

- 1.1 PROJECT MANAGEMENT AND COORDINATION: COORDINATE CONSTRUCTION OPERATIONS INCLUDED IN DIFFERENT SECTIONS OF THE SPECIFICATIONS TO ENSURE EFFICIENT AND ORDERLY INSTALLATION OF EACH PART OF THE WORK. COORDINATE CONSTRUCTION OPERATIONS, INCLUDED IN DIFFERENT SECTIONS, THAT DEPEND ON EACH OTHER FOR PROPER
- INSTALLATION, CONNECTION, AND OPERATION. A. ADMINISTRATIVE PROCEDURES: COORDINATE SCHEDULING AND TIMING OF REQUIRED ADMINISTRATIVE PROCEDURES WITH OTHER CONSTRUCTION ACTIVITIES TO AVOID CONFLICTS AND TO ENSURE ORDERLY PROGRESS OF THE WORK.
- B. CONSERVATION: COORDINATE CONSTRUCTION ACTIVITIES TO ENSURE THAT OPERATIONS ARE CARRIED OUT WITH CONSIDERATION GIVEN TO CONSERVATION OF ENERGY, WATER, AND MATERIALS. COORDINATE USE OF TEMPORARY UTILITIES TO MINIMIZE WASTE.
- C. REQUEST FOR INFORMATION (RFIS): IMMEDIATELY ON DISCOVERY OF THE NEED FOR ADDITIONAL INFORMATION OR INTERPRETATION OF THE CONTRACT DOCUMENTS, CONTRACTOR SHALL PREPARE AND SUBMIT AN RFI IN THE FORM
- ALL RFI'S SHALL BE SUBMITTED FROM THE CONTRACTOR. ARCHITECT WILL RETURN RFIS SUBMITTED TO ARCHITECT BY OTHER ENTITIES CONTROLLED BY CONTRACTOR (I.E. SUBCONTRACTORS) WITH NO RESPONSE. COORDINATE AND SUBMIT RFI'S IN A PROMPT MANNER SO AS TO AVOID DELAYS IN CONTRACTOR'S WORK OR WORK OF SUBCONTRACTORS.
- 2. ARCHITECT'S ACTION: ARCHITECT WILL REVIEW EACH RFI, DETERMINE ACTION REQUIRED, AND RESPOND. ALLOW TWO WORKING DAYS FOR ARCHITECT'S RESPONSE FOR EACH RFI (5 WORKING DAYS FOR RFI'S WITH MULTIPLE INQUIRES). RFI'S RECEIVED BY ARCHITECT AFTER 1:00 P.M. WILL BE CONSIDERED AS RECEIVED THE FOLLOWING WORKING DAY.
- a. THE FOLLOWING RFIS WILL BE RETURNED WITHOUT ACTION:
- REQUESTS FOR APPROVAL OF SUBMITTALS. REQUESTS FOR APPROVAL OF SUBSTITUTIONS.
- 3) REQUESTS FOR COORDINATION INFORMATION ALREADY INDICATED IN THE CONTRACT DOCUMENTS.
- 4) REQUESTS FOR ADJUSTMENTS IN THE CONTRACT TIME OR THE CONTRACT SUM. 5) REQUESTS FOR INTERPRETATION OF ARCHITECT'S ACTIONS ON SUBMITTALS.
- INCOMPLETE RFI'S OR INACCURATELY PREPARED RFI'S.
- ARCHITECT'S ACTION ON RFI'S THAT MAY RESULT IN A CHANGE TO THE CONTRACT TIME OR THE CONTRACT SUM MAY BE ELIGIBLE FOR CONTRACTOR TO SUBMIT CHANGE PROPOSAL ACCORDING TO ARTICLE "CONTRACT MODIFICATION" PROCEDURES.'
- 4. IF CONTRACTOR BELIEVES THE RFI RESPONSE WARRANTS CHANGE IN THE CONTRACT TIME OR THE CONTRACT SUM,
- NOTIFY OWNER REP (COPY ARCHITECT) IN WRITING WITHIN SEVEN DAYS OF RECEIPT OF THE RFI RESPONSE. 5. RFI LOG: PREPARE, MAINTAIN, AND SUBMIT A TABULAR LOG OF RFIS ORGANIZED BY THE RFI NUMBER.
- 1.2 QUALITY REQUIREMENTS
- A. CONFLICTING REQUIREMENTS
- 1. REFERENCED STANDARDS: IF COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED AND THE STANDARDS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE MOST STRINGENT REQUIREMENT. REFER CONFLICTING REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, TO ARCHITECT FOR A DECISION BEFORE PROCEEDING.
- 2. MINIMUM QUANTITY OR QUALITY LEVELS: THE QUANTITY OR QUALITY LEVEL SHOWN OR SPECIFIED SHALL BE THE MINIMUM PROVIDED OR PERFORMED. THE ACTUAL INSTALLATION MAY COMPLY EXACTLY WITH THE MINIMUM QUANTITY OR QUALITY SPECIFIED, OR IT MAY EXCEED THE MINIMUM WITHIN REASONABLE LIMITS. TO COMPLY WITH THESE REQUIREMENTS, INDICATED NUMERIC VALUES ARE MINIMUM OR MAXIMUM, AS APPROPRIATE, FOR THE CONTEXT OF REQUIREMENTS. REFER UNCERTAINTIES TO ARCHITECT FOR A DECISION BEFORE PROCEEDING.
- B. QUALITY ASSURANCE 1. MANUFACTURER QUALIFICATIONS: A FIRM EXPERIENCED IN MANUFACTURING PRODUCTS OR SYSTEMS SIMILAR TO THOSE INDICATED FOR THIS PROJECT AND WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE, AS WELL AS
- SUFFICIENT PRODUCTION CAPACITY TO PRODUCE REQUIRED UNITS. 2. FABRICATOR QUALIFICATIONS: A FIRM EXPERIENCED IN PRODUCING PRODUCTS SIMILAR TO THOSE INDICATED FOR THIS PROJECT AND WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE, AS WELL AS SUFFICIENT PRODUCTION CAPACITY TO PRODUCE REQUIRED UNITS.
- 3. INSTALLER QUALIFICATIONS: A FIRM OR INDIVIDUAL EXPERIENCED IN INSTALLING, ERECTING, OR ASSEMBLING WORK SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THAT INDICATED FOR THIS PROJECT, WHOSE WORK HAS RESULTED IN CONSTRUCTION WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE.
- 4. PROFESSIONAL ENGINEER QUALIFICATIONS: A PROFESSIONAL ENGINEER WHO IS LEGALLY QUALIFIED TO PRACTICE IN JURISDICTION WHERE PROJECT IS LOCATED AND WHO IS EXPERIENCED IN PROVIDING ENGINEERING SERVICES OF THE KIND INDICATED. ENGINEERING SERVICES ARE DEFINED AS THOSE PERFORMED FOR INSTALLATIONS OF THE SYSTEM, ASSEMBLY, OR PRODUCT THAT ARE SIMILAR TO THOSE INDICATED FOR THIS PROJECT IN MATERIAL, DESIGN, AND
- 5. TESTING AGENCY QUALIFICATIONS: AN NRTL, AN NVLAP, OR AN INDEPENDENT AGENCY WITH THE EXPERIENCE AND
- CAPABILITY TO CONDUCT TESTING AND INSPECTING INDICATED, AS DOCUMENTED ACCORDING TO ASTM E 329; AND WITH ADDITIONAL QUALIFICATIONS SPECIFIED IN INDIVIDUAL SECTIONS; AND WHERE REQUIRED BY AUTHORITIES HAVING JURISDICTION, THAT IS ACCEPTABLE TO AUTHORITIES. a. NRTL: A NATIONALLY RECOGNIZED TESTING LABORATORY ACCORDING TO 29 CFR 1910.7.
- b. NVLAP: A TESTING AGENCY ACCREDITED ACCORDING TO NIST'S NATIONAL VOLUNTARY LABORATORY
- 6. MANUFACTURER'S TECHNICAL REPRESENTATIVE QUALIFICATIONS: AN AUTHORIZED REPRESENTATIVE OF MANUFACTURER WHO IS TRAINED AND APPROVED BY MANUFACTURER TO OBSERVE AND INSPECT INSTALLATION OF MANUFACTURER'S PRODUCTS THAT ARE SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THOSE INDICATED FOR THIS
- 7. FACTORY-AUTHORIZED SERVICE REPRESENTATIVE QUALIFICATIONS: AN AUTHORIZED REPRESENTATIVE OF MANUFACTURER WHO IS TRAINED AND APPROVED BY MANUFACTURER TO INSPECT INSTALLATION OF MANUFACTURER'S PRODUCTS THAT ARE SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THOSE INDICATED FOR THIS
- C. QUALITY CONTROL
- 1. OWNER RESPONSIBILITIES: WHERE QUALITY-CONTROL SERVICES ARE INDICATED AS OWNER'S RESPONSIBILITY, OWNER WILL ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM THESE SERVICES. a. COSTS FOR RETESTING AND REINSPECTING CONSTRUCTION THAT REPLACES OR IS NECESSITATED BY WORK THAT
- FAILED TO COMPLY WITH THE CONTRACT DOCUMENTS WILL BE CHARGED TO CONTRACTOR
- 2. CONTRACTOR RESPONSIBILITIES: TESTS AND INSPECTIONS NOT EXPLICITLY ASSIGNED TO OWNER ARE CONTRACTOR'S RESPONSIBILITY. PERFORM ADDITIONAL QUALITY-CONTROL ACTIVITIES REQUIRED TO VERIFY THAT THE WORK COMPLIES WITH REQUIREMENTS, WHETHER SPECIFIED OR NOT
- MANUFACTURER'S FIELD SERVICES: WHERE INDICATED, ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT FIELD-ASSEMBLED COMPONENTS AND EQUIPMENT INSTALLATION, INCLUDING SERVICE CONNECTIONS. REPORT RESULTS IN WRITING AS SPECIFIED IN "SUBMITTAL PROCEDURES" ARTICLE.
- 4. MANUFACTURER'S TECHNICAL SERVICES: WHERE INDICATED, ENGAGE A MANUFACTURER'S TECHNICAL REPRESENTATIVE TO OBSERVE AND INSPECT THE WORK. MANUFACTURER'S TECHNICAL REPRESENTATIVE'S SERVICES INCLUDE PARTICIPATION IN PREINSTALLATION CONFERENCES, EXAMINATION OF SUBSTRATES AND CONDITIONS. VERIFICATION OF MATERIALS, OBSERVATION OF INSTALLER ACTIVITIES, INSPECTION OF COMPLETED PORTIONS OF THE WORK, AND SUBMITTAL OF WRITTEN REPORTS.
- 5. RETESTING/REINSPECTING: REGARDLESS OF WHETHER ORIGINAL TESTS OR INSPECTIONS WERE CONTRACTOR'S RESPONSIBILITY, PROVIDE QUALITY-CONTROL SERVICES, INCLUDING RETESTING AND REINSPECTING, FOR CONSTRUCTION THAT REPLACED WORK THAT FAILED TO COMPLY WITH THE CONTRACT DOCUMENTS USING LABORATORY FOR RETESTING AND REINSPECTING APPROVED BY ARCHITECT
- D. SPECIAL TESTS AND INSPECTIONS: OWNER WILL ENGAGE A QUALIFIED SPECIAL INSPECTOR TO CONDUCT SPECIAL TESTS AND INSPECTIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION AS THE RESPONSIBILITY OF OWNER, AS INDICATED IN STATEMENT OF SPECIAL INSPECTIONS ATTACHED TO THIS SECTION.
- E. TEST AND INSPECTION LOG: PREPARE A RECORD OF TESTS AND INSPECTIONS. POST CHANGES AND MODIFICATIONS AS THEY OCCUR. PROVIDE ACCESS TO TEST AND INSPECTION LOG FOR ARCHITECT'S REFERENCE DURING NORMAL WORKING
- F. REPAIR AND PROTECTION: ON COMPLETION OF TESTING, INSPECTING, SAMPLE TAKING, AND SIMILAR SERVICES, REPAIR DAMAGED CONSTRUCTION AND RESTORE SUBSTRATES AND FINISHES.
- 1.3 TEMPORARY FACILITIES AND CONTROLS
- A. USE CHARGES: INSTALLATION AND REMOVAL OF AND USE CHARGES FOR TEMPORARY FACILITIES SHALL BE INCLUDED IN THE CONTRACT SUM UNLESS OTHERWISE INDICATED. ALLOW OTHER ENTITIES TO USE TEMPORARY SERVICES AND FACILITIES WITHOUT COST, INCLUDING, BUT NOT LIMITED TO, OWNER'S CONSTRUCTION FORCES, ARCHITECT, OCCUPANTS OF PROJECT, TESTING AGENCIES, AND AUTHORITIES HAVING JURISDICTION.
- 1. WATER SERVICE: PAY WATER SERVICE USE CHARGES FOR WATER USED BY ALL ENTITIES FOR CONSTRUCTION
- 2. ELECTRIC POWER SERVICE: PAY ELECTRIC POWER SERVICE USE CHARGES FOR ELECTRICITY USED BY ALL ENTITIES FOR CONSTRUCTION OPERATIONS. B. QUALITY ASSURANCE
- 1. ELECTRIC SERVICE: COMPLY WITH NECA, NEMA, AND UL STANDARDS AND REGULATIONS FOR TEMPORARY ELECTRIC SERVICE. INSTALL SERVICE TO COMPLY WITH NFPA 70.
- 2. TESTS AND INSPECTIONS: ARRANGE FOR AUTHORITIES HAVING JURISDICTION TO TEST AND INSPECT EACH TEMPORARY UTILITY BEFORE USE. OBTAIN REQUIRED CERTIFICATIONS AND PERMITS.
- TEMPORARY USE OF PERMANENT FACILITIES: ENGAGE INSTALLER OF EACH PERMANENT SERVICE TO ASSUME RESPONSIBILITY FOR OPERATION, MAINTENANCE, AND PROTECTION OF EACH PERMANENT SERVICE DURING ITS USE AS A CONSTRUCTION FACILITY BEFORE OWNER'S ACCEPTANCE, REGARDLESS OF PREVIOUSLY ASSIGNED RESPONSIBILITIES.
- D. EQUIPMENT 1. FIRE EXTINGUISHERS: PORTABLE, UL RATED; WITH CLASS AND EXTINGUISHING AGENT AS RZUIRED BY LOCATIONS AND CLASSES OF FIRE EXPOSURES.

PROJECT REQUIREMENTS

E. TEMPORARY UTILITY INSTALLATION

F. SUPPORT FACILITIES INSTALLATION

- 1. GENERAL: INSTALL TEMPORARY SERVICE OR CONNECT TO EXISTING SERVICE. ARRANGE WITH UTILITY COMPANY, OWNER REP, AND EXISTING USERS FOR TIME WHEN SERVICE CAN BE INTERRUPTED, IF NECESSARY, TO MAKE CONNECTIONS FOR TEMPORARY SERVICES.
- 2. HEATING, COOLING, AND VENTILATION AND HUMIDITY CONTROL: PROVIDE TEMPORARY HEATING, COOLING AND VENTILATION AND HUMIDITY CONTROL REQUIRED BY CONSTRUCTION ACTIVITIES FOR CURING OR DRYING OF COMPLETED INSTALLATIONS OR FOR PROTECTING INSTALLED CONSTRUCTION FROM ADVERSE EFFECTS OF LOW TEMPERATURES OR HIGH HUMIDITY. SELECT EQUIPMENT THAT WILL NOT HAVE A HARMFUL EFFECT ON COMPLETED INSTALLATIONS OR ELEMENTS BEING INSTALLED.
- 3. ELECTRIC POWER SERVICE: PROVIDE ELECTRIC POWER SERVICE AND DISTRIBUTION SYSTEM OF SUFFICIENT SIZE, CAPACITY, AND POWER CHARACTERISTICS REQUIRED FOR CONSTRUCTION OPERATIONS.
- 4. LIGHTING: PROVIDE TEMPORARY LIGHTING WITH LOCAL SWITCHING THAT PROVIDES ADEQUATE ILLUMINATION FOR CONSTRUCTION OPERATIONS, OBSERVATIONS, INSPECTIONS, AND TRAFFIC CONDITIONS. INSTALL AND OPERATE TEMPORARY LIGHTING THAT FULFILLS SECURITY AND PROTECTION REQUIREMENTS WITHOUT OPERATING ENTIRE
- 5. TELEPHONE SERVICE: PROVIDE TEMPORARY TELEPHONE SERVICE IN COMMON-USE FACILITIES AS NEEDED FOR USE BY ALL CONSTRUCTION PERSONNEL.
- 1. MAINTAIN SUPPORT FACILITIES UNTIL ARCHITECT SCHEDULES SUBSTANTIAL COMPLETION INSPECTION. REMOVE

SIMILAR VIOLATIONS OF SECURITY. LOCK ENTRANCES AT END OF EACH WORK DAY.

- BEFORE SUBSTANTIAL COMPLETION. PERSONNEL REMAINING AFTER SUBSTANTIAL COMPLETION WILL BE PERMITTED TO USE PERMANENT FACILITIES, UNDER CONDITIONS ACCEPTABLE TO OWNER.
- 2. PROJECT SIGNS: PROVIDE PROJECT SIGNS AS INDICATED. UNAUTHORIZED SIGNS ARE NOT PERMITTED. a. TEMPORARY SIGNS: PROVIDE OTHER SIGNS AS INDICATED AND AS REQUIRED TO INFORM PUBLIC AND INDIVIDUALS
- SEEKING ENTRANCE TO PROJECT. 3. WASTE DISPOSAL FACILITIES: PROVIDE WASTE-COLLECTION CONTAINERS IN SIZES ADEQUATE TO HANDLE WASTE FROM CONSTRUCTION OPERATIONS. COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. COMPLY WITH "EXECUTION" ARTICLE FOR PROGRESS CLEANING REQUIREMENTS.
- G. SECURITY AND PROTECTION FACILITIES INSTALLATION 1. SECURITY ENCLOSURE AND LOCKUP: INSTALL TEMPORARY ENCLOSURE AROUND PARTIALLY COMPLETED AREAS OF CONSTRUCTION. PROVIDE LOCKABLE ENTRANCES TO PREVENT UNAUTHORIZED ENTRANCE, VANDALISM, THEFT, AND
- 2. BARRICADES, WARNING SIGNS, AND LIGHTS: COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION FOR ERECTING STRUCTURALLY ADEQUATE BARRICADES, INCLUDING WARNING SIGNS AND LIGHTING.
- 3. TEMPORARY ENCLOSURES: PROVIDE TEMPORARY ENCLOSURES FOR PROTECTION OF CONSTRUCTION, IN PROGRESS AND COMPLETED, FROM EXPOSURE, FOUL WEATHER, OTHER CONSTRUCTION OPERATIONS, AND SIMILAR ACTIVITIES. PROVIDE TEMPORARY WEATHERTIGHT ENCLOSURE FOR BUILDING EXTERIOR.
- H. MOISTURE AND MOLD CONTROL 1. EXPOSED CONSTRUCTION PHASE: BEFORE INSTALLATION OF WEATHER BARRIERS, WHEN MATERIALS ARE SUBJECT TO WETTING AND EXPOSURE AND TO AIRBORNE MOLD SPORES, PROTECT AS FOLLOWS:
- a. PROTECT POROUS MATERIALS FROM WATER DAMAGE.
- b. PROTECT STORED AND INSTALLED MATERIAL FROM FLOWING OR STANDING WATER. c. KEEP POROUS AND ORGANIC MATERIALS FROM COMING INTO PROLONGED CONTACT WITH CONCRETE.
- d. REMOVE STANDING WATER FROM DECKS.
- e. KEEP DECK OPENINGS COVERED OR DAMMED. 2. PARTIALLY ENCLOSED CONSTRUCTION PHASE: AFTER INSTALLATION OF WEATHER BARRIERS BUT BEFORE FULL ENCLOSURE AND CONDITIONING OF BUILDING, WHEN INSTALLED MATERIALS ARE STILL SUBJECT TO INFILTRATION OF
- MOISTURE AND AMBIENT MOLD SPORES, PROTECT AS FOLLOWS: a. DO NOT LOAD OR INSTALL DRYWALL OR OTHER POROUS MATERIALS OR COMPONENTS, OR ITEMS WITH HIGH
- ORGANIC CONTENT, INTO PARTIALLY ENCLOSED BUILDING.
- KEEP INTERIOR SPACES REASONABLY CLEAN AND PROTECTED FROM WATER DAMAGE.
- c. PERIODICALLY COLLECT AND REMOVE WASTE CONTAINING CELLULOSE OR OTHER ORGANIC MATTER.
- d. DISCARD OR REPLACE WATER-DAMAGED MATERIAL.
- e. DO NOT INSTALL MATERIAL THAT IS WET. f. DISCARD, REPLACE OR CLEAN STORED OR INSTALLED MATERIAL THAT BEGINS TO GROW MOLD.
- g. PERFORM WORK IN A SEQUENCE THAT ALLOWS ANY WET MATERIALS ADEQUATE TIME TO DRY BEFORE ENCLOSING THE MATERIAL IN DRYWALL OR OTHER INTERIOR FINISHES.
- 3. CONTROLLED CONSTRUCTION PHASE OF CONSTRUCTION: AFTER COMPLETING AND SEALING OF THE BUILDING ENCLOSURE BUT PRIOR TO THE FULL OPERATION OF PERMANENT HVAC SYSTEMS, MAINTAIN AS FOLLOWS:
- a. CONTROL MOISTURE AND HUMIDITY INSIDE BUILDING BY MAINTAINING EFFECTIVE DRY-IN CONDITIONS. b. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR TEMPERATURE, RELATIVE HUMIDITY, AND
- EXPOSURE TO WATER LIMITS. TERMINATION AND REMOVAL: REMOVE EACH TEMPORARY FACILITY WHEN NEED FOR ITS SERVICE HAS ENDED, WHEN IT HAS BEEN REPLACED BY AUTHORIZED USE OF A PERMANENT FACILITY, OR NO LATER THAN SUBSTANTIAL COMPLETION.
- COMPLETE OR, IF NECESSARY, RESTORE PERMANENT CONSTRUCTION THAT MAY HAVE BEEN DELAYED BECAUSE OF INTERFERENCE WITH TEMPORARY FACILITY. REPAIR DAMAGED WORK, CLEAN EXPOSED SURFACES, AND REPLACE CONSTRUCTION THAT CANNOT BE SATISFACTORILY REPAIRED. 1.4 PRODUCT REQUIREMENTS
- A. COMPARABLE PRODUCT REQUESTS: SUBMIT REQUEST FOR CONSIDERATION OF EACH COMPARABLE PRODUCT. IDENTIFY PRODUCT OR FABRICATION OR INSTALLATION METHOD TO BE REPLACED. INCLUDE SPECIFICATION SECTION NUMBER AND TITLE AND DRAWING NUMBERS AND TITLES.
- 1. ARCHITECT'S ACTION: IF NECESSARY, ARCHITECT WILL REQUEST ADDITIONAL INFORMATION OR DOCUMENTATION FOR EVALUATION WITHIN ONE WEEK OF RECEIPT OF A COMPARABLE PRODUCT REQUEST. ARCHITECT WILL NOTIFY CONTRACTOR OF APPROVAL OR REJECTION OF PROPOSED COMPARABLE PRODUCT REQUEST WITHIN 5 DAYS OF RECEIPT OF REQUEST, OR SEVEN DAYS OF RECEIPT OF ADDITIONAL INFORMATION OR DOCUMENTATION, WHICHEVER IS LATER. USE PRODUCT SPECIFIED IF ARCHITECT DOES NOT ISSUE A DECISION ON USE OF A COMPARABLE PRODUCT REQUEST WITHIN TIME ALLOCATED.
- B. BASIS-OF-DESIGN PRODUCT SPECIFICATION SUBMITTAL: COMPLY WITH REQUIREMENTS IN "SUBMITTAL PROCEDURES" ARTICLE IN THIS SECTION. SHOW COMPLIANCE WITH REQUIREMENTS.
- C. COMPATIBILITY OF OPTIONS: IF CONTRACTOR IS GIVEN OPTION OF SELECTING BETWEEN TWO OR MORE PRODUCTS FOR USE ON PROJECT, SELECT PRODUCT COMPATIBLE WITH PRODUCTS PREVIOUSLY SELECTED, EVEN IF PREVIOUSLY SELECTED PRODUCTS WERE ALSO OPTIONS.
- D. PRODUCT DELIVERY, STORAGE, AND HANDLING: DELIVER, STORE, AND HANDLE PRODUCTS USING MEANS AND METHODS THAT WILL PREVENT DAMAGE, DETERIORATION, AND LOSS, INCLUDING THEFT AND VANDALISM. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 1. SCHEDULE DELIVERY TO MINIMIZE LONG-TERM STORAGE AT PROJECT SITE AND TO PREVENT OVERCROWDING OF
- 2. COORDINATE DELIVERY WITH INSTALLATION TIME TO ENSURE MINIMUM HOLDING TIME FOR ITEMS THAT ARE
- FLAMMABLE, HAZARDOUS, EASILY DAMAGED, OR SENSITIVE TO DETERIORATION, THEFT, AND OTHER LOSSES. 3. DELIVER PRODUCTS TO PROJECT SITE IN AN UNDAMAGED CONDITION IN MANUFACTURER'S ORIGINAL SEALED
- CONTAINER OR OTHER PACKAGING SYSTEM, COMPLETE WITH LABELS AND INSTRUCTIONS FOR HANDLING, STORING, UNPACKING, PROTECTING, AND INSTALLING. 4. INSPECT PRODUCTS ON DELIVERY TO DETERMINE COMPLIANCE WITH THE CONTRACT DOCUMENTS AND TO DETERMINE
- THAT PRODUCTS ARE UNDAMAGED AND PROPERLY PROTECTED. 5. STORE PRODUCTS TO ALLOW FOR INSPECTION AND MEASUREMENT OF QUANTITY OR COUNTING OF UNITS.
- 6. STORE MATERIALS IN A MANNER THAT WILL NOT ENDANGER PROJECT STRUCTURE. 7. STORE PRODUCTS THAT ARE SUBJECT TO DAMAGE BY THE ELEMENTS, UNDER COVER IN A WEATHERTIGHT ENCLOSURE
- ABOVE GROUND, WITH VENTILATION ADEQUATE TO PREVENT CONDENSATION. 8. STORE FOAM PLASTIC FROM EXPOSURE TO SUNLIGHT, EXCEPT TO EXTENT NECESSARY FOR PERIOD OF INSTALLATION
- AND CONCEALMENT. 9. COMPLY WITH PRODUCT MANUFACTURER'S WRITTEN INSTRUCTIONS FOR TEMPERATURE, HUMIDITY, VENTILATION, AND
- WEATHER-PROTECTION REQUIREMENTS FOR STORAGE. 10. PROTECT STORED PRODUCTS FROM DAMAGE AND LIQUIDS FROM FREEZING. E. PRODUCT WARRANTIES: WARRANTIES SPECIFIED IN OTHER SECTIONS SHALL BE IN ADDITION TO, AND RUN CONCURRENT
- WITH, OTHER WARRANTIES REQUIRED BY THE CONTRACT DOCUMENTS. MANUFACTURER'S DISCLAIMERS AND LIMITATIONS ON PRODUCT WARRANTIES DO NOT RELIEVE CONTRACTOR OF OBLIGATIONS UNDER REQUIREMENTS OF THE CONTRACT DOCUMENTS. F. PRODUCT SELECTION PROCEDURES: PROVIDE PRODUCTS THAT COMPLY WITH THE CONTRACT DOCUMENTS, ARE
- UNDAMAGED AND, UNLESS OTHERWISE INDICATED, ARE NEW AT TIME OF INSTALLATION. PROCEDURES DEFINED BELOW MAY OR MAY NOT BE INCLUDED IN THE WORK OF THIS PROJECT. COMPARABLE PRODUCTS OR SUBSTITUTIONS FOR CONTRACTOR'S CONVENIENCE WILL NOT BE CONSIDERED UNLESS OTHERWISE INDICATED.
- 1. PRODUCT: PROVIDE THE NAMED PRODUCT THAT COMPLIES WITH REQUIREMENTS. 2. MANUFACTURER: PROVIDE A PRODUCT BY THE NAMED MANUFACTURER THAT COMPLIES WITH REQUIREMENTS.
- 3. PRODUCTS: PROVIDE ONE OF THE PRODUCTS LISTED THAT COMPLIES WITH REQUIREMENTS.
- 4. MANUFACTURERS: PROVIDE A PRODUCT BY ONE OF THE MANUFACTURERS LISTED THAT COMPLIES WITH REQUIREMENTS.
- BASIS-OF-DESIGN PRODUCT: a. WHERE SPECIFICATIONS NAME A PRODUCT, OR REFER TO A PRODUCT INDICATED ON DRAWINGS, AND INCLUDE A LIST OF MANUFACTURERS, PROVIDE THE SPECIFIED PRODUCT OR A COMPARABLE PRODUCT BY ONE OF THE OTHER NAMED MANUFACTURERS. SUBMIT COMPARABLE PRODUCTS AS SPECIFIED "SUBSTITUTION PROCEDURES" ARTICLE. DRAWINGS AND SPECIFICATIONS INDICATE SIZES, PROFILES, DIMENSIONS, AND OTHER CHARACTERISTICS THAT ARE BASED ON THE PRODUCT NAMED.

