





**PROJECT SPECIFICATIONS**

**GENERAL NOTES:**

- ALL ITEMS & SYSTEMS TO BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER AND IN CONFORMANCE WITH APPLICABLE BUILDING CODES, LAWS AND REGULATIONS.
- UNLESS "NO SUBSTITUTIONS" IS SPECIFICALLY INDICATED, IT IS NOT THE INTENT OF THESE SPECIFICATIONS TO EXCLUDE MANUFACTURERS THAT PRODUCE EQUAL PRODUCTS OR SYSTEMS. CONTRACTOR IS ENCOURAGED TO SUBMIT ALTERNATE PRODUCT OR SYSTEM MANUFACTURERS FOR CONSIDERATION BY ARCHITECT PRIOR TO ORDER. (SEE PM SECTION 01600).
- CONTRACTOR SHALL DAILY REMOVE ALL DEBRIS FROM SITE AND KEEP WORK AREA CLEAN. REMOVE EXCESS MATERIALS FROM SITE.
- SEE THE PROJECT MANUAL FOR ADDITIONAL SPECIFICATIONS AND INFORMATION.
- FOLLOWING CONTRACT AWARD, SUBMIT PROPOSED COLOR CHARTS & SAMPLES FOR ALL REQUIRED COLOR SELECTIONS TO ARCHITECT / TENANT FOR SELECTION & SCHEDULE. MANUFACTURER'S PRINTED COLOR CHARTS FOR PAINTED ITEMS OR PHYSICAL SAMPLES ARE REQUIRED. PAGES PRINTED FROM WEBSITES OR LINKS TO WEBSITES ARE NOT ACCEPTABLE.
- SUBMITTAL INFORMATION REQUIRED FOR ALL SECTIONS NOTED THUS \*\*, EXCEPT FOR SAMPLES. CONTRACTOR IS ENCOURAGED TO FURNISH SUBMITTALS IN PDF FORMAT.
- CONTRACTOR SHALL MAKE APPLICATIONS AND OBTAIN ALL PERMITS REQUIRED FOR THE EXECUTION OF THIS WORK. U.N.O. ALL PERMIT FEES WILL BE PAID BY THE CONTRACTOR. SPECIAL INSPECTIONS REQUIRED BY THE CODES SHALL BE PAID FOR BY THE OWNER. THE OWNER WILL PAY FOR ALL OTHER QUALITY CONTROL INSPECTIONS AS WELL AS ELECTRIC & GAS UTILITY CONNECTION FEES & TELEPHONE & DATA SERVICE. CONTRACTOR SHALL COORDINATE WITH SERVICES PROVIDED BY OTHERS.

**02000 - SITE WORK**

- EXCEPT FOR MATERIALS TO BE RE-USED ON SITE SUCH AS TOPSOIL, CLEARED MATERIALS SHALL BECOME CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM THE SITE OR RELOCATED ON SITE TO AN AREA ACCEPTABLE TO THE OWNER. CONTRACTOR SHALL PROVIDE ADDITIONAL SOIL AND FILL MATERIAL AS NECESSARY TO COMPLETE THE WORK.
- DO NOT OBSTRUCT EXISTING STREETS, PARKING OR TRAVELWAYS WITHOUT OBTAINING PRIOR PERMISSION FROM THE OWNER. MAINTAIN EXISTING USE OF SITE AND REQUIRED EXITS.
- PROTECT ALL EXISTING SITE IMPROVEMENTS TO REMAIN DURING CONSTRUCTION. RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION AS ACCEPTABLE TO THE OWNER. THIS SHALL INCLUDE EXISTING PAVING, STRUCTURES AND UTILITY SERVICES.
- REPLACE ALL EXISTING TREES SCHEDULED TO REMAIN THAT ARE DAMAGED DURING CONSTRUCTION.
- DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE OWNER WITHOUT PRIOR WRITTEN PERMISSION. CONTRACTOR MUST FURNISH TEMPORARY UTILITY SERVICES IF SERVICE IS INTERRUPTED TO ANY OCCUPIED AREAS - UNLESS DURING SCHEDULED AND APPROVED SERVICE INTERRUPTION.
- SUBGRADE BACK FILL SOILS SHALL BE CLEAN AND FREE FROM CLAY & SILTY SOILS AND ROCKS LARGER THAN 3" IN ANY DIMENSION, FROZEN MATERIALS, VEGETATION, WASTE AND OTHER DELETERIOUS MATTER.
- STRUCTURAL FILL AND DRAINAGE FILL TO BE #57 STONE.
- WITH PRIOR PERMISSION, EXCESS FILL MAY BE SPREAD AND SEEDED ON SITE IN A LOCATION AS ALLOWED AND DIRECTED BY OWNER.
- BEDDING FILL TO BE CRUSHED STONE OR GRAVEL WITH 100% PASSING A 1-INCH SIEVE.
- PROVIDE DETECTABLE WARNING TAPE WITH METAL CORE INSCRIBED WITH DESCRIPTION OF THE UTILITY 1'-0" MINIMUM ABOVE ALL UNDERGROUND UTILITIES.
- PROVIDE ALL EROSION AND SEDIMENT CONTROL MEASURES REQUIRED BY THE COUNTY AND STATE.
- EXCAVATE TO SUBGRADE ELEVATIONS REGARDLESS OF THE CHARACTER OF SURFACE OR SUBSURFACE CONDITIONS ENCOUNTERED INCLUDING ROCK, SOIL MATERIALS OR OTHER OBSTRUCTIONS. IF EXCAVATED MATERIALS INTENDED FOR BACKFILL INCLUDE UNSATISFACTORY SOIL MATERIALS AND ROCK - REPLACE WITH SATISFACTORY MATERIALS.
- EXCAVATE TRENCHES 6 INCHES DEEPER THAN BOTTOM OF PIPE IN ROCK AND 4 INCHES DEEPER ELSEWHERE TO ALLOW FOR BEDDING COURSE.
- RE-CONSTRUCT SUBGRADES DAMAGED BY FREEZING TEMPERATURES OR WATER, ETC.
- COMPACTION: PLACE FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES AND COMPACT AS FOLLOWS OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER:  
UNDER STRUCTURES - ENGINEERED FILL COMPACTED TO 95% MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE (ASTM D-698)  
UNDER WALKS & PAVEMENTS - 95%  
UNDER LAWNS - 85%
- OWNER MAY ENGAGE AN INDEPENDENT GEOTECHNICAL TESTING AGENCY TO TEST AND INSPECT EACH LAYER OF SUBGRADE FILL. WHEN REPORTS INDICATE THAT THE SPECIFIED DEGREE OF COMPACTION IS NOT ACHIEVED, RECOMPACT AND RETEST UNTIL COMPACTION IS ACHIEVED.
- WHERE SETTLING OCCURS, REMOVE FINISHED SURFACE AND REPAIR TO NEW CONDITION.
- A SOILS REPORT IS NOT INCLUDED IN THE PROJECT MANUAL DUE TO LIMITED SITE WORK.
- CONTRACTOR IS RESPONSIBLE FOR ALL SURVEY, BENCHMARKS AND STAKEOUT REQUIRED FOR THIS PROJECT.

**02500 - BUILDING UTILITIES**

- CONTRACTOR SHALL EXTEND AND COMPLETE BUILDING UTILITY SERVICES IN COORDINATION WITH WORK PERFORMED BY OTHERS.
- PROTECT ALL EXIST. SERVICES IN PLACE.
- CONTRACTOR SHALL CAREFULLY EXAMINE THE SITE TO DETERMINE EXISTING CONDITIONS AND FULL EXTENT OF WORK REQUIRED TO EXTEND ALL UTILITIES TO BUILDING. UTILITY COSTS & PERMIT FEES NOT SPECIFICALLY EXCLUDED ARE A PART OF THIS WORK.
- AT PRE-CONSTRUCTION MEETING, CONTRACTOR SHALL PRESENT THE OWNER WITH A SCHEDULE FOR HAVING THE OWNER PROVIDED UTILITIES COMPLETE.
- CONTRACTOR SHALL PROVIDE AND PAY FOR ANY TEMPORARY UTILITY SERVICES REQUIRED FOR CONSTRUCTION PRIOR TO FINAL UTILITY INSTALLATION (I.E. TEMP. H2O & ELEC.).

**02361 - TERMITES CONTROL (NOT USED)**

**02800 - LANDSCAPING**

- LANDSCAPING SHALL BE LIMITED TO RE-SEEDING EXISTING LAWN AREAS DISTURBED BY EXCAVATION.
- PROVIDE CLEAN TOPSOIL IF NEEDED.
- ALL LAWN AREAS SHALL BE WARRANTED FOR (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.

**SPECIFICATIONS (CONT.)**

**03300 CAST-IN-PLACE CONCRETE \*\***

- FLOOR SLABS & FOOTINGS - 3,500 PSI, MAX SLUMP 4". ALL CONCRETE EXPOSED TO EXTERIOR TO BE AIR ENTRAINED 4.5% TO 6%.
- CONCRETE WORK SHALL CONFORM TO THE CURRENT VERSION OF:  
ACI 318 - STANDARD SPECIFICATIONS FOR STRUCTURED CONCRETE  
ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS  
ACI 302 - RECOMMENDED PRACTICE FOR CONCRETE FLOOR & SLAB CONSTRUCTION  
ASTM E 1155 - STANDARD TEST FOR FLOOR FLATNESS AND LEVELNESS  
PLACE LEVEL 10 FOOT LONG STRAIGHT EDGE RESTING ON (2) HIGH SPOTS SO THAT GAP AT ANY LOCATION DOES NOT EXCEED 1/8".
- PROVIDE STANDARD BAR CHAIRS AND SPACERS AS REQUIRED FOR 3" COVER AT FOUNDATIONS AND 2" COVER AT FORMED WALLS AND ELEVATED SLABS.
- CONTRACTOR SHALL CAREFULLY MONITOR CONCRETE PLACEMENT ACTIVITIES TO MINIMIZE SPILLAGE & CLEAN BOTH INTERIOR AND EXTERIOR AREAS WHERE CONCRETE SPLATTERS OR DRIPS .
- NO DUMPING OF EXCESS CONCRETE OR TRUCK CLEAN UP TO OCCUR ON SITE UNLESS APPROVED IN ADVANCE BY OWNER.
- REINFORCING BARS: ASTM A615, GRADE 60. WELDED WIRE FABRIC: ASTM A185. MINIMUM LAP SLICE TO BE 40 BAR DIAMETERS.
- WATERSTOP: RUBBER OR PVC
- VAPOR BARRIER: 6 MIL MINIMUM POLYETHYLENE SHEETS - SEAL ALL EDGES
- JOINT FILLER STRIPS: ASPHALT-SATURATED CELLULOSIC FIBER.

**04200 UNIT MASONRY \*\***

- PROVIDE UNITS IN SIZES INDICATED AND SPECIAL SHAPES WHERE REQUIRED. MINIMUM COMPRESSIVE STRENGTH MASONRY UNITS TO BE 1,900 PSI, ASTM C90, GRADE N. SEE COLOR SCHEDULE FOR COLORS.
- CONSTRUCT IN RUNNING BOND PATTERN EXCEPT WHERE INDICATED OTHERWISE.
- GROUT: 2,000 PSI AT 28 DAYS, SAND MIX, ASTM C476.
- MORTAR: CEMENT LIME, TYPE S
- PROVIDE HORIZONTAL DURO-WALL WIRE REINFORCING AT 16" OC VERT. (TYP) AT ALL MASONRY WALLS.
- GROUT ALL MASONRY SOLID BELOW GRADE. GROUT 24 INCHES SOLID BELOW BEARING PLATES, BEAMS, HEADERS OR LINTELS.
- PROVIDE #5 BARS VERTICAL AT 48" OC U.N.O.
- FOR FIRE RATED WALLS, PROVIDE MATERIALS COMPATIBLE WITH TESTED ASSEMBLY.
- PROTECT MASONRY CONSTRUCTION DURING COLD, HOT AND WET WEATHER.
- MASONRY TIES TO BE GALVANIZED CARBON STEEL - ADJUSTABLE FOR VERTICAL OR HORIZONTAL DIRECTION. PROVIDE TIES AT 16" OC VERTICALLY AND 24" OC HORIZONTALLY MAX. FOR VENEERS OR MULTIPLE WYTHES. INSTALL ADDITIONAL ANCHORS AROUND OPENINGS AND PILASTERS.
- EXPOSED EMBEDDED FLASHINGS TO BE .0156" STAINLESS STEEL. CONCEALED FLASHING TO BE .040 THICKNESS EPDM OR RUBBERIZED-ASPHALT.
- CORE-FILL INSULATION - NOT USED.
- CLEAN MASONRY OF ALL MORTAR DRIPS, STAINS AND EFFLORESCENCE USING EITHER A JOB MIX DETERGENT SOLUTION OR PROPRIETARY ACIDIC CLEANER TESTED TO INSURE THAT SURROUNDING CONSTRUCTION AND MASONRY FINISH IS NOT DAMAGED.
- MASONRY SHALL BE INSTALLED PLUMB AND LEVEL. CUT MASONRY WITH A SAW ONLY.
- COORDINATE CLOSELY FOR BUILT-IN WORK AND COORDINATE ALL MASONRY OPENINGS WITH FRAMING.
- AT VENEER MASONRY INSTALL WEEPS IN HEAD JOINTS OF FIRST COURSE IN EXTERIOR WALL AND ABOVE EMBEDDED FLASHING. USE PRE-FORMED WEEP UNITS AT 48" OC MAX.
- BRICK MASONRY INFILL TO MATCH EXISTING BUILDING. CONSTRUCT SAMPLE PANEL FOR APPROVAL TO CONFIRM MATCH BEFORE START OF INFILL WORK.

**05000 METALS \*\***

- COLD FORMED METAL FRAMING INTERIOR STUDS TO BE MIN. 20 GA. 3-5/8" THICKNESS MINIMUM (3655-162-33). PROVIDE 6" STUDS FOR PLUMBING WALLS OR TO MATCH THICKER EXISTING WALLS.
- EXTERIOR STUDS TO BE 18 GA. 8" (8005-162-43).
- PROVIDE 1-1/2"2 MAX. EXTRA STRONG EXTERIOR GALVANIZED METAL RAILINGS AND GUARDS WHERE INDICATED.
- PROVIDE RAILS SHOP FABRICATED AND SHOP PRIMED IN LONG SECTIONS TO MINIMIZE FIELD WELDING AND TOUCH UP. SUBMIT RAIL SHOP DRAWINGS FOR REVIEW BEFORE FABRICATION.
- ALL WELDS TO BE GROUND SMOOTH.
- MISC. TUBES, ANGLES & CHANNELS Fy= 36 KSI.
- BOLTS: ASTM A325-N.
- ALL ANGLES / LINTELS IN EXTERIOR WALLS TO BE GALVANIZED.

**06000 WOOD AND PLASTIC**

- MINIMUM WOOD BLOCKING OR NAILERS SHALL BE SYP #2. GROUND CONTACT PRESERVATIVE TREATED WHERE INDICATED AND REQUIRED BY CODE. ALL WOOD IN CONTACT WITH SLABS ON GRADE OR EXTERIOR MASONRY WALLS TO BE PRESERVATIVE TREATED. ALL FASTENERS IN CONTACT WITH PRESERVATIVE TREATED WOOD TO BE STAINLESS STEEL OR HOT DIPPED GALVANIZED ONLY.
- CONTRACTOR TO PROVIDE ALL NECESSARY BLOCKING, FASTENERS AND CONNECTORS. PROVIDE ALL TEMPORARY AND PERMANENT BRACING TO STABILIZE STRUCTURE AT ALL TIMES.

**07100 FOUNDATION WATERPROOFING (NOT USED)**

**07210 BUILDING INSULATION \*\***

- SOUND BATTS INSULATION TO BE UN-FACED FIBERGLASS BATT INSULATION BY OWENNS CORNING IN 3" THICKNESS U.N.O. SOUND BATTS SHALL BE INSTALLED IN ALL INTERIOR FRYE WALLS SEPARATING OCCUPIED SPACES U.N.O.
- PERIMETER FOUNDATION INSULATION TO BE DOW EXPANDED POLYSTYRENE INSULATION. PERIMETER INSULATION SHALL EXTEND AROUND ENTIRE PERIMETER.
- BATT INSULATION AS SCHEDULED ON PLANS:

**07240 EXTERIOR INSULATION & FINISH SYSTEM (NOT USED)**

**07400 ROOFING & SIDING PANELS \*\***

- COMPOSITION ROOFING; EQ. TO GAF 40 YEAR TIMBERLINE HD SHINGLES (CLASS 'A' FLAME SPREAD) ON GAF ROOF DECK PROTECTION; LEAK BARRIER, STARTER STRIPS, RIDGE VENT & OTHER ACCESSORIES REQUIRED FOR GAF COMMERCIAL 20 YEAR WARRANTY TO BE PROVIDED BY INSTALLER. WARRANTY IS NOT REQUIRED TO BE FURNISHED AS PART OF THIS WORK. SUBMIT SAMPLE FOR SELECTION.
- METAL ROOF DRIP & METAL FACIA COVER TO BE PRE-FINISHED.
- VENTED SOFFIT PANELS TO BE PRE-FINISHED.
- EXTERIOR EDGE TRIM AT SIDING TO BE BORAL TRIM - FIELD PAINT FINISH.
- EXTERIOR WALL SHEATHING TO BE EQUAL TO GP DENS-GLASS SHEATHING.
- SIDING PANELS TO BE EQ. TO JAMES HARDIE PLANK SMOOTH 6" LAP FIBER-CEMENT SIDING OR PANELS ON CANOPY.

**07420 FRP PANELS**

- FIBERGLASS REINFORCED PLASTIC PANELS (FRP) TO BE EQ. TO MARLITE STANDARD FRP S100 WHITE, CLASS 'A' FIRE RATED, SMOOTH FINISH PANELS.
- PANELS 4'8x9.09" THICKNESS.
- TRIM EQ. TO SANI-SEAL TO MATCH PANELS. PROVIDE 8' LONG SS CORNER GUARDS AT ALL OUTSIDE CORNERS. PROVIDE Z-TRIM OVER EPOXY COVE.
- INSTALL PANELS VERTICALLY AND FASTEN WITH NON-STAINING NYLON DRIVE RIVETS. ADHESIVE TO BE EQ. TO MARLITE C-951 SOLVENT BASED ADHESIVE INSTALLED AS RECOMMENDED BY SYSTEM MANUFACTURER. ALTERNATE ADHESIVE MAY BE CONSIDERED IF RECOMMENDED BY MFG. FOR SUBSTRATE. SEALANT EQ. TO MS-251 WHITE SILICONE.
- SHIP PANELS TO SITE AFTER BUILDING IS CONDITIONED AND ROOM TEMPERATURE WILL BE MAINTAINED BEFORE, DURING AND AFTER INSTALLATION.
- CLEAN PANELS AND LEAVE CLEAN & FREE FROM VISIBLE ADHESIVE.

**07841 - THROUGH PENETRATION FIRESTOP SYSTEMS**

FIRESTOP ALL NEW PENETRATIONS AND EXISTING PENETRATIONS WITH MISSING OR FAILED FIRESTOP PROTECTION THROUGH FLOORS AND RATED WALLS. REFER TO THE FOLLOWING U.L. TESTED FIRESTOP DETAILS:

W-L-2202; W-L-1001; C-AJ-8008; C-AJ-8013

THROUGH PENETRATION FIRE-STOPPING PRODUCTS SHALL BE MANUFACTURED BY 3M. INSTALL APPROPRIATE PRODUCT AND SYSTEM BASED ON APPLICATION TO INCLUDE 3M FIRE BARRIER SEALANTS, 3M FIRE BARRIER MOLDABLE PUTTY, 3M FIRE BARRIER MORTAR AND 3M FIRE BARRIER FS-195+ WRAP STRIP. MINIMUM FIRE-RATING OF ALL ASSEMBLIES AND PENETRATIONS THROUGH FLOORS OR RATED WALLS SHALL BE 2 HOURS.

**07900 CAULKING & SEALANTS**

- PRODUCTS SH TO BE DOW CORNING - 790 OR GE SILICONE SILPRUF 2000 WEATHERING SEALANT.
- TYPICALLY, SEALANT COLOR TO MATCH ADJACENT MATERIAL. CONSULT ARCHITECT FOR SPECIFIC COLOR SELECTIONS FROM FULL RANGE OF MANUFACTURER'S STANDARD COLOR.
- PROVIDE MILDEW RESISTANT SILICONE SEALANT IN AREAS SUBJECT TO HIGH HUMIDITY.

**SPECIFICATIONS (CONT.)**

**079500 EXPANSION JOINT COVERS (NOT USED)**

**08000 WINDOWS \*\***

- SEE SHEET A3.1 FOR WINDOWS DETAILS. REPLACEMENT WINDOWS TO MATCH THE COLOR AND MULLIONS OF THE NEW WINDOW AT THE FRONT OF THE BUILDING.

**08110 STEEL DOOR & FRAMES \*\***

- STEEL FRAMES TO BE SHOP PRIMED 18 GA. STEEL WITH HARDWARE FACTORY CUT & FULLY WELDED SEAMS WITH ALL WELDS GROUND SMOOTH, DRYWALL RETURN ALL FRAMES. PROVIDE (3) JAMB ANCHORS PER JAMB & ANCHOR TO FLOOR. PROVIDE CONT. HEADER ABOVE DOORS IN FRAME WALLS.
- FIELD VERIFY WALL THICKNESSES AND MASONRY OPENINGS.
- PROVIDE DOOR SILENCERS AT ALL INTERIOR DOOR JAMBS.
- INSTALL DOOR & FRAME SQUARE, PLUMB & LEVEL SO DOORS OPEN AND CLOSE WITH EASE.
- STEEL DOORS TO BE EQ. TO CURRIES 16 GA. FULLY WELDED & INSULATED, REINFORCED FOR CLOSERS & OTHER HARDWARE.

**08200 WOOD DOORS (NOT USED)**

**09200 GYPSUM BOARD ASSEMBLIES**

- PROVIDE COMPLETE GYPSUM BOARD ASSEMBLIES AS INDICATED FOR NEW WORK. INSTALL GYPSUM BOARD PANELS VERTICALLY ALONG STUD IN CONTINUOUS PANELS TO DECREASE BUTT JOINTS WHERE POSSIBLE. PROVIDE MR BOARD IN NON-FIRE RATED WET WALL LOCATIONS AND BEHIND ALL FRP PANELS EXCEPT AT RATED WALLS.
- ACOUSTICAL WALLS INDICATED ARE TO BE INSTALLED W/ ALL EDGE CONDITIONS AND PENETRATIONS SEALED TO MAINTAIN ACOUSTICAL RNC RATING.
- FINISH GYPSUM BOARD SO THAT SEAMS & SCREW LOCATIONS ARE NOT VISIBLE AFTER PAINT FINISH IS APPLIED. CONFIRM LEVEL OF GYPSUM BOARD FINISH RECOMMENDED FOR FRP PANEL INSTALLATION W/ FRP MFG.
- WHERE GYPSUM BOARD MEETS CMU WALLS OR OTHER STRUCTURE, PROVIDE A CONT. METAL J-BEAD EDGE WITH A FLEXIBLE SILICONE SEALANT FILLER.
- AREAS ABOVE CEILINGS AND OTHER CONCEALED AREAS TO HAVE TAPED SEAMS ONLY.
- CROOKED CORNERS OR WALLS WILL BE REQUIRED TO BE STRAIGHTENED.

**09300 CERAMIC TILE & STONE (NOT USED)**

**09510 ACOUSTICAL TILE CEILING \*\***

- TYPICAL CEILING TILES TO BE ARMSTRONG KITCHEN ZONE 2'2x2' 5/8". SQUARE LAY-IN INSTALLED IN STANDARD METAL SUSPENSION SYSTEM EQ. TO PRELUDE XL. MAIN BEAMS: .025" THICKNESS, 1-1/2" HIGH AND 15/16" FLANGE (WHITE ENAMEL FINISH). SUSPEND WITH 12 GA. HANGERS AT 4'-0" OC MAX. AND 8" FROM ENDS. CROSS BEAMS: .017" THICKNESS, LOCKED INTO MAIN BEAMS. SUSPEND FROM STRUCTURE ABOVE ONLY - NOT FROM PIPES OR DUCTWORK. INSTALL GRID LEVEL TO HEIGHT INDICATED OR, WITH PRIOR APPROVAL FROM THE ARCHITECT, AS HIGH AS STRUCTURE & EQUIPMENT ALLOW. U.N.O. CENTER GRID IN ROOM AS INDICATED ON THE REFLECTED CEILING PLAN. LEAVE (2) FULL BOXES OF TILE FOR OWNER REPLACEMENT AFTER INSTALLATION.
- CONTRACTOR TO COORDINATE ITEMS INSTALLED IN CEILING SO THAT LIGHTS ARE EVENLY SPACED & DIFFUSERS & DETECTORS ARE CENTERED IN THE TILE.
- PROVIDE U.L. RATED CEILING SYSTEM WHERE INDICATED OR REQ'D.
- NEATLY TRIM & TOUCH UP PAINT ALL VISIBLE CUT EDGES. REPLACE ALL NICKED AND DAMAGED TILES BEFORE FINAL INSPECTION.

**09650 RESILIENT FLOORING \*\***

- 3/4" x 4" RUBBER COVE BASE BY JOHNSON RUBBER CO. INSTALL SO ALL SEAMS ARE TIGHT & FLUSH WITH WALL.

**09660 CARPET (NOT USED)**

**09670 FLUID APPLIED FLOOR COATING \*\***

- EPOXY FLOOR COATING TO BE EQUAL TO EPOXY.COM PRODUCT #315 POLYMERIC FLOORING WITH VINYL CHIPS.
- ABRASIVE CLEAN CONCRETE WITH DUST FREE SHOT BLASTING OR OTHER APPROVED METHOD TO BARE CONCRETE OR OBTAIN ACCEPTANCE TO INSTALL OVER EXISTING COATED SURFACE AS RECOMMENDED BY EPOXY.COM.
- FILL EXISTING FLOOR CRACKS WITH EPOXY.COM PRODUCT #303
- SYSTEM SHALL HAVE A FINISHED WET FLOOR MIN. DCOF OF 0.60
- PREP EXISTING FLOOR AND WALL AS RECOMMENDED BY THE MFG. AND PROVIDE A 4" BASE COVE W/ 3/4" RADIUS. SEAL TOP OF WALL COVE.
- PROVIDE (3) PART SYSTEM: BASE-COAT, BROADCAST COAT AND TOP COAT W/ ANTI-MICROBIAL TREATMENT.
- INSTALLER SHALL INSPECT THE SUBSTRATE AND SHALL NOT BEGIN APPLICATION UNTIL SUBSTRATE IS ACCEPTED.
- PROVIDE SAMPLES FOR COLOR SELECTION FROM STANDARD SAMPLE.

**09900 PAINTING \*\***

- PREPARE ALL SURFACES FOR COATINGS & APPLY COATINGS AS RECOMMENDED BY THE MFG. SPECIFICATIONS BELOW BASED ON SHERWIN-WILLIAMS. NOTE THAT EXPOSED ALUM., BRASS, CHROME, STAINLESS STEEL, ETC. TO BE LEFT UNFINISHED. DO NOT PAINT OVER TAGS & LABELS.
- NO SPRAY APPLICATION OF PAINT WITHOUT PRIOR APPROVAL FROM OWNER. IF SPRAY APPLICATION IS USED, TURN OFF HVAC SYSTEM & PROTECT EQUIPMENT & ADJACENT SURFACES FROM OVSERSPRAY.
- EXTENT OF COATING IN CONTRACT INCLUDES: EXTERIOR SURFACES THAT ARE NOT PRE-FINISHED, PAINT INTERIOR FERROUS METALS - INCLUDING BUILDING STRUCTURE, METAL DOORS, FRAMES & RAILS, ALL EXPOSED GYPSUM DRYWALL SURFACES, AS WELL AS EXPOSED DUCTWORK, PIPING & CONDUIT.
- PRIOR TO APPLICATION OF ANY COATING, PAINTING CONTRACTOR WILL EXAMINE THE SUBSTRATE TO BE COATED. APPLICATION OF PAINT DEMONSTRATES PAINTING CONTRACTOR'S ACCEPTANCE OF SUBSTRATE.

**PAINTING SHEDULE:**

EXTERIOR FERROUS METAL: shall be painted in accordance with the Steel Structural Painting Council Specification (SSPC) "Alkyd Paint System No. 2,04 with Zinc Chromate Iron Oxide Primer" as follows:  
a. The surface shall be cleaned as specified in SSPCSP 663 "Commercial Blast Cleaning".  
b. Pretreatment of the steel shall not be required.

- All paint, shall be applied in accordance with SSPCPA 164, "Field and Maintenance Painting".
- A minimum of three coats of paint shall be applied.
- After cleaning, the steel shall be primed with one coat of paint conforming with Federal Specification TTP57b, "Zinc Yellow Iron Oxide Base, Ready Mixed".
- Touch up field painting shall be performed in accordance with specification SSPCPA 164.
- The second paint coat shall be SW A-100 Exterior Latex Gloss.
- The finish coat of paint shall be SW A00 Exterior Latex Gloss.
- The dry film thickness of the paint at any point shall not be less than the following: for the primer 1.5 mils; for the three coat paint system 3.5 mils. In the event the required paint film thickness is not achieved as specified, additional coats shall be applied until the required thickness is obtained.

EXTERIOR GALVANIZED METALS: [All exterior galvanized metal to be painted. Prepare Galvanized surfaces as recommended by coating manufacturer before coating].  
Prepare per workmanship above.

- 1st Coat: SW DTM Acrylic Primer/Finish 2.5 mils.
- 2nd Coat: SW A-100 Exterior Latex Gloss
- 3rd Coat: SW A-100 Exterior Latex Gloss

**EXTERIOR CMU MASONRY:**

Clear, , waterproof, low VOC sealer

**INTERIOR GYPSUM DRYWALL:**

Eg-Shel Enamel:

- 1st Coat: SW PrepRite Classic Latex Primer (OR LEVEL 5 COATING)
- 2nd Coat: SW Pro-Mar 200 LATEX Semi-gloss
- 3rd Coat: SW Pro-Mar 200 LATEX Semi-gloss

NOTE: APPLY WASHABLE SEMI-GLOSS FINISH TO ALL AREAS

**SPECIFICATIONS (CONT.)**

**INTERIOR FERROUS METALS:**

GROUP A: [All exposed interior ceiling metal, except aluminum, brass, bronze, chrome, stainless steel]. To include the following items specially: steel joists, steel beams, purlins, steel girders, steel deck.

- 1st Coat: Primer coat generally by others, touch up and prepare per Workmanship above or apply one coat of SW DMT Acrylic Primer
- 2nd Coat: SW Pro-Mar 200 Alkyd flat wall paint.
- 3rd Coat: SW Pro-Mar 200 Alkyd flat wall paint.

Note: All pipe, pipe covering, and conduits, shall be finished the same as the materials to which they are attached.

Group B: All other interior metal not pre-finished and in particular: door jambs, steel doors and frames, etc.

