FRANKLIN COMMONS

962 FRANKLIN COMMONS DRIVE
FRANKLIN, OHIO 45005

OWNER

SECURITY PROPERTIES
701 FIFTH AVE, SUITE 5700
SEATTLE, WA 98104

ARCHITECT

ATA/BEILHARZ ARCHITECTS, LLC
1063 CENTRAL AVE
CINCINNATI, OH 45202

GENERAL CONTRACTOR

MODEL CONSTRUCTION
1826 RACE ST
CINCINNATI, OH 45202

HVAC, ELECTRICAL, PLUMBING

ENGINEERED BUILDING SYSTEMS, INC.
515 MONMOUTH ST, SUITE 201
NEWPORT, KY 41071

CIVIL

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
5899 MONTCLAIR BOULEVARD
CINCINNATI, OH 45150

BUILDING / UNIT SUMMARY

BUILDING NO.	ADDRESS	BLDG TYPE	1 BED TYPICAL	1 BED-HC (TYPE-A)	1 BED H/V	2 BED TYP	2 BED SA	2 BED H/V	3 BED TYP	3 BED SA	3 BED H/V	TOTAL UNIT
BUILDING #1	592, 594, 596, 598 BUNKER HILL CT.	3							4			4
BUILDING #2	580, 582, 584, 586, 588, 590 BUNKER HILL CT.	2				5		1				6
BUILDING #3	573, 575, 577, 579 BUNKER HILL CT.	1				4						4
BUILDING #4	581, 583, 585, 587 BUNKER HILL CT.	1				4						4
BUILDING #5	589, 591, 593, 595 BUNKER HILL CT.	1				4						4
BUILDING #6	584, 586, 588, 590, 592, 594 YORKTOWN CT.	5a	1	1		4						6
BUILDING #7	573, 575, 577, 579, 581, 583 YORKTOWN CT.	5b	2			2	2					6
BUILDING #8	585, 587, 589, 591, 593, 595, 597, 599 YORKTOWN CT.	6	2			6						8
BUILDING #9	580, 582, 584, 586, 588, 590 VALLEY FORGE CT.	4							6			6
BUILDING #10	573, 575, 577, 579 VALLEY FORGE CT.	3							4			4
BUILDING #11	581, 583, 585, 587, 589, 591 VALLEY FORGE CT.	4							6			6
BUILDING #12	914, 916, 918, 920, 922, 924 FRANKLIN COMMONS CIR.	5c		2		4						6
BUILDING #13	926, 928, 930, 932, 934, 936 FRANKLIN COMMONS CIR.	5d	1		1	4						6
BUILDING #14	938, 940, 942, 944 FRANKLIN COMMONS CIR.	1				4						4
BUILDING #15	946, 948, 950, 952, 954, 956 FRANKLIN COMMONS CIR.	5e	1	1		4						6
BUILDING #16	958, 960, 962, 964, 966, 968 FRANKLIN COMMONS CIR.	5	2			4						6
BUILDING #17	970, 972, 974, 976, 978, 980 FRANKLIN COMMONS CIR.	5	2			4						6
BUILDING #18	950, 952, 954, 956, 958, 960, 962 FRANKLIN COMMONS DR.	8							3	2	1	6
BUILDING #19	923, 925, 927, 929, 931, 933, 935, 937 FRANKLIN COMMONS CIR.	7				6	2					8
BUILDING #20	959, 961, 963, 965, 967, 969, 971, 973 FRANKLIN COMMONS CIR.	6a		2		6						8
TOTAL			11	6	1	65	4	1	23	2	1	**114**
			1 BEDROOM			2 BEDROOM			3 BEDROOM			
TOTAL			18			70			26			

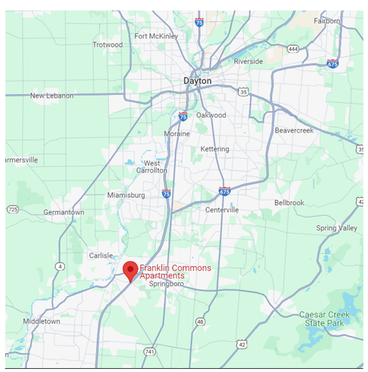
ACCESSIBILITY SUMMARY	
TOTAL ACCESSIBLE (TYPE-A) UNIT	**6 (5.3%)**
TOTAL SA (SEMI-AMBULATORY) UNIT	**6 (5.3%)**
TOTAL H/V UNIT	**3 (2.6%)**

OHFA AREA BREAKDOWN

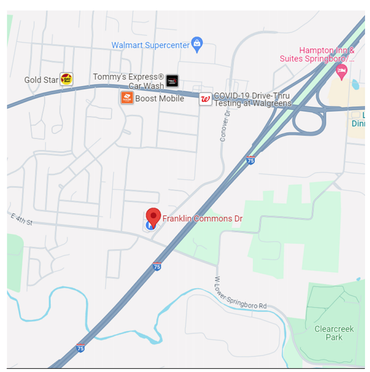
UNIT AREA TOTAL	98,625.6
COMMON AREA	887.1
SUPPORT	673.8
TOTAL	100,189.5

BUILDING AREA SUMMARY

BUILDING NO.	BUILDING TYPE	GROSS BUILDING AREA (SF)
BUILDING #1	3	4,180.4
BUILDING #2	2	5,131.1
BUILDING #3	1	3,419.1
BUILDING #4	1	3,419.1
BUILDING #5	1	3,419.1
BUILDING #6	5a	4,697.0
BUILDING #7	5b	4,697.0
BUILDING #8	6	6,425.0
BUILDING #9	4	6,274.1
BUILDING #10	3	4,180.4
BUILDING #11	4	6,274.1
BUILDING #12	5c	4,697.0
BUILDING #13	5d	4,697.0
BUILDING #14	1	3,419.1
BUILDING #15	5e	4,697.0
BUILDING #16	5	4,697.0
BUILDING #17	5	4,697.0
BUILDING #18	8	7,897.9
	Unit only = 6,337.0	
	Community = 1,560.9	
BUILDING #19	7	6,845.1
BUILDING #20	6a	6,425.0
UNIT AREA TOTAL		98,625.6
COMMUNITY AREA TOTAL		887.1
TOTAL		100,189.5



REGIONAL MAP



LOCATION MAP

BUILDING CODE REQUIREMENTS

BUILDING CODE

2024 OHIO EXISTING BUILDING CODE

BUILDING CODE ACCESSIBILITY REQUIREMENTS

2024 OBC CHAPTER 11

ANSI A.117.1-2009

UNITS LABELED 'ACCESSIBLE' ARE DESIGNED TO MEET THE REQUIREMENTS OF TYPE A UNITS

GENERAL SCOPE

EXISTING MULTI-FAMILY RESIDENTIAL BUILDINGS; INTERIOR AND EXTERIOR ALTERATIONS. NO CHANGE IN OCCUPANCY OR USE. NO UNIT NUMBER CHANGE. NO INCREASE IN BUILDING FOOTPRINT.

CONSTRUCTION TYPE

VB (OBC 602)

OCCUPANCY

BUILDING 1-17, 19, AND 20	R-3
BUILDING 18	R-3/ B/ S-1

BUILDING AREA, EXISTING

SEE BUILDING AREA SUMMARY THIS SHEET

BUILDING HEIGHT, EXISTING

22 FT (2-STORY)

MAXIMUM OCCUPANCY LOAD (# PERSONS)

BUILDING NO. 3, 4, 5, AND 14 (TYPE 1)	18
BUILDING NO. 2 (TYPE 2)	26
BUILDING NO. 1 AND 10 (TYPE 3)	21
BUILDING NO. 9 AND 11 (TYPE 4)	32
BUILDING NO. 6, 7 12, 13, 15, 16 AND 17 (TYPE 5)	24
BUILDING NO. 8 AND 20 (TYPE 6)	33
BUILDING NO. 19 (TYPE 7)	35
BUILDING NO. 18 (TYPE 8, Unit only)	32

BUILDING NO. 18 (TYPE 8, COMMUNITY)

B (LAUNDRY)	3
B (OFFICE)	7
S-1	3
TOTAL	13

OCCUPANCY LOAD PER UNIT TYPE

UNIT TYPE 1, 1-HC, 1-HV	4
UNIT TYPE 2, 2-HV	5
UNIT TYPE 3, 3-HV	6

EGRESS

WIDTH REQUIRED (INCH)

TYPICAL 3 BR. (STAIR)	1.6
TYPICAL 3 BR. (DOOR)	1.1
COMMUNITY (DOOR)	
OFFICE AND MAINTENANCE	2.0
LAUNDRY	0.6

WIDTH PROVIDED (INCH)

TYPICAL 3 BR. (STAIR)	34
TYPICAL 3 BR. (DOOR)	68
COMMUNITY (DOOR)	
OFFICE AND MAINTENANCE	72
LAUNDRY	36

PLUMBING FIXTURE

BUILDING TYPE 8 (COMMUNITY)

WC	REQUIRED	1	
	PROVIDED	2	SEPARATE FACILITIES NOT REQUIRED PER OBC 2902.2 EXCEPTION 2
LAV	REQUIRED	1	
	PROVIDED	2	
DF	NOT REQUIRED PER OBC TABLE 2902.1 AND OPC 410.2		

APARTMENT AREA SUMMARY

UNIT TYPE	GROSS AREA	CONFIGURATION
UNIT TYPE 1, 1-HC, 1-H/V	624.0 SF	1 BEDROOM APARTMENT, 1-STORY
UNIT TYPE 2, 2-H/V	856.5 SF	2 BEDROOM TOWNHOUSE, 2-STORY
UNIT TYPE 3, 3-H/V	1,046.8 SF	3 BEDROOM TOWNHOUSE, 2-STORY

DRAWING INDEX

ATA BEILHARZ ARCHITECTS
1063 Central Avenue Cincinnati Ohio, 45202
p: 513-241-4402 f: 513-241-5560 www.ATA-B.com

SECURITY PROPERTIES

FRANKLIN COMMONS
ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

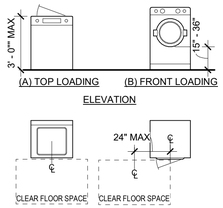
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

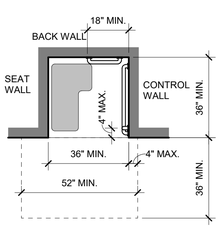
COVER SHEET
DRAWING INDEX
CODE REQUIREMENTS

G-000

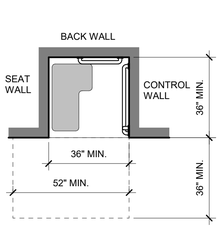


NEW & EXISTING BUILDINGS

LAUNDRY EQUIPMENT

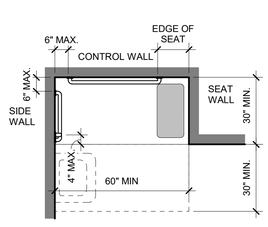


TRANSFER-TYPE SHOWER - CLEARANCE OPTION 2



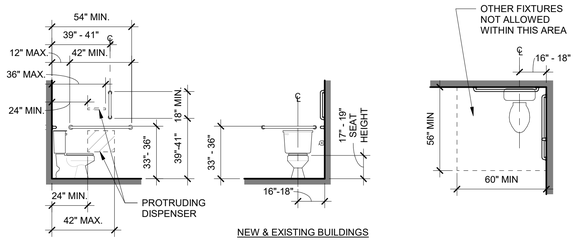
TRANSFER-TYPE SHOWER - CLEARANCE OPTION 1

NEW AND EXISTING BUILDINGS



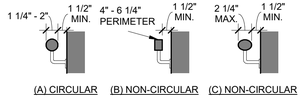
STANDARD ROLL-IN SHOWER

SHOWER COMPARTMENT



NEW & EXISTING BUILDINGS

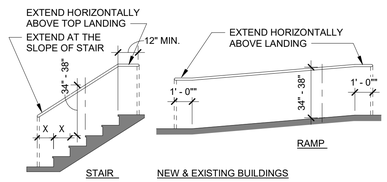
WATER CLOSET SIDE AND REAR GRAB BAR



(A) CIRCULAR (B) NON-CIRCULAR (C) NON-CIRCULAR

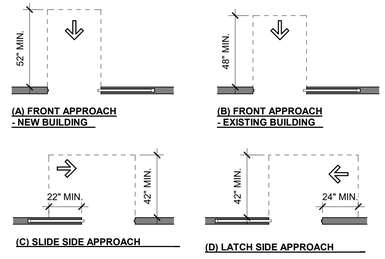
NEW & EXISTING BUILDINGS

HANDRAIL CLEARANCE AND CROSS SECTION



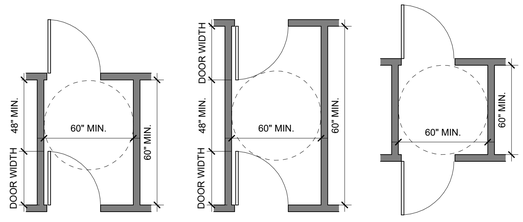
NEW & EXISTING BUILDINGS

HANDRAIL HEIGHT AND EXTENSION

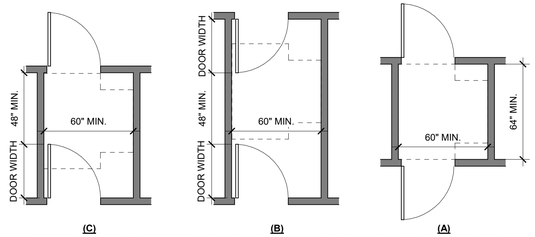


NOTE:
ALL DOORS IN ALCOVES SHALL COMPLY WITH THE CLEARANCES FOR FRONT APPROACHES

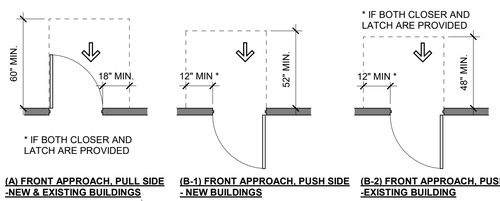
MANUEVERING CLEARANCE AT SLIDING AND FOLDING DOORS

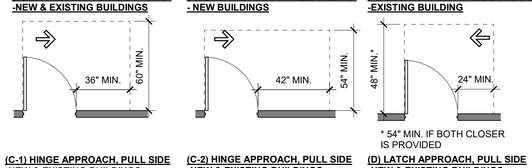


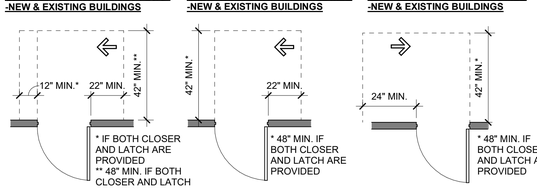
MANUEVERING CLEARANCE FOR TWO DOORS IN A SERIES - EXISTING BUILDING



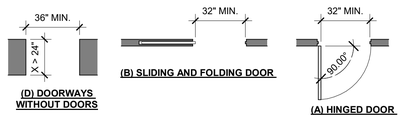
MANUEVERING CLEARANCE FOR TWO DOORS IN A SERIES - NEW BUILDING



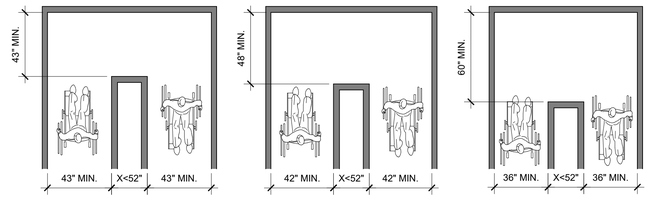




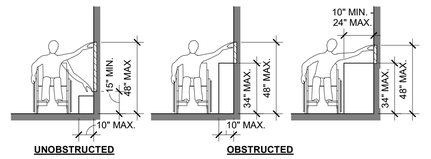
MANUEVERING CLEARANCE AT MANUAL SWING DOORS



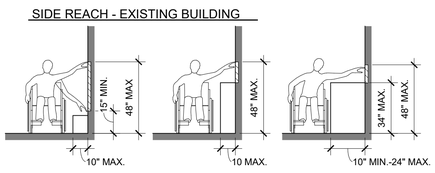
CLEAR WIDTH OF DOORWAYS - NEW & EXISTING BUILDINGS



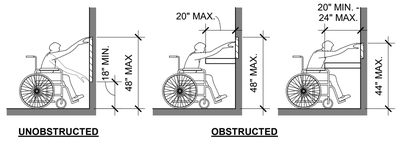
CLEAR WIDTH AT 180-DEGREE TURN



SIDE REACH - EXISTING BUILDING

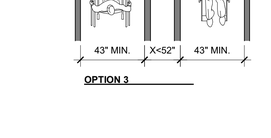


SIDE REACH - NEW BUILDING

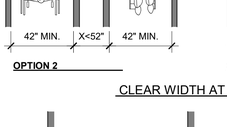


FORWARD REACH - EXISTING BUILDING

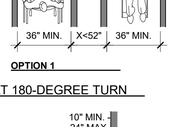
FORWARD REACH - NEW BUILDING



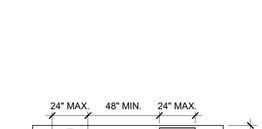
MANUEVERING CLEARANCE IN AN ALCOVE



POSITION OF CLEARANCE



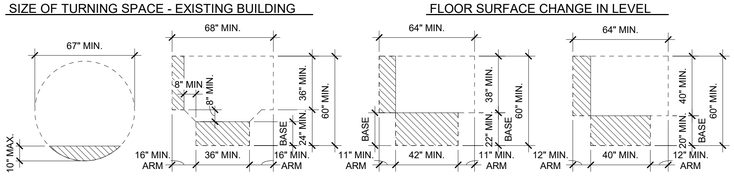
CLEAR FLOOR SPACE



SIZE OF TURNING SPACE - EXISTING BUILDING

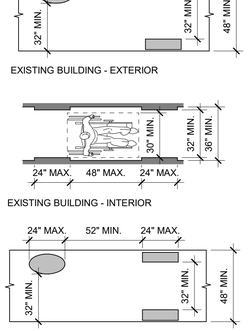
NEW & EXISTING BUILDINGS

FLOOR SURFACE CHANGE IN LEVEL



OVERLAP OF KNEE AND TOE CLEARANCE COMPLYING WITH SECTION 306
FOR T-SHAPED TURNING SPACE, ONLY PERMITTED TO INCLUDE IT EITHER THE BASE OR ONE ARM

SIZE OF TURNING SPACE - NEW BUILDING



EXISTING BUILDING - EXTERIOR

EXISTING BUILDING - INTERIOR

NEW BUILDING - EXTERIOR

NEW BUILDING - INTERIOR

CLEAR WIDTH AT AN ACCESSIBLE ROUTE

ATA BEILHARZ ARCHITECTS
1983 Central Avenue Cincinnati Ohio, 45202
p: 513-241-4422 f: 513-241-5582 www.ATA-B.com

SECURITY PROPERTIES

FRANKLIN COMMONS

ADDITION AND ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2023

REVISIONS

#	DATE	DESCRIPTION
	5/3/24	OHFA 80% SUBMISSION
	9/16/24	BID/PERMIT SET

PROJECT #: 21186
DRAWN: Author **CHECKED:** Checker

ACCESSIBILITY GUIDELINES

G-002

GENERAL PROJECT NOTES

A. Notes that reference "Contractor" or "General Contractor" also apply to all trades and subcontractors. The General Contractor shall be responsible to the Owner for the work of all trades and subcontractors.

B. Existing building information is compiled from existing drawings, photos, and limited field observations. The Architect makes no warranty to the accuracy thereof. Prior to submitting bids or performing work, visit the job site to become familiar with existing conditions, to verify and confirm contract documents, and to verify regulatory agency requirements applicable to the proposed work. Variations or discrepancies discovered shall be documented immediately in writing to the Architect prior to proceeding with the work.

C. The Contractor is responsible for coordinating Sprinkler, Plumbing, HVAC, Electrical, Communications, and Safety and Security systems, and for providing all necessary blocking and framing required for the installation of these systems.

D. Dimensions at exterior walls and existing walls are to inside or outside face of walls. Dimensions at new interior walls are to gypsum board finish unless noted otherwise.

E. Maintain required exits, existing structural elements, fire protection systems and devices, and sanitary safeguards at all times during remodeling, alteration, and repairs to the building.

PROCUREMENT AND CONTRACTING REQUIREMENTS

DIVISION 00: PROCUREMENT AND CONTRACTING REQUIREMENTS

00 7200 GENERAL CONDITIONS: AIA A201-2017.
- A. Add the following to 1.1.6: The requirements of Division 01 apply to all work.
- B. Modify 1.7 and 1.8 by inserting "or equivalent" after the title of each AIA document.
- C. Modify 3.2.2, 3.2.3, 3.2.4, and 4.2.14 by changing "request for information" to "request for interpretation."
- D. Add 3.2.5: If the Contract Documents disagree as to the quality or quantity of Work required, the better quality or greater quantity shall be provided, but not before referring the points in question to the Architect for approval.
- E. Modify 3.10.3 by changing "submitted to" to "approved by."

00 7316 INSURANCE REQUIREMENTS: AIA A101-2017 Exhibit A.
- A. Commercial General Liability and all other liability coverage shall have policy limits of not less than $1,000,000 per each occurrence, accident, employee, or claim, $1,000,000 in the aggregate, and $1,000,000 aggregate for products-completed operations hazard.
- B. Commercial General Liability insurance shall include coverage for property damage resulting from defective work of Contractor and Subcontractors.
- C. The Contractor shall purchase and maintain insurance for physical damage to property while it is in storage and in transit to the construction site on an "all-risks" completed value form.

SPECIFICATIONS

DIVISION 01: GENERAL REQUIREMENTS

01 2100 ALLOWANCE PROCEDURES: Where quantity allowances are indicated, provide unit prices for additions to and deduction from the stipulated quantities. Unit prices shall include direct labor and material costs only; overhead and profit, bonds, insurance, and other indirect costs are included in the Contract Sum. Difference in cost between quantity allowance and actual quantity will be adjusted by Change Order. The value of all work not performed will be returned to the Owner. Where actual quantities exceed contract quantities, obtain written authorization before proceeding with the additional work.
- A. Entry Door Concrete Step Replacement.
- B. Masonry Repointing.
- C. Graffiti Removal.
- D. Roof Sheathing Replacement.
- E. Gutter, Down Pipe, and Fascia Wrap Replacement.
- F. Splash Block Replacement.
- G. Playground Equipment Replacement.

01 3113 PROJECT COORDINATION: Coordinate various elements of the work and entities engaged to perform work. Coordinate the work with existing facilities and conditions, and with work by separate Contractors.

01 3213 SCHEDULING REQUIREMENTS: Create, maintain, and update a master construction schedule to encompass all construction activities on site from the start of construction until the completion of construction. The schedule shall include work performed by the Contractor, work performed by Subcontractors, and work performed by separate Contractors.

01 3300 SUBMITTAL PROCEDURES: Provide submittals for all major construction items and materials for approval prior to the installation of the work.
- A. Submittals shall include manufacturer's written installation instructions, product data and technical information, project layout diagrams/drawings, and physical samples of colors and materials. Where multiple colors are available and selection is not indicated on Drawings, selection will be made by Architect from manufacturer's full range.
- B. Submittals shall be made by the General Contractor to the Architect for approval, with time to allow for review, plus resubmittal if necessary, prior to ordering and installing materials.

01 3516 PROCEDURES FOR RENOVATION OF OCCUPIED PROPERTIES: The property is to remain occupied during construction. Special operations and coordination by team members is required during the renovation including:
- A. Phasing of Construction: Multiple phases may be required to ease the impact of construction on existing tenants. The Contractor shall prepare a Phasing Plan and present it to the Owner for approval prior to the start of construction.
- B. Temporary Relocation: As determined by the Phasing Plan, and in coordination with on-site management, this may require movement of tenants on a temporary basis and the creation of temporary spaces.
- C. Installation and frequent movement of temporary barriers to restrict access to areas under construction and reduce the impact of dust, smells, noise, and construction activities on tenants.
- D. Scheduling Restrictions: Construction activities shall be performed only between the hours of 8:00 a.m. and 5:00 p.m., unless specifically approved in advance.
- E. Tenants must be notified 24 hours before entrance is made into a tenant space. All communication with tenants shall be through the Owner or designated property manager.

01 3520 SAFETY: Implement and maintain a documented, industry standard site safety program including safety manuals, procedures, meetings, equipment, etc.
- A. Comply with typical industry standards for safety and require compliance with safety programs by subcontractors.
- B. Provide adequate site safety barriers to protect the public and building occupants from hazards related to construction process. This includes:
  1. Creating and maintaining temporary barriers to restrict access to areas under construction.
  2. Installing and maintaining temporary signage, barriers and exiting.

01 4000 QUALITY REQUIREMENTS:
- A. Materials shall be new and shall be installed for the stated purpose per the manufacturer's written instructions. Products with recycled content as specified and identified in the project submittals are acceptable.
- B. Reference Standards: Comply with requirements of specified Standards, except where more rigid requirements are indicated in the Contract Documents or are required by applicable codes. Conform to edition of reference standard current on date of Contract Documents, except where a specific edition is established by code.
- C. Products requiring electrical connection shall be listed and classified by Underwriters Laboratories, Inc., or other testing firm acceptable to the authority having jurisdiction, as suitable for the purpose specified and indicated.

01 4100 REGULATORY REQUIREMENTS:
- A. Comply with local, state, and federal codes and other regulatory requirements in effect on the date of Contract Documents, except where a specific date is established. In the event of conflict between regulatory requirements and the Contract Documents, comply with regulatory requirements, but not before referring the points in question to the Architect for approval.
- B. Accessibility: Construction shall comply with federal and state accessibility codes including ICC A117.1 and ADA Standards for Accessible Design.
- C. Permits: Contractors and subcontractors shall procure all necessary permits and licenses, pay all charges and fees, and give all notices necessary for the due and lawful execution of their work.
- D. Taxes: The Contract Sum includes all taxes applicable to the work.
  1. Tax exempt Owners will provide sales tax exemption certificates on request. Contractor shall not charge Owner, and Owner shall not be liable for payment of, taxes from which Owner is exempt by law.

01 5000 TEMPORARY FACILITIES:
- A. Coordinate with the Owner to clearly define the size and location of field offices, materials storage, parking for equipment and workers, and refuse containers. Minimize the impact on the tenants, employees, and guests of the property. Additional measures may be required, including temporary construction trailers, storage containers, and offsite storage and parking for construction activities, materials, and workers.
- B. Coordinate with the Owner to arrange for temporary construction utilities.
- C. Coordinate with the Owner to arrange for on-site facilities to accommodate regularly scheduled site/progress meetings. Facilities shall include appropriately sized conference areas, current project drawings, current project schedule, and facilities for teleconference access by remote team members.

01 6000 PRODUCT REQUIREMENTS: When material manufacturers, brand names, and/or model numbers are noted in the drawings and specifications, bids shall be based on their use. If the Contractor wishes to make substitutions in order to save time or cost while maintaining the same quality, substitutions may be submitted for each material, brand name, or model number to the Architect for consideration. The Architect, in consultation with the Owner, will consider each case individually and make a decision after the contract is awarded. No substitutions shall be made without prior approval.

01 7419 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL:
- A. Sort construction debris and maintain in proper containers prior to removal from the site. Trash receptacles and recycling containers provided by Owner or tenants may not be used for construction or demolition waste.
- B. Perform hazardous material handling, including identification, removal, and disposal, in accordance with regulatory requirements.
- C. All trades are responsible for general clean up and waste collection at the end of each day.
- D. Remove debris from the site at appropriate intervals to prevent the accumulation of waste materials on site.

01 7800 CLOSEOUT SUBMITTALS: At project closeout and prior to the submission of request for final payment, provide to the Owner a final package in an approved electronic format of the following:
- A. Project drawings including revisions for as-built conditions.
- B. Shop drawing submittals.
- C. Project directory with contact information for contractor, subcontractors, suppliers, and maintenance providers.
- D. Maintenance and cleaning instructions for finishes.
- E. Operation and maintenance manuals.
- F. Warranties.

01 7820 CONTACT INFORMATION AND LABELING: Provide an information sticker on the following, indicating manufacturer's model numbers, date of installation, and contact information for the installing contractor. Labels shall be printed; no labels shall be handwritten. Coordinate label information with specification sections for individual items.
- A. Water Heater: Provide sticker on tank.
- B. Interior HVAC Equipment: Provide sticker on unit with above information; include filter type and size.
- C. Exterior HVAC Equipment: Install metal tag with unit number.
- D. Electrical: Plastic label on outside with panel number. Install sticker on inside with above information. All breakers shall be labeled.

01 7900 TRAINING: Prior to project closeout, initiate and coordinate the training of the owner's selected personnel on building systems and manufacturer's required maintenance including (but not limited to):
- A. Plumbing systems
- B. HVAC systems
- C. Electrical systems
- D. Fire alarm systems

01 8113 SUSTAINABLE DESIGN REQUIREMENTS: See General drawings for specifications.

DIVISION 02: EXISTING CONDITIONS

02 4119 SELECTIVE DEMOLITION:
- A. Coordinate demolition activities with phase of work to be completed. Multiple demolition phases will be required by processes and phases of construction.
- B. Each trade and subcontractor shall be responsible for demolition of their own work. Repair and restoration of surfaces to remain shall be the responsibility of each trade, and shall be coordinated by the General Contractor.
- C. Where demolition causes damage to existing surfaces or components which are to remain, contractor performing demolition shall repair damage and patch surfaces to match adjacent finishes.
- D. Provide rubbish chutes and containers for the removal of debris as required. Protect floor and wall surfaces, sidewalks, and other construction to remain.
- E. Install and maintain temporary facilities for the protection and safety of the public, tenants, guests, and employees.
- F. Refer to Drawings for demolition requirements for individual trades.
- G. Remove plumbing fixtures, HVAC and electrical equipment, and other items indicated.
- H. Cap abandoned plumbing, HVAC, and electrical components behind finished surfaces per applicable codes. Remove completely where indicated.
- I. Where existing equipment, piping, ducts, etc. are required to be removed, removal shall include anchors, hangers, foundations, etc. After removal, patch floors, walls, and ceilings to match adjoining surfaces.
- J. Items to be removed are noted on the demolition drawings and are typically shown as single dashed lines. In addition, demolish existing construction and accessories as required to provide rooms and spaces shown on the finish plans.
- K. No cutting of existing structural members will be permitted unless specifically shown. Approval of structural demolition beyond that shown in the plans to be by the Architect/Engineer.
- L. If the process of demolition uncovers conditions that will result in deviations from the proposed new plan, contact the Architect for instructions before proceeding.
- M. Owner retains rights of ownership for salvageable materials and equipment removed during demolition, including items specifically indicated. This shall not relieve the Contractor from the responsibility of removing materials and equipment as required for the work. Coordinate location of salvaged material storage with the owner.
- N. In areas of flooring to be removed, removal includes existing glues and residue. Prepare the substrate to receive the new flooring material shown in the room finish schedules.
- O. In areas of wall covering or paneling to be removed, removal includes existing mechanical fasteners, glues, and residue. Patch and prepare the substrate to be ready for paint. Notify Architect if conditions require additional work.

DIVISION 03: CONCRETE

03 1000 CONCRETE FORMING:
- A. Forming Materials:
  1. Plywood for Surfaces Exposed to View: APA High Density Overlay Plyform Class I Exterior, thickness in accordance with APA V345; sound undamaged sheets with clean, true edges.
  2. Plywood for Surfaces Not Exposed to View: APA B-B Plyform Class I Exterior, thickness in accordance with APA V345; sound undamaged sheets with clean, true edges.
  3. Lumber: Kiln dried softwood; grade as required for loading conditions.
  4. Prefabricated Forms: Preformed steel or glass fiber reinforced plastic; matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
  5. Tubular Forms: Round, spirally wound laminated fiber material, surface treated with release agent, non-reusable, of sizes required.
- B. Forming Accessories:
  1. Form Ties: Metal snap-off type, free of defects that could leave holes larger than 1 inch in concrete surface .
  2. Form Release Agent: Colorless mineral oil which will not stain concrete, absorb moisture, or impair natural bonding or color characteristics of coating intended for use on concrete.
  3. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.
- C. Erect formwork, shoring and bracing to achieve design requirements, in accordance with ACI 301.
  1. Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.
  2. Earth forms are permitted only at footings and grade beams excavated from undisturbed soil, where soil conditions are sufficiently stable to eliminate the possibility of slide-in. Hand trim sides and bottom of earth forms. Remove loose soil prior to placing concrete.

  3. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.
  4. Apply form release agent on formwork prior to placement of reinforcing steel, anchoring devices, and embedded items. Do not apply form release agent where concrete surfaces will receive special finishes or applied coverings which are affected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.
  5. Provide formed openings where required for items to be embedded in or passing through concrete work.
  6. Locate and set in place items which will be cast directly into concrete.
  7. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.

03 2100 CONCRETE REINFORCING BARS: ASTM A184, CRSI Manual of Practice, and ACI SP-66.
- A. Reinforcing Steel: ASTM A615, 60 ksi yield grade; deformed billet steel bars, unfinished. Splice reinforcing bars minimum 12 inches and 36 bar diameters. Cold bend reinforcing bars to minimum bend diameters in accordance with ACI 301. Extend horizontal bars minimum 12 inches around corners.
- B. Welded Steel Wire Fabric: ASTM A185 Plain Type; in flat sheets; unfinished; in maximum lengths. Lap adjacent sheets minimum 6 inches; secure lapped edges together at maximum 48 inches o.c. Hold fabric back minimum 2 inches from construction joints and expansion joints.
- C. Remove rust scale and coatings which may reduce bond from reinforcing prior to fabrication.
- D. Place, support, and secure reinforcement against displacement. Do not deviate from required position.
- E. Maintain concrete cover around reinforcing in accordance with ACI 318. Maintain clear distance between reinforcing bars, minimum 1 inch and 1-1/3 times the maximum coarse aggregate size.

03 2400 FIBROUS REINFORCING: ASTM C1116, 100 percent pure virgin nylon, ¾ inch fiber length, 34 million fibers per pound, packaged in low tear bags.
- A. Dosage Rate: On epound of fiber per cubic yard of concrete, or as recommended by fiber manufacturer for application.
- B. Add fiber reinforcing to the concrete mix at the same time as coarse aggregate at the ready-mix. Mix concrete for a minimum of 5 minutes or 75 revolutions to assure uniform distribution of fibers.

03 3000 CAST-IN-PLACE CONCRETE:
- A. Concrete Materials and Accessories:
  1. Portland Cement: ASTM C150, Type I – Normal.
  2. Fly Ash: ASTM C618; Type C or Type F. Fly ash may be substituted for up to 15 percent of the cement content for interior slabs and 25 percent for other locations.
  3. Ground Granulated Blast Furnace Slag (GGBFS): ASTM C989, Grade 100 minimum. GGBFS may be substituted for up to 35 percent of the cement content for each concrete mix.
  4. Fine and Coarse Aggregates: ASTM C33; maximum size in accordance with ACI 301.
  5. Water: Clean, potable and not detrimental to concrete.
  6. Admixtures: ASTM C494; water reducing, retarding, accelerating, water reducing and retarding, or water reducing and accelerating. Admixtures containing more than 0.1 percent chloride ions are not approved.
     a. Admixtures for fiber reinforced concrete must be approved in writing by fiber manufacturer.
  7. Air Entrainment: ASTM C260, neutralized vinsol resin.
  8. Vapor Retarder: ASTM E1745, Class B; minimum 10 mil thickness; maximum 0.025 perms.
  9. Joint Sealant: ASTM C920 Type M, Grade P, Class 25, Use T; cold applied two part polyurethane, self leveling; with corresponding primer.
  10. Bonding Agent: Polymer resin emulsion.
  11. Joint Filler: ASTM D994 or D1751 asphalt impregnated fiberboard or felt, ASTM D4819 closed cell polyethylene, or ASTM D8139 closed cell polypropylene; ½ inch thick.
  12. Non-Shrink Grout for Dowels to Existing Concrete: Premixed compound of non-metallic aggregate, cement, water reducing and plasticizing agents; minimum compressive strength of 2400 psi in 48 hours and 7000 psi in 28 days.
- B. Concrete Mixes: Proportion in accordance with ACI 301 Method 1. Mix in accordance with ACI 304. Deliver in accordance with ASTM C94. Slump shall be 3 inches ± 1 inch.
  1. Exterior Concrete and Concrete Exposed to Weather: 4000 psi at 28 days; air entrained.
  2. Foundations, Footings, and Interior Slabs: 3500 psi at 28 days.
- C. Placing Concrete: ACI 301. Submit control joint layout.
  1. Verify that underslab construction, including mechanical and electrical work, is installed complete, backfilled, inspected, and approved. Verify that items to be cast into concrete are accurately placed and positioned securely.
  2. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent. Where new concrete is doweled to existing work, drill holes minimum 8 inches into existing concrete at 18 inches o.c., insert ½ inch steel dowels, and pack solid with non-shrink grout.
  3. Install vapor retarder under interior slabs on grade in accordance with ASTM E1643. Lap joints minimum 6 inches and seal watertight by taping edges and ends. Seal openings and penetrations. Seal perimeter to adjoining construction. Repair damaged areas immediately prior to placing concrete.
  4. Coordinate floor slab elevations and hold downs with finish flooring materials scheduled.
  5. Do not use frozen materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials. Ascertain that forms, reinforcing steel, and adjacent concrete surfaces are entirely free of frost, snow, and ice before placing concrete.
  6. Place concrete continuously between predetermined expansion and construction joints. Do not interrupt successive placement. Do not permit cold joints to occur.
  7. Maximum Variation of Surface Flatness: ¼ inch in 10 ft, ACI 301 Class B.
  8. Separate slabs from vertical surfaces with joint filler. Provide tooled or sawcut control joints, ¼ depth of slab thickness, at maximum 20 ft o.c. in interior slabs and maximum 36 sq ft in exterior walks, or as detailed. Apply joint sealant.

03 3500 CONCRETE FINISHING: ACI 301 and ACI 302.
- A. Concealed Formed Concrete: Rough form finish.
- B. Exposed Formed Concrete: Smooth form finish.
- C. Interior Slabs: Troweled finish. Apply sealer where exposed.
- D. Exterior Slabs and Walks: Broom finish.

03 3900 CONCRETE CURING: ACI 308.
- A. Protect concrete from premature drying, excessively hot or cold temperatures, excessive temperature changes, and mechanical injury. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- B. Cure horizontal surfaces by ponding, spraying, absorptive mat, or membrane curing compound. Cure vertical surfaces by spraying or membrane curing compound.
  1. Ponding: Maintain 100 percent coverage of water over floor slab areas continuously for 4 days.
  2. Spraying: Spray water over surfaces and maintain wet for 7 days.
  3. Absorptive Mats: ASTM C171, burlap-polyethylene, minimum 8 oz/sq yd, or reinforced water-resistant laminated paper, bonded to prevent separation during handling and placing. Saturate material and place over floor slab areas, lapping ends and sides; maintain in place for 7 days.
  4. Liquid Membrane Curing Compound: ASTM C309, Type I, Class B; dissipating type. Apply in two coats with second coat applied at right angles to first. Clean thoroughly with power scrubber and industrial strength detergents prior to installing floor coverings.

DIVISION 04: MASONRY

04 0100 MAINTENANCE OF MASONRY:
- A. Masonry Rebuilding: Cut out damaged and deteriorated masonry with care to prevent damage to adjacent remaining materials. Shore and support structure as necessary in advance of cutting out units.
  1. Cut away loose or unsound masonry and mortar to provide firm and solid bearing for new work.
  2. Install new masonry units and mortar to match size, color, and consistency of existing masonry work.
  3. Ensure that anchors, ties, reinforcing, and flashing are correctly located and built in to repaired work.

- B. Masonry Repointing.
  1. Cut out loose or disintegrated mortar joints to minimum 1/2 inch depth until sound, unweathered mortar is reached.
  2. Rinse masonry joint and allow surface to dry.
  3. Install mortar in layers and compact; tool to match existing mortar profile.
  4. Clean excess mortar from adjacent surfaces.
- C. Masonry Cleaning and Graffiti Removal.
  1. Protect non-masonry surfaces including windows, trim, roofing, metal, and landscaping from water and chemicals.
  2. Soak masonry with low pressure wash, apply non-ionic detergent solution at low pressure (max. 100 psi) progressing to medium pressure (300 to 400 psi) where necessary. Restrict water pressure as required to avoid damage to masonry.
  3. Scrub surfaces with brush and rinse from bottom to top.
  4. Apply chemical cleaning solution if needed using manufacturer's instructions.
  5. Test masonry surface with pH strips after cleaning to ensure neutralization. Repeat rinsing as needed.

04 0500 COMMON WORK RESULTS FOR MASONRY:
- A. Mortar and Grout Materials:
  1. Portland Cement: ASTM C150, Type I, gray color.
  2. Hydrated Lime: ASTM C207, Type S.
  3. Water: Clean and potable.
- B. Mortar: ASTM C270, Type S using the Property specification.
  1. Masonry Cement: ASTM C91 or ASTM C1329; Type as required for mortar mix scheduled, gray color.
  2. Mortar Aggregate: ASTM C144, standard masonry type.
  3. Quicklime: ASTM C5, non-hydraulic type.
  4. Bonding Agent: Internally plasticized, high polymer resin.
- C. Pointing Mortar: ASTM C270, Type N using the Property specification, with maximum 2 percent ammonium stearate or calcium stearate per cement weight.
  1. Portland Cement: ASTM C150, Type I, gray color.
  2. Hydrated Lime: ASTM C207, Type S.
  3. Water: Clean and potable.
  4. Masonry Cement: ASTM C91 or ASTM C1329; Type as required for mortar mix scheduled, gray color.
  5. Mortar Aggregate: ASTM C144, standard masonry type.
  6. Quicklime: ASTM C5, non-hydraulic type.
  7. Bonding Agent: Internally plasticized, high polymer resin.
- D. Grout for Lintels: ASTM C476; 3000 psi strength at 28 days.
  1. Fly Ash: ASTM C618; Type C or F, may be substituted for up to 25 percent of the cement content.
  2. Grout Aggregate: ASTM C404.
- E. Horizontal Joint Reinforcing: ASTM A951; ASTM A82 cold drawn steel wire with ASTM A153 Class B2 hot dip galvanizing, 1.50 oz/sq ft; ladder type with 9 gauge deformed side rods and 9 gauge smooth cross rods 16" o.c.; nominal thickness 2 inches less than wall, with prefabricated corners and tees.
  1. Install horizontal reinforcing in two courses at top and bottom of wall, and 16 inches o.c. vertically elsewhere. Provide minimum 5/8 inch mortar cover.
- F. Install flashing in first course above finish grade, at top of wall, and above lintels. Turn up minimum 8 inches, and minimum 8 inches above cavity protection material; seal to sheathing with termination bar and sealant. Lap joints minimum 6 inches. Fold to form end dams; seal watertight at laps, corners, and penetrations
  1. Membrane Flashing: Minimum 0.040 inch thick rubberized asphalt bonded to cross-laminated polyethylene film; flexible, self-sealing, self-healing, fully adhering.
  2. Metal Flashing: Flexible stainless steel sheet, Type 304, minimum 3 mil thick, bonded to polymeric fabric; self-adhering; with prefabricated end dams and corners.
- G. Weeps and Cavity Protection: High density nonwoven polyethylene mesh.
  1. Weeps: Full height and width of head joint, 1/8 inch less than veneer thickness, color as selected. Install maximum 24 inches o.c. horizontally above flashings.
  2. Cavity Protection: Minimum 10 inch high, full width of cavity. Install at base of cavity at all weep locations.

04 2200 CONCRETE UNIT MASONRY: Smooth face, normal weight CMU.
- A. Minimum Net Compressive Strength: 1900 psi.
- B. Sizes: Manufacturer's standard nominal sizes.

04 4313 STONE MASONRY VENEER:
- A. Stone Material: As selected; ¾ to 1½ inch thick, with corner units.
- B. Clean stone prior to installation. Do not use wire brushes or implements which can mark or damage exposed surfaces.
- C. Dampen substrate as required to reduce excessive suction. Adhere stone directly to concrete masonry units with mortar.
- D. Install mortar in accordance with PCA Portland Cement Plaster/Stucco Manual, to a thickness of ½ to ¾ inch. Do not spread more than 5 to 10 square feet workable area.
- E. Lay stone in full bed of mortar with uniform joints of approximately ½ inch.
- F. Tool joints when mortar is thumbprint hard, with round jointer slightly larger than width of joint. Trowel point or concave tool exterior joints below grade.

04 7200 CAST STONE MASONRY: ASTM C1364; fabricated to indicated dimensions, with sloped top and drip slot; smooth texture, color as selected; with anchors and dowels.

DIVISION 05: METALS

05 5000 METAL FABRICATIONS: As detailed. Provide shop drawings.
- A. Guard Posts: Steel pipe, prime painted.
- B. Gate Frames: Steel channel frame and hinges; prime painted.

05 5200 METAL RAILINGS:
- A. Steel Railings:
  1. Rails and Posts:
     a. Steel Pipe: 1¼ inch nominal diameter; ASTM A53, Grade B, Schedule 40; welded joints.
     b. Steel Tubing: 1½ inch outside diameter; ASTM A513; minimum 1/8 inch wall thickness.
  2. Bars: ASTM A36.
  3. Interior Finish: Prime painted.
  4. Exterior Finish: Galvanized to ASTM A123, 2.0 oz/sf.
- B. Aluminum Railings:
  1. Rails and Posts: Extruded aluminum tubing, Schedule 40; 1¼ inch nominal diameter; with serrated internal splice connectors.
  2. Balusters: Extruded aluminum tubing, ½ inch square, 0.062 inch wall thickness; spaced at maximum 4 inches o.c.
  3. Finish: Factory applied powder coating; color as selected.
- C. Provide mounting brackets and other components required for connecting railings to structure, with minimum 1½ inch clearance from railing. Return railing ends to wall or post.
- D. Continuously seal joined members by continuous welds or by intermittent welds and plastic filler. Drill condensate drainage holes at bottom of members at locations that will not encourage water intrusion.

DIVISION 06: WOOD, PLASTICS, AND COMPOSITES

06 0573 WOOD TREATMENT:
- A. Preservative Treated Wood: AWPA C22, AWPA P5, and AWPA T1. Preservative treated lumber and plywood shall bear ALSC quality mark.
  1. Fasteners used with preservative treated lumber shall be hot dipped galvanized, stainless steel, silicon bronze, or copper.
  2. Lumber used as sill plates in contact with concrete foundations shall be preservative treated to AWPA Use Category UC2.
- B. Fire Retardant Treated Wood: AWPA P5 and AWPA T1.
  1. Lumber: ASTM D5664.
  2. Plywood: ASTM D5516.
  3. Flame Spread Rating: ASTM E84, maximum 25.

06 1053 MISCELLANEOUS ROUGH CARPENTRY: Provide solid blocking at cabinets, counters, railings, and other built-in components to allow for secure attachment.
- A. Miscellaneous Framing and Blocking: Southern Pine or Spruce-Pine-Fir, Utility or better grade, 2 to 4 inches thick, 19 percent maximum moisture content.
- B. Flexible wood backing plate system fabricated from ¾ inch fire retardant treated plywood may be used for blocking.

06 1100 WOOD FRAMING:
- A. Structural Joist Framing: No. 1 Southern Pine or SPF Select Structural grade; 19 percent maximum moisture content.
- B. Studding: Southern Pine or SPF, Stud grade; 19 percent maximum moisture content.

- C. Composite Wood Products: CCR 93120 Phase 2; no added formaldehyde-based compounds.
  1. Particleboard Roof Sheathing: ANSI A208.1, APA Oriented Strand Board; wood chips set with waterproof resin binder; Sheathing grade; sanded faces; 5/8 inch thick, 48 x 96 inch sized sheets, square edges.
  2. Particleboard Floor Sheathing: ANSI A208.1, APA Oriented Strand Board; wood chips set with waterproof resin binder; Sturd-I-Floor grade; sanded faces; ¾ inch thick, 48 x 96 inch sized sheets, tongue and groove edges.
  3. Particleboard Underlayment: ANSI A208.1 Type 2-M-W, APA Oriented Strand Board; wood chips set with waterproof resin binder; sanded faces; 11/32 inch thick, 48 x 96 inch sized sheets.
- D. Subfloor Adhesive: ASTM D3498; waterproof, solvent base, air cure type, cartridge dispensed.
  1. VOC Content: Maximum 70 g/L.
- E. Fasteners and Anchors:
  1. Exterior Locations and Treated Wood Locations: Type as recommended for application; hot dip galvanized to ASTM A153 or stainless steel.
  2. Underlayment to Floor Sheathing: Minimum length equal to sheathing thickness, without extending into joists or penetrating through sheathing.
  3. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
  4. Joist Hangers and Structural Framing Connectors: Hot dipped galvanized steel, sized to suit framing conditions.
  5. Other Fasteners: Type as recommended for application; unfinished steel.
- F. Set structural members level and plumb, in correct position. Accurately saw-cut members to seat square on bearings. Fit closely into proper location.
  1. Frame, anchor, tie and brace members to develop strength and rigidity required for intended purposes. Do not stress members in excess of design strength. Secure members permanently in position with proper fastenings to render parts rigid.
  2. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.
  3. Space framing and furring 16 inches o.c., except where indicated otherwise. Place horizontal members with crown side up.
  4. Place fasteners in accordance with Fastening Schedule in applicable building code and structural framing connector manufacturer's requirements.
  5. Double members at openings over 24 inches wide. Space short studs over and under opening to stud spacing.
  6. Notches in wall studs shall not exceed 1/4 of the stud width. Bored holes shall not exceed 40% of the stud width. No holes or notches are allowed in joists or other structural members without approval of Architect, unless specifically indicated on Drawings.
  7. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists. Frame rigidly into joists. Coordinate with plumbing locations.
  8. Bridge joists in excess of 8 feet span at mid-span and maximum 8 foot intervals with minimum 1x3 cross bridging, double nailed. Fit solid blocking at ends of members.
  9. At concentrated load locations, continuously block bearing points down to beam or foundation wall sill plate.
- G. Secure sheathing with long dimension perpendicular to framing members and with ends staggered and sheet ends over bearing.
  1. Use sheathing clips between sheets between roof framing members. Maintain 1/8 inch space between panels at midspan of truss or rafter space along unsupported sheathing edges.
  2. Minimum sheathing securement to wood framing shall be 8d nails at 6 inches o.c. at panel edges and 12 inches o.c. at intermediate supports.
  3. Attach floor sheathing with subfloor glue and drywall screws. Seal cut edges and exposed surfaces with water repellent.
  4. Install flooring underlayment after dust and dirt generating activities have ceased and prior to application of finished flooring. Apply perpendicular to subflooring, stagger joints of underlayment and offset from subfloor joints.

06 1753 PREFABRICATED WOOD TRUSSES: Truss Plate Institute (TPI) BWT-76, HET-80, PCT-80 including Supplement, PCT-85 including Supplement, and QSP-88.
- A. Design trusses under direct supervision of a Professional Structural Engineer experienced in the design of this Work and licensed at the place where the Project is located. Submit shop drawings for plan approval.
- B. Conform to applicable building code for loads, load combinations, seismic zoning, and other governing load criteria, but not less than the design criteria shown on the Drawings. Include loads for sliding and drifting snow, unbalanced snow, rain-on-snow surcharge, ponding, and other loads as required by building configuration.
  1. Include minimum 5 psf collateral dead load on bottom chord members for mechanical and electrical items.
  2. Include minimum 5 psf collateral dead load on bottom chord members for wet pipe sprinkler systems.
- C. Wood Members: Single top and bottom chord with chord extensions as indicated, 19 percent maximum and 7 percent minimum moisture content, softwood lumber of species and grade required to meet load criteria.
- D. Steel Plate Connectors: ASTM A653 steel, Grade A, G60 hot dip galvanized coating, die stamped with integral teeth, 0.036 inch minimum thickness.
- E. Truss Bridging: Type, size, and spacing recommended by truss manufacturer.
- F. Set members level and plumb, in correct position. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing. Do not field cut or alter structural members without approval of Architect.

06 2000 FINISH CARPENTRY: AWI Custom quality.
- A. Interior Hardwood Lumber for Painted Finish: Plain sliced Poplar, S4S, maximum 10% moisture content; grade, size, and profile as detailed.
- B. Standing and Running Trim: Commercial long lengths; splices permitted where framing and blocking facilitates solid fastening. Do not splice lengths shorter than 3 feet.
- C. Exterior Lumber: Western Red Cedar, Clear A grade, S4S, maximum 15% moisture content; tongue and groove with v-groove profile both sides.

06 6116 SOLID SURFACING: Window stools at exterior windows; min. 1/2 inch thick homogeneous-filled plastic resin with finished front edge; color as scheduled. Securely attach at sill and caulk perimeter.

06 8316 FIBERGLASS REINFORCED PANELING: 3/32 inch thick FRP panels 48 inches wide; textured finish, color as scheduled; edge, corner, and division trim; adhesive application.

DIVISION 07: THERMAL AND MOISTURE PROTECTION

07 0150 PREPARATION FOR RE-ROOFING:
- A. Loads: Limit construction loads on existing roof areas to remain and existing roof areas scheduled to be re-roofed. Distribute loads uniformly.
- B. Weather Limitations: Proceed with re-roofing preparation only when existing and forecasted weather conditions permit work to proceed without water entering existing roofing system or building.
- C. Remove and reinstall roof mounted equipment as required. Disconnect and reconnect wiring, piping, ducts, and other connections using experienced subcontractors; repair damage.
- D. Repairs and penetrations shall be performed by the roofing installer only. Flash in accordance with roof system manufacturer's requirements.

07 2100 THERMAL INSULATION:
- A. Sprayed Insulation: Cellulose fiber, ASTM C739 or ASTM C1149, or fiberglass, ASTM C764; minimum R-value 3.8 per inch.
- B. Baffles: Extruded polystyrene, corrugated; 48 inch length.
- C. Insulating Foam Sealants: ASTM C1029, Type II; ASTM C1620; FGIA 812; single-component, minimal expanding, semi-rigid closed cell polyurethane.
- D. Sealing Tapes: FGIA 711; flexible, self-sealing, self-healing, fully adhering membrane flashing, minimum 0.025 inch thick.

07 3113 ASPHALT SHINGLES: ASTM D3018, Type I; ASTM D3642; fiberglass mat base, asphalt composition with ceramic coated mineral granules; self-sealing, with laminated tabs; accessory hip and ridge shingles; color as selected. Match existing where indicated.
- A. Warranty: Minimum 30 years, with first 10 years not pro-rated.
- B. Underlayment: ASTM D1970, self-adhering rubberized asphalt membrane. At roof slopes greater than 4:12, ASTM D226, Type 1, No. 15 asphalt saturated felt may be used except at eaves, valleys, and other locations indicated.
- C. Ridge Vents: Low profile extruded polypropylene for shingle overlay, with end caps; net free area as scheduled.

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SECURITY PROPERTIES

FRANKLIN COMMONS
ADDITION AND ALTERATIONS
962 FRANKLIN AVENUE
FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

REVISIONS

#	DATE	DESCRIPTION
	5/3/24	OHFA 80% SUBMISSION
	9/16/24	BID/PERMIT SET

PROJECT #: 21186
DRAWN: Author **CHECKED:** Checker

SPECIFICATIONS

G-021

D. Fasteners: ASTM F1667; corrosion resistant barbed shank roofing nails, 11 or 12 gauge; length per shingle manufacturer.

07 4646 FIBER CEMENT SIDING: ASTM C1186, Type A, Grade II; profile, color, and texture as selected.
A. Warranty: 30 year material warranty, 15 year finish warranty for prefinished surfaces.
B. Trim and Fascia: Material to match siding.
C. Porch Ceiling Panels: 4 x 8 foot, ¼ inch thick; smooth finish with beaded grooves.

07 7100 ROOF SPECIALTIES:
A. Coping Caps: SPRI ES-1; ASTM A755, G90 galvanized steel, minimum 24 gauge, with 22 gauge backing plates and continuous cleats; fluoropolymer finish, color as selected.
B. Gutters and Down Pipes: Formed aluminum, minimum 0.040 inch thick; size and profile as indicated; fluoropolymer finish, color as selected.
C. Gutter Guard: Wire mesh; material, size, and color to match gutter; snap-in installation.
D. Flashings: Formed aluminum, minimum 0.050 inch thick; fluoropolymer finish, color as selected.
E. Fascia Covers: Prefinished smooth aluminum, minimum 0.019 inch thick; color as selected.
F. Drip Edges: Prefinished aluminum, minimum 0.019 inch thick; color as selected.

07 8400 FIRESTOPPING: ASTM E814; UL 1479; mineral wool insulation and intumescent sealant; rating equal to or exceeding fireresistance rating of construction penetrated. Seal penetrations, joints, and perimeter of rated assemblies. Provide product data submittal.

07 9200 JOINT SEALANTS: ASTM C920 and ASTM C834; maximum VOC levels in accordance with sustainable design requirements; colors as selected.

DIVISION 08: OPENINGS

08 1113 HOLLOW METAL DOORS AND FRAMES: ANSI A250.8; NFPA 80 and UL 10C where fire rating is scheduled; factory primed; with silencers. Provide product data submittal.
A. Exterior Frames: 14 gauge galvanized steel, thermally broken.
B. Interior Frames: 16 gauge cold rolled steel.
C. Exterior Doors: 16 gauge galvanized steel, thermally insulated; Level 3, Model 2, Performance Level A; Energy Star rated.
D. Unit Entry Doors: 18 gauge cold rolled steel, insulated core; embossed panels as indicated; prehung with composite frame and casing; 10 year warranty.
E. Other Interior Doors: 18 gauge cold rolled steel; Level 2, Model 2, Performance Level B.

08 1400 WOOD DOORS: Composite wood core in accordance with CCR 93120 Phase 2; no added formaldehyde-based compounds; NFPA 80, NFPA 252, and UL 10C where fire rating is scheduled. Provide product data submittal.
A. Interior Doors: WDMA IS-6A, Custom grade; stile and rail pattern as indicated; rotary cut natural birch veneer; prehung with hardwood frame and casing; factory primed.

08 3613 SECTIONAL DOORS: Insulated steel assembly with weathertight rabbeted joints; galvanized steel faces with flush, smooth surface; with embossed panels where indicated; with weather seals; factory finished, color as selected.
A. Tracks: Galvanized steel, configured with maximum lift for project conditions; with braces and supports for attachment to structure.
B. Electric Operator: Sized for door; mounting type as required by project conditions; with automatic reversing safety switch; surface mounted low voltage control switch.

08 7100 DOOR HARDWARE: As scheduled. Provide product data submittal.
A. Hinges: 4-1/2 x 4-1/2 inch 5-knuckle full mortise butts; at exterior doors, brass or stainless steel with non-removable pin.
B. Locksets and Latches: ANSI A156.2, Series 4000, Grade 1; lever trim, style as selected.
1. Apartment Common Areas: Grade 2.
2. Apartment Units: Grade 3.
C. Exit Devices: UL 305; ANSI A156.3, Grade 1; rim type; lever trim, style as selected.
D. Keying: Coordinate keying of individual locks with building Owner.
E. Closers: ANSI A156.4, Grade 1, rated for 10 million cycles; pull side mounting at inswing doors; push side mounting with parallel arm and stop at outswing doors. Adjust for opening and operating forces in accordance with ADA.
F. Provide wall stop, overhead stop, hinge stop, or closer with stop for all doors. At locations where type of stop scheduled does not suit field conditions, contact Architect for resolution.
1. Wall Stops: 2½ inch diameter plate with concealed mounting; concave bumper; ¾ inch projection.
2. Overhead Stops: Concealed type with extruded track, slide, arm, and frame bracket.
G. Kickplates: Stainless steel, 0.050 inch thick, 8 inch height; 2 inches less than single door width and pairs with mullions; 1 inch less than leaf width for pairs without mullions.
H. Thresholds: Single piece for full width of wall opening, with vinyl insert; accessible type.
I. Weatherstrip: Surface applied, with vinyl insert. Weatherstrip may be omitted from thermally broken hollow metal frames with integral weather seal.
J. Sweeps: Surface applied, with neoprene sweep.

08 8000 GLAZING:
A. Annealed Glass: ASTM C1036, Type 1, Class 1, Quality q3; clear.
B. Low-E Glass: ASTM C1036, Type 1, Class 1, Quality q3 with low-emissivity coating;
C. Tempered Safety Glass: Install in locations indicated and as required by building codes. Tempered glass shall display manufacturer's permanent certification mark.
D. Fire Rated Glazing: CPSC 16 CFR 1201; fireresistance rating as scheduled; Category I or Category II, as required by location and size; 3/16 inch minimum thickness. Each panel of fire-rated glazing shall be permanently labeled for use in approved labeled opening protectives. For locations scheduled for safety glazing, provide impact resistant type with surface applied film.
E. Insulating Glass Units for Storefront: 1/4 inch Low-E exterior lite; 1/2 inch air space; 1/4 inch clear annealed interior lite; minimum visible light transmittance 70%; maximum SHGC 0.39.
F. Sliding Glass Track Assemblies: Extruded aluminum, clear anodized finish; double compartment upper and lower channels with insert rails in lower channel; guides for top of glass; extruded shoe with nylon wheels for bottom of glass. (C. R. Laurence D2301 series)

DIVISION 09: FINISHES

09 0100 MAINTENANCE OF FINISHES: Repair floor, wall, and ceiling surfaces to match color, texture, and appearance of existing undamaged surfaces; flush with adjacent surfaces.
A. Gypsum Board: Use repair methods in USG Gypsum Construction Handbook.
B. Prime and paint surface in accordance with Section 09 9000; match color and finish of adjacent materials.

09 2900 GYPSUM BOARD: ASTM C840; GA 216; 5/8 inch typical thickness, tapered edges, 48 inch width, lengths as long as practical to minimize joints. Provide moisture resistant type where scheduled and within 4 feet of plumbing fixtures. Provide backer board or cement board at ceramic wall tile locations.
A. Gypsum Board: ASTM C1396.
B. Non-Paper-Faced Gypsum Board: ASTM C1658.
C. Moisture Resistant Gypsum Board: ASTM C1658.
1. Mold Resistance: ASTM D3273; minimum 8.
2. Water Absorption: ASTM C473; maximum 10 percent.
D. Glass Mat Faced Backer Board: ASTM C1178; moisture resistant acrylic coating; square edge.
E. Cement Board: ANSI A118.9; Portland cement with polymer coated glass fiber mesh; formed edge.
F. Joint Compound: ASTM C475.
G. Control Joints: GA 234, maximum 30 foot spacing, aligned with masonry control joints and door and window openings.
H. Tearaway Bead: Rigid vinyl with tearoff leg.
I. Finish to GA 214 Level 4 at locations exposed to view and scheduled to be painted, except where Level 5 finish is specifically indicated. Finish to Level 2 at locations to receive ceramic tile. Finish to Level 1 at unfinished fire rated assemblies, in attics, and above suspended ceilings.

09 3013 CERAMIC TILING: ASTM A137.1; style, size, and color as scheduled; with cove base and bullnose wainscot cap and edge trim.
A. Floor Tile on Existing Slab on Grade: ANSI A108.5; TCNA F125; ANSI A118.4 latex Portland cement mortar; ANSI A118.6 latex Portland cement grout, color as scheduled.
B. Floor Tile on Wood Subfloor: ANSI A108.6; TCNA F143; ANSI A118.3 epoxy mortar and grout, color as scheduled.
C. Wall Tile on Cement Board: ANSI A108.4; TCNA W244C; ANSI A118.4 latex Portland cement mortar; ANSI A118.6 latex Portland cement grout, unsanded, color as scheduled.
D. Edge Transition at Dissimilar Flooring: Extruded aluminum with perforated anchoring leg, finish as scheduled; flush or angled transition sized for material thickness.
E. Mortar and Grout: VOC levels in accordance with sustainable design requirements.

09 6500 RESILIENT FLOORING: RFCI FloorScore certified.
A. Luxury Vinyl Tile: ASTM F1700, Class III, Type B; 5.0mm total thickness with 20 mil wear layer; style, size, and color as scheduled; RFCI Floorscore certified; 12 year warranty.
B. Luxury Vinyl Plank: ASTM F1700, Class III, Type B; 4.5mm total thickness with 20 mil wear layer; style, size, and color as scheduled; RFCI Floorscore certified; 15 year warranty.
C. Rubber Cove Base: ASTM F1861, Type TS; style, size, and color as scheduled.
D. Rubber Stair Treads: ASTM F2169, Type TS, Group II; raised disc pattern and integral nosing; coordinating rubber cove risers and floor tile for landings; color as scheduled.
E. Transition Strips at Dissimilar Flooring: Rubber, color as selected.
F. Adhesives: VOC levels in accordance with sustainable design requirements.

09 6813 TILE CARPETING: CRI Green Label Plus; solution-dyed nylon; style, size, color, and installation pattern as scheduled. Install per CRI 104 Section 14.
A. Backing: Closed cell; anti-microbial; water resistant.
B. Adhesives: VOC levels in accordance with sustainable design requirements.
C. Transition Strips at Dissimilar Flooring: Rubber, color as selected.

09 8100 ACOUSTIC INSULATION: ASTM C764 glass fiber or ASTM C1149 cellulose fiber, sprayed installation.
A. Acoustical Sealant: ASTM C834; apply continuous to perimeter of acoustical assemblies per ASTM C919.

09 9100 PAINTING: Paint primed surfaces and exposed materials not prefinished, factory finished, or indicated to be unfinished. Prepare surfaces, including previously finished surfaces.
A. Colors: As selected.
B. Lead Contamination Prevention: Perform work by EPA certified contractors and comply with EPA requirements.
C. VOC Levels: In accordance with sustainable design requirements. Use Zero-VOC products where available.
D. Provide base coat and intermediate coat products compatible with finish coat as recommended by manufacturer of finish coat. Provide ready-mixed paints. Do not job mix or tint materials.
E. Basis of Design Products: Sherwin-Williams, except where otherwise indicated.
1. Interior Gypsum Board: 1 coat Pro-Mar 200 latex primer; 2 coats Pro-Mar 200 latex, sheen as scheduled.
2. Interior Wood (Opaque Finish): 1 coat Prep-Rite Pro-Block primer; 2 coats Pro Industrial semi-gloss acrylic.
3. Interior Wood (Transparent Stained Finish): 1 coat SherWood BAC Wiping Stain; 3 coats WoodClassics Waterborne Polyurethane Varnish (1 coat gloss, 2 coats satin).
4. Interior Metals: Doors, frames, pipes, conduits, electrical panel covers, and related items: 1 coat Pro Industrial Pro-Cryl universal primer; 2 coats Pro-Mar 200 semi-gloss.
5. Exterior Metals: Doors, frames, railings, lintels, guard posts, roof mounted vents, intakes, exhausts, utility boxes, pipes, conduits, and related items: 1 coat DTM acrylic primer/finish, 2 coats DTM acrylic gloss coating.
6. Exterior Wood and Fiber Cement (Opaque Finish): 1 coat Exterior Oil Stain Blocking Primer, 2 coats Waterbased Industrial Enamel.
7. Exterior Wood (Stained Finish): 2 coats WoodScapes Solid Color Acrylic House Stain.
8. Exterior CMU: 1 coat Loxon Acrylic Block Surfacer; 2 coats Metalatex semi-gloss.
9. Exterior Concrete and Masonry (Except CMU): 1 coat Loxon Concrete & Masonry Primer/Sealer; 2 coats A-100 Exterior Latex Satin.

DIVISION 10: SPECIALTIES

10 1402 INTERIOR SIGNAGE: Injection molded plastic; size and copy as indicated; font style and colors as selected; 5/8 inch high text; graphics and copy raised 1/32 inch; Grade 2 contracted Braille.
A. Basis of Design: Best Lucent series
B. Toilet Rooms: Size as indicated; men, women, or unisex as indicated, with international symbol of accessibility.
C. Exits: 8 x 3 inch; "Exit"; at each exit discharge door.
D. Locate in accordance with ADA; 9 inches from latch edge of door to center of sign; 60 inches above finish floor to top of sign.

10 1407 EXTERIOR SIGNAGE:
A. Monument Sign: Two sided aluminum post and panel sign, as detailed; internally illuminated, coordinate with electrical.
B. Dimensional Letter Signage: Cast aluminum; reverse channel type; baked enamel or powder coat finish, color as selected; size and copy as indicated. Mount to wall surface with concealed studs. Hold characters 3/4 inch from surface or as recommended by manufacturer.

10 2800 TOILET AND BATH ACCESSORIES: As scheduled; locate as shown and mount to comply with accessibility requirements. Coordinate blocking and backing requirements with wall framing.
A. Toilet Paper Holders: Surface mounted stainless steel; single roll capacity; chrome plated spindle.
B. Towel Bars: Stainless steel with square bar; 3¼ inch projection from wall.
C. Towel Hooks: Heavy duty stainless steel, single pin; square bracket and backplate for concealed mounting.
D. Toilet and Shower Grab Bars: Stainless steel with concealed hardware.
E. Mirrors: Sizes as scheduled; ¼ inch plate glass with stainless steel angle frame..
F. Soap Dispensers: Stainless steeconcealed wall fastening, hinged locking filler top.
G. Paper Towel Dispensers: Surface mounted stainless steel cabinet; door with full length piano hinge; capacity of 400 C-fold or 525 multi-fold paper towels; tumbler lock.
H. Medicine Cabinets: Surface mounted, steel with painted finish; frameless polished edge mirror door, piano hinge, cable stop, and magnetic catch; adjustable glass shelves; reversible.
I. Shower Curtains: Opaque vinyl or nylon reinforced vinyl fabric, 0.008 inch thick, with antibacterial treatment; flameproof and stain-resistant.
1. Shower Curtain Rods: 18 gauge stainless steel tube, 1¼ inch outside diameter, satin finish; stainless steel mounting flanges; with curtain hooks.
J. Folding Rectangular Shower Seats: Wall mounted surface type; welded tubular seat frame, structural support members, stainless steel hinges and fasteners; ½ inch thick solid phenolic laminate seat.

10 4400 FIRE PROTECTION SPECIALTIES:
A. Fire Extinguisher Cabinets: Semi-recessed with maximum 4 inch projection from wall surface; sheet steel with white baked enamel finish; full glazed door with clear acrylic window; pull handle with friction catch; rated construction where installed in fireresistance rated wall assemblies.
B. Fire Extinguishers: NFPA 10; UL 4A-80BC; inspect for charge and install expiration date tags prior to occupancy.

10 5723 CLOSET SHELVING: Coordinate blocking and backing requirements with wall framing.
A. Wire Shelving: Epoxy coated; white; with brackets and supports. Adjustable type at accessible units; fixed type at other locations.

DIVISION 11: EQUIPMENT

11 3013 RESIDENTIAL APPLIANCES: Energy Star rated; colors as selected. Coordinate plumbing, HVAC, and electrical connections.
A. Refrigerators: Top mounted freezer compartment, with separate door; provide water hook up for units equipped with ice maker.
1. Verify freezer opening height is within accessible reach range at accessible units and common areas.
B. Electric Ranges: Cooktop and self-cleaning oven with front mounted controls; height to match adjacent standard or accessible height countertop; drop-in type where indicated.
C. Range Hoods: With filter and cooktop light; recirculating type; fan and light controls on front of unit. In accessible units, provide wall mounted controls for fan and light within accessible reach range.
D. Microwave and Hood: Over-the-range type with recirculating exhaust and cooktop light; two speed fan; turntable; electronic controls.

DIVISION 12: FURNISHINGS

12 2113 HORIZONTAL LOUVER BLINDS: Vinyl mini-blinds for exterior windows; color as selected; with valance cover; cordless type; open/close and tilt controls.

12 3200 MANUFACTURED WOOD CASEWORK: KCMA A161.1; AWI Custom grade; flush overlay construction; accessible type where indicated. Submit shop drawings.
A. Model, Style, and Finish: As scheduled.
B. Construction: CCR 93120 Phase 2; no added formaldehyde-based compounds.
C. Box Frame: Plywood, all exposed surfaces finished.
D. Face Frame: Hardwood, factory finished.
E. Doors: Hardwood stiles and rails with flush plywood center panel; standard overlay, factory finished.
F. Interiors: Melamine or cabinet liner.

G. Shelves: Plywood with finish to match interiors; adjustable hardware.
H. Drawers: Solid wood construction with dual drawer guides.
I. Door and Drawer Pulls: Style and finish as selected.

12 3623 PLASTIC LAMINATE COUNTERTOPS: Wood fiberboard, high density moisture resistant grade, minimum 3/4 inch thick; Grade HGS plastic laminate with backing sheet. Reinforce top with 3/4 x 3 inch fiberboard at perimeter. Coordinate cutouts with plumbing.
A. Fiberboard: CCR 93120 Phase 2; no added formaldehyde-based compounds.
B. Edge Design: As detailed.
C. Backsplash: Integrated post-formed backsplash, 4 inch high, with matching 4 inch high side splashes at locations indicated.
D. Seal joints between countertop, backsplash, and wall surfaces with clear sealant.

DIVISION 21: FIRE SUPPRESSION

SEE FIRE SUPPRESSION DRAWINGS FOR SPECIFICATIONS

DIVISION 22: PLUMBING

SEE PLUMBING DRAWINGS FOR SPECIFICATIONS

DIVISION 23: HEATING, VENTILATING, AND AIR CONDITIONING

SEE HVAC DRAWINGS FOR SPECIFICATIONS

DIVISION 26: ELECTRICAL

SEE ELECTRICAL DRAWINGS FOR SPECIFICATIONS

DIVISION 27: COMMUNICATIONS

SEE ELECTRICAL DRAWINGS FOR SPECIFICATIONS

DIVISION 28: ELECTRONIC SAFETY AND SECURITY

SEE ELECTRICAL DRAWINGS FOR SPECIFICATIONS

DIVISION 31: EARTHWORK

SEE CIVIL ENGINEERING DRAWINGS FOR SPECIFICATIONS

DIVISION 32: EXTERIOR IMPROVEMENTS

SEE CIVIL ENGINEERING DRAWINGS FOR SPECIFICATIONS

DIVISION 33: UTILITIES

SEE CIVIL ENGINEERING DRAWINGS FOR SPECIFICATIONS

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REVISIONS

#	DATE	DESCRIPTION
	5/3/24	OHFA 80% SUBMISSION
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PROJECT #: 21186
DRAWN: Author **CHECKED:** Checker

SPEFICATIONS

G-022

SECTION 018113

SUSTAINABILITY DESIGN REQUIREMENTS

Franklin Commons

PART 1 GENERAL

GENERAL CONDITIONS

A. The General Conditions, Modifications to General Conditions, Supplementary or Special Conditions and any Instructions to Bidders shall apply to all Divisions of work.
B. The requirements of State, Local or appropriate codes applicable to the work, whichever is the most stringent is a requirement of all Divisions of work.

WORK OF THIS SECTION

A. Section includes:
    1. Sustainable Project Goals
    2. Enterprise Green Communities Certification requirements
B. The intent of this project is to achieve an Enterprise Green Communities 2020 certification.
C. Contractor shall coordinate work and requirements with Owner Contracted Green Rater/Verifier for Green certifications. Pertinent to green certifications the role of the Green Rater/Verifier is to guide the construction team with certification process; review documentation, verify green requirements are met; and to perform third-party testing.

REFERENCES

A. American Society of Heating, Refrigerating and Air-Conditioning Engineers:
    1. ASHRAE 52.2 - Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.
    2. ASHRAE 62 - Ventilation for Acceptable Indoor Air Quality.
    3. ASHRAE 90.1 - Energy Efficient Design of New Buildings except Low-Rise Residential Buildings.
    4. ASHRAE 129 - Measuring Air-Change Effectiveness.
B. ASTM International:
    1. ASTM E408 - Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques.
    2. ASTM E903 - Standard Test Method for Solar Absorption, Reflectance, and Transmittance of Materials Using Integrating Spheres.
C. Forest Stewardship Council: FSC Guidelines- Forest Stewardship Council Guidelines.
D. Sheet Metal and Air Conditioning Contractors: SMACNA IAQ - IAQ Guidelines for Occupied Buildings under Construction.
E. South Coast Air Quality Management District: SCAQMD Rule 1168 - Adhesive and Sealant Applications.
F. South Coast Air Quality Management District: SCAQMD Rule 1113 – Interior paints, coatings, and primers.
G. SCS Global Services Recycled Content Certification
H. California Department of Public Health (CDPH) emission standard, formerly California 01350 – VOC emission limits
I. CARB Phase 2 – composite wood formaldehyde emissions testing standard
J. American National Standards Institute (ANSI) / American Water Works Association (AWWA) C810-17 Standard
K. National Pollutant Discharge Elimination System (NPDES)'s Stormwater Discharges from Construction Activities guidance
L. U.S. Environmental Protection Agency:
    1. EPA Baseline IAQ - Testing for Indoor Air Quality, Baseline IAQ, and Materials Section 01445.
    2. EPA 402-K-01-002 – A Step-by-Step Guide on how to Build Radon-Resistant Homes

M. Enterprise Green Communities:
    1. Green Communities Checklist 2020
    2. Green Communities Criteria 2020
N. ENERGY STAR Qualified Homes Program Requirements
    1. https://www.energystar.gov/partner_resources/residential_new/homes_prog_reqs/national_page

SUBMITTALS

A. The contractor shall submit the following items directly to the Green Rater/Verifier.
B. Construction Waste Diversion Rate (Calculation and/or Waste Tickets)
C. The contractor shall submit cut-sheets of products intended to comply with Environmentally Preferable Products (EPP). See Green Communities Checklist Section 6 for list of products intended to meet this requirement. EPP criteria are as follows:
    1. Ingredient Transparency for Material Health Requirement – Publicly disclosed where content is characterized and screened using health hazard lists or restricted substances lists to 1,000 ppm
    2. Recycled Content and Ingredient Transparency Requirement – Minimum 25% post-consumer
    3. Chemical Hazard Optimization Requirement – Third-party verification of optimization to 100 ppm.
    4. Healthier Materials Selection Requirement – see specific requirements for low-emission paints, coatings, primers, wallpaper, adhesives, sealants, flooring, insulation, and composite wood under criterion 6.4.
    5. Environmentally Responsible Material Requirement – see specific requirements for embodied emissions for concrete, steel, insulation, roofing, paving, and non-composite wood under criterion 6.5
    6. Regional Materials Requirement – Extracted, manufactured, and fabricated (all processes) within 500-mile crow-fly distance of site.

QUALITY ASSURANCE

A. Perform work in accordance with the Enterprise Green Communities Criteria for prerequisites and credits pertinent to this project listed in Green Communities worksheet included at the end of this section.
B. Maintain one copy of Green Communities Criteria on site. Criteria is available for download at https://www.greencommunitiesonline.org/sites/default/files/egc_2020_criteria_manual.pdf
C. Thoroughly review any requests for substitution for products that are related to Enterprise Green Communities prerequisites and credits. Any substitutions may jeopardize projects' ability to obtain certification.
D. Perform storm water management and erosion control Work in accordance with EPA Best Management Practices or local erosion and sedimentation control standards whichever is more stringent.
E. Perform Work to meet or exceed minimum energy efficiency and performance in accordance with Energy Star requirements. Energy Star Checklist is enclosed at end of this section.
F. Perform Work without use of CFC based refrigerants in HVAC building systems.
G. Perform ventilation Work in accordance with ASHRAE 62.
H. Develop and implement construction indoor air quality management plan including the following:
    1. Comply with minimum requirements of SMACNA IAQ.
    2. Protect stored and installed absorptive materials from moisture damage.
        a. Store materials on elevated platforms under cover, and in dry location.
        b. When materials are not stored in enclosed location, cover tops and sides of material with secured waterproof sheeting.
    3. Protect HVAC equipment during construction.
        a. Shut down return side of HVAC system whenever possible during heavy construction or demolition.
        b. When HVAC systems are operated during heavy construction, furnish disposable temporary filters.

PART 2 PRODUCTS

PRODUCT SUBSTITUTION

A. Thoroughly review any requests for substitution for products that are related to Green Communities prerequisites and credits. Any substitutions may jeopardize the project's ability to obtain certification.

PART 3 EXECUTION

EGC 1.4 Integrative Design: Construction Management (mandatory)

1. At the onset of construction organize an Enterprise Green Communities trades training moderated by Green Verifier.
2. Following trades to attend - GC Project Manager, GC Site Superintendent, Mechanical-Electrical-Plumbing, Insulation, Framing, Drywall, Air-Infiltration Package.
3. Provide a minimum of 2-week notice to Green Verifier prior to training date.

EGC 2.1 Site Selection (mandatory)

This project does not have any ecologically sensitive features.
If ecologically sensitive features are identified in the Ecological Resource Protection Zone (ERPZ) meet the following:

1. Protect floodplain functions
    Rehabilitation
    a. Projects built on land that is within the Special Flood Hazard Area (SPHA) as identified by FEMA, must be designed to meet the ASCE 24 Flood Resistant Design and Construction standard.
    a. Ensure that any development or redevelopment activities within the floodplain will mitigate and improve existing floodplain conditions (maintain or increase existing floodplain storage, improve water quality, implement flood-resilient design).
    b. Do not raise topographical elevations in flood zones.
2. Protect aquatic ecosystems
    Rehabilitation.
    a. Do not extend the building, built structures, roads, or parking areas into wetlands or deepwater habitats, as identified in the ERPZ, beyond where they already exist.
    b. Develop restoration plans for wetland and deepwater habitats within the ERPZ.

All Projects

3. Conserve habitat for any species on federal or state threatened or endangered lists
    a. Do not extend the building, built structures, roads, or parking areas into habitats for threatened and endangered plant and animal species on the site, as identified in the ERPZ.
    b. Minimize disturbances within the ERPZ during construction. If construction activities permanently disrupt the habitat of threatened or endangered animal habitats, follow the guidance of responsible state (or local) agencies on how to best address.

EGC 3.1 Environmental Remediation (mandatory)

1. Submit Phase 1 Environmental Site Assessment report to Green Verifier/Verifier
   If an environmental site assessment reveals any hazardous materials, mitigate these before proceeding with development.

EGC 3.2 Erosion and Sedimentation Control (mandatory)

Applies only when any site-work or excavation is in scope:
Contractor shall implement EPA's National Pollutant Discharge Elimination System (NPDES)' Stormwater Discharges from Construction Activities guidance, or local requirements, whichever is more stringent. If excavation and site work is part of scope:

1. Stockpile and protect disturbed topsoil for reuse.
2. Control the path and velocity of runoff with silt fencing or equivalent.

3. Protect sewer inlets, streams, and lakes on site during construction with silt fencing, silt sacks or comparable measures.
4. Provide swales to divert surface water from hillsides.
5. Identify and protect significant, high value trees during construction with fencing outside the critical root zone.
6. If soil is disturbed during construction on sloped areas, use tiers, erosion blankets, compost blankets, etc. to stabilize soil.

EGC 3.3 Ecosystem Services/ Landscape (mandatory)

When new landscaping is provided, or existing landscaping is modified:

1. All new landscaping (trees, shrubs, and groundcover, including grasses) should be native or adapted to the region. All new plants must be appropriate to the site's soil and microclimate, and none should be invasive species.
2. All disturbed existing landscape areas should be reseeded with native groundcover or plans and mulch.

EGC 3.4 Surface Stormwater Management (mandatory)

Applicable to New Construction or Rehab disturbing greater than 5,000 square feet

1. Treat or retain, on site, the precipitation volume from the 60th precipitation event as defined by the U.S. EPA in the Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act.

EGC 3.6 Efficient Irrigation and Water Reuse (mandatory)

When new irrigation system is provided, or existing system is modified:

1. Comply with all local water restrictions.
2. Design irrigation zones to respond to weather considerations, solar exposure, reflected light/heat from adjacent building or hardscape, soil type, topography/slope, plant material.
3. Establish irrigation volume and frequency per zone to be appropriate for the climate, soil type, and plants.
4. Select emission devices, valves, pipes, controllers, and sensors suitable to the landscape requirements that will facilitate long-term reliability and serviceability.
5. Design irrigation system to target each planting area with no overspray of impervious surfaces or adjacent planting areas. Prevent runoff of water from the site.
6. Install timer/controller that activates the valves for each watering zone at the best time of day to minimize evaporative losses while maintaining healthy plants and obeying local regulations and water-use guidance.
7. Install soil moisture sensor controller per vegetation zone or rain delay controller.

EGC 4.1 & 4.2 Water-Conserving Fixtures (mandatory)

1. Service pressure in each unit must not exceed 80 psi. Provide documentation of municipal water pressure. Green verifier will test water pressure at units.
2. Following flow rates are required to reduce total indoor water consumption by **30%**:
3. Toilets must be **WaterSense certified** and **1.0** gallons per flush or less, including dual-flush and pressure-assisted models.
4. Urinals must be **WaterSense certified** and **0.5** gallons per flush or less.
5. Showerheads must be **WaterSense-labeled** and **1.75** gallons per minute or less.
6. Kitchen faucets must be **1.5** gallons per minute or less.
7. Lavatory faucets must be **WaterSense certified** and **1.2** gallons per minute or less.

EGC 5.1b Building Performance Standard (mandatory)

ERI Option
Demonstrate energy performance equivalent to a HERS Index of **100**: Energy Analysis conducted by Green Verifier confirms that the project is below HERS **100** target. On-site power generation may not be used to satisfy the minimum energy performance. Meeting energy performance standards further requires mandatory inspection and testing conducted by Owner Contracted Green Rater/Verifier for Green certifications.

Conduct compartmentalization of dwelling units via air infiltration no greater than 0.40 CFM50 for Moderate Rehab per square feet of dwelling unit enclosure area or a 20% improvement of CFM50/sf compared to pre-retrofit conditions, following procedures in ANSI/RESNET/ICC Std. 380.

Insulation installed as part of the rehab must achieve the following:

1. Grade I installation per ANSI/RESNET/ICC Std. 301.
2. Grade II installation for assemblies that contain a layer of continuous, air impermeable insulation (≥ R-3 in Climate Zones 1 to 4, ≥ R-5 in Climate Zones 5 to 8).
3. Grade II batt insulation floors if they fill the full width and depth of the floor cavity, even when compression occurs due to excess insulation.

HVAC systems repaired or installed during rehab must complete testing via the National HVAC Functional Testing Checklist, ENERGY STAR Multifamily New Construction Version 1.1 (or most recent checklist version available at time of permit).

Mandatory Mid-Construction Pre-Drywall Thermal Bypass Inspection:

1. EGC Certification will require visual inspection of thermal envelope per enclosed Energy Star Rater Field Checklist at mid-construction. Coordinate inspection with Green Verifier with a minimum of 3-week notice. (Only applicable-scope items will be inspected for renovations.)

Final Verification and Inspection Testing

1. Upon substantial completion and prior to occupancy, the Green Verifier will conduct a visual Final Inspection to verify green requirements incorporated in the project. The contractor shall notify the Green Rater at least four (4) weeks prior to the anticipated date for such inspection. Contractor shall provide access to each unit and cooperate with conducting of the test. Additional inspections necessary due to incomplete work shall be back-charged to the Contractor.
2. Testing - Third-party Testing is to be scheduled and conducted in conjunction with the final inspection. The contractor shall notify the Green Verifier at least four (4) weeks prior to the anticipated date for such inspection. Contractor shall provide access to each unit and cooperate with conducting of the test.
3. Preconstruction Pretest – A pre-construction pretest was conducted to identify areas to envelope, demising unit enclosures. Recommended areas for sealing include:
    a. Joints between duct boots and drywall and floor finishes.
    b. Gaps at plumbing penetrations to drywall and floor finishes.
    c. Plumbing and attic access panels.
    d. Seal all visible gaps and cracks where interstitial cavities (wall, joist, ceiling, and stair) are used as return ducts.
4. Air Infiltration Test (Blower door Test) – Mandatory – Measures air leakage through unit enclosure such as exterior walls, demising walls, ceilings, chases, etc. Minimum envelope leakage where applicable. Following areas of building envelope and demising walls shall be sealed, caulked, gasketed, or weather-stripped to minimize envelope leakage:
    a. Joints around exterior doors and windows.
    b. Joints between walls and foundation; between conditioned spaces and attics, demising walls, crawl spaces and garage.
    c. All mechanical, plumbing, and electrical penetrations in exterior and demising walls. Mechanical chase shall be sealed at crawl space ceiling.
    d. Exterior sheathing and house wrap.
    e. Minimize entry of air from outside, attic, garage, and crawl space into exterior wall and interior wall cavities to ensure passing of air infiltration test. Also minimize air transfer from unit to unit, and unit to corridor.
    f. Batt insulation shall be stapled to face of stud to ensure full contact of insulation with face of drywall. Cut insulation around all mechanical, plumbing, and electrical work.
    g. Gasket attic access panels. Seal drywall to frame of access panel.

5. Distribution Loss Test (Duct Blaster Test) – Mandatory – Measures leakage through the mechanical distribution system and minimize duct leakage. Following areas HVAC distribution system shall be sealed:
    a. Clean entire distribution system to decipher areas for sealing and minimizing duct leakage.
    b. Joints and seams of existing ductwork shall be sealed where visible.
    c. Provide new metal lining for returns in visible areas where wall and floor cavities are used for returns.
    d. Seal all duct boots in floors to subfloors and seal all duct boots in walls to drywall.
    e. Seal gaps between drywall and all duct penetrations in ceilings, including exhaust fans.

EGC 5.5b Moving to Zero Carbon: All Electric

1. No combustion equipment used as part of the building project.

EGC 5.6 Sizing of Heating and Cooling Equipment (mandatory)

Applicable to rehabs that include replacement of heating and cooling equipment.

1. Size and select heating and cooling equipment in accordance with the Air Conditioning Contractors of America (ACCA) Manuals J and S or ASHRAE handbooks.

EGC 5.7 Energy Star Appliances (mandatory)

1. If replacing or installing new appliances provide Energy Star-labeled refrigerators, dishwashers, and clothes washers.

EGC 5.8 Lighting (mandatory)

When replacing or installing new light fixtures

1. All permanently installed fixtures shall be high-efficiency that is capable of meeting recommended light levels in the Illuminating Engineering Society Handbook, 10th edition.
2. Recessed light fixtures installed as part of air barrier shall be Insulation Contact Air-Tight (ICAT)
3. Common space lighting or Non-apartment building spaces must be controlled by occupancy sensors or automatic bi-level lighting controls, except 24-hour lighting required by code.
4. Lighting power density in dwelling units shall be 1.1 W/SF or less.
5. All exterior lighting shall have motion sensor controls, integrative PV cells, photosensors, or astronomic time-clock operation.
6. Exterior fixtures shall meet the following:
    a. Luminaires shall be fully shielded emitting no light above 90 degrees. The luminaire's mounting hardware shall not permit mounting in any configuration other than those maintaining full shielding. Non-residential luminaires shall have an uplight rating of U0.
    b. Fixtures shall have no sag or drop lenses, side light panels or uplight panels.
    c. Fixtures shall employ warm-toned (3000k or lower) white light sources or may employ amber light sources or filtered LED light sources.

EGC 6.4 Healthier Material Selection (mandatory)

1. Use products that comply with the following requirements.

PRODUCT CATEGORY	MANDATORY	ADDITIONAL POINTS	REFERENCE
All interior paints, coatings, primers and wallpaper	VOC content less than or equal to the thresholds provided by the most recent version of SCAQMD 1113 available at time of product specification for all interior paints, coatings and primers. VOC emissions verified as compliant with CDPH Standard Method for all wall finish paints. All wallpaper, phthalate free	1 point per APE-free paint, coating and/or primer 1 point per CDPH-compliant coating and/or primer (excluding wall finish paints) *[2 points maximum]*	For wall finish paints compliant with the mandatory CDPH specification, seek those certified to Master Painters Institute (MPI) X-Green, Green Wise Gold, GREENGUARD Gold, SCS Indoor Advantage Gold, and Berkeley Analytical ClearChem. GS-11 paints comply with the optional APE-free criterion, as do Red List–free products.

All interior adhesives and sealants	VOC content less than or equal to the thresholds provided by the most recent version of SCAQMD 1168 available at time of product specification for all interior adhesives and sealants.	Use of sealants that do not contain orthophthalate plasticizers. Use of adhesives that are CDPH compliant. *[1 point per compliant product, 2 points maximum]*	Orthophthalate plasticizers are common in polyurethane and modified polymer sealants. While not common, they may also be found in some acrylic latex or siliconized acrylic sealants. Verify that specified sealants are phthalate-free. Minimize the need for adhesives when possible. For instance, finger-joints and mechanical fasteners do not contain chemicals of concern.
Flooring	All flooring products (whether carpet or hard surface) must comply with CDPH emission requirements. No flexible PVC with phthalates may be installed, whether the phthalates were intentionally added or added via recycled content. No carpet in the project may be installed in building entryways, laundry rooms, bathrooms, kitchens/kitchenettes, or utility rooms. Fluid applied finish floors may only be installed in non-occupied spaces, such as mechanical rooms.	The project complies with one of the following options: Absence of vinyl-flooring throughout the project Absence of carpet throughout the project All project flooring assemblies (adhesive, sealant, flooring product) are Red List-free *[3 points]* If using carpet, specify those that do not use a fluorinated (PFAS) stain repellant. *[1 point]*	Common flooring product labels that meet or exceed the mandatory CDPH emission requirement include FloorScore, GREEN-GUARD Gold, SCS Indoor Advantage Gold, Berkeley Analytical ClearChem, and Carpet Rug Institute Green Label Plus (CRI+). In place of vinyl or other PVC-based resilient flooring, consider salvaged hardwoods, natural linoleum, rubber, cork, other PVC-free resilient flooring, ceramic or stone tile, sealed concrete, or pre-finished solid wood flooring. Pre-finished products, compared to those finished on site, keep potential exposures lower through a more controlled environment during finishing. If possible, use a floor system that can feature mechanical attachments (e.g., nails, floating wood flooring) instead of glues. This approach makes flooring easier to recycle in the future.
Insulation	If fiberglass or mineral wool batts are used, these must be formaldehyde-free.	The project does not include any two-part spray polyurethane foam. *[2 points]* The project uses board insulation that does not contain halogenated flame retardants. *[3 points]*	Alternative insulation products include recycled cotton, cellulose, wool, and blown fiberglass. All major U.S. manufacturers of residential fiberglass batt insulation have transitioned to formaldehyde-free products. Some formaldehyde-free mineral wool batts are also available
Composite wood	Formaldehyde emissions less than or equal to the thresholds provided by CARB Phase 2 and/or TSCA Title IV for plywood, particleboard, MDF, and these materials within other products like cabinets and doors. For any other composite wood products not covered by CARB/TSCA requirements, but used in interior spaces, these must at minimum be NAUF (have no added urea formaldehyde).	Use of composite woods that are certified ultra-low emitting formaldehyde (ULEF). 1 point per product. [2 points maximum]	While finish products (including plywood, MDF, particleboard, and cabinet and door components) comply by law with this mandatory requirement, ensure that all products installed in the project that are exposed to the conditioned space meet these standards or at a minimum do not include added urea formaldehyde. No-added formaldehyde (NAF) products qualify as ULEF and will be eligible for optional points. However, be aware that the alternative binders utilized in these products may include regrettable substitutions. For instance, the most common alternative binder for composite wood is PMDI, which is made with isocyanates. PMDI is expected to be a lower hazard during use than formaldehyde, but more information is needed. Preferable alternatives would be more than half bio-based (e.g., binders that are at least 50% soy) with full content disclosure, so they can be vetted for health hazards.

EGC 6.6 Bath, Kitchen, Laundry Surfaces (mandatory)

1. Use materials that have durable, cleanable surfaces through bathrooms, kitchens, and laundry rooms. Materials should not be prone to deterioration due to moisture intrusion or encourage the growth of mold.
2. Use moisture-resistant backing materials such as cement board, fiber cement board, or equivalent per ASTM #D 6329 or ASTM #D 3273 behind tub/shower enclosures. Projects using a one-piece fiberglass enclosure are exempt from this requirement.

EGC 6.8 Managing Moisture: Foundations (mandatory)

Applicable when foundation work is in scope.
Beneath Concrete Slabs (including those in basements and crawl spaces)
Option 1

1. Install a capillary break as follows: 4-inch layer of ½-inch diameter or greater clean aggregate.
2. Immediately above the capillary break, install at least 6-mil polyethylene sheeting overlapped at least 6 inches at the seams to serve as a vapor retarder in direct contact with the slab above.

Option 2

1. Install a 4-inch uniform layer of sand, overlain with a layer or strips of geotextile drainage matting installed according to the manufacturer's instructions.
2. Immediately above the capillary break, install at least 6-mil polyethylene sheeting overlapped at least 6 inches at the seams to serve as a vapor retarder in direct contact with the slab above.

Beneath Crawl Spaces

1. Install at least 8-mil cross-laminated polyethylene on the crawl floor, extended up at least 12 inches on piers and foundation walls, and with joints overlapping at least 12 inches. The 8-mil and the cross-lamination ensure longevity of the poly.
2. Line the likely "high-traffic" areas of the crawl space with foam board, so the polyethylene beneath will not be disturbed.

EGC 6.9 Managing Moisture: Roofing and Wall Systems (mandatory)

Applicable only when wall or roof systems are replaced.
Walls

1. Provide a continuous housewrap /weather-resistive barrier with sheets lapped shingle-style to prevent bulk water that penetrates the finished exterior cladding system from entering the wall assembly or being introduced through window or door openings or through other penetrations. Alternatively, install a fluid applied weather-resistive barrier in accordance with manufacturer's instructions.

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SECURITY PROPERTIES

FRANKLIN COMMONS

ADDITION AND ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

REVISIONS

#	DATE	DESCRIPTION
	5/3/24	OHFA 80% SUBMISSION
	9/16/24	BID/PERMIT SET

PROJECT #: 21186
DRAWN: Author **CHECKED:** Checker

SUSTAINABILITY SPECIFICATIONS

G-031

2. Flashings at roof /wall intersections and wall penetrations (i.e., plumbing, electrical, vents, HVAC refrigerant lines and the like in addition to windows and doors) must be integrated with the weather-resistive barrier and drainage plane prior to any exterior finish being installed to prevent bulk water from entering the exterior wall assembly.
3. Flashing installed at bottom of exterior walls with weep holes included for masonry veneer and weep screen for stucco cladding systems or equivalent drainage system.

Roof

1. Install drip edge at entire perimeter of roof.
2. At wall /roof intersections, maintain ≥2" clearance between wall cladding and roofing materials, install flashing along the intersection, and use kick-out flashing.

EGC 6.10 Construction Waste Management (mandatory)

Contractor to investigate local options for diversion of all construction waste and develop a plan for tracking waste diversion either through a contracted company or by tracking and sorting following components of construction waste.

Option 1

1. Recycle a minimum of **75%** of total construction waste

OR

Option 2

1. Select at least two of the following waste streams and recycle 100% of those waste streams:
   a. Cardboard
   b. Wood
   c. Metal
   d. Drywall
   e. Concrete, brick and/or asphalt
   f. Insulation, foam, and plastics
   g. Carpet

EGC 7.2 Reduce Lead Hazards in Pre-1978 Buildings (mandatory)

1. Conduct lead risk assessment or inspection to identify lead hazards.
2. Control identified lead hazards using lead abatement or interim controls, using lead-safe work practices that minimize and contain dust.
3. Follow EPA or state and/or local laws and requirements, where applicable. Alternatively, follow standard lead treatments defined by HUD as a series of hazard reduction measures designed to reduce all lead-based paint hazards in a dwelling unit without the benefit of a risk assessment or other evaluation (25 CFR 34.110).
4. Replace windows that have deteriorated lead-based paint with energy-efficient windows.
5. A lead inspection should be undertaken by an EPA certified risk assessor to determine whether paint in a rehab project contains lead, otherwise paint should be presumed to contain lead and lead-safe work practices are required.
6. Perform dust lead clearance testing at the conclusion of renovation work; compare against EPA dust lead clearance standards.
7. Remove or cover lead-contaminated soil so that it is inaccessible to children. For gardening, use raised beds with lead-free soil.

EGC 7.5 Integrated Pest Management (mandatory)

1. Seal all wall, floor and joint penetrations with low-VOC caulking or other appropriate nontoxic sealing method.
2. Install corrosion-proof metal pest screens for all openings greater than ¼ inch.
3. Seal off entry points under kitchen and bathroom sinks.

EGC 7.7 Ventilation

1. When replacing or installing new Bathroom Exhaust Fans, provide in full accordance with ASHRAE 62.2-2010 Energy Star-labeled dual-speed continuous bathroom fan, OR intermittent

bathroom fans exhausted directly to outdoors, connected to a light switch, and equipped with a humidistat sensor, ventilation timer, occupancy sensor, delay off switch or ventilation control, minimum 50 cfm in each bathroom and provide product documentation.
2. When replacing or installing new Kitchen Exhaust Fans, provide in full accordance with ASHRAE 62.2-2010 power-vented fans or range hoods exhausted directly to the outdoors at an intermittent rate of 100 cfm and provide product documentation.
3. Provide in full accordance with ASHRAE 62.2-2010 a whole-house mechanical ventilation system. Refer to HVAC drawings for ventilation strategy and required cfm of fresh air to each apartment unit. Local exhaust airflow may be credited toward the whole-house ventilation airflow requirement when local exhaust fans are used to provide whole-house mechanical ventilation.
4. In full accordance with ASHRAE 62.1-2010, install a mechanical ventilation system for all hallways and common spaces in Multifamily buildings.
5. All systems and associated ductwork must be installed per manufacturer's recommendations.
6. If using central ventilation systems with rooftop fans, each rooftop fan must be direct-drive and variable-speed with speed controller mounted near the fan. Fans with design CFM 300-2000 must also have an ECM motor.
7. Green Verifier/Energy Rater to conduct testing to verify ventilation system flow rates are within 15 CFM or 15% of the design value.
8. All systems and associated ductwork must be installed per manufacturer's recommendations.

EGC 8.1 Building Maintenance Manual (mandatory)

1. General Contractor to provide Maintenance manual that addresses HVAC operations and maintenance, appliance guidance, lighting equipment, green cleaning products, and pest control. Refer to EGC 2020 criteria handbook for details.

EGC 8.2 Emergency Management Manual (mandatory)

1. General Contractor to provide Emergency Management Manual targeted toward operations and maintenance staff and other building level personnel. The manual should address responses to various types of emergencies, leading with those that have the greatest probability of negatively affecting the project. The manual should provide guidance as to how to sustain the delivery of adequate housing throughout an emergency and cover a range of topics including but not limited to:
   a. Communication plans for staff and residents to use in the event of an emergency.
   b. Useful contact information for public utility and other service providers
   c. Infrastructure and building "shutdown" procedures

EGC 8.4 Walk-throughs and Orientations to Property Operations (mandatory)

1. General Contractor to provide a comprehensive walk-through and orientation for property manager(s) and building operations staff within 90 days of initial occupancy. Use the appropriate manuals (8.1 & 8.2) as the base of the curriculum, and review the project's green features, operations and maintenance procedures, and emergency protocols.

ENCLOSURES

Renovation

1. Enterprise Green Communities Checklist
2. Energy Star National Rater Field Checklist

END OF SECTION 018113

2020 ENTERPRISE GREEN COMMUNITIES **CRITERIA CHECKLIST**

CRITERIA CHECKLIST

This checklist provides an overview of the technical requirements within the Enterprise Green Communities Criteria.
To achieve Enterprise Green Communities Certification, all projects must achieve compliance with the Criteria mandatory measures applicable to that construction type. **New Construction projects must also achieve at least 40 optional points, and Substantial and Moderate Rehab projects must also achieve at least 35 optional points.**

These projects that also comply with Criterion 5.2b or Criterion 5.4 will be recognized with Enterprise Green Communities Certification Plus.

Project:	Franklin Commons
Address:	962 Franklin Commons Drive
Location Type:	Urban/Suburan
Building Type:	Moderate Rehab

Yes	Maybe		1. INTEGRATIVE DESIGN	Notes
Yes		M	**1.1 Integrative Design: Project Priorities Survey** Complete the Project Priorities Survey, which can be found in the Appendix.	
Yes		M	**1.2 Integrative Design: Charrettes and Coordination Meetings** Develop an integrative design process that moves the outputs of the Project Priorities Survey into action through a series of collaborative meetings. Prioritize multi-benefit strategies. Assign responsibility within your design and development teams for accountability.	
Yes		M	**1.3 Integrative Design: Documentation** Include Enterprise Green Communities Criteria information in your contract documents and construction specifications (Division 1 Section 01 81 13 Sustainable Design Requirements) as necessary for the construction team to understand the requirements and how they will be verified. Ensure, and indicate, that the drawings and specifications have been generated to be compliant and meet the certification goals.	
Yes		M	**1.4 Integrative Design: Construction Management** Create, implement, and document your contractor/subcontractor education plan to ensure that all persons working on-site fully understand their role in achieving the project objectives. Include a summary of the Project Priorities Survey (Criterion 1.1), the sustainability goals, and anticipated roles of each party in regards to the performance expected of the project. Attach and reference this training plan to Division 1 Section 01 81 13 Sustainable Design Requirements. Include timeline estimates for performance testing and verification schedules in the overall construction schedule. As relevant, review requirements for Criteria 8.1, 8.2, and 8.3, and begin populating these documents with relevant information from design and construction.	
		12 or 15	**1.5 Design for Health and Well-Being: Health Action Plan** Follow Steps 1-6 of the Health Action Plan framework per the full criterion. *[12 points with extra 3 points for Step 7]* This includes: 1) Commit to embedding health into the project lifecycle; 2) Partner with a project health professional; 3) Collect and analyze community health data; 4) Engage with community stakeholders to prioritize health data and strategies; 5) Identify strategies to address those health issues; 6) Create an implementation plan; and 7) Create a monitoring plan.	
		10	**1.6 Resilient Communities: Multi-Hazard Risk/Vulnerability Assessment** Conduct a four-part assessment (social, physical, functional, strategy) to identify critical risk factors of your property and implement at least two sets of strategies to enable the project to adapt to, and mitigate, climate related or seismic risks. See full criterion for more guidance.	
		8	**1.7 Resilient Communities: Strengthening Cultural Resilience** Integrate community and resident participation in the development processes so that the built environment honors cultural identities, resident voices, and community histories. Option 1: Complete a Cultural Resilience Assessment OR Option 2: Convene a Cultural Advisory Group	
0	0		1. INTEGRATIVE DESIGN SUBTOTAL	

Yes	Maybe		2. LOCATION + NEIGHBORHOOD FABRIC	Notes
Yes		M	**2.1 Sensitive Site Protection** All projects must: 1. Protect floodplain functions (e.g., storage, habitat, water quality) by limiting new development within the 100-year floodplain of all types of watercourses. 2. Conserve and protect aquatic ecosystems, including wetlands and deepwater habitats, that provide critical ecosystem functions for fish, other wildlife, and people. 3. Protect ecosystem function by avoiding the development of areas that contain habitat for plant and animal species identified as threatened or endangered. 4. Conserve the most productive agricultural soils by protecting prime farmland, unique farmland, and farmland of statewide or local importance. If your site contains any of these ecologically sensitive features, follow the specific Requirements under that subheading.	
N/A		M	**2.2 Connections to Existing Development and Infrastructure** *(Mandatory for New Construction projects that do not qualify as Rural/Tribal/Small Town)* Locate the project on a site with access to existing roads, water, sewers, and other infrastructure and within or contiguous to (having at least 25% of the perimeter bordering) existing development. Connect the project to the existing pedestrian network. For sites over 5 acres, provide connections to the adjacent street network at least every 800 feet. Tie all planned bike paths to existing bike paths.	
N/A		M	**2.3 Compact Development** *(Mandatory for New Construction)* At a minimum, build to the residential density (dwelling units/acre) of the census block group where the project is located. In Rural/Tribal/Small Town locations that do not have zoning requirements: Build to a minimum net density of 5 units per acre for single-family houses; 10 units per acre for multifamily buildings, single and two-story; and 15 units per acre for multifamily buildings greater than two-stories.	
7		5 or 7	**2.4 Increased Compact Development** Exceed the residential density (dwelling units/acre) of the census block group in which your project is located. Exceed by 2x for *[5 points]* ; exceed by 3x for *[7 points]* . In Rural/Tribal/Small Towns that do not have zoning requirements, build to a minimum net density of 7.5 units per acre for single-family houses; 12 units per acre for multifamily buildings, single and two-story; and 20 units per acre for multifamily buildings greater than two stories. *[5 points]*	Census Block Density: 2.18 Housholds per acre. Project Density: 14.7 Dwelling units per acre
N/A		M	**2.5 Proximity to Services and Community Resources** *(Mandatory for New Construction)* Locate the project within a 0.5-mile walk distance of at least four, or a 1-mile walk distance of at least seven, of the listed services. For projects that qualify as Rural/Tribal/Small Town, locate the project within 5 miles of at least four of the listed services.	
N/A		M	**2.6 Preservation of and Access to Open Space for Rural/Tribal/Small Town** *(Mandatory for New Construction Rural/Tribal/Small Town)* Option 1: Locate the project within a 0.25-mile walk distance of dedicated public open space that is a minimum of 0.75 acres; at least 80% of which unpaved. OR Option 2: Set aside a minimum of 10% (minimum of 0.25 acres) of the total project acreage as open and accessible to all residents; at least 80% of which unpaved.	
2	4	6 max	**2.7 Preservation of and Access to Open Space** Option 1: Locate the project within a 0.25-mile walk distance of dedicated open space that is a minimum of 0.75 acres; at least 80% of which unpaved. *[4 points]* OR Option 2: Set aside a percentage of permanent open space for use by all residents; at least 80% of which unpaved. 25% *[2 points]* ; 35% *[4 points]* ; 45% + written statement of preservation/ conservation policy *[6 points]*.	Option 2: quick calculation 28.9%
N/A		M	**2.8 Access to Transit** *(Mandatory for New Construction projects that do not qualify as Rural/Tribal/Small Town; Optional for all other project types)* **Mandatory: New Construction, not Rural/Tribal/Small Town** Locate projects within a 0.5-mile walk distance of transit services (bus, rail and/or ferry), constituting at least 45 or more transit rides per weekday, with some type of weekend service.	
		2	**Optional: New Construction, not Rural/Tribal/Small Town** Locate the project along dedicated bike trails or lanes (Class I, II, or IV) that lead to high-quality transit services (100 trips per day) within 3 miles. *[2 points]*	
		2, 6, 8	**Optional: Rehabilitation, not Rural/Tribal/Small Town** Locate projects within a 0.5-mile walk distance of public transit services (bus, rail and/or ferry), constituting at least 45 or more transit rides per weekday, with some type of weekend service. *[6 points]* Locate the project along dedicated bike trails or lanes (Class I, II, or IV) that lead to high-quality transit services (100 trips per day) within 3 miles. *[2 points]*	
		6	**Optional: New Construction and Rehabilitation, Rural/Tribal/Small Town** Locate the project within 0.5 mile walk distance of public transit services with at least 45 rides per weekday and some weekend service. OR, Install at least two charging stations for electric vehicles. OR, Locate the project with 5 miles of one of the following transit options: 1) vehicle share program; 2) dial-a-ride program; 3) employer vanpool; 4) park-and-ride; 5) public/private regional transportation.	
		2-8	**2.9 Improving Connectivity to the Community** Improve access to community amenities through at least one of the options incentivizing biking mobility or improving access to transit.	
		5 max	**2.10 Passive Solar Heating/Cooling** Design and build with passive solar design, orientation, and shading that meet the guidelines specified.	
		6	**2.11 Adaptive Reuse of Buildings** Rehabilitate and adapt an existing structure that was not previously used as housing. Design the project to adapt, renovate, or reuse at least 50% of the existing structure and envelope.	
6		6	**2.12 Access to Fresh, Local Foods** Provide residents and staff with access to fresh, local foods through one of the following options: Option 1: Neighborhood Farms and Gardens Option 2: Community-Supported Agriculture Option 3: Proximity to Farmers Market	
		8	**2.13 Advanced Certification: Site Planning, Design and Management** Locate building(s) within a community that is certified in LEED for Neighborhood Development, LEED for Cities and Communities, Living Community Challenge, or SITES.	
		6 max	**2.14 Local Economic Development and Community Wealth Creation** Demonstrate that local preference for construction employment and subcontractor hiring was part of your bidding process, and how it functioned during construction. *[2 points]* OR Demonstrate that you achieved at least 20% local employment. *[3 points]* OR Provide physical space for small business, nonprofits, and/or skills and workforce education. *[3 points]*	
N/A		M	**2.15a Access to Broadband: Broadband Ready** *(Mandatory for New Construction and Substantial Rehab Projects in Rural/Tribal/Small Town Locations)* Incorporate broadband infrastructure so that when broadband service comes to a community, the property can be easily connected. Include a network of mini-ducts or conduit throughout the building, extending from the expected communications access point to each network termination point in the building.	
		6	**2.15b Access to Broadband: Connectivity** Ensure all units and common spaces in the property have broadband internet access with at least a speed of 25/3 mbs.	
15	4		2. LOCATION + NEIGHBORHOOD FABRIC SUBTOTAL	

Yes	Maybe		3. SITE IMPROVEMENT	Notes
Yes		M	**3.1 Environmental Remediation** Determine whether there are any hazardous materials present on the site through one of the four methods listed. Mitigate any contaminants found.	
Yes		M	**3.2 Minimization of Disturbance during Staging and Construction** For sites >1 acre, implement EPA's National Pollutant Discharge Elimination System Stormwater Discharges from Construction Activities guidance, or local requirements, whichever is more stringent. For sites with an area <= 1, follow guidance in full criterion.	
Yes		M	**3.3 Ecosystem Services/Landscape** *(Mandatory, if providing landscaping)* If providing plantings, all must be native or climate-appropriate (adapted) to the region and appropriate to the site's soil and microclimate. Do not introduce any invasive plant species. Plant, seed, or xeriscape all disturbed areas.	mostly cosmetic, lump sum in budget, but none defined scope
Yes		M	**3.4 Surface Stormwater Management** *(Mandatory for New Construction; Mandatory for Substantial and Moderate Rehab projects if land disturbed is >= 5,000 sq.ft.)* Treat or retain on-site precipitation equivalent to the 60th percentile precipitation event. Where not feasible due to geotechnical issues, soil conditions, or the size of the site, treat or retain the maximum volume possible.	
		10 max	**3.5 Surface Stormwater Management** Through on-site infiltration, evapotranspiration, and rainwater harvesting, retain precipitation volume from 70% precipitation event *[6 points]*, 80% precipitation event *[8 points]* , or 90% precipitation event *[10 points]*.	
N/A		M	**3.6 Efficient Irrigation and Water Reuse** *(Mandatory, if permanent irrigation is utilized)* If irrigation is utilized, install an efficient irrigation system per the requirements listed.	
		4 or 6	**3.7 Efficient Irrigation and Water Reuse** *(Optional, if irrigation is utilized)* Meet the requirements of Criterion 3.6 AND: Option 1: Install an efficient irrigation system equipped with a WaterSense labeled weather-based irrigation controller (WBIC) OR Option 2: At least 50% of the site's irrigation satisfied by water use from the sources listed.	
0	0		3. SITE IMPROVEMENT SUBTOTAL	

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SECURITY PROPERTIES

FRANKLIN COMMONS

ADDITION AND ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

REVISIONS

#	DATE	DESCRIPTION
	5/3/24	OHFA 80% SUBMISSION
	9/16/24	BID/PERMIT SET

PROJECT #: 21186
DRAWN: Author **CHECKED:** Checker

SUSTAINABILITY SPECIFICATIONS

G-032

Yes	Maybe		4. WATER	Notes
Yes		M	**4.1 Water-Conserving Fixtures** Reduce total indoor water consumption by at least 20% compared to baseline indoor water consumption chart. Any new toilet, showerhead, and/or lavatory faucet must be WaterSense certified. For all single-family homes and all dwelling units in buildings three stories or fewer, the supply pressure may not exceed 60 psi.	Proposed flow rates: Toilets: 1.0 gpf Showerheads: 1.75 gpm Kitchen faucets: 1.5 gpm Lavatory faucets: 1.2 gpm
3		6 max	**4.2 Advanced Water Conservation** Reduce total indoor water consumption by at least 30% compared to baseline indoor water consumption chart. Any new toilet, showerhead, and/or lavatory faucet must be WaterSense certified.	
N/A			**4.3 Water Quality**	
		M, 3	**Mandatory/Optional:** Mandatory for Substantial Rehabs of buildings built before 1986; Optional for all other building types: Replace lead service lines *[3 points]*	
		M	**Mandatory:** For multifamily buildings with either a cooling tower, a centralized hot water system, or 10+ stories: Develop a Legionella water management program	
		8	**Optional:** Test and remediate as indicated for lead, nitrates, arsenic, and coliform bacteria	
		4	**4.4 Monitoring Water Consumption and Leaks** Conduct pressure-loss tests and visual inspections to determine if there are leaks; fix leaks. AND Install an advanced water monitoring and leak detection system capable of identifying and shutting water off during anomalous water events. OR Install a device to separately monitor water consumption of each cold branch off the apartment line riser for each dwelling unit or each cold water riser and the domestic hot water cold water feed for each building or each toilet that allows remote monitor readings; common laundry facilities; boiler makeup water; outdoor water consumption; and water consumption in any non-residential space.	
		4	**4.5 Efficient Plumbing Layout and Design** Store no more than 0.5 gallon of water in any piping/manifold between the fixture and the water heating source or recirculation line. No more than 0.6 gallon of water shall be collected from the fixture before a 10-degree Fahrenheit rise in temperature is observed. Recirculation systems must be demand-initiated.	
		6 max	**4.6 Non-Potable Water Reuse** Harvest, treat, and reuse rainwater and/or greywater to meet a portion of the project's non-potable water needs: 10% reuse *[3 points]* ; 20% reuse *[4 points]* ; 30% reuse *[5 points]*; 40% reuse *[6 points]*.	
		8	**4.7 Access to Potable Water During Emergencies** Provide residents with ready access to potable water in the event of an emergency that disrupts normal access to potable water, including disruptions related to power outages that prevent pumping water to upper floors of multifamily buildings or pumping of water from on-site wells, per one of the three options listed.	
3	0		4. WATER SUBTOTAL	

Yes	Maybe		5. OPERATING ENERGY	Notes
N/A		M	**5.1a Building Performance Standard** *(Mandatory for New Construction)* Certify all buildings with residential units in the project through either ENERGY STAR Multifamily New Construction, ENERGY STAR Manufactured Homes, and/or ENERGY STAR Certified Homes as relevant. AND Provide projected operating energy use intensity and projected operating building emissions intensity.	
Yes		M	**5.1b Building Performance Standard** *(Mandatory for Rehab)* Provide projected operating energy use intensity and projected operating building emissions intensity. AND Conduct commissioning for compartmentalization, insulation installation, and HVAC systems as indicated. AND one of the following options: - ERI Option: <= HERS 80 for each dwelling unit. Exception for some Rehabs built before 1980. - ASHRAE Option: Energy performance of the completed building equivalent to, or better than, ASHRAE 90.1-2013 using an energy model created by a qualified energy services provider according to Appendix G 90.1-2016.	Target: HERS 100
		12 max	**5.2a Moving to Zero Energy: Additional Reductions in Energy Use** *(Not available for projects using prescriptive path for Criterion 5.1a or for projects following Criterion 5.2b or 5.4.)* Projects in CZ 1-4A following this criterion must also comply with Criterion 7.8. Design and construct a building that is projected to be more efficient than what is required by Criteria 5.1a/b. Achieve HERS score of 5 lower than required by 5.1a/b if following ERI path for compliance OR 5% greater efficiency than required if following ASHRAE path for 5.1a/b compliance *[5 points]*. Additional 1 point for each additional 2-point decrease in HERS score required by Criteria 5.1a/b if following ERI path for compliance OR for 1% greater efficiency if following ASHRAE path for Criteria 5.1a/b, up to a maximum of 12 optional points.	
		12-15	**5.2b Moving to Zero Energy: Near Zero Certification** [Mandatory for Enterprise Green Communities Certification Plus] *(Not available for projects following Criterion 5.2a or 5.4.)* Projects in CZ 1-4A following this criterion must also comply with Criterion 7.8. Certify the project in a program that requires advanced levels of building envelope performance such as DOE ZERH *[12 points]* and/or PHI Classic or PHIUS+ *[15 points]* .	
		3-6	**5.3a Moving to Zero Energy: Photovoltaic/Solar Hot Water Ready** *(Not available for projects following Criterion 5.3b or 5.4.)* Orient, design, engineer, wire, and/or plumb the development through the Photovoltaic Ready pathway or Solar Hot Water Ready Pathway to accommodate installation of photovoltaic (PV) or solar hot water system in the future.	
		8 max	**5.3b Moving to Zero Energy: Renewable Energy** *(Not available for projects following Criterion 5.3a or 5.4)* Install renewable energy source to provide a specified percentage of the project's estimated source energy demand. See full criterion for allowable sources.	
		4-8	**Option 1:** For percentage of total project energy consumption provided by renewable energy. OR	
		1-5	**Option 2:** For percentage of common area meter energy consumption provided by renewable energy.	
		24	**5.4 Achieving Zero Energy** [Automatic Qualification for Enterprise Green Communities Certification Plus] *(Not available for projects following Criterion 5.2a, 5.2b, 5.3a, or 5.3b.)* Projects in CZ 1-4A following this criterion must also comply with Criterion 7.8. Achieve Zero Energy performance through one of the following options: **Option 1:** Certify each building in the project to DOE Zero Energy Ready Home program or PHI Plus AND Either install renewables and/or procure renewable energy, which in sum will produce as much, or more, energy in a given year than the project is modeled to consume. OR **Option 2:** Certify each building in the project in a program that requires zero energy performance such as PHIUS+ Source Zero, PHI Plus, PHI Premium, ILFI's Zero Energy Petal, Zero Carbon Petal, or Living Building Certification.	
		5 max	**5.5a Moving to Zero Carbon: All-Electric Ready** *(Not available for projects following Criterion 5.5b)* Ensure the project has adequate electric service and has been designed and wired to allow for a seamless switch to electricity as a fuel source in the future for the following uses: space heating *[1 point]*, space cooling *[1 point]* , water heating (DHW) *[1 point]* , clothes dryers *[1 point]* , equipment for cooking *[1 point]*.	
15		15	**5.5b Moving to Zero Carbon: All Electric** *(Not available for projects following Criterion 5.5a)* No combustion equipment used as part of the building project; the project is all-electric.	
Yes		M	**5.6 Sizing of Heating and Cooling Equipment** *(Mandatory for Substantial and Moderate Rehabs that include replacement of heating and cooling equipment. Not relevant for projects following 5.1a, 5.2b, or 5.4.)* Size and select heating and cooling equipment in accordance with ACCA manuals J and S OR in accordance with the ASHRAE Handbook of Fundamentals	
Yes		M	**5.7 ENERGY STAR Appliances** *(Mandatory for Substantial and Moderate Rehabs providing appliances. Not relevant for projects following 5.1a, 5.2b, or 5.4.)* Install ENERGY STAR clothes washers, dishwashers, and refrigerators. If appliances will not be installed or replaced at this time, specify that at the time of installation or replacement, ENERGY STAR models must be used via Criterion 8.1 and Criterion 8.4.	
Yes		M	**5.8 Lighting** *(Mandatory for all lighting within New Construction and Substantial Rehab projects. Mandatory for new lighting in Moderate Rehab projects.)* Follow the guidance for high-efficacy permanently installed lighting and other characteristics for recessed light fixtures, lighting controls, lighting power density, and exterior lighting.	
		8	**5.9 Resilient Energy Systems: Floodproofing** *(Not relevant for Rehab projects in Special Flood Hazard Areas)* Conduct floodproofing of lower floors, including perimeter floodproofing (barriers/shields). Design and install building systems as specified by the full criterion so that the operation of those systems will not be grossly affected in case of a flood.	
		8	**5.10 Resilient Energy Systems: Critical Loads** Loads Provide emergency power to serve at least three critical energy loads as described by the full criterion. **Option 1:** Islandable PV system OR **Option 2:** Efficient generator	
15	0		5. OPERATING ENERGY SUBTOTAL	

Yes	Maybe		6. MATERIALS	Notes
		8 max	**6.1 Ingredient Transparency for Material Health** Install products that have publicly disclosed inventories characterized and screened to 1,000 ppm or better: • 1 point per 5 installed Declare or HPD products from at least three different product categories • 1 point per 2 installed Declare or HPD products in any of these categories: adhesives, sealants, windows • 1 point per each product with third-party verified HPD or third-party verified Declare label • 2 points per each product with third-party verified HPD or third-party verified Declare label in any of these categories: adhesives, sealants, windows	
		3 max	**6.2 Recycled Content and Ingredient Transparency** Use building products that feature, and disclose, their recycled content. The building product must make up 75% by weight or cost of a project category for the project and be composed of at least 25% post-consumer recycled content.	
		8 max	**6.3 Chemical Hazard Optimization** Install products that have third-party verification of optimization to 100 ppm or better per the options listed within the full criterion.	
Yes		M	**6.4 Healthier Material Selection**	
		15 max	Select all interior paints, coatings, primers, and wallpaper; interior adhesives and sealants; flooring; insulation; and composite wood as specified. Optional points also available.	
		12 max	**6.5 Environmentally Responsible Material Selection** Select concrete, steel, or insulation with a publicly disclosed EPD *[3 points]* , Install a green or cool roof *[3 points]* , use reflective paving *[3 points]* , and/or use FSC certified wood *[3 points]* . Refer to criterion for specifics.	
Yes		M	**6.6 Bath, Kitchen, Laundry Surfaces** *(Mandatory for New Construction and Substantial Rehab. Moderate Rehabs that do not include work in the shower and tub areas are exempt from the shower and tub enclosure requirement.)* Use materials that have durable, cleanable surfaces throughout bathrooms, kitchens, and laundry rooms. Use moisture-resistant backing materials per ASTM # D 6329 or 3273 behind tub/shower enclosures, apart from one-piece fiberglass enclosures which are exempt.	
		4 max	**6.7 Regional Materials** Use products that were extracted, processed, and manufactured within 500 miles of the project for a minimum of 90%, based on weight or on cost, of the amount of the product category installed. Select any or all of these options (every two compliant materials can qualify for 1 point): • Framing Cladding (e.g. siding, masonry, roofing) • Flooring Concrete/cement and aggregate • Drywall/interior sheathing	
N/A		M	**6.8 Managing Moisture: Foundations** *(Mandatory for all New Construction projects and all Rehab projects with either basement and/or crawl space foundations)* Install capillary breaks and vapor retarders that meet specified criteria appropriate for the foundation type.	
Yes		M	**6.9 Managing Moisture: Roofing and Wall Systems** *(Mandatory for all Rehab projects that include deficiencies in or include replacing particular assemblies called out below. New Construction projects are considered compliant per Criterion 5.1.)* Provide water drainage away from walls, window, and roofs by implementing the list of techniques.	
Yes		M	**6.10 Construction Waste Management**	Option 1 - 75% diversion from landfill
		6 max	Develop and implement a waste management plan that reduces non-hazardous construction and demolition waste through recycling, salvaging, or diversion strategies through one of the three options. Achieve optional points by going above and beyond the requirement.	
		2	**6.11 Recycling Storage** For projects with municipal recycling infrastructure and/or haulers, provide separate bins for the collection of trash and recycling for each dwelling unit and all shared community rooms. OR For projects without that infrastructure, advocate to the local waste hauler or municipality for regular collection of recyclables.	
0	0		6. MATERIALS SUBTOTAL	

Yes	Maybe		7. HEALTHY LIVING ENVIRONMENT	Notes
N/A		M	**7.1 Radon Mitigation** *(Mandatory for New Construction and Substantial Rehab)* For New Construction in EPA Zone 1 areas, install passive radon-resistant features below the slab and a vertical vent pipe with junction box within 10 feet of an electrical outlet in case an active system should prove necessary in the future. For Substantial Rehab projects in EPA Zone 1, test before and after the retrofit and mitigate per the specified protocols.	
Yes		M	**7.2 Reduce Lead Hazards in Pre-1978 Buildings** *(Mandatory for Substantial Rehab of Buildings Constructed Before 1978)* Conduct lead risk assessment or inspection to identify lead hazards. Control identified lead hazards using lead abatement or interim controls, using lead-safe work practices that minimize and contain dust.	
N/A		M	**7.3 Combustion Equipment** **For New Construction and Rehab projects:** Specify power-vented or direct-vent equipment when installing any new combustion appliance for space or water heating that will be located within the conditioned space. If there are any combustion appliances within the conditioned space, install one hard-wired carbon monoxide (CO) alarm with battery backup function for each sleeping zone, placed per National Fire Protection Association (NFPA) 72. **For Rehabs:** If there is any combustion equipment located within the conditioned space for space or water heating that is not power-vented or direct-vent and that is not scheduled for replacement, conduct combustion safety testing prior to and after the retrofit; remediate as indicated.	
N/A		M	**7.4 Garage Isolation** • Provide a continuous air barrier between the conditioned space and any garage space to prevent the migration of any contaminants into the living space. Visually inspect common walls and ceilings between attached garages and living spaces to ensure that they are air-sealed before insulation is installed. • Do not install ductwork or air handling equipment for the conditioned space in a garage. • Fix all connecting doors between conditioned space and garage with gaskets or make airtight. • Install one hard-wired CO alarm with battery backup function for each sleeping zone of the project, placed per NFPA 72 unless the garage is mechanically ventilated or an open parking structure.	
Yes		M	**7.5 Integrated Pest Management** Seal all wall, floor, and joint penetrations with low-VOC caulking or other appropriate nontoxic sealing methods to prevent pest entry.	
Yes		M	**7.6 Smoke-Free Policy** **Mandatory:** Implement and enforce a smoke-free policy in all common areas and within a 25-foot perimeter around the exterior of all residential buildings. Lease language must prohibit smoking in these locations and provide a graduated enforcement policy. Make the smoke-free policy readily available.	
10		10	**Optional:** Expand the policy above to include all indoor spaces in the property.	
3	3	M 12 max	**7.7 Ventilation** *(Mandatory for New Construction and Substantial Rehab; Optional for Moderate Rehab)* For each dwelling unit in full accordance with ASHRAE 62.2-2010, install: • A local mechanical exhaust system in each bathroom *[3 points if Moderate Rehab]* • A local mechanical exhaust system in each kitchen *[3 points if Moderate Rehab]* • A whole-house mechanical ventilation system *[3 points if Moderate Rehab]* Verify these flow rates are either within +/- 15 CFM or +/- 15% of design value. For each multifamily building of four or more stories, in full accordance with ASHRAE–t62.1-2010, install: • A mechanical ventilation system for all hallways and common spaces *[3 points if Moderate Rehab]* For all project types, in addition to the above requirements: • All systems and ductwork must be installed per manufacturer's recommendations • All bathroom fans must be ENERGY STAR-labeled and wired for adequate run-time. • If using central ventilation systems with rooftop fans, each fan must be direct-drive and variable-speed with speed controller mounted near the fan. Fans with design CFM 300-2000 must also have an ECM motor.	Yes: Bathroom exhaust Maybe: Kitchen exhaust
		M , 5	**7.8 Dehumidification** *(Mandatory for properties in Climate Zones 1A, 2A, 3A, and 4A following Criterion 5.2a, 5.2b, or 5.4. Optional for all other properties.)* **Option 1:** Design, select, and install supplemental dehumidification equipment to keep relative humidity OR **Option 2:** Equip all dwelling units with dedicated space, drain, and electrical hook-ups for permanent supplemental dehumidification systems to be installed if needed and install interior RH monitoring equipment as described.	
		3	**7.9 Construction Pollution Management** **Option 1:** Earn the EPA Indoor airPlus label OR **Option 2:** In all dwelling units, seal all heating, cooling, and ventilation return and supply floor ducts and returns throughout construction to prevent construction debris from entering. Flush all dwelling units after completion of construction and prior to occupancy for either 48 hours or with at least 14,000 ft3 per ft2 of floor area, then replace all air handling equipment filters.	
		3	**7.10 Noise Reduction** **Option 1:** Test and demonstrate that noise levels in bedrooms meet 30 dB LAeq (continuous) and 45 dB LAmax, (single sound). OR **Option 2:** Provide a noise abatement plan specific to the site covering general noise mitigation techniques in accordance with 24 CFR 51B. OR Option 3: Ensure all exterior wall and party wall penetrations are sealed with acoustical sealant, all party walls and floor/ceiling assemblies have an STC rating of at least 55, and exterior windows and doors in projects near a significant exterior noise source have an STC rating of at least 35	

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GREGORY S. HACKETT
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Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

REVISIONS

#	DATE	DESCRIPTION
	5/3/24	OHFA 80% SUBMISSION
	9/16/24	BID/PERMIT SET

PROJECT #: 21186
DRAWN: Author **CHECKED:** Checker

SUSTAINABILITY SPECIFICATIONS

G-033

Yes	Maybe	Pts	Item	Notes
Yes		8	**7.11 Active Design: Promoting Physical Activity** *(All projects must comply with at least one of either Criterion 7.11, 7.12, or 7.13. Points are not available for that criterion, but, are available for projects that meet two or three of these criteria.)* **Option 1:** Encouraging Everyday Stair Usage (buildings that include stairs as the only means to travel from one floor to another are not eligible for this option.) Provide a staircase that is accessible and visible from the main lobby and is visible within a 25-foot walking distance from any point in the lobby per the specifications listed. Place point-of-decision signage. OR **Option 2:** Activity Spaces. Provide on-site dedicated recreation space with exercise or play opportunities for adults and/or children that is open and accessible to all residents; see criterion for specifics.	Option 2: Playground
		8	**7.12 Beyond ADA: Universal Design** *(All projects must comply with at least one of either Criterion 7.11, 7.12, or 7.13. Points are not available for that criterion, but, are available for projects that meet two or three of these criteria.)* Select and implement at least one of the Options with at least three different strategies in at least 75% units. **Option 1:** Create welcoming and accessible spaces that encourage equitable use and social connections. **Option 2:** Create spaces that are easy and intuitive to use and navigate. **Option 3:** Promote safety and create spaces that allow for human error. **Option 4:** Create spaces that can be accessed and used with minimal physical effort. **Option 5:** Create spaces with the appropriate size and space to allow for use, whatever the user's form of mobility, size, or posture.	
		8	**7.13 Healing-Centered Design** *(All projects must comply with at least one of either Criterion 7.11, 7.12, or 7.13. Points are not available for that criterion, but, are available for projects that meet two or three of these criteria.)* Select and implement at least two of the Options with at least two different strategies listed in at least 75% units. **Option 1:** Provide an environment that promotes feelings of real and perceived safety. **Option 2:** Create flexible spaces that allow for personalization and/or manipulation to meet individual and community needs. **Option 3:** Connect residents and staff to a living landscape and the natural environment. **Option 4:** Utilize art and culture in project design and programming and promote social connectedness.	
13	3		7. HEALTHY LIVING ENVIRONMENT SUBTOTAL	

Yes	Maybe		8. OPERATIONS, MAINTENANCE + RESIDENT ENGAGEMENT	Notes
Yes		M		
Yes		M	**8.2 Emergency Management Manual** *(For all Multifamily projects)* Provide a manual on emergency operations targeted toward operations and maintenance staff and other building-level personnel. The manual should address responses to various types of emergencies, leading with those that have the greatest probability of negatively affecting the project. The manual should provide guidance as to how to sustain the delivery of adequate housing throughout an emergency and cover a range of topics, including but not limited to: • communication plans for staff and residents • useful contact information for public utility and other service providers • infrastructure and building, "shutdown" procedures • plan for regular testing of backup energy systems, if these exist	
Yes		M	**8.3 Resident Manual** Provide a guide for homeowners and renters that explains the intent, benefits, use, and maintenance of their home's green features and practices. The Resident Manual should encourage green and healthy activities per the list of topics.	
Yes		M	**8.4 Walk-Throughs and Orientations to Property Operation** Provide a comprehensive walk-through and orientation for all residents, property manager(s), and buildings operations staff.	
Yes		M	**8.5 Energy and Water Data Collection and Monitoring** For rental properties, upload project energy and water performance data in an online utility benchmarking platform annually for at least five years from time of construction completion per one of the four methods provided; grant Enterprise view access for that period. For owner-occupied units, collect and monitor utility data in a manner that allows for easy access and review.	
0	0		8. OPERATIONS, MAINTENANCE + RESIDENT ENGAGEMENT SUBTOTAL	
46	7		TOTAL	

ENERGY STAR Multifamily New Construction
National Rater Field Checklist [1], Version 1 / 1.1 / 1.2 (Rev. 03)

Building Name: ______________________ Number of Units: __________ Permit Date: __________

Building Address: ______________________ City: ______________ State: ________

Thermal Enclosure System	Must Correct	Builder Verified [3]	Rater Verified [4]	N/A [5]
1. High-Performance Fenestration & Insulation				
1.1 Fenestration meets or exceeds specification in Items 2.1 & 2.2 of the Natl Rater Design Review Checklist.	☐	☐	☐	-
1.2 Insulation meets or exceeds specification in Items 3.1 & 3.2 of the Natl Rater Design Review Checklist.	☐	☐	☐	-
1.3 All insulation achieves Grade I install. per ANSI / RESNET / ICC 301. Alternatives in Footnote 6. [7]	☐	☐	☐	-
1.4 Prescriptive Path: Window-to-wall ratio ≤ 30%. [8]	☐	☐	☐	☐
1.5 Heated plenums in unconditioned space or ambient conditions must meet the following requirements: [9]				
1.5.1 Sides of heated plenum are an air barrier and insulated to ≥ R-3ci in CZ 1-4; ≥ R-5ci in CZ 5-6; ≥ R-7.5ci in CZ 7; ≥ R-9.5ci in CZ 8, [10] **AND;**	☐	☐	☐	☐
1.5.2 Insulation at top of heated plenum meets Item 3.6 where applicable. Otherwise, meets or exceeds the R-value for mass floors from the "All Other" column of Table 502.2(1) of 2009 IECC, [10, 11] **AND;**	☐	☐	☐	☐
1.5.3 Bottom of heated plenum must have at least R-13 insulation. [11, 12]	☐	☐	☐	☐
1.6 Garages with space heating must meet the following requirements: [9]				
1.6.1 Insulation on above grade walls and walls on the first story below grade ≥ R-5ci in CZ 5-6; ≥ R-7.5ci in CZ 7; ≥ R-9.5ci in CZ 8, [10] **AND;**	☐	☐	☐	☐
1.6.2 Ceiling insulation meets Item 3.6 where applicable. Otherwise, meets or exceeds the R-value for mass floors from the "All Other" column of Table 502.2(1) of 2009 IECC. [10]	☐	☐	☐	☐
2. Fully-Aligned Air Barriers [13] At each insulated location below, a complete air barrier is provided that is fully aligned as follows:				
Ceilings: At interior or exterior horizontal surface of ceiling insulation in Climate Zones 1-3; at interior horizontal surface of ceiling insulation in Climate Zones 4-8. Also, at exterior vertical surface of ceiling insulation in all climate zones (e.g., using a wind baffle that extends to the full height of the insulation in every bay or a tabbed baffle in each bay with a soffit vent that prevents wind washing in adjacent bays). [10, 14]				
2.1 Dropped ceilings / soffits below unconditioned attics, chase / dead space, and all other ceilings.	☐	☐	☐	☐
Walls: At exterior vertical surface of wall insulation in all climate zones; also at interior vertical surface of wall insulation in Climate Zones 4-8. [10, 15]				
2.2 Walls behind showers, tubs, staircases, and fireplaces.	☐	☐	☐	☐
2.3 Architectural bump-outs, dead space, and all other exterior walls.	☐	☐	☐	-
Floors: At exterior vertical surface of floor insulation in all climate zones and, if over unconditioned space, also at interior horizontal surface including supports to ensure alignment. Alternatives in Footnotes 15 & 16. [16, 17, 18]				
2.4 Floors above garages, floors above unconditioned spaces, and cantilevered floors.	☐	☐	☐	☐
2.5 All other floors adjoining unconditioned space (e.g., rim / band joists at exterior wall or at porch roof).	☐	☐	☐	☐
3. Reduced Thermal Bridging				
3.1 For insulated ceilings with attic space above (i.e., non-cathedralized), Grade I insulation extends to the inside face of the exterior wall below and is ≥ R-21 in CZ 1-5; ≥ R-30 in CZ 6-8. [10, 19]	☐	☐	☐	☐
3.2 For insulated ceilings with attic space above, attic access panels and drop-down stairs insulated ≥ R-10 or equipped with durable ≥ R-10 cover. [20]	☐	☐	☐	☐
3.3 Insulation beneath attic platforms (e.g., HVAC platforms, walkways) ≥ R-21 in CZ 1-5; ≥ R-30 in CZ 6-8. [10]	☐	☐	☐	☐
3.4 For slabs on grade or at grade without ground contact in CZ 4-8, 100% of slab edge insulated to ≥ R-5 at the depth specified by 2009 IECC Table 502.2(1) & aligned with the thermal boundary of the walls. [10, 21, 22]	☐	☐	☐	☐
3.5 For above-grade concrete slab edges (e.g., podiums, balconies) in CZ 4-8, 100% of slab edge insulated to ≥ R-5 & aligned with the thermal boundary of the walls. At this boundary, for slabs resting on mass walls, insulation must extend ≥8 ft. below the bottom of the slab edge & for slabs resting on columns, the insulation must surround the column, at a depth of 4ft. Alternatives in Footnote 24. [10, 23]	☐	☐	☐	☐
3.6 For concrete slab floors in CZ 4-8 above ambient conditions, garages, or unconditioned spaces outside the thermal boundary, floor insulation meets the U-factor specified in Table 502.1.2 of the 2009 IECC for Group R when dwelling units are above the slab, & 'All Other' when common space is above the slab. [10, 25]	☐	☐	☐	☐
3.7 At above-grade walls and rim / band joists separating conditioned space from the exterior, one of the following options used: [26, 27]				
3.7.1 Continuous rigid insulation, insulated siding, or combination of the two is: ≥ R-3 in CZ 1-4; ≥ R-5 in CZ 5-8 [10, 27, 28, 29, 30], **OR**;	☐	☐	☐	☐
3.7.2 Structural Insulated Panels **OR**; Insulated Concrete Forms **OR**; Double-wall framing **OR**; [27, 28, 31]	☐	☐	☐	☐
3.7.3 For wood-framed walls in CZ 1-5 (all stories) & in CZ 6-8 (≤3 stories) only: 'advanced framing' details including all Items below: [27, 32]				
3.7.3a Corners insulated ≥ R-6 to edge [33], **AND**;	☐	☐	☐	☐
3.7.3b Headers above windows & doors insulated ≥ R-3 for 2x4 framing or equivalent cavity width, and ≥ R-5 for all other assemblies (e.g., with 2x6 framing) [34], **AND**;	☐	☐	☐	☐
3.7.3c Interior / exterior wall intersections insulated to same R-value as rest of exterior wall. [35]	☐	☐	☐	☐
3.7.3d In CZ 4C and 5, for > 3 stories, ≥ 5.5" framing depth used with wall cavity insulated ≥R-20.0.	☐	☐	☐	☐

ENERGY STAR Multifamily New Construction
National Rater Field Checklist [1], Version 1 / 1.1 / 1.2 (Rev. 03)

4. Air Sealing (Unless otherwise noted below, "sealed" indicates the use of caulk, foam, or equivalent material.)	Must Correct	Builder Verified [3]	Rater Verified [4]	N/A [5]
The following items must be verified in dwelling units and common spaces to reduce air leakage to exterior, adjacent buildings, or unconditioned spaces.				
4.1 Ducts, flues, shafts, plumbing, piping, wiring, exhaust fans, & other penetrations to unconditioned space sealed, with blocking / flashing as needed.	☐	☐	☐	-
4.2 Recessed lighting fixtures adjacent to unconditioned space ICAT labeled and gasketed. Also, if in insulated ceiling without attic above, exterior surface of fixture insulated to ≥ R-10 in CZ 4-8. [10]	☐	☐	☐	☐
4.3 Continuous top plate or blocking is at top of walls adjoining unconditioned space including at balloon-framed parapets, and sealed.	☐	☐	☐	☐
4.4 Drywall sealed to top plate at all unconditioned attic / wall interfaces using caulk, foam, drywall adhesive (but not other construction adhesives), or equivalent material. Either apply sealant directly between drywall and top plate or to the seam between the two from the attic above.	☐	☐	☐	☐
4.5 Rough opening around windows & exterior doors sealed. [36]	☐	☐	☐	-
4.6 Assemblies that separate attached garages from occupiable space sealed and, also, an air barrier installed, sealed, and aligned with these assemblies. [37]	☐	☐	☐	☐
4.7 Doors adjacent to unconditioned space (e.g., attics, garages, basements) or ambient conditions made substantially air-tight with doorsweep and weatherstripping or equivalent gasket.	☐	☐	☐	☐
4.8 Attic access panels, roof hatches and drop-down stairs are gasketed (i.e., not caulked) or equipped with durable covers that are gasketed. [20]	☐	☐	☐	☐
The following items must be additionally verified in dwelling units, to reduce air leakage between conditioned spaces.				
4.9 Doors serving as a unit entrance from a corridor/stairwell made substantially air-tight with doorsweep and weatherstripping or equivalent gasket.	☐	☐	☐	☐
4.10 Rater-measured compartmentalization is no greater than 0.30 CFM50 per square feet of dwelling unit enclosure area, following procedures in ANSI / RESNET / ICC 380. [38]	☐	-	☐	
4.10.1 For dwelling units with forced air distribution systems without ducted returns and located in a closet adjacent to unconditioned space, the Rater-measured pressure difference between the space containing the air handler and the conditioned space during the compartmentalization test is no greater than 5 Pa. [39]	☐	-	☐	☐

HVAC System [40]	Must Correct	Rater Verified [4]	N/A [5]
5. Heating & Cooling Eqpt. Complete Track A - HVAC Grading by Rater [41] or Track B - HVAC Testing by FT Agent [42]			
Track A: 5a.1 Blower fan volumetric airflow is Grade I or II per ANSI / RESNET / ACCA 310	☐	☐	☐
Track A: 5a.2 Blower fan watt draw is Grade I or II per ANSI / RESNET / ACCA 310	☐	☐	☐
Track A: 5a.3 Refrigerant charge is Grade I per ANSI / RESNET / ACCA 310. See Footnote 43 for exemptions.	☐	☐	☐
Track A: 5a.4 HVAC manufacturer & model number on installed equipment matches the HVAC Design Report in compliance with ANSI / RESNET / ACCA 310 or the HVAC Design Supplement to Std. 310 for Common Spaces and Central Systems. [44]	☐	☐	☐
Track B: 5b.1 HVAC manufacturer & model number on installed equipment matches either of the following (check box): [45] ☐ National HVAC Design Report (4.6-4.9 & 4.25-4.26) ☐ Written approval received from designer	☐	☐	-
Track B: 5b.2 External static pressure measured by Rater at contractor-provided test locations and documented below: [46] Return-Side External Static Pressure: ________ IWC Supply-Side External Static Pressure: __________ IWC	☐	☐	☐
5.5 Prescriptive Path: Heating and cooling equipment serving dwelling units, common spaces, and garages meet the efficiency levels specified in the Exhibit X. Electric resistance space heating is not installed in dwelling units. [47]	☐	☐	☐
5.6 ERI Path: Heating and cooling equipment serving common spaces and garages, but not serving dwelling units, meet the efficiency levels specified in the Exhibit X. See Exhibit X for restrictions on electric resistance space heating. [47]	☐	☐	☐
5.7 National HVAC Functional Testing Checklist(s) collected prior to certification, with all HVAC systems in the building fully documented. Exception: Where credentialed HVAC Contractor(s) are completing the National HVAC Functional Testing Checklist, the checklist is not required to be collected for the systems they verify. [48]	☐	☐	☐
5.8 Rater has verified and documented that Functional Testing Agent(s) ("FT Agent(s)") completing the National HVAC Functional Testing Checklist(s) hold one of the required credentials and completed orientation, if applicable. [48] Credential(s): ______________________ FT Agent Name(s): ______________________	☐	☐	☐

Equipment Controls	Must Correct	LP Verified [49]	Rater Verified [4]	N/A [5]
5.9 All heating and cooling systems serving a dwelling unit have thermostatic controls within the dwelling unit.	☐	-	☐	☐
5.9.1 Prescriptive Path: Dwelling unit thermostats are programmable.	☐	-	☐	☐
5.10 Where present, stair and elevator shaft vents are equipped with motorized dampers that are capable of being automatically closed during normal building operation and are interlocked to open as required by fire and smoke detection systems. Dampers are verified to be closed at the time of inspection.	☐	☐	☐	☐

ENERGY STAR Multifamily New Construction
National Rater Field Checklist [1], Version 1 / 1.1 / 1.2 (Rev. 03)

Equipment Controls (Continued)	Must Correct	LP Verified [49]	Rater Verified [4]	N/A [5]
5.11 Freeze protection systems, such as heat tracing of piping and heat exchangers, including self-regulating heat tracing, and garage / plenum heaters include automatic controls that are verified to shut off the systems when pipe wall or garage / plenum temperatures are above 40°F.	☐	☐	☐	☐
5.11.1 Where heat tracing is installed for freeze-protection, controls must be based on pipe wall temperature and a minimum of R-3 pipe insulation is also required.	☐	☐	☐	☐
5.12 Snow- and ice-melting systems include automatic controls that are verified to shut off the systems when the pavement temperature is above 50°F and no precipitation is falling, and an automatic or manual control is installed that is verified to shut off system when the outdoor temperature is above 40°F, so that the potential for snow or ice accumulation is negligible.	☐	☐	☐	☐
Hydronic Distribution Requirements – Applies to heating or cooling systems serving more than one dwelling unit				
5.13 For hydronic distribution systems, all terminal heating and cooling distribution equipment are separated from the riser or distribution loop by a control valve or terminal distribution pump, so that heated or cooled fluid is not delivered to the dwelling unit distribution equipment when there is no call from the thermostat.	☐	☐	☐	☐
5.14 Terminal units in hydronic distribution systems are equipped with pressure independent balancing valves or pressure independent control valves.	☐	☐	☐	☐
5.15 Piping of a heating or cooling system is insulated in accordance with Item 4.42 on the National HVAC Design Report, including where passing through planks or any other penetrations.	☐	☐	☐	☐
5.16 For circulating pumps serving hydronic heating or cooling systems with three-phase motors, 1 horse-power or larger, motors meet or exceed efficiency standards for NEMA Premium™ motors. If 5 horse-power or larger, also installed with variable frequency drives.	☐	☐	☐	☐

6. Duct Quality Installation – *Applies to Heating, Cooling, Ventilation, Exhaust, & Pressure Balancing Ducts, Unless Noted in Footnote.*	Must Correct	Rater Verified [4]	N/A [5]
6.1 Ductwork installed without kinks, sharp bends, compressions, or excessive coiled flexible ductwork. [50]	☐	☐	☐
6.2 All bedrooms provided with transfer grilles, jump ducts, dedicated return ducts, and/or undercut doors. Bedrooms with a design supply airflow ≥ 150 CFM (per Item 5.2 on the National HVAC Design Report) achieve a Rater-measured pressure differential ≥ -5 Pa and ≤ +5 Pa with respect to the main body of the dwelling unit when all air handlers are operating. Townhouses only: In addition, bedrooms with a design supply airflow < 150 CFM achieve a Rater-measured pressure differential ≥ - 3 Pa and ≤ +3 Pa. See Footnote 51 for test configuration.	☐	☐	☐
6.3 All supply and return ducts in unconditioned space, including connections to trunk ducts, are insulated to ≥ R-6. [52]	☐	☐	☐
6.3.1 Prescriptive Path: Dwelling unit ductwork meets the location and insulation requirements specified in the ENERGY STAR Multifamily Reference Design.	☐	☐	☐
6.4 Rater-measured total duct leakage in dwelling units (and common spaces using ANSI / RESNET / ACCA 310) meets one of the following: [53, 54]			
6.4.1 Rough-in: Tested per allowances below, with air handler & all ducts, building cavities used as ducts, & duct boots installed. In addition, all duct boots sealed to finished surface, Rater-verified at final. [55] No ducted returns [39]: The greater of ≤ 3 CFM25 per 100 sq. ft. of CFA or ≤ 30 CFM. Additionally, the Rater-measured pressure difference between the space containing the air handler and the conditioned space, with the air handler running at high speed, is ≤ 5 Pa. For systems > 1 ton, increase by 1 Pa per half ton. One or two ducted returns [39]: The greater of ≤ 4 CFM25 per 100 sq. ft. of CFA or ≤ 40 CFM. Three or more ducted returns [39]: The greater of ≤ 6 CFM25 per 100 sq. ft. of CFA or ≤ 60 CFM.	☐	☐	☐
6.4.2 Final: Tested per allowances below, with the air handler & all ducts, building cavities used as ducts, duct boots, & register grilles atop the finished surface (e.g., drywall, floor) installed. [56] No ducted returns [39]: The greater of ≤ 6 CFM25 per 100 sq. ft. of CFA or ≤ 60 CFM. Additionally, the Rater-measured pressure difference between the space containing the air handler and the conditioned space, with the air handler running at high speed, is ≤ 5 Pa. For systems > 1 ton, increase by 1 Pa per half ton. One or two ducted returns [39]: The greater of ≤ 8 CFM25 per 100 sq. ft. of CFA or ≤ 80 CFM. Three or more ducted returns [39]: The greater of ≤ 12 CFM25 per 100 sq. ft. of CFA or ≤ 120 CFM.	☐	☐	☐
6.5 Townhouses only: Rater-measured duct leakage to the outside the greater of ≤ 4 CFM25 per 100 sq. ft. of CFA or ≤ 40 CFM25. [53, 57]	☐	☐	☐
6.6 Common Space: Supply, return, and exhaust ductwork and all plenums serving common spaces are sealed at all transverse joints, longitudinal seams, and duct wall penetrations with mastic, mastic tape, or internal aerosol-based sealant.	☐	☐	☐
6.7 Duct leakage of central exhaust systems that serve four or more dwelling units, meets one of the following two options:			
6.7.1 Rough-in: Tested including horizontal run outs, trunks, branches, and take-offs up to, but not including, the grilles, the leakage does not exceed 25% of exhaust fan flow. [58]	☐	☐	☐
6.7.2 Final: Tested inclusive of all ductwork between the fan and the grilles, the leakage does not exceed 30% of exhaust fan flow. [58]	☐	☐	☐

ENERGY STAR Multifamily New Construction
National Rater Field Checklist [1], Version 1 / 1.1 / 1.2 (Rev. 03)

7. Dwelling-Unit & Common Space Mechanical Vent. Systems ("Vent Systems") [59] **& Inlets in Return Duct** [60] (National HVAC Design Report Item # indicated in parenthesis)	Must Correct	Rater Verified [4]	N/A [5]
7.1 Ventilation manufacturer & model number on installed equipment matches either of the following (check box): [45] ☐ National HVAC Design Report ☐ Written approval received from designer	☐	☐	-
7.2 Rater-measured ventilation rate is within either ± 15 CFM or ±15% of dwelling unit design values (2.7), and meets or exceeds rates required by ASHRAE 62.2-2010. [61]	☐	☐	-
7.3 Measured ventilation rate is within either ± 15 CFM or ±15% of common space design values (2.9), and meets or exceeds rates required by ASHRAE 62.1-2010 (2.8). [62, 63]	☐	☐	☐
7.4 A ventilation override control installed and also labeled if its function is not obvious (e.g., a label is required for a toggle wall switch, but not for a switch that's on the ventilation equipment). Townhouses only: In addition, the ventilation override control installed must be readily-accessible to the occupant.	☐	☐	-
7.5 For any outdoor air inlet connected to a ducted return of the dwelling unit HVAC system (Complete if present; otherwise check "N/A"): [60]			☐
7.5.1 Controls automatically restrict airflow using a motorized damper during vent. Off-cycle and occupant override. [64]	☐	☐	-
7.5.2 Rater-measured vent. Rate is ≤ 15 CFM or 15% above design value at highest HVAC fan speed. Alt. in Fn. 65. [65]	☐	☐	-
7.6 If located in the dwelling unit, system fan rated ≤ 3 sones if intermittent, ≤ 2 sones if continuous, or exempted. [66]	☐	☐	-
7.7 If dwelling-unit Vent System controller operates the dwelling unit HVAC fan, then HVAC fan operation is intermittent and either the fan type is ECM / ICM (4.12), or the controls will reduce the run-time by accounting for HVAC system heating or cooling hours. [67]	☐	☐	☐
7.8 In-unit bathroom fans or in-line fans are ENERGY STAR certified if used as part of the dwelling-unit mechanical ventilation system. [68]	☐	☐	☐
7.9 If central exhaust fans, ≤ 1 HP, are installed as part of the dwelling-unit mechanical ventilation system, then they are direct-drive, ECM, with variable speed controllers. If > 1 HP, their motors meet or exceed efficiency standards for NEMA Premium ™ motors.	☐	☐	☐
7.10 Air inlet locations (Complete if ventilation air inlet locations were installed (2.23, 2.24); otherwise check "N/A"): [69, 70]	-	-	☐
7.10.1 Inlet(s) pull ventilation air directly from outdoors and not from attic, crawlspace, garage, or adjacent dwelling unit.	☐	☐	-
7.10.2 Inlet(s) are ≥ 2 ft. above grade or roof deck; ≥ 10 ft. of stretched-string distance from known contamination sources not exiting the roof, and ≥ 3 ft. distance from dryer exhausts and sources exiting the roof. [71]	☐	☐	-
7.10.3 Inlet(s) are provided with rodent / insect screen with ≤ 0.5 inch mesh.	☐	☐	-

8. Local Mechanical Exhaust (National HVAC Design Report Item # indicated in parenthesis)

Dwelling Unit Mechanical Exhaust – In each dwelling unit kitchen and bathroom, a system is installed that exhausts directly to the outdoors and meets one of the following Rater-measured airflow and manufacturer-rated sound level standards: [59, 72]

Location		Continuous Rate	Intermittent Rate [73]	Must Correct	Rater Verified [4]	N/A [5]
8.1 Kitchen	Airflow	≥ 5 ACH, based on kitchen volume [74, 75]	≥ 100 CFM and, if not integrated with range, also ≥ 5 ACH based on kitchen volume [74, 75, 76]	☐	☐	-
	Sound	Recommended: ≤ 1 sone	Recommended: ≤ 3 sones			
8.2 Bathroom	Airflow	≥ 20 CFM	≥ 50 CFM	☐	☐	-
	Sound	Required: ≤ 2 sones	Recommended: ≤ 3 sones			

	Must Correct	Rater Verified [4]	N/A [5]
Mechanical Exhaust for Common Spaces [2] and Shared Garages			
8.3 Measured exhaust rates are ≥ ASHRAE 62.1-2010 rates (2c). [62]	☐	☐	☐
8.4 Where an exhaust system is installed in a shared garage, it is equipped with controls that sense CO and NO_2.	☐	☐	☐
9. Filtration			
9.1 MERV 6+ filter(s) installed in each ducted mechanical system serving an individual dwelling unit, designed so all return and mechanically supplied outdoor air passes through filter(s) prior to conditioning, and located to facilitate access & regular service by the occupant, building owner, or building maintenance staff. [77]	☐	☐	☐
9.1.1 Filter access panel includes gasket and fits snugly against the exposed edge of filter when closed to prevent bypass. [78]	☐	☐	☐
10. Combustion Appliances			
10.1 Furnaces, boilers, and water heaters located within the building's pressure boundary are mechanically drafted or direct-vented. Alternatives in Footnote 81. [79, 80]	☐	☐	☐
10.2 Fireplaces located within the building's pressure boundary are direct-vented. [79, 80]	☐	☐	☐
10.3 No unvented combustion appliances other than cooking ranges or ovens are located inside the building's pressure boundary. [79]	☐	☐	☐

ENERGY STAR Multifamily New Construction
National Rater Field Checklist [1], Version 1 / 1.1 / 1.2 (Rev. 03)

Other	Must Correct	LP Verified [49]	Rater Verified [4]	N/A [5]
11. Domestic Hot Water				
11.1 Prescriptive Path: Hot Water Equipment Minimum Efficiency Levels (must meet one of the following):				
11.1.1 Where rated in EF or UEF, meet or exceed the ENERGY STAR Multifamily Reference Design [82]	☐	-	☐	☐
11.1.2 Where rated in Et or COP:				
11.1.2a For all Versions except Nat'l v1.2, ≥ 95% Et if electric and ≥ 85% Et for other fuels.	☐	-	☐	☐
11.1.2b For Nat'l v1.2, ≥ 2.0 COP for electric serving dwelling units, ≥ 95% Et for electric serving common spaces, and ≥ 90% Et for other fuels.	☐	-	☐	☐
11.2 ERI Path: Hot Water Equipment Min. Efficiency Levels for equipment serving common spaces but not dwelling units nor shared laundry:				
11.2.1 For non-electric equipment: if rated in EF or UEF, meet the efficiency levels specified in the ENERGY STAR Multifamily Reference Design; if rated in Et ≥85%, or for Nat'l v1.2 ≥ 90%. [82]	☐	-	☐	☐
11.2.2 For electric equipment: ≥ 0.93 UEF, 0.95 EF or 95% Et. [82]	☐	-	☐	☐
11.3 For in-unit storage water heaters, confirm presence of heat trap by visual inspection or on AHRI cert.	☐	-	☐	☐
11.4 Rater-measured delivery temperatures at faucets do not exceed 125°F. [83]	☐	-	☐	-
12. Lighting				
12.1 Common Space [2] Lighting Controls:				
12.1.1 ERI and Prescriptive Path: All common spaces [2] (including shared garages), except the building lobby, mechanical equipment rooms, and where automatic shutoff would endanger the safety of occupants [84], have occupancy sensors or automatic bi-level lighting controls installed and operation has been verified.	☐	☐	☐	☐
12.1.2 ASHRAE Path only: All common spaces [2] (including shared garages), except the building lobby, mechanical equipment rooms, corridors, and stairwells and where automatic shutoff would endanger the safety of occupants [84], have occupancy sensors or automatic bi-level lighting controls installed and operation has been verified.	☐	☐	☐	☐
12.2 Exterior lighting controls: Fixtures, including parking lot fixtures, must include automatic switching on timers or photocell controls except fixtures intended for 24-hour operation, required for security, or associated with the electric meter for an individual dwelling unit.	☐	☐	☐	☐
12.3 Common Spaces [2] and Garages: 90% of installed lighting fixtures are integrated LED fixtures or contain LED lamps. See Footnote 85 for alternate options.	☐	☐	☐	☐
12.4 ERI Path: All exterior and common space lighting fixtures meet the efficiency requirements in the ENERGY STAR Multifamily Reference Design, except fixtures located on dwelling unit balconies. [88, 89]	☐	-	☐	☐
12.5 Prescriptive Path: All lighting fixtures (i.e., dwelling units, common spaces, and exterior) meet the efficiency requirements in the ENERGY STAR Multifamily Reference Design. [88, 89]	☐	-	☐	☐
12.6 Prescriptive Path: Dwelling unit overall in-unit lighting power density ≤ 0.75 W/ft^2. When calculating overall lighting power density, use 1.1 W/ft^2 where lighting is not installed. [86]	☐	-	☐	☐

13. Appliances and Plumbing Fixtures	Must Correct	Rater Verified [4]	N/A [5]
13.1 Prescriptive Path: Installed appliances are ENERGY STAR certified. Installed bathroom faucets, bathroom aerators, and showerheads are WaterSense labeled. [90]	☐	☐	☐
13.2 ERI Path: Where installed in common spaces, refrigerators and dishwashers are ENERGY STAR certified and showerheads are WaterSense labeled.	☐	☐	☐
13.3 Prescriptive Path: Shower compartments with multiple fixtures cannot be operated simultaneously OR the total flow rate per shower compartment must not exceed 1.75 gallons per minute, as rated at 80 psi.	☐	☐	☐
14. Whole Building Energy Consumption Data Acquisition Strategy			
14.1 For buildings 50,000 ft^2 and larger, a strategy that enables the collection of monthly or annual building-level energy consumption data (electricity, natural gas, chilled water, steam, fuel oil, propane, etc.) has been confirmed. [91]	☐	☐	☐

Rater Name: ______________________ Rater Pre-Drywall Inspection Date(s): ______________ Rater Initials: ________

Rater Company Name: ______________________

Rater Name: ______________________ Rater Final Inspection Date(s): ______________ Rater Initials: ________

Rater Company Name: ______________________

Builder/Developer Employee: ______________________ Builder Inspection Date(s): ______________ Builder Initials: ________

Builder/Developer Name: ______________________

Licensed Professional: ______________________ LP Inspection Date(s): ______________ LP Initials: ________

ENERGY STAR Multifamily New Construction
National Rater Field Checklist Footnotes, Version 1 / 1.1 / 1.2 (Rev.03)

Footnotes:

1. This Checklist applies to all dwelling units, sleeping units, common spaces [2], and garages (open or enclosed) in the building being certified, and where specified, parking lots. These requirements apply to all Paths, unless otherwise specified. These requirements do not apply to parking garages or lots where the cost of the energy use of the parking garage or lot is not the responsibility of the Builder/Developer, Building Owner or Property Manager. This Checklist does not apply to commercial or retail spaces. This Checklist does not apply to common spaces [2] that are located in buildings on the property without any dwelling or sleeping units. A 'sleeping unit' as defined by ANSI / RESNET / ICC 301, is a room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Where the term 'dwelling unit' is used in this Checklist, the requirement is also required of 'sleeping' units. The term 'building' refers to a structure that encompasses dwelling/sleeping units and (if present) common spaces, sharing one or more of the following attributes: a common street address, a common entrance or exit, central/shared mechanical systems, or structurally interdependent wall or roof systems. Attached structures such as townhouses and 4-story two-unit structures (commonly referred to as "2-over-2s") may be considered separate buildings if they are divided by a vertical fire separation wall from the foundation to the roof sheathing and share none of the other attributes listed above. A skyway or a breezeway that connects two structures is not considered a common entrance or exit.
2. The term 'common space' refers to any spaces in the building being certified that serve a function in support of the residential part of the building that is not part of a dwelling or sleeping unit. This includes spaces used by residents, such as corridors, stairs, lobbies, laundry rooms, exercise rooms, residential recreation rooms, and dining halls, as well as offices and other spaces used by building management, administration or maintenance in support of the residents.
3. At the discretion of the Rater, the builder or developer may verify up to eight items in Sections 1-4 of this Checklist. For the purpose of this Checklist, "Builder" represents either the builder or the developer. When exercised, the builder's responsibility will be formally acknowledged by the builder, or their designated agent, signing off on the checklist for the item(s) that they verified. However, if a quality assurance review indicates that Items have not been successfully completed, the Rater will be responsible for facilitating corrective action.
4. The term 'Rater' refers to the person(s) completing the third-party verification required for certification. The person(s) shall: a) be a Certified Rater, Approved Inspector, as defined by ANSI / RESNET / IECC 301, or an equivalent designation as determined by a Home Certification Organization (HCO) or Multifamily Review Organization (MRO); and, b) have attended and successfully completed an EPA-recognized training class. See www.energystar.gov/mftraining. As stated in the National Program Requirements, Raters who operate under an MRO or an HCO Sampling Protocol are permitted to verify any Checklist Item designated "Rater Verified" using an HCO-approved sampling protocol. No parties other than Raters are permitted to use sampling to complete this Checklist.
5. The column titled "N/A," which denotes items that are "not applicable," should be used when the checklist Item is not present in the building or conflicts with local requirements.
6. Two alternatives are provided: a) Grade II cavity insulation is permitted to be used for assemblies that contain a layer of continuous, air impermeable insulation ≥ R-3 in Climate Zones 1 to 4, ≥ R-5 in Climate Zones 5 to 8; [10] b) Grade II batts are permitted to be used in floors if they fill the full width and depth of the floor cavity, even when compression occurs due to excess insulation, as long as the R-value of the batts has been appropriately assessed based on manufacturer guidance and the only defect preventing the insulation from achieving Grade I is the compression caused by the excess insulation.
7. Ensure compliance with this requirement using ANSI / RESNET / ICC 301 including all Addenda and Normative Appendices, with new versions and Addenda implemented according to the schedule defined by the HCO or MRO that the building is certified under, with approved exceptions listed at www.energystar.gov/ERIExceptions.
8. Window-to-Wall ratio is taken as the sum of all window area divided by the total exterior above-grade wall area. All decorative glass and skylight window area contribute to the total window area to above-grade wall ratio (WWR). Spandrel sections of curtain wall systems contribute to the above-grade wall area.
9. Compliance with Items 1.5 and 1.6 is not required for buildings pursuing the ASHRAE Path, but the energy used by the heating systems must be modeled following the requirements in the Simulation Guidelines, available at www.energystar.gov/mfguidance.
10. For all Versions except National v1.2, the 2009 IECC Climate Zone designations are applicable, as defined and illustrated in Section R301 of the code. For National v1.2, the 2021 IECC Climate Zone designations are applicable, as defined and illustrated in Section R301 of the code. Note that some locations have shifted to a different Climate Zone in the 2021 IECC compared to prior editions.
11. Where conditioned space is above the plenum, in lieu of insulating the top of the plenum, the bottom of the plenum may be used to comply with Items 1.5.2 and 1.5.3, if its insulation meets the requirements of Item 1.5.2 and, where applicable, Item 3.6. When using this alternative, the bottom of the plenum must meet all the requirements for floor insulation which include a fully-aligned air barrier as described in Footnote 13 and Grade I installation per Item 1.3.
12. The bottom of the heated plenum is permitted to be suspended ceiling tiles or other non-air barrier material. If fiberglass insulation is installed, it must be paper-faced. This insulation shall achieve a Grade I or Grade II install.
13. For purposes of this Checklist, an air barrier is defined as any durable solid material that blocks air flow between conditioned space and unconditioned space, including necessary sealing to block excessive air flow at edges and seams and adequate support to resist positive and negative pressures without displacement or damage. EPA recommends, but does not require, rigid air barriers.

    Open-cell or closed-cell foam shall have a finished thickness ≥ 5.5 in. or 1.5 in., respectively, to qualify as an air barrier unless the manufacturer indicates otherwise.

    If flexible air barriers such as house wrap are used, they shall be fully sealed at all seams and edges and supported using fasteners with caps or heads ≥ 1 in. diameter unless otherwise indicated by the manufacturer. Flexible air barriers shall not be made of kraft paper, paper-based products, or other materials that are easily torn. If polyethylene is used, its thickness shall be ≥ 6 mil.
14. All insulated ceiling surfaces, regardless of slope (e.g., cathedral ceilings, tray ceilings, conditioned attic roof decks, flat ceilings, sloped ceilings), must meet the requirements for ceilings, unless the ceiling is adiabatic.
15. All insulated vertical surfaces are considered walls (e.g., above and below grade exterior walls, knee walls) and must meet the air barrier requirements for walls. The following exceptions apply: air barriers recommended, but not required, in adiabatic walls; and, in Climate Zones

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962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

REVISIONS

#	DATE	DESCRIPTION
	5/3/24	OHFA 80% SUBMISSION
	9/16/24	BID/PERMIT SET

PROJECT #: 21186
DRAWN: Author **CHECKED:** Checker

SUSTAINABILITY SPECIFICATIONS

G-034

4 through 8, an air barrier at the interior vertical surface of insulation is recommended but not required in basement walls or crawlspace walls. For the purpose of these exceptions, a basement or crawlspace is a space for which ≥ 40% of the total gross wall area is below-grade.

16. EPA highly recommends, but does not require, an air barrier at the interior vertical surface of floor insulation in Climate Zones 4-8. [10]
17. Examples of supports necessary for permanent contact include staves for batt insulation or netting for blown-in insulation. Alternatively, supports are not required if batts fill the full depth of the floor cavity, even when compression occurs due to excess insulation, as long as the R-value of the batts has been appropriately assessed based on manufacturer guidance and the only defect preventing the insulation from achieving the required installation grade is the compression caused by the excess insulation.
18. Alternatively, an air barrier is permitted to be installed at the exterior horizontal surface of the floor insulation if the insulation is installed in contact with this air barrier, the exterior vertical surfaces of the floor cavity are also insulated, and air barriers are included at the exterior vertical surfaces of this insulation.
19. The minimum designated R-values must be achieved regardless of the trade-offs determined using an equivalent U-factor or UA alternative calculation. Note that if the minimum designated values are used, then higher insulation values may be needed elsewhere to meet Item 1.2. Also, note that these requirements can be met by using any available strategy, such as a raised-heel truss, alternate framing that provides adequate space, and / or high-density insulation.
20. Examples of durable covers include, but are not limited to, pre-fabricated covers with integral insulation, rigid foam adhered to cover with adhesive, or batt insulation mechanically fastened to the cover (e.g., using bolts, metal wire, or metal strapping. Low-slope roof hatch covers to be insulated to R-5 minimum.
21. Slab edge insulation is required for slab-on-grade floors with a floor surface less than 24 inches below grade. Slab edge insulation is also required for slab floors with a floor surface less than 24 inches below grade, even if the slab itself is not in contact with the ground. Slab perimeter insulation shall extend to the top of the slab to provide a complete thermal break. If the top edge of the insulation is installed between the exterior wall and the edge of the interior slab, it shall be permitted to be cut at a 45-degree angle away from the exterior wall. Alternatively, the thermal break is permitted to be created using ≥ R-3 rigid insulation on top the slab. In such cases, up to 10% of the slab surface is permitted to not be insulated (e.g., for stepers, for sill plates). Insulation installed on top of slab shall be covered by a durable floor surface (e.g., hardwood, tile, carpet).
22. Where an insulated wall separates a garage, patio, courtyard, porch, or other unconditioned space from the conditioned space of the building, slab perimeter insulation shall also be installed at this interface to provide a thermal break between the conditioned and unconditioned slab, if the slab is in contact with the ground, ambient, or unconditioned space at that interface. Where specific details cannot meet this requirement, partners shall provide the detail to EPA to request an exemption prior to the building's certification. EPA will compile exempted details and work with industry to develop feasible details for use in future revisions to the program. A list of currently exempted and non-exempted details is available at: www.energystar.gov/slabedge.
23. Item 3.5 does not apply to the repeated concrete floor perimeter edges of a multistory building as those are subject to Item 3.7.1. Item 3.5 also does not apply where floor insulation meeting the requirements of Item 3.6 is installed above the slab and provides a continuous thermal boundary where it intersects the wall. Where specific details cannot meet this requirement, partners shall provide the detail to EPA to request an exemption prior to the building's certification. EPA will compile exempted details and work with industry to develop feasible details for use in future revisions to the program. A list of currently exempted and non-exempted details is available at: www.energystar.gov/slabedge.
24. EPA has developed the following alternatives for projected slabs and podiums to comply with Item 3.5:

    For projected slabs (e.g., podiums, balconies), where a minimum of R-5 slab edge insulation is not installed between conditioned space and the unconditioned projected slab, use one of the options below:

    a) Modify the UA calculation for the wall assembly that accounts for this projected slab when demonstrating compliance with Item 1.2.
        a. Where no insulation is installed, modify the UA calculation such that the area of the wall that is uninsulated due to the projected slab is calculated as 400% of that actual area. For example, for a projected slab without any thermal break that is 20 feet wide, and has a thickness of 1 foot, the area to be used in the UA calculation is 80 ft^2 instead of 20 ft^2.
        b. Where insulation R-2 and greater is installed, the area is not required to be modified.
    b) Install minimum R-5 insulation, above and below the slab that extends horizontally for a minimum of 4 ft. Insulation installed on top of slab shall be covered by a durable floor surface. When demonstrating compliance with Item 1.2, R-1 insulation may be associated with the area of the wall that is uninsulated due to the projected slab.

    For the following podium constructions, a minimum of 8ft is not required:

    a) Where podium wall is less than 8ft in height, insulation must instead be installed for the full height of the podium.
    b) For podiums that continue below-grade, insulate to a minimum of 8ft below the bottom of the slab edge, or to the depth below-grade specified for slab edge insulation by Table 502.2(1) of the 2009 IECC.
    c) Where a minimum of 4ft of insulation is installed on both interior and exterior surfaces of the wall.
    d) For podiums where the horizontal slab is not in direct contact with the exterior wall and R-5 insulation is provided at the slab edge, continuous with the under-slab insulation. See energystar.gov/slabedge for example.
25. Where structural columns without thermal breaks cause a discontinuity in the installed floor insulation, the UA calculation for the floor assembly must account for this uninsulated area of the floor. For the purpose of this UA calculation, the area of the floor that is uninsulated due to the structural columns is required to be calculated as 400% of that actual area. For example, for a 4'x4' column, the area to be used in the UA calculation is 64 ft^2 instead of 16 ft^2. The height of the column is not used in this calculation. Alternatively, if the structural column is insulated for a minimum of R-5 for 4 vertical feet, the modification to the UA calculation is not required, and R-5 may be associated with the area of the floor that is uninsulated due to the column. If the structural column has a thermal break, the R-value of the thermal break shall be associated with the area of the floor that is uninsulated due to the column.

    While EPA recommends insulating vertically along other areas of discontinuity, such as where walls intersect the concrete slab; this is not required. These uninsulated areas of the floor are not subject to the UA modification.

and there shall be ≥ 4 ft. ductwork between the fan and intake grille. Per ASHRAE 62.2-2010, habitable spaces are intended for continual human occupancy; such space generally includes areas used for living, sleeping, dining, and cooking but does not generally include bathrooms, toilets, hallways, storage areas, closets, or utility rooms.

67. Note that the 'fan-on' setting of a thermostat would not be an acceptable controller because it would continuously operate the HVAC fan.
68. Bathroom fans with a rated flow rate ≥ 500 CFM and heat/energy recovery ventilation fans are exempted from the requirement to be ENERGY STAR certified.
69. Ventilation air inlets that are only visible via rooftop access are exempted from Item 7.10 and the Rater shall mark "N/A". The outlet and inlet of balanced ventilation systems shall meet these spacing requirements unless manufacturer instructions indicate that a smaller distance may be used. However, if this occurs the manufacturer's instructions shall be collected for documentation purposes.
70. Without proper maintenance, ventilation air inlet screens often become filled with debris. Therefore, EPA recommends, but does not require, that these ventilation air inlets be located so as to facilitate access and regular service by the building owner or maintenance staff.
71. Known contamination sources include, but are not limited to, stacks, vents, exhausts, and vehicles.
72. Continuous bathroom local mechanical exhaust fans shall be rated for sound at no less than the airflow rate in Item 8.2. Intermittent bathroom and both intermittent and continuous kitchen local mechanical exhaust fans are recommended, but not required, to be rated for sound at no less than the airflow rate in Items 8.1 and 8.2. Per ASHRAE 62.2-2010, an exhaust system is one or more fans that remove air from the building, causing outdoor air to enter by ventilation inlets or normal leakage paths through the building envelope (e.g., bath exhaust fans, range hoods, clothes dryers). Per ASHRAE 62.2-2010, a bathroom is any room containing a bathtub, shower, spa, or similar source of moisture.
73. An intermittent mechanical exhaust system, where provided, shall be designed to operate as needed by the occupant. Control devices shall not impede occupant control in intermittent systems.
74. Kitchen volume shall be determined by drawing the smallest possible rectangle on the floor plan that encompasses all cabinets, pantries, islands, peninsulas, ranges / ovens, and the kitchen exhaust fan, and multiplying by the average ceiling height for this area. In addition, the continuous kitchen exhaust rate shall be ≥ 25 CFM, per 2009 IRC Table M1507.3, regardless of the rate calculated using the kitchen volume. Cabinet volume shall be included in the kitchen volume.
75. Alternatively, the prescriptive duct sizing requirements in Table 5.3 of ASHRAE 62.2-2010 or later are permitted to be used for kitchen exhaust fans based upon the rated airflow of the fan at 0.25 IWC. If the rated airflow is unknown, ≥ 6 in. smooth duct shall be used, with a rectangular to round duct transition as needed. Guidance to assist partners with these alternatives is available at www.energystar.gov/newhomesguidance. As an alternative to Item 8.1, dwelling units are permitted to use a continuous kitchen exhaust rate of 25 CFM per 2009 IRC Table M1507.3, if they are either a) Phius or PHI certified, or b) provide both dwelling-unit ventilation and local mechanical kitchen exhaust using a balanced system, and have a Rater-verified whole-building infiltration rate ≤ 1.0 ACH50 or ≤ 0.05 CFM50 per sq. ft. of Enclosure Area. 'Enclosure Area' is defined as the area of the surfaces that bound the volume being pressurized / depressurized during the test.
76. All intermittent kitchen exhaust fans must be capable of exhausting at least 100 CFM. In addition, if the fan is not part of a vented range hood or appliance-range hood combination (i.e., if the fan is not integrated with the range), then it must also be capable of exhausting ≥ 5 ACH, based on the kitchen volume.
77. Based upon, ASHRAE 62.2-2010, ducted mechanical systems are those that supply air to an occupiable space with a total amount of supply ductwork exceeding 10 ft. in length and through a thermal conditioning component, except for evaporative coolers. Systems that do not meet this definition are exempt from this requirement. While filters are recommended for mini-split systems, HRV's, and ERV's, these systems, ducted or not, typically do not have MERV-rated filters available for use and are, therefore, also exempted under this version of the requirements. HVAC filters located in the attic shall be considered accessible to the occupant, building owner, or building maintenance staff if either 1) drop-down stairs, a pull-down ladder, or door provide access to attic and a permanently installed walkway has been provided between the attic access location and the filter or 2) the filter location enables arm-length access from a portable ladder without the need to step into the attic and the height of the ceiling access panel or the bottom of the wall access panel where access is provided is ≤ 12 ft.
78. Sealing mechanisms comparable to a gasket are also permitted to be used. The filter media box (i.e., the component in the HVAC system that houses the filter) may be either site-fabricated by the installer or pre-fabricated by the manufacturer to meet this requirement. These requirements only apply when the filter is installed in a filter media box located in the HVAC system, not when the filter is installed flush with the return grille.
79. The pressure boundary is the primary enclosure boundary separating indoor and outdoor air. For example, a volume that has more leakage to outside than to conditioned space would be outside the pressure boundary.
80. Per the 2009 International Mechanical Code, a direct-vent appliance is one that is constructed and installed so that all air for combustion is derived from the outdoor atmosphere and all flue gases are discharged to the outside atmosphere; a mechanical draft system is a venting system designed to remedy the natural draft action by mechanical means consisting of an induced draft portion under non-positive static pressure or a forced draft portion under positive static pressure; and a natural draft system is a venting system designed to remove flue or vent gases under nonpositive static vent pressure entirely by natural draft.
81. Naturally drafted equipment is only allowed if located in a space outside the pressure boundary, where the envelope assemblies separating it from conditioned space are insulated and air-sealed.
82. Where water heater efficiency is rated in Uniform Energy Factor (UEF) rather than Energy Factor (EF), the EF may be calculated from the Uniform Energy Factor (UEF) using the RESNET EF Calculator 2017. The calculated EF must meet the efficiency levels specified in the ENERGY STAR Multifamily Reference Design.
83. To measure the delivery temperature, turn the hot water at any faucet completely on and place a digital thermometer in the stream of water. Observe the thermometer and when no additional rise in temperature occurs after 10 seconds, confirm this temperature does not exceed 125°F.
84. For common spaces where automatic lighting controls are not installed due to safety concerns associated with automatic lighting shutoff, the architect or engineer must provide the specific location(s) where this concern is applicable. The Rater shall retain a copy of the email or letter

that documents the location(s) for their records and check the box in the "Rater Verified" column. For Item 12.1.1, this exemption does not apply to corridors or stairwells; where safety is a concern in those spaces, the ASHRAE Path should be pursued.

85. As an alternative to the efficiency requirements in Item 12.3, installed lighting may instead meet the following lighting power allowances. In common spaces (except garages), for ERI and Prescriptive Path, total installed lighting power for the combined common spaces [2] must not exceed ASHRAE 90.1-2007 allowances for those combined spaces, using the Space-by-Space or Building Area Method. For ASHRAE Path, total installed lighting power for the combined common spaces [2] must not exceed ASHRAE 90.1-2007 allowances for those combined spaces, using the Space-by-Space or Building Area Method, by more than 20%. For all Paths, see Footnote 86 and 87 for allowances.

    In shared garages, installed lighting shall not exceed 0.24 W/ft^2.
86. Senior housing buildings can use the space-by-space allowances for 'facilities for the visually impaired' in ASHRAE 90.1-2016 Appendix G Table G3.7 for spaces used primarily by building residents. For example, 1.15 W/SF lighting power allowance may be used for the corridors in the baseline. To qualify for the increased allowance, the building must be designed to comply with the light levels in ANSI / IES RP-28 and must provide housing for seniors and/or people with special visual needs. Prescriptive Path dwelling unit overall in-unit lighting power density is permitted to be ≤ 1.3 W/SF, using 1.65 W/SF where lighting is not installed.
87. Lighting power density values from ASHRAE 90.1-2007 Section 9 for Space-by-Space Method for typical common spaces in multifamily properties are shown in the table below. Buildings following the Building Area method, the lighting power density is 0.7 W/ft^2. For spaces not shown, refer to ASHRAE 90.1-2007 Section 9.

ASHRAE Space Type	Lighting Power Densities (W/ft^2)	ASHRAE Space Type	Lighting Power Densities (W/ft^2)	ASHRAE Space Type	Lighting Power Densities (W/ft^2)
Lobby / Elevator	1.3	Corridor / Transition	0.5	Office	1.1
Active Storage (e.g., trash chute / room, janitor closet)	0.8	Stairs – Active	0.6	Lounge / Recreation / Community Room / Computer Room	1.2
Inactive Storage (e.g., tenant storage)	0.3	Restroom	0.9	Electrical / Mechanical	1.5
Exercise Area / Room	0.9	Laundry Room	1.3	Workshop	1.9

88. This requirement applies to exterior lighting fixtures that are attached to the building, but does not apply to landscape or parking lot lighting fixtures.
89. For Prescriptive Path dwelling units, ENERGY STAR certified fixtures or light bulbs are required; however, the Rater is only responsible for verifying that the installed lighting meets the Tier I or Tier II definition specified in ANSI / RESNET / ICC 301. For locations outside the dwelling unit, as an alternative to ENERGY STAR certified fixtures or light bulbs, integrated LED fixtures or fixtures containing LED or fluorescent lamps are permitted. Note that for all locations in Version 1.2, light fixtures must be integrated LED fixtures or contain LED lamps and not fluorescent.
90. Appliances include refrigerators, dishwashers, clothes washers, and clothes dryers. Where an appliance type is not eligible for ENERGY STAR certification, (e.g., commercial dryers) the appliance is exempt from this requirement. Where a bathroom faucet or aerator is not eligible for WaterSense certification, (e.g., public use lavatory faucets) the fixture is exempt from this requirement.
91. Building area shall be calculated according to Gross Floor Area as defined by ENERGY STAR Portfolio Manager, which specifies to measure from the outside surface of exterior walls and includes all areas inside the building and excludes parking areas. Refer to the ENERGY STAR Portfolio Manager Glossary for a complete definition. Strategies include: an agreement with the utility companies to provide the aggregated building-level data, in a spreadsheet format or directly through Portfolio Manager; OR evidence that securing signed utility data release forms will be a mandatory component of all lease agreements; OR installation of a building-level energy monitor, data acquisition system, or utility-owned energy meter. If an energy monitor is installed, the builder shall provide the building operator with the manufacturer's documentation and operations manual. EPA recommends, but does not require, that one of these strategies also be implemented in buildings 25,000-49,999 ft^2.