- b. WHERE SPECIFICATIONS NAME A PRODUCT, OR REFER TO A PRODUCT INDICATED ON DRAWINGS, BUT DO NOT INCLUDE A LIST OF MANUFACTURERS, PROVIDE THE SPECIFIED PRODUCT OR A COMPARABLE PRODUCT THAT IS APPROVED BY SUBSTITUTION PRIOR TO DATE FOR RECEIPT OF BIDS. SUBMIT COMPARABLE PRODUCTS AS SPECIFIED IN "SUBSTITUTION PROCEDURES" ARTICLE. DRAWINGS AND SPECIFICATIONS INDICATE SIZES, PROFILES, DIMENSIONS, AND OTHER CHARACTERISTICS THAT ARE BASED ON THE PRODUCT NAMED.
- G. COMPARABLE PRODUCTS: ARCHITECT WILL CONSIDER CONTRACTOR'S REQUEST FOR COMPARABLE PRODUCT WHEN THE FOLLOWING CONDITIONS ARE SATISFIED. IF THE FOLLOWING CONDITIONS ARE NOT SATISFIED, ARCHITECT MAY RETURN REQUESTS WITHOUT ACTION, EXCEPT TO RECORD NONCOMPLIANCE WITH THESE REQUIREMENTS:
- EVIDENCE THAT THE PROPOSED PRODUCT DOES NOT REQUIRE REVISIONS TO THE CONTRACT DOCUMENTS, THAT IT IS CONSISTENT WITH THE CONTRACT DOCUMENTS AND WILL PRODUCE THE INDICATED RESULTS, AND THAT IT IS COMPATIBLE WITH OTHER PORTIONS OF THE WORK.
- REQUEST IS IN THE FORM OF A SUBSTITUTION AS SPECIFIED IN "SUBSTITUTION PROCEDURES" ARTICLE. 3. SAMPLES, IF REQUESTED.
- 1.5 SUBSTITUTION PROCEDURES
- A. SUBSTITUTION REQUESTS: SUBMIT THREE COPIES OF EACH REQUEST FOR CONSIDERATION. IDENTIFY PRODUCT OR FABRICATION OR INSTALLATION METHOD TO BE REPLACED. INCLUDE SPECIFICATION SECTION NUMBER AND TITLE AND DRAWING NUMBERS AND TITLES.
- WRITTEN SUBSTITUTION REQUEST
- 2. PROVIDE CONTRACTOR'S WAIVER OF RIGHTS TO ADDITIONAL PAYMENT OR TIME THAT MAY SUBSEQUENTLY BECOME NECESSARY BECAUSE OF FAILURE OF PROPOSED SUBSTITUTION TO PRODUCE INDICATED RESULTS
- 3. ARCHITECT'S ACTION: ARCHITECT WILL NOTIFY CONTRACTOR OF ACCEPTANCE OR REJECTION OF PROPOSED SUBSTITUTION. USE PRODUCT SPECIFIED IF ARCHITECT DOES NOT ISSUE A DECISION ON USE OF A PROPOSED SUBSTITUTION WITHIN TIME ALLOCATED.
- B. COMPATIBILITY OF SUBSTITUTIONS: INVESTIGATE AND DOCUMENT COMPATIBILITY OF PROPOSED SUBSTITUTION WITH RELATED PRODUCTS AND MATERIALS. ENGAGE QUALIFIED TESTING AGENCY TO PERFORM COMPATIBILITY TESTS RECOMMENDED BY MANUFACTURERS.
- C. COORDINATION: MODIFY OR ADJUST AFFECTED WORK AS NECESSARY TO INTEGRATE WORK OF THE APPROVED
- D. SUBSTITUTIONS FOR CAUSE: SUBMIT REQUESTS FOR SUBSTITUTION IMMEDIATELY UPON DISCOVERY OF NEED FOR CHANGE, BUT NOT LATER THAN 15 DAYS PRIOR TO TIME REQUIRED FOR PREPARATION AND REVIEW OF RELATED
- 1. CONDITIONS: ARCHITECT WILL CONSIDER CONTRACTOR'S REQUEST FOR SUBSTITUTION WHEN THE FOLLOWING CONDITIONS ARE SATISFIED. IF THE FOLLOWING CONDITIONS ARE NOT SATISFIED, ARCHITECT WILL RETURN REQUESTS WITHOUT ACTION, EXCEPT TO RECORD NONCOMPLIANCE WITH THESE REQUIREMENTS:
- a. REQUESTED SUBSTITUTION IS CONSISTENT WITH THE CONTRACT DOCUMENTS AND WILL PRODUCE INDICATED
- b. SUBSTITUTION REQUEST IS FULLY DOCUMENTED AND PROPERLY SUBMITTED. c. REQUESTED SUBSTITUTION WILL NOT ADVERSELY AFFECT CONTRACTOR'S CONSTRUCTION SCHEDULE
- d. REQUESTED SUBSTITUTION HAS RECEIVED NECESSARY APPROVALS OF AUTHORITIES HAVING JURISDICTION.
- e. REQUESTED SUBSTITUTION IS COMPATIBLE WITH OTHER PORTIONS OF THE WORK
- f. REQUESTED SUBSTITUTION HAS BEEN COORDINATED WITH OTHER PORTIONS OF THE WORK. g. REQUESTED SUBSTITUTION PROVIDES SPECIFIED WARRANTY.
- h. IF REQUESTED SUBSTITUTION INVOLVES MORE THAN ONE CONTRACTOR, REQUESTED SUBSTITUTION HAS BEEN COORDINATED WITH OTHER PORTIONS OF THE WORK, IS UNIFORM AND CONSISTENT, IS COMPATIBLE WITH OTHER
- PRODUCTS, AND IS ACCEPTABLE TO ALL CONTRACTORS INVOLVED. E. SUBSTITUTIONS FOR CONVENIENCE: ARCHITECT WILL CONSIDER REQUESTS FOR SUBSTITUTION IF RECEIVED WITHIN 60 DAYS AFTER COMMENCEMENT OF THE WORK. REQUESTS RECEIVED AFTER THAT TIME MAY BE CONSIDERED OR REJECTED
- AT DISCRETION OF ARCHITECT. 1. CONDITIONS: ARCHITECT WILL CONSIDER CONTRACTOR'S REQUEST FOR SUBSTITUTION WHEN THE FOLLOWING CONDITIONS ARE SATISFIED. IF THE FOLLOWING CONDITIONS ARE NOT SATISFIED, ARCHITECT WILL RETURN REQUESTS
- WITHOUT ACTION, EXCEPT TO RECORD NONCOMPLIANCE WITH THESE REQUIREMENTS: a. REQUESTED SUBSTITUTION OFFERS OWNER A SUBSTANTIAL ADVANTAGE IN COST, TIME, ENERGY CONSERVATION, OR OTHER CONSIDERATIONS, AFTER DEDUCTING ADDITIONAL RESPONSIBILITIES OWNER MUST ASSUME. OWNER'S ADDITIONAL RESPONSIBILITIES MAY INCLUDE COMPENSATION TO ARCHITECT FOR REDESIGN AND EVALUATION
- SERVICES, INCREASED COST OF OTHER CONSTRUCTION BY OWNER, AND SIMILAR CONSIDERATIONS. REQUESTED SUBSTITUTION DOES NOT REQUIRE EXTENSIVE REVISIONS TO THE CONTRACT DOCUMENTS. c. REQUESTED SUBSTITUTION IS CONSISTENT WITH THE CONTRACT DOCUMENTS AND WILL PRODUCE INDICATED
- d. SUBSTITUTION REQUEST IS FULLY DOCUMENTED AND PROPERLY SUBMITTED. e. REQUESTED SUBSTITUTION WILL NOT ADVERSELY AFFECT CONTRACTOR'S CONSTRUCTION SCHEDULE.
- f. REQUESTED SUBSTITUTION HAS RECEIVED NECESSARY APPROVALS OF AUTHORITIES HAVING JURISDICTION.
- g. REQUESTED SUBSTITUTION IS COMPATIBLE WITH OTHER PORTIONS OF THE WORK. h. REQUESTED SUBSTITUTION HAS BEEN COORDINATED WITH OTHER PORTIONS OF THE WORK.
- REQUESTED SUBSTITUTION PROVIDES SPECIFIED WARRANTY i. IF REQUESTED SUBSTITUTION INVOLVES MORE THAN ONE CONTRACTOR, REQUESTED SUBSTITUTION HAS BEEN
- COORDINATED WITH OTHER PORTIONS OF THE WORK, IS UNIFORM AND CONSISTENT, IS COMPATIBLE WITH OTHER PRODUCTS, AND IS ACCEPTABLE TO ALL CONTRACTORS INVOLVED. 2. THE ARCHITECT HAS THE RIGHT TO REJECT A SUBSTITUTION FOR CONVENIENCE EVEN IF ALL OF THE ABOVE
- REQUIREMENTS ARE MET. THE CONTRACTOR MAY NOT DISPUTE THE ARCHITECT'S FINAL DECISION. 1.6 EXECUTION A. CUTTING AND PATCHING: COMPLY WITH REQUIREMENTS FOR AND LIMITATIONS ON CUTTING AND PATCHING OF
- CONSTRUCTION ELEMENTS. 1. STRUCTURAL ELEMENTS: WHEN CUTTING AND PATCHING STRUCTURAL ELEMENTS, NOTIFY ARCHITECT OF LOCATIONS AND DETAILS OF CUTTING AND AWAIT DIRECTIONS FROM THE ARCHITECT BEFORE PROCEEDING. SHORE, BRACE, AND SUPPORT STRUCTURAL ELEMENT DURING CUTTING AND PATCHING. DO NOT CUT AND PATCH STRUCTURAL ELEMENTS IN A MANNER THAT COULD CHANGE THEIR LOAD-CARRYING CAPACITY OR INCREASE DEFLECTION
- 2. OPERATIONAL ELEMENTS: DO NOT CUT AND PATCH OPERATING ELEMENTS AND RELATED COMPONENTS IN A MANNER THAT RESULTS IN REDUCING THEIR CAPACITY TO PERFORM AS INTENDED OR THAT RESULTS IN INCREASED MAINTENANCE OR DECREASED OPERATIONAL LIFE OR SAFETY. 3. OTHER CONSTRUCTION ELEMENTS: DO NOT CUT AND PATCH OTHER CONSTRUCTION ELEMENTS OR COMPONENTS IN A

MANNER THAT COULD CHANGE THEIR LOAD-CARRYING CAPACITY, THAT RESULTS IN REDUCING THEIR CAPACITY TO

- PERFORM AS INTENDED, OR THAT RESULTS IN INCREASED MAINTENANCE OR DECREASED OPERATIONAL LIFE OR 4. VISUAL ELEMENTS: DO NOT CUT AND PATCH CONSTRUCTION IN A MANNER THAT RESULTS IN VISUAL EVIDENCE OF CUTTING AND PATCHING. DO NOT CUT AND PATCH EXPOSED CONSTRUCTION IN A MANNER THAT WOULD, IN ARCHITECT'S OPINION, REDUCE THE BUILDING'S AESTHETIC QUALITIES. REMOVE AND REPLACE CONSTRUCTION THAT
- HAS BEEN CUT AND PATCHED IN A VISUALLY UNSATISFACTORY MANNER. B. MANUFACTURER'S INSTALLATION INSTRUCTIONS: OBTAIN AND MAINTAIN ON-SITE MANUFACTURER'S WRITTEN
- RECOMMENDATIONS AND INSTRUCTIONS FOR INSTALLATION OF PRODUCTS AND EQUIPMENT. C. IN-PLACE MATERIALS: USE MATERIALS FOR PATCHING IDENTICAL TO IN-PLACE MATERIALS. FOR EXPOSED SURFACES, USE MATERIALS THAT VISUALLY MATCH IN-PLACE ADJACENT SURFACES TO THE FULLEST EXTENT POSSIBLE. IF IDENTICAL MATERIALS ARE UNAVAILABLE OR CANNOT BE USED, USE MATERIALS THAT, WHEN INSTALLED, WILL PROVIDE A MATCH
- ACCEPTABLE TO THE ARCHITECT FOR THE VISUAL AND FUNCTIONAL PERFORMANCE OF IN-PLACE MATERIALS. D. EXISTING CONDITIONS: THE EXISTENCE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AND CONSTRUCTION INDICATED AS EXISTING ARE NOT GUARANTEED. BEFORE BEGINNING SITEWORK, INVESTIGATE AND VERIFY THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES, MECHANICAL AND ELECTRICAL SYSTEMS, AND OTHER CONSTRUCTION AFFECTING THE WORK.
- E. EXAMINATION AND ACCEPTANCE OF CONDITIONS: BEFORE PROCEEDING WITH EACH COMPONENT OF THE WORK, EXAMINE SUBSTRATES, AREAS, AND CONDITIONS, WITH INSTALLER OR APPLICATOR PRESENT WHERE INDICATED, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE.
- F. EXISTING UTILITY INFORMATION: FURNISH INFORMATION TO LOCAL UTILITY AND OWNER REP THAT IS NECESSARY TO ADJUST, MOVE, OR RELOCATE EXISTING UTILITY STRUCTURES, UTILITY POLES, LINES, SERVICES, OR OTHER UTILITY APPURTENANCES LOCATED IN OR AFFECTED BY CONSTRUCTION. COORDINATE WITH AUTHORITIES HAVING JURISDICTION.
- G. FIELD MEASUREMENTS: TAKE FIELD MEASUREMENTS AS REQUIRED TO FIT THE WORK PROPERLY. RECHECK MEASUREMENTS BEFORE INSTALLING EACH PRODUCT. WHERE PORTIONS OF THE WORK ARE INDICATED TO FIT TO OTHER CONSTRUCTION, VERIFY DIMENSIONS OF OTHER CONSTRUCTION BY FIELD MEASUREMENTS BEFORE FABRICATION. COORDINATE FABRICATION SCHEDULE WITH CONSTRUCTION PROGRESS TO AVOID DELAYING THE WORK.
- H. SPACE REQUIREMENTS: VERIFY SPACE REQUIREMENTS AND DIMENSIONS OF ITEMS SHOWN DIAGRAMMATICALLY ON I. REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS: IMMEDIATELY ON DISCOVERY OF THE NEED FOR CLARIFICATION OF THE CONTRACT DOCUMENTS CAUSED BY DIFFERING FIELD CONDITIONS OUTSIDE THE CONTROL OF THE CONTRACTOR, SUBMIT A REQUEST FOR INFORMATION TO ARCHITECT ACCORDING TO REQUIREMENTS IN "PROJECT
- MANAGEMENT AND COORDINATION" ARTICLE. J. INSTALLATION: LOCATE THE WORK AND COMPONENTS OF THE WORK ACCURATELY, IN CORRECT ALIGNMENT AND ELEVATION, AS INDICATED.
- 1. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLING PRODUCTS IN 2. INSTALL PRODUCTS AT THE TIME AND UNDER CONDITIONS THAT WILL ENSURE THE BEST POSSIBLE RESULTS. MAINTAIN
- CONDITIONS REQUIRED FOR PRODUCT PERFORMANCE UNTIL SUBSTANTIAL COMPLETION. 3. CONDUCT CONSTRUCTION OPERATIONS SO NO PART OF THE WORK IS SUBJECTED TO DAMAGING OPERATIONS OR
- LOADING IN EXCESS OF THAT EXPECTED DURING NORMAL CONDITIONS OF OCCUPANCY. 4. ATTACHMENT: PROVIDE BLOCKING AND ATTACHMENT PLATES AND ANCHORS AND FASTENERS OF ADEQUATE SIZE AND NUMBER TO SECURELY ANCHOR EACH COMPONENT IN PLACE, ACCURATELY LOCATED AND ALIGNED WITH OTHER PORTIONS OF THE WORK. WHERE SIZE AND TYPE OF ATTACHMENTS ARE NOT INDICATED, VERIFY SIZE AND TYPE REQUIRED FOR LOAD CONDITIONS.

- 5. JOINTS: MAKE JOINTS OF UNIFORM WIDTH. WHERE JOINT LOCATIONS IN EXPOSED WORK ARE NOT INDICATED, ARRANGE JOINTS FOR THE BEST VISUAL EFFECT. FIT EXPOSED CONNECTIONS TOGETHER TO FORM HAIRLINE JOINTS.
- 6. HAZARDOUS MATERIALS: USE PRODUCTS, CLEANERS, AND INSTALLATION MATERIALS THAT ARE NOT CONSIDERED
- K. CUTTING AND PATCHING: EMPLOY SKILLED WORKERS TO PERFORM CUTTING AND PATCHING. PROCEED WITH CUTTING AND PATCHING AT THE EARLIEST FEASIBLE TIME, AND COMPLETE WITHOUT DELAY. CUT IN-PLACE CONSTRUCTION TO PROVIDE FOR INSTALLATION OF OTHER COMPONENTS OR PERFORMANCE OF OTHER CONSTRUCTION, AND SUBSEQUENTLY
 - PATCH AS REQUIRED TO RESTORE SURFACES TO THEIR ORIGINAL CONDITION. 1. TEMPORARY SUPPORT: PROVIDE TEMPORARY SUPPORT OF WORK TO BE CUT.
 - 2. PROTECTION: PROTECT IN-PLACE CONSTRUCTION DURING CUTTING AND PATCHING TO PREVENT DAMAGE. PROVIDE PROTECTION FROM ADVERSE WEATHER CONDITIONS FOR PORTIONS OF PROJECT THAT MIGHT BE EXPOSED DURING CUTTING AND PATCHING OPERATIONS.

PROGRESS CLEANING: CLEAN PROJECT SITE AND WORK AREAS DAILY, INCLUDING COMMON AREAS. ENFORCE

11

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- 3. ADJACENT OCCUPIED AREAS: WHERE INTERFERENCE WITH USE OF ADJOINING AREAS OR INTERRUPTION OF FREE PASSAGE TO ADJOINING AREAS IS UNAVOIDABLE, COORDINATE CUTTING AND PATCHING IN ACCORDANCE WITH REQUIREMENTS OF DIVISION 01 SECTION "SUMMARY."
- 4. EXISTING UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS: WHERE EXISTING SERVICES/SYSTEMS ARE REQUIRED TO BE REMOVED, RELOCATED, OR ABANDONED, BYPASS SUCH SERVICES/SYSTEMS BEFORE CUTTING TO PREVENT INTERRUPTION TO OCCUPIED AREAS.
- REQUIREMENTS STRICTLY. DISPOSE OF MATERIALS LAWFULLY. MAINTAIN PROJECT SITE FREE OF WASTE MATERIALS AND M. WASTE DISPOSAL: DO NOT BURY OR BURN WASTE MATERIALS ON-SITE. DO NOT WASH WASTE MATERIALS DOWN SEWERS
- N. STARTING AND ADJUSTING: START EQUIPMENT AND OPERATING COMPONENTS TO CONFIRM PROPER OPERATION. REMOVE MALFUNCTIONING UNITS, REPLACE WITH NEW UNITS, AND RETEST. ADJUST EQUIPMENT FOR PROPER OPERATION. ADJUST OPERATING COMPONENTS FOR PROPER OPERATION WITHOUT BINDING. TEST EACH PIECE OF EQUIPMENT TO VERIFY PROPER OPERATION. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS
- O. REPAIR OR REMOVE AND REPLACE DEFECTIVE CONSTRUCTION. RESTORE DAMAGED SUBSTRATES AND FINISHES. RESTORE PERMANENT FACILITIES USED DURING CONSTRUCTION TO THEIR SPECIFIED CONDITION.
- 1.7 CLOSEOUT PROCEDURES

OR INTO WATERWAYS.

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- A. SUBSTANTIAL COMPLETION PROCEDURES 1. CONTRACTOR'S LIST OF INCOMPLETE ITEMS: PREPARE AND SUBMIT A LIST OF ITEMS TO BE COMPLETED AND CORRECTED (CONTRACTOR'S PUNCH LIST), INDICATING THE VALUE OF EACH ITEM ON THE LIST AND REASONS WHY THE
- 2. INSPECTION: SUBMIT A WRITTEN REQUEST FOR INSPECTION TO DETERMINE SUBSTANTIAL COMPLETION A MINIMUM OF 10 DAYS PRIOR TO DATE THE WORK WILL BE COMPLETED AND READY FOR FINAL INSPECTION AND TESTS. ON RECEIPT OF REQUEST, ARCHITECT WILL EITHER PROCEED WITH INSPECTION OR NOTIFY CONTRACTOR OF UNFULFILLED REQUIREMENTS. ARCHITECT WILL PREPARE A STATEMENT OF SUBSTANTIAL COMPLETION AFTER INSPECTION OR WILL NOTIFY CONTRACTOR OF ITEMS, EITHER ON CONTRACTOR'S LIST OR ADDITIONAL ITEMS IDENTIFIED BY ARCHITECT,
- THAT MUST BE COMPLETED OR CORRECTED BEFORE STATEMENT WILL BE ISSUED a. REINSPECTION: REQUEST REINSPECTION WHEN THE WORK IDENTIFIED IN PREVIOUS INSPECTIONS AS INCOMPLETE IS COMPLETED OR CORRECTED.
- b. RESULTS OF COMPLETED INSPECTION WILL FORM THE BASIS OF REQUIREMENTS FOR FINAL COMPLETION. B. FINAL COMPLETION PROCEDURES
- 1. PRELIMINARY PROCEDURES: BEFORE REQUESTING FINAL INSPECTION FOR DETERMINING FINAL COMPLETION, COMPLETE THE FOLLOWING:
- a. SUBMIT A FINAL APPLICATION FOR PAYMENT TO OWNER REP b. CERTIFIED LIST OF INCOMPLETE ITEMS: SUBMIT CERTIFIED COPY OF ARCHITECT'S SUBSTANTIAL COMPLETION INSPECTION LIST OF ITEMS TO BE COMPLETED OR CORRECTED (PUNCH LIST), ENDORSED AND DATED BY
- c. CERTIFICATE OF INSURANCE: SUBMIT EVIDENCE OF FINAL, CONTINUING INSURANCE COVERAGE COMPLYING WITH

ARCHITECT. CERTIFIED COPY OF THE LIST SHALL STATE THAT EACH ITEM HAS BEEN COMPLETED OR OTHERWISE

- INSURANCE REQUIREMENTS. d. SUBMIT PEST-CONTROL FINAL INSPECTION REPORT AND WARRANTY.
- e. INSTRUCT OWNER'S PERSONNEL IN OPERATION, ADJUSTMENT, AND MAINTENANCE OF PRODUCTS, EQUIPMENT, AND SYSTEMS. 2. SUBMITTAL OF PROJECT WARRANTIES: SUBMIT WRITTEN WARRANTIES ON REQUEST OF ARCHITECT FOR DESIGNATED
- PORTIONS OF THE WORK WHERE COMMENCEMENT OF WARRANTIES OTHER THAN DATE OF SUBSTANTIAL COMPLETION IS INDICATED, OR WHEN DELAY IN SUBMITTAL OF WARRANTIES MIGHT LIMIT OWNER'S RIGHTS UNDER WARRANTY. ORGANIZE WARRANTY DOCUMENTS INTO AN ORDERLY SEQUENCE BASED ON THE TABLE OF CONTENTS OF THE
- C. CLEANING AGENTS: USE CLEANING MATERIALS AND AGENTS RECOMMENDED BY MANUFACTURER OR FABRICATOR OF THE SURFACE TO BE CLEANED. DO NOT USE CLEANING AGENTS THAT ARE POTENTIALLY HAZARDOUS TO HEALTH OR PROPERTY D. FINAL CLEANING: PERFORM FINAL CLEANING. CONDUCT CLEANING AND WASTE-REMOVAL OPERATIONS TO COMPLY WITH LOCAL LAWS AND ORDINANCES AND FEDERAL AND LOCAL ENVIRONMENTAL AND ANTIPOLLUTION REGULATIONS.