- Primer: Factory primer or SW Kern Bond HS Universal Primer
- 2nd Coat: SW Pro-Mar 200 Alkyd Semi-Gloss
- 3rd Coat: SW Pro-Mar 200 Alkyd Semi-Gloss.

GALVANIZED METAL: same as for ferrous metals above.

**INTERIOR MASONRY & GYPSUM BOARD IN FOOD PREP AND STORAGE AREAS:**

If paint finish:

- 1ST Coat: SW PrepRite Block filler. Prep existing masonry as recommended by SW technical
- 2nd Coat: SW Pro Industrial Acrylic Coating Glass (washable finish)
- 3rd Coat: SW Pro Industrial Acrylic Coating Glass (washable finish)

**PAINTED WOOD WORK:**

- 1ST Coat: Stained - Minwax penetratoe color - lightly sanded
- 2nd Coat: Minwax clear gloss polyurethane
- 3rd Coat: Minwax clear gloss polyurethane
- 4th Coat: Minwax clear gloss polyurethane

**NATURAL FINISH WOOD (not used)**

- 1ST Coat: Stained - Minwax penetratoe color - lightly sanded
- 2nd Coat: Minwax clear gloss polyurethane
- 3rd Coat: Minwax clear gloss polyurethane
- 4th Coat: Minwax clear gloss polyurethane

**INTERIOR CONCRETE FLOOR**

Clear Concrete Sealer - Clean existing floor & apply Waterproof, low VOC

**10260 WALL & CORNER GUARDS**

- SEE SHEET A1.01.

**10425 INTERIOR SIGNAGE**

- PROVIDE BEST MANUFACTURING SYSTEM HC 300 ADA SYSTEM. COLOR AS SELECTED BY ARCHITECT.
- PROVIDE (1) HC 300 6"x8" AT EACH TOILET DOOR MOUNTED AT 60" A.F.F TO CENTER. SIGNS SHOULD INDICATE "UNI-SEX" OR "FAMILY" AS WELL AS HC ACCESSIBILITY.
- PROVIDE SIGN COMPLYING WITH ICC A117.1 ON DOOR EX-2 STATING: "EXTERIOR AREA FOR ASSISTED RESCUE".
- ADDITIONAL INTERIOR SIGNAGE BY OWNER.

**10500 LOCKERS (BY OTHERS)**

**10600 PARTITIONS (NOT USED)**

**10800 TOILET ACCESSORIES \*\***

- SEE SHEET A2.2 FOR TOILET ACCESSORIES AND PARTITIONS.

**11130 AUDIOVISUAL EQUIPMENT**

- U.N.O. ALL AUDIO VISUAL EQUIPMENT WILL BE FURNISHED AND INSTALLED BY OWNER. AT PRE-CONSTRUCTION MEETING CONTRACTOR TO IDENTIFY SCHEDULING REQUIREMENTS AND ALERT OWNER OF TIMING OF ANY A/V INSTALLATIONS. THE OWNER WILL PROVIDE ALL DATA CABLING, TELEPHONE SERVICE AND EQUIPMENT.
- SEE ELECTRICAL FOR EMPTY DATA BOXES AND CONDUIT IN CONTRACT.

**11400 FOOD SERVICE EQUIPMENT**

- KITCHEN EQUIPMENT, SHELVES & APPLIANCES WILL BE PROVIDED DELIVERED TO THE SITE BY OWNER. SEE NOTES ON SHEET A2.2
- CONTRACTOR TO COORDINATE KITCHEN APPLIANCES, SINKS AND SHELVING WITH PLUMBING, VENTILATION & ELECTRICAL REQUIREMENTS.

**11480 ATHLETIC EQUIPMENT (NOT USED)**

**12000 FURNISHINGS**

- ALL FURNISHINGS ARE BY OTHERS.

**11310 LIGHTNING PROTECTION (NOT USED)**

**13120 PRE-ENGINEERED STRUCTURES (NOT USED)**

**13850 FIRE ALARM & DETECTION**

SEE FIRE ALARM & ELECTRICAL  
SUBMIT ALL EQUIPMENT & FIXTURES FOR REVIEW

**14240 HYDRAULIC PASSENGER ELEVATOR (NOT USED)**

**15000 MECHANICAL \*\***

SEE PLUMBING & MECHANICAL PLANS  
SUBMIT ALL EQUIPMENT & FIXTURES FOR REVIEW

**16000 ELECTRICAL \*\***

SEE ELECTRICAL PLANS  
SUBMIT ALL PANELS, DEVICES & LIGHTING FOR REVIEW

**SUBMITTAL SCHEDULE**

SUBMIT SHOP DRAWINGS & PRODUCT INFORMATION IN PDF FORMAT OR PHYSICAL SAMPLES:

- 03300 CAST-IN-PLACE CONCRETE
- 04200 UNIT MASONRY (SAMPLE BRICK PANEL)
- 05000 METAL RAILS
- 06000 STAINED RED OAK (SAMPLE)
- 07210 BUILDING INSULATION
- 07240 EXTERIOR INSULATION & FINISH SYSTEM (SAMPLE)
- 07400 ROOFING (SAMPLE)
- 08000 WINDOWS
- 08110 STEEL DOORS & FRAMES
- 08710 DOOR HARDWARE SCHEDULE
- 09510 ACOUSTICAL TILE CEILING (SAMPLE)
- 09650 RESILIENT BASE (SAMPLES)
- 09670 FLUID APPLIED FLOOR COATING (SAMPLE)
- 09900 PAINTING (COLOR SAMPLES)
- 10425 INTERIOR SIGNAGE (COLOR CHART)
- 10800 TOILET ACCESSORIES

SEE MECHANICAL, ELECTRICAL & PLUMBING SHEETS FOR MEP, FIRE ALARM EQUIPMENT AND SYSTEM SUBMITTALS REQUIRED TO EVALUATE EACH SYSTEM.

**PHASE 1**

FOR CONSTRUCTION



**PAVING REPAIR NOTE**  
CONTRACTOR MUST VERIFY EXISTING CONDITIONS AT THE TIME BIDS ARE SUBMITTED AND REPAIR ALL NEW PAVING TO MATCH THE EXISTING CONDITION. MATERIAL AND THICKNESS AT THE TIME BIDS ARE SUBMITTED. UTILITIES MUST BE FULLY BEDDED & COMPACTED IN TRENCHES. REPAIR PAVING AND WALKS DAMAGED BY CONSTRUCTION ACTIVITY.

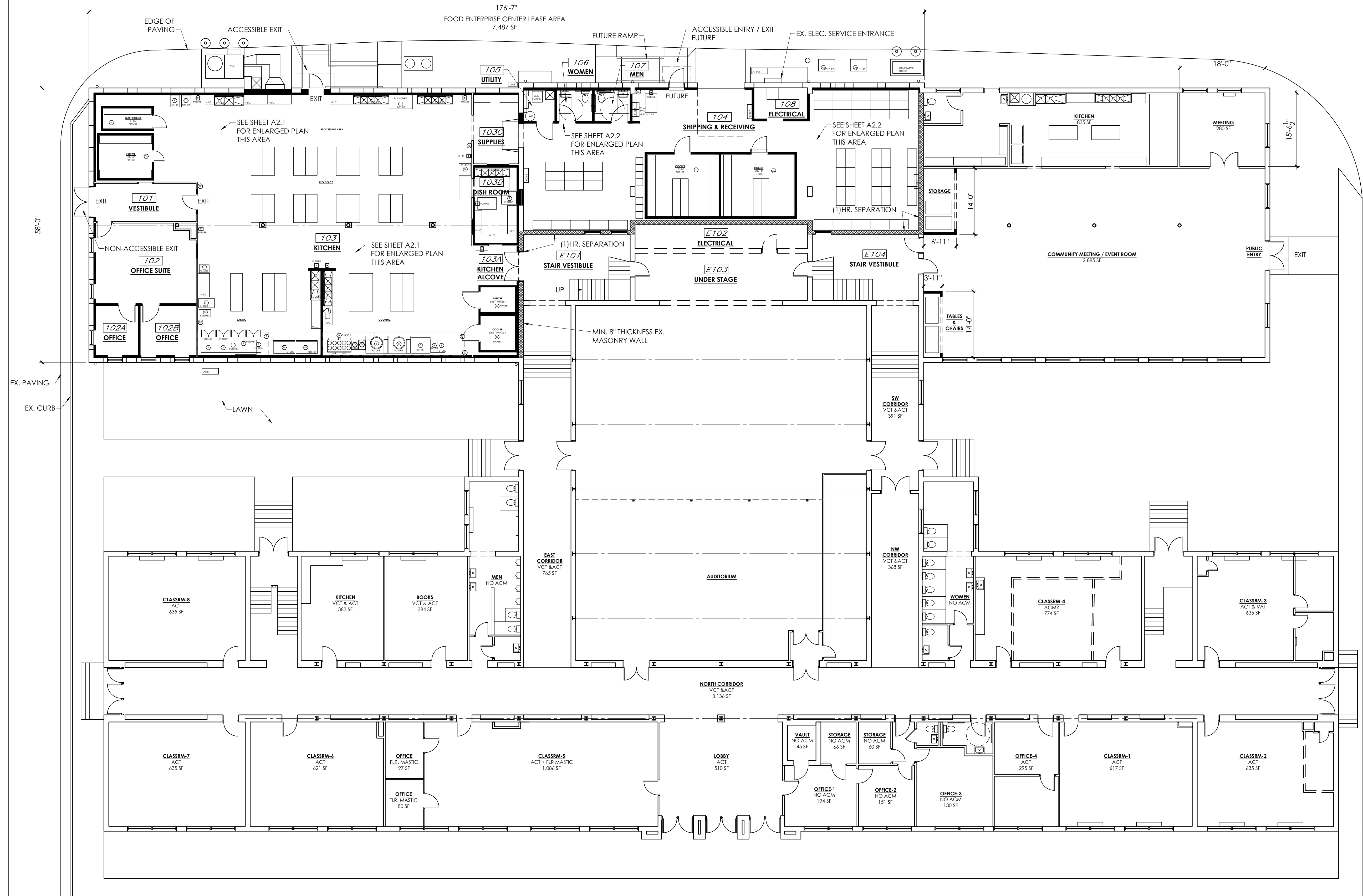
TO EX. MAIN REVENUE  
PUMP ROOM IN NORTH  
OF BOILER BLDG.

**BOILER BUILDING**  
APPROX. LOCATION & SIZE  
SHOWN

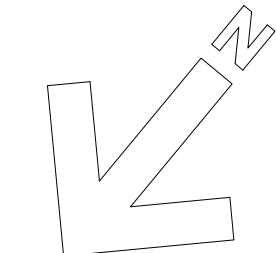
**SCOPE OF WORK**  
REMODELING WORK IS GENERALLY LIMITED TO THE KITCHEN LEASE AREA INCLUDING FINISHING NEW OPENINGS AND ENCLOSURES OF THE (1)HR. SEPARATION BARRIER & RELATED EXTERIOR WORK. HOWEVER, CONTRACTOR IS ADVISED THAT SOME MEP WORK WILL BE REQUIRED OUTSIDE THE LEASE AREA TO IDENTIFY CIRCUITS, EXTEND PENETRATIONS, UPDATE FIRE ALARM SYSTEM OR CAP PIPING RELATED TO THIS WORK. SCOPE OF WORK INCLUDES ALL WORK NECESSARY TO COMPLETE THE RENOVATIONS AND PROVIDE CONTINUED UTILITY SERVICE TO THE REMAINING BUILDING. REFER TO PLANS FOR SCOPE OF PHASE 1 AND FUTURE WORK.  
  
ANY QUESTIONS ABOUT THE SCOPE OF WORK REQUIRED SHOULD BE ASKED AT THE PRE-BID MEETING WITH WRITTEN RESPONSES RECEIVED VIA ADDENDA PRIOR TO THE BID.

**GENERAL DEMOLITION NOTES**  
SEE PROJECT MANUAL SECTION 01732 SELECTIVE DEMOLITION FOR ADDITIONAL INFORMATION & REQUIREMENTS.  
  
THE INTENT OF DEMOLITION ACTIVITIES GENERALLY IS TO PREPARE FOR NEW FINISHED WORK AND TO RETURN EXISTING DISTURBED AREAS TO A CONDITION TO MATCH EXISTING ADJACENT FINISHES. IT IS IMPERATIVE THAT THE CONTRACTOR AND ANY SUB- CONTRACTORS INVOLVED IN THE WORK EXAMINE THE SITE PRIOR TO SUBMITTING A BID TO IDENTIFY MISC. AREAS OF REPAIR NECESSARY TO COMPLETE THE WORK. REQUESTS FOR CHANGES WILL NOT BE GRANTED TO PERFORM DEMOLITION WORK REQUIRED TO COMPLETE THE PROJECT THAT IS VISIBLE AT THE TIME BIDS ARE SUBMITTED.

- WHERE FLOOR, WALLS OR CEILING ARE REMOVED, REPAIR EXISTING ADJACENT FLOOR, BASE, WALLS & CEILING TO MATCH ADJACENT FINISHES UNLESS OTHERWISE SCHEDULED. PROVIDE NEW COVER PLATES WHERE PLATES ARE MISSING OR DAMAGED. UNLESS OTHERWISE NOTED, TOUCH UP PAINTING SHALL COVER ENTIRE WALL SURFACE AFFECTED BY DEMOLITION. RE-PAIN BOTH SIDES OF DOORS & FRAMES IN AREAS SCHEDULED FOR NEW FINISHES.
- ALL DEMOLITION ACTIVITIES SHALL BE PERFORMED IN FULL COOPERATION AND COORDINATION W/ OWNER. COORDINATE ALL LOSS OR REDUCTION OF EGRESS ELEMENTS OR ELECTRICAL OR COMMUNICATIONS SYSTEMS WITH OWNER. FOR INTERIOR REMODELING, ERECT DUST BARRIERS & NEGATIVE PRESSURE ENCLOSURES AROUND ENTIRE NEW CONSTRUCTION AREA TO PROTECT ADJACENT SPACES FROM DUST AND DEBRIS. **CONTRACTOR SHALL MAINTAIN DUST BARRIER INTEGRITY TO OWNER'S SATISFACTION AT ALL TIMES UNTIL SUBSTANTIAL COMPLETION.** VERIFY AT PRE-CONSTRUCTION MEETING ACCESS TO WORK AREA AND EXTENT OF WORK TO BE PERFORMED AFTER HOURS.
- WHERE EXIST. ITEMS ARE RELOCATED, REPAIR DAMAGES TO ORIGINAL LOCATION AND PROVIDE HANGERS, SUPPORTS, WIRING, CONDUIT, ETC. NECESSARY FOR THE RELOCATION.
- PROTECT EXISTING STRUCTURE FROM DAMAGE DURING CONSTRUCTION ACTIVITIES. EXTREME CARE MUST BE TAKEN NOT TO DAMAGE OR DISTURB EXISTING EQUIPMENT WHILE PERFORMING WORK. **DO NOT TURN OFF BREAKERS OR VALVES WITHOUT OWNER'S PERMISSION.**
- DURING REGULAR BUSINESS HOURS, MAINTAIN REQUIRED EXITS FROM BUILDING TO THE SATISFACTION OF THE BUILDING OFFICIAL.
- U.N.O. EXISTING VALVES, ELECTRICAL RECEPTACLES, SWITCHES & EQUIPMENT SERVICING EXISTING FACILITY TO REMAIN. CONTRACTOR SHALL COORDINATE ALL POWER OR FIRE ALARM SYSTEM INTERRUPTIONS WITH OWNER'S REPRESENTATIVE.
- WHERE NEW PENETRATIONS ARE MADE THRU EXISTING EXTERIOR WALLS OR ITEMS ARE REMOVED CREATING HOLES - SEAL FOR INSULATED & WEATHER-TIGHT ENCLOSURE.
- IT IS THE INTENTION OF THESE BID DOCUMENTS TO IDENTIFY THE GENERAL DESIGN INTENT OF THE DEMOLITION AND REMODELING WORK NECESSARY FOR THE PERFORMANCE OF THIS REMODELING PROJECT. CONTRACTOR & SUB-CONTRACTORS MUST FIELD VERIFY EXISTING MISC. CONDUIT, PIPING, EQUIPMENT AND OTHER ITEMS ABOVE AND BELOW THE LAY-IN CEILING THAT WILL NEED TO BE REMOVED AND OR RELOCATED. THIS WILL REQUIRE VISITING THE SITE PRIOR TO SUBMITTING BIDS TO UNDERSTAND EXISTING CONDITIONS FOR ITEMS TO BE REMOVED AND OR RELOCATED. THE OWNER'S CONSTRUCTION REPRESENTATIVE(S) SHOULD BE CONTACTED PRIOR TO BIDS SO ANY QUESTIONS MAY BE ANSWERED BEFORE BIDS ARE SUBMITTED.
- FINISHED FLOOR SPACE IS EXTREMELY VALUABLE TO THE OWNER. CONTRACTOR TO BOX TIGHTLY AROUND ALL EXPOSED PIPING & CONDUIT WITH SCHEDULED FINISH. CONTRACTOR SHALL BOX IN AROUND SPRINKLER RISERS, CONDUITS, MISC. DUCTS & OTHER EXPOSED PIPING WITH GPDW ON METAL FRAMING.
- REPORT ANY DAMAGE TO EXISTING EQUIPMENT OR STRUCTURE TO OWNER AT THE TIME OF DAMAGE - EVEN IF THE DAMAGE IS PROMPTLY REPAIRED.
- SEE MEP SHEETS FOR ADDITIONAL EQUIPMENT DEMOLITION AND HOLES REQUIRED.
- WHERE EXISTING WALLS ARE REMOVED REPAIR FLOOR AND CEILING TO MATCH ADJACENT EXISTING SURFACES OR FOR NEW FINISH AS INDICATED.



OVERALL FIRST FLOOR PLAN  
SCALE: 3/32" = 1'-0"



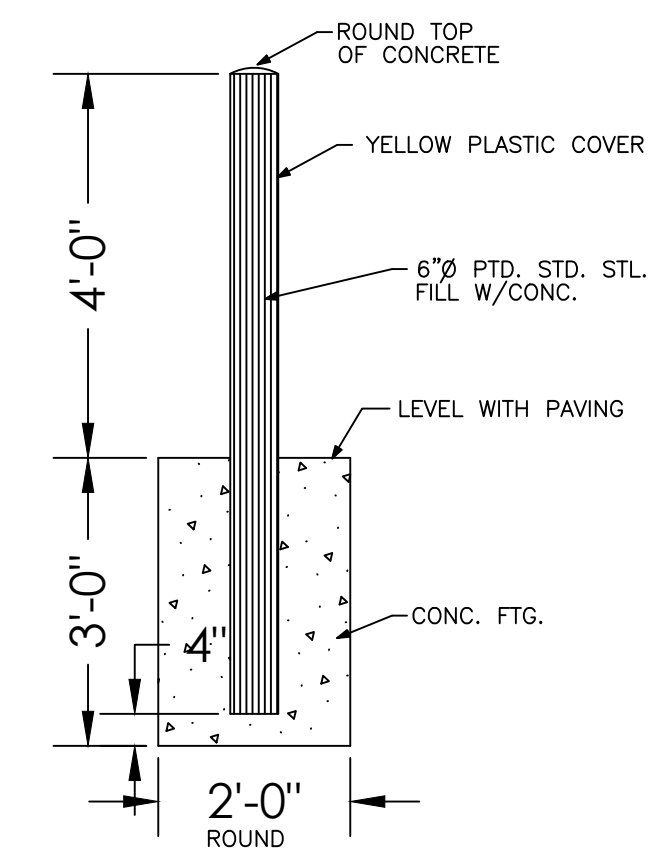


FINISH SCHEDULE

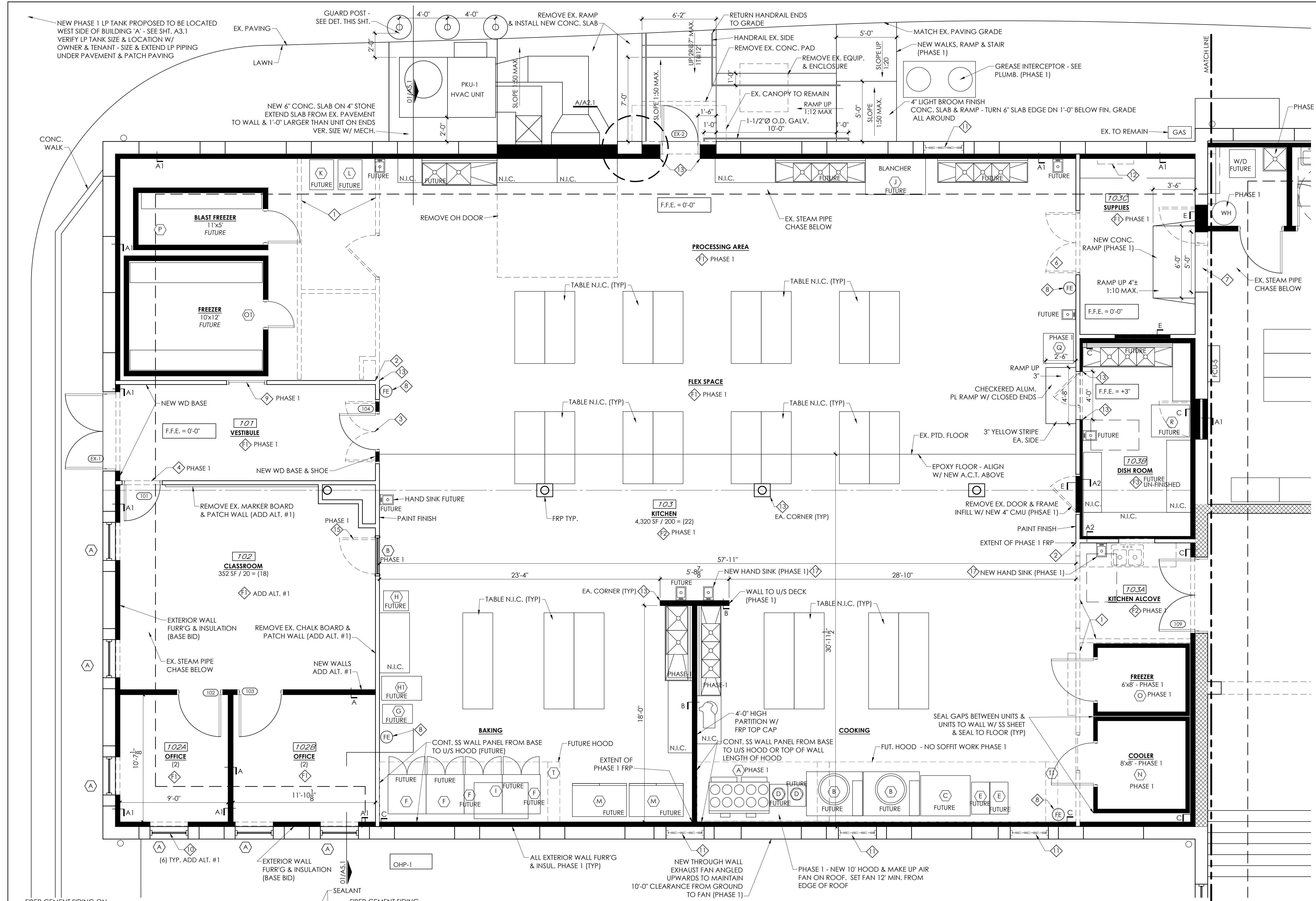
- GENERAL FINISH NOTES:**
- SEE CEILING PLAN FOR EXTENT OF PAINTED SOFFITS & SUSPENDED CEILING.
  - COLORS TO BE SELECTED BY TENANT OR ARCHITECT.
  - UP TO (2) DIFFERENT WALL PAINT COLORS MAY BE SELECTED BY OWNER PER SPACE.
  - WHERE FLOOR FINISH IS REMOVED OR EXISTING WD BASE IS RE-FURBISH OR ADDED, PROVIDE NEW BASE SHOE ALL AROUND IN THE SPACE.
  - IN KITCHEN AREAS PROVIDE WASHABLE PAINT FINISH FOR EXISTING CMU TO REMAIN AND FRP AT ALL STUD PARTITIONS.
- F-1 FLOOR - EX. PTD. CONCRETE (PATCH & SEAL CUT CONCRETE)  
BASE - EX. PTD. WD / NEW 4" RUBBER WALLS - PTD EGG-SHELL ENAMEL TRIM - PTD SEMI-GLOSS ENAMEL CEILING - PTD EGG-SHELL ENAMEL
- F-2 FLOOR - EPOXY QUARTZ NON-SLIP FINISH BASE - 4" EPOXY FINISH TURN UP WALL WALLS - FRP / PTD SEMI-GLOSS ENAMEL TRIM - PTD SEMI-GLOSS ENAMEL CEILING - A.C.T.
- F-3 [FUTURE] FLOOR - EPOXY QUARTZ NON-SLIP FINISH BASE - 4" EPOXY FINISH TURN UP WALL WALLS - FRP / PTD SEMI-GLOSS ENAMEL TRIM - PTD SEMI-GLOSS ENAMEL CEILING - A.C.T.

PLAN NOTES (PHASE 1 SCOPE OF WORK)

- REMOVE EX. WALL & PATCH & MATCH FLOOR & WALLS.
- GRIND CORNER SMOOTH & PATCH W/ MORTAR.
- REMOVE EX. 5'-0" WIDE DOOR & REPLACE W/ NEW 3'-0" WIDE EXIT DOOR - RE-USE EXISTING FRAME. FILL & WELD EX. UNUSED CUT-OUTS IN EX. FRAME.
- REMOVE PORTION OF EX. WALL FOR NEW HM FRAME & DOOR. VERIFY WALL CONSTRUCTION & PROVIDE NEW LINTEL IF CMU WALL.
- REMOVE EX. VCT FLOOR & BASE SHOE.
- REMOVE EX. DOOR - EX. FRAME TO REMAIN
- NEW 5'-0" x 7'-0" HIGH OPENING W/ STRIP CURTAIN WRAPPED COLUMN EDGES & CASED OPENINGS THAT DO NOT HAVE WOOD TRIM (TYP). PROVIDE (2) AT END WALLS. PROVIDE 8" TALL SS CORNER GUARDS AT FRP WALLS AS PART OF THE FRP INSTALLATION.
- REMOVE EX. DOOR AND FRAME AND INFILL WALL TO MATCH FINISH ON EA. SIDE.
- REMOVE EX. WINDOW & REPLACE WITH NEW WINDOW. (ADD ALTERNATE #1)
- REMOVE EX. WINDOW & INFILL W/ NEW CMU & BRICK TO MATCH EX. WALL CONSTRUCTION.
- REMOVE EX. RADIATOR COVER AND CAP PIPING AS DIRECTED BY MECHANICAL / PLUMBING. TYPICAL FOR ALL RADIATORS IN PROJECT AREA.
- PROVIDE WALLGUARD.COM 2"x2"x 4'-0" LONG (ABOVE BASE) S.S. HEAVY DUTY ADHESIVE APPLIED CORNER GUARDS AT ALL 90 DEGREE INTERIOR OUTSIDE STUD WALL CORNERS - INCLUDING WRAPPED COLUMN EDGES & CASED OPENINGS THAT DO NOT HAVE WOOD TRIM (TYP). PROVIDE (2) AT END WALLS. PROVIDE 8" TALL SS CORNER GUARDS AT FRP WALLS AS PART OF THE FRP INSTALLATION.
- REMOVE EX. DOOR & FRAME. WIDEN EX. CMU OPENING AND PROVIDE NEW 4" CMU LINTEL W/ 8" BEARING EA. END AND BULLNOSE CORNERS AT OPENING
- REMOVE EX. DOOR. INFILL WALL W/ CMU TO MATCH EX. & PROVIDE NEW INTERIOR VIEW WINDOW BELOW EX. LINTEL. VERIFY EX. M.O. WIDTH.
- NEW TYPE 2A WALL HUNG FIRE EXTINGUISHER.
- INSTALL BLOCKING AND WALL MOUNTED SOAP DISPENSERS (PROVIDED BY OWNER) ABOVE EACH HAND SINK AT 40" A.F.F.



GUARD POST DETAIL  
SCALE: 1/2" = 1'-0"

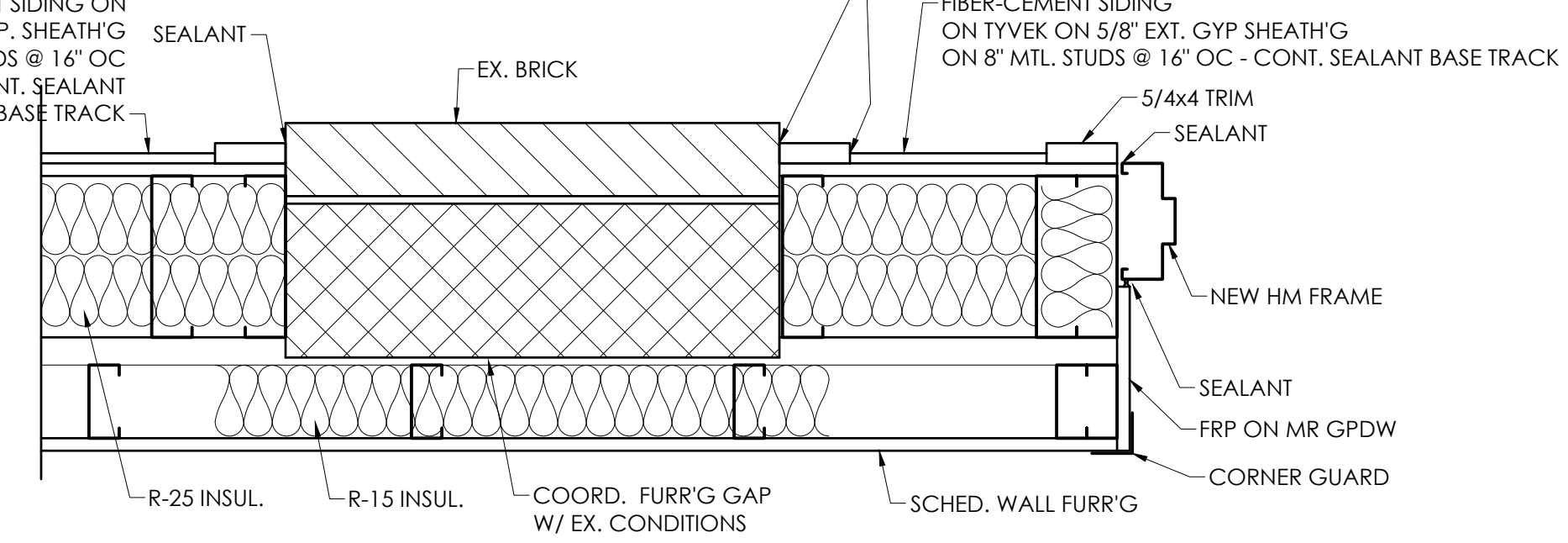


ENLARGED FLOOR PLAN - EAST

SCALE: 1/4" = 1'-0"

- BASE BID ROUGH-IN WORK**
- FOR PLUMBING FIXTURES & EQUIPMENT LABELED "FUTURE": PROVIDE ROUGH-IN PLUMBING & ELECTRICAL TO INCLUDE ELECTRICAL CONDUITS W/ PULL STRINGS FROM PANELS TERMINATED TO LOCAL J.B. OR DISCONNECT SWITCHES & CIRCUIT BREAKERS IN PANELS AS INDICATED ON ELECTRICAL.
  - FOR PLUMBING FIXTURES & EQUIPMENT SHOWN AS "NEW" OR "PHASE 1" OR NOT OTHERWISE LABELED PROVIDE COMPLETE FIXTURES AND FINISHED CONNECTION SO EQUIPMENT AND FIXTURES ARE FULLY OPERATIONAL.
  - ITEMS LABELED "N.I.C." ARE NOT IN THE CONTRACT - NO WORK REQUIRED.
  - U.N.O., ALL EXTERIOR WORK IS A PART OF THIS CONTRACT.