Exhibit X – Prescriptive Minimum Heating and Cooling Equipment Efficiencies based on Version the building is certified to. Version 1, Version 1.1, and Oregon and Washington Version 1.2: [1]

Equipment Type	Minimum Efficiency
Room AC (window, through-wall, ductless mini-splits)	ENERGY STAR certified
Air conditioners, air cooled (<13 Kbtu/h)	13 SEER
Air conditioners, air cooled (≥13 and <65 Kbtu/h)	See Reference Design
Air conditioners, air cooled (≥65 and <240 Kbtu/h)	11.5 EER/12.0 IEER
Air conditioners, air cooled (≥240 and < 760 Kbtu/h)	10.0 EER/10.5 IEER
Electric resistance space heating	• Not permitted in any dwelling unit using the Prescriptive Path • Electric resistance heating specified in common spaces and garages have a total heating capacity ≤ 12 kBtu/h (3.5 kW) per enclosed space and has automatic thermostatic controls
Warm-Air Furnace (<225 KBtu/h, common spaces)	78% AFUE or 80% Et
Warm-Air Furnace (<225 KBtu/h, dwelling units)	See Reference Design. For PTAC, use 80% Et
Warm-Air Furnace (≥225 KBtu/h)	80% Et (gas) or 81% Et (oil)
Packaged Terminal Air Conditioner (PTAC < 7 kBtu/h)	11.9 EER
Packaged Terminal Air Conditioner (PTAC > 15 kBtu/h)	9.5 EER
Packaged Terminal Air Conditioner (≥7 and ≤15 KBtu/h)	14.0 – (0.300 X Cap/1000) EER
Packaged Terminal Heat Pump (PTHP)	Cooling: 14.0– (0.3 X Cap/1000) EER Heating: 3.7– (0.052 X Cap/1000) COP
Air cooled heat pump (≥13 and <65 KBtu/h)	See Reference Design
Air cooled heat pump (≥65 and <240 KBtu/h)	Cooling: 11.1 EER/11.6 IEER Heating: 3.3 COP (@47°F DB)
Air cooled heat pump (≥240 KBtu/h)	Cooling: 9.6 EER/9.6 IEER Heating: 3.2 COP (@47°F DB)
Water-source heat pump (<135 KBtu/h)	Cooling: 14.0 EER(86°F entering water) Heating: 4.2 COP(68°F entering water)
Boilers, hot water (<300,000 Btu/h)	See Reference Design
Boilers, hot water (≥300,000 Btu/h)	86% E_t (89% E_t if using heat pumps)
VRF Air Conditioners and Heat Pumps	See Tables 6.8.1I and 6.8.1J of ASHRAE 90.1-2010
Air-cooled chillers with or without condenser	10.0 EER / 12.5 IPLV
Water-cooled chiller, positive displacement (<75 tons)	0.780 kW/ton (Full load) / 0.630 kW/ton (IPLV)
Water-cooled chiller, positive displacement (75-150 tons)	0.775 kW/ton (Full load) / 0.615 kW/ton (IPLV)
Water-cooled chiller, positive displacement (150-300tons)	0.680 kW/ton (Full load) / 0.580 kW/ton (IPLV)
Water-cooled chiller, positive displacement (>300 tons)	0.620 kW/ton (Full load) / 0.540 kW/ton (IPLV)
Water-cooled, centrifugal (<300 tons)	0.634 kW/ton (Full load) / 0.596 kW/ton (IPLV)
Water-cooled, centrifugal (≥300 and <600 tons)	0.576 kW/ton (Full load) / 0.549 kW/ton (IPLV)
Water-cooled, centrifugal (≥600 tons)	0.570 kW/ton (Full load) / 0.539 kW/ton (IPLV)
Air-cooled absorption single effect chiller	0.6 COP
Water-cooled absorption single effect chiller	0.7 COP
Absorption double effect indirect-fired chiller	1.0 COP (Full load) / 1.05 COP (IPLV)
Absorption double effect direct-fired chiller	1.0 COP (Full load) / 1.00 COP (IPLV)
Open-loop propeller or axial fan cooling towers*	>40 gpm/hp (@95°F entering water, 85°F leaving water, 75°F wb entering air)
Closed-loop propeller or axial fan cooling towers*	>15 gpm/hp (@102°F entering water, 90°F leaving water, 75°F wb entering air)
Open-loop centrifugal fan cooling towers*	>22 gpm/hp (@95°F entering water, 85°F leaving water, 75°F wb entering air)
Closed-loop centrifugal fan cooling towers*	>8 gpm/hp (@102°F entering water, 90°F leaving water, 75°F wb entering air)
Air source DX-DOAS (dehumidification mode)	4.0 ISMRE
Air source DX-DOAS (heat pump, heating mode)	2.7 ISCOP
Other DX-DOAS (e.g., water source)	See ASHRAE 90.1-2016; Table 6.8.1-15

Cap means the rated capacity of the product in Btu/h. If < 7,000 Btu/h, use 7,000; if > 15,000, use 15,000 in calculation.
[1] For Equipment Types not listed here, minimum efficiencies shall be based on those listed in ASHRAE 90.1-2010.
*Cooling tower fan motors must be equipped with VFD controlled by a temperature sensor on the condenser water supply pipe.

Version 1.2:
For Equipment Types not listed here, minimum efficiencies shall be based on 5% improvement over those listed in ASHRAE 90.1-2019. Use the efficiency values for "after 1/1/2023" where listed.

Equipment Type	CZ 1-4 [10]	CZ 4C-8 [10]
Room AC (window, through-wall)	ENERGY STAR certified	
Air conditioners, air cooled (Split system & single package)		
Air conditioners, air cooled (<65 kBtu/h)	See Reference Design	
Air conditioners, air cooled (≥65 and <135 kBtu/h)	15.7 IEER	14.6 IEER
Air conditioners, air cooled (≥135 and <240 kBtu/h)	15.1 IEER	14.0 IEER
Air conditioners, air cooled (≥240 and < 760 kBtu/h)	14.1 IEER	13.0 IEER
Electric resistance space heating	• Not permitted in any dwelling unit using the Prescriptive Path • Electric resistance heating specified in common spaces has a total heating capacity ≤ 12 kBtu/h (3.5 kW) per enclosed space and has automatic thermostatic controls	
Warm-Air Furnace (<225 kBtu/h, common spaces)	See Reference Design	CZ 5-8 90% AFUE
Warm-Air Furnace (≥225 kBtu/h, common spaces)	80% Et	81% Et
Warm-Air Furnace (dwelling units)	See Reference Design	
Packaged Terminal Air Conditioner (PTAC), w/gas-fired heat (dwelling units)	80% Et	82% Et, AND 0.25 cfm50/ft2 avg per unit
PTAC (dwelling units)	12.5 EER	11.9 EER
PTAC (common spaces)	<7 kBtu/h: 12.5 EER ≥7 and ≤15 kBtu/h: 14.7 - (0.320 X Cap/1000) EER >15 kBtu/h: 10.0 EER	<7 kBtu/h: 11.9 EER ≥7 and ≤15 kBtu/h: 14.0 - (0.300 X Cap/1000) EER >15 kBtu/h: 9.5 EER
Packaged Terminal Heat Pump (PTHP) (cooling) [†]	<7 kBtu/h: 12.5 EER	<7 kBtu/h: 11.9 EER
PTHP (dwelling units, cooling) [†]	≥7 and ≤ 10 kBtu/h: 14.7 - (0.320 X Cap/1000) EER > 10 kBtu/h: 11.5 EER	≥7 and ≤ 15 kBtu/h: 14.0 - (0.300 X Cap/1000) EER > 15 kBtu/h: 9.5 EER
PTHP (common spaces, cooling) [†]	≥7 and ≤ 15 kBtu/h: 14.7 - (0.320 X Cap/1000) EER >15 kBtu/h: 10.0 EER	≥7 and ≤ 15 kBtu/h: 14.0 - (0.300 X Cap/1000) EER >15 kBtu/h: 9.5 EER
PTHP (dwelling units, heating) [†]	< 8 kBtu/h: 3.3 COP ≥ 8 kBtu: 3.7– (0.052 X Cap/1000)	3.4 COP
PTHP (common spaces, heating) [†]	<7 kBtu/h: 3.3 COP ≥7 and ≤15 kBtu/h: 3.7– (0.052 X Cap/1000) COP > 15 kBtu/h: 2.9 COP	<10.5 kBtu/h: 3.4 COP ≥10.5 and ≤12 kBtu/h: 3.3 COP > 12 kBtu/h: 3.2 COP
Air cooled heat pump (Split system and single package) [†]		
Air cooled heat pump (<65 kBtu/h)	See Reference Design	
Air cooled heat pump (≥65 and <135 kBtu/h)	15.1 IEER, 3.5 COP	
Air cooled heat pump (≥135 and <240 kBtu/h)	14.4 IEER, 3.4 COP	
VRF Air Conditioners and Heat Pumps [†]	16.2 IEER, 3.3 COP	
Water-loop heat pump (WLHP) (<135 kBtu/h) [†]	15.0 EER, 4.5 COP	
Boilers, hot water (<300,000 Btu/h, dwelling units)	See Reference Design	
Boilers, hot water (≥300,000 Btu/h, dwelling units)	CZ 1-3 80% Et CZ 4 86% Et (89% Et with WLHP)	95% Et (90% Et with WLHP)
Boilers, hot water (common Spaces)	CZ 1-3 80% AFUE or Et CZ 4 86% AFUE or Et	86% AFUE or Et

Cap means the rated capacity of the product in Btu/h.
[†] Where domestic hot water is provided by heat pump water heaters, the systems noted above with an [†] may instead meet the efficiency listed in ASHRAE 90.1-2019. Use the efficiency values for "after 1/1/2023" where listed.

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REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

REVISIONS

#	DATE	DESCRIPTION
	5/3/24	OHFA 80% SUBMISSION
	9/16/24	BID/PERMIT SET

PROJECT #: 21186
DRAWN: Author CHECKED: Checker

SUSTAINABILITY SPECIFICATIONS

G-035

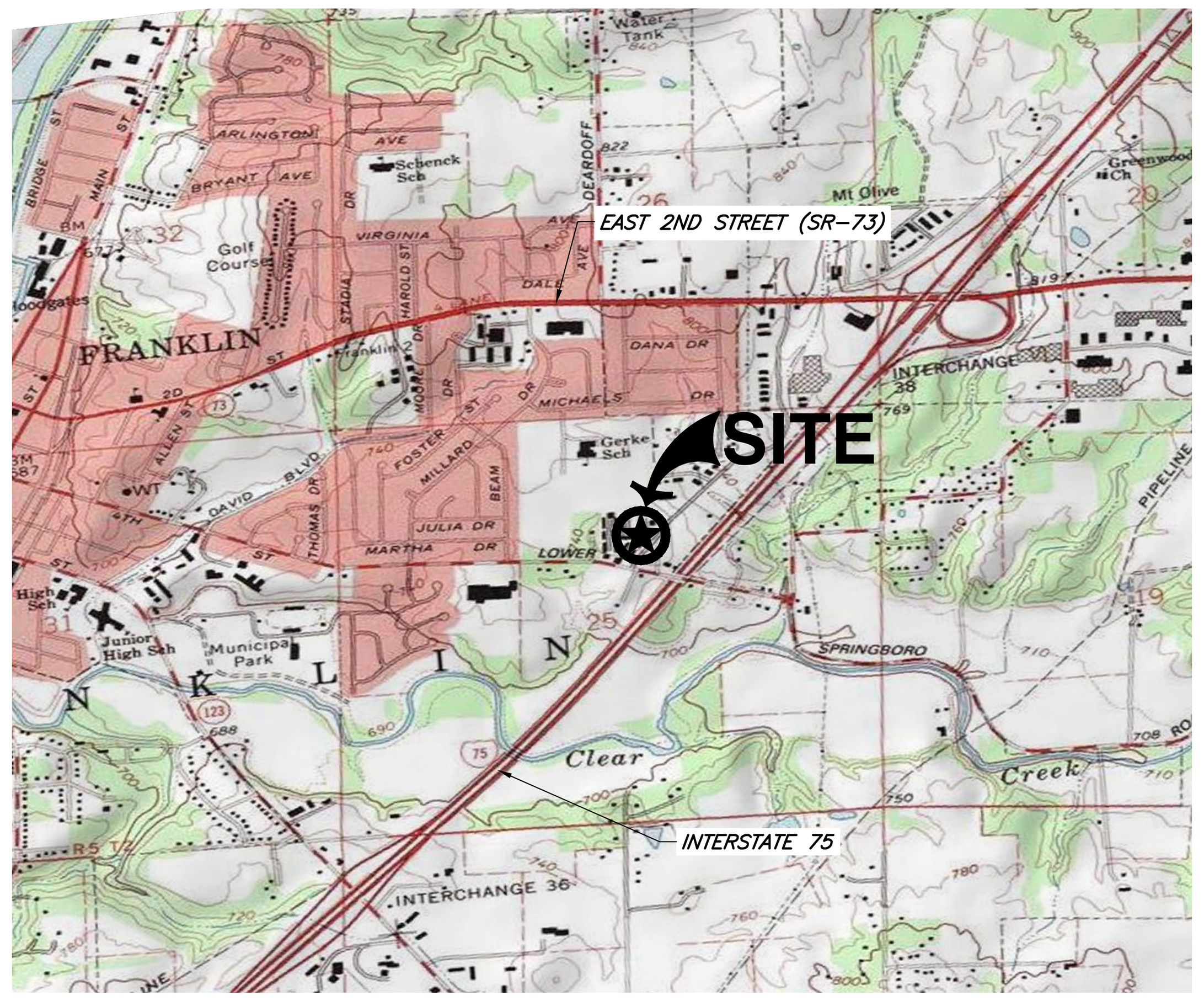
CONSTRUCTION DRAWINGS

FRANKLIN COMMONS APARTMENTS

962 FRANKLIN COMMONS DRIVE

CITY OF FRANKLIN, OH 45005

WARREN COUNTY



VICINITY MAP
1"=2,000'

SCALE IN FEET
0 2,000 4,000

REFERENCE
1. USGS TOPOGRAPHIC MAP/ARCGIS MAP SERVICE: HTTP://GOTOARCGISONLINE.COM/MAPS/USA_TOPO_MAPS, ACCESSED AUGUST 22, 2024

NORTH

SITE MAP
SCALE: 1"=200'

SCALE IN FEET
0 200 400

REFERENCE
1. AERIAL IMAGERY ACCESSED FROM BING MAPS, AUGUST, 2024

GENERAL NOTES

1. EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT FROM THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
2. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES (INCLUDING THOSE LABELED PER RECORD DATA) PRIOR TO THE BEGINNING OF CONSTRUCTION OR EARTH MOVING OPERATIONS. INFORM ENGINEER OF ANY CONFLICTS DETRIMENTAL TO THE DESIGN INTENT.
3. 48 HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES: THE OHIO UTILITY PROTECTION SERVICES, AND ALL OTHER AGENCIES THAT MAY HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NON-MEMBERS OF OHIO UNDERGROUND PROTECTION, INC.
4. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
5. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND OWNER'S REPRESENTATIVE FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
6. CONTRACTOR SHALL OBTAIN A PERMIT FOR ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH LOCAL, STATE, & FEDERAL REGULATIONS.
7. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL APPLICABLE PERMITS, AND PAY ALL REQUIRED FEES PRIOR TO BEGINNING WORK.
8. CONTRACTOR SHALL IMPLEMENT ALL SOIL AND EROSION CONTROL, PRACTICES REQUIRED BY THE CITY OF FRANKLIN, OHIO, WARREN COUNTY AND THE OHIO EPA.
9. ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED OR LANDSCAPED AS SOON AS PRACTICAL.
10. ALL WORK PERFORMED BY THE CONTRACTOR SHALL CONFORM TO THE LATEST REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.
11. ADJUST/RECONSTRUCT ALL EXISTING CASTINGS, CLEANOUTS, ETC. WITHIN PROJECT AREA TO GRADE AS REQUIRED.
12. CONTRACTOR TO REMOVE & REPLACE PAVEMENT AS SPECIFIED.
13. PARKING STRIPING ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO REFER TO ARCHITECTURAL PLANS FOR STANDARD PARKING DIMENSIONS AND SITE SIGNAGE.
14. CONCRETE WALKS SHALL BE 4" THICK OVER 4" COMPACTED GRAVEL WITH CONTROL JOINTS EQUALLY SPACED AT NO MORE THAN 5' ON CENTER, EXPANSION JOINTS AT NO MORE THAN 20' ON CENTER. ALL SIDEWALKS ARE TO BE BROOM FINISHED.

GENERAL WORK SCOPE NOTES AND SPECIFICATIONS:

1. ALL WORK SHALL COMPLY WITH APPLICABLE CODES, REGULATIONS AND OTHER STANDARDS IMPOSED BY LOCAL UTILITIES, CITY OF FRANKLIN, WARREN COUNTY AND/OR STATE OF OHIO.
2. THE LIMITS OF REPAIR/REMEDIATION ARE APPROXIMATE AS SHOWN ON SHEETS C100 THROUGH C300. ADDITIONAL REPAIRS MAY BE DETERMINED IN THE FIELD BY THE OWNER/ENGINEER BASED ON EXISTING SITE CONDITIONS AND OBSERVATIONS DURING CONSTRUCTION.
3. THE CONTRACTOR IS RESPONSIBLE TO REVIEW AND CONFIRM THE EXISTING SITE CONDITIONS PRIOR TO BEGINNING WORK.
4. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY AND ADEQUATE SAFETY PRECAUTIONS SUCH AS SIGNS, FLAGS, LIGHT BARRICADES AND FLAGMEN AS REQUIRED BY THE LOCAL AUTHORITIES AND IN ACCORDANCE WITH ODOT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY CLAIMS FOR DAMAGE DONE TO EXISTING PRIVATE PROPERTY, PUBLIC UTILITIES OR TO THE TRAVELING PUBLIC.
5. THE CONTRACTOR SHALL CONTACT ALL AGENCIES WITH UTILITY FACILITIES IN THE VICINITY OF THE WORK AREA AND SHALL LOCATE ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING ANY WORK.
6. THE CONTRACTOR SHALL NOTIFY AND COOPERATE WITH ALL UTILITY COMPANIES OR FIRMS HAVING FACILITIES ON OR ADJACENT TO THE SITE BEFORE DISTURBING, ALTERING, REMOVING, RELOCATING, ADJUSTING OR CONNECTING TO SAID FACILITIES. CONTRACTORS SHALL PAY ALL COSTS IN CONNECTION WITH THE ALTERATION OF OR RELOCATION OF THE UTILITIES. CONTRACTORS SHALL RAISE OR LOWER TOPS OF EXISTING MANHOLES, INLETS, CURB BOXES, ETC. AS REQUIRED TO MATCH FINISH PAVEMENT GRADES.
7. CONTRACTOR SHALL PROVIDE DETAILED SUBMITTALS OF ALL MATERIALS PLANNED FOR USE AT THE SITE TO THE OWNER/ENGINEER FOR APPROVAL A MINIMUM OF TWO WEEKS PRIOR TO BEGINNING CONSTRUCTION.
8. CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE ACROSS THE ENTIRE PAVEMENT SURFACE AND SHALL ALTER FINAL SURFACE GRADES AS NEEDED TO PROMOTE POSITIVE DRAINAGE TOWARDS EXISTING CATCH BASINS WITHOUT THE OCCURRENCE OF PONDING.
9. CONTRACTOR SHALL PROVIDE A WORK PLAN FOR REVIEW AND APPROVAL OF THE OWNER INCLUDING BUT NOT LIMITED TO STAGING, SCHEDULE, SAFETY, MAINTENANCE OF TRAFFIC AND STORAGE.
10. THE CONTRACTOR SHALL NOT STORE MATERIALS, EXCESS DIRT OR EQUIPMENT IN THE RIGHT OF WAY OF ANY PUBLIC ROADWAYS AND/OR THE DRIVE AISLES OF THE SUBJECT PARKING LOT, UNLESS PRIOR COORDINATION AND APPROVAL IS OBTAINED BY THE OWNER. UPON COMPLETION OF WORK, ALL EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE.
11. CONTRACTOR SHALL REPAIR AND REPLACE IN-KIND ANY DAMAGE THAT OCCURS AS A RESULT OF WORK.
12. CONTRACTOR SHALL TAKE NECESSARY MEASURES TO SEPARATE WORK AREAS FROM PEDESTRIAN TRAFFIC AND ENSURE SAFE PEDESTRIAN PASSAGE AT ALL TIMES.

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
C000	COVER SHEET
C100	EXISTING CONDITIONS AND DEMOLITION PLAN
C101	EXISTING CONDITIONS AND DEMOLITION PLAN
C200	SITE LAYOUT PLAN
C201	SITE LAYOUT PLAN
C300	SITE GRADING PLAN
C301	SITE GRADING PLAN
C800	SITE DETAILS
C801	SITE DETAILS

OWNER
RELATED AFFORDABLE
30 HUDSON YARD, 72ND FLOOR
NEW YORK, NY 10001

ARCHITECT
ATA BEILHARZ ARCHITECTS LLC
1063 CENTRAL AVENUE
CINCINNATI, OH 45202
(513) 241-4422
(513) 241-5560 (fax)

ENGINEER
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
10300 ALLIANCE ROAD, SUITE 300
CINCINNATI, OH 45242
CONTACT: BRYAN BENDER, P.E.
(513) 985-0226
(513) 985-0228 (fax)

Ohio Utilities Protection Service
Call 811 before you dig

NOTE: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, AND SANITARY SEWER. ANY CONFLICTS SHALL BE REPORTED, IMMEDIATELY, TO THE ENGINEER AND THE APPROPRIATE AUTHORITIES.

STATE OF OHIO
BRYAN MICHAEL BENDER
E-66622
REGISTERED PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION
	9/17/2024	BID / PERMIT SET

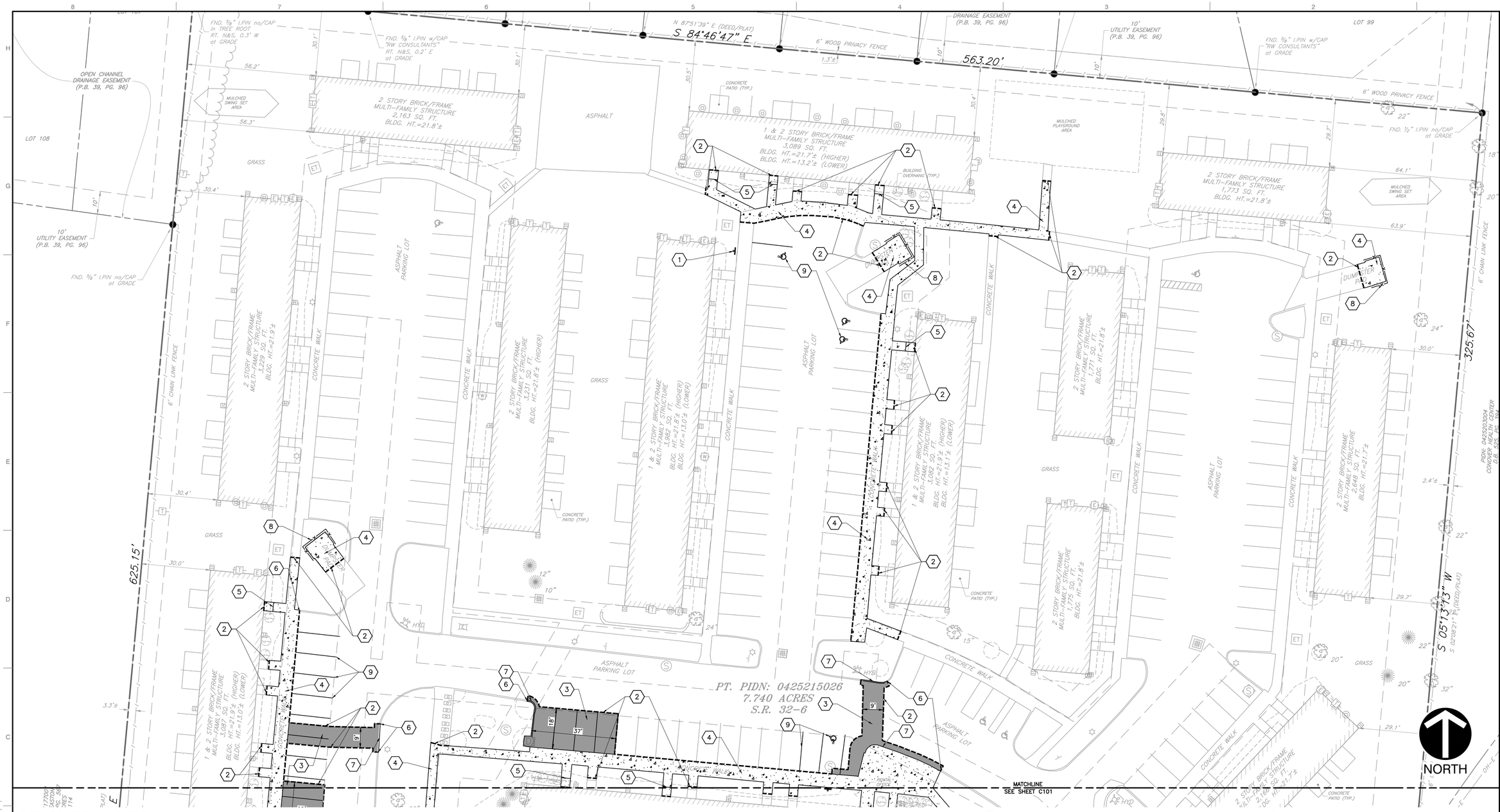
Civil & Environmental Consultants, Inc.
10300 Alliance Road
Suite 300
Cincinnati, OH 45242
Ph: 513.985.0226
www.cecinc.com

FRANKLIN COMMONS APARTMENTS
962 FRANKLIN COMMONS DRIVE
CITY OF FRANKLIN, WARREN COUNTY, OH

COVER SHEET

DATE:	SEPTEMBER 2024	DRAWN BY:	SDD
DWG SCALE:	AS SHOWN	CHECKED BY:	BMB
PROJECT NO:	335-381		
APPROVED BY:	BMB		

DRAWING NO.: C000
SHEET 1 OF 9



DEMOLITION NOTES

1. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.
2. EXISTING SITE INFORMATION / TOPOGRAPHIC SURVEY WAS PREPARED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC., DATED JULY 31, 2024.
3. ALL EXISTING ABOVE AND BELOW GROUND STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED UNLESS NOTED OTHERWISE WITHIN THIS CONSTRUCTION SET AND/OR PROJECT SPECIFICATIONS. THIS INCLUDES FOUNDATION SLABS, WALLS AND FOOTINGS. CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE BACKFILLED WITH SATISFACTORY MATERIALS AND COMPACTED TO THE GEOTECHNICAL ENGINEER'S RECOMMENDATION.
4. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD BY THE CONTRACTOR.
5. NO TREES SHALL BE REMOVED, NOR VEGETATION DISTURBED BEYOND THE LIMITS OF CONSTRUCTION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
6. ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR DAMAGE ACCORDING TO THE APPROPRIATE UTILITY COMPANY STANDARDS AND AT THE CONTRACTOR'S EXPENSE.
7. ALL UTILITY DISCONNECTION, REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY / AGENCY.
8. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR OBTAINS PRIOR WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
9. EROSION & SEDIMENT CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE PROPERLY INSTALLED AND FUNCTION PROPERLY PRIOR TO INITIALIZATION OF DEMOLITION ACTIVITIES.
10. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS DURING ALL DEMOLITION ACTIVITIES.
11. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, STRUCTURES, AND FEATURES TO REMAIN. ANY ITEMS TO REMAIN THAT HAVE BEEN DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
12. THE CONTRACTOR SHALL USE SUITABLE METHODS TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION ACTIVITIES.

LEGEND

- EXISTING BUILDING
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING FENCE LINE
- EXISTING PROPERTY BOUNDARY
- EXISTING EASEMENT
- EXISTING LANDSCAPE AREA
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- EXISTING SANITARY CLEANOUT
- EXISTING SIGN
- EXISTING ADA PARKING SYMBOL
- EXISTING TREE AND BUSH/SHRUB
- PAVEMENT SAWCUT
- EXISTING ASPHALT TO BE REMOVED FULL DEPTH
- EXISTING CONCRETE TO BE REMOVED
- EXISTING FENCE TO BE REMOVED

KEY NOTES (#)

1. REMOVE EXISTING PARKING SIGN/POST.
2. SAWCUT PAVEMENT EDGE IN NEAT, STRAIGHT LINES TO CREATE A CLEAN BUTT JOINT. REMOVE DAMAGED PAVEMENT AND DISPOSE OFF SITE. REFER TO LAYOUT PLAN FOR ASPHALT PLACING AND SEALING INFORMATION.
3. REMOVE EXISTING ASPHALT DOWN TO EXISTING SUBGRADE. DISPOSE OFF SITE. BEFORE PLACING NEW ASPHALT RECOMPACT PER DETAIL 05/C800.
4. REMOVE EXISTING CONCRETE PAD OR WALK TO NEAREST JOINT.
5. REMOVE EXISTING CONCRETE STEPS.
6. SAWCUT EXISTING CONCRETE CURB.
7. REMOVE EXISTING CONCRETE CURB.
8. REMOVE EXISTING DUMPSTER ENCLOSURE FENCING.
9. REMOVE EXISTING PAINTING/STRIPING.

01 C100 **SITE DEMOLITION PLAN**
SCALE: 1"=20'

SCALE IN FEET
0 20 40

Ohio Utilities Protection Service Call 811 before you dig

STATE OF OHIO BRYAN MICHAEL BENDER E-66622 REGISTERED PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION
	9/17/2024	BID / PERMIT SET

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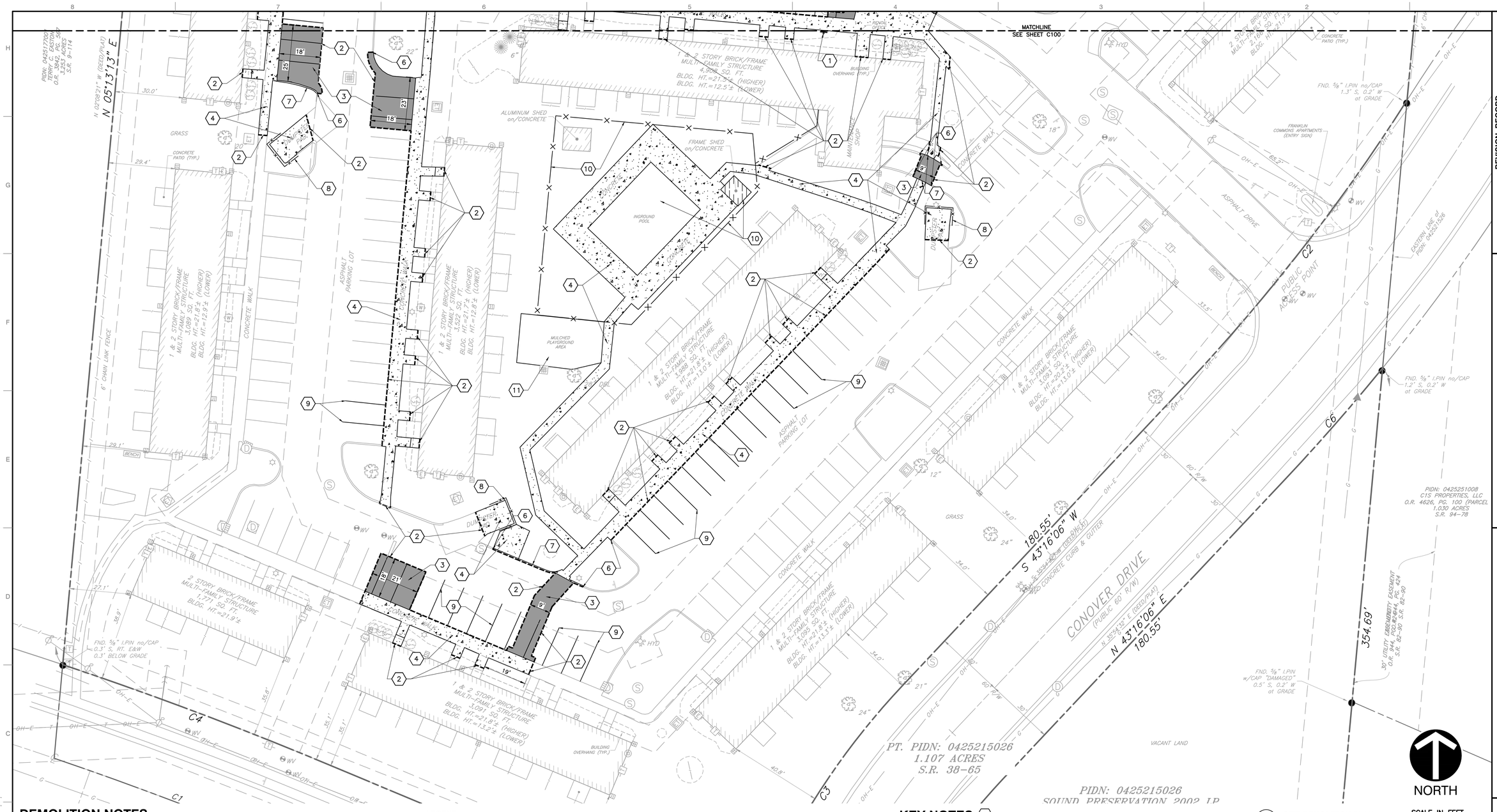
FRANKLIN COMMONS APARTMENTS
962 FRANKLIN COMMONS DRIVE
CITY OF FRANKLIN, WARREN COUNTY, OH

EXISTING CONDITIONS AND DEMOLITION PLAN

DATE:	SEPTEMBER 2024	DRAWN BY:	SDD
		CHECKED BY:	BMB
DWG SCALE:			
PROJECT NO:			335-381
APPROVED BY:			BMB

DRAWING NO.: **C100**
SHEET 2 OF 9



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LEGEND

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KEY NOTES (#)

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5. REMOVE EXISTING CONCRETE STEPS.
6. SAWCUT EXISTING CONCRETE CURB.
7. REMOVE EXISTING CONCRETE CURB.
8. REMOVE EXISTING DUMPSTER ENCLOSURE FENCING.
9. REMOVE EXISTING PAINTING/STRIPING.
10. REMOVE EXISTING IN-GROUND POOL AND ASSOCIATED EQUIPMENT/STRUCTURES. REMOVE POOL FENCING.
11. REMOVE EXISTING PLAYGROUND EQUIPMENT, BENCH AND BORDER

02 / C100 SITE DEMOLITION PLAN
SCALE: 1"=20'

SCALE IN FEET
0 20 40

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STATE OF OHIO
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REGISTERED
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NO	DATE	DESCRIPTION
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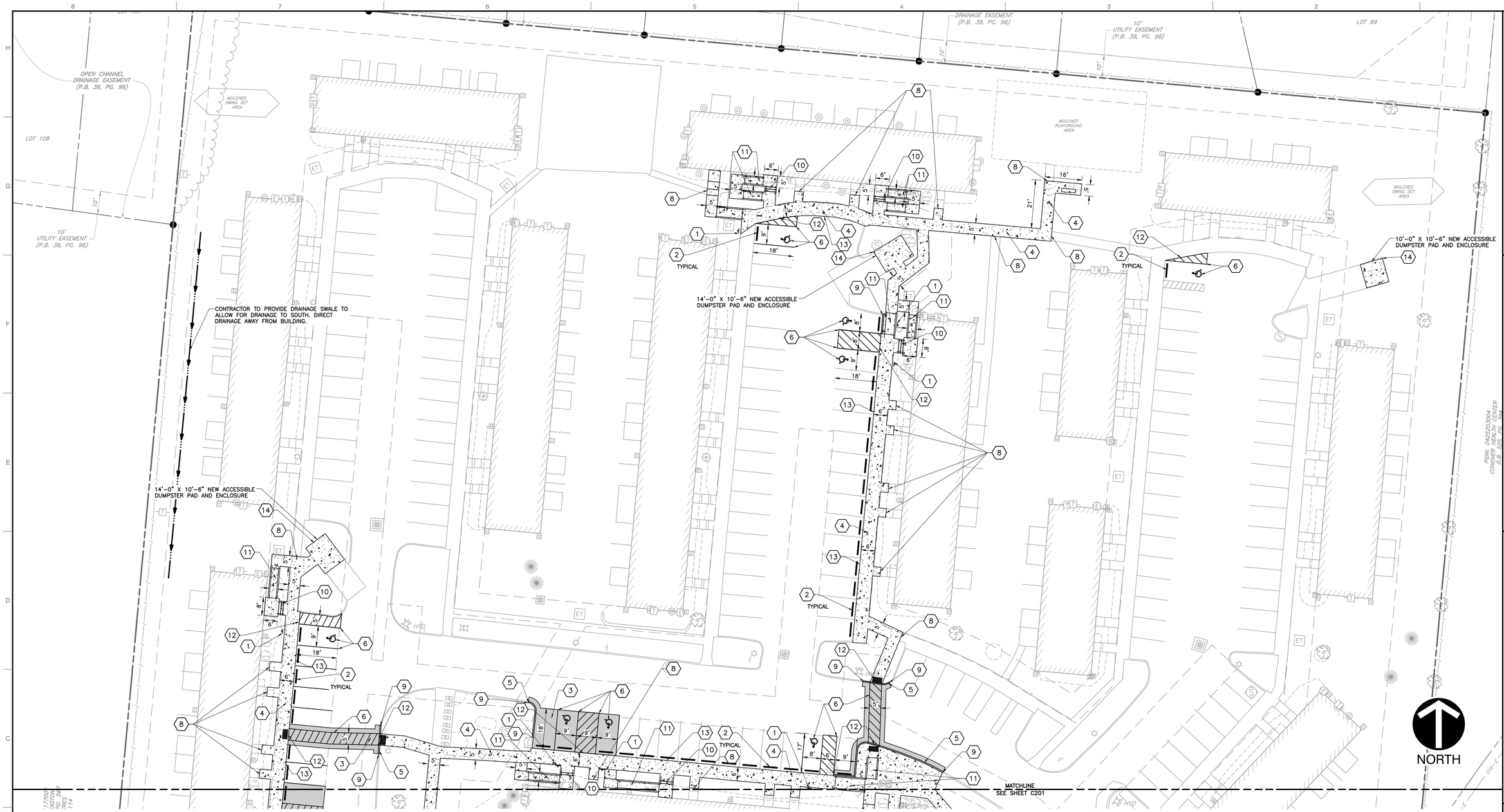
CITY OF FRANKLIN, WARREN COUNTY, OH

EXISTING CONDITIONS AND DEMOLITION PLAN

DATE:	SEPTEMBER 2024
DWG SCALE:	1"=20'
PROJECT NO:	335-381
APPROVED BY:	BMB
DRAWN BY:	BMB
CHECKED BY:	BMB
SDD	BMB

DRAWING NO.: C101

SHEET 3 OF 9



LAYOUT NOTES

1. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.
2. EXISTING SITE INFORMATION / TOPOGRAPHIC SURVEY WAS PREPARED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC., DATED JULY 31, 2024.
3. THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
4. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY.
5. THE CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN IN ACCORDANCE WITH THE SPECIFICATIONS.
6. SITE WORK CONCRETE WALKS AND PADS SHALL HAVE A BROOM FINISH TO ALL SURFACES. SITE WORK CONCRETE SHALL BE CLASS 'C' (4,000 PSI @ 28 DAYS) UNLESS OTHERWISE NOTED.
7. ALL DAMAGE TO EXISTING PAVEMENT TO REMAIN, WHICH RESULTS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.
8. SITE DIMENSIONS SHOWN ARE TO THE FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
9. CONTRACTOR SHALL MAINTAIN ONE SET OF AS-BUILT / RECORD DRAWINGS ON-SITE DURING CONSTRUCTION FOR DISTRIBUTION TO THE OWNER AND/OR OWNER'S REPRESENTATIVE UPON COMPLETION.
10. THIS SITE LAYOUT IS SPECIFIC TO THE APPROVALS NECESSARY FOR THE CONSTRUCTION IN ACCORDANCE WITH THE CITY OF FRANKLIN. NO CHANGES TO THE SITE LAYOUT ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CHANGES MADE TO THE SITE LAYOUT WITHOUT APPROVAL IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. CHANGES INCLUDE BUT ARE NOT LIMITED TO, INCREASED IMPERVIOUS PAVEMENT, ADDITION / DELETION OF PARKING SPACES, MOVEMENT OF CURB LINES, CHANGES TO DRAINAGE STRUCTURES AND PATTERNS, LANDSCAPING, ETC.
11. IN ADDITION TO SIDEWALK REPLACEMENT WORK SHOWN ON PLANS, PROVIDE ALLOWANCE TO REPLACE 5% OF WALKS AND PATIO SLABS.

LEGEND

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- EXISTING INDEX CONTOUR
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- EXISTING SANITARY MANHOLE
- EXISTING SANITARY CLEANOUT
- EXISTING SIGN
- EXISTING ADA PARKING SYMBOL
- EXISTING TREE AND BUSH/SHRUB
- PROPOSED FULL DEPTH ASPHALT PAVEMENT
- PROPOSED CONCRETE
- PROPOSED ADA PARKING SIGN
- PROPOSED PARKING BUMPER
- PROPOSED ADA PARKING SYMBOL
- PROPOSED SWALE

KEY NOTES (#)

1. INSTALL NEW OR RELOCATED ADA SIGN/POST. SEE DETAIL 09/C800.
2. INSTALL NEW CONCRETE WHEEL STOP.
3. INSTALL FULL DEPTH PAVEMENT. BEFORE PLACEMENT OF ASPHALT IN THIS AREA, COMPACT SUBGRADE PER DETAIL 01/C800. INSTALL MINIMUM OF 1.5" INTERMEDIATE COURSE TO MEET ADJACENT EXISTING INTERMEDIATE COURSE ELEVATION BEFORE APPLYING PAVEMENT OVERLAY OR FINAL SURFACE COURSE, CONTRACTOR TO TACK COAT PER DETAIL 01/C800. REFER TO GRADING PLAN (SHEET C300) FOR ELEVATION DETAILS.
4. PROPOSED CONCRETE WALK PER DETAIL 02/C800.
5. PROPOSED CONCRETE CURB PER DETAIL 04/C800.
6. PROPOSED PAINTED MARKING/STRIPING.
7. PROPOSED CURB RAMP.
8. MATCH PROPOSED WALK EDGE FLUSH WITH EXISTING WALK ELEVATION.
9. MATCH PROPOSED CURB TO EXISTING CURB ELEVATION.
10. PROPOSED CONCRETE STEPS WITH HANDRAILS.
11. PROPOSED CONCRETE ACCESSIBLE RAMP WITH HANDRAILS.
12. PROPOSED FLUSH CONCRETE CURB AT ASPHALT PAVEMENT PER DETAIL 06/C800.
13. PROPOSED INTEGRATED CURB AND SIDEWALK. SEE DETAIL 05/C800 & 06/C800.
14. CONCRETE DUMPSTER PAD. SEE ARCHITECTURAL DRAWINGS AND DETAIL 07/C800.

01 / C200 SITE LAYOUT
SCALE: 1"=20'

SCALE IN FEET
0 20 40

Ohio Utilities Protection Service
Call 811 before you dig

STATE OF OHIO
BRYAN MICHAEL BENDER
E-66622
REGISTERED PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION
	8/7/2025	BID / PERMIT SET

10300 Alliance Road
Suite 300
Cincinnati, OH 45242
Ph: 513.985.0226
www.cecinc.com

Civil & Environmental Consultants, Inc.

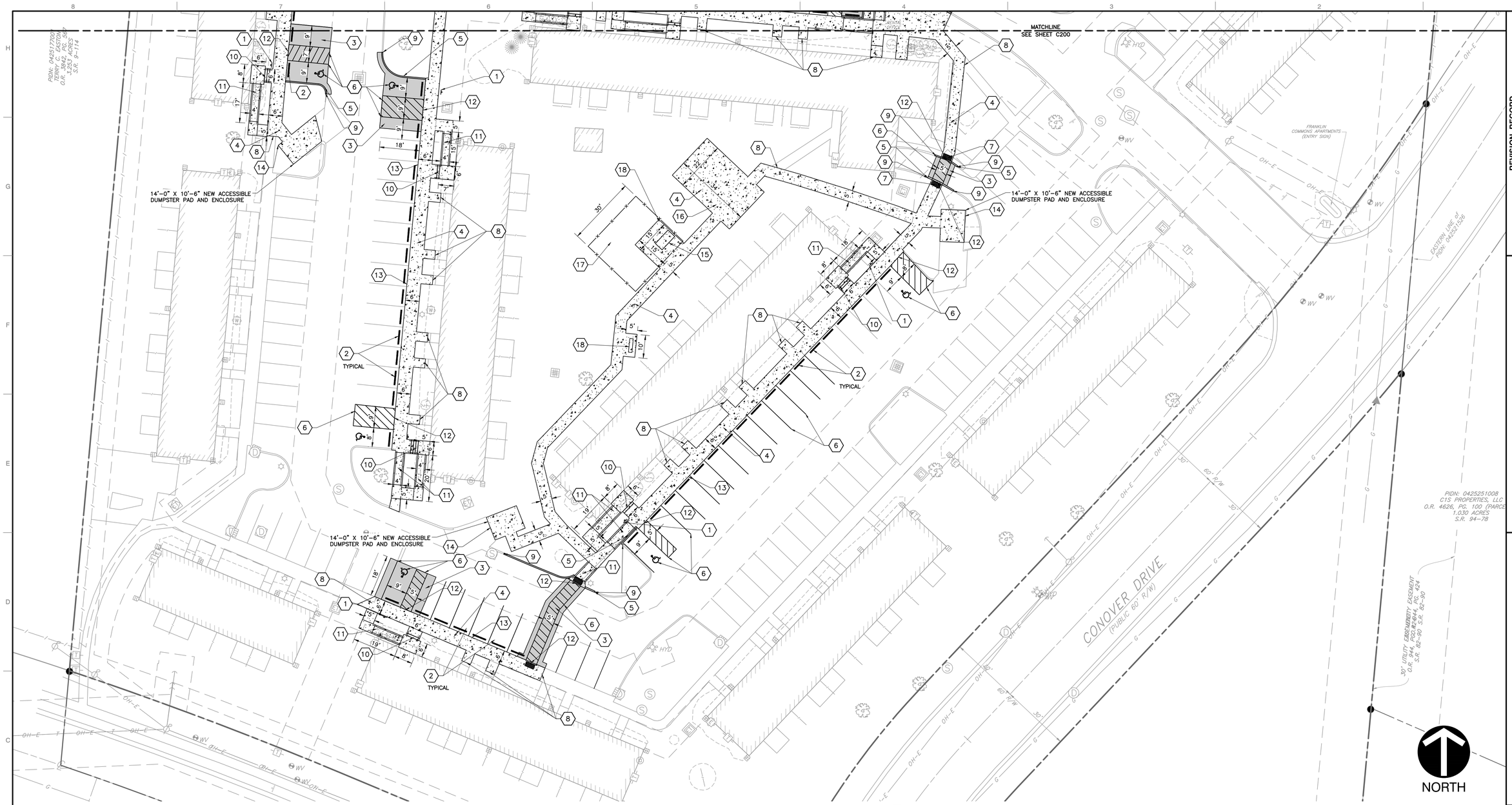
FRANKLIN COMMONS APARTMENTS
962 FRANKLIN COMMONS DRIVE
CITY OF FRANKLIN, WARREN COUNTY, OH

SITE LAYOUT PLAN

DATE:	SEPTEMBER 2024	DRAWN BY:	SDD
DWG SCALE:	1"=20'	CHECKED BY:	BMB
PROJECT NO:			335-381
APPROVED BY:			BMB

DRAWING NO.: **C200**

SHEET 4 OF 9



LAYOUT NOTES

1. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.
2. EXISTING SITE INFORMATION / TOPOGRAPHIC SURVEY WAS PREPARED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC., DATED JULY 31, 2024.
3. THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
4. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY.
5. THE CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN IN ACCORDANCE WITH THE SPECIFICATIONS.
6. SITE WORK CONCRETE WALKS AND PADS SHALL HAVE A BROOM FINISH TO ALL SURFACES. SITE WORK CONCRETE SHALL BE CLASS "C" (4,000 PSI @ 28 DAYS) UNLESS OTHERWISE NOTED.
7. ALL DAMAGE TO EXISTING PAVEMENT TO REMAIN, WHICH RESULTS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.
8. SITE DIMENSIONS SHOWN ARE TO THE FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
9. CONTRACTOR SHALL MAINTAIN ONE SET OF AS-BUILT / RECORD DRAWINGS ON-SITE DURING CONSTRUCTION FOR DISTRIBUTION TO THE OWNER AND/OR OWNER'S REPRESENTATIVE UPON COMPLETION.
10. THIS SITE LAYOUT IS SPECIFIC TO THE APPROVALS NECESSARY FOR THE CONSTRUCTION IN ACCORDANCE WITH THE CITY OF FRANKLIN. NO CHANGES TO THE SITE LAYOUT ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CHANGES MADE TO THE SITE LAYOUT WITHOUT APPROVAL IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. CHANGES INCLUDE BUT ARE NOT LIMITED TO, INCREASED IMPERVIOUS PAVEMENT, ADDITION / DELETION OF PARKING SPACES, MOVEMENT OF CURB LINES, CHANGES TO DRAINAGE STRUCTURES AND PATTERNS, LANDSCAPING, ETC.
11. IN ADDITION TO SIDEWALK REPLACEMENT WORK SHOWN ON PLANS, PROVIDE ALLOWANCE TO REPLACE 5% OF WALKS AND PATIO SLABS.

LEGEND

- EXISTING BUILDING
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING FENCE LINE
- EXISTING PROPERTY BOUNDARY
- EXISTING EASEMENT
- EXISTING LANDSCAPE AREA
- EXISTING GAS LINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING RIGHT-OF-WAY
- EXISTING STORM MANHOLE
- EXISTING INLET
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- EXISTING ELECTRIC BOX
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY CLEANOUT
- EXISTING SIGN
- EXISTING ADA PARKING SYMBOL
- EXISTING TREE AND BUSH/SHRUB
- PROPOSED FULL DEPTH ASPHALT PAVEMENT
- PROPOSED CONCRETE
- PROPOSED ADA PARKING SIGN
- PROPOSED PARKING BUMPER
- PROPOSED ADA PARKING SYMBOL
- PROPOSED SWALE

KEY NOTES (#)

1. INSTALL NEW ADA SIGN/POST. SEE DETAIL 09/C800.
2. INSTALL NEW CONCRETE WHEEL STOP.
3. INSTALL FULL DEPTH PAVEMENT. BEFORE PLACEMENT OF ASPHALT IN THIS AREA, COMPACT SUBGRADE PER DETAIL 01/C800. INSTALL MINIMUM OF 1.5" INTERMEDIATE COURSE TO MEET ADJACENT EXISTING INTERMEDIATE COURSE ELEVATION BEFORE APPLYING PAVEMENT OVERLAY OR FINAL SURFACE COURSE, CONTRACTOR TO TACK COAT PER DETAIL 01/C800. REFER TO GRADING PLAN (SHEET C300) FOR ELEVATION DETAILS.
4. PROPOSED CONCRETE WALK PER DETAIL 02/C800.
5. PROPOSED CONCRETE CURB PER DETAIL 04/C800.
6. PROPOSED PAINTED MARKING/STRIPING.
7. PROPOSED CURB RAMP.
8. MATCH PROPOSED WALK EDGE FLUSH WITH EXISTING WALK ELEVATION.
9. MATCH PROPOSED CURB TO EXISTING CURB ELEVATION.
10. PROPOSED CONCRETE STEPS WITH HANDRAILS.
11. PROPOSED CONCRETE ACCESSIBLE RAMP WITH HANDRAILS.
12. PROPOSED FLUSH CONCRETE CURB AT ASPHALT PAVEMENT PER DETAIL 06/C800.
13. PROPOSED INTEGRATED CURB AND SIDEWALK. SEE DETAIL 05/C800 & 06/C800.
14. CONCRETE DUMPSTER PAD. SEE ARCHITECTURAL DRAWINGS AND DETAIL 07/C800.
15. 4'-0" X 8'-0" ACCESSIBLE RAISED GARDEN BED.
16. PICNIC SHELTER AREA.
17. 30'-0" X 30'-0" FENCED IN COMMUNITY GARDEN AREA.
18. PROVIDE AND INSTALL NEW HOSE BIB PEDESTAL IN THIS LOCATION. NEW WATER LINE CONNECTION TO EXISTING WATER SERVICE TO BE DESIGNED BY CONTRACTOR.
19. 6'-0" STEEL BENCH, ANCHOR TO CONCRETE PER MANUFACTURER'S RECOMMENDATIONS.

02 / C200 SITE LAYOUT
SCALE: 1"=20'

SCALE IN FEET
0 20 40

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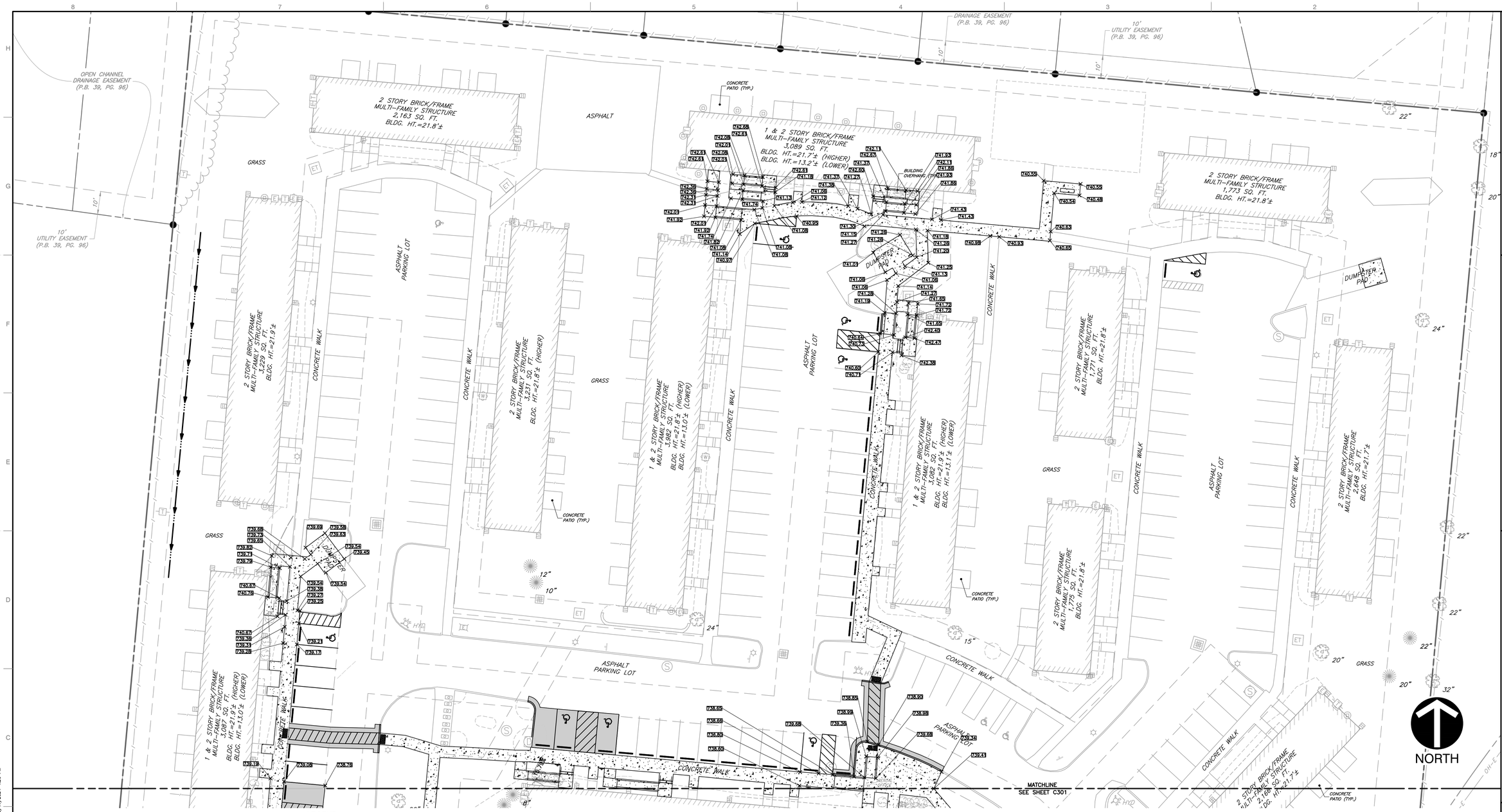
DWG SCALE:	1"=20'
DRAWN BY:	SDD
CHECKED BY:	BMB
PROJECT NO:	335-381
APPROVED BY:	BMB

DRAWING NO.: C201

SHEET 5 OF 9



GRADING NOTES

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3. ALL PROPOSED GRADES SHOWN ARE FINAL GRADES, TOP OF GROUND LEVEL, TOP OF PAVEMENT, OR TOP OF WALL ELEVATION, UNLESS INDICATED OTHERWISE.
4. WHERE NOT EXPLICITLY DEFINED BY A SPOT ELEVATION, PAVEMENT AND CURB ELEVATIONS SHALL PRODUCE THE PROPOSED SLOPES AS SHOWN AND PROVIDE POSITIVE DRAINAGE TO INLETS.
5. ALL SITE WORK SHOWN HEREON SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT'S SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES AND ORDINANCES.
6. FINAL PAVEMENT SLOPES SHALL BE PER ADA CRITERIA AS SHOWN ON THIS SHEET.
7. ALL SIDEWALKS SHALL BE CONSTRUCTED TO MEET ADA CRITERIA AS SHOWN ON THIS SHEET.
8. ALL EXCESS MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE INDICATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
9. ANY CHANGE IN GRADE OR DEVIATION FROM THE PLANS MUST BE APPROVED BY THE ENGINEER.
10. ALL SLOPES IN NON-PAVED AREAS SHALL BE 3:1 (HORIZONTAL:VERTICAL) MAXIMUM UNLESS NOTED OTHERWISE.

LEGEND

- EXISTING BUILDING
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING FENCE LINE
- EXISTING PROPERTY BOUNDARY
- EXISTING EASEMENT
- EXISTING LANDSCAPE AREA
- EXISTING GAS LINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING RIGHT-OF-WAY
- EXISTING STORM MANHOLE
- EXISTING INLET
- EXISTING FIRE HYDRANT
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- EXISTING LIGHT POLE
- EXISTING POWER POLE
- EXISTING ELECTRIC BOX
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY CLEANOUT
- EXISTING SIGN
- EXISTING ADA PARKING SYMBOL
- EXISTING TREE AND BUSH/SHRUB
- PROPOSED FULL DEPTH ASPHALT PAVEMENT
- PROPOSED CONCRETE
- PROPOSED ADA PARKING SIGN
- PROPOSED PARKING BUMPER
- PROPOSED ADA PARKING SYMBOL
- PROPOSED SWALE
- 750 PROPOSED INDEX CONTOUR
- 748 PROPOSED INTERMEDIATE CONTOUR
- 742.25 EXISTING SPOT ELEVATION (MATCH GRADE)
- 742.25 PROPOSED SPOT ELEVATION

ADA PARKING COMPLIANCE CRITERIA

1. THE FOLLOWING CRITERIA ARE REQUIRED FOR ALL ADA ACCESSIBLE PARKING AREAS AND ROUTES:
   - THE MAXIMUM ALLOWABLE SLOPE IN ANY DIRECTION WITHIN AN ADA PARKING AREA AND LOADING AISLE IS 2.08%;
   - THE MAXIMUM ALLOWABLE GRADIENT (IN THE DIRECTION OF TRAVEL) OF A CROSSWALK, SIDEWALK OR ACCESSIBLE PATH IS 5.00%;
   - THE MAXIMUM ALLOWABLE CROSS-SLOPE OF A CROSSWALK, SIDEWALK OR ACCESSIBLE PATH IS 2.08%; AND
   - GRADES SHALL PREVENT PONDING OF WATER WITHIN ACCESSIBLE PARKING AREAS AND ALONG ACCESSIBLE ROUTES.
   - THE MAXIMUM VERTICAL CHANGE IN LEVEL SHALL BE 1/4 INCH.
2. AN ACCESSIBLE PATH MUST BE PROVIDED FROM THE LOADING AISLES TO A CROSSWALK OR SIDEWALK. AN ACCESSIBLE PATH MUST BE A MINIMUM OF 3 FEET WIDE AND MUST BE CLEAR OF ANY OBSTRUCTIONS INCLUDING SIGNAGE AND THE EDGES OF CONCRETE GUTTERS.
3. SLOPE AND DIMENSIONAL CRITERIA FOR RAMPS INCLUDE:
   - A MAXIMUM ALLOWABLE RAMP SLOPE OF 8.33%; AND WIDTH SHALL BE A MINIMUM OF 3 FEET OR MATCH WIDTH OF CROSS-WALK, ACCESSIBLE PATH, OR LOADING AISLE;
   - A MAXIMUM ALLOWABLE CROSS-SLOPE OF 2.08%;
   - A MAXIMUM ALLOWABLE FLARE SLOPE OF 10.00%;
   - A 3 FOOT BY 3 FOOT CLEAR SPACE AT THE TOP OF THE ACCESSIBLE CURB RAMP

01 C300 **SITE GRADING** SCALE: 1"=20'

SCALE IN FEET 0 20 40

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STATE OF OHIO BRYAN MICHAEL BENDER E-66622 REGISTERED PROFESSIONAL ENGINEER

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SITE GRADING PLAN

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DWG SCALE:	1"=20'	CHECKED BY:	BMB
PROJECT NO:			335-381
APPROVED BY:			BMB

DRAWING NO.: C300

SHEET 6 OF 9

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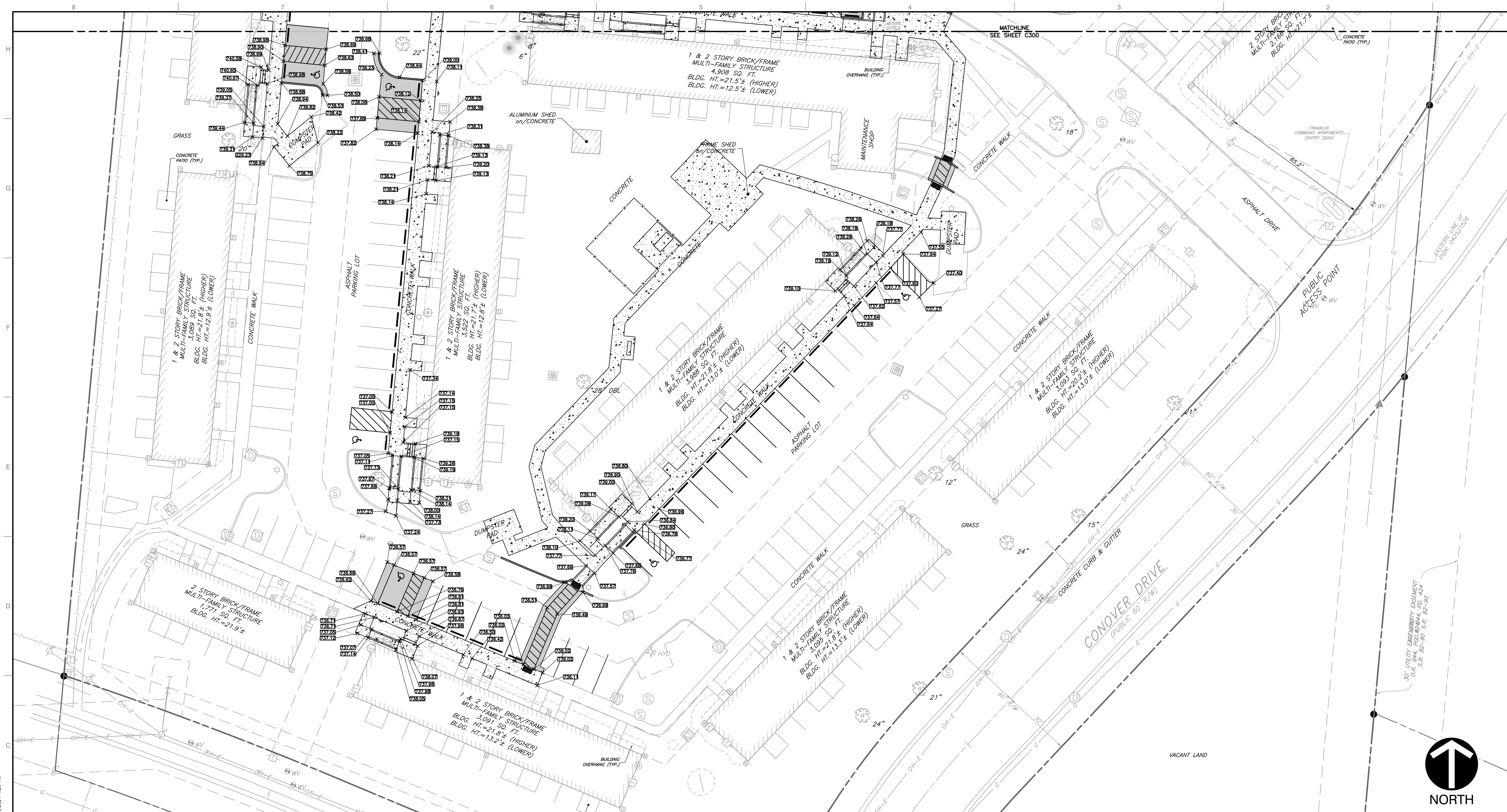

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LEGEND

	EXISTING BUILDING		EXISTING SIGN
	EXISTING INDEX CONTOUR		EXISTING ADA PARKING SYMBOL
	EXISTING INTERMEDIATE CONTOUR		EXISTING TREE AND BUSH/SHRUB
	EXISTING FENCE LINE		PROPOSED FULL DEPTH ASPHALT PAVEMENT
	EXISTING PROPERTY BOUNDARY		PROPOSED CONCRETE
	EXISTING EASEMENT		PROPOSED ADA PARKING SIGN
	EXISTING LANDSCAPE AREA		PROPOSED PARKING BUMPER
G	EXISTING GAS LINE		PROPOSED ADA PARKING SYMBOL
OH—E	EXISTING OVERHEAD ELECTRIC LINE	750	PROPOSED INDEX CONTOUR
	EXISTING RIGHT—OF—WAY	748	PROPOSED INTERMEDIATE CONTOUR
D	EXISTING STORM MANHOLE	742.25	EXISTING SPOT ELEVATION (MATCH GRADE)
	EXISTING INLET	742.25	PROPOSED SPOT ELEVATION
	EXISTING FIRE HYDRANT		
	EXISTING WATER VALVE		
	EXISTING LIGHT POLE		
	EXISTING POWER POLE		
ET E	EXISTING ELECTRIC BOX		
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02 / C300 **SITE GRADING**
SCALE: 1"=20'

SCALE IN FEET
0 20 40

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SITE GRADING PLAN

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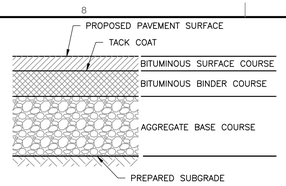
DWG SCALE:	1"=20'	CHECKED BY:	BMB
PROJECT NO:	335-381	APPROVED BY:	BMB

DRAWING NO.:
C301
SHEET 7 OF 9

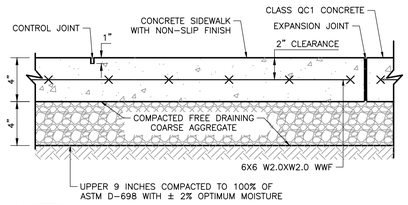


ITEM	MATERIAL REFERENCE	PAVEMENT SECTION DEPTH
BITUMINOUS SURFACE COURSE	ODOT ITEM 441, SURFACE COURSE, TYPE 1 (448) PG64–22	MATCH EXISTING (1.5" MIN.)
BITUMINOUS BINDER COURSE	ODOT ITEM 441, INTERMEDIATE COURSE, TYPE 2 (448) PG64–22	MATCH EXISTING (1.5" MIN.)
AGGREGATE BASE COURSE	ODOT ITEM 304	MATCH EXISTING (6" MIN.)

NOTES:

1. THE PAVEMENT SUBGRADE SHALL BE PREPARED AS FOLLOWS:
   - A. APPROVED FILL FOR THE SUBGRADE SHALL BE PLACED WHERE REQUIRED IN MAXIMUM 10" THICK, LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF ITS MODIFIED PROCTOR MAXIMUM DRY DENSITY PER ASTM D–1557.
   - B. THE SUBGRADE SHALL BE PROOFROLLED WITH A MINIMUM 10 TON ROLLER. ANY SOFT AND YIELDING AREAS SHALL BE OVEREXCAVATED TO A FIRM AND COMPETENT MATERIAL AND BACKFILLED AS DESCRIBED ABOVE.
   - C. AFTER PROOFROLLING, THE SUBGRADE SHALL BE GRADED AND SHAPED AS REQUIRED TO CONSTRUCT THE PAVEMENT AREAS IN CONFORMANCE WITH THE GRADES, LINES AND THICKNESSES SHOWN ON THE DRAWINGS. THE SUBGRADE SHALL PROVIDE A FIRM AND UNYIELDING FOUNDATION WITH NO SUDDEN, SHARP OR ABRUPT CHANGES OR BREAKS IN GRADES. NO STANDING WATER OR EXCESS MOISTURE SHALL BE PRESENT. ALL SOFT AND YIELDING AREAS SHALL BE OVEREXCAVATED TO A FIRM AND COMPETENT MATERIAL, AND BACKFILLED AS DESCRIBED IN SPECIFICATIONS.
2. PLACE & COMPACT AGGREGATE BASE COURSE IN ACCORDANCE WITH ODOT ITEM 304.
3. THE BITUMINOUS COURSES SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH ODOT ITEM 441.
4. STABILIZE GROUND WHEREVER THE EXPOSED SUBGRADE SHOWS SIGNS OF MINOR RUTTING OR DEFLECTION IN ACCORDANCE WITH RECOMMENDATION OF THE GEOTECHNICAL ENGINEER.
5. TYPICAL BUTT JOINT AT PAVEMENT RESTORATION LOCATIONS, WHERE APPLICABLE: APPLY BITUMINOUS TACK COAT TO EX. VERTICAL PAVEMENT SAWCUT FACES PRIOR TO ASPHALT RESTORATION PAVING. APPLY 4" W. BITUMINOUS SEALANT AT SURFACE JOINT.
6. TACK COAT TO BE PER ODOT ITEM 407.

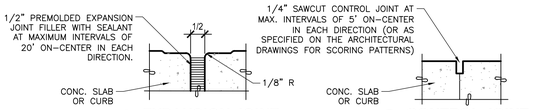
01 C800 **ASPHALT PAVEMENT SECTION**
SCALE: NTS

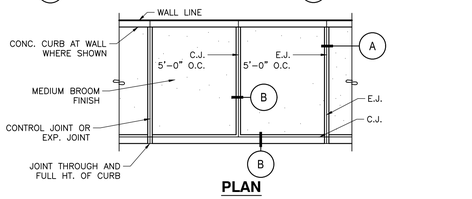


NOTES:

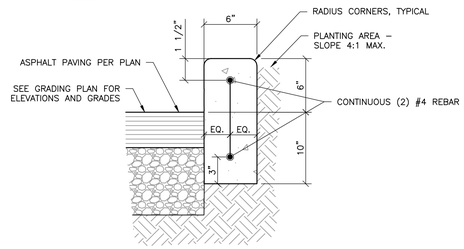
1. PROVIDE 1/2" EXPANSION JOINT FILLER WITH SEALANT WHERE THE CONCRETE SIDEWALK ABUTS THE BUILDING OR EXISTING CONCRETE.
2. REFER TO THE ARCHITECTURAL SPECIFICATIONS FOR SPECIAL FINISHES, AGGREGATE TREATMENT, COLORS, PATTERN FINISHES, ETC. AND ADDITIONAL DETAIL.

02 C800 **TYPICAL CONCRETE SIDEWALK**
SCALE: N.T.S.



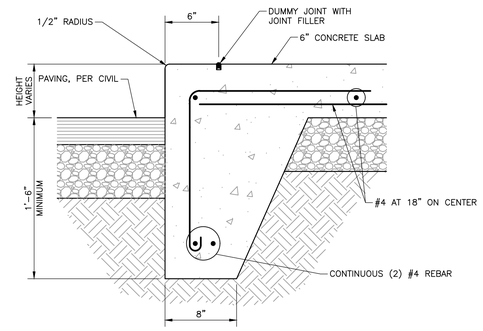


03 C800 **SIDEWALK JOINT**
SCALE: N.T.S.

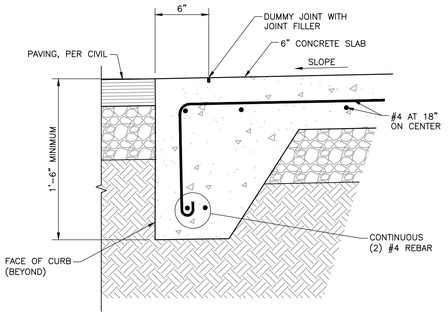


NOTE:
1/2" PRE–MOULDED JOINT FILLER AT 25' ON CENTER (MAXIMUM) AND AT START AND FINISH OF ALL CURVED SECTIONS.

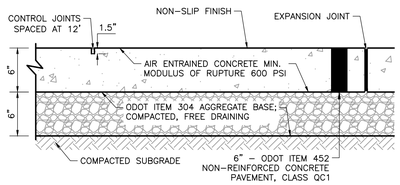
04 C800 **CAST-IN-PLACE CONCRETE CURB**
SCALE: N.T.S.



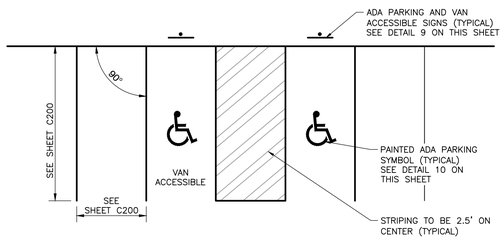
05 C800 **INTEGRATED CURB & SIDEWALK**
SCALE: N.T.S.



06 C800 **FLUSH CURB AT PAVEMENT**
SCALE: N.T.S.



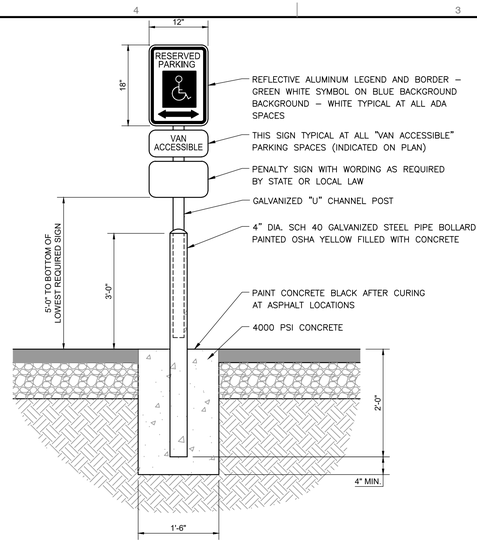
07 C800 **CONCRETE DUMPSTER PAD**
SCALE: NTS



NOTES:

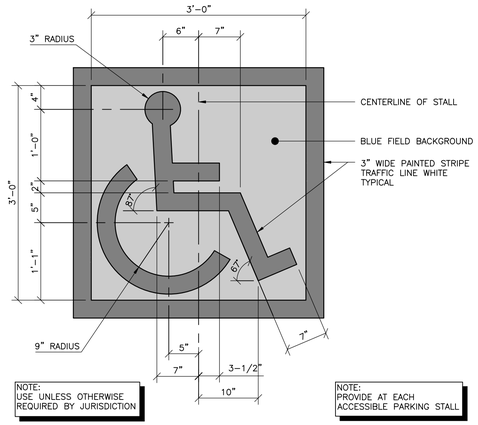
1. ALL ADA PARKING STALLS AND ACCESS AISLE SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
2. ALL STRIPING FOR STANDARD AND ADA PARKING SPACES TO BE 4" WIDE PAINTED STRIPES.
3. SEE SHEET C200 FOR PARKING STALL DIMENSIONS.

08 C800 **PARKING STALLS**
SCALE: N.T.S.



NOTE:
ONE AT EACH ADA SPACE. WHERE ADA SPACES FACE EACH OTHER WITHOUT WALKWAY, THERE SHALL BE ONE POST WITH SIGNS MOUNTED BOTH SIDES

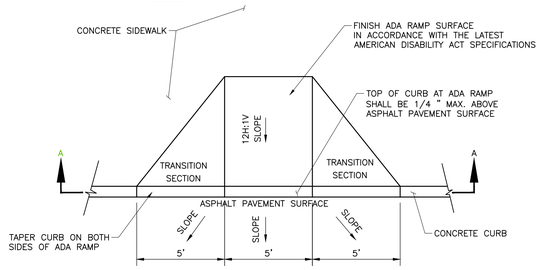
09 C800 **ADA PARKING SIGN**
SCALE: N.T.S.



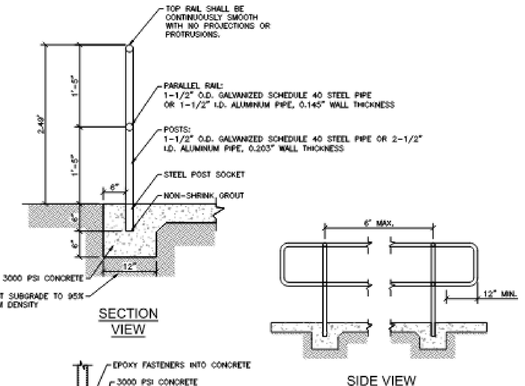
NOTE:
USE UNLESS OTHERWISE REQUIRED BY JURISDICTION

NOTE:
PROVIDE AT EACH ACCESSIBLE PARKING STALL

10 C800 **ADA PARKING SYMBOL**
SCALE: N.T.S.



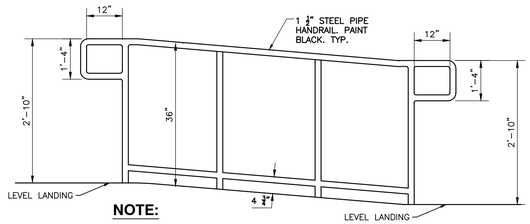
SECTION A–A
11 C801 **ADA RAMP**
SCALE: N.T.S.



NOTES:

1. CONTRACTOR TO PROVIDE FULL SHOP DRAWINGS FOR HANDRAIL PRIOR TO INSTALLING.

12 C800 **HANDRAIL INSTALLATION**
SCALE: N.T.S.



NOTE:

1. NO CHANGE IN LEVEL IS PERMITTED WITHIN LANDINGS OTHER THAN SLOPES 1:50 MAX.

13 C800 **HANDRAIL DETAIL**
SCALE: N.T.S.

Ohio Utilities Protection Service Call 811 before you dig

STATE OF OHIO BRYAN MICHAEL BENDER E-66622 REGISTERED PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION
	9/17/2024	BID / PERMIT SET

10300 Alliance Road
Suite 300
Cincinnati, OH 45242
Ph: 513.985.0226
www.cecinc.com

Civil & Environmental Consultants, Inc.

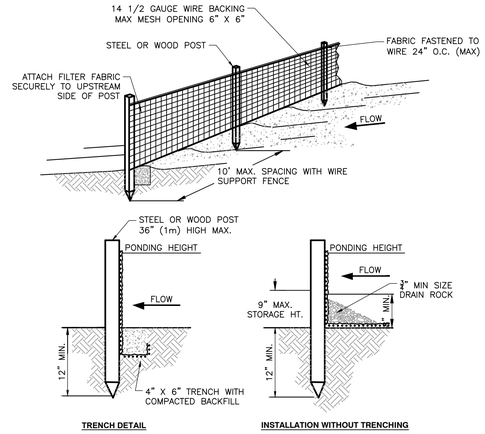
FRANKLIN COMMONS APARTMENTS
962 FRANKLIN COMMONS DRIVE
CITY OF FRANKLIN, WARREN COUNTY, OH

SITE DETAILS

DATE:	SEPTEMBER 2024
DRAWN BY:	SDD
DWG SCALE:	NOT TO SCALE
CHECKED BY:	BMB
PROJECT NO.:	335-381
APPROVED BY:	BMB

DRAWING NO.: C800
SHEET 8 OF 9

P:\335-001\335-381-0401\dwg\CIVIL\335381-CIVIL-C800.dwg(C800) LS(9/13/2024 - 4:04p) - LP: 9/17/2024 4:23 PM



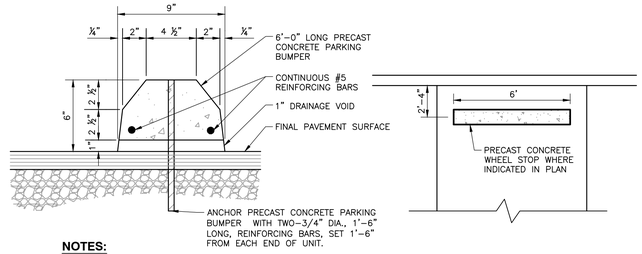
TRENCH DETAIL **INSTALLATION WITHOUT TRENCHING**

NOTES:

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
4. THE SILT FENCE SHALL BE BURIED AT LEAST 6" DEEP AND HAVE A TOTAL OF 8" OF FABRIC BELOW THE GROUND.
5. THE STAKES SHALL BE PLACED ON THE DOWN SLOPE SIDE OF THE GEOTEXTILE, THE STAKES SHALL BE A MINIMUM OF 2x2 NOMINAL HARDWOOD STAKE OF SOUND QUALITY. T-POSTS MAY BE SUBSTITUTED IF GROUND CONDITIONS REQUIRE.
6. THE MANUFACTURER SHALL SUBMIT A CERTIFICATION WITH EACH SHIPMENT OF SILT FENCE STATING THAT IT MEETS THE FOLLOWING SPECIFICATION REQUIREMENTS:
   - 6.1. MINIMUM TENSILE STRENGTH – 120 LBS;
   - 6.2. MAXIMUM ELONGATION AT 60 LBS – 50%;
   - 6.3. MINIMUM PUNCTURE STRENGTH – 50 LBS;
   - 6.4. MINIMUM TEAR STRENGTH – 40 LBS;
   - 6.5. MINIMUM BURST STRENGTH – 200 PSI;
   - 6.6. APPARENT OPENING SIZE – ≤ 0.84 MM;
   - 6.7. MINIMUM PERMITIVITY – 1x10 – 2 SEC – 1;
   - 6.8. ULTRAVIOLET EXPOSURE STRENGTH RETENTION – 70%.

01 C801 **SILT FENCE SEDIMENT CONTROL**

SCALE: N.T.S.

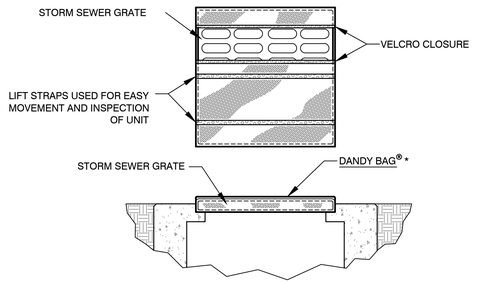


NOTES:

1. OTHER EQUIVALENT PRECAST CONCRETE PARKING BUMPER DESIGNS MAY BE USED IF APPROVED BY THE OWNER.
2. PROVIDE MINIMUM 2" OF CONCRETE COVER FOR HORIZONTAL BAR REINFORCEMENT.
3. CENTER OF BUMPER SHALL BE 2'-4" FROM EDGE OF PAVEMENT.

3 C801 **PRECAST CONCRETE WHEEL STOP**

SCALE: NTS



DANDY BAG®
SPECIFICATIONS

NOTE: THE DANDY BAG® WILL BE **MANUFACTURED IN THE U.S.A.** FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

HI-FLOW DANDY BAG® (SAFETY ORANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.62 (365) X 0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.51 (115) X 0.33 (75)
UV Resistence	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	l/min/m² (gal/min/ft²)	5857 (145)
Permittivity	ASTM D 4491	Sec⁻¹	2.1

*Note: All Dandy Bags® can be ordered with our optional oil absorbent pillows

02 C801 **DANDY BAG™**

SCALE: NTS

*OR APPROVED EQUAL

Ohio Utilities Protection Service
Call 811 before you dig

STATE OF OHIO
BRYAN MICHAEL BENDER
E-66622
REGISTERED
PROFESSIONAL ENGINEER
9/27/24

REVISION RECORD

NO	DATE	DESCRIPTION
	9/17/2024	BID / PERMIT SET

CEC
Civil & Environmental Consultants, Inc.
10300 Alliance Road
Suite 300
Cincinnati, OH 45242
Ph: 513.985.0226
www.cecinc.com

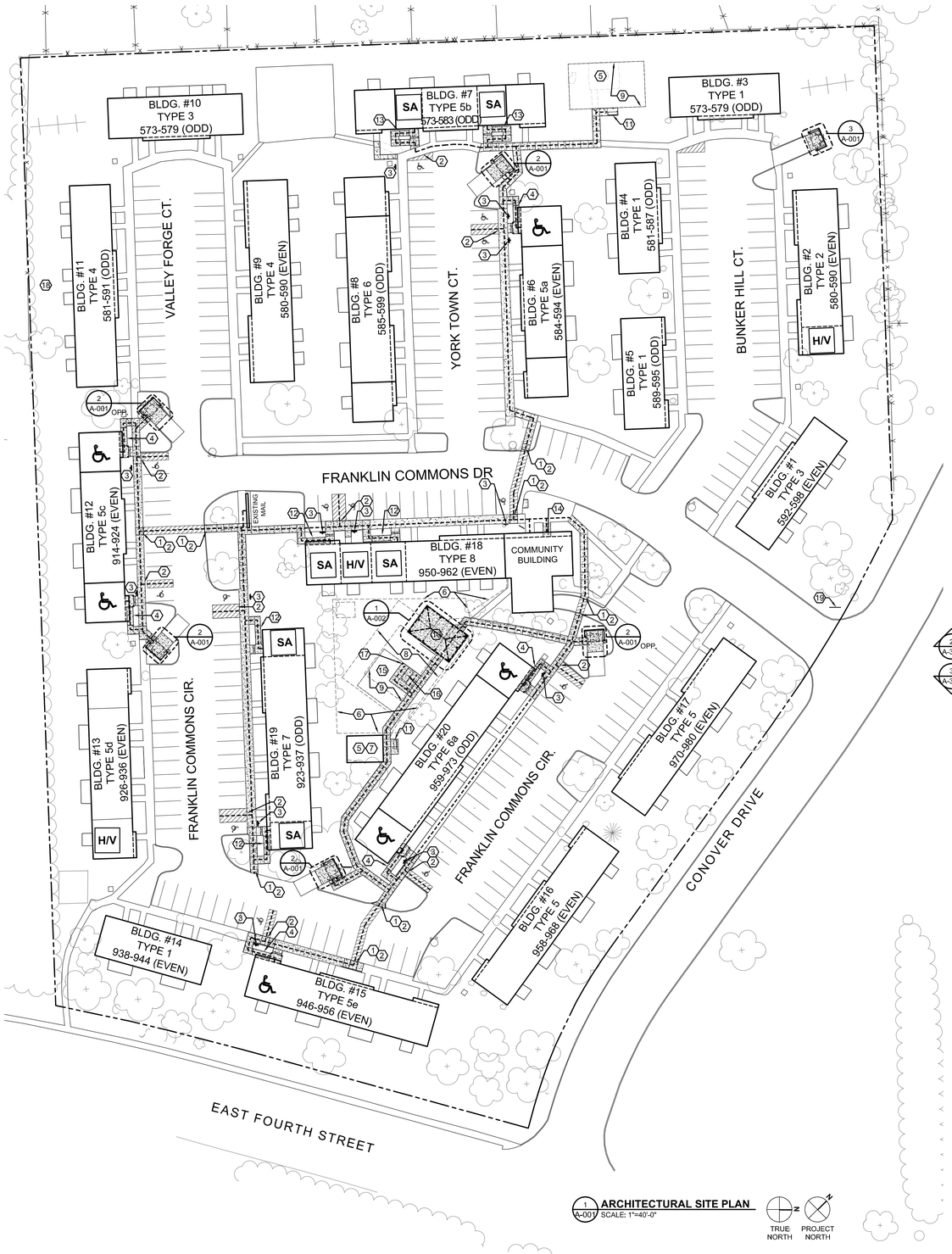
FRANKLIN COMMONS APARTMENTS
962 FRANKLIN COMMONS DRIVE
CITY OF FRANKLIN, WARREN COUNTY, OH

SITE DETAILS

DATE:	SEPTEMBER 2024
DWG SCALE:	NOT TO SCALE
PROJECT NO.	335-381
DRAWN BY:	SDD
CHECKED BY:	BMB
APPROVED BY:	BMB

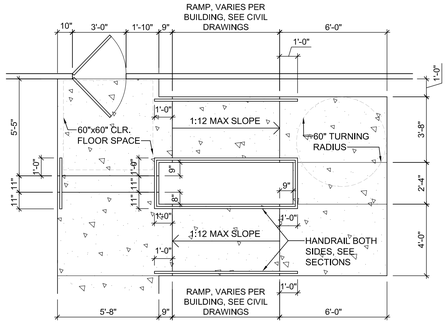
DRAWING NO.:
C801
SHEET 9 OF 9

P:\335-000\335-381\-DWG\Dwg\CIVIL\335381-CIVIL-C800.dwg[C801] 15:19:13/2024 - sdyke - LP: 9/17/2024 4:23 PM

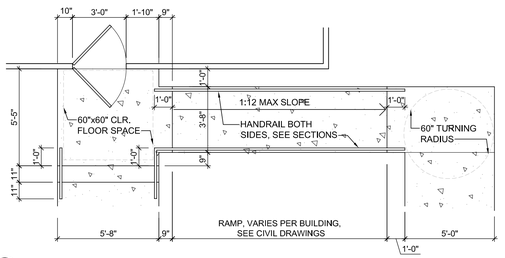


1 A-001 ARCHITECTURAL SITE PLAN
SCALE: 1"=40'-0"

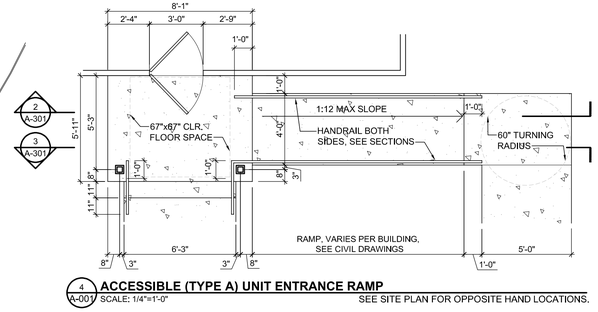
TRUE NORTH / PROJECT NORTH



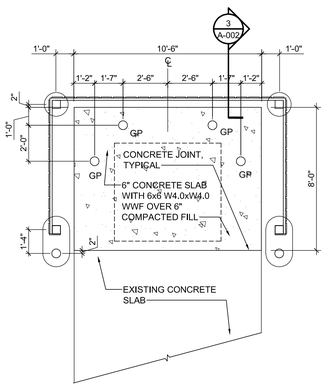
6 A-001 SEMI-AMBULATORY UNIT ENTRANCE RAMP
SCALE: 1/4"=1'-0"
SEE SITE PLAN FOR OPPOSITE HAND LOCATIONS.



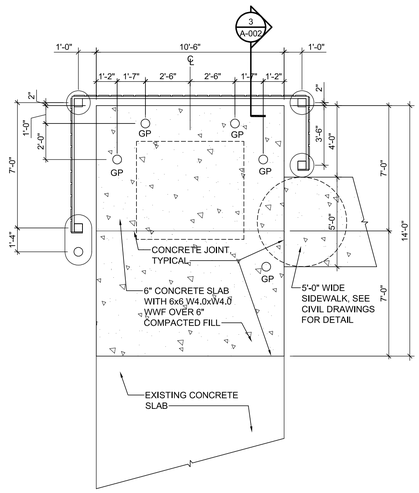
5 A-001 SEMI-AMBULATORY UNIT ENTRANCE RAMP
SCALE: 1/4"=1'-0"
SEE SITE PLAN FOR OPPOSITE HAND LOCATIONS.



4 A-001 ACCESSIBLE (TYPE A) UNIT ENTRANCE RAMP
SCALE: 1/4"=1'-0"
SEE SITE PLAN FOR OPPOSITE HAND LOCATIONS.



3 A-001 DUMPSTER ENCLOSURE PLAN
SCALE: 1/4"=1'-0"



2 A-001 ACCESSIBLE DUMPSTER ENCLOSURE PLAN
SCALE: 1/4"=1'-0"

GENERAL NOTES APPLIES TO SITE PLAN SHEET

A. RE-GRADE AND MODIFY LANDSCAPING AROUND ALL BUILDINGS TO PROVIDE POSITIVE DRAINAGE AWAY FROM FOUNDATION 5'-0" MIN.
B. REGRADE AND SEED/TOPSOIL ALL AREAS DISTURBED DUE TO CONSTRUCTION.
C. PROVIDE ALLOWANCE TO REPLACE MISSING OR DETERIORATED CONCRETE SPLASH BLOCKS. ENSURE THAT ALL SPLASH BLOCKS ARE PROPERLY SLOPED AWAY FROM FOUNDATION.
D. SEE CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL SCOPE AND DETAILS, INCLUDING PAVEMENT REPAIRS AND ALTERATIONS.
E. SEE ELECTRICAL DRAWINGS FOR SITE ELECTRICAL WORK.
F. REMOVE AND INSTALL NEW DUMPSTER ENCLOSURES, SEE DETAILS ON THIS SHEET.
G. GRIND EXISTING PARKING LOT AND OVERLAY 2" LAYER OF ASPHALT, SEE CIVIL DRAWINGS.
H. FULL DEPTH REPLACEMENT OF ASPHALT AS REQUIRED, SEE CIVIL DRAWINGS
I. STRIPING PARKING STALLS, ACCESSIBLE PARKING STENCILS, FIRE LANES, CROSSWALKS, AND ACCESSIBLE LOADING AREAS
J. REMOVE EXISTING BENCHES INCLUDING THE FOOTINGS.
K. PROVIDE ALLOWANCE FOR THE REPLACEMENT OF PLAYGROUND EQUIPMENT, COORDINATE SCOPE W/ OWNER'S EQUIPMENT PROVIDER.
L. LANDSCAPE SCOPE INCLUDE REMOVE DEAD TREES AND REPLACE DEAD TREES AND SHRUBS WITH NON-INVASIVE PLANTS

SITE DATA

PARCEL NO.	0425215026
SITE ACREAGE	7.74
PARKING NO.	232 (13 ACCESSIBLE PARKING SPACE)

LEGEND

- ACCESSIBLE (TYPE A) UNIT
- H/V — HEARING / VISUAL IMPAIRED UNIT
- SA — SEMI-AMBULATORY UNIT
- NEW SIDEWALK, 5' WIDE MINIMUM
- ACCESSIBLE SITE ROUTE, PROVIDE 5'-0" WIDE MIN. SIDEWALK; SEE RAMP DETAILS AT ENTRIES.
- GP — GUARD POST, SEE DETAIL 5/A-002

KEYNOTE LEGEND

1. DETECTABLE WARNING SURFACE ALL CROSS WALKS, SEE CIVIL DRAWINGS
2. FLUSH CURB OR CURB RAMP, SEE CIVIL DRAWINGS
3. ACCESSIBLE PARKING SIGN, SEE CIVIL DRAWINGS
4. RAMP, SEE 4/A-001
5. REMOVE EXISTING PLAYGROUND EQUIPMENT, BENCH, AND BORDER.
6. REMOVE EXISTING FENCE AND FOOTING, INFILL FOOTING AREA AND SEED / TOPSOIL.
7. PROVIDE AND INSTALL NEW PLAYGROUND EQUIPMENT AND BORDER. PLAYGROUND AREA TO BE MINIMUM 400 SQFT (EGC CRITERIA CHECKLIST 7.11 OPTION 2)
8. REMOVE POOL STRUCTURE AND INFILL POOL. REMOVE POOL EQUIPMENT SHEDS AND ASSOCIATED POOL EQUIPMENT. SEED AND TOP SOIL. CAP/DECOMMISSION ANY UTILITIES SERVING POOL PER APPLICABLE CODES.
9. 5' VINYL COATED CHAIN LINK FENCE WITH 3' GATE, SEE DETAIL 2/A-002.
10. PICNIC SHELTER, SEE 1/A-002
11. 6'-0" STEEL BENCH, ANCHOR TO CONCRETE PER MANUFACTURER'S RECOMMENDATIONS
12. NEW ENTRY LANDING, STAIR AND RAMP, SEE 5/A-001
13. NEW ENTRY LANDING, STAIR AND RAMP, SEE 6/A-001
14. PROVIDE NEW ENTRY 5'x5' ENTRY LANDING AND SIDEWALK. 1'-10" DOOR PULL SIDE
15. 30'-0" x 30'-0" FENCED IN AREA FOR COMMUNITY CARDEN
16. 4'-0" x 8'-0" ACCESSIBLE RAISED GARDEN BED.
17. PROVIDE AND INSTALL NEW HOSE BIB PEDESTAL IN THIS LOCATION. NEW WATER LINE AND CONNECTION TO EXISTING WATER SERVICE TO BE DESIGN/BUILD BY SITE CONTRACTOR.
18. NEW SWALE, SEE CIVIL DRAWINGS
19. REMOVE EXISTING AND PROVIDE NEW MONUMENT SIGN, SEE 6/A-002
20. REMOVE EXISTING AND PROVIDE NEW RENTAL OFFICE SIGN, SEE 6/A-002

ATA BEILHARZ ARCHITECTS
1993 Central Avenue Cincinnati Ohio, 45202
p: 513-241-4402 f: 513-241-5560 www.ATA-B.com

SECURITY PROPERTIES

FRANKLIN COMMONS

ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

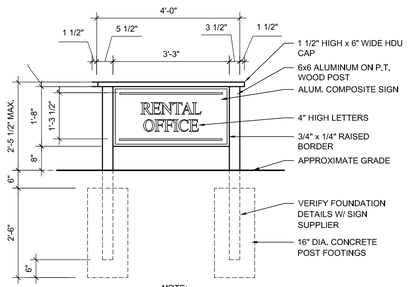
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

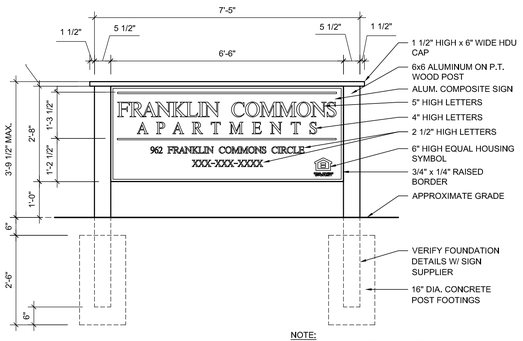
ARCHITECTURAL
SITE & LANDSCAPE PLAN
LANDSCAPE SCOPE

A-001



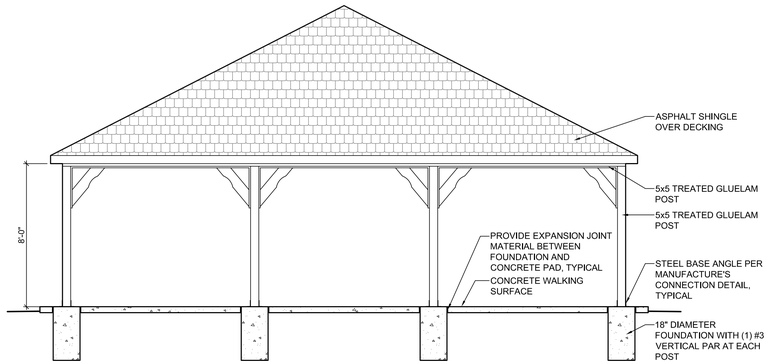
NOTE:
1. ALL COPY TO BE HIGH PERFORMANCE VINYL
2. COLOR AS SELECTED
3. CONFIRM ALL TEXT WITH OWNER/ARCHITECT PRIOR TO FABRICATION

7 A-002 RENTAL OFFICE SIGN ELEVATION
SCALE: 1/2"=1'-0"



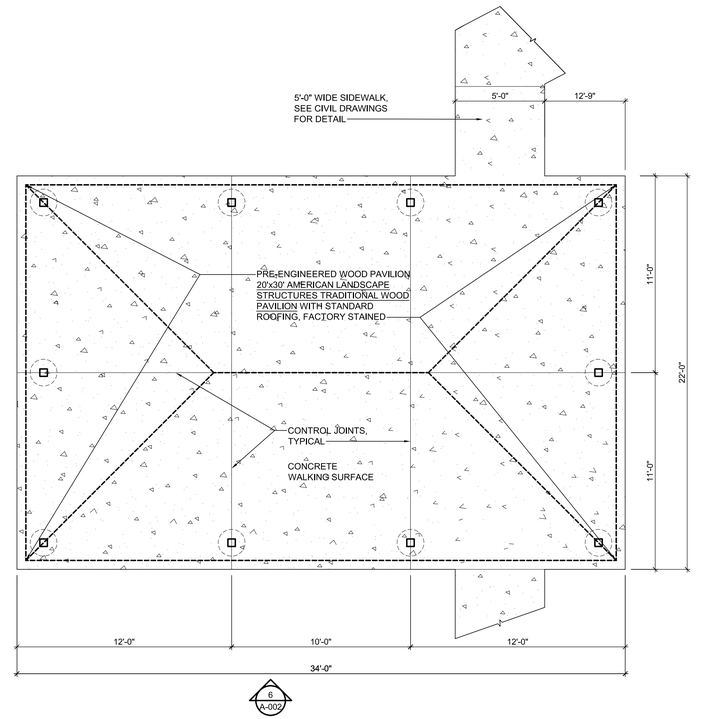
NOTE:
1. SIGN TO BE DOUBLE-SIDED
2. ALL COPY TO BE HIGH PERFORMANCE VINYL
3. COLOR AS SELECTED
4. CONFIRM ALL TEXT WITH OWNER/ARCHITECT PRIOR TO FABRICATION

6 A-002 MONUMENT SIGN ELEVATION
SCALE: 1/2"=1'-0"



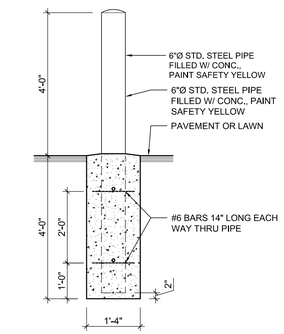
PRE-ENGINEERED WOOD PAVILION REQUIRING ON-SITE ASSEMBLY. REFER TO MANUFACTURE'S DOCUMENTATION FOR ADDITIONAL INSTALLATION DETAILS AND INSTRUCTION.
PRODUCT: 20'x30' AMERICAN LANDSCAPE STRUCTURES TRADITIONAL WOOD PAVILION WITH STANDARD ROOFING, FACTORY STAINED

6 A-002 PICNIC SHELTER DETAIL
SCALE: 1/4"=1'-0"

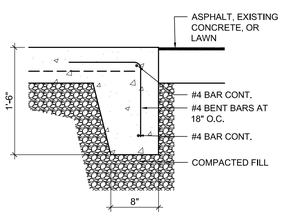


1 A-002 PICNIC AREA PLAN
SCALE: 1/4"=1'-0"

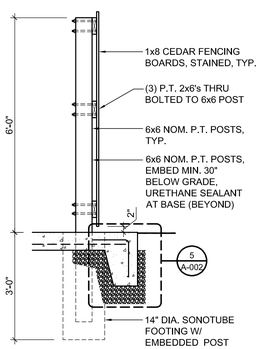
N
PLAN NORTH



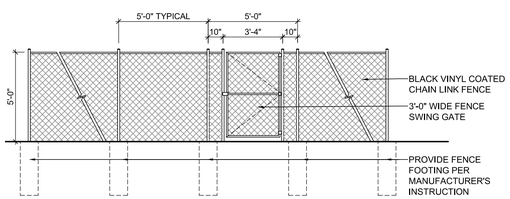
5 A-002 GUARD POST (GP) DETAIL
SCALE: 1/2"=1'-0"



4 A-002 FLUSH CURB DETAIL
SCALE: 1"=1'-0"



3 A-002 FENCE SECTION
SCALE: 1/2"=1'-0"



2 A-002 FENCE ELEVATION
SCALE: 1/4"=1'-0"

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SECURITY PROPERTIES

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ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

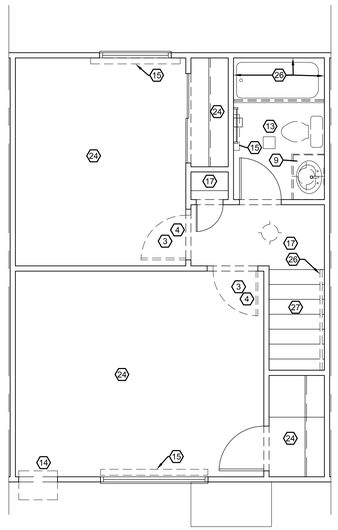
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

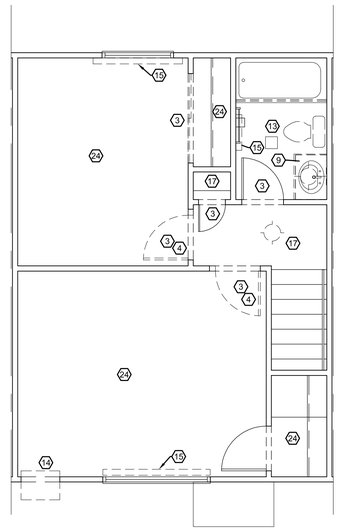
PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

SITE DETAILS

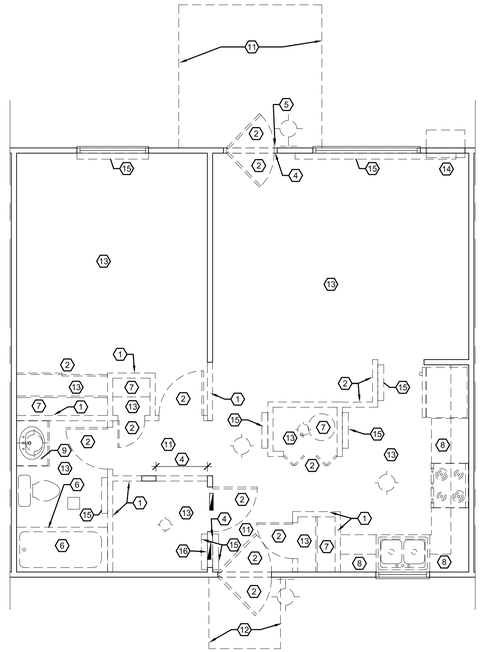
A-002



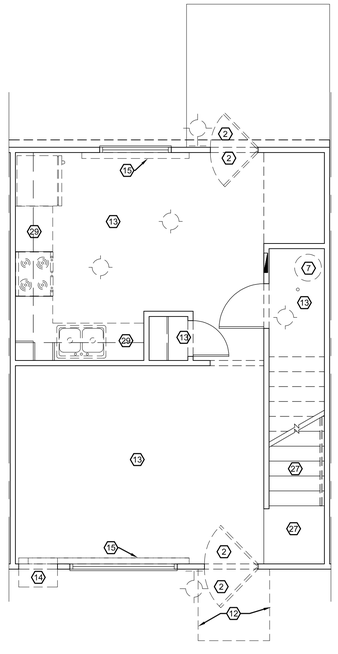
SEMI-AMBULATORY TWO BEDROOM UNIT (TYPE 2-SA)
SECOND DEMOLITION PLAN
6 / AD401 SCALE: 1/4" = 1'-0"



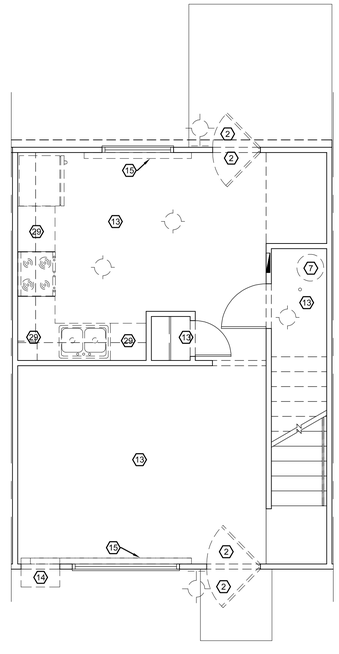
TWO BEDROOM UNIT (TYPE 2)
SECOND DEMOLITION PLAN
4 / AD401 SCALE: 1/4" = 1'-0"



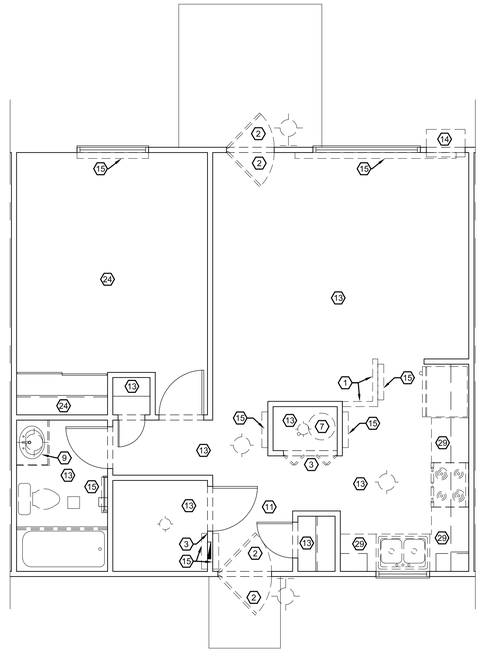
ONE BEDROOM ACCESSIBLE (ANSI TYPE A) UNIT (TYPE 1-HC)
DEMOLITION PLAN
2 / AD401 SCALE: 1/4" = 1'-0"



SEMI-AMBULATORY TWO BEDROOM UNIT (TYPE 2-SA)
FIRST DEMOLITION PLAN
5 / AD401 SCALE: 1/4" = 1'-0"



TWO BEDROOM UNIT (TYPE 2)
FIRST DEMOLITION PLAN
3 / AD401 SCALE: 1/4" = 1'-0"



ONE BEDROOM STANDARD UNIT (TYPE 1) DEMOLITION PLAN
1 / AD401 SCALE: 1/4" = 1'-0"

LEGEND

- EXISTING WALL TO REMAIN
- EXISTING TO BE DEMOLISHED, SEE NOTES
- EXISTING ONE HOUR RATED FIRE BARRIER TO REMAIN
- EXISTING TWO HOUR RATED FIRE BARRIER TO REMAIN

GENERAL NOTES APPLIES TO ALL DEMOLITION PLAN SHEETS

1. SEE OWNER'S SCOPE AND MEP DRAWINGS FOR SCOPE OF MEP DEMOLITION
   - 1.1. REMOVE LAVATORY SINK
   - 1.2. REMOVE TOILET
2. REMOVE KITCHEN SINK, LIGHT FIXTURE, BATHROOM FAN, BASEBOARD HEATER AND THRU WALL A/C UNIT AND SLEEVE, SEE MEP DRAWINGS.
3. SELECTIVE DEMOLITION OF BATHROOM ACCESSORIES, SEE OWNER'S SCOPE
4. REMOVE KITCHEN APPLIANCE
5. REMOVE WALL BASE WHERE FLOORING IS REMOVED
6. REMOVE PORTION OF FLOOR SLAB AS REQUIRED FOR NEW RADON SYSTEM. REFER TO RADON MITIGATION SYSTEM DRAWINGS.
7. REPAIR DAMAGED ENTRY CONCRETE SLAB, STEP, AND PATIO SLAB AS REQUIRED.

KEYNOTE LEGEND (6)

1. REMOVE WALL OR PORTION OF WALL AS REQUIRED FOR NEW WORK
2. REMOVE DOOR
3. REMOVE INTERIOR DOOR
4. REMOVE PORTION OF WALL AND PROVIDE NEW HEADER FOR NEW OPENING. REFER DOOR SCHEDULE FOR OPENING SIZE
5. REMOVE PORTION OF BRICK VENEER FOR NEW DOOR
6. REMOVE EXISTING TUB FOR ACCESSIBLE UNIT ONLY
7. REMOVE WATER HEATER PER OWNER'S MATRIX, SEE PLUMBING DRAWINGS
8. REMOVE KITCHEN CABINET AND COUNTERTOP
9. REMOVE LAVATORY CABINET AND COUNTERTOP PER OWNER'S MATRIX
10. REMOVE SHELVES AND RODS FOR ACCESSIBLE UNITS AND COMMUNITY BUILDING
11. REMOVE ACCESSIBLE UNIT EXISTING PORCH SLAB
12. REMOVE ACCESSIBLE UNIT AND SEMI-AMBULATORY EXISTING ENTRY SLAB AND STAIR, SEE ARCHITECTURAL SITE PLAN FOR DETAILS
13. REMOVE EXISTING LVT FLOORING
14. REMOVE A/C SLEEVE AND PREP FOR INFILL
15. REMOVE BASE BOARD HEATER
16. REMOVE ACCESSIBLE UNIT ELECTRICAL PANEL FOR RELOCATION, SEE ELECTRICAL DRAWINGS
17. REMOVE CARPET FLOORING ON TOP LANDING, PROVIDE TRANSITION AS REQUIRED.
18. REMOVE EXISTING TILE FLOORING
19. REMOVE EXISTING COUNTERTOP OVER FURRING WALL
20. REMOVE EXISTING BUILT-IN FURNITURE
21. REMOVE INTERIOR WINDOW
22. REMOVE BULKHEAD
23. REMOVE PORTION OF WALL FOR NEW DOOR OPENING. SEE PLAN AND DOOR SCHEDULE FOR LOCATION AND OPENING SIZE
24. REMOVE EXISTING CARPET IN BEDROOM AND BEDROOM CLOSET PER OWNER'S MATRIX
25. REMOVE VINYL SIDING
26. REMOVE HANDRAIL IN SEMI-AMBULATORY UNIT ONLY
27. REMOVE EXISTING CARPET ON STAIR IN SEMI-AMBULATORY UNIT ONLY
28. REMOVE TUB SURROUND IN SEMI-AMBULATORY UNIT ONLY, TUB TO REMAIN IN PLACE.
29. REMOVE COUNTERTOP, EXISTING CABINET REMAIN IN PLACE

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STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

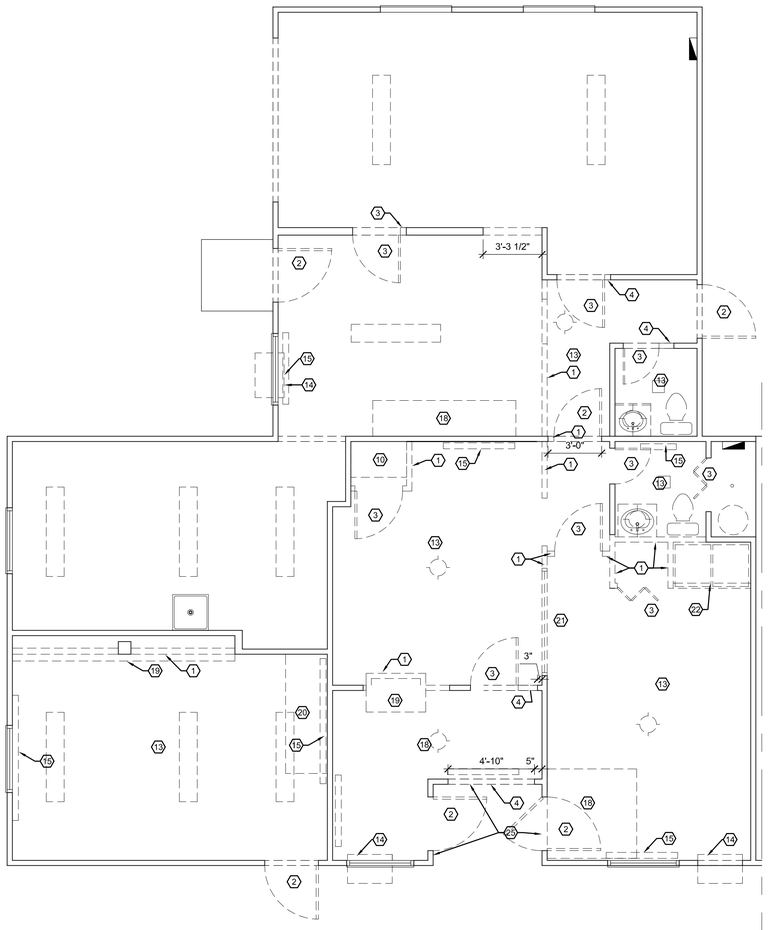
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

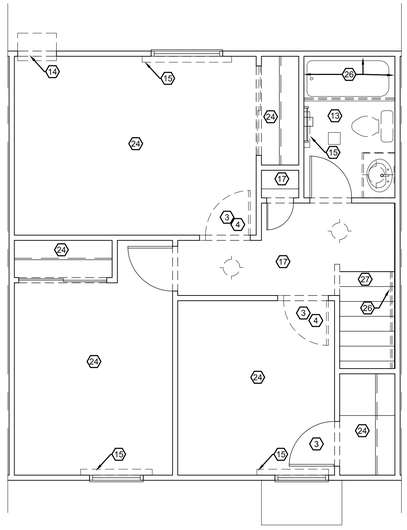
1 AND 2 BEDROOM UNIT
DEMOLITION PLANS

AD401



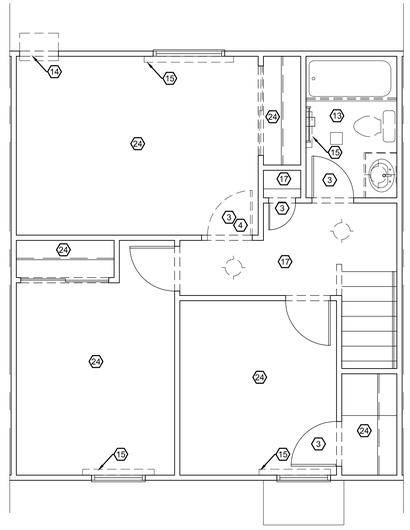
5 AD401 **COMMON AREA DEMOLITION PLAN**
SCALE: 1/4" = 1'-0"

N
PROJECT NORTH



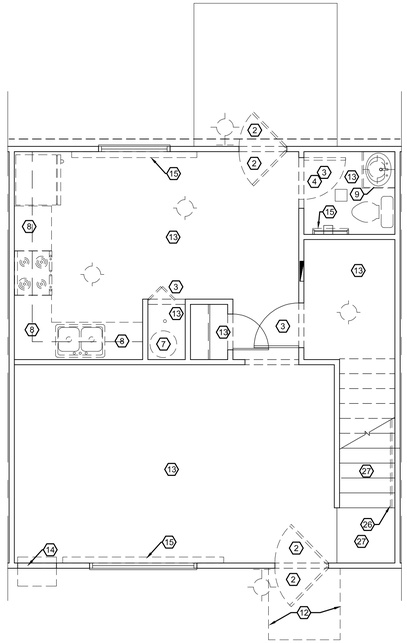
4 AD401 **THREE BEDROOM SEMI-AMBULATORY UNIT (TYPE 3-SA) SECOND FLOOR DEMOLITION PLAN**
SCALE: 1/4" = 1'-0"

N
PLAN NORTH



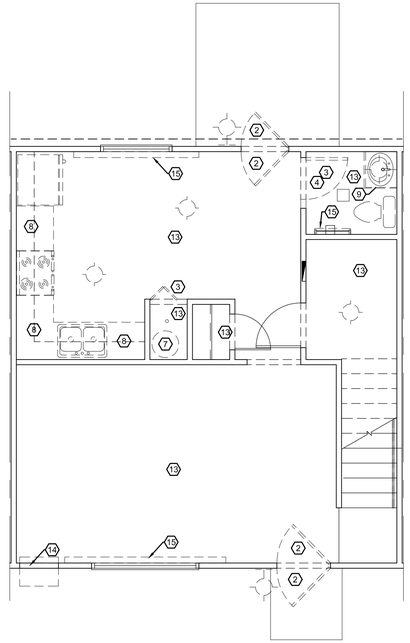
2 AD401 **THREE BEDROOM UNIT (TYPE 3) SECOND FLOOR DEMOLITION PLAN**
SCALE: 1/4" = 1'-0"

N
PLAN NORTH



3 AD401 **THREE BEDROOM SEMI-AMBULATORY UNIT (TYPE 3-SA) FIRST FLOOR DEMOLITION PLAN**
SCALE: 1/4" = 1'-0"

N
PLAN NORTH



1 AD401 **THREE BEDROOM UNIT (TYPE 3) FIRST FLOOR DEMOLITION PLAN**
SCALE: 1/4" = 1'-0"

N
PLAN NORTH

LEGEND

- EXISTING WALL TO REMAIN
- EXISTING TO BE DEMOLISHED, SEE NOTES
- EXISTING ONE HOUR RATED FIRE BARRIER TO REMAIN
- EXISTING TWO HOUR RATED FIRE BARRIER TO REMAIN

GENERAL NOTES APPLIES TO ALL DEMOLITION PLAN SHEETS

1. SEE OWNER'S SCOPE AND MEP DRAWINGS FOR SCOPE OF MEP DEMOLITION
   - 1.1. REMOVE LAVATORY SINK
   - 1.2. REMOVE TOILET
2. REMOVE KITCHEN SINK, LIGHT FIXTURE, BATHROOM FAN, BASEBOARD HEATER AND THRU WALL A/C UNIT AND SLEEVE, SEE MEP DRAWINGS.
3. SELECTIVE DEMOLITION OF BATHROOM ACCESSORIES, SEE OWNER'S SCOPE
4. REMOVE KITCHEN APPLIANCE
5. REMOVE WALL BASE WHERE FLOORING IS REMOVED
6. REMOVE PORTION OF FLOOR SLAB AS REQUIRED FOR NEW RADON SYSTEM. REFER TO RADON MITIGATION SYSTEM DRAWINGS.
7. REPAIR DAMAGED ENTRY CONCRETE SLAB, STEP, AND PATIO SLAB AS REQUIRED.

KEYNOTE LEGEND (#)

1. REMOVE WALL OR PORTION OF WALL AS REQUIRED FOR NEW WORK
2. REMOVE DOOR
3. REMOVE INTERIOR DOOR
4. REMOVE PORTION OF WALL AND PROVIDE NEW HEADER FOR NEW OPENING. REFER DOOR SCHEDULE FOR OPENING SIZE
5. REMOVE PORTION OF BRICK VENEER FOR NEW DOOR
6. REMOVE EXISTING TUB FOR ACCESSIBLE UNIT ONLY
7. REMOVE WATER HEATER PER OWNER'S MATRIX, SEE PLUMBING DRAWINGS
8. REMOVE KITCHEN CABINET AND COUNTERTOP
9. REMOVE LAVATORY CABINET AND COUNTERTOP PER OWNER'S MATRIX
10. REMOVE SHELVES AND RODS FOR ACCESSIBLE UNITS AND COMMUNITY BUILDING
11. REMOVE ACCESSIBLE UNIT EXISTING PORCH SLAB
12. REMOVE ACCESSIBLE UNIT AND SEMI-AMBULATORY EXISTING ENTRY SLAB AND STAIR, SEE ARCHITECTURAL SITE PLAN FOR DETAILS
13. REMOVE EXISTING LVT FLOORING
14. REMOVE A/C SLEEVE AND PREP FOR INFILL
15. REMOVE BASE BOARD HEATER
16. REMOVE ACCESSIBLE UNIT ELECTRICAL PANEL FOR RELOCATION, SEE ELECTRICAL DRAWINGS
17. REMOVE CARPET FLOORING ON TOP LANDING, PROVIDE TRANSITION AS REQUIRED.
18. REMOVE EXISTING TILE FLOORING
19. REMOVE EXISTING COUNTERTOP OVER FURRING WALL
20. REMOVE EXISTING BUILT-IN FURNITURE
21. REMOVE INTERIOR WINDOW
22. REMOVE BULKHEAD
23. REMOVE PORTION OF WALL FOR NEW DOOR OPENING. SEE PLAN AND DOOR SCHEDULE FOR LOCATION AND OPENING SIZE
24. REMOVE EXISTING CARPET IN BEDROOM AND BEDROOM CLOSET PER OWNER'S MATRIX
25. REMOVE VINYL SIDING
26. REMOVE HANDRAIL IN SEMI-AMBULATORY UNIT ONLY
27. REMOVE EXISTING CARPET ON STAIR IN SEMI-AMBULATORY UNIT ONLY
28. REMOVE TUB SURROUND IN SEMI-AMBULATORY UNIT ONLY, TUB TO REMAIN IN PLACE.
29. REMOVE COUNTERTOP, EXISTING CABINET REMAIN IN PLACE

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1817428
REGISTERED ARCHITECT

Gregory S. Hackett
Expiration Date: 12/31/2025

License No. 1817428

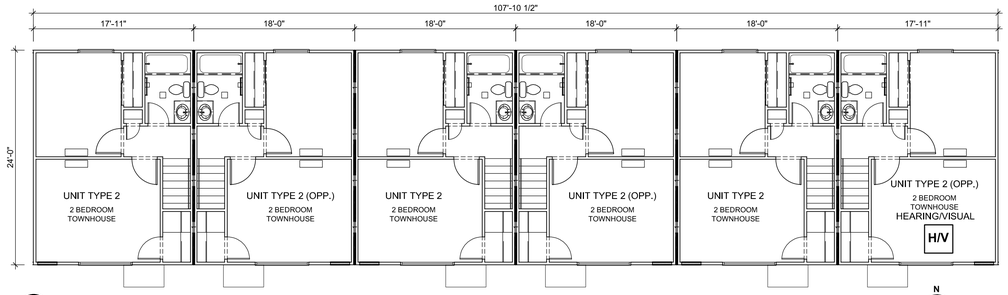
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

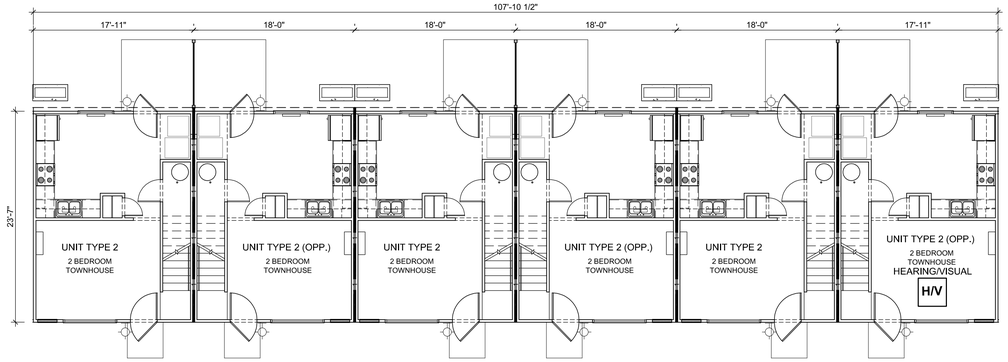
3 BEDROOM UNIT
AND COMMON
AREA DEMOLITION PLANS

AD402



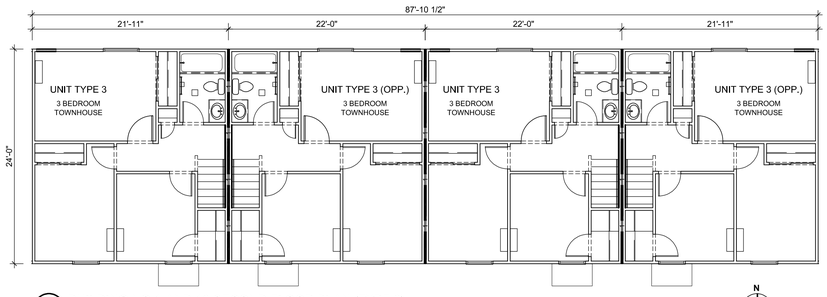
4 A-101 **BUILDING NO.2 SECOND FLOOR PLAN (TYPE 2)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



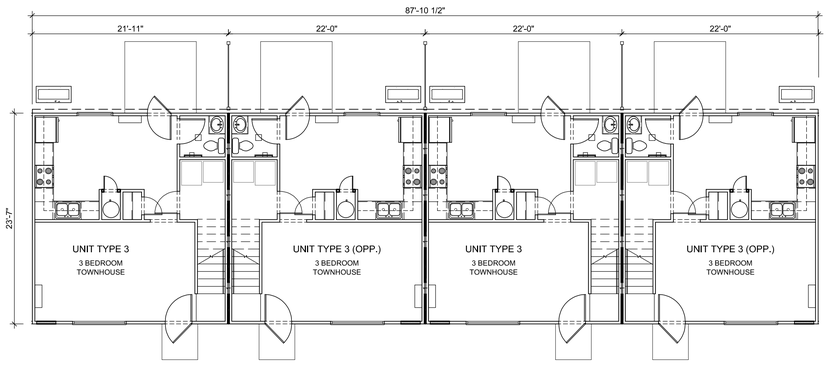
3 A-101 **BUILDING NO.2 FIRST FLOOR PLAN (TYPE 2)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



2 A-101 **BUILDING NO.1 AND 10 SECOND FLOOR PLAN (TYPE 3)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



1 A-101 **BUILDING NO.1 AND 10 FIRST FLOOR PLAN (TYPE 3)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH

LEGEND APPLIES TO SHEETS A-101 - A-107

- SYM — SEE SHEET A-604 FOR ELEVATIONS
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- X — SEE SHEET A-601 FOR PARTITION TYPES
- EXISTING MASONRY WALL
- EXISTING STUD FRAMED WALL
- STUD FRAMED WALL, SEE SHEET A-601 FOR WALL TYPES
- ONE HOUR RATED FIRE PARTITION, EXISTING
- FIRE WALL, EXISTING
- FE — FIRE EXTINGUISHER

GENERAL OVERALL PLAN NOTES

A. DIMENSIONS ARE TO FINISHED FACE OF WALL, FACE OF NOMINAL MASONRY, COLUMN CENTERLINE, OR PLUMBING FIXTURE CENTERLINE; UNLESS NOTED OTHERWISE

B. EXISTING SMOKE PARTITIONS, FIRE PARTITIONS, FIRE BARRIERS AND FIRE WALLS REMAIN IN PLACE.

C. SEE A-400 SERIES SHEETS FOR EQUIPMENT LOCATIONS AND DESCRIPTIONS.

D. PROVIDE BLOCKING AT STUD PARTITION WALLS AS REQUIRED FOR SUPPORT OF ALL WALL MOUNTED EQUIPMENT AND ACCESSORIES. REFER TO INTERIOR ELEVATION SHEETS AND EQUIPMENT SCHEDULE.

E. FURNISH AND INSTALL ALL ROOM SIGNAGE, SEE SIGNAGE SCHEDULE AND DETAILS, SHEET A-602

F. INSTALL TRANSITION STRIPS AT CHANGES IN FLOORING MATERIAL. ALL TRANSITIONS TO BE ACCESSIBLE AND TO COMPLY WITH ICC/ANSI A117.1.-2009.

G. EXTERIOR GUARD POSTS BY G.C., SEE FLOOR PLANS, SITE DEVELOPMENT PLAN AND DETAIL 2/A-101

H. PAINT EXPOSED CONDUITS AND SURFACE OF ALL POWER PANELS, SEE ELECTRICAL DRAWINGS FOR LOCATIONS

I. EXISTING BRICK VENEER NOT SHOWN IN PLANS. SEE ELEVATION SHEETS FOR EXTERIOR BRICK VENEER LOCATIONS

J. REFER TO RADON MITIGATION CONSULTANT'S DRAWING AND SPECIFICATIONS FOR NEW RADON MITIGATION STYSTME REQUIREMENTS. PROVIDE A MATERIAL AND LABOR REQUIRED FOR SYSTEM INSTALLATION. COORDINATE PIPIING LOCATIONS, CONCRETE SLAB REMOVAL AND REPLACEMENT, AND POWER IN ATTICS WITH THESE DRAWINGS.

K. SEE ROOF PLANS FOR DOWN PIPE LOCATIONS

KEYNOTE LEGEND

1 ATTIC ACCESS PANEL LOCATION. SEE A-411 AND A-412 FOR DETAIL

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STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

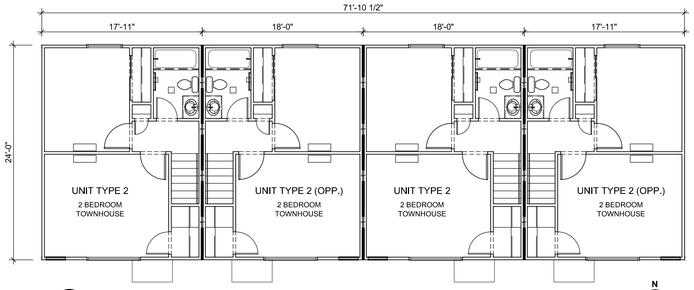
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

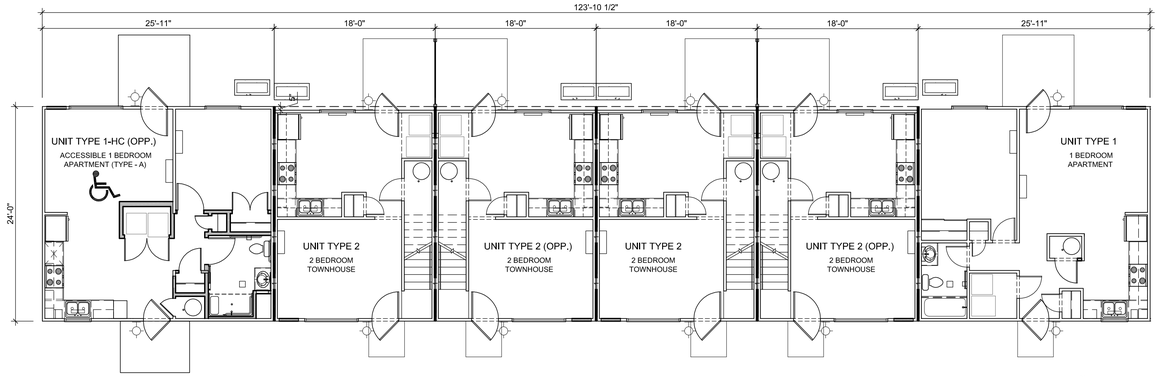
BUILDING 1 & 10 PLAN
BUILDING 2 PLAN

A-101



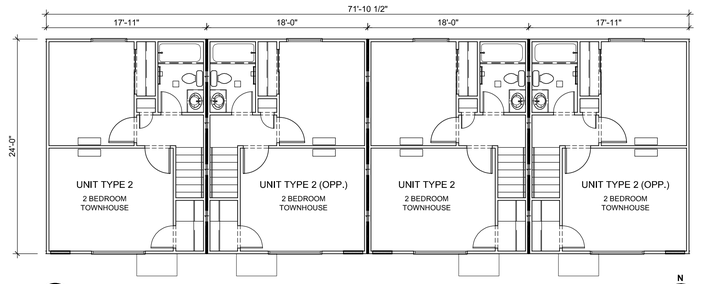
4 / A-102 **BUILDING NO.6 SECOND FLOOR PLAN (TYPE 5a)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



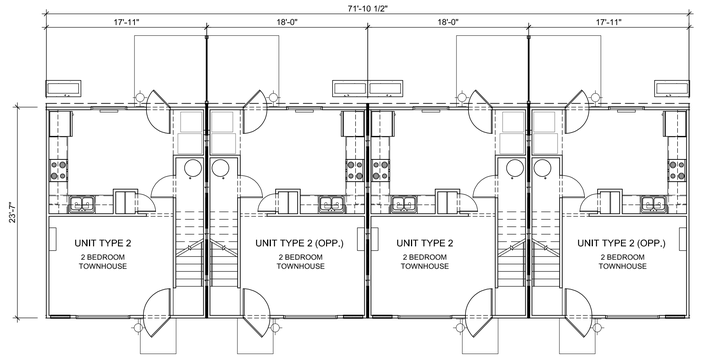
3 / A-102 **BUILDING NO.6 FIRST FLOOR PLAN (TYPE 5a)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



2 / A-102 **BUILDING NO. 3, 4, 5 & 14 SECOND FLOOR PLAN (TYPE 1)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



1 / A-102 **BUILDING NO. 3, 4, 5 & 14 FIRST FLOOR PLAN (TYPE 1)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH

LEGEND APPLIES TO SHEETS A-101 - A-107

- SYM — SEE SHEET A-604 FOR ELEVATIONS
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- X — SEE SHEET A-601 FOR PARTITION TYPES
- EXISTING MASONRY WALL
- EXISTING STUD FRAMED WALL
- STUD FRAMED WALL, SEE SHEET A-601 FOR WALL TYPES
- ONE HOUR RATED FIRE PARTITION, EXISTING
- FIRE WALL, EXISTING
- FE — FIRE EXTINGUISHER

GENERAL OVERALL PLAN NOTES

A. DIMENSIONS ARE TO FINISHED FACE OF WALL, FACE OF NOMINAL MASONRY, COLUMN CENTERLINE, OR PLUMBING FIXTURE CENTERLINE: UNLESS NOTED OTHERWISE

B. EXISTING SMOKE PARTITIONS, FIRE PARTITIONS, FIRE BARRIERS AND FIRE WALLS REMAIN IN PLACE.

C. SEE A-400 SERIES SHEETS FOR EQUIPMENT LOCATIONS AND DESCRIPTIONS.

D. PROVIDE BLOCKING AT STUD PARTITION WALLS AS REQUIRED FOR SUPPORT OF ALL WALL MOUNTED EQUIPMENT AND ACCESSORIES. REFER TO INTERIOR ELEVATION SHEETS AND EQUIPMENT SCHEDULE.

E. FURNISH AND INSTALL ALL ROOM SIGNAGE, SEE SIGNAGE SCHEDULE AND DETAILS, SHEET A-602

F. INSTALL TRANSITION STRIPS AT CHANGES IN FLOORING MATERIAL. ALL TRANSITIONS TO BE ACCESSIBLE AND TO COMPLY WITH ICC/ANSI A117.1.-2009.

G. EXTERIOR GUARD POSTS BY G.C., SEE FLOOR PLANS, SITE DEVELOPMENT PLAN AND DETAIL 2/A-101

H. PAINT EXPOSED CONDUITS AND SURFACE OF ALL POWER PANELS, SEE ELECTRICAL DRAWINGS FOR LOCATIONS

I. EXISTING BRICK VENEER NOT SHOWN IN PLANS. SEE ELEVATION SHEETS FOR EXTERIOR BRICK VENEER LOCATIONS

J. REFER TO RADON MITIGATION CONSULTANT'S DRAWING AND SPECIFICATIONS FOR NEW RADON MITIGATION STYSTME REQUIREMENTS. PROVIDE A MATERIAL AND LABOR REQUIRED FOR SYSTEM INSTALLATION. COORDINATE PIPIING LOCATIONS, CONCRETE SLAB REMOVAL AND REPLACEMENT, AND POWER IN ATTICS WITH THESE DRAWINGS.

K. SEE ROOF PLANS FOR DOWN PIPE LOCATIONS

KEYNOTE LEGEND

1 ATTIC ACCESS PANEL LOCATION. SEE A-411 AND A-412 FOR DETAIL

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STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett — License No. 1817428
Expiration Date: 12/31/2025

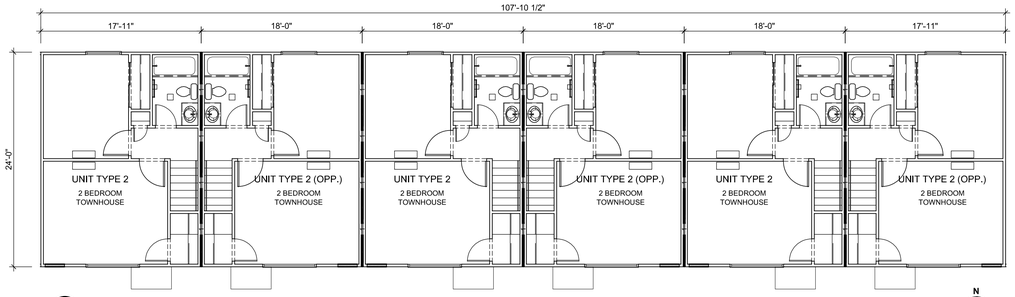
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

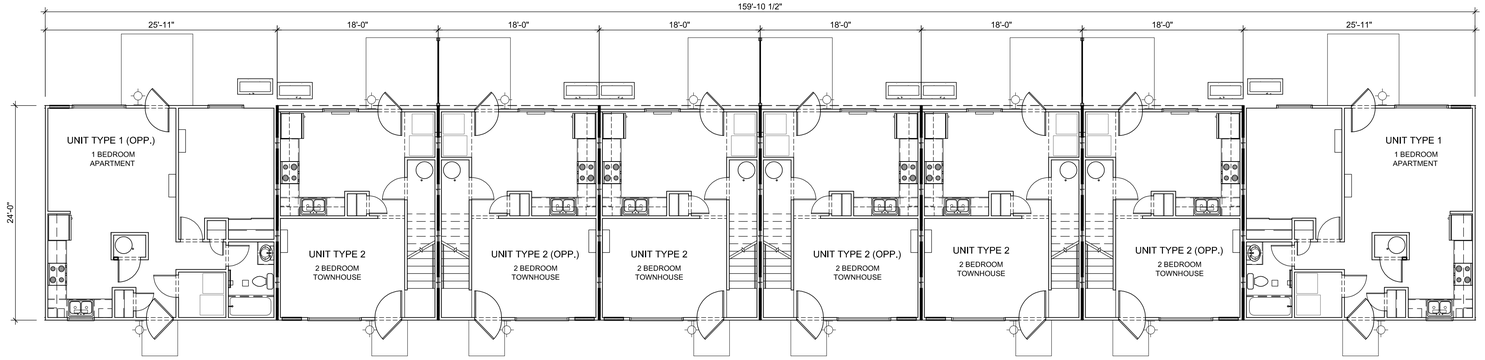
BUILDING 3,4,5, & 14 PLAN
BUILDING 6 PLAN

A-102



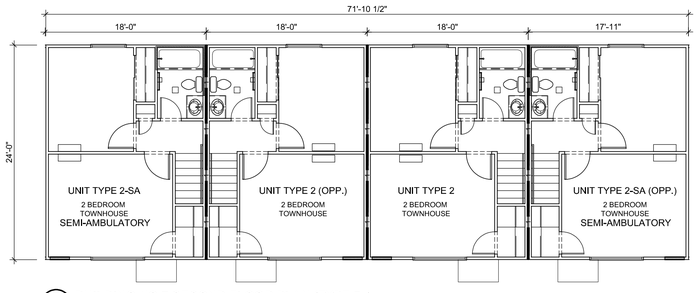
4 A-103 **BUILDING NO. 8 SECOND FLOOR PLAN (TYPE 6)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



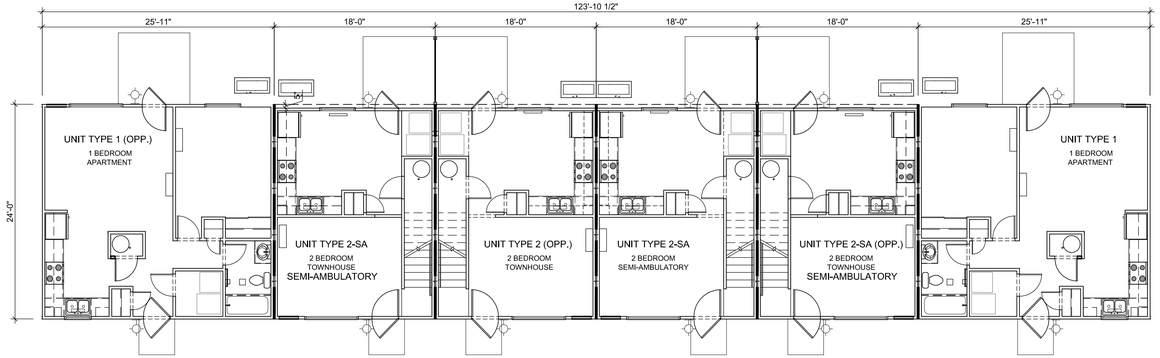
3 A-103 **BUILDING NO. 8 FIRST FLOOR PLAN (TYPE 6)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



2 A-103 **BUILDING NO.7 SECOND FLOOR PLAN (TYPE 5b)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



1 A-103 **BUILDING NO.7 FIRST FLOOR PLAN (TYPE 5b)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH

LEGEND APPLIES TO SHEETS A-101 - A-107

- SYM — SEE SHEET A-604 FOR ELEVATIONS
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- X — SEE SHEET A-601 FOR PARTITION TYPES
- EXISTING MASONRY WALL
- EXISTING STUD FRAMED WALL
- STUD FRAMED WALL, SEE SHEET A-601 FOR WALL TYPES
- ONE HOUR RATED FIRE PARTITION, EXISTING
- FIRE WALL, EXISTING
- FE — FIRE EXTINGUISHER

GENERAL OVERALL PLAN NOTES

A. DIMENSIONS ARE TO FINISHED FACE OF WALL, FACE OF NOMINAL MASONRY, COLUMN CENTERLINE, OR PLUMBING FIXTURE CENTERLINE: UNLESS NOTED OTHERWISE

B. EXISTING SMOKE PARTITIONS, FIRE PARTITIONS, FIRE BARRIERS AND FIRE WALLS REMAIN IN PLACE.

C. SEE A-400 SERIES SHEETS FOR EQUIPMENT LOCATIONS AND DESCRIPTIONS.

D. PROVIDE BLOCKING AT STUD PARTITION WALLS AS REQUIRED FOR SUPPORT OF ALL WALL MOUNTED EQUIPMENT AND ACCESSORIES. REFER TO INTERIOR ELEVATION SHEETS AND EQUIPMENT SCHEDULE.

E. FURNISH AND INSTALL ALL ROOM SIGNAGE, SEE SIGNAGE SCHEDULE AND DETAILS, SHEET A-602

F. INSTALL TRANSITION STRIPS AT CHANGES IN FLOORING MATERIAL. ALL TRANSITIONS TO BE ACCESSIBLE AND TO COMPLY WITH ICC/ANSI A117.1.-2009.

G. EXTERIOR GUARD POSTS BY G.C., SEE FLOOR PLANS, SITE DEVELOPMENT PLAN AND DETAIL 2/A-101

H. PAINT EXPOSED CONDUITS AND SURFACE OF ALL POWER PANELS, SEE ELECTRICAL DRAWINGS FOR LOCATIONS

I. EXISTING BRICK VENEER NOT SHOWN IN PLANS. SEE ELEVATION SHEETS FOR EXTERIOR BRICK VENEER LOCATIONS

J. REFER TO RADON MITIGATION CONSULTANT'S DRAWING AND SPECIFICATIONS FOR NEW RADON MITIGATION STYSTME REQUIREMENTS. PROVIDE A MATERIAL AND LABOR REQUIRED FOR SYSTEM INSTALLATION. COORDINATE PIPIING LOCATIONS, CONCRETE SLAB REMOVAL AND REPLACEMENT, AND POWER IN ATTICS WITH THESE DRAWINGS.

K. SEE ROOF PLANS FOR DOWN PIPE LOCATIONS

KEYNOTE LEGEND

1 ATTIC ACCESS PANEL LOCATION. SEE A-411 AND A-412 FOR DETAIL

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STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

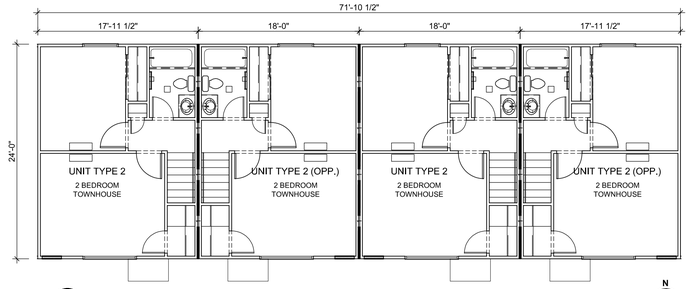
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

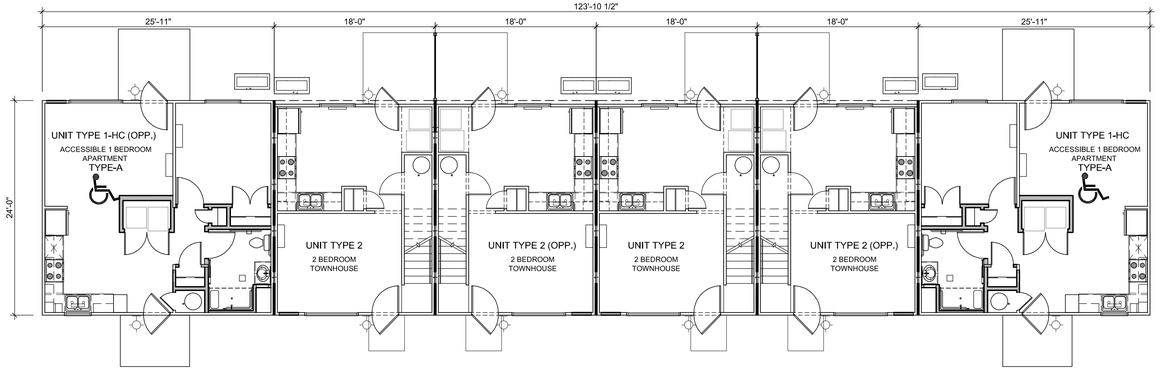
BUILDING 7 PLAN
BUILDING 8 PLAN

A-103



4 A-104 **BUILDING NO. 12 SECOND FLOOR PLAN (TYPE 5c)**
SCALE: 1/8" = 1'-0"

N PLAN NORTH

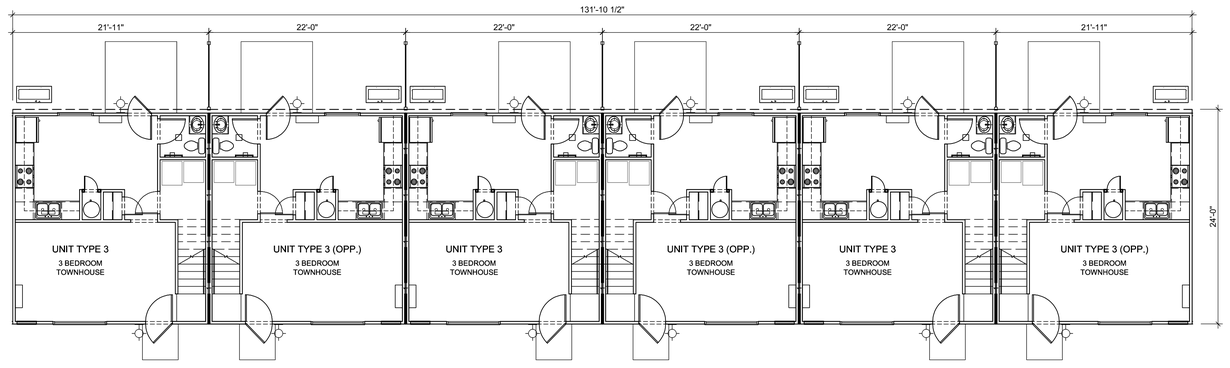


3 A-104 **BUILDING NO. 12 FIRST FLOOR PLAN (TYPE 5c)**
SCALE: 1/8" = 1'-0"

N PLAN NORTH

2 A-104 **BUILDING NO. 9 & 11 SECOND FLOOR PLAN (TYPE 4)**
SCALE: 1/8" = 1'-0"

N PLAN NORTH



1 A-104 **BUILDING NO. 9 & 11 FIRST FLOOR PLAN (TYPE 4)**
SCALE: 1/8" = 1'-0"

N PLAN NORTH

LEGEND APPLIES TO SHEETS A-101 - A-107

- SYM — SEE SHEET A-604 FOR ELEVATIONS
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- X — SEE SHEET A-601 FOR PARTITION TYPES
- EXISTING MASONRY WALL
- EXISTING STUD FRAMED WALL
- STUD FRAMED WALL, SEE SHEET A-601 FOR WALL TYPES
- ONE HOUR RATED FIRE PARTITION, EXISTING
- FIRE WALL, EXISTING
- FE — FIRE EXTINGUISHER

GENERAL OVERALL PLAN NOTES

A. DIMENSIONS ARE TO FINISHED FACE OF WALL, FACE OF NOMINAL MASONRY, COLUMN CENTERLINE, OR PLUMBING FIXTURE CENTERLINE: UNLESS NOTED OTHERWISE

B. EXISTING SMOKE PARTITIONS, FIRE PARTITIONS, FIRE BARRIERS AND FIRE WALLS REMAIN IN PLACE.

C. SEE A-400 SERIES SHEETS FOR EQUIPMENT LOCATIONS AND DESCRIPTIONS.

D. PROVIDE BLOCKING AT STUD PARTITION WALLS AS REQUIRED FOR SUPPORT OF ALL WALL MOUNTED EQUIPMENT AND ACCESSORIES. REFER TO INTERIOR ELEVATION SHEETS AND EQUIPMENT SCHEDULE.

E. FURNISH AND INSTALL ALL ROOM SIGNAGE, SEE SIGNAGE SCHEDULE AND DETAILS, SHEET A-602

F. INSTALL TRANSITION STRIPS AT CHANGES IN FLOORING MATERIAL. ALL TRANSITIONS TO BE ACCESSIBLE AND TO COMPLY WITH ICC/ANSI A117.1.-2009.

G. EXTERIOR GUARD POSTS BY G.C., SEE FLOOR PLANS, SITE DEVELOPMENT PLAN AND DETAIL 2/A-101

H. PAINT EXPOSED CONDUITS AND SURFACE OF ALL POWER PANELS, SEE ELECTRICAL DRAWINGS FOR LOCATIONS

I. EXISTING BRICK VENEER NOT SHOWN IN PLANS. SEE ELEVATION SHEETS FOR EXTERIOR BRICK VENEER LOCATIONS

J. REFER TO RADON MITIGATION CONSULTANT'S DRAWING AND SPECIFICATIONS FOR NEW RADON MITIGATION STYSTME REQUIREMENTS. PROVIDE A MATERIAL AND LABOR REQUIRED FOR SYSTEM INSTALLATION. COORDINATE PIPIING LOCATIONS, CONCRETE SLAB REMOVAL AND REPLACEMENT, AND POWER IN ATTICS WITH THESE DRAWINGS.

K. SEE ROOF PLANS FOR DOWN PIPE LOCATIONS

KEYNOTE LEGEND

1 ATTIC ACCESS PANEL LOCATION. SEE A-411 AND A-412 FOR DETAIL

BEILHARZ ARCHITECTS
1993 Central Avenue Cincinnati Ohio, 45202
p: 513-241-4402 f: 513-241-5560 www.ATA-B.com

SECURITY PROPERTIES

FRANKLIN COMMONS

ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

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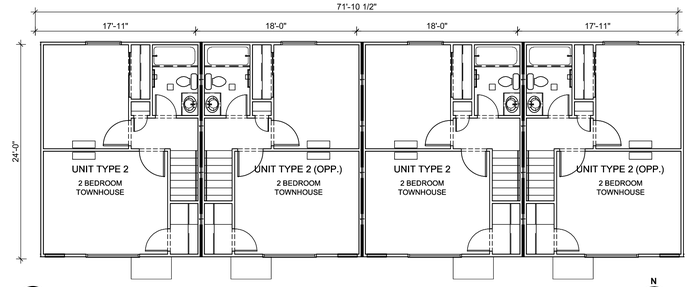
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

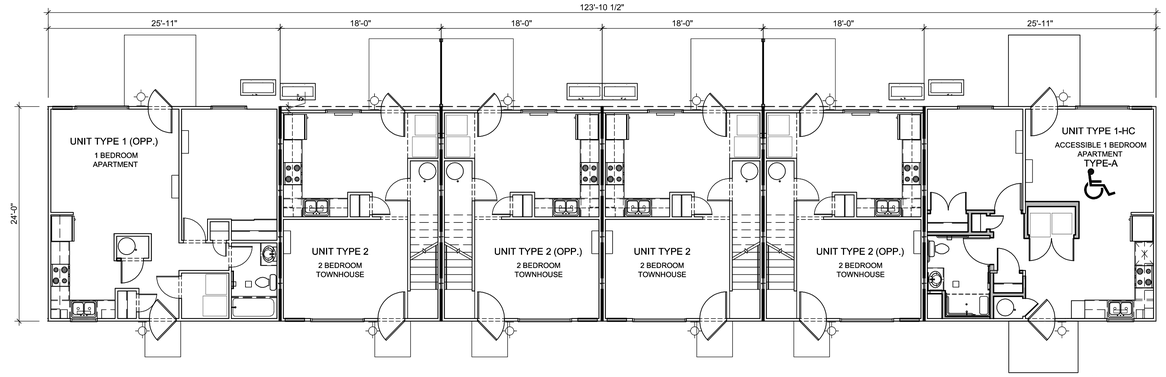
BUILDING 9 & 11 PLAN
BUILDING 12

A-104



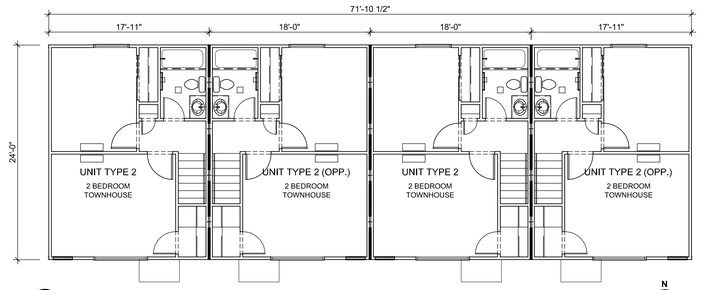
4 A-105 **BUILDING NO. 15 SECOND FLOOR PLAN (TYPE 5e)**
SCALE: 1/8" = 1'-0"

N PLAN NORTH



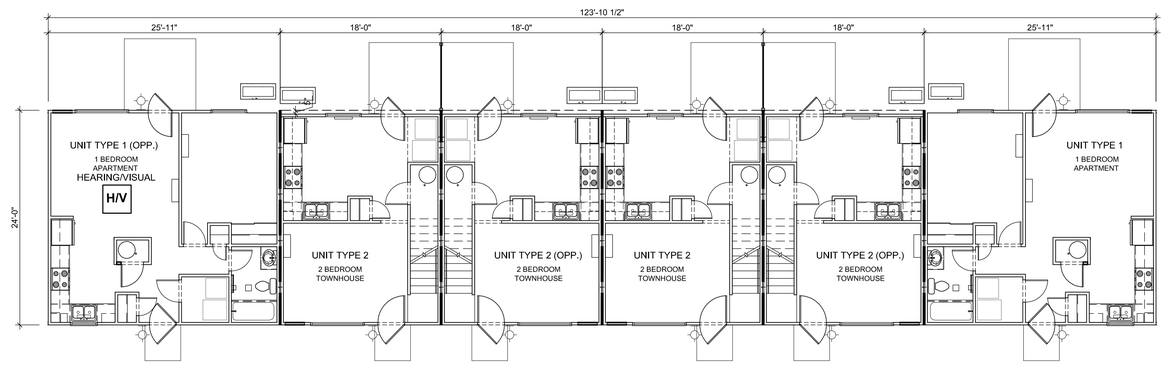
3 A-105 **BUILDING NO. 15 FIRST FLOOR PLAN (TYPE 5e)**
SCALE: 1/8" = 1'-0"

N PLAN NORTH



2 A-105 **BUILDING NO. 13 SECOND FLOOR PLAN (TYPE 5d)**
SCALE: 1/8" = 1'-0"

N PLAN NORTH



1 A-105 **BUILDING NO. 13 FIRST FLOOR PLAN (TYPE 5d)**
SCALE: 1/8" = 1'-0"

N PLAN NORTH

LEGEND APPLIES TO SHEETS A-101 - A-107

- SYM — SEE SHEET A-604 FOR ELEVATIONS
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- X — SEE SHEET A-601 FOR PARTITION TYPES
- EXISTING MASONRY WALL
- EXISTING STUD FRAMED WALL
- STUD FRAMED WALL, SEE SHEET A-601 FOR WALL TYPES
- ONE HOUR RATED FIRE PARTITION, EXISTING
- FIRE WALL, EXISTING
- FE — FIRE EXTINGUISHER

GENERAL OVERALL PLAN NOTES

A. DIMENSIONS ARE TO FINISHED FACE OF WALL, FACE OF NOMINAL MASONRY, COLUMN CENTERLINE, OR PLUMBING FIXTURE CENTERLINE: UNLESS NOTED OTHERWISE

B. EXISTING SMOKE PARTITIONS, FIRE PARTITIONS, FIRE BARRIERS AND FIRE WALLS REMAIN IN PLACE.

C. SEE A-400 SERIES SHEETS FOR EQUIPMENT LOCATIONS AND DESCRIPTIONS.

D. PROVIDE BLOCKING AT STUD PARTITION WALLS AS REQUIRED FOR SUPPORT OF ALL WALL MOUNTED EQUIPMENT AND ACCESSORIES. REFER TO INTERIOR ELEVATION SHEETS AND EQUIPMENT SCHEDULE.

E. FURNISH AND INSTALL ALL ROOM SIGNAGE, SEE SIGNAGE SCHEDULE AND DETAILS, SHEET A-602

F. INSTALL TRANSITION STRIPS AT CHANGES IN FLOORING MATERIAL. ALL TRANSITIONS TO BE ACCESSIBLE AND TO COMPLY WITH ICC/ANSI A117.1.-2009.

G. EXTERIOR GUARD POSTS BY G.C., SEE FLOOR PLANS, SITE DEVELOPMENT PLAN AND DETAIL 2/A-101

H. PAINT EXPOSED CONDUITS AND SURFACE OF ALL POWER PANELS, SEE ELECTRICAL DRAWINGS FOR LOCATIONS

I. EXISTING BRICK VENEER NOT SHOWN IN PLANS. SEE ELEVATION SHEETS FOR EXTERIOR BRICK VENEER LOCATIONS

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K. SEE ROOF PLANS FOR DOWN PIPE LOCATIONS

KEYNOTE LEGEND

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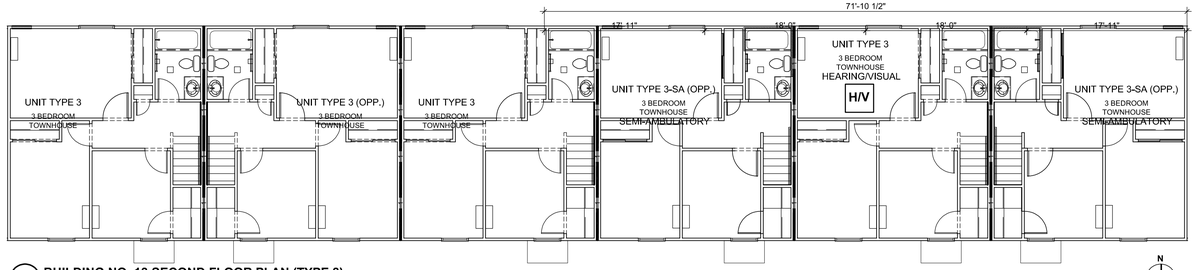
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

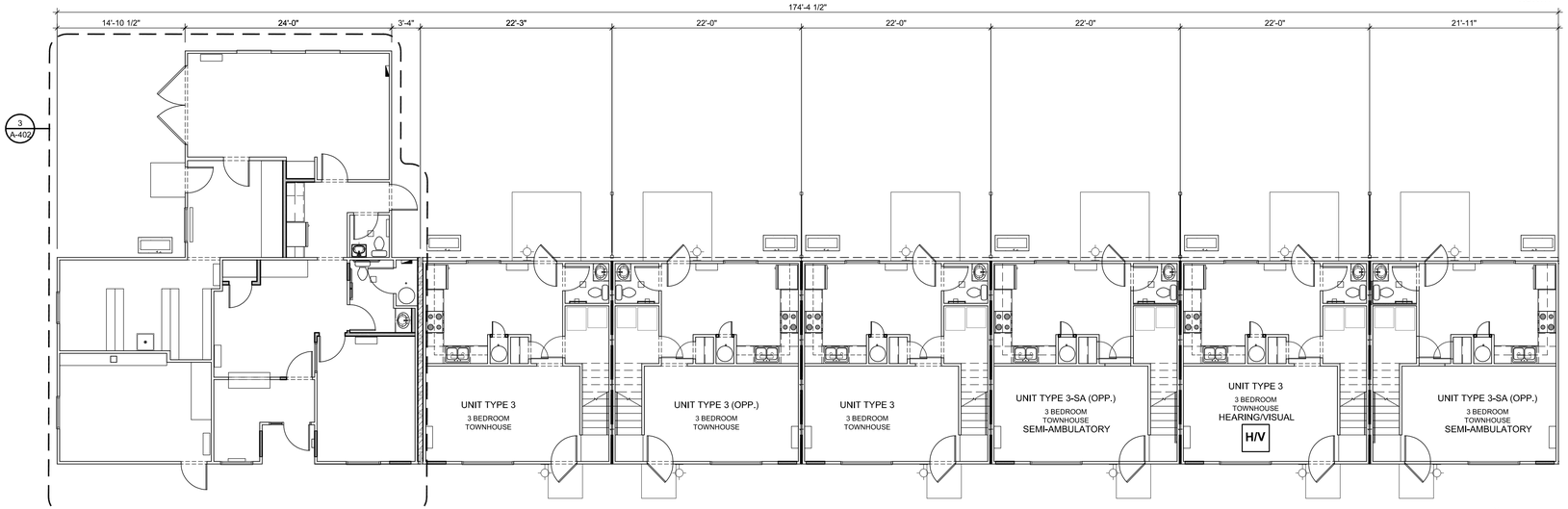
BUILDING 13 PLAN
BUILDING 15 PLAN

A-105



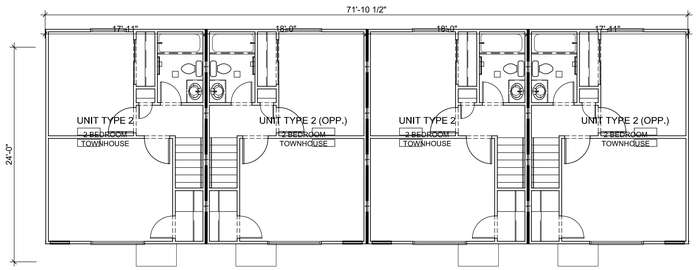
4 A-106 **BUILDING NO. 18 SECOND FLOOR PLAN (TYPE 8)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH

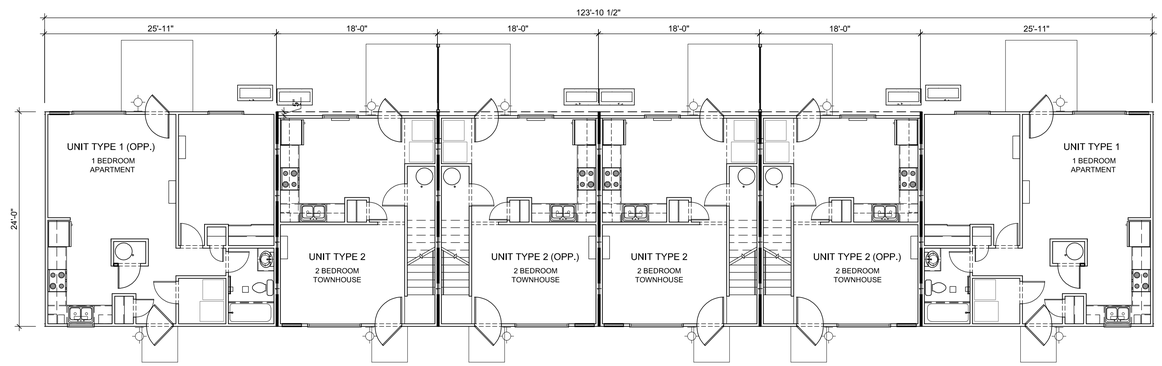


3 A-106 **BUILDING NO. 18 FIRST FLOOR PLAN (TYPE 8)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



2 A-106 **BUILDING NO. 16 & 17 SECOND FLOOR PLAN (TYPE 5)**
SCALE: 1/8" = 1'-0"



1 A-106 **BUILDING NO. 16 & 17 FIRST FLOOR PLAN (TYPE 5)**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH

LEGEND APPLIES TO SHEETS A-101 - A-107

- SYM — SEE SHEET A-604 FOR ELEVATIONS
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- X — SEE SHEET A-601 FOR PARTITION TYPES
- EXISTING MASONRY WALL
- EXISTING STUD FRAMED WALL
- STUD FRAMED WALL, SEE SHEET A-601 FOR WALL TYPES
- ONE HOUR RATED FIRE PARTITION, EXISTING
- FIRE WALL, EXISTING
- FE — FIRE EXTINGUISHER

GENERAL OVERALL PLAN NOTES

A. DIMENSIONS ARE TO FINISHED FACE OF WALL, FACE OF NOMINAL MASONRY, COLUMN CENTERLINE, OR PLUMBING FIXTURE CENTERLINE: UNLESS NOTED OTHERWISE

B. EXISTING SMOKE PARTITIONS, FIRE PARTITIONS, FIRE BARRIERS AND FIRE WALLS REMAIN IN PLACE.

C. SEE A-400 SERIES SHEETS FOR EQUIPMENT LOCATIONS AND DESCRIPTIONS.

D. PROVIDE BLOCKING AT STUD PARTITION WALLS AS REQUIRED FOR SUPPORT OF ALL WALL MOUNTED EQUIPMENT AND ACCESSORIES. REFER TO INTERIOR ELEVATION SHEETS AND EQUIPMENT SCHEDULE.

E. FURNISH AND INSTALL ALL ROOM SIGNAGE, SEE SIGNAGE SCHEDULE AND DETAILS, SHEET A-602

F. INSTALL TRANSITION STRIPS AT CHANGES IN FLOORING MATERIAL. ALL TRANSITIONS TO BE ACCESSIBLE AND TO COMPLY WITH ICC/ANSI A117.1.-2009.

G. EXTERIOR GUARD POSTS BY G.C., SEE FLOOR PLANS, SITE DEVELOPMENT PLAN AND DETAIL 2/A-101

H. PAINT EXPOSED CONDUITS AND SURFACE OF ALL POWER PANELS, SEE ELECTRICAL DRAWINGS FOR LOCATIONS

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K. SEE ROOF PLANS FOR DOWN PIPE LOCATIONS

KEYNOTE LEGEND

1 ATTIC ACCESS PANEL LOCATION. SEE A-411 AND A-412 FOR DETAIL

ATA BEILHARZ ARCHITECTS
1983 Central Avenue Cincinnati Ohio, 45202
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SECURITY PROPERTIES

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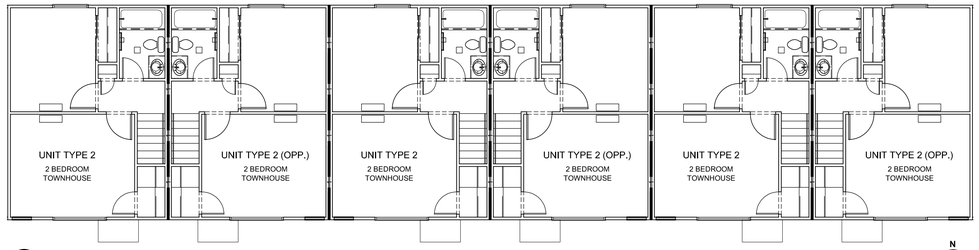
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

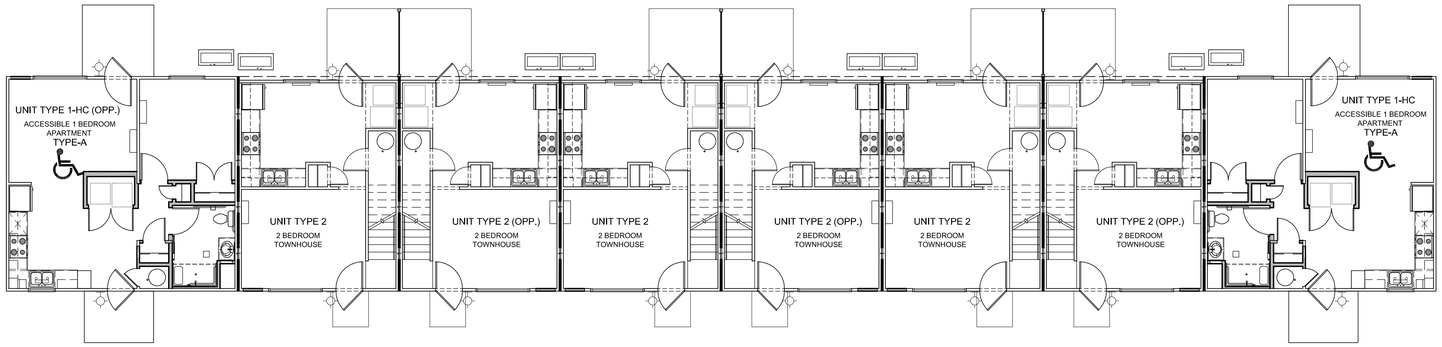
PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

BUILDING 16 & 17 PLAN
BUILDING 18 PLAN

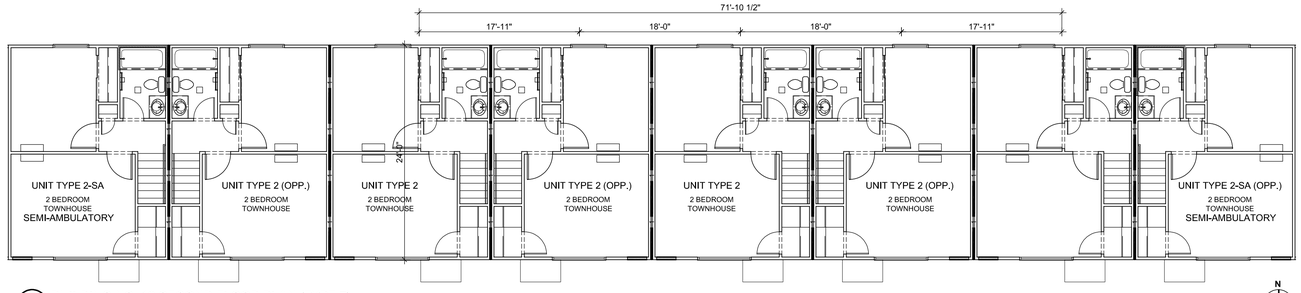
A-106



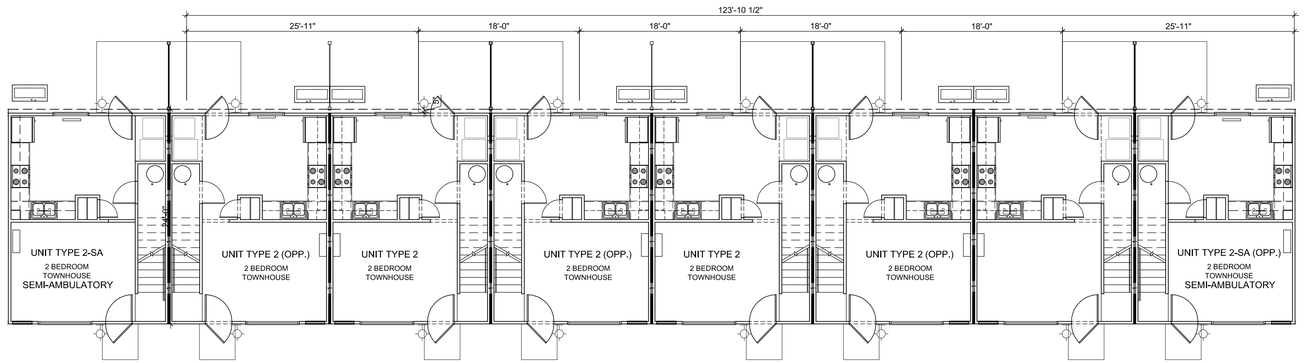
4 A-107 **BUILDING NO. 20 SECOND FLOOR PLAN (TYPE 6a)**
SCALE: 1/8" = 1'-0"



3 A-107 **BUILDING NO. 20 FIRST FLOOR PLAN (TYPE 6a)**
SCALE: 1/8" = 1'-0"



2 A-107 **BUILDING NO. 19 SECOND FLOOR PLAN (TYPE 7)**
SCALE: 1/8" = 1'-0"



1 A-107 **BUILDING NO. 19 FIRST FLOOR PLAN (TYPE 7)**
SCALE: 1/8" = 1'-0"

LEGEND APPLIES TO SHEETS A-101 - A-107

- SYM — SEE SHEET A-604 FOR ELEVATIONS
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- X — SEE SHEET A-601 FOR PARTITION TYPES
- EXISTING MASONRY WALL
- EXISTING STUD FRAMED WALL
- STUD FRAMED WALL, SEE SHEET A-601 FOR WALL TYPES
- ONE HOUR RATED FIRE PARTITION, EXISTING
- FIRE WALL, EXISTING
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GENERAL OVERALL PLAN NOTES

A. DIMENSIONS ARE TO FINISHED FACE OF WALL, FACE OF NOMINAL MASONRY, COLUMN CENTERLINE, OR PLUMBING FIXTURE CENTERLINE: UNLESS NOTED OTHERWISE

B. EXISTING SMOKE PARTITIONS, FIRE PARTITIONS, FIRE BARRIERS AND FIRE WALLS REMAIN IN PLACE.

C. SEE A-400 SERIES SHEETS FOR EQUIPMENT LOCATIONS AND DESCRIPTIONS.

D. PROVIDE BLOCKING AT STUD PARTITION WALLS AS REQUIRED FOR SUPPORT OF ALL WALL MOUNTED EQUIPMENT AND ACCESSORIES. REFER TO INTERIOR ELEVATION SHEETS AND EQUIPMENT SCHEDULE.

E. FURNISH AND INSTALL ALL ROOM SIGNAGE, SEE SIGNAGE SCHEDULE AND DETAILS, SHEET A-602

F. INSTALL TRANSITION STRIPS AT CHANGES IN FLOORING MATERIAL. ALL TRANSITIONS TO BE ACCESSIBLE AND TO COMPLY WITH ICC/ANSI A117.1.-2009.

G. EXTERIOR GUARD POSTS BY G.C., SEE FLOOR PLANS, SITE DEVELOPMENT PLAN AND DETAIL 2/A-101

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K. SEE ROOF PLANS FOR DOWN PIPE LOCATIONS

KEYNOTE LEGEND

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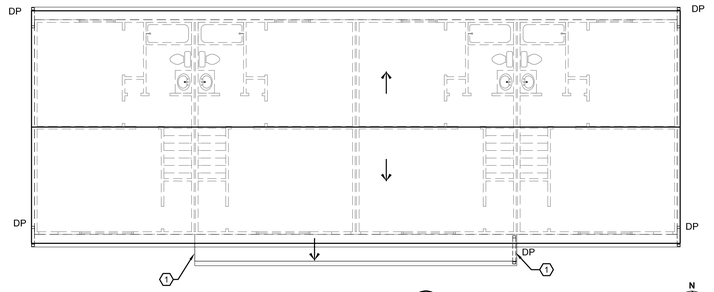
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

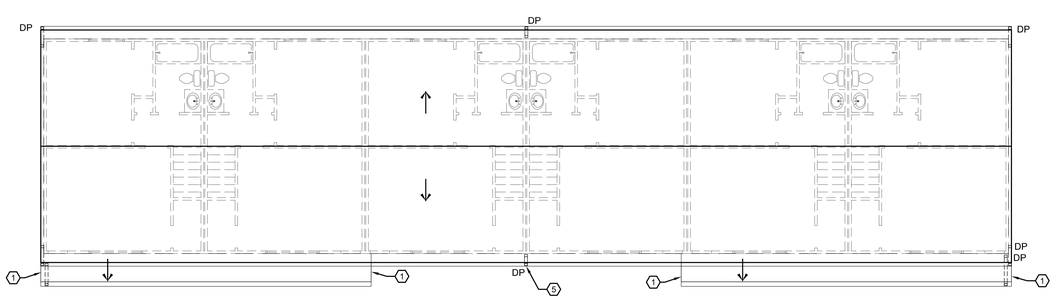
BUILDING 19 PLAN
BUILDING 20 PLAN

A-107

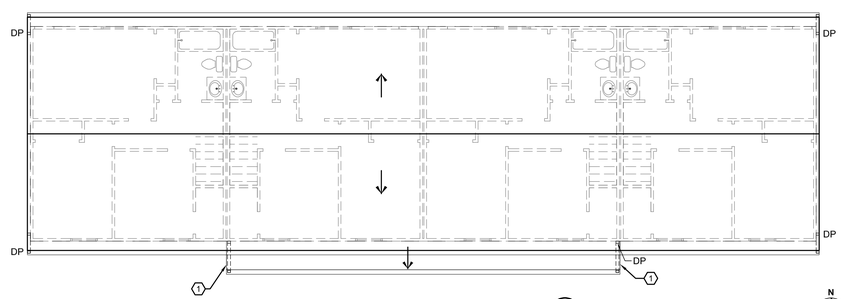


4 A-121 **BUILDING NO. 4 ROOF PLAN**
SCALE: 1/8" = 1'-0"

3 A-121 **BUILDING NO. 3 ROOF PLAN**
SCALE: 1/8" = 1'-0"



2 A-121 **BUILDING NO. 2 ROOF PLAN**
SCALE: 1/8" = 1'-0"



1 A-121 **BUILDING NO. 1 ROOF PLAN**
SCALE: 1/8" = 1'-0"

LEGEND

DP PREFINISHED ALUMINUM DOWN PIPE

ROOF SLOPE (DOWN)

GENERAL ELEVATION NOTES

A. REMOVE AND INSTALL NEW SHINGLE ROOFING SYSTEM ON ALL BUILDINGS.

B. REMOVE EXISTING SHINGLE ROOFING, UNDERLAYMENT, FLASHING, AND VENT CAPS DOWN TO PLYWOOD DECKING. INSPECT DECKING AND REPAIR REPLACE ANY DAMAGED AREAS.

C. FLASHINGS, TERMINATIONS, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND DETAILS.

D. FIELD VERIFY LOCATIONS OF ROOF PENETRATIONS FOR PLUMBING VENTS, EXHAUST FANS, ATTIC VENTS, ETC. COORDINATE NEW LOCATIONS WITH M.E.P. DRAWINGS. INSTALL WITH PROPER BOOTS/ FLASHING PER DETAILS AND MANUFACTURER'S INSTRUCTIONS.

E. INSTALL ADHERED ICE AND WATER SHIELD AT RIDGES (36" IN WIDTH), VALLEYS (36" IN WIDTH), EAVES (24" MIN. BEYOND THE INTERIOR WALL LINE), AND AT STEPS IN ROOF (24" IN WIDTH ON LOWER SIDE).

F. REMOVE EXISTING GUTTER AND DOWN PIPE WITH 6" GUTTERS AND 3x4 DOWNSPOUTS. COORDINATE DOWN PIPE LOCATIONS SHOWN WITH ELEVATIONS.

G. METAL FOR GUTTERS, CAPS, AND DOWN PIPES TO BE FACTORY PRE-FINISHED. COLOR AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

H. ADJUST EXISTING CONCRETE SPLASH BLOCK TO PROVIDE POSITIVE SLOPE AWAY. PROVIDE NEW CONCRETE SPLASH BLOCK FOR NEW DOWN PIPE. PROVIDE ALLOWANCE TO REPLACE MISSING OR DAMAGED SPLASH BLOCK.

I. EXISTING METAL FASCIA AND SOFFIT TO REMAIN IN PLACE. PROVIDE 5% ALLOWANCE TO REPLACE DAMAGE FASCIA AND SOFFIT. MATCH EXISTING PROFILE AND COLOR.

KEYNOTE LEGEND

1. PREP AND PAINT WOOD TRIM BOARD
2. PROVIDE 48"x30" NEW ROOF OVERHANG AT UNIT ENTRY, TYPICAL. SEE SECTION 1/A-302 FOR DETAILS
3. PROVIDE NEW ROOF OVERHANG AT ACCESSIBLE UNIT ENTRY. PROVIDE CONCRETE SPLASH BLOCK AS REQUIRED. SEE SECTION 4/A-301 AND 5/A-301
4. REPAIR FASCIA AND SOFFIT AS REQUIRED FOR MODIFICATION FOR NEW ROOF OVERHANG
5. NEW DOWN PIPE, PROVIDE PRECAST CONCRETE SPLASH BLOCK

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REVISIONS

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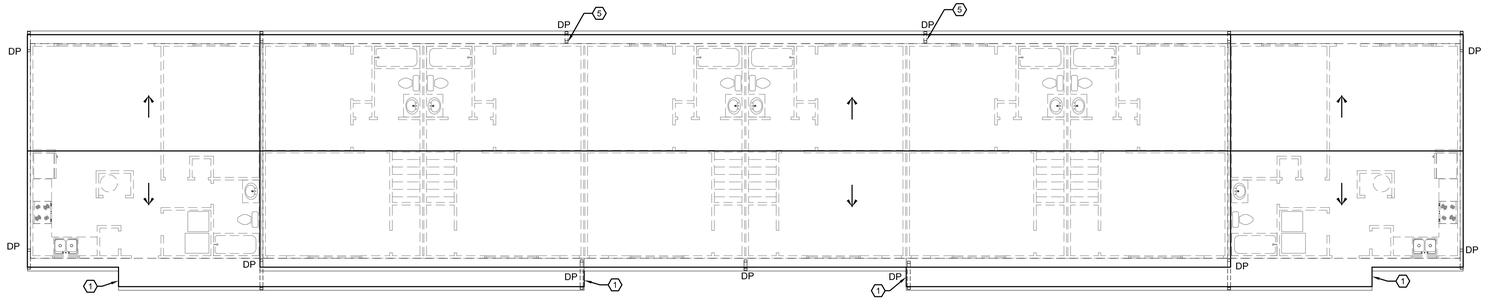
9/16/2024 BID/PERMIT SET

PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

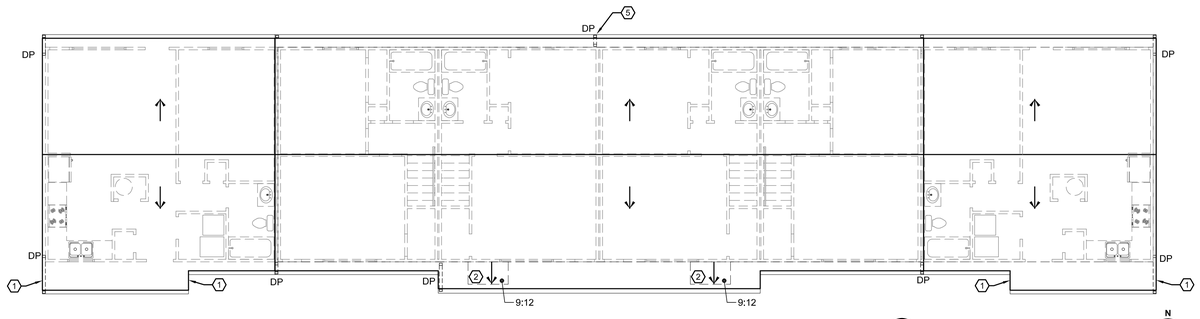
ROOF PLANS
BUILDING 1, 2, 3, AND 4

A-121



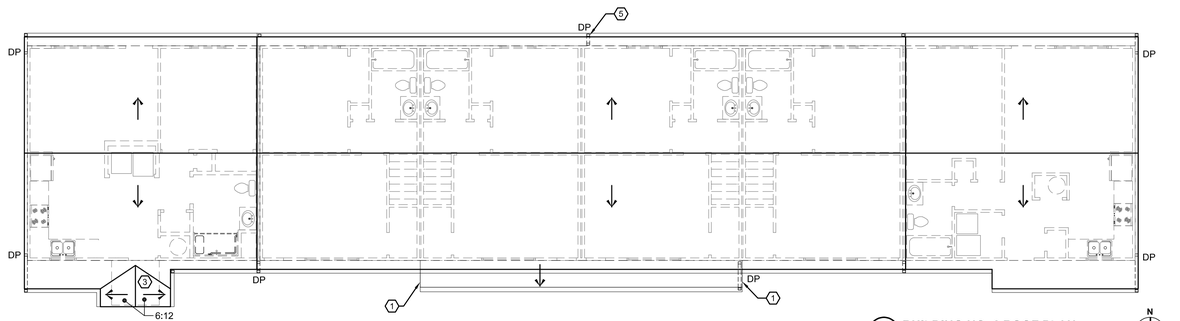
4 A-122 **BUILDING NO. 8 ROOF PLAN**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



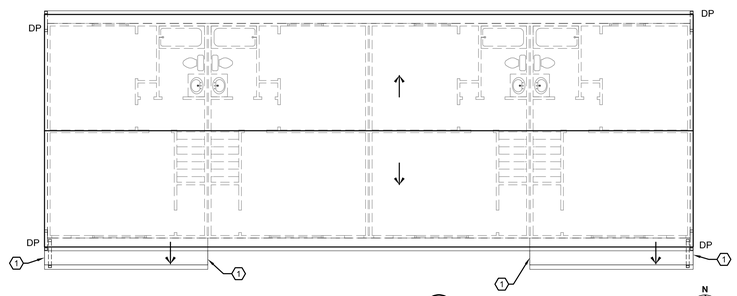
3 A-122 **BUILDING NO. 7 ROOF PLAN**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



2 A-122 **BUILDING NO. 6 ROOF PLAN**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



1 A-122 **BUILDING NO. 5 & 14 ROOF PLAN**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH

LEGEND

DP PREFINISHED ALUMINUM DOWN PIPE

ROOF SLOPE (DOWN)

GENERAL ELEVATION NOTES

A. REMOVE AND INSTALL NEW SHINGLE ROOFING SYSTEM ON ALL BUILDINGS.

B. REMOVE EXISTING SHINGLE ROOFING, UNDERLAYMENT, FLASHING, AND VENT CAPS DOWN TO PLYWOOD DECKING. INSPECT DECKING AND REPAIR REPLACE ANY DAMAGED AREAS.

