adwarchitects
environmentsforlife
architecture planning interiors

Addendum #1

May 3rd, 2022

Re: **Addendum No. 1**
Garner Main EMS
845 Thompson Road
Garner, NC 27529
ADW Job No. 20004
Wake County Bid #22-030

These clarifications constitute Addendum No. 1 and considered part of the Bid Documents. General Contractor shall see that their sub-contractors are in full receipt of the information contained herein.

General Clarifications:

1.) See attached attendance sheet from the mandatory pre-bid meeting held on Tuesday, April 26th, 2022 at 1:30pm.

Project Manual:

1.) See attached revised section 03 30 00 Cast-in-place concrete:

   a. Part 2.1; Section "L" has been added for Densifier/Hardener/Sealer to be applied to the apparatus bay floor
   b. Part 3.6; Section "B" has been added for Densifier/Hardener/Sealer to be applied to the apparatus bay floor

2.) Section 08 71 00 Door Hardware:
   a. Part 2.1 Products: Section D, Manufacturer: Allegion has been approved as an acceptable manufacturer
   b. Part 2.2: Mechanical locks and latching devices: Add Schlage L series as an approved equal
   c. Part 2.2: Section "H" Exit devices; Add Von Duprin 98/99 series as an approved equal
   d. Part 2.2: Section "I" Door closers; Add LCN 4050 as an approved equal

Drawings:

Civil:

1.) Sheet C5.0:
   a. Key Notes: Note "N" has been changed to read 1,000 gallon oil/water separator, see plumbing plans.

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2.) Sheet C5.1:
    a. Key Notes: Note "N" has been changed to read 1,000 gallon oil/water separator, see plumbing plans.

Architectural:

1.) Sheet A700:
    a. See attached sheet for revisions. Delete reference to alternate #3 in finish schedule.
    b. Delete Alt.#3 finish and remark notes from rooms: 101 Lobby, 102 Training, 105 Corridor, 111 Corridor, 114 Files/WR/Reports & 118 Corridor.
    c. Delete Alt.#3 from Interior Finish Legend Remarks: PT-2.
    d. Room #102: Delete Remark "Alternate #3 PT-2 in lieu of VCT-1".

Plumbing:

1.) Sheet P001 & new sheet P501:
    e. Delete Steel Oil Water Separator detail in its entirety. These devices shall now be a 1,000 gallon precast GI. Refer to new sheet P501 for specifications and details of new OWS-1.

2.) Sheet P002:
    b. Remove requirement for stainless steel splash plates on JS-1. Refer to Architectural plans for finishes in this location.
    c. Fixture FS-1 is now schedule
    d. OWS-1 is not added to the Fixture schedule and detailed on P501

3.) Sheet P201:
    a. Remove hot and cold water rough-ins for SH-1A fixture shown on the south wall of ADA Bath 119. This fixture is served from the rough-in on the east wall only.

4.) Sheet P300:
    a. Removes unnecessary hot and cold water rough-ins for the extra SH-1A fixture described above from the water riser.

5.) Refer to Sheet P500 Detail 5:
    a. Revise note to read: "REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR CONCRETE SLAB AND DRAIN PIT DIMENSIONS."

Mechanical:

1.) Sheet M210:
    a. Revise note near column G5 to read "MICROWAVE VENT"

2.) Sheet 501:
    a. Detail #4: Dimension has been added to flue stack height. The outlet of the flue shall be maximum 24" from the highest pitch but not less than 12"

3.) Sheet 502:
   a. Detail #2: Notation has been added to specify a wall mounted sump and pump for condensate. Also, clarification has been added to route the pumps condensate discharge with line set through attic space.
4.) Sheet 502:
   a. Detail #4: Thickness of outdoor concrete pad has been coordinated. All outside pads shall comply with detail 4/M502 and shall be 6" thick.

Electrical:

1.) Sheet E001:
   a. Legend and Abbreviation clarification.
2.) Sheet E002:
   a. Change type PA Basis of Design to LSI IHB4-LED-15L-LL-UNV-DIM-35

3.) Sheet E100:
   a. Revise Keynote #12 to read as follows: "Division 26 shall provide vehicle detection loops. Loops shall be provided based on driveway size. Wire shall be #16 AWG, insulation as recommended by manufacturer. Provide with 100 LF lead. Provide detector for each door. Detector shall be universal voltage and be provided with two (2) output contact. Provide control wiring from detector to door controller as required by overhead door installer. Provide one (1) 120-volt power circuit for all detectors. Connect to P1A-1. REFER TO REFERENCE DETAILS SHEET E502."

4.) Sheet E101:
   a. Detail #1-add a note that reads "Set boxes level and flush with grade".

5.) Sheet E200:
   a. Changes to Bay Lighting circuiting.

6.) Sheet E201:
   a. Miscellaneous changes related to keynotes being out of sequence and PV disconnecting scheme.

7.) Sheet E202:
   a. Addition of PV monitoring requirements.

8.) Sheet E300:
   a. Changes related to removal of PV load shed contactor.

9.) Sheet E301:
   a. Changes to Keynotes Detail 1

b. Keynote #1 to read as follows: ELECTRIC RANGE AND GAS GRILL SHUT-DOWN SYSTEM. PROVIDE SHUT-DOWN BUTTON AT THIS LOCATION. REFER TO DETAIL 1/E502.
c. Keynote #3 to read as follows: ELECTRIC RANGE AND WALL MOUNTED MICROWAVE WITH RANGE EXHAUST. REFER TO A-SERIES FOR MNT. HTS.

10.) Sheet E400:
a. Miscellaneous changes related to keynotes, riser tags and PV disconnecting scheme.

11.) Sheet E500:
a. Change general notes on detail 1/E500 to read as follows-IF MOUNTED TO ADJACENT SECURITY DEVICES SUCH AS CARD READERS, ALIGN THOSE DEVICES WITH SWITCHES.

12.) Sheet E501:
a. Delete detail 2/E501.

13.) Sheet E502:
a. Changes to detail 1/E502 related to electric range and gas shut-off.

14.) Sheet E503:
a. Add #1/0 AWG ground connection from main electrical ground bar to generator ground loop.

15.) Sheet SS200:
a. Miscellaneous changes related to WAP mounting and wiring methods in Apparatus Bay.

16.) Sheet SS400:
a. Detail 2/E400. Change General Note #2 to read as follows TGB/EMGB SHALL BE CHATSWORTH MODEL 40153-012 OR EQUAL.

17.) Sheet SS401:
a. Updates to Protus 3 Drawings.

18.) Sheet SS402:
a. New Sheet; update to Protus 3 Drawings.

Security Drawings (Protus 3):

1.) See attached revised security drawings SC-01, SC-02, SC-03 <u>for reference only.</u>

End of Addendum #1

Cc: \File

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Pre-Bid Meeting for the Garner Main EMS

ATTENDANCE LIST

LOCATION: Wake County Public Safety Center Conference Room C170, 330 S. Salisbury Street, Raleigh, NC 27601

ADW#: **20004**

DATE: **April 26th, 1:30pm**

☒ Pre-Bid ☐ Special Mtg. ☐ Pre-Final

☐ Monthly Conf. ☐ Job Check ☐ Final

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Raul Zurita	Excel Tech Heat and Air	service@exceltech heat and air.com	919-218-7[illegible]2
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Walt Grayson	Bar Construction	bids@barconstruction.com	336-274-1477

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes cast-in-place concrete, including reinforcement, concrete materials, mix design, placement procedures, and finishes.

1.2 SUBMITTALS

A. Product Data: For each manufactured material and product indicated.

B. Design Mixes: For each concrete mix indicated.

C. Shop Drawings: Include details of steel reinforcement placement including material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement, and supports.

D. Material certificates.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.

B. Comply with ACI 301, "Specification for Structural Concrete," including the following, unless modified by the requirements of the Contract Documents:
   1. General requirements, including submittals, quality assurance, acceptance of structure, and protection of in-place concrete.
   2. Formwork and form accessories.
   3. Steel reinforcement and supports.
   4. Concrete mixtures.
   5. Handling, placing, and constructing concrete.

C. Once all submittals have been submitted, reviewed and approved, the contractor shall schedule a pre-installation meeting on-site with the subcontractor, Architect, Engineer, Special Inspector and Vapor Retarder Manufacturers Representative in attendance. Do not proceed until this meeting has been held.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Formwork: Furnish formwork and form accessories according to ACI 301.

B. Steel Reinforcement:
   1. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
   2. Plain-Steel Wire: ASTM A 82, as drawn.

3. Plain-Steel Welded Wire Fabric: ASTM A 1064, fabricated from as-drawn steel wire into flat sheets.

C. Concrete Materials:
1. Portland Cement: ASTM C 150, Type I/II.
2. Normal-Weight Aggregate: ASTM C 33, uniformly graded, not exceeding 1-1/2-inch nominal size.
3. Water: Complying with ASTM C 94.

D. Admixtures:
1. Air-Entraining Admixture: ASTM C 260.
2. Water-Reducing Admixture: ASTM C 494, Type A.
3. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
4. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.
5. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
6. Color Conditioning Concrete Admixture: L.M. Scolfield Chromex or approved equal. Color as indicated on the Drawings or if not indicated, the Architect shall select from a full selection of available colors.

E. Vapor Retarder: Multi-ply reinforced polyethylene sheet, ASTM E 1745 (latest edition), meets or exceeds Class A, not less than 10 mils thick. Include manufacturer's recommended adhesive or pressure-sensitive joint tape, mastic, and tape as required. Install per ASTM E 1643 (latest edition). No substitutions.
1. Class A Products:
a. Fortifiber Corporation; Moistop Ultra 10 mils.
b. Raven Industries Inc.; Vapor Block 10 mils.
c. Stego Industries, LLC; Stego Wrap, 10 mils.
d. W.R. Meadows Sealtight; Perminator 10 mils

G. Waterstops:

1. Provide rigid waterstops made of rubber, PVC, copper, or stainless steel. Water stop shall be minimum 6” high and have bulbs on each end. Install as per manufacturers recommendations.

H. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.

I. Curing Materials:
2. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
3. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf.
4. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
5. Water: Potable.
6. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

J. Granular Fill: Clean mixture of crushed stone or crushed or uncrushed gravel; ASTM D448, size 57, with 100% passing a 1 ½ inch sieve and 0 to 5% passing a No. 8 sieve.

K. Sealing Materials (SC-1)
1. Sealer and Dustproofer: A heavy duty, water base acrylic emulsion sealer containing a minimum of 20 percent solids and that is v.o.c. compliant.

L. Densifier /Hardener/ Sealer (SC-2)
1. Concrete densifier, sealer, hardener. All exposed concrete surfaces in the apparatus room to be treated with 0 VOC alkaline siliconate solution to harden, seal and densify exposed concrete. Reduction of abrasion, ASTM-C-779, greater than 50%. Applied by an Approved Applicator - 10 year warranty. Provide "SEAL HARD" by L&M Construction Chemicals, Inc. Substitutions must be submitted minimum 10 days prior to bid.
2. Color: Bottom layer to be clear, top layer to be gray.

2.2 CONCRETE MIXES

A. Comply with ACI 301 requirements for concrete mixtures.

B. Prepare design mixes, proportioned according to ACI 301, for normal-weight concrete determined by either laboratory trial mix or field test data bases, as follows:
1. Compressive Strength (28 Days): As indicated on structural drawings.
2. Slump: As indicated on structural drawings.

C. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content of 6.0 percent within a tolerance of plus 1.0 or minus 1.5 percent at exposed formed concrete.
1. Air content of trowel-finished interior concrete floors shall not exceed 2.0 percent.

D. The design mix for concrete containing a color admixture shall be developed with and approved by the admixture supplier.
1. No calcium chloride is permitted in colored concrete

2.3 CONCRETE MIXING

A. Ready-Mixed Concrete: Comply with ASTM C 94.
1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

B. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Formwork: Design, construct, erect, shore, brace, and maintain formwork according to ACI 301.

B. Vapor Retarder: Install, protect, and repair vapor-retarder sheets according to ASTM E 1643 and manufacturer’s instructions.
1. Place sheets in position with longest dimension parallel with direction of the pour.
2. Lap vapor retarder over footings and seal to foundation walls.
3. Lap joints 6 inches and seal with manufacturer's recommended tape.
4. Seal all penetrations as per manufacturer’s instructions.
5. Avoid the use of non-permanent stakes driven through the vapor barriers. If non-permanent stakes are used, repair as recommended by vapor retarder manufacturer.

6. To repair damaged areas: Cut patches of vapor retarder, overlap damaged area 6 inches and tape all sides with manufacturer's recommended tape or mastic.

C. Steel Reinforcement: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

D. Joints: Construct joints true to line with faces perpendicular to surface plane of concrete.
1. Construction Joints: Locate and install so as not to impair strength or appearance of concrete, at locations indicated or as approved by Architect.
2. Isolation Joints: Install joint-filler strips at junctions of slabs-on-grade and vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
a. Extend joint fillers full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.
3. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows:
a. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

E. Tolerances: Comply with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

3.2 CONCRETE PLACEMENT

A. Comply with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete.

B. Do not add water to concrete during delivery, at Project site, or during placement.

C. Consolidate concrete with mechanical vibrating equipment.

D. Protect concrete from physical damage or reduced strength due to weather extremes during mixing, placing, and curing.
1. In cold weather comply with ACI 306.
2. In hot weather comply with ACI 305.

3.3 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defective areas repaired and patched, and fins and other projections exceeding 1/4 inch in height rubbed down or chipped off.
1. Apply to concrete surfaces not exposed to public view.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Completely remove fins and other projections.
1. Apply to concrete surfaces exposed to public view or to be covered with a coating or covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, or painting.

2. Do not apply rubbed finish to smooth-formed finish.
3. Apply smooth-rubbed finish, defined in ACI 301, to smooth-formed finished concrete.

C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.4 FINISHING UNFORMED SURFACES.

A. General: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Screed surfaces with a straightedge and strike off. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane before excess moisture or bleedwater appears on the surface.
1. Do not further disturb surfaces before starting finishing operations.

C. Scratch Finish: Apply scratch finish to surfaces to receive concrete floor topping or mortar setting beds for ceramic or quarry tile, portland cement terrazzo, and other bonded cementitious floor finish, unless otherwise indicated.

D. Float Finish: Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.

E. Trowel Finish: Apply a tight, hard trowel finish to surfaces indicated and/or to floor and slab surfaces exposed to view (sealed or liquid hardener/densifier) or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system.

F. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set methods. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.

G. Nonslip Broom Finish: Apply a nonslip broom finish to surfaces indicated and to exterior concrete platforms, steps, and ramps. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.

3.5 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection, and follow recommendations in ACI 305R for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions occur before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Begin curing after finishing concrete, but not before free water has disappeared from concrete surface.

D. Cure formed and unformed concrete for at least seven days as follows:

1. Moisture Curing: Keep surfaces continuously moist with absorptive cover, water saturated and kept continuously wet.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.6 LIQUID FLOOR TREATMENTS

A. Sealing and Dustpoofing Coats: Provide two coats of sealer over all interior floor slabs to be left exposed to view per manufacturer’s recommendations. Apply the first coat after minimum curing time recommended by the manufacturer, but no later than three weeks after that curing time ends. Apply the second coat after all painting has been completed and the floors cleaned as outlined below.

1. Remove curing compounds, sealers, oil, dirt, laitance, and other contaminants and complete surface repairs.
2. Do not apply to concrete that is less than 7 days old.
3. Apply liquid cleaner until surface is saturated, scrubbing into surface until a gel forms; rewet; and repeat brooming or scrubbing. Rinse with water and remove excess material until surface is dry. Repeat application if surface is rough or porous.

B. Densifier /Hardener/ Sealer (SC-2)
1. Concrete densifier, sealer, hardener. All exposed concrete surfaces in the apparatus room to be treated with 0 VOC alkaline siliconate solution to harden, seal and densify exposed concrete. Reduction of abrasion, ASTM-C-779, greater than 50%. Applied by an Approved Applicator - 10 year warranty. Provide "SEAL HARD" by L&M Construction Chemicals, Inc. Substitutions must be submitted minimum 10 days prior to bid.
2. Color: Bottom layer to be clear, top layer to be gray.

3.7 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement. Tests will be performed according to ACI 301.
1. Testing Frequency: At least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mix placed each day.

END OF SECTION 03 30 00

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WAKE COUNTY
NORTH CAROLINA

PUBLIC SAFETY
WAKE COUNTY
EMS EST. 1976

Garner Main EMS Station

Timber Drive Elementary School Site

DATE 03.07.2022
PROJECT NO 20004

REVISIONS

NO	DATE	DESCRIPTION:
01	05-02-2022	ADDENDUM 1

THIS DRAWING IS THE PROPERTY OF ADW ARCHITECTS, PA. AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART. IT SHALL NOT BE USED ON ANY OTHER PROJECT OR GIVEN TO ANY OTHER COMPANY OR AGENCY WITHOUT THE CONSENT OF ADW ARCHITECTS, PA.

NORTH CAROLINA PROFESSIONAL 023525 ENGINEER STEVEN J. MILLER 10-04-22

SEAL

OVERALL SITE UTILITY PLAN

C-5.0

SHEET NUMBER

30 SCALE ENLARGEMENT AREA

MATCHLINE A - SEE INSET THIS SHEET

MATCHLINE A

INSET

NCGS MON. TIMBOB
N 706619.44'
E 2108495.80'
ELEV. = 313.52'(NAVD88)
*ELEVATION ESTABLISH WITH VRS)

TIMBER DRIVE ELEMENTARY SCHOOL
WAKE COUNTY BOARD OF EDUCATION DB 2252, PG. 324
BM 1996, PG. 586
BM 2017, PG. 589
PIN # 1700-76-8135

N/F
WILLIAM R. SPENCE, TRUSTEE OF WILLIAM R. SPENCE REVOCABLE TRUST AND JANET B. SPENCE, TRUSTEE OF JANET B. SPENCE REVOCABLE TRUST
DB 13935, PG. 295
BM 2018, PG. 1110
PIN # 1700-75-3348

N/F
TOWN OF GARNER
DB 1988, PG. 403
PIN # 1700-70-0599

N/F
ADRIAN LEROY JOHNSON and wife, BELINDA NAQUIN JOHNSONJANET B.
DB 16804, PG. 189
BM 2017, PG. 217
PIN # 1700-75-1423

ADRIAN L. JOHNSON
BELINDA N. JOHNSON
DB 016195, PG 00388
PIN 1700756406
VACANT

ADRIAN L. JOHNSON
BELINDA N. JOHNSON
DB 16804, PG 189
BM 2017 PG 217
PIN 1700-12-85-1423
RESIDENTIAL - ZONE R-40

THOMPSON ROAD - SR 2712
(PUBLIC 70' R/W)

EXISTING SCHOOL DRIVEWAY

CROSS-ACCESS EASEMENT AREA=0.15 ACRES (6,537sf)

BMS FACILITY (CONTINUED)

BMS APPARATUS BAYS

PROPOSED BMS FACILITY 13,983 SF FFE 284.50'

20' PUBLIC SCM ACCESS & MAINTENANCE EASEMENT

STORMWATER WETLAND SEE DETAIL SHEET C-7.3

35' PERIMETER BUFFER

15' PERIMETER BUFFER

50' NEUSE RIPARIAN BUFFER (ZONE 1)

50' NEUSE RIPARIAN BUFFER (ZONE 2)

20' PRIVATE UTILITY EASEMENT

SECTION OF FORCE MAIN INSTALL WITH DIRECTIONAL BORE

EXISTING 20' CITY OF RALEIGH PUBLIC UTILITIES SEWER EASEMENT DB 1836 PG 007

20' PUBLIC DRAINAGE EASEMENT (BM 2017, PG. 589)

PROPOSED 5'X10' CITY OF RALEIGH WATERLINE EASEMENT

MCKIM & CREED CONTROL PT. 101 NC GRID(83/11)

DAYLIGHT RETAINING WALL FOUNDATION DRAIN

RETAINING WALL

6" PVC @ 1.04% MIN.

6" DIP @ 1.04% MIN.

2" DOMESTIC WATER METER

2-1/2" DOMESTIC WATER

2" DOMESTIC WATER

8" WATER

UNDERGROUND TELEPHONE FIBER OPTIC

UNDERGROUND CABLE TV FIBER OPTIC

UNDERGROUND TELEPHONE FIBER OPTIC

PER RECORD TELEPHONE

EXISTING AT&T UTILITY

TELEPHONE CABINET

LSA/BRICK COLUMN

10'x70' SITE DIST. TRIAN.

INFOMARKER

ELECTRIC TRANSFORMER

GAS METER

GENERATOR

WETLANDS

WETLANDS CONTINUE OUTSIDE THE PROJECT LIMITS

0.2% FLOOD

SEE 30 SCALE ENLARGEMENT FOR DETAILED INFORMATION AND NOTES

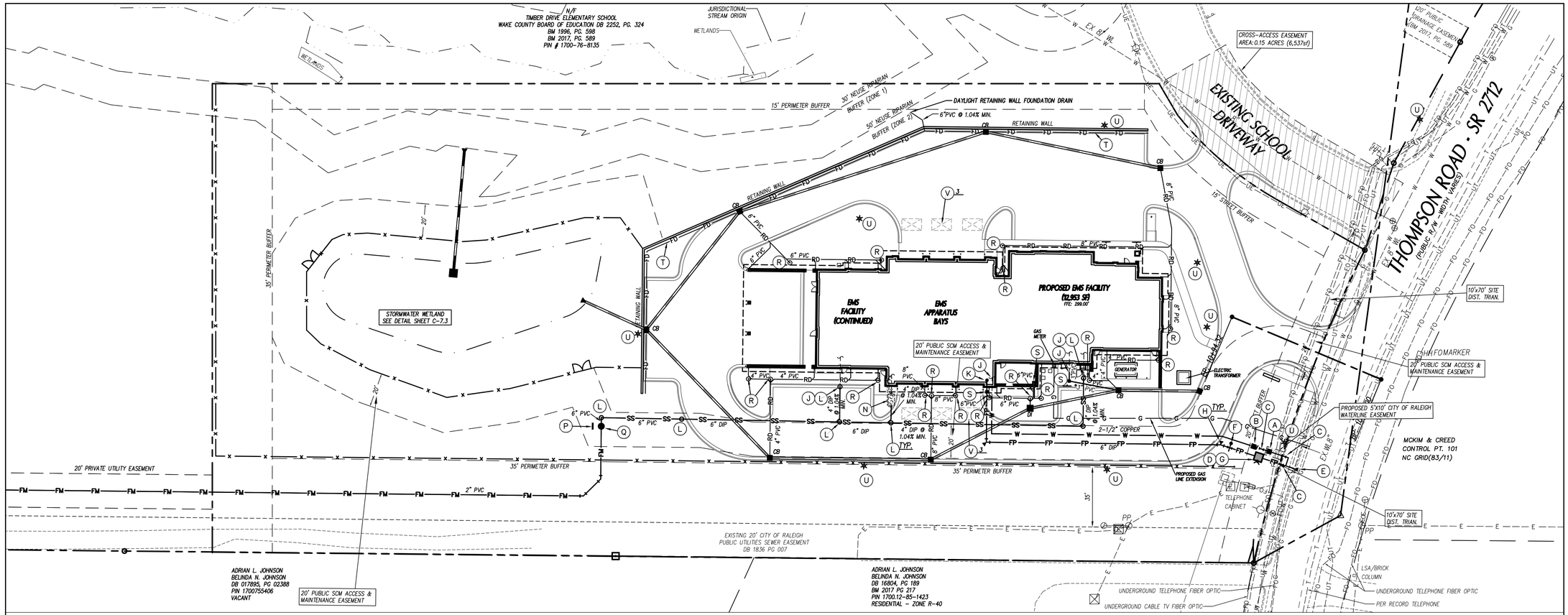
KEY NOTES

A	2" DOMESTIC WATER METER, SEE DETAIL SHEET C-9.3.
B	WILKINS 375 2-IN REDUCED PRESSURE BACKFLOW ASSEMBLY (RPA). SEE DETAIL SHEET C-9.3, P001, AND SPECS.
C	GATE VALVE AND VALVE BOX, SEE DETAIL SHEET C-9.3.
D	WILKINS 375ADA REDUCED PRESSURE ZONE DETECTOR ASSEMBLY (RPDA) WITHIN HEATED ENCLOSURE, SEE DETAIL SHEET C-9.3 AND SPECS. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.
E	TAPPING SLEEVE & VALVE, SEE DETAIL SHEET C-9.3.
F	POST INDICATOR VALVE W/ TAMPER SWITCH, SEE DETAIL SHEET C-9.3. AND SPECS.
G	FIRE DEPARTMENT CONNECTION ON RPDA, SEE DETAIL SHEET C-9.3.
H	THRUST BLOCKING, TYP., SEE DETAIL SHEET C-9.3.
J	EXTEND UTILITY TO WITHIN 5'-0" OF BUILDING WALL OR AS INDICATED ON PLUMBING PLANS. REFER TO PLUMBING PLANS FOR LOCATION & INVERT.
K	EXTEND WATER MAIN TO 12-IN ABOVE FINISH FLOOR FOR FIRE PROTECTION/PLUMBING CONNECTION, SEE DETAIL SHEET C-9.3. REFER TO TO FIRE PROTECTION/PLUMBING PLANS FOR EXACT LOCATION.
L	SANITARY SEWER CLEANOUT, TYP., SEE DETAIL SHEET C-9.2.
N	1000 GALLON OIL-WATER SEPARATOR, SEE PLUMBING PLANS. OT
O	PROPOSED STANDARD MANHOLE INSTALLATION OVER EXISTING SEWER MAIN. SEE DETAIL SHEET C-9.2.
P	PROPOSED PUMP STATION ELECTRICAL PANEL. SEE DETAIL SHEET C-9.2.
Q	PROPOSED PUMP STATION. SEE DETAIL SHEET C-9.2.
R	ROOF DRAIN CLEANOUT, TYP. SEE DETAIL SHEET C-9.2
S	IN-LINE DRAIN. SEE DETAIL SHEET C-9.1
T	RETAINING WALL FOUNDATION DRAIN. REFER TO STRUCTURAL PLANS SHEET S302.
U	DUKE ENERGY LIGHT POLE.
V	EXTERIOR GROUND INDUCTION LOOPS TO BE PLACED IN CONCRETE, SEE ELECTRICAL PLANS.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

NORTH

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919)319-8716
Fax: (919)319-7516
LA: C-106, PE: C-1595



UTILITY LEGEND

	EXISTING	PROPOSED
CHILLED WATER	-------CW-------	CW
ELECTRICAL (OVERHEAD)	------- E -------	E
ELECTRICAL (UNDERGROUND)	-------UE-------	UE
FOUNDATION DRAIN	-------FD-------	FD
GAS	------- G -------	G
SANITARY SEWER	-------SS-------	SS
TELEPHONE (OVERHEAD)	------- T -------	T
TELEPHONE (UNDERGROUND)	-------UT-------	UT
WATER	------- W -------	W
ROOF DRAIN	-------RD-------	RD
FIRE PROTECTION	-------FP-------	FP
STORM DRAIN	═══════	═══════
TREE PROTECTION FENCING, SEE EROSION CONTROL PLANS		
LIGHT POLE	LP	
UTILITY POLE	PP	
MANHOLE	MH	
CLEAN OUT	CO	
DROP INLET,CATCH BASIN	DI, CB	
FIRE HYDRANT	FH	
WATER VALVE	WV	
POST INDICATOR VALVE (PIV)		
FIRE DEPARTMENT CONNECTION (FDC)		
THRUST BLOCKING		
SANITARY SEWER STRUCTURE IDENTIFICATION		1

GENERAL NOTES-UTILITY

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF RALEIGH, TOWN OF GARNER AND NCDOT STANDARDS, SPECIFICATIONS AND DETAILS.
2. INSTALL WATERMAINS WITH A COVER OF NO LESS THAN 3-FT.
3. INSTALL SEWER MAINS WITH A COVER OF NO LESS THAN 3-FT TO FINISH GRADE IN NON-TRAFFIC AREAS, 4-FT TO FINISH GRADE IN TRAFFIC AREAS..
4. INSTALL ALL UTILITIES TO PROVIDE REQUIRED CLEARANCES AS INDICATED IN THE SPECIFICATIONS.
5. WATERLINES AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM HORIZONTAL CLEARANCE OF 10-FT.
6. SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM VERTICAL CLEARANCE OF 24-IN TO STORM DRAINAGE PIPES.
7. COORDINATE AND SCHEDULE INSTALLATION OF ALL UTILITIES WITH OTHER PRIME CONTRACTORS, UTILITY COMPANIES AND OTHER TRADES INCLUDING BUT NOT LIMITED TO: NATURAL GAS, ELECTRICITY, TELEPHONE AND CATV.
8. VERIFY EXISTING CONDITIONS AND CONNECTIONS TO EXISTING UTILITIES PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT IF ANY DISCREPANCIES ARE DISCOVERED.
9. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES DURING CONSTRUCTION AND SHALL MAKE REPAIRS AT NO EXPENSE TO THE OWNER.
10. ALL CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE NCSBC AND OSHA REQUIREMENTS.
11. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY OF ALL UTILITY AND STORM DRAINAGE IMPROVEMENTS FOLLOWING CONSTRUCTION.
12. CONTRACTOR SHALL PHASE DEMOLITION AND NEW CONSTRUCTION TO ENSURE UNINTERRUPTED ACCESS AND UTILITY SERVICE TO ADJACENT FACILITIES. COORDINATE SHORT-TERM, OFF-HOUR, TEMPORARY SHUT- DOWNS WITH THE OWNER.
13. SEE GENERAL NOTES ON EXISTING CONDITIONS AND DEMOLITION PLAN FOR REQUIREMENTS FOR REMOVAL AND PATCHING OF PAVEMENT FOR UTILITY INSTALLATION.
14. ALL ROOF DRAINS SHALL BE 6" PVC (SCH 40) @ 1.04% MIN. SLOPE UNLESS INDICATED OTHERWISE. USE DUCTILE IRON WHEN COVER IS LESS THAN 24-IN.
15. ALL SANITARY SEWER SERVICES SHALL BE 4" PVC (SCH 40) @1.04% MIN. SLOPE UNLESS INDICATED OTHERWISE. USE DUCTILE IRON WHEN COVER IS LESS THAN 24-IN.
16. ALL CONDENSATE LINES SHALL BE CONNECTED TO STORM DRAINAGE SYSTEM.
17. NO WORK SHALL BE PERFORMED ON RIGHT-OF-WAYS OR ADJACENT PROPERTIES UNTIL THE OWNER NOTIFIES CONTRACTOR IN WRITING OF PROCUREMENT OF APPROPRIATE PERMITS, EASEMENTS, AGREEMENTS, OR RIGHTS-OF-WAY.