A PLAN DETAIL  
SCALE: 1-1/2" = 1'-0"



EXCEPT FOR ADD ALTERNATE #1 WORK, CONSTRUCT & FINISH ALL PARTITIONS & WALL INFILL THIS SIDE OF MATCHLINE AS PART OF PHASE 1 BASE BID WORK



INTERIOR WALL TYPES

- NOTES:
1. PROVIDE 3" SOUND BATTS INSULATION IN ALL OCCUPIED INTERIOR PARTITIONS U.N.O.
  2. SEAL AROUND ALL EDGES AT SOUND PARTITIONS.
  3. PROVIDE MR GPDW AT WET WALLS (WHERE NOT FIRE RATED)
  4. U.N.O. EXTEND PARTITIONS TO UNDERSIDE OF ROOF DECK.

- TYPE 'A' 5/8" GPDW EACH SIDE ON 3-5/8" MTL. STUDS @ 16" OC MAX (SOUND BATTS)  
TYPICAL INTERIOR WALL TYPE - USE WHERE NOT OTHERWISE INDICATED.
- TYPE 'A1' 5/8" GPDW TO U/S CLG. OR DECK ON 3-5/8" FURRING @ 16" OC MAX. PROVIDE R-15 MIN. INSUL. AT ALL EXT. WALLS
- TYPE 'A2' 8'-0" TALL FRP PANELS ON 5/8" MR GPDW TO U/S CLG. OR DECK ON 1-1/2" FURRING @ 16" OC MAX.
- TYPE 'B' 8'-0" TALL FRP PANELS ON 5/8" GPDW EACH SIDE ON 3-5/8" STUDS @ 16" OC MAX.
- TYPE 'C' 8'-0" TALL FRP PANELS ON 5/8" GPDW TO 10'-4" A.F.F. ON 3-5/8" FURRING @ 16" OC MAX. PROVIDE R-15 MIN. INSUL. AT ALL EXT. WALLS
- TYPE 'D' 5/8" TYPE 'X' GPDW EA. SIDE ON 3-5/8" STUDS @ 16" OC W/ 3" SOUND BATTS INSUL. (1) HOUR RATED - (U.L. U465)
- TYPE 'E' CMU TOOTHED INTO THE EXISTING WALL - MATCH EX. WALL WIDTH

WASHROOM ACCESSORIES

1. TOILET TISSUE HOLDER: OWNER PROVIDED, CONTRACTOR INSTALLED. (1) AT EACH TOILET.
2. TOWEL DISPENSER: OWNER PROVIDED, CONTRACTOR INSTALLED. CONTRACTOR TO PROVIDE BLOCKING FOR TOWEL DISPENSERS: MOUNT 48" TO TOP OF OPERABLE PARTS.
3. MIRROR: 24" WIDE x 3'-6" HIGH 1/2" FLOAT GLASS BEVEL EDGE FRAMELESS - SECURELY GLUED & CLIPPED TO WALL. MIRROR SHALL BE GUARANTEED AGAINST SILVER SPOILAGE FOR 15 YEARS.
4. TOILET GRAB BARS: EQ. TO ASI 3800 SERIES W/ INTEGRAL NON-SLIP SURFACE. PROVIDE (1)-42" LONG & (1)-36" & (1) 18" LONG GRAB BAR AS INDICATED IN EACH ACCESSIBLE TOILET ROOM.

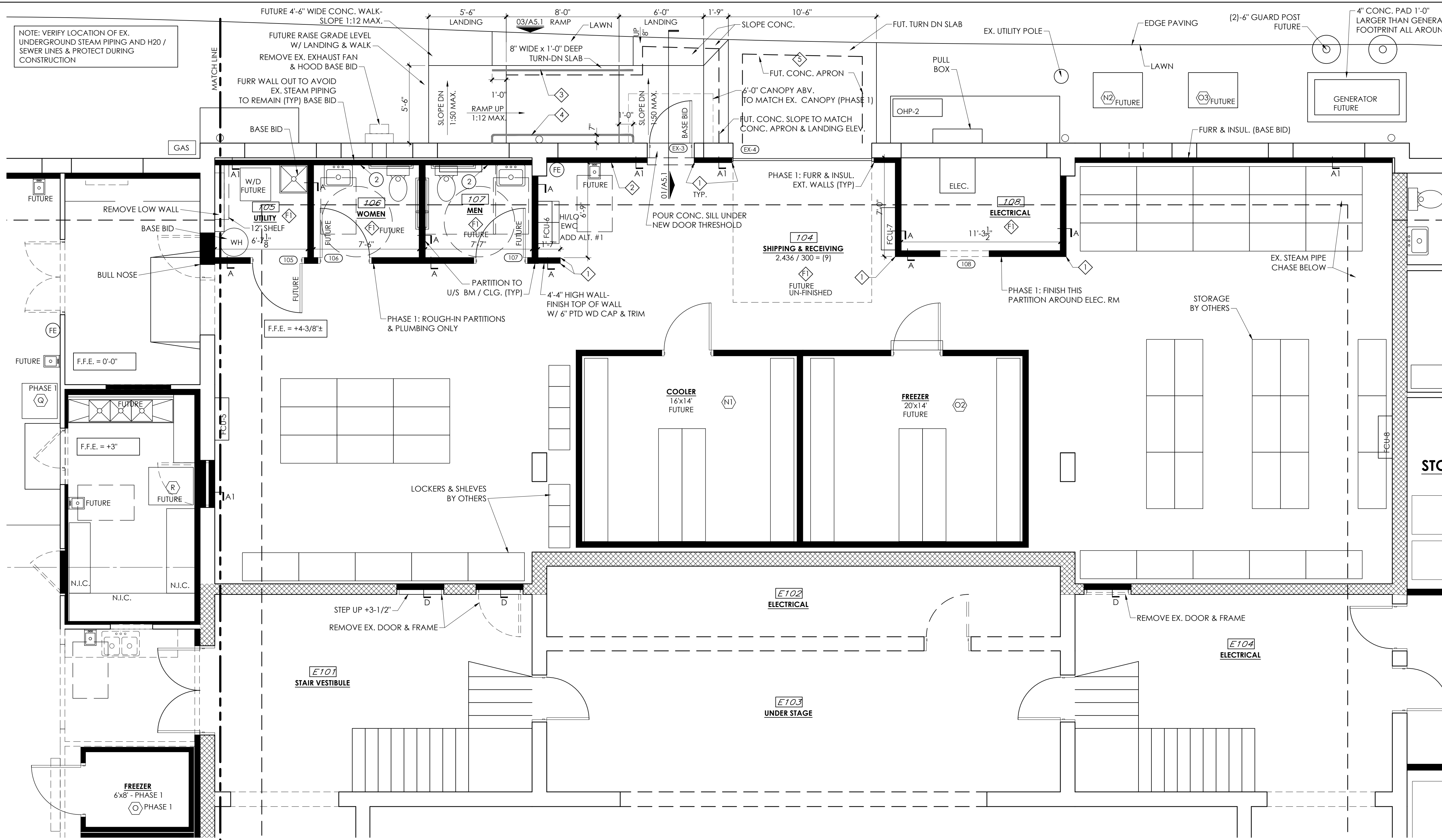
NOTE: CONTRACTOR TO VERIFY BLOCKING LOCATIONS.

BUILT-IN SHELF NOTES

1. WHERE UTILITY TYPE SHELVES ARE INDICATED IN CLOSETS, AND JANITOR CLOSET BY A DASHED LINE, PROVIDE 3/4" THICKNESS A/B PTD. PLYWD SHELVES MIN 12" WIDE. INSTALL SHELVES ON HEAVY-DUTY ADJUSTABLE SHELF STANDARDS AND SNAP-IN PLACE BRACKETS OF THE PROPER WIDTH. U.N.O. PROVIDE (1) SHELF AND 24" LONG SHELF STANDARD BRACKETS @ 24" OC. PROVIDE BRACKETS @ 24" OC MAX.

PLAN NOTES

1. PROVIDE WALLGUARD.COM 2"x2" x 4'-0" LONG (ABOVE BASE) S.S. HEAVY DUTY ADHESIVE APPLIED CORNER GUARDS AT ALL 90 DEGREE INTERIOR OUTSIDE STUD WALL CORNERS - INCLUDING WRAPPED COLUMN EDGES & CASED OPENINGS THAT DO NOT HAVE WOOD TRIM (TYP). PROVIDE (2) AT END WALLS.
2. RELOCATE SEWER PANEL & ALARM - SEE MEP
3. 1-1/2" O.D. GALV. PIPE HANDRAIL W/ (4) EQUALLY SPACED POSTS SET IN GROUTED SS PIPE SLEEVES. PROVIDE SMOOTH BENDS AND ALL WELDS GROUND SMOOTH. SEE DET. 03/AS.1. (FUTURE)
4. 1-1/2" O.D. GALV. PIPE HANDRAIL. PROVIDE SMOOTH BENDS AND ALL WELDS GROUND SMOOTH. TURN UPPER ENDS OF RAIL TO WALL AND MOUNT RAIL TO BRICK WITH CUSTOM GALV. WALL BRACKETS. (FUTURE)
5. REMOVE EX. CONC. APRON AND POUR NEW 6" THICK CONC. APRON WITH 1'-0" DEEP x 1'-0" WIDE TURN DN SLAB EDGE W/ (2)-#4 BOT. PROVIDE 6x6-2x9x2.9 WWF IN MID-SLAB



ENLARGED FLOOR PLAN - WEST

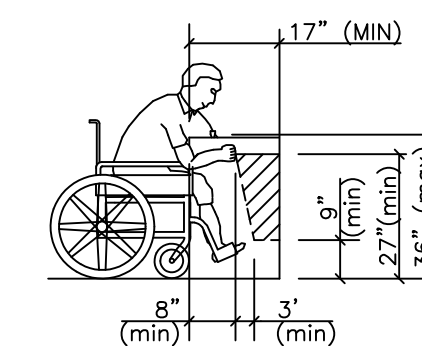
SCALE: 1/4" = 1'-0"

KITCHEN EQUIPMENT SCHEDULE

DESCRIPTION	MANUFACTURER	MODEL NO.	BTUs	NOTES
A 10 Burner Stove	Garland or EQ	G60-10RR	406,000	CONVERT TO LP, Owner may provide used range
B 40 gallon Kettle	Blodgett	KLT - 40 - G40	100,000	
C Gas Braising Pan w/ Tilt	Blodgett	BLT-30G	80,000	
D Pot Burner	Black Diamond	BDCT SP-1/NG	80,000	
E Deep Fat Fryer	Empura	EGF-40/50	114,000	
F Gas Convection Oven	Southbend	GS25	180,000	
G Dough Proofer	Omcan	31834		
H Mixer - 20 quart	Empura	EM-20H		
H1 Mixer - 60 quart	Eurodib	M60A 220 ETL-60 QT		
I Pasteurizer	TBD			
J Blancher	TBD			
K Dehydrator - 24 Rack	Weston	28-0501-W		
L Vacuum Sealer	ProMarks	SC-520		
M Refrigerator	Kool-It	KB54R		
N Cooler 8'x8' Walk-in	Kold Locker Walk-in	KL-7788 / CPB075DC-A		
N1 Cooler 14'x16' Walk-in Combination	Nor-Lake	FINELINE 32'X14'X8'-7" high		
N2 14'x16'x8' Cooler Split System	Nor-Lake	LASJ300RL3-#BYHM		
O Freezer 6'x8' Walk-in	Kold Locker Walk-in	KL-7768 / CPF100DC-A		
O1 Freezer 10'x12' Walk-in	Kold Locker Walk-in	KL771012 / CPF151DC-A		
O2 Freezer 14'x16' Walk-in Combination	Nor-Lake	FINELINE 32'X14'X8'-7" high		
O3 14'x16'x8' Freezer Split System	Nor-Lake	NASJ200RL3-#BYHM		
P Blast Freezer	Thermo-Kool	TK1408 CF-2		
P1 Blast Freezer Condensing Unit	Thermo-Kool	TBD		
Q Ice Machine	Manitowoc	Indigo Series 300		
R Dish Machine	Hobart	PW10eR		
T 16" Exhaust Hood (FUTURE)	TBD			
T1 12" Exhaust Hood	FURNISHED BY OWNER			GC INSTALL COMPLETE HOOD & ANSUL SYSTEM

KITCHEN EQUIPMENT NOTES:

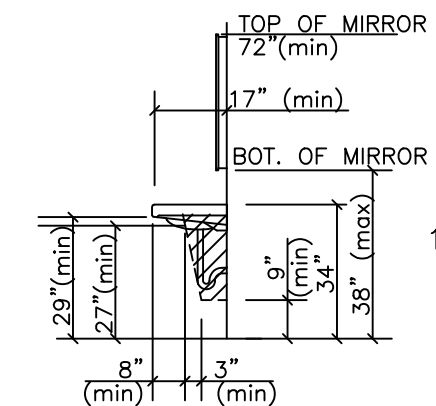
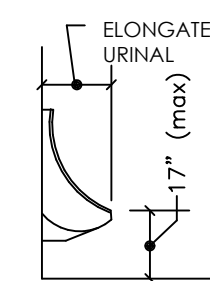
1. SCHEDULE SHOWS PHASE 1 AND FUTURE EQUIPMENT. SEE FLOOR PLANS FOR PHASE 1 EQUIPMENT. ALL PHASE 1 EQUIPMENT WILL BE PURCHASED BY THE OWNER (TENANT) & INSTALLED BY THE GC. ROUGH IN FOR OTHER EQUIPMENT.
2. PRIOR TO STARTING WORK, OWNER SHALL FURNISH THE CONTRACTOR WITH A COMPLETE PDF DOCUMENT OF ALL KITCHEN EQUIPMENT TO BE FURNISHED BY THE OWNER AND INSTALLED BY THE CONTRACTOR. NOTE THAT SOME EQUIPMENT IS EXISTING AND CONTRACTOR WILL NEED TO FIELD EXAMINE EXISTING EQUIPMENT ON SITE TO CONFIRM ROUGH-IN REQUIREMENTS. CONTRACTOR SHALL CONFIRM ROUGH-IN REQUIREMENTS OF EQUIPMENT AND MAKE ADJUSTMENTS BEFORE ORDERING OR INSTALLING SYSTEMS.
3. SEE MEP PLANS FOR ELECTRICAL AND OTHER CONNECTION INFORMATION.



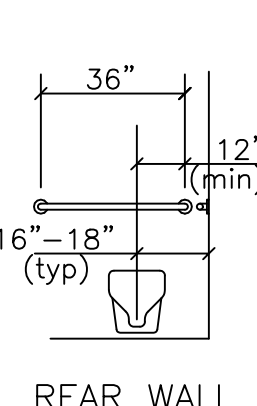
WATER COOLER URINAL

MOUNTING HEIGHTS

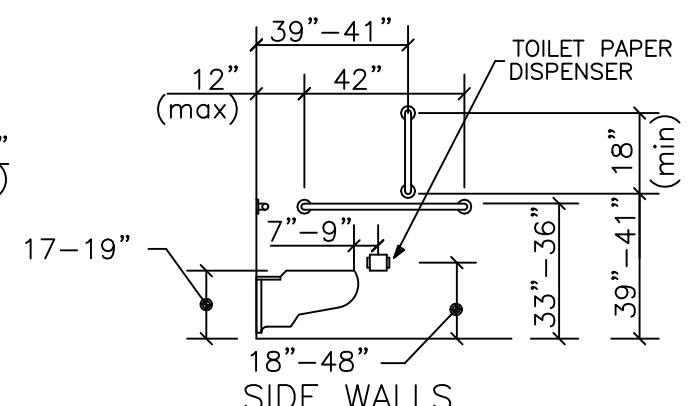
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LAVATORY



WATER CLOSETS



TOWEL DISPENSER/WASTE RECEPTACLE

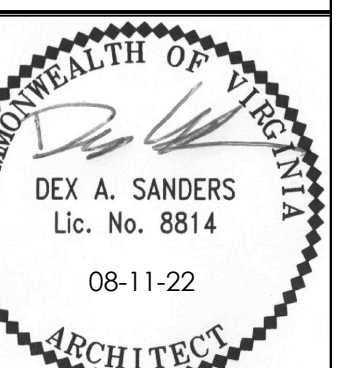
EQUIPMENT PERMITTED IN HATCHED AREAS TO BE CONFIGURED TO PROTECT AGAINST CONTACT. STANDARDS SHOW TYPICAL ACCESSIBLE MOUNTING HEIGHTS & CLEARANCES. SPECIFIED PRODUCTS MAY VARY FROM DETAIL IMAGE. SPECIAL MOUNTING HEIGHTS MAY BE INDICATED ON OTHER SHEETS. ORDER TOILETS WITH FLUSH VALVES ON THE OPEN SIDE OF THE TOILET. REACH HEIGHTS SHOWN ARE TO OPERABLE PARTS (TYPICAL)

REACH HEIGHTS SHOWN ARE TYPICAL TO OPERABLE PARTS FOR ALL DEVICES INCLUDING RECEPTABLES / FULL STATIONS



GEORGE WASHINGTON CARVER  
FOOD ENTERPRISE CENTER

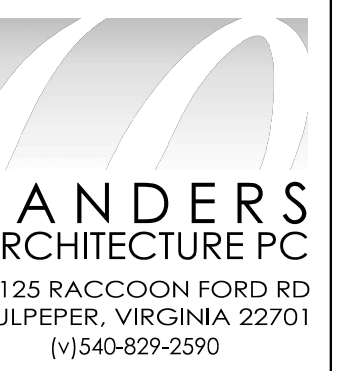
9432 JAMES MADISON HIGHWAY  
RAPIDAN, VA 22733



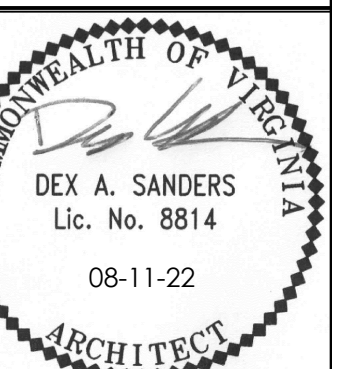
REVISIONS:


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DATE: 08-11-22  
PROJECT #: 1624A





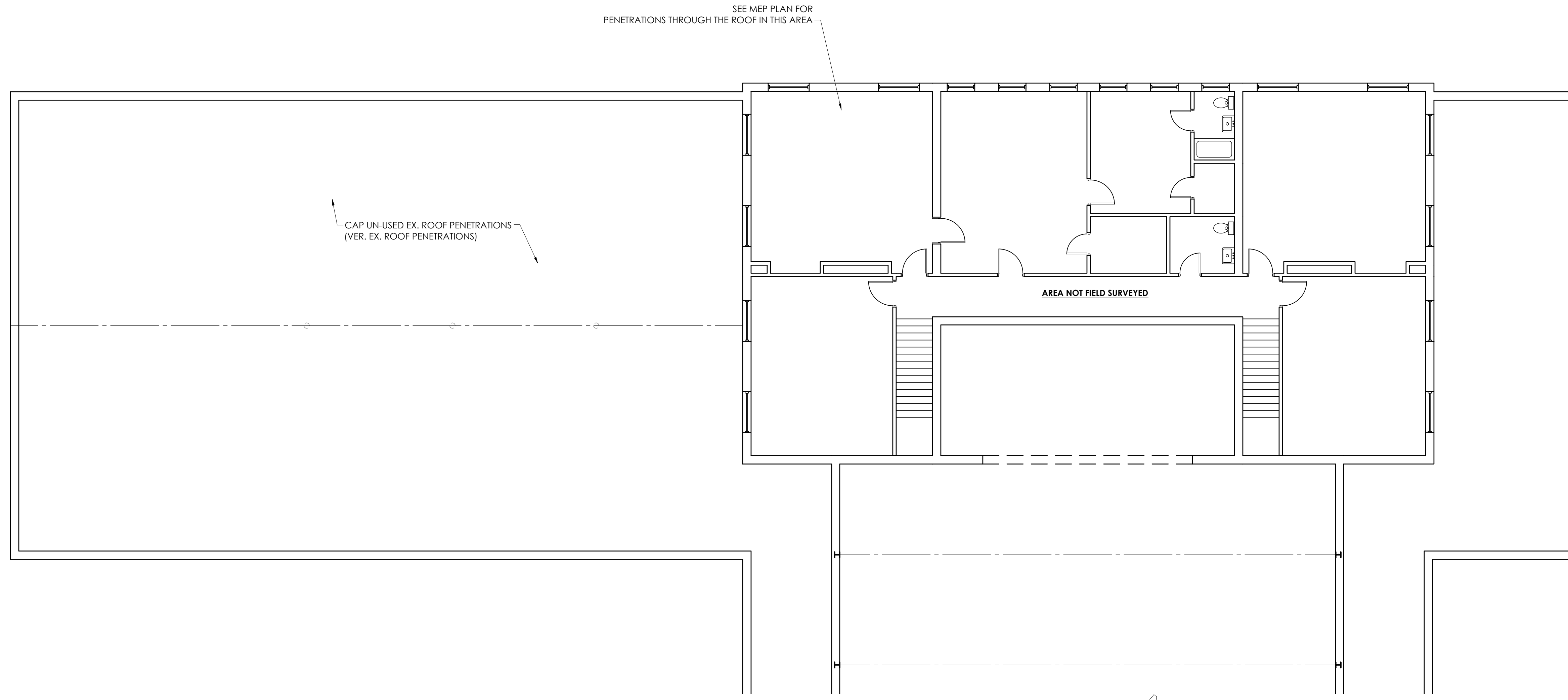
GEORGE WASHINGTON CARVER  
FOOD ENTERPRISE CENTER  
9432 JAMES MADISON HIGHWAY  
RAPIDAN, VA 22733



REVISIONS:


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PROJECT #: 1624A

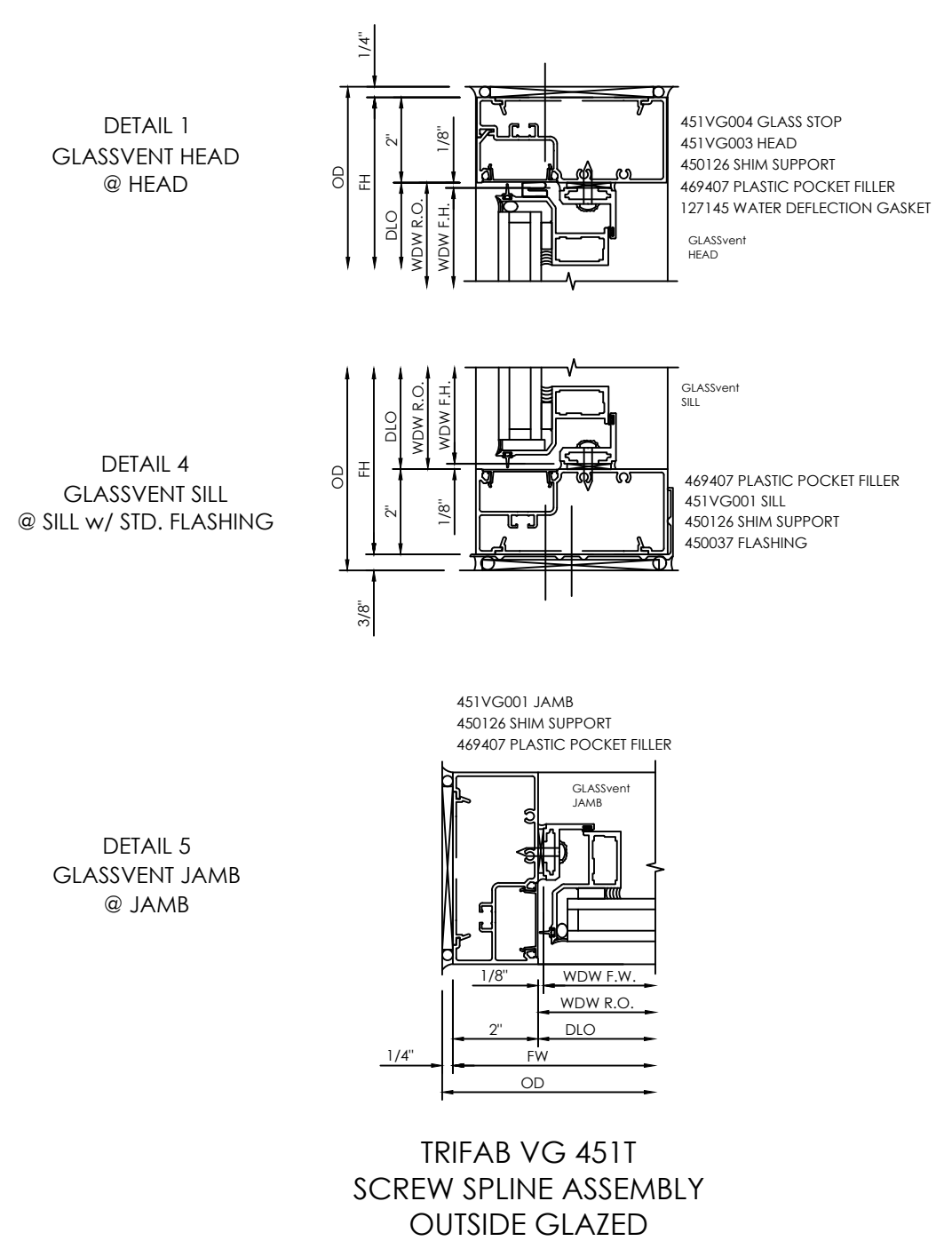
ROOF PLAN WINDOW DETAILS



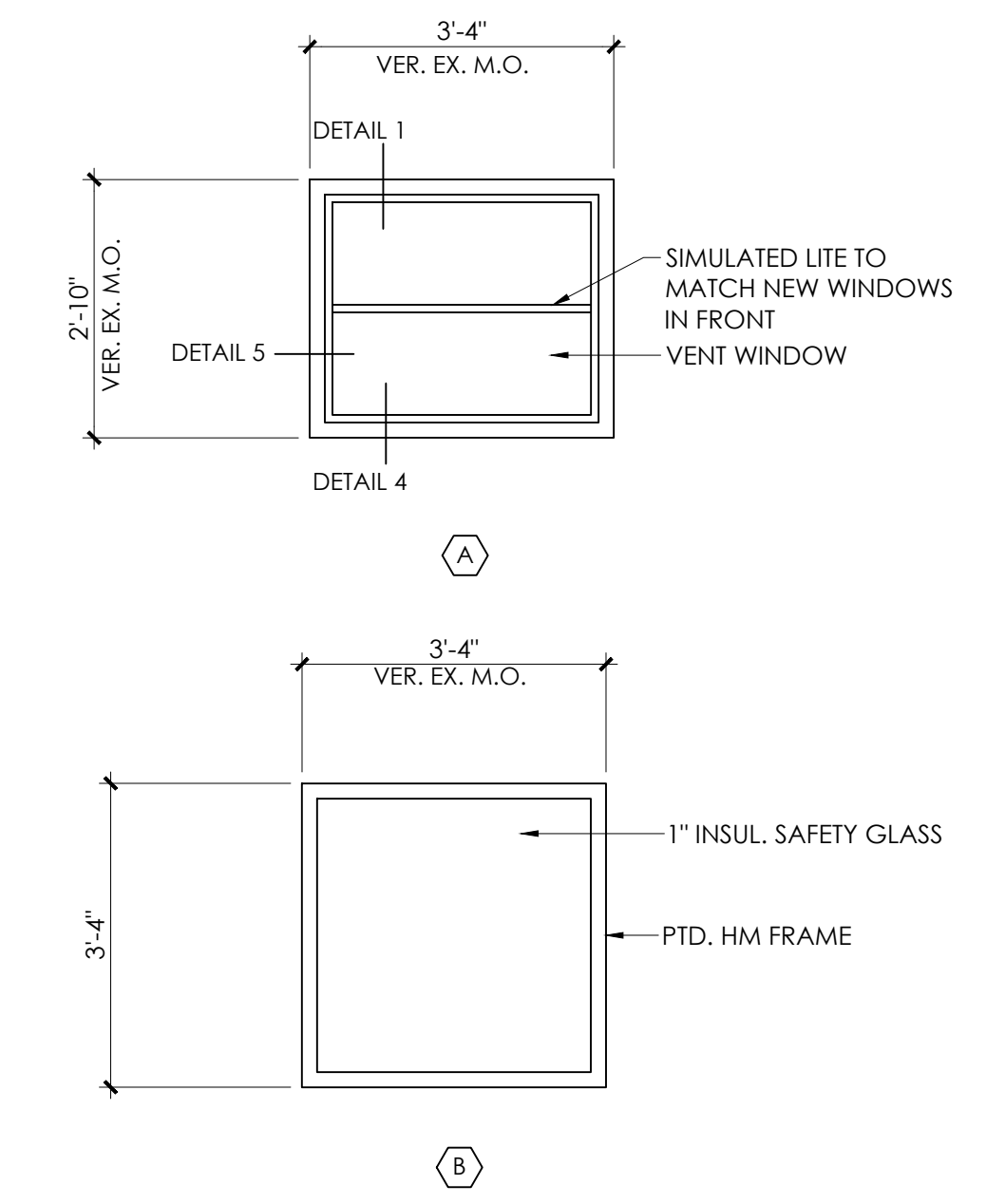
PARTIAL 2ND FLOOR / ROOF PLAN  
SCALE: 1/8" = 1'-0"



SITE IMAGE  
SCALE: NOTED



TRIFAB VG 451T  
SCREW SPLINE ASSEMBLY  
OUTSIDE GLAZED  
SCALE: 3" = 1'-0"



