND WALLS, PARTITIONS OR CEILING, AN ACCESS PANEL SHALL BE INSTALLED. SUBMIT SHOP DRAWINGS TO ARCHITECT LOCATING ACCESS PANELS PRIOR TO INSTALLATION OF PIPING. CONTRACTOR IS ADVISED THAT ITEMS REQUIRING ACCESS SHALL NOT BE LOCATED ABOVE THE AREAS OF GYPSUM BOARD CEILINGS WITHOUT PERMISSION OF THE ARCHITECT.
- 13. HANDICAPPED PLUMBING FIXTURES SHALL BE MOUNTED AT REQUIRED HEIGHTS AND WITH RELATED ACCESSORIES AS REQUIRED BY THE AMERICANS BARRIER ACT (ABA). FIXTURE TRAPS, HOT AND COLD WATER SUPPLIES AND STOPS SHALL BE INSULATED WITH A PREFORMED INSULATION CAP.
- 14. BACKFLOW DEVICES SHALL BE TESTED BY A CERTIFIED BACKFLOW TESTER WITH THE RESULTS DOCUMENTED.
- 15. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS' RECOMMENDATIONS AND APPLICABLE CODES. PROVIDE FITTINGS, TRANSITIONS, VALVES AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
- 16. DOMESTIC HOT WATER PIPING SHALL BE INSULATED AS REQUIRED PER LOCAL CODES AND LANDLORD REQUIREMENTS.
- 17. CONDENSATE DRAIN PIPING SHALL BE INSULATED SIMILAR TO HOT WATER PIPING INSULATION MATERIALS AND THICKNESS.

- 18. PROVIDE PIPING ISOLATION FROM STUD WALL USING 1/4" FELT OR NEOPRENE ISOLATION, OR APPROVED ISOLATOR.
- 19. KEEP PIPING CLEAR FROM LOAD BEARING FOOTINGS.
- 20. POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO THE METHOD SET IN SECTION 610.1 OF 2015 PLUMBING CODE.
- 21. FLAT VENTING SHALL NOT BE ALLOWED FOR PLUMBING FIXTURES THAT ARE WITHIN TRAP ARM DISTANCE OF WALLS.
- 22. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX (6) INCHES IN HEIGHT ABOVE THE FLOOD LEVEL RIM ON THE FIXTURE IT SERVES BEFORE CONNECTING TO ANY OTHER VENT.
- 23. VENTS THRU ROOF SHALL BE MINIMUM OF THREE FEET VERTICALLY AND TEN FEET HORIZONTALLY FROM AIR CONDITIONING EQUIPMENT FRESH AIR INTAKES, WINDOWS, DOORS OR OTHER OPENINGS.
- 24. COORDINATE WITH ELECTRICAL SECTION PRIOR TO ORDERING EQUIPMENT FOR AVAILABLE VOLTAGES AT EQUIPMENT LOCATIONS.
- 25. COORDINATE CUTTING, DRILLING, PATCHING, AND REINFORCING REQUIRED FOR PLUMBING WORK WITH THE GENERAL CONTRACTOR AND REQUIREMENTS OF STRUCTURAL ENGINEER.
- 26. CUTTING OF EXISTING PAVING, WALKS AND/OR FLOORS SHALL BE BY MACHINE SAW CUTTING. HOLES
- FOR PIPES IN CONCRETE WALLS OR FLOORS SHALL BE DONE USING CORE DRILLING EQUIPMENT.

 27. PROVIDE PIPE SLEEVES TO PIPING PASSING THROUGH A MASONRY, CONCRETE, STRUCTURAL WALL
- 28. PROVIDE AND INSTALL WATER HAMMER ARRESTERS OF REQUIRED SIZE AT QUICK CLOSING VALVES.

OR AS SHOWN ON PLANS. PROVIDE FIRE RATED CAULKING OF SAME RATING AS THE WALL.

- 29. CLEANOUTS SHALL BE ACCESSIBLE AND INSTALLED PER LOCAL CODE REQUIREMENTS.
- 30. SLOPE OF BUILDING DRAINS AND SEWERS SHALL NOT BE LESS THAN 1% FOR 4" AND LARGER DIAMETER PIPES AND NOT LESS THAN 2% FOR SMALLER THAN 4" DIAMETER PIPES.
- 31. SLOPE OF CONDENSATE DRAINS, SHALL NOT BE LESS THAN 1%.
- 32. HANGING, SUPPORT AND SEISMIC BRACING OF PLUMBING PIPING SHALL COMPLY TO GUIDELINES FOR SEISMIC RESTRAINTS OF PLUMBING SYSTEMS PER SMACNA LATEST EDITION.
- 33. SEE STRUCTURAL DRAWINGS FOR DETAILS ON ADDITIONAL STRUCTURAL ATTACHMENTS FOR PIPE SUPPORTS AS REQUIRED.
- 34. FLOOR DRAINS AND FLOOR SINKS AS SHOWN ON PLANS SHALL BE PROVIDED WITH CODE—APPROVED ACCESSIBLE TRAP PRIMERS. CONCEALED TRAP PRIMER VALVES SHALL BE PROVIDED WITH ACCESS
- 35. NO PIPING, LEAK PROTECTION APPARATUS, OR OTHER FOREIGN EQUIPMENT ARE ALLOWED INSIDE THE ELECTRICAL ROOM AND OVER THE ELECTRICAL EQUIPMENT PER NEC SECTION 110.26.F.1. ONLY SPRINKLER HEADS AND PIPING SERVING THE ELECTRICAL ROOM IN ACCORDANCE WITH NFPA 13 ARE ACCEPTED INSIDE.
- 36. NO PIPING, LEAK PROTECTION APPARATUS, OR OTHER FOREIGN EQUIPMENT ARE ALLOWED INSIDE
 THE ELEVATOR MACHINE ROOM AND ELEVATOR SHAFT PER ASME A17.1A RULE 102. ONLY SPRINKLER
 HEADS AND PIPING SERVING THESE ROOMS IN ACCORDANCE WITH NFPA 13 ARE ACCEPTED INSIDE.
- 37. INDOOR CONCEALED GAS PIPING, CONNECTIONS AND FITTINGS SHALL COMPLY WITH NFPA 54: 7.3.1 54: 7.3.5. AND SHALL NOT BE LOCATED IN SOLID WALL PARTITIONS PER NFPA 54:7.3.3.
- 38. PLUGGED/CAPPED WASTE AND VENT OUTLETS FOR FUTURE CONNECTIONS SHALL BE INSTALLED AS LOW AS POSSIBLE IN CEILING SPACES.
- 39. OUTLETS FOR FUTURE CONNECTIONS SHALL BE INSTALLED SO AS TO PERMIT EASY CONNECTION. COORDINATE WITH DUCTWORK, STRUCTURAL CONDITIONS AND ARCHITECTURAL LAYOUT.

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SHEET NUMBER

PROJECT NUMBER

A2276

P1.0

FLOWATER REFILL STATIONS

SPECIFICATIONS

Indoor/outdoor stand-alone, refrigerated, 7x purified water Refill Station. Refill Stations require 1" clearance (5" recommended) from walls and/or structures and must be placed under cover when outdoors. No direct sunlight.

CERTIFICATIONS/STANDARDS ISO 9001

NSF/ANSI 42, 53 & 58

NSF/ANSI 42: ensures that chlorine, taste, odor, and particulates are filtered out. NSF/ANSI 53: ensures health-related contaminants are filtered out. NSF/ANSI 58: ensures fluoride, chromium, nitrates, and TDS are reduced.

ADA Compliant: These Refill Stations comply with the requirements of the ADA (Americans with Disabilities Act).

FEED WATER

Refill Stations have been designed and built to purify municipal tap water most efficiently at 70 psi. Refill Stations are designed to operate on 50 psi to 100 psi supply line pressure. If inlet pressure is above 100 psi, a pressure regulator must be installed in the supply line. Any damage caused by reason of connecting this higher than 100 psi is not covered under FloWater's ambient temperatures 40°F~104°F (ambient temperatures greater than 104°F can result in damage to the carbon and advanced osmosis filters). Refill temperatures ever drop below 32°F. Any damage Stations are prepped with a 1/4" John Guest quickconnect fitting located in rear, lower left of unit and require a 1/4" waterline. A water shut-off valve located behind should be installed.

DRAIN WATER

myflowater.com

nyflowater.com

Advanced Osmosis: Refill Stations utilizing advanced osmosis require a drain. Advanced osmosis product water to bypass water is a 1:2 ratio at 70 psi. Lower water pressure results in lower advanced osmosis efficiency. Refill Stations are prepped with a 1/4"John Guest quick-connect fitting located in rear, lower left of unit and require 1/4" drain line. Depending on local plumbing codes, FloWater may install an FDA and NSF certified check valve/backflow preventer on the drain line. Drain lines can be run up to 10' vertically and 100' horizontally with system pressure.

Refill Stations use a 7x purification system, including: a sedi-carbon filter, carbon filter, advanced osmosis, coconut carbon filter, mineral filter, alkaline filter, and activated oxygen. This purification system has been designed to handle hard water, but may require more regular advanced osmosis or UF filter changes.

CHILLING SYSTEM Chilling Capacity:

33.8°F~34.7°F

32.9°F~35.6°F (factory default)

35.6°F~42.8°F 37.4°F~44.6°F

Chilling capacity of drinking water based upon 80°F inlet water and 90°F ambient. The reserve tank that feeds the chilling tank is five gallons. The chilling tank is two gallons.

119.3 volts, 0.29 Amps, 30 Watts, 60 Hz (compressor off). 121 volts, 2.5 Amps, 165 Watts 60 Hz (compressor running)

Motor Compressor: Hermetically sealed, rotating type, 110~115VAC, 60Hz single phase. Sealed-in lifetime oil supply. Equipped with electric cold and three prong (grounded) molded rubber plug.

Condenser: Air-cooled condenser with steel wire tube. product to supply line pressure slower than 50 psi or Tube emits heat in natural ambient air. Cooling Unit: Combination tube-tank type. Tube portion is continuous service policy. Refill Stations are designed to operate in coil of copper tubing. Tank is stainless steel. Fully insulated with EPS foam which meets Underwriters Laboratories Inc. requirements for self-extinguishing material.

Refrigerant Control: Refrigerant HFC-134a is controlled by Stations should be placed indoors if ambient accurately calibrated capillary tupe for trouble-free operation. It is an environmentally friendly refrigerant gas. caused by exposure to ambient temperatures below Temperature Control: Enclosed adjustable thermostat is 32°F is not covered under FloWater's service policy, initially set to maintain water temperature between Operate only in non condensing humidity. Refill 32.9°F and 35.6°F. Requires no adjustment other than for altitude requirements. See Chilling Capacity section for available temperature ranges.

ADA COMPLIANCE

FloWater Refill Stations comply with ADA reach requirements with a maximum reach of 48".

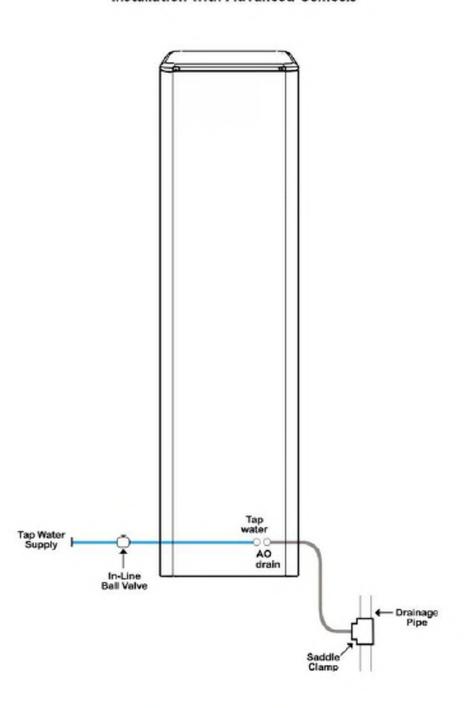
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FLOWATER

FLOWATER REFILL STATIONS

Installation with Advanced Osmosis

INSTALLATION



FLOWATER

	PLUMBING
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC RECIRCULATING HOT WATER
	SANITARY VENT - ABOVE GRADE
	SANITARY WASTE - BELOW GRADE
	SANITARY WASTE - ABOVE GRADE
	STORM DRAIN - BELOW GRADE
——— SD ———	STORM DRAIN - ABOVE GRADE
	FIRE PROTECTION

PLUMBING/PIPING

ELBOW DOWN

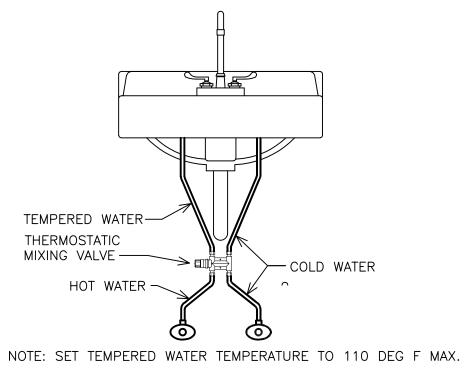
PIPE CAP

ELBOW UP

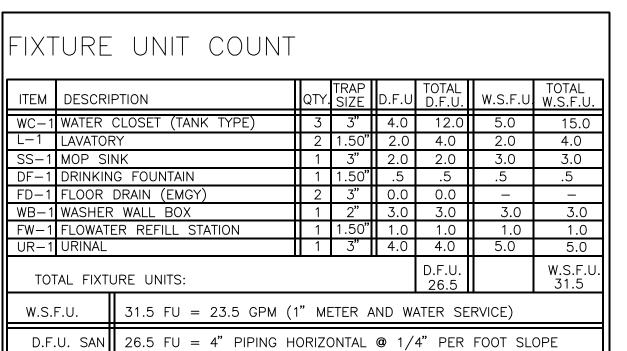
— TEE, OUTLET DOWN

TEE, OUTLET UP

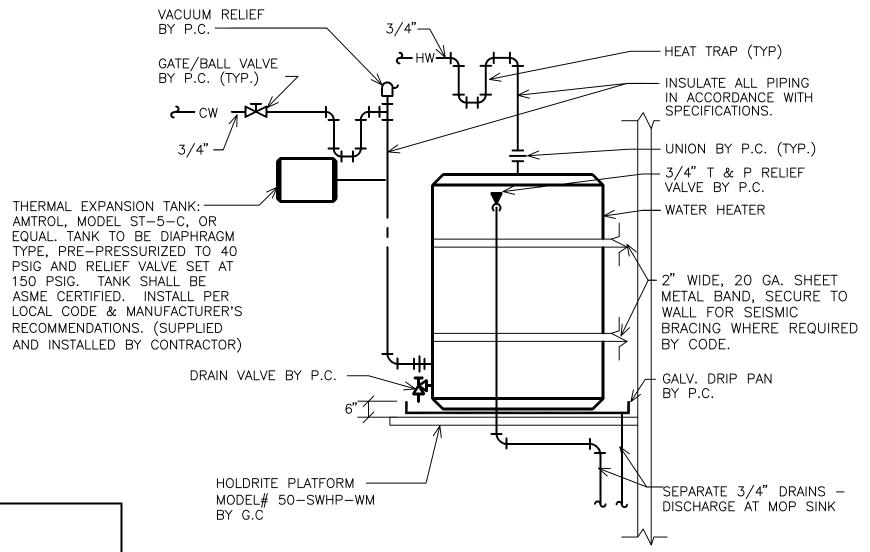
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———	FLEXIBLE CONNECTION	╟
N	CHECK VALVE	lF
<u></u>	SHUTOFF VALVE	
	PLUG VALVE	
**	STRAINER W/BLOWDOWN VALVE AND CAP	╟
<u> </u>	PRESSURE REDUCING VALVE	╟
——	(SETTING AS NOTED, PSI) AUTOMATIC CONTROL VALVE, 2-WAY	
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Ą ^{ve}	· VACUUM BREAKER	Г
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<u> б</u>	BALL VALVE	
	BUTTERFLY VALVE	
图	GLOBE ANGLE VALVE	L
—₩ <u>Ţ</u> ₩—	REDUCED PRESSURE ZONE BACKFLOW PREVENTER	Г
──	GLOBE VALVE	
<u> </u>	GAS PRESSURE REGULATOR VALVE	-
-	FLOW DIRECTION	
<u> </u>	PIPE UNION	F
1º	PIPE FLANGE	
	PUMP	
9	PRESSURE GAUGE W/ PIGTAIL & PETCOCK	
*	THERMOMETER	-
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i	WALL CLEANOUT	
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ıδı	GAS COCK VALVE	
•	ROOF DRAIN	
•	POINT OF CONNECTION, NEW TO EXISTING	
<u> </u>	POINT OF DISCONNECTION	
*		