KEY NOTES

- (A) 2" DOMESTIC WATER METER, SEE DETAIL SHEET C-9.3.
- (B) WILKINS 375 2-IN REDUCED PRESSURE BACKFLOW ASSEMBLY (RPA). SEE DETAIL SHEET C-9.3, P001, AND SPECS.
- (C) GATE VALVE AND VALVE BOX, SEE DETAIL SHEET C-9.3.
- (D) WILKINS 375ADA REDUCED PRESSURE ZONE DETECTOR ASSEMBLY (RPDA) WITHIN HEATED ENCLOSURE, SEE DETAIL SHEET C-9.3 AND SPECS. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.
- (E) TAPPING SLEEVE & VALVE, SEE DETAIL SHEET C-9.3.
- (F) POST INDICATOR VALVE W/ TAMPER SWITCH, SEE DETAIL SHEET C-9.3. AND SPECS.
- (G) FIRE DEPARTMENT CONNECTION ON RPDA, SEE DETAIL SHEET C-9.3.
- (H) THRUST BLOCKING, TYP., SEE DETAIL SHEET C-9.3.
- (J) EXTEND UTILITY TO WITHIN 5'-0" OF BUILDING WALL OR AS INDICATED ON PLUMBING PLANS. REFER TO PLUMBING PLANS FOR LOCATION & INVERT.
- (K) EXTEND WATER MAIN TO 12-IN ABOVE FINISH FLOOR FOR FIRE PROTECTION/PLUMBING CONNECTION, SEE DETAIL SHEET C-9.3. REFER TO TO FIRE PROTECTION/PLUMBING PLANS FOR EXACT LOCATION.
- (L) SANITARY SEWER CLEANOUT, TYP. SEE DETAIL SHEET C-9.2.
- (N) 1000 GALLON OIL-WATER SEPARATOR, SEE PLUMBING PLANS. 01
- (O) PROPOSED STANDARD MANHOLE INSTALLATION OVER EXISTING SEWER MAIN. SEE DETAIL SHEET C-9.2.
- (P) PROPOSED PUMP STATION ELECTRICAL PANEL. SEE DETAIL SHEET C-9.2.
- (Q) PROPOSED PUMP STATION. SEE DETAIL SHEET C-9.2.
- (R) ROOF DRAIN CLEANOUT, TYP. SEE DETAIL SHEET C-9.2
- (S) IN-LINE DRAIN. SEE DETAIL SHEET C-9.1
- (T) RETAINING WALL FOUNDATION DRAIN. REFER TO STRUCTURAL PLANS SHEET S302.
- (U) DUKE ENERGY LIGHT POLE.
- (V) EXTERIOR GROUND INDUCTION LOOPS TO BE PLACED IN CONCRETE, SEE ELECTRICAL PLANS.

CITY OF RALEIGH STANDARD UTILITY NOTES

STANDARD UTILITY NOTES (AS APPLICABLE):

1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK).
2. UTILITY SEPARATION REQUIREMENTS:
   - A) A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
   - B) WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
   - C) WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
   - D) 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER.
   - E) MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49).
   - F) ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
3. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.
5. 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE.
7. INSTALL 3/4" COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE.
8. INSTALL 4" PVC SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS SPACED EVERY 75 LINEAR FEET MAXIMUM.
9. PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE.
10. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
11. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION.
12. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT STEPHEN CALVERLEY AT (919) 996-2334 OR STEPHEN.CALVERLEY@RALEIGHNC.GOV FOR MORE INFORMATION.
13. CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT CONTACT JOANIE HELVEY AT (919) 212-5923 OR JOANIE.HELVEY@RALEIGHNC.GOV FOR MORE INFORMATION.
14. CONTRACTOR SHALL COORDINATE AND SCHEDULE INSTALLATION OF ALL UTILITIES WITH OTHER PRIME CONTRACTORS, UTILITY COMPANIES AND OTHER TRADES INCLUDING BUT NOT LIMITED TO: NATURAL GAS, ELECTRICITY, TELEPHONE AND CATV.
15. ALL CONSTRUCTION TO COMPLY WITH ALL APPLICABLE NCSBC AND OSHA REQUIREMENTS.
16. CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY OF ALL WATER, SEWER AND STORM DRAINAGE IMPROVEMENTS FOLLOWING CONSTRUCTION. SEE SPECIFICATIONS FOR REQUIREMENTS.
17. VERIFY EXISTING CONDITIONS AND CONNECTIONS TO EXISTING UTILITIES PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT IF ANY DISCREPANCIES ARE DISCOVERED.
18. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES DURING CONSTRUCTION AND SHALL MAKE REPAIRS AT NO EXPENSE TO THE OWNER.
19. CONTRACTOR SHALL PHASE DEMOLITION AND NEW CONSTRUCTION TO ENSURE UNINTERRUPTED ACCESS AND UTILITY SERVICE TO ADJACENT FACILITIES.
20. SEE GENERAL NOTES ON EXISTING CONDITIONS AND DEMOLITION PLAN FOR REQUIREMENTS FOR REMOVAL AND PATCHING OF PAVEMENT FOR UTILITY INSTALLATION.
21. ALL ROOF DRAINS SHALL BE 6" PVC (SCH 40) @ 1.04% MIN. SLOPE UNLESS INDICATED OTHERWISE. USE DUCTILE IRON PIPE WHEN COVER IS LESS THAN 24-IN.
22. ALL SANITARY SEWER SERVICES SHALL BE 4" PVC (SCH 40) @ 1.04% MIN. SLOPE UNLESS INDICATED OTHERWISE. USE DUCTILE IRON PIPE WHEN COVER IS LESS THAN 24-IN.
23. ALL FIRE HYDRANTS SHALL HAVE NATIONAL STANDARD THREADS AS REQUIRED BY THE CITY OF RALEIGH.
24. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

NORTH

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WAKE COUNTY NORTH CAROLINA

PUBLIC SAFETY WAKE COUNTY EST. 1976 EMS

Garner Main EMS Station

Timber Drive
Elementary School Site

DATE 03.07.2022
PROJECT NO 20004

REVISIONS

NO	DATE	DESCRIPTION:
01	05-02-2022	ADDENDUM 1

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032525 STEVEN J. MILLER

SEAL

SITE UTILITY PLAN

C-5.1

SHEET NUMBER

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Fax: (919)319-7516
LA: C-106, PE: C-1595

INTERIOR FINISH LEGEND

ALL MATERIALS ARE BASIS OF DESIGN, SEE SPECIFICATIONS FOR APPROVED EQUALS.

FINISH CODE	MANUFACTURER	PRODUCT NAME	PRODUCT NUMBER	COLOR	SIZE / WIDTH	DESCRIPTION	REMARKS
BASE							
B-1	TARKETT	BASEWORKSTHERMOSET RUBBER BASE	TSB-38-4	PEWTER	4" H	TYPE TS-THERMOSET RUBBER COVED BASE	SEE SPECIFICATION 09 65 19
B-2	TARKETT	PROFILE BASE	MW-38-F	PEWTER	4 1/2" H	MILLWORK PROFILE	SEE SPECIFICATION 09 65 19
B-3	SCHLUTER	DILEX AHK	AE	SATIN ANODIZED ALUMINUM	3/8"	COVE-SHAPED ALUMINUM PROFILE - TR-6	RUN WALL TILE TO TOP OF BASE PROFILE, 1/A702
B-4	BEST TILE	LINK	-	TIE	3" x 24", 9MM	BULLNOSE, SET ON TOP OF FLOOR TILE	GR-1, LEVEL WITH FLOOR TILE OR SET ON TOP OF FLOOR TILE
B-5	STONHARD	STONTEC	TRF	SMOKEY MOUNTAIN	6" H, 3/16"/ 5 MM THICK	EPOXY INTEGRAL COVE WITH BACKER STRIP	FLASH COVE BASE, COVE BACK STRIP & METAL TOP CAP TR-10
B-6	FLORIDA TILE	CELLAR	-	BLEACH	4" x 36"	PORCELAIN TILE-CUT IN 1/2, INSTALL CUT SIDE DOWN	CUT DOWN FROM 8" HIGH TO 4", INSTALL CUT SIDE DOWN
FLOORING							
CPT-1	SHAW CONTRACT	DIFFUSE	59575	75481 MOVEMENT	24" X 24"	CARPET - TILE	INSTALLATION DIRECTION - QUARTER TURNED
CPT-2	SHAW CONTRACT	PORTAL	5T035	34557 STERLING	24" X 24"	CARPET - WALK OFF TILE	INSTALLATION DIRECTION - BRICK
EPF-1	STONHARD	STONTEC	TRF	SMOKEY MOUNTAIN	3/16"/ 5 MM THICK	EPOXY FLOOR SYSTEM, GRIT 2	
PT-1	FLORIDA TILE	CELLAR	FTI 34310	BLEACH	8" x 36", 9MM	PORCELAIN TILE	GR-1,CONTACT,JEFF GOFORTH, 704-523-7615,CLT., NC
PT-2	BEST TILE	LINK	-	TIE	24" x 24" RECTIFIED, 9MM	PORCELAIN TILE, NONSTOCK ITEM, EXTRA LEAD TIME	GR-1,CONTACT,MISTY MILES, 704-817-8862,CLT., NC
PT-3	BEST TILE	LINK	-	TIE	2" x 2", 9MM	PORCELAIN TILE	GR-1,CONTACT,MISTY MILES, 704-817-8862,CLT., NC
RF-1	SIENA USA	RECYCLED RUBBER COLLECTION	SR20103	BRONCO BROWN	48" x 12MM	RUBBER FLOOR - ROLLS	-
SC-1	LATICRETE	SEALED CONCRETE	SEE DIVISION SECTION 03 30 00	CLEAR		SEALED CONCRETE	-
SC-2	LATICRETE	L & M SEAL HARD/ HARDENER/DENSIFIER	BOTTOM LAYER-CLEAR/ TOP LAYER COLOR	CLEAR/GRAY	-	SEALED CONCRETE - HARDENER/DENSIFIER/SEALER	-
SDT-1	ARMSTRONG COMMERCIAL	STATIC DISSAPPATIVE TILE	51953	PEARL WHITE	12" x 12" x 0.125"	STATIC DISSAPPATIVE TILE	-
VCT-1	ARMSTRONG COMMERCIAL	RAFFIA STREAM	55900	AVALANCHE	12" x 24" x 0.125"	VINYL COMPOSITE TILE	-
WALLS							
AWC-1	WOLF GORDON	SOFT TRACK	GOH 11787586	TAUPE	54"W, 24 OZ LIN YD	ACOUSTICAL WALLCOVERING	STRAIGHT HANG, RANDOM MATCH
P-1	PITSBURGH PAINTS	TRIM PAINT	PPG 1012-5	SLEEPY GRAY	SEMI-GLOSS	TRIM AND HANDRAIL PAINT	-
P-2	PITSBURGH PAINTS	STANDARD PAINT	PPG 1002-3	COOL SLATE	EG SHEL	STANDARD WALL PAINT	SEE FINISH SCHEDULE FOR EPOXY LOCATIONS
P-3	PITSBURGH PAINTS	ACCENT PAINT	PPG 1039-3	MIRROR MIRROR	EG SHEL / EPOXY	ACCENT WALL & CEILING PAINT	SEE FINISH SCHEDULE FOR EPOXY LOCATIONS CEILING PAINT & SOFFIT TO BE FLAT PAINT FINISH
P-4	PITSBURGH PAINTS	ACCENT PAINT	PPG 1001-1	DELICATE WHITE	EG SHEL	ACCENT WALL & CEILING PAINT	
P-5	RAL	ACCENT PAINT	RAL 3003	RUBY RED	GLOSS		APPARATUS BAY SPRINKER LINES
P-6	PITSBURGH PAINTS	EXTERIOR PAINT	PPG 1001-7	BLACK MAGIC	SHEEN	REFERENCE A200 FOR COLOR	ROOF VENTS
P-7	PITSBURGH PAINTS	EXTERIOR PAINT	PPG 1032-1	METALLIC MIST	SHEEN	REFERENCE A200 FOR COLOR	EXTERIOR FIBER CEMENT FASCIA BOARD TRIM & SIDING & ROOF ACCESSORIES
P-8	PITSBURGH PAINTS	EXTERIOR PAINT	PPG 1023-5	STONE GRAY	SHEEN	REFERENCE A200 FOR COLOR	STOREFRONT & STOREFRONT WINDOWS
P-9	PITSBURGH PAINTS	EXTERIOR PAINT	7-808	SAFETY YELLOW	SEMI-GLOSS	4" PAINTED LINE GUIDE @ APPARATUS BAY FLOORS	
P-10	PITSBURGH PAINTS	STANDARD PAINT	PPG 0995-3	SILVER BAND	FLAT	CEILING PAINT	TO MATCH LIGHT GRAY K-13
WT-1	FLORIDA TILE	EMOTIVE	FTI EMV3S	COY GREY	4"x9"TPZ- TRAPEZOID, SILK FINISH	WALL TILE	GR-2, CONTACT, JEFF GOFORTH, 704-523-7615, CLT., NC
WT-2	BEST TILE	URBAN 2.0	-	IRON BLUE	12" x 24"	WALL TILE	GR-2, CONTACT, MISTY MILES, 704-817-8862, CLT., NC
SURFACES							
PL-1	WILSONART	PLASTIC LAMINATE	4857-60	SHADOW ZEPHYR	MATTE	CABINET COUNTER TOPS	-
PL-2	WILSONART	PLASTIC LAMINATE	7949K-18	ASIAN NIGHT	LINEARITY	CABINET VERTICAL SURFACES	-
QTZ-1	HANSTONE	QUARTZ	RS463	ROCKY SHORES	3 CM, POLISHED	KITCHEN COUNTERTOPS	
QTZ-2	HANSTONE	QUARTZ	RU607	ARAMIS	3 CM, POLISHED	RESTROOM COUNTERTOPS	
SS-1	WILSONART	SOLID SURFACE	9228SS	CHILLED EARTH	3 CM	WINDOW SILLS	-
MISCELLANEOUS							
CG-1	CONSTRUCTION SPECIALTIES	CORNER GUARD- SM-20AN	SURFACE MOUNTED, 90 DEGREE	TO MATCH WALL COLOR	3" LEG X 8' HIGH	VINYL HIGH IMPACT ON ALUMINUM RETAINER	
CG-2	CONSTRUCTION SPECIALTIES	CORNER GUARD-CO-8	SURFACE MOUNTED, 90 DEGREE	STAINLESS STEEL	3" LEG X 8' HIGH	NO. 4 SATIN STAINLESS STEEL	-
CG-3	CONSTRUCTION SPECIALTIES	CORNER GUARD-SM-20MN	SURFACE MOUNTED, ODD DEGREE	TO MATCH WALL COLOR	3" LEG X 8' HIGH	VINYL HIGH IMPACT ON ALUMINUM RETAINER	-
CR-1	CHAIR RAIL	STAINED WOOD	RED OAK	STAINED TO MATCH DOORS - ST-1		REFERENCE DETAIL 5/A702	
CRT-1	EYKON- SOURCE ONE	CURTAIN - (SHOWER)				DAYBREAK W/ MESH TOP	-
D-1	MASONITE	PREFINISHED DOOR W/STAIN	RED OAK	NUTMEG	PLAIN SLICED		-
FRP-1	CRANE COMPOSITES	FRP. GLASBORD	85	WHITE	PEBBLE EMBOSS TEXTURE	SANITARY WALL FINISH	-
GR-1	TEC	ACCUCOLOR EFX	939	MIST	-	EPOXY FLOOR GROUT	-
GR-2	TEC	INCOLOR ADV. PERFORMANCE	949	SILVERADO		PERFORMANCE WALL GROUT	-
GR-1	TEC	ACCUCOLOR EFX	939	MIST	-	EPOXY FLOOR GROUT	-
LCK-1	PENCO	LOCKERS		CHARCOAL	-	LOCKERS	
MB-1	CLARIDGE	MARKER BOARD	-	WHITE	4' HIGH X 8' LONG	ALUMINUM TRIM WITH MARK TRAY & TACK STRIP AT TOP EDGE	
N-1	TARKETT	NOSING	VCD-38	PEWTER		NOSING-PLATFORM	
ST-1	CONTRACTORS CHOICE	STAIN	TO MATCH D-1 STAIN	NUTMEG			-
TB-1	CLARIDGE	TACK BOARD	-	TAN NUCORK	4' HIGH X 4' LONG	ALUMINUM TRIM & TACK STRIP AT TOP EDGE.	-
TP-1	SCRANTON	HINEY HIDERS	HAMMERED FINISH	STAINLESS STEEL	SOLID HDPE	TOILET PARTITION	
TR-1	TARKETT/JOHNSONITE	METALEDGE 001	179	STEEL		TRANSITION - CARPET TO RESILIENT FLOORING	
TR-2	TARKETT/JOHNSONITE	EDGE GUARD	EG-38-H	PEWTER		TRANSITION - CARPET OR RESILIENT FLOORING TO CONCRETE	
TR-3	SCHLUTER	SCHIENE	-	STAINLESS STEEL	L SHAPED	TRANSITION - CARPET TO TILE, TOP OF TILE BASE	
TR-4	DALTILE	MARBLE	M701	CARRARA WHITE MARBLE	2" X 36" X 5/8"	TRANSITION - DOUBLE BEVELED	
TR-5	SCHLUTER	RENO-U	STAINLESS STEEL V2	BRUSHED ANTIQUE BRONZE		TRANSITION - TILE TO VCT, RESILIENT FLOOR	
TR-6	SCHLUTER	DILEX-AHK		SATIN ANODIZED ALUMINUM - AE		TRANSITION - COVE AT FLOOR TILE TO WALL TILE	
TR-7	SCHLUTER	QUADEC	-	SATIN NICKEL ANODIZED ALUMINUM - AT	-	TRANSITION - TOP EDGE & OUTSIDE CORNER OF WALL TILES	
TR-8	SCHLUTER	QUADEC K	-	SATIN NICKEL ANODIZED ALUMINUM - AT		TRANSITION - CORNER OF TWO TILES	
TR-9	TARKETT/JOHNSONITE	VINYL COVE CAP	SCC-20-B	20 CHARCOAL	1/8" MATERIAL	TRANSITION - EXPOSED WALLCOVERING EDGE	
TR-10	KUBERIT	METAL COVE CAP	KT-A	A1-ANNODIZED ALUMINUM SILVER	7/32" / 5MM MATERIAL	TRANSITION - METAL EDGE TOP OF RESINOUS FLASH COVE BASE	
WC-1	SWF CONTRACT	SOLAR SHADE	CROSSHATCH A300	F305 BONE/PLATINUM	3% OPENNESS	SOLAR SHADE - SINGLE - MANUAL	
			CONCEAL	C2613 FAWN	BLACKOUT	SOLAR SHADE - DOUBLE - MANUAL - EXTERIOR	
WC-2	SWF CONTRACT	SOLAR SHADE	CROSSHATCH A300	F305 BONE/PLATINUM	3% OPENNESS	SOLAR SHADE - DOUBLE - MANUAL - INTERIOR	
WC-3	SWF CONTRACT	SOLAR SHADE	CONCEAL	C2613 FAWN	BLACKOUT	SOLAR SHADE - SINGLE - MANUAL	

ROOM FINISH SCHEDULE

RM NO.	NAME	FLOOR	BASE	WALLS: STAND. WALL	WALLS: ACCENT WALL	WALLS: CHAIR RAIL ABOVE	WALLS: CHAIR RAIL BELOW	MILLWORK: COUNTER TOP	MILLWORK: CABINETS FRONT	MILLWORK: CABINETS TOE KICK	COMMENTS	RM NO.
100	VESTIBULE	CPT-2	B-2	P-2								100
101	LOBBY	VCT-1	B-2	P-2							WC-1	101
102	TRAINING ROOM	CPT-1	B-2	P-2	P-3						WC-2	102
103	STORAGE	CPT-1	B-1	P-2								103
104	STORAGE	CPT-1	B-1	P-2								104
105	CORRIDOR	VCT-1	B-2	P-2							LCK-1	105
106	MAIN ELEC.	SC-1	B-1	P-2								106
107	ADM. FILE/ STOR.	VCT-1	B-1	P-2								107
108	IT	SDT-1	B-1	P-2								108
109	MEN	PT-2	B-4,TR-6	*P-2	WT-2			QTZ-1			TP-1, *EPOXY PAINT FINISH, WT-2 FULL HEIGHT SEE TOILET ELEVATIONS & FINISH PLAN FOR LOCATIONS,TR-6	109
110	WOMEN	PT-2	B-4,TR-6	*P-2	WT-2			QTZ-1			TP-1,*EPOXY PAINT FINISH,WT-2 FULL HEIGHT SEE TOILET ELEVATIONS & FINISH PLAN FOR LOCATIONS,TR-6	110
111	CORRIDOR	VCT-1	B-2	P-2							WC-1	111
112	EMS OFFICE	CPT-1	B-1	P-2							WC-1, WC-3	112
113	EMS OFFICE	CPT-1	B-1	P-2							WC-1	113
114	FILES/ WR/ REPORTS	VCT-1	B-2	P-2				PL-1	PL-2	PL-2	WC-1	114
115	HARDENED CONF/SAFE ROOM	CPT-1	B-1	P-2								115
116	VESTIBULE	CPT-2	B-1	P-2								116
117	KITCHEN/ DINING	PT-1	B-6	P-2	P-3,WT-1			QTZ-1	PL-2	PL-2	WT-1,BACKSPLASH, SEE FINISH PLAN FOR ACCENT PAINT LOCATION	117
118	CORR	VCT-1	B-2	P-2							WC-1	118
119	ADA BATH	PT-2,PT-3	B-4,TR-6	*P-2	WT-2			QTZ-2	PL-2		WT-2 FULL & HALF HEIGHT SEE TOILET ELEVATIONS, CRT-1, TR-6	119
120	BATH	PT-2,PT-3	B-4,TR-6	*P-2	WT-2			QTZ-2	PL-2		WT-2 FULL & HALF HEIGHT SEE TOILET ELEVATIONS, CRT-1, TR-6	120
121	LAUNDRY / JANITOR	VCT-1	B-1	*P-2	FRP-1			PL-1	PL-2	PL-2	*EPOXY PAINT FINISH, FRP-1 INSTALLED VERTICALLY BEHIND AND BESIDE SINK.	121
122	CORRIDOR	CPT-1	B-2	P-2								122
123	DAYROOM	CPT-1	B-2	P-2								123
124	MECH	SC-1	B-1	P-2								124
125	APPARATUS ROOM	SC-2,P-9	SEE COM.	*P-2	P-5, SEE COM.						*EPOXY PAINT FINISH, P-5 SPRINKLER PIPING, COLORED CAULK @ FLOOR JOINTS TO MATCH SEALED CONCRETE	125
126	MULTIPURPOSE	RF-1	B-2	P-2		P-3	AWC-1				CR-1 SEE DETAIL 5/A702	126
127	CORRIDOR	SC-2	B-1	P-2								127
128	MEDICAL SUPPLY	VCT-1	B-1	P-2								128
129	TOOL / STORAGE	SC-1	B-1	P-2								129
130	MECHANICAL	SC-1	B-1	P-2								130
131	MAINTENANCE BAYS	-	-	-								131
132	OXYGEN TANKS	SC-2	B-1	P-2								132
133	JAN	VCT-1	B-1	*P-2	FRP-1						*EPOXY PAINT FINISH, FRP-1 INSTALLED VERTICALLY BEHIND AND BESIDE SINK.	133
134	TLT	VCT-1	B-1	*P-2								134
135	DECON	EPF-1	B-5	*P-2	FRP-1						FRP VERTICALLY INSTALLED BEHIND STAINLESS STEEL SINK AND DECON SHOWER, HORIZONTAL AT FLOOR SINK	135
136	TURNOUT GEAR	SC-2	B-1									136
150	PATIO	-	-	-								150

INTERIOR FINISH GENERAL NOTES

1. REFER TO OR REFERENCE INTERIOR SECTIONS, ELEVATIONS, DETAILS AND REFLECTED CEILING PLANS FOR ADDITIONAL INFORMATION (SEE COVER SHEET INDEX AND/OR SHEET SERIES).
2. VERIFY LOCATION OF CONTROL JOINTS IN ROOMS RECEIVING TILE FLOORS. SEE WRITTEN SPECIFICATIONS **SECTION # 09 30 00.**
3. ALL INTERIOR WALL & CEILING FINISHES SHALL COMPLY WITH ***NCSBC CHAPTER 8, SECTION 803, TABLE 803.11***

   SPRINKLERED:
   A. INTERIOR EXIT STAIRWAYS, RAMPS AND EXIT PASSAGEWAYS: ***CLASS B***
   B. CORRIDORS & ENCLOSURES FOR EXIT ACCESS STAIRWAYS AND RAMPS: ***CLASS B***
   C. ROOM AND ENCLOSED SPACES ***CLASS C***

   NONSPRINKLERED:
   A. INTERIOR EXIT STAIRWAYS, RAMPS AND EXIT PASSAGEWAYS: ***CLASS A***
   B. CORRIDORS & ENCLOSURES FOR EXIT ACCESS STAIRWAYS AND RAMPS: ***CLASS A***
   C. ROOM AND ENCLOSED SPACES ***CLASS C***
4. INTERIOR FLOOR FINISHES COMPLY WITH ***NCSBC CHAPTER 8, SECTION 804***
5. ALL INTERIOR FINISHES IN TOILET AND BATHROOMS SHALL COMPLY WITH ***NCSBC CHAPTER 12, SECTION 1210.2, 1210.2.1. THROUGH 1210.2.4.***
6. REFER TO DOOR SCHEDULE (A600 SERIES) FOR DOOR & FRAME FINISHES.
7. FOR MISCELLANEOUS INTERIOR TRIM FINISHES (WALL CAPS, RAILINGS, SILLS, ETC. SEE REMARKS COLUMN IN ROOM FINISH SCHEDULE. ELEMENTS SUCH AS GRILLE AND LOUVER COLORS TO MATCH ADJACENT WALL OR CEILING PAINT COLOR UNLESS OTHERWISE NOTED.