1. EMPLOY EXPERIENCED WORKERS OR PROFESSIONAL CLEANERS FOR FINAL CLEANING. CLEAN EACH SURFACE OR UNIT

- TO CONDITION EXPECTED IN AN AVERAGE COMMERCIAL BUILDING CLEANING AND MAINTENANCE PROGRAM. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- F. PEST CONTROL: ENGAGE AN EXPERIENCED, LICENSED EXTERMINATOR TO MAKE A FINAL INSPECTION AND RID PROJECT OF RODENTS, INSECTS, AND OTHER PESTS. PREPARE A REPORT. G. REPAIR OF THE WORK: REPAIR OR REMOVE AND REPLACE DEFECTIVE CONSTRUCTION. REPAIRING INCLUDES REPLACING DEFECTIVE PARTS, REFINISHING DAMAGED SURFACES, TOUCHING UP WITH MATCHING MATERIALS, AND PROPERLY ADJUSTING OPERATING EQUIPMENT. WHERE DAMAGED OR WORN ITEMS CANNOT BE REPAIRED OR RESTORED, PROVIDE REPLACEMENTS. REMOVE AND REPLACE OPERATING COMPONENTS THAT CANNOT BE REPAIRED. RESTORE DAMAGED
- CONSTRUCTION AND PERMANENT FACILITIES USED DURING CONSTRUCTION TO SPECIFIED CONDITION. 1.8 OPERATION AND MAINTENANCE DATA
- A. OPERATION MANUALS: IN ADDITION TO REQUIREMENTS IN THIS SECTION, INCLUDE OPERATION DATA REQUIRED IN INDIVIDUAL SPECIFICATION SECTIONS B. PRODUCT MAINTENANCE MANUALS: ORGANIZE MANUAL INTO A SEPARATE SECTION FOR EACH PRODUCT, MATERIAL, AND FINISH. INCLUDE SOURCE INFORMATION, PRODUCT INFORMATION, MAINTENANCE PROCEDURES, REPAIR MATERIALS AND
- SOURCES, AND WARRANTIES AND BONDS. C. SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS: FOR EACH SYSTEM, SUBSYSTEM, AND PIECE OF EQUIPMENT NOT PART OF A SYSTEM, INCLUDE SOURCE INFORMATION, MANUFACTURERS' MAINTENANCE DOCUMENTATION, MAINTENANCE PROCEDURES, MAINTENANCE AND SERVICE SCHEDULES, SPARE PARTS LIST AND SOURCE INFORMATION, MAINTENANCE

SERVICE CONTRACTS, AND WARRANTY AND BOND INFORMATION.

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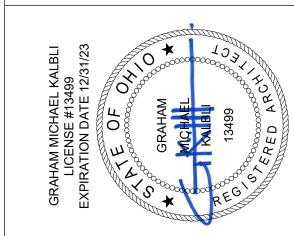
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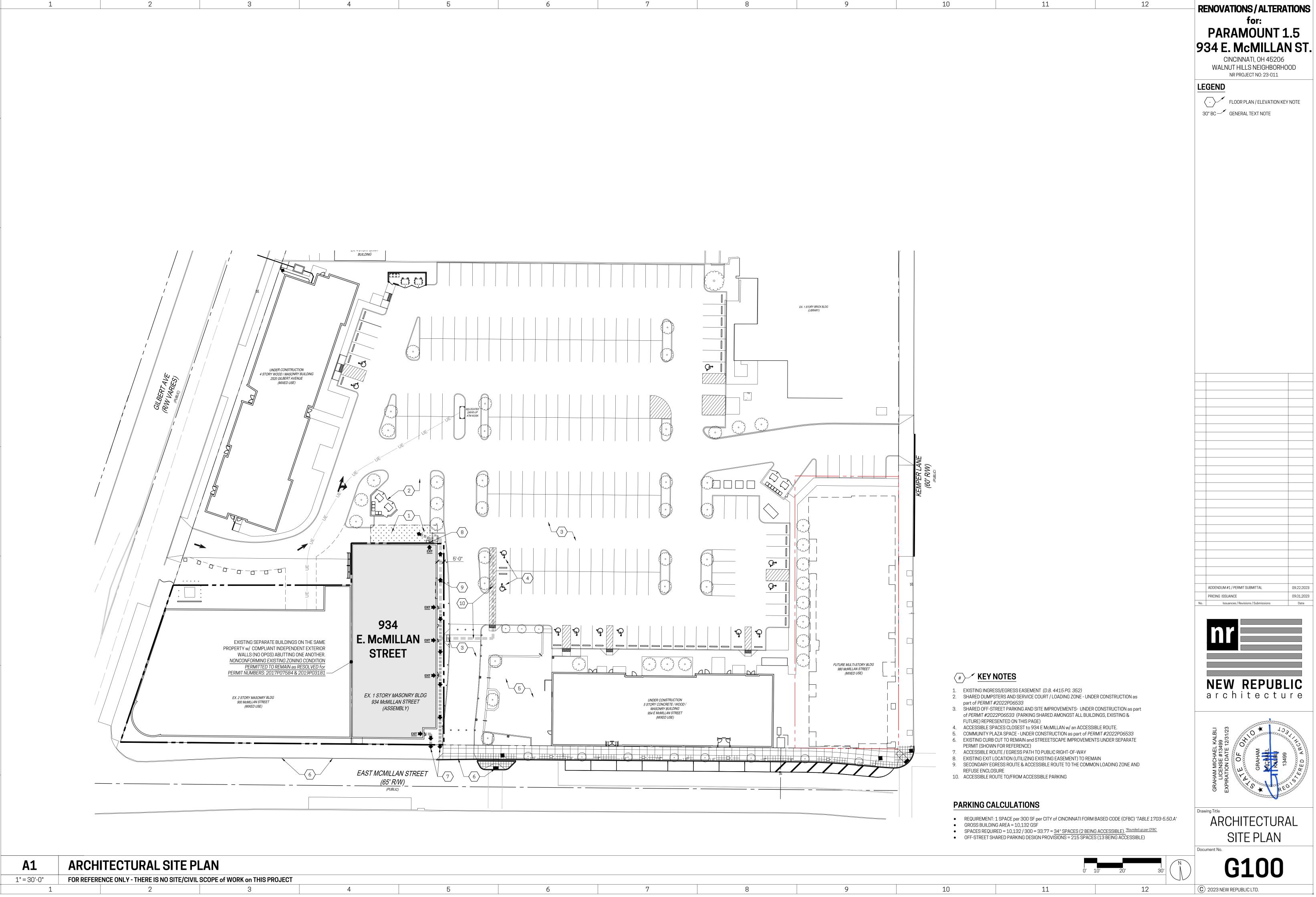
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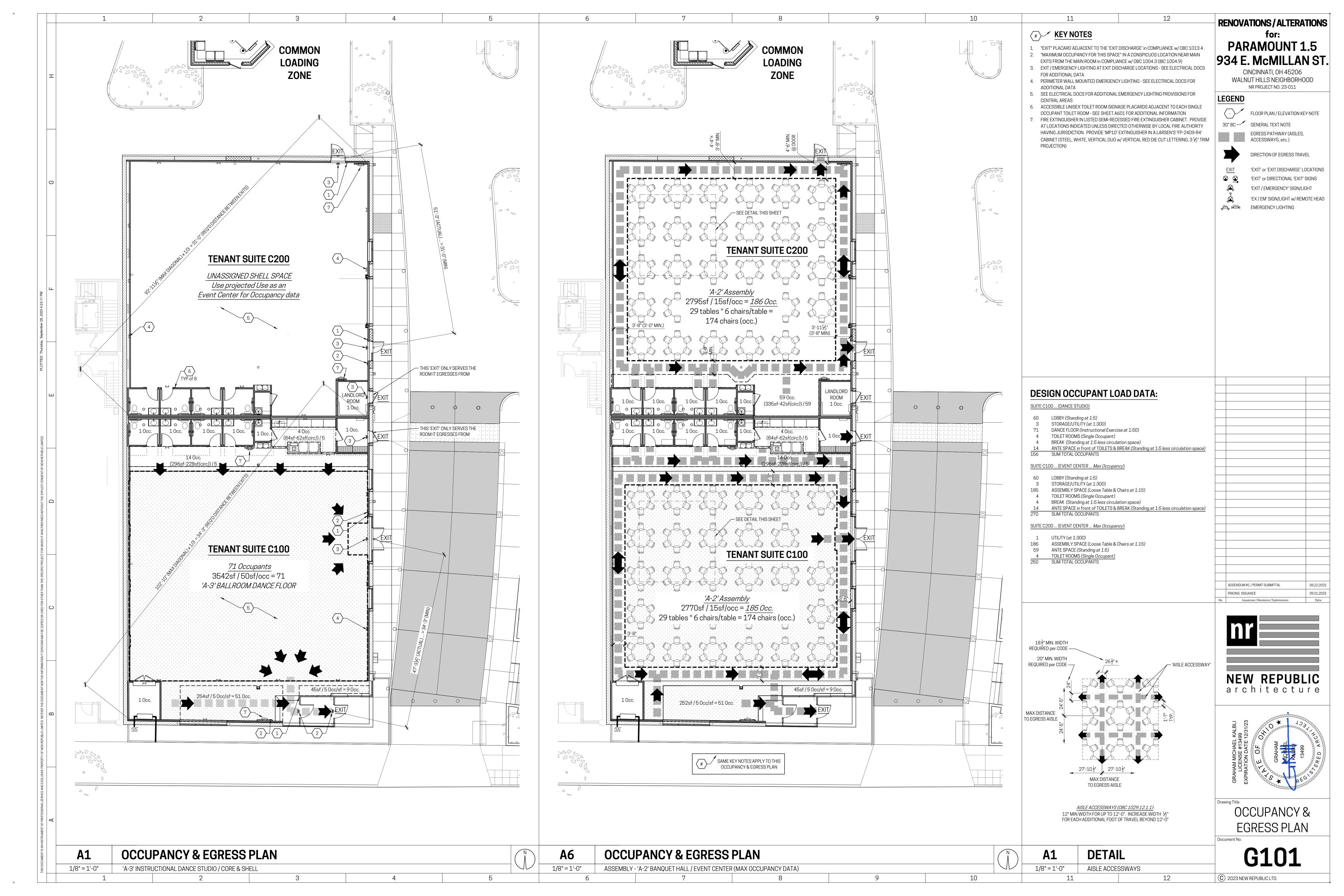
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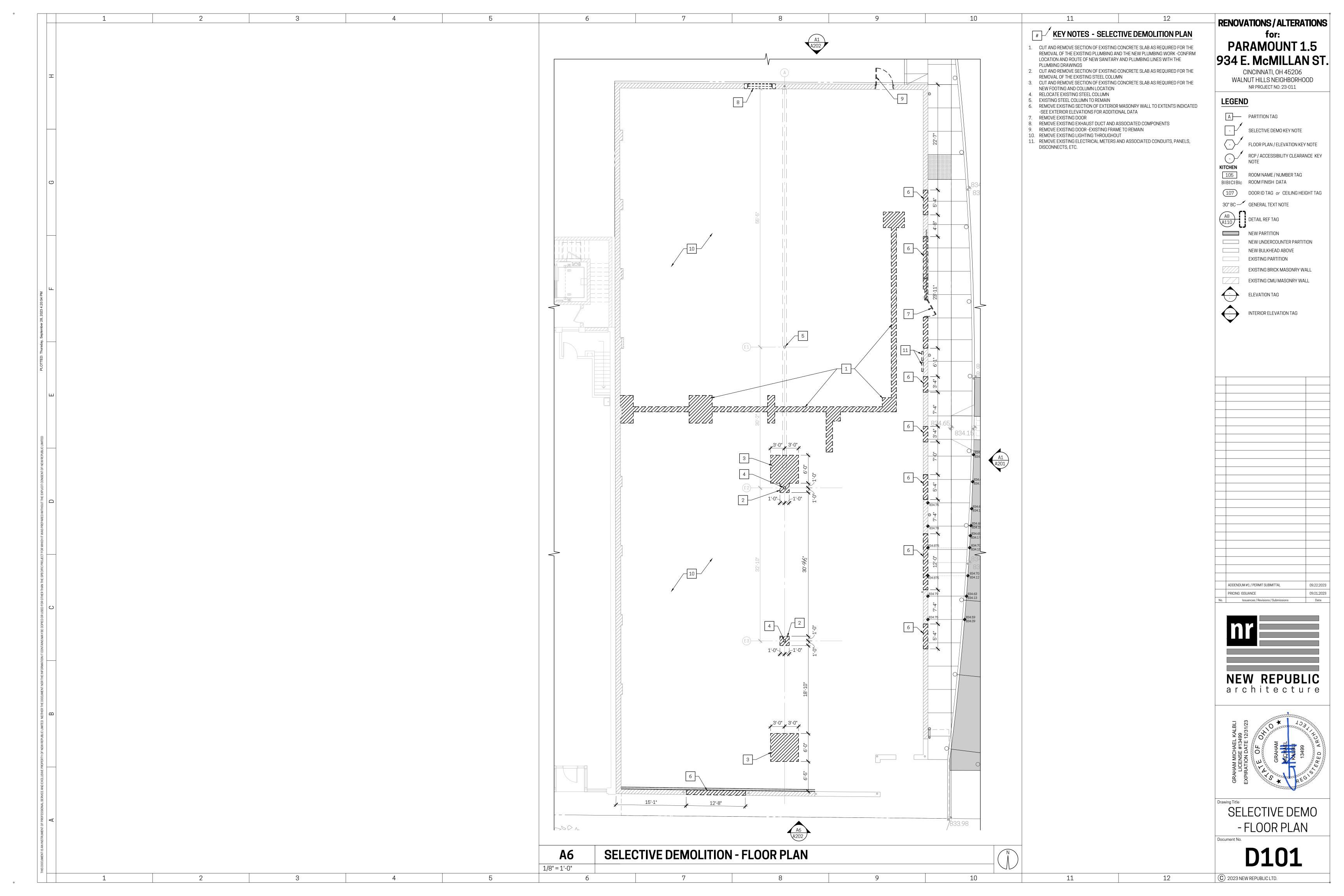


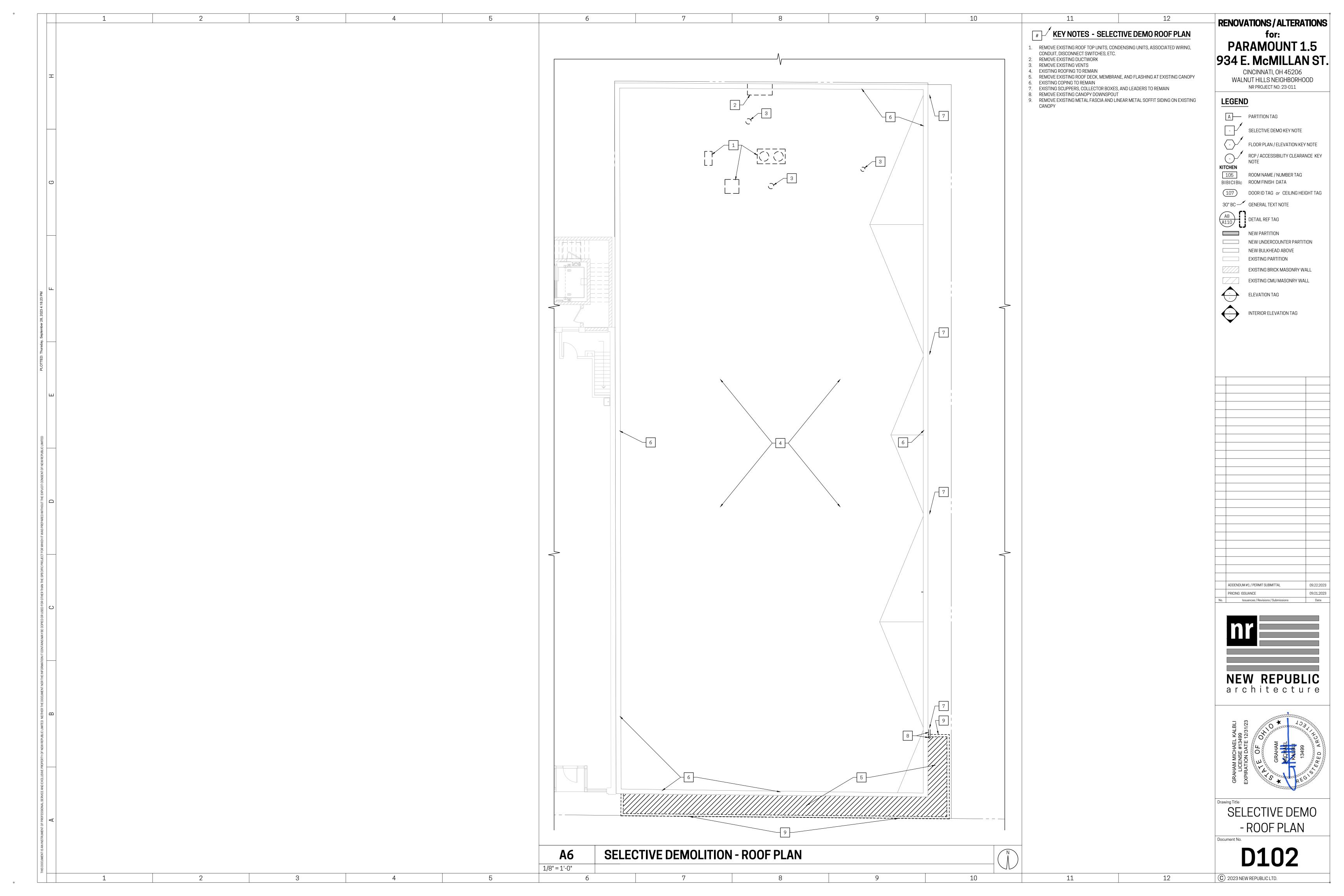
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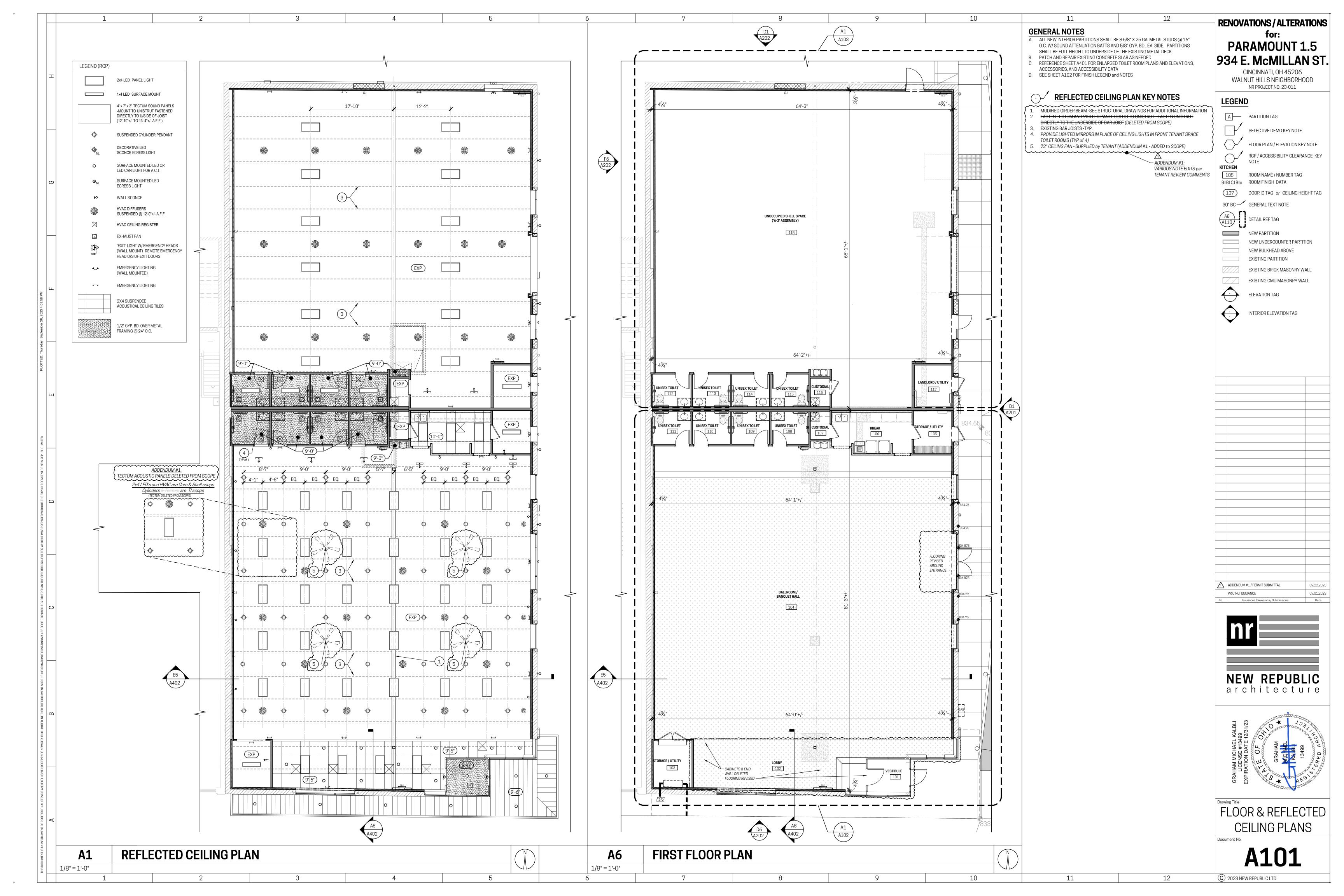