C. FLASHINGS, TERMINATIONS, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND DETAILS.

D. FIELD VERIFY LOCATIONS OF ROOF PENETRATIONS FOR PLUMBING VENTS, EXHAUST FANS, ATTIC VENTS, ETC. COORDINATE NEW LOCATIONS WITH M.E.P. DRAWINGS. INSTALL WITH PROPER BOOTS/ FLASHING PER DETAILS AND MANUFACTURER'S INSTRUCTIONS.

E. INSTALL ADHERED ICE AND WATER SHIELD AT RIDGES (36" IN WIDTH), VALLEYS (36" IN WIDTH), EAVES (24" MIN. BEYOND THE INTERIOR WALL LINE), AND AT STEPS IN ROOF (24" IN WIDTH ON LOWER SIDE).

F. REMOVE EXISTING GUTTER AND DOWN PIPE WITH 6" GUTTERS AND 3x4 DOWNSPOUTS. COORDINATE DOWN PIPE LOCATIONS SHOWN WITH ELEVATIONS.

G. METAL FOR GUTTERS, CAPS, AND DOWN PIPES TO BE FACTORY PRE-FINISHED. COLOR AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

H. ADJUST EXISTING CONCRETE SPLASH BLOCK TO PROVIDE POSITIVE SLOPE AWAY. PROVIDE NEW CONCRETE SPLASH BLOCK FOR NEW DOWN PIPE. PROVIDE ALLOWANCE TO REPLACE MISSING OR DAMAGED SPLASH BLOCK.

I. EXISTING METAL FASCIA AND SOFFIT TO REMAIN IN PLACE. PROVIDE 5% ALLOWANCE TO REPLACE DAMAGE FASCIA AND SOFFIT. MATCH EXISTING PROFILE AND COLOR.

KEYNOTE LEGEND

1 PREP AND PAINT WOOD TRIM BOARD

2 PROVIDE 48"x30" NEW ROOF OVERHANG AT UNIT ENTRY, TYPICAL. SEE SECTION 1/A-302 FOR DETAILS

3 PROVIDE NEW ROOF OVERHANG AT ACCESSIBLE UNIT ENTRY. PROVIDE CONCRETE SPLASH BLOCK AS REQUIRED. SEE SECTION 4/A-301 AND 5/A-301

4 REPAIR FASCIA AND SOFFIT AS REQUIRED FOR MODIFICATION FOR NEW ROOF OVERHANG

5 NEW DOWN PIPE, PROVIDE PRECAST CONCRETE SPLASH BLOCK

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SECURITY PROPERTIES

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STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

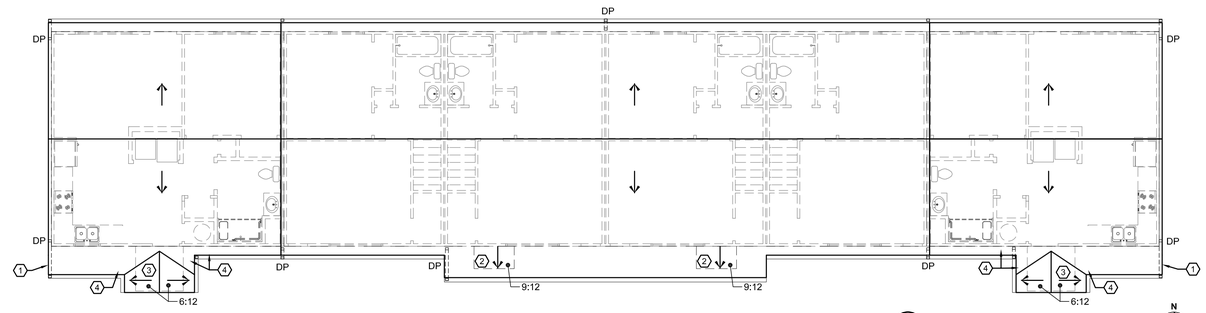
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

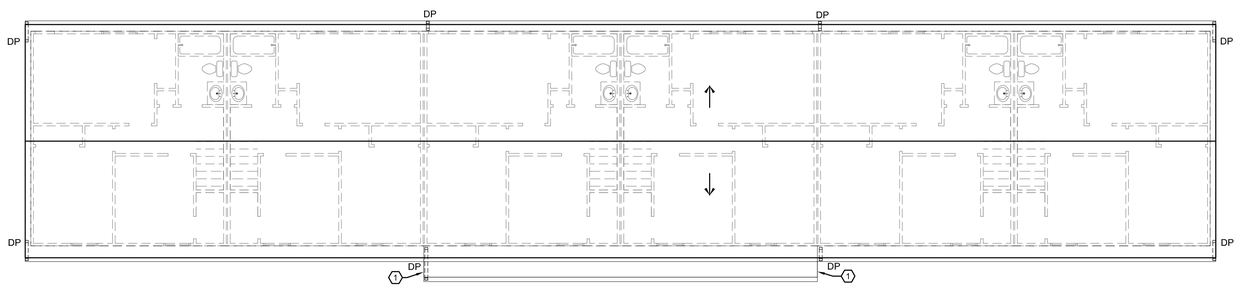
ROOF PLANS
BUILDING 5&14, 6, 7, AND 8

A-122



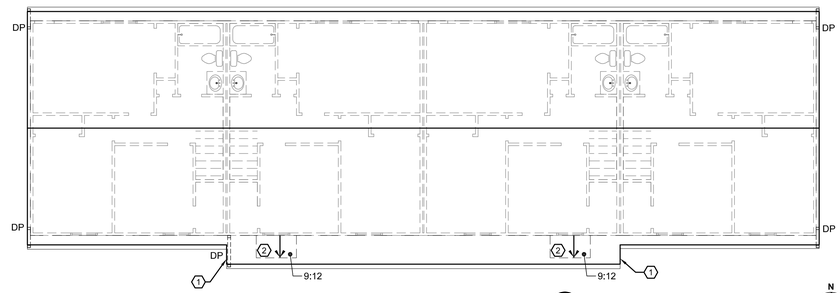
4 A-123 **BUILDING NO. 12 ROOF PLAN**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



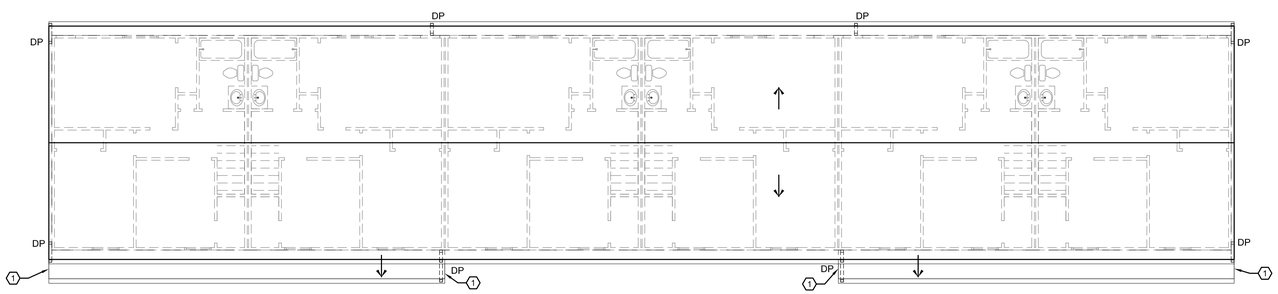
3 A-123 **BUILDING NO. 11 ROOF PLAN**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



2 A-123 **BUILDING NO. 10 ROOF PLAN**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH



1 A-123 **BUILDING NO. 9 ROOF PLAN**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH

LEGEND

DP PREFINISHED ALUMINUM DOWN PIPE

ROOF SLOPE (DOWN)

GENERAL ELEVATION NOTES

A. REMOVE AND INSTALL NEW SHINGLE ROOFING SYSTEM ON ALL BUILDINGS.

B. REMOVE EXISTING SHINGLE ROOFING, UNDERLAYMENT, FLASHING, AND VENT CAPS DOWN TO PLYWOOD DECKING. INSPECT DECKING AND REPAIR REPLACE ANY DAMAGED AREAS.

C. FLASHINGS, TERMINATIONS, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND DETAILS.

D. FIELD VERIFY LOCATIONS OF ROOF PENETRATIONS FOR PLUMBING VENTS, EXHAUST FANS, ATTIC VENTS, ETC. COORDINATE NEW LOCATIONS WITH M.E.P. DRAWINGS. INSTALL WITH PROPER BOOTS/ FLASHING PER DETAILS AND MANUFACTURER'S INSTRUCTIONS.

E. INSTALL ADHERED ICE AND WATER SHIELD AT RIDGES (36" IN WIDTH), VALLEYS (36" IN WIDTH), EAVES (24" MIN. BEYOND THE INTERIOR WALL LINE), AND AT STEPS IN ROOF (24" IN WIDTH ON LOWER SIDE).

F. REMOVE EXISTING GUTTER AND DOWN PIPE WITH 6" GUTTERS AND 3x4 DOWNSPOUTS. COORDINATE DOWN PIPE LOCATIONS SHOWN WITH ELEVATIONS.

G. METAL FOR GUTTERS, CAPS, AND DOWN PIPES TO BE FACTORY PRE-FINISHED. COLOR AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

H. ADJUST EXISTING CONCRETE SPLASH BLOCK TO PROVIDE POSITIVE SLOPE AWAY. PROVIDE NEW CONCRETE SPLASH BLOCK FOR NEW DOWN PIPE. PROVIDE ALLOWANCE TO REPLACE MISSING OR DAMAGED SPLASH BLOCK.

I. EXISTING METAL FASCIA AND SOFFIT TO REMAIN IN PLACE. PROVIDE 5% ALLOWANCE TO REPLACE DAMAGE FASCIA AND SOFFIT. MATCH EXISTING PROFILE AND COLOR.

KEYNOTE LEGEND

1. PREP AND PAINT WOOD TRIM BOARD
2. PROVIDE 48"x30" NEW ROOF OVERHANG AT UNIT ENTRY, TYPICAL. SEE SECTION 1/A-302 FOR DETAILS
3. PROVIDE NEW ROOF OVERHANG AT ACCESSIBLE UNIT ENTRY. PROVIDE CONCRETE SPLASH BLOCK AS REQUIRED. SEE SECTION 4/A-301 AND 5/A-301
4. REPAIR FASCIA AND SOFFIT AS REQUIRED FOR MODIFICATION FOR NEW ROOF OVERHANG
5. NEW DOWN PIPE, PROVIDE PRECAST CONCRETE SPLASH BLOCK

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Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

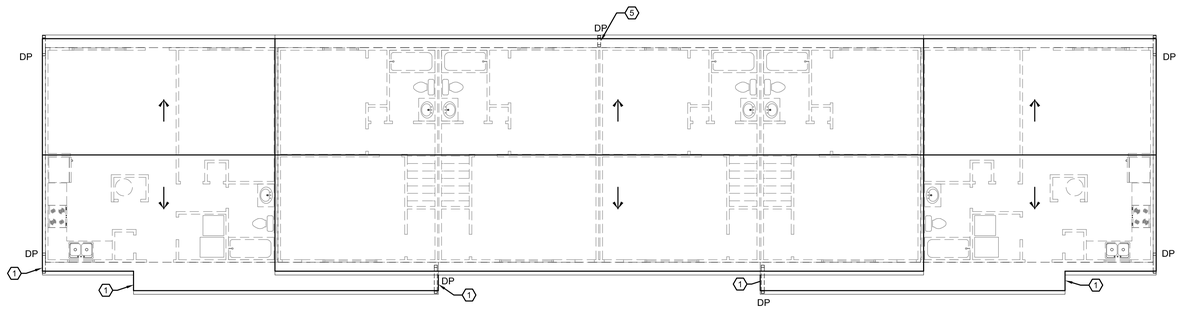
REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

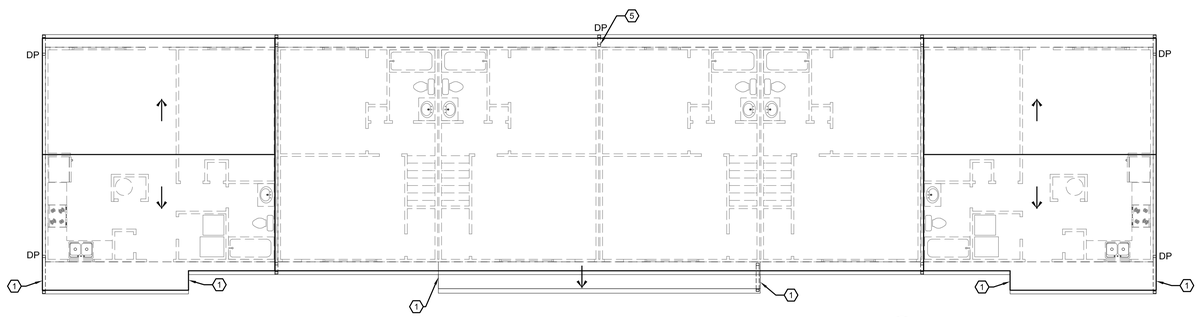
PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

ROOF PLAND
BUILDING 9, 10, 11, AND 12

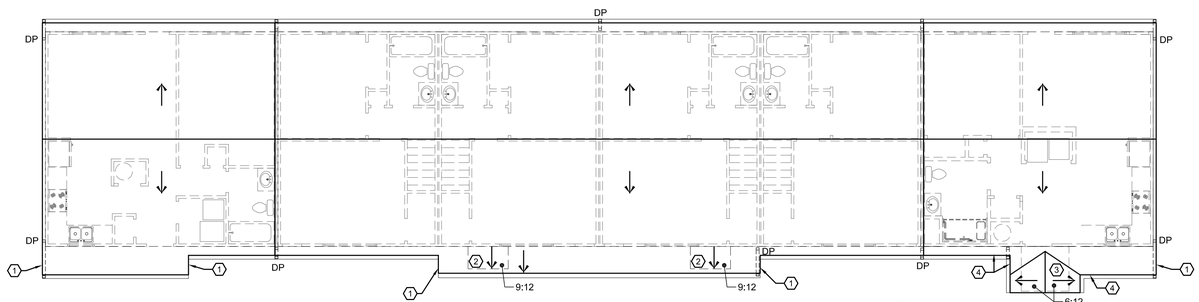
A-123



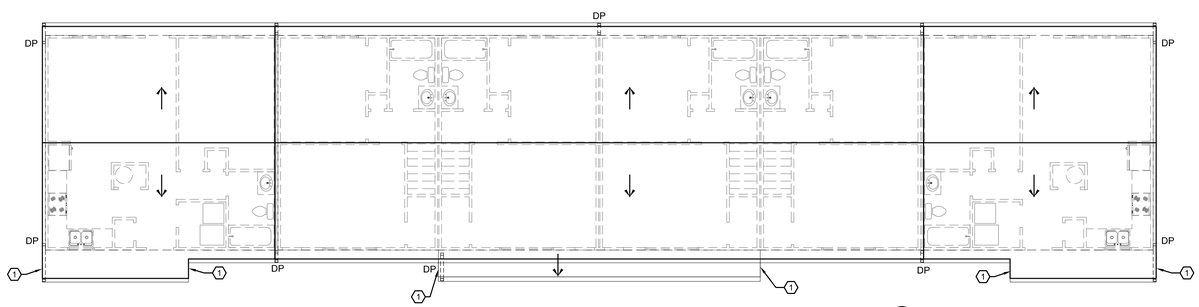
4 A-124 **BUILDING NO. 17 ROOF PLAN**
SCALE: 1/8" = 1'-0"



3 A-124 **BUILDING NO. 16 ROOF PLAN**
SCALE: 1/8" = 1'-0"



2 A-124 **BUILDING NO. 15 ROOF PLAN**
SCALE: 1/8" = 1'-0"



1 A-124 **BUILDING NO. 13 ROOF PLAN**
SCALE: 1/8" = 1'-0"

LEGEND

DP PREFINISHED ALUMINUM DOWN PIPE

ROOF SLOPE (DOWN)

GENERAL ELEVATION NOTES

A. REMOVE AND INSTALL NEW SHINGLE ROOFING SYSTEM ON ALL BUILDINGS.

B. REMOVE EXISTING SHINGLE ROOFING, UNDERLAYMENT, FLASHING, AND VENT CAPS DOWN TO PLYWOOD DECKING. INSPECT DECKING AND REPAIR REPLACE ANY DAMAGED AREAS.

C. FLASHINGS, TERMINATIONS, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND DETAILS.

D. FIELD VERIFY LOCATIONS OF ROOF PENETRATIONS FOR PLUMBING VENTS, EXHAUST FANS, ATTIC VENTS, ETC. COORDINATE NEW LOCATIONS WITH M.E.P. DRAWINGS. INSTALL WITH PROPER BOOTS/ FLASHING PER DETAILS AND MANUFACTURER'S INSTRUCTIONS.

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F. REMOVE EXISTING GUTTER AND DOWN PIPE WITH 6" GUTTERS AND 3x4 DOWNSPOUTS. COORDINATE DOWN PIPE LOCATIONS SHOWN WITH ELEVATIONS.

G. METAL FOR GUTTERS, CAPS, AND DOWN PIPES TO BE FACTORY PRE-FINISHED. COLOR AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

H. ADJUST EXISTING CONCRETE SPLASH BLOCK TO PROVIDE POSITIVE SLOPE AWAY. PROVIDE NEW CONCRETE SPLASH BLOCK FOR NEW DOWN PIPE. PROVIDE ALLOWANCE TO REPLACE MISSING OR DAMAGED SPLASH BLOCK.

I. EXISTING METAL FASCIA AND SOFFIT TO REMAIN IN PLACE. PROVIDE 5% ALLOWANCE TO REPLACE DAMAGE FASCIA AND SOFFIT. MATCH EXISTING PROFILE AND COLOR.

KEYNOTE LEGEND

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GREGORY S. HACKETT
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REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

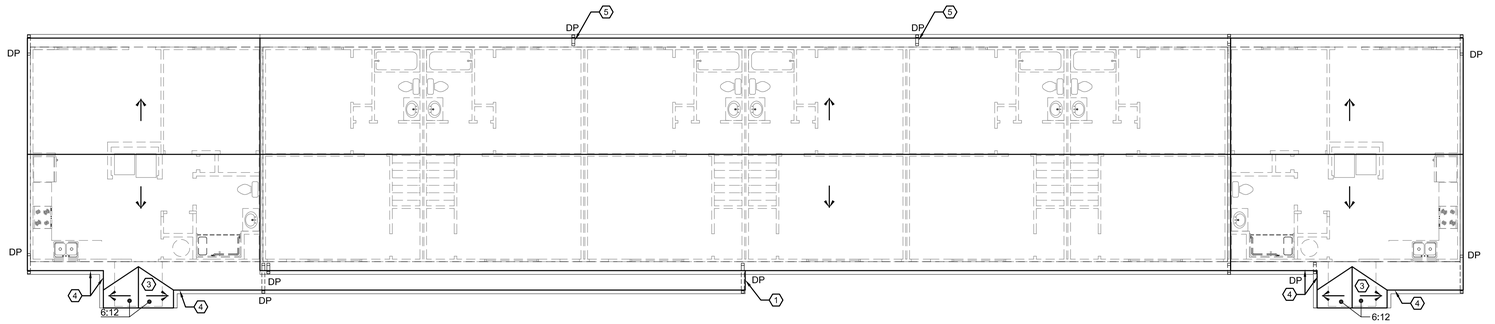
REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

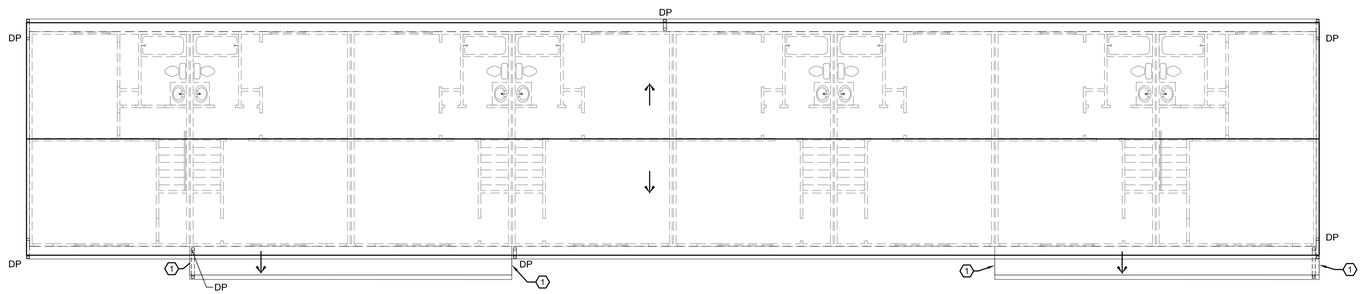
PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

ROOF PLANS
BUILDING 13, 15, 16, AND 17

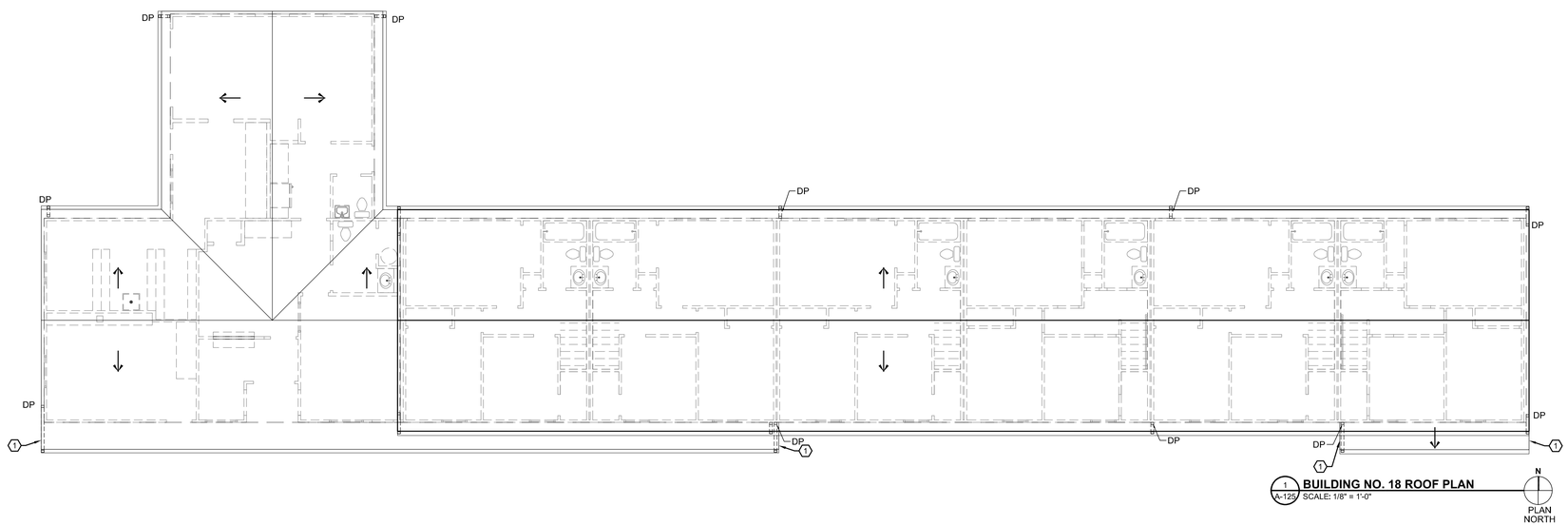
A-124



3/A-125 **BUILDING NO. 20 ROOF PLAN**
SCALE: 1/8" = 1'-0"



2/A-125 **BUILDING NO. 19 ROOF PLAN**
SCALE: 1/8" = 1'-0"



1/A-125 **BUILDING NO. 18 ROOF PLAN**
SCALE: 1/8" = 1'-0"

N
PLAN NORTH

LEGEND

DP PREFINISHED ALUMINUM DOWN PIPE

ROOF SLOPE (DOWN)

GENERAL ELEVATION NOTES

A. REMOVE AND INSTALL NEW SHINGLE ROOFING SYSTEM ON ALL BUILDINGS.

B. REMOVE EXISTING SHINGLE ROOFING, UNDERLAYMENT, FLASHING, AND VENT CAPS DOWN TO PLYWOOD DECKING. INSPECT DECKING AND REPAIR REPLACE ANY DAMAGED AREAS.

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F. REMOVE EXISTING GUTTER AND DOWN PIPE WITH 6" GUTTERS AND 3x4 DOWNSPOUTS. COORDINATE DOWN PIPE LOCATIONS SHOWN WITH ELEVATIONS.

G. METAL FOR GUTTERS, CAPS, AND DOWN PIPES TO BE FACTORY PRE-FINISHED. COLOR AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.

H. ADJUST EXISTING CONCRETE SPLASH BLOCK TO PROVIDE POSITIVE SLOPE AWAY. PROVIDE NEW CONCRETE SPLASH BLOCK FOR NEW DOWN PIPE. PROVIDE ALLOWANCE TO REPLACE MISSING OR DAMAGED SPLASH BLOCK.

I. EXISTING METAL FASCIA AND SOFFIT TO REMAIN IN PLACE. PROVIDE 5% ALLOWANCE TO REPLACE DAMAGE FASCIA AND SOFFIT. MATCH EXISTING PROFILE AND COLOR.

KEYNOTE LEGEND

1. PREP AND PAINT WOOD TRIM BOARD
2. PROVIDE 48"x30" NEW ROOF OVERHANG AT UNIT ENTRY, TYPICAL. SEE SECTION 1/A-302 FOR DETAILS
3. PROVIDE NEW ROOF OVERHANG AT ACCESSIBLE UNIT ENTRY. PROVIDE CONCRETE SPLASH BLOCK AS REQUIRED. SEE SECTION 4/A-301 AND 5/A-301
4. REPAIR FASCIA AND SOFFIT AS REQUIRED FOR MODIFICATION FOR NEW ROOF OVERHANG
5. NEW DOWN PIPE, PROVIDE PRECAST CONCRETE SPLASH BLOCK

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GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

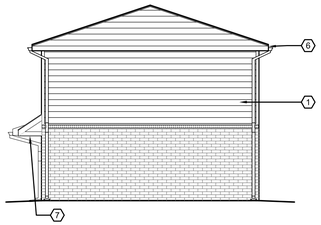
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

ROOF PLANS
BUILDING 18, 19, AND 20

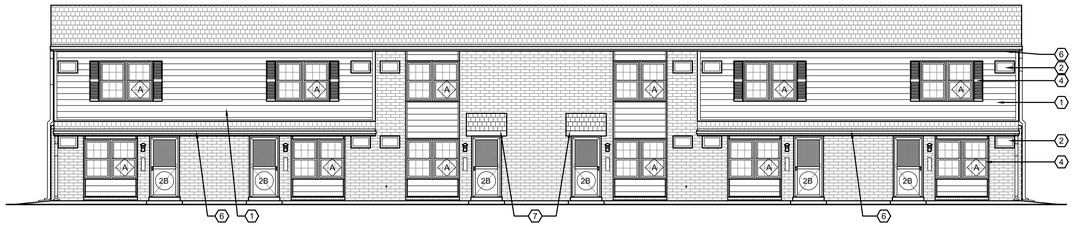
A-125



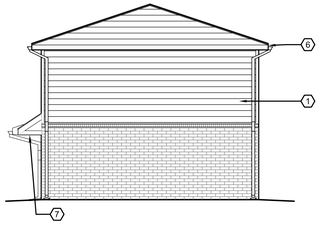
8 A-201 **BUILDING NO.2 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

7 A-201 **BUILDING NO.2 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

6 A-201 **BUILDING NO.2 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"



5 A-201 **BUILDING NO.2 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"



4 A-201 **BUILDING NO.1 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

3 A-201 **BUILDING NO.1 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

2 A-201 **BUILDING NO.1 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

1 A-201 **BUILDING NO.1 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"

LEGEND

- WD — SEE SHEET A-602 FOR WINDOW SCHEDULE
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- ROOF SHINGLES
- SIDING
- BRICK VENEER

GENERAL ELEVATION NOTES

A. THOROUGHLY INSPECT EXTERIOR MASONRY. PROVIDE ALLOWANCE FOR TUCKPOINTING. CLEAN THROUGHOUT.
B. SEE ROOF PLAN FOR ROOF, GUTTER, AND FASCIA REPLACEMENT SCOPE.
C. PROVIDE ALLOWANCE TO REPLACE MISSING OR DETERIORATED CONCRETE SPLASH BLOCKS. ENSURE THAT ALL SPLASH BLOCKS ARE PROPERLY SLOPED AWAY FROM FOUNDATION.
D. SEE ARCHITECTURAL SITE PLAN AND CIVIL DRAWINGS FOR ADDITIONAL GRADING AND STORMWATER DRAINAGE SCOPE.
E. PROVIDE ALLOWANCE TO REPLACE DAMAGED CONCRETE STEPS AT UNIT ENTRY DOORS.
F. EXISTING WINDOW REMAIN IN PLACE
G. REMOVE EXISTING AND INSTALL NEW EXTERIOR ENTRY DOORS, PATIO DOORS, AND SCREEN DOORS. VERIFY DOOR SIZE AND ROUGH OPENING IN FIELD.
H. REMOVE AND INSTALL NEW BUILDING MOUNTED LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.
I. PREP AND PAINT EXISTING CONDUIT TO MATCH ADJACENT FINISH, TYPICAL
J. REMOVE AND INSTALL NEW HIGH VISIBILITY ADDRESS NUMBERS AT ALL UNIT ENTRY DOORS.
K. PROVIDE ONE REPLACEMENT LOCKABLE HOSE BIB PER BUILDING. CAP THE REST OF EXISTING HOSE BIB. REFER PLUMBING DRAWINGS.

KEYNOTE LEGEND

1. EXISTING VINYL SIDING REMAIN IN PLACE
2. REMOVE A/C SLEEVE AND INFILL, TYPICAL. SEE 7 AND 8/ A-301
3. EXIST DUCT OUTLET REMAIN IN PLACE, TYPICAL
4. PREP AND PAINT EXISTING DECORATIVE SHUTTER, TYPICAL
5. EXISTING PRIVACY FENCE TO REMAIN, TYPICAL
6. EXISTING METAL FASCIA BOARD AND PANEL AND SOFFIT TO REMAIN, REPAIR AND REPLACE AS REQUIRED, TYPICAL
7. NEW ROOF OVERHANG, SEE DETAIL 2/ A-301
8. NEW LANDING, STAIR AND RAMP FOR ACCESSIBLE UNIT AND SEMI-AMBULATORY UNIT, SEE DETAIL A-001
9. NEW ROOF OVERHANG WITH COLUMNS FOR ACCESSIBLE UNIT, SEE 4&5/ A-301
10. REMOVE BRICK VENEER FOR NEW DOOR OPENING, SEE DOOR SCHEDULE
11. REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL ABOVE ACCESSIBLE UNIT NEW PATIO DOOR, PAINT
12. REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL, SEE A-601, PAINT
13. 1x4 (NOMINAL) FIBER CEMENT TRIM BOARD, PAINT
14. PREP AND PAINT EXISTING WOOD TRIM BOARD, TYPICAL
15. PROVIDE ADDITIONAL DOWN PIPE AND PRECAST CONCRETE SPLASH BLOCK
16. PROVIDE NEW METAL WRAP FOR HEADER
17. REPAIR EXISTING FASCIA AND METAL WRAP AS REQUIRED AT NEW WORK

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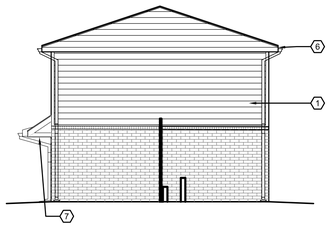
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

BUILDING ELEVATIONS
BUILDING 1 AND
BUILDING 2

A-201



8 A-202 **BUILDING NO.4 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

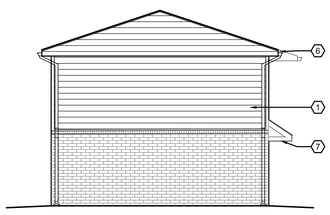
7 A-202 **BUILDING NO.4 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

6 A-202 **BUILDING NO.4 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

5 A-202 **BUILDING NO.4 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"

4 A-202 **BUILDING NO.3 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

3 A-202 **BUILDING NO.3 REAR ELEVATION**
SCALE: 1/8" = 1'-0"



2 A-202 **BUILDING NO.3 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

1 A-202 **BUILDING NO.3 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"

LEGEND

- WD — SEE SHEET A-602 FOR WINDOW SCHEDULE
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- ROOF SHINGLES
- SIDING
- BRICK VENEER

GENERAL ELEVATION NOTES

A. THOROUGHLY INSPECT EXTERIOR MASONRY. PROVIDE ALLOWANCE FOR TUCKPOINTING. CLEAN THROUGHOUT.

B. SEE ROOF PLAN FOR ROOF, GUTTER, AND FASCIA REPLACEMENT SCOPE.

C. PROVIDE ALLOWANCE TO REPLACE MISSING OR DETERIORATED CONCRETE SPLASH BLOCKS. ENSURE THAT ALL SPLASH BLOCKS ARE PROPERLY SLOPED AWAY FROM FOUNDATION.

D. SEE ARCHITECTURAL SITE PLAN AND CIVIL DRAWINGS FOR ADDITIONAL GRADING AND STORMWATER DRAINAGE SCOPE.

E. PROVIDE ALLOWANCE TO REPLACE DAMAGED CONCRETE STEPS AT UNIT ENTRY DOORS.

F. EXISTING WINDOW REMAIN IN PLACE

G. REMOVE EXISTING AND INSTALL NEW EXTERIOR ENTRY DOORS, PATIO DOORS, AND SCREEN DOORS. VERIFY DOOR SIZE AND ROUGH OPENING IN FIELD.

H. REMOVE AND INSTALL NEW BUILDING MOUNTED LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.

I. PREP AND PAINT EXISTING CONDUIT TO MATCH ADJACENT FINISH, TYPICAL

J. REMOVE AND INSTALL NEW HIGH VISIBILITY ADDRESS NUMBERS AT ALL UNIT ENTRY DOORS.

K. PROVIDE ONE REPLACEMENT LOCKABLE HOSE BIB PER BUILDING. CAP THE REST OF EXISTING HOSE BIB. REFER PLUMBING DRAWINGS.

KEYNOTE LEGEND

1. EXISTING VINYL SIDING REMAIN IN PLACE
2. REMOVE A/C SLEEVE AND INFILL, TYPICAL. SEE 7 AND 8/ A-301
3. EXIST DUCT OUTLET REMAIN IN PLACE, TYPICAL
4. PREP AND PAINT EXISTING DECORATIVE SHUTTER, TYPICAL
5. EXISTING PRIVACY FENCE TO REMAIN, TYPICAL
6. EXISTING METAL FASCIA BOARD AND PANEL AND SOFFIT TO REMAIN, REPAIR AND REPLACE AS REQUIRED, TYPICAL
7. NEW ROOF OVERHANG, SEE DETAIL 2/ A-301
8. NEW LANDING, STAIR AND RAMP FOR ACCESSIBLE UNIT AND SEMI-AMBULATORY UNIT, SEE DETAIL A-001
9. NEW ROOF OVERHANG WITH COLUMNS FOR ACCESSIBLE UNIT, SEE 4&5/ A-301
10. REMOVE BRICK VENEER FOR NEW DOOR OPENING, SEE DOOR SCHEDULE
11. REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL ABOVE ACCESSIBLE UNIT NEW PATIO DOOR, PAINT
12. REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL, SEE A-601, PAINT
13. 1x4 (NOMINAL) FIBER CEMENT TRIM BOARD, PAINT
14. PREP AND PAINT EXISTING WOOD TRIM BOARD, TYPICAL
15. PROVIDE ADDITIONAL DOWN PIPE AND PRECAST CONCRETE SPLASH BLOCK
16. PROVIDE NEW METAL WRAP FOR HEADER
17. REPAIR EXISTING FASCIA AND METAL WRAP AS REQUIRED AT NEW WORK

ATA BEILHARZ ARCHITECTS
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SECURITY PROPERTIES

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FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett — License No. 1817428
Expiration Date: 12/31/2025

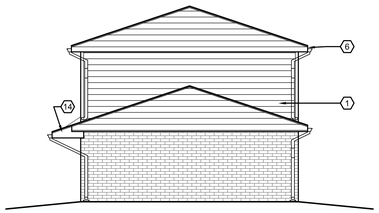
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

BUILDING ELEVATIONS
BUILDING 3 AND
BUILDING 4

A-202



8 A-203 **BUILDING NO.6 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

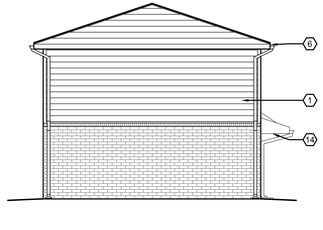
7 A-203 **BUILDING NO.6 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

6 A-203 **BUILDING NO.6 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

5 A-203 **BUILDING NO.6 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"

4 A-203 **BUILDING NO.5 & 14 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

3 A-203 **BUILDING NO.5 & 14 REAR ELEVATION**
SCALE: 1/8" = 1'-0"



2 A-203 **BUILDING NO.5 & 14 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

1 A-203 **BUILDING NO.5 & 14 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"

LEGEND

- WD — SEE SHEET A-602 FOR WINDOW SCHEDULE
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- ROOF SHINGLES
- SIDING
- BRICK VENEER

GENERAL ELEVATION NOTES

A. THOROUGHLY INSPECT EXTERIOR MASONRY. PROVIDE ALLOWANCE FOR TUCKPOINTING. CLEAN THROUGHOUT.

B. SEE ROOF PLAN FOR ROOF, GUTTER, AND FASCIA REPLACEMENT SCOPE.

C. PROVIDE ALLOWANCE TO REPLACE MISSING OR DETERIORATED CONCRETE SPLASH BLOCKS. ENSURE THAT ALL SPLASH BLOCKS ARE PROPERLY SLOPED AWAY FROM FOUNDATION.

D. SEE ARCHITECTURAL SITE PLAN AND CIVIL DRAWINGS FOR ADDITIONAL GRADING AND STORMWATER DRAINAGE SCOPE.

E. PROVIDE ALLOWANCE TO REPLACE DAMAGED CONCRETE STEPS AT UNIT ENTRY DOORS.

F. EXISTING WINDOW REMAIN IN PLACE

G. REMOVE EXISTING AND INSTALL NEW EXTERIOR ENTRY DOORS, PATIO DOORS, AND SCREEN DOORS. VERIFY DOOR SIZE AND ROUGH OPENING IN FIELD.

H. REMOVE AND INSTALL NEW BUILDING MOUNTED LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.

I. PREP AND PAINT EXISTING CONDUIT TO MATCH ADJACENT FINISH, TYPICAL

J. REMOVE AND INSTALL NEW HIGH VISIBILITY ADDRESS NUMBERS AT ALL UNIT ENTRY DOORS.

K. PROVIDE ONE REPLACEMENT LOCKABLE HOSE BIB PER BUILDING. CAP THE REST OF EXISTING HOSE BIB. REFER PLUMBING DRAWINGS.

KEYNOTE LEGEND

1. EXISTING VINYL SIDING REMAIN IN PLACE
2. REMOVE A/C SLEEVE AND INFILL, TYPICAL. SEE 7 AND 8/ A-301
3. EXIST DUCT OUTLET REMAIN IN PLACE, TYPICAL
4. PREP AND PAINT EXISTING DECORATIVE SHUTTER, TYPICAL
5. EXISTING PRIVACY FENCE TO REMAIN, TYPICAL
6. EXISTING METAL FASCIA BOARD AND PANEL AND SOFFIT TO REMAIN, REPAIR AND REPLACE AS REQUIRED, TYPICAL
7. NEW ROOF OVERHANG, SEE DETAIL 2/ A-301
8. NEW LANDING, STAIR AND RAMP FOR ACCESSIBLE UNIT AND SEMI-AMBULATORY UNIT, SEE DETAIL A-001
9. NEW ROOF OVERHANG WITH COLUMNS FOR ACCESSIBLE UNIT, SEE 4&5/ A-301
10. REMOVE BRICK VENEER FOR NEW DOOR OPENING, SEE DOOR SCHEDULE
11. REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL ABOVE ACCESSIBLE UNIT NEW PATIO DOOR, PAINT
12. REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL, SEE A-601, PAINT
13. 1x4 (NOMINAL) FIBER CEMENT TRIM BOARD, PAINT
14. PREP AND PAINT EXISTING WOOD TRIM BOARD, TYPICAL
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16. PROVIDE NEW METAL WRAP FOR HEADER
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REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

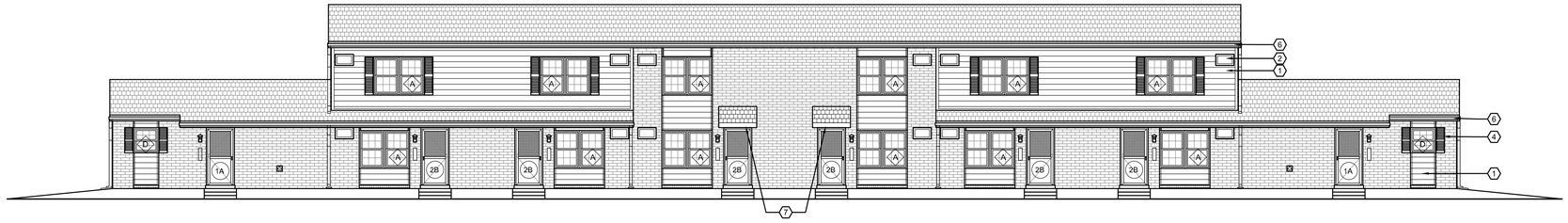
BUILDING ELEVATIONS
BUILDING 5&14 AND
BUILDING 6

A-203

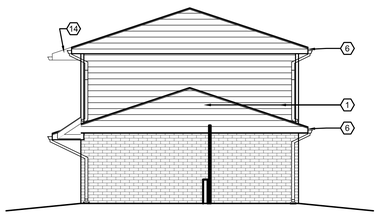
8 A-204 **BUILDING NO. 8 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

8 A-204 **BUILDING NO.8 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

6 A-204 **BUILDING NO.8 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"



5 A-204 **BUILDING NO.8 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"



4 A-204 **BUILDING NO.7 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

3 A-204 **BUILDING NO.7 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

2 A-204 **BUILDING NO.7 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

1 A-204 **BUILDING NO.7 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"

LEGEND

- WD — SEE SHEET A-602 FOR WINDOW SCHEDULE
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- ROOF SHINGLES
- SIDING
- BRICK VENEER

GENERAL ELEVATION NOTES

A. THOROUGHLY INSPECT EXTERIOR MASONRY. PROVIDE ALLOWANCE FOR TUCKPOINTING. CLEAN THROUGHOUT.
B. SEE ROOF PLAN FOR ROOF, GUTTER, AND FASCIA REPLACEMENT SCOPE.
C. PROVIDE ALLOWANCE TO REPLACE MISSING OR DETERIORATED CONCRETE SPLASH BLOCKS. ENSURE THAT ALL SPLASH BLOCKS ARE PROPERLY SLOPED AWAY FROM FOUNDATION.
D. SEE ARCHITECTURAL SITE PLAN AND CIVIL DRAWINGS FOR ADDITIONAL GRADING AND STORMWATER DRAINAGE SCOPE.
E. PROVIDE ALLOWANCE TO REPLACE DAMAGED CONCRETE STEPS AT UNIT ENTRY DOORS.
F. EXISTING WINDOW REMAIN IN PLACE
G. REMOVE EXISTING AND INSTALL NEW EXTERIOR ENTRY DOORS, PATIO DOORS, AND SCREEN DOORS. VERIFY DOOR SIZE AND ROUGH OPENING IN FIELD.
H. REMOVE AND INSTALL NEW BUILDING MOUNTED LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.
I. PREP AND PAINT EXISTING CONDUIT TO MATCH ADJACENT FINISH, TYPICAL
J. REMOVE AND INSTALL NEW HIGH VISIBILITY ADDRESS NUMBERS AT ALL UNIT ENTRY DOORS.
K. PROVIDE ONE REPLACEMENT LOCKABLE HOSE BIB PER BUILDING. CAP THE REST OF EXISTING HOSE BIB. REFER PLUMBING DRAWINGS.

KEYNOTE LEGEND

1. EXISTING VINYL SIDING REMAIN IN PLACE
2. REMOVE A/C SLEEVE AND INFILL, TYPICAL. SEE 7 AND 8/ A-301
3. EXIST DUCT OUTLET REMAIN IN PLACE, TYPICAL
4. PREP AND PAINT EXISTING DECORATIVE SHUTTER, TYPICAL
5. EXISTING PRIVACY FENCE TO REMAIN, TYPICAL
6. EXISTING METAL FASCIA BOARD AND PANEL AND SOFFIT TO REMAIN, REPAIR AND REPLACE AS REQUIRED, TYPICAL
7. NEW ROOF OVERHANG, SEE DETAIL 2/ A-301
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9. NEW ROOF OVERHANG WITH COLUMNS FOR ACCESSIBLE UNIT, SEE 4&5/ A-301
10. REMOVE BRICK VENEER FOR NEW DOOR OPENING, SEE DOOR SCHEDULE
11. REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL ABOVE ACCESSIBLE UNIT NEW PATIO DOOR, PAINT
12. REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL, SEE A-601, PAINT
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GREGORY S. HACKETT
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Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

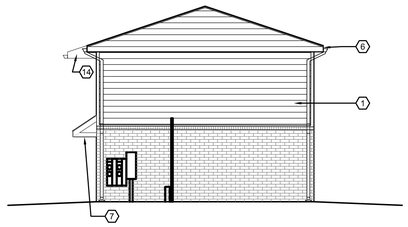
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

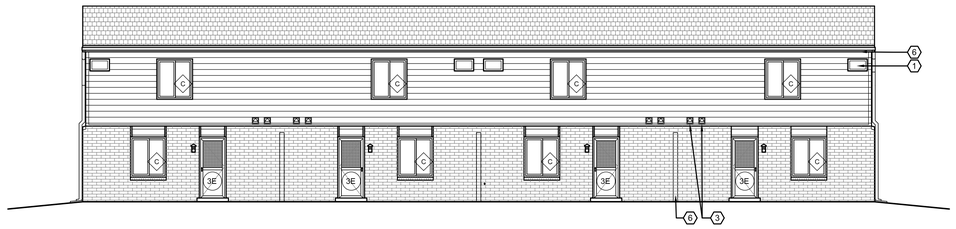
PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

BUILDING ELEVATIONS
BUILDING 7 AND
BUILDING 8

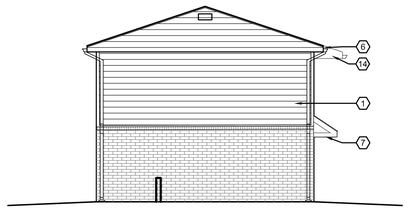
A-204



8 A-205 **BUILDING NO.10 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

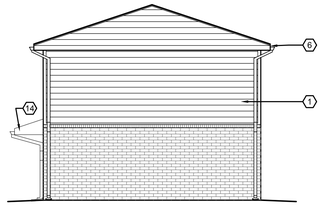


7 A-205 **BUILDING NO.10 REAR ELEVATION**
SCALE: 1/8" = 1'-0"



6 A-205 **BUILDING NO.10 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

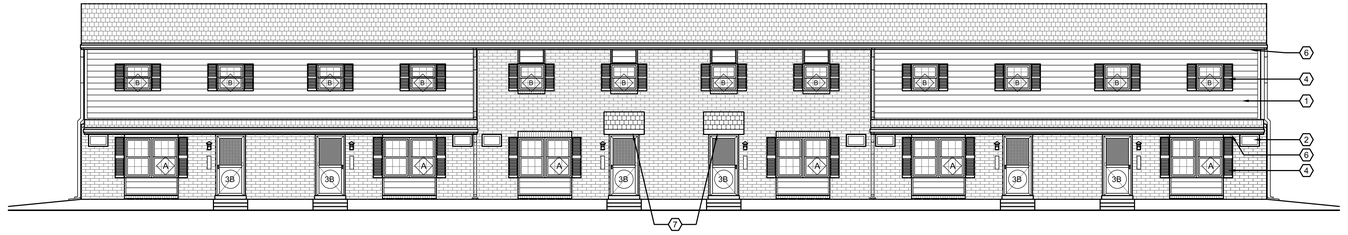
5 A-205 **BUILDING NO.10 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"



4 A-205 **BUILDING NO.9 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

3 A-205 **BUILDING NO.9 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

2 A-205 **BUILDING NO.9 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"



1 A-205 **BUILDING NO.9 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"

LEGEND

- WD — EXISTING WINDOW REMAIN IN PLACE
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- ROOF SHINGLES
- SIDING
- BRICK VENEER

GENERAL ELEVATION NOTES

A. THOROUGHLY INSPECT EXTERIOR MASONRY. PROVIDE ALLOWANCE FOR TUCKPOINTING. CLEAN THROUGHOUT.
B. SEE ROOF PLAN FOR ROOF, GUTTER, AND FASCIA REPLACEMENT SCOPE.
C. PROVIDE ALLOWANCE TO REPLACE MISSING OR DETERIORATED CONCRETE SPLASH BLOCKS. ENSURE THAT ALL SPLASH BLOCKS ARE PROPERLY SLOPED AWAY FROM FOUNDATION.
D. SEE ARCHITECTURAL SITE PLAN AND CIVIL DRAWINGS FOR ADDITIONAL GRADING AND STORMWATER DRAINAGE SCOPE.
E. PROVIDE ALLOWANCE TO REPLACE DAMAGED CONCRETE STEPS AT UNIT ENTRY DOORS.
F. EXISTING WINDOW REMAIN IN PLACE
G. REMOVE EXISTING AND INSTALL NEW EXTERIOR ENTRY DOORS, PATIO DOORS, AND SCREEN DOORS. VERIFY DOOR SIZE AND ROUGH OPENING IN FIELD.
H. REMOVE AND INSTALL NEW BUILDING MOUNTED LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.
I. PREP AND PAINT EXISTING CONDUIT TO MATCH ADJACENT FINISH, TYPICAL
J. REMOVE AND INSTALL NEW HIGH VISIBILITY ADDRESS NUMBERS AT ALL UNIT ENTRY DOORS.
K. PROVIDE ONE REPLACEMENT LOCKABLE HOSE BIB PER BUILDING. CAP THE REST OF EXISTING HOSE BIB. REFER PLUMBING DRAWINGS.

KEYNOTE LEGEND

1 EXISTING VINYL SIDING REMAIN IN PLACE
2 REMOVE A/C SLEEVE AND INFILL, TYPICAL. SEE 7 AND 8/ A-301
3 EXIST DUCT OUTLET REMAIN IN PLACE, TYPICAL
4 PREP AND PAINT EXISTING DECORATIVE SHUTTER, TYPICAL
5 EXISTING PRIVACY FENCE TO REMAIN, TYPICAL
6 EXISTING METAL FASCIA BOARD AND PANEL AND SOFFIT TO REMAIN, REPAIR AND REPLACE AS REQUIRED, TYPICAL
7 NEW ROOF OVERHANG, SEE DETAIL 2/ A-301
8 NEW LANDING, STAIR AND RAMP FOR ACCESSIBLE UNIT AND SEMI-AMBULATORY UNIT, SEE DETAIL A-001
9 NEW ROOF OVERHANG WITH COLUMNS FOR ACCESSIBLE UNIT, SEE 4&5/ A-301
10 REMOVE BRICK VENEER FOR NEW DOOR OPENING, SEE DOOR SCHEDULE
11 REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL ABOVE ACCESSIBLE UNIT NEW PATIO DOOR, PAINT
12 REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL, SEE A-601, PAINT
13 1x4 (NOMINAL) FIBER CEMENT TRIM BOARD, PAINT
14 PREP AND PAINT EXISTING WOOD TRIM BOARD, TYPICAL
15 PROVIDE ADDITIONAL DOWN PIPE AND PRECAST CONCRETE SPLASH BLOCK
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Expiration Date: 12/31/2025

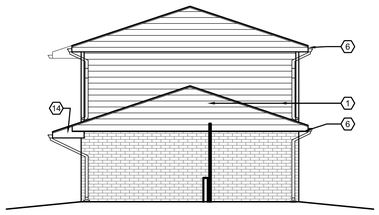
REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #: 23096
DRAWN: JR/ BK CHECKED: GSH

BUILDING ELEVATIONS
BUILDING 9 AND
BUILDING 10

A-205



8 A-206 **BUILDING NO.12 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

6 A-206 **BUILDING NO.12 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

7 A-206 **BUILDING NO.12 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

5 A-206 **BUILDING NO.12 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"

4 A-206 **BUILDING NO.11 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

3 A-206 **BUILDING NO.11 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

2 A-206 **BUILDING NO.11 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

1 A-206 **BUILDING NO.11 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"

LEGEND

- WD — EXISTING WINDOW REMAIN IN PLACE
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- ROOF SHINGLES
- SIDING
- BRICK VENEER

GENERAL ELEVATION NOTES

A. THOROUGHLY INSPECT EXTERIOR MASONRY. PROVIDE ALLOWANCE FOR TUCKPOINTING. CLEAN THROUGHOUT.

B. SEE ROOF PLAN FOR ROOF, GUTTER, AND FASCIA REPLACEMENT SCOPE.

C. PROVIDE ALLOWANCE TO REPLACE MISSING OR DETERIORATED CONCRETE SPLASH BLOCKS. ENSURE THAT ALL SPLASH BLOCKS ARE PROPERLY SLOPED AWAY FROM FOUNDATION.

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H. REMOVE AND INSTALL NEW BUILDING MOUNTED LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.

I. PREP AND PAINT EXISTING CONDUIT TO MATCH ADJACENT FINISH, TYPICAL

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5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

BUILDING ELEVATIONS
BUILDING 11 AND
BUILDING 12

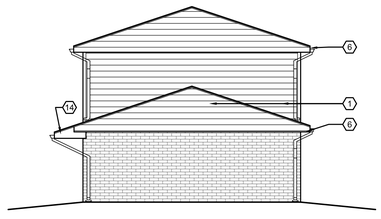
A-206

8 A-207 **BUILDING NO.15 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

6 A-207 **BUILDING NO.15 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

7 A-207 **BUILDING NO.15 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

5 A-207 **BUILDING NO.15 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"



4 A-207 **BUILDING NO.13 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

2 A-207 **BUILDING NO.13 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

3 A-207 **BUILDING NO.13 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

1 A-207 **BUILDING NO.13 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"

LEGEND

- WD — EXISTING WINDOW REMAIN IN PLACE
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- ROOF SHINGLES
- SIDING
- BRICK VENEER

GENERAL ELEVATION NOTES

A. THOROUGHLY INSPECT EXTERIOR MASONRY. PROVIDE ALLOWANCE FOR TUCKPOINTING. CLEAN THROUGHOUT.
B. SEE ROOF PLAN FOR ROOF, GUTTER, AND FASCIA REPLACEMENT SCOPE.
C. PROVIDE ALLOWANCE TO REPLACE MISSING OR DETERIORATED CONCRETE SPLASH BLOCKS. ENSURE THAT ALL SPLASH BLOCKS ARE PROPERLY SLOPED AWAY FROM FOUNDATION.
D. SEE ARCHITECTURAL SITE PLAN AND CIVIL DRAWINGS FOR ADDITIONAL GRADING AND STORMWATER DRAINAGE SCOPE.
E. PROVIDE ALLOWANCE TO REPLACE DAMAGED CONCRETE STEPS AT UNIT ENTRY DOORS.
F. EXISTING WINDOW REMAIN IN PLACE
G. REMOVE EXISTING AND INSTALL NEW EXTERIOR ENTRY DOORS, PATIO DOORS, AND SCREEN DOORS. VERIFY DOOR SIZE AND ROUGH OPENING IN FIELD.
H. REMOVE AND INSTALL NEW BUILDING MOUNTED LIGHT FIXTURES, SEE ELECTRICAL DRAWINGS.
I. PREP AND PAINT EXISTING CONDUIT TO MATCH ADJACENT FINISH, TYPICAL
J. REMOVE AND INSTALL NEW HIGH VISIBILITY ADDRESS NUMBERS AT ALL UNIT ENTRY DOORS.
K. PROVIDE ONE REPLACEMENT LOCKABLE HOSE BIB PER BUILDING. CAP THE REST OF EXISTING HOSE BIB. REFER PLUMBING DRAWINGS.

KEYNOTE LEGEND

1. EXISTING VINYL SIDING REMAIN IN PLACE
2. REMOVE A/C SLEEVE AND INFILL, TYPICAL. SEE 7 AND 8/ A-301
3. EXIST DUCT OUTLET REMAIN IN PLACE, TYPICAL
4. PREP AND PAINT EXISTING DECORATIVE SHUTTER, TYPICAL
5. EXISTING PRIVACY FENCE TO REMAIN, TYPICAL
6. EXISTING METAL FASCIA BOARD AND PANEL AND SOFFIT TO REMAIN, REPAIR AND REPLACE AS REQUIRED, TYPICAL
7. NEW ROOF OVERHANG, SEE DETAIL 2/ A-301
8. NEW LANDING, STAIR AND RAMP FOR ACCESSIBLE UNIT AND SEMI-AMBULATORY UNIT, SEE DETAIL A-001
9. NEW ROOF OVERHANG WITH COLUMNS FOR ACCESSIBLE UNIT, SEE 4&5/ A-301
10. REMOVE BRICK VENEER FOR NEW DOOR OPENING, SEE DOOR SCHEDULE
11. REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL ABOVE ACCESSIBLE UNIT NEW PATIO DOOR, PAINT
12. REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL, SEE A-601, PAINT
13. 1x4 (NOMINAL) FIBER CEMENT TRIM BOARD, PAINT
14. PREP AND PAINT EXISTING WOOD TRIM BOARD, TYPICAL
15. PROVIDE ADDITIONAL DOWN PIPE AND PRECAST CONCRETE SPLASH BLOCK
16. PROVIDE NEW METAL WRAP FOR HEADER
17. REPAIR EXISTING FASCIA AND METAL WRAP AS REQUIRED AT NEW WORK

ATA BEILHARZ ARCHITECTS
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SECURITY PROPERTIES

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FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett — License No. 1817428
Expiration Date: 12/31/2025

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

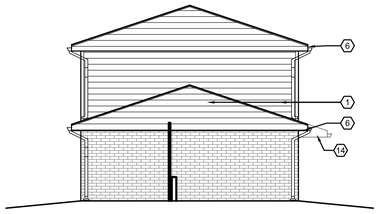
PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

BUILDING ELEVATIONS
BUIDING 13 AND
BUILDING 15

A-207

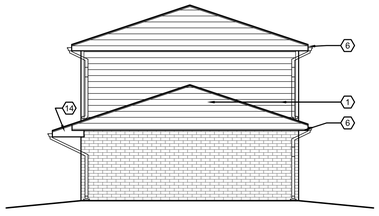
8 A-208 **BUILDING NO. 17 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

7 A-208 **BUILDING NO. 17 REAR ELEVATION**
SCALE: 1/8" = 1'-0"



6 A-208 **BUILDING NO. 17 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

5 A-208 **BUILDING NO. 17 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"



4 A-208 **BUILDING NO.16 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

3 A0208 **BUILDING NO. 16 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

2 A0208 **BUILDING NO. 16 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

1 A0208 **BUILDING NO. 16 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"

LEGEND

- WD — EXISTING WINDOW REMAIN IN PLACE
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- ROOF SHINGLES
- SIDING
- BRICK VENEER

GENERAL ELEVATION NOTES

A. THOROUGHLY INSPECT EXTERIOR MASONRY. PROVIDE ALLOWANCE FOR TUCKPOINTING. CLEAN THROUGHOUT.
B. SEE ROOF PLAN FOR ROOF, GUTTER, AND FASCIA REPLACEMENT SCOPE.
C. PROVIDE ALLOWANCE TO REPLACE MISSING OR DETERIORATED CONCRETE SPLASH BLOCKS. ENSURE THAT ALL SPLASH BLOCKS ARE PROPERLY SLOPED AWAY FROM FOUNDATION.
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KEYNOTE LEGEND

1 EXISTING VINYL SIDING REMAIN IN PLACE
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3 EXIST DUCT OUTLET REMAIN IN PLACE, TYPICAL
4 PREP AND PAINT EXISTING DECORATIVE SHUTTER, TYPICAL
5 EXISTING PRIVACY FENCE TO REMAIN, TYPICAL
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7 NEW ROOF OVERHANG, SEE DETAIL 2/ A-301
8 NEW LANDING, STAIR AND RAMP FOR ACCESSIBLE UNIT AND SEMI-AMBULATORY UNIT, SEE DETAIL A-001
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12 REMOVE EXIST VINYL SIDING AND PROVIDE NEW FIBER CEMENT PANEL, SEE A-601, PAINT
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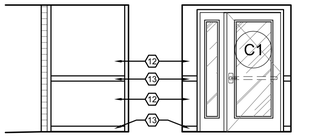
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

BUILDING ELEVATIONS
BUILDING 16 AND
BUILDING 17

A-208



6 A-205 **ELEVATION** SCALE: 1/4" = 1'-0"

5 A-205 **ELEVATION** SCALE: 1/4" = 1'-0"

LEGEND

- WD — EXISTING WINDOW REMAIN IN PLACE
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
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4 A-209 **BUILDING NO. 18 SIDE ELEVATION** SCALE: 1/8" = 1'-0"

3 A-209 **BUILDING NO. 18 REAR ELEVATION** SCALE: 1/8" = 1'-0"

2 A-209 **BUILDING NO. 18 SIDE ELEVATION** SCALE: 1/8" = 1'-0"

1 A-209 **BUILDING NO. 18 FRONT ELEVATION** SCALE: 1/8" = 1'-0"

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REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

BUILDING ELEVATIONS
BUILDING 18

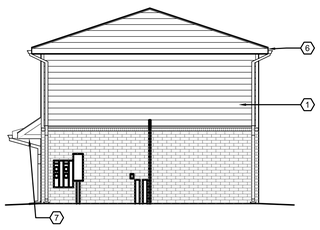
A-209

7 A-210 **BUILDING NO. 20 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

8 A-210 **BUILDING NO. 20 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

6 A-210 **BUILDING NO. 20 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

5 A-210 **BUILDING NO. 20 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"



4 A-210 **BUILDING NO. 19 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

3 A-210 **BUILDING NO. 19 REAR ELEVATION**
SCALE: 1/8" = 1'-0"

2 A-210 **BUILDING NO. 19 SIDE ELEVATION**
SCALE: 1/8" = 1'-0"

5 A-210 **BUILDING NO. 19 FRONT ELEVATION**
SCALE: 1/8" = 1'-0"

LEGEND

- WD — EXISTING WINDOW REMAIN IN PLACE
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- ROOF SHINGLES
- SIDING
- BRICK VENEER

GENERAL ELEVATION NOTES

A. THOROUGHLY INSPECT EXTERIOR MASONRY. PROVIDE ALLOWANCE FOR TUCKPOINTING. CLEAN THROUGHOUT.
B. SEE ROOF PLAN FOR ROOF, GUTTER, AND FASCIA REPLACEMENT SCOPE.
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Expiration Date: 12/31/2025

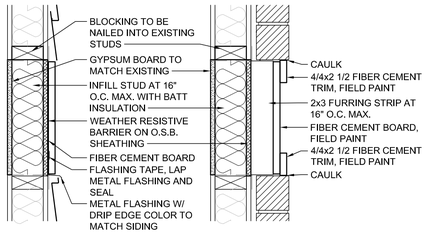
REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #: 23096
DRAWN: JR/ BK **CHECKED:** GSH

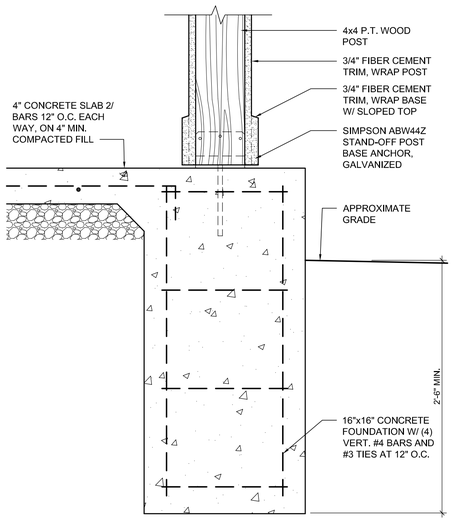
BUILDING ELEVATIONS
BUILDING 19 AND
BUILDING 20

A-210

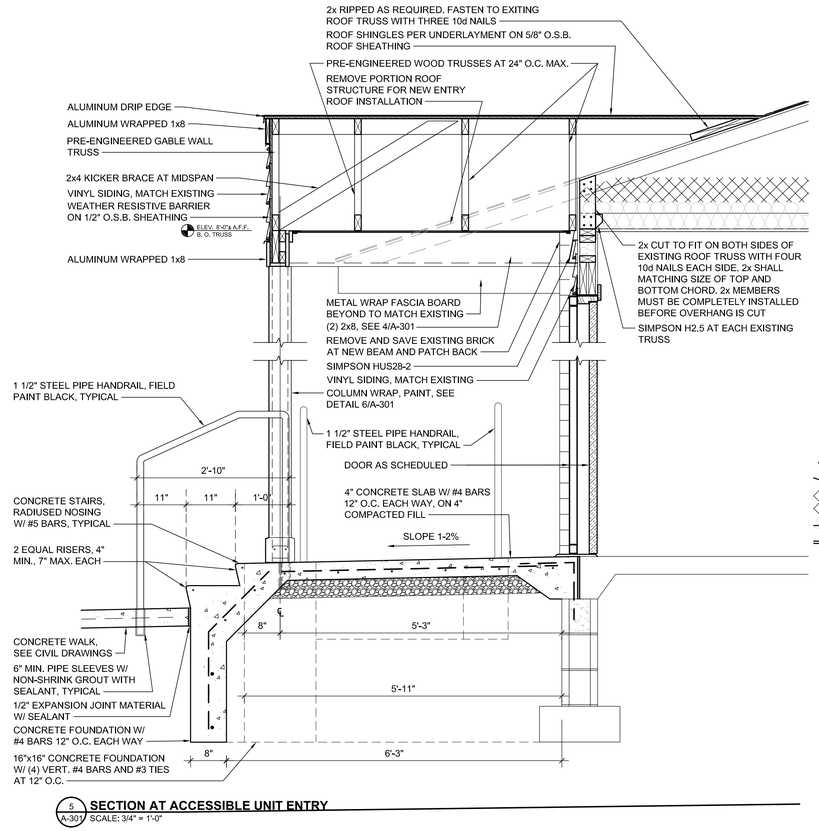


8 A-301 **INFILL DETAIL**
SCALE: 1-1/2" = 1'-0"

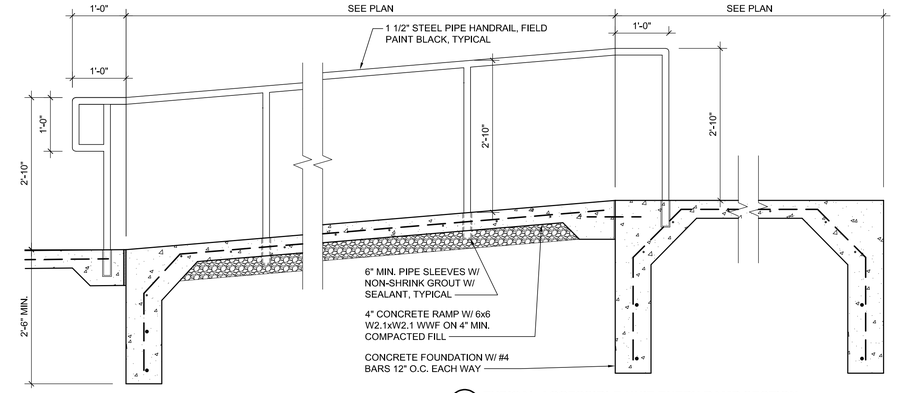
7 A-301 **INFILL DETAIL**
SCALE: 1-1/2" = 1'-0"



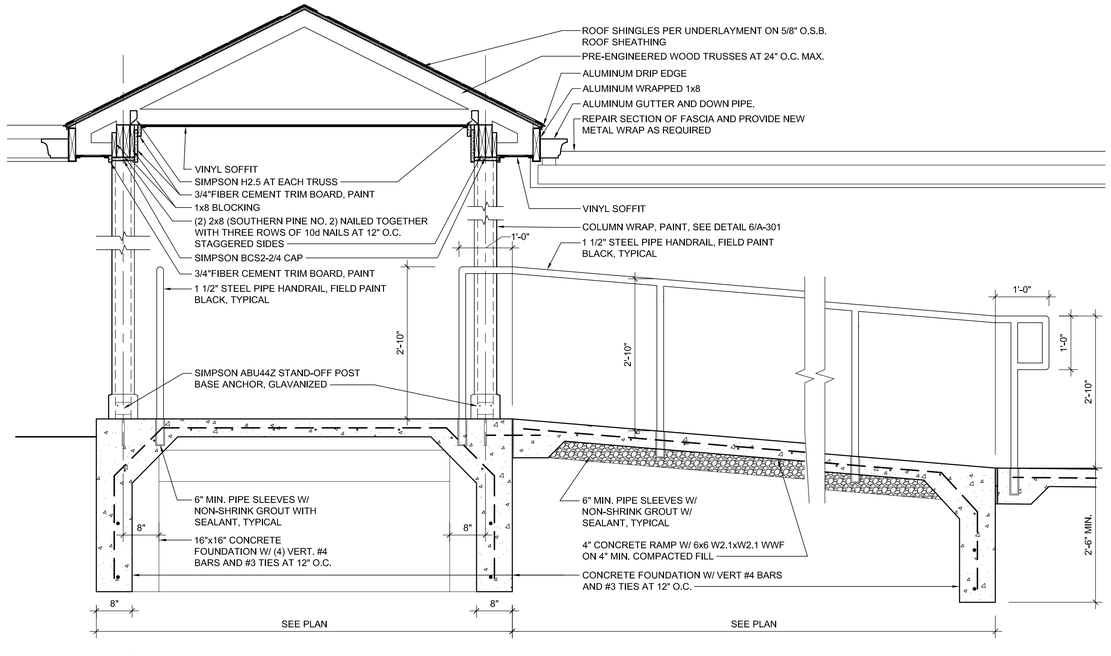
6 A-301 **SECTION AT COLUMN**
SCALE: 1 1/2" = 1'-0"



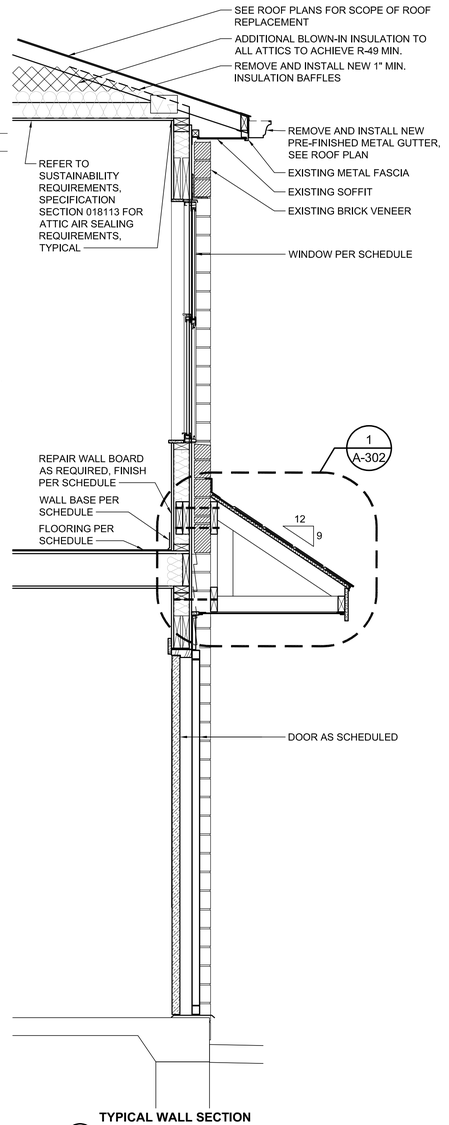
5 A-301 **SECTION AT ACCESSIBLE UNIT ENTRY**
SCALE: 3/4" = 1'-0"



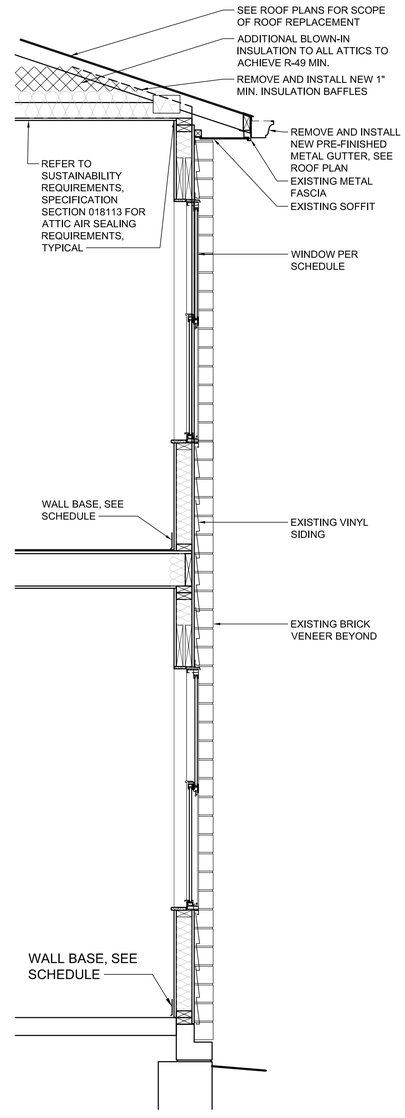
3 A-301 **TYPICAL ACCESSIBLE UNIT ENTRY RAMP SECTION**
SCALE: 3/4" = 1'-0"



4 A-301 **TYPICAL ACCESSIBLE UNIT ENTRY RAMP AND OVERHANG SECTION**
SCALE: 3/4" = 1'-0"



TYPICAL WALL SECTION AT NEW ENTRANCE CANOPIES
2 A-301 SCALE: 3/4" = 1'-0"



1 A-301 **TYPICAL WALL SECTION**
SCALE: 3/4" = 1'-0"

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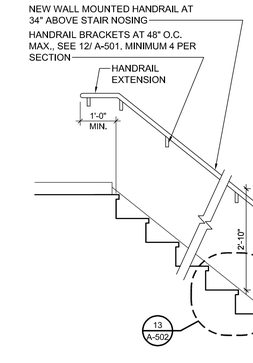
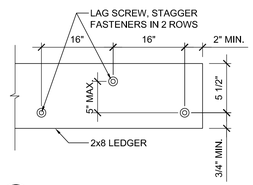
WALL SECTIONS

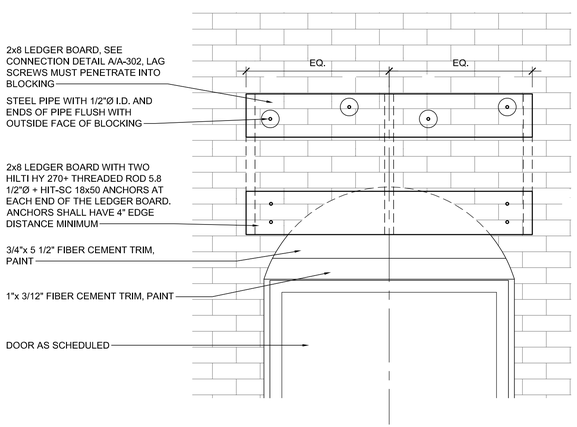
A-301



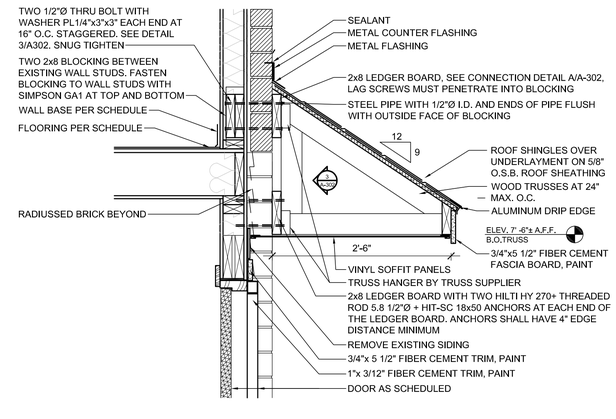
4 A-302 **SEMI-AMBULATORY UNIT STAIR SECTION**
SCALE: 1/2" = 1'-0"



3 A-302 **LEDGER CONNECTION DETAIL**
SCALE: 1-1/2" = 1'-0"



2 A-302 **NEW ENTRY OVERHANG DETAIL**
SCALE: 1" = 1'-0"



1 A-302 **NEW ENTRY OVERHANG DETAIL**
SCALE: 1" = 1'-0"

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SECURITY PROPERTIES

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962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

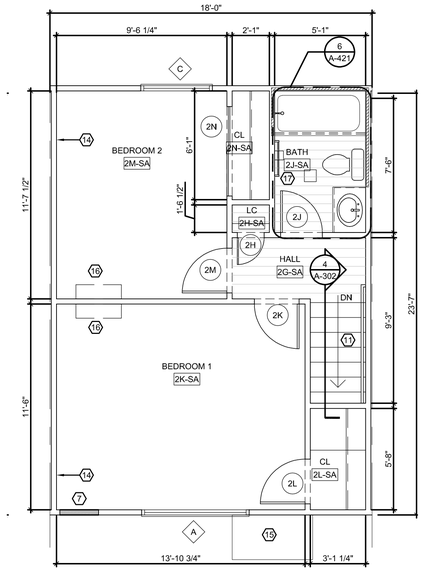
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

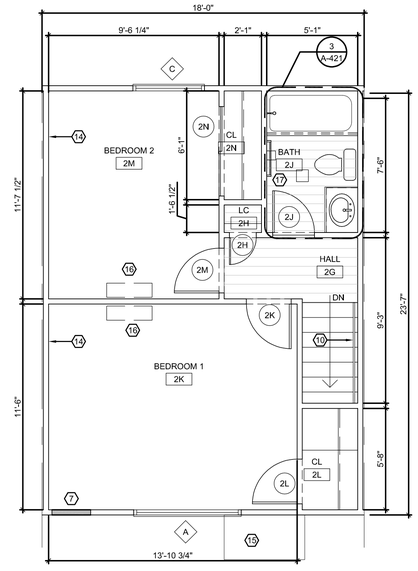
PROJECT #: 23096
DRAWN: BK **CHECKED:**

SECTIONS AND DETAILS

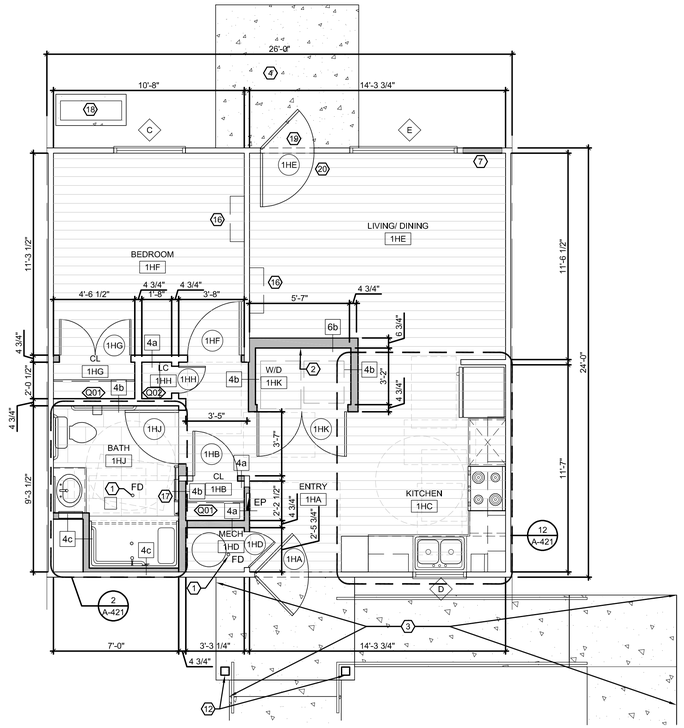
A-302



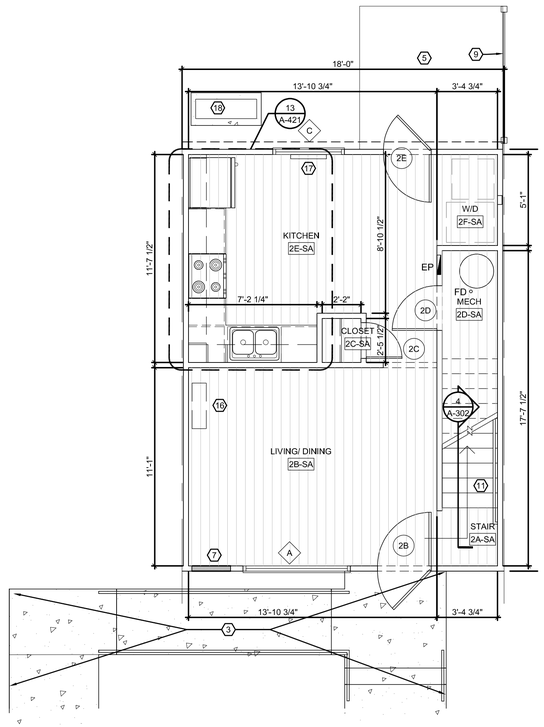
SEMI-AMBULATORY TWO BEDROOM UNIT (TYPE 2-SA)
SECOND FLOOR PLAN
6 / A-401 SCALE: 1/4" = 1'-0"



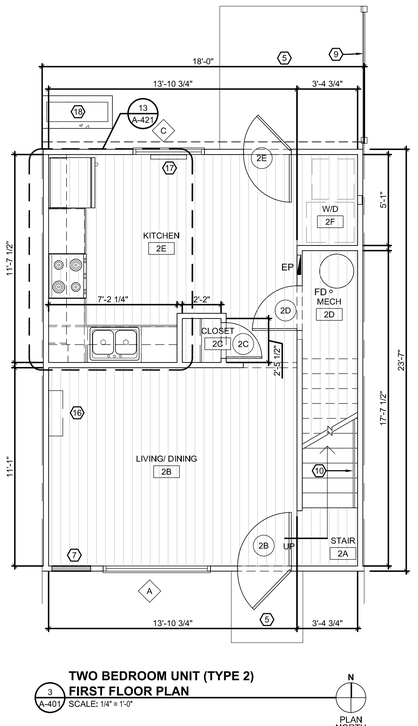
TWO BEDROOM UNIT (TYPE 2)
SECOND FLOOR PLAN
4 / A-401 SCALE: 1/4" = 1'-0"



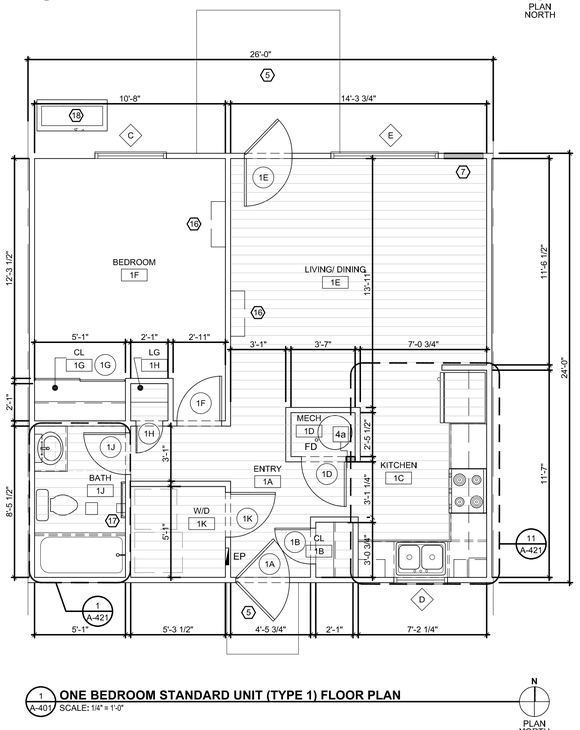
ONE BEDROOM ACCESSIBLE (ANSI TYPE A) UNIT (TYPE 1-HC)
FLOOR PLAN
2 / A-401 SCALE: 1/4" = 1'-0"



SEMI-AMBULATORY TWO BEDROOM UNIT (TYPE 2-SA)
FIRST FLOOR PLAN
5 / A-401 SCALE: 1/4" = 1'-0"



TWO BEDROOM UNIT (TYPE 2)
FIRST FLOOR PLAN
3 / A-401 SCALE: 1/4" = 1'-0"



ONE BEDROOM STANDARD UNIT (TYPE 1) FLOOR PLAN
1 / A-401 SCALE: 1/4" = 1'-0"

EQUIPMENT LEGEND/ CASEWORK LEGEND

- AR — TOILET ROOM ACCESSORIES SCHEDULED ON SHEET A-421
- GR — GENERAL EQUIPMENT SCHEDULED ON SHEET A-421

DOOR, WINDOW AND WALL LEGENDS

- SYM — SEE SHEET A-604 FOR ELEVATIONS
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- X — SEE SHEET A-601 FOR PARTITION TYPES

LEGEND

- EXISTING MASONRY WALL
- EXISTING STUD FRAMED WALL
- STUD FRAMED WALL, SEE WALL TAG
- FE — SEMI-RECESSED FIRE EXTINGUISHER
- FD — FLOOR DRAIN, SEE PLUMBING DRAWINGS
- FS — FLOOR SINK, EXISTING REMAIN IN PLACE
- EP — ELECTRIC PANEL, SEE ELECTRICAL DRAWINGS
- NEW LVP FLOORING, SEE ROOM FINISH SCHEDULE
- TILE FLOORING, SEE ROOM FINISH SCHEDULE

GENERAL NOTES APPLIES TO ALL FLOOR PLAN SHEETS

A. DIMENSIONS ARE TO FINISHED FACE OF WALL, FACE OF NOMINAL MASONRY, COLUMN CENTERLINE, OR PLUMBING FIXTURE CENTERLINE; UNLESS NOTED OTHERWISE
B. SEE SHEETS A-101 THROUGH A-107 FOR EXISTING FIRE RATED UNIT DEMISING WALL AND AREA SEPARATION WALL LOCATIONS WHERE FIRESTOPPING IS REQUIRED.
C. SEE SHEETS A-101 THROUGH A-107 FOR HEARING AND VISUALLY IMPAIRED UNIT LOCATION.
D. PROVIDE AND INSTALL BLOCKING AT STUD PARTITION WALLS AS REQUIRED FOR SUPPORT OF ALL WALL MOUNTED EQUIPMENT AND ACCESSORIES. PATCH EXISTING WALL BOARD AND FINISH AS REQUIRED. REFER TO INTERIOR ELEVATION SHEETS AND EQUIPMENT SCHEDULE.
E. SEE A-400 SERIES SHEETS FOR EQUIPMENT LOCATIONS AND DESCRIPTIONS.
F. FURNISH INSTALL ALL ROOM SIGNAGE, SEE SIGNAGE SCHEDULE AND DETAILS, SHEET A-602
G. REFER TO SHEET A-501 FOR CASEWORK DETAILS
H. PAINT EXPOSED CONDUITS AND SURFACE OF ALL POWER PANELS, SEE ELECTRICAL DRAWINGS FOR LOCATIONS
I. PROVIDE WINDOW BLIND FOR WINDOW AND SIDELITE.
J. SEE CEILING PLANS FOR LIGHTING LAYOUT
K. PROVIDE ALLOWANCE FOR PATCH/ REPAIR WALLS AS REQUIRED TO INSTALLATION OF MECHANICAL, PLUMBING, AND ELECTRICAL

KEYNOTE LEGEND APPLIES TO A-401 & A-402

1. RELOCATE OR PROVIDE NEW FLOOR DRAIN
2. PROVIDE AND INSTALL NEW WASHER AND DRYER HOOKUP, SEE MEP DRAWINGS
3. PROVIDE NEW 5'x5' CLEAR LANDING, ACCESSIBLE RAMP, STAIR AND RAILING, SEE ARCHITECTURAL SITE PLAN FOR TYPE AND DETAILS
4. REMOVE EXISTING AND PROVIDE ACCESSIBLE PATIO SLAB, THRESHOLD AT DOOR TO BE 1/4" MAX., SLOPE CONCRETE 1% MIN./2% MAX. AWAY FROM BUILDING. SEE ARCHITECTURAL SITE PLAN
5. REPAIR SLAB AND STEPS AS REQUIRED
6. WORK BENCH
7. INFILL EXISTING A/C SLEEVE, SEE DETAIL 7 AND 8/ A-301
8. LAUNDRY FOLDING TABLE, SEE 15/ A-501
9. EXISTING PRIVACY FENCE TO REMAIN
10. EXISTING WOOD HANDRAIL REMAIN IN PLACE
11. NEW WOOD HANDRAIL WITH EXTENSION, SEE SECTION
12. COLUMNS FOR NEW ROOF OVERHANG, SEE SECTION
13. PROVIDE NEW 5'x5' CLEAR LANDING, SEE ARCHITECTURAL SITE PLAN FOR TYPE AND DETAILS
14. REPLACE EXISTING (1) DUPLEX OUTLET WITH QUADPLEX, SEE ELECTRICAL DRAWINGS.
15. NEW OVERHANG BELOW, SEE ROOF PLANS LOCATIONS
16. WALL MOUNTED HVAC UNIT, SEE MECHANICAL DRAWINGS
17. BASEBOARD, SEE MECHANICAL DRAWINGS
18. CONCRETE EQUIPMENT PAD, SEE MECHANICAL DRAWINGS
19. PROVIDE TWO 2x8 (SOUTHERN PINE NO. 2) W/ TWO BEARING STUD AND ONE FULL STUD AT EACH END FOR NEW OPENING, FASTEN BEAMS AND HEADER PLIES TOGETHER WITH FASTENER SIZE AND SPACING INDICATED IN WOOD SPECIFICATIONS; U.N.O. PROVIDE TOP AND BOTTOM PLATE FOR HEADER.
20. PATCH/ REPAIR AND FINISH WALL

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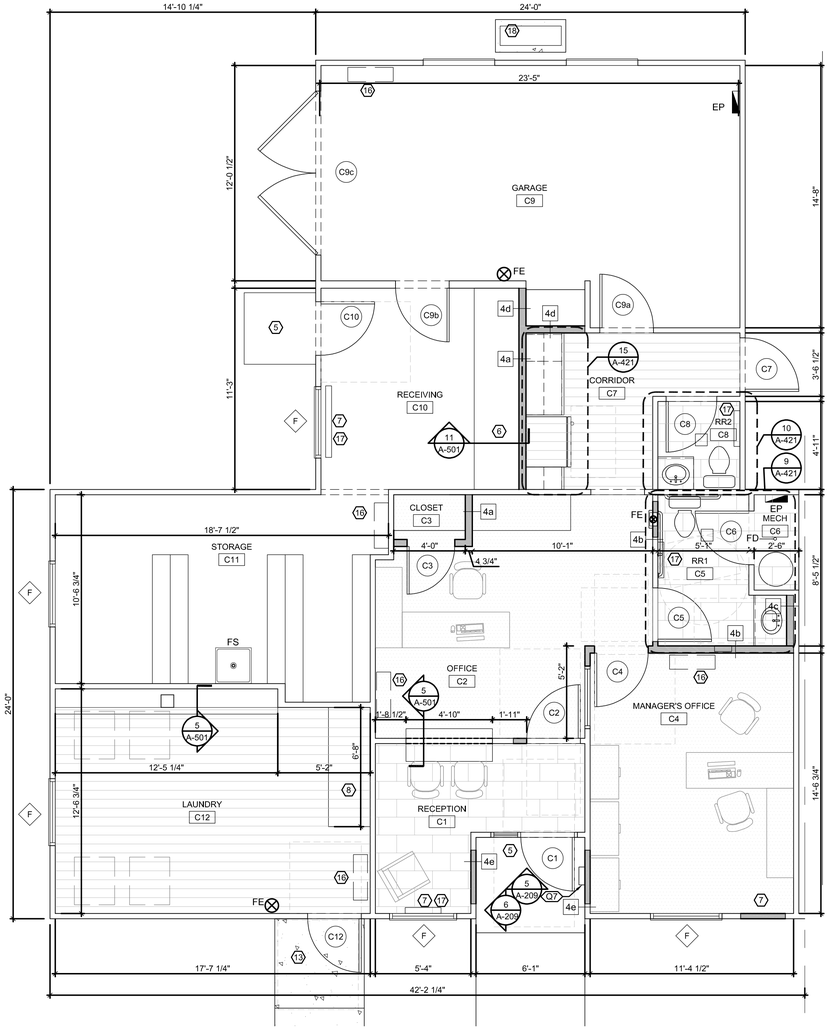
PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

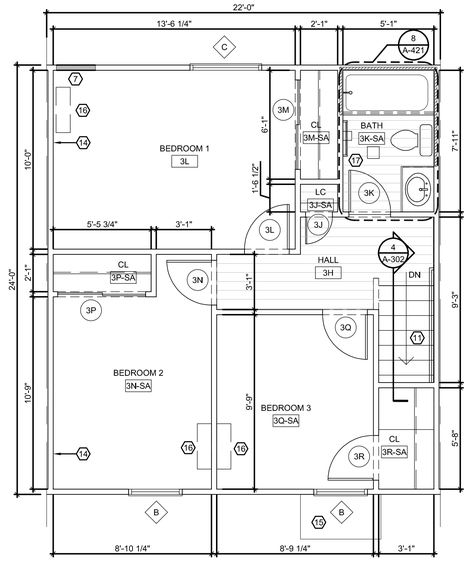
1 AND 2 BEDROOM UNIT PLANS

A-401



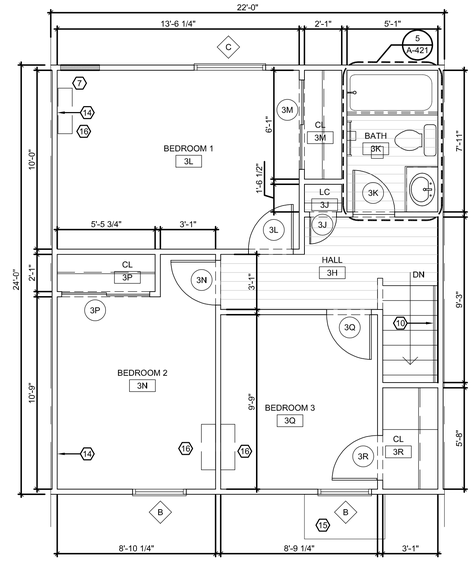
5 A-402 **COMMON AREA PLAN**
SCALE: 1/4" = 1'-0"

N PROJECT NORTH



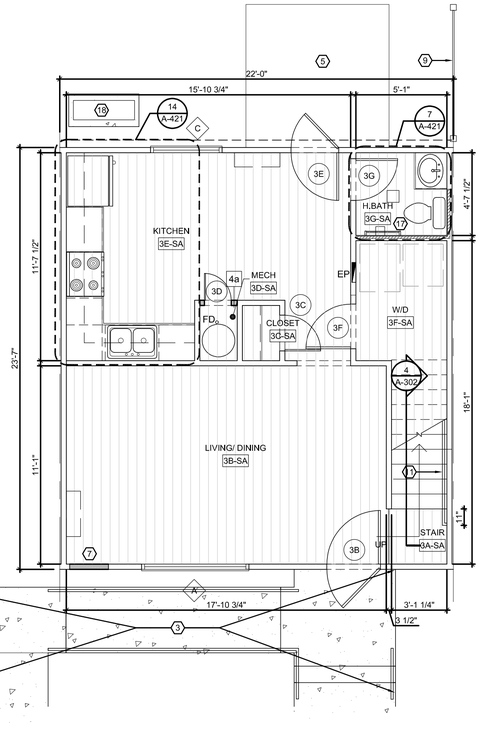
4 A-402 **THREE BEDROOM SEMI-AMBULATORY UNIT (TYPE 3-SA) SECOND FLOOR PLAN**
SCALE: 1/4" = 1'-0"

N PLAN NORTH



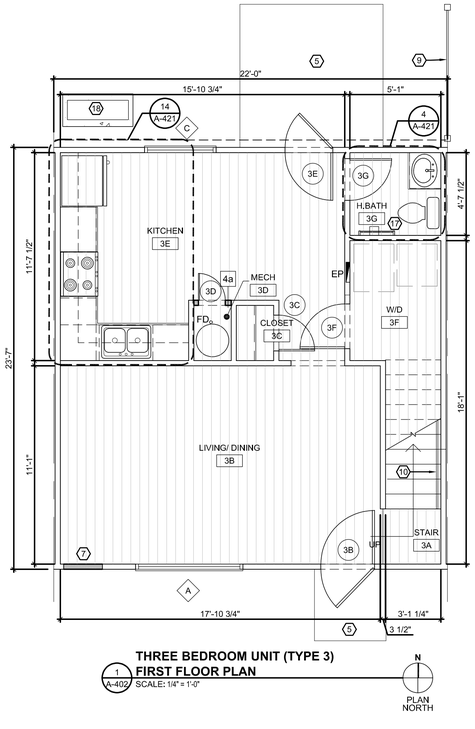
2 A-402 **THREE BEDROOM UNIT (TYPE 3) SECOND FLOOR PLAN**
SCALE: 1/4" = 1'-0"

N PLAN NORTH



3 A-402 **THREE BEDROOM SEMI-AMBULATORY UNIT (TYPE 3-SA) FIRST FLOOR PLAN**
SCALE: 1/4" = 1'-0"

N PLAN NORTH



1 A-402 **THREE BEDROOM UNIT (TYPE 3) FIRST FLOOR PLAN**
SCALE: 1/4" = 1'-0"

N PLAN NORTH

EQUIPMENT LEGEND/ CASEWORK LEGEND

- AR — TOILET ROOM ACCESSORIES SCHEDULED ON SHEET A-421
- GR — GENERAL EQUIPMENT SCHEDULED ON SHEET A-421

DOOR, WINDOW AND WALL LEGENDS

- SYM — SEE SHEET A-604 FOR ELEVATIONS
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- X — SEE SHEET A-601 FOR PARTITION TYPES

LEGEND

- EXISTING MASONRY WALL
- EXISTING STUD FRAMED WALL
- STUD FRAMED WALL, SEE WALL TAG
- FE — SEMI-RECESSED FIRE EXTINGUISHER
- FD — FLOOR DRAIN, SEE PLUMBING DRAWINGS
- FS — FLOOR SINK, EXISTING REMAIN IN PLACE
- EP — ELECTRIC PANEL, SEE ELECTRICAL DRAWINGS
- NEW LVP FLOORING, SEE ROOM FINISH SCHEDULE
- TILE FLOORING, SEE ROOM FINISH SCHEDULE

GENERAL NOTES APPLIES TO ALL FLOOR PLAN SHEETS

A. DIMENSIONS ARE TO FINISHED FACE OF WALL, FACE OF NOMINAL MASONRY, COLUMN CENTERLINE, OR PLUMBING FIXTURE CENTERLINE; UNLESS NOTED OTHERWISE
B. SEE SHEETS A-101 THROUGH A-107 FOR EXISTING FIRE RATED UNIT DEMISING WALL AND AREA SEPARATION WALL LOCATIONS WHERE FIRESTOPPING IS REQUIRED.
C. SEE SHEETS A-101 THROUGH A-107 FOR HEARING AND VISUALLY IMPAIRED UNIT LOCATION.
D. PROVIDE AND INSTALL BLOCKING AT STUD PARTITION WALLS AS REQUIRED FOR SUPPORT OF ALL WALL MOUNTED EQUIPMENT AND ACCESSORIES. PATCH EXISTING WALL BOARD AND FINISH AS REQUIRED. REFER TO INTERIOR ELEVATION SHEETS AND EQUIPMENT SCHEDULE.
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G. REFER TO SHEET A-501 FOR CASEWORK DETAILS
H. PAINT EXPOSED CONDUITS AND SURFACE OF ALL POWER PANELS, SEE ELECTRICAL DRAWINGS FOR LOCATIONS
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KEYNOTE LEGEND APPLIES TO A-401 & A-402

1. RELOCATE OR PROVIDE NEW FLOOR DRAIN
2. PROVIDE AND INSTALL NEW WASHER AND DRYER HOOKUP, SEE MEP DRAWINGS
3. PROVIDE NEW 5'x5' CLEAR LANDING, ACCESSIBLE RAMP, STAIR AND RAILING, SEE ARCHITECTURAL SITE PLAN FOR TYPE AND DETAILS
4. REMOVE EXISTING AND PROVIDE ACCESSIBLE PATIO SLAB, THRESHOLD AT DOOR TO BE 1/4" MAX., SLOPE CONCRETE 1% MIN./2% MAX. AWAY FROM BUILDING. SEE ARCHITECTURAL SITE PLAN
5. REPAIR SLAB AND STEPS AS REQUIRED
6. WORK BENCH
7. INFILL EXISTING A/C SLEEVE, SEE DETAIL 7 AND 8/ A-301
8. LAUNDRY FOLDING TABLE, SEE 15/ A-501
9. EXISTING PRIVACY FENCE TO REMAIN
10. EXISTING WOOD HANDRAIL REMAIN IN PLACE
11. NEW WOOD HANDRAIL WITH EXTENSION, SEE SECTION
12. COLUMNS FOR NEW ROOF OVERHANG, SEE SECTION
13. PROVIDE NEW 5'x5' CLEAR LANDING, SEE ARCHITECTURAL SITE PLAN FOR TYPE AND DETAILS
14. REPLACE EXISTING (1) DUPLEX OUTLET WITH QUADPLEX, SEE ELECTRICAL DRAWINGS.
15. NEW OVERHANG BELOW, SEE ROOF PLANS LOCATIONS
16. WALL MOUNTED HVAC UNIT, SEE MECHANICAL DRAWINGS
17. BASEBOARD, SEE MECHANICAL DRAWINGS
18. CONCRETE EQUIPMENT PAD, SEE MECHANICAL DRAWINGS
19. PROVIDE TWO 2x8 (SOUTHERN PINE NO. 2) W/ TWO BEARING STUD AND ONE FULL STUD AT EACH END FOR NEW OPENING. FASTEN BEAMS AND HEADER PLIES TOGETHER WITH FASTENER SIZE AND SPACING INDICATED IN WOOD SPECIFICATIONS; U.N.O. PROVIDE TOP AND BOTTOM PLATE FOR HEADER.
20. PATCH/ REPAIR AND FINISH WALL

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REVISIONS

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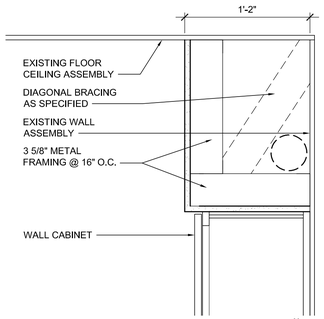
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

3 BEDROOM UNIT PLANS AND COMMUNITY AREA PLAN

A-402



8 A-411 **BULKHEAD DETAIL**
SCALE: 1 1/2" = 1'-0"

LEGEND APPLIES TO SHEETS A-411

- WALL LIGHT, SEE ELECTRICAL DRAWINGS
- SURFACE MOUNTED CEILING LIGHT, SEE ELECTRICAL DRAWINGS
- SURFACE MOUNTED CEILING LIGHT, SEE ELECTRICAL DRAWINGS
- UNDER CABINET LIGHT, SEE ELECTRICAL DRAWINGS
- BATHROOM EXHAUST VENT, SEE MECHANICAL DRAWINGS

GENERAL OVERALL CEILING PLAN NOTES

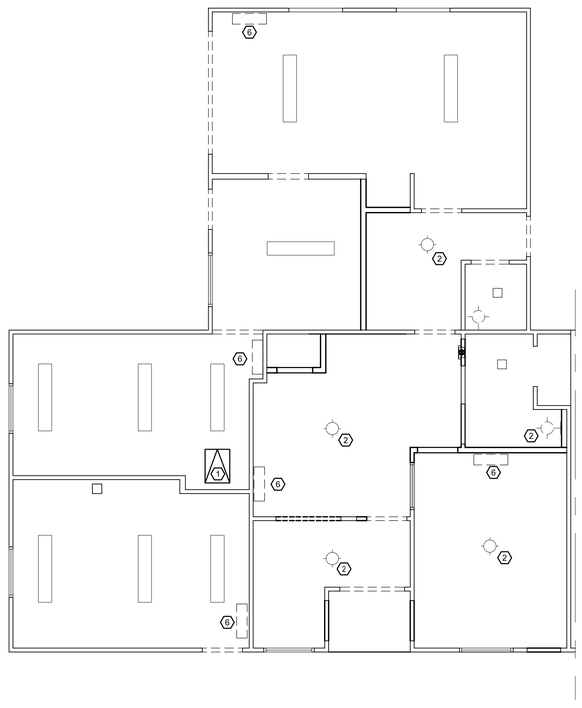
A. PROVIDE ALLOWANCE FOR PATCH AND REPAIR EXISTING CEILING DAMAGE.

B. PROVIDE ALLOWANCE FOR PATCH/ REPAIR CEILINGS AS REQUIRED TO:

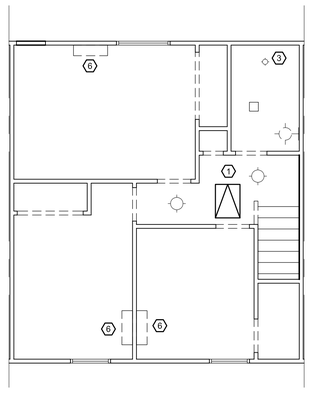
- RECONFIGURATION OF LAYOUT
- INSTALLATION OF MECHANICAL, PLUMBING, AND ELECTRICAL
- TRIM AND CASEWORK REMOVAL AND REPLACEMENT
- HOLES AND DAMAGE FROM BLIND AND DRAPE REMOVAL
- HOLES AND DAMAGES FROM OLD LIGHTING FIXTURES

KEYNOTE LEGEND APPLIES TO SHEETS A-411

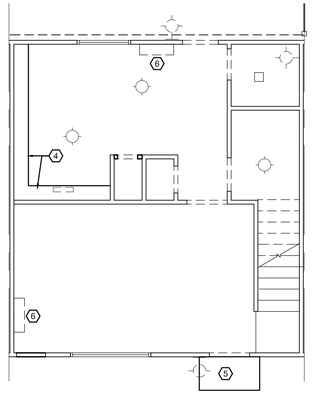
1. PROVIDE AND INSTALL 22"x30" R-50 INSULATED ATTIC ACCESS HATCH PER ATTIC SPACE. 1-HOUR FIRE RATED. SEE A101 TO A107 FOR LOCATIONS
2. RELOCATE LIGHT FIXTURE. PATCH CEILING AS REQUIRED
3. PROVIDE LIGHT FIXTURE ABOVE SHOWER AND TUB, SEE ELECTRICAL DRAWINGS
4. PROVIDE NEW BULKHEAD ABOVE WALL CABINET, SEE DETAIL 8/A-411
5. VINYL SOFFIT
6. WALL MOUNTED HVAC UNIT



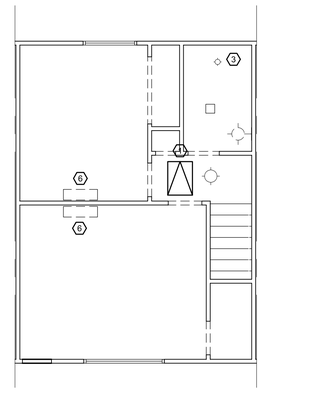
7 A-411 **COMMUNITY BUILDING CEILING PLAN**
SCALE: 3/16" = 1'-0"
N PROJECT NORTH



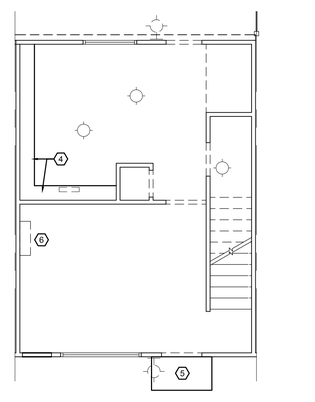
6 A-411 **UNIT 3 SECOND FLOOR CEILING PLAN**
SCALE: 3/16" = 1'-0"
N PLAN NORTH



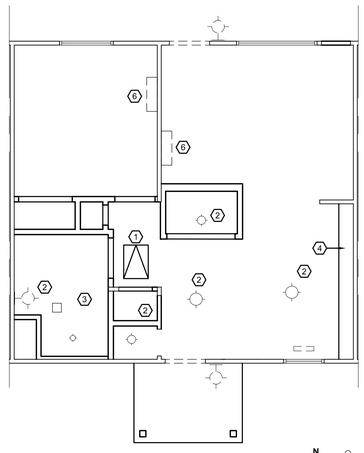
5 A-411 **UNIT 3 FIRST FLOOR CEILING PLAN**
SCALE: 3/16" = 1'-0"
N PLAN NORTH



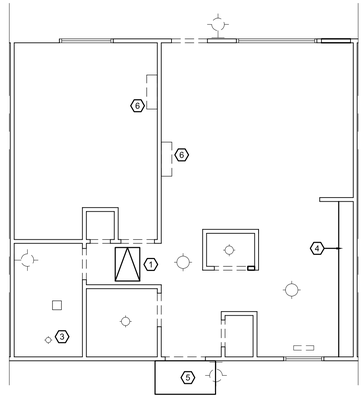
4 A-411 **UNIT 3 SECOND FLOOR CEILING PLAN**
SCALE: 3/16" = 1'-0"
N PLAN NORTH



3 A-411 **UNIT 3 FIRST FLOOR CEILING PLAN**
SCALE: 3/16" = 1'-0"
N PLAN NORTH



2 A-411 **UNIT 1-HC CEILING PLAN**
SCALE: 3/16" = 1'-0"
N PLAN NORTH



1 A-411 **UNIT 1 CEILING PLAN**
SCALE: 3/16" = 1'-0"
N PLAN NORTH

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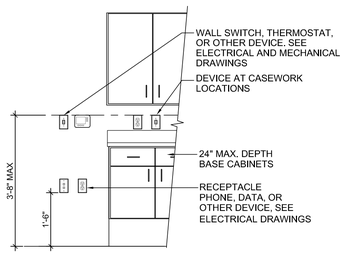
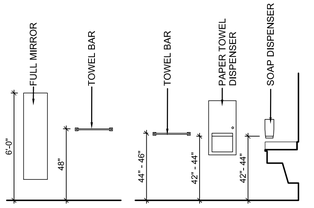
DRAWN: JR/BK **CHECKED:** GSH

UNIT AND COMMUNITY AREA CEILING PLANS

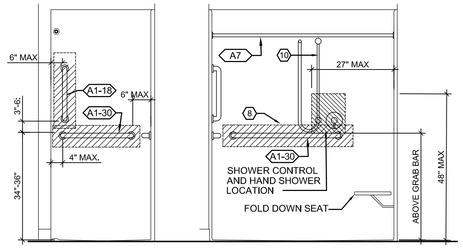
A-411



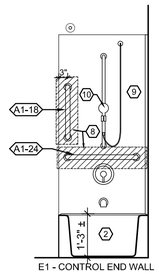
C A-421 **ACCESSIBLE UNIT AND COMMON AREA DEVICE MOUNTING HEIGHTS**
SCALE: 1/2" = 1'-0"



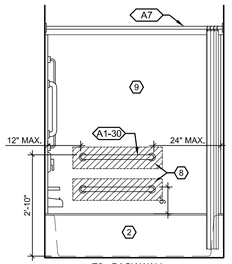
B A-421 **TOILET ROOM MOUNTING HEIGHTS**
SCALE: 1/4" = 1'-0"



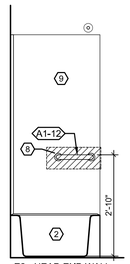
A A-421 **ACCESSIBLE UNIT SHOWER ELEVATIONS**
SCALE: 1/2" = 1'-0"



E1 - CONTROL END WALL

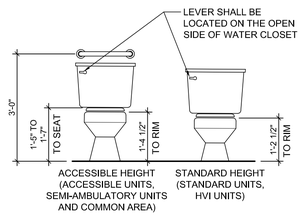


E2 - BACK WALL



E3 - HEAD END WALL

E A-421 **SEMI-AMBULATORY UNIT TUB ELEVATIONS**
SCALE: 1/2" = 1'-0"



D A-421 **TOILET ELEVATIONS**
SCALE: 1/2" = 1'-0"

EQUIPMENT SCHEDULE				
MK	DESCRIPTION	BASIS OF DESIGN		NOTES
Q1	CLOSET SHELF AND HANGER ROD	SEE SPEC	SEE SPEC	SEE DETAIL 2/A-501
Q2	LINEN CLOSET SHELVES	SEE SPEC	SEE SPEC	SEE DETAIL 1/A-501
Q3	REFRIGERATOR/FREEZER	GE	GTE17GTNRWW	ENERGY STAR
Q4	ELECTRIC RANGE - FREE STANDING	GE	JBS460DMWW	ANTI-TRIP OUT DEVICE
Q5	ELECTRIC RANGE - DROP-IN	GE	JD630DTWW	ANTI-TRIP OUT DEVICE
Q6	RANGEHOOD WITH LIGHT	GE	JVX3300DJWW	PROVIDE SWITCH WITHIN ACCESSIBLE RANGE FOR ACCESSIBLE UNIT, DUCTED TO OUTSIDE
Q7	RENT DROP BOX			INSTALL WITHIN ACCESSIBLE RANGE, SEE G-001
Q8	GREASE GUARD	BROAN		

TOILET ROOM ACCESSORY SCHEDULE				
MK	DESCRIPTION	BASIS OF DESIGN		NOTES
A1-36	36" GRAB BAR	BOBRICK	B-6806-36	SURFACE MOUNTED
A1-30	30" GRAB BAR	BOBRICK	B-6806-30	
A1-42	42" GRAB BAR	BOBRICK	B-6806-42	SURFACE MOUNTED
A1-18	18" GRAB BAR	BOBRICK	B-6806-18	SURFACE MOUNTED
A2	MEDICINE CABINET	BOBRICK	B-299	SURFACE MOUNTED
A3	24"x 36" MIRROR	BOBRICK	B-290 2436	3' - 4" TO B/ REFLECTIVE SURFACE
A4	MEDICINE CABINET	BOBRICK	B-397	RECESSED
A5	TOWEL BAR	BOBRICK		SURFACE MOUNTED
A6	TOILET PAPER HOLDER	BOBRICK		SURFACE MOUNTED
A7	SHOWER CURTAIN AND ROD	BOBRICK		
A8	TOILET PAPER HOLDER (COMMON)	BOBRICK		SURFACE MOUNTED
A9	PAPER TOWEL DISPENSER	BOBRICK		RECESSED
A10	SOAP DISPENSER	BOBRICK		SURFACE MOUNTED
A11	FULL HEIGHT MIRROR, 16"x58"			

LEGEND

- A# — TOILET ROOM ACCESSORIES SCHEDULED ON SHEET A-411
- Q# — GENERAL EQUIPMENT SCHEDULED ON SHEET A-412
- SYM — SEE SHEET A-604 FOR ELEVATIONS
- DOOR — SEE SHEET A-602 FOR DOOR SCHEDULE
- X — SEE SHEET A-601 FOR PARTITION TYPES

CASEWORK LEGEND

PREFINISHED WOOD CABINET WITH 4" STAINLESS STEEL PULL, SEE CASEWORK DETAILS ON SHEET A-501.

- BXX — BASE CABINET, XX=WIDTH IN INCHES
- SBXX — SINK BASE CABINET WITH REMOVABLE FRONT, XX=WIDTH IN INCHES
- HBXX — ACCESSIBLE BASE CABINET, XX=WIDTH IN INCHES
- HSBXX — ACCESSIBLE WALL HUNG BASE CABINET, XX=WIDTH IN INCHES, 24" DEPTH U.N.O.
- WXXYY — WALL CABINET, XX=WIDTH AND YY=HEIGHT IN INCHES
- VXX — VANITY BASE SINK CABINET, XX=WIDTH IN INCHES, 21" DEPTH U.N.O.
- HVXX — ACCESSIBLE WALL HUNG VANITY BASE, XX=WIDTH IN INCHES, 21" DEPTH U.N.O.
- HVDXX — ACCESSIBLE VANITY DRAWER BASE CABINET, XX=WIDTH IN INCHES, 21" DEPTH U.N.O.
- TXX — TALL CABINET, XX=WIDTH IN INCHES, 24" DEPTH U.N.O.
- EX — EXISTING CABINET TO REMAIN IN PLACE. PROVIDE 4" STAINLESS STEEL PULL PER DETAILS ON SHEET A-501

GENERAL NOTES — APPLIES TO A-421

A. DIMENSIONS ARE TO FINISHED FACE OF WALL, FACE OF NOMINAL MASONRY, COLUMN CENTERLINE, OR PLUMBING FIXTURE CENTERLINE: UNLESS NOTED OTHERWISE

B. SEE ALSO SHEETS A-101 THROUGH A-107 FOR EXISTING FIRE RATED UNIT DEMISING WALL AND AREA SEPARATION WALL LOCATIONS WHERE FIRESTOPPING IS REQUIRED.

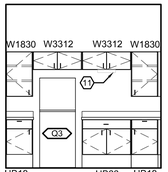
C. INSTALL FINISHED FLOORING MATERIAL WALL-TO-WALL SO THAT IT RUNS UNDER ALL CASEWORK, APPLIANCES, AND EQUIPMENT.

D. PROVIDE BLOCKING AT STUD PARTITION WALLS AS REQUIRED FOR SUPPORT OF ALL WALL MOUNTED EQUIPMENT AND ACCESSORIES.

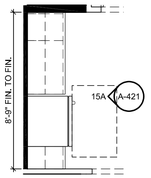
E. PROVIDE WIRE PULL FOR ALL CABINET, SEE A-501

KEYNOTE LEGEND

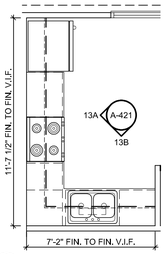
1. VERIFY SHOWER WALL DIMENSION WITH SHOWER MANUFACTURER
2. REFINISH EXISTING TUB
3. WALL BASE, SEE ROOM FINISH SCHEDULE
4. NON-GLARE TYPE LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS
5. 30" MINIMUM OPEN WORK SURFACE WITH FACE PANEL TO MATCH CABINET, PROVIDE END PANEL ON BOTH SIDES AS REQUIRED
6. KITCHEN COUNTERTOP, SEE MATERIAL SCHEDULE
7. DOUBLE BOWL SINK WITH LEVER HANDLE FAUCET, SEE PLUMBING DRAWINGS
8. PROVIDE 2x8 BLOCKING AT STUD WALL AND GRAB BAR, PATCH WALL AND FINISH
9. REMOVE EXISTING AND PROVIDE NEW TUB SURROUND
10. ADJUSTABLE SHOWER HEAD, SEE PLUMBING DRAWINGS
11. NON-GLARE TYPE UNDERCABINET LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS
12. LAVATORY SINK AND COUNTERTOP WITH LEVEL HANDLE FAUCET, SEE MATERIAL SCHEDULE AND PLUMBING DRAWINGS
13. PROVIDE NEW BULKHEAD ABOVE WALL CABINET, SEE REFLECTED CEILING PLAN



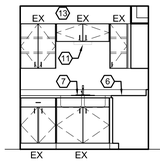
15A A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



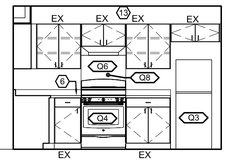
15 A-421 **COMMUNITY BUILDING KITCHENETTE PLAN**
SCALE: 1/4" = 1'-0"



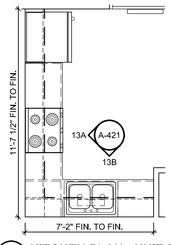
14 A-421 **KITCHEN PLAN - UNIT 3**
SCALE: 1/4" = 1'-0"



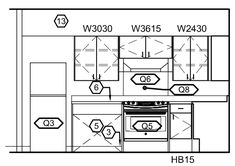
13B A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



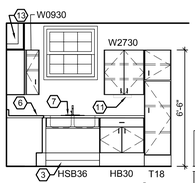
13A A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



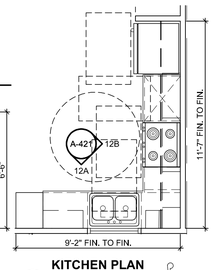
13 A-421 **KITCHEN PLAN - UNIT 2**
SCALE: 1/4" = 1'-0"



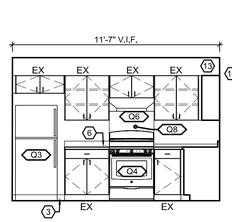
12B A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



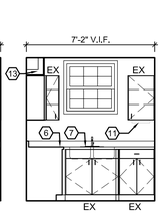
12A A-422 **ELEVATION**
SCALE: 1/4" = 1'-0"



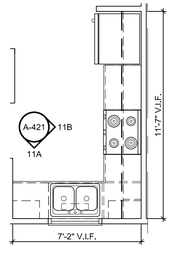
12 A-421 **KITCHEN PLAN UNIT 1 - HC**
SCALE: 1/4" = 1'-0"



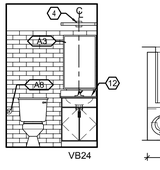
11B A-422 **1 BR UNIT ELEVATION**
SCALE: 1/4" = 1'-0"



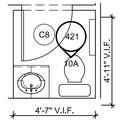
11A A-422 **ELEVATION**
SCALE: 1/4" = 1'-0"



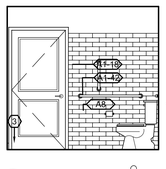
11 A-421 **KITCHEN PLAN - UNIT 1**
SCALE: 1/4" = 1'-0"



10A A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"

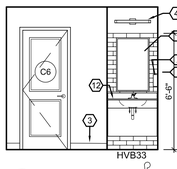


10 A-421 **REST ROOM 2 PLAN**
SCALE: 1/4" = 1'-0"

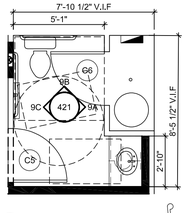


9C A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"

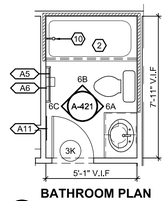
9B A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



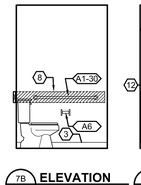
9A A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



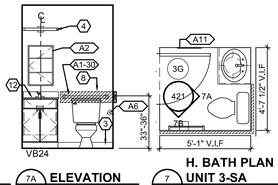
9 A-421 **RESTROOM 1 PLAN**
SCALE: 1/4" = 1'-0"



8 A-421 **BATHROOM PLAN UNIT 3-SA**
SCALE: 1/4" = 1'-0"

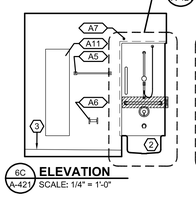


7B A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"

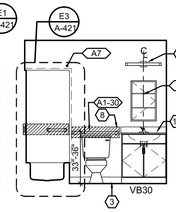


7A A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"

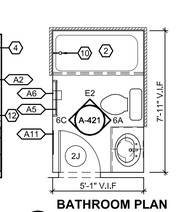
7 A-421 **H. BATH PLAN UNIT 3-SA**
SCALE: 1/4" = 1'-0"



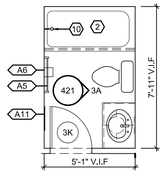
6C A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



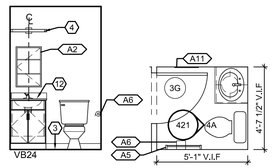
6A A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



6 A-421 **BATHROOM PLAN UNIT 2-SA**
SCALE: 1/4" = 1'-0"

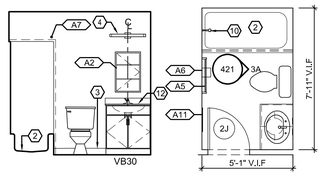


5 A-421 **BATHROOM PLAN - UNIT 3**
SCALE: 1/4" = 1'-0"



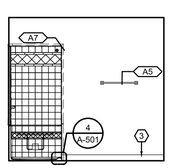
4A A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"

4 A-421 **HALF BATH PLAN - UNIT 3**
SCALE: 1/4" = 1'-0"

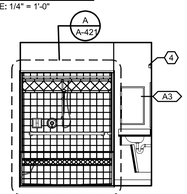


3A A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"

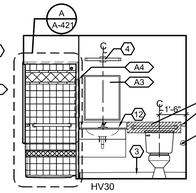
3 A-421 **BATHROOM PLAN - UNIT 2**
SCALE: 1/4" = 1'-0"



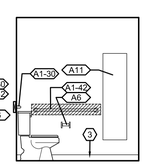
2D A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



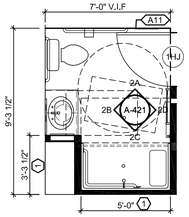
2C A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



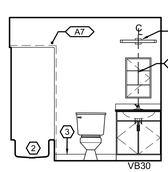
2B A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



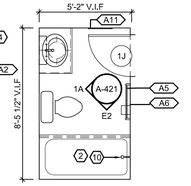
2A A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



2 A-421 **BATH PLAN - UNIT 1-HC**
SCALE: 1/4" = 1'-0"



1A A-421 **ELEVATION**
SCALE: 1/4" = 1'-0"



1 A-421 **BATHROOM PLAN - UNIT 1**
SCALE: 1/4" = 1'-0"

ATA BEILHARZ ARCHITECTS
1993 Central Avenue Cincinnati Ohio, 45202
p: 513-241-4402 f: 513-241-5560 www.ATA-B.com

SECURITY PROPERTIES

FRANKLIN COMMONS
ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett — License No. 1817428
Expiration Date: 12/31/2025

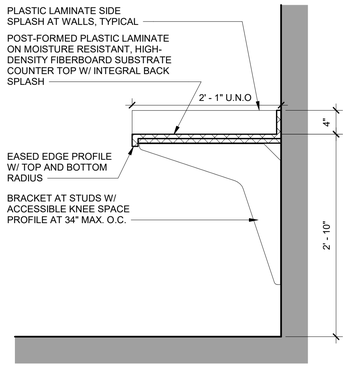
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

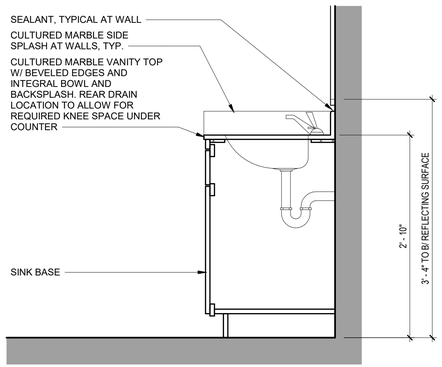
PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

ENLARGED PLANS AND INTERIOR ELEVATIONS

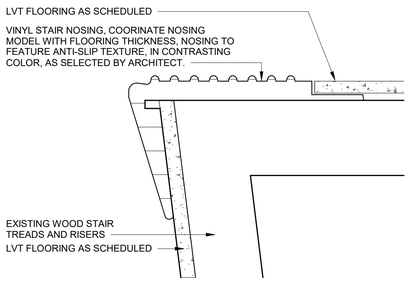
A-421



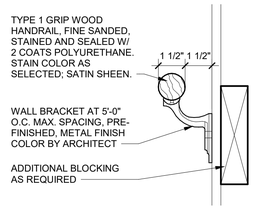
15 A-501 LAUNDRY FOLDING TABLE DETAIL
1" = 1'-0"



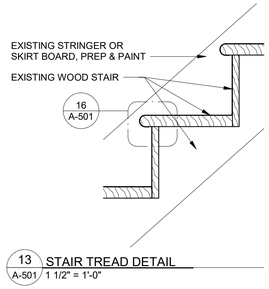
14 A-501 VANITY DETAIL - STANDARD UNIT
1" = 1'-0"



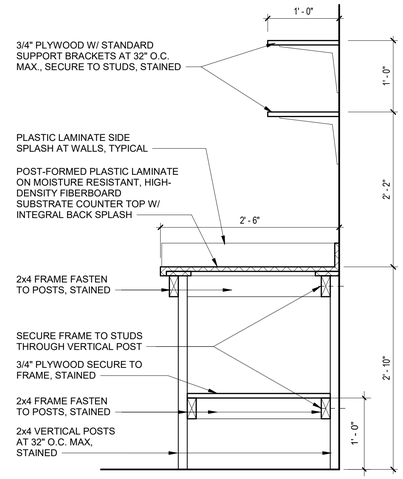
16 A-501 STAIR NOSING DETAIL
1" = 1'-0"



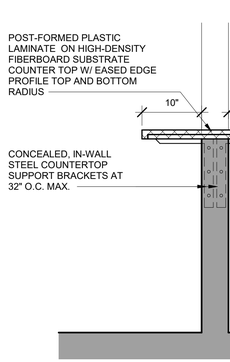
12 A-501 HANDRAIL DETAIL - SECTION
3" = 1'-0"



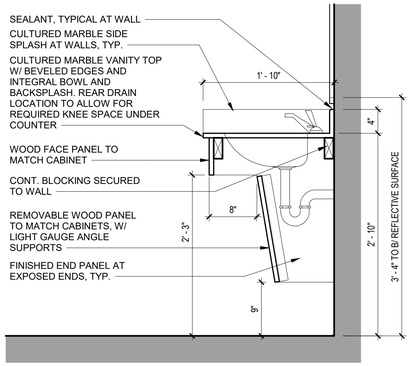
13 A-501 STAIR TREAD DETAIL
1 1/2" = 1'-0"



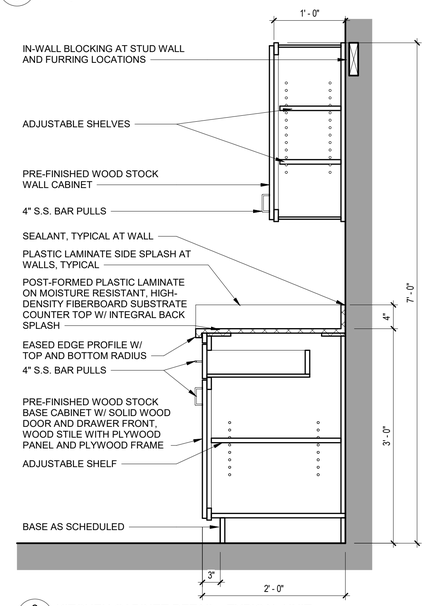
11 A-501 WORK BENCH DETAIL
1" = 1'-0"



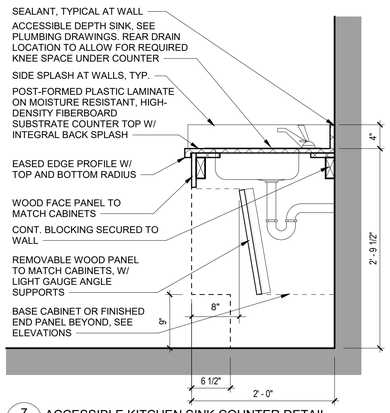
10 A-501 COUNTER DETAIL
1" = 1'-0"



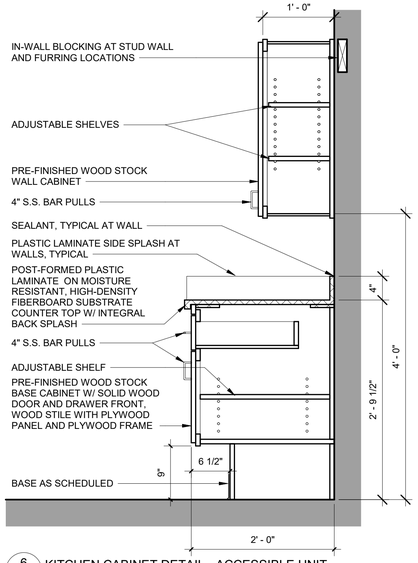
9 A-501 WALL HUNG VANITY DETAIL - ACCESSIBLE UNIT
1" = 1'-0"



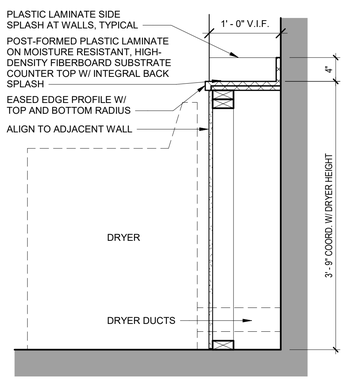
8 A-501 KITCHEN CABINET DETAIL - TYPICAL UNIT
1" = 1'-0"



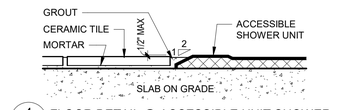
7 A-501 ACCESSIBLE KITCHEN SINK COUNTER DETAIL
1" = 1'-0"



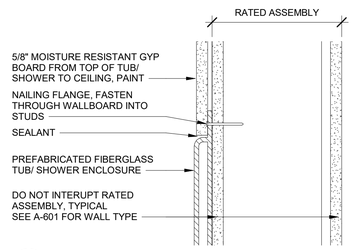
6 A-501 KITCHEN CABINET DETAIL - ACCESSIBLE UNIT
1" = 1'-0"



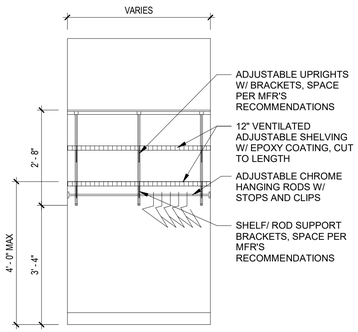
5 A-501 DRYER SHELF DETAIL
1" = 1'-0"



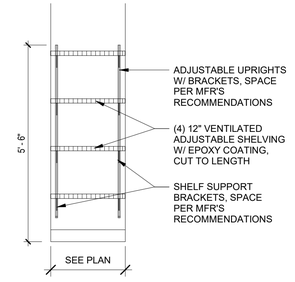
4 A-501 FLOOR DETAIL @ ACCESSIBLE UNIT SHOWER
3" = 1'-0"



3 A-501 SHOWER/ TUB RATED WALL DETAIL
3" = 1'-0"



2 A-501 ACCESSIBLE CLOSET ELEVATION
1/2" = 1'-0"



1 A-501 ACCESSIBLE UNIT LINEN CLOSET ELEV
1/2" = 1'-0"

ATA BEILHARZ ARCHITECTS
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SECURITY PROPERTIES

FRANKLIN COMMONS

ADDITION AND ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett License No. 1817428
Expiration Date: 12/31/2025

REVISIONS

#	DATE	DESCRIPTION
	5/3/24	OHFA 80% SUBMISSION

PROJECT #: 21186
DRAWN: Author **CHECKED:** Checker

MISCELLANEOUS DETAILS

A-501

ROOM FINISH SCHEDULE (CONTINUE)

MK	NAME	FOOR		WALL		CEILING		NOTES
		MTL	BASE	MTL	FIN	MATL	FIN	
UNIT 3 - THREE BEDROOM TYPICAL TOWNHOUSE								
3A	STAIR	EX	EX	EX	EX	EX	EX	2
3B	LIVING/ DINING	LVP-1	EX	EX	EX	EX	EX	
3C	CLOSET	LVP-1	EX	EX	EX	EX	EX	
3D	MECH	LVP-1	EX	EX	EX	EX	EX	
3E	KITCHEN	LVP-1	EX	EX	P-A	EX	EX	
3F	W/D	LVP-1	EX	EX	EX	EX	EX	
3G	HALF BATH	LVP-1	EX	EX	EX	EX	EX	
3H	HALL	LVP-1	EX	EX	EX	EX	EX	
3J	LINEN CLOSET	LVP-1	EX	EX	EX	EX	EX	
3K	BATH	LVT-1	EX	EX	P-A	EX	EX	
3L	BEDROOM 1	EX	EX	EX	EX	EX	EX	1, 3
3M	CLOSET	EX	EX	EX	EX	EX	EX	1, 3
3N	BEDROOM 2	EX	EX	EX	EX	EX	EX	1, 3
3P	CLOSET	EX	EX	EX	EX	EX	EX	1, 3
3Q	BEDROOM 3	EX	EX	EX	EX	EX	EX	1, 3
3R	CLOSET	EX	EX	EX	EX	EX	EX	1, 3
UNIT 3 - THREE BEDROOM SEMI-AMBULATORY TOWNHOUSE								
3A-SA	STAIR	R-1	EX	EX	EX	EX	EX	4
3B-SA	LIVING/ DINING	LVP-1	RB-1	EX	EX	EX	EX	
3C-SA	CLOSET	LVP-1	RB-1	EX	EX	EX	EX	
3D-SA	MECH	LVP-1	RB-1	EX	EX	EX	EX	
3E-SA	KITCHEN	LVP-1	RB-1	EX	P-A	EX	EX	
3F-SA	W/D	LVP-1	RB-1	EX	EX	EX	EX	
3G-SA	HALF BATH	LVP-1	RB-1	EX	EX	EX	EX	
3H-SA	HALL	LVP-1	RB-1	EX	EX	EX	EX	
3J-SA	LINEN CLOSET	LVP-1	RB-1	EX	EX	EX	EX	
3K-SA	BATH	LVT-1	RB-1	EX	P-A	EX	EX	
3L-SA	BEDROOM 1	LVP-1	RB-1	EX	EX	EX	EX	1
3M-SA	CLOSET	LVP-1	RB-1	EX	EX	EX	EX	1
3N-SA	BEDROOM 2	LVP-1	RB-1	EX	EX	EX	EX	1
3P-SA	CLOSET	LVP-1	RB-1	EX	EX	EX	EX	1
3Q-SA	BEDROOM 3	LVP-1	RB-1	EX	EX	EX	EX	1
3R-SA	CLOSET	LVP-1	RB-1	EX	EX	EX	EX	1
COMMUNITY BUILDING								
C1	RECEPTION	T-3	T-4	EX/G	P-B	EX	P-F	
C2	OFFICE	CT-1	RB-2	EX/G	P-B	EX	P-F	
C3	CLOSET	CT-1	RB-2	EX/G	P-B	EX	P-F	
C4	MANAGER'S OFFICE	CT-1	RB-2	EX/G	P-B	EX	P-F	
C5	RESTROOM 1	T-3	T-4	EX/G/T-5	P-B	EX	P-F	5
C6	MECHANICAL	T-3	T-4	EX	P-B	EX	P-F	
C7	CORRIDOR	LVP-2	RB-3	EX/G	P-B	EX	P-F	
C8	RESTROOM 2	T-3	T-4	EX/G/T-5	P-B	EX	P-F	5
C9	GARAGE	EX	EX	EX/G	EX/P-B	EX	P-F	
C10	RECEIVING	EX	EX	EX/G	EX/P-B	EX	P-F	
C11	STORAGE	EX	EX	EX	EX	EX	EX	
C12	LAUNDRY	LVP-2	RB-3	EX/G	P-B	EX	P-F	

GENERAL ROOM FINISH NOTES

A. INSTALL TRANSITION STRIPS AT CHANGES IN FLOORING MATERIAL. ALL TRANSITIONS TO BE ACCESSIBLE AND TO COMPLY WITH ICC/ANSI A117.1.-2009.

B. SCHEDULE OF GYPSUM BOARD LOCATIONS

a. KITCHEN, BATHROOM, AND TOILET ROOM WALLS BEHIND SINKS: GLASS MAT FACED GYPSUM PANELS FROM FLOOR TO 3 INCHES ABOVE BASE CABINET AND MINIMUM 4 FOOT WIDTH CENTERED ON THE SINK.

b. SHOWER AND TUB SURROUND WALLS BEHIND FIBERGLASS ENCLOSURES: GLASS MAT FACED GYPSUM PANELS FROM FLOOR TO 6 INCHES ABOVE SURROUND OR SHOWER OUTLET AND 6 INCHES BEYOND JAMBS. MOISTURE RESISTANT GYPSUM PANELS FROM 6 INCHES ABOVE SURROUND OR SHOWER OUTLET TO CEILING.

c. WALLS BEHIND CERAMIC WALL TILE: GLASS MAT FACED GYPSUM BACKER BOARD. AT TUB AND SHOWER LOCATIONS, MOISTURE RESISTANT GYPSUM PANELS FROM TILE TO CEILING.

d. WALLS BEHIND TOILETS: GLASS MAT FACED GYPSUM PANELS FROM FLOOR TO THE TOP OF THE TOILET TANK; MINIMUM 4 FOOT WIDTH CENTERED ON THE TOILET AND EXTENDING TO ADJACENT TUB/SHOWER ENCLOSURE WHERE PRESENT.

e. LOCATIONS WITHIN 4 FEET OF SINKS, MOP BASINS, CLOTHES WASHERS, WATER HEATERS, WATER METERS, AND OTHER WATER SOURCES: MOISTURE RESISTANT GYPSUM PANELS, EXCEPT AT LOCATIONS SCHEDULED FOR GLASS MAT FACED GYPSUM PANELS.

f. BATHROOM AND TOILET ROOM LOCATIONS NOT OTHERWISE SCHEDULED: MOISTURE RESISTANT GYPSUM PANELS.

g. OTHER LOCATIONS: GYPSUM PANELS

INTERIOR KEYNOTES

1. INSTALL NEW FLOORING PER OWNER'S MATRIX
2. EXISTING FLOORING ON STAIR REMAIN IN PLACE
3. PROVIDE TRANSITION BETWEEN EXISTING AND NEW FLOORING
4. REMOVE FLOORING ON STAIR IN SEMI-AMBULATORY UNIT AND INSTALL NEW TREAD AND RISER WITH ANTI-SLIP NOSING, SEE DETAIL 13/A-501
5. WALL TILE, SEE A-421 FOR HEIGHT AND LOCATIONS

GENERAL INTERIOR FINISH NOTES

A. EXTEND FLOORING BENEATH REMOVABLE CABINETRY, APPLIANCE, AND EQUIPEMENT

B. WALLS BEHIND REMOVABLE CABINETRY ARE TO BE FINISHED TO MATCH ADJACENT EXPOSED WALLS

C. INTERIOR PAINT SHEEN NOTES:

a. FLAT PAINT LOCATIONS: CEILINGS AND BULKHEADS

b. SEMI-GLOSS PAINT LOCATIONS: APARTMENT UNIT BATHROOM WALLS, METAL DOORS AND FRAMES

c. EGGSHELL PAINT LOCATIONS: ALL OTHER WALL PAINT LOCATIONS NOT NOTED ABOVE ARE TO RECEIVE EGG SHELL FINISH

D. SEE ELEVATIONS FOR EXTERIOR FINISH MATERIALS SCHEDULE

ROOM FINISH SCHEDULE

MK	NAME	FOOR		WALL		CEILING		NOTES
		MTL	BASE	MTL	FIN	MATL	FIN	
UNIT 1 - ONE BEDROOM TYPICAL APARTMENT								
1A	ENTRY	LVP-1	EX	EX	EX	EX	EX	
1B	CLOSET	LVP-1	EX	EX	EX	EX	EX	
1C	KITCHEN	LVP-1	EX	EX	P-A	EX	EX	
1D	MECH	LVP-1	EX	EX	EX	EX	EX	
1E	LIVING/ DINING	LVP-1	EX	EX	EX	EX	EX	
1F	BEDROOM	EX	EX	EX	EX	EX	EX	1, 3
1G	CLOSET	EX	EX	EX	EX	EX	EX	1, 3
1H	LINEN CLOSET	LVP-1	EX	EX	EX	EX	EX	
1J	BATH	LVT-1	EX	EX	P-A	EX	EX	
1K	W/D	LVP-1	EX	EX	EX	EX	EX	
UNIT 1-HC - ONE BEDROOM ACCESSIBLE APARTMENT								
1HA	ENTRY	LVP-1	WB-1	EX/G	P-A	EX	P-F	3
1HB	CLOSET	LVP-1	WB-1	G	P-A	EX	P-F	3
1HC	KITCHEN	LVP-1	WB-1	EX	P-A	EX	P-F	3
1HD	MECH	LVP-1	WB-1	EX/ G	P-A	EX	P-F	3
1HE	LIVING/ DINING	LVP-1	WB-1	EX	P-A	EX	P-F	3
1HF	BEDROOM	LVP-1	WB-1	EX/G	P-A	EX	P-F	3
1HG	CLOSET	LVP-1	WB-1	EX/G	P-A	EX	P-F	3
1HH	LINEN CLOSET	LVP-1	WB-1	G	P-A	EX	P-F	3
1HJ	BATH	T-1	T-2	EX/ G	P-A	EX	P-F	3
1HK	W/D	LVP-1	WB-1	G	P-A	EX	P-F	3
UNIT 2 - TWO BEDROOM TOWNHOUSE - TYPICAL								
2A	STAIR	EX	EX	EX	EX	EX	EX	2
2B	LIVING/ DINING	LVP-1	EX	EX	EX	EX	EX	
2C	CLOSET	LVP-1	EX	EX	EX	EX	EX	
2D	MECH	LVP-1	EX	EX	EX	EX	EX	
2E	KITCHEN	LVP-1	EX	EX	P-A	EX	EX	
2F	W/D	LVP-1	EX	EX	EX	EX	EX	
2G	HALL	LVP-1	EX	EX	EX	EX	EX	
2H	LINEN CLOSET	LVP-1	EX	EX	EX	EX	EX	
2J	BATH	LVT-1	EX	EX	P-A	EX	EX	
2K	BEDROOM 2	EX	EX	EX	EX	EX	EX	1, 3
2L	CLOSET	EX	EX	EX	EX	EX	EX	1, 3
2M	BEDROOM 1	EX	EX	EX	EX	EX	EX	1, 3
2N	CLOSET	EX	EX	EX	EX	EX	EX	1, 3
UNIT 2 - TWO BEDROOM SEMI-AMBULATORY TOWNHOUSE								
2A-SA	STAIR	R-1	EX	EX	EX	EX	EX	4
2B-SA	LIVING/ DINING	LVP-1	EX	EX	EX	EX	EX	
2C-SA	CLOSET	LVP-1	EX	EX	EX	EX	EX	
2D-SA	MECH	LVP-1	EX	EX	EX	EX	EX	
2E-SA	KITCHEN	LVP-1	EX	EX	P-A	EX	EX	
2F-SA	W/D	LVP-1	EX	EX	EX	EX	EX	
2G-SA	HALL	LVP-1	EX	EX	EX	EX	EX	
2H-SA	LINEN CLOSET	LVP-1	EX	EX	EX	EX	EX	
2J-SA	BATH	LVT-1	EX	EX	P-A	EX	EX	
2K-SA	BEDROOM 2	EX	EX	EX	EX	EX	EX	1, 3
2L-SA	CLOSET	EX	EX	EX	EX	EX	EX	1, 3
2M-SA	BEDROOM 1	EX	EX	EX	EX	EX	EX	1, 3
2N-SA	CLOSET	EX	EX	EX	EX	EX	EX	1, 3
3P-SA	CLOSET	EX	EX	EX	EX	EX	EX	1, 3
3Q-SA	BEDROOM 3	EX	EX	EX	EX	EX	EX	1, 3
3R-SA	CLOSET	EX	EX	EX	EX	EX	EX	1, 3

INTERIOR PRODUCTS AND MATERIALS

MK	ITEM	LOCATION/ COMMENTS	MANUFACTURER	STYLE/ COLLECTION	COLOR	SIZE	NOTES
LVP-1	LUXURY VINYL PLANK	LIVING UNIT FLOORING	MOHAWK	BRAMWELL II/ #BRM01			GLUE DOWN
LVP-2	LUXURY VINYL PLANK	COMMUNITY AREA FLOORING	MOHAWK	MAGUIRE/ MGR01			GLUE DOWN
T-1	CERAMIC TILE	ACCESSIBLE UNIT AND COMMUNITY AREA RECEPTION AND BATHROOMS	DALTILE	CORE FUNDAMENTALS - ADVANTAGE FLOOR TILE	TRUMPET GRAY EP22	12x12	RUNNING BOND
T-2	TILE WALL BASE	ACCESSIBLE UNIT AND COMMUNITY BUILDING RECEPTION AND BATHROOMS	DALTILE	CORE FUNDAMENTALS - ADVANTAGE - P43C9	TRUMPET GRAY EP22	3x12 FLOOR BULLNOSE	
T-3	CERAMIC TILE TILE GROUT	ACCESSIBLE UNIT AND COMMUNITY AREA RECEPTION AND BATHROOMS TILE FLOOR AND BASE (T-1 - T-4)	DALTILE MAPEI	CORE FUNDAMENTALS - ADVANTAGE FLOOR TILE	TRUMPET GRAY EP22 5103 COBBLESTONE	12x12	RUNNING BOND
T-4	TILE WALL BASE	ACCESSIBLE UNIT AND COMMUNITY BUILDING RECEPTION AND BATHROOMS	DALTILE	CORE FUNDAMENTALS - ADVANTAGE - P43C9	TRUMPET GRAY EP22	3x12 FLOOR BULLNOSE	
T-5	WALL TILE TILE GROUT	COMMON AREA BATHROOM WALL COMMON AREA BATHROOM WALL TILE (T-5)	DALTILE MAPEI	COLOR SHEEL CLASSIC	0109 ARTIC WHITE 38 AVALANCHE	3x6	RUNNING BOND
WB-1	PROFILED WOOD BASE	ACCESSIBLE UNIT AND COMMUNITY BUILDING		PRIMED FINGER JOINT	FIELD PAINT		
SSM-1	SOLID SURFACE MATERIAL	LAVATORY COUNTERTOP		WITH INTEGRAL SINK	TBD		
PL-1	PLASTIC LAMINATE	KITCHEN COUNTERTOPS	WILSONART	POST FORMED			COLOR TO BE CONTRASTING TO CABINET
PL-2	PLASTIC LAMINATE	COMMUNITY RECEPTION BUILT-IN COUNTERTOPS	WILSONART	POST FORMED			
CA-1	CASEWORK - CABINETS	UNIT KITCHENS AND BATHS	SMART CABINETRY	BRIGHTON			
CA-2	CASEWORK - CABINETS	COMMUNITY BUILDING KITCHENETTE/ BATHROOM	SMART CABINETRY	BRIGHTON			
G	GYPSUM BOARD	WALLS	PER SPEC				SEE SCHEDULE AND SPEC FOR TYPES AND LOCATIONS
P-A	INTERIOR PAINT COLOR	WALL FIELD COLOR	SHERWIN WILLIAMS	9165 GOSSAMER VEIL			
P-B	INTERIOR PAINT COLOR	TRIM/ CASING/ INTERIOR DOOR	SHERWIN WILLIAMS	7005 PURE WHITE			
P-C	INTERIOR PAINT COLOR	CEILING COLOR	SHERWIN WILLIAMS	CEILING WHITE			
SN-1	FLEXIBLE VINYL STAIR NOSING	UNIT STAIR	TARKETT	FLEXIBLE VINYL STAIR NOSINGS	VDL-XX-SQ		COLOR TO BE CONTRASTING TO TREAD AND RISER
FRP-1	FIBERGLASS REINFORCED PANEL	MOP SINK BACK AND SIDEWALLS		TEXTURED	WHITE		INCLUDE MATCHING TRIM ON EDGES AND CORNERS
TS	FIBERGLASS BATH RUB SURROUND	SEMI-AMBULATORY UNIT TUB SURROUND	MUSTEE	DURAWALL			

TYPE	DESCRIPTION
4a 6a	5/8" GYPSUM BOARD* 2x4 WOOD STUDS (2x6 FOR 6a) @ 16" O.C. DOUBLE TOP PLATE & SINGLE BOTTOM PLATE 5/8" GYPSUM BOARD*
4b 6b	5/8" GYPSUM BOARD* 2x4 WOOD STUDS (2x6 FOR 6b) @ 16" O.C. DOUBLE TOP PLATE & SINGLE BOTTOM PLATE 5/8" GYPSUM BOARD* 3 1/2" SOUND BATT INSULATION
4c	5/8" GYPSUM BOARD* 2x4 WOOD STUDS @ 16" O.C. DOUBLE TOP PLATE & SINGLE BOTTOM PLATE
4d	5/8" GYPSUM BOARD* 2x4 WOOD STUDS @ 16" O.C. DOUBLE TOP PLATE & SINGLE BOTTOM PLATE 5/8" GYPSUM BOARD* 3 1/2" BATT INSULATION
4e	FIBER CEMENT BOARD 1/2" FURRING STRIP AT STUD EXIST SHEATHING W/ WEATHER BARRIER EXISTING WOOD STUD W/ INSULATION 5/8" GYPSUM BOARD*

* NOTE: USE 1/2" GYPSUM BOARD AS NEEDED TO MATCH EXISTING WALL

GENERAL WALL TYPE NOTES

1. NON-RATED WALL ASSEMBLIES SHALL NOT INTERRUPT RATED WALL OR CEILING ASSEMBLIES.
2. PROVIDE PRESERVATIVE TREATED SILL PLATES WHERE IN DIRECT CONTACT WITH CONCRETE.

WALL TYPE MODIFIERS

WHEN A WALL TYPE MODIFIER IS ADDED TO A BASE WALL TYPE, THE PROPERTIES OF THE MODIFIER TAKE PRECEDENCE OVER THE BASE WALL TYPE CONDITIONS

42 4x — PARTIAL HEIGHT WALL, NUMBER INDICATES HEIGHT IN INCHES

BEILHARZ ARCHITECTS
1983 Central Avenue Cincinnati Ohio, 45202
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SECURITY PROPERTIES

FRANKLIN COMMONS

ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
GREGORY S. HACKETT
1817428
REGISTERED ARCHITECT

Gregory S. Hackett — License No. 1817428
Expiration Date: 12/31/2025

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

PARTITION TYPES
ROOM FINISH SCHEDULE

A-601

DOOR HARDWARE SCHEDULE - COMMON

SET 01 - MAIN ENTRY	SET 02 - TOILET	03 - LAUNDRY	04 - CLOSET
C1	C5, C8	C12	C3, C6
EXIT DEVICE: LOCKING TYPE (ANSI 03)	BUTT (3): INTERIOR TYPE	BUTT (3): EXTERIOR TYPE	BUTT (3): INTERIOR TYPE
LOCKSET: STOREROOM TYPE (ANSI F86)	LOCKSET: PRIVACY INDICATOR (ANSI F76A)	LOCKSET: STOREROOM TYPE (ANSI F86)	LOCKSET: STOREROOM TYPE (ANSI F86)
PULL	CLOSER	CLOSER WITH STOP	WALL STOP
CLOSER WITH STOP	KICKPLATE BOTH SIDES	THRESHOLD	
THRESHOLD		WEATHER STRIP	
WEATHER STRIP	WEATHER STRIP	KICKPLATE BOTH SIDES	
KICKPLATE BOTH SIDES	KICKPLATE BOTH SIDES		

SET 05 - OFFICE	SET 06 - GARAGE PASSAGE	SET 07-GARAGE INTERIOR	SET 08 - GARAGE EXTERIOR
C2, C4	C9a	C9b	C9c
BUTT (3): INTERIOR TYPE	BUTT (3): INTERIOR TYPE	BUTT (3): INTERIOR TYPE	BUTT (6): EXTERIOR TYPE
LOCKSET: OFFICE TYPE (ANSI F84)	LOCKSET: OFFICE TYPE (ANSI F84)	LOCKSET: CLASSROOM TYPE (ANSI F84)	LOCKSET: OFFICE TYPE (ANSI F81)
WALL STOP	WALL STOP	CLOSER	VERTICAL LATCH
		KICKPLATE BOTH SIDES	CLOSER WITH STOP
			KICKPLATE BOTH SIDES

SET 09 - ENTRANCE
C7, C10
BUTT (3): EXTERIOR TYPE
LOCKSET: OFFICE TYPE (ANSI F81)
CLOSER WITH STOP
THRESHOLD
WEATHER STRIP
SWEEP
KICKPLATE BOTH SIDES

DOOR HARDWARE GENERAL NOTE

1. ALL DOOR TRIM TO BE LEVER TYPE
2. INTERIOR DOOR THRESHOLD TO BE MAXIMUM 1/4 " BEVELED OR FLUSH

DOOR HARDWARE SCHEDULE - UNIT

SET A - ENTRY (BUILDING TYPE A)	SET B - ENTRY (BUILDING TYPE B, C, D)	SET C BEDROOM AND BATHROOM	SET D CLOSET - SINGLE SWING
BUTT (3): EXTERIOR TYPE	BUTT (3): EXTERIOR TYPE	BUTT (3): INTERIOR TYPE	BUTT (3): INTERIOR TYPE
LOCKSET: APARTMENT ENTRANCE TYPE (ANSI F95)	LOCKSET: APARTMENT ENTRANCE TYPE (ANSI F95)	LOCKSET: PRIVACY TYPE (ANSI F76)	LOCKSET: PASSAGE TYPE (ANSI F75)
CLOSER	DOOR STOP	DOOR STOP	DOOR STOP
SMOKE SEALS	VIEWERS (2)		
DOOR STOP	THRESHOLD		
VIEWERS (2)	WEATHER STRIP		
THRESHOLD			
WEATHER STRIP			

SET E	SET F	SET G
LAUNDRY - DOUBLE SWING	SLIDING	MECH - SINGLE SWING
BUTT (6): INTERIOR TYPE	SLIDING DOOR TRACK	BUTT (3): INTERIOR TYPE
DUMMY PULLS (2)	DUMMY PULLS (2)	DEADBOLT
ROLLER LATCHES (2)		DOOR STOP
DOOR STOPS (2)		

DOOR SCHEDULE - COMMUNITY BUILDING

MK	LOCATION	DOOR SIZE #	W	H	THK	ELEV	FRAME DETAIL HEAD	JAMB	SIGN TYPE	NOTE
C1	RECEPTION		3'-0"	6'-8"	1 3/4"	11	H-3	J-3	S1, S6, S7, S9	SIGN TO CALL 'OFFICE'
C2	OFFICE		3'-0"	6'-8"	1 3/8"	14	H-3	J-3		
C3	CLOSET		2'-6"	6'-8"	1 3/8"	14	H-3	J-3		
C4	MANAGER'S OFFICE		3'-0"	6'-8"	1 3/8"	14	H-3	J-3		
C5	RESTROOM 1		3'-0"	6'-8"	1 3/8"	14	H-3	J-3	S2	
C6	MECHANICAL		3'-0"	6'-8"	1 3/8"	14	H-3	J-3		
C7	CORRIDOR		3'-0"	6'-8"	1 3/8"	13	H-3	J-3		
C8	RESTROOM 2		3'-0"	6'-8"	1 3/8"	14	H-3	J-3	S3	
C9a	GARAGE - CORRIDOR		3'-0"	6'-8"	1 3/4"	15	H-3	J-3		
C9b	GARAGE - RECEIVING		3'-0"	6'-8"	1 3/4"	15	H-3	J-3		
C9c	GARAGE	2	EX	EX	EX	-	EX	EX		1
C10	RECEIVING		3'-0"	6'-8"	1 3/4"	13	H-3	J-3	S1, S5, S6	SIGN TO CALL 'MAINTENANCE'
C12	LAUNDRY		3'-0"	6'-8"	1 3/4"	12	H-3	J-3	S1, S7	

DOOR SCHEDULE NOTE

1 EXISTING DOOR, PREP AND PAINT
2 HEAD DETAIL PER ELEVATION

DOOR SCHEDULE - UNIT

MK	LOCATION	DOOR SIZE #	W	H	THK	ELEV	FRAME DETAIL HEAD	JAMB	SIGN TYPE	NOTE
UNIT 1 - ONE BEDROOM TYPICAL APARTMENT										
1A	ENTRY		3'-0"	6'-8"	1 3/4"	1 & 6	H-1/H-2	J-1	S4	2
1B	CLOSET		2'-0"	6'-8"	1 3/8"	EX	-	-		1
1D	MECH	4	2'-6"	6'-8"	1 3/8"	3	H-4	J-4		
1E	PATIO		2'-8"	6'-8"	1 3/4"	2 & 6	H-1/H-2	J-1		2
1F	BEDROOM		2'-6"	6'-8"	1 3/8"	EX	-	-		1
1G	CLOSET	2	2'-6"	6'-8"	1 3/8"	EX	-	-		1
1H	LINEN CLOSET		1'-6"	6'-8"	1 3/8"	EX	-	-		1
1J	BATH		2'-4"	6'-8"	1 3/8"	EX	-	-		1
1K	W/D		3'-0"	6'-8"	1 3/8"	EX	-	-		1
UNIT 1-HC - ONE BEDROOM ACCESSIBLE APARTMENT										
1HA	ENTRY		3'-0"	6'-8"	1 3/4"	1 & 6	H-1/H-2	J-1	S4	
1HB	CLOSET		2'-6"	6'-8"	1 3/8"	3	H-4	J-4		
1HD	MECH		2'-6"	6'-8"	1 3/8"	3	H-4	J-4		
1HE	PATIO		3'-0"	6'-8"	1 3/4"	2 & 6	H-1/H-2	J-1		
1HF	BEDROOM		3'-0"	6'-8"	1 3/8"	3	H-4	J-4		
1HG	CLOSET	2	2'-0"	6'-8"	1 3/8"	5	H-4	J-4		
1HH	LINEN CLOSET		1'-6"	6'-8"	1 3/8"	3	H-4	J-4		
1HJ	BATH		3'-0"	6'-8"	1 3/8"	3	H-4	J-4		
1HK	W/D	2	2'-6"	6'-8"	1 3/8"	5	H-4	J-4		
UNIT 2 - TWO BEDROOM TOWNHOUSE - TYPICAL AND SEMI-AMBULATORY UNIT										
2A	ENTRY		3'-0"	6'-8"	1 3/4"	1 & 6	H-1/H-2	J-1	S4	
2C	CLOSET		2'-0"	6'-8"	1 3/8"	EX	-	-		1
2D	MECH		2'-6"	6'-8"	1 3/8"	EX	-	-		1
2E	PATIO		2'-8"	6'-8"	1 3/4"	2 & 6	H-1/H-2	J-1		
2H	LINEN CLOSET		1'-6"	6'-8"	1 3/8"	EX	-	-		1
2J	BATH		2'-4"	6'-8"	1 3/8"	EX	-	-		1
2K	BEDROOM 2		3'-0"	6'-8"	1 3/8"	3	H-4	J-4		
2L	CLOSET		2'-6"	6'-8"	1 3/8"	EX	-	-		1
2M	BEDROOM 1		3'-0"	6'-8"	1 3/8"	3	H-4	J-4		
2N	CLOSET	2	2'-6"	6'-8"	1 3/8"	EX	-	-		1
UNIT 3 - THREE BEDROOM TOWNHOUSE - TYPICAL AND SEMI-AMBULATORY UNIT										
3A	ENTRY		3'-0"	6'-8"	1 3/4"	1 & 6	H-1/H-2	J-1	S4	
3C	CLOSET		2'-0"	6'-8"	1 3/8"	EX	-	-		1
3D	MECH	2	2'-0"	6'-8"	1 3/8"	EX	-	-		1
3E	PATIO		2'-8"	6'-8"	1 3/4"	2 & 6	H-1/H-2	J-1		
3F	W/D		3'-0"	6'-8"	1 3/8"	EX	-	-		1
3G	HALF BATH		3'-0"	6'-8"	1 3/8"	3	H-4	J-4		
3J	LINEN CLOSET		1'-6"	6'-8"	1 3/8"	EX	-	-		1
3K	BATH		2'-4"	6'-8"	1 3/8"	EX	-	-		1
3L	BEDROOM 1		3'-0"	6'-8"	1 3/8"	EX	-	-		1
3M	CLOSET	2	2'-6"	6'-8"	1 3/8"	EX	-	-		1
3N	BEDROOM 2		2'-6"	6'-8"	1 3/8"	3	H-4	J-4		
3P	CLOSET	2	2'-6"	6'-8"	1 3/8"	EX	-	-		1
3Q	BEDROOM 3		3'-0"	6'-8"	1 3/8"	3	H-4	J-4		
3R	CLOSET		2'-6"	6'-8"	1 3/8"	EX	-	-		1

SIGNAGE SCHEDULE

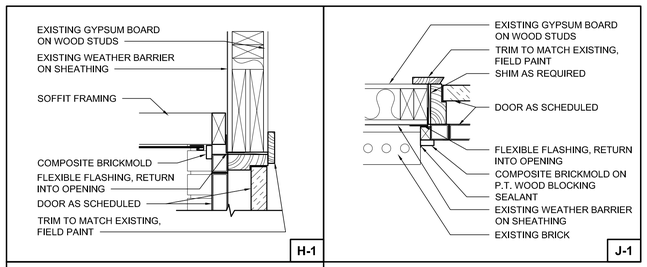
TYPE	DESCRIPTION	TYPE	DESCRIPTION
S1	1'-0" ROOM NAME — 5/8" TEXT AS SCHEDULED; GRADE II BRAILLE; MOLDED FRAME FOR SCREW MOUNTING, EXTERIOR GRADE	S6	8" EXIT — 5/8" TEXT AS SCHEDULED; GRADE II BRAILLE; MOLDED FRAME FOR SCREW MOUNTING
S2	8" x 8" RESTROOM — BOTH 'MEN' AND 'WOMEN' SYMBOLS; TEXT AS SCHEDULED; GRADE II BRAILLE; MOLDED FRAME FOR SCREW MOUNTING	S7	NO SMOKING — INTERIOR SIGN TO BE POSTED AT ALL COMMON AREAS
S3	6" x 8" RESTROOM — BOTH 'MEN' AND 'WOMEN' SYMBOLS; TEXT AS SCHEDULED; GRADE II BRAILLE; MOLDED FRAME FOR SCREW MOUNTING	S8	PRIVATE PROPERTY / NO SMOKING WITHIN 25 FEET OF BUILDING — EXTERIOR SIGN TO BE POSTED AT ALL BUILDING ENTRANCES
S4	4" X X X — CAST/ ELEVATED PRE-FINISHED BLACK METAL APARTMENT NUMBERS OR LETTERS, SEE PLANS	S9	HOURS OF OPERATIONS STENCIL ON GLASS
S5	EMPLOY ONLY — 2" TEXT STENCIL ON DOOR ON EXTERIOR SIDE		

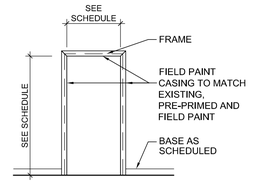
GENERAL SIGNAGE NOTES

A. SIGN TEXT SHALL BE 5/8" HIGH, RAISED 1/32" U.N.O.

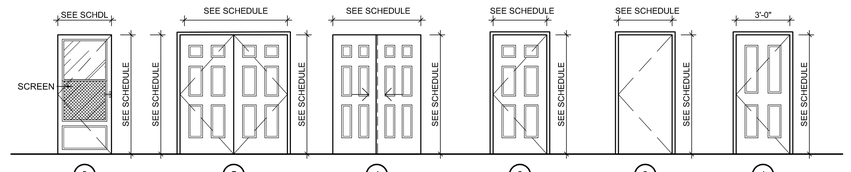
B. INSTALL SIGNS ON WALL ADJACENT TO LATCH SIDE OF DOOR, OR ON THE NEAREST ADJACENT WALL, 5'-0" A.F.F. TO TOP OF SIGN, TYPICAL U.N.O.

C. LOCATE SIGNS 9" FROM EDGE OF DOOR TO CENTER OF SIGN

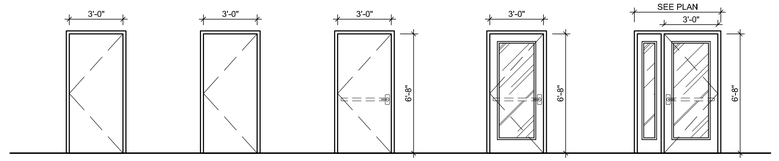




TYPICAL INTERIOR DOOR TRIM
SCALE: 1/4" = 1'-0"



DOOR ELEVATION - UNIT
SCALE: 1/4" = 1'-0"



DOOR ELEVATION - COMMUNITY BUILDING
SCALE: 1/4" = 1'-0"

BEILHARZ ARCHITECTS
1093 Central Avenue Cincinnati Ohio, 45202
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SECURITY PROPERTIES

FRANKLIN COMMONS

ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO — GREGORY S. HACKETT — 1817428 — REGISTERED ARCHITECT

Gregory S. Hackett — License No. 1817428
Expiration Date: 12/31/2025

REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #: 23096
DRAWN: BK **CHECKED:** GSH

DOOR SCHEDULES AND ELEVATIONS

A-602

PLUMBING GENERAL NOTES

A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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

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

D. PROVIDE POINT-OF-USE THERMOSTATIC MIXING VALVES ON ALL PUBLIC LAVATORIES AND HAND SINKS. VALVES SHALL MEET ASSE 1070 AND SHALL BE EQUAL TO WATTS USG-B.

E. PROVIDE SQUARE STRAINERS ON FLOOR DRAINS IN TILED AREAS.

F. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL FIXTURE MOUNTING HEIGHTS.

G. PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETELY FURNISH, INSTALL, AND PLACE INTO OPERATION, ALL SYSTEMS SHOWN ON THE DRAWINGS AND DELINEATED IN THE SPECIFICATIONS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.

H. COORDINATE ALL WORK AND SPACE REQUIREMENTS IN CEILING SPACES WITH OTHER TRADES PRIOR TO INSTALLATION; INCLUDING BUT NOT LIMITED TO: ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, FIRE PROTECTION, AND MECHANICAL.

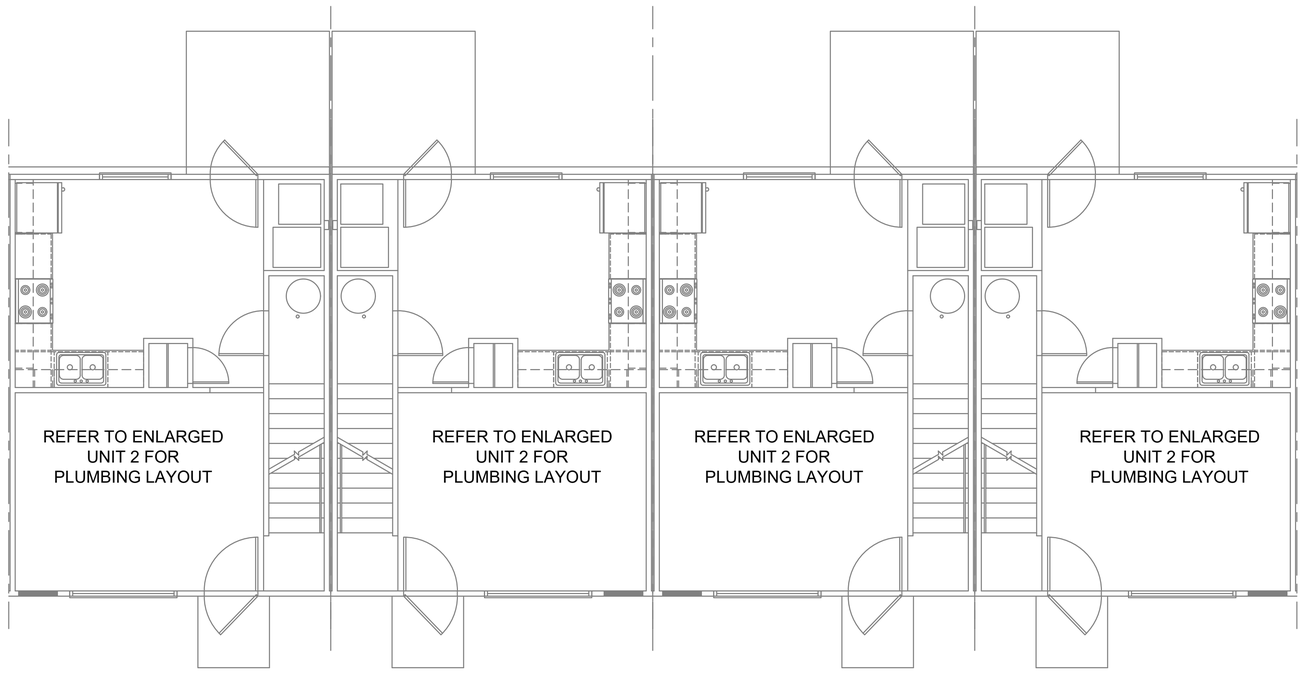
I. INSTALL ALL EQUIPMENT WITH CODE REQUIRED AND MANUFACTURER RECOMMENDED MINIMUM CLEARANCES FOR SERVICE, ACCESS, AND FIRE PROTECTION.

J. MAINTAIN A MINIMUM OF 10 FEET BETWEEN ALL OUTSIDE AIR INTAKES AND ALL EXHAUST, VENT, AND FLUE OUTLETS.

K. WATER PIPING IN AREAS SUBJECT TO FREEZING TEMPERATURES WILL NOT BE PERMITTED WITHOUT PROVIDING FROST PROOF PROTECTION.

L. MAKE FINAL CONNECTION TO OWNER SUPPLIED EQUIPMENT.

M. WHEREVER FIXTURES REQUIRING PLUMBING CONNECTIONS ARE FURNISHED BY OWNER OR ARE RELOCATED, PLUMBING SUBCONTRACTOR SHALL FURNISH AND INSTALL CARRIERS, "P" TRAP AND STOPS.



N

1 / P100

BUILDING NO. 3,4,5 & 14 PLUMBING FIRST FLOOR PLAN (TYPE 1)

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

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MEP Consulting Services, Inc. in OH

FRANKLIN COMMONS
ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 3, 4, 5, & 14
PLUMBING FIRST FLOOR PLAN

P100

PLUMBING GENERAL NOTES

A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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

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

D. PROVIDE POINT-OF-USE THERMOSTATIC MIXING VALVES ON ALL PUBLIC LAVATORIES AND HAND SINKS. VALVES SHALL MEET ASSE 1070 AND SHALL BE EQUAL TO WATTS USG-B.

E. PROVIDE SQUARE STRAINERS ON FLOOR DRAINS IN TILED AREAS.

F. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL FIXTURE MOUNTING HEIGHTS.

G. PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETELY FURNISH, INSTALL, AND PLACE INTO OPERATION, ALL SYSTEMS SHOWN ON THE DRAWINGS AND DELINEATED IN THE SPECIFICATIONS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.

H. COORDINATE ALL WORK AND SPACE REQUIREMENTS IN CEILING SPACES WITH OTHER TRADES PRIOR TO INSTALLATION; INCLUDING BUT NOT LIMITED TO: ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, FIRE PROTECTION, AND MECHANICAL.

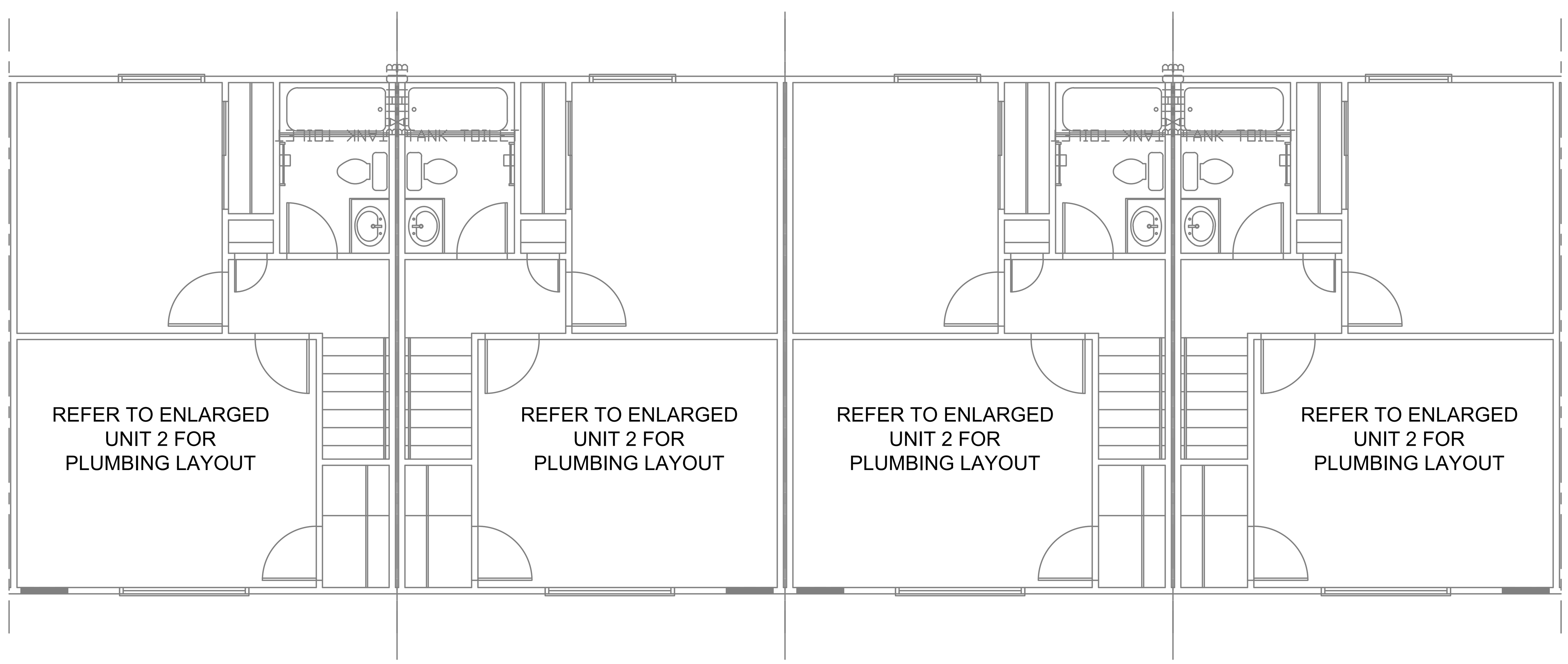
I. INSTALL ALL EQUIPMENT WITH CODE REQUIRED AND MANUFACTURER RECOMMENDED MINIMUM CLEARANCES FOR SERVICE, ACCESS, AND FIRE PROTECTION.

J. MAINTAIN A MINIMUM OF 10 FEET BETWEEN ALL OUTSIDE AIR INTAKES AND ALL EXHAUST, VENT, AND FLUE OUTLETS.

K. WATER PIPING IN AREAS SUBJECT TO FREEZING TEMPERATURES WILL NOT BE PERMITTED WITHOUT PROVIDING FROST PROOF PROTECTION.

L. MAKE FINAL CONNECTION TO OWNER SUPPLIED EQUIPMENT.

M. WHEREVER FIXTURES REQUIRING PLUMBING CONNECTIONS ARE FURNISHED BY OWNER OR ARE RELOCATED, PLUMBING SUBCONTRACTOR SHALL FURNISH AND INSTALL CARRIERS, "P" TRAP AND STOPS.



N

1 / P101 BUILDING NO. 3,4,5 & 14 PLUMBING SECOND FLOOR PLAN (TYPE 1)

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

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ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 3, 4, 5, & 14
PLUMBING SECOND FLOOR PLAN

P101

PLUMBING GENERAL NOTES

A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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

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

D. PROVIDE POINT-OF-USE THERMOSTATIC MIXING VALVES ON ALL PUBLIC LAVATORIES AND HAND SINKS. VALVES SHALL MEET ASSE 1070 AND SHALL BE EQUAL TO WATTS USG-B.

E. PROVIDE SQUARE STRAINERS ON FLOOR DRAINS IN TILED AREAS.

F. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL FIXTURE MOUNTING HEIGHTS.

G. PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETELY FURNISH, INSTALL, AND PLACE INTO OPERATION, ALL SYSTEMS SHOWN ON THE DRAWINGS AND DELINEATED IN THE SPECIFICATIONS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.

H. COORDINATE ALL WORK AND SPACE REQUIREMENTS IN CEILING SPACES WITH OTHER TRADES PRIOR TO INSTALLATION; INCLUDING BUT NOT LIMITED TO: ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, FIRE PROTECTION, AND MECHANICAL.

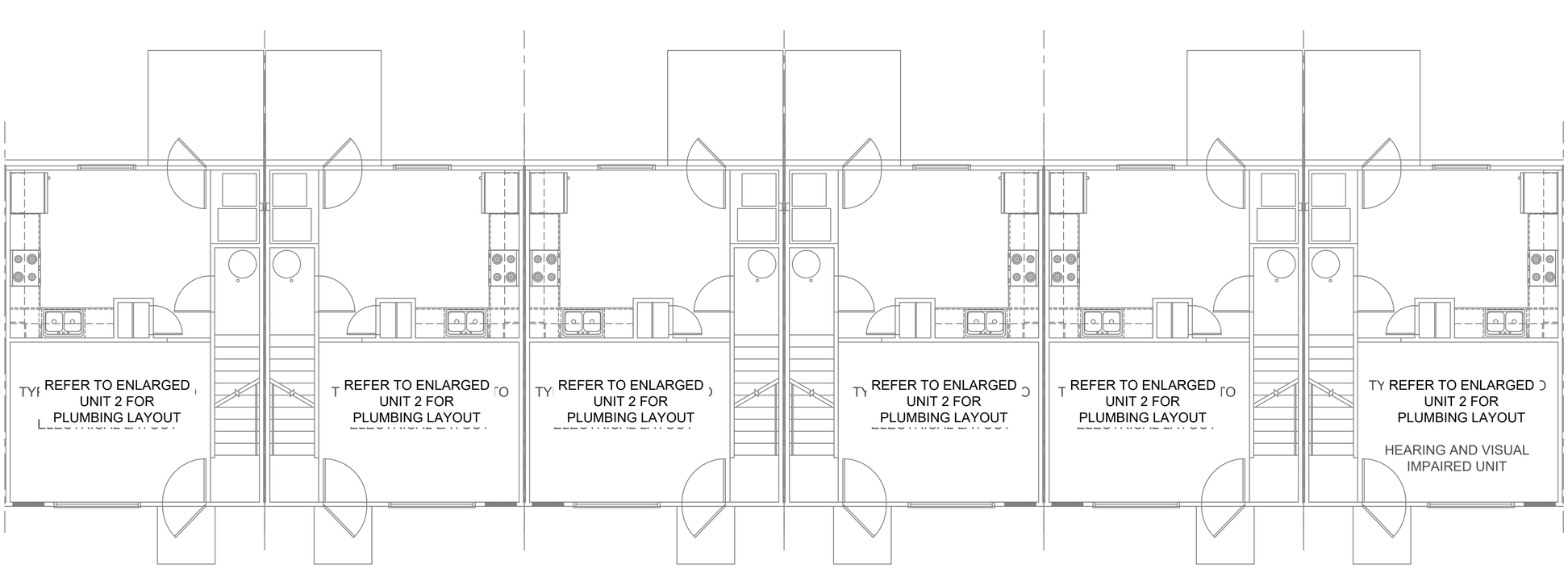
I. INSTALL ALL EQUIPMENT WITH CODE REQUIRED AND MANUFACTURER RECOMMENDED MINIMUM CLEARANCES FOR SERVICE, ACCESS, AND FIRE PROTECTION.

J. MAINTAIN A MINIMUM OF 10 FEET BETWEEN ALL OUTSIDE AIR INTAKES AND ALL EXHAUST, VENT, AND FLUE OUTLETS.

K. WATER PIPING IN AREAS SUBJECT TO FREEZING TEMPERATURES WILL NOT BE PERMITTED WITHOUT PROVIDING FROST PROOF PROTECTION.

L. MAKE FINAL CONNECTION TO OWNER SUPPLIED EQUIPMENT.

M. WHEREVER FIXTURES REQUIRING PLUMBING CONNECTIONS ARE FURNISHED BY OWNER OR ARE RELOCATED, PLUMBING SUBCONTRACTOR SHALL FURNISH AND INSTALL CARRIERS, "P" TRAP AND STOPS.



N

1
P103

BUILDING NO. 2 PLUMBING FIRST FLOOR PLAN (TYPE 2)

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

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962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 2
PLUMBING FIRST FLOOR PLAN

P103

PLUMBING GENERAL NOTES

A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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

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

D. PROVIDE POINT-OF-USE THERMOSTATIC MIXING VALVES ON ALL PUBLIC LAVATORIES AND HAND SINKS. VALVES SHALL MEET ASSE 1070 AND SHALL BE EQUAL TO WATTS USG-B.

E. PROVIDE SQUARE STRAINERS ON FLOOR DRAINS IN TILED AREAS.

F. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL FIXTURE MOUNTING HEIGHTS.

G. PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETELY FURNISH, INSTALL, AND PLACE INTO OPERATION, ALL SYSTEMS SHOWN ON THE DRAWINGS AND DELINEATED IN THE SPECIFICATIONS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.

H. COORDINATE ALL WORK AND SPACE REQUIREMENTS IN CEILING SPACES WITH OTHER TRADES PRIOR TO INSTALLATION; INCLUDING BUT NOT LIMITED TO: ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, FIRE PROTECTION, AND MECHANICAL.