INTERIOR FINISH CODES

ACT	ACOUSTICAL CEILING TILE	QT	QUARRY
AWC	ACOUSTICAL WALL CARPET	QTZ	QUARTZ
AWP	ACOUSTICAL WALL PANEL FINISH	RC	RESINOUS COUNTER
B	WALL BASE	RF	RUBBER FLOOR
BRK	BRICK VENEER	RP	RESIN PANEL
CC	COLUMN COVER	SC	SEALED CONCRETE
CG	CORNER GAURD	SSF	SOLID SURFACE
CR	CHAIR RAIL	SS	STAINLESS STEEL
CPT	CARPET (TILES, BROADLOOM, WALKOFF)	ST	STAIN
CRT	CURTAIN (SHOWER, STAGE)	STC	STAINED CONCRETE
CSM	CAST STONE MASONRY	SDT	STATIC DISSAPATIVE TILE
D	DOOR	STR	STAIR TREAD
ELV	ELEVATOR FINISHES	TB	TACK BOARD
EPF	EPOXY FLOOR SYSTEM FINISH	TP	TOILET PARTITION
EPW	EPOXY WALL SYSTEM FINISH	TR	TRANSITIONS (FLOOR/WALL)
FRP	FIBERGLASS REINFORCED PANEL	TZ	TERRAZZO
FLM	FILM PRODUCT	VCT	VINYL COMPOSITION TILE
GL	GLASS	VET	VINYL ENHANCED TILE
GR	GROUT	VS	VINYL SHEET FLOORING
LCK	LOCKERS	VWC	VINYL WALLCOVERING
LV	LUXURY VINYL (TILE, PLANK)	WP	WALL PROTECTION
MB	MARKER BOARD/ GLASS BOARD	WC	WINDOW COVERING (BLINDS, SOLAR ROLLER SHADE, DRAPES)
N	NOSING (WOOD, RUBBER, METAL)		
OWP	OPERABLE WALL PARTITION	WT	WALL TILE
P	PAINT	WPS	WALL PANEL SYSTEM
PC	POLISHED CONCRETE	WFS	WOOD FLOOR SYSTEM
PL	PLASTIC LAMINATE		
PT	PORCELAIN TILE		

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INTERIOR FINISH LEGEND, SCHEDULE, NOTES & CODES

DATE: 03.07.2022
PROJECT NO: 20004

REVISIONS

NO:	DATE:	DESCRIPTION:
1	5-2-2022	ADDENDUM 1

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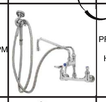
ADW ARCHITECTS, P.A. CORPORATE SEAL 50223 NORTH CAROLINA

SHEET NUMBER

A700

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	FIXTURE SPECIFICATION/DESCRIPTION	SAN	VENT	PICTURE	FAUCET DESCRIPTION	COLD WATER	HOT WATER	FLOW RATE	PICTURE	REMARKS	COMPLIES WITH ADA
WC-1	WATER CLOSET FLOOR-MOUNT FLUSH VALVE	AMERICAN STANDARD 3043.001 "MADERA FLOWISE" 15" HEIGHT OR EQUAL. WHITE VIT CHINA, PROVIDE HIGH EFFICIENCY ELONGATED BOWL WITH 2⅛" TRAPWAY, 12" ROUGH-IN AND TOP SPUD.	4"	2"		AMERICAN STANDARD MODEL#6065.111 "SELECTRONIC" OR EQUAL BATTERY-POWERED FLUSH VALVE. CHROME 1.28GPF PROVIDE WITH SELF-CLEANING BRASS PISTON.	1"	-	1.28GPF		PROVIDE ANTI-MICROBIAL, HEAVY DUTY, OPEN FRONT SEAT, COLOR WHITE.	-
WC-1A	WATER CLOSET FLOOR-MOUNT FLUSH VALVE ADA COMPLIANT	AMERICAN STANDARD 3043.001 "MADERA FLOWISE" 17" HEIGHT OR EQUAL. WHITE VIT CHINA, PROVIDE HIGH EFFICIENCY ELONGATED BOWL WITH 2⅛" TRAPWAY, 12" ROUGH-IN AND TOP SPUD.	4"	2"		AMERICAN STANDARD MODEL#6065.111 "SELECTRONIC" OR EQUAL BATTERY-POWERED FLUSH VALVE. CHROME 1.28GPF PROVIDE WITH SELF-CLEANING BRASS PISTON.	1"	-	1.28GPF		PROVIDE ANTI-MICROBIAL, HEAVY DUTY, OPEN FRONT SEAT, COLOR WHITE.	
UR-1	URINAL	SLOAN SU-7009 OR EQUAL WHITE VIT CHINA, WALL MOUNTED WASHDOWN URINAL WITH 2" TRAPWAY, TOP SPUD, AND VANDAL RESISTANT STRAINER ASSEMBLY.	2"	1½"		SLOAN "REGAL" 186-0.125 OR EQUAL MANUAL FLUSH VALVE. CHROME 0.125GPF PROVIDE WITH NON-HOLD OPEN HANDLE AND SELF-CLEANING BRASS PISTON.	1¼"	-	1.25GPF		REFER TO ARCH ELEVATIONS FOR MOUNTING HEIGHTS.	
LAV-1	UNDERMOUNT SINK	AMERICAN STANDARD "RONDALYN" LAY-IN SINK, MODEL# 0491.019 WHITE VITREOUS CHINA WITH FRONT OVERFLOW. PROVIDE WITH AMERICAN STANDARD SELECTRONIC "INNSBROOK" METERING.	½"	1¼"		T&S "CHEKPOINT" EC-3103 (OR EQUAL) THREE-HOLE ELECTRONIC SENSOR FAUCET. PROVIDE 0.5 GPM VANDAL RESISTANT AERATOR, MATCHING STRAINER, AND BELOW DECK THERMOSTATIC MIXING VALVE.	½"	½"	0.5GPM		PROVIDE WITH KEYED ½" STOPS, AND P-TRAP w/CLEANOUT. PROVIDE WITH AMERICAN STANDARD THERMOSTATIC MIXING VALVE MODEL#605XTMV, SET TEMPERATURE TO 110° MAX.	
LAV-2	WALL HUNG SINK	AMERICAN STANDARD "LUCERNE" WALL HUNG SINK MODEL# 0355.912 4" CENTERSET, WHITE LAVATORY WITH FRONT OVERFLOW. PROVIDE WITH AMERICAN STANDARD SELECTRONIC "INNSBROOK" METERING.	½"	1¼"		T&S "CHEKPOINT" EC-3103 (OR EQUAL) THREE-HOLE ELECTRONIC SENSOR FAUCET. PROVIDE 0.5GPM VANDAL RESISTANT AERATOR, MATCHING STRAINER, AND BELOW DECK THERMOSTATIC MIXING VALVE.	½"	½"	0.5GPM		PROVIDE WITH KEYED ½" STOPS, AND P-TRAP w/CLEANOUT. PROVIDE WITH AMERICAN STANDARD THERMOSTATIC MIXING VALVE MODEL#605XTMV, SET TEMPERATURE TO 110° MAX.	
KS-1	KITCHEN SINK	RUVANTI RVH8003, 33"X22"X9", SINGLE BOWL, 16 GA STAINLESS STEEL CONSTRUCTION, TOP MOUNT, REAR DRAIN, BOTTOM RINSE GRID	1½"	1¼"		DELTA 9659T-DST OR EQUAL SINGLE HANDLE KITCHEN FAUCET WITH SPRAY. 1.5GPM SPOUT. CHROME FINISH. PROVIDE WITH VANDAL-PROOF AERATOR.	½"	½"	1.5GPM		PROVIDE TURN BALL VALVES, AND P-TRAP w/CLEANOUT. PROVIDE CASEWORK COORDINATION DRAWING WITH SUBMITTAL DATA TO VERIFY PROPOSED SINK AND TRAP CAN BE PROPERLY INSTALLED WITHOUT MODIFICATIONS. PROVIDE WITH MOEN CHEF SERIES 1HP CONTINUOUS FEED GARBAGE DISPOSAL.	
KS-2	KITCHEN SINK	ELKAY LRAD222260 22"X22"X6", SINGLE BOWL, 18 GA STAINLESS STEEL CONSTRUCTION, TOP MOUNT. PROVIDE WITH REMOVABLE STRAINER.	1½"	1¼"		DELTA 470-WE-DST OR EQUAL SINGLE HANDLE KITCHEN FAUCET. 1.5GPM SPOUT. CHROME FINISH. PROVIDE WITH VANDAL-PROOF AERATOR.	½"	½"	1.5GPM		PROVIDE TURN BALL VALVES, AND P-TRAP w/CLEANOUT. PROVIDE CASEWORK COORDINATION DRAWING WITH SUBMITTAL DATA TO VERIFY PROPOSED SINK AND TRAP CAN BE PROPERLY INSTALLED WITHOUT MODIFICATIONS.	
SS-1	SCULLERY SINK	ELKAY 2C18X18-2-24X OR EQUAL STAINLESS STEEL 86" X 23-13/16" X 44-3/4" 16 GA GAUGE TWO COMPARTMENT SINK W/ 24" LEFT & RIGHT DRAINBOARDS, 12" DEEP BOWLS, AND STAINLESS STEEL LEGS.	2"	1¼"		8" CENTERSET DECK MOUNT FAUCET WITH 44" FLEXIBLE HOSE ELKAY LK843C OR EQUAL.	½"	½"	1.6GPM		18 GAUGE, CENTER DRAIN. PROVIDE QUARTER-TURN BALL VALVES WITH ANGLED STOPS. COMBINE DRAINS INTO SINGLE COMMON	-
EWC-1	DRINKING FOUNTAIN	ELKAY LZSTL8WSLK WATER REFILLING STATION, BI-LEVEL REVERSIBLE, WITH FILTER. TOUCHLESS SENSOR ACTIVATION.	1¼"	1¼"		SINGLE-POINT WASTE AND WATER CONNECTIONS.	½"	-	-	-	MOUNT IN COMPLIANCE WITH ADA REQUIREMENTS.	
SH-1	SHOWER	REFER TO FLOOR DRAIN CALLED OUT IN THIS AREA FOR DRAIN INFORMATION. SHOWER ENCLOSURE IS BUILT IN PLACE, COORDINATE WITH GC.	-	-		SINGLE-FUNCTION SHOWER HEAD DELTA MODEL# T13H132 1.75GPM. PROVIDE WITH SHOWER VALVE AND VALVE TRIM KIT.	½"	½"	-		INSTALL SUCH THAT CENTER LINE OR ROUGH-IN IS MOUNTED 88" AFF.	-
SH-1A	SHOWER	REFER TO FLOOR DRAIN CALLED OUT IN THIS AREA FOR DRAIN INFORMATION. SHOWER ENCLOSURE IS BUILT IN PLACE, COORDINATE WITH GC.	-	-		DELTAT14H333 COMMERCIAL SHOWER KIT 1.75 GPM WITH SHOWER VALVE, 3-F HAND SHOWER, 24" SLIDE BAR AND 69" METAL SHOWER HOSE.	½"	½"	-		INSTALL SUCH THAT CENTER LINE OR ROUGH-IN IS MOUNTED 88" AFF.	
JS-1	JANITORS SINK	STERN WILLIAMS - MODEL SB-802. 28"X28" TERRAZO MOP SINK BASIN.	3"	2"		PROVIDE STERN WILLIAMS T-10-VB SERVICE SINK FAUCET WITH ADJUSTABLE TOP BRACE VACUUM BREAKER AND BUCKET HOOK	½"	½"	1.6GPM		REFER TO ARCHITECTURAL PLANS FOR WALL FINISHED AT JANITOR'S SINK.	-
BW-1	BOARD WASH FAUCET					T&S B-0175-06 8" WALL MOUNTED FAUCET AND SPRAY ASSEMBLY. PROVIDE WITH SWING NOZZLE AND COMPRESSION CARTRIDGE HANDLES. CHROME FINISH.	3/4"	3/4"	9.73 GPM		PROVIDE WITH 68" FLEXIBLE STAINLESS STEEL HOSE, ANGLED SPRAY VALVE AND HOSE HANGER HOOK. INSTALL ROUGH-INS 48" AFF	-
EWS-1	EMERGENCY EYEWASH AND SHOWER	HAWS MODEL 8309WC AXION MSP COMBINATION SHOWER AND EYE/FACE WASH	1¼"	1¼"		PROVIDE WITH THERMOSTATIC MIXING VALVE HAWS 9201 E SHOWER	½"	½"	20GPM		PROVIDE SCALD PROTECT BLEED VALVE MOUNTED ON WALL BEHIND SHOWER.	

NOTES:
1. PLUMBING FIXTURES SPECIFIED ARE GENERALLY AMERICAN STANDARD. FIXTURES AS MANUFACTURED BY KOHLER, ELKAY OR TOTO MAY BE SUBMITTED FOR APPROVAL PROVIDED THE SELECTION IS STRICTLY APPROVED EQUIVALENT.
2. PLUMBING FAUCETS SPECIFIED ARE GENERALLY DELTA. FAUCETS AS MANUFACTURED BY T&S BRASS OR CHICAGO MAY BE SUBMITTED FOR APPROVAL PROVIDED THE SELECTION IS STRICTLY APPROVED EQUIVALENT.
3. PLUMBING FLUSH VALVES SPECIFIED ARE GENERALLY AMERICAN STANDARD. FLUSH VALVES AS MANUFACTURED BY SLOAN OR DELANEY MAY BE SUBMITTED FOR APPROVAL PROVIDED THE SELECTION IS STRICTLY APPROVED EQUIVALENT.
4. FLOOR DRAINS AND FLOOR SINKS ARE GENERALLY ZURN. DRAINS AS MANUFACTURED BY JAY R. SMITH, JOSAM OR WATTS MAY BE SUBMITTED FOR APPROVAL PROVIDED THE SELECTION IS STRICTLY APPROVED EQUIVALENT.

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	FIXTURE SPECIFICATION/DESCRIPTION	SAN	VENT	PICTURE	FAUCET DESCRIPTION	COLD WATER	HOT WATER	FLOW RATE	PICTURE	REMARKS	COMPLIES WITH ADA
WMB-1	WASHING MACHINE BOX	ZURN WM2961-34 ENCASED WASHING MACHINE BOX. HEAVY-DUTY MOUNTING STRAPS, KNOCKOUTS FOR A RIGHT OR LEFT MOUNTING, AND A 1-1/2" [38MM] X 2" [51MM] TAILPIECE	2"	1¼"		PROVIDE WITH SINGLE LEVER HANDLE VALVE.	½"	½"	-		COORDINATE MOUNTING HEIGHT WITH WASHING MACHINE. INSTALL TRAP AND VENT INSIDE WALL.	-
IMB-1	ICE MAKER BOX	IPS 82412 ICE MAKER BOX. FIRE-RATED RECESSED PVC RESIN ICEMAKER OUTLET BOX; INCLUDE INTUMESCENT PAD AT BACK OF BOX ETL CERTIFIED SNAP-ON FRAME.	-	-		PROVIDE WITH QUARTER TURN BALL SHUTT-OFF VALVE.	½"	-	-		COORDINATE MOUNTING HEIGHT WITH ICE MAKER ON APPLIANCE. PROVIDE WITH APPLIANCE BACKFLOW PREVENTOR.	-
HB-1	HOSE BIBB	INTERIOR DUTY, POLYCARBONATE WHEEL HANDLE AND LOOSE TEE KEY	-	-		WOODFORD 24 FINISH: POLISHED CHROME	¾"	-	-	-	MOUNT ON PIPE END.	-
NFWH-1	NON-FREEZE WALL HYDRANT	FREEZELESS, BRASS	-	-		B65 FINISH: BRASS	¾"	-	-	-	COORDINATE MOUNTING HEIGHT WITH WITH OWNER.	-
FD-1	FLOOR DRAIN	WATTS FD-100-A FLOOR DRAIN WITH ADJUSTABLE STRAINER. 8" ROUND NICKEL BRONZE STRAINER. PROVIDE WITH P-TRAP.	3"	2"		-	-	-	-	-	REFER TO DRAWING DETAILS COORDINATE WITH GEN. CONSTR. WORK TO SET THE FLOOR DRAIN FLUSH WITH FIN. FLOOR ADJUSTED FOR FLOOR SLOPE REQUIRED.	-
FD-2	FLOOR DRAIN	WATTS FD-100-B FLOOR DRAIN WITH ADJUSTABLE STRAINER. 6" ROUND NICKEL BRONZE STRAINER. PROVIDE WITH P-TRAP.	3"	2"		-	-	-	-	-	REFER TO DRAWING DETAILS COORDINATE WITH GEN. CONSTR. WORK TO SET THE FLOOR DRAIN FLUSH WITH FIN. FLOOR ADJUSTED FOR FLOOR SLOPE REQUIRED.	-
FD-3	FLOOR DRAIN	WATTS FD-100-M FLOOR DRAIN WITH ADJUSTABLE STRAINER. 5" SQUARE NICKEL BRONZE STRAINER. PROVIDE WITH SEDIMENT BUCKET.	4"	-		-	-	-	-	-	REFER TO DRAWING DETAILS COORDINATE WITH GEN. CONSTR. WORK TO SET THE FLOOR DRAIN FLUSH WITH FIN. FLOOR ADJUSTED FOR FLOOR SLOPE REQUIRED.	-
TD-1	TRENCH DRAIN	WATTS FD-100-B FLOOR DRAIN WITH ADJUSTABLE STRAINER. 8" ROUND NICKEL BRONZE STRAINER. PROVIDE WITH P-TRAP.	4"	2 ½"		-	-	-	-	-	REFER TO DRAWING DETAILS COORDINATE WITH GC. TRENCH DRAIN IS FORMED IN SLAB, INSTALL FLOOR DRAIN AT BOTTOM OF TROUGH. INSTALL LINT BASKET AROUND FLOOR DRAIN ASSEMBLY	-
HD-1	HUB DRAIN	WATTS FD-100-ER FLOOR DRAIN WITH ADJUSTABLE STRAINER. 7" ROUND NICKEL BRONZE EXTENDED STRAINER.	3"	2"		-	-	-	-	-	COORDINATE LOCATION OF HUB DRAIN CENTRAL TO AIR HANDLER DISCHARGE	-
FS-1	FLOOR SINK	WATTS MODEL #FS-503-5-150. 12"X12"X6"D SANITARY FLOOR SINK. PROVIDE WITH HALF GRATE AND SEDIMENT BUCKET.	3"	2"		-	-	-	-	-	REFER TO DRAWING DETAILS COORDINATE WITH GENERAL CONTRACTOR. WORK TO SET THE FLOOR DRAIN FLUSH WITH FINISHED FLOOR.	-
OWS-1	GREASE INTERCEPTOR	STRATA 1500-GGI OR EQUAL, 1500 GAL LAMINAR PRECAST GREASE INTERCEPTOR.	4"	2"		-	-	-	-	-	REFER TO SHEET P501 FOR INSTALLATION DETAILS OF PRECAST OIL/WATER SEPARATOR.	

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WAKE COUNTY NORTH CAROLINA

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SEAL 026587 REGISTERED LANDSCAPE ARCHITECT PAULA J. ROMI 4-28-2022

Plumbing Schedules

DATE: 03.07.2022
PROJECT NO: 20004

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NO:	DATE:	DESCRIPTION:
1	5/2/22	ADDENDUM #1

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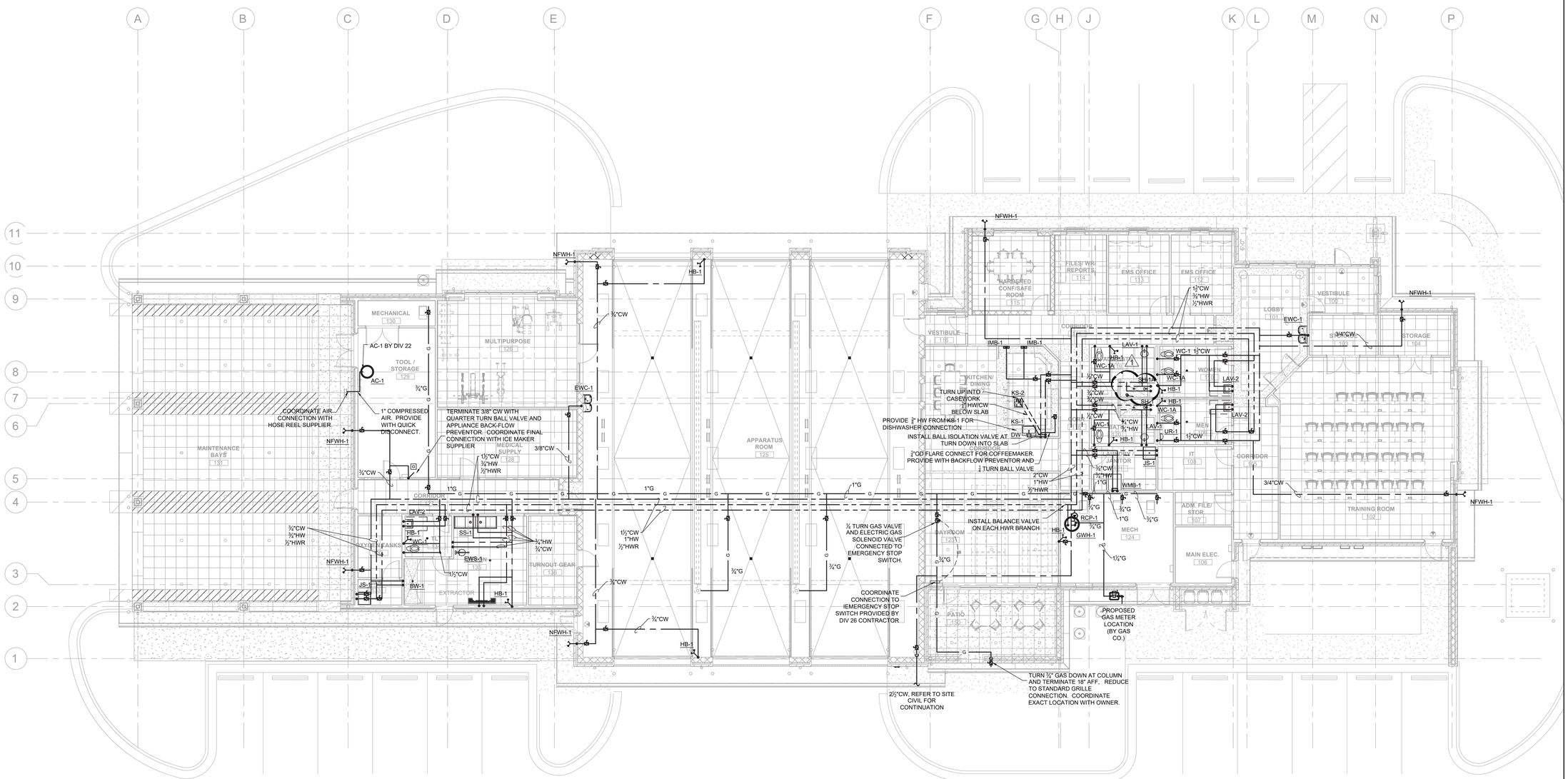
SHEET NUMBER

P002



PLUMBING WATER AND GAS FIRST FLOOR PLAN | 1/8" = 1'-0" | 01

N TRUE NORTH

N PLAN NORTH

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845 Thompson Road
Garner, NC 27529

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 045599 JAMES J. KOSTAS REGISTERED 4-28-2022