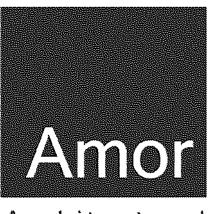
THERMOSTATIC MIXING VALVE DETAIL NOT TO SCALE



	WATER HEATER SCHEDULE										
EQUIP NO	STORAGE CAPACITY (GALLONS)	RECOVERY (GPH)	TEMP RISE (°F)	ELECTRIC INPUT (KW)	MANUFACTURER	MODEL NUMBER	REMARKS				
WH-1	30	24	100	6	A.O. SMITH	DEL-30	APPROVED EQUALS ACCEPTED — CONFIRM VOLTAGE WITH ELECTRICAL CONTRACTOR				



	Pl	UMBII	NG FI	XTURE	SCH	EDULE	<u>-</u>
KEY	FIXTURE	WASTE	TRAP	VENT	COLD WATER	HOT WATER	REMARKS
<u>WC-1</u>	AMERICAN STANDARD: CADET RIGHT HEIGHT 2467.100 ELONGATED — 1.1 GPF— PRESSURE ASSISTED ADA COMPLIANT	3"	INT	2"	1/2"	-	FURNISH WITH CHURCH OPEN FRONT SEAT MODEL NO. 5901.110 A.D.A. COMPLIANT COLOR TO BE WHITE.
<u>L-1</u>	AMERICAN STANDARD: LUCERNE MODEL: 0355.012 — FACTORY SET .25 GALLON PER FLOW ACTIVATION (METERING FAUCET).	2"	1 1/2"	1 1/2"	1/2"	1/2"	ADA, PROVIDE AMERICAN STANDARD METERING FAUCET:1340.225 W/ METAL DRAIN & BRASS P-TRAP
<u>FD-1</u>	ZURN: Z415 (ADJUSTABLE)	2"	2"	1 1/2"	-	-	6"Ø TYPE 'N' NICKEL BRONZE TOP W/ TRAP PRIMER CONNECTION
<u>SS-1</u>	FIAT #MSB2424 — WITH CHICAGO FAUCET 897—CP WITH INTEGRAL VACUUM BREAKER & PAIL HOOK.	3"	3"	1 1/2"	3/4"	3/4"	FLOOR MOUNTED MOP SINK, 24"x24"x10" MOLDED HIGH DENSITY COMPOSITE MOP BASIN WITH INTEGRAL MOLDED SELF DRAINING MOP SHELF.
<u>TP-1</u>	TRAP PRIMER: JOSAM MODEL 88300	I	_	_	1/2"	_	INTEGRAL BFP AND VACUUM BREAKER MOUNT ABOVE CEILING
<u>DF-1</u>	HI—LO DRINKING FOUNTAIN ELKAY MODEL LVRCHDTL8SC	2"	1 1/2"	1 1/2"	1/2"	-	ADA COMPLIANT, WALL MOUNTED ACCESSIBLE
<u>WB-1</u>	ZURN: WM2961 ENCASED WASHING MACHINE VALVE	3"	3"	1 1/2"	3/4"	3/4"	ENCASED WASHER WALL BOX WITH INTEGRAL VACCUM BREAKER
<u>TMV-1</u>	WATTS: LFMMV	-	-	-	1/2"	1/2"	THERMAL MIXING VALVE. MAX OUTLET TEMP. 110 DEG F. IN ACCORDANCE WITH ANSI/ASSE 1017, 1069 & 1070 LISTINGS
<u>FCO</u>	ZURN: ZN-1400 (ADJUSTABLE)	4"	-	-	-	-	NICKEL BRONZE TOP
<u>FW-1</u>	FLOWATER REFILL STATION	2"	2"	1 1/2"	1/2"	-	PROVIDE WALL MOUNTED INDIRECT DRAIN WITH AIR GAP AND A ASSE 1024 DUAL CHECK VALVE. COORDINATE ALL REQUIREMENTS WITH FLOWATER REPRESENTATIVE IN FIELD.
<u>UR-1</u>	ZURN MODEL Z5755 — 3/4" TOP INLET SPUD, OUTLET SPUD W/ 2" TUBING TAILPIECE, .125 G.P.F.	2"	-	1 1/2"	3/4"	-	FURNISH W/ 3/4" ZURN MODEL Z6003PL-ULF FLUSH VALVE, WALL HANGER KIT, TOP SPUD & TAILPIECE. MOUNT TOP OF FRONT RIM 17" ABOVE FINISHED FLOOR, ADA.
NOTE:	ALL FIXTURES MAY BE SUBSTITUTED WITH APPROVED EQUAL. CONTACT	OWNER FOR	R APPROVAL	_	<u> </u>	<u> </u>	1



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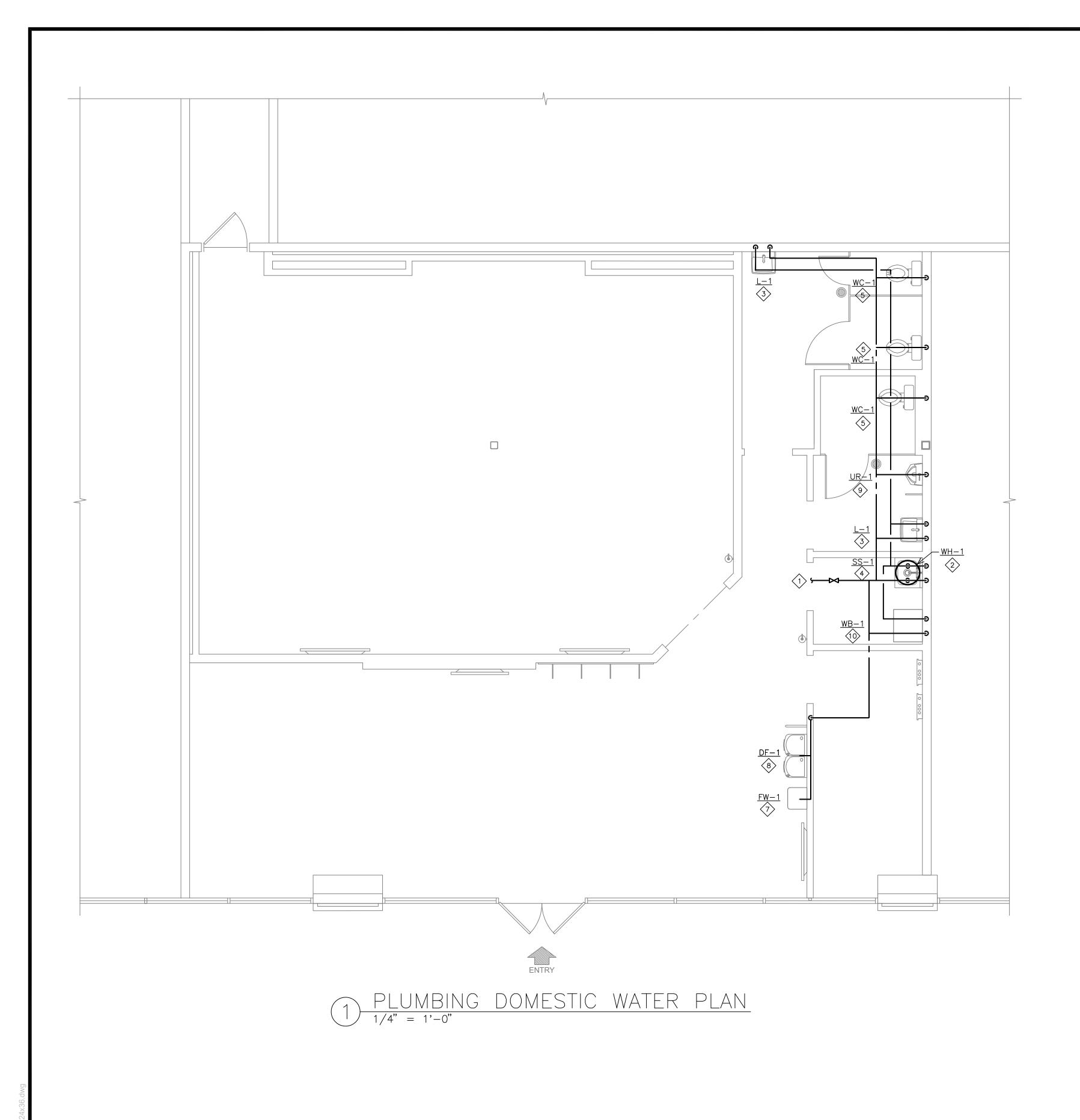
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REVISIONS DATE 2020.04.10 PROJECT NUMBER

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PRIOR TO CONSTRUCTION/ BID THE CONTRACTOR SHALL VISIT THIS SITE AND FIELD VERIFY THE EXISTING LOCATIONS AND SIZES OF PLUMBING LINES AND FLOW DIRECTION.

THE CONTRACTOR SHALL FIELD VERIFY ANY/ CONDITIONS WHICH MAY CONFLICT WITH THE DESIGN SHOWN ON THESE PLANS. NOTIFY ARCHITECT.

SHEET NOTES:

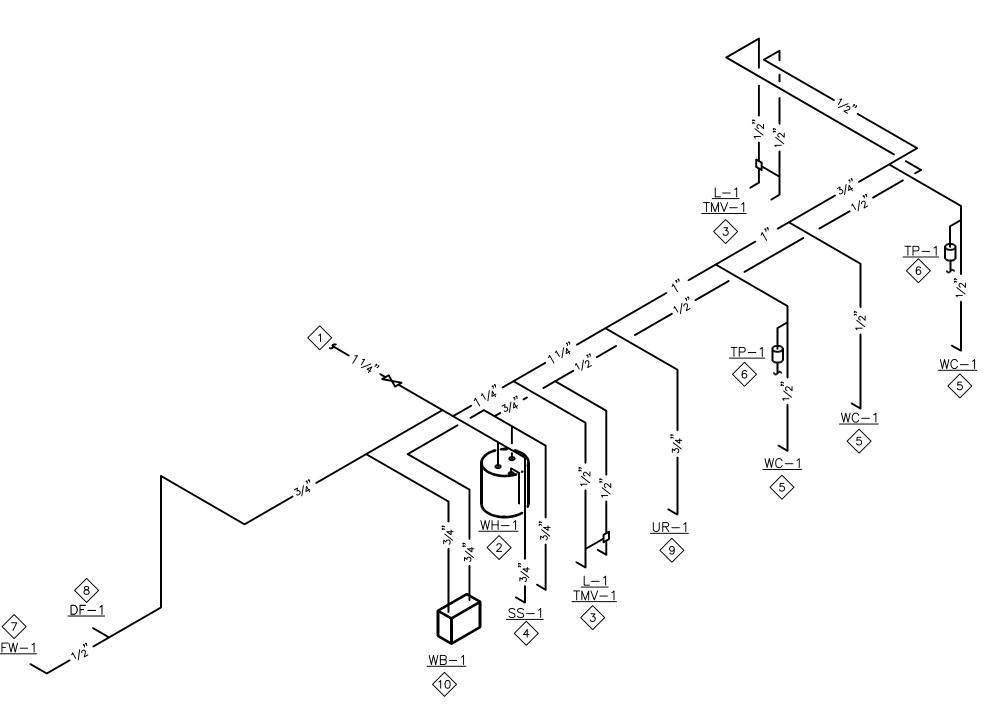
REFER TO SHEET P1.0 FOR PLUMBING SPECIFICATIONS AND GENERAL

CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS.

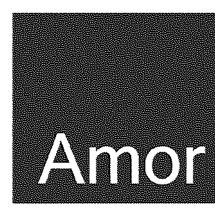
- PLUMBING CONTRACTOR TO DEMO ALL PIPING, SUPPORTS, PLUMBING FIXTURES AND ALL RELATED APPURTENANCES. CAP ALL PIPING AT
- PLUMBING CONTRACTOR TO VERIFY EXISTING BUILDING PRESSURE PRIOR TO INSTALLATION OF FLOWATER. WHEN EXISTING BUILDING WATER PRESSURE IS BELOW 50 PSI PLUMBING CONTRACTOR SHALL PROVIDE A BOOSTER PUMP. PLUMBING CONTRACTOR SHALL COORDINATE WITH OWNER AND FLOWATER REPRESENTATIVE FOR BOOSTER PUMP SPECIFIC REQUIREMENTS AND INSTALLATION PROCEDURE. PLUMBING CONTRACTOR SHALL ASSIST FLOWATER REPRESENTATIVE DURING TESTING OF BOOSTER PUMP PROPER OPERATION IN ACCORDANCE TO FLOWATER REQUIREMENTS.
- REFER TO SHEET P2.0 FOR PLUMBING SCHEDULES AND DETAILS.
- REFER TO SHEET P4.0 FOR PLUMBING WASTE AND VENT PLAN.

KEYED NOTES:

- (1) CONNECT NEW 1-1/4" CW TO EXISTING LANDLORD PROVIDED WATER SERVICE. EXISTING WATER METER TO REMAIN. VERIFY ALL REQUIREMENTS IN FIELD.
- (2) NEW ELECTRIC WATER HEATER. SEE DETAIL ON SHEET P2.0.
- $\langle 3 \rangle$ 1/2" CW AND 1/2" HW TO LAVATORY. PROVIDE WATTS MODEL LFMMV (OR APPROVED EQUAL) THERMOSTATIC MIXING VALVE IN ACCESSIBLE LOCATION. VALVE SHALL HAVE ASSE 1070 LISTING AND BE SET TO MAX. 110°F. SEE DETAIL ON SHEET P2.0.
- (4) 3/4" CW AND 3/4" HW. MOP SINK/LAUNDRY TUB FAUCET SHALL HAVE INTEGRAL VACUUM BREAKER.
- $\langle 5 \rangle$ 1/2" CW TO WATER CLOSET.
- 6 PROVIDE JOSAM MODEL 88300 (OR EQUAL) TRAP PRIMER IN ACCESSIBLE LOCATION AND EXTEND PIPE TO TRAP PRIMER CONNECTION ON FLOOR SINK/DRAIN AS SHOWN. VERIFY ROUTING IN FIELD. SEE ISOMETRIC DRAWING FOR ADDITIONAL INFORMATION
- $\langle 7 \rangle$ 1/2" CW TO FLOWATER REFILL STATION. PROVIDE ASSE 1024 DUAL CHECK VALVE. COORDINATE ALL REQUIREMENTS WITH FLOWATER REPRESENTATIVE IN FIELD.
- (8) 1/2" CW TO DRINKING FOUNTAIN.
- (9) 3/4" CW DOWN TO URINAL.
- (1) 3/4" CW AND 3/4" HW DOWN TO WASHER WALL BOX WITH INTEGRAL VÁCUUM BREAKÉR.



2 COLD AND HOT WATER ISOMETRIC DIAGRAM
NOT TO SCALE



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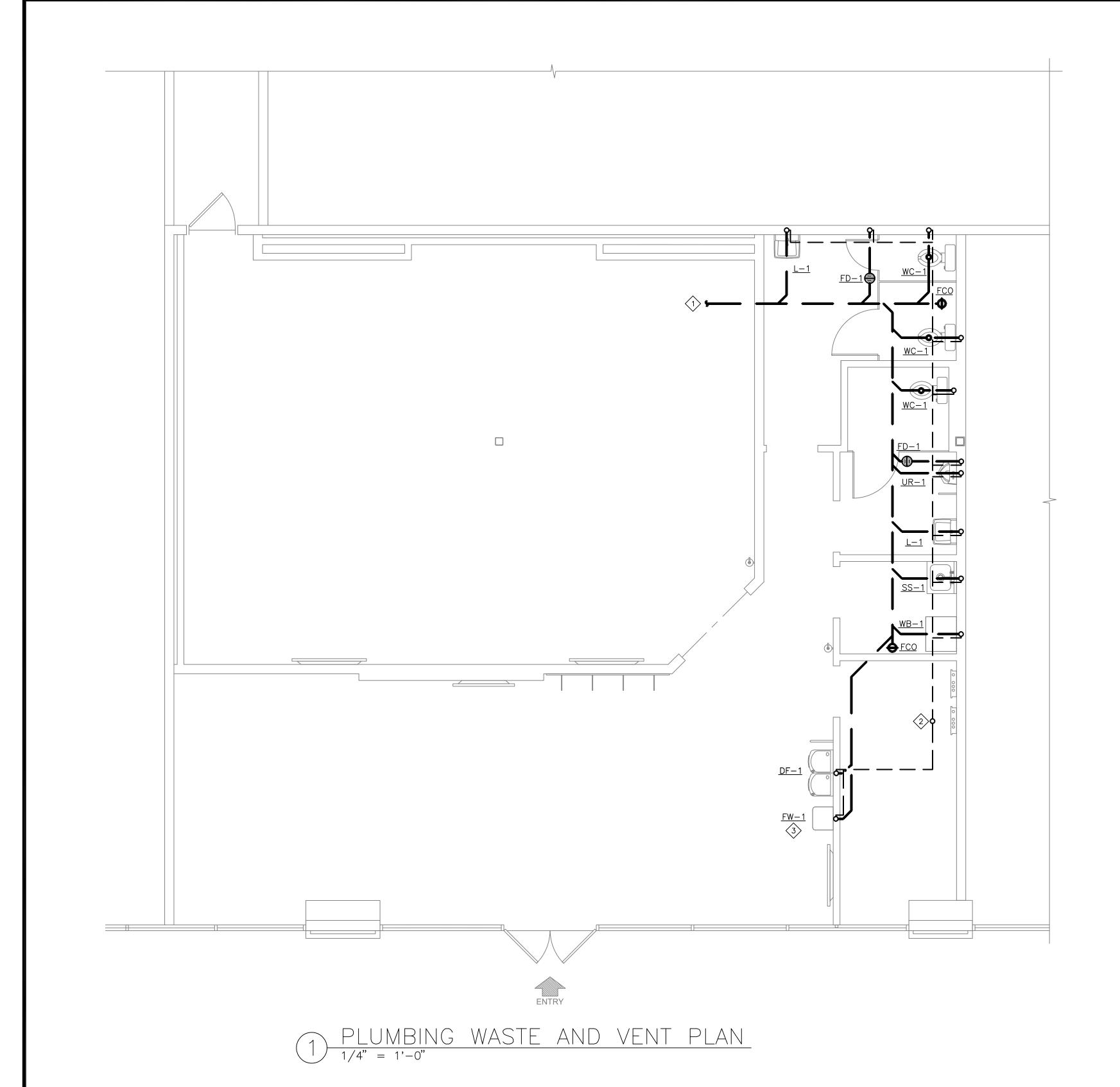
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PRIOR TO CONSTRUCTION/ BID THE CONTRACTOR SHALL VISIT THIS SITE AND FIELD VERIFY THE EXISTING LOCATIONS AND SIZES OF PLUMBING LINES AND FLOW DIRECTION.