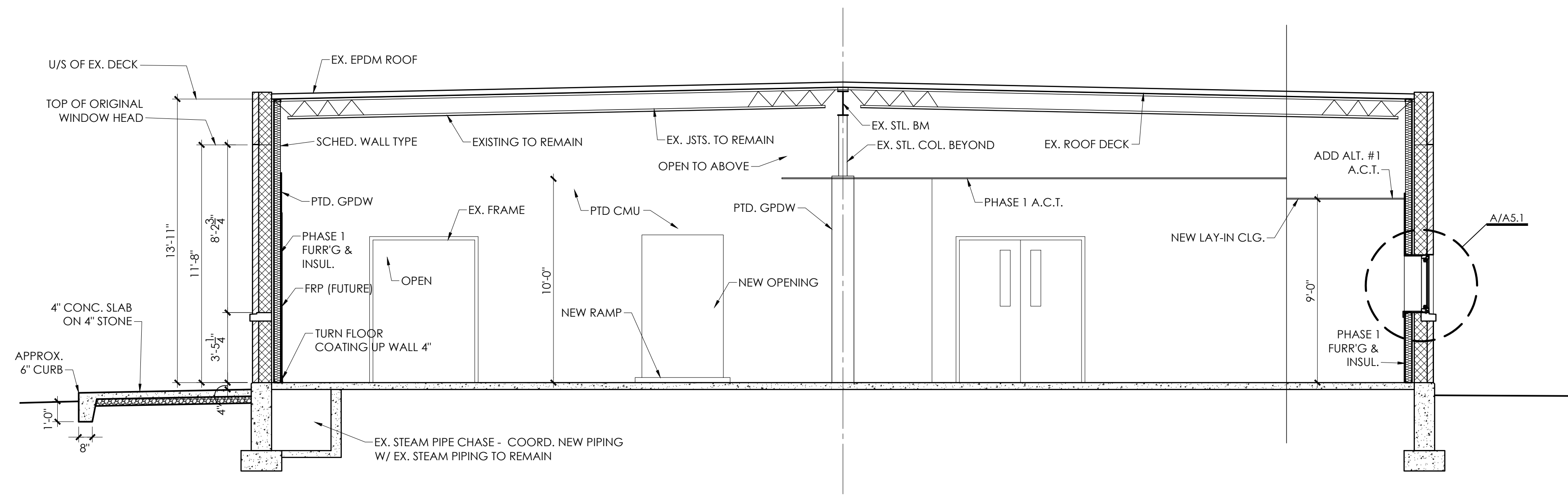
WINDOW TYPES  
SCALE: 1/2" = 1'-0"

- ALUMINUM STOREFRONT**
1. KAWNEER TRIFAB VG 451T SYSTEM OR EQUAL AS INDICATED. ALL FRAMING MEMBERS TO BE THERMALLY BROKEN.
  2. FRAME COLOR TO BE WHITE TO MATCH EXISTING REPLACEMENT WINDOWS.
  3. GLASS: 1" INSULATED, LOW E ARGON FILLED, GREY TINT, TEMPERED WHERE REQUIRED BY CODE (SUBMIT GLASS TINT SAMPLE FOR REVIEW). MAX. U VLAUE = 0.28, MAX SHGC = 0.30.
  4. DOORS: NOT USED

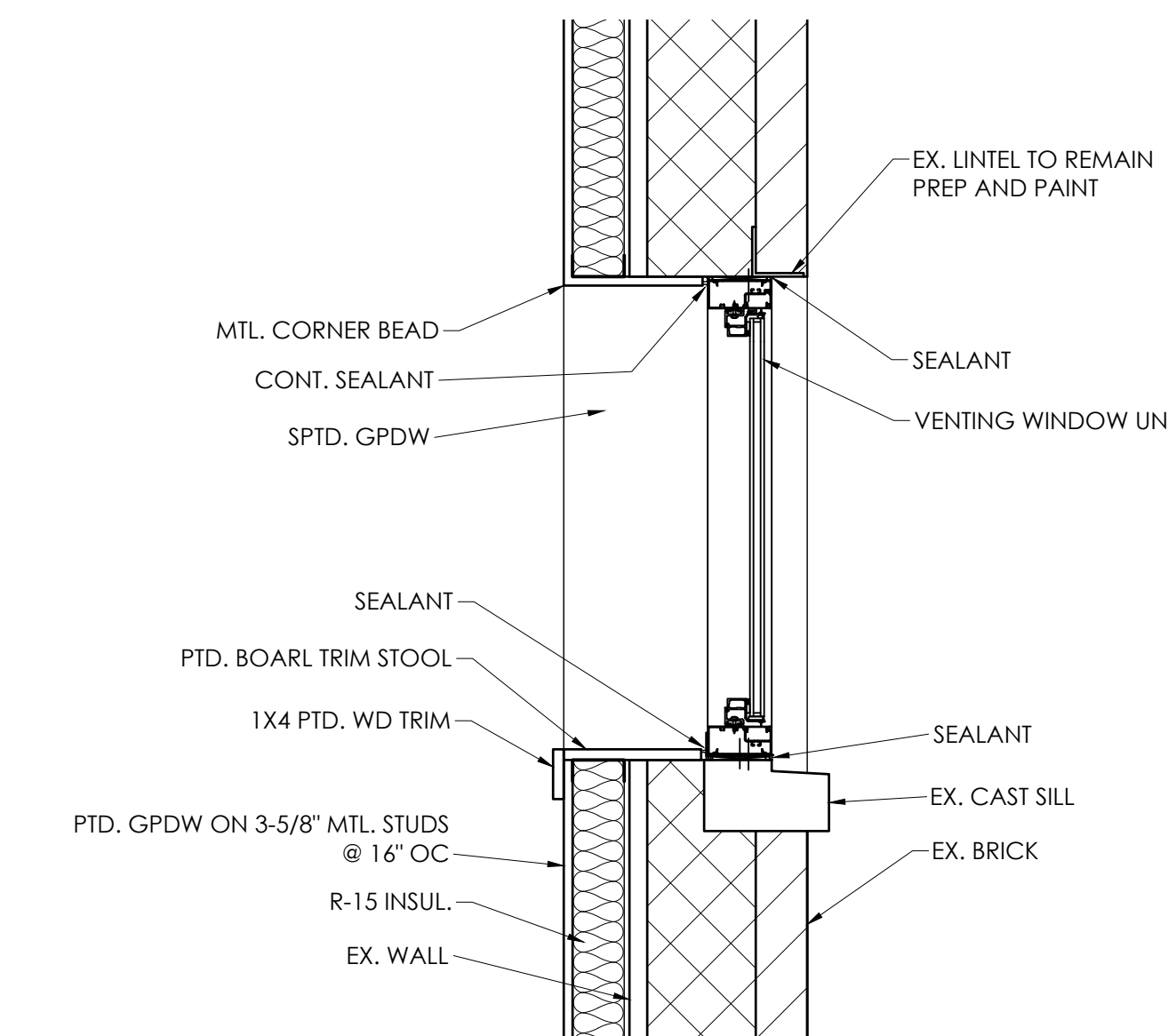




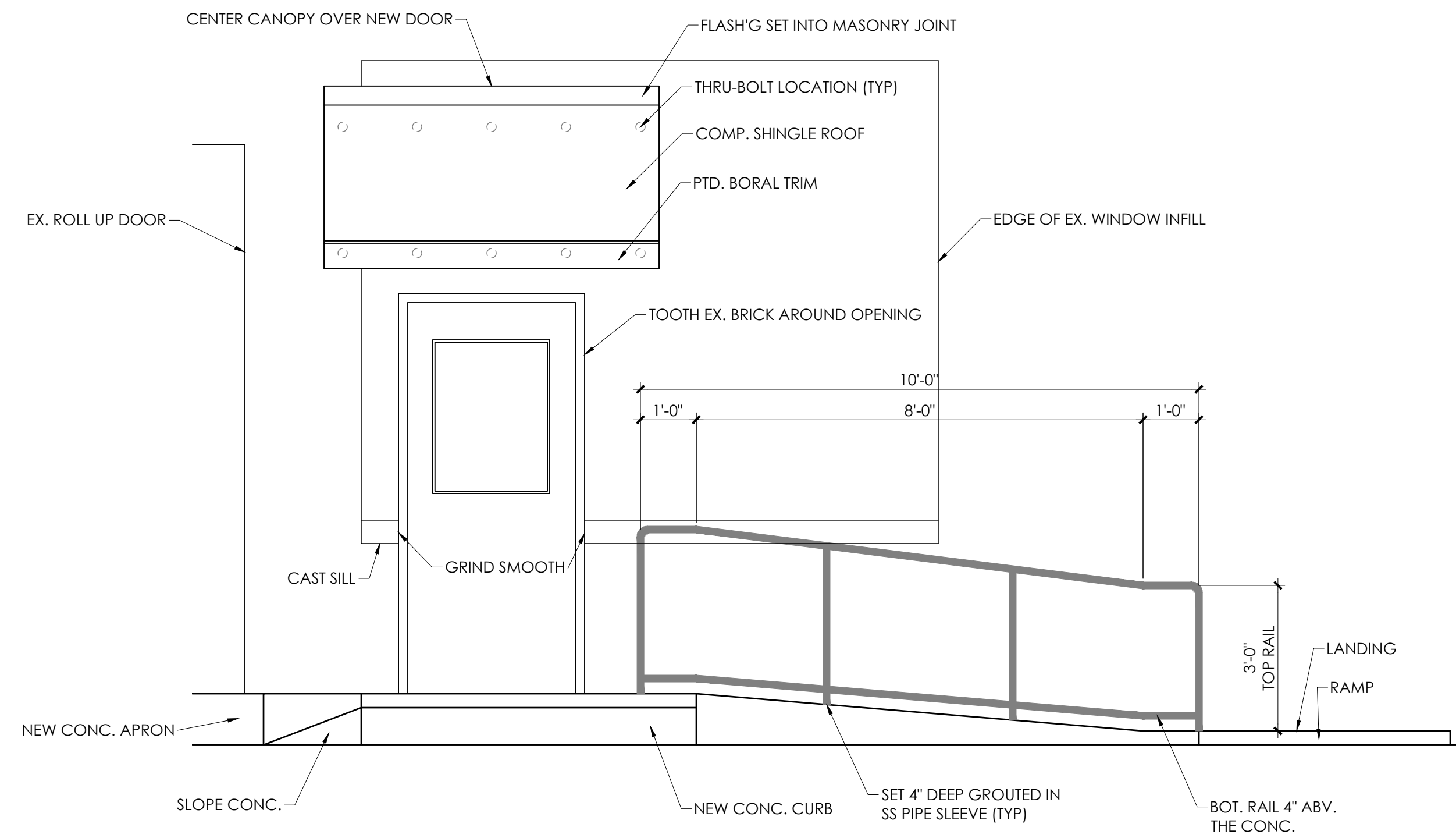




01 SECTION  
SCALE: 1/4" = 1'-0"

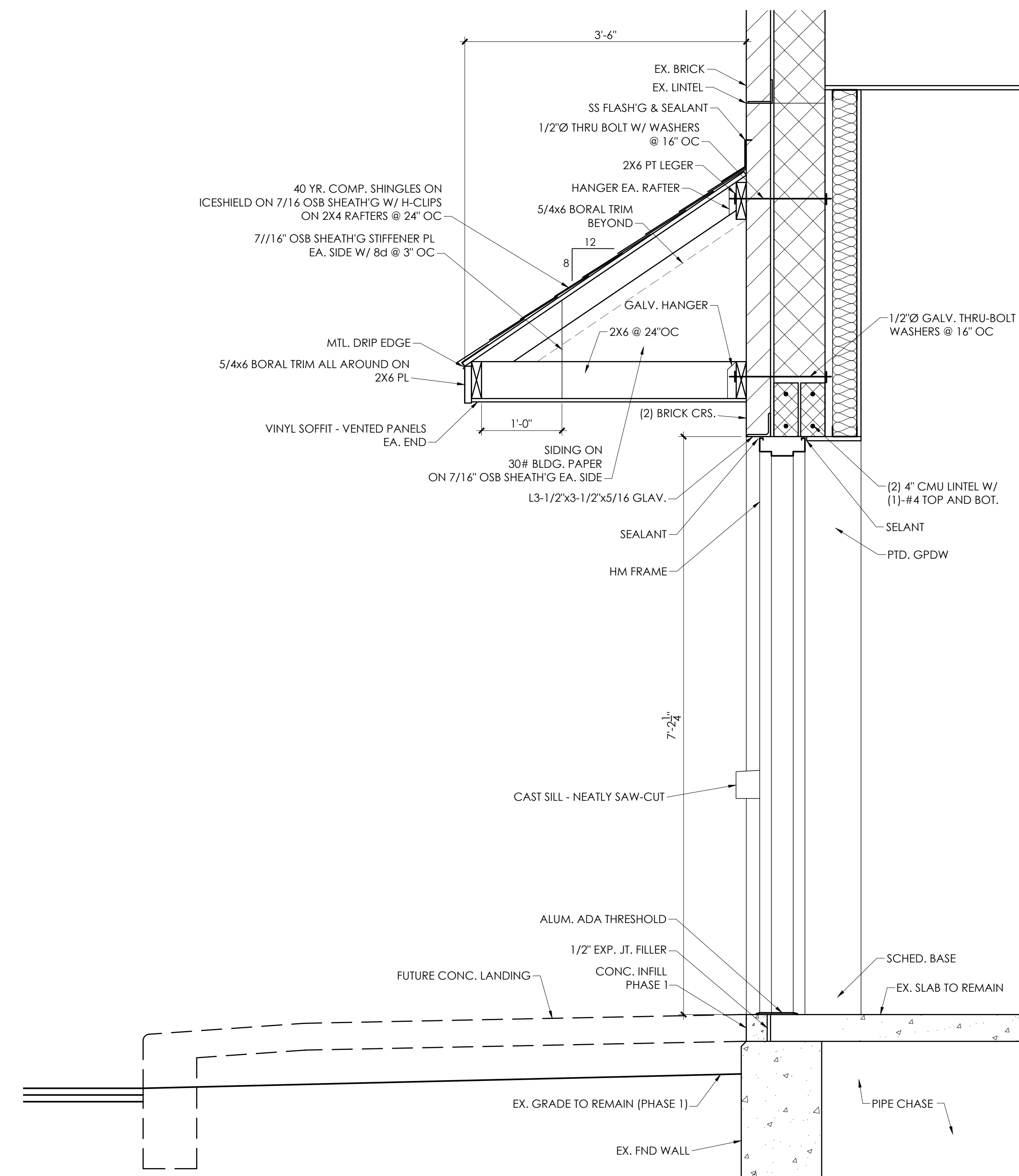


A SECTION @ WINDOW REPLACEMENT  
SCALE: 1" = 1'-0"



03 ELEVATION @ DOOR EX-3 - FUTURE  
SCALE: 1/2" = 1'-0"

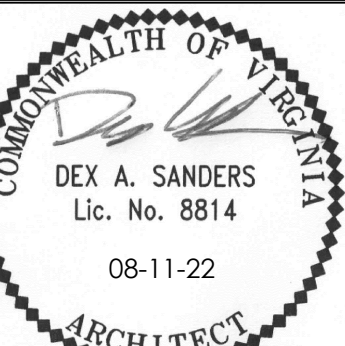
NOTE: RAIL AT DOOR EX-2 SIMILAR



02 SECTION @ DOOR EX-3  
SCALE: 1" = 1'-0"



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REVISIONS:


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CHECKED:   
SCALE: NOTED  
DATE: 08-11-22  
PROJECT #: 1624A

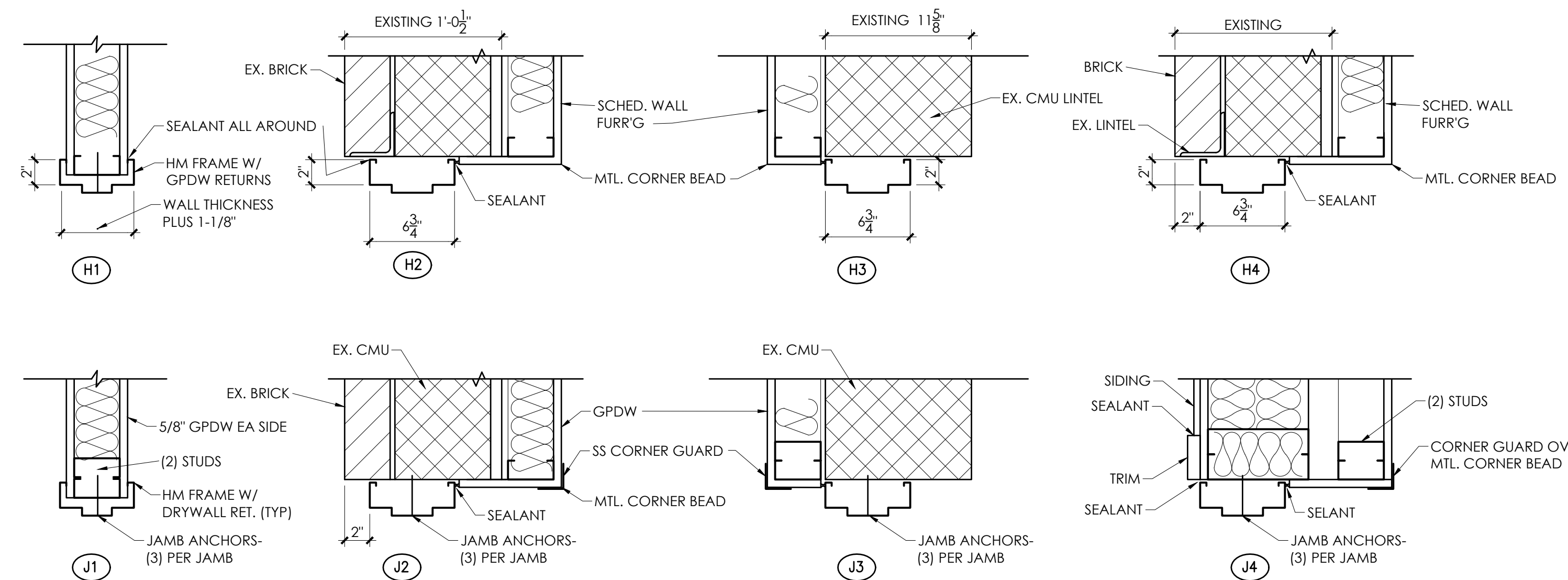
SECTIONS & DETAILS



DOOR SCHEDULE	DOOR NO.	DOOR				FRAME				REMARKS			
		SIZE W X H X T	MATL	FIN	TYPE	LOUVER	MATL	FIN	DETAIL		U. L. LABEL	HDW SET	
									HEAD / JAMB	THRES			
		EXTERIOR											
	EX-1	PR. 3'-1 1/2" x 7'-0" x 1-3/4"	STL.	PTD.	A	-	HM	PTD.	H2/J2	6" ALUM.	-	-	EXTERIOR PULL, KEYED PANIC EXIT, 12" KICKPL., FUT. CARD KEY
	EX-2	3'-0" x 7'-0" x 1-3/4"	STL.	PTD.	C	-	HM	PTD.	H4/J4	6" ALUM.	-	-	LEVER EXT. KEYED PANIC EXIT, CLOSER, 12" KICKPL.
	EX-3	3'-0" x 7'-0" x 1-3/4"	STL.	PTD.	D	-	HM	PTD.	H2/J2 SIM.	6" ALUM.	-	-	LEVER HANDLE, PANIC EXIT W/ ELEC. STRIKE, 34" KICKPL.
	EX-4	EXISTING	-	-	-	-	-	PTD.	-	-	-	-	EXISTING ROLL UP DOOR TO REMAIN - PAINT EXT. JAMB
		INTERIOR											
	101	3'-0" x 7'-0" x 1-3/4"	WD	STN	D	-	HM	PTD.	H1/J1	-	-	-	CLASSROOM LOCKSET, NO CLOSER, 34" KICKPL
	102**	3'-0" x 7'-0" x 1-3/4"	WD	STN	D	-	HM	PTD.	H1/J1	-	-	-	OFFICE LOCKSET, NO CLOSER (ADD ALT. #1)
	103**	3'-0" x 7'-0" x 1-3/4"	WD	STN	D	-	HM	PTD.	H1/J1	-	-	-	OFFICE LOCKSET, NO CLOSER (ADD ALT. #1)
	104	3'-0" x 7'-0" x 1-3/4"	STL.	PTD.	D	-	HM	PTD.	H1/J1	-	-	-	PASSAGE LATCHSET, PANIC EXIT, CLOSER, 34" KICKPL.
	105*	3'-0" x 7'-0" x 1-3/4"	STL.	PTD.	C	-	HM	PTD.	H1/J1	-	-	-	PASSAGE LATCHSET, NO CLOSER, 12" KICKPL EA. SIDE
	106*	3'-0" x 7'-0" x 1-3/4"	STL.	PTD.	C	-	HM	PTD.	H1/J1	-	-	-	PRIVACY LOCKSET, CLOSER, 12" KICKPL EA. SIDE
	107*	3'-0" x 7'-0" x 1-3/4"	STL.	PTD.	C	-	HM	PTD.	H1/J1	-	-	-	PRIVACY LOCKSET, CLOSER, 12" KICKPL EA. SIDE
	108	3'-6" x 7'-0" CASED OPEN	-	-	-	-	-	PTD.	-	-	-	-	
	109	3'-0" x 7'-0" x 1-3/4" ver. ht.	STL.	PTD.	B	-	HM	PTD.	H3/J3	-	60 MIN.	-	STOREROOM LOCKSET, FLUSH BOLTS INACTIVE. FUT. CARD READER

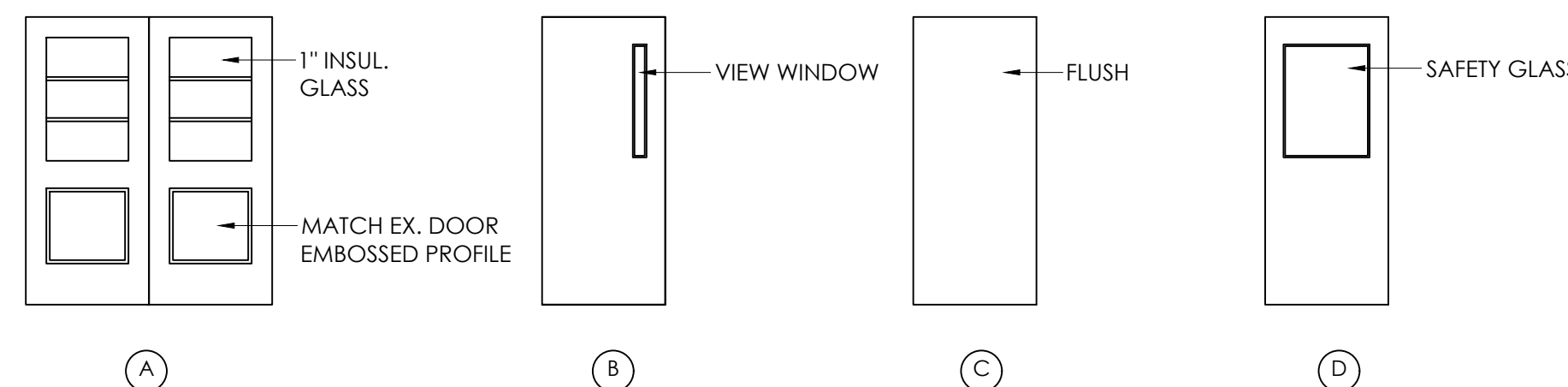
\* DOOR TO BE INSTALLED IN FUTURE PHASE

\*\* DOOR TO BE INSTALLED IN PHASE 1 ADD ALTERNATE #1 WORK



FRAME DETAILS

SCALE: 1-1/2" = 1'-0"



DOOR TYPES

SCALE: 1/4" = 1'-0"

HARDWARE NOTES / TYPES

GENERAL NOTES:

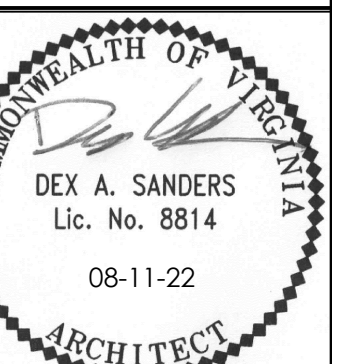
- U.N.O. ALL HINGED DOORS TO HAVE SURFACE MOUNTED CLOSERS. PROVIDE CLOSERS WITH HOLD OPEN FEATURES AT NON-RATED STORAGE DOORS.
- ALL INTERIOR HARDWARE SATIN STAINLESS FINISH.
- ALL LATCH SETS AND HANDLES TO BE MATCHING LEVER STYLE W/ FULL RETURN.
- ALL INTERIOR DOORS TO HAVE MINIMUM GRADE 2 COMMERCIAL HARDWARE UNLESS OTHERWISE NOTED.
- PROVIDE 12" KICKPLATES AT TOILET & ALL DOORS OPENING TO THE CORRIDOR.
- EXTERIOR DOORS TO HAVE WEATHERSTRIPPING ALL AROUND W/ SILL SWEEPS. PROVIDE SILL SWEEPS WITH DRIPS AT OUTSWINGING STEEL DOORS WITHOUT OVERHANGS.
- INSTALL ALL LOCKSETS AS SCHEDULED. KEY ALL EXTERIOR DOORS THE SAME. KEY ALL INTERIOR UTILITY DOORS ALIKE. KEY ALL DOORS TO A MASTER & GRANDMASTER KEY SYSTEM. COORDINATE W/ OWNER.
- PROVIDE COMMERCIAL BRUSHED STAINLESS STEEL DOOR STOPS AT ALL DOORS - FLOOR MOUNTED WHERE POSSIBLE OR WALL MOUNTED W/ FULL BLOCKING.
- REFERENCE THE PROJECT MANUAL FOR HARDWARE SPECIFICATIONS. HARDWARE SUPPLIER SHALL PREPARE DETAILED HARDWARE SCHEDULE FOR REVIEW UPON NOTICE TO PROCEED. FURNISH ALL HARDWARE NECESSARY FOR A COMPLETE CODE COMPLIANT INSTALLATION AS INDICATED BY THE CONSTRUCTION DOCUMENTS.
- COORDINATE HARDWARE WITH OWNER'S SECURITY / ACCESS CONTROL REQUIREMENTS.

DOOR NOTES

- ALL DOORS UP TO 7'-0" TALL TO HAVE 1-1/2" PAIR HINGES. DOORS OVER 7'-0" TALL TO HAVE 2 PAIR HINGES.
- UNDERCUT DOORS AS REQUIRED FOR EASE OF OPERATION. ALL DOORS SHALL HANG 1/8" ABOVE FINISHED FLOOR/THRESHOLD EXCEPT DOORS SCHEDULED TO BE UNDERCUT OR SPECIAL ACOUSTIC DOORS.
- ALL DOORS TO BE REINFORCED FOR CLOSERS. PROVIDE MATCHING TRIM AT LITES. INTERIOR GLASS TO BE 1/2" SAFETY WHERE REQUIRED U.N.O.
- PROVIDE (3) SILENCERS TYP. AT EACH INTERIOR DOOR ON THE LATCHING SIDE.
- EXTERIOR GLASS IN DOORS TO BE 1" INSULATED UNITS.



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PROJECT #: 1624A

DOOR SCHEDULE





# HVAC SPECIFICATIONS

## 1. GENERAL

### 1.1 DESCRIPTION OF WORK:

- A. ALL FIXTURES, EQUIPMENT, ACCESSORIES, MATERIALS, AND LABOR REQUIRED TO PROVIDE COMPLETE, COORDINATED, AND FULLY FUNCTIONAL HVAC SYSTEMS GENERALLY AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN.
- HEATING SYSTEM
  - COOLING SYSTEM
  - VENTILATION SYSTEM
  - EXHAUST SYSTEMS

### 1.2 RELATED DOCUMENTS:

- A. THE REQUIREMENTS OF THE CIVIL, ARCHITECTURAL, STRUCTURAL, PLUMBING AND ELECTRICAL DRAWINGS AND SPECIFICATIONS SHALL APPLY TO AND BE CONSIDERED A PART OF THE HVAC WORK IN-SO-FAR AS THEY APPLY TO THE HVAC WORK AND ARE REQUIRED FOR COORDINATION.

### 1.3 JOB CONDITIONS:

- A. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED TO PROVIDE A COMPLETE INSTALLATION OF THE WORK DESCRIBED AND INDICATED.
- B. PROVIDE FITTINGS, OFFSETS, TRANSITIONS, CONTROL TRANSFORMERS AND ACCESSORIES REQUIRED TO MEET CONDITIONS OF THE PROJECT.
- C. PROVIDE SERVICE ACCESS FOR EQUIPMENT, CONTROL COMPONENTS, VALVES, FILTERS AND SPECIALTIES.
- D. PROVIDE ACCESS PANELS FOR VALVES, ACCESS DOORS, ETC. CONCEALED BEHIND FINISHED SURFACES.
- E. MODIFY DUCT DIMENSIONS AS REQUIRED BY BUILDING STRUCTURE OR OTHER WORK AT NO ADDITIONAL COSTS TO THE OWNER. MAINTAIN EQUIVALENT FREE AREA SIZES.

### 1.4 CONFORMANCE TO REGULATIONS:

- A. WORK SHALL CONFORM WITH VIRGINIA UNIFORM STATEWIDE BUILDING CODE, NFPA, AND LOCAL ORDINANCES.
- B. COMPLY WITH LANDLORD'S TENANT REQUIREMENTS FOR INSTALLATION OF WORK.

### 1.5 QUALITY ASSURANCE:

- A. COMPLY WITH MANUFACTURER'S REQUIREMENTS AND NOTES AND DETAILS SHOWN HEREIN FOR INSTALLATION OF EQUIPMENT.
- B. COMPLY WITH RECOMMENDATIONS OF SMACNA AND ASHRAE.

### 1.6 MATERIALS AND EQUIPMENT:

- A. EQUIPMENT PROVIDED FOR THIS PROJECT SHALL BE EQUIVALENT TO PRODUCTS SPECIFIED.
- B. CONTRACTOR SHALL GUARANTEE EQUIVALENCE AND IS RESPONSIBLE FOR MODIFICATIONS REQUIRED AND COORDINATION WITH OTHER TRADES TO FIT SUBSTITUTED PRODUCT INTO THE PROJECT.
- C. MATERIALS AND EQUIPMENT OF THE SAME TYPE AND USE SHALL BE FROM A SINGLE MANUFACTURER.
- D. PROTECT STORED MATERIALS AND EQUIPMENT FROM WEATHER.
- E. IF HVAC EQUIPMENT IS OPERATED DURING CONSTRUCTION, PROVIDE TEMPORARY FILTERS TO PROTECT AIR HANDLING EQUIPMENT.

### 1.7 SUBMITTALS:

- A. SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT SPECIFIED HEREIN AND ON THE DRAWINGS. SHOP DRAWINGS AND PRODUCT DATA SHALL BE IDENTIFIED PER INDICATIONS ON DRAWINGS, SHALL BE MARKED TO INDICATED SPECIFIC ITEM BE PROPOSED, AND SHALL BE ORGANIZED IN AN ORDERLY MANNER. SUBMIT IN .PDF FORMAT VIA EMAIL.
- B. SUBMIT OPERATING AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT INSTALLED IN THIS PROJECT. INCLUDE COPIES OF SPECIFIC EQUIPMENT WARRANTIES IN MANUAL.
- C. UPON COMPLETION OF THE INSTALLATION, AND PRIOR TO ACCEPTANCE BY THE OWNER, CONTRACTOR SHALL FURNISH TWO COPIES OF AS-BUILT DOCUMENTATION. ALL CHANGES TO THE BIDDING DOCUMENTS SHALL BE NEATLY AND CLEARLY IDENTIFIED ON THE AS-BUILT DOCUMENTATION.