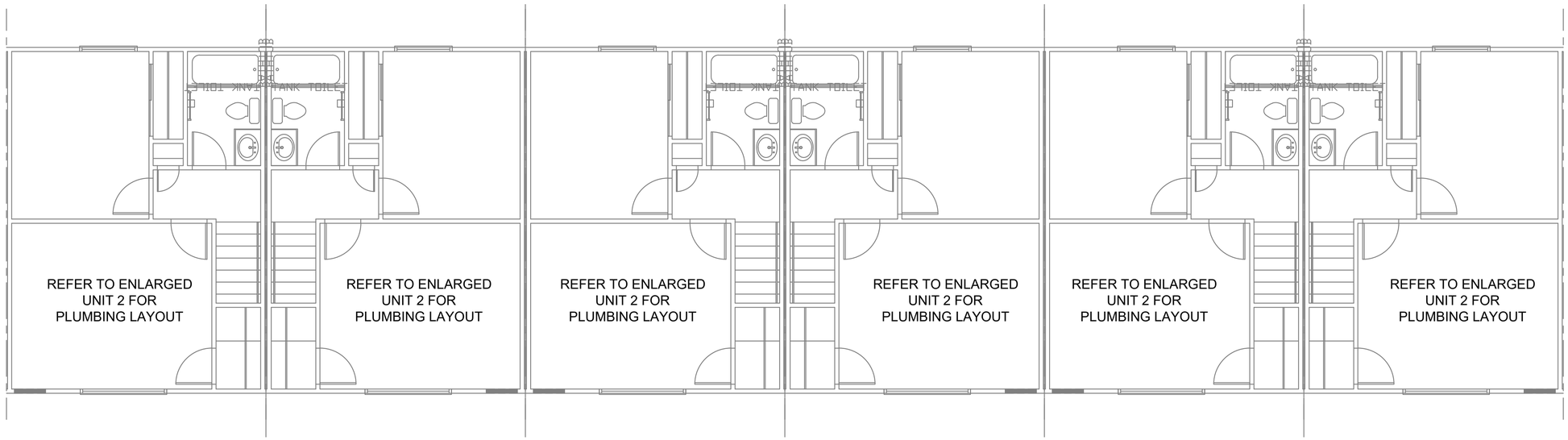
I. INSTALL ALL EQUIPMENT WITH CODE REQUIRED AND MANUFACTURER RECOMMENDED MINIMUM CLEARANCES FOR SERVICE, ACCESS, AND FIRE PROTECTION.

J. MAINTAIN A MINIMUM OF 10 FEET BETWEEN ALL OUTSIDE AIR INTAKES AND ALL EXHAUST, VENT, AND FLUE OUTLETS.

K. WATER PIPING IN AREAS SUBJECT TO FREEZING TEMPERATURES WILL NOT BE PERMITTED WITHOUT PROVIDING FROST PROOF PROTECTION.

L. MAKE FINAL CONNECTION TO OWNER SUPPLIED EQUIPMENT.

M. WHEREVER FIXTURES REQUIRING PLUMBING CONNECTIONS ARE FURNISHED BY OWNER OR ARE RELOCATED, PLUMBING SUBCONTRACTOR SHALL FURNISH AND INSTALL CARRIERS, "P" TRAP AND STOPS.



N 1/P104 BUILDING NO. 2 PLUMBING SECOND FLOOR PLAN (TYPE 2)

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

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STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

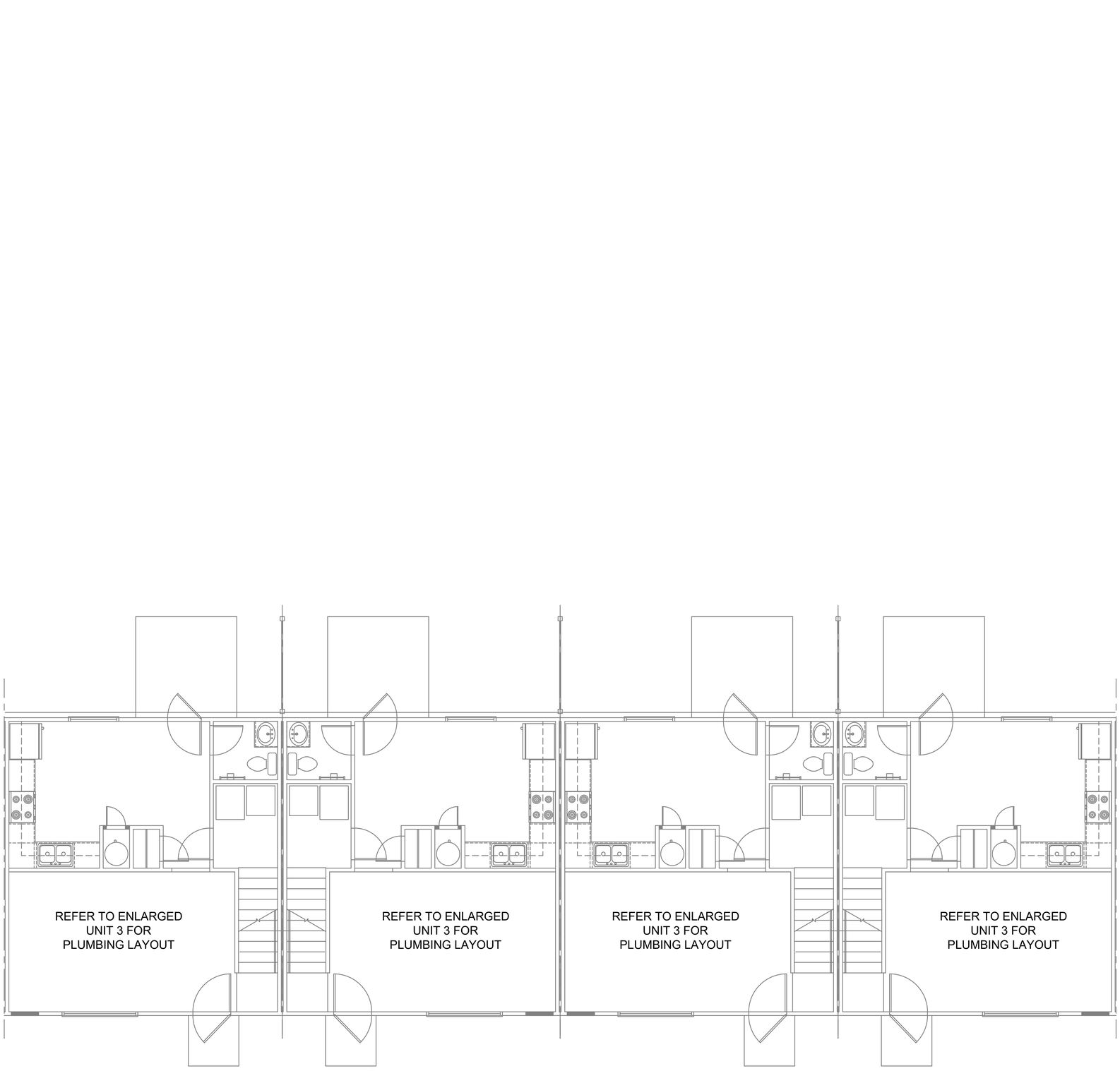
REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 2
PLUMBING SECOND FLOOR PLAN

P104



N

1
P105

BUILDING NO.1 1 & 10 PLUMBING FIRST FLOOR PLAN (TYPE 3)

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

PLUMBING GENERAL NOTES

A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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

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

D. PROVIDE POINT-OF-USE THERMOSTATIC MIXING VALVES ON ALL PUBLIC LAVATORIES AND HAND SINKS. VALVES SHALL MEET ASSE 1070 AND SHALL BE EQUAL TO WATTS USG-B.

E. PROVIDE SQUARE STRAINERS ON FLOOR DRAINS IN TILED AREAS.

F. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL FIXTURE MOUNTING HEIGHTS.

G. PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETELY FURNISH, INSTALL, AND PLACE INTO OPERATION, ALL SYSTEMS SHOWN ON THE DRAWINGS AND DELINEATED IN THE SPECIFICATIONS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.

H. COORDINATE ALL WORK AND SPACE REQUIREMENTS IN CEILING SPACES WITH OTHER TRADES PRIOR TO INSTALLATION; INCLUDING BUT NOT LIMITED TO: ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, FIRE PROTECTION, AND MECHANICAL.

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J. MAINTAIN A MINIMUM OF 10 FEET BETWEEN ALL OUTSIDE AIR INTAKES AND ALL EXHAUST, VENT, AND FLUE OUTLETS.

K. WATER PIPING IN AREAS SUBJECT TO FREEZING TEMPERATURES WILL NOT BE PERMITTED WITHOUT PROVIDING FROST PROOF PROTECTION.

L. MAKE FINAL CONNECTION TO OWNER SUPPLIED EQUIPMENT.

M. WHEREVER FIXTURES REQUIRING PLUMBING CONNECTIONS ARE FURNISHED BY OWNER OR ARE RELOCATED, PLUMBING SUBCONTRACTOR SHALL FURNISH AND INSTALL CARRIERS, "P" TRAP AND STOPS.

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SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 1 & 10

PLUMBING FIRST FLOOR PLAN

P105

PLUMBING GENERAL NOTES

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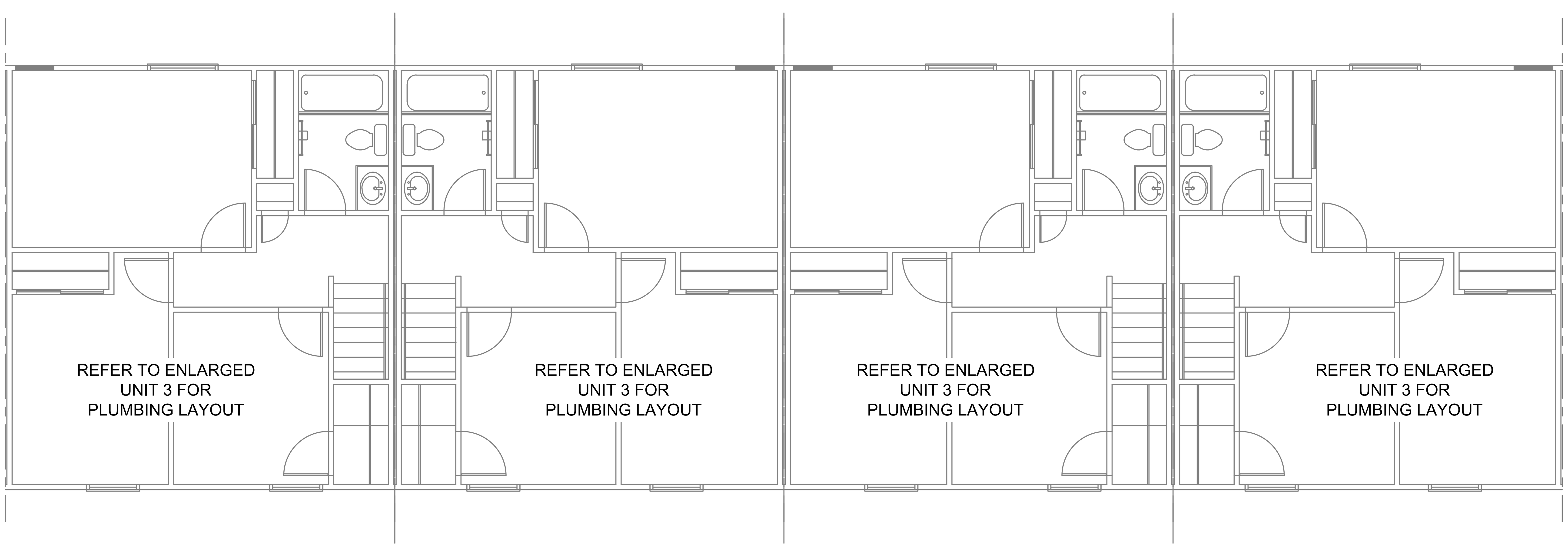
L. MAKE FINAL CONNECTION TO OWNER SUPPLIED EQUIPMENT.

M. WHEREVER FIXTURES REQUIRING PLUMBING CONNECTIONS ARE FURNISHED BY OWNER OR ARE RELOCATED, PLUMBING SUBCONTRACTOR SHALL FURNISH AND INSTALL CARRIERS, "P" TRAP AND STOPS.



N

1
P106

BUILDING NO.1 1 & 10 PLUMBING SECOND FLOOR PLAN (TYPE 3)

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

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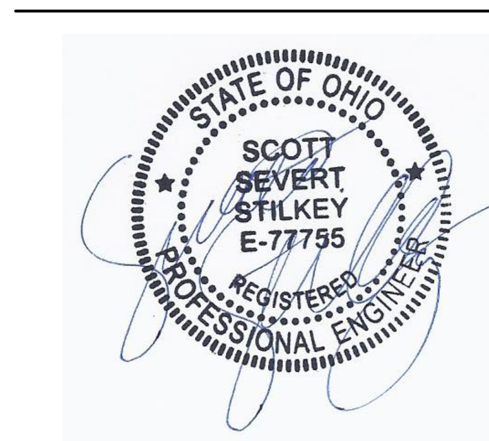


REVISIONS

Date	Description
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

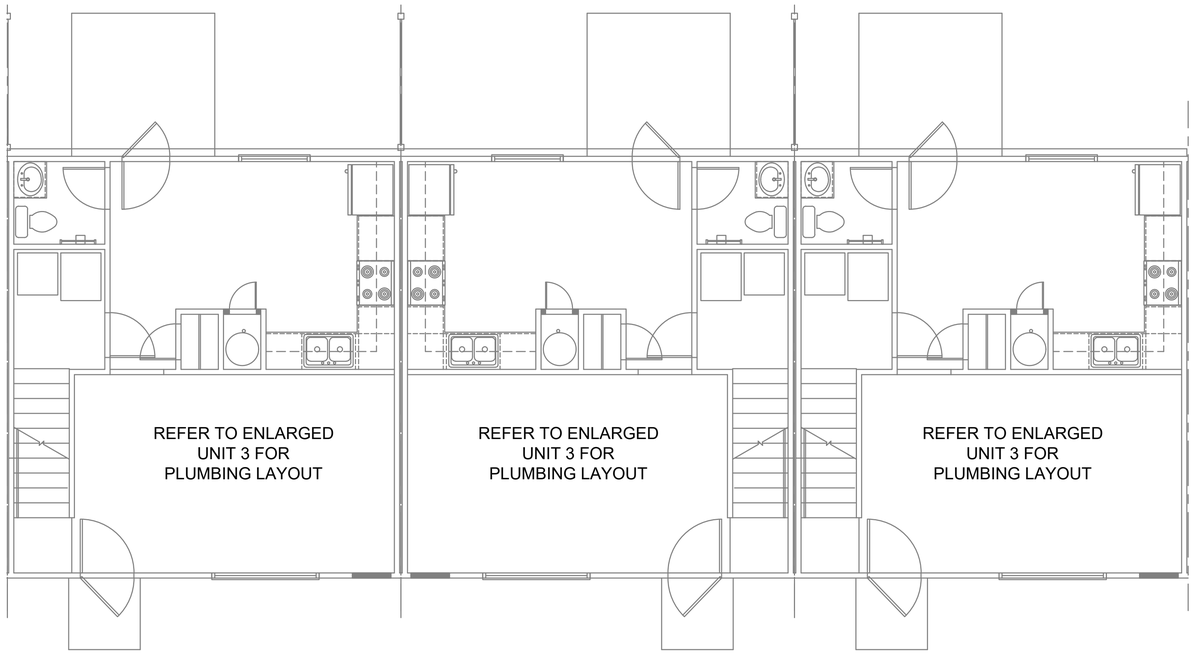
PROJECT #:

DRAWN: **CHECKED:**

BUILDING 1 & 10

PLUMBING SECOND FLOOR PLAN

P106

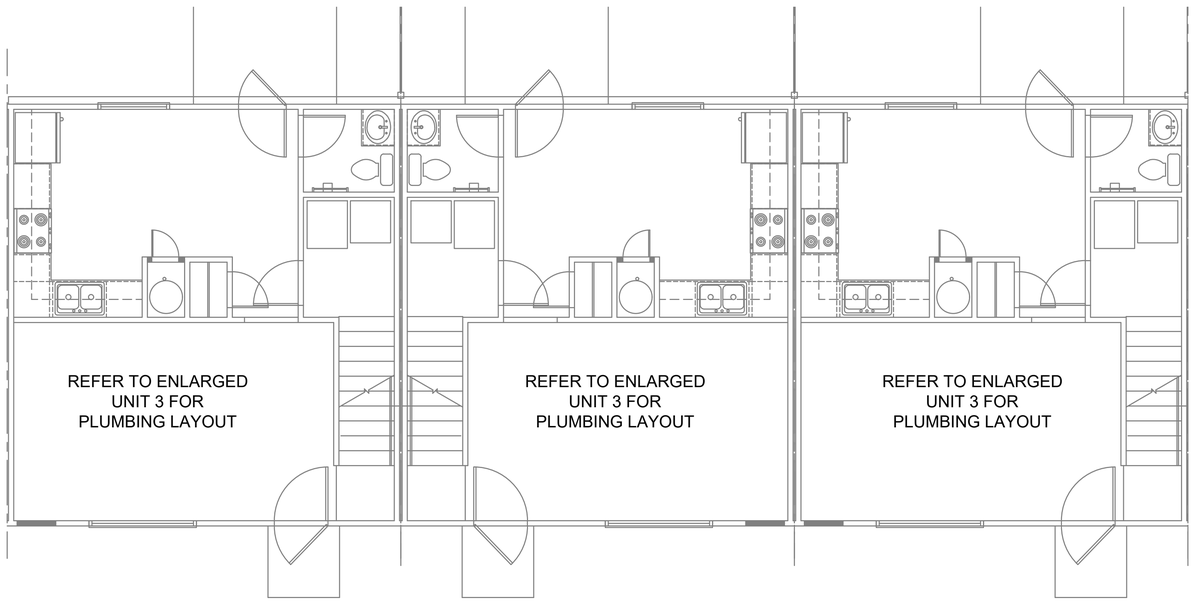


N

2
P107

BUILDING NO. 9 &11 PLUMBING FIRST FLOOR PLAN - RIGHT (TYPE 4)

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



N

1
P107

BUILDING NO. 9 & 11 PLUMBING FIRST FLOOR PLAN - LEFT (TYPE 4)

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

PLUMBING GENERAL NOTES

A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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

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D. PROVIDE POINT-OF-USE THERMOSTATIC MIXING VALVES ON ALL PUBLIC LAVATORIES AND HAND SINKS. VALVES SHALL MEET ASSE 1070 AND SHALL BE EQUAL TO WATTS USG-B.

E. PROVIDE SQUARE STRAINERS ON FLOOR DRAINS IN TILED AREAS.

F. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL FIXTURE MOUNTING HEIGHTS.

G. PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETELY FURNISH, INSTALL, AND PLACE INTO OPERATION, ALL SYSTEMS SHOWN ON THE DRAWINGS AND DELINEATED IN THE SPECIFICATIONS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.

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M. WHEREVER FIXTURES REQUIRING PLUMBING CONNECTIONS ARE FURNISHED BY OWNER OR ARE RELOCATED, PLUMBING SUBCONTRACTOR SHALL FURNISH AND INSTALL CARRIERS, "P" TRAP AND STOPS.

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STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

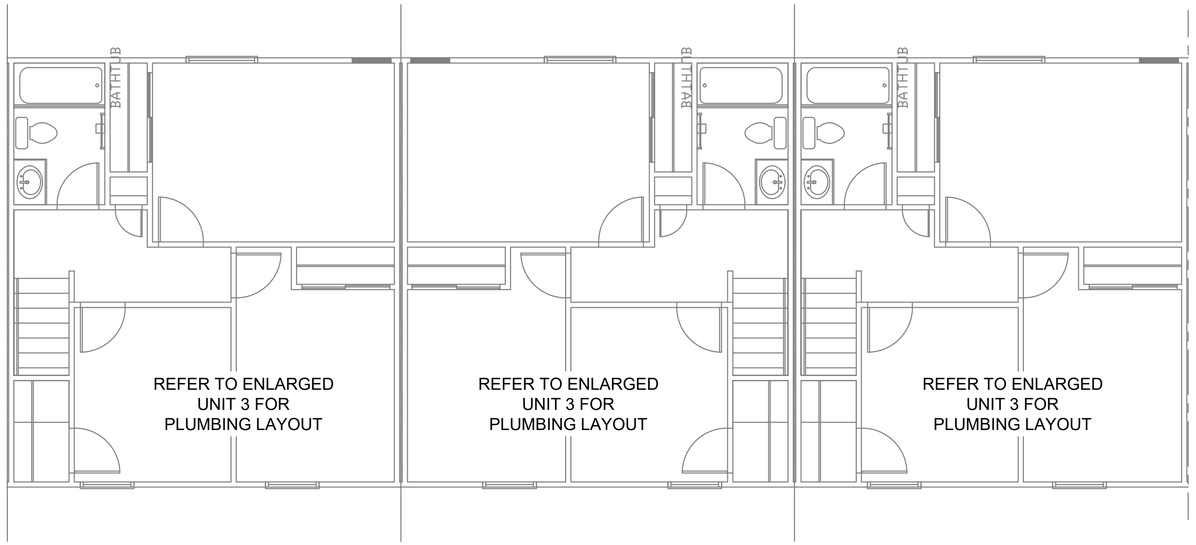
5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 9 & 11

PLUMBING FIRST FLOOR PLAN

P107

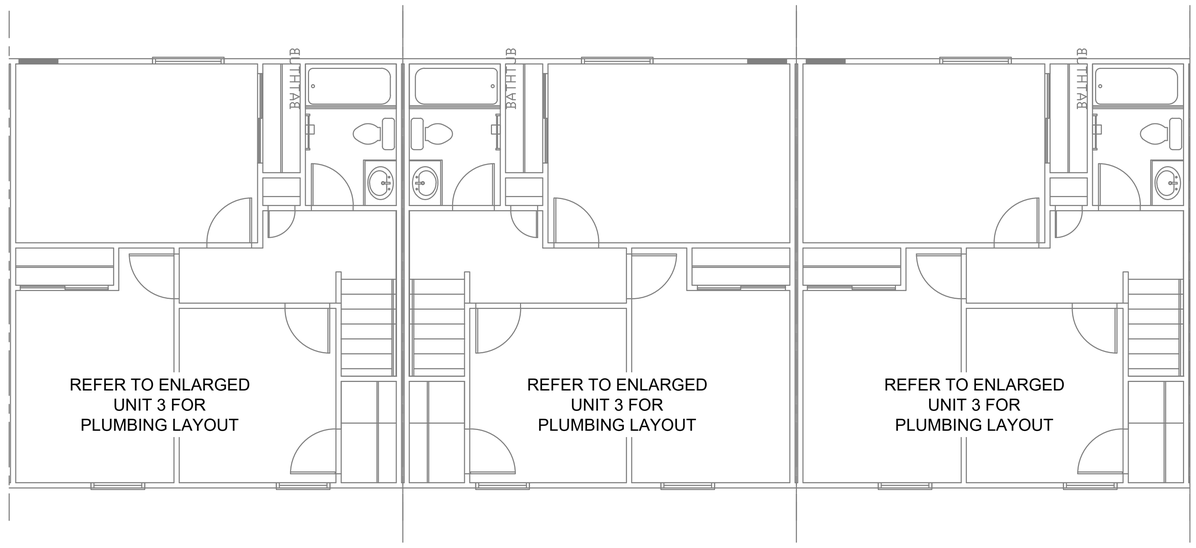


N

2
P108

BUILDING NO. 3 & 11 PLUMBING SECOND FLOOR PLAN - RIGHT (TYPE 4)

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



N

1
P108

BUILDING NO. 3 & 11 PLUMBING SECOND FLOOR PLAN - LEFT (TYPE 4)

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

PLUMBING GENERAL NOTES

A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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

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REGISTERED PROFESSIONAL ENGINEER

REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 9 & 11
PLUMBING SECOND FLOOR PLAN

P108

PLUMBING GENERAL NOTES

A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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BUILDING NO. 6, 7, 12, 15, 13, 16 & 17 PLUMBING FIRST FLOOR PLAN (TYPE 5-1A, 5-2A, 5-2SA, 5-1A-E, 5-H, 5)

N 1/P109 SCALE: 1/4" = 1'-0"

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REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 6, 7, 12, 13, 15, 16, & 17

PLUMBING FIRST FLOOR PLAN

P109

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A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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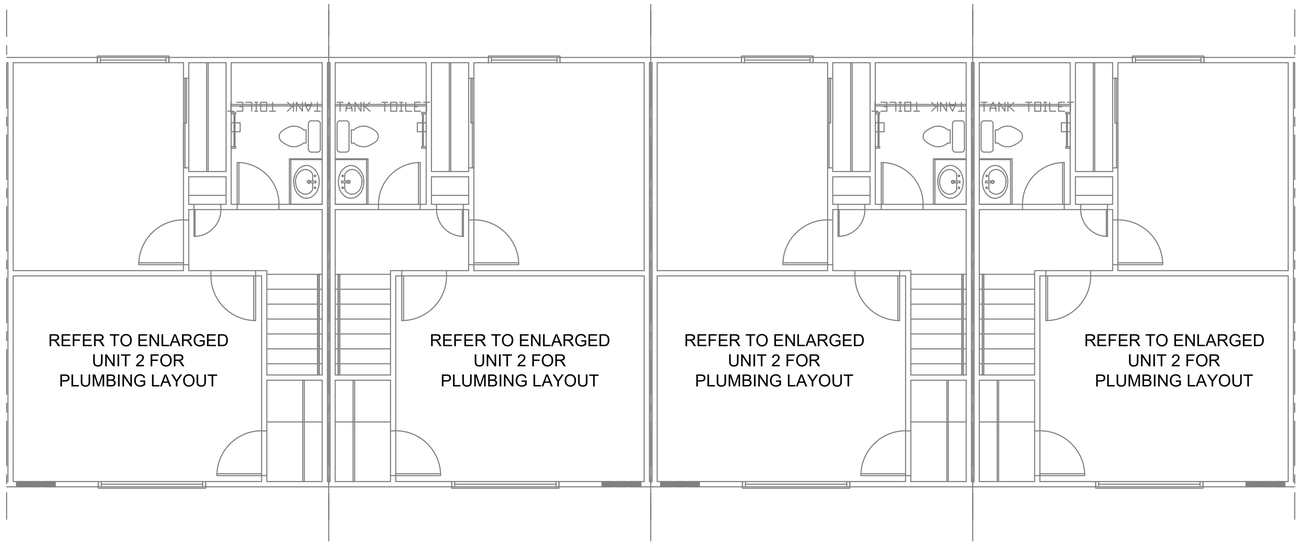

N

1 / P110

BUILDING NO. 6, 7, 12, 15, 13, 16 & 17 PLUMBING SECOND FLOOR PLAN (TYPE 5-1A, 5-2A, 5-2SA, 5-1A-E, 5-H, 5)

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

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FRANKLIN, OHIO 45005

STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

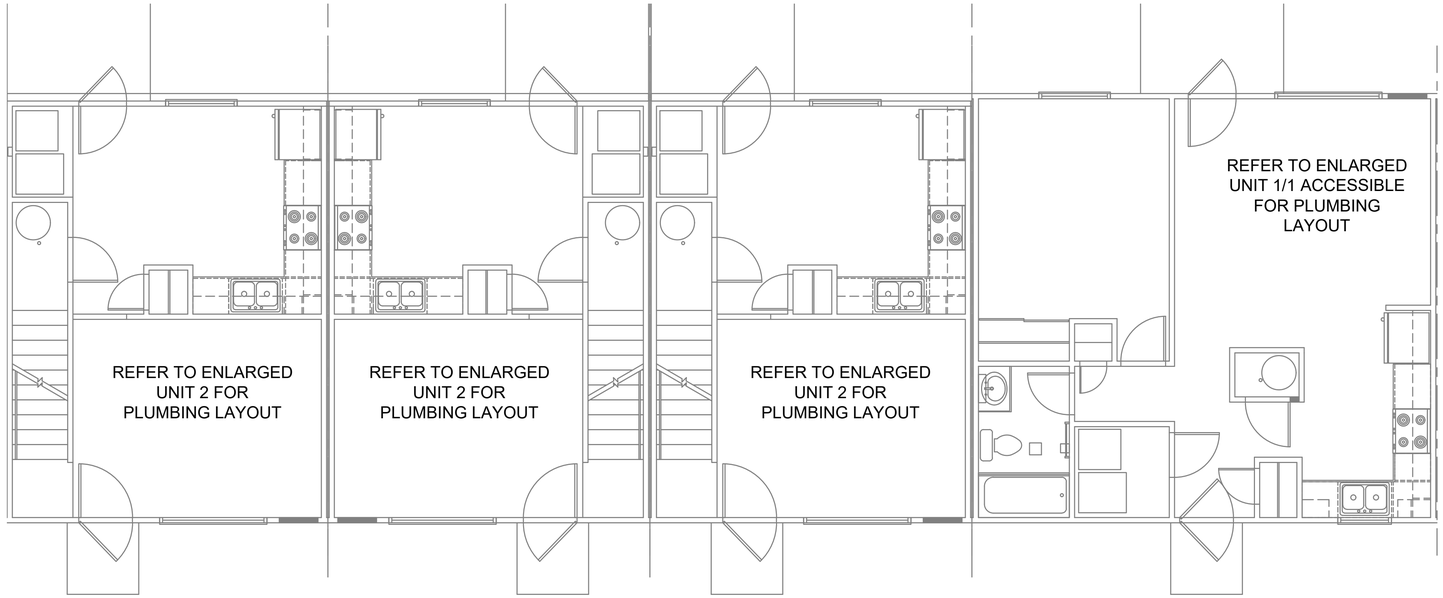
PROJECT #:

DRAWN: **CHECKED:**

BUILDING 6, 7, 12, 13, 15, 16, & 17

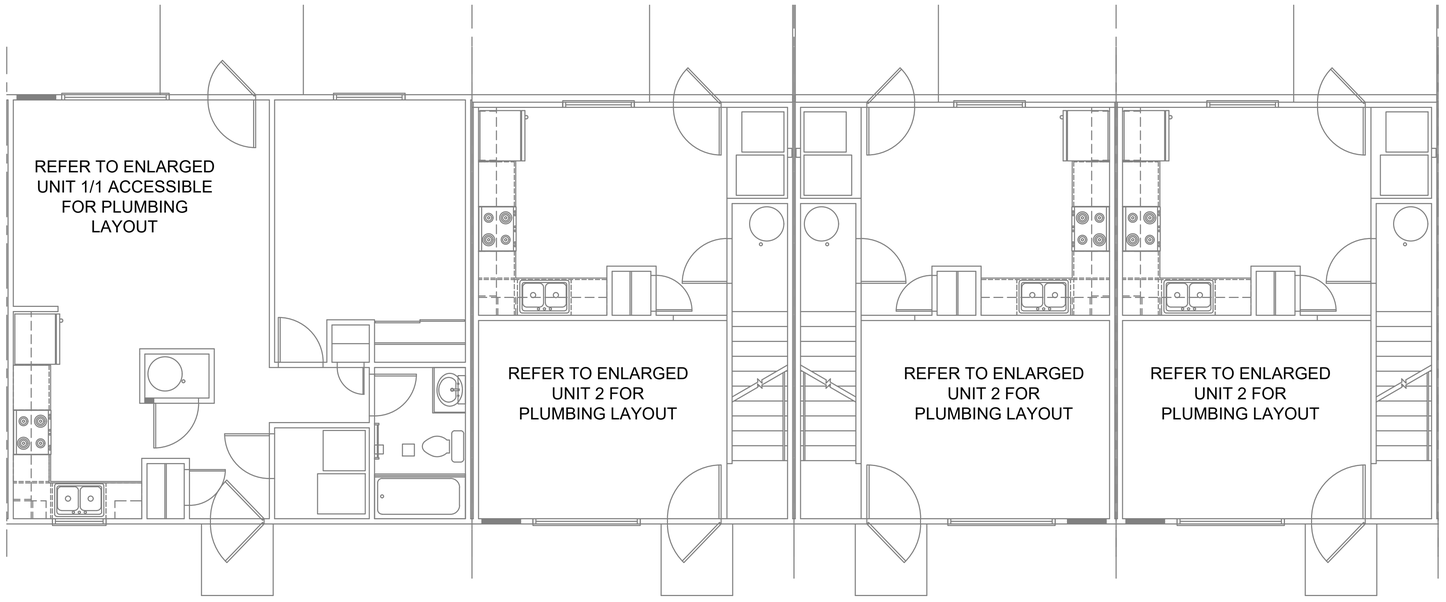
PLUMBING SECOND FLOOR PLAN

P110



N 2 P111 BUILDING NO. 8 & 20 PLUMBING FIRST FLOOR PLAN - RIGHT (TYPE 6, 6-2A)

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



N 1 P111 BUILDING NO. 8 & 20 PLUMBING FIRST FLOOR PLAN - LEFT (TYPE 6, 6-2A)

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

PLUMBING GENERAL NOTES

A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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

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D. PROVIDE POINT-OF-USE THERMOSTATIC MIXING VALVES ON ALL PUBLIC LAVATORIES AND HAND SINKS. VALVES SHALL MEET ASSE 1070 AND SHALL BE EQUAL TO WATTS USG-B.

E. PROVIDE SQUARE STRAINERS ON FLOOR DRAINS IN TILED AREAS.

F. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL FIXTURE MOUNTING HEIGHTS.

G. PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETELY FURNISH, INSTALL, AND PLACE INTO OPERATION, ALL SYSTEMS SHOWN ON THE DRAWINGS AND DELINEATED IN THE SPECIFICATIONS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.

H. COORDINATE ALL WORK AND SPACE REQUIREMENTS IN CEILING SPACES WITH OTHER TRADES PRIOR TO INSTALLATION; INCLUDING BUT NOT LIMITED TO: ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, FIRE PROTECTION, AND MECHANICAL.

I. INSTALL ALL EQUIPMENT WITH CODE REQUIRED AND MANUFACTURER RECOMMENDED MINIMUM CLEARANCES FOR SERVICE, ACCESS, AND FIRE PROTECTION.

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M. WHEREVER FIXTURES REQUIRING PLUMBING CONNECTIONS ARE FURNISHED BY OWNER OR ARE RELOCATED, PLUMBING SUBCONTRACTOR SHALL FURNISH AND INSTALL CARRIERS, "P" TRAP AND STOPS.

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E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 8 & 20
PLUMBING FIRST FLOOR PLAN

P111

PLUMBING GENERAL NOTES

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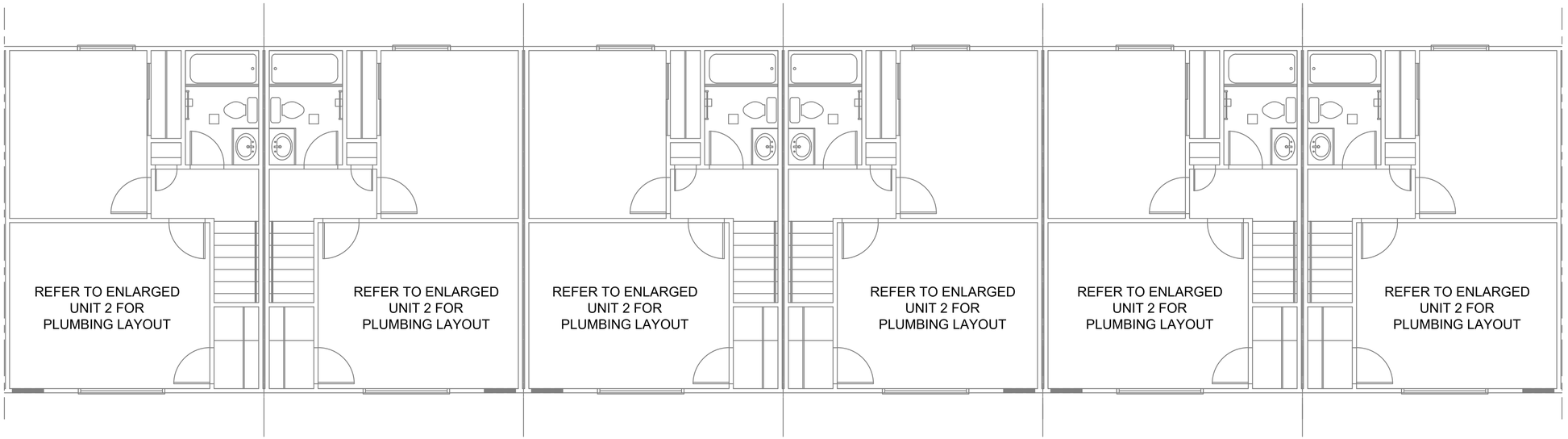

N

1 / P112

BUILDING NO. 8 & 20 PLUMBING SECOND FLOOR PLAN (TYPE 6, 6-2A)

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

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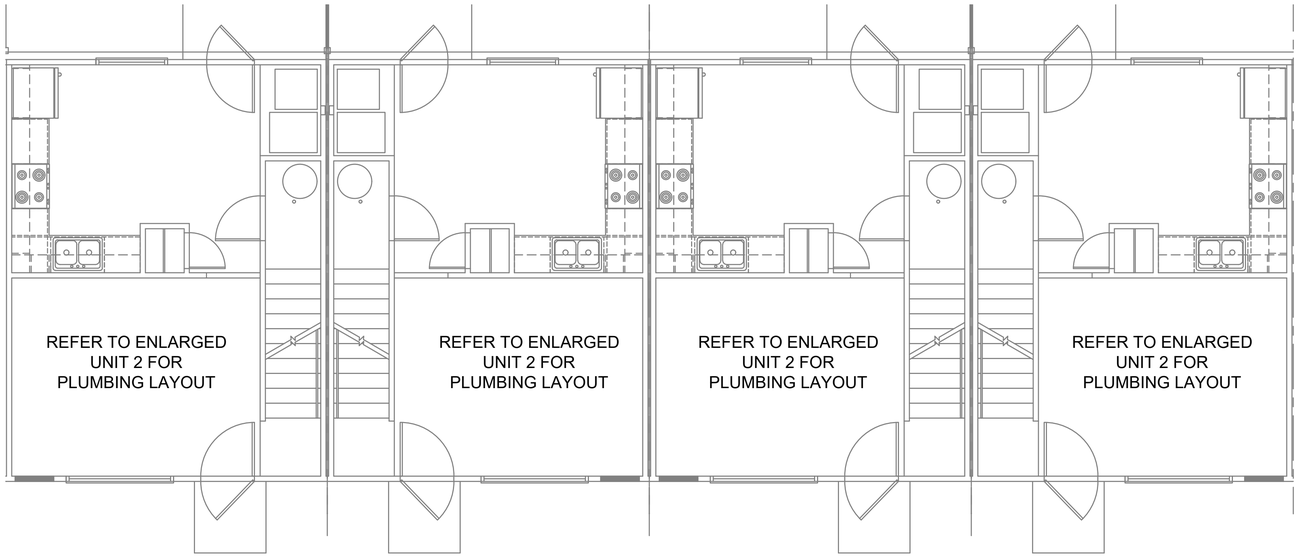
REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

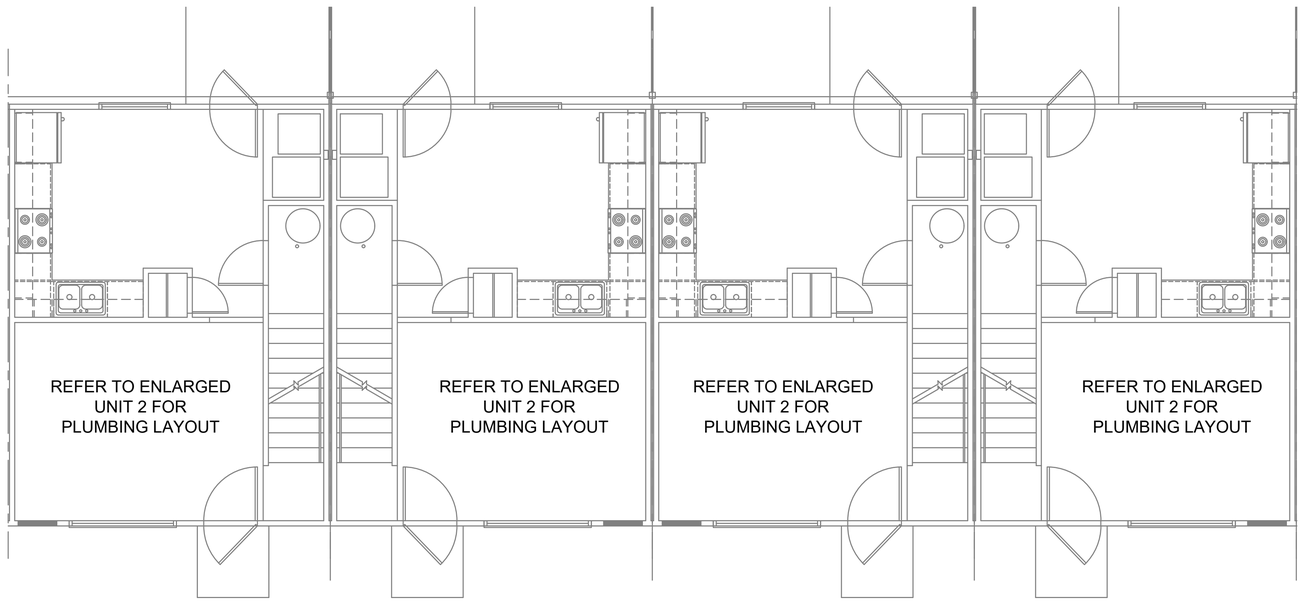
BUILDING 8 & 20
PLUMBING SECOND FLOOR PLAN

P112



N 2 P113 BUILDING NO. 19 PLUMBING FIRST FLOOR PLAN - RIGHT (TYPE 7)

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



N 1 P113 BUILDING NO. 19 PLUMBING FIRST FLOOR PLAN - LEFT (TYPE 7)

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

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A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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REGISTERED PROFESSIONAL ENGINEER

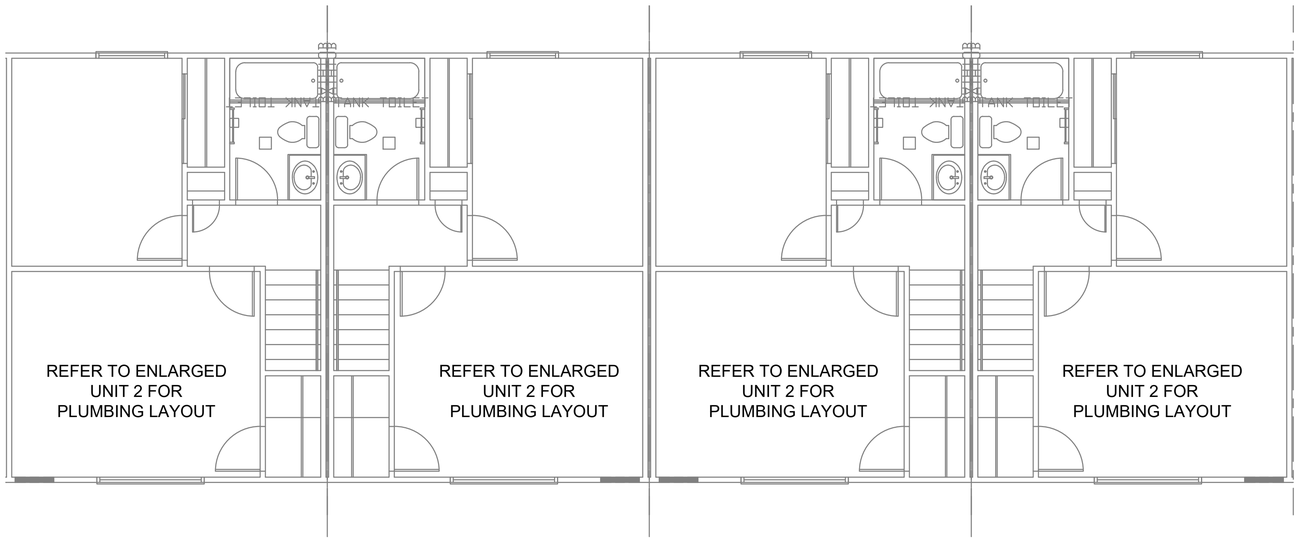
REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

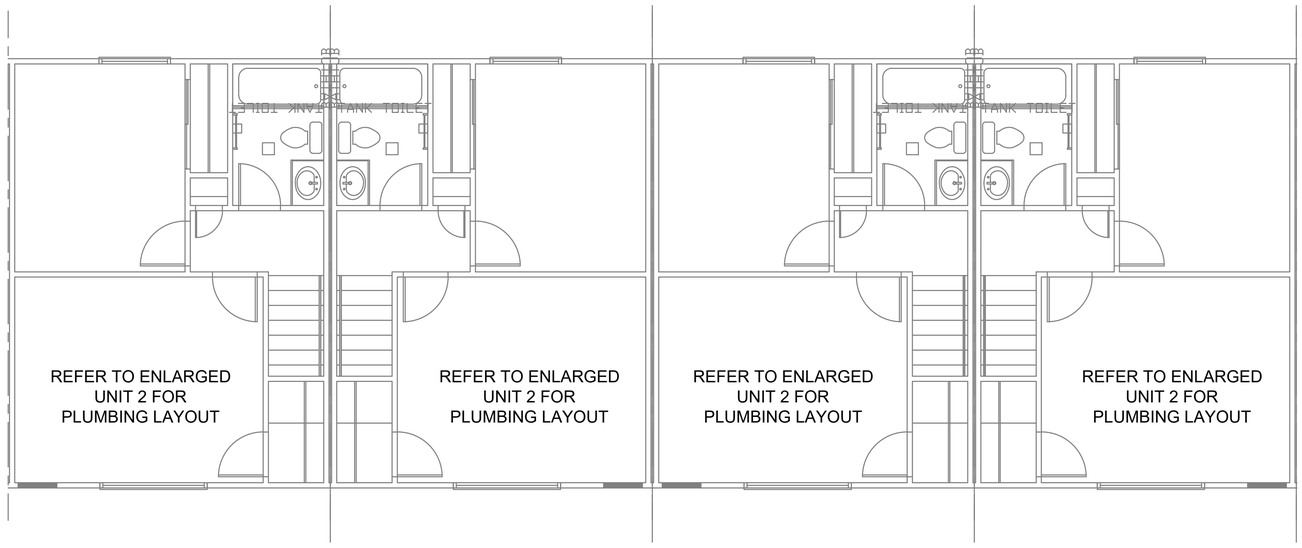
BUILDING 19
PLUMBING FIRST FLOOR PLAN

P113



N 2 / P114 BUILDING NO. 19 PLUMBING SECOND FLOOR PLAN - RIGHT (TYPE 7)

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



N 1 / P114 BUILDING NO. 19 PLUMBING SECOND FLOOR PLAN - LEFT (TYPE 7)

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

PLUMBING GENERAL NOTES

A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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STATE OF OHIO SCOTT SEVERT STILKEY E-77755 REGISTERED PROFESSIONAL ENGINEER

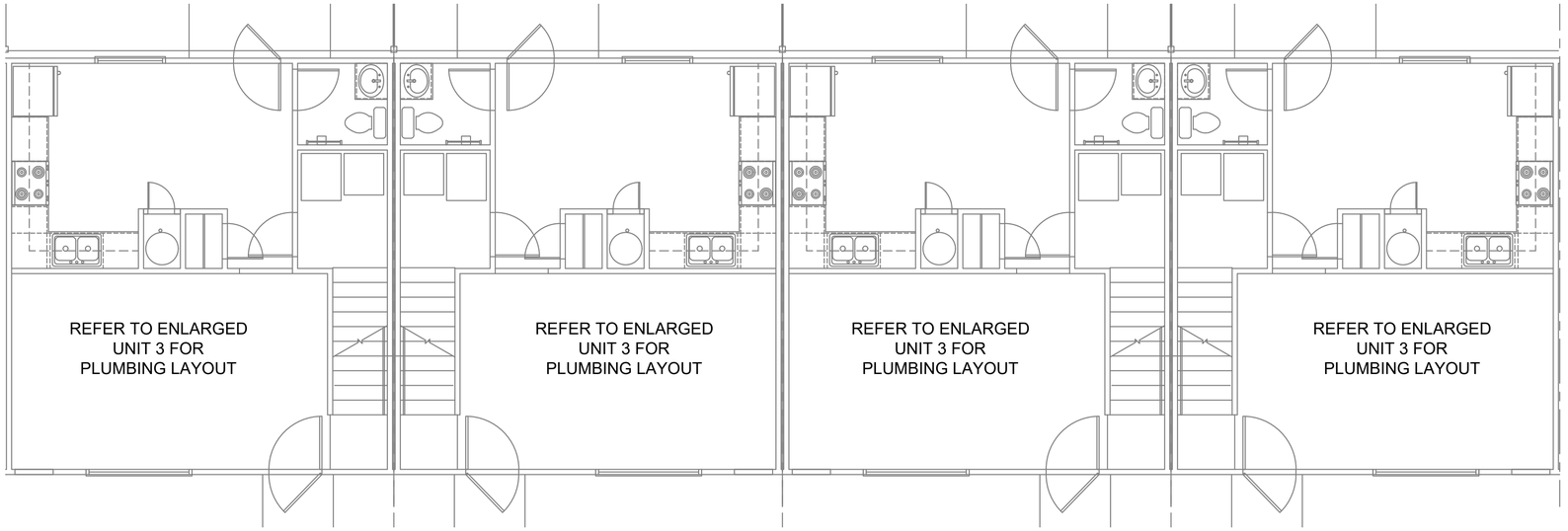
REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

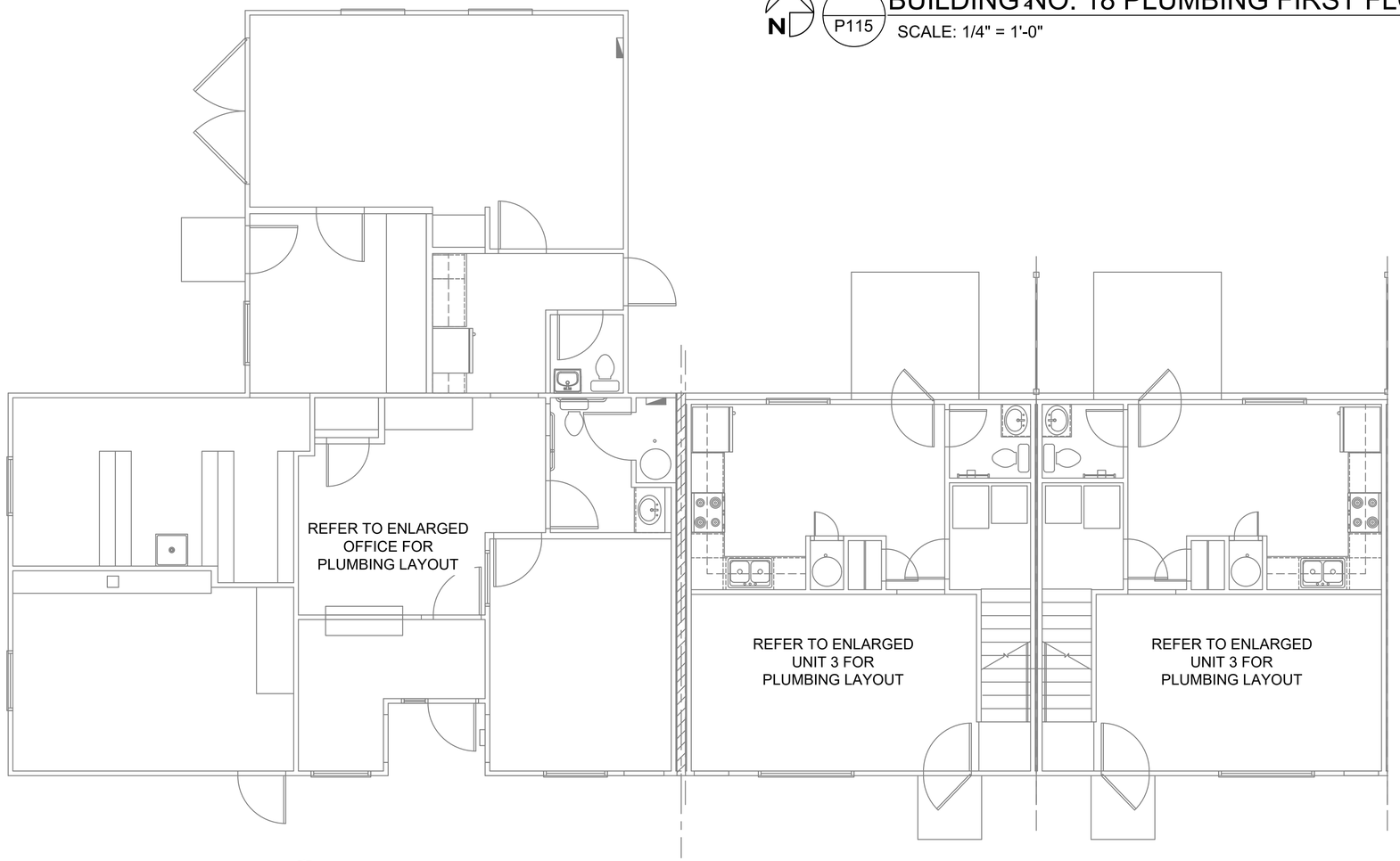
BUILDING 19
PLUMBING SECOND FLOOR PLAN

P114



N P115 2 BUILDING NO. 18 PLUMBING FIRST FLOOR PLAN - RIGHT (TYPE 8)

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



N 1 P115 BUILDING NO. 18 PLUMBING FIRST FLOOR PLAN - LEFT (TYPE 8)

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

PLUMBING GENERAL NOTES

A. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT.

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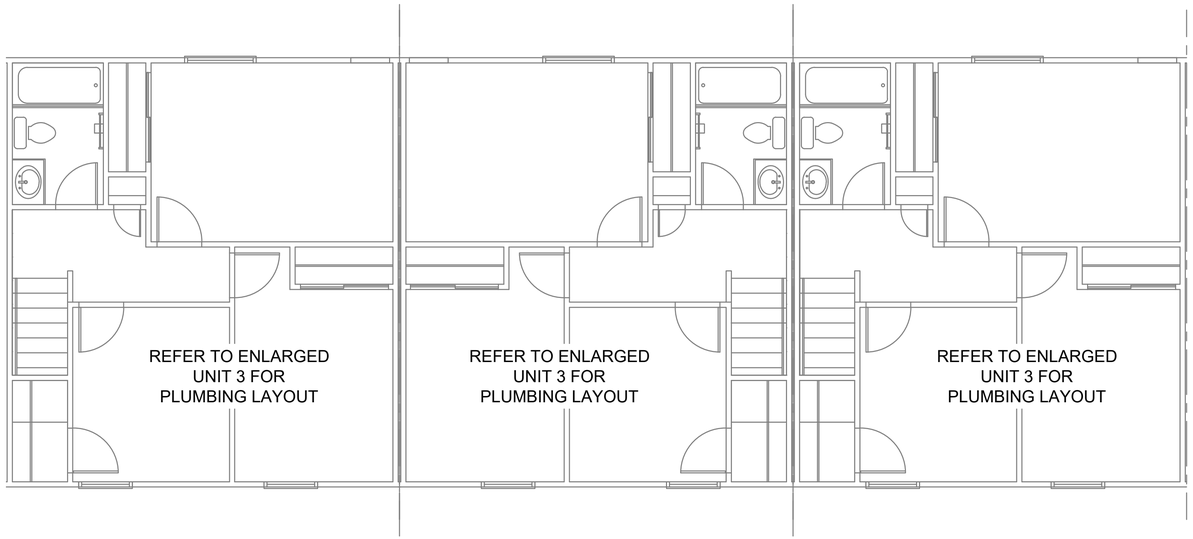
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 18
PLUMBING FIRST FLOOR PLAN

P115

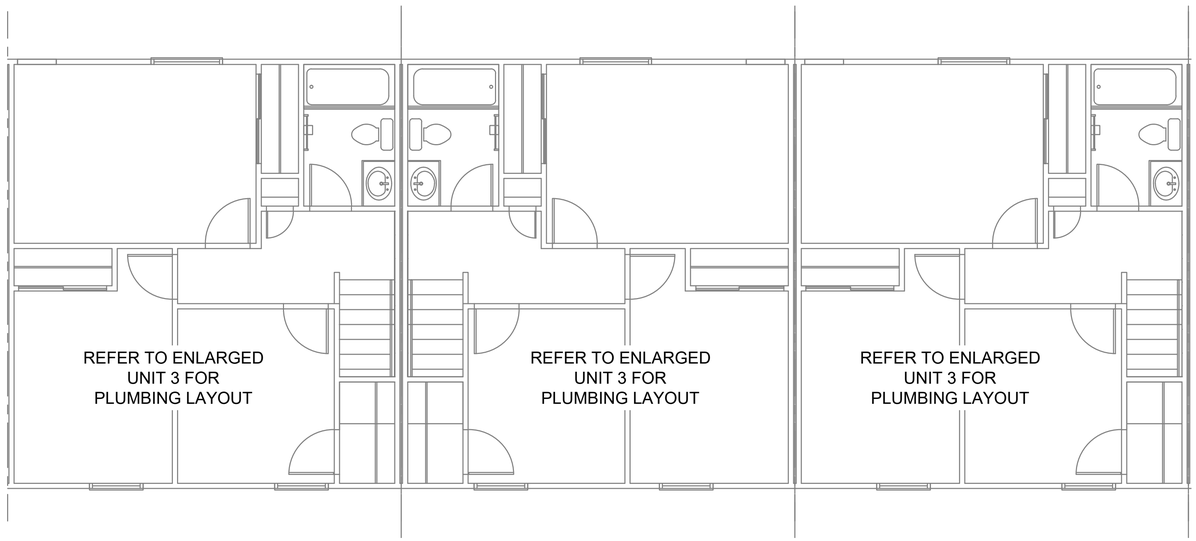


N

2
P116

BUILDING NO. 18 PLUMBING SECOND FLOOR PLAN - RIGHT (TYPE 8)

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



N

1
P116

BUILDING NO. 18 PLUMBING SECOND FLOOR PLAN - LEFT (TYPE 8)

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

PLUMBING GENERAL NOTES

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E. PROVIDE SQUARE STRAINERS ON FLOOR DRAINS IN TILED AREAS.

F. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL FIXTURE MOUNTING HEIGHTS.

G. PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETELY FURNISH, INSTALL, AND PLACE INTO OPERATION, ALL SYSTEMS SHOWN ON THE DRAWINGS AND DELINEATED IN THE SPECIFICATIONS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.

H. COORDINATE ALL WORK AND SPACE REQUIREMENTS IN CEILING SPACES WITH OTHER TRADES PRIOR TO INSTALLATION; INCLUDING BUT NOT LIMITED TO: ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, FIRE PROTECTION, AND MECHANICAL.

I. INSTALL ALL EQUIPMENT WITH CODE REQUIRED AND MANUFACTURER RECOMMENDED MINIMUM CLEARANCES FOR SERVICE, ACCESS, AND FIRE PROTECTION.

J. MAINTAIN A MINIMUM OF 10 FEET BETWEEN ALL OUTSIDE AIR INTAKES AND ALL EXHAUST, VENT, AND FLUE OUTLETS.

K. WATER PIPING IN AREAS SUBJECT TO FREEZING TEMPERATURES WILL NOT BE PERMITTED WITHOUT PROVIDING FROST PROOF PROTECTION.

L. MAKE FINAL CONNECTION TO OWNER SUPPLIED EQUIPMENT.

M. WHEREVER FIXTURES REQUIRING PLUMBING CONNECTIONS ARE FURNISHED BY OWNER OR ARE RELOCATED, PLUMBING SUBCONTRACTOR SHALL FURNISH AND INSTALL CARRIERS, "P" TRAP AND STOPS.

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STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 18
PLUMBING SECOND FLOOR PLAN

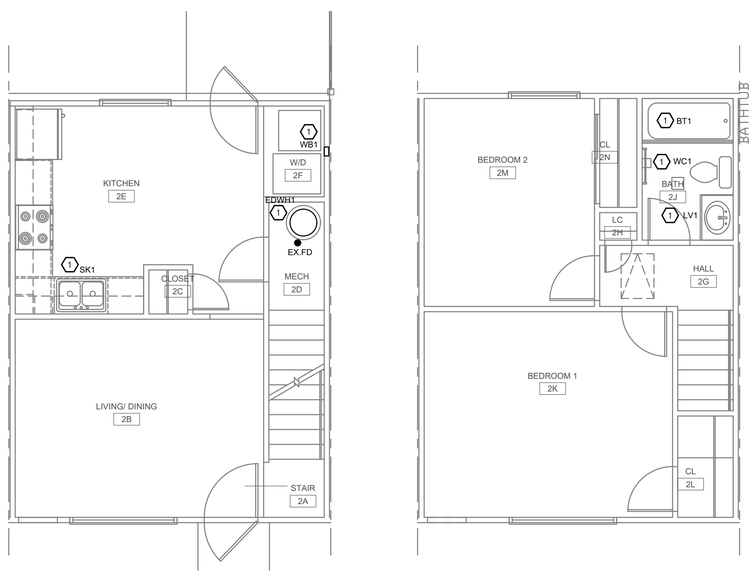
P116

PLUMBING KEYED SHEET NOTES

1. REMOVE AND REPLACE EXISTING PLUMBING FIXTURE WITH NEW PLUMBING FIXTURE, REUSE WASTE, VENT, AND SUPPLY PIPING.
2. CONNECT NEW VENT PIPING INTO EXISTING VENT PIPING, FIELD VERIFY EXACT LOCATION
3. CONNECT NEW SANITARY PIPING INTO EXISTING SANITARY PIPING, FIELD VERIFY EXACT LOCATION
4. CONNECT NEW HOT AND COLD WATER INTO EXISTING HOT AND COLD WATER PIPING, FIELD VERIFY EXACT LOCATION
5. EXISTING PLUMBING FIXTURE TO REMAIN

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD●	FLOOR DRAIN
——⋈——	BALL VALVE
CO○	CLEANOUT



2 / P200 UNIT 2

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

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REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

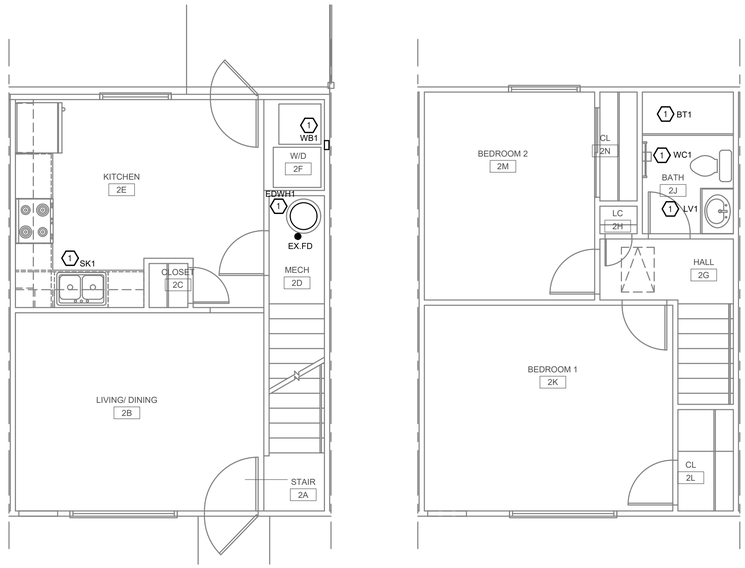
PROJECT #:

DRAWN: **CHECKED:**

BUILDING 3, 4, 5, & 14

PLUMBING
ENLARGED UNITS

P200



2 / P201 UNIT 2
SCALE: 1/4" = 1'-0"

PLUMBING KEYED SHEET NOTES

1. REMOVE AND REPLACE EXISTING PLUMBING FIXTURE WITH NEW PLUMBING FIXTURE, REUSE WASTE, VENT, AND SUPPLY PIPING.
2. CONNECT NEW VENT PIPING INTO EXISTING VENT PIPING, FIELD VERIFY EXACT LOCATION
3. CONNECT NEW SANITARY PIPING INTO EXISTING SANITARY PIPING, FIELD VERIFY EXACT LOCATION
4. CONNECT NEW HOT AND COLD WATER INTO EXISTING HOT AND COLD WATER PIPING, FIELD VERIFY EXACT LOCATION
5. EXISTING PLUMBING FIXTURE TO REMAIN

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD ●	FLOOR DRAIN
——⋈——	BALL VALVE
CO ○	CLEANOUT

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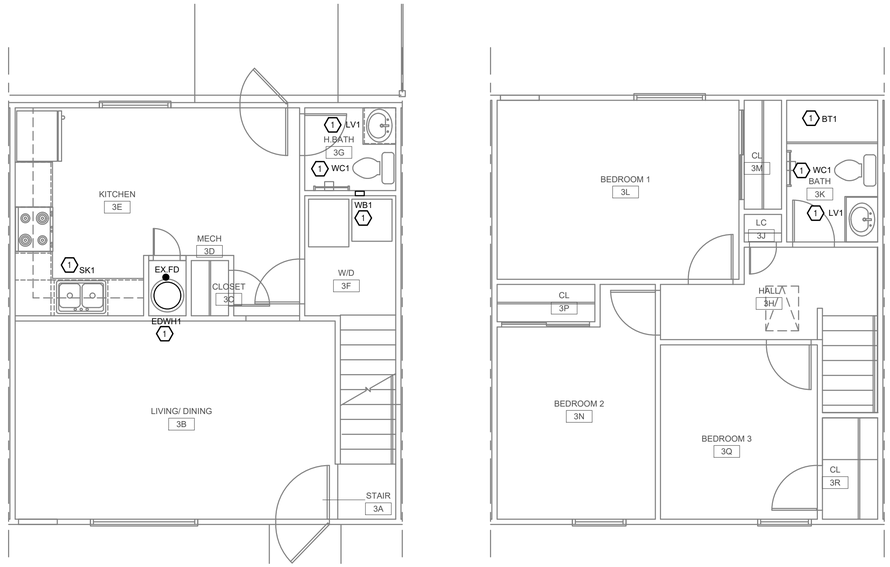
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 2
PLUMBING
ENLARGED UNITS

P201



3 / P202 UNIT 3
SCALE: 1/4" = 1'-0"

PLUMBING KEYED SHEET NOTES

1. REMOVE AND REPLACE EXISTING PLUMBING FIXTURE WITH NEW PLUMBING FIXTURE, REUSE WASTE, VENT, AND SUPPLY PIPING.
2. CONNECT NEW VENT PIPING INTO EXISTING VENT PIPING, FIELD VERIFY EXACT LOCATION
3. CONNECT NEW SANITARY PIPING INTO EXISTING SANITARY PIPING, FIELD VERIFY EXACT LOCATION
4. CONNECT NEW HOT AND COLD WATER INTO EXISTING HOT AND COLD WATER PIPING, FIELD VERIFY EXACT LOCATION
5. EXISTING PLUMBING FIXTURE TO REMAIN

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD ●	FLOOR DRAIN
——⋈——	BALL VALVE
CO ○	CLEANOUT

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REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 1 & 10
PLUMBING
ENLARGED UNITS

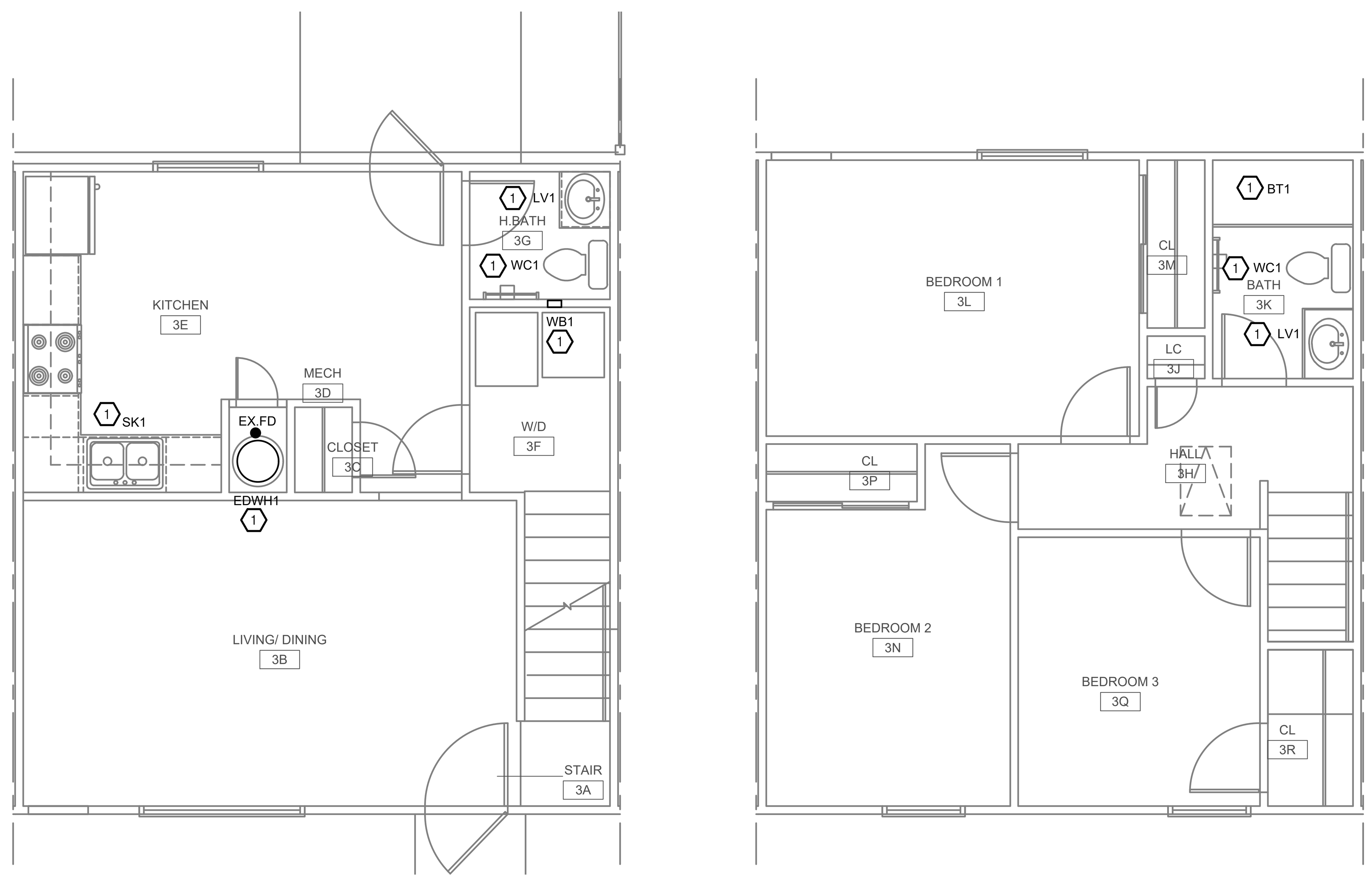
P202

PLUMBING KEYED SHEET NOTES

1. REMOVE AND REPLACE EXISTING PLUMBING FIXTURE WITH NEW PLUMBING FIXTURE, REUSE WASTE, VENT, AND SUPPLY PIPING.
2. CONNECT NEW VENT PIPING INTO EXISTING VENT PIPING, FIELD VERIFY EXACT LOCATION
3. CONNECT NEW SANITARY PIPING INTO EXISTING SANITARY PIPING, FIELD VERIFY EXACT LOCATION
4. CONNECT NEW HOT AND COLD WATER INTO EXISTING HOT AND COLD WATER PIPING, FIELD VERIFY EXACT LOCATION
5. EXISTING PLUMBING FIXTURE TO REMAIN

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— S —	SANITARY WASTE PIPING
— V —	VENT PIPING
— CW —	COLD WATER PIPING
— HW —	HOT WATER PIPING
FD ●	FLOOR DRAIN
—⋈—	BALL VALVE
CO ○	CLEANOUT



3 P203 **UNIT 3**
SCALE: 1/4" = 1'-0"

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REVISIONS

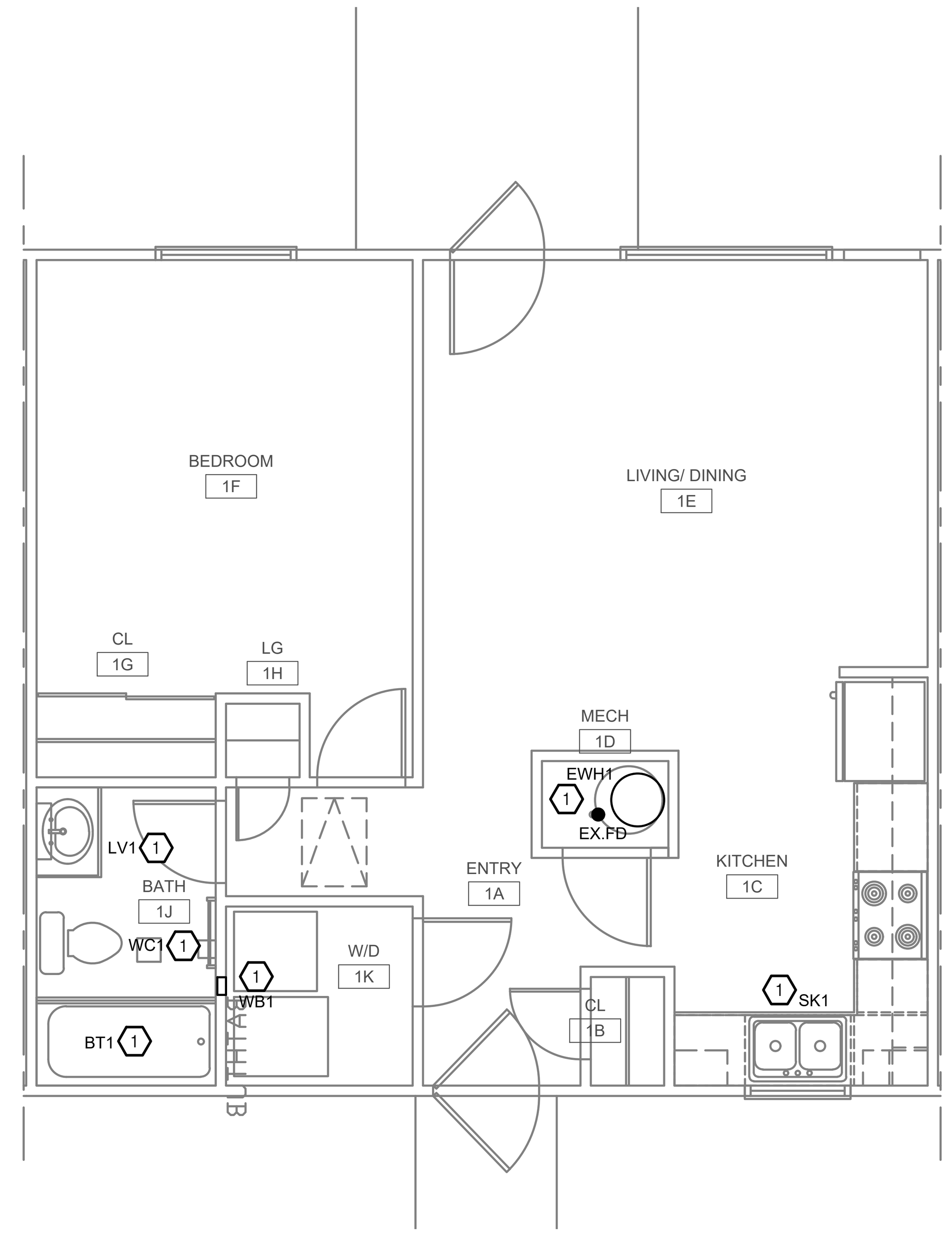
Date	Description
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

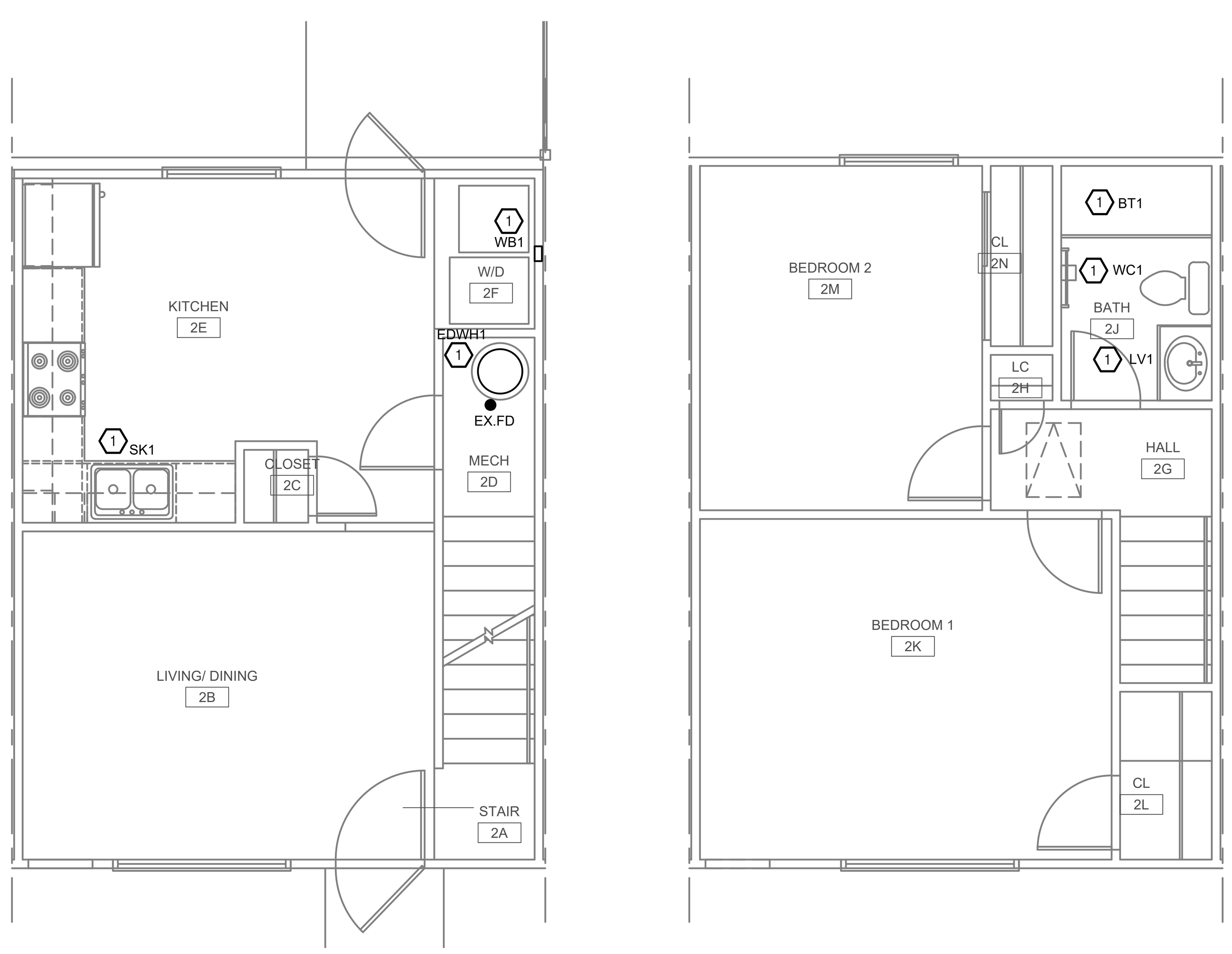
BUILDING 9 & 11

PLUMBING
ENLARGED UNITS

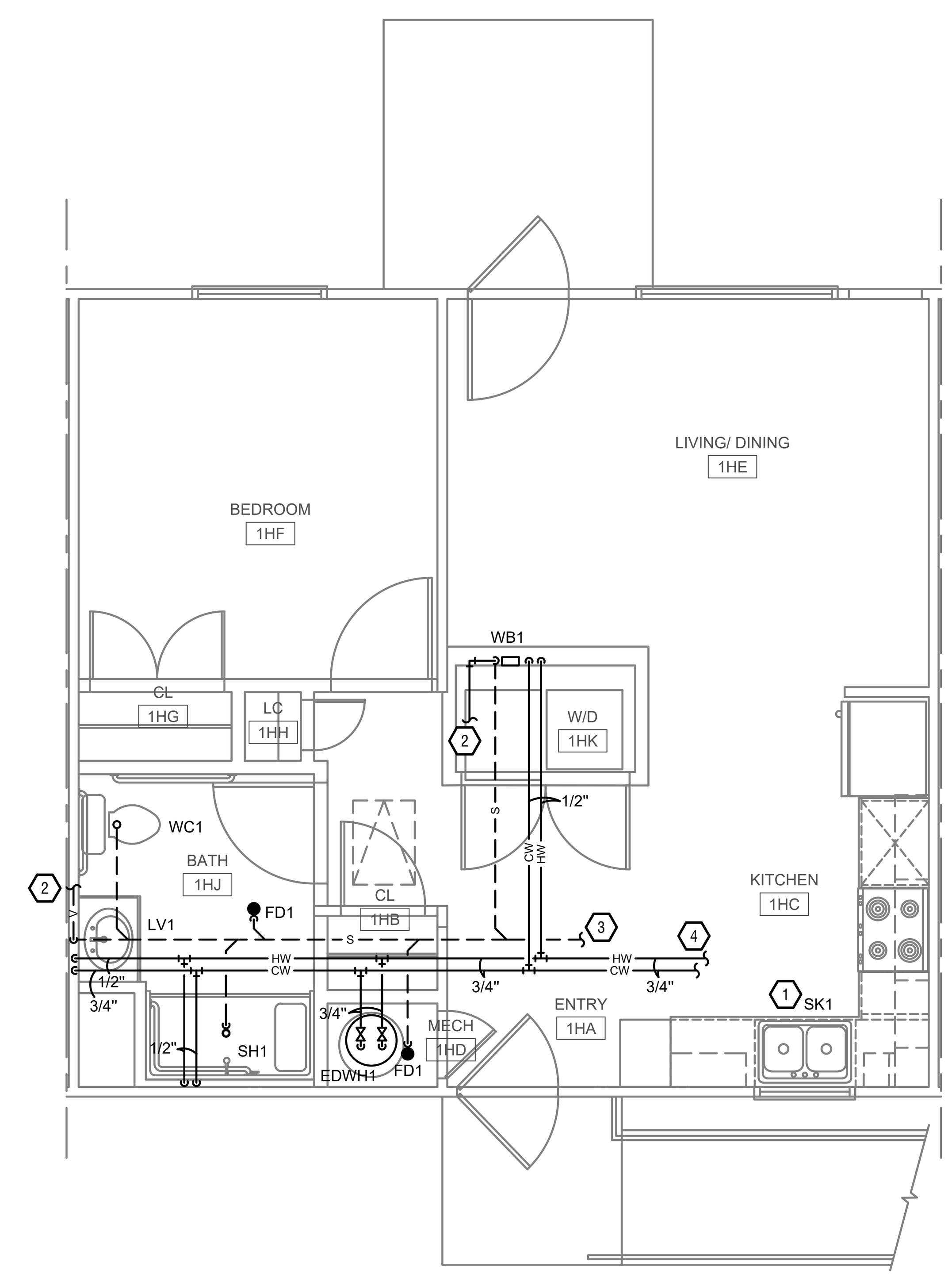
P203



1 P204 **UNIT 1**
SCALE: 1/4" = 1'-0"



2 P204 **UNIT 2**
SCALE: 1/4" = 1'-0"



3 P204 **UNIT 1 ADA**
SCALE: 1/4" = 1'-0"

PLUMBING KEYED SHEET NOTES

1. REMOVE AND REPLACE EXISTING PLUMBING FIXTURE WITH NEW PLUMBING FIXTURE, REUSE WASTE, VENT, AND SUPPLY PIPING.
2. CONNECT NEW VENT PIPING INTO EXISTING VENT PIPING, FIELD VERIFY EXACT LOCATION
3. CONNECT NEW SANITARY PIPING INTO EXISTING SANITARY PIPING, FIELD VERIFY EXACT LOCATION
4. CONNECT NEW HOT AND COLD WATER INTO EXISTING HOT AND COLD WATER PIPING, FIELD VERIFY EXACT LOCATION
5. EXISTING PLUMBING FIXTURE TO REMAIN

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD ●	FLOOR DRAIN
—⋈—	BALL VALVE
CO ○	CLEANOUT

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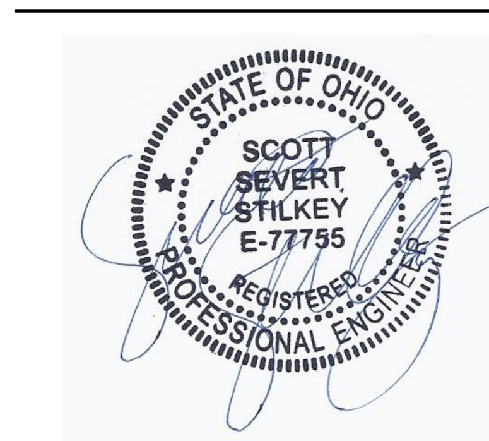


REVISIONS

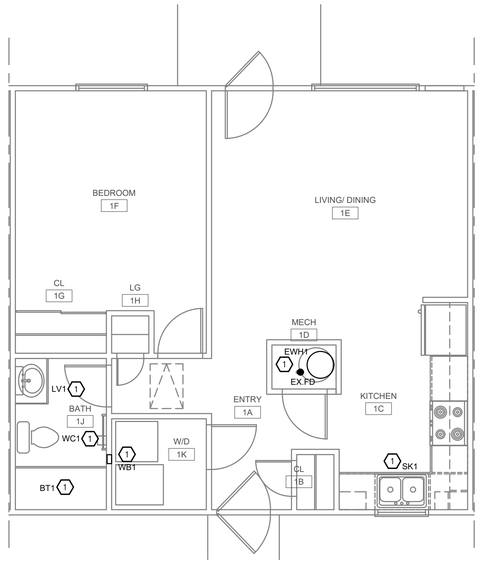
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 6, 7, 12, 13, 15, 16, & 17

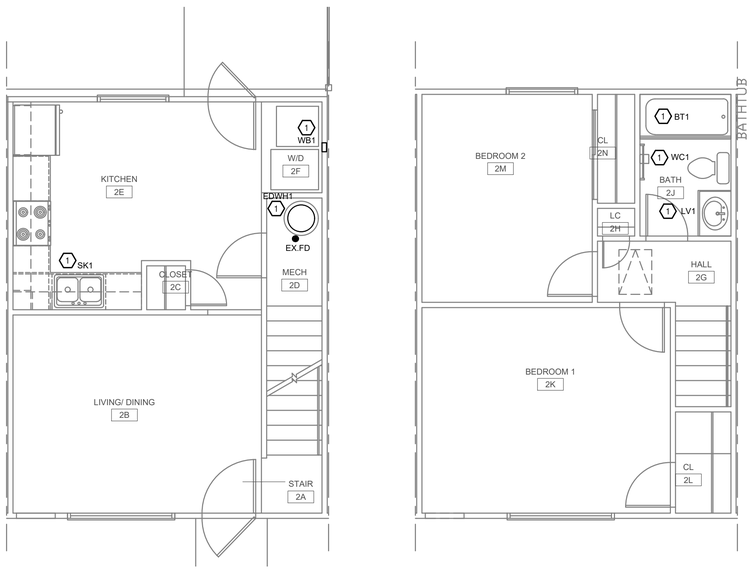
PLUMBING
ENLARGED UNITS

P204



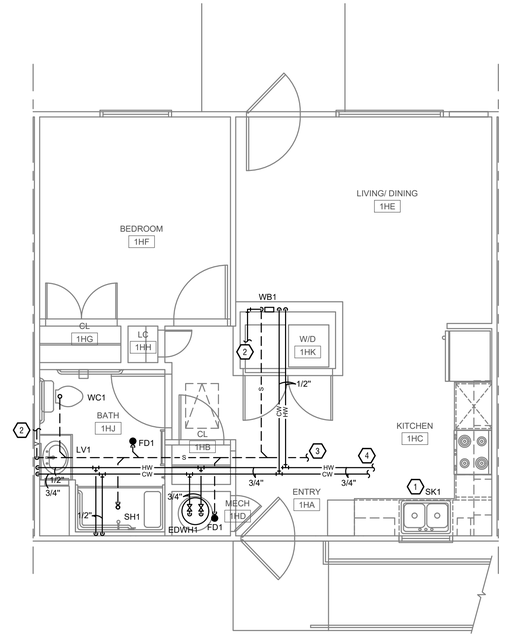
1 / P205 **UNIT 1**

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



2 / P205 **UNIT 2**

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



3 / P205 **UNIT 1 ADA**

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

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PLUMBING KEYED SHEET NOTES

1. REMOVE AND REPLACE EXISTING PLUMBING FIXTURE WITH NEW PLUMBING FIXTURE, REUSE WASTE, VENT, AND SUPPLY PIPING.
2. CONNECT NEW VENT PIPING INTO EXISTING VENT PIPING, FIELD VERIFY EXACT LOCATION
3. CONNECT NEW SANITARY PIPING INTO EXISTING SANITARY PIPING, FIELD VERIFY EXACT LOCATION
4. CONNECT NEW HOT AND COLD WATER INTO EXISTING HOT AND COLD WATER PIPING, FIELD VERIFY EXACT LOCATION
5. EXISTING PLUMBING FIXTURE TO REMAIN

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD●	FLOOR DRAIN
——⋈——	BALL VALVE
CO○	CLEANOUT

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REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 8 & 20
PLUMBING
ENLARGED UNITS

P205

PLUMBING KEYED SHEET NOTES

1. REMOVE AND REPLACE EXISTING PLUMBING FIXTURE WITH NEW PLUMBING FIXTURE, REUSE WASTE, VENT, AND SUPPLY PIPING.
2. CONNECT NEW VENT PIPING INTO EXISTING VENT PIPING, FIELD VERIFY EXACT LOCATION
3. CONNECT NEW SANITARY PIPING INTO EXISTING SANITARY PIPING, FIELD VERIFY EXACT LOCATION
4. CONNECT NEW HOT AND COLD WATER INTO EXISTING HOT AND COLD WATER PIPING, FIELD VERIFY EXACT LOCATION
5. EXISTING PLUMBING FIXTURE TO REMAIN

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD●	FLOOR DRAIN
——⋈——	BALL VALVE
CO○	CLEANOUT

2 / P206 UNIT 2

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

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REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 19
PLUMBING
ENLARGED UNITS

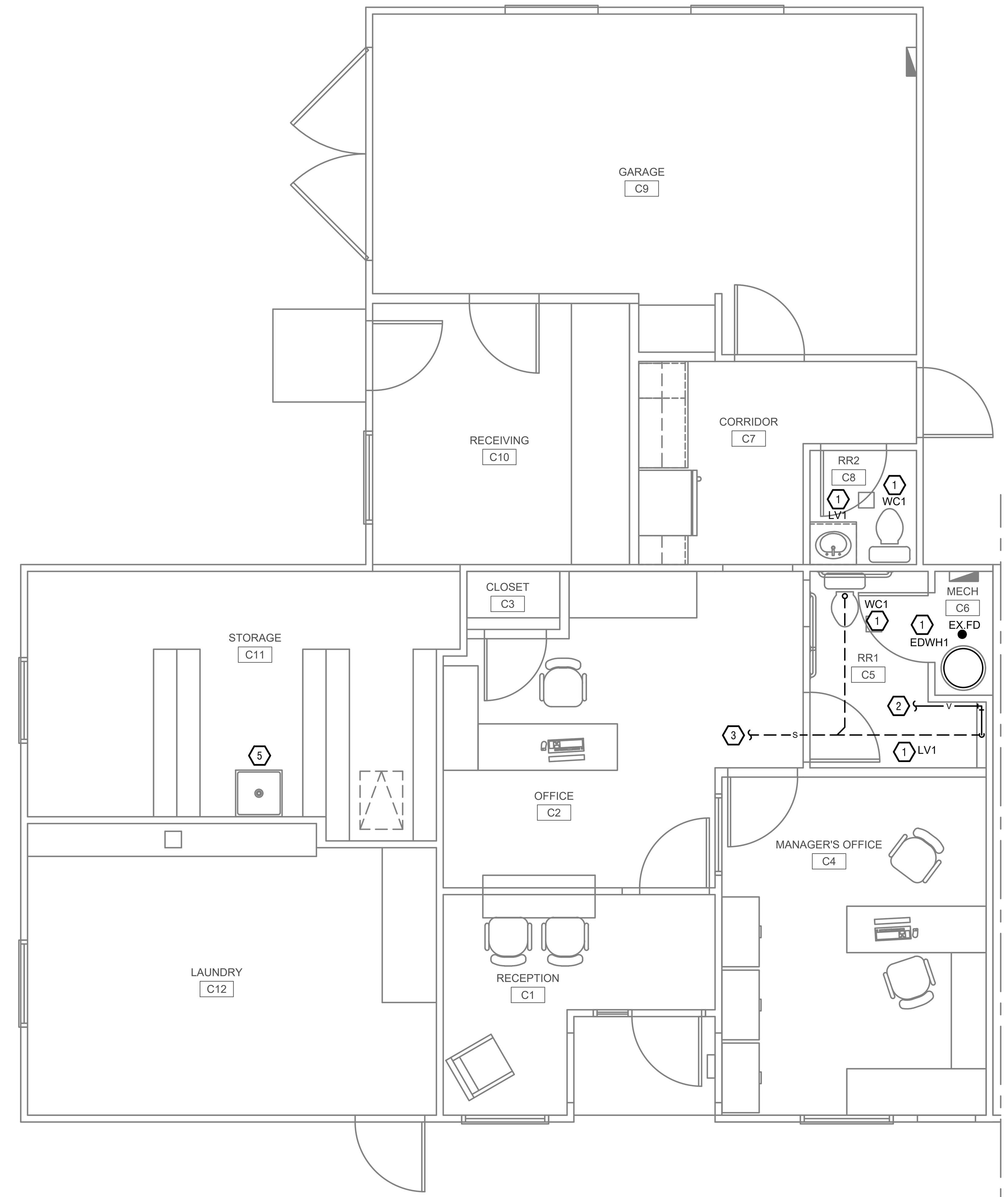
P206

(#) PLUMBING KEYED SHEET NOTES

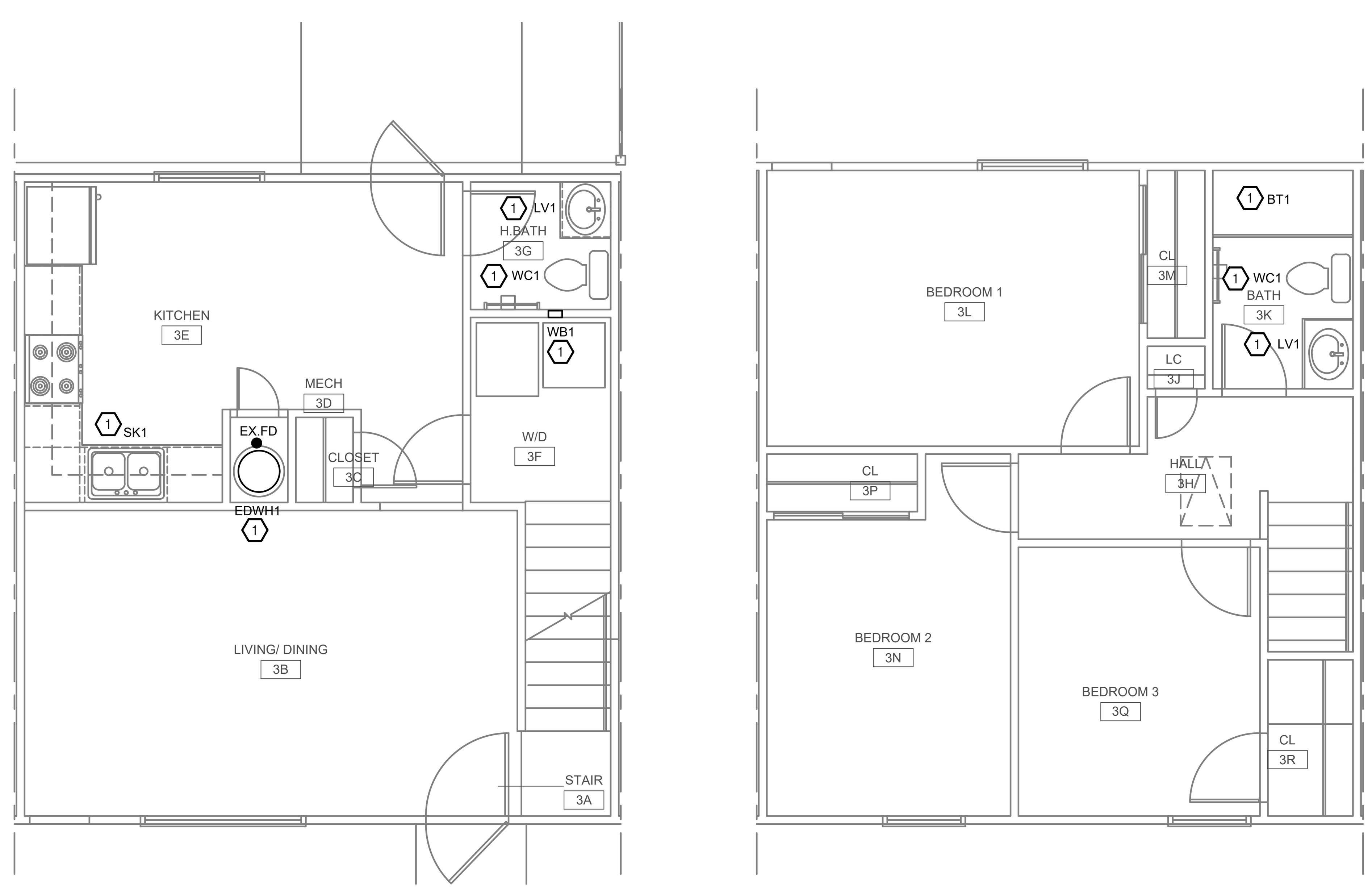
1. REMOVE AND REPLACE EXISTING PLUMBING FIXTURE WITH NEW PLUMBING FIXTURE, REUSE WASTE, VENT, AND SUPPLY PIPING.
2. CONNECT NEW VENT PIPING INTO EXISTING VENT PIPING, FIELD VERIFY EXACT LOCATION
3. CONNECT NEW SANITARY PIPING INTO EXISTING SANITARY PIPING, FIELD VERIFY EXACT LOCATION
4. CONNECT NEW HOT AND COLD WATER INTO EXISTING HOT AND COLD WATER PIPING, FIELD VERIFY EXACT LOCATION
5. EXISTING PLUMBING FIXTURE TO REMAIN

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
—— CW ——	COLD WATER PIPING
—— HW ——	HOT WATER PIPING
FD●	FLOOR DRAIN
—⋈—	BALL VALVE
CO⊙	CLEANOUT



1 P201 **OFFICE**
SCALE: 1/4" = 1'-0"



3 P207 **UNIT 3**
SCALE: 1/4" = 1'-0"

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REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 18
PLUMBING
ENLARGED UNITS

P207

DIVISION 22 - PLUMBING

1. GENERAL PLUMBING REQUIREMENTS
   a. THE PLUMBING CONTRACTOR MUST REFER TO SITE PLANS, ARCHITECTURAL PLANS AND ELEVATIONS, AND PRICING INSTRUCTIONS FROM THE GENERAL CONTRACTOR TO DEVELOP THEIR PRICE. THE PLUMBING CONTRACTOR'S PRICE (INCLUDING TAXES) SHOULD INCLUDE ALL LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM.
   b. THE PLUMBING CONTRACTOR SHALL BE LICENSED BY THE STATE OF OHIO TO INSTALL PLUMBING SYSTEMS.
   c. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD.
   d. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE AND CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA AND RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   e. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, SPECIFICATIONS, AND DRAWINGS EXCEPT AS NOTED HEREIN WHICH APPLY IN ALL RESPECTS TO THIS SECTION.
   f. COORDINATE PIPING CHASES, SHAFTS, ABOVE CEILING WORK, ETC. WITH ARCHITECT. ALL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO WORK.
   g. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY PLUMBING PIPING PENETRATIONS. THIS INCLUDES CORING HOLES IN SLABS, ETC.
   h. EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF AGA, ARI, ASME, ASTM, CISPI, UL, NEMA, ANSI, SMACNA, ASHRAE, NFPA, NEC, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY. ALL EQUIPMENT MUST BEAR UL LABEL.
   i. INSTALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES.
   j. WHERE NOT PROVIDED BY OTHERS, PROCURE AND PAY FOR ALL PERMITS, FEES, TAXES AND INSPECTIONS NECESSARY TO COMPLETE THE PLUMBING WORK. FURNISH CERTIFICATE OF APPROVAL FOR WORK FROM INSPECTION AUTHORITY TO OWNER BEFORE FINAL ACCEPTANCE FOR WORK. CERTIFICATE OF FINAL INSPECTION AND APPROVAL SHALL BE SUBMITTED WITH THE CONTRACTOR'S REQUEST FOR PAYMENT. NO FINAL PAYMENT WILL BE APPROVED WITHOUT THIS CERTIFICATE.
   k. ALL WORK SHALL BE ACCURATELY LAID-OUT WITH OTHER TRADES, PRIOR TO INSTALLATION & FABRICATION, TO AVOID ALL CONFLICTS AND OBTAIN A NEAT AND WORKMANLIKE INSTALLATION WHICH WILL AFFORD MAXIMUM ACCESSIBILITY FOR EQUIPMENT OPERATION, MAINTENANCE CLEARANCES AND HEADROOM.
2. USE OF INFORMATION PROVIDED BY EBS
   a. THE INFORMATION PROVIDED IS INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS, SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM ARE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
3. CONTRACTOR COORDINATION
   a. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE PLUMBING CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
4. PLUMBING FIXTURES
   a. SHUT OFF VALVES/STOPS SHALL BE PROVIDED AT ALL LAVATORIES, SINKS AND WATER CLOSETS.
   b. ALL WALL-HUNG PLUMBING FIXTURES, INCLUDING, BUT NOT LIMITED TO WATER CLOSETS, URINALS, LAVATORIES, AND SINKS SHALL BE ANCHORED TO THE FLOOR WITH CONCEALED IN-WALL CARRIERS. WALL-HUNG FIXTURES SHALL NOT BE SIMPLY BOLTED TO THE WALL OR ANCHORED TO WOOD BLOCKING.
   c. COORDINATE COLOR OF FIXTURES WITH ARCHITECT. FIXTURES SHALL BE WHITE UNLESS OTHERWISE NOTED.
   d. PROVIDE ADA COMPLIANT FIXTURES WHERE INDICATED ON THE ARCHITECTURAL PLANS. PROVIDE OFFSET FIXTURE TAILPIECES AND TRAPS WHERE REQUIRED TO MEET ADA LEG CLEARANCES.
   e. FIXTURES SHALL BE SECURELY FASTENED TO PREVENT ANY MOVEMENT OF FIXTURE DURING NORMAL USE. SEAL TO WALL, FLOOR OR COUNTERTOP WITH SILICONIZED ACRYLIC-LATEX CAULK.
5. DRAIN PANS
   a. PROVIDE DRAIN PAN UNDER WATER HEATERS. PIPE WATER HEATER DRAIN AND PRESSURE RELIEF VALVE SEPARATELY AND INDIRECTLY TO FLOOR DRAIN (NOT TO DRAIN PAN).
6. DOMESTIC WATER SYSTEMS
   a. NEW FIXTURES SHALL BE CONNECTED TO THE EXISTING WATER SERVICE/MAIN.
   b. INTERIOR DOMESTIC WATER PIPING:
   i. WHERE ALLOWED BY CODE, CPVC PIPING CAN BE USED.
   a. CPVC PIPING 2" AND SMALLER SHALL BE EQUAL TO FLOW GUARD GOLD - THIS SPECIFICATION COVERS COPPER TUBE SIZE (CTS) CPVC MANUFACTURED TO STANDARD DIMENSIONAL RATIO (SDR) 11 FOR HOT AND COLD DOMESTIC WATER DISTRIBUTION. THIS SYSTEM IS INTENDED FOR PRESSURE APPLICATIONS WHERE THE OPERATING TEMPERATURE WILL NOT EXCEED 180°F AT 100 PSI. PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN RIGID CPVC (CHLORINATED POLYVINYL CHLORIDE) VINYL COMPOUNDS WITH A CELL CLASS OF 24448 AS IDENTIFIED IN ASTM D 1784. CTS CPVC PIPE AND FITTINGS SHALL CONFORM TO ASTM D 2846. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER. ALL PIPE AND FITTINGS SHALL BE MANUFACTURED IN THE UNITED STATES. PIPE AND FITTINGS SHALL CONFORM TO NATIONAL SANITATION FOUNDATION (NSF) STANDARDS 14 AND 61. INSTALLATION SHALL COMPLY WITH LATEST INSTALLATION PROVIDED BY THE MANUFACTURER AND SHALL CONFORM TO ALL LOCAL PLUMBING, BUILDING AND FIRE CODE REQUIREMENTS. BURIED PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM F 1668. SOLVENT WELD JOINTS SHALL BE MADE USING CPVC CEMENT CONFORMING TO ASTM F 493. YELLOW ONE-STEP CEMENT MAY BE USED WITHOUT PRIMER. IF A PRIMER IS REQUIRED BY LOCAL PLUMBING OR BUILDING CODES, THEN A PRIMER CONFORMING TO ASTM F 656 SHOULD BE USED. THE SYSTEM SHALL BE PROTECTED FROM CHEMICAL AGENTS, FIRE STOPPING MATERIALS, THREAD SEALANT, PLASTICIZED VINYL PRODUCTS OR OTHER AGGRESSIVE CHEMICAL AGENTS NOT COMPATIBLE WITH CPVC COMPOUNDS. SYSTEMS SHALL BE HYDROSTATICALLY TESTED AFTER INSTALLATION. NEVER TEST WITH OR TRANSPORT/STORE COMPRESSED AIR OR GAS IN CPVC PIPE OR FITTINGS.
   ii. WHERE ALLOWED BY CODE, PEX TUBE AND FITTINGS CAN BE USED. TUBING SHALL BE PEX-A TYPE AND FITTINGS SHALL BE EQUAL TO UPONOR AQUAPEX. TUBING AND FITTINGS MUST CONFORM TO ASTM F876 "STANDARD SPECIFICATION FOR CROSSLINKED POLYETHYLENE, ASTM F877 "STANDARD FOR CROSSLINKED POLYETHYLENE PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS". PROVIDE ENGINEERED PLASTIC FITTINGS WITH PLASTIC COLLARS WHICH CONFORM TO ASTM F1960 STANDARD SPECIFICATION FOR COLD EXPANSION FITTINGS WITH PEX REINFORCING RINGS FOR USE WITH CROSSLINKED POLYETHYLENE PIPING. PEX TUBING AND CONNECTIONS SHALL BE WARRANTED FOR A PERIOD OF 25 YEARS. DO NOT WELD, GLUE, TAPE OR ALLOW OTHER SOLVENT BASED ADHESIVES OR PAINTS TO COME INTO CONTACT WITH TUBING. DO NOT ALLOW TUBING TO COME IN CONTACT WITH PIPE THREAD COMPOUNDS, FIREWALL PENETRATION SEALING COMPOUNDS, AND PETROLEUM BASED SEALANTS. DO NOT ALLOW TUBING TO COME WITHIN 6" OF GAS APPLIANCE VENTS OR 12" OF RECESSED LIGHT FIXTURES. DO NOT EXPOSE TUBING TO OPEN FLAME. DO NOT SOLDER WITHIN 18" OF TUBING. DO NOT INSTALL TUBING BETWEEN TUB SPOUT AND SHOWER VALVE. RADIUS OF BENDS MUST NOT EXCEED SIX TIMES OUTSIDE TUBE DIAMETER. REPAIR KINKS IN TUBING USING HEAT AS RECOMMENDED BY MANUFACTURER. TUBING SHALL BE INSTALLED IN MAXIMUM PRACTICAL LENGTHS, AS DIRECTLY AS POSSIBLE TO REMOTE MANIFOLD WITH MINIMUM FITTINGS. TUBING SHALL BE SUPPORTED IN A MATTER THAT DOES NOT DAMAGE TUBING AND ALLOWS FOR THERMAL EXPANSION. SUPPORTS SHALL BE SPACED AT 32" MINIMUM HORIZONTALLY AND 60" VERTICALLY AND WITHIN 6" OF FITTINGS OR BENDS. USE BEND SUPPORTS AT 90 DEGREE BENDS. PROTECT INSTALLED TUBING FROM DAMAGE. INSTALL METAL PLATES WHERE TUBING PENETRATES STUDS AT FACE OF STUDS. REMOTE MANIFOLD TYPE FITTINGS SHALL BE UTILIZED AT BRANCHES IN ROOMS WHERE TUBING IS TERMINATED (MODIFIED HOME-RUN INSTALLATION TYPE). UTILIZE EXPANDER TOOLS RECOMMENDED BY MANUFACTURER FOR CONNECTION OF TUBING TO FITTINGS. DO NOT OVER EXPAND TUBING. PIPE SHALL BE SUPPORTED AT FITTINGS AND FIXTURES AS RECOMMENDED BY MANUFACTURER. PIPING SHALL BE INSTALLED WITH MINIMUM AMOUNT OF FITTINGS. USE MANUFACTURER APPROVED VALVES, FITTINGS, HOSE BIBS AND BOXES AT FIXTURES.
   c. CONTROL VALVES SHALL BE MANUFACTURED BY OR APPROVED BY PIPING MANUFACTURER.
   d. ADJUST ALL STOPS AND VALVES PROPERLY PRIOR TO PROJECT COMPLETION.
7. WATER HAMMER ARRESTORS/SHOCK ABSORBERS
   a. REMOVE SHOCK CONDITIONS FROM ALL PIPING. PROVIDE AND INSTALL WATER HAMMER ARRESTORS/SHOCK ABSORBERS ON ALL PIPING SERVING FLUSH VALVE FIXTURES, CLOTHES WASHER SUPPLY BOXES, COMMERCIAL WASHER SUPPLY LINES, AND OTHER EQUIPMENT WITH QUICK-CLOSING VALVES. WATER HAMMER ARRESTORS SHALL BE PROVIDED PER PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI-WH 201.
8. SANITARY AND VENT SYSTEMS
   a. CONNECT NEW SANITARY PIPING TO THE EXISTING SANITARY STACKS AND/OR UNDERGROUND SANITARY BUILDING SEWER. CONTRACTOR SHALL CLEAN AND INSPECT EXISTING UNDERGROUND BUILDING SEWER, SEWER LATERAL AND ALL PIPING INTENDED TO BE REUSED TO DETERMINED CONDITION FOR REUSE. PROVIDE INSPECTION REPORT AND RECOMMENDATION TO OWNER.
   b. CUT AND PATCH SLAB AS REQUIRED TO INSTALL NEW SANITARY PIPING.
   c. INTERIOR SANITARY, WASTE, AND VENT PIPING:
   i. SANITARY, WASTE, AND VENT PIPING WITHIN BUILDING TO BE SCHEDULE 40 PVC PIPING AND FITTINGS CONFORMING TO ASTM D 2665, SOLID-WALL DRAIN PIPING WITH PVC SOCKET SOLVENT WELD FITTINGS CONFORMING TO ASTM D2665, MADE TO ASTM D3311, DRAIN, WASTE, AND VENT PATTERNS.
9. TRAP SEAL PROTECTION
   a. TRAP SEALS SUBJECT TO EVAPORATION SHALL BE PROTECTED BY ONE OF THE METHODS BELOW, AS APPROVED BY THE LOCAL PLUMBING AUTHORITY HAVING JURISDICTION:
   b. POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE - A POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE MUST SUPPLY WATER TO THE TRAP. WATER-SUPPLIED TRAP SEAL PRIMERS MUST CONFORM TO ASSE 1018. THE DISCHARGE PIPE FROM THE TRAP SEAL PRIMER MUST CONNECT TO THE TRAP ABOVE THE TRAP SEAL ON THE INLET SIDE OF THE TRAP.
   c. BARRIER-TYPE TRAP SEAL PROTECTION DEVICE - A BARRIER-TYPE TRAP SEAL PROTECTION DEVICE MUST PROTECT THE TRAP SEAL FROM EVAPORATION. BARRIER-TYPE TRAP SEAL PROTECTION DEVICES MUST CONFORM TO ASSE 1072. THE DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
10. CLEANOUTS
   a. PROVIDE FLOOR AND WALL CLEANOUTS WHERE REQUIRED IN ALL SOIL, WASTE, DRAIN AND STORM PIPING. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.
11. VALVES - GENERAL
   a. PLUMBING CONTRACTOR MUST PROVIDE VALVES AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH ISOLATED FIXTURE OR GROUP OF FIXTURES, AND EACH CONNECTION TO EQUIPMENT.
   b. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.
12. VALVES FOR DOMESTIC WATER
   a. VALVES FOR DOMESTIC WATER MUST MEET THE REQUIREMENTS OF THE LEAD-FREE LAW S.3874. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LEAD-FREE PRODUCTS AS MANDATED BY THE LAW AND AS REQUIRED/INTERPRETED BY THE AUTHORITY HAVING JURISDICTION.
   b. PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER.
   c. GENERAL DUTY SHUT-OFF BALL VALVES
   i. PROVIDE TWO-PIECE, FULL PORT, SILICON BRONZE BALL VALVES WITH THE CAPABILITY OF ACCEPTING EXTENDED OPERATING HANDLES (FOR INSULATED PIPING). VALVES SHALL BE NIBCO MODEL T/S/PC-595-Y-66-LF (-NS) OR EQUAL PRODUCT MANUFACTURED BY AMERICAN VALVE CO, CRANE, HAMMOND, MILWAUKEE, RED-WHITE VALVE CORPORATION, OR WATTS.
   d. THERMOSTATIC MIXING VALVES
   i. TEMPERED WATER SHALL BE DELIVERED FROM PUBLIC HAND-WASHING FACILITIES (LAVATORIES AND SINKS) THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070. SET OUTLET TEMPERATURE OF THERMOSTATIC MIXING VALVE TO 110 DEGREES F. POINT-OF-USE THERMOSTATIC MIXING VALVES SHALL BE EQUAL TO WATTS SERIES USG-B. ROUTE TEMPERED WATER TO HOT WATER SIDE OF SINK/LAVATORY. ACCEPTABLE MANUFACTURERS INCLUDE SYMMONS, LAWLER, LEONARD, POWERS, BRADLEY, AND WATTS.
13. HANGERS & SUPPORTS
   a. THE PLUMBING CONTRACTOR MUST FURNISH ALL PIPE SUPPORTS REQUIRED FOR THEIR WORK. ALL PIPING SHALL BE SUPPORTED PER CODE. ADDITIONAL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SAGGING. WHERE ALTERNATIVE PIPING MATERIALS ARE USED, HANGER SPACING CAN BE REDUCED AS RECOMMENDED BY THE MANUFACTURER AND WHERE ALLOWED BY CODE.
14. INSULATION
   a. PROVIDE THERMAL INSULATION ON ALL DOMESTIC HOT WATER PIPING WITH SELF-SEALING CLOSED CELL ELASTOMERIC FOAM. PROVIDE A CONTINUOUS VAPOR TIGHT SEAL. INSULATION SHALL BE CONTINUOUS THRU ALL WALLS AND FLOORS. NFPA FIRE HAZARD RATING FOR INSULATION, ADHESIVES, SEALERS, AND COATINGS MUST NOT EXCEED 25 FOR FLAME SPREAD AND 50 FOR SMOKE DEVELOPED, UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY OR ENERGY CODES. THE MINIMUM INSULATION LEVELS SHALL BE AS FOLLOWS:
   i. PROVIDE 1" THICK ELASTOMERIC INSULATION ON HOT WATER PIPING.
   b. PROVIDE INSULATION ON ALL PEX PIPING WHEN USED IN PLENUMS AND WHERE REQUIRED TO MAINTAIN THE REQUIRED FLAME AND SMOKE RATINGS. MOST PEX PIPING ¾" AND SMALLER SHALL BE INSULATED TO MAINTAIN ITS PLENUM RATED PROPERTY IF 18" SEPARATION BETWEEN THE PIPING CANNOT BE PROVIDED.
15. INSULATION FOR HANDICAP ACCESSIBLE FIXTURES (WHERE NOT PROTECTED WITH A SHROUD)
   a. ALL HANDICAP LAVATORY P-TRAP AND ANGLE STOP ASSEMBLIES SHALL BE INSULATED WITH TRAP WRAP PROTECTIVE KIT MANUFACTURED BY PROFLO MODEL PF200 SERIES OR EQUAL. PROVIDE OFFSET TRAPS FOR HANDICAP ACCESSIBLE FIXTURES WHERE REQUIRED. ABRASION RESISTANT, ANTI-MICROBIAL VINYL EXTERIOR COVER SHALL BE SMOOTH. FOR TRAPS, THE INSULATION MUST HAVE A CLEANOUT NUT CAP TO ALLOW SERVICE TO THE TRAP WITHOUT DISASSEMBLY. FOR STOPS, THE INSULATION MUST HAVE A LOCK LID THAT PREVENTS TAMPERING BUT ALLOWS ACCESS WITHOUT REMOVAL OF THE INSULATION. FASTENERS MUST REMAIN SUBSTANTIALLY OUT OF SIGHT. ACCEPTABLE MANUFACTURERS INCLUDE PROFLO, TRUEBRO, PLUMBEREX, AND DEARBORN.
16. CONCRETE HOUSEKEEPING PADS
   a. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED LEVEL AND PLUMB ON 4" THICK CONCRETE HOUSEKEEPING PAD.
17. ESCUTCHEON PLATES
   a. INSTALL ONE-PIECE CHROME PLATED BRASS WALL PLATE EQUIPPED WITH SET SCREW AROUND ALL EXPOSED PIPE PASSING THROUGH WALLS IN FINISHED AREAS.
18. ACCESS PANELS
   a. LOCATE VALVES IN READILY ACCESSIBLE LOCATIONS. WHERE VALVES SHALL BE INSTALLED ABOVE NON-ACCESSIBLE CEILINGS, PROVIDE ACCESS PANELS. ACCESS PANELS SHALL BE PAINTABLE METAL. COORDINATE ACCESS PANEL SIZES AND LOCATIONS WITH THE ARCHITECT.
19. FIRE STOPPING
   a. PROVIDE FIRE STOPPING AT ALL PENETRATIONS THROUGH RATED SEPARATIONS PER LOCAL CODES & REGULATIONS & PER UL RECOMMENDATIONS FOR ASSEMBLIES ENCOUNTERED IN PROJECT.
   b. THE FIRE STOPPING MATERIAL MUST MEET THE INTEGRITY OF THE FIRE RATED WALL, FLOOR, CEILING & ROOF BEING PENETRATED. REFER TO ARCHITECT'S DRAWINGS FOR WALL, FLOOR, CEILING & ROOF FIRE RATINGS PRIOR TO BIDDING WORK.
20. FLASHING & COUNTERFLASHING
   a. PROVIDE ROOF FLASHING AND COUNTERFLASHING FOR ALL ROOF PENETRATIONS.
   b. OBTAIN APPROVAL FROM GENERAL CONTRACTOR, CONSTRUCTION MANAGER, OWNER AND/OR ROOFING CONTRACTOR PRIOR TO MAKING ANY PENETRATIONS SO THAT WARRANTIES ARE NOT COMPROMISED OR VOIDED.
21. CATHODIC PROTECTION
   a. PROVIDE DIELECTRIC INSULATION AT POINTS WHERE COPPER OR BRASS PIPE COMES IN CONTACT WITH FERROUS PIPING, REINFORCING STEEL OR OTHER DISSIMILAR METAL IN STRUCTURE.
22. EXCAVATION, TRENCHING & BACKFILL
   a. DO ALL EXCAVATION, TRENCHING & BACKFILL REQUIRED FOR THE INSTALLATION OF PLUMBING WORK.
   b. ALL BACKFILL SHALL BE COMPACTED & BROUGHT TO FINISHED GRADE AND MUST MATCH SURROUNDING CONDITIONS.
   c. RESTORE ALL DISTURBED FLOORING TO ORIGINAL CONDITION.
   d. ALL PIPING SHALL BE LAID ON A BED OF SAND, 6" THICK MINIMUM. BACKFILL UNDER BUILDING AND ALL DRIVES, ROADS AND WALKS WITH BANK-RUN GRAVEL.
23. CUTTING AND PATCHING
   a. CUT AND PATCH WALLS AND FLOORS TO MATCH BUILDING CONSTRUCTION WHERE REQUIRED TO INSTALL ALL PLUMBING.
24. CONNECTIONS
   a. INSTALL UNIONS AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.
25. INSTALLATION
   a. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, CONCRETE FLOOR, AND ROOF SLABS. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.
26. TESTING
   a. ALL PLUMBING WORK SHALL BE TESTED & APPROVED BY INSPECTOR PRIOR TO BEING BACKFILLED, CONCEALED & PUT INTO SERVICE. AFTER TESTING IS COMPLETE & APPROVED, THE PLUMBING CONTRACTOR MUST DISINFECT THE POTABLE WATER SYSTEM AS REQUIRED BY LOCAL AUTHORITY. TEST WATER PURITY ACCORDING TO LOCAL REQUIREMENTS AND SUBMIT CERTIFIED TEST RESULTS TO OWNER FOR REVIEW AND APPROVAL.
27. SHOP DRAWINGS
   a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE PLUMBING CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
   c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE PLUMBING CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
28. OWNER'S INSTRUCTIONS
   a. PROVIDE TWO SETS OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS WITH DRAWINGS, TYPEWRITTEN INSTRUCTIONS AND OPERATING SEQUENCES AND DESCRIPTIVE DATA SHEETS. ASSEMBLE EACH SET IN A HARD-BOUND COVER.
29. WARRANTY
   a. THE PLUMBING CONTRACTOR MUST UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN EQUIPMENT, MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER AND THE PLUMBING CONTRACTOR WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE TO THE OWNER.
   b. RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE EQUIPMENT, MATERIALS AND WORKMANSHIP.

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD ●	FLOOR DRAIN
——⋈——	BALL VALVE
CO ○	CLEANOUT

PLUMBING EQUIPMENT AND FIXTURE SCHEDULE

SK1 - SINK, EQUAL TO KOHLER MODEL MIDDLETON 14707, 33" X 22" X 7" DEEP, 20 GAUGE DOUBLE BOWL STAINLESS STEEL SINK WITH KOHLER MODEL SIMPLICE K-596 SINGLE HANDLE KITCHEN FAUCET 1.5 GPM W/ SPRAYHEAD, HIGH-ARCH SPOUT, LEAD LAW COMPLIANT, WATER SENSE LABELED, HOT & COLD STOP & SUPPLY.

WB1 - WASHER BOX, EQUAL TO OATEY CENTRO, IN WALL WASHER SUPPLY / DRAIN BOX FOR CLOTHES WASHER.

WC1 - WATER CLOSET, EQUAL TO AMERICAN STANDARD MODEL 238AA.114 VORMAX RH EL BOWL, 1.0 GALLONS PER FLUSH 12 TANK CADET COMPLETE WHITE, AMERICAN STANDARD MODEL 5321.110.020 ELONGATED CLOSET SEAT WITH COVER WHITE, MCGUIRE MODEL LF2166CCF LF SUPPLY FLEX CLOSET CP 1/2NOMCO, PROFLO MODEL PFWR WAX RING, PROFLOW MODEL PF90104 PAIR OF CLOSET BOLTS, NUTS, & WASHERS. WATER SENSE LABELED.

LV1 - LAVATORY SINK, EQUAL TO KOHLER MODEL K-2196-4, MADE OF VITREOUS CHINA, SHALL MEET ADA REQUIREMENTS W/ POLISHED CHROME FAUCET, KOHLER MODEL K-98146-4, WATER SENSE LABELED, 1.2 GPM, 4" CENTERSET INSTALLATION, 0.5 GPM AERATOR. FLEXIBLE STAINLESS SUPPLY PIPES, ANGLE STOPS, "P" TRAP, POPUP DRAIN. PROVIDE INSULATION EQUAL TO TRUEBRO "LAV GUARD" TRAP & SUPPLY INSULATORS AND WALL HANGER. MEETS ADA GUIDELINES.

BT1 - BATHTUB, EQUAL TO 30" MINIMUM WIDTH; MADE OF FIBERGLASS, ACRYLIC, PORCELAIN, OR CULTURED MARBLE WITH DELTA MODEL RPW324 HDF HAND SHOWER WITH ADJUSTABLE VALVE; SHOWER HEAD SHALL BE RATED FOR 1.5 GPM.

EDWH1 - ELECTRIC WATER HEATER, EQUAL TO A.O. SMITH DEL-40D-3, 3 KW, 40 GALLON, 240 V, SINGLE PHASE, OR EQUAL WITH LIKE SIZE AND POWER REQUIREMENTS.

SH1 - SHOWER, EQUAL TO 5'-0" ROLL-IN WITH COLLAPSIBLE ADA COMPLIANT THRESHOLD. PROVIDE SHOWER VALVE AND HAND SHOWER WITH ADJUSTABLE VALVE, SHOWER HEAD SHALL BE RATED FOR 1.75 GPM WATER SENSE LABELED.

FD1 - FLOOR DRAIN, EQUAL TO SIOUX CHIEF MODEL 842-P WITH NICKEL BRONZE ADJUSTABLE STRAINER. PROVIDE TRAP PRIMERS WHERE REQUIRED BY CODE. REFER TO WASTE AND VENT ISOMETRIC FOR SIZES.

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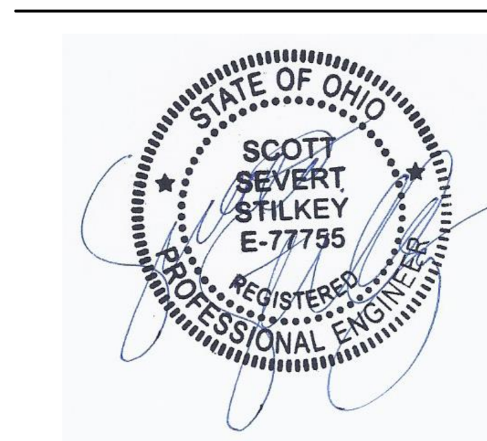

REVISIONS

Date	Description
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 3, 4, 5, & 14
PLUMBING DETAILS

P300

DIVISION 22 - PLUMBING

1. GENERAL PLUMBING REQUIREMENTS
   a. THE PLUMBING CONTRACTOR MUST REFER TO SITE PLANS, ARCHITECTURAL PLANS AND ELEVATIONS, AND PRICING INSTRUCTIONS FROM THE GENERAL CONTRACTOR TO DEVELOP THEIR PRICE. THE PLUMBING CONTRACTOR'S PRICE (INCLUDING TAXES) SHOULD INCLUDE ALL LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM.
   b. THE PLUMBING CONTRACTOR SHALL BE LICENSED BY THE STATE OF OHIO TO INSTALL PLUMBING SYSTEMS.
   c. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD.
   d. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE AND CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA AND RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   e. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, SPECIFICATIONS, AND DRAWINGS EXCEPT AS NOTED HEREIN WHICH APPLY IN ALL RESPECTS TO THIS SECTION.
   f. COORDINATE PIPING CHASES, SHAFTS, ABOVE CEILING WORK, ETC. WITH ARCHITECT. ALL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO WORK.
   g. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY PLUMBING PIPING PENETRATIONS. THIS INCLUDES CORING HOLES IN SLABS, ETC.
   h. EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF AGA, ARI, ASME, ASTM, CISPI, UL, NEMA, ANSI, SMACNA, ASHRAE, NFPA, NEC, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY. ALL EQUIPMENT MUST BEAR UL LABEL.
   i. INSTALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES.
   j. WHERE NOT PROVIDED BY OTHERS, PROCURE AND PAY FOR ALL PERMITS, FEES, TAXES AND INSPECTIONS NECESSARY TO COMPLETE THE PLUMBING WORK. FURNISH CERTIFICATE OF APPROVAL FOR WORK FROM INSPECTION AUTHORITY TO OWNER BEFORE FINAL ACCEPTANCE FOR WORK. CERTIFICATE OF FINAL INSPECTION AND APPROVAL SHALL BE SUBMITTED WITH THE CONTRACTOR'S REQUEST FOR PAYMENT. NO FINAL PAYMENT WILL BE APPROVED WITHOUT THIS CERTIFICATE.
   k. ALL WORK SHALL BE ACCURATELY LAID-OUT WITH OTHER TRADES, PRIOR TO INSTALLATION & FABRICATION, TO AVOID ALL CONFLICTS AND OBTAIN A NEAT AND WORKMANLIKE INSTALLATION WHICH WILL AFFORD MAXIMUM ACCESSIBILITY FOR EQUIPMENT OPERATION, MAINTENANCE CLEARANCES AND HEADROOM.
2. USE OF INFORMATION PROVIDED BY EBS
   a. THE INFORMATION PROVIDED IS INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS, SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM ARE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
3. CONTRACTOR COORDINATION
   a. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE PLUMBING CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
4. PLUMBING FIXTURES
   a. SHUT OFF VALVES/STOPS SHALL BE PROVIDED AT ALL LAVATORIES, SINKS AND WATER CLOSETS.
   b. ALL WALL-HUNG PLUMBING FIXTURES, INCLUDING, BUT NOT LIMITED TO WATER CLOSETS, URINALS, LAVATORIES, AND SINKS SHALL BE ANCHORED TO THE FLOOR WITH CONCEALED IN-WALL CARRIERS. WALL-HUNG FIXTURES SHALL NOT BE SIMPLY BOLTED TO THE WALL OR ANCHORED TO WOOD BLOCKING.
   c. COORDINATE COLOR OF FIXTURES WITH ARCHITECT. FIXTURES SHALL BE WHITE UNLESS OTHERWISE NOTED.
   d. PROVIDE ADA COMPLIANT FIXTURES WHERE INDICATED ON THE ARCHITECTURAL PLANS. PROVIDE OFFSET FIXTURE TAILPIECES AND TRAPS WHERE REQUIRED TO MEET ADA LEG CLEARANCES.
   e. FIXTURES SHALL BE SECURELY FASTENED TO PREVENT ANY MOVEMENT OF FIXTURE DURING NORMAL USE. SEAL TO WALL, FLOOR OR COUNTERTOP WITH SILICONIZED ACRYLIC-LATEX CAULK.
5. DRAIN PANS
   a. PROVIDE DRAIN PAN UNDER WATER HEATERS. PIPE WATER HEATER DRAIN AND PRESSURE RELIEF VALVE SEPARATELY AND INDIRECTLY TO FLOOR DRAIN (NOT TO DRAIN PAN).
6. DOMESTIC WATER SYSTEMS
   a. NEW FIXTURES SHALL BE CONNECTED TO THE EXISTING WATER SERVICE/MAIN.
   b. INTERIOR DOMESTIC WATER PIPING:
   i. WHERE ALLOWED BY CODE, CPVC PIPING CAN BE USED.
   a. CPVC PIPING 2" AND SMALLER SHALL BE EQUAL TO FLOW GUARD GOLD - THIS SPECIFICATION COVERS COPPER TUBE SIZE (CTS) CPVC MANUFACTURED TO STANDARD DIMENSIONAL RATIO (SDR) 11 FOR HOT AND COLD DOMESTIC WATER DISTRIBUTION. THIS SYSTEM IS INTENDED FOR PRESSURE APPLICATIONS WHERE THE OPERATING TEMPERATURE WILL NOT EXCEED 180°F AT 100 PSI. PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN RIGID CPVC (CHLORINATED POLYVINYL CHLORIDE) VINYL COMPOUNDS WITH A CELL CLASS OF 24448 AS IDENTIFIED IN ASTM D 1784. CTS CPVC PIPE AND FITTINGS SHALL CONFORM TO ASTM D 2846. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER. ALL PIPE AND FITTINGS SHALL BE MANUFACTURED IN THE UNITED STATES. PIPE AND FITTINGS SHALL CONFORM TO NATIONAL SANITATION FOUNDATION (NSF) STANDARDS 14 AND 61. INSTALLATION SHALL COMPLY WITH LATEST INSTALLATION PROVIDED BY THE MANUFACTURER AND SHALL CONFORM TO ALL LOCAL PLUMBING, BUILDING AND FIRE CODE REQUIREMENTS. BURIED PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM F 1668. SOLVENT WELD JOINTS SHALL BE MADE USING CPVC CEMENT CONFORMING TO ASTM F 493. YELLOW ONE-STEP CEMENT MAY BE USED WITHOUT PRIMER. IF A PRIMER IS REQUIRED BY LOCAL PLUMBING OR BUILDING CODES, THEN A PRIMER CONFORMING TO ASTM F 656 SHOULD BE USED. THE SYSTEM SHALL BE PROTECTED FROM CHEMICAL AGENTS, FIRE STOPPING MATERIALS, THREAD SEALANT, PLASTICIZED VINYL PRODUCTS OR OTHER AGGRESSIVE CHEMICAL AGENTS NOT COMPATIBLE WITH CPVC COMPOUNDS. SYSTEMS SHALL BE HYDROSTATICALLY TESTED AFTER INSTALLATION. NEVER TEST WITH OR TRANSPORT/STORE COMPRESSED AIR OR GAS IN CPVC PIPE OR FITTINGS.
   ii. WHERE ALLOWED BY CODE, PEX TUBE AND FITTINGS CAN BE USED. TUBING SHALL BE PEX-A TYPE AND FITTINGS SHALL BE EQUAL TO UPONOR AQUAPEX. TUBING AND FITTINGS MUST CONFORM TO ASTM F876 "STANDARD SPECIFICATION FOR CROSSLINKED POLYETHYLENE, ASTM F877 "STANDARD FOR CROSSLINKED POLYETHYLENE PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS". PROVIDE ENGINEERED PLASTIC FITTINGS WITH PLASTIC COLLARS WHICH CONFORM TO ASTM F1960 STANDARD SPECIFICATION FOR COLD EXPANSION FITTINGS WITH PEX REINFORCING RINGS FOR USE WITH CROSSLINKED POLYETHYLENE-PIPING. PEX TUBING AND CONNECTIONS SHALL BE WARRANTED FOR A PERIOD OF 25 YEARS. DO NOT WELD, GLUE, TAPE OR ALLOW OTHER SOLVENT BASED ADHESIVES OR PAINTS TO COME INTO CONTACT WITH TUBING. DO NOT ALLOW TUBING TO COME IN CONTACT WITH PIPE THREAD COMPOUNDS, FIREWALL PENETRATION SEALING COMPOUNDS, AND PETROLEUM BASED SEALANTS. DO NOT ALLOW TUBING TO COME WITHIN 6" OF GAS APPLIANCE VENTS OR 12" OF RECESSED LIGHT FIXTURES. DO NOT EXPOSE TUBING TO OPEN FLAME. DO NOT SOLDER WITHIN 18" OF TUBING. DO NOT INSTALL TUBING BETWEEN TUB SPOUT AND SHOWER VALVE. RADIUS OF BENDS MUST NOT EXCEED SIX TIMES OUTSIDE TUBE DIAMETER. REPAIR KINKS IN TUBING USING HEAT AS RECOMMENDED BY MANUFACTURER. TUBING SHALL BE INSTALLED IN MAXIMUM PRACTICAL LENGTHS, AS DIRECTLY AS POSSIBLE TO REMOTE MANIFOLD WITH MINIMUM FITTINGS. TUBING SHALL BE SUPPORTED IN A MATTER THAT DOES NOT DAMAGE TUBING AND ALLOWS FOR THERMAL EXPANSION. SUPPORTS SHALL BE SPACED AT 32" MINIMUM HORIZONTALLY AND 60" VERTICALLY AND WITHIN 6" OF FITTINGS OR BENDS. USE BEND SUPPORTS AT 90 DEGREE BENDS. PROTECT INSTALLED TUBING FROM DAMAGE. INSTALL METAL PLATES WHERE TUBING PENETRATES STUDS AT FACE OF STUDS. REMOTE MANIFOLD TYPE FITTINGS SHALL BE UTILIZED AT BRANCHES IN ROOMS WHERE TUBING IS TERMINATED (MODIFIED HOME-RUN INSTALLATION TYPE). UTILIZE EXPANDER TOOLS RECOMMENDED BY MANUFACTURER FOR CONNECTION OF TUBING TO FITTINGS. DO NOT OVER EXPAND TUBING. PIPE SHALL BE SUPPORTED AT FITTINGS AND FIXTURES AS RECOMMENDED BY MANUFACTURER. PIPING SHALL BE INSTALLED WITH MINIMUM AMOUNT OF FITTINGS. USE MANUFACTURER APPROVED VALVES, FITTINGS, HOSE BIBS AND BOXES AT FIXTURES.
   c. CONTROL VALVES SHALL BE MANUFACTURED BY OR APPROVED BY PIPING MANUFACTURER.
   d. ADJUST ALL STOPS AND VALVES PROPERLY PRIOR TO PROJECT COMPLETION.
7. WATER HAMMER ARRESTORS/SHOCK ABSORBERS
   a. REMOVE SHOCK CONDITIONS FROM ALL PIPING. PROVIDE AND INSTALL WATER HAMMER ARRESTORS/SHOCK ABSORBERS ON ALL PIPING SERVING FLUSH VALVE FIXTURES, CLOTHES WASHER SUPPLY BOXES, COMMERCIAL WASHER SUPPLY LINES, AND OTHER EQUIPMENT WITH QUICK-CLOSING VALVES. WATER HAMMER ARRESTORS SHALL BE PROVIDED PER PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI-WH 201.
8. SANITARY AND VENT SYSTEMS
   a. CONNECT NEW SANITARY PIPING TO THE EXISTING SANITARY STACKS AND/OR UNDERGROUND SANITARY BUILDING SEWER. CONTRACTOR SHALL CLEAN AND INSPECT EXISTING UNDERGROUND BUILDING SEWER, SEWER LATERAL AND ALL PIPING INTENDED TO BE REUSED TO DETERMINED CONDITION FOR REUSE. PROVIDE INSPECTION REPORT AND RECOMMENDATION TO OWNER.
   b. CUT AND PATCH SLAB AS REQUIRED TO INSTALL NEW SANITARY PIPING.
   c. INTERIOR SANITARY, WASTE, AND VENT PIPING:
   i. SANITARY, WASTE, AND VENT PIPING WITHIN BUILDING TO BE SCHEDULE 40 PVC PIPING AND FITTINGS CONFORMING TO ASTM D 2665, SOLID-WALL DRAIN PIPING WITH PVC SOCKET SOLVENT WELD FITTINGS CONFORMING TO ASTM D2665, MADE TO ASTM D3311, DRAIN, WASTE, AND VENT PATTERNS.
9. TRAP SEAL PROTECTION
   a. TRAP SEALS SUBJECT TO EVAPORATION SHALL BE PROTECTED BY ONE OF THE METHODS BELOW, AS APPROVED BY THE LOCAL PLUMBING AUTHORITY HAVING JURISDICTION:
   b. POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE - A POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE MUST SUPPLY WATER TO THE TRAP. WATER-SUPPLIED TRAP SEAL PRIMERS MUST CONFORM TO ASSE 1018. THE DISCHARGE PIPE FROM THE TRAP SEAL PRIMER MUST CONNECT TO THE TRAP ABOVE THE TRAP SEAL ON THE INLET SIDE OF THE TRAP.
   c. BARRIER-TYPE TRAP SEAL PROTECTION DEVICE - A BARRIER-TYPE TRAP SEAL PROTECTION DEVICE MUST PROTECT THE TRAP SEAL FROM EVAPORATION. BARRIER-TYPE TRAP SEAL PROTECTION DEVICES MUST CONFORM TO ASSE 1072. THE DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
10. CLEANOUTS
   a. PROVIDE FLOOR AND WALL CLEANOUTS WHERE REQUIRED IN ALL SOIL, WASTE, DRAIN AND STORM PIPING. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.
11. VALVES - GENERAL
   a. PLUMBING CONTRACTOR MUST PROVIDE VALVES AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH ISOLATED FIXTURE OR GROUP OF FIXTURES, AND EACH CONNECTION TO EQUIPMENT.
   b. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.
12. VALVES FOR DOMESTIC WATER
   a. VALVES FOR DOMESTIC WATER MUST MEET THE REQUIREMENTS OF THE LEAD-FREE LAW S.3874. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LEAD-FREE PRODUCTS AS MANDATED BY THE LAW AND AS REQUIRED/INTERPRETED BY THE AUTHORITY HAVING JURISDICTION.
   b. PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER.
   c. GENERAL DUTY SHUT-OFF BALL VALVES
   i. PROVIDE TWO-PIECE, FULL PORT, SILICON BRONZE BALL VALVES WITH THE CAPABILITY OF ACCEPTING EXTENDED OPERATING HANDLES (FOR INSULATED PIPING). VALVES SHALL BE NIBCO MODEL T/S PC-595-Y-66-LF (-NS) OR EQUAL PRODUCT MANUFACTURED BY AMERICAN VALVE CO, CRANE, HAMMOND, MILWAUKEE, RED-WHITE VALVE CORPORATION, OR WATTS.
   d. THERMOSTATIC MIXING VALVES
   i. TEMPERED WATER SHALL BE DELIVERED FROM PUBLIC HAND-WASHING FACILITIES (LAVATORIES AND SINKS) THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070. SET OUTLET TEMPERATURE OF THERMOSTATIC MIXING VALVE TO 110 DEGREES F. POINT-OF-USE THERMOSTATIC MIXING VALVES SHALL BE EQUAL TO WATTS SERIES USG-B. ROUTE TEMPERED WATER TO HOT WATER SIDE OF SINK/LAVATORY. ACCEPTABLE MANUFACTURERS INCLUDE SYMMONS, LAWLER, LEONARD, POWERS, BRADLEY, AND WATTS.
13. HANGERS & SUPPORTS
   a. THE PLUMBING CONTRACTOR MUST FURNISH ALL PIPE SUPPORTS REQUIRED FOR THEIR WORK. ALL PIPING SHALL BE SUPPORTED PER CODE. ADDITIONAL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SAGGING. WHERE ALTERNATIVE PIPING MATERIALS ARE USED, HANGER SPACING CAN BE REDUCED AS RECOMMENDED BY THE MANUFACTURER AND WHERE ALLOWED BY CODE.
14. INSULATION
   a. PROVIDE THERMAL INSULATION ON ALL DOMESTIC HOT WATER PIPING WITH SELF-SEALING CLOSED CELL ELASTOMERIC FOAM. PROVIDE A CONTINUOUS VAPOR TIGHT SEAL. INSULATION SHALL BE CONTINUOUS THRU ALL WALLS AND FLOORS. NFPA FIRE HAZARD RATING FOR INSULATION, ADHESIVES, SEALERS, AND COATINGS MUST NOT EXCEED 25 FOR FLAME SPREAD AND 50 FOR SMOKE DEVELOPED, UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY OR ENERGY CODES. THE MINIMUM INSULATION LEVELS SHALL BE AS FOLLOWS:
   i. PROVIDE 1" THICK ELASTOMERIC INSULATION ON HOT WATER PIPING.
   b. PROVIDE INSULATION ON ALL PEX PIPING WHEN USED IN PLENUMS AND WHERE REQUIRED TO MAINTAIN THE REQUIRED FLAME AND SMOKE RATINGS. MOST PEX PIPING ¾" AND SMALLER SHALL BE INSULATED TO MAINTAIN ITS PLENUM RATED PROPERTY IF 18" SEPARATION BETWEEN THE PIPING CANNOT BE PROVIDED.
15. INSULATION FOR HANDICAP ACCESSIBLE FIXTURES (WHERE NOT PROTECTED WITH A SHROUD)
   a. ALL HANDICAP LAVATORY P-TRAP AND ANGLE STOP ASSEMBLIES SHALL BE INSULATED WITH TRAP WRAP PROTECTIVE KIT MANUFACTURED BY PROFLO MODEL PF200 SERIES OR EQUAL. PROVIDE OFFSET TRAPS FOR HANDICAP ACCESSIBLE FIXTURES WHERE REQUIRED. ABRASION RESISTANT, ANTI-MICROBIAL VINYL EXTERIOR COVER SHALL BE SMOOTH. FOR TRAPS, THE INSULATION MUST HAVE A CLEANOUT NUT CAP TO ALLOW SERVICE TO THE TRAP WITHOUT DISASSEMBLY. FOR STOPS, THE INSULATION MUST HAVE A LOCK LID THAT PREVENTS TAMPERING BUT ALLOWS ACCESS WITHOUT REMOVAL OF THE INSULATION. FASTENERS MUST REMAIN SUBSTANTIALLY OUT OF SIGHT. ACCEPTABLE MANUFACTURERS INCLUDE PROFLO, TRUEBRO, PLUMBEREX, AND DEARBORN.
16. CONCRETE HOUSEKEEPING PADS
   a. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED LEVEL AND PLUMB ON 4" THICK CONCRETE HOUSEKEEPING PAD.
17. ESCUTCHEON PLATES
   a. INSTALL ONE-PIECE CHROME PLATED BRASS WALL PLATE EQUIPPED WITH SET SCREW AROUND ALL EXPOSED PIPE PASSING THROUGH WALLS IN FINISHED AREAS.
18. ACCESS PANELS
   a. LOCATE VALVES IN READILY ACCESSIBLE LOCATIONS. WHERE VALVES SHALL BE INSTALLED ABOVE NON-ACCESSIBLE CEILINGS, PROVIDE ACCESS PANELS. ACCESS PANELS SHALL BE PAINTABLE METAL. COORDINATE ACCESS PANEL SIZES AND LOCATIONS WITH THE ARCHITECT.
19. FIRE STOPPING
   a. PROVIDE FIRE STOPPING AT ALL PENETRATIONS THROUGH RATED SEPARATIONS PER LOCAL CODES & REGULATIONS & PER UL RECOMMENDATIONS FOR ASSEMBLIES ENCOUNTERED IN PROJECT.
   b. THE FIRE STOPPING MATERIAL MUST MEET THE INTEGRITY OF THE FIRE RATED WALL, FLOOR, CEILING & ROOF BEING PENETRATED. REFER TO ARCHITECT'S DRAWINGS FOR WALL, FLOOR, CEILING & ROOF FIRE RATINGS PRIOR TO BIDDING WORK.
20. FLASHING & COUNTERFLASHING
   a. PROVIDE ROOF FLASHING AND COUNTERFLASHING FOR ALL ROOF PENETRATIONS.
   b. OBTAIN APPROVAL FROM GENERAL CONTRACTOR, CONSTRUCTION MANAGER, OWNER AND/OR ROOFING CONTRACTOR PRIOR TO MAKING ANY PENETRATIONS SO THAT WARRANTIES ARE NOT COMPROMISED OR VOIDED.
21. CATHODIC PROTECTION
   a. PROVIDE DIELECTRIC INSULATION AT POINTS WHERE COPPER OR BRASS PIPE COMES IN CONTACT WITH FERROUS PIPING, REINFORCING STEEL OR OTHER DISSIMILAR METAL IN STRUCTURE.
22. EXCAVATION, TRENCHING & BACKFILL
   a. DO ALL EXCAVATION, TRENCHING & BACKFILL REQUIRED FOR THE INSTALLATION OF PLUMBING WORK.
   b. ALL BACKFILL SHALL BE COMPACTED & BROUGHT TO FINISHED GRADE AND MUST MATCH SURROUNDING CONDITIONS.
   c. RESTORE ALL DISTURBED FLOORING TO ORIGINAL CONDITION.
   d. ALL PIPING SHALL BE LAID ON A BED OF SAND, 6" THICK MINIMUM. BACKFILL UNDER BUILDING AND ALL DRIVES, ROADS AND WALKS WITH BANK-RUN GRAVEL.
23. CUTTING AND PATCHING
   a. CUT AND PATCH WALLS AND FLOORS TO MATCH BUILDING CONSTRUCTION WHERE REQUIRED TO INSTALL ALL PLUMBING.
24. CONNECTIONS
   a. INSTALL UNIONS AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.
25. INSTALLATION
   a. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, CONCRETE FLOOR, AND ROOF SLABS. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.
26. TESTING
   a. ALL PLUMBING WORK SHALL BE TESTED & APPROVED BY INSPECTOR PRIOR TO BEING BACKFILLED, CONCEALED & PUT INTO SERVICE. AFTER TESTING IS COMPLETE & APPROVED, THE PLUMBING CONTRACTOR MUST DISINFECT THE POTABLE WATER SYSTEM AS REQUIRED BY LOCAL AUTHORITY. TEST WATER PURITY ACCORDING TO LOCAL REQUIREMENTS AND SUBMIT CERTIFIED TEST RESULTS TO OWNER FOR REVIEW AND APPROVAL.
27. SHOP DRAWINGS
   a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE PLUMBING CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
   c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE PLUMBING CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
28. OWNER'S INSTRUCTIONS
   a. PROVIDE TWO SETS OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS WITH DRAWINGS, TYPEWRITTEN INSTRUCTIONS AND OPERATING SEQUENCES AND DESCRIPTIVE DATA SHEETS. ASSEMBLE EACH SET IN A HARD-BOUND COVER.
29. WARRANTY
   a. THE PLUMBING CONTRACTOR MUST UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN EQUIPMENT, MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER AND THE PLUMBING CONTRACTOR WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE TO THE OWNER.
   b. RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE EQUIPMENT, MATERIALS AND WORKMANSHIP.

PLUMBING EQUIPMENT AND FIXTURE SCHEDULE

SK1 - SINK, EQUAL TO KOHLER MODEL MIDDLETON 14707, 33" X 22" X 7" DEEP, 20 GAUGE DOUBLE BOWL STAINLESS STEEL SINK WITH KOHLER MODEL SIMPLICE K-596 SINGLE HANDLE KITCHEN FAUCET 1.5 GPM W/ SPRAYHEAD, HIGH-ARCH SPOUT, LEAD LAW COMPLIANT, WATER SENSE LABELED, HOT & COLD STOP & SUPPLY.

WB1 - WASHER BOX, EQUAL TO OATEY CENTRO, IN WALL WASHER SUPPLY / DRAIN BOX FOR CLOTHES WASHER.

WC1 - WATER CLOSET, EQUAL TO AMERICAN STANDARD MODEL 238AA.114 VORMAX RH EL BOWL, 1.0 GALLONS PER FLUSH 12 TANK CADET COMPLETE WHITE, AMERICAN STANDARD MODEL 5321.110.020 ELONGATED CLOSET SEAT WITH COVER WHITE, MCGUIRE MODEL LF2166CCP LF SUPPLY FLEX CLOSET CP 1/2NOMCO, PROFLO MODEL PFWR WAX RING, PROFLOW MODEL PF90104 PAIR OF CLOSET BOLTS, NUTS, & WASHERS. WATER SENSE LABELED.

LV1 - LAVATORY SINK, EQUAL TO KOHLER MODEL K-2196-4, MADE OF VITREOUS CHINA, SHALL MEET ADA REQUIREMENTS W/ POLISHED CHROME FAUCET, KOHLER MODEL K-98146-4, WATER SENSE LABELED, 1.2 GPM, 4" CENTERSET INSTALLATION, 0.5 GPM AERATOR. FLEXIBLE STAINLESS SUPPLY PIPES, ANGLE STOPS, "P" TRAP, POPUP DRAIN. PROVIDE INSULATION EQUAL TO TRUEBRO "LAV GUARD" TRAP & SUPPLY INSULATORS AND WALL HANGER. MEETS ADA GUIDELINES.

BT1 - BATHTUB, EQUAL TO 30" MINIMUM WIDTH; MADE OF FIBERGLASS, ACRYLIC, PORCELAIN, OR CULTURED MARBLE WITH DELTA MODEL RPW324 HDF HAND SHOWER WITH ADJUSTABLE VALVE; SHOWER HEAD SHALL BE RATED FOR 1.5 GPM.

EDWH1 - ELECTRIC WATER HEATER, EQUAL TO A.O. SMITH DEL-40D-3, 3 KW, 40 GALLON, 240 V, SINGLE PHASE, OR EQUAL WITH LIKE SIZE AND POWER REQUIREMENTS.

SH1 - SHOWER, EQUAL TO 5'-0" ROLL-IN WITH COLLAPSIBLE ADA COMPLIANT THRESHOLD. PROVIDE SHOWER VALVE AND HAND SHOWER WITH ADJUSTABLE VALVE, SHOWER HEAD SHALL BE RATED FOR 1.75 GPM WATER SENSE LABELED.

FD1 - FLOOR DRAIN, EQUAL TO SIOUX CHIEF MODEL 842-P WITH NICKEL BRONZE ADJUSTABLE STRAINER. PROVIDE TRAP PRIMERS WHERE REQUIRED BY CODE. REFER TO WASTE AND VENT ISOMETRIC FOR SIZES.

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD ●	FLOOR DRAIN
—▶◀—	BALL VALVE
CO○	CLEANOUT

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REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 2
PLUMBING DETAILS

P301

DIVISION 22 - PLUMBING

1. GENERAL PLUMBING REQUIREMENTS
   a. THE PLUMBING CONTRACTOR MUST REFER TO SITE PLANS, ARCHITECTURAL PLANS AND ELEVATIONS, AND PRICING INSTRUCTIONS FROM THE GENERAL CONTRACTOR TO DEVELOP THEIR PRICE. THE PLUMBING CONTRACTOR'S PRICE (INCLUDING TAXES) SHOULD INCLUDE ALL LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM.
   b. THE PLUMBING CONTRACTOR SHALL BE LICENSED BY THE STATE OF OHIO TO INSTALL PLUMBING SYSTEMS.
   c. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD.
   d. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE AND CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA AND RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   e. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, SPECIFICATIONS, AND DRAWINGS EXCEPT AS NOTED HEREIN WHICH APPLY IN ALL RESPECTS TO THIS SECTION.
   f. COORDINATE PIPING CHASES, SHAFTS, ABOVE CEILING WORK, ETC. WITH ARCHITECT. ALL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO WORK.
   g. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY PLUMBING PIPING PENETRATIONS. THIS INCLUDES CORING HOLES IN SLABS, ETC.
   h. EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF AGA, ARI, ASME, ASTM, CISPI, UL, NEMA, ANSI, SMACNA, ASHRAE, NFPA, NEC, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY. ALL EQUIPMENT MUST BEAR UL LABEL.
   i. INSTALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES.
   j. WHERE NOT PROVIDED BY OTHERS, PROCURE AND PAY FOR ALL PERMITS, FEES, TAXES AND INSPECTIONS NECESSARY TO COMPLETE THE PLUMBING WORK. FURNISH CERTIFICATE OF APPROVAL FOR WORK FROM INSPECTION AUTHORITY TO OWNER BEFORE FINAL ACCEPTANCE FOR WORK. CERTIFICATE OF FINAL INSPECTION AND APPROVAL SHALL BE SUBMITTED WITH THE CONTRACTOR'S REQUEST FOR PAYMENT. NO FINAL PAYMENT WILL BE APPROVED WITHOUT THIS CERTIFICATE.
   k. ALL WORK SHALL BE ACCURATELY LAID-OUT WITH OTHER TRADES, PRIOR TO INSTALLATION & FABRICATION, TO AVOID ALL CONFLICTS AND OBTAIN A NEAT AND WORKMANLIKE INSTALLATION WHICH WILL AFFORD MAXIMUM ACCESSIBILITY FOR EQUIPMENT OPERATION, MAINTENANCE CLEARANCES AND HEADROOM.
2. USE OF INFORMATION PROVIDED BY EBS
   a. THE INFORMATION PROVIDED IS INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS, SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM ARE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
3. CONTRACTOR COORDINATION
   a. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE PLUMBING CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
4. PLUMBING FIXTURES
   a. SHUT OFF VALVES/STOPS SHALL BE PROVIDED AT ALL LAVATORIES, SINKS AND WATER CLOSETS.
   b. ALL WALL-HUNG PLUMBING FIXTURES, INCLUDING, BUT NOT LIMITED TO WATER CLOSETS, URINALS, LAVATORIES, AND SINKS SHALL BE ANCHORED TO THE FLOOR WITH CONCEALED IN-WALL CARRIERS. WALL-HUNG FIXTURES SHALL NOT BE SIMPLY BOLTED TO THE WALL OR ANCHORED TO WOOD BLOCKING.
   c. COORDINATE COLOR OF FIXTURES WITH ARCHITECT. FIXTURES SHALL BE WHITE UNLESS OTHERWISE NOTED.
   d. PROVIDE ADA COMPLIANT FIXTURES WHERE INDICATED ON THE ARCHITECTURAL PLANS. PROVIDE OFFSET FIXTURE TAILPIECES AND TRAPS WHERE REQUIRED TO MEET ADA LEG CLEARANCES.
   e. FIXTURES SHALL BE SECURELY FASTENED TO PREVENT ANY MOVEMENT OF FIXTURE DURING NORMAL USE. SEAL TO WALL, FLOOR OR COUNTERTOP WITH SILICONIZED ACRYLIC-LATEX CAULK.
5. DRAIN PANS
   a. PROVIDE DRAIN PAN UNDER WATER HEATERS. PIPE WATER HEATER DRAIN AND PRESSURE RELIEF VALVE SEPARATELY AND INDIRECTLY TO FLOOR DRAIN (NOT TO DRAIN PAN).
6. DOMESTIC WATER SYSTEMS
   a. NEW FIXTURES SHALL BE CONNECTED TO THE EXISTING WATER SERVICE/MAIN.
   b. INTERIOR DOMESTIC WATER PIPING:
   i. WHERE ALLOWED BY CODE, CPVC PIPING CAN BE USED.
   a. CPVC PIPING 2" AND SMALLER SHALL BE EQUAL TO FLOW GUARD GOLD - THIS SPECIFICATION COVERS COPPER TUBE SIZE (CTS) CPVC MANUFACTURED TO STANDARD DIMENSIONAL RATIO (SDR) 11 FOR HOT AND COLD DOMESTIC WATER DISTRIBUTION. THIS SYSTEM IS INTENDED FOR PRESSURE APPLICATIONS WHERE THE OPERATING TEMPERATURE WILL NOT EXCEED 180°F AT 100 PSI. PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN RIGID CPVC (CHLORINATED POLYVINYL CHLORIDE) VINYL COMPOUNDS WITH A CELL CLASS OF 24448 AS IDENTIFIED IN ASTM D 1784. CTS CPVC PIPE AND FITTINGS SHALL CONFORM TO ASTM D 2846. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER. ALL PIPE AND FITTINGS SHALL BE MANUFACTURED IN THE UNITED STATES. PIPE AND FITTINGS SHALL CONFORM TO NATIONAL SANITATION FOUNDATION (NSF) STANDARDS 14 AND 61. INSTALLATION SHALL COMPLY WITH LATEST INSTALLATION PROVIDED BY THE MANUFACTURER AND SHALL CONFORM TO ALL LOCAL PLUMBING, BUILDING AND FIRE CODE REQUIREMENTS. BURIED PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM F 1668. SOLVENT WELD JOINTS SHALL BE MADE USING CPVC CEMENT CONFORMING TO ASTM F 493. YELLOW ONE-STEP CEMENT MAY BE USED WITHOUT PRIMER. IF A PRIMER IS REQUIRED BY LOCAL PLUMBING OR BUILDING CODES, THEN A PRIMER CONFORMING TO ASTM F 656 SHOULD BE USED. THE SYSTEM SHALL BE PROTECTED FROM CHEMICAL AGENTS. FIRE STOPPING MATERIALS, THREAD SEALANT, PLASTICIZED VINYL PRODUCTS OR OTHER AGGRESSIVE CHEMICAL AGENTS NOT COMPATIBLE WITH CPVC COMPOUNDS. SYSTEMS SHALL BE HYDROSTATICALLY TESTED AFTER INSTALLATION. NEVER TEST WITH OR TRANSPORT/STORE COMPRESSED AIR OR GAS IN CPVC PIPE OR FITTINGS.
   ii. WHERE ALLOWED BY CODE, PEX TUBE AND FITTINGS CAN BE USED. TUBING SHALL BE PEX-A TYPE AND FITTINGS SHALL BE EQUAL TO UPONOR AQUAPEX. TUBING AND FITTINGS MUST CONFORM TO ASTM F876 "STANDARD SPECIFICATION FOR CROSSLINKED POLYETHYLENE, ASTM F877 "STANDARD FOR CROSSLINKED POLYETHYLENE PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS". PROVIDE ENGINEERED PLASTIC FITTINGS WITH PLASTIC COLLARS WHICH CONFORM TO ASTM F1960 STANDARD SPECIFICATION FOR COLD EXPANSION FITTINGS WITH PEX REINFORCING RINGS FOR USE WITH CROSSLINKED POLYETHYLENE PIPING. PEX TUBING AND CONNECTIONS SHALL BE WARRANTED FOR A PERIOD OF 25 YEARS. DO NOT WELD, GLUE, TAPE OR ALLOW OTHER SOLVENT BASED ADHESIVES OR PAINTS TO COME INTO CONTACT WITH TUBING. DO NOT ALLOW TUBING TO COME IN CONTACT WITH PIPE THREAD COMPOUNDS, FIREWALL PENETRATION SEALING COMPOUNDS, AND PETROLEUM BASED SEALANTS. DO NOT ALLOW TUBING TO COME WITHIN 6" OF GAS APPLIANCE VENTS OR 12" OF RECESSED LIGHT FIXTURES. DO NOT EXPOSE TUBING TO OPEN FLAME. DO NOT SOLDER WITHIN 18" OF TUBING. DO NOT INSTALL TUBING BETWEEN TUB SPOUT AND SHOWER VALVE. RADIUS OF BENDS MUST NOT EXCEED SIX TIMES OUTSIDE TUBE DIAMETER. REPAIR KINKS IN TUBING USING HEAT AS RECOMMENDED BY MANUFACTURER. TUBING SHALL BE INSTALLED IN MAXIMUM PRACTICAL LENGTHS, AS DIRECTLY AS POSSIBLE TO REMOTE MANIFOLD WITH MINIMUM FITTINGS. TUBING SHALL BE SUPPORTED IN A MATTER THAT DOES NOT DAMAGE TUBING AND ALLOWS FOR THERMAL EXPANSION. SUPPORTS SHALL BE SPACED AT 32" MINIMUM HORIZONTALLY AND 60" VERTICALLY AND WITHIN 6" OF FITTINGS OR BENDS. USE BEND SUPPORTS AT 90 DEGREE BENDS. PROTECT INSTALLED TUBING FROM DAMAGE. INSTALL METAL PLATES WHERE TUBING PENETRATES STUDS AT FACE OF STUDS. REMOTE MANIFOLD TYPE FITTINGS SHALL BE UTILIZED AT BRANCHES IN ROOMS WHERE TUBING IS TERMINATED (MODIFIED HOME-RUN INSTALLATION TYPE). UTILIZE EXPANDER TOOLS RECOMMENDED BY MANUFACTURER FOR CONNECTION OF TUBING TO FITTINGS. DO NOT OVER EXPAND TUBING. PIPE SHALL BE SUPPORTED AT FITTINGS AND FIXTURES AS RECOMMENDED BY MANUFACTURER. PIPING SHALL BE INSTALLED WITH MINIMUM AMOUNT OF FITTINGS. USE MANUFACTURER APPROVED VALVES, FITTINGS, HOSE BIBS AND BOXES AT FIXTURES.
   c. CONTROL VALVES SHALL BE MANUFACTURED BY OR APPROVED BY PIPING MANUFACTURER.
   d. ADJUST ALL STOPS AND VALVES PROPERLY PRIOR TO PROJECT COMPLETION.
7. WATER HAMMER ARRESTORS/SHOCK ABSORBERS
   a. REMOVE SHOCK CONDITIONS FROM ALL PIPING. PROVIDE AND INSTALL WATER HAMMER ARRESTORS/SHOCK ABSORBERS ON ALL PIPING SERVING FLUSH VALVE FIXTURES, CLOTHES WASHER SUPPLY BOXES, COMMERCIAL WASHER SUPPLY LINES, AND OTHER EQUIPMENT WITH QUICK-CLOSING VALVES. WATER HAMMER ARRESTORS SHALL BE PROVIDED PER PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI-WH 201.
8. SANITARY AND VENT SYSTEMS
   a. CONNECT NEW SANITARY PIPING TO THE EXISTING SANITARY STACKS AND/OR UNDERGROUND SANITARY BUILDING SEWER, CONTRACTOR SHALL CLEAN AND INSPECT EXISTING UNDERGROUND BUILDING SEWER, SEWER LATERAL AND ALL PIPING INTENDED TO BE REUSED TO DETERMINED CONDITION FOR REUSE. PROVIDE INSPECTION REPORT AND RECOMMENDATION TO OWNER.
   b. CUT AND PATCH SLAB AS REQUIRED TO INSTALL NEW SANITARY PIPING.
   c. INTERIOR SANITARY, WASTE, AND VENT PIPING:
   i. SANITARY, WASTE, AND VENT PIPING WITHIN BUILDING TO BE SCHEDULE 40 PVC PIPING AND FITTINGS CONFORMING TO ASTM D 2665, SOLID-WALL DRAIN PIPING WITH PVC SOCKET SOLVENT WELD FITTINGS CONFORMING TO ASTM D2665, MADE TO ASTM D3311, DRAIN, WASTE, AND VENT PATTERNS.
9. TRAP SEAL PROTECTION
   a. TRAP SEALS SUBJECT TO EVAPORATION SHALL BE PROTECTED BY ONE OF THE METHODS BELOW, AS APPROVED BY THE LOCAL PLUMBING AUTHORITY HAVING JURISDICTION:
   b. POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE - A POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE MUST SUPPLY WATER TO THE TRAP. WATER-SUPPLIED TRAP SEAL PRIMERS MUST CONFORM TO ASSE 1018. THE DISCHARGE PIPE FROM THE TRAP SEAL PRIMER MUST CONNECT TO THE TRAP ABOVE THE TRAP SEAL ON THE INLET SIDE OF THE TRAP.
   c. BARRIER-TYPE TRAP SEAL PROTECTION DEVICE - A BARRIER-TYPE TRAP SEAL PROTECTION DEVICE MUST PROTECT THE TRAP SEAL FROM EVAPORATION. BARRIER-TYPE TRAP SEAL PROTECTION DEVICES MUST CONFORM TO ASSE 1072. THE DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
10. CLEANOUTS
   a. PROVIDE FLOOR AND WALL CLEANOUTS WHERE REQUIRED IN ALL SOIL, WASTE, DRAIN AND STORM PIPING. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.
11. VALVES - GENERAL
   a. PLUMBING CONTRACTOR MUST PROVIDE VALVES AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH ISOLATED FIXTURE OR GROUP OF FIXTURES, AND EACH CONNECTION TO EQUIPMENT.
   b. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.
12. VALVES FOR DOMESTIC WATER
   a. VALVES FOR DOMESTIC WATER MUST MEET THE REQUIREMENTS OF THE LEAD-FREE LAW S.3874. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LEAD-FREE PRODUCTS AS MANDATED BY THE LAW AND AS REQUIRED/INTERPRETED BY THE AUTHORITY HAVING JURISDICTION.
   b. PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER.
   c. GENERAL DUTY SHUT-OFF BALL VALVES
   i. PROVIDE TWO-PIECE, FULL PORT, SILICON BRONZE BALL VALVES WITH THE CAPABILITY OF ACCEPTING EXTENDED OPERATING HANDLES (FOR INSULATED PIPING). VALVES SHALL BE NIBCO MODEL T/S/PC-595-Y-66-LF (-NS) OR EQUAL PRODUCT MANUFACTURED BY AMERICAN VALVE CO, CRANE, HAMMOND, MILWAUKEE, RED-WHITE VALVE CORPORATION, OR WATTS.
   d. THERMOSTATIC MIXING VALVES
   i. TEMPERED WATER SHALL BE DELIVERED FROM PUBLIC HAND-WASHING FACILITIES (LAVATORIES AND SINKS) THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070. SET OUTLET TEMPERATURE OF THERMOSTATIC MIXING VALVE TO 110 DEGREES F. POINT-OF-USE THERMOSTATIC MIXING VALVES SHALL BE EQUAL TO WATTS SERIES LSG-B. ROUTE TEMPERED WATER TO HOT WATER SIDE OF SINK/LAVATORY. ACCEPTABLE MANUFACTURERS INCLUDE SYMMONS, LAWLER, LEONARD, POWERS, BRADLEY, AND WATTS.
13. HANGERS & SUPPORTS
   a. THE PLUMBING CONTRACTOR MUST FURNISH ALL PIPE SUPPORTS REQUIRED FOR THEIR WORK. ALL PIPING SHALL BE SUPPORTED PER CODE. ADDITIONAL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SAGGING. WHERE ALTERNATIVE PIPING MATERIALS ARE USED, HANGER SPACING CAN BE REDUCED AS RECOMMENDED BY THE MANUFACTURER AND WHERE ALLOWED BY CODE.
14. INSULATION
   a. PROVIDE THERMAL INSULATION ON ALL DOMESTIC HOT WATER PIPING WITH SELF-SEALING CLOSED CELL ELASTOMERIC FOAM. PROVIDE A CONTINUOUS VAPOR TIGHT SEAL. INSULATION SHALL BE CONTINUOUS THRU ALL WALLS AND FLOORS. NFPA FIRE HAZARD RATING FOR INSULATION, ADHESIVES, SEALERS, AND COATINGS MUST NOT EXCEED 25 FOR FLAME SPREAD AND 50 FOR SMOKE DEVELOPED, UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY OR ENERGY CODES. THE MINIMUM INSULATION LEVELS SHALL BE AS FOLLOWS:
   i. PROVIDE 1" THICK ELASTOMERIC INSULATION ON HOT WATER PIPING.
   b. PROVIDE INSULATION ON ALL PEX PIPING WHEN USED IN PLENUMS AND WHERE REQUIRED TO MAINTAIN THE REQUIRED FLAME AND SMOKE RATINGS. MOST PEX PIPING ½" AND SMALLER SHALL BE INSULATED TO MAINTAIN ITS PLENUM RATED PROPERTY IF 18" SEPARATION BETWEEN THE PIPING CANNOT BE PROVIDED.
15. INSULATION FOR HANDICAP ACCESSIBLE FIXTURES (WHERE NOT PROTECTED WITH A SHROUD)
   a. ALL HANDICAP LAVATORY P-TRAP AND ANGLE STOP ASSEMBLIES SHALL BE INSULATED WITH TRAP WRAP PROTECTIVE KIT MANUFACTURED BY PROFLO MODEL PF200 SERIES OR EQUAL. PROVIDE OFFSET TRAPS FOR HANDICAP ACCESSIBLE FIXTURES WHERE REQUIRED. ABRASION RESISTANT, ANTI-MICROBIAL VINYL EXTERIOR COVER SHALL BE SMOOTH. FOR TRAPS, THE INSULATION MUST HAVE A CLEANOUT NUT CAP TO ALLOW SERVICE TO THE TRAP WITHOUT DISASSEMBLY. FOR STOPS, THE INSULATION MUST HAVE A LOCK LID THAT PREVENTS TAMPERING BUT ALLOWS ACCESS WITHOUT REMOVAL OF THE INSULATION. FASTENERS MUST REMAIN SUBSTANTIALLY OUT OF SIGHT. ACCEPTABLE MANUFACTURERS INCLUDE PROFLO, TRUEBRO, PLUMBEREX, AND DEARBORN.
16. CONCRETE HOUSEKEEPING PADS
   a. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED LEVEL AND PLUMB ON 4" THICK CONCRETE HOUSEKEEPING PAD.
17. ESCUTCHEON PLATES
   a. INSTALL ONE-PIECE CHROME PLATED BRASS WALL PLATE EQUIPPED WITH SET SCREW AROUND ALL EXPOSED PIPE PASSING THROUGH WALLS IN FINISHED AREAS.
18. ACCESS PANELS
   a. LOCATE VALVES IN READILY ACCESSIBLE LOCATIONS. WHERE VALVES SHALL BE INSTALLED ABOVE NON-ACCESSIBLE CEILINGS, PROVIDE ACCESS PANELS. ACCESS PANELS SHALL BE PAINTABLE METAL. COORDINATE ACCESS PANEL SIZES AND LOCATIONS WITH THE ARCHITECT.
19. FIRE STOPPING
   a. PROVIDE FIRE STOPPING AT ALL PENETRATIONS THROUGH RATED SEPARATIONS PER LOCAL CODES & REGULATIONS & PER UL RECOMMENDATIONS FOR ASSEMBLIES ENCOUNTERED IN PROJECT.
   b. THE FIRE STOPPING MATERIAL MUST MEET THE INTEGRITY OF THE FIRE RATED WALL, FLOOR, CEILING & ROOF BEING PENETRATED. REFER TO ARCHITECT'S DRAWINGS FOR WALL, FLOOR, CEILING & ROOF FIRE RATINGS PRIOR TO BIDDING WORK.
20. FLASHING & COUNTERFLASHING
   a. PROVIDE ROOF FLASHING AND COUNTERFLASHING FOR ALL ROOF PENETRATIONS.
   b. OBTAIN APPROVAL FROM GENERAL CONTRACTOR, CONSTRUCTION MANAGER, OWNER AND/OR ROOFING CONTRACTOR PRIOR TO MAKING ANY PENETRATIONS SO THAT WARRANTIES ARE NOT COMPROMISED OR VOIDED.
21. CATHODIC PROTECTION
   a. PROVIDE DIELECTRIC INSULATION AT POINTS WHERE COPPER OR BRASS PIPE COMES IN CONTACT WITH FERROUS PIPING, REINFORCING STEEL OR OTHER DISSIMILAR METAL IN STRUCTURE.
22. EXCAVATION, TRENCHING & BACKFILL
   a. DO ALL EXCAVATION, TRENCHING & BACKFILL REQUIRED FOR THE INSTALLATION OF PLUMBING WORK.
   b. ALL BACKFILL SHALL BE COMPACTED & BROUGHT TO FINISHED GRADE AND MUST MATCH SURROUNDING CONDITIONS.
   c. RESTORE ALL DISTURBED FLOORING TO ORIGINAL CONDITION.
   d. ALL PIPING SHALL BE LAID ON A BED OF SAND, 6" THICK MINIMUM. BACKFILL UNDER BUILDING AND ALL DRIVES, ROADS AND WALKS WITH BANK-RUN GRAVEL.
23. CUTTING AND PATCHING
   a. CUT AND PATCH WALLS AND FLOORS TO MATCH BUILDING CONSTRUCTION WHERE REQUIRED TO INSTALL ALL PLUMBING.
24. CONNECTIONS
   a. INSTALL UNIONS AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.
25. INSTALLATION
   a. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, CONCRETE FLOOR, AND ROOF SLABS. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.
26. TESTING
   a. ALL PLUMBING WORK SHALL BE TESTED & APPROVED BY INSPECTOR PRIOR TO BEING BACKFILLED, CONCEALED & PUT INTO SERVICE. AFTER TESTING IS COMPLETE & APPROVED, THE PLUMBING CONTRACTOR MUST DISINFECT THE POTABLE WATER SYSTEM AS REQUIRED BY LOCAL AUTHORITY. TEST WATER PURITY ACCORDING TO LOCAL REQUIREMENTS AND SUBMIT CERTIFIED TEST RESULTS TO OWNER FOR REVIEW AND APPROVAL.
27. SHOP DRAWINGS
   a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE PLUMBING CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
   c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE PLUMBING CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
28. OWNER'S INSTRUCTIONS
   a. PROVIDE TWO SETS OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS WITH DRAWINGS, TYPEWRITTEN INSTRUCTIONS AND OPERATING SEQUENCES AND DESCRIPTIVE DATA SHEETS. ASSEMBLE EACH SET IN A HARD-BOUND COVER.
29. WARRANTY
   a. THE PLUMBING CONTRACTOR MUST UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN EQUIPMENT, MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER AND THE PLUMBING CONTRACTOR WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE TO THE OWNER.
   b. RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE EQUIPMENT, MATERIALS AND WORKMANSHIP.

PLUMBING EQUIPMENT AND FIXTURE SCHEDULE

SK1 - SINK, EQUAL TO KOHLER MODEL MIDDLETON 14707, 33" X 22" X 7" DEEP, 20 GAUGE DOUBLE BOWL STAINLESS STEEL SINK WITH KOHLER MODEL SIMPLICE K-596 SINGLE HANDLE KITCHEN FAUCET 1.5 GPM W/ SPRAYHEAD, HIGH-ARCH SPOUT, LEAD LAW COMPLIANT, WATER SENSE LABELED, HOT & COLD STOP & SUPPLY.

WB1 - WASHER BOX, EQUAL TO OATEY CENTRO, IN WALL WASHER SUPPLY / DRAIN BOX FOR CLOTHES WASHER.

WC1 - WATER CLOSET, EQUAL TO AMERICAN STANDARD MODEL 238AA.114 VORMAX RH EL BOWL, 1.0 GALLONS PER FLUSH 12 TANK CADET COMPLETE WHITE, AMERICAN STANDARD MODEL 5321.110.020 ELONGATED CLOSET SEAT WITH COVER WHITE, MCGUIRE MODEL LF2166CCF LF SUPPLY FLEX CLOSET CP 1/2NOMCO, PROFLO MODEL PFWR WAX RING, PROFLOW MODEL PF90104 PAIR OF CLOSET BOLTS, NUTS, & WASHERS. WATER SENSE LABELED.

LV1 - LAVATORY SINK, EQUAL TO KOHLER MODEL K-2196-4, MADE OF VITREOUS CHINA, SHALL MEET ADA REQUIREMENTS W/ POLISHED CHROME FAUCET, KOHLER MODEL K-98146-4, WATER SENSE LABELED, 1.2 GPM, 4" CENTERSET INSTALLATION, 0.5 GPM AERATOR, FLEXIBLE STAINLESS SUPPLY PIPES, ANGLE STOPS, "P" TRAP, POPUP DRAIN. PROVIDE INSULATION EQUAL TO TRUEBRO "LAV GUARD" TRAP & SUPPLY INSULATORS AND WALL HANGER. MEETS ADA GUIDELINES.

BT1 - BATHTUB, EQUAL TO 30" MINIMUM WIDTH; MADE OF FIBERGLASS, ACRYLIC, PORCELAIN, OR CULTURED MARBLE WITH DELTA MODEL RPW324 HDF HAND SHOWER WITH ADJUSTABLE VALVE; SHOWER HEAD SHALL BE RATED FOR 1.5 GPM.

EDWH1 - ELECTRIC WATER HEATER, EQUAL TO A.O. SMITH DEL-40D-3, 3 KW, 40 GALLON, 240 V, SINGLE PHASE, OR EQUAL WITH LIKE SIZE AND POWER REQUIREMENTS.

SH1 - SHOWER, EQUAL TO 5'-0" ROLL-IN WITH COLLAPSIBLE ADA COMPLIANT THRESHOLD. PROVIDE SHOWER VALVE AND HAND SHOWER WITH ADJUSTABLE VALVE, SHOWER HEAD SHALL BE RATED FOR 1.75 GPM WATER SENSE LABELED.

FD1 - FLOOR DRAIN, EQUAL TO SIOUX CHIEF MODEL 842-P WITH NICKEL BRONZE ADJUSTABLE STRAINER. PROVIDE TRAP PRIMERS WHERE REQUIRED BY CODE. REFER TO WASTE AND VENT ISOMETRIC FOR SIZES.