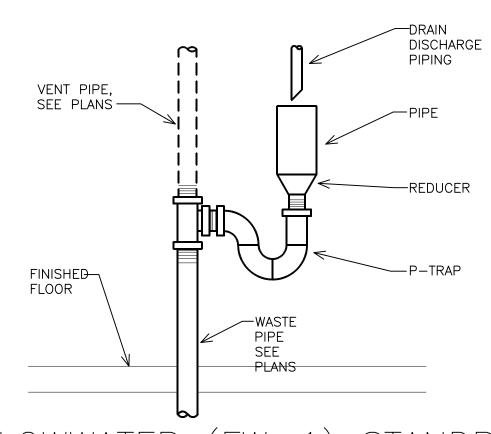
THE CONTRACTOR SHALL FIELD VERIFY ANY/ CONDITIONS WHICH MAY CONFLICT WITH THE DESIGN SHOWN ON THESE PLANS. NOTIFY ARCHITECT.

SHEET NOTES:

- 1. REFER TO SHEET P1.0 FOR PLUMBING SPECIFICATIONS AND GENERAL NOTES
- 2. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS.
- 3. PLUMBING CONTRACTOR TO DEMO ALL PIPING, SUPPORTS, PLUMBING FIXTURES AND ALL RELATED APPURTENANCES. CAP ALL PIPING AT
- 4. REFER TO SHEET P2.0 FOR PLUMBING SCHEDULES AND DETAILS.
- 5. REFER TO SHEET P3.0 FOR PLUMBING DOMESTIC WATER PLAN.

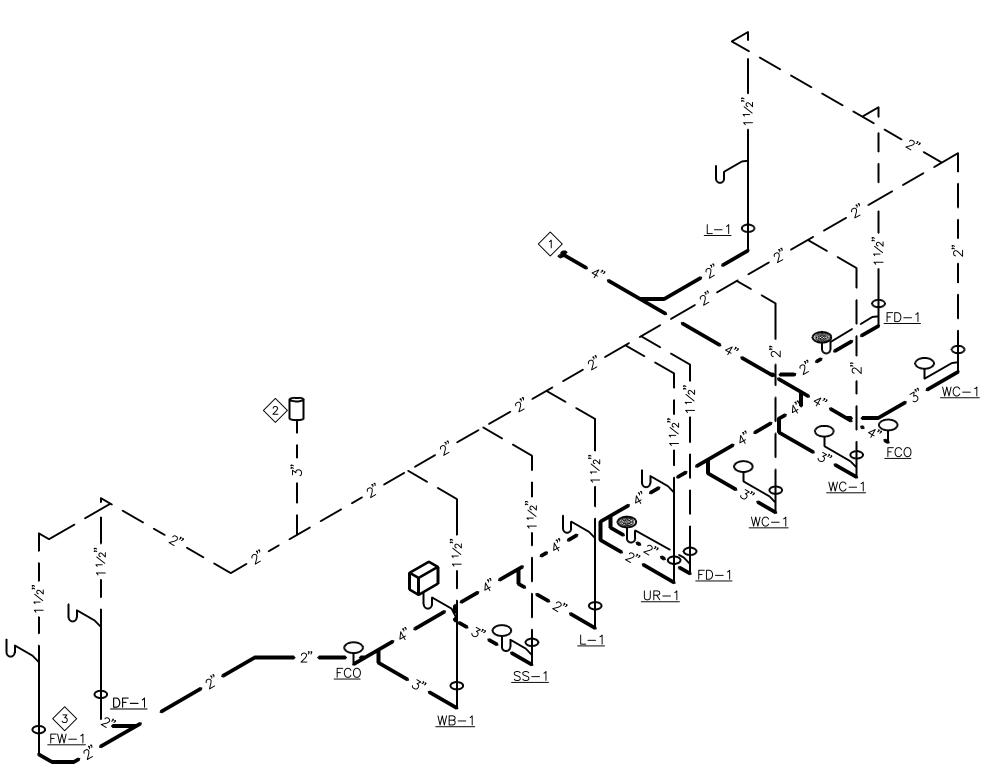
KEYED NOTES:

- CONNECT NEW 4" SANITARY WASTE PIPING TO EXISTING LANDLORD PROVIDED 4" SANITARY WASTE STUB-IN AS SHOWN. VERIFY ROUTING AND LOCATION ON SITE.
- PROVIDE 3" VENT THROUGH ROOF, MAINTAIN MIN. 10'-0" FROM ANY OUTDOOR AIR INTAKES.
- PROVIDE 2" STANDPIPE WITH CODE APPROVED AIR GAP FOR FLOWATER REFILL STATION. COORDINATE ALL REQUIREMENTS WITH FLOWATER REPRESENTATIVE.

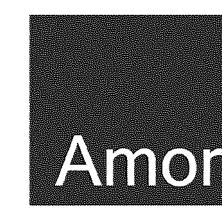


FLOWWATER (FW-1) STANDPIPE DETAIL

NOT TO SCALE



2 WASTE AND VENT ISOMETRIC DIAGRAM NOT TO SCALE



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IB 2008 02095

DN: OID 0.9.2342 1920 3500 1001 14-980 30000001 4695 DE9AC900001
CN=Gregory M Steinmetz, O-Identificated Individual, C=

SHEET NUMBER

P4.0

GENERAL NOTES:

- THE INTENT OF THESE DRAWINGS & SPECIFICATIONS IS TO ESTABLISH A STANDARD OF QUALITY. THE ENGINEER RESERVES THE RIGHT TO ALLOW OTHER METHODS & MATERIALS NOT REFLECTED HEREIN. THE CONTRACTOR SHALL REQUEST APPROVAL TO WAIVE THE STANDARDS, PRIOR TO BEGINNING THE PROJECT. CONTRACT DOCUMENT REVISIONS TO ACCOMMODATE THE INSTALLED CONDITIONS, WITHOUT PRIOR APPROVAL, WILL RESULT IN ADDITIONAL DESIGN CHARGES TO THE CONTRACTOR.
- THESE DRAWINGS INDICATE FINISHED REQUIREMENTS FOR ELECTRICAL SYSTEMS, EQUIPMENT, LIGHTING FIXTURES, OUTLETS & DEVICES, DUE TO STRUCTURAL CONDITIONS, MECHANICAL DUCTWORK, PIPING CONFLICTS, OR LEGITIMATE REASONS, THE CONTRACTOR MAY INSTALL INDICATED WORK IN A MANNER DIFFERENT FROM WHAT IS DRAWN. CHANGES SHALL BE PRESENTED TO THE OWNER'S REPRESENTATIVE FOR REVIEW & APPROVAL PRIOR TO PROCEEDING. UPON APPROVAL, THE WORK SHALL BE PERFORMED & THE AS-BUILT DRAWINGS SHALL BE REVISED TO ACCURATELY REFLECT ANY CHANGES.
- ELECTRICAL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE N.E.C.A INSTALLATION STANDARDS TO THE SATISFACTION OF THE ARCHITECT & THE
- ALL WORK, MATERIALS & EQUIPMENT SHALL CONFORM TO THE CURRENTLY ACCEPTED EDITION OF ALL APPLICABLE NATIONAL, STATE & CITY CODES & ORDINANCES.
- . ALL ELECTRICAL MATERIALS AND EQUIPMENT TO BE USED SHALL BE LISTED BY U.L. OR ANOTHER RECOGNIZED TESTING FACILITY AS PERMITTED BY THE JURISDICTION AUTHORITY.
- WHERE APPARENT DISCREPANCIES EXISTS BETWEEN THE REQUIREMENTS OF THE GENERAL NOTES & INFORMATION IN THE ELECTRICAL DRAWINGS, THE CONTRACTOR SHALL INCLUDE IN HIS BID THE COST OF THE GREATER QUALITY OR QUANTITY.
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BID & VERIFY THE EXISTING CONDITIONS. THE CONTRACTOR SHALL INCLUDE IN THE BASE BID ALL COSTS REQUIRED FOR PERMIT & INSPECTIONS.
- . THE CONTRACTOR SHALL VERIFY W/OWNER'S REPRESENTATIVE PRIOR TO BID SUBMISSION. THE ALLOWABLE WORKING HOURS. EMPLOYEE PARKING AREAS, MATERIAL DELIVERY, STORAGE REQUIREMENTS, DEMOLITION, REMOVAL OF CONSTRUCTION DEBRIS & DAILY CLEAN UP REQUIREMENTS. INCLUDE ALL COSTS IN BID FOR REQUIRED MATERIALS NEEDED FOR THE DURATION OF THE PROJECT. PERFORM ALL WORK AS DIRECTED BY OWNER'S REPRESENTATIVE & ARCHITECT.
- ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW DEFECTIVE WORK, THE CONTRACTOR SHALL MAKE ALL NECESSARY CORRECTIONS AT NO ADDITIONAL COST TO THE OWNER.
- 10. THE CONTRACTOR SHALL GUARANTEE ALL WORK AGAINST DEFECTS IN MATERIALS & WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USE FOR 1 YEAR AFTER OWNER'S ACCEPTANCE. ALL DEFECTS SHALL BE PROMPTLY CORRECTED BY THE CONTRACTOR WITHOUT ADDITIONAL CHARGE TO THE OWNER.
- 1. PROVIDE AS-BUILT DRAWINGS TO THE ARCHITECT AND OWNER. DRAWINGS SHALL INCLUDE ACCURATE CONDUIT & DEVICE LOCATIONS DIMENSIONED FROM PERMANENT LANDMARKS.
- 12. DO NOT SCALE ELECTRICAL DRAWINGS. VERIFY EXACT LOCATION OF ALL DEVICES, JUNCTION BOXES, LIGHTING FIXTURES, OUTLET HEIGHTS, ETC. W/ARCHITECTURAL & INTERIOR DESIGN DRAWINGS PRIOR TO INSTALLATION. THE CONTRACTOR TO VERIFY EXACT LOCATIONS OF ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS PRIOR TO ROUGH-IN. COORDINATE WITH CABINET SHOP DRAWINGS TO ENSURE PROPER HEIGHT & LOCATION WITH RESPECT TO MILLWORK, EQUIPMENT, ETC.
- 13. ANY RACEWAY SYSTEMS THAT MAY BE SHOWN ARE FOR DIAGRAMMATICAL PURPOSES ONLY. ACTUAL LOCATION & ROUTING OF ALL SHALL BE DETERMINED BY THE CONTRACTOR TO MEET FIELD CONDITIONS.
- 14. PROVIDE A DEDICATED NEUTRAL FOR NEW CIRCUITS. HOME RUN CONDUCTORS MAY BE COMBINED INTO (1) CONDUIT. NO RACEWAY OR CABLE SHALL CONTAIN MORE THAN (9) CURRENT CARRYING CONDUCTORS. WHERE MULTIPLE CONDUCTORS IN EXCESS OF (3) ARE INDICATED ON THESE DRAWINGS, THEY MUST BE DERATED AS REQUIRED IN N.E.C. ARTICLE 310.
- 5. WHERE ALLOWED. MC CABLE MAY BE INSTALLED PER N.E.C. ARTICLE 330. WHERE MULTIPLE CABLES ARE ROUTED ADJACENT TO EACH OTHER (BUNDLED), A MINIMUM SEPARATION OF (1) CABLE DIAMETER (LARGEST) SHALL BE REQUIRED.
- 16. PLASTIC CABLE TIES ARE PROHIBITED FOR USE TO SUPPORT MC CABLE. USE ONLY CABLE SUPPORTS PER CABLE MANUFACTURER'S INSTALLATION REQUIREMENTS.
- 7. RACEWAYS SHALL BE CONCEALED (IN CMU OR OTHER WALLS) WHENEVER POSSIBLE. RACEWAYS INSTALLED EXPOSED SHALL BE ROUTED OUT OF PUBLIC VIEW. RACEWAYS SHALL BE RUN PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.
- 18. PROVIDE APPROVED EXPANSION FITTINGS WHERE RACEWAYS CROSS BUILDING EXPANSION JOINTS. PROVIDE BONDING JUMPER(S) SIZED PER CODE WHERE REQUIRED. PROVIDE ALL FITTINGS REQUIRED FOR A COMPLETE INSTALLATION. REFER TO ARCHITECTURAL DRAWINGS FOR EXPANSION JOINT LOCATION(S).
- 19. MINIMUM RACEWAY SIZE SHALL BE 1/2". MINIMUM HOME RUN SIZE SHALL BE 3/4". MINIMUM CONDUCTOR SHALL SHALL BE #12 AWG UNLESS NOTED OTHERWISE. ALL POWER RELATED CONDUITS SHALL HAVE A CODE SIZE GROUND WIRE INSTALLED IN EACH RUN.
- 20. CONTRACTOR SHALL PROVIDE PULL STRINGS IN ALL EMPTY CONDUITS. WHERE MORE THAN (1) CONDUIT TERMINATES AT A JUNCTION BOX, THE CONTRACTOR SHALL INDENTIFY EACH CONDUIT & JUNCTION BOX IN A MANNER THAT ALLOWS FOR IDENTIFICATION AFTER ALL WALL FINISHES HAVE BEEN APPLIED.