Plumbing Water and Gas Floorplan

DATE: 03.07.2022
PROJECT NO: 20004

REVISIONS

NO:	DATE:	DESCRIPTION:
1	5/2/22	ADDENDUM #1

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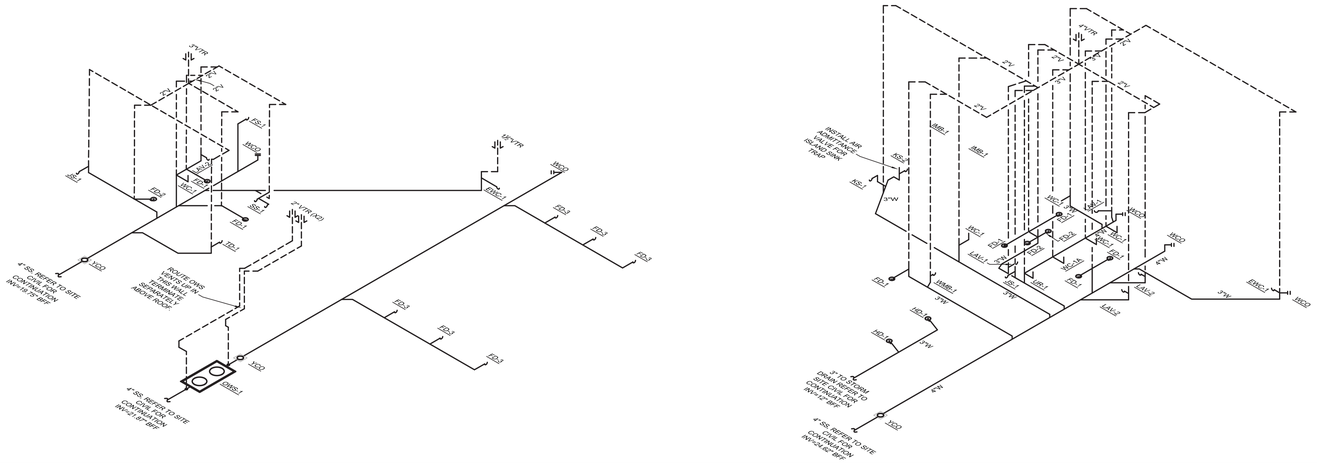
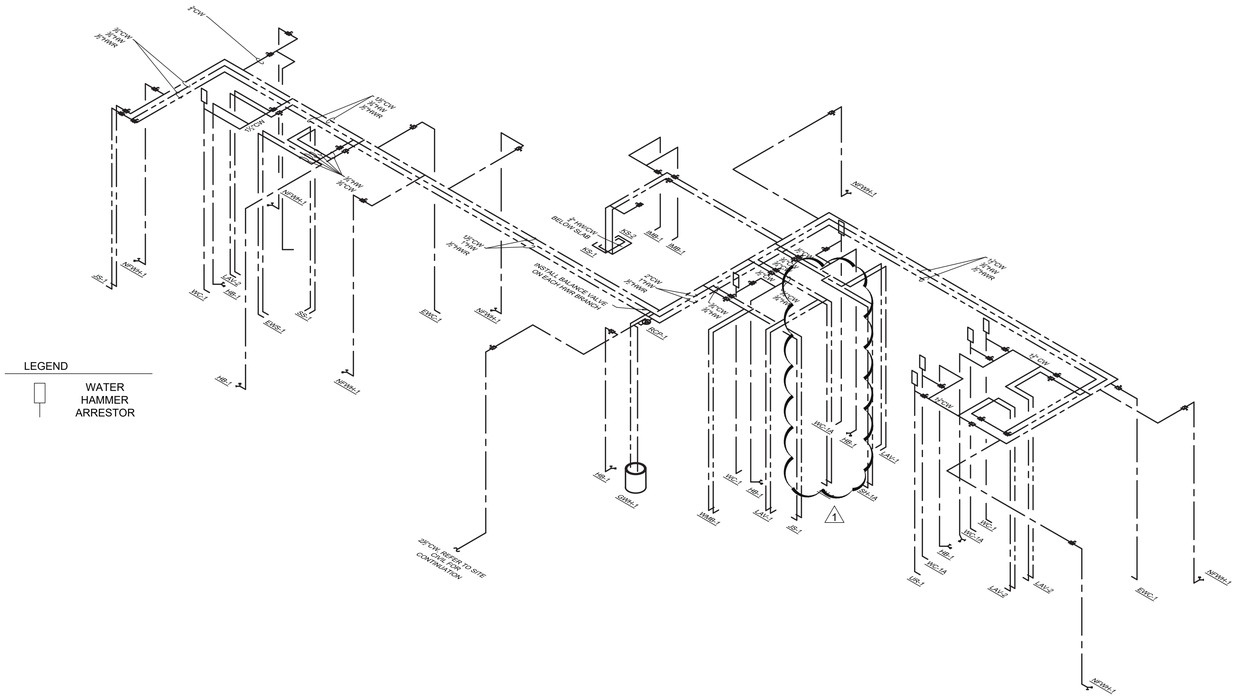
SHEET NUMBER

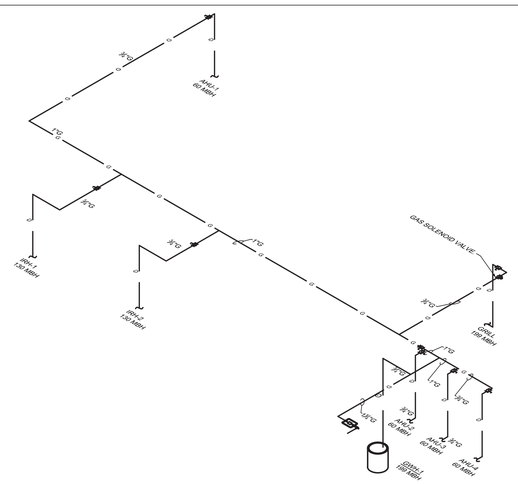
P201

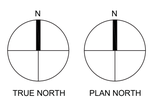


PLUMBING WASTE AND VENT RISER DIAGRAM | NO SCALE | 03



PLUMBING WATER RISER DIAGRAM | NO SCALE | 02





PLUMBING GAS RISER DIAGRAM | NO SCALE | 01

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Plumbing Riser Diagrams

DATE: 03.07.2022
PROJECT NO: 20004

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SHEET NUMBER

P300

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Plumbing Details

DATE: 03.07.2022
PROJECT NO: 20004

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SHEET NUMBER
P501

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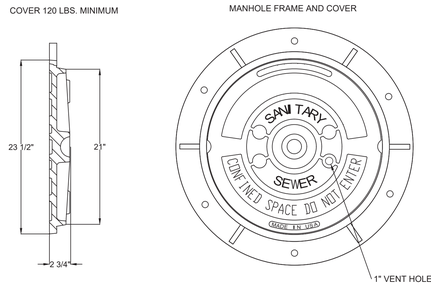


NOTES:
1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2) FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3) COVER SHALL WEIGH A MIN. OF 120 LBS.
4) ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD MANHOLE COVER

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-25	3-1-87	3-1-87	A.B.B.	2-9-05
	RRH	3-30-00	D.H.L.	6-18-08

GRAVITY OIL WATER SEPARATOR DETAIL S-25 | NO SCALE | 03

LOCALLY AVAILABLE SIZES	
INTERCEPTORS CAPACITY (GAL.)	SEPARATORS CAPACITY (GAL.)
300	1000
550	1200
750	1600
1000	
1200	
1500	
2000	
2500	
3000	
4000	
5000	
6000	
8000	

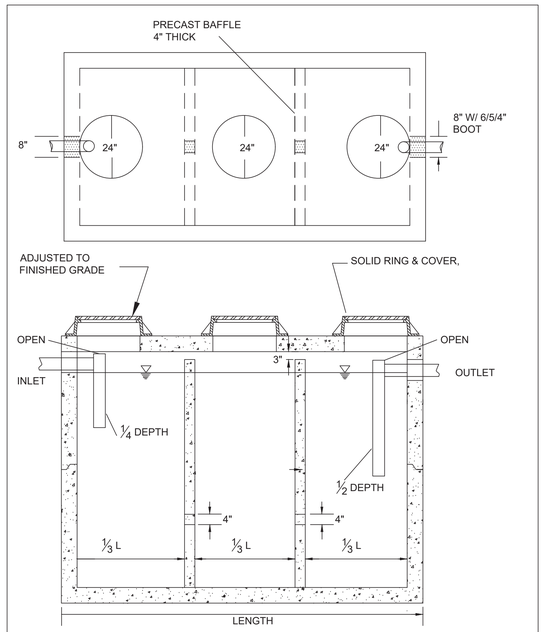
NOTES:

1. BAFFLE WALL LOCATED AT A DISTANCE FROM INLET WALL 2/3 TO 3/4 OF THE TOTAL LENGTH OF THE INTERCEPTOR OR SEPARATOR AS SHOWN ON DETAIL S-40.
   BAFFLE WALLS LOCATED AT A DISTANCE APPROXIMATELY OF 1/3 OF THE TOTAL LENGTH OF THE SEPARATOR AS SHOWN ON DETAIL S-40.01.
2. EACH INTERCEPTOR OR SEPARATOR SHALL HAVE INLET AND OUTLET TEES. THE OUTLET TEE SHALL EXTEND 50% INTO THE LIQUID DEPTH. THE INLET TEE SHALL EXTEND 25% INTO THE LIQUID DEPTH. INLET AND OUTLET TEES MUST BE OPEN TO ALLOW THE COLLECTION OF F.O.G. SAMPLE.
3. ACESS OPENINGS OVER EACH COMPARTMENT WITHIN THE INTERCEPTOR OR SEPARATOR SHALL BE 24 INCHES IN DIAMETER AND CONTAIN PICK HOLES. ALL COVERS SHALL BE CONSTRUCTED OF CAST IRON OR EQUIVALENT TRAFFIC BEARING MATERIAL. MANHOLE COVERS MUST EXTEND TO FINISH GRADE AND BE INSTALLED TO EXCLUDE THE ENTRANCE OF STORMWATER INTO THE INTERCEPTOR OR SEPARATOR.
4. FULL SIZE DUAL SWEEP CLEANOUTS SHALL BE INSTALLED ON THE INLET AND OUTLET SIDES OF THE INTERCEPTOR OR SEPARATOR.
5. INTERCEPTORS AND SEPARATORS MUST BE VENTED IN ACCORDANCE WITH THE NC STATE PLUMBING CODE.
6. CONCRETE: 4000 PSI @ 28 DAYS.
7. DESIGN: ACI 318 BUILDING CODE
   ASTM C1613-06 FOR GREASE INTERCEPTORS
   ASTM C913-02 FOR WATER AND WASTEWATER STRUCTURES
   ASTM C890-06 FOR MINIMAL STRUCTURAL DESIGN LOADING
8. INTERCEPTORS AND SEPARATORS SHALL BE DESIGNED TO WITHSTAND AN H-20 WHEEL LOAD.
9. INTERCEPTORS OR SEPARATORS MADE OF POLYETHYLENE OR FIBERGLASS SHALL INCLUDE A MINIMUM 12,000 PSI TENSILE STRENGTH, 19,000 PSI FLEXURAL STRENGTH, AND 800,000 PSI FEXURAL MODULUS.
10. ALL INTERCEPTORS AND SEPARATORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
DIMENSIONS: GREASE INTERCEPTORS
OIL-WATER-SAND SEPARATORS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-41	RRH 3/9/00		D.H.L.	6/18/08
	ABB	3/19/04		

GRAVITY OIL WATER SEPARATOR DETAIL S-41 | NO SCALE | 02

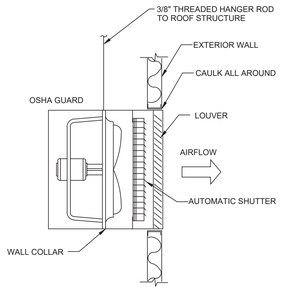


NOTES:
1. REINFORCEMENT: H-20 BRIDGE LOADING (TRAFFIC RATED)
2. CONCRETE: 4000 PSI @28 DAYS

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
1000 GALLON
OIL-WATER-SAND SEPARATOR

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-40a	RRH 3/9/00		D.H.L.	6/18/08
	ABB	3/19/04		

GRAVITY OIL WATER SEPARATOR DETAIL S-40A | NO SCALE | 01

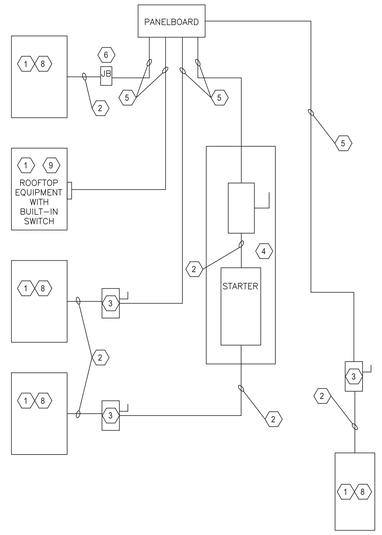


PROVIDE AUXILARY FRAMING AS REQUIRED TO SUPPORT FRAME.

PROP FAN EXHAUST DETAIL | NO SCALE | 03

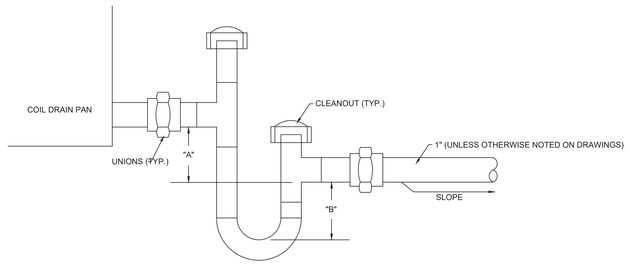
KEYED NOTES:

1. EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
2. CONDUIT & WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES.
3. IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
4. A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATED ADJACENT TO EQUIPMENT.
5. FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
6. JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
7. NOT USED.
8. IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP, AND TEST EQUIPMENT.
9. IF THE ROOF TOP EQUIPMENT IS NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.



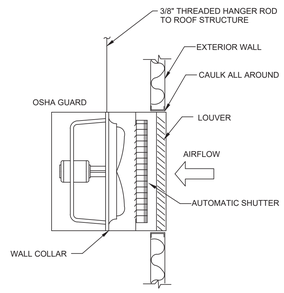
NOTES:
DIVISION 23 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DIRECTION OF ROTATION FOR ALL THREE PHASE EQUIPMENT.

ELECTRICAL CONNECTIONS TO MECHANICAL EQUIP. | NO SCALE | 02



NOTES:
1. ``A" = SYSTEM STATIC IN INCHES, AT DRAIN POINT.
2. ``B" = 1/2 SYSTEM STATIC IN INCHES, AT DRAIN POINT.
3. SIZE IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.

CONDENSATE DRAIN DETAIL | NO SCALE | 01

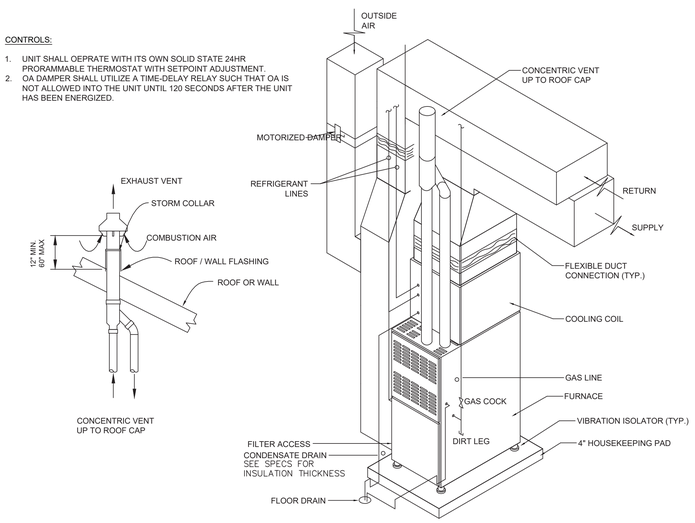


PROVIDE AUXILARY FRAMING AS REQUIRED TO SUPPORT FRAME.

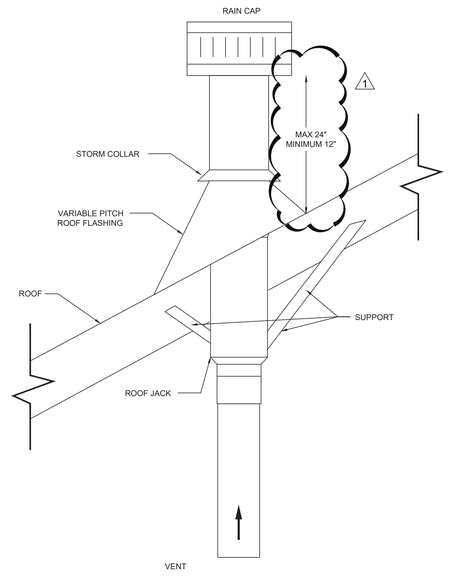
PROP FAN SUPPLY DETAIL | NO SCALE | 06

CONTROLS:

1. UNIT SHALL OEPRATE WITH ITS OWN SOLID STATE 24HR PROGRAMMABLE THERMOSTAT WITH SETPOINT ADJUSTMENT.
2. OA DAMPER SHALL UTILIZE A TIME-DELAY RELAY SUCH THAT OA IS NOT ALLOWED INTO THE UNIT UNTIL 120 SECONDS AFTER THE UNIT HAS BEEN ENERGIZED.



VERTICAL AHU INSTALLATION DETAIL | NO SCALE | 05



TYPICAL PITCHED ROOF FLUE DETAIL | NO SCALE | 04

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PUBLIC SAFETY WAKE COUNTY EMS EST. 1976

GARNER MAIN EMS

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Garner, NC 27529

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 42655 PAUL V. ROMANO 5-20-2022

Mechanical - Details

DATE: 03.07.2022
PROJECT NO: 20004

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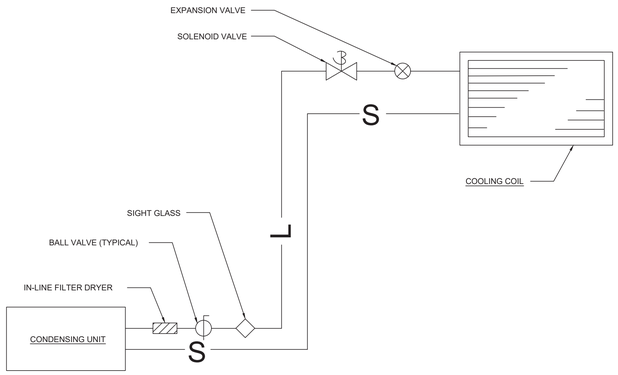
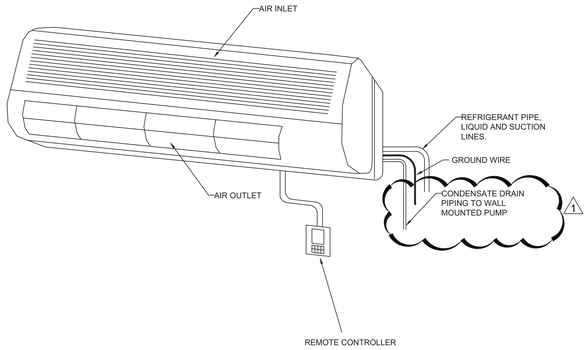
SHEET NUMBER

M501



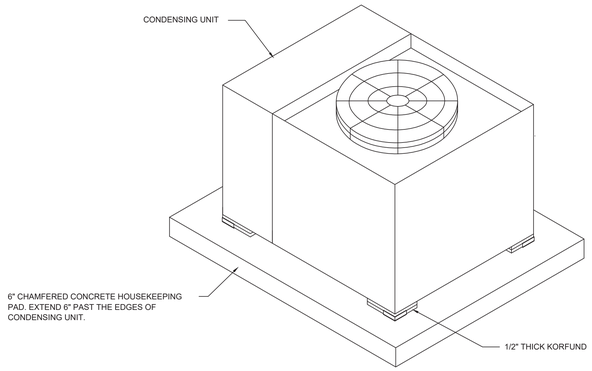
REFRIGERANT PIPING DETAIL | NO SCALE | 03



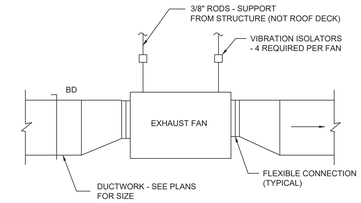
NOTES:
1. MOUNT UNIT TO ITS ROOM WALL. MOUNT UNIT AS HIGH AS POSSIBLE PER MANUFACTURER'S SPECIFICATIONS.
2. REFER TO PLANS FOR REFRIGERANT AND CONDENSATE DRAIN ROUTING. MINIMUM 3/4" CONDENSATE DRAIN LINE WITH 1" INSULATION.
3. ALL REFRIGERANT LINE SETS AND COND DRAINS ROUTED WITH THEM SHALL BE IN CONCEALED LOCATIONS.

1

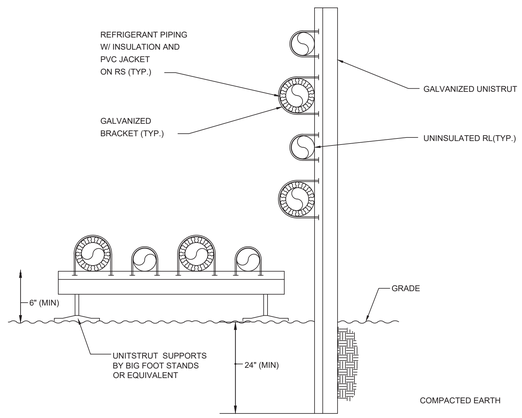
DUCTLESS MINI-SPLIT UNIT INSTALLATION | NO SCALE | 02



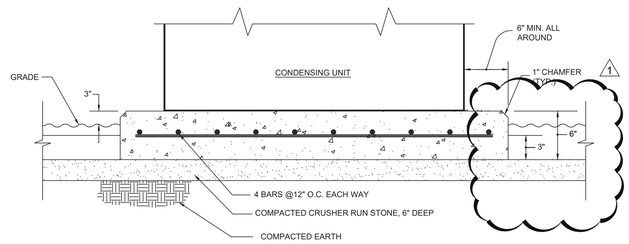
CONDENSING UNIT DETAIL | NO SCALE | 01



INLINE EXHAUST DETAIL | NO SCALE | 06



REFRIGERANT PIPE SUPPORT DETAIL | NO SCALE | 05



CONDENSING UNIT CONCRETE PAD DETAIL | NO SCALE | 04

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SHEET NUMBER

M502

LIGHTING SYMBOLS

WALL OR CEILING MTD EXIT SIGN WITH SELF CONTAINED BATTERY BACK-UP, SINGLE FACE. ARROW WHEN USED INDICATES DIRECTION.

WALL OR CEILING MTD EXIT SIGN WITH SELF CONTAINED BATTERY BACK-UP, DOUBLE FACE. ARROW WHEN USED INDICATES DIRECTION.

SUSPENDED OR SURFACE MTD LED LIGHTING FIXTURE AND OUTLET, LETTER INDICATES FIXTURE TYPE; NUMBER INDICATES CIRCUIT

SUSPENDED OR SURFACE MTD LED LIGHTING FIXTURE LETTER DESIGNATES FIXTURE TYPE AND NUMBER INDICATES CIRCUIT INSTALLED UN-SWITCHED (NITE-LITE CIRCUIT)

CEILING MTD OR LAY-IN TYPE LED LIGHTING FIXTURE AND OUTLET, LETTER INDICATES FIXTURE TYPE; NUMBER INDICATES CIRCUIT

CEILING MTD OR LAY-IN LED LIGHTING FIXTURE LETTER DESIGNATES FIXTURE TYPE AND NUMBER INDICATES CIRCUIT INSTALLED UN-SWITCHED (NITE-LITE CIRCUIT)

CEILING MTD OR LAY-IN TYPE LED LIGHTING FIXTURE AND OUTLET, LETTER INDICATES FIXTURE TYPE; NUMBER INDICATES CIRCUIT

CEILING MTD OR LAY-IN LED LIGHTING FIXTURE LETTER DESIGNATES FIXTURE TYPE AND NUMBER INDICATES CIRCUIT INSTALLED UN-SWITCHED (NITE-LITE CIRCUIT)

CEILING/PENDENT MTD/RECESSED LIGHTING FIXTURE AND OUTLET, LETTER DESIGNATES FIXTURE TYPE AND NUMBER INDICATES CIRCUIT

CEILING/PENDENT MTD/RECESSED LIGHTING FIXTURE LETTER DESIGNATES FIXTURE TYPE AND NUMBER INDICATES CIRCUIT INSTALLED UN-SWITCHED (NITE-LITE CIRCUIT)

SURFACE MOUNTED WALL LUMINAIRE OUTLET, LETTER INDICATES FIXTURE TYPE; NUMBER INDICATES CIRCUIT

SURFACE MOUNTED WALL LUMINAIRE LETTER DESIGNATES FIXTURE TYPE AND NUMBER INDICATES CIRCUIT INSTALLED ON EMERGENCY DRIVER CIRCUIT.

EMERGENCY WALL BATTERY PACK UNIT PER THE SCHEDULE. LETTER NEXT TO FIXTURE ON PLANS INDICATES FIXTURE TYPE. CONNECT UNSWITCHED TO INDICATED BRANCH CIRCUIT.

EMERGENCY CEILING BATTERY PACK UNIT PER THE SCHEDULE. LETTER NEXT TO FIXTURE ON PLANS INDICATES FIXTURE TYPE. CONNECT UNSWITCHED TO INDICATED BRANCH CIRCUIT.

NOTE TO ALL LIGHTING:

X/Y-SUBSCRIPTS @ LIGHTING FIXTURES:
1. X-REPRESENTS OCCUPANCY SENSOR THAT CONTROLS FIXTURE.
2. Y-REPRESENTS SWITCH THAT CONTROLS FIXTURE.
3. WHEN NO SUBSCRIPT IS SHOWN, LOCAL OCC SENSOR AND SWITCH CONTROLS FIXTURE.

S_{OR}	DIGITAL TIMER SWITCH-INTERMATIC EI235 OR EQUAL
S_{DT}	DIGITAL TIMER SWITCH-INTERMATIC ST01 OR EQUAL
S	FLUSH MTD TOGGLE SWITCH, S.P.S.T., 20A, 120/277V
S_3	FLUSH MTD 3-WAY TOGGLE SWITCH, 20A, 120/277V
S_4	FLUSH MTD 4-WAY TOGGLE SWITCH, 20A, 120/277V
S_D	FLUSH MTD 0-10V LED DIMMER SWITCH
S_{D1}	FLUSH MTD 600 WATT INC. DIMMER
S_{OS}	SWITCH TYPE OCCUPANCY SENSOR WITH BUILT-IN OVERRIDE SWITCH
$S_{OS/D}$	COMBINATION 0-10V DIMMER AND DUAL TYPE OCC. SENSOR
S_L	SURFACE MTD TOGGLE SWITCH, S.P.S.T., 20A, 120/277V W/LOCKABLE COVER PLATE
S_a S_b	LOWER CASE SUBSCRIPT INDICATE WHICH LIGHTS THE SWITCH IS TO BE CONNECTED TO.
OSC	DUAL TECHNOLOGY CEILING MOUNTED OCCUPANCY SENSOR; A/V DESIGNATES SENSOR PROVIDED AS PART OF DIMMING OR A/V PACKAGE U/H DESIGNATES ULTRA-SONIC DEVICE RATED FOR HALLWAY INSTALL
OSW	WALL MOUNTED OCCUPANCY SENSOR
	NOTE ON OCC SENSORS: SENSORS SHALL PROVIDE COVERAGE TO 1000 SF AND SWITCH LOAD OFF AFTER 20 MIN.
PS	PARTITION SENSOR
LC	LIGHTING CONTACTOR

POWER SYMBOLS

OUTLET BOX WITH BLANK COVER - LOCATE AS REQUIRED TO FOR EQUIPMENT SERVED.

FLUSH MTD DUPLEX RECEPTACLE AND OUTLET, 20A, 125V, 3W

FLUSH MTD QUADRUPLEX RECEPTACLE AND OUTLET, 20A, 125V, 3W

FLUSH MOUNTED QUADRUPLEX RECEPTACLE AND OUTLET 20A, 125V, 3W, INSTALLED 4" ABOVE BACKSPLASH OR COUNTER IF NO BACKSPLASH EXISTS.

FLUSH MOUNTED QUADRUPLEX RECEPTACLE AND OUTLET 20A, 125V, 3W, INSTALLED 4" ABOVE BACKSPLASH OR COUNTER IF NO BACKSPLASH EXISTS.

250 VOLT OUTLET. COORDINATE NEMA TYPE WITH CORD CONNECTION.

2-GANG FLOOR BOX. BOX TO BE FLUSH MOUNTED IN CONCRETE FLOORS.

3-GANG FLOOR BOX. BOX TO BE FLUSH MOUNTED IN CONCRETE FLOORS.