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
——— V ———	VENT PIPING
———CW———	COLD WATER PIPING
———HW———	HOT WATER PIPING
FD ●	FLOOR DRAIN
———⋈———	BALL VALVE
CO ○	CLEANOUT

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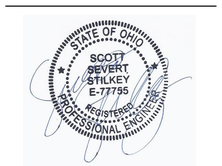

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 1 & 10
PLUMBING DETAILS

P302

1. GENERAL PLUMBING REQUIREMENTS
   a. THE PLUMBING CONTRACTOR MUST REFER TO SITE PLANS, ARCHITECTURAL PLANS AND ELEVATIONS, AND PRICING INSTRUCTIONS FROM THE GENERAL CONTRACTOR TO DEVELOP THEIR PRICE. THE PLUMBING CONTRACTOR'S PRICE (INCLUDING TAXES) SHOULD INCLUDE ALL LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM.
   b. THE PLUMBING CONTRACTOR SHALL BE LICENSED BY THE STATE OF OHIO TO INSTALL PLUMBING SYSTEMS.
   c. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD.
   d. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE AND CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA AND RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   e. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, SPECIFICATIONS, AND DRAWINGS EXCEPT AS NOTED HEREIN WHICH APPLY IN ALL RESPECTS TO THIS SECTION.
   f. COORDINATE PIPING CHASES, SHAFTS, ABOVE CEILING WORK, ETC. WITH ARCHITECT. ALL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO WORK.
   g. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY PLUMBING PIPING PENETRATIONS. THIS INCLUDES CORING HOLES IN SLABS, ETC.
   h. EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF AGA, ARI, ASME, ASTM, CISPI, UL, NEMA, ANSI, SMACNA, ASHRAE, NFPA, NEC, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY. ALL EQUIPMENT MUST BEAR UL LABEL.
   i. INSTALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES.
   j. WHERE NOT PROVIDED BY OTHERS, PROCURE AND PAY FOR ALL PERMITS, FEES, TAXES AND INSPECTIONS NECESSARY TO COMPLETE THE PLUMBING WORK. FURNISH CERTIFICATE OF APPROVAL FOR WORK FROM INSPECTION AUTHORITY TO OWNER BEFORE FINAL ACCEPTANCE FOR WORK. CERTIFICATE OF FINAL INSPECTION AND APPROVAL SHALL BE SUBMITTED WITH THE CONTRACTOR'S REQUEST FOR PAYMENT. NO FINAL PAYMENT WILL BE APPROVED WITHOUT THIS CERTIFICATE.
   k. ALL WORK SHALL BE ACCURATELY LAID-OUT WITH OTHER TRADES, PRIOR TO INSTALLATION & FABRICATION, TO AVOID ALL CONFLICTS AND OBTAIN A NEAT AND WORKMANLIKE INSTALLATION WHICH WILL AFFORD MAXIMUM ACCESSIBILITY FOR EQUIPMENT OPERATION, MAINTENANCE CLEARANCES AND HEADROOM.
2. USE OF INFORMATION PROVIDED BY EBS
   a. THE INFORMATION PROVIDED IS INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS, SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM ARE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
3. CONTRACTOR COORDINATION
   a. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE PLUMBING CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
4. PLUMBING FIXTURES
   a. SHUT OFF VALVES/STOPS SHALL BE PROVIDED AT ALL LAVATORIES, SINKS AND WATER CLOSETS.
   b. ALL WALL-HUNG PLUMBING FIXTURES, INCLUDING, BUT NOT LIMITED TO WATER CLOSETS, URINALS, LAVATORIES, AND SINKS SHALL BE ANCHORED TO THE FLOOR WITH CONCEALED IN-WALL CARRIERS. WALL-HUNG FIXTURES SHALL NOT BE SIMPLY BOLTED TO THE WALL OR ANCHORED TO WOOD BLOCKING.
   c. COORDINATE COLOR OF FIXTURES WITH ARCHITECT. FIXTURES SHALL BE WHITE UNLESS OTHERWISE NOTED.
   d. PROVIDE ADA COMPLIANT FIXTURES WHERE INDICATED ON THE ARCHITECTURAL PLANS. PROVIDE OFFSET FIXTURE TAILPIECES AND TRAPS WHERE REQUIRED TO MEET ADA LEG CLEARANCES.
   e. FIXTURES SHALL BE SECURELY FASTENED TO PREVENT ANY MOVEMENT OF FIXTURE DURING NORMAL USE. SEAL TO WALL, FLOOR OR COUNTERTOP WITH SILICONIZED ACRYLIC-LATEX CAULK.
5. DRAIN PANS
   a. PROVIDE DRAIN PAN UNDER WATER HEATERS. PIPE WATER HEATER DRAIN AND PRESSURE RELIEF VALVE SEPARATELY AND INDIRECTLY TO FLOOR DRAIN (NOT TO DRAIN PAN).
6. DOMESTIC WATER SYSTEMS
   a. NEW FIXTURES SHALL BE CONNECTED TO THE EXISTING WATER SERVICE/MAIN.
   b. INTERIOR DOMESTIC WATER PIPING:
      i. WHERE ALLOWED BY CODE, CPVC PIPING CAN BE USED.
      a. CPVC PIPING 2" AND SMALLER SHALL BE EQUAL TO FLOW GUARD GOLD - THIS SPECIFICATION COVERS COPPER TUBE SIZE (CTS) CPVC MANUFACTURED TO STANDARD DIMENSIONAL RATIO (SDR) 11 FOR HOT AND COLD DOMESTIC WATER DISTRIBUTION. THIS SYSTEM IS INTENDED FOR PRESSURE APPLICATIONS WHERE THE OPERATING TEMPERATURE WILL NOT EXCEED 180°F AT 100 PSI. PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN RIGID CPVC (CHLORINATED POLYVINYL CHLORIDE) VINYL COMPOUNDS WITH A CELL CLASS OF 24448 AS IDENTIFIED IN ASTM D 1784. CTS CPVC PIPE AND FITTINGS SHALL CONFORM TO ASTM D 2846. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER. ALL PIPE AND FITTINGS SHALL BE MANUFACTURED IN THE UNITED STATES. PIPE AND FITTINGS SHALL CONFORM TO NATIONAL SANITATION FOUNDATION (NSF) STANDARDS 14 AND 61. INSTALLATION SHALL COMPLY WITH LATEST INSTALLATION PROVIDED BY THE MANUFACTURER AND SHALL CONFORM TO ALL LOCAL PLUMBING, BUILDING AND FIRE CODE REQUIREMENTS. BURIED PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM F 1668. SOLVENT WELD JOINTS SHALL BE MADE USING CPVC CEMENT CONFORMING TO ASTM F 493. YELLOW ONE-STEP CEMENT MAY BE USED WITHOUT PRIMER. IF A PRIMER IS REQUIRED BY LOCAL PLUMBING OR BUILDING CODES, THEN A PRIMER CONFORMING TO ASTM F 656 SHOULD BE USED. THE SYSTEM SHALL BE PROTECTED FROM CHEMICAL AGENTS, FIRE STOPPING MATERIALS, THREAD SEALANT, PLASTICIZED VINYL PRODUCTS OR OTHER AGGRESSIVE CHEMICAL AGENTS NOT COMPATIBLE WITH CPVC COMPOUNDS. SYSTEMS SHALL BE HYDROSTATICALLY TESTED AFTER INSTALLATION. NEVER TEST WITH OR TRANSPORT/STORE COMPRESSED AIR OR GAS IN CPVC PIPE OR FITTINGS.
      ii. WHERE ALLOWED BY CODE, PEX TUBE AND FITTINGS CAN BE USED. TUBING SHALL BE PEX-A TYPE AND FITTINGS SHALL BE EQUAL TO UPONOR AQUAPEX. TUBING AND FITTINGS MUST CONFORM TO ASTM F876 "STANDARD SPECIFICATION FOR CROSSLINKED POLYETHYLENE, ASTM F877 "STANDARD FOR CROSSLINKED POLYETHYLENE PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS". PROVIDE ENGINEERED PLASTIC FITTINGS WITH PLASTIC COLLARS WHICH CONFORM TO ASTM F1960 STANDARD SPECIFICATION FOR COLD EXPANSION FITTINGS WITH PEX REINFORCING RINGS FOR USE WITH CROSSLINKED POLYETHYLENE PIPING. PEX TUBING AND CONNECTIONS SHALL BE WARRANTED FOR A PERIOD OF 25 YEARS. DO NOT WELD, GLUE, TAPE OR ALLOW OTHER SOLVENT BASED ADHESIVES OR PAINTS TO COME INTO CONTACT WITH TUBING. DO NOT ALLOW TUBING TO COME IN CONTACT WITH PIPE THREAD COMPOUNDS, FIREWALL PENETRATION SEALING COMPOUNDS, AND PETROLEUM BASED SEALANTS. DO NOT ALLOW TUBING TO COME WITHIN 6" OF GAS APPLIANCE VENTS OR 12" OF RECESSED LIGHT FIXTURES. DO NOT EXPOSE TUBING TO OPEN FLAME. DO NOT SOLDER WITHIN 18" OF TUBING. DO NOT INSTALL TUBING BETWEEN TUB SPOUT AND SHOWER VALVE. RADIUS OF BENDS MUST NOT EXCEED SIX TIMES OUTSIDE TUBE DIAMETER. REPAIR KINKS IN TUBING USING HEAT AS RECOMMENDED BY MANUFACTURER. TUBING SHALL BE INSTALLED IN MAXIMUM PRACTICAL LENGTHS, AS DIRECTLY AS POSSIBLE TO REMOTE MANIFOLD WITH MINIMUM FITTINGS. TUBING SHALL BE SUPPORTED IN A MATTER THAT DOES NOT DAMAGE TUBING AND ALLOWS FOR THERMAL EXPANSION. SUPPORTS SHALL BE SPACED AT 32" MINIMUM HORIZONTALLY AND 60" VERTICALLY AND WITHIN 6" OF FITTINGS OR BENDS. USE BEND SUPPORTS AT 90 DEGREE BENDS. PROTECT INSTALLED PENETRATES STUDS AT FACE OF STUDS. REMOTE MANIFOLD TYPE FITTINGS SHALL BE UTILIZED AT BRANCHES IN ROOMS WHERE TUBING IS TERMINATED (MODIFIED HOME-RUN INSTALLATION TYPE). UTILIZE EXPANDER TOOLS RECOMMENDED BY MANUFACTURER FOR CONNECTION OF TUBING TO FITTINGS. DO NOT OVER EXPAND TUBING. PIPE SHALL BE SUPPORTED AT FITTINGS AND FIXTURES AS RECOMMENDED BY MANUFACTURER. PIPING SHALL BE INSTALLED WITH MINIMUM AMOUNT OF FITTINGS. USE MANUFACTURER APPROVED VALVES, FITTINGS, HOSE BIBS AND BOXES AT FIXTURES.
   c. CONTROL VALVES SHALL BE MANUFACTURED BY OR APPROVED BY PIPING MANUFACTURER.
   d. ADJUST ALL STOPS AND VALVES PROPERLY PRIOR TO PROJECT COMPLETION.
7. WATER HAMMER ARRESTORS/SHOCK ABSORBERS
   a. REMOVE SHOCK CONDITIONS FROM ALL PIPING. PROVIDE AND INSTALL WATER HAMMER ARRESTORS/SHOCK ABSORBERS ON ALL PIPING SERVING FLUSH VALVE FIXTURES, CLOTHES WASHER SUPPLY BOXES, COMMERCIAL WASHER SUPPLY LINES, AND OTHER EQUIPMENT WITH QUICK-CLOSING VALVES. WATER HAMMER ARRESTORS SHALL BE PROVIDED PER PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI-WH 201.
8. SANITARY AND VENT SYSTEMS
   a. CONNECT NEW SANITARY PIPING TO THE EXISTING SANITARY STACKS AND/OR UNDERGROUND SANITARY BUILDING SEWER. CONTRACTOR SHALL CLEAN AND INSPECT EXISTING UNDERGROUND BUILDING SEWER, SEWER LATERAL AND ALL PIPING INTENDED TO BE REUSED TO DETERMINED CONDITION FOR REUSE. PROVIDE INSPECTION REPORT AND RECOMMENDATION TO OWNER.
   b. CUT AND PATCH SLAB AS REQUIRED TO INSTALL NEW SANITARY PIPING.
   c. INTERIOR SANITARY, WASTE, AND VENT PIPING:
   i. SANITARY, WASTE, AND VENT PIPING WITHIN BUILDING TO BE SCHEDULE 40 PVC PIPING AND FITTINGS CONFORMING TO ASTM D 2665, SOLID-WALL DRAIN PIPING WITH PVC SOCKET SOLVENT WELD FITTINGS CONFORMING TO ASTM D2665, MADE TO ASTM D3311, DRAIN, WASTE, AND VENT PATTERNS.
9. TRAP SEAL PROTECTION
   a. TRAP SEALS SUBJECT TO EVAPORATION SHALL BE PROTECTED BY ONE OF THE METHODS BELOW, AS APPROVED BY THE LOCAL PLUMBING AUTHORITY HAVING JURISDICTION:
   b. POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE - A POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE MUST SUPPLY WATER TO THE TRAP. WATER-SUPPLIED TRAP SEAL PRIMERS MUST CONFORM TO ASSE 1018. THE DISCHARGE PIPE FROM THE TRAP SEAL PRIMER MUST CONNECT TO THE TRAP ABOVE THE TRAP SEAL ON THE INLET SIDE OF THE TRAP.
   c. BARRIER-TYPE TRAP SEAL PROTECTION DEVICE - A BARRIER-TYPE TRAP SEAL PROTECTION DEVICE MUST PROTECT THE TRAP SEAL FROM EVAPORATION. BARRIER-TYPE TRAP SEAL PROTECTION DEVICES MUST CONFORM TO ASSE 1072. THE DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
10. CLEANOUTS
   a. PROVIDE FLOOR AND WALL CLEANOUTS WHERE REQUIRED IN ALL SOIL, WASTE, DRAIN AND STORM PIPING. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.
11. VALVES - GENERAL
   a. PLUMBING CONTRACTOR MUST PROVIDE VALVES AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH ISOLATED FIXTURE OR GROUP OF FIXTURES, AND EACH CONNECTION TO EQUIPMENT.
   b. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.
12. VALVES FOR DOMESTIC WATER
   a. VALVES FOR DOMESTIC WATER MUST MEET THE REQUIREMENTS OF THE LEAD-FREE LAW S.3874. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LEAD-FREE PRODUCTS AS MANDATED BY THE LAW AND AS REQUIRED/INTERPRETED BY THE AUTHORITY HAVING JURISDICTION.
   b. PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER.
   c. GENERAL DUTY SHUT-OFF BALL VALVES
   i. PROVIDE TWO-PIECE, FULL PORT, SILICON BRONZE BALL VALVES WITH THE CAPABILITY OF ACCEPTING EXTENDED OPERATING HANDLES (FOR INSULATED PIPING). VALVES SHALL BE NIBCO MODEL T/S/PC-595-Y-66-LF (-NS) OR EQUAL PRODUCT MANUFACTURED BY AMERICAN VALVE CO, CRANE, HAMMOND, MILWAUKEE, RED-WHITE VALVE CORPORATION, OR WATTS.
   d. THERMOSTATIC MIXING VALVES
   i. TEMPERED WATER SHALL BE DELIVERED FROM PUBLIC HAND-WASHING FACILITIES (LAVATORIES AND SINKS) THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070. SET OUTLET TEMPERATURE OF THERMOSTATIC MIXING VALVE TO 110 DEGREES F. POINT-OF-USE THERMOSTATIC MIXING VALVES SHALL BE EQUAL TO WATTS SERIES USG-B. ROUTE TEMPERED WATER TO HOT WATER SIDE OF SINK/LAVATORY. ACCEPTABLE MANUFACTURERS INCLUDE SYMMONS, LAWLER, LEONARD, POWERS, BRADLEY, AND WATTS.
13. HANGERS & SUPPORTS
   a. THE PLUMBING CONTRACTOR MUST FURNISH ALL PIPE SUPPORTS REQUIRED FOR THEIR WORK. ALL PIPING SHALL BE SUPPORTED PER CODE. ADDITIONAL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SAGGING. WHERE ALTERNATIVE PIPING MATERIALS ARE USED, HANGER SPACING CAN BE REDUCED AS RECOMMENDED BY THE MANUFACTURER AND WHERE ALLOWED BY CODE.
14. INSULATION
   a. PROVIDE THERMAL INSULATION ON ALL DOMESTIC HOT WATER PIPING WITH SELF-SEALING CLOSED CELL ELASTOMERIC FOAM. PROVIDE A CONTINUOUS VAPOR TIGHT SEAL. INSULATION SHALL BE CONTINUOUS THRU ALL WALLS AND FLOORS. NFPA FIRE HAZARD RATING FOR INSULATION, ADHESIVES, SEALERS, AND COATINGS MUST NOT EXCEED 25 FOR FLAME SPREAD AND 50 FOR SMOKE DEVELOPED, UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY OR ENERGY CODES. THE MINIMUM INSULATION LEVELS SHALL BE AS FOLLOWS:
   i. PROVIDE 1" THICK ELASTOMERIC INSULATION ON HOT WATER PIPING.
   b. PROVIDE INSULATION ON ALL PEX PIPING WHEN USED IN PLENUMS AND WHERE REQUIRED TO MAINTAIN THE REQUIRED FLAME AND SMOKE RATINGS. MOST PEX PIPING ½" AND SMALLER SHALL BE INSULATED TO MAINTAIN ITS PLENUM RATED PROPERTY IF 18" SEPARATION BETWEEN THE PIPING CANNOT BE PROVIDED.
15. INSULATION FOR HANDICAP ACCESSIBLE FIXTURES (WHERE NOT PROTECTED WITH A SHROUD)
   a. ALL HANDICAP LAVATORY P-TRAP AND ANGLE STOP ASSEMBLIES SHALL BE INSULATED WITH TRAP WRAP PROTECTIVE KIT MANUFACTURED BY PROFLO MODEL PF200 SERIES OR EQUAL. PROVIDE OFFSET TRAPS FOR HANDICAP ACCESSIBLE FIXTURES WHERE REQUIRED. ABRASION RESISTANT, ANTI-MICROBIAL VINYL EXTERIOR COVER SHALL BE SMOOTH. FOR TRAPS, THE INSULATION MUST HAVE A CLEANOUT NUT CAP TO ALLOW SERVICE TO THE TRAP WITHOUT DISASSEMBLY. FOR STOPS, THE INSULATION MUST HAVE A LOCK LID THAT PREVENTS TAMPERING BUT ALLOWS ACCESS WITHOUT REMOVAL OF THE INSULATION. FASTENERS MUST REMAIN SUBSTANTIALLY OUT OF SIGHT. ACCEPTABLE MANUFACTURERS INCLUDE PROFLO, TRUEBRO, PLUMBEREX, AND DEARBORN.
16. CONCRETE HOUSEKEEPING PADS
   a. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED LEVEL AND PLUMB ON 4" THICK CONCRETE HOUSEKEEPING PAD.
17. ESCUTCHEON PLATES
   a. INSTALL ONE-PIECE CHROME PLATED BRASS WALL PLATE EQUIPPED WITH SET SCREW AROUND ALL EXPOSED PIPE PASSING THROUGH WALLS IN FINISHED AREAS.
18. ACCESS PANELS
   a. LOCATE VALVES IN READILY ACCESSIBLE LOCATIONS. WHERE VALVES SHALL BE INSTALLED ABOVE NON-ACCESSIBLE CEILINGS, PROVIDE ACCESS PANELS. ACCESS PANELS SHALL BE PAINTABLE METAL. COORDINATE ACCESS PANEL SIZES AND LOCATIONS WITH THE ARCHITECT.
19. FIRE STOPPING
   a. PROVIDE FIRE STOPPING AT ALL PENETRATIONS THROUGH RATED RECOMMENDATIONS FOR ASSEMBLIES ENCOUNTERED IN PROJECT.
   b. THE FIRE STOPPING MATERIAL MUST MEET THE INTEGRITY OF THE FIRE RATED WALL, FLOOR, CEILING & ROOF BEING PENETRATED. REFER TO ARCHITECT'S DRAWINGS FOR WALL, FLOOR, CEILING & ROOF FIRE RATINGS PRIOR TO BIDDING WORK.
20. FLASHING & COUNTERFLASHING
   a. PROVIDE ROOF FLASHING AND COUNTERFLASHING FOR ALL ROOF PENETRATIONS.
   b. OBTAIN APPROVAL FROM GENERAL CONTRACTOR, CONSTRUCTION MANAGER, OWNER AND/OR ROOFING CONTRACTOR PRIOR TO MAKING ANY PENETRATIONS SO THAT WARRANTIES ARE NOT COMPROMISED OR VOIDED.
21. CATHODIC PROTECTION
   a. PROVIDE DIELECTRIC INSULATION AT POINTS WHERE COPPER OR BRASS PIPE COMES IN CONTACT WITH FERROUS PIPING, REINFORCING STEEL OR OTHER DISSIMILAR METAL IN STRUCTURE.
22. EXCAVATION, TRENCHING & BACKFILL
   a. DO ALL EXCAVATION, TRENCHING & BACKFILL REQUIRED FOR THE INSTALLATION OF PLUMBING WORK.
   b. ALL BACKFILL SHALL BE COMPACTED & BROUGHT TO FINISHED GRADE AND MUST MATCH SURROUNDING CONDITIONS.
   c. RESTORE ALL DISTURBED FLOORING TO ORIGINAL CONDITION.
   d. ALL PIPING SHALL BE LAID ON A BED OF SAND, 6" THICK MINIMUM. BACKFILL UNDER BUILDING AND ALL DRIVES, ROADS AND WALKS WITH BANK-RUN GRAVEL.
23. CUTTING AND PATCHING
   a. CUT AND PATCH WALLS AND FLOORS TO MATCH BUILDING CONSTRUCTION WHERE REQUIRED TO INSTALL ALL PLUMBING.
24. CONNECTIONS
   a. INSTALL UNIONS AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.
25. INSTALLATION
   a. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, CONCRETE FLOOR, AND ROOF SLABS. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.
26. TESTING
   a. ALL PLUMBING WORK SHALL BE TESTED & APPROVED BY INSPECTOR PRIOR TO BEING BACKFILLED, CONCEALED & PUT INTO SERVICE. AFTER TESTING IS COMPLETE & APPROVED, THE PLUMBING CONTRACTOR MUST DISINFECT THE POTABLE WATER SYSTEM AS REQUIRED BY LOCAL AUTHORITY. TEST WATER PURITY ACCORDING TO LOCAL REQUIREMENTS AND SUBMIT CERTIFIED TEST RESULTS TO OWNER FOR REVIEW AND APPROVAL.
27. SHOP DRAWINGS
   a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE PLUMBING CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
   c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE PLUMBING CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
28. OWNER'S INSTRUCTIONS
   a. PROVIDE TWO SETS OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS WITH DRAWINGS, TYPEWRITTEN INSTRUCTIONS AND OPERATING SEQUENCES AND DESCRIPTIVE DATA SHEETS. ASSEMBLE EACH SET IN A HARD-BOUND COVER.
29. WARRANTY
   a. THE PLUMBING CONTRACTOR MUST UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN EQUIPMENT, MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER AND THE PLUMBING CONTRACTOR WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE TO THE OWNER.
   b. RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE EQUIPMENT, MATERIALS AND WORKMANSHIP.

PLUMBING EQUIPMENT AND FIXTURE SCHEDULE

SK1 - SINK, EQUAL TO KOHLER MODEL MIDDLETON 14707, 33" X 22" X 7" DEEP, 20 GAUGE DOUBLE BOWL STAINLESS STEEL SINK WITH KOHLER MODEL SIMPLICE K-596 SINGLE HANDLE KITCHEN FAUCET 1.5 GPM W/ SPRAYHEAD, HIGH-ARCH SPOUT, LEAD LAW COMPLIANT, WATER SENSE LABELED, HOT & COLD STOP & SUPPLY.

WB1 - WASHER BOX, EQUAL TO OATEY CENTRO, IN WALL WASHER SUPPLY / DRAIN BOX FOR CLOTHES WASHER.

WC1 - WATER CLOSET, EQUAL TO AMERICAN STANDARD MODEL 238AA.114 VORMAX RH EL BOWL, 1.0 GALLONS PER FLUSH 12 TANK CADET COMPLETE WHITE, AMERICAN STANDARD MODEL 5321.110.020 ELONGATED CLOSET SEAT WITH COVER WHITE, MCGUIRE MODEL LF2168CCF LF SUPPLY FLEX CLOSET CONNECTOR, PROFLO MODEL PFWR WAX RING, PROFLOW MODEL PF90104 PAIR OF CLOSET BOLTS, NUTS, & WASHERS. WATER SENSE LABELED.

LV1 - LAVATORY SINK, EQUAL TO KOHLER MODEL K-2196-4, MADE OF VITREOUS CHINA, SHALL MEET ADA REQUIREMENTS W/ POLISHED CHROME FAUCET, KOHLER MODEL K-99146-4, WATER SENSE LABELED, 1.2 GPM, 4" CENTERSET INSTALLATION, 0.5 GPM AERATOR, FLEXIBLE STAINLESS SUPPLY PIPES, ANGLE STOPS, "P" TRAP, POPUP DRAIN. PROVIDE INSULATION EQUAL TO TRUEBRO "LAV GUARD" TRAP & SUPPLY INSULATORS AND WALL HANGER. MEETS ADA GUIDELINES.

BT1 - BATHTUB, EQUAL TO 30" MINIMUM WIDTH; MADE OF FIBERGLASS, ACRYLIC, PORCELAIN, OR CULTURED MARBLE WITH DELTA MODEL RPW324 HDF HAND SHOWER WITH ADJUSTABLE VALVE; SHOWER HEAD SHALL BE RATED FOR 1.5 GPM.

EDWH1 - ELECTRIC WATER HEATER, EQUAL TO A.O. SMITH DEL-40D-3, 3 KW, 40 GALLON, 240 V, SINGLE PHASE, OR EQUAL WITH LIKE SIZE AND POWER REQUIREMENTS.

SH1 - SHOWER, EQUAL TO 5'-0" ROLL-IN WITH COLLAPSIBLE ADA COMPLIANT THRESHOLD. PROVIDE SHOWER VALVE AND HAND SHOWER WITH ADJUSTABLE VALVE, SHOWER HEAD SHALL BE RATED FOR 1.75 GPM WATER SENSE LABELED.

FD1 - FLOOR DRAIN, EQUAL TO SIOUX CHIEF MODEL 842-P WITH NICKEL BRONZE ADJUSTABLE STRAINER. PROVIDE TRAP PRIMERS WHERE REQUIRED BY CODE. REFER TO WASTE AND VENT ISOMETRIC FOR SIZES.

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD●	FLOOR DRAIN
——⋈——	BALL VALVE
CO○	CLEANOUT

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REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 9 & 11
PLUMBING DETAILS

P303

DIVISION 22 - PLUMBING

1. GENERAL PLUMBING REQUIREMENTS
   a. THE PLUMBING CONTRACTOR MUST REFER TO SITE PLANS, ARCHITECTURAL PLANS AND ELEVATIONS, AND PRICING INSTRUCTIONS FROM THE GENERAL CONTRACTOR TO DEVELOP THEIR PRICE. THE PLUMBING CONTRACTOR'S PRICE (INCLUDING TAXES) SHOULD INCLUDE ALL LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM.
   b. THE PLUMBING CONTRACTOR SHALL BE LICENSED BY THE STATE OF OHIO TO INSTALL PLUMBING SYSTEMS.
   c. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD.
   d. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE AND CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA AND RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   e. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, SPECIFICATIONS, AND DRAWINGS EXCEPT AS NOTED HEREIN WHICH APPLY IN ALL RESPECTS TO THIS SECTION.
   f. COORDINATE PIPING CHASES, SHAFTS, ABOVE CEILING WORK, ETC. WITH ARCHITECT. ALL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO WORK.
   g. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY PLUMBING PIPING PENETRATIONS. THIS INCLUDES CORING HOLES IN SLABS, ETC.
   h. EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF AGA, ARI, ASME, ASTM, CISPI, UL, NEMA, ANSI, SMACNA, ASHRAE, NFPA, NEC, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY. ALL EQUIPMENT MUST BEAR UL LABEL.
   i. INSTALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES.
   j. WHERE NOT PROVIDED BY OTHERS, PROCURE AND PAY FOR ALL PERMITS, FEES, TAXES AND INSPECTIONS NECESSARY TO COMPLETE THE PLUMBING WORK. FURNISH CERTIFICATE OF APPROVAL FOR WORK FROM INSPECTION AUTHORITY TO OWNER BEFORE FINAL ACCEPTANCE FOR WORK. CERTIFICATE OF FINAL INSPECTION AND APPROVAL SHALL BE SUBMITTED WITH THE CONTRACTOR'S REQUEST FOR PAYMENT. NO FINAL PAYMENT WILL BE APPROVED WITHOUT THIS CERTIFICATE.
   k. ALL WORK SHALL BE ACCURATELY LAID-OUT WITH OTHER TRADES, PRIOR TO INSTALLATION & FABRICATION, TO AVOID ALL CONFLICTS AND OBTAIN A NEAT AND WORKMANLIKE INSTALLATION WHICH WILL AFFORD MAXIMUM ACCESSIBILITY FOR EQUIPMENT OPERATION, MAINTENANCE CLEARANCES AND HEADROOM.
2. USE OF INFORMATION PROVIDED BY EBS
   a. THE INFORMATION PROVIDED IS INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS, SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM ARE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
3. CONTRACTOR COORDINATION
   a. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE PLUMBING CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
4. PLUMBING FIXTURES
   a. SHUT OFF VALVES/STOPS SHALL BE PROVIDED AT ALL LAVATORIES, SINKS AND WATER CLOSETS.
   b. ALL WALL-HUNG PLUMBING FIXTURES, INCLUDING, BUT NOT LIMITED TO WATER CLOSETS, URINALS, LAVATORIES, AND SINKS SHALL BE ANCHORED TO THE FLOOR WITH CONCEALED IN-WALL CARRIERS. WALL-HUNG FIXTURES SHALL NOT BE SIMPLY BOLTED TO THE WALL OR ANCHORED TO WOOD BLOCKING.
   c. COORDINATE COLOR OF FIXTURES WITH ARCHITECT. FIXTURES SHALL BE WHITE UNLESS OTHERWISE NOTED.
   d. PROVIDE ADA COMPLIANT FIXTURES WHERE INDICATED ON THE ARCHITECTURAL PLANS. PROVIDE OFFSET FIXTURE TAILPIECES AND TRAPS WHERE REQUIRED TO MEET ADA LEG CLEARANCES.
   e. FIXTURES SHALL BE SECURELY FASTENED TO PREVENT ANY MOVEMENT OF FIXTURE DURING NORMAL USE. SEAL TO WALL, FLOOR OR COUNTERTOP WITH SILICONIZED ACRYLIC-LATEX CAULK.
5. DRAIN PANS
   a. PROVIDE DRAIN PAN UNDER WATER HEATERS. PIPE WATER HEATER DRAIN AND PRESSURE RELIEF VALVE SEPARATELY AND INDIRECTLY TO FLOOR DRAIN (NOT TO DRAIN PAN).
6. DOMESTIC WATER SYSTEMS
   a. NEW FIXTURES SHALL BE CONNECTED TO THE EXISTING WATER SERVICE/MAIN.
   b. INTERIOR DOMESTIC WATER PIPING:
   i. WHERE ALLOWED BY CODE, CPVC PIPING CAN BE USED.
   a. CPVC PIPING 2" AND SMALLER SHALL BE EQUAL TO FLOW GUARD GOLD - THIS SPECIFICATION COVERS COPPER TUBE SIZE (CTS) CPVC MANUFACTURED TO STANDARD DIMENSIONAL RATIO (SDR) 11 FOR HOT AND COLD DOMESTIC WATER DISTRIBUTION. THIS SYSTEM IS INTENDED FOR PRESSURE APPLICATIONS WHERE THE OPERATING TEMPERATURE WILL NOT EXCEED 180°F AT 100 PSI. PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN RIGID CPVC (CHLORINATED POLYVINYL CHLORIDE) VINYL COMPOUNDS WITH A CELL CLASS OF 24448 AS IDENTIFIED IN ASTM D 1784. CTS CPVC PIPE AND FITTINGS SHALL CONFORM TO ASTM D 2846. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER. ALL PIPE AND FITTINGS SHALL BE MANUFACTURED IN THE UNITED STATES. PIPE AND FITTINGS SHALL CONFORM TO NATIONAL SANITATION FOUNDATION (NSF) STANDARDS 14 AND 61. INSTALLATION SHALL COMPLY WITH LATEST INSTALLATION PROVIDED BY THE MANUFACTURER AND SHALL CONFORM TO ALL LOCAL PLUMBING, BUILDING AND FIRE CODE REQUIREMENTS. BURIED PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM F 1668. SOLVENT WELD JOINTS SHALL BE MADE USING CPVC CEMENT CONFORMING TO ASTM F 493. YELLOW ONE-STEP CEMENT MAY BE USED WITHOUT PRIMER. IF A PRIMER IS REQUIRED BY LOCAL PLUMBING OR BUILDING CODES, THEN A PRIMER CONFORMING TO ASTM F 656 SHOULD BE USED. THE SYSTEM SHALL BE PROTECTED FROM CHEMICAL AGENTS, FIRE STOPPING MATERIALS, THREAD SEALANT, PLASTICIZED VINYL PRODUCTS OR OTHER AGGRESSIVE CHEMICAL AGENTS NOT COMPATIBLE WITH CPVC COMPOUNDS. SYSTEMS SHALL BE HYDROSTATICALLY TESTED AFTER INSTALLATION. NEVER TEST WITH OR TRANSPORT/STORE COMPRESSED AIR OR GAS IN CPVC PIPE OR FITTINGS.
   ii. WHERE ALLOWED BY CODE, PEX TUBE AND FITTINGS CAN BE USED. TUBING SHALL BE PEX-A TYPE AND FITTINGS SHALL BE EQUAL TO UPONOR AQUAPEX. TUBING AND FITTINGS MUST CONFORM TO ASTM F876 "STANDARD SPECIFICATION FOR CROSSLINKED POLYETHYLENE, ASTM F877 "STANDARD FOR CROSSLINKED POLYETHYLENE PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS". PROVIDE ENGINEERED PLASTIC FITTINGS WITH PLASTIC COLLARS WHICH CONFORM TO ASTM F1960 STANDARD SPECIFICATION FOR COLD EXPANSION FITTINGS WITH PEX REINFORCING RINGS FOR USE WITH CROSSLINKED POLYETHYLENE PIPING. PEX TUBING AND CONNECTIONS SHALL BE WARRANTED FOR A PERIOD OF 25 YEARS. DO NOT WELD, GLUE, TAPE OR ALLOW OTHER SOLVENT BASED ADHESIVES OR PAINTS TO COME INTO CONTACT WITH TUBING. DO NOT ALLOW TUBING TO COME IN CONTACT WITH PIPE THREAD COMPOUNDS, FIREWALL PENETRATION SEALING COMPOUNDS, AND PETROLEUM BASED SEALANTS. DO NOT ALLOW TUBING TO COME WITHIN 6" OF GAS APPLIANCE VENTS OR 12" OF RECESSED LIGHT FIXTURES. DO NOT EXPOSE TUBING TO OPEN FLAME. DO NOT SOLDER WITHIN 18" OF TUBING. DO NOT INSTALL TUBING BETWEEN TUB SPOUT AND SHOWER VALVE. RADIUS OF BENDS MUST NOT EXCEED SIX TIMES OUTSIDE TUBE DIAMETER. REPAIR KINKS IN TUBING USING HEAT AS RECOMMENDED BY MANUFACTURER. TUBING SHALL BE INSTALLED IN MAXIMUM PRACTICAL LENGTHS, AS DIRECTLY AS POSSIBLE TO REMOTE MANIFOLD WITH MINIMUM FITTINGS. TUBING SHALL BE SUPPORTED IN A MATTER THAT DOES NOT DAMAGE TUBING AND ALLOWS FOR THERMAL EXPANSION. SUPPORTS SHALL BE SPACED AT 32" MINIMUM HORIZONTALLY AND 60" VERTICALLY AND WITHIN 6" OF FITTINGS OR BENDS. USE BEND SUPPORTS AT 90 DEGREE BENDS. PROTECT INSTALLED TUBING FROM DAMAGE. INSTALL METAL PLATES WHERE TUBING PENETRATES STUDS AT FACE OF STUDS. REMOTE MANIFOLD TYPE FITTINGS SHALL BE UTILIZED AT BRANCHES IN ROOMS WHERE TUBING IS TERMINATED (MODIFIED HOME-RUN INSTALLATION TYPE). UTILIZE EXPANDER TOOLS RECOMMENDED BY MANUFACTURER FOR CONNECTION OF TUBING TO FITTINGS. DO NOT OVER EXPAND TUBING. PIPE SHALL BE SUPPORTED AT FITTINGS AND FIXTURES AS RECOMMENDED BY MANUFACTURER. PIPING SHALL BE INSTALLED WITH MINIMUM AMOUNT OF FITTINGS. USE MANUFACTURER APPROVED VALVES, FITTINGS, HOSE BIBS AND BOXES AT FIXTURES.
   c. CONTROL VALVES SHALL BE MANUFACTURED BY OR APPROVED BY PIPING MANUFACTURER.
   d. ADJUST ALL STOPS AND VALVES PROPERLY PRIOR TO PROJECT COMPLETION.
7. WATER HAMMER ARRESTORS/SHOCK ABSORBERS
   a. REMOVE SHOCK CONDITIONS FROM ALL PIPING. PROVIDE AND INSTALL WATER HAMMER ARRESTORS/SHOCK ABSORBERS ON ALL PIPING SERVING FLUSH VALVE FIXTURES, CLOTHES WASHER SUPPLY BOXES, COMMERCIAL WASHER SUPPLY LINES, AND OTHER EQUIPMENT WITH QUICK-CLOSING VALVES. WATER HAMMER ARRESTORS SHALL BE PROVIDED PER PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI-WH 201.
8. SANITARY AND VENT SYSTEMS
   a. CONNECT NEW SANITARY PIPING TO THE EXISTING SANITARY STACKS AND/OR UNDERGROUND SANITARY BUILDING SEWER. CONTRACTOR SHALL CLEAN AND INSPECT EXISTING UNDERGROUND BUILDING SEWER, SEWER LATERAL AND ALL PIPING INTENDED TO BE REUSED TO DETERMINED CONDITION FOR REUSE. PROVIDE INSPECTION REPORT AND RECOMMENDATION TO OWNER.
   b. CUT AND PATCH SLAB AS REQUIRED TO INSTALL NEW SANITARY PIPING.
   c. INTERIOR SANITARY, WASTE, AND VENT PIPING:
   i. SANITARY, WASTE, AND VENT PIPING WITHIN BUILDING TO BE SCHEDULE 40 PVC PIPING AND FITTINGS CONFORMING TO ASTM D 2665, SOLID-WALL DRAIN PIPING WITH PVC SOCKET SOLVENT WELD FITTINGS CONFORMING TO ASTM D2665, MADE TO ASTM D3311, DRAIN, WASTE, AND VENT PATTERNS.
9. TRAP SEAL PROTECTION
   a. TRAP SEALS SUBJECT TO EVAPORATION SHALL BE PROTECTED BY ONE OF THE METHODS BELOW, AS APPROVED BY THE LOCAL PLUMBING AUTHORITY HAVING JURISDICTION:
   b. POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE - A POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE MUST SUPPLY WATER TO THE TRAP. WATER-SUPPLIED TRAP SEAL PRIMERS MUST CONFORM TO ASSE 1018. THE DISCHARGE PIPE FROM THE TRAP SEAL PRIMER MUST CONNECT TO THE TRAP ABOVE THE TRAP SEAL ON THE INLET SIDE OF THE TRAP.
   c. BARRIER-TYPE TRAP SEAL PROTECTION DEVICE - A BARRIER-TYPE TRAP SEAL PROTECTION DEVICE MUST PROTECT THE TRAP SEAL FROM EVAPORATION. BARRIER-TYPE TRAP SEAL PROTECTION DEVICES MUST CONFORM TO ASSE 1072. THE DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
10. CLEANOUTS
   a. PROVIDE FLOOR AND WALL CLEANOUTS WHERE REQUIRED IN ALL SOIL, WASTE, DRAIN AND STORM PIPING. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.
11. VALVES - GENERAL
   a. PLUMBING CONTRACTOR MUST PROVIDE VALVES AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH ISOLATED FIXTURE OR GROUP OF FIXTURES, AND EACH CONNECTION TO EQUIPMENT.
   b. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.
12. VALVES FOR DOMESTIC WATER
   a. VALVES FOR DOMESTIC WATER MUST MEET THE REQUIREMENTS OF THE LEAD-FREE LAW S.3874. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LEAD-FREE PRODUCTS AS MANDATED BY THE LAW AND AS REQUIRED/INTERPRETED BY THE AUTHORITY HAVING JURISDICTION.
   b. PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER.
   c. GENERAL DUTY SHUT-OFF BALL VALVES
   i. PROVIDE TWO-PIECE, FULL PORT, SILICON BRONZE BALL VALVES WITH THE CAPABILITY OF ACCEPTING EXTENDED OPERATING HANDLES (FOR INSULATED PIPING). VALVES SHALL BE NIBCO MODEL T/S/PC-595-Y-66-LF (-NS) OR EQUAL PRODUCT MANUFACTURED BY AMERICAN VALVE CO, CRANE, HAMMOND, MILWAUKEE, RED-WHITE VALVE CORPORATION, OR WATTS.
   d. THERMOSTATIC MIXING VALVES
   i. TEMPERED WATER SHALL BE DELIVERED FROM PUBLIC HAND-WASHING FACILITIES (LAVATORIES AND SINKS) THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070. SET OUTLET TEMPERATURE OF THERMOSTATIC MIXING VALVE TO 110 DEGREES F. POINT-OF-USE THERMOSTATIC MIXING VALVES SHALL BE EQUAL TO WATTS SERIES USG-B. ROUTE TEMPERED WATER TO HOT WATER SIDE OF SINK/LAVATORY. ACCEPTABLE MANUFACTURERS INCLUDE SYMMONS, LAWLER, LEONARD, POWERS, BRADLEY, AND WATTS.
13. HANGERS & SUPPORTS
   a. THE PLUMBING CONTRACTOR MUST FURNISH ALL PIPE SUPPORTS REQUIRED FOR THEIR WORK. ALL PIPING SHALL BE SUPPORTED PER CODE. ADDITIONAL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SAGGING. WHERE ALTERNATIVE PIPING MATERIALS ARE USED, HANGER SPACING CAN BE REDUCED AS RECOMMENDED BY THE MANUFACTURER AND WHERE ALLOWED BY CODE.
14. INSULATION
   a. PROVIDE THERMAL INSULATION ON ALL DOMESTIC HOT WATER PIPING WITH SELF-SEALING CLOSED CELL ELASTOMERIC FOAM. PROVIDE A CONTINUOUS VAPOR TIGHT SEAL. INSULATION SHALL BE CONTINUOUS THRU ALL WALLS AND FLOORS. NFPA FIRE HAZARD RATING FOR INSULATION, ADHESIVES, SEALERS, AND COATINGS MUST NOT EXCEED 25 FOR FLAME SPREAD AND 50 FOR SMOKE DEVELOPED, UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY OR ENERGY CODES. THE MINIMUM INSULATION LEVELS SHALL BE AS FOLLOWS:
   i. PROVIDE 1" THICK ELASTOMERIC INSULATION ON HOT WATER PIPING.
   b. PROVIDE INSULATION ON ALL PEX PIPING WHEN USED IN PLENUMS AND WHERE REQUIRED TO MAINTAIN THE REQUIRED FLAME AND SMOKE RATINGS. MOST PEX PIPING ¾" AND SMALLER SHALL BE INSULATED TO MAINTAIN ITS PLENUM RATED PROPERTY IF 18" SEPARATION BETWEEN THE PIPING CANNOT BE PROVIDED.
15. INSULATION FOR HANDICAP ACCESSIBLE FIXTURES (WHERE NOT PROTECTED WITH A SHROUD)
   a. ALL HANDICAP LAVATORY P-TRAP AND ANGLE STOP ASSEMBLIES SHALL BE INSULATED WITH TRAP WRAP PROTECTIVE KIT MANUFACTURED BY PROFLO MODEL PF200 SERIES OR EQUAL. PROVIDE OFFSET TRAPS FOR HANDICAP ACCESSIBLE FIXTURES WHERE REQUIRED. ABRASION RESISTANT, ANTI-MICROBIAL VINYL EXTERIOR COVER SHALL BE SMOOTH. FOR TRAPS, THE INSULATION MUST HAVE A CLEANOUT NUT CAP TO ALLOW SERVICE TO THE TRAP WITHOUT DISASSEMBLY. FOR STOPS, THE INSULATION MUST HAVE A LOCK LID THAT PREVENTS TAMPERING BUT ALLOWS ACCESS WITHOUT REMOVAL OF THE INSULATION. FASTENERS MUST REMAIN SUBSTANTIALLY OUT OF SIGHT. ACCEPTABLE MANUFACTURERS INCLUDE PROFLO, TRUEBRO, PLUMBEREX, AND DEARBORN.
16. CONCRETE HOUSEKEEPING PADS
   a. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED LEVEL AND PLUMB ON 4" THICK CONCRETE HOUSEKEEPING PAD.
17. ESCUTCHEON PLATES
   a. INSTALL ONE-PIECE CHROME PLATED BRASS WALL PLATE EQUIPPED WITH SET SCREW AROUND ALL EXPOSED PIPE PASSING THROUGH WALLS IN FINISHED AREAS.
18. ACCESS PANELS
   a. LOCATE VALVES IN READILY ACCESSIBLE LOCATIONS. WHERE VALVES SHALL BE INSTALLED ABOVE NON-ACCESSIBLE CEILINGS, PROVIDE ACCESS PANELS. ACCESS PANELS SHALL BE PAINTABLE METAL. COORDINATE ACCESS PANEL SIZES AND LOCATIONS WITH THE ARCHITECT.
19. FIRE STOPPING
   a. PROVIDE FIRE STOPPING AT ALL PENETRATIONS THROUGH RATED SEPARATIONS PER LOCAL CODES & REGULATIONS & PER UL RECOMMENDATIONS FOR ASSEMBLIES ENCOUNTERED IN PROJECT.
   b. THE FIRE STOPPING MATERIAL MUST MEET THE INTEGRITY OF THE FIRE RATED WALL, FLOOR, CEILING & ROOF BEING PENETRATED. REFER TO ARCHITECT'S DRAWINGS FOR WALL, FLOOR, CEILING & ROOF FIRE RATINGS PRIOR TO BIDDING WORK.
20. FLASHING & COUNTERFLASHING
   a. PROVIDE ROOF FLASHING AND COUNTERFLASHING FOR ALL ROOF PENETRATIONS.
   b. OBTAIN APPROVAL FROM GENERAL CONTRACTOR, CONSTRUCTION MANAGER, OWNER AND/OR ROOFING CONTRACTOR PRIOR TO MAKING ANY PENETRATIONS SO THAT WARRANTIES ARE NOT COMPROMISED OR VOIDED.
21. CATHODIC PROTECTION
   a. PROVIDE DIELECTRIC INSULATION AT POINTS WHERE COPPER OR BRASS PIPE COMES IN CONTACT WITH FERROUS PIPING, REINFORCING STEEL OR OTHER DISSIMILAR METAL IN STRUCTURE.
22. EXCAVATION, TRENCHING & BACKFILL
   a. DO ALL EXCAVATION, TRENCHING & BACKFILL REQUIRED FOR THE INSTALLATION OF PLUMBING WORK.
   b. ALL BACKFILL SHALL BE COMPACTED & BROUGHT TO FINISHED GRADE AND MUST MATCH SURROUNDING CONDITIONS.
   c. RESTORE ALL DISTURBED FLOORING TO ORIGINAL CONDITION.
   d. ALL PIPING SHALL BE LAID ON A BED OF SAND, 6" THICK MINIMUM. BACKFILL UNDER BUILDING AND ALL DRIVES, ROADS AND WALKS WITH BANK-RUN GRAVEL.
23. CUTTING AND PATCHING
   a. CUT AND PATCH WALLS AND FLOORS TO MATCH BUILDING CONSTRUCTION WHERE REQUIRED TO INSTALL ALL PLUMBING.
24. CONNECTIONS
   a. INSTALL UNIONS AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.
25. INSTALLATION
   a. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, CONCRETE FLOOR, AND ROOF SLABS. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.
26. TESTING
   a. ALL PLUMBING WORK SHALL BE TESTED & APPROVED BY INSPECTOR PRIOR TO BEING BACKFILLED, CONCEALED & PUT INTO SERVICE. AFTER TESTING IS COMPLETE & APPROVED, THE PLUMBING CONTRACTOR MUST DISINFECT THE POTABLE WATER SYSTEM AS REQUIRED BY LOCAL AUTHORITY. TEST WATER PURITY ACCORDING TO LOCAL REQUIREMENTS AND SUBMIT CERTIFIED TEST RESULTS TO OWNER FOR REVIEW AND APPROVAL.
27. SHOP DRAWINGS
   a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE PLUMBING CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
   c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE PLUMBING CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
28. OWNER'S INSTRUCTIONS
   a. PROVIDE TWO SETS OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS WITH DRAWINGS, TYPEWRITTEN INSTRUCTIONS AND OPERATING SEQUENCES AND DESCRIPTIVE DATA SHEETS. ASSEMBLE EACH SET IN A HARD-BOUND COVER.
29. WARRANTY
   a. THE PLUMBING CONTRACTOR MUST UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN EQUIPMENT, MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER AND THE PLUMBING CONTRACTOR WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE TO THE OWNER.
   b. RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE EQUIPMENT, MATERIALS AND WORKMANSHIP.

PLUMBING EQUIPMENT AND FIXTURE SCHEDULE

SK1 - SINK, EQUAL TO KOHLER MODEL MIDDLETON 14707, 33" X 22" X 7" DEEP, 20 GAUGE DOUBLE BOWL STAINLESS STEEL SINK WITH KOHLER MODEL SIMPLICE K-596 SINGLE HANDLE KITCHEN FAUCET 1.5 GPM W/ SPRAYHEAD, HIGH-ARCH SPOUT, LEAD LAW COMPLIANT, WATER SENSE LABELED, HOT & COLD STOP & SUPPLY.

WB1 - WASHER BOX, EQUAL TO OATEY CENTRO, IN WALL WASHER SUPPLY / DRAIN BOX FOR CLOTHES WASHER.

WC1 - WATER CLOSET, EQUAL TO AMERICAN STANDARD MODEL 238AA.114 VORMAX RH EL BOWL, 1.0 GALLONS PER FLUSH 12 TANK CADET COMPLETE WHITE, AMERICAN STANDARD MODEL 5321.110.020 ELONGATED CLOSET SEAT WITH COVER WHITE, MCGUIRE MODEL LF2166CCF LF SUPPLY FLEX CLOSET CP 1/2NOMCO, PROFLO MODEL PFWR WAX RING, PROFLOW MODEL PF90104 PAIR OF CLOSET BOLTS, NUTS, & WASHERS. WATER SENSE LABELED.

LV1 - LAVATORY SINK, EQUAL TO KOHLER MODEL K-2196-4, MADE OF VITREOUS CHINA, SHALL MEET ADA REQUIREMENTS W/ POLISHED CHROME FAUCET, KOHLER MODEL K-98146-4, WATER SENSE LABELED, 1.2 GPM, 4" CENTERSET INSTALLATION, 0.5 GPM AERATOR. FLEXIBLE STAINLESS SUPPLY PIPES, ANGLE STOPS, "P" TRAP, POPUP DRAIN. PROVIDE INSULATION EQUAL TO TRUEBRO "LAV GUARD" TRAP & SUPPLY INSULATORS AND WALL HANGER. MEETS ADA GUIDELINES.

BT1 - BATHTUB, EQUAL TO 30" MINIMUM WIDTH; MADE OF FIBERGLASS, ACRYLIC, PORCELAIN, OR CULTURED MARBLE WITH DELTA MODEL RPW324 HDF HAND SHOWER WITH ADJUSTABLE VALVE; SHOWER HEAD SHALL BE RATED FOR 1.5 GPM.

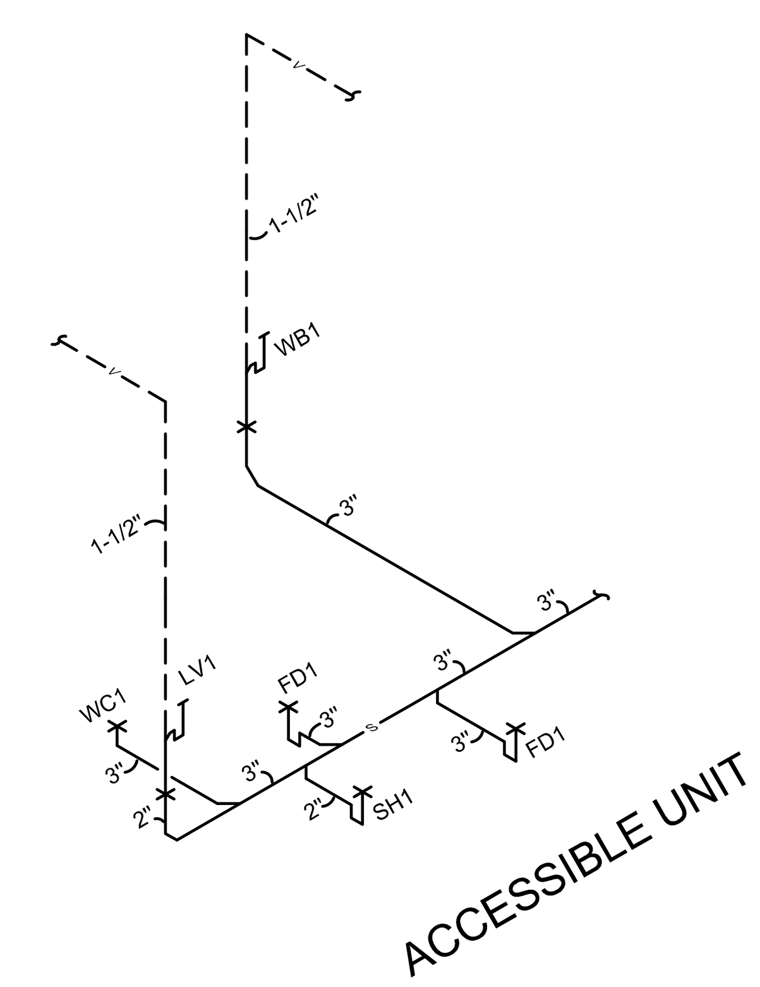
EDWH1 - ELECTRIC WATER HEATER, EQUAL TO A.O. SMITH DEL-40D-3, 3 KW, 40 GALLON, 240 V, SINGLE PHASE, OR EQUAL WITH LIKE SIZE AND POWER REQUIREMENTS.

SH1 - SHOWER, EQUAL TO 5'-0" ROLL-IN WITH COLLAPSIBLE ADA COMPLIANT THRESHOLD. PROVIDE SHOWER VALVE AND HAND SHOWER WITH ADJUSTABLE VALVE, SHOWER HEAD SHALL BE RATED FOR 1.75 GPM WATER SENSE LABELED.

FD1 - FLOOR DRAIN, EQUAL TO SIOUX CHIEF MODEL 842-P WITH NICKEL BRONZE ADJUSTABLE STRAINER. PROVIDE TRAP PRIMERS WHERE REQUIRED BY CODE. REFER TO WASTE AND VENT ISOMETRIC FOR SIZES.

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD ●	FLOOR DRAIN
—⋈—	BALL VALVE
CO ○	CLEANOUT



PLUMBING WASTE AND VENT ISOMETRIC

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REVISIONS

Date	Description
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 6, 7, 12, 13, 15, 16, & 17
PLUMBING DETAILS

P304

DIVISION 22 - PLUMBING

1. GENERAL PLUMBING REQUIREMENTS
   a. THE PLUMBING CONTRACTOR MUST REFER TO SITE PLANS, ARCHITECTURAL PLANS AND ELEVATIONS, AND PRICING INSTRUCTIONS FROM THE GENERAL CONTRACTOR TO DEVELOP THEIR PRICE. THE PLUMBING CONTRACTOR'S PRICE (INCLUDING TAXES) SHOULD INCLUDE ALL LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM.
   b. THE PLUMBING CONTRACTOR SHALL BE LICENSED BY THE STATE OF OHIO TO INSTALL PLUMBING SYSTEMS.
   c. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD.
   d. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE AND CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA AND RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   e. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, SPECIFICATIONS, AND DRAWINGS EXCEPT AS NOTED HEREIN WHICH APPLY IN ALL RESPECTS TO THIS SECTION.
   f. COORDINATE PIPING CHASES, SHAFTS, ABOVE CEILING WORK, ETC. WITH ARCHITECT. ALL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO WORK.
   g. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY PLUMBING PIPING PENETRATIONS. THIS INCLUDES CORING HOLES IN SLABS, ETC.
   h. EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF AGA, ARI, ASME, ASTM, CISPI, UL, NEMA, ANSI, SMACNA, ASHRAE, NFPA, NEC, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY. ALL EQUIPMENT MUST BEAR UL LABEL.
   i. INSTALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES.
   j. WHERE NOT PROVIDED BY OTHERS, PROCURE AND PAY FOR ALL PERMITS, FEES, TAXES AND INSPECTIONS NECESSARY TO COMPLETE THE PLUMBING WORK. FURNISH CERTIFICATE OF APPROVAL FOR WORK FROM INSPECTION AUTHORITY TO OWNER BEFORE FINAL ACCEPTANCE FOR WORK. CERTIFICATE OF FINAL INSPECTION AND APPROVAL SHALL BE SUBMITTED WITH THE CONTRACTOR'S REQUEST FOR PAYMENT. NO FINAL PAYMENT WILL BE APPROVED WITHOUT THIS CERTIFICATE.
   k. ALL WORK SHALL BE ACCURATELY LAID-OUT WITH OTHER TRADES, PRIOR TO INSTALLATION & FABRICATION, TO AVOID ALL CONFLICTS AND OBTAIN A NEAT AND WORKMANLIKE INSTALLATION WHICH WILL AFFORD MAXIMUM ACCESSIBILITY FOR EQUIPMENT OPERATION, MAINTENANCE CLEARANCES AND HEADROOM.
2. USE OF INFORMATION PROVIDED BY EBS
   a. THE INFORMATION PROVIDED IS INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS, SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM ARE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
3. CONTRACTOR COORDINATION
   a. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE PLUMBING CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
4. PLUMBING FIXTURES
   a. SHUT OFF VALVES/STOPS SHALL BE PROVIDED AT ALL LAVATORIES, SINKS AND WATER CLOSETS.
   b. ALL WALL-HUNG PLUMBING FIXTURES, INCLUDING, BUT NOT LIMITED TO WATER CLOSETS, URINALS, LAVATORIES, AND SINKS SHALL BE ANCHORED TO THE FLOOR WITH CONCEALED IN-WALL CARRIERS. WALL-HUNG FIXTURES SHALL NOT BE SIMPLY BOLTED TO THE WALL OR ANCHORED TO WOOD BLOCKING.
   c. COORDINATE COLOR OF FIXTURES WITH ARCHITECT. FIXTURES SHALL BE WHITE UNLESS OTHERWISE NOTED.
   d. PROVIDE ADA COMPLIANT FIXTURES WHERE INDICATED ON THE ARCHITECTURAL PLANS. PROVIDE OFFSET FIXTURE TAILPIECES AND TRAPS WHERE REQUIRED TO MEET ADA LEG CLEARANCES.
   e. FIXTURES SHALL BE SECURELY FASTENED TO PREVENT ANY MOVEMENT OF FIXTURE DURING NORMAL USE. SEAL TO WALL, FLOOR OR COUNTERTOP WITH SILICONIZED ACRYLIC-LATEX CAULK.
5. DRAIN PANS
   a. PROVIDE DRAIN PAN UNDER WATER HEATERS. PIPE WATER HEATER DRAIN AND PRESSURE RELIEF VALVE SEPARATELY AND INDIRECTLY TO FLOOR DRAIN (NOT TO DRAIN PAN).
6. DOMESTIC WATER SYSTEMS
   a. NEW FIXTURES SHALL BE CONNECTED TO THE EXISTING WATER SERVICE/MAIN.
   b. INTERIOR DOMESTIC WATER PIPING:
   i. WHERE ALLOWED BY CODE, CPVC PIPING CAN BE USED.
   a. CPVC PIPING 2" AND SMALLER SHALL BE EQUAL TO FLOW GUARD GOLD - THIS SPECIFICATION COVERS COPPER TUBE SIZE (CTS) CPVC MANUFACTURED TO STANDARD DIMENSIONAL RATIO (SDR) 11 FOR HOT AND COLD DOMESTIC WATER DISTRIBUTION. THIS SYSTEM IS INTENDED FOR PRESSURE APPLICATIONS WHERE THE OPERATING TEMPERATURE WILL NOT EXCEED 180°F AT 100 PSI. PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN RIGID CPVC (CHLORINATED POLYVINYL CHLORIDE) VINYL COMPOUNDS WITH A CELL CLASS OF 24448 AS IDENTIFIED IN ASTM D 1784. CTS CPVC PIPE AND FITTINGS SHALL CONFORM TO ASTM D 2846. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER. ALL PIPE AND FITTINGS SHALL BE MANUFACTURED IN THE UNITED STATES. PIPE AND FITTINGS SHALL CONFORM TO NATIONAL SANITATION FOUNDATION (NSF) STANDARDS 14 AND 61. INSTALLATION SHALL COMPLY WITH LATEST INSTALLATION PROVIDED BY THE MANUFACTURER AND SHALL CONFORM TO ALL LOCAL PLUMBING, BUILDING AND FIRE CODE REQUIREMENTS. BURIED PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM F 1668. SOLVENT WELD JOINTS SHALL BE MADE USING CPVC CEMENT CONFORMING TO ASTM F 493. YELLOW ONE-STEP CEMENT MAY BE USED WITHOUT PRIMER. IF A PRIMER IS REQUIRED BY LOCAL PLUMBING OR BUILDING CODES, THEN A PRIMER CONFORMING TO ASTM F 656 SHOULD BE USED. THE SYSTEM SHALL BE PROTECTED FROM CHEMICAL AGENTS, FIRE STOPPING MATERIALS, THREAD SEALANT, PLASTICIZED VINYL PRODUCTS OR OTHER AGGRESSIVE CHEMICAL AGENTS NOT COMPATIBLE WITH CPVC COMPOUNDS. SYSTEMS SHALL BE HYDROSTATICALLY TESTED AFTER INSTALLATION. NEVER TEST WITH OR TRANSPORT/STORE COMPRESSED AIR OR GAS IN CPVC PIPE OR FITTINGS.
   ii. WHERE ALLOWED BY CODE, PEX TUBE AND FITTINGS CAN BE USED. TUBING SHALL BE PEX-A TYPE AND FITTINGS SHALL BE EQUAL TO UPONOR AQUAPEX. TUBING AND FITTINGS MUST CONFORM TO ASTM F876 "STANDARD SPECIFICATION FOR CROSSLINKED POLYETHYLENE, ASTM F877 "STANDARD FOR CROSSLINKED POLYETHYLENE PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS". PROVIDE ENGINEERED PLASTIC FITTINGS WITH PLASTIC COLLARS WHICH CONFORM TO ASTM F1960 STANDARD SPECIFICATION FOR COLD EXPANSION FITTINGS WITH PEX REINFORCING RINGS FOR USE WITH CROSSLINKED POLYETHYLENE PIPING. PEX TUBING AND CONNECTIONS SHALL BE WARRANTED FOR A PERIOD OF 25 YEARS. DO NOT WELD, GLUE, TAPE OR ALLOW OTHER SOLVENT BASED ADHESIVES OR PAINTS TO COME INTO CONTACT WITH TUBING. DO NOT ALLOW TUBING TO COME IN CONTACT WITH PIPE THREAD COMPOUNDS, FIREWALL PENETRATION SEALING COMPOUNDS, AND PETROLEUM BASED SEALANTS. DO NOT ALLOW TUBING TO COME WITHIN 6" OF GAS APPLIANCE VENTS OR 12" OF RECESSED LIGHT FIXTURES. DO NOT EXPOSE TUBING TO OPEN FLAME. DO NOT SOLDER WITHIN 18" OF TUBING. DO NOT INSTALL TUBING BETWEEN TUB SPOUT AND SHOWER VALVE. RADIUS OF BENDS MUST NOT EXCEED SIX TIMES OUTSIDE TUBE DIAMETER. REPAIR KINKS IN TUBING USING HEAT AS RECOMMENDED BY MANUFACTURER. TUBING SHALL BE INSTALLED IN MAXIMUM PRACTICAL LENGTHS, AS DIRECTLY AS POSSIBLE TO REMOTE MANIFOLD WITH MINIMUM FITTINGS. TUBING SHALL BE SUPPORTED IN A MATTER THAT DOES NOT DAMAGE TUBING AND ALLOWS FOR THERMAL EXPANSION. SUPPORTS SHALL BE SPACED AT 32" MINIMUM HORIZONTALLY AND 60" VERTICALLY AND WITHIN 6" OF FITTINGS OR BENDS. USE BEND SUPPORTS AT 90 DEGREE BENDS. PROTECT INSTALLED TUBING FROM DAMAGE. INSTALL METAL PLATES WHERE TUBING PENETRATES STUDS AT FACE OF STUDS. REMOTE MANIFOLD TYPE FITTINGS SHALL BE UTILIZED AT BRANCHES IN ROOMS WHERE TUBING IS TERMINATED (MODIFIED HOME-RUN INSTALLATION TYPE). UTILIZE EXPANDER TOOLS RECOMMENDED BY MANUFACTURER FOR CONNECTION OF TUBING TO FITTINGS. DO NOT OVER EXPAND TUBING. PIPE SHALL BE SUPPORTED AT FITTINGS AND FIXTURES AS RECOMMENDED BY MANUFACTURER. PIPING SHALL BE INSTALLED WITH MINIMUM AMOUNT OF FITTINGS. USE MANUFACTURER APPROVED VALVES, FITTINGS, HOSE BIBS AND BOXES AT FIXTURES.
   c. CONTROL VALVES SHALL BE MANUFACTURED BY OR APPROVED BY PIPING MANUFACTURER.
   d. ADJUST ALL STOPS AND VALVES PROPERLY PRIOR TO PROJECT COMPLETION.
7. WATER HAMMER ARRESTORS/SHOCK ABSORBERS
   a. REMOVE SHOCK CONDITIONS FROM ALL PIPING. PROVIDE AND INSTALL WATER HAMMER ARRESTORS/SHOCK ABSORBERS ON ALL PIPING SERVING FLUSH VALVE FIXTURES, CLOTHES WASHER SUPPLY BOXES, COMMERCIAL WASHER SUPPLY LINES, AND OTHER EQUIPMENT WITH QUICK-CLOSING VALVES. WATER HAMMER ARRESTORS SHALL BE PROVIDED PER PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI-WH 201.
8. SANITARY AND VENT SYSTEMS
   a. CONNECT NEW SANITARY PIPING TO THE EXISTING SANITARY STACKS AND/OR UNDERGROUND SANITARY BUILDING SEWER. CONTRACTOR SHALL CLEAN AND INSPECT EXISTING UNDERGROUND BUILDING SEWER, SEWER LATERAL AND ALL PIPING INTENDED TO BE REUSED TO DETERMINED CONDITION FOR REUSE. PROVIDE INSPECTION REPORT AND RECOMMENDATION TO OWNER.
   b. CUT AND PATCH SLAB AS REQUIRED TO INSTALL NEW SANITARY PIPING.
   c. INTERIOR SANITARY, WASTE, AND VENT PIPING:
   i. SANITARY, WASTE, AND VENT PIPING WITHIN BUILDING TO BE SCHEDULE 40 PVC PIPING AND FITTINGS CONFORMING TO ASTM D 2665, SOLID-WALL DRAIN PIPING WITH PVC SOCKET SOLVENT WELD FITTINGS CONFORMING TO ASTM D2665, MADE TO ASTM D3311, DRAIN, WASTE, AND VENT PATTERNS.
9. TRAP SEAL PROTECTION
   a. TRAP SEALS SUBJECT TO EVAPORATION SHALL BE PROTECTED BY ONE OF THE METHODS BELOW, AS APPROVED BY THE LOCAL PLUMBING AUTHORITY HAVING JURISDICTION:
   b. POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE - A POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE MUST SUPPLY WATER TO THE TRAP. WATER-SUPPLIED TRAP SEAL PRIMERS MUST CONFORM TO ASSE 1018. THE DISCHARGE PIPE FROM THE TRAP SEAL PRIMER MUST CONNECT TO THE TRAP ABOVE THE TRAP SEAL ON THE INLET SIDE OF THE TRAP.
   c. BARRIER-TYPE TRAP SEAL PROTECTION DEVICE - A BARRIER-TYPE TRAP SEAL PROTECTION DEVICE MUST PROTECT THE TRAP SEAL FROM EVAPORATION. BARRIER-TYPE TRAP SEAL PROTECTION DEVICES MUST CONFORM TO ASSE 1072. THE DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
10. CLEANOUTS
   a. PROVIDE FLOOR AND WALL CLEANOUTS WHERE REQUIRED IN ALL SOIL, WASTE, DRAIN AND STORM PIPING. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.
11. VALVES - GENERAL
   a. PLUMBING CONTRACTOR MUST PROVIDE VALVES AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH ISOLATED FIXTURE OR GROUP OF FIXTURES, AND EACH CONNECTION TO EQUIPMENT.
   b. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.
12. VALVES FOR DOMESTIC WATER
   a. VALVES FOR DOMESTIC WATER MUST MEET THE REQUIREMENTS OF THE LEAD-FREE LAW S.3874. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LEAD-FREE PRODUCTS AS MANDATED BY THE LAW AND AS REQUIRED/INTERPRETED BY THE AUTHORITY HAVING JURISDICTION.
   b. PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER.
   c. GENERAL DUTY SHUT-OFF BALL VALVES
   i. PROVIDE TWO-PIECE, FULL PORT, SILICON BRONZE BALL VALVES WITH THE CAPABILITY OF ACCEPTING EXTENDED OPERATING HANDLES (FOR INSULATED PIPING). VALVES SHALL BE NIBCO MODEL T/S/PC-595-Y-66-LF (-NS) OR EQUAL PRODUCT MANUFACTURED BY AMERICAN VALVE CO, CRANE, HAMMOND, MILWAUKEE, RED-WHITE VALVE CORPORATION, OR WATTS.
   d. THERMOSTATIC MIXING VALVES
   i. TEMPERED WATER SHALL BE DELIVERED FROM PUBLIC HAND-WASHING FACILITIES (LAVATORIES AND SINKS) THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070. SET OUTLET TEMPERATURE OF THERMOSTATIC MIXING VALVE TO 110 DEGREES F. POINT-OF-USE THERMOSTATIC MIXING VALVES SHALL BE EQUAL TO WATTS SERIES USG-B. ROUTE TEMPERED WATER TO HOT WATER SIDE OF SINK/LAVATORY. ACCEPTABLE MANUFACTURERS INCLUDE SYMMONS, LAWLER, LEONARD, POWERS, BRADLEY, AND WATTS.
13. HANGERS & SUPPORTS
   a. THE PLUMBING CONTRACTOR MUST FURNISH ALL PIPE SUPPORTS REQUIRED FOR THEIR WORK. ALL PIPING SHALL BE SUPPORTED PER CODE. ADDITIONAL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SAGGING. WHERE ALTERNATIVE PIPING MATERIALS ARE USED, HANGER SPACING CAN BE REDUCED AS RECOMMENDED BY THE MANUFACTURER AND WHERE ALLOWED BY CODE.
14. INSULATION
   a. PROVIDE THERMAL INSULATION ON ALL DOMESTIC HOT WATER PIPING WITH SELF-SEALING CLOSED CELL ELASTOMERIC FOAM. PROVIDE A CONTINUOUS VAPOR TIGHT SEAL. INSULATION SHALL BE CONTINUOUS THRU ALL WALLS AND FLOORS. NFPA FIRE HAZARD RATING FOR INSULATION, ADHESIVES, SEALERS, AND COATINGS MUST NOT EXCEED 25 FOR FLAME SPREAD AND 50 FOR SMOKE DEVELOPED, UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY OR ENERGY CODES. THE MINIMUM INSULATION LEVELS SHALL BE AS FOLLOWS:
   i. PROVIDE 1" THICK ELASTOMERIC INSULATION ON HOT WATER PIPING.
   b. PROVIDE INSULATION ON ALL PEX PIPING WHEN USED IN PLENUMS AND WHERE REQUIRED TO MAINTAIN THE REQUIRED FLAME AND SMOKE RATINGS. MOST PEX PIPING ¾" AND SMALLER SHALL BE INSULATED TO MAINTAIN ITS PLENUM RATED PROPERTY IF 18" SEPARATION BETWEEN THE PIPING CANNOT BE PROVIDED.
15. INSULATION FOR HANDICAP ACCESSIBLE FIXTURES (WHERE NOT PROTECTED WITH A SHROUD)
   a. ALL HANDICAP LAVATORY P-TRAP AND ANGLE STOP ASSEMBLIES SHALL BE INSULATED WITH TRAP WRAP PROTECTIVE KIT MANUFACTURED BY PROFLO MODEL PF200 SERIES OR EQUAL. PROVIDE OFFSET TRAPS FOR HANDICAP ACCESSIBLE FIXTURES WHERE REQUIRED. ABRASION RESISTANT, ANTI-MICROBIAL VINYL EXTERIOR COVER SHALL BE SMOOTH. FOR TRAPS, THE INSULATION MUST HAVE A CLEANOUT NUT CAP TO ALLOW SERVICE TO THE TRAP WITHOUT DISASSEMBLY. FOR STOPS, THE INSULATION MUST HAVE A LOCK LID THAT PREVENTS TAMPERING BUT ALLOWS ACCESS WITHOUT REMOVAL OF THE INSULATION. FASTENERS MUST REMAIN SUBSTANTIALLY OUT OF SIGHT. ACCEPTABLE MANUFACTURERS INCLUDE PROFLO, TRUEBRO, PLUMBEREX, AND DEARBORN.
16. CONCRETE HOUSEKEEPING PADS
   a. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED LEVEL AND PLUMB ON 4" THICK CONCRETE HOUSEKEEPING PAD.
17. ESCUTCHEON PLATES
   a. INSTALL ONE-PIECE CHROME PLATED BRASS WALL PLATE EQUIPPED WITH SET SCREW AROUND ALL EXPOSED PIPE PASSING THROUGH WALLS IN FINISHED AREAS.
18. ACCESS PANELS
   a. LOCATE VALVES IN READILY ACCESSIBLE LOCATIONS. WHERE VALVES SHALL BE INSTALLED ABOVE NON-ACCESSIBLE CEILINGS, PROVIDE ACCESS PANELS. ACCESS PANELS SHALL BE PAINTABLE METAL. COORDINATE ACCESS PANEL SIZES AND LOCATIONS WITH THE ARCHITECT.
19. FIRE STOPPING
   a. PROVIDE FIRE STOPPING AT ALL PENETRATIONS THROUGH RATED SEPARATIONS PER LOCAL CODES & REGULATIONS & PER UL RECOMMENDATIONS FOR ASSEMBLIES ENCOUNTERED IN PROJECT.
   b. THE FIRE STOPPING MATERIAL MUST MEET THE INTEGRITY OF THE FIRE RATED WALL, FLOOR, CEILING & ROOF BEING PENETRATED. REFER TO ARCHITECT'S DRAWINGS FOR WALL, FLOOR, CEILING & ROOF FIRE RATINGS PRIOR TO BIDDING WORK.
20. FLASHING & COUNTERFLASHING
   a. PROVIDE ROOF FLASHING AND COUNTERFLASHING FOR ALL ROOF PENETRATIONS.
   b. OBTAIN APPROVAL FROM GENERAL CONTRACTOR, CONSTRUCTION MANAGER, OWNER AND/OR ROOFING CONTRACTOR PRIOR TO MAKING ANY PENETRATIONS SO THAT WARRANTIES ARE NOT COMPROMISED OR VOIDED.
21. CATHODIC PROTECTION
   a. PROVIDE DIELECTRIC INSULATION AT POINTS WHERE COPPER OR BRASS PIPE COMES IN CONTACT WITH FERROUS PIPING, REINFORCING STEEL OR OTHER DISSIMILAR METAL IN STRUCTURE.
22. EXCAVATION, TRENCHING & BACKFILL
   a. DO ALL EXCAVATION, TRENCHING & BACKFILL REQUIRED FOR THE INSTALLATION OF PLUMBING WORK.
   b. ALL BACKFILL SHALL BE COMPACTED & BROUGHT TO FINISHED GRADE AND MUST MATCH SURROUNDING CONDITIONS.
   c. RESTORE ALL DISTURBED FLOORING TO ORIGINAL CONDITION.
   d. ALL PIPING SHALL BE LAID ON A BED OF SAND, 6" THICK MINIMUM. BACKFILL UNDER BUILDING AND ALL DRIVES, ROADS AND WALKS WITH BANK-RUN GRAVEL.
23. CUTTING AND PATCHING
   a. CUT AND PATCH WALLS AND FLOORS TO MATCH BUILDING CONSTRUCTION WHERE REQUIRED TO INSTALL ALL PLUMBING.
24. CONNECTIONS
   a. INSTALL UNIONS AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.
25. INSTALLATION
   a. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, CONCRETE FLOOR, AND ROOF SLABS. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.
26. TESTING
   a. ALL PLUMBING WORK SHALL BE TESTED & APPROVED BY INSPECTOR PRIOR TO BEING BACKFILLED, CONCEALED & PUT INTO SERVICE. AFTER TESTING IS COMPLETE & APPROVED, THE PLUMBING CONTRACTOR MUST DISINFECT THE POTABLE WATER SYSTEM AS REQUIRED BY LOCAL AUTHORITY. TEST WATER PURITY ACCORDING TO LOCAL REQUIREMENTS AND SUBMIT CERTIFIED TEST RESULTS TO OWNER FOR REVIEW AND APPROVAL.
27. SHOP DRAWINGS
   a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE PLUMBING CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
   c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE PLUMBING CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
28. OWNER'S INSTRUCTIONS
   a. PROVIDE TWO SETS OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS WITH DRAWINGS, TYPEWRITTEN INSTRUCTIONS AND OPERATING SEQUENCES AND DESCRIPTIVE DATA SHEETS. ASSEMBLE EACH SET IN A HARD-BOUND COVER.
29. WARRANTY
   a. THE PLUMBING CONTRACTOR MUST UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN EQUIPMENT, MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER AND THE PLUMBING CONTRACTOR WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE TO THE OWNER.
   b. RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE EQUIPMENT, MATERIALS AND WORKMANSHIP.

PLUMBING EQUIPMENT AND FIXTURE SCHEDULE

SK1 - SINK, EQUAL TO KOHLER MODEL MIDDLETON 14707, 33" X 22" X 7" DEEP, 20 GAUGE DOUBLE BOWL STAINLESS STEEL SINK WITH KOHLER MODEL SIMPLICE K-596 SINGLE HANDLE KITCHEN FAUCET 1.5 GPM W/ SPRAYHEAD, HIGH-ARCH SPOUT, LEAD LAW COMPLIANT, WATER SENSE LABELED, HOT & COLD STOP & SUPPLY.

WB1 - WASHER BOX, EQUAL TO OATEY CENTRO, IN WALL WASHER SUPPLY / DRAIN BOX FOR CLOTHES WASHER.

WC1 - WATER CLOSET, EQUAL TO AMERICAN STANDARD MODEL 238AA.114 VORMAX RH EL BOWL, 1.0 GALLONS PER FLUSH 12 TANK CADET COMPLETE WHITE, AMERICAN STANDARD MODEL 5321.110.020 ELONGATED CLOSET SEAT WITH COVER WHITE, MCGUIRE MODEL LF2166CCF LF SUPPLY FLEX CLOSET CP 1/2NOMCO, PROFLO MODEL PFWR WAX RING, PROFLOW MODEL PF90104 PAIR OF CLOSET BOLTS, NUTS, & WASHERS. WATER SENSE LABELED.

LV1 - LAVATORY SINK, EQUAL TO KOHLER MODEL K-2196-4, MADE OF VITREOUS CHINA, SHALL MEET ADA REQUIREMENTS W/ POLISHED CHROME FAUCET, KOHLER MODEL K-98146-4, WATER SENSE LABELED, 1.2 GPM, 4" CENTERSET INSTALLATION, 0.5 GPM AERATOR. FLEXIBLE STAINLESS SUPPLY PIPES, ANGLE STOPS, "P" TRAP, POPUP DRAIN. PROVIDE INSULATION EQUAL TO TRUEBRO "LAV GUARD" TRAP & SUPPLY INSULATORS AND WALL HANGER. MEETS ADA GUIDELINES.

BT1 - BATHTUB, EQUAL TO 30" MINIMUM WIDTH; MADE OF FIBERGLASS, ACRYLIC, PORCELAIN, OR CULTURED MARBLE WITH DELTA MODEL RPW324 HDF HAND SHOWER WITH ADJUSTABLE VALVE; SHOWER HEAD SHALL BE RATED FOR 1.5 GPM.

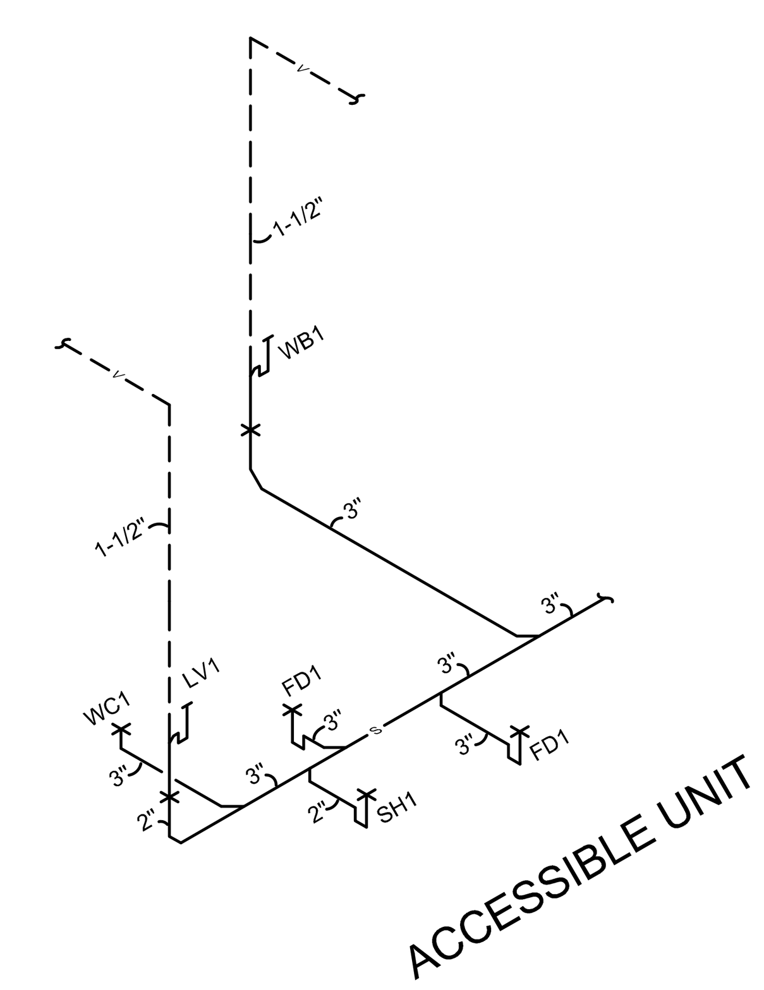
EDWH1 - ELECTRIC WATER HEATER, EQUAL TO A.O. SMITH DEL-40D-3, 3 KW, 40 GALLON, 240 V, SINGLE PHASE, OR EQUAL WITH LIKE SIZE AND POWER REQUIREMENTS.

SH1 - SHOWER, EQUAL TO 5'-0" ROLL-IN WITH COLLAPSIBLE ADA COMPLIANT THRESHOLD. PROVIDE SHOWER VALVE AND HAND SHOWER WITH ADJUSTABLE VALVE, SHOWER HEAD SHALL BE RATED FOR 1.75 GPM WATER SENSE LABELED.

FD1 - FLOOR DRAIN, EQUAL TO SIOUX CHIEF MODEL 842-P WITH NICKEL BRONZE ADJUSTABLE STRAINER. PROVIDE TRAP PRIMERS WHERE REQUIRED BY CODE. REFER TO WASTE AND VENT ISOMETRIC FOR SIZES.

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD●	FLOOR DRAIN
——⋈——	BALL VALVE
CO⚬	CLEANOUT



PLUMBING WASTE AND VENT ISOMETRIC

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REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 8 & 20

PLUMBING DETAILS

P305

1. GENERAL PLUMBING REQUIREMENTS
   a. THE PLUMBING CONTRACTOR MUST REFER TO SITE PLANS, ARCHITECTURAL PLANS AND ELEVATIONS, AND PRICING INSTRUCTIONS FROM THE GENERAL CONTRACTOR TO DEVELOP THEIR PRICE. THE PLUMBING CONTRACTOR'S PRICE (INCLUDING TAXES) SHOULD INCLUDE ALL LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM.
   b. THE PLUMBING CONTRACTOR SHALL BE LICENSED BY THE STATE OF OHIO TO INSTALL PLUMBING SYSTEMS.
   c. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD.
   d. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE AND CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA AND RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   e. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, SPECIFICATIONS, AND DRAWINGS EXCEPT AS NOTED HEREIN WHICH APPLY IN ALL RESPECTS TO THIS SECTION.
   f. COORDINATE PIPING CHASES, SHAFTS, ABOVE CEILING WORK, ETC. WITH ARCHITECT. ALL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO WORK.
   g. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY PLUMBING PIPING PENETRATIONS. THIS INCLUDES CORING HOLES IN SLABS, ETC.
   h. EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF AGA, ARI, ASME, ASTM, CISPI, UL, NEMA, ANSI, SMACNA, ASHRAE, NFPA, NEC, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY. ALL EQUIPMENT MUST BEAR UL LABEL.
   i. INSTALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES.
   j. WHERE NOT PROVIDED BY OTHERS, PROCURE AND PAY FOR ALL PERMITS, FEES, TAXES AND INSPECTIONS NECESSARY TO COMPLETE THE PLUMBING WORK. FURNISH CERTIFICATE OF APPROVAL FOR WORK FROM INSPECTION AUTHORITY TO OWNER BEFORE FINAL ACCEPTANCE FOR WORK. CERTIFICATE OF FINAL INSPECTION AND APPROVAL SHALL BE SUBMITTED WITH THE CONTRACTOR'S REQUEST FOR PAYMENT. NO FINAL PAYMENT WILL BE APPROVED WITHOUT THIS CERTIFICATE.
   k. ALL WORK SHALL BE ACCURATELY LAID-OUT WITH OTHER TRADES, PRIOR TO INSTALLATION & FABRICATION, TO AVOID ALL CONFLICTS AND OBTAIN A NEAT AND WORKMANLIKE INSTALLATION WHICH WILL AFFORD MAXIMUM ACCESSIBILITY FOR EQUIPMENT OPERATION, MAINTENANCE CLEARANCES AND HEADROOM.
2. USE OF INFORMATION PROVIDED BY EBS
   a. THE INFORMATION PROVIDED IS INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS, SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM ARE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
3. CONTRACTOR COORDINATION
   a. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE PLUMBING CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
4. PLUMBING FIXTURES
   a. SHUT OFF VALVES/STOPS SHALL BE PROVIDED AT ALL LAVATORIES, SINKS AND WATER CLOSETS.
   b. ALL WALL-HUNG PLUMBING FIXTURES, INCLUDING, BUT NOT LIMITED TO WATER CLOSETS, URINALS, LAVATORIES, AND SINKS SHALL BE ANCHORED TO THE FLOOR WITH CONCEALED IN-WALL CARRIERS. WALL-HUNG FIXTURES SHALL NOT BE SIMPLY BOLTED TO THE WALL OR ANCHORED TO WOOD BLOCKING.
   c. COORDINATE COLOR OF FIXTURES WITH ARCHITECT. FIXTURES SHALL BE WHITE UNLESS OTHERWISE NOTED.
   d. PROVIDE ADA COMPLIANT FIXTURES WHERE INDICATED ON THE ARCHITECTURAL PLANS. PROVIDE OFFSET FIXTURE TAILPIECES AND TRAPS WHERE REQUIRED TO MEET ADA LEG CLEARANCES.
   e. FIXTURES SHALL BE SECURELY FASTENED TO PREVENT ANY MOVEMENT OF FIXTURE DURING NORMAL USE. SEAL TO WALL, FLOOR OR COUNTERTOP WITH SILICONIZED ACRYLIC-LATEX CAULK.
5. DRAIN PANS
   a. PROVIDE DRAIN PAN UNDER WATER HEATERS. PIPE WATER HEATER DRAIN AND PRESSURE RELIEF VALVE SEPARATELY AND INDIRECTLY TO FLOOR DRAIN (NOT TO DRAIN PAN).
6. DOMESTIC WATER SYSTEMS
   a. NEW FIXTURES SHALL BE CONNECTED TO THE EXISTING WATER SERVICE/MAIN.
   b. INTERIOR DOMESTIC WATER PIPING:
      i. WHERE ALLOWED BY CODE, CPVC PIPING CAN BE USED.
      a. CPVC PIPING 2" AND SMALLER SHALL BE EQUAL TO FLOW GUARD GOLD - THIS SPECIFICATION COVERS COPPER TUBE SIZE (CTS) CPVC MANUFACTURED TO STANDARD DIMENSIONAL RATIO (SDR) 11 FOR HOT AND COLD DOMESTIC WATER DISTRIBUTION. THIS SYSTEM IS INTENDED FOR PRESSURE APPLICATIONS WHERE THE OPERATING TEMPERATURE WILL NOT EXCEED 180°F AT 100 PSI. PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN RIGID CPVC (CHLORINATED POLYVINYL CHLORIDE) VINYL COMPOUNDS WITH A CELL CLASS OF 24448 AS IDENTIFIED IN ASTM D 1784. CTS CPVC PIPE AND FITTINGS SHALL CONFORM TO ASTM D 2846. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER. ALL PIPE AND FITTINGS SHALL BE MANUFACTURED IN THE UNITED STATES. PIPE AND FITTINGS SHALL CONFORM TO NATIONAL SANITATION FOUNDATION (NSF) STANDARDS 14 AND 61. INSTALLATION SHALL COMPLY WITH LATEST INSTALLATION PROVIDED BY THE MANUFACTURER AND SHALL CONFORM TO ALL LOCAL PLUMBING, BUILDING AND FIRE CODE REQUIREMENTS. BURIED PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM F 1668. SOLVENT WELD JOINTS SHALL BE MADE USING CPVC CEMENT CONFORMING TO ASTM F 493. YELLOW ONE-STEP CEMENT MAY BE USED WITHOUT PRIMER. IF A PRIMER IS REQUIRED BY LOCAL PLUMBING OR BUILDING CODES, THEN A PRIMER CONFORMING TO ASTM F 656 SHOULD BE USED. THE SYSTEM SHALL BE PROTECTED FROM CHEMICAL AGENTS, FIRE STOPPING MATERIALS, THREAD SEALANT, PLASTICIZED VINYL PRODUCTS OR OTHER AGGRESSIVE CHEMICAL AGENTS NOT COMPATIBLE WITH CPVC COMPOUNDS. SYSTEMS SHALL BE HYDROSTATICALLY TESTED AFTER INSTALLATION. NEVER TEST WITH OR TRANSPORT/STORE COMPRESSED AIR OR GAS IN CPVC PIPE OR FITTINGS.
      ii. WHERE ALLOWED BY CODE, PEX TUBE AND FITTINGS CAN BE USED. TUBING SHALL BE PEX-A TYPE AND FITTINGS SHALL BE EQUAL TO UPONOR AQUAPEX. TUBING AND FITTINGS MUST CONFORM TO ASTM F876 "STANDARD SPECIFICATION FOR CROSSLINKED POLYETHYLENE, ASTM F877 "STANDARD FOR CROSSLINKED POLYETHYLENE PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS". PROVIDE ENGINEERED PLASTIC FITTINGS WITH PLASTIC COLLARS WHICH CONFORM TO ASTM F1960 STANDARD SPECIFICATION FOR COLD EXPANSION FITTINGS WITH PEX REINFORCING RINGS FOR USE WITH CROSSLINKED POLYETHYLENE PIPING. PEX TUBING AND CONNECTIONS SHALL BE WARRANTED FOR A PERIOD OF 25 YEARS. DO NOT WELD, GLUE, TAPE OR ALLOW OTHER SOLVENT BASED ADHESIVES OR PAINTS TO COME INTO CONTACT WITH TUBING. DO NOT ALLOW TUBING TO COME IN CONTACT WITH PIPE THREAD COMPOUNDS, FIREWALL PENETRATION SEALING COMPOUNDS, AND PETROLEUM BASED SEALANTS. DO NOT ALLOW TUBING TO COME WITHIN 6" OF GAS APPLIANCE VENTS OR 12" OF RECESSED LIGHT FIXTURES. DO NOT EXPOSE TUBING TO OPEN FLAME. DO NOT SOLDER WITHIN 18" OF TUBING. DO NOT INSTALL TUBING BETWEEN TUB SPOUT AND SHOWER VALVE. RADIUS OF BENDS MUST NOT EXCEED SIX TIMES OUTSIDE TUBE DIAMETER. REPAIR KINKS IN TUBING USING HEAT AS RECOMMENDED BY MANUFACTURER. TUBING SHALL BE INSTALLED IN MAXIMUM PRACTICAL LENGTHS, AS DIRECTLY AS POSSIBLE TO REMOTE MANIFOLD WITH MINIMUM FITTINGS. TUBING SHALL BE SUPPORTED IN A MATTER THAT DOES NOT DAMAGE TUBING AND ALLOWS FOR THERMAL EXPANSION. SUPPORTS SHALL BE SPACED AT 32" MINIMUM HORIZONTALLY AND 60" VERTICALLY AND WITHIN 6" OF FITTINGS OR BENDS. USE BEND SUPPORTS AT 90 DEGREE BENDS. PROTECT INSTALLED PENETRATES STUDS AT FACE OF STUDS. REMOTE MANIFOLD TYPE FITTINGS SHALL BE UTILIZED AT BRANCHES IN ROOMS WHERE TUBING IS TERMINATED (MODIFIED HOME-RUN INSTALLATION TYPE). UTILIZE EXPANDER TOOLS RECOMMENDED BY MANUFACTURER FOR CONNECTION OF TUBING TO FITTINGS. DO NOT OVER EXPAND TUBING. PIPE SHALL BE SUPPORTED AT FITTINGS AND FIXTURES AS RECOMMENDED BY MANUFACTURER. PIPING SHALL BE INSTALLED WITH MINIMUM AMOUNT OF FITTINGS. USE MANUFACTURER APPROVED VALVES, FITTINGS, HOSE BIBS AND BOXES AT FIXTURES.
   c. CONTROL VALVES SHALL BE MANUFACTURED BY OR APPROVED BY PIPING MANUFACTURER.
   d. ADJUST ALL STOPS AND VALVES PROPERLY PRIOR TO PROJECT COMPLETION.
7. WATER HAMMER ARRESTORS/SHOCK ABSORBERS
   a. REMOVE SHOCK CONDITIONS FROM ALL PIPING. PROVIDE AND INSTALL WATER HAMMER ARRESTORS/SHOCK ABSORBERS ON ALL PIPING SERVING FLUSH VALVE FIXTURES, CLOTHES WASHER SUPPLY BOXES, COMMERCIAL WASHER SUPPLY LINES, AND OTHER EQUIPMENT WITH QUICK-CLOSING VALVES. WATER HAMMER ARRESTORS SHALL BE PROVIDED PER PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI-WH 201.
8. SANITARY AND VENT SYSTEMS
   a. CONNECT NEW SANITARY PIPING TO THE EXISTING SANITARY STACKS AND/OR UNDERGROUND SANITARY BUILDING SEWER. CONTRACTOR SHALL CLEAN AND INSPECT EXISTING UNDERGROUND BUILDING SEWER, SEWER LATERAL AND ALL PIPING INTENDED TO BE REUSED TO DETERMINED CONDITION FOR REUSE. PROVIDE INSPECTION REPORT AND RECOMMENDATION TO OWNER.
   b. CUT AND PATCH SLAB AS REQUIRED TO INSTALL NEW SANITARY PIPING.
   c. INTERIOR SANITARY, WASTE, AND VENT PIPING:
      i. SANITARY, WASTE, AND VENT PIPING WITHIN BUILDING TO BE SCHEDULE 40 PVC PIPING AND FITTINGS CONFORMING TO ASTM D 2665, SOLID-WALL DRAIN PIPING WITH PVC SOCKET SOLVENT WELD FITTINGS CONFORMING TO ASTM D2665, MADE TO ASTM D3311, DRAIN, WASTE, AND VENT PATTERNS.
9. TRAP SEAL PROTECTION
   a. TRAP SEALS SUBJECT TO EVAPORATION SHALL BE PROTECTED BY ONE OF THE METHODS BELOW, AS APPROVED BY THE LOCAL PLUMBING AUTHORITY HAVING JURISDICTION:
   b. POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE - A POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE MUST SUPPLY WATER TO THE TRAP. WATER-SUPPLIED TRAP SEAL PRIMERS MUST CONFORM TO ASSE 1018. THE DISCHARGE PIPE FROM THE TRAP SEAL PRIMER MUST CONNECT TO THE TRAP ABOVE THE TRAP SEAL ON THE INLET SIDE OF THE TRAP.
   c. BARRIER-TYPE TRAP SEAL PROTECTION DEVICE - A BARRIER-TYPE TRAP SEAL PROTECTION DEVICE MUST PROTECT THE TRAP SEAL FROM EVAPORATION. BARRIER-TYPE TRAP SEAL PROTECTION DEVICES MUST CONFORM TO ASSE 1072. THE DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
10. CLEANOUTS
   a. PROVIDE FLOOR AND WALL CLEANOUTS WHERE REQUIRED IN ALL SOIL, WASTE, DRAIN AND STORM PIPING. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.
11. VALVES - GENERAL
   a. PLUMBING CONTRACTOR MUST PROVIDE VALVES AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH ISOLATED FIXTURE OR GROUP OF FIXTURES, AND EACH CONNECTION TO EQUIPMENT.
   b. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.
12. VALVES FOR DOMESTIC WATER
   a. VALVES FOR DOMESTIC WATER MUST MEET THE REQUIREMENTS OF THE LEAD-FREE LAW S.3874. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LEAD-FREE PRODUCTS AS MANDATED BY THE LAW AND AS REQUIRED/INTERPRETED BY THE AUTHORITY HAVING JURISDICTION.
   b. PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER.
   c. GENERAL DUTY SHUT-OFF BALL VALVES
      i. PROVIDE TWO-PIECE, FULL PORT, SILICON BRONZE BALL VALVES WITH THE CAPABILITY OF ACCEPTING EXTENDED OPERATING HANDLES (FOR INSULATED PIPING). VALVES SHALL BE NIBCO MODEL T/S/PC-595-Y-66-LF (-NS) OR EQUAL PRODUCT MANUFACTURED BY AMERICAN VALVE CO, CRANE, HAMMOND, MILWAUKEE, RED-WHITE VALVE CORPORATION, OR WATTS.
   d. THERMOSTATIC MIXING VALVES
      i. TEMPERED WATER SHALL BE DELIVERED FROM PUBLIC HAND-WASHING FACILITIES (LAVATORIES AND SINKS) THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070. SET OUTLET TEMPERATURE OF THERMOSTATIC MIXING VALVE TO 110 DEGREES F. POINT-OF-USE THERMOSTATIC MIXING VALVES SHALL BE EQUAL TO WATTS SERIES USG-B. ROUTE TEMPERED WATER TO HOT WATER SIDE OF SINK/LAVATORY. ACCEPTABLE MANUFACTURERS INCLUDE SYMMONS, LAWLER, LEONARD, POWERS, BRADLEY, AND WATTS.
13. HANGERS & SUPPORTS
   a. THE PLUMBING CONTRACTOR MUST FURNISH ALL PIPE SUPPORTS REQUIRED FOR THEIR WORK. ALL PIPING SHALL BE SUPPORTED PER CODE. ADDITIONAL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SAGGING. WHERE ALTERNATIVE PIPING MATERIALS ARE USED, HANGER SPACING CAN BE REDUCED AS RECOMMENDED BY THE MANUFACTURER AND WHERE ALLOWED BY CODE.
14. INSULATION
   a. PROVIDE THERMAL INSULATION ON ALL DOMESTIC HOT WATER PIPING WITH SELF-SEALING CLOSED CELL ELASTOMERIC FOAM. PROVIDE A CONTINUOUS VAPOR TIGHT SEAL. INSULATION SHALL BE CONTINUOUS THRU ALL WALLS AND FLOORS. NFPA FIRE HAZARD RATING FOR INSULATION, ADHESIVES, SEALERS, AND COATINGS MUST NOT EXCEED 25 FOR FLAME SPREAD AND 50 FOR SMOKE DEVELOPED, UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY OR ENERGY CODES. THE MINIMUM INSULATION LEVELS SHALL BE AS FOLLOWS:
      i. PROVIDE 1" THICK ELASTOMERIC INSULATION ON HOT WATER PIPING.
      b. PROVIDE INSULATION ON ALL PEX PIPING WHEN USED IN PLENUMS AND WHERE REQUIRED TO MAINTAIN THE REQUIRED FLAME AND SMOKE RATINGS. MOST PEX PIPING ¾" AND SMALLER SHALL BE INSULATED TO MAINTAIN ITS PLENUM RATED PROPERTY IF 18" SEPARATION BETWEEN THE PIPING CANNOT BE PROVIDED.
15. INSULATION FOR HANDICAP ACCESSIBLE FIXTURES (WHERE NOT PROTECTED WITH A SHROUD)
   a. ALL HANDICAP LAVATORY P-TRAP AND ANGLE STOP ASSEMBLIES SHALL BE INSULATED WITH TRAP WRAP PROTECTIVE KIT MANUFACTURED BY PROFLO MODEL PF200 SERIES OR EQUAL. PROVIDE OFFSET TRAPS FOR HANDICAP ACCESSIBLE FIXTURES WHERE REQUIRED. ABRASION RESISTANT, ANTI-MICROBIAL VINYL EXTERIOR COVER SHALL BE SMOOTH. FOR TRAPS, THE INSULATION MUST HAVE A CLEANOUT NUT CAP TO ALLOW SERVICE TO THE TRAP WITHOUT DISASSEMBLY. FOR STOPS, THE INSULATION MUST HAVE A LOCK LID THAT PREVENTS TAMPERING BUT ALLOWS ACCESS WITHOUT REMOVAL OF THE INSULATION. FASTENERS MUST REMAIN SUBSTANTIALLY OUT OF SIGHT. ACCEPTABLE MANUFACTURERS INCLUDE PROFLO, TRUEBRO, PLUMBEREX, AND DEARBORN.
16. CONCRETE HOUSEKEEPING PADS
   a. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED LEVEL AND PLUMB ON 4" THICK CONCRETE HOUSEKEEPING PAD.
17. ESCUTCHEON PLATES
   a. INSTALL ONE-PIECE CHROME PLATED BRASS WALL PLATE EQUIPPED WITH SET SCREW AROUND ALL EXPOSED PIPE PASSING THROUGH WALLS IN FINISHED AREAS.
18. ACCESS PANELS
   a. LOCATE VALVES IN READILY ACCESSIBLE LOCATIONS. WHERE VALVES SHALL BE INSTALLED ABOVE NON-ACCESSIBLE CEILINGS, PROVIDE ACCESS PANELS. ACCESS PANELS SHALL BE PAINTABLE METAL. COORDINATE ACCESS PANEL SIZES AND LOCATIONS WITH THE ARCHITECT.
19. FIRE STOPPING
   a. PROVIDE FIRE STOPPING AT ALL PENETRATIONS THROUGH RATED RECOMMENDATIONS FOR ASSEMBLIES ENCOUNTERED IN PROJECT.
   b. THE FIRE STOPPING MATERIAL MUST MEET THE INTEGRITY OF THE FIRE RATED WALL, FLOOR, CEILING & ROOF BEING PENETRATED. REFER TO ARCHITECT'S DRAWINGS FOR WALL, FLOOR, CEILING & ROOF FIRE RATINGS PRIOR TO BIDDING WORK.
20. FLASHING & COUNTERFLASHING
   a. PROVIDE ROOF FLASHING AND COUNTERFLASHING FOR ALL ROOF PENETRATIONS.
   b. OBTAIN APPROVAL FROM GENERAL CONTRACTOR, CONSTRUCTION MANAGER, OWNER AND/OR ROOFING CONTRACTOR PRIOR TO MAKING ANY PENETRATIONS SO THAT WARRANTIES ARE NOT COMPROMISED OR VOIDED.
21. CATHODIC PROTECTION
   a. PROVIDE DIELECTRIC INSULATION AT POINTS WHERE COPPER OR BRASS PIPE COMES IN CONTACT WITH FERROUS PIPING, REINFORCING STEEL OR OTHER DISSIMILAR METAL IN STRUCTURE.
22. EXCAVATION, TRENCHING & BACKFILL
   a. DO ALL EXCAVATION, TRENCHING & BACKFILL REQUIRED FOR THE INSTALLATION OF PLUMBING WORK.
   b. ALL BACKFILL SHALL BE COMPACTED & BROUGHT TO FINISHED GRADE AND MUST MATCH SURROUNDING CONDITIONS.
   c. RESTORE ALL DISTURBED FLOORING TO ORIGINAL CONDITION.
   d. ALL PIPING SHALL BE LAID ON A BED OF SAND, 6" THICK MINIMUM. BACKFILL UNDER BUILDING AND ALL DRIVES, ROADS AND WALKS WITH BANK-RUN GRAVEL.
23. CUTTING AND PATCHING
   a. CUT AND PATCH WALLS AND FLOORS TO MATCH BUILDING CONSTRUCTION WHERE REQUIRED TO INSTALL ALL PLUMBING.
24. CONNECTIONS
   a. INSTALL UNIONS AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.
25. INSTALLATION
   a. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, CONCRETE FLOOR, AND ROOF SLABS. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.
26. TESTING
   a. ALL PLUMBING WORK SHALL BE TESTED & APPROVED BY INSPECTOR PRIOR TO BEING BACKFILLED, CONCEALED & PUT INTO SERVICE. AFTER TESTING IS COMPLETE & APPROVED, THE PLUMBING CONTRACTOR MUST DISINFECT THE POTABLE WATER SYSTEM AS REQUIRED BY LOCAL AUTHORITY. TEST WATER PURITY ACCORDING TO LOCAL REQUIREMENTS AND SUBMIT CERTIFIED TEST RESULTS TO OWNER FOR REVIEW AND APPROVAL.
27. SHOP DRAWINGS
   a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE PLUMBING CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
   c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE PLUMBING CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
28. OWNER'S INSTRUCTIONS
   a. PROVIDE TWO SETS OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS WITH DRAWINGS, TYPEWRITTEN INSTRUCTIONS AND OPERATING SEQUENCES AND DESCRIPTIVE DATA SHEETS. ASSEMBLE EACH SET IN A HARD-BOUND COVER.
29. WARRANTY
   a. THE PLUMBING CONTRACTOR MUST UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN EQUIPMENT, MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER AND THE PLUMBING CONTRACTOR WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE TO THE OWNER.
   b. RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE EQUIPMENT, MATERIALS AND WORKMANSHIP.

PLUMBING EQUIPMENT AND FIXTURE SCHEDULE

SK1 - SINK, EQUAL TO KOHLER MODEL MIDDLETON 14707, 33" X 22" X 7" DEEP, 20 GAUGE DOUBLE BOWL STAINLESS STEEL SINK WITH KOHLER MODEL SIMPLICE K-596 SINGLE HANDLE KITCHEN FAUCET 1.5 GPM W/ SPRAYHEAD, HIGH-ARCH SPOUT, LEAD LAW COMPLIANT, WATER SENSE LABELED, HOT & COLD STOP & SUPPLY.

WB1 - WASHER BOX, EQUAL TO OATEY CENTRO, IN WALL WASHER SUPPLY / DRAIN BOX FOR CLOTHES WASHER.

WC1 - WATER CLOSET, EQUAL TO AMERICAN STANDARD MODEL 238AA.114 VORMAX RH EL BOWL, 1.0 GALLONS PER FLUSH 12 TANK CADET COMPLETE WHITE, AMERICAN STANDARD MODEL 5321.110.020 ELONGATED CLOSET SEAT WITH COVER WHITE, MCGUIRE MODEL LF2166CCF LF SUPPLY FLEX CLOSET CP 1/2NOMCO, PROFLO MODEL PFWR WAX RING, PROFLOW MODEL PF90104 PAIR OF CLOSET BOLTS, NUTS, & WASHERS. WATER SENSE LABELED.

LV1 - LAVATORY SINK, EQUAL TO KOHLER MODEL K-2196-4, MADE OF VITREOUS CHINA, SHALL MEET ADA REQUIREMENTS W/ POLISHED CHROME FAUCET, KOHLER MODEL K-98146-4, WATER SENSE LABELED, 1.2 GPM, 4" CENTERSET INSTALLATION, 0.5 GPM AERATOR, FLEXIBLE STAINLESS SUPPLY PIPES, ANGLE STOPS, "P" TRAP, POPUP DRAIN. PROVIDE INSTALLATION EQUAL TO TRUEBRO "LAV GUARD" TRAP & SUPPLY INSULATORS AND WALL HANGER. MEETS ADA GUIDELINES.

BT1 - BATHTUB, EQUAL TO 30" MINIMUM WIDTH; MADE OF FIBERGLASS, ACRYLIC, PORCELAIN, OR CULTURED MARBLE WITH DELTA MODEL RPW324 HDF HAND SHOWER WITH ADJUSTABLE VALVE; SHOWER HEAD SHALL BE RATED FOR 1.5 GPM.

EDWH1 - ELECTRIC WATER HEATER, EQUAL TO A.O. SMITH DEL-40D-3, 3 KW, 40 GALLON, 240 V, SINGLE PHASE, OR EQUAL WITH LIKE SIZE AND POWER REQUIREMENTS.

SH1 - SHOWER, EQUAL TO 5'-0" ROLL-IN WITH COLLAPSIBLE ADA COMPLIANT THRESHOLD. PROVIDE SHOWER VALVE AND HAND SHOWER WITH ADJUSTABLE VALVE, SHOWER HEAD SHALL BE RATED FOR 1.75 GPM WATER SENSE LABELED.

FD1 - FLOOR DRAIN, EQUAL TO SIOUX CHIEF MODEL 842-P WITH NICKEL BRONZE ADJUSTABLE STRAINER. PROVIDE TRAP PRIMERS WHERE REQUIRED BY CODE. REFER TO WASTE AND VENT ISOMETRIC FOR SIZES.

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
—— V ——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD●	FLOOR DRAIN
——⋈——	BALL VALVE
CO○	CLEANOUT

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REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 19
PLUMBING DETAILS

P306

DIVISION 22 - PLUMBING

1. GENERAL PLUMBING REQUIREMENTS
   a. THE PLUMBING CONTRACTOR MUST REFER TO SITE PLANS, ARCHITECTURAL PLANS AND ELEVATIONS, AND PRICING INSTRUCTIONS FROM THE GENERAL CONTRACTOR TO DEVELOP THEIR PRICE. THE PLUMBING CONTRACTOR'S PRICE (INCLUDING TAXES) SHOULD INCLUDE ALL LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM.
   b. THE PLUMBING CONTRACTOR SHALL BE LICENSED BY THE STATE OF OHIO TO INSTALL PLUMBING SYSTEMS.
   c. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD.
   d. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE AND CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA AND RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   e. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, SPECIFICATIONS, AND DRAWINGS EXCEPT AS NOTED HEREIN WHICH APPLY IN ALL RESPECTS TO THIS SECTION.
   f. COORDINATE PIPING CHASES, SHAFTS, ABOVE CEILING WORK, ETC. WITH ARCHITECT. ALL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO WORK.
   g. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY PLUMBING PIPING PENETRATIONS. THIS INCLUDES CORING HOLES IN SLABS, ETC.
   h. EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF AGA, ARI, ASME, ASTM, CISPI, UL, NEMA, ANSI, SMACNA, ASHRAE, NFPA, NEC, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY. ALL EQUIPMENT MUST BEAR UL LABEL.
   i. INSTALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES.
   j. WHERE NOT PROVIDED BY OTHERS, PROCURE AND PAY FOR ALL PERMITS, FEES, TAXES AND INSPECTIONS NECESSARY TO COMPLETE THE PLUMBING WORK. FURNISH CERTIFICATE OF APPROVAL FOR WORK FROM INSPECTION AUTHORITY TO OWNER BEFORE FINAL ACCEPTANCE FOR WORK. CERTIFICATE OF FINAL INSPECTION AND APPROVAL SHALL BE SUBMITTED WITH THE CONTRACTOR'S REQUEST FOR PAYMENT. NO FINAL PAYMENT WILL BE APPROVED WITHOUT THIS CERTIFICATE.
   k. ALL WORK SHALL BE ACCURATELY LAID-OUT WITH OTHER TRADES, PRIOR TO INSTALLATION & FABRICATION, TO AVOID ALL CONFLICTS AND OBTAIN A NEAT AND WORKMANLIKE INSTALLATION WHICH WILL AFFORD MAXIMUM ACCESSIBILITY FOR EQUIPMENT OPERATION, MAINTENANCE CLEARANCES AND HEADROOM.
2. USE OF INFORMATION PROVIDED BY EBS
   a. THE INFORMATION PROVIDED IS INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS, SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM ARE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
3. CONTRACTOR COORDINATION
   a. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE PLUMBING CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
4. PLUMBING FIXTURES
   a. SHUT OFF VALVES/STOPS SHALL BE PROVIDED AT ALL LAVATORIES, SINKS AND WATER CLOSETS.
   b. ALL WALL-HUNG PLUMBING FIXTURES, INCLUDING, BUT NOT LIMITED TO WATER CLOSETS, URINALS, LAVATORIES, AND SINKS SHALL BE ANCHORED TO THE FLOOR WITH CONCEALED IN-WALL CARRIERS. WALL-HUNG FIXTURES SHALL NOT BE SIMPLY BOLTED TO THE WALL OR ANCHORED TO WOOD BLOCKING.
   c. COORDINATE COLOR OF FIXTURES WITH ARCHITECT. FIXTURES SHALL BE WHITE UNLESS OTHERWISE NOTED.
   d. PROVIDE ADA COMPLIANT FIXTURES WHERE INDICATED ON THE ARCHITECTURAL PLANS. PROVIDE OFFSET FIXTURE TAILPIECES AND TRAPS WHERE REQUIRED TO MEET ADA LEG CLEARANCES.
   e. FIXTURES SHALL BE SECURELY FASTENED TO PREVENT ANY MOVEMENT OF FIXTURE DURING NORMAL USE. SEAL TO WALL, FLOOR OR COUNTERTOP WITH SILICONIZED ACRYLIC-LATEX CAULK.
5. DRAIN PANS
   a. PROVIDE DRAIN PAN UNDER WATER HEATERS. PIPE WATER HEATER DRAIN AND PRESSURE RELIEF VALVE SEPARATELY AND INDIRECTLY TO FLOOR DRAIN (NOT TO DRAIN PAN).
6. DOMESTIC WATER SYSTEMS
   a. NEW FIXTURES SHALL BE CONNECTED TO THE EXISTING WATER SERVICE/MAIN.
   b. INTERIOR DOMESTIC WATER PIPING:
      i. WHERE ALLOWED BY CODE, CPVC PIPING CAN BE USED.
      a. CPVC PIPING 2" AND SMALLER SHALL BE EQUAL TO FLOW GUARD GOLD - THIS SPECIFICATION COVERS COPPER TUBE SIZE (CTS) CPVC MANUFACTURED TO STANDARD DIMENSIONAL RATIO (SDR) 11 FOR HOT AND COLD DOMESTIC WATER DISTRIBUTION. THIS SYSTEM IS INTENDED FOR PRESSURE APPLICATIONS WHERE THE OPERATING TEMPERATURE WILL NOT EXCEED 180°F AT 100 PSI. PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN RIGID CPVC (CHLORINATED POLYVINYL CHLORIDE) VINYL COMPOUNDS WITH A CELL CLASS OF 24448 AS IDENTIFIED IN ASTM D 1784. CTS CPVC PIPE AND FITTINGS SHALL CONFORM TO ASTM D 2846. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER. ALL PIPE AND FITTINGS SHALL BE MANUFACTURED IN THE UNITED STATES. PIPE AND FITTINGS SHALL CONFORM TO NATIONAL SANITATION FOUNDATION (NSF) STANDARDS 14 AND 61. INSTALLATION SHALL COMPLY WITH LATEST INSTALLATION PROVIDED BY THE MANUFACTURER AND SHALL CONFORM TO ALL LOCAL PLUMBING, BUILDING AND FIRE CODE REQUIREMENTS. BURIED PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM F 1668. SOLVENT WELD JOINTS SHALL BE MADE USING CPVC CEMENT CONFORMING TO ASTM F 493. YELLOW ONE-STEP CEMENT MAY BE USED WITHOUT PRIMER. IF A PRIMER IS REQUIRED BY LOCAL PLUMBING OR BUILDING CODES, THEN A PRIMER CONFORMING TO ASTM F 656 SHOULD BE USED. THE SYSTEM SHALL BE PROTECTED FROM CHEMICAL AGENTS, FIRE STOPPING MATERIALS, THREAD SEALANT, PLASTICIZED VINYL PRODUCTS OR OTHER AGGRESSIVE CHEMICAL AGENTS NOT COMPATIBLE WITH CPVC COMPOUNDS. SYSTEMS SHALL BE HYDROSTATICALLY TESTED AFTER INSTALLATION. NEVER TEST WITH OR TRANSPORT/STORE COMPRESSED AIR OR GAS IN CPVC PIPE OR FITTINGS.
      ii. WHERE ALLOWED BY CODE, PEX TUBE AND FITTINGS CAN BE USED. TUBING SHALL BE PEX-A TYPE AND FITTINGS SHALL BE EQUAL TO UPONOR AQUAPEX. TUBING AND FITTINGS MUST CONFORM TO ASTM F876 "STANDARD SPECIFICATION FOR CROSSLINKED POLYETHYLENE, ASTM F877 "STANDARD FOR CROSSLINKED POLYETHYLENE PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS". PROVIDE ENGINEERED PLASTIC FITTINGS WITH PLASTIC COLLARS WHICH CONFORM TO ASTM F1960 STANDARD SPECIFICATION FOR COLD EXPANSION FITTINGS WITH PEX REINFORCING RINGS FOR USE WITH CROSSLINKED POLYETHYLENE PIPING. PEX TUBING AND CONNECTIONS SHALL BE WARRANTED FOR A PERIOD OF 25 YEARS. DO NOT WELD, GLUE, TAPE OR ALLOW OTHER SOLVENT BASED ADHESIVES OR PAINTS TO COME INTO CONTACT WITH TUBING. DO NOT ALLOW TUBING TO COME IN CONTACT WITH PIPE THREAD COMPOUNDS, FIREWALL PENETRATION SEALING COMPOUNDS, AND PETROLEUM BASED SEALANTS. DO NOT ALLOW TUBING TO COME WITHIN 6" OF GAS APPLIANCE VENTS OR 12" OF RECESSED LIGHT FIXTURES. DO NOT EXPOSE TUBING TO OPEN FLAME. DO NOT SOLDER WITHIN 18" OF TUBING. DO NOT INSTALL TUBING BETWEEN TUB SPOUT AND SHOWER VALVE. RADIUS OF BENDS MUST NOT EXCEED SIX TIMES OUTSIDE TUBE DIAMETER. REPAIR KINKS IN TUBING USING HEAT AS RECOMMENDED BY MANUFACTURER. TUBING SHALL BE INSTALLED IN MAXIMUM PRACTICAL LENGTHS, AS DIRECTLY AS POSSIBLE TO REMOTE MANIFOLD WITH MINIMUM FITTINGS. TUBING SHALL BE SUPPORTED IN A MATTER THAT DOES NOT DAMAGE TUBING AND ALLOWS FOR THERMAL EXPANSION. SUPPORTS SHALL BE SPACED AT 32" MINIMUM HORIZONTALLY AND 60" VERTICALLY AND WITHIN 6" OF FITTINGS OR BENDS. USE BEND SUPPORTS AT 90 DEGREE BENDS. PROTECT INSTALLED TUBING FROM DAMAGE. INSTALL METAL PLATES WHERE TUBING PENETRATES STUDS AT FACE OF STUDS. REMOTE MANIFOLD TYPE FITTINGS SHALL BE UTILIZED AT BRANCHES IN ROOMS WHERE TUBING IS TERMINATED (MODIFIED HOME-RUN INSTALLATION TYPE). UTILIZE EXPANDER TOOLS RECOMMENDED BY MANUFACTURER FOR CONNECTION OF TUBING TO FITTINGS. DO NOT OVER EXPAND TUBING. PIPE SHALL BE SUPPORTED AT FITTINGS AND FIXTURES AS RECOMMENDED BY MANUFACTURER. PIPING SHALL BE INSTALLED WITH MINIMUM AMOUNT OF FITTINGS. USE MANUFACTURER APPROVED VALVES, FITTINGS, HOSE BIBS AND BOXES AT FIXTURES.
   c. CONTROL VALVES SHALL BE MANUFACTURED BY OR APPROVED BY PIPING MANUFACTURER.
   d. ADJUST ALL STOPS AND VALVES PROPERLY PRIOR TO PROJECT COMPLETION.
7. WATER HAMMER ARRESTORS/SHOCK ABSORBERS
   a. REMOVE SHOCK CONDITIONS FROM ALL PIPING. PROVIDE AND INSTALL WATER HAMMER ARRESTORS/SHOCK ABSORBERS ON ALL PIPING SERVING FLUSH VALVE FIXTURES, CLOTHES WASHER SUPPLY BOXES, COMMERCIAL WASHER SUPPLY LINES, AND OTHER EQUIPMENT WITH QUICK-CLOSING VALVES. WATER HAMMER ARRESTORS SHALL BE PROVIDED PER PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI-WH 201.
8. SANITARY AND VENT SYSTEMS
   a. CONNECT NEW SANITARY PIPING TO THE EXISTING SANITARY STACKS AND/OR UNDERGROUND SANITARY BUILDING SEWER. CONTRACTOR SHALL CLEAN AND INSPECT EXISTING UNDERGROUND BUILDING SEWER, SEWER LATERAL AND ALL PIPING INTENDED TO BE REUSED TO DETERMINED CONDITION FOR REUSE. PROVIDE INSPECTION REPORT AND RECOMMENDATION TO OWNER.
   b. CUT AND PATCH SLAB AS REQUIRED TO INSTALL NEW SANITARY PIPING.
   c. INTERIOR SANITARY, WASTE, AND VENT PIPING:
      i. SANITARY, WASTE, AND VENT PIPING WITHIN BUILDING TO BE SCHEDULE 40 PVC PIPING AND FITTINGS CONFORMING TO ASTM D 2665, SOLID-WALL DRAIN PIPING WITH PVC SOCKET SOLVENT WELD FITTINGS CONFORMING TO ASTM D2665, MADE TO ASTM D3311, DRAIN, WASTE, AND VENT PATTERNS.
9. TRAP SEAL PROTECTION
   a. TRAP SEALS SUBJECT TO EVAPORATION SHALL BE PROTECTED BY ONE OF THE METHODS BELOW, AS APPROVED BY THE LOCAL PLUMBING AUTHORITY HAVING JURISDICTION:
   b. POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE - A POTABLE WATER-SUPPLIED TRAP SEAL PRIMER VALVE MUST SUPPLY WATER TO THE TRAP. WATER-SUPPLIED TRAP SEAL PRIMERS MUST CONFORM TO ASSE 1018. THE DISCHARGE PIPE FROM THE TRAP SEAL PRIMER MUST CONNECT TO THE TRAP ABOVE THE TRAP SEAL ON THE INLET SIDE OF THE TRAP.
   c. BARRIER-TYPE TRAP SEAL PROTECTION DEVICE - A BARRIER-TYPE TRAP SEAL PROTECTION DEVICE MUST PROTECT THE TRAP SEAL FROM EVAPORATION. BARRIER-TYPE TRAP SEAL PROTECTION DEVICES MUST CONFORM TO ASSE 1072. THE DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
10. CLEANOUTS
   a. PROVIDE FLOOR AND WALL CLEANOUTS WHERE REQUIRED IN ALL SOIL, WASTE, DRAIN AND STORM PIPING. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.
11. VALVES - GENERAL
   a. PLUMBING CONTRACTOR MUST PROVIDE VALVES AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH ISOLATED FIXTURE OR GROUP OF FIXTURES, AND EACH CONNECTION TO EQUIPMENT.
   b. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.
12. VALVES FOR DOMESTIC WATER
   a. VALVES FOR DOMESTIC WATER MUST MEET THE REQUIREMENTS OF THE LEAD-FREE LAW S.3874. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LEAD-FREE PRODUCTS AS MANDATED BY THE LAW AND AS REQUIRED/INTERPRETED BY THE AUTHORITY HAVING JURISDICTION.
   b. PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER.
   c. GENERAL DUTY SHUT-OFF BALL VALVES
      i. PROVIDE TWO-PIECE, FULL PORT, SILICON BRONZE BALL VALVES WITH THE CAPABILITY OF ACCEPTING EXTENDED OPERATING HANDLES (FOR INSULATED PIPING). VALVES SHALL BE NIBCO MODEL T/S/PC-595-Y-66-LF (-NS) OR EQUAL PRODUCT MANUFACTURED BY AMERICAN VALVE CO, CRANE, HAMMOND, MILWAUKEE, RED-WHITE VALVE CORPORATION, OR WATTS.
   d. THERMOSTATIC MIXING VALVES
      i. TEMPERED WATER SHALL BE DELIVERED FROM PUBLIC HAND-WASHING FACILITIES (LAVATORIES AND SINKS) THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070. SET OUTLET TEMPERATURE OF THERMOSTATIC MIXING VALVE TO 110 DEGREES F. POINT-OF-USE THERMOSTATIC MIXING VALVES SHALL BE EQUAL TO WATTS SERIES USG-B. ROUTE TEMPERED WATER TO HOT WATER SIDE OF SINK/LAVATORY. ACCEPTABLE MANUFACTURERS INCLUDE: SYMMONS, LAWLER, LEONARD, POWERS, BRADLEY, AND WATTS.
13. HANGERS & SUPPORTS
   a. THE PLUMBING CONTRACTOR MUST FURNISH ALL PIPE SUPPORTS REQUIRED FOR THEIR WORK. ALL PIPING SHALL BE SUPPORTED PER CODE. ADDITIONAL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SAGGING. WHERE ALTERNATIVE PIPING MATERIALS ARE USED, HANGER SPACING CAN BE REDUCED AS RECOMMENDED BY THE MANUFACTURER AND WHERE ALLOWED BY CODE.
14. INSULATION
   a. PROVIDE THERMAL INSULATION ON ALL DOMESTIC HOT WATER PIPING WITH SELF-SEALING CLOSED CELL ELASTOMERIC FOAM. PROVIDE A CONTINUOUS VAPOR TIGHT SEAL. INSULATION SHALL BE CONTINUOUS THRU ALL WALLS AND FLOORS. NFPA FIRE HAZARD RATING FOR INSULATION, ADHESIVES, SEALERS, AND COATINGS MUST NOT EXCEED 25 FOR FLAME SPREAD AND 50 FOR SMOKE DEVELOPED, UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY OR ENERGY CODES. THE MINIMUM INSULATION LEVELS SHALL BE AS FOLLOWS:
      i. PROVIDE 1" THICK ELASTOMERIC INSULATION ON HOT WATER PIPING.
   b. PROVIDE INSULATION ON ALL PEX PIPING WHEN USED IN PLENUMS AND WHERE REQUIRED TO MAINTAIN THE REQUIRED FLAME AND SMOKE RATINGS. MOST PEX PIPING ¾" AND SMALLER SHALL BE INSULATED TO MAINTAIN ITS PLENUM RATED PROPERTY IF 18" SEPARATION BETWEEN THE PIPING CANNOT BE PROVIDED.
15. INSULATION FOR HANDICAP ACCESSIBLE FIXTURES (WHERE NOT PROTECTED WITH A SHROUD)
   a. ALL HANDICAP LAVATORY P-TRAP AND ANGLE STOP ASSEMBLIES SHALL BE INSULATED WITH TRAP WRAP PROTECTIVE KIT MANUFACTURED BY PROFLO MODEL PF200 SERIES OR EQUAL. PROVIDE OFFSET TRAPS FOR HANDICAP ACCESSIBLE FIXTURES WHERE REQUIRED. ABRASION RESISTANT, ANTI-MICROBIAL VINYL EXTERIOR COVER SHALL BE SMOOTH. FOR TRAPS, THE INSULATION MUST HAVE A CLEANOUT NUT CAP TO ALLOW SERVICE TO THE TRAP WITHOUT DISASSEMBLY. FOR STOPS, THE INSULATION MUST HAVE A LOCK LID THAT PREVENTS TAMPERING BUT ALLOWS ACCESS WITHOUT REMOVAL OF THE INSULATION. FASTENERS MUST REMAIN SUBSTANTIALLY OUT OF SIGHT. ACCEPTABLE MANUFACTURERS INCLUDE PROFLO, TRUEBRO, PLUMBEREX, AND DEARBORN.
16. CONCRETE HOUSEKEEPING PADS
   a. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED LEVEL AND PLUMB ON 4" THICK CONCRETE HOUSEKEEPING PAD.
17. ESCUTCHEON PLATES
   a. INSTALL ONE-PIECE CHROME PLATED BRASS WALL PLATE EQUIPPED WITH SET SCREW AROUND ALL EXPOSED PIPE PASSING THROUGH WALLS IN FINISHED AREAS.
18. ACCESS PANELS
   a. LOCATE VALVES IN READILY ACCESSIBLE LOCATIONS. WHERE VALVES SHALL BE INSTALLED ABOVE NON-ACCESSIBLE CEILINGS, PROVIDE ACCESS PANELS. ACCESS PANELS SHALL BE PAINTABLE METAL. COORDINATE ACCESS PANEL SIZES AND LOCATIONS WITH THE ARCHITECT.
19. FIRE STOPPING
   a. PROVIDE FIRE STOPPING AT ALL PENETRATIONS THROUGH RATED SEPARATIONS PER LOCAL CODES & REGULATIONS & PER UL RECOMMENDATIONS FOR ASSEMBLIES ENCOUNTERED IN PROJECT.
   b. THE FIRE STOPPING MATERIAL MUST MEET THE INTEGRITY OF THE FIRE RATED WALL, FLOOR, CEILING & ROOF BEING PENETRATED. REFER TO ARCHITECT'S DRAWINGS FOR WALL, FLOOR, CEILING & ROOF FIRE RATINGS PRIOR TO BIDDING WORK.
20. FLASHING & COUNTERFLASHING
   a. PROVIDE ROOF FLASHING AND COUNTERFLASHING FOR ALL ROOF PENETRATIONS.
   b. OBTAIN APPROVAL FROM GENERAL CONTRACTOR, CONSTRUCTION MANAGER, OWNER AND/OR ROOFING CONTRACTOR PRIOR TO MAKING ANY PENETRATIONS SO THAT WARRANTIES ARE NOT COMPROMISED OR VOIDED.
21. CATHODIC PROTECTION
   a. PROVIDE DIELECTRIC INSULATION AT POINTS WHERE COPPER OR BRASS PIPE COMES IN CONTACT WITH FERROUS PIPING, REINFORCING STEEL OR OTHER DISSIMILAR METAL IN STRUCTURE.
22. EXCAVATION, TRENCHING & BACKFILL
   a. DO ALL EXCAVATION, TRENCHING & BACKFILL REQUIRED FOR THE INSTALLATION OF PLUMBING WORK.
   b. ALL BACKFILL SHALL BE COMPACTED & BROUGHT TO FINISHED GRADE AND MUST MATCH SURROUNDING CONDITIONS.
   c. RESTORE ALL DISTURBED FLOORING TO ORIGINAL CONDITION.
   d. ALL PIPING SHALL BE LAID ON A BED OF SAND, 6" THICK MINIMUM. BACKFILL UNDER BUILDING AND ALL DRIVES, ROADS AND WALKS WITH BANK-RUN GRAVEL.
23. CUTTING AND PATCHING
   a. CUT AND PATCH WALLS AND FLOORS TO MATCH BUILDING CONSTRUCTION WHERE REQUIRED TO INSTALL ALL PLUMBING.
24. CONNECTIONS
   a. INSTALL UNIONS AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.
25. INSTALLATION
   a. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, CONCRETE FLOOR, AND ROOF SLABS. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.
26. TESTING
   a. ALL PLUMBING WORK SHALL BE TESTED & APPROVED BY INSPECTOR PRIOR TO BEING BACKFILLED, CONCEALED & PUT INTO SERVICE. AFTER TESTING IS COMPLETE & APPROVED, THE PLUMBING CONTRACTOR MUST DISINFECT THE POTABLE WATER SYSTEM AS REQUIRED BY LOCAL AUTHORITY. TEST WATER PURITY ACCORDING TO LOCAL REQUIREMENTS AND SUBMIT CERTIFIED TEST RESULTS TO OWNER FOR REVIEW AND APPROVAL.
27. SHOP DRAWINGS
   a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE PLUMBING CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
   c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE PLUMBING CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
28. OWNER'S INSTRUCTIONS
   a. PROVIDE TWO SETS OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS WITH DRAWINGS, TYPEWRITTEN INSTRUCTIONS AND OPERATING SEQUENCES AND DESCRIPTIVE DATA SHEETS. ASSEMBLE EACH SET IN A HARD-BOUND COVER.
29. WARRANTY
   a. THE PLUMBING CONTRACTOR MUST UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN EQUIPMENT, MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER AND THE PLUMBING CONTRACTOR WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE TO THE OWNER.
   b. RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE EQUIPMENT, MATERIALS AND WORKMANSHIP.

PLUMBING EQUIPMENT AND FIXTURE SCHEDULE

SK1 - SINK, EQUAL TO KOHLER MODEL MIDDLETON 14707, 33" X 22" X 7" DEEP, 20 GAUGE DOUBLE BOWL STAINLESS STEEL SINK WITH KOHLER MODEL SIMPLICE K-596 SINGLE HANDLE KITCHEN FAUCET 1.5 GPM W/ SPRAYHEAD, HIGH-ARCH SPOUT, LEAD LAW COMPLIANT, WATER SENSE LABELED, HOT & COLD STOP & SUPPLY.

WB1 - WASHER BOX, EQUAL TO OATEY CENTRO, IN WALL WASHER SUPPLY / DRAIN BOX FOR CLOTHES WASHER.

WC1 - WATER CLOSET, EQUAL TO AMERICAN STANDARD MODEL 238AA.114 VORMAX RH EL BOWL, 1.0 GALLONS PER FLUSH 12 TANK CADET COMPLETE WHITE, AMERICAN STANDARD MODEL 5321.110.020 ELONGATED CLOSET SEAT WITH COVER WHITE, MCGUIRE MODEL LF2166CCF LF SUPPLY FLEX CLOSET CP 1/2NOMCO, PROFLO MODEL PFWR WAX RING, PROFLOW MODEL PF90104 PAIR OF CLOSET BOLTS, NUTS, & WASHERS. WATER SENSE LABELED.

LV1 - LAVATORY SINK, EQUAL TO KOHLER MODEL K-2196-4, MADE OF VITREOUS CHINA, SHALL MEET ADA REQUIREMENTS W/ POLISHED CHROME FAUCET, KOHLER MODEL K-98146-4, WATER SENSE LABELED, 1.2 GPM, 4" CENTERSET INSTALLATION, 0.5 GPM AERATOR, FLEXIBLE STAINLESS SUPPLY PIPES, ANGLE STOPS, "P" TRAP, POPUP DRAIN. PROVIDE INSULATION EQUAL TO TRUEBRO "LAV GUARD" TRAP & SUPPLY INSULATORS AND WALL HANGER. MEETS ADA GUIDELINES.

BT1 - BATHTUB, EQUAL TO 30" MINIMUM WIDTH; MADE OF FIBERGLASS, ACRYLIC, PORCELAIN, OR CULTURED MARBLE WITH DELTA MODEL RPW324 HDF HAND SHOWER WITH ADJUSTABLE VALVE; SHOWER HEAD SHALL BE RATED FOR 1.5 GPM.

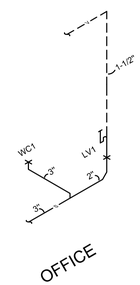
EDWH1 - ELECTRIC WATER HEATER, EQUAL TO A.O. SMITH DEL-40D-3, 3 KW, 40 GALLON, 240 V, SINGLE PHASE, OR EQUAL WITH LIKE SIZE AND POWER REQUIREMENTS.

SH1 - SHOWER, EQUAL TO 5'-0" ROLL-IN WITH COLLAPSIBLE ADA COMPLIANT THRESHOLD. PROVIDE SHOWER VALVE AND HAND SHOWER WITH ADJUSTABLE VALVE, SHOWER HEAD SHALL BE RATED FOR 1.75 GPM WATER SENSE LABELED.

FD1 - FLOOR DRAIN, EQUAL TO SIOUX CHIEF MODEL 842-P WITH NICKEL BRONZE ADJUSTABLE STRAINER. PROVIDE TRAP PRIMERS WHERE REQUIRED BY CODE. REFER TO WASTE AND VENT ISOMETRIC FOR SIZES.

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — S — —	SANITARY WASTE PIPING
——V——	VENT PIPING
——CW——	COLD WATER PIPING
——HW——	HOT WATER PIPING
FD	FLOOR DRAIN
——⋈——	BALL VALVE
CO	CLEANOUT



PLUMBING WASTE AND VENT ISOMETRIC

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PR-10647
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ALTERATIONS
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STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

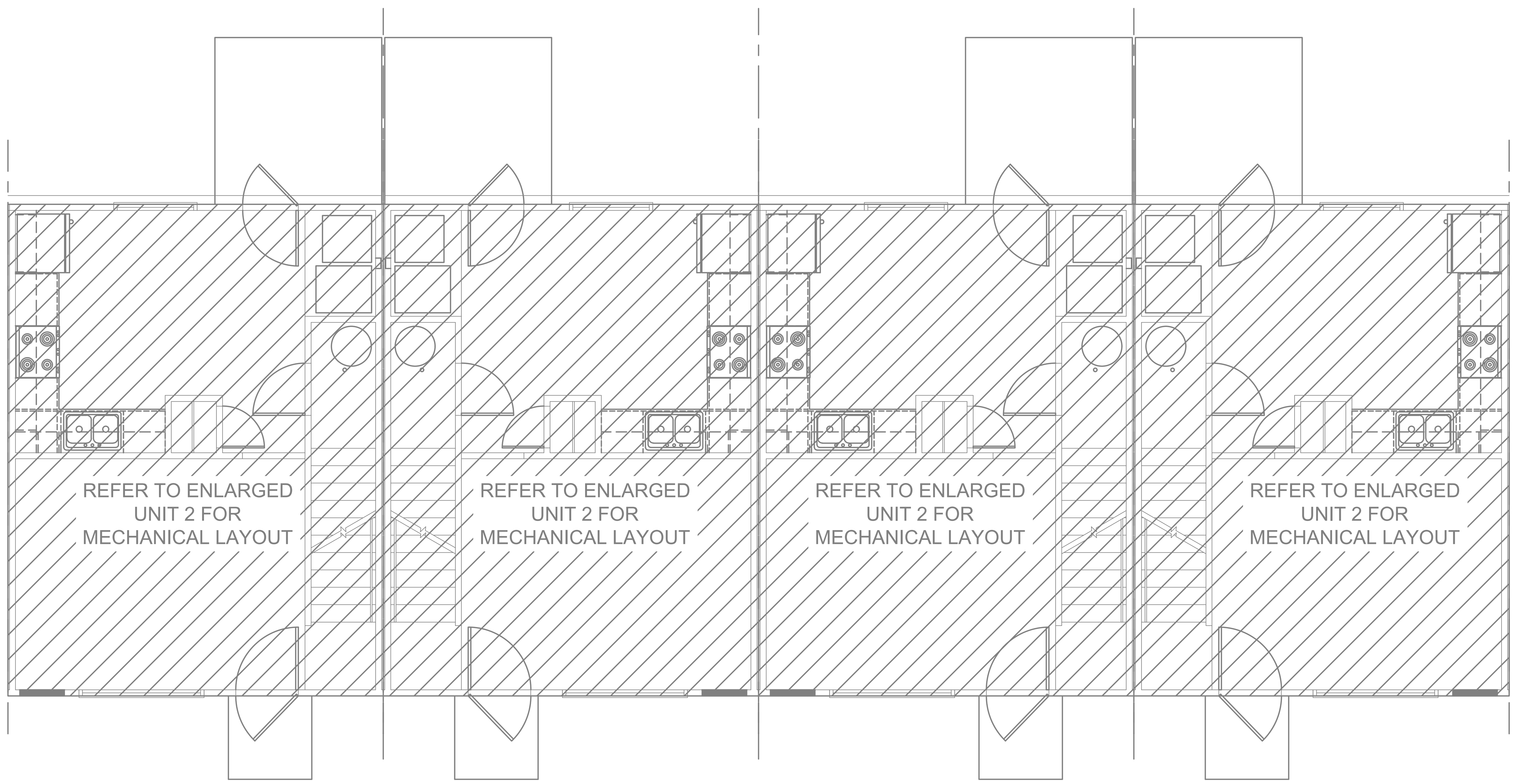
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 18
PLUMBING DETAILS

P307



N

1
M100

BUILDING NO. 3,4,5 & 14 MECHANCIAL FIRST FLOOR PLAN (TYPE 1)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB	OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 72	INDOOR: 70	INDOOR: 75	INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC

Symbol	Description
(T)	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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MEP Consulting Services, Inc. in OH

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ALTERATIONS
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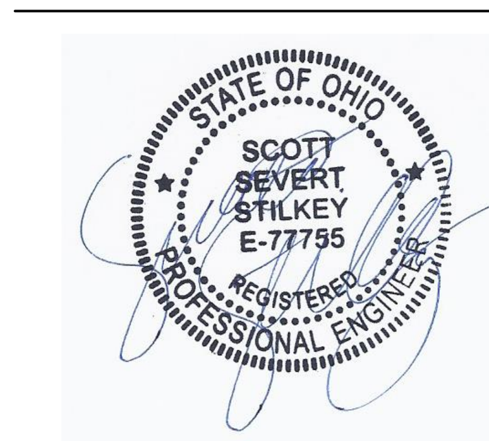
FRANKLIN, OHIO 45005



REVISIONS

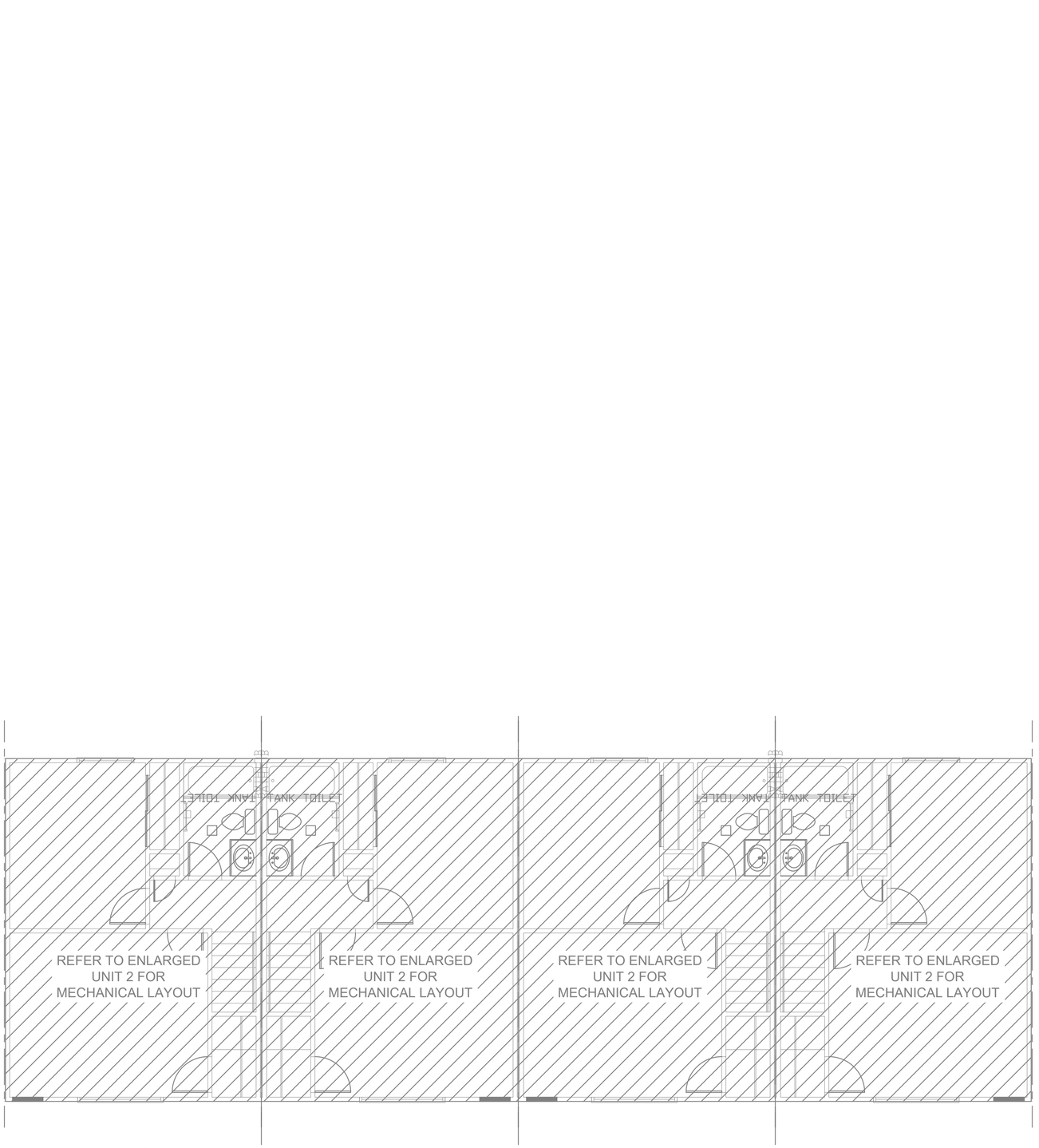
Date	Description
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 3, 4, 5, & 14

MECHANICAL FLOOR PLAN

M100



N

2
M100

BUILDING NO. 3,4,5 & 14 MECHANICAL SECOND FLOOR PLAN (TYPE 1)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB INDOOR: 72	OUTDOOR: 0 DB INDOOR: 70	OUTDOOR: 93 DB / 75 WB INDOOR: 75	OUTDOOR: 0 DB INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

(#) KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC	
T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

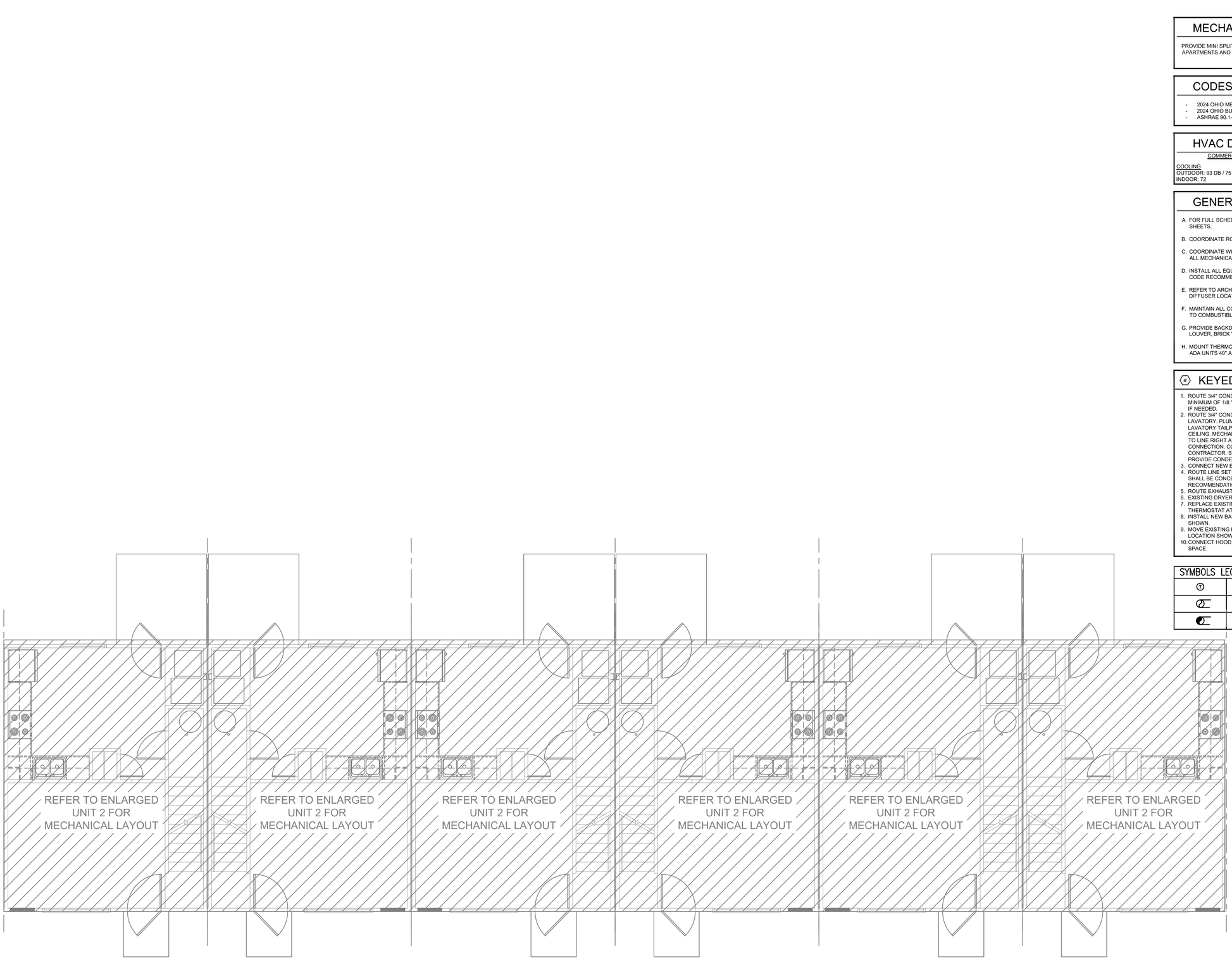
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 3, 4, 5, & 14

MECHANICAL
SECOND FLOOR
PLAN

M101



N 1/M102 BUILDING NO. 2 MECHANICAL FIRST FLOOR PLAN (TYPE 2)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB INDOOR: 72	OUTDOOR: 0 DB INDOOR: 70	OUTDOOR: 93 DB / 75 WB INDOOR: 75	OUTDOOR: 0 DB INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

(#) KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND - HVAC	
T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

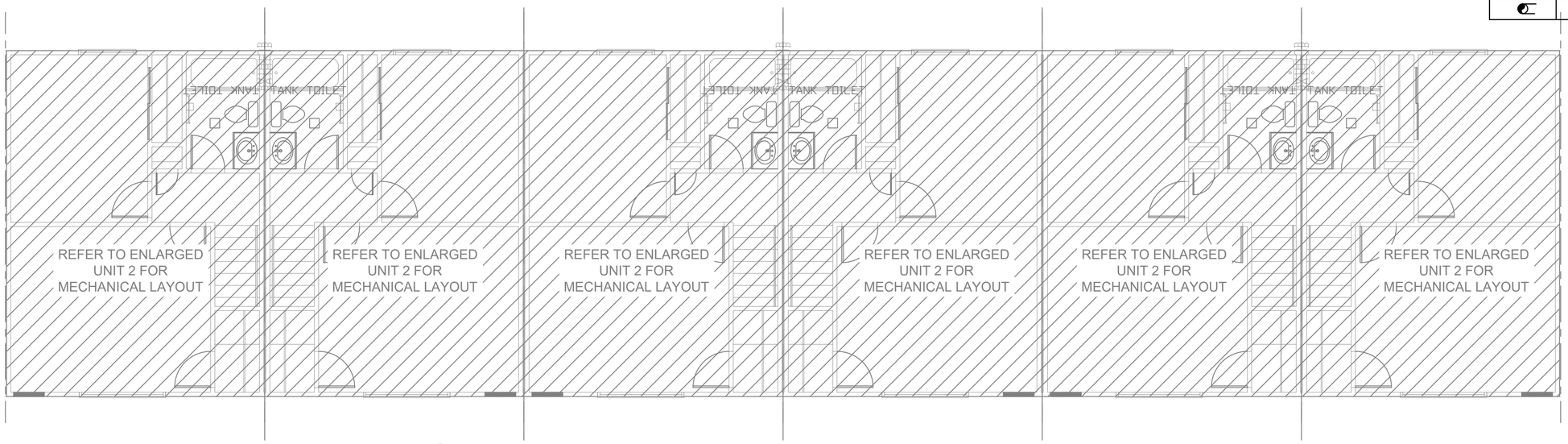
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 2

MECHANICAL FIRST FLOOR PLAN

M102



N 1/M103 BUILDING NO. 2 MECHANICAL SECOND FLOOR PLAN (TYPE 2)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB INDOOR: 72	OUTDOOR: 0 DB INDOOR: 70	OUTDOOR: 93 DB / 75 WB INDOOR: 75	OUTDOOR: 0 DB INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

(#) KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
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5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC	
T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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FRANKLIN, OHIO 45005

STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

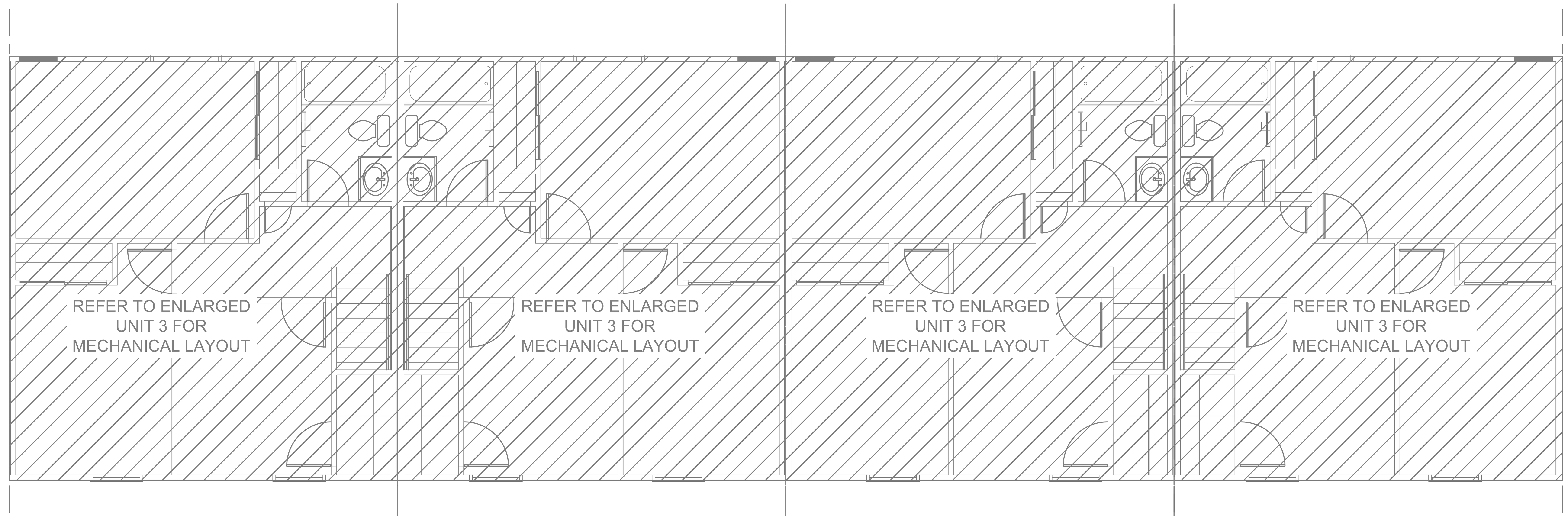
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 2

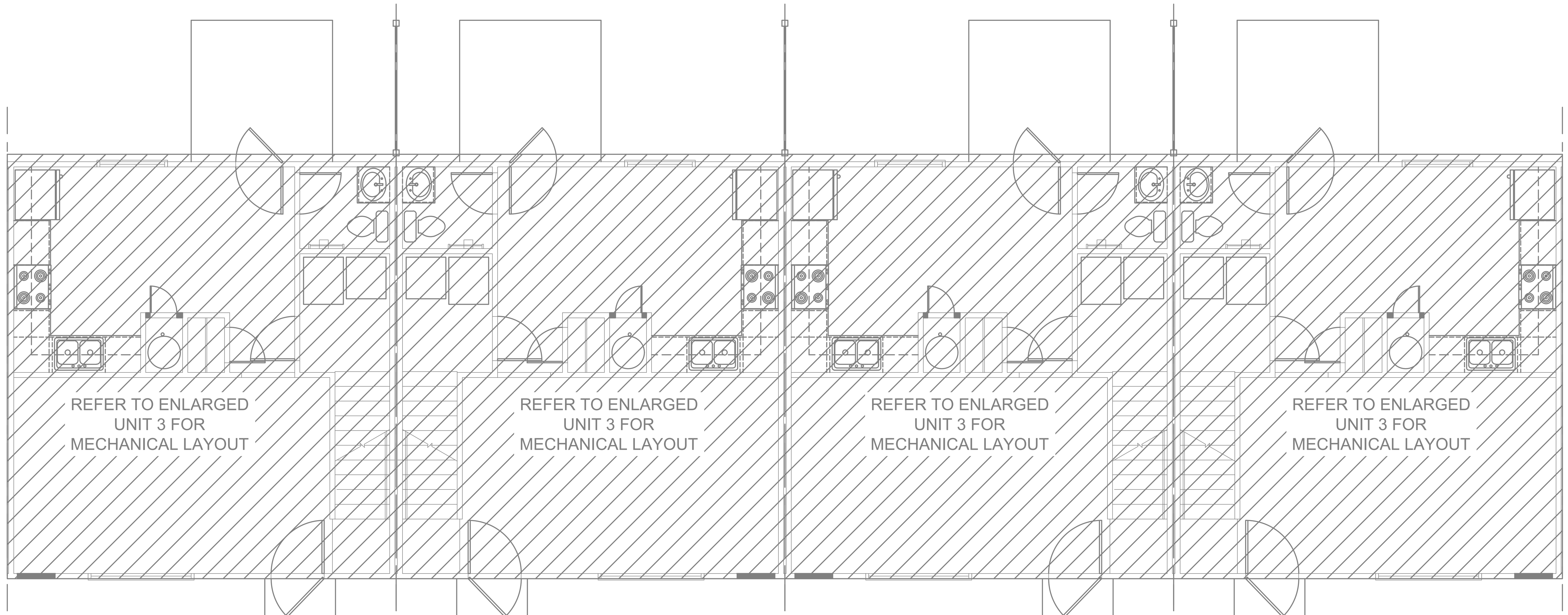
MECHANICAL SECOND FLOOR PLAN

M103



N 2 M104 BUILDING NO.1 1 & 10 MECHANICAL SECOND FLOOR PLAN (TYPE 3)

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



N 1 M104 BUILDING NO.1 1 & 10 MECHANICAL FIRST FLOOR PLAN (TYPE 3)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB	OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 72	INDOOR: 70	INDOOR: 75	INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND - HVAC

T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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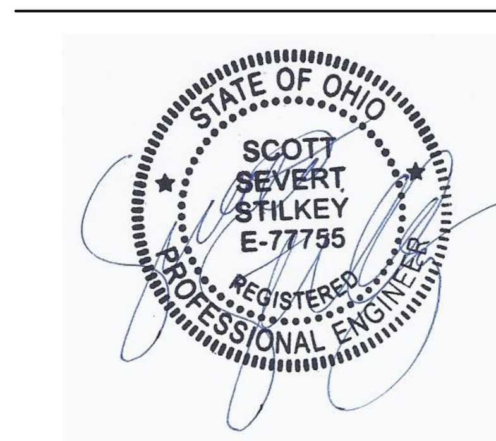
FRANKLIN, OHIO 45005



REVISIONS

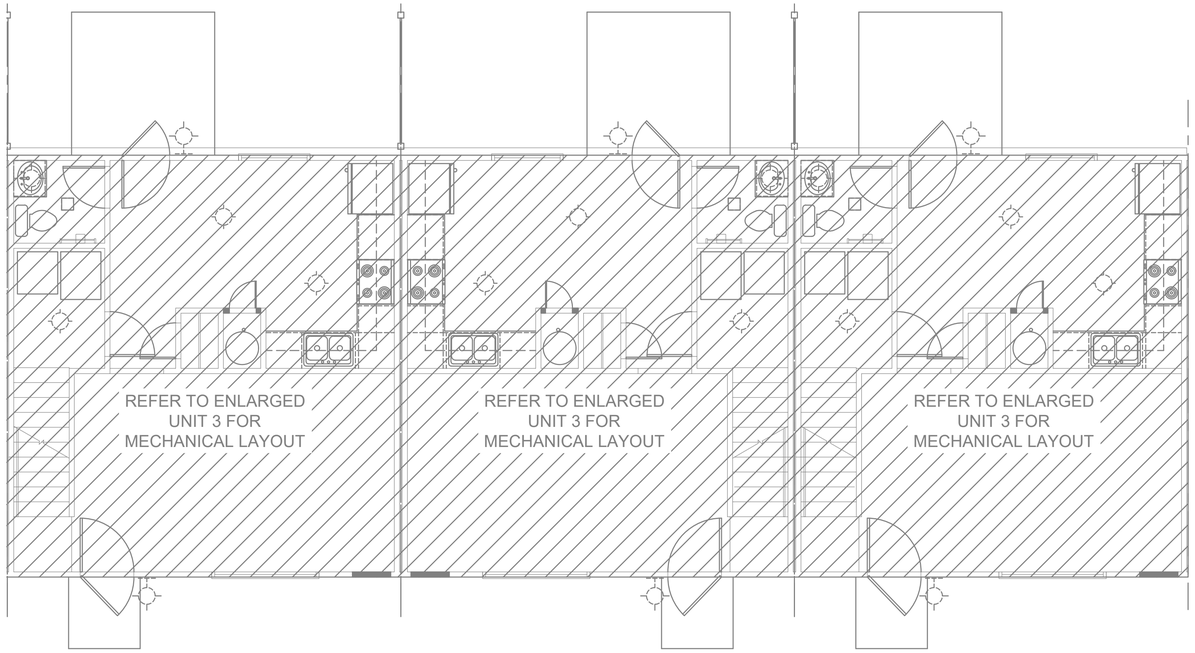
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 1 & 10

MECHANICAL FLOOR PLANS

M104

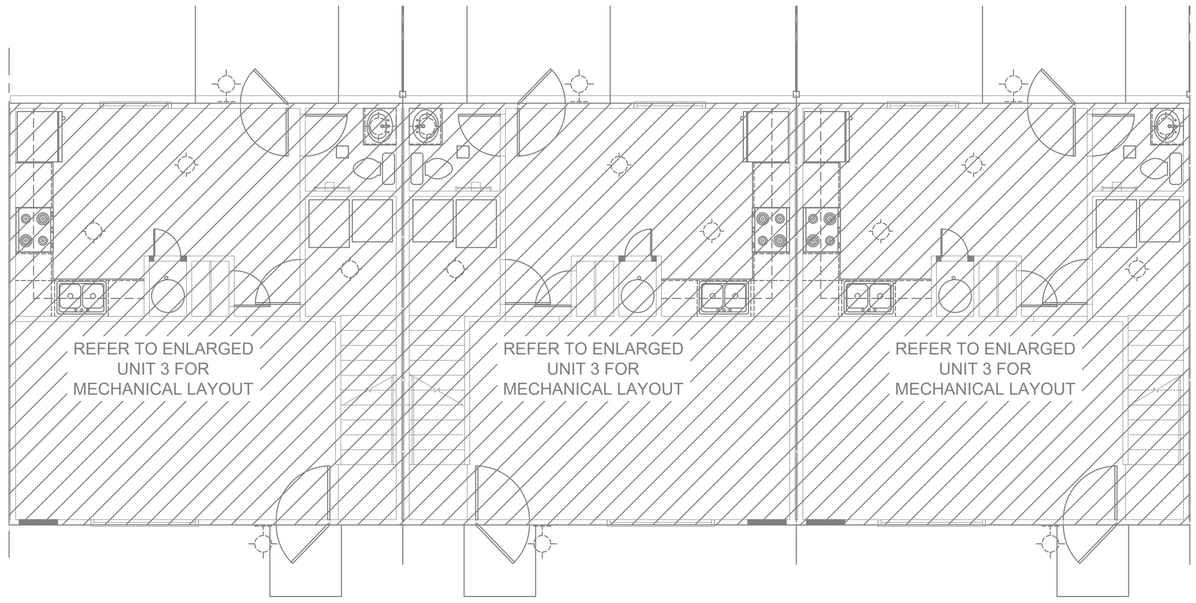


N

2
M105

BUILDING NO. 9 &11 MECHANICAL FIRST FLOOR PLAN - RIGHT (TYPE 4)

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



N

1
M105

BUILDING NO. 9 & 11 MECHANICAL FIRST FLOOR PLAN - LEFT (TYPE 4)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB INDOOR: 72	OUTDOOR: 0 DB INDOOR: 70	OUTDOOR: 93 DB / 75 WB INDOOR: 75	OUTDOOR: 0 DB INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

(#) KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC	
T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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FRANKLIN, OHIO 45005

STATE OF OHIO
SCOTT
SEVERT
STILKEY
E-77755
REGISTERED
PROFESSIONAL ENGINEER

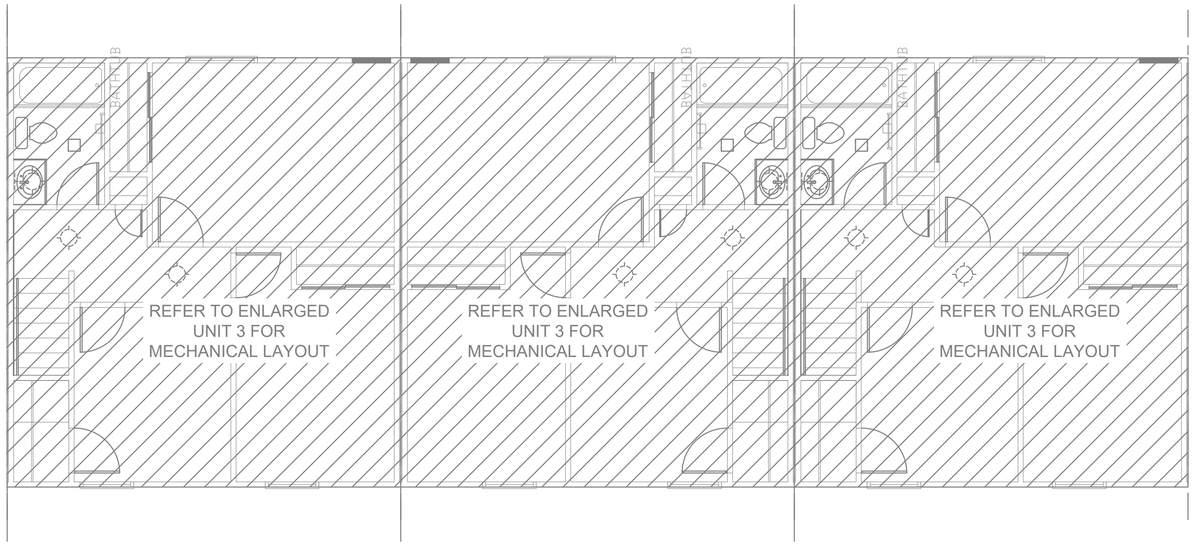
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 9 & 11
MECHANICAL FIRST FLOOR PLAN

M105

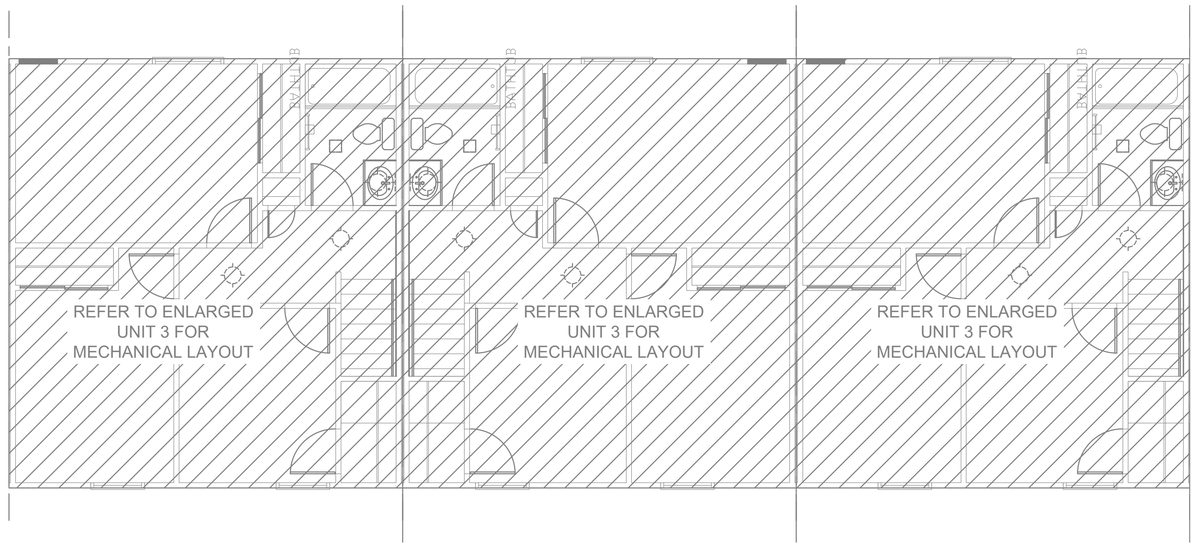


N

2
M106

BUILDING NO. 3 & 11 MECHANICAL SECOND FLOOR PLAN - RIGHT (TYPE 4)

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



N

1
M106

BUILDING NO. 3 & 11 MECHANICAL SECOND FLOOR PLAN - LEFT (TYPE 4)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB INDOOR: 72	OUTDOOR: 0 DB INDOOR: 70	OUTDOOR: 93 DB / 75 WB INDOOR: 75	OUTDOOR: 0 DB INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

(#) KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC	
T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

REVISIONS

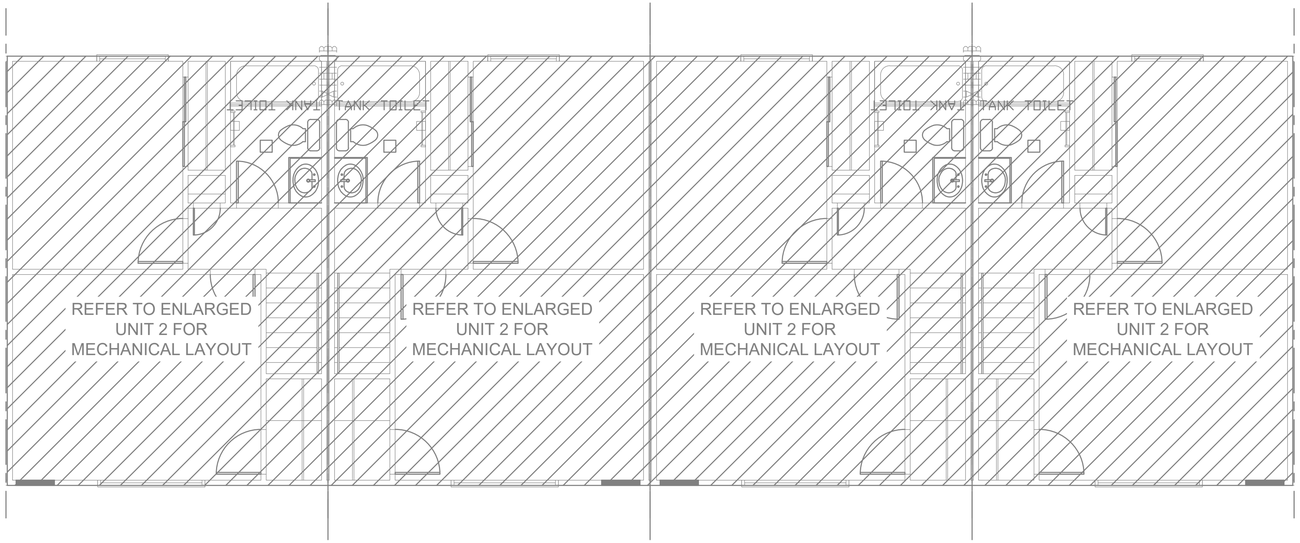
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 9 & 11

MECHANICAL SECOND FLOOR PLAN

M106

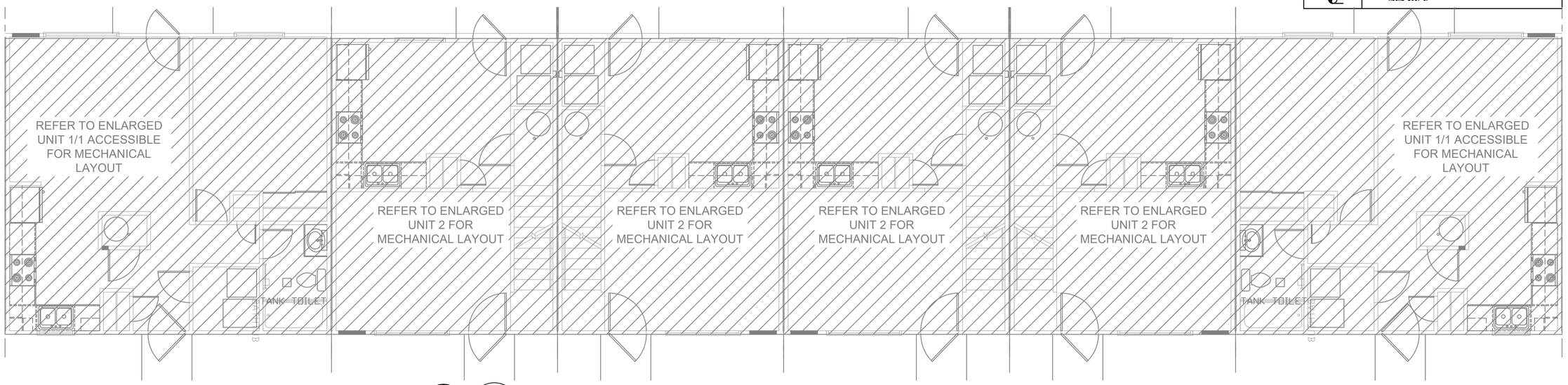


N

2 / M107

BUILDING NO. 6, 7, 12, 15, 13, 16 & 17 MECHANICAL SECOND FLOOR PLAN (TYPE 5-1A, 5-2A, 5-2SA, 5-1A-E, 5-H, 5)

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



N

1 / M107

BUILDING NO. 6, 7, 12, 15, 13, 16 & 17 MECHANICAL FIRST FLOOR PLAN (TYPE 5-1A, 5-2A, 5-2SA, 5-1A-E, 5-H, 5)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB INDOOR: 72	OUTDOOR: 0 DB INDOOR: 70	OUTDOOR: 93 DB / 75 WB INDOOR: 75	OUTDOOR: 0 DB INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. RUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
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7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC	
T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

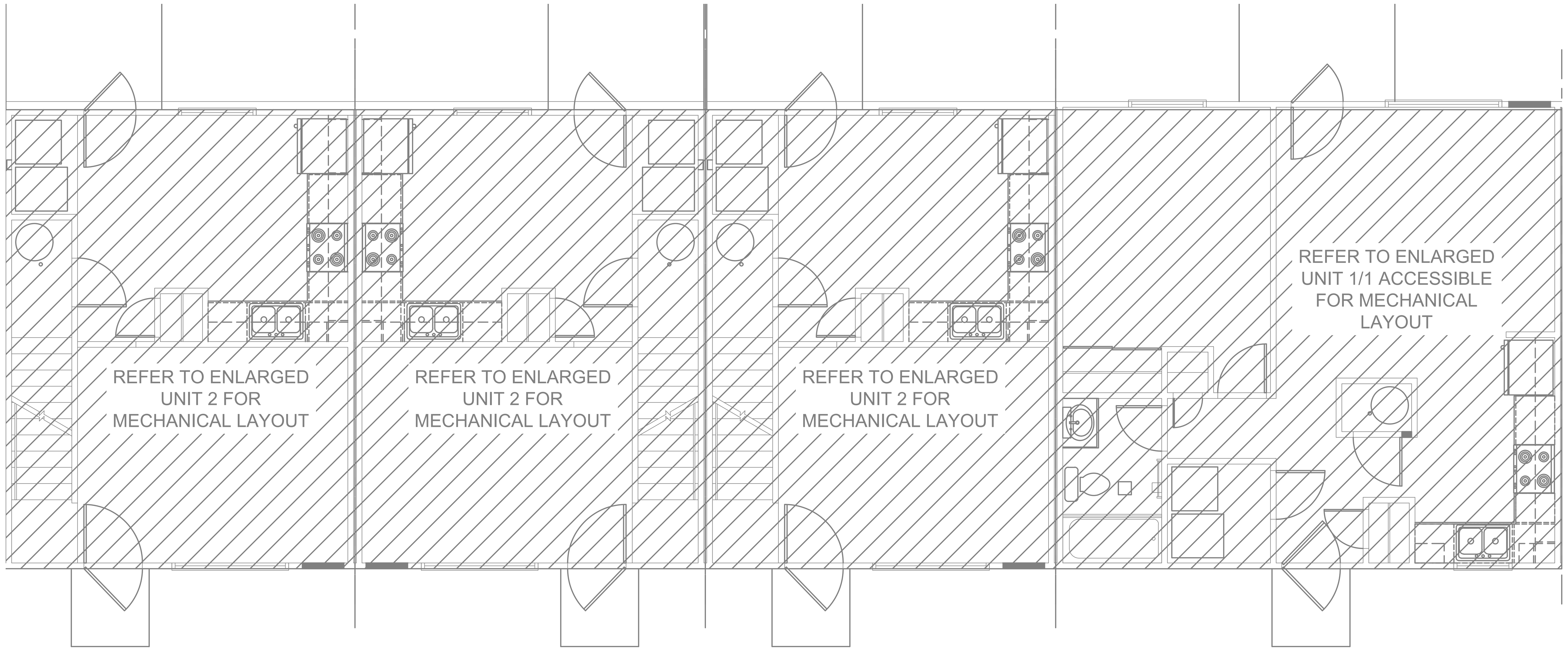
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 6, 7, 12, 13, 15, 16, & 17

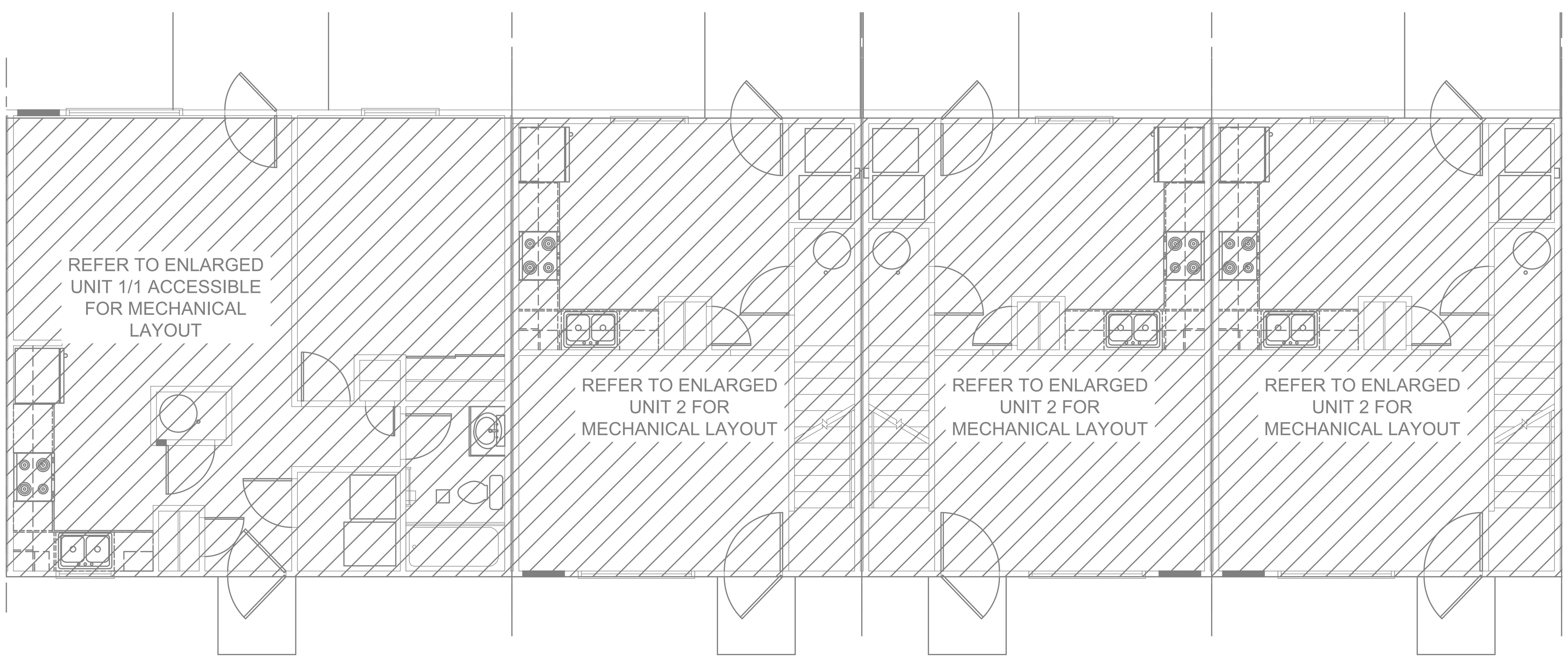
MECHANICAL FLOOR PLANS

M107



2 / M108 — BUILDING NO. 8 & 20 MECHANICAL FIRST FLOOR PLAN - RIGHT (TYPE 6, 6-2A)

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



1 / M108 — BUILDING NO. 8 & 20 MECHANICAL FIRST FLOOR PLAN - LEFT (TYPE 6, 6-2A)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB	OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 72	INDOOR: 70	INDOOR: 75	INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

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G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
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5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC

Symbol	Description
(T)	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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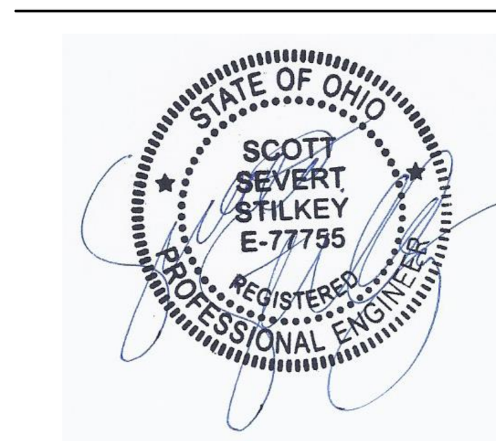


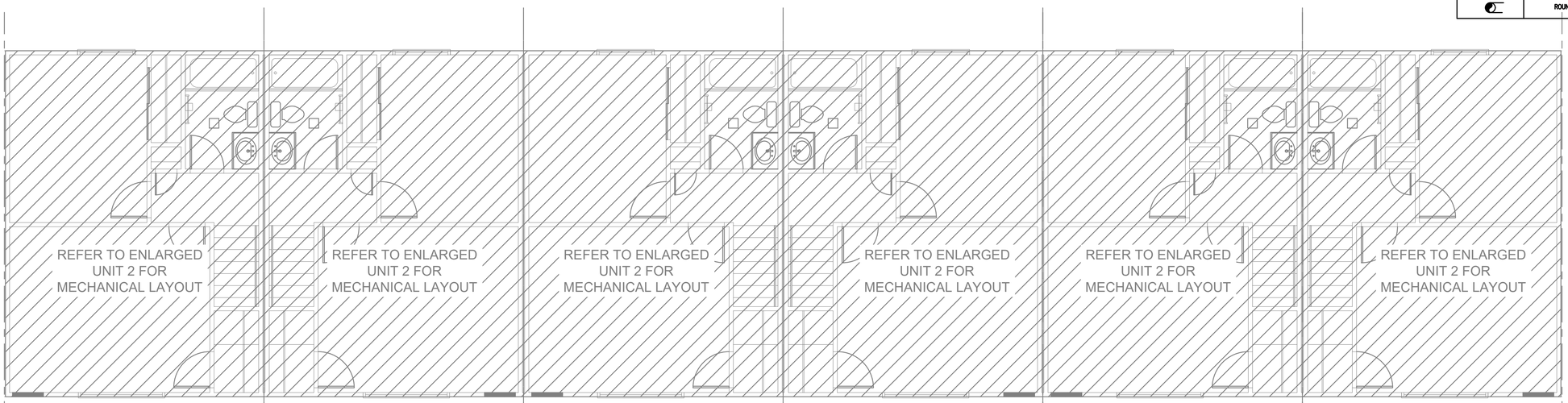
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 8 & 20
MECHANICAL FIRST FLOOR PLAN

M108



N 1/M109 BUILDING NO. 8 & 20 MECHANICAL SECOND FLOOR PLAN (TYPE 6, 6-2A)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB INDOOR: 72	OUTDOOR: 0 DB INDOOR: 70	OUTDOOR: 93 DB / 75 WB INDOOR: 75	OUTDOOR: 0 DB INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

(#) KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
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4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND - HVAC	
T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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FRANKLIN, OHIO 45005

STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

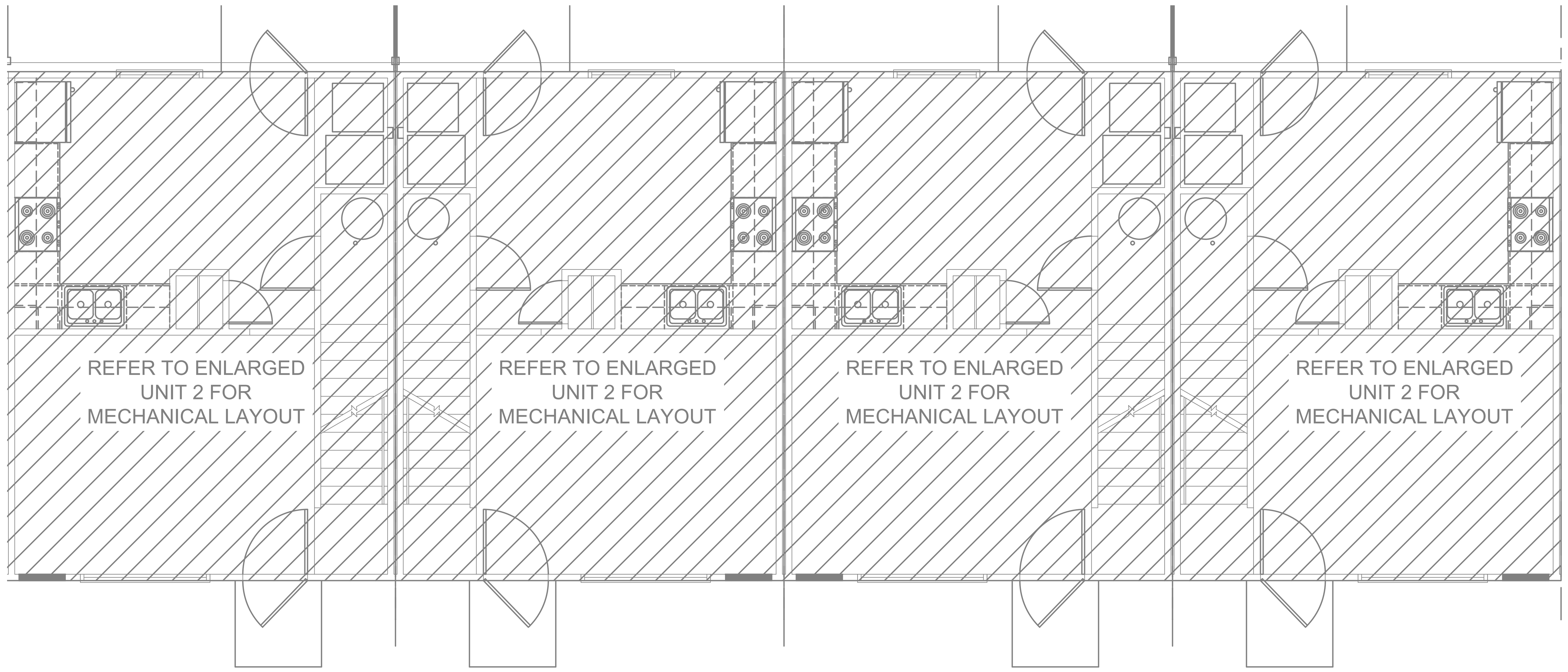
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 8 & 20

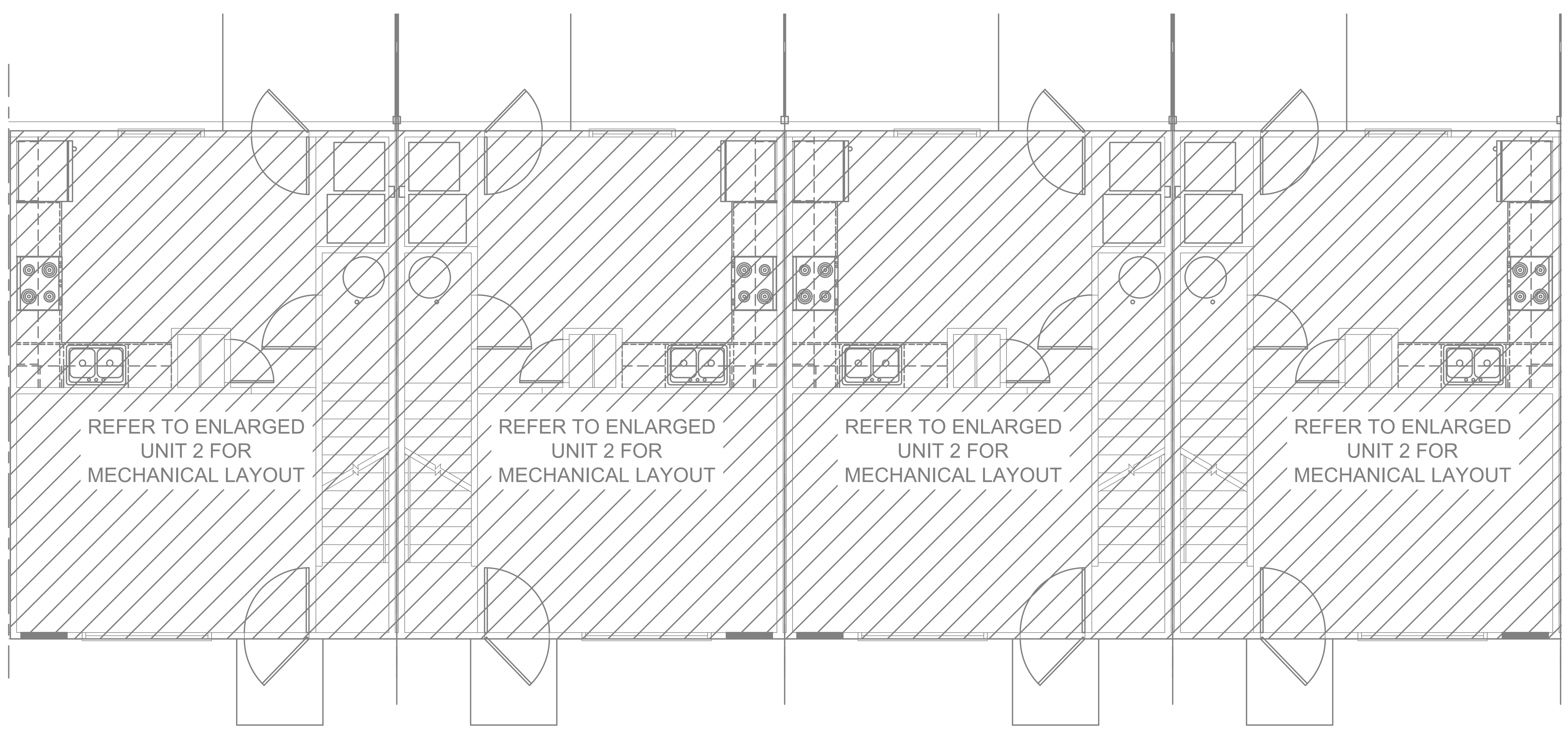
MECHANICAL SECOND FLOOR PLAN

M109



2 / M110 — BUILDING NO. 19 MECHANICAL FIRST FLOOR PLAN - RIGHT (TYPE 7)

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



1 / M110 — BUILDING NO. 19 MECHANICAL FIRST FLOOR PLAN - LEFT (TYPE 7)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB	OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 72	INDOOR: 70	INDOOR: 75	INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC

Symbol	Description
(T)	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

BEILHARZ ARCHITECTS
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PR-10647

ENGINEERED BUILDING SYSTEMS INC.
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MEP Consulting Services, Inc. in OH

FRANKLIN COMMONS
ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

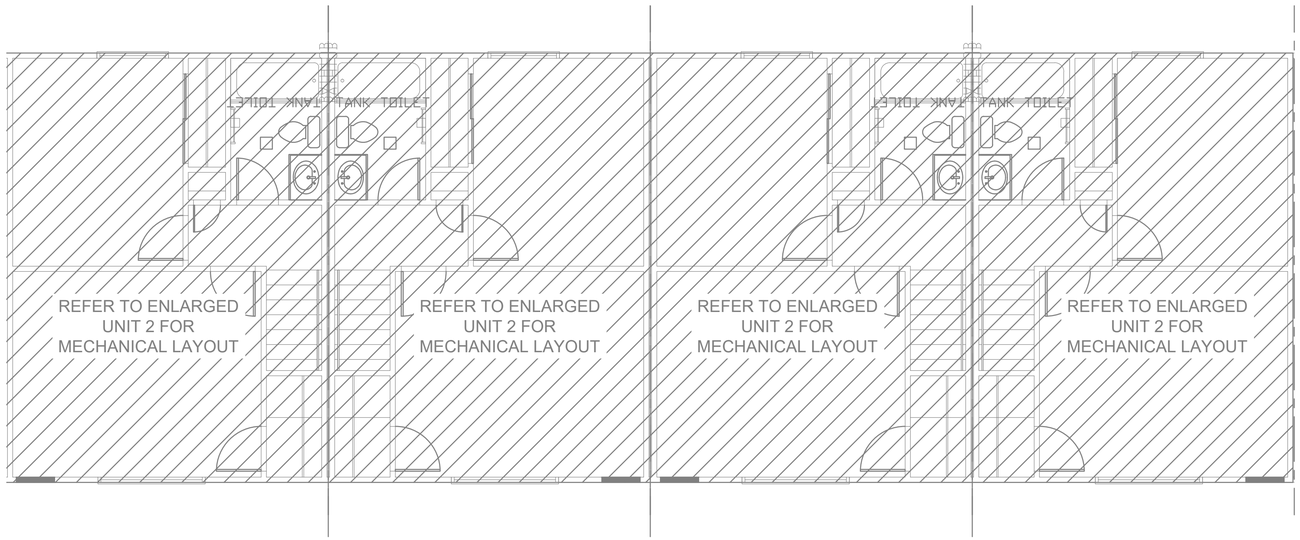
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 19
MECHANICAL FIRST FLOOR PLAN

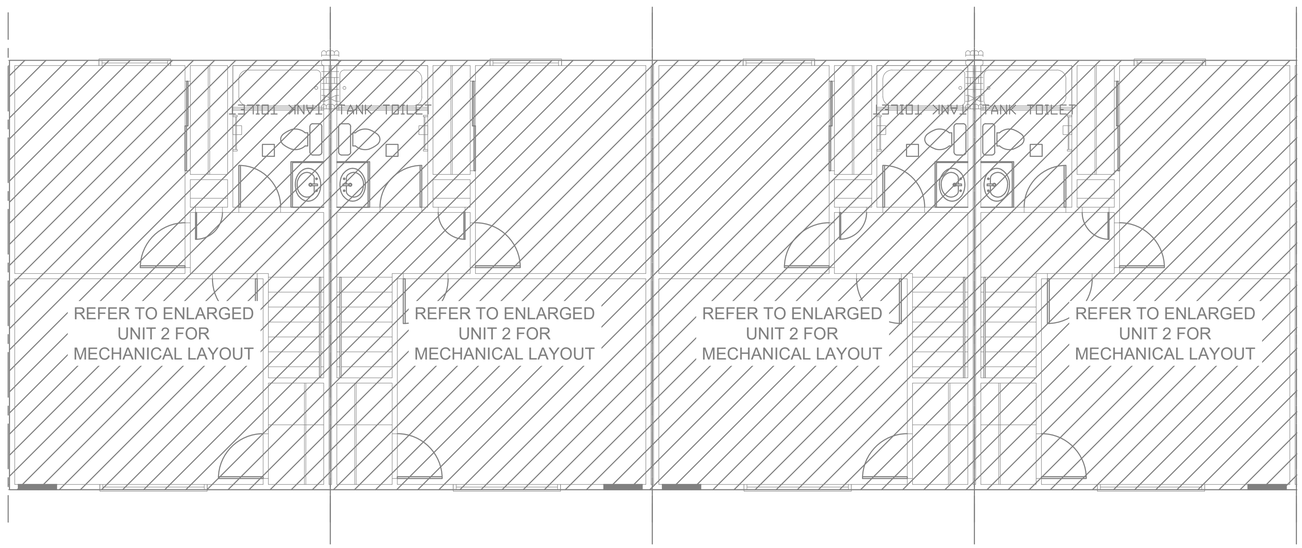
M110



N 2 M111

BUILDING NO. 19 MECHANICAL SECOND FLOOR PLAN - RIGHT (TYPE 7)

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



N 1 M111

BUILDING NO. 19 MECHANICAL SECOND FLOOR PLAN - LEFT (TYPE 7)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB INDOOR: 72	OUTDOOR: 0 DB INDOOR: 70	OUTDOOR: 93 DB / 75 WB INDOOR: 75	OUTDOOR: 0 DB INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

(#) KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
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6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
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10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC	
T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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FRANKLIN, OHIO 45005

STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

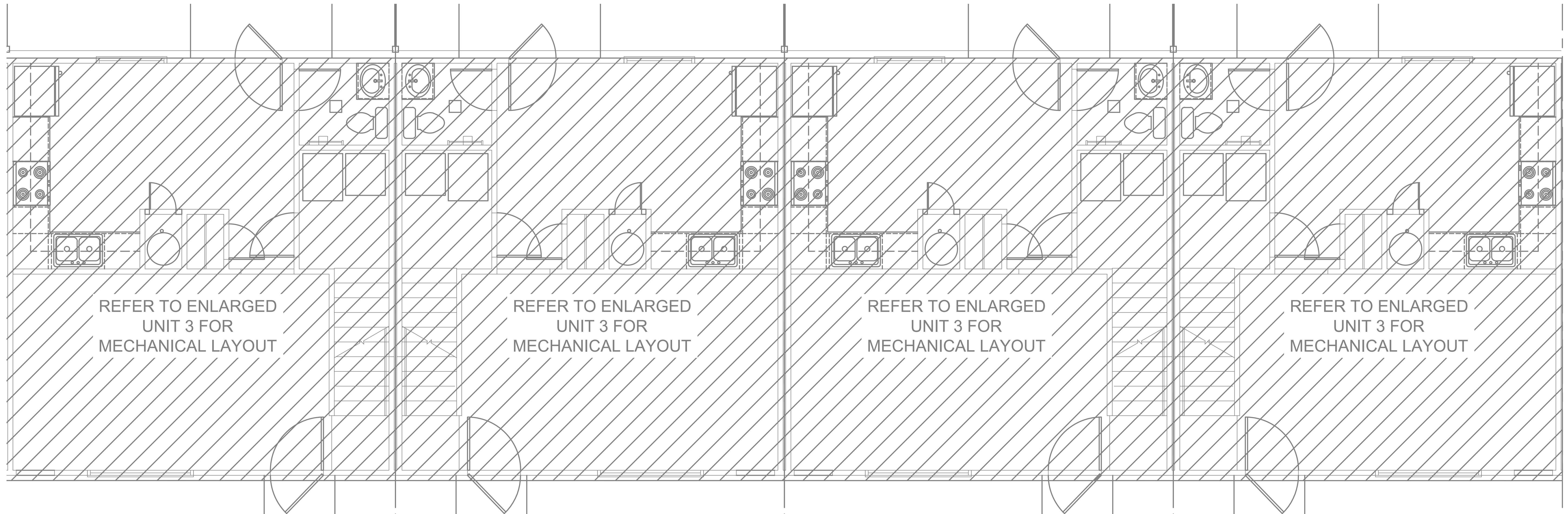
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

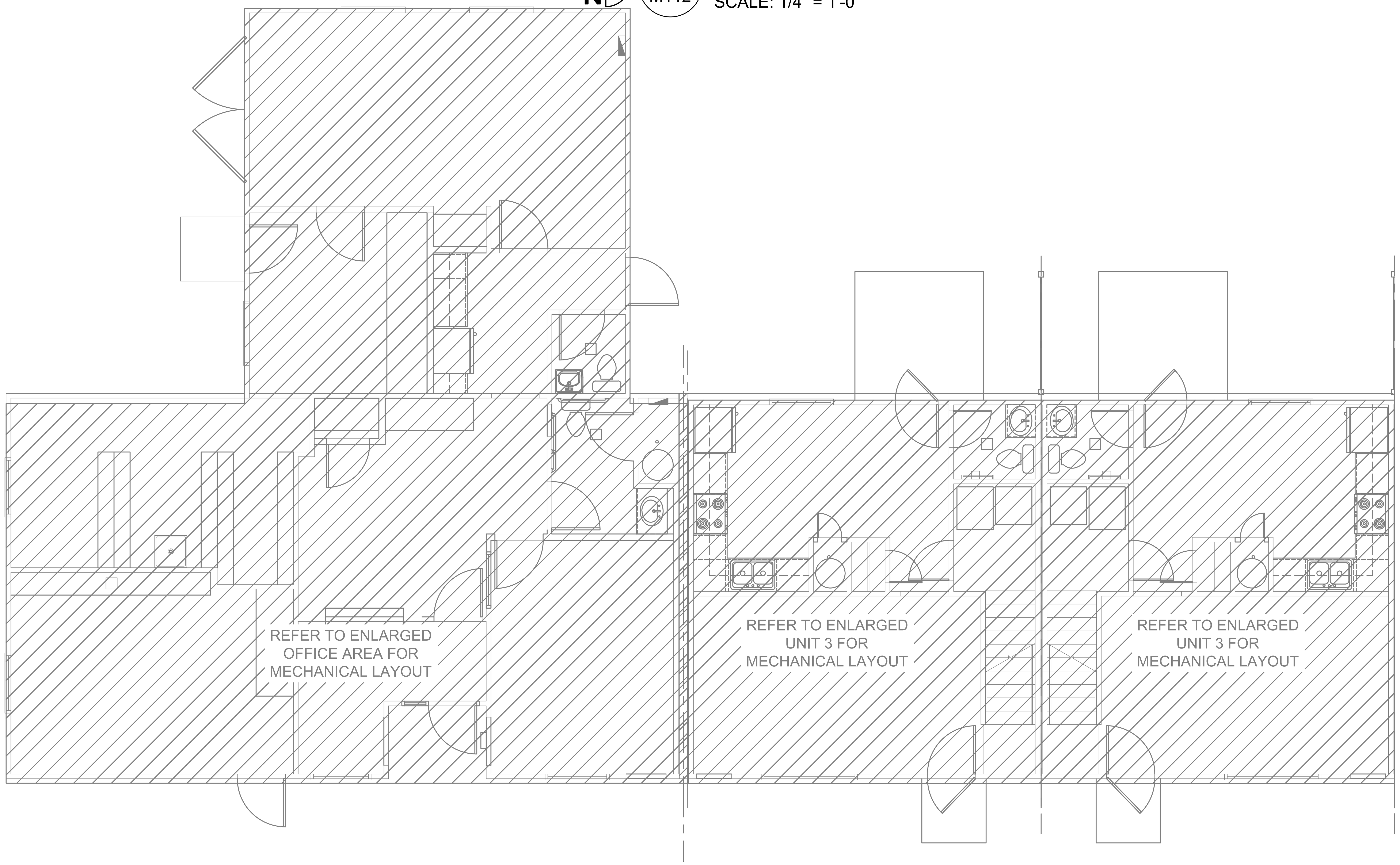
BUILDING 19
MECHANICAL SECOND FLOOR PLAN

M111



N 2 M112 BUILDING NO. 18 MECHANICAL FIRST FLOOR PLAN - RIGHT (TYPE 8)

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



N 1 M112 BUILDING NO. 18 MECHANICAL FIRST FLOOR PLAN - LEFT (TYPE 8)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB	OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 72	INDOOR: 70	INDOOR: 75	INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
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SYMBOLS LEGEND - HVAC

(T)	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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FRANKLIN, OHIO 45005

STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

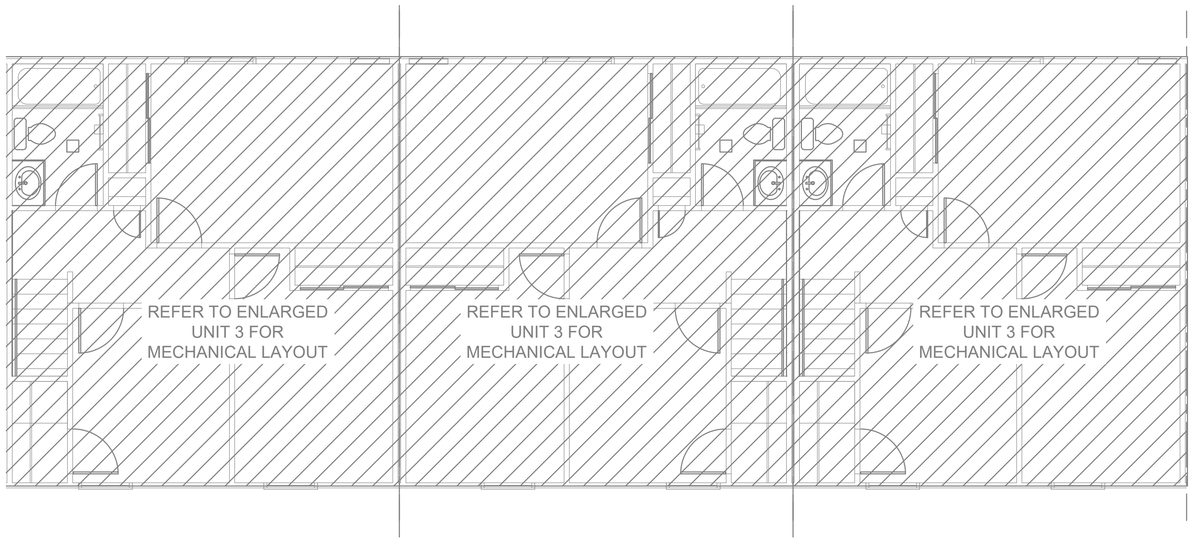
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 18
MECHANICAL FIRST FLOOR PLAN

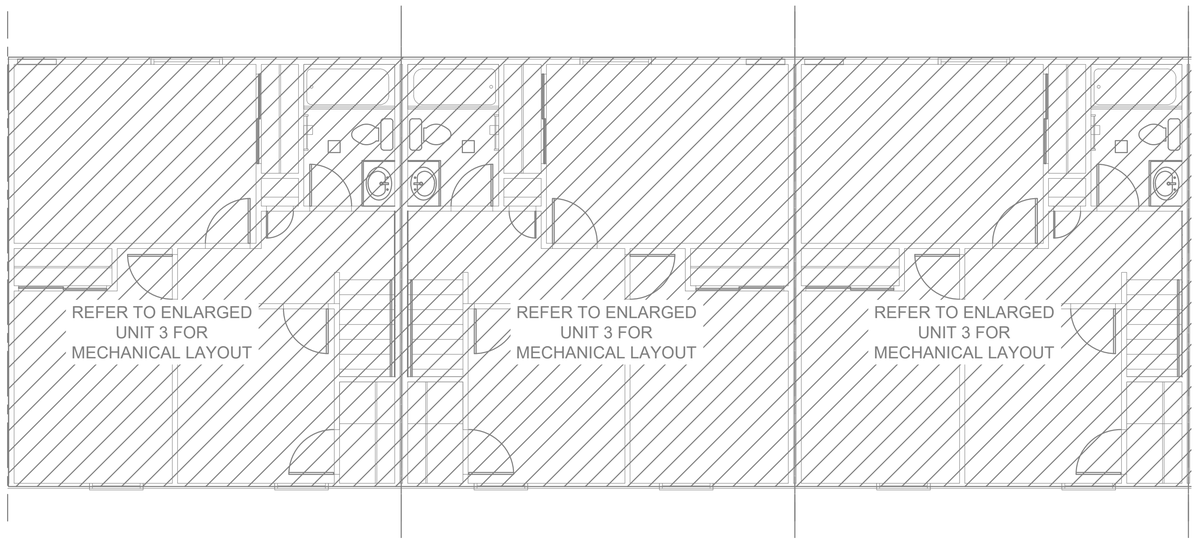
M112



N 2 / M113

BUILDING NO. 18 MECHANICAL SECOND FLOOR PLAN - RIGHT (TYPE 8)

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



N 1 / M113

BUILDING NO. 18 MECHANICAL SECOND FLOOR PLAN - LEFT (TYPE 8)

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB INDOOR: 72	OUTDOOR: 0 DB INDOOR: 70	OUTDOOR: 93 DB / 75 WB INDOOR: 75	OUTDOOR: 0 DB INDOOR: 70

GENERAL NOTES

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SYMBOLS LEGEND – HVAC	
T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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STATE OF OHIO
SCOTT
SEVERT
STILKEY
E-77755
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 18

MECHANICAL
SECOND FLOOR
PLAN

M113

INDOOR MINI SPLIT SCHEDULE

System Tag	Room Name	Tag Reference	Manufacturer	Model	Type	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Design Entering Temp DB/WB (°F)	Heating Design Entering Temp DB/WB (°F)	Cooling Total Capacity (BTU/h)	Cooling Sensible Capacity (BTU/h)	Heating Capacity (BTU/h)	Refrig Pipe Dim Liquid/Suction (inch)	Peak Fan Airflow (cfm)	Voltage / Phase	Electrical MCA/MFS	Notes / Options
UNIT 1	1HE - LIVING/DINING	AHU-1A	MITSUBISHI	MSZ-GS09NA-U1	Wall -Mounted	9,000	11,000	75.0/62.4	70	8,728.3	7,723.1	9,907.2	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 1	1HF - BEDROOM	AHU-1B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	6,000	7,400	75.0/62.4	70	5,852.4	5,852.4	6,673.4	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2B - LIVING	AHU-2A	MITSUBISHI	MSZ-FS09NA-U1	Wall -Mounted	7,700	10,600	75.0/62.4	70	7,472.1	7,472.1	9,546.9	1/4 / 3/8	437	208/230/1-phase	Powered by Outdoor	1-2
UNIT 2	2M - BEDROOM 2	AHU-2B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,912.4	4,912.4	6,382.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2K - BEDROOM 1	AHU-2C	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,890.5	4,890.5	6,375.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3E - KITCHEN	AHU-3A	MITSUBISHI	TPKFYP004LM140A	Wall -Mounted	4,000	4,500	75.0/62.4	70	3,488.5	2,799.7	4,033.2	1/4 / 3/8	148	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3B - LIVING	AHU-3B	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	12,099.5	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3L - BEDROOM 1	AHU-3C	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3N - BEDROOM 2	AHU-3D	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3Q - BEDROOM 3	AHU-3E	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C10 - GARAGE	AHU-4A	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,538.5	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C11/C12 - STORAGE/RECEIVING	AHU-4B	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C1/C2 - OFFICE/RECEPTION	AHU-4C	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C4 - MANAGERS OFFICE	AHU-4D	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C13 - LAUNDRY	AHU-4E	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2

1. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT.
2. PROVIDE/INSTALL PRE-FABRICATED HONEYWELL JACKETED METAL CLAD MINI-SPLIT CABLE FOR INDOOR/OUTDOOR UNIT CONNECTION.