- 21. CONTRACTOR SHALL PROVIDE ALL RACEWAY SYSTEMS INDICATED ON THE DRAWINGS PER N.E.C. REQUIREMENTS & THE GENERAL NOTES. ANY CHANGE IN THE WIRING METHODS INDICATED SHALL REQUIRE WRITTEN APPROVAL FROM THE ARCHITECT, ENGINEER, OR OWNER. THE CONTRACTOR'S BID SHALL INCLUDE ALL COSTS FOR RACEWAY SYSTEMS AS SPECIFIED UNLESS NOTED OTHERWISE WITH WRITTEN APPROVAL FROM THE ARCHITECT, ENGINEER, OR OWNER & IS SUBMITTED AS PART OF CONTRACTOR'S FORMAL BID PROPOSAL.
- 22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECT SIZE & INSTALLATION OF ALL OUTLET, PULL & JUNCTION BOXES IN ACCORDANCE WITH N.E.C 314.16. ALL BOXES SHALL BE MINIMUM 4" SQUARE BY 1-1/2" DEEP OR AS INDICTED ON THE DRAWINGS. ALL BOXES SHALL BE RECESSED WITH COVER PLATES TO SUIT THE INTENDED APPLICATION.
- 23. REFER TO ARCHITECTURAL RCP FOR EXACT LOCATION OF ALL CEILING MOUNTED LIGHTING FIXTURES. ARCHITECTURAL DRAWINGS SHALL GOVERN CASE OF CONFLICT WITH THESE DRAWINGS.
- 24. PRIOR TO INSTALLATION, CONTRACTOR SHALL REVIEW THE COMPLETE SET OF CONSTRUCTION DOCUMENTS FOR CONFLICTS WITH OTHER TRADES. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL WORK WITH OTHER TRADES TO AVOID INSTALLATION CONFLICTS. THE CONTRACTOR SHALL MAKE NECESSARY MINOR ADJUSTMENTS IN EQUIPMENT LOCATION & ROUTING AT NO ADDITIONAL COST TO THE OWNER.
- 25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPERLY CUT & PATCHED EXISTING CONSTRUCTION AS REQUIRED TO INSTALL NEW ELECTRICAL WORK. ALL PATCHING SHALL BE EQUAL MATERIALS, WORKMANSHIP & FINISH AS THE EXISTING WORK & SHALL ACCURATELY MATCH ALL SURROUNDING WORK TO SATISFY THE ARCHITECT.
- 26. ALL ELECTRICAL EQUIPMENT SHALL HAVE SUFFICIENT GUTTER SPACE & LUGS TO ACCOMMODATE QUANTITY & SIZE OF CONDUCTORS REQUIRED. CONTRACTORS SHALL PROVIDE EQUIPMENT WITH OVERSIZED ENCLOSURES WHERE REQUIRED.
- 27. ALL NEW PANELBOARDS & SWITCHBOARDS SHALL BE OF THE SAME MANUFACTURER & HAVE LOCKING DOORS & TO BE KEYED THE SAME UNLESS NOTED OTHERWISE.
- 28. PROVIDE AN UPDATED TYPED PANEL DIRECTORY MOUNTED ON THE INSIDE OF ALL PANEL DOOR COVERS. DIRECTORY SHALL REFLECT ALL MODIFICATIONS TO EXISTING PANELS & SHALL REFLECT ACTUAL "AS-BUILT" CONDITIONS.
- 29. VERIFY DEVICE COLOR & MOUNTING ORIENTATION (VERTICAL OR HORIZONTAL) WITH ARCHITECTURAL & INTERIOR DESIGN DRAWINGS PRIOR TO ORDERING ANY EQUIPMENT & PROVIDE DEVICES AS REQUIRED UNLESS NOTED OTHERWISE. DEVICES AND DEVICE PLATES SHALL BE WHITE IN COLOR.
- 30. WHERE MOTORS ARE INSTALLED IN SUSPENDED CEILINGS, THE CONTRACTOR SHALL PROVIDE A DISCONNECT IN THE SUSPENDED CEILING WITHIN REACH FROM THE ACCESS POINT.
- 31. SIZING OF MOTOR RELATED ELECTRICAL COMPONENTS, INCLUDING FEEDER AND/OR BRANCH CIRCUITS (WIRE & CONDUIT) & OVERCURRENT PROTECTION (BREAKER AND/OR FUSES) IS BASED ON THE RATINGS INDICATED IN THE CONTRACT DOCUMENTS & ON THE N.E.C. MOTORS FLC TABLE FOR A GIVEN HORSEPOWER, VOLTAGE & PHASE. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ACTUAL MOTOR & APPLIANCE RATING & LOADS. THE CONTRACTOR SHALL PROVIDE CORRECTLY SIZED MOTOR OVERLOAD ELECTRICAL COMPONENTS BASED ON NAMEPLATE RATING. REFLECT ALL CHANGES IN THE AS-BUILT DRAWINGS.
- 32. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW OF ELECTRICAL EQUIPMENT AND LIGHTING FIXTURES.
- 33. ALL PENETRATIONS OF FIRE RATED FLOORS OR WALLS SHALL BE PROTECTED BY MATERIALS & INSTALLATION DIAGRAMS THAT CONFORM TO U.L. LISTING FOR "THROUGH PENETRATION FIRE STOP SYSTEMS".
- 34. FIRE ALARM DEVICE WIRING SHALL BE A MINIMUM OF #14 AWG. COPPER OR PER SYSTEM MANUFACTURER REQUIREMENTS. PROVIDE MINIMUM OF 3/4" SEPARATE RACEWAY SYSTEM OR AS REQUIRED FOR LIFE SAFETY SYSTEM WIRING CONFIGURATION.
- 35. UPON COMPLETION OF THE INSTALLATION OF THE LIFE SAFETY SYSTEM WIRING & DEVICES, A PERFORMANCE TEST OF THE ENTIRE LIFE SAFETY SHALL BE PERFORMED TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION.
- 36. ALL ELECTRICAL TERMINATIONS OR EQUIPMENT TO UNDERGO A TORQUE TEST. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE MANUFACTURER'S TORQUE DOCUMENTATION
- & THE TOOLS NECESSARY TO PERFORM A TORQUE TEST. 37. ALL UNDERGROUND SERVICE CONDUITS SHALL BE SEALED PER N.E.C. ARTICLE 230.8.
- 38. FLOOR MOUNTED ELECTRICAL EQUIPMENT SHALL BE ON A 4" HIGH CONCRETE PAD.
- 39. INSTALL TRANSFORMER FOLLOWING MANUFACTURER'S RECOMMENDATIONS FOR VENTILATION CLEARANCES.
- 40. COORDINATE ELECTRICAL REQUIREMENTS FOR ALL PLUMBING &
- MECHANICAL EQUIPMENT WITH FINAL CONTRACTOR SELECTION. THE CONTRACTOR SHALL SIZE DISCONNECTS BASED UPON CIRCUIT BREAKER RATINGS & PROVIDE FUSING AS REQUIRED PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS & U.L. LISTING REQUIREMENTS.
- 41. PROVIDE #10 AWG CONDUCTORS FOR 20 AMP, 120 VOLT BRANCH CIRCUITS LONGER THAN 75' & #8 AWG CONDUCTORS FOR 20 AMP, 120 VOLT BRANCH CIRCUITS LONGER THAN 120'. PROVIDE #10 AWG CONDUCTORS FOR 20 AMP, 277 VOLT BRANCH CIRCUITS LONGER THAN 200'.

RECEPTACLE

OUTLET/SWITCHES MOUNTING ELEVATION

FLOOR LEVEL

FIRE ALARM DEFERRAL NOTES:

DUNHAM ASSOCIATES IS NOT THE ENGINEER OF RECORD FOR FIRE ALARM. THE ELECTRICAL CONTRACTOR SHALL INCLUDE A PRICE IN THE ELECTRICAL BID FOR A LANDLORD APPROVED FIRE ALARM SYSTEM, INCLUDING PLANS AND ALL ASSOCIATED DOCUMENTS AS REQUIRED. THESE PLANS SHALL BE SUBMITTED TO THE LOCAL AUTHORITIES BY A QUALIFIED AND LICENSED DESIGN-BUILD FIRE ALARM CONTRACTOR FOR A COMPLETE AND APPROVED FIRE ALARM SYSTEM. THE PLANS SHALL BE SIGNED AND SEALED BY THE ENGINEER OF RECORD AND SUBMITTED FOR PLAN REVIEW PRIOR TO RECEIVING SPECIFIC PERMITS FOR THIS WORK. THE FIRE ALARM CONTRACTOR SHALL ALSO SUBMIT ALL SHOP DRAWINGS, BATTERY CALCULATIONS, SPECIFICATION SHEETS, ETC. AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION TO THEIR LOCAL DESIGN ENGINEER FOR REVIEW AND APPROVAL. LOCATIONS AND NUMBER OF DEVICES ARE SUGGESTED ONLY.

NOTES & TAGS LEC EQUIP CONNECTION TAG - SEE EQUIP SCHEDULE CO='CONVENIENCE OUTLET' KEYNOTE CIRCUIT HOME RUN L INDICATES PANEL · NUMBERS INDICATE CIRCUITS CONDUCTOR COUNT — UNLESS NOTED OTHERWISE / SHORT HASH INDICATES 1#12 WIRE / LONG HASH INDICATES 1#12 NEUTRAL / HASH W/ DOT INDICATES 1#12 GROUND • JUNCTION BOX — WALL/CEILING MOUNT POWER DDANICH CIDCUIT DANIEL

	BRANCH CIRCUIT PANEL	
38	TRANSFORMER	
Ø	MOTOR OR MOTOR CONNECTION	
	DISCONNECT SWITCH	
Φ	SINGLE RECEPTACLE	
**	DUPLEX RECEPTACLE	
•	ENTIRE DUPLEX RECEPTACLE TO BE SWITCHED	
\(\Phi\)	LOWER HALF OF DUPLEX RECEPTACLE TO BE SWITCHED	
#	QUADPLEX RECEPTACLE	
\(\theta\)	DUPLEX RECEPTACLE— CEILING MOUNT	
■ #	GFI RECEPTACLE, DUPLEX/QUADPLEX— WALL MOUNT	
$oldsymbol{\Theta}^{\!\scriptscriptstyle{\mathrm{c}}}$	CLOCK RECEPTACLE	
•	SPECIAL PURPOSE RECEPTACLE	
③	SPECIAL PURPOSE RECEPTACLE — CEILING	
● ●	FLOOR BOX— DEVICES AS INDICATED	
Р	POWER POLE - DEVICES AS INDICATED	
	MULTIOUTLET ASSEMBLY — DEVICES AS INDICATED	
	SWITCHES & CONTROLS	

SWITCHES & CONTINUES

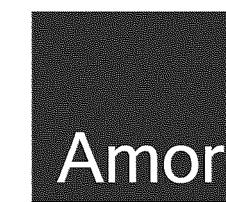
\$	SINGLE POLE TOGGLE SWITCH	48
\$ ³	THREE WAY TOGGLE SWITCH	48
\$ a	TOGGLE SWITCH — "a" INDICATES SWITCHING	48
\$	PILOT LIGHT TOGGLE SWITCH	48
\$"	ILLUMINATED TOGGLE - TOGGLE SWITCH	48
\$ ^K	KEYED SWITCH	48
\$ ^{MC}	MOMENTARY CONTACT TOGGLE SWITCH	48
\$ ^{TS}	TIMER SWITCH	48
- D	DIMMER SWITCH	48
- ⑤ ⑤	OCCUPANCY SENSOR - WALL/CLG MOUNT	
\$°C	OCCUPANCY SENSOR WALL SWITCH	48
⋄	VACANCY SENSOR - WALL/CLG MOUNT	
\$ ^{vs}	VACANCY SENSOR WALL SWITCH	48
•	PHOTO ELECTRIC CELL	
- TC	TIME CLOCK	
- C	CONTACTOR	
T	LOW VOLTAGE TRANSFORMER	
•	ELECTRIC THERMOSTAT	
-•	PUSHBUTTON STATION — BUTTONS AS INDICATED	

FIRE ALARM/DATA

-F	MANUAL PULL STATION — WALL MOUNT @48"	
F F F	SMOKE DETECTOR (P=PHOTOELEC, I=IONIZATION)	
F	DUCT MOUNTED SMOKE DETECTOR	
F FS	FLOW SWITCH	
F TS	TAMPER SWITCH	
- F	STROBE (# = CANDELA)	
Ē	HORN	
₽¶	HORN/STROBE	
₩	DATA OUTLET — WALL MOUNT	
•	DOUBLE GANG DATA OUTLET — WALL MOUNT	
•	PHONE OUTLET — WALL MOUNT	
- T∨	TV SYSTEM OUTLET	

ABBREVIATIONS

ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE AUTHORITY HAVING JURISDICTION CONVENIENCE (GENERAL) OUTLET GFI/GFCI GROUND FAULT INTERRUPTER GND GROUND ISOLATED GROUND TYP **TYPICAL** UNDER COUNTER UNO UNLESS NOTED OTHERWISE WEATHERPROOF



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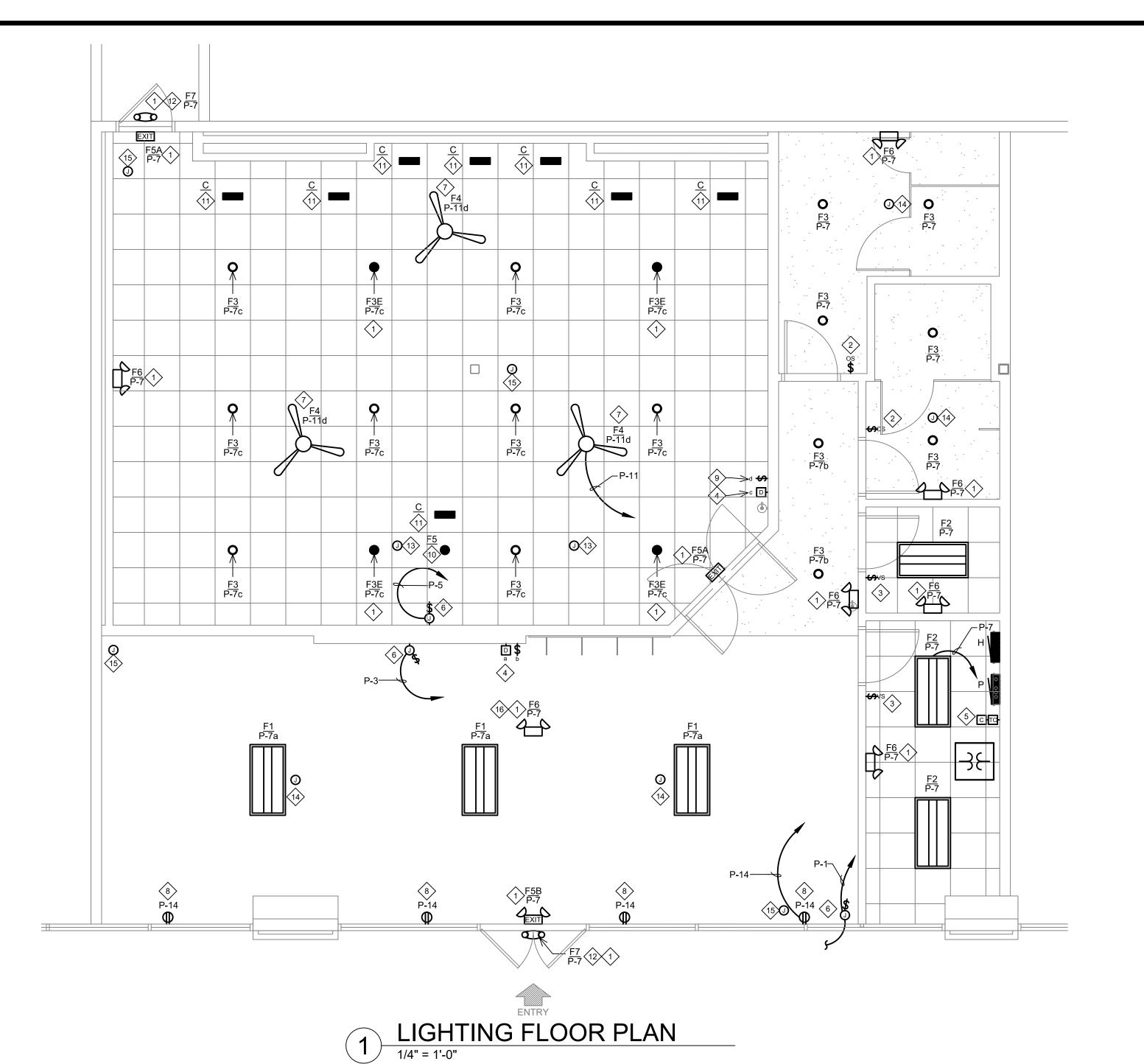
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REVISIONS 2020.04.10 PROJECT NUMBER A2276



GENERAL NOTES:

- A. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF LUMINAIRES.
- B. EACH LUMINAIRE SHALL BE STRUCTURALLY SUPPORTED; DO NOT USE CONDUIT FOR SUPPORT FOR EITHER FIXTURES OR BOXES.
- . USE FLEXIBLE METAL CONDUIT (GREENFIELD) FOR CONNECTION OF LAY-IN FIXTURES.
- D. PROVIDE GROUND CONDUCTOR IN ALL CONDUIT RUNS.
- THOUGH WIRING OF FIXTURES SHALL NOT BE PERMITTED UNLESS SPECIFICALLY ILLUSTRATED.
- EACH LUMINAIRE SHALL HAVE ITS OWN BOX UNLESS OTHERWISE ILLUSTRATED.
- G. VERIFY LOCATION OF WALL MOUNTED EMERGENCY LUMINAIRES TO AVOID CONFLICT WITH WOOD TRIM
- I. REFER TO ARCHITECTURAL FOR EXACT LOCATION OF LUMINAIRES COORDINATE WITH ARCHITECT FOR LOCATION OF LUMINAIRES AND DEVICES BEFORE ROUGH-IN.