### 1.8 PROJECT CLOSEOUT:

- A. REPLACE OR REPAIR DAMAGED EQUIPMENT AND CLEAN ALL EXPOSED SURFACES.
- B. TOUCH-UP SHOP APPLIED FINISHES TO RESTORE DAMAGED OR SOILED AREAS.
- C. INSTRUCT OWNER'S REPRESENTATIVE IN OPERATION AND MAINTENANCE OF EQUIPMENT UTILIZING OPERATION AND MAINTENANCE MANUAL. MINIMUM INSTRUCTION PERIOD SHALL BE TWO HOURS.
- D. REPLACE FILTERS IN AIR HANDLING EQUIPMENT AT TIME OF PROJECT TURNOVER TO OWNER.
- E. VACUUM INTERIORS OF DUCTWORK AND EQUIPMENT WHICH BECOMES DIRTY, PRIOR TO PROJECT TURNOVER TO OWNER. CLEAN ANY DIRTY EQUIPMENT COILS.

## 2. PRODUCTS

### 2.1 PIPING SYSTEMS:

- A. CONDENSATE DRAIN - SCH. 40 PVC WITH SOLVENT WELD FITTINGS
- B. REFRIGERANT - TYPE C&C OR ARC COPPER, SILVER SOLDER FITTINGS.

### 2.2 HVAC EQUIPMENT:

- A. REFER TO SCHEDULE SHEETS AND EQUIPMENT LIST FOR MANUFACTURERS AND MODEL NUMBERS.
- B. ALTERNATE MANUFACTURER'S ARE: LENNOX, YORK, DAIKIN, TITUS, CARRIER, PANASONIC, MITSUBISHI, TRANE, COOK, CARNES, TWIN CITY, ACME, METALAIR
- C. PROVIDE MINIMUM MERV 8 RETURN AIR FILTERS FOR AIR HANDLING EQUIPMENT.

## 2.3 AIR DISTRIBUTION:

- A. METAL DUCTWORK: SHOP FABRICATED AS FOLLOWS.
- MATERIALS: GALVANIZED STEEL SHEET, ASTM A 527-85.
  - CONSTRUCTION: PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS FOR LOW PRESSURE SYSTEM UP TO 2" W.C. CONSTRUCTION.
  - JOINT SEALANT: UL LISTED FOSTER MASTIC, HARDCAST FTA-20, KINGCO 18-136.
  - SUPPLY AIR BRANCH DUCTS RUN IN CONCEALED AREAS MAY BE PRE-INSULATED, UL CLASS 1, FLEXIBLE DUCT - LIMIT LENGTH TO TEN FEET - USE RIGID DUCT FOR REMAINDER OF RUNOUT.
  - BRICK VENT SHALL BE EXTRUDED ALUMINUM, CHANNEL FRAME WITH BIRDSCREEN, SIZE PER DRAWINGS - ACME SERIES BEX OR EQUAL.
  - DRYER VENT SHALL BE RIGID GALVANIZED STEEL WITH LONG RADIUS ELBOWS AND NO SCREWS PROTRUDING INTO VENT. USE RIVETS AT JOINT AND FITTING CONNECTIONS. USE FLEXIBLE METAL VENT AT CONNECTION TO DRYER. MINIMUM THICKNESS OF VENT TO BE 26 GAUGE. FIRESTOP VENT PENETRATIONS THRU FIRE RATED CONSTRUCTION PER ULC-AJ7063.
- B. DAMPERS - AS MANUF. BY RUSKIN, CESCO, ARROW, CREATIVE METALS, PREFCO
- VOLUME DAMPERS SHALL BE GALVANIZED STEEL, 16 GAUGE, BLADE HEIGHT SHALL NOT EXCEED 12". DAMPER LINKAGE AND LOCKING QUADRANT SHALL BE OUTSIDE OF AIRSTREAM.
- C. ACCESS DOORS -
- FACTORY BUILT WITH SASH LOCKS, BUTT HINGE, GASKET, 24 GA. DOOR AND 22 GA. FRAME.
  - ACCESS DOOR IN INSULATED DUCT SHALL BE DOUBLE CONSTRUCTION, WITH INSULATION ENCASED.
  - MINIMUM SIZE TO BE 75% SIZE OF DUCT IN WHICH INSTALLED, OR 10" X 10".
  - CESCO MODEL HAD-10, LOUVERS AND DAMPERS, KES, INC. OR AIR BALANCE.

## 2.4 CONTROLS:

- A. PROVIDE ALL RELAYS, TRANSFORMERS, CONTROL WIRING, TERMINAL BLOCKS, ETC. FOR A COMPLETE SYSTEM.
- COMPONENT MANUFACTURER'S AND MODEL NUMBERS AS SPECIFIED ON DRAWINGS.
- B. THE WARRANTY PERIOD SHALL COMMENCE AFTER 60 DAYS OF BENEFICIAL USE, MEASURED FROM THE DATE OF ACCEPTANCE FROM THE OWNER.

## 3. EXECUTION

### 3.1 PIPING SYSTEMS:

- A. VERIFY INVERT ELEVATIONS PRIOR TO EXCAVATION.
- B. BACKFILL BURIED PIPE IN TRENCHES WITH DIRT FREE OF ROCK, STONE OR DEBRIS.
- C. VERIFY EXACT LOCATION OF EQUIPMENT PRIOR TO ROUGH-IN.
- D. COORDINATE ROUTING OF WORK WITH OTHER TRADES AND INSTALL TO ALLOW MAXIMUM HEADROOM CLEARANCES, SERVICE ACCESS AND MAINTAIN PROPER PITCH OF SLOPING LINES.
- E. INSULATE PIPING SYSTEMS AS FOLLOWS:
- REFRIGERANT - CLOSED CELLULAR RUBBER TO CODE REQUIRED THICKNESS.
  - HORIZONTAL CONDENSATE DRAIN - 1/2" THICK FIBERGLASS WITH ASJ.
  - SEAL VAPOR BARRIERS. SECURE WITH ADHESIVE AND SEAL JOINTS WITH SEALANT.
  - PROVIDE GALVANIZED STEEL SADDLE AT HANGERS SURROUNDING INSULATED PIPE.
  - DO NOT COMPRESS INSULATION EXCEPT IN AREAS OF STRUCTURAL INTERFERENCE.
  - INSTALL PRE-FITTED PLASTIC ELBOWS OR APPLY CANVAS JACKET IN THREE LAYERS AT ELBOWS.
  - INSULATE FITTINGS, VALVES AND EQUIPMENT BODIES.
  - PROVIDE 2 COATS OF GREY WEATHERPROOF FINISH ON EXTERIOR REFRIGERANT PIPING.
- F. PROVIDE SLEEVES FOR PIPING PENETRATING WALLS. INSULATION SHALL BE CONTINUOUS THROUGH SLEEVES.
- G. FIRESTOP PIPING PASSING THROUGH FIRE RATED WALLS OR CEILINGS.
- H. PATCH FINISHED AREAS DISTURBED BY WORK TO MATCH SURROUNDING AREAS.
- I. WELDING SHALL BE DONE BY CERTIFIED WELDERS FOR THE APPROPRIATE SYSTEM BEING WELDED.
- J. MAKE CONNECTIONS OF DISSIMILAR METALLIC PIPING WITH DIELECTRIC UNIONS.
- K. DO NOT USE PLASTIC PIPING IN RETURN AIR PLENUM SPACES.
- L. PROVIDE SHUT OFF VALVES AT EQUIPMENT CONNECTIONS.
- M. HANGERS SUPPORTING COPPER PIPING SHALL BE COPPER PLATED OR PLASTIC COVERED. HANGERS SUPPORTING INSULATED PIPING SHALL BE SIZED TO SURROUND INSULATION AND STEEL SADDLE.
- N. CLEAN AND FLUSH PIPING THEN TEST PIPING SYSTEMS AS FOLLOWS:
- REFRIGERANT PIPING - TO 100 PSIG W/ COMPRESSED AIR FOR FOUR HOURS AND TEST FITTINGS WITH FREON AND HALIDE LEAK DETECTOR.
  - CONDENSATE DRAIN PIPING - W/ 10 FT. WATER COLUMN OR 5 PSI COMPRESSED AIR FOR 12 HOURS.
  - TESTS SHALL SHOW NO SUBSTANTIAL LOSS IN PRESSURE.
  - PIPING RUN IN CONCEALED AREAS SHALL BE LEAK TESTED PRIOR TO BEING CONCEALED.
  - SUBMIT WRITTEN REPORT OF TEST RESULTS.

## 3.2 HVAC EQUIPMENT:

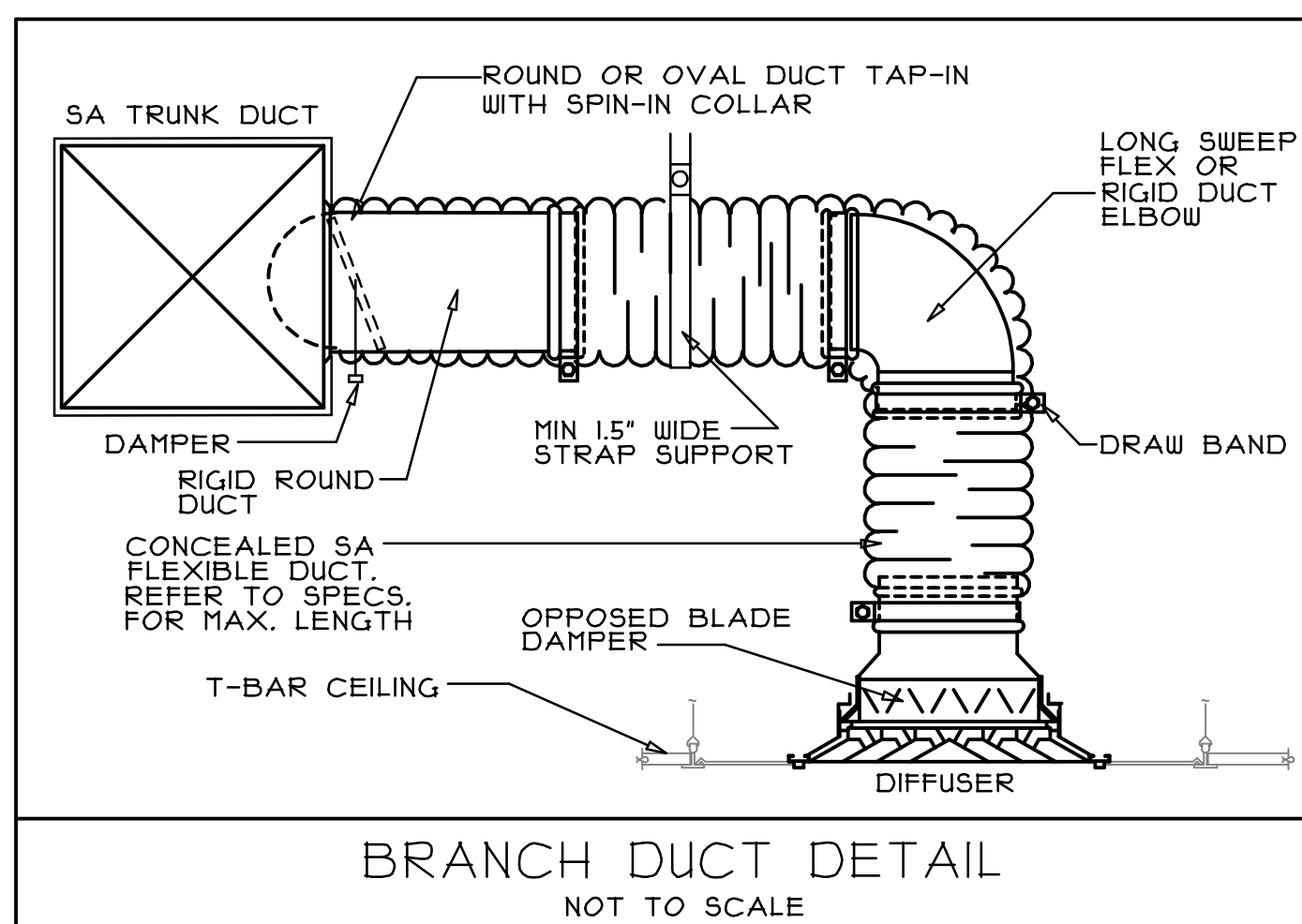
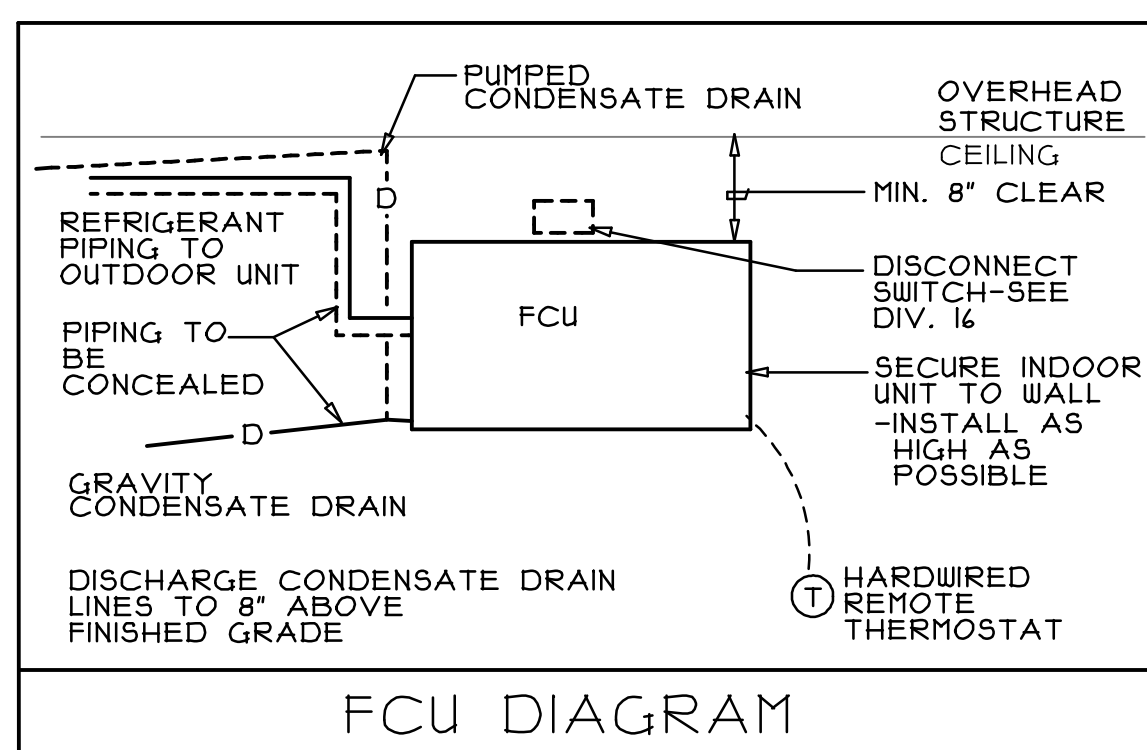
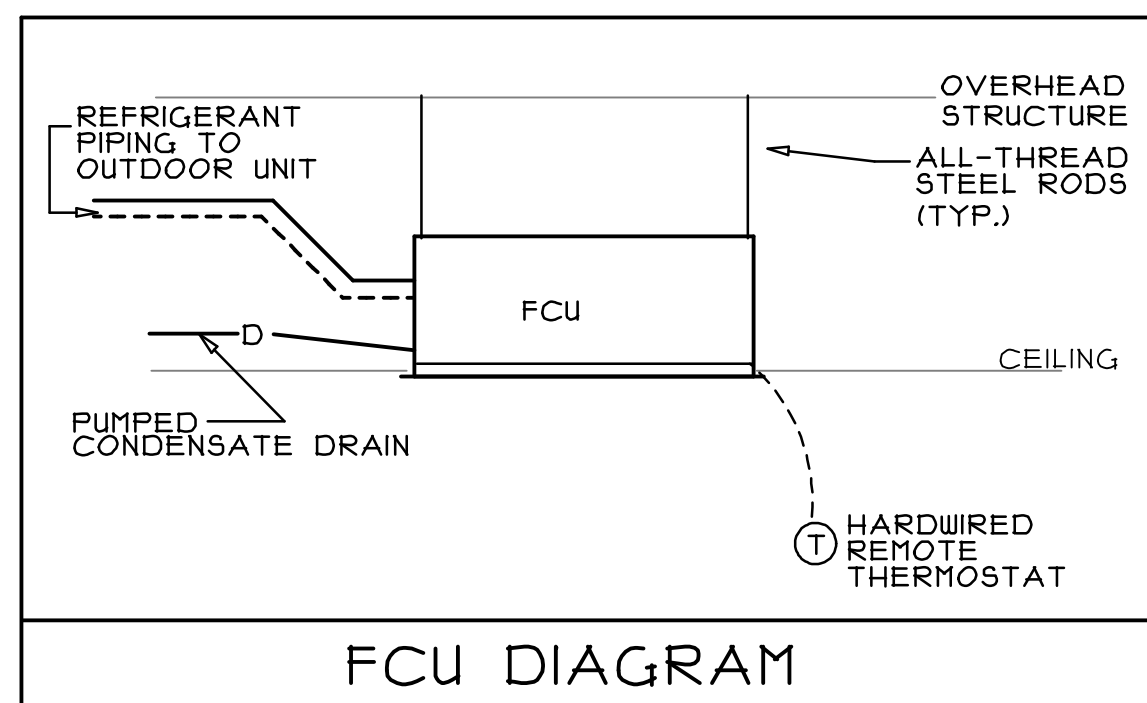
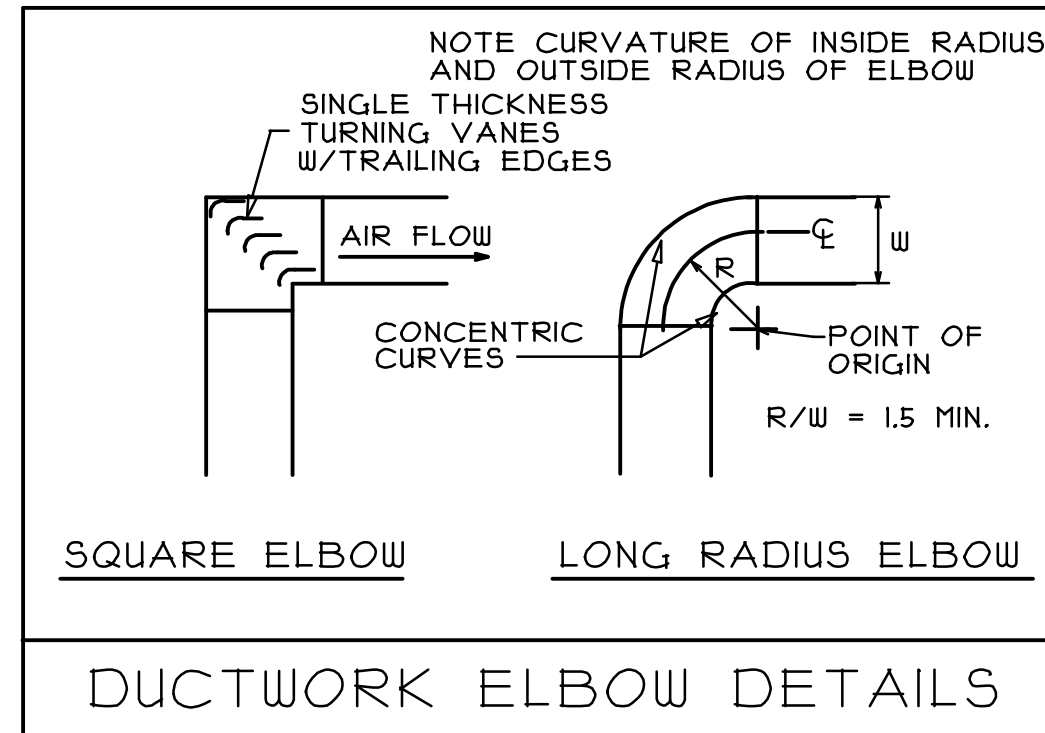
- A. PROVIDE PERMANENT TAG ON EQUIPMENT INDICATING EXPIRATION DATE OF WARRANTIES. LOCATE TAG IN A READILY VISIBLE LOCATION.
- B. PROVIDE FACTORY AUTHORIZED START-UP OF EQUIPMENT AND SUBMIT TEST REPORTS. (INCLUDE IN O&M MANUAL). COMPLY WITH MANUFACTURER REQUIREMENTS AND NOTES STATED ON THE CONSTRUCTION DOCUMENTS FOR INSTALLATION OF EQUIPMENT. BALANCE THE OUTSIDE AIR CFM TO QUANTITIES LISTED.
- C. PACKAGED UNITS:
- CONNECT DUCTWORK TO UNITS WITH FLEXIBLE DUCT CONNECTORS.
  - PROVIDE 1" CONDENSATE DRAINS FROM COOLING COIL AND DISCHARGE TO GRADE.
  - INSTALL OUTSIDE AIR HOODS, ECONOMIZERS, DAMPERS, ETC., WHERE SPECIFIED. CONNECT CONTROL WIRING.
  - COMB BENT FINS AND REPAIR DEFECTS IN EQUIPMENT FINISH AND PANELS.
- D. SPLIT SYSTEM UNITS:
- SUPPORT INDOOR UNIT FROM STRUCTURE WITH ALL THREAD STEEL RODS AND SPRING TYPE VIBRATION ISOLATORS - INSTALL LEVEL. CONNECT DUCTWORK WITH FLEXIBLE DUCT CONNECTIONS. INSTALL TO ALLOW PROPER SERVICE ACCESS.
  - PROVIDE DRAIN PAN BENEATH UNITS. SUPPORT PAN FROM FLOOR STRUCTURE.
  - PROVIDE CONDENSATE DRAIN PIPING AND EXTEND TO HUB DRAIN OR TO EXTERIOR - VERIFY TERMINATION POINT WITH LOCAL CODE OFFICIAL AND ARCHITECT.
  - CONNECT REFRIGERANT PIPING AND CONTROL WIRING.

## 3.3 AIR DISTRIBUTION:

- A. DUCTWORK:
- SEAL JOINTS IN DUCTWORK WITH COATING OF HARDCAST SEALANT OR UL LISTED FSK DUCT TAPE.
  - INSTALL INTERNAL ENDS OF SLIP JOINTS IN DIRECTION OF AIR FLOWS.
  - MAXIMUM ANGLE OF OFFSETS AND TRANSITIONS SHALL NOT EXCEED 30 DEGREES.
  - ADEQUATELY SUPPORT DUCT AS PER CODE REQUIREMENTS - ELIMINATE SAGGING AND COMPRESSION OF DUCT.
  - TRANSITION DUCTS TO FIT EQUIPMENT. PROVIDE FLEXIBLE FLAME RETARDANT DUCT CONNECTIONS TO FURNACES AND GAS FIRED PACKAGED UNITS. PROVIDE 1/2" THICK ACOUSTICAL SOUNDING LINER IN RETURN AIR TRUNK DUCTS WITHIN TWENTY FEET OF RTU'S AND AHU'S. SECURE LINER TO DUCTS WITH ADHESIVE AT 70% COVERAGE AND WITH MECHANICAL FASTENERS AT 18" CENTERS, AND WITHIN 6" OF BUTT JOINTS AND EDGES OF DUCT. COAT ALL EXPOSED 'ROUGH' LINER WITH MASTIC. ENLARGE DUCT TO ACCOMMODATE THE LINER - SIZES ON THE PLANS ARE INSIDE FREE AREA DIMENSIONS.
  - USE LONG RADIUS RIGID DUCT FITTINGS AT ELBOWS IN FLEXIBLE DUCT EXCEEDING 60 DEGREE ANGLE. ELBOWS IN FLEXIBLE DUCT LESS THAN 60 DEGREE ANGLE SHALL BE LONG SWEEP TYPE.
- B. INSULATE DUCT SYSTEMS PER CODE OR AS FOLLOWS, WHICHEVER IS MORE STRINGENT:
- WITHIN BUILDING STRUCTURE AND INSIDE OF BUILDING INSULATION ENVELOPE (OUTSIDE AIR, SUPPLY AND RETURN AIR DUCTS): ONE LB./CU.FT. DENSITY, 2" THICK FIBERGLASS, WITH FSK JACKET; OR WITH 3/8" THICK FOIL FACED AIR CELL INSULATION, REFLECTIX OR EQUAL.
  - INSULATE SUPPLY AIR AND RETURN AIR DUCTS OUTSIDE OF BUILDING INSULATION WITH 3" THICK FIBERGLASS WITH FSK JACKET - MINIMUM R = 8.0 INSTALLED.
  - EXHAUST AIR DUCTS: DO NOT INSULATE.
  - SECURE INSULATION TO DUCTS W/ ADHESIVE AT 60% COVERAGE AND SECURE WITH MECHANICAL FASTENERS AND WASHERS AT 18" CENTERS - SEAL VAPOR BARRIER.
  - INSULATE EXTERIOR SA AND RA DUCTS WITH TWO-1" THICK LAYERS OF CLOSED CELL RUBBER-SEAL JOINTS WEATHERTIGHT. PROVIDE BLOCKING TO PITCH TOP AT 4% SLOPE. TOP LAYER SHALL OVERLAP SIDES. PROVIDE EPDM RUBBER JACKET OVER INSULATION WITH SEAMS AND JOINTS SEALED WEATHERTIGHT.
- C. DAMPERS: ACTUATORS AND PUSH-RODS SHALL BE ACCESSIBLE.
- ACTUATORS AND PUSH-RODS SHALL BE ACCESSIBLE.
  - PROVIDE COMBINATION DAMPER/EXTRACTOR/SPIN-IN FOR ROUND DUCT CONNECTIONS TO TRUNK DUCTS. PROVIDE 45 DEGREE BEVEL INLET WITH BALANCE DAMPER FOR RECTANGULAR DUCT CONNECTIONS TO TRUNK DUCT. DAMPER ADJUSTMENT TO BE LOCATED ON BOTTOM SIDE OF DUCT.
- D. ACCESS DOORS - PROVIDE IN DUCT FOR ACCESS TO COILS, FILTERS, FIRE & MOTORIZED DAMPERS, AND ALL OTHER EQUIPMENT NOT OTHERWISE ACCESSIBLE. INSTALL TO ALLOW SERVICE ACCESS. PROVIDE LABEL ON ACCESS DOOR INDICATING DEVICE SERVED.
- E. BALANCE AIR DISTRIBUTION TO WITHIN 10% OF DESIGN AND SUBMIT REPORT.
- REPORT SHALL IDENTIFY ZONES, DESIGN AIRFLOWS AND FINAL AIRFLOWS (SUPPLY AIR, RETURN AIR AND OUTSIDE AIR). SUPPLY AND RETURN STATIC PRESSURES, ENTERING AND LEAVING AIR TEMPERATURES.
  - INCLUDE EXHAUST FAN SYSTEMS, AND HVAC EQUIPMENT.
  - COMPLY WITH NEBB AND AABC REQUIREMENTS.

## 3.4 CONTROLS:

- A. SEAL PROBE PENETRATIONS FOR DUCT MOUNTED SENSORS.
- B. PROVIDE JUNCTION BOX HOUSING FOR CONTROL WIRING INTERLOCK TO COMPONENTS.
- C. ROUTE CONDUCTORS NEATLY AND PARALLEL OR PERPENDICULAR TO BUILDING CONSTRUCTION. WIRING AND CONDUCTORS IN FINISHED SPACES TO BE RUN CONCEALED.
- D. SEQUENCE OF CONTROL
- ON A CALL FOR COOLING - BLOWER AND COOL COMPRESSOR SHALL BE ENABLED. FOR UNITS WITH OA ECONOMIZERS, IF OA CONDITIONS ARE SUITABLE, OA DAMPER TO MODULATE OPEN FOR FIRST STAGE COOL. OTHERWISE DAMPER TO POSITION AS DESCRIBED HEREIN. MIXED AIR LOW LIMIT SET AT 55F (ADJUSTABLE) TO LIMIT OA MOTORIZED DAMPER POSITION. MOTORIZED DAMPER OPERATION.
  - ON A CALL FOR HEAT - BLOWER AND GAS HEAT SHALL BE ENABLED. FOR HEAT PUMP, BLOWER AND HEAT COMPRESSOR SHALL BE ENABLED. SMOKE DETECTOR TO DISABLE APPLICABLE UNITS AND ACTIVATE ALARMS IN CASE OF ABNORMAL SMOKE CONDITION. BLOWER TO RUN CONTINUOUSLY IN OCCUPIED MODES AND CYCLE WITH THE THERMOSTAT IN UNOCCUPIED MODES.
  - ON A CALL FOR DE-HUMIDIFICATION BLOWER AND COOL COMPRESSOR TO BE ENABLED. HOT GAS REHEAT TO BE ENABLED TO MAINTAIN ROOM CONDITIONS. PROGRAM THERMOSTATS PER OWNER'S SCHEDULING.
  - FLOAT SWITCH IN DRAIN PAN TO DISABLE HVAC UNIT IN CASE OF WATER IN PAN. OUTSIDE AIR TO BE INTRODUCED WHEN BLOWER RUNS. FOR UNITS WITH AIR QUALITY SENSOR, THERMOSTAT TO ENABLE SENSOR TO OPEN MOTORIZED OA DAMPER TO SETPOINT IN CASE OF POOR RA QUALITY (1000 PPM IN OCCUPIED MODES ONLY). OTHERWISE OA DAMPER TO CLOSE TO THE 10% POSITION.