OUTDOOR MINI SPLIT SCHEDULE

System Tag	Tag Reference	MANUFACTURER	Model Number	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Efficiency IEER/EER [SEER]	HSPF	Design Cooling Outdoor Temp DB (°F)	Design Heating Outdoor Temp WB (°F)	Corrected Cooling Total Capacity (BTU/h)	Corrected Heating Capacity (BTU/h)	Electrical-Per Module				Notes / Options
												Voltage / Phase	MCA	RFS	MOCP	
UNIT 1	HP-1	MITSUBISHI	MXZ-2C20NAHZ4-U1	18,000	22,000	12.25 [16]	9.65	91.0	5.0	11,671.3	13,338.2	208/230V / 1-phase	26.9	40	40	1-3
UNIT 2	HP-2	MITSUBISHI	MXZ-3C24NAHZ4-U1	22,000	25,000	11.75 [17.25]	9.5	91.0	5.0	17,274.9	22,305.5	208/230V / 1-phase	31.5	40	40	1-3
UNIT 3	HP-3	MITSUBISHI	MXZ-SM36NAMHZ2-U1	36,000	42,000	13.5	3.850	91.0	5.0	36,284.1	34,147.3	208/230V / 1-phase	36	40	40	1-3
UNIT 4	HP-4	MITSUBISHI	MXZ-SM48NAMHZ-U1	48,000	54,000	12.2	3.650	91.0	0.2	47,232.0	50,454.1	208/230V / 1-phase	36	40	40	1-3

1. PROVIDE EQUIPMENT STAND EQUAL TO DIVERSATECH MODEL QSMS1200
2. NO LOW TEMP CUT OUT OR RESTART.
3. LOW AMBIENT COOLING KIT.

HEATERS

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	HEAT-MBH	FUEL	HEAT-KW	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
H-1	BASEBOARD	BATHROOM	BERKO	2512NW	-	ELECTRIC	0.4	120/1/60	FLOOR	5.2	1
H-2	BASEBOARD	KITCHEN	BERKO	2513NW	-	ELECTRIC	0.75	120/1/60	FLOOR	7.5	1

1. WALL MOUNTED THERMOSTAT

FAN SCHEDULE

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	DRIVE	CFM	ESP	WATTS	RPM	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
E-1	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	50	0.25	6.2	1054	115/60/1	CEILING	11.8	1,2
E-2	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	80	0.25	9.6	1113	115/60/1	CEILING	11.8	1,2

1. FAN TO RUN OFF A SWITCH.
2. FAN IS ENERGY STAR RATED.

MECHANICAL EXHAUST SCHEDULE - OHIO MECHANICAL CODE

FRANKLIN COMMONS

UNIT NUMBER	ROOMNAME	OCCUPANCY CLASSIFICATION	AREA (ft2)	EXHAUST AIRFLOW RATE (CFM/ft2)	FIXTURES				TOTAL EXHAUST AIRFLOW REQ. (CFM)	TOTAL EXHAUST AIRFLOW ACT. (CFM)
					EXHAUST RATE PER FIXTURE (CFM)	LOWER CONTINUOUS RATE?	HIGHER INTERMITTENT RATE?	QTY. OF FIXTURES		
1	1J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
1 ADA	1HJ - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
2	2J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3G - H.BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3K - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
CC	C5 - RR1	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70
CC	C8 - RR2	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70

*CALCULATIONS ARE BASED ON 403.3.1.1 OF THE 2024 OMC

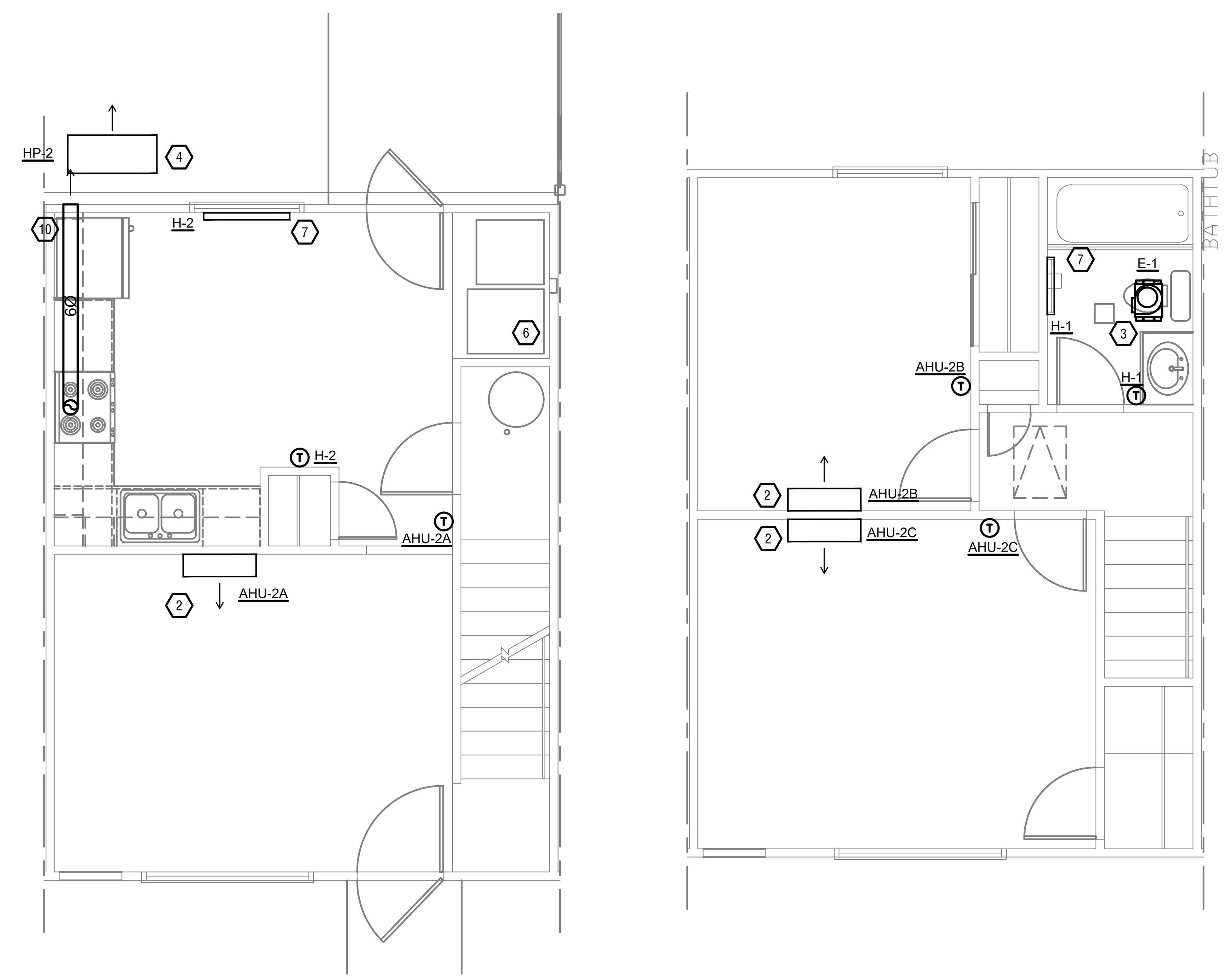
NATURAL VENTILATION SCHEDULE

FRANKLIN COMMONS

UNIT	ROOM NAME	AREA	DOOR OPENABLE AREA [SQ. FT]	WINDOW OPENABLE AREA [SQ. FT]	TOTAL OPENABLE AREA	4% OF FLOOR AREA
1	LIVING	290	42	13	55	12
1	BEDROOM	156	0	9	9	6
1 ADA	LIVING	293	42	13	55	12
1 ADA	BEDROOM	131	0	9	9	5
2	LIVING	229	42	13	55	9
2	BEDROOM 1	160	0	13	13	6
2	BEDROOM 2	125	0	9	9	5
3	LIVING	235	21	13	34	9
3	BEDROOM 1	150	0	9	9	6
3	BEDROOM 2	116	0	9	9	5
3	BEDROOM 3	105	0	9	9	4
LAUNDRY	LAUNDRY	216	21	0	21	9
OFFICE	RECEPTION	82	0	13	13	3
OFFICE	OFFICE 1	166	0	13	13	7
OFFICE	OFFICE 2	274	21	0	21	11
OFFICE	STORAGE	194	0	8	8	8
OFFICE	RECEIVING/GARAGE	433	84	16	100	17

NATURAL VENTILATION CALCULATIONS PER SEC 402.1 OF 2024 OMC

NATURAL VENILATION OF THE OCCUPIED SPACE SHALL BE THROUGH WINDOWS, DOORS, OR OTHER OPENINGS TO THE SPACE. THE OPERATING MECHANISIM FOR SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS SO THAT THE OPENINGS ARE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS.



2 M200 UNIT 2
SCALE: 1/4" = 1'-0"

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB	OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 72	INDOOR: 70	INDOOR: 75	INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC

Symbol	Description
(T)	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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ATA
1063 Central Avenue Cincinnati Ohio, 45202
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MEP Consulting Services, Inc. in OH

FRANKLIN COMMONS

ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 3, 4, 5, & 14

MECHANICAL ENLARGED UNITS

M200

INDOOR MINI SPLIT SCHEDULE

System Tag	Room Name	Tag Reference	Manufacturer	Model	Type	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Design Entering Temp DB/WB (°F)	Heating Design Entering Temp DB/WB (°F)	Cooling Total Capacity (BTU/h)	Cooling Sensible Capacity (BTU/h)	Heating Capacity (BTU/h)	Refrig Pipe Dim Liquid/Suction (inch)	Peak Fan Airflow (cfm)	Voltage / Phase	Electrical MCA/MFS	Notes / Options
UNIT 1	1HE - LIVING/DINING	AHU-1A	MITSUBISHI	MSZ-GS09NA-U1	Wall -Mounted	9,000	11,000	75.0/62.4	70	8,728.3	7,723.1	9,907.2	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 1	1HF - BEDROOM	AHU-1B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	6,000	7,400	75.0/62.4	70	5,852.4	5,852.4	6,673.4	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2B - LIVING	AHU-2A	MITSUBISHI	MSZ-FS09NA-U1	Wall -Mounted	7,700	10,600	75.0/62.4	70	7,472.1	7,472.1	9,546.9	1/4 / 3/8	437	208/230/1-phase	Powered by Outdoor	1-2
UNIT 2	2M - BEDROOM 2	AHU-2B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,912.4	4,912.4	6,382.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2K - BEDROOM 1	AHU-2C	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,890.5	4,890.5	6,375.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3E - KITCHEN	AHU-3A	MITSUBISHI	TPKFYP004LM140A	Wall -Mounted	4,000	4,500	75.0/62.4	70	3,488.5	2,799.7	4,033.2	1/4 / 3/8	148	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3B - LIVING	AHU-3B	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	12,099.5	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3L - BEDROOM 1	AHU-3C	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3N - BEDROOM 2	AHU-3D	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3Q - BEDROOM 3	AHU-3E	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C10 - GARAGE	AHU-4A	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,538.5	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C11/C12 - STORAGE/RECEIVING	AHU-4B	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C1/C2 - OFFICE/RECEPTION	AHU-4C	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C4 - MANAGERS OFFICE	AHU-4D	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C13 - LAUNDRY	AHU-4E	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2

1. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT.
2. PROVIDE/INSTALL PRE-FABRICATED HONEYWELL JACKETED METAL CLAD MINI-SPLIT CABLE FOR INDOOR/OUTDOOR UNIT CONNECTION.

OUTDOOR MINI SPLIT SCHEDULE

System Tag	Tag Reference	MANUFACTURER	Model Number	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Efficiency IEER/EER [SEER]	HSPF	Design Cooling Outdoor Temp DB (°F)	Design Heating Outdoor Temp WB (°F)	Corrected Cooling Total Capacity (BTU/h)	Corrected Heating Capacity (BTU/h)	Electrical-Per Module				Notes / Options
												Voltage / Phase	MCA	RFS	MOCP	
UNIT 1	HP-1	MITSUBISHI	MXZ-2C20NAHZ4-U1	18,000	22,000	12.25 [16]	9.65	91.0	5.0	11,671.3	13,338.2	208/230V / 1-phase	26.9	40	40	1-3
UNIT 2	HP-2	MITSUBISHI	MXZ-3C24NAHZ4-U1	22,000	25,000	11.75 [17.25]	9.5	91.0	5.0	17,274.9	22,305.5	208/230V / 1-phase	31.5	40	40	1-3
UNIT 3	HP-3	MITSUBISHI	MXZ-SM36NAMHZ2-U1	36,000	42,000	13.5	3.850	91.0	5.0	36,284.1	34,147.3	208/230V / 1-phase	36	40	40	1-3
UNIT 4	HP-4	MITSUBISHI	MXZ-SM48NAMHZ-U1	48,000	54,000	12.2	3.650	91.0	0.2	47,232.0	50,454.1	208/230V / 1-phase	36	40	40	1-3

1. PROVIDE EQUIPMENT STAND EQUAL TO DIVERSATECH MODEL QSMS1200
2. NO LOW TEMP CUT OUT OR RESTART.
3. LOW AMBIENT COOLING KIT.

HEATERS

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	HEAT-MBH	FUEL	HEAT-KW	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
H-1	BASEBOARD	BATHROOM	BERKO	2512NW	-	ELECTRIC	0.4	120/1/60	FLOOR	5.2	1
H-2	BASEBOARD	KITCHEN	BERKO	2513NW	-	ELECTRIC	0.75	120/1/60	FLOOR	7.5	1

1. WALL MOUNTED THERMOSTAT

FAN SCHEDULE

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	DRIVE	CFM	ESP	WATTS	RPM	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
E-1	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	50	0.25	6.2	1054	115/60/1	CEILING	11.8	1,2
E-2	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	80	0.25	9.6	1113	115/60/1	CEILING	11.8	1,2

1. FAN TO RUN OFF A SWITCH.
2. FAN IS ENERGY STAR RATED.

MECHANICAL EXHAUST SCHEDULE - OHIO MECHANICAL CODE

FRANKLIN COMMONS

UNIT NUMBER	ROOMNAME	OCCUPANCY CLASSIFICATION	AREA (ft2)	EXHAUST AIRFLOW RATE (CFM/ft2)	FIXTURES				TOTAL EXHAUST AIRFLOW REQ. (CFM)	TOTAL EXHAUST AIRFLOW ACT. (CFM)
					EXHAUST RATE PER FIXTURE (CFM)	LOWER CONTINUOUS RATE?	HIGHER INTERMITTENT RATE?	QTY. OF FIXTURES		
1	1J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
1 ADA	1HJ - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
2	2J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3G - H.BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3K - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
CC	C5 - RR1	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70
CC	C8 - RR2	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70

*CALCULATIONS ARE BASED ON 403.3.1.1 OF THE 2024 OMC

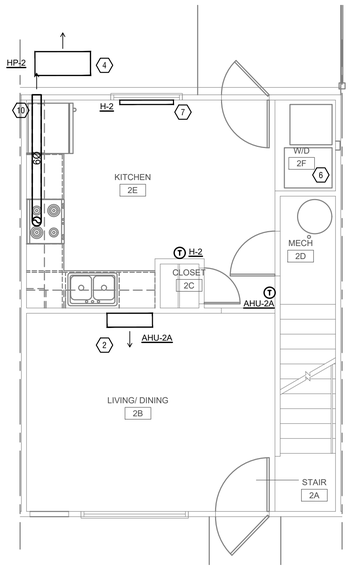
NATURAL VENTILATION SCHEDULE

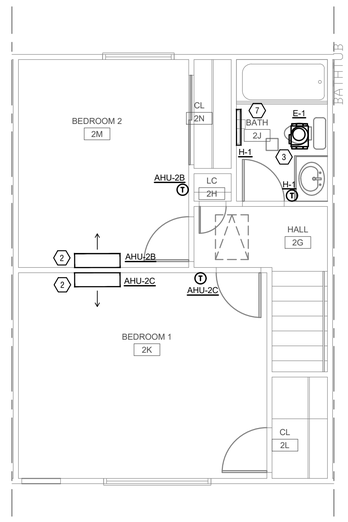
FRANKLIN COMMONS

UNIT	ROOM NAME	AREA	DOOR OPENABLE AREA [SQ. FT]	WINDOW OPENABLE AREA [SQ. FT]	TOTAL OPENABLE AREA	4% OF FLOOR AREA
1	LIVING	290	42	13	55	12
1	BEDROOM	156	0	9	9	6
1 ADA	LIVING	293	42	13	55	12
1 ADA	BEDROOM	131	0	9	9	5
2	LIVING	229	42	13	55	9
2	BEDROOM 1	160	0	13	13	6
2	BEDROOM 2	125	0	9	9	5
3	LIVING	235	21	13	34	9
3	BEDROOM 1	150	0	9	9	6
3	BEDROOM 2	116	0	9	9	5
3	BEDROOM 3	105	0	9	9	4
LAUNDRY	LAUNDRY	216	21	0	21	9
OFFICE	RECEPTION	82	0	13	13	3
OFFICE	OFFICE 1	166	0	13	13	7
OFFICE	OFFICE 2	274	21	0	21	11
OFFICE	STORAGE	194	0	8	8	8
OFFICE	RECEIVING/GARAGE	433	84	16	100	17

NATURAL VENILATION CALCULATIONS PER SEC 402.1 OF 2024 OMC

NATURAL VENILATION OF THE OCCUPIED SPACE SHALL BE THROUGH WINDOWS, DOORS, OR OTHER OPENINGS TO THE SPACE. THE OPERATING MECHANISM FOR SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS SO THAT THE OPENINGS ARE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS.





1 M201 UNIT 2
SCALE: 1/4" = 1'-0"

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB	OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 72	INDOOR: 70	INDOOR: 75	INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC

T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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FRANKLIN COMMONS
ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 2
MECHANICAL
ENLARGED UNITS

M201

INDOOR MINI SPLIT SCHEDULE

System Tag	Room Name	Tag Reference	Manufacturer	Model	Type	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Design Entering Temp DB/WB (°F)	Heating Design Entering Temp DB/WB (°F)	Cooling Total Capacity (BTU/h)	Cooling Sensible Capacity (BTU/h)	Heating Capacity (BTU/h)	Refrig Pipe Dim Liquid/Suction (inch)	Peak Fan Airflow (cfm)	Voltage / Phase	Electrical MCA/MFS	Notes / Options
UNIT 1	1HE - LIVING/DINING	AHU-1A	MITSUBISHI	MSZ-GS09NA-U1	Wall -Mounted	9,000	11,000	75.0/62.4	70	8,728.3	7,723.1	9,907.2	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 1	1HF - BEDROOM	AHU-1B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	6,000	7,400	75.0/62.4	70	5,852.4	5,852.4	6,673.4	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2B - LIVING	AHU-2A	MITSUBISHI	MSZ-FS09NA-U1	Wall -Mounted	7,700	10,600	75.0/62.4	70	7,472.1	7,472.1	9,546.9	1/4 / 3/8	437	208/230/1-phase	Powered by Outdoor	1-2
UNIT 2	2M - BEDROOM 2	AHU-2B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,912.4	4,912.4	6,382.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2K - BEDROOM 1	AHU-2C	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,890.5	4,890.5	6,375.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3E - KITCHEN	AHU-3A	MITSUBISHI	TPKFYP004LM140A	Wall -Mounted	4,000	4,500	75.0/62.4	70	3,488.5	2,799.7	4,033.2	1/4 / 3/8	148	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3B - LIVING	AHU-3B	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	12,099.5	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3L - BEDROOM 1	AHU-3C	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3N - BEDROOM 2	AHU-3D	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3Q - BEDROOM 3	AHU-3E	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C10 - GARAGE	AHU-4A	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,538.5	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C11/C12 - STORAGE/RECEIVING	AHU-4B	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C1/C2 - OFFICE/RECEPTION	AHU-4C	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C4 - MANAGERS OFFICE	AHU-4D	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C13 - LAUNDRY	AHU-4E	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2

1. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT.
2. PROVIDE/INSTALL PRE-FABRICATED HONEYWELL JACKETED METAL CLAD MINI-SPLIT CABLE FOR INDOOR/OUTDOOR UNIT CONNECTION.

OUTDOOR MINI SPLIT SCHEDULE

System Tag	Tag Reference	MANUFACTURER	Model Number	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Efficiency IEER/EER [SEER]	HSPF	Design Cooling Outdoor Temp DB (°F)	Design Heating Outdoor Temp WB (°F)	Corrected Cooling Total Capacity (BTU/h)	Corrected Heating Capacity (BTU/h)	Electrical-Per Module				Notes / Options
												Voltage / Phase	MCA	RFS	MOCP	
UNIT 1	HP-1	MITSUBISHI	MXZ-2C20NAHZ4-U1	18,000	22,000	12.25 [16]	9.65	91.0	5.0	11,671.3	13,338.2	208/230V / 1-phase	26.9	40	40	1-3
UNIT 2	HP-2	MITSUBISHI	MXZ-3C24NAHZ4-U1	22,000	25,000	11.75 [17.25]	9.5	91.0	5.0	17,274.9	22,305.5	208/230V / 1-phase	31.5	40	40	1-3
UNIT 3	HP-3	MITSUBISHI	MXZ-SM36NAMHZ2-U1	36,000	42,000	13.5	3.850	91.0	5.0	36,284.1	34,147.3	208/230V / 1-phase	36	40	40	1-3
UNIT 4	HP-4	MITSUBISHI	MXZ-SM48NAMHZ-U1	48,000	54,000	12.2	3.650	91.0	0.2	47,232.0	50,454.1	208/230V / 1-phase	36	40	40	1-3

1. PROVIDE EQUIPMENT STAND EQUAL TO DIVERSATECH MODEL QSMS1200
2. NO LOW TEMP CUT OUT OR RESTART.
3. LOW AMBIENT COOLING KIT.

HEATERS

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	HEAT-MBH	FUEL	HEAT-KW	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
H-1	BASEBOARD	BATHROOM	BERKO	2512NW	-	ELECTRIC	0.4	120/1/60	FLOOR	5.2	1
H-2	BASEBOARD	KITCHEN	BERKO	2513NW	-	ELECTRIC	0.75	120/1/60	FLOOR	7.5	1

1. WALL MOUNTED THERMOSTAT

FAN SCHEDULE

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	DRIVE	CFM	ESP	WATTS	RPM	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
E-1	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	50	0.25	6.2	1054	115/60/1	CEILING	11.8	1,2
E-2	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	80	0.25	9.6	1113	115/60/1	CEILING	11.8	1,2

1. FAN TO RUN OFF A SWITCH.
2. FAN IS ENERGY STAR RATED.

MECHANICAL EXHAUST SCHEDULE - OHIO MECHANICAL CODE

FRANKLIN COMMONS

UNIT NUMBER	ROOMNAME	OCCUPANCY CLASSIFICATION	AREA (ft2)	EXHAUST AIRFLOW RATE (CFM/ft2)	FIXTURES				TOTAL EXHAUST AIRFLOW REQ. (CFM)	TOTAL EXHAUST AIRFLOW ACT. (CFM)
					EXHAUST RATE PER FIXTURE (CFM)	LOWER CONTINUOUS RATE?	HIGHER INTERMITTENT RATE?	QTY. OF FIXTURES		
1	1J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
1 ADA	1HJ - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
2	2J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3G - H.BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3K - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
CC	C5 - RR1	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70
CC	C8 - RR2	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70

*CALCULATIONS ARE BASED ON 403.3.1.1 OF THE 2024 OMC

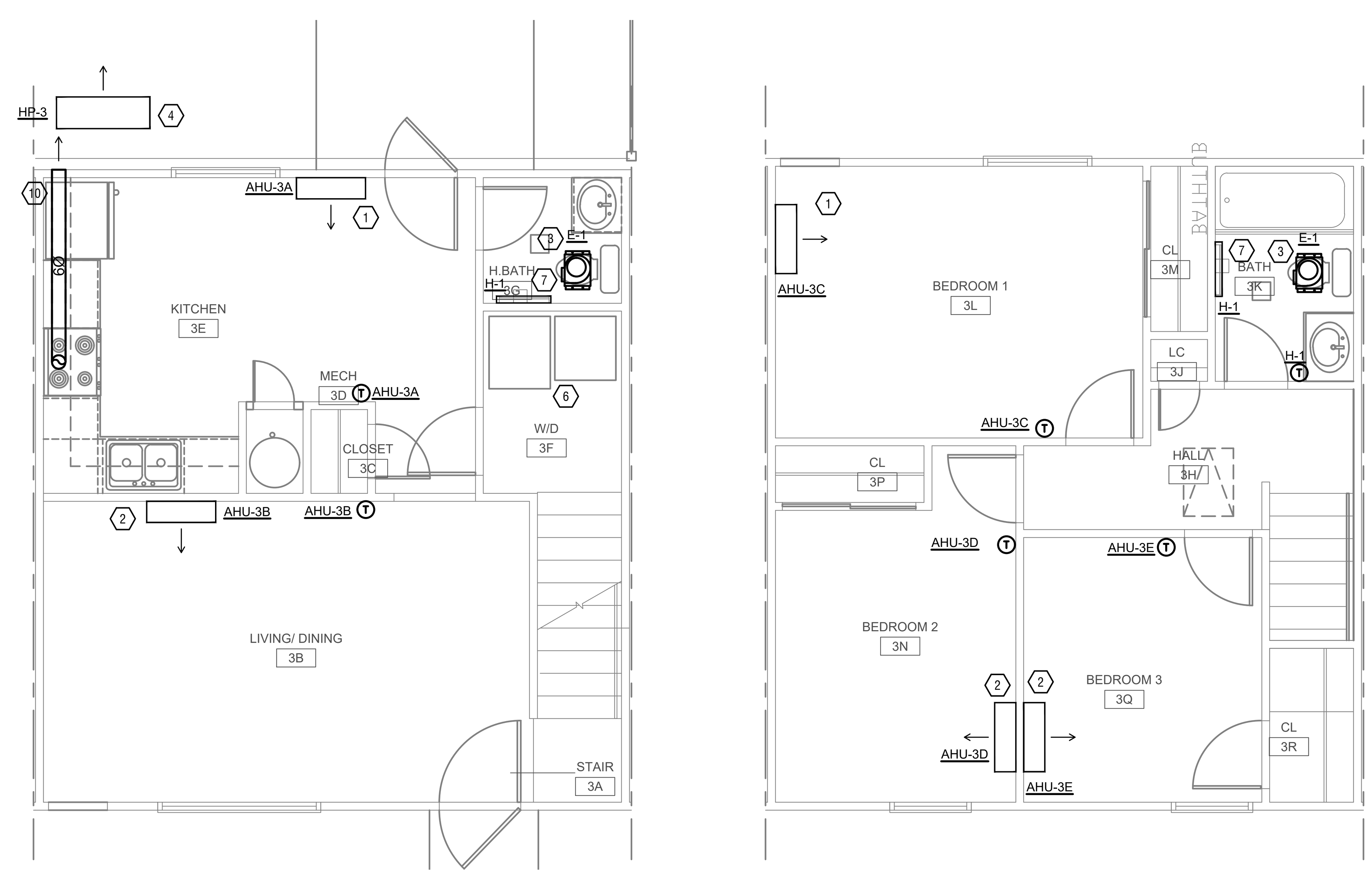
NATURAL VENTILATION SCHEDULE

FRANKLIN COMMONS

UNIT	ROOM NAME	AREA	DOOR OPENABLE AREA [SQ. FT]	WINDOW OPENABLE AREA [SQ. FT]	TOTAL OPENABLE AREA	4% OF FLOOR AREA
1	LIVING	290	42	13	55	12
1	BEDROOM	156	0	9	9	6
1 ADA	LIVING	293	42	13	55	12
1 ADA	BEDROOM	131	0	9	9	5
2	LIVING	229	42	13	55	9
2	BEDROOM 1	160	0	13	13	6
2	BEDROOM 2	125	0	9	9	5
3	LIVING	235	21	13	34	9
3	BEDROOM 1	150	0	9	9	6
3	BEDROOM 2	116	0	9	9	5
3	BEDROOM 3	105	0	9	9	4
LAUNDRY	LAUNDRY	216	21	0	21	9
OFFICE	RECEPTION	82	0	13	13	3
OFFICE	OFFICE 1	166	0	13	13	7
OFFICE	OFFICE 2	274	21	0	21	11
OFFICE	STORAGE	194	0	8	8	8
OFFICE	RECEIVING/GARAGE	433	84	16	100	17

NATURAL VENTILATION CALCULATIONS PER SEC 402.1 OF 2024 OMC

NATURAL VENILATION OF THE OCCUPIED SPACE SHALL BE THROUGH WINDOWS, DOORS, OR OTHER OPENINGS TO THE SPACE. THE OPERATING MECHANISIM FOR SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS SO THAT THE OPENINGS ARE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS.



1 M202 **UNIT 3**

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB	OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 72	INDOOR: 70	INDOOR: 75	INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC

Symbol	Description
(T)	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

BEILHARZ ARCHITECTS
1063 Central Avenue Cincinnati Ohio, 45202
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MEP Consulting Services, Inc. in OH

FRANKLIN COMMONS
ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 1 & 10

MECHANICAL ENLARGED UNITS

M202

INDOOR MINI SPLIT SCHEDULE

System Tag	Room Name	Tag Reference	Manufacturer	Model	Type	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Design Entering Temp DB/WB (°F)	Heating Design Entering Temp DB/WB (°F)	Cooling Total Capacity (BTU/h)	Cooling Sensible Capacity (BTU/h)	Heating Capacity (BTU/h)	Refrig Pipe Dim Liquid/Suction (inch)	Peak Fan Airflow (cfm)	Voltage / Phase	Electrical MCA/MFS	Notes / Options
UNIT 1	1HE - LIVING/DINING	AHU-1A	MITSUBISHI	MSZ-GS09NA-U1	Wall -Mounted	9,000	11,000	75.0/62.4	70	8,728.3	7,723.1	9,907.2	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 1	1HF - BEDROOM	AHU-1B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	6,000	7,400	75.0/62.4	70	5,852.4	5,852.4	6,673.4	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2B - LIVING	AHU-2A	MITSUBISHI	MSZ-FS09NA-U1	Wall -Mounted	7,700	10,600	75.0/62.4	70	7,472.1	7,472.1	9,546.9	1/4 / 3/8	437	208/230/1-phase	Powered by Outdoor	1-2
UNIT 2	2M - BEDROOM 2	AHU-2B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,912.4	4,912.4	6,382.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2K - BEDROOM 1	AHU-2C	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,890.5	4,890.5	6,375.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3E - KITCHEN	AHU-3A	MITSUBISHI	TPKFYP004LM140A	Wall -Mounted	4,000	4,500	75.0/62.4	70	3,488.5	2,799.7	4,033.2	1/4 / 3/8	148	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3B - LIVING	AHU-3B	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	12,099.5	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3L - BEDROOM 1	AHU-3C	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3N - BEDROOM 2	AHU-3D	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3Q - BEDROOM 3	AHU-3E	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C10 - GARAGE	AHU-4A	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,538.5	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C11/C12 - STORAGE/RECEIVING	AHU-4B	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C1/C2 - OFFICE/RECEPTION	AHU-4C	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C4 - MANAGERS OFFICE	AHU-4D	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C13 - LAUNDRY	AHU-4E	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2

1. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT.
2. PROVIDE/INSTALL PRE-FABRICATED HONEYWELL JACKETED METAL CLAD MINI-SPLIT CABLE FOR INDOOR/OUTDOOR UNIT CONNECTION.

OUTDOOR MINI SPLIT SCHEDULE

System Tag	Tag Reference	MANUFACTURER	Model Number	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Efficiency IEER/EER [SEER]	HSPF	Design Cooling Outdoor Temp DB (°F)	Design Heating Outdoor Temp WB (°F)	Corrected Cooling Total Capacity (BTU/h)	Corrected Heating Capacity (BTU/h)	Electrical-Per Module				Notes / Options
												Voltage / Phase	MCA	RFS	MOCP	
UNIT 1	HP-1	MITSUBISHI	MXZ-2C20NAHZ4-U1	18,000	22,000	12.25 [16]	9.65	91.0	5.0	11,671.3	13,338.2	208/230V / 1-phase	26.9	40	40	1-3
UNIT 2	HP-2	MITSUBISHI	MXZ-3C24NAHZ4-U1	22,000	25,000	11.75 [17.25]	9.5	91.0	5.0	17,274.9	22,305.5	208/230V / 1-phase	31.5	40	40	1-3
UNIT 3	HP-3	MITSUBISHI	MXZ-SM36NAMHZ2-U1	36,000	42,000	13.5	3.850	91.0	5.0	36,284.1	34,147.3	208/230V / 1-phase	36	40	40	1-3
UNIT 4	HP-4	MITSUBISHI	MXZ-SM48NAMHZ-U1	48,000	54,000	12.2	3.650	91.0	0.2	47,232.0	50,454.1	208/230V / 1-phase	36	40	40	1-3

1. PROVIDE EQUIPMENT STAND EQUAL TO DIVERSATECH MODEL QSMS1200
2. NO LOW TEMP CUT OUT OR RESTART.
3. LOW AMBIENT COOLING KIT.

HEATERS

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	HEAT-MBH	FUEL	HEAT-KW	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
H-1	BASEBOARD	BATHROOM	BERKO	2512NW	-	ELECTRIC	0.4	120/1/60	FLOOR	5.2	1
H-2	BASEBOARD	KITCHEN	BERKO	2513NW	-	ELECTRIC	0.75	120/1/60	FLOOR	7.5	1

1. WALL MOUNTED THERMOSTAT

FAN SCHEDULE

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	DRIVE	CFM	ESP	WATTS	RPM	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
E-1	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	50	0.25	6.2	1054	115/60/1	CEILING	11.8	1,2
E-2	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	80	0.25	9.6	1113	115/60/1	CEILING	11.8	1,2

1. FAN TO RUN OFF A SWITCH.
2. FAN IS ENERGY STAR RATED.

MECHANICAL EXHAUST SCHEDULE - OHIO MECHANICAL CODE

FRANKLIN COMMONS

UNIT NUMBER	ROOMNAME	OCCUPANCY CLASSIFICATION	AREA (ft2)	EXHAUST AIRFLOW RATE (CFM/ft2)	FIXTURES				TOTAL EXHAUST AIRFLOW REQ. (CFM)	TOTAL EXHAUST AIRFLOW ACT. (CFM)
					EXHAUST RATE PER FIXTURE (CFM)	LOWER CONTINUOUS RATE?	HIGHER INTERMITTENT RATE?	QTY. OF FIXTURES		
1	1J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
1 ADA	1HJ - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
2	2J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3G - H.BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3K - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
CC	C5 - RR1	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70
CC	C8 - RR2	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70

*CALCULATIONS ARE BASED ON 403.3.1.1 OF THE 2024 OMC

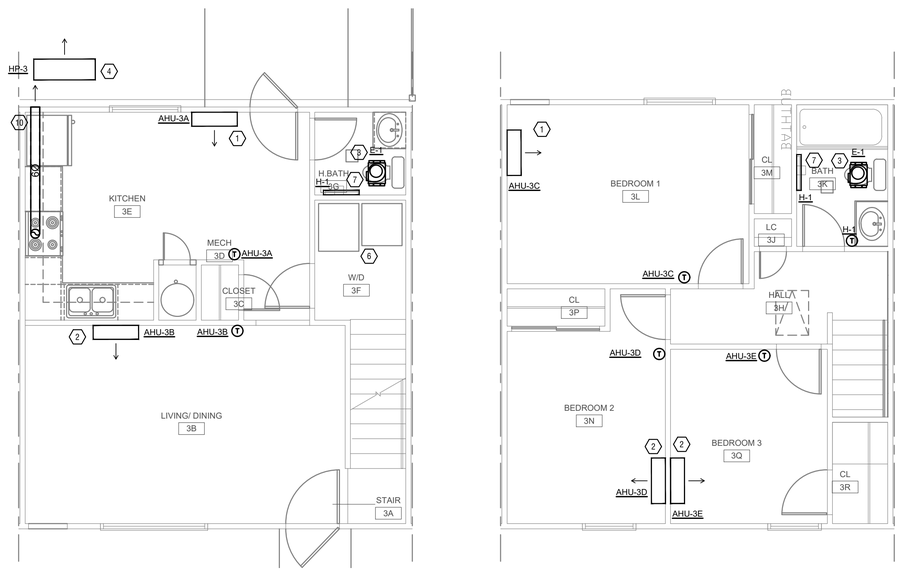
NATURAL VENTILATION SCHEDULE

FRANKLIN COMMONS

UNIT	ROOM NAME	AREA	DOOR OPENABLE AREA [SQ. FT]	WINDOW OPENABLE AREA [SQ. FT]	TOTAL OPENABLE AREA	4% OF FLOOR AREA
1	LIVING	290	42	13	55	12
1	BEDROOM	156	0	9	9	6
1 ADA	LIVING	293	42	13	55	12
1 ADA	BEDROOM	131	0	9	9	5
2	LIVING	229	42	13	55	9
2	BEDROOM 1	160	0	13	13	6
2	BEDROOM 2	125	0	9	9	5
3	LIVING	235	21	13	34	9
3	BEDROOM 1	150	0	9	9	6
3	BEDROOM 2	116	0	9	9	5
3	BEDROOM 3	105	0	9	9	4
LAUNDRY	LAUNDRY	216	21	0	21	9
OFFICE	RECEPTION	82	0	13	13	3
OFFICE	OFFICE 1	166	0	13	13	7
OFFICE	OFFICE 2	274	21	0	21	11
OFFICE	STORAGE	194	0	8	8	8
OFFICE	RECEIVING/GARAGE	433	84	16	100	17

NATURAL VENTILATION CALCULATIONS PER SEC 402.1 OF 2024 OMC

NATURAL VENILATION OF THE OCCUPIED SPACE SHALL BE THROUGH WINDOWS, DOORS, OR OTHER OPENINGS TO THE SPACE. THE OPERATING MECHANISM FOR SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS SO THAT THE OPENINGS ARE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS.



1 / M203 UNIT 3

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB INDOOR: 72	OUTDOOR: 0 DB INDOOR: 70	OUTDOOR: 93 DB / 75 WB INDOOR: 75	OUTDOOR: 0 DB INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

(#) KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND - HVAC

T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

ATA BEILHARZ ARCHITECTS
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FRANKLIN COMMONS
ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 9 & 11
MECHANICAL
ENLARGED UNITS

M203

INDOOR MINI SPLIT SCHEDULE

System Tag	Room Name	Tag Reference	Manufacturer	Model	Type	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Design Entering Temp DB/WB (°F)	Heating Design Entering Temp DB/WB (°F)	Cooling Total Capacity (BTU/h)	Cooling Sensible Capacity (BTU/h)	Heating Capacity (BTU/h)	Refrig Pipe Dim Liquid/Suction (inch)	Peak Fan Airflow (cfm)	Voltage / Phase	Electrical MCA/MFS	Notes / Options
UNIT 1	1HE - LIVING/DINING	AHU-1A	MITSUBISHI	MSZ-GS09NA-U1	Wall -Mounted	9,000	11,000	75.0/62.4	70	8,728.3	7,723.1	9,907.2	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 1	1HF - BEDROOM	AHU-1B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	6,000	7,400	75.0/62.4	70	5,852.4	5,852.4	6,673.4	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2B - LIVING	AHU-2A	MITSUBISHI	MSZ-FS09NA-U1	Wall -Mounted	7,700	10,600	75.0/62.4	70	7,472.1	7,472.1	9,546.9	1/4 / 3/8	437	208/230/1-phase	Powered by Outdoor	1-2
UNIT 2	2M - BEDROOM 2	AHU-2B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,912.4	4,912.4	6,382.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2K - BEDROOM 1	AHU-2C	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,890.5	4,890.5	6,375.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3E - KITCHEN	AHU-3A	MITSUBISHI	TPKFYP004LM140A	Wall -Mounted	4,000	4,500	75.0/62.4	70	3,488.5	2,799.7	4,033.2	1/4 / 3/8	148	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3B - LIVING	AHU-3B	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	12,099.5	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3L - BEDROOM 1	AHU-3C	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3N - BEDROOM 2	AHU-3D	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3Q - BEDROOM 3	AHU-3E	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C10 - GARAGE	AHU-4A	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,538.5	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C11/C12 - STORAGE/RECEIVING	AHU-4B	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C1/C2 - OFFICE/RECEPTION	AHU-4C	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C4 - MANAGERS OFFICE	AHU-4D	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C13 - LAUNDRY	AHU-4E	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2

1. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT.
2. PROVDE/INSTALL PRE-FABRICATED HONEYWELL JACKETED METAL CLAD MINI-SPLIT CABLE FOR INDOOR/OUTDOOR UNIT CONNECTION.

OUTDOOR MINI SPLIT SCHEDULE

System Tag	Tag Reference	MANUFACTURER	Model Number	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Efficiency IEER/EER [SEER]	HSPF	Design Cooling Outdoor Temp DB (°F)	Design Heating Outdoor Temp WB (°F)	Corrected Cooling Total Capacity (BTU/h)	Corrected Heating Capacity (BTU/h)	Electrical-Per Module				Notes / Options
												Voltage / Phase	MCA	RFS	MOCP	
UNIT 1	HP-1	MITSUBISHI	MXZ-2C20NAHZ4-U1	18,000	22,000	12.25 [16]	9.65	91.0	5.0	11,671.3	13,338.2	208/230V / 1-phase	26.9	40	40	1-3
UNIT 2	HP-2	MITSUBISHI	MXZ-3C24NAHZ4-U1	22,000	25,000	11.75 [17.25]	9.5	91.0	5.0	17,274.9	22,305.5	208/230V / 1-phase	31.5	40	40	1-3
UNIT 3	HP-3	MITSUBISHI	MXZ-SM36NAMHZ2-U1	36,000	42,000	13.5	3.850	91.0	5.0	36,284.1	34,147.3	208/230V / 1-phase	36	40	40	1-3
UNIT 4	HP-4	MITSUBISHI	MXZ-SM48NAMHZ-U1	48,000	54,000	12.2	3.650	91.0	0.2	47,232.0	50,454.1	208/230V / 1-phase	36	40	40	1-3

1. PROVIDE EQUIPMENT STAND EQUAL TO DIVERSATECH MODEL QSMS1200
2. NO LOW TEMP CUT OUT OR RESTART.
3. LOW AMBIENT COOLING KIT.

HEATERS

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	HEAT-MBH	FUEL	HEAT-KW	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
H-1	BASEBOARD	BATHROOM	BERKO	2512NW	-	ELECTRIC	0.4	120/1/60	FLOOR	5.2	1
H-2	BASEBOARD	KITCHEN	BERKO	2513NW	-	ELECTRIC	0.75	120/1/60	FLOOR	7.5	1

1. WALL MOUNTED THERMOSTAT

FAN SCHEDULE

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	DRIVE	CFM	ESP	WATTS	RPM	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
E-1	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	50	0.25	6.2	1054	115/60/1	CEILING	11.8	1,2
E-2	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	80	0.25	9.6	1113	115/60/1	CEILING	11.8	1,2

1. FAN TO RUN OFF A SWITCH
2. FAN IS ENERGY STAR RATED.

MECHANICAL EXHAUST SCHEDULE - OHIO MECHANICAL CODE

FRANKLIN COMMONS

UNIT NUMBER	ROOMNAME	OCCUPANCY CLASSIFICATION	AREA (ft2)	EXHAUST AIRFLOW RATE (CFM/ft2)	FIXTURES				TOTAL EXHAUST AIRFLOW REQ. (CFM)	TOTAL EXHAUST AIRFLOW ACT. (CFM)
					EXHAUST RATE PER FIXTURE (CFM)	LOWER CONTINUOUS RATE?	HIGHER INTERMITTENT RATE?	QTY. OF FIXTURES		
1	1J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
1 ADA	1HJ - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
2	2J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3G - H.BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3K - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
CC	C5 - RR1	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70
CC	C8 - RR2	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70

*CALCULATIONS ARE BASED ON 403.3.1.1 OF THE 2024 OMC

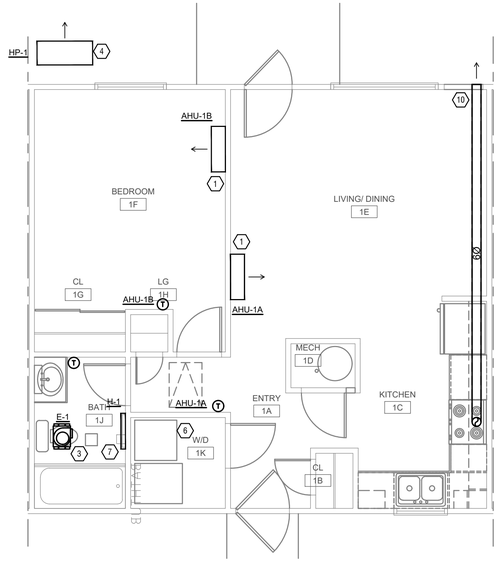
NATURAL VENTILATION SCHEDULE

FRANKLIN COMMONS

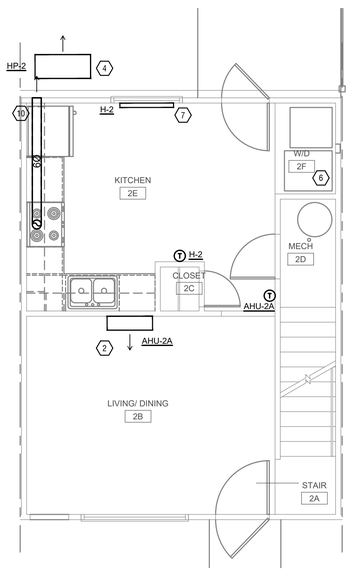
UNIT	ROOM NAME	AREA	DOOR OPENABLE AREA [SQ. FT]	WINDOW OPENABLE AREA [SQ. FT]	TOTAL OPENABLE AREA	4% OF FLOOR AREA
1	LIVING	290	42	13	55	12
1	BEDROOM	156	0	9	9	6
1 ADA	LIVING	293	42	13	55	12
1 ADA	BEDROOM	131	0	9	9	5
2	LIVING	229	42	13	55	9
2	BEDROOM 1	160	0	13	13	6
2	BEDROOM 2	125	0	9	9	5
3	LIVING	235	21	13	34	9
3	BEDROOM 1	150	0	9	9	6
3	BEDROOM 2	116	0	9	9	5
3	BEDROOM 3	105	0	9	9	4
LAUNDRY	LAUNDRY	216	21	0	21	9
OFFICE	RECEPTION	82	0	13	13	3
OFFICE	OFFICE 1	166	0	13	13	7
OFFICE	OFFICE 2	274	21	0	21	11
OFFICE	STORAGE	194	0	8	8	8
OFFICE	RECEIVING/GARAGE	433	84	16	100	17

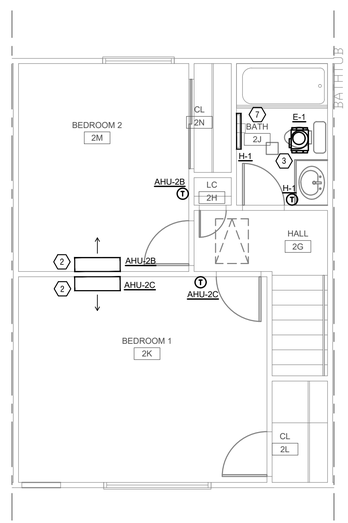
NATURAL VENTILATION CALCULATIONS PER SEC 402.1 OF 2024 OMC

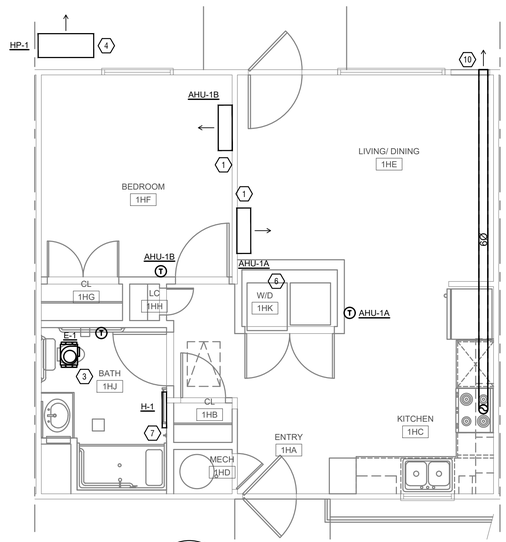
NATURAL VENILATION OF THE OCCUPIED SPACE SHALL BE THROUGH WINDOWS, DOORS, OR OTHER OPENINGS TO THE SPACE. THE OPERATING MECHANISM FOR SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS SO THAT THE OPENINGS ARE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS.



3 M204 UNIT 1
SCALE: 1/4" = 1'-0"







1 M204 UNIT 1 ADA
SCALE: 1/4" = 1'-0"

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB	OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 72	INDOOR: 70	INDOOR: 75	INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

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F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

(#) KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC

T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

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STATE OF OHIO
SCOTT SEVERT STILKEY
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REGISTERED PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 6, 7, 12, 13, 15, 16, & 17

MECHANICAL
ENLARGED UNITS

M204

INDOOR MINI SPLIT SCHEDULE

System Tag	Room Name	Tag Reference	Manufacturer	Model	Type	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Design Entering Temp DB/WB (°F)	Heating Design Entering Temp DB/WB (°F)	Cooling Total Capacity (BTU/h)	Cooling Sensible Capacity (BTU/h)	Heating Capacity (BTU/h)	Refrig Pipe Dim Liquid/Suction (inch)	Peak Fan Airflow (cfm)	Voltage / Phase	Electrical MCA/MFS	Notes / Options
UNIT 1	1HE - LIVING/DINING	AHU-1A	MITSUBISHI	MSZ-GS09NA-U1	Wall -Mounted	9,000	11,000	75.0/62.4	70	8,728.3	7,723.1	9,907.2	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 1	1HF - BEDROOM	AHU-1B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	6,000	7,400	75.0/62.4	70	5,852.4	5,852.4	6,673.4	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2B - LIVING	AHU-2A	MITSUBISHI	MSZ-FS09NA-U1	Wall -Mounted	7,700	10,600	75.0/62.4	70	7,472.1	7,472.1	9,546.9	1/4 / 3/8	437	208/230/1-phase	Powered by Outdoor	1-2
UNIT 2	2M - BEDROOM 2	AHU-2B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,912.4	4,912.4	6,382.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2K - BEDROOM 1	AHU-2C	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,890.5	4,890.5	6,375.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3E - KITCHEN	AHU-3A	MITSUBISHI	TPKFYP004LM140A	Wall -Mounted	4,000	4,500	75.0/62.4	70	3,488.5	2,799.7	4,033.2	1/4 / 3/8	148	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3B - LIVING	AHU-3B	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	12,099.5	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3L - BEDROOM 1	AHU-3C	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3N - BEDROOM 2	AHU-3D	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3Q - BEDROOM 3	AHU-3E	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C10 - GARAGE	AHU-4A	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,538.5	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C11/C12 - STORAGE/RECEIVING	AHU-4B	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C1/C2 - OFFICE/RECEPTION	AHU-4C	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C4 - MANAGERS OFFICE	AHU-4D	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C13 - LAUNDRY	AHU-4E	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2

1. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT.
2. PROVDE/INSTALL PRE-FABRICATED HONEYWELL JACKETED METAL CLAD MINI-SPLIT CABLE FOR INDOOR/OUTDOOR UNIT CONNECTION.

OUTDOOR MINI SPLIT SCHEDULE

System Tag	Tag Reference	MANUFACTURER	Model Number	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Efficiency IEER/EER [SEER]	HSPF	Design Cooling Outdoor Temp DB (°F)	Design Heating Outdoor Temp WB (°F)	Corrected Cooling Total Capacity (BTU/h)	Corrected Heating Capacity (BTU/h)	Electrical-Per Module				Notes / Options
												Voltage / Phase	MCA	RFS	MOCP	
UNIT 1	HP-1	MITSUBISHI	MXZ-2C20NAHZ4-U1	18,000	22,000	12.25 [16]	9.65	91.0	5.0	11,671.3	13,338.2	208/230V / 1-phase	26.9	40	40	1-3
UNIT 2	HP-2	MITSUBISHI	MXZ-3C24NAHZ4-U1	22,000	25,000	11.75 [17.25]	9.5	91.0	5.0	17,274.9	22,305.5	208/230V / 1-phase	31.5	40	40	1-3
UNIT 3	HP-3	MITSUBISHI	MXZ-SM36NAMHZ2-U1	36,000	42,000	13.5	3.850	91.0	5.0	36,284.1	34,147.3	208/230V / 1-phase	36	40	40	1-3
UNIT 4	HP-4	MITSUBISHI	MXZ-SM48NAMHZ-U1	48,000	54,000	12.2	3.650	91.0	0.2	47,232.0	50,454.1	208/230V / 1-phase	36	40	40	1-3

1. PROVIDE EQUIPMENT STAND EQUAL TO DIVERSATECH MODEL QSMS1200
2. NO LOW TEMP CUT OUT OR RESTART.
3. LOW AMBIENT COOLING KIT.

HEATERS

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	HEAT-MBH	FUEL	HEAT-KW	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
H-1	BASEBOARD	BATHROOM	BERKO	2512NW	-	ELECTRIC	0.4	120/1/60	FLOOR	5.2	1
H-2	BASEBOARD	KITCHEN	BERKO	2513NW	-	ELECTRIC	0.75	120/1/60	FLOOR	7.5	1

1. WALL MOUNTED THERMOSTAT

FAN SCHEDULE

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	DRIVE	CFM	ESP	WATTS	RPM	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
E-1	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	50	0.25	6.2	1054	115/60/1	CEILING	11.8	1,2
E-2	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	80	0.25	9.6	1113	115/60/1	CEILING	11.8	1,2

1. FAN TO RUN OFF A SWITCH
2. FAN IS ENERGY STAR RATED.

MECHANICAL EXHAUST SCHEDULE - OHIO MECHANICAL CODE

FRANKLIN COMMONS

UNIT NUMBER	ROOMNAME	OCCUPANCY CLASSIFICATION	AREA (ft2)	EXHAUST AIRFLOW RATE (CFM/ft2)	FIXTURES				TOTAL EXHAUST AIRFLOW REQ. (CFM)	TOTAL EXHAUST AIRFLOW ACT. (CFM)
					EXHAUST RATE PER FIXTURE (CFM)	LOWER CONTINUOUS RATE?	HIGHER INTERMITTENT RATE?	QTY. OF FIXTURES		
1	1J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
1 ADA	1HJ - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
2	2J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3G - H.BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3K - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
CC	C5 - RR1	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70
CC	C8 - RR2	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70

*CALCULATIONS ARE BASED ON 403.3.1.1 OF THE 2024 OMC

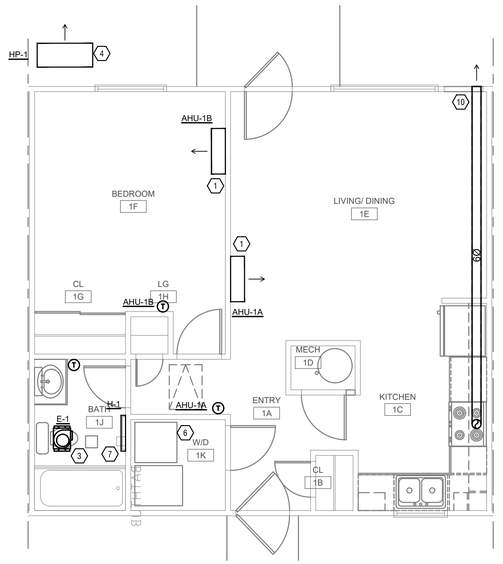
NATURAL VENTILATION SCHEDULE

FRANKLIN COMMONS

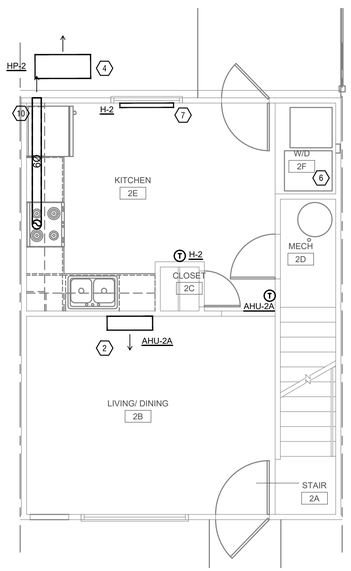
UNIT	ROOM NAME	AREA	DOOR OPENABLE AREA [SQ. FT]	WINDOW OPENABLE AREA [SQ. FT]	TOTAL OPENABLE AREA	4% OF FLOOR AREA
1	LIVING	290	42	13	55	12
1	BEDROOM	156	0	9	9	6
1 ADA	LIVING	293	42	13	55	12
1 ADA	BEDROOM	131	0	9	9	5
2	LIVING	229	42	13	55	9
2	BEDROOM 1	160	0	13	13	6
2	BEDROOM 2	125	0	9	9	5
3	LIVING	235	21	13	34	9
3	BEDROOM 1	150	0	9	9	6
3	BEDROOM 2	116	0	9	9	5
3	BEDROOM 3	105	0	9	9	4
LAUNDRY	LAUNDRY	216	21	0	21	9
OFFICE	RECEPTION	82	0	13	13	3
OFFICE	OFFICE 1	166	0	13	13	7
OFFICE	OFFICE 2	274	21	0	21	11
OFFICE	STORAGE	194	0	8	8	8
OFFICE	RECEIVING/GARAGE	433	84	16	100	17

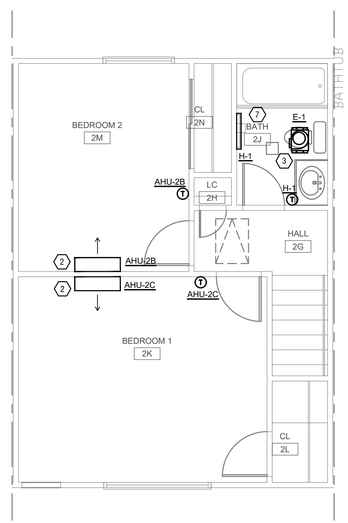
NATURAL VENTILATION CALCULATIONS PER SEC 402.1 OF 2024 OMC

NATURAL VENILATION OF THE OCCUPIED SPACE SHALL BE THROUGH WINDOWS, DOORS, OR OTHER OPENINGS TO THE SPACE. THE OPERATING MECHANISM FOR SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS SO THAT THE OPENINGS ARE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS.

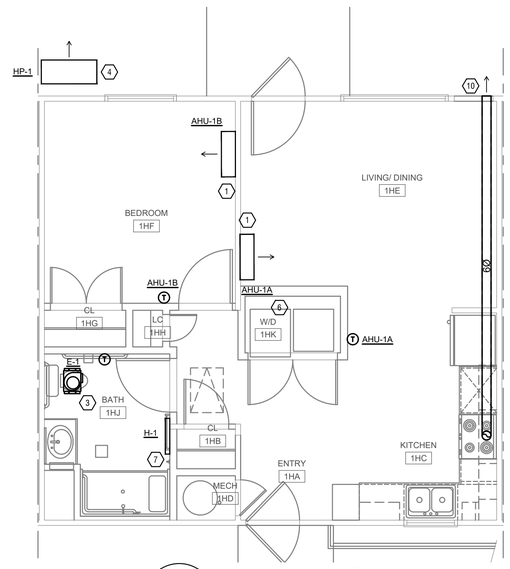


3 / M205 UNIT 1
SCALE: 1/4" = 1'-0"





2 / M205 UNIT 2
SCALE: 1/4" = 1'-0"



1 / M205 UNIT 1 ADA
SCALE: 1/4" = 1'-0"

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB	OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 72	INDOOR: 70	INDOOR: 75	INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

(#) KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC

T	THERMOSTAT
2	TYPICAL ROUND DUCT DN

ATA BEILHARZ ARCHITECTS
1063 Central Avenue Cincinnati Ohio, 45202
p: 513-241-4422 f: 513-241-5560 www.ATA-B.com

PR-10647
ENGINEERED BUILDING SYSTEMS INC.
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Newport, KY 41071 (859) 261-0585
MEP Consulting Services, Inc. in OH

FRANKLIN COMMONS
ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 8 & 20
MECHANICAL
ENLARGED UNITS

M205

INDOOR MINI SPLIT SCHEDULE

System Tag	Room Name	Tag Reference	Manufacturer	Model	Type	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Design Entering Temp DB/WB (°F)	Heating Design Entering Temp DB/WB (°F)	Cooling Total Capacity (BTU/h)	Cooling Sensible Capacity (BTU/h)	Heating Capacity (BTU/h)	Refrig Pipe Dim Liquid/Suction (inch)	Peak Fan Airflow (cfm)	Voltage / Phase	Electrical MCA/MFS	Notes / Options
UNIT 1	1HE - LIVING/DINING	AHU-1A	MITSUBISHI	MSZ-GS09NA-U1	Wall -Mounted	9,000	11,000	75.0/62.4	70	8,728.3	7,723.1	9,907.2	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 1	1HF - BEDROOM	AHU-1B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	6,000	7,400	75.0/62.4	70	5,852.4	5,852.4	6,673.4	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2B - LIVING	AHU-2A	MITSUBISHI	MSZ-FS09NA-U1	Wall -Mounted	7,700	10,600	75.0/62.4	70	7,472.1	7,472.1	9,546.9	1/4 / 3/8	437	208/230/1-phase	Powered by Outdoor	1-2
UNIT 2	2M - BEDROOM 2	AHU-2B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,912.4	4,912.4	6,382.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2K - BEDROOM 1	AHU-2C	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,890.5	4,890.5	6,375.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3E - KITCHEN	AHU-3A	MITSUBISHI	TPKFYP004LM140A	Wall -Mounted	4,000	4,500	75.0/62.4	70	3,488.5	2,799.7	4,033.2	1/4 / 3/8	148	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3B - LIVING	AHU-3B	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	12,099.5	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3L - BEDROOM 1	AHU-3C	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3N - BEDROOM 2	AHU-3D	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3Q - BEDROOM 3	AHU-3E	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C10 - GARAGE	AHU-4A	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,538.5	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C11/C12 - STORAGE/RECEIVING	AHU-4B	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C1/C2 - OFFICE/RECEPTION	AHU-4C	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C4 - MANAGERS OFFICE	AHU-4D	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C13 - LAUNDRY	AHU-4E	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2

1. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT.
2. PROVIDE/INSTALL PRE-FABRICATED HONEYWELL JACKETED METAL CLAD MINI-SPLIT CABLE FOR INDOOR/OUTDOOR UNIT CONNECTION.

OUTDOOR MINI SPLIT SCHEDULE

System Tag	Tag Reference	MANUFACTURER	Model Number	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Efficiency IEER/EER [SEER]	HSPF	Design Cooling Outdoor Temp DB (°F)	Design Heating Outdoor Temp WB (°F)	Corrected Cooling Total Capacity (BTU/h)	Corrected Heating Capacity (BTU/h)	Electrical-Per Module				Notes / Options
												Voltage / Phase	MCA	RFS	MOCP	
UNIT 1	HP-1	MITSUBISHI	MXZ-2C20NAHZ4-U1	18,000	22,000	12.25 [16]	9.65	91.0	5.0	11,671.3	13,338.2	208/230V / 1-phase	26.9	40	40	1-3
UNIT 2	HP-2	MITSUBISHI	MXZ-3C24NAHZ4-U1	22,000	25,000	11.75 [17.25]	9.5	91.0	5.0	17,274.9	22,305.5	208/230V / 1-phase	31.5	40	40	1-3
UNIT 3	HP-3	MITSUBISHI	MXZ-SM36NAMHZ2-U1	36,000	42,000	13.5	3.850	91.0	5.0	36,284.1	34,147.3	208/230V / 1-phase	36	40	40	1-3
UNIT 4	HP-4	MITSUBISHI	MXZ-SM48NAMHZ-U1	48,000	54,000	12.2	3.650	91.0	0.2	47,232.0	50,454.1	208/230V / 1-phase	36	40	40	1-3

1. PROVIDE EQUIPMENT STAND EQUAL TO DIVERSATECH MODEL QSMS1200
2. NO LOW TEMP CUT OUT OR RESTART.
3. LOW AMBIENT COOLING KIT.

HEATERS

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	HEAT-MBH	FUEL	HEAT-KW	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
H-1	BASEBOARD	BATHROOM	BERKO	2512NW	-	ELECTRIC	0.4	120/1/60	FLOOR	5.2	1
H-2	BASEBOARD	KITCHEN	BERKO	2513NW	-	ELECTRIC	0.75	120/1/60	FLOOR	7.5	1

1. WALL MOUNTED THERMOSTAT

FAN SCHEDULE

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	DRIVE	CFM	ESP	WATTS	RPM	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
E-1	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	50	0.25	6.2	1054	115/60/1	CEILING	11.8	1,2
E-2	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	80	0.25	9.6	1113	115/60/1	CEILING	11.8	1,2

1. FAN TO RUN OFF A SWITCH.
2. FAN IS ENERGY STAR RATED.

MECHANICAL EXHAUST SCHEDULE - OHIO MECHANICAL CODE

FRANKLIN COMMONS

UNIT NUMBER	ROOMNAME	OCCUPANCY CLASSIFICATION	AREA (ft2)	EXHAUST AIRFLOW RATE (CFM/ft2)	FIXTURES				TOTAL EXHAUST AIRFLOW REQ. (CFM)	TOTAL EXHAUST AIRFLOW ACT. (CFM)
					EXHAUST RATE PER FIXTURE (CFM)	LOWER CONTINUOUS RATE?	HIGHER INTERMITTENT RATE?	QTY. OF FIXTURES		
1	1J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
1 ADA	1HJ - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
2	2J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3G - H.BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3K - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
CC	C5 - RR1	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70
CC	C8 - RR2	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70

*CALCULATIONS ARE BASED ON 403.3.1.1 OF THE 2024 OMC

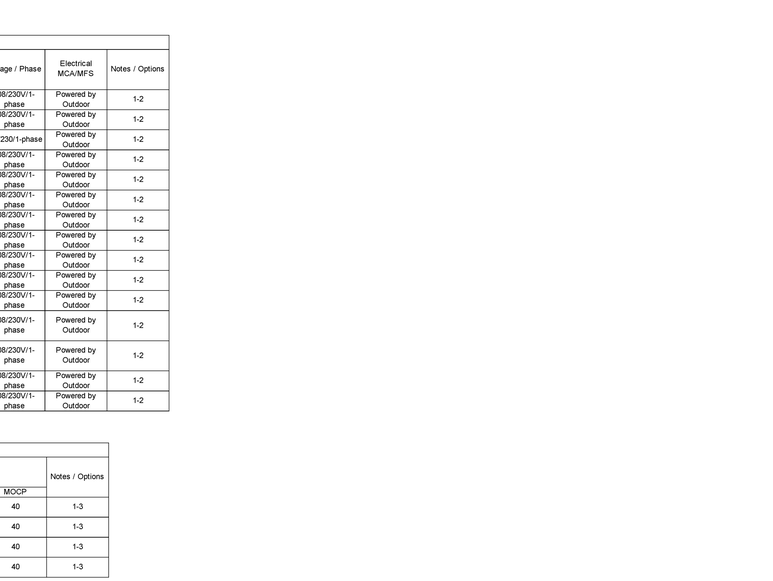
NATURAL VENTILATION SCHEDULE

FRANKLIN COMMONS

UNIT	ROOM NAME	AREA	DOOR OPENABLE AREA [SQ. FT]	WINDOW OPENABLE AREA [SQ. FT]	TOTAL OPENABLE AREA	4% OF FLOOR AREA
1	LIVING	290	42	13	55	12
1	BEDROOM	156	0	9	9	6
1 ADA	LIVING	293	42	13	55	12
1 ADA	BEDROOM	131	0	9	9	5
2	LIVING	229	42	13	55	9
2	BEDROOM 1	160	0	13	13	6
2	BEDROOM 2	125	0	9	9	5
3	LIVING	235	21	13	34	9
3	BEDROOM 1	150	0	9	9	6
3	BEDROOM 2	116	0	9	9	5
3	BEDROOM 3	105	0	9	9	4
LAUNDRY	LAUNDRY	216	21	0	21	9
OFFICE	RECEPTION	82	0	13	13	3
OFFICE	OFFICE 1	166	0	13	13	7
OFFICE	OFFICE 2	274	21	0	21	11
OFFICE	STORAGE	194	0	8	8	8
OFFICE	RECEIVING/GARAGE	433	84	16	100	17

NATURAL VENTILATION CALCULATIONS PER SEC 402.1 OF 2024 OMC

NATURAL VENILATION OF THE OCCUPIED SPACE SHALL BE THROUGH WINDOWS, DOORS, OR OTHER OPENINGS TO THE SPACE. THE OPERATING MECHANISM FOR SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS SO THAT THE OPENINGS ARE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS.



1 / M206 UNIT 2

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

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB INDOOR: 72	OUTDOOR: 0 DB INDOOR: 70	OUTDOOR: 93 DB / 75 WB INDOOR: 75	OUTDOOR: 0 DB INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES, FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
2. ROUTE 3/4" CONDENSATE DRAIN LINE TO TAILPIECE OF RESTROOM LAVATORY. PLUMBING CONTRACTOR SHALL PROVIDE PIPE CONNECTION TO LAVATORY TAILPIECE AND ROUTE PIPE IN WALL AND TERMINATE ABOVE CEILING. MECHANICAL CONTRACTOR SHALL ROUTE CONDENSATE FROM UNIT TO LINE RIGHT ABOVE THE CEILING AND TERMINATE WITH A HARD PIPE CONNECTION. COORDINATE CONNECTION LOCATION WITH PLUMBING CONTRACTOR. SLOPE PIPE A MINIMUM OF 1/8" PER FOOT AWAY FROM THE UNIT. PROVIDE CONDENSATE PUMP AS NEEDED.
3. CONNECT NEW EXHAUST FAN TO EXISTING DUCTWORK.
4. ROUTE LINE SET FROM OUTDOOR UNIT TO INDOOR AIR HANDLER. ALL PIPING SHALL BE CONCEALED IN FINISHED AREA. SIZE PER MANUFACTURES RECOMMENDATIONS.
5. ROUTE EXHAUST UP THROUGH ROOF WITH RAIN PROOF CAP.
6. EXISTING DRYER DUCT SYSTEM TO REMAIN.
7. REPLACE EXISTING BASEBOARD HEATERS WITH NEW HEATER. INSTALL NEW THERMOSTAT AT EXISTING THERMOSTAT LOCATION.
8. INSTALL NEW BASEBOARD HEATERS AND INSTALL THERMOSTATS IN LOCATION SHOWN.
9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC

T	THERMOSTAT
	TYPICAL ROUND DUCT DN
	ROUND DUCT UP

ATA BEILHARZ ARCHITECTS
1063 Central Avenue Cincinnati Ohio, 45202
p: 513-241-4422 f: 513-241-5560 www.ATA-B.com

PR-10647

ENGINEERED BUILDING SYSTEMS INC.
TEAMWORK • COLLABORATION
SHARED SUCCESS
515 Monmouth Street, Suite 201
Newport, KY 41071 (859) 261-0585
MEP Consulting Services, Inc. in OH

FRANKLIN COMMONS
ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
SCOTT SEVERT STILKEY
E-77755
REGISTERED PROFESSIONAL ENGINEER

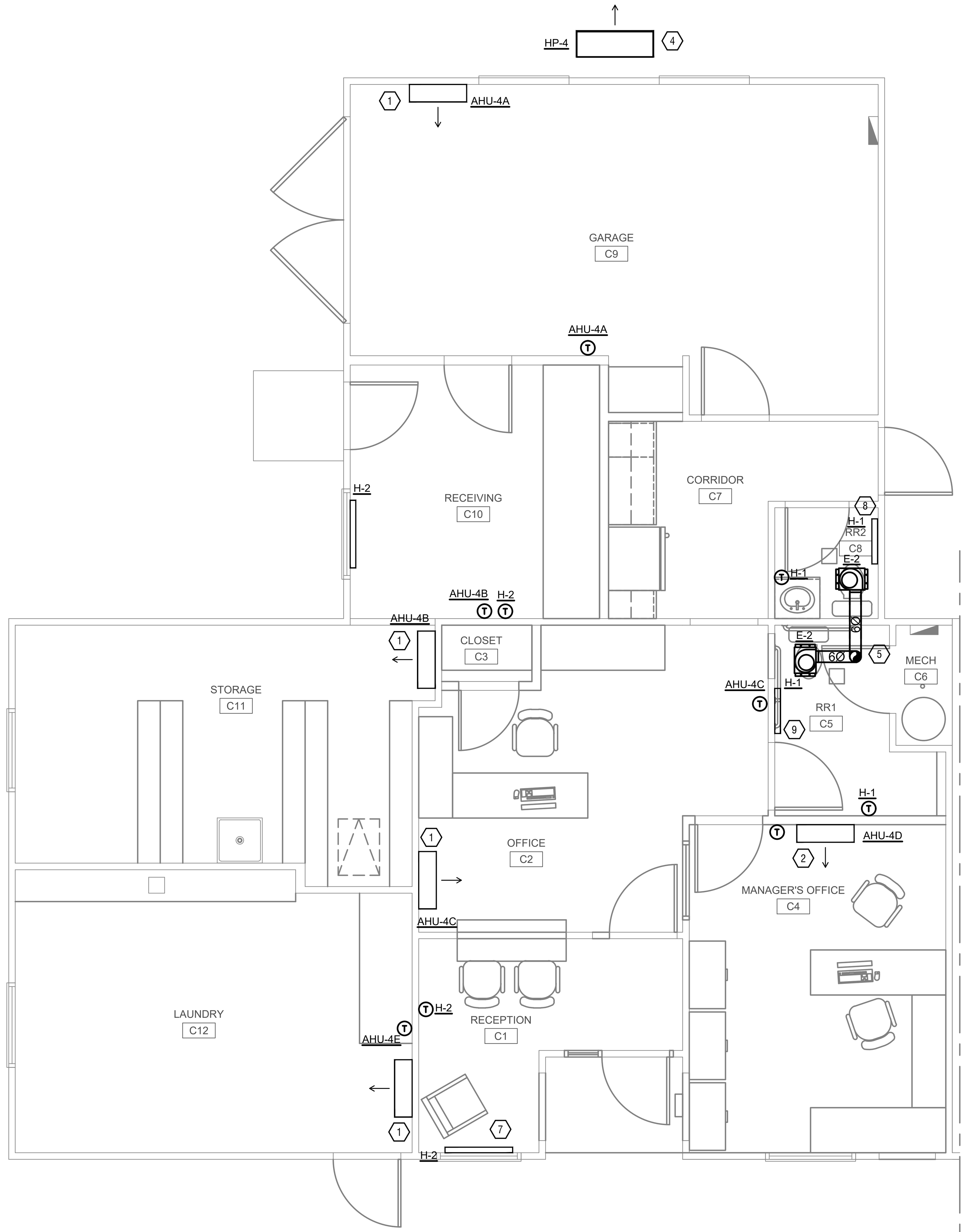
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

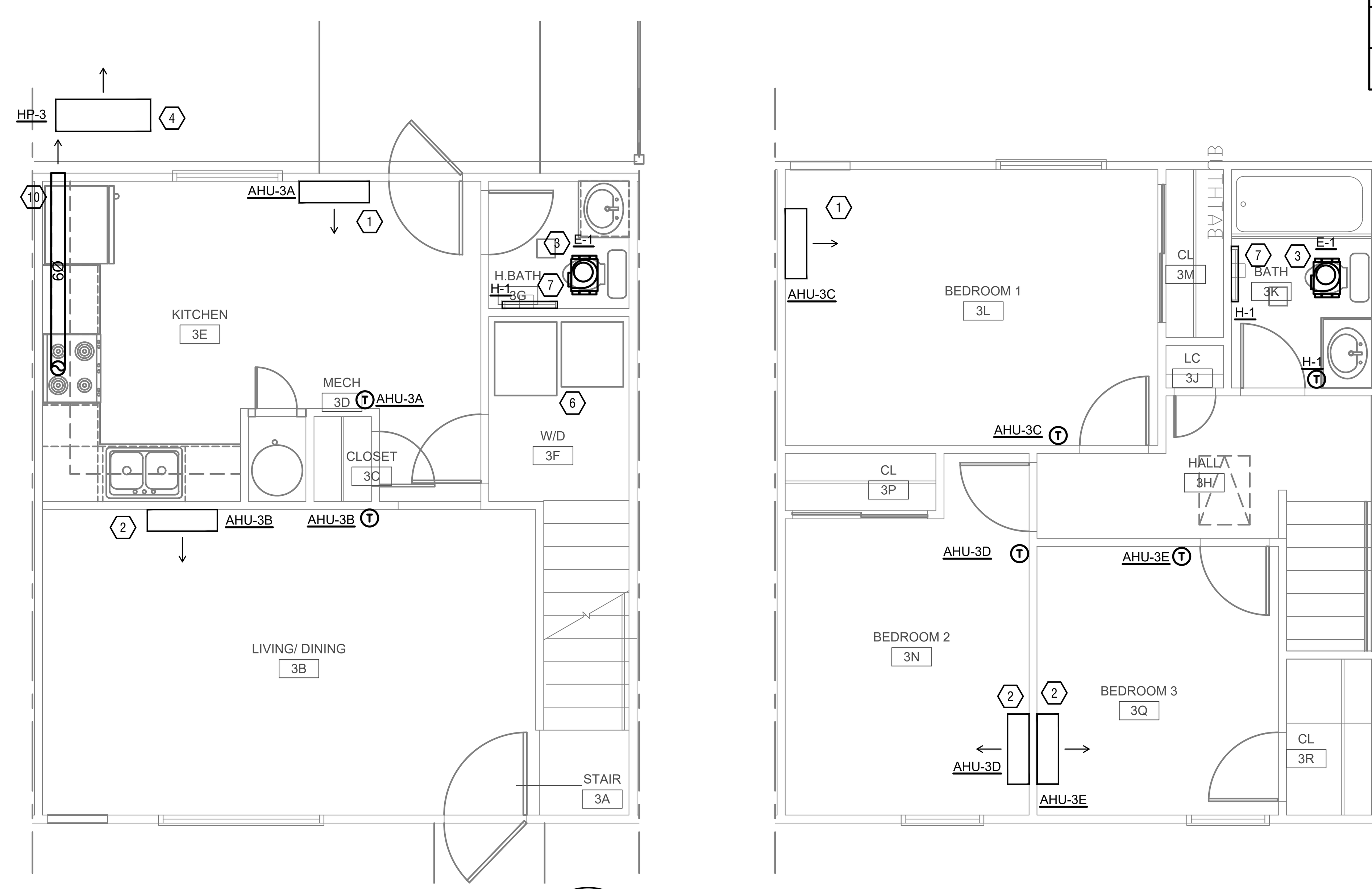
PROJECT #:
DRAWN: CHECKED:

BUILDING 19
MECHANICAL
ENLARGED UNITS

M206



2 / M207 **OFFICE**
SCALE: 1/4" = 1'-0"



1 / M207 **UNIT 3**
SCALE: 1/4" = 1'-0"

MECHANICAL SCOPE OF WORK

PROVIDE MINI SPLIT SYSTEMS AND HEATERS TO CONDITION EXISTING APARTMENTS AND OFFICES

CODES & STANDARDS REFERENCED

- 2024 OHIO MECHANICAL CODE
- 2024 OHIO BUILDING CODE
- ASHRAE 90.1-2019

HVAC DESIGN CONDITIONS

COMMERCIAL		RESIDENTIAL	
COOLING	HEATING	COOLING	HEATING
OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB	OUTDOOR: 93 DB / 75 WB	OUTDOOR: 0 DB
INDOOR: 72	INDOOR: 70	INDOOR: 75	INDOOR: 70

GENERAL NOTES

A. FOR FULL SCHEDULES, SPECIFICATIONS, AND COMPLETE LISTING SEE DETAIL SHEETS.

B. COORDINATE ROUTING OF ALL WORK WITH OTHER TRADES.

C. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

D. INSTALL ALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES FOR ACCESS AND MAINTENANCE.

E. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS, AND FINAL CEILING DIFFUSER LOCATIONS.

F. MAINTAIN ALL CODE REQUIRED SERVICE CLEARANCES. FOLLOW CLEARANCE TO COMBUSTIBLE DISTANCE PER MANUFACTURER'S INSTRUCTIONS.

G. PROVIDE BACKDRAFT DAMPERS FOR ALL EXHAUST SYSTEMS AND EITHER LOUVER, BRICK VENT, OR CAPS AT ALL EXTERIOR BUILDING PENETRATIONS.

H. MOUNT THERMOSTATS 60" ABOVE FINISHED FLOOR. MOUNT THERMOSTATS IN ADA UNITS 40" ABOVE FINISHED FLOOR.

KEYED SHEET NOTES

1. ROUTE 3/4" CONDENSATE DRAIN LINE TO GRAD OUTSIDE. SLOPE PIPE A MINIMUM OF 1/8 " PER FOOT AWAY FROM UNIT. PROVIDE A CONDENSATE PUMP IF NEEDED.
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9. MOVE EXISTING BASEBOARD HEATER/THERMOSTAT LOCATION TO NEW LOCATION SHOWN ON PLANS DUE TO RENOVATIONS.
10. CONNECT HOOD TO EXISTING OUTDOOR VENT. ROUTE TROUGH SOFFIT IN THE SPACE.

SYMBOLS LEGEND – HVAC

Symbol	Description
(T)	THERMOSTAT
Ø	TYPICAL ROUND DUCT DN
●	ROUND DUCT UP

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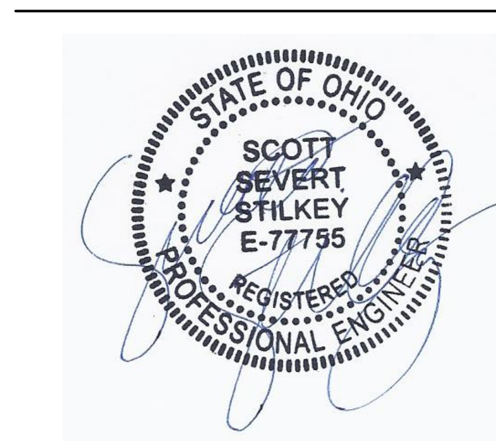

REVISIONS

Date	Description
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 18

MECHANICAL
ENLARGED UNITS

M207

MECHANICAL SPECIFICATIONS

1. General
   a. Refer to architectural drawings, general notes, instructions to bidders, general conditions, supplementary general conditions, base building specifications and drawings, shop drawing manuals and as-built plans, except as noted herein, which apply in all respects to this section. The contractor shall visit the site and familiarize himself with all existing conditions prior to bidding the work
2. Use of Drawings And Specifications
   a. EBS drawings and specifications are intended to convey design intent only. All means and methods sequences, techniques, and procedures of construction as well as any associated safety precautions and programs, and all incidental and temporary devices required to construct the project, and to provide a complete and fully operational mechanical system are the responsibility of the mechanical contractor.
3. Standards
   a. Equipment and materials shall conform with appropriate provisions of AGA, ARI, ASME, ASTM, CISPI, UL, NEMA, ANSI, SMACNA, ASHRAE, NFPA, NEC, as applicable to each individual unit or assembly. All equipment must bear UL label.
4. License / Experience
   a. Contractor must be licensed by the state to install HVAC systems/equipment. Contractor must also have a minimum of 5 years of experience and have installed at least (5) successful project installations of similar size and scope. References must be provided upon request.
5. Codes
   a. All work shall be performed in strict accordance with all applicable state and local codes and ordinances. The mechanical contractor shall satisfy code requirements at a minimum without any extra cost to the owner. In case of conflict between the drawings/specifications and the codes and ordinances, the highest standard shall apply.
6. Permits and Fees
   a. The mechanical contractor shall procure and pay for all permits, fees, taxes, and inspections necessary to complete the mechanical work. Furnish certificate of approval for work from inspection authority to owner before final acceptance for work. Certificate of final inspection and approval shall be submitted with the contractor's request for payment. No final payment will be approved without this certificate.
7. Site Examination
   a. The mechanical contractor shall thoroughly examine all areas of work where equipment, ductwork, and piping will be installed and shall report any condition that, in his opinion, prevents the proper installation of the mechanical work prior to bid. Contractor shall also examine the drawings and specifications of other branches of work, making reference to them for details of new or existing building conditions. No extras will be allowed for failure to include all required work in bid.
   b. All work shall be done at times convenient to the owner and only during normal working hours, unless specified otherwise.
   c. Mechanical contractor shall take their own measurements and be responsible for them.
   d. Access panels are not shown on drawings. During site examination, contractor shall identify all areas where access panels are required, and report to general contractor. Designation of who furnishes and who installs access panels must be coordinated with general contractor prior to starting work.
8. Contractor Coordination
   a. Coordination drawings showing system and component installation layout, routing, details, etc. Shall be produced by the mechanical contractor and under the supervision of the general contractor/construction manager, or appropriate party as applicable.
   b. All systems installed by each sub-contractor shall be coordinated with one another and approved by general contractor/construction manager, etc. prior to installation and/or fabrication.
   c. If questions concerning design intent arise during coordination, EBS can assist where appropriate.
   d. The architectural drawings shall take precedence over all other drawings. Do not scale distances off the mechanical drawings; use actual building dimensions.
9. Shop Drawings / Submittals
   a. Submit to the architect electronic copies of complete and certified shop drawings, descriptive data, performance data and ratings, diagrams and specifications on all specified equipment, including accessories, and materials for review. The make, model number, type, finish and accessories of all equipment and materials shall be reviewed and approved by the mechanical contractor and general contractor prior to submitting to the architect for their review and approval. Approval of shop drawings does not relieve the mechanical contractor/vendor from compliance with the requirements of the contract drawings, specifications and applicable codes.
   b. Shop drawings shall be required for the following:
      i. HVAC equipment
      ii. Fans
      iii. Diffusers, registers, grilles, dampers, louvers, and all sheet metal accessories
      iv. Temperature controls
      v. Sheet metal coordination drawings
   c. Products installed by the mechanical contractor and provided by others must be submitted for review prior to purchasing. Products shall not be selected based on permit drawings without express permission - products shall be selected based on construction drawings.
10. Record Drawing
   a. The mechanical contractor shall be responsible for creating record drawings where required. Drawings shall be produced in Autocad 2004 format or later.
11. Testing
   a. All mechanical systems shall be tested for proper operation.
12. Fire Stopping
   a. Provide fire stopping at all penetrations through rated separations per local codes & regulations & per UL recommendations for assemblies encountered in project.
   b. The fire stopping material shall meet the integrity of the fire rated wall, floor, ceiling & roof being penetrated. Refer to architect's drawings for wall, floor, ceiling & roof fire ratings prior to bidding work.
   c. Refer to architect's drawings for wall, floor, ceiling, and roof fire ratings prior to bidding work.
13. Access Panels
   a. Provide ceiling and wall access panel quantities & locations to the general contractor prior to bidding. Access panels are required for all concealed appliances, controls devices, heat exchangers and HVAC system components that utilize energy. Where access panels are used, the access panel should be sized to allow accessibility for inspection, service, repair and replacement without disabling the function of a fire-resistance-rated assembly or removing permanent construction, other appliances, venting systems or any other piping or ducts not connected to the appliance being inspected, serviced, repaired or replaced. There shall be no extras for having to add access panels after bids are awarded.
14. Cutting and Patching
   a. Neatly do all cutting as required and patch all cut surfaces to match building construction. The contractor shall employ and pay a trade trained and qualified to perform the required patching work. All surfaces disturbed shall be restored with like materials to the satisfaction of the owner. All penetrations through roof shall be made by bonded roofer. Mechanical contractor shall pay all fees required.
15. Flashing & Counterflashing
   a. Roof flashing shall be furnished and installed by the roofing contractor. Roof counterflashing shall be furnished and installed by the mechanical contractor. Coordinate work with roofing contractor and pay all fees.
   b. Obtain approval from general contractor, construction manager, owner and/or roofing contractor prior to making any penetrations so that warranties are not compromised or voided.
16. Warranty
   a. The mechanical contractor shall unconditionally warrant all work to be free of defects in equipment, material and workmanship for a period of one (1) year from the date of final acceptance by owner. The mechanical contractor will repair or replace any defective work promptly and without charge to the owner.
   b. Restore any other existing work damaged in the course of repairing defective equipment, materials and workmanship.
17. Mechanical Work
   a. The mechanical contractor shall provide new hvac equipment, fans, ductwork, piping, air devices, controls as indicated on drawings and as specified. Startup and 1st year parts and labor warranty shall be included and manufacturer's extended warranties. Equipment and appliances shall be installed as required by the terms of their approval, in accordance with the conditions of the listing, the manufacturer's installation instructions, and the applicable code.
18. Owner's Instructions
   a. Provide two sets of complete operating and maintenance instructions with drawings, typewritten instructions and operating sequences and descriptive data sheets. Assemble each set in a hard-bound cover. Provide pdf files of all documentation.
19. Finale
   a. Put all equipment in service and demonstrate that all conditions of the contract have been fulfilled. Remove all tools, debris, etc. occasioned by work under this contract. Submit all warranties, test reports, operating and maintenance manuals for HVAC systems, log sheets and charts, and guarantees as previously specified. Provide all reports, forms, etc. required by inspectors to the satisfaction of the owner. Provide as-built record drawings (in Autocad 2007 or later) showing an accurate account of the final installed systems. Systems including but not limited to all equipment and associated controls, ductwork/piping, air devices, etc.
20. Sheetmetal Ductwork
   a. All sizes of ducts shown on the drawings are interior duct dimensions. All ductwork shall be rigid sheetmetal constructed from galvanized sheet steel in accordance with SMACNA low velocity duct construction standards. Assemble and install ductwork in accordance with recognized industry practice for achieving air tight (5% leakage) and noiseless (no objectionable noise) system, capable of performing each indicated service. Furnish all required dampers, transitions, offsets, connections to air devices, and other accessories necessary for a complete operating system. Flexible ductwork shall not exceed 8'-0" long.
21. Adhesives and Sealants
   a. Seal all longitudinal and transverse duct joints with a UL 181A or 181B non-hardening, non-migrating mastic or liquid elastic sealant of a type recommended by the manufacturer for sealing joints and seams in sheet metal ductwork. Cover all field joints, joints around spin-in fittings and fastening screws with mastic. All sealants and gaskets shall have surface-burning characteristics with a maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested according to UL 723.
22. Duct Supports
   a. Furnish and install hot-dipped galvanized steel fasteners, hangers, anchors, rods, straps, trim, and angles for support of ductwork.
23. Flexible Connections
   a. Furnish and install neoprene flexible duct connections at the inlet and discharge of units and fans.
24. Duct Access Doors
   a. Furnish and install conveniently located duct access doors of ample size and quantity for servicing the dampers.
25. Exhaust Fan
   a. Fan manufacturer shall be Panasonic, Cook, Greenheck, or engineered approved equal. Refer to drawings and schedules for unit location, technical data, and any applicable accessories.
26. Non-Ducted Mini-Split Systems
   a. Split systems shall consist of indoor air handler and associated outdoor heat pump unit. Equipment shall have manufacturer's standard warranty. Provide an inline check valve located in the drain line or trap.
   b. Mini-split system manufacturer shall be Mitsubishi, Daikin, or engineered equal.
27. Condensate Drain Piping
   a. The mechanical contractor shall furnish and install condensate drains, p-traps with removable cleanout caps for air equipment per manufacturer's recommendations. The p-trap depth shall be at least the depth specified for the respective pressure drop of the unit. Condensate drain piping shall be schedule 40 PVC pipe with solvent weld fittings. All condensate drain lines shall be configured to permit the clearing of blockages and performance of maintenance without requiring the drain line to be cut. For condensate pumps located in uninhabitable spaces (i.e. attics and crawl spaces), provide controls that will shut down the air equipment if the condensate pump fails.
   b. All cooling equipment shall have a wet switch in the primary drain line, the overflow drain line, or in the equipment-supplied drain pan (located at a point higher than the primary drain line connection and below the overflow rim of the pan) that will shut down the unit when the condensate is clogged.
28. Piping Supports (Metal Pipe)
   a. Furnish and install hot-dipped galvanized steel fasteners, hangers, anchors, rods, straps, trim and angles for support of piping.
29. Piping Supports (Plastic Pipe)
   a. Furnish and install hangers for plastic piping per manufacturer's requirements.
30. Temperature Controls and Control Wiring
   a. The mechanical contractor shall provide all control wiring necessary for the complete and proper operating temperature control system. Programmable thermostats shall be provided with equipment packages unless otherwise noted.
   b. Exposed wiring: All wiring exposed to the space shall be run in conduit. Coordinate requirements with architectural drawings.
31. Sequence of Operation
   a. Heaters
      i. H-1/2: heater shall be controlled from a wall mounted thermostat. When the temperature of the space drops below the thermostat setpoint, the electric heating element shall engage to maintain temperature setpoint.
   b. Exhaust Fans
      i. E-1/2: exhaust fan shall run on a switch (furnished by the electrical contractor).
   c. Mini Split Systems
      i. AHU/HP-1/2/3/4:
      ii. Heating mode - indoor air handler shall be controlled from a thermostat in the space. When the thermostat calls for heating the fan shall run and the heat pump in heating mode shall run to maintain temperature setpoint. If the heat pump cannot maintain temperature in the space, the electric heat kit shall energize until set point is reached. When the setpoint is reached the unit shall shut off.
      iii. Cooling mode - when the thermostat calls for cooling the heat pump unit shall run in cooling mode, the air handler fan shall run, and the dx cooling coil shall cool the air to maintain temperature setpoint.

INDOOR MINI SPLIT SCHEDULE

System Tag	Room Name	Tag Reference	Manufacturer	Model	Type	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Design Entering Temp DB/WB (°F)	Heating Design Entering Temp DB/WB (°F)	Cooling Total Capacity (BTU/h)	Cooling Sensible Capacity (BTU/h)	Heating Capacity (BTU/h)	Refrig Pipe Dim Liquid/Suction (inch)	Peak Fan Airflow (cfm)	Voltage / Phase	Electrical MCA/MFS	Notes / Options
UNIT 1	1HE - LIVING/DINING	AHU-1A	MITSUBISHI	MSZ-GS09NA-U1	Wall -Mounted	9,000	11,000	75.0/62.4	70	8,728.3	7,723.1	9,907.2	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 1	1HF - BEDROOM	AHU-1B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	6,000	7,400	75.0/62.4	70	5,852.4	5,852.4	6,673.4	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2B - LIVING	AHU-2A	MITSUBISHI	MSZ-FS09NA-U1	Wall -Mounted	7,700	10,600	75.0/62.4	70	7,472.1	7,472.1	9,546.9	1/4 / 3/8	437	208/230/1-phase	Powered by Outdoor	1-2
UNIT 2	2M - BEDROOM 2	AHU-2B	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,912.4	4,912.4	6,382.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 2	2K - BEDROOM 1	AHU-2C	MITSUBISHI	MSZ-GS06NA-U1	Wall -Mounted	5,100	7,100	75.0/62.4	70	4,890.5	4,890.5	6,375.8	1/4 / 3/8	390	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3E - KITCHEN	AHU-3A	MITSUBISHI	TPKFYP004LM140A	Wall -Mounted	4,000	4,500	75.0/62.4	70	3,488.5	2,799.7	4,033.2	1/4 / 3/8	148	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3B - LIVING	AHU-3B	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	12,099.5	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3L - BEDROOM 1	AHU-3C	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3N - BEDROOM 2	AHU-3D	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 3	3Q - BEDROOM 3	AHU-3E	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,004.9	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C10 - GARAGE	AHU-4A	MITSUBISHI	TPKFYP006LM140A	Wall -Mounted	6,000	6,700	75.0/62.4	70	5,232.7	4,100.7	6,538.5	1/4 / 3/8	191	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C11/C12 - STORAGE/RECEIVING	AHU-4B	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C1/C2 - OFFICE/RECEPTION	AHU-4C	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C4 - MANAGERS OFFICE	AHU-4D	MITSUBISHI	TPKFYP008LM140A	Wall -Mounted	8,000	9,000	75.0/62.4	70	6,976.9	5,361.7	8,783.1	1/4 / 3/8	237	208/230V/1-phase	Powered by Outdoor	1-2
UNIT 4	C13 - LAUNDRY	AHU-4E	MITSUBISHI	TPKFYP012LM140A	Wall -Mounted	12,000	13,500	75.0/62.4	70	10,465.4	7,784.9	13,174.7	1/4 / 3/8	297	208/230V/1-phase	Powered by Outdoor	1-2

1. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT.
2. PROVIDE/INSTALL PRE-FABRICATED HONEYWELL JACKETED METAL CLAD MINI-SPLIT CABLE FOR INDOOR/OUTDOOR UNIT CONNECTION.

OUTDOOR MINI SPLIT SCHEDULE

System Tag	Tag Reference	MANUFACTURER	Model Number	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Efficiency IEER/EER [SEER]	HSPF	Design Cooling Outdoor Temp DB (°F)	Design Heating Outdoor Temp WB (°F)	Corrected Cooling Total Capacity (BTU/h)	Corrected Heating Capacity (BTU/h)	Electrical-Per Module				Notes / Options
												Voltage / Phase	MCA	RFS	MOCP	
UNIT 1	HP-1	MITSUBISHI	MXZ-2C20NAHZ4-U1	18,000	22,000	12.25 [16]	9.65	91.0	5.0	11,671.3	13,338.2	208/230V / 1-phase	26.9	40	40	1-3
UNIT 2	HP-2	MITSUBISHI	MXZ-3C24NAHZ4-U1	22,000	25,000	11.75 [17.25]	9.5	91.0	5.0	17,274.9	22,305.5	208/230V / 1-phase	31.5	40	40	1-3
UNIT 3	HP-3	MITSUBISHI	MXZ-SM36NAMHZ2-U1	36,000	42,000	13.5	3.850	91.0	5.0	36,284.1	34,147.3	208/230V / 1-phase	36	40	40	1-3
UNIT 4	HP-4	MITSUBISHI	MXZ-SM48NAMHZ-U1	48,000	54,000	12.2	3.650	91.0	0.2	47,232.0	50,454.1	208/230V / 1-phase	36	40	40	1-3

1. PROVIDE EQUIPMENT STAND EQUAL TO DIVERSATECH MODEL QSMS1200
2. NO LOW TEMP CUT OUT OR RESTART.
3. LOW AMBIENT COOLING KIT.

HEATERS

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	HEAT-MBH	FUEL	HEAT-KW	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
H-1	BASEBOARD	BATHROOM	BERKO	2512NW	-	ELECTRIC	0.4	120/1/60	FLOOR	5.2	1
H-2	BASEBOARD	KITCHEN	BERKO	2513NW	-	ELECTRIC	0.75	120/1/60	FLOOR	7.5	1

1. WALL MOUNTED THERMOSTAT

FAN SCHEDULE

TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	DRIVE	CFM	ESP	WATTS	RPM	VOLT/PHASE	MOUNTING	WEIGHT	NOTES
E-1	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	50	0.25	6.2	1054	115/60/1	CEILING	11.8	1,2
E-2	EXHAUST	TOILET	PANASONIC	FV-0511VK2	DIRECT	80	0.25	9.6	1113	115/60/1	CEILING	11.8	1,2

1. FAN TO RUN OFF A SWITCH.
2. FAN IS ENERGY STAR RATED.

MECHANICAL EXHAUST SCHEDULE - OHIO MECHANICAL CODE

FRANKLIN COMMONS

UNIT NUMBER	ROOMNAME	OCCUPANCY CLASSIFICATION	AREA (ft2)	EXHAUST AIRFLOW RATE (CFM/ft2)	FIXTURES				TOTAL EXHAUST AIRFLOW REQ. (CFM)	TOTAL EXHAUST AIRFLOW ACT. (CFM)
					EXHAUST RATE PER FIXTURE (CFM)	LOWER CONTINUOUS RATE?	HIGHER INTERMITTENT RATE?	QTY. OF FIXTURES		
1	1J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
1 ADA	1HJ - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
2	2J - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3G - H.BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
3	3K - BATH	PRIVATE DWELLING - TOILET ROOMS	-	-	25/50	NO	YES	1	50	50
CC	C5 - RR1	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70
CC	C8 - RR2	PUBLIC SPACES - TOILET ROOM	-	-	50/70	NO	YES	1	70	70

*CALCULATIONS ARE BASED ON 403.3.1.1 OF THE 2024 OMC

NATURAL VENTILATION SCHEDULE

FRANKLIN COMMONS

UNIT	ROOM NAME	AREA	DOOR OPENABLE AREA [SQ. FT]	WINDOW OPENABLE AREA [SQ. FT]	TOTAL OPENABLE AREA	4% OF FLOOR AREA
1	LIVING	290	42	13	55	12
1	BEDROOM	156	0	9	9	6
1 ADA	LIVING	293	42	13	55	12
1 ADA	BEDROOM	131	0	9	9	5
2	LIVING	229	42	13	55	9
2	BEDROOM 1	160	0	13	13	6
2	BEDROOM 2	125	0	9	9	5
3	LIVING	235	21	13	34	9
3	BEDROOM 1	150	0	9	9	6
3	BEDROOM 2	116	0	9	9	5
3	BEDROOM 3	105	0	9	9	4
LAUNDRY	LAUNDRY	216	21	0	21	9
OFFICE	RECEPTION	82	0	13	13	3
OFFICE	OFFICE 1	166	0	13	13	7
OFFICE	OFFICE 2	274	21	0	21	11
OFFICE	STORAGE	194	0	8	8	8
OFFICE	RECEIVING/GARAGE	433	84	16	100	17

NATURAL VENTILATION CALCULATIONS PER SEC 402.1 OF 2024 OMC

NATURAL VENILATION OF THE OCCUPIED SPACE SHALL BE THROUGH WINDOWS, DOORS, OR OTHER OPENINGS TO THE SPACE. THE OPERATING MECHANISM FOR SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS SO THAT THE OPENINGS ARE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS.

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PR-10647

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FRANKLIN COMMONS
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FRANKLIN, OHIO 45005

REVISIONS

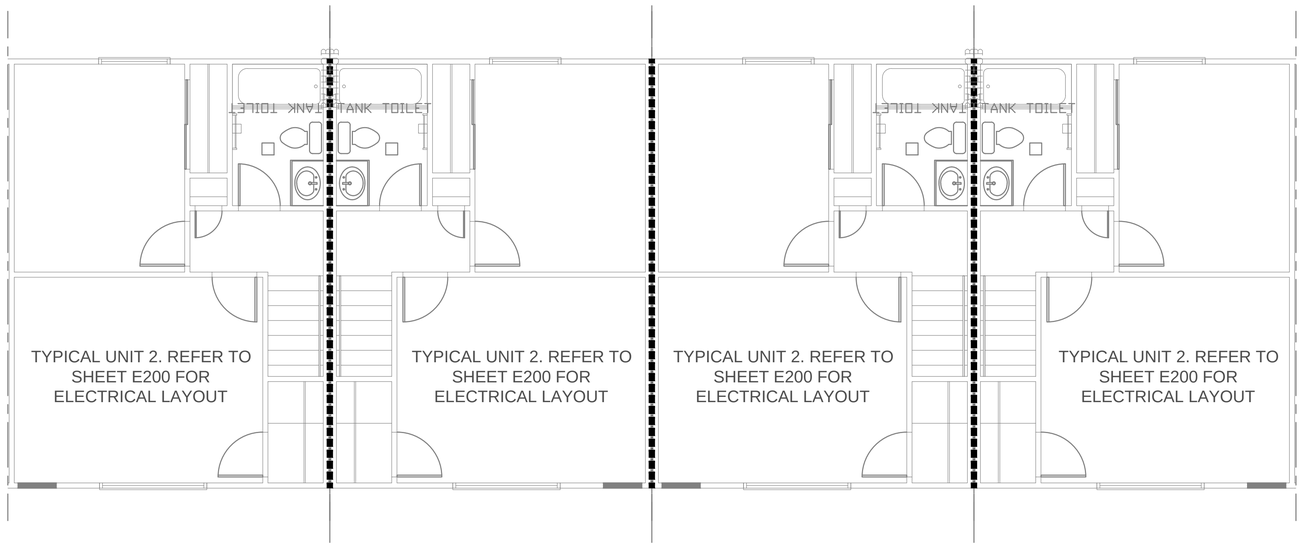
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 18

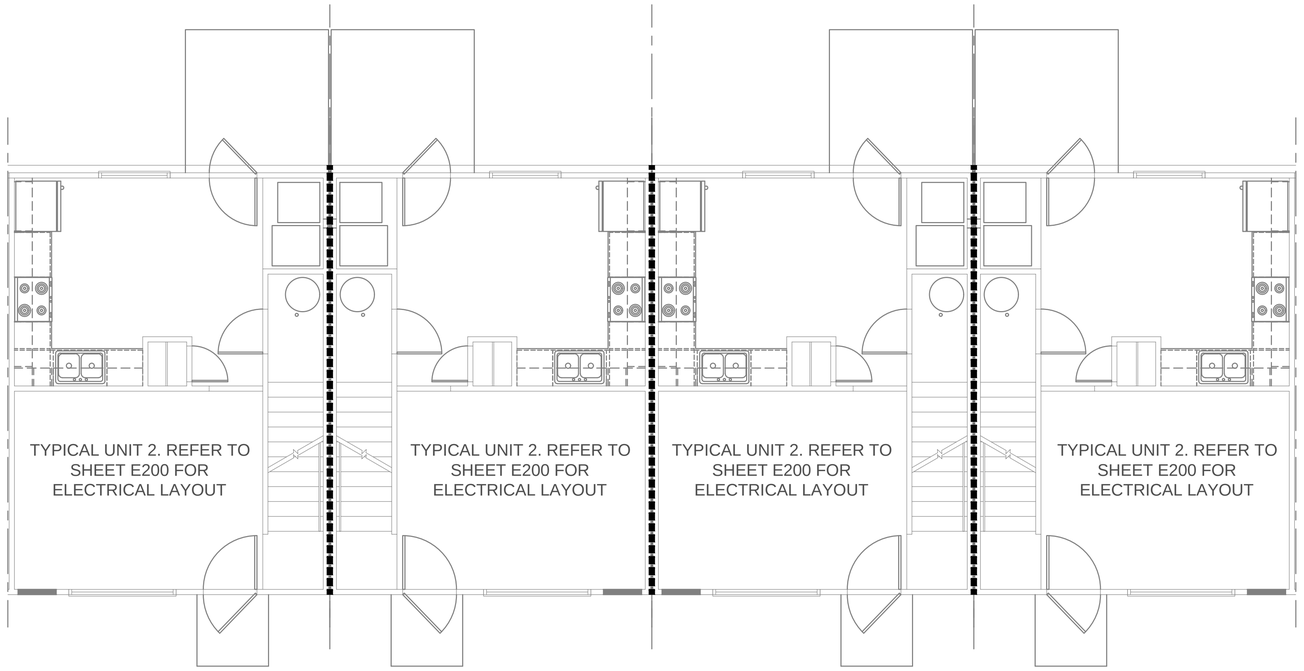
MECHANICAL DETAILS

M300



N 2 E100 ELECTRICAL POWER SECOND FLOOR PLAN

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



N 1 E100 ELECTRICAL POWER FIRST FLOOR PLAN

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

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE. FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.
B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.
C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.
D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.
B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.
C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.
D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.
E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.
F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.
G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.
H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.
I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

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STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

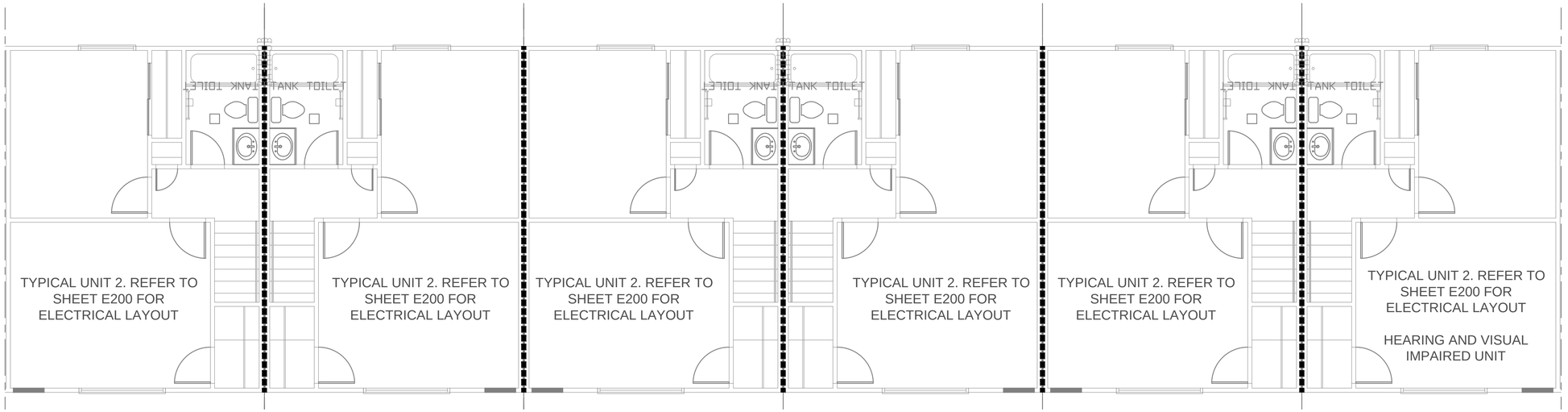
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: AJW CHECKED: PRS

BUILDING 3, 4, 5, & 14

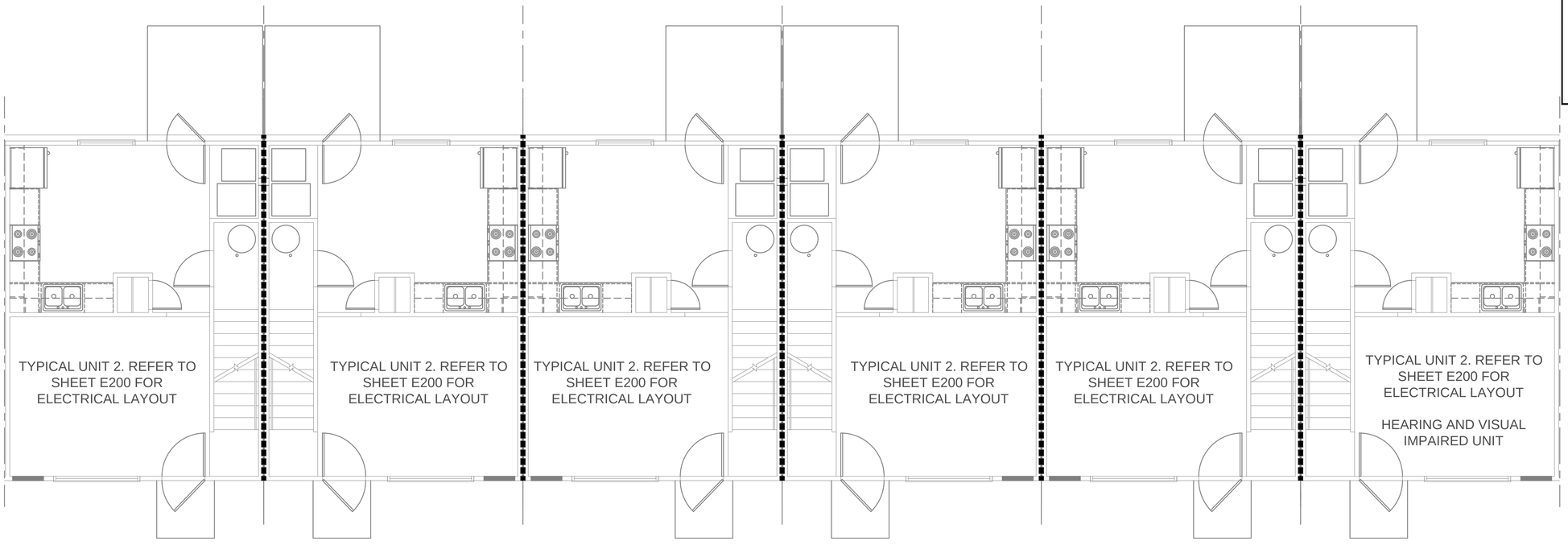
ELECTRICAL POWER FLOOR PLANS

E100



N 2 E101 ELECTRICAL POWER SECOND FLOOR PLAN

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



N 1 E101 ELECTRICAL POWER FIRST FLOOR PLAN

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

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

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A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.

B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.

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D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.

G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

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STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

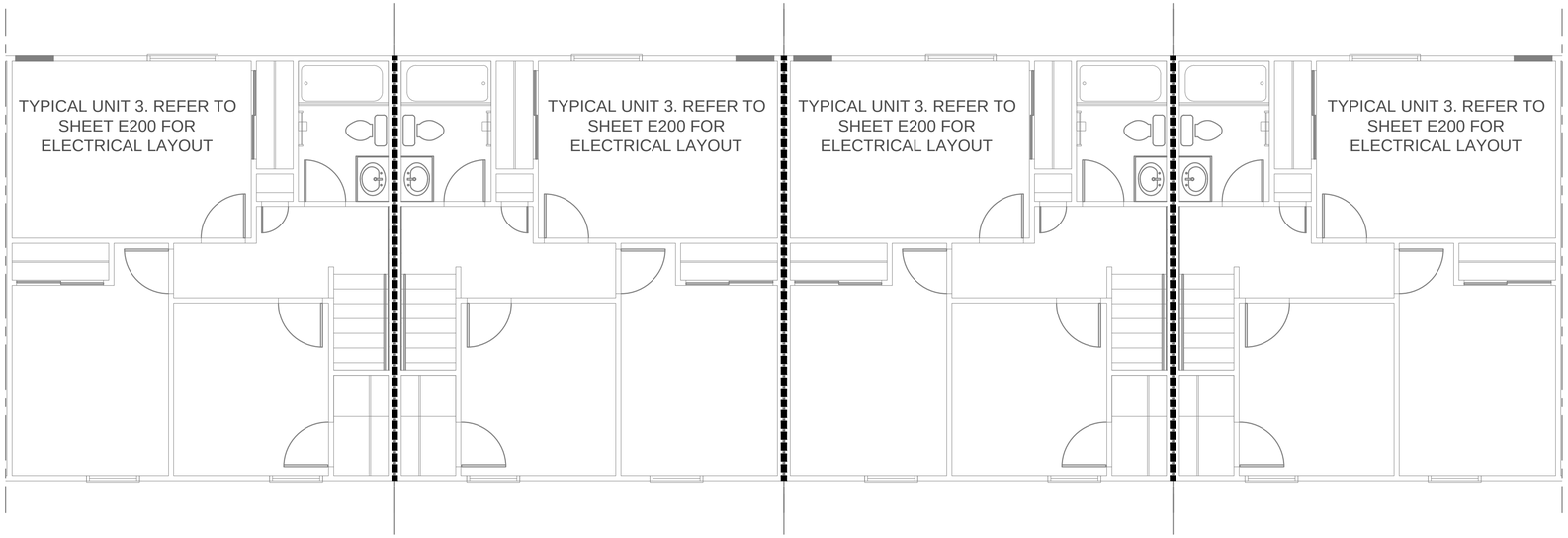
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: AJW CHECKED: PRS

BUILDING 2

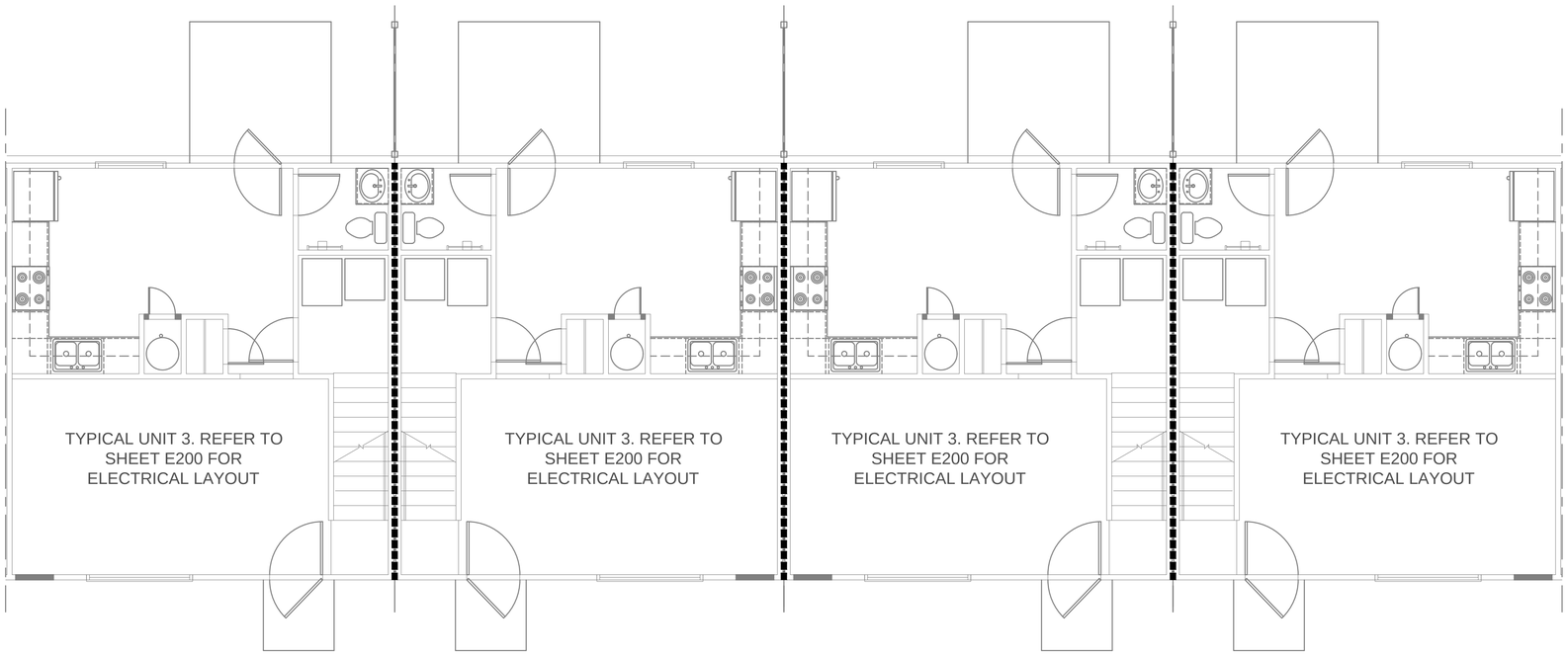
ELECTRICAL POWER FLOOR PLANS

E101



N 2 E102 ELECTRICAL POWER SECOND FLOOR PLAN

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



N 1 E102 ELECTRICAL POWER FIRST FLOOR PLAN

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

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

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D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

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STATE OF OHIO
PAUL R. SPRAGUE
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: AJW CHECKED: PRS

BUILDING 1 & 10

ELECTRICAL POWER FLOOR PLANS

E102

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

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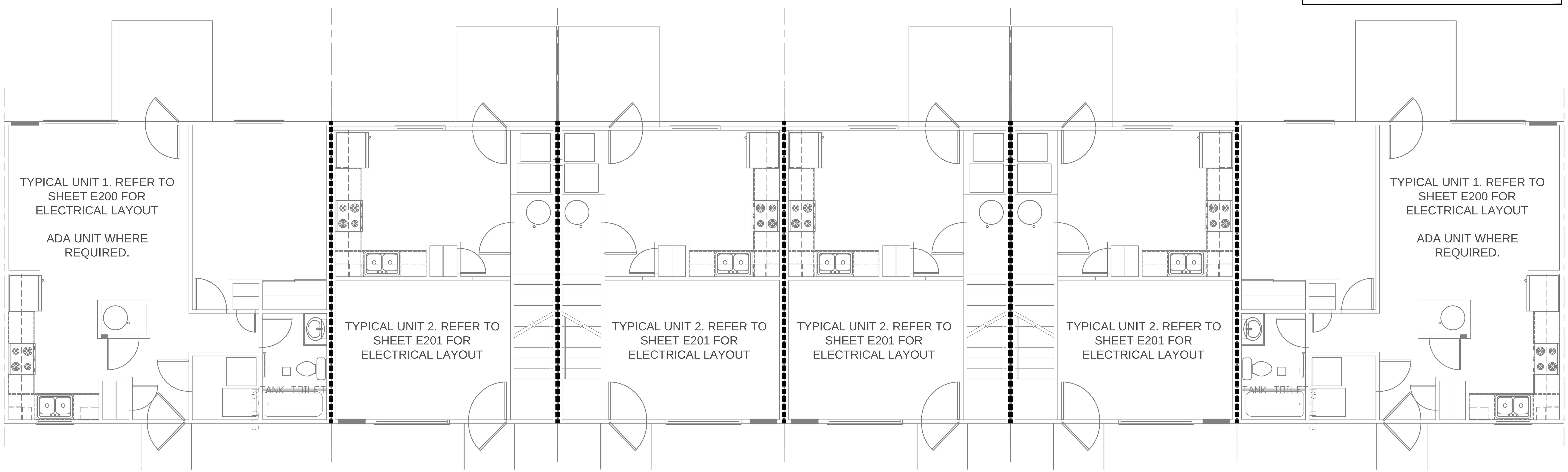

N

1 / E105 **ELECTRICAL POWER FIRST FLOOR PLAN**
SCALE: 1/4" = 1'-0"

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FRANKLIN, OHIO 45005

STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: AJW **CHECKED:** PRS

BUILDING 6, 7, 12, 13, 15, 16, & 17

ELECTRICAL POWER FLOOR PLANS

E105

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.

B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.

C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.

D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

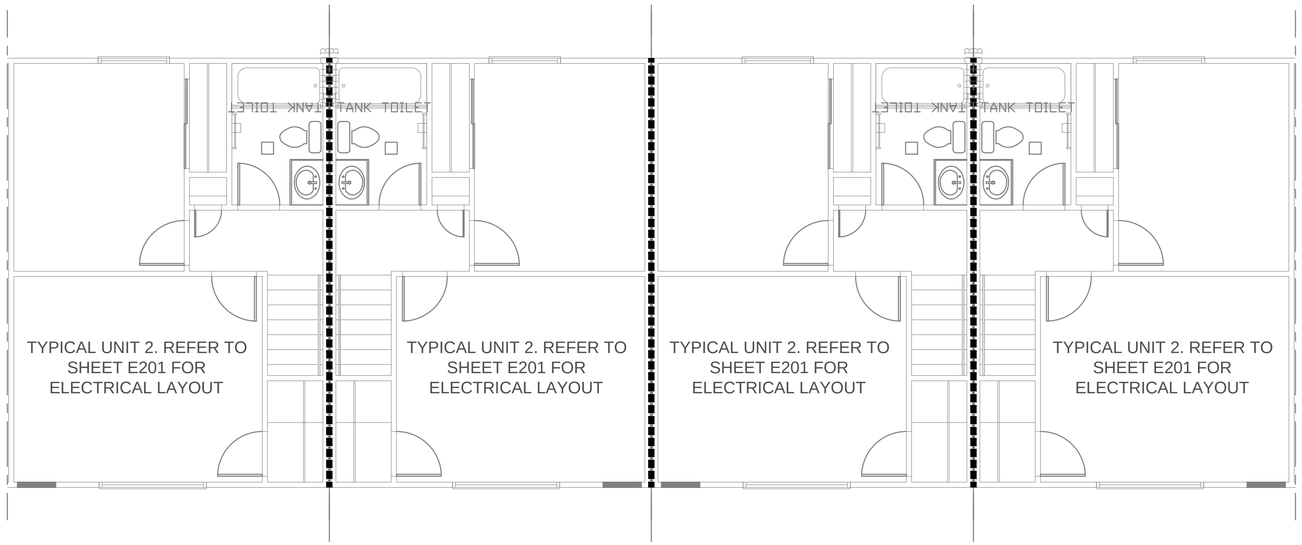
E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.

G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.



N

1
E106

ELECTRICAL POWER SECOND FLOOR PLAN

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

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STATE OF OHIO
PAUL R. STRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

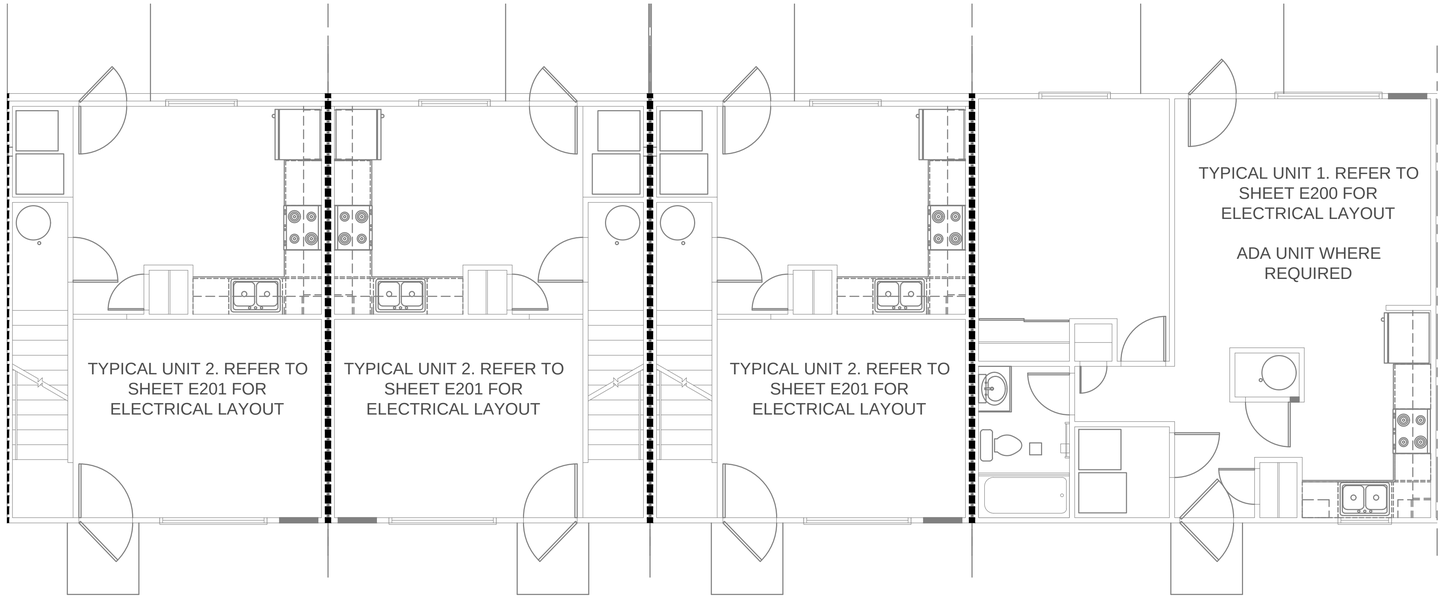
5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 6, 7, 12, 13, 15, 16, & 17

ELECTRICAL POWER
SECOND FLOOR
PLAN

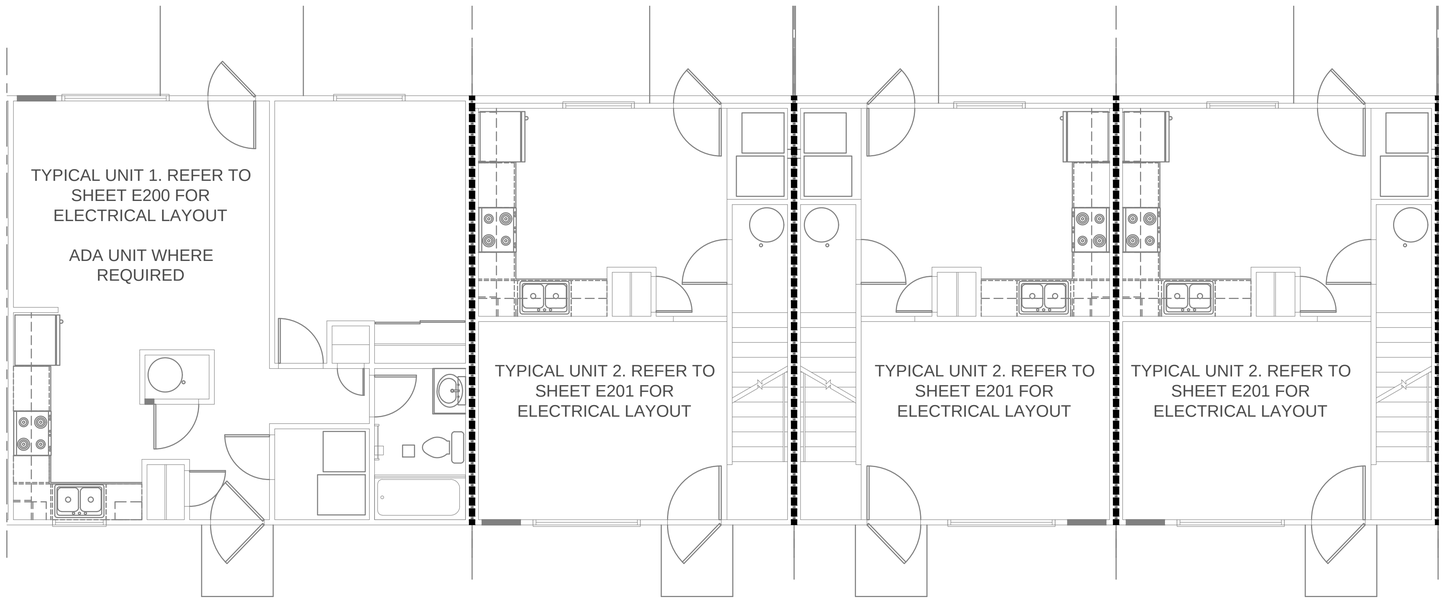
E106



N 2 E107

ELECTRICAL POWER FIRST FLOOR PLAN - RIGHT

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



N 1 E107

ELECTRICAL POWER FIRST FLOOR PLAN - LEFT

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

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

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GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

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A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.

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C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.

D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

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PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 8 & 20
ELECTRICAL POWER FIRST FLOOR PLAN

E107

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

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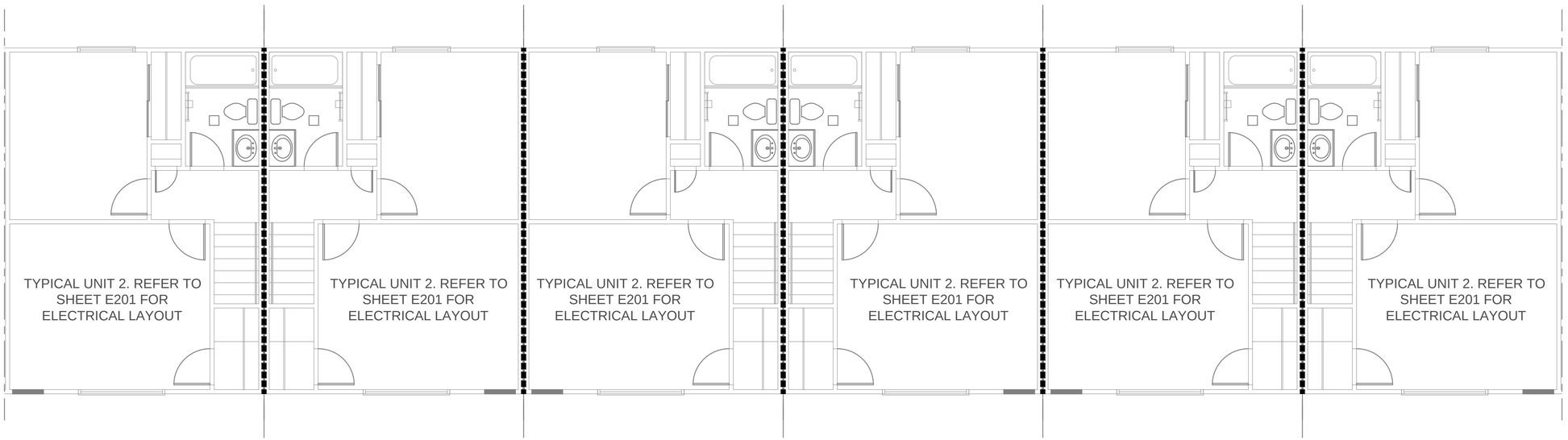
I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.



N

1 / E108 ELECTRICAL POWER SECOND FLOOR PLAN

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

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STATE OF OHIO
PAUL R. STRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

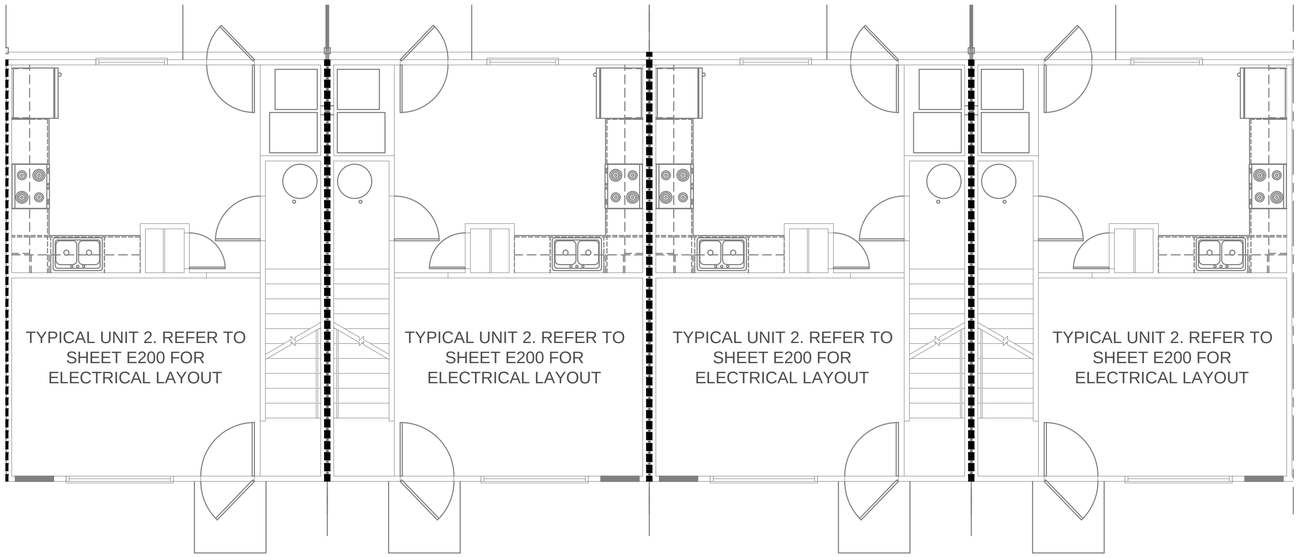
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 8 & 20

ELECTRICAL POWER SECOND FLOOR PLAN

E108

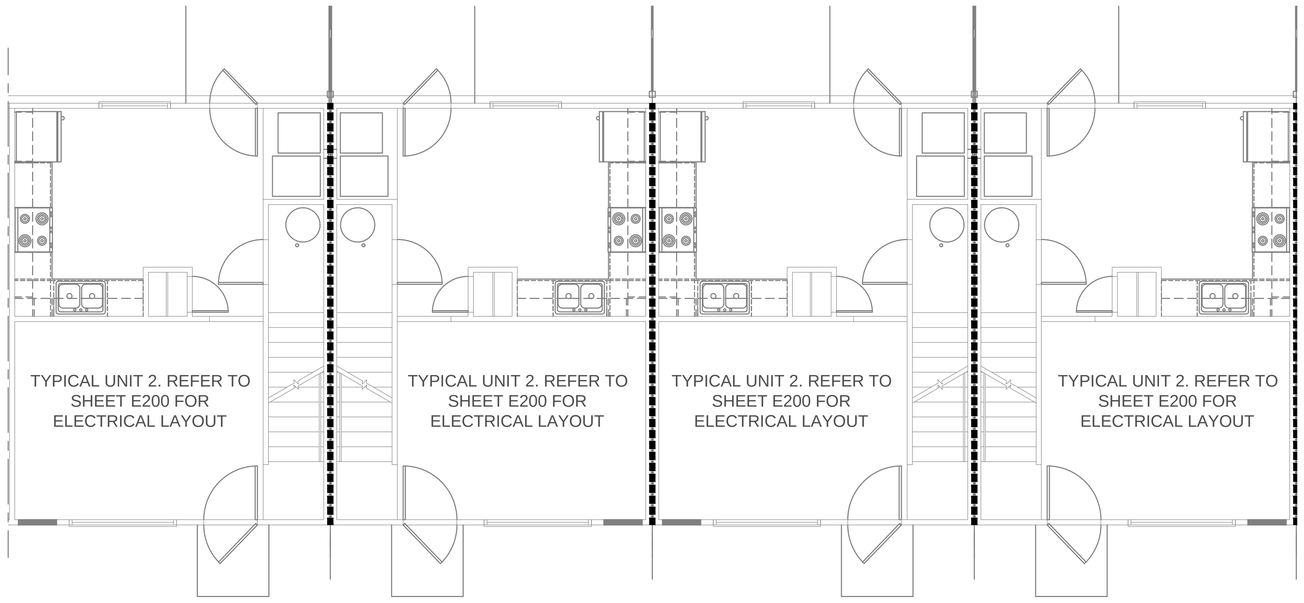


N

2
E109

ELECTRICAL POWER FIRST FLOOR PLAN - RIGHT

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



N

1
E109

ELECTRICAL POWER FIRST FLOOR PLAN - LEFT

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

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.

B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.

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D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.

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I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

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STATE OF OHIO
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REGISTERED
PROFESSIONAL ENGINEER

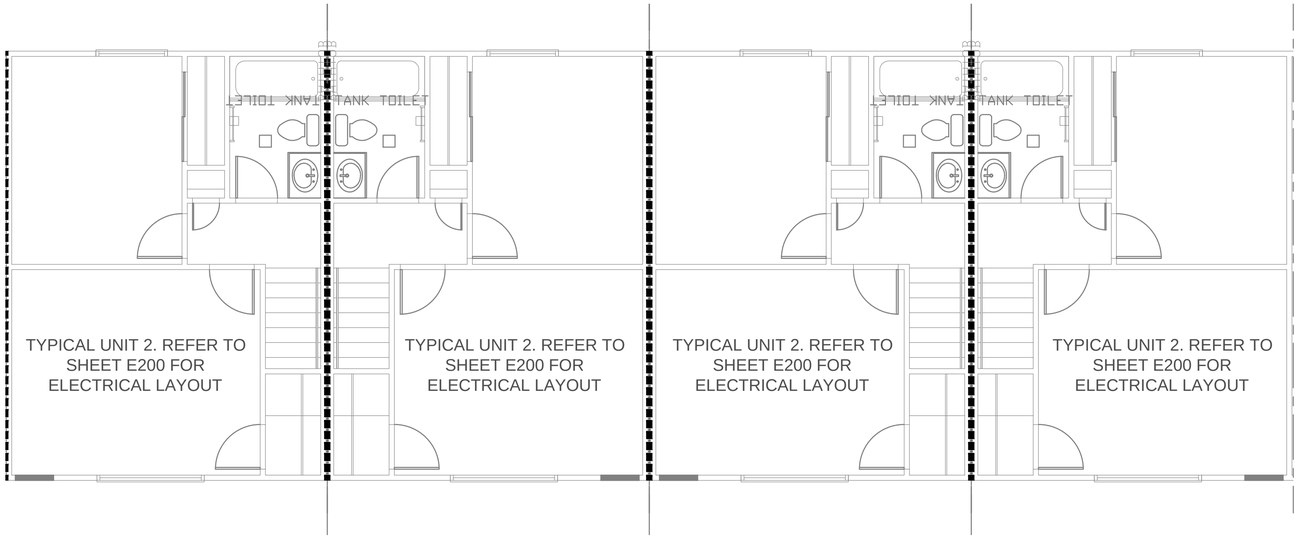
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 19
ELECTRICAL POWER FIRST FLOOR PLAN

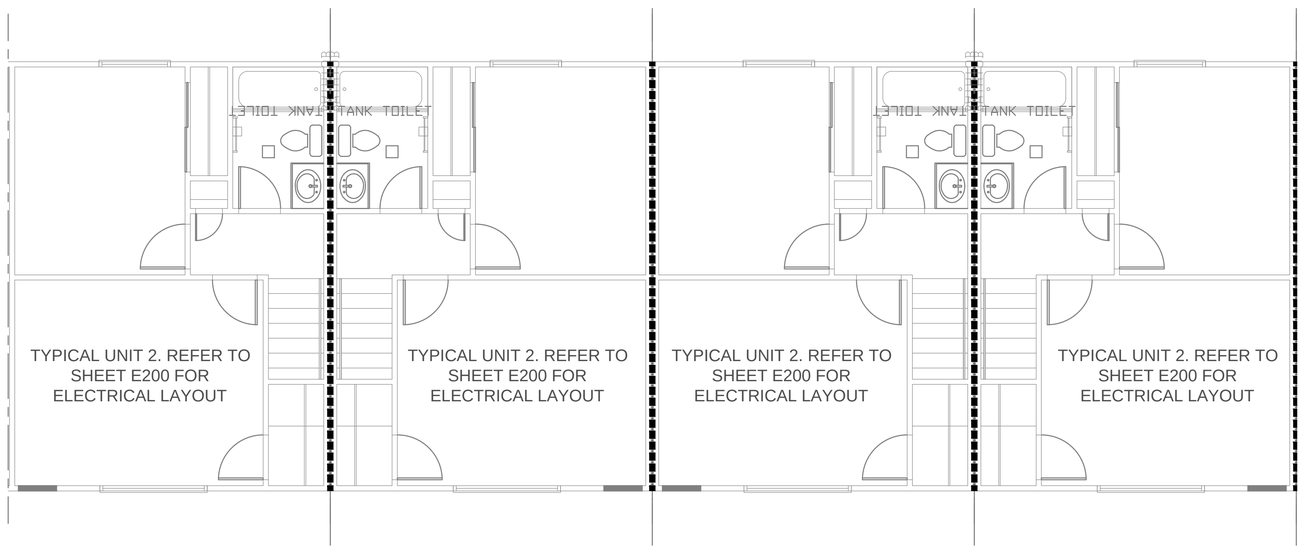
E109



N 2 E110

ELECTRICAL POWER SECOND FLOOR PLAN - RIGHT

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



N 1 E110

ELECTRICAL POWER SECOND FLOOR PLAN - LEFT

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

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

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GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.
B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.
C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.
D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

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A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.
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PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

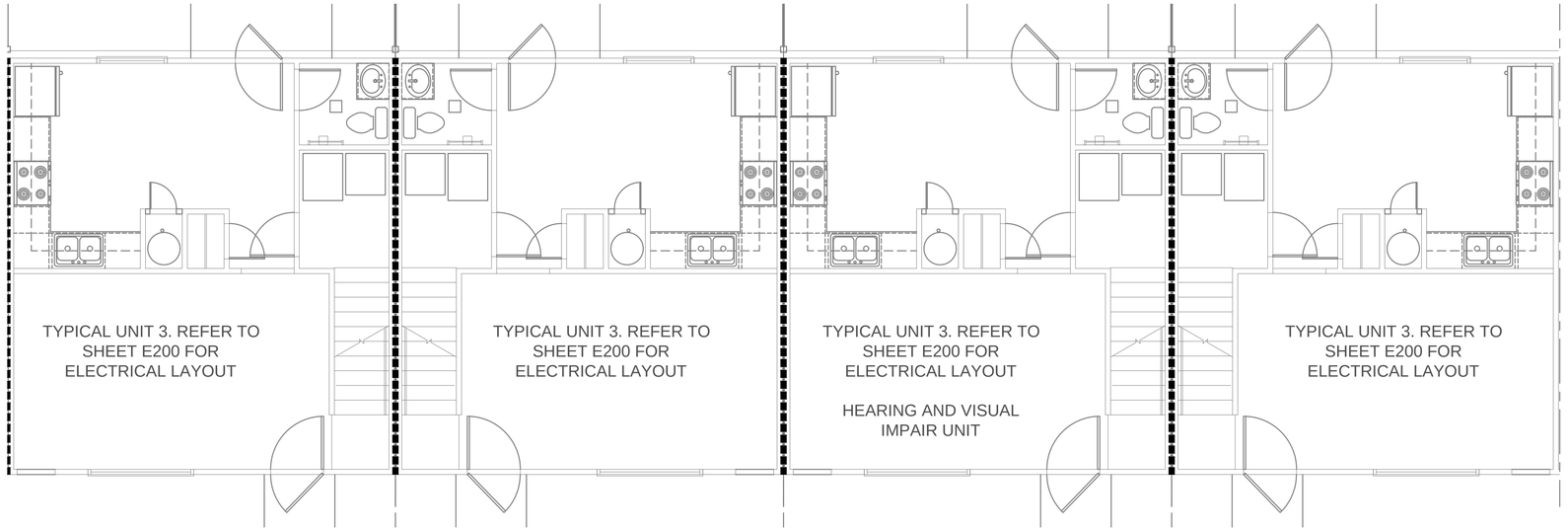
5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 19

ELECTRICAL POWER SECOND FLOOR PLAN

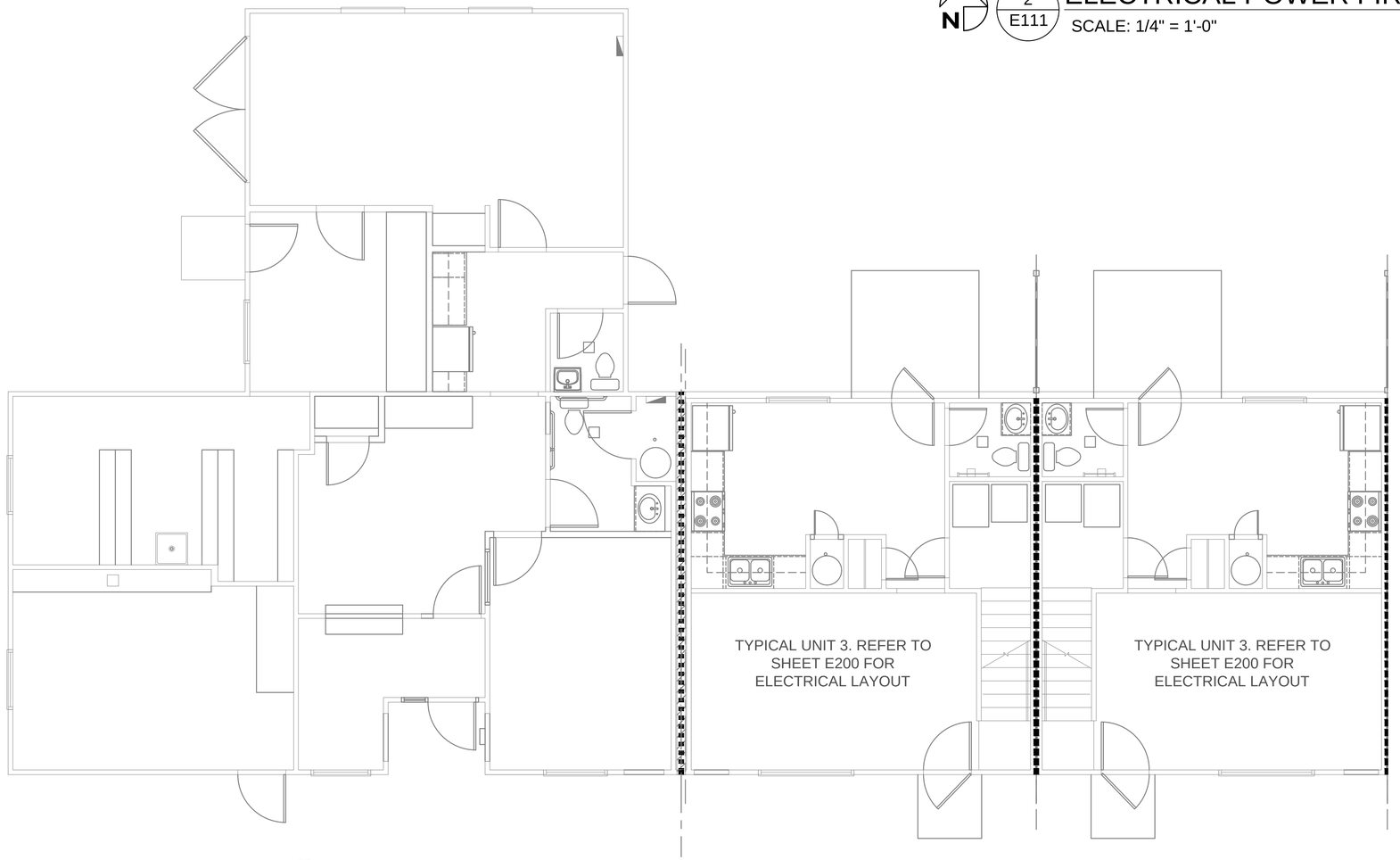
E110



N 2 E111

ELECTRICAL POWER FIRST FLOOR PLAN - RIGHT

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



N 1 E111

ELECTRICAL POWER FIRST FLOOR PLAN - LEFT

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

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.
B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.
C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.
D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.
B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.
C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.
D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.
E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.
F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.
G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.
H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.
I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

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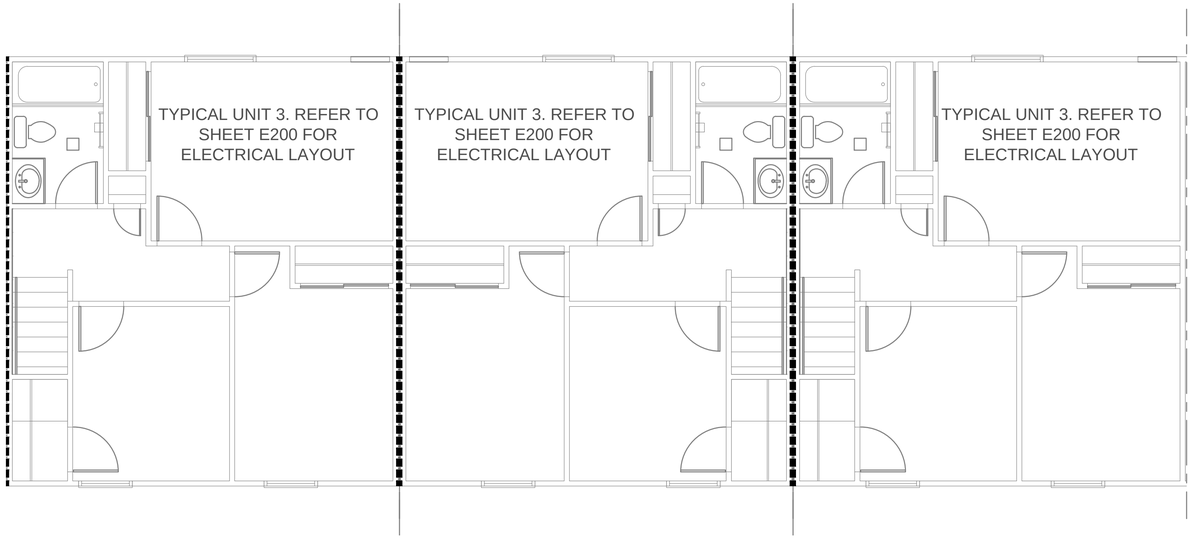
BUILDING 18

ELECTRICAL POWER FIRST FLOOR PLAN

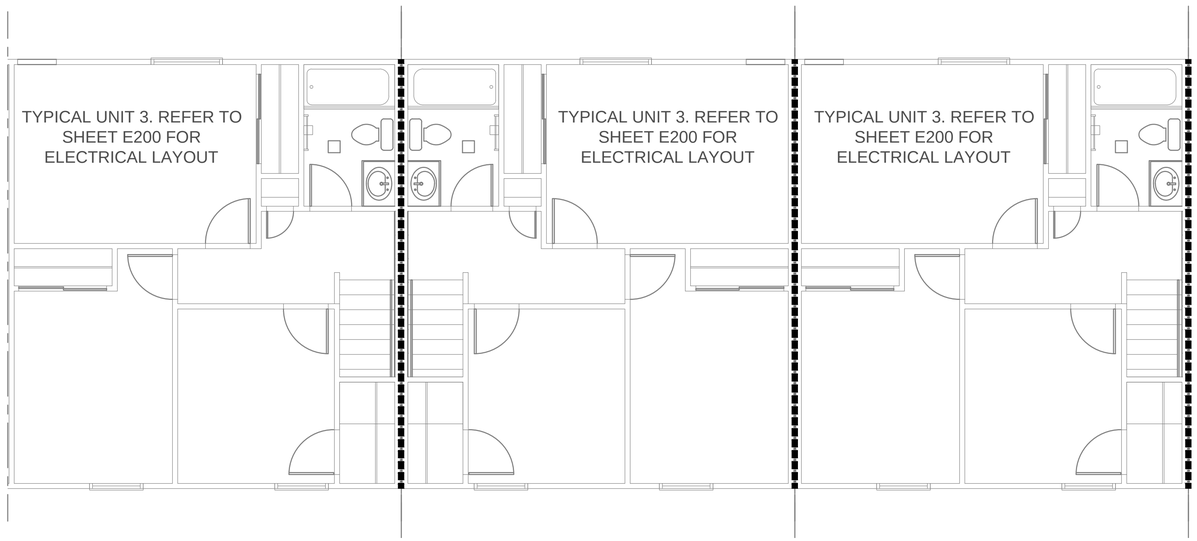
E111



N 2 E112

ELECTRICAL POWER SECOND FLOOR PLAN - RIGHT

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



N 1 E112

ELECTRICAL POWER SECOND FLOOR PLAN - LEFT

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

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

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B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

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B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.

C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.

D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.

G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

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BUILDING 18

ELECTRICAL POWER SECOND FLOOR PLAN

E112

KEYED SHEET NOTES

1. EXISTING WINDOW UNIT TO BE DEMO'D. REMOVE EXISTING SINGLE RECEPTACLE AND PROVIDE NEW DUPLEX RECEPTACLE.
2. EXISTING BASEBOARD HEATER TO BE REMOVED FROM PROJECT. DEMO ALL EXISTING WIRING AND HARDWARE INFRASTRUCTURE FOR HEATER BACK TO POINT OF ORIGIN.
3. EXISTING LIGHT SWITCH TO BE RELOCATED TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
4. LOCATION OF EXISTING ELECTRICAL PANEL. FIELD VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER. COORDINATE AND REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
5. PROVIDE SMALL APPLIANCE GFCI RECEPTACLE AT NEW LOCATION. MATCH HEIGHT WITH EXISTING COUNTER HEIGHT RECEPTACLES AND CIRCUIT TO EXISTING SMALL APPLIANCE CIRCUIT.
6. ALL DEVICES AND LIGHT FIXTURE LOCATIONS SHOWN, UNLESS OTHERWISE NOTED AS NEW, ARE EXISTING AND IN APPROXIMATE LOCATIONS, FIELD VERIFY EACH UNIT FOR QUANTITY AND TYPE OF EACH DEVICE.
7. REPLACE EXISTING GFCI RECEPTACLE AT ALL LOCATIONS, COORDINATE DEVICE AND COVER PLATE COLOR WITH OWNER AND ARCHITECT. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
8. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-1".
9. MECHANICAL UNIT PROVIDED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
10. DUCTLESS INDOOR UNIT POWERED FROM OUTDOOR UNIT. CONFIRM LOCATION AND DISCONNECTING MEANS WITH INSTALLING CONTRACTOR.
11. PROVIDE NEW WEATHERPROOF RECEPTACLE WITHIN 25' OF OUTDOOR HEAT PUMP.

DEMO NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL EXISTING BUILDING CONDITIONS PRIOR TO ANY DEMOLITION/NEW WORK PERFORMED. COORDINATE ALL WORK WITH OTHER BUILDING TRADES. REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK. ACTUAL DEMOLITION AMOUNT SHALL BE BASED ON FIELD VISIT BY CONTRACTOR.

B. ALL NECESSARY SHUT DOWN OF POWER MUST BE SCHEDULED SO AS NOT TO DISTURB OPERATION.

C. CONTRACTOR SHALL RETURN ALL DEMOLITION EQUIPMENT TO OWNER'S REPRESENTATIVE FOR SALVAGE, OR REMOVE FROM PREMISES AT OWNERS OPTION.

D. CONTRACTOR SHALL DISCONNECT ALL POWER AND LOW VOLTAGE WIRING FROM EQUIPMENT BEING REMOVED BY OTHER TRADES.

E. REMOVE ALL ELIMINATED CONDUIT AND WIRE FROM PROJECT AREA. PROVIDE FIRE STOPPING WHERE REQUIRED. ALL ABANDONED CONDUIT, AND DEVICES ENCASED IN CONCRETE SHALL BE CUT BACK FLUSH WITH SLAB. PATCH CONCRETE LEVEL WITH EXISTING SLAB.

F. ALL CIRCUITS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. ALL EXISTING CIRCUITS TO ITEMS TO REMAIN IN SERVICE SHALL BE MAINTAINED. ALL RELOCATING AND REROUTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

G. PRIOR TO DEMOLITION, FIELD VERIFY EXACT SIZE AND ROUTING OF ALL EXISTING WIRING TO BE ENCOUNTERED. CONTRACTOR SHALL REMOVE ALL ABANDONED OR UNUSED WIRING WITHIN HIS SCOPE OF WORK AND TERMINATE PROPERLY. ANY ACTIVE WIRING DISTURBED BY THIS WORK SHALL BE RECONNECTED PRIOR TO PROJECT CLOSEOUT.

H. ALL EQUIPMENT AND RECEPTACLE CIRCUITS BEING ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE UNLESS OTHERWISE NOTED.

I. ALL LIGHTING CIRCUITS ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE. RETAIN ALL FIXTURES FOR USE IN EXPANSION AREAS OR DISPOSAL BY OWNER.

GENERAL NOTES - DWELLING UNITS

A. PROVIDE AFCI PROTECTION IN ACCORDANCE WITH NEC 210.12. AFCI PROTECTION MUST BE PROVIDED WHERE EXISTING BRANCH CIRCUIT WIRING IS MODIFIED, OR RECEPTACLES ARE REPLACED, IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL INSPECTION REQUIREMENTS. REFER TO NEC 406.4 (D) AND NEC 210.12 (D)

B. FURNISH AND INSTALL SMOKE DETECTORS AS REQUIRED BY CODE. SMOKE DETECTORS SHOWN ON EBS DRAWINGS ARE INTENDED TO CONVEY GENERAL COMPLIANCE FOR BUILDING DEPARTMENT SUBMITTALS. PROVIDE INTERWIRING BETWEEN SMOKE DETECTORS LOCATED IN THE SAME UNIT. SMOKE DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP. FIRE ALARM AND/OR SMOKE DETECTOR SYSTEMS ARE FURNISHED ON A DESIGN-BUILD BASIS BY THE ELECTRICIAN.

C. THE INTENT OF DRAWINGS SHOWING SMOKE ALARM LOCATIONS IS TO DEMONSTRATE GENERAL CONFORMANCE WITH APPLICABLE CODES. ELECTRICAL CONTRACTOR TO COORDINATE FINAL PLACEMENT OF SMOKE ALARMS WITH ACTUAL CEILING CONFIGURATION, CEILING FAN LOCATIONS, DISTANCE TO BATHROOMS, DISTANCE TO COOKING APPLIANCES, ETC. AND INSTALL PER THE REQUIREMENTS OF APPLICABLE CODES.

D. WHERE CIRCUITING IS SHOWN TYPICAL FOR MULTIPLE UNITS, COORDINATE BREAKER/WIRE SIZES FOR EQUIPMENT FURNISHED BY OTHERS WITH SHOP DRAWINGS PROVIDED BY THE CONTRACTOR SUPPLYING THE EQUIPMENT. VERIFY BREAKER/WIRE SIZES FOR EQUIPMENT OR APPLIANCE FOR EACH UNIT PRIOR TO ROUGH-IN.

E. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATIONS OF ALL LIGHT FIXTURES.

F. PROVIDE CONDUIT AND PULL STRING TO APPROVED LOCATION FOR VOICE, DATA, AND CATV CABLES.

G. CIRCUITING ON DRAWINGS AND PANEL SCHEDULE IS SHOWN TYPICAL FOR SIMILAR UNITS. REFER TO DWELLING UNIT LOAD SUMMARIES FOR INDIVIDUAL DWELLING UNIT LOAD CALCULATIONS

H. COORDINATE RECEPTACLE, PHONE, AND TV DEVICE PLACEMENT WITH FURNITURE LOCATIONS. VERIFY WITH ARCHITECT PRIOR TO ROUGH IN. LOCATIONS SHOWN ON DRAWINGS ARE INTENDED TO CONVEY DESIGN INTENT, AND DEMONSTRATE GENERAL COMPLIANCE WITH CODE. WHERE ACTUAL STUD LOCATIONS REQUIRE DEVICE LOCATIONS TO BE ADJUSTED, ADDED OR MINOR VARIATIONS AMONG UNITS THAT ARE SHOWN AS "TYPICAL", ETC. OCCUR, CONTRACTOR, UNDER HIS BASE BID, TO MAKE NECESSARY ADJUSTMENTS / ADDITIONS IN THE FIELD TO MAINTAIN NEC DWELLING UNIT RECEPTACLE SPACING REQUIREMENTS. WHERE ACTUAL WINDOW CONSTRUCTION PROHIBITS THE INSTALLATION OF A WALL RECEPTACLE, PROVIDE FLOOR RECEPTACLE WITHIN 18 INCHES OF THE BASE OF THE WALL. PROVIDE TAMPER PROOF RECEPTACLES AS REQUIRED BY NEC ART. 406.12.

I. LIGHTING INSTALLED IN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 410.16.

J. GFCI/AFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

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3B

ROOM	VOLTS **240/120V 2P 3W**	AIC **T.B.D.**
MOUNTING **FLUSH**	BUS AMPS **125**	MAIN BKR **MLO**
FED FROM	NEUTRAL **100%**	LUGS **STANDARD**
NOTE		

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	40/2	8.5	* RANGE	a	2	30/2	5	* DRYER
3	|			b	4	|		
5	40/2	8.64	HP-3	a	6	30/2	4.5	* EWH
7	|			b	8	|		
9	20/1	0.4	H-1	a	10	15/2	1.25	AHU-3
11	20/1	0.4	H-1	b	12	|		
13	15/1	1.41	* E-1, LIGHTING, RECEPTACLE	a	14	20/2	0	SPACE
15	20/1	1.5	* LAUNDRY	b	16	|		
17	15/1	1.08	* BATH, RECEPTACLE	a	18	15/1	1.68	* BATH, E-1, LIGHTING, RECEPTACLE
19	20/1	0	SPACE	b	20	20/1	1.5	* SMALL APPLIANCE
21	20/1	0	SPACE	a	22	20/1	1.5	* SMALL APPLIANCE
23	20/1	0	SPACE	b	24	20/1	0	SPACE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

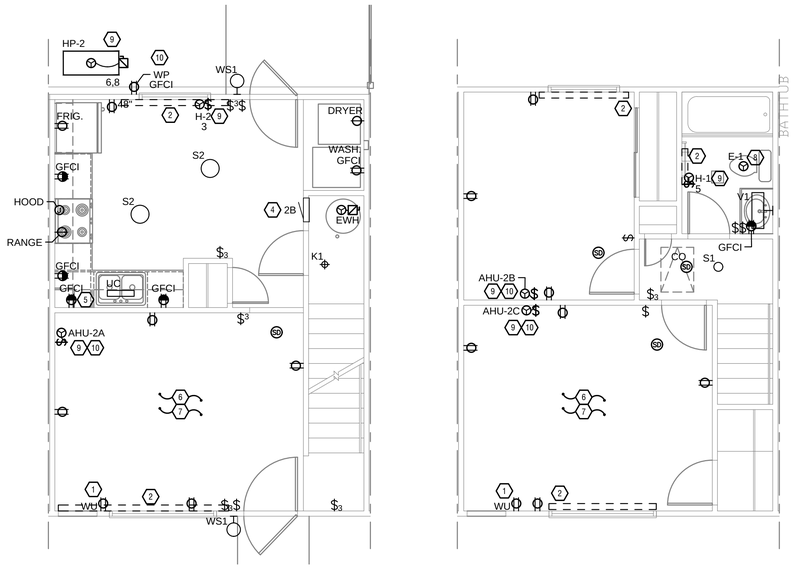
	CONN KVA		GENERAL LOAD	CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	3.12	1,040 SF (3 VA/SF)	UP TO 10 KVA	10	10	(100%)
SMALL-APPLIANCE	3		OVER 10 KVA	16.9	6.75	(40%)
LAUNDRY	1.5		MAX HEATING OR COOLING		9.16	(220.82(C)(3))
APPLIANCES	9.5		TOTAL LOAD		25.9	
ELECTRIC COOKING	8.5		BALANCED LOAD		108 A	
MOTORS	1.25		PHASE A		107%	
TOTAL GENERAL LOAD	26.9		PHASE B		92.9%	

*EXISTING BRANCH CIRCUITS TO REMAIN. FIELD VERIFY THAT ALL CIRCUITS ARE IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.

APPLIANCE BREAKDOWN	
TYPE	**KVA**
WATER HEATER	4.5
AIR HANDLER UNIT	1.25
DRYER	5
TOTAL	**10.75**

HVAC Load Calculation	KVA	NEC Code
Heating	9.44	
Cooling	8.64	
Mini Split	0.00	
100% of Nameplate Rating of AC and Cooling	8.64	220.82 C(1)
100% of Nameplate Rating of Heat Pump w/o Supplmental Heat	0.00	220.82 C(2)
Heat Pump plus 65% of Supplemental Heat	9.16	220.82 C(3)
Largest Heating or Cooling Load	9.44	220.84 C(5)

Multi-Family Dwelling Unit Calc	KVA
Total General Load	26.89
Largest Heating or Cooling Load 220.84	9.44
220.84 CONNECTED LOAD CALC	**36.33**



1 / E200 UNIT 2

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

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PROJECT #:
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BUILDING 3, 4, 5, & 14
ELECTRICAL
ENLARGED UNITS

E200

KEYED SHEET NOTES

1. EXISTING WINDOW UNIT TO BE DEMO'D. REMOVE EXISTING SINGLE RECEPTACLE AND PROVIDE NEW DUPLEX RECEPTACLE.
2. EXISTING BASEBOARD HEATER TO BE REMOVED FROM PROJECT. DEMO ALL EXISTING WIRING AND HARDWARE INFRASTRUCTURE FOR HEATER BACK TO POINT OF ORIGIN.
3. EXISTING LIGHT SWITCH TO BE RELOCATED TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
4. LOCATION OF EXISTING ELECTRICAL PANEL. FIELD VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER. COORDINATE AND REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
5. PROVIDE SMALL APPLIANCE GFCI RECEPTACLE AT NEW LOCATION. MATCH HEIGHT WITH EXISTING COUNTER HEIGHT RECEPTACLES AND CIRCUIT TO EXISTING SMALL APPLIANCE CIRCUIT.
6. ALL DEVICES AND LIGHT FIXTURE LOCATIONS SHOWN, UNLESS OTHERWISE NOTED AS NEW, ARE EXISTING AND IN APPROXIMATE LOCATIONS, FIELD VERIFY EACH UNIT FOR QUANTITY AND TYPE OF EACH DEVICE.
7. REPLACE EXISTING GFCI RECEPTACLE AT ALL LOCATIONS, COORDINATE DEVICE AND COVER PLATE COLOR WITH OWNER AND ARCHITECT. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
8. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-1".
9. MECHANICAL UNIT PROVIDED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
10. DUCTLESS INDOOR UNIT POWERED FROM OUTDOOR UNIT. CONFIRM LOCATION AND DISCONNECTING MEANS WITH INSTALLING CONTRACTOR.
11. PROVIDE NEW WEATHERPROOF RECEPTACLE WITHIN 25' OF OUTDOOR HEAT PUMP.
12. UNIT 590 BUNKER HILL COURT IS A HEARING AND VISUAL IMPAIRED UNITS, REFER TO HEARING AND VISUAL IMPAIRED NOTES FOR REQUIREMENTS.

DEMO NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL EXISTING BUILDING CONDITIONS PRIOR TO ANY DEMOLITION/NEW WORK PERFORMED. COORDINATE ALL WORK WITH OTHER BUILDING TRADES. REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK. ACTUAL DEMOLITION AMOUNT SHALL BE BASED ON FIELD VISIT BY CONTRACTOR.

B. ALL NECESSARY SHUT DOWN OF POWER MUST BE SCHEDULED SO AS NOT TO DISTURB OPERATION.

C. CONTRACTOR SHALL RETURN ALL DEMOLITION EQUIPMENT TO OWNER'S REPRESENTATIVE FOR SALVAGE, OR REMOVE FROM PREMISES AT OWNERS OPTION.

D. CONTRACTOR SHALL DISCONNECT ALL POWER AND LOW VOLTAGE WIRING FROM EQUIPMENT BEING REMOVED BY OTHER TRADES.

E. REMOVE ALL ELIMINATED CONDUIT AND WIRE FROM PROJECT AREA. PROVIDE FIRE STOPPING WHERE REQUIRED. ALL ABANDONED CONDUIT, AND DEVICES ENCASED IN CONCRETE SHALL BE CUT BACK FLUSH WITH SLAB. PATCH CONCRETE LEVEL WITH EXISTING SLAB.

F. ALL CIRCUITS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. ALL EXISTING CIRCUITS TO ITEMS TO REMAIN IN SERVICE SHALL BE MAINTAINED. ALL RELOCATING AND REROUTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

G. PRIOR TO DEMOLITION, FIELD VERIFY EXACT SIZE AND ROUTING OF ALL EXISTING WIRING TO BE ENCOUNTERED. CONTRACTOR SHALL REMOVE ALL ABANDONED OR UNUSED WIRING WITHIN HIS SCOPE OF WORK AND TERMINATE PROPERLY. ANY ACTIVE WIRING DISTURBED BY THIS WORK SHALL BE RECONNECTED PRIOR TO PROJECT CLOSEOUT.

H. ALL EQUIPMENT AND RECEPTACLE CIRCUITS BEING ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE UNLESS OTHERWISE NOTED.

I. ALL LIGHTING CIRCUITS ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE. RETAIN ALL FIXTURES FOR USE IN EXPANSION AREAS OR DISPOSAL BY OWNER.

GENERAL NOTES - DWELLING UNITS

A. PROVIDE AFCI PROTECTION IN ACCORDANCE WITH NEC 210.12. AFCI PROTECTION MUST BE PROVIDED WHERE EXISTING BRANCH CIRCUIT WIRING IS MODIFIED, OR RECEPTACLES ARE REPLACED, IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL INSPECTION REQUIREMENTS. REFER TO NEC 406.4 (D) AND NEC 210.12 (D)

B. FURNISH AND INSTALL SMOKE DETECTORS AS REQUIRED BY CODE. SMOKE DETECTORS SHOWN ON EBS DRAWINGS ARE INTENDED TO CONVEY GENERAL COMPLIANCE FOR BUILDING DEPARTMENT SUBMITTALS. PROVIDE INTERWIRING BETWEEN SMOKE DETECTORS LOCATED IN THE SAME UNIT. SMOKE DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP. FIRE ALARM AND/OR SMOKE DETECTOR SYSTEMS ARE FURNISHED ON A DESIGN-BUILD BASIS BY THE ELECTRICIAN.

C. THE INTENT OF DRAWINGS SHOWING SMOKE ALARM LOCATIONS IS TO DEMONSTRATE GENERAL CONFORMANCE WITH APPLICABLE CODES. ELECTRICAL CONTRACTOR TO COORDINATE FINAL PLACEMENT OF SMOKE ALARMS WITH ACTUAL CEILING CONFIGURATION, CEILING FAN LOCATIONS, DISTANCE TO BATHROOMS, DISTANCE TO COOKING APPLIANCES, ETC. AND INSTALL PER THE REQUIREMENTS OF APPLICABLE CODES.

D. WHERE CIRCUITING IS SHOWN TYPICAL FOR MULTIPLE UNITS, COORDINATE BREAKER/WIRE SIZES FOR EQUIPMENT FURNISHED BY OTHERS WITH SHOP DRAWINGS PROVIDED BY THE CONTRACTOR SUPPLYING THE EQUIPMENT. VERIFY BREAKER/WIRE SIZES FOR EQUIPMENT OR APPLIANCE FOR EACH UNIT PRIOR TO ROUGH-IN.

E. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATIONS OF ALL LIGHT FIXTURES.