KEY NOTES:

- $\langle 1 \rangle$ provide unswitched hot to all exit, emergency, and night LIGHTS TO BYPASS SWITCH CONTROLS. THIS MUST BE IN ADDITION TO SWITCHED HOT.
- PROVIDE LUTRON MAESTRO WALL MOUNTED OCCUPANCY SENSOR MS-A102-O. INSTALL PER MANUFACTURER'S INSTALLATION
- (3) PROVIDE LUTRON MAESTRO WALL MOUNTED VACANCY SENSOR MS-A102-V. INSTALL PER MANUFACTURER'S INSTALLATION
- $\langle 4 \rangle$ PROVIDE LUTRON DIVA 0-10V DIMMER DVTV-WH WITH POWER PACK PP-DV.
- (5) PROVIDE 2 CHANNEL INTERMATIC ASTRONOMIC TIME CLOCK MODEL NO. ET8215C WITH 0-2 HOUR SPRING WOUND TIMER AND 4 POLE LIGHTING CONTACTOR. CONNECT SIGN, INTERIOR LIGHTING AND SHOW WINDOW RECEPTACLES.
- (6) PROVIDE JUNCTION BOX WITH DISCONNECT SWITCH IN CONCEALED LOCATION FOR CONNECTION TO SIGN LIGHTING. LOCATE DISCONNECT SWITCH IN CONCEALED ACCESSIBLE LOCATION PER NEC 600.6. E.C. SHALL MAKE FINAL CONNECTION TO SIGN AND CONTROL VIA TIME CLOCK. COORDINATE WITH SIGN VENDOR PRIOR TO ROUGH-IN.
- 7> PROVIDE FAN RATED JUNCTION BOX AND SEISMIC APPROVED HARDWARE ON ROOF TRUSSES.
- $\langle 8 \rangle$ provide show window receptacle within 18" of the top OF THE WINDOW PER NEC 210.62.
- PROVIDE ENVIROFAN SPEED CONTROL MODEL NO. 105FR FOR CONTROL OF CEILING FANS.
- (10) NEW RECESSED 3 WATT LED DOWNLIGHT PROVIDED AND INSTALLED BY OTHERS. CONNECTED AND CONTROLLED VIA A/V
- (11) NEW RECESSED 3 WATT LED WALL WASH PROVIDED AND INSTALLED BY OTHERS. CONNECTED AND CONTROLLED VIA A/V
- (12) VERIFY IF THERE IS ADEQUATE GENERAL & EMERGENCY LIGHTING PRESENT. IF NOT COORDINATE WITH LANDLORD AND PROVIDE
- (13) PROVIDE JUNCTION BOX MOUNTED TO UNISTRUT WITH SPEAKER CABLE FROM EACH SPEAKER LOCATION BACK TO A/V RACK WITH A 15' WHIP AT THE A/V RACK. COORDINATE EXACT LOCATION OF SPEAKERS WITH A/V VENDOR PRIOR TO ROUGH-IN. SEE SHEET E3.0 FOR A/V RACK LOCATION.
- (14) PROVIDE JUNCTION BOX FOR SURFACE/PENDANT MOUNTED SPEAKER WITH SPEAKER CABLE FROM EACH SPEAKER LOCATION BACK TO A/V RACK. PROVIDE A 15' WHIP AT THE A/V RACK. SEE SHEET E3.0 FOR A/V RACK LOCATION.
- (15) PROVIDE (1) CAT6 PLENUM RATED CABLE FOR EACH CAMERA LOCATION. THE CABLE SHALL RUN FROM EACH CAMERA BACK TO THE A/V RACK WITH A 15' WHIP LEFT AT EACH CAMERA LOCATION AND A 15' WHIP PROTRUDING FROM THE A/V CUT IN RING AT THE PLATFORM.
- (16) PENDANT MOUNT FIXTURE AT 11'0" A.F.F.



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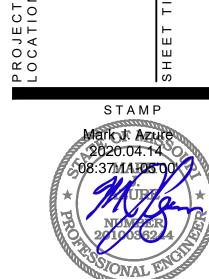
<u>CO</u>NSULTANT

DUNHAM

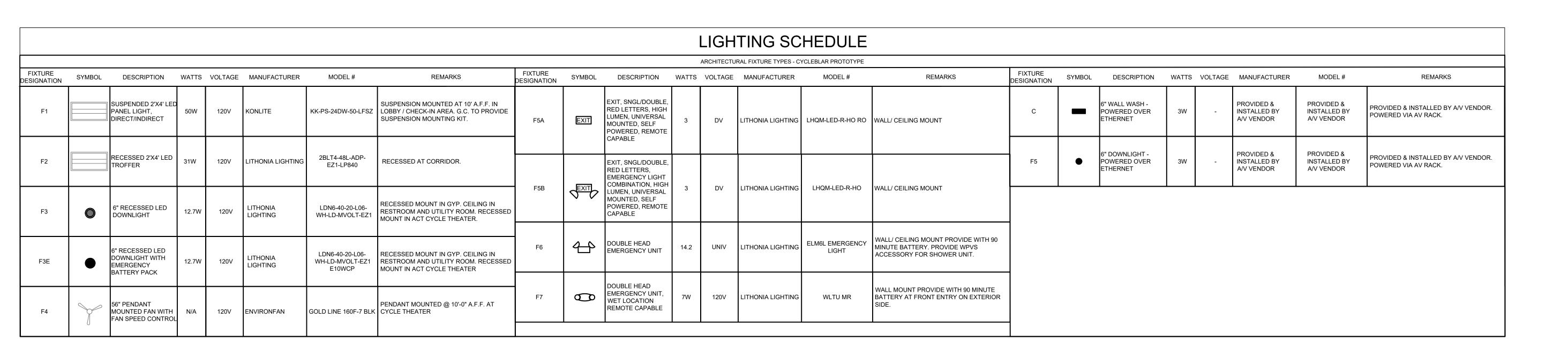
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MOTOR/EQUIPMENT SCHEDULE NOTE (NOT ALL NOTES MAY BE USED)

1. VERIFY REQUIREMENTS OF EQUIPMENT.

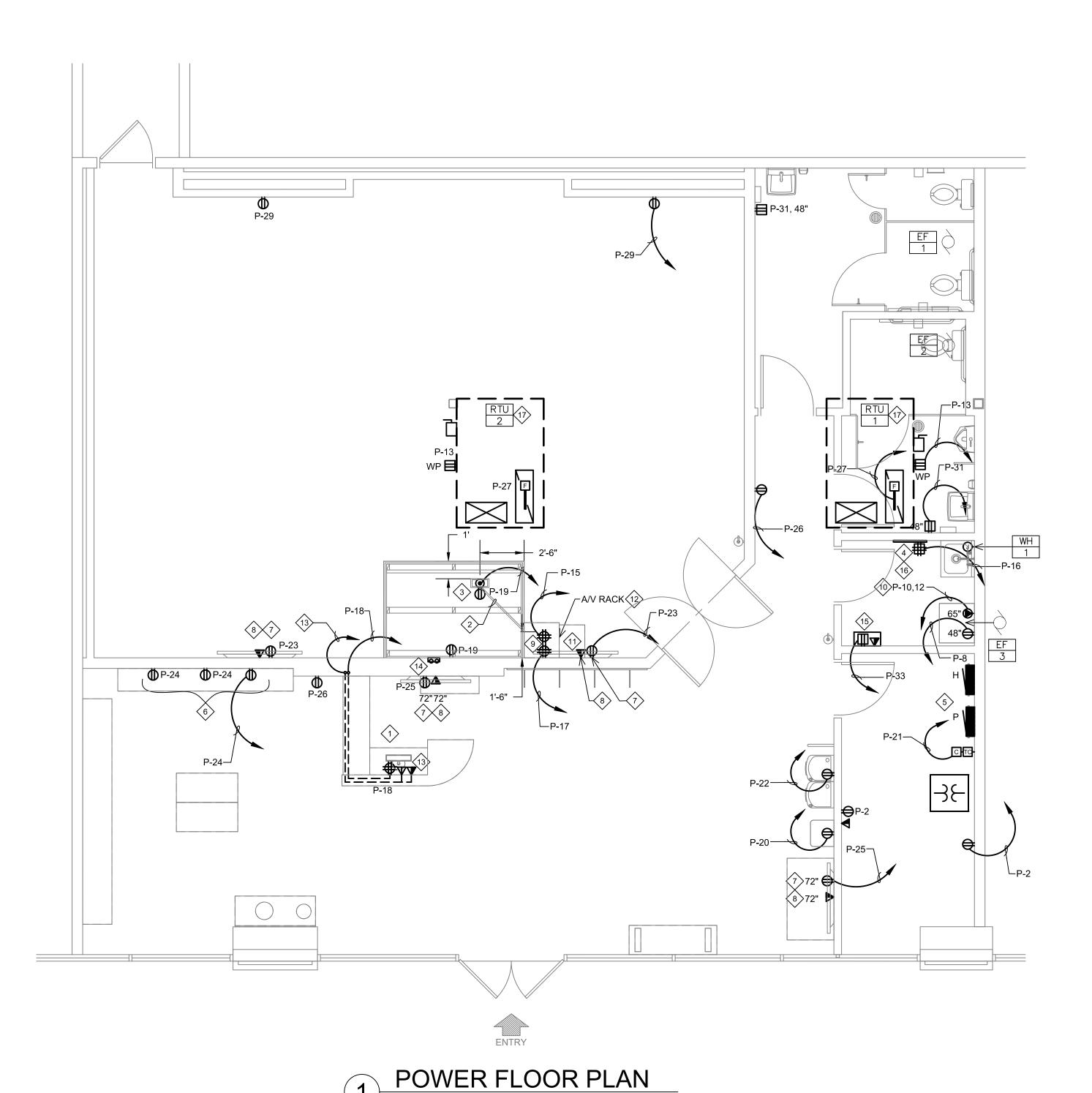
2. PROVIDED DUCT SMOKE DETECTOR IN MAIN RETURN DUCT. DUCT SMOKE DETECTOR TO SHUT DOWN UNIT UPON ALARM CONDITION.

3. VERIFY NAMEPLATE RATING ON UNIT AS IT MAY DIFFER FROM LOADS SHOWN HERE.

4. PROVIDE CONNECTION TO MECHANICAL CONTRACTOR PROVIDED CONTROLS AS REQUIRED.

5. CONTROL VIA LIGHT SWITCH LOCATED IN ROOM. COORDINATE WITH MECHANICAL CONTRACTOR.

6. PROVIDE GFI SERVICE RECEPTACLE WITH WEATEHRPROOF IN-USE COVER. CIRCUIT AS SHOWN.



GENERAL NOTES:

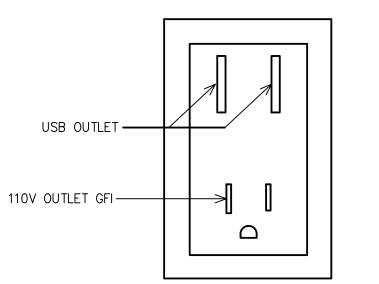
- A. ALL WIRING SHALL BE #12 THHN MINIMUM FOR DRY LOCATIONS.
- B. ALL ELECTRICAL MATERIAL, DEVICES, AND EQUIPMENT SHALL BEAR "U.L." LABELS AND SHALL BE INSTALLED PER THE "N.E.C." AND PER THE LOCAL INSPECTION BUREAU'S REQUIREMENTS. ALL MATERIAL, DEVICES, AND EQUIPMENT SHALL BE GROUNDED PER "N.E.C."
- . ALL CONTRACTORS SHALL VERIFY ALL REQUIREMENTS OF EQUIPMENT PRIOR TO COMMENCING WITH THE WORK.
-). COORDINATE MOUNTING HEIGHTS AND OUTLET LOCATIONS WITH TENANT PRIOR TO ROUGH—IN.
- VERIFY METHOD OF CONNECTIONS TO ALL EQUIPMENT WITH TENANT PRIOR TO ROUGH—IN.
- F. PROVIDE MATCHING RECEPTACLE FOR ALL EQUIPMENT SUPPLIED WITH CORD AND PLUG. INSTALL CORD & PLUG ON EQUIPMENT WHICH WAS SHIPPED SEPARATELY. FURNISH AND INSTALL CORD & PLUG ON EQUIPMENT WHICH REQUIRES CORD & PLUG.
- G. INTERIOR BUILDING CONDUIT RUNS SHALL BE CONCEALED AT ALL TIMES (IN WALL, COUNTER, CEILING OR FLOOR). EXTERIOR BUILDING CONDUIT RUNS SHALL BE RIGID GRC. OR EQUAL. ELECTRICAL CONTRACTOR TO FIELD VERIFY EXACT REQUIREMENTS AND TO INSURE COMPLETE ELECTRICAL INSTALLATION MEETS ALL APPLICABLE CODES AND REGULATIONS
- H. THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING THROUGH PENETRATION PROTECTION DEVICES AND FIRESTOPPING DEVICES AT ALL PIPES, LINE WIRING, DUCTWORK OR OTHER COMPONENTS THIS CONTRACTOR INSTALLS WHICH PENETRATE RATED WALLS OR FLOOR/CEILING ASSEMBLIES.
- I. COORDINATE COLOR OF RECEPTACLES AND COVER PLATE WITH ARCHITECT, ALL COVER PLATES IN THE CYCLE STUDIO SHALL BE PAINTED BLACK.
- J. THIS CONTRACTOR SHALL PROVIDE AND INSTALL EQUIPMENT REQUIRED FOR TEMPORARY ELECTRIC SERVICE SUFFICIENT FOR ALL NEW CONSTRUCTION.
- K. ALL KITCHEN, BATH AND SINK COUNTERTOP AND EXTERIOR WEATHERPROOF OUTLETS SHALL BE G.F.I. (GROUND FAULT INTERRUPT) TYPE. ALL DEVICES MOUNTED AT COUNTERTOP LEVEL OR AS MAY OTHERWISE BE REQUIRED. SHALL BE MOUNTED IN A FASHION SO THAT THE BOTTOM OF THE DEVICE TRIM, COVER PLATE, ETC... CAN BE FASTENED CLEAR OF ANY TRIM SUCH AS BACK SPLASHES, SIDEBOARDS, ETC. ANY REQUIRED RELOCATION OF DEVICES SHALL BE AT THE EXPENSE OF THIS CONTRACTOR.
- L. ALL EXTERIOR WIRING SHALL BE IN RIGID CONDUIT OR SCHEDULE 40 P.V.C. CONDUITS.
- M. VERIFY ALL EQUIPMENT LOADS, LOCATIONS AND PANELBOARD SCHEDULES PRIOR TO ROUTING CONDUITS, PULLING WIRE AND INSTALLING BREAKERS AND ELECTRICAL DEVICES.
- N. CODE AND REGULATIONS COMPLY WITH STATE AND LOCAL CODES, UTILITY COMPANY REGULATIONS AND THE LATEST EDITIONS OF: THE UNIFORM CODES (BUILDING, PLUMBING AND MECHANICAL) NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA). FINAL INTERPRETATIONS WILL BE MADE BY THE LOCAL INSPECTION AUTHORITY.

KEY NOTES:

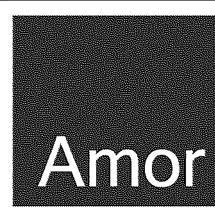
- PROVIDE QUAD RECEPTACLE AND DATA WITHIN RECEPTION DESK AT 24" A.F.F. FOR P.O.S. EQUIPMENT. POWER AND DATA CABLES SHALL BE RUN FROM WALL BEHIND DESK AND THEN INTO DESK MILLWORK TO LOCATIONS AS SHOWN. COORDINATE WITH MILLWORK VENDOR PRIOR TO ROUGH—IN.
- PROVIDE 1-1/2" FLEX CONDUIT FOR LOW VOLTAGE
 CONNECTIONS, IN AS STRAIGHT OF LINE AS POSSIBLE, FROM 18
 OFF OF THE BACK WALL AT THE A/V RACK LOCATION TO THE
 FLOOR BOX AT THE TRAINERS INSTRUCTION STATION . SEE
 ARCHITECTURAL DETAILS FOR EXACT LOCATION AND ADDITIONAL
 INFORMATION.
- PREPACKAGED FLOOR BOX KIT PROVIDED BY OTHERS AT RAISED PLATFORM WITH A DEDICATED DUPLEX RECEPTACLE AND SEPARATION FOR LOW VOLTAGE CONNECTIONS. SEE ARCHITECTURAL SHEETS AND DETAIL 16/A8.1 FOR ADDITIONAL INFORMATION.
- 42"x16"x3/4" FIRE RETARDANT AC GRADE PLYWOOD TELEPHONE BOARD. EXTEND 1" CONDUIT FROM LANDLORD DEMARCATION POINT TO CYCLEBAR TELEPHONE BOARD LOCATION.
- 5 EXISTING ELECTRICAL PANELS AND SUSPENDED TRANSFORMER TO REMAIN. SEE RISER DIAGRAM AND PANEL SCHEDULE ON SHEET E4.0 FOR ADDITIONAL INFORMATION.
- 6 PROVIDE COMBO USB/RECEPTACLE AT CHECK-IN MOUNTED AT 48"
 A.F.F. TO BOTTOM OF UNIT. LEVITON T56631 ONE 120V PLUG, TWO
 USB PORTS, REFER TO DETAIL 2 ON THIS SHEET.
- 7 TV RECEPTACLE AND DATA. VERIFY LOCATION AND MOUNTING HEIGHT WITH TENANT REPRESENTATIVE.
- PROVIDE (2) CAT6A PLENUM RATED ETHERNET CABLES FROM TV LOCATION TO A/V RACK.
- (9) PROVIDE (2) DEDICATED QUAD RECEPTACLES FOR A/V RACK.
- 208V 10 ELECTRIC DRYER AT LOCATION SHOWN, PROVIDE 1"C. 3#10, 1#10 GRD.
- BALANCED XLR PATCH CABLE FROM SUBWOOFER TO A/V RACK.
- 12 A/V RACK SUPPLIED AND INSTALLED BY A/V CONTRACTOR.
- 13 POS TERMINAL PROVIDE (3) CAT6 CABLES TO A/V RACK.
- G.C. PROVIDED AV CABLING PROTRUDING FROM WALL VIA DOUBLE GANG PLASTER RING. PROVIDE 15' OF SLACK OF AV CABLING AT EACH END. LABEL CABLES CORRECTLY. E.C. TO STUB TWO (2) 1 1/2" CONDUITS 6" ABOVE CEILING FOR CABLING PATHWAY.
- CABLE MODEM LOCATION PROVIDE (2) CAT6 CABLES TO A/V
- (2) CAT-6 DATA LINES FROM TELEPHONE BOARD BACK TO AV RACK. TERMINATED AND LABELED BY G.C.
- PROVIDE AND INSTALL THE FOLLOWING: DUCT SMOKE DETECTOR IN **RETURN** MAIN DUCT AND REMOTE TEST STATION WITH VISIBLE AND AUDIBLE ALARM. SMOKE DETECTOR SHALL SHUT DOWN HVAC UNIT UPON DETECTION OF SMOKE. COORDINATE FINAL LOCATION OF REMOTE TEST STATION WITH AHJ.