FOR CONSTRUCTION

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GEORGE WASHINGTON CARVER  
FOOD ENTERPRISE CENTER

9432 JAMES MADISON HIGHWAY  
RAPIDAN, VIRGINIA

COMMONWEALTH OF VIRGINIA

WESLEY FRANKLIN  
SIEVER

Lic. No. 0402 043863  
8/11/22

PROFESSIONAL ENGINEER

REVISIONS:


DRAWN: DRB  
CHECKED: MDI  
SCALE: NOTED  
DATE: 08-11-22  
PROJECT #: 22017

HVAC  
SPECIFICATIONS

MO.1



FOR CONSTRUCTION

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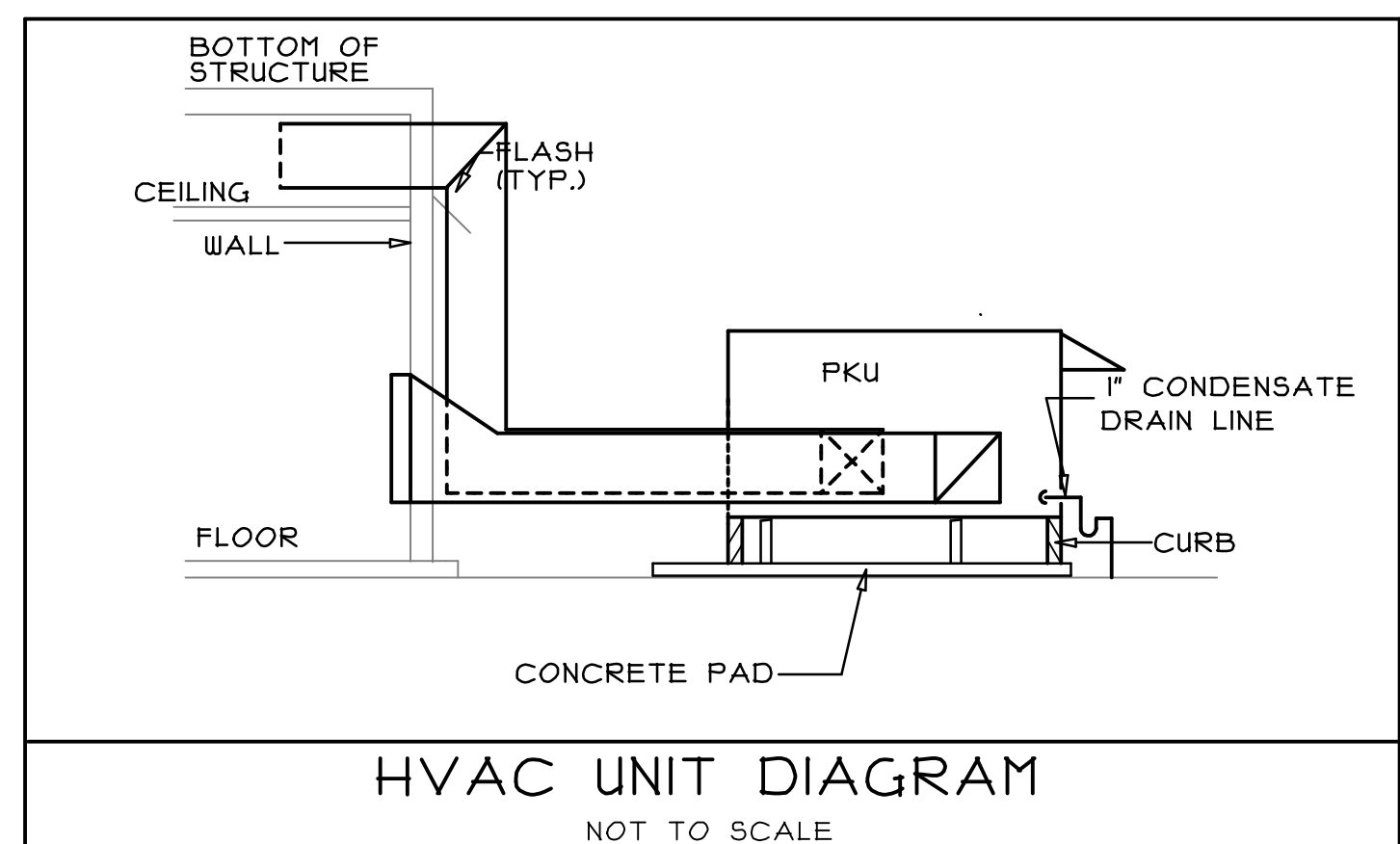
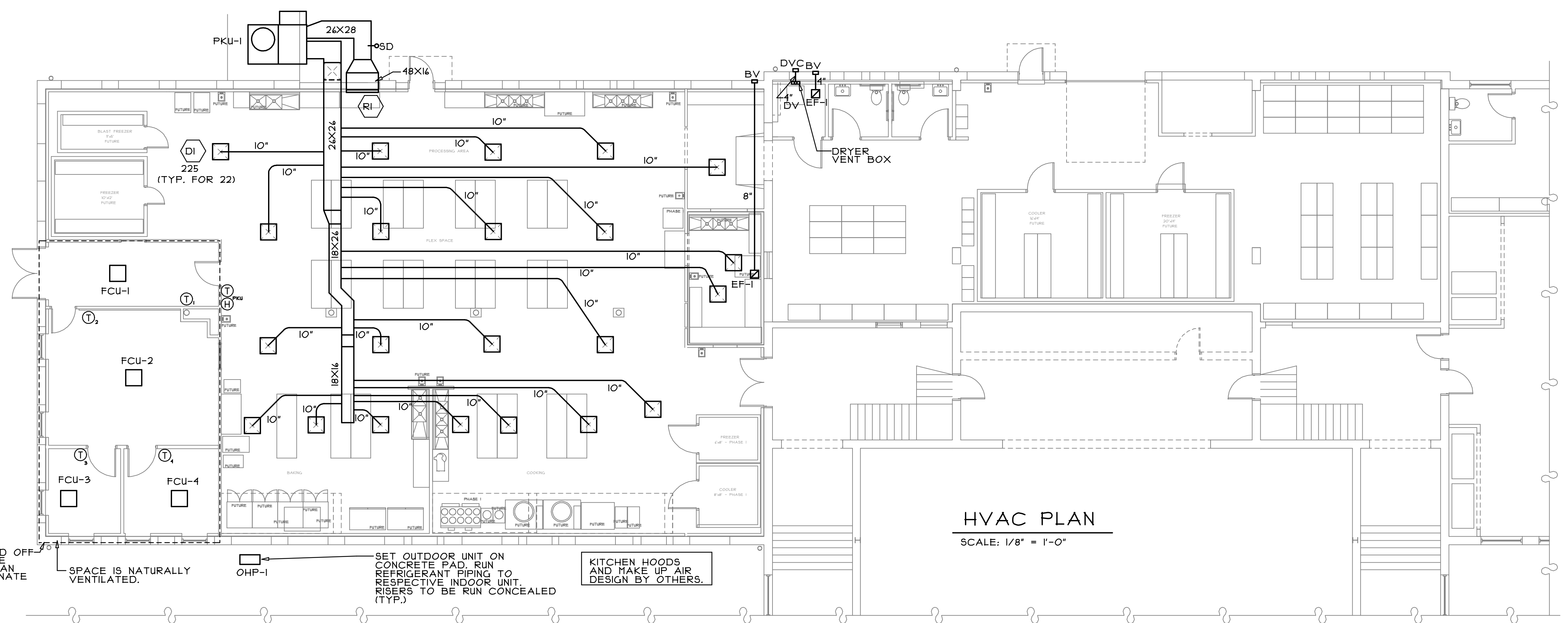
REVISIONS:  
  
DRAWN: DRB  
CHECKED: MDI  
SCALE: NOTED  
DATE: 08-11-22  
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HVAC PLAN  
AND SCHEDULES

M1.1

SYMBOLS	
	SUPPLY DUCT
	RETURN OR EXHAUST DUCT
	THERMOSTAT-MTD. 48" AFF
	INDICATES AIR OUTLET OR INLET TOP LETTER INDICATES GRID TYPE (SEE SCHEDULE); BOTTOM NUMERAL INDICATES CFM FOR BALANCING
	VOLUME DAMPER (VD)
	DUCT TRANSITION
	SMOKE DETECTOR

ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BV	BRICK VENT - 8X4 NECK UNLESS OTHERWISE NOTED, MATCH BUILDING FINISH
CD	CEILING DIFFUSER
DN	DOWN
EA	EXHAUST AIR
EF	EXHAUST FAN
MTD.	MOUNTED
OA	OUTSIDE AIR
RA	RETURN AIR
RG	RETURN GRILLE
SA	SUPPLY AIR
TYP	TYPICAL
WC	WALL CAP



PACKAGED HVAC EQUIPMENT SCHEDULE																
ZONE	MODEL	NOMINAL TONS	SENSIBLE COOLING	SEER	VOLTS	MCA	HEATING		CFM <sup>②</sup>	ESP.	MIN. OA CFM	BLOWER SPEED	FLA	MOCP	WEIGHT	REMARKS
							BTUH INPUT	EFF.								
PKU-1	CARRIER MDL. 48TCEE4	12.5	109,500 BTU	10.8 EER	208/3	73	224,000	82%	4950	1.0"	200	BELT DRIVE	78	80	2500	①③④⑤⑥①

- NOTES:
- ① WITH REFRIGERANT HIGH AND LOW PRESSURE SWITCHES, REFRIGERANT LINE FILTER DRIER, COMPRESSOR TIME DELAY RELAY, COMPRESSOR CRANKCASE HEATER, R-410A REFRIGERANT, TXV.
  - ② APPROXIMATE CFM AIRFLOW - REFER TO PLAN FOR EXACT NUMBERS FOR AIR BALANCE
  - ③ W/ RA CO<sub>2</sub> SENSOR
  - ④ PROVIDE OA INTAKE HOOD W/ INLET FILTER, 14" ROOF CURB, 35% EFF. RA FILTERS
  - ⑤ W/ HOTGAS REHEAT COIL AND DEHUMIDIFICATION CONTROLS
  - ⑥ W/ 0-100% OA ECONOMIZER, POWER EXHAUST, ENTHALPY CONTROLLED
  - ⑦ W/ VOLTAGE PHASE LOSS MONITOR

EQUIPMENT LIST	
EQUIPMENT: EQUIVALENT MANUFACTURERS MAY BE SUBSTITUTED. EQUIPMENT TO BE UL OR ETL LISTED.	
Ⓣ - THERMOSTAT- SHALL BE 24 VAC, HEATING-COOLING AUTO-CHANGEOVER TYPE, 1 DAY PROGRAMMABLE, (SUITABLE FOR HEAT PUMP USE ), OVERRIDE TIMER W/ AUX. CONTACT TO CONTROL OA MOD, MULTI-STAGE HEAT/COOL, HONEYWELL OR EQUAL.	
EF-1 - CENTRIFUGAL CEILING EXHAUSTER, 120 VAC, BACKDRAFT DAMPER, SAFETY SWITCH, 300 CFM @ 0.3" SP, 905 RPM, 212 WATTS, ACME VQ300.	
-OSD - DUCT MTD. SMOKE DETECTOR, UL LISTED, IONIZATION TYPE, WITH DUCT SENSING PROBE, DPDT, 120 VAC. INSTALL DETECTOR AND INTERLOCK WITH BLOWER TO DISABLE ON ABNORMAL SMOKE CONDITION. PROVIDE AUDIBLE AND VISUAL ALARM DEVICES AND TROUBLE SIGNALS PER LOCAL CODE REQUIREMENTS. INTERLOCK ALL DEVICES. FENWALL, GAMEWELL, SIMPLEX OR EQUAL.	
DVB - DRYER VENT BOX, DOWN/UP VENT CONNECTION, HIGH IMPACT POLYSTYRENE, TO FIT IN A 2X4 WALL. CONSTRUCTION SOLUTIONS DBX1000. ALL DRYER VENT CONNECTIONS SHALL HAVE A DRYER VENT BOX	

VRF EQUIPMENT SCHEDULE																	
ZONE	OUTDOOR HEAT PUMP	NOMINAL TONS	RATED COOLING	RATED HEATING	SEER	O.U. VOLTS	O.U. MCA/ MOP	INDOOR UNIT									
								I.U. NAME	I.U. MODEL NO.	CFM	MIN. OA	ESP.	RATED		BLOWER SPEED	VOLTS	FLA
								COOLING TOTAL	HEATING								
OHP-1	CARRIER 38MGRQ34D-3	3	45020 BTUH	50350 BTUH	21.5	208/1	35/50	FCU-1	CARRIER 40MBCQ09-3	380	0	N/A	9000 BTUH	9,500 BTUH	HIGH	208/1	0.2
PROVIDE ALL PIPING, CONTROL KIT, W/ WIRED WALL MOUNTED ROOM THERMOSTAT, WYE FITTINGS, ETC. AS REQUIRED FOR A COMPLETE OPERATING SYSTEM, W/ INTERNAL CONDENSATE PUMPS. (NOTE) VOLTAGE SUPPLIED FROM THE OUTDOOR UNIT TO THE INDOOR FCU CASSETTES								FCU-2	CARRIER 40MBCQ18-3	420	0	N/A	11,000 BTUH	11,500 BTUH	HIGH	208/1	0.2
								FCU-3	CARRIER 40MBCQ09-3	320	0	N/A	9000 BTUH	9,500 BTUH	HIGH	208/1	0.2
								FCU-4	CARRIER 40MBCQ09-3	320	0	N/A	9000 BTUH	9,500 BTUH	HIGH	208/1	0.2

GRILLES, REGISTERS, DIFFUSERS AND LOUVERS						
TYPE	DESCRIPTION	NECK	FRAME	FINISH	MFR. MDL.	REMARKS
DI	4-WAY CEILING DIFFUSER	12X12	T-BAR LAY-IN	WHITE	NAILOR IND. 6500-L-4A-AW-4215	24" SQUARE PANEL
RI	RETURN AIR GRILLE	48X48	FLANGE	WHITE	NAILOR IND. 445H-S-AW	
LI	EXHAUST AIR LOUVER	12X10	CHANNEL	SEL. BY ARCHIT.	NCA MDL. XAD-4-45	W/ BIRDSCREEN







COMcheck Software Version 4.1.5.2  
Interior Lighting Compliance Certificate

**Project Information**  
Energy Code: 2018 IECC  
Project Title: George Washington Carver Food Enterprise Center  
Project Type: New Construction

Construction Site: 9432 James Madison Highway, Rapidan, VA  
Owner/Agent: [Signature]  
Designer/Contractor: R.B. Propst, MEI Engineering, Inc., 1592 CF Pours Drive, Harrisonburg, VA 22802, 540-432-6272

Credits: 1.0 Required, 1.0 Proposed, Reduced Lighting Power, 1.0 credit  
**Allowed Interior Lighting Power**

A Area Category	B Floor Area (ft <sup>2</sup> )	C Allowed Watts / ft <sup>2</sup>	D Allowed Watts (B X C)
1-Manufacturing Facility	6002	0.81	4862
Total Allowed Watts =			4862

**Proposed Interior Lighting Power**

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Manufacturing Facility				
LED 1: Type 1 Lenses 2 x 4 LED Other Fixture Unit 40W	1	28	38	1075
LED 2: Type 2 x 4 LED Other Fixture Unit 36W	1	13	36	471
LED 3: Type 3 Walk-in 1 x 4 LED Other Fixture Unit 40W	1	4	46	164
LED 4: Type 4 5500L Strip LED Other Fixture Unit 40W	1	14	45	450
LED 5: Type 5 3000L Strip LED Other Fixture Unit 28W	1	1	26	26
Total Proposed Watts =				2388

Interior Lighting PASSES: Design 51% better than code

**Interior Lighting Compliance Statement**  
Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.2 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

R.B. PROPST  
Name - Title: [Signature] Signature Date: 8-11-22

Project Title: George Washington Carver Food Enterprise Center Report date: 07/28/22  
Data filename: M:\Current\2022\2017\2017 Ltg.cck Page 1 of 8

KITCHEN EQUIPMENT CONNECTION SCHEDULE

ITEM	DESCRIPTION	VOLTS	PH	FLA	WIRE	GND.	MOCP	DISCONNECT	PNL. & CKT.	REMARKS
(A)	GAS STOVE	120	1	5.0	2 #12	#12	20A	DUPLEX RECEPTACLE	KA-1	NOTE 1
(NA)	WALK-IN COOLER CAPSULE FAK	208	1	7.1	2 #12	#12	20A	MATCHING OUTLET	KE-5	
(NB)	WALK-IN COOLER DOOR/LIGHT	120	1	1.0	2 #12	#12	20A	DIRECT CONNECTION	KE-13	
(OA)	WALK-IN FREEZER CAPSULE FAK	208	1	7.5	2 #12	#12	20A	MATCHING OUTLET	KE-9	
(OB)	WALK-IN FREEZER DOOR/LIGHT	120	1	2.0	2 #12	#12	20A	DIRECT CONNECTION	KE-15	
(O)	ICE MACHINE	120	1	8.6	2 #12	#12	15A	DIRECT CONNECTION	KA-14	

SCHEDULE NOTES

- COORDINATE WITH FINAL EQUIPMENT SELECTIONS. CONTRACTOR IS RESPONSIBLE FOR CORRECTNESS OF ALL BREAKERS, WIRE SIZES, ETC. VERIFY EXACT LOCATIONS OF EQUIPMENT PRIOR TO ANY ROUGH-IN AND MAKE FINAL CONNECTIONS AFTER EQUIPMENT IS SET IN PLACE. RUN NEUTRAL FOR MULTI-POLE CIRCUIT IF REQUIRED IN MANUFACTURER'S GUIDELINES.
- I. RUN CIRCUIT TO SHUNT TRIP BREAKER, INTERLOCK BREAKER WITH HOOD FIRE SUPPRESSION TO DISCONNECT POWER TO EQUIPMENT UNDER THE HOOD IN EVENT OF FIRE.

SYMBOLS LIST

- A-1 [Symbol] OUTLET FOR CEILING OR WALL MOUNTED FLUORESCENT OR LED LIGHTING FIXTURE WITH CIRCUIT NUMBER
- [Symbol] EXISTING CEILING OR WALL MOUNTED FLUORESCENT OR LED LIGHTING FIXTURE
- A-1 [Symbol] OUTLET FOR CEILING OR WALL MOUNTED EMERGENCY EGRESS LIGHTING FIXTURE WITH BATTERY BACKUP WITH CIRCUIT NUMBER
- [Symbol] EXISTING CEILING OR WALL MOUNTED EMERGENCY EGRESS LIGHTING FIXTURE
- A-1 [Symbol] OUTLET FOR CEILING OR WALL MOUNTED EMERGENCY EGRESS LIGHTING FIXTURE WITH BATTERY BACKUP WITH CIRCUIT NUMBER
- [Symbol] EXISTING CEILING OR WALL MOUNTED EMERGENCY EGRESS LIGHTING FIXTURE
- A-1 [Symbol] OUTLET FOR CEILING OR WALL MOUNTED COMBINATION EXIT/EMERGENCY EGRESS LIGHTING FIXTURE WITH BATTERY BACKUP WITH CIRCUIT NUMBER
- [Symbol] EXISTING CEILING OR WALL MOUNTED COMBINATION EXIT/EMERGENCY EGRESS LIGHTING FIXTURE
- [Symbol] LIGHTING FIXTURE TYPE SEE SCHEDULE
- S SINGLE POLE WALL SWITCH AT 48" AFF TO TOP OF BOX
- Ss THREE-WAY WALL SWITCH AT 48" AFF TO TOP OF BOX
- A-1 [Symbol] GENERAL PURPOSE DUPLEX RECEPTACLE AT 18" AFF TO BOTTOM OF BOX WITH CIRCUIT NUMBER
- A-1 [Symbol] GENERAL PURPOSE DUPLEX RECEPTACLE AT 48" AFF TO TOP OF BOX WITH CIRCUIT NUMBER
- GFCI [Symbol] GROUND FAULT CIRCUIT INTERRUPTER AT 18" AFF TO BOTTOM OF BOX WITH CIRCUIT NUMBER
- GFCI [Symbol] GROUND FAULT CIRCUIT INTERRUPTER AT 48" AFF TO TOP OF BOX WITH CIRCUIT NUMBER
- A-1 [Symbol] EXISTING GENERAL PURPOSE DUPLEX RECEPTACLE AT 18" AFF WITH CIRCUIT NUMBER
- A-1 [Symbol] EXISTING GENERAL PURPOSE DUPLEX RECEPTACLE AT 48" AFF WITH CIRCUIT NUMBER
- EWC [Symbol] OUTLET FOR ELECTRIC WATER COOLER COORDINATE LOCATION WITH PLUMBING ROUGH-IN DRAWINGS, WITH CIRCUIT NUMBER
- SWD [Symbol] 250 VOLT DEVICE FOR STACKED WASHER/DRYER HEIGHT TO SUIT APPLIANCE SERVED WITH CIRCUIT NUMBER
- A-1 [Symbol] DUPLEX RECEPTACLE CORD REEL WITH CIRCUIT NUMBER, PROVIDE ALL ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION ON AN ACT LAY-IN CEILING, VERIFY REQUIREMENTS, APC GROUP KITCHEN LEASH SERIES OR EQUAL
- [Symbol] JUNCTION BOX AT 18" AFF TO BOTTOM OF BOX OR AT ASSOCIATED PIECE OF EQUIPMENT
- [Symbol] OUTLET FOR LOW VOLTAGE CABLE (DATA, TELEPHONE OR TELEVISION) AT 18" AFF TO BOTTOM OF BOX WITH A 3/4" EC STUBBED INTO ACCESSIBLE CEILING SPACE
- [Symbol] CARD READER AT 48" AFF. COORDINATE ALL REQUIREMENTS WITH OWNER AND SECURITY SYSTEM PROVIDER PRIOR TO ANY ROUGH-IN. SEE CARD READER DETAIL.
- A-1 [Symbol] 120V-1PH. CONNECTION FOR DOOR CONTROLS, COORDINATE ALL REQUIREMENTS WITH SECURITY SYSTEM PROVIDER PRIOR TO ANY ROUGH-IN WITH CIRCUIT NUMBER. SEE CARD READER DETAIL.
- [Symbol] DUCT MOUNTED SMOKE DETECTOR
- [Symbol] MOTOR OUTLET
- [Symbol] EXHAUST FAN (120V-1PH) FURNISHED AND INSTALLED BY HVAC WIRED BY ELECTRICAL
- [Symbol] EXISTING EXHAUST FAN
- A-1 [Symbol] PHOTOCELL, LOCATE IN ACCESSIBLE LOCATION AND SHIELD FROM SURROUNDING LIGHT SOURCES, WITH CIRCUIT NUMBER
- [Symbol] PANELBOARD
- [Symbol] EQUIPMENT CONNECTION DESIGNATION SEE SCHEDULE
- [Symbol] KITCHEN EQUIPMENT DESIGNATION SEE SCHEDULE
- [Symbol] SWITCH LEG WIRING, 2 #12 - CROSS MARKS INDICATE NUMBER OF CONDUCTORS IF MORE THAN TWO
- [Symbol] SWITCH LEG WIRING, 2 #12 - WITH ADDITIONAL DIMMING CONTROL WIRING AS REQUIRED FOR FIXTURE SUPPLIED
- [Symbol] DROP TO SWITCH SWITCH DESIGNATION AS INDICATED
- AFF ABOVE FINISHED FLOOR
- C/EC CONDUIT/EMPTY CONDUIT
- ENC EXISTING, NO CHANGE
- F55/NF55 FUSIBLE/NON-FUSIBLE SAFETY SWITCH
- PKU PACKAGED A/C UNIT
- WH WATER HEATER
- WP WEATHERPROOF

COMcheck Software Version 4.1.5.2  
Exterior Lighting Compliance Certificate

**Project Information**  
Energy Code: 2018 IECC  
Project Title: George Washington Carver Food Enterprise Center  
Project Type: New Construction  
Exterior Lighting Zone: 2 (Neighborhood business district (L22))

Construction Site: 9432 James Madison Highway, Rapidan, VA  
Owner/Agent: [Signature]  
Designer/Contractor: R.B. Propst, MEI Engineering, Inc., 1592 CF Pours Drive, Harrisonburg, VA 22802, 540-432-6272

**Allowed Exterior Lighting Power**

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Entry canopy	21 ft <sup>2</sup>	0.25	Yes	5
Entry canopy	23 ft <sup>2</sup>	0.25	Yes	6
Entry canopy	21 ft <sup>2</sup>	0.25	Yes	5
Total Tradable Watts (a) =				16
Total Allowed Watts =				16
Total Allowed Supplemental Watts (b) =				400

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.  
(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

**Proposed Exterior Lighting Power**

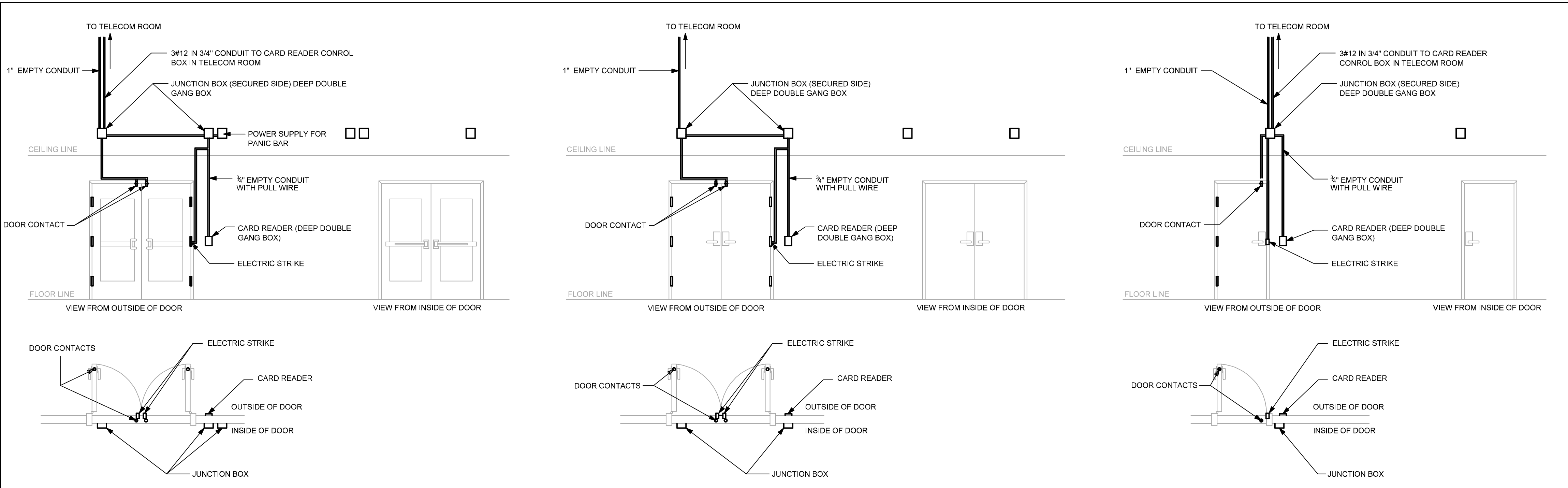
A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Entry canopy (21 ft <sup>2</sup> ): Tradable Wattage				
LED 1: Type 6 Surface Drum LED Other Fixture Unit 13W	1	1	12	12
Entry canopy (23 ft <sup>2</sup> ): Tradable Wattage				
LED 2: Type 6 Surface Drum LED Other Fixture Unit 13W	1	1	12	12
Entry canopy (21 ft <sup>2</sup> ): Tradable Wattage				
LED 3: Type 6 Surface Drum LED Other Fixture Unit 13W	1	1	12	12
Total Tradable Proposed Watts =				36

Exterior Lighting PASSES: Design 91% better than code

**Exterior Lighting Compliance Statement**  
Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.2 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

R.B. PROPST  
NAME: [Signature] SIGNATURE DATE: 8-11-22

Project Title: George Washington Carver Food Enterprise Center Report date: 07/28/22  
Data filename: M:\Current\2022\2017\2017 Ltg.cck Page 2 of 8



CARD READER ELECTRIC STRIKE DETAIL  
NO SCALE

NOTE: DIAGRAMS ARE GENERAL IN NATURE. COORDINATE WITH FINAL EQUIPMENT SUPPLIER'S INSTALLATION GUIDELINES PRIOR TO ROUGH-IN.

FOR CONSTRUCTION

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COMMONWEALTH OF VIRGINIA  
WESLEY FRANKLIN SIEVER  
Lic. No. 0402 043863  
8/11/22  
PROFESSIONAL ENGINEER

REVISIONS:


DRAWN: RBP  
CHECKED: WFS  
SCALE: NONE  
DATE: 08-11-22  
PROJECT #: 22017

ELEC. SCHEDS. AND RISERS  
E0.2



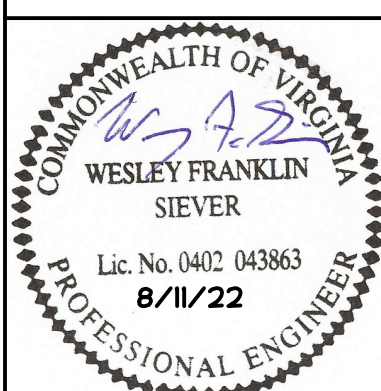
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SCALE: NONE  
DATE: 08-11-22  
PROJECT #: 22017

ELEC. PANEL SCHEDULES

E0.3

NEW PANEL KE																	
VOLTS: 120/208		PHASE: 3			WIRES: 4			MOUNTING: SURFACE									
AMPS: 100		MAIN: LUGS ONLY															
BRKR	DESCRIPTION	AMPS	CIRCUIT	NO.	PHASE LOAD	CIRCUIT	NO.	DEMAND	AMPS	DESCRIPTION	BRKR	A	P	DESCRIPTION	BRKR	A	P
2	FUT. W-I FZR. CAPSULE PAK	10.7	100%	1	27.9		2	100%	17.2	FUT. W-I FREEZER COND.	35	3					
2	W-I CLR. CAPSULE PAK	7.7	100%	5		24.9	6	100%	17.2								
2	W-I FZR. CAPSULE PAK	7.5	100%	9	18.6		10	100%	11.1	FUT. W-I COOLER COND.	20	3					
2	W-I CLR. DOOR/LIGHT	1.0	100%	13	2.3		14	100%	1.3	FUT. W-I COOLER EVAP.	20	1					
1	W-I FZR. DOOR/LIGHT	2.0	100%	15	3.6		16	100%	1.6	FUT. W-I FREEZER EVAP.	20	1					
1	FUT. W-I FZR. DOOR/LIGHT	2.0	100%	17	7.0		18	100%	5.0	FUT. W-I CLR. CONTROLS	20	1					
1	SPARE	0.0	100%	19	5.0		20	100%	5.0	FUT. W-I FZR. CONTROLS	20	1					
1	FIRE ALARM PANEL (1)	5.0	100%	21	6.9		22	125%	1.5	FUT. WALK-IN LIGHTS	20	1					
1	SECURITY PANEL	5.0	100%	23	5.0		24	100%	0.0	SPARE	20	1					
1	SPARE	0.0	100%	25	0.0		26	100%	0.0	SPARE	20	1					
1	SPARE	0.0	100%	27	10.0		28	100%	10.0	GEN. BATT. HEATER	20	1					
1	SPARE	0.0	100%	29		10.0	30	100%	10.0	GEN. BATT. CHARGER	20	1					
										54.0	67.0	65.5					

SQUARE D NQ OR EQUAL  
SEE SPEC. NOTES

(1) - WITH RED HANDLE LOCK

NEW PANEL KM																	
VOLTS: 120/208		PHASE: 3			WIRES: 4			MOUNTING: SURFACE									
AMPS: 225		MAIN: LUGS ONLY															
BRKR	DESCRIPTION	AMPS	CIRCUIT	NO.	PHASE LOAD	CIRCUIT	NO.	DEMAND	AMPS	DESCRIPTION	BRKR	A	P	DESCRIPTION	BRKR	A	P
3	PKU-1	78.0	100%	1	132.0		2	100%	54.0	PANEL KE	100	3					
2	OHP-2	29.0	100%	7	33.0		8	100%	4.0	SECURITY SYS.	20	1					
2	FCU-5, FCU-6, FCU-7, FCU-8	0.8	100%	11		8.8	12	100%	8.0	EWC (1)	20	1					
1	SPARE	0.0	100%	13	0.8		14	100%	0.0	SPARE	20	1					
1	SPARE	0.0	100%	15	7.5		16	100%	7.5	RECEPTACLES (2)	20	1					
1	EXTERIOR LIGHTS	1.0	125%	17		8.8	18	100%	7.5	RECEPTACLES (2)	20	1					
1	LIGHTS	7.1	125%	19	8.9		20	100%	0.0	SPARE	20	1					
1	SPARE	0.0	100%	21	0.0		22	100%	0.0	SPARE	20	1					
1	SPARE	0.0	100%	23	12.0		24	100%	12.0	AIR CURTAIN	20	1					
1	SPARE	0.0	100%	25	0.0		26	100%	0.0	SPARE	20	1					
1	SPARE	0.0	100%	27	0.0		28	100%	0.0	SPARE	20	1					
1	SPARE	0.0	100%	29	0.0	0.0	30	100%	0.0	SPARE	20	1					
1	SPARE	0.0	100%	31	0.0		32	100%	0.0	SPARE	20	1					
1	SPARE	0.0	100%	33	0.0		34	100%	0.0	SPARE	20	1					
1	SPARE	0.0	100%	35	0.0	0.0	36	100%	0.0	SPARE	20	1					
3	EMON SUB-METER (2)	1.0	100%	37	1.0		38	100%	0.0	SPARE	20	1					
1	SPARE	1.0	100%	39	1.0		40	100%	0.0	SPARE	20	1					
1	SPARE	1.0	100%	41		1.0	42	100%	0.0	SPARE	20	1					
										175.7	182.5	174.1					