F. PROVIDE CONDUIT AND PULL STRING TO APPROVED LOCATION FOR VOICE, DATA, AND CATV CABLES.

G. CIRCUITING ON DRAWINGS AND PANEL SCHEDULE IS SHOWN TYPICAL FOR SIMILAR UNITS. REFER TO DWELLING UNIT LOAD SUMMARIES FOR INDIVIDUAL DWELLING UNIT LOAD CALCULATIONS.

H. COORDINATE RECEPTACLE, PHONE, AND TV DEVICE PLACEMENT WITH FURNITURE LOCATIONS. VERIFY WITH ARCHITECT PRIOR TO ROUGH IN. LOCATIONS SHOWN ON DRAWINGS ARE INTENDED TO CONVEY DESIGN INTENT, AND DEMONSTRATE GENERAL COMPLIANCE WITH CODE. WHERE ACTUAL STUD LOCATIONS REQUIRE DEVICE LOCATIONS TO BE ADJUSTED, ADDED OR MINOR VARIATIONS AMONG UNITS THAT ARE SHOWN AS "TYPICAL", ETC. OCCUR, CONTRACTOR, UNDER HIS BASE BID, TO MAKE NECESSARY ADJUSTMENTS / ADDITIONS IN THE FIELD TO MAINTAIN NEC DWELLING UNIT RECEPTACLE SPACING REQUIREMENTS. WHERE ACTUAL WINDOW CONSTRUCTION PROHIBITS THE INSTALLATION OF A WALL RECEPTACLE, PROVIDE FLOOR RECEPTACLE WITHIN 18 INCHES OF THE BASE OF THE WALL. PROVIDE TAMPER PROOF RECEPTACLES AS REQUIRED BY NEC ART. 406.12.

I. LIGHTING INSTALLED IN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 410.16.

J. GFCI/AFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.

B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.

C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.

D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.

G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

HEARING/VISUAL IMPAIRED UNIT NOTES

A. PROVIDE AUDIBLE AND VISUAL SMOKE DETECTOR DEVICES.

B. SEPARATE STROBE (NOTIFIER ONLY) TO BE INSTALLED IN THE BATHROOM CONNECTED IN PARALLEL TO THE LOCAL UNIT SMOKE DETECTOR (GENTEX GXS-120 OR EQUAL)

C. INSTALL HARDWIRED DOORBELL. THE NOTIFIER INSIDE THE UNIT SHALL BE BOTH AUDIBLE AND VISUAL. EDWARDS CFA SERIES (6536-G5) HORNSTROBE, 600 SERIES BUTTON AND 590 SERIES TRANSFORMER - OR EQUAL.

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

2B

ROOM
MOUNTING **FLUSH**
FED FROM
NOTE

VOLTS **240/120V 2P 3W**
BUS AMPS **125**
NEUTRAL **100%**

AIC **T.B.D.**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1.5	* SMALL APPLIANCE	a	2	40/2	8.5	* RANGE
3	20/1	0.75	H-2	b	4	|		
5	20/1	0.4	H-1	a	6	40/2	7.56	HP-2
7	20/2	0	SPACE	b	8	|		
9	|			a	10	15/1	1.32	* E-1, LIGHTING, RECEPTACLE
11	20/1	1.5	* SMALL APPLIANCE	b	12	15/1	1.62	* BATH, RECEPTACLE
13	20/1	1.5	* LAUNDRY	a	14	30/2	5	* DRYER
15	30/2	4.5	* EWH	b	16	|		
17	|			a	18	15/1	0.1	*SMOKE DETECTOR
19	20/1	0	SPACE	b	20	20/1	0	SPACE
21	20/1	0	SPACE	a	22	20/1	0	SPACE
23	20/1	0	SPACE	b	24	20/1	0	SPACE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

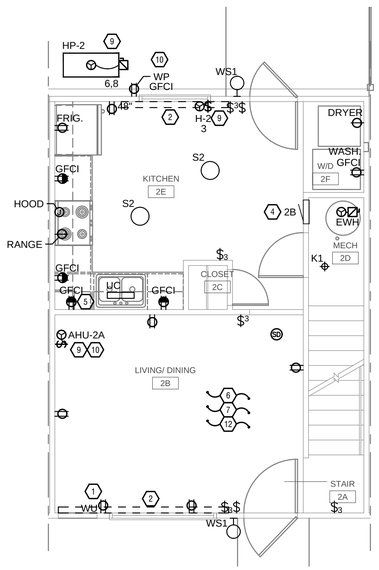
	CONN KVA			CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	2.57	857 SF (3 VA/SF)	GENERAL LOAD			
SMALL-APPLIANCE	3		UP TO 10 KVA	10	10	(100%)
LAUNDRY	1.5		OVER 10 KVA	15.1	6.03	(40%)
APPLIANCES	9.5		MAX HEATING OR COOLING		8.31	(220.82(C)(3))
ELECTRIC COOKING	8.5					
TOTAL GENERAL LOAD	25.1		TOTAL LOAD		24.3	
			BALANCED LOAD		101 A	
			PHASE A		103%	
			PHASE B		97.2%	

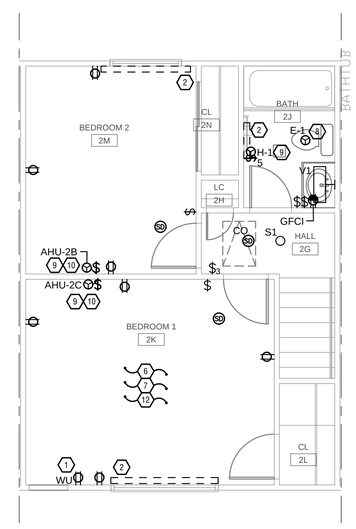
1. * DENOTES EXISTING CIRCUITRY TO REMAIN. VERIFY CIRCUITRY IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.

APPLIANCE BREAKDOWN	
TYPE	KVA
WATER HEATER	4.5
DRYER	5
TOTAL	**9.50**

HVAC Load Calculation	KVA	NEC Code
Heating	8.71	
Cooling	7.56	
Mini Split	0.00	
100% of Nameplate Rating of AC and Cooling	7.56	220.82 C(1)
100% of Nameplate Rating of Heat Pump w/o Supplmental Heat	0.00	220.82 C(2)
Heat Pump plus 65% of Supplemental Heat	8.31	220.82 C(3)
Largest Heating or Cooling Load	8.71	220.84 C(5)

Multi-Family Dwelling Unit Calc	KVA
Total General Load	25.07
Largest Heating or Cooling Load 220.84	8.71
220.84 CONNECTED LOAD CALC	**33.78**





1 / E201 UNIT 2
SCALE: 1/4" = 1'-0"

ATA BEILHARZ ARCHITECTS
1063 Central Avenue Cincinnati Ohio, 45202
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ENGINEERED BUILDING SYSTEMS INC.
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SHARED SUCCESS
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MEP Consulting Services, Inc. in OH

FRANKLIN COMMONS
ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 2
ELECTRICAL
ENLARGED UNITS

E201

Z:\~Project Directories\10600 - 10699\10647 - Franklin Commons - Franklin, OH\~Construction Documents\~~~~BUILDING TYPE 3\10647-E202-ELECTRICAL-POWER-ENLARGED-UNITS.dwg-EBS Plot Date/Time: Sep 12, 2024-7:54pm - By: andyw

THESE DRAWINGS AND SPECIFICATIONS ARE NOT AUTHORIZED TO BE USED AS CONSTRUCTION DOCUMENTS. THESE DRAWINGS HAVE BEEN PREPARED TO DEMONSTRATE COMPLIANCE WITH APPLICABLE CODES, AND ARE INTENDED TO PROVIDE THE AUTHORITIES HAVING JURISDICTION WITH INFORMATION TO DETERMINE CODE COMPLIANCE. THE INSTALLING CONTRACTOR IS RESPONSIBLE TO ENSURE THAT MEANS, METHODS, AND MATERIALS USED IN CONSTRUCTION ARE INSTALLED IN ACCORDANCE WITH ANY CONTRACTUAL AGREEMENT THAT MAY EXIST WITH AN OWNER, CONSTRUCTION MANAGER, GENERAL CONTRACTOR, ETC. EBS ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR THE COMPLIANCE OR CONDITION OF EXISTING EQUIPMENT AND WIRING.

KEYED SHEET NOTES

1. EXISTING WINDOW UNIT TO BE DEMO'D. REMOVE EXISTING SINGLE RECEPTACLE AND PROVIDE NEW DUPLEX RECEPTACLE.
2. EXISTING BASEBOARD HEATER TO BE REMOVED FROM PROJECT. DEMO ALL EXISTING WIRING AND HARDWARE INFRASTRUCTURE FOR HEATER BACK TO POINT OF ORIGIN.
3. EXISTING LIGHT SWITCH TO BE RELOCATED TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
4. LOCATION OF EXISTING ELECTRICAL PANEL. FIELD VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER, COORDINATE AND REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
5. PROVIDE SMALL APPLIANCE GFCI RECEPTACLE AT NEW LOCATION. MATCH HEIGHT WITH EXISTING COUNTER HEIGHT RECEPTACLES AND CIRCUIT TO EXISTING SMALL APPLIANCE CIRCUIT.
6. ALL DEVICES AND LIGHT FIXTURE LOCATIONS SHOWN, UNLESS OTHERWISE NOTED AS NEW, ARE EXISTING AND IN APPROXIMATE LOCATIONS, FIELD VERIFY EACH UNIT FOR QUANTITY AND TYPE OF EACH DEVICE.
7. REPLACE EXISTING GFCI RECEPTACLE AT ALL LOCATIONS, COORDINATE DEVICE AND COVER PLATE COLOR WITH OWNER AND ARCHITECT. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
8. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-1".
9. MECHANICAL UNIT PROVIDED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
10. DUCTLESS INDOOR UNIT POWERED FROM OUTDOOR UNIT. CONFIRM LOCATION AND DISCONNECTING MEANS WITH INSTALLING CONTRACTOR.
11. PROVIDE NEW WEATHERPROOF RECEPTACLE WITHIN 25' OF OUTDOOR HEAT PUMP.

DEMO NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL EXISTING BUILDING CONDITIONS PRIOR TO ANY DEMOLITION/NEW WORK PERFORMED. COORDINATE ALL WORK WITH OTHER BUILDING TRADES, REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK. ACTUAL DEMOLITION AMOUNT SHALL BE BASED ON FIELD VISIT BY CONTRACTOR.
B. ALL NECESSARY SHUT DOWN OF POWER MUST BE SCHEDULED SO AS NOT TO DISTURB OPERATION.
C. CONTRACTOR SHALL RETURN ALL DEMOLITION EQUIPMENT TO OWNER'S REPRESENTATIVE FOR SALVAGE, OR REMOVE FROM PREMISES AT OWNERS OPTION.
D. CONTRACTOR SHALL DISCONNECT ALL POWER AND LOW VOLTAGE WIRING FROM EQUIPMENT BEING REMOVED BY OTHER TRADES.
E. REMOVE ALL ELIMINATED CONDUIT AND WIRE FROM PROJECT AREA. PROVIDE FIRE STOPPING WHERE REQUIRED. ALL ABANDONED CONDUIT, AND DEVICES ENCASED IN CONCRETE SHALL BE CUT BACK FLUSH WITH SLAB. PATCH CONCRETE LEVEL WITH EXISTING SLAB.
F. ALL CIRCUITS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. ALL EXISTING CIRCUITS TO ITEMS TO REMAIN IN SERVICE SHALL BE MAINTAINED. ALL RELOCATING AND REROUTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
G. PRIOR TO DEMOLITION, FIELD VERIFY EXACT SIZE AND ROUTING OF ALL EXISTING WIRING TO BE ENCOUNTERED. CONTRACTOR SHALL REMOVE ALL ABANDONED OR UNUSED WIRING WITHIN HIS SCOPE OF WORK AND TERMINATE PROPERLY. ANY ACTIVE WIRING DISTURBED BY THIS WORK SHALL BE RECONNECTED PRIOR TO PROJECT CLOSEOUT.
H. ALL EQUIPMENT AND RECEPTACLE CIRCUITS BEING ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE UNLESS OTHERWISE NOTED.
I. ALL LIGHTING CIRCUITS ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE. RETAIN ALL FIXTURES FOR USE IN EXPANSION AREAS OR DISPOSAL BY OWNER.

GENERAL NOTES - DWELLING UNITS

A. PROVIDE AFCI PROTECTION IN ACCORDANCE WITH NEC 210.12. AFCI PROTECTION MUST BE PROVIDED WHERE EXISTING BRANCH CIRCUIT WIRING IS MODIFIED, OR RECEPTACLES ARE REPLACED, IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL INSPECTION REQUIREMENTS. REFER TO NEC 406.4 (D) AND NEC 210.12 (D)
B. FURNISH AND INSTALL SMOKE DETECTORS AS REQUIRED BY CODE. SMOKE DETECTORS SHOWN ON EBS DRAWINGS ARE INTENDED TO CONVEY GENERAL COMPLIANCE FOR BUILDING DEPARTMENT SUBMITTALS. PROVIDE INTERWIRING BETWEEN SMOKE DETECTORS LOCATED IN THE SAME UNIT. SMOKE DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP. FIRE ALARM AND/OR SMOKE DETECTOR SYSTEMS ARE FURNISHED ON A DESIGN-BUILD BASIS BY THE ELECTRICIAN.
C. THE INTENT OF DRAWINGS SHOWING SMOKE ALARM LOCATIONS IS TO DEMONSTRATE GENERAL CONFORMANCE WITH APPLICABLE CODES. ELECTRICAL CONTRACTOR TO COORDINATE FINAL PLACEMENT OF SMOKE ALARMS WITH ACTUAL CEILING CONFIGURATION, CEILING FAN LOCATIONS, DISTANCE TO BATHROOMS, DISTANCE TO COOKING APPLIANCES, ETC. AND INSTALL PER THE REQUIREMENTS OF APPLICABLE CODES.
D. WHERE CIRCUITING IS SHOWN TYPICAL FOR MULTIPLE UNITS, COORDINATE BREAKER/WIRE SIZES FOR EQUIPMENT FURNISHED BY OTHERS WITH SHOP DRAWINGS PROVIDED BY THE CONTRACTOR SUPPLYING THE EQUIPMENT. VERIFY BREAKER/WIRE SIZES FOR EQUIPMENT OR APPLIANCE FOR EACH UNIT PRIOR TO ROUGH-IN.
E. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATIONS OF ALL LIGHT FIXTURES.
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G. CIRCUITING ON DRAWINGS AND PANEL SCHEDULE IS SHOWN TYPICAL FOR SIMILAR UNITS. REFER TO DWELLING UNIT LOAD SUMMARIES FOR INDIVIDUAL DWELLING UNIT LOAD CALCULATIONS
H. COORDINATE RECEPTACLE, PHONE, AND TV DEVICE PLACEMENT WITH FURNITURE LOCATIONS. VERIFY WITH ARCHITECT PRIOR TO ROUGH IN. LOCATIONS SHOWN ON DRAWINGS ARE INTENDED TO CONVEY DESIGN INTENT, AND DEMONSTRATE GENERAL COMPLIANCE WITH CODE. WHERE ACTUAL STUD LOCATIONS REQUIRE DEVICE LOCATIONS TO BE ADJUSTED, ADDED OR MINOR VARIATIONS AMONG UNITS THAT ARE SHOWN AS "TYPICAL", ETC. OCCUR, CONTRACTOR, UNDER HIS BASE BID, TO MAKE NECESSARY ADJUSTMENTS / ADDITIONS IN THE FIELD TO MAINTAIN NEC DWELLING UNIT RECEPTACLE SPACING REQUIREMENTS. WHERE ACTUAL WINDOW CONSTRUCTION PROHIBITS THE INSTALLATION OF A WALL RECEPTACLE, PROVIDE FLOOR RECEPTACLE WITHIN 18 INCHES OF THE BASE OF THE WALL. PROVIDE TAMPER PROOF RECEPTACLES AS REQUIRED BY NEC ART. 406.12.
I. LIGHTING INSTALLED IN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 410.16.
J. GFCI/AFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

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A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.
B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.
C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.
D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.
E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.
F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.
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SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

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A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

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A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.
B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.
C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.
D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

2B

ROOM
MOUNTING FLUSH
FED FROM
NOTE

VOLTS 240/120V 2P 3W
BUS AMPS 125
NEUTRAL 100%

AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1.5	* SMALL APPLIANCE	a	2	40/2	8.5	* RANGE
3	20/1	0.75	H–2	b	4	|		
5	20/1	0.4	H–1	a	6	40/2	7.56	HP–2
7	20/2	0	SPACE	b	8	|		
9	|			a	10	15/1	1.32	* E–1, LIGHTING, RECEPTACLE
11	20/1	1.5	* SMALL APPLIANCE	b	12	15/1	1.62	* BATH, RECEPTACLE
13	20/1	1.5	* LAUNDRY	a	14	30/2	5	* DRYER
15	30/2	4.5	* EWH	b	16	|		
17	|			a	18	15/1	0.1	*SMOKE DETECTOR
19	20/1	0	SPACE	b	20	20/1	0	SPACE
21	20/1	0	SPACE	a	22	20/1	0	SPACE
23	20/1	0	SPACE	b	24	20/1	0	SPACE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

	CONN KVA	
LIGHTING AND RECEPTACLES	2.57	857 SF (3 VA/SF)
SMALL-APPLIANCE	3	
LAUNDRY	1.5	
APPLIANCES	9.5	
ELECTRIC COOKING	8.5	
TOTAL GENERAL LOAD	25.1	

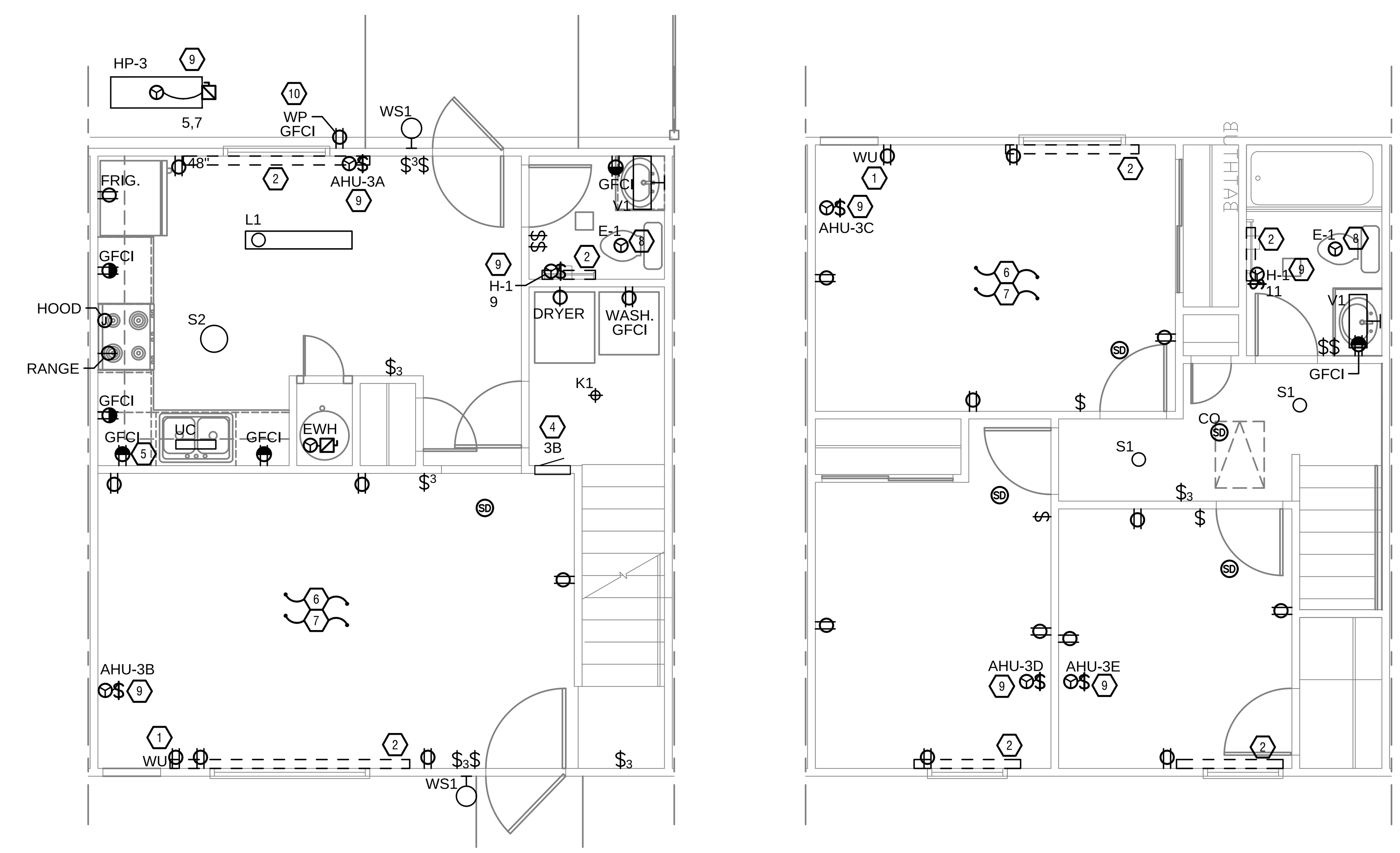
	CONN KVA	CALC KVA	
GENERAL LOAD			
UP TO 10 KVA	10	10	(100%)
OVER 10 KVA	15.1	6.03	(40%)
MAX HEATING OR COOLING		8.31	(220.82(C)(3))
TOTAL LOAD		24.3	
BALANCED LOAD		101 A	
PHASE A		103%	
PHASE B		97.2%	

1. * DENOTES EXISTING CIRCUITRY TO REMAIN. VERIFY CIRCUITRY IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.

Multi-Family Dwelling Unit Calc	KVA
Total General Load	25.07
Largest Heating or Cooling Load 220.84	8.71
220.84 CONNECTED LOAD CALC	**33.78**

APPLIANCE BREAKDOWN	
TYPE	**KVA**
WATER HEATER	4.5
DRYER	5
TOTAL	**9.50**

HVAC Load Calculation	KVA	NEC Code
Heating	8.71	
Cooling	7.56	
Mini Split	0.00	
100% of Nameplate Rating of AC and Cooling	7.56	220.82 C(1)
100% of Nameplate Rating of Heat Pump w/o Supplmental Heat	0.00	220.82 C(2)
Heat Pump plus 65% of Supplemental Heat	8.31	220.82 C(3)
Largest Heating or Cooling Load	8.71	220.84 C(5)



1 E202 UNIT 3
SCALE: 1/4" = 1'-0"

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STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN:
CHECKED:

BUILDING 1 & 10

ELECTRICAL ENLARGED UNITS

E202

KEYED SHEET NOTES

1. EXISTING WINDOW UNIT TO BE DEMO'D. REMOVE EXISTING SINGLE RECEPTACLE AND PROVIDE NEW DUPLEX RECEPTACLE.
2. EXISTING BASEBOARD HEATER TO BE REMOVED FROM PROJECT. DEMO ALL EXISTING WIRING AND HARDWARE INFRASTRUCTURE FOR HEATER BACK TO POINT OF ORIGIN.
3. EXISTING LIGHT SWITCH TO BE RELOCATED TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
4. LOCATION OF EXISTING ELECTRICAL PANEL. FIELD VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER. COORDINATE AND REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
5. PROVIDE SMALL APPLIANCE GFCI RECEPTACLE AT NEW LOCATION. MATCH HEIGHT WITH EXISTING COUNTER HEIGHT RECEPTACLES AND CIRCUIT TO EXISTING SMALL APPLIANCE CIRCUIT.
6. ALL DEVICES AND LIGHT FIXTURE LOCATIONS SHOWN, UNLESS OTHERWISE NOTED AS NEW, ARE EXISTING AND IN APPROXIMATE LOCATIONS, FIELD VERIFY EACH UNIT FOR QUANTITY AND TYPE OF EACH DEVICE.
7. REPLACE EXISTING GFCI RECEPTACLE AT ALL LOCATIONS, COORDINATE DEVICE AND COVER PLATE COLOR WITH OWNER AND ARCHITECT. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
8. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-1".
9. MECHANICAL UNIT PROVIDED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
10. DUCTLESS INDOOR UNIT POWERED FROM OUTDOOR UNIT. CONFIRM LOCATION AND DISCONNECTING MEANS WITH INSTALLING CONTRACTOR.
11. PROVIDE NEW WEATHERPROOF RECEPTACLE WITHIN 25' OF OUTDOOR HEAT PUMP.
12. RELOCATE SMOKE DETECTORS TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
13. WASHER AND DRYER ELECTRICAL TO BE RELOCATED TO NEW ROOM, DEMO EXISTING WIRING AND PROVIDE NEW WIRING TO NEW LOCATIONS.
14. RELOCATE ELECTRICAL DEVICES AND WIRING TO NEW LOCATIONS TO MATCH NEW BATHROOM DESIGN.
15. WATER HEATER ELECTRICAL TO BE RELOCATED TO NEW ROOM, DEMO EXISTING WIRING AND PROVIDE NEW WIRING TO NEW LOCATIONS.
16. ADA UNIT, REFER TO ADA GENERAL UNIT NOTES FOR ADDITIONAL REQUIREMENTS FOR THIS UNIT.
17. WHERE REQUIRED, PROVIDE HEARING AND VISUAL IMPAIRED DEVICES. REFER TO HEARING AND VISUAL IMPAIRED NOTES FOR MORE DETAILS.

DEMO NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL EXISTING BUILDING CONDITIONS PRIOR TO ANY DEMOLITION/NEW WORK PERFORMED. COORDINATE ALL WORK WITH OTHER BUILDING TRADES. REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK. ACTUAL DEMOLITION AMOUNT SHALL BE BASED ON FIELD VISIT BY CONTRACTOR.

B. ALL NECESSARY SHUT DOWN OF POWER MUST BE SCHEDULED SO AS NOT TO DISTURB OPERATION.

C. CONTRACTOR SHALL RETURN ALL DEMOLITION EQUIPMENT TO OWNER'S REPRESENTATIVE FOR SALVAGE, OR REMOVE FROM PREMISES AT OWNERS OPTION.

D. CONTRACTOR SHALL DISCONNECT ALL POWER AND LOW VOLTAGE WIRING FROM EQUIPMENT BEING REMOVED BY OTHER TRADES.

E. REMOVE ALL ELIMINATED CONDUIT AND WIRE FROM PROJECT AREA. PROVIDE FIRE STOPPING WHERE REQUIRED. ALL ABANDONED CONDUIT, AND DEVICES ENCASED IN CONCRETE SHALL BE CUT BACK FLUSH WITH SLAB. PATCH CONCRETE LEVEL WITH EXISTING SLAB.

F. ALL CIRCUITS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. ALL EXISTING CIRCUITS TO ITEMS TO REMAIN IN SERVICE SHALL BE MAINTAINED. ALL RELOCATING AND REROUTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

G. PRIOR TO DEMOLITION, FIELD VERIFY EXACT SIZE AND ROUTING OF ALL EXISTING WIRING TO BE ENCOUNTERED. CONTRACTOR SHALL REMOVE ALL ABANDONED OR UNUSED WIRING WITHIN HIS SCOPE OF WORK AND TERMINATE PROPERLY. ANY ACTIVE WIRING DISTURBED BY THIS WORK SHALL BE RECONNECTED PRIOR TO PROJECT CLOSEOUT.

H. ALL EQUIPMENT AND RECEPTACLE CIRCUITS BEING ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE UNLESS OTHERWISE NOTED.

I. ALL LIGHTING CIRCUITS ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE. RETAIN ALL FIXTURES FOR USE IN EXPANSION AREAS OR DISPOSAL BY OWNER.

GENERAL NOTES - DWELLING UNITS

A. PROVIDE AFCI PROTECTION IN ACCORDANCE WITH NEC 210.12. AFCI PROTECTION MUST BE PROVIDED WHERE EXISTING BRANCH CIRCUIT WIRING IS MODIFIED, OR RECEPTACLES ARE REPLACED, IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL INSPECTION REQUIREMENTS. REFER TO NEC 406.4 (D) AND NEC 210.12 (D)

B. FURNISH AND INSTALL SMOKE DETECTORS AS REQUIRED BY CODE. SMOKE DETECTORS SHOWN ON EBS DRAWINGS ARE INTENDED TO CONVEY GENERAL COMPLIANCE FOR BUILDING DEPARTMENT SUBMITTALS. PROVIDE INTERWIRING BETWEEN SMOKE DETECTORS LOCATED IN THE SAME UNIT. SMOKE DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP. FIRE ALARM AND/OR SMOKE DETECTOR SYSTEMS ARE FURNISHED ON A DESIGN-BUILD BASIS BY THE ELECTRICIAN.

C. THE INTENT OF DRAWINGS SHOWING SMOKE ALARM LOCATIONS IS TO DEMONSTRATE GENERAL CONFORMANCE WITH APPLICABLE CODES. ELECTRICAL CONTRACTOR TO COORDINATE FINAL PLACEMENT OF SMOKE ALARMS WITH ACTUAL CEILING CONFIGURATION, CEILING FAN LOCATIONS, DISTANCE TO BATHROOMS, DISTANCE TO COOKING APPLIANCES, ETC. AND INSTALL PER THE REQUIREMENTS OF APPLICABLE CODES.

D. WHERE CIRCUITING IS SHOWN TYPICAL FOR MULTIPLE UNITS, COORDINATE BREAKER/WIRE SIZES FOR EQUIPMENT FURNISHED BY OTHERS WITH SHOP DRAWINGS PROVIDED BY THE CONTRACTOR SUPPLYING THE EQUIPMENT. VERIFY BREAKER/WIRE SIZES FOR EQUIPMENT OR APPLIANCE FOR EACH UNIT PRIOR TO ROUGH-IN.

E. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATIONS OF ALL LIGHT FIXTURES.

F. PROVIDE CONDUIT AND PULL STRING TO APPROVED LOCATION FOR VOICE, DATA, AND CATV CABLES.

G. CIRCUITING ON DRAWINGS AND PANEL SCHEDULE IS SHOWN TYPICAL FOR SIMILAR UNITS. REFER TO DWELLING UNIT LOAD SUMMARIES FOR INDIVIDUAL DWELLING UNIT LOAD CALCULATIONS.

H. COORDINATE RECEPTACLE, PHONE, AND TV DEVICE PLACEMENT WITH FURNITURE LOCATIONS. VERIFY WITH ARCHITECT PRIOR TO ROUGH IN. LOCATIONS SHOWN ON DRAWINGS ARE INTENDED TO CONVEY DESIGN INTENT, AND DEMONSTRATE GENERAL COMPLIANCE WITH CODE. WHERE ACTUAL STUD LOCATIONS REQUIRE DEVICE LOCATIONS TO BE ADJUSTED, ADDED OR MINOR VARIATIONS AMONG UNITS THAT ARE SHOWN AS "TYPICAL", ETC. OCCUR, CONTRACTOR, UNDER HIS BASE BID, TO MAKE NECESSARY ADJUSTMENTS / ADDITIONS IN THE FIELD TO MAINTAIN NEC DWELLING UNIT RECEPTACLE SPACING REQUIREMENTS. WHERE ACTUAL WINDOW CONSTRUCTION PROHIBITS THE INSTALLATION OF A WALL RECEPTACLE, PROVIDE FLOOR RECEPTACLE WITHIN 18 INCHES OF THE BASE OF THE WALL. PROVIDE TAMPER PROOF RECEPTACLES AS REQUIRED BY NEC ART. 406.12.

I. LIGHTING INSTALLED IN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 410.16.

J. GFCI/AFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.

B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.

C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.

D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.

G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

HEARING/VISUAL IMPAIRED UNIT NOTES

A. PROVIDE AUDIBLE AND VISUAL SMOKE DETECTOR DEVICES.

B. SEPARATE STROBE (NOTIFIER ONLY) TO BE INSTALLED IN THE BATHROOM CONNECTED IN PARALLEL TO THE LOCAL UNIT SMOKE DETECTOR (GENTEX GXS-120 OR EQUAL)

C. INSTALL HARDWIRED DOORBELL. THE NOTIFIER INSIDE THE UNIT SHALL BE BOTH AUDIBLE AND VISUAL. EDWARDS CFA SERIES (6536-G5) HORNSTROBE, 600 SERIES BUTTON AND 590 SERIES TRANSFORMER - OR EQUAL.

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

ADA GENERAL UNIT NOTES

A. ADA UNITS SHALL HAVE SINGLE HOOD CONTROLLED BY SWITCH.

B. ADA UNIT MICROWAVE SHALL BE MOUNTED UNDER THE COUNTER. REFER TO CABIINET DETAIL SHEET FOR REQUIRED DEVICE LOCATION.

1B

ROOM	VOLTS **240/120V 2P 3W**	AIC **T.B.D.**
MOUNTING **FLUSH**	BUS AMPS **125**	MAIN BKR **MLO**
FED FROM	NEUTRAL **100%**	LUGS **STANDARD**
NOTE		

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	30/2	4.5	* EWH	a	2	40/2	6.46	HP-1
3	|			b	4	|		
5	30/2	5	* DRYER	a	6	20/2	0	SPACE
7	|			b	8	|		
9	20/1	1.5	* LAUNDRY	a	10	20/2	0	SPACE
11	20/1	1.5	* SMALL APPLIANCE	b	12	|		
13	15/1	1.02	* E-1, LIGHTING, RECEPTACLE	a	14	20/1	1.5	* SMALL APPLIANCE
15	15/1	1.21	* LIGHTING, RECEPTACLE	b	16	40/2	8.5	* RANGE
17	15/1	0.1	*SMOKE DETECTOR	a	18	|		
19	20/1	0.4	H-1	b	20	20/1	0	SPACE
21	20/1	0	SPACE	a	22	20/1	0	SPACE
23	20/1	0	SPACE	b	24	20/1	0	SPACE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

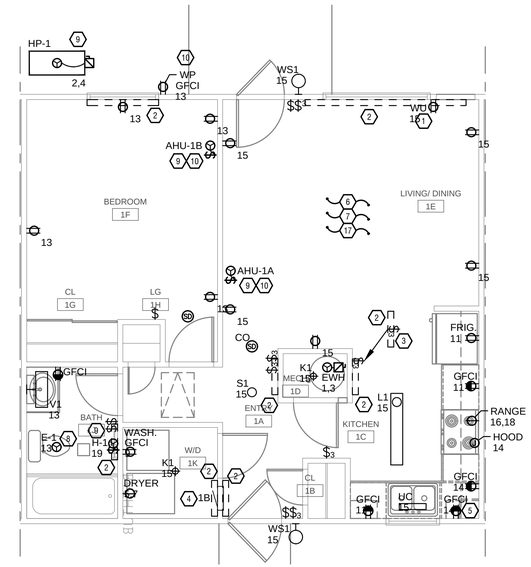
	CONN KVA			CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	1.86	620 SF (3 VA/SF)	GENERAL LOAD			
SMALL-APPLIANCE	3		UP TO 10 KVA	10	10	(100%)
LAUNDRY	1.5		OVER 10 KVA	14.4	5.74	(40%)
APPLIANCES	9.5		MAX HEATING OR COOLING		6.72	(220.82(C)(3))
ELECTRIC COOKING	8.5					
TOTAL GENERAL LOAD	24.4		TOTAL LOAD		22.5	
			BALANCED LOAD		93.6 A	
			PHASE A		103%	
			PHASE B		96.8%	

1. * DENOTES EXISTING CIRCUITRY TO REMAIN. VERIFY CIRCUITRY IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.

Multi-Family Dwelling Unit Calc	KVA
Total General Load	24.37
Largest Heating or Cooling Load 220.84	6.86
220.84 CONNECTED LOAD CALC	**31.23**

APPLIANCE BREAKDOWN	
TYPE	**KVA**
WATER HEATER	4.5
DRYER	5
TOTAL	**9.50**

HVAC Load Calculation	KVA	NEC Code
Heating	6.86	
Cooling	6.46	
Mini Split	0.00	
100% of Nameplate Rating of AC and Cooling	6.46	220.82 C(1)
100% of Nameplate Rating of Heat Pump w/o Supplmental Heat	0.00	220.82 C(2)
Heat Pump plus 65% of Supplemental Heat	6.72	220.82 C(3)
Largest Heating or Cooling Load	6.86	220.84 C(5)



1 / E204 UNIT 1

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

HEARING AND VISUAL IMPAIRED UNITS:
BUILDING 13 - UNIT 936

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STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 6, 7, 12, 13, 15, 15, 16, & 17

ELECTRICAL
ENLARGED UNITS

E204

KEYED SHEET NOTES

1. EXISTING WINDOW UNIT TO BE DEMO'D. REMOVE EXISTING SINGLE RECEPTACLE AND PROVIDE NEW DUPLEX RECEPTACLE.
2. EXISTING BASEBOARD HEATER TO BE REMOVED FROM PROJECT. DEMO ALL EXISTING WIRING AND HARDWARE INFRASTRUCTURE FOR HEATER BACK TO POINT OF ORIGIN.
3. EXISTING LIGHT SWITCH TO BE RELOCATED TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
4. LOCATION OF EXISTING ELECTRICAL PANEL. FIELD VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER. COORDINATE AND REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
5. PROVIDE SMALL APPLIANCE GFCI RECEPTACLE AT NEW LOCATION. MATCH HEIGHT WITH EXISTING COUNTER HEIGHT RECEPTACLES AND CIRCUIT TO EXISTING SMALL APPLIANCE CIRCUIT.
6. ALL DEVICES AND LIGHT FIXTURE LOCATIONS SHOWN, UNLESS OTHERWISE NOTED AS NEW, ARE EXISTING AND IN APPROXIMATE LOCATIONS, FIELD VERIFY EACH UNIT FOR QUANTITY AND TYPE OF EACH DEVICE.
7. REPLACE EXISTING GFCI RECEPTACLE AT ALL LOCATIONS, COORDINATE DEVICE AND COVER PLATE COLOR WITH OWNER AND ARCHITECT. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
8. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-1".
9. MECHANICAL UNIT PROVIDED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
10. DUCTLESS INDOOR UNIT POWERED FROM OUTDOOR UNIT. CONFIRM LOCATION AND DISCONNECTING MEANS WITH INSTALLING CONTRACTOR.
11. PROVIDE NEW WEATHERPROOF RECEPTACLE WITHIN 25' OF OUTDOOR HEAT PUMP.
12. RELOCATE SMOKE DETECTORS TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
13. WASHER AND DRYER ELECTRICAL TO BE RELOCATED TO NEW ROOM, DEMO EXISTING WIRING AND PROVIDE NEW WIRING TO NEW LOCATIONS.
14. RELOCATE ELECTRICAL DEVICES AND WIRING TO NEW LOCATIONS TO MATCH NEW BATHROOM DESIGN.
15. WATER HEATER ELECTRICAL TO BE RELOCATED TO NEW ROOM, DEMO EXISTING WIRING AND PROVIDE NEW WIRING TO NEW LOCATIONS.
16. ADA UNIT, REFER TO ADA GENERAL UNIT NOTES FOR ADDITIONAL REQUIREMENTS FOR THIS UNIT.
17. WHERE REQUIRED, PROVIDE HEARING AND VISUAL IMPAIRED DEVICES. REFER TO HEARING AND VISUAL IMPAIRED NOTES FOR MORE DETAILS.

DEMO NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL EXISTING BUILDING CONDITIONS PRIOR TO ANY DEMOLITION/NEW WORK PERFORMED. COORDINATE ALL WORK WITH OTHER BUILDING TRADES, REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK. ACTUAL DEMOLITION AMOUNT SHALL BE BASED ON FIELD VISIT BY CONTRACTOR.

B. ALL NECESSARY SHUT DOWN OF POWER MUST BE SCHEDULED SO AS NOT TO DISTURB OPERATION.

C. CONTRACTOR SHALL RETURN ALL DEMOLITION EQUIPMENT TO OWNER'S REPRESENTATIVE FOR SALVAGE, OR REMOVE FROM PREMISES AT OWNERS OPTION.

D. CONTRACTOR SHALL DISCONNECT ALL POWER AND LOW VOLTAGE WIRING FROM EQUIPMENT BEING REMOVED BY OTHER TRADES.

E. REMOVE ALL ELIMINATED CONDUIT AND WIRE FROM PROJECT AREA. PROVIDE FIRE STOPPING WHERE REQUIRED. ALL ABANDONED CONDUIT, AND DEVICES ENCASED IN CONCRETE SHALL BE CUT BACK FLUSH WITH SLAB. PATCH CONCRETE LEVEL WITH EXISTING SLAB.

F. ALL CIRCUITS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. ALL EXISTING CIRCUITS TO ITEMS TO REMAIN IN SERVICE SHALL BE MAINTAINED. ALL RELOCATING AND REROUTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

G. PRIOR TO DEMOLITION, FIELD VERIFY EXACT SIZE AND ROUTING OF ALL EXISTING WIRING TO BE ENCOUNTERED. CONTRACTOR SHALL REMOVE ALL ABANDONED OR UNUSED WIRING WITHIN HIS SCOPE OF WORK AND TERMINATE PROPERLY. ANY ACTIVE WIRING DISTURBED BY THIS WORK SHALL BE RECONNECTED PRIOR TO PROJECT CLOSEOUT.

H. ALL EQUIPMENT AND RECEPTACLE CIRCUITS BEING ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE UNLESS OTHERWISE NOTED.

I. ALL LIGHTING CIRCUITS ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE. RETAIN ALL FIXTURES FOR USE IN EXPANSION AREAS OR DISPOSAL BY OWNER.

GENERAL NOTES - DWELLING UNITS

A. PROVIDE AFCI PROTECTION IN ACCORDANCE WITH NEC 210.12. AFCI PROTECTION MUST BE PROVIDED WHERE EXISTING BRANCH CIRCUIT WIRING IS MODIFIED, OR RECEPTACLES ARE REPLACED, IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL INSPECTION REQUIREMENTS. REFER TO NEC 406.4 (D) AND NEC 210.12 (D)

B. FURNISH AND INSTALL SMOKE DETECTORS AS REQUIRED BY CODE. SMOKE DETECTORS SHOWN ON EBS DRAWINGS ARE INTENDED TO CONVEY GENERAL COMPLIANCE FOR BUILDING DEPARTMENT SUBMITTALS. PROVIDE INTERWIRING BETWEEN SMOKE DETECTORS LOCATED IN THE SAME UNIT. SMOKE DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP. FIRE ALARM AND/OR SMOKE DETECTOR SYSTEMS ARE FURNISHED ON A DESIGN-BUILD BASIS BY THE ELECTRICIAN.

C. THE INTENT OF DRAWINGS SHOWING SMOKE ALARM LOCATIONS IS TO DEMONSTRATE GENERAL CONFORMANCE WITH APPLICABLE CODES. ELECTRICAL CONTRACTOR TO COORDINATE FINAL PLACEMENT OF SMOKE ALARMS WITH ACTUAL CEILING CONFIGURATION, CEILING FAN LOCATIONS, DISTANCE TO BATHROOMS, DISTANCE TO COOKING APPLIANCES, ETC. AND INSTALL PER THE REQUIREMENTS OF APPLICABLE CODES.

D. WHERE CIRCUITING IS SHOWN TYPICAL FOR MULTIPLE UNITS, COORDINATE BREAKER/WIRE SIZES FOR EQUIPMENT FURNISHED BY OTHERS WITH SHOP DRAWINGS PROVIDED BY THE CONTRACTOR SUPPLYING THE EQUIPMENT. VERIFY BREAKER/WIRE SIZES FOR EQUIPMENT OR APPLIANCE FOR EACH UNIT PRIOR TO ROUGH-IN.

E. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATIONS OF ALL LIGHT FIXTURES.

F. PROVIDE CONDUIT AND PULL STRING TO APPROVED LOCATION FOR VOICE, DATA, AND CATV CABLES.

G. CIRCUITING ON DRAWINGS AND PANEL SCHEDULE IS SHOWN TYPICAL FOR SIMILAR UNITS. REFER TO DWELLING UNIT LOAD SUMMARIES FOR INDIVIDUAL DWELLING UNIT LOAD CALCULATIONS.

H. COORDINATE RECEPTACLE, PHONE, AND TV DEVICE PLACEMENT WITH FURNITURE LOCATIONS. VERIFY WITH ARCHITECT PRIOR TO ROUGH IN. LOCATIONS SHOWN ON DRAWINGS ARE INTENDED TO CONVEY DESIGN INTENT, AND DEMONSTRATE GENERAL COMPLIANCE WITH CODE. WHERE ACTUAL STUD LOCATIONS REQUIRE DEVICE LOCATIONS TO BE ADJUSTED, ADDED OR MINOR VARIATIONS AMONG UNITS THAT ARE SHOWN AS "TYPICAL", ETC. OCCUR, CONTRACTOR, UNDER HIS BASE BID, TO MAKE NECESSARY ADJUSTMENTS / ADDITIONS IN THE FIELD TO MAINTAIN NEC DWELLING UNIT RECEPTACLE SPACING REQUIREMENTS. WHERE ACTUAL WINDOW CONSTRUCTION PROHIBITS THE INSTALLATION OF A WALL RECEPTACLE, PROVIDE FLOOR RECEPTACLE WITHIN 18 INCHES OF THE BASE OF THE WALL. PROVIDE TAMPER PROOF RECEPTACLES AS REQUIRED BY NEC ART. 406.12.

I. LIGHTING INSTALLED IN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 410.16.

J. GFCI/AFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.

B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.

C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.

D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.

G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

HEARING/VISUAL IMPAIRED UNIT NOTES

A. PROVIDE AUDIBLE AND VISUAL SMOKE DETECTOR DEVICES.

B. SEPARATE STROBE (NOTIFIER ONLY) TO BE INSTALLED IN THE BATHROOM CONNECTED IN PARALLEL TO THE LOCAL UNIT SMOKE DETECTOR (GENTEX GXS-120 OR EQUAL)

C. INSTALL HARDWIRED DOORBELL. THE NOTIFIER INSIDE THE UNIT SHALL BE BOTH AUDIBLE AND VISUAL. EDWARDS CFA SERIES (6536-G5) HORNSTROBE, 600 SERIES BUTTON AND 590 SERIES TRANSFORMER - OR EQUAL.

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

ADA GENERAL UNIT NOTES

A. ADA UNITS SHALL HAVE SINGLE HOOD CONTROLLED BY SWITCH.

B. ADA UNIT MICROWAVE SHALL BE MOUNTED UNDER THE COUNTER. REFER TO CABIINET DETAIL SHEET FOR REQUIRED DEVICE LOCATION.

1A

ROOM
MOUNTING **FLUSH**
FED FROM
NOTE

VOLTS **240/120V 2P 3W**
BUS AMPS **125**
NEUTRAL **100%**

AIC **T.B.D.**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	30/2	4.5	* EWH	a	2	40/2	6.46	HP-1
3	|			b	4	|		
5	30/2	5	* DRYER	a	6	20/2	0	SPACE
7	|			b	8	|		
9	20/1	1.5	* LAUNDRY	a	10	20/2	0	SPACE
11	20/1	1.5	* SMALL APPLIANCE	b	12	|		
13	15/1	1.02	E-1, LIGHTING, RECEPTACLE	a	14	20/1	1.5	* SMALL APPLIANCE
15	15/1	1.17	* LIGHTING, RECEPTACLE	b	16	40/2	8.5	* RANGE
17	15/1	0.1	*SMOKE DETECTOR	a	18	|		
19	20/1	0.4	H-1	b	20	20/1	0	SPACE
21	20/1	0	SPACE	a	22	20/1	0	SPACE
23	20/1	0	SPACE	b	24	20/1	0	SPACE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

	CONN KVA	
LIGHTING AND RECEPTACLES	1.86	620 SF (3 VA/SF)
SMALL-APPLIANCE	3	
LAUNDRY	1.5	
APPLIANCES	9.5	
ELECTRIC COOKING	8.5	
TOTAL GENERAL LOAD	24.4	

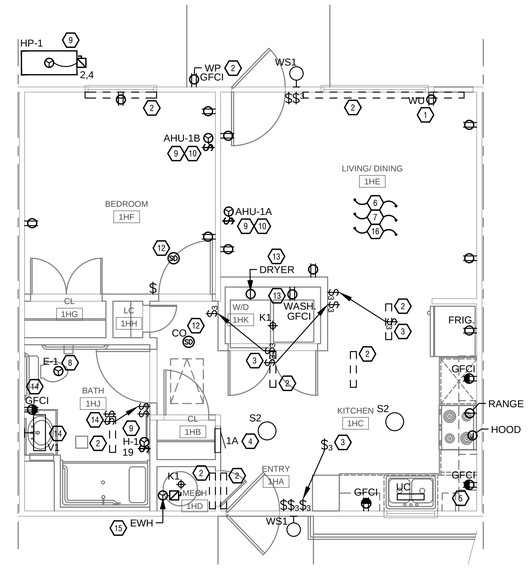
GENERAL LOAD	CONN KVA	CALC KVA	
UP TO 10 KVA	10	10	(100%)
OVER 10 KVA	14.4	5.74	(40%)
MAX HEATING OR COOLING		6.72	(220.82(C)(3))
TOTAL LOAD		22.5	
BALANCED LOAD		93.6 A	
PHASE A		103%	
PHASE B		96.7%	

1. * DENOTES EXISTING CIRCUITRY TO REMAIN. VERIFY CIRCUITRY IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.

APPLIANCE BREAKDOWN	
TYPE	KVA
WATER HEATER	4.5
DRYER	5
TOTAL	**9.50**

Multi-Family Dwelling Unit Calc	KVA
Total General Load	24.37
Largest Heating or Cooling Load 220.84	6.86
220.84 CONNECTED LOAD CALC	**31.23**

HVAC Load Calculation	KVA	NEC Code
Heating	6.86	
Cooling	6.46	
Mini Split	0.00	
100% of Nameplate Rating of AC and Cooling	6.46	220.82 C(1)
100% of Nameplate Rating of Heat Pump w/o Supplmental Heat	0.00	220.82 C(2)
Heat Pump plus 65% of Supplemental Heat	6.72	220.82 C(3)
Largest Heating or Cooling Load	6.86	220.84 C(5)



1 / E205 UNIT 1 - ADA

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

ADA UNITS:
BUILDING 6 - UNIT 584
BUILDING 12 - UNITS 914 & 924
BUILDING 15 - UNIT 946

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962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 6, 7, 12, 13, 15, 16, & 17

ELECTRICAL
ENLARGED UNITS

E205

KEYED SHEET NOTES

1. EXISTING WINDOW UNIT TO BE DEMO'D. REMOVE EXISTING SINGLE RECEPTACLE AND PROVIDE NEW DUPLEX RECEPTACLE.
2. EXISTING BASEBOARD HEATER TO BE REMOVED FROM PROJECT. DEMO ALL EXISTING WIRING AND HARDWARE INFRASTRUCTURE FOR HEATER BACK TO POINT OF ORIGIN.
3. EXISTING LIGHT SWITCH TO BE RELOCATED TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
4. LOCATION OF EXISTING ELECTRICAL PANEL. FIELD VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER. COORDINATE AND REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
5. PROVIDE SMALL APPLIANCE GFCI RECEPTACLE AT NEW LOCATION. MATCH HEIGHT WITH EXISTING COUNTER HEIGHT RECEPTACLES AND CIRCUIT TO EXISTING SMALL APPLIANCE CIRCUIT.
6. ALL DEVICES AND LIGHT FIXTURE LOCATIONS SHOWN, UNLESS OTHERWISE NOTED AS NEW, ARE EXISTING AND IN APPROXIMATE LOCATIONS, FIELD VERIFY EACH UNIT FOR QUANTITY AND TYPE OF EACH DEVICE.
7. REPLACE EXISTING GFCI RECEPTACLE AT ALL LOCATIONS, COORDINATE DEVICE AND COVER PLATE COLOR WITH OWNER AND ARCHITECT. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
8. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-1".
9. MECHANICAL UNIT PROVIDED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
10. DUCTLESS INDOOR UNIT POWERED FROM OUTDOOR UNIT. CONFIRM LOCATION AND DISCONNECTING MEANS WITH INSTALLING CONTRACTOR.
11. PROVIDE NEW WEATHERPROOF RECEPTACLE WITHIN 25' OF OUTDOOR HEAT PUMP.
12. RELOCATE SMOKE DETECTORS TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
13. WASHER AND DRYER ELECTRICAL TO BE RELOCATED TO NEW ROOM, DEMO EXISTING WIRING AND PROVIDE NEW WIRING TO NEW LOCATIONS.
14. RELOCATE ELECTRICAL DEVICES AND WIRING TO NEW LOCATIONS TO MATCH NEW BATHROOM DESIGN.
15. WATER HEATER ELECTRICAL TO BE RELOCATED TO NEW ROOM, DEMO EXISTING WIRING AND PROVIDE NEW WIRING TO NEW LOCATIONS.
16. ADA UNIT, REFER TO ADA GENERAL UNIT NOTES FOR ADDITIONAL REQUIREMENTS FOR THIS UNIT.
17. WHERE REQUIRED, PROVIDE HEARING AND VISUAL IMPAIRED DEVICES. REFER TO HEARING AND VISUAL IMPAIRED NOTES FOR MORE DETAILS.

DEMO NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL EXISTING BUILDING CONDITIONS PRIOR TO ANY DEMOLITION/NEW WORK PERFORMED. COORDINATE ALL WORK WITH OTHER BUILDING TRADES, REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK. ACTUAL DEMOLITION AMOUNT SHALL BE BASED ON FIELD VISIT BY CONTRACTOR.

B. ALL NECESSARY SHUT DOWN OF POWER MUST BE SCHEDULED SO AS NOT TO DISTURB OPERATION.

C. CONTRACTOR SHALL RETURN ALL DEMOLITION EQUIPMENT TO OWNER'S REPRESENTATIVE FOR SALVAGE, OR REMOVE FROM PREMISES AT OWNERS OPTION.

D. CONTRACTOR SHALL DISCONNECT ALL POWER AND LOW VOLTAGE WIRING FROM EQUIPMENT BEING REMOVED BY OTHER TRADES.

E. REMOVE ALL ELIMINATED CONDUIT AND WIRE FROM PROJECT AREA. PROVIDE FIRE STOPPING WHERE REQUIRED. ALL ABANDONED CONDUIT, AND DEVICES ENCASED IN CONCRETE SHALL BE CUT BACK FLUSH WITH SLAB. PATCH CONCRETE LEVEL WITH EXISTING SLAB.

F. ALL CIRCUITS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. ALL EXISTING CIRCUITS TO ITEMS TO REMAIN IN SERVICE SHALL BE MAINTAINED. ALL RELOCATING AND REROUTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

G. PRIOR TO DEMOLITION, FIELD VERIFY EXACT SIZE AND ROUTING OF ALL EXISTING WIRING TO BE ENCOUNTERED. CONTRACTOR SHALL REMOVE ALL ABANDONED OR UNUSED WIRING WITHIN HIS SCOPE OF WORK AND TERMINATE PROPERLY. ANY ACTIVE WIRING DISTURBED BY THIS WORK SHALL BE RECONNECTED PRIOR TO PROJECT CLOSEOUT.

H. ALL EQUIPMENT AND RECEPTACLE CIRCUITS BEING ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE UNLESS OTHERWISE NOTED.

I. ALL LIGHTING CIRCUITS ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE. RETAIN ALL FIXTURES FOR USE IN EXPANSION AREAS OR DISPOSAL BY OWNER.

GENERAL NOTES - DWELLING UNITS

A. PROVIDE AFCI PROTECTION IN ACCORDANCE WITH NEC 210.12. AFCI PROTECTION MUST BE PROVIDED WHERE EXISTING BRANCH CIRCUIT WIRING IS MODIFIED, OR RECEPTACLES ARE REPLACED, IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL INSPECTION REQUIREMENTS. REFER TO NEC 406.4 (D) AND NEC 210.12 (D)

B. FURNISH AND INSTALL SMOKE DETECTORS AS REQUIRED BY CODE. SMOKE DETECTORS SHOWN ON EBS DRAWINGS ARE INTENDED TO CONVEY GENERAL COMPLIANCE FOR BUILDING DEPARTMENT SUBMITTALS. PROVIDE INTERWIRING BETWEEN SMOKE DETECTORS LOCATED IN THE SAME UNIT. SMOKE DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP. FIRE ALARM AND/OR SMOKE DETECTOR SYSTEMS ARE FURNISHED ON A DESIGN-BUILD BASIS BY THE ELECTRICIAN.

C. THE INTENT OF DRAWINGS SHOWING SMOKE ALARM LOCATIONS IS TO DEMONSTRATE GENERAL CONFORMANCE WITH APPLICABLE CODES. ELECTRICAL CONTRACTOR TO COORDINATE FINAL PLACEMENT OF SMOKE ALARMS WITH ACTUAL CEILING CONFIGURATION, CEILING FAN LOCATIONS, DISTANCE TO BATHROOMS, DISTANCE TO COOKING APPLIANCES, ETC. AND INSTALL PER THE REQUIREMENTS OF APPLICABLE CODES.

D. WHERE CIRCUITING IS SHOWN TYPICAL FOR MULTIPLE UNITS, COORDINATE BREAKER/WIRE SIZES FOR EQUIPMENT FURNISHED BY OTHERS WITH SHOP DRAWINGS PROVIDED BY THE CONTRACTOR SUPPLYING THE EQUIPMENT. VERIFY BREAKER/WIRE SIZES FOR EQUIPMENT OR APPLIANCE FOR EACH UNIT PRIOR TO ROUGH-IN.

E. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATIONS OF ALL LIGHT FIXTURES.

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G. CIRCUITING ON DRAWINGS AND PANEL SCHEDULE IS SHOWN TYPICAL FOR SIMILAR UNITS. REFER TO DWELLING UNIT LOAD SUMMARIES FOR INDIVIDUAL DWELLING UNIT LOAD CALCULATIONS.

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C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.

D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.

G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.

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A. PROVIDE AUDIBLE AND VISUAL SMOKE DETECTOR DEVICES.

B. SEPARATE STROBE (NOTIFIER ONLY) TO BE INSTALLED IN THE BATHROOM CONNECTED IN PARALLEL TO THE LOCAL UNIT SMOKE DETECTOR (GENTEX GXS-120 OR EQUAL)

C. INSTALL HARDWIRED DOORBELL. THE NOTIFIER INSIDE THE UNIT SHALL BE BOTH AUDIBLE AND VISUAL. EDWARDS CFA SERIES (6536-G5) HORNSTROBE, 600 SERIES BUTTON AND 590 SERIES TRANSFORMER - OR EQUAL.

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

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GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

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A. ADA UNITS SHALL HAVE SINGLE HOOD CONTROLLED BY SWITCH.

B. ADA UNIT MICROWAVE SHALL BE MOUNTED UNDER THE COUNTER. REFER TO CABIINET DETAIL SHEET FOR REQUIRED DEVICE LOCATION.

2B

ROOM	VOLTS **240/120V 2P 3W**	AIC **T.B.D.**
MOUNTING **FLUSH**	BUS AMPS **125**	MAIN BKR **MLO**
FED FROM	NEUTRAL **100%**	LUGS **STANDARD**
NOTE		

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1.5	* SMALL APPLIANCE	a	2	40/2	8.5	* RANGE
3	20/1	0.75	H-2	b	4	|		
5	20/1	0.4	H-1	a	6	40/2	7.56	HP-2
7	20/2	0	SPACE	b	8	|		
9	|			a	10	15/1	1.32	* E-1, LIGHTING, RECEPTACLE
11	20/1	1.5	* SMALL APPLIANCE	b	12	15/1	1.62	* BATH, RECEPTACLE
13	20/1	1.5	* LAUNDRY	a	14	30/2	5	* DRYER
15	30/2	4.5	* EWH	b	16	|		
17	|			a	18	15/1	0.1	*SMOKE DETECTOR
19	20/1	0	SPACE	b	20	20/1	0	SPACE
21	20/1	0	SPACE	a	22	20/1	0	SPACE
23	20/1	0	SPACE	b	24	20/1	0	SPACE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

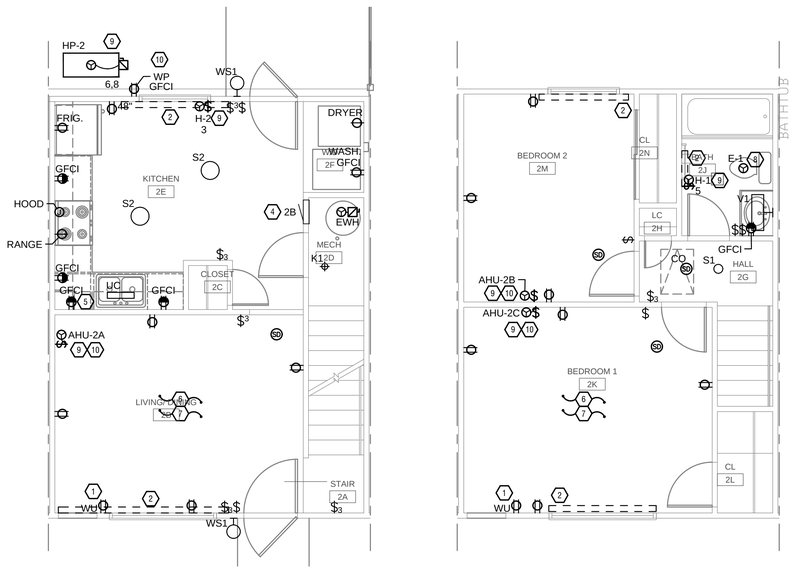
	CONN KVA			CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	2.57	857 SF (3 VA/SF)	GENERAL LOAD			
SMALL-APPLIANCE	3		UP TO 10 KVA	10	10	(100%)
LAUNDRY	1.5		OVER 10 KVA	15.1	6.03	(40%)
APPLIANCES	9.5		MAX HEATING OR COOLING		8.31	(220.82(C)(3))
ELECTRIC COOKING	8.5					
TOTAL GENERAL LOAD	25.1		TOTAL LOAD		24.3	
			BALANCED LOAD		101 A	
			PHASE A		103%	
			PHASE B		97.2%	

1. * DENOTES EXISTING CIRCUITRY TO REMAIN. VERIFY CIRCUITRY IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.

Multi-Family Dwelling Unit Calc	KVA
Total General Load	25.07
Largest Heating or Cooling Load 220.84	8.71
220.84 CONNECTED LOAD CALC	**33.78**

APPLIANCE BREAKDOWN	
TYPE	**KVA**
WATER HEATER	4.5
DRYER	5
TOTAL	**9.50**

HVAC Load Calculation	KVA	NEC Code
Heating	8.71	
Cooling	7.56	
Mini Split	0.00	
100% of Nameplate Rating of AC and Cooling	7.56	220.82 C(1)
100% of Nameplate Rating of Heat Pump w/o Supplmental Heat	0.00	220.82 C(2)
Heat Pump plus 65% of Supplemental Heat	8.31	220.82 C(3)
Largest Heating or Cooling Load	8.71	220.84 C(5)



1 / E206 UNIT 2

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

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PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 6, 7, 12, 13, 15, 16, & 17

ELECTRICAL
ENLARGED UNITS

E206

KEYED SHEET NOTES

1. EXISTING WINDOW UNIT TO BE DEMO'D. REMOVE EXISTING SINGLE RECEPTACLE AND PROVIDE NEW DUPLEX RECEPTACLE.
2. EXISTING BASEBOARD HEATER TO BE REMOVED FROM PROJECT. DEMO ALL EXISTING WIRING AND HARDWARE INFRASTRUCTURE FOR HEATER BACK TO POINT OF ORIGIN.
3. EXISTING LIGHT SWITCH TO BE RELOCATED TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
4. LOCATION OF EXISTING ELECTRICAL PANEL. FIELD VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER. COORDINATE AND REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
5. PROVIDE SMALL APPLIANCE GFCI RECEPTACLE AT NEW LOCATION. MATCH HEIGHT WITH EXISTING COUNTER HEIGHT RECEPTACLES AND CIRCUIT TO EXISTING SMALL APPLIANCE CIRCUIT.
6. ALL DEVICES AND LIGHT FIXTURE LOCATIONS SHOWN, UNLESS OTHERWISE NOTED AS NEW, ARE EXISTING AND IN APPROXIMATE LOCATIONS, FIELD VERIFY EACH UNIT FOR QUANTITY AND TYPE OF EACH DEVICE.
7. REPLACE EXISTING GFCI RECEPTACLE AT ALL LOCATIONS, COORDINATE DEVICE AND COVER PLATE COLOR WITH OWNER AND ARCHITECT. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
8. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-1".
9. MECHANICAL UNIT PROVIDED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
10. DUCTLESS INDOOR UNIT POWERED FROM OUTDOOR UNIT. CONFIRM LOCATION AND DISCONNECTING MEANS WITH INSTALLING CONTRACTOR.
11. PROVIDE NEW WEATHERPROOF RECEPTACLE WITHIN 25' OF OUTDOOR HEAT PUMP.
12. RELOCATE SMOKE DETECTORS TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
13. WASHER AND DRYER ELECTRICAL TO BE RELOCATED TO NEW ROOM, DEMO EXISTING WIRING AND PROVIDE NEW WIRING TO NEW LOCATIONS.
14. RELOCATE ELECTRICAL DEVICES AND WIRING TO NEW LOCATIONS TO MATCH NEW BATHROOM DESIGN.
15. WATER HEATER ELECTRICAL TO BE RELOCATED TO NEW ROOM, DEMO EXISTING WIRING AND PROVIDE NEW WIRING TO NEW LOCATIONS.
16. ADA UNIT, REFER TO ADA GENERAL UNIT NOTES FOR ADDITIONAL REQUIREMENTS FOR THIS UNIT.

DEMO NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL EXISTING BUILDING CONDITIONS PRIOR TO ANY DEMOLITION/NEW WORK PERFORMED. COORDINATE ALL WORK WITH OTHER BUILDING TRADES, REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK. ACTUAL DEMOLITION AMOUNT SHALL BE BASED ON FIELD VISIT BY CONTRACTOR.

B. ALL NECESSARY SHUT DOWN OF POWER MUST BE SCHEDULED SO AS NOT TO DISTURB OPERATION.

C. CONTRACTOR SHALL RETURN ALL DEMOLITION EQUIPMENT TO OWNER'S REPRESENTATIVE FOR SALVAGE, OR REMOVE FROM PREMISES AT OWNERS OPTION.

D. CONTRACTOR SHALL DISCONNECT ALL POWER AND LOW VOLTAGE WIRING FROM EQUIPMENT BEING REMOVED BY OTHER TRADES.

E. REMOVE ALL ELIMINATED CONDUIT AND WIRE FROM PROJECT AREA. PROVIDE FIRE STOPPING WHERE REQUIRED. ALL ABANDONED CONDUIT, AND DEVICES ENCASED IN CONCRETE SHALL BE CUT BACK FLUSH WITH SLAB. PATCH CONCRETE LEVEL WITH EXISTING SLAB.

F. ALL CIRCUITS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. ALL EXISTING CIRCUITS TO ITEMS TO REMAIN IN SERVICE SHALL BE MAINTAINED. ALL RELOCATING AND REROUTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

G. PRIOR TO DEMOLITION, FIELD VERIFY EXACT SIZE AND ROUTING OF ALL EXISTING WIRING TO BE ENCOUNTERED. CONTRACTOR SHALL REMOVE ALL ABANDONED OR UNUSED WIRING WITHIN HIS SCOPE OF WORK AND TERMINATE PROPERLY. ANY ACTIVE WIRING DISTURBED BY THIS WORK SHALL BE RECONNECTED PRIOR TO PROJECT CLOSEOUT.

H. ALL EQUIPMENT AND RECEPTACLE CIRCUITS BEING ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE UNLESS OTHERWISE NOTED.

I. ALL LIGHTING CIRCUITS ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE. RETAIN ALL FIXTURES FOR USE IN EXPANSION AREAS OR DISPOSAL BY OWNER.

GENERAL NOTES - DWELLING UNITS

A. PROVIDE AFCI PROTECTION IN ACCORDANCE WITH NEC 210.12. AFCI PROTECTION MUST BE PROVIDED WHERE EXISTING BRANCH CIRCUIT WIRING IS MODIFIED, OR RECEPTACLES ARE REPLACED, IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL INSPECTION REQUIREMENTS. REFER TO NEC 406.4 (D) AND NEC 210.12 (D)

B. FURNISH AND INSTALL SMOKE DETECTORS AS REQUIRED BY CODE. SMOKE DETECTORS SHOWN ON EBS DRAWINGS ARE INTENDED TO CONVEY GENERAL COMPLIANCE FOR BUILDING DEPARTMENT SUBMITTALS. PROVIDE INTERWIRING BETWEEN SMOKE DETECTORS LOCATED IN THE SAME UNIT. SMOKE DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP. FIRE ALARM AND/OR SMOKE DETECTOR SYSTEMS ARE FURNISHED ON A DESIGN-BUILD BASIS BY THE ELECTRICIAN.

C. THE INTENT OF DRAWINGS SHOWING SMOKE ALARM LOCATIONS IS TO DEMONSTRATE GENERAL CONFORMANCE WITH APPLICABLE CODES. ELECTRICAL CONTRACTOR TO COORDINATE FINAL PLACEMENT OF SMOKE ALARMS WITH ACTUAL CEILING CONFIGURATION, CEILING FAN LOCATIONS, DISTANCE TO BATHROOMS, DISTANCE TO COOKING APPLIANCES, ETC. AND INSTALL PER THE REQUIREMENTS OF APPLICABLE CODES.

D. WHERE CIRCUITING IS SHOWN TYPICAL FOR MULTIPLE UNITS, COORDINATE BREAKER/WIRE SIZES FOR EQUIPMENT FURNISHED BY OTHERS WITH SHOP DRAWINGS PROVIDED BY THE CONTRACTOR SUPPLYING THE EQUIPMENT. VERIFY BREAKER/WIRE SIZES FOR EQUIPMENT OR APPLIANCE FOR EACH UNIT PRIOR TO ROUGH-IN.

E. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATIONS OF ALL LIGHT FIXTURES.

F. PROVIDE CONDUIT AND PULL STRING TO APPROVED LOCATION FOR VOICE, DATA, AND CATV CABLES.

G. CIRCUITING ON DRAWINGS AND PANEL SCHEDULE IS SHOWN TYPICAL FOR SIMILAR UNITS. REFER TO DWELLING UNIT LOAD SUMMARIES FOR INDIVIDUAL DWELLING UNIT LOAD CALCULATIONS.

H. COORDINATE RECEPTACLE, PHONE, AND TV DEVICE PLACEMENT WITH FURNITURE LOCATIONS. VERIFY WITH ARCHITECT PRIOR TO ROUGH IN. LOCATIONS SHOWN ON DRAWINGS ARE INTENDED TO CONVEY DESIGN INTENT, AND DEMONSTRATE GENERAL COMPLIANCE WITH CODE. WHERE ACTUAL STUD LOCATIONS REQUIRE DEVICE LOCATIONS TO BE ADJUSTED, ADDED OR MINOR VARIATIONS AMONG UNITS THAT ARE SHOWN AS "TYPICAL", ETC. OCCUR, CONTRACTOR, UNDER HIS BASE BID, TO MAKE NECESSARY ADJUSTMENTS / ADDITIONS IN THE FIELD TO MAINTAIN NEC DWELLING UNIT RECEPTACLE SPACING REQUIREMENTS. WHERE ACTUAL WINDOW CONSTRUCTION PROHIBITS THE INSTALLATION OF A WALL RECEPTACLE, PROVIDE FLOOR RECEPTACLE WITHIN 18 INCHES OF THE BASE OF THE WALL. PROVIDE TAMPER PROOF RECEPTACLES AS REQUIRED BY NEC ART. 406.12.

I. LIGHTING INSTALLED IN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 410.16.

J. GFCI/AFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.

B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.

C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.

D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.

G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

ADA GENERAL UNIT NOTES

A. ADA UNITS SHALL HAVE SINGLE HOOD CONTROLLED BY SWITCH.

B. ADA UNIT MICROWAVE SHALL BE MOUNTED UNDER THE COUNTER. REFER TO CABINET DETAIL SHEET FOR REQUIRED DEVICE LOCATION.

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

1B

ROOM
MOUNTING **FLUSH**
FED FROM
NOTE

VOLTS **240/120V 2P 3W**
BUS AMPS **125**
NEUTRAL **100%**

AIC **T.B.D.**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	30/2	4.5	* EWH	a	2	40/2	6.46	HP-1
3	|			b	4	|		
5	30/2	5	* DRYER	a	6	20/2	0	SPACE
7	|			b	8	|		
9	20/1	1.5	* LAUNDRY	a	10	20/2	0	SPACE
11	20/1	1.5	* SMALL APPLIANCE	b	12	|		
13	15/1	1.02	* E-1, LIGHTING, RECEPTACLE	a	14	20/1	1.5	* SMALL APPLIANCE
15	15/1	1.21	* LIGHTING, RECEPTACLE	b	16	40/2	8.5	* RANGE
17	15/1	0.1	*SMOKE DETECTOR	a	18	|		
19	20/1	0.4	H-1	b	20	20/1	0	SPACE
21	20/1	0	SPACE	a	22	20/1	0	SPACE
23	20/1	0	SPACE	b	24	20/1	0	SPACE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

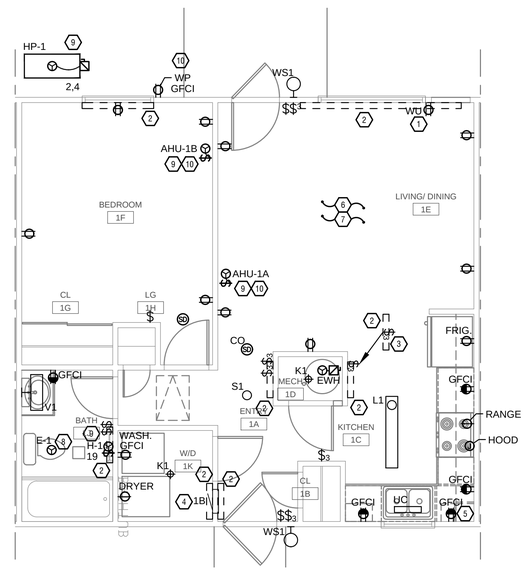
	CONN KVA		GENERAL LOAD	CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	1.86	620 SF (3 VA/SF)	UP TO 10 KVA	10	10	(100%)
SMALL-APPLIANCE	3		OVER 10 KVA	14.4	5.74	(40%)
LAUNDRY	1.5		MAX HEATING OR COOLING		6.72	(220.82(C)(3))
APPLIANCES	9.5		TOTAL LOAD		22.5	
ELECTRIC COOKING	8.5		BALANCED LOAD		93.6 A	
TOTAL GENERAL LOAD	24.4		PHASE A		103%	
			PHASE B		96.8%	

1. * DENOTES EXISTING CIRCUITRY TO REMAIN. VERIFY CIRCUITRY IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.

APPLIANCE BREAKDOWN	
TYPE	**KVA**
WATER HEATER	4.5
DRYER	5
TOTAL	**9.50**

HVAC Load Calculation	KVA	NEC Code
Heating	6.86	
Cooling	6.46	
Mini Split	0.00	
100% of Nameplate Rating of AC and Cooling	6.46	220.82 C(1)
100% of Nameplate Rating of Heat Pump w/o Supplmental Heat	0.00	220.82 C(2)
Heat Pump plus 65% of Supplemental Heat	6.72	220.82 C(3)
Largest Heating or Cooling Load	6.86	220.84 C(5)

Multi-Family Dwelling Unit Calc	KVA
Total General Load	24.37
Largest Heating or Cooling Load 220.84	6.86
220.84 CONNECTED LOAD CALC	**31.23**



1 / E207 UNIT 1

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

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STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 8 & 20
ELECTRICAL
ENLARGED UNITS

E207

KEYED SHEET NOTES

1. EXISTING WINDOW UNIT TO BE DEMO'D. REMOVE EXISTING SINGLE RECEPTACLE AND PROVIDE NEW DUPLEX RECEPTACLE.
2. EXISTING BASEBOARD HEATER TO BE REMOVED FROM PROJECT. DEMO ALL EXISTING WIRING AND HARDWARE INFRASTRUCTURE FOR HEATER BACK TO POINT OF ORIGIN.
3. EXISTING LIGHT SWITCH TO BE RELOCATED TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
4. LOCATION OF EXISTING ELECTRICAL PANEL. FIELD VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER. COORDINATE AND REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
5. PROVIDE SMALL APPLIANCE GFCI RECEPTACLE AT NEW LOCATION. MATCH HEIGHT WITH EXISTING COUNTER HEIGHT RECEPTACLES AND CIRCUIT TO EXISTING SMALL APPLIANCE CIRCUIT.
6. ALL DEVICES AND LIGHT FIXTURE LOCATIONS SHOWN, UNLESS OTHERWISE NOTED AS NEW, ARE EXISTING AND IN APPROXIMATE LOCATIONS, FIELD VERIFY EACH UNIT FOR QUANTITY AND TYPE OF EACH DEVICE.
7. REPLACE EXISTING GFCI RECEPTACLE AT ALL LOCATIONS, COORDINATE DEVICE AND COVER PLATE COLOR WITH OWNER AND ARCHITECT. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
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10. DUCTLESS INDOOR UNIT POWERED FROM OUTDOOR UNIT. CONFIRM LOCATION AND DISCONNECTING MEANS WITH INSTALLING CONTRACTOR.
11. PROVIDE NEW WEATHERPROOF RECEPTACLE WITHIN 25' OF OUTDOOR HEAT PUMP.
12. RELOCATE SMOKE DETECTORS TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
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16. ADA UNIT, REFER TO ADA GENERAL UNIT NOTES FOR ADDITIONAL REQUIREMENTS FOR THIS UNIT.

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C. CONTRACTOR SHALL RETURN ALL DEMOLITION EQUIPMENT TO OWNER'S REPRESENTATIVE FOR SALVAGE, OR REMOVE FROM PREMISES AT OWNERS OPTION.

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F. ALL CIRCUITS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. ALL EXISTING CIRCUITS TO ITEMS TO REMAIN IN SERVICE SHALL BE MAINTAINED. ALL RELOCATING AND REROUTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

G. PRIOR TO DEMOLITION, FIELD VERIFY EXACT SIZE AND ROUTING OF ALL EXISTING WIRING TO BE ENCOUNTERED. CONTRACTOR SHALL REMOVE ALL ABANDONED OR UNUSED WIRING WITHIN HIS SCOPE OF WORK AND TERMINATE PROPERLY. ANY ACTIVE WIRING DISTURBED BY THIS WORK SHALL BE RECONNECTED PRIOR TO PROJECT CLOSEOUT.

H. ALL EQUIPMENT AND RECEPTACLE CIRCUITS BEING ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE UNLESS OTHERWISE NOTED.

I. ALL LIGHTING CIRCUITS ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE. RETAIN ALL FIXTURES FOR USE IN EXPANSION AREAS OR DISPOSAL BY OWNER.

GENERAL NOTES - DWELLING UNITS

A. PROVIDE AFCI PROTECTION IN ACCORDANCE WITH NEC 210.12. AFCI PROTECTION MUST BE PROVIDED WHERE EXISTING BRANCH CIRCUIT WIRING IS MODIFIED, OR RECEPTACLES ARE REPLACED, IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL INSPECTION REQUIREMENTS. REFER TO NEC 406.4 (D) AND NEC 210.12 (D)

B. FURNISH AND INSTALL SMOKE DETECTORS AS REQUIRED BY CODE. SMOKE DETECTORS SHOWN ON EBS DRAWINGS ARE INTENDED TO CONVEY GENERAL COMPLIANCE FOR BUILDING DEPARTMENT SUBMITTALS. PROVIDE INTERWIRING BETWEEN SMOKE DETECTORS LOCATED IN THE SAME UNIT. SMOKE DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP. FIRE ALARM AND/OR SMOKE DETECTOR SYSTEMS ARE FURNISHED ON A DESIGN-BUILD BASIS BY THE ELECTRICIAN.

C. THE INTENT OF DRAWINGS SHOWING SMOKE ALARM LOCATIONS IS TO DEMONSTRATE GENERAL CONFORMANCE WITH APPLICABLE CODES. ELECTRICAL CONTRACTOR TO COORDINATE FINAL PLACEMENT OF SMOKE ALARMS WITH ACTUAL CEILING CONFIGURATION, CEILING FAN LOCATIONS, DISTANCE TO BATHROOMS, DISTANCE TO COOKING APPLIANCES, ETC. AND INSTALL PER THE REQUIREMENTS OF APPLICABLE CODES.

D. WHERE CIRCUITING IS SHOWN TYPICAL FOR MULTIPLE UNITS, COORDINATE BREAKER/WIRE SIZES FOR EQUIPMENT FURNISHED BY OTHERS WITH SHOP DRAWINGS PROVIDED BY THE CONTRACTOR SUPPLYING THE EQUIPMENT. VERIFY BREAKER/WIRE SIZES FOR EQUIPMENT OR APPLIANCE FOR EACH UNIT PRIOR TO ROUGH-IN.

E. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATIONS OF ALL LIGHT FIXTURES.

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GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.

B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.

C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.

D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

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A. ADA UNITS SHALL HAVE SINGLE HOOD CONTROLLED BY SWITCH.

B. ADA UNIT MICROWAVE SHALL BE MOUNTED UNDER THE COUNTER. REFER TO CABINET DETAIL SHEET FOR REQUIRED DEVICE LOCATION.

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

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A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

1A

ROOM
MOUNTING **FLUSH**
FED FROM
NOTE

VOLTS **240/120V 2P 3W**
BUS AMPS **125**
NEUTRAL **100%**

AIC **T.B.D.**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	30/2	4.5	* EWH	a	2	40/2	6.46	HP-1
3	|			b	4	|		
5	30/2	5	* DRYER	a	6	20/2	0	SPACE
7	|			b	8	|		
9	20/1	1.5	* LAUNDRY	a	10	20/2	0	SPACE
11	20/1	1.5	* SMALL APPLIANCE	b	12	|		
13	15/1	1.03	* E-1, LIGHTING, RECEPTACLE	a	14	20/1	1.5	* SMALL APPLIANCE
15	15/1	0.825	* LIGHTING, RECEPTACLE	b	16	40/2	8.5	* RANGE
17	15/1	0.1	*SMOKE DETECTOR	a	18	|		
19	20/1	0.4	H-1	b	20	20/1	0	SPACE
21	20/1	0	SPACE	a	22	20/1	0	SPACE
23	20/1	0	SPACE	b	24	20/1	0	SPACE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

	CONN KVA	
LIGHTING AND RECEPTACLES	1.86	620 SF (3 VA/SF)
SMALL-APPLIANCE	3	
LAUNDRY	1.5	
APPLIANCES	9.5	
ELECTRIC COOKING	8.5	
TOTAL GENERAL LOAD	24.4	

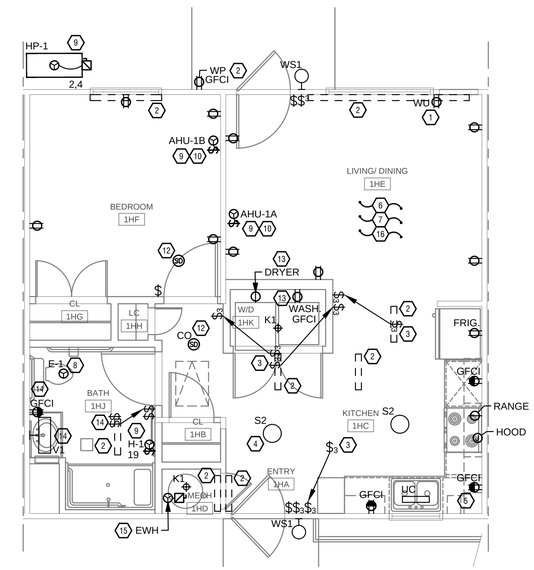
GENERAL LOAD	CONN KVA	CALC KVA	
UP TO 10 KVA	10	10	(100%)
OVER 10 KVA	14.4	5.74	(40%)
MAX HEATING OR COOLING		6.72	(220.82(C)(3))
TOTAL LOAD		22.5	
BALANCED LOAD		93.6 A	
PHASE A		104%	
PHASE B		95.5%	

1. * DENOTES EXISTING CIRCUITRY TO REMAIN. VERIFY CIRCUITRY IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.

APPLIANCE BREAKDOWN	
TYPE	**KVA**
WATER HEATER	4.5
DRYER	5
TOTAL	**9.50**

HVAC Load Calculation	KVA	NEC Code
Heating	6.86	
Cooling	6.46	
Mini Split	0.00	
100% of Nameplate Rating of AC and Cooling	6.46	220.82 C(1)
100% of Nameplate Rating of Heat Pump w/o Supplmental Heat	0.00	220.82 C(2)
Heat Pump plus 65% of Supplemental Heat	6.72	220.82 C(3)
Largest Heating or Cooling Load	6.86	220.84 C(5)

Multi-Family Dwelling Unit Calc	KVA
Total General Load	24.37
Largest Heating or Cooling Load 220.84	6.86
220.84 CONNECTED LOAD CALC	**31.23**



1 / E208 UNIT 1
SCALE: 1/4" = 1'-0"

ADA UNITS:
BUILDING 20 - UNITS 959 & 973

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STATE OF OHIO
FAUL R SRRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 8 & 20
ELECTRICAL
ENLARGED UNITS

E208

KEYED SHEET NOTES

1. EXISTING WINDOW UNIT TO BE DEMO'D. REMOVE EXISTING SINGLE RECEPTACLE AND PROVIDE NEW DUPLEX RECEPTACLE.
2. EXISTING BASEBOARD HEATER TO BE REMOVED FROM PROJECT. DEMO ALL EXISTING WIRING AND HARDWARE INFRASTRUCTURE FOR HEATER BACK TO POINT OF ORIGIN.
3. EXISTING LIGHT SWITCH TO BE RELOCATED TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
4. LOCATION OF EXISTING ELECTRICAL PANEL. FIELD VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER. COORDINATE AND REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
5. PROVIDE SMALL APPLIANCE GFCI RECEPTACLE AT NEW LOCATION. MATCH HEIGHT WITH EXISTING COUNTER HEIGHT RECEPTACLES AND CIRCUIT TO EXISTING SMALL APPLIANCE CIRCUIT.
6. ALL DEVICES AND LIGHT FIXTURE LOCATIONS SHOWN, UNLESS OTHERWISE NOTED AS NEW, ARE EXISTING AND IN APPROXIMATE LOCATIONS, FIELD VERIFY EACH UNIT FOR QUANTITY AND TYPE OF EACH DEVICE.
7. REPLACE EXISTING GFCI RECEPTACLE AT ALL LOCATIONS, COORDINATE DEVICE AND COVER PLATE COLOR WITH OWNER AND ARCHITECT. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
8. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-1".
9. MECHANICAL UNIT PROVIDED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
10. DUCTLESS INDOOR UNIT POWERED FROM OUTDOOR UNIT. CONFIRM LOCATION AND DISCONNECTING MEANS WITH INSTALLING CONTRACTOR.
11. PROVIDE NEW WEATHERPROOF RECEPTACLE WITHIN 25' OF OUTDOOR HEAT PUMP.
12. RELOCATE SMOKE DETECTORS TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
13. WASHER AND DRYER ELECTRICAL TO BE RELOCATED TO NEW ROOM, DEMO EXISTING WIRING AND PROVIDE NEW WIRING TO NEW LOCATIONS.
14. RELOCATE ELECTRICAL DEVICES AND WIRING TO NEW LOCATIONS TO MATCH NEW BATHROOM DESIGN.
15. WATER HEATER ELECTRICAL TO BE RELOCATED TO NEW ROOM, DEMO EXISTING WIRING AND PROVIDE NEW WIRING TO NEW LOCATIONS.
16. ADA UNIT, REFER TO ADA GENERAL UNIT NOTES FOR ADDITIONAL REQUIREMENTS FOR THIS UNIT.

DEMO NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL EXISTING BUILDING CONDITIONS PRIOR TO ANY DEMOLITION/NEW WORK PERFORMED. COORDINATE ALL WORK WITH OTHER BUILDING TRADES, REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK. ACTUAL DEMOLITION AMOUNT SHALL BE BASED ON FIELD VISIT BY CONTRACTOR.

B. ALL NECESSARY SHUT DOWN OF POWER MUST BE SCHEDULED SO AS NOT TO DISTURB OPERATION.

C. CONTRACTOR SHALL RETURN ALL DEMOLITION EQUIPMENT TO OWNER'S REPRESENTATIVE FOR SALVAGE, OR REMOVE FROM PREMISES AT OWNERS OPTION.

D. CONTRACTOR SHALL DISCONNECT ALL POWER AND LOW VOLTAGE WIRING FROM EQUIPMENT BEING REMOVED BY OTHER TRADES.

E. REMOVE ALL ELIMINATED CONDUIT AND WIRE FROM PROJECT AREA. PROVIDE FIRE STOPPING WHERE REQUIRED. ALL ABANDONED CONDUIT, AND DEVICES ENCASED IN CONCRETE SHALL BE CUT BACK FLUSH WITH SLAB. PATCH CONCRETE LEVEL WITH EXISTING SLAB.

F. ALL CIRCUITS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. ALL EXISTING CIRCUITS TO ITEMS TO REMAIN IN SERVICE SHALL BE MAINTAINED. ALL RELOCATING AND REROUTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

G. PRIOR TO DEMOLITION, FIELD VERIFY EXACT SIZE AND ROUTING OF ALL EXISTING WIRING TO BE ENCOUNTERED. CONTRACTOR SHALL REMOVE ALL ABANDONED OR UNUSED WIRING WITHIN HIS SCOPE OF WORK AND TERMINATE PROPERLY. ANY ACTIVE WIRING DISTURBED BY THIS WORK SHALL BE RECONNECTED PRIOR TO PROJECT CLOSEOUT.

H. ALL EQUIPMENT AND RECEPTACLE CIRCUITS BEING ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE UNLESS OTHERWISE NOTED.

I. ALL LIGHTING CIRCUITS ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE. RETAIN ALL FIXTURES FOR USE IN EXPANSION AREAS OR DISPOSAL BY OWNER.

GENERAL NOTES - DWELLING UNITS

A. PROVIDE AFCI PROTECTION IN ACCORDANCE WITH NEC 210.12. AFCI PROTECTION MUST BE PROVIDED WHERE EXISTING BRANCH CIRCUIT WIRING IS MODIFIED, OR RECEPTACLES ARE REPLACED, IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL INSPECTION REQUIREMENTS. REFER TO NEC 406.4 (D) AND NEC 210.12 (D)

B. FURNISH AND INSTALL SMOKE DETECTORS AS REQUIRED BY CODE. SMOKE DETECTORS SHOWN ON EBS DRAWINGS ARE INTENDED TO CONVEY GENERAL COMPLIANCE FOR BUILDING DEPARTMENT SUBMITTALS. PROVIDE INTERWIRING BETWEEN SMOKE DETECTORS LOCATED IN THE SAME UNIT. SMOKE DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP. FIRE ALARM AND/OR SMOKE DETECTOR SYSTEMS ARE FURNISHED ON A DESIGN-BUILD BASIS BY THE ELECTRICIAN.

C. THE INTENT OF DRAWINGS SHOWING SMOKE ALARM LOCATIONS IS TO DEMONSTRATE GENERAL CONFORMANCE WITH APPLICABLE CODES. ELECTRICAL CONTRACTOR TO COORDINATE FINAL PLACEMENT OF SMOKE ALARMS WITH ACTUAL CEILING CONFIGURATION, CEILING FAN LOCATIONS, DISTANCE TO BATHROOMS, DISTANCE TO COOKING APPLIANCES, ETC. AND INSTALL PER THE REQUIREMENTS OF APPLICABLE CODES.

D. WHERE CIRCUITING IS SHOWN TYPICAL FOR MULTIPLE UNITS, COORDINATE BREAKER/WIRE SIZES FOR EQUIPMENT FURNISHED BY OTHERS WITH SHOP DRAWINGS PROVIDED BY THE CONTRACTOR SUPPLYING THE EQUIPMENT. VERIFY BREAKER/WIRE SIZES FOR EQUIPMENT OR APPLIANCE FOR EACH UNIT PRIOR TO ROUGH-IN.

E. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATIONS OF ALL LIGHT FIXTURES.

F. PROVIDE CONDUIT AND PULL STRING TO APPROVED LOCATION FOR VOICE, DATA, AND CATV CABLES.

G. CIRCUITING ON DRAWINGS AND PANEL SCHEDULE IS SHOWN TYPICAL FOR SIMILAR UNITS. REFER TO DWELLING UNIT LOAD SUMMARIES FOR INDIVIDUAL DWELLING UNIT LOAD CALCULATIONS.

H. COORDINATE RECEPTACLE, PHONE, AND TV DEVICE PLACEMENT WITH FURNITURE LOCATIONS. VERIFY WITH ARCHITECT PRIOR TO ROUGH IN. LOCATIONS SHOWN ON DRAWINGS ARE INTENDED TO CONVEY DESIGN INTENT, AND DEMONSTRATE GENERAL COMPLIANCE WITH CODE. WHERE ACTUAL STUD LOCATIONS REQUIRE DEVICE LOCATIONS TO BE ADJUSTED, ADDED OR MINOR VARIATIONS AMONG UNITS THAT ARE SHOWN AS "TYPICAL", ETC. OCCUR, CONTRACTOR, UNDER HIS BASE BID, TO MAKE NECESSARY ADJUSTMENTS / ADDITIONS IN THE FIELD TO MAINTAIN NEC DWELLING UNIT RECEPTACLE SPACING REQUIREMENTS. WHERE ACTUAL WINDOW CONSTRUCTION PROHIBITS THE INSTALLATION OF A WALL RECEPTACLE, PROVIDE FLOOR RECEPTACLE WITHIN 18 INCHES OF THE BASE OF THE WALL. PROVIDE TAMPER PROOF RECEPTACLES AS REQUIRED BY NEC ART. 406.12.

I. LIGHTING INSTALLED IN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 410.16.

J. GFCI/AFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.

B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.

C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.

D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.

G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

ADA GENERAL UNIT NOTES

A. ADA UNITS SHALL HAVE SINGLE HOOD CONTROLLED BY SWITCH.

B. ADA UNIT MICROWAVE SHALL BE MOUNTED UNDER THE COUNTER. REFER TO CABINET DETAIL SHEET FOR REQUIRED DEVICE LOCATION.

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

2B

ROOM	VOLTS **240/120V 2P 3W**	AIC **T.B.D.**
MOUNTING **FLUSH**	BUS AMPS **125**	MAIN BKR **MLO**
FED FROM	NEUTRAL **100%**	LUGS **STANDARD**
NOTE		

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1.5	* SMALL APPLIANCE	a	2	40/2	8.5	* RANGE
3	20/1	0.75	H-2	b	4	|		
5	20/1	0.4	H-1	a	6	40/2	7.56	HP-2
7	20/2	0	SPACE	b	8	|		
9	|			a	10	15/1	1.32	* E-1, LIGHTING, RECEPTACLE
11	20/1	1.5	* SMALL APPLIANCE	b	12	15/1	1.62	* BATH, RECEPTACLE
13	20/1	1.5	* LAUNDRY	a	14	30/2	5	* DRYER
15	30/2	4.5	* EWH	b	16	|		
17	|			a	18	15/1	0.1	*SMOKE DETECTOR
19	20/1	0	SPACE	b	20	20/1	0	SPACE
21	20/1	0	SPACE	a	22	20/1	0	SPACE
23	20/1	0	SPACE	b	24	20/1	0	SPACE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

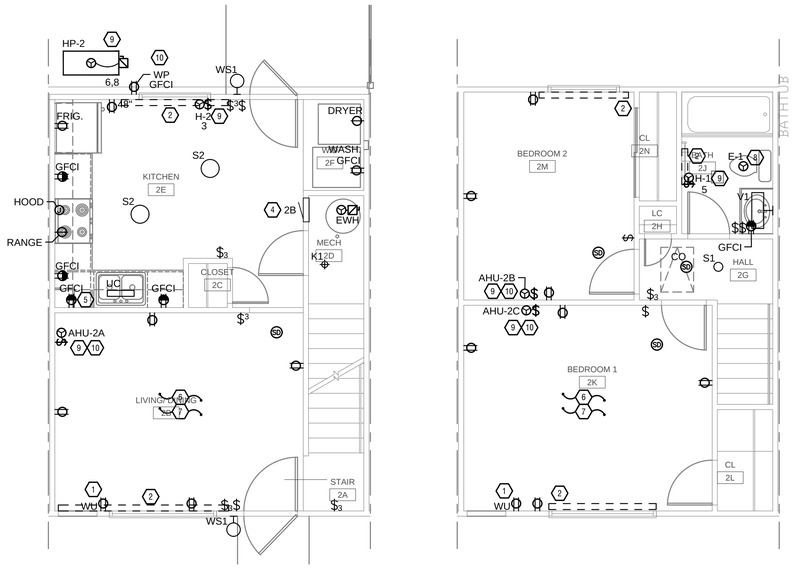
	CONN KVA			CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	2.57	857 SF (3 VA/SF)	GENERAL LOAD			
SMALL-APPLIANCE	3		UP TO 10 KVA	10	10	(100%)
LAUNDRY	1.5		OVER 10 KVA	15.1	6.03	(40%)
APPLIANCES	9.5		MAX HEATING OR COOLING		8.31	(220.82(C)(3))
ELECTRIC COOKING	8.5		TOTAL LOAD		24.3	
TOTAL GENERAL LOAD	25.1		BALANCED LOAD		101 A	
			PHASE A		103%	
			PHASE B		97.2%	

1. * DENOTES EXISTING CIRCUITRY TO REMAIN. VERIFY CIRCUITRY IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.

APPLIANCE BREAKDOWN	
TYPE	**KVA**
WATER HEATER	4.5
DRYER	5
TOTAL	**9.50**

HVAC Load Calculation	KVA	NEC Code
Heating	8.71	
Cooling	7.56	
Mini Split	0.00	
100% of Nameplate Rating of AC and Cooling	7.56	220.82 C(1)
100% of Nameplate Rating of Heat Pump w/o Supplmental Heat	0.00	220.82 C(2)
Heat Pump plus 65% of Supplemental Heat	8.31	220.82 C(3)
Largest Heating or Cooling Load	8.71	220.84 C(5)

Multi-Family Dwelling Unit Calc	KVA
Total General Load	25.07
Largest Heating or Cooling Load 220.84	8.71
220.84 CONNECTED LOAD CALC	**33.78**



1 / E209 UNIT 2

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

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STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 8 & 20
ELECTRICAL
ENLARGED UNITS

E209

KEYED SHEET NOTES

1. EXISTING WINDOW UNIT TO BE DEMO'D. REMOVE EXISTING SINGLE RECEPTACLE AND PROVIDE NEW DUPLEX RECEPTACLE.
2. EXISTING BASEBOARD HEATER TO BE REMOVED FROM PROJECT. DEMO ALL EXISTING WIRING AND HARDWARE INFRASTRUCTURE FOR HEATER BACK TO POINT OF ORIGIN.
3. EXISTING LIGHT SWITCH TO BE RELOCATED TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
4. LOCATION OF EXISTING ELECTRICAL PANEL. FIELD VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER, COORDINATE AND REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
5. PROVIDE SMALL APPLIANCE GFCI RECEPTACLE AT NEW LOCATION. MATCH HEIGHT WITH EXISTING COUNTER HEIGHT RECEPTACLES AND CIRCUIT TO EXISTING SMALL APPLIANCE CIRCUIT.
6. ALL DEVICES AND LIGHT FIXTURE LOCATIONS SHOWN, UNLESS OTHERWISE NOTED AS NEW, ARE EXISTING AND IN APPROXIMATE LOCATIONS, FIELD VERIFY EACH UNIT FOR QUANTITY AND TYPE OF EACH DEVICE.
7. REPLACE EXISTING GFCI RECEPTACLE AT ALL LOCATIONS, COORDINATE DEVICE AND COVER PLATE COLOR WITH OWNER AND ARCHITECT. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
8. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-1".
9. MECHANICAL UNIT PROVIDED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
10. DUCTLESS INDOOR UNIT POWERED FROM OUTDOOR UNIT. CONFIRM LOCATION AND DISCONNECTING MEANS WITH INSTALLING CONTRACTOR.
11. PROVIDE NEW WEATHERPROOF RECEPTACLE WITHIN 25' OF OUTDOOR HEAT PUMP.

DEMO NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL EXISTING BUILDING CONDITIONS PRIOR TO ANY DEMOLITION/NEW WORK PERFORMED. COORDINATE ALL WORK WITH OTHER BUILDING TRADES, REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK. ACTUAL DEMOLITION AMOUNT SHALL BE BASED ON FIELD VISIT BY CONTRACTOR.

B. ALL NECESSARY SHUT DOWN OF POWER MUST BE SCHEDULED SO AS NOT TO DISTURB OPERATION.

C. CONTRACTOR SHALL RETURN ALL DEMOLITION EQUIPMENT TO OWNER'S REPRESENTATIVE FOR SALVAGE, OR REMOVE FROM PREMISES AT OWNERS OPTION.

D. CONTRACTOR SHALL DISCONNECT ALL POWER AND LOW VOLTAGE WIRING FROM EQUIPMENT BEING REMOVED BY OTHER TRADES.

E. REMOVE ALL ELIMINATED CONDUIT AND WIRE FROM PROJECT AREA. PROVIDE FIRE STOPPING WHERE REQUIRED. ALL ABANDONED CONDUIT, AND DEVICES ENCASED IN CONCRETE SHALL BE CUT BACK FLUSH WITH SLAB. PATCH CONCRETE LEVEL WITH EXISTING SLAB.

F. ALL CIRCUITS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. ALL EXISTING CIRCUITS TO ITEMS TO REMAIN IN SERVICE SHALL BE MAINTAINED. ALL RELOCATING AND REROUTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

G. PRIOR TO DEMOLITION, FIELD VERIFY EXACT SIZE AND ROUTING OF ALL EXISTING WIRING TO BE ENCOUNTERED. CONTRACTOR SHALL REMOVE ALL ABANDONED OR UNUSED WIRING WITHIN HIS SCOPE OF WORK AND TERMINATE PROPERLY. ANY ACTIVE WIRING DISTURBED BY THIS WORK SHALL BE RECONNECTED PRIOR TO PROJECT CLOSEOUT.

H. ALL EQUIPMENT AND RECEPTACLE CIRCUITS BEING ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE UNLESS OTHERWISE NOTED.

I. ALL LIGHTING CIRCUITS ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE. RETAIN ALL FIXTURES FOR USE IN EXPANSION AREAS OR DISPOSAL BY OWNER.

GENERAL NOTES - DWELLING UNITS

A. PROVIDE AFCI PROTECTION IN ACCORDANCE WITH NEC 210.12. AFCI PROTECTION MUST BE PROVIDED WHERE EXISTING BRANCH CIRCUIT WIRING IS MODIFIED, OR RECEPTACLES ARE REPLACED, IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL INSPECTION REQUIREMENTS. REFER TO NEC 406.4 (D) AND NEC 210.12 (D)

B. FURNISH AND INSTALL SMOKE DETECTORS AS REQUIRED BY CODE. SMOKE DETECTORS SHOWN ON EBS DRAWINGS ARE INTENDED TO CONVEY GENERAL COMPLIANCE FOR BUILDING DEPARTMENT SUBMITTALS. PROVIDE INTERWIRING BETWEEN SMOKE DETECTORS LOCATED IN THE SAME UNIT. SMOKE DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP. FIRE ALARM AND/OR SMOKE DETECTOR SYSTEMS ARE FURNISHED ON A DESIGN-BUILD BASIS BY THE ELECTRICIAN.

C. THE INTENT OF DRAWINGS SHOWING SMOKE ALARM LOCATIONS IS TO DEMONSTRATE GENERAL CONFORMANCE WITH APPLICABLE CODES. ELECTRICAL CONTRACTOR TO COORDINATE FINAL PLACEMENT OF SMOKE ALARMS WITH ACTUAL CEILING CONFIGURATION, CEILING FAN LOCATIONS, DISTANCE TO BATHROOMS, DISTANCE TO COOKING APPLIANCES, ETC. AND INSTALL PER THE REQUIREMENTS OF APPLICABLE CODES.

D. WHERE CIRCUITING IS SHOWN TYPICAL FOR MULTIPLE UNITS, COORDINATE BREAKER/WIRE SIZES FOR EQUIPMENT FURNISHED BY OTHERS WITH SHOP DRAWINGS PROVIDED BY THE CONTRACTOR SUPPLYING THE EQUIPMENT. VERIFY BREAKER/WIRE SIZES FOR EQUIPMENT OR APPLIANCE FOR EACH UNIT PRIOR TO ROUGH-IN.

E. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATIONS OF ALL LIGHT FIXTURES.

F. PROVIDE CONDUIT AND PULL STRING TO APPROVED LOCATION FOR VOICE, DATA, AND CATV CABLES.

G. CIRCUITING ON DRAWINGS AND PANEL SCHEDULE IS SHOWN TYPICAL FOR SIMILAR UNITS. REFER TO DWELLING UNIT LOAD SUMMARIES FOR INDIVIDUAL DWELLING UNIT LOAD CALCULATIONS

H. COORDINATE RECEPTACLE, PHONE, AND TV DEVICE PLACEMENT WITH FURNITURE LOCATIONS. VERIFY WITH ARCHITECT PRIOR TO ROUGH IN. LOCATIONS SHOWN ON DRAWINGS ARE INTENDED TO CONVEY DESIGN INTENT, AND DEMONSTRATE GENERAL COMPLIANCE WITH CODE. WHERE ACTUAL STUD LOCATIONS REQUIRE DEVICE LOCATIONS TO BE ADJUSTED, ADDED OR MINOR VARIATIONS AMONG UNITS THAT ARE SHOWN AS "TYPICAL", ETC. OCCUR, CONTRACTOR, UNDER HIS BASE BID, TO MAKE NECESSARY ADJUSTMENTS / ADDITIONS IN THE FIELD TO MAINTAIN NEC DWELLING UNIT RECEPTACLE SPACING REQUIREMENTS. WHERE ACTUAL WINDOW CONSTRUCTION PROHIBITS THE INSTALLATION OF A WALL RECEPTACLE, PROVIDE FLOOR RECEPTACLE WITHIN 18 INCHES OF THE BASE OF THE WALL. PROVIDE TAMPER PROOF RECEPTACLES AS REQUIRED BY NEC ART. 406.12.

I. LIGHTING INSTALLED IN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 410.16.

J. GFCI/AFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.

B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.

C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.

D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.

G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

2B

ROOM	VOLTS **240/120V 2P 3W**	AIC **T.B.D.**
MOUNTING **FLUSH**	BUS AMPS **125**	MAIN BKR **MLO**
FED FROM	NEUTRAL **100%**	LUGS **STANDARD**
NOTE		

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1.5	* SMALL APPLIANCE	a	2	40/2	8.5	* RANGE
3	20/1	0.75	H-2	b	4	|		
5	20/1	0.4	H-1	a	6	40/2	7.56	HP-2
7	20/2	0	SPACE	b	8	|		
9	|			a	10	15/1	1.32	* E-1, LIGHTING, RECEPTACLE
11	20/1	1.5	* SMALL APPLIANCE	b	12	15/1	1.62	* BATH, RECEPTACLE
13	20/1	1.5	* LAUNDRY	a	14	30/2	5	* DRYER
15	30/2	4.5	* EWH	b	16	|		
17	|			a	18	15/1	0.1	*SMOKE DETECTOR
19	20/1	0	SPACE	b	20	20/1	0	SPACE
21	20/1	0	SPACE	a	22	20/1	0	SPACE
23	20/1	0	SPACE	b	24	20/1	0	SPACE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

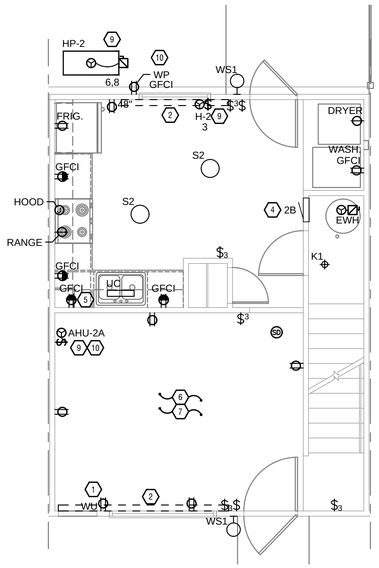
	CONN KVA			CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	2.57	857 SF (3 VA/SF)	GENERAL LOAD			
SMALL-APPLIANCE	3		UP TO 10 KVA	10	10	(100%)
LAUNDRY	1.5		OVER 10 KVA	15.1	6.03	(40%)
APPLIANCES	9.5		MAX HEATING OR COOLING		8.31	(220.82(C)(3))
ELECTRIC COOKING	8.5					
TOTAL GENERAL LOAD	25.1		TOTAL LOAD		24.3	
			BALANCED LOAD		101 A	
			PHASE A		103%	
			PHASE B		97.2%	

1. * DENOTES EXISTING CIRCUITRY TO REMAIN. VERIFY CIRCUITRY IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.

Multi-Family Dwelling Unit Calc	KVA
Total General Load	25.07
Largest Heating or Cooling Load 220.84	8.71
220.84 CONNECTED LOAD CALC	**33.78**

APPLIANCE BREAKDOWN	
TYPE	KVA
WATER HEATER	4.5
DRYER	5
TOTAL	**9.50**

HVAC Load Calculation	KVA	NEC Code
Heating	8.71	
Cooling	7.56	
Mini Split	0.00	
100% of Nameplate Rating of AC and Cooling	7.56	220.82 C(1)
100% of Nameplate Rating of Heat Pump w/o Supplmental Heat	0.00	220.82 C(2)
Heat Pump plus 65% of Supplemental Heat	8.31	220.82 C(3)
Largest Heating or Cooling Load	8.71	220.84 C(5)



1 / E210 UNIT 2

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

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PAUL R. SPRONG
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REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 19
ELECTRICAL
ENLARGED UNITS

E210

Z:\~Project Directories\10600 - 10699\10647 - Franklin Commons - Franklin, OH\~Construction Documents\~~~~BUILDING TYPE B\10647-E211-ELECTRICAL-POWER-ENLARGED-UNITS.dwg-EBS Plot Date/Time: Sep 12, 2024-9:12pm - By: andy.w

KEYED SHEET NOTES

1. EXISTING WINDOW UNIT TO BE DEMO'D. REMOVE EXISTING SINGLE RECEPTACLE AND PROVIDE NEW DUPLEX RECEPTACLE.
2. EXISTING BASEBOARD HEATER TO BE REMOVED FROM PROJECT. DEMO ALL EXISTING WIRING AND HARDWARE INFRASTRUCTURE FOR HEATER BACK TO POINT OF ORIGIN.
3. EXISTING LIGHT SWITCH TO BE RELOCATED TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
4. LOCATION OF EXISTING ELECTRICAL PANEL. FIELD VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER, COORDINATE AND REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
5. PROVIDE SMALL APPLIANCE GFCI RECEPTACLE AT NEW LOCATION. MATCH HEIGHT WITH EXISTING COUNTER HEIGHT RECEPTACLES AND CIRCUIT TO EXISTING SMALL APPLIANCE CIRCUIT.
6. ALL DEVICES AND LIGHT FIXTURE LOCATIONS SHOWN, UNLESS OTHERWISE NOTED AS NEW, ARE EXISTING AND IN APPROXIMATE LOCATIONS, FIELD VERIFY EACH UNIT FOR QUANTITY AND TYPE OF EACH DEVICE.
7. REPLACE EXISTING GFCI RECEPTACLE AT ALL LOCATIONS, COORDINATE DEVICE AND COVER PLATE COLOR WITH OWNER AND ARCHITECT. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
8. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-1".
9. MECHANICAL UNIT PROVIDED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
10. DUCTLESS INDOOR UNIT POWERED FROM OUTDOOR UNIT. CONFIRM LOCATION AND DISCONNECTING MEANS WITH INSTALLING CONTRACTOR.
11. PROVIDE NEW WEATHERPROOF RECEPTACLE WITHIN 25' OF OUTDOOR HEAT PUMP.
12. NOT USED.
13. EXISTING ELECTRICAL RECEPTACLE, LIGHT, DEVICE TO BE RELOCATED TO NEW LOCATION. PROVIDE NEW WIRING AS REQUIRED. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
14. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-2"
15. PROVIDE NEW RECEPTACLE AT LOCATION SHOWN. COORDINATE ROUTING OF WIRING WITH ARCHITECT AND GENERAL CONTRACTOR PRIOR TO ROUGH IN.
16. PROVIDE NEW PANEL OF SAME SIZE AND CAPACITY, REROUTE ALL EXISTING WIRING INTO NEW PANEL.
17. UNIT 952 FRANKLIN COMMONS DRIVE IS A HEARING AND VISUAL IMPAIRED UNITS, REFER TO HEARING AND VISUAL IMPAIRED NOTES FOR REQUIREMENTS.

DEMO NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL EXISTING BUILDING CONDITIONS PRIOR TO ANY DEMOLITION/NEW WORK PERFORMED. COORDINATE ALL WORK WITH OTHER BUILDING TRADES, REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK. ACTUAL DEMOLITION AMOUNT SHALL BE BASED ON FIELD VISIT BY CONTRACTOR.
B. ALL NECESSARY SHUT DOWN OF POWER MUST BE SCHEDULED SO AS NOT TO DISTURB OPERATION.
C. CONTRACTOR SHALL RETURN ALL DEMOLITION EQUIPMENT TO OWNER'S REPRESENTATIVE FOR SALVAGE, OR REMOVE FROM PREMISES AT OWNERS OPTION.
D. CONTRACTOR SHALL DISCONNECT ALL POWER AND LOW VOLTAGE WIRING FROM EQUIPMENT BEING REMOVED BY OTHER TRADES.
E. REMOVE ALL ELIMINATED CONDUIT AND WIRE FROM PROJECT AREA. PROVIDE FIRE STOPPING WHERE REQUIRED. ALL ABANDONED CONDUIT, AND DEVICES ENCASED IN CONCRETE SHALL BE CUT BACK FLUSH WITH SLAB. PATCH CONCRETE LEVEL WITH EXISTING SLAB.
F. ALL CIRCUITS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. ALL EXISTING CIRCUITS TO ITEMS TO REMAIN IN SERVICE SHALL BE MAINTAINED. ALL RELOCATING AND REROUTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
G. PRIOR TO DEMOLITION, FIELD VERIFY EXACT SIZE AND ROUTING OF ALL EXISTING WIRING TO BE ENCOUNTERED. CONTRACTOR SHALL REMOVE ALL ABANDONED OR UNUSED WIRING WITHIN HIS SCOPE OF WORK AND TERMINATE PROPERLY. ANY ACTIVE WIRING DISTURBED BY THIS WORK SHALL BE RECONNECTED PRIOR TO PROJECT CLOSEOUT.
H. ALL EQUIPMENT AND RECEPTACLE CIRCUITS BEING ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE UNLESS OTHERWISE NOTED.
I. ALL LIGHTING CIRCUITS ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE. RETAIN ALL FIXTURES FOR USE IN EXPANSION AREAS OR DISPOSAL BY OWNER.

GENERAL NOTES - DWELLING UNITS

A. PROVIDE AFCI PROTECTION IN ACCORDANCE WITH NEC 210.12. AFCI PROTECTION MUST BE PROVIDED WHERE EXISTING BRANCH CIRCUIT WIRING IS MODIFIED, OR RECEPTACLES ARE REPLACED, IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL INSPECTION REQUIREMENTS. REFER TO NEC 406.4 (D) AND NEC 210.12 (D)
B. FURNISH AND INSTALL SMOKE DETECTORS AS REQUIRED BY CODE. SMOKE DETECTORS SHOWN ON EBS DRAWINGS ARE INTENDED TO CONVEY GENERAL COMPLIANCE FOR BUILDING DEPARTMENT SUBMITTALS. PROVIDE INTERWIRING BETWEEN SMOKE DETECTORS LOCATED IN THE SAME UNIT. SMOKE DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP. FIRE ALARM AND/OR SMOKE DETECTOR SYSTEMS ARE FURNISHED ON A DESIGN-BUILD BASIS BY THE ELECTRICIAN.
C. THE INTENT OF DRAWINGS SHOWING SMOKE ALARM LOCATIONS IS TO DEMONSTRATE GENERAL CONFORMANCE WITH APPLICABLE CODES. ELECTRICAL CONTRACTOR TO COORDINATE FINAL PLACEMENT OF SMOKE ALARMS WITH ACTUAL CEILING CONFIGURATION, CEILING FAN LOCATIONS, DISTANCE TO BATHROOMS, DISTANCE TO COOKING APPLIANCES, ETC. AND INSTALL PER THE REQUIREMENTS OF APPLICABLE CODES.
D. WHERE CIRCUITING IS SHOWN TYPICAL FOR MULTIPLE UNITS, COORDINATE BREAKER/WIRE SIZES FOR EQUIPMENT FURNISHED BY OTHERS WITH SHOP DRAWINGS PROVIDED BY THE CONTRACTOR SUPPLYING THE EQUIPMENT. VERIFY BREAKER/WIRE SIZES FOR EQUIPMENT OR APPLIANCE FOR EACH UNIT PRIOR TO ROUGH-IN.
E. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATIONS OF ALL LIGHT FIXTURES.
F. PROVIDE CONDUIT AND PULL STRING TO APPROVED LOCATION FOR VOICE, DATA, AND CATV CABLES.
G. CIRCUITING ON DRAWINGS AND PANEL SCHEDULE IS SHOWN TYPICAL FOR SIMILAR UNITS. REFER TO DWELLING UNIT LOAD SUMMARIES FOR INDIVIDUAL DWELLING UNIT LOAD CALCULATIONS
H. COORDINATE RECEPTACLE, PHONE, AND TV DEVICE PLACEMENT WITH FURNITURE LOCATIONS. VERIFY WITH ARCHITECT PRIOR TO ROUGH IN. LOCATIONS SHOWN ON DRAWINGS ARE INTENDED TO CONVEY DESIGN INTENT, AND DEMONSTRATE GENERAL COMPLIANCE WITH CODE. WHERE ACTUAL STUD LOCATIONS REQUIRE DEVICE LOCATIONS TO BE ADJUSTED, ADDED OR MINOR VARIATIONS AMONG UNITS THAT ARE SHOWN AS “TYPICAL”, ETC. OCCUR, CONTRACTOR, UNDER HIS BASE BID, TO MAKE NECESSARY ADJUSTMENTS / ADDITIONS IN THE FIELD TO MAINTAIN NEC DWELLING UNIT RECEPTACLE SPACING REQUIREMENTS. WHERE ACTUAL WINDOW CONSTRUCTION PROHIBITS THE INSTALLATION OF A WALL RECEPTACLE, PROVIDE FLOOR RECEPTACLE WITHIN 18 INCHES OF THE BASE OF THE WALL. PROVIDE TAMPER PROOF RECEPTACLES AS REQUIRED BY NEC ART. 406.12.
I. LIGHTING INSTALLED IN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 410.16.
J. GFCI/AFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.
B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.
C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.
D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.
E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.
F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.
G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.
H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.
I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

HEARING/VISUAL IMPAIRED UNIT NOTES

A. PROVIDE AUDIBLE AND VISUAL SMOKE DETECTOR DEVICES.
B. SEPARATE STROBE (NOTIFIER ONLY) TO BE INSTALLED IN THE BATHROOM CONNECTED IN PARALLEL TO THE LOCAL UNIT SMOKE DETECTOR (GENTEX GXS-120 OR EQUAL)
C. INSTALL HARDWIRED DOORBELL. THE NOTIFIER INSIDE THE UNIT SHALL BE BOTH AUDIBLE AND VISUAL. EDWARDS CFA SERIES (6536-G5) HORNSTROBE, 600 SERIES BUTTON AND 590 SERIES TRANSFORMER - OR EQUAL.

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.
B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.
C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.
D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.

3B

ROOM
MOUNTING FLUSH
FED FROM
NOTE

VOLTS 240/120V 2P 3W
BUS AMPS 125
NEUTRAL 100%

AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	40/2	8.5	* RANGE	a	2	30/2	5	* DRYER
3	|			b	4	|		
5	40/2	8.64	HP–3	a	6	30/2	4.5	* EWH
7	|			b	8	|		
9	20/1	0.4	H–1	a	10	15/2	1.25	AHU–3
11	20/1	0.4	H–1	b	12	|		
13	15/1	1.41	* E–1, LIGHTING, RECEPTACLE	a	14	20/2	0	SPACE
15	20/1	1.5	* LAUNDRY	b	16	|		
17	15/1	1.08	* BATH, RECEPTACLE	a	18	15/1	1.68	* BATH, E–1, LIGHTING, RECEPTACLE
19	20/1	0	SPACE	b	20	20/1	1.5	* SMALL APPLIANCE
21	20/1	0	SPACE	a	22	20/1	1.5	* SMALL APPLIANCE
23	20/1	0	SPACE	b	24	20/1	0	SPACE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

	CONN KVA	
LIGHTING AND RECEPTACLES	3.12	1,040 SF (3 VA/SF)
SMALL-APPLIANCE	3	
LAUNDRY	1.5	
APPLIANCES	9.5	
ELECTRIC COOKING	8.5	
MOTORS	1.25	
TOTAL GENERAL LOAD	26.9	

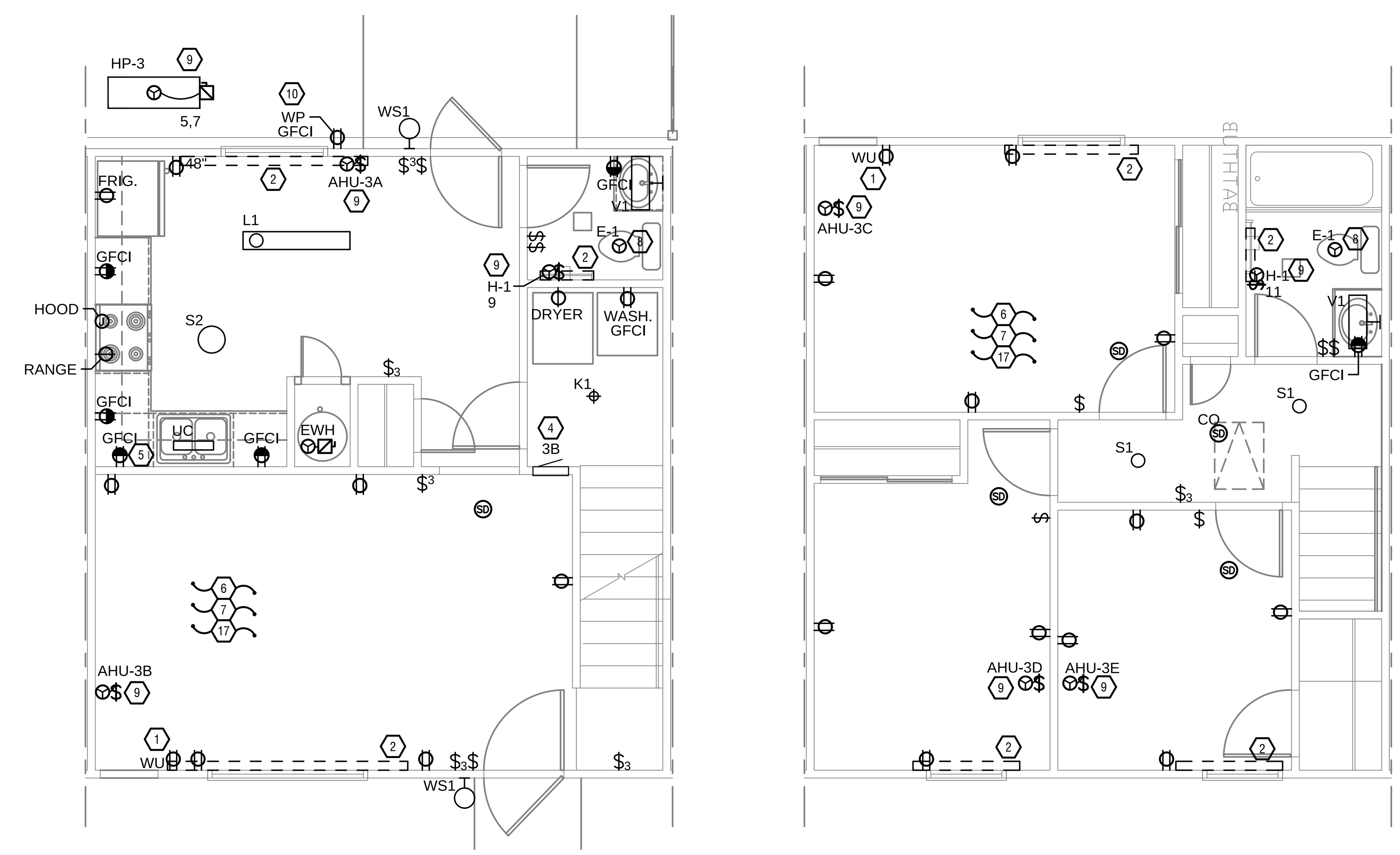
	CONN KVA	CALC KVA	
GENERAL LOAD			
UP TO 10 KVA	10	10	(100%)
OVER 10 KVA	16.9	6.75	(40%)
MAX HEATING OR COOLING		9.16	(220.82(C)(3))
TOTAL LOAD		25.9	
BALANCED LOAD		108 A	
PHASE A		107%	
PHASE B		92.9%	

1. * DENOTES EXISTING CIRCUITRY TO REMAIN. VERIFY CIRCUITRY IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.

Multi-Family Dwelling Unit Calc	KVA
Total General Load	26.89
Largest Heating or Cooling Load 220.84	9.44
220.84 CONNECTED LOAD CALC	**36.33**

APPLIANCE BREAKDOWN	
TYPE	KVA
WATER HEATER	4.5
AIR HANDLER UNIT	1.25
DRYER	5
TOTAL	**10.75**

HVAC Load Calculation	KVA	NEC Code
Heating	9.44	
Cooling	8.64	
Mini Split	0.00	
100% of Nameplate Rating of AC and Cooling	8.64	220.82 C(1)
100% of Nameplate Rating of Heat Pump w/o Supplmental Heat	0.00	220.82 C(2)
Heat Pump plus 65% of Supplemental Heat	9.16	220.82 C(3)
Largest Heating or Cooling Load	9.44	220.84 C(5)



1
E211
UNIT 3
SCALE: 1/4" = 1'-0"

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STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 18

ELECTRICAL
ENLARGED UNITS

E211

KEYED SHEET NOTES

1. EXISTING WINDOW UNIT TO BE DEMO'D. REMOVE EXISTING SINGLE RECEPTACLE AND PROVIDE NEW DUPLEX RECEPTACLE.
2. EXISTING BASEBOARD HEATER TO BE REMOVED FROM PROJECT. DEMO ALL EXISTING WIRING AND HARDWARE INFRASTRUCTURE FOR HEATER BACK TO POINT OF ORIGIN.
3. EXISTING LIGHT SWITCH TO BE RELOCATED TO NEW LOCATION, PROVIDE NEW WIRING AND HARDWARE AS REQUIRED.
4. LOCATION OF EXISTING ELECTRICAL PANEL. FIELD VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER. COORDINATE AND REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
5. PROVIDE SMALL APPLIANCE GFCI RECEPTACLE AT NEW LOCATION. MATCH HEIGHT WITH EXISTING COUNTER HEIGHT RECEPTACLES AND CIRCUIT TO EXISTING SMALL APPLIANCE CIRCUIT.
6. ALL DEVICES AND LIGHT FIXTURE LOCATIONS SHOWN, UNLESS OTHERWISE NOTED AS NEW, ARE EXISTING AND IN APPROXIMATE LOCATIONS, FIELD VERIFY EACH UNIT FOR QUANTITY AND TYPE OF EACH DEVICE.
7. REPLACE EXISTING GFCI RECEPTACLE AT ALL LOCATIONS, COORDINATE DEVICE AND COVER PLATE COLOR WITH OWNER AND ARCHITECT. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
8. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-1".
9. MECHANICAL UNIT PROVIDED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. VERIFY ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
10. DUCTLESS INDOOR UNIT POWERED FROM OUTDOOR UNIT. CONFIRM LOCATION AND DISCONNECTING MEANS WITH INSTALLING CONTRACTOR.
11. PROVIDE NEW WEATHERPROOF RECEPTACLE WITHIN 25' OF OUTDOOR HEAT PUMP.
12. NOT USED.
13. EXISTING ELECTRICAL RECEPTACLE, LIGHT, DEVICE TO BE RELOCATED TO NEW LOCATION. PROVIDE NEW WIRING AS REQUIRED. FIELD VERIFY THAT WIRING IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT.
14. DISCONNECT EXISTING BATHROOM FAN AND RECONNECT TO NEW BATHROOM FAN "E-2"
15. PROVIDE NEW RECEPTACLE AT LOCATION SHOWN. COORDINATE ROUTING OF WIRING WITH ARCHITECT AND GENERAL CONTRACTOR PRIOR TO ROUGH IN.
16. PROVIDE NEW PANEL OF SAME SIZE AND CAPACITY, REROUTE ALL EXISTING WIRING INTO NEW PANEL.
17. UNIT 952 FRANKLIN COMMONS DRIVE IS A HEARING AND VISUAL IMPAIRED UNITS, REFER TO HEARING AND VISUAL IMPAIRED NOTES FOR REQUIREMENTS.

DEMO NOTES

A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL EXISTING BUILDING CONDITIONS PRIOR TO ANY DEMOLITION/NEW WORK PERFORMED. COORDINATE ALL WORK WITH OTHER BUILDING TRADES, REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK. ACTUAL DEMOLITION AMOUNT SHALL BE BASED ON FIELD VISIT BY CONTRACTOR.

B. ALL NECESSARY SHUT DOWN OF POWER MUST BE SCHEDULED SO AS NOT TO DISTURB OPERATION.

C. CONTRACTOR SHALL RETURN ALL DEMOLITION EQUIPMENT TO OWNER'S REPRESENTATIVE FOR SALVAGE, OR REMOVE FROM PREMISES AT OWNERS OPTION.

D. CONTRACTOR SHALL DISCONNECT ALL POWER AND LOW VOLTAGE WIRING FROM EQUIPMENT BEING REMOVED BY OTHER TRADES.

E. REMOVE ALL ELIMINATED CONDUIT AND WIRE FROM PROJECT AREA. PROVIDE FIRE STOPPING WHERE REQUIRED. ALL ABANDONED CONDUIT, AND DEVICES ENCASED IN CONCRETE SHALL BE CUT BACK FLUSH WITH SLAB. PATCH CONCRETE LEVEL WITH EXISTING SLAB.

F. ALL CIRCUITS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. ALL EXISTING CIRCUITS TO ITEMS TO REMAIN IN SERVICE SHALL BE MAINTAINED. ALL RELOCATING AND REROUTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

G. PRIOR TO DEMOLITION, FIELD VERIFY EXACT SIZE AND ROUTING OF ALL EXISTING WIRING TO BE ENCOUNTERED. CONTRACTOR SHALL REMOVE ALL ABANDONED OR UNUSED WIRING WITHIN HIS SCOPE OF WORK AND TERMINATE PROPERLY. ANY ACTIVE WIRING DISTURBED BY THIS WORK SHALL BE RECONNECTED PRIOR TO PROJECT CLOSEOUT.

H. ALL EQUIPMENT AND RECEPTACLE CIRCUITS BEING ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE UNLESS OTHERWISE NOTED.

I. ALL LIGHTING CIRCUITS ELIMINATED IN DEMO TO BE REMOVED BACK TO SOURCE. RETAIN ALL FIXTURES FOR USE IN EXPANSION AREAS OR DISPOSAL BY OWNER.

GENERAL NOTES - DWELLING UNITS

A. PROVIDE AFCI PROTECTION IN ACCORDANCE WITH NEC 210.12. AFCI PROTECTION MUST BE PROVIDED WHERE EXISTING BRANCH CIRCUIT WIRING IS MODIFIED, OR RECEPTACLES ARE REPLACED, IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL INSPECTION REQUIREMENTS. REFER TO NEC 406.4 (D) AND NEC 210.12 (D)

B. FURNISH AND INSTALL SMOKE DETECTORS AS REQUIRED BY CODE. SMOKE DETECTORS SHOWN ON EBS DRAWINGS ARE INTENDED TO CONVEY GENERAL COMPLIANCE FOR BUILDING DEPARTMENT SUBMITTALS. PROVIDE INTERWIRING BETWEEN SMOKE DETECTORS LOCATED IN THE SAME UNIT. SMOKE DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP. FIRE ALARM AND/OR SMOKE DETECTOR SYSTEMS ARE FURNISHED ON A DESIGN-BUILD BASIS BY THE ELECTRICIAN.

C. THE INTENT OF DRAWINGS SHOWING SMOKE ALARM LOCATIONS IS TO DEMONSTRATE GENERAL CONFORMANCE WITH APPLICABLE CODES. ELECTRICAL CONTRACTOR TO COORDINATE FINAL PLACEMENT OF SMOKE ALARMS WITH ACTUAL CEILING CONFIGURATION, CEILING FAN LOCATIONS, DISTANCE TO BATHROOMS, DISTANCE TO COOKING APPLIANCES, ETC. AND INSTALL PER THE REQUIREMENTS OF APPLICABLE CODES.

D. WHERE CIRCUITING IS SHOWN TYPICAL FOR MULTIPLE UNITS, COORDINATE BREAKER/WIRE SIZES FOR EQUIPMENT FURNISHED BY OTHERS WITH SHOP DRAWINGS PROVIDED BY THE CONTRACTOR SUPPLYING THE EQUIPMENT. VERIFY BREAKER/WIRE SIZES FOR EQUIPMENT OR APPLIANCE FOR EACH UNIT PRIOR TO ROUGH-IN.

E. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATIONS OF ALL LIGHT FIXTURES.

F. PROVIDE CONDUIT AND PULL STRING TO APPROVED LOCATION FOR VOICE, DATA, AND CATV CABLES.

G. CIRCUITING ON DRAWINGS AND PANEL SCHEDULE IS SHOWN TYPICAL FOR SIMILAR UNITS. REFER TO DWELLING UNIT LOAD SUMMARIES FOR INDIVIDUAL DWELLING UNIT LOAD CALCULATIONS

H. COORDINATE RECEPTACLE, PHONE, AND TV DEVICE PLACEMENT WITH FURNITURE LOCATIONS. VERIFY WITH ARCHITECT PRIOR TO ROUGH IN. LOCATIONS SHOWN ON DRAWINGS ARE INTENDED TO CONVEY DESIGN INTENT, AND DEMONSTRATE GENERAL COMPLIANCE WITH CODE. WHERE ACTUAL STUD LOCATIONS REQUIRE DEVICE LOCATIONS TO BE ADJUSTED, ADDED OR MINOR VARIATIONS AMONG UNITS THAT ARE SHOWN AS "TYPICAL", ETC. OCCUR, CONTRACTOR, UNDER HIS BASE BID, TO MAKE NECESSARY ADJUSTMENTS / ADDITIONS IN THE FIELD TO MAINTAIN NEC DWELLING UNIT RECEPTACLE SPACING REQUIREMENTS. WHERE ACTUAL WINDOW CONSTRUCTION PROHIBITS THE INSTALLATION OF A WALL RECEPTACLE, PROVIDE FLOOR RECEPTACLE WITHIN 18 INCHES OF THE BASE OF THE WALL. PROVIDE TAMPER PROOF RECEPTACLES AS REQUIRED BY NEC ART. 406.12.

I. LIGHTING INSTALLED IN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 410.16.

J. GFCI/AFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

GENERAL NOTES - POWER

A. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT/CABLE ROUTING. COORDINATE ROUTING WITH ALL OTHER TRADES AND BUILDING CONDITIONS.

B. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC.

C. PROVIDE MOTOR STARTERS FOR EQUIPMENT AS INDICATED ON DRAWINGS. COORDINATE ANY INTERLOCKING WIRING WITH HVAC CONTRACTOR AND PROVIDE WIRING, COILS, AND AUXILIARY CONTACTS AS NECESSARY. SIZE ALL CIRCUITS FOR ACTUAL EQUIPMENT TO BE CONNECTED.

D. ALL PANELS AND DISCONNECTS LOCATED OUTDOORS SHALL BE LABELED NEMA 3R.

E. ROOF MOUNTED AND OUTDOOR EQUIPMENT SHALL HAVE 120V RECEPTACLE MOUNTED WITHIN 25' OF EACH PIECE. RECEPTACLES SHALL BE IN WEATHER PROOF BOX AND HAVE GFCI PROTECTION.

F. FOR ITEMS FURNISHED BY OTHER TRADES, ELECTRICAL CONTRACTOR TO FULLY COORDINATE BREAKER AND WIRE SIZES WITH ACTUAL EQUIPMENT BEING CONNECTED PRIOR TO ROUGH-IN, OR INSTALLATION. THE SIZES ON PANEL SCHEDULES REFER TO BASIS OF DESIGN SELECTIONS, AND ACTUAL ITEMS MAY DEVIATE FROM BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM REQUIRED WIRE AND BREAKER SIZES WITH THE CONTRACTOR FURNISHING THE EQUIPMENT.

G. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR ALL DEVICE MOUNTING HEIGHTS.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

I. GFCI DEVICES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS AND NOT PLACED BEHIND EQUIPMENT.

HEARING/VISUAL IMPAIRED UNIT NOTES

A. PROVIDE AUDIBLE AND VISUAL SMOKE DETECTOR DEVICES.

B. SEPARATE STROBE (NOTIFIER ONLY) TO BE INSTALLED IN THE BATHROOM CONNECTED IN PARALLEL TO THE LOCAL UNIT SMOKE DETECTOR (GENTEX GXS-120 OR EQUAL)

C. INSTALL HARDWIRED DOORBELL. THE NOTIFIER INSIDE THE UNIT SHALL BE BOTH AUDIBLE AND VISUAL. EDWARDS CFA SERIES (6536-G5) HORNSTROBE, 600 SERIES BUTTON AND 590 SERIES TRANSFORMER - OR EQUAL.

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

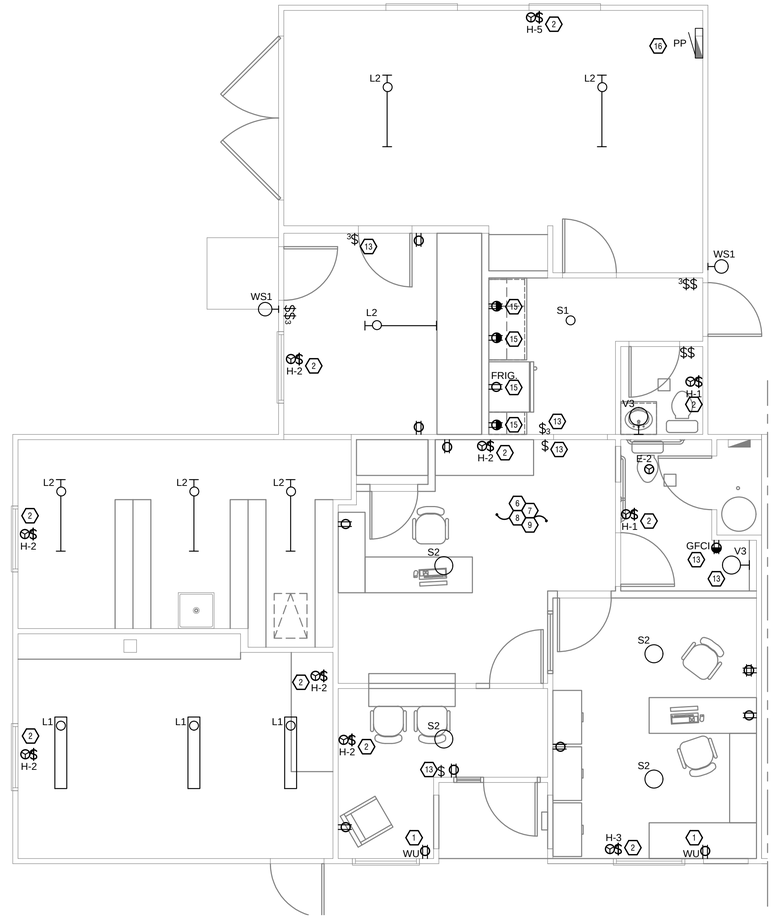
GENERAL NOTES - LIGHTING

A. REFER TO ARCHITECT'S PLANS AND ELEVATIONS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.

B. PROVIDE HOLD-ON-TYPE BREAKERS FOR EGRESS/EMERGENCY LIGHTING CIRCUITS. WIRE ALL EGRESS/EMERGENCY FIXTURES AHEAD OF ANY LOCAL SWITCHING.

C. LIGHT FIXTURES CONTROLLED BY SWITCH IN SAME ROOM UNLESS OTHERWISE NOTED.

D. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.



1 / E212 OFFICE
SCALE: 1/4" = 1'-0"

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PROFESSIONAL ENGINEER

REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 18
ELECTRICAL
ENLARGED UNITS

E212

ELECTRICAL SPECIFICATIONS

1. GENERAL DEMOLITION
   a. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, BASE BUILDING SPECIFICATIONS AND DRAWINGS, SHOP DRAWING MANUALS AND AS-BUILT PLANS, EXCEPT AS NOTED HEREIN, WHICH APPLY IN ALL RESPECTS TO THIS SECTION. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING THE WORK
2. USE OF DRAWINGS AND SPECIFICATIONS
   a. EBS DRAWINGS AND SPECIFICATIONS ARE INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL ELECTRICAL SYSTEM ARE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. STANDARDS
   a. MATERIALS EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF NEC, ASTM, UL, ETL, NEMA, ANSI, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.
4. CODES
   a. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE ELECTRICAL CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT ANY EXTRA COST TO OWNER.
5. PERMITS AND FEES
   a. THE ELECTRICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE THE ELECTRICAL WORK.
6. WARRANTY
   a. THE ELECTRICAL CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE, AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.
7. SITE EXAMINATION
   a. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY EXAMINE ALL AREAS OF WORK WHERE EQUIPMENT WILL BE INSTALLED AND SHALL REPORT ANY CONDITION THAT, IN HIS OPINION, PREVENTS THE PROPER INSTALLATION OF THE ELECTRICAL WORK PRIOR TO BID. HE SHALL ALSO EXAMINE THE DRAWINGS AND SPECIFICATIONS OF OTHER BRANCHES OF WORK MAKING REFERENCE TO THEM FOR DETAILS OF NEW OR EXISTING BUILDING CONDITIONS.
   b. ALL WORK SHALL BE DONE AT TIMES CONVENIENT TO THE OWNER AND ONLY DURING NORMAL WORKING HOURS, UNLESS SPECIFIED OTHERWISE.
   c. ELECTRICAL CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AND BE RESPONSIBLE FOR THEM.
   d. ACCESS PANELS ARE NOT SHOWN ON DRAWINGS. DURING SITE EXAMINATION, CONTRACTOR SHALL IDENTIFY ALL AREAS WHERE ACCESS PANELS ARE REQUIRED, AND REPORT TO GENERAL CONTRACTOR. DESIGNATION OF WHO FURNISHES AND WHO INSTALLS ACCESS PANELS MUST BE COORDINATED WITH GENERAL CONTRACTOR PRIOR TO STARTING WORK.
8. CONTRACTOR COORDINATION.
   a. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. WHERE THE ELECTRICAL CONTRACTOR IS MAKING A CONNECTION TO EQUIPMENT/COMPONENTS THAT ARE FURNISHED BY OTHERS, ELECTRICAL CONTRACTOR TO VERIFY ALL CONNECTION REQUIREMENTS WITH ACTUAL EQUIPMENT BEING CONNECTED, INCLUDING BUT NOT LIMITED TO OCP SIZE, MEANS OF DISCONNECT, SPECIAL CONNECTION REQUIREMENTS, OR OTHER ITEMS INDICATED ON SHOP DRAWINGS, OR MANUFACTURER'S INSTALLATION INSTRUCTIONS AND/OR INSTALLATION DIAGRAMS, AND FURNISH ALL LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION AND OPERATION OF THE EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR FAILURE TO COORDINATE, AFTER ELECTRICAL CONNECTIONS HAVE BEEN INSTALLED.
   b. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
   c. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS; USE ACTUAL BUILDING DIMENSIONS.
   d. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE ELECTRICAL CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
9. UTILITY COORDINATION
   a. ELECTRICAL CONTRACTOR TO VERIFY INSTALLATION OF METERING AND UTILITY DEMARCATION EQUIPMENT WITH UTILITY PROVIDER PRIOR TO START OF WORK AND FURNISH AND INSTALL REQUIRED ITEMS PER UTILITY COMPANY'S INSTALLATION REQUIREMENTS AND/OR MANUALS.
10. SUBMITTALS
   a. PRODUCTS INSTALLED BY THE ELECTRICAL CONTRACTOR AND PROVIDED BY OTHERS MUST BE SUBMITTED FOR REVIEW PRIOR TO PURCHASING. PRODUCTS SHALL NOT BE SELECTED BASED ON PERMIT DRAWINGS WITHOUT EXPRESS PERMISSION - PRODUCTS SHALL BE SELECTED BASED ON CONSTRUCTION DRAWINGS.
11. RECORD DRAWING
   a. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING RECORD DRAWINGS WHERE REQUIRED. DRAWINGS SHALL BE PRODUCED IN AUTOCAD 2004 FORMAT OR LATER.
12. SHOP DRAWINGS
   a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE ELECTRICAL CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
   c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE ELECTRICAL CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
13. TESTING
   a. ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. BALANCE ALL BRANCH CIRCUIT LOADS BETWEEN THE PHASES OF THE SYSTEM TO WITHIN 10% OF THE HIGHEST PHASE LOAD IN EACH PANELBOARD.
14. TEMPORARY POWER
   a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL WIRING FOR CONSTRUCTION. THE TEMPORARY SERVICE SHALL BE A MINIMUM OF 60 AMPS, SINGLE PHASE, THREE WIRE, 120/208 VOLTS FUSED AT MAIN DISCONNECT. ALL RECEPTACLES ON THIS TEMPORARY SERVICE SHALL BE PROTECTED BY A GFI BREAKER.
15. MECHANICAL EQUIPMENT
   a. ALL FINAL CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL CONTRACTOR.
16. DEMOLITION
   a. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEENERGIZING CIRCUITS IN DEMOLITION AREAS TO INSURE A SAFE CONDITION. ELECTRICAL DEVICES AND ASSOCIATED WIRING LOCATED WITHIN THE DEMOLITION AREA THAT WILL NO LONGER BE USED SHALL BE REMOVED AND PROPERLY DISPOSED OF AT CONTRACTOR'S EXPENSE UNLESS OTHERWISE NOTED.
17. POWER OUTAGES
   a. THE ELECTRICAL CONTRACTOR SHALL SCHEDULE ALL ELECTRICAL SYSTEM(S) OUTAGES WITH THE GENERAL CONTRACTOR AND OWNER AT LEAST 24 HOURS IN ADVANCE. UNLESS APPROVED OTHERWISE ALL OUTAGES SHALL OCCUR BETWEEN 11:00PM AND 5:00AM.
18. GROUNDING AND BONDING
   a. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250.
   b. ANY GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.
19. MATERIALS
   a. PROVIDE ALL NEW MATERIAL AND EQUIPMENT UNLESS NOTED OTHERWISE. ALL EQUIPMENT SHALL BE UL APPROVED AND LABELED, OR OTHER APPROVED TESTING ORGANIZATION WHICH HAS ACCEPTANCE BY THE LOCAL JURISDICTION, FOR THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS. NO SUBSTITUTION TO MATERIALS SPECIFIED WILL BE ALLOWED UNLESS APPROVED BY THE OWNER.
   b. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED. NO ALLOWANCES WILL BE MADE FOR ANY CHANGES THAT OCCUR IF PERMIT DRAWINGS HAVE NOT BEEN APPROVED PRIOR TO ORDERING.
20. CUTTING AND FITTING
   a. PERFORM CUTTING, CORING, FITTING, REPAIRING AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBER SHALL BE DONE WITHOUT THE CONSENT OF THE OWNER. PROPERLY FILL, SEAL, FIREPROOF, AND WATERPROOF ALL OPENINGS, SLEEVES, AND HOLES IN SLABS, WALLS, AND CASEWORK.
21. WIRING METHODS
   a. PROVIDE CODE APPROVED WIRING METHODS FOR BRANCH CIRCUITING INDOORS, SUCH AS NM CABLE (ONLY WHERE PERMITTED BY NEC 334), EMT CONDUIT, OR MC CABLE FOR MECHANICAL EQUIPMENT, LIGHTING, AND POWER.
   b. CONDUIT RUNS ON EXTERIOR OF BUILDING SHALL BE RIGID STEEL CONDUIT WITH WEATHER TIGHT, CORROSION-RESISTANT FITTINGS. SCHEDULE 40 PVC IS ACCEPTABLE WHERE PERMITTED BY CODE AND OR UNDERGROUND RUNS OR CONCRETE ENCASEMENT WHERE NOT EXPOSED TO PHYSICAL DAMAGE.
   c. THE MINIMUM SIZE OF CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED. CONDUIT CONNECTORS SHALL BE DOUBLE LOCKNUT TYPE, UL LISTED AND LABELED, WITH COMPRESSION OR SET SCREW FITTINGS.
   d. RIGID CONDUIT SHALL BE HOT DIPPED GALVANIZED.
   e. WHERE RACEWAYS ARE INSTALLED FOR OTHERS TO USE, OR FOR FUTURE USE, PROVIDE NYLON PULL STRING.
   f. PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE SEALED USING 3M FIRE BARRIER CAULK, NELSON ELECTRIC FLAMESEAL OR T&B FLAMESAFE OR OTHER APPROVED METHOD.
22. CONDUCTORS AND TERMINATIONS
   a. BRANCH CONDUCTORS SHALL BE COPPER, FEEDERS AS INDICATED ON RISER DIAGRAM. CONDUCTORS SHALL BE INSULATED FOR 600V NUMBER 12 AWG MINIMUM. PROVIDE WIRES AND CABLES AS INDICATED LISTED AND SUITABLE FOR TEMPERATURE, CONDITIONS, AND LOCATION WHERE INSTALLED.
23. MOTORS AND OTHER WIRING
   a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED CONDUIT, WIRING, AND SAFETY SWITCHES FOR ALL MOTORS, AND OTHER ELECTRICAL EQUIPMENT, EVEN THOUGH THE MOTORS AND ELECTRICAL EQUIPMENT MAY BE SUPPLIED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE ALL WORK AND CONNECTIONS REQUIRED TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL. PROVIDE MAGNETIC STARTERS FOR EQUIPMENT AS INDICATED ON THE DRAWINGS.
   b. THE ELECTRICAL EQUIPMENT MAY INCLUDE BUT NOT BE LIMITED TO SUCH ITEMS AS GRILLE MOTORS AND INTERLOCKS, EXTERIOR AND INTERIOR SIGNAGE, STARTING DEVICES, MOTOR CONTROLLERS, FLOAT SWITCHES, ALARM DEVICES OR SYSTEMS, PUSH BUTTONS, EXHAUST FANS, DATA SYSTEMS, INTERCOMS AND STEREO SYSTEMS. THE ELECTRICAL CONTRACTOR SHALL VERIFY EQUIPMENT LOCATION AND SIZES WITH THE TRADE SUPPLYING THE EQUIPMENT BEFORE INSTALLING THE CONDUIT OR OUTLETS.
24. DEVICES
   a. HUBBELL, LEVITON, OR APPROVED EQUAL WITH MATCHING COVERPLATES.
   b. PROVIDE SPECIFICATION GRADE WIRING DEVICES, IN TYPES, CHARACTERISTICS, GRADES, COLORS, AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED, WHICH ARE UL-LISTED AND WHICH COMPLY WITH NEMA WD1 AND OTHER APPLICABLE UL AND NEMA STANDARDS. VERIFY COLOR SELECTIONS WITH ARCHITECT. PROVIDE DEVICE PLATES TO MATCH DEVICE COLORS.
   c. PROVIDE GFCI PROTECTION FOR ALL KITCHEN 15 AND 20-AMP RECEPTACLES. WHERE THE RECEPTACLE IS RENDERED INACCESSIBLE BY EQUIPMENT PROVIDE GFCI PROTECTION AT THE CIRCUIT BREAKER.
25. SERVICE ENTRANCE AND DISTRIBUTION EQUIPMENT
   a. ELECTRICAL CONTRACTOR MUST SUBMIT DRAWINGS FOR PERMIT AND RECEIVE APPROVAL PRIOR TO ORDERING EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR EQUIPMENT CHANGES THAT OCCUR PRIOR TO RECEIPT OF APPROVED PLANS.
26. DISCONNECTS AND FUSED SWITCHES
   a. HEAVY DUTY TYPE, HORSEPOWER RATED WITH INTERLOCKING COVER. NEMA 1 TYPICAL. OUTDOOR AND WET LOCATION SWITCHES SHALL BE RAINTIGHT TYPE NEMA 3RR. ALL SWITCHES SHALL BE LOCKABLE. FUSES IN CIRCUITS RATED AT 600 AMPERES OR LESS SHALL BE UL CLASS RK1 DUAL-ELEMENT, TIME-DELAY, CURRENT LIMITING FUSES. FUSES IN CIRCUITS RATED AT 601 AMPERES OR LARGER SHALL BE UL CLASS L TIME-DELAY, CURRENT LIMITING FUSES.
27. NAMEPLATES
   a. PROVIDE PERMANENT NAMEPLATE LABELING ON ALL DISCONNECTS. INCLUDE LOAD SERVED, VOLTAGE, PHASE, HORSEPOWER, FUSE SIZE, AND TYPE.
28. MOUNTING
   a. MOUNT INDEPENDENT OF THE MECHANICAL UNIT HOUSING UNLESS SPECIFICALLY ACCEPTED BY THE LOCAL CODE AUTHORITY. PROVIDE UNISTRUT SUPPORT CHANNELS MOUNTED IN COORDINATION WITH ROOF PENETRATION AND PATCHING WORK. COORDINATE WITH GENERAL CONTRACTOR.
29. GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS AND EQUIPMENT
   a. PROVIDE GROUNDING AND BONDING FOR ELECTRICAL SERVICE IN ACCORDANCE WITH NEC ARTICLE 250.
   b. ALL MAJOR PARTS NOT CARRYING CURRENT, INCLUDING BUT NOT LIMITED TO, SECONDARY FEEDER CIRCUIT, EQUIPMENT AND PANELBOARD ENCLOSURES, PULL AND JUNCTION BOXES, SHALL BE PROPERLY GROUNDED. METALLIC RACEWAYS SHALL UTILIZE DOUBLE LOCKNUTS AND OTHER FITTINGS AS REQUIRED TO PROVIDE GROUND CONTINUITY.
30. MULTI-TENANT METER CENTERS
   a. PROVIDE METER CENTERS(S) AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. METER CENTERS SHALL HAVE MAIN LUGS ONLY OR MAIN BREAKERS AS REQUIRED, AND SHALL HAVE BRANCH BREAKER INSTALLED FOR EACH METER SOCKET. METER CENTERS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL, AND SHALL BE OF THE SAME MANUFACTURE AS LOAD CENTERS OR PANELBOARDS SERVED. METER CENTERS SHALL BE ENCLOSED NEMA 1, NEMA 3R AS REQUIRED. FINAL CONFIGURATION (NUMBER OF METERS PER SECTION, END-MAIN/CENTER-MAIN, ETC. SHALL BE DETERMINED BY CONTRACTOR. ALL BUSSING MUST BE RATED FOR THE LOADS SERVED. METER CENTERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT.
31. PANELBOARDS
   a. PROVIDE BRANCH CIRCUIT PANELBOARD(S) AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. PANELBOARDS SHALL HAVE BOLTED, THERMAL AND MAGNETIC BREAKERS WITH MAIN LUGS ONLY OR MAIN BREAKERS AS REQUIRED. PANELBOARDS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL, AND BE ENCLOSED IN NEMA 1 TYPE HOUSING UNLESS NOTED OTHERWISE. ENCLOSURE(S) SHALL BE COMPLETE WITH A HINGED DOOR, CYLINDER LOCK, AND A NEATLY TYPED DIRECTORY UNDER PLASTIC COVER IN EACH PANEL DOOR. ALL MULTIPLE POLE BREAKERS SHALL HAVE A COMMON TRIP HANDLE. ALL PANELS AND BREAKERS SHALL BE RATED TO WITHSTAND AVAILABLE FAULT CURRENT.
32. RESIDENTIAL LOAD CENTERS
   a. PROVIDE LOAD CENTERS AS SHOWN ON DRAWINGS AND AS SPECIFIED HEREIN. LOAD CENTERS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL. LOAD CENTERS SHALL CONTAIN A NEATLY TYPED DIRECTORY IN EACH DOOR. ALL MULTIPLE POLE BREAKERS SHALL HAVE A COMMON TRIP HANDLE. ALL PANELS AND BREAKERS SHALL BE RATED TO WITHSTAND AVAILABLE FAULT CURRENT. LOAD CENTERS MAY BE USED IN AREAS OTHER THAN DWELLING UNITS WHERE APPROPRIATE AND WHERE APPROVED BY OWNER'S REPRESENTATIVE.
33. LIGHTING
   a. PROVIDE A NEW LIGHTING SYSTEM COMPLETE AND FULLY OPERATIONAL AND IN CONFORMANCE WITH CODE AND UL LISTING REQUIREMENTS. CLEAN ALL FIXTURES AT TIME OF JOB COMPLETION UTILIZING MANUFACTURERS APPROVED OR RECOMMENDED CLEANING SOLUTIONS. ALL FIXTURES AND LAMPS ARE PROVIDED BY THIS CONTRACTOR AS SCHEDULED UNLESS NOTED OTHERWISE. CONTRACTOR SHALL FURNISH ALL BOXES, MOUNTING KITS, TRANSFORMERS, CONTROLLERS, AND OTHER COMPONENTS NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL INSTALLATION.
   b. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.
34. TELEPHONE SYSTEM
   a. TELEPHONE WIRING AND SYSTEM PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL PROVIDE PLASTER RING AND PULL STRING FROM EACH DEVICE LOCATION TO ABOVE ACCESSIBLE CEILING.
35. SECURITY SYSTEM NOTES
   a. SECURITY WIRING AND SYSTEM PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. PROVIDE POWER FOR OWNER'S HEAD-END EQUIPMENT AND REMOTE POWER FOR SECURE DOORS AS REQUIRED.
36. DATA/POS/A-V/SYSTEM NOTES
   a. DATA, POS AND/OR A-V WIRING AND SYSTEMS PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL PROVIDE PLASTER RING AND PULL STRING FROM EACH DEVICE LOCATION TO ABOVE ACCESSIBLE CEILING.

FRANKLIN COMMONS UNITS LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	INPUT VA	DESCRIPTION	MANUFACTURER	MODEL	NOTE 1	NOTE 2
K1		(1) 10W LED	10	KEYLESS FIXTURE	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	PROVIDE NEW LED LAMP
L1		(1) 45W LED	45	LED LINEAR SURFACE MOUNT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
S1		(1) 15W LED	15	6" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
S2		(1) 25W LED	25	12" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
V1		(1) 15W LED	15	LED VANITY LIGHT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
WS1		(1) 15W LED	15	EXTERIOR LED WALL SCONCE	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	

ELECTRICAL LEGEND

*SEE LIGHT FIXTURE SCHEDULE FOR FIXTURE TYPES.

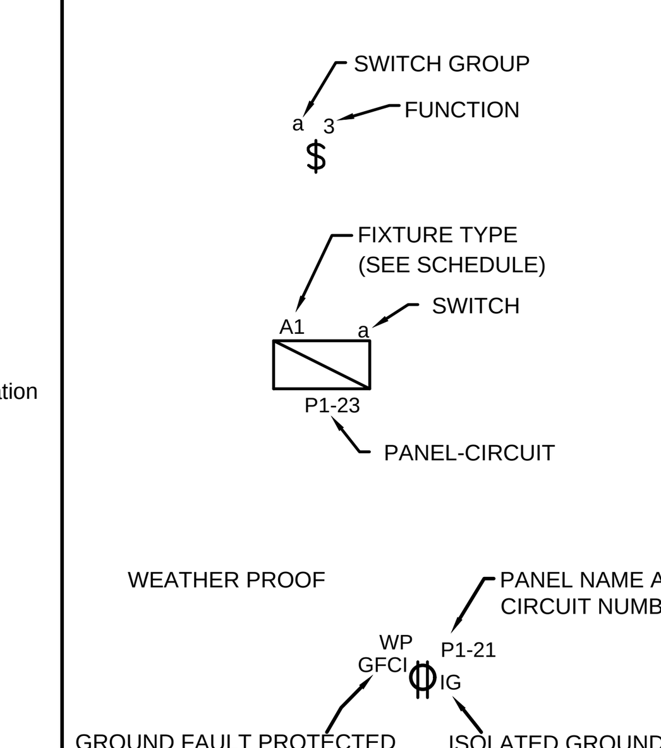
- $ SINGLE POLE LIGHT SWITCH
- $3 THREE WAY LIGHT SWITCH
- $4 FOUR WAY LIGHT SWITCH
- $D DIMMER SWITCH
- $FS FAN SPEED CONTROL
- OS DT OCC SENSOR - CEILING - DUAL TECHNOLOGY
- OS PIR OCC SENSOR - CEILING - PASSIVE INFRARED
- $DT OCC SENSOR - WALL - DUAL TECHNOLOGY
- $PIR OCC SENSOR - WALL - PASSIVE INFRARED
- OCC SENSOR POWER PACK
- OCC SENSOR POWER PACK - 2 CKT
- DUPLEX RECEPTACLE
- USB DUPLEX RECEPTACLE W/USB JACKS
- COUNTER HEIGHT DUPLEX RECEPTACLE
- QUAD RECEPTACLE
- COUNTER HEIGHT QUAD RECEPTACLE
- (CLNG) CEILING (SHOW WINDOW) RECEPTACLE
- GFCI DUPLEX RECEPTACLE WITH GFCI PROTECTION
- GFCI COUNTER HEIGHT DUPLEX RECEPTACLE WITH GFCI PROTECTION
- SPLIT-WIRED (SWITCHED) RECEPTACLE
- WP GFCI WEATHER PROOF RECEPTACLE WITH GFCI PROTECTION
- DW GFCI DISHWASHER RECEPTACLE WITH GFCI PROTECTION
- DISP. GARBAGE DISPOSAL
- MW MICROWAVE RECEPTACLE
- FRIG REFRIGERATOR RECEPTACLE
- RANGE RANGE - 208-240V/ 1-PHASE 50 AMP RECEPTACLE
- WASH GFCI WASHER RECEPTACLE WITH GFCI PROTECTION
- DRYER DRYER - 208-240V/ 1-PHASE 30 AMP RECEPTACLE
- W/D STACKED WASHER/DRYER - 208-240V/ 1-PHASE 30 AMP RECEPTACLE
- DUPLEX - MONUMENT FLOOR BOX
- DUPLEX - RECESSED FLOOR BOX
- PANELBOARD
- PANELBOARD W/ BUS (MCB OR MLO) - SINGLE LINE DIAGRAM
- TRANSFORMER - SINGLE LINE DIAGRAM
- TRANSFORMER W/ GROUND - SINGLE LINE DIAGRAM
- PADMOUNT TRANSFORMER - SINGLE LINE DIAGRAM
- AUTOMATIC TRANSFER SWITCH (ATS) - SINGLE LINE DIAGRAM
- STANDBY/EMERGENCY GENERATOR - SINGLE LINE DIAGRAM
- * METER BASE - SINGLE LINE DIAGRAM
- FUSED DISCONNECT - SINGLE LINE DIAGRAM
- * CT CABINET - SINGLE LINE DIAGRAM
- L5-20R LOCKING 125V/20 AMP - RECEPTACLE
- L6-20R LOCKING 250V/20 AMP (1-PHASE) - RECEPTACLE
- L5-30R LOCKING 125V/30 AMP - RECEPTACLE
- L6-30R LOCKING 250V/20 AMP (1-PHASE) - RECEPTACLE
- PP FURNITURE POWER POLE - RECEPTACLE
- RFF FURNITURE RECESSED FLOOR FEED
- WFF FURNITURE WALL FEED
- FB RECESSED FLOOR BOX - MULTI-SERVICE (POWER/DATA)
- AV RECESSED FLOOR BOX - MULTI-SERVICE W/AV
- PT RECESSED MULTI-SERVICE POKE THRU
- SPECIAL CONNECTION
- SIMPLEX RECEPTACLE
- EQUIPMENT CONNECTION
- $M MANUAL MOTOR STARTER
- NON-FUSED DISCONNECT
- FUSED DISCONNECT
- FUSED DISCONNECT W/MAGNETIC MOTOR STARTER
- J JUNCTION BOX
- HNE HOME NETWORK ENCLOSURE
- SECURITY CAMERA
- DATA LOCATION (RING & STRING, U.N.O)
- VOICE DROP - LOCATION
- VOICE/DATA DROP - LOCATION
- TV CABLE TV (COAX) - LOCATION
- CR CARD READER
- DR DOOR RELEASE - ACCESS CONTROL
- DS DOOR STRIKE - ACCESS CONTROL
- ML MAG-LOCK - ACCESS CONTROL
- PS POSITION SWITCH
- PR PROXY READER
- RE REQUEST TO EXIT SWITCH
- WAP WIRELESS INTERNET ACCESS POINT
- DOOR HOLD - FIRE ALARM
- DSD DUCT SMOKE DETECTOR
- FABP FIRE ALARM BOOSTER PANEL
- FACP FIRE ALARM CONTROL PANEL
- FARA FIRE ALARM REMOTE ANNUNCIATOR
- FS SPRINKLER FLOW SWITCH
- H HEAT DETECTOR - FIRE ALARM
- HORN - FIRE ALARM
- HORN/STROBE - FIRE ALARM
- PIV POST INDICATOR VALVE - (PIV)
- PRE-A PRE-ACTION PANEL
- PS PRESSURE SWITCH
- F PULL STATION - FIRE ALARM
- SD SMOKE DAMPER
- SD SMOKE DETECTOR
- CO SD COMBINATION SMOKE/CO2 DETECTOR
- SP SPEAKER - FIRE ALARM
- SP SPEAKER/STROBE - FIRE ALARM
- STROBE - FIRE ALARM

* FINAL METER CONFIGURATION TBD/ APPROVED BY LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

ABBREVIATIONS:

#	Number
Ω	Ohm
Φ	Phase
A	Amperes
AC	Alternating Current
A/C	Air Conditioning
AFCI	Arc Fault Current Interrupter
AHU	Air Handling Unit
AIC	Ampere Interrupting Capacity
AL	Aluminum
ATS	Automatic Transfer Switch
ATC	Automatic Temperature Control
AWG	American Wire Gauge
C	Conduit
CATV	Cable Television
CB	Critical Branch
C/B	Circuit Breaker
CKT	Circuit
CCTV	Closed Circuit Television
CT	Current Transformer
CU	Condensing Unit
DC	Direct Current
DIA	Diameter
EC	Electrical Contractor
EF	Exhaust Fan
ELEV	Elevator
EM	Emergency
EMT	Electrical Metallic Tubing
EPO	Emergency Power Off
EWC	Electric Water Cooler
EWH	Electric Water Heater
FA	Fire Alarm
FAA	Fire Alarm Annuciator
FLA	Full Load Amperes
FMC	Flexible Metal Conduit
GF	Gas Furnace
GFCI	Ground Fault Current Interrupter
GND	Ground
GWH	Gas Water Heater
HOA	Hand-Off-Automatic Switch
HVAC	Heating, Ventilation, Air Conditioning
HP	Heat Pump
HZ	Hertz
IG	Isolated Ground
IMC	Intermediate Metal Conduit
KCMIL	Thousand Circular Mils
KVA	Kilovolt-Amperes
LFMC	Liquid Tight Metal Conduit
LTG	Lighitng
LRA	Locked Rotor Amperes
MC	Metal Clad Cable
MCB	Main Circuit Breaker
MCC	Motor Control Center
MLO	Main Lug Only
NC	Normally Closed
NEC	National Electrical Code
NEMA	National Electrical Manufactures Association
NFPA	National Fire Protection Association
NL	Night Lighting (Egress Illumination)
NO	Normally Open
NTS	Not To Scale
P	Pole
PB	Push Button or Panic Button or Pull Box
PNL	Panel
PWR	Power
QTY	Quantity
REQ	Required
RMC	Rigid Metal Conduit
RNC	Rigid Non-Metallic Conduit
RTU	Roof Top Unit
ST	Shunt Trip
SW	Switch
TSTAT	Thermostat
TYP	Typical
UG	Underground
UL	Underwriters Labratory
UNO	Unless Noted Otherwise
V	Volt
VA	Volt-Amperes
W	Watt or Wire
WP	Weather Proof
XFMR	Transformer

EXAMPLES:



NOTE: ALL ITEMS MAY NOT BE USED.

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STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

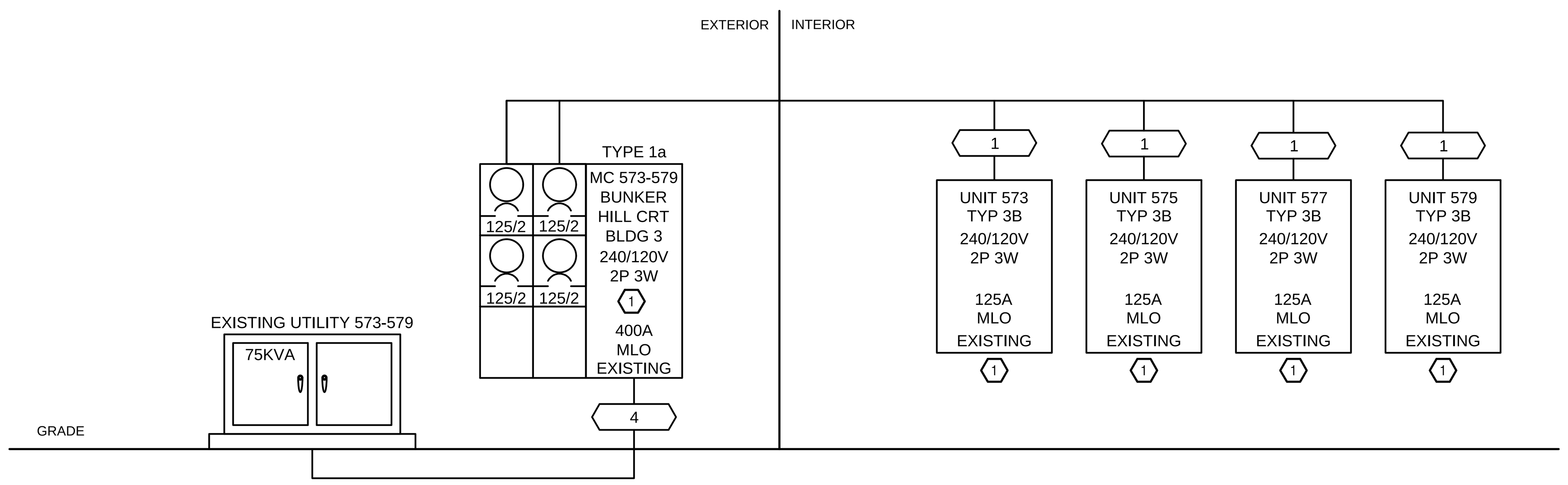
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 3, 4, 5, & 14

ELECTRICAL
DETAILS

E300



1 E301 ELECTRICAL SINGLE LINE DIAGRAM
TYPICAL BUILDING 1a
BUILDING 3 - BUNKER HILL COURT
UNITS 573, 575, 577, 579

MC 573–579

ROOM	VOLTS 240/120V 2P 3W	AIC T.B.D.
MOUNTING FLUSH	BUS AMPS 400	MAIN BKR MLO
FED FROM UTILITY 573–579	NEUTRAL 100%	LUGS STANDARD
NOTE		

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 573 – TYP 3B	20	17.3	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	UNIT 575 – TYP 3B	17.3	20	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	UNIT 577 – TYP 3B	20	17.3	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	UNIT 579 – TYP 3B	17.3	20	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	74.7	74.7	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA	
LIGHTING AND RECEPTACLES	12.5	4,160 SF (3 VA/SF)
SMALL-APPLIANCE	12	
LAUNDRY	6	
APPLIANCES	38	
ELECTRIC COOKING	34	
MOTORS	5	
HEATING	37.8	(100%)
COOLING	34.6	(0%)

	KVA
CONNECTED LOAD	145
DWELLING UNITS	4
DEMAND FACTOR	(45%)
CALCULATED LOAD	65.4
BALANCED LOAD	272 A

Meter Center Breakdown (MC 573-579)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
3B	36.33	4	145.32
Total Quantity and Connected Load =		**4**	**3B**

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

KEYED SHEET NOTES

1. EXISTING ELECTRICAL EQUIPMENT. VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT PRIOR TO CONSTRUCTION.
2. EXISTING FEEDER TO BE REPLACED TO MEET ELECTRICAL AMPACITY REQUIREMENTS. DEMO EXISTING FEEDER AND REPLACE WITH NEW FEEDER, REFER TO FEEDER SCHEDULE FOR SIZING. VERIFY THAT EXISTING CONDUIT IS IN GOOD CONDITION AND REUSE FOR NEW FEEDERS. REPLACE EXISTING CONDUIT IF IT IS DEEMED UNUSABLE.

FEEDER SCHEDULE

ID	CONDUIT AND FEEDER
1	2#1/0 AL,#1/0 AL N,#4 AL G
3	3"C,2#500kcmil AL,#500kcmil AL N
4	3" C, (2 SETS) 2#4/0 AL, #4/0 AL N

SIZING METHOD: COMPACT AL 75°C 100A AND ABOVE, CU 75°C BELOW 100A

GENERAL NOTES-SINGLE LINE DIAGRAM

A. ALL BREAKERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT AT THEIR LOCATION. WHERE SERIES- RATED COMBINATIONS ARE USED IN ACCORDANCE WITH NEC 240.86 (B) AND (C) THE CONTRACTOR AND/OR HIS EQUIPMENT SUPPLIER MUST PROVIDE APPROPRIATE DOCUMENTATION AND LABELING.
B. WHERE BREAKERS WITH ADJUSTABLE SETTINGS ARE FURNISHED TO THE PROJECT. THE MANUFACTURER'S REP SHALL IDENTIFY AND PROVIDE THE APPROPRIATE SETTINGS TO THE ELECTRICAL CONTRACTOR FOR HIS USE IN INSTALLATION.
C. PANEL SCHEDULES INDICATE BREAKER SIZE ONLY. PROVIDE AFCI/GFCI PROTECTION AS REQUIRED BY NEC. COORDINATE FINAL BREAKER SIZES/TYPES FOR ITEMS FURNISHED BY OTHERS WITH SHOP DRAWINGS OR PRODUCT INFORMATION FOR ACTUAL EQUIPMENT BEING CONNECTED
D. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED BY AHJ.
E. PROVIDE SELECTIVE COORDINATION FOR EMERGENCY SYSTEM OVERCURRENT PROTECTION DEVICES IN ACCORDANCE WITH NEC 700.27.
F. PROVIDE GROUND-FAULT PROTECTION FOR EQUIPMENT IN ACCORDANCE WITH NEC 240.13 AND NEC 230.95.
G. OVERCURRENT PROTECTION DEVICES SUPPLYING TRANSFORMERS WHICH ARE NOT LOCATED WITHIN SIGHT OF THEIR OVERCURRENT PROTECTION SHALL BE LOCKABLE AND THE TRANSFORMER SHALL BE FIELD MARKED WITH THE LOCATION OF THE OVERCURRENT PROTECTION DEVICE.
H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

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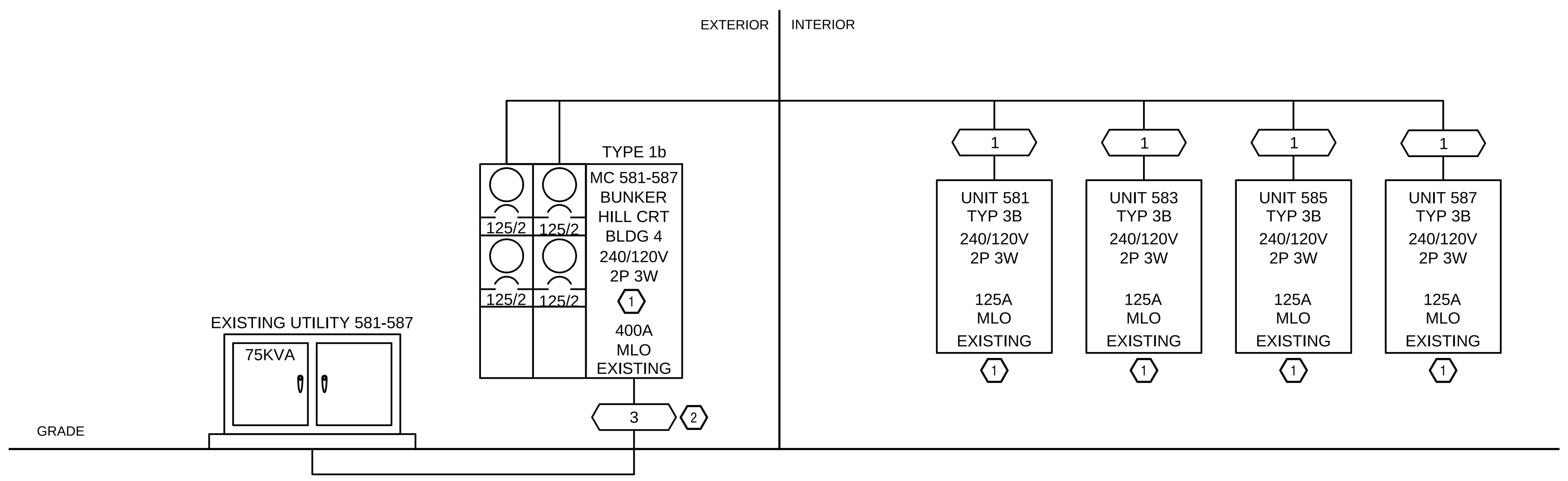
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN:
CHECKED:

BUILDING 3, 4, 5, & 14
ELECTRICAL DETAILS

E301



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E302

ELECTRICAL SINGLE LINE DIAGRAM
TYPICAL BUILDING 1b
BUILDING 4 - BUNKER HILL COURT
UNITS 581, 583, 585, 587

MC 581–587

ROOM	VOLTS 240/120V 2P 3W	AIC T.B.D.
MOUNTING FLUSH	BUS AMPS 400	MAIN BKR MLO
FED FROM UTILITY 581–587	NEUTRAL 100%	LUGS STANDARD
NOTE		

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 581 – TYP 3B	20	17.3	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	UNIT 583 – TYP 3B	17.3	20	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	UNIT 585 – TYP 3B	20	17.3	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	UNIT 587 – TYP 3B	17.3	20	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	74.7	74.7	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA	
LIGHTING AND RECEPTACLES	12.5	4,160 SF (3 VA/SF)
SMALL-APPLIANCE	12	
LAUNDRY	6	
APPLIANCES	38	
ELECTRIC COOKING	34	
MOTORS	5	
HEATING	37.8	(100%)
COOLING	34.6	(0%)

	KVA
CONNECTED LOAD	145
DWELLING UNITS	4
DEMAND FACTOR	(45%)
CALCULATED LOAD	65.4
BALANCED LOAD	272 A

Meter Center Breakdown (MC 581-587)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
3B	36.33	4	145.32
Total Quantity and Connected Load =		4	3B

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

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KEYED SHEET NOTES

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3	3"C,2#500kcmil AL,#500kcmil AL N
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A. ALL BREAKERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT AT THEIR LOCATION. WHERE SERIES- RATED COMBINATIONS ARE USED IN ACCORDANCE WITH NEC 240.86 (B) AND (C) THE CONTRACTOR AND/OR HIS EQUIPMENT SUPPLIER MUST PROVIDE APPROPRIATE DOCUMENTATION AND LABELING.
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PROFESSIONAL ENGINEER

REVISIONS

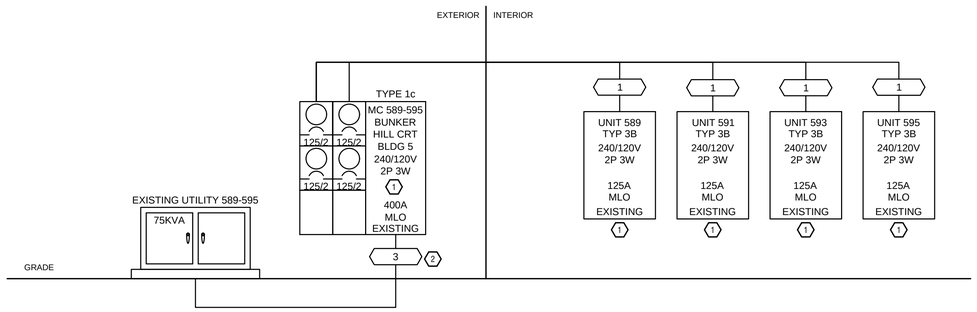
5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 3, 4, 5, & 14

ELECTRICAL DETAILS

E302



1 / E303 ELECTRICAL SINGLE LINE DIAGRAM
TYPICAL BUILDING 1c
BUILDING 5 - BUNKER HILL COURT
UNITS 589, 591, 593, 595

MC 589–595

ROOM
MOUNTING FLUSH
FED FROM UTILITY 589–595
NOTE

VOLTS 240/120V 2P 3W
BUS AMPS 400
NEUTRAL 100%

AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 589 – TYP 3B	20	17.3	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	UNIT 591 – TYP 3B	17.3	20	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	UNIT 593 – TYP 3B	20	17.3	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	UNIT 595 – TYP 3B	17.3	20	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	74.7	74.7	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	12.5	4,160 SF (3 VA/SF)	CONNECTED LOAD	145
SMALL-APPLIANCE	12		DWELLING UNITS	4
LAUNDRY	6		DEMAND FACTOR	(45%)
APPLIANCES	38		CALCULATED LOAD	65.4
ELECTRIC COOKING	34		BALANCED LOAD	272 A
MOTORS	5			
HEATING	37.8	(100%)		
COOLING	34.6	(0%)		

Meter Center Breakdown (MC 589-595)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
3B	36.33	4	145.32
Total Quantity and Connected Load =		**4**	**3B**

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

KEYED SHEET NOTES

1. EXISTING ELECTRICAL EQUIPMENT. VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT PRIOR TO CONSTRUCTION.
2. EXISTING FEEDER TO BE REPLACED TO MEET ELECTRICAL AMPACITY REQUIREMENTS. DEMO EXISTING FEEDER AND REPLACE WITH NEW FEEDER, REFER TO FEEDER SCHEDULE FOR SIZING. VERIFY THAT EXISTING CONDUIT IS IN GOOD CONDITION AND REUSE FOR NEW FEEDERS. REPLACE EXISTING CONDUIT IF IT IS DEEMED UNUSABLE.

FEEDER SCHEDULE

ID	CONDUIT AND FEEDER
1	2#1/0 AL,#1/0 AL N,#4 AL G
3	3"C,2#500kcmil AL,#500kcmil AL N
4	3" C, (2 SETS) 2#4/0 AL, #4/0 AL N

SIZING METHOD: COMPACT AL 75°C 100A AND ABOVE, CU 75°C BELOW 100A

GENERAL NOTES-SINGLE LINE DIAGRAM

A. ALL BREAKERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT AT THEIR LOCATION. WHERE SERIES- RATED COMBINATIONS ARE USED IN ACCORDANCE WITH NEC 240.86 (B) AND (C) THE CONTRACTOR AND/OR HIS EQUIPMENT SUPPLIER MUST PROVIDE APPROPRIATE DOCUMENTATION AND LABELING.

B. WHERE BREAKERS WITH ADJUSTABLE SETTINGS ARE FURNISHED TO THE PROJECT. THE MANUFACTURER'S REP SHALL IDENTIFY AND PROVIDE THE APPROPRIATE SETTINGS TO THE ELECTRICAL CONTRACTOR FOR HIS USE IN INSTALLATION.

C. PANEL SCHEDULES INDICATE BREAKER SIZE ONLY. PROVIDE AFCI/GFCI PROTECTION AS REQUIRED BY NEC. COORDINATE FINAL BREAKER SIZES/TYPES FOR ITEMS FURNISHED BY OTHERS WITH SHOP DRAWINGS OR PRODUCT INFORMATION FOR ACTUAL EQUIPMENT BEING CONNECTED

D. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED BY AHJ.

E. PROVIDE SELECTIVE COORDINATION FOR EMERGENCY SYSTEM OVERCURRENT PROTECTION DEVICES IN ACCORDANCE WITH NEC 700.27.

F. PROVIDE GROUND-FAULT PROTECTION FOR EQUIPMENT IN ACCORDANCE WITH NEC 240.13 AND NEC 230.95.

G. OVERCURRENT PROTECTION DEVICES SUPPLYING TRANSFORMERS WHICH ARE NOT LOCATED WITHIN SIGHT OF THEIR OVERCURRENT PROTECTION SHALL BE LOCKABLE AND THE TRANSFORMER SHALL BE FIELD MARKED WITH THE LOCATION OF THE OVERCURRENT PROTECTION DEVICE.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

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STATE OF OHIO
PAUL R STRONG
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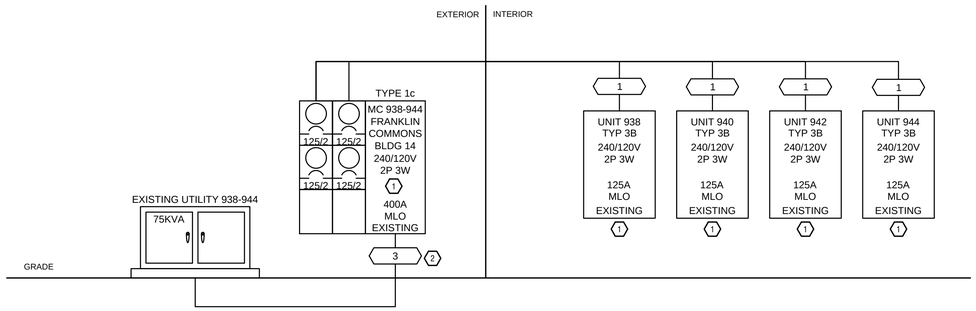
BUILDING 3, 4, 5, & 14
ELECTRICAL DETAILS

E303



1 / E304 ELECTRICAL SINGLE LINE DIAGRAM
TYPICAL BUILDING 1c
BUILDING 14 - FRANKLIN COMMONS CIRCLE
UNITS 938, 940, 942, 944

MC 938–944

ROOM
MOUNTING FLUSH
FED FROM UTILITY 938–944
NOTE

VOLTS 240/120V 2P 3W
BUS AMPS 400
NEUTRAL 100%

AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 938 – TYP 3B	20	17.3	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	UNIT 940 – TYP 3B	17.3	20	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	UNIT 942 – TYP 3B	20	17.3	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	UNIT 944 – TYP 3B	17.3	20	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	74.7	74.7	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

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ELECTRIC COOKING	34		BALANCED LOAD	272 A
MOTORS	5			
HEATING	37.8	(100%)		
COOLING	34.6	(0%)		

Meter Center Breakdown (MC 938-944)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
3B	36.33	4	145.32
Total Quantity and Connected Load =		**4**	**3B**

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

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KEYED SHEET NOTES

1. EXISTING ELECTRICAL EQUIPMENT. VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT PRIOR TO CONSTRUCTION.
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FEEDER SCHEDULE

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C. PANEL SCHEDULES INDICATE BREAKER SIZE ONLY. PROVIDE AFCI/GFCI PROTECTION AS REQUIRED BY NEC. COORDINATE FINAL BREAKER SIZES/TYPES FOR ITEMS FURNISHED BY OTHERS WITH SHOP DRAWINGS OR PRODUCT INFORMATION FOR ACTUAL EQUIPMENT BEING CONNECTED

D. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED BY AHJ.