NOTE:

ALL COVER PLATES, OUTLETS, AND SWITCHES IN THE CYCLE THEATER SHALL BE FACTORY BLACK ALL OTHERS TO BE FACTORY BRIGHT WHITE.



2 USB/OUTLET COMBO DETAIL
NO SCALE



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consulting engineering
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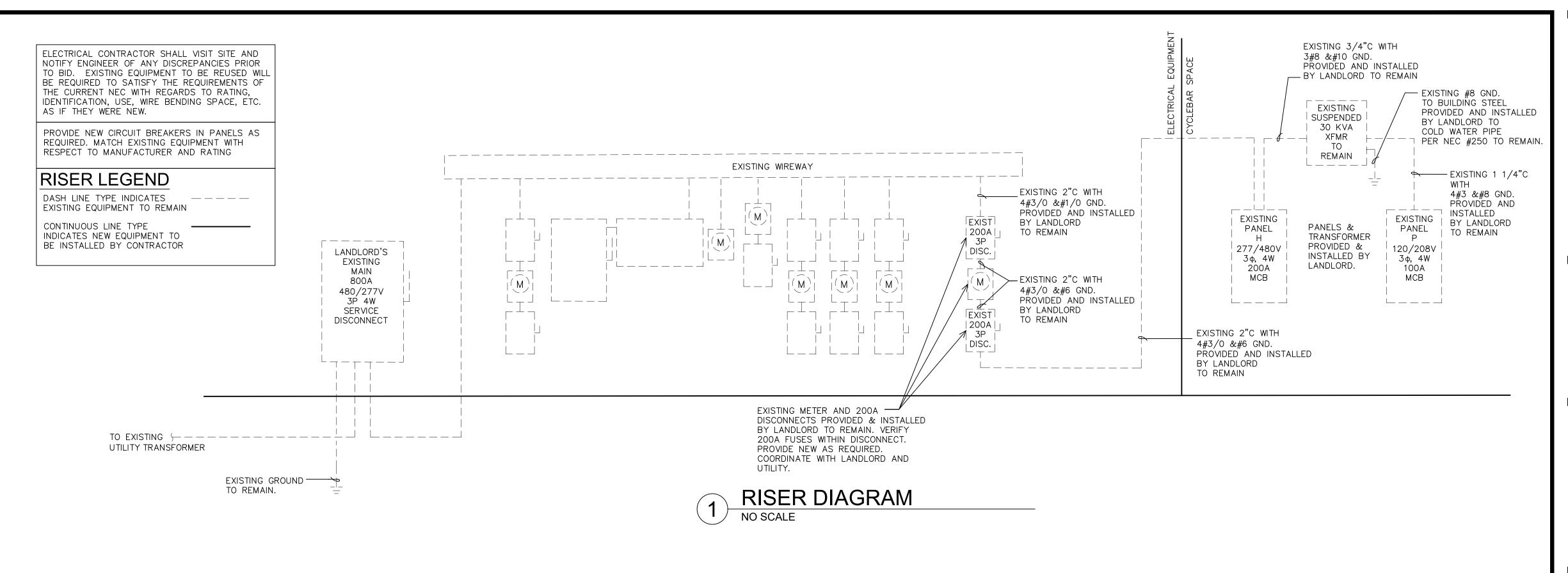
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DATE
2020.04.10

PROJECT NUMBER
A2276

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Panel		:	H (EXISTING)	'	Voltag	ge:	277/480V, 3PH, 4W					
					Code L	Code C	Code R	Code M	Code E			
No.	Amp/p	Note	Description	Ph	VA	VA	VA	VA	VA	VA	VA	
1	50		EXISTING 30KVA XFMR	- A -	1834	2160	2560	274				
3	1			- B -	1200	540	4300					
5	3			- C -	1200	720	4440	314				
7	15	4	RTU-1	- A -				2812				
9	/			- B -				2812				
11	3		"	- C -				2812				
13	-		SPACE	- A -								
15	-		SPACE	- B -								
17	-		SPACE	- C -								
2	30	4	RTU-2	- A -				7133				
4	1			- B -				7133				
6	3			- C -				7133				
8	20/	2	WH-1	- A -			3000					
10	2			- B -			3000					
12	-		SPACE	- C -								
14	-		SPACE	- A -								
16	-		SPACE	- B -								
18	-		SPACE	- C -								
Thro	ugh -			- A -								
Feed	Lug		None	- B -								
Connection C -		- C -										
Ma	ain		200	- A -	1834	2160	5560	10219				
Brea	aker		1	- B -	1200	540	7300	9945				
			3	- C -	1200	720	4440	10259				
Breaker Notes:					Conn l	KVA phas	e loads	Total	- A -	- B -	- C -	
1 - PROVIDE LOCK-ON DEVICE								55.4	19.8	19.0	16.6	
2 - PROVIDE LOCK-OFF DEVICE				Dmd	Conn			Bus KV				
		ROVIDE GFI BREAKER				4.2	Code L -					
4 - PROVIDE HACR BREAKER			5.3 3.4	3.4		Convenie	nce Rece	otacles (1	80 W)			
5 -				17.3	17.3		Receptac					
Panelboard Notes:				32.1	30.4		- Motors					
1-			Taneiboara Hotes.		52.1	30.4		Electric H		HOLOI VA	0014.0	
2 -								Kitchen E		Demand	100%	
3 -								Dwelling				
					50.4	55.4			Onius (HO	renmotel	NOOMS)	
4 -					58.1	55.4	Total KV	A				
5 -						+ Spare				%Spare		
SURFACE : Mounting			58	Adjusted KVA (Demand KVA + Spare KVA)								
EXISTING :			AIC Rating		70 75	Adjusted Demand Amps						
200			Amp Rating of Bus			High Phase Demand Amps			14-Apr-20			
MCB Main Lug Only (MLO) or Main Circuit Breaker (MCB)			Name: Project Number : Project N									
48	30	: Phase	to Phase Voltage		PAN	NEL P	042075	8-076-00	C	YCLE BA	R	

	ane		F (EXISTING)		VUILA			20/20			
					Code L	Code C				Code K	
No.	Amp/p		Description	Ph	VA	VA	VA	VA	VA	VA	VA
1	20/1	5	EXTERIOR SIGN	- A -	1200						
3	20/1	5	INTERIOR SIGN	- B -	1200						
5	20/1	5	INTERIOR SIGN	- C -	1200						
7	20/1	1,5	LIGHTING / EF-1, EF-2	- A -	634			274			
9	20/1		SPARE	- B -							
11	20/1		CEILING FANS	- C -				231			
13	20/1		RTU RECEPTACLES	- A -		360					
15	20/1		A/V RACK	- B -			1000				
17	20/1		A/V RACK	- C -			1000				
19	20/1		TRAINERS INSTRUCTION STATION REC.	- A -			360				
21	20/1		TIME CLOCK	- B -			200				
23	20/1		TELEVISIONS	- C -			400				
25	20/1		TELEVISIONS	- A -		_	400				
27	20/1		DUCT SMOKE DETECTOR	- B -			100				
29	20/1		GENERAL RECEPTACLES	- C -		360					
31	20/1		RESTROOM RECEPTACLES	- A -		360					
33	20/1		MODEM	- B -		180					
35	20/1		EF-3	- C -				83			
37	20/1		SPARE	- A -							
39	20/1		SPARE	- B -							
41	20/1		SPARE	- C -		1 200	_			\vdash	
2	20/1		OFFICE RECEPTACLES	- A -		360					
4	20/1		SPARE	- B -		_					
6	3	-	SPARE	- C -		_	4000				
8	20/1	3	WASHER	- A -		_	1000				
10	30/	3	DRYER "	- B -		_	2500				
14	20/1		SHOW WINDOW RECEPTACLES	_		720	2500				
16	20/1		TELEPHONE BOARD	- A -		360					
18	20/1		RECEPTION DESK	- C -		360					
20	20/1	3	FLOWATER REFILL STATION	- A -		300	800				
22	20/1	3	HI-LOW DRINKING FOUNTAIN	- B -		_	500		_		
24	20/1	3	CHECK-IN REEPTACLES	- C -		_	540				
26	20/1		GENERAL RECEPTACLES	- A -		360	340				
28	20/1		SPARE	- B -		300					
30	20/1	_	SPARE	- C -		-			_		
32	20/1		SPARE	- A -		-					
34	20/1		SPARE	- B -		_					
36	20/1		SPARE	- C -		-					
38	20/1		SPARE	- A -		-					
40	20/1		SPARE	- B -		_					
42	20/1		SPARE	- C -		-					
	ugh -		OI AILE	- A -		-			_		
	Lug		None	- B -		_					
	ection		None 	- C -		_					
	ain	_	100	_	1834	2160	2560	274	_		
			100	- A -	1200	540	4300	2/4			
pie	aker		3	- C -	1200	720	4440	314			
				-0-		_					_
	DDC::	IDE : C	Breaker Notes:	_	Conn I	KVA phas	e loads	Total	- A -	- B -	- C -
			CK-ON DEVICE			10		19.5	6.8	6.0	6.7
			CK-OFF DEVICE		Dmd	Conn			- Bus KV	loads	
			BREAKER		5.3	4.2	Code L -		2	-11	00.140
			CR BREAKER		3.4	3.4		Convenie			
5 -	CONT	KOL VI	A TIME CLOCK		11.3	11.3		Receptac			
			Panelboard Notes:		0.6	0.6		- Motors		notor VA	137.0
1 -								Electric F			
2 -								Kitchen E		Demand	
3 -							Code D	Dwelling	Units (Ho	el/Motel f	Rooms)
4 -					20.6	19.5	Total KV				
5 -						+ Spare				%Spare	
	FACE	: Mour	nting		21			emand KV	A + Spare		
SURFACE : Mounting EXISTING : Amps AIC Rating					57		Demand		- Spare	is very	
	111/01 -	100 : Amp Rating of Bus					and Amp	S	14-Δ	pr-20	
EXIS		· Amn	Rating of Bus		61	HIGH Pr	750 1101				
EXIS 10			Rating of Bus ug Only (MLO) or Main Circuit Breaker (MCB)		61 File I	Name:		Number:		oject Nam	

Voltage:

P (EXISTING)

Panel:



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MISSOURI STATE

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mechanical + electrical
consulting engineering
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DATE
2020.04.10
PROJECT NUMBER
A2276

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1.1 General conditions

A. The general, special, and other conditions of the architectural, mechanical and vendor documents shall be considered an integral part of these electrical

B. Reference to "contractor" in this specification shall mean "electrical contractor (EC)", unless otherwise noted. Work specified herein is the responsibility of the electrical contractor unless specifically noted otherwise. .2 Scope of work

A. Furnish labor, materials, equipment, tools, and other items necessary for, or incidental to, installation of a complete electrical system as required for this

B. Also include other work and miscellaneous equipment not specifically mentioned, but reasonably inferred, that are required for a fully functional and tested system. .3 Drawings and documents

A. The drawings and specifications form a complete set of plans for the electrica work for this project. What is required by either shall be as binding as if required by both. In the event the drawings and specifications are in conflict, the greater requirement or cost shall be included in bid, or if time, a clarification will be

B. Bidders shall examine other trade and equipment vendor drawings and specifications to avoid omissions, duplications, and to insure complete installation of electrical work.

C. The electrical drawings are diagrammatic and are intended to show approximate location only. Placement of electrical equipment and devices shall not interfere with locations or clearances of other trades' materials or equipment. Coordinate the placement of electrical devices with architectural plans, elevations and

D. The direct routing of conduits and wiring is not assured. Exact requirements shall be governed by the conditions of the project site. Extra lengths of wiring or the addition of pull or junction boxes, etc., necessitated by such conditions, shall

E. Drawing representations: conduits, circuiting, devices, speakers, etc., shown on the drawings as existing are based on existing plans and may not be installed as originally shown. Verify the accuracy of the "existing conditions" as shown on the drawings as the demolition work progresses. Perform modifications and additions as necessary to correct for these hidden conditions and allow for the completion of the work

.4 Codes, inspections, and fees

A. The completed electrical installation shall comply with the latest edition of the national electrical code as well as applicable federal, state, and local codes, regulations, and standards including interpretations by appropriate authorities having jurisdiction. Where the drawings and specifications call for workmanship or materials in excess of code or regulatory requirements, the drawings and specifications shall govern.

B. The work specified herein shall be subject to inspection and approval by state and local authorities having jurisdiction and the engineer. The contractor shall make the necessary arrangements to have the electrical work inspected by appropriate inspector(s) and shall provide two (2) copies of final signed "certificate of inspection" to the owner

C. Obtain and pay for licenses, permits, fees and charges for work installed by the contractor. Contractor is responsible to pay fees and charges levied by the electric utility company for connection to electric services.

.6 Conditions at the site

A. The electrical contractor is responsible for electrical job site safety, including safety of people and property during performance of work. This requirement will apply continuously and not be limited to normal working hours.

B. No act, drawing review or construction review by the owner, the engineers or their consultants, is intended to include review of the adequacy of the contractor's safety measures in, on, or near the construction site.

A. Examine the site and be familiar with existing building conditions and limitations prior to submitting bid. No extra payment will be allowed for work required because of these conditions, or if information is visible or readily attainable, for imitations or misunderstanding of existing conditions.

B. Discrepancies from these documents should be reported to the architect/engineer prior to bid.

A. Install electrical equipment and materials in a neat and competent manner by persons experienced and skilled in the trade. Haphazard or poor installation wil be cause for rejection of work. Exposed components of the electrical systems

shall be square and true with building lines and surfaces. B. Contractor shall be licensed in the state in which the project is located.

Workmanship and contractor qualifications

1.8 Coordination of work

A. Give careful consideration to the work of the general, mechanical and other contractors/subcontractors on the project. Organize and phase the electrical work so that it will not interfere with the work of other trades.

 B. Drawings and specifications for other trades and general construction drawings shall be consulted for coordination information, details, dimensions, etc Coordinate shafts, chases, furred spaces, suspended ceiling, locations of equipment, etc. The contractor shall review the mechanical-electrical drawings and equipment drawings of other disciplines, including data, security, audio-video, closed circuit television, paging, fire alarm, and kitchen. The contractor shall be responsible to report discrepancies between these drawings to the engineer prior to bidding for clarification. Solutions to unreported discrepancies will be determined by the engineer, with no additional compensation due to the contractor.

C. The location of equipment outlets and wiring shall be verified with the actual equipment or approved shop drawings prior to rough in work. Notify engineer of D. Dimensions given on the drawings shall take precedence over scaled dimensions. Dimensions, whether calculated or scaled, shall be verified in the

E. Check actual job conditions before fabricating work. Coordinate with other trades to avoid rework due to field conditions. Changes or additions, subject to additional compensation, which are made without written authorization and an agreed price, shall be at the contractor's risk and expense.

F. Coordinate routing of conduit and wire concealed in walls, soffits or ceilings installed by the general contractor. Coordinate work to conceal conduit and wire. G. Verify items such as door swings, window locations, casework, etc., before installing electrical equipment or devices.

H. Make minor adjustments to work where requested by the owner or the owner's representative when adjustments are necessary for proper operation and within the intent of the contract. Materials and equipment

A. Unless otherwise specified, material and equipment shall be new and manufactured by approved or listed manufacturers. Materials and equipment

shall meet the requirements of governing codes. B. All material and equipment shall be listed and labeled by Underwriters Laboratories, Inc. (UL), as conforming to its standards in every case where such a standard has been established for that type of material or equipment.

material or equipment before contracting to purchase such substitutes. The owner reserves the right to require the removal of material or equipment which does not have this written approval and which does not comply with the specifications, regardless of the state of installation of such equipment.

C. Obtain written approval seven days prior to bid, to use proposed substitute

D. Where equipment supplied by the contractor has characteristics other than as specified herein, the contractor shall, at no additional cost to the owner, remove and replace the electrical work necessitated by the substituted product.