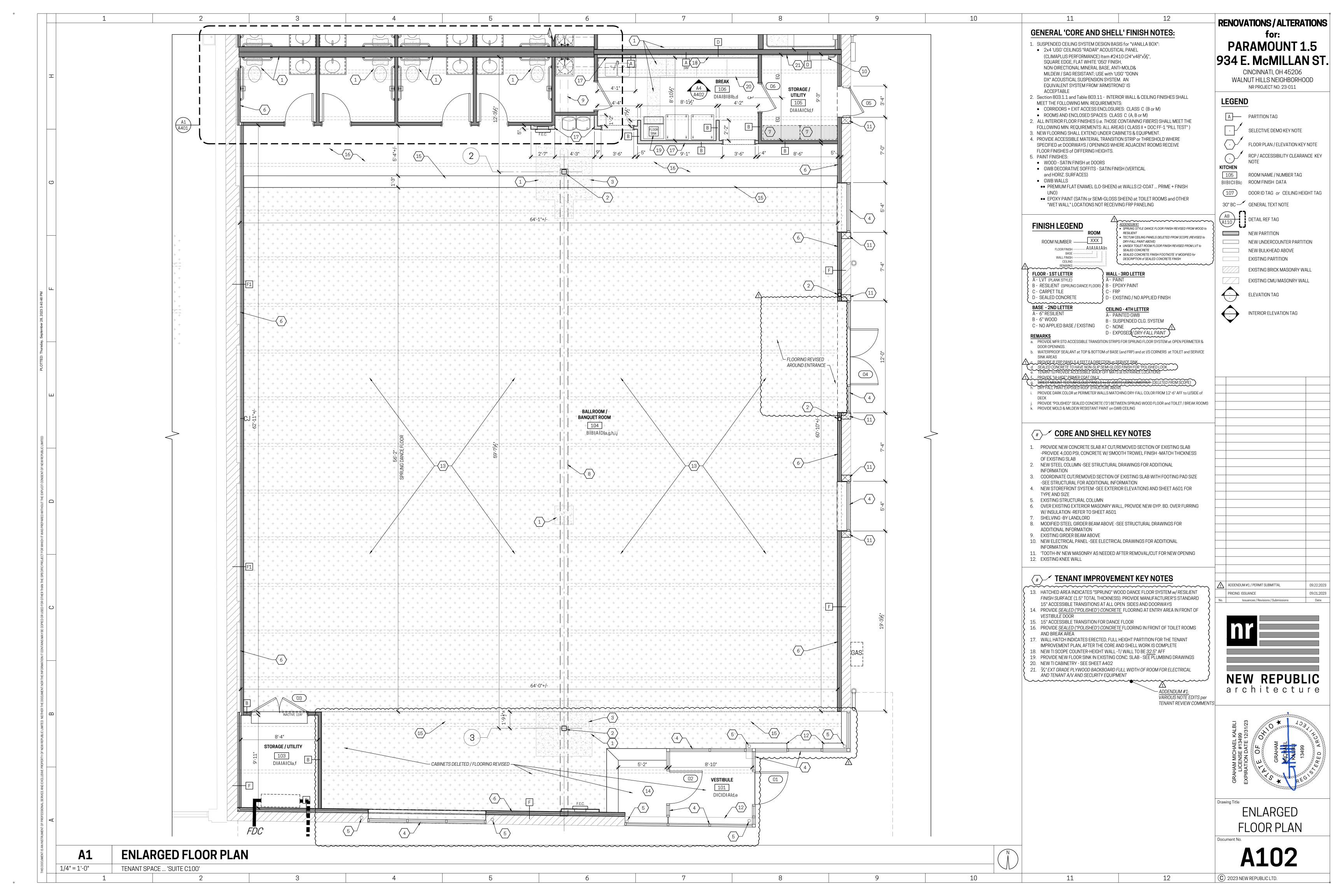
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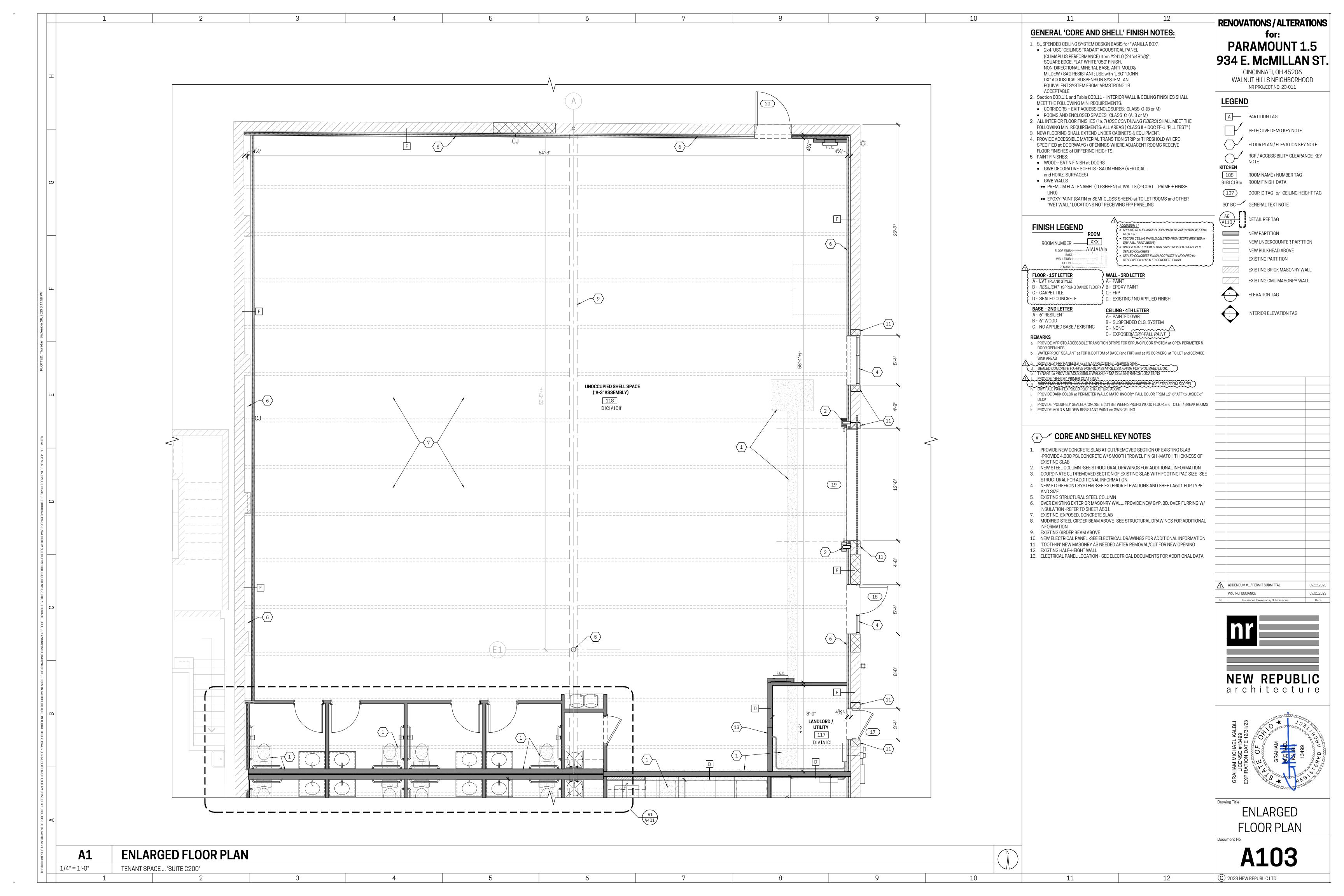