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G. OVERCURRENT PROTECTION DEVICES SUPPLYING TRANSFORMERS WHICH ARE NOT LOCATED WITHIN SIGHT OF THEIR OVERCURRENT PROTECTION SHALL BE LOCKABLE AND THE TRANSFORMER SHALL BE FIELD MARKED WITH THE LOCATION OF THE OVERCURRENT PROTECTION DEVICE.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

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PROJECT #:
DRAWN: **CHECKED:**

BUILDING 3, 4, 5, & 14

ELECTRICAL DETAILS

E304

ELECTRICAL SPECIFICATIONS

1. GENERAL DEMOLITION
   a. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, BASE BUILDING SPECIFICATIONS AND DRAWINGS, SHOP DRAWING MANUALS AND AS-BUILT PLANS, EXCEPT AS NOTED HEREIN, WHICH APPLY IN ALL RESPECTS TO THIS SECTION. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING THE WORK
2. USE OF DRAWINGS AND SPECIFICATIONS
   a. EBS DRAWINGS AND SPECIFICATIONS ARE INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL ELECTRICAL SYSTEM ARE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. STANDARDS
   a. MATERIALS EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF NEC, ASTM, UL, ETL, NEMA, ANSI, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.
4. CODES
   a. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE ELECTRICAL CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT ANY EXTRA COST TO OWNER.
5. PERMITS AND FEES
   a. THE ELECTRICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE THE ELECTRICAL WORK.
6. WARRANTY
   a. THE ELECTRICAL CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE, AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.
7. SITE EXAMINATION
   a. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY EXAMINE ALL AREAS OF WORK WHERE EQUIPMENT WILL BE INSTALLED AND SHALL REPORT ANY CONDITION THAT, IN HIS OPINION, PREVENTS THE PROPER INSTALLATION OF THE ELECTRICAL WORK PRIOR TO BID. HE SHALL ALSO EXAMINE THE DRAWINGS AND SPECIFICATIONS OF OTHER BRANCHES OF WORK MAKING REFERENCE TO THEM FOR DETAILS OF NEW OR EXISTING BUILDING CONDITIONS.
   b. ALL WORK SHALL BE DONE AT TIMES CONVENIENT TO THE OWNER AND ONLY DURING NORMAL WORKING HOURS, UNLESS SPECIFIED OTHERWISE.
   c. ELECTRICAL CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AND BE RESPONSIBLE FOR THEM.
   d. ACCESS PANELS ARE NOT SHOWN ON DRAWINGS. DURING SITE EXAMINATION, CONTRACTOR SHALL IDENTIFY ALL AREAS WHERE ACCESS PANELS ARE REQUIRED, AND REPORT TO GENERAL CONTRACTOR. DESIGNATION OF WHO FURNISHES AND WHO INSTALLS ACCESS PANELS MUST BE COORDINATED WITH GENERAL CONTRACTOR PRIOR TO STARTING WORK.
8. CONTRACTOR COORDINATION.
   a. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. WHERE THE ELECTRICAL CONTRACTOR IS MAKING A CONNECTION TO EQUIPMENT/COMPONENTS THAT ARE FURNISHED BY OTHERS, ELECTRICAL CONTRACTOR TO VERIFY ALL CONNECTION REQUIREMENTS WITH ACTUAL EQUIPMENT BEING CONNECTED, INCLUDING BUT NOT LIMITED TO OCP SIZE, MEANS OF DISCONNECT, SPECIAL CONNECTION REQUIREMENTS, OR OTHER ITEMS INDICATED ON SHOP DRAWINGS, OR MANUFACTURER'S INSTALLATION INSTRUCTIONS AND/OR INSTALLATION DIAGRAMS, AND FURNISH ALL LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION AND OPERATION OF THE EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR FAILURE TO COORDINATE, AFTER ELECTRICAL CONNECTIONS HAVE BEEN INSTALLED.
   b. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
   c. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS; USE ACTUAL BUILDING DIMENSIONS.
   d. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE ELECTRICAL CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
9. UTILITY COORDINATION
   a. ELECTRICAL CONTRACTOR TO VERIFY INSTALLATION OF METERING AND UTILITY DEMARCATION EQUIPMENT WITH UTILITY PROVIDER PRIOR TO START OF WORK AND FURNISH AND INSTALL REQUIRED ITEMS PER UTILITY COMPANY'S INSTALLATION REQUIREMENTS AND/OR MANUALS.
10. SUBMITTALS
   a. PRODUCTS INSTALLED BY THE ELECTRICAL CONTRACTOR AND PROVIDED BY OTHERS MUST BE SUBMITTED FOR REVIEW PRIOR TO PURCHASING. PRODUCTS SHALL NOT BE SELECTED BASED ON PERMIT DRAWINGS WITHOUT EXPRESS PERMISSION - PRODUCTS SHALL BE SELECTED BASED ON CONSTRUCTION DRAWINGS.
11. RECORD DRAWING
   a. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING RECORD DRAWINGS WHERE REQUIRED. DRAWINGS SHALL BE PRODUCED IN AUTOCAD 2004 FORMAT OR LATER.
12. SHOP DRAWINGS
   a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE ELECTRICAL CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
   c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE ELECTRICAL CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
13. TESTING
   a. ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. BALANCE ALL BRANCH CIRCUIT LOADS BETWEEN THE PHASES OF THE SYSTEM TO WITHIN 10% OF THE HIGHEST PHASE LOAD IN EACH PANELBOARD.
14. TEMPORARY POWER
   a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL WIRING FOR CONSTRUCTION. THE TEMPORARY SERVICE SHALL BE A MINIMUM OF 60 AMPS, SINGLE PHASE, THREE WIRE, 120/208 VOLTS FUSED AT MAIN DISCONNECT. ALL RECEPTACLES ON THIS TEMPORARY SERVICE SHALL BE PROTECTED BY A GFI BREAKER.
15. MECHANICAL EQUIPMENT
   a. ALL FINAL CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL CONTRACTOR.
16. DEMOLITION
   a. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEENERGIZING CIRCUITS IN DEMOLITION AREAS TO INSURE A SAFE CONDITION. ELECTRICAL DEVICES AND ASSOCIATED WIRING LOCATED WITHIN THE DEMOLITION AREA THAT WILL NO LONGER BE USED SHALL BE REMOVED AND PROPERLY DISPOSED OF AT CONTRACTOR'S EXPENSE UNLESS OTHERWISE NOTED.
17. POWER OUTAGES
   a. THE ELECTRICAL CONTRACTOR SHALL SCHEDULE ALL ELECTRICAL SYSTEM(S) OUTAGES WITH THE GENERAL CONTRACTOR AND OWNER AT LEAST 24 HOURS IN ADVANCE. UNLESS APPROVED OTHERWISE ALL OUTAGES SHALL OCCUR BETWEEN 11:00PM AND 5:00AM.
18. GROUNDING AND BONDING
   a. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250.
   b. ANY GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.
19. MATERIALS
   a. PROVIDE ALL NEW MATERIAL AND EQUIPMENT UNLESS NOTED OTHERWISE. ALL EQUIPMENT SHALL BE UL APPROVED AND LABELED, OR OTHER APPROVED TESTING ORGANIZATION WHICH HAS ACCEPTANCE BY THE LOCAL JURISDICTION, FOR THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS. NO SUBSTITUTION TO MATERIALS SPECIFIED WILL BE ALLOWED UNLESS APPROVED BY THE OWNER.
   b. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED. NO ALLOWANCES WILL BE MADE FOR ANY CHANGES THAT OCCUR IF PERMIT DRAWINGS HAVE NOT BEEN APPROVED PRIOR TO ORDERING.
20. CUTTING AND FITTING
   a. PERFORM CUTTING, CORING, FITTING, REPAIRING AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBER SHALL BE DONE WITHOUT THE CONSENT OF THE OWNER. PROPERLY FILL, SEAL, FIREPROOF, AND WATERPROOF ALL OPENINGS, SLEEVES, AND HOLES IN SLABS, WALLS, AND CASEWORK.
21. WIRING METHODS
   a. PROVIDE CODE APPROVED WIRING METHODS FOR BRANCH CIRCUITING INDOORS, SUCH AS NM CABLE (ONLY WHERE PERMITTED BY NEC 334), EMT CONDUIT, OR MC CABLE FOR MECHANICAL EQUIPMENT, LIGHTING, AND POWER.
   b. CONDUIT RUNS ON EXTERIOR OF BUILDING SHALL BE RIGID STEEL CONDUIT WITH WEATHER TIGHT, CORROSION-RESISTANT FITTINGS. SCHEDULE 40 PVC IS ACCEPTABLE WHERE PERMITTED BY CODE AND OR UNDERGROUND RUNS OR CONCRETE ENCASEMENT WHERE NOT EXPOSED TO PHYSICAL DAMAGE.
   c. THE MINIMUM SIZE OF CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED. CONDUIT CONNECTORS SHALL BE DOUBLE LOCKNUT TYPE, UL LISTED AND LABELED, WITH COMPRESSION OR SET SCREW FITTINGS.
   d. RIGID CONDUIT SHALL BE HOT DIPPED GALVANIZED.
   e. WHERE RACEWAYS ARE INSTALLED FOR OTHERS TO USE, OR FOR FUTURE USE, PROVIDE NYLON PULL STRING.
   f. PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE SEALED USING 3M FIRE BARRIER CAULK, NELSON ELECTRIC FLAMESEAL OR T&B FLAMESAFE OR OTHER APPROVED METHOD.
22. CONDUCTORS AND TERMINATIONS
   a. BRANCH CONDUCTORS SHALL BE COPPER, FEEDERS AS INDICATED ON RISER DIAGRAM. CONDUCTORS SHALL BE INSULATED FOR 600V NUMBER 12 AWG MINIMUM. PROVIDE WIRES AND CABLES AS INDICATED LISTED AND SUITABLE FOR TEMPERATURE, CONDITIONS, AND LOCATION WHERE INSTALLED.
23. MOTORS AND OTHER WIRING
   a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED CONDUIT, WIRING, AND SAFETY SWITCHES FOR ALL MOTORS, AND OTHER ELECTRICAL EQUIPMENT, EVEN THOUGH THE MOTORS AND ELECTRICAL EQUIPMENT MAY BE SUPPLIED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE ALL WORK AND CONNECTIONS REQUIRED TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL. PROVIDE MAGNETIC STARTERS FOR EQUIPMENT AS INDICATED ON THE DRAWINGS.
   b. THE ELECTRICAL EQUIPMENT MAY INCLUDE BUT NOT BE LIMITED TO SUCH ITEMS AS GRILLE MOTORS AND INTERLOCKS, EXTERIOR AND INTERIOR SIGNAGE, STARTING DEVICES, MOTOR CONTROLLERS, FLOAT SWITCHES, ALARM DEVICES OR SYSTEMS, PUSH BUTTONS, EXHAUST FANS, DATA SYSTEMS, INTERCOMS AND STEREO SYSTEMS. THE ELECTRICAL CONTRACTOR SHALL VERIFY EQUIPMENT LOCATION AND SIZES WITH THE TRADE SUPPLYING THE EQUIPMENT BEFORE INSTALLING THE CONDUIT OR OUTLETS.
24. DEVICES
   a. HUBBELL, LEVITON, OR APPROVED EQUAL WITH MATCHING COVERPLATES.
   b. PROVIDE SPECIFICATION GRADE WIRING DEVICES, IN TYPES, CHARACTERISTICS, GRADES, COLORS, AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED, WHICH ARE UL-LISTED AND WHICH COMPLY WITH NEMA WD1 AND OTHER APPLICABLE UL AND NEMA STANDARDS. VERIFY COLOR SELECTIONS WITH ARCHITECT. PROVIDE DEVICE PLATES TO MATCH DEVICE COLORS.
   c. PROVIDE GFCI PROTECTION FOR ALL KITCHEN 15 AND 20-AMP RECEPTACLES. WHERE THE RECEPTACLE IS RENDERED INACCESSIBLE BY EQUIPMENT PROVIDE GFCI PROTECTION AT THE CIRCUIT BREAKER.
25. SERVICE ENTRANCE AND DISTRIBUTION EQUIPMENT
   a. ELECTRICAL CONTRACTOR MUST SUBMIT DRAWINGS FOR PERMIT AND RECEIVE APPROVAL PRIOR TO ORDERING EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR EQUIPMENT CHANGES THAT OCCUR PRIOR TO RECEIPT OF APPROVED PLANS.
26. DISCONNECTS AND FUSED SWITCHES
   a. HEAVY DUTY TYPE, HORSEPOWER RATED WITH INTERLOCKING COVER. NEMA 1 TYPICAL. OUTDOOR AND WET LOCATION SWITCHES SHALL BE RAINTIGHT TYPE NEMA 3RR. ALL SWITCHES SHALL BE LOCKABLE. FUSES IN CIRCUITS RATED AT 600 AMPERES OR LESS SHALL BE UL CLASS RK1 DUAL-ELEMENT, TIME-DELAY, CURRENT LIMITING FUSES. FUSES IN CIRCUITS RATED AT 601 AMPERES OR LARGER SHALL BE UL CLASS L TIME-DELAY, CURRENT LIMITING FUSES.
27. NAMEPLATES
   a. PROVIDE PERMANENT NAMEPLATE LABELING ON ALL DISCONNECTS. INCLUDE LOAD SERVED, VOLTAGE, PHASE, HORSEPOWER, FUSE SIZE, AND TYPE.
28. MOUNTING
   a. MOUNT INDEPENDENT OF THE MECHANICAL UNIT HOUSING UNLESS SPECIFICALLY ACCEPTED BY THE LOCAL CODE AUTHORITY. PROVIDE UNISTRUT SUPPORT CHANNELS MOUNTED IN COORDINATION WITH ROOF PENETRATION AND PATCHING WORK. COORDINATE WITH GENERAL CONTRACTOR.
29. GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS AND EQUIPMENT
   a. PROVIDE GROUNDING AND BONDING FOR ELECTRICAL SERVICE IN ACCORDANCE WITH NEC ARTICLE 250.
   b. ALL MAJOR PARTS NOT CARRYING CURRENT, INCLUDING BUT NOT LIMITED TO, SECONDARY FEEDER CIRCUIT, EQUIPMENT AND PANELBOARD ENCLOSURES, PULL AND JUNCTION BOXES, SHALL BE PROPERLY GROUNDED. METALLIC RACEWAYS SHALL UTILIZE DOUBLE LOCKNUTS AND OTHER FITTINGS AS REQUIRED TO PROVIDE GROUND CONTINUITY.
30. MULTI-TENANT METER CENTERS
   a. PROVIDE METER CENTERS(S) AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. METER CENTERS SHALL HAVE MAIN LUGS ONLY OR MAIN BREAKERS AS REQUIRED, AND SHALL HAVE BRANCH BREAKER INSTALLED FOR EACH METER SOCKET. METER CENTERS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL, AND SHALL BE OF THE SAME MANUFACTURE AS LOAD CENTERS OR PANELBOARDS SERVED. METER CENTERS SHALL BE ENCLOSED NEMA 1, NEMA 3R AS REQUIRED. FINAL CONFIGURATION (NUMBER OF METERS PER SECTION, END-MAIN/CENTER-MAIN, ETC. SHALL BE DETERMINED BY CONTRACTOR. ALL BUSSING MUST BE RATED FOR THE LOADS SERVED. METER CENTERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT.
31. PANELBOARDS
   a. PROVIDE BRANCH CIRCUIT PANELBOARD(S) AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. PANELBOARDS SHALL HAVE BOLTED, THERMAL AND MAGNETIC BREAKERS WITH MAIN LUGS ONLY OR MAIN BREAKERS AS REQUIRED. PANELBOARDS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL, AND BE ENCLOSED IN NEMA 1 TYPE HOUSING UNLESS NOTED OTHERWISE. ENCLOSURE(S) SHALL BE COMPLETE WITH A HINGED DOOR, CYLINDER LOCK, AND A NEATLY TYPED DIRECTORY UNDER PLASTIC COVER IN EACH PANEL DOOR. ALL MULTIPLE POLE BREAKERS SHALL HAVE A COMMON TRIP HANDLE. ALL PANELS AND BREAKERS SHALL BE RATED TO WITHSTAND AVAILABLE FAULT CURRENT.
32. RESIDENTIAL LOAD CENTERS
   a. PROVIDE LOAD CENTERS AS SHOWN ON DRAWINGS AND AS SPECIFIED HEREIN. LOAD CENTERS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL. LOAD CENTERS SHALL CONTAIN A NEATLY TYPED DIRECTORY IN EACH DOOR. ALL MULTIPLE POLE BREAKERS SHALL HAVE A COMMON TRIP HANDLE. ALL PANELS AND BREAKERS SHALL BE RATED TO WITHSTAND AVAILABLE FAULT CURRENT. LOAD CENTERS MAY BE USED IN AREAS OTHER THAN DWELLING UNITS WHERE APPROPRIATE AND WHERE APPROVED BY OWNER'S REPRESENTATIVE.
33. LIGHTING
   a. PROVIDE A NEW LIGHTING SYSTEM COMPLETE AND FULLY OPERATIONAL AND IN CONFORMANCE WITH CODE AND UL LISTING REQUIREMENTS. CLEAN ALL FIXTURES AT TIME OF JOB COMPLETION UTILIZING MANUFACTURERS APPROVED OR RECOMMENDED CLEANING SOLUTIONS. ALL FIXTURES AND LAMPS ARE PROVIDED BY THIS CONTRACTOR AS SCHEDULED UNLESS NOTED OTHERWISE. CONTRACTOR SHALL FURNISH ALL BOXES, MOUNTING KITS, TRANSFORMERS, CONTROLLERS, AND OTHER COMPONENTS NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL INSTALLATION.
   b. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.
34. TELEPHONE SYSTEM
   a. TELEPHONE WIRING AND SYSTEM PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL PROVIDE PLASTER RING AND PULL STRING FROM EACH DEVICE LOCATION TO ABOVE ACCESSIBLE CEILING.
35. SECURITY SYSTEM NOTES
   a. SECURITY WIRING AND SYSTEM PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. PROVIDE POWER FOR OWNER'S HEAD-END EQUIPMENT AND REMOTE POWER FOR SECURE DOORS AS REQUIRED.
36. DATA/POS/A-V/SYSTEM NOTES
   a. DATA, POS AND/OR A-V WIRING AND SYSTEMS PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL PROVIDE PLASTER RING AND PULL STRING FROM EACH DEVICE LOCATION TO ABOVE ACCESSIBLE CEILING.

FRANKLIN COMMONS UNITS LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	INPUT VA	DESCRIPTION	MANUFACTURER	MODEL	NOTE 1	NOTE 2
K1		(1) 10W LED	10	KEYLESS FIXTURE	CONTRACTOR SELECTED		EXISTING LOCATION	PROVIDE NEW LED LAMP
L1		(1) 45W LED	45	LED LINEAR SURFACE MOUNT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
S1		(1) 15W LED	15	6" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
S2		(1) 25W LED	25	12" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
V1		(1) 15W LED	15	LED VANITY LIGHT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
WS1		(1) 15W LED	15	EXTERIOR LED WALL SCONCE	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	

ELECTRICAL LEGEND

*SEE LIGHT FIXTURE SCHEDULE FOR FIXTURE TYPES.

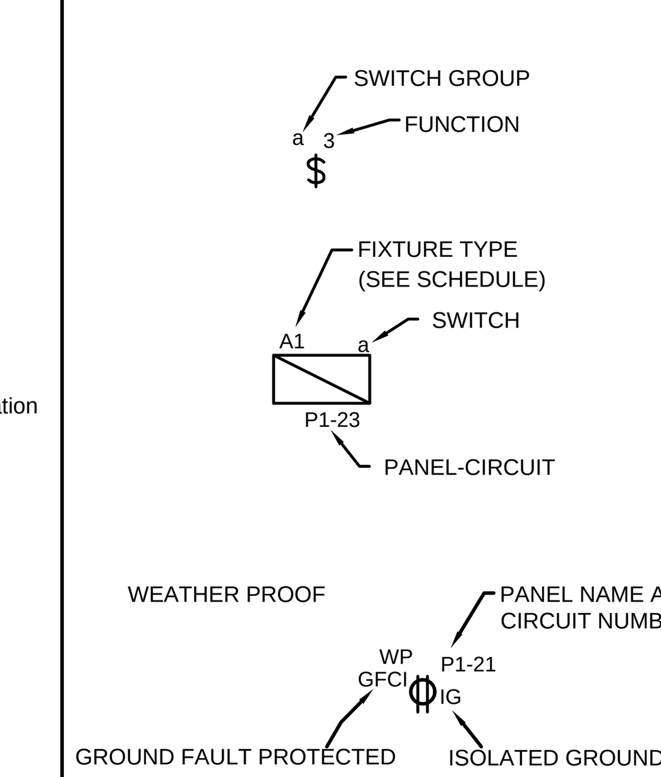
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
$	SINGLE POLE LIGHT SWITCH	L5-20R	LOCKING 125V/20 AMP - RECEPTACLE
$3	THREE WAY LIGHT SWITCH	L6-20R	LOCKING 250V/20 AMP (1-PHASE) - RECEPTACLE
$4	FOUR WAY LIGHT SWITCH	L5-30R	LOCKING 125V/30 AMP - RECEPTACLE
$D	DIMMER SWITCH	L6-30R	LOCKING 250V/20 AMP (1-PHASE) - RECEPTACLE
$FS	FAN SPEED CONTROL	PP	FURNITURE POWER POLE - RECEPTACLE
OS DT	OCC SENSOR - CEILING - DUAL TECHNOLOGY	RFF	FURNITURE RECESSED FLOOR FEED
OS PIR	OCC SENSOR - CEILING - PASSIVE INFRARED	WFF	FURNITURE WALL FEED
$DT	OCC SENSOR - WALL - DUAL TECHNOLOGY	FB	RECESSED FLOOR BOX - MULTI-SERVICE (POWER/DATA)
$PIR	OCC SENSOR - WALL - PASSIVE INFRARED	AV	RECESSED FLOOR BOX - MULTI-SERVICE W/AV
	OCC SENSOR POWER PACK	PT	RECESSED MULTI-SERVICE POKE THRU
	OCC SENSOR POWER PACK - 2 CKT		SPECIAL CONNECTION
	DUPLEX RECEPTACLE		SIMPLEX RECEPTACLE
USB	DUPLEX RECEPTACLE W/USB JACKS		EQUIPMENT CONNECTION
	COUNTER HEIGHT DUPLEX RECEPTACLE	$M	MANUAL MOTOR STARTER
	QUAD RECEPTACLE		NON-FUSED DISCONNECT
	COUNTER HEIGHT QUAD RECEPTACLE		FUSED DISCONNECT
(CLNG)	CEILING (SHOW WINDOW) RECEPTACLE		FUSED DISCONNECT W/MAGNETIC MOTOR STARTER
GFCI	DUPLEX RECEPTACLE WITH GFCI PROTECTION	J	JUNCTION BOX
GFCI	COUNTER HEIGHT DUPLEX RECEPTACLE WITH GFCI PROTECTION	HNE	HOME NETWORK ENCLOSURE
	SPLIT-WIRED (SWITCHED) RECEPTACLE		SECURITY CAMERA
WP GFCI	WEATHER PROOF RECEPTACLE WITH GFCI PROTECTION		DATA LOCATION (RING & STRING, U.N.O)
DW GFCI	DISHWASHER RECEPTACLE WITH GFCI PROTECTION		VOICE DROP - LOCATION
DISP.	GARBAGE DISPOSAL		VOICE/DATA DROP - LOCATION
MW	MICROWAVE RECEPTACLE	TV	CABLE TV (COAX) - LOCATION
FRIG	REFRIGERATOR RECEPTACLE	CR	CARD READER
RANGE	RANGE - 208-240V/ 1-PHASE 50 AMP RECEPTACLE	DR	DOOR RELEASE - ACCESS CONTROL
WASH GFCI	WASHER RECEPTACLE WITH GFCI PROTECTION	DS	DOOR STRIKE - ACCESS CONTROL
DRYER	DRYER - 208-240V/ 1-PHASE 30 AMP RECEPTACLE	ML	MAG-LOCK - ACCESS CONTROL
W/D	STACKED WASHER/DRYER - 208-240V/ 1-PHASE 30 AMP RECEPTACLE	PS	POSITION SWITCH
	DUPLEX - MONUMENT FLOOR BOX	PR	PROXY READER
	DUPLEX - RECESSED FLOOR BOX	RE	REQUEST TO EXIT SWITCH
	PANELBOARD	WAP	WIRELESS INTERNET ACCESS POINT
	PANELBOARD W/ BUS (MCB OR MLO) - SINGLE LINE DIAGRAM		DOOR HOLD - FIRE ALARM
	TRANSFORMER - SINGLE LINE DIAGRAM	DSD	DUCT SMOKE DETECTOR
	TRANSFORMER W/ GROUND - SINGLE LINE DIAGRAM	FABP	FIRE ALARM BOOSTER PANEL
	PADMOUNT TRANSFORMER - SINGLE LINE DIAGRAM	FACP	FIRE ALARM CONTROL PANEL
	AUTOMATIC TRANSFER SWITCH (ATS) - SINGLE LINE DIAGRAM	FARA	FIRE ALARM REMOTE ANNUNCIATOR
	STANDBY/EMERGENCY GENERATOR - SINGLE LINE DIAGRAM	FS	SPRINKLER FLOW SWITCH
	* METER BASE - SINGLE LINE DIAGRAM	H	HEAT DETECTOR - FIRE ALARM
	FUSED DISCONNECT - SINGLE LINE DIAGRAM		HORN - FIRE ALARM
	* CT CABINET - SINGLE LINE DIAGRAM		HORN/STROBE - FIRE ALARM
		PIV	POST INDICATOR VALVE - (PIV)
		PRE-A	PRE-ACTION PANEL
		PS	PRESSURE SWITCH
		F	PULL STATION - FIRE ALARM
		SD	SMOKE DAMPER
		SD	SMOKE DETECTOR
		CO SD	COMBINATION SMOKE/CO2 DETECTOR
		SP	SPEAKER - FIRE ALARM
		SP	SPEAKER/STROBE - FIRE ALARM
			STROBE - FIRE ALARM

* FINAL METER CONFIGURATION TBD/ APPROVED BY LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

ABBREVIATIONS:

#	Number	HP	Heat Pump
Ω	Ohm	HZ	Hertz
Φ	Phase	IG	Isolated Ground
A	Amperes	IMC	Intermediate Metal Conduit
AC	Alternating Current	KCMIL	Thousand Circular Mils
A/C	Air Conditioning	KVA	Kilovolt-Amperes
AFCI	Arc Fault Current Interrupter	LFMC	Liquid Tight Metal Conduit
AHU	Air Handling Unit	LTG	Lighitng
AIC	Ampere Interrupting Capacity	LRA	Locked Rotor Amperes
AL	Aluminum	MC	Metal Clad Cable
ATS	Automatic Transfer Switch	MCB	Main Circuit Breaker
ATC	Automatic Temperature Control	MCC	Motor Control Center
AWG	American Wire Gauge	MLO	Main Lug Only
C	Conduit	NC	Normally Closed
CATV	Cable Television	NEC	National Electrical Code
CB	Critical Branch	NEMA	National Electrical Manufactures Association
C/B	Circuit Breaker	NFPA	National Fire Protection Association
CKT	Circuit	NL	Night Lighting (Egress Illumination)
CCTV	Closed Circuit Television	NO	Normally Open
CT	Current Transformer	NTS	Not To Scale
CU	Condensing Unit	P	Pole
DC	Direct Current	PB	Push Button or Panic Button or Pull Box
DIA	Diameter	PNL	Panel
EC	Electrical Contractor	PWR	Power
EF	Exhaust Fan	QTY	Quantity
ELEV	Elevator	REQ	Required
EM	Emergency	RMC	Rigid Metal Conduit
EMT	Electrical Metallic Tubing	RNC	Rigid Non-Metallic Conduit
EPO	Emergency Power Off	RTU	Roof Top Unit
EWC	Electric Water Cooler	ST	Shunt Trip
EWH	Electric Water Heater	SW	Switch
FA	Fire Alarm	TSTAT	Thermostat
FAA	Fire Alarm Annuciator	TYP	Typical
FLA	Full Load Amperes	UG	Underground
FMC	Flexible Metal Conduit	UL	Underwriters Labratory
GF	Gas Furnace	UNO	Unless Noted Otherwise
GFCI	Ground Fault Current Interrupter	V	Volt
GND	Ground	VA	Volt-Amperes
GWH	Gas Water Heater	W	Watt or Wire
HOA	Hand-Off-Automatic Switch	WP	Weather Proof
HVAC	Heating, Ventilation, Air Conditioning	XFMR	Transformer

EXAMPLES:



NOTE: ALL ITEMS MAY NOT BE USED.

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ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

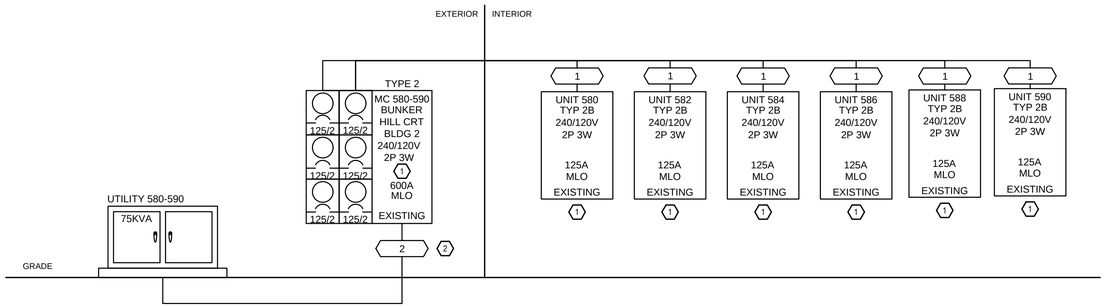
DATE	DESCRIPTION
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 2

ELECTRICAL DETAILS

E305



1 / E301 ELECTRICAL SINGLE LINE DIAGRAM
TYPICAL BUILDING 2
BUILDING 2 - BUNKER HILL COURT
UNITS 580, 582, 584, 586, 588, 590

MC 580–590

ROOM
MOUNTING FLUSH
FED FROM UTILITY 580–590
NOTE

VOLTS 240/120V 2P 3W
BUS AMPS 600
NEUTRAL 100%

AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 580 – TYP 2B	17.6	16.7	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	UNIT 582 – TYP 2B	16.7	17.6	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	UNIT 584 – TYP 2B	17.6	16.7	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	UNIT 586 – TYP 2B	16.7	17.6	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
5	125/2	UNIT 588 – TYP 2B	17.6	16.7	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
6	125/2	UNIT 590 – TYP 2B	16.7	17.6	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	103	103	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA	
LIGHTING AND RECEPTACLES	15.4	5,142 SF (3 VA/SF)
SMALL-APPLIANCE	18	
LAUNDRY	9	
APPLIANCES	57	
ELECTRIC COOKING	51	
HEATING	52.3	(100%)
COOLING	45.4	(0%)

	KVA
CONNECTED LOAD	203
DWELLING UNITS	6
DEMAND FACTOR	(44%)
CALCULATED LOAD	89.2
BALANCED LOAD	372 A

Meter Center Breakdown (MC 580-590)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
2B	33.78	6	202.69
Total Quantity and Connected Load =		**6**	**2B**

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

KEYED SHEET NOTES

1. EXISTING ELECTRICAL EQUIPMENT. VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER. COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT PRIOR TO CONSTRUCTION.
2. EXISTING FEEDER TO BE REPLACED TO MEET ELECTRICAL AMPACITY REQUIREMENTS. DEMO EXISTING FEEDER AND REPLACE WITH NEW FEEDER, REFER TO FEEDER SCHEDULE FOR SIZING. VERIFY THAT EXISTING CONDUIT IS IN GOOD CONDITION AND REUSE FOR NEW FEEDERS. REPLACE EXISTING CONDUIT IF IT IS DEEMED UNUSABLE. INSTALL SECOND CONDUIT, FOR PARALLEL SET, DIRECTLY NEXT TO EXISTING CONDUIT.

FEEDER SCHEDULE

ID	CONDUIT AND FEEDER
1	1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	(2)3"C,2#250kcmil AL,#250kcmil AL N

SIZING METHOD: COMPACT AL 75°C 100A AND ABOVE, CU 75°C BELOW 100A

GENERAL NOTES-SINGLE LINE DIAGRAM

A. ALL BREAKERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT AT THEIR LOCATION. WHERE SERIES- RATED COMBINATIONS ARE USED IN ACCORDANCE WITH NEC 240.86 (B) AND (C) THE CONTRACTOR AND/OR HIS EQUIPMENT SUPPLIER MUST PROVIDE APPROPRIATE DOCUMENTATION AND LABELING.
B. WHERE BREAKERS WITH ADJUSTABLE SETTINGS ARE FURNISHED TO THE PROJECT. THE MANUFACTURER'S REP SHALL IDENTIFY AND PROVIDE THE APPROPRIATE SETTINGS TO THE ELECTRICAL CONTRACTOR FOR HIS USE IN INSTALLATION.
C. PANEL SCHEDULES INDICATE BREAKER SIZE ONLY. PROVIDE AFCI/GFCI PROTECTION AS REQUIRED BY NEC. COORDINATE FINAL BREAKER SIZES/TYPES FOR ITEMS FURNISHED BY OTHERS WITH SHOP DRAWINGS OR PRODUCT INFORMATION FOR ACTUAL EQUIPMENT BEING CONNECTED
D. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED BY AHJ.
E. PROVIDE SELECTIVE COORDINATION FOR EMERGENCY SYSTEM OVERCURRENT PROTECTION DEVICES IN ACCORDANCE WITH NEC 700.27.
F. PROVIDE GROUND-FAULT PROTECTION FOR EQUIPMENT IN ACCORDANCE WITH NEC 240.13 AND NEC 230.95.
G. OVERCURRENT PROTECTION DEVICES SUPPLYING TRANSFORMERS WHICH ARE NOT LOCATED WITHIN SIGHT OF THEIR OVERCURRENT PROTECTION SHALL BE LOCKABLE AND THE TRANSFORMER SHALL BE FIELD MARKED WITH THE LOCATION OF THE OVERCURRENT PROTECTION DEVICE.
H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

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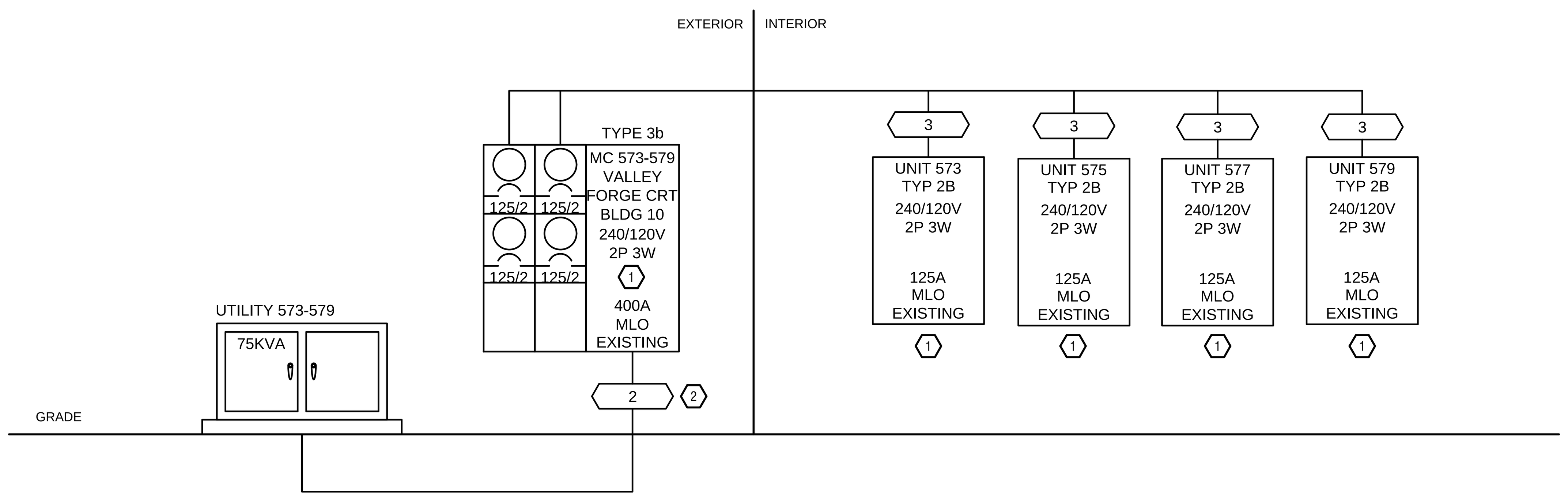
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 2
ELECTRICAL DETAILS

E306



1
E307

ELECTRICAL SINGLE LINE DIAGRAM
TYPICAL BUILDING 3b
BUILDING 10 - VALLEY FORGE COURT
UNITS 573, 575, 577, 579

MC 573–579

ROOM	VOLTS 240/120V 2P 3W	AIC T.B.D.
MOUNTING FLUSH	BUS AMPS 400	MAIN BKR MLO
FED FROM UTILITY 573–579	NEUTRAL 100%	LUGS STANDARD
NOTE		

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 573 – TYP 2B	17.6	16.7	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	UNIT 575 – TYP 2B	16.7	17.6	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	UNIT 577 – TYP 2B	17.6	16.7	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	UNIT 579 – TYP 2B	16.7	17.6	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	68.5	68.5	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	10.3	3,428 SF (3 VA/SF)	CONNECTED LOAD	135
SMALL-APPLIANCE	12		DWELLING UNITS	4
LAUNDRY	6		DEMAND FACTOR	(45%)
APPLIANCES	38		CALCULATED LOAD	60.8
ELECTRIC COOKING	34		BALANCED LOAD	253 A
HEATING	34.8	(100%)		
COOLING	30.2	(0%)		

Meter Center Breakdown (MC 573-579)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
2B	33.78	4	135.12
Total Quantity and Connected Load =		**4**	**2B**

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

KEYED SHEET NOTES

1. EXISTING ELECTRICAL EQUIPMENT. VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT PRIOR TO CONSTRUCTION.
2. EXISTING FEEDER TO BE REPLACED TO MEET ELECTRICAL AMPACITY REQUIREMENTS. DEMO EXISTING FEEDER AND REPLACE WITH NEW FEEDER, REFER TO FEEDER SCHEDULE FOR SIZING. VERIFY THAT EXISTING CONDUIT IS IN GOOD CONDITION AND REUSE FOR NEW FEEDERS. REPLACE EXISTING CONDUIT IF IT IS DEEMED UNUSABLE.

FEEDER SCHEDULE

ID	CONDUIT AND FEEDER
2	3"C,2#500kcmil AL,#500kcmil AL N
3	2#1/0 AL,#1/0 AL N,#4 AL G

SIZING METHOD: COMPACT AL 75°C 100A AND ABOVE, CU 75°C BELOW 100A

GENERAL NOTES-SINGLE LINE DIAGRAM

A. ALL BREAKERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT AT THEIR LOCATION. WHERE SERIES- RATED COMBINATIONS ARE USED IN ACCORDANCE WITH NEC 240.86 (B) AND (C) THE CONTRACTOR AND/OR HIS EQUIPMENT SUPPLIER MUST PROVIDE APPROPRIATE DOCUMENTATION AND LABELING.

B. WHERE BREAKERS WITH ADJUSTABLE SETTINGS ARE FURNISHED TO THE PROJECT. THE MANUFACTURER'S REP SHALL IDENTIFY AND PROVIDE THE APPROPRIATE SETTINGS TO THE ELECTRICAL CONTRACTOR FOR HIS USE IN INSTALLATION.

C. PANEL SCHEDULES INDICATE BREAKER SIZE ONLY. PROVIDE AFCI/GFCI PROTECTION AS REQUIRED BY NEC. COORDINATE FINAL BREAKER SIZES/TYPES FOR ITEMS FURNISHED BY OTHERS WITH SHOP DRAWINGS OR PRODUCT INFORMATION FOR ACTUAL EQUIPMENT BEING CONNECTED

D. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED BY AHJ.

E. PROVIDE SELECTIVE COORDINATION FOR EMERGENCY SYSTEM OVERCURRENT PROTECTION DEVICES IN ACCORDANCE WITH NEC 700.27.

F. PROVIDE GROUND-FAULT PROTECTION FOR EQUIPMENT IN ACCORDANCE WITH NEC 240.13 AND NEC 230.95.

G. OVERCURRENT PROTECTION DEVICES SUPPLYING TRANSFORMERS WHICH ARE NOT LOCATED WITHIN SIGHT OF THEIR OVERCURRENT PROTECTION SHALL BE LOCKABLE AND THE TRANSFORMER SHALL BE FIELD MARKED WITH THE LOCATION OF THE OVERCURRENT PROTECTION DEVICE.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

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PROFESSIONAL ENGINEER

REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 1 & 10
ELECTRICAL DETAILS

E307

PASTE STICK ON SPECS IN THIS MTEXT

ELECTRICAL SPECIFICATIONS

1. GENERAL DEMOLITION
   a. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, BASE BUILDING SPECIFICATIONS AND DRAWINGS, SHOP DRAWING MANUALS AND AS-BUILT PLANS, EXCEPT AS NOTED HEREIN, WHICH APPLY IN ALL RESPECTS TO THIS SECTION. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING THE WORK
2. USE OF DRAWINGS AND SPECIFICATIONS
   a. EBS DRAWINGS AND SPECIFICATIONS ARE INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL ELECTRICAL SYSTEM ARE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. STANDARDS
   a. MATERIALS EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF NEC, ASTM, UL, ETL, NEMA, ANSI, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.
4. CODES
   a. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE ELECTRICAL CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT ANY EXTRA COST TO OWNER.
5. PERMITS AND FEES
   a. THE ELECTRICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE THE ELECTRICAL WORK.
6. WARRANTY
   a. THE ELECTRICAL CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE, AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.
7. SITE EXAMINATION
   a. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY EXAMINE ALL AREAS OF WORK WHERE EQUIPMENT WILL BE INSTALLED AND SHALL REPORT ANY CONDITION THAT, IN HIS OPINION, PREVENTS THE PROPER INSTALLATION OF THE ELECTRICAL WORK PRIOR TO BID. HE SHALL ALSO EXAMINE THE DRAWINGS AND SPECIFICATIONS OF OTHER BRANCHES OF WORK MAKING REFERENCE TO THEM FOR DETAILS OF NEW OR EXISTING BUILDING CONDITIONS.
   b. ALL WORK SHALL BE DONE AT TIMES CONVENIENT TO THE OWNER AND ONLY DURING NORMAL WORKING HOURS, UNLESS SPECIFIED OTHERWISE.
   c. ELECTRICAL CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AND BE RESPONSIBLE FOR THEM.
   d. ACCESS PANELS ARE NOT SHOWN ON DRAWINGS. DURING SITE EXAMINATION, CONTRACTOR SHALL IDENTIFY ALL AREAS WHERE ACCESS PANELS ARE REQUIRED, AND REPORT TO GENERAL CONTRACTOR. DESIGNATION OF WHO FURNISHES AND WHO INSTALLS ACCESS PANELS MUST BE COORDINATED WITH GENERAL CONTRACTOR PRIOR TO STARTING WORK.
8. CONTRACTOR COORDINATION.
   a. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. WHERE THE ELECTRICAL CONTRACTOR IS MAKING A CONNECTION TO EQUIPMENT/COMPONENTS THAT ARE FURNISHED BY OTHERS, ELECTRICAL CONTRACTOR TO VERIFY ALL CONNECTION REQUIREMENTS WITH ACTUAL EQUIPMENT BEING CONNECTED, INCLUDING BUT NOT LIMITED TO OCP SIZE, MEANS OF DISCONNECT, SPECIAL CONNECTION REQUIREMENTS, OR OTHER ITEMS INDICATED ON SHOP DRAWINGS, OR MANUFACTURER'S INSTALLATION INSTRUCTIONS AND/OR INSTALLATION DIAGRAMS, AND FURNISH ALL LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION AND OPERATION OF THE EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR FAILURE TO COORDINATE, AFTER ELECTRICAL CONNECTIONS HAVE BEEN INSTALLED.
   b. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
   c. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS; USE ACTUAL BUILDING DIMENSIONS.
   d. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE ELECTRICAL CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
9. UTILITY COORDINATION
   a. ELECTRICAL CONTRACTOR TO VERIFY INSTALLATION OF METERING AND UTILITY DEMARCATION EQUIPMENT WITH UTILITY PROVIDER PRIOR TO START OF WORK AND FURNISH AND INSTALL REQUIRED ITEMS PER UTILITY COMPANY'S INSTALLATION REQUIREMENTS AND/OR MANUALS.
10. SUBMITTALS
    a. PRODUCTS INSTALLED BY THE ELECTRICAL CONTRACTOR AND PROVIDED BY OTHERS MUST BE SUBMITTED FOR REVIEW PRIOR TO PURCHASING. PRODUCTS SHALL NOT BE SELECTED BASED ON PERMIT DRAWINGS WITHOUT EXPRESS PERMISSION - PRODUCTS SHALL BE SELECTED BASED ON CONSTRUCTION DRAWINGS.
11. RECORD DRAWING
    a. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING RECORD DRAWINGS WHERE REQUIRED. DRAWINGS SHALL BE PRODUCED IN AUTOCAD 2004 FORMAT OR LATER.
12. SHOP DRAWINGS
    a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
    b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE ELECTRICAL CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
    c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE ELECTRICAL CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
13. TESTING
    a. ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. BALANCE ALL BRANCH CIRCUIT LOADS BETWEEN THE PHASES OF THE SYSTEM TO WITHIN 10% OF THE HIGHEST PHASE LOAD IN EACH PANELBOARD.
14. TEMPORARY POWER
    a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL WIRING FOR CONSTRUCTION. THE TEMPORARY SERVICE SHALL BE A MINIMUM OF 60 AMPS, SINGLE PHASE, THREE WIRE, 120/208 VOLTS FUSED AT MAIN DISCONNECT. ALL RECEPTACLES ON THIS TEMPORARY SERVICE SHALL BE PROTECTED BY A GFI BREAKER.
15. MECHANICAL EQUIPMENT
    a. ALL FINAL CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL CONTRACTOR.
16. DEMOLITION
    a. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEENERGIZING CIRCUITS IN DEMOLITION AREAS TO INSURE A SAFE CONDITION. ELECTRICAL DEVICES AND ASSOCIATED WIRING LOCATED WITHIN THE DEMOLITION AREA THAT WILL NO LONGER BE USED SHALL BE REMOVED AND PROPERLY DISPOSED OF AT CONTRACTOR'S EXPENSE UNLESS OTHERWISE NOTED.
17. POWER OUTAGES
    a. THE ELECTRICAL CONTRACTOR SHALL SCHEDULE ALL ELECTRICAL SYSTEM(S) OUTAGES WITH THE GENERAL CONTRACTOR AND OWNER AT LEAST 24 HOURS IN ADVANCE. UNLESS APPROVED OTHERWISE ALL OUTAGES SHALL OCCUR BETWEEN 11:00PM AND 5:00AM.
18. GROUNDING AND BONDING
    a. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250.
    b. ANY GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.
19. MATERIALS
    a. PROVIDE ALL NEW MATERIAL AND EQUIPMENT UNLESS NOTED OTHERWISE. ALL EQUIPMENT SHALL BE UL APPROVED AND LABELED, OR OTHER APPROVED TESTING ORGANIZATION WHICH HAS ACCEPTANCE BY THE LOCAL JURISDICTION, FOR THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS. NO SUBSTITUTION TO MATERIALS SPECIFIED WILL BE ALLOWED UNLESS APPROVED BY THE OWNER.
    b. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED. NO ALLOWANCES WILL BE MADE FOR ANY CHANGES THAT OCCUR IF PERMIT DRAWINGS HAVE NOT BEEN APPROVED PRIOR TO ORDERING.
20. CUTTING AND FITTING
    a. PERFORM CUTTING, CORING, FITTING, REPAIRING AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBER SHALL BE DONE WITHOUT THE CONSENT OF THE OWNER. PROPERLY FILL, SEAL, FIREPROOF, AND WATERPROOF ALL OPENINGS, SLEEVES, AND HOLES IN SLABS, WALLS, AND CASEWORK.
21. WIRING METHODS
    a. PROVIDE CODE APPROVED WIRING METHODS FOR BRANCH CIRCUITING INDOORS, SUCH AS NM CABLE (ONLY WHERE PERMITTED BY NEC 334), EMT CONDUIT, OR MC CABLE FOR MECHANICAL EQUIPMENT, LIGHTING, AND POWER.
    b. CONDUIT RUNS ON EXTERIOR OF BUILDING SHALL BE RIGID STEEL CONDUIT WITH WEATHER TIGHT, CORROSION-RESISTANT FITTINGS. SCHEDULE 40 PVC IS ACCEPTABLE WHERE PERMITTED BY CODE AND OR UNDERGROUND RUNS OR CONCRETE ENCASEMENT WHERE NOT EXPOSED TO PHYSICAL DAMAGE.
    c. THE MINIMUM SIZE OF CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED. CONDUIT CONNECTORS SHALL BE DOUBLE LOCKNUT TYPE, UL LISTED AND LABELED, WITH COMPRESSION OR SET SCREW FITTINGS.
    d. RIGID CONDUIT SHALL BE HOT DIPPED GALVANIZED.
    e. WHERE RACEWAYS ARE INSTALLED FOR OTHERS TO USE, OR FOR FUTURE USE, PROVIDE NYLON PULL STRING.
    f. PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE SEALED USING 3M FIRE BARRIER CAULK, NELSON ELECTRIC FLAMESEAL OR T&B FLAMESAFE OR OTHER APPROVED METHOD.
22. CONDUCTORS AND TERMINATIONS
    a. BRANCH CONDUCTORS SHALL BE COPPER, FEEDERS AS INDICATED ON RISER DIAGRAM. CONDUCTORS SHALL BE INSULATED FOR 600V NUMBER 12 AWG MINIMUM. PROVIDE WIRES AND CABLES AS INDICATED LISTED AND SUITABLE FOR TEMPERATURE, CONDITIONS, AND LOCATION WHERE INSTALLED.
23. MOTORS AND OTHER WIRING
    a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED CONDUIT, WIRING, AND SAFETY SWITCHES FOR ALL MOTORS, AND OTHER ELECTRICAL EQUIPMENT, EVEN THOUGH THE MOTORS AND ELECTRICAL EQUIPMENT MAY BE SUPPLIED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE ALL WORK AND CONNECTIONS REQUIRED TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL. PROVIDE MAGNETIC STARTERS FOR EQUIPMENT AS INDICATED ON THE DRAWINGS.
    b. THE ELECTRICAL EQUIPMENT MAY INCLUDE BUT NOT BE LIMITED TO SUCH ITEMS AS GRILLE MOTORS AND INTERLOCKS, EXTERIOR AND INTERIOR SIGNAGE, STARTING DEVICES, MOTOR CONTROLLERS, FLOAT SWITCHES, ALARM DEVICES OR SYSTEMS, PUSH BUTTONS, EXHAUST FANS, DATA SYSTEMS, INTERCOMS AND STEREO SYSTEMS. THE ELECTRICAL CONTRACTOR SHALL VERIFY EQUIPMENT LOCATION AND SIZES WITH THE TRADE SUPPLYING THE EQUIPMENT BEFORE INSTALLING THE CONDUIT OR OUTLETS.
24. DEVICES
    a. HUBBELL, LEVITON, OR APPROVED EQUAL WITH MATCHING COVERPLATES.
    b. PROVIDE SPECIFICATION GRADE WIRING DEVICES, IN TYPES, CHARACTERISTICS, GRADES, COLORS, AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED, WHICH ARE UL-LISTED AND WHICH COMPLY WITH NEMA WD1 AND OTHER APPLICABLE UL AND NEMA STANDARDS. VERIFY COLOR SELECTIONS WITH ARCHITECT. PROVIDE DEVICE PLATES TO MATCH DEVICE COLORS.
    c. PROVIDE GFCI PROTECTION FOR ALL KITCHEN 15 AND 20-AMP RECEPTACLES. WHERE THE RECEPTACLE IS RENDERED INACCESSIBLE BY EQUIPMENT PROVIDE GFCI PROTECTION AT THE CIRCUIT BREAKER.
25. SERVICE ENTRANCE AND DISTRIBUTION EQUIPMENT
    a. ELECTRICAL CONTRACTOR MUST SUBMIT DRAWINGS FOR PERMIT AND RECEIVE APPROVAL PRIOR TO ORDERING EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR EQUIPMENT CHANGES THAT OCCUR PRIOR TO RECEIPT OF APPROVED PLANS.
26. DISCONNECTS AND FUSED SWITCHES
    a. HEAVY DUTY TYPE, HORSEPOWER RATED WITH INTERLOCKING COVER. NEMA 1 TYPICAL. OUTDOOR AND WET LOCATION SWITCHES SHALL BE RAINTIGHT TYPE NEMA 3RR. ALL SWITCHES SHALL BE LOCKABLE. FUSES IN CIRCUITS RATED AT 600 AMPERES OR LESS SHALL BE UL CLASS RK1 DUAL-ELEMENT, TIME-DELAY, CURRENT LIMITING FUSES. FUSES IN CIRCUITS RATED AT 601 AMPERES OR LARGER SHALL BE UL CLASS L TIME-DELAY, CURRENT LIMITING FUSES.
27. NAMEPLATES
    a. PROVIDE PERMANENT NAMEPLATE LABELING ON ALL DISCONNECTS. INCLUDE LOAD SERVED, VOLTAGE, PHASE, HORSEPOWER, FUSE SIZE, AND TYPE.
28. MOUNTING
    a. MOUNT INDEPENDENT OF THE MECHANICAL UNIT HOUSING UNLESS SPECIFICALLY ACCEPTED BY THE LOCAL CODE AUTHORITY. PROVIDE UNISTRUT SUPPORT CHANNELS MOUNTED IN COORDINATION WITH ROOF PENETRATION AND PATCHING WORK. COORDINATE WITH GENERAL CONTRACTOR.
29. GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS AND EQUIPMENT
    a. PROVIDE GROUNDING AND BONDING FOR ELECTRICAL SERVICE IN ACCORDANCE WITH NEC ARTICLE 250.
    b. ALL MAJOR PARTS NOT CARRYING CURRENT, INCLUDING BUT NOT LIMITED TO, SECONDARY FEEDER CIRCUIT, EQUIPMENT AND PANELBOARD ENCLOSURES, PULL AND JUNCTION BOXES, SHALL BE PROPERLY GROUNDED. METALLIC RACEWAYS SHALL UTILIZE DOUBLE LOCKNUTS AND OTHER FITTINGS AS REQUIRED TO PROVIDE GROUND CONTINUITY.
30. MULTI-TENANT METER CENTERS
    a. PROVIDE METER CENTERS(S) AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. METER CENTERS SHALL HAVE MAIN LUGS ONLY OR MAIN BREAKERS AS REQUIRED, AND SHALL HAVE BRANCH BREAKER INSTALLED FOR EACH METER SOCKET. METER CENTERS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL, AND SHALL BE OF THE SAME MANUFACTURE AS LOAD CENTERS OR PANELBOARDS SERVED. METER CENTERS SHALL BE ENCLOSED NEMA 1, NEMA 3R AS REQUIRED. FINAL CONFIGURATION (NUMBER OF METERS PER SECTION, END-MAIN/CENTER-MAIN, ETC. SHALL BE DETERMINED BY CONTRACTOR. ALL BUSSING MUST BE RATED FOR THE LOADS SERVED. METER CENTERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT.
31. PANELBOARDS
    a. PROVIDE BRANCH CIRCUIT PANELBOARD(S) AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. PANELBOARDS SHALL HAVE BOLTED, THERMAL AND MAGNETIC BREAKERS WITH MAIN LUGS ONLY OR MAIN BREAKERS AS REQUIRED. PANELBOARDS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL, AND BE ENCLOSED IN NEMA 1 TYPE HOUSING UNLESS NOTED OTHERWISE. ENCLOSURE(S) SHALL BE COMPLETE WITH A HINGED DOOR, CYLINDER LOCK, AND A NEATLY TYPED DIRECTORY UNDER PLASTIC COVER IN EACH PANEL DOOR. ALL MULTIPLE POLE BREAKERS SHALL HAVE A COMMON TRIP HANDLE. ALL PANELS AND BREAKERS SHALL BE RATED TO WITHSTAND AVAILABLE FAULT CURRENT.
32. RESIDENTIAL LOAD CENTERS
    a. PROVIDE LOAD CENTERS AS SHOWN ON DRAWINGS AND AS SPECIFIED HEREIN. LOAD CENTERS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL. LOAD CENTERS SHALL CONTAIN A NEATLY TYPED DIRECTORY IN EACH DOOR. ALL MULTIPLE POLE BREAKERS SHALL HAVE A COMMON TRIP HANDLE. ALL PANELS AND BREAKERS SHALL BE RATED TO WITHSTAND AVAILABLE FAULT CURRENT. LOAD CENTERS MAY BE USED IN AREAS OTHER THAN DWELLING UNITS WHERE APPROPRIATE AND WHERE APPROVED BY OWNER'S REPRESENTATIVE.
33. LIGHTING
    a. PROVIDE A NEW LIGHTING SYSTEM COMPLETE AND FULLY OPERATIONAL AND IN CONFORMANCE WITH CODE AND UL LISTING REQUIREMENTS. CLEAN ALL FIXTURES AT TIME OF JOB COMPLETION UTILIZING MANUFACTURERS APPROVED OR RECOMMENDED CLEANING SOLUTIONS. ALL FIXTURES AND LAMPS ARE PROVIDED BY THIS CONTRACTOR AS SCHEDULED UNLESS NOTED OTHERWISE. CONTRACTOR SHALL FURNISH ALL BOXES, MOUNTING KITS, TRANSFORMERS, CONTROLLERS, AND OTHER COMPONENTS NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL INSTALLATION.
    b. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.
34. TELEPHONE SYSTEM
    a. TELEPHONE WIRING AND SYSTEM PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL PROVIDE PLASTER RING AND PULL STRING FROM EACH DEVICE LOCATION TO ABOVE ACCESSIBLE CEILING.
35. SECURITY SYSTEM NOTES
    a. SECURITY WIRING AND SYSTEM PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. PROVIDE POWER FOR OWNER'S HEAD-END EQUIPMENT AND REMOTE POWER FOR SECURE DOORS AS REQUIRED.
36. DATA/POS/A-V/SYSTEM NOTES
    a. DATA, POS AND/OR A-V WIRING AND SYSTEMS PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL PROVIDE PLASTER RING AND PULL STRING FROM EACH DEVICE LOCATION TO ABOVE ACCESSIBLE CEILING.

FRANKLIN COMMONS UNITS LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	INPUT VA	DESCRIPTION	MANUFACTURER	MODEL	NOTE 1	NOTE 2
K1		(1) 10W LED	10	KEYLESS FIXTURE	CONTRACTOR SELECTED		EXISTING LOCATION	PROVIDE NEW LED LAMP
L1		(1) 45W LED	45	LED LINEAR SURFACE MOUNT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
S1		(1) 15W LED	15	6" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
S2		(1) 25W LED	25	12" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
V1		(1) 15W LED	15	LED VANITY LIGHT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
WS1		(1) 15W LED	15	EXTERIOR LED WALL SCONCE	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	

ELECTRICAL LEGEND

*SEE LIGHT FIXTURE SCHEDULE FOR FIXTURE TYPES.

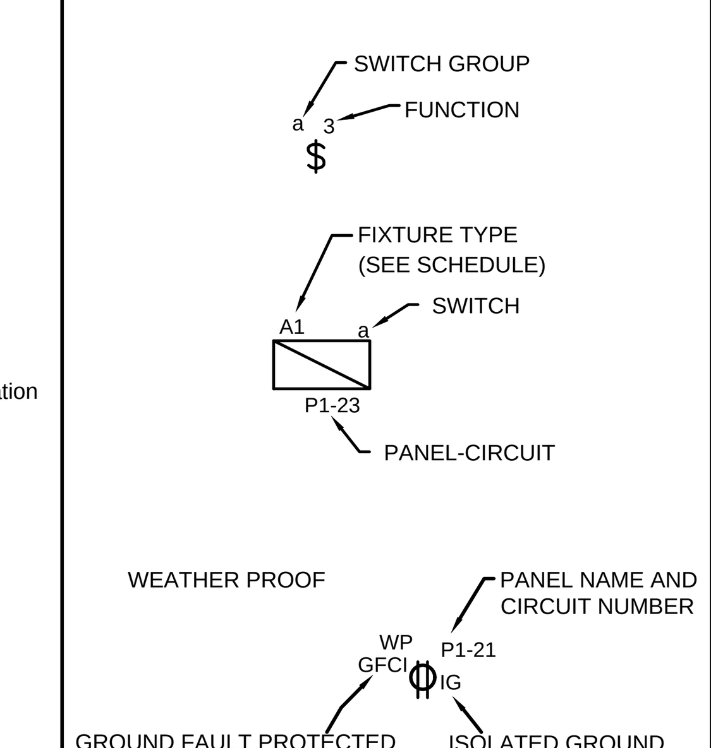
SYMBOL	DESCRIPTION
$	SINGLE POLE LIGHT SWITCH
$3	THREE WAY LIGHT SWITCH
$4	FOUR WAY LIGHT SWITCH
$D	DIMMER SWITCH
$FS	FAN SPEED CONTROL
OS DT	OCC SENSOR - CEILING - DUAL TECHNOLOGY
OS PIR	OCC SENSOR - CEILING - PASSIVE INFRARED
$DT	OCC SENSOR - WALL - DUAL TECHNOLOGY
$PIR	OCC SENSOR - WALL - PASSIVE INFRARED
	OCC SENSOR POWER PACK
	OCC SENSOR POWER PACK - 2 CKT
	DUPLEX RECEPTACLE
USB	DUPLEX RECEPTACLE W/USB JACKS
	COUNTER HEIGHT DUPLEX RECEPTACLE
	QUAD RECEPTACLE
	COUNTER HEIGHT QUAD RECEPTACLE
(CLNG)	CEILING (SHOW WINDOW) RECEPTACLE
GFCI	DUPLEX RECEPTACLE WITH GFCI PROTECTION
GFCI	COUNTER HEIGHT DUPLEX RECEPTACLE WITH GFCI PROTECTION
	SPLIT-WIRED (SWITCHED) RECEPTACLE
WP GFCI	WEATHER PROOF RECEPTACLE WITH GFCI PROTECTION
DW GFCI	DISHWASHER RECEPTACLE WITH GFCI PROTECTION
DISP. J	GARBAGE DISPOSAL
MW	MICROWAVE RECEPTACLE
FRIG	REFRIGERATOR RECEPTACLE
RANGE	RANGE - 208-240V/ 1-PHASE 50 AMP RECEPTACLE
WASH GFCI	WASHER RECEPTACLE WITH GFCI PROTECTION
DRYER	DRYER - 208-240V/ 1-PHASE 30 AMP RECEPTACLE
W/D	STACKED WASHER/DRYER - 208-240V/ 1-PHASE 30 AMP RECEPTACLE
	DUPLEX - MONUMENT FLOOR BOX
	DUPLEX - RECESSED FLOOR BOX
	PANELBOARD
	PANELBOARD W/ BUS (MCB OR MLO) - SINGLE LINE DIAGRAM
	TRANSFORMER - SINGLE LINE DIAGRAM
	TRANSFORMER W/ GROUND - SINGLE LINE DIAGRAM
	PADMOUNT TRANSFORMER - SINGLE LINE DIAGRAM
	AUTOMATIC TRANSFER SWITCH (ATS) - SINGLE LINE DIAGRAM
	STANDBY/EMERGENCY GENERATOR - SINGLE LINE DIAGRAM
	* METER BASE - SINGLE LINE DIAGRAM
	FUSED DISCONNECT - SINGLE LINE DIAGRAM
	* CT CABINET - SINGLE LINE DIAGRAM
L5-20R	LOCKING 125V/20 AMP - RECEPTACLE
L6-20R	LOCKING 250V/20 AMP (1-PHASE) - RECEPTACLE
L5-30R	LOCKING 125V/30 AMP - RECEPTACLE
L6-30R	LOCKING 250V/20 AMP (1-PHASE) - RECEPTACLE
PP	FURNITURE POWER POLE - RECEPTACLE
RFF	FURNITURE RECESSED FLOOR FEED
WFF	FURNITURE WALL FEED
FB	RECESSED FLOOR BOX - MULTI-SERVICE (POWER/DATA)
AV	RECESSED FLOOR BOX - MULTI-SERVICE W/AV
PT	RECESSED MULTI-SERVICE POKE THRU
	SPECIAL CONNECTION
	SIMPLEX RECEPTACLE
	EQUIPMENT CONNECTION
$M	MANUAL MOTOR STARTER
	NON-FUSED DISCONNECT
	FUSED DISCONNECT
	FUSED DISCONNECT W/MAGNETIC MOTOR STARTER
J	JUNCTION BOX
HNE	HOME NETWORK ENCLOSURE
	SECURITY CAMERA
	DATA LOCATION (RING & STRING, U.N.O)
	VOICE DROP - LOCATION
	VOICE/DATA DROP - LOCATION
TV	CABLE TV (COAX) - LOCATION
CR	CARD READER
DR	DOOR RELEASE - ACCESS CONTROL
DS	DOOR STRIKE - ACCESS CONTROL
ML	MAG-LOCK - ACCESS CONTROL
PS	POSITION SWITCH
PR	PROXY READER
RE	REQUEST TO EXIT SWITCH
WAP	WIRELESS INTERNET ACCESS POINT
	DOOR HOLD - FIRE ALARM
DSD	DUCT SMOKE DETECTOR
FABP	FIRE ALARM BOOSTER PANEL
FACP	FIRE ALARM CONTROL PANEL
FARA	FIRE ALARM REMOTE ANNUNCIATOR
FS	SPRINKLER FLOW SWITCH
H	HEAT DETECTOR - FIRE ALARM
	HORN - FIRE ALARM
	HORN/STROBE - FIRE ALARM
PIV	POST INDICATOR VALVE - (PIV)
PRE-A	PRE-ACTION PANEL
PS	PRESSURE SWITCH
F	PULL STATION - FIRE ALARM
SD	SMOKE DAMPER
SD	SMOKE DETECTOR
CO SD	COMBINATION SMOKE/CO2 DETECTOR
SP	SPEAKER - FIRE ALARM
SP	SPEAKER/STROBE - FIRE ALARM
	STROBE - FIRE ALARM

* FINAL METER CONFIGURATION TBD/ APPROVED BY LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

ABBREVIATIONS:

#	Number
Ω	Ohm
Φ	Phase
A	Amperes
AC	Alternating Current
A/C	Air Conditioning
AFCI	Arc Fault Current Interrupter
AHU	Air Handling Unit
AIC	Ampere Interrupting Capacity
AL	Aluminum
ATS	Automatic Transfer Switch
ATC	Automatic Temperature Control
AWG	American Wire Gauge
C	Conduit
CATV	Cable Television
CB	Critical Branch
C/B	Circuit Breaker
CKT	Circuit
CCTV	Closed Circuit Television
CT	Current Transformer
CU	Condensing Unit
DC	Direct Current
DIA	Diameter
EC	Electrical Contractor
EF	Exhaust Fan
ELEV	Elevator
EM	Emergency
EMT	Electrical Metallic Tubing
EPO	Emergency Power Off
EWC	Electric Water Cooler
EWH	Electric Water Heater
FA	Fire Alarm
FAA	Fire Alarm Annuciator
FLA	Full Load Amperes
FMC	Flexible Metal Conduit
GF	Gas Furnace
GFCI	Ground Fault Current Interrupter
GND	Ground
GWH	Gas Water Heater
HOA	Hand-Off-Automatic Switch
HVAC	Heating, Ventilation, Air Conditioning
HP	Heat Pump
HZ	Hertz
IG	Isolated Ground
IMC	Intermediate Metal Conduit
KCMIL	Thousand Circular Mils
KVA	Kilovolt-Amperes
LFMC	Liquid Tight Metal Conduit
LTG	Lighitng
LRA	Locked Rotor Amperes
MC	Metal Clad Cable
MCB	Main Circuit Breaker
MCC	Motor Control Center
MLO	Main Lug Only
NC	Normally Closed
NEC	National Electrical Code
NEMA	National Electrical Manufactures Association
NFPA	National Fire Protection Association
NL	Night Lighting (Egress Illumination)
NO	Normally Open
NTS	Not To Scale
P	Pole
PB	Push Button or Panic Button or Pull Box
PNL	Panel
PWR	Power
QTY	Quantity
REQ	Required
RMC	Rigid Metal Conduit
RNC	Rigid Non-Metallic Conduit
RTU	Roof Top Unit
ST	Shunt Trip
SW	Switch
TSTAT	Thermostat
TYP	Typical
UG	Underground
UL	Underwriters Labratory
UNO	Unless Noted Otherwise
V	Volt
VA	Volt-Amperes
W	Watt or Wire
WP	Weather Proof
XFMR	Transformer

EXAMPLES:



NOTE: ALL ITEMS MAY NOT BE USED.

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PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

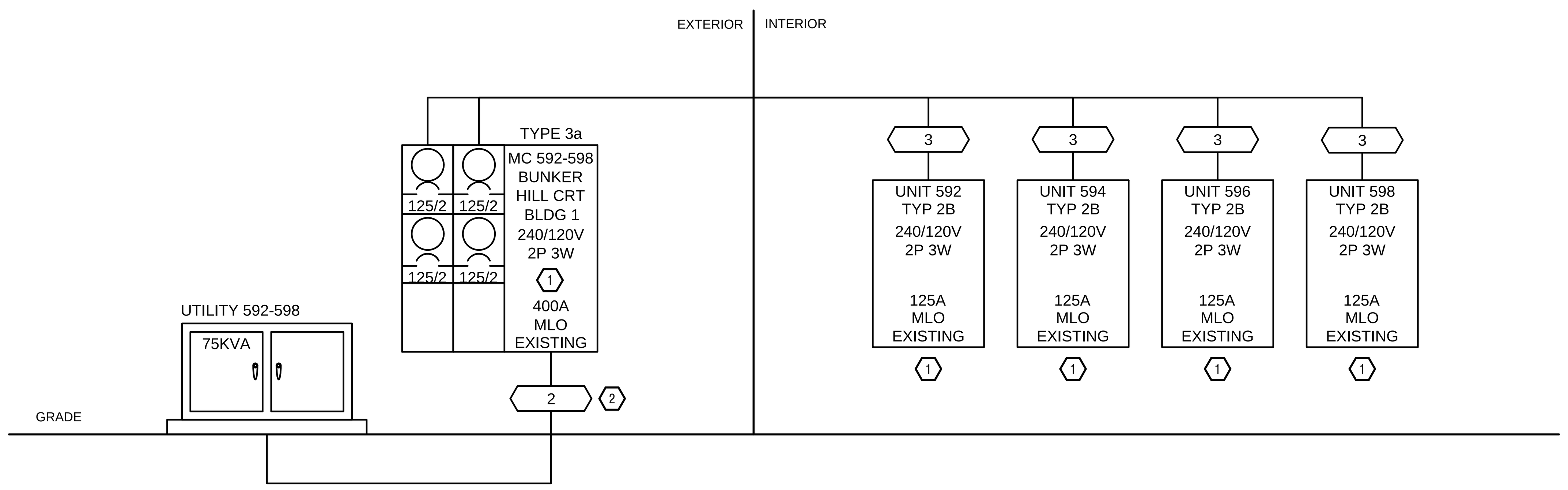
PROJECT #:

DRAWN: **CHECKED:**

BUILDING 1 & 10

ELECTRICAL DETAILS

E308



1
E309

ELECTRICAL SINGLE LINE DIAGRAM
TYPICAL BUILDING 3a
BUILDING 1 - BUNKER HILL COURT
UNITS 592, 594, 596, 598

MC 592–598

ROOM
MOUNTING FLUSH
FED FROM UTILITY 592–598
NOTE

VOLTS 240/120V 2P 3W
BUS AMPS 400
NEUTRAL 100%

AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 592 – TYP 2B	17.6	16.7	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	UNIT 594 – TYP 2B	16.7	17.6	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	UNIT 596 – TYP 2B	17.6	16.7	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	UNIT 598 – TYP 2B	16.7	17.6	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	68.5	68.5	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA	
LIGHTING AND RECEPTACLES	10.3	3,428 SF (3 VA/SF)
SMALL-APPLIANCE	12	
LAUNDRY	6	
APPLIANCES	38	
ELECTRIC COOKING	34	
HEATING	34.8	(100%)
COOLING	30.2	(0%)

	KVA
CONNECTED LOAD	135
DWELLING UNITS	4
DEMAND FACTOR	(45%)
CALCULATED LOAD	60.8
BALANCED LOAD	253 A

Meter Center Breakdown (MC 592-598)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
2B	33.78	4	135.12
Total Quantity and Connected Load =		**4**	**2B**

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

KEYED SHEET NOTES

1. EXISTING ELECTRICAL EQUIPMENT. VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT PRIOR TO CONSTRUCTION.
2. EXISTING FEEDER TO BE REPLACED TO MEET ELECTRICAL AMPACITY REQUIREMENTS. DEMO EXISTING FEEDER AND REPLACE WITH NEW FEEDER, REFER TO FEEDER SCHEDULE FOR SIZING. VERIFY THAT EXISTING CONDUIT IS IN GOOD CONDITION AND REUSE FOR NEW FEEDERS. REPLACE EXISTING CONDUIT IF IT IS DEEMED UNUSABLE.

FEEDER SCHEDULE

ID	CONDUIT AND FEEDER
2	3"C,2#500kcmil AL,#500kcmil AL N
3	2#1/0 AL,#1/0 AL N,#4 AL G

SIZING METHOD: COMPACT AL 75°C 100A AND ABOVE, CU 75°C BELOW 100A

GENERAL NOTES-SINGLE LINE DIAGRAM

A. ALL BREAKERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT AT THEIR LOCATION. WHERE SERIES- RATED COMBINATIONS ARE USED IN ACCORDANCE WITH NEC 240.86 (B) AND (C) THE CONTRACTOR AND/OR HIS EQUIPMENT SUPPLIER MUST PROVIDE APPROPRIATE DOCUMENTATION AND LABELING.
B. WHERE BREAKERS WITH ADJUSTABLE SETTINGS ARE FURNISHED TO THE PROJECT. THE MANUFACTURER'S REP SHALL IDENTIFY AND PROVIDE THE APPROPRIATE SETTINGS TO THE ELECTRICAL CONTRACTOR FOR HIS USE IN INSTALLATION.
C. PANEL SCHEDULES INDICATE BREAKER SIZE ONLY. PROVIDE AFCI/GFCI PROTECTION AS REQUIRED BY NEC. COORDINATE FINAL BREAKER SIZES/TYPES FOR ITEMS FURNISHED BY OTHERS WITH SHOP DRAWINGS OR PRODUCT INFORMATION FOR ACTUAL EQUIPMENT BEING CONNECTED
D. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED BY AHJ.
E. PROVIDE SELECTIVE COORDINATION FOR EMERGENCY SYSTEM OVERCURRENT PROTECTION DEVICES IN ACCORDANCE WITH NEC 700.27.
F. PROVIDE GROUND-FAULT PROTECTION FOR EQUIPMENT IN ACCORDANCE WITH NEC 240.13 AND NEC 230.95.
G. OVERCURRENT PROTECTION DEVICES SUPPLYING TRANSFORMERS WHICH ARE NOT LOCATED WITHIN SIGHT OF THEIR OVERCURRENT PROTECTION SHALL BE LOCKABLE AND THE TRANSFORMER SHALL BE FIELD MARKED WITH THE LOCATION OF THE OVERCURRENT PROTECTION DEVICE.
H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

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PROJECT #:
DRAWN: CHECKED:

BUILDING 1 & 10

ELECTRICAL DETAILS

E309

PASTE STICK ON SPECS IN THIS MTEXT

ELECTRICAL SPECIFICATIONS

1. GENERAL DEMOLITION
   a. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, BASE BUILDING SPECIFICATIONS AND DRAWINGS, SHOP DRAWING MANUALS AND AS-BUILT PLANS, EXCEPT AS NOTED HEREIN, WHICH APPLY IN ALL RESPECTS TO THIS SECTION. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING THE WORK
2. USE OF DRAWINGS AND SPECIFICATIONS
   a. EBS DRAWINGS AND SPECIFICATIONS ARE INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL ELECTRICAL SYSTEM ARE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. STANDARDS
   a. MATERIALS EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF NEC, ASTM, UL, ETL, NEMA, ANSI, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.
4. CODES
   a. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE ELECTRICAL CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT ANY EXTRA COST TO OWNER.
5. PERMITS AND FEES
   a. THE ELECTRICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE THE ELECTRICAL WORK.
6. WARRANTY
   a. THE ELECTRICAL CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE, AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.
7. SITE EXAMINATION
   a. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY EXAMINE ALL AREAS OF WORK WHERE EQUIPMENT WILL BE INSTALLED AND SHALL REPORT ANY CONDITION THAT, IN HIS OPINION, PREVENTS THE PROPER INSTALLATION OF THE ELECTRICAL WORK PRIOR TO BID. HE SHALL ALSO EXAMINE THE DRAWINGS AND SPECIFICATIONS OF OTHER BRANCHES OF WORK MAKING REFERENCE TO THEM FOR DETAILS OF NEW OR EXISTING BUILDING CONDITIONS.
   b. ALL WORK SHALL BE DONE AT TIMES CONVENIENT TO THE OWNER AND ONLY DURING NORMAL WORKING HOURS, UNLESS SPECIFIED OTHERWISE.
   c. ELECTRICAL CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AND BE RESPONSIBLE FOR THEM.
   d. ACCESS PANELS ARE NOT SHOWN ON DRAWINGS. DURING SITE EXAMINATION, CONTRACTOR SHALL IDENTIFY ALL AREAS WHERE ACCESS PANELS ARE REQUIRED, AND REPORT TO GENERAL CONTRACTOR. DESIGNATION OF WHO FURNISHES AND WHO INSTALLS ACCESS PANELS MUST BE COORDINATED WITH GENERAL CONTRACTOR PRIOR TO STARTING WORK.
8. CONTRACTOR COORDINATION.
   a. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. WHERE THE ELECTRICAL CONTRACTOR IS MAKING A CONNECTION TO EQUIPMENT/COMPONENTS THAT ARE FURNISHED BY OTHERS, ELECTRICAL CONTRACTOR TO VERIFY ALL CONNECTION REQUIREMENTS WITH ACTUAL EQUIPMENT BEING CONNECTED, INCLUDING BUT NOT LIMITED TO OCP SIZE, MEANS OF DISCONNECT, SPECIAL CONNECTION REQUIREMENTS, OR OTHER ITEMS INDICATED ON SHOP DRAWINGS, OR MANUFACTURER'S INSTALLATION INSTRUCTIONS AND/OR INSTALLATION DIAGRAMS, AND FURNISH ALL LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION AND OPERATION OF THE EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR FAILURE TO COORDINATE, AFTER ELECTRICAL CONNECTIONS HAVE BEEN INSTALLED.
   b. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
   c. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS; USE ACTUAL BUILDING DIMENSIONS.
   d. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE ELECTRICAL CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
9. UTILITY COORDINATION
   a. ELECTRICAL CONTRACTOR TO VERIFY INSTALLATION OF METERING AND UTILITY DEMARCATION EQUIPMENT WITH UTILITY PROVIDER PRIOR TO START OF WORK AND FURNISH AND INSTALL REQUIRED ITEMS PER UTILITY COMPANY'S INSTALLATION REQUIREMENTS AND/OR MANUALS.
10. SUBMITTALS
    a. PRODUCTS INSTALLED BY THE ELECTRICAL CONTRACTOR AND PROVIDED BY OTHERS MUST BE SUBMITTED FOR REVIEW PRIOR TO PURCHASING. PRODUCTS SHALL NOT BE SELECTED BASED ON PERMIT DRAWINGS WITHOUT EXPRESS PERMISSION - PRODUCTS SHALL BE SELECTED BASED ON CONSTRUCTION DRAWINGS.
11. RECORD DRAWING
    a. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING RECORD DRAWINGS WHERE REQUIRED. DRAWINGS SHALL BE PRODUCED IN AUTOCAD 2004 FORMAT OR LATER.
12. SHOP DRAWINGS
    a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
    b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE ELECTRICAL CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
    c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE ELECTRICAL CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
13. TESTING
    a. ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. BALANCE ALL BRANCH CIRCUIT LOADS BETWEEN THE PHASES OF THE SYSTEM TO WITHIN 10% OF THE HIGHEST PHASE LOAD IN EACH PANELBOARD.
14. TEMPORARY POWER
    a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL WIRING FOR CONSTRUCTION. THE TEMPORARY SERVICE SHALL BE A MINIMUM OF 60 AMPS, SINGLE PHASE, THREE WIRE, 120/208 VOLTS FUSED AT MAIN DISCONNECT. ALL RECEPTACLES ON THIS TEMPORARY SERVICE SHALL BE PROTECTED BY A GFI BREAKER.
15. MECHANICAL EQUIPMENT
    a. ALL FINAL CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL CONTRACTOR.
16. DEMOLITION
    a. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEENERGIZING CIRCUITS IN DEMOLITION AREAS TO INSURE A SAFE CONDITION. ELECTRICAL DEVICES AND ASSOCIATED WIRING LOCATED WITHIN THE DEMOLITION AREA THAT WILL NO LONGER BE USED SHALL BE REMOVED AND PROPERLY DISPOSED OF AT CONTRACTOR'S EXPENSE UNLESS OTHERWISE NOTED.
17. POWER OUTAGES
    a. THE ELECTRICAL CONTRACTOR SHALL SCHEDULE ALL ELECTRICAL SYSTEM(S) OUTAGES WITH THE GENERAL CONTRACTOR AND OWNER AT LEAST 24 HOURS IN ADVANCE. UNLESS APPROVED OTHERWISE ALL OUTAGES SHALL OCCUR BETWEEN 11:00PM AND 5:00AM.
18. GROUNDING AND BONDING
    a. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250.
    b. ANY GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.
19. MATERIALS
    a. PROVIDE ALL NEW MATERIAL AND EQUIPMENT UNLESS NOTED OTHERWISE. ALL EQUIPMENT SHALL BE UL APPROVED AND LABELED, OR OTHER APPROVED TESTING ORGANIZATION WHICH HAS ACCEPTANCE BY THE LOCAL JURISDICTION, FOR THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS. NO SUBSTITUTION TO MATERIALS SPECIFIED WILL BE ALLOWED UNLESS APPROVED BY THE OWNER.
    b. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED. NO ALLOWANCES WILL BE MADE FOR ANY CHANGES THAT OCCUR IF PERMIT DRAWINGS HAVE NOT BEEN APPROVED PRIOR TO ORDERING.
20. CUTTING AND FITTING
    a. PERFORM CUTTING, CORING, FITTING, REPAIRING AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBER SHALL BE DONE WITHOUT THE CONSENT OF THE OWNER. PROPERLY FILL, SEAL, FIREPROOF, AND WATERPROOF ALL OPENINGS, SLEEVES, AND HOLES IN SLABS, WALLS, AND CASEWORK.
21. WIRING METHODS
    a. PROVIDE CODE APPROVED WIRING METHODS FOR BRANCH CIRCUITING INDOORS, SUCH AS NM CABLE (ONLY WHERE PERMITTED BY NEC 334), EMT CONDUIT, OR MC CABLE FOR MECHANICAL EQUIPMENT, LIGHTING, AND POWER.
    b. CONDUIT RUNS ON EXTERIOR OF BUILDING SHALL BE RIGID STEEL CONDUIT WITH WEATHER TIGHT, CORROSION-RESISTANT FITTINGS. SCHEDULE 40 PVC IS ACCEPTABLE WHERE PERMITTED BY CODE AND OR UNDERGROUND RUNS OR CONCRETE ENCASEMENT WHERE NOT EXPOSED TO PHYSICAL DAMAGE.
    c. THE MINIMUM SIZE OF CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED. CONDUIT CONNECTORS SHALL BE DOUBLE LOCKNUT TYPE, UL LISTED AND LABELED, WITH COMPRESSION OR SET SCREW FITTINGS.
    d. RIGID CONDUIT SHALL BE HOT DIPPED GALVANIZED.
    e. WHERE RACEWAYS ARE INSTALLED FOR OTHERS TO USE, OR FOR FUTURE USE, PROVIDE NYLON PULL STRING.
    f. PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE SEALED USING 3M FIRE BARRIER CAULK, NELSON ELECTRIC FLAMESEAL OR T&B FLAMESAFE OR OTHER APPROVED METHOD.
22. CONDUCTORS AND TERMINATIONS
    a. BRANCH CONDUCTORS SHALL BE COPPER, FEEDERS AS INDICATED ON RISER DIAGRAM. CONDUCTORS SHALL BE INSULATED FOR 600V NUMBER 12 AWG MINIMUM. PROVIDE WIRES AND CABLES AS INDICATED LISTED AND SUITABLE FOR TEMPERATURE, CONDITIONS, AND LOCATION WHERE INSTALLED.
23. MOTORS AND OTHER WIRING
    a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED CONDUIT, WIRING, AND SAFETY SWITCHES FOR ALL MOTORS, AND OTHER ELECTRICAL EQUIPMENT, EVEN THOUGH THE MOTORS AND ELECTRICAL EQUIPMENT MAY BE SUPPLIED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE ALL WORK AND CONNECTIONS REQUIRED TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL. PROVIDE MAGNETIC STARTERS FOR EQUIPMENT AS INDICATED ON THE DRAWINGS.
    b. THE ELECTRICAL EQUIPMENT MAY INCLUDE BUT NOT BE LIMITED TO SUCH ITEMS AS GRILLE MOTORS AND INTERLOCKS, EXTERIOR AND INTERIOR SIGNAGE, STARTING DEVICES, MOTOR CONTROLLERS, FLOAT SWITCHES, ALARM DEVICES OR SYSTEMS, PUSH BUTTONS, EXHAUST FANS, DATA SYSTEMS, INTERCOMS AND STEREO SYSTEMS. THE ELECTRICAL CONTRACTOR SHALL VERIFY EQUIPMENT LOCATION AND SIZES WITH THE TRADE SUPPLYING THE EQUIPMENT BEFORE INSTALLING THE CONDUIT OR OUTLETS.
24. DEVICES
    a. HUBBELL, LEVITON, OR APPROVED EQUAL WITH MATCHING COVERPLATES.
    b. PROVIDE SPECIFICATION GRADE WIRING DEVICES, IN TYPES, CHARACTERISTICS, GRADES, COLORS, AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED, WHICH ARE UL-LISTED AND WHICH COMPLY WITH NEMA WD1 AND OTHER APPLICABLE UL AND NEMA STANDARDS. VERIFY COLOR SELECTIONS WITH ARCHITECT. PROVIDE DEVICE PLATES TO MATCH DEVICE COLORS.
    c. PROVIDE GFCI PROTECTION FOR ALL KITCHEN 15 AND 20-AMP RECEPTACLES. WHERE THE RECEPTACLE IS RENDERED INACCESSIBLE BY EQUIPMENT PROVIDE GFCI PROTECTION AT THE CIRCUIT BREAKER.
25. SERVICE ENTRANCE AND DISTRIBUTION EQUIPMENT
    a. ELECTRICAL CONTRACTOR MUST SUBMIT DRAWINGS FOR PERMIT AND RECEIVE APPROVAL PRIOR TO ORDERING EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR EQUIPMENT CHANGES THAT OCCUR PRIOR TO RECEIPT OF APPROVED PLANS.
26. DISCONNECTS AND FUSED SWITCHES
    a. HEAVY DUTY TYPE, HORSEPOWER RATED WITH INTERLOCKING COVER. NEMA 1 TYPICAL. OUTDOOR AND WET LOCATION SWITCHES SHALL BE RAINTIGHT TYPE NEMA 3RR. ALL SWITCHES SHALL BE LOCKABLE. FUSES IN CIRCUITS RATED AT 600 AMPERES OR LESS SHALL BE UL CLASS RK1 DUAL-ELEMENT, TIME-DELAY, CURRENT LIMITING FUSES. FUSES IN CIRCUITS RATED AT 601 AMPERES OR LARGER SHALL BE UL CLASS L TIME-DELAY, CURRENT LIMITING FUSES.
27. NAMEPLATES
    a. PROVIDE PERMANENT NAMEPLATE LABELING ON ALL DISCONNECTS. INCLUDE LOAD SERVED, VOLTAGE, PHASE, HORSEPOWER, FUSE SIZE, AND TYPE.
28. MOUNTING
    a. MOUNT INDEPENDENT OF THE MECHANICAL UNIT HOUSING UNLESS SPECIFICALLY ACCEPTED BY THE LOCAL CODE AUTHORITY. PROVIDE UNISTRUT SUPPORT CHANNELS MOUNTED IN COORDINATION WITH ROOF PENETRATION AND PATCHING WORK. COORDINATE WITH GENERAL CONTRACTOR.
29. GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS AND EQUIPMENT
    a. PROVIDE GROUNDING AND BONDING FOR ELECTRICAL SERVICE IN ACCORDANCE WITH NEC ARTICLE 250.
    b. ALL MAJOR PARTS NOT CARRYING CURRENT, INCLUDING BUT NOT LIMITED TO, SECONDARY FEEDER CIRCUIT, EQUIPMENT AND PANELBOARD ENCLOSURES, PULL AND JUNCTION BOXES, SHALL BE PROPERLY GROUNDED. METALLIC RACEWAYS SHALL UTILIZE DOUBLE LOCKNUTS AND OTHER FITTINGS AS REQUIRED TO PROVIDE GROUND CONTINUITY.
30. MULTI-TENANT METER CENTERS
    a. PROVIDE METER CENTERS(S) AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. METER CENTERS SHALL HAVE MAIN LUGS ONLY OR MAIN BREAKERS AS REQUIRED, AND SHALL HAVE BRANCH BREAKER INSTALLED FOR EACH METER SOCKET. METER CENTERS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL, AND SHALL BE OF THE SAME MANUFACTURE AS LOAD CENTERS OR PANELBOARDS SERVED. METER CENTERS SHALL BE ENCLOSED NEMA 1, NEMA 3R AS REQUIRED. FINAL CONFIGURATION (NUMBER OF METERS PER SECTION, END-MAIN/CENTER-MAIN, ETC. SHALL BE DETERMINED BY CONTRACTOR. ALL BUSSING MUST BE RATED FOR THE LOADS SERVED. METER CENTERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT.
31. PANELBOARDS
    a. PROVIDE BRANCH CIRCUIT PANELBOARD(S) AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. PANELBOARDS SHALL HAVE BOLTED, THERMAL AND MAGNETIC BREAKERS WITH MAIN LUGS ONLY OR MAIN BREAKERS AS REQUIRED. PANELBOARDS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL, AND BE ENCLOSED IN NEMA 1 TYPE HOUSING UNLESS NOTED OTHERWISE. ENCLOSURE(S) SHALL BE COMPLETE WITH A HINGED DOOR, CYLINDER LOCK, AND A NEATLY TYPED DIRECTORY UNDER PLASTIC COVER IN EACH PANEL DOOR. ALL MULTIPLE POLE BREAKERS SHALL HAVE A COMMON TRIP HANDLE. ALL PANELS AND BREAKERS SHALL BE RATED TO WITHSTAND AVAILABLE FAULT CURRENT.
32. RESIDENTIAL LOAD CENTERS
    a. PROVIDE LOAD CENTERS AS SHOWN ON DRAWINGS AND AS SPECIFIED HEREIN. LOAD CENTERS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL. LOAD CENTERS SHALL CONTAIN A NEATLY TYPED DIRECTORY IN EACH DOOR. ALL MULTIPLE POLE BREAKERS SHALL HAVE A COMMON TRIP HANDLE. ALL PANELS AND BREAKERS SHALL BE RATED TO WITHSTAND AVAILABLE FAULT CURRENT. LOAD CENTERS MAY BE USED IN AREAS OTHER THAN DWELLING UNITS WHERE APPROPRIATE AND WHERE APPROVED BY OWNER'S REPRESENTATIVE.
33. LIGHTING
    a. PROVIDE A NEW LIGHTING SYSTEM COMPLETE AND FULLY OPERATIONAL AND IN CONFORMANCE WITH CODE AND UL LISTING REQUIREMENTS. CLEAN ALL FIXTURES AT TIME OF JOB COMPLETION UTILIZING MANUFACTURERS APPROVED OR RECOMMENDED CLEANING SOLUTIONS. ALL FIXTURES AND LAMPS ARE PROVIDED BY THIS CONTRACTOR AS SCHEDULED UNLESS NOTED OTHERWISE. CONTRACTOR SHALL FURNISH ALL BOXES, MOUNTING KITS, TRANSFORMERS, CONTROLLERS, AND OTHER COMPONENTS NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL INSTALLATION.
    b. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.
34. TELEPHONE SYSTEM
    a. TELEPHONE WIRING AND SYSTEM PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL PROVIDE PLASTER RING AND PULL STRING FROM EACH DEVICE LOCATION TO ABOVE ACCESSIBLE CEILING.
35. SECURITY SYSTEM NOTES
    a. SECURITY WIRING AND SYSTEM PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. PROVIDE POWER FOR OWNER'S HEAD-END EQUIPMENT AND REMOTE POWER FOR SECURE DOORS AS REQUIRED.
36. DATA/POS/A-V/SYSTEM NOTES
    a. DATA, POS AND/OR A-V WIRING AND SYSTEMS PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL PROVIDE PLASTER RING AND PULL STRING FROM EACH DEVICE LOCATION TO ABOVE ACCESSIBLE CEILING.

FRANKLIN COMMONS UNITS LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	INPUT VA	DESCRIPTION	MODEL 1	MODEL 2	NOTE 2	NOTE 1
K1		(1) 10W LED	10	KEYLESS FIXTURE	CONTRACTOR SELECTED		PROVIDE NEW LED LAMP	EXISTING LOCATION
L1		(1) 45W LED	45	LED LINEAR SURFACE MOUNT	OWNER SELECTED	CONTRACTOR PROVIDED		EXISTING LOCATION
S1		(1) 15W LED	15	6" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED		EXISTING LOCATION
S2		(1) 25W LED	25	12" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED		EXISTING LOCATION
V1		(1) 15W LED	15	LED VANITY LIGHT	OWNER SELECTED	CONTRACTOR PROVIDED		EXISTING LOCATION
WS1		(1) 15W LED	15	EXTERIOR LED WALL SCONCE	OWNER SELECTED	CONTRACTOR PROVIDED		EXISTING LOCATION

ELECTRICAL LEGEND

*SEE LIGHT FIXTURE SCHEDULE FOR FIXTURE TYPES.

- $ SINGLE POLE LIGHT SWITCH
- $3 THREE WAY LIGHT SWITCH
- $4 FOUR WAY LIGHT SWITCH
- $D DIMMER SWITCH
- $FS FAN SPEED CONTROL
- DT OCC SENSOR - CEILING - DUAL TECHNOLOGY
- PIR OCC SENSOR - CEILING - PASSIVE INFRARED
- $DT OCC SENSOR - WALL - DUAL TECHNOLOGY
- $PIR OCC SENSOR - WALL - PASSIVE INFRARED
- OCC SENSOR POWER PACK
- OCC SENSOR POWER PACK - 2 CKT
- DUPLEX RECEPTACLE
- USB DUPLEX RECEPTACLE W/USB JACKS
- COUNTER HEIGHT DUPLEX RECEPTACLE
- QUAD RECEPTACLE
- COUNTER HEIGHT QUAD RECEPTACLE
- (CLNG) CEILING (SHOW WINDOW) RECEPTACLE
- GFCI DUPLEX RECEPTACLE WITH GFCI PROTECTION
- GFCI COUNTER HEIGHT DUPLEX RECEPTACLE WITH GFCI PROTECTION
- SPLIT-WIRED (SWITCHED) RECEPTACLE
- WP GFCI WEATHER PROOF RECEPTACLE WITH GFCI PROTECTION
- DW GFCI DISHWASHER RECEPTACLE WITH GFCI PROTECTION
- DISP. GARBAGE DISPOSAL
- MW MICROWAVE RECEPTACLE
- FRIG REFRIGERATOR RECEPTACLE
- RANGE RANGE - 208-240V/ 1-PHASE 50 AMP RECEPTACLE
- WASH GFCI WASHER RECEPTACLE WITH GFCI PROTECTION
- DRYER DRYER - 208-240V/ 1-PHASE 30 AMP RECEPTACLE
- W/D STACKED WASHER/DRYER - 208-240V/ 1-PHASE 30 AMP RECEPTACLE
- DUPLEX - MONUMENT FLOOR BOX
- DUPLEX - RECESSED FLOOR BOX
- PANELBOARD
- PANELBOARD W/ BUS (MCB OR MLO) - SINGLE LINE DIAGRAM
- TRANSFORMER - SINGLE LINE DIAGRAM
- TRANSFORMER W/ GROUND - SINGLE LINE DIAGRAM
- PADMOUNT TRANSFORMER - SINGLE LINE DIAGRAM
- AUTOMATIC TRANSFER SWITCH (ATS) - SINGLE LINE DIAGRAM
- STANDBY/EMERGENCY GENERATOR - SINGLE LINE DIAGRAM
- * METER BASE - SINGLE LINE DIAGRAM
- FUSED DISCONNECT - SINGLE LINE DIAGRAM
- * CT CABINET - SINGLE LINE DIAGRAM

- L5-20R LOCKING 125V/20 AMP - RECEPTACLE
- L6-20R LOCKING 250V/20 AMP (1-PHASE) - RECEPTACLE
- L5-30R LOCKING 125V/30 AMP - RECEPTACLE
- L6-30R LOCKING 250V/20 AMP (1-PHASE) - RECEPTACLE
- PP FURNITURE POWER POLE - RECEPTACLE
- RFF FURNITURE RECESSED FLOOR FEED
- WFF FURNITURE WALL FEED
- FB RECESSED FLOOR BOX - MULTI-SERVICE (POWER/DATA)
- AV RECESSED FLOOR BOX - MULTI-SERVICE W/AV
- PT RECESSED MULTI-SERVICE POKE THRU
- SPECIAL CONNECTION
- SIMPLEX RECEPTACLE
- EQUIPMENT CONNECTION
- $M MANUAL MOTOR STARTER
- NON-FUSED DISCONNECT
- FUSED DISCONNECT
- FUSED DISCONNECT W/MAGNETIC MOTOR STARTER
- JUNCTION BOX
- HNE HOME NETWORK ENCLOSURE
- SECURITY CAMERA
- DATA LOCATION (RING & STRING, U.N.O)
- VOICE DROP - LOCATION
- VOICE/DATA DROP - LOCATION
- CABLE TV (COAX) - LOCATION
- CR CARD READER
- DR DOOR RELEASE - ACCESS CONTROL
- DS DOOR STRIKE - ACCESS CONTROL
- ML MAG-LOCK - ACCESS CONTROL
- PS POSITION SWITCH
- PR PROXY READER
- RE REQUEST TO EXIT SWITCH
- WAP WIRELESS INTERNET ACCESS POINT
- DOOR HOLD - FIRE ALARM
- DSD DUCT SMOKE DETECTOR
- FABP FIRE ALARM BOOSTER PANEL
- FACP FIRE ALARM CONTROL PANEL
- FARA FIRE ALARM REMOTE ANNUNCIATOR
- FS SPRINKLER FLOW SWITCH
- H HEAT DETECTOR - FIRE ALARM
- HORN - FIRE ALARM
- HORN/STROBE - FIRE ALARM
- PIV POST INDICATOR VALVE - (PIV)
- PRE-A PRE-ACTION PANEL
- PS PRESSURE SWITCH
- F PULL STATION - FIRE ALARM
- SD SMOKE DAMPER
- SMOKE DETECTOR
- CO COMBINATION SMOKE/CO2 DETECTOR
- SP SPEAKER - FIRE ALARM
- SP SPEAKER/STROBE - FIRE ALARM
- STROBE - FIRE ALARM

* FINAL METER CONFIGURATION TBD/ APPROVED BY LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

ABBREVIATIONS:

#	Number	HP	Heat Pump
Ω	Ohm	HZ	Hertz
Φ	Phase	IG	Isolated Ground
A	Amperes	IMC	Intermediate Metal Conduit
AC	Alternating Current	KCMIL	Thousand Circular Mils
A/C	Air Conditioning	KVA	Kilovolt-Amperes
AFCI	Arc Fault Current Interrupter	LFMC	Liquid Tight Metal Conduit
AHU	Air Handling Unit	LTG	Lighting
AIC	Ampere Interrupting Capacity	LRA	Locked Rotor Amperes
AL	Aluminum	MC	Metal Clad Cable
ATS	Automatic Transfer Switch	MCB	Main Circuit Breaker
ATC	Automatic Temperature Control	MCC	Motor Control Center
AWG	American Wire Gauge	MLO	Main Lug Only
C	Conduit	NC	Normally Closed
CATV	Cable Television	NEC	National Electrical Code
CB	Critical Branch	NEMA	National Electrical Manufactures Association
C/B	Circuit Breaker	NFPA	National Fire Protection Association
CKT	Circuit	NL	Night Lighting (Egress Illumination)
CCTV	Closed Circuit Television	NO	Normally Open
CT	Current Transformer	NTS	Not To Scale
CU	Condensing Unit	P	Pole
DC	Direct Current	PB	Push Button or Panic Button or Pull Box
DIA	Diameter	PNL	Panel
EC	Electrical Contractor	PWR	Power
EF	Exhaust Fan	QTY	Quantity
ELEV	Elevator	REQ	Required
EM	Emergency	RMC	Rigid Metal Conduit
EMT	Electrical Metallic Tubing	RNC	Rigid Non-Metallic Conduit
EPO	Emergency Power Off	RTU	Roof Top Unit
EWC	Electric Water Cooler	ST	Shunt Trip
EWH	Electric Water Heater	SW	Switch
FA	Fire Alarm	TSTAT	Thermostat
FAA	Fire Alarm Annuciator	TYP	Typical
FLA	Full Load Amperes	UG	Underground
FMC	Flexible Metal Conduit	UL	Underwriters Labratory
GF	Gas Furnace	UNO	Unless Noted Otherwise
GFCI	Ground Fault Current Interrupter	V	Volt
GND	Ground	VA	Volt-Amperes
GWH	Gas Water Heater	W	Watt or Wire
HOA	Hand-Off-Automatic Switch	WP	Weather Proof
HVAC	Heating, Ventilation, Air Conditioning	XFMR	Transformer

EXAMPLES:

SWITCH GROUP
FUNCTION
FIXTURE TYPE (SEE SCHEDULE)
SWITCH
PANEL-CIRCUIT
WEATHER PROOF
PANEL NAME AND CIRCUIT NUMBER
GROUND FAULT PROTECTED
ISOLATED GROUND

NOTE: ALL ITEMS MAY NOT BE USED.

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STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

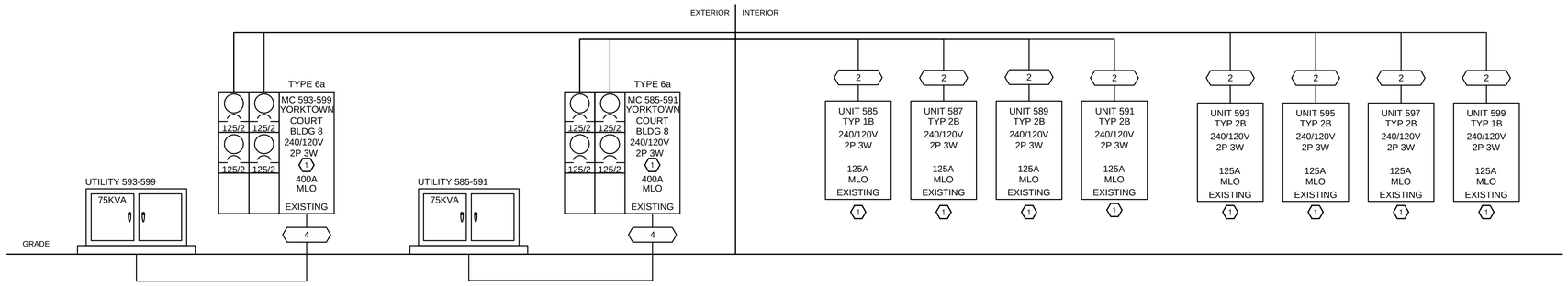
REVISIONS
5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN:
CHECKED:

BUILDING 8 & 20

ELECTRICAL DETAILS

E321



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E322

ELECTRICAL SINGLE LINE DIAGRAM
TYPICAL BUILDING 6a
BUILDING 8 - YORKTOWN COURT
UNITS 585, 587, 589, 591, 593, 595, 597, 599

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

KEYED SHEET NOTES

1. EXISTING ELECTRICAL EQUIPMENT. VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT PRIOR TO CONSTRUCTION.

FEEDER SCHEDULE

ID	CONDUIT AND FEEDER
2	2#1/0 AL,#1/0 AL N,#4 AL G
4	3"C,2#350kcmil AL,#4/0 AL N

SIZING METHOD: COMPACT AL 75°C 100A AND ABOVE, CU 75°C BELOW 100A

GENERAL NOTES-SINGLE LINE DIAGRAM

A. ALL BREAKERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT AT THEIR LOCATION. WHERE SERIES- RATED COMBINATIONS ARE USED IN ACCORDANCE WITH NEC 240.86 (B) AND (C) THE CONTRACTOR AND/OR HIS EQUIPMENT SUPPLIER MUST PROVIDE APPROPRIATE DOCUMENTATION AND LABELING.

B. WHERE BREAKERS WITH ADJUSTABLE SETTINGS ARE FURNISHED TO THE PROJECT. THE MANUFACTURER'S REP SHALL IDENTIFY AND PROVIDE THE APPROPRIATE SETTINGS TO THE ELECTRICAL CONTRACTOR FOR HIS USE IN INSTALLATION.

C. PANEL SCHEDULES INDICATE BREAKER SIZE ONLY. PROVIDE AFCI/GFCI PROTECTION AS REQUIRED BY NEC. COORDINATE FINAL BREAKER SIZES/TYPES FOR ITEMS FURNISHED BY OTHERS WITH SHOP DRAWINGS OR PRODUCT INFORMATION FOR ACTUAL EQUIPMENT BEING CONNECTED

D. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED BY AHJ.

E. PROVIDE SELECTIVE COORDINATION FOR EMERGENCY SYSTEM OVERCURRENT PROTECTION DEVICES IN ACCORDANCE WITH NEC 700.27.

F. PROVIDE GROUND-FAULT PROTECTION FOR EQUIPMENT IN ACCORDANCE WITH NEC 240.13 AND NEC 230.95.

G. OVERCURRENT PROTECTION DEVICES SUPPLYING TRANSFORMERS WHICH ARE NOT LOCATED WITHIN SIGHT OF THEIR OVERCURRENT PROTECTION SHALL BE LOCKABLE AND THE TRANSFORMER SHALL BE FIELD MARKED WITH THE LOCATION OF THE OVERCURRENT PROTECTION DEVICE.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

MC 585–591

ROOM
MOUNTING FLUSH
FED FROM UTILITY 585–591
NOTE

VOLTS 240/120V 2P 3W
BUS AMPS 400
NEUTRAL 100%

AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 585 – TYP 1B	16.3	15.3	2#1/0 AL,#1/0 AL N,#4 AL G
2	125/2	UNIT 587 – TYP 2B	16.7	17.6	2#1/0 AL,#1/0 AL N,#4 AL G
3	125/2	UNIT 589 – TYP 2B	17.6	16.7	2#1/0 AL,#1/0 AL N,#4 AL G
4	125/2	UNIT 591 – TYP 2B	16.7	17.6	2#1/0 AL,#1/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	67.2	67.2	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	9.57	3,191 SF (3 VA/SF)	CONNECTED LOAD	133
SMALL-APPLIANCE	12		DWELLING UNITS	4
LAUNDRY	6		DEMAND FACTOR	(45%)
APPLIANCES	38		CALCULATED LOAD	59.7
ELECTRIC COOKING	34		BALANCED LOAD	249 A
HEATING	33	(100%)		
COOLING	29.1	(0%)		

Meter Center Breakdown (MC 585-591)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
1B	31.23	1	31.23
2B	33.78	3	101.34
Total Quantity and Connected Load =		**4**	**132.58**

MC 593–599

ROOM
MOUNTING FLUSH
FED FROM UTILITY 593–599
NOTE

VOLTS 240/120V 2P 3W
BUS AMPS 400
NEUTRAL 100%

AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 593 – TYP 2B	17.6	16.7	2#1/0 AL,#1/0 AL N,#4 AL G
2	125/2	UNIT 595 – TYP 2B	16.7	17.6	2#1/0 AL,#1/0 AL N,#4 AL G
3	125/2	UNIT 597 – TYP 2B	17.6	16.7	2#1/0 AL,#1/0 AL N,#4 AL G
4	125/2	UNIT 599 – TYP 1B	15.3	16.3	2#1/0 AL,#1/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	67.2	67.2	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	9.57	3,191 SF (3 VA/SF)	CONNECTED LOAD	133
SMALL-APPLIANCE	12		DWELLING UNITS	4
LAUNDRY	6		DEMAND FACTOR	(45%)
APPLIANCES	38		CALCULATED LOAD	59.7
ELECTRIC COOKING	34		BALANCED LOAD	249 A
HEATING	33	(100%)		
COOLING	29.1	(0%)		

Meter Center Breakdown (MC 593-599)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
1B	31.23	1	31.23
2B	33.78	3	101.34
Total Quantity and Connected Load =		**4**	**132.58**

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STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

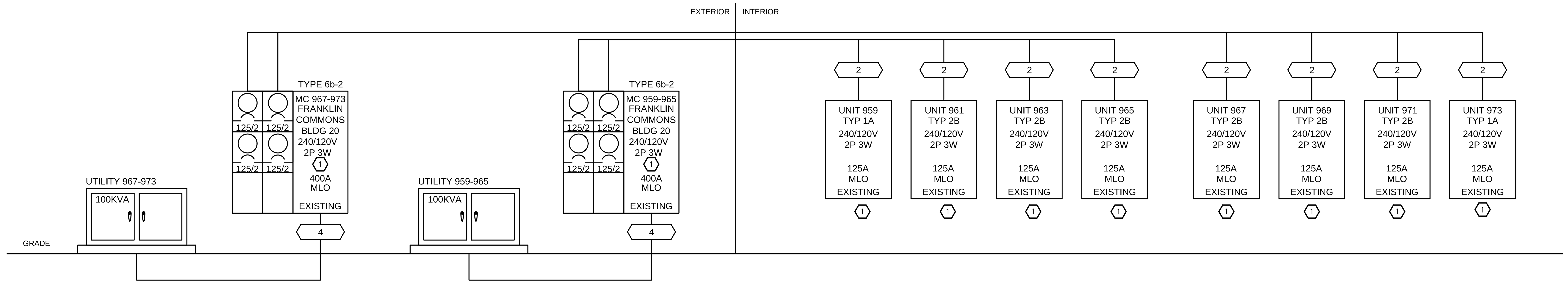
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 8 & 20
ELECTRICAL DETAILS

E322



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E323

ELECTRICAL SINGLE LINE DIAGRAM
TYPICAL BUILDING 6b-2
BUILDING 20 - FRANKLIN COMMONS CIRCLE
UNITS 959, 961, 963, 965, 967, 969, 971, 973

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

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KEYED SHEET NOTES

1. EXISTING ELECTRICAL EQUIPMENT. VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT PRIOR TO CONSTRUCTION.

FEEDER SCHEDULE

ID	CONDUIT AND FEEDER
2	2#1/0 AL,#1/0 AL N,#4 AL G
4	3"C,2#350kcmil AL,#4/0 AL N

SIZING METHOD: COMPACT AL 75°C 100A AND ABOVE, CU 75°C BELOW 100A

GENERAL NOTES-SINGLE LINE DIAGRAM

A. ALL BREAKERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT AT THEIR LOCATION. WHERE SERIES- RATED COMBINATIONS ARE USED IN ACCORDANCE WITH NEC 240.86 (B) AND (C) THE CONTRACTOR AND/OR HIS EQUIPMENT SUPPLIER MUST PROVIDE APPROPRIATE DOCUMENTATION AND LABELING.

B. WHERE BREAKERS WITH ADJUSTABLE SETTINGS ARE FURNISHED TO THE PROJECT. THE MANUFACTURER'S REP SHALL IDENTIFY AND PROVIDE THE APPROPRIATE SETTINGS TO THE ELECTRICAL CONTRACTOR FOR HIS USE IN INSTALLATION.

C. PANEL SCHEDULES INDICATE BREAKER SIZE ONLY. PROVIDE AFCI/GFCI PROTECTION AS REQUIRED BY NEC. COORDINATE FINAL BREAKER SIZES/TYPES FOR ITEMS FURNISHED BY OTHERS WITH SHOP DRAWINGS OR PRODUCT INFORMATION FOR ACTUAL EQUIPMENT BEING CONNECTED

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MC 959–965

ROOM
MOUNTING FLUSH
FED FROM UTILITY 959–965
NOTE

VOLTS 240/120V 2P 3W
BUS AMPS 400
NEUTRAL 100%

AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 959 – TYP 1A	16.4	15	2#1/0 AL,#1/0 AL N,#4 AL G
2	125/2	UNIT 961 – TYP 2B	16.7	17.6	2#1/0 AL,#1/0 AL N,#4 AL G
3	125/2	UNIT 963 – TYP 2B	17.6	16.7	2#1/0 AL,#1/0 AL N,#4 AL G
4	125/2	UNIT 965 – TYP 2B	16.7	17.6	2#1/0 AL,#1/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	67.2	66.8	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA	
LIGHTING AND RECEPTACLES	9.57	3,191 SF (3 VA/SF)
SMALL-APPLIANCE	12	
LAUNDRY	6	
APPLIANCES	38	
ELECTRIC COOKING	34	
HEATING	33	(100%)
COOLING	29.1	(0%)

	KVA
CONNECTED LOAD	133
DWELLING UNITS	4
DEMAND FACTOR	(45%)
CALCULATED LOAD	59.7
BALANCED LOAD	249 A

Meter Center Breakdown (MC 959-965)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
1A	31.23	1	31.23
2B	33.78	3	101.34
Total Quantity and Connected Load =		4	132.58

MC 967–973

ROOM
MOUNTING FLUSH
FED FROM UTILITY 967–973
NOTE

VOLTS 240/120V 2P 3W
BUS AMPS 400
NEUTRAL 100%

AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 967 – TYP 2B	17.6	16.7	2#1/0 AL,#1/0 AL N,#4 AL G
2	125/2	UNIT 969 – TYP 2B	16.7	17.6	2#1/0 AL,#1/0 AL N,#4 AL G
3	125/2	UNIT 971 – TYP 2B	17.6	16.7	2#1/0 AL,#1/0 AL N,#4 AL G
4	125/2	UNIT 973 – TYP 1A	15	16.4	2#1/0 AL,#1/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	66.8	67.2	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA	
LIGHTING AND RECEPTACLES	9.57	3,191 SF (3 VA/SF)
SMALL-APPLIANCE	12	
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APPLIANCES	38	
ELECTRIC COOKING	34	
HEATING	33	(100%)
COOLING	29.1	(0%)

	KVA
CONNECTED LOAD	133
DWELLING UNITS	4
DEMAND FACTOR	(45%)
CALCULATED LOAD	59.7
BALANCED LOAD	249 A

Meter Center Breakdown (MC 967-973)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
1A	31.23	1	31.23
2B	33.78	3	101.34
Total Quantity and Connected Load =		4	132.58

ATA BEILHARZ ARCHITECTS
1063 Central Avenue Cincinnati Ohio, 45202
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PR-10647
ENGINEERED BUILDING SYSTEMS INC.
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FRANKLIN COMMONS
ALTERATIONS
962 FRANKLIN COMMONS DR
FRANKLIN, OHIO 45005

STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 8 & 20

ELECTRICAL DETAILS

E323

PASTE STICK ON SPECS IN THIS MTEXT

ELECTRICAL SPECIFICATIONS

1. GENERAL DEMOLITION
   a. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, BASE BUILDING SPECIFICATIONS AND DRAWINGS, SHOP DRAWING MANUALS AND AS-BUILT PLANS, EXCEPT AS NOTED HEREIN, WHICH APPLY IN ALL RESPECTS TO THIS SECTION. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING THE WORK
2. USE OF DRAWINGS AND SPECIFICATIONS
   a. EBS DRAWINGS AND SPECIFICATIONS ARE INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL ELECTRICAL SYSTEM ARE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. STANDARDS
   a. MATERIALS EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF NEC, ASTM, UL, ETL, NEMA, ANSI, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.
4. CODES
   a. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE ELECTRICAL CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT ANY EXTRA COST TO OWNER.
5. PERMITS AND FEES
   a. THE ELECTRICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE THE ELECTRICAL WORK.
6. WARRANTY
   a. THE ELECTRICAL CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE, AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.
7. SITE EXAMINATION
   a. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY EXAMINE ALL AREAS OF WORK WHERE EQUIPMENT WILL BE INSTALLED AND SHALL REPORT ANY CONDITION THAT, IN HIS OPINION, PREVENTS THE PROPER INSTALLATION OF THE ELECTRICAL WORK PRIOR TO BID. HE SHALL ALSO EXAMINE THE DRAWINGS AND SPECIFICATIONS OF OTHER BRANCHES OF WORK MAKING REFERENCE TO THEM FOR DETAILS OF NEW OR EXISTING BUILDING CONDITIONS.
   b. ALL WORK SHALL BE DONE AT TIMES CONVENIENT TO THE OWNER AND ONLY DURING NORMAL WORKING HOURS, UNLESS SPECIFIED OTHERWISE.
   c. ELECTRICAL CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AND BE RESPONSIBLE FOR THEM.
   d. ACCESS PANELS ARE NOT SHOWN ON DRAWINGS. DURING SITE EXAMINATION, CONTRACTOR SHALL IDENTIFY ALL AREAS WHERE ACCESS PANELS ARE REQUIRED, AND REPORT TO GENERAL CONTRACTOR. DESIGNATION OF WHO FURNISHES AND WHO INSTALLS ACCESS PANELS MUST BE COORDINATED WITH GENERAL CONTRACTOR PRIOR TO STARTING WORK.
8. CONTRACTOR COORDINATION.
   a. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. WHERE THE ELECTRICAL CONTRACTOR IS MAKING A CONNECTION TO EQUIPMENT/COMPONENTS THAT ARE FURNISHED BY OTHERS, ELECTRICAL CONTRACTOR TO VERIFY ALL CONNECTION REQUIREMENTS WITH ACTUAL EQUIPMENT BEING CONNECTED, INCLUDING BUT NOT LIMITED TO OCP SIZE, MEANS OF DISCONNECT, SPECIAL CONNECTION REQUIREMENTS, OR OTHER ITEMS INDICATED ON SHOP DRAWINGS, OR MANUFACTURER'S INSTALLATION INSTRUCTIONS AND/OR INSTALLATION DIAGRAMS, AND FURNISH ALL LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION AND OPERATION OF THE EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR FAILURE TO COORDINATE, AFTER ELECTRICAL CONNECTIONS HAVE BEEN INSTALLED.
   b. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
   c. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS; USE ACTUAL BUILDING DIMENSIONS.
   d. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE ELECTRICAL CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
9. UTILITY COORDINATION
   a. ELECTRICAL CONTRACTOR TO VERIFY INSTALLATION OF METERING AND UTILITY DEMARCATION EQUIPMENT WITH UTILITY PROVIDER PRIOR TO START OF WORK AND FURNISH AND INSTALL REQUIRED ITEMS PER UTILITY COMPANY'S INSTALLATION REQUIREMENTS AND/OR MANUALS.
10. SUBMITTALS
   a. PRODUCTS INSTALLED BY THE ELECTRICAL CONTRACTOR AND PROVIDED BY OTHERS MUST BE SUBMITTED FOR REVIEW PRIOR TO PURCHASING. PRODUCTS SHALL NOT BE SELECTED BASED ON PERMIT DRAWINGS WITHOUT EXPRESS PERMISSION - PRODUCTS SHALL BE SELECTED BASED ON CONSTRUCTION DRAWINGS.
11. RECORD DRAWING
   a. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING RECORD DRAWINGS WHERE REQUIRED. DRAWINGS SHALL BE PRODUCED IN AUTOCAD 2004 FORMAT OR LATER.
12. SHOP DRAWINGS
   a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE ELECTRICAL CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
   c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE ELECTRICAL CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
13. TESTING
   a. ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. BALANCE ALL BRANCH CIRCUIT LOADS BETWEEN THE PHASES OF THE SYSTEM TO WITHIN 10% OF THE HIGHEST PHASE LOAD IN EACH PANELBOARD.
14. TEMPORARY POWER
   a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL WIRING FOR CONSTRUCTION. THE TEMPORARY SERVICE SHALL BE A MINIMUM OF 60 AMPS, SINGLE PHASE, THREE WIRE, 120/208 VOLTS FUSED AT MAIN DISCONNECT. ALL RECEPTACLES ON THIS TEMPORARY SERVICE SHALL BE PROTECTED BY A GFI BREAKER.
15. MECHANICAL EQUIPMENT
   a. ALL FINAL CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL CONTRACTOR.
16. DEMOLITION
   a. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEENERGIZING CIRCUITS IN DEMOLITION AREAS TO INSURE A SAFE CONDITION. ELECTRICAL DEVICES AND ASSOCIATED WIRING LOCATED WITHIN THE DEMOLITION AREA THAT WILL NO LONGER BE USED SHALL BE REMOVED AND PROPERLY DISPOSED OF AT CONTRACTOR'S EXPENSE UNLESS OTHERWISE NOTED.
17. POWER OUTAGES
   a. THE ELECTRICAL CONTRACTOR SHALL SCHEDULE ALL ELECTRICAL SYSTEM(S) OUTAGES WITH THE GENERAL CONTRACTOR AND OWNER AT LEAST 24 HOURS IN ADVANCE. UNLESS APPROVED OTHERWISE ALL OUTAGES SHALL OCCUR BETWEEN 11:00PM AND 5:00AM.
18. GROUNDING AND BONDING
   a. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250.
   b. ANY GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.
19. MATERIALS
   a. PROVIDE ALL NEW MATERIAL AND EQUIPMENT UNLESS NOTED OTHERWISE. ALL EQUIPMENT SHALL BE UL APPROVED AND LABELED, OR OTHER APPROVED TESTING ORGANIZATION WHICH HAS ACCEPTANCE BY THE LOCAL JURISDICTION, FOR THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS. NO SUBSTITUTION TO MATERIALS SPECIFIED WILL BE ALLOWED UNLESS APPROVED BY THE OWNER.
   b. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED. NO ALLOWANCES WILL BE MADE FOR ANY CHANGES THAT OCCUR IF PERMIT DRAWINGS HAVE NOT BEEN APPROVED PRIOR TO ORDERING.
20. CUTTING AND FITTING
   a. PERFORM CUTTING, CORING, FITTING, REPAIRING AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBER SHALL BE DONE WITHOUT THE CONSENT OF THE OWNER. PROPERLY FILL, SEAL, FIREPROOF, AND WATERPROOF ALL OPENINGS, SLEEVES, AND HOLES IN SLABS, WALLS, AND CASEWORK.
21. WIRING METHODS
   a. PROVIDE CODE APPROVED WIRING METHODS FOR BRANCH CIRCUITING INDOORS, SUCH AS NM CABLE (ONLY WHERE PERMITTED BY NEC 334), EMT CONDUIT, OR MC CABLE FOR MECHANICAL EQUIPMENT, LIGHTING, AND POWER.
   b. CONDUIT RUNS ON EXTERIOR OF BUILDING SHALL BE RIGID STEEL CONDUIT WITH WEATHER TIGHT, CORROSION-RESISTANT FITTINGS. SCHEDULE 40 PVC IS ACCEPTABLE WHERE PERMITTED BY CODE AND OR UNDERGROUND RUNS OR CONCRETE ENCASEMENT WHERE NOT EXPOSED TO PHYSICAL DAMAGE.
   c. THE MINIMUM SIZE OF CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED. CONDUIT CONNECTORS SHALL BE DOUBLE LOCKNUT TYPE, UL LISTED AND LABELED, WITH COMPRESSION OR SET SCREW FITTINGS.
   d. RIGID CONDUIT SHALL BE HOT DIPPED GALVANIZED.
   e. WHERE RACEWAYS ARE INSTALLED FOR OTHERS TO USE, OR FOR FUTURE USE, PROVIDE NYLON PULL STRING.
   f. PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE SEALED USING 3M FIRE BARRIER CAULK, NELSON ELECTRIC FLAMESEAL OR T&B FLAMESAFE OR OTHER APPROVED METHOD.
22. CONDUCTORS AND TERMINATIONS
   a. BRANCH CONDUCTORS SHALL BE COPPER, FEEDERS AS INDICATED ON RISER DIAGRAM. CONDUCTORS SHALL BE INSULATED FOR 600V NUMBER 12 AWG MINIMUM. PROVIDE WIRES AND CABLES AS INDICATED LISTED AND SUITABLE FOR TEMPERATURE, CONDITIONS, AND LOCATION WHERE INSTALLED.
23. MOTORS AND OTHER WIRING
   a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED CONDUIT, WIRING, AND SAFETY SWITCHES FOR ALL MOTORS, AND OTHER ELECTRICAL EQUIPMENT, EVEN THOUGH THE MOTORS AND ELECTRICAL EQUIPMENT MAY BE SUPPLIED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE ALL WORK AND CONNECTIONS REQUIRED TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL. PROVIDE MAGNETIC STARTERS FOR EQUIPMENT AS INDICATED ON THE DRAWINGS.
   b. THE ELECTRICAL EQUIPMENT MAY INCLUDE BUT NOT BE LIMITED TO SUCH ITEMS AS GRILLE MOTORS AND INTERLOCKS, EXTERIOR AND INTERIOR SIGNAGE, STARTING DEVICES, MOTOR CONTROLLERS, FLOAT SWITCHES, ALARM DEVICES OR SYSTEMS, PUSH BUTTONS, EXHAUST FANS, DATA SYSTEMS, INTERCOMS AND STEREO SYSTEMS. THE ELECTRICAL CONTRACTOR SHALL VERIFY EQUIPMENT LOCATION AND SIZES WITH THE TRADE SUPPLYING THE EQUIPMENT BEFORE INSTALLING THE CONDUIT OR OUTLETS.
24. DEVICES
   a. HUBBELL, LEVITON, OR APPROVED EQUAL WITH MATCHING COVERPLATES.
   b. PROVIDE SPECIFICATION GRADE WIRING DEVICES, IN TYPES, CHARACTERISTICS, GRADES, COLORS, AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED, WHICH ARE UL-LISTED AND WHICH COMPLY WITH NEMA WD1 AND OTHER APPLICABLE UL AND NEMA STANDARDS. VERIFY COLOR SELECTIONS WITH ARCHITECT. PROVIDE DEVICE PLATES TO MATCH DEVICE COLORS.
   c. PROVIDE GFCI PROTECTION FOR ALL KITCHEN 15 AND 20-AMP RECEPTACLES. WHERE THE RECEPTACLE IS RENDERED INACCESSIBLE BY EQUIPMENT PROVIDE GFCI PROTECTION AT THE CIRCUIT BREAKER.
25. SERVICE ENTRANCE AND DISTRIBUTION EQUIPMENT
   a. ELECTRICAL CONTRACTOR MUST SUBMIT DRAWINGS FOR PERMIT AND RECEIVE APPROVAL PRIOR TO ORDERING EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR EQUIPMENT CHANGES THAT OCCUR PRIOR TO RECEIPT OF APPROVED PLANS.
26. DISCONNECTS AND FUSED SWITCHES
   a. HEAVY DUTY TYPE, HORSEPOWER RATED WITH INTERLOCKING COVER. NEMA 1 TYPICAL. OUTDOOR AND WET LOCATION SWITCHES SHALL BE RAINTIGHT TYPE NEMA 3RR. ALL SWITCHES SHALL BE LOCKABLE. FUSES IN CIRCUITS RATED AT 600 AMPERES OR LESS SHALL BE UL CLASS RK1 DUAL-ELEMENT, TIME-DELAY, CURRENT LIMITING FUSES. FUSES IN CIRCUITS RATED AT 601 AMPERES OR LARGER SHALL BE UL CLASS L TIME-DELAY, CURRENT LIMITING FUSES.
27. NAMEPLATES
   a. PROVIDE PERMANENT NAMEPLATE LABELING ON ALL DISCONNECTS. INCLUDE LOAD SERVED, VOLTAGE, PHASE, HORSEPOWER, FUSE SIZE, AND TYPE.
28. MOUNTING
   a. MOUNT INDEPENDENT OF THE MECHANICAL UNIT HOUSING UNLESS SPECIFICALLY ACCEPTED BY THE LOCAL CODE AUTHORITY. PROVIDE UNISTRUT SUPPORT CHANNELS MOUNTED IN COORDINATION WITH ROOF PENETRATION AND PATCHING WORK. COORDINATE WITH GENERAL CONTRACTOR.
29. GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS AND EQUIPMENT
   a. PROVIDE GROUNDING AND BONDING FOR ELECTRICAL SERVICE IN ACCORDANCE WITH NEC ARTICLE 250.
   b. ALL MAJOR PARTS NOT CARRYING CURRENT, INCLUDING BUT NOT LIMITED TO, SECONDARY FEEDER CIRCUIT, EQUIPMENT AND PANELBOARD ENCLOSURES, PULL AND JUNCTION BOXES, SHALL BE PROPERLY GROUNDED. METALLIC RACEWAYS SHALL UTILIZE DOUBLE LOCKNUTS AND OTHER FITTINGS AS REQUIRED TO PROVIDE GROUND CONTINUITY.
30. MULTI-TENANT METER CENTERS
   a. PROVIDE METER CENTERS(S) AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. METER CENTERS SHALL HAVE MAIN LUGS ONLY OR MAIN BREAKERS AS REQUIRED, AND SHALL HAVE BRANCH BREAKER INSTALLED FOR EACH METER SOCKET. METER CENTERS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL, AND SHALL BE OF THE SAME MANUFACTURE AS LOAD CENTERS OR PANELBOARDS SERVED. METER CENTERS SHALL BE ENCLOSED NEMA 1, NEMA 3R AS REQUIRED. FINAL CONFIGURATION (NUMBER OF METERS PER SECTION, END-MAIN/CENTER-MAIN, ETC. SHALL BE DETERMINED BY CONTRACTOR. ALL BUSSING MUST BE RATED FOR THE LOADS SERVED. METER CENTERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT.
31. PANELBOARDS
   a. PROVIDE BRANCH CIRCUIT PANELBOARD(S) AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. PANELBOARDS SHALL HAVE BOLTED, THERMAL AND MAGNETIC BREAKERS WITH MAIN LUGS ONLY OR MAIN BREAKERS AS REQUIRED. PANELBOARDS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL, AND BE ENCLOSED IN NEMA 1 TYPE HOUSING UNLESS NOTED OTHERWISE. ENCLOSURE(S) SHALL BE COMPLETE WITH A HINGED DOOR, CYLINDER LOCK, AND A NEATLY TYPED DIRECTORY UNDER PLASTIC COVER IN EACH PANEL DOOR. ALL MULTIPLE POLE BREAKERS SHALL HAVE A COMMON TRIP HANDLE. ALL PANELS AND BREAKERS SHALL BE RATED TO WITHSTAND AVAILABLE FAULT CURRENT.
32. RESIDENTIAL LOAD CENTERS
   a. PROVIDE LOAD CENTERS AS SHOWN ON DRAWINGS AND AS SPECIFIED HEREIN. LOAD CENTERS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL. LOAD CENTERS SHALL CONTAIN A NEATLY TYPED DIRECTORY IN EACH DOOR. ALL MULTIPLE POLE BREAKERS SHALL HAVE A COMMON TRIP HANDLE. ALL PANELS AND BREAKERS SHALL BE RATED TO WITHSTAND AVAILABLE FAULT CURRENT. LOAD CENTERS MAY BE USED IN AREAS OTHER THAN DWELLING UNITS WHERE APPROPRIATE AND WHERE APPROVED BY OWNER'S REPRESENTATIVE.
33. LIGHTING
   a. PROVIDE A NEW LIGHTING SYSTEM COMPLETE AND FULLY OPERATIONAL AND IN CONFORMANCE WITH CODE AND UL LISTING REQUIREMENTS. CLEAN ALL FIXTURES AT TIME OF JOB COMPLETION UTILIZING MANUFACTURERS APPROVED OR RECOMMENDED CLEANING SOLUTIONS. ALL FIXTURES AND LAMPS ARE PROVIDED BY THIS CONTRACTOR AS SCHEDULED UNLESS NOTED OTHERWISE. CONTRACTOR SHALL FURNISH ALL BOXES, MOUNTING KITS, TRANSFORMERS, CONTROLLERS, AND OTHER COMPONENTS NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL INSTALLATION.
   b. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.
34. TELEPHONE SYSTEM
   a. TELEPHONE WIRING AND SYSTEM PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL PROVIDE PLASTER RING AND PULL STRING FROM EACH DEVICE LOCATION TO ABOVE ACCESSIBLE CEILING.
35. SECURITY SYSTEM NOTES
   a. SECURITY WIRING AND SYSTEM PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. PROVIDE POWER FOR OWNER'S HEAD-END EQUIPMENT AND REMOTE POWER FOR SECURE DOORS AS REQUIRED.
36. DATA/POS/A-V/SYSTEM NOTES
   a. DATA, POS AND/OR A-V WIRING AND SYSTEMS PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL PROVIDE PLASTER RING AND PULL STRING FROM EACH DEVICE LOCATION TO ABOVE ACCESSIBLE CEILING.

FRANKLIN COMMONS UNITS LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	INPUT VA	DESCRIPTION	MANUFACTURER	MODEL	NOTE 1	NOTE 2
K1		(1) 10W LED	10	KEYLESS FIXTURE	CONTRACTOR SELECTED		EXISTING LOCATION	PROVIDE NEW LED LAMP
L1		(1) 45W LED	45	LED LINEAR SURFACE MOUNT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
S1		(1) 15W LED	15	6" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
S2		(1) 25W LED	25	12" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
V1		(1) 15W LED	15	LED VANITY LIGHT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
WS1		(1) 15W LED	15	EXTERIOR LED WALL SCONCE	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	

ELECTRICAL LEGEND

*SEE LIGHT FIXTURE SCHEDULE FOR FIXTURE TYPES.

- $ SINGLE POLE LIGHT SWITCH
- $3 THREE WAY LIGHT SWITCH
- $4 FOUR WAY LIGHT SWITCH
- $D DIMMER SWITCH
- $FS FAN SPEED CONTROL
- OS DT OCC SENSOR - CEILING - DUAL TECHNOLOGY
- OS PIR OCC SENSOR - CEILING - PASSIVE INFRARED
- $DT OCC SENSOR - WALL - DUAL TECHNOLOGY
- $PIR OCC SENSOR - WALL - PASSIVE INFRARED
- OCC SENSOR POWER PACK
- OCC SENSOR POWER PACK - 2 CKT
- DUPLEX RECEPTACLE
- USB DUPLEX RECEPTACLE W/USB JACKS
- COUNTER HEIGHT DUPLEX RECEPTACLE
- QUAD RECEPTACLE
- COUNTER HEIGHT QUAD RECEPTACLE
- (CLNG) CEILING (SHOW WINDOW) RECEPTACLE
- GFCI DUPLEX RECEPTACLE WITH GFCI PROTECTION
- GFCI COUNTER HEIGHT DUPLEX RECEPTACLE WITH GFCI PROTECTION
- SPLIT-WIRED (SWITCHED) RECEPTACLE
- WP GFCI WEATHER PROOF RECEPTACLE WITH GFCI PROTECTION
- DW GFCI DISHWASHER RECEPTACLE WITH GFCI PROTECTION
- DISP. GARBAGE DISPOSAL
- MW MICROWAVE RECEPTACLE
- FRIG REFRIGERATOR RECEPTACLE
- RANGE RANGE - 208-240V/ 1-PHASE 50 AMP RECEPTACLE
- WASH GFCI WASHER RECEPTACLE WITH GFCI PROTECTION
- DRYER DRYER - 208-240V/ 1-PHASE 30 AMP RECEPTACLE
- W/D STACKED WASHER/DRYER - 208-240V/ 1-PHASE 30 AMP RECEPTACLE
- DUPLEX - MONUMENT FLOOR BOX
- DUPLEX - RECESSED FLOOR BOX
- PANELBOARD
- PANELBOARD W/ BUS (MCB OR MLO) - SINGLE LINE DIAGRAM
- TRANSFORMER - SINGLE LINE DIAGRAM
- TRANSFORMER W/ GROUND - SINGLE LINE DIAGRAM
- PADMOUNT TRANSFORMER - SINGLE LINE DIAGRAM
- AUTOMATIC TRANSFER SWITCH (ATS) - SINGLE LINE DIAGRAM
- STANDBY/EMERGENCY GENERATOR - SINGLE LINE DIAGRAM
- * METER BASE - SINGLE LINE DIAGRAM
- FUSED DISCONNECT - SINGLE LINE DIAGRAM
- * CT CABINET - SINGLE LINE DIAGRAM
- L5-20R LOCKING 125V/20 AMP - RECEPTACLE
- L6-20R LOCKING 250V/20 AMP (1-PHASE) - RECEPTACLE
- L5-30R LOCKING 125V/30 AMP - RECEPTACLE
- L6-30R LOCKING 250V/20 AMP (1-PHASE) - RECEPTACLE
- PP FURNITURE POWER POLE - RECEPTACLE
- RFF FURNITURE RECESSED FLOOR FEED
- WFF FURNITURE WALL FEED
- FB RECESSED FLOOR BOX - MULTI-SERVICE (POWER/DATA)
- AV RECESSED FLOOR BOX - MULTI-SERVICE W/AV
- PT RECESSED MULTI-SERVICE POKE THRU
- SPECIAL CONNECTION
- SIMPLEX RECEPTACLE
- EQUIPMENT CONNECTION
- $M MANUAL MOTOR STARTER
- NON-FUSED DISCONNECT
- FUSED DISCONNECT
- FUSED DISCONNECT W/MAGNETIC MOTOR STARTER
- J JUNCTION BOX
- HNE HOME NETWORK ENCLOSURE
- SECURITY CAMERA
- DATA LOCATION (RING & STRING, U.N.O)
- VOICE DROP - LOCATION
- VOICE/DATA DROP - LOCATION
- TV CABLE TV (COAX) - LOCATION
- CR CARD READER
- DR DOOR RELEASE - ACCESS CONTROL
- DS DOOR STRIKE - ACCESS CONTROL
- ML MAG-LOCK - ACCESS CONTROL
- PS POSITION SWITCH
- PR PROXY READER
- RE REQUEST TO EXIT SWITCH
- WAP WIRELESS INTERNET ACCESS POINT
- DOOR HOLD - FIRE ALARM
- DSD DUCT SMOKE DETECTOR
- FABP FIRE ALARM BOOSTER PANEL
- FACP FIRE ALARM CONTROL PANEL
- FARA FIRE ALARM REMOTE ANNUNCIATOR
- FS SPRINKLER FLOW SWITCH
- H HEAT DETECTOR - FIRE ALARM
- HORN - FIRE ALARM
- HORN/STROBE - FIRE ALARM
- PIV POST INDICATOR VALVE - (PIV)
- PRE-A PRE-ACTION PANEL
- PS PRESSURE SWITCH
- F PULL STATION - FIRE ALARM
- SD SMOKE DAMPER
- SD SMOKE DETECTOR
- CO SD COMBINATION SMOKE/CO2 DETECTOR
- SP SPEAKER - FIRE ALARM
- SP SPEAKER/STROBE - FIRE ALARM
- STROBE - FIRE ALARM

* FINAL METER CONFIGURATION TBD/ APPROVED BY LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

ABBREVIATIONS:

#	Number
Ω	Ohm
Φ	Phase
A	Amperes
AC	Alternating Current
A/C	Air Conditioning
AFCI	Arc Fault Current Interrupter
AHU	Air Handling Unit
AIC	Ampere Interrupting Capacity
AL	Aluminum
ATS	Automatic Transfer Switch
ATC	Automatic Temperature Control
AWG	American Wire Gauge
C	Conduit
CATV	Cable Television
CB	Critical Branch
C/B	Circuit Breaker
CKT	Circuit
CCTV	Closed Circuit Television
CT	Current Transformer
CU	Condensing Unit
DC	Direct Current
DIA	Diameter
EC	Electrical Contractor
EF	Exhaust Fan
ELEV	Elevator
EM	Emergency
EMT	Electrical Metallic Tubing
EPO	Emergency Power Off
EWC	Electric Water Cooler
EWH	Electric Water Heater
FA	Fire Alarm
FAA	Fire Alarm Annuciator
FLA	Full Load Amperes
FMC	Flexible Metal Conduit
GF	Gas Furnace
GFCI	Ground Fault Current Interrupter
GND	Ground
GWH	Gas Water Heater
HOA	Hand-Off-Automatic Switch
HVAC	Heating, Ventilation, Air Conditioning
HP	Heat Pump
HZ	Hertz
IG	Isolated Ground
IMC	Intermediate Metal Conduit
KCMIL	Thousand Circular Mils
KVA	Kilovolt-Amperes
LFMC	Liquid Tight Metal Conduit
LTG	Lighitng
LRA	Locked Rotor Amperes
MC	Metal Clad Cable
MCB	Main Circuit Breaker
MCC	Motor Control Center
MLO	Main Lug Only
NC	Normally Closed
NEC	National Electrical Code
NEMA	National Electrical Manufactures Association
NFPA	National Fire Protection Association
NL	Night Lighting (Egress Illumination)
NO	Normally Open
NTS	Not To Scale
P	Pole
PB	Push Button or Panic Button or Pull Box
PNL	Panel
PWR	Power
QTY	Quantity
REQ	Required
RMC	Rigid Metal Conduit
RNC	Rigid Non-Metallic Conduit
RTU	Roof Top Unit
ST	Shunt Trip
SW	Switch
TSTAT	Thermostat
TYP	Typical
UG	Underground
UL	Underwriters Labratory
UNO	Unless Noted Otherwise
V	Volt
VA	Volt-Amperes
W	Watt or Wire
WP	Weather Proof
XFMR	Transformer

EXAMPLES:

SWITCH GROUP — a
FUNCTION — 3
$

FIXTURE TYPE (SEE SCHEDULE) — A1
SWITCH — a
PANEL-CIRCUIT — P1-23

WEATHER PROOF — WP
GROUND FAULT PROTECTED — GFCI
PANEL NAME AND CIRCUIT NUMBER — P1-21
ISOLATED GROUND — IG

NOTE: ALL ITEMS MAY NOT BE USED.

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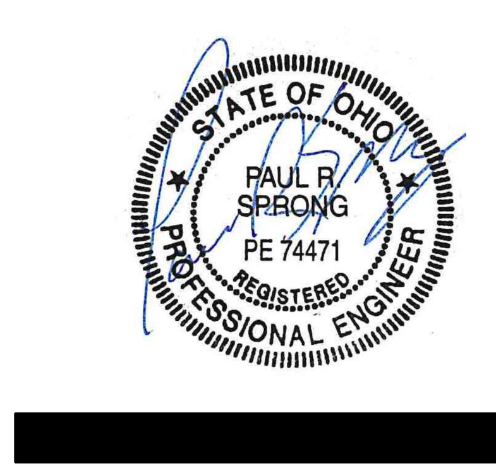


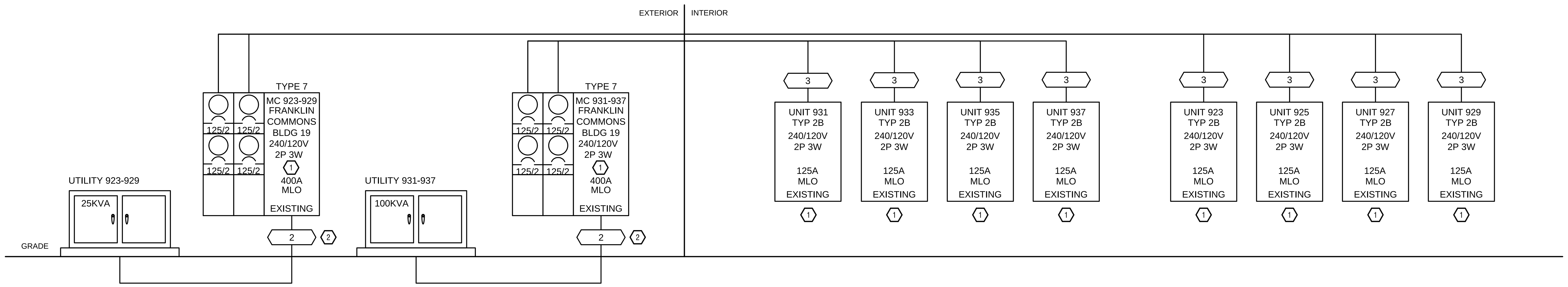
REVISIONS

5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 19
ELECTRICAL DETAILS

E324



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E325

ELECTRICAL SINGLE LINE DIAGRAM
TYPICAL BUILDING 7
BUILDING 19 - FRANKLIN COMMONS CIRCLE
UNITS 923, 925, 927, 929, 931, 933, 935, 937

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

KEYED SHEET NOTES

1. EXISTING ELECTRICAL EQUIPMENT. VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT PRIOR TO CONSTRUCTION.
2. EXISTING FEEDER TO BE REPLACED TO MEET ELECTRICAL AMPACITY REQUIREMENTS. DEMO EXISTING FEEDER AND REPLACE WITH NEW FEEDER, REFER TO FEEDER SCHEDULE FOR SIZING. VERIFY THAT EXISTING CONDUIT IS IN GOOD CONDITION AND REUSE FOR NEW FEEDERS. REPLACE EXISTING CONDUIT IF IT IS DEEMED UNUSABLE.

FEEDER SCHEDULE

ID	CONDUIT AND FEEDER
2	3"C,2#500kcmil AL,#500kcmil AL N
3	2#2/0 AL,#2/0 AL N,#4 AL G

SIZING METHOD: COMPACT AL 75°C 100A AND ABOVE, CU 75°C BELOW 100A

GENERAL NOTES-SINGLE LINE DIAGRAM

A. ALL BREAKERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT AT THEIR LOCATION. WHERE SERIES- RATED COMBINATIONS ARE USED IN ACCORDANCE WITH NEC 240.86 (B) AND (C) THE CONTRACTOR AND/OR HIS EQUIPMENT SUPPLIER MUST PROVIDE APPROPRIATE DOCUMENTATION AND LABELING.
B. WHERE BREAKERS WITH ADJUSTABLE SETTINGS ARE FURNISHED TO THE PROJECT. THE MANUFACTURER'S REP SHALL IDENTIFY AND PROVIDE THE APPROPRIATE SETTINGS TO THE ELECTRICAL CONTRACTOR FOR HIS USE IN INSTALLATION.
C. PANEL SCHEDULES INDICATE BREAKER SIZE ONLY. PROVIDE AFCI/GFCI PROTECTION AS REQUIRED BY NEC. COORDINATE FINAL BREAKER SIZES/TYPES FOR ITEMS FURNISHED BY OTHERS WITH SHOP DRAWINGS OR PRODUCT INFORMATION FOR ACTUAL EQUIPMENT BEING CONNECTED
D. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED BY AHJ.
E. PROVIDE SELECTIVE COORDINATION FOR EMERGENCY SYSTEM OVERCURRENT PROTECTION DEVICES IN ACCORDANCE WITH NEC 700.27.
F. PROVIDE GROUND-FAULT PROTECTION FOR EQUIPMENT IN ACCORDANCE WITH NEC 240.13 AND NEC 230.95.
G. OVERCURRENT PROTECTION DEVICES SUPPLYING TRANSFORMERS WHICH ARE NOT LOCATED WITHIN SIGHT OF THEIR OVERCURRENT PROTECTION SHALL BE LOCKABLE AND THE TRANSFORMER SHALL BE FIELD MARKED WITH THE LOCATION OF THE OVERCURRENT PROTECTION DEVICE.
H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

MC 923–929

ROOM
MOUNTING FLUSH
FED FROM UTILITY 923–929
NOTE
VOLTS 240/120V 2P 3W
BUS AMPS 400
NEUTRAL 100%
AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 923 – TYP 2B	17.6	16.7	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	UNIT 925 – TYP 2B	16.7	17.6	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	UNIT 927 – TYP 2B	17.6	16.7	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	UNIT 929 – TYP 2B	16.7	17.6	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	68.5	68.5	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA	
LIGHTING AND RECEPTACLES	10.3	3,428 SF (3 VA/SF)
SMALL-APPLIANCE	12	
LAUNDRY	6	
APPLIANCES	38	
ELECTRIC COOKING	34	
HEATING	34.8	(100%)
COOLING	30.2	(0%)

	KVA
CONNECTED LOAD	135
DWELLING UNITS	4
DEMAND FACTOR	(45%)
CALCULATED LOAD	60.8
BALANCED LOAD	253 A

Meter Center Breakdown (MC 923-929)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
2B	33.78	4	135.12
Total Quantity and Connected Load =		4	2B

MC 931–937

ROOM
MOUNTING FLUSH
FED FROM UTILITY 931–937
NOTE
VOLTS 240/120V 2P 3W
BUS AMPS 400
NEUTRAL 100%
AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 931 – TYP 2B	17.6	16.7	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	UNIT 933 – TYP 2B	16.7	17.6	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	UNIT 935 – TYP 2B	17.6	16.7	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	UNIT 937 – TYP 2B	16.7	17.6	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	68.5	68.5	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA	
LIGHTING AND RECEPTACLES	10.3	3,428 SF (3 VA/SF)
SMALL-APPLIANCE	12	
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APPLIANCES	38	
ELECTRIC COOKING	34	
HEATING	34.8	(100%)
COOLING	30.2	(0%)

	KVA
CONNECTED LOAD	135
DWELLING UNITS	4
DEMAND FACTOR	(45%)
CALCULATED LOAD	60.8
BALANCED LOAD	253 A

Meter Center Breakdown (MC 931-937)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
2B	33.78	4	135.12
Total Quantity and Connected Load =		4	2B

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PROFESSIONAL ENGINEER

REVISIONS

5/3/2024 OHFA 80% SUBMISSION
9/16/2024 BID/PERMIT SET

PROJECT #:
DRAWN: CHECKED:

BUILDING 19
ELECTRICAL DETAILS

E325

PASTE STICK ON SPECS IN THIS MTEXT

ELECTRICAL SPECIFICATIONS

1. GENERAL DEMOLITION
   a. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, BASE BUILDING SPECIFICATIONS AND DRAWINGS, SHOP DRAWING MANUALS AND AS-BUILT PLANS, EXCEPT AS NOTED HEREIN, WHICH APPLY IN ALL RESPECTS TO THIS SECTION. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING THE WORK
2. USE OF DRAWINGS AND SPECIFICATIONS
   a. EBS DRAWINGS AND SPECIFICATIONS ARE INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL ELECTRICAL SYSTEM ARE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. STANDARDS
   a. MATERIALS EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF NEC, ASTM, UL, ETL, NEMA, ANSI, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.
4. CODES
   a. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE ELECTRICAL CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT ANY EXTRA COST TO OWNER.
5. PERMITS AND FEES
   a. THE ELECTRICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE THE ELECTRICAL WORK.
6. WARRANTY
   a. THE ELECTRICAL CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE, AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.
7. SITE EXAMINATION
   a. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY EXAMINE ALL AREAS OF WORK WHERE EQUIPMENT WILL BE INSTALLED AND SHALL REPORT ANY CONDITION THAT, IN HIS OPINION, PREVENTS THE PROPER INSTALLATION OF THE ELECTRICAL WORK PRIOR TO BID. HE SHALL ALSO EXAMINE THE DRAWINGS AND SPECIFICATIONS OF OTHER BRANCHES OF WORK MAKING REFERENCE TO THEM FOR DETAILS OF NEW OR EXISTING BUILDING CONDITIONS.
   b. ALL WORK SHALL BE DONE AT TIMES CONVENIENT TO THE OWNER AND ONLY DURING NORMAL WORKING HOURS, UNLESS SPECIFIED OTHERWISE.
   c. ELECTRICAL CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AND BE RESPONSIBLE FOR THEM.
   d. ACCESS PANELS ARE NOT SHOWN ON DRAWINGS. DURING SITE EXAMINATION, CONTRACTOR SHALL IDENTIFY ALL AREAS WHERE ACCESS PANELS ARE REQUIRED, AND REPORT TO GENERAL CONTRACTOR. DESIGNATION OF WHO FURNISHES AND WHO INSTALLS ACCESS PANELS MUST BE COORDINATED WITH GENERAL CONTRACTOR PRIOR TO STARTING WORK.
8. CONTRACTOR COORDINATION.
   a. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. WHERE THE ELECTRICAL CONTRACTOR IS MAKING A CONNECTION TO EQUIPMENT/COMPONENTS THAT ARE FURNISHED BY OTHERS, ELECTRICAL CONTRACTOR TO VERIFY ALL CONNECTION REQUIREMENTS WITH ACTUAL EQUIPMENT BEING CONNECTED, INCLUDING BUT NOT LIMITED TO OCP SIZE, MEANS OF DISCONNECT, SPECIAL CONNECTION REQUIREMENTS, OR OTHER ITEMS INDICATED ON SHOP DRAWINGS, OR MANUFACTURER'S INSTALLATION INSTRUCTIONS AND/OR INSTALLATION DIAGRAMS, AND FURNISH ALL LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION AND OPERATION OF THE EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR FAILURE TO COORDINATE, AFTER ELECTRICAL CONNECTIONS HAVE BEEN INSTALLED.
   b. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
   c. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS; USE ACTUAL BUILDING DIMENSIONS.
   d. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE ELECTRICAL CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
9. UTILITY COORDINATION
   a. ELECTRICAL CONTRACTOR TO VERIFY INSTALLATION OF METERING AND UTILITY DEMARCATION EQUIPMENT WITH UTILITY PROVIDER PRIOR TO START OF WORK AND FURNISH AND INSTALL REQUIRED ITEMS PER UTILITY COMPANY'S INSTALLATION REQUIREMENTS AND/OR MANUALS.
10. SUBMITTALS
    a. PRODUCTS INSTALLED BY THE ELECTRICAL CONTRACTOR AND PROVIDED BY OTHERS MUST BE SUBMITTED FOR REVIEW PRIOR TO PURCHASING. PRODUCTS SHALL NOT BE SELECTED BASED ON PERMIT DRAWINGS WITHOUT EXPRESS PERMISSION - PRODUCTS SHALL BE SELECTED BASED ON CONSTRUCTION DRAWINGS.
11. RECORD DRAWING
    a. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING RECORD DRAWINGS WHERE REQUIRED. DRAWINGS SHALL BE PRODUCED IN AUTOCAD 2004 FORMAT OR LATER.
12. SHOP DRAWINGS
    a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
    b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE ELECTRICAL CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
    c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE ELECTRICAL CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
13. TESTING
    a. ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. BALANCE ALL BRANCH CIRCUIT LOADS BETWEEN THE PHASES OF THE SYSTEM TO WITHIN 10% OF THE HIGHEST PHASE LOAD IN EACH PANELBOARD.
14. TEMPORARY POWER
    a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL WIRING FOR CONSTRUCTION. THE TEMPORARY SERVICE SHALL BE A MINIMUM OF 60 AMPS, SINGLE PHASE, THREE WIRE, 120/208 VOLTS FUSED AT MAIN DISCONNECT. ALL RECEPTACLES ON THIS TEMPORARY SERVICE SHALL BE PROTECTED BY A GFI BREAKER.
15. MECHANICAL EQUIPMENT
    a. ALL FINAL CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL CONTRACTOR.
16. DEMOLITION
    a. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEENERGIZING CIRCUITS IN DEMOLITION AREAS TO INSURE A SAFE CONDITION. ELECTRICAL DEVICES AND ASSOCIATED WIRING LOCATED WITHIN THE DEMOLITION AREA THAT WILL NO LONGER BE USED SHALL BE REMOVED AND PROPERLY DISPOSED OF AT CONTRACTOR'S EXPENSE UNLESS OTHERWISE NOTED.
17. POWER OUTAGES
    a. THE ELECTRICAL CONTRACTOR SHALL SCHEDULE ALL ELECTRICAL SYSTEM(S) OUTAGES WITH THE GENERAL CONTRACTOR AND OWNER AT LEAST 24 HOURS IN ADVANCE. UNLESS APPROVED OTHERWISE ALL OUTAGES SHALL OCCUR BETWEEN 11:00PM AND 5:00AM.
18. GROUNDING AND BONDING
    a. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250.
    b. ANY GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.
19. MATERIALS
    a. PROVIDE ALL NEW MATERIAL AND EQUIPMENT UNLESS NOTED OTHERWISE. ALL EQUIPMENT SHALL BE UL APPROVED AND LABELED, OR OTHER APPROVED TESTING ORGANIZATION WHICH HAS ACCEPTANCE BY THE LOCAL JURISDICTION, FOR THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS. NO SUBSTITUTION TO MATERIALS SPECIFIED WILL BE ALLOWED UNLESS APPROVED BY THE OWNER.
    b. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED. NO ALLOWANCES WILL BE MADE FOR ANY CHANGES THAT OCCUR IF PERMIT DRAWINGS HAVE NOT BEEN APPROVED PRIOR TO ORDERING.
20. CUTTING AND FITTING
    a. PERFORM CUTTING, CORING, FITTING, REPAIRING AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBER SHALL BE DONE WITHOUT THE CONSENT OF THE OWNER. PROPERLY FILL, SEAL, FIREPROOF, AND WATERPROOF ALL OPENINGS, SLEEVES, AND HOLES IN SLABS, WALLS, AND CASEWORK.
21. WIRING METHODS
    a. PROVIDE CODE APPROVED WIRING METHODS FOR BRANCH CIRCUITING INDOORS, SUCH AS NM CABLE (ONLY WHERE PERMITTED BY NEC 334), EMT CONDUIT, OR MC CABLE FOR MECHANICAL EQUIPMENT, LIGHTING, AND POWER.
    b. CONDUIT RUNS ON EXTERIOR OF BUILDING SHALL BE RIGID STEEL CONDUIT WITH WEATHER TIGHT, CORROSION-RESISTANT FITTINGS. SCHEDULE 40 PVC IS ACCEPTABLE WHERE PERMITTED BY CODE AND OR UNDERGROUND RUNS OR CONCRETE ENCASEMENT WHERE NOT EXPOSED TO PHYSICAL DAMAGE.
    c. THE MINIMUM SIZE OF CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED. CONDUIT CONNECTORS SHALL BE DOUBLE LOCKNUT TYPE, UL LISTED AND LABELED, WITH COMPRESSION OR SET SCREW FITTINGS.
    d. RIGID CONDUIT SHALL BE HOT DIPPED GALVANIZED.
    e. WHERE RACEWAYS ARE INSTALLED FOR OTHERS TO USE, OR FOR FUTURE USE, PROVIDE NYLON PULL STRING.
    f. PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE SEALED USING 3M FIRE BARRIER CAULK, NELSON ELECTRIC FLAMESEAL OR T&B FLAMESAFE OR OTHER APPROVED METHOD.
22. CONDUCTORS AND TERMINATIONS
    a. BRANCH CONDUCTORS SHALL BE COPPER, FEEDERS AS INDICATED ON RISER DIAGRAM. CONDUCTORS SHALL BE INSULATED FOR 600V NUMBER 12 AWG MINIMUM. PROVIDE WIRES AND CABLES AS INDICATED LISTED AND SUITABLE FOR TEMPERATURE, CONDITIONS, AND LOCATION WHERE INSTALLED.
23. MOTORS AND OTHER WIRING
    a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED CONDUIT, WIRING, AND SAFETY SWITCHES FOR ALL MOTORS, AND OTHER ELECTRICAL EQUIPMENT, EVEN THOUGH THE MOTORS AND ELECTRICAL EQUIPMENT MAY BE SUPPLIED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE ALL WORK AND CONNECTIONS REQUIRED TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL. PROVIDE MAGNETIC STARTERS FOR EQUIPMENT AS INDICATED ON THE DRAWINGS.
    b. THE ELECTRICAL EQUIPMENT MAY INCLUDE BUT NOT BE LIMITED TO SUCH ITEMS AS GRILLE MOTORS AND INTERLOCKS, EXTERIOR AND INTERIOR SIGNAGE, STARTING DEVICES, MOTOR CONTROLLERS, FLOAT SWITCHES, ALARM DEVICES OR SYSTEMS, PUSH BUTTONS, EXHAUST FANS, DATA SYSTEMS, INTERCOMS AND STEREO SYSTEMS. THE ELECTRICAL CONTRACTOR SHALL VERIFY EQUIPMENT LOCATION AND SIZES WITH THE TRADE SUPPLYING THE EQUIPMENT BEFORE INSTALLING THE CONDUIT OR OUTLETS.
24. DEVICES
    a. HUBBELL, LEVITON, OR APPROVED EQUAL WITH MATCHING COVERPLATES.
    b. PROVIDE SPECIFICATION GRADE WIRING DEVICES, IN TYPES, CHARACTERISTICS, GRADES, COLORS, AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED, WHICH ARE UL-LISTED AND WHICH COMPLY WITH NEMA WD1 AND OTHER APPLICABLE UL AND NEMA STANDARDS. VERIFY COLOR SELECTIONS WITH ARCHITECT. PROVIDE DEVICE PLATES TO MATCH DEVICE COLORS.
    c. PROVIDE GFCI PROTECTION FOR ALL KITCHEN 15 AND 20-AMP RECEPTACLES. WHERE THE RECEPTACLE IS RENDERED INACCESSIBLE BY EQUIPMENT PROVIDE GFCI PROTECTION AT THE CIRCUIT BREAKER.
25. SERVICE ENTRANCE AND DISTRIBUTION EQUIPMENT
    a. ELECTRICAL CONTRACTOR MUST SUBMIT DRAWINGS FOR PERMIT AND RECEIVE APPROVAL PRIOR TO ORDERING EQUIPMENT. NO ALLOWANCES WILL BE MADE FOR EQUIPMENT CHANGES THAT OCCUR PRIOR TO RECEIPT OF APPROVED PLANS.
26. DISCONNECTS AND FUSED SWITCHES
    a. HEAVY DUTY TYPE, HORSEPOWER RATED WITH INTERLOCKING COVER. NEMA 1 TYPICAL. OUTDOOR AND WET LOCATION SWITCHES SHALL BE RAINTIGHT TYPE NEMA 3RR. ALL SWITCHES SHALL BE LOCKABLE. FUSES IN CIRCUITS RATED AT 600 AMPERES OR LESS SHALL BE UL CLASS RK1 DUAL-ELEMENT, TIME-DELAY, CURRENT LIMITING FUSES. FUSES IN CIRCUITS RATED AT 601 AMPERES OR LARGER SHALL BE UL CLASS L TIME-DELAY, CURRENT LIMITING FUSES.
27. NAMEPLATES
    a. PROVIDE PERMANENT NAMEPLATE LABELING ON ALL DISCONNECTS. INCLUDE LOAD SERVED, VOLTAGE, PHASE, HORSEPOWER, FUSE SIZE, AND TYPE.
28. MOUNTING
    a. MOUNT INDEPENDENT OF THE MECHANICAL UNIT HOUSING UNLESS SPECIFICALLY ACCEPTED BY THE LOCAL CODE AUTHORITY. PROVIDE UNISTRUT SUPPORT CHANNELS MOUNTED IN COORDINATION WITH ROOF PENETRATION AND PATCHING WORK. COORDINATE WITH GENERAL CONTRACTOR.
29. GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS AND EQUIPMENT
    a. PROVIDE GROUNDING AND BONDING FOR ELECTRICAL SERVICE IN ACCORDANCE WITH NEC ARTICLE 250.
    b. ALL MAJOR PARTS NOT CARRYING CURRENT, INCLUDING BUT NOT LIMITED TO, SECONDARY FEEDER CIRCUIT, EQUIPMENT AND PANELBOARD ENCLOSURES, PULL AND JUNCTION BOXES, SHALL BE PROPERLY GROUNDED. METALLIC RACEWAYS SHALL UTILIZE DOUBLE LOCKNUTS AND OTHER FITTINGS AS REQUIRED TO PROVIDE GROUND CONTINUITY.
30. MULTI-TENANT METER CENTERS
    a. PROVIDE METER CENTERS(S) AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. METER CENTERS SHALL HAVE MAIN LUGS ONLY OR MAIN BREAKERS AS REQUIRED, AND SHALL HAVE BRANCH BREAKER INSTALLED FOR EACH METER SOCKET. METER CENTERS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL, AND SHALL BE OF THE SAME MANUFACTURE AS LOAD CENTERS OR PANELBOARDS SERVED. METER CENTERS SHALL BE ENCLOSED NEMA 1, NEMA 3R AS REQUIRED. FINAL CONFIGURATION (NUMBER OF METERS PER SECTION, END-MAIN/CENTER-MAIN, ETC. SHALL BE DETERMINED BY CONTRACTOR. ALL BUSSING MUST BE RATED FOR THE LOADS SERVED. METER CENTERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT.
31. PANELBOARDS
    a. PROVIDE BRANCH CIRCUIT PANELBOARD(S) AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. PANELBOARDS SHALL HAVE BOLTED, THERMAL AND MAGNETIC BREAKERS WITH MAIN LUGS ONLY OR MAIN BREAKERS AS REQUIRED. PANELBOARDS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL, AND BE ENCLOSED IN NEMA 1 TYPE HOUSING UNLESS NOTED OTHERWISE. ENCLOSURE(S) SHALL BE COMPLETE WITH A HINGED DOOR, CYLINDER LOCK, AND A NEATLY TYPED DIRECTORY UNDER PLASTIC COVER IN EACH PANEL DOOR. ALL MULTIPLE POLE BREAKERS SHALL HAVE A COMMON TRIP HANDLE. ALL PANELS AND BREAKERS SHALL BE RATED TO WITHSTAND AVAILABLE FAULT CURRENT.
32. RESIDENTIAL LOAD CENTERS
    a. PROVIDE LOAD CENTERS AS SHOWN ON DRAWINGS AND AS SPECIFIED HEREIN. LOAD CENTERS SHALL BE EATON, SQUARE D, GE BY ABB, OR EQUAL. LOAD CENTERS SHALL CONTAIN A NEATLY TYPED DIRECTORY IN EACH DOOR. ALL MULTIPLE POLE BREAKERS SHALL HAVE A COMMON TRIP HANDLE. ALL PANELS AND BREAKERS SHALL BE RATED TO WITHSTAND AVAILABLE FAULT CURRENT. LOAD CENTERS MAY BE USED IN AREAS OTHER THAN DWELLING UNITS WHERE APPROPRIATE AND WHERE APPROVED BY OWNER'S REPRESENTATIVE.
33. LIGHTING
    a. PROVIDE A NEW LIGHTING SYSTEM COMPLETE AND FULLY OPERATIONAL AND IN CONFORMANCE WITH CODE AND UL LISTING REQUIREMENTS. CLEAN ALL FIXTURES AT TIME OF JOB COMPLETION UTILIZING MANUFACTURERS APPROVED OR RECOMMENDED CLEANING SOLUTIONS. ALL FIXTURES AND LAMPS ARE PROVIDED BY THIS CONTRACTOR AS SCHEDULED UNLESS NOTED OTHERWISE. CONTRACTOR SHALL FURNISH ALL BOXES, MOUNTING KITS, TRANSFORMERS, CONTROLLERS, AND OTHER COMPONENTS NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL INSTALLATION.
    b. WHERE DIMMERS AND/OR DIMMING SYSTEMS ARE REQUIRED, CONTRACTOR TO FURNISH DIMMERS THAT ARE COMPATIBLE WITH FIXTURE SOURCE AND RATED FOR THE WATTAGE OF THE DIMMING ZONE. PROVIDE ADDITIONAL DIMMERS AS REQUIRED TO MEET ZONE LOAD REQUIREMENTS.
34. TELEPHONE SYSTEM
    a. TELEPHONE WIRING AND SYSTEM PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL PROVIDE PLASTER RING AND PULL STRING FROM EACH DEVICE LOCATION TO ABOVE ACCESSIBLE CEILING.
35. SECURITY SYSTEM NOTES
    a. SECURITY WIRING AND SYSTEM PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. PROVIDE POWER FOR OWNER'S HEAD-END EQUIPMENT AND REMOTE POWER FOR SECURE DOORS AS REQUIRED.
36. DATA/POS/A-V/SYSTEM NOTES
    a. DATA, POS AND/OR A-V WIRING AND SYSTEMS PROVIDED BY OWNER. VERIFY SYSTEM REQUIREMENTS AND ROUGH-IN LOCATIONS WITH OWNER PRIOR TO START OF CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL PROVIDE PLASTER RING AND PULL STRING FROM EACH DEVICE LOCATION TO ABOVE ACCESSIBLE CEILING.

FRANKLIN COMMONS OFFICE LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	INPUT VA	DESCRIPTION	MANUFACTURER	MODEL	NOTE 1	NOTE 2
L1		(1) 45W LED	45	LED LINEAR SURFACE MOUNT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
L2		(1) 45W LED	45	LED STRIP LIGHT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
S1		(1) 15W LED	15	6" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
S2		(1) 25W LED	25	12" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
UC		(1) 15W LED	15	UNDERCABINET LIGHT	OWNER SELECTED	CONTRACTOR PROVIDED		
V3		(1) 25W LED	25	LED VANITY LIGHT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
WS1		(1) 15W LED	15	EXTERIOR LED WALL SCONCE	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	

FRANKLIN COMMONS UNITS LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	INPUT VA	DESCRIPTION	MANUFACTURER	MODEL	NOTE 1	NOTE 2
K1		(1) 10W LED	10	KEYLESS FIXTURE	CONTRACTOR SELECTED		EXISTING LOCATION	PROVIDE NEW LED LAMP
L1		(1) 45W LED	45	LED LINEAR SURFACE MOUNT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
S1		(1) 15W LED	15	6" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
S2		(1) 25W LED	25	12" SURFACE MOUNT LED	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
V1		(1) 15W LED	15	LED VANITY LIGHT	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	
WS1		(1) 15W LED	15	EXTERIOR LED WALL SCONCE	OWNER SELECTED	CONTRACTOR PROVIDED	EXISTING LOCATION	

ELECTRICAL LEGEND

*SEE LIGHT FIXTURE SCHEDULE FOR FIXTURE TYPES.

SYMBOL	DESCRIPTION
$	SINGLE POLE LIGHT SWITCH
$3	THREE WAY LIGHT SWITCH
$4	FOUR WAY LIGHT SWITCH
$D	DIMMER SWITCH
$FS	FAN SPEED CONTROL
OS DT	OCC SENSOR - CEILING - DUAL TECHNOLOGY
OS PIR	OCC SENSOR - CEILING - PASSIVE INFRARED
$DT	OCC SENSOR - WALL - DUAL TECHNOLOGY
$PIR	OCC SENSOR - WALL - PASSIVE INFRARED
	OCC SENSOR POWER PACK
	OCC SENSOR POWER PACK - 2 CKT
	DUPLEX RECEPTACLE
USB	DUPLEX RECEPTACLE W/USB JACKS
	COUNTER HEIGHT DUPLEX RECEPTACLE
	QUAD RECEPTACLE
	COUNTER HEIGHT QUAD RECEPTACLE
(CLNG)	CEILING (SHOW WINDOW) RECEPTACLE
GFCI	DUPLEX RECEPTACLE WITH GFCI PROTECTION
GFCI	COUNTER HEIGHT DUPLEX RECEPTACLE WITH GFCI PROTECTION
	SPLIT-WIRED (SWITCHED) RECEPTACLE
WP GFCI	WEATHER PROOF RECEPTACLE WITH GFCI PROTECTION
DW GFCI	DISHWASHER RECEPTACLE WITH GFCI PROTECTION
DISP. J	GARBAGE DISPOSAL
MW	MICROWAVE RECEPTACLE
FRIG	REFRIGERATOR RECEPTACLE
RANGE	RANGE - 208-240V/ 1-PHASE 50 AMP RECEPTACLE
WASH GFCI	WASHER RECEPTACLE WITH GFCI PROTECTION
DRYER	DRYER - 208-240V/ 1-PHASE 30 AMP RECEPTACLE
W/D	STACKED WASHER/DRYER - 208-240V/ 1-PHASE 30 AMP RECEPTACLE
	DUPLEX - MONUMENT FLOOR BOX
	DUPLEX - RECESSED FLOOR BOX
	PANELBOARD
	PANELBOARD W/ BUS (MCB OR MLO) - SINGLE LINE DIAGRAM
	TRANSFORMER - SINGLE LINE DIAGRAM
	TRANSFORMER W/ GROUND - SINGLE LINE DIAGRAM
	PADMOUNT TRANSFORMER - SINGLE LINE DIAGRAM
	AUTOMATIC TRANSFER SWITCH (ATS) - SINGLE LINE DIAGRAM
	STANDBY/EMERGENCY GENERATOR - SINGLE LINE DIAGRAM
	* METER BASE - SINGLE LINE DIAGRAM
	FUSED DISCONNECT - SINGLE LINE DIAGRAM
	* CT CABINET - SINGLE LINE DIAGRAM

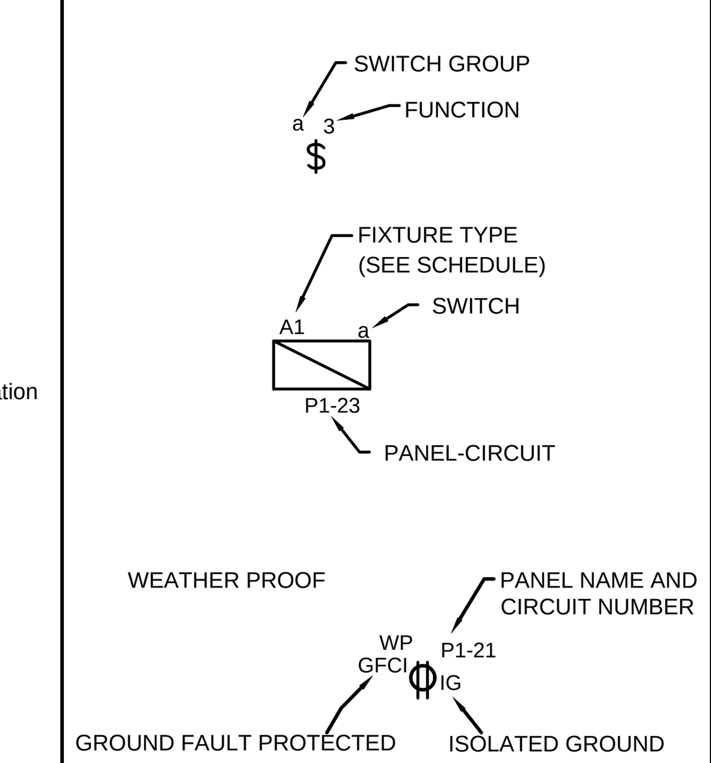
SYMBOL	DESCRIPTION
L5-20R	LOCKING 125V/20 AMP - RECEPTACLE
L6-20R	LOCKING 250V/20 AMP (1-PHASE) - RECEPTACLE
L5-30R	LOCKING 125V/30 AMP - RECEPTACLE
L6-30R	LOCKING 250V/20 AMP (1-PHASE) - RECEPTACLE
PP	FURNITURE POWER POLE - RECEPTACLE
RFF	FURNITURE RECESSED FLOOR FEED
WFF	FURNITURE WALL FEED
FB	RECESSED FLOOR BOX - MULTI-SERVICE (POWER/DATA)
AV	RECESSED FLOOR BOX - MULTI-SERVICE W/AV
PT	RECESSED MULTI-SERVICE POKE THRU
	SPECIAL CONNECTION
	SIMPLEX RECEPTACLE
	EQUIPMENT CONNECTION
$M	MANUAL MOTOR STARTER
	NON-FUSED DISCONNECT
	FUSED DISCONNECT
	FUSED DISCONNECT W/MAGNETIC MOTOR STARTER
J	JUNCTION BOX
HNE	HOME NETWORK ENCLOSURE
	SECURITY CAMERA
	DATA LOCATION (RING & STRING, U.N.O)
	VOICE DROP - LOCATION
	VOICE/DATA DROP - LOCATION
TV	CABLE TV (COAX) - LOCATION
CR	CARD READER
DR	DOOR RELEASE - ACCESS CONTROL
DS	DOOR STRIKE - ACCESS CONTROL
ML	MAG-LOCK - ACCESS CONTROL
PS	POSITION SWITCH
PR	PROXY READER
RE	REQUEST TO EXIT SWITCH
WAP	WIRELESS INTERNET ACCESS POINT
	DOOR HOLD - FIRE ALARM
DSD	DUCT SMOKE DETECTOR
FABP	FIRE ALARM BOOSTER PANEL
FACP	FIRE ALARM CONTROL PANEL
FARA	FIRE ALARM REMOTE ANNUNCIATOR
FS	SPRINKLER FLOW SWITCH
H	HEAT DETECTOR - FIRE ALARM
	HORN - FIRE ALARM
	HORN/STROBE - FIRE ALARM
PIV	POST INDICATOR VALVE - (PIV)
PRE-A	PRE-ACTION PANEL
PS	PRESSURE SWITCH
F	PULL STATION - FIRE ALARM
SD	SMOKE DAMPER
SD	SMOKE DETECTOR
CO SD	COMBINATION SMOKE/CO2 DETECTOR
SP	SPEAKER - FIRE ALARM
SP	SPEAKER/STROBE - FIRE ALARM
	STROBE - FIRE ALARM

* FINAL METER CONFIGURATION TBD/ APPROVED BY LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

ABBREVIATIONS:

#	Number
Ω	Ohm
Φ	Phase
A	Amperes
AC	Alternating Current
A/C	Air Conditioning
AFCI	Arc Fault Current Interrupter
AHU	Air Handling Unit
AIC	Ampere Interrupting Capacity
AL	Aluminum
ATS	Automatic Transfer Switch
ATC	Automatic Temperature Control
AWG	American Wire Gauge
C	Conduit
CATV	Cable Television
CB	Critical Branch
C/B	Circuit Breaker
CKT	Circuit
CCTV	Closed Circuit Television
CT	Current Transformer
CU	Condensing Unit
DC	Direct Current
DIA	Diameter
EC	Electrical Contractor
EF	Exhaust Fan
ELEV	Elevator
EM	Emergency
EMT	Electrical Metallic Tubing
EPO	Emergency Power Off
EWC	Electric Water Cooler
EWH	Electric Water Heater
FA	Fire Alarm
FAA	Fire Alarm Annuciator
FLA	Full Load Amperes
FMC	Flexible Metal Conduit
GF	Gas Furnace
GFCI	Ground Fault Current Interrupter
GND	Ground
GWH	Gas Water Heater
HOA	Hand-Off-Automatic Switch
HVAC	Heating, Ventilation, Air Conditioning
HP	Heat Pump
HZ	Hertz
IG	Isolated Ground
IMC	Intermediate Metal Conduit
KCMIL	Thousand Circular Mils
KVA	Kilovolt-Amperes
LFMC	Liquid Tight Metal Conduit
LTG	Lighitng
LRA	Locked Rotor Amperes
MC	Metal Clad Cable
MCB	Main Circuit Breaker
MCC	Motor Control Center
MLO	Main Lug Only
NC	Normally Closed
NEC	National Electrical Code
NEMA	National Electrical Manufactures Association
NFPA	National Fire Protection Association
NL	Night Lighting (Egress Illumination)
NO	Normally Open
NTS	Not To Scale
P	Pole
PB	Push Button or Panic Button or Pull Box
PNL	Panel
PWR	Power
QTY	Quantity
REQ	Required
RMC	Rigid Metal Conduit
RNC	Rigid Non-Metallic Conduit
RTU	Roof Top Unit
ST	Shunt Trip
SW	Switch
TSTAT	Thermostat
TYP	Typical
UG	Underground
UL	Underwriters Labratory
UNO	Unless Noted Otherwise
V	Volt
VA	Volt-Amperes
W	Watt or Wire
WP	Weather Proof
XFMR	Transformer

EXAMPLES:



NOTE: ALL ITEMS MAY NOT BE USED.

BEILHARZ ARCHITECTS
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FRANKLIN COMMONS

ALTERATIONS
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STATE OF OHIO
PAUL R. SPRONG
PE 74471
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS

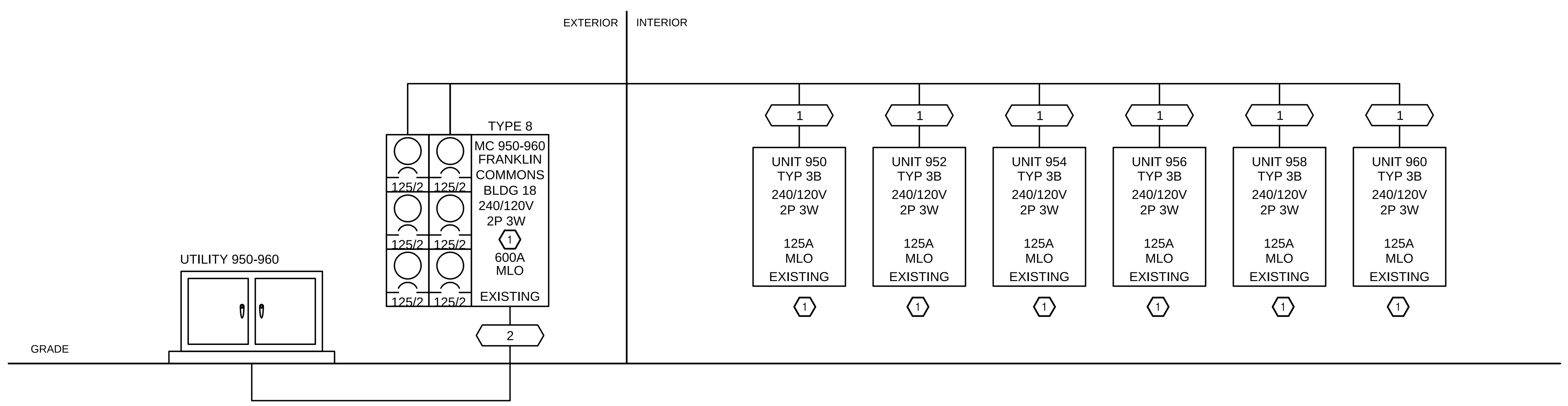
5/3/2024	OHFA 80% SUBMISSION
9/16/2024	BID/PERMIT SET

PROJECT #:
DRAWN: **CHECKED:**

BUILDING 18

ELECTRICAL DETAILS

E326



1
E327

ELECTRICAL SINGLE LINE DIAGRAM
TYPICAL BUILDING 8
BUILDING 18 - FRANKLIN COMMONS DRIVE
UNITS 950, 952, 954, 956, 958, 960

SCOPE OF WORK

RENOVATION OF MULTIFAMILY BUILDING. UNLESS NOTED OTHER, REUSE EXISTING ELECTRICAL INFRASTRUCTURE, FIELD VERIFY THAT ALL EQUIPMENT IS IN GOOD WORKING ORDER. ELECTRICAL DEVICES AND FIXTURES TO BE REPLACED ONE FOR ONE UNLESS NOTED OTHERWISE. SEE SINGLE LINE DIAGRAM AND ELECTRICAL DRAWINGS FOR MORE DETAILS.

GENERAL NOTES - OVERALL PROJECT

A. EBS DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. EBS IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

KEYED SHEET NOTES

1. EXISTING ELECTRICAL EQUIPMENT. VERIFY THAT EQUIPMENT IS IN GOOD WORKING ORDER, COORDINATE ANY REPAIRS OR REPLACEMENTS WITH OWNER AND ARCHITECT PRIOR TO CONSTRUCTION.

FEEDER SCHEDULE

ID	CONDUIT AND FEEDER
1	1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	(2)3"C,2#350kcmil AL,#4/0 AL N

SIZING METHOD: COMPACT AL 75°C 100A AND ABOVE, CU 75°C BELOW 100A

GENERAL NOTES-SINGLE LINE DIAGRAM

A. ALL BREAKERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT AT THEIR LOCATION. WHERE SERIES- RATED COMBINATIONS ARE USED IN ACCORDANCE WITH NEC 240.86 (B) AND (C) THE CONTRACTOR AND/OR HIS EQUIPMENT SUPPLIER MUST PROVIDE APPROPRIATE DOCUMENTATION AND LABELING.

B. WHERE BREAKERS WITH ADJUSTABLE SETTINGS ARE FURNISHED TO THE PROJECT. THE MANUFACTURER'S REP SHALL IDENTIFY AND PROVIDE THE APPROPRIATE SETTINGS TO THE ELECTRICAL CONTRACTOR FOR HIS USE IN INSTALLATION.

C. PANEL SCHEDULES INDICATE BREAKER SIZE ONLY. PROVIDE AFCI/GFCI PROTECTION AS REQUIRED BY NEC. COORDINATE FINAL BREAKER SIZES/TYPES FOR ITEMS FURNISHED BY OTHERS WITH SHOP DRAWINGS OR PRODUCT INFORMATION FOR ACTUAL EQUIPMENT BEING CONNECTED

D. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED BY AHJ.

E. PROVIDE SELECTIVE COORDINATION FOR EMERGENCY SYSTEM OVERCURRENT PROTECTION DEVICES IN ACCORDANCE WITH NEC 700.27.

F. PROVIDE GROUND-FAULT PROTECTION FOR EQUIPMENT IN ACCORDANCE WITH NEC 240.13 AND NEC 230.95.

G. OVERCURRENT PROTECTION DEVICES SUPPLYING TRANSFORMERS WHICH ARE NOT LOCATED WITHIN SIGHT OF THEIR OVERCURRENT PROTECTION SHALL BE LOCKABLE AND THE TRANSFORMER SHALL BE FIELD MARKED WITH THE LOCATION OF THE OVERCURRENT PROTECTION DEVICE.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250. GAS PIPING SYSTEMS MUST BE BONDED PER UTILITY PROVIDER'S INSTALLATION GUIDELINES WHERE REQUIRED.

MC 950–960

ROOM
MOUNTING FLUSH
FED FROM UTILITY 950–960
NOTE

VOLTS 240/120V 2P 3W
BUS AMPS 600
NEUTRAL 100%

AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	FEEDER RACEWAY AND CONDUCTORS
1	125/2	UNIT 950 – TYP 3B	20	17.3	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	UNIT 952 – TYP 3B	17.3	20	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	UNIT 954 – TYP 3B	20	17.3	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	UNIT 956 – TYP 3B	17.3	20	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
5	125/2	UNIT 958 – TYP 3B	20	17.3	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
6	125/2	UNIT 960 – TYP 3B	17.3	20	1–1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
		TOTAL CONNECTED KVA BY PHASE	112	112	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA	
LIGHTING AND RECEPTACLES	18.7	6,240 SF (3 VA/SF)
SMALL-APPLIANCE	18	
LAUNDRY	9	
APPLIANCES	57	
ELECTRIC COOKING	51	
MOTORS	7.5	
HEATING	56.6	(100%)
COOLING	51.8	(0%)

	KVA
CONNECTED LOAD	218
DWELLING UNITS	6
DEMAND FACTOR	(44%)
CALCULATED LOAD	95.9
BALANCED LOAD	399 A

Meter Center Breakdown (MC 950-960)

220.84 Multi-Family Calculation	KVA	Qty	Total KVA
3B	36.33	6	217.99
Total Quantity and Connected Load =		6	3B

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PROJECT #:
DRAWN: CHECKED:

BUILDING 18
ELECTRICAL DETAILS

E327