SQUARE D NQ OR EQUAL  
SEE SPEC. NOTES

(1) - GFI CIRCUIT BREAKER  
(2) - PROVIDE E-MON SUB METER AND INSTALL AS DIRECTED BY THE MANUFACTURER. LOCATE AS DIRECTED BY THE OWNER

NEW PANEL KA																	
VOLTS: 120/208		PHASE: 3			WIRES: 4			MOUNTING: SURFACE									
AMPS: 400		MAIN: LUGS ONLY															
BRKR	DESCRIPTION	AMPS	CIRCUIT	NO.	PHASE LOAD	CIRCUIT	NO.	DEMAND	AMPS	DESCRIPTION	BRKR	A	P	DESCRIPTION	BRKR	A	P
1	GAS STOVE (1)(2)	5.0	65%	1	13.3		2	100%	10.0	WTR. FILTRATION SYS.	20	2					
1	SHUNT TRIP	0.0	100%	3	10.0		4	100%	10.0								
1	FUT. GAS KETTLES (1)	10.0	65%	5	35.5		6	100%	29.0	OHP-1	40	2					
1	SHUNT TRIP	9.6	100%	7	38.6		8	100%	29.0								
1	FUT. GAS BRAISING PAN (1)(2)	5.0	65%	9	5.0		10	100%	1.7	FCU-1, FCU-2, FCU-3, FCU-4	15	2					
1	SHUNT TRIP	0.0	100%	11	1.7		12	100%	1.7								
1	CORD REELS (2)	3.0	100%	13	11.6		14	100%	8.6	ICE MACHINE	20	1					
1	CORD REELS (2)	3.0	100%	15	12.1		16	65%	14.0	FUT. 20 QT. MIXER (2)	20	1					
1	CORD REELS (2)	3.0	100%	17	8.9		18	65%	9.0	REFRIGERATOR (2)	20	1					
1	CORD REELS (2)	3.0	100%	19	8.9		20	65%	9.0	REFRIGERATOR (2)	20	1					
1	CORD REELS (2)	3.0	100%	21	13.4		22	65%	16.0	FUT. VACUUM SEALER (2)	20	1					
1	CORD REELS (2)	3.0	100%	23	3.0	2.4	24	65%	0.0	SPARE	20	1					
1	CORD REELS (2)	3.0	65%	25	2.0		26	65%	0.0	SPARE	20	1					
1	CORD REELS (2)	3.0	100%	27	12.4		28	65%	14.5	FUT. DEHYDRATOR (2)	20	1					
1	CORD REELS (2)	3.0	100%	29	12.1		30	65%	14.0	FUT. DOUGH PROOFER (2)	20	1					
1	CORD REELS (2)	3.0	100%	31	6.0		32	100%	3.0	KITCHEN COUNTER (2)	20	1					
1	CORD REELS (2)	3.0	100%	33	4.5		34	100%	1.5	KITCHEN COUNTER (2)	20	1					
1	CORD REELS (2)	3.0	100%	35	6.0		36	100%	3.0	KITCHEN COUNTER (2)	20	1					
1	MEN HEAT	12.5	100%	37	15.5		38	100%	3.0	KITCHEN COUNTER (2)	20	1					
1	WOMEN HEAT	12.5	100%	39	14.5		40	100%	2.0	PKU SMOKE DET.	20	1					
1	WTR. HTR./RECIRC. PUMP	10.0	100%	41	15.0		42	100%	5.0	TELEVISION	20	1					
1	RECEPTACLES (2)	3.0	100%	43	13.5		44	100%	10.5	RECEPTACLES (2)	20	1					
1	SPARE	0.0	100%	45	10.5		46	100%	10.5	RECEPTACLES (2)	20	1					
1	SPARE	0.0	100%	47	7.5		48	100%	7.5	RECEPTACLES (2)	20	1					
1	SPARE	0.0	100%	49	6.0		50	100%	6.0	RECEPTACLES (2)	20	1					
1	SPARE	0.0	100%	51	8.0		52	100%	8.0	CHARGING STATION (2)	20	1					
1	SPARE	0.0	100%	53	8.0		54	100%	8.0	CHARGING STATION (2)	20	1					
1	SPARE	0.0	100%	55	8.0		56	100%	8.0	CHARGING STATION (2)	20	1					
1	SPARE	0.0	100%	57	13.4		58	125%	10.7	LIGHTS	20	1					
1	SPARE	0.0	100%	59	13.4		60	125%	10.7	LIGHTS	20	1					
1	PROVISION	0.0	100%	61	0.0		62	100%	0.0	PROVISION	--	1					
1	PROVISION	0.0	100%	63	0.0		64	100%	0.0	PROVISION	--	1					
1	PROVISION	0.0	100%	65	0.0		66	100%	0.0	PROVISION	--	1					
3	EMON SUB-METER (3)	1.0	100%	67	1.0		68	100%	0.0	PROVISION	--	1					
1	SPARE	1.0	100%	69	1.0		70	100%	0.0	PROVISION	--	1					
1	SPARE	1.0	100%	71	1.0		72	100%	0.0	PROVISION	--	1					
										124.3	104.8	112.0					

NOTE: PANEL SIZE INCLUDES ALLOWANCE FOR FUTURE KITCHEN EQUIPMENT INCLUDING PASTEURIZER, BLANCHER AND HOODS.  
PANEL SHALL HAVE FEED-THRU LUGS  
SQUARE D NQ OR EQUAL  
SEE SPEC. NOTES

(1) - SHUNT TRIP CIRCUIT BREAKER  
(2) - GFI CIRCUIT BREAKER  
(3) - PROVIDE E-MON SUB METER AND INSTALL AS DIRECTED BY THE MANUFACTURER. LOCATE AS DIRECTED BY THE OWNER

NEW PANEL KA2																	
VOLTS: 120/208		PHASE: 3			WIRES: 4			MOUNTING: SURFACE									
AMPS: 400		MAIN: LUGS ONLY															
BRKR	DESCRIPTION	AMPS	CIRCUIT	NO.	PHASE LOAD	CIRCUIT	NO.	DEMAND	AMPS	DESCRIPTION	BRKR	A	P	DESCRIPTION	BRKR	A	P
2	FUT. CONVECTION OVEN (1)	9.6	65%	1	53.8		2	100%	47.6	FUT. DISHWASHER	60	3					
1	SHUNT TRIP	9.6	65%	3	53.8		4	100%	47.6								
2	FUT. CONVECTION OVEN (1)	9.6	65%	7	12.7		8	65%	10.0	FUT. 60 QT. MIXER	20	3					
1	SHUNT TRIP	9.6	65%	9	12.7		10	65%	10.0								
2	FUT. CONVECTION OVEN (1)	9.6	65%	11	6.5		12	65%	10.0								
2	FUT. CONVECTION OVEN (1)	9.6</															

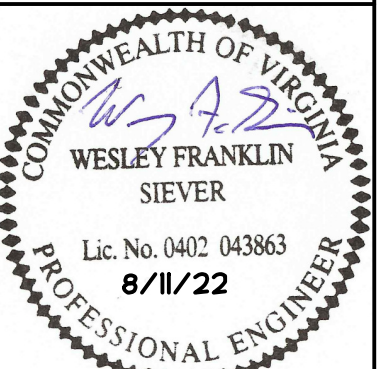


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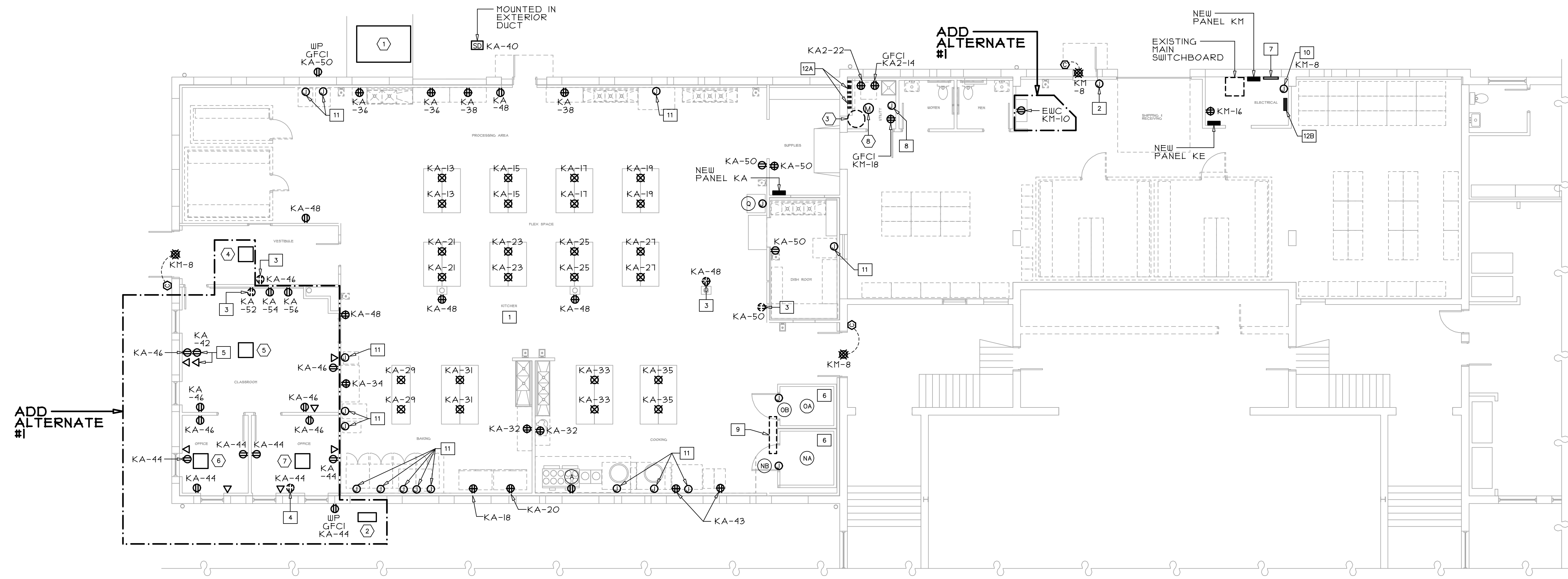
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REVISIONS:


DRAWN: RBP  
CHECKED: WFS  
SCALE: NOTED  
DATE: 8-11-22  
PROJECT #: 22017

POWER PLAN  
PHASE I  
**E1.1**

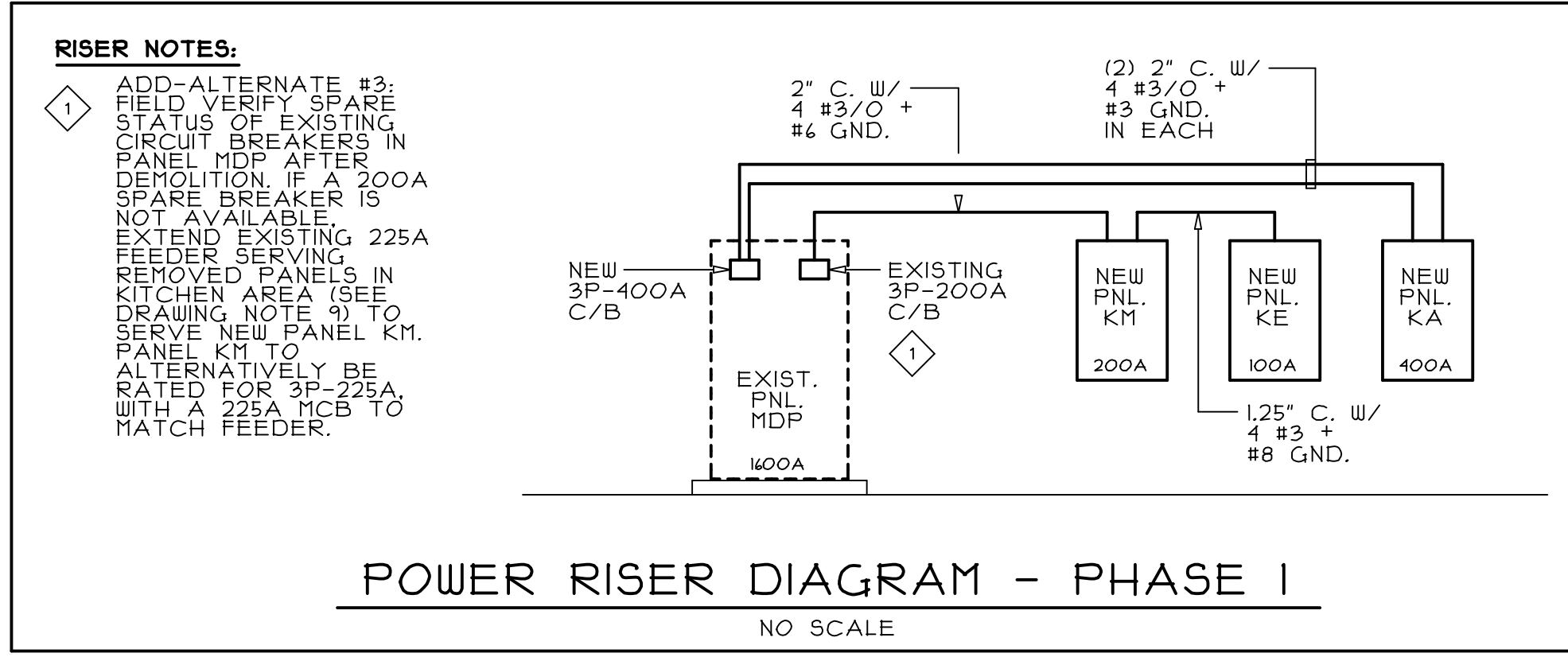


**NOTE:**  
PROVIDE ALL CONNECTIONS, CIRCUIT BREAKERS, ETC. FOR OWNER FURNISHED EXHAUST HOODS. VERIFY EQUIPMENT SIZES, RATINGS AND OTHER REQUIREMENTS WITH THE OWNER PRIOR TO BID.

**POWER PLAN - PHASE I**  
SCALE: 1/8" = 1'-0"

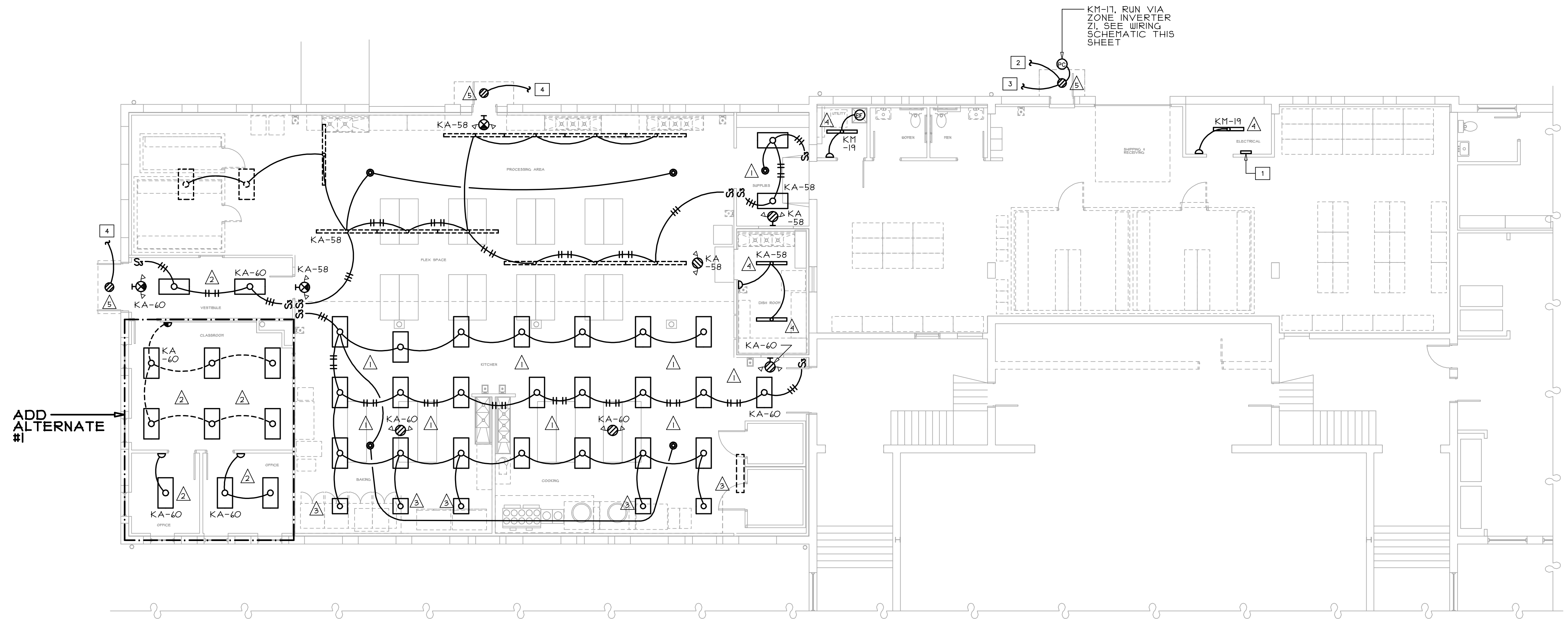
**1600A SERVICE LOAD SUMMARY**

	LOAD (KW)
EXISTING PEAK DEMAND PER POWER COMPANY AT 125%	186.80
ADDED LOAD FROM PLANNED RENOVATIONS UNDER SEPARATE PERMIT	48.00
NEW PANEL KA	41.10
NEW PANEL KM (INCLUDES PANEL KE)	63.86
<b>TOTAL</b>	<b>339.77</b>
TOTAL AT 208V 3PHASE =	943.79 AMPS



- KEYED DRAWING NOTES**
- ALL RECEPTACLES IN THE KITCHEN SHALL HAVE GFI PROTECTION VIA CIRCUIT BREAKER PER NEC 210.8.
  - 120V-1PH. CONNECTION FOR AIR CURTAIN. VERIFY REQUIREMENTS WITH CURTAIN SUPPLIER. RUN TO CIRCUIT KM-24.
  - RE-WIRE EXISTING DUPLEX RECEPTACLE TO NEW CIRCUIT NOTED. VERIFY REQUIREMENTS. REPLACE DEVICE AND COVER PLATE WITH NEW.
  - EXTEND EXISTING DUPLEX RECEPTACLE TO FACE OF NEW WALL FURRING AND RE-WIRE TO NEW CIRCUIT NOTED. REPLACE DEVICE AND COVERPLATE TO MATCH NEW STANDARD. VERIFY ALL REQUIREMENTS.
  - DUPLEX RECEPTACLE AND COMMUNICATIONS OUTLET FOR MONITOR. VERIFY LOCATION AND MOUNTING HEIGHT WITH THE OWNER PRIOR TO ROUGH-IN. COORDINATE WITH MOUNTING HARDWARE.
  - PROVIDE SEALS ON ALL CONDUITS ENTERING WALK-IN COOLERS AND FREEZERS.
  - 2'-0" X 4'-0" X 3/4" FRT PLYWOOD EQUIPMENT SPACE WITH (2) 1" EC'S RUN TO BUILDING DEMARC LOCATION.
  - 208V-1PH. CONNECTION FOR WATER FILTRATION SYSTEM. VERIFY FINAL LOCATION AND REQUIREMENTS WITH THE OWNER PRIOR TO ROUGH-IN. RUN TO CIRCUIT KA-2.
  - REMOVE (3) 225A ELECTRICAL PANELS AND ASSOCIATED FEEDERS IN THIS AREA TO CLEAR SPACE FOR NEW WORK. FIELD VERIFY REQUIREMENTS.
  - JUNCTION BOX FOR SECURITY SYSTEM CONTROL PANEL. VERIFY FINAL LOCATION AND MOUNTING HEIGHT WITH OWNER PRIOR TO ROUGH-IN.
  - JUNCTION BOX IN WALL AT 18" AFF WITH 3/4" EC ROUTED UP AND OUT INTO OPEN CEILING SPACE ABOVE "FLEX SPACE". CONDUIT SHALL EXTEND BEYOND LAY-IN CEILING OF KITCHEN. LABEL BLANK COVER PLATE AND END OF CONDUIT TO FACILITATE FUTURE TRACING. LEAVE WITH PULL STRING.
  - BASE BID: TRACE ALL CIRCUITS IN PANELS TO VERIFY NONE ARE TO REMAIN AFTER DEMOLITION. REMOVE PANEL BOARDS IN THIS LOCATION AND ASSOCIATED FEEDERS/CIRCUITS. ADD-ALTERNATE #2 IF ANY CIRCUITRY IN THESE PANELS IS TO REMAIN. RELOCATE ONE PANEL TO ELECTRICAL ROOM (SEE NOTE 12B) AND CONSOLIDATE CIRCUITRY TO THIS PANEL. EXTEND FEEDER AND BRANCH CIRCUITS AS REQUIRED.
  - LOCATION OF RELOCATED PANEL FOR ADD-ALTERNATE #2.





**LIGHTING PLAN - PHASE I**

SCALE: 1/8" = 1'-0"

**KEYED DRAWING NOTES**

- 1 EXTERIOR LIGHTING EMERGENCY ZONE INVERTER Z1 MOUNTED HIGH ON WALL. SEE WIRING SCHEMATIC SHEET E0.3. RUN TO CIRCUIT KM-19. LOCATE AS TO NOT BE DIRECTLY ABOVE ANY PANELS IN THIS AREA.
- 2 TIE WITH LIGHT IN CANOPY AT KITCHEN EXTERIOR DOOR.
- 3 TIE WITH LIGHT IN CANOPY AT VESTIBULE EXTERIOR DOOR.
- 4 TIE WITH LIGHT IN CANOPY AT SHIPPING AND RECEIVING EXTERIOR DOOR.

**FOR CONSTRUCTION**

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COMMONWEALTH OF VIRGINIA  
*Wesley Franklin Siever*  
WESLEY FRANKLIN  
SIEVER  
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8/11/22  
PROFESSIONAL ENGINEER

REVISIONS:


DRAWN: RBP  
CHECKED: WFS  
SCALE: NOTED  
DATE: 08-11-22  
PROJECT #: 22017

LIGHTING PLAN  
PHASE I

**E2.1**



PLUMBING SPECIFICATIONS

1. GENERAL

1.1 DESCRIPTION OF WORK:

- A. ALL FIXTURES, EQUIPMENT, ACCESSORIES, MATERIALS, AND LABOR REQUIRED TO PROVIDE COMPLETE, COORDINATED, AND FULLY FUNCTIONAL PLUMBING SYSTEMS GENERALLY AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN.
  1. SANITARY SEWER
  2. DOMESTIC WATER
  3. LP GAS - 2 PSI

1.2 RELATED DOCUMENTS:

- A. THE REQUIREMENTS OF THE CIVIL ARCHITECTURAL, STRUCTURAL, HVAC, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS SHALL APPLY TO AND BE CONSIDERED A PART OF THE PLUMBING WORK IN-SO-FAR AS THEY APPLY TO THE PLUMBING WORK AND ARE REQUIRED FOR COORDINATION.

1.3 JOB CONDITIONS:

- A. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED TO PROVIDE A COMPLETE INSTALLATION OF THE WORK DESCRIBED AND INDICATED.
- B. PROVIDE FITTINGS, OFFSETS, TRANSITIONS, AND ACCESSORIES REQUIRED TO MEET CONDITIONS OF THE PROJECT.
- C. PROVIDE SERVICE ACCESS FOR EQUIPMENT, CONTROL COMPONENTS, VALVES, AND SPECIALTIES.
- D. PROVIDE ACCESS PANELS FOR VALVES, ACCESS DOORS, ETC. CONCEALED BEHIND FINISHED SURFACES.

1.4 CONFORMANCE TO REGULATIONS:

- A. WORK SHALL CONFORM WITH VIRGINIA UNIFORM STATEWIDE BUILDING CODE, NFPA, AND LOCAL ORDINANCES.

1.5 QUALITY ASSURANCE:

- A. COMPLY WITH MANUFACTURER'S REQUIREMENTS AND NOTES AND DETAILS SHOWN HEREIN FOR INSTALLATION OF EQUIPMENT.

1.6 MATERIALS AND EQUIPMENT:

- A. EQUIPMENT PROVIDED FOR THIS PROJECT SHALL BE EQUIVALENT TO PRODUCTS SPECIFIED.
- B. CONTRACTOR SHALL GUARANTEE EQUIVALENCE AND IS RESPONSIBLE FOR MODIFICATIONS REQUIRED AND COORDINATION WITH OTHER TRADES TO FIT SUBSTITUTED PRODUCT INTO THE PROJECT.
- C. MATERIALS AND EQUIPMENT OF THE SAME TYPE AND USE SHALL BE FROM A SINGLE MANUFACTURER.
- D. PROTECT STORED MATERIALS AND EQUIPMENT FROM WEATHER.

1.7 UTILITIES AND CONNECTIONS:

- A. OWNER WILL PAY FOR ALL WATER, GAS AND SEWER UTILITY CONNECTION FEES.
- B. COORDINATE CONNECTIONS WITH SITE UTILITY DRAWINGS. WORK TO LOCATIONS AND INVERTS INDICATED ON SITE DRAWINGS. PROVIDE TRANSITIONS IN SIZE AND MATERIAL AT POINT OF CONNECTION.

1.8 SUBMITTALS:

- A. SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR FIXTURES AND EQUIPMENT SPECIFIED HEREIN AND ON THE DRAWINGS. SHOP DRAWINGS AND PRODUCT DATA SHALL BE IDENTIFIED PER INDICATORS ON DRAWINGS; SHALL BE MARKED TO INDICATED SPECIFIC ITEM BE PROPOSED, AND SHALL BE ORGANIZED IN AN ORDERLY MANNER. SUBMIT SHOP DRAWINGS ELECTRONICALLY IN PDF FORMAT.
- B. SUBMIT OPERATING AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT INSTALLED IN THIS PROJECT. INCLUDE COPIES OF SPECIFIC EQUIPMENT WARRANTIES IN MANUAL.
- C. UPON COMPLETION OF THE INSTALLATION, AND PRIOR TO ACCEPTANCE BY THE OWNER, CONTRACTOR SHALL FURNISH TWO COPIES OF AS-BUILT DOCUMENTATION. ALL CHANGES TO THE BIDDING DOCUMENTS SHALL BE NEATLY AND CLEARLY IDENTIFIED ON THE AS-BUILT DOCUMENTATION.

1.9 PROJECT CLOSEOUT:

- A. REPLACE OR REPAIR DAMAGED EQUIPMENT AND CLEAN ALL EXPOSED SURFACES.
- B. TOUCH-UP SHOP APPLIED FINISHES TO RESTORE DAMAGED OR SOILED AREAS.
- C. INSTRUCT OWNER'S REPRESENTATIVE IN OPERATION AND MAINTENANCE OF EQUIPMENT UTILIZING OPERATION AND MAINTENANCE MANUAL.

2. PRODUCTS

2.1 PIPING SYSTEMS:

- A. DOMESTIC WATER PIPING - DOMESTIC TYPE L COPPER W/ NO LEAD SOLDER JOINTS, PEX OR CPVC. UNDERSLAB WATER - TYPE K SOFT COPPER OR PEX W/ NO JOINTS.
- B. WATER SERVICE - DUCTILE IRON.
- C. SANITARY DRAINAGE - SCHEDULE 40 PVC WITH SOLVENT WELD FITTINGS, OR NO-HUB CAST IRON PIPING. HIGH TEMP DRAINAGE - NO-HUB CAST IRON PIPING.
- D. VENT PIPING - SCHEDULE 40 PVC W/ SOLVENT WELD FITTINGS, OR COPPER DWV WITH 50/50 SOLDER FITTINGS.
- E. 1ST STAGE GAS PIPING -
- E. 2ND STAGE GAS PIPING - SCHEDULE 40 BLACK STEEL.

2.2 PLUMBING FIXTURES AND EQUIPMENT:

- A. REFER TO FIXTURE SCHEDULE AND EQUIPMENT LIST ON DRAWINGS FOR MANUFACTURER'S AND MODEL NUMBERS.

3. EXECUTION

3.1 PIPING SYSTEMS

- A. VERIFY INVERT ELEVATIONS PRIOR TO EXCAVATION.
- B. BACKFILL BURIED PIPE IN TRENCHES WITH DIRT FREE OF ROCK, STONE OR DEBRIS.
- C. VERIFY EXACT LOCATION OF EQUIPMENT AND FIXTURES PRIOR TO ROUGH-IN.
- D. COORDINATE ROUTING OF WORK WITH OTHER TRADES AND INSTALL TO ALLOW MAXIMUM HEADROOM CLEARANCES, SERVICE ACCESS AND MAINTAIN PROPER PITCH OF SLOPING LINES.
- E. INSULATE PIPING SYSTEMS AS FOLLOWS:
  1. DOMESTIC WATER - 1/2" FIBERGLASS W/ ASJ UP TO 1.5"; 1" FIBERGLASS W/ ASJ OVER 1.5" PIPE SIZE. UNDERSLAB WATER - 3/4" CLOSED CELL RUBBER. HOT WATER - 1" FIBERGLASS W/ ASJ.
  2. SEAL VAPOR BARRIERS. SECURE WITH ADHESIVE AND SEAL JOINTS WITH SEALANT.
  3. PROVIDE GALVANIZED STEEL SADDLE AT HANGERS SURROUNDING INSULATED PIPE.
  4. DO NOT COMPRESS INSULATION EXCEPT IN AREAS OF STRUCTURAL INTERFERENCE.
  5. INSTALL PRE-FITTED PLASTIC ELBOWS OR APPLY CANVAS JACKET IN THREE LAYERS AT ELBOWS.
  6. INSULATE FITTINGS, VALVES AND EQUIPMENT BODIES.
- F. PROVIDE SLEEVES FOR PIPING PENETRATING WALLS. INSULATION SHALL BE CONTINUOUS THROUGH SLEEVES.
- G. FIRESTOP PIPING PASSING THROUGH FIRE RATED WALLS OR CEILINGS.
- H. PATCH FINISHED AREAS DISTURBED BY WORK TO MATCH SURROUNDING AREAS.
- I. WELDING SHALL BE DONE BY CERTIFIED WELDERS FOR THE APPROPRIATE SYSTEM BEING WELDED.
- J. MAKE CONNECTIONS OF DISSIMILAR METALLIC PIPING WITH DIELECTRIC UNIONS.
- K. PROVIDE CHROME PLATED ESCUTCHEON FOR EXPOSED PIPING PENETRATING A FINISHED SURFACE.
- L. PROVIDE SHUT OFF VALVES AT EQUIPMENT CONNECTIONS. PROVIDE STOPS FOR ALL PLUMBING EQUIPMENT AND FIXTURES.
- M. HANGERS SUPPORTING COPPER PIPING SHALL BE COPPER PLATED OR PLASTIC COVERED. HANGERS SUPPORTING INSULATED PIPING SHALL BE SIZED TO SURROUND INSULATION AND STEEL SADDLE.
- N. PROVIDE VACUUM BREAKERS AT WALL HYDRANTS.