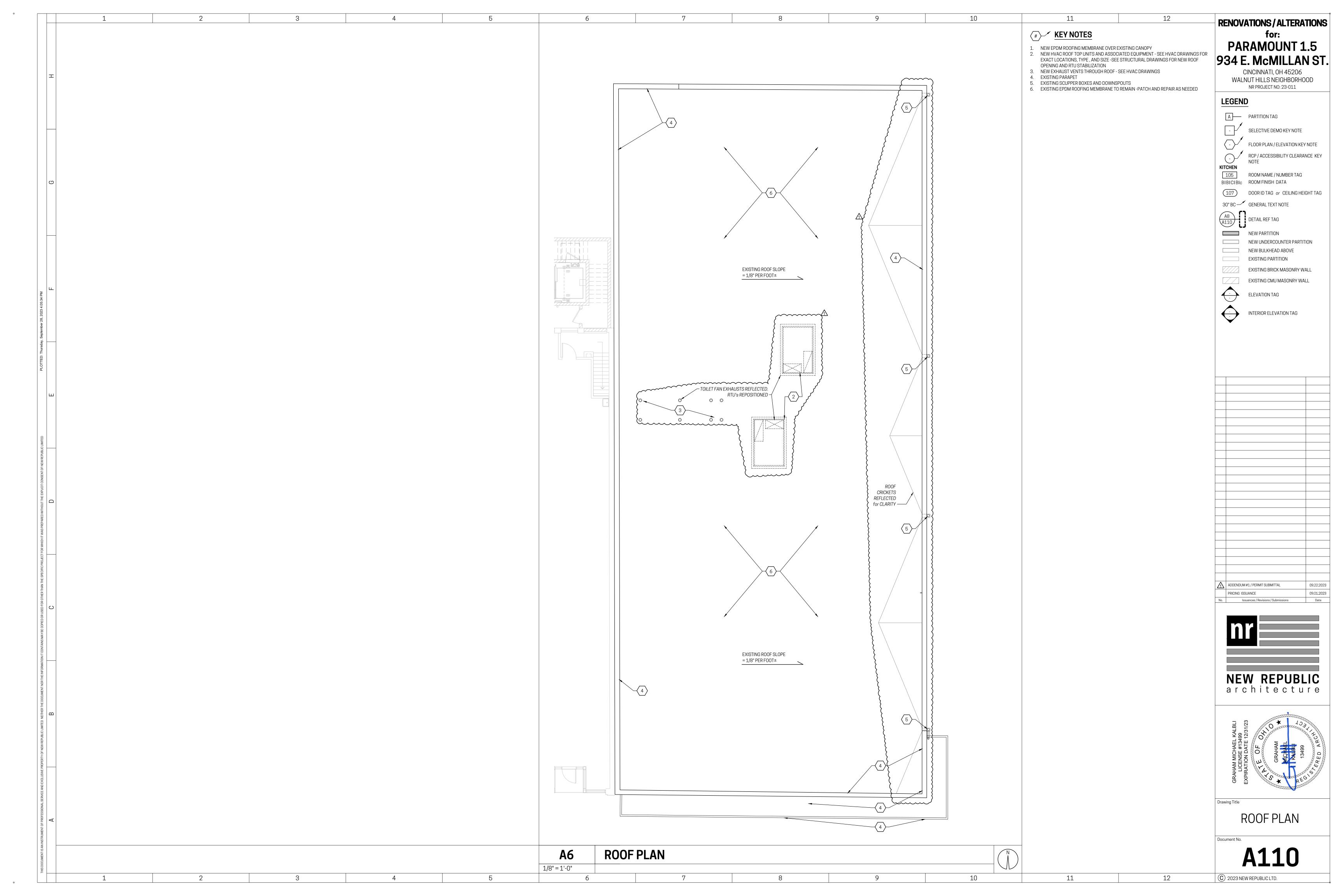


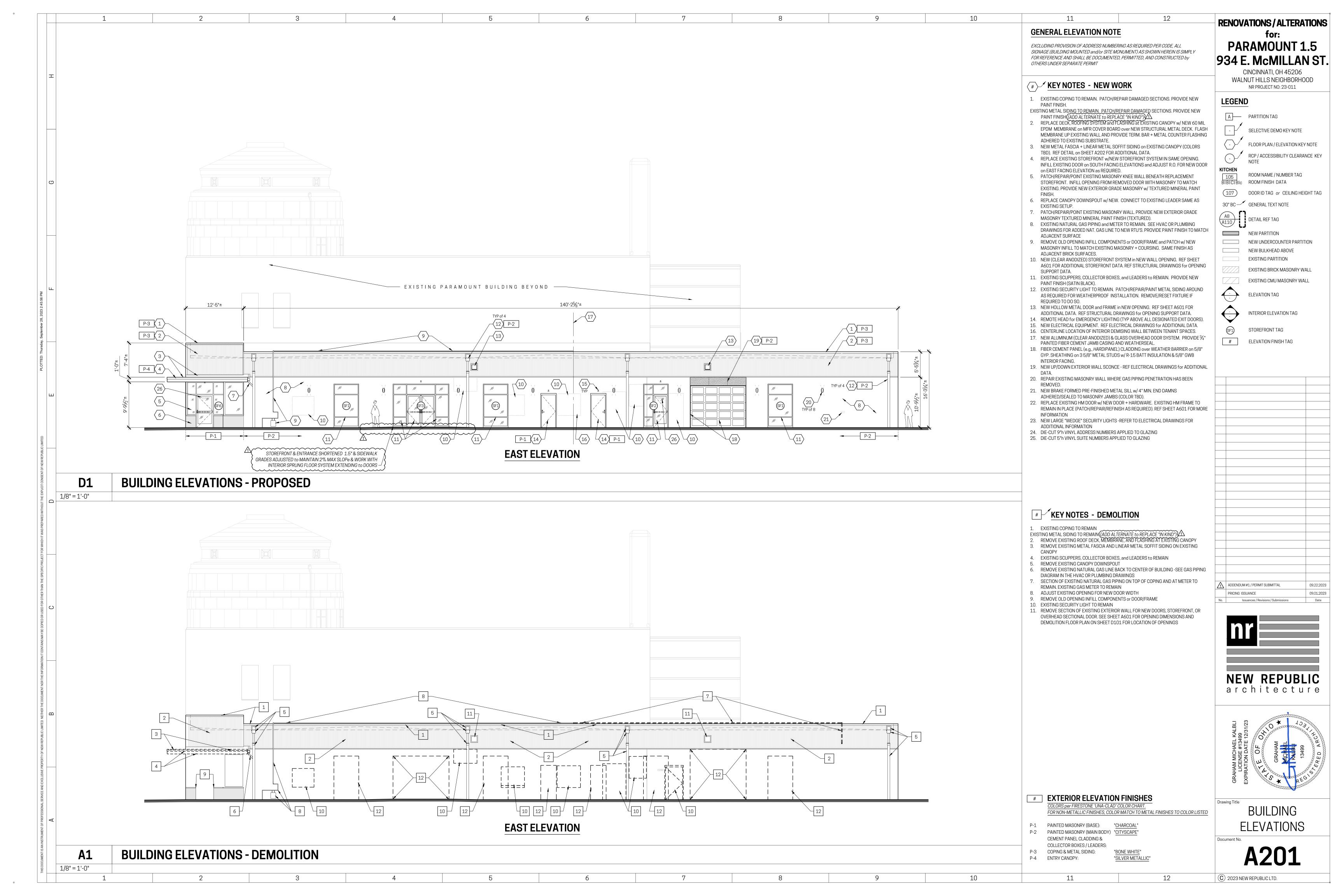


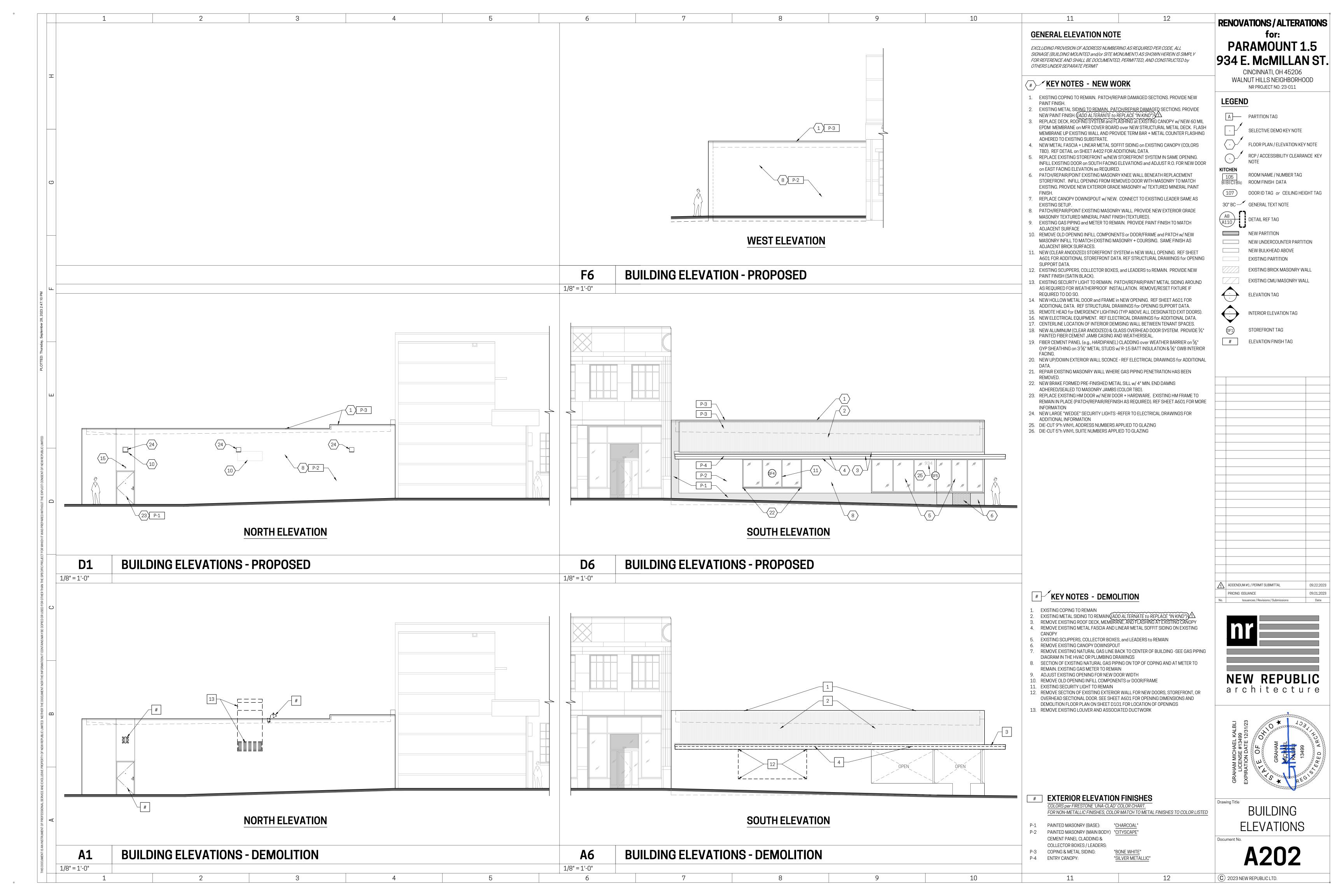


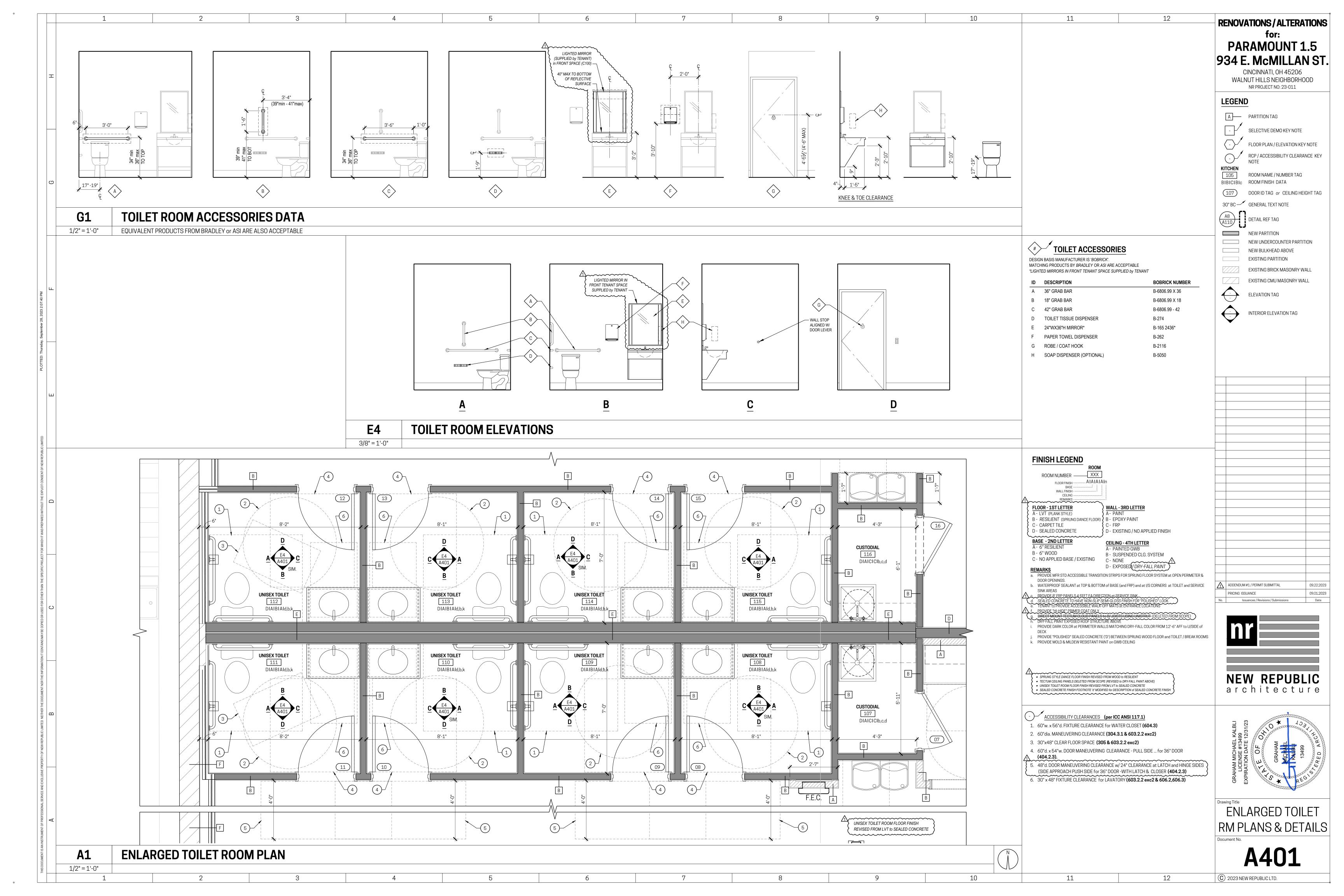


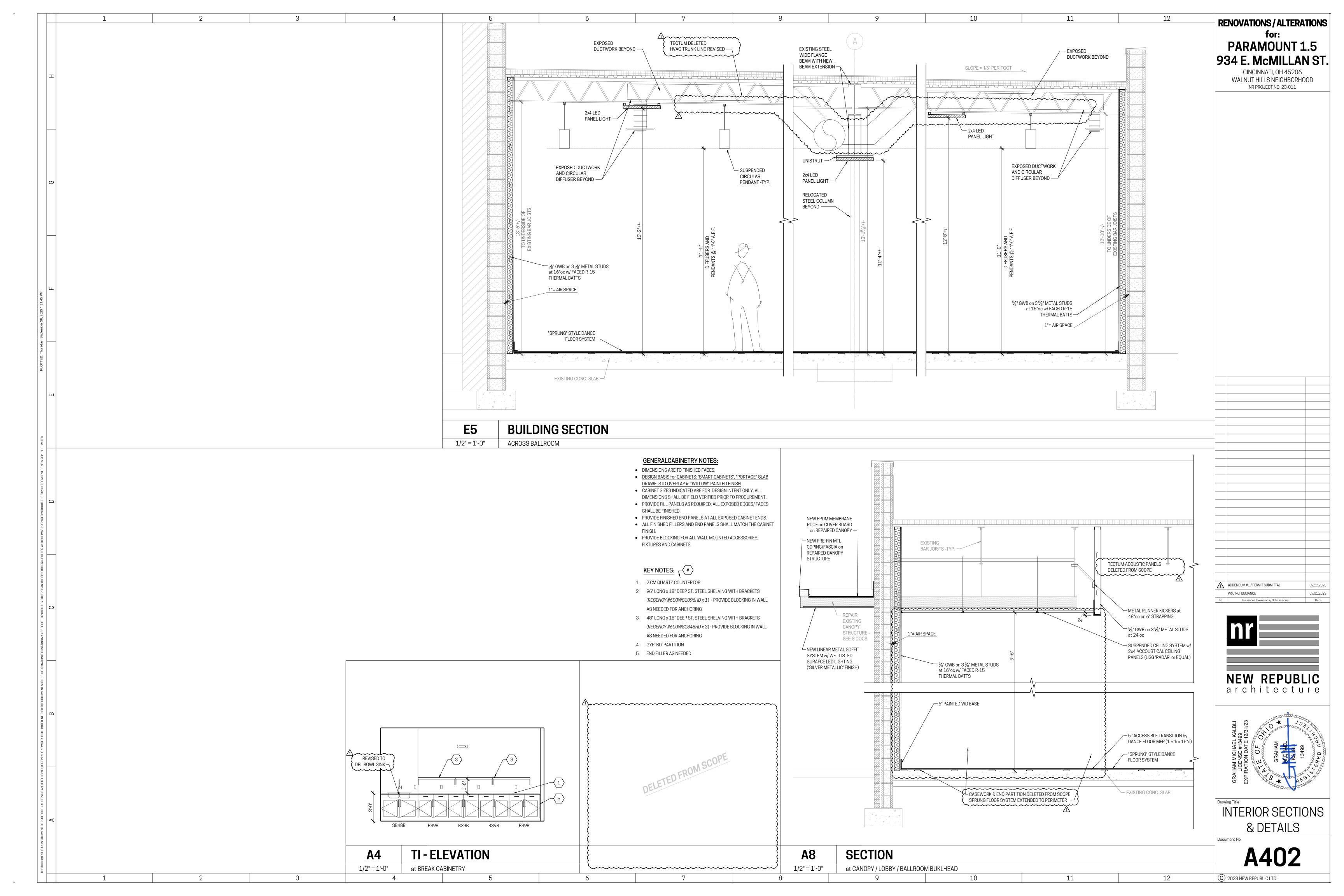


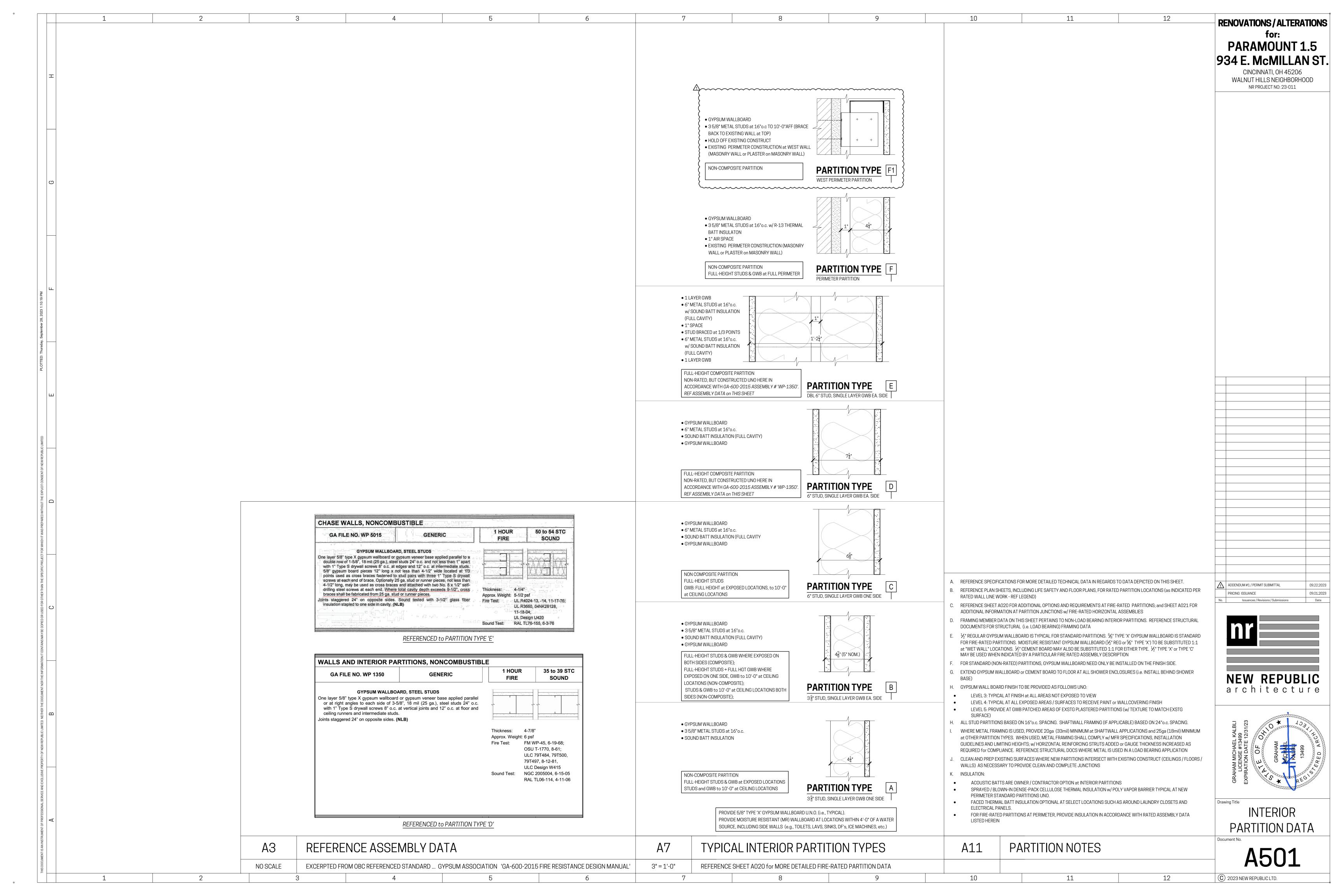


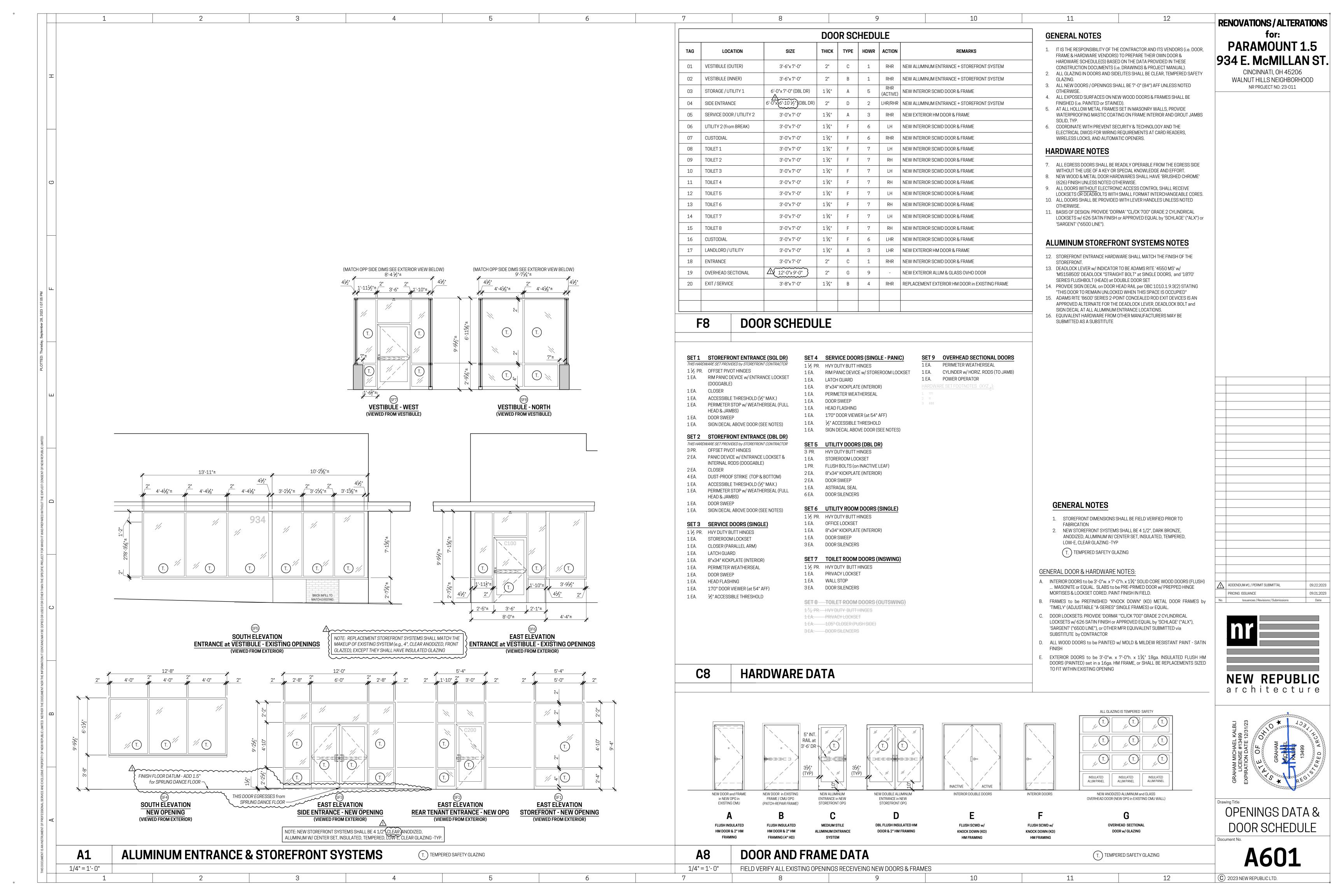












GENERAL STRUCTURAL NOTES

COPIES OF PUBLICATIONS REFERENCED IN THESE GENERAL STRUCTURAL NOTES ARE AVAILABLE FOR REVIEW AT ADVANTAGE GROUP ENGINEERS, INC CONTRACTORS UNFAMILIAR WITH THESE PUBLICATIONS MUST REVIEW THEM PRIOR TO CONSTRUCTION.

GOVERNING CODE

OHIO BUILDING CODE - 2017, BASED ON 2015 IBC

CLASSIFICATION OF THE BUILDING STRUCTURE: RISK CATEGORY III, TABLE 1604.5

DESIGN LOADS

1. ROOF LOAD:

- A. MINIMUM LIVE LOAD OR SNOW LOAD: 20 PSF*
- B. ROOF MEMBRANE: 1 PSF
- C. INSULATION: 3 PSF
- D. METAL DECK: 2 PSF E. JOIST FRAMING LOAD: 3 PSF
- F. CEILING (5/8" DRYWALL): 3 PSF
- G. SPRINKLERS: 3 PSF H. DUCTS, LIGHTS, MISC. MECHANICAL: 2 PSF

*MINIMUM LIVE / SNOW LOAD GOVERNED BY MINIMUM SNOW LOAD, $P_m = I_s * P_g$

2. SNOW LOAD:

- A. GROUND SNOW LOAD, $P_g = 20$ PSF.
- B. FLAT ROOF SNOW LOAD, $P_f = 15.4$ PSF MODIFIED BY APPLICABLE BUILDING COEFFICIENTS.
- C. MINIMUM ROOF SNOW LOAD, $P_m = 22 \text{ PSF}$.
- D. SNOW LOAD IMPORTANCE FACTOR, $I_s = 1.0$
- E. SNOW EXPOSURE FACTOR, C_e = 1.0 F. THERMAL FACTOR, $C_t = 1.0$
- G. COORDINATE ROOF FRAMING WITH FINAL SELECTION OF ROOF SUPPORTED MECHANICAL EQUIPMENT AND ASSOCIATED OPENINGS. ITEMS TO BE COORDINATED INCLUDE SIZE, LOCATION, TOTAL WEIGHT, WEIGHT DISTRIBUTION, AND SUPPORT FRAME REQUIREMENTS.

WIND LOAD:

- A. MAIN WIND FORCE RESISTING SYSTEM: 120 MPH PER ASCE 7-10 (3-
- SECOND GUST LOAD AND RESISTANCE FACTOR DESIGN).
- B. WIND EXPOSURE: B C. BASIC WIND VELOCITY PRESSURE, q_h= 18.0 PSF
- D. INTERNAL GUST PRESSURE COEFFICIENT, GCp = 0.18 (ENCLOSED BUILDING).

4. SEISMIC LOAD:

- A. COUNTY: HAMILTON
- B. BUILDING SITE CLASSIFICATION: D (ASSUMED) C. SPECTRAL RESPONSE ACCELERATION, S_S = 14.4
- a. $S_{DS} = 15.4$ D. SPECTRAL RESPONSE ACCELERATION, $S_1 = 7.8$
- a. $S_{D1} = 12.5$
- E. SEISMIC DESIGN CATEGORY, SDC = B
- F. SEISMIC IMPORTANCE FACTOR, I_e = 1.25
- G. SEISMIC FORCE RESISTING SYSTEM: A.11 (TABLE 12.2-1) H. RESPONSE MODIFICATION FACTOR, R = 1.5 (TABLE 12.2-1 ASCE 7)
- I. ANALYSIS PROCEDURE: ELFP
- J. SEISMIC RESPONSE COEFFICIENT, C_s = 0.104 (EQUATION 12.8-2) K. DESIGN BASE SHEAR, $V = C_s * W$ (MAXIMUM)

SPECIAL INSPECTIONS

PER THE REQUIREMENTS OF CHAPTER 17 SECTION 1704.1 OF THE REFERENCED BUILDING CODE, A SPECIAL INSPECTION IS REQUIRED FOR THE PROPOSED BUILDING CONSTRUCTION. SPECIAL INSPECTION INVOLVES THE VERIFICATION OF COMPLIANCE OF MATERIALS, INSTALLATION, FABRICATION, ERECTION AND OR PLACEMENT OF COMPONENTS WITH THE OFFICIAL SET OF CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. SPECIAL INSPECTION IS PART OF THE PERMIT APPLICATION PROCESS FUNDED BY THE OWNER OR THE OWNER'S AGENT.

A STATEMENT OF SPECIAL INSPECTION LISTING THE REQUIREMENTS ALONG WITH A SCHEDULE OF TESTING, SUBMITTAL REVIEWS, AND FIELD OBSERVATION REQUIREMENTS HAS BEEN PREPARED BY THE STRUCTURAL ENGINEER OF RECORD IN ACCORDANCE WITH SECTION 106.1 OF THE BUILDING CODE. THIS STATEMENT INCLUDES A COMPLETE LIST OF MATERIAL AND ACTIVITY REQUIRING INSPECTION. IT IS THE RESPONSIBILITY OF ALL PARTIES TO BECOME FAMILIAR WITH THIS REQUIREMENT AND UNDERSTAND THE GUIDELINES AND REQUIREMENTS OF EACH PARTY INVOLVED WITH THE CONSTRUCTION. A COPY OF THE STATEMENT OF SPECIAL INSPECTION IS AVAILABLE UPON REQUEST. THE SPECIAL INSPECTOR COORDINATOR SHALL COORDINATE WITH THE OWNER, CONTRACTOR AND THE DESIGN PROFESSIONALS AND SCHEDULE THE INSPECTIONS ACCORDINGLY.

SUBSTITUTIONS, SUBMITTALS, AND RFI'S

- 1. CONTRACTOR SHALL SUBMIT ALL SUBSTITUTIONS FOR APPROVAL PRIOR TO CONSTRUCTION WITH THE FOLLOWING INFORMATION:
- A. THE SCOPE, EXTENT, AND ALL LOCATIONS AFFECTED BY THE PROPOSED SUBSTITUTION.
- B. SPECIFIC DRAWING OR SPECIFICATION REFERENCES FOR THE
- ORIGINAL PRODUCT OR SYSTEM SPECIFIED.
- C. THE REASON FOR THE PROPOSED CHANGE.
- D. COST SAVINGS AND/OR IMPACT ON THE SCHEDULE E. IMPACT ON ANY GUARANTEES OR WARRANTIES ASSOCIATED WITH THE
- PRODUCT OR SYSTEM. F. COORDINATION REQUIRED WITH OTHER TRADES OR ADJACENT
- G. ANY AND ALL DEVIATIONS FROM THE SPECIFIED REQUIREMENTS
- 2. SHOP DRAWING SUBMITTALS SHALL BE SUBMITTED BY THE GENERAL CONTRACTOR IN A TIMELY MANNER TO PROVIDE AN ADEQUATE AMOUNT OF TIME FOR REVIEW.
- A. ALL SUBMITTALS MUST BE REVIEWED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING FOR REVIEW. ANY SHOP DRAWINGS RECEIVED DO NOT BEAR THE STAMP OF THE GENERAL CONTRACTOR AS WELL AS CLEAR EVIDENCE THAT THE SUBMITTAL HAS BEEN REVIEWED WILL BE REJECTED WITHOUT REVIEW.

B. REVIEW BY STRUCTURAL ENGINEER OF RECORD WILL BE FOR

- GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS AND CONFORMANCE WITH THE DESIGN CONCEPT. THIS REVIEW DOES NOT IN ANYWAY RELIEVE THE CONTRACTOR AND/OR THE CONTRACTOR'S SUBCONTRACTORS FROM RESPONSIBILITY FOR ERRORS OR DEVIATIONS FROM THE CONTRACT REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ALL DIMENSIONS, PROPER FIT, QUALITIES OF THE MATERIALS, AND COORDINATION WITH OTHER TRADES AND SUPPLIERS.
- C. IF CHANGES ARE MADE TO A PREVIOUSLY REVIEWED SUBMITTAL,
- DENOTE ALL REVISED AREAS WITH REVISION CLOUD AND TAGS. D. STRUCTURAL SUBMITTAL REQUIREMENTS:
- PE/SE Seal & Submittal Submittal/Shop Drawing Calculations Signature

- Concrete Mix Conforming to For Review N/a ACI 318 Masonry Block, Mortar, and For Review N/a N/a Grout Spec & Strength For Review Structural Steel
- For Review denotes the contractor must submit to the design team for review. The contractor shall not fabricate or install until all design team comments have been resolved in writing.
- For Record denotes the contractor must submit to the design team for record. The contractor's engineer is responsible for all loading and coordination of loads to be resisted by the building's structural elements. Any load resisted by the building's structural elements must be approved by the EOR. - *N/a* denotes not applicable.
- REQUESTS FOR INFORMATION (RFI'S) SHALL BE SUBMITTED IN A TIMELY MANNER WHEN INFORMATION IS MISSING FROM THE CONSTRUCTION DOCUMENTS, INFORMATION IS CONFLICTING WITHIN THE CONSTRUCTION DOCUMENTS, OR IS AMBIGUOUS.
- A. THE CONTRACTOR MUST USE DUE DILIGENCE IN ATTEMPTING TO FIND ANY ANSWER PRIOR TO SUBMITTING AN RFI.
- B. IF THE INFORMATION REQUESTED IN AN RFI IS APPARENT FROM FIELD OBSERVATION, IS CONTAINED IN THE CONSTRUCTION DOCUMENTS, OR IS REASONABLY INFERABLE FROM THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE TO THE OWNER FOR ALL REASONABLE COSTS CHARGED RELATED TO ADDITIONAL SERVICES INCURRED DUE TO ANSWERING THE RFI.

CONSTRUCTION AND SAFETY

- 1. THE CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED TO MAINTAIN STABILITY UNTIL COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.
- 2. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY THE CONTRACTOR.
- 3. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. WHEN ON SITE, THE ENGINEER IS RESPONSIBLE FOR HIS OWN SAFETY BUT HAS NO RESPONSIBILITY FOR THE SAFETY OF OTHER PERSONNEL OR SAFETY CONDITIONS AT THE SITE.
- 4. THE CONTRACTOR SHALL ONLY USE STRUCTURAL PLANS ISSUED AS "FOR CONSTRUCTION" OR ISSUES THEREAFTER. PRIOR ISSUES SHALL ONLY BE USED FOR PERMITTING OR BIDDING PURPOSES.
- 5. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. SHOULD ANY DISCREPANCY BE FOUND, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY OF THE CONDITION.
- 6. THE CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED DURING DEMOLITION AND CONSTRUCTION TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.

MISCELLANEOUS STRUCTURAL NOTES

- 1. THESE STRUCTURAL DRAWINGS DEPICT A STRUCTURAL SYSTEM AND THE MAJOR COMPONENTS OF THAT SYSTEM. MINOR ITEMS, INCLUDING BUT NOT LIMITED TO, POURSTOPS, DECK SUPPORT ANGLES, FRAMES AT FLOOR AND ROOF DECK OPENINGS, CFS AT ARCHITECTURAL FEATURES, ETC. SHALL BE SUPPLIED BY THE CONTRACTOR AS NEEDED TO PROVIDE A COMPLETE SYSTEM.
- 2. WHERE DETAILS ARE CALLED FOR IN ONE AREA OF THE BUILDING, THEY SHALL BE DUPLICATED AT SIMILAR CONDITIONS UNLESS NOTED OTHERWISE.
- 3. STRUCTURAL AND ARCHITECTURAL PLANS SHOW DIMENSIONS AND ELEVATIONS TO SIGNIFICANT WORKING POINTS. CONTRACTORS. DETAILERS AND SUPPLIERS ARE RESPONSIBLE FOR THE DETERMINATION OF ALL DIMENSIONS, PITCHES, ELEVATIONS, ETC. BEYOND THOSE NOTED AS NECESSARY TO THOROUGHLY DETAIL/FABRICATE THEIR WORK. CONTACT ARCHITECT WITH ANY DISCREPANCIES FOUND.

FOUNDATIONS

- 1. SOIL CONDITIONS:
- A. PER THE CLIENT'S REQUEST, THE FOUNDATION DESIGN AND GENERAL FOUNDATION NOTES ARE BASED ON THE ASSUMPTION OF FAVORABLE SOIL CONDITIONS. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO VERIFY THE DESIGN ASSUMPTIONS OF NATIVE UNDISTURBED SOILS PRIOR TO THE FOUNDATION INSTALLATION. THE COST FOR THIS DOCUMENTATION SHALL BE IDENTIFIED AS A SEPARATE ITEM ON THE CONTRACTOR'S BID. THE CONTRACTOR SHALL SUBMIT COPIES OF ALL FIELD-TESTING DOCUMENTATION TO ADVANTAGE GROUP ENGINEERS.
- 2. THE BOTTOM OF FOUNDATION ELEVATION INDICATED ARE FOR BIDDING PURPOSES AND MAY BE LOWERED TO SUIT SUB-SURFACE SOIL CONDITION. BEARING STRATA SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE. PROVIDE ENGINEERED FILL OR FLOWABLE FILL CONCRETE (500 PSI) UNDER FOUNDATIONS AT SOFT SPOTS AND FOR EXTENDING EXCAVATION TO ADEQUATE BEARING MATERIAL. INSTALL FOUNDATIONS AT DESIGNED ELEVATIONS.
- 3. FOOTINGS AND GRADE BEAMS MAY BE PLACED WITHOUT SIDE FORMS IF EXCAVATED WALLS STAND APPROXIMATELY VERTICAL.
- 4. ALL FOOTINGS SHALL BEAR ON LEVEL (WITHIN 1 IN 12) UNDISTURBED SOIL OR APPROVED ENGINEERED FILL. FOUNDATIONS HAVE BEEN DESIGNED FOR A MAXIMUM SOIL BEARING PRESSURE OF 2000 PSF BELOW STRIP FOOTINGS AND 2000 PSF BELOW ISOLATED COLUMN FOOTINGS.
- CONTRACTOR SHALL CONTACT UTILITY COMPANIES FOR LOCATING UNDERGROUND SERVICES AND IS RESPONSIBLE FOR THEIR PROTECTION AND SUPPORT.

6. COMPACTION:

- A. ALL FILL MATERIALS SHALL BE APPROVED BY A GEOTECHNICAL
- CONSULTANT. B. ENGINEERED FILL BENEATH FOOTINGS: MINIMUM COMPACTION 98%
- STANDARD PROCTOR DENSITY AT THE OPTIMUM MOISTURE CONTENT 7. ALL AREAS WITHIN THE FOOTPRINT OF THE BUILDING, INCLUDING UTILITY
- TRENCHES, MUST BE FREE OF ANY WET AND/OR SOFT AREAS PRIOR TO THE PLACEMENT OF FILL MATERIAL OR SLAB. 8. FINISHED GRADE SHALL SLOPE AWAY FROM THE PERIMETER FOUNDATION.

OF ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR

CONCRETE CONCRETE WORK AND TESTING SHALL CONFORM TO ALL REQUIREMENTS

BUILDINGS", EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS

- BELOW. REPORTS FROM TESTS REQUIRED BY SECTION 1.6 OF ACI 301 SHALL BE SUBMITTED TO STRUCTURAL ENGINEER, ARCHITECT, OWNER. CONTRACTOR, CONCRETE SUPPLIER, AND BUILDING OFFICIAL.
- 2. CONCRETE WORK IN COLD WEATHER SHALL CONFORM TO ALL REQUIREMENTS OF ACI 306.1 "STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING" AND ACI 306R "COLD WEATHER CONCRETING".
- 3. CONCRETE WORK IN HOT WEATHER SHALL CONFORM TO ALL REQUIREMENTS OF ACI 305R "HOT WEATHER CONCRETING". THE AIR TEMPERATURE, RELATIVE HUMIDITY, CONCRETE TEMPERATURE, AND WIND VELOCITY SHALL BE ENTERED INTO THE NOMOGRAPH OF THIS REFERENCE TO DETERMINE IF PRECAUTIONS AGAINST PLASTIC SHRINKAGE ARE REQUIRED.
- 4. CONCRETE MIX DESIGNS SHALL BE SUBMITTED FOR EACH TYPE OF CONCRETE TO THE STRUCTURAL ENGINEER FOR APPROVAL IN ACCORDANCE WITH ACI 301 SECTION 4.2.3.4 FIELD TEST DATA OR TRIAL
- 5. SUBMIT SHOP DRAWINGS OF REINFORCING STEEL.
- 6. MATERIALS (ALSO SEE CONCRETE MIX SCHEDULE):
- A. REINFORCING STEEL: ASTM A615 OR ASTM 996 (AXLE ONLY) 60 KSI YIELD DEFORMED BARS AND ASTM A1064 MESH, FLAT SHEETS ONLY. B. FLY ASH: ASTM C618, TYPE F OR C. FLY ASH-TO-TOTAL CEMENTITIOUS
- RATIO SHALL NOT EXCEED 25% MAXIMUM. C. GROUND GRANULATED BLAST FURNACE SLAG: ASTM C989. TOTAL GROUND GRANULATED BLAST FURNACE SLAG-TO-TOTAL
- CEMENTITIOUS RATIO SHALL NOT EXCEED 50% MAXIMUM. D. HIGH RANGE WATER REDUCER (HRWR) ADMIXTURE: ASTM C494. E. CHLORIDE CONTENT OF CONCRETE: LIMIT TOTAL CHLORIDE ION CONTENT TO AMOUNT INDICATED IN TABLE 4.2.2.6 OF ACI 318. ADMIXTURES CONTAINING CHLORIDE ARE NOT PERMITTED IN

REINFORCED CONCRETE OR CONCRETE CONTAINING METALS.

7. CONCRETE MIX SCHEDULE:

f' _c @ 28 days (psi)	Air Content ¹	Max w/c ratio ²	Max Agg. Size ¹ (in)	F Class	S Class	W Class	C Class
3000	N/a	0.55	3/4	F0	S0	W0	C0
4000	N/a	0.5	3/4	F0	S0	W0	C0
4500	6% ± 1.5%	0.45	3/4	F3	S0	W1	C1
	28 days (psi) 3000 4000	28 Air Content¹ (psi) 3000 N/a 4000 N/a 4500 6% ±	28	28 days (psi)	28 days (psi) Air Content¹ (psi) Max w/c ratio² Agg. Size¹ (in) F Class 3000 N/a 0.55 3/4 F0 4000 N/a 0.5 3/4 F0	28 days (psi) Air Content¹ (psi) Air Content¹ (psi) Agg. Size¹ (in) F Class (lass (in)) S Class (lass (in)) 3000 N/a 0.55 3/4 F0 S0 4000 N/a 0.5 3/4 F0 S0 4500 6% ± 0.45 3/4 F3 S0	28 days (psi) Air Content¹ (psi) M/c ratio² Agg. Size¹ (in) F Class Class W Class 3000 N/a 0.55 3/4 F0 S0 W0 4000 N/a 0.5 3/4 F0 S0 W0 4500 6% ± 0.45 3/4 F3 S0 W/1

- 1] Where 3/8" maximum aggregate is preferred, adjust air entrainment to 7.5% ± 1.5% (if required) [2] - Where air entrainment is not required by design, the contractor/supplier may choose to include air entrainment to improve placement or finish characteristics. Air entrainment is not permitted in normal weight concrete to receive a hard trowel finish and entrapped air shall not exceed 3%.
- $[3] f_c = 1800 \text{ psi } @ 3 \text{ days.}$ [4] - Normal weight aggregate with 8%-18% retained on each sieve. Fly ash not
- permitted. f'c = 1800 psi @ 3 days. [5] - Cortec MCI required.
- ડો f'c = 3000 psi @ 7 days. 7] - Entrained air is not required provided walls are painted and exterior paint is

8. SLUMP SHALL BE MEASURED PRIOR TO THE ADDITION OF HRWR.

- 9. ALL REINFORCING BARS, EMBEDS, AND ANCHOR RODS SHALL BE PLACED WITHIN THE REQUIRED TOLERANCES AND SUPPORTED TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT. WORKING REINFORCING BARS, EMBEDS, AND ANCHOR RODS INTO WET CONCRETE (KNOWN AS "WET STICKING") IS PROHIBITED. IF NECESSARY, CONTRACTOR MAY PROVIDE ADDITIONAL REINFORCING BARS TO SECURELY TIE REINFORCING BARS, EMBEDS, AND ANCHOR RODS.
- 10. LAP SPLICE REINFORCING BARS 48 BAR DIAMETERS UNLESS NOTED OTHERWISE.
- 11. BAR CLEARANCES BETWEEN ADJACENT BARS AND FORMWORK SHALL BE AS NOTED ON THE DRAWINGS OR A MINIMUM AS PER ACI REQUIREMENTS.
- 12. MACHINE TROWEL FINISH FLOOR SLAB AND CURE USING A METHOD RECOMMENDED BY ACI 302.1R (GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION) INCLUDING WATER CURING, WET COVERING, APPLICATION OF IMPERVIOUS SHEETING OR APPLICATION OF "CURE AND SEAL" TYPE CURING COMPOUND MEETING ASTM C-1315. FOR APPLICATIONS EXPOSED TO SUNLIGHT USE CLASS A (NON-YELLOWING) CURING COMPOUND. COORDINATE CURING METHOD WITH ARCHITECTURAL FLOOR FINISHES THAT REQUIRE ADHESION TO THE SLAB (SUCH AS TILE) TO INSURE PROPER BOND.
- 13. FLOOR SLAB-ON-GRADE SHALL CONFORM TO THE FOLLOWING SURFACE PROFILE TOLERANCES PER ASTM E-1155 AND ACI 117: F_f (FLATNESS) / F_I (LEVELNESS)
- A. SPECIFIED OVERALL VALUE: 25 / 20
- B. MINIMUM LOCAL VALUE: 18 / 13
- C. MAXIMUM GAP UNDER 10 FT. UNLEVELED STRAIGHTEDGE = 1/4".