NOTE TO ALL RECEPTACLES/JUNCTION BOXES:

1. SUBSCRIPT EWC INDICATES GROUND FAULT TYPE RECEPTACLE FOR ELECTRIC WATER COOLER.
2. SUBSCRIPT WP INDICATES GROUND FAULT TYPE RECEPTACLE WITH STEEL LOCKABLE CLOSED WEATHERPROOF COVER.
3. SUBSCRIPT GFI INDICATES GROUND FAULT TYPE RECEPTACLE.
4. SUBSCRIPT VEN INDICATES GROUND FAULT TYPE RECEPTACLE FOR VENDING MACHINE.
5. SUBSCRIPT TV INDICATES RECEPTACLE FOR TV MOUNTED IN BRACKET.
6. SUBSCRIPT SL INDICATES SHORELINE INSTALLATION PER DETAILS.
7. SUBSCRIPT USB INDICATES COMBINATION 20A OUTLET AND USB PORT.
8. SUBSCRIPT HD INDICATES HAND DRYER CONNECTION.
9. SUBSCRIPT MF INDICATED GFI RECEPTACLE MOUNTED BELOW SINK FOR ELECTRIC METERED FAUCET CONNECTION.
10. SUBSCRIPT DW INDICATES DISHWASHER CONNECTION. PROVIDE WITH 120 VOLT 20 AMPERE SWITCH ABOVE COUNTER FOR DISCONNECT.
11. SUBSCRIPT CR INDICATES 120 V POWER FOR CARD READER.
12. SUBSCRIPT HB INDICATES 120 V POWER CONNECTION FOR HOT BOX CONNECTION.
13. SUBSCRIPT GS INDICATES 120 V POWER CONNECTION FOR WAKE COUNTY GROUND SIGN CONNECTION.
14. SUBSCRIPT FP INDICATES 120 V POWER CONNECTION FOR FLAG POLE LIGHTING CONNECTION.
15. SUBSCRIPT MR INDICATES 120 VOLT POWER CONNECTION FOR MOTORIZED HVAC REGISTER.
16. SUBSCRIPT OHD INDICATES OVERHEAD DOOR CONTROLS PER DETAILS.

TELE/COMM OUTLET 4" SQ. BOX WITH 1"C TO J-HOOKS.

TELE/COMM OUTLET 4" SQ. BOX WITH 1"C TO J-HOOKS. MOUNT 4" ABOVE BACKSPLASH OR AS NOTED.

J — J J-HOOKS PER DRAWINGS AND PROJECT MANUAL. (1)

NOTE TO ALL TELECOM OUTLETS:

1. SUBSCRIPT WAP DESIGNATES WIRELESS ACCESS POINT MOUNTED IN CEILING OR ON WALL AT 84"AFF.
2. SUBSCRIPT FA DESIGNATES CONNECTION FOR FIRE ALARM DIAL OUT.
3. SUBSCRIPT EL DESIGNATES CONNECTION FOR ELEVATOR PHONES.
4. SUBSCRIPT W DESIGNATES WALL MOUNTED PHONE MOUNTED AT 48" AFF.
5. SUBSCRIPT DC DESIGNATES DOOR COUNTER CONNECTION.
6. SUBSCRIPT SEC DESIGNATES CONNECTION FROM DROP .
7. SUBSCRIPT ER DESIGNATES EMERGENCY RESPONSE PHONE WITH DEDICATED LINE.
8. SUBSCRIPT AV DESIGNATES 1"C TO ABOVE CEILING FOR AV CONNECTION.
9. SCADA INDICATES 1" CONDUIT TO SCADA SYSTEM FOR CONNECTION TO NETWORK
10. PV INDICATES 1" CONDUIT TO INVERTERS FOR CONNECTION TO NETWORK.

HC	HANDICAPPED DOOR OPERATOR
	DISCONNECT SWITCH-PROVIDE 30A, NON-FUSED U.O.N.
NF/30	NON-FUSED DISCONNECT SWITCH. NUMBER OF POLES AND VOLTAGE PER CIRCUIT FED.
20/30	30 AMP FUSED DISCONNECT SWITCH, FUSED AT 20 AMP. NUMBER OF POLES AND VOLTAGE PER CIRCUIT FED.
WP NF/30	30 AMP NON-FUSED, WEATHERPROOF NEMA 3R DISCONNECT SWITCH. NUMBER OF POLES AND VOLTAGE PER CIRCUIT FED.
4X NF/30	30 AMP NON-FUSED, NEMA 4X SS DISCONNECT SWITCH. NUMBER OF POLES AND VOLTAGE PER CIRCUIT FED.
	FVNR COMBINATION DISCONNECT SWITCH AND MAGNETIC MOTOR STARTER OR VFD (IF MARKED VFD)
S_M	MANUAL MOTOR STARTER SWITCH WITHOUT OVERLOAD HEATERS
1	A.C. MOTOR, NUMERAL INDICATES HP "F" INDICATES FRACTIONAL HP
	PANEL BOARD, FLUSH MOUNTED
	PANEL BOARD, SURFACE MOUNTED
	CONCEALED RACEWAY. INDICATES HOMERUN TO PANEL IN 3/4" CONDUIT-WIRE PER PANEL SCHEDULES.

ELECTRICAL SYMBOL NOTES

1. SYMBOLS AND ABBREVIATIONS MAY NOT ALL BE UTILIZED FOR THIS PROJECT.
2. SYMBOLS NOT LISTED IN THIS ELECTRICAL SYMBOL LEGEND ARE IDENTIFIED ON THE DRAWINGS WHERE THEY OCCUR.
3. MOUNTING HEIGHT GIVEN IN THE ELECTRICAL SPECIFICATIONS IS TO THE CENTERLINE OF THE DEVICE AND SHALL BE FOLLOWED UNLESS OTHERWISE NOTED.

AV SYSTEM SYMBOLS

TVx — WALL MOUNTED TV. PROVIDE T/C AND HDMI OUTLETS PER 3/SS400. MOUNT AT 84" AFF PER DETAIL.

MISC. SYSTEM SYMBOLS

B	DOOR BELL BUTTON MOUNTED AT 48" AFF. CONNECT TO CHIME SYSTEM.
C	DOOR BELL CHIME. PROVIDE 120 VOLT CONNECTION TO 24V TRANSFORMER AND 24V CHIME. MOUNT CHIME AT 80" AFF.

SECURITY SYSTEM SYMBOLS

REFER TO DETAILS SHEETS SS401 FOR ROUGH-IN DETAILS RELATED TO SEC. SYSTEMS INSTALLATION.

DROP x	REFER TO SS401 FOR ROUGH-IN INFORMATION
CR	CARD READER.
J CAX	CARD READER DOOR ROUGH IN. PROVIDE POWER CONNECTION AS NOTED ON POWER DRAWINGS.
J ELX	ELECTRIC LOCK ROUGH IN AND POWER.
J DCX	DOOR CONTACT.
J GB	GLASS BREAK.
KS	KEYED SWITCH (1)
KB	SECURITY CONNECTION AT KNOX BOX.
LRC J	LATCH RELEASE CONTROL
J MX	MOTION DETECTOR.
J DX	DURESS BUTTON.
V1-2, V1-2, V1, VXX	SECURITY CAMERAS.

ABBREVIATIONS

A	AMPERE, AMMETER	KW	KILOWATTS
~~AFF~~	~~ABOVE FINISHED FLOOR~~ (1)	LC	LIGHTING CONTACTOR
AFG	ABOVE FINISHED GRADE	LTG	LIGHTING
~~AIC~~	~~AMPERES INTERRUPTING~~ CAPACITY	LV	LOW VOLTAGE
AHU	AIR HANDLING UNIT	MB	MAIN BREAKER
ATS	AUTOMATIC TRANSFER SWITCH	MC	MECHANICAL CONTRACTOR
AV,A/V	AUDIO-VISUAL	MCB	MAIN CIRCUIT BREAKER
BDA	BI-DIRECTIONAL ANTENNA SYSTEM	MCC	MOTOR CONTROL CENTER
BFG	BELOW FINISHED GRADE	MH	MANHOLE
C/CON.	CONDUIT	MLO	MAIN LUGS ONLY
CATV	CABLE (COMMUNITY) ANTENNA TELEVISION	MT./MNT.	MOUNTING
CU	COPPER	NF	NON FUSED
DISC	DISCONNECT	NIC	NOT IN CONTRACT
D.W.	DOMESTIC WATER	NL	NIGHT LIGHT
EC	ELECTRICAL CONTRACTOR	P	POLE, PHASE
ECB	ENCLOSED CIRCUIT BREAKER	PB	PULL BOX
EGC	EQUIPMENT GROUNDING CONDUCTOR	PC	PLUMBING CONTRACTOR
EVCS	ELECTRIC VEHICLE CHARGING STATION	P/BD, PNL	PANELBOARD
EWC	ELECTRIC WATER COOLER	PR	PAIR
E	EXISTING	PV	PHOTO-VOLTAIC
FA, F/A	FIRE ALARM	SN	SOLID NEUTRAL
FAAP	FIRE ALARM ANNUNCIATOR PANEL	SW	SWITCH
FACP	FIRE ALARM CONTROL PANEL	SWBD	SWITCHBOARD
F.P.	FIRE PROTECTION	T/C	TELECOM
GEC	GROUNDING ELECTRODE CONDUCTOR	UG	UNDERGROUND
G,GND	GROUND	UON	UNLESS OTHERWISE NOTED
GC	GENERAL CONTRACTOR	V	VOLT
GF,GFI	GROUND FAULT INTERRUPTER	WP	WEATHERPROOF
HH	HANDHOLE	XFMR	TRANSFORMER
HP	HORSEPOWER		
IG, ISG	ISOLATED GROUND		
JB	JUNCTION BOX		
KVA	KILOVOLT-AMPERES		

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE: ENERGY CODE ☐ PERFORMANCE ☒ PRESCRIPTIVE
ASHRAE 90.1 ☐ PERFORMANCE ☐ PRESCRIPTIVE

LIGHTING SCHEDULE

LAMP TYPE REQUIRED IN FIXTURE	PER SCHEDULE
NUMBER OF LAMPS IN FIXTURE	PER SCHEDULE
BALLAST TYPE USED IN THE FIXTURE	PER SCHEDULE
NUMBER OF BALLASTS IN FIXTURE	PER SCHEDULE
TOTAL WATTAGE PER FIXTURE	PER SCHEDULE
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED	5660W vs 8545W
TOTAL EXTERIOR WATTAGE SPECIFIED VS ALLOWED	250W vs 600W

ADDITIONAL EFFICIENCY PACKAGE OPTIONS
(WHEN USING THE 2018 NCECC; NOT REQUIRED FOR ASHRAE 90.1)

- ☐ C406.2 MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE
- ☒ C406.3 REDUCED LIGHTING POWER DENSITY
- ☐ C406.4 ENHANCED DIGITAL LIGHTING CONTROLS
- ☐ C406.5 ON-SITE RENEWABLE ENERGY
- ☐ C406.6 DEDICATED OUTDOOR AIR SYSTEM
- ☐ C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

DESIGNER STATEMENT:
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENT OF THE NORTH CAROLINA STATE BUILDING CODE

SIGNED: Reggie Adams
NAME: REGGIE ADAMS P.E.
TITLE: ELECTRICAL ENGINEER

Conduit Box and Color Scheme Standards

System	Junction Box and Cover	Conduit Color	Raceway Labels	Comments
208Y/120 V Equipment	Galvanized	Galvanized		
480Y/277 V Equipment	Black	Galvanized		
Fire Alarm	Bright Red	Red	White	
Emergency Systems	Green	Green		
Telephone Systems	Orange	Orange		
Data Systems	Brown	Orange		
Paging	White	Orange		
TV Systems	Purple	Orange		
Audio Visual	Blue	Galvanized		
HVAC Controls	Gavanized	Blue		
Communications (Security)	Galvanized	Yellow	Orange	Intercom System
Security Control	Galvanized	Yellow	Green	Card Reader System
Video Surveilance	Galvanized	Yellow	Blue	Camera System
Network - Security	Galvanized	Yellow	Yellow	Security Backbone

ELECTRICAL LEGEND | NO SCALE | 01

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Sigma Project #: 20038

WAKE COUNTY NORTH CAROLINA

PUBLIC SAFETY WAKE COUNTY EMS EST. 1976

GARNER MAIN EMS

845 Thompson Road
Garner, NC 27529

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER ADAMS
Digitally signed by Reginald Adams
DN: cn=Reginald Adams, o, ou, email=radams@sigmaes.com, c=US
Date: 2022.05.01 16:15:17 -04'00'

Electrical- Legend

DATE: 03.07.2022
PROJECT NO: 20004

REVISIONS

NO:	DATE:	DESCRIPTION:
1	5/2/22	ADDENDUM #1

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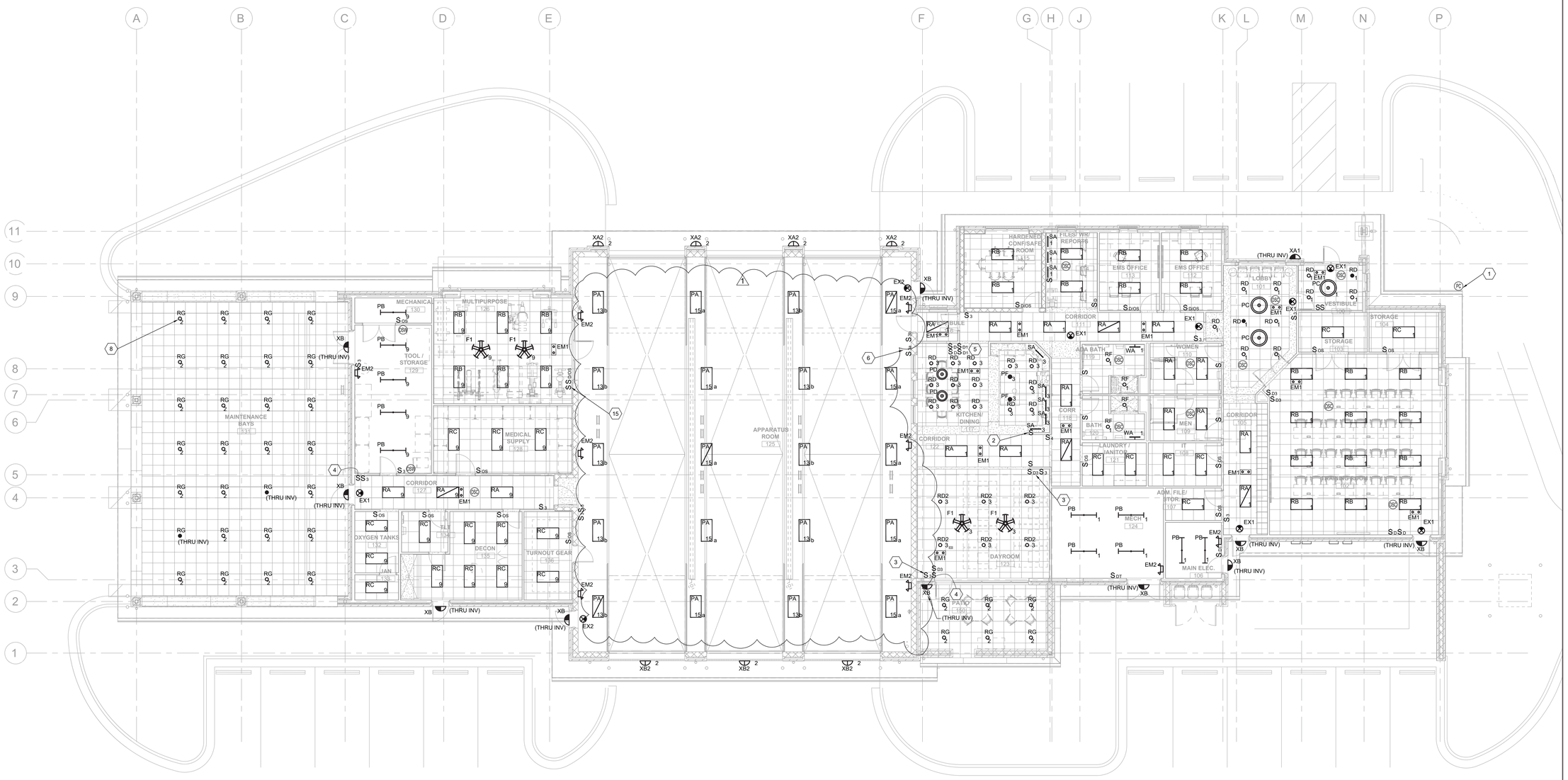
SHEET NUMBER
E001

GENERAL NOTES:

1. REFER TO SHEET E002 FOR LUMINAIRE SCHEDULE.
2. EXIT AND EGRESS LIGHTING SHALL REMAIN UNSWITCHED UNLESS OTHERWISE NOTED.
3. ALL LUMINAIRES ARE TO BE CIRCUITED TO PANEL P1 UNLESS OTHERWISE NOTED.
4. REFER TO SHEET E501 FOR LIGHTING INSTALLATION AND LIGHTING CONTROL DETAILS.

NOTES KEYED TO 1/E200:

1. 120 VOLT PHOTOCELL. REFERENCE DETAIL 1/E501.
2. REFER TO ENLARGED PLAN 1/E301 FOR LOCATION OF UNDER CABINET LIGHTING SWITCH.
3. PROVIDE DIMMING CONTROL FOR TYPE RD AND SWITCHING FOR FANS, TYPE F1.
4. SWITCH FOR TYPE "RG" LIGHTING UNDER CANOPY.
5. PROVIDE DIMMING AS FOLLOWS: A) TYPE PD, B) TYPE PF, C) TYPE RD IN DINING AND D) TYPE RD IN KITCHEN.
6. CONTRACTOR SHALL ALTERNATE SWITCHING FOR BAY LIGHTING.
7. PROVIDE DIMMING CONTROL FOR TYPE RB AND SWITCHING FOR FANS, TYPE F1.
8. TYPE RG LIGHTING IN THIS AREA IS TO BE PROVIDED AS ALTERNATE #3.



TRUE NORTH PLAN NORTH

LIGHTING PLAN | 1/8" = 1'-0" | 01

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Sigma Project #: 20038

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GARNER MAIN EMS

845 Thompson Road
Garner, NC 27529

Electrical-
Lighting Plan

DATE: 03.07.2022
PROJECT NO: 20004

REVISIONS

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SHEET NUMBER

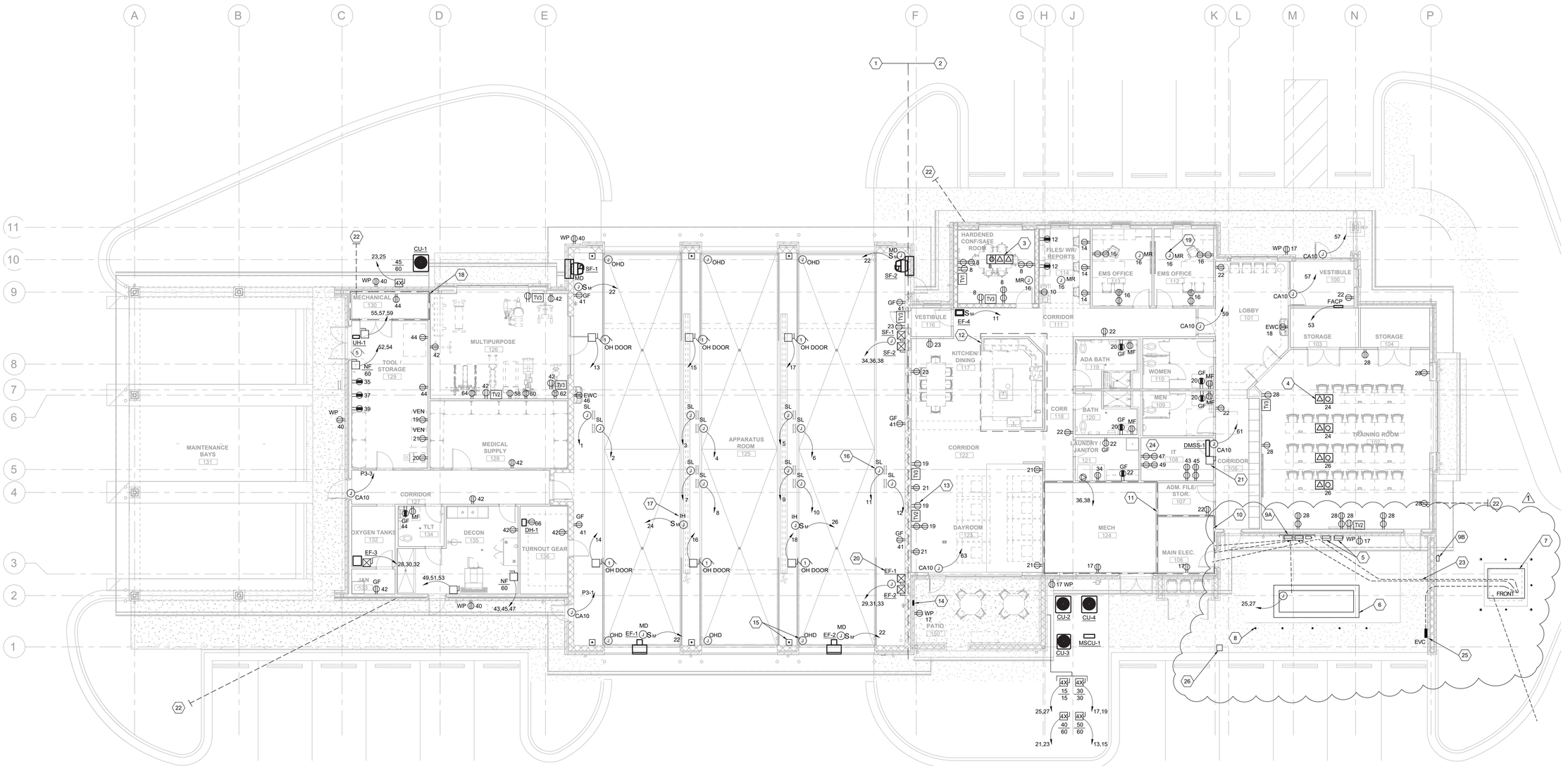
E200

GENERAL NOTES:

1. REFER TO SHEET E400 FOR RISERS AND PANEL SCHEDULES.
2. COORDINATE LOCATIONS OF ALL MONITORS AND FLOOR BOXES WITH DESIGNER PRIOR TO BEGINNING ROUGH-IN.

NOTES KEYED TO 1/E201:

1. CIRCUITING PLAN WEST OF THIS LINE SHALL BE TO PANEL "P2" UNLESS OTHERWISE NOTED.
2. CIRCUITING PLAN EAST OF THIS LINE SHALL BE TO PANEL "P1" UNLESS OTHERWISE NOTED.
3. PROVIDE TYPE 1 FLOOR BOX. REFERENCE SECTION 26 27 26 OF THE PROJECT MANUAL. TYPICAL OF ONE (1).
4. PROVIDE TYPE 2 FLOOR BOX. REFERENCE SECTION 26 27 26 OF THE PROJECT MANUAL. TYPICAL OF FOUR (4).
5. PROVIDE SCADA EQUIPMENT PER DETAILS SHEET E102 AND E103.
6. 180 KW/225 KVA DIESEL GENERATOR AND PAD PER 3/E102.
7. DUKE PROGRESS TRANSFORMER AND PAD. MAINTAIN 36" CLEAR BACK AND SIDES AND 120" FRONT. PROVIDE PAD AND BOLLARDS PER 5/E101.
8. PROVIDE GENERATOR BOLLARDS PER DETAIL 1/E102. REFER TO ARCH. DRAWINGS FOR EXACT PLACEMENT.
9A. UTILITY AND GENERATOR ENCLOSED CIRCUIT BREAKERS.
9B. PV DISCONNECT.
10. REFER TO 1/E300 FOR ENLARGED PLAN THIS AREA.
11. REFER TO 2/E300 FOR ENLARGED PLAN THIS AREA.
12. REFER TO 1/E301 FOR ENLARGED PLAN THIS AREA.
13. PROVIDE TV POWER/DATA CONNECTION CENTERED ON WALL PER SS400. TYPICAL TV1/TV2/TV3.
14. REMOTE GAS SHUT DOWN SWITCH FOR GAS GRILL. WIRE PER DETAIL E502.
15. DOOR OPERATOR AND RED/GREEN LIGHT COMPONENTS TO BE PROVIDED PER DETAILS E502.
16. PROVIDE 20 AND 30 AMPERE SHORE-LINE DROPS PER DETAIL E502. TYPICAL.
17. PROVIDE CONNECTION TO INFRARED HEATERS (HEATERS NOT SHOWN FOR SAKE OF CLARITY). TYPICAL OF TWO (2).
18. REFER TO 1/E301 FOR ENLARGED PLAN THIS AREA.
19. PROVIDE 120 VOLT CONNECTION FOR USE BY DIVISION 23. COORDINATE AS REQUIRED.
20. PROVIDE BRANCH CIRCUIT TO CODE-SIZED GUTTER TO BE INSTALLED OVER STARTERS FOR FANS. TYPICAL EXHAUST AND SUPPLY FANS. COORDINATE WITH DIVISION 23.
21. PROVIDE WIRING FROM EXTERIOR CONDENSING UNIT TO DMMS-1. DIVISION 23 AND DIVISION 26 SHALL CLOSELY COORDINATE NECESSARY WIRING METHODS BETWEEN THESE UNITS AT BOTH THE SHOP DRAWING STAGE AND PRIOR TO BEGINNING ANY ROUGH-IN.
22. PROVIDE 2-1" C TO OUTSIDE THE BUILDING AS SHOWN. ROUTE TO NEAREST ELECTRICAL ROOM AND CAP.
23. EXTEND 4"C FROM SECONDARY SIDE OF TRANSFORMER TO LOCATION ADJACENT TO ECB#1. STUB UP TO 12" AFF AND CAP. PROVIDE AN ADDITIONAL 4" FROM SAME LOCATION TO MAIN ELECTRICAL ROOM AND CAP.
24. RECEPTACLE RELATED TO TELECOM. INFRASTRUCTURE SHALL BE MOUNTED ON CABLE TRAY OVER RACKS. SECURITY RECEPTACLES SHALL BE MOUNTED INSIDE SECURITY CABINETS.
25. PROVIDE SERVICE ENTRANCE RATED PANEL FOR EVCS. PROVIDE AS ALTERNATE #1.
26. DUAL PORT EVCS. PROVIDE CHARGE-POINT MODEL **#CT4021-GW1** WITH 5 YEAR MAINTENANCE OPTION **CPCLD-Commercial-5**. CONFIRM MOUNTING LOCATION IN FIELD WITH DESIGNER. CONNECT TO PANEL EVC PER THAT SCHEDULE. PROVIDE AS ALTERNATE #1.