A. Comply with the owner and general contractor requirements. Electrical work must conform with NEC Article 590, temporary installations.

B. Continuation of service: maintain continuity of existing equipment to remain. Maintain existing circuits of equipment energized. Restore circuits wiring which are to remain but were disturbed during demolition back to original condition. C. Electric power system: provide an electrical distribution system of sufficient size,

capacity, and power characteristics required for construction operations. D. Provide temporary electrical service as required for the project.

I. Utilize existing building electrical distribution if available, and supplement as required for the project conditions. 2. For service construction or service revisions, coordinate with the utility to provide temporary service for the duration of construction so as not to interfere with service construction. Pay for utility charges associated with the temporary service

E. Lighting: provide temporary lighting with local switching throughout the construction area. Provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

F. Where light fixtures exist in the area of construction, utilize existing lights and outlets as much as practical to meet these requirements. Clean and re-lamp each fixture used for temporary at end of construction. G.Remove the temporary installation of electrical equipment, raceway and wire at

the end of the project. Patch and seal sleeve openings. A. Where electrical work to remain is damaged or disturbed in the course of the

work, remove damaged portions and provide products of equal capacity, quality, B. Accessible work indicated as demolished: remove exposed electrical installation in its entirety. Removal of existing electrical distribution system equipment

includes equipment's associated wiring, including conductors, cables, exposed

conduit, surface metal raceways, boxes, and fittings, back to equipment's

C. Abandoned raceway and conduits: where raceway and conduits are shown as abandoned on the drawings; disconnect existing concealed wiring from its source. Remove wiring, cap and label conduit ends. Cut abandoned underground conduits below grade and seal openings. Patch surface to match

operational components indicated for relocation.

1.12 Cutting and patching A. Workmanship: lay out work in advance. Exercise care where cutting channeling, chasing, or drilling of floors, walls, partitions, ceilings, or other

D. Temporary disconnection: remove, store, clean, reinstall, reconnect, and make

surfaces is necessary for proper installation, support, or anchorage of conduit, raceways, or other electrical work. Repair damage to buildings, piping, and equipment using skilled craftsmen of trades involved

B. Perform core drilling, cutting and patching necessary for the completion of the electrical work for this project. No structural members shall be disturbed without obtaining written permission of the engineer. Fill abandoned and unused core

C. Surfaces which are disturbed by the contractor shall be repaired and refinished to provide a surface equal in strength, durability, and appearance to the original D Where it is necessary to drill or cut concrete surfaces, the edges shall be sharply defined. Core holes shall be made with a rotary drill. Rectangular

concrete cuts shall be made with a concrete saw. Do not penetrate post tension slabs prior to x-raying floor. E. Penetrations through smoke, fire, hazardous area, or other rated separations shall be fire sealed to preserve the ratings of the separations.

F. All cutting, drilling, patching, repairing, and refinishing shall be done by persons skilled in appropriate trades.

G.Clean away rubbish and litter generated during electrical installation. 1.13 Maintenance manual and record drawings

A. Furnish the owner with a minimum of two (2) printed copies and two (2) digital data DVD's of a manual covering the operation and maintenance of equipment provided under this contract. Submit additional copies as required by the eneral contract. The manuals shall be in a 3-ring, loose leaf, heavy duty binder and submitted to the architect/engineer for approval. Each manual shall contain

1. Complete manufacturer catalog data, manufacturer's literature, wiring diagrams. detailed operating instructions, and a complete listing of suppliers and distributors where replacement parts and maintenance services are available for installed equipment Include electrical shop drawings 2. Physical description and installation instructions, user's manual and operating 3. Replaceable parts list. Include the light fixture schedule with replacement lamps per fixture type.

4. Inspection certificates, signed by the appropriate inspector.
5. Full listing of product warranties and extended warranties with registration and 6. Data dvd with indexed pdf documents of items in the manual.

B. Markup a set of construction documents as work progresses. Show actual circuit routing with dimensioned information, sizes, types, etc., equipment location changes, and other changes or deviations between project work, as built, and the contract documents. Markings shall be neat, legible, and permanent. Transfer applicable markings to a second set of documents and provide both sets of record documents to the owner for acceptance prior to final payment.

A. Upon completion of the work and at other times directed, remove materials and scrap generated by the electrical installation and leave the premises in a clean and orderly condition.

1.14 Clean-up

B. Clean electrical equipment interiors prior to energizing and before final acceptance. Clean light fixtures lenses, reflectors and trims. Repair, clean and touch up minor scratches or blemishes on factory painted equipment.

C.Damaged, dented or refurbished equipment shall be rejected and replaced at 1.15 Acceptance demonstration and training

A.Perform system start-up, testing and programming prior to owner's training. Do not schedule demonstrations until systems are fully operational and ready to B. Demonstrate to the owner the operation of the electrical installations. The timing of the demonstration will be determined by the owner upon completion of the

C. Properly set automatic time switches to perform switching operations in accordance with schedules provided by the owner's representative, and demonstrate (using the manufacturer's operating instructions) how to override, test and program lighting/systems.

1 16 Rebate programs A. Provide the owner with rebate forms, filled out with applicable project information, for utility or product rebate programs to which the owner is eligible. 1.17 Guarantees and warranties

A. Furnish the owner with a written guarantee for the period of one (1) year against the failure of part of the electrical systems installed due to faulty material or workmanship, without charges, to the owner. Guarantee period to start upon substantial completion or as specified under general and special conditions.

ncandescent and halogen lamps are excluded. B. Pass one extended warranties or product warranties exceeding one (1) year to

PART 2 - Products 2.1 General

A. All materials must be new and bear underwriter's laboratories (UL) labe Materials that are not covered by UL testing standards shall be tested and approved by an independent testing laboratory or a governmental agency. Material not in accordance with these specifications may be rejected either

B. All equipment and device terminals and lugs rated for 60/75 or 75 degrees c.

2.2 Low voltage conductors and cables A. Copper conductors complying with NEMA WC 70/ICEA S-95-658. B. Aluminum conductors are prohibited.

C.Insulation type: XHHW, XHHW-2, THHW, THHN, or THWN-2, color coded,

D. Conductor sizes are american wire gauge (AWG) or circular mils (kcmil) as follows:

. #10 AWG and larger shall be stranded copper. 3. Branch circuits must be color coded, color impregnated wire.

E. Ac, core clad or romex cables are not allowed.

F. Metal-clad cable type mc with green ground conductor allowed only where noted

G.Cord drops and portable appliance connections: type SO, oil proof, hard service cord with stainless steel, wire-mesh, strain relief device at terminations to suit

2.3 Control voltage conductors and cables A. Where indicated on the drawings, provide cables along with associated

1. UTP cable: plenum rated, type CMP category 6, 100-ohm, four-pair. Listed and labeled complying with UL 444 and NFPA 70. UTP cable connecting hardware: IDC type, using modules designed for punch-down caps or tools.

2. Coaxial cable for CATV, MATV and DBS (less than 50' total length): rg-59 20 /G, solid, copper-covered steel conductor; gas-injected, foam-pe insulation Double shielded with 100 percent aluminum-foil shield and 40 percent aluminum braid. Plenum rated, type CMP.

3. Coaxial cable for CATV, MATV and DBS (50'or greater total length): rg-6: 16 AWG, solid, copper-covered steel conductor; gas-injected, foam-PE insulation. Double shielded with 100 percent aluminum-foil shield and 60 percent aluminum braid. Plenum rated, type CMP.

B. Control circuits: conductors not installed in conduit or armor jacketed cable must

1. Class 1 control circuits: stranded copper, type THWN or XHHN, in raceway or cable with armor jacket 2. Class 2 control circuits: stranded copper, type THWN or XHHN, in raceway or power-limited cable concealed in building finishes; in cable tray or on hangers above accessible ceilings. 3. Class 3 remote-control and signal circuits: stranded copper, type TW or type TF, complying with UL 83. In raceway or power-limited cable concealed in building

finishes; in cable tray or on hangers above accessible ceilings. 2.4 Grounding and bonding A. Circuits, metal raceway systems, and other permanently installed electrical

equipment shall be solidly grounded in accordance with the national electrical code to form a continuous, permanent and effective grounding system. B. Grounding electrode conductor connections shall be made with solderless pressure type fittings. Where welded connections are practical, connections may be made by the use of suitable welding process. Make connections in strict

C. Bond flexible raceway sections with a bare ground conductor separate from the equipment grounding conductor installed with the branch or feeder conductors. Install an external ground conductor with grounding bushings where required. D. Isolated ground conductors: green colored insulation with continuous yellow

E. Ground rods: 10'x3/4" copper clad steel. Ground rods at exterior area

lights: 8'x5/8" copper clad steel.

2.5 Hangers and supports

A. For individual conduit runs not directly fastened to the structure, use threaded rod and hangers manufactured by Caddy®, Unistrut® Or Powerstrut®. B. Galvanized steel slotted channel support systems with fittings and supports by the same manufacturer.

2.6 Raceways and outlet boxes

A. Provide raceways, fittings, connectors and accessories for a complete raceway

. Rigid metal conduit (RMC): hot-dipped galvanized. 2. Intermediate metal conduit (IMC): hot-dipped galvanized. Electrical metallic tubing (EMT): electro-galvanized.

plyvinyl chloride conduit (PVĆ) schedule 40 for below grade installations. Wireways: enamel finish, hinged type. Flexible metallic conduit: for final connection in dry locations less than 6'lengths Liquid tight flexible metal conduit: for final connection in damp or wet locations

B. Minimum electrical conduit size: 1/2". Minimum branch circuit or feeder home run: ¾"c. Minimum control voltage and miscellaneous systems conduit: ¾"c.

C.Provide fittings and accessories approved for the purpose, listed for use, with the type conduit or raceway. EMT connectors and couplings shall be steel

setscrew type indoors and steel compression type in damp or wet locations and D. Special colors: fire alarm conduits factory applied red coating.

E. Outlet boxes: 4" square x 1-1/2" deep (or larger) galvanized sheet steel KO-type with plaster ring and cover for general interior use. Cast metal type fs or fd with matching screw covers for exterior and exposed interior locations (gasketed in damp or wet locations). Larger boxes as required; sized for NEC fill

F. Junction boxes shall be same as outlet boxes up to 42 cu. In. Use code-gauge steel in larger sizes with surface or flush-type screw-mounted trim covers. Boxes and covers painted with inhibitor-primed paint inside and out.

G.Pull boxes shall be same as junction boxes unless indicated otherwise on the

drawings, with covers. H. Voice, data and miscellaneous low voltage system outlet boxes shall be the type and size required by the system vendor but not smaller than 4-11/16" square x 2-1/8" deep with single-gang ring. Other configurations

I. Light fixtures shall not be used as a raceway unless listed and marked as a raceway in accordance with NEC article 410.64 and as noted in Part 3 -

J. Electrical conduit installations must be supported per NEC and not exceed 10 K. Floor boxes (in concrete): See plans for specification and devices. Each system to have independent compartments and flip up covers.

L. Poke through assemblies: factory fabricated multi-channeled through floor raceway/firestop with complying with UL 514 scrub water exclusion. See plans for service devices and plate construction

M.Service poles: factory assembled two compartment channels extending from

floor to 6" above ceiling. Steel with baked white enamel or anodized satin N. Surface metal raceways: two compartment steel, devices and finish color as indicated on plans, Wiremold AL5200 or equal. other types of surface metal raceways are as specified on plans.

2.7 Underground raceways and boxes

A. Schedule 40 PVC electrical conduit for below grade installations with fittings and accessories by the same manufacturer 1. Schedule 80 PVC electrical conduit, fiberglass electrical conduit, concrete encased electrical tonduit, concrete capped electrical conduit or concrete duct banks as shown on the drawings.

B. Exterior branch circuit or feeder handholes must be cast fiberglass resin with open bottom and heavy duty bolted cover for non-vehicle or non-pedestrian traffic surfaces C. Exterior branch circuit or feeder handholes installed in sidewalks, roadways or parking lot subject to pedestrian or vehicle traffic: precast handhole/manhole, manhole cover and accessories as shown on the drawings.

2.8 Identification and labeling A.Label control devices and device enclosures with individual name plates or

B. Individual name or legend plates: black laminated plastic plates with white cut etters. Paper, foil or tape markers attached with adhesives shall not be used. C.Engraved, laminated acrylic or melamine label, punched or drilled for screw mounting. White letters on a dark-gray background. Minimum letter height shall be 3/8 inch. Label the following equipment:

 Panelboards, electrical cabinets, and enclosures Access doors and panels for concealed electrical items. Electrical breakers in existing distribution panels. Emergency system boxes and enclosures. Enclosed circuit breakers

Motor starters. Push-button stations Remote-controlled switches, dimmer modules, and control devices. Panels, terminal cabinets, and racks.

D. Fire alarm system: boxes and covers painted red; factory applied red coating for fire alarm conduits. E. Accessible raceways and cables of auxiliary systems: identify the following

systems at panel and junction box locations within each room as follows: . Fire alarm system: red boxes and covers. Red conduit. 120/208 volt: mark covers with panel and circuit numbers.
 277/480 volt: mark covers with panel and circuit numbers.

F. Receptacles: identify panelboard and circuit number from which served. Use pre manufactured hot stamped or engraved machine printing with black filled

lettering on face of plate, and durable wire markers or tags inside outlet boxes. 2.9 Lighting control devices

A. Electronic time switches: solid state, programmable unit, alphanumeric display and multiple channels for exterior lighting control. Allow connection of a photoelectric relay for on/off control of selected channels. B. Outdoor photoelectric switches: solid state with dry contacts and metal oxide surge suppressor. Light-level monitoring range from 1.5 to 10fc with adjustable

levels for on/off controls. C. Automatic lighting control devices: operation shall either turn lights on manually or automatically controlled to turn on less than 50% lighting power with the remaining lighting power turned on manually; lighting shall turn off when unoccupied, with a time delay for turning lights off adjustable over a range of 1 to 15 minutes. The following spaces are exceptions and allow full on automatic control: public corridors and stairwells, restrooms, primary building entrances and lobbies, and areas where manual on operation would endanger the safety and/or security of the building or occupants. Full on automatic control shall turn ights on when coverage area is occupied, and turn them off when unoccupied with a time delay for turning lights off, adjustable over a minimum range of 1 to

1. Indoor photoelectric switches: ceiling mounted solid state light level sensor 2. Indoor occupancy sensor: wall or ceiling mount as indicated on plans. Dual technology solid state occupancy sensor with separate power pack.

D. Wall box occupancy sensors: adaptive technology with time delay, quantity of integral switches as shown on the drawings (minimum of one (1) switch).

E. Lighting contactors: electrically operated and mechanically held, non- fused switch with 2 wire solid state control modules. F. Emergency shunt relay: normally closed electrically held with automatic switching contacts to bypass local room controls.

G.LED line voltage dimmers rated for quantity and type of fixtures shown on drawings. Divide lighting load into multiple switch legs and add additional dimmers to meet manufacturer's recommendation.

A.Dry-type general purpose transformers: 480v delta primary to 120/208v, 3 phase, 4 wire secondary with 2-5% taps above and below normal voltage. 220deg c insulation, 150deg c rise, TP-1 energy code rated. Transformer grounding shall be per NEC. Additional K ratings, electrostatic shields, weather noods, specialty transformers, etc. As shown on the drawings.

1. Wet or outdoor locations: totally enclosed, non-ventilated, resin encapsulated core

100-400 ampere, I-line style for 400 ampere - 800 ampere or equal by Eaton, B. Dead front safety type with enclosures of code grade steel. Oversize gutters shall be provided for feed through where indicated or required. Where double ugs are not permitted by local code, a suitable pull box or gutter adjacent to panels shall be provided for connections.

C. Trim and flat locking doors with both hinges and trim clamps completely

A. Panelboards: Schneider electric style #NQ (120/208v) and #NF 277/480v) for

concealed, door in door construction, flush cover door locks common keyed. Provide two (2) keys for each panelboard. Mount a clear plastic-covered typewritten circuit directory in a card holder attached to the inner side of the door. Provide engraved laminate nameplates stating panelboard name and voltage. Where panelboards are in public areas, mount identification plates D. 98 percent electrolytic copper or 55 percent conductivity aluminum busses independently supported (without dependence upon the circuit

breakers). Where breakers and/or switches are listed in the schedules

as "space only", include extended bus and mounting provisions.

E. Bolt-on circuit breakers with bolted line and load terminals, quick-make, quick-break, thermal magnetic, common trip on multi-pole breakers and minimum ul short circuit rating as shown on the drawings. Each breaker shall have its current rating engraved, in easy to read numbers, on the toggle handle. UL listed "swd" switching duty for lighting switching control. UL listed HACR rated for motor or high inductance loads

F. Fusible factory assembled panelboards shall be Schneider electric GMB for 225 ampere to 1600 ampere or equal by Eaton, GE, or Siemens with requirements

1. Trims: 4 piece without door for NEMA 1; with door where noted on the drawings or 2. Fused switches: NEMA KS 1, type HD. Twin, side by side mount for 30a-200a. Single mount for 400a and above 3. Furnish rejection fuses as noted in 2.14 below.