EXPANSION AND EPOXY ADHESIVE ANCHORS

EXPANSION ANCHORS:

- A. EXPANSION ANCHORS SHALL BE MANUFACTURED BY THE HILTI COMPANY AND SHALL BE THE TYPE, SIZE, AND EMBEDMENT INDICATED ON THE DRAWINGS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SUBSTITUTES MAY BE CONSIDERED; SUBMIT MANUFACTURER'S DATA PRIOR TO INSTALLATION.
- 2. EPOXY ADHESIVE ANCHORS:

INSTALLATION

- A. EPOXY ADHESIVE SHALL BE HIT-HY 200 V3 EPOXY ADHESIVE MANUFACTURED BY THE HILTI COMPANY. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SUBSTITUTES MAY BE CONSIDERED; SUBMIT MANUFACTURER'S DATA PRIOR TO
- B. THREADED RODS SHALL BE ASTM A36. SIZES AND EMBEDMENT AS INDICATED ON THE DRAWINGS.
- C. CONDUCT JOB-SITE TRAINING OF ALL CONTRACTOR'S PERSONNEL INSTALLING THIS PRODUCT FOR SAFE AND PROPER INSTALLATION, HANDLING, AND STORAGE OF THE EPOXY SYSTEM.

MASONRY

- 1. MASONRY CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF "SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6/TMS 602)" EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.
- 2. COMPRESSIVE STRENGTH SHALL BE DETERMINED FOR EACH TYPE OF MASONRY BY THE UNIT STRENGTH METHOD.

- A. NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY USED FOR DESIGN: f'm = 2000 PSI AT 28 DAYS
- 3. SUBMITTALS SHALL BE MADE FOR THE FOLLOWING:

SPECIFICATIONS OF MORTAR AND GROUT.

- A. COLD WEATHER CONSTRUCTION PROCEDURE
- B. HOT WEATHER CONSTRUCTION PROCEDURE. C. MANUFACTURERS LITERATURE FOR: HORIZONTAL JOINT REINFORCING, REINFORCING STEEL POSITIONERS, MOVEMENT JOINT MATERIALS, TIES
- D. SHOP DRAWINGS SHOWING: DETAILS OF STEEL REINFORCING, AND LINTELS.
- E. MANUFACTURER'S CERTIFICATE OF COMPLIANCE FOR SPECIFIED
- MASONRY UNIT, AND REINFORCING STEEL F. PROPORTIONS OF MATERIAL IN ACCORDANCE WITH REFERENCED

4. MATERIALS:

AND ANCHORS.

- A. CONCRETE MASONRY UNITS: ASTM C90 TYPE I BELOW GRADE: NORMAL WEIGHT AGGREGATE PER ASTM C33.
- a. MINIMUM UNIT COMPRESSIVE STRENGTH, $f'_m = 2000 \text{ PSI}$. B. CONCRETE MASONRY UNITS: ASTM C90 TYPE I ABOVE GRADE:

LIGHTWEIGHT AGGREGATE PER ASTM C331 OR NORMAL WEIGHT

- a. MINIMUM UNIT COMPRESSIVE STRENGTH, $f'_m = 2000 \text{ PSI}$. C. FACING BRICK: ASTM C216 GRADE SW. COLOR AND SIZE AS NOTED ON THE ARCHITECTURAL DRAWINGS.
- D. MORTAR: ASTM C270 TYPE S, $f'_m = 1800$ PSI AT 28 DAYS. a. PORTLAND CEMENT-LIME MORTAR:
- i. PORTLAND CEMENT: TYPE I AND HYDRATED LIME b. MASONRY CEMENT MORTAR: AT CONTRACTOR'S OPTION. E. GROUT: ASTM C476. f'c = 2000 PSI. SLUMP 8" TO 10".
- F. REINFORCING STEEL: ASTM A615, 60 KSI YIELD. G. HORIZONTAL JOINT REINFORCING FOR CONCRETE MASONRY AND BRICK VENEER CAVITY WALL: 9 GAUGE LADDER TYPE PLACED IN CONCRETE MASONRY WITH PROJECTING EYES FOR 3/16" DIAMETER DOUBLE WIRE RECTANGULAR ADJUSTABLE PINTLE. HOT DIPPED GALVANIZED PER ASTM A153 CLASS B. THIS TYPE OF JOINT REINFORCING ALLOWS THE VENEER TO BE PLACED AFTER INTERIOR WYTHE IS PLACED. LADDER TYPE TRI-ROD MAY BE USED IF BOTH WYTHES ARE LAID SIMULTANEOUSLY. PLACE HORIZONTAL JOINT REINFORCING AT 16" CENTERS VERTICALLY FOR CONCRETE MASONRY. LAP HORIZONTAL JOINT REINFORCING 6" MINIMUM. HORIZONTAL JOINT REINFORCING SHALL BE DISCONTINUOUS ACROSS MOVEMENT JOINTS.
- 5. MORTAR PROPORTIONS MUST BE ACCURATELY MEASURED PRIOR TO MIXING. ADD CEMENT TO MIX IN FULL BAG QUANTITIES. MEASURE SAND IN BOX WITH VOLUME OF ONE CUBIC FOOT AS OFTEN AS NECESSARY TO MAINTAIN CONSISTENT PROPORTIONS AND AT LEAST ONCE DAILY AND EVERY 4 HOURS OF MIXING.
- 6. BAR LAPS ARE AS FOLLOWS UNLESS OTHERWISE NOTED. MINIMUM BAR LAPS SHALL NOT BE LESS THAN 48 BAR DIAMETERS.
- A. #4 BAR: 24" MINIMUM LAP
- B. #5 BAR: 30" MINIMUM LAP
- C. #6 BAR: 36" MINIMUM LAP
- D. IN DOUBLE REINFORCED CELLS, STAGGER BAR SPLICES ACCORDINGLY SO THAT LAPS DO NOT OCCUR WITHIN THE SAME SECTION ALONG THE HEIGHT OF THE WALL.
- 7. GROUT ALL CELLS BELOW GRADE SOLID.

STRUCTURAL STEEL

- 1. ALL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO AISC SPECIFICATIONS FOR "DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", LATEST EDITION.
- 2. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING

SOCIETY (AWS D1.1).

- 3. MATERIALS:
- A. ROLLED WIDE FLANGE SHAPES UNLESS NOTED: ASTM A992 DUAL
- GRADE, $F_v = 50$ KSI.
- B. ROLLED SHAPES AND PLATES UNLESS NOTED: ASTM A36.
- C. TUBULAR SHAPES: ASTM A500 GRADE C.
- D. PIPE SHAPES: ASTM A53, TYPES E OR S GRADE B. E. BOLTS: ASTM A325-N. 3/4" DIAMETER UNLESS NOTED. F. ANCHOR RODS: ASTM F1554 GRADE 36 KSI MATERIAL FULLY THREADED RODS HAVING A NUT TACK WELDED IN PLACE ON BOTTOM. MINIMUM
- EMBEDMENT AS NOTED ON THE DRAWINGS. G. FIELD WELDS: AWS E70XX, LOW HYDROGEN ELECTRODES. H. NON-SHRINK NON-METALLIC GROUT: CRD-C-621 AND ASTM C1107 FOR
- INTERIOR AND EXTERIOR APPLICATIONS
- 4. PAINT AND PROTECTION:
- A. STRUCTURAL STEEL UNLESS NOTED: FABRICATOR'S STANDARD PRIME COAT. TOUCH UP AFTER ERECTION.
- B. PROVIDE MINIMUM 3" CONCRETE COVER FOR ALL STEEL BELOW C. LINTELS SUPPORTING EXTERIOR MASONRY WYTHES AND MEMBERS EXPOSED TO WEATHER IN FINISHED STRUCTURES: HOT DIP GALVANIZE PER ASTM A123 AFTER FABRICATION. COATING WEIGHT PER PARAGRAPH 5.1 OF ASTM A123 AND A153. FABRICATE ASSEMBLIES PER ASTM A143, A384, AND A385. TOUCH UP AFTER ERECTION WITH ORGANIC ZINC RICH PAINT COMPLYING WITH DOP-P-21035 OR MIL-P-
- 26915, MULTIPLE COATS TO DRY FILM THICKNESS OF 8 MILS. 5. CONTRACTOR SHALL SUBMIT ERECTION AND SHOP DRAWINGS FOR REVIEW BY ENGINEER PRIOR TO FABRICATION. ANY DEVIATIONS FROM THE ORIGINAL DESIGN INTENT SHALL BE APPROVED PRIOR TO SUBMITTING ANY SHOP SUBMITTALS. SUCH DRAWINGS WILL BE REJECTED.
- 6. CONTRACTOR SHALL SUBMIT MISCELLANEOUS STEEL SHOP DRAWINGS FOR REVIEW BY ENGINEER PRIOR TO FABRICATION. MISCELLANEOUS STEEL SHOP DRAWINGS SHALL INCLUDE STAIRS AND GUARDRAILS. MISCELLANEOUS STEEL SHOP DRAWINGS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER WHO IS PROVIDING SERVICES AS A

METAL DECKING

SPECIALTY ENGINEER.

1. THE DESIGN, FABRICATION, AND ERECTION OF ALL STEEL DECKING SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE SPECIFICATIONS OF THE STEEL DECK INSTITUTE.

MATERIALS:

- A. DECK FOR ROOF: 22 GAUGE x1½" WIDE RIB STYLE, PAINTED WITH STANDARD SHOP COAT.
- 3. CONNECT 11/2" AND 3" ROOF DECK TO SUPPORTS WITH 5/8" ROUND PUDDLE WELDS OR HILTI FASTENERS (USE X-HSN FASTENERS FOR 3/8" THICK OR THINNER STEEL AND X-ENP-19 POWDER-ACTUATED FASTENERS WHERE BASE STEEL THICKNESS IS GREATER THAN OR EQUAL TO 1/4"). FASTEN 11/3" DECK AT 10" ON CENTER AT SUPPORTS FOR 30" WIDE DECK AND 12" ON CENTER AT SUPPORTS FOR 36" WIDE DECK AND AT 6" ON CENTER AT ENDS OF SHEETS AND PERIMETER. FOR 3" DECK, USE 8" ON CENTER PATTERN. SCREW SIDE LAPS AT 3'-0" MAXIMUM SPACING WITH #10 TEK SCREWS OR HILTI SLC.

4. METAL DECK SHALL BE PROVIDED TO RUN CONTINUOUS OVER AT LEAST 3 SPANS EXCEPT AS NOTED OTHERWISE.

DRAWING INDEX

TYPICAL ABBREVIATION LIST

LSL

LVL

MAX

NTS

PEMB

REINE

RTU

SCH

STL

TS

TYP

VFRT

WF

WP

NOT ALL ABBREVIATIONS APPLY. INCLUDED FOR REFERENCE ONLY.

T/FTG

MECH

= Long

Live Load

= Maximum

= Minimum

= Mechanical

= Non Shrink

= Not to Scale

Roof Drain

= Reinforcement

= Roof Top Unit

Step Footing

Solid Bearing

= Top Of Footing

Tube Steel

Typical

Vertical

Wide Flange

= Work Point

Step Wall

= Schedule

Similar

= Steel

Self Drilling Screw

= Secondary Roof Drain

= Unless Noted Otherwise

Welded Wire Fabic

= On Center

= Piece

= Plate

Micro Laminated

Long Leg Horizontal

Laminated Strand Lumber

= Laminated Veneer Lumber

= Powder Actuated Fastener

= Pounds Per Square Foot

= Pre-Engineered Metal Building

Long Leg Vertical

S001 GENERAL STRUCTURAL NOTES

Alternate Each Face

Bottom of Footing

= Bottom of Deck

= Architect

= Bearing

= Clear

= Concrete

= Continuous

Dead Load

Drawings

= Elevation

= Embedment

= Each Way

= Each Face

= Foundation

= Existina

= Exterior

= Footing

= Gauge

= Galvanized

Granular

= Pounds

= Horizontal

= General Contractor

= Hold Down Anchor

Hollow Structural Section

= Kips Per Square Foot

= Enaineer

Expansion Joint

= Equal Distance

= Cast In Place

Control Joint

= Concrete Masonry Unit

Center Line

Building

S110 FOUNDATION PLAN

S310 FOUNDATION SECTIONS

S320 FRAMING SECTIONS

S321 FRAMING SECTIONS

S120 FRAMING PLAN

ARCH

BLDG

B/FTG

B/DECK

BM

BRG

CIP

CLR

CMU

CONC

CONT

DWG

EMBD

ENGR

EQ

EW

EX

EXT

FTG

FND

GALV

GRAN

HORZ

HSS

GC

DL

- CONNECT METAL DECK TO STRUCTURAL MEMBERS, INCLUDING PERIMETER ANGLES.
- OPENINGS UP TO 6" SQUARE MAY BE CUT THROUGH METAL DECK WITHOUT REINFORCING, OPENINGS BETWEEN 6" AND 18" SHALL BE REINFORCED WITH STEEL ANGLES 2x2x1/4 PUDDLE WELDED TO THE METAL DECK FLUTES AND ORIENTED PERPENDICULAR TO THE FLUTES. STEEL REINFORCING ANGLE SHALL EXTEND A MINIMUM OF 2 FLUTES EACH SIDE OF THE
- WELDING OF METAL DECK SHALL BE IN ACCORDANCE WITH AWS D1.3.



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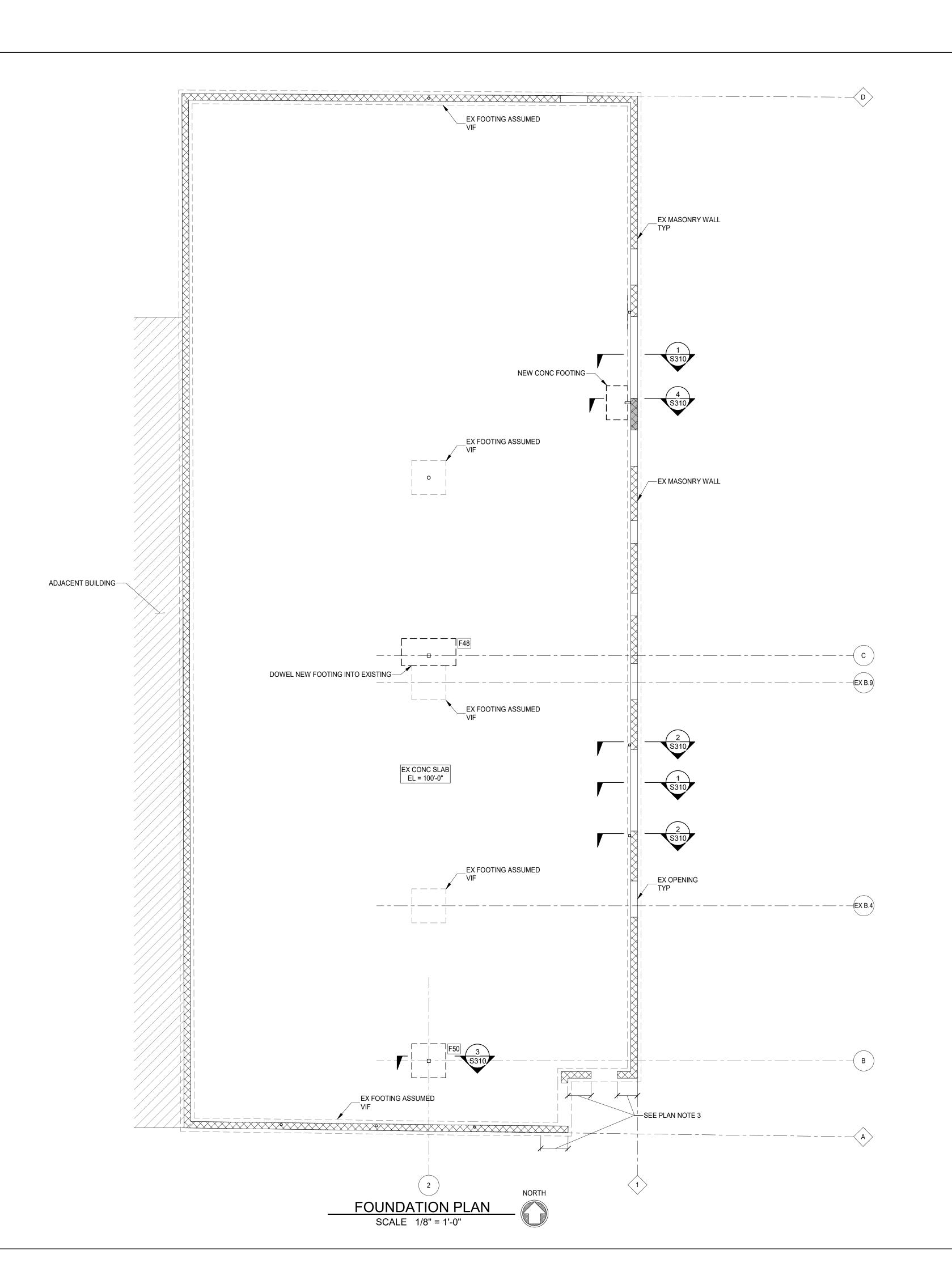
Revision/Submission Date PRICING & PERMIT 09.01.23

Project Number: 23140.02

Design Team: KCJ / OCP

NOTES

GENERAL STRUCTURAL





FOOTING SCHEDULE	
DESCRIPTION	

4'-0"x8'-0"x1'-6" CONC FOOTING w/(4) #6's LONG WAY & (8) #5's SHORT WAY BOTTOM SEE PLAN 5'-0"x5'-0"x1'-0" CONC FOOTING w/(5) #5's EACH WAY BOTTOM SEE PLAN

PLAN NOTES:

- COORDINATE ALL DIMENSIONS, DOOR AND WINDOW LOCATIONS WITH ARCHITECTURAL DRAWINGS.
 FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION & CONSTRUCTION. NOTIFY ADVANTAGE OF ANY
- DISCREPANCIES.

 3. TIE EXISTING BRICK VENEER TO CMU WITH HELIFIX TIE THRU BRICK & THRU FACE OF CMU. SPACE @ 16"o.c. VERTICAL & 16"o.c. HORIZONTAL. REBUILD BRICK THAT IS LOOSE & PROVIDE TIES.

PREPARED II

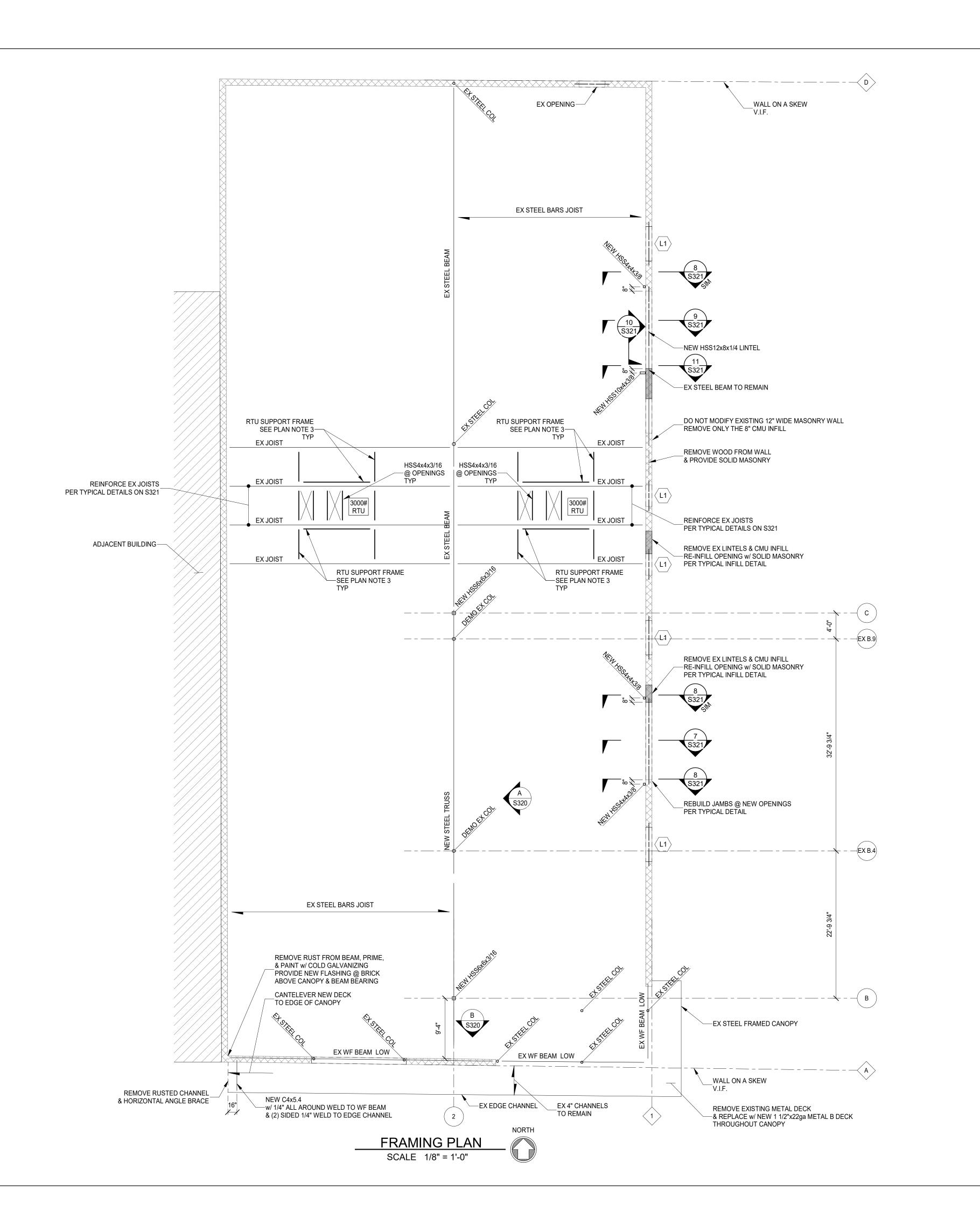


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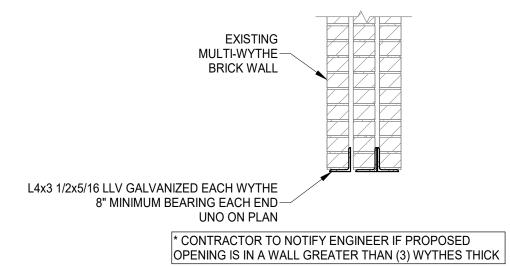
Design Team: KCJ / OCP

Project Number: 23140.02

FOUNDATION PLAN







NEW LINTEL L1 DETAIL SCALE 3/4" = 1'-0"

> FOR: NEW REP 934 CINCINN

PLAN NOTES:

- 1. COORDINATE ALL DIMENSIONS, DOOR AND WINDOW LOCATIONS WITH ARCHITECTURAL DRAWINGS. 2. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO FABRICATION & CONSTRUCTION. NOTIFY ADVANTAGE OF
- ANY DISCREPANCIES.
- PROVIDE NEW HSS4x4x3/16 FRAME MEMBERS BELOW RTU CURB & FOR DECK SUPPORT AT NEW RTU OPENINGS.
 REINFORCE JOISTS FOR CONCENTRATED LOADS AT CURB FRAME LOCATIONS.
 SEE S321 FOR JOIST REINFORCING INFORMATION & RTU SUPPORT DETAILS.