TRUE NORTH PLAN NORTH

POWER PLAN 1/8" = 1'-0" 01

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GARNER MAIN EMS

845 Thompson Road
Garner, NC 27529

Electrical-
Power Plan

DATE: 03.07.2022
PROJECT NO: 20004

REVISIONS

NO:	DATE:	DESCRIPTION:
1	5/2/22	ADDENDUM #1

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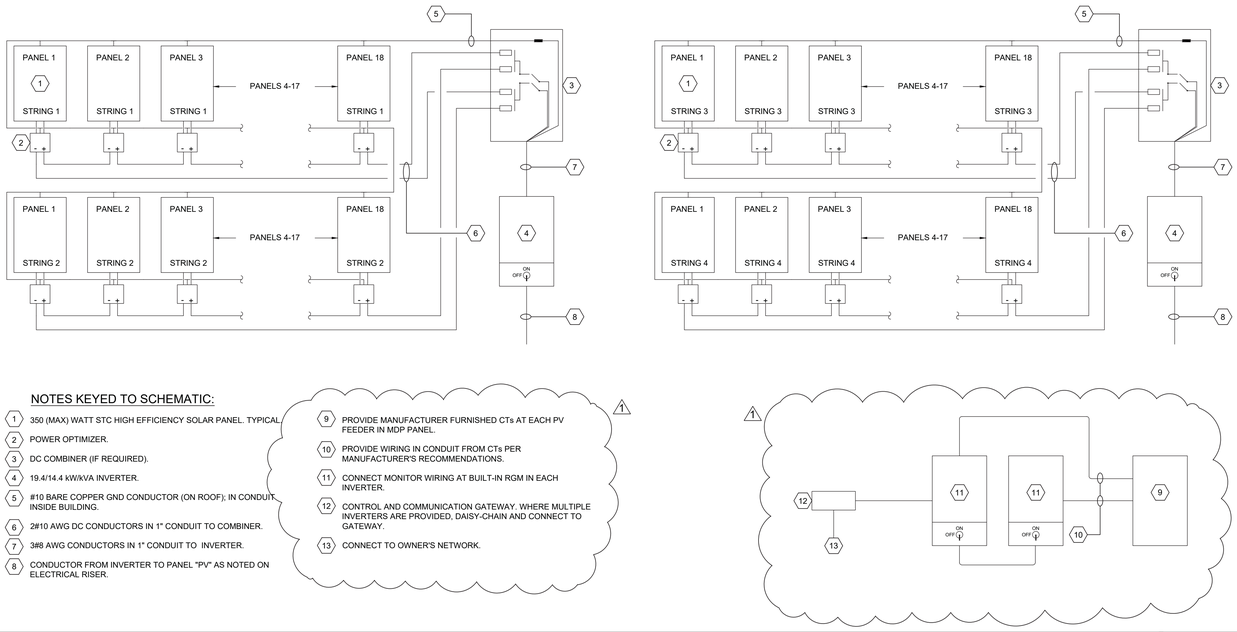
SHEET NUMBER

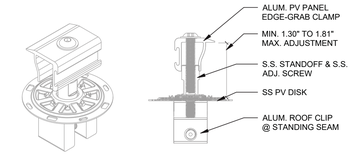
E201

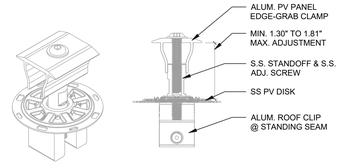


NOTES KEYED TO SCHEMATIC:

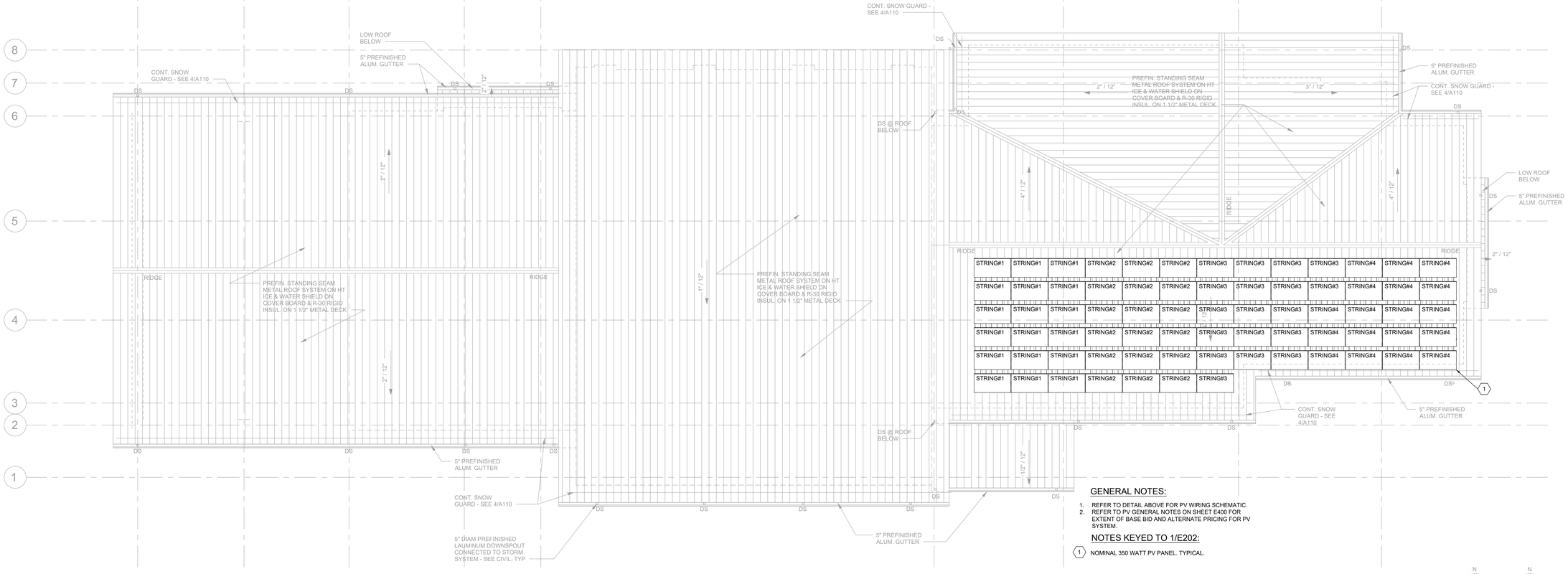
1. 350 (MAX) WATT STC HIGH EFFICIENCY SOLAR PANEL. TYPICAL.
2. POWER OPTIMIZER.
3. DC COMBINER (IF REQUIRED).
4. 19.4/14.4 kW/kVA INVERTER.
5. #10 BARE COPPER GND CONDUCTOR (ON ROOF); IN CONDUIT INSIDE BUILDING.
6. 2#10 AWG DC CONDUCTORS IN 1" CONDUIT TO COMBINER.
7. 3#8 AWG CONDUCTORS IN 1" CONDUIT TO INVERTER.
8. CONDUCTOR FROM INVERTER TO PANEL "PV" AS NOTED ON ELECTRICAL RISER.
9. PROVIDE MANUFACTURER FURNISHED CTs AT EACH PV FEEDER IN MDP PANEL.
10. PROVIDE WIRING IN CONDUIT FROM CTs PER MANUFACTURER'S RECOMMENDATIONS.
11. CONNECT MONITOR WIRING AT BUILT-IN RGM IN EACH INVERTER.
12. CONTROL AND COMMUNICATION GATEWAY. WHERE MULTIPLE INVERTERS ARE PROVIDED, DAISY-CHAIN AND CONNECT TO GATEWAY.
13. CONNECT TO OWNER'S NETWORK.

PV WIRING SCHEMATICS | NO SCALE | 03





PANEL HOLD-DOWN CLIPS | NO SCALE | 02



GENERAL NOTES:

1. REFER TO DETAIL ABOVE FOR PV WIRING SCHEMATIC.
2. REFER TO PV GENERAL NOTES ON SHEET E400 FOR EXTENT OF BASE BID AND ALTERNATE PRICING FOR PV SYSTEM.

NOTES KEYED TO 1/E202:

1. NOMINAL 350 WATT PV PANEL. TYPICAL.

ROOF PLAN | 1/8" = 1'-0" | 01

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WAKE COUNTY NORTH CAROLINA

PUBLIC SAFETY WAKE COUNTY EMS EST. 1976

GARNER MAIN EMS

845 Thompson Road
Garner, NC 27529

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Electrical-
Roof Plan

DATE: 03.07.2022
PROJECT NO: 20004

REVISIONS

NO:	DATE:	DESCRIPTION:
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SHEET NUMBER

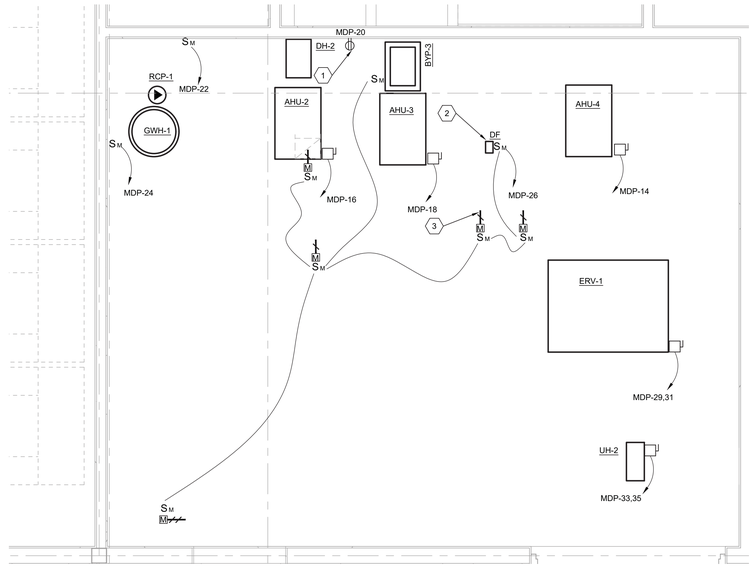
E202

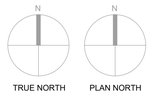
GENERAL NOTES:

1. REFER TO SHEET E400 FOR RISERS AND PANEL SCHEDULES.

NOTES KEYED TO 2/E300:

1. RECEPTACLE FOR DE-HUMIDIFIERS. COORDINATE LOCATIONS, AND CONNECTION TYPE WITH DIVISION 23 PRIOR TO BEGINNING ROUGH-IN.
2. PROVIDE CONNECTION TO DRYER BOOSTER FAN.
3. PROVIDE 120V CONNECTION TO MOTORIZED DAMPERS AS SHOWN. TYPICAL OF FIVE(5).





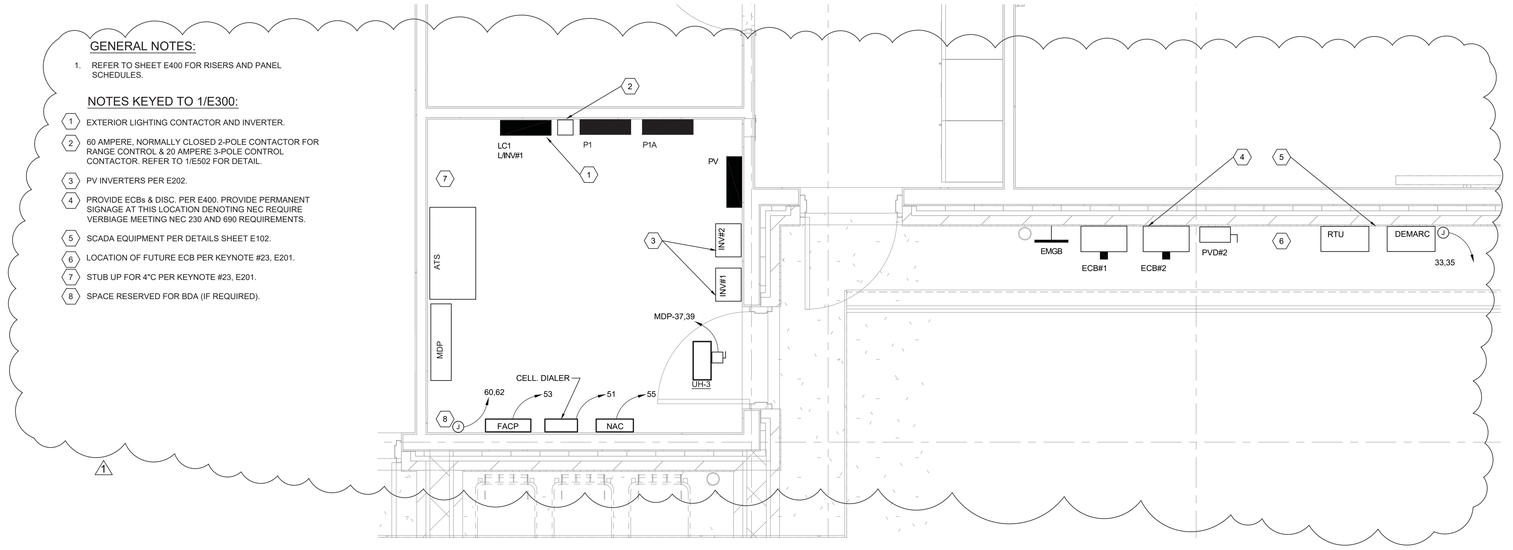
ENLARGED POWER PLAN 1/2" = 1'-0" 02

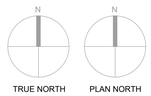
GENERAL NOTES:

1. REFER TO SHEET E400 FOR RISERS AND PANEL SCHEDULES.

NOTES KEYED TO 1/E300:

1. EXTERIOR LIGHTING CONTACTOR AND INVERTER.
2. 60 AMPERE, NORMALLY CLOSED 2-POLE CONTACTOR FOR RANGE CONTROL & 20 AMPERE 3-POLE CONTROL CONTACTOR. REFER TO 1/E502 FOR DETAIL.
3. PV INVERTERS PER E202.
4. PROVIDE ECBs & DISC. PER E400. PROVIDE PERMANENT SIGNAGE AT THIS LOCATION DENOTING NEC REQUIRE VERBIAGE MEETING NEC 230 AND 690 REQUIREMENTS.
5. SCADA EQUIPMENT PER DETAILS SHEET E102.
6. LOCATION OF FUTURE ECB PER KEYNOTE #23, E201.
7. STUB UP FOR 4"C PER KEYNOTE #23, E201.
8. SPACE RESERVED FOR BDA (IF REQUIRED).





ENLARGED POWER PLAN 1/2" = 1'-0" 01

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Sigma Project #: 20038

GARNER MAIN EMS

845 Thompson Road
Garner, NC 27529

Digitally signed by Reginald Adams
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Date: 2022.05.01 16:22:48 -04'00'

Electrical-
Enlarged Plans

DATE: 03.07.2022
PROJECT NO: 20004

REVISIONS

NO:	DATE:	DESCRIPTION:
1	5/2/22	ADDENDUM #1

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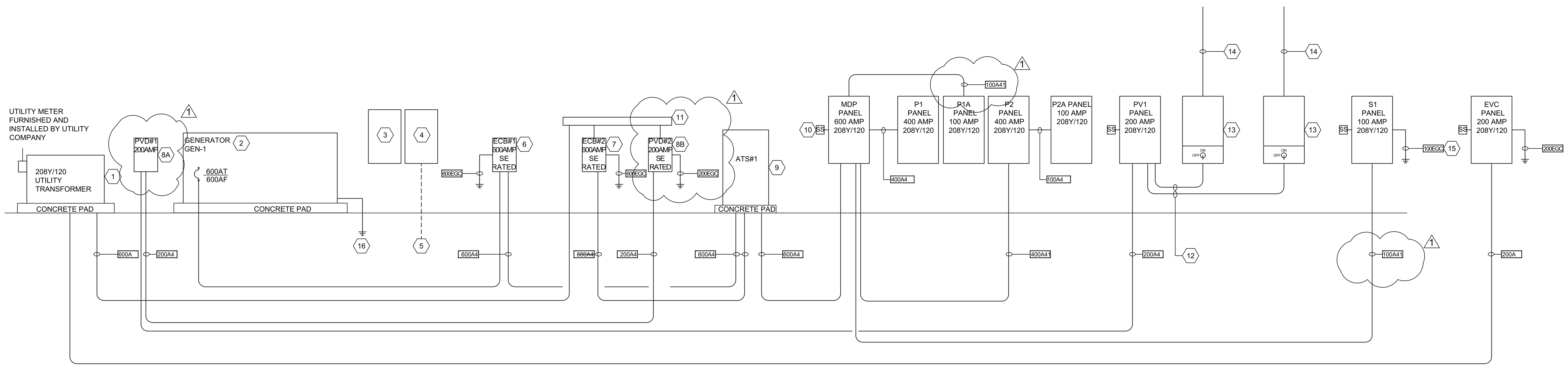
SHEET NUMBER

E300



GENERAL NOTES:

1. ALL EXTERIOR FEEDERS SHALL BE CONCRETE ENCASED PER DETAIL 3/E101.
2. PROVIDE SERVICE ENTRANCE GROUNDING PER DETAIL SHEET E503.
3. THE CONTRACTOR SHALL PROVIDE INSTALLED FEEDER LENGTHS TO THE DESIGNER FOR ARC-FAULT CALCULATION PURPOSES.
4. PROVIDE LABELING OF ALL PV RELATED CONDUIT SYSTEMS AS REQUIRED BY NEC 690.

PV SYSTEM NOTES:

1. PV SYSTEM SHALL BE PROVIDED AS ADD ALTERNATE #2. ADD ALTERNATE PRICING SHALL INCLUDE ROOF MOUNTED PANELS, INVERTERS, COMBINER BOXES, EXTERIOR DISCONNECTS, PANEL PV1 AND ALL OTHER MINOR EQUIPMENT RELATED TO THE PV SYSTEM. PROVIDE PRICING ON BID FORM AS INDICATED.
2. AS PART OF BASE BID, PROVIDE ALL CONDUIT FOR THE ADDITION OF A FUTURE PV SYSTEM AT A LATER DATE. THIS SHALL INCLUDE 4-1"C TO THE ROOF TO THE MAIN ELECTRICAL ROOM AS WELL AS ANY UNDERGROUND CONDUITS FROM THE PV DISCONNECT ON THE EXTERIOR OF THE BUILDING TO THE PROPOSED LOCATION OF PANELS PV1 AND MDP.

NOTES KEYED TO 1/E400:

1. DUKE PROGRESS TRANSFORMER AND PAD.
2. DIESEL GENERATOR AND PAD.
3. PROVIDE SCADA DEMARC PER DETAILS SHEET E102 AND E103.
4. PROVIDE SCADA RTU PER DETAILS SHEET E102 AND E103.
5. INPUT/OUTPUT WIRING FROM SCADA TO GENERATOR, ATS AND POWER PANELS.
6. SERVICE ENTRANCE RATED BREAKER-GENERATOR OUTPUT.
7. ~~SERVICE ENTRANCE RATED BREAKER-UTILITY.~~
8A. PV SYSTEM LOAD BREAK FUSIBLE DISCONNECT CAPABLE OF BEING LOCKED IN THE OPEN POSITION. (DUKE POWER REQUIRED DISCONNECT).
8B. PV SYSTEM LOAD BREAK FUSIBLE DISCONNECT CAPABLE OF BEING LOCKED IN THE OPEN POSITION. (NEC REQUIRED DISCONNECT).
9. 600 AMPERE 3-POLE, SOLID NEUTRAL 208Y/120 VOLT AUTOMATIC TRANSFER SWITCH.
10. PROVIDE SURGE SUPPRESSION ON PANELS INDICATED. TYPICAL.
11. CODE SIZED NEMA 4X GUTTER. TAP SERVICE LATERAL WITH PV WIRING PER NEC 705.
12. PROVIDE WIRING FROM INVERTERS TO PANEL PER PANEL SCHEDULE.
13. 14.4 kVA 3-PHASE INVERTER. TYPICAL OF TWO (2).
14. PROVIDE CONDUIT AND WIRE FROM ROOF MOUNTED PANELS PER SHEET E202. TYPICAL.
15. DO NOT BOND NEUTRAL AND GND CONNECTION AT PANEL.
16. #2/0 AWG TO GND LOOP AROUND GENERATOR PAD.

SERVICE FEEDERS	
AMPERE SIZE	WIRE SIZE
200A	4#3/0 2"C
225A	4#4/0 2 1/2"C
250A	4-250 MCM 2 1/2"C
300A	4-350 MCM GND 3"C
400A	4-500 MCM 3 1/2"C
500A	2 SETS 4-250 MCM 2 1/2"C
600A	2 SETS 4-350 MCM 3"C
800A	2 SETS 4-500 MCM 3 1/2"C

SERVICE EGC	
SERVICE SIZE	WIRE SIZE
60EGC	#8, 1"C
100EGC	#6, 1"C
200EGC	#4, 1.25"C
225EGC	#2, 1.25"C
600EGC	#1/0, 1.5"C
600EGC	#1/0, 1.5"C
600EGC	#1/0, 1.5"C

4-WIRE FEEDERS	
AMPERE SIZE	WIRE SIZE
60A4	4#6, #10 GND 1"C
100A41	4#3, #8 GND 1 1/4"C
100A42	3#3, #2/0N, #8 GND, #8 IG 1 1/4"C
125A4	4#2, #6 GND 1 1/4"C
150A4	4#1/0, #6 GND 1 1/2"C
175A4	4#2/0, #6 GND 2"C
200A4	4#3/0, #6 GND 2"C
225A41	4#4/0, #4 GND 2 1/2"C
225A42	4#4/0, #2 GND 2 1/2"C
225A43	3#4/0, 2#4/0N,#2 GND, #2 IG 2 1/2"C
225A44	3#4/0, 2#4/0N,#4 GND, #4 IG 2 1/2"C
250A45	4-250 MCM, #4 GND 2 1/2"C
300A4	4-350 MCM, #3 GND 3"C
400A41	4-500 MCM, #2 GND 3 1/2"C
400A42	4-500 MCM, #1/0 GND 3 1/2"C
400A43	3-500 MCM, 2# 500 MCM N, #1/0 GND 4"C

ELECTRICAL RISER NO SCALE 02

PANEL "MDP"

PANEL TYPE: ILINE — BUS SIZE: 600A — VOLTAGE: 208Y/120V
MCB or MLO: MLO — MOUNTING: SURFACE — MINIMUM AIC: 42,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	PANEL "P1"	400	3	REFER TO RISER FOR WIRE & CONDUIT SIZES			22.38	50.60			28.22	REFER TO RISER FOR WIRE & CONDUIT SIZES			3	400	PANEL "P2"	2
3							29.10		54.53		25.43							4
5							24.58			52.96	28.38							6
7	SPARE	200	3					1.44			1.44	REFER TO RISER FOR WIRE & CONDUIT SIZES			3	60	PANEL "S1"	8
9									1.94		1.94							10
11										0.94	0.94							12
13	CU-4	50	2	#8	#10	1"	3.84	5.51			1.67	3/4"	#12	#12	1	15	AHU-4	14
15				#8			3.84		4.79		0.95	3/4"	#12	#12	1	15	AHU-2	16
17	CU-2	30	2	#12	#12	1"	2.16			3.85	1.69	3/4"	#12	#12	1	15	AHU-3	18
19				#12			2.16	3.55			1.39	3/4"	#12	#12	1	20G	DH-2/3	20
21	CU-3	40	2	#10	#10	1"	2.88		3.38		0.50	3/4"	#12	#12	1	15	RCP-1	22
23				#10			2.88			3.38	0.50	3/4"	#12	#12	1	20	GWH	24
25	DMMS	15	2	#12	#12	1"	0.72	1.22			0.50	3/4"	#12	#12	1	20	DAMPERS/DF	26
27				#12			0.72		0.72								SPACE	28
29	ERV	15	2	#12	#12	3/4"	1.08			1.08							SPACE	30
31				#12			1.08	1.08			0.00	REFER TO RISER FOR WIRE & CONDUIT SIZES			3	100	PANEL "P1A"	32
33	~~UH-2~~	20	2	#12	#12	3/4"	1.65		1.65		0.00							34
35				#12			1.65			1.65	0.00							36
37	UH-3	15	2	#12	#12	3/4"	1.00	1.00				REFER TO RISER FOR WIRE & CONDUIT SIZES			3	60	SDP	38
39				#12			1.00		1.00									40
41	SPARE	20	1							0.00								42

[redacted]

TOTALS: 64.40 | 68.01 | 63.86

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING	10.25	125%	12.81
FIRST 10K RECEPTS	21.30	100%	10.00
REMAINDER RECEPT	11.30	50%	5.65
LARGEST MOTOR	7.68	125%	9.60
MOTOR	41.62	100%	41.62
MISC	112.54	100%	112.54
TOTAL (KVA)	193.39		192.22
TOTAL AMPS			534

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
*-PHASE/NEUTRAL

PANEL "PV"

PANEL TYPE: NQOD — BUS SIZE: 200A — VOLTAGE: 208Y/120V
MCB or MLO: MLO — MOUNTING: SURFACE — MINIMUM AIC: 22,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	LINE SIDE UTILITY CONNECTION	200	3	REFER TO RISER FOR WIRE & CONDUIT SIZES				4.80			4.80	1"	#10	#8	3	50	INVERTER #1	2
3									4.80		4.80			#8				4
5										4.80	4.80			#8				6
7	SPACE							4.80			4.80	1"	#10	#8	3	50	INVERTER #2	8
9	SPACE								4.80		4.80			#8				10
11	SPACE									4.80	4.80			#8				12
13	SPACE							0.00							3	50	FUTURE	14
15	SPACE								0.00									16
17	SPACE									0.00								18
19	SPACE							0.00							3	50	FUTURE	20
21	SPACE								0.00									22
23	SPACE									0.00								24
25	SDP	60	3	REFER TO RISER FOR WIRE & CONDUIT SIZES				0.00							3	50	FUTURE	26
27									0.00									28
29										0.00								30

[redacted]

TOTALS: 9.60 | 9.60 | 9.60

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING		125%	0.00
FIRST 10K RECEPTS		100%	0.00
REMAINDER RECEPT		50%	0.00
LARGEST MOTOR		125%	0.00
MOTOR		100%	0.00
MISC	28.80	100%	28.80
TOTAL (KVA)			28.80
TOTAL AMPS			80

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
*-PHASE/NEUTRAL

PANEL "S1"

PANEL TYPE: NQOD — BUS SIZE: 100A — VOLTAGE: 208Y/120V
MCB or MLO: 60A MCB-SE RATED — MOUNTING: SURFACE-NEMA 4XSS — MINIMUM AIC: 10,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	LIFT STATION CONTROLLER	15L	3	#12	#12	1"	0.94	1.44			0.50	3/4"	#12	#12	1	20	RECEP.	2
3				#12			0.94		1.94		1.00	3/4"	#12	#12	1	20	DIALER	4
5				#12			0.94			0.94							SPACE	6
7	SPACE							0.00									SPACE	8
9	SPACE								0.00								SPACE	10
11	SPACE									0.00							SPACE	12
13	SPACE							0.00				REFER TO RISER FOR WIRE & CONDUIT SIZES			3	60	SDP	14
15	SPACE								0.00									16
17	SPACE									0.00								18

[redacted]

TOTALS: 1.44 | 1.94 | 0.94

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING		125%	0.00
FIRST 10K RECEPTS		100%	0.00
REMAINDER RECEPT		50%	0.00
LARGEST MOTOR	2.82	125%	3.52
MOTOR		100%	0.00
MISC	1.50	100%	1.50
TOTAL (KVA)			5.02
TOTAL AMPS			14

NOTES
L-PROVIDE WITH LOCKABLE LOCK-OUT DEVICE
G-GFC PROTECTED
S- SHUNT TRIP
*-PHASE/NEUTRAL

PANEL "EVC"

PANEL TYPE: NQOD — BUS SIZE: 200A — VOLTAGE: 208Y/120V
MCB or MLO: 200A-MCB SE RATED — MOUNTING: SURFACE NEMA 4X SS — MINIMUM AIC: 22,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	EVCS	40	2	2#6, #10G		1"	3.84	3.84									SPACE	2
3							3.84		3.84								SPACE	4
5	EVCS	40	2	2#6, #10G		1"	3.84			3.84							SPACE	6
7							3.84	3.84									SPACE	8
9	SPACE								0.00								SPACE	10
11	SPACE									0.00							SPACE	12
13	SPACE							0.00				REFER TO RISER FOR WIRE & CONDUIT SIZES			3	60	SDP	14
15	SPACE								0.00									16
17	SPACE									0.00								18
19	SPACE							0.00									SPACE	20
21	SPACE								0.00								SPACE	22
23	SPACE									0.00							SPACE	24
25	SPACE							0.00									SPACE	26
27	SPACE								0.00								SPACE	28
29	SPACE									0.00							SPACE	30

[redacted]

TOTALS: 7.68 | 3.84 | 3.84

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING		125%	0.00
FIRST 10K RECEPTS		100%	0.00
REMAINDER RECEPT		50%	0.00
LARGEST MOTOR		125%	0.00
MOTOR		100%	0.00
MISC (EVCS)	15.36	125%	19.20
TOTAL (KVA)	15.36		19.20
TOTAL AMPS	43		53