A. Wiring devices shall be installed in metal device boxes.

2.12 Wiring devices

B. Switches and receptacles shall be Hubbell, Bryant, Leviton, Pass & Seymour, or approved equal subject to approval by the engineer/architect, color shall be vory for normal power. Special color device outlets and matching cover plate as

C. Switches shall be general duty grade, federal specification fs, ac quiet type,

20-amp, 120/277-volt, with silver alloy contacts, equal to Hubbell #5362. D. General purpose duplex receptacles shall be general duty grade, federal specification fs, NEMA 5-20r, 20-amp, 125-volt, 3-wire grounding type devices with steel one piece ground strap; third pole grounding to the outlet box. Fed

E. Ground fault circuit interrupter (GFI) duplex receptacles: heavy duty grade, federal specification fs, 20-amp devices. GFI receptacles unit self-contained and not be connected to feed through unless specifically noted

F. NEC weather resistant rating in damp or wet locations, suitable for "while-in-use" applications.

G. Tamper resistant rating in areas required by the NEC. H. AFCI outlets where required by the NEC.

I. Isolated ground receptacles: orange in color or orange triangle on face. J. Surge protective device (SPD): type 3 duplex receptacle with indication light and audible alarm.

K. Cover plates: shall be ivory as manufactured by Eagle, Bryant, General Electric, 1. Special color plastic cover plates to match to style line type receptacles as noted

on the plans. L. GFCI protected with "while-in-use" weatherproof cover plates for outdoor weatherproof duplex receptacles.

A. One-time cartridge fuses manufactured by Busman, Gould Shawmut, or Little B. Furnish and install fuses of the types and ratings designated in the drawings

and specifications in each fusible device installed by the contractor. . Feeder and branch circuits class RK1 time delay. Motor circuits class RK5 time delay.

Control circuit fuses must be time delay

2.14 Enclosed switches, circuit breakers and controllers A. Disconnect switches: heavy duty, ac, single throw safety switches, built in accordance with NEMA requirements with a voidable full cover interlock and quick-make, quick-break mechanism. Each switch shall be fusible unless non-fusible (NF) is specifically indicated. NEMA 1 enclosures in dry locations and NEMA 3R where exposed to the weather. Furnish neutral lug kit when

circuit has a neutral. B. Provide auxiliary contacts to shut down VFD prior to disconnecting power. Provide rejection fuses where noted. C. Full voltage non reversing starters size 0 minimum.

penetration with fire retardant sealant specified herein.

2. Roof or exterior wall: avoid penetrating roof or exterior wall where possible. Where D. Starters must be combination starters with molded case circuit breaker or fused disconnect, as noted on the drawings, with fused control transformer, auxiliary contacts, cover mounted HOA and pilot lights. penetrations are necessary, building weatherproof integrity must be preserved.

3. Sound insulated or air plenum wall: install conduit in conduit sleeve and seal

protected motors. F. Multi-pole horse power rated switches or enclosed circuit breakers in flush NEMA 1 enclosures where a means of disconnect is required in finished spaces. G. All devices NEMA rated for the environment they are located.

E. Fractional HP starters quick make quick break single pole switches for integrally

2.15 Lighting fixtures A. Fluorescent fixtures: high efficiency lamps and multi-volt electronic ballasts Provide programmed start ballasts with end of life circuitry on occupancy sensor controlled fixtures. Verify that the lighting supplier has provided ballast disconnect switch per NEC. 410.130(g)(1) for fluorescent fixtures.

C.Emergency fluorescent power unit: self-contained, modular nickel-cadmium inverter unit to operate fluorescent lamps continuously at 1100 lumens for 90 minutes. lamps in emergency fixtures must be connected to the inverter unit. D. LED fixtures: light engine drivers as specified on the drawings.

B. Dimming ballasts must be 0-10v compatible with the dimming controller

A.Install an empty conduit, back box and junction box system for installation of voice and data system. See sheet LOW1 for cabling plan and provide all cables

and connections for a fully operational system.

PART 3 - Execution 3.1 General A. Electric system layouts indicated on the drawings are generally diagrammatic

and shall be followed as closely as actual construction and work of other trades

will permit. Govern exact routing of cable and wiring and the locations of outlets by the structure and equipment served. Use dimensions from architectural

B. Consult other drawings, verify scales and report dimensional discrepancies or other conflicts with architect before submitting bid. C. All home runs to panelboards are indicated as starting from the outlet nearest

the panel and continuing in the general direction of that panel. Continue such circuits to the panel as through the routes were completely indicated. Terminate homeruns of signal, alarm and communication systems in a similar manner. D. Avoid cutting and boring holes through structure or structural members wherever possible. Obtain prior approval of structural engineer and conform to structural requirements when cutting or boring the structure is necessary and

E. Furnish and install necessary hardware, hangers, blocking, brackets, bracing, runners, etc., required for equipment specified under this section.

F. Provide necessary backing required to insure rigid mounting of outlet boxes.

3.2 Low voltage power conductors and cables A. Provide #12 branch circuit conductors for 120v, 20 amp circuits less than 75' (100' for 277v circuits). Provide a minimum #10 branch circuit conductors for 120v, 20 amp circuits over 75' (100' for 277v circuits) and increase conductor

and conduit size to limit voltage drop to 3% maximum. B. Where more than three current carrying conductors are installed in a single raceway (e.g. combining multi-circuit homeruns), conductor ampacity shall be de-rated as required by the NEC. C. Provide dedicated neutral conductors for each120v and 277v branch circuit unless specifically noted otherwise on the plans.

D. Feeder and branch circuit conductors must be stranded copper, single conductors in raceway. E. Megger and record insulation resistance of 600 volt insulated conductors size #3/0 and larger using 500 volt megger for one minute. Make tests with circuits

F. Metal clad cable with green ground conductor allowed only for the following Above accessible ceilings for final connections from junction boxes to light fixtures not exceeding 6' in length. 2. Final connection not exceeding 6' in length to rotating or vibrating equipment.

3. Allowed for branch circuits fished into existing wall construction.

4. Allowed in casework or built up structures where flexibility is required. 3.3 Control voltage conductors and cables A. All control voltage cables installed in a metal box and raceway system to an

accessible ceiling or cable tray.

B. UTP cables shall be terminated with connecting hardware of the same category C.Minimum conduit size is 3/4" with larger sizes noted on plan. Install plastic bushing on conduit ends. D. RG-59: use for single device with cable length less than 50' or from a tap or splitter less than 50'.

E. RG-6: use for connecting or splitting to more than one device and after a tap or splitter 50' or greater in length. F. Group and bundle low voltage cables and provide support independent of ceiling supports. Utilize D rings, J hooks or approved nylon straps to hold cables and provide supports independent of the ceiling supports.

3.4 Grounding and bonding

3.5 Hangers and supports

mounted electrical equipment.

1. Damp or wet locations: IMC or RMC

A. Enclose electrical power wiring in conduit

B. Permitted uses for EMT, IMC or RMC as follows:

C. Use flexible conduits in the following applications:

Conduit cast in concrete floors are not allowed

noted on plans. Conceal conduit connections.

Run conduit concealed unless otherwise noted or shown

G.Install nylon pull cords in empty conduits.

total bends between pull boxes.

. Above ground: use EMT, IMC or RMC only. 2. Locations subject to mechanical injury. IMC or RMC only

. Dry locations and not subject to mechanical injury: EMT, IMC or RMC.

4. In damp or wet locations flexible connections must be liquid tight type.

E. Conduit below grade must be PVC, IMC or RMC. F. Fittings for EMT shall be steel compression type or steel set-screw type. Die

H. Conduit installation for low voltage systems to have a maximum of 180 degrees

I. Provide expansion fittings crossing expansion joints or spanning between

J. Install surface raceways with required fittings, accessories and device outlets

Run conduit parallel to or at right angles to center lines of columns and beams.
 Conduits above ceiling shall not obstruct removal of ceiling tiles, lighting fixtures,

4. Conduits shall not cross duct shaft or area designated as future duct shaft

1. Support conduits with underwriter's laboratories listed steel conduit supports at

intervals required by the national electric code. Wires or sheet metal strips are not

acceptable for conduit support. Use conduit hangers for conduits not directly

2. Avoid attaching conduit to fan plenums. When it is necessary to support conduit

fastened to structure and for multiple conduit runs. Do not attach conduit to

from fan plenum, provide a length of flexible conduit between portions attached to

fan plenum and portion attached to the building to minimize transmission of vibration to the building structure.

1. Fire rated floor or wall: install conduit in conduit sleeve or framed opening. Seal

4. Non-fire rated dry wall: conduit sleeves are not required. Penetrations must be

Suspended ceiling: cut hole as small as possible to permit conduit penetration. Provide escutcheon for each conduit below ceiling.

sealed with plaster prior to painting. Penetrations made after wall finish is applied

must be as small as possible and provided with escutcheons, one on each side of

1. Provide outlet boxes and pull boxes as required to accommodate lighting and

3. Outlet boxes used for line voltage incandescent and halogen wall box dimmers

may not be ganged unless noted on the drawings. Where wall box dimmers are

4. Provide cast steel floor boxes to accommodate power and data connections to

1. Adjust floor service outlets and service poles to suit arrangement of partitions and

A. Underground conduits shall be schedule 40 PVC, IMC or RMC buried in earth. Transitions through concrete slabs, pre manufactured bends or elbows must be IMC or RMC conduit with corrosion protection.

B. Install underground traceable, plastic warning tape 12" above each feeder

C.Install exterior branch circuit or feeder handholes in landscape areas. Do not

A. Provide nameplates for switchgears, panelboards, and similar devices Nameplates shall be screwed (no adhesive) engraved plastic or photo-etched metallic nameplate identification showing panel designation, voltage and phase.

B. Provide machine labels on lighting switches and convenience and special purpose receptacles to show panel and circuit number to which the device is

C.Panelboard schedules: after completion of work, provide typewritten updated panelboard schedules in a metal framed circuit directory inside each panelboard

E. Provide Brady wire markers where number of conductors in a box exceeds four.

A. Controllers: furnish 120 volt power to each control panel and time switch

requiring a source of power to operate.

B. Pull the circuit neutral conductor to light switches. Provide dedicated neutral to

C. Testing Agency: Engage a qualified testing agency to evaluate lighting control devices and perform tests and inspections. Testing agency shall be independent of design, construction, and manufacture of equipment. Provide functional

testing and certification in accordance with the latest edition of ASHRAE 90.1.

A. Transformers mounted on neoprene pads to prevent vibration transmission. Transformers must be mounted on 4" concrete housekeeping

A. Where panelboards are flush mounted in walls, provide a minimum

B. Circuit numbers appearing on drawings shall be used for reference only. Actual

B. Furnish and install wall plates for flush mounted wiring devices and flush mounted special system outlets. Sectional wall plates shall not be used. Blank

C. Furnish and install outlets for and make final electrical connections to electrically

A. Furnish and store, at a location directed by the owner, three (3) spare fuses of each size and type installed during this project. The contractor shall provide a

plates shall be installed over outlets provided for future use. Wall plates shall be

of 4-1" conduits stubbed to an accessible ceiling above the panel for future use.

connections shall be in accordance with phasing of the cabinet and load

palance requirements. Room numbers or names used for circuit identification

shall corresponded to name plates installed on room doors by the general

contractor or as selected by the owner and shall be verified as these may not be

install in sidewalks, roadways or parking lot subject to pedestrian or vehicle

5. All outlet boxes shall be two-gang or 4" square x 2" deep minimum with plaster

6. Exterior boxes for branch circuits must be cast aluminum with threaded hubs.

O.Floor boxes, poke-through, service poles and multi-outlet assemblies

shown ganged or grouped under one cover with other switches, de-rate the

receptacle branch circuit wiring.

Outlet boxes must not be installed back-to-back.

free standing equipment and furniture partitions.

conduit or groups of branch circuit conduits.

3.7 Underground raceways and boxes

3.8 Identification and labeling

cover, with plastic protector.

3. 277/480v brown, orange, yellow, gray, green.

. Voltage phase A phase, B phase, C phase, neutral, ground. 2. 120/208v black, red, blue, white, green.

pads or trapeze hung as noted on the drawings.

C. Top of panelboard tubs shall be 6'-6" above finished floor.

A. Install with the ground pin or neutral blade at the top.

D. Color code wires as follows:

3.9 Lighting control devices

3.10 Dry type transformers

3.12 Wiring devices

each individual control.

limmers per manufacturer's installation instructions.

horizontally. Conduit riser, when allowed in duct shaft must be coordinated with

3.6 Raceways and outlet boxes

. Recessed lighting fixtures

cast fitting are not allowed.

isolated structures.

I. Conduit supports:

mechanical ducts or pipes

M.Conduit penetration:

K. General conduit installation:

mechanical work or avoid conflict.

. Motor connections.

At building joints

A. The building and electrical systems shall be grounded and bonded in accordance with the NEC, IEEE and best practices. B. Electrical service and separately derived alternating current systems shall be grounded in accordance with NEC article 250.

C. All feeder and branch circuits shall have a green copper ground conductor run with the phase and neutral conductors.

E. Provide a minimum #6 copper ground conductor, or larger as indicated on the

A. Conduit and cable support devices must be steel with hangers and supports

B. Fabricated metal equipment support assemblies must be bolted structural steel

or steel slotted support systems calculated by a registered structural engineer.

C Concrete bases installed by the electrical contractor. Base must be nominally

3000 psi concrete with dimensions noted on the drawings. Install for floor

suitable for raceway or cable must be supported.

drawings, and a 12" ground bus at telecommunication demarcation location.

D. Bonding interior metal ducts: bond metal air ducts to equipment grounding conductors of associated fans, blowers, electric heaters, and air cleaners, Instal inned bonding jumper to bond across flexible duct connections to achieve

D. Furnish and install a disconnect switch immediately ahead of and adjacent to

E. Provide a fused disconnect switch on transformer secondary where secondary conductors exceed 25' from terminal to secondary overcurrent device.

ratings as shown on the drawings and as specified in equipment schedules. 3.15 Lighting fixtures

1. Pendants and rods: where longer than 48 inches, brace to limit swinging. 2. Stem-mounted, single-unit fixtures: suspend with twin-stem hangers.

owner prior to final turnover or at substantial completion. D. Lighting fixtures must have individual feeds to each fixture except for tandem fixtures. "daisy-chaining" of fixtures not allowed. The lighting fixture whips must

A.By contractor. Contractor to provide signed and sealed fire alarm drawings, calculations, and documentation as required by local Authority Having Jurisdiction.

A. For each telephone, data or telephone/data outlet indicated on the drawing provide a 4-11/16" square by 2-1/8" deep box with single gang ring, and 1-1/4" conduit concealed from device to the nearest accessible ceiling, floor space or accessible access panel in hard ceilings, unless noted

B. Install conduit bushings on conduit ends. Install pull cord in conduits

D. The contractor shall coordinate the installation and schedule for low voltage systems of this section with the owner and adjacent affected tenants. The contractor shall run necessary conduits with pull wires, pull and junction boxes.

F. Provide 120v connections to equipment as required. Install 120v receptacle adjacent to each voice and data system outlets.

End of section

3.14Enclosed switches, circuit breakers and controllers

A. Obtain exact information pertaining to location, electrical characteristics, and wiring for equipment furnished by others from the contractor furnishing the equipment. This information shall be verified by examining nameplates and manufacturer's wiring diagrams. Discrepancies between the equipmen requirements and the provisions made by these specifications shall be reported. Equipment damaged as a result of the contractor's failure to observe nanufacturer's requirements shall be replaced or repaired by the contractor. The thermal protection elements in manual starters shall be rechecked with name plate data at the site before operation of the equipment. Where necessary, the thermal protection elements shall be changed to properly protect

B. Furnish and install manual thermal protection for motors not integrally equipped

C. Furnish and install final electrical connections to motors and electrically powered equipment indicated on the plans or equipment schedule.

each magnetic motor starter or appliance unless the motor appliance is located adjacent and within sight of the serving panelboard, circuit breaker or switch. Verify equipment nameplate current ratings prior to installation.

F. Furnish and install disconnect switches having the number of poles and ampere

A. Lighting fixtures: set level, plumb, and square with ceilings and walls complying with NFPA 70 for fixture supports. Provide lamps in each fixture. B. Suspended lighting fixture support:

C. Adjust and aim lighting fixtures to provide required light intensities on vertical surfaces or at directions noted on drawings. Provide additional adjustments for

be 6-feet long or less. 910 NW BLUE PARKWAY 3.16 Fire alarm system

C. The owner shall furnish and install the wire, cable, connecting devices, and provide testing for wiring systems must be used as signal pathways for low voltage systems specified in this section, where called for in the drawings.

E. Where low voltage systems pass through another tenant space or area not controlled by the owner, the contractor shall install complete conduit system in those spaces for the owner's wiring.

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