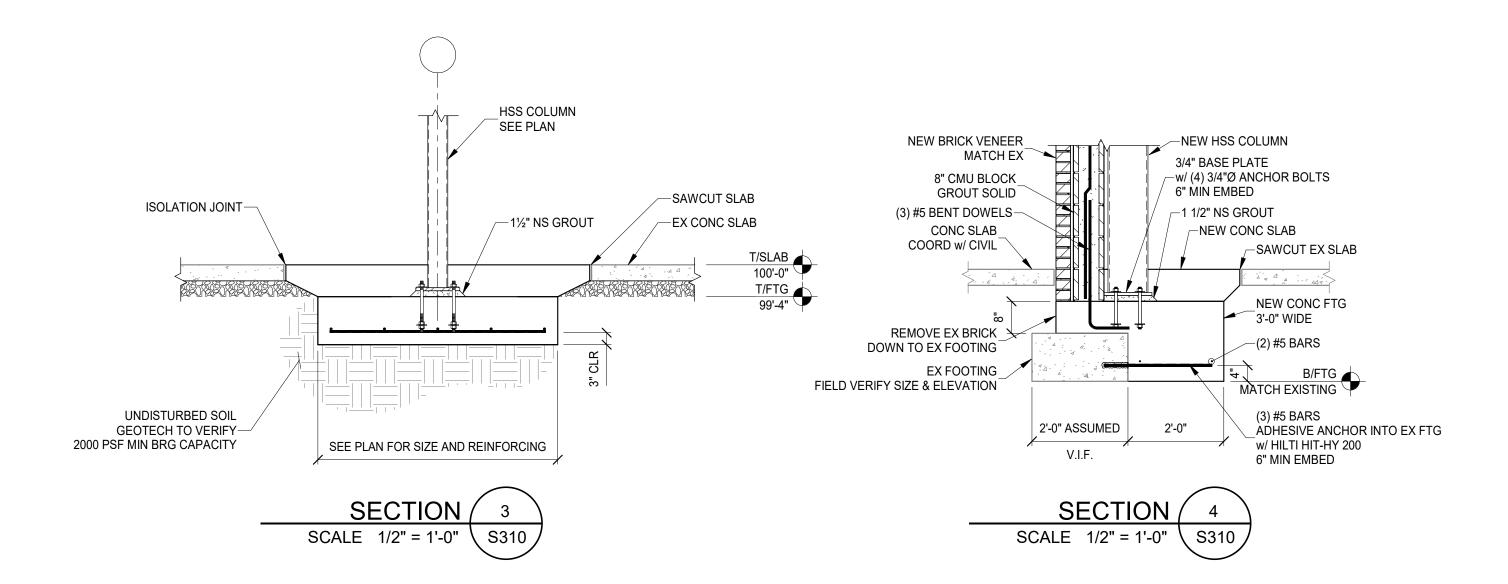


KYLE C. JENKINS

753080

Project Number: 23140.02 Design Team: KCJ / OCP

FRAMING PLAN



─ DEMO EX MASONRY WALL

EXT CONC FTG ASSUMED

4" MIN EMBED

EXT CONC SLAB

-#4 CONT

SEE CIVIL

SCALE 1/2" = 1'-0" \ S310

NEW STOREFRONT_ SEE ARCH

NEW CONC CURB-

#4 BENT BAR @ 12"o.c. —POST INSTALL w/ SILTI HIT-HY200 ADHESIVE

EX MASONRY WALL

-NEW HSS 4x4x3/8 COLUMN

EX CONC SLAB

SCALE 1/2" = 1'-0" \ S310

1/2"x5"x9" BASE PLATE /--w/ (2) 5/8"x3" SIMPSON TITEN HD



PREPARED FOR: NEW REPUBLIC

934 E McMILLAN ST

CINCINNATI, OH 45206

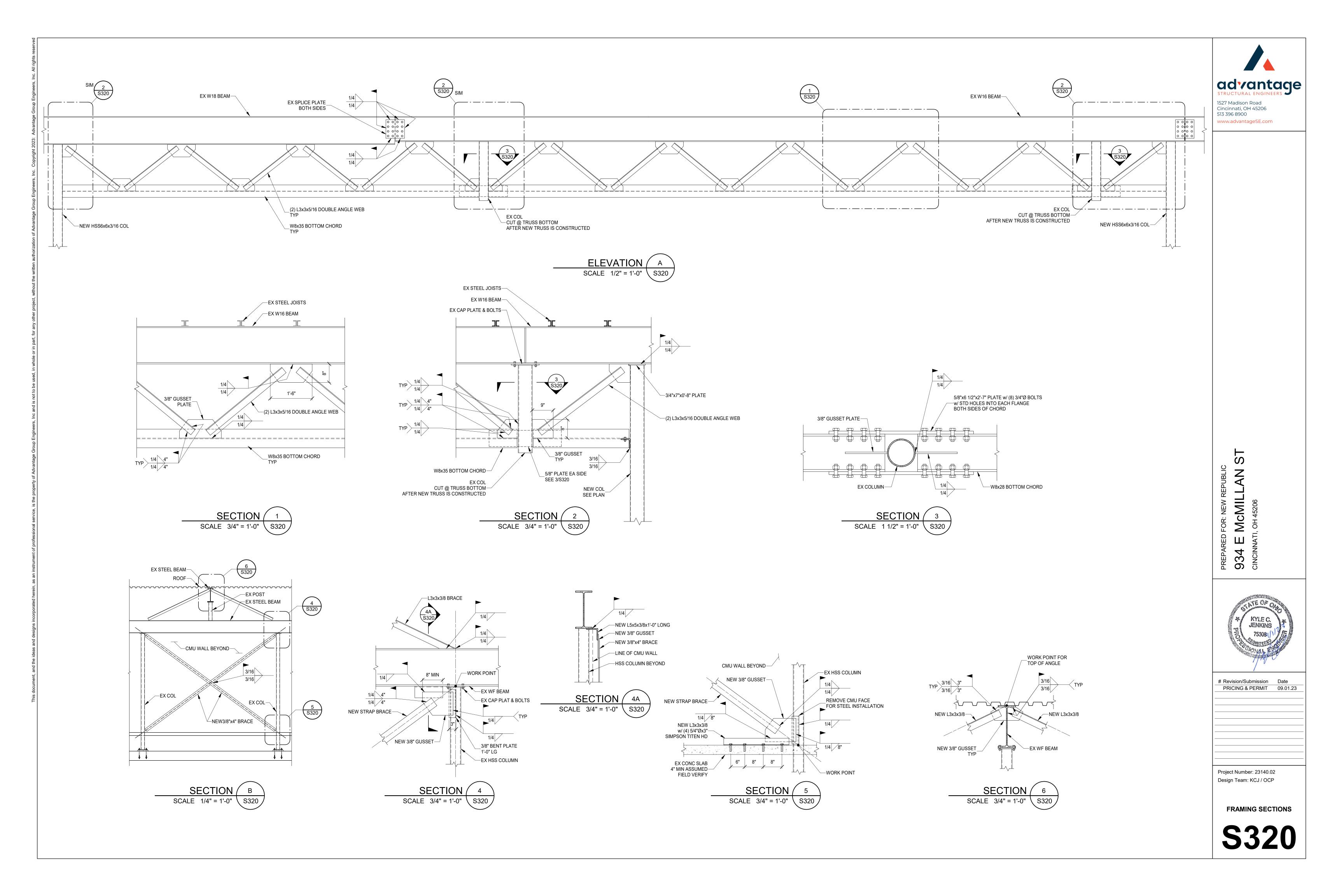


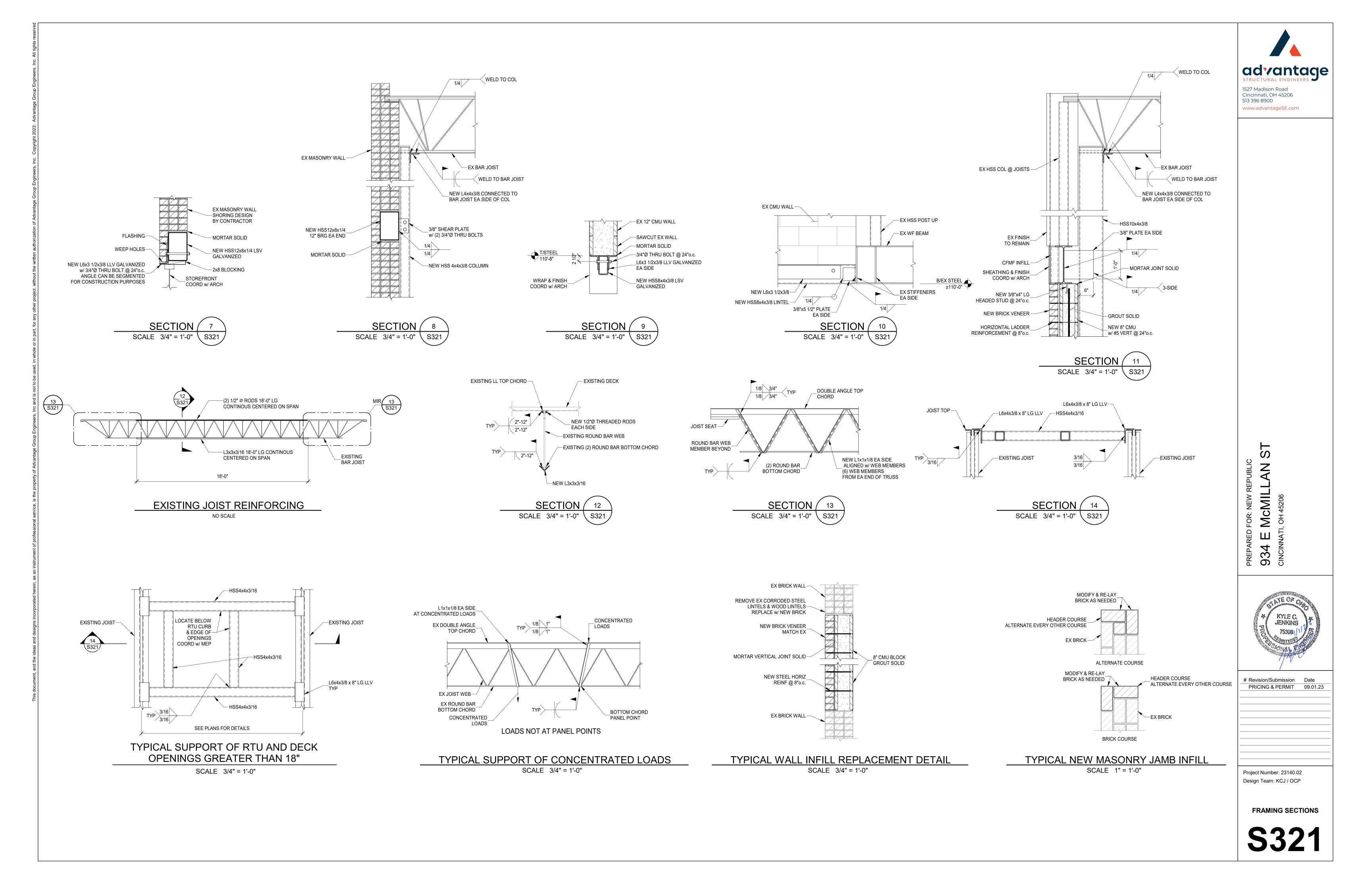
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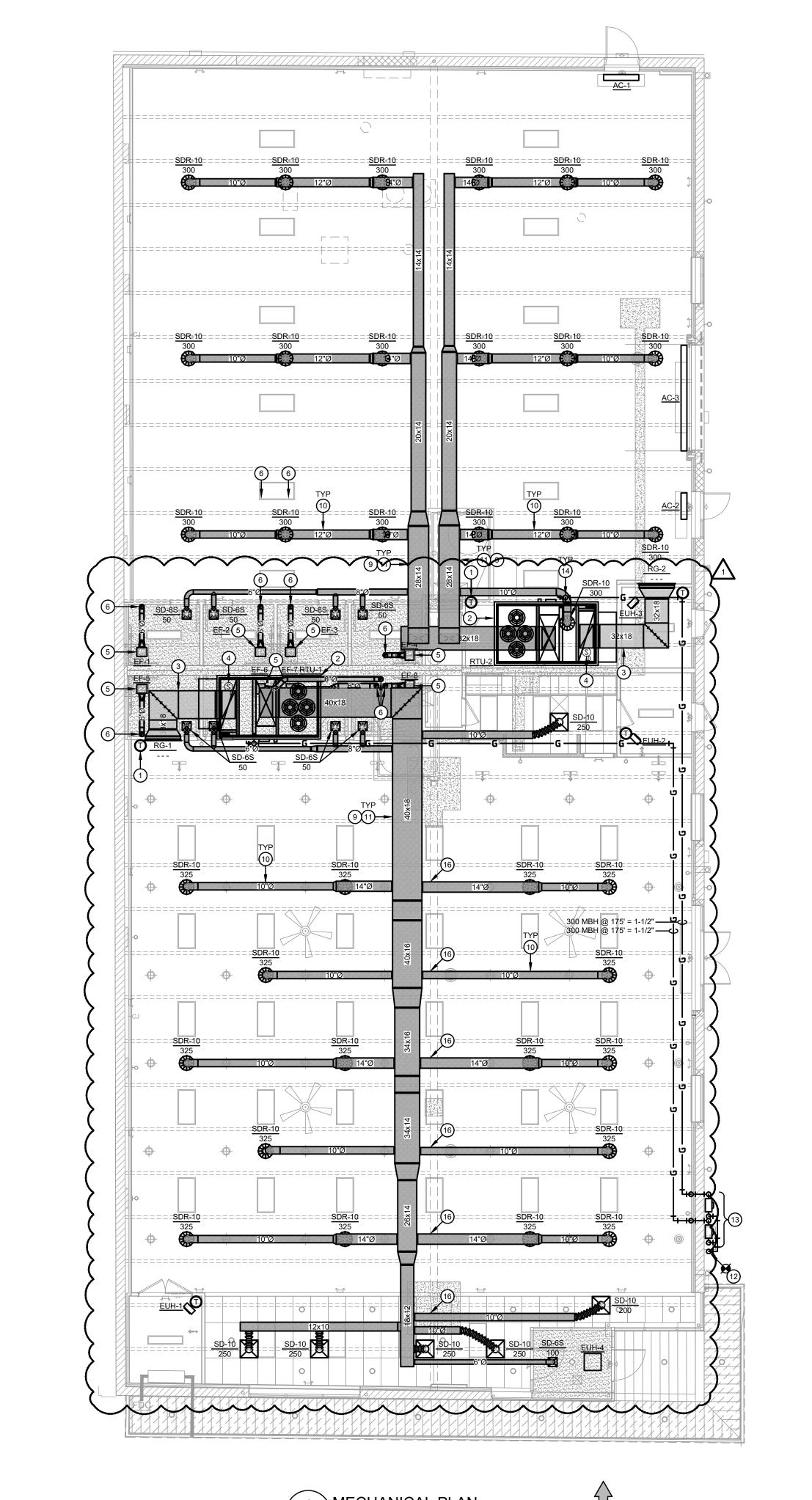
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FOUNDATION SECTIONS

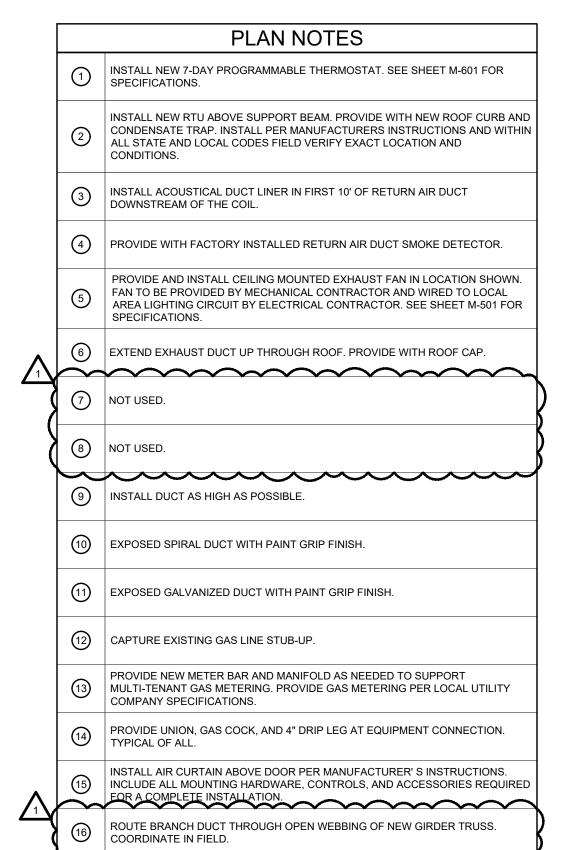
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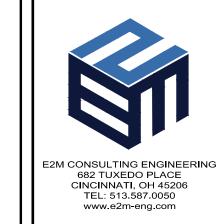




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	IICAL PLAN SYMBOL LEGEND T LEGEND (NOT ALL SYMBOLS MAY BE USED)
SIZE	NEW METAL DUCTWORK.
SIZE	EXISTING METAL DUCTWORK.
SIZE	METAL DUCTWORK TO BE DEMOLISHED.
***************************************	NEW FLEX DUCTWORK. SIZE SHALL BE EQUAL TO ASSOCIATED DEVICE AND DUCTWORK UNLESS OTHERWISE NOTED.
000000000000000000000000000000000000000	EXISTING FLEX DUCTWORK. SIZE SHALL BE EQUAL TO ASSOCIATED DEVICE AND DUCTWORK UNLESS OTHERWISE NOTED.
111111111111111111111111111111111111111	FLEX DUCTWORK TO BE DEMOLISHED.
DEVIC	CE LEGEND (NOT ALL SYMBOLS MAY BE USED)
	NEW OR RELOCATED DIFFUSER. REFER TO SCHEDULE FOR MORE INFORMATION.
	EXISTING DIFFUSER TO REMAIN. REFER TO SCHEDULE FOR MORE INFORMATION.
\bowtie	SUPPLY AIR DIFFUSER.
Ø	DUCTED RETURN AIR DIFFUSER/GRILLE.
	RETURN AIR GRILLE TO PLENUM ABOVE.
	EXHAUST AIR DIFFUSER/GRILLE.
	LINEAR SLOT DIFFUSER
_	SIDWALL OR DUCTMOUNTED GRILLE.
	CABINET STYLE EXHAUST FAN
MISCELLAI	NEOUS LEGEND (NOT ALL SYMBOLS MAY BE USED)
	POINT OF CONNECTION TO EXISTING SYSTEM ELEMENTS.
IDCFM	DEVICE IDENTIFIER. RL = RELOCATE, EX=EXISTING BALANCE OR REBALANCE TO CFM SHOWN. SEE AIR DEVICE AND EQUIPMENT SCHEDULES.
T	TEMPERATURE SENSOR, REFER TO SPECIFICATIONS.
TOD: 10'-6"	TOP OF DUCT: ELEVATION 10'-6" AFF.



PARAMOUNT SQUA 934 E McMillen St. Cincinnati. Obio 45206

LAWRENCE S. AYER 56787										
· 2		1								
ב ב	09.01.23	09.22.23								
10001	PRICING & PERMIT	ADDENDUM #1								

LAWRENCE
S.
AYER
56787

SIGNATURE

SIGNATURE

MECHANICAL PLAN

DATE

DRAWN BY: MAS/DCA
CHECKED BY: KJR
SCALE: AS NOTED
JOB NUMBER: 23182
START DATE: 07/28/2023

M-101

AIR HANDLER SETUP AND BALANCING NOTES

There are (3) three operational mode settings for the furnace. They are as follows:

COMFORT (default) -- Cooling airflow is varied depending on humidity and temperature demands settings. This selection enables the full dehumidify and comfort capabilities of the system. When COMFORT is not selected, the unit will not run reduced airflows for dehumidification.

EFFICIENCY -- Fixed airflow used to achieve specified ratings --no dehumidification airflow eduction. This is nominally 350 CFM/ton, but will vary if a 2-stage outdoor unit is used.

MAXIMUM -- 400 CFM/ton. No dehumidification airflow reduction.

For normal operation the system shall operate in COMFORT. This utilizes the system to its maximum potential. During dehumidification mode it can modulate the fan down to 250 CFM per ton and if it senses ice forming on the coil, it will slowly ramp up to prevent it.

For the balancing the system, set to MAXIMUM with the fan switch set to HIGH. Once it is balanced the system can then be changed back to COMFORT.

The operation modes are accessible through the service menu. To enter INSTALL / SERVICE menus, press and hold the ADVANCED button for at least ten seconds. The following menu will appear:

EQUIPMENT SUMMARY: Shows all equipment recognized by and attached to the system. INSTALL: Used when adding, changing out, or un--installing equipment.

SETUP: Used to view or modify equipment settings. CHECKOUT: Allows testing of equipment operation SERVICE: Used to view operation and fault history of equipment and enter dealer name/phone

Go to SETUP, then to FURNACE, then to AC Airflow. From there set it to MAXIMUM, set the fan switch on the side of the thermostat to HIGH and balance the system. It should be performing at 400

Once everything is balanced accordingly, go back into the service menu and change it back to COMFORT and set the fan switch to AUTO.

SEQUENCE OF OPERATION

STARTUP: AN HOUR BEFORE OPENING. THE THERMOSTATS SHALL GO INTO OCCUPIED MODE AND THE OUTSIDE AIR DAMPER SHALL OPEN TO A PREDETERMINED SET POINT. IN HEATING MODE THE THERMOSTAT SHALL BE SET TO 71 DEGREES AND IN COOLING MODE IT SHALL BE SET TO 72 DEGREES. COORDINATE THE HOURS OF OPERATION WITH THE OWNER.

OCCUPIED DURING OCCUPIED HOURS THE THERMOSTAT SET POINT SHALL REMAIN AT 71 DEGREES IN HEATING MODE AND 72 DEGREES IN COOLING MODE. THE OUTSIDE AIR DAMPER SHALL BE OPEN AND SHALL MAINTAIN THE REQUIRED MINIMUM OUTSIDE AIR TO THE SPACE.

DURING UNOCCUPIED HOURS THE RTU SHALL GO INTO FAIL SAFE SETBACK: POSITION. FAIL SAFE POSITION IS DEFINED BY THE FOLLOWING: THE SUPPLY FAN IS OFF. THE OUTSIDE AIR DAMPER IS CLOSED. THE HEATING IS OFF AND THE MECHANICAL COOLING IS OFF. THE SUPPLY FAN SHALL CYCLE IN CONJUNCTION WITH EITHER THE HEATING OR COOLING SYSTEM

EF-3

EF-4

EF-5

EF-8

MARK MANUFACTURER

MARKEL

MARKEL

BERKO

COLOR SHALL BE WHITE.

PROVIDE END CAPS AS NEEDED.

EBH-1

EBH-4

TO MAINTAIN 65 DEGREES IN HEATING AND 78 DEGREES IN COOLING.

MANUFACTURER / MODEL #

GREENHECK / SP-A90

PROVIDE WITH SPEED CONTROLLER.

GREENHECK / SP-A90

HF5605

FFCH548-RENW-1

UNIT TO BE SUSPENDED FROM CEILING. PROVIDE ALL REQUIRED HARDWARE.

PROVIDED WITH 24V CONTROL TRANSFORMER.

PROVIDED WITH INTEGRAL MECHANICAL THERMOSTAT

SMACNA HVAC DUCTWORK SHEET METAL GAUGES														
MAXIMUM						SMAC	NA PRE	SSURE	CLASS					
DUCT	0.50 W.C.		1.00 W.C.		2.00	2.00 W.C.		W.C.	4.00 W.C.		6.00 W.C.		10.00 W.C.	
DIMENSIONS	Α	В	Α	В	Α	В	Α	В	Α	В	Α	В	Α	В
4" - 8"	24	-	24	-	24	-	24	24	24	24	24	24	22	24
9" - 10"	24	-	24	-	24	-	24	24	22	24	22	24	20	22
11" - 12"	24	-	24	-	24	-	24	24	22	24	20	24	18	22
13" - 14"	24	-	24	-	24	24	22	24	20	24	20	22	18	20
15" - 16"	24	-	24	-	24	24	22	24	20	24	18	22	16	20
17" - 18"	24	-	24	24	22	24	20	24	18	24	18	22	16	20
19" - 20"	24	24	24	24	20	24	18	24	18	24	16	22	-	18
21" - 22"	22	24	22	24	18	24	18	24	18	24	16	22	-	18
23" - 24"	22	24	22	24	18	24	18	24	18	22	16	22	-	18
25" - 26"	20	24	20	24	18	24	18	24	16	22	-	20	-	18
27" - 28"	18	24	18	24	18	24	18	22	16	22	-	20	-	18
29" - 30"	18	24	18	24	18	24	18	22	16	22	-	18	-	18
31" - 36"	18	24	18	24	16	24	16	20	-	20	-	18	-	16
37" - 42"	16	24	16	24	-	22	-	20	-	18	-	16	-	16
43" - 48"	16	24	16	22	-	22	-	18	-	18	-	16	-	16
49" - 54"	-	24	-	22	-	20	-	18	-	18	-	16	-	16
55" - 60"	-	24	-	22	-	20	-	18	-	16	-	16	-	16
61" -72"	-	22	-	18	-	18	-	16	-	16	-	16	-	16
73" -84"	-	22	-	18	-	16	-	16	-	16	-	16	-	16
85" -96"	-	20	-	18	-	16	-	16	-	16	-	16	-	16
97" -108"	-	18	-	16	-	16	-	16	-	16	-	16	-	16
109" -120"	-	16	-	16	-	16	-	16	-	16	-	16	-	16

THIS TABLE IS BASED ON THE FOLLOWING:

VOLTS PHASE WATTS/HP

1,874 6,396 275 208 1

275

275

6,826 300

208

208

14W

14W

14W

14W

14W

14W

ELECTRIC DATA

VOLTS PHASE HERTZ

EXHAUST FAN SCHEDULE

120

120

120

120

FAN DATA

SP RPM

880

ELECTRIC HEATER SCHEDULE

CAPACITY

70 0.25 880 120 1

0.25 880

0.25 880

0.25

70 0.25 880

70 0.25 880

UNIT HEATER

COLUMN A: DUCT GAUGE REQUIREMENT WITH NO REINFORCEMENT COLUMN B: DUCT GAUGE WITH REINFORCEMENT AS INDICATED BELOW

BACKDRAFT

DAMPER

YES

YES

YES

YES

YES

YES

60 1,2,3

0.50" W.C. PRESSURE CLASS: 5 FEET REINFORCING SPACING FOR SPACING 19" -

1.00" W.C. PRESSURE CLASS: 5 FEET REINFORCING SPACING FOR SPACING 17" -108" AND 4 FEET SPACING FOR 109" - 120"

1.2.3. 2.00" W.C. PRESSURE CLASS: 5 FEET REINFORCING SPACING FOR 13" - 84" AND 4 FEET SPACING FOR 85" - 108" AND 3 FEET SPACING FOR 109" - 120".