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
*-PHASE/NEUTRAL

PANEL "P1"

PANEL TYPE: NQOD — BUS SIZE: 400A — VOLTAGE: 208Y/120V
MCB or MLO: MLO — MOUNTING: SURFACE — MINIMUM AIC: 22,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	LIGHTING	20	1	#12	#12	3/4"	1.30	2.30			1.00	3/4"	#10	#10	1	20	EXTERIOR LTG	2
3	LIGHTING	20	1	#12	#12	3/4"	1.20		2.20		1.00	1"	#10	#10	1	20	SIGN	4
5	LIGHTING	20	1	#12	#12	3/4"	1.00			1.25	0.25	1"	#10	#10	1	20	FLAG POLE	6
7	SPARE	20	1					1.44			1.44	3/4"	#12	#12	1	20	RECEPTACLES	8
9	LIGHTING	20	1	#10	#10	3/4"	1.50		2.50		1.00	3/4"	#12	#12	1	20	COPIER	10
11	EF-4	15	1	#12	#12	3/4"	0.50			1.50	1.00	3/4"	#12	#12	1	20	RECEPTACLES	12
13	LIGHTING	20	1	#12	#12	3/4"	1.50	2.50			1.00	3/4"	#12	#12	1	20	RECEPTACLES	14
15	LIGHTING	20	1	#12	#12	3/4"	1.50		2.94		1.44	3/4"	#12	#12	1	20	RECEPTACLES	16
17	RECEPTACLES	20G	1	#12	#12	3/4"	0.72			1.72	1.00	3/4"	#12	#12	1	20	EWC	18
19	RECEPTACLES	20	1	#12	#12	3/4"	0.72	1.72			1.00	3/4"	#12	#12	1	20	RECEPTACLES	20
21	RECEPTACLES	20	1	#12	#12	3/4"	0.72		1.98		1.26	3/4"	#12	#12	1	20	RECEPTACLES	22
23	RECEPTACLES	20	1	#12	#12	3/4"	0.72			1.98	1.26	3/4"	#12	#12	1	20	RECEPTACLES	24
25	GENERATOR	30L	2	#10	#10	1"	2.00	3.44			1.44	3/4"	#12	#12	1	20	RECEPTACLES	26
27				#10			2.00		3.98		1.98	3/4"	#12	#12	1	20	RECEPTACLES	28
29	RCP-1	20	1	#12	#12	3/4"	0.25			1.25	1.00	3/4"	#12	#12	1	20G	MICROWAVE	30
31	GWH	20	1	#12	#12	3/4"	0.50	1.00			0.50	3/4"	#12	#12	1	20G	RANGE/GAS CONT.	32
33	SCADA	20L	1	#12	#12	3/4"	1.00		2.50		1.50	3/4"	#12	#12	1	20	WASHER	34
35	SCADA	20L	1	#12	#12	3/4"	1.00			3.88	2.88	3/4"	#10	#10	2	30	DRYER	36
37	PV PANEL CONTACTOR	20L	1	#12	#12	3/4"	0.10	2.98			2.88			#10				38
39	HOT BOX	20L	1	#8	#10	1"	1.50		1.50						1	20	SPARE	40
41	HOT BOX	20L	1	#8	#10	1"	1.50			2.50	1.00	3/4"	#12	#12	1	20G	KITCHEN RECEP	42
43	SECURITY DROP	20L	1	#12	#12	3/4"	1.00	2.00			1.00	3/4"	#12	#12	1	20G	KITCHEN RECEP	44
45	SECURITY DROP	20L	1	#12	#12	3/4"	1.00		2.00		1.00	3/4"	#12	#12	1	20G	KITCHEN RECEP	46
47	T/C ROOM	20L	1	#12	#12	3/4"	1.00			2.00	1.00	3/4"	#12	#12	1	20G	REFIGERATOR	48
49	T/C ROOM	20L	1	#12	#12	3/4"	1.00	2.00			1.00	3/4"	#12	#12	1	20G	REFIGERATOR	50
51	CELL DIALER	20L	1	#12	#12	3/4"	1.00		2.00		1.00	3/4"	#12	#12	1	20G	GARBAGE DISP.	52
53	FACP	20L	1	#12	#12	3/4"	1.00			2.00	1.00	3/4"	#12	#12	1	15G	DISHWASHER	54
55	FANAC PANEL	20L	1	#12	#12	3/4"	1.00	2.00			1.00	3/4"	#12	#12	1	20G	COFFEE MACHINE	56
57	CARD READER	20L	1	#12	#12	3/4"	1.00		2.00		1.00	3/4"	#12	#12	1	20G	MICROWAVE	58
59	CARD READER	20L	1	#12	#12	3/4"	1.00			1.00					1	20	RESERVED FOR BDA	60
61	CARD READER	20L	1	#12	#12	3/4"	1.00	1.00							1	20	RESERVED FOR BDA	62
63	CARD READER	20L	1	#12	#12	3/4"	1.00		5.50		4.50	1"	#10	#8	2	40G	RANGE	64
65	CHIME CIRCUIT	20	1	#12	#12	3/4"	1.00			5.50	4.50			#8				66

TOTALS: 22.38 | 29.10 | 24.58

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING	10.25	125%	12.81
FIRST 10K RECEPTS	14.70	100%	10.00
REMAINDER RECEPT	4.70	50%	2.35
LARGEST MOTOR		125%	0.00
MOTOR		100%	0.00
MISC	50.61	100%	50.61
TOTAL (KVA)	80.26		75.77
TOTAL AMPS			210

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
*-PHASE/NEUTRAL

PANEL "P2"

PANEL TYPE: NQOD — BUS SIZE: 400A — VOLTAGE: 208Y/120V
MCB or MLO: MCB — MOUNTING: SURFACE — MINIMUM AIC: 10,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	CORD DROP	30	1	#10	#10	3/4"	1.50	2.50			1.00	3/4"	#12	#12	1	20	CORD DROP	2
3	CORD DROP	30	1	#10	#10	3/4"	1.50		2.50		1.00	3/4"	#12	#12	1	20	CORD DROP	4
5	CORD DROP	30	1	#10	#10	3/4"	1.50			2.50	1.00	3/4"	#12	#12	1	20	CORD DROP	6
7	CORD DROP	30	1	#10	#10	3/4"	1.50	2.50			1.00	3/4"	#12	#12	1	20	CORD DROP	8
9	CORD DROP	30	1	#10	#10	3/4"	1.50		2.50		1.00	3/4"	#12	#12	1	20	CORD DROP	10
11	CORD DROP	30	1	#10	#10	3/4"	1.50			2.50	1.00	3/4"	#12	#12	1	20	CORD DROP	12
13	OVERHEAD DOOR	20	1	#10	#10	3/4"	1.00	2.00			1.00	3/4"	#10	#10	1	20	OVERHEAD DOOR	14
15	OVERHEAD DOOR	20	1	#10	#10	3/4"	1.00		2.00		1.00	3/4"	#10	#10	1	20	OVERHEAD DOOR	16
17	OVERHEAD DOOR	20	1	#10	#10	3/4"	1.00			2.00	1.00	3/4"	#10	#10	1	20	OVERHEAD DOOR	18
19	VENDING	20G	1	#10	#10	3/4"	1.00	2.00			1.00	3/4"	#10	#10	1	20G	ICE MACHINE	20
21	VENDING	20G	1	#10	#10	3/4"	1.00		2.00		1.00	3/4"	#10	#10	1	20	MOTORIZED DAMP.	22
23	CU-1	45	2	#10	#10	3/4"	3.48			4.48	1.00	3/4"	#12	#12	1	20	IH-1	24
25				#10			3.48	4.48			1.00	3/4"	#12	#12	1	20	IH-2	26
27	AHU-1	15	1	#12	#12	3/4"	1.69		1.99		0.30			#12				28
29				#12			0.60			0.90	0.30	3/4"	#12	#12	3	15	EF-3	30
31	EF-1/EF-2	20	3	#12	#12	3/4"	0.60	0.90			0.30			#12				32
33				#12			0.60		1.20		0.60			#12				34
35	RECEPTACLES	20	1	#12	#12	3/4"	1.00			1.60	0.60	3/4"	#12	#12	3	20	SF-1/SF-2	36
37	RECEPTACLES	20	1	#12	#12	3/4"	1.00	1.60			0.60			#12				38
39	RECEPTACLES	20	1	#12	#12	3/4"	1.00		1.72		0.72	3/4"	#12	#12	1	20G	EXTERIOR RECEPT.	40
41	RECEPTACLES	20G	1	#12	#12	3/4"	0.90			2.16	1.26	3/4"	#12	#12	1	20	RECEPTACLES	42
43				#8			3.36	4.08			0.72	3/4"	#12	#12	1	20	RECEPTACLES	44
45	DRYING CABINET	35	3	#8	#10	3/4"	3.36		4.36		1.00	3/4"	#12	#12	1	20G	EWC	46
47				#8			3.36			5.36	2.00	3/4"	#12	#12	2	20	FP AIR COMPRESSOR	48
49				#12			1.00	3.00			2.00			#12				50
51	EXTRACTOR	15	3	#12	#12	3/4"	1.00		3.16		2.16			#12				52
53				#12			1.00			3.16	2.16	3/4"	#12	#12	3	35	AIR COMPRESSOR	54
55				#12			2.00	4.16			2.16			#12				56
57	UH #1	15	3	#12	#12	3/4"	2.00		3.00		1.00	3/4"	#12	#12	1	20	EXERCISE EQUIP.	58
59				#12			2.00			3.00	1.00	3/4"	#12	#12	1	20	EXERCISE EQUIP.	60
61	PANEL "P2A"	100	3	REFER TO RISER FOR WIRE & CONDUIT SIZES			0.00	1.00			1.00	3/4"	#12	#12	1	20	EXERCISE EQUIP.	62
63							0.00		1.00		1.00	3/4"	#12	#12	1	20	EXERCISE EQUIP.	64
65							0.00			0.72	0.72	3/4"	#12	#12	1	20	DH-1	66

TOTALS: 28.22 | 25.43 | 28.38

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING		125%	0.00
FIRST 10K RECEPTS	6.60	100%	6.60
REMAINDER RECEPT		50%	0.00
LARGEST MOTOR	6.48	125%	8.10
MOTOR	17.15	100%	17.15
MISC	52.24	100%	52.24
TOTAL (KVA)	82.47		84.09
TOTAL AMPS	229		233

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
*-PHASE/NEUTRAL

PANEL "P3"

PANEL TYPE: NQOD — BUS SIZE: 200A — VOLTAGE: 208Y/120V
MCB or MLO: MLO — MOUNTING: SURFACE — MINIMUM AIC: 10,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	SPARE	20	1					0.00									SPACE	2
3	SPARE	20	1						0.00								SPACE	4
5	SPARE	20	1							0.00							SPACE	6
7	SPARE	20	1					0.00									SPACE	8
9	SPARE	20	1						0.00								SPACE	10
11	SPARE	20	1							0.00							SPACE	12
13	SPARE	20	1					0.00									SPACE	14
15	SPARE	20	1						0.00								SPACE	16
17	SPARE	20	1							0.00							SPACE	18
19	SPARE	20	1					0.00									SPACE	20
21	SPARE	20	1						0.00								SPACE	22
23	SPARE	20	1							0.00							SPACE	24
25	SPARE	20	1					0.00									SPACE	26
27	SPARE	20	1						0.00								SPACE	28
29	SPARE	20	1							0.00							SPACE	30
31	SPARE	20	1					0.00									SPACE	32
33	SPARE	20	1						0.00								SPACE	34
35	SPARE	20	1							0.00							SPACE	36
37	SPARE	20	1					0.00									SPACE	38
39	SPARE	20	1						0.00								SPACE	40
41	SPARE	20	1							0.00							SPACE	42

[redacted]

TOTALS: 0.00 | 0.00 | 0.00

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING		125%	0.00
FIRST 10K RECEPTS		100%	0.00
REMAINDER RECEPT		50%	0.00
LARGEST MOTOR		125%	0.00
MOTOR		100%	0.00
MISC		80%	0.00
TOTAL (KVA)			0.00
TOTAL AMPS			0

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
*-PHASE/NEUTRAL

PANEL "P1A"

PANEL TYPE: NQOD — BUS SIZE: 100A — VOLTAGE: 208Y/120V
MCB or MLO: MLO — MOUNTING: SURFACE — MINIMUM AIC: 10,000

CKT	LOAD SERVED	TRIP	POLE	WIRE*	GND	COND	kVA	kVA PER PHASE A	B	C	kVA	COND	GND	WIRE*	POLE	TRIP	LOAD SERVED	CKT
1	SPARE	20	1					0.00									SPACE	2
3	SPARE	20	1						0.00								SPACE	4
5	SPARE	20	1							0.00							SPACE	6
7	SPARE	20	1					0.00									SPACE	8
9	SPARE	20	1						0.00								SPACE	10
11	SPARE	20	1							0.00							SPACE	12
13	SPARE	20	1					0.00									SPACE	14
15	SPARE	20	1						0.00								SPACE	16
17	SPARE	20	1							0.00							SPACE	18
19	SPARE	20	1					0.00									SPACE	20
21	SPARE	20	1						0.00								SPACE	22
23	SPARE	20	1							0.00							SPACE	24
25	SPARE	20	1					0.00									SPACE	26
27	SPARE	20	1						0.00								SPACE	28
29	SPARE	20	1							0.00							SPACE	30
31	SPARE	20	1					0.00									SPACE	32
33	SPARE	20	1						0.00								SPACE	34
35	SPARE	20	1							0.00							SPACE	36
37	SPARE	20	1					0.00									SPACE	38
39	SPARE	20	1						0.00								SPACE	40
41	SPARE	20	1							0.00							SPACE	42

[redacted]

TOTALS: 0.00 | 0.00 | 0.00

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING		125%	0.00
FIRST 10K RECEPTS		100%	0.00
REMAINDER RECEPT		50%	0.00
LARGEST MOTOR		125%	0.00
MOTOR		100%	0.00
MISC		80%	0.00
TOTAL (KVA)			0.00
TOTAL AMPS			0

NOTES
L-PROVIDE WITH LOCK OUT CLIP
G-GFC PROTECTED
S- SHUNT TRIP
*-PHASE/NEUTRAL

PANEL SCHEDULES NO SCALE 01

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WAKE COUNTY NORTH CAROLINA

PUBLIC SAFETY WAKE COUNTY EMS EST. 1976

GARNER MAIN EMS

845 Thompson Road
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NORTH CAROLINA PROFESSIONAL SEAL 19668 ENGINEER REGINALD D. ADAMS
Digitally signed by Reginald Adams
DN: cn=Reginald Adams, o, ou, email=radams@sigmaes.com, c=US
Date: 2022.05.01 16:23:09 -04'00'

Electrical-
Riser &
Panel Schedules

DATE: 03.07.2022
PROJECT NO: 20004

REVISIONS

NO:	DATE:	DESCRIPTION:
1	5/2/22	ADDENDUM #1

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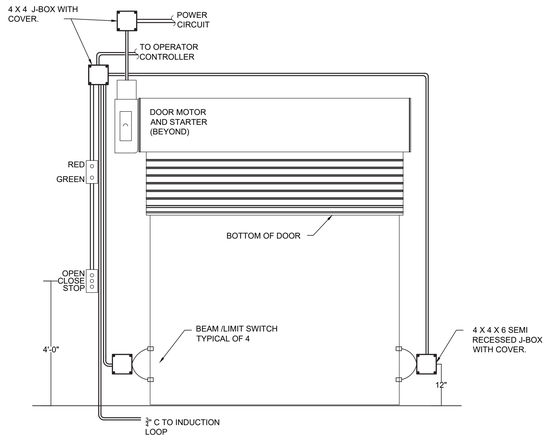
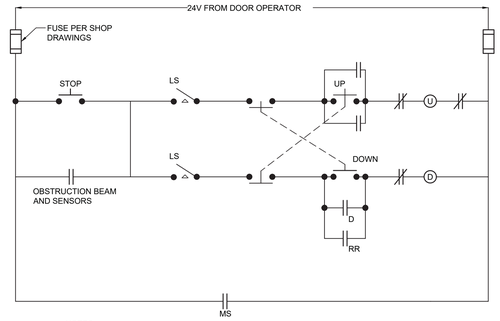
SHEET NUMBER
E400

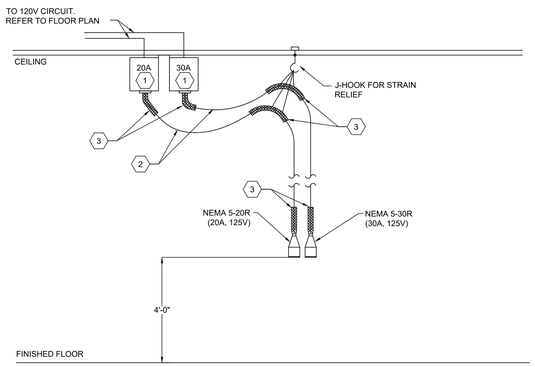




NOTES:

1. OVERHEAD DOORS ARE TO OPERATE FROM LOCAL WALL MOUNTED SWITCHES AND ALSO FROM MOBILE UNITS IN THE TRUCKS.
2. SEE POWER PLANS FOR EXACT QUANTITY OF MOTORS.
3. ONE SYSTEM EACH DOOR.

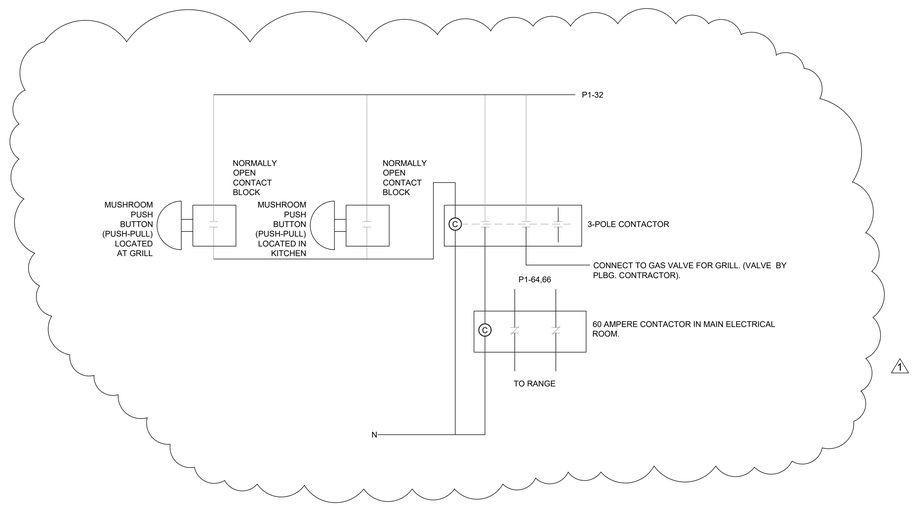
DOOR OPERATOR | NO SCALE | 03



NOTES KEYED TO DETAIL:

1. JUNCTION BOX AT THE CEILING.
2. PROVIDE SO CORD SIZED AS FOLLOWS AND TO A DISTANCE OF 4'-0" ABOVE FINISHED FLOOR WITH A FEMALE PLUG ATTACHMENT AT LOWER END.
   3-#12 SO CORD FOR 20A DROP.
   3-#10 SO CORD FOR 30A DROP.
3. PROVIDE STRAIN RELIEF CORD GRIPS AT EACH OUTLET AND AT CEILING MOUNTED J-HOOK.

SHORELINE DETAIL | NO SCALE | 02



ELECTRIC RANGE AND GAS GRILL SHUT OFF DETAIL | NO SCALE | 01

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Sigma Project #: 20038

GARNER MAIN EMS

845 Thompson Road
Garner, NC 27529

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 039911 Digitally signed by Reginald Adams DN: cn=Reginald Adams, o=Sigma Engineered Solutions, ou=Mechanical, email=radams@sigmaes.com, c=US Date: 2022.05.01 16:23:32 -04'00'

Electrical-
Details

DATE: 03.07.2022
PROJECT NO: 20004

REVISIONS

NO:	DATE:	DESCRIPTION:
1	5/2/22	ADDENDUM #1

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SHEET NUMBER

E502

GENERAL NOTES:

1. GC/DIV. 26 SHALL PROVIDE THE FOLLOWING:
   - ALL POWER WIRING (CONDUIT AND WIRE) FLOOR BOXES
   - ELECTRICAL BOXES FOR SECURITY, A.V. & TELECOM.
   - CONDUIT FOR SECURITY, A.V. & TELECOM. WITH PULL STRINGS.
   - PLYWOOD SHEATHING ON TELECOM. ROOM WALLS.
   - GND. BAR AND GROUND CONNECTION TO BUILDING STEEL.

2. DIVISION 27 (TELECOM.) SHALL PROVIDE THE FOLLOWING:
   - ALL WIRING, CONNECTORS, FACEPLATES AND TESTING.
   - RACKS AND PATCH PANELS.
   - LADDER TRAY IN TELECOM. ROOM.
   - #4 GND WIRE IN TELECOM. ROOM LADDER TRAY.

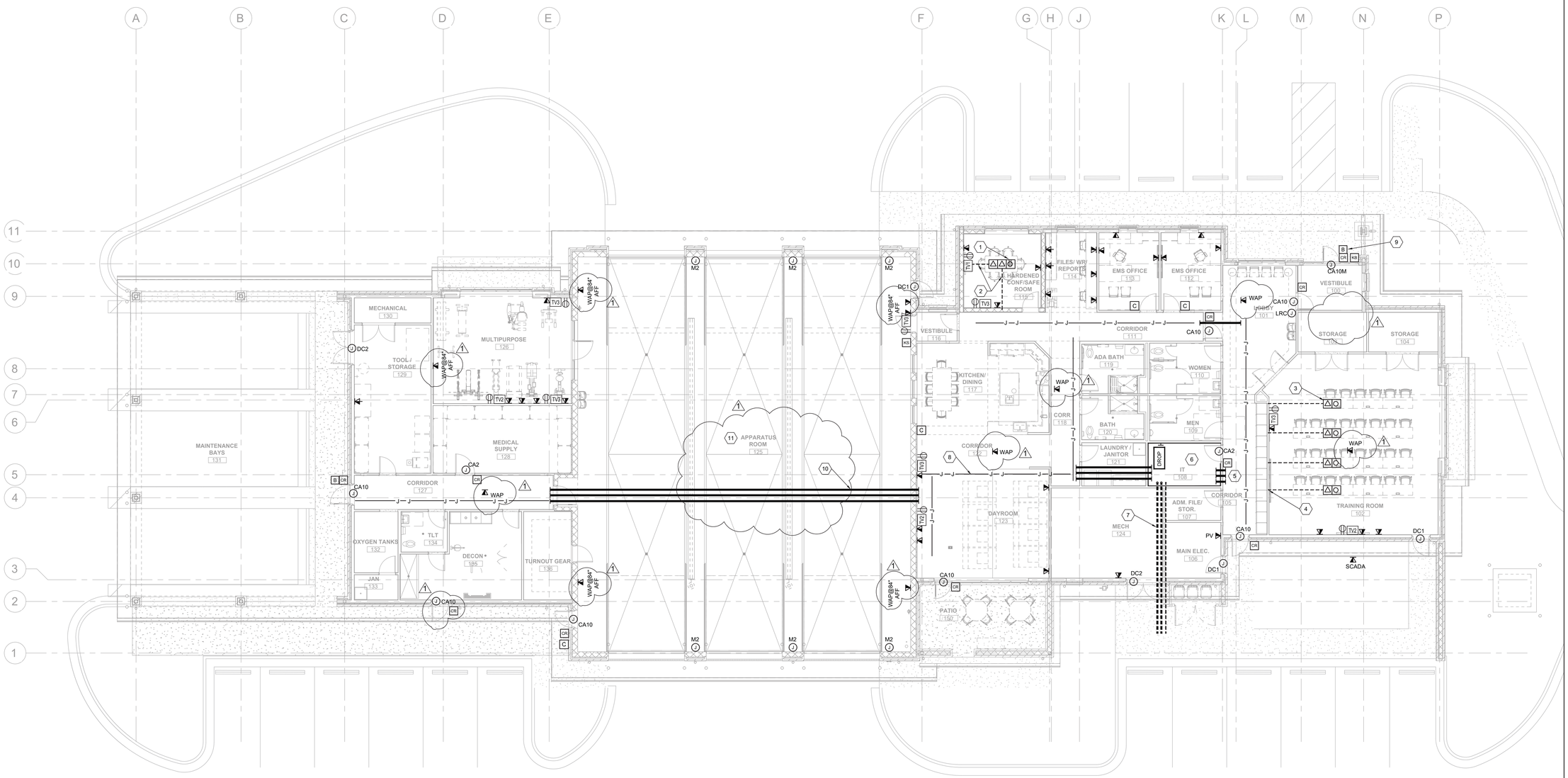
(NOTE: DIVISION 27 WORK LISTED HERE WILL BE BID AT A LATER DATE AND VENDOR ASSIGNED TO THE G.C.)

3. REFERENCE SHEET SS401 FOR SECURITY ROUGH-IN DETAILS.

4. COORDINATE LOCATIONS OF ALL MONITORS AND FLOOR BOXES WITH DESIGNER PRIOR TO BEGINNING ROUGH-IN.

NOTES KEYED TO 1/SS200:

1. PROVIDE TYPE 1 FLOOR BOX. REFERENCE SECTION 26 27 26 OF THE PROJECT MANUAL. TYPICAL OF ONE (1).
2. PROVIDE 1-1.25" CONDUIT FROM FLOOR BOX TO 6" ABOVE FINISHED CEILING AND 1-1"C FROM FLOOR BOX TO LOCATION CENTERED ON TV.
3. PROVIDE TYPE 2 FLOOR BOX. REFERENCE SECTION 26 27 26 OF THE PROJECT MANUAL. TYPICAL OF FOUR (4).
4. PROVIDE 1-1.25" CONDUIT FROM FLOOR BOX TO WALL AND THEN TO 6" ABOVE FINISHED CEILING. TYPICAL.
5. PROVIDE SLEEVES AS SHOWN FROM J-HOOKS TO T/C ROOM.
6. REFERENCE 1/SS400 FOR ENLARGED PLAN OF THIS AREA.
7. PROVIDE T/C DUCTBANK PER DETAIL SHEET E100 AND E101.
8. PROVIDE J-HOOKS 5'-0" OC. COORDINATE LOCATIONS/ROUTING WITH DIVISION 27 CONTRACTOR.
9. PROVIDE DOOR BELL AT 48" AFF AS SHOWN. CONNECT TO CHIME LOCATED IN EMS OFFICES AND KITCHEN/DAYROOM. TYPICAL OF TWO (2) BUTTON LOCATIONS AND THREE (3) CHIME LOCATIONS. CONNECT TO CIRCUIT P1-65.
10. PROVIDE 3-2" GRC ACROSS APP. BAY.
11. ALL TELECOM WIRING IN APP. BAY SHALL BE PROVIDED IN GRC.