3.2 PLUMBING FIXTURES

- A. PROVIDE CHROME PLATED STOPS FOR FIXTURES.
- B. PROVIDE TAILPIECE AND TRAP WITH CLEANOUT FOR LAVATORIES AND SINKS.
- C. PROVIDE REMOVABLE CHROME PLATED BASKET STRAINER FOR SINKS.
- D. CAULK BETWEEN FIXTURE AND FINISHED SURFACES WITH WHITE SILICONE CAULKING.
- E. PROVIDE BOLT CAPS FOR WATER CLOSETS AND URINALS.
- F. MOUNT WALL CLEANOUTS AND PLUGGED OUTLETS AT 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS.

KITCHEN EQUIPMENT SCHEDULE

NO.	DESCRIPTION	W	V	CW	HW	GAS	REMARKS
A	10 BURNER GAS STOVE W/ OVENS	--	--	--	--	1	404 MBH INPUT
B	40 GALLON GAS KETTLE	--	--	--	--	3/4	100 MBH INPUT
C	GAS BRAISING PAN W/ TILT	--	--	--	--	3/4	80 MBH INPUT
D	GAS POT BURNER	--	--	--	--	3/4	80 MBH INPUT
E	GAS FRYER	--	--	--	--	3/4	114 MBH INPUT
F	GAS CONVECTION OVEN	--	--	--	--	(2) 3/4	180 MBH INPUT
J	BLANCHER	2	--	1/2	--	--	INDIRECT WASTE TO FD
Q	ICE MACHINE	(2) 1	--	1/2	--	--	INDIRECT WASTE TO FS
R	DISHWASHER	2	--	--	3/4	--	INDIRECT WASTE TO FD

NOTES:

- I. VERIFY EXACT LOCATION, SIZE, AND TYPE OF CONNECTIONS FOR KITCHEN EQUIPMENT PRIOR TO ROUGH-IN.

PLUMBING FIXTURE SCHEDULE

NO.	DESCRIPTION	W	V	CW	HW	MFR. MODEL			NTS
						FIXTURE	FITTINGS	ACCESS.	
W	ACCESSIBLE TANK TYPE WATER CLOSET	3	1.5	1/2	--	AMER. STD. 2441.016	PROVIDE CORRECT HANDLE ORIENTATION	SEAT: CHURCH 2455SC	1
LI	ACCESSIBLE WALL HUNG LAVATORY	1.5	1.5	1/2	1/2	AMER. STD. 0355.012	MOEN 8915	CARRIER: WADE 520 SERIES	1,2,3,4
HS	ACCESSIBLE WALL HUNG S/S HAND SINK	1.5	1.5	1/2	1/2	SELECTED BY OWNER INSTALLED BY CONTRACTOR - ALLOWANCE OF \$500			1,2,3,4
PSI	S/S PRE-RINSE SINK W/ DRAIN BOARD RIGHT	1.5	1.5	1/2	1/2	SELECTED BY OWNER INSTALLED BY CONTRACTOR - ALLOWANCE OF \$1500			2
3BS	THREE BOWL S/S SINK	1.5	1.5	1/2	1/2	SELECTED BY OWNER INSTALLED BY CONTRACTOR - ALLOWANCE OF \$4000			2
EWC	ACCESSIBLE ELEC. WATER COOLER	1.5	1.5	1/2	--	ELKAY LZ5TL8WSLK			1,2
MB	MOP BASIN	3	1.5	1/2	1/2	FIAT MSB-2424 W/ 2-E-11-AA	FIAT 830-AA, 832-AA, 889C		2
WH	WASHING MACHINE	2	1.5	1/2	1/2		SIoux CHIEF 696-2313WR		2
GWH	GAS WATER HEATER	--	--	3/4	3/4	A.O. SMITH BTH-191(A)	100 GAL. 199,900 BTU	EXPAN. TANK	
HB	HOSE BIBB WITH VACUUM BREAKER	--	--	3/4	--	NIBCO MDL. 642	WATTS 8A		2
WH	WALL HYDRANT	--	--	3/4	--	WOODFORD B65			2
WCO	WALL CLEANOUT	X	--	--	--	WADE 8480R			6
FCO	FLOOR CLEANOUT	X	--	--	--	WADE SERIES 6000			6
COTG	CLEANOUT TO GRADE	4	--	--	--	WADE 6000-Z-5			5
FD	FLOOR DRAIN	X	X	--	--	WADE I103STD6-21		W/ TRAP PRIMER	6
FS	FLOOR SINK	X	X	--	--	WADE 9143-6-15-21			6
TD	TRENCH DRAIN	4	--	--	--	ZURN Z895-E4			
TV	TEMPERING VALVE	--	--	1/2	1/2	POWERS LF6480			4
PF	POT FILLER	--	--	1/2	--	T15 BRASS B-0594			2

NOTES:

- 1. INSTALL FIXTURES IN ACCORDANCE WITH APPLICABLE STANDARDS.
- 2. PROVIDE PROPER ACCESSORIES FOR WALL THICKNESS & CONSTRUCTION.
- 3. PROVIDE PIPE INSULATION KIT, TRUEBRO MODEL 105W OR EQUAL.
- 4. PROVIDE TEMPERING VALVE AT FIXTURES AS INDICATED ON PLAN OR RISERS.
- 5. MOUNT IN 1/2" ROUND CONCRETE RING FLUSH W/ PAVEMENT OR GRADE.
- 6. SIZE TO MATCH SEWER SERVED.

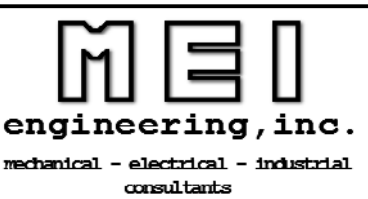
LEGEND

- SOIL OR WASTE PIPING
- GS- GREASE SOIL OR WASTE PIPING
- //// HIGH TEMP SOIL OR WASTE PIPING
- W— WATER SERVICE PIPING
- VENT PIPING
- COLD WATER PIPING
- HOT WATER PIPING
- HOT WATER RECIRC. PIPING
- G- GAS PIPING
- BALL OR GATE VALVE
- CHECK VALVE
- GAS COCK
- GAS REGULATOR
- DROP IN PIPING
- RISER MARK - SEE DIAGRAM
- EQUIPMENT MARK - SEE SCHEDULE

ABBREVIATIONS

- AFF ABOVE FINISHED FLOOR
- AFG ABOVE FINISHED GRADE
- WCO WALL CLEANOUT
- FCO FLOOR CLEANOUT
- COTG CLEANOUT TO GRADE
- VTR VENT THRU ROOF
- WH WALL HYDRANT
- HB HOSE BIBB W/ VACUUM BREAKER
- GWH GAS WATER HEATER
- CW COLD WATER
- HW HOT WATER
- TW TEMPERED WATER
- HWR HOT WATER RECIRC.
- DN DOWN
- WC WATER CLOSET
- LAV LAVATORY
- FD FLOOR DRAIN
- FS FLOOR SINK
- DFU DRAINAGE FIXTURE UNIT
- SFU SUPPLY FIXTURE UNIT
- RIO ROUGH-IN ONLY

FOR CONSTRUCTION



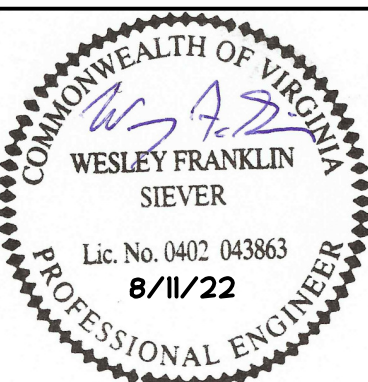
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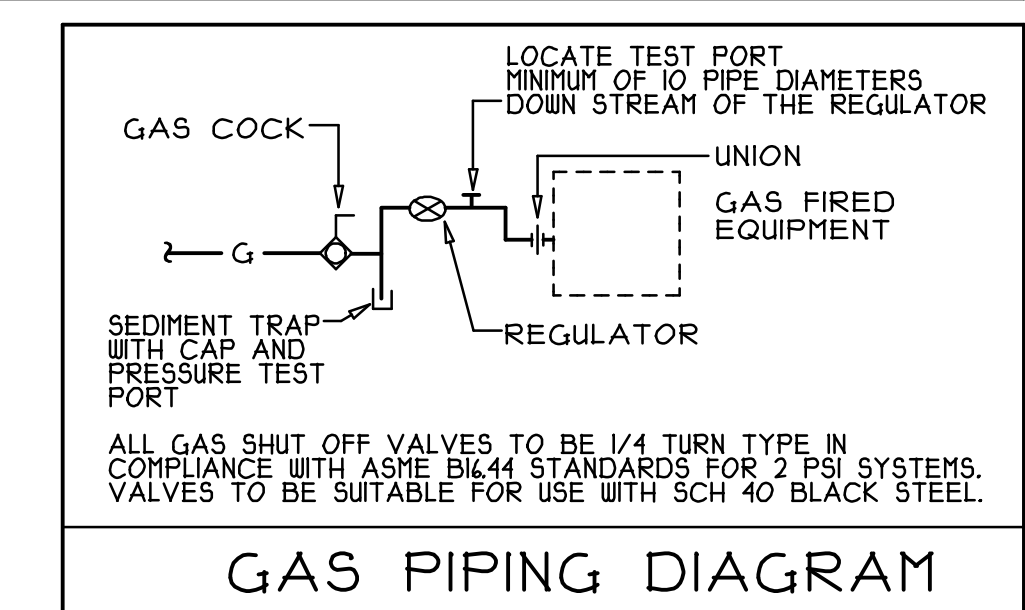
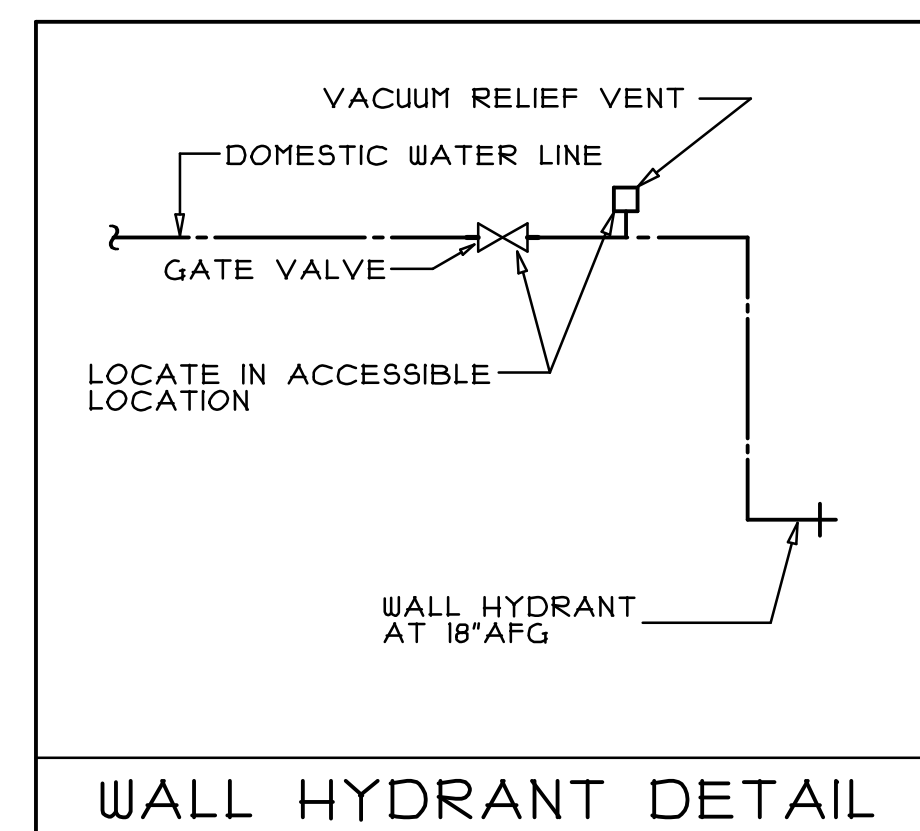
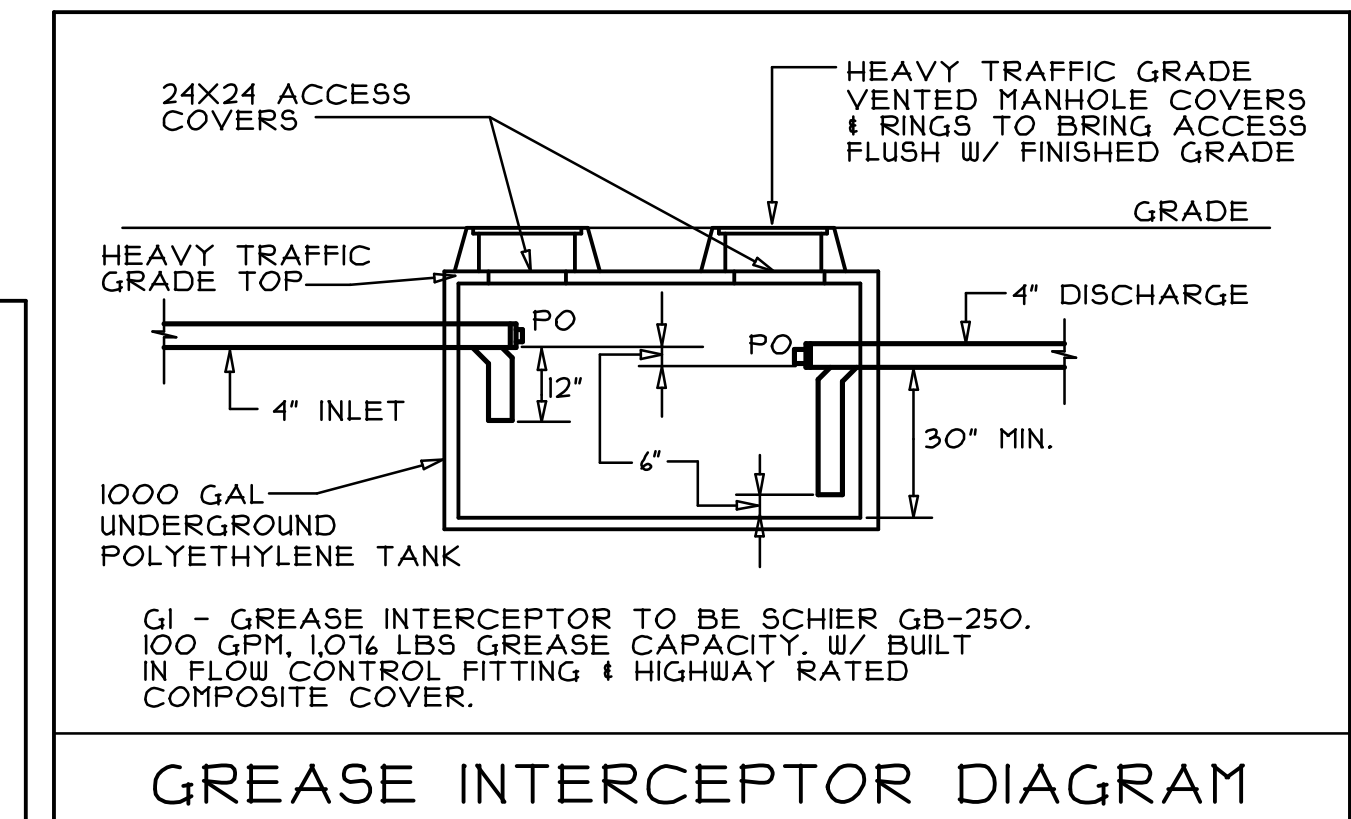
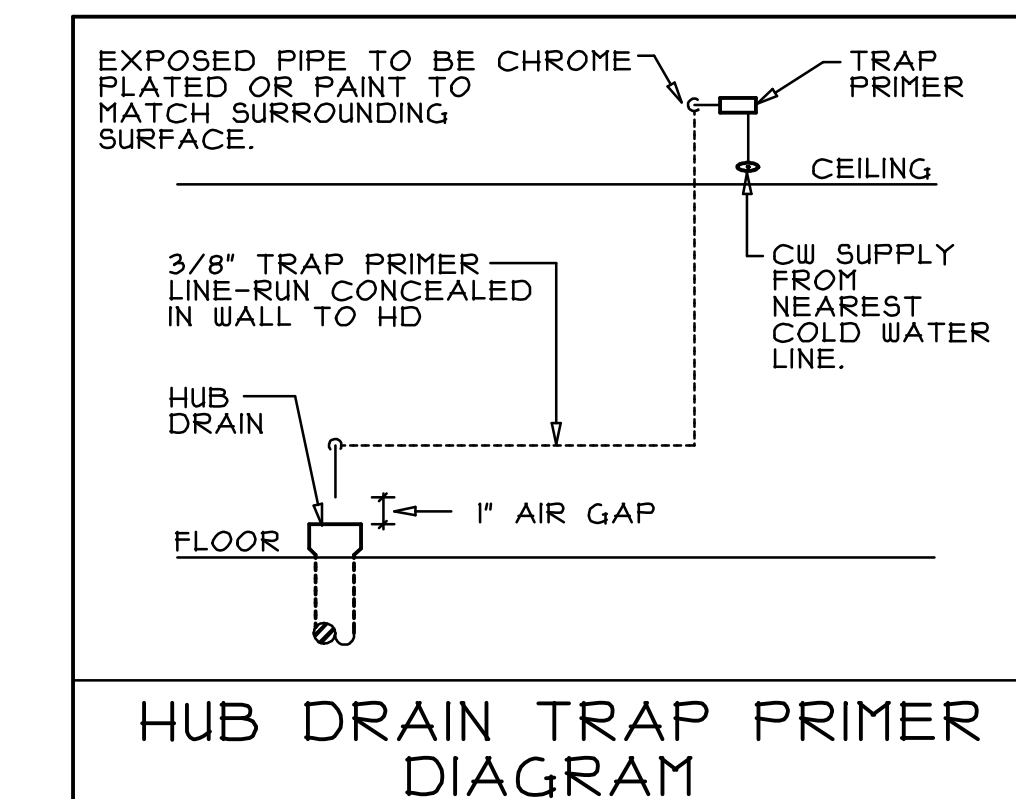
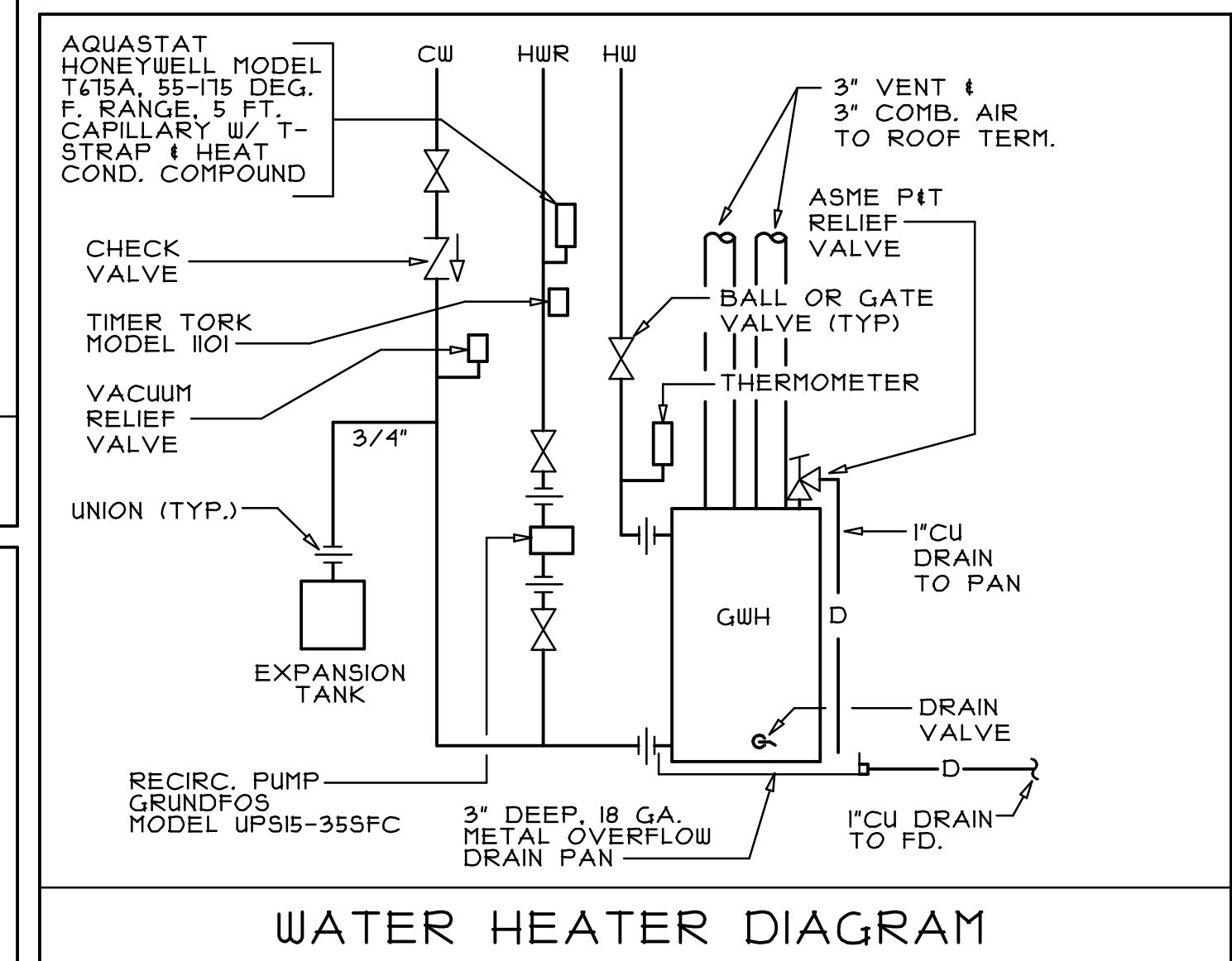
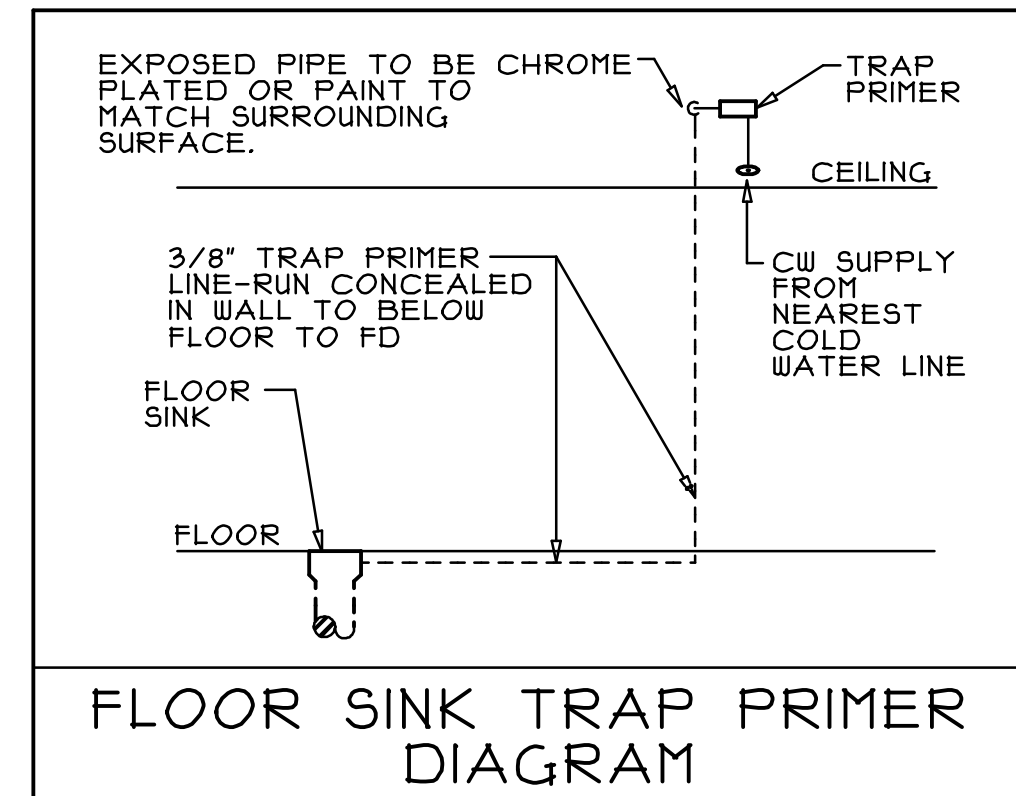
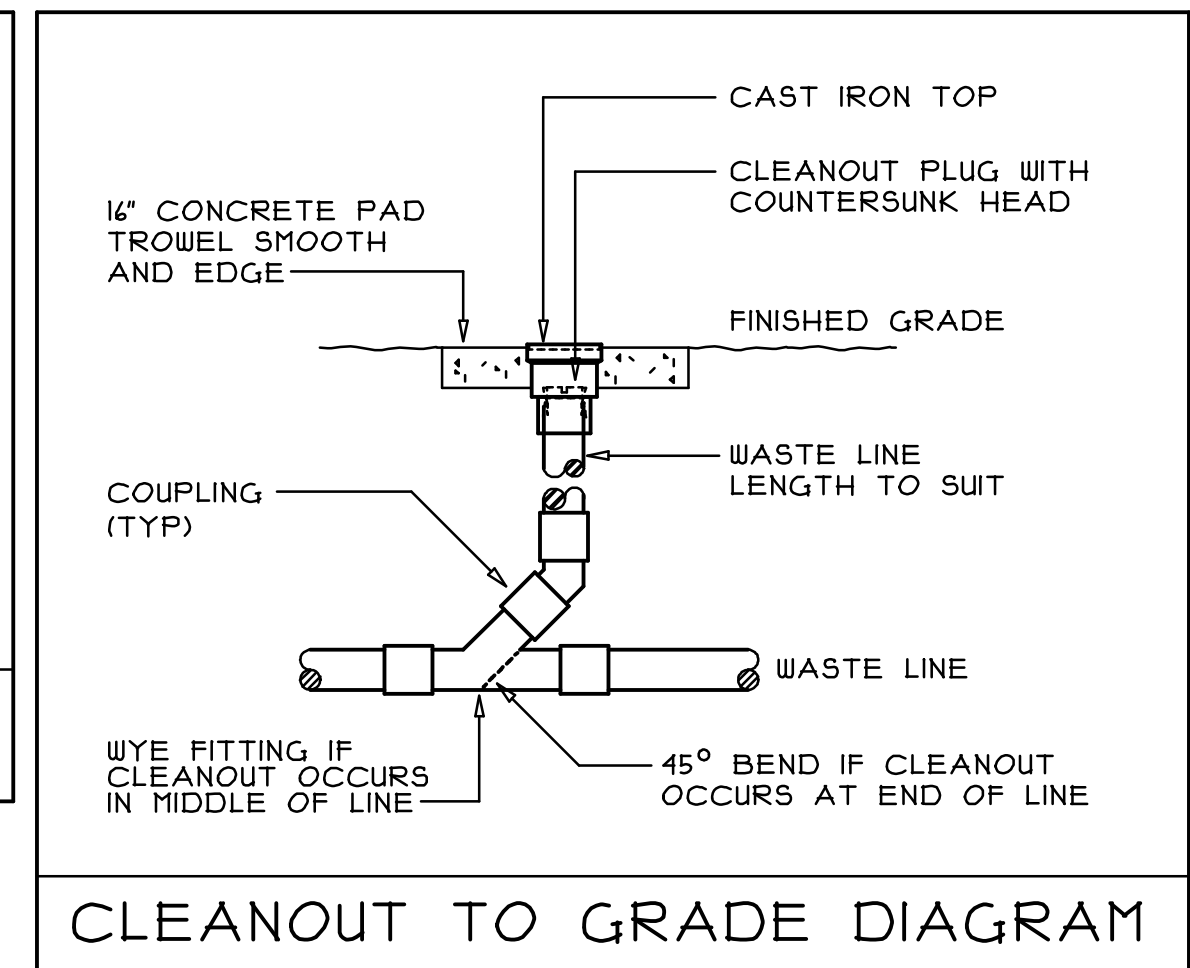
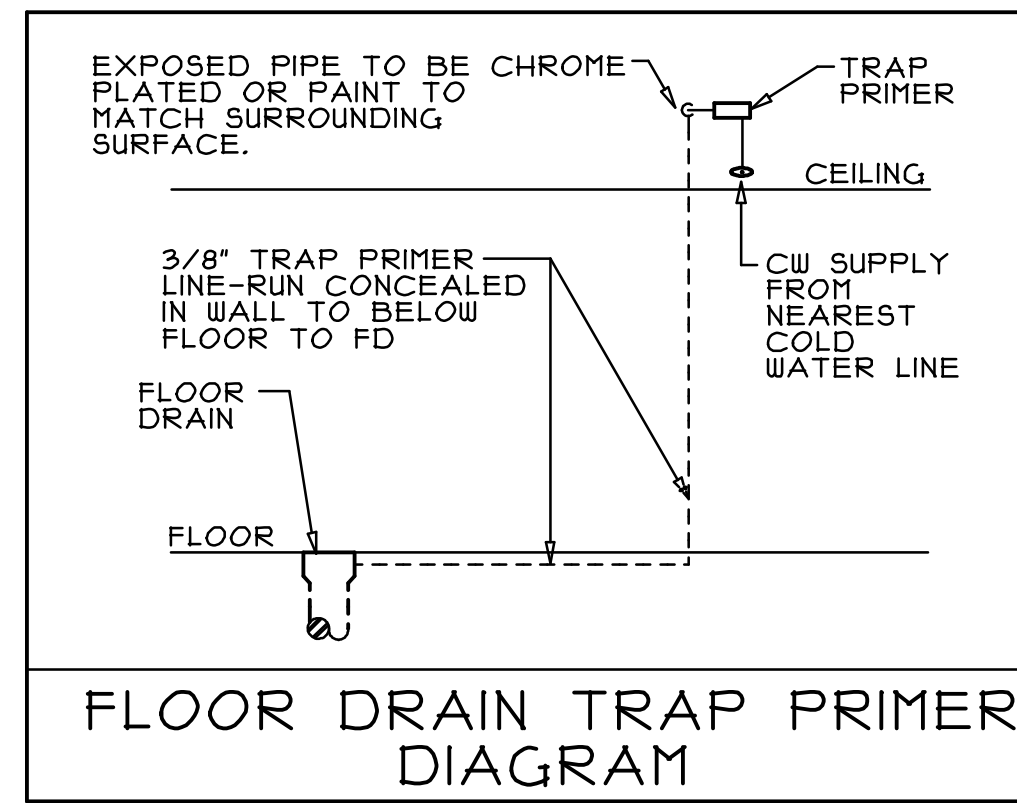


REVISIONS:


DRAWN: WLA  
CHECKED: WFS  
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DATE: 08-11-22  
PROJECT #: 22017

PLUMBING SPECS AND SCHEDULES





FOR CONSTRUCTION

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PLUMBING  
DETAILS  
**P0.2**