1.2.4. 3.00" W.C. PRESSURE CLASS: 5 FEET REINFORCING SPACING FOR G 4" - 84", 4 FEET SPACING FOR 85" - 96" AND 3 FEET SPACING FOR 97" - 120". 4.00" W.C. PRESSURE CLASS: 5 FEET REINFORCING SPACING FOR 4" - 60", 4 FEET

SPACING FOR 61" - 72" AND 3 FEET SPACING FOR 73" - 120". 1.2.6. 6.00" W.C. PRESSURE CLASS: 5 FEET REINFORCING SPACING FOR 4" - 48", 4 FEET

SPACING FOR 49" - 60" AND 3 FEET SPACING FOR 61" - 120". 10.00" W.C. PRESSURE CLASS: 5 FEET REINFORCING SPACING FOR 4" - 42", 4 1.2.7. FEET SPACING FOR 43" - 54", 3 FEET SPACING FOR 55" - 72" AND 2 FEET SPACING

MARK	RTU-1	RTU-2		
MANUFACTURER	CARRIER	CARRIER		
MODEL#	48LCEA20A2M5-0R4A0	48LCEA17A2M5-0R4A0		
CONFIGURATION	VERTICAL SUPPY/RETURN	VERTICAL SUPPY/RETURN		
DISCHARGE	DOWNFLOW	DOWNFLOW		
APPLICATION TYPE	SINGLE ZONE	SINGLE ZONE		
HEAT TYPE	GAS	GAS		
DESIGN CFM	7,000	6,000		
NOMINAL CAP	17.5 TON	15 TON		
COOLING STAGES	3-STAGE WITH TVX	3-STAGE WITH TVX		
TOTAL COOLING MBH	188.56	169.45		
SENS. TOTAL MBH	136.88	121.36		
IEER / ARI EER	17.7 / 12.00	18.4 / 12.50		
REFRIGERANT TYPE	R410A	R410A		
GAS INPUT MBH	248.0/310.0	248.0/310.0		
OUTPUT MBH	200.0/251.0	200.0/251.0		
VOLTAGE/PHASE	208V/3Ø/60Hz	208V/3Ø/60Hz		
MCA	85.9	80.0		
MOCP	100	100		
SINGLE POINT POWER	YES	YES		
HINGED PANELS	YES	YES		
SUPPLY FAN	MED STATIC W/ VFD	MED STATIC W/ VFD		
FILTERS	2"	2"		
CRANKCASE HEATER	YES	YES		
LOW AMBIENT	YES	YES		
ROOF CURB (14")	YES	YES		
ECONOMIZER	ENTHALPY	ENTHALPY		
HOT GAS REHEAT	YES	YES		
POWER EXHAUSTER	NO	NO		
HAIL GUARD	YES	YES		
TXV OPTION	YES	YES		
ELEC. DISCONNECT	YES	YES		
CONV. RECEPTACLE	UNPOWERED	UNPOWERED		
RTRN DUCT SMOKE DETECTOR	YES	YES		
ROOF CURB	CRRFCURB047A00	CRRFCURB047A00		
UNIT WEIGHT	3,078	2,972		
DIMENSIONS (L x W x H)	11'-9.5" X 7'-2.375" X 4'-10.5"	11'-9.5" X 7'-2.375" X 4'-10.5"		
 NOTES	1,2,3,4	1,2,3,4		

RETURN AIR DUCT SMOKE DETECTOR. PROVIDE WITH CARRIER # 33CONNECTSTAT43 CARRIER CONNECT WI-FI 7-DAY

PROVIDE HIGH PRESSURE AND FREEZE-STAT CONTROLS.

PROGRAMMABLE THERMOSTAT.

<20

RG-1

PRICE

95 SERIES

LOUVERED

1-WAY

SIDEWALL

AS NOTED

72" X 20"

75" X 23"

STEEL

YES

<25

RG-2

PRICE

95 SERIES

LOUVERED

1-WAY

SIDEWALL

AS NOTED

60" X 20"

53" X 33"

STEEL

YES

<25

OR EQUAL BY TRANE, DAIKIN, YORK, OR LENNOX.

	MARK	SD-6S	SD-10	SGR-10	
Щ	MANUFACTURER	PRICE	PRICE	PRICE	
	MODEL NUMBER	SPD	SPD	10" / RCD	
SE	TYPE	FLAT PLAQUE	FLAT PLAQUE	3-CONE	
ЭЩ	DIRECTION	4-WAY	4-WAY	360°	
上长天	MOUNTING	LAY-IN / DRYWALL	LAY-IN / DRYWALL	DUCT	
	G/R/D	D	D	D	
س نہ	CFM	AS NOTED	AS NOTED	AS NOTED	
	NECK SIZE	6"Ø	10"Ø	10"Ø	
l ⊨≅	PANEL SIZE	12x12	24x24	18"Ø	
<u> </u>	MATERIAL	STEEL	STEEL	STEEL	
9 0	FINISH	WHITE	WHITE	WHITE	
∣ ⋓≒	DAMBER	VEC	VEC	VEC	

1,2

DIFFUSERS SHALL BE 4-WAY FLOW UNLESS OTHERWISE NOTED

PAINT GRIP FINISH.

AIR CURTAIN SCHEDULE										
MADK	MARK MANUFACTURER	MODEL	TYPE	LENGTH	HEATING	CFM	EL	NOTES		
WARK WANUFACTURER	WODEL	ITPE	LENGIII	KW	CFIVI	VOLTS	PHASE	HERTZ	INCIES	
AC-1	MARS	LPV248-1EBD-OB	LOW PROFILE	48"	8.00	1200	208	1	60	1,2,3
AC-2	MARS	LPV236-1EBC-OB	LOW PROFILE	36"	6.10	900	208	1	60	1,2,3
AC-3	MARS	LPV2144-2EEO-OB	LOW PROFILE	144"	26.0	3600	208	3	60	1,2,3

COLOR SHALL BE BLACK.

	Щ	MANUFACTURER	PRICE	PRICE
ΓES	l	MODEL NUMBER	SPD	SPD
		TYPE	FLAT PLAQUE	FLAT PLAQ
<u> </u>		DIRECTION	4-WAY	4-WAY
·	一世天	MOUNTING	LAY-IN / DRYWALL	LAY-IN / DRY
·		G/R/D	D	D
·	ш	CFM	AS NOTED	AS NOTE
·		NECK SIZE	6"Ø	10"Ø
<u> </u>	TE II	PANEL SIZE	12x12	24x24
<u> </u>		MATERIAL	STEEL	STEEL
<u>'</u>		FINISH	WHITE	WHITE
		DAMPER	YES	YES
	₽₹	SOUND (NC)	<20	<20

REMARKS / NOTES

PROVIDE WITH DRYWALL WALL MOUNTING FRAME WHERE REQUIRED. PROVIDE WITH DUCT MOUNTING FRAME WHERE REQUIRED.

PROVIDED WITH ALL REQUIRED CONTROLS AND ACCESSORIES.

Outdoor Air Calculations Per ASHRAE Standard 62.1

PLOTTED BY KEVIN ON Friday, September 22, 2023 4:10:31 PM. FILE LOCATION: Z:\1. PROJECTS CURRENT\23182 PARAMOUNT SQUARE\++WORKING FILES\PARAMOUNT SQUARE\SHEETS\23182-M-501.DWG

						Minimum Ventilation Known Occupancy Minimum Ventilation Default Values Minimum		Minim um	Total	Total Breathing	Primary	System #1	Max Zp: 0.31	System #2	Max Zp: 0.34				
Room	Room	Room	System	Occupancy Category	Exhaust Occupancy Category	CFM Per	CFM per	No. of	People per	CFM	Number	Exhaust	Exhaust	Zone	Outdoor Air				'
Number	Nam e	Area	Number	(Table 6.1)	(Table 6.4)	Person	1,000 Ft ²	People	1,000 Ft ² (Pz)	Per	of	Rate	Rate	Outdoor	Fraction	Supply	Outdoor Air	Supply	Outdoor Air
						(Rp)	(Ra)	(Pz)	(Pz)	Person	People	(Table 6.4)		Air	(Zp)				
101	Vestibule	67 Ft ²	1	General - Corridors			0.06							4.02	0.05	100	5		
102	Hall A	4445 Ft ²	1	Educational Facilities - Multi-use Assembly		7.50	0.06	174.00						1,571.70	0.31	6,400	750		
103	Storage	81 Ft ²	1	General - Corridors												50			
104	Storage	76 Ft ²	1	General - Corridors												50			
105	Kitchen	143 Ft ²	1	Not Applicable - Exhaust Only	Kitchenettes							0.30	42.90			250			
106	Janitor	25 Ft ²	1	Not Applicable - Exhaust Only	Janitor Trash Recycle							1.00	25.00			20			
107	Restroom	55 Ft ²	1	Not Applicable - Exhaust Only	Toilets - Public								70.00			50			
108	Restroom	55 Ft ²	1	Not Applicable - Exhaust Only	Toilets - Public								70.00			50			
109	Restroom	55 Ft ²	1	Not Applicable - Exhaust Only	Toilets - Public								70.00			50			
110	Restroom	56 Ft ²	1	Not Applicable - Exhaust Only	Toilets - Public								70.00			50			
111	Restroom	56 Ft ²	2	Not Applicable - Exhaust Only	Toilets - Public								70.00					50	
112	Restroom	55 Ft ²	2	Not Applicable - Exhaust Only	Toilets - Public								70.00					50	
113	Restroom	55 Ft ²	2	Not Applicable - Exhaust Only	Toilets - Public								70.00					50	
114	Restroom	55 Ft ²	2	Not Applicable - Exhaust Only	Toilets - Public								70.00					50	
115	Janitor	25 Ft ²	2	Not Applicable - Exhaust Only	Janitor Trash Recycle							1.00	50.00					20	
116	Hall B	4000 Ft ²	2	Educational Facilities - Multi-use Assembly		7.50	0.06	174.00						1,545.00	0.34			5,700	750
117	Storage	72 Ft ²	2	General - Storage Rooms														75	
Notes																17.5 Tor	n System	15.0 Ton	n System

17.5 Ton System 15.0 Ton System 32% Outdoor Air 28% Outdoor Air People: 174 System Efficiency: 0.80 System Efficiency: 0.80 Occupant Diversity: 1.00 Occupant Diversity: 1.00 1.931 CFM O.A. Required 1.970 CFM O.A. Required

HVAC NOTES

SCOPE OF WORK

WORK OF THIS NATURE.

- 1.1. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
- 1.2. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE INTERNATIONAL MECHANICAL CODE 2006, ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING
- 1.3. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY EFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
- 1.4. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

SHOP DRAWINGS

2.1. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ARCHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.

3.1. SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY U.L., CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50. USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 8 LINEAR FEET PER RUN. CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.

REFRIGERANT PIPING

- 4.1. CONTRACTOR SHALL PROVIDE AND INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN SUCH A WAY AS TO BE INCONSPICUOUS AND FREE FROM ANY POSSIBLE CONDENSATION. INSULATE REFRIGERANT LINES WITH ARMOUR-FLEX TYPE INSULATION.
- 4.2. SHALL BE TYPE "K" COPPER TUBING, WITH WROUGHT COPPER SOLDER TYPE FITTINGS SUITABLE FOR CONNECTION WITH SILVER SOLDER DUCTWORK.

SHEET METAL DUCT WORK

SPECIFIED OTHERWISE.

- 5.1. THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "SMACNA" APPLICABLE MANUALS. ALL DUCTWORK SHALL BE THE LOW VELOCITY TYPE, UNLESS
- 5.2. CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON DRAWINGS.
- 5.3. ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS.
- 5.4. SMOOTH TURN RADIUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 150 CFM.
- 5.5. ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH "SMACNA" STANDARDS AND ACCEPTED GOOD PRACTICE.
- 5.6. ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.
- 5.7. ALL CONCEALED DUCTWORK SHALL BE INSULATED WITH 1-1/2" FIBERGLASS INSULATING BLANKET WITH ALUMINUM FOIL FACING.
- 5.8. ALL SUPPLY AND RETURN DUCTWORK 15 FEET DOWNSTREAM OF THE HVAC UNIT SHALL BE INTERNALLY LINED WITH A 1/2" ACOUSTICAL DUCT LINER.

DRAINAGE PIPING (CONDENSATE)

6.1. SHALL BE SCHEDULE 40 PVC PIPE WITH SOLVENT JOINTS. PITCH HORIZONTAL LINES 1" IN 10'-0". CONDENSATE DRAINS SHALL BE ROUTED TO FLOOR DRAIN OR INDIRECT WASTE

HVAC CONTROLS

- 7.1. CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.
- 8.1. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR LOCATION OF

WIRING FOR EACH HVAC UNIT. PIPE SUPPORTS

9.1. ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAP TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED 8 FEET FOR ALL PIPING. PLASTIC PIPING TO BE SUPPORTED EVERY 4 FEET.

- MISCELLANEOUS 10.1. ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE, TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE.
- 10.2. COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.
- 10.3. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS, VERIFY ALL FIGURES. CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
- 10.4. THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.

11.1. THE HVAC SYSTEM SHALL BE TESTED AND AND BALANCED BY AN INDEPENDENT AGENCY, UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND

- 12.1. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.
- 12.2. FOR THE SAME PERIOD, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.

PROJECT GENERAL NOTES

- THE DRAWINGS ARE DIAGRAMMATIC ONLY AND INDICATE THE GENERAL ARRANGEMENT OF THE SYSTEMS AND ARE TO BE FOLLOWED INSOFAR AS POSSIBLE. IF DEVIATIONS FROM THE LAYOUTS ARE NECESSITATED BY FIELD CONDITIONS, DETAILED LAYOUTS OF THE PROPOSED DEPARTURES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR REVIEW BEFORE PROCEEDING WITH THE WORK.
- THE MECHANICAL CONTRACTOR SHALL REVIEW ALL DRAWINGS IN DETAIL AS THEY MAY RELATE TO THEIR WORK.
- EACH CONTRACTOR SHALL INSPECT THE SITE ON WHICH THE WORK IS TO BE PERFORMED, AND THE OBSTACLES THAT MAY BE ENCOUNTERED, AND ALL RELEVANT MATTERS CONCERNING THE WORK.
- THE CONTRACTOR SHALL FILE ALL NECESSARY NOTICES. OBTAIN AND PAY FOR ALL PERMITS, FEES, AND OTHER COSTS INCLUDING UTILITY CONNECTIONS OR EXTENSION, IN CONNECTION WITH HIS WORK, AS NECESSARY, HE SHALL FILE ALL REQUIRED PLANS. PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL UTILITY AND GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.
- IGNORANCE OF CODES, RULES, AND REGULATIONS, UTILITY COMPANY REQUIREMENTS. LAWS. ETC. SHALL NOT DIMINISH OR ABSOLVE CONTRACTOR'S RESPONSIBILITIES TO PROVIDE AND COMPLETE ALL WORK IN COMPLIANCE WITH SUCH.
- ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE OHIO MECHANICAL CODES, NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL AGENCIES OR DEPARTMENTS HAVING JURISDICTION.

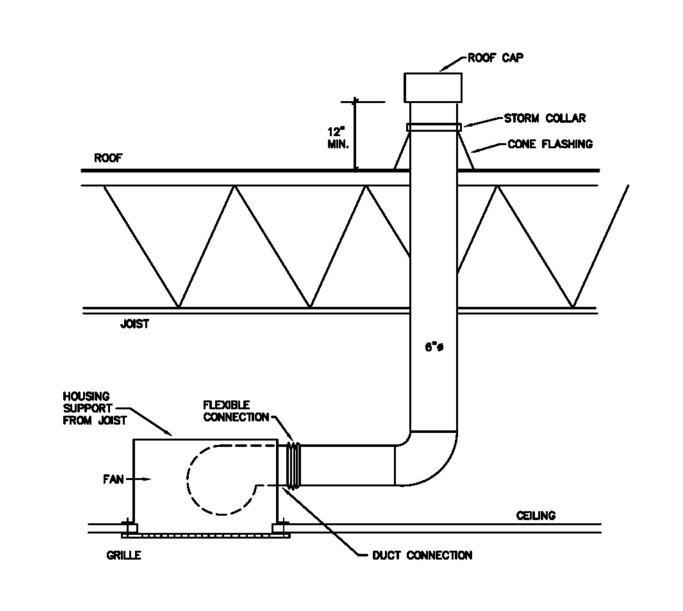
E2M CONSULTING ENGINEERIN **682 TUXEDO PLACE** CINCINNATI, OH 45206 TEL: 513.587.0050 www.e2m-eng.com

SIGNATURE DATE

> SCHEDULES DRAWN BY: MAS/DCA

MECHANICAL

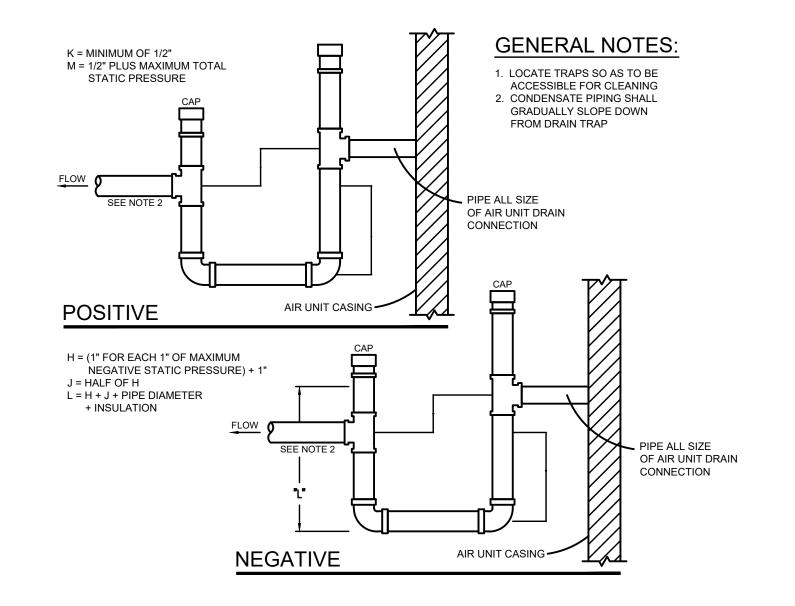
CHECKED BY: KJR SCALE: AS NOTED JOB NUMBER: 23182 START DATE: 07/28/2023



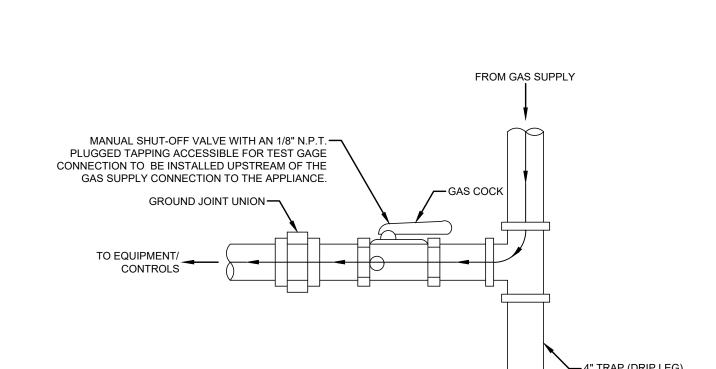
RESTROOM EXHAUST FAN DETAIL

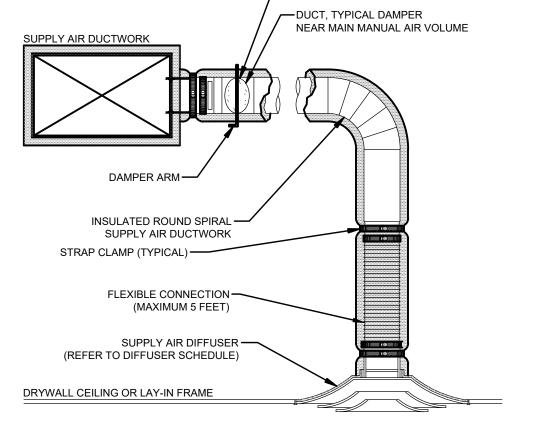
M-601 SCALE: NONE

PLOTTED BY KEVIN ON Friday, September 22, 2023 4:10:49 PM. FILE LOCATION: Z:\1. PROJECTS CURRENT\23182 PARAMOUNT SQUARE\++WORKING FILES\PARAMOUNT SQUARE\SHEETS\23182-M-601.DWG

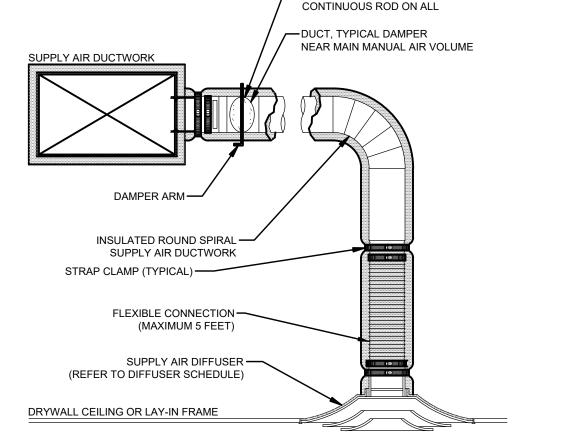


\CONDENSTATE DRAIN TRAP DETAIL M-601 SCALE: NONE

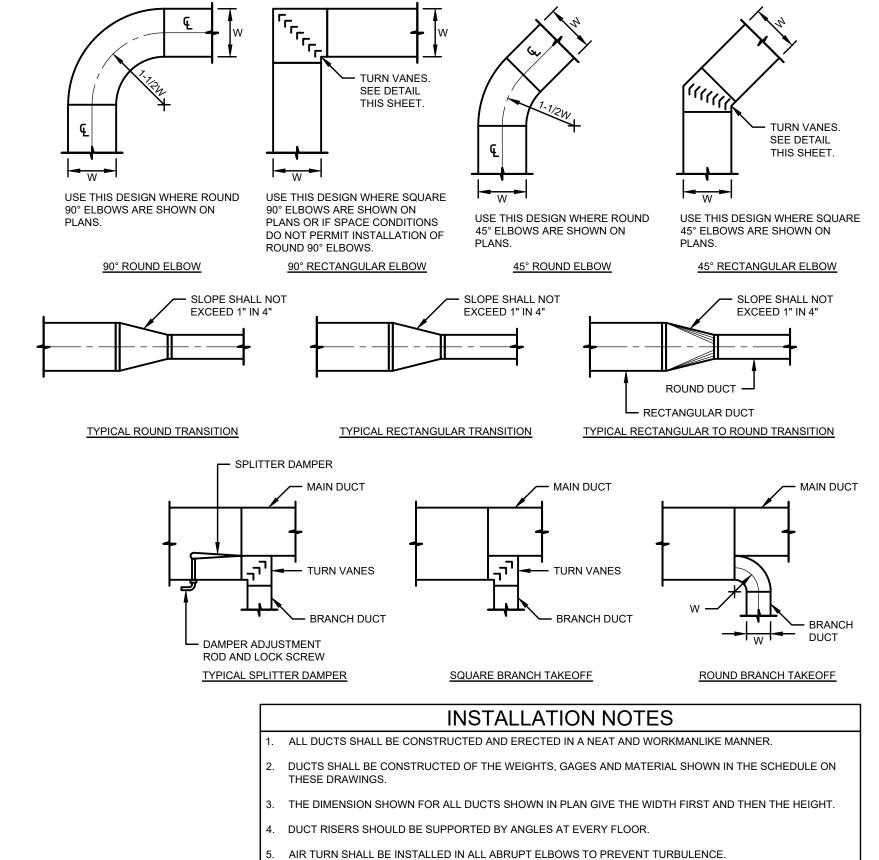




CEILING MOUNTED DIFFUSER DETAIL **\GAS CONNECTION TO EQUIPMENT DETAIL**



← DAMPERS OVER 12"Ø



DUCTS SHALL BE SECURELY ATTACHED TO THE BUILDING CONSTRUCTION IN AN APPROVED MANNER.

ACCESS PANELS SHOULD BE PLACED BEFORE AND/OR AFTER EQUIPMENT INSTALLED IN THE DUCT.

IO. DUCT AREA SHOULD NOT BE DECREASED MORE THAN 10 PERCENT WHEN OBSTRUCTIONS CANNOT BE

. FLEXIBLE FABRIC CONNECTIONS (OR EQUAL) SHOULD BE USED ON BOTH INLETS AND OUTLETS OF ALL

12. JOINTS AND SEAMS OF SUPPLY DUCTS SHALL BE FASTENED SECURELY AND MADE AIR TIGHT.

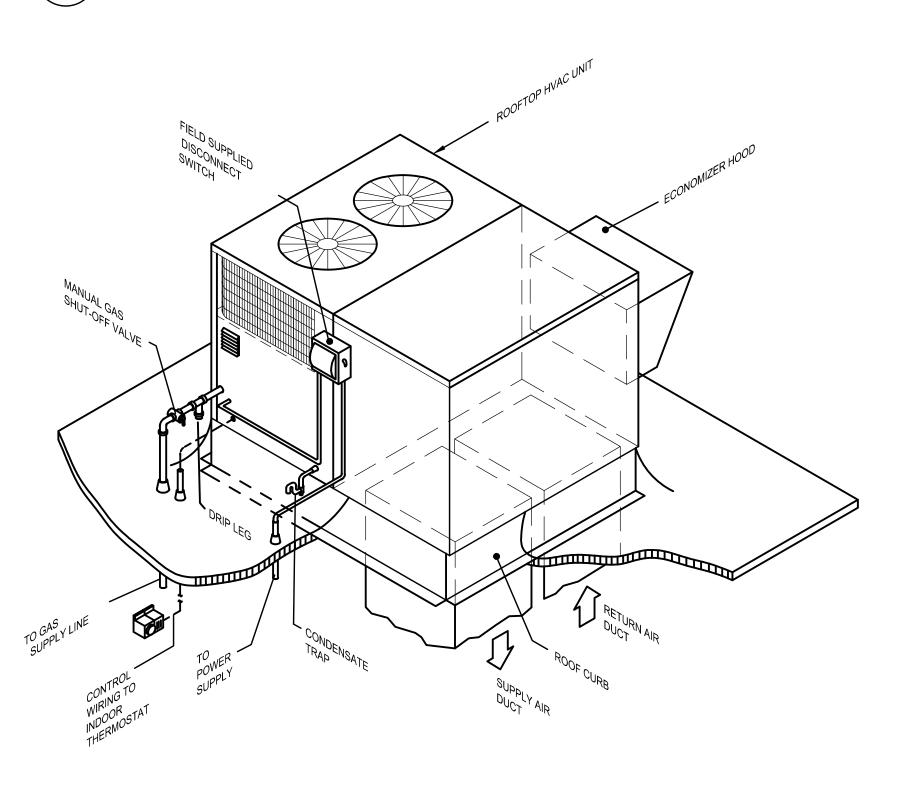
DIVERGING TRANSITION PIECES SHALL BE MADE AS GRADUAL AS POSSIBLE

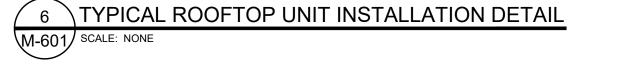
INSTALL FIRE DAMPERS IN ACCORDANCE WITH UL 555.

FANS AND AIR HANDLING UNITS.

AVOIDED, AND THEN A STREAMLINED FITTING SHOULD BE USED.









SIGNATURE

MECHANICAL DETAILS

DATE

DRAWN BY: MAS/DCA CHECKED BY: KJR SCALE: AS NOTED JOB NUMBER: 23182 START DATE: 07/28/2023

M-601