SPECIAL SYSTEMS PLAN 1/8" = 1'-0" 01

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GARNER MAIN EMS

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 11961 REGINALD ADAMS

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Date: 2022.05.01 16:24:02 -04'00'

Electrical-
Special Systems Plan

DATE: 03.07.2022
PROJECT NO: 20004

REVISIONS

NO:	DATE:	DESCRIPTION:
1	5/2/22	ADDENDUM #1

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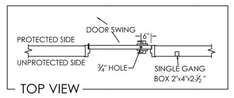
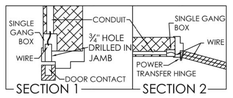
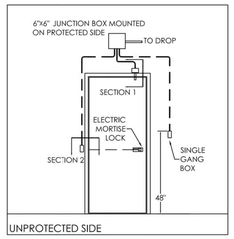
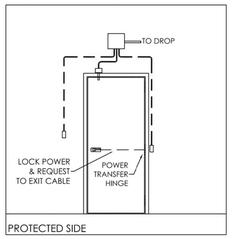
SHEET NUMBER

SS200

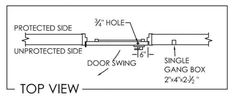


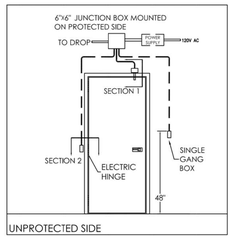


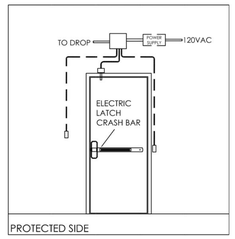




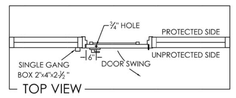
CA2 CARD ACCESS SINGLE DOOR, MORTISE LOCK, SWING TO PROTECTED SIDE
NOT TO SCALE

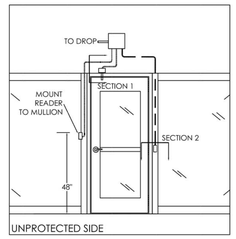


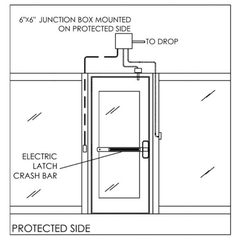




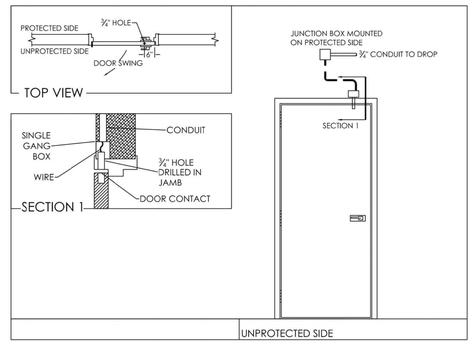
CA10 CARD ACCESS SINGLE DOOR, EXIT DEVICE, SWING TO UNPROTECTED SIDE
NOT TO SCALE



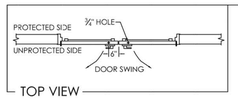


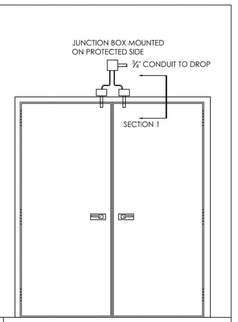


CA10M CARD ACCESS SINGLE DOOR, MULLION MOUNT CARD READER, EXIT DEVICE, SWING TO UNPROTECTED SIDE
NOT TO SCALE



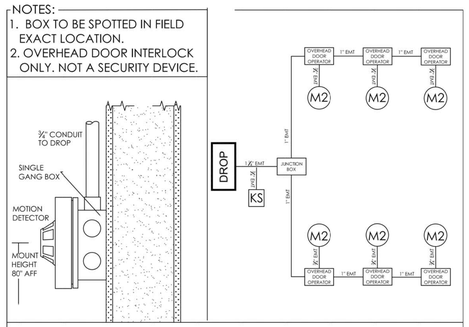
DC1 SINGLE DOOR CONTACT
NOT TO SCALE





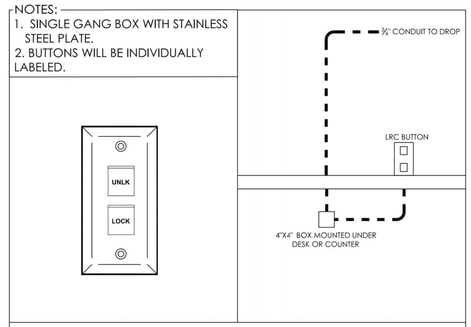
DC2 DOUBLE DOOR CONTACT
NOT TO SCALE

NOTES:
1. BOX TO BE SPOTTED IN FIELD EXACT LOCATION.
2. OVERHEAD DOOR INTERLOCK ONLY. NOT A SECURITY DEVICE.



M2 WALL MOUNT MOTION DETECTOR
NOT TO SCALE

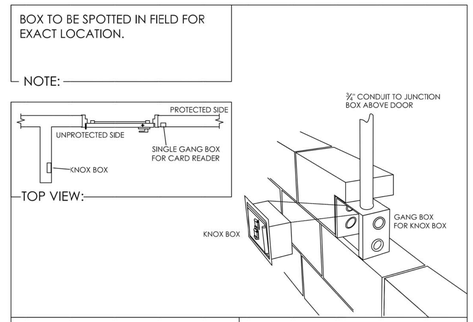
NOTES:
1. SINGLE GANG BOX WITH STAINLESS STEEL PLATE.
2. BUTTONS WILL BE INDIVIDUALLY LABELED.



LRC LATCH RELEASE CONTROL
NOT TO SCALE

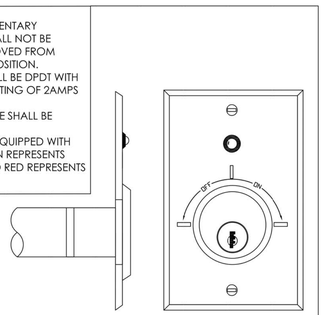
BOX TO BE SPOTTED IN FIELD FOR EXACT LOCATION.

NOTE:



KB KNOX BOX
NOT TO SCALE

NOTES:
1. KEY SWITCHES BE MOMENTARY UNLOCKING AND KEY SHALL NOT BE CAPABLE OF BEING REMOVED FROM CYLINDER WHEN IN THE POSITION.
2. ALL KEY SWITCHES SHALL BE DPDT WITH A MINIMUM CONTACT RATING OF 2AMPS AT 30V DC.
3. KEY SWITCH FACE PLATE SHALL BE STAINLESS STEEL.
4. KEY SWITCH SHALL BE EQUIPPED WITH STATUS LED; WHERE GREEN REPRESENTS UNLOCK CONDITION AND RED REPRESENTS LOCKED POSITION.



KS KEYSWITCH OVERRIDE
NOT TO SCALE

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No.	Date	Description

WAKE COUNTY
GARNER MAIN
EMS STATION
1695 TIMBER DRIVE
GARNER, NC 27529

BID DOCUMENTS

SECURITY DESIGN

SECURITY DETAILS

DATE April 18, 2022
SCALE NTS
DRAWN EKS
PROJ. NO. WAKD122
SHEET **SC-02**

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environmentsforlife
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Sigma ENGINEERED SOLUTIONS

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5909 FALLS OF NEUSE RD.
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Raleigh NC 27609
Ph: 919.840.9300
www.sigmaes.com
North Carolina License #: C-2490
Sigma Project #: 20038

WAKE COUNTY NORTH CAROLINA

PUBLIC SAFETY WAKE COUNTY EMS EST. 1976

GARNER MAIN EMS

845 Thompson Road
Garner, NC 27529

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19658 REGISTERED

Digitally signed by Reginald Adams, o, ou=Engineer, cn=Reginald Adams, o, email=radams@sigmaes.com, c=US
Date: 2022.05.01 16:24:28 -04'00'

Electrical-
Special Systems
Plans & Details

DATE: 03.07.2022
PROJECT NO: 20004

REVISIONS

NO:	DATE:	DESCRIPTION:
1	5/2/22	ADDENDUM #1

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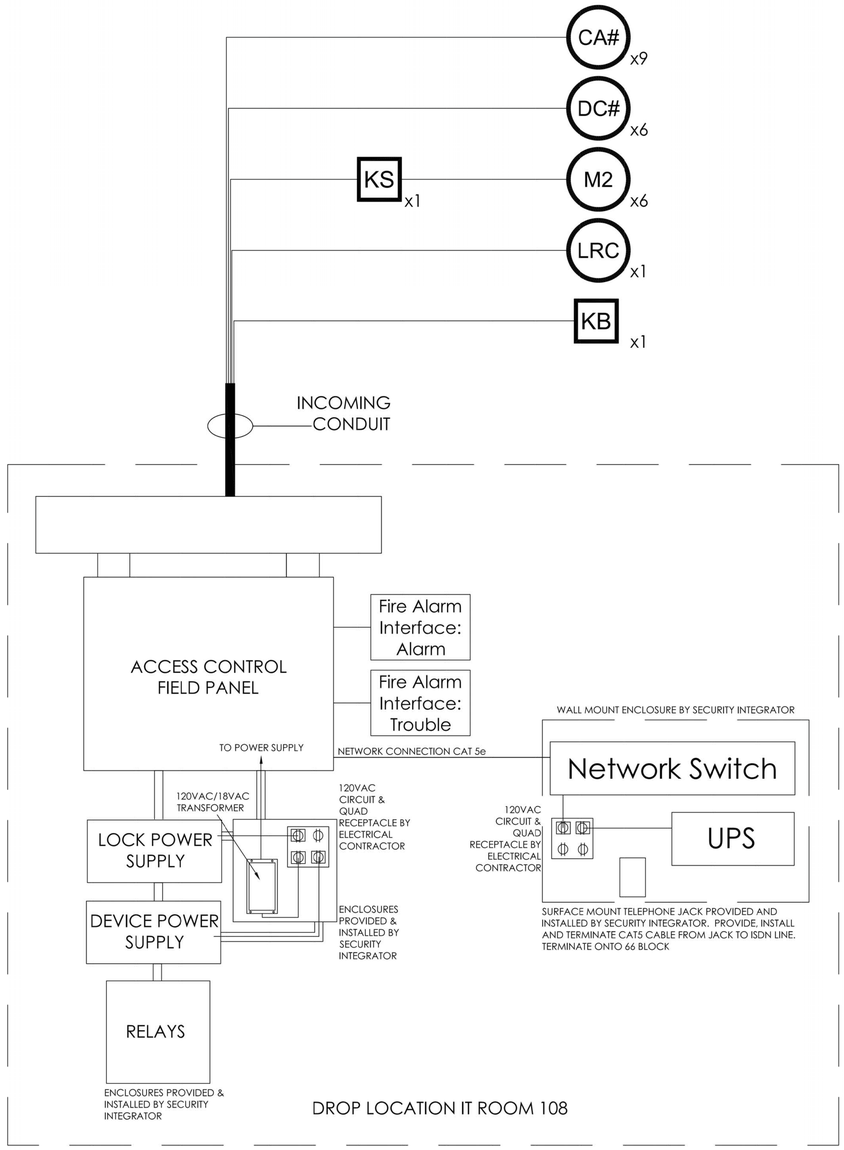
SHEET NUMBER
SS401



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No.	Date	Description

WAKE COUNTY
GARNER MAIN
EMS STATION

1695 TIMBER DRIVE
GARNER, NC 27529

BID DOCUMENTS

SECURITY DESIGN

RISER DIAGRAM

DATE	April 18, 2022
SCALE	NTS
DRAWN	EKS
PROJ. NO.	WAKD122
SHEET	SC-03

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www.sigmaes.com
North Carolina License #: C-2490
Sigma Project #: 20038

GARNER MAIN EMS

845 Thompson Road
Garner, NC 27529

NORTH CAROLINA PROFESSIONAL SEAL 19658 ENGINEER
Digitally signed by Reginald Adams
DN: cn=Reginald Adams, email=radams@sigmaes.com, c=US
Date: 2022.05.01 16:24:56 -04'00'

Electrical-
Special Systems
Plans & Details

DATE: 03.07.2022
PROJECT NO: 20004

REVISIONS

NO:	DATE:	DESCRIPTION:
1	5/2/22	ADDENDUM #1

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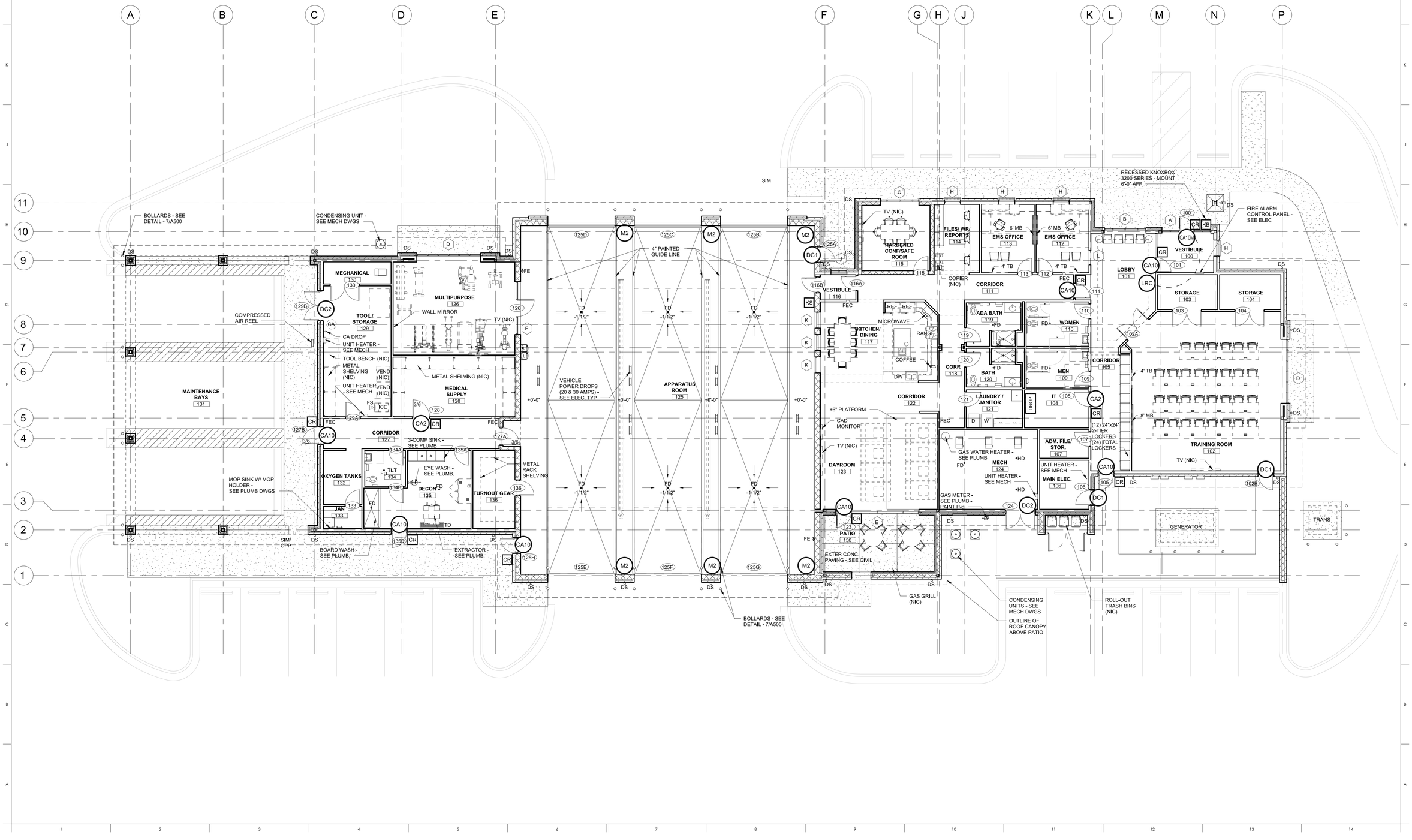
SHEET NUMBER

SS402

SECURITY DETAILS NO SCALE 01



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LEGEND

- DROP — Panel Location
- CA# — Card Access
- DC# — Door Contact
- M2 — Motion Detector
- LRC — Latch Release Control

No.	Date	Description

WAKE COUNTY
GARNER MAIN
EMS STATION

1695 TIMBER DRIVE
GARNER, NC 27529

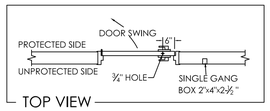
BID DOCUMENTS

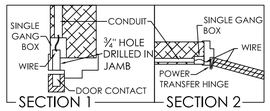
SECURITY DESIGN

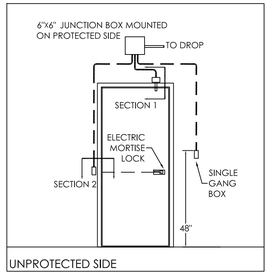
FLOOR PLAN

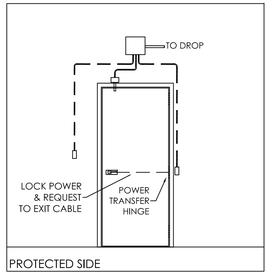
DATE April 29, 2022
SCALE NTS
DRAWN EKS
PROJ. NO. WAKD122

SHEET **SC-01**

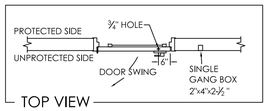


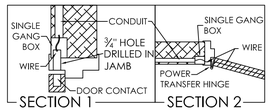


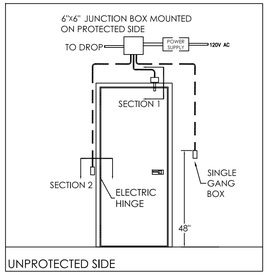


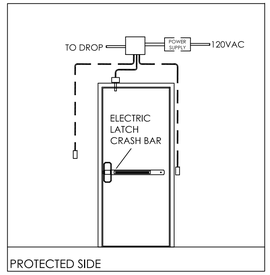


CA2 CARD ACCESS SINGLE DOOR, MORTISE LOCK, SWING TO PROTECTED SIDE
NOT TO SCALE

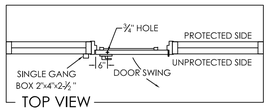


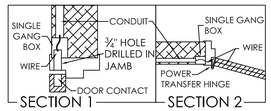


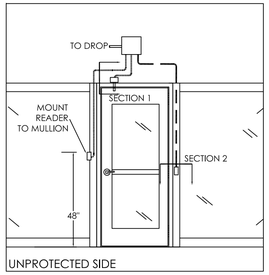


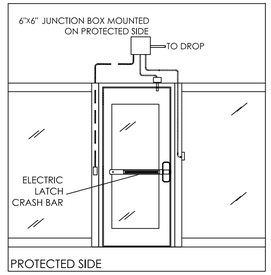


CA10 CARD ACCESS SINGLE DOOR, EXIT DEVICE, SWING TO UNPROTECTED SIDE
NOT TO SCALE

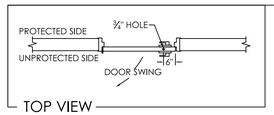


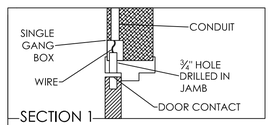


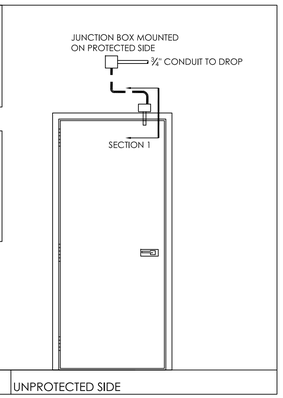




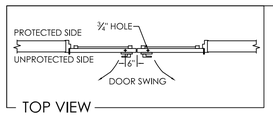
CA10M CARD ACCESS SINGLE DOOR, MULLION MOUNT CARD READER, EXIT DEVICE, SWING TO UNPROTECTED SIDE
NOT TO SCALE

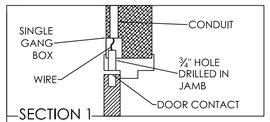


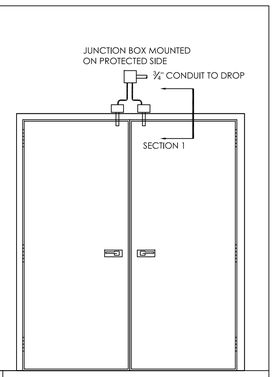


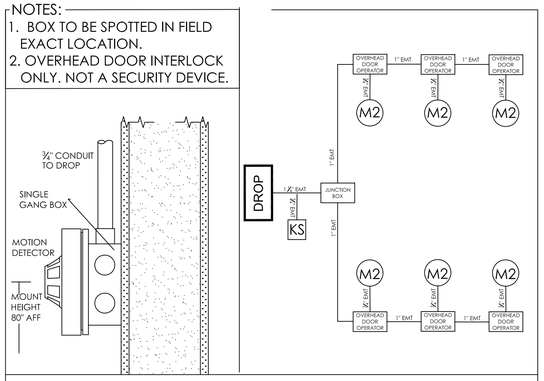


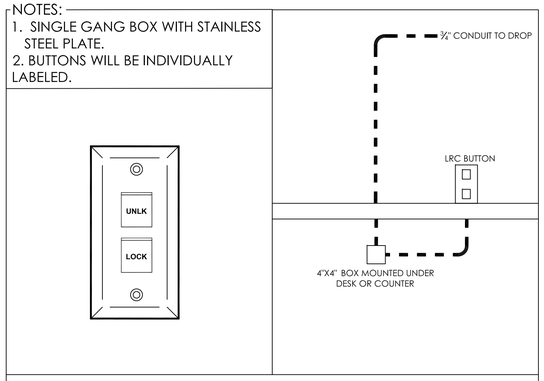
DC1 SINGLE DOOR CONTACT
NOT TO SCALE

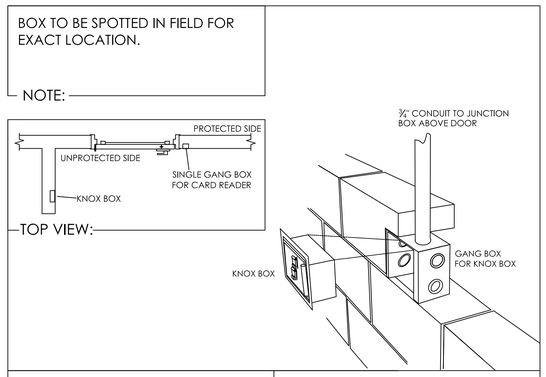










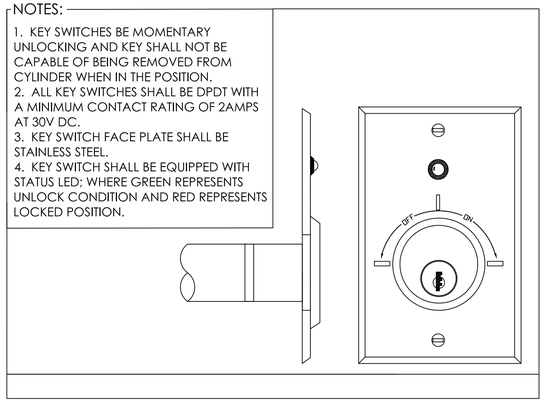


DC2 DOUBLE DOOR CONTACT
NOT TO SCALE

M2 WALL MOUNT MOTION DETECTOR
NOT TO SCALE

LRC LATCH RELEASE CONTROL
NOT TO SCALE

KB KNOX BOX
NOT TO SCALE



KS KEYSWITCH OVERRIDE
NOT TO SCALE

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No.	Date	Description

WAKE COUNTY
GARNER MAIN
EMS STATION

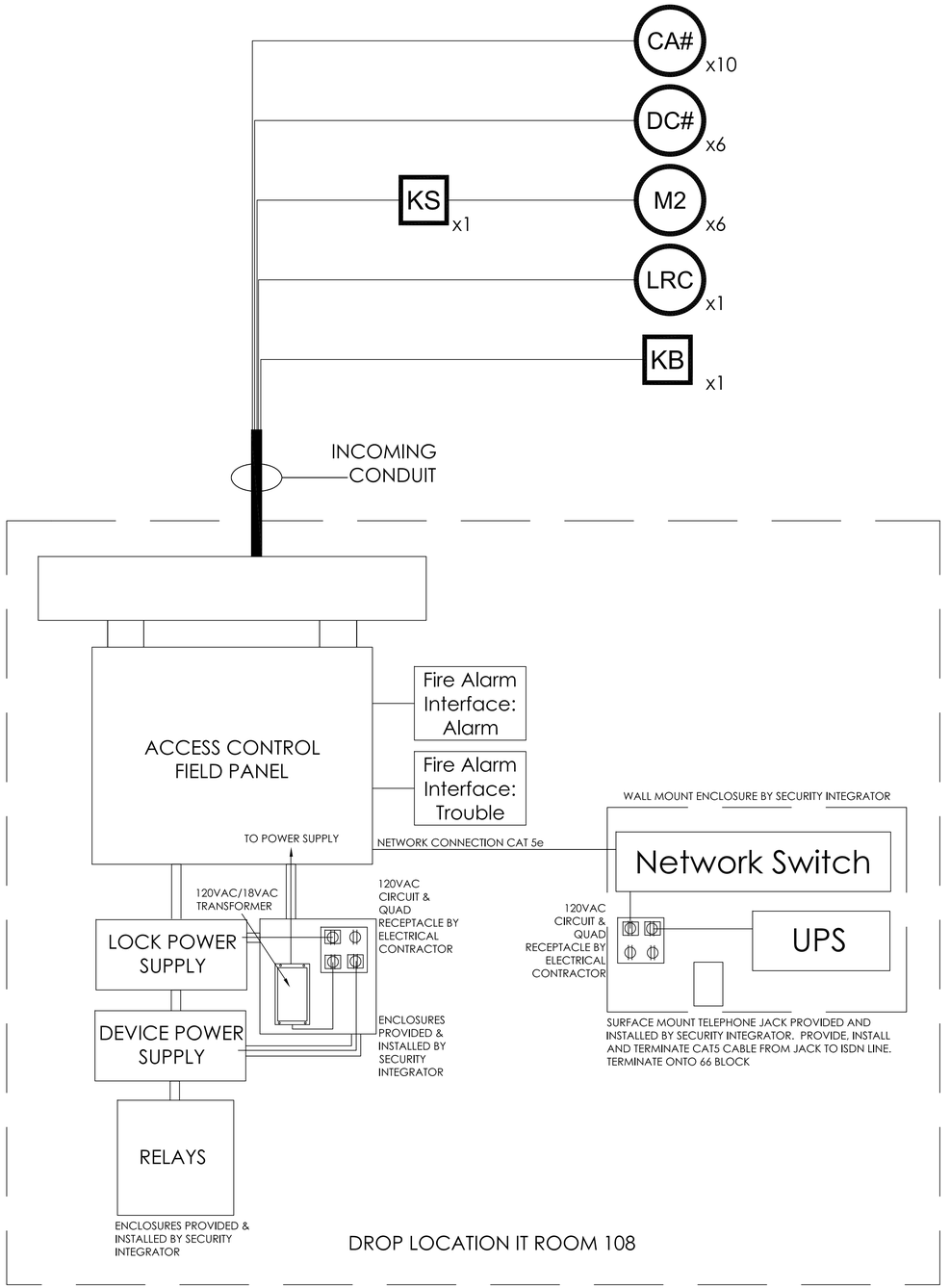
1695 TIMBER DRIVE
GARNER, NC 27529

BID DOCUMENTS

SECURITY DESIGN

SECURITY DETAILS

DATE April 29, 2022
SCALE NTS
DRAWN EKS
PROJ. NO. WAKD122
SHEET **SC-02**



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1695 TIMBER DRIVE
GARNER, NC 27529

BID DOCUMENTS

SECURITY DESIGN

RISER DIAGRAM

DATE	April 29, 2022
SCALE	NTS
DRAWN	EKS
PROJ. NO.	WAKD122
SHEET	**SC